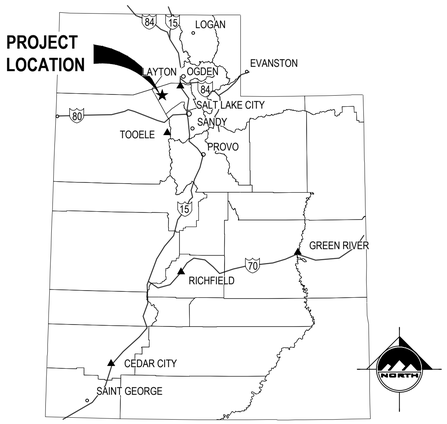
WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND

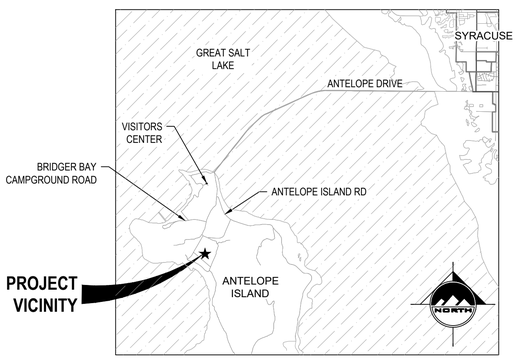
PROJECT # 22238510
CONTRACT # 2270048

PWS# 060323

WHITE ROCKS CAMPGROUND RD.
SYRACUSE, UTAH



LOCATION MAP
NO SCALE



VICINITY MAP
NO SCALE

MGB+A
The Grassli Group

COLVIN ENGINEERING ASSOCIATES
505 East South Temple, Ste 100 / Salt Lake City, Utah 84102-1004
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JEX ENVIRONMENTAL SOLUTIONS

AGEC

NOTICE TO DEVELOPER/CONTRACTOR

UNAPPROVED DRAWINGS REPRESENT WORK IN PROGRESS, ARE SUBJECT TO CHANGE, AND DO NOT CONSTITUTE A FINISHED ENGINEERING PRODUCT. ANY WORK UNDERTAKEN BY DEVELOPER OR CONTRACTOR BEFORE PLANS ARE APPROVED IS UNDERTAKEN AT THE SOLE RISK OF THE DEVELOPER, INCLUDING BUT NOT LIMITED TO BIDS, ESTIMATION, FINANCING, BONDING, SITE CLEARING, GRADING, INFRASTRUCTURE CONSTRUCTION, ETC.

UTILITY DISCLAIMER

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND / OR ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

NOTICE TO CONTRACTOR

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS OF THE U.S. DEPARTMENT OF LABOR AND THE STATE OF UTAH DEPARTMENT OF INDUSTRIAL RELATIONS CONSTRUCTION SAFETY ORDERS." THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE CONTRACTORS AND SUBCONTRACTORS COMPLIANCE WITH SAID REGULATIONS AND ORDERS.

CONTRACTOR FURTHER AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB-SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE CIVIL ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

DEFERRED SUBMITTALS

- PRE-ENGINEERED WOOD TRUSSES FOR RESTROOMS
- SEISMIC RESTRAINT FOR MECHANICAL IN RESTROOMS
- DRINKING WATER AND WASTEWATER TELEMETRY SYSTEMS
- PAVILION DRAWINGS AND STRUCTURAL CALCULATIONS FOR STRUCTURES, FOOTINGS, AND ANCHOR BOLTS

CERTIFICATE OF OCCUPANCY REQUIREMENTS

THE FOLLOWING DOCUMENTS ARE REQUIRED BEFORE A CERTIFICATE OF OCCUPANCY IS ISSUED:

- A CODE INSPECTION REPORT RECOMMENDING THAT A CERTIFICATE OF OCCUPANCY BE ISSUED.
- FINAL REPORT FROM THE SPECIAL INSPECTION AGENCY.
- CERTIFICATE OF FIRE CLEARANCE FROM THE STATE FIRE MARSHAL.
- FINAL APPROVAL FROM THE STATE ELEVATOR INSPECTOR, IF APPLICABLE.
- FINAL APPROVAL FROM THE STATE BOILER INSPECTOR, IF APPLICABLE.
- REPORT OF THE DISINFECTION OF THE POTABLE WATER SYSTEM. IPC 610
- A CERTIFICATE OF COMPLIANCE FROM THE APPROVED FABRICATOR, IF APPLICABLE. IBC 1704.2.2
- A STAMPED AND SIGNED FINAL REPORT FROM THE STRUCTURAL ENGINEER WHEN STRUCTURAL OBSERVATION IS REQUIRED BY IBC 1710.
- AN NFRC CERTIFICATE FOR FENESTRATION WITHOUT THE NFRC LABEL.
- FINAL REPORT FROM THE SPECIAL INSPECTOR AND THE MECHANICAL ENGINEER WHEN SMOKE CONTROL IS REQUIRED. THE REPORTS MUST COMPLY WITH IBC 909.18.8.3.

CODE OFFICIAL STAMP
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
REVIEWED FOR CODE COMPLIANCE
SIGNATURE:
DATE: 01/25/2022

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT J.
ROUSSELLE
EXP.3/31/2023
STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WATT DESIGN & DFCM COMMENTS	GWO
2	01/12/2022	DFCM COMMENTS	GWO
3			
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6			
7			
8			

COVER SHEET

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

G-100-01

CAMPGROUND IMPROVEMENTS

GENERAL DRAWINGS

G-100-01	COVER SHEET
G-100-02	SHEET INDEX
G-100-03	ABBREVIATIONS, LEGEND, AND SYMBOLS
G-100-04	GENERAL NOTES
G-100-05	CIVIL FORMS
G-100-06	RESTROOM SPECIAL INSPECTION FORMS
G-100-07	RESTROOM CODE ANALYSIS
G-100-08	PAVILION SPECIAL INSPECTION FORMS
G-100-09	EXISTING WATER SYSTEM SCHEMATIC
G-100-10	PROPOSED WATER SYSTEM SCHEMATIC

CIVIL DRAWINGS

C-100-01	HORIZONTAL CONTROL PLAN
C-100-02	OVERALL SITE AND UTILITY PLAN
C-100-03	OVERALL CAMPGROUND SITE AND UTILITY PLAN
C-200-01	PAVEMENT PLAN
C-300-01	EROSION CONTROL PLAN
C-300-02	EROSION CONTROL DETAILS
C-400-01	PLAN AND PROFILE GRADING
C-400-02	RV DUMP STATION SITE AND GRADING PLAN
C-400-03	PLAN AND PROFILE GRADING
C-400-04	PLAN AND PROFILE GRADING
C-400-05	PLAN AND PROFILE GRADING
C-400-06	PLAN AND PROFILE GRADING
C-400-07	PLAN AND PROFILE GRADING
C-400-08	PLAN AND PROFILE GRADING
C-400-09	PLAN AND PROFILE GRADING
C-400-10	PLAN AND PROFILE GRADING
C-400-11	PLAN AND PROFILE GRADING
C-400-12	PLAN AND PROFILE GRADING
C-400-13	PLAN AND PROFILE GRADING
C-400-14	PLAN AND PROFILE GRADING
C-400-15	PLAN AND PROFILE GRADING
C-400-16	PLAN AND PROFILE GRADING
C-400-17	PLAN AND PROFILE GRADING
C-400-18	PLAN AND PROFILE GRADING
C-400-19	PLAN AND PROFILE GRADING
C-400-20	PLAN AND PROFILE GRADING
C-400-21	PLAN AND PROFILE GRADING COVE ROAD (ALTERNATE 3)
C-400-22	PLAN AND PROFILE GRADING COVE ROAD (ALTERNATE 3)
C-400-23	PLAN AND PROFILE GRADING COVE ROAD (ALTERNATE 3)
C-400-24	PLAN AND PROFILE GRADING COVE ROAD (ALTERNATE 3)
C-400-25	PLAN AND PROFILE GRADING COVE ROAD (ALTERNATE 3)
C-400-26	PLAN AND PROFILE GRADING COVE ROAD (ALTERNATE 3)
C-400-27	PLAN AND PROFILE GRADING COVE ROAD (ALTERNATE 3)
C-400-28	PLAN AND PROFILE GRADING COVE ROAD (ALTERNATE 3)
C-400-29	PLAN AND PROFILE GRADING COVE ROAD (ALTERNATE 3)
C-400-30	PLAN AND PROFILE GRADING COVE ROAD (ALTERNATE 3)
C-400-31	PLAN AND PROFILE GRADING COVE ROAD (ALTERNATE 3)
C-400-32	PLAN AND PROFILE GRADING COVE ROAD (ALTERNATE 3)
C-500-01	PLAN AND PROFILE UTILITY
C-500-02	RV DUMP STATION UTILITY PLAN
C-500-03	PLAN AND PROFILE UTILITY
C-500-04	PLAN AND PROFILE UTILITY
C-500-05	PLAN AND PROFILE UTILITY
C-500-06	PLAN AND PROFILE UTILITY
C-500-07	PLAN AND PROFILE UTILITY
C-500-08	PLAN AND PROFILE UTILITY
C-500-09	PLAN AND PROFILE UTILITY
C-500-10	PLAN AND PROFILE UTILITY
C-500-11	PLAN AND PROFILE UTILITY
C-500-12	PLAN AND PROFILE UTILITY
C-500-13	PLAN AND PROFILE UTILITY
C-500-14	PLAN AND PROFILE UTILITY
C-500-15	PLAN AND PROFILE UTILITY
C-500-16	PLAN AND PROFILE UTILITY
C-500-17	PLAN AND PROFILE UTILITY
C-500-18	PLAN AND PROFILE UTILITY
C-500-19	PLAN AND PROFILE UTILITY
C-500-20	PLAN AND PROFILE UTILITY
C-500-21	PLAN AND PROFILE UTILITY SS
C-500-22	PLAN AND PROFILE UTILITY WATER SUPPLY LINE
C-500-23	PLAN AND PROFILE UTILITY WATER SUPPLY LINE
C-500-24	PLAN AND PROFILE UTILITY WATER SUPPLY LINE
C-500-25	PLAN AND PROFILE UTILITY WATER SUPPLY LINE
C-500-26	PLAN AND PROFILE UTILITY WATER SUPPLY LINE
C-500-27	PLAN AND PROFILE UTILITY WATER SUPPLY LINE
C-500-28	PLAN AND PROFILE UTILITY WATER SUPPLY LINE
C-500-29	PLAN AND PROFILE UTILITY WATER SUPPLY LINE
C-500-30	PLAN AND PROFILE UTILITY WATER SUPPLY LINE
C-500-31	PLAN AND PROFILE UTILITY WATER SUPPLY LINE
C-500-32	PLAN AND PROFILE UTILITY WATER SUPPLY LINE
C-600-01	TYPICAL CAMPSITE DETAILS
C-600-02	TYPICAL CAMPSITE DETAILS
C-600-03	RV DUMP STATION DETAIL
C-600-04	TYPICAL CAMPSITE DETAILS
C-600-05	TYPICAL CAMPSITE DETAILS
C-600-06	TYPICAL RESTROOM DETAILS
C-600-07	TYPICAL CAMPGROUND DETAILS
C-700-01	CIVIL DETAILS
C-700-02	CIVIL DETAILS
C-700-03	CIVIL DETAILS
C-700-04	PARK WELL HEAD UPGRADES
C-700-05	VALVE VAULT
C-700-06	300K GAL TANK UPDATES

MECHANICAL DRAWINGS

M-100-01	MECHANICAL DETAILS
M-200-01	MECHANICAL SCHEDULES

ELECTRICAL DRAWINGS

EG-100-01	SHEET INDEX, SYMBOL SCHEDULE
ES-100-01	MEDIUM VOLTAGE DISTRIBUTION
ES-200-01	OVERALL SITE PLAN
ES-200-02	SITE PLAN
ES-200-03	SITE PLAN
ES-200-04	SITE PLAN
ES-200-05	SITE PLAN
ES-200-06	SITE PLAN
ES-200-07	SITE PLAN
ES-200-08	SITE PLAN
ES-200-09	SITE PLAN
ES-200-10	SITE PLAN
ES-200-11	SITE PLAN
ES-200-12	SITE PLAN
ES-300-01	300K GAL TANK ELECTRICAL
E-500-01	ONE-LINE DIAGRAM
E-500-02	ONE-LINE DIAGRAM
E-500-03	ONE-LINE DIAGRAM
E-600-01	ELECTRICAL SCHEDULES
E-600-02	ELECTRICAL SCHEDULES
E-600-03	ELECTRICAL SCHEDULES
E-600-04	ELECTRICAL SCHEDULES
E-600-05	ELECTRICAL SCHEDULES
E-700-01	ELECTRICAL DETAILS
E-700-02	ELECTRICAL DETAILS
E-700-03	ELECTRICAL DETAILS

BRIDGER BAY BOOSTER PUMP STATION UPGRADES

MECHANICAL DRAWINGS

BPM-100-01	BRIDGER BAY PUMP STATION MECHANICAL PLAN

ELECTRICAL DRAWINGS

BS-100-01	BRIDGER BAY PUMP STATION UPGRADES ELECTRICAL PLAN

WELL HOUSE UPGRADES

MECHANICAL DRAWINGS

WHM-100-01	WELL HOUSE MECHANICAL PLAN

ELECTRICAL DRAWINGS

WH-100-01	WELL HOUSE UPGRADES ELECTRICAL DRAWINGS

RESTROOMS

ARCHITECTURAL DRAWINGS

RA-100-01	LARGE RESTROOM FLOOR PLAN
RA-100-02	LARGE RESTROOM ELEVATIONS
RA-200-01	SMALL RESTROOM FLOOR PLAN & ELEVATIONS
RA-300-01	LARGE & SMALL RESTRM. INTERIOR ELEVATIONS
RA-400-01	UNISEX RESTROOM FLOOR PLAN & ELEVATIONS
RA-500-01	RESTROOM SCHED. & WALL SECTIONS
RA-500-02	RESTROOM ADA DETAILS
RA-500-03	RESTROOM FINISH COLORS

STRUCTURAL DRAWINGS

RS-000-01	GENERAL STRUCTURAL NOTES
RS-000-02	GENERAL STRUCTURAL NOTES
RS-000-03	GENERAL STRUCTURAL NOTES
RS-000-04	STRUCTURAL SCHEDULES
RS-100-01	FOOTING & FOUNDATION
RS-100-02	WALL PLANS
RS-100-03	ROOF PLANS
RS-400-01	STRUCTURAL DETAILS

MECHANICAL DRAWINGS

RM-000-01	RESTROOM MECHANICAL LEGEND, SYMBOLS & ABBREVIATIONS
RM-100-00	RESTROOM RADIANT AND SNOWMELT PLANS
RM-100-01	RESTROOM MECHANICAL PLANS
RM-500-00	RESTROOM MECHANICAL DETAILS
RM-600-00	RESTROOM MECHANICAL SCHEDULES
RP-100-01	RESTROOM PLUMBING PLAN
RP-100-02	LARGE RESTROOM PLUMBING PLAN

ELECTRICAL DRAWINGS

RE-100-01	LARGE RESTROOM ELECTRICAL PLANS
RE-100-02	SMALL RESTROOM ELECTRICAL PLAN
RE-100-03	UNISEX RESTROOM ELECTRICAL PLANS
RE-100-04	PAVILLION ELECTRICAL PLANS

WASTEWATER TREATMENT SYSTEM

CIVIL DRAWINGS

WWC-100-01	ONSITE WASTEWATER TREATMENT PLANT AND DETAILS
WWC-100-02	ONSITE WASTEWATER TREATMENT PLANT AND DETAILS
WWC-100-03	ONSITE WASTEWATER TREATMENT PLANT AND DETAILS
WWC-100-04	ONSITE WASTEWATER TREATMENT PLANT AND DETAILS
WWC-100-05	ONSITE WASTEWATER TREATMENT PLANT AND DETAILS

REFERENCE DRAWINGS

24 X 44 PAVILION

PAR-1.0	COVER SHEET
PAR-2.0	ELEVATION
PAR-3.0	ANCHOR BOLT LAYOUT
PAR-4.0	FRAME LAYOUT
PAR-5.0	FRAME CONNECTIONS
PAR-5.1	FRAME CONNECTIONS
PAR-5.2	FRAME CONNECTIONS
PAR-6.0	MULTI RIB ROOF LAYOUT
PAR-7.0	ROOF CONNECTIONS
PAR-7.1	ROOF CONNECTIONS
PAR-7.2	ROOF CONNECTIONS
PAR-7.3	ROOF CONNECTIONS

12 X 12 PAVILION

PAS-1.0	COVER SHEET
PAS-2.0	ELEVATION
PAS-3.0	ANCHOR BOLT LAYOUT
PAS-4.0	FRAME LAYOUT
PAS-5.0	FRAME CONNECTIONS
PAS-6.0	ROOF LAYOUT
PAS-R1.0	ROOF DETAILS
PAS-R1.1	ROOF DETAILS
PAS-R1.2	ROOF DETAILS
PAS-R1.3	ROOF DETAILS

CODE OFFICIAL STAMP

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND

WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
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PROFESSIONAL ENGINEER
7885569-2202
ROBERT L. ROUSSELLE
EXP.3/31/2023
STATE OF UTAH

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SHEET INDEX

PROJECT NUMBER	PRINT DATE
10970	1/12/2022
DRAWN BY	CHECKED BY
G. OFFERMANN	F. DUBEROW
PROJECT MANAGER	
R. ROUSSELLE	

G-100-02

ABBREVIATIONS

@	AT	FD	FLOOR DRAIN
ø	DIAMETER	FDN	FOUNDATION
%	PERCENTAGE	FEN COR	FENCE CORNER
'	FEET	FE	FIRE EXTINGUISHER
"	INCHES	FF	FINISH FLOOR
3PH	THREE PHASE POWER	FFC	FRONT FACE OF CURB
		FG	FINISH GRADE
AB	ANCHOR BOLT	FH	FIRE HYDRANT
ABUT	ABUTMENT	FIN	FINISH
AC	ASBESTOS CEMENT PIPE OR ASPHALT CONCRETE		
ADT	AVERAGE DAILY TRAFFIC	FL	FLOW LINE / FLANGE
APPROX	APPROXIMATELY	FLR	FLOOR
APWA	AMERICAN PUBLIC WORKS ASSOCIATION	FRP	FIBERGLASS REINFORCED PIPE
AL	AIR LINE	FT	FEET
ALUM	ALUMINUM	FTG	FOOTING
AR	ACCESSIBLE ROUTE		
ASPH	ASPHALT	G	GAS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	GA	GAGE / GAUGE
AWWA	AMERICAN WATER WORKS ASSOCIATION	GALV	GALVANIZED
AZ	AZIMUTH	GB	GRADE BREAK
		GEN	GENERAL
BAL	BALANCE	GF	GARAGE FLOOR
BEG	BEGINNING / BEGIN	GLB	GLUED LAMINATED BEAM
BFC	BACK FACE OF CURB	GM	GAS METER
BLD FLG	BLIND FLANGE	GSP	GALVANIZED STEEL PIPE
BLDG	BUILDING	GV	GATE VALVE
BLM	BUREAU OF LAND MANAGEMENT		
BM	BENCHMARK	HC	HANDICAP / HYPOCHLORITE
BLK	BLOCK	HDG	HOT DIPPED GALVANIZED
BOD	BIOCHEMICAL OXYGEN DEMAND	HDWL	HEADWALL
BOS	BOTTOM OF STEP	H&T	HUB & TACK
BOT	BOTTOM	HORIZ	HORIZONTAL
BRG	BEARING	HP	HIGH POINT
BSMT	BASEMENT	HSS	HOLLOW STRUCTURAL SECTION
BTWN	BETWEEN	HWL	HIGH WATER LEVEL
BVC	BEGIN VERTICAL CURVE	HWY	HIGHWAY
		HX	HEAT EXCHANGER
C	CURVE	HYD	HYDRANT
C&G	CURB AND GUTTER		
CALC	CALCULATED	ID	INSIDE DIAMETER
CB	CATCH BASIN	IE	INVERT ELEVATION
C-C	CENTER TO CENTER	IJ	ISOLATION JOINT
CCW	COUNTER CLOCKWISE	IN	INCH
CF	CURB FACE	INFO	INFORMATION
CFS	CUBIC FEET PER SECOND	INV	INVERT
CIP	CAST IRON PIPE	IRR	IRRIGATION
CJ	CONSTRUCTION JOINT		
C	CENTER LINE	JCT	JUNCTION
CLR	CLEARANCE		
CMP	CORRUGATED METAL PIPE	K	RATE OF VERTICAL CURVATURE
CMP-A	CORRUGATED METAL PIPE - ARCH		
CO	CLEAN OUT	L	LENGTH
COB	CLEAN OUT BOX	LB	POUND
COL	COLUMN	LD	LAND DRAIN
COMM	COMMUNICATION	LF	LINEAR FEET
CONC	CONCRETE	LIC	LICENSE
CONN	CONNECT	LIN	LINEAR / LINEAL
CONT	CONTINUOUS	LP	LOW POINT / LIGHT POLE
COR	CORNER	LS	LAND SURVEYOR
CTR	CENTER	LT	LEFT
CU FT	CUBIC FEET	LWL	LOW WATER LEVEL
CU YD	CUBIC YARD		
CULV	CULVERT	MAG	MAGNETIC
CW	CLOCKWISE	MAINT	MAINTENANCE
		MATL	MATERIAL
D	DEGREE	MAX	MAXIMUM
DET	DETAIL	MB	MACHINE BOLT
DIA	DIAMETER	MH	MANHOLE
DIP	DUCTILE IRON PIPE	MI	MILE
DIST	DISTANCE	MIN	MINIMUM
DL	DRAIN LINE	MISC	MISCELLANEOUS
DMH	DRAINAGE MANHOLE	MJ	MECHANICAL JOINT
DN	DOWN	MKR	MARKER
DW	DRINKING WATER	ML	MIXED LIQUOR
DWG	DRAWINGS	MON	MONUMENT
DWV	DRAIN WASTE VENT	MPH	MILES PER HOUR
E	EAST	N	NORTH
EA	EACH	NG	NATURAL GROUND
EB	ELECTRICAL BOX	NIC	NOT IN CONTRACT
EG	EDGE OF GRAVEL	NPW	NON-POTABLE WATER
ELEC	ELECTRIC / ELECTRICAL	NO OR #	NUMBER
ELEV	ELEVATION	NTS	NOT TO SCALE
EMB	EMBANKMENT		
EMH	ELECTRICAL MANHOLE	OC	ON CENTER
ENGR	ENGINEER	OCEW	ON CENTER EACH WAY
ENT	ENTRANCE	OD	OUTSIDE DIAMETER
EO	EDGE OF OIL	OFF REV	OFFICE REVISION
EOA	EDGE OF ASPHALT	O-O	OUTSIDE TO OUTSIDE
EQUIP	EQUIPMENT	OHP	OVERHEAD POWER
ES	EDGE OF SHOULDER	ORIG	ORIGINAL
EST	ESTIMATE	OSB	ORIENTED STAND BOARD
EVC	END OF VERTICAL CURVE		
EW	EACH WAY		
EXC	EXCAVATION		
EX	EXISTING		
EXIST	EXISTING		

PC	POINT OF CURVATURE / PRESSURE CLASS	VC	VERTICAL CURVE
PCC	POINT OF COMPOUND CURVATURE	VERT	VERTICAL
PD	POND EFFLUENT	VIC	VIC COUPLING
PE	PLANT EFFLUENT	VOL	VOLUME
PERT	PERFORATED	VPI	VERTICAL POINT OF INTERSECTION
PI	POINT OF INTERSECTION / PRIMARY INFLUENT	VPC	VERTICAL POINT OF CURVE
PIV	POST INDICATOR VALVE	VPT	VERTICAL POINT OF TANGENCY
PL	PROPERTY LINE	VSS	VOLATILE SUSPENDED SOLIDS
POB	POINT OF BEGINNING		
POC	POINT ON CURVATURE	W	WEST / WATER
PP	POWER POLE	WAS	WASTE ACTIVATED SLUDGE
PRC	POINT OF REVERSE CURVATURE	WWTF	WASTE WATER TREATMENT FACILITY
PRO	PROPOSED	WIV	WALL INDICATOR VALVE
PROJ	PROJECT	WL	WATER LINE
PROP	PROPERTY	WM	WATER METER
PS	PUMP STATION	WO	WEIR OVERFLOW
PSF	POUNDS PER SQUARE FOOT	W/	WITH
PSI	POUNDS PER SQUARE INCH	W/O	WITHOUT
PT	POINT OF TANGENCY		
PVC	POINT OF VERTICAL CURVATURE / POLYVINYL CHLORINE	XING	CROSSING
PVI	POINT OF VERTICAL INTERSECTION	X-SEC	CROSS SECTION
PVMT	PAVEMENT		
PVT	POINT OF VERTICAL TANGENCY	YH	YARD HYDRANT
PW	POTABLE WATER		
QTY	QUANTITY		
R	RADIUS / RANGE		
RAS	RETURN ACTIVATED SLUDGE		
RCP	REINFORCED CONCRETE PIPE		
RCCP	REINFORCED CONCRETE CYLINDER PIPE		
RD	ROOF DRAIN		
REF	REFERENCE		
REINF	REINFORCED		
REQ'D	REQUIRED		
REV	REVISION		
ROW	RIGHT OF WAY		
RP	REFERENCE POINT		
RR	RAILROAD		
RT	RIGHT / ROUTE		
RTU	REMOTE TELEMETRY UNIT		
R/W	RIGHT OF WAY		
S	SLOPE / SOUTH		
SAN	SANITARY		
SAN SWR	SANITARY SEWER		
SCH	SCHEDULE		
SD	STORM DRAIN		
SE	SECONDARY EFFLUENT		
SEC	SECONDARY		
SEC COR	SECTION CORNER		
SHT	SHEET		
SJ	SAWED JOINT		
SKT	SOCKET		
SL	SOLIDS LINE		
SOVFL	SURFACE OVERFLOW		
SPECS	SPECIFICATIONS		
SQ	SQUARE		
SQ FT	SQUARE FEET		
SQ YD	SQUARE YARDS		
SS	SANITARY SEWER / STAINLESS STEEL		
ST	STREET		
STA	STATION		
STD	STANDARD		
STL	STEEL		
STN STL	STAINLESS STEEL		
STRUCT	STRUCTURE		
SW	SIDEWALK		
SWR	SEWER		
SWL	SECONDARY WATER LINE		
T	TOWNSHIP / TELEPHONE		
TAN	TANGENT		
TBC	TOP BACK OF CURB		
TEMP	TEMPORARY		
TELE	TELEPHONE / TELEGRAM		
THD	THREADED		
THK	THICK		
TKN	TOTAL KIELDAHL NITROGEN		
TOA	TOP OF ASPHALT		
TOC	TOP OF CONCRETE		
TOF	TOP OF FOUNDATION / TOP OF FOOTING		
TOG	TOP OF GRATE / TOP OF GRAVEL		
TOP	TOP OF PIER		
TOW	TOP OF WALL		
TOS	TOP OF STEP / TOP OF SLAB		
TSS	TOTAL SUSPENDED SOLIDS		
TYP	TYPICAL		
UB	UTILITY BOX		
UG	UNDERGROUND		
UNO	UNLESS NOTED OTHERWISE		
UTBC	UNTREATED BASE COURSE		
UW	UTILITY WATER		

LEGEND

	SECTION CORNER		EXISTING EDGE OF ASPHALT
	EXISTING MONUMENT		PROPOSED EDGE OF ASPHALT
	PROPOSED MONUMENT		EXISTING STRIPING
	EXISTING REBAR AND CAP		PROPOSED STRIPING
	SET ENSIGN REBAR AND CAP	— — x — —	EXISTING FENCE
WM	EXISTING WATER METER	X	PROPOSED FENCE
WM	PROPOSED WATER METER		EXISTING FLOW LINE
WV	EXISTING WATER MANHOLE		PROPOSED FLOW LINE
W	PROPOSED WATER MANHOLE		GRADE BREAK
W	EXISTING WATER BOX	— — sd — —	EXISTING STORM DRAIN LINE
WV	EXISTING WATER VALVE	SD	PROPOSED STORM DRAIN LINE
WV	PROPOSED WATER VALVE	RD	ROOF DRAIN LINE
	EXISTING FIRE HYDRANT		CATCHMENTS
	PROPOSED FIRE HYDRANT	— — HWL — —	HIGHWATER LINE
	PROPOSED FIRE DEPARTMENT CONNECTION	— — ss — —	EXISTING SANITARY SEWER
SWV	EXISTING SECONDARY WATER VALVE	SS	PROPOSED SANITARY SEWER LINE
SW	PROPOSED SECONDARY WATER VALVE		PROPOSED SAN. SWR. SERVICE LINE
IRR	EXISTING IRRIGATION BOX	— — ld — —	EXISTING LAND DRAIN LINE
IRR	EXISTING IRRIGATION VALVE	LD	PROPOSED LAND DRAIN LINE
IRR	PROPOSED IRRIGATION VALVE		PROPOSED LAND DRAIN SERVICE LINE
	EXISTING SANITARY SEWER MANHOLE	— — w — —	EXISTING CULINARY WATER LINE
S	PROPOSED SANITARY SEWER MANHOLE	W	PROPOSED CULINARY WATER LINE
CO	EXISTING SANITARY CLEAN OUT		PROPOSED CULINARY WATER SERVICE LINE
D	EXISTING STORM DRAIN CLEAN OUT BOX	— — sw — —	EXISTING SECONDARY WATER LINE
D	PROPOSED STORM DRAIN CLEAN OUT BOX	SW	PROPOSED SECONDARY WATER LINE
	EXISTING STORM DRAIN INLET BOX		PROPOSED SEC. WATER SERVICE LINE
	EXISTING STORM DRAIN CATCH BASIN	— — irr — —	EXISTING IRRIGATION LINE
	PROPOSED STORM DRAIN CATCH BASIN	IRR	PROPOSED IRRIGATION LINE
	EXISTING STORM DRAIN COMBO BOX	ohp	EXISTING OVERHEAD POWER LINE
	PROPOSED STORM DRAIN COMBO BOX	— — e — —	EXISTING ELECTRICAL LINE
CO	EXISTING STORM DRAIN CLEAN OUT	— — g — —	EXISTING GAS LINE
	EXISTING STORM DRAIN CULVERT	— — t — —	EXISTING TELEPHONE LINE
	PROPOSED STORM DRAIN CULVERT	AR	ACCESSIBLE ROUTE
	TEMPORARY SAG INLET PROTECTION		SAW CUT LINE
	TEMPORARY IN-LINE INLET PROTECTION		STRAW WATTLE
	ROOF DRAIN		TEMPORARY BERM
E	EXISTING ELECTRICAL MANHOLE	SF	TEMPORARY SILT FENCE
E	EXISTING ELECTRICAL BOX		LIMITS OF DISTURBANCE
	EXISTING TRANSFORMER		EXISTING WALL
	EXISTING UTILITY POLE		PROPOSED WALL
	EXISTING LIGHT		EXISTING CONTOURS
	PROPOSED LIGHT		PROPOSED CONTOURS
	EXISTING GAS METER		BUILDABLE AREA WITHIN SETBACKS
G	EXISTING GAS MANHOLE		PUBLIC DRAINAGE EASEMENT
GV	EXISTING GAS VALVE		EXISTING ASPHALT TO BE REMOVED
T	EXISTING TELEPHONE MANHOLE		PROPOSED ASPHALT
T	EXISTING TELEPHONE BOX		EXISTING CURB AND GUTTER
TRFC	EXISTING TRAFFIC SIGNAL BOX		PROPOSED CURB AND GUTTER
CABLE	EXISTING CABLE BOX		PROPOSED REVERSE PAN CURB AND GUTTER
	EXISTING BOLLARD		TRANSITION TO REVERSE PAN CURB
	PROPOSED BOLLARD		CONCRETE TO BE REMOVED
	EXISTING SIGN		EXISTING CONCRETE
	PROPOSED SIGN		PROPOSED CONCRETE
TBC	EXISTING SPOT ELEVATION		BUILDING TO BE REMOVED
XXXX.XX	PROPOSED SPOT ELEVATION		EXISTING BUILDING
	EXISTING FLOW DIRECTION		PROPOSED BUILDING
	EXISTING TREE		
	DENSE VEGETATION		

NOTE: MAY CONTAIN SYMBOLS THAT ARE NOT USED IN THIS PLAN SET.

CODE OFFICIAL STAMP
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
REVIEWED FOR CODE COMPLIANCE
SIGNATURE:
DATE: 01/25/2022

ENSIGN
THE STANDARD IN ENGINEERING

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885568-2202
ROBERT L.
ROUSSELLE
EXP. 3/31/2023
STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WATT DESIGN & DFCM COMMENTS	GWG
2	01/12/2022	DFCM COMMENTS	GWG
3			
4			
5			
6			
7			
8			

ABBREVIATIONS LEGEND AND SYMBOLS

PROJECT NUMBER	PRINT DATE
10970	1/12/2022
DRAWN BY	CHECKED BY
G. OFFERMANN	F. DUBEROW
PROJECT MANAGER	
R. ROUSSELLE	

G-100-03

GENERAL NOTES

1. CONTRACTOR TO CONTACT CARL ALDRICH WITH ANTELOPE ISLAND STATE PARK, 801-927-0545, PRIOR TO ANY EXCAVATION OR DISTURBANCE WORK FOR CONSTRUCTION MONITORING.

2. ALL CONSTRUCTION MUST STRICTLY FOLLOW THE STANDARDS AND SPECIFICATIONS SET FORTH BY: DESIGN ENGINEER, LOCAL AGENCY JURISDICTION, APWA (LATEST EDITION), THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.), AND OTHER REGULATORY AGENCIES EXERCISING AUTHORITY OVER ANY PORTION OF THE WORK WHERE APPLICABLE. THE ORDER LISTED ABOVE IS ARRANGED BY SENIORITY. THE LATEST EDITION OF ALL STANDARDS AND SPECIFICATIONS MUST BE ADHERED TO. IF A CONSTRUCTION PRACTICE IS NOT SPECIFIED BY ANY OF THE LISTED SOURCES, CONTRACTOR MUST CONTACT DESIGN ENGINEER FOR DIRECTION.

3. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THESE CONTRACT DOCUMENTS, LOCAL JURISDICTION OF AUTHORITY AND STATE REQUIREMENTS AND THE MOST RECENT EDITIONS OF THE FOLLOWING: THE INTERNATIONAL PLUMBING CODE, UTAH DIVISION OF DRINKING WATER REGULATIONS, AND APWA MANUAL OF STANDARD PLANS AND SPECIFICATIONS. THE CONTRACTOR IS REQUIRED TO ADHERE TO ALL OF THE ABOVE-MENTIONED DOCUMENTS UNLESS OTHERWISE NOTED AND APPROVED BY THE ENGINEER.

4. SPECIFIC NOTES AND DETAILS SHALL TAKE PRECEDENCE OVER GENERAL NOTES, TYPICAL DETAILS, AND SPECIFICATIONS.

5. THE CONTRACTOR SHALL REFER TO THE TECHNICAL PROVISIONS FOR INFORMATION NOT COVERED BY THESE GENERAL NOTES OR DRAWINGS.

6. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS BEFORE SUBMITTING A BID OR PRICE TO THE OWNER AND SHALL NOTIFY OWNER OF ANY DISCREPANCIES OR CONFLICTS BEFORE PROCEEDING WITH THE WORK OR SUBMITTING THE BID.

7. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

8. ALL DIMENSIONS, GRADES, AND UTILITY DESIGN SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES EXIST BETWEEN THE ACTUAL CONDITIONS AND INFORMATION SHOWN ON THE DRAWINGS, PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO THE DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS, IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.

9. CONTRACTOR SHALL PROVIDE A CONSTRUCTION SCHEDULE IN ACCORDANCE WITH LOCAL AGENCY JURISDICTION, STATE, OR COUNTY REGULATIONS FOR WORKING IN THE PUBLIC WAY.

10. THE CONTRACTOR SHALL PROVIDE AND BE RESPONSIBLE FOR THE TEMPORARY ERECTION OF BRACING AND SHORING AS REQUIRED FOR STABILITY OF STRUCTURES AND EXCAVATIONS DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONFORMING TO LOCAL AND FEDERAL CODES GOVERNING SHORING AND BRACING OF EXCAVATIONS AND TRENCHES AND FOR THE PROTECTION OF WORKERS.

11. THE CONTRACTOR IS REQUIRED TO KEEP ALL CONSTRUCTION ACTIVITIES WITHIN THE APPROVED PROJECT LIMITS. THIS INCLUDES, BUT IS NOT LIMITED TO VEHICLE AND EQUIPMENT STAGING, MATERIAL STORAGE AND LIMITS OF TRENCH EXCAVATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN PERMISSION AND/OR EASEMENTS FROM THE APPROPRIATE GOVERNING ENTITY AND/OR INDIVIDUAL PROPERTY OWNER(S) FOR WORK OR STAGING OUTSIDE OF THE PROJECT LIMITS.

12. PROJECT HORIZONTAL AND VERTICAL DATUM ARE SHOWN ON SHEET C-100-01.

13. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ADJACENT SURFACE IMPROVEMENTS.

14. CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY SETTLEMENT OF OR DAMAGE TO EXISTING UTILITIES.

15. THE CONTRACTOR IS RESPONSIBLE TO FURNISH ALL MATERIALS TO COMPLETE THE PROJECT.

16. THE LOCATIONS OF UNDERGROUND FACILITIES SHOWN ON THESE PLANS ARE BASED ON FIELD SURVEYS AND LOCAL UTILITY COMPANY RECORDS. IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR FACILITIES PRIOR TO PROCEEDING WITH CONSTRUCTION. NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR DAMAGE AND REPAIR TO THESE FACILITIES CAUSED BY HIS WORK FORCE. CONTRACTOR SHALL START INSTALLATION AT LOW POINT OF ALL NEW GRAVITY UTILITY LINES.

17. NO CHANGE IN DESIGN LOCATION OR GRADE WILL BE MADE BY THE CONTRACTOR WITHOUT THE WRITTEN APPROVAL OF THE PROJECT ENGINEER.

18. NATURAL VEGETATION AND SOIL COVER SHALL NOT BE DISTURBED PRIOR TO ACTUAL CONSTRUCTION OF A REQUIRED FACILITY OR IMPROVEMENT. MASS CLEARING OF THE SITE IN ANTICIPATION OF CONSTRUCTION SHALL BE AVOIDED.

19. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, MAINTAINING, OR RESTORING ALL MONUMENTS AND MONUMENT REFERENCE MARKS WITHIN THE PROJECT SITE. CONTACT THE CITY OR COUNTY SURVEYOR FOR MONUMENT LOCATIONS AND CONSTRUCTION DETAILS.

20. CONTRACTOR TO LAYOUT AND POTHOLE FOR ALL POTENTIAL CONFLICTS WITH UTILITY LINES ON- OR OFF-SITE AS REQUIRED PRIOR TO ANY CONSTRUCTION, AND THE CONTRACTOR WILL VERIFY DEPTHS OF UTILITIES IN THE FIELD BY POTHOLING A MINIMUM OF 300 FEET AHEAD OF PIPELINE CONSTRUCTION TO AVOID CONFLICTS WITH DESIGNED PIPELINE GRADE AND ALIGNMENT. IF A CONFLICT ARISES RESULTING FROM THE CONTRACTOR'S NEGLIGENCE TO POTHOLE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO RESOLVE THE CONFLICT WITHOUT ADDITIONAL COST OR CLAIM TO THE OWNER OR ENGINEER.

21. ANY AREA OUTSIDE THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO OWNER.

22. CONSULT ALL OF THE DRAWINGS AND SPECIFICATIONS FOR COORDINATION REQUIREMENTS BEFORE COMMENCING CONSTRUCTION.

23. AT ALL LOCATIONS WHERE EXISTING PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING PAVEMENT SHALL BE SAWCUT TO A CLEAN, SMOOTH EDGE.

24. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MOST RECENT, ADOPTED EDITION OF ADA ACCESSIBILITY GUIDELINES.

25. CONTRACTOR SHALL, AT THE TIME OF BIDDING AND THROUGHOUT THE PERIOD OF THE CONTRACT, BE LICENSED IN THE STATE OF UTAH AND SHALL BE BONDABLE FOR AN AMOUNT REQUIRED BY THE OWNER.

26. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL WATER, POWER, SANITARY FACILITIES AND TELEPHONE SERVICES AS REQUIRED FOR THE CONTRACTOR'S USE DURING CONSTRUCTION.

27. CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY SCHEDULING INSPECTION AND TESTING OF ALL FACILITIES CONSTRUCTED UNDER THIS CONTRACT. ALL TESTING SHALL CONFORM TO THE REGULATORY AGENCY'S STANDARD SPECIFICATIONS. ALL RE-TESTING AND/OR RE-INSPECTION SHALL BE PAID FOR BY THE CONTRACTOR.

28. IF EXISTING IMPROVEMENTS NEED TO BE DISTURBED AND/OR REMOVED FOR THE PROPER PLACEMENT OF IMPROVEMENTS TO BE CONSTRUCTED BY THESE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING IMPROVEMENTS FROM DAMAGE. COST OF REPLACING OR REPAIRING EXISTING IMPROVEMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEMS REQUIRING REMOVAL AND/OR REPLACEMENT. THERE WILL BE NO EXTRA COST DUE TO THE CONTRACTOR FOR REPLACING OR REPAIRING EXISTING IMPROVEMENTS.

29. WHENEVER EXISTING FACILITIES ARE REMOVED, DAMAGED, BROKEN, OR CUT IN THE INSTALLATION OF THE WORK COVERED BY THESE PLANS OR SPECIFICATIONS, SAID FACILITIES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE WITH MATERIALS EQUAL TO OR BETTER THAN THE MATERIALS USED IN THE ORIGINAL EXISTING FACILITIES. THE FINISHED PRODUCT SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER, THE ENGINEER, AND THE RESPECTIVE REGULATORY AGENCY.

30. CONTRACTOR SHALL MAINTAIN A NEATLY MARKED SET OF FULL-SIZE RECORD DRAWINGS SHOWING THE FINAL LOCATION AND LAYOUT OF ALL STRUCTURES AND OTHER FACILITIES. RECORD DRAWINGS SHALL REFLECT CHANGE ORDERS, ACCOMMODATIONS, AND ADJUSTMENTS TO ALL IMPROVEMENTS CONSTRUCTED. WHERE NECESSARY, SUPPLEMENTAL DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE CONTRACTOR. PRIOR TO ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL DELIVER TO THE ENGINEER ONE SET OF NEATLY MARKED RECORD DRAWINGS SHOWING THE INFORMATION REQUIRED ABOVE. RECORD DRAWINGS SHALL BE REVIEWED AND THE COMPLETE RECORD DRAWING SET SHALL BE CURRENT WITH ALL CHANGES AND DEVIATIONS REDLINED AS A PRECONDITION TO THE FINAL PROGRESS PAYMENT APPROVAL AND/OR FINAL ACCEPTANCE.

31. WHERE THE PLANS OR SPECIFICATIONS DESCRIBE PORTIONS OF THE WORK IN GENERAL TERMS BUT NOT IN COMPLETE DETAIL, IT IS UNDERSTOOD THAT ONLY THE BEST GENERAL PRACTICE IS TO PREVAIL AND THAT ONLY MATERIALS AND WORKMANSHIP OF THE FIRST QUALITY ARE TO BE USED.

32. ALL EXISTING GATES AND FENCES TO REMAIN UNLESS OTHERWISE NOTED ON PLANS. PROTECT ALL GATES AND FENCES FROM DAMAGE.

33. ALL EXISTING TREES ARE TO REMAIN UNLESS OTHERWISE NOTED ON PLANS. PROTECT ALL TREES FROM DAMAGE.

34. CONTRACTORS ARE RESPONSIBLE FOR ALL OSHA REQUIREMENTS ON THE PROJECT SITE.

35. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AND MAINTAIN ANY EQUIPMENT NECESSARY TO DEWATER EXCAVATIONS AS NOTED ON THE PROJECT DRAWINGS.

36. CONTRACTOR SHALL NOTIFY BLUESTAKES 1-800-662-4111 48 HOURS PRIOR TO BEGINNING EXCAVATION. CONTRACTOR SHALL LOCATE EXISTING WATER LINE AND OTHER UTILITIES BOTH VERTICALLY AND HORIZONTALLY. IF DISCREPANCIES, CONFLICTS OR UNFORESEEN CONDITIONS ARE DISCOVERED, CONTRACTOR SHALL IMMEDIATELY CONTACT ENGINEER FOR RESOLUTION.

37. ALL CONSTRUCTION SHALL CONFORM TO APPLICABLE SECTIONS OF THE UTAH DIVISION OF DRINKING WATER SERIES 500 RULES, DRINKING WATER FACILITY CONSTRUCTION, DESIGN AND OPERATION.

UTILITY NOTES

1. PRIOR TO COMMENCING ANY WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE EACH UTILITY COMPANY LOCATE, IN THE FIELD, THEIR MAIN AND SERVICE LINES. THE CONTRACTOR SHALL NOTIFY BLUE STAKES AT 1-800-662-4111 48 HOURS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK. THE CONTRACTOR SHALL RECORD THE BLUE STAKES ORDER NUMBER AND FURNISH ORDER NUMBER TO OWNER AND ENGINEER PRIOR TO ANY EXCAVATION. IT WILL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO DIRECTLY CONTACT ANY OTHER UTILITY COMPANIES THAT ARE NOT MEMBERS OF BLUE STAKES. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO THAT NO DAMAGE RESULTS TO THEM DURING THE PERFORMANCE OF THIS CONTRACT. ANY REPAIRS NECESSARY TO DAMAGED UTILITIES SHALL BE PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL BE REQUIRED TO COOPERATE WITH OTHER CONTRACTORS AND UTILITY COMPANIES INSTALLING NEW STRUCTURES, UTILITIES AND SERVICE TO THE PROJECT.

2. CARE SHOULD BE TAKEN IN ALL EXCAVATIONS DUE TO POSSIBLE EXISTENCE OF UNRECORDED UTILITY LINES. EXCAVATION REQUIRED WITHIN PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT CONTRACTOR'S EXPENSE.

3. TRENCH BACKFILL MATERIAL AND COMPACTION TESTS ARE TO BE TAKEN PER APWA STANDARD SPECIFICATIONS (LATEST EDITION), SECTION 02221 - BACKFILLING TRENCHES, OR AS REQUIRED BY THE GEOTECHNICAL REPORT IF NATIVE MATERIALS ARE USED. NO NATIVE MATERIALS ARE ALLOWED IN THE PIPE ZONE. THE MAXIMUM LIFT FOR BACKFILLING EXCAVATIONS IS 8-INCHES.

4. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE, CAUSED BY ANY CONDITION INCLUDING SETTLEMENT, TO EXISTING UTILITIES FROM WORK PERFORMED AT OR NEAR EXISTING UTILITIES. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO PROTECT ALL EXISTING PUBLIC AND PRIVATE ROADWAY AND UTILITY FACILITIES. DAMAGE TO EXISTING FACILITIES CAUSED BY THE CONTRACTOR MUST BE REPAIRED BY THE CONTRACTOR AT HIS/HER EXPENSE TO THE SATISFACTION OF THE OWNER OF SAID FACILITIES.

5. ALL WATER LINE AND SEWER LINE INSTALLATION AND TESTING TO BE IN ACCORDANCE WITH LOCAL GOVERNING AGENCY'S OR APWA STANDARDS AND SPECIFICATIONS.

6. ALL MANHOLES, HYDRANTS, VALVES, CLEANOUT BOXES, CATCH BASINS, METERS, ETC. MUST BE RAISED OR LOWERED TO FINAL GRADE PER APWA (LATEST EDITION) STANDARDS AND INSPECTOR REQUIREMENTS. CONCRETE COLLARS MUST BE CONSTRUCTED ON ALL MANHOLES, CLEANOUT BOXES, CATCH BASINS, AND VALVES PER APWA STANDARDS. ALL MANHOLE, CATCH BASIN, OR CLEANOUT BOX CONNECTIONS MUST BE MADE WITH THE PIPE CUT FLUSH WITH THE INSIDE OF THE BOX AND GROUTED OR SEALED.

7. CONTRACTOR SHALL NOT ALLOW ANY GROUNDWATER OR DEBRIS TO ENTER THE NEW OR EXISTING PIPE DURING CONSTRUCTION.

8. SILT AND DEBRIS ARE TO BE CLEANED OUT OF ALL STORM DRAIN BOXES. CATCH BASINS ARE TO BE MAINTAINED IN A CLEANED CONDITION AS NEEDED UNTIL AFTER THE FINAL BOND RELEASE INSPECTION.

9. CONTRACTOR SHALL CLEAN ASPHALT, TAR OR OTHER ADHESIVES OFF OF ALL MANHOLE LIDS AND INLET GRATES TO ALLOW ACCESS.

10. EACH TRENCH SHALL BE EXCAVATED SO THAT THE PIPE CAN BE LAID TO THE ALIGNMENT AND GRADE AS REQUIRED. THE TRENCH WALL SHALL BE SO BRACED THAT THE WORKMEN MAY WORK SAFELY AND EFFICIENTLY. ALL TRENCHES SHALL BE DRAINED SO THE PIPE LAYING MAY TAKE PLACE IN DEWATERED CONDITIONS.

11. CONTRACTOR SHALL PROVIDE AND MAINTAIN AT ALL TIMES AMPLE MEANS AND DEVICES WITH WHICH TO REMOVE PROMPTLY AND TO PROPERLY DISPOSE OF ALL WATER ENTERING THE TRENCH EXCAVATION.

12. UTAH STATE REGULATIONS ON THE SEPARATION OF DRINKING WATER AND SEWER LINES SHALL BE FOLLOWED. THESE ARE LISTED UNDER UAC R317-3-2.9.B TO UAC R309-550-7.

13. ALL DUCTILE IRON PIPE SHALL BE PRESSURE CLASS OR SPECIAL THICKNESS CLASS CONFORMING TO ANSI/AWWA C150/A21.50 & C151/A21.51 AND AWWA C600 WITH 8 MIL. POLYETHYLENE WRAP FOR BURIED INSTALLATIONS.

14. ALL DUCTILE IRON FITTINGS SHALL BE RATED FOR WORKING PRESSURES AS SPECIFIED ON THE DRAWINGS.

15. POLYVINYL CHLORINE PIPE SHALL CONFORM TO AWWA C900 (12-INCH DIAMETER OR LESS) OR AWWA C905 (DIAMETER LARGER THAN 12-INCHES) WITH A DIMENSION RATION (DR) OF 18 OR LESS AND CONFORM TO ASTM D2774 AND AWWA M23.

16. ALL GATE VALVES SHALL BE RESILIENT WEDGE GATE VALVES AND SHALL CONFORM TO AWWA C-509 OR C-515. GATE VALVES INSTALLED IN VAULTS SHALL BE FURNISHED WITH HANDWHEEL OPERATORS. VALVES INSTALLED IN DIRECT BURY APPLICATIONS SHALL BE FURNISHED WITH A TWO-INCH SQUARE OPERATING NUT AND SLIP TYPE, CAST IRON VALVE BOX.

17. ALL BUTTERFLY VALVES FOR STANDARD PRESSURE APPLICATIONS SHALL BE TIGHT-CLOSING RUBBER SEAT BUTTERFLY VALVES AND SHALL MEET THE REQUIREMENTS OF AWWA C-504 FOR CLASS 150 B VALVES AND RATED FOR WORKING PRESSURE OF 150 PSI. HIGH PRESSURE BUTTERFLY VALVES SHALL BE RATED FOR WORKING PRESSURES AS SPECIFIED ON THE DRAWINGS.

18. ALL BOLTS FOR DIRECT BURY FITTINGS SHALL BE COATED WITH FM GREASE, AND THE ENTIRE FITTING SHALL BE WRAPPED WITH 8 MIL. POLYETHYLENE PRIOR TO BACKFILLING.

19. CONTRACTOR SHALL INSTALL TRACER WIRE AND MAGNETIC LOCATING TAPE CONTINUOUSLY OVER ALL PIPE UNLESS NOTED ON THE DRAWINGS.

20. ALL DRINKING WATER LINES, TANKS, WELLS, FITTINGS AND APPURTENANCES SHALL BE INSTALLED, TESTED, AND DISINFECTED PER R309-500 THRU 550 PUBLIC DRINKING WATER FACILITY DESIGN AND OPERATION RULES. ALL MATERIAL THAT MAY CONTACT DRINKING WATER, INCLUDING PIPES, GASKETS, LUBRICANTS, O-RINGS, SHALL BE CERTIFIED PER ANSI/NSF 61, CERTIFIED DRINKING WATER SYSTEM COMPONENTS - HEALTH EFFECTS. TO PERMIT FIELD VERIFICATION OF THIS COMPLIANCE, ALL SUCH COMPONENTS SHALL BE APPROPRIATELY STAMPED WITH THE NSF LOGO. FLUSHING AND DISINFECTION OF DRINKING WATER LINES, TANKS, WELLS, FITTINGS AND APPURTENANCES SHALL BE IN ACCORDANCE WITH AWWA STANDARD C651. PRESSURE AND LEAK TESTING SHALL COMPLY WITH AWWA C600.

21. ALL BURIED MECHANICAL JOINTS SHALL BE RESTRAINED

22. ALL OPEN ENDS OF PIPE SHALL BE EFFECTIVELY SEALED AT THE END OF THE DAY'S WORK AND PIPE SHALL NOT BE DROPPED INTO TRENCH.

23. PVC PIPE SHALL BE PRESSURE TESTED ACCORDING TO AWWA C605.

24. WATER LINE TO BE LAID WITHOUT HIGH POINTS OR LOW POINTS, EXCEPT WHERE SHOWN ON THE PLAN AND PROFILE SHEETS.

25. DRINKING WATER LINES TO BE INSTALLED WITH MINIMUM OF 48-INCHES OF COVER.

26. HIGH DENSITY POLYETHYLENE PIPE (HDPE) SHALL CONFORM TO AWWA M55 AND ASTM D2774.

27. CONTRACTOR TO OBSERVE REQUIRED SEPARATION BETWEEN WATER AND SEWER PIPELINES PER UAC R317-3-2.

28. ALL ELBOWS, TEES, CROSSES, CAPPED ENDS, VALVES AND OTHER APPURTENANCES SHALL BE FULLY RESTRAINED USING THRUST BLOCKS AND RESTRAINED JOINTS OR OTHER ACCEPTED METHODS UNLESS NOTED ON THE PROJECT DRAWINGS. CONTRACTOR SHALL NOTIFY ENGINEER IF A THRUST BLOCK CANNOT BE POURED FOR A FITTING.

29. ENGINEER WILL PROVIDE ELECTRONIC FILE SHOWING PIPELINE ALIGNMENT IN COORDINATES TO USE FOR PIPELINE STAKING.

30. CONTRACTOR SHALL COORDINATE ALL RESTORATION EFFORTS WITH THE OWNER AND AGENCIES HAVING JURISDICTION.

31. CONTRACTOR SHALL COORDINATE LOCATION OF NEW "DRY UTILITIES" WITH THE APPROPRIATE UTILITY COMPANY, INCLUDING BUT NOT LIMITED TO: TELEPHONE & INTERNET SERVICE, GAS SERVICE, CABLE, AND POWER.

32. ALL UNDERGROUND UTILITIES SHALL BE IN PLACE PRIOR TO INSTALLATION OF CURB, GUTTER, SIDEWALK AND STREET PAVING.

CONCRETE NOTES

1. UNLESS OTHERWISE NOTED, ALL ON-GRADE CONCRETE WILL BE PLACED ON A MINIMUM 6-INCH GRAVEL BASE OVER A WELL COMPACTED (95% DENSITY PER ASTM D-1557) SUB GRADE.

2. REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL CONCRETE NOTES.

TRAFFIC CONTROL AND SAFETY NOTES

1. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ALL FLAGGING, BARRICADES, AND TRAFFIC CONTROL AS MAY BE NECESSARY TO ENSURE SAFETY TO THE GENERAL PUBLIC DURING CONSTRUCTION. A TRAFFIC CONTROL PLAN SHALL BE DEVELOPED BY THE CONTRACTOR AND SUBMITTED TO THE AGENCIES HAVING JURISDICTION.

2. TRAFFIC CONTROL, BARRICADES, DETOURING, AND STRIPING TO CONFORM TO THE CURRENT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.).

3. NO STREET SHALL BE CLOSED TO TRAFFIC WITHOUT WRITTEN PERMISSION FROM THE APPROPRIATE AGENCY, EXCEPT WHEN DIRECTED BY LAW ENFORCEMENT OR FIRE OFFICIALS.

4. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PROVIDE FOR SMOOTH TRAFFIC FLOW AND SAFETY. ACCESS SHALL BE MAINTAINED FOR ALL PROPERTIES ADJACENT TO THE WORK.

5. DETOURING OPERATIONS FOR A PERIOD OF SIX CONSECUTIVE CALENDAR DAYS, OR MORE, REQUIRE THE INSTALLATION OF TEMPORARY STREET STRIPING AND REMOVAL OF INTERFERING STRIPING BY SANDBLASTING. THE DETOURING STRIPING PLAN OR CONSTRUCTION TRAFFIC CONTROL PLAN MUST BE SUBMITTED TO THE CITY TRAFFIC ENGINEER OR LOCAL JURISDICTION OF AUTHORITY FOR REVIEW AND APPROVAL.

6. ALL TRAFFIC CONTROL DEVICES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE END OF THE WORK TO THE SATISFACTION OF THE CITY TRAFFIC ENGINEER OR LOCAL JURISDICTION OF AUTHORITY.

7. TRAFFIC CONTROL DEVICES (TCDS) SHALL REMAIN VISIBLE AND OPERATIONAL AT ALL TIMES.

8. ALL PERMANENT TCDS CALLED FOR HEREON SHALL BE IN PLACE AND IN FINAL POSITION PRIOR TO ALLOWING ANY PUBLIC TRAFFIC ONTO THE PORTIONS OF THE ROAD(S) BEING IMPROVED HEREUNDER, REGARDLESS OF THE STATUS OF COMPLETION OF PAVING OR OTHER OFF-SITE IMPROVEMENTS CALLED FOR BY THESE PLANS.

9. THE CONTRACTOR SHALL PROVIDE BARRICADES, SIGNS, FLASHERS, OTHER EQUIPMENT AND FLAG PERSONS NECESSARY TO ENSURE THE SAFETY OF WORKERS AND VISITORS.

GRADING AND DRAINAGE NOTES

1. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AND ALL RELATED ADDENDUMS.

2. THE CONTRACTOR SHALL STRIP AND CLEAR THE TOPSOIL, MAJOR ROOTS AND ORGANIC MATERIAL FROM ALL PROPOSED BUILDING, PIPELINES, AND PAVEMENT AREAS PRIOR TO SITE GRADING. (THE TOPSOIL MAY BE STOCKPILED FOR LATER USE IN LANDSCAPED AREAS.)

3. THE CONTRACTOR SHALL REMOVE ALL ORGANIC MATERIAL AND OTHER DELETERIOUS MATERIALS PRIOR TO PLACING GRADING FILL OR BASE COURSE. THE AREA SHOULD BE PROOF-ROLLED TO IDENTIFY ANY SOFT AREAS. WHERE SOFT AREAS ARE ENCOUNTERED, THE CONTRACTOR SHALL REMOVE THE SOIL AND REPLACE WITH COMPACTED FILL.

4. ALL DEBRIS PILES AND BERMS SHOULD BE REMOVED AND HAULED AWAY FROM SITE OR USED AS GENERAL FILL IN LANDSCAPED AREAS.

5. THE CONTRACTOR SHALL CONSTRUCT THE BUILDING PAD TO THESE DESIGN PLANS AS PART OF THE SITE GRADING CONTRACT.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE AND DEBRIS ON ADJACENT STREETS WHEN EQUIPMENT IS TRAVELING THOSE STREETS.

7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ALL NECESSARY CUTS AND FILLS WITHIN THE LIMITS OF THIS PROJECT AND THE RELATED OFF-SITE WORK, SO AS TO GENERATE THE DESIRED SUBGRADE, FINISH GRADES, AND SLOPES SHOWN.

8. THE CONTRACTOR IS WARNED THAT AN EARTHWORK BALANCE WAS NOT NECESSARILY THE INTENT OF THIS PROJECT. ANY ADDITIONAL MATERIAL REQUIRED OR LEFTOVER MATERIAL FOLLOWING EARTHWORK OPERATIONS BECOMES THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE CAN BE UTILIZED ONSITE AT LOCATIONS COORDINATED WITH OWNER.

9. ALL CUT AND FILL SLOPES SHALL BE PROTECTED UNTIL EFFECTIVE EROSION CONTROL HAS BEEN ESTABLISHED.

10. THE USE OF POTABLE WATER WITHOUT A SPECIAL PERMIT FOR BUILDING OR CONSTRUCTION PURPOSES INCLUDING CONSOLIDATION OF BACKFILL OR DUST CONTROL IS PROHIBITED. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WATER FROM GOVERNING AGENCY.

11. THE CONTRACTOR SHALL MAINTAIN THE STREETS, SIDEWALKS, AND ALL OTHER PUBLIC RIGHTS-OF-WAY IN A CLEAN, SAFE AND USABLE CONDITION. ALL SPILLS OF SOIL, ROCK OR CONSTRUCTION DEBRIS SHALL BE PROMPTLY REMOVED AND DISPOSED OF IN A LAWFUL MANNER FROM THE PUBLICLY-OWNED PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. ALL ADJACENT PROPERTY, PRIVATE OR PUBLIC, SHALL BE MAINTAINED IN A CLEAN, SAFE, AND USABLE CONDITION.

12. TOPSOIL SHALL BE REPLACED AND GRADED PRIOR TO REVEGETATION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE DEPTH OF EXISTING TOPSOIL AND REPLACING AND THE EXISTING TOPSOIL DEPTH. DISTURBED AREAS SHALL BE RESEEDED USING A SEED MIX SPECIFIED ON THE EROSION CONTROL PLAN AND DETAILS.

13. IMPROVEMENT ELEVATION LABELS AND ELEVATION CONTOURS REFERENCE FINISH ELEVATIONS. REFER TO ABBREVIATIONS AND SYMBOL LEGEND INCLUDED HEREIN.

14. CONTRACTOR TO REFER TO GEOTECHNICAL INVESTIGATION, PROPOSED BRIDGER BAY CAMPGROUND PREPARED BY AGEC DATED APRIL 16, 2020 AND GEOTECHNICAL INVESTIGATION, PROPOSED WHITE ROCK BAY CAMPGROUND PREPARED BY AGEC DATED OCTOBER 19, 2021 FOR INFORMATION ON SOIL CONDITIONS IN THE AREA. IT IS ANTICIPATED THAT THE CONTRACTOR WILL ENCOUNTER ROCK IN THE AREA OF THE EXISTING BRIDGER BAY CAMPGROUND, BUFFALO POINT ROAD, FROM BRIDGER BAY TO WHITE ROCK BAY, AND ALONG THE COVE ROAD. AREAS OF ROCK MAY EXIST THROUGHOUT THE PROPOSED WHITE ROCK BAY CAMPGROUND. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE PRIOR TO BIDDING AND MAKE THEIR OWN INTERPRETATIONS OF THE SOIL CONDITIONS INCLUDING THE AMOUNT OF ROCK EXCAVATION POTENTIALLY UTILIZING BLASTING PRIOR TO BIDDING.

15. IF PROVIDED, ESTIMATED EARTHWORK QUANTITIES ARE NEAT LINE QUANTITIES. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATIONS OF CUT, FILL, IMPORT, EXPORT, AND FINE GRADING (EARTHWORK) TO COMPLETE THE WORK. NO ADDITIONAL PAYMENT WILL BE MADE FOR EARTHWORK OUTSIDE OF THESE NEAT LINE QUANTITIES.

EROSION CONTROL NOTES

1. PER UDEQ, STORM WATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITIES GENERAL PERMIT NO. UTR 300000, CONSTRUCTION ACTIVITY INCLUDING CLEARING, GRADING, EXCAVATION, AND DEMOLITION THAT DISTURBS ONE OR MORE ACRES OF LAND SHALL REQUIRE INCLUSION IN THE GENERAL PERMIT AND COMPLY WITH THE REQUIREMENTS THEREIN.

2. THE TOTAL PROJECT AREA OF DISTURBANCE IS GREATER THAN 1 ACRE; THEREFORE, AN UPDES STORM WATER PERMIT IS REQUIRED.

3. THE CONTRACTOR SHALL OBTAIN A STORM WATER PERMIT FOR THIS PROJECT, IF APPLICABLE, AND MAINTAIN A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) ON SITE DURING ALL PHASES OF CONSTRUCTION.

4. THE PRIME CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR COMPLIANCE WITH GENERAL PERMIT.

5. THE EROSION CONTROL PLAN HEREIN IS FOR PERMITTING PURPOSES ONLY. THE CONTRACTOR SHALL REVISE THE EROSION CONTROL PLAN TO FIT SPECIFIC SITE CONDITIONS AS REQUIRED TO MEET THE REQUIREMENTS AND CONDITIONS OF THE PERMIT.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE PERMIT THROUGHOUT CONSTRUCTION AND UNTIL THE NOTICE OF TERMINATION (NOT) IS ISSUED BY UDEQ. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL PERMIT REQUIREMENTS.

7. MAINTAIN DUST CONTROL WITH WATER AND/OR DUST PALLIATIVE AT ALL TIMES. PROVIDE SUFFICIENT LABOR, EQUIPMENT, AND MATERIALS ONSITE TO MAINTAIN DUST CONTROL WHEN CONDITIONS REQUIRE.

SPECIAL INSPECTION AS PER IBC

1. REFER TO STRUCTURAL SPECIAL INSPECTION SHEET FOR SPECIAL INSPECTIONS REQUIRED BY THE INTERNATIONAL BUILDING CODE.

DESIGN CRITERIA

1. REFER TO GENERAL STRUCTURAL NOTES SHEET FOR PROJECT DESIGN CRITERIA.

DFCM STANDARDS

1. CONSTRUCTION OF NEW STATE BUILDINGS AND REMODELING OF EXISTING BUILDINGS SHALL COMPLY WITH ALL THE REQUIREMENTS OF THE DFCM STANDARDS. THE DRAWINGS PROVIDED HEREIN MEED THE DFCM STANDARDS.

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DATE: 01/25/2022

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THE STANDARD IN ENGINEERING

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FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT J. ROUSSELLE
EXP. 3/31/2023
1/12/2022
STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WWTF DESIGN & DFCM COMMENTS	GWO
2	01/12/2022	DFCM COMMENTS	GWO
3			
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6			
7			
8			

GENERAL NOTES

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

G-100-04

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Special Inspection, Material Testing & Structural Observation Items Required by Chapter 17 of the 2018 IBC

Indicate items requiring special inspection, structural testing, or structural observations by checking the appropriate box. All items not requiring inspection/testing should be removed from the form. For items requiring continuous inspection, a special inspector must be present onsite during the performance of that task. In most cases "periodic" inspections/tests shall be performed prior to commencing the task, intermittently during the task, and at the completion of the task. The "Detailed Instructions & Frequency" provides a description of the presumed requirements for tasks requiring "periodic" inspections. The design professional in responsible charge should revise the requirements as needed on a project-specific basis.

CONCRETE CONSTRUCTION (IBC 1705.3 & 1705.12.1)

Item			*Detailed Instructions and Frequencies*
Reinforcing steel, including prestressing tendons	☐ Continuous	☒ Periodic	Verify prior to placing concrete that reinforcing is of specified type, grade and size; that it is free of oil, dirt and rust; that it is located and spaced properly; that hooks, bends, ties, stirrups and supplemental reinforcement are placed correctly; that lap lengths, stagger and offsets are provided; and that all mechanical connections are installed per the manufacturer's instructions and/or evaluation report.
Post-installed anchors or dowels	☐ Continuous	☒ Periodic	All post-installed anchors/dowels shall be specially inspected as required by the approved ICC-ES report. Horizontally or upwardly inclined anchors that resist sustained tension loads require continuous inspection and approved installers.
Use of required mix design	☐ Continuous	☒ Periodic	Verify that all mixes used comply with the approved construction documents; ACI 318: Ch. 19, 26.4.3, 26.4.4; and IBC 1904.1, 1904.2, 1908.2, 1908.3.
Concrete sampling for strength tests, slump, air content, and temperature	☒ Continuous	☐ Periodic	
Curing temperature and techniques	☐ Continuous	☒ Periodic	Verify that the ambient temperature for concrete is kept at > 50°F for at least 7 days after placement. High-early-strength concrete shall be kept at > 50°F for at least 3 days. Accelerated curing methods may be used (see ACI 318: 26.4.7-26.4.9). The ambient temperature for shotcrete shall be > 40°F for the same period of time as noted for concrete. Shotcrete shall be kept continuously moist for at least 24 hours after shotcreting. All concrete materials, reinforcement, forms, fillers, and ground shall be free from frost. In hot weather conditions ensure that appropriate measures are taken to avoid plastic shrinkage cracking and that the specified water/cement ratio is not exceeded.
Strength verification	☐ Continuous	☒ Periodic	Verify that adequate strength has been achieved prior to the removal of shores and forms or the stressing of post-tensioned tendons.
Formwork	☐ Continuous	☒ Periodic	Verify that the forms are placed plumb and conform to the shapes, lines, and dimensions of the members as required by the approved construction documents.

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SOILS CONSTRUCTION (IBC 1705.6)

Item			*Detailed Instructions and Frequencies*
Verify subgrade is adequate to achieve design bearing capacity	☐ Continuous	☒ Periodic	Prior to placement of concrete.
Verify excavations extend to proper depth and material	☐ Continuous	☒ Periodic	Prior to placement of compacted fill or concrete.
Verify that subgrade has been appropriately prepared prior to placing compacted fill	☐ Continuous	☒ Periodic	Prior to placement of compacted fill.
Perform classification and testing of compacted fill materials	☐ Continuous	☒ Periodic	All materials shall be checked at each lift for proper classifications and gradations not less than once for each 10,000ft² of surface area.
Verify proper materials, densities and lift thicknesses during placement and compaction.	☒ Continuous	☐ Periodic	

MISCELLANEOUS AREAS

➢ *These inspections may be recommended by the Architect/Engineer and are to be approved by DFCM.*

Item			*Detailed Instructions and Frequencies*
Soil backfill (specify locations and frequency)	☐ Continuous	☒ Periodic	All materials must be compacted to 95% of modified proctor density (proctor density provided by geotechnical engineer). Tests shall be performed per the plans, specifications and recommendations provided in the geotechnical report. If no recommendations are available, density tests should be performed at a rate of 1 test/10,000 square feet. Each lift should be tested for density performance. Select locations randomly throughout the project area.
Soils for curb and gutter (specify locations and frequency)	☐ Continuous	☒ Periodic	All materials must be compacted to 95% of modified proctor density (proctor density provided by geotechnical engineer). Tests shall be performed per the plans, specifications and recommendations provided in the geotechnical report. If no recommendations are available, density tests should be performed at a rate of 1 test/500 linear feet of curb and gutter. Each lift should be tested for density performance. Select locations randomly throughout the project area.
Soils for parking lots (specify locations and frequency)	☐ Continuous	☒ Periodic	All materials must be compacted to 95% of modified proctor density (proctor density provided by geotechnical engineer). Tests shall be performed per the plans, specifications and recommendations provide in the geotechnical report. If no recommendations are available, density tests should be performed at a rate of 1 test/ 7,500 square feet. Each lift should be tested for density performance. Select locations randomly throughout the project area.
Soils for utility trench backfill	☐ Continuous	☒ Periodic	All materials must be compacted to 95% of modified proctor density (proctor density provided by geotechnical engineer). Tests shall be performed per

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			the plans, specifications and recommendations provided in the geotechnical report. If no recommendations are available, density tests should be performed at a rate of 1 test/ 200 linear feet of trench. Each lift should be tested for density performance. Select locations randomly throughout the project area.
Reinforcement for slab on grade sidewalks and drive approaches (specify locations and frequency)	☐ Continuous	☒ Periodic	Verify placement, spacing, and size conformance with plans and specifications.
Concrete testing for slab on grade sidewalks and drive approaches (specify locations and frequency)	☐ Continuous	☒ Periodic	Take one sample per batch OR every 50 cubic yards; whichever is smaller. Test for temperature, air content, slump and strength per project specifications.
Asphalt inspection (specify locations and frequency)	☐ Continuous	☒ Periodic	Verify placement (thickness), temperature, and mix design qualities meet project specifications.
Asphalt testing (specify locations and frequency)	☐ Continuous	☒ Periodic	All materials must be compacted to 95% of modified proctor density (proctor density provided by geotechnical engineer). Tests shall be performed per the plans, specifications and recommendations provided in the geotechnical report. If no recommendations are available, density tests should be performed at a rate of 1 test/ 7,500 square feet. Each lift should be tested for density performance. Select locations randomly throughout the project area.
Seismic supports for electrical raceways, cable trays and lights	☐ Continuous	☒ Periodic	Per project specifications
Seismic supports for plumbing lines including gas, water and steam and condensation	☐ Continuous	☒ Periodic	Per project specifications

Special Inspectors Shall:

- Be approved by the Building Official prior to performing any duties;
- Provide proof of licensure as a special inspector by the State of Utah for each type of inspection;
- Inspection reports are to meet the requirements of IBC 1704.2.4 and DFCM standards;
- Inspection reports are to be submitted to the code consultant, architect, DFCM project manager, and the State of Utah Building Official within 48 hours of performing inspections;
- A final inspection report shall be submitted following completion of the project documenting the types of special inspections performed and a statement indicating that the structure is in compliance with the approved construction documents and applicable codes (see IBC 1704.2.4).

Last Revised: 10/2016

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Nonstructural Component Checklist

The attached checklist must be provided near the front of the construction plans of all DFCM projects involving new construction, building additions, or the addition of new or replaced components. One box must be checked within each row. Comments should be provided noting the particular component(s) that require seismic restraint.

Please review the **"DFCM Guidelines for Seismic Restraint of Nonstructural Components"** handout for more clarification on the requirements for non-structural components and an example of how to fill out the attached checklist.

Last Revised: 10/2016

NONSTRUCTURAL COMPONENT CHECKLIST

ITEM DESCRIPTION	*NOT REQUIRED*	*ON CONST. DOCUMENTS*	*DEFERRED SUBMITTAL*	*COMMENTS*
Architectural Components:				
Interior Nonstructural Walls & Partitions		X		
Cantilever Elements *(i.e. parapets, etc.)*	X			
Exterior Nonstructural Wall Elements	X	X		
Veneer	X			
Penthouses	X			
Ceilings *(i.e. suspended grid or hard-lid)*		X		Drywall or ACX (Walls and Ceilings)
Cabinets *(i.e. storage cabinets, equip, etc.)*		X		Control Panels, Electrical Cabinets
Access Floors	X			
Storage Racks	X			
Appendages & Ornamentations	X			
Signs & Billboards	X			
Other:				
Other:				
MEP Components:				
Fire Sprinklers	X			
Mechanical Equipment *(i.e. HVAC, fans, air handlers, boilers, furnaces, tanks, chillers, water heaters, heat exchangers, evaporators, engines, turbines, pumps, compressors, MFR equipment, etc.)*		X		
Electrical Equipment *(i.e. generators, batteries, inverters, transformers, MCC, panel boards, switch gear, cabinets, etc.)*		X		
Elevator & Escalator Components	X			
Communication Equipment, Computers, Instrumentation, and Controls		X		
Roof-mounted Chimneys, Stacks, Cooling & Electrical Towers	X			
Lighting Fixtures		X		
Vibration Isolated Components	X			
Piping & Conduit Systems		X		
Ductwork *(including in-line components)*	X			
Conveyors	X			
Cable Trays		X		
Other:				
Other:				

NOTES:

1. Deferred submittals for seismic restraint of nonstructural components must be submitted to the DFCM Building Official a minimum of two weeks prior to the planned installation in order to allow for plan review and forwarding to inspectors. In the event that the submittal is deficient additional time may become necessary.
2. When seismic restraint of non-structural components is installed prior to receiving DFCM approval it shall not be covered or concealed until receiving both plan review and inspection approval. Further, installers are proceeding at their own risk until plan review and inspection approval occurs.
3. The requirements for seismic restraint of nonstructural components cannot be satisfied by a general reference to Design Manuals. The design professional may utilize these manuals as a basis of their design, but must provide all supporting documentation to ensure that the design conforms to the requirements of ASCE 7-05, Chapter 13.
4. Submittals must include details of the proposed seismic restraint of nonstructural components. These details must show specific information relating to the materials, type, size, and locations of anchorages; materials used for bracing; attachment requirements of bracing to structure and component; and locations of transverse and longitudinal sway bracing and rod stiffeners. Submittals may also require structural calculations, engineering reports, test data, and/or specifications to ensure code compliance.

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DATE: 01/25/2022

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885568-2202
ROBERT J.
ROUSSELLE
EXP.3/31/2023
STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WHITE DESIGN & DFCM COMMENTS	GWD
2	01/12/2022	DFCM COMMENTS	GWD
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CIVIL FORMS

PROJECT NUMBER 10970
PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN
CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE

G-100-05

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Special Inspection, Material Testing & Structural Observation Items Required by Chapter 17 of the 2018 IBC

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FABRICATORS (IBC 1704.2.5 & 1705.10)

☐ Approved Fabricator	Yes	No

Fabricators Name:	
Fabricators plant location	

Required In-plant Inspections: ☐ Steel Construction ☐ Concrete Construction ☐ Wood Construction ☐ Cold-formed Construction ☐ Other: _____ ☐ Other: _____

STRUCTURAL STEEL (IBC 1705.2.1, 1705.12.1 & 1705.13.1)

Item			*Detailed Instructions and Frequencies*
PRIOR TO WELDING (TABLE N5.4-1, AISC 360-10):			
Verify welding procedures (WPS) and consumable certificates	☒ Continuous	☐ Periodic	
Material identification	☐ Continuous	☒ Periodic	Verify type and grade of material.
Welder identification	☐ Continuous	☒ Periodic	A system shall be maintained by which a welder who has welded a joint or member can be identified.
Fit-up groove welds	☐ Continuous	☒ Periodic	Verify joint preparation, dimensions, cleanliness, tacking, and backing.
Access holes	☐ Continuous	☒ Periodic	Verify configuration and finish.
Fit-up of fillet welds	☐ Continuous	☒ Periodic	Verify alignment, gaps at root, cleanliness of steel surfaces, and tack weld quality and location.
DURING WELDING (TABLE N5.4-2, AISC 360-10):			
Use of qualified welders	☐ Continuous	☒ Periodic	Verify that welders are appropriately qualified.
Control and handling of welding consumables	☐ Continuous	☒ Periodic	Verify packaging and exposure control.
Cracked tack welds	☐ Continuous	☒ Periodic	Verify that welding does not occur over cracked tack welds.
Environmental conditions	☐ Continuous	☒ Periodic	Verify win speed is within limits as well as precipitation and temperature.
WPS followed	☐ Continuous	☒ Periodic	Verify items such as settings on welding equipment, travel speed, welding materials, shielding gas type/flow rate, preheat applied, interpass temperature maintained, and proper position.
Welding techniques	☐ Continuous	☒ Periodic	Verify interpass and final cleaning, each pass is within profile limitations, and quality of each pass.

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AFTER WELDING (TABLE N5.4-3, AISC 360-10):			
Welds cleaned	☐ Continuous	☒ Periodic	Verify that welds have been propyl cleaned.
Size, length, and location of welds	☒ Continuous	☐ Periodic	
Welds meet visual acceptance criteria	☒ Continuous	☐ Periodic	
Arc strikes	☒ Continuous	☐ Periodic	
k-area	☒ Continuous	☐ Periodic	
Backing & weld tabs removed	☒ Continuous	☐ Periodic	
Repair activities	☒ Continuous	☐ Periodic	
Document acceptance or rejection of welded joint/member	☒ Continuous	☐ Periodic	
NONDESTRUCTIVE TESTING (SECTION N5.5, AISC 360-10):			
CJP welds (Risk Cat. II)	☐ Continuous	☒ Periodic	Ultrasonic testing shall be performed on 10% of CJP groove welds in butt, T- and corner joints subject to transversely applied tension loading in materials 5/16-inch thick or greater. Testing rate must be increased if > 5% of welds tested have unacceptable defects.
CJP welds (Risk Cat. III or IV)	☒ Continuous	☐ Periodic	***A reduction in the rate of ultrasonic testing is allowed per Section N3.5e.***
Access holes (flange > 2")	☒ Continuous	☐ Periodic	
Welded joints subject to fatigue	☒ Continuous	☐ Periodic	
PRIOR TO BOLTING (TABLE N5.6-1, AISC 360-10):			
➢ *Not required if only snug-tight joints are specified [per Section N5.6(1) of AISC 360-10].*			
Certifications of fasteners	☒ Continuous	☐ Periodic	
Fasteners marked	☐ Continuous	☒ Periodic	Verify that fasteners have been marked in accordance with ASTM requirements.
Proper fasteners for joint	☐ Continuous	☒ Periodic	Verify grade, type, and bolt length if threads are excluded from the shear plane.
Proper bolting procedure	☐ Continuous	☒ Periodic	Verify proper procedure is used for the joint detail.
Connecting elements	☐ Continuous	☒ Periodic	Verify appropriate faying surface condition and hole preparation, if specified, meet requirements.
Pre-installation verification testing	☐ Continuous	☒ Periodic	Observe and document verification testing by installation personnel for fastener assemblies and methods used.
Proper storage	☐ Continuous	☒ Periodic	Verify proper storage of bolts, nuts, washers, and other fastener components.
DURING BOLTING (TABLE N5.6-2, AISC 360-10):			
➢ *Not required if only snug-tight joints are specified [per Section N5.6(1) of AISC 360-10].*			
➢ *Not required for pretensioned joints using turn-of-the-nut method with match-marking, direct-tension-indicators, or twist-off type tension control method [per Section N5.6(2) of AISC 360-10].*			
Fastener assemblies	☐ Continuous	☒ Periodic	Verify that fastener assemblies are of suitable condition, paced in all holes, and washers are positioned as required.
Snug-tight prior to pretensioning	☐ Continuous	☒ Periodic	Verify that joints are brought to snug-tight condition prior to pretensioning operation.
Fastener component	☐ Continuous	☒ Periodic	Verify that fastener component is not turned by wrench prevented from rotating.

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Pretensioned fasteners	☐ Continuous	☒ Periodic	Verify that fasteners are Pretensioned in accordance with RCSC Specification, progressing systematically from the most rigid point toward the free edges.
AFTER BOLTING (TABLE N5.6-3, AISC 360-10):			
Document acceptance or rejection of bolted connections	☒ Continuous	☐ Periodic	
OTHER STEEL INSPECTIONS (SECTION N5.7, AISC 360-10; Tables J8-1 & J10-1, AISC 341-10):			
Structural steel details	☐ Continuous	☒ Periodic	All fabricated steel or steel frames shall be inspected to verify compliance with the details shown in the construction documents, such as braces, stiffeners, member locations, and proper application of joint details at each connection.
Anchor rods and other embedments supporting structural steel	☐ Continuous	☒ Periodic	Shall be on the premises during the placement of anchor rods and other embedments supporting structural steel for compliance with construction documents. Verify the diameter, grade, type, and length of the anchor rod or embedded item, and the extent or depth of embedment prior to placement of concrete.
Reduced beam sections (RBS)	☐ Continuous	☒ Periodic	Verify contour and finish as well as dimensional tolerances *(see Table J8-1 of AISC 341-10)*.
Protected zones	☐ Continuous	☒ Periodic	Verify that no holes or unapproved attachments are made within the protected zone *(see Table J8-1 of AISC 341-10)*.
H-piles	☐ Continuous	☒ Periodic	Verify that no holes or unapproved attachments occur within the protected zones of piling *(see Table J10-1 of AISC 341-10)*.
STEEL ELEMENTS OF COMPOSITE CONSTRUCTION (TABLE N6.1, AISC 360-10; TABLES J9-1 thru J9-3, AISC 341-11):			
Placement and installation of steel deck	☒ Continuous	☐ Periodic	
Placement and installation of steel headed stud anchors	☒ Continuous	☐ Periodic	
Document acceptance or rejection of steel elements	☒ Continuous	☐ Periodic	
Reinforcing steel	☐ Continuous	☒ Periodic	Verify appropriate reinforcement size, spacing, and orientation; that it has not been re-bent in field; that it is correctly tied and supported; and that required steel clearances have been provided.
Composite member size	☐ Continuous	☒ Periodic	Verify that composite member is the required size.

STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL (IBC 1705.2)

Item			*Detailed Instructions and Frequencies*
STEEL ROOF AND FLOOR DECKS (IBC 1705.2.2; Section 6.1 of SDI QA/QC - 2011):			
Material verification of cold-formed steel deck	☐ Continuous	☒ Periodic	Confirm that identification markings are provided to conform to ASTM standards specified on construction documents.
Floor and roof deck welds	☐ Continuous	☒ Periodic	Visual inspection is required to confirm that weld meets acceptance criteria of AWS D1.3 and SDI C, SDI NC, SDI RD and manufacturer's instructions.

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Floor and roof mechanical fasteners	☐ Continuous	☒ Periodic	Visual inspection to confirm fasteners are installed per SDI C, SDI NC, SDI RD and manufacturer's instructions.
Steel deck installation	☐ Continuous	☒ Periodic	Verify deck is installed per the approved construction documents, installation drawings, shop drawings and applicable reference standards.
OPEN-WEB STEEL JOISTS AND JOIST GIRDERS (IBC TABLE 1705.2.3):			
End connections – welded or bolted	☐ Continuous	☒ Periodic	Visual inspection to confirm that end connections conform to the approved plans and shop drawings.
Bridging – horizontal or diagonal	☐ Continuous	☒ Periodic	Visual inspection to confirm that bridging is provided per the approved plans and shop drawings.
COLD-FORMED STEEL CONSTRUCTION (IBC 1705.2.2.1.1, 1705.10.3, and 1705.11.3):			
Trusses spanning > 60-feet	☐ Continuous	☒ Periodic	Verify that temporary and permanent truss bracing is installed in accordance with approved truss package. Performed by code inspection firm.
Wind-force-resisting systems or seismic-force-resisting systems	☐ Continuous	☒ Periodic	Periodic inspections of welding operations. If fastener spacing is < 4"o.c.: Verify that proper screw attachment, bolting, anchoring and other fastening of shear walls, diaphragms, drag struts, braces, shear panels and holdowns has occurred. Performed by code inspection firm.
Cold-formed steel special bolted moment frame	☐ Continuous	☒ Periodic	Visual inspections during installation cold-formed bolted moment frames located in Seismic Design Category 'D-F'.

CONCRETE CONSTRUCTION (IBC 1705.3 & 1705.12.1)

Item			*Detailed Instructions and Frequencies*
Reinforcing steel, including prestressing tendons	☐ Continuous	☒ Periodic	Verify prior to placing concrete that reinforcing is of specified type, grade and size; that it is free of oil, dirt and rust; that it is located and spaced properly; that hooks, bends, ties, stirrups and supplemental reinforcement are placed correctly; that lap lengths, stagger and offsets are provided; and that all mechanical connections are installed per the manufacturer's instructions and/or evaluation report.
Welding of reinforcing steel	☐ Continuous	☒ Periodic	Visually inspect all welds and also verify weldability of reinforcing steel based upon carbon equivalent and in accordance with AWS D1.4.
Cast-in bolts & embeds	☐ Continuous	☒ Periodic	Inspection of anchors or embeds cast in concrete is required when allowable loads have been increased or where strength design is used.
Post-installed anchors or dowels	☐ Continuous	☒ Periodic	All post-installed anchors/dowels shall be specially inspected as required by the approved ICC-ES report. Horizontally or upwardly inclined anchors that resist sustained tension loads require continuous inspection and approved installers.
Use of required mix design	☐ Continuous	☒ Periodic	Verify that all mixes used comply with the approved construction documents; ACI 318: Ch. 19, 26.4.3, 26.4.4; and IBC 1904.1, 1904.2, 1908.2, 1908.3.

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Concrete sampling for strength tests, slump, air content, and temperature	☒ Continuous	☐ Periodic	
Concrete & shotcrete placement	☒ Continuous	☐ Periodic	
Curing temperature and techniques	☐ Continuous	☒ Periodic	Verify that the ambient temperature for concrete is kept at > 50°F for at least 7 days after placement. High-early-strength concrete shall be kept at > 50°F for at least 3 days. Accelerated curing methods may be used (see ACI 318: 26.4.7-26.4.9). The ambient temperature for shotcrete shall be > 40°F for the same period of time as noted for concrete. Shotcrete shall be kept continuously moist for at least 24 hours after shotcreting. All concrete materials, reinforcement, forms, fillers, and ground shall be free from frost. In hot weather conditions ensure that appropriate measures are taken to avoid plastic shrinkage cracking and that the specified water/cement ratio is not exceeded.
Pre-stressed concrete	☒ Continuous	☐ Periodic	
Erection of precast concrete	☐ Continuous	☒ Periodic	Verify that all precast elements are lifted, assembled and braced in accordance with the approved construction documents.
Strength verification	☐ Continuous	☒ Periodic	Verify that adequate strength has been achieved prior to the removal of shores and forms or the stressing of post-tensioned tendons.
Formwork	☐ Continuous	☒ Periodic	Verify that the forms are placed plumb and conform to the shapes, lines, and dimensions of the members as required by the approved construction documents.

SOILS CONSTRUCTION (IBC 1705.6)

Item			*Detailed Instructions and Frequencies*
Verify subgrade is adequate to achieve design bearing capacity	☐ Continuous	☒ Periodic	Prior to placement of concrete.
Verify excavations extend to proper depth and material	☐ Continuous	☒ Periodic	Prior to placement of compacted fill or concrete.
Verify that subgrade has been appropriately prepared prior to placing compacted fill	☐ Continuous	☒ Periodic	Prior to placement of compacted fill.
Perform classification and testing of compacted fill materials	☐ Continuous	☒ Periodic	All materials shall be checked at each lift for proper classifications and gradations not less than once for each 10,000ft² of surface area.

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Verify proper materials, densities and lift thicknesses during placement and compaction.	☒ Continuous	☐ Periodic	

MECHANICAL & ELECTRICAL COMPONENTS (IBC 1705.12.4, 1705.12.6 & 1705.13.2)

➢ *Only required for buildings located within Seismic Design Category C, D, E, or F.*

Item			*Detailed Instructions and Frequencies*
Anchorage of emergency or standby power systems	☐ Continuous	☒ Periodic	Verify that anchorage complies with approved construction documents. ***Performed by code inspection firm.***
Installation of piping systems carrying flammable, combustible or highly toxic materials	☐ Continuous	☒ Periodic	Verify that installation and restraint comply with approved construction documents. ***Performed by code inspection firm.***
Installation of HVAC ductwork containing hazardous materials	☐ Continuous	☒ Periodic	Verify that installation and restraint comply with approved construction documents. ***Performed by code inspection firm.***
Installation of vibration isolation systems having a clearance of ≤¼"	☐ Continuous	☒ Periodic	Verify that installation complies with approved construction documents and manufacturer's recommendations. ***Performed by code inspection firm.***
Designated seismic systems	☐ Continuous	☒ Periodic	Confirm that manufacturer's certificate of compliance conforms to the requirements of Section 13.2 of ASCE 7-10. Verify that the label, anchorage or mounting conforms to the manufacturer's certificate of compliance. ***Performed by code inspection firm.***

Special Inspectors Shall:

- Be approved by the Building Official prior to performing any duties;
- Provide proof of licensure as a special inspector by the State of Utah for each type of inspection;
- Inspection reports are to meet the requirements of IBC 1704.2.4 and DFCM standards;
- Inspection reports are to be submitted to the code consultant, architect, DFCM project manager, and the State of Utah Building Official within 48 hours of performing inspections;
- A final inspection report shall be submitted following completion of the project documenting the types of special inspections performed and a statement indicating that the structure is in compliance with the approved construction documents and applicable codes (see IBC 1704.2.4).

Last Revised: 10/2016

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STRUCTURAL OBSERVATIONS (IBC 1704.6)

Item		*Proposed Frequency*	*Name of Structural Observer*
Footings & Piers	☐ Required		
Mat Foundations	☐ Required		
Deep Foundations	☐ Required		
Grade Beams	☐ Required		
Concrete Walls	☐ Required		
Masonry Walls	☐ Required		
Wood Walls	☐ Required		
Steel Moment Frames	☐ Required		
Steel Braced Frames	☐ Required		
Concrete Moment Frames	☐ Required		
Concrete Diaphragms	☐ Required		
Steel Deck Diaphragms	☐ Required		
Wood Diaphragms	☐ Required		
Post-tensioned Deck	☐ Required		
Other:	☐ Required		
Other:	☐ Required		
Other:	☐ Required		
Other:	☐ Required		

Structural Observer's Shall:

- Provide proof of licensure as a licensed professional/structural engineer by the State of Utah;
- If structural observations are performed by individuals other than the design professional in responsible charge, they should first be approved by the Building Official.
- At the conclusion of work a final structural observation report must be submitted to the Building Official noting any deficiencies which, to the best of the structural observer's knowledge, have not been resolved (see IBC 1704.6).

Last Revised: 10/2016

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT L. ROUSSELLE EXP 6/30/2023 STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WWTF DESIGN & DFCM COMMENTS	GWD
2	01/12/2022	DFCM COMMENTS	GWD
3			
4			
5			
6			
7			
8			

RESTROOM SPECIAL INSPECTION FORMS

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

G-100-06

CODE ANALYSIS

APPLICABLE CODES

	YEAR		YEAR
INTERNATIONAL BUILDING CODE	2018	NATIONAL ELECTRICAL CODE	2020
INTERNATIONAL MECHANICAL CODE	2018	UNIFORM CODE FOR	
INTERNATIONAL FUEL GAS CODE	2018	BUILDING CONSERVATION	2018
INTERNATIONAL PLUMBING CODE	2018	ADA ACCESSIBILITY	
INTERNATIONAL FIRE CODE	2018	GUIDELINES	ANSI A117.1 2009
INTERNATIONAL ENERGY CODE	2018		
CONSERVATION CODE	2018		

A. OCCUPANCY AND GROUP: U

CHANGE IN USE: YES NO X
SPECIAL USE AND OCCUPANCY (E.G. HIGH RISE, COVERED MALL): NA
CODFCOVERED):MALL):p:DCOVEREDMMALLCOVERED

B. SEISMIC DESIGN CATEGORY: D

C. TYPE OF CONSTRUCTION (CIRCLE ONE):

I/A I/B II/A II/B III/A III/B IV/HT V/A (V/B)

D. FIRE RESISTANCE RATING REQUIREMENTS FOR THE EXTERIOR WALLS BASED ON THE FIRE SEPARATION DISTANCE (IN HOURS):
NORTH: NA SOUTH: NA EAST: NA WEST: NA

E. MIXED OCCUPANCIES: NA NONSEPERATED USES: NA

F. SPRINKLERS:

REQUIRED: NA PROVIDED: NA

TYPE OF SPRINKLER SYSTEM IBC 903.3.1.):

G. NUMBER OF STORIES: 1 BUILDING HEIGHT: 15'-0"

H. ACTUAL AREA PER FLOOR (SQUARE FEET): 966 SF, 445 SF, 133 SF

I. TABULAR AREA: (TABLE 503): 8,500 SQ. FT.

J. AREA MODIFICATIONS:

a. $A_a = \left\{ A_t + \left[A_t \times I_f \right] + \left[A_i \times I_s \right] \right\}$ $I_f = \left[F/P - 0.25 \right] W/30$

b. SUM OF THE RATIO CALCULATIONS OF MIXED OCCUPANCIES:

$$\frac{\text{ACTUAL AREA}}{\text{ALLOWABLE AREA}} \leq 1$$

c. TOTAL ALLOWABLE AREA FOR:
1. ONE STORY: 8,500 SQ. FT.
2. TWO STORY: A_a (2)
3. THREE STORY: A_a (3)

d. UNLIMITED AREA BUILDING: YES NO X CODE SELECTION:

K. FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS):

ELEMENT	HOURS	ASSEMBLY/ LISTING	ELEMENT	HOURS	ASSEMBLY/ LISTING
EXTERIOR BEARING WALLS	NA		FLOORS - CEILING FLOORS	NA	
INTERIOR BEARING WALLS			ROOFS - CEILING ROOFS		
EXTERIOR NON-BEARING WALLS			EXTERIOR DOORS AND WINDOWS		
STRUCTURAL FRAME			SHAFT ENCLOSURES		
PARTITIONS - PERMANENT			FIRE WALLS		
FIRE BARRIERS			FIRE PARTITIONS		
			SMOKE PARTITIONS		

L. DESIGN OCCUPANT LOAD: 10

EXIT WIDTH REQUIRED: 36 EXIT WIDTH PROVIDED: 36

M. MINIMUM NUMBER OF REQUIRED PLUMBING FACILITIES: PROVIDED IN ADJACENT BUILDING
a. WATER CLOSETS - REQUIRED (m) (f) PROVIDED (m) (f)
b. URINALS - REQUIRED (m) (f) PROVIDED (m) (f)
c. LAVATORIES - REQUIRED (m) (f) PROVIDED (m) (f)
d. BATH TUBS OR SHOWERS:
e. DRINKING FOUNTAINS: NA SERVICE SINKS: NA

FOOTNOTES:

1. IN CASE OF CONFLICT WITH THE U.S. DEPARTMENT OF JUSTICE FEDERAL REGISTERS PARTS I THROUGH V - ADA GUIDELINES AND SPECIFIC REFERENCE TO THE INTERNATIONAL BUILDING CODE ACCESSIBILITY CHAPTERS, THE MORE RESTRICTIVE REQUIREMENT SHALL GOVERN.

2. ADDITIONAL CODE INFORMATION SHALL BE PROVIDED AT THE DISCRETION OF THE BUILDING OFFICIAL FOR COMPLEX BUILDINGS. INCLUDING, BUT NOT LIMITED TO:
a. HIGH RISE REQUIREMENTS.
b. ATRIUMS.
c. PERFORMANCE BASED CRITERIA.
d. MEANS OR EGRESS ANALYSIS.
e. FIRE ASSEMBLY LOCATOR SHEET.
f. EXTERIOR AND INTERIOR ACCESSIBILITY ROUTE.
g. FIRE STOPPING, INCLUDING TESTED DESIGN NUMBER.

CODE OFFICIAL STAMP
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
REVIEWED FOR CODE COMPLIANCE
SIGNATURE:
DATE: 01/25/2022

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885568-2202
ROBERT J. ROUSSELLE
EXP.3/31/2023
STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WHITE DESIGN & DFCM COMMENTS	GWD
2	01/12/2022	DFCM COMMENTS	GWD
3			
4			
5			
6			
7			
8			

RESTROOM CODE ANALYSIS

PROJECT NUMBER	PRINT DATE
10970	1/12/2022
DRAWN BY	CHECKED BY
G. OFFERMANN	F. DUBEROW
PROJECT MANAGER	
R. ROUSSELLE	

G-100-07

SPECIAL INSPECTION

SPECIAL INSPECTIONS:

1. SPECIAL INSPECTIONS ARE REQUIRED AS DESCRIBED IN CHAPTER 17 OF THE 2018 IBC. THE OWNER OR OWNER'S AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION ON THE TYPES OF WORK SPECIFIED IN SECTION 1705 AND IDENTIFY THE APPROVED AGENCIES TO THE BUILDING OFFICIAL. THESE SPECIAL INSPECTIONS AND TESTS ARE IN ADDITION TO THE INSPECTIONS BY THE BUILDING OFFICIAL THAT ARE IDENTIFIED IN SECTION 110.

2. THE SPECIAL INSPECTION REQUIREMENTS OF THIS SECTION OF THE GENERAL STRUCTURAL NOTES SERVE AS THE ENGINEER OF RECORD'S STATEMENT OF SPECIAL INSPECTIONS REQUIRED BY CHAPTER 17 OF THE 2018 IBC.

SPECIAL INSPECTOR QUALIFICATIONS & RESPONSIBILITIES:

1. PRIOR TO THE START OF CONSTRUCTION, THE APPROVED AGENCIES SHALL PROVIDE WRITTEN DOCUMENTATION TO THE BUILDING OFFICIAL DEMONSTRATING THE COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING OF THE SPECIAL INSPECTORS WHO WILL PERFORM THE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION.

2. APPROVED AGENCIES SHALL KEEP RECORDS OF ALL SPECIAL INSPECTIONS AND TESTS. THE APPROVED AGENCY SHALL SUBMIT REPORTS OF SPECIAL INSPECTIONS AND TEST TO THE BUILDING OFFICIAL AND TO THE ARCHITECT / ENGINEER OF RECORD.
   A. REPORTS SHALL INDICATE THAT WORK INSPECTED OR TESTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS.
   B. ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
   C. ANY DISCREPANCIES THAT ARE NOT CORRECTED SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE ARCHITECT/ENGINEER OF RECORD PRIOR TO COMPLETION OF THAT PHASE OF WORK.
   D. THE INSPECTOR SHALL KEEP A MARKED-UP SET OF DRAWINGS SHOWING THE EXTENT AND TIME OF ALL INSPECTIONS AND TESTING.
   E. A FINAL SIGNED REPORT DOCUMENTING ALL REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AND ARCHITECT/ENGINEER OF RECORD AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF WORK BY THE OWNER OR OWNER'S AGENT. THE REPORT SHALL INCLUDE THE MARKED-UP SET OF DRAWINGS OUTLINED ABOVE.

CONTRACTOR RESPONSIBILITIES:

1. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND/SEISMIC FORCE RESISTING SYSTEM, DESIGNATED WIND/SEISMIC SYSTEM, OR A WIND/SEISMIC FORCE RESISTING COMPONENT SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THAT SYSTEM OR COMPONENT. THIS STATEMENT SHALL CONTAIN ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL INSPECTION REQUIREMENTS.

2. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH ALL REQUIRED INSPECTIONS, TESTING AND STRUCTURAL OBSERVATIONS. THE CONTRACTOR SHALL NOT PROCEED WITH SUBSEQUENT WORK UNTIL REQUIRED INSPECTIONS, TESTING AND STRUCTURAL OBSERVATIONS HAVE BEEN COMPLETED.

3. ALL WORK REQUIRING SPECIAL INSPECTION SHALL REMAIN ACCESSIBLE AND EXPOSED UNTIL COMPLETION OF THE REQUIRED SPECIAL INSPECTIONS.

4. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AT LEAST (2) DAYS PRIOR TO ANY REQUIRED STRUCTURAL OBSERVATIONS.

SPECIAL INSPECTION OF FABRICATED ITEMS:

1. ALL FABRICATION OF STRUCTURAL, LOAD-BEARING OR LATERAL LOAD-RESISTING MEMBERS OR ASSEMBLIES PERFORMED OFFSITE SHALL BE SPECIAL INSPECTED PER SECTION 1704.2.5.

2. WHERE THE FABRICATOR IS REGISTERED AND APPROVED IN ACCORDANCE WITH SECTION 1704.2.5.1, THEY SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE OWNER OR THE OWNER'S AGENT FOR SUBMITTAL TO THE BUILDING OFFICIAL AT THE COMPLETION OF FABRICATION STATING THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

SUBMITTALS TO THE BUILDING OFFICIAL:

1. IN ADDITION TO THE SUBMITTAL OF REPORTS OF SPECIAL INSPECTIONS AND TESTS IN ACCORDANCE WITH SECTION 1704.2.4, REPORTS AND CERTIFICATES SHALL BE SUBMITTED BY THE OWNER OR OWNER'S AGENT TO THE BUILDING OFFICIAL FOR EACH OF THE FOLLOWING:
   A. CERTIFICATES OF COMPLIANCE FOR APPROVED FABRICATORS.
   B. CERTIFICATES OF COMPLIANCE FOR SEISMIC QUALIFICATIONS OF NON-STRUCTURAL COMPONENTS, SUPPORTS, AND ATTACHMENTS.
   C. CERTIFICATES OF COMPLIANCE FOR DESIGNATED SEISMIC SYSTEMS.
   D. REPORTS OF PRE-CONSTRUCTION TESTS FOR SHOTCRETE.
   E. CERTIFICATES OF COMPLIANCE FOR OPEN-WEB STEEL JOISTS AND JOIST GIRDERS.
   F. REPORTS OF MATERIAL COMPLIANCE FOR WELDABILITY OF REINFORCING BARS IN CONCRETE.
   G. REPORTS OF MILL TESTS FOR REINFORCING BARS USED IN SPECIAL CONCRETE MOMENT FRAMES, SPECIAL STRUCTURAL WALLS OR COUPLING BEAMS.

STRUCTURAL OBSERVATIONS:

1. STRUCTURAL OBSERVATIONS ARE NOT REQUIRED FOR THIS PROJECT. HOWEVER, STRUCTURAL OBSERVATIONS MAY BE PERFORMED BY A REPRESENTATIVE FROM ENSIGN ENGINEERING AS DEEMED NECESSARY.

REQUIRED SPECIAL INSPECTION OR TESTING:

THE FOLLOWING MATERIALS, SYSTEMS AND COMPONENTS REQUIRE SPECIAL INSPECTION OR TESTING PER CHAPTER 17 OF THE 2018 IBC:

1. SPECIAL CASES (SECTION 1705.1.1)
   A. SPECIAL INSPECTION AND TESTING SHALL BE PROVIDED FOR POST INSTALLED ANCHORS PER THE ICC OR IAPMO REPORT.

2. STRUCTURAL STEEL (SECTION 1705.2.1 ***& SECTION 1705.12.1***):
   A. THE FABRICATOR OR ERECTOR SHALL SUBMIT THE DOCUMENTS LISTED IN SECTION N3 OF AISC 360 ***& SECTION J2 OF AISC 341*** FOR REVIEW BY THE ENGINEER OF RECORD.
   B. QUALITY ASSURANCE (QA) SHALL BE PROVIDED BY OTHERS WHEN REQUIRED BY THE AUTHORITY HAVING JURISDICTION (AHJ), APPLICABLE BUILDING CODE (ABC), PURCHASER, OWNER, OR ENGINEER OF RECORD.
   C. QA INSPECTION OF FABRICATED ITEMS SHALL BE MADE AT THE FABRICATOR'S PLANT. THE QUALITY ASSURANCE INSPECTOR (QAI) SHALL SCHEDULE THIS WORK TO MINIMIZE INTERRUPTION TO THE WORK OF THE FABRICATOR.
   D. QA INSPECTION OF THE ERECTED STEEL SYSTEM SHALL BE MADE AT THE PROJECT SITE. THE QAI SHALL SCHEDULE THIS WORK TO MINIMIZE INTERRUPTION TO THE WORK OF THE ERECTOR.
   E. THE QAI SHALL REVIEW THE MATERIAL TEST REPORTS AND CERTIFICATIONS LISTED IN SECTION N3.2 OF AISC 360 FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS.
   F. THE QAI SHALL BE ON THE PREMISES FOR INSPECTION DURING THE PLACEMENT OF ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. AS A MINIMUM, THE DIAMETER, GRADE, TYPE AND LENGTH OF THE ANCHOR ROD OR EMBEDDED ITEM, AND THE EXTENT OR DEPTH OF EMBEDMENT INTO THE CONCRETE, SHALL BE VERIFIED PRIOR TO PLACEMENT OF CONCRETE.
   G. THE QAI SHALL INSPECT THE FABRICATED STEEL OR ERECTED STEEL FRAME, AS APPROPRIATE, TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION DOCUMENTS, SUCH AS BRACES, STIFFENERS, MEMBER LOCATIONS AND PROPER APPLICATION OF JOINT DETAILS AT EACH CONNECTION.
   H. QA INSPECTIONS, EXCEPT NONDESTRUCTIVE TESTING (NDT), MAY BE WAIVED WHEN THE WORK IS PERFORMED IN A FABRICATING SHOP OR BY AN ERECTOR APPROVED BY THE AHJ TO PERFORM THE WORK WITHOUT QA. NDT OF WELDS COMPLETED IN AN APPROVED FABRICATOR'S SHOP MAY BE PERFORMED BY THAT FABRICATOR WHEN APPROVED BY THE AHJ. WHEN THE FABRICATOR PERFORMS THE NDT, THE QA AGENCY SHALL REVIEW THE FABRICATOR'S NDT REPORTS.
   I. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE AHJ STATING THAT THE MATERIALS SUPPLIED AND WORK PERFORMED BY THE FABRICATOR ARE IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS. AT COMPLETION OF ERECTION, THE APPROVED ERECTOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE AHJ STATING THAT THE MATERIAL SUPPLIED AND WORK PERFORMED BY THE ERECTOR ARE IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.
   J. IDENTIFICATION AND REJECTION OF MATERIAL OR WORKMANSHIP THAT IS NOT IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS SHALL BE PERMITTED AT ANY TIME DURING THE PROGRESS OF THE WORK. HOWEVER, THIS PROVISION SHALL NOT RELIEVE THE OWNER OR THE INSPECTOR OF THE OBLIGATION FOR TIMELY, IN-SEQUENCE INSPECTIONS. NONCONFORMING MATERIAL AND WORKMANSHIP SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE FABRICATOR OR ERECTOR, AS APPLICABLE.
   K. NONCONFORMING MATERIAL OR WORKMANSHIP SHALL BE BROUGHT TO CONFORMANCE, OR MADE SUITABLE FOR ITS INTENDED PURPOSE AS DETERMINED BY THE ENGINEER OF RECORD.
   L. CONCURRENT WITH THE SUBMITTAL OF SUCH REPORTS TO THE AHJ, ENGINEER OF RECORD OR OWNER, THE QA AGENCY SHALL SUBMIT TO THE FABRICATOR AND ERECTOR:
      a. NONCONFORMANCE REPORTS.
      b. REPORTS OF REPAIR, REPLACEMENT OR ACCEPTANCE OF NONCONFORMING ITEMS.
   M. QA INSPECTION TASKS SHALL BE PERFORMED BY THE QAI IN ACCORDANCE WITH THE STRUCTURAL STEEL SPECIAL INSPECTION TABLE, AS A MINIMUM. (SEE THIS SHEET)
   N. ***THE AGENCY RESPONSIBLE FOR QUALITY ASSURANCE SHALL SUBMIT THE DOCUMENTS LISTED IN SECTION J3 OF AISC 341 TO THE AHJ, THE ENGINEER OF RECORD AND THE OWNER.***

SPECIAL INSPECTION (CONTINUED)

REQUIRED SPECIAL INSPECTION OR TESTING (CONTINUED):

3. STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL (SECTIONS 1705.2.2, 1705.2.3, & 1705.2.4):
   A. SPECIAL INSPECTION FOR STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL SPECIAL INSPECTION TABLE (SEE THIS SHEET) AND THE FOLLOWING:
      a. COLD-FORMED STEEL DECK: SPECIAL INSPECTIONS AND QUALIFICATION OF WELDING SPECIAL INSPECTORS OR COLD-FORMED STEEL FLOOR AND ROOF DECKS SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF SDI QA/QC AND SECTION 1705 OF THE 2018 IBC.
      b. OPEN-WEB STEEL JOISTS AND JOIST GIRDERS: SPECIAL INSPECTIONS OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS IN BUILDING, STRUCTURES, AND PORTIONS THEREOF SHALL BE IN ACCORDANCE WITH SECTION 1705 OF THE 2018 IBC.
      c. ***COLD-FORMED STEEL TRUSSES SPANNING 60 FEET OR GREATER: WHERE A COLD-FORMED STEEL TRUSS CLEAR SPAN IS 60 FEET OR GREATER, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE TEMPORARY INSTALLATION RESTRAINT/BRACING AND THE PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING ARE INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE.***
   B. SEE TABLE 1705.2.3 OF THE 2018 IBC FOR APPLICABLE REFERENCE STANDARDS.

4. CONCRETE CONSTRUCTION (SECTION 1705.3):
   A. SPECIAL INSPECTION AND TESTS FOR CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CONCRETE CONSTRUCTION SPECIAL INSPECTION TABLE (SEE THIS SHEET) AND SECTION 1705.3 OF THE 2018 IBC.
   B. SEE TABLE 1705.3 OF THE 2018 IBC FOR APPLICABLE REFERENCE STANDARDS.
   C. WELDING OF REINFORCING BARS: SPECIAL INSPECTION OF WELDING AND QUALIFICATIONS OF SPECIAL INSPECTORS FOR REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AWS D1.4 FOR SPECIAL INSPECTION AND FOR SPECIAL INSPECTOR QUALIFICATIONS.
   D. IN THE ABSENCE OF SUFFICIENT DATA OR DOCUMENTATION PROVIDING EVIDENCE OF CONFORMANCE TO QUALITY STANDARDS FOR MATERIAL IN CHAPTERS 19 AND 20 OF ACI 318, THE BUILDING OFFICIAL SHALL REQUIRE TESTING OF MATERIALS IN ACCORDANCE WITH THE APPROPRIATE STANDARDS AND CRITERIA FOR THE MATERIAL IN CHAPTERS 19 AND 20 OF ACI 318.

5. SOILS (SECTION 1705.6):
   A. SPECIAL INSPECTIONS AND TESTS OF EXISTING SITE SOIL CONDITIONS, FILL PLACEMENT AND LOAD-BEARING REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE SOILS SPECIAL INSPECTION TABLE (SEE THIS SHEET) AND THE FOLLOWING:
      a. THE APPROVED GEOTECHNICAL REPORT AND APPROVED CONSTRUCTION DOCUMENTS SHALL BE USED TO DETERMINE COMPLIANCE.
      b. DURING FILL PLACEMENT, THE SPECIAL INSPECTOR SHALL DETERMINE THAT PROPER MATERIALS AND PROCEDURES ARE USED IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT.
      c. WHERE A GEOTECHNICAL REPORT IS NOT PROVIDED, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE IN-PLACE DRY DENSITY OF THE COMPACTED FILL IS NOT LESS THAN 90 PERCENT OF THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT DETERMINED IN ACCORDANCE WITH ASTM D 1557.

6. SPECIAL INSPECTION FOR WIND-RESISTANCE (SECTION 1705.11):
   A. PERIODIC SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING SYSTEMS AND COMPONENTS:
      a. ROOF COVERING, ROOF DECK, AND ROOF FRAMING CONNECTIONS.
      b. EXTERIOR WALL COVERING AND WALL CONNECTIONS TO ROOF AND FLOOR DIAPHRAGMS AND FRAMING.
7. SPECIAL INSPECTION FOR SEISMIC-RESISTANCE (SECTION 1705.12):
   A. DESIGNATED SEISMIC SYSTEMS FOR STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E,OR F, THE SPECIAL INSPECTOR SHALL EXAMINE DESIGNATED SEISMIC SYSTEMS REQUIRING SEISMIC QUALIFICATIONS IN ACCORDANCE WITH SECTION 13.2.2 OF ASCE 7 AND VERIFY THAT THE LABEL, ANCHORAGE, AND MOUNTING CONFORM TO THE CERTIFICATE OF COMPLIANCE.
   B. ARCHITECTURAL COMPONENTS: PERIODIC SPECIAL INSPECTION IS REQUIRED FOR THE ERECTION AND FASTENING OF EXTERIOR CLADDING, INTERIOR AND EXTERIOR NON-BEARING WALLS AND INTERIOR AND EXTERIOR VENEER IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY D, E, OR F.
   C. MECHANICAL AND ELECTRICAL COMPONENTS: PERIODIC SPECIAL INSPECTION OF MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 1705.12.6 OF THE 2018 IBC.
   D. STORAGE RACKS: PERIODIC SPECIAL INSPECTION IS REQUIRED DURING THE ANCHORAGE OF STORAGE RACKS 8 FEET OR GREATER IN HEIGHT IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY D, E, OR F.

8. TESTING AND QUALIFICATION FOR SEISMIC RESISTANCE (SECTION 1705.13):
   A. TESTING FOR SEISMIC RESISTANCE SHALL BE REQUIRED AS SPECIFIED IN SECTIONS 1705.13.1 THROUGH 1705.13.4 OF THE 2018 IBC.

DEFINITIONS:

1. THE FOLLOWING DEFINITIONS APPLY TO ALL SPECIAL INSPECTION TABLES (WHERE APPLICABLE) UNLESS SPECIFICALLY NOTED OTHERWISE:
   A. CONTINUOUS – FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR.
   B. PERIODIC – AN APPROVED SPECIAL INSPECTOR MUST OBSERVE THE WORK REQUIRING SPECIAL INSPECTION PRIOR TO COMMENCEMENT OF WORK, INTERMITTENTLY DURING THE WORK, AND AT COMPLETION OF THE WORK.

CONCRETE CONSTRUCTION SPECIAL INSPECTION PER SECTION 1705.3 OF IBC 2018

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
REINFORCEMENT, INCLUDING PRE-STRESSING TENDONS AND VERIFYING PLACEMENT		X
REINFORCING BAR WELDING:		
VERIFICATION OF WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706		X
INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"		X
INSPECT ALL OTHER WELDS	X	
CAST-IN-PLACE ANCHORS		X
POST-INSTALLED ANCHORS IN HARDENED CONCRETE MEMBERS (NOTE 1)		
ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	X	
MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED ABOVE		X
USE OF REQUIRED MIX DESIGN		X
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TEST, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE CONCRETE TEMPERATURE	X	
CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	
MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		X
INSPECT PRE-STRESSED CONCRETE FOR:		
APPLICATION OF PRE-STRESSING FORCES	X	
GROUTING OF BONDED PRE-STRESSING TENDONS	X	
ERECTION OF PRE-CAST CONCRETE		X
IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS		X
FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF CONCRETE MEMBER BEING FORMED		X

NOTES:

1. SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH SECTION 17.8.2 OF ACI 318, OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO COMMENCEMENT OF THE WORK.

STRUCTURAL STEEL SPECIAL INSPECTION OF WELDED CONNECTIONS PER SECTION 1705.2.1 AND SECTION 1705.12.1 OF IBC 2018

INSPECTION TASKS PRIOR TO WELDING (AISC 360, TABLE N5.4-1)	QA
WELDER QUALIFICATION RECORDS AND CONTINUITY RECORDS	O
WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	P
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLE AVAILABLE	P
MATERIAL IDENTIFICATION (TYPE/GRADE)	O
WELDER IDENTIFICATION SYSTEM (NOTE 6)	O
FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY)	O
JOINT PREPARATION	
DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)	
CLEANLINESS (CONDITION OF STEEL SURFACES)	
TACKING (TACK WELD QUALITY AND LOCATION)	
BACKING TYPE AND FIT (IF APPLICABLE)	
FIT-UP OF CJP GROOVE WELDS OF HSS T-, Y- AND K-JOINTS WITHOUT BACKING (INCLUDING JOINT GEOMETRY)	O
JOINT PREPARATIONS	
DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)	
CLEANLINESS (CONDITION OF STEEL SURFACES)	
TACKING (TACK WELD QUALITY AND LOCATION)	
CONFIGURATION AND FINISH OF ACCESS HOLES	O
FIT-UP OF FILLET WELDS	O
DIMENSIONS (ALIGNMENT, GAPS AT ROOT)	
CLEANLINESS (CONDITION OF STEEL SURFACES)	
TACKING (TACK WELD QUALITY AND LOCATION)	
INSPECTION TASKS DURING WELDING (AISC 360, TABLE N5.4-2)	**QA**
CONTROL & HANDLING OF WELDING CONSUMABLES	O
PACKAGING	
EXPOSURE CONTROL	
NO WELDING OVER CRACKED TACK WELDS	O
ENVIRONMENTAL CONDITIONS	O
WIND SPEED WITHIN LIMITS	
PRECIPITATION AND TEMPERATURE	
WPS FOLLOWED	O
SETTINGS ON WELDING EQUIPMENT	
TRAVEL SPEED	
SELECTED WELDING MATERIALS	
SHIELDING GAS TYPE / FLOW RATE	
PREHEAT APPLIED	
INTERPASS TEMPERATURE MAINTAINED (MIN. / MAX.)	
PROPER POSITION (F, V, H, OH)	
INTERMIX OF FILLER METALS AVOIDED UNLESS APPROVED	
WELDING TECHNIQUES	O
INTERPASS AND FINAL CLEANING	
EACH PASS WITHIN PROFILE LIMITATIONS	
EACH PASS MEETS QUALITY REQUIREMENTS	
PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	P
INSPECTION TASKS AFTER WELDING (AISC 360, TABLE N5.4-3)	**QA**
WELDS CLEANED	O
SIZE, LENGTH, AND LOCATION OF WELDS	P
WELDS MEET VISUAL ACCEPTANCE CRITERIA	P / D
CRACK PROHIBITION	
WELD / BASE-METAL FUSION	
CRATER CROSS SECTION	
WELD PROFILES	
WELD SIZE	
UNDERCUT	
POROSITY	
ARC STRIKES	P
k-AREA (NOTE 7)	P / D
WELD ACCESS HOLES IN ROLLED HEAVY SHAPES AND BUILT-UP SHAPES	P
PLACEMENT OF REINFORCING OR CONTOURING FILLET WELDS (IF REQUIRED)	P / D
BACKING REMOVED, WELD TABS REMOVED AND FINISHED, AND FILLET WELDS ADDED (IF REQUIRED)	P / D
REPAIR ACTIVITIES	P / D
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	P
NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT THE APPROVAL OF THE EOR	O

NOTES:

1. QUALITY ASSURANCE (QA) WELDING INSPECTORS SHALL BE QUALIFIED IN ACCORDANCE WITH SECTION N4.2 OF AISC 360 AND SECTION J4 OF AISC 341.

2. OBSERVATION OF WELDING OPERATIONS AND VISUAL INSPECTION OF IN-PROCESS AND COMPLETED WELDS SHALL BE THE PRIMARY METHOD TO CONFIRM THAT THE MATERIALS, PROCEDURES AND WORKMANSHIP ARE IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS. FOR STRUCTURAL STEEL, ALL PROVISIONS OF AWS D1.1/D1.1M, STRUCTURAL WELDING CODE – STEEL, FOR STATICALLY LOADED STRUCTURES SHALL APPLY.

3. NON-DESTRUCTIVE TESTING (NDT) PERSONNEL SHALL BE QUALIFIED IN ACCORDANCE WITH SECTION N4.3 OF AISC 360 AND SECTION J4 OF AISC 341.

4. NDT OF WELDED JOINTS SHALL COMPLY WITH SECTION N5.5 OF AISC 360 AND SECTION J6 OF AISC 341.

5. ALL NDT PERFORMED SHALL BE DOCUMENTED. FOR SHOP FABRICATION, THE NDT REPORT SHALL IDENTIFY THE TESTED WELD BY PIECE MARK AND LOCATION IN THE PIECE. FOR FIELD WORK, THE NDT REPORT SHALL IDENTIFY THE TESTED WELD BY LOCATION IN THE STRUCTURE, PIECE MARK, AND LOCATION IN THE PIECE.

6. THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW-STRESS TYPE.

7. WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE *k*-AREA, VISUALLY INSPECT THE WEB *k*-AREA FOR CRACKS WITHIN 3 INCHES OF THE WELD. THE VISUAL INSPECTION SHALL BE PERFORMED NO SOONER THAN 48 HOURS FOLLOWING THE COMPLETION OF WELDING.

NOTES:

8. AFTER ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES ARE WELDED, VISUALLY INSPECT THE WELD ACCESS HOLE FOR CRACKS.

DEFINITIONS:

O – OBSERVE THESE ITEMS ON A RANDOM BASIS, DAILY BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.

P – PERFORM TASK FOR EACH WELDED JOINT OR MEMBER.

D – THE QA INSPECTOR SHALL PREPARE REPORTS AS DESCRIBED IN SECTION J5.3 OF AISC 341 INDICATING THAT THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

STRUCTURAL STEEL SPECIAL INSPECTION OF BOLTED CONNECTIONS PER SECTION 1705.2.1 AND SECTION 1705.12.1 OF IBC 2018

INSPECTION TASKS PRIOR TO BOLTING (AISC 360, TABLE N5.6-1)	QA
MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	P
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	O
CORRECT FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	O
CORRECT BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	O
CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	O
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	O / D
PROTECTED STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS, & OTHER FASTENER COMPONENTS	O
INSPECTION TASKS DURING BOLTING (AISC 360, TABLE N5.6-2)	**QA**
FASTENER ASSEMBLIES, PLACED IN ALL HOLES AND WASHERS ARE POSITIONED AS REQUIRED	O
JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRE-TENSIONING OPERATION	O
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	O
FASTENERS ARE PRE-TENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	O
INSPECTION TASKS AFTER BOLTING (AISC 360, TABLE N5.6-3)	**QA**
DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	P / D

NOTES:

1. QUALITY ASSURANCE (QA) BOLTING INSPECTORS SHALL BE QUALIFIED ON THE BASIS OF DOCUMENTED TRAINING AND EXPERIENCE IN STRUCTURAL BOLTING EXPERIENCE.

2. OBSERVATION OF BOLTING OPERATIONS SHALL BE THE PRIMARY METHOD USED TO CONFIRM THAT THE MATERIALS, PROCEDURES, AND WORKMANSHIP INCORPORATED IN CONSTRUCTION ARE IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS AND THE PROVISIONS OF THE RCSC SPECIFICATION.

3. FOR SNUG-TIGHT JOINTS, PRE-INSTALLATION VERIFICATION TESTING AS SPECIFIED IN TABLE N5.6-1 AND MONITORING OF THE INSTALLATION PROCEDURES AS SPECIFIED IN TABLE N5.6-2 ARE NOT APPLICABLE. THE QAI NEED NOT BE PRESENT DURING THE INSTALLATION OF FASTENERS IN SNUG-TIGHT JOINTS.

4. FOR PRE-TENSIONED JOINTS AND SLIP-CRITICAL JOINTS, WHEN THE INSTALLER IS USING THE TURN-OF-NUT METHOD WITH MATCHMARKING TECHNIQUES, THE DIRECT-TENSION-INDICATOR METHOD, OR THE TWIST-OFF-TYPE TENSION CONTROL BOLT METHOD, MONITORING OF BOLT PRE-TENSIONING PROCEDURES SHALL BE AS SPECIFIED IN TABLE N5.6-2. THE QAI NEED NOT BE PRESENT DURING THE INSTALLATION OF FASTENERS WHEN THESE METHODS ARE USED BY THE INSTALLER.

5. FOR PRE-TENSIONED JOINTS AND SLIP-CRITICAL JOINTS, WHEN THE INSTALLER IS USING THE CALIBRATED WRENCH METHOD OR THE TURN-OF-NUT METHOD WITHOUT MATCHMARKING, MONITORING OF BOLT PRE-TENSIONING PROCEDURES SHALL BE AS SPECIFIED IN TABLE N5.6-2. THE QAI SHALL BE ENGAGED IN THEIR ASSIGNED INSPECTION DUTIES DURING INSTALLATION OF FASTENERS WHEN THESE METHODS ARE USED BY THE INSTALLER.

DEFINITIONS:

O – OBSERVE THESE ITEMS ON A RANDOM BASIS, DAILY BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.

P – PERFORM TASK FOR EACH BOLTED JOINT OR MEMBER.

D – THE QA INSPECTOR SHALL PREPARE REPORTS AS DESCRIBED IN SECTION J5.3 OF AISC 341 INDICATING THAT THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL SPECIAL INSPECTION PER SECTIONS 1705.2.2, 1705.2.3, & 1705.2.4 OF IBC 2018

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
INSTALLATION OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS:		
END CONNECTIONS (WELDED OR BOLTED)		X
BRIDGING (HORIZONTAL OR DIAGONAL):		
STANDARD BRIDGING		X
BRIDGING THAT DIFFERS FROM THE SJI SPECIFICATIONS LISTED IN SECTION 2207.01		X

SOIL SPECIAL INSPECTION PER SECTION 1705.6 OF IBC 2018

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE DESIGN BEARING CAPACITY		X
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		X
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS		X
VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X	
PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY SITE HAS BEEN PREPARED PROPERLY		X

CODE OFFICIAL STAMP

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
REVIEWED FOR CODE COMPLIANCE
SIGNATURE:
DATE: 01/25/2022

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PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT J. ROUSSELLE
EXP. 3/31/2023
1/12/2022
STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WWTF DESIGN & DFCM COMMENTS	GWO
2	01/12/2022	DFCM COMMENTS	GWO
3			
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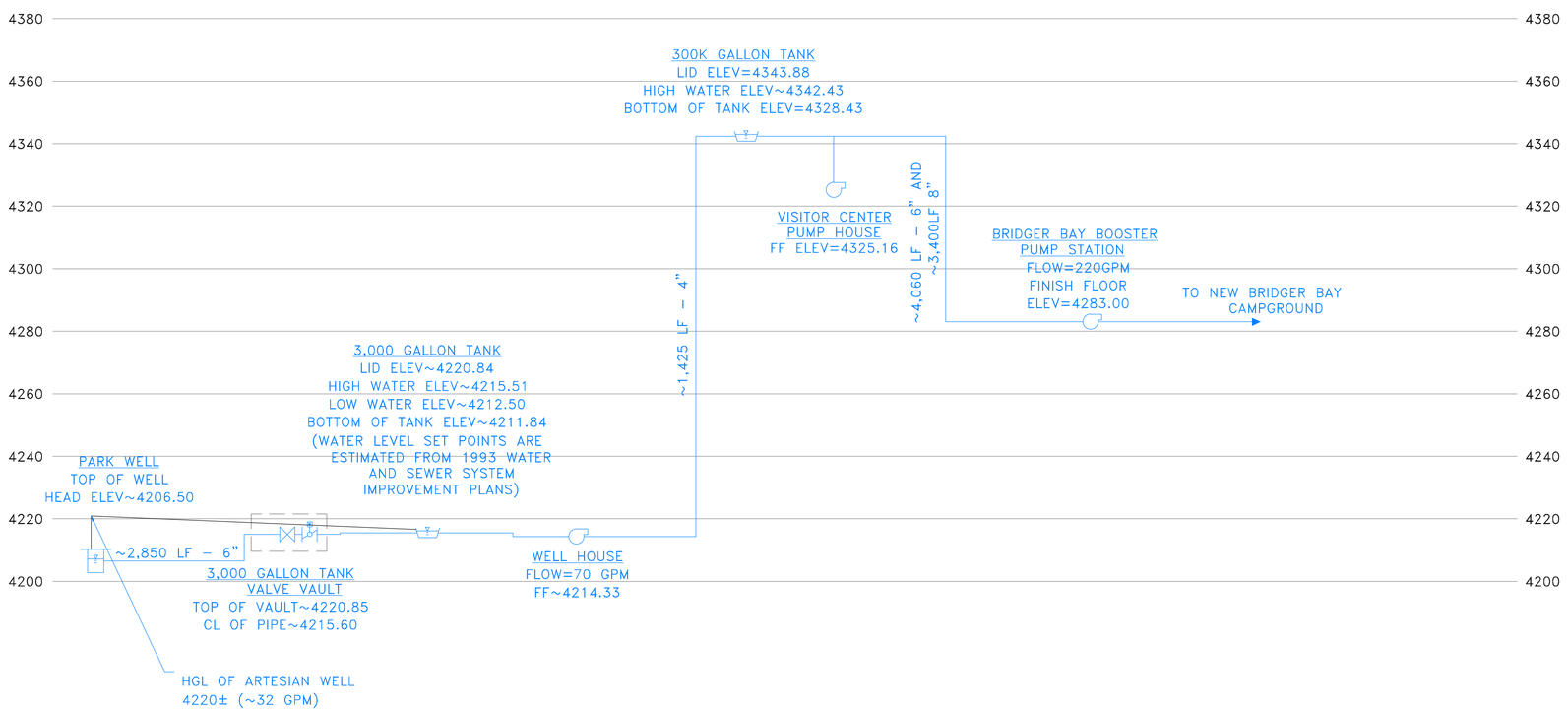
8			

PAVILION SPECIAL INSPECTION FORMS

PROJECT NUMBER 10970
PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN
CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE

G-100-08



LEGEND	
	PRESSURE REDUCING VALVE
M	FLOW METER
	GATE VALVE
	2–WAY BALL VALVE
P	PRESSURE GAUGE
	ACTUATED SOLENOID VALVE
RLT	FLOAT SWITCH
	PUMP OR BOOSTER PUMP STATION
PT	PRESSURE TRANSMITTER OR TRANSDUCER
	AIR/VAC VALVE
	CHECK VALVE
	WELL
	BUTTERFLY VALVE
	ACTUATED BUTTERFLY VALVE
	ACTUATED BUTTERFLY VALVE WITH SLAVE
	POND, RESERVOIR, OR TANK
	PRESSURE RELIEF VALVE
CP	CONDUCTIVE PROBE
FCV	RATE OF FLOW CONTROL VALVE
	FILTER
FS	FLOW SWITCH

COLOR LEGEND	
	SECONDARY WATER
	DRINKING WATER
	COMMUNICATION
	DRAIN
	FUTURE OR OPTIONAL IMPROVEMENTS

OPERATIONS NARRATIVE:

WELL HOUSE

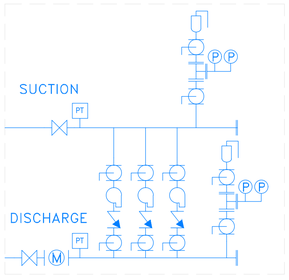
1. CONTROLS VALVE IS MANUAL. NEEDS TO BE TURNED ON TO FILL 3,000 GALLON TRANSFER TANK. MANUALLY TURNED OFF WHEN 3,000 GALLON TANK IS NOT FILLING.
2. BOOSTER PUMP TURNS ON BASED ON SONAR LEVEL CONTROLS AT 300K GALLON VISITOR CENTER TANK. TO MAINTAIN 180,000 GALLONS AT 300K GALLON TANK FOR FIRE FLOW. BOOSTER PUMPS ARE ALSO CONTROLLED BY ON/OFF TIMER SET AT WELL HOUSE AND ON/OFF SET LEVEL POINTS IN 3,000 GALLON TANK.
3. CHLORINE DOSING PUMP IS MANUALLY SET BASED ON CALCULATED DOSAGE AND TURNS ON IF FLOW IS DETECTED IN SUCTION PIPE VIA FLOW SWITCH.

VISITOR CENTER PUMP STATION

1. VISITOR CENTER BOOSTER PUMPS RUN OFF PRESSURE AND THERE IS A BLADDER TANK.
2. FIRE PUMP RUNS OFF A DIESEL MOTOR AND TURNS ON DURING A FIRE EVENT IN THE VISITOR CENTER. THE PARK PAYS A COMPANY TO MONITOR THE FIRE SYSTEM REMOTELY.

BRIDGER BAY CAMPGROUND BOOSTER PUMP STATION

1. BOOSTER PUMPS TURN ON BASED ON A SET SUCTION PRESSURE AND A SET LOW DISCHARGE PRESSURE VIA PRESSURE TRANSDUCERS LOCATED ON THE SUCTION AND DISCHARGE HEADERS.
2. BOOSTER PUMPS TURN OFF IF SUCTION PRESSURE IS TOO LOW OR IF THE DISCHARGE PRESSURE REACHES A SET PRESSURE LIMIT.
3. BOOSTER PUMPS ARE ON VFDS. THE FIRST PUMP WILL TURN ON AT LOW SPEED AND THEN RAMP UP UNTIL SET DISCHARGE PRESSURE IS MAINTAINED. ONCE THE PUMP IS AT FULL SPEED AND IF SET DISCHARGE PRESSURE IS NOT MAINTAINED THEN THE SECOND TURNS ON AND SO FORTH.



BRIDGER BAY BOOSTER PUMP STATION INTERNAL LAYOUT

NOTE: THERE ARE BURIED VALVES OUTSIDE OF STRUCTURES THAT ARE NOT DEPICTED ON THIS HYDRAULIC PROFILE/FLOW DIAGRAM.

VISITOR CENTER PUMP HOUSE INTERNAL LAYOUT IS NOT SHOWN. ANTICIPATED UPGRADES FOR THIS PUMP HOUSE WILL BE COMPLETED WITH THE VISITOR CENTER EXPANSION.

WELL HOUSE INTERNAL LAYOUT

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CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT J. ROUSSELLE EXP.3/31/2023 STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/1/2021	WHITE DESIGN & DFCM COMMENTS	GWD
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3			
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6			
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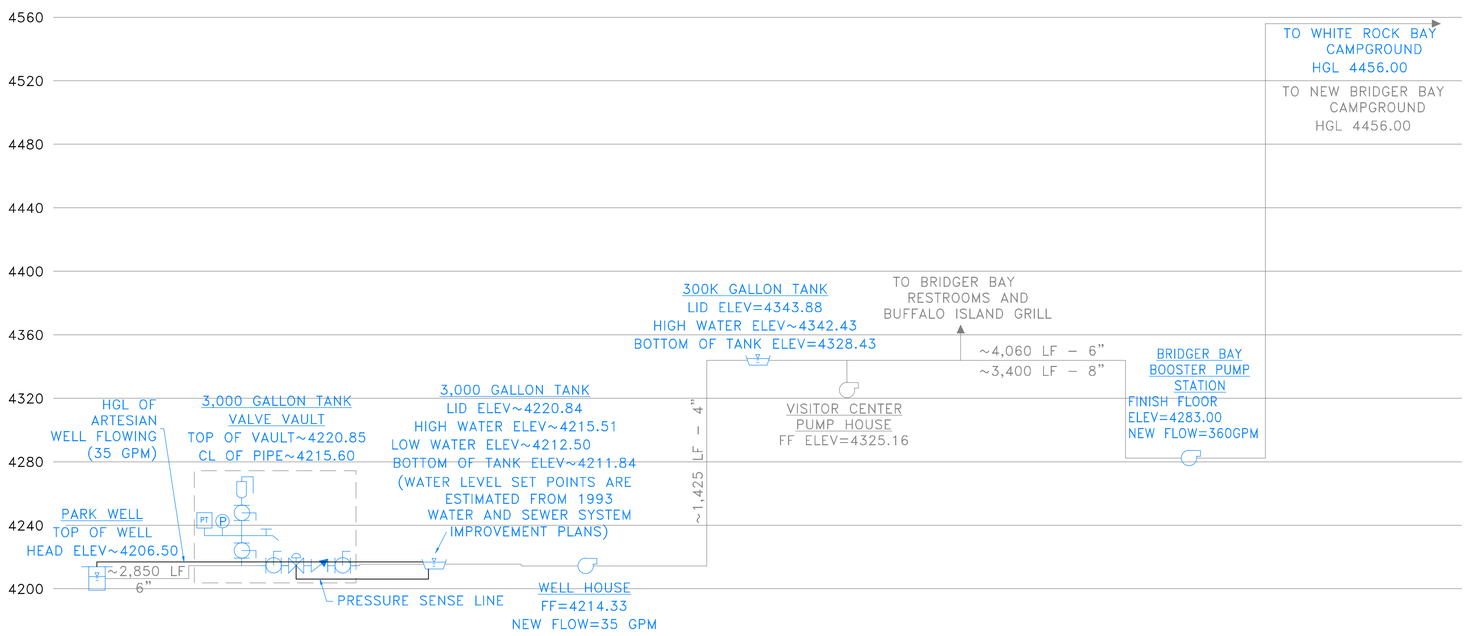
8			

EXISTING WATER SYSTEM SCHEMATIC

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

CODE OFFICIAL STAMP
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
REVIEWED FOR CODE COMPLIANCE
SIGNATURE:
DATE: 01/25/2022

G-100-09



4560
4520
4480
4440
4400
4360
4320
4280
4240
4200

LEGEND	
	PRESSURE REDUCING VALVE
M	FLOW METER
	GATE VALVE
	2–WAY BALL VALVE
P	PRESSURE GAUGE
	ACTUATED SOLENOID VALVE
RLT	FLOAT SWITCH
	PUMP OR BOOSTER PUMP STATION
PT	PRESSURE TRANSMITTER OR TRANSDUCER
	AIR/VAC VALVE
	CHECK VALVE
	WELL
	BUTTERFLY VALVE
	ACTUATED BUTTERFLY VALVE
	ACTUATED BUTTERFLY VALVE WITH SLAVE
	POND, RESERVOIR, OR TANK
	PRESSURE RELIEF VALVE
CP	CONDUCTIVE PROBE
FCV	RATE OF FLOW CONTROL VALVE
	FILTER
FS	FLOW SWITCH
	ALTITUDE CONTROL VALVE
	SMOOTH NOSED SAMPLING TAP

COLOR LEGEND	
	SECONDARY WATER
	DRINKING WATER
	COMMUNICATION
	DRAIN
	FUTURE OR OPTIONAL IMPROVEMENTS

PHYSICAL UPGRADES SUMMARY:

PARK WELL

1. REMOVE EXISTING WELLHEAD, INSTALL PITLESS ADAPTER UNIT, AND MAKE OTHER MODIFICATIONS TO MEET CURRENT UDDW STANDARDS. (REFER TO DRAWING C–700–04 FOR ADDITIONAL INFORMATION)

3,000 GALLON TANK VALVE VALVE VAULT

INSTALL NEW ACCESS HATCH. REMOVE EXISTING ACTUATED BUTTERFLY VALVE AND GATE VALVE. INSTALL NEW BALL VALVES, ALTITUDE CONTROL VALVE, SWING FLEX CHECK VALVE, AIR/VAC VALE, RESTRAINED FLANGE COUPLER, PRESSURE GAUGE, PRESSURE TRANSMITTER (DISPLAY TO BE MOUNTED IN WELL HOUSE), AND SAMPLING TAP. (REFER TO DRAWING C–700–05 FOR ADDITIONAL INFORMATION)

3,000 GALLON TRANSFER TANK

1. CONNECT EXISTING LEVEL CONTROLS TO NEW TELEMETRY SYSTEM. EXISTING LEVEL CONTROLS ARE IN OPERABLE CONDITION.

WELL HOUSE

1. ENTIRE WELL HOUSE PIPING, PUMPS, VALVES, AND FITTINGS WILL BE REPLACED AS SHOWN AND CEILING WILL BE ADDED TO BUILDING ALONG WITH NEW ROOF INSULATION. FURNISH AND INSTALL NEW RTU IN BUILDING TO MONITOR AND OPERATE INSTRUMENTS, PUMPS, ETC. FOR DRINKING WATER SYSTEM AS DESCRIBED IN OPERATIONS NARRATIVE AND UPGRADES NOTED ON THIS SHEET. (REFER TO DRAWING WHM–100–01 FOR ADDITIONAL INFORMATION)

VISITOR CENTER 300K GALLON TANK

1. FURNISH AND INSTALL NEW FIBER GLASS LADDER IN TANK, TANK MIXER, CHLORINE ANALYZER, AND REPLACE TANK HATCH TO CURRENT DRINKING WATER STANDARDS. TANK MIXER AND CHLORINE ANALYZER BOTH HAVE CONTROL PANELS THAT WILL BE LOCATED IN THE EXISTING ELECTRICAL CONTROLS BUILDING AT THE VISITOR CENTER. FURNISH AND INSTALL NEW RTU IN BUILDING TO MONITOR AND OPERATE INSTRUMENTS, PUMPS, ETC. FOR DRINKING WATER SYSTEM AS DESCRIBED IN OPERATIONS NARRATIVE AND UPGRADES NOTED ON THIS SHEET. (REFER TO DRAWING C–700–06 FOR ADDITIONAL INFORMATION)

VISITOR CENTER PUMP STATION

1. NO UPGRADES AT THIS TIME. UPGRADES WILL BE REQUIRED WITH VISITOR CENTER EXPANSION PROJECT.

BRIDGER BAY CAMPGROUND BOOSTER PUMP STATION

1. REPLACE THREE (3) EXISTING BOOSTER PUMPS WITH 15 HP (EACH), 3 PHASE, BOOSTER PUMPS. UTILIZE EXISTING CONTROL PANELS AND PRESSURE TRANSDUCERS. FURNISH AND INSTALL TWO (2) NEW RUTS IN BUILDING TO MONITOR AND OPERATE INSTRUMENTS, PUMPS, ETC. FOR DRINKING WATER AND WASTEWATER SYSTEMS AS DESCRIBED IN OPERATIONS NARRATIVE AND UPGRADES ON THIS SHEET. (REFER TO DRAWING BPM–100–01 FOR ADDITIONAL INFORMATION)

SMALL RESTROOM #R1

1. FURNISH AND INSTALL ONE (1) NEW RTU IN BUILDING UTILITY CHASE TO MONITOR AND BE ALTERTED TO ALARMS FOR INSTRUMENTS, LEVELS, ETC. FOR WASTEWATER TREATMENT SYSTEM AS DESCRIBED IN OPERATIONS NARRATIVE AND UPGRADES NOTED ON THIS SHEET.

OPERATIONS NARRATIVE AND UPGRADES:

GENERAL

1. CONTRACTOR TO PROVIDE INSTRUMENTATION DRAWINGS AND EQUIPMENT SUBMITTALS PRIOR TO CONSTRUCTION FOR REVIEW AND APPROVAL ACCOMPLISHING THE FOLLOWING OBJECTIVES LISTED BELOW. CONTRACTOR TO ALSO FURNISH AND INSTALL SCADA/TELEMETRY SYSTEM, PROGRAMMING, AND ON–SITE TRAINING FOR OPERATOR OF DRINKING WATER AND WASTEWATER SYSTEMS TO ACCOMPLISH THE FOLLOWING OBJECTIVES LISTED BELOW.

WELL HOUSE (REFER TO DRAWING SHEETS WHM–100–01 FOR MORE INFORMATION)

1. EXISTING ACTUATED BUTTERFLY CONTROL VALVE AT TANK VALVE VAULT WILL BE REPLACED WITH AN ALTITUDE CONTROL VALVE AND SET TO MAINTAIN A FULL 3,000 GALLON TANK. A PRESSURE TRANSMITTER WILL BE INSTALLED UPSTREAM, BETWEEN PARK WELL AND ALTITUDE CONTROL VALVE, SO OPERATOR CAN SEE VISUALLY IN THE WELL HOUSE (DISPLAY MOUNTED IN WELL HOUSE) AND VIA THE TELEMETRY SYSTEM THE ARTESIAN WELL PRESSURE.
2. BOOSTER PUMPS WILL TURN ON BASED ON SONAR LEVEL CONTROLS AT 300K GALLON VISITOR CENTER TANK TO MAINTAIN 180,000 GALLONS FOR FIRE FLOW. BOOSTER PUMPS ARE ALSO CONTROLLED BY LOW AND HIGH LEVELS OF 3,000 GALLON TANK.
3. NEW CONTROL PANEL WILL BE INSTALLED/PROVIDED BY THE PUMP SUPPLIER WITH THE NEW 35 GPM BOOSTER PUMPS IN THE WELL HOUSE BOOSTER PUMP STATION.
4. PRESSURE TRANSDUCER WILL BE INSTALLED ON BOTH THE SUCTION AND DISCHARGE MANIFOLDS ALONG WITH MANUAL PRESSURE GAUGES. THESE PRESSURE TRANSDUCERS WILL BE INTEGRATED INTO THE TELEMETRY SYSTEM SO THEY DISPLAY REMOTELY. LEVELS IN TANKS WILL DISPLAY AT THE RTU AND REMOTELY TO INCLUDE WATER LEVELS AND PROVIDE ALARM NOTIFICATIONS.
5. CHLORINE DOSING PUMP WITH CHEMICAL INJECTION QUILL, SPILL CONTAINMENT TRAY WITH SCALE AND LEAK DETECTION, AND MAGNETIC FLOW METER TO BE INSTALLED TO REPLACE THE EXISTING EQUIPMENT. CHLORINE DOSING PUMP WILL AUTOMATICALLY ADJUST DOSE BASED ON FLOW. FLOW, CHLORINE DOSE, SCALE, AND ALARM FOR CHLORINE SPILL SHOULD BE VISIBLE IN THE NEW TELEMETRY SYSTEM WITH CHLORINE DOSE ADJUSTABLE VIA THE TELEMETRY SYSTEM.

FURNISH AND INSTALL RTU PANEL AT WELL HOUSE TO RECEIVE/SEND SIGNALS FROM EQUIPMENT AT WELL HOUSE VIA MULT–CARRIER RADIO.

300,000 GALLON STORAGE TANK AND ELECTRICAL CONTROLS BUILDING BUILDING (REFER TO DRAWING SHEETS C–700–07 FOR MORE INFORMATION)

1. INSTALLED MIXER AND CHLORINE ANALYZER IN 300,000 GALLON STORAGE TANK WILL EACH HAVE CONTROL PANELS THAT WILL BE INSTALLED IN THE ELECTRICAL CONTROLS BUILDING. THE MIXER WILL OPERATE 24 HOURS A DAY, 7 DAYS A WEEK. THE CHLORINE ANALYZER'S CHLORINE LEVELS WILL NEED TO BE ACCESSED VIA THE TELEMETRY SYSTEM REMOTELY. THE LEVEL CONTROLS FOR THE TANK WILL ALSO NEED TO BE ACCESSED REMOTELY VIA THE TELEMETRY SYSTEM FOR VIEWING AND ALARM. THE ALARM WILL ALERT REMOTELY FOR THE MIXER IF IT TURNS OFF.
2. FURNISH AND INSTALL RTU PANEL AT ELECTRICAL CONTROLS BUILDING TO RECEIVE/SEND SIGNALS FROM EQUIPMENT AT THE 300,000 GALLON STORAGE TANK AND ELECTRICAL CONTROLS BUILDING VIA MULT–CARRIER RADIO.

VISITOR CENTER PUMP STATION (NO UPGRADES AT THIS TIME)

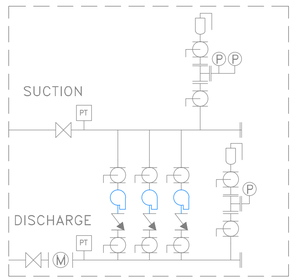
1. VISITOR CENTER BOOSTER PUMPS RUN OFF PRESSURE AND THERE IS A BLADDER TANK.
2. FIRE PUMP RUNS OFF A DIESEL MOTOR AND TURNS ON DURING A FIRE EVENT IN THE VISITOR CENTER. THE PARK PAYS A COMPANY TO MONITOR THE FIRE SYSTEM REMOTELY.

BRIDGER BAY CAMPGROUND BOOSTER PUMP STATION (REFER TO DRAWING SHEETS BPM–100–01 FOR MORE INFORMATION)

1. BOOSTER PUMPS TURN ON BASED ON A SET SUCTION PRESSURE AND A SET DISCHARGE PRESSURE VIA PRESSURE TRANSDUCERS LOCATED ON THE SUCTION AND DISCHARGE HEADERS.
2. BOOSTER PUMPS TURN OFF IF SUCTION PRESSURE IS TOO LOW OR IF THE DISCHARGE PRESSURE REACHES A SET PRESSURE LIMIT.
3. BOOSTER PUMP MOTORS ARE ON VFDS. THE FIRST PUMP WILL TURN ON AT LOW SPEED AND THEN RAMP UP UNTIL SET DISCHARGE PRESSURE IS MAINTAINED. ONCE THE PUMP IS AT FULL SPEED AND IF SET DISCHARGE PRESSURE IS NOT MAINTAINED THEN THE SECOND PUMP TURNS ON AND SO FORTH.
4. OPERATOR WILL NEED TO VIEW FLOW, PRESSURES (SUCTION AND DISCHARGE), AND BE NOTIFIED OF ANY ALARMS VIA SCADA.
5. FURNISH AND INSTALL RTU PANEL AT BRIDGER BAY CAMPGROUND BOOSTER PUMP STATION TO RECEIVE/SEND SIGNALS FROM DRINKING WATER SYSTEM EQUIPMENT VIA MULTI–CARRIER RADIO.
6. FUNISH AND INSTALL RTU PANEL AT BRIDGER BAY BOOSTER PUMP STATION TO RECEIVE/SEND SIGNALS FROM ONSITE WASTEWATER TREATMENT SYSTEM EQUIPMENT MULTI–CARRIER RADIO IF VERIZON SIGNAL IS UNAVAILABLE. COORDINATE WITH SUPPLIER/INSTALLER, RICHARD JEX (435) 757–4905 SCG ENTERPRISES.

RESTROOM NO. 1 (REFER TO DRAWING SHEETS SMALL RESTROOM ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS FOR MORE INFORMATION)

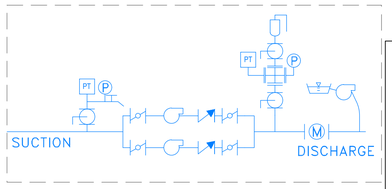
1. FURNISH AND INSTALL RTU PANEL AT WHITE ROCK BAY CAMPGROUND RESTROOM NO. 1 TO RECEIVE/SEND SIGNALS FROM ONSITE WASTEWATER TREATMENT SYSTEM EQUIPMENT VIA MULTI–CARRIER RADIO IF VERIZON SIGNAL IS UNAVAILABLE. COORDINATE WITH SUPPLIER/INSTALLER, RICHARD JEX (435) 757–4905 SCG ENTERPRISES.



PROPOSED BRIDGER BAY BOOSTER PUMP STATION INTERNAL UPGRADES LAYOUT

NOTE: THERE ARE BURIED VALVES OUTSIDE OF STRUCTURES THAT ARE NOT DEPICTED ON THIS HYDRAULIC PROFILE/FLOW DIAGRAM.

VISITOR CENTER PUMP HOUSE INTERNAL LAYOUT IS NOT SHOWN. ANTICIPATED UPGRADES FOR THIS PUMP HOUSE WILL BE COMPLETED WITH THE VISITOR CENTER EXPANSION.



PROPOSED WELL HOUSE INTERNAL UPGRADES LAYOUT

CODE OFFICIAL STAMP
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
REVIEWED FOR CODE COMPLIANCE
SIGNATURE:
DATE: 01/25/2022

ENSIGN
THE STANDARD IN ENGINEERING
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FOR:
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4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:
PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569–2202 ROBERT J. ROUSSELLE EXP. 6/30/2023 1/12/2022 STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WWTF DESIGN & DFCM COMMENTS	GWO
2	01/12/2022	DFCM COMMENTS	GWO
3			
4			
5			
6			
7			
8			

PROPOSED WATER SYSTEM SCHEMATIC

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

G-100-10

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

811 Know what's below. Call before you dig.

BENCHMARK

NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4315.30'

CL - (4) RV DUMP SITE

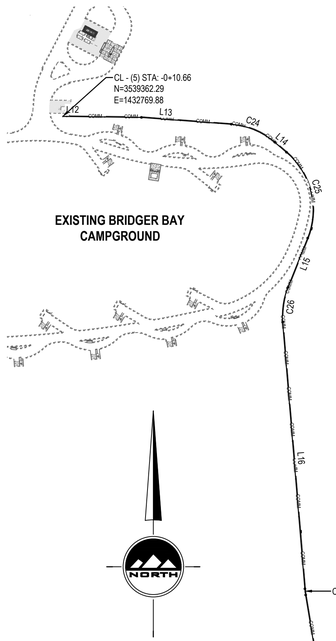
NUMBER	LENGTH	RADIUS	LINE/CHORD DIRECTION	START	DELTA
L1	57.975		N29° 41' 05.89"E	0+00	
C1	91.106	58.00	N74° 41' 05.89"E	0+57.97	90°00'00.00"
L2	71.163		S60° 18' 54.11"E	1+49.08	
C2	45.553	58.00	S37° 48' 54.11"E	2+20.24	45°00'00.00"
L3	86.876		S15° 18' 54.11"E	2+65.80	
C3	17.279	22.00	S7° 11' 05.89"W	3+52.67	45°00'00.00"
L4	22.000		S29° 41' 05.89"W	3+69.95	

CL - (2) GROUP ROAD

NUMBER	LENGTH	RADIUS	LINE/CHORD DIRECTION	START	DELTA
C1	125.664	80.00	S78° 17' 37.41"W	0+00	90°00'00.00"
C2	125.664	80.00	S11° 42' 22.59"E	1+25.66	90°00'00.00"
L1	240.000		S56° 42' 22.59"E	2+51.33	
C3	125.664	80.00	N78° 17' 37.41"E	4+91.33	90°00'00.00"
C4	125.664	80.00	N11° 42' 22.59"W	6+16.99	90°00'00.00"
L2	216.426		N56° 42' 22.59"W	7+42.65	

CL - (1) MAIN LOOP

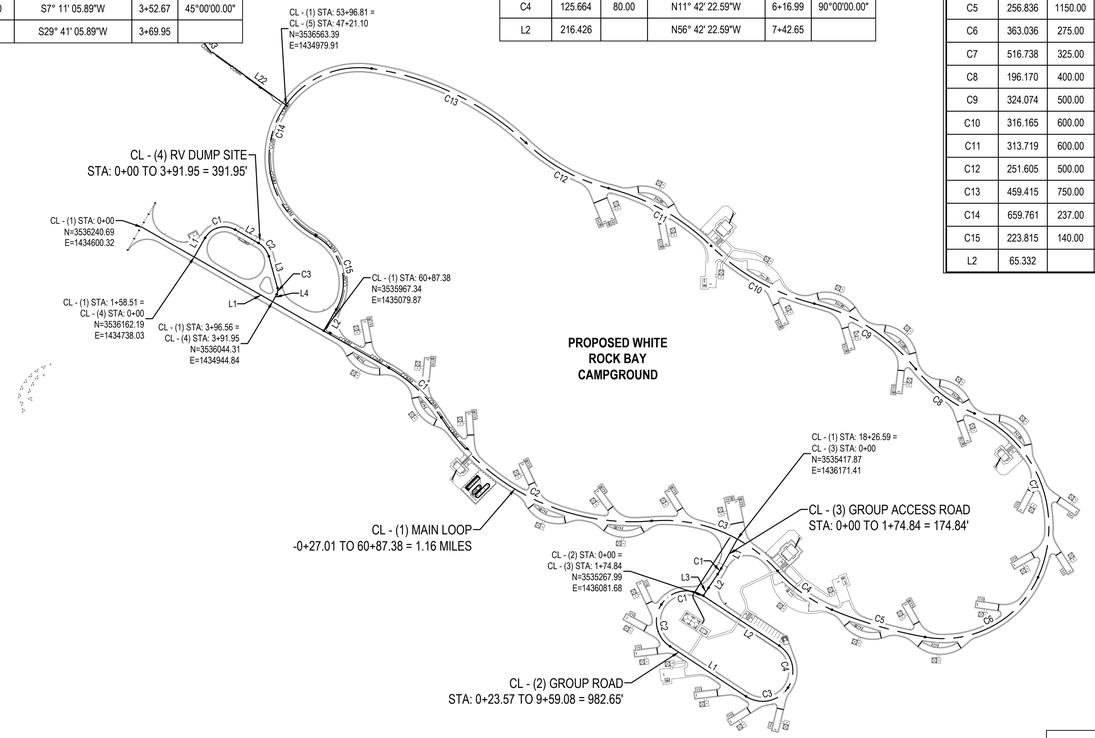
NUMBER	LENGTH	RADIUS	LINE/CHORD DIRECTION	START	DELTA
L1	776.752		S60° 18' 54.11"E	-0+27.01	
C1	192.184	400.00	S46° 33' 03.17"E	7+49.74	27°31'41.88"
C2	650.214	600.00	S63° 49' 55.85"E	9+41.93	62°05'27.24"
C3	370.655	400.00	S68° 19' 53.22"E	15+92.14	53°05'32.51"
C4	177.919	400.00	S54° 31' 39.88"E	19+62.80	25°29'05.84"
C5	256.836	1150.00	S73° 40' 05.96"E	21+40.71	12°47'46.33"
C6	363.036	275.00	N62° 06' 52.64"E	23+97.55	75°38'16.48"
C7	516.738	325.00	N21° 15' 12.26"W	27+60.59	91°05'53.32"
C8	196.170	400.00	N52° 45' 10.26"W	32+77.32	28°05'57.32"
C9	324.074	500.00	N57° 16' 16.74"W	34+73.49	37°08'10.29"
C10	316.165	600.00	N60° 44' 37.07"W	37+97.57	30°11'29.63"
C11	313.719	600.00	N60° 37' 36.50"W	41+13.73	29°57'28.48"
C12	251.605	500.00	N61° 11' 23.47"W	44+27.45	28°49'54.55"
C13	459.415	750.00	N64° 19' 20.30"W	46+79.06	35°05'48.21"
C14	659.761	237.00	S18° 22' 45.41"W	51+38.47	159°30'00.38"
C15	223.815	140.00	S15° 34' 19.46"E	57+98.23	91°35'50.64"
L2	65.332		S30° 13' 35.86"W	60+22.05	

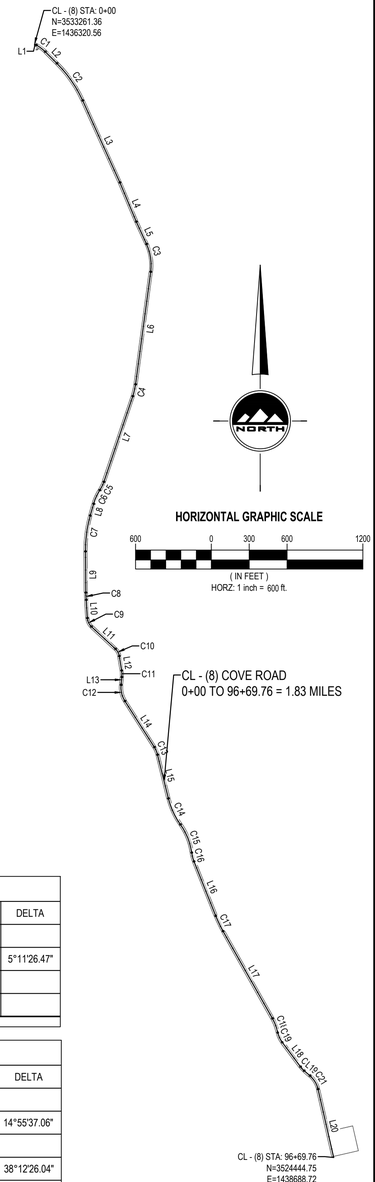


HORIZONTAL GRAPHIC SCALE

200 0 100 200 400

(IN FEET)
HORZ: 1 inch = 200 ft.





HORIZONTAL GRAPHIC SCALE

600 0 300 600 1200

(IN FEET)
HORZ: 1 inch = 600 ft.

CL - (3) GROUP ACCESS ROAD

NUMBER	LENGTH	RADIUS	LINE/CHORD DIRECTION	START	DELTA
L1	88.638		S28° 42' 19.16"W	-0+00	
C1	18.119	200.00	S31° 18' 02.40"W	0+88.64	5°11'26.47"
L2	43.257		S33° 53' 45.63"W	1+06.76	
L3	24.825		S33° 17' 37.41"W	1+50.01	

CL - (5) 8" WATER SUPPLY LINE

NUMBER	LENGTH	RADIUS	LINE/CHORD DIRECTION	START	DELTA
L12	207.580		S89° 15' 10.91"E	-0+10.66	
L13	238.000		S85° 37' 34.96"E	1+96.92	
C24	125.759	200.00	S67° 36' 45.77"E	4+34.92	36°01'38.39"
L14	41.089		S49° 35' 56.58"E	5+60.68	
C25	249.501	200.00	S13° 51' 38.40"E	6+01.76	71°28'36.35"
L15	140.594		S21° 52' 39.78"W	8+51.27	
C26	93.023	200.00	S8° 33' 11.18"W	9+91.86	26°38'57.19"
L16	706.365		S4° 46' 17.41"E	10+84.88	
C27	16.268	200.00	S7° 06' 06.43"E	17+91.25	4°39'38.05"
L17	763.108		S9° 25' 55.46"E	18+07.52	
L18	19.283		N79° 55' 05.93"E	25+70.62	

CL - (5) 8" WATER SUPPLY LINE

NUMBER	LENGTH	RADIUS	LINE/CHORD DIRECTION	START	DELTA
C28	2.357	50.00	N81° 16' 06.92"E	25+89.91	2°42'01.99"
C29	626.058	4130.27	N86° 57' 40.53"E	25+92.26	8°41'05.24"
C30	279.019	530.00	N76° 13' 18.91"E	32+18.32	30°09'48.49"
C31	7.584	50.00	N65° 29' 07.29"E	34+97.34	8°41'25.26"
L19	149.974		N69° 49' 49.92"E	35+04.93	
L20	39.847		S20° 10' 10.08"E	36+54.90	
C32	7.385	50.00	S15° 56' 17.33"E	36+94.75	8°27'45.49"
L21	739.604		S11° 42' 24.59"E	37+02.13	
C33	37.191	50.00	S33° 00' 56.41"E	44+41.73	42°37'03.65"
L22	248.179		S54° 19' 28.24"E	44+78.93	

CL - (8) COVE ROAD

NUMBER	LENGTH	RADIUS	LINE/CHORD DIRECTION	START	DELTA
L1	15.508		S62° 04' 01.80"E	0+00	
C1	89.535	300.00	S53° 31' 01.79"E	0+15.51	17°06'00.02"
L2	130.189		S44° 58' 01.78"E	1+05.04	
C2	359.115	1000.00	S34° 40' 45.37"E	2+35.23	20°34'32.82"
L3	714.161		S24° 23' 28.96"E	5+94.35	
L4	335.673		S22° 52' 23.17"E	13+08.51	
L5	195.104		S24° 37' 10.44"E	16+44.18	
C3	225.586	400.00	S8° 27' 47.24"E	18+39.29	32°18'46.38"
L6	899.423		S7° 41' 35.95"W	20+64.87	
C4	95.887	500.00	S13° 11' 14.13"W	29+64.30	10°59'16.36"
L7	715.674		S18° 40' 52.31"W	30+60.18	
C5	74.216	300.00	S25° 46' 05.93"W	37+75.86	14°10'27.23"
C6	118.679	400.00	S24° 21' 20.33"W	38+50.07	16°59'58.42"
L8	97.136		S15° 51' 21.12"W	39+68.75	
C7	286.815	1000.00	S7° 38' 21.19"W	40+65.89	16°25'59.86"
L9	326.697		S0° 34' 38.74"E	43+52.70	
C8	57.202	1000.00	S2° 12' 58.15"E	46+79.40	3°16'38.83"
L10	144.975		S3° 51' 17.57"E	47+36.60	
C9	75.387	100.00	S25° 27' 06.12"E	48+81.58	43°11'37.11"
L11	260.370		S47° 02' 54.67"E	49+56.97	
C10	65.944	100.00	S28° 09' 24.88"E	52+17.34	37°46'59.59"

CL - (8) COVE ROAD

NUMBER	LENGTH	RADIUS	LINE/CHORD DIRECTION	START	DELTA
L12	115.125		S9° 15' 55.08"E	52+83.28	
C11	52.105	200.00	S1° 48' 06.55"E	53+98.40	14°55'37.06"
L13	62.811		S5° 39' 41.97"W	54+50.51	
C12	133.368	200.00	S13° 26' 31.05"E	55+13.32	38°12'26.04"
L14	433.496		S32° 32' 44.07"E	56+46.69	
C13	65.177	200.00	S23° 12' 34.88"E	60+80.19	18°40'18.37"
L15	356.777		S13° 52' 25.70"E	61+45.36	
C14	228.762	600.00	S24° 47' 47.07"E	65+02.14	21°50'42.75"
C15	242.157	500.00	S21° 50' 40.02"E	67+30.90	27°44'56.86"
C16	72.121	300.00	S14° 51' 24.92"E	69+73.06	13°46'26.68"
L16	464.048		S21° 44' 38.26"E	70+45.18	
C17	134.546	1000.00	S25° 35' 54.27"E	75+09.23	7°42'32.01"
L17	793.825		S29° 27' 10.27"E	76+43.77	
C18	119.977	400.00	S20° 51' 36.49"E	84+37.60	17°11'07.57"
C19	85.775	200.00	S24° 33' 13.39"E	85+57.57	24°34'21.36"
L18	241.314		S36° 50' 24.07"E	86+43.35	
C20	42.722	200.00	S42° 57' 34.07"E	88+84.66	12°14'20.00"
L19	60.294		S49° 04' 44.06"E	89+27.38	
C21	126.423	200.00	S30° 58' 12.33"E	89+87.68	36°13'03.47"
L20	555.662		S12° 51' 40.60"E	91+14.10	

BASIS OF BEARING, BASIS OF ELEVATION AND SITE BENCHMARKS

PROJECT IS ON NAD83 UTM ZONE 12, SLB&M (US-FEET) DATUM. SITE BENCHMARKS ARE ESTABLISHED AS SHOWN HEREON. ADDITIONAL LAYOUT CONTROL MAY EXIST ON THE SITE.

CODE OFFICIAL STAMP

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

REVIEWED FOR CODE COMPLIANCE

SIGNATURE:

DATE: 01/25/2022

ENSIGN
THE STANDARD IN ENGINEERING

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LAYTON
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TOOELE
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CEDAR CITY
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RICHFIELD
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FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:
PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT L. ROUSSELLE
EXP. 3/31/2022
STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
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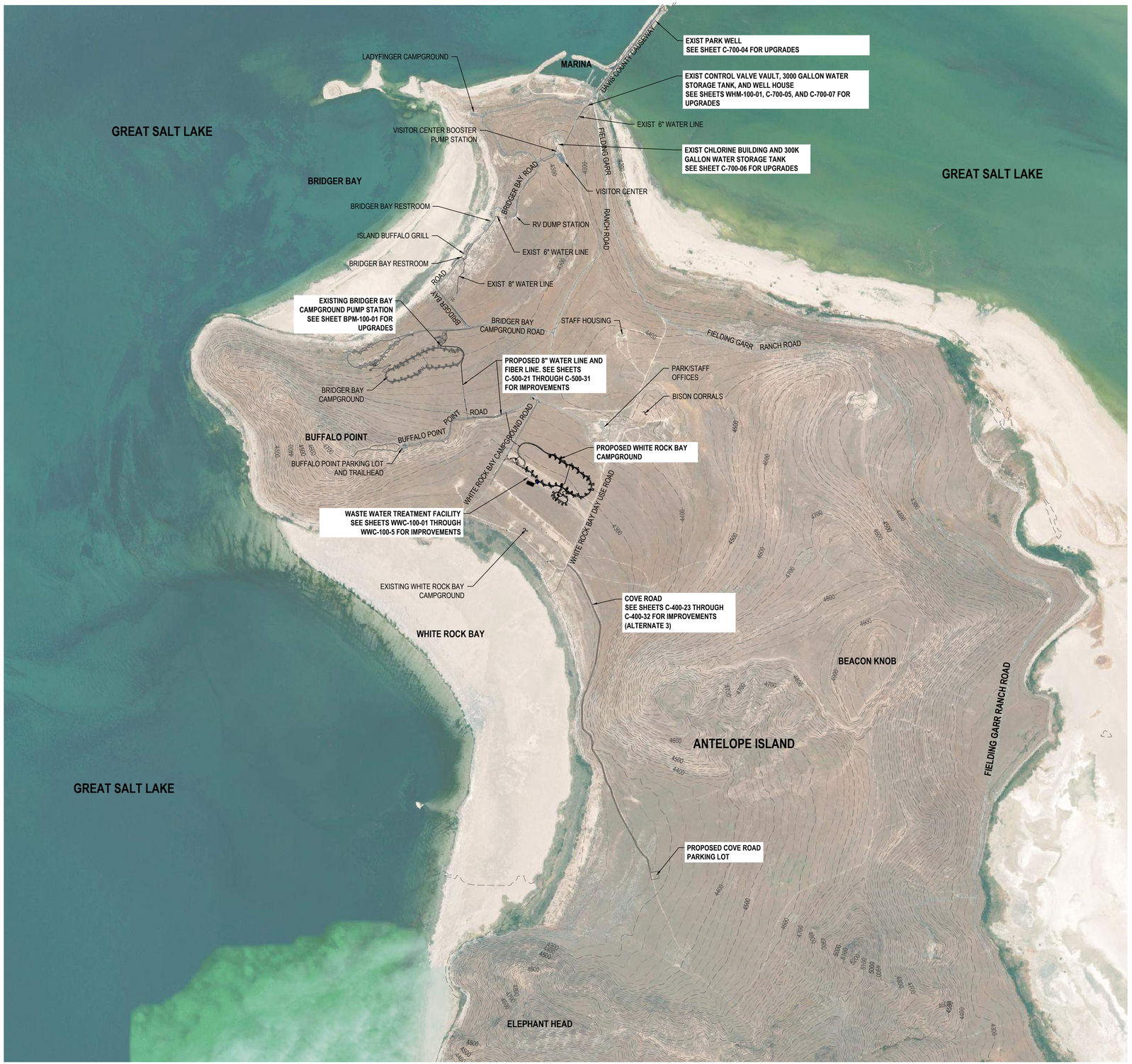
HORIZONTAL CONTROL PLAN

PROJECT NUMBER: 10970	PRINT DATE: 1/12/2022
DRAWN BY: G. OFFERMANN	CHECKED BY: F. DUBEROW
PROJECT MANAGER: R. ROUSSELLE	

C-100-01



NORTH

HORIZONTAL GRAPHIC SCALE

1500 0 750 1500 3000

(IN FEET)

HORZ: 1 inch = 1500ft.

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7885569-2202
ROBERT J. ROUSSELLE
EXP. 3/31/2022
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OVERALL
SITE AND UTILITY
PLAN

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-100-02

CODE OFFICIAL STAMP
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
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811 Know what's below. Call before you dig.

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

BENCHMARK

NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4315.30'

LEGEND

- (1) CAMPSITE NUMBER
- (R1) RESTROOM NUMBER
- (G1) GROUP CAMPSITE NUMBER
- ACCESSIBLE CAMPSITE SITE
- SS — PROPOSED SAN SEWER LINE
- SS — SS — SS — PROPOSED SAN SEWER LATERAL
- W — PROPOSED WATER LINE
- W — W — W — PROPOSED WATER LATERAL SERVICE
- PROPOSED CAMPSITE AMENITIES
- PROPOSED CAMPSITE UTILITY HOOKUPS

CAMPGROUND STATS

SINGLE PULL THROUGH CAMPSITES	11
ACCESSIBLE SINGLE PULL THROUGH CAMPSITES	2
BACK-IN CAMPSITES	16
ACCESSIBLE BACK-IN CAMPSITES	2
DUAL BACK-IN CAMPSITES	2
CAMP HOST CAMPSITE	1
GROUP CAMPSITES	7
TOTAL CAMPGROUND SITES	41
SHOWER RESTROOMS	2
NON-SHOWER RESTROOMS	2
RV DUMP STATION	1
DUAL TRASH ENCLOSURE	1
SINGLE TRASH ENCLOSURE	1

NORTH

HORIZONTAL GRAPHIC SCALE

100 0 50 100 200

(IN FEET)

HORZ: 1 inch = 100 ft.

PROPOSED 8" HDPE WATER LINE AND FIBER LINE. SEE SHEETS C-500-22 THROUGH C-500-32

5 C-700-02 RV DUMP STATION

5 C-700-02 DUAL TRASH ENCLOSURE

EXISTING ASPHALT ROAD

02 CAMP HOST CAMPSITE

3 C-600-04 TYPICAL PULL THROUGH CAMPSITE

TYPICAL BACK-IN CAMPSITE 1 C-600-05

APPROXIMATE LOCATION OF EXISTING BURROWS FOR BURROWING OWLS (SEE NOTE 2)

3 C-600-06 SMALL RESTROOM

PROPOSED SAN SEWER DRAINFIELD

PROPOSED WWTP

2 C-600-05 DUAL BACK-IN CAMPSITE

8 C-600-07 GROUP SITE ACCESS GATE

3 C-700-03 RESTROOM WW LIFT STATION

1 C-600-06 UNISEX RESTROOM

2 C-600-04 ACCESSIBLE BACK-IN CAMPSITE

GROUP SITE

2 C-600-04 ACCESSIBLE BACK-IN CAMPSITE

2 C-600-06 LARGE RESTROOM

1 C-600-04 ACCESSIBLE PULL THROUGH CAMPSITE

2 C-600-04 ACCESSIBLE BACK-IN CAMPSITE

2 C-600-06 LARGE RESTROOM

1 C-600-04 ACCESSIBLE PULL THROUGH CAMPSITE

6 C-700-02 SINGLE TRASH ENCLOSURE

PROPOSED 8" HDPE SAN SEWER SEE SHEET C-500-21

3 C-600-06 SMALL RESTROOM

NOTES:

1. FOR UTILITY INFORMATION, SEE SHEETS C-500-01 THROUGH C-500-32.
2. EXISTING BURROWS TO BE COLLAPSED OUTSIDE OF THE MIGRATORY BIRD NESTING SEASON. ANTELOPE ISLAND STATE PARK STAFF TO BUILD ARTIFICIAL BURROWS TO OFFSET THE LOSS OF THE COLLAPSED BURROWS. CONSTRUCTION AFTER MARCH 1ST WILL REQUIRE SWCA OR ANTELOPE ISLAND STATE PARK STAFF TO PROVIDE A BIOLOGICAL MONITOR DURING ACTIVE CONSTRUCTION TO MONITOR ANY MIGRATORY BIRDS THAT BEGIN NESTING NEAR THE PROJECT, INCLUDING THE BURROWING OWL. THE CONTRACTOR SHALL COORDINATE WITH THE BIOLOGICAL MONITOR THROUGHOUT CONSTRUCTION.

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ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT L. ROUSSELLE EXP. 3/31/2022 STATE OF UTAH

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OVERALL CAMPGROUND SITE AND UTILITY PLAN

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-100-03

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BENCHMARK

NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4315.30'

LEGEND

- (1) CAMP SITE NUMBER
- (R1) RESTROOM NUMBER
- (G1) GROUP CAMP SITE NUMBER
- 3-INCH THICK ASPHALT PAVING
- 9-INCH THICK UTBC AS INDICATED FOR FUTURE PAVING
- 6-INCH THICK UTBC ALL REMAINING SURFACES

PAVING QUANTITIES		
MATERIAL	SQFT	CY
MAIN CAMPGROUND		
3- INCH THICK ASPHALT	7,551	70
9-INCH THICK UTBC SURFACING *	58,543	1,626
6-INCH THICK UTBC SURFACING *	303,705	5,624
4-INCH THICK CONCRETE SIDEWALK AT RESTROOMS	4,357	
4-INCH THICK CONCRETE SIDEWALK AT CAMPSITES (5X10, 41 SITES)	2,050	
4-INCH THICK CONCRETE PAVILION (14X24, 41 SITES)	15,006	
OFFSITE		
SOUTH ACCESS ROAD 6-INCH THICK UTBC	61,565	1,140
ALTERNATE 1 COVE ROAD, 6-INCH THICK UTBC SURFACING	309,233	5,727

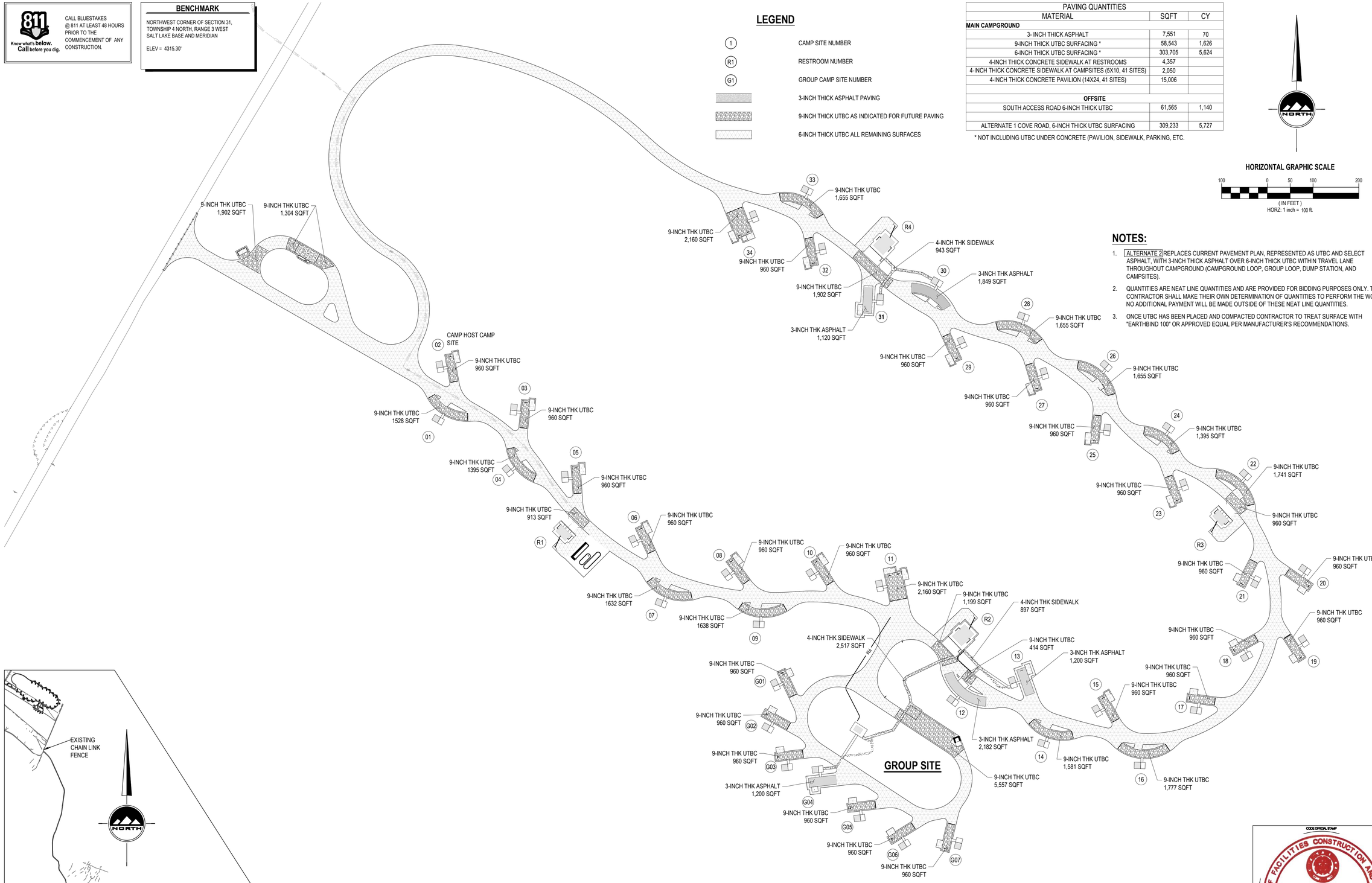
* NOT INCLUDING UTBC UNDER CONCRETE (PAVILION, SIDEWALK, PARKING, ETC.

NORTH

HORIZONTAL GRAPHIC SCALE

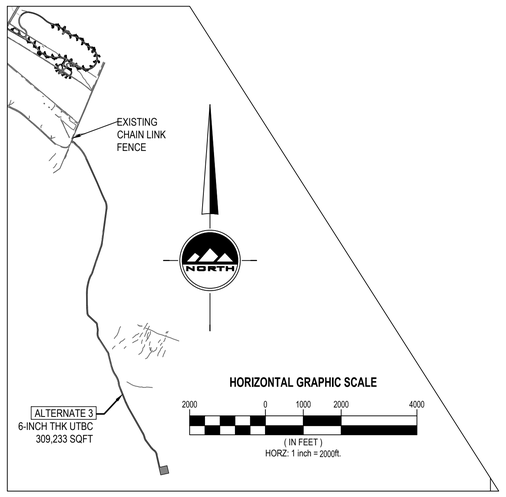
100 0 50 100 200

(IN FEET)
HORZ: 1 inch = 100 ft.



NOTES:

1. ALTERNATE 2 REPLACES CURRENT PAVEMENT PLAN, REPRESENTED AS UTBC AND SELECT ASPHALT, WITH 3-INCH THICK ASPHALT OVER 6-INCH THICK UTBC WITHIN TRAVEL LANE THROUGHOUT CAMPGROUND (CAMPGROUND LOOP, GROUP LOOP, DUMP STATION, AND CAMPSITES).
2. QUANTITIES ARE NEAT LINE QUANTITIES AND ARE PROVIDED FOR BIDDING PURPOSES ONLY. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF QUANTITIES TO PERFORM THE WORK. NO ADDITIONAL PAYMENT WILL BE MADE OUTSIDE OF THESE NEAT LINE QUANTITIES.
3. ONCE UTBC HAS BEEN PLACED AND COMPACTED CONTRACTOR TO TREAT SURFACE WITH "EARTHBIND 100" OR APPROVED EQUAL PER MANUFACTURER'S RECOMMENDATIONS.



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CONTACT:

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT J. ROUSSELLE EXP.3/31/2023 01/12/2022 STATE OF UTAH

CONFORMANCE SET 01/12/2022

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PAVEMENT PLAN

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-200-01

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BENCHMARK

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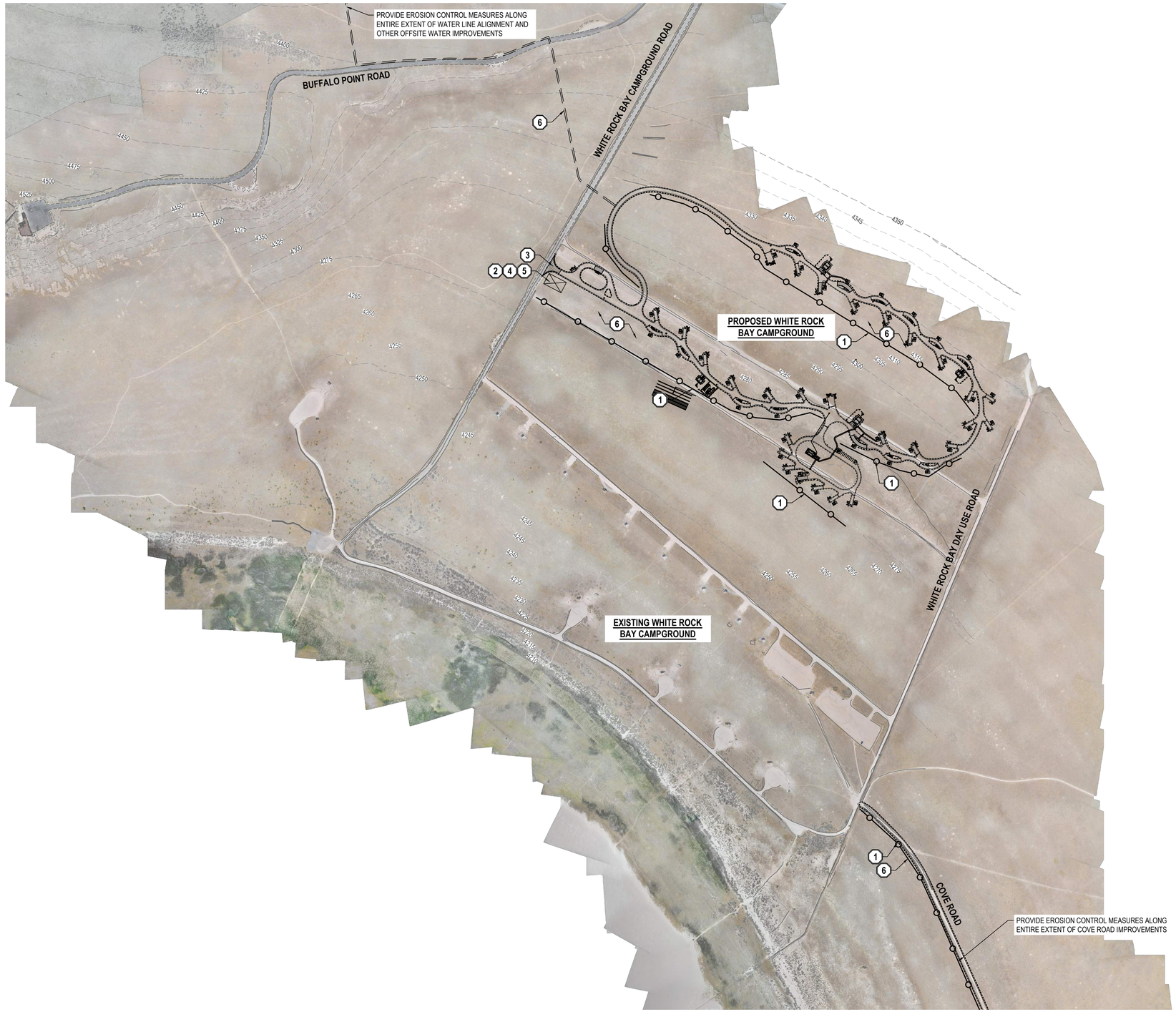
ELEV = 4315.30'



NORTH

HORIZONTAL GRAPHIC SCALE

300 0 150 300 600

(IN FEET)

HORZ: 1 inch = 300 ft.

GENERAL NOTES

1. THIS PLAN IS DESIGNED AS A FIRST APPRAISAL OF NECESSARY MEANS TO PROTECT THE WATERS OF THE STATE FROM POTENTIAL POLLUTION. IT IS THE RESPONSIBILITY OF THE OWNER/OPERATOR TO ADD WARRANTED BEST MANAGEMENT PRACTICES (BMP'S) AS NECESSARY, MODIFY THOSE SHOWN AS APPROPRIATE, AND DELETE FROM THE PROJECT THOSE FOUND TO BE UNNECESSARY. FEDERAL AND STATE LAW ALLOWS THESE UPDATES TO BE MADE BY THE OWNER/OPERATOR ONSITE AND RECORDED BY THE OWNER/OPERATOR ON THE COPY OF THE SWPPP KEPT ONSITE.
2. DISTURBED LAND SHALL BE KEPT TO A MINIMUM. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. HOWEVER, WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 21 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.
3. RESEED DISTURBED LAND WITH NATIVE GRASS MIXTURE WITHIN 14 CALENDAR DAYS OF ACHIEVEMENT OF FINISH GRADE TO STABILIZE SOILS IF LAND IS NOT TO BE RE-WORKED WITHIN 14 CALENDAR DAYS OF THE CESSATION OF CONSTRUCTION ACTIVITIES AT THAT LOCATION.
4. DETAILS SHOWN ARE TO BE EMPLOYED TO PROTECT RUNOFF AS APPROPRIATE DURING CONSTRUCTION. NOT ALL DETAILS ARE NECESSARY AT ALL PHASES OF THE PROJECT. IT SHALL BE THE RESPONSIBILITY OF THE OWNER/OPERATOR TO USE APPROPRIATE BEST MANAGEMENT PRACTICES AT THE APPROPRIATE PHASE OF CONSTRUCTION. SEE SWPPP FOR BMP IMPLEMENTATION SCHEDULE.
5. VARIOUS BEST MANAGEMENT PRACTICES HAVE BEEN SHOWN ON THE PLANS AT SUGGESTED LOCATIONS. THE CONTRACTOR MAY MOVE AND RECONFIGURE THESE BMP'S TO OTHER LOCATIONS IF PREFERRED, PROVIDED THE INTENT OF THE DESIGN IS PRESERVED.
6. NOT ALL POSSIBLE BMP'S HAVE BEEN SHOWN. THE CONTRACTOR IS RESPONSIBLE TO APPLY CORRECT MEASURES TO PREVENT THE POLLUTION OF STORM WATER PER PROJECT SWPPP.
7. A UPDES (UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM) PERMIT IS REQUIRED FOR ALL CONSTRUCTION ACTIVITIES 1 ACRE OR MORE.

SCOPE OF WORK:

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

1. STRAW WATTLE PER DETAIL 3/C-300-02.
2. PORTABLE TOILET PER DETAIL 2/C-300-02.
3. VEHICLE STABILIZED CONSTRUCTION ENTRANCE PER DETAIL 1/C-300-02
4. SUGGESTED TEMPORARY CONSTRUCTION SITE PARKING, STAGING, DUMPSTER, AND MATERIAL STORAGE AREA.
5. SUGGESTED STOCKPILE AREA.
6. RE-SEED DISTURBED AREAS PER RE-SEED MIX DETAIL 4/C-300-02

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PROJECT #: 22238510
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PROFESSIONAL ENGINEER
7885569-2202
ROBERT J. ROUSSELLE
EXP. 3/31/2022
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EROSION CONTROL PLAN

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-300-01

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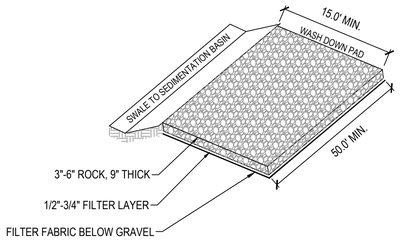
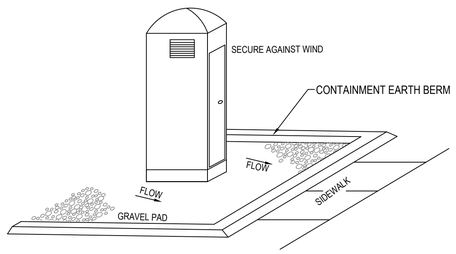


NOTE:

1. PLACE SIGN ADJACENT TO ENTRANCE " CONSTRUCTION TRAFFIC ONLY - ALL CONSTRUCTION TRAFFIC SHALL ENTER AND EXIT SITE AT THIS LOCATION"

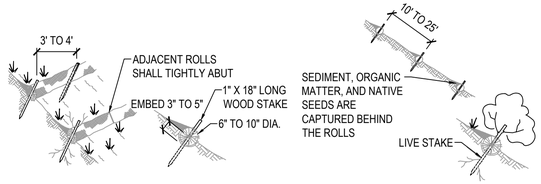
1 STABILIZED CONSTRUCTION ENTRANCE

SCALE: NONE



2 PORTABLE TOILET

SCALE: NONE



NOTES:

1. STRAW WATTLES SHALL BE INSTALLED AS SOON AS CONSTRUCTION WILL ALLOW OR WHEN DESIGNATED BY THE ENGINEER. STRAW WATTLES SHALL BE PLACED IN SHALLOW TRENCHES AND STAKED ALONG THE CONTOUR OF DISTURBED OR NEWLY CONSTRUCTED SLOPES, IN ACCORDANCE WITH THE PLANS, PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE CONTOUR. THE WATTLES SHALL BE INSTALLED AT THE INTERVALS DESIGNATED BY THE ENGINEER. TRENCH CONSTRUCTION AND WATTLE INSTALLATION SHALL BEGIN FROM THE BASE OF THE SLOPE AND WORK UPHILL. EXCAVATED MATERIAL SHALL BE SPREAD EVENLY ALONG THE UPHILL SLOPE AND COMPACTED USING HAND TAMPING OR OTHER METHOD APPROVED BY THE ENGINEER. ON GRADUALLY SLOPED, OR CLAY-TYPE SOILS, TRENCHES SHALL BE 2 TO 3 INCHES DEEP. ON LOOSE SOILS, IN HIGH RAINFALL AREAS, OR ON STEEP SLOPES, TRENCHES SHALL BE 3 TO 5 INCHES DEEP, OR HALF THE THICKNESS OF THE WATTLE.
2. THE WATTLE SHALL BE INSTALLED SNUGLY INTO THE TRENCH, ABUTTING ADJACENT WATTLES TIGHTLY, END TO END WITHOUT OVERLAPPING THE ENDS. WATTLES SHALL BE STAKED AT EACH END AND AT 4 FOOT CENTERS ALONG THEIR ENTIRE LENGTH. WHEN TRENCH CONDITIONS REQUIRE, PILOT HOLES FOR THE STAKES SHALL BE DRIVEN THROUGH THE WATTLE AND INTO THE SOIL USING A STRAIGHT BAR. STAKES SHALL BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE, LEAVING A MINIMUM OF 2 TO 3 INCHES OF THE STAKE PROTRUDING ABOVE THE WATTLE. WATTLES SHALL BE INSPECTED REGULARLY TO ENSURE THEY REMAIN THOROUGHLY ENTRENCHED AND IN CONTACT WITH THE SOIL, AND IMMEDIATELY AFTER A RUNOFF PRODUCING RAINFALL.
3. STRAW WATTLES MAY BE USED AS AN ALTERNATIVE AND REPLACE SILT FENCES AND STRAW BALES CHECK DAMS.

3 STRAW WATTLE

SCALE: NONE

ANTELOPE ISLAND SEED MIX (RECOMENDED FOR PROJECT)*

SPECIES	VARIETY	LBS/ACRE
SANDBURG BLUEGRASS		1.30
SIBERIAN WHEATGRASS	VAVILOV II	5.20
SNAKE RIVER WHEATGRASS	SECAR	4.20
THICKSPIKE WHEATGRASS	SODAR	3.00
INDIAN RICEGRASS	RIMROCK	3.50
SAND DROPSEED		0.30
ROCKY MOUNTAIN BEE PLANT		0.50
ARROW LEAF BALSAM ROOT		1.10
BLUE FLAX	APPAR	1.50
ALFALFA	SPREDOR 5	2.00
		TOTALS - 22.60

ALL SEED RATES ARE ON PURE LIVE SEED BASIS (PLS)

* SEED MIX SPECIFICATION PROVIDED BY UTAH SEED BASED ON SPECIES LIST PROVIDED BY UTAH STATE PARKS.

NOTES:

1. RE-SEEDING OF NON-IRRIGATED AREAS IS REQUIRED ON OR AFTER OCTOBER 15, BUT BEFORE SNOW ACCUMULATES.
2. GRADE AND SLOPE THE AREA TO BE SEEDED SO THAT IT WILL DRAIN PROPERLY AND ACCOMMODATE SEEDING EQUIPMENT.
3. IF SLOPES ARE STEEPER THAN 3:1, THE USE OF HYDRAULIC SEEDING EQUIPMENT IS ENCOURAGED. SLOPES STEEPER THAN 3:1 REQUIRE A GEOTEXTILE.
4. LOOSEN COMPACTED SOIL BY RAKING, DISCING WHERE HYDRAULIC SEEDING WILL NOT BE USED, TO PROVIDE FOR SEED RETENTION AND GERMINATION.
5. APPLY SUITABLE FERTILIZER TO THE AREA. FERTILIZATION REQUIREMENTS MUST BE DEVELOPED BY A PROFESSIONAL OR THE LOCAL SOIL CONSERVATION OFFICE. FERTILIZER SHOULD NOT CONTAIN PHOSPHORUS UNLESS THE SOILS HAVE BEEN ANALYZED AND SHOWN TO REQUIRE IT.
6. INSPECT SEEDED AREAS AFTER EVERY RAINFALL EVENT AND AT A MONTHLY MINIMUM.
7. REPLACE SEED ON ANY BARE AREAS, OR ANY AREA SHOWING SINGS OF EROSION AS NECESSARY.

4 SEED MIX AND SOWING RATES

SCALE: NONE

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PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT L. ROUSSELLE EXP.3/31/2023 STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WWTF DESIGN & DFCM COMMENTS	GWO
2	01/12/2022	DFCM COMMENTS	GWO
3			
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8			

EROSION CONTROL DETAILS

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-300-02

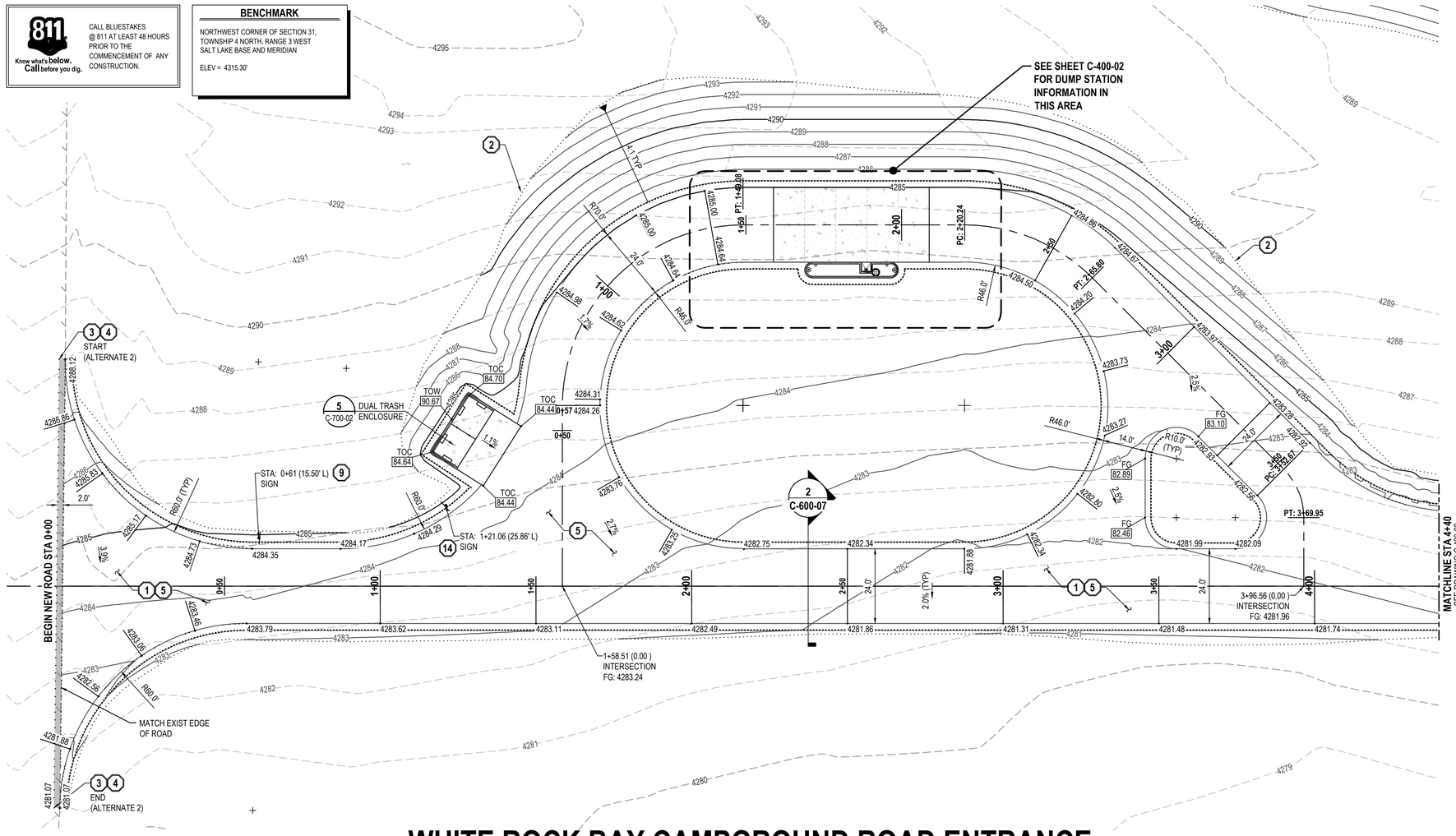
811 Know what's below. Call before you dig.

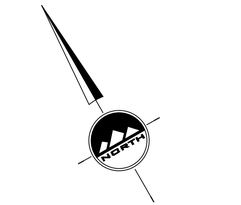
CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

BENCHMARK

NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MEDIAN

ELEV = 4315.30'

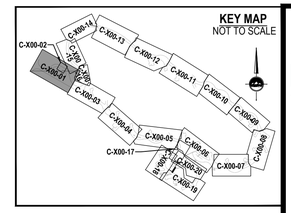




HORIZONTAL GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
HORZ: 1 inch = 20 ft.
VERT: 1 inch = 4 ft.



SCOPE OF WORK: PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

1. CLEAR, GRUB, AND GRADE FOR PROPOSED SURFACE IMPROVEMENTS.
2. LIMIT OF DISTURBANCE.
3. REMOVE AND PROPERLY DISPOSE OF EXISTING ASPHALT PAVEMENT AND ROAD BASE SUFFICIENT FOR INSTALLATION OF NEW PAVEMENT SECTION.
4. SAWCUT EXISTING ASPHALT PAVEMENT TO PROVIDE A CLEAN EDGE FOR THE TRANSITION BETWEEN EXISTING AND PROPOSED ASPHALT PAVEMENT OR CONCRETE CURB.
5. 6-INCH UTBC OR 9-INCH UTBC PER GEOTECHNICAL REPORT, DETAILS 2 AND 3/C-600-07, AND SHEET C-200-01.
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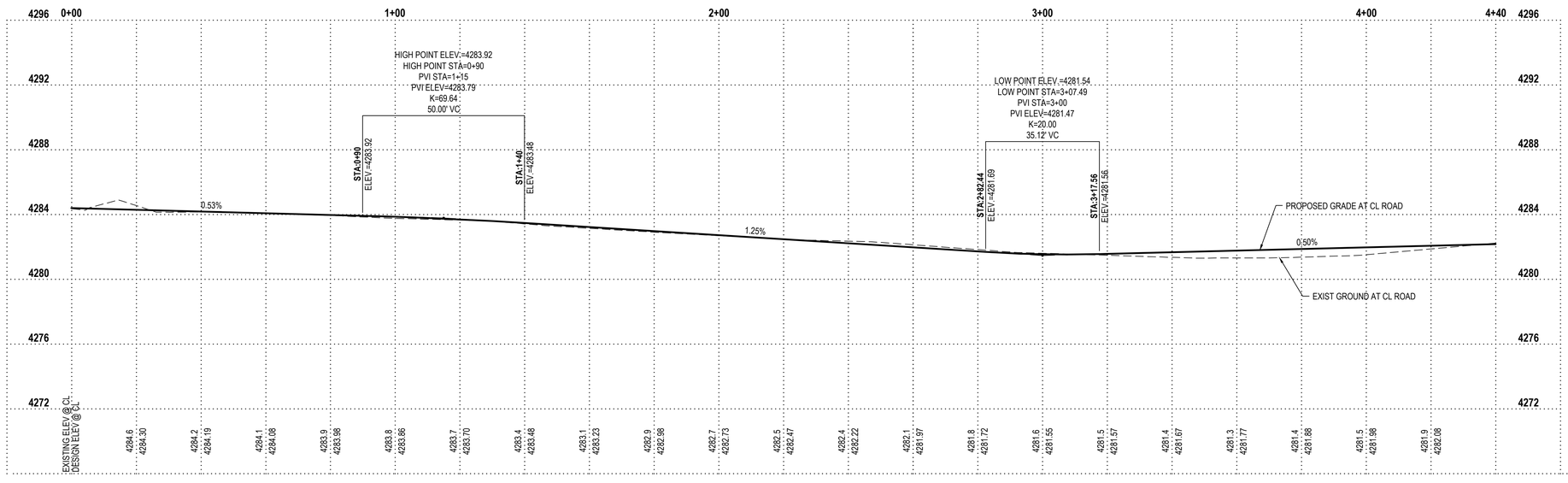
16. MATCH EXISTING GROUND AT CAMPSITE ENTRANCES.
17. TRUNCATED DOMES PER APWA STANDARD PLAN 238.

WHITE ROCK BAY CAMPGROUND ROAD ENTRANCE



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SIGNATURE:
DATE: 01/25/2022

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Phone: 801.547.1100

TOOELE
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CEDAR CITY
Phone: 435.865.1453

RICHFIELD
Phone: 435.896.2983

WWW.ENSIGNENG.COM

FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:
PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2201 ROBERT L. ROUSSELLE EXP. 3/31/2023 STATE OF UTAH

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PLAN AND PROFILE GRADING

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-400-01

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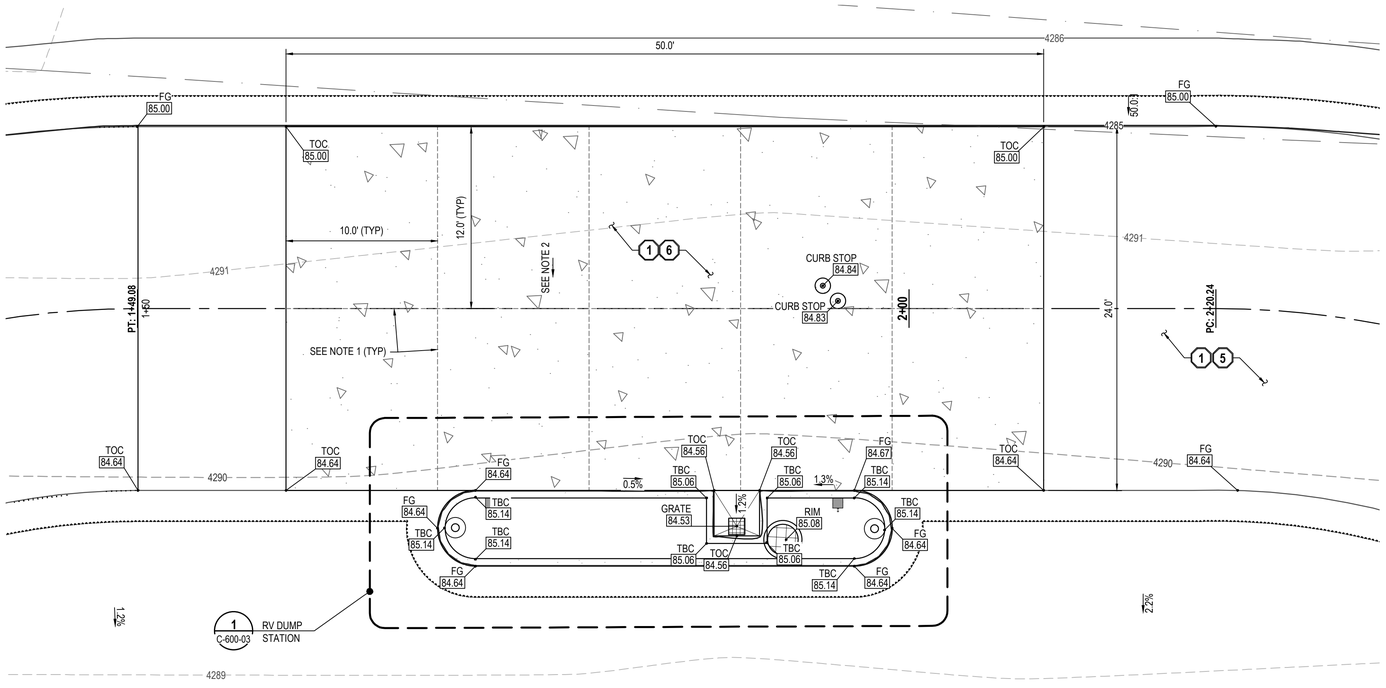
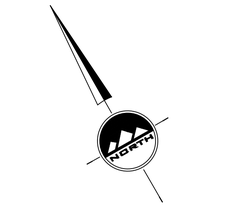


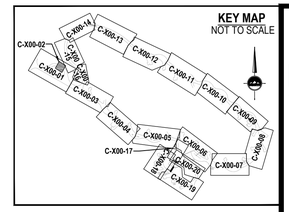


HORIZONTAL GRAPHIC SCALE

5 0 2.5 5 10

(IN FEET)

HORZ: 1 inch = 5 ft.



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17. TRUNCATED DOMES PER APWA STANDARD PLAN 238.

NOTES:

1. PROVIDE JOINT PATTERN SPACING TO PRODUCE LENGTH X WIDTH RATIO OF 0.8 MINIMUM TO 1.2 MAXIMUM. MAXIMUM PANEL SIZES SHALL BE 15-FEET LONG X 12-FEET WIDE. ALL JOINTS IN PAVEMENT SECTION SHALL BE SEALED. CONTRACTOR TO PROVIDE CONSTRUCTION JOINTS AT SECTIONS JOINTING PREVIOUSLY POURED SECTIONS.TEXT.
2. MAX SLOPE OF 1.5% IN ANY DIRECTION.

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Phone: 435.896.2983

WWW.ENSIGNENG.COM

FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT L. ROUSSELLE EXP. 6/31/2022 STATE OF UTAH

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RV DUMP STATION SITE AND GRADING PLAN

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-400-02

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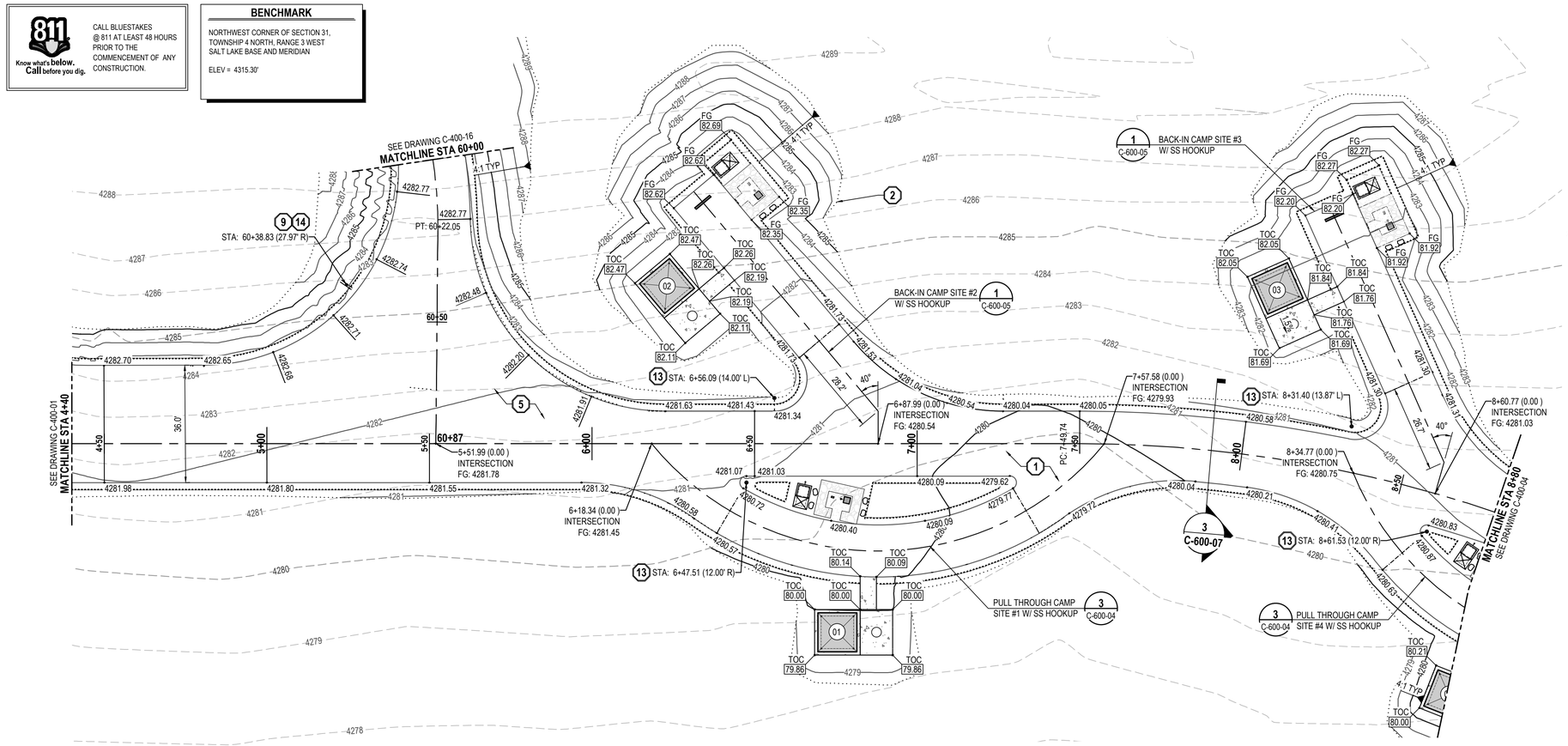

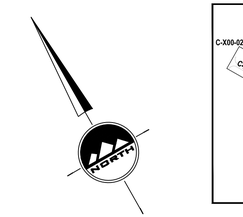

NORTH

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(IN FEET)
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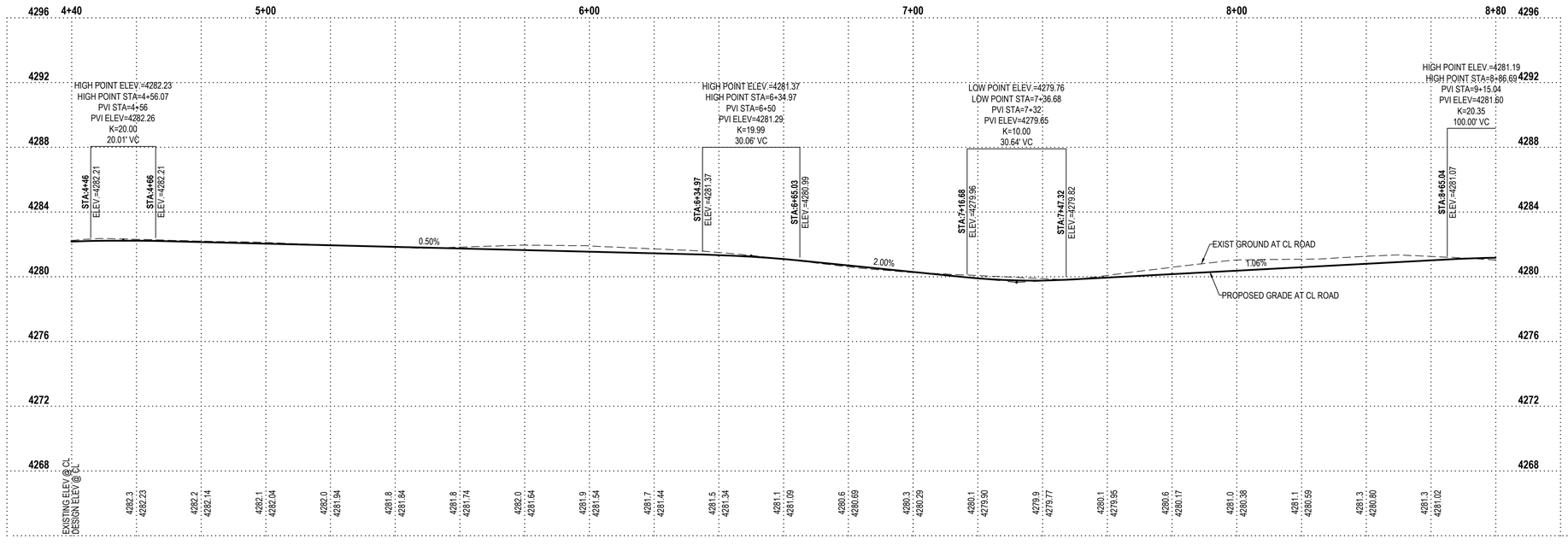
WHITE ROCK BAY CAMPGROUND LOOP ROAD



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FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:
PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT L. ROUSSELLE EXP. 3/31/2023 STATE OF UTAH

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PLAN AND PROFILE GRADING

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-400-03

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

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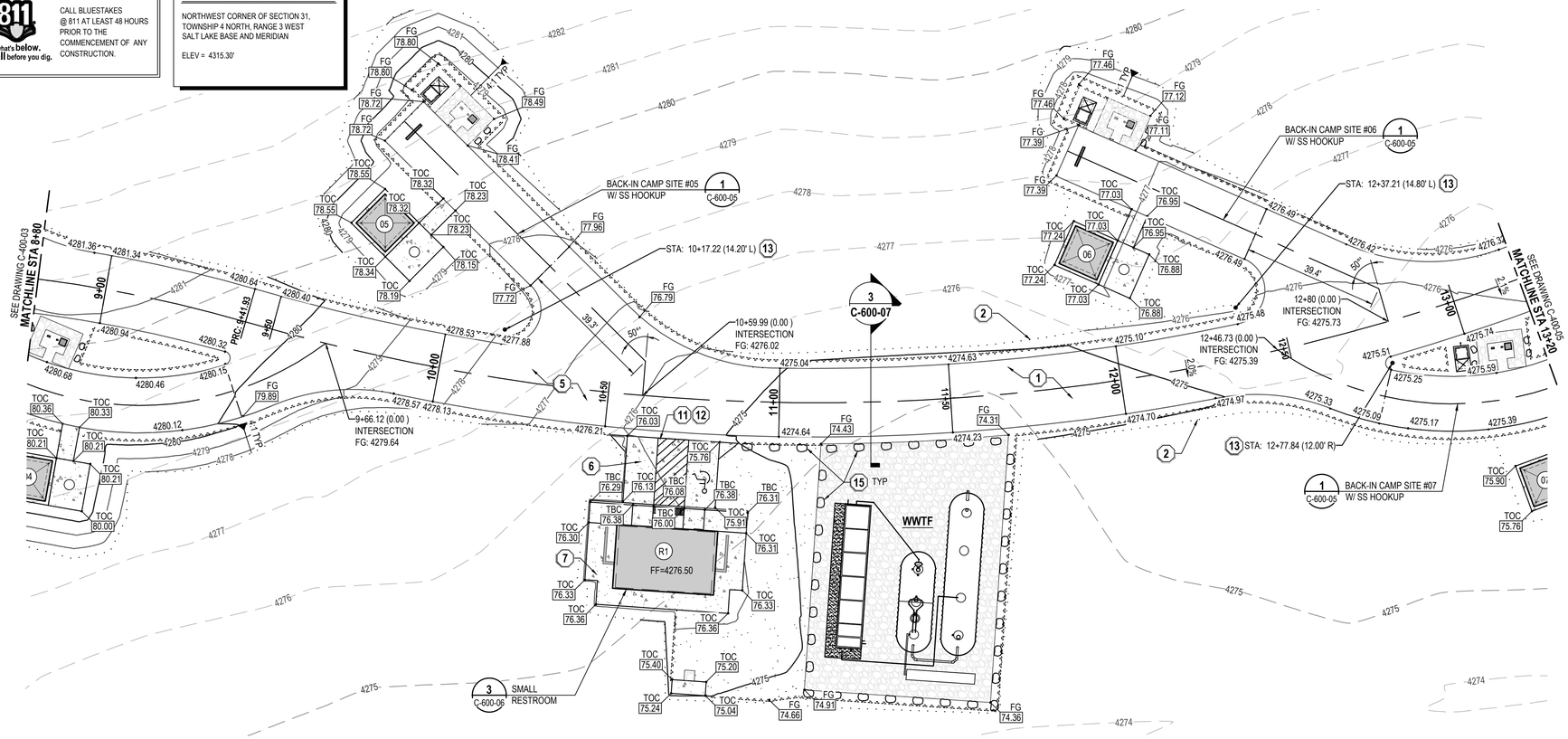

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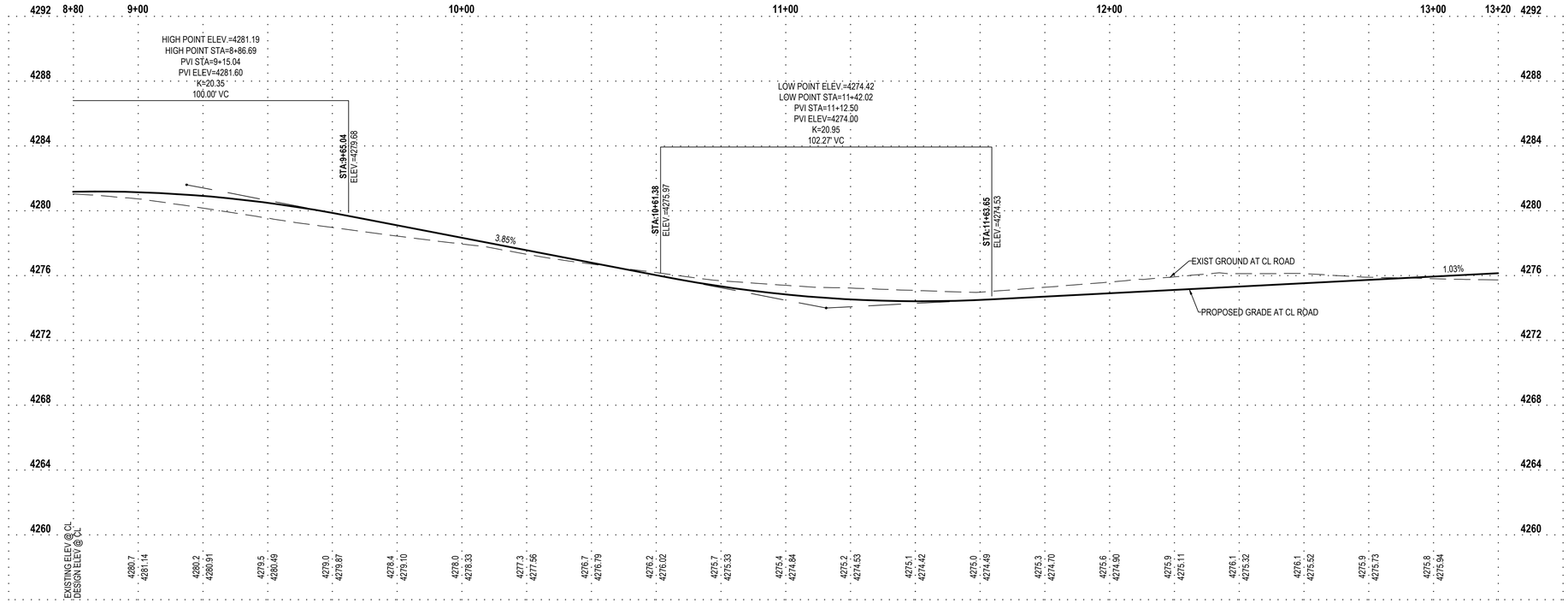

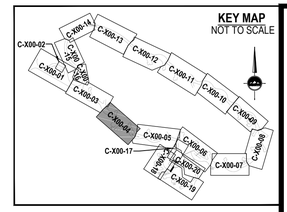

HORIZONTAL GRAPHIC SCALE

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PROJECT MANAGER R. ROUSSELLE	

C-400-04

DCDE OFFICIAL STAMP
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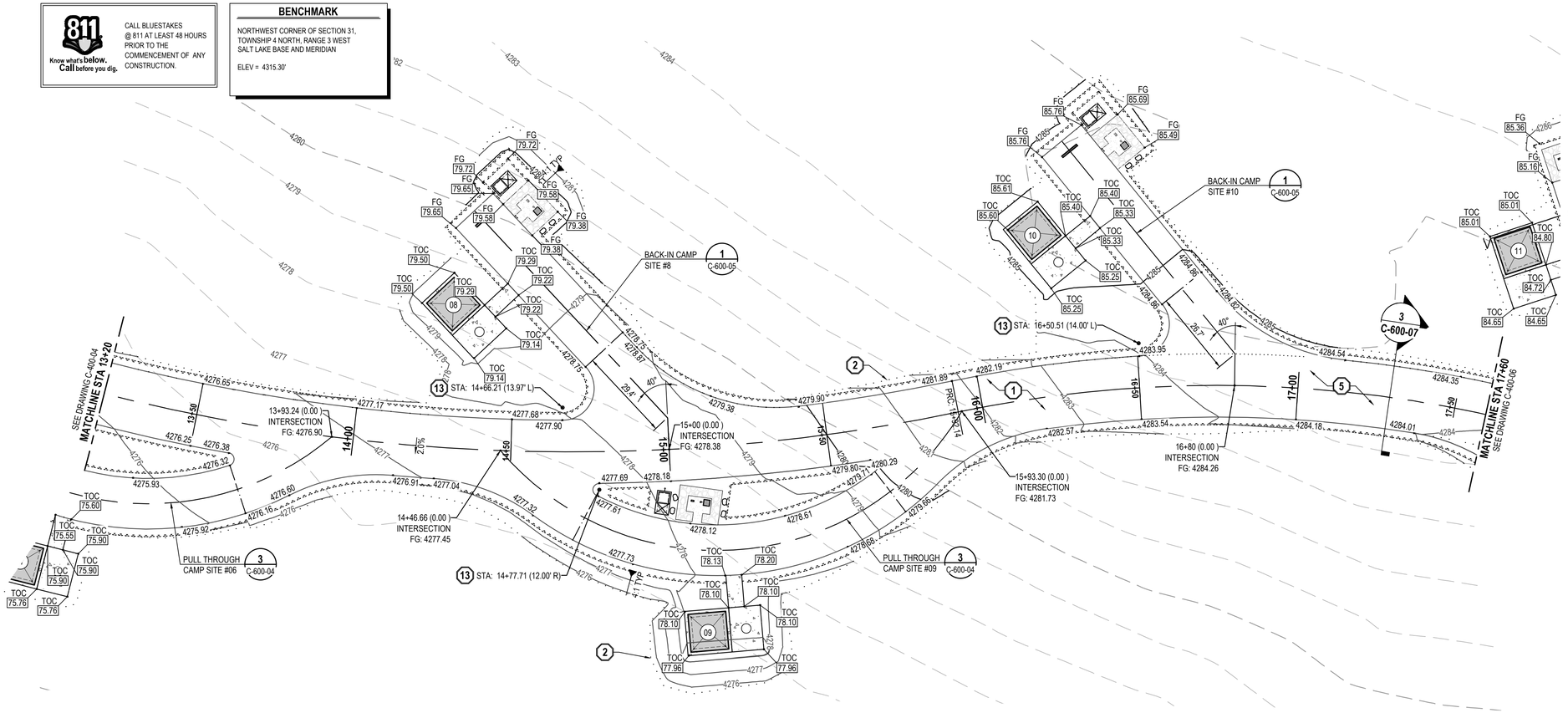

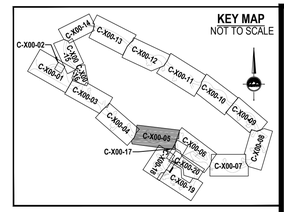

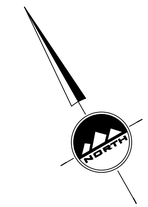

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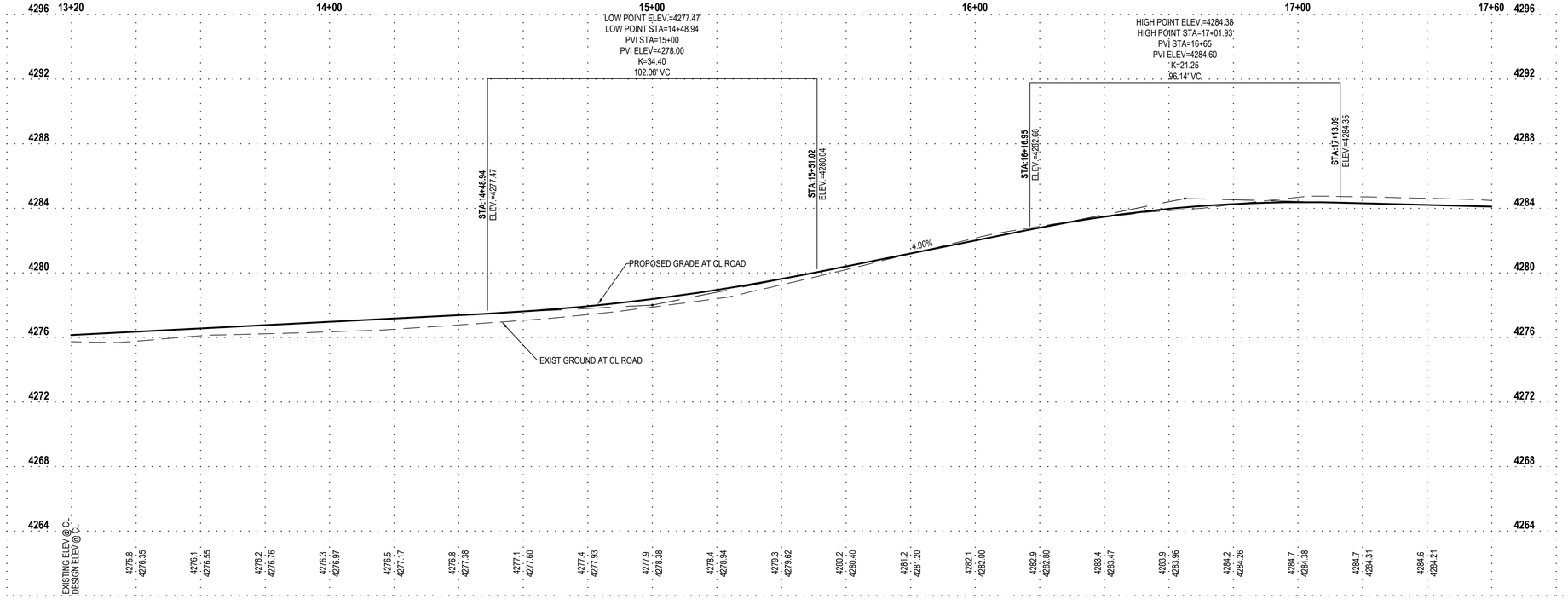
16. MATCH EXISTING GROUND AT CAMPSITE ENTRANCES.
17. TRUNCATED DOMES PER APWA STANDARD PLAN 238.

WHITE ROCK BAY CAMPGROUND LOOP ROAD



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4315 S 2700 W, Fl 3
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CONTACT:
PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT J. ROUSSELLE EXP.3/31/2023 STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WHITE DESIGN & DFCM COMMENTS	GWO
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3			
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PLAN AND PROFILE GRADING

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-400-05

CODE OFFICIAL STAMP
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
REVIEWED FOR CODE COMPLIANCE
SIGNATURE:
DATE: 01/25/2022

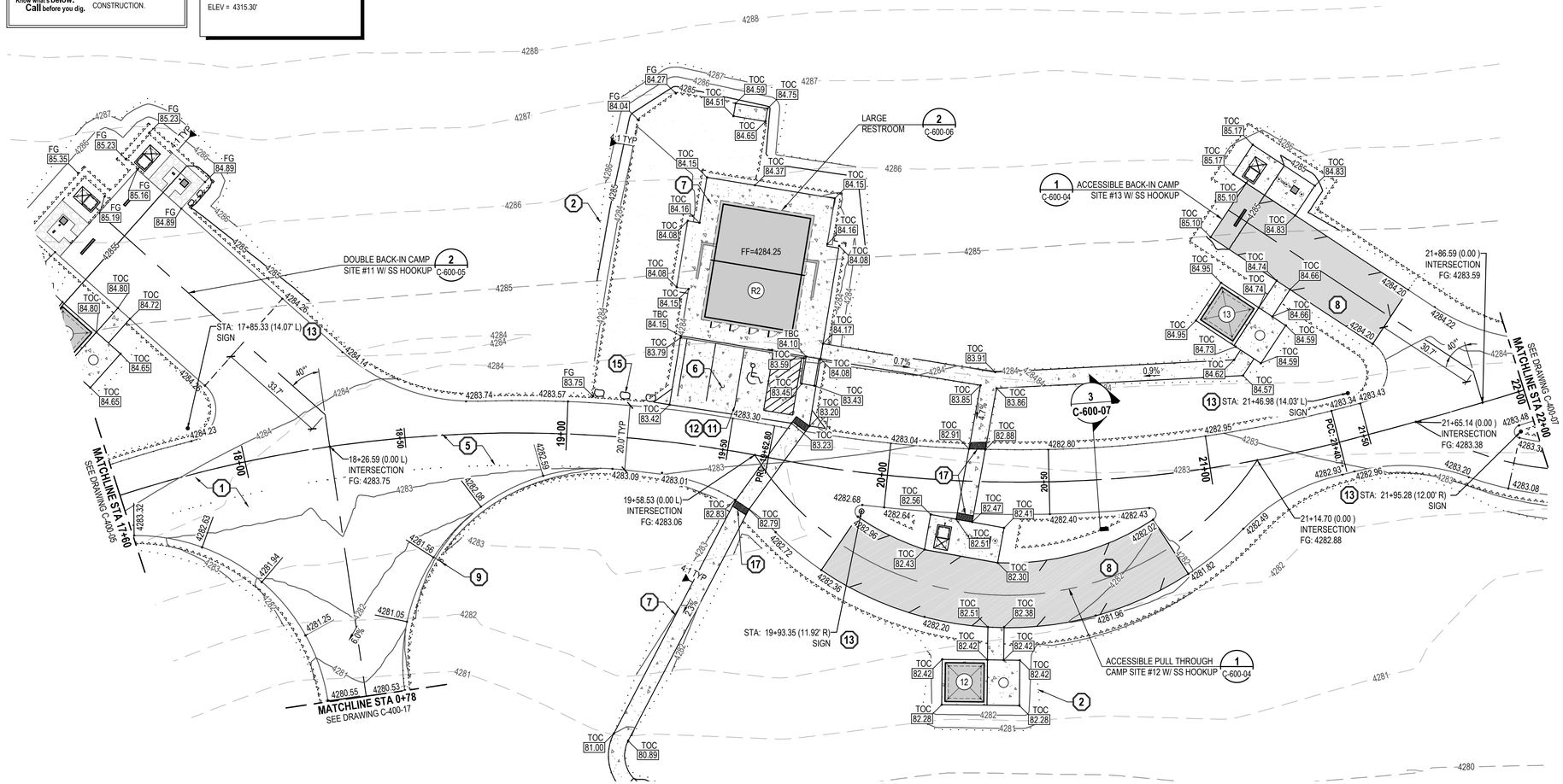
CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

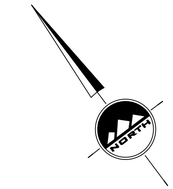
Know what's below. Call before you dig.

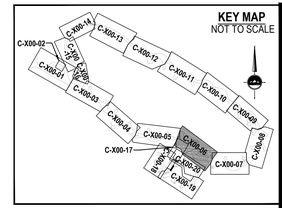
BENCHMARK

NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4315.30'







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(IN FEET)
HORZ: 1 inch = 20 ft.
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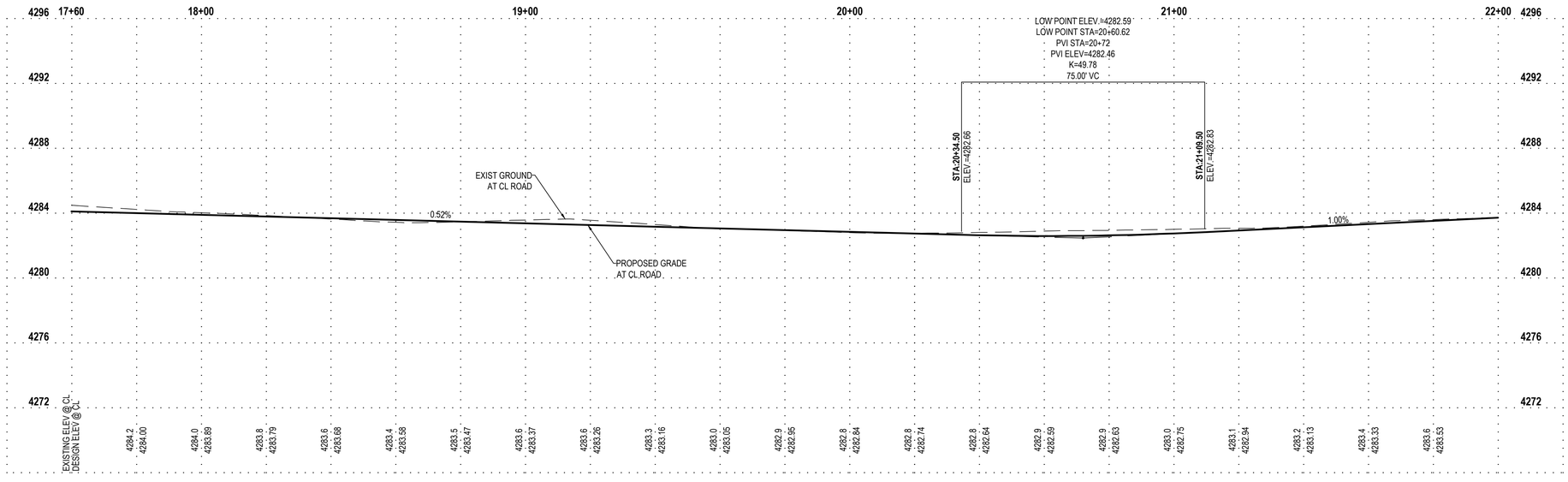

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CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
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SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

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PLAN AND PROFILE GRADING

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-400-06

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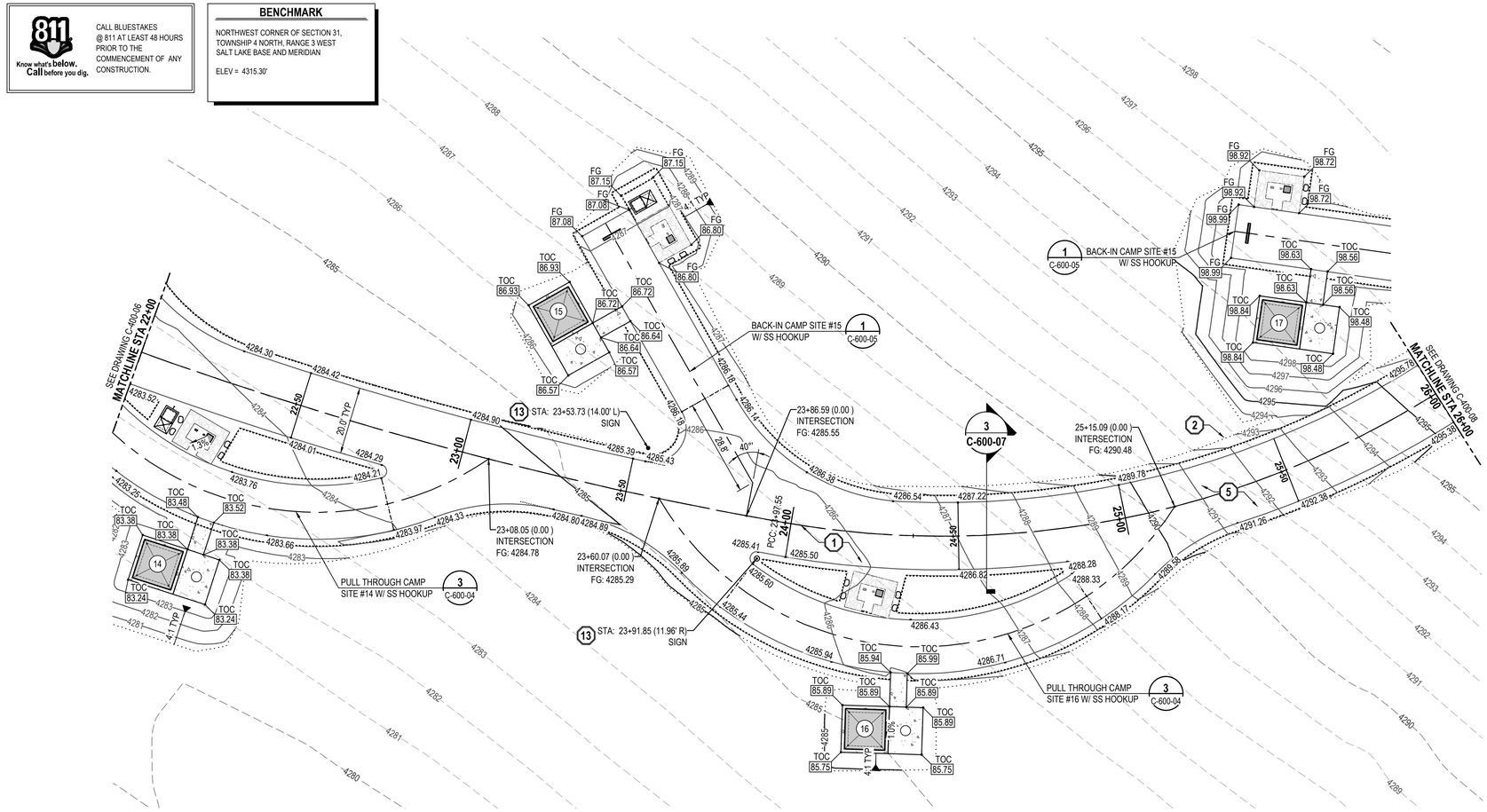

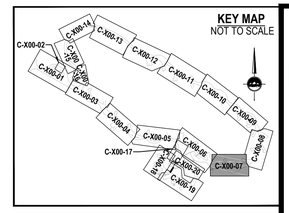

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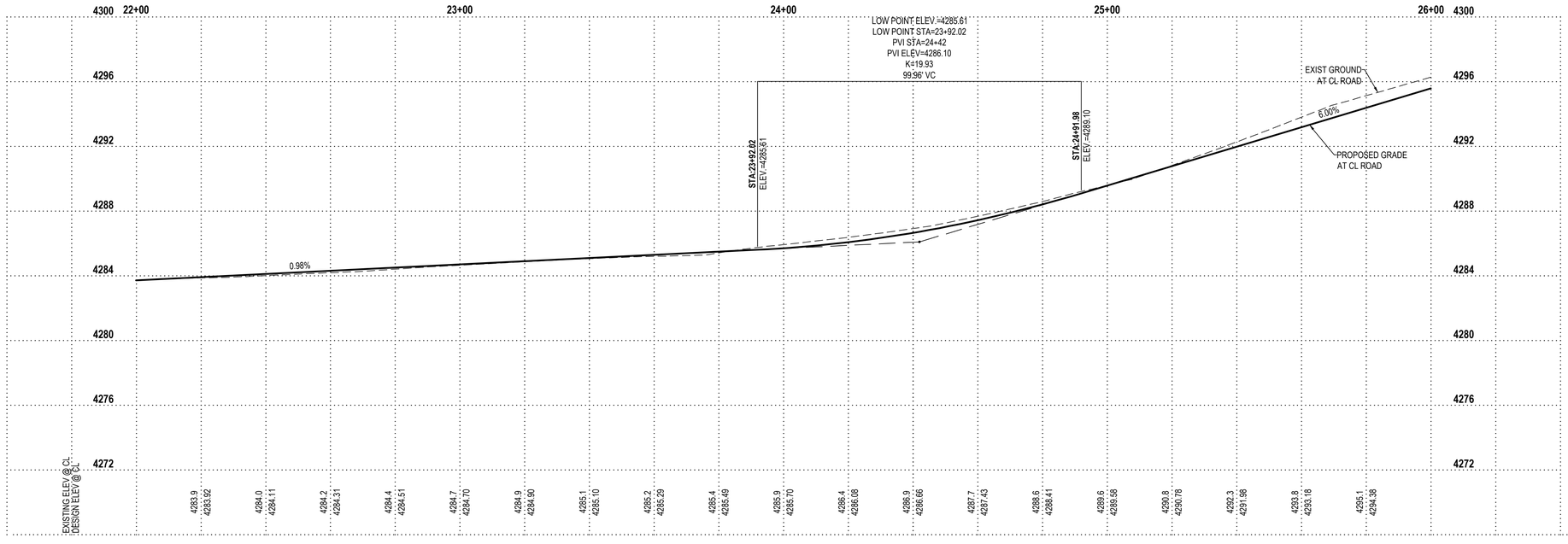

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SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885568-2202 ROBERT L. DUBEROW ROUSSELLE EXP. 3/31/2022 STATE OF UTAH

CONFORMANCE SET 01/12/2022

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PLAN AND PROFILE GRADING

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-400-07

DCDE OFFICIAL STAMP
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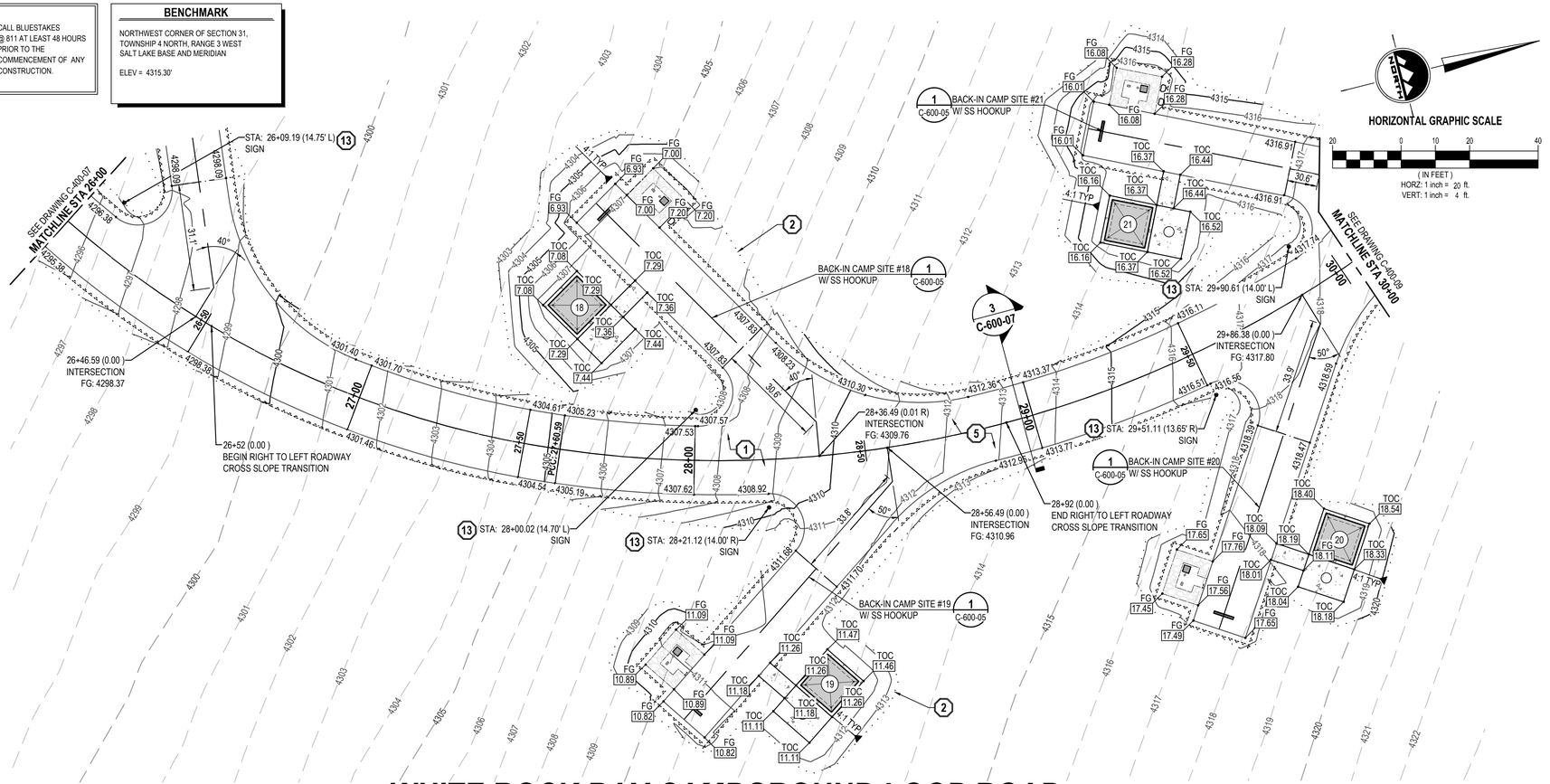

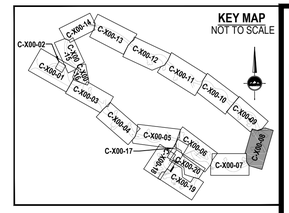

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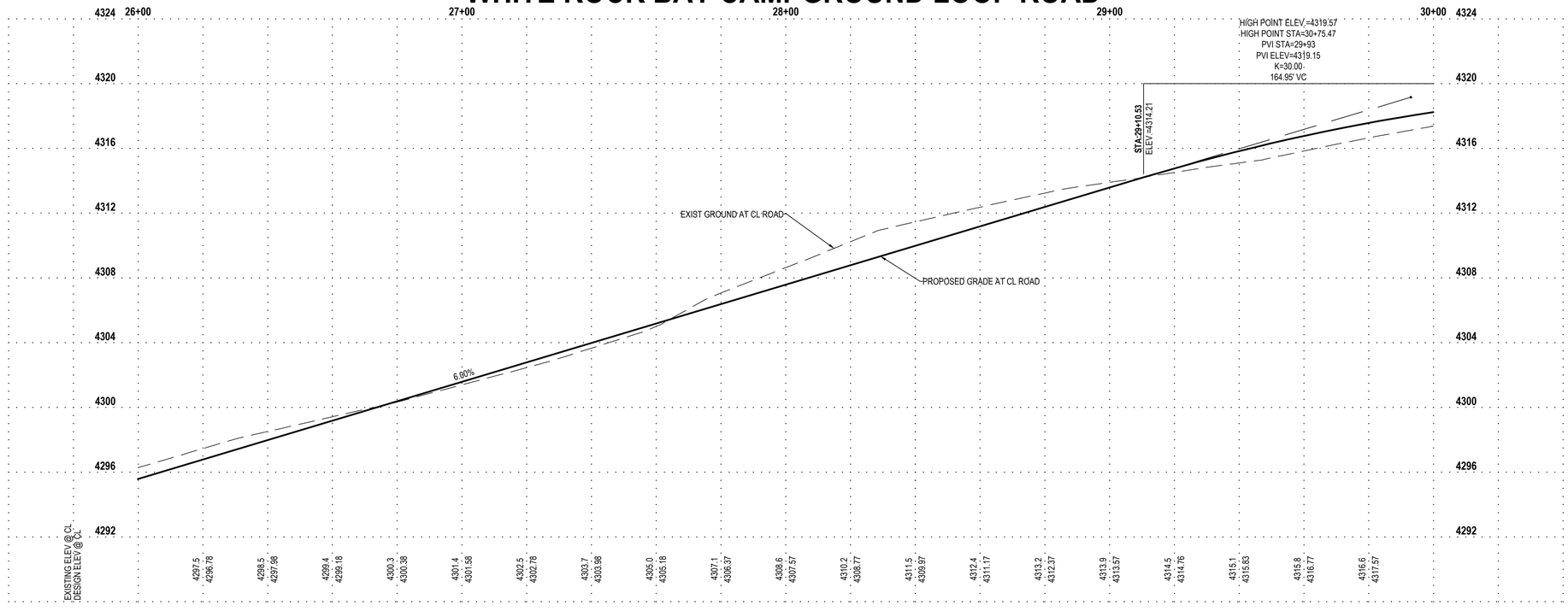

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PROJECT NUMBER	PRINT DATE
10970	1/12/2022
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G. OFFERMANN	F. DUBEROW
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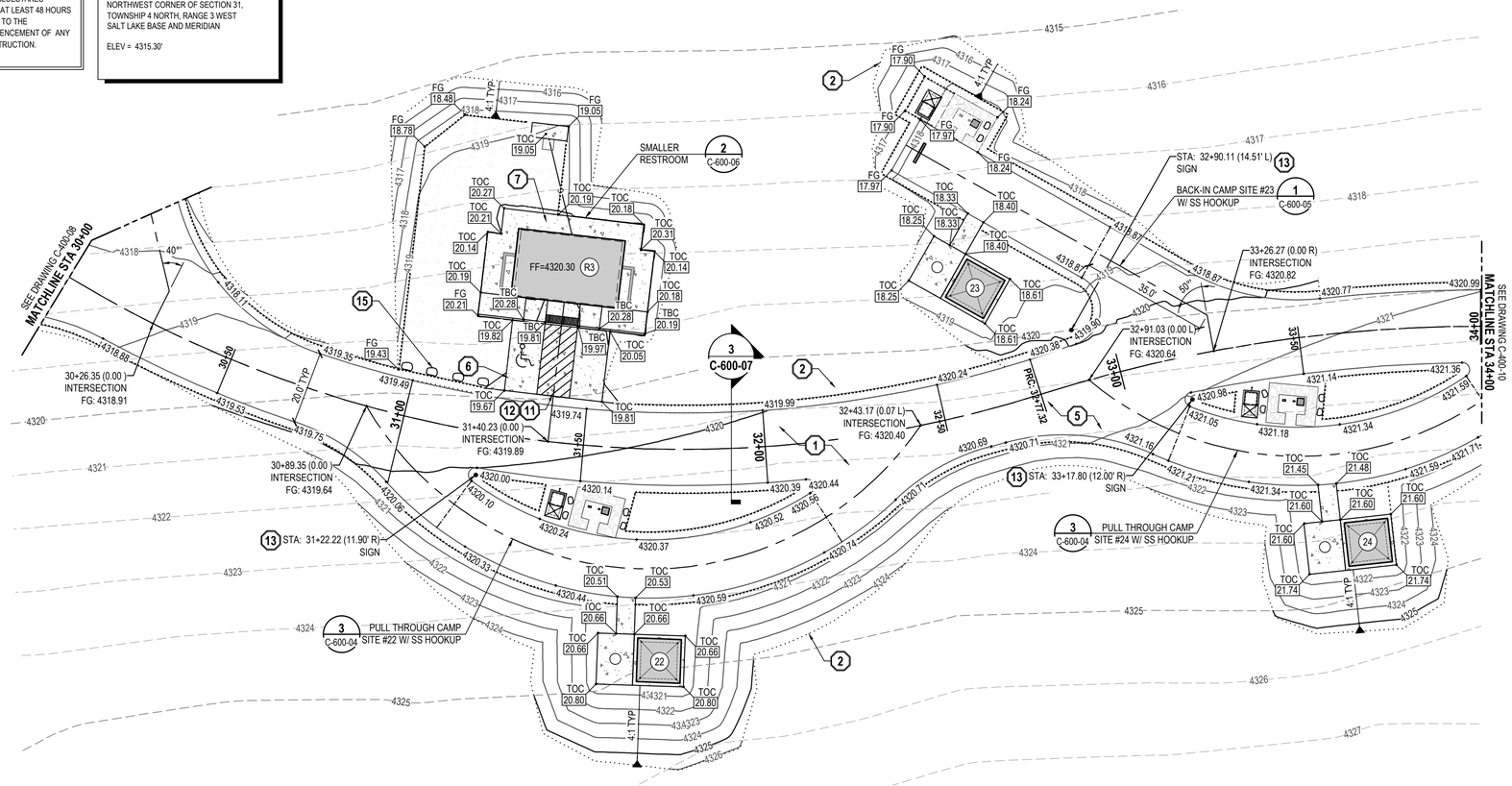

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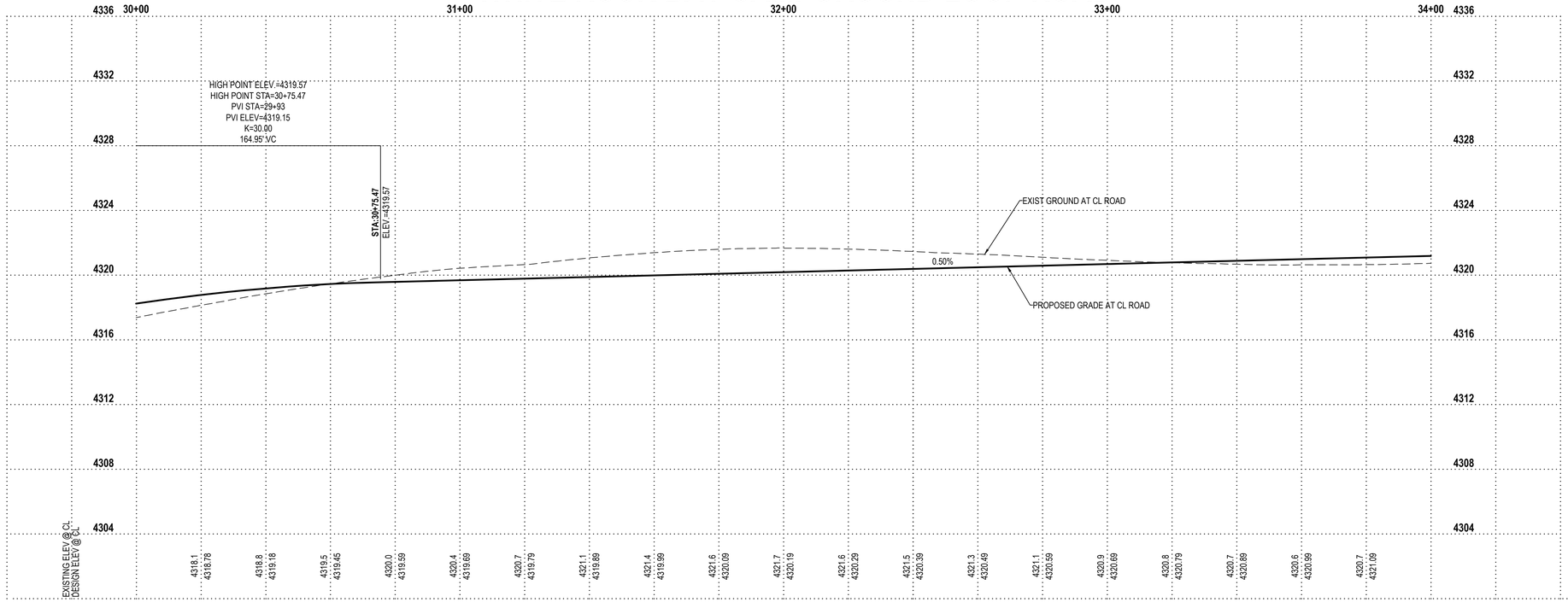

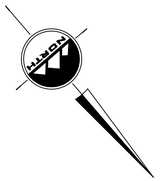

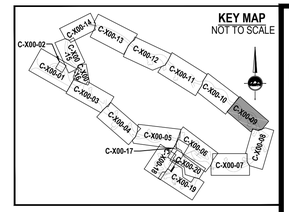

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PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885568-2202
ROBERT L. DUBEROW
ROUSSELLE
EXP.3/31/2023
STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
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PLAN AND PROFILE GRADING

PROJECT NUMBER	PRINT DATE
10970	1/12/2022
DRAWN BY	CHECKED BY
G. OFFERMANN	F. DUBEROW
PROJECT MANAGER	
R. ROUSSELLE	

C-400-09

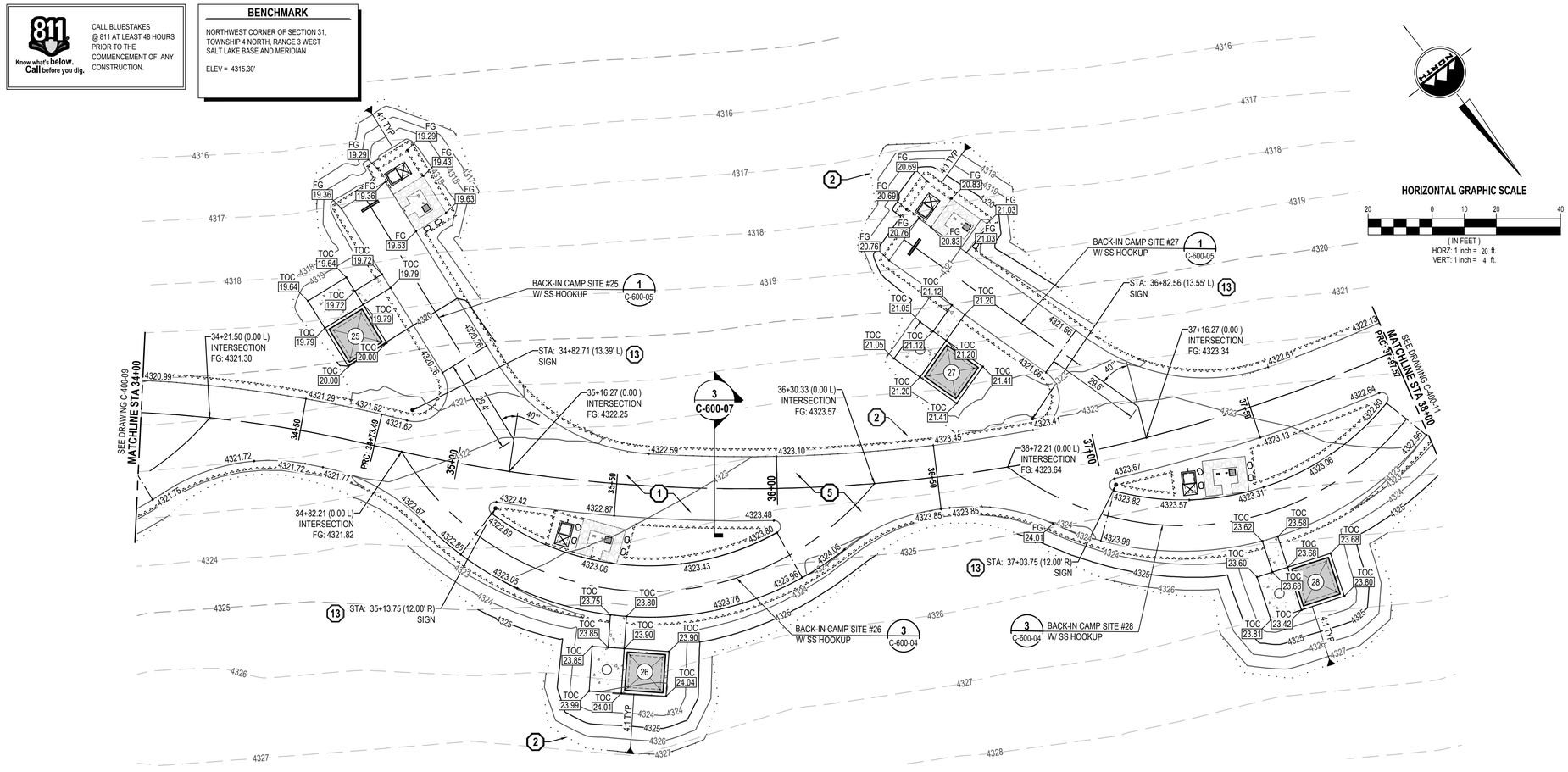
CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

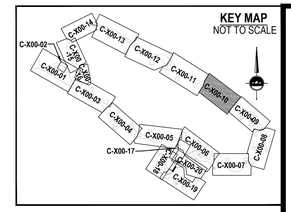
811 Know what's below. Call before you dig.

BENCHMARK

NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4315.30'





SCOPE OF WORK:

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

1. CLEAR, GRUB, AND GRADE FOR PROPOSED SURFACE IMPROVEMENTS.
2. LIMIT OF DISTURBANCE.
3. REMOVE AND PROPERLY DISPOSE OF EXISTING ASPHALT PAVEMENT AND ROAD BASE SUFFICIENT FOR INSTALLATION OF NEW PAVEMENT SECTION.
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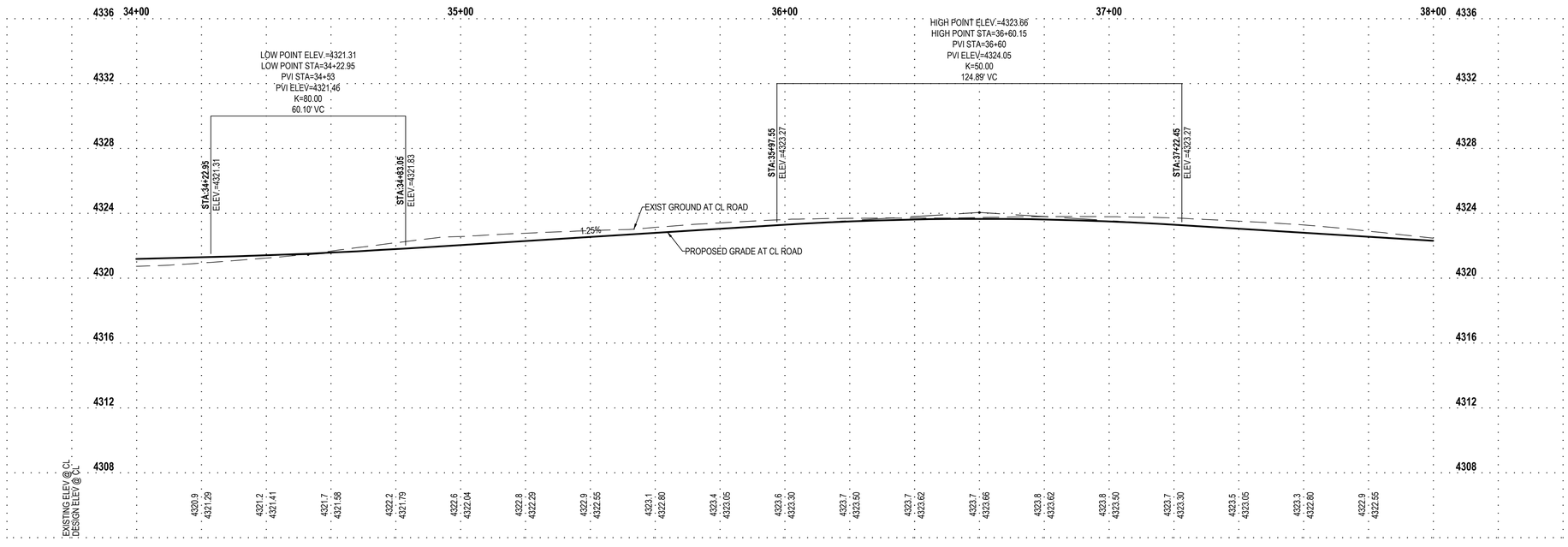
17. TRUNCATED DOMES PER APWA STANDARD PLAN 238.

WHITE ROCK BAY CAMPGROUND LOOP ROAD



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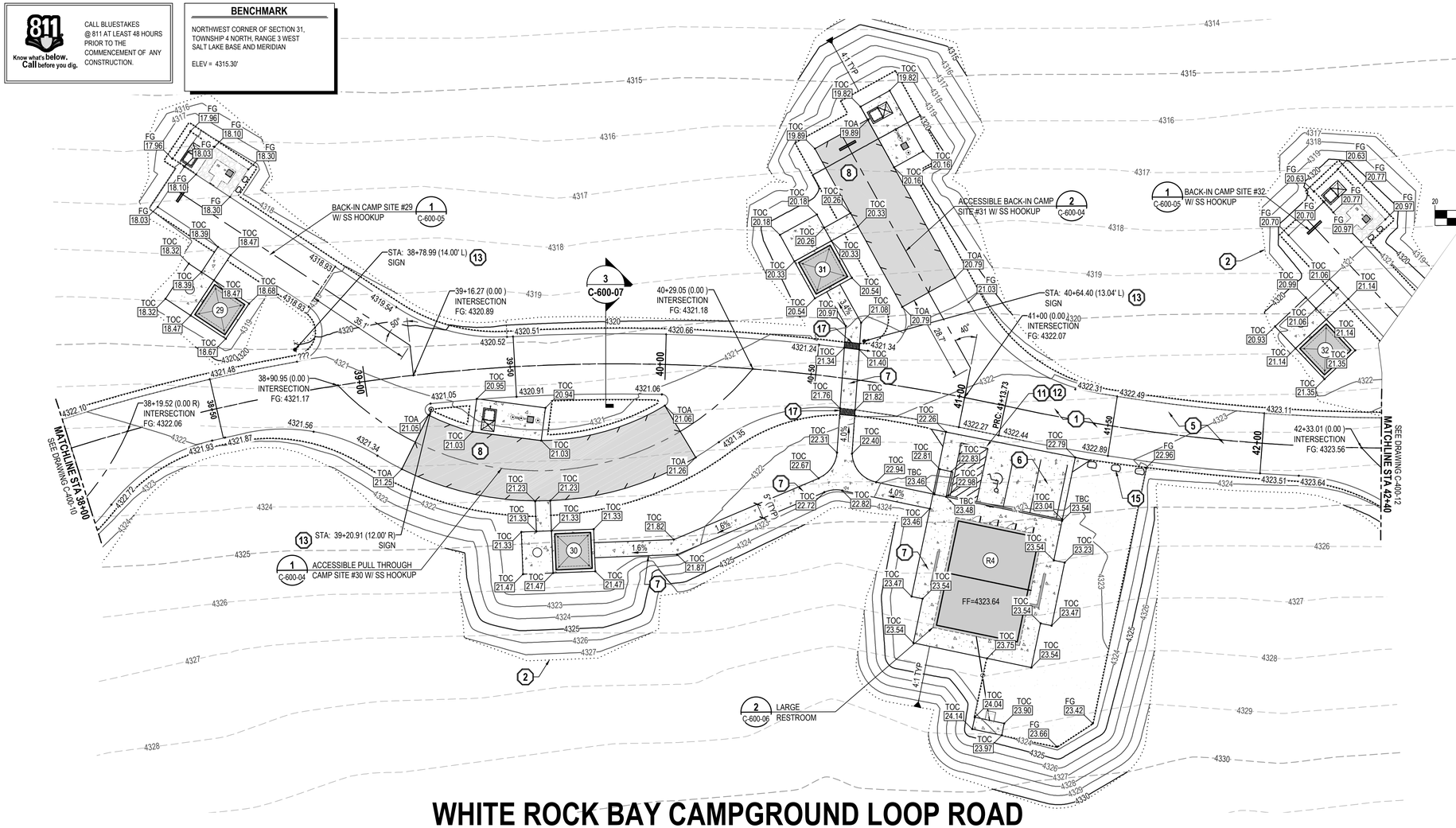

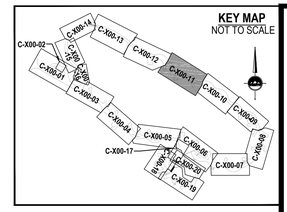

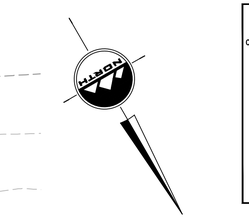

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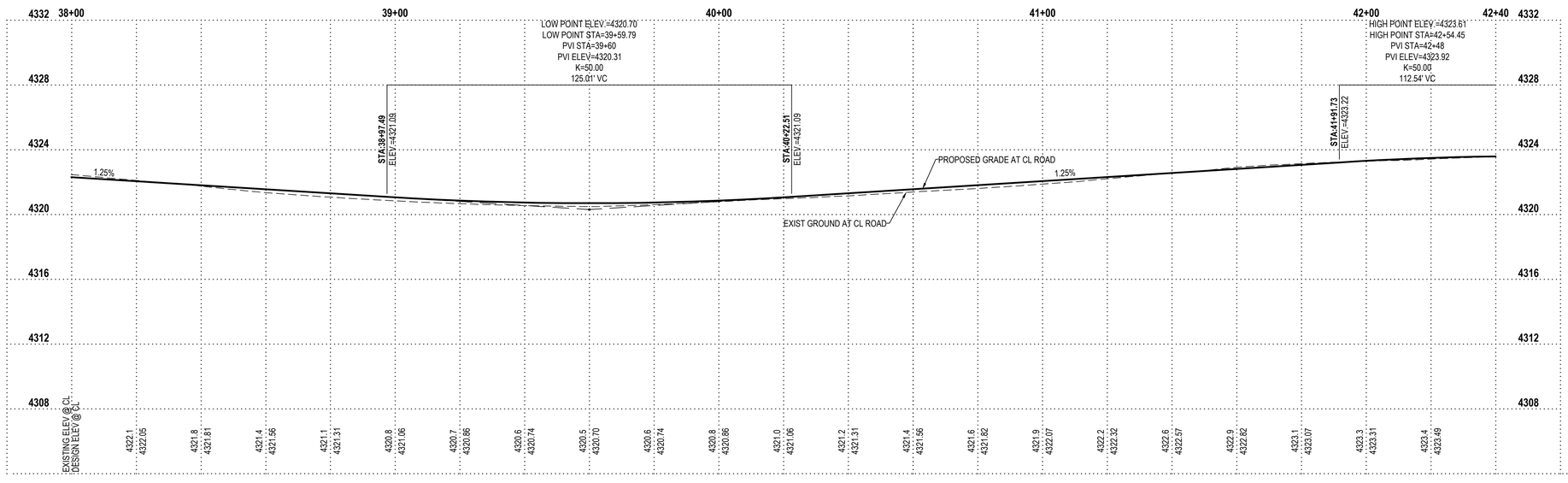

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EXP. 3/31/2023
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PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-400-11

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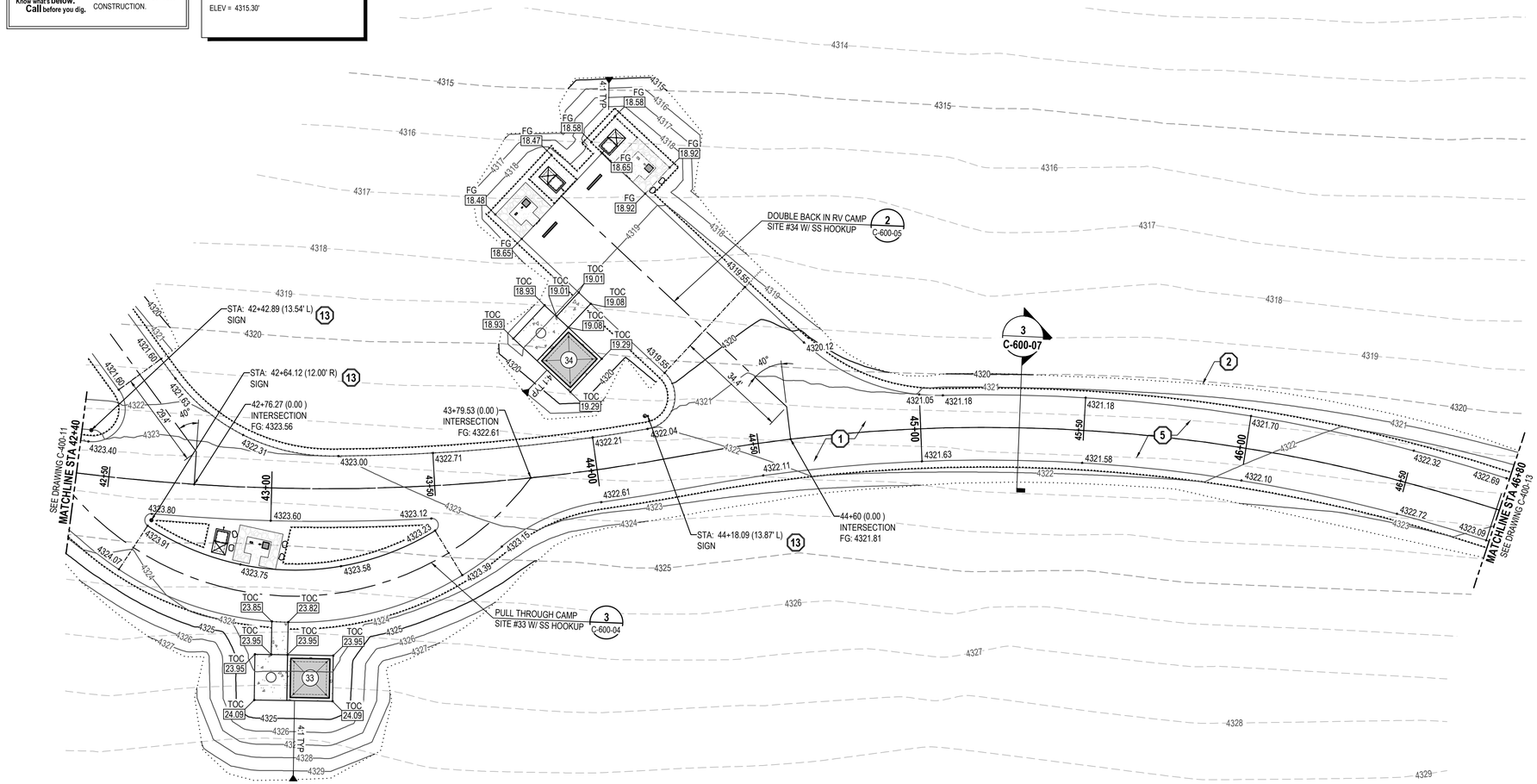

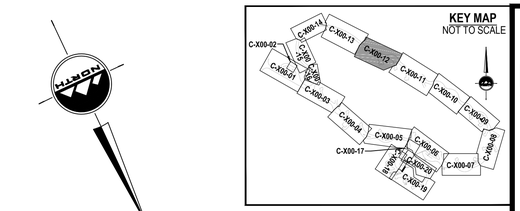

HORIZONTAL GRAPHIC SCALE

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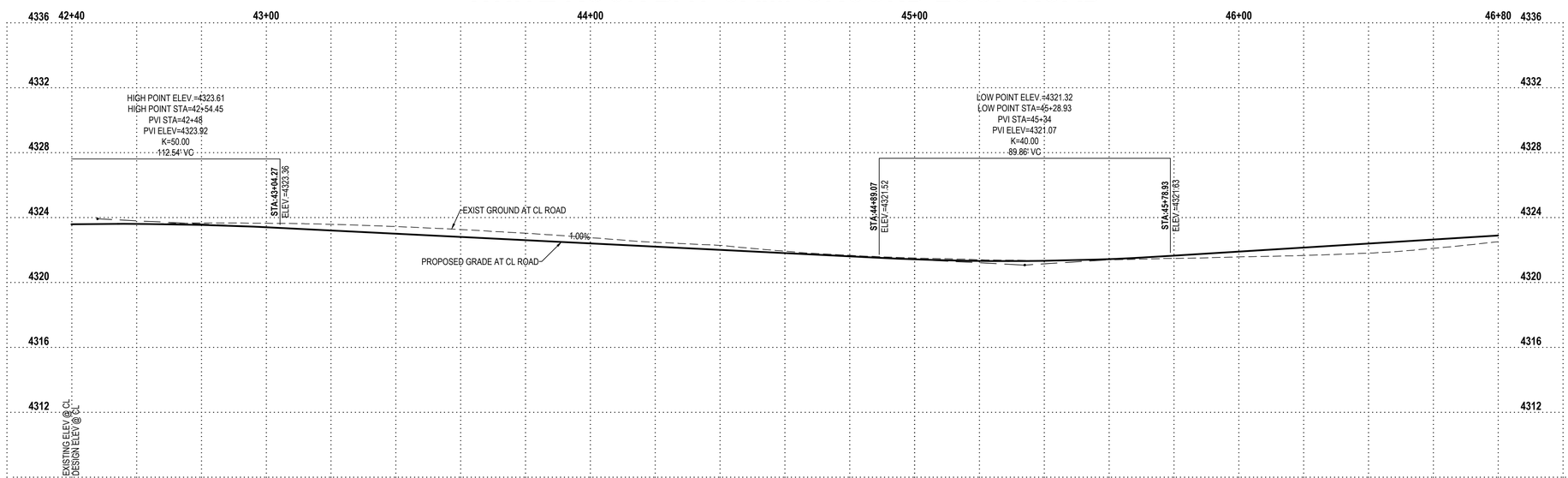

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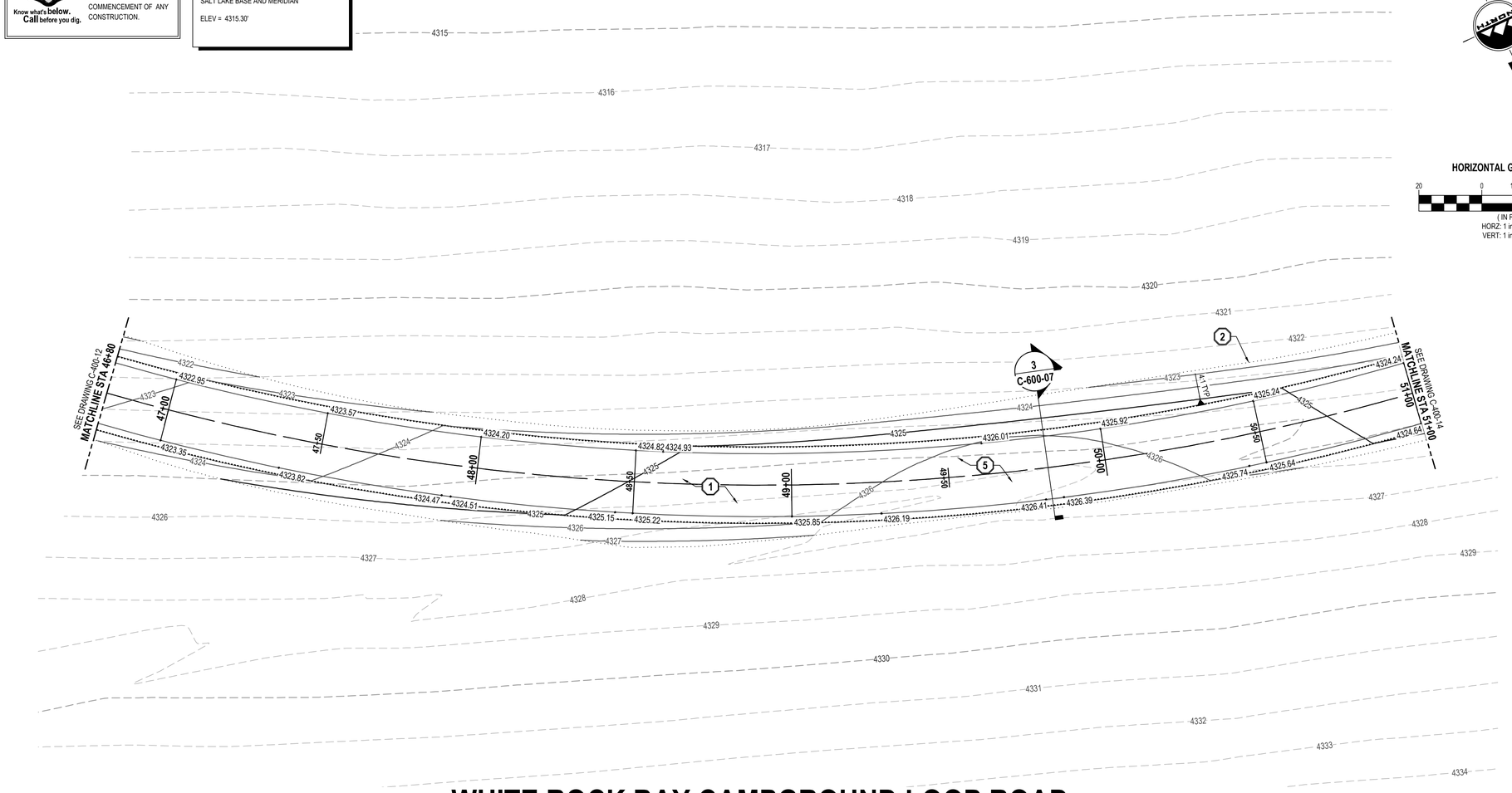

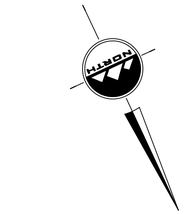

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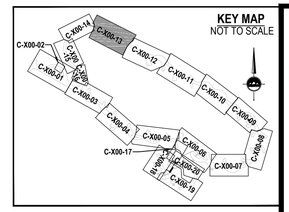

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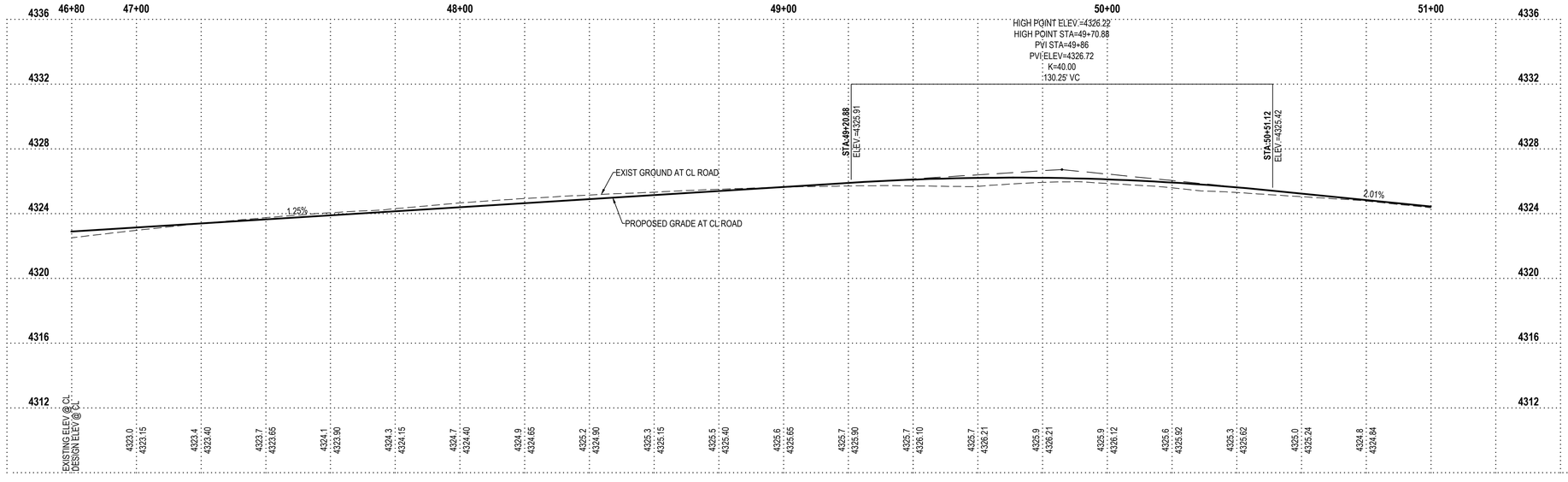

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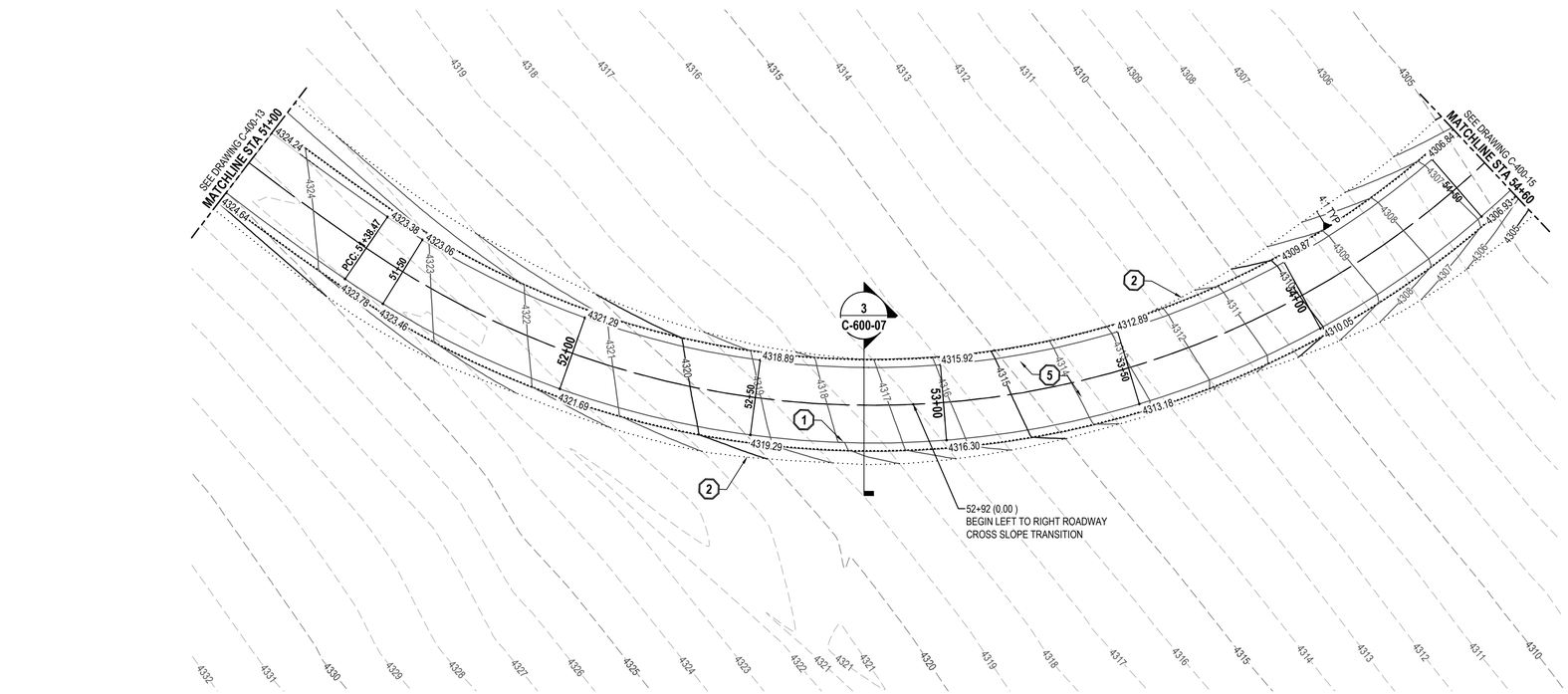

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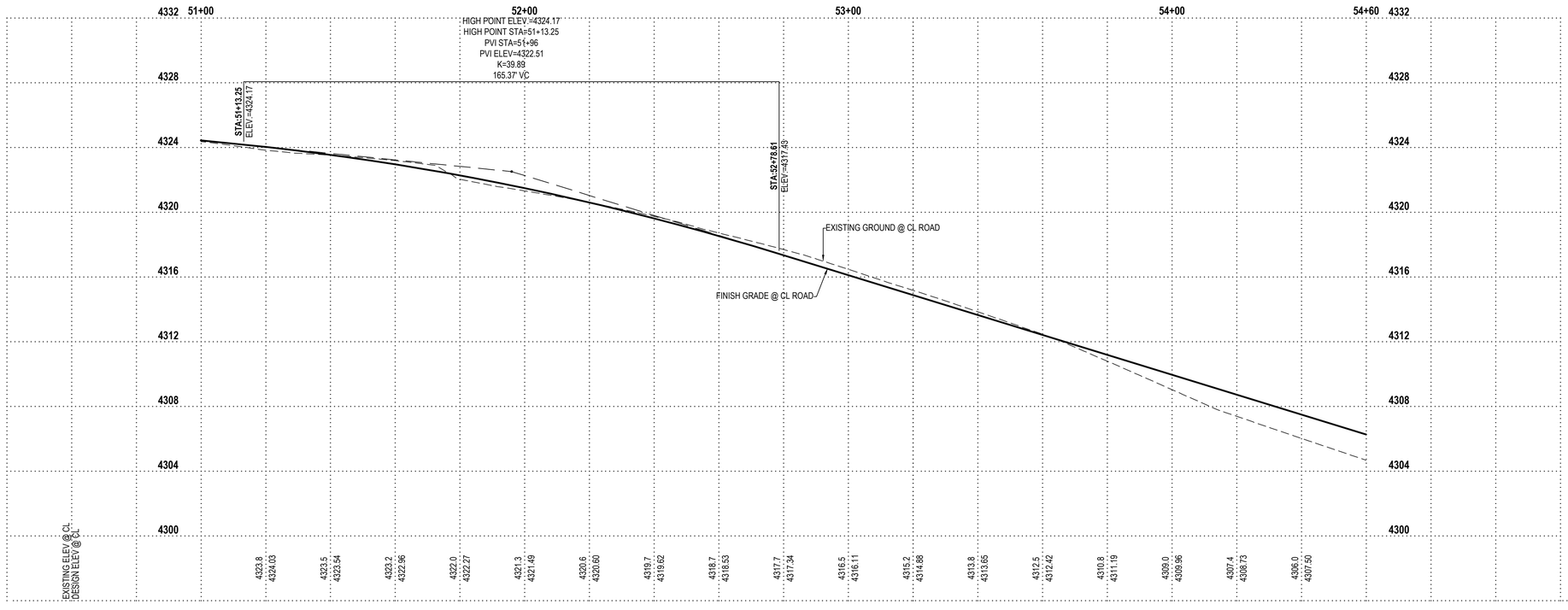

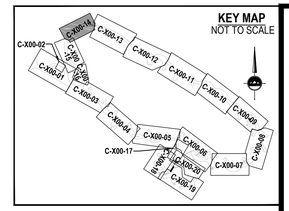

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CODE OFFICIAL STAMP
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LAYTON
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TOOELE
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Phone: 435.896.2983

WWW.ENSIGNENG.COM

FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:
PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2201
ROBERT L. ROUSSELLE
EXP 9/30/2023
STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WHTF DESIGN & DFCM COMMENTS	GWO
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PLAN AND PROFILE GRADING

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-400-14

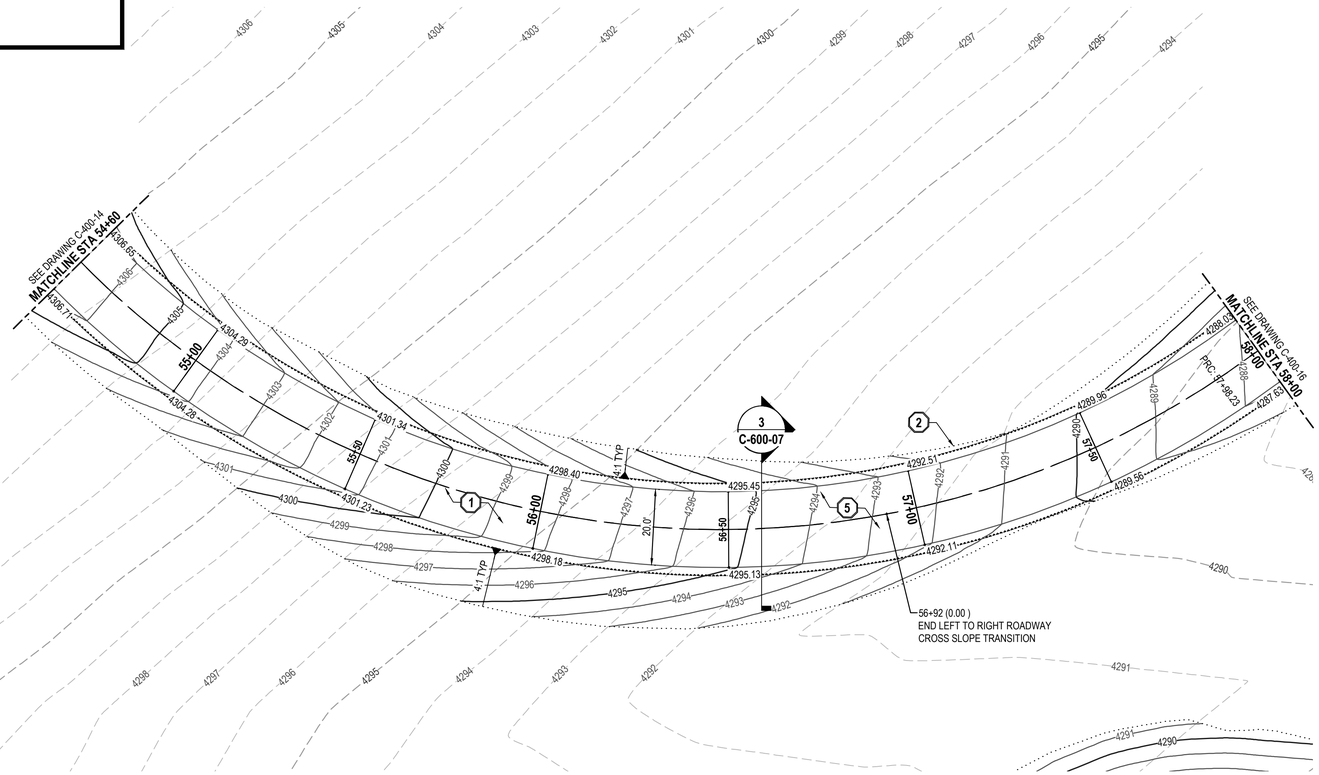
CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

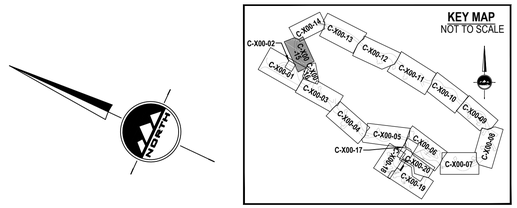
Know what's below. Call before you dig.

BENCHMARK

NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4315.30'





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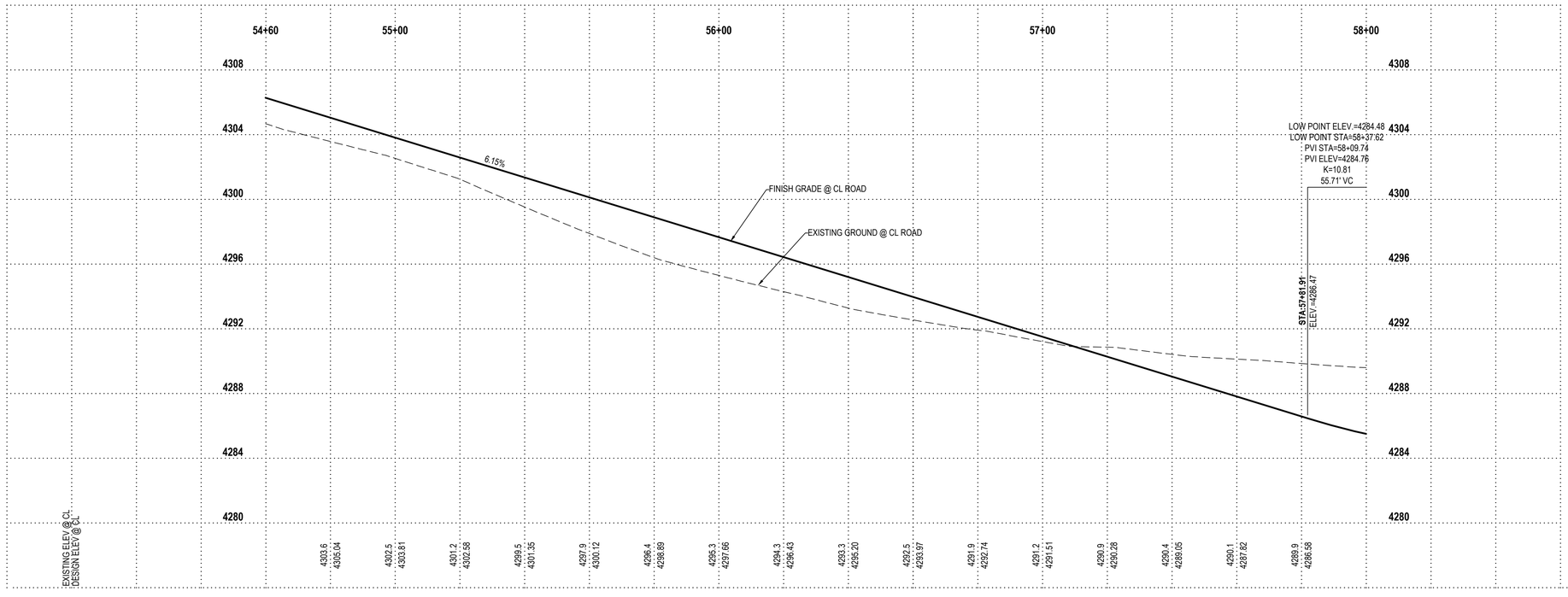
WHITE ROCK BAY CAMPGROUND LOOP ROAD



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WHITE ROCK BAY CAMPGROUND
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WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT L. ROUSSELLE EXP. 3/31/2023 STATE OF UTAH

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C-400-15

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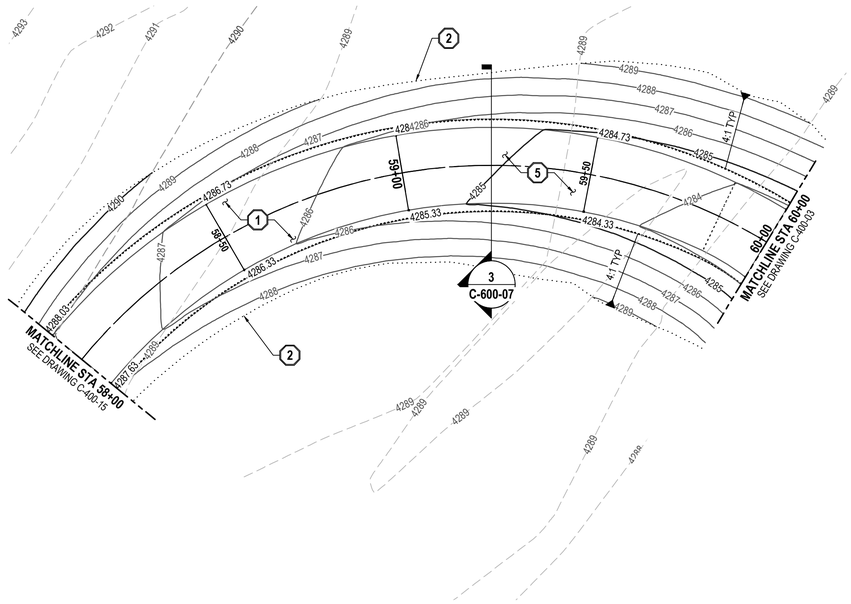

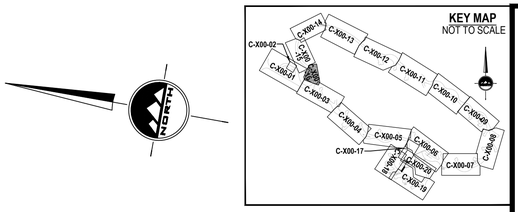

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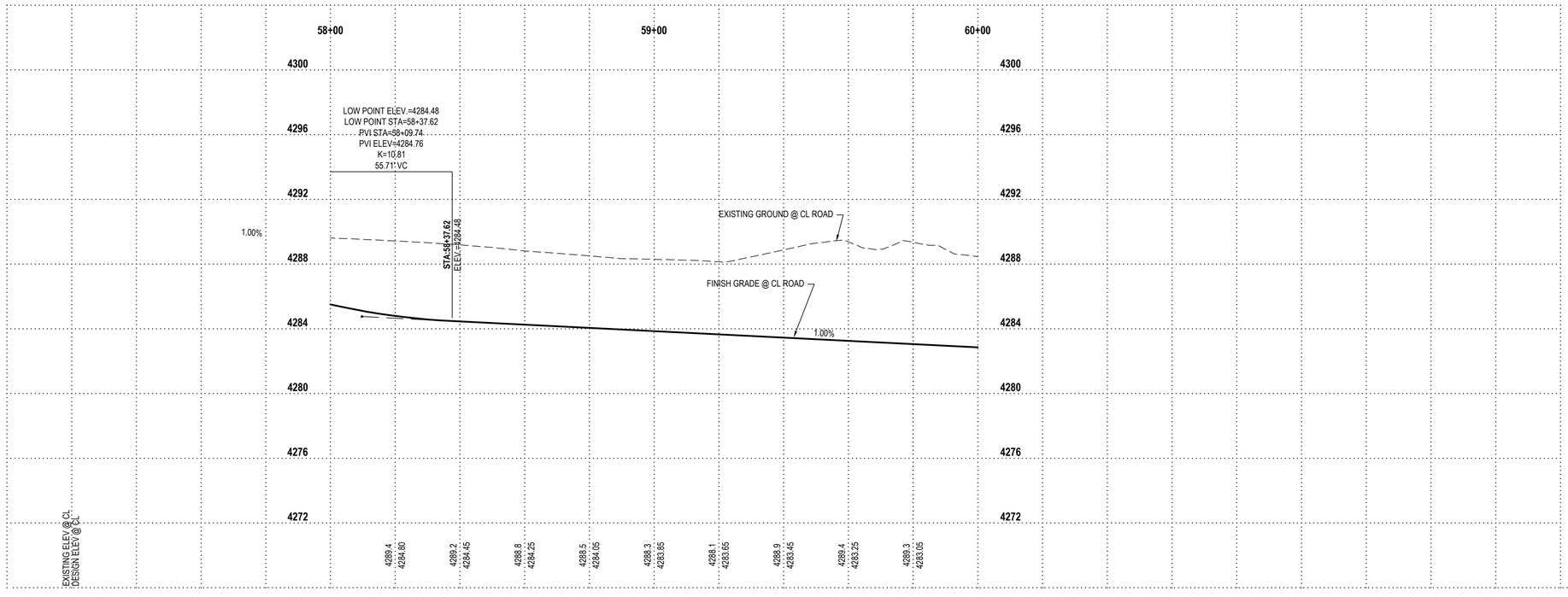
WHITE ROCK BAY CAMPGROUND LOOP ROAD



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ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
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PROFESSIONAL ENGINEER
7885569-2202
ROBERT J. ROUSSELLE
EXP 3/31/2023
STATE OF UTAH

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PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-400-16

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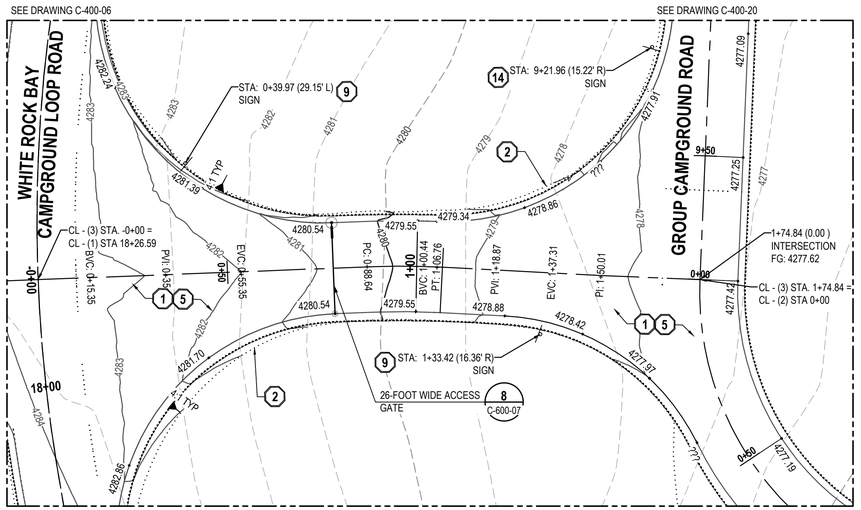

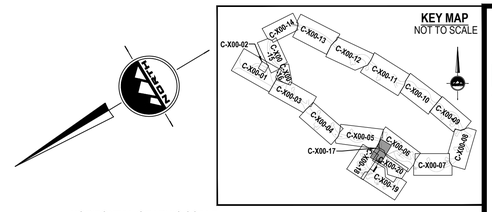

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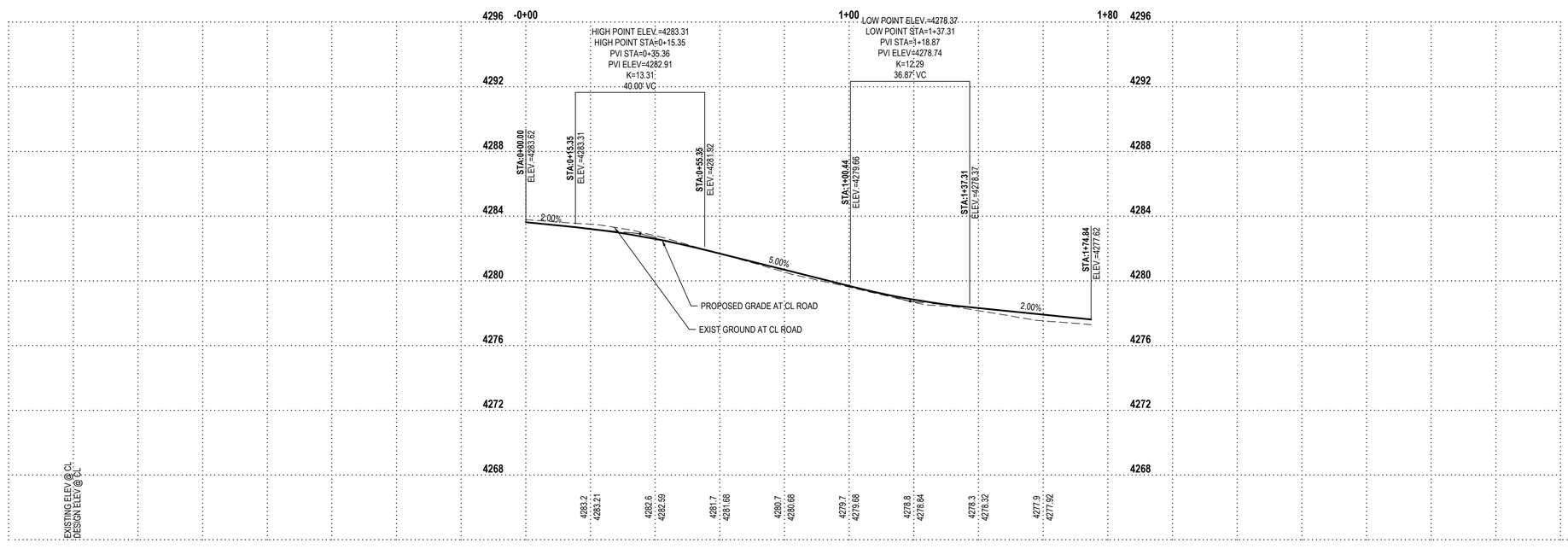
WHITE ROCK BAY GROUP CAMPGROUND ACCESS ROAD



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4315 S 2700 W, Fl 3
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ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
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PROJECT #: 22238510
CONTRACT #: 2270048

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PROJECT MANAGER
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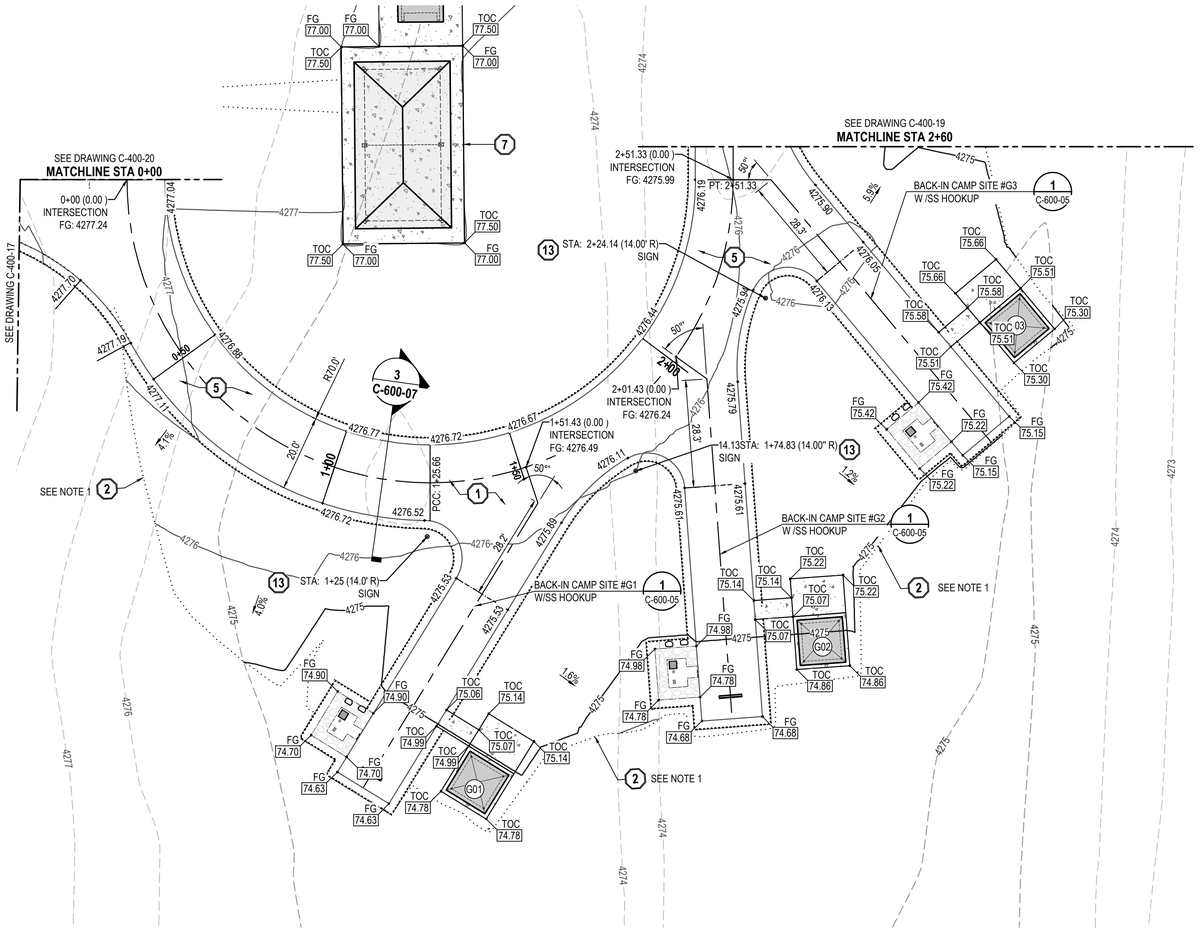

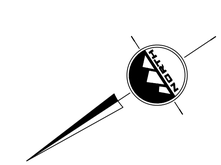

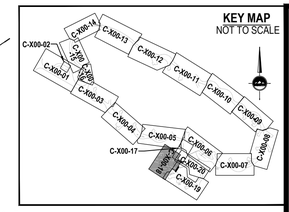

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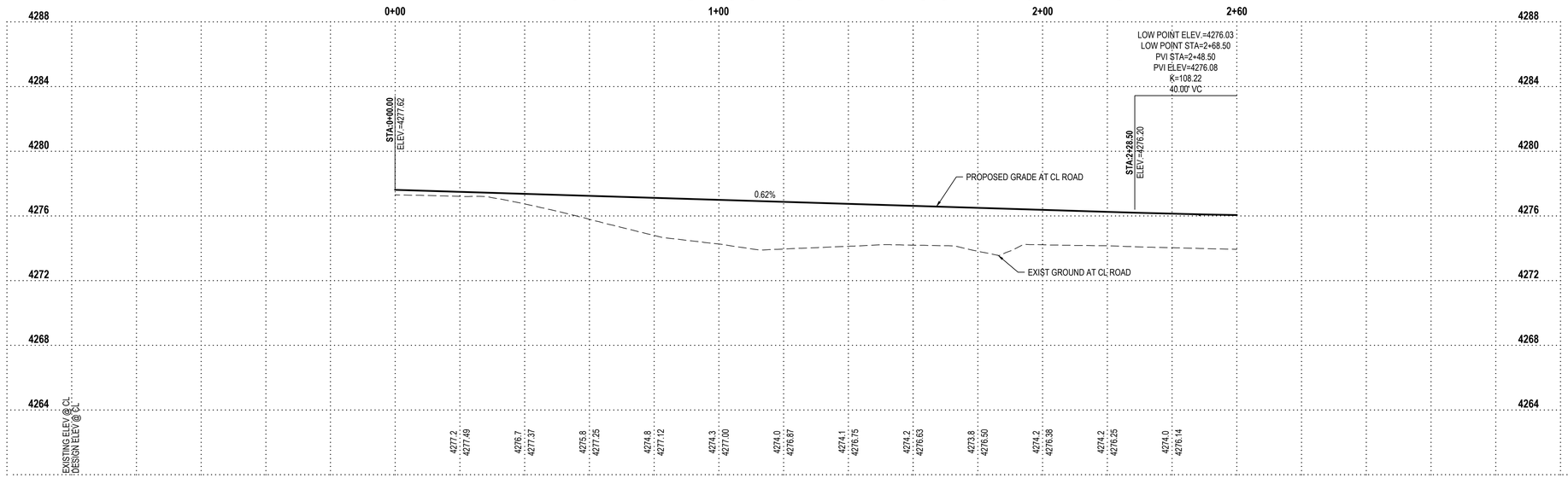
NOTES

1. CONTRACTOR TO FILL AS REQ'D SO ALL DRAINAGE DRAINS AWAY FROM CAMP SITES AT 4:1 MAX SLOPE.

WHITE ROCK BAY GROUP CAMPGROUND LOOP ROAD



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7885569-2202
ROBERT L. ROUSSELLE
EXP. 9/31/2022
STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WRTF DESIGN & DFCM COMMENTS	GWO
2	01/12/2022	DFCM COMMENTS	GWO
3			
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PLAN AND PROFILE GRADING

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-400-18

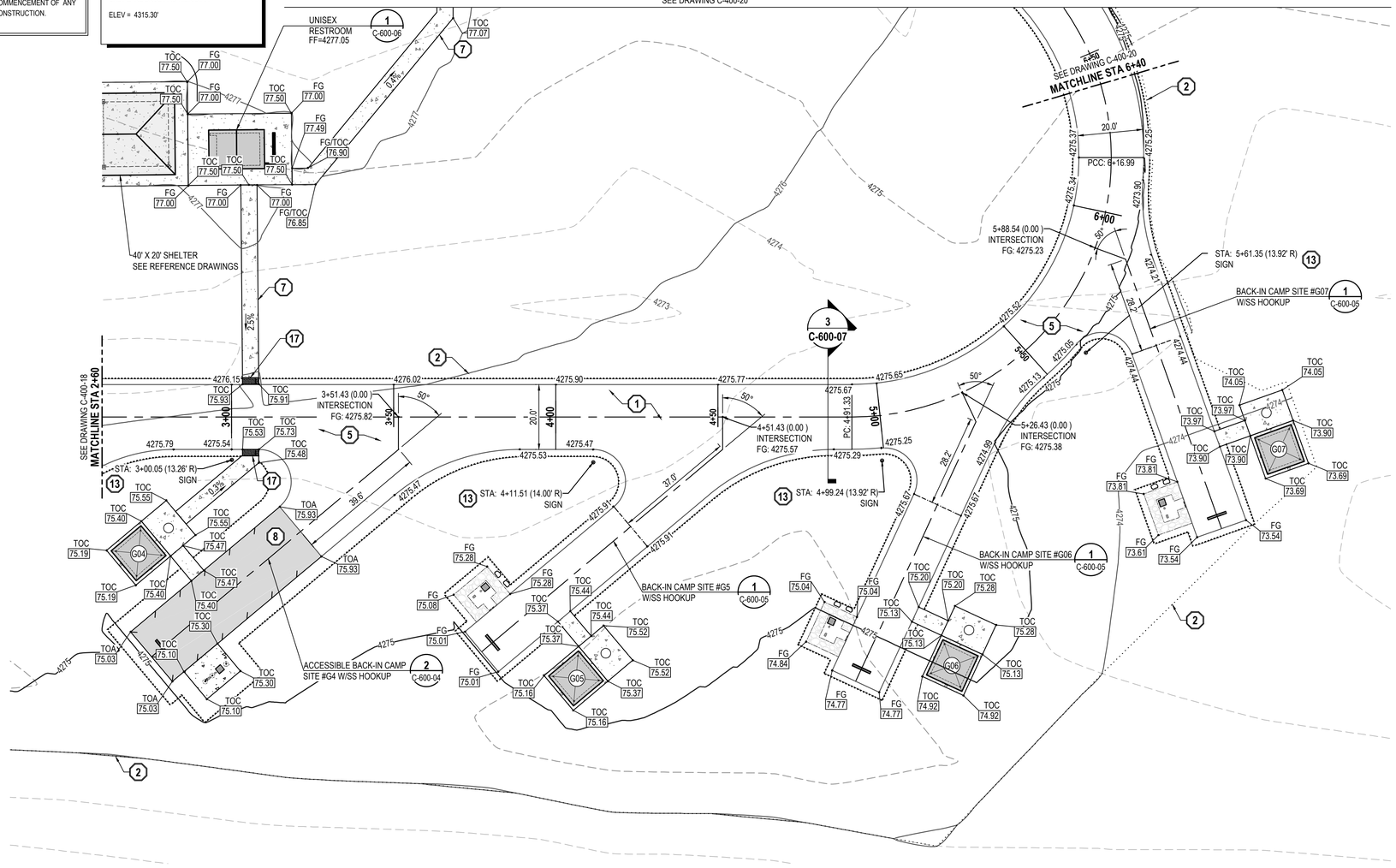
CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

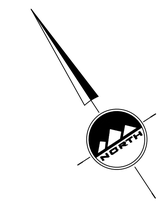
Know what's below. Call before you dig.

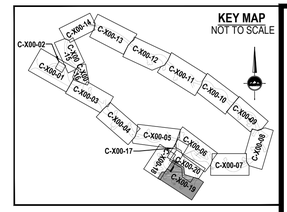
BENCHMARK

NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4315.30'





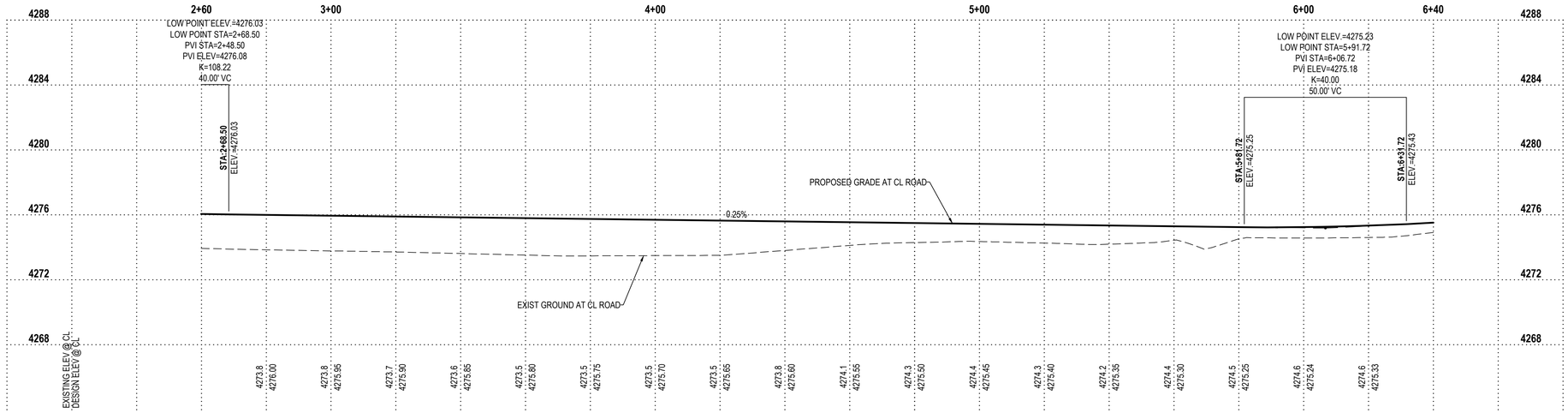


HORIZONTAL GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
HORZ: 1 inch = 20 ft.
VERT: 1 inch = 4 ft.

WHITE ROCK BAY GROUP CAMPGROUND LOOP ROAD



SCOPE OF WORK:

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2. LIMIT OF DISTURBANCE.
3. REMOVE AND PROPERLY DISPOSE OF EXISTING ASPHALT PAVEMENT AND ROAD BASE SUFFICIENT FOR INSTALLATION OF NEW PAVEMENT SECTION.
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12. PAINTED ADA SYMBOL AND ASSOCIATED HATCHING PER M.U.T.C.D. STANDARD PLANS AND DETAIL 8 / C-700-02.
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16. MATCH EXISTING GROUND AT CAMPSITE ENTRANCES.
17. TRUNCATED DOMES PER APWA STANDARD PLAN 238.

ENSIGN
THE STANDARD IN ENGINEERING

SALT LAKE CITY
45 W. 10000 S., Suite 500
Sandy, UT 84070
Phone: 801.255.0529

LAYTON
Phone: 801.547.1100

TOOELE
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RICHFIELD
Phone: 435.896.2983

WWW.ENSIGNENG.COM

FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129

CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT L. ROUSSELLE
EXP. 9/30/2022
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PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-400-19

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DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
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SIGNATURE:
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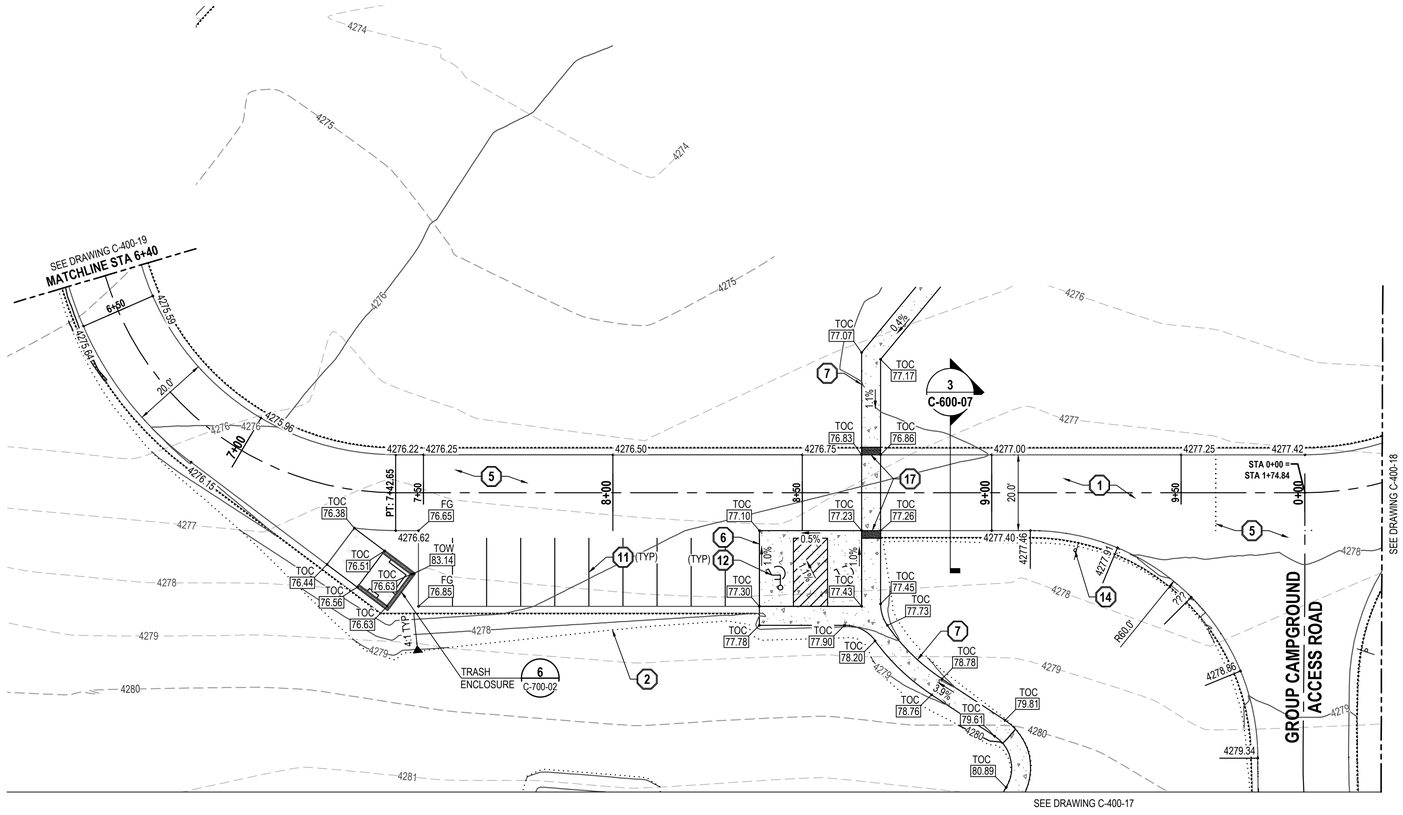

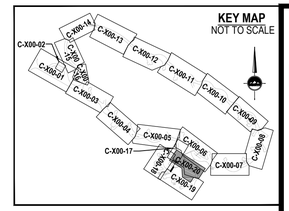

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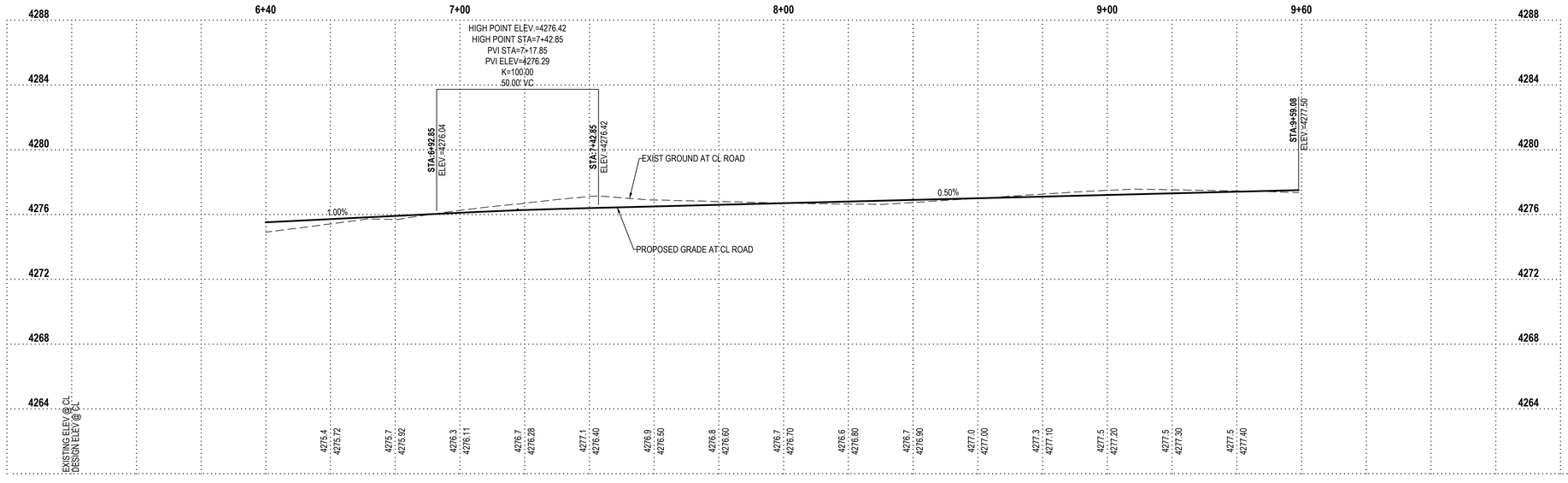
NEW WHITE ROCK BAY GROUP CAMPGROUND LOOP ROAD



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SALT LAKE CITY
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FOR:
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CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2201
ROBERT L. ROUSSELLE
EXP 9/30/2023
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PLAN AND PROFILE GRADING

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PROJECT MANAGER R. ROUSSELLE	

C-400-20

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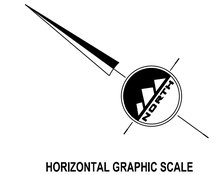

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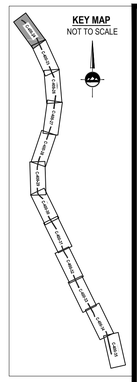

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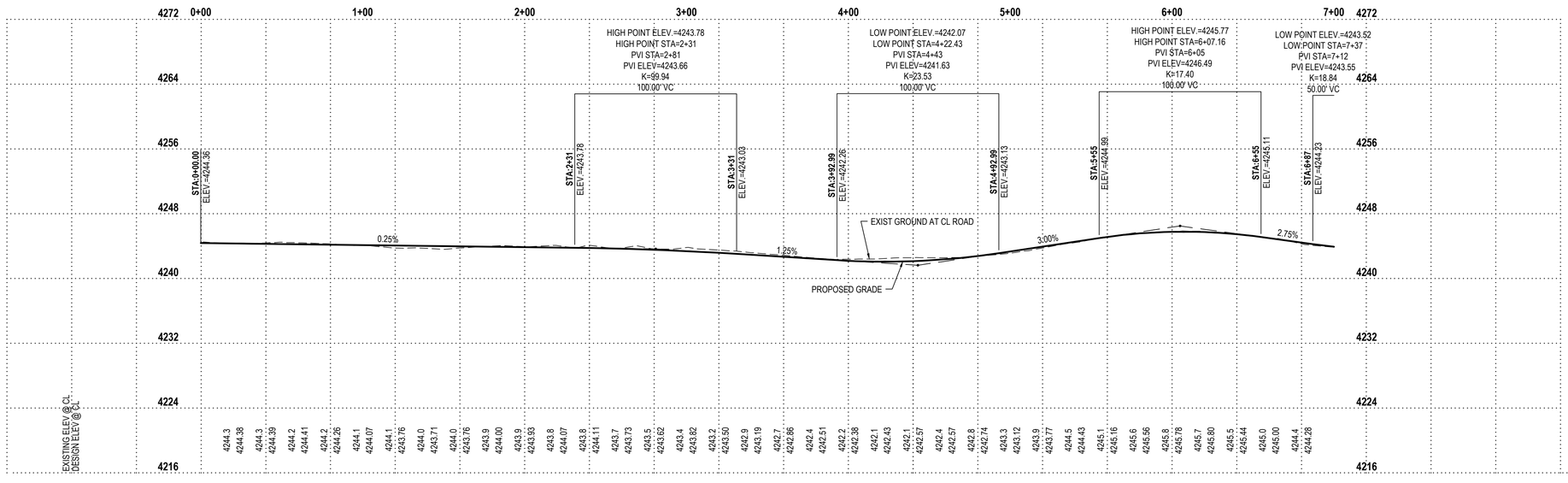
COVE ROAD



CODE OFFICIAL STAMP

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
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ENSIGN
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FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:
PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT L. ROUSSELLE EXP. 3/31/2022 STATE OF UTAH

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PLAN AND PROFILE
GRADING
COVE RODE
(ALTERNATE 3)

PROJECT NUMBER	PRINT DATE
10970	1/12/2022
DRAWN BY	CHECKED BY
G. OFFERMANN	F. DUBEROW
PROJECT MANAGER	
R. ROUSSELLE	

C-400-21

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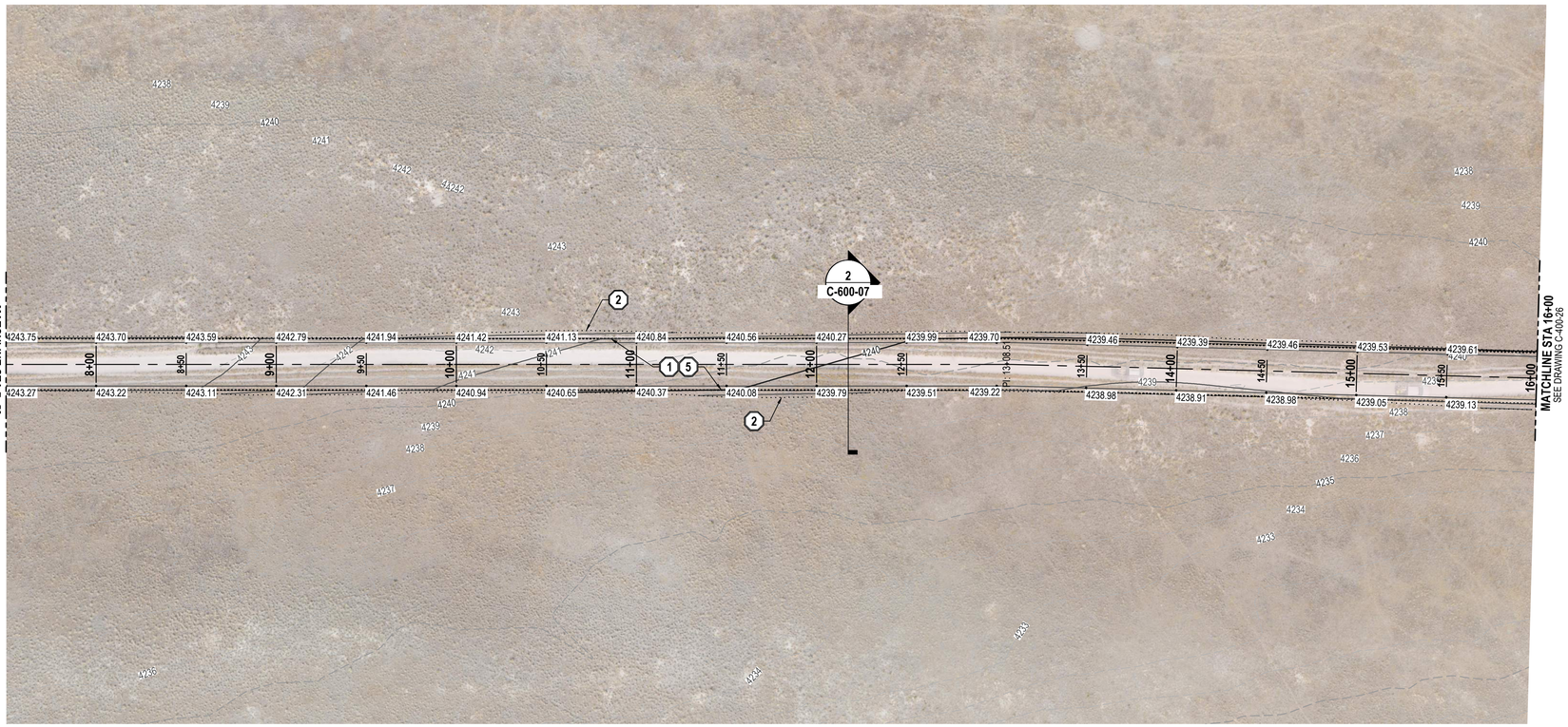

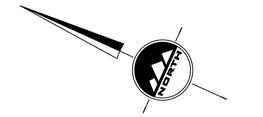

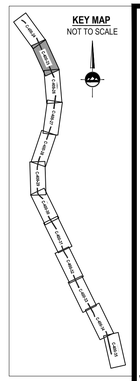

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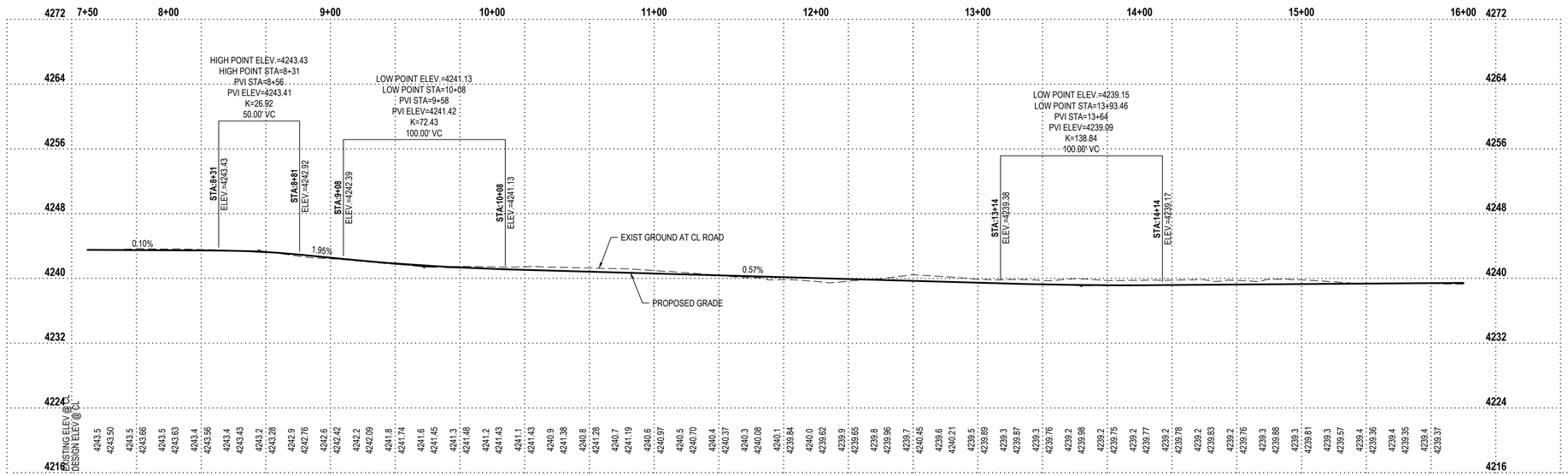
COVE ROAD



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PLAN AND PROFILE GRADING COVE ROAD (ALTERNATE 3)

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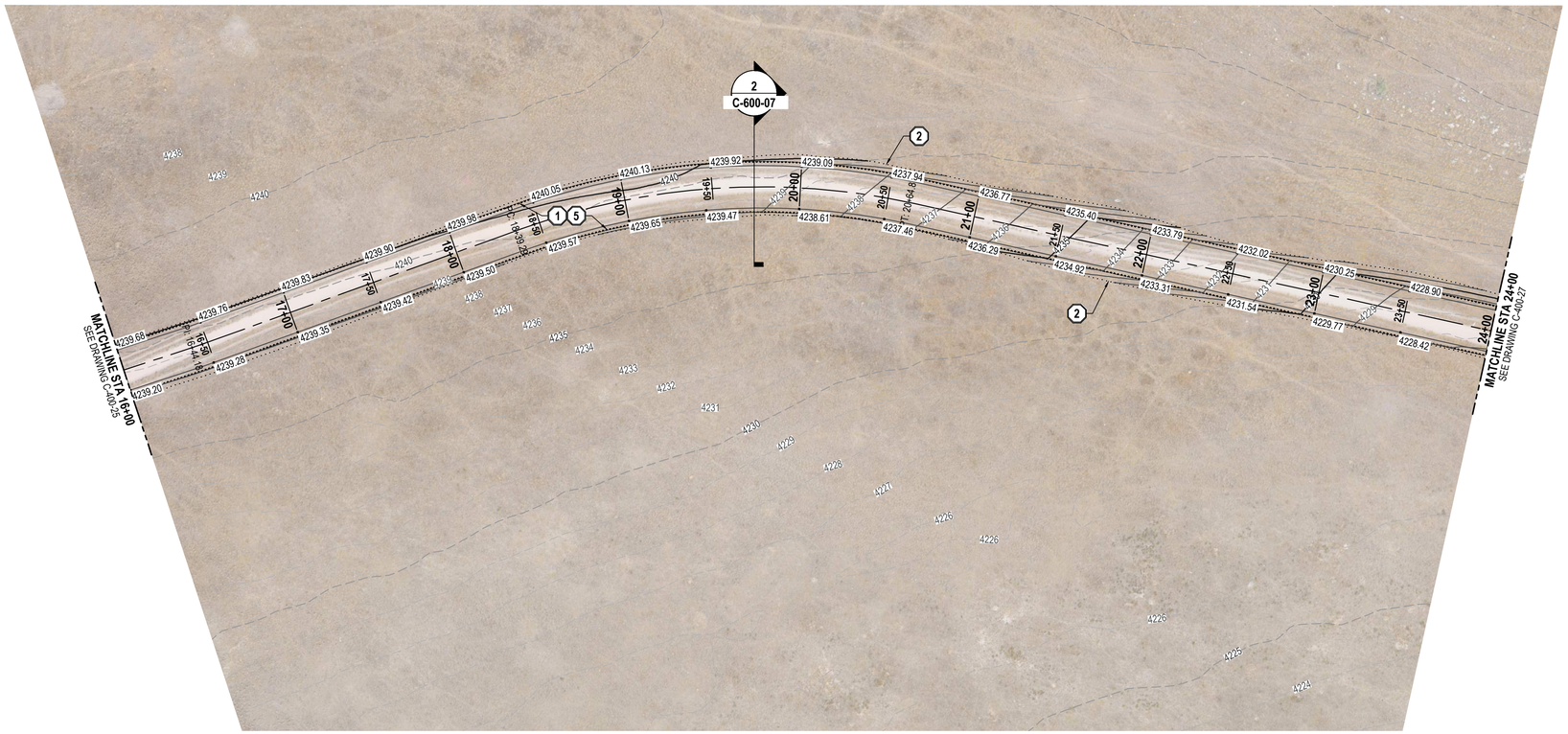

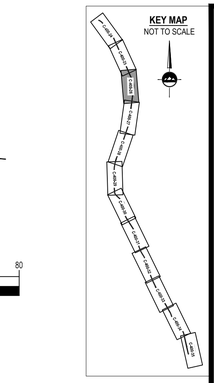

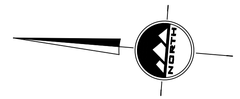

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6. 5-INCH PCC PAVEMENT ON 6-INCH UTBC PER GEOTECHNICAL REPORT AND DETAIL 7/C-700-02.
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8. 3-INCH ASPHALT ON 6-INCH UTBC PER DETAIL 9/C-700-02.
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12. PAINTED ADA SYMBOL AND ASSOCIATED HATCHING PER M.U.T.C.D. STANDARD PLANS AND DETAIL 8 / C-700-02.
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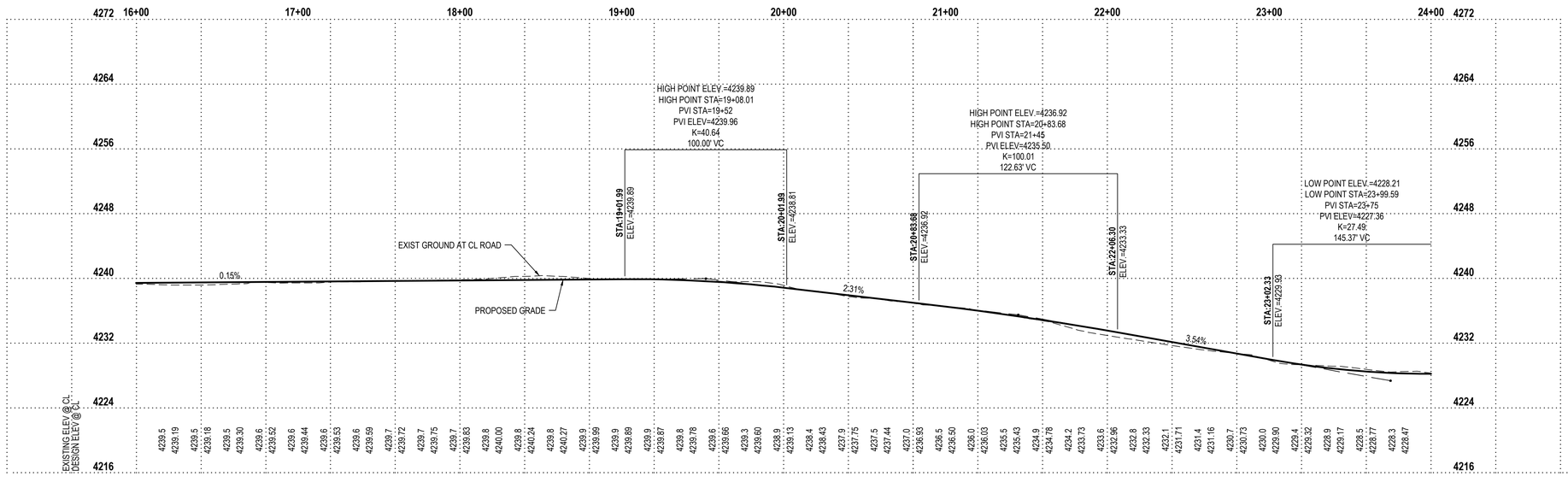
16. MATCH EXISTING GROUND AT CAMPSITE ENTRANCES.
17. TRUNCATED DOMES PER APWA STANDARD PLAN 238.

COVE ROAD



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RICHFIELD
Phone: 435.896.2983

WWW.ENSIGNENG.COM

FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WHTF DESIGN & DFCM COMMENTS	GWO
2	01/12/2022	DFCM COMMENTS	GWO
3			
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PLAN AND PROFILE GRADING COVE ROAD (ALTERNATE 3)

PROJECT NUMBER	PRINT DATE
10970	1/12/2022
DRAWN BY	CHECKED BY
G. OFFERMANN	F. DUBEROW
PROJECT MANAGER	
R. ROUSSELLE	

C-400-23

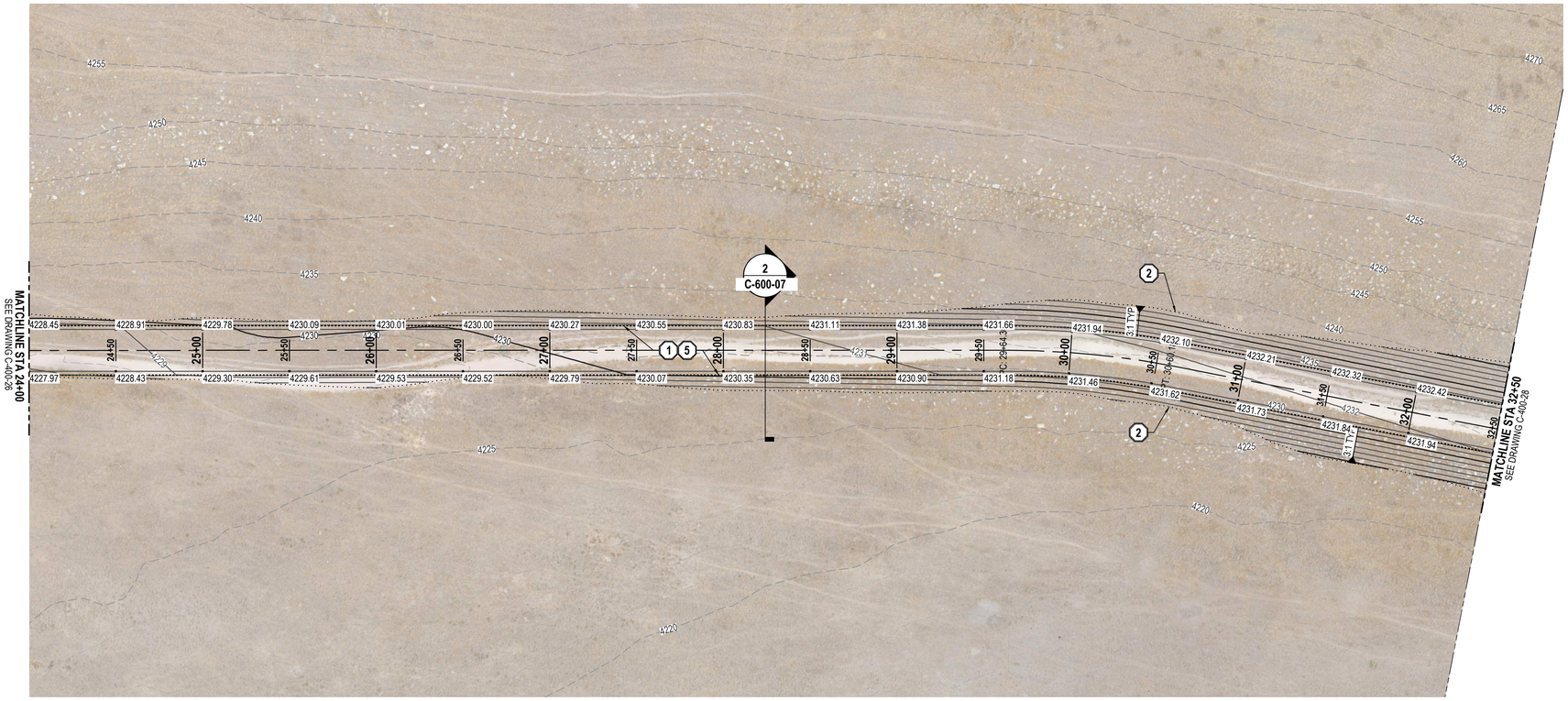
811 Know what's below. Call before you dig.

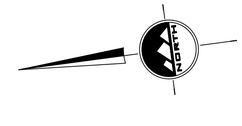
CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

BENCHMARK

NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4315.30'





HORIZONTAL GRAPHIC SCALE

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(IN FEET)
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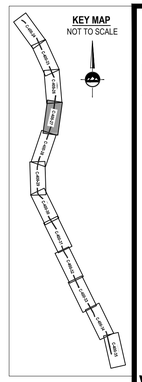

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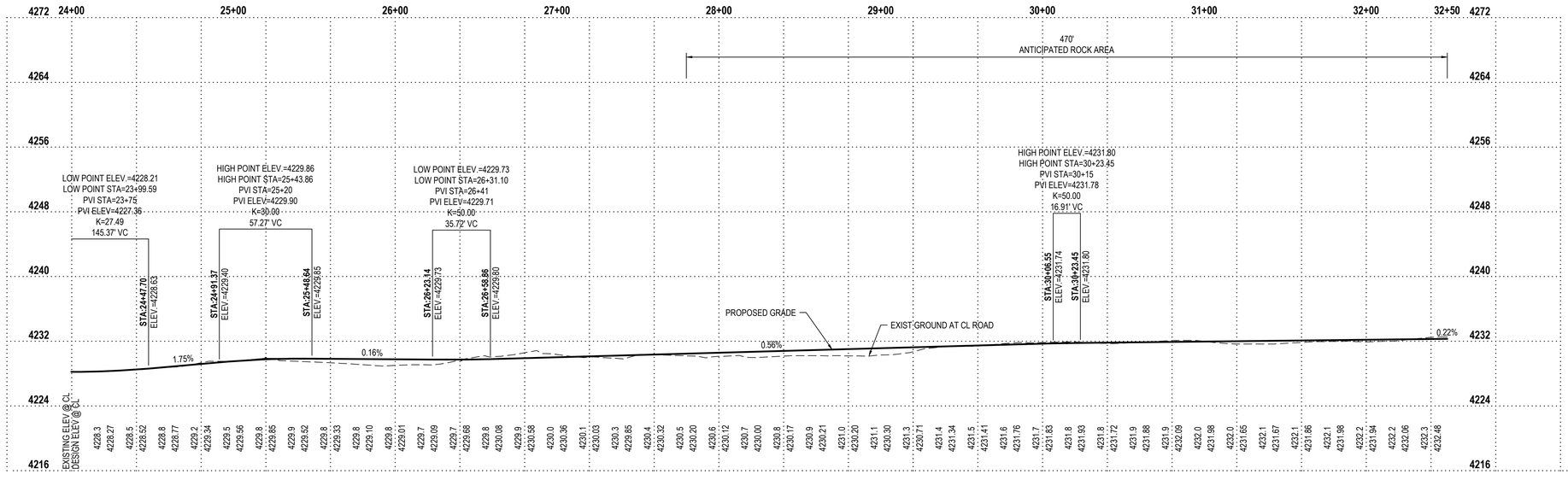
COVE ROAD



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DATE: 01/25/2022

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PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT L. ROUSSELLE
EXP. 9/30/2023
STATE OF UTAH

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PLAN AND PROFILE
GRADING
COVE ROAD
(ALTERNATE 3)

PROJECT NUMBER	PRINT DATE
10970	1/12/2022
DRAWN BY	CHECKED BY
G. OFFERMANN	F. DUBEROW
PROJECT MANAGER	
R. ROUSSELLE	

C-400-24

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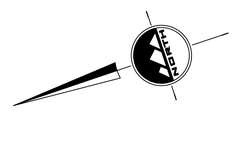

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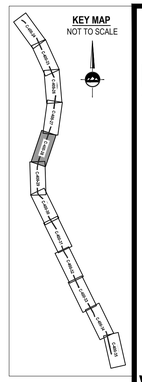

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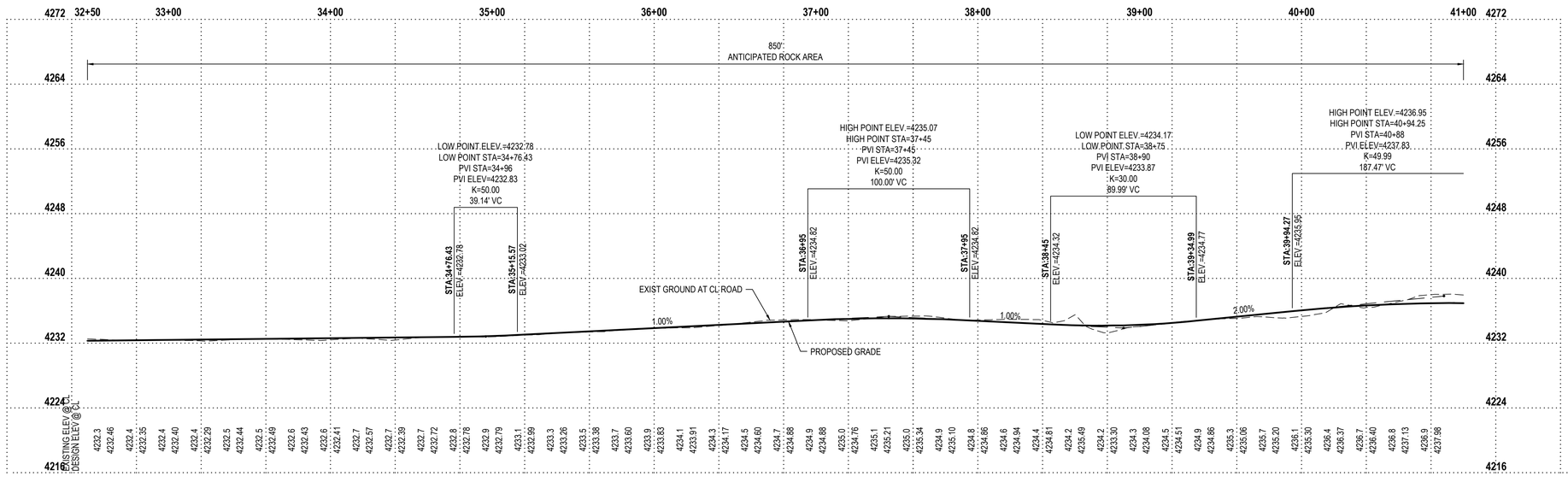

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WHITE ROCK BAY CAMPGROUND
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WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT L. ROUSSELLE
EXP. 6/30/2023
STATE OF UTAH

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PLAN AND PROFILE GRADING COVE ROAD (ALTERNATE 3)

PROJECT NUMBER	PRINT DATE
10970	1/12/2022
DRAWN BY	CHECKED BY
G. OFFERMANN	F. DUBEROW
PROJECT MANAGER	
R. ROUSSELLE	

C-400-25

CODE OFFICIAL STAMP
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SIGNATURE:
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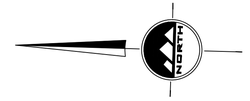

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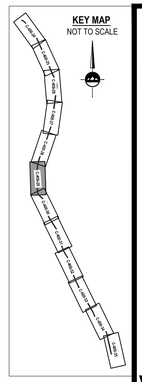

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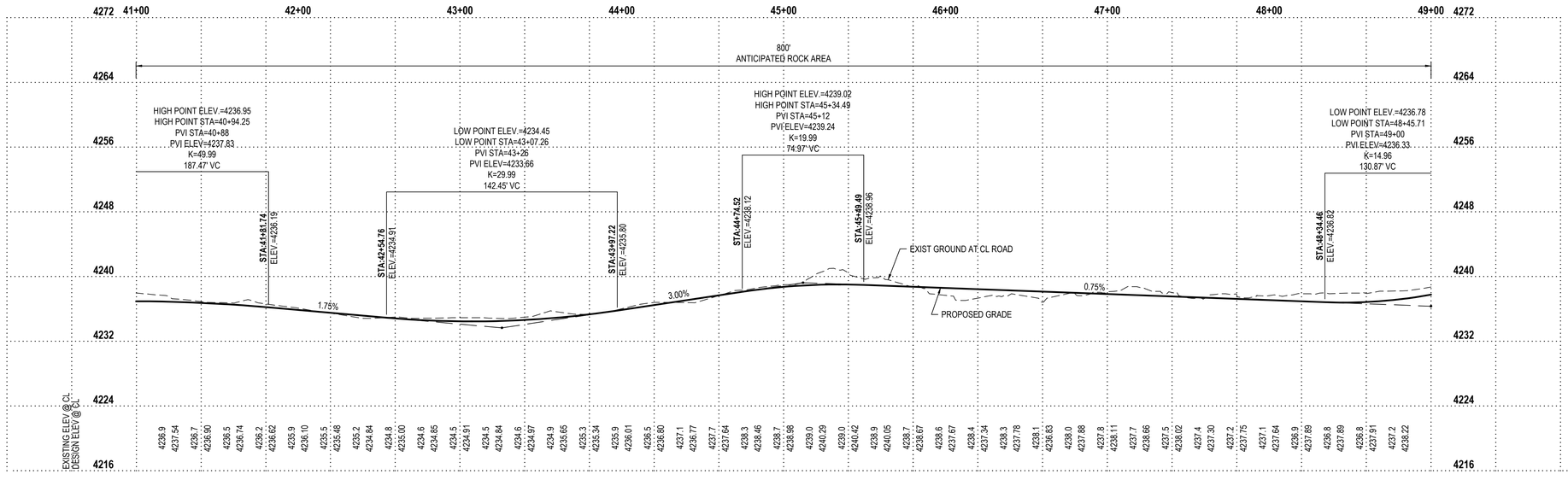
COVE ROAD



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PROFESSIONAL ENGINEER
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PLAN AND PROFILE GRADING COVE ROAD (ALTERNATE 3)

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-400-26

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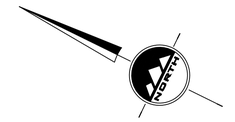

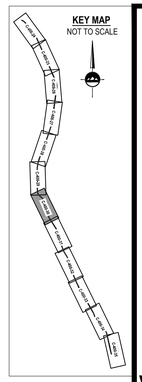

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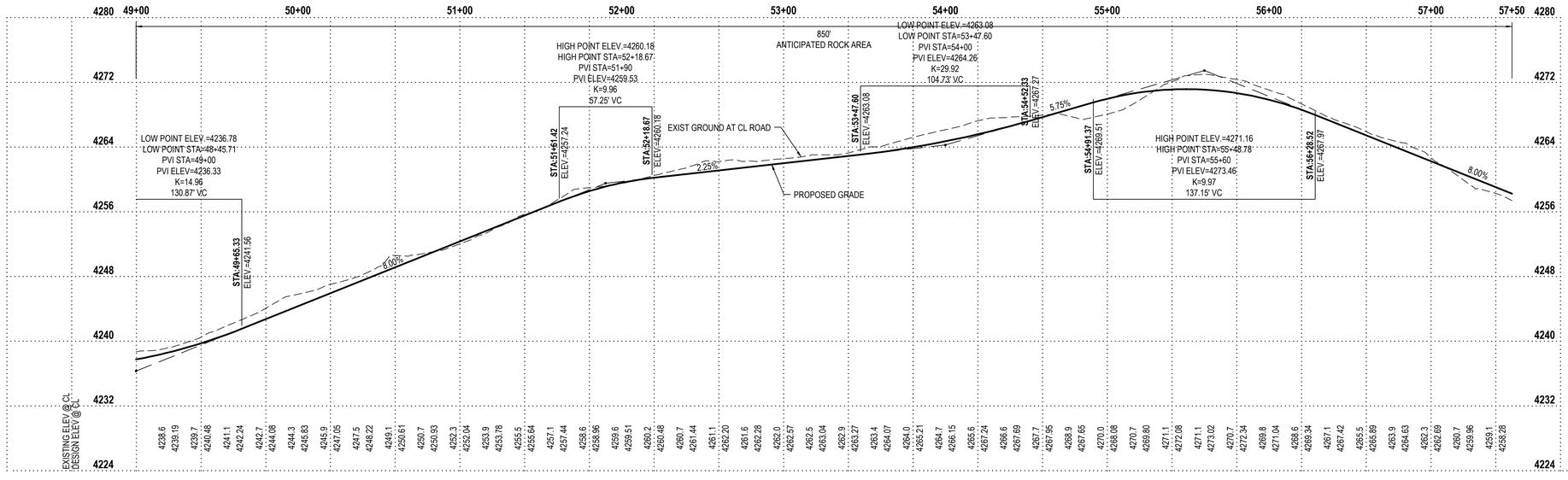

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CODE OFFICIAL STAMP
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
REVIEWED FOR CODE COMPLIANCE
SIGNATURE:
DATE: 01/25/2022

PLAN AND PROFILE GRADING COVE ROAD (ALTERNATE 3)

PROJECT NUMBER	PRINT DATE
10970	1/12/2022
DRAWN BY	CHECKED BY
G. OFFERMANN	F. DUBEROW
PROJECT MANAGER	
R. ROUSSELLE	

C-400-27

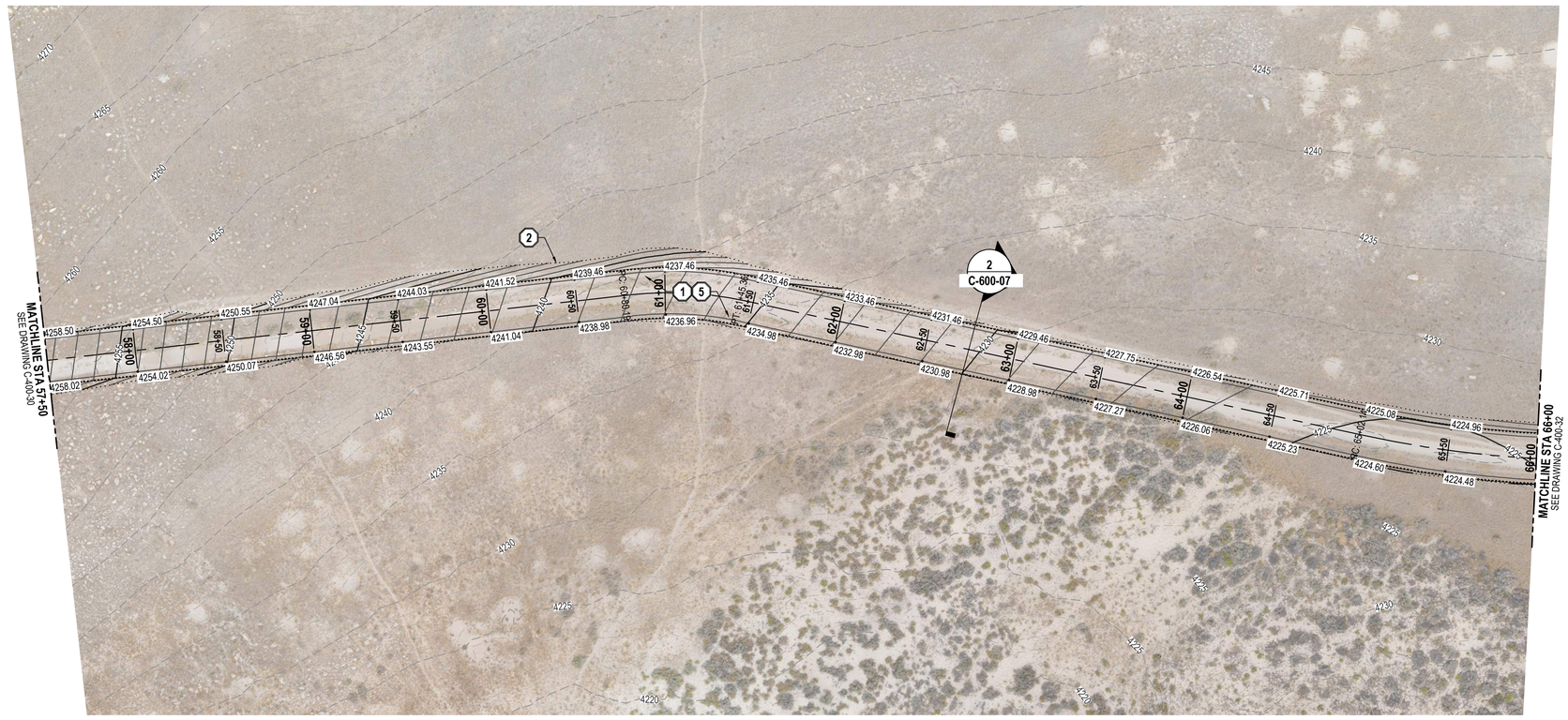
CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

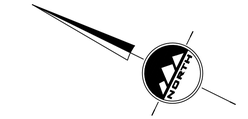
Know what's below. Call before you dig.

BENCHMARK

NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4315.30'

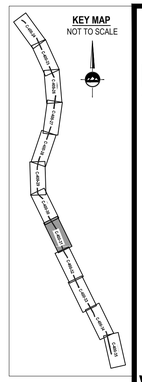




HORIZONTAL GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
HORZ: 1 inch = 40 ft.
VERT: 1 inch = 8 ft.



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1. CLEAR, GRUB, AND GRADE FOR PROPOSED SURFACE IMPROVEMENTS.
2. LIMIT OF DISTURBANCE.
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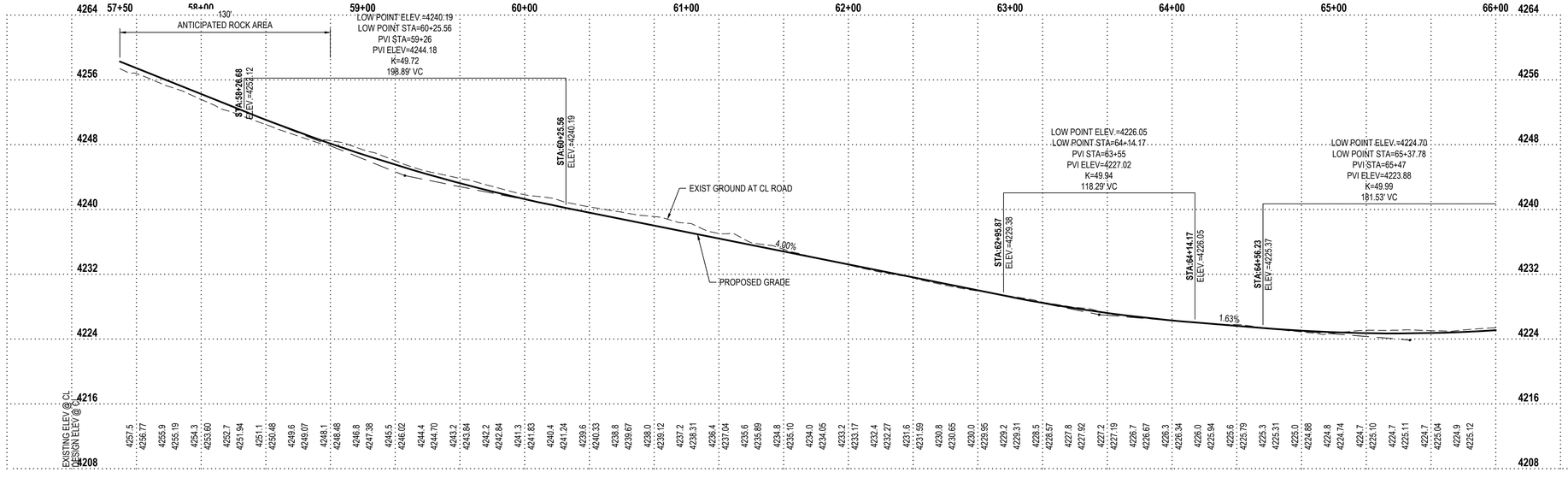
17. TRUNCATED DOMES PER APWA STANDARD PLAN 238.

COVE ROAD



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ENSIGN
THE STANDARD IN ENGINEERING

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Phone: 435.896.2983

WWW.ENSIGNENG.COM

FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885568-2202
ROBERT L. ROUSSELLE
EXP. 3/31/2023
STATE OF UTAH

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GRADING
COVE ROAD
(ALTERNATE 3)

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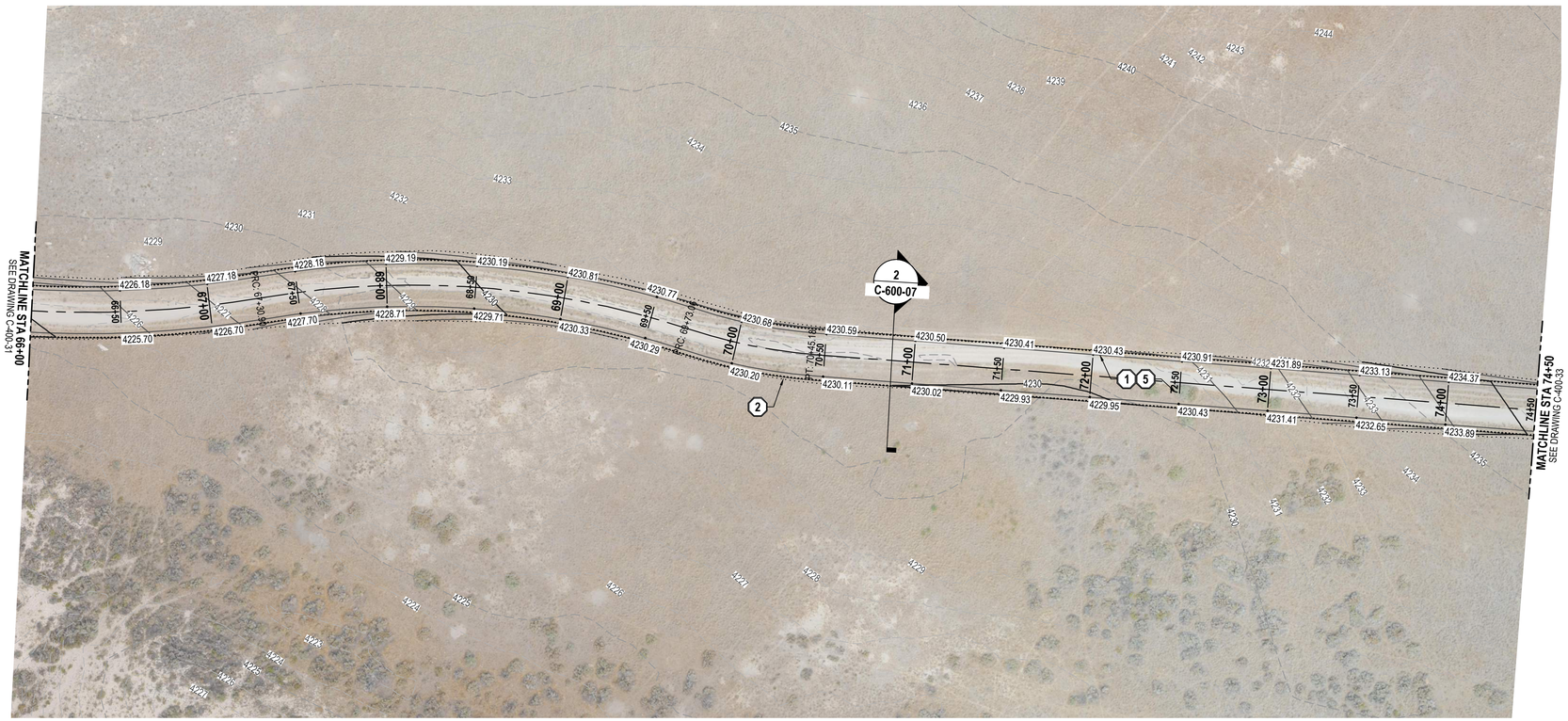

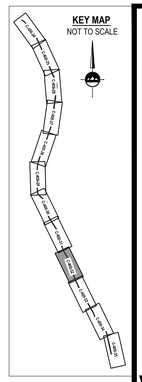

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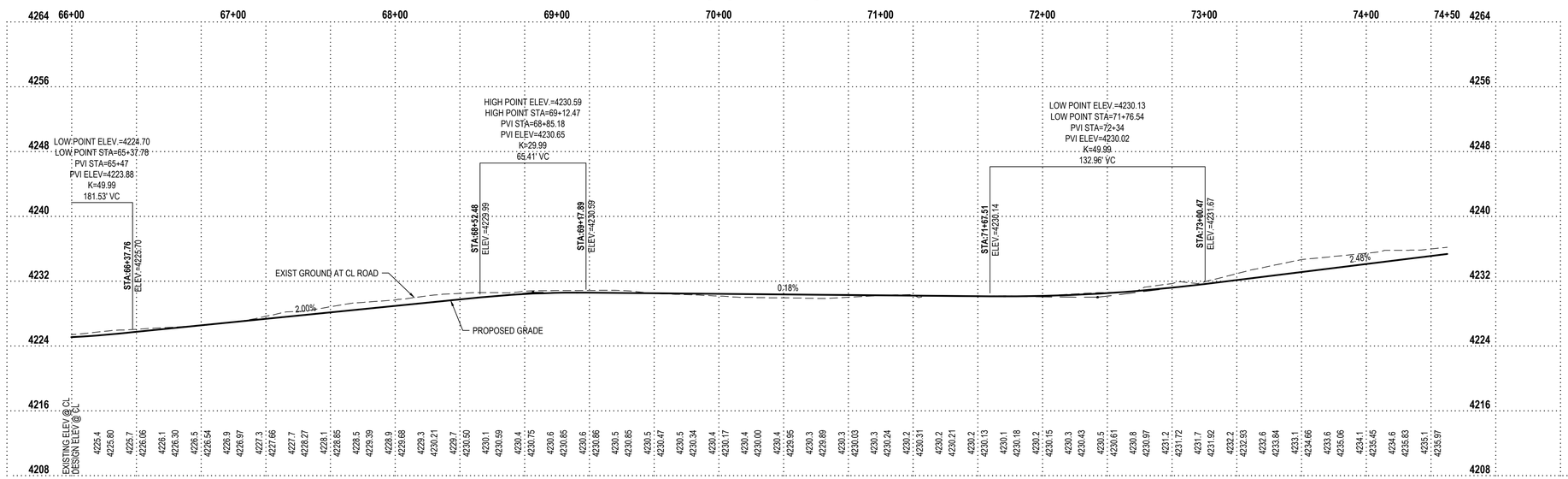

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4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT L. ROUSSELLE
EXP. 3/31/2022
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G. OFFERMANN	F. DUBEROW

PROJECT MANAGER
R. ROUSSELLE

C-400-29

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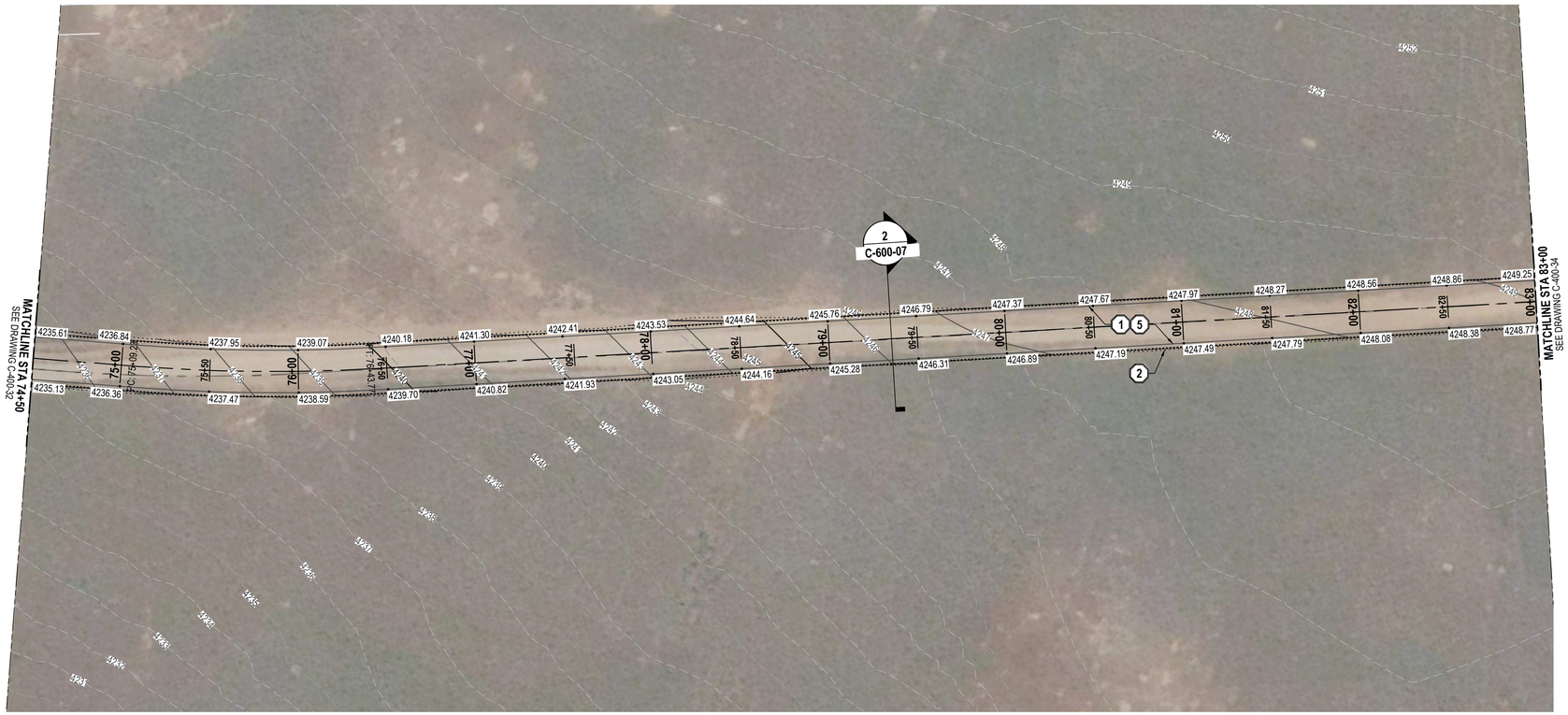
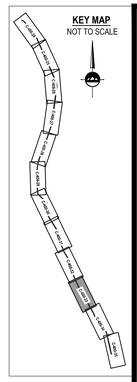


KEY MAP
NOT TO SCALE



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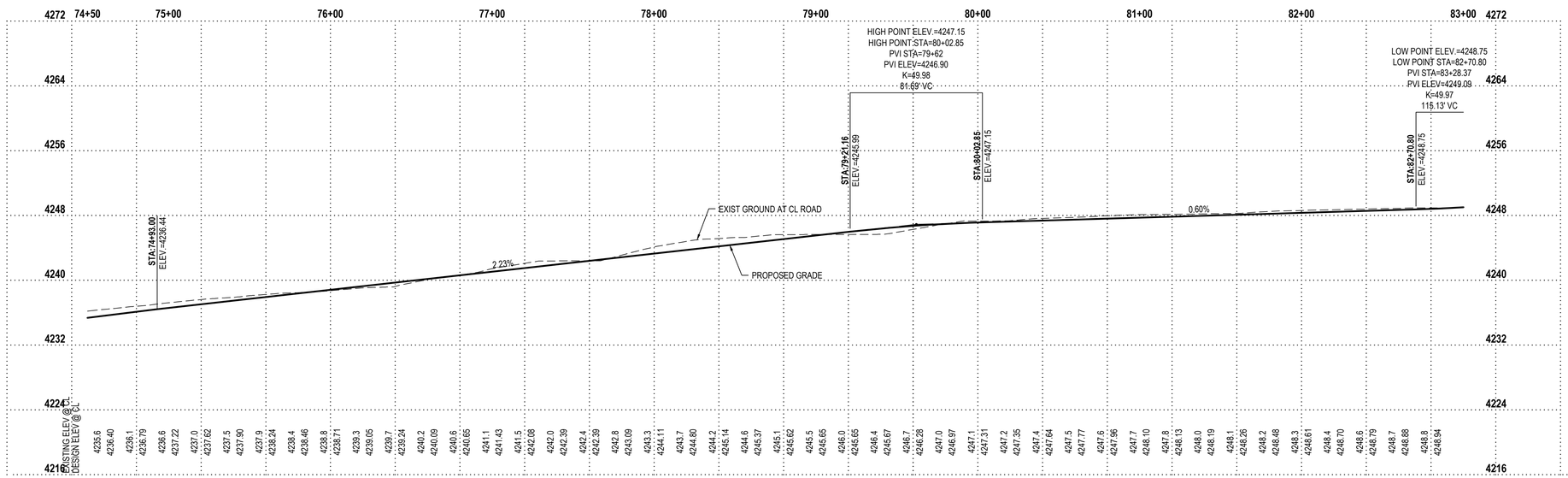
COVE ROAD



ENSIGN
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SALT LAKE CITY
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Sandy, UT 84070
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FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:
PHONE:

WHITE ROCK BAY CAMPGROUND ANTELOPE ISLAND

WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT J. ROUSSELLE
EXP. 3/31/2023
STATE OF UTAH

CONFORMANCE SET 01/12/2022

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PLAN AND PROFILE GRADING COVE ROAD (ALTERNATE 3)

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-400-30

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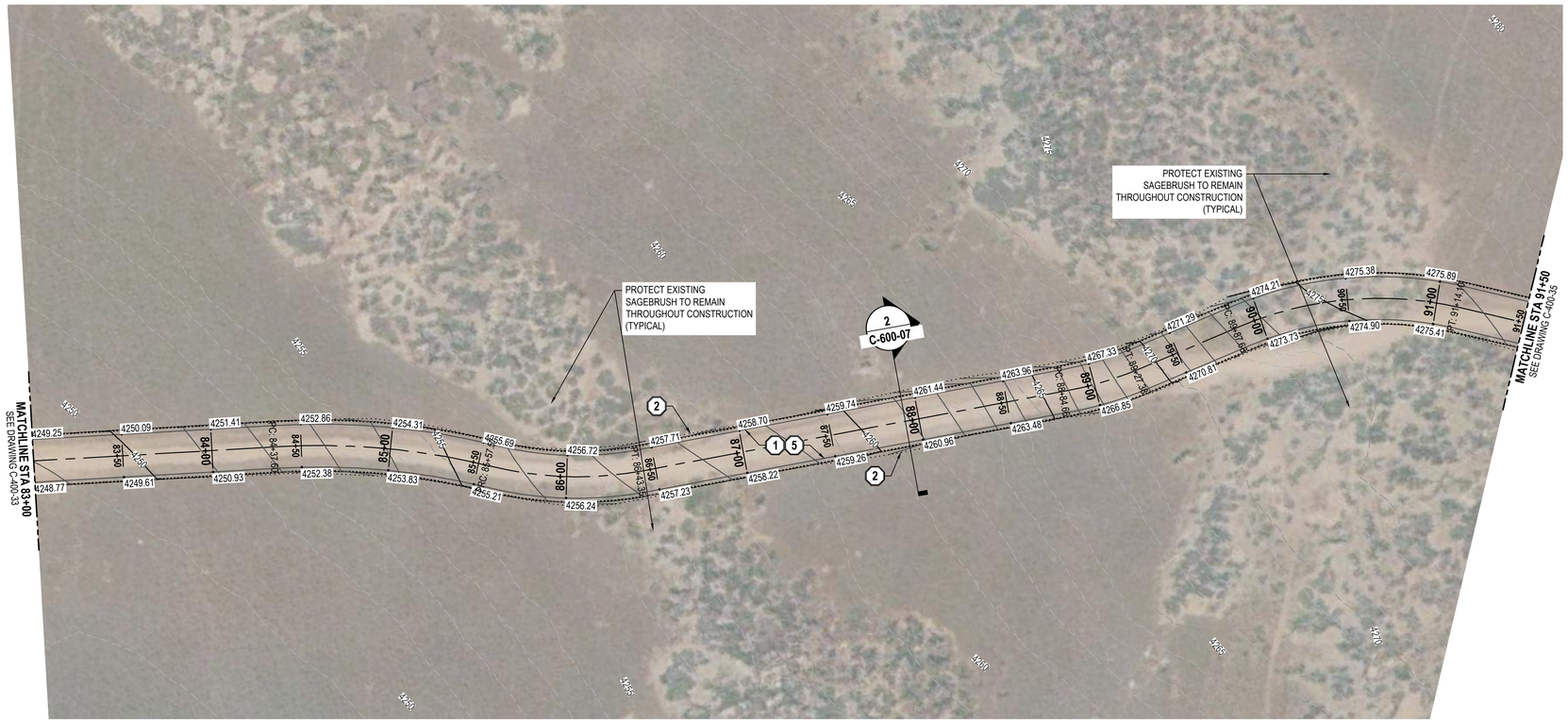

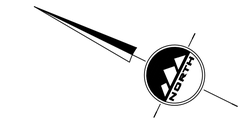

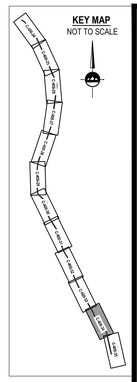

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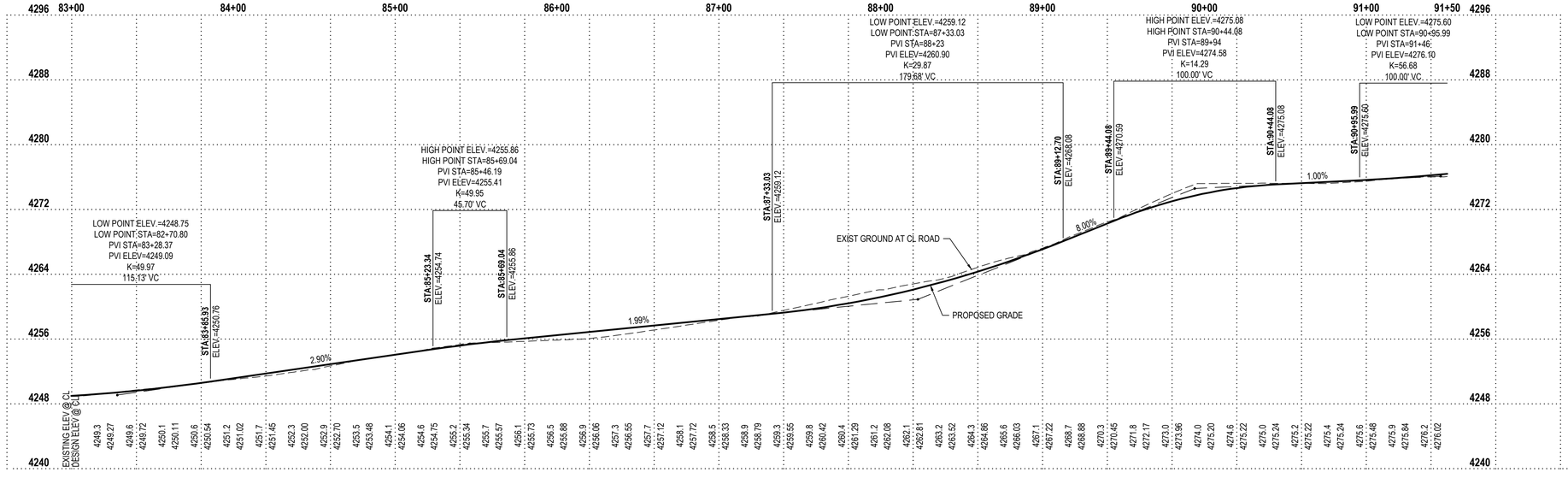

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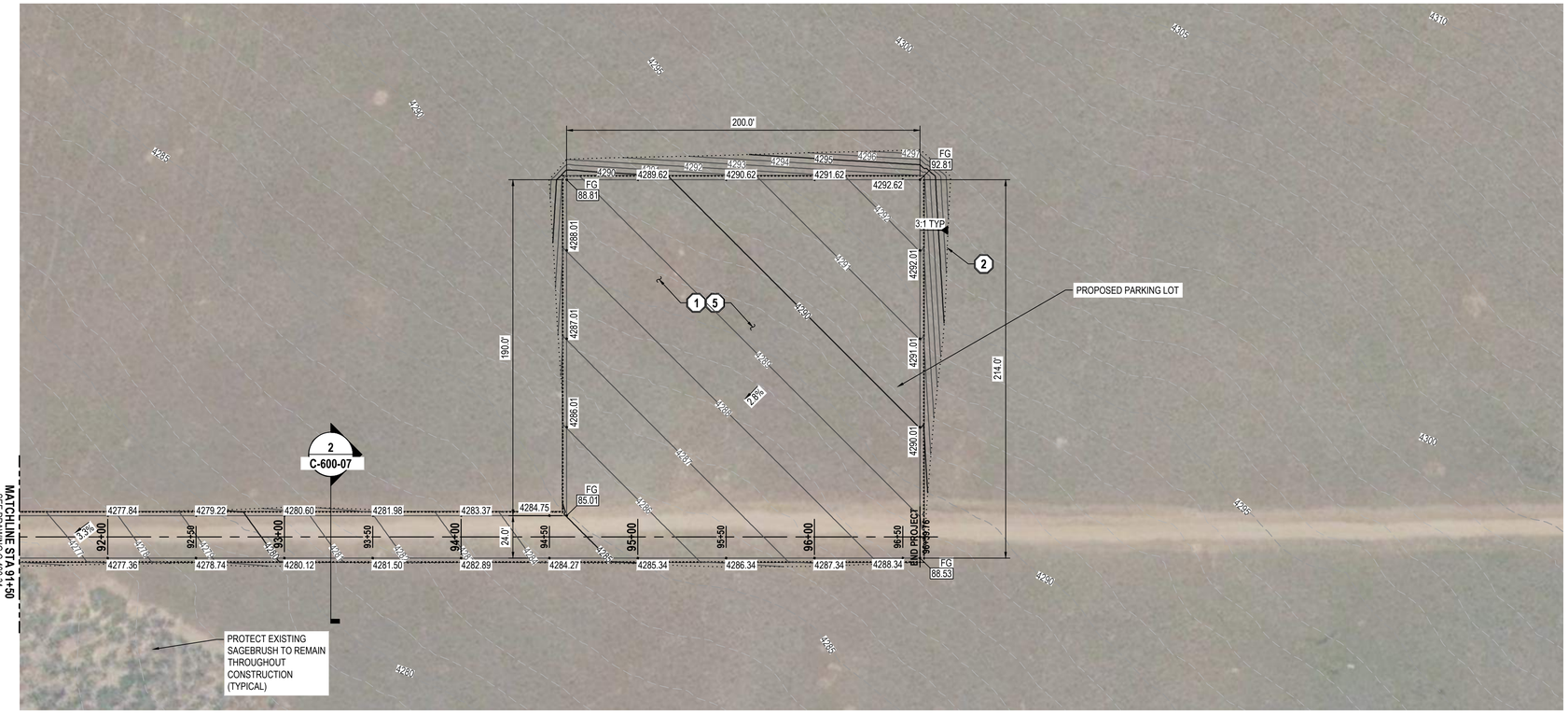

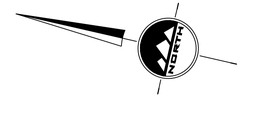

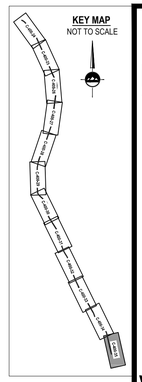

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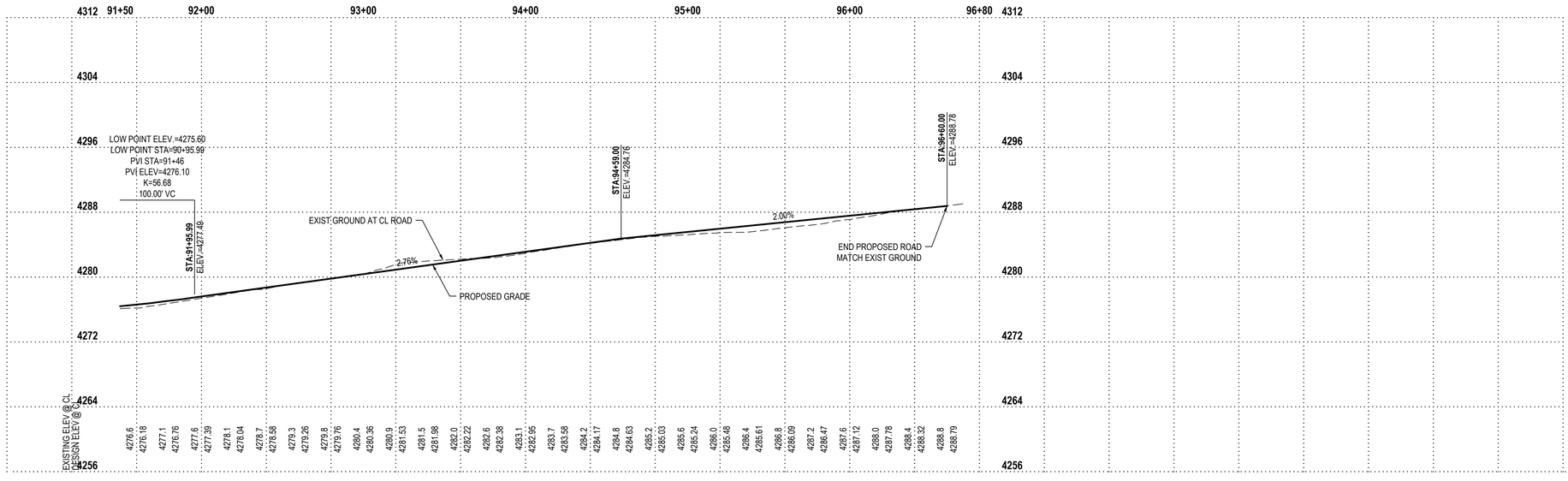
6. 5-INCH PCC PAVEMENT ON 6-INCH UTBC PER GEOTECHNICAL REPORT AND DETAIL 7/C-700-02.
7. 4-INCH PCC SIDEWALK ON 6-INCH UTBC PER DETAIL 4/C-700-02.
8. 3-INCH ASPHALT ON 6-INCH UTBC PER DETAIL 9/C-700-02.
9. STOP SIGN (30" X 30", R1-1) ON POST PER M.U.T.C.D. STANDARD PLANS, SEE DETAIL 7/C-600-07.
10. STOP SIGN (30" X 30", R1-1) AND RIGHT TURN ONLY (18" X 24", R3-5R) ON POST PER M.U.T.C.D . STANDARD PLANS, SEE DETAIL 7/C-600-07.
11. 4-INCH WIDE SOLID WHITE PAVEMENT MARKING PER M.U.T.C.D. STANDARD PLANS.
12. PAINTED ADA SYMBOL AND ASSOCIATED HATCHING PER M.U.T.C.D. STANDARD PLANS AND DETAIL 8 / C-700-02.
13. CAMPSITE MARKER POST PER DETAIL 4/C-600-07.
14. DO NOT ENTER SIGN (30" X 30", R5-1) AND EXIT ONLY (24" X 18") ON POST PER M.U.T.C.D. STANDARD PLANS, SEE DETAIL 7/C-600-07.
15. PLACE 3-FOOT TO 4-FOOT DIAMETER ROCKS SPACED APPROX. 6-FEET APART O.C. AS SHOWN (COORDINATE FINAL ROCK TYPE, SIZE, AND LOCATIONS WITH OWNER).
16. MATCH EXISTING GROUND AT CAMPSITE ENTRANCES.
17. TRUNCATED DOMES PER APWA STANDARD PLAN 238.

COVE ROAD



CODE OFFICIAL STAMP

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
REVIEWED FOR CODE COMPLIANCE
SIGNATURE:
DATE: 01/25/2022

ENSIGN
THE STANDARD IN ENGINEERING

SALT LAKE CITY
45 W. 10000 S., Suite 500
Sandy, UT 84070
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LAYTON
Phone: 801.547.1100

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Phone: 435.896.2983

WWW.ENSIGNENG.COM

FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:
PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT L. ROUSSELLE EXP.3/31/2022 STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
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3			
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6			
7			
8			

PLAN AND PROFILE GRADING COVE ROAD (ALTERNATE 3)

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-400-32

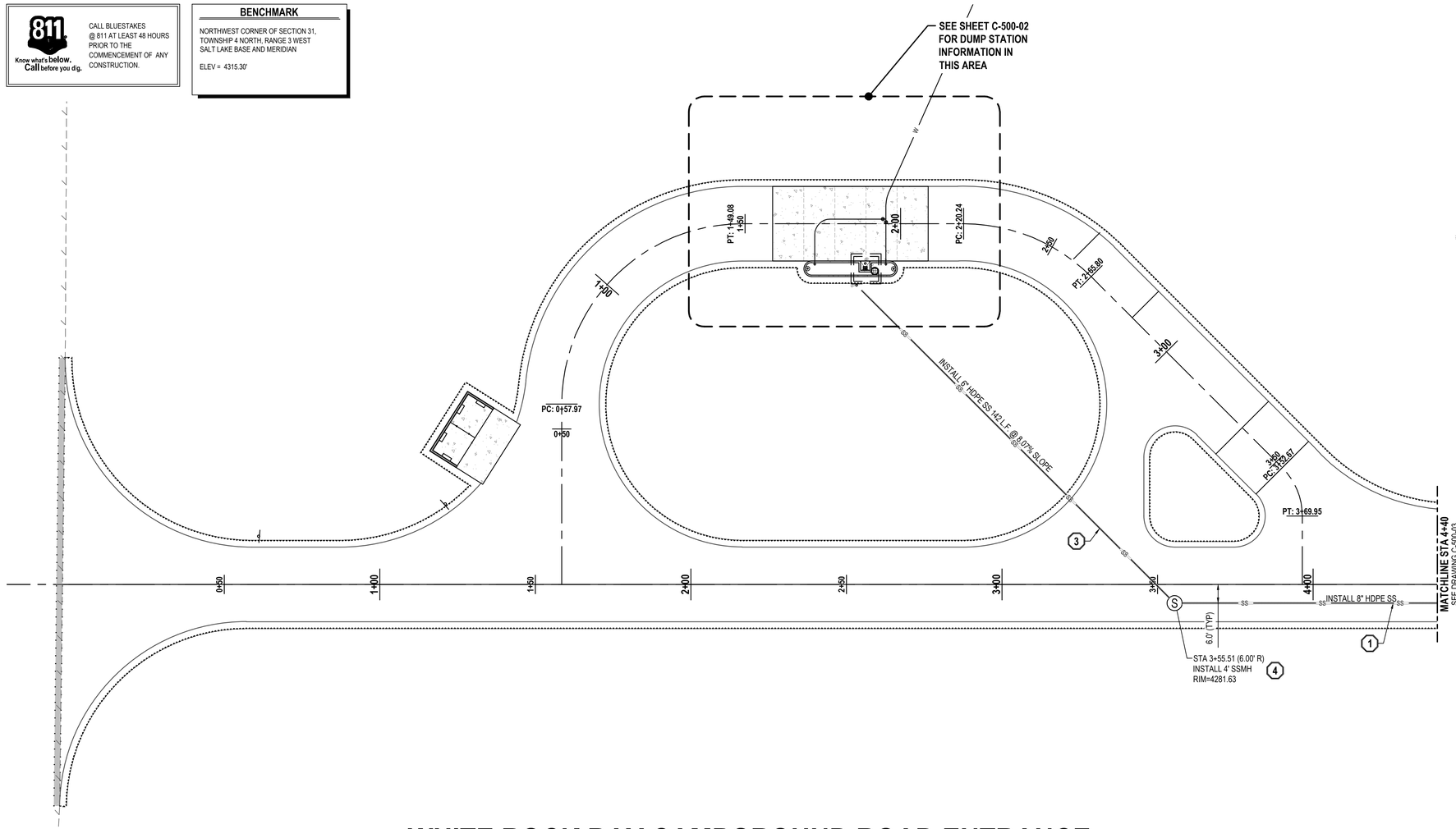
811 Know what's below. Call before you dig.

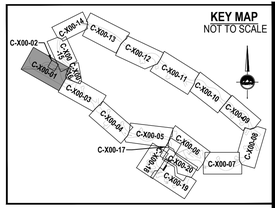
CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

BENCHMARK

NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4315.30'





HORIZONTAL GRAPHIC SCALE

0 ## ##

(IN FEET)
HORZ: 1 inch = ## ft.
VERT: 1 inch = 4 ft.

GENERAL NOTES

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3. EXISTING WATER LINES AND WATER SYSTEM TO REMAIN IN SERVICE THROUGHOUT CONSTRUCTION. COORDINATE FINAL CONNECTIONS AND PHASING WITH ANTELOPE ISLAND PARK STAFF.
4. PROVIDE THRUST BLOCKS AT ALL BENDS AND GATE VALVES, SEE DETAIL 1/C-700-01.
5. PIPE LINEAR FOOTAGE SHOWN IS BETWEEN BENDS, TEES, HORIZONTAL CURVES, VERTICAL CURVES, OR DIFFERENT PIPE MATERIALS.
6. SEWER AND WATER LATERAL PIPE LINEAR FOOTAGE IS FROM MAIN CONNECTION TO EXTERIOR BUILDING WALL, EXTERIOR VAULT WALL, DRINKING WATER HYDRANT, OR WATER TOWER.
7. REFER TO ELECTRICAL PLANS FOR ELECTRICAL UTILITY INFORMATION.
8. WHERE HDPE PIPE IS USED, CONNECTIONS SHALL BE FLANGED. FITTINGS SHALL BE COMPLETED WITH A FLANGE ADAPTER FUSED TO PIPE AND A IPS BACK UP RING.
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2. 4-INCH SDR-35 PVC SANITARY SEWER LATERAL AT MINIMUM 2% SLOPE, INCLUDING CLEANOUTS AT MAXIMUM 100-FOOT SPACING. INSTALLATION AND TRENCHING PER DETAIL 2/C-700-01 AND 5/C-700-01.
3. 6-INCH SDR-35 PVC SANITARY SEWER LATERAL AT MINIMUM 1% SLOPE, INCLUDING CLEANOUTS AT MAXIMUM 100-FOOT SPACING. INSTALLATION AND TRENCHING PER DETAIL 2/C-700-01 AND 5/C-700-01.
4. SANITARY SEWER PRECAST MANHOLE PER DETAIL 4/C-700-01 (TYPICAL).
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6. 8-INCH DR-17 PE4710 IPS HDPE DRINKING WATER MAIN. PROVIDE THRUST BLOCKS AT VALVES, FITTINGS, AND BENDS PER DETAIL 1/C-700-01 (TYPICAL). INSTALL IN TRENCH PER DETAIL 2/C-700-01.
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18. 2-INCH UNDERGROUND HDPE SCHEDULE 40 CONDUIT WITH 2-INCH UNDERGROUND HDPE SCHEDULE 40 CONDUIT (SPARE) PER DETAIL 7/C-700-03. ALL SWEEPS SHALL BE LONG SWEEPS AND SHALL BE FIBERGLASS. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING CONDUIT DETAILS AND A CONDUIT ROUTING PLAN TO THE ENGINEER FOR APPROVAL. LIMIT RUNS BETWEEN PULL BOXES TO LESS THAN 270 DEGREES. INSTALL CONDUIT 2-FEET OFF CENTERLINE OF WATER MAIN. CONTRACTOR CAN USE WATER TRENCH FOR CONDUIT.
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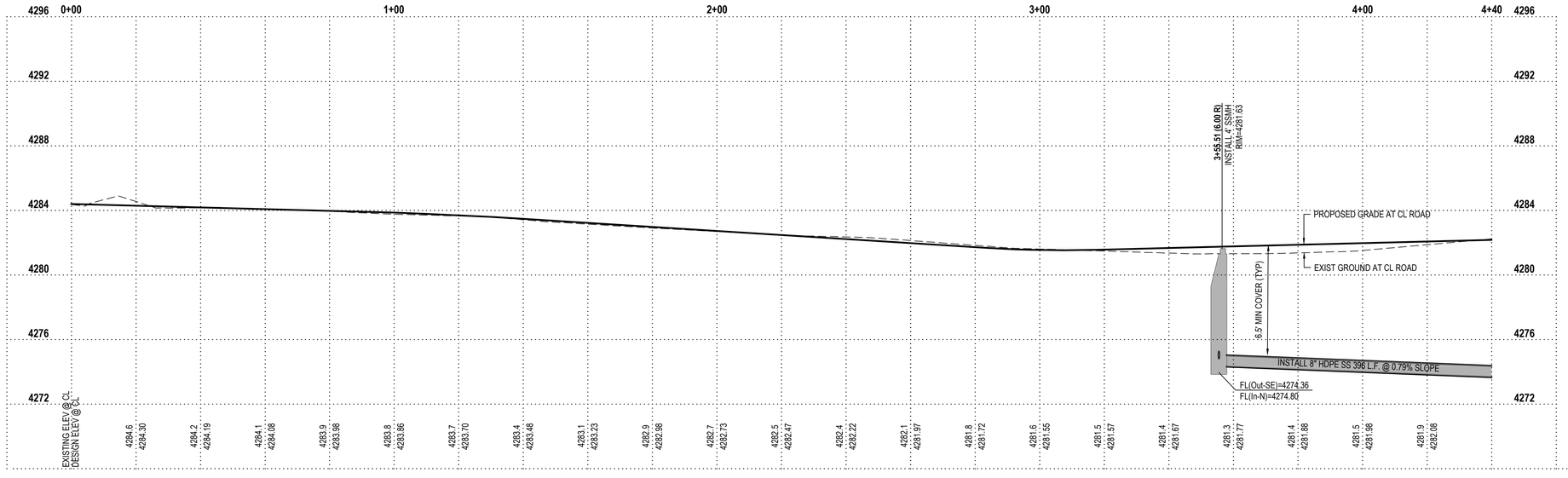
20. EXISTING PENETRATION THROUGH CONDUIT WALL PER DETAIL C-700-03.
21. INSTALL A 12-STRAND SINGLE MODE FIBER OPTIC CABLE IN 2-INCH CONDUIT FROM RESTROOM R1 ONSITE WASTEWATER DISPOSAL SYSTEM CONTROL PANEL TO NEW BRIDGER BAY BOOSTER PUMP STATION ONSITE WASTEWATER DISPOSAL SYSTEM CONTROL PANEL LOCATION.

WHITE ROCK BAY CAMPGROUND ROAD ENTRANCE



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FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129

CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT L. DUBEROW
ROUSSELLE
EXP. 3/31/2023
STATE OF UTAH

CONFORMANCE SET 01/12/2022

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PLAN AND PROFILE UTILITY

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-500-01

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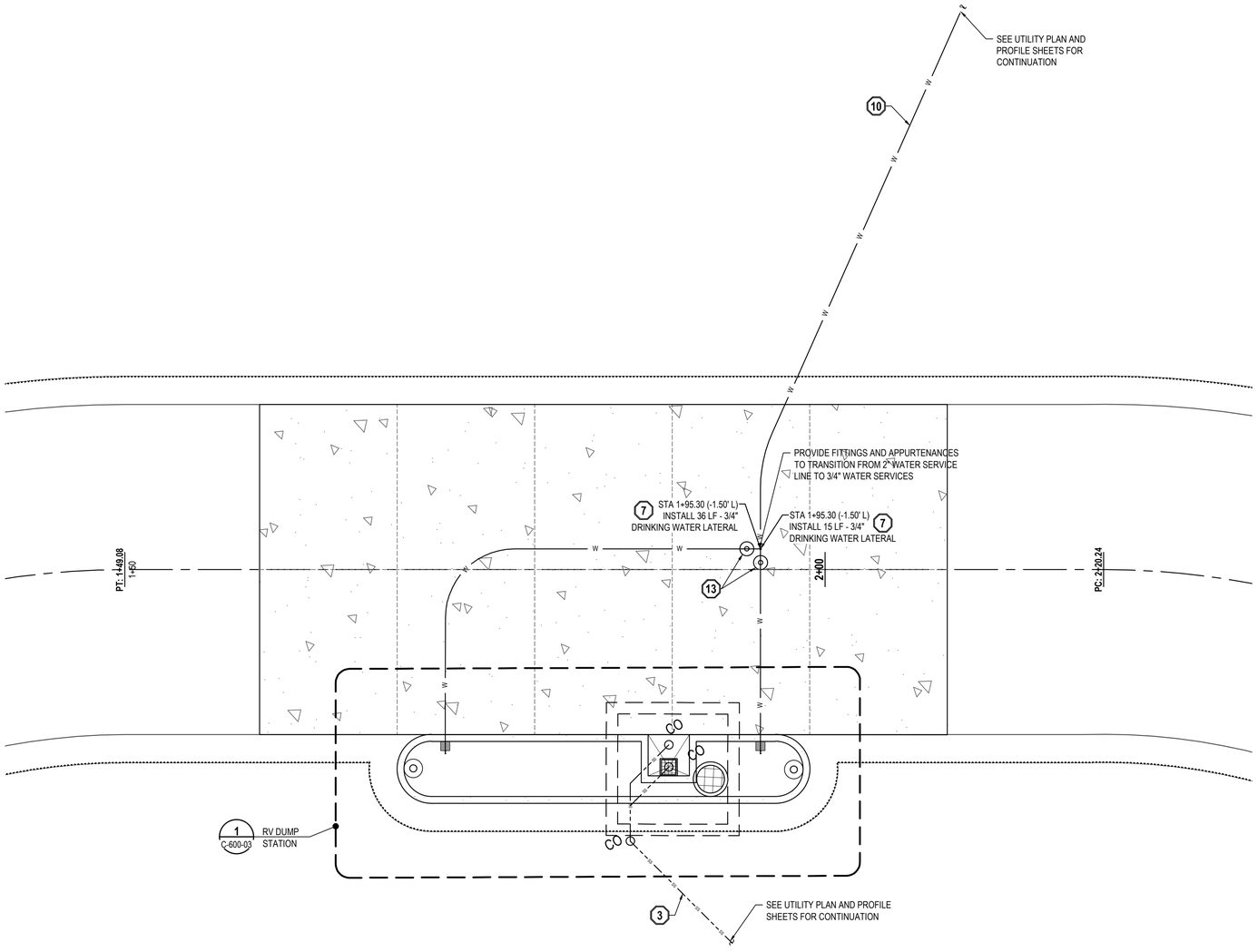
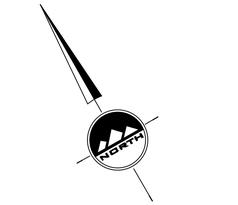
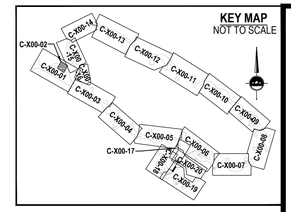




HORIZONTAL GRAPHIC SCALE

5 0 2.5 5 10

(IN FEET)
HORZ: 1 inch = 5 ft.



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CONTACT:

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SYRACUSE, UTAH 84075

PROJECT #: 22238510
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PROFESSIONAL ENGINEER 7885569-2202 ROBERT L. ROUSSELLE EXP.3/31/2023 STATE OF UTAH

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RV DUMP STATION UTILITY PLAN

PROJECT NUMBER 10970
PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN
CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE

C-500-02

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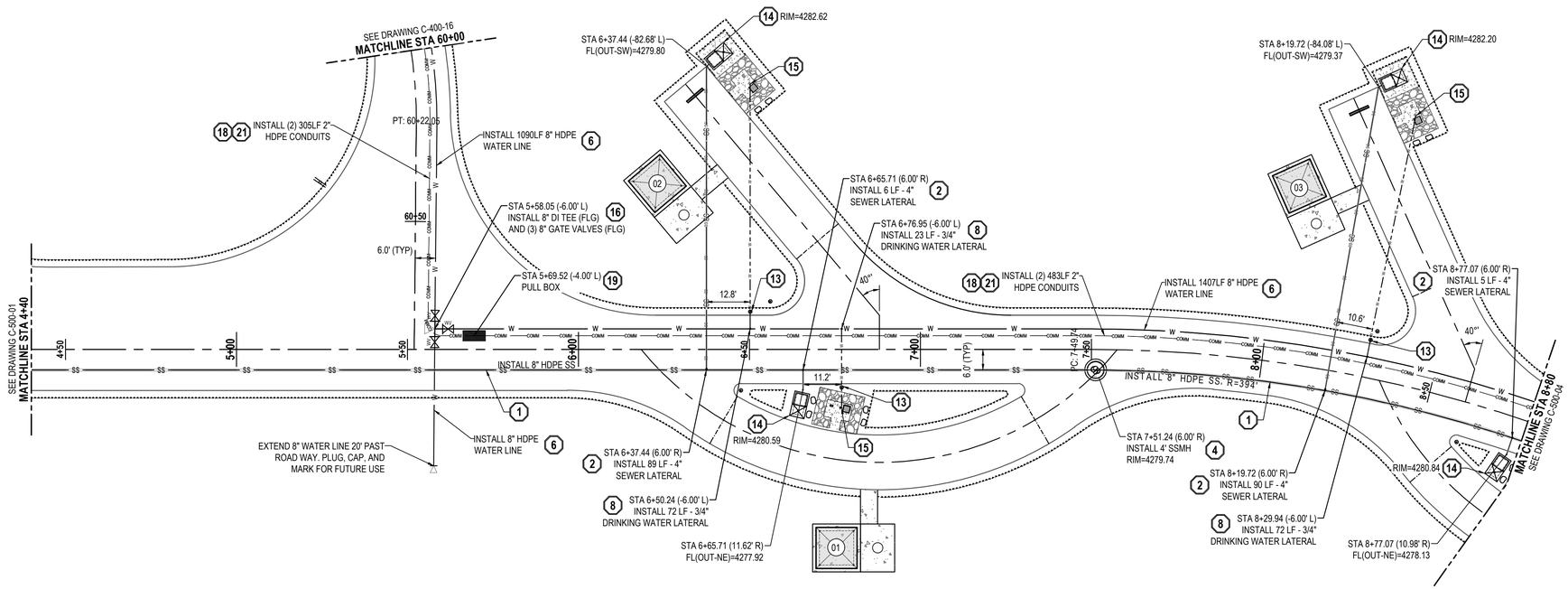

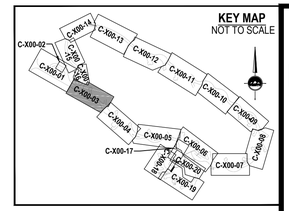

NORTH

HORIZONTAL GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
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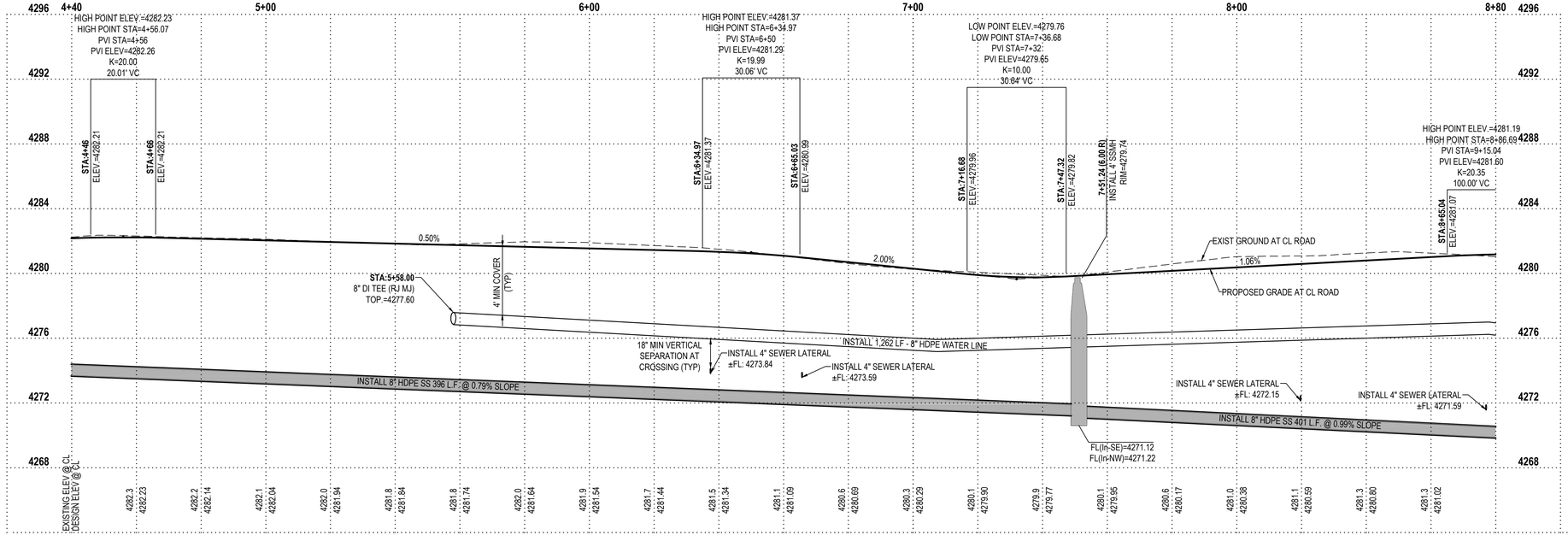
WHITE ROCK BAY CAMPGROUND LOOP ROAD



CODE OFFICIAL STAMP

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
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DATE: 01/25/2022

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THE STANDARD IN ENGINEERING

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45 W. 10000 S., Suite 500
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Phone: 801.547.1100

TOOELE
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Phone: 435.896.2983

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FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129

CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT L. ROUSSELLE EXP. 3/31/2023 STATE OF UTAH

CONFORMANCE SET 01/12/2022

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PLAN AND PROFILE UTILITY

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-500-03

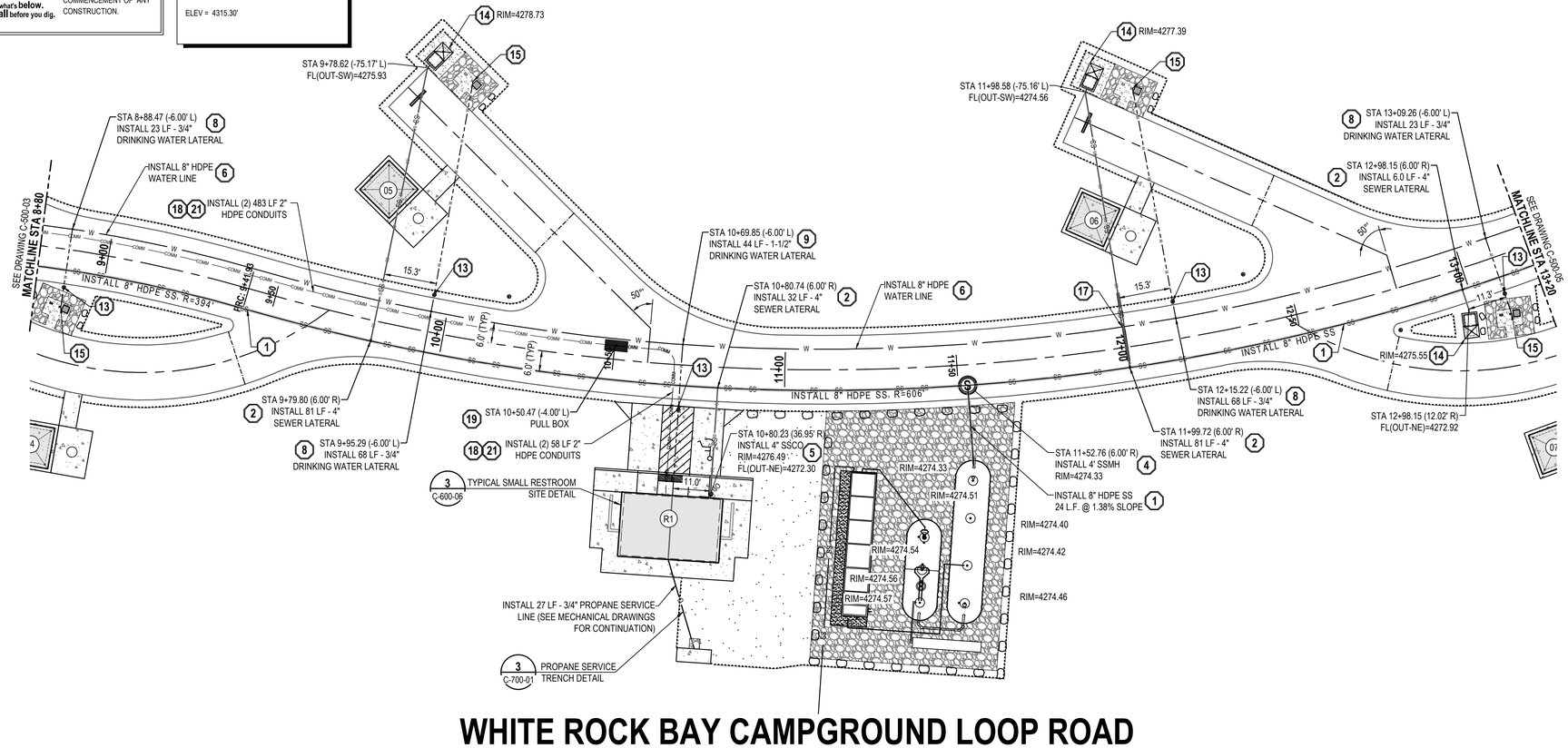
Know what's below. Call before you dig.

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

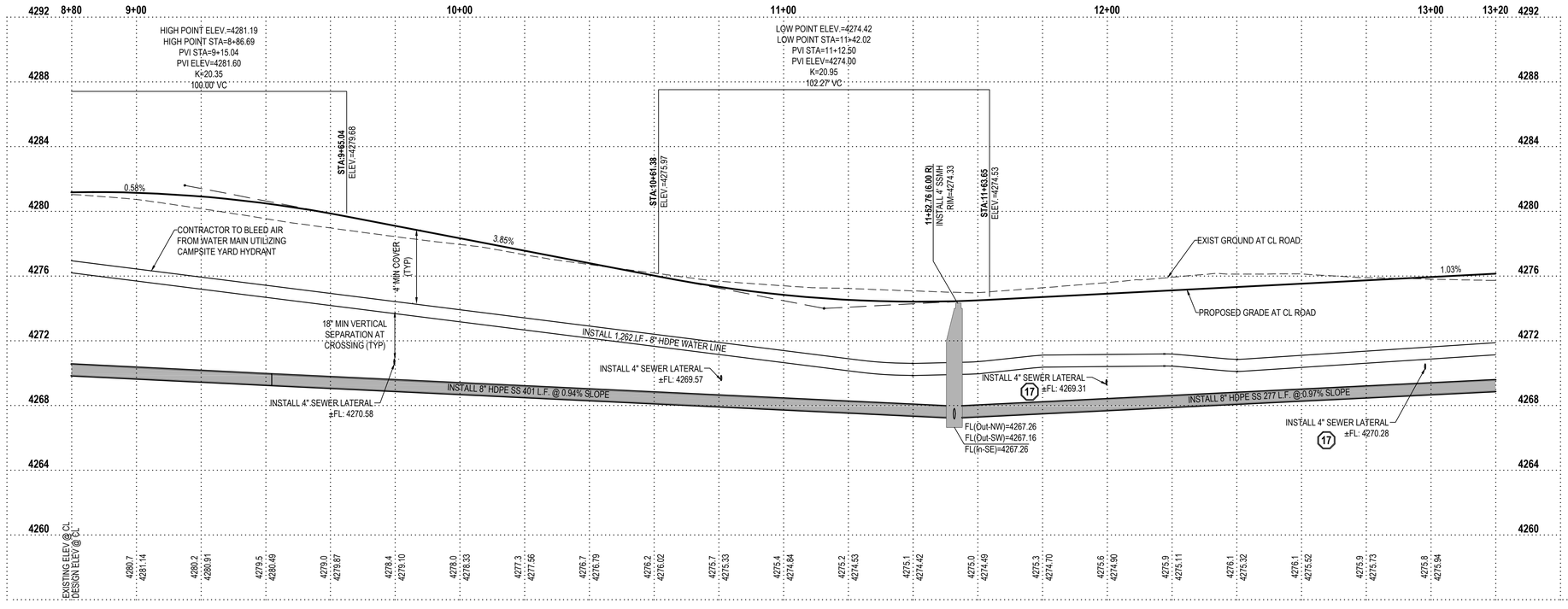
BENCHMARK

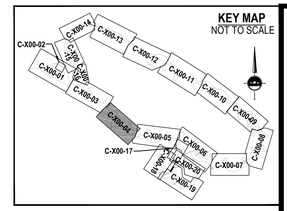
NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4315.30'



WHITE ROCK BAY CAMPGROUND LOOP ROAD





HORIZONTAL GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
HORZ: 1 inch = 20 ft.
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GENERAL NOTES

1. CONTRACTOR TO CONTACT CARL ALDRICH WITH ANTELOPE ISLAND STATE PARK, 801-927-0545, PRIOR TO ANY EXCAVATION OR DISTURBANCE FOR CONSTRUCTION MONITORING.
2. CONTRACTOR TO POTHOLE AND LOCATE EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. EXISTING WATER LINES AND WATER SYSTEM TO REMAIN IN SERVICE THROUGHOUT CONSTRUCTION. COORDINATE FINAL CONNECTIONS AND PHASING WITH ANTELOPE ISLAND PARK STAFF.
4. PROVIDE THRUST BLOCKS AT ALL BENDS AND GATE VALVES, SEE DETAIL 1/C-700-01.
5. PIPE LINEAR FOOTAGE SHOWN IS BETWEEN BENDS, TEES, HORIZONTAL CURVES, VERTICAL CURVES, OR DIFFERENT PIPE MATERIALS.
6. SEWER AND WATER LATERAL PIPE LINEAR FOOTAGE IS FROM MAIN CONNECTION TO EXTERIOR BUILDING WALL, EXTERIOR VAULT WALL, DRINKING WATER HYDRANT, OR WATER TOWER.
7. REFER TO ELECTRICAL PLANS FOR ELECTRICAL UTILITY INFORMATION.
8. WHERE HDPE PIPE IS USED, CONNECTIONS SHALL BE FLANGED. FITTINGS SHALL BE COMPLETED WITH A FLANGE ADAPTER FUSED TO PIPE AND A IPS BACK UP RING.
9. HDPE PIPE SHALL BE LAID IN TRENCH AND ALLOWED TIME PER MANUFACTURER'S RECOMMENDATIONS TO EXPAND/CONTRACT TO TRENCH AMBIENT TEMPERATURE BEFORE FINAL CONNECTIONS ARE MADE.

SCOPE OF WORK:

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

1. 8-INCH DR-17 PE4710 IPS HDPE SANITARY SEWER MAIN.
2. 4-INCH SDR-35 PVC SANITARY SEWER LATERAL AT MINIMUM 2% SLOPE, INCLUDING CLEANOUTS AT MAXIMUM 100-FOOT SPACING. INSTALLATION AND TRENCHING PER DETAIL 2/C-700-01 AND 5/C-700-01.
3. 6-INCH SDR-35 PVC SANITARY SEWER LATERAL AT MINIMUM 1% SLOPE, INCLUDING CLEANOUTS AT MAXIMUM 100-FOOT SPACING. INSTALLATION AND TRENCHING PER DETAIL 2/C-700-01 AND 5/C-700-01.
4. SANITARY SEWER PRECAST MANHOLE PER DETAIL 4/C-700-01 (TYPICAL).
5. SEWER CLEANOUT PER DETAIL 6/C-700-01 (TYPICAL).
6. 6-INCH DR-17 PE4710 IPS HDPE DRINKING WATER MAIN. PROVIDE THRUST BLOCKS AT VALVES, FITTINGS, AND BENDS PER DETAIL 1/C-700-01 (TYPICAL). INSTALL IN TRENCH PER DETAIL 2/C-700-01.
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13. CURB STOP PER DETAIL 7/C-700-01
14. MAINTENANCE ACCESSIBLE SEWER DROP PER DETAIL 2/C-600-02.
15. DRINKING WATER YARD HYDRANT PER DETAIL 8/C-700-01
16. BURIED GATE VALVE PER DETAIL 10/C-700-01 (TYPICAL).
17. INSTALL 4-INCH SEWER LATERAL IN 20-LF, 8-INCH DIAMETER C900 DR25 PVC PIPE SLEEVE CENTERED ON 8-INCH WATER MAIN CROSSING. SEAL ENDS OF SLEEVE WITH END SEALS, PLASTIC, OR EQUAL.
18. 2-INCH UNDERGROUND HDPE SCHEDULE 40 CONDUIT WITH 2-INCH UNDERGROUND HDPE SCHEDULE 40 CONDUIT (SPARE) PER DETAIL 7/C-700-03. ALL SWEEPS SHALL BE LONG SWEEPS AND SHALL BE FIBERGLASS. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING CONDUIT DETAILS AND A CONDUIT ROUTING PLAN TO THE ENGINEER FOR APPROVAL. LIMIT RUNS BETWEEN PULL BOXES TO LESS THAN 270 DEGREES. INSTALL CONDUIT 2-FEET OFF CENTERLINE OF WATER MAIN. CONTRACTOR CAN USE WATER TRENCH FOR CONDUIT.
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21. INSTALL A 12-STRAND SINGLE MODE FIBER OPTIC CABLE IN 2-INCH CONDUIT FROM RESTROOM R1 ONSITE WASTEWATER DISPOSAL SYSTEM CONTROL PANEL TO NEW BRIDGER BAY BOOSTER PUMP STATION ONSITE WASTEWATER DISPOSAL SYSTEM CONTROL PANEL LOCATION.

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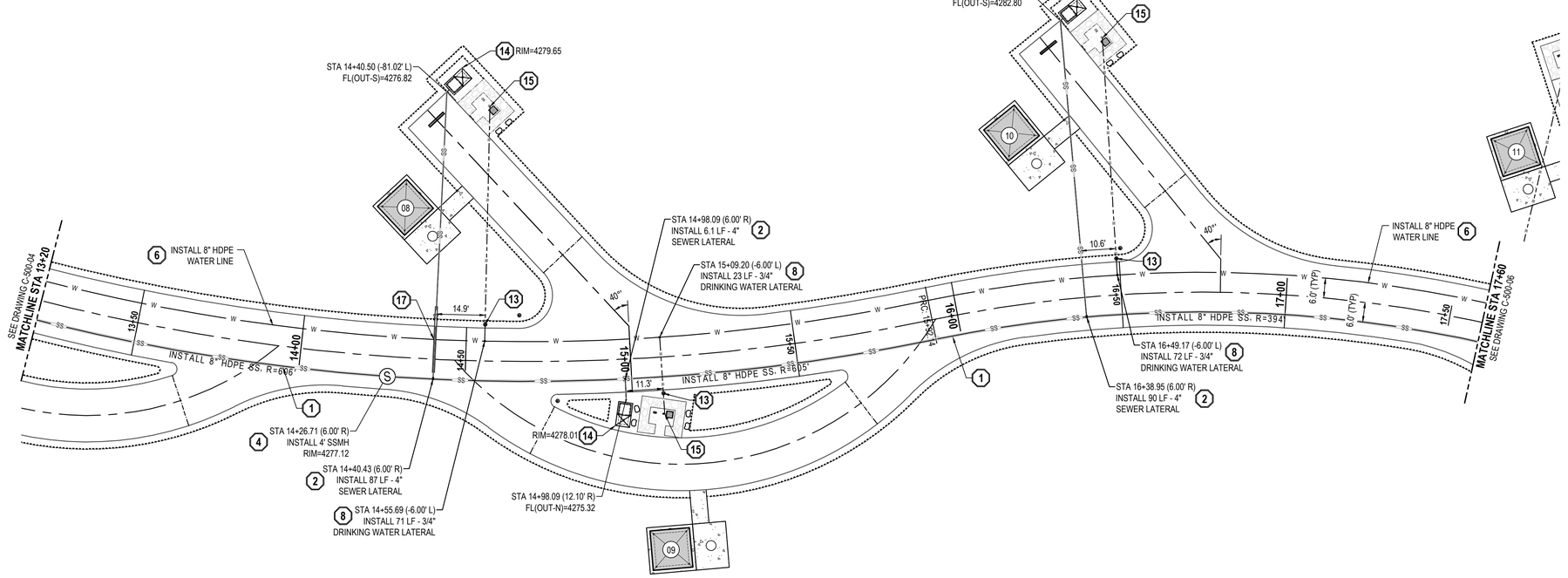

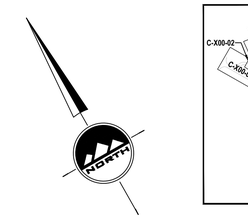

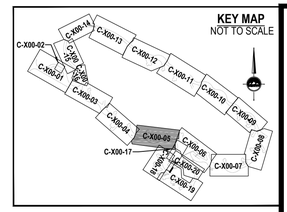

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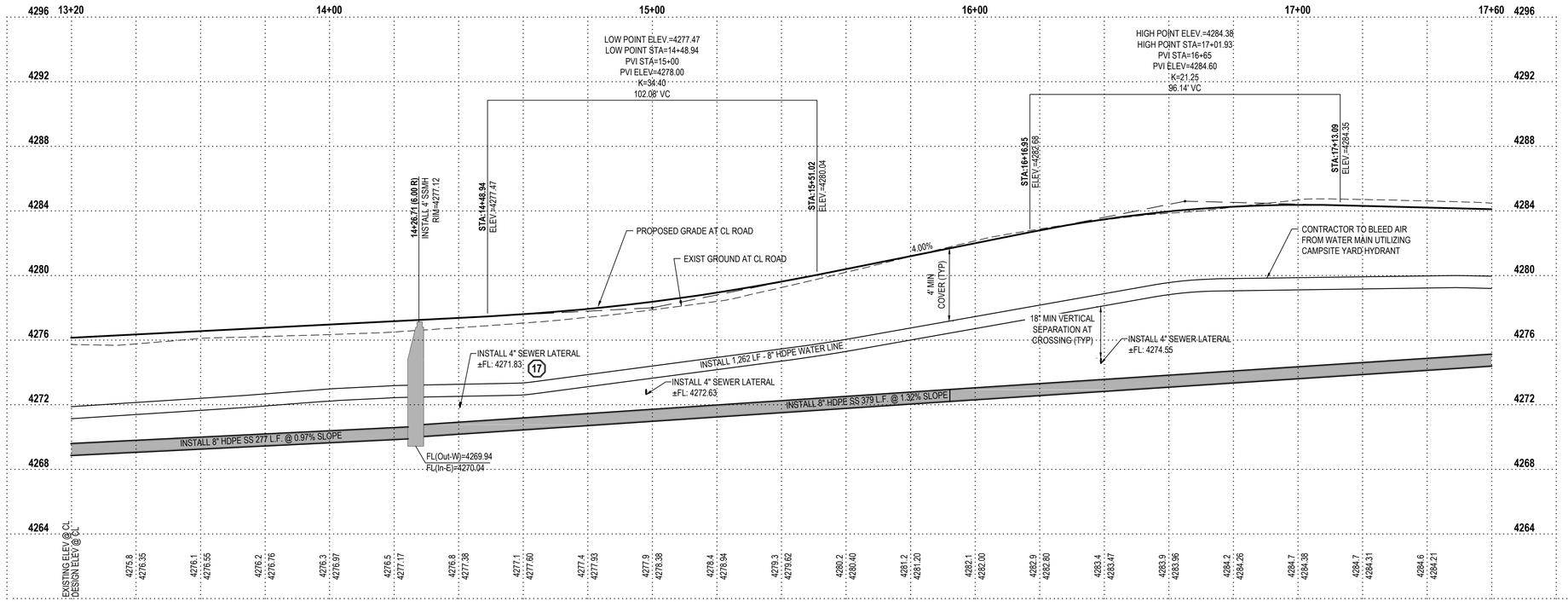

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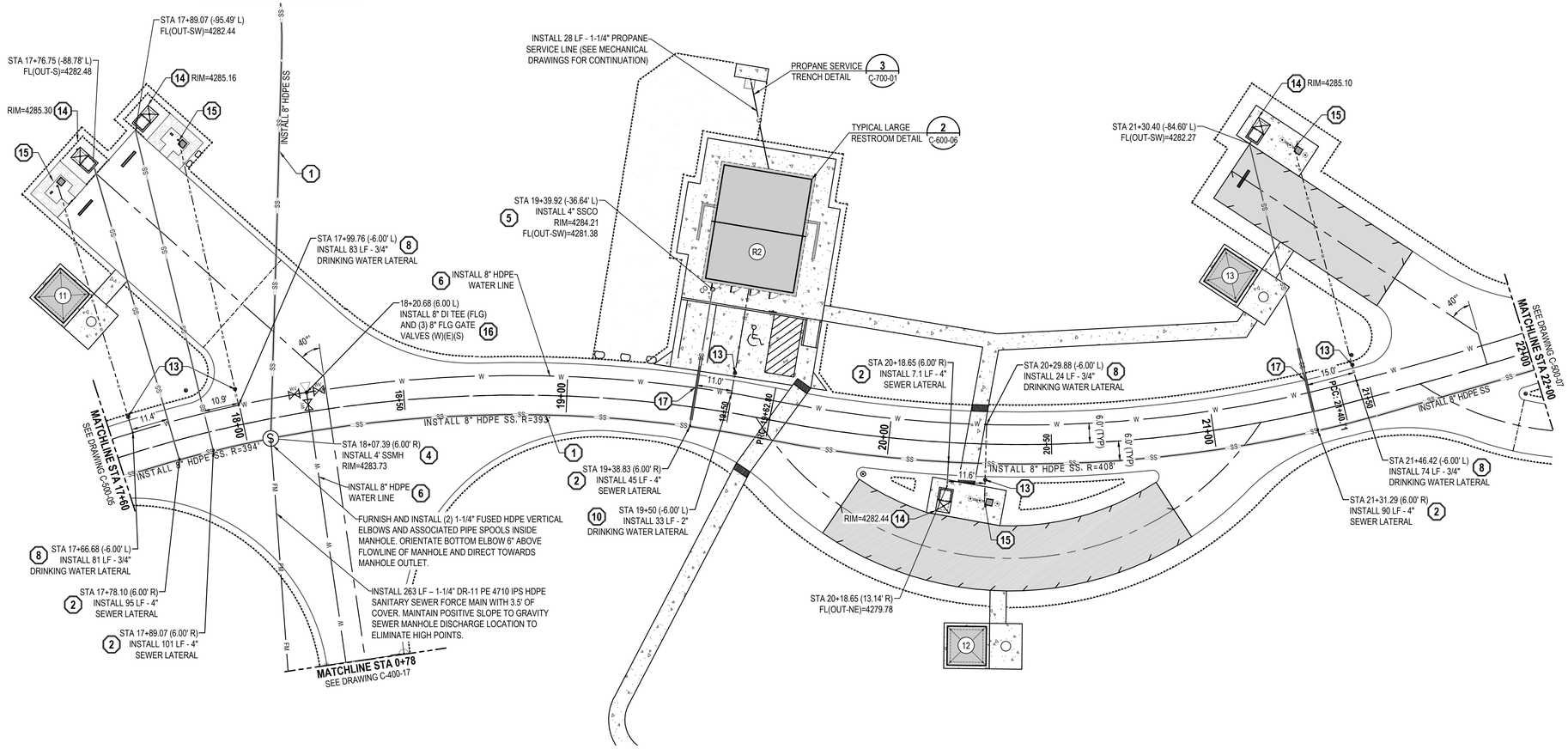

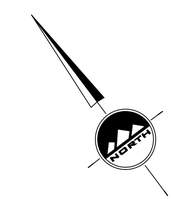

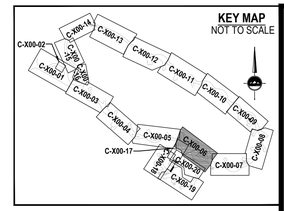

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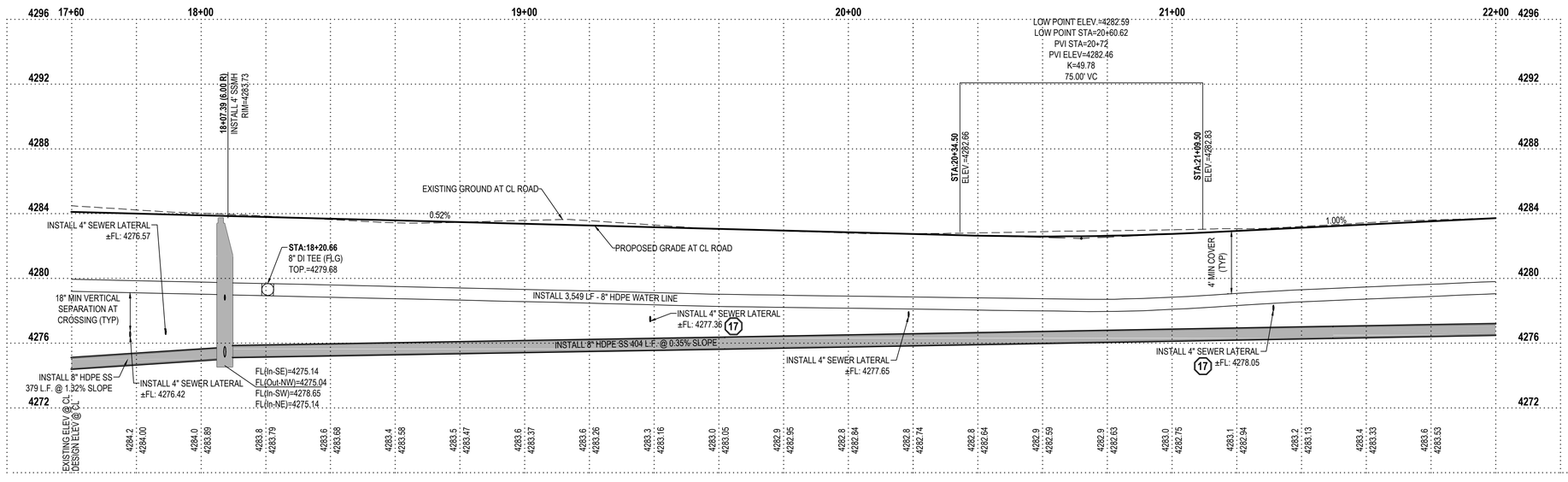

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PLAN AND PROFILE UTILITY

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-500-06

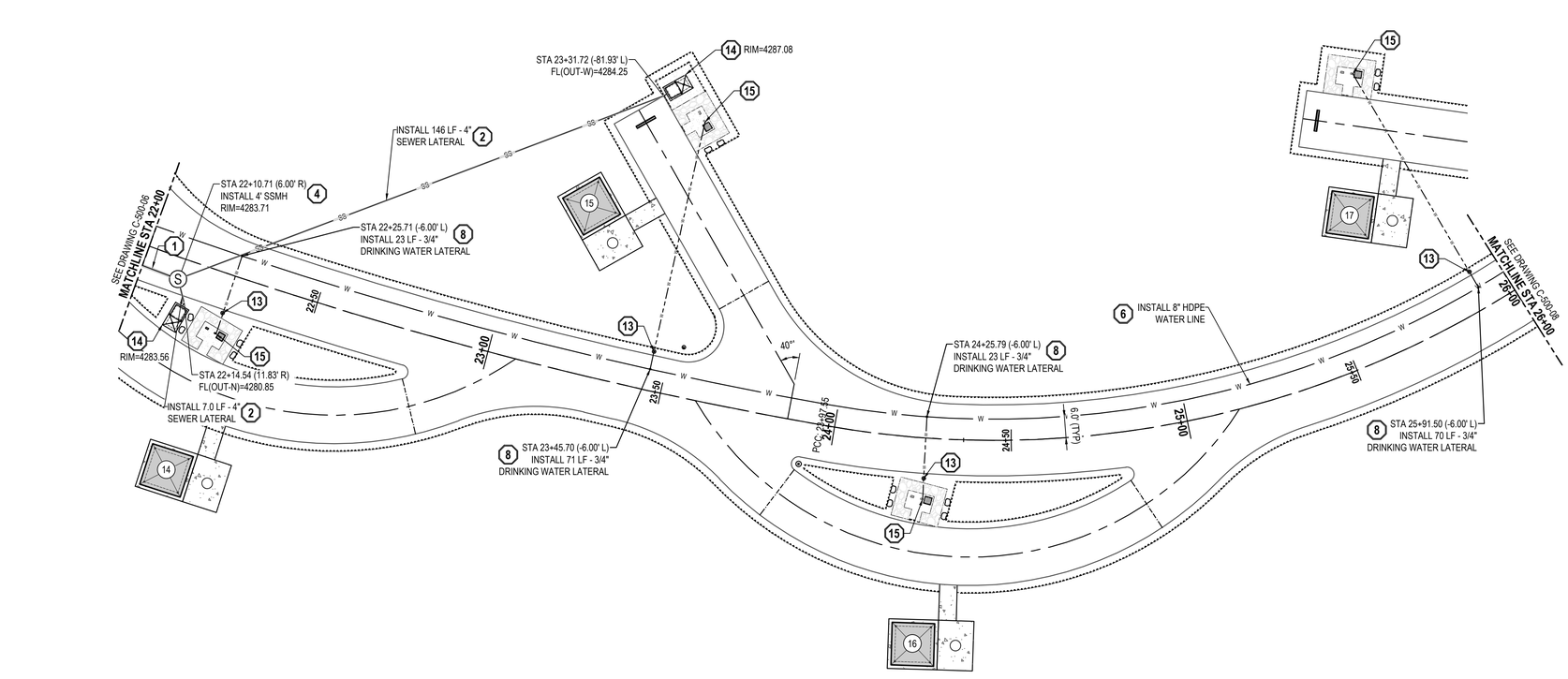
CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

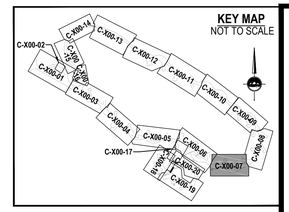
811 Know what's below. Call before you dig.

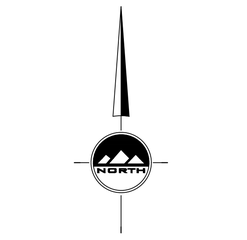
BENCHMARK

NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4315.30'







GENERAL NOTES

1. CONTRACTOR TO CONTACT CARL ALDRICH WITH ANTELOPE ISLAND STATE PARK, 801-927-0545, PRIOR TO ANY EXCAVATION OR DISTURBANCE FOR CONSTRUCTION MONITORING.
2. CONTRACTOR TO POTHOLE AND LOCATE EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. EXISTING WATER LINES AND WATER SYSTEM TO REMAIN IN SERVICE THROUGHOUT CONSTRUCTION. COORDINATE FINAL CONNECTIONS AND PHASING WITH ANTELOPE ISLAND PARK STAFF.
4. PROVIDE THRUST BLOCKS AT ALL BENDS AND GATE VALVES, SEE DETAIL 1/C-700-01.
5. PIPE LINEAR FOOTAGE SHOWN IS BETWEEN BENDS, TEES, HORIZONTAL CURVES, VERTICAL CURVES, OR DIFFERENT PIPE MATERIALS.
6. SEWER AND WATER LATERAL PIPE LINEAR FOOTAGE IS FROM MAIN CONNECTION TO EXTERIOR BUILDING WALL, EXTERIOR VAULT WALL, DRINKING WATER HYDRANT, OR WATER TOWER.
7. REFER TO ELECTRICAL PLANS FOR ELECTRICAL UTILITY INFORMATION.
8. WHERE HDPE PIPE IS USED, CONNECTIONS SHALL BE FLANGED. FITTINGS SHALL BE COMPLETED WITH A FLANGE ADAPTER FUSED TO PIPE AND A IPS BACK UP RING.
9. HDPE PIPE SHALL BE LAID IN TRENCH AND ALLOWED TIME PER MANUFACTURER'S RECOMMENDATIONS TO EXPAND/CONTRACT TO TRENCH AMBIENT TEMPERATURE BEFORE FINAL CONNECTIONS ARE MADE.

SCOPE OF WORK:

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

1. 8-INCH DR-17 PE4710 IPS HDPE SANITARY SEWER MAIN.
2. 4-INCH SDR-35 PVC SANITARY SEWER LATERAL AT MINIMUM 2% SLOPE, INCLUDING CLEANOUTS AT MAXIMUM 100-FOOT SPACING. INSTALLATION AND TRENCHING PER DETAIL 2/C-700-01 AND 5/C-700-01.
3. 6-INCH SDR-35 PVC SANITARY SEWER LATERAL AT MINIMUM 1% SLOPE, INCLUDING CLEANOUTS AT MAXIMUM 100-FOOT SPACING. INSTALLATION AND TRENCHING PER DETAIL 2/C-700-01 AND 5/C-700-01.
4. SANITARY SEWER PRECAST MANHOLE PER DETAIL 4/C-700-01 (TYPICAL).
5. SEWER CLEANOUT PER DETAIL 6/C-700-01 (TYPICAL).
6. 8-INCH DR-17 PE4710 IPS HDPE DRINKING WATER MAIN. PROVIDE THRUST BLOCKS AT VALVES, FITTINGS, AND BENDS PER DETAIL 1/C-700-01 (TYPICAL). INSTALL IN TRENCH PER DETAIL 2/C-700-01.
7. 3/4-INCH DR-11 PE4710 IPS HDPE DRINKING WATER LATERAL PER DETAIL 7/C-700-01.
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12. 8-INCH DI TEE, FLG
13. CURB STOP PER DETAIL 7/C-700-01
14. MAINTENANCE ACCESSIBLE SEWER DROP PER DETAIL 2/C-600-02.
15. DRINKING WATER YARD HYDRANT PER DETAIL 8/C-700-01
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17. INSTALL 4-INCH SEWER LATERAL IN 20-LF, 8-INCH DIAMETER C900 DR25 PVC PIPE SLEEVE CENTERED ON 8-INCH WATER MAIN CROSSING. SEAL ENDS OF SLEEVE WITH END SEALS, PLASTIC, OR EQUAL.
18. 2-INCH UNDERGROUND HDPE SCHEDULE 40 CONDUIT WITH 2-INCH UNDERGROUND HDPE SCHEDULE 40 CONDUIT (SPARE) PER DETAIL 7/C-700-03. ALL SWEEPS SHALL BE LONG SWEEPS AND SHALL BE FIBERGLASS. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING CONDUIT DETAILS AND A CONDUIT ROUTING PLAN TO THE ENGINEER FOR APPROVAL. LIMIT RUNS BETWEEN PULL BOXES TO LESS THAN 270 DEGREES. INSTALL CONDUIT 2-FEET OFF CENTERLINE OF WATER MAIN. CONTRACTOR CAN USE WATER TRENCH FOR CONDUIT.
19. COMMUNICATION PULL BOXES PER DETAIL 5/C-700-03.
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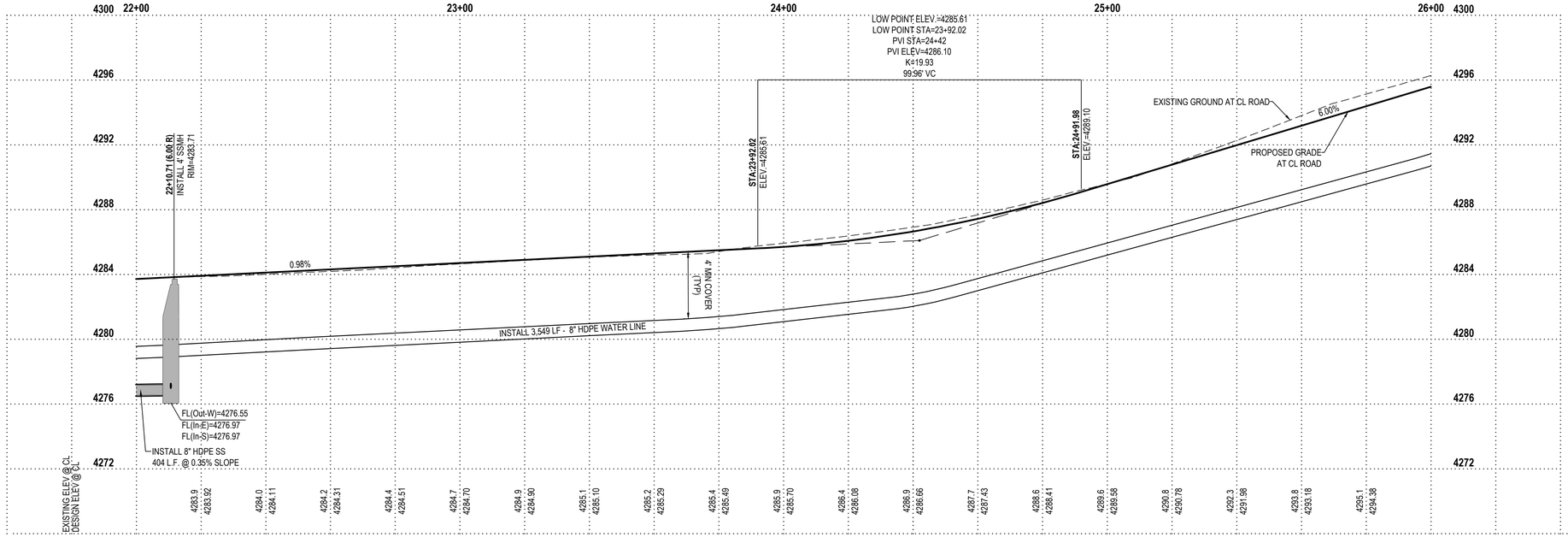
21. INSTALL A 12-STRAND SINGLE MODE FIBER OPTIC CABLE IN 2-INCH CONDUIT FROM RESTROOM R1 ONSITE WASTEWATER DISPOSAL SYSTEM CONTROL PANEL TO NEW BRIDGER BAY BOOSTER PUMP STATION ONSITE WASTEWATER DISPOSAL SYSTEM CONTROL PANEL LOCATION.

WHITE ROCK BAY CAMPGROUND LOOP ROAD



CODE OFFICIAL STAMP

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
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SIGNATURE:
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ENSIGN
THE STANDARD IN ENGINEERING

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45 W. 10000 S., Suite 500
Sandy, UT 84070
Phone: 801.255.0529

LAYTON
Phone: 801.547.1100

TOOELE
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CEDAR CITY
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RICHFIELD
Phone: 435.896.2983

WWW.ENSIGNENG.COM

FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129

CONTACT:
PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT J.
ROUSSELLE
EXP. 3/31/2023
STATE OF UTAH

CONFORMANCE SET 01/12/2022

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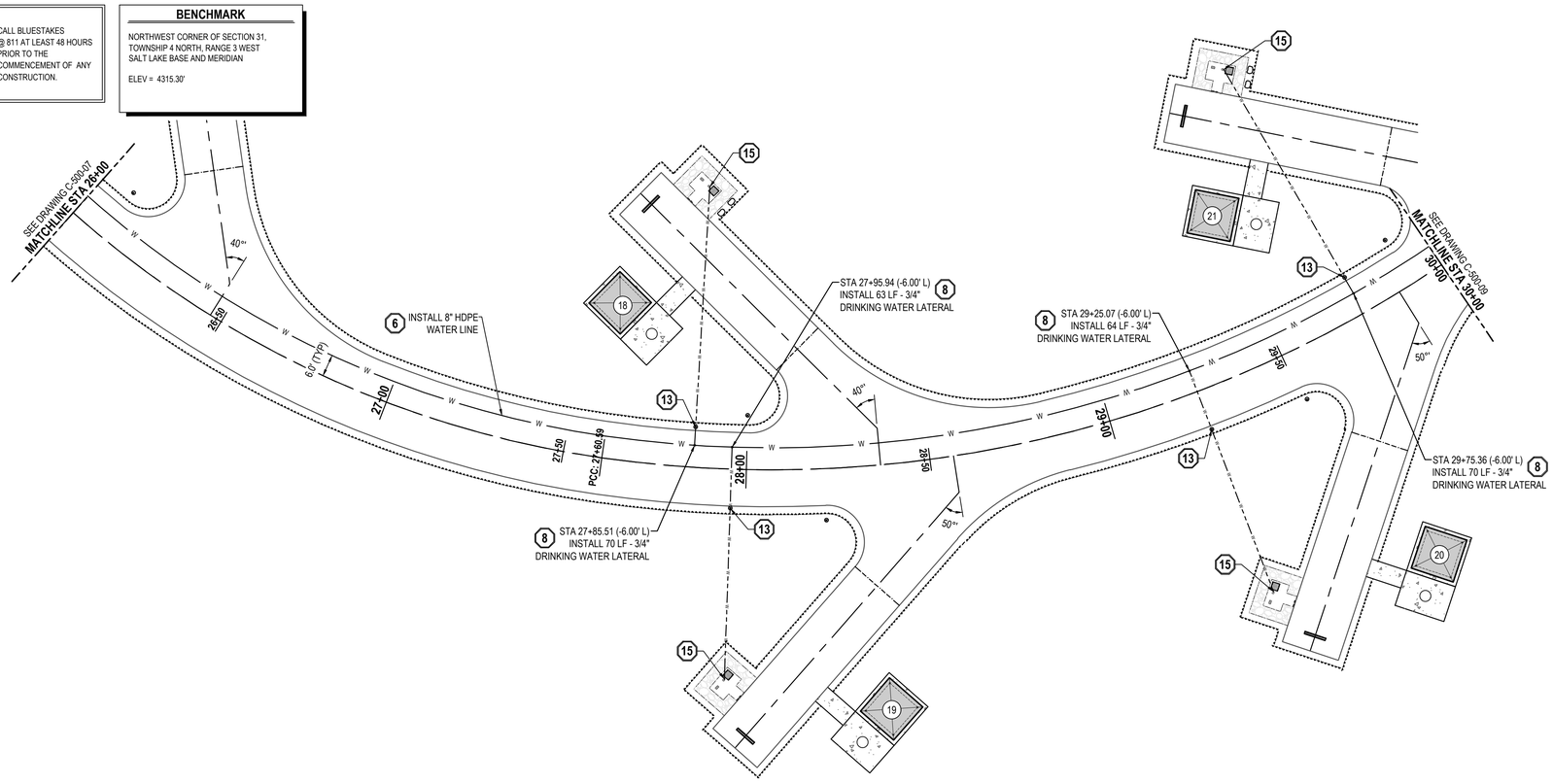

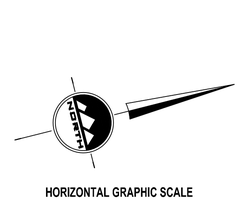

HORIZONTAL GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
HORZ: 1 inch = 20 ft.
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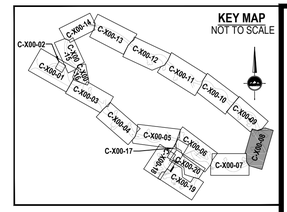

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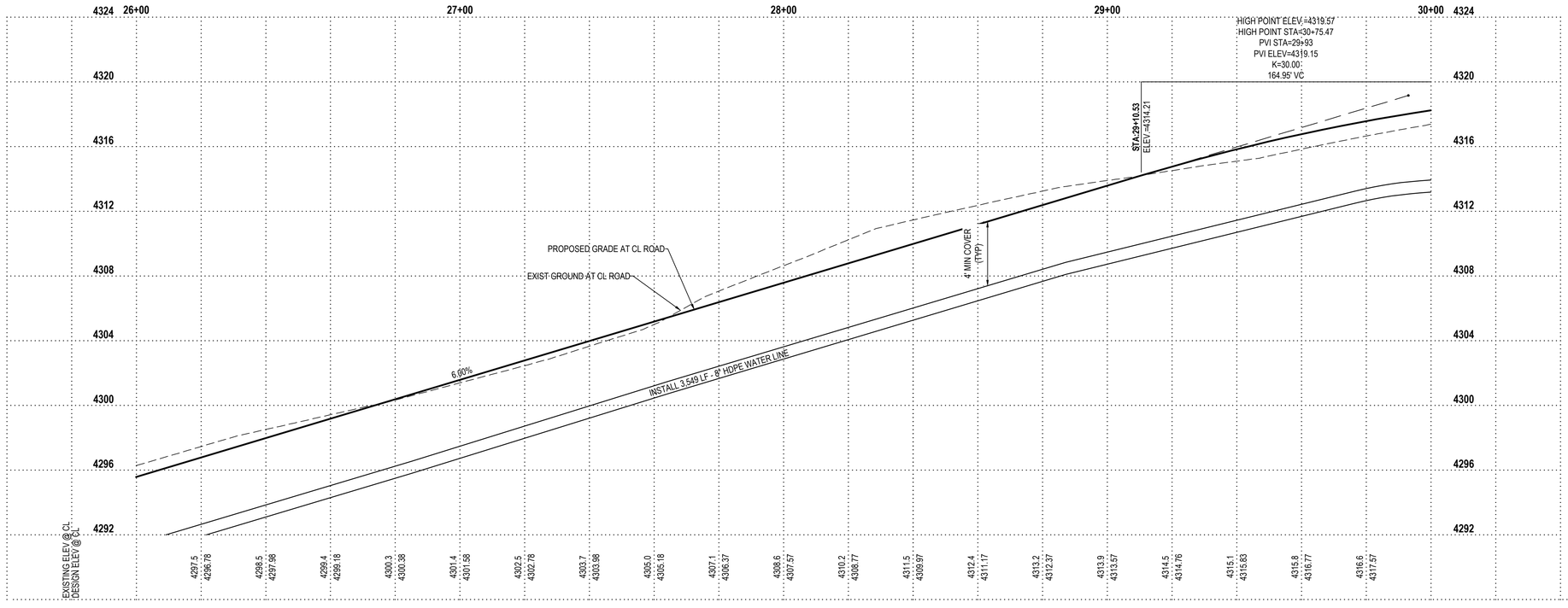

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FOR:
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4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129

CONTACT:

PHONE:

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SYRACUSE, UTAH 84075

PROJECT #: 22238510
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ROBERT L. ROUSSELLE
EXP. 3/31/2023
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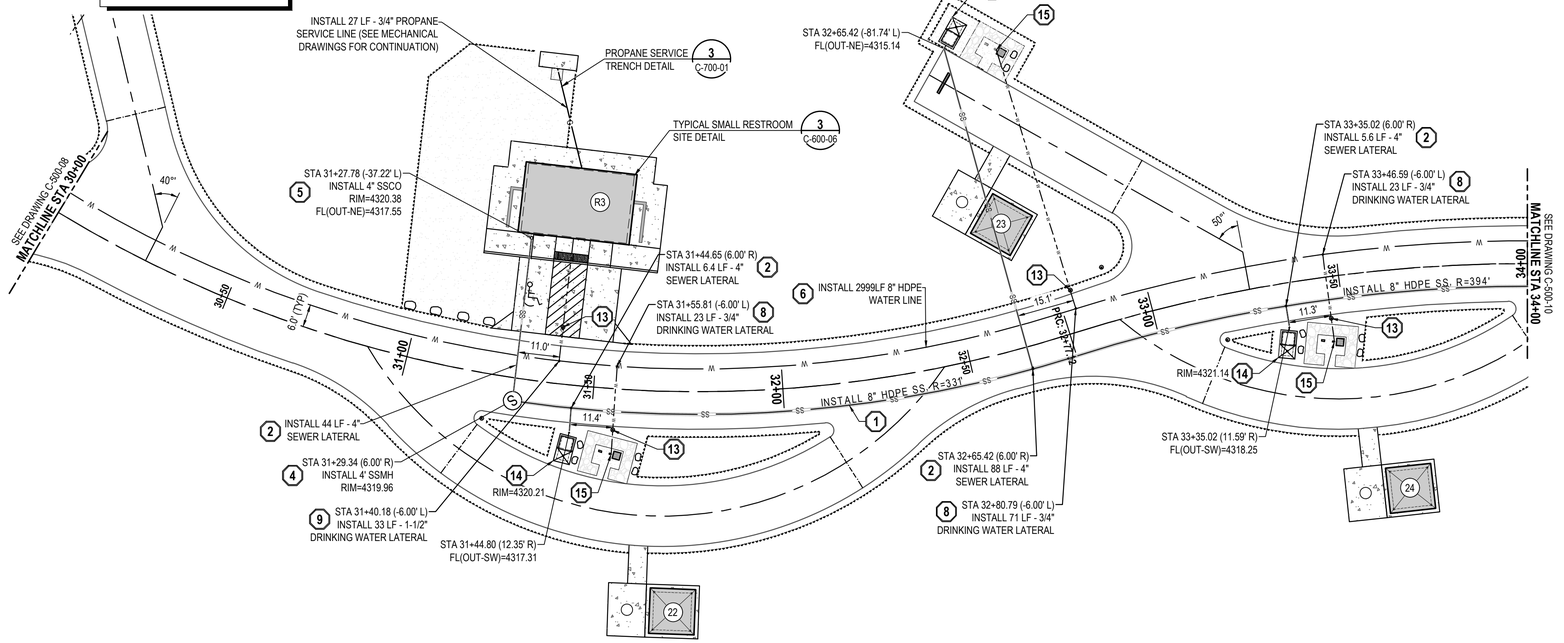

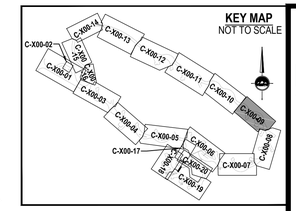

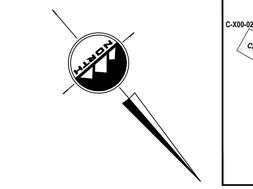

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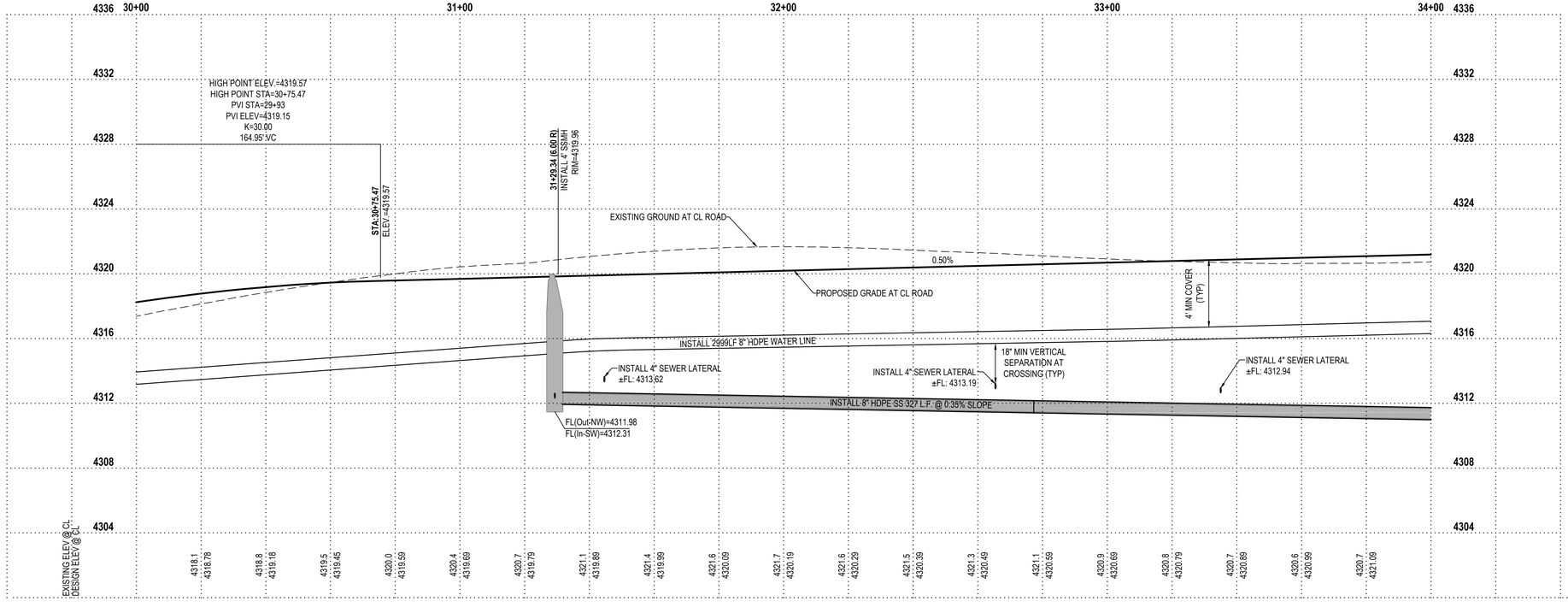

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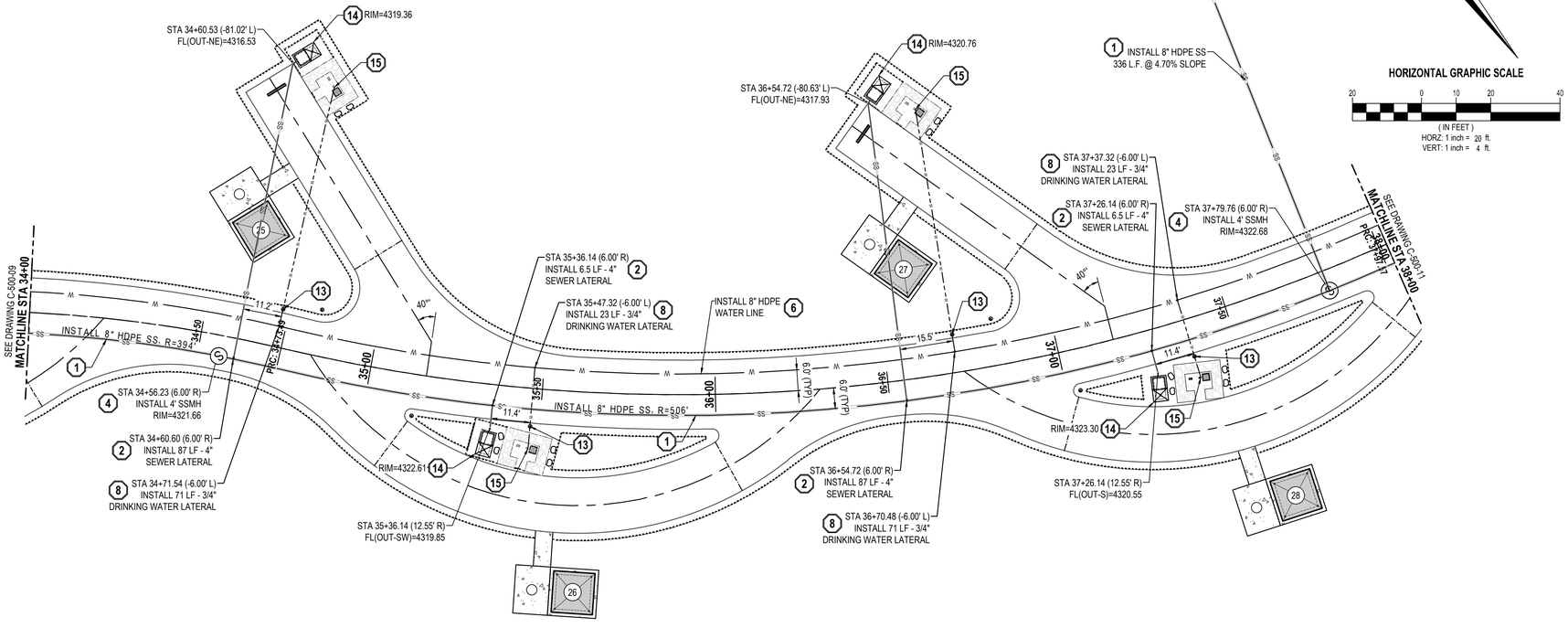

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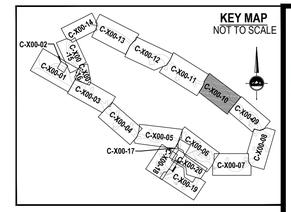

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4. PROVIDE THRUST BLOCKS AT ALL BENDS AND GATE VALVES, SEE DETAIL 1/C-700-01.
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3. 6-INCH SDR-35 PVC SANITARY SEWER LATERAL AT MINIMUM 1% SLOPE, INCLUDING CLEANOUTS AT MAXIMUM 100-FOOT SPACING. INSTALLATION AND TRENCHING PER DETAIL 2/C-700-01 AND 5/C-700-01.
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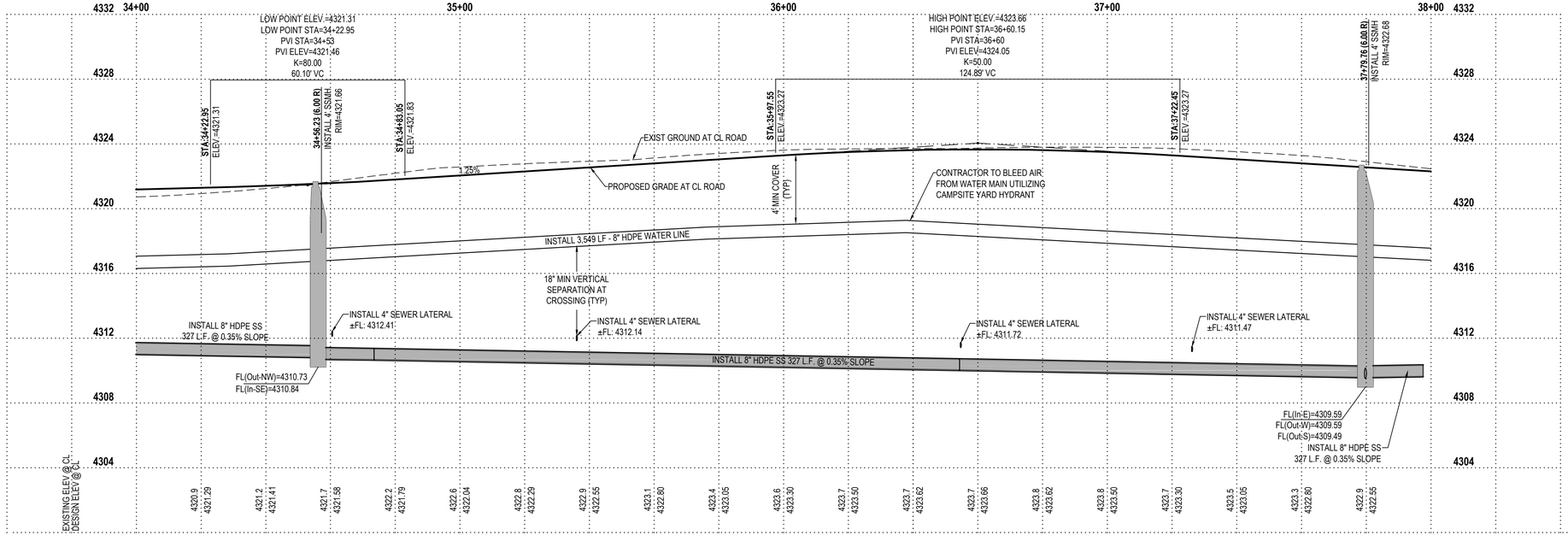
WHITE ROCK BAY CAMPGROUND LOOP ROAD



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ENSIGN
THE STANDARD IN ENGINEERING

SALT LAKE CITY
45 W. 10000 S., Suite 500
Sandy, UT 84070
Phone: 801.255.0529

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RICHFIELD
Phone: 435.896.2983

WWW.ENSIGNENG.COM

FOR:
DFCM
4315 S 2700 W, FI 3
SALT LAKE CITY, UTAH 84129
CONTACT:
PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT E. ROUSSELLE
EXP. 3/31/2023
STATE OF UTAH

CONFORMANCE SET 01/12/2022

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PLAN AND PROFILE UTILITY

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-500-10

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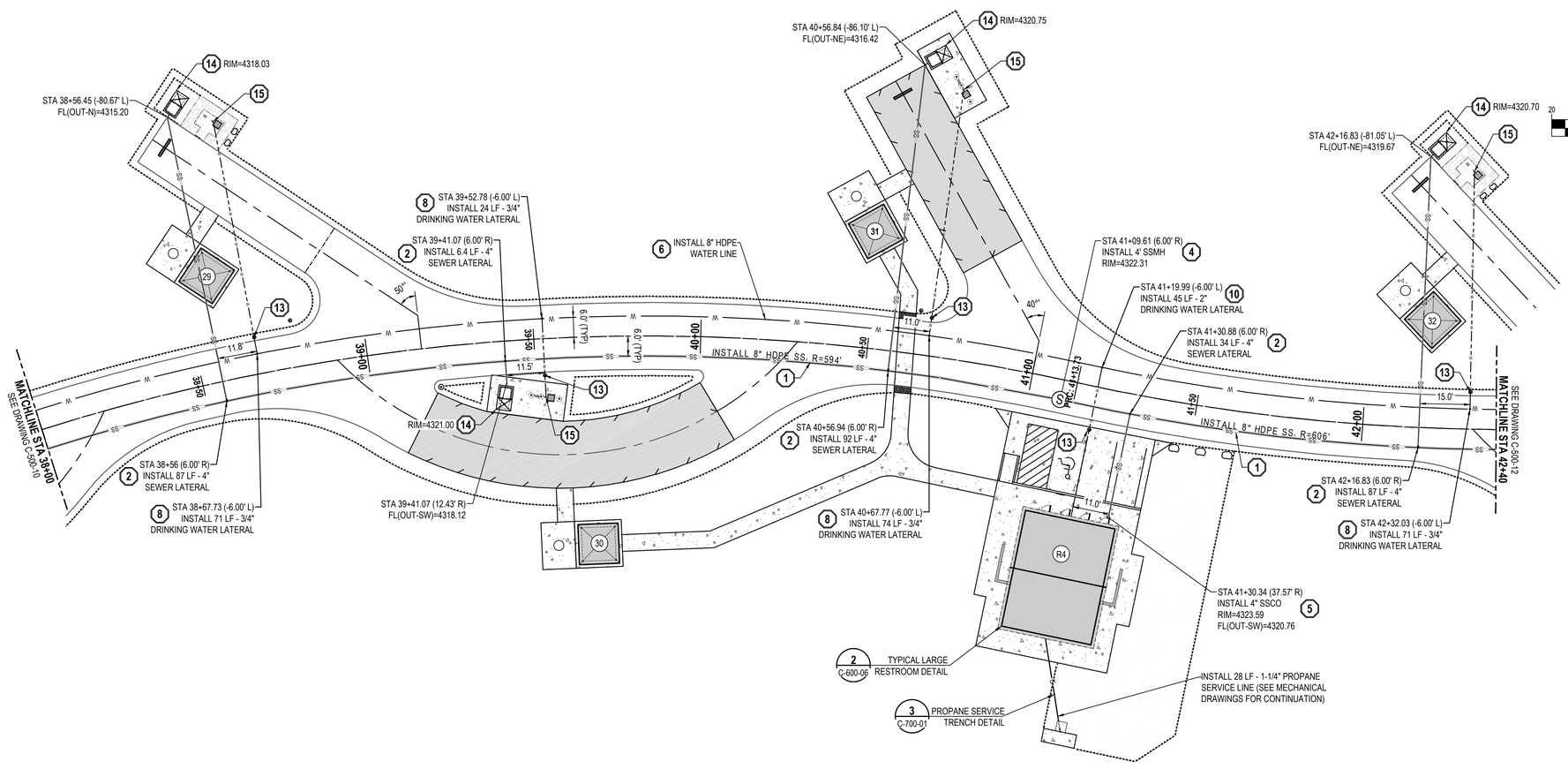
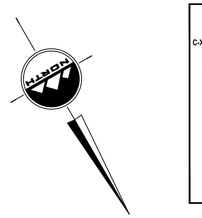
ELEV = 4315.30'





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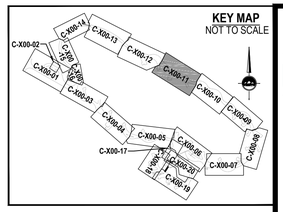

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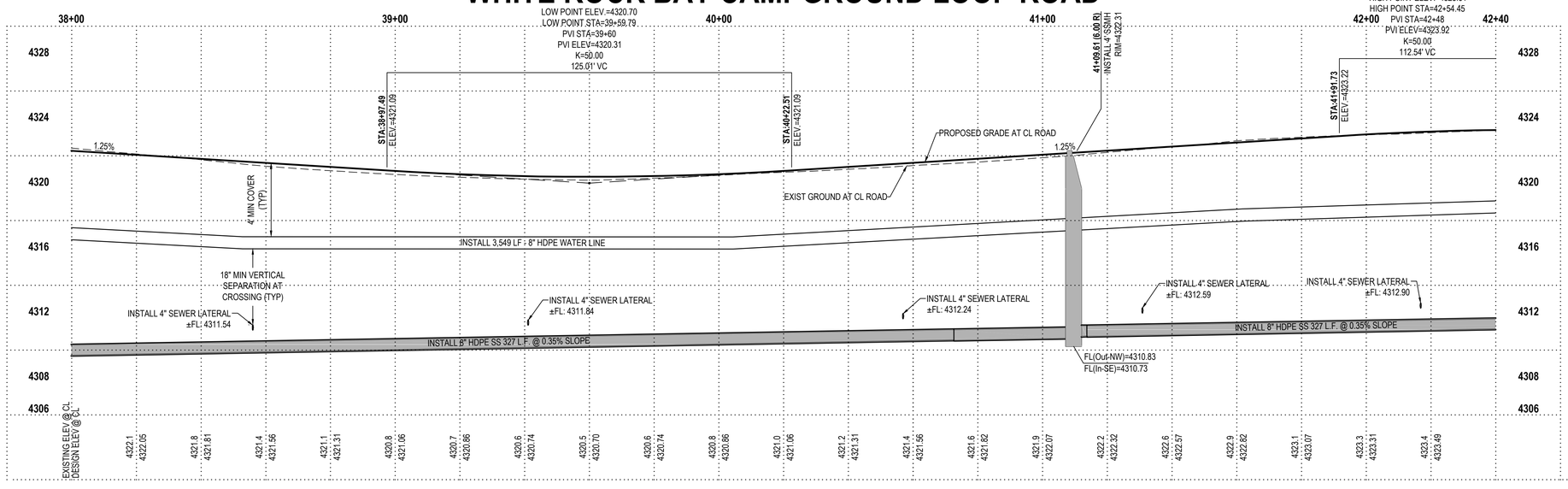

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FOR:
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SALT LAKE CITY, UTAH 84129
CONTACT:
PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT L. ROUSSELLE EXP. 3/31/2023 STATE OF UTAH

CONFORMANCE SET 01/12/2022

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PLAN AND PROFILE UTILITY

PROJECT NUMBER	PRINT DATE
10970	1/12/2022
DRAWN BY	CHECKED BY
G. OFFERMANN	F. DUBEROW
PROJECT MANAGER	
R. ROUSSELLE	

C-500-11

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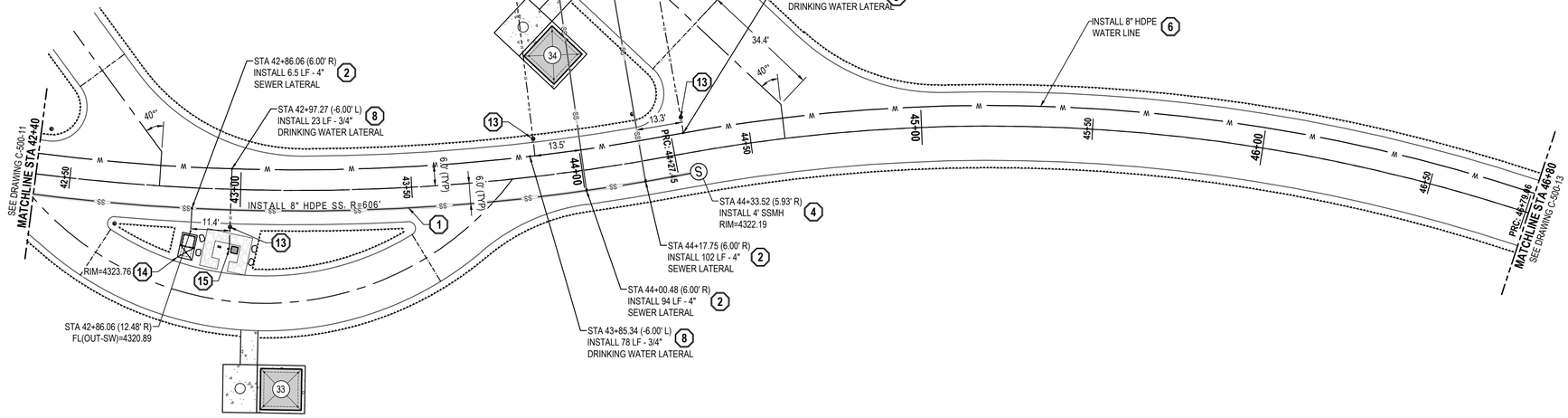
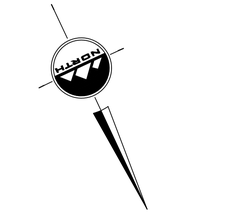
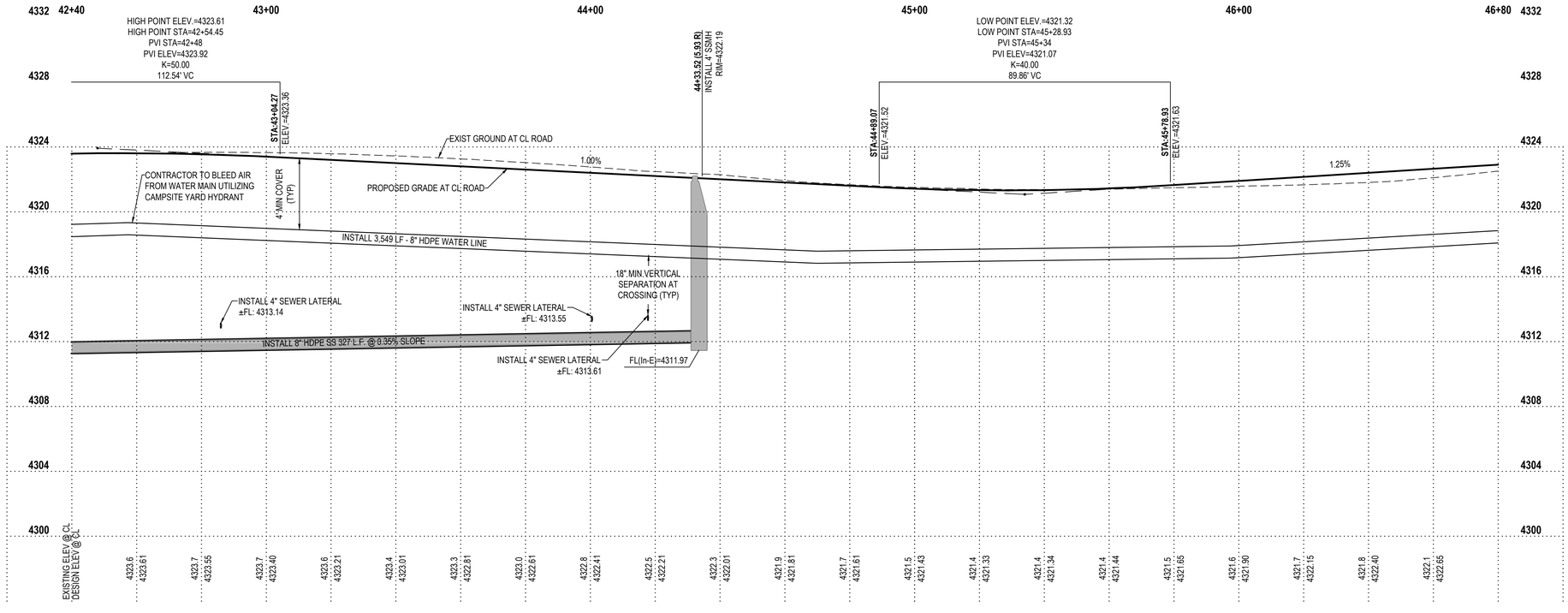




WHITE ROCK BAY CAMPGROUND LOOP ROAD



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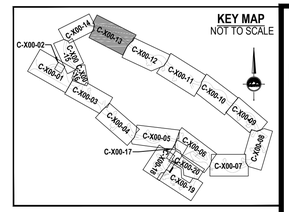

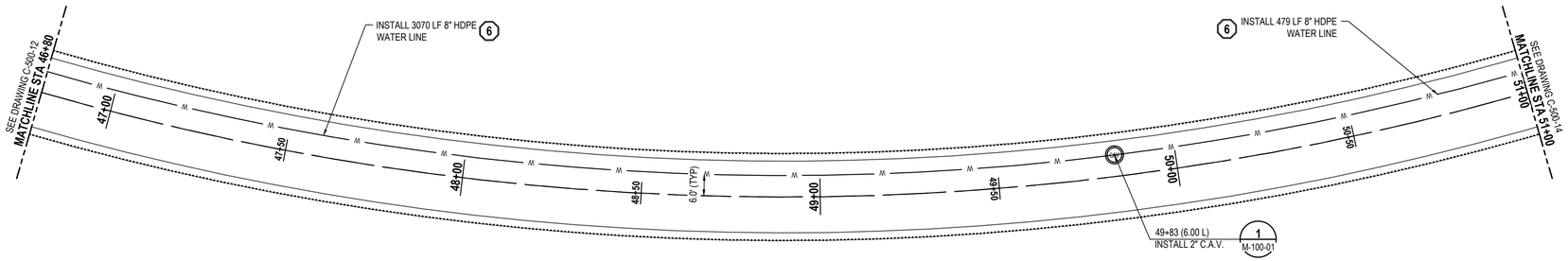

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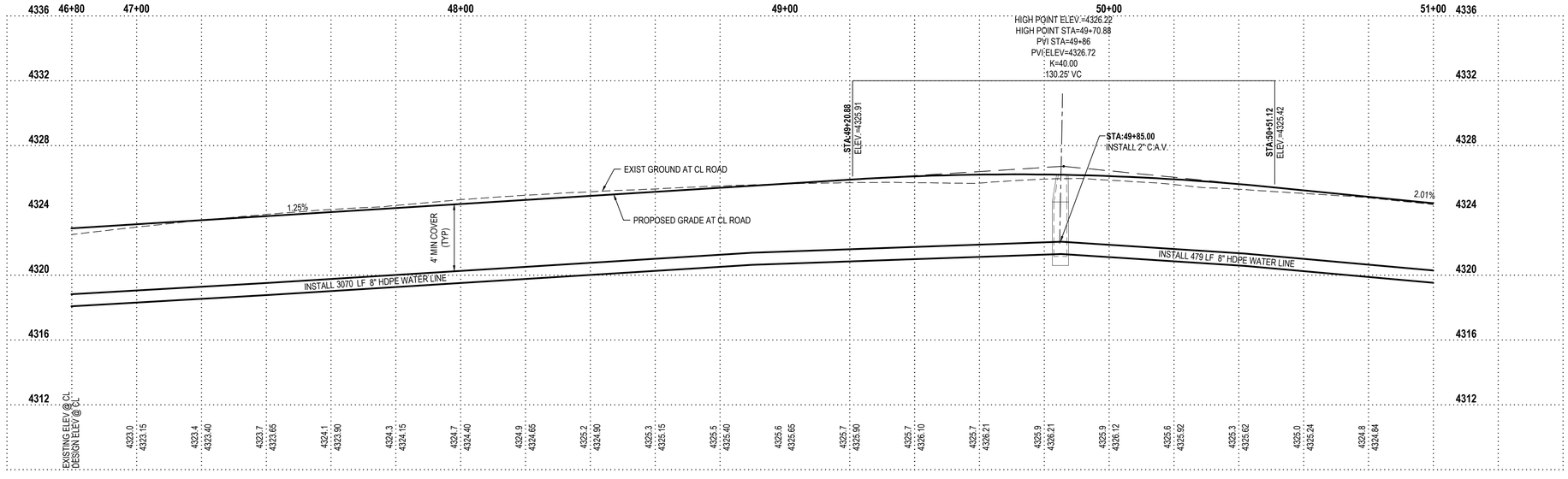
WHITE ROCK BAY CAMPGROUND LOOP ROAD



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ENSIGN
THE STANDARD IN ENGINEERING

SALT LAKE CITY
45 W. 10000 S., Suite 500
Sandy, UT 84070
Phone: 801.255.0529

LAYTON
Phone: 801.547.1100

TOOELE
Phone: 435.843.3590

CEDAR CITY
Phone: 435.865.1453

RICHFIELD
Phone: 435.896.2983

WWW.ENSIGNENG.COM

FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129

CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT L. ROUSSELLE
EXP.3/31/2023
01/12/2022
STATE OF UTAH

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PLAN AND PROFILE UTILITY

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-500-13

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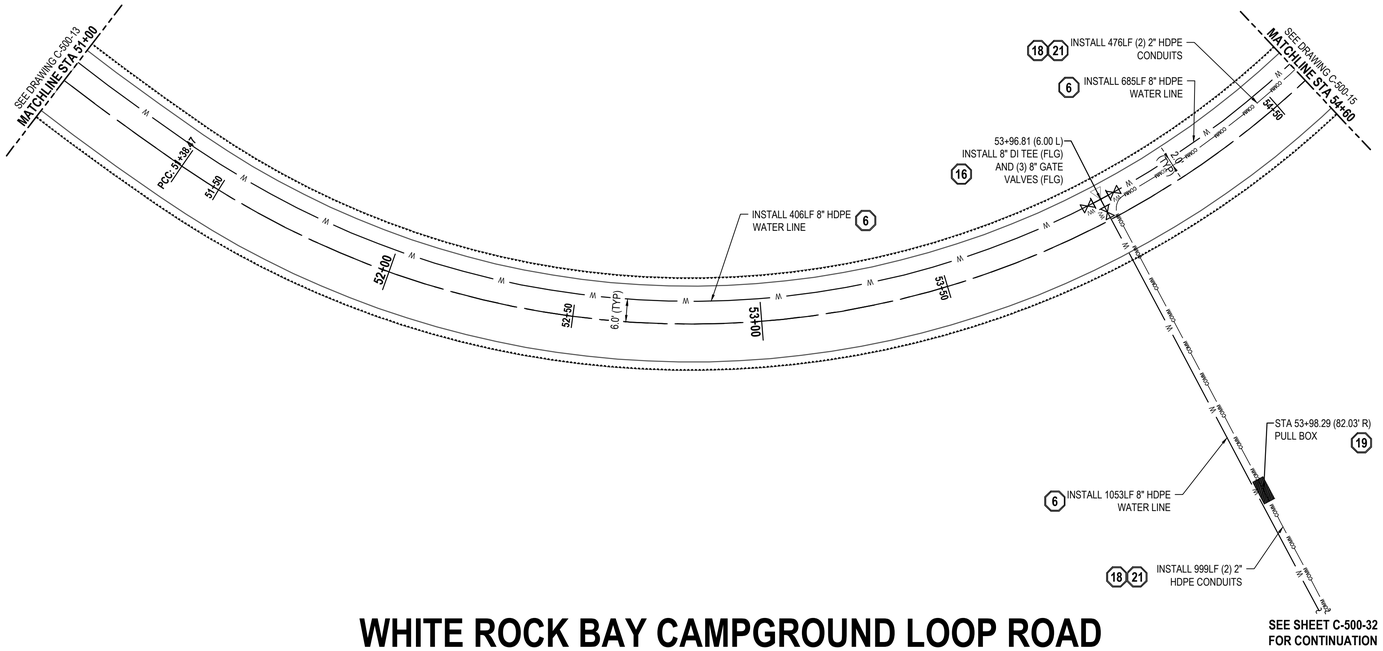

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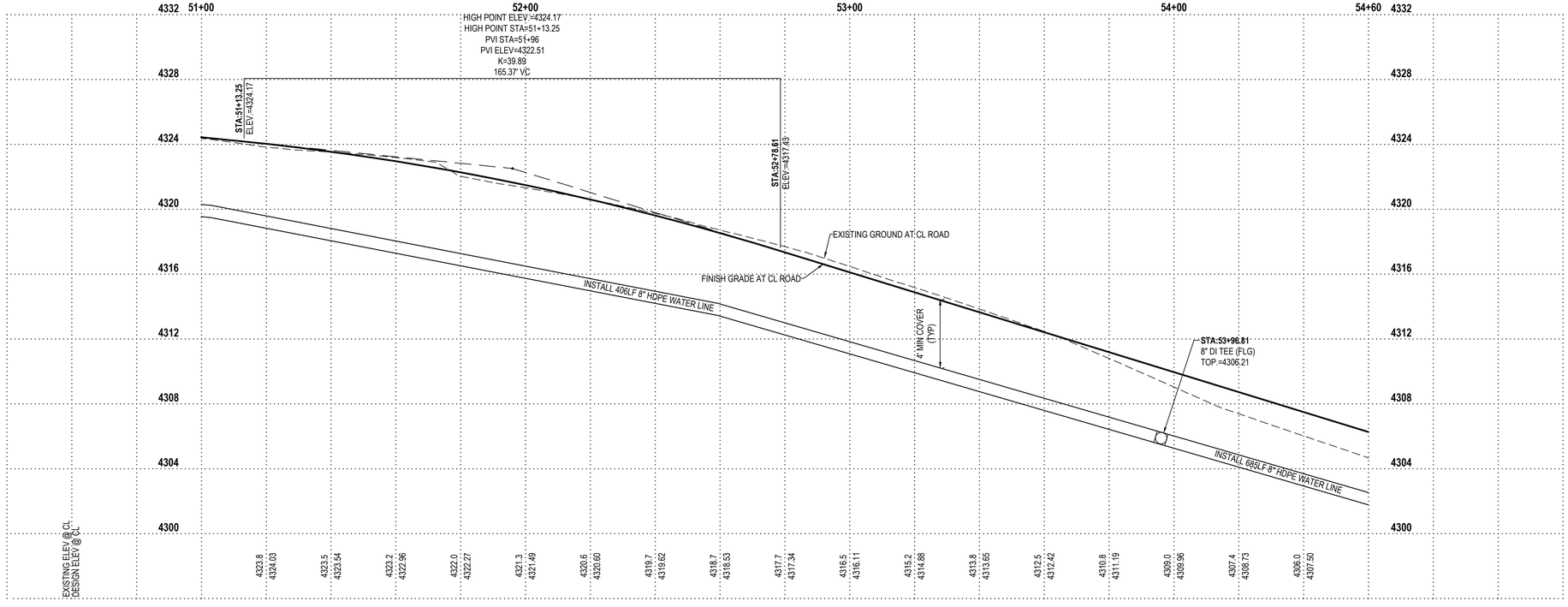

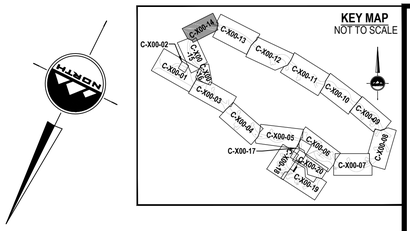

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WHITE ROCK BAY CAMPGROUND
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SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT L. ROUSSELLE EXP.3/31/2023 STATE OF UTAH

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PROJECT MANAGER R. ROUSSELLE	

C-500-14

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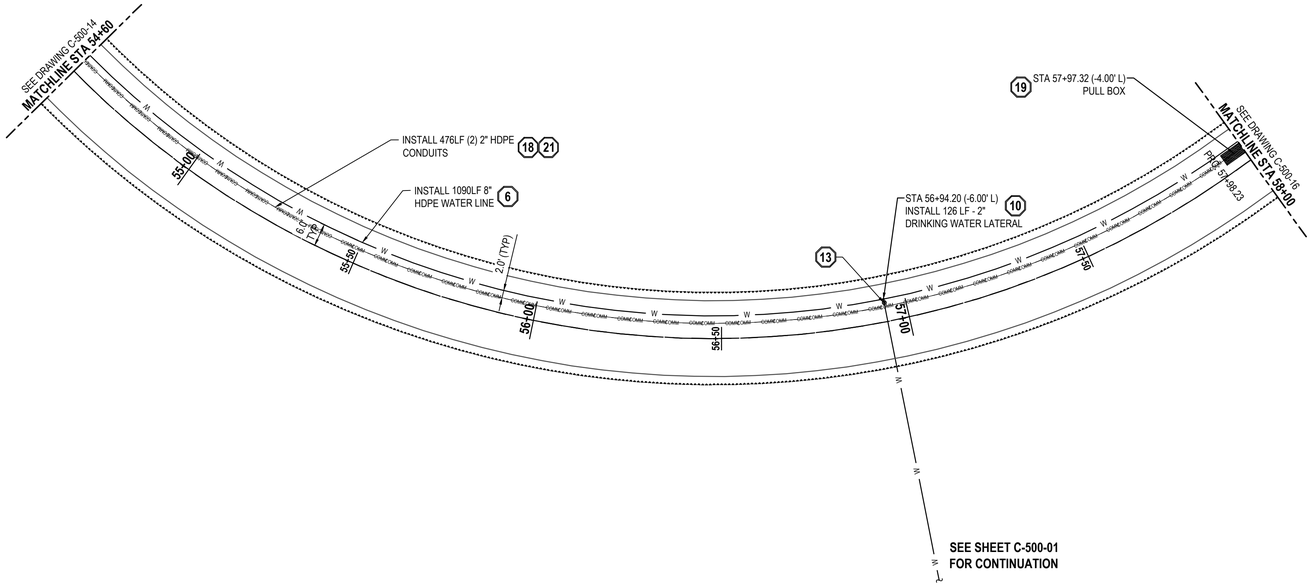

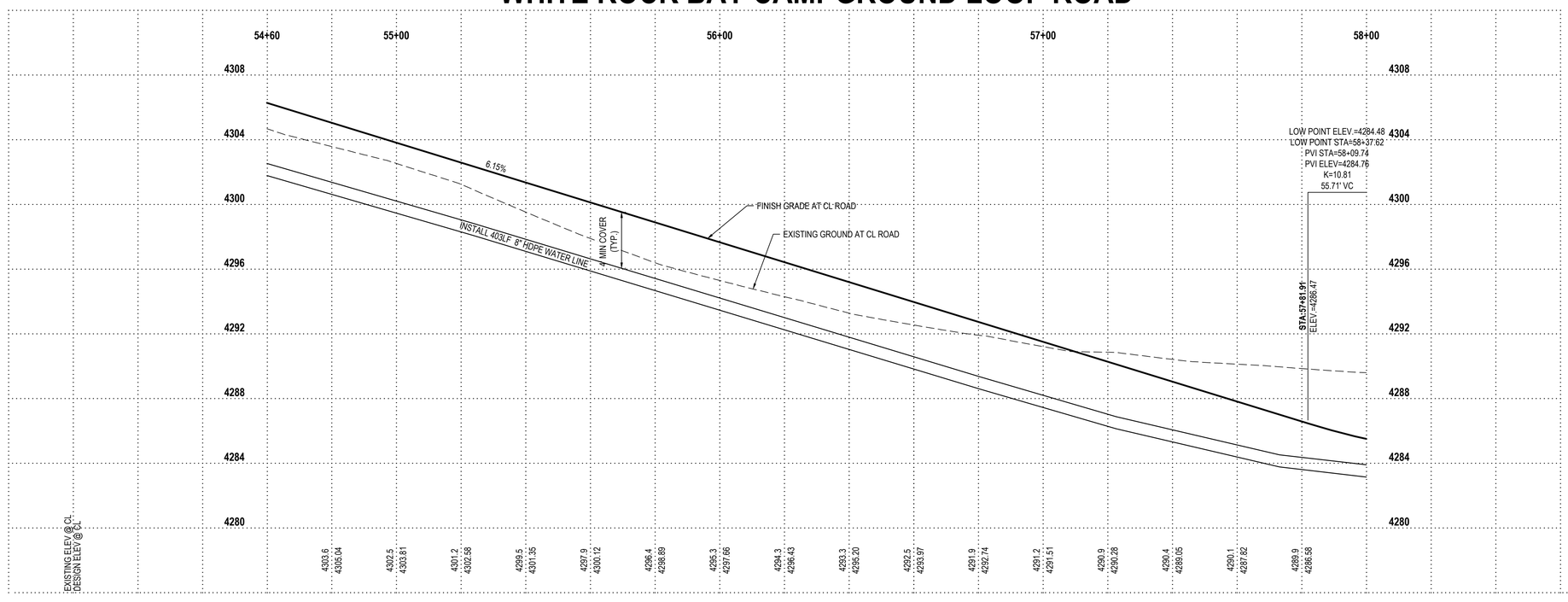

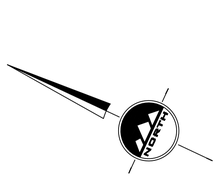

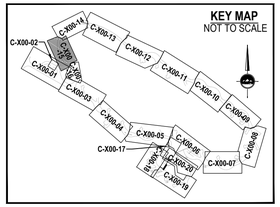

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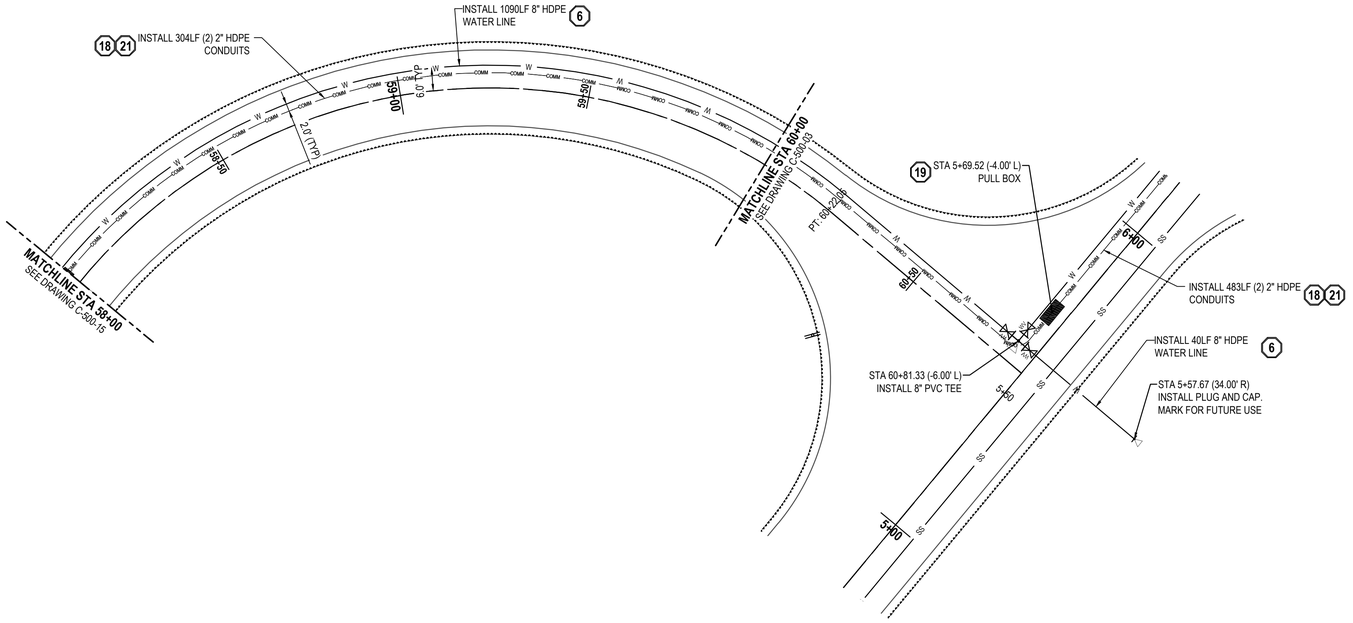

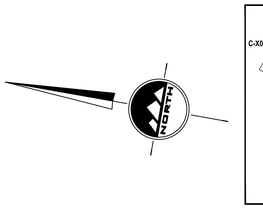

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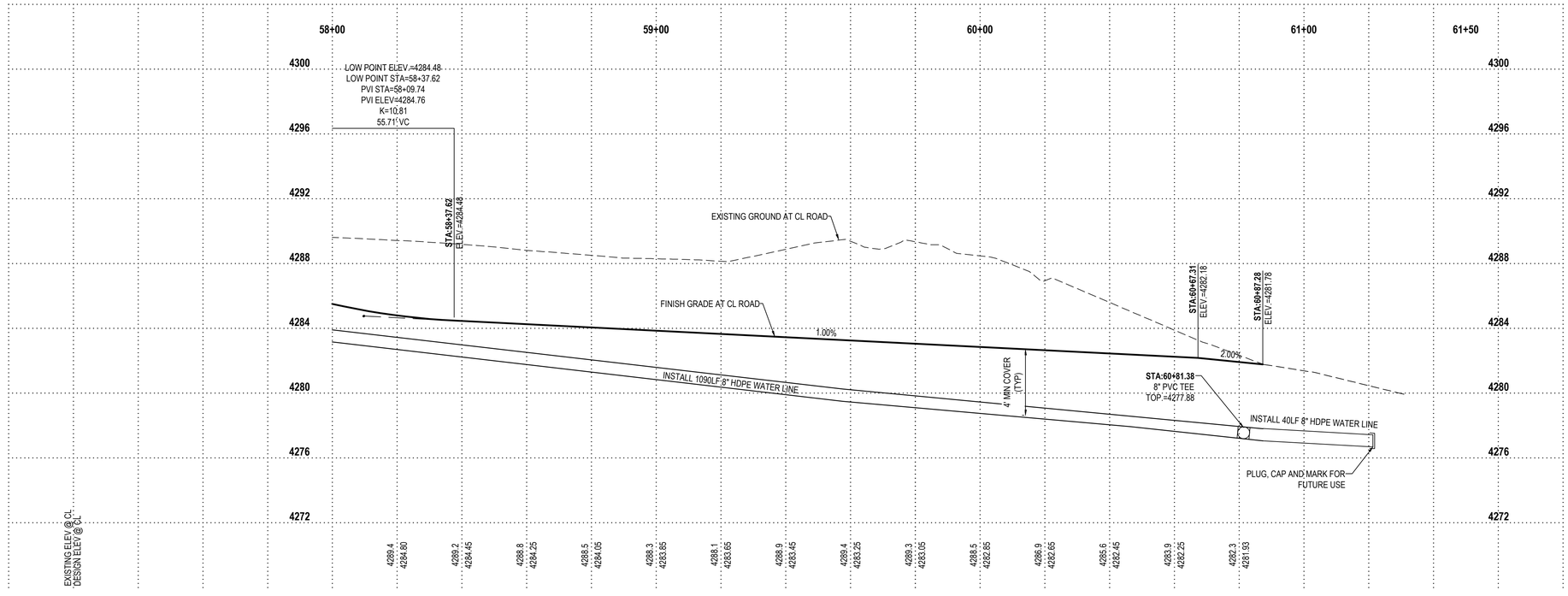
WHITE ROCK BAY CAMPGROUND LOOP ROAD



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ENSIGN
THE STANDARD IN ENGINEERING

SALT LAKE CITY
45 W. 10000 S., Suite 500
Sandy, UT 84070
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Phone: 801.547.1100

TOOELE
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RICHFIELD
Phone: 435.896.2983

WWW.ENSIGNENG.COM

FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129

CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT J. ROUSSELLE EXP.3/31/2022 STATE OF UTAH

CONFORMANCE SET 01/12/2022

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PLAN AND PROFILE UTILITY

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-500-16

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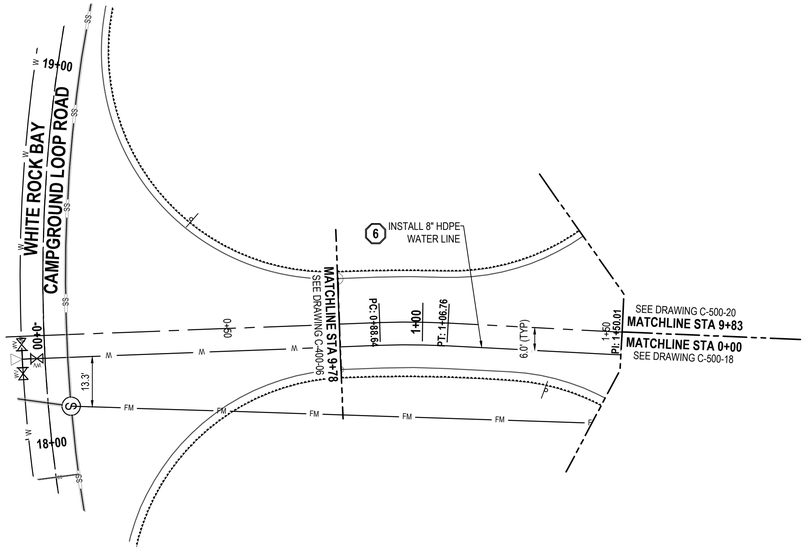
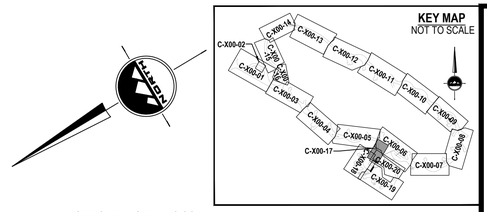
ELEV = 4315.30'





HORIZONTAL GRAPHIC SCALE

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(IN FEET)
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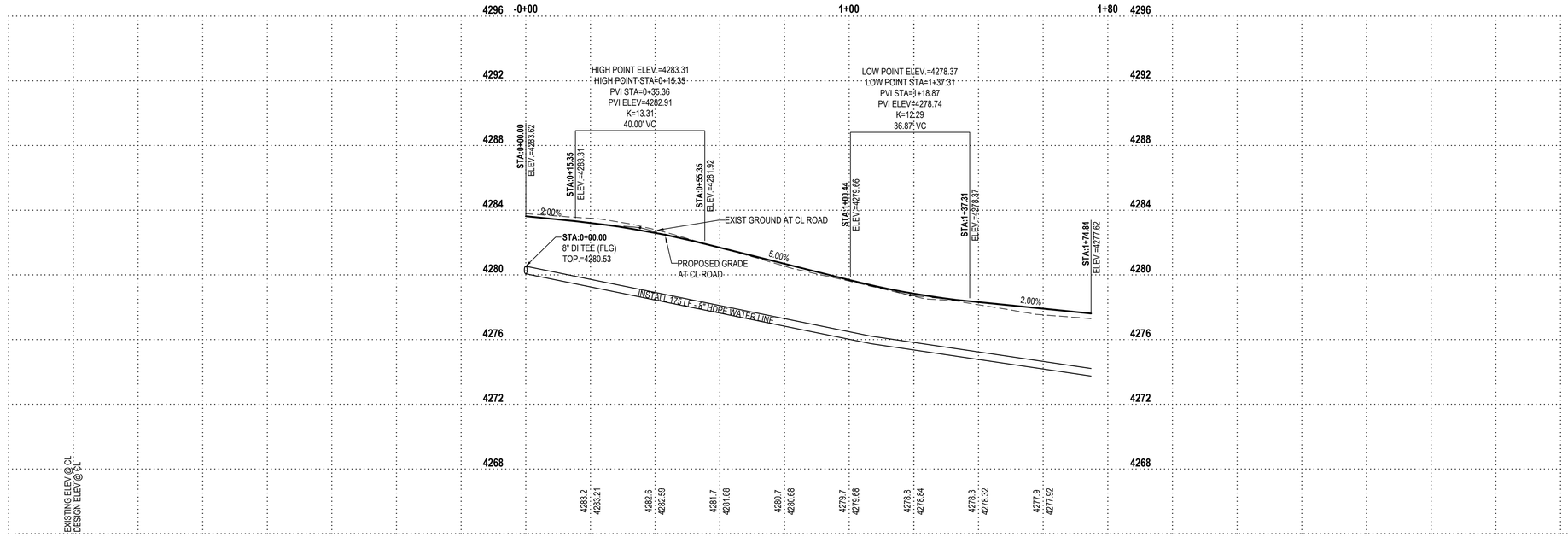
WHITE ROCK BAY GROUP CAMPGROUND ACCESS ROAD



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FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:
PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT J. ROUSSELLE EXP.3/31/2023 STATE OF UTAH

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PLAN AND PROFILE UTILITY

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DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-500-17

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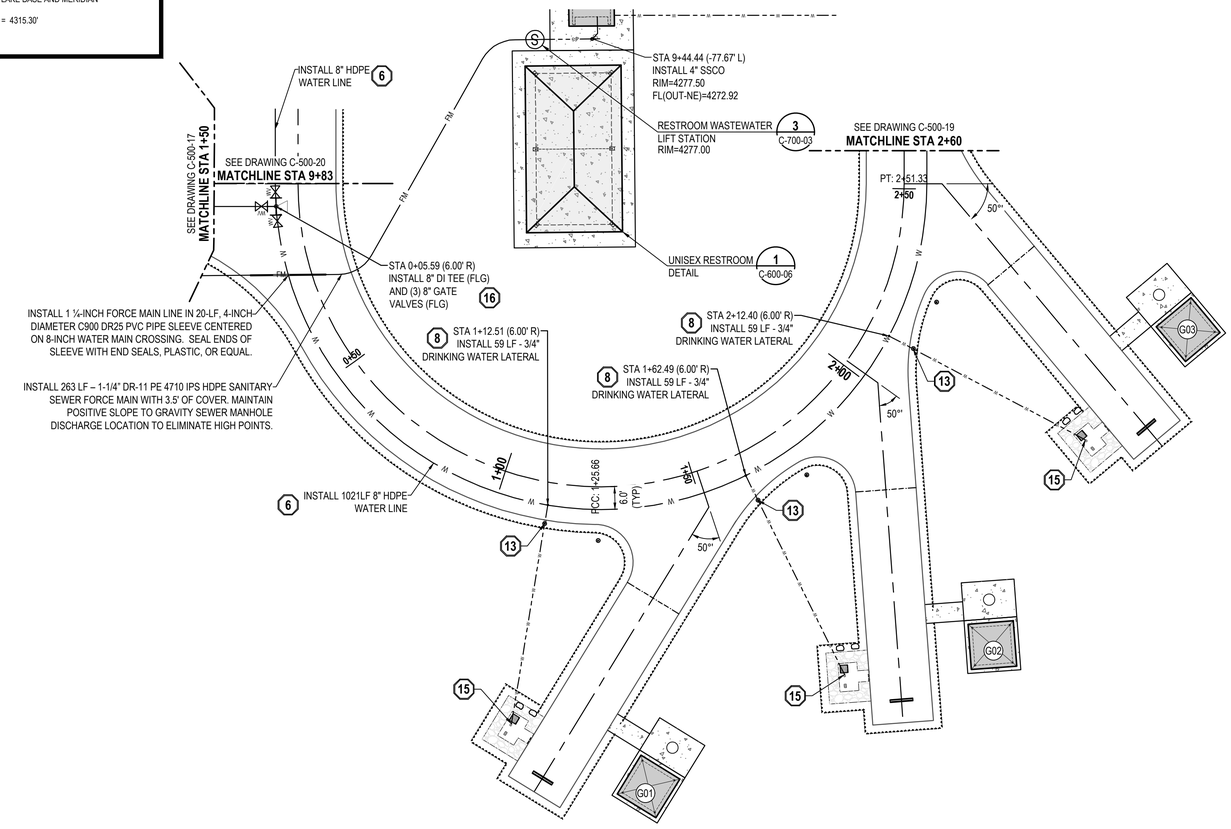

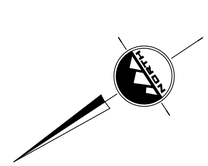

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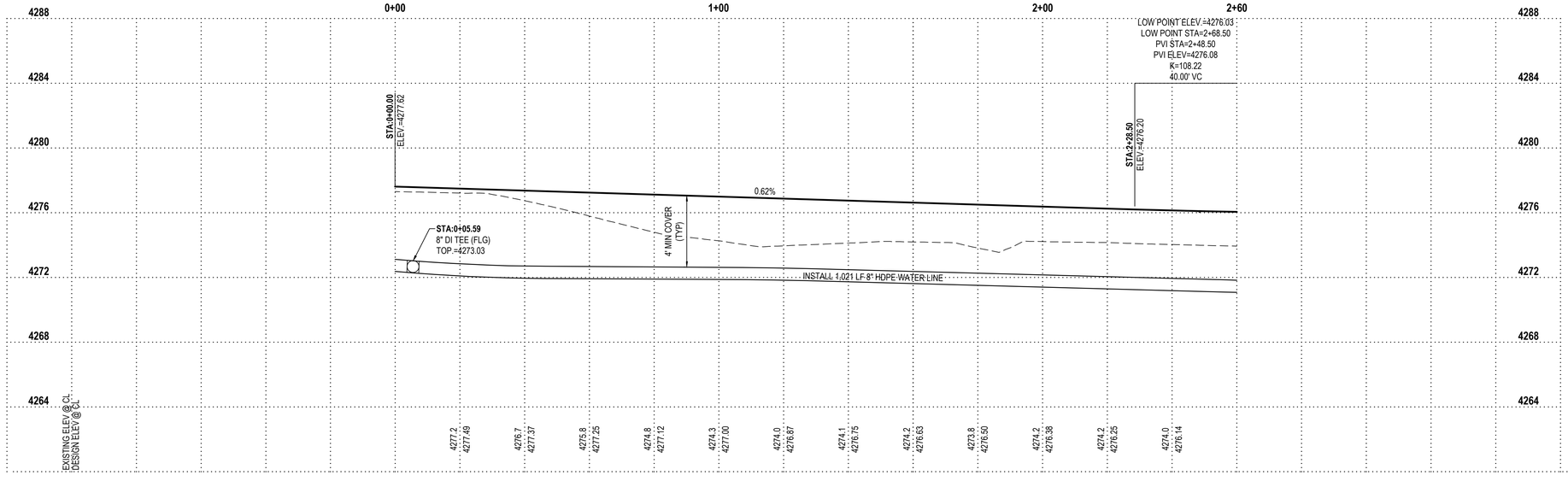
WHITE ROCK BAY GROUP CAMPGROUND LOOP ROAD



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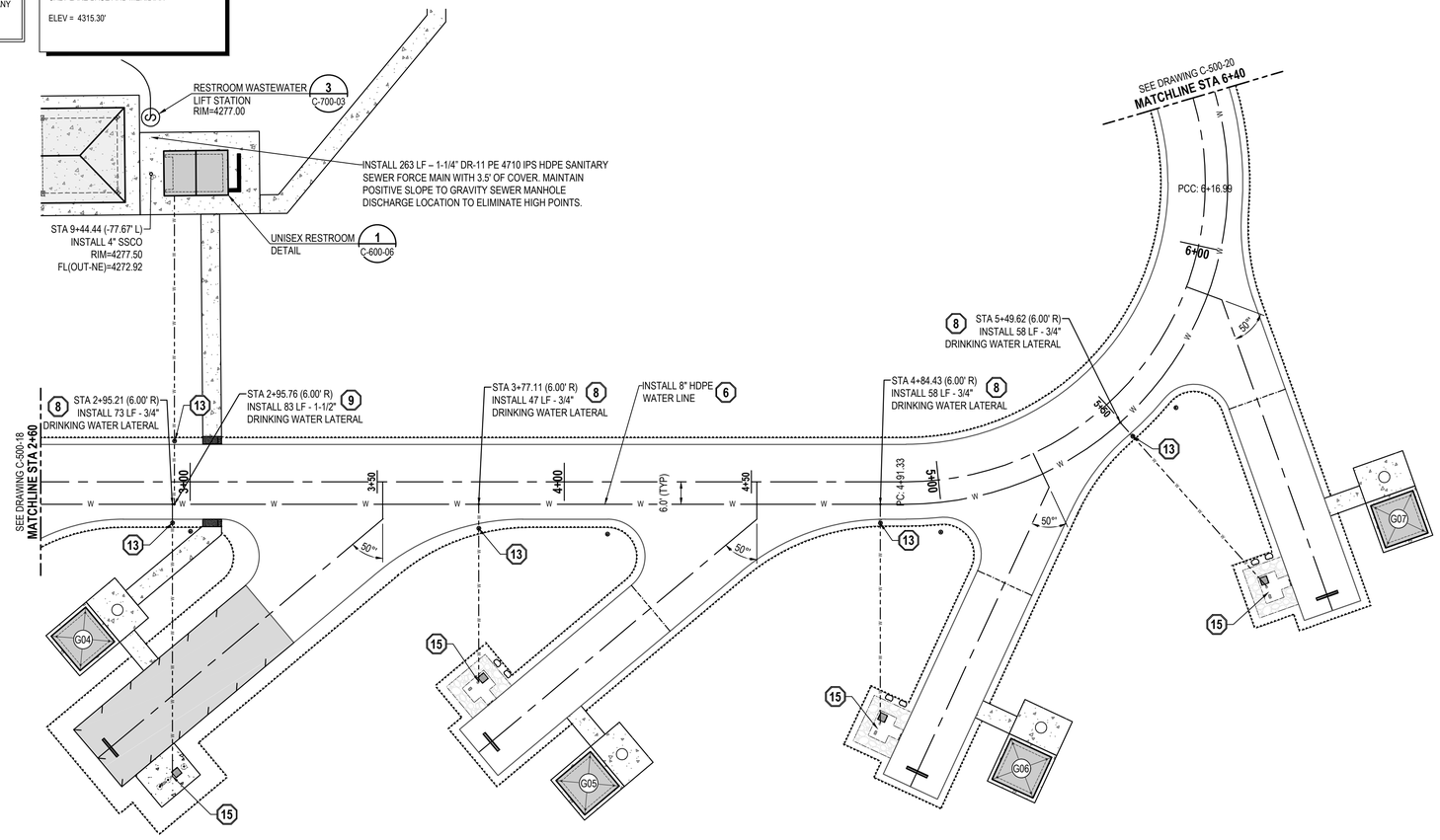

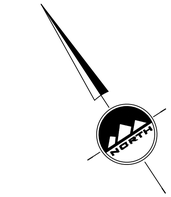

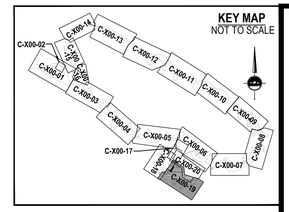

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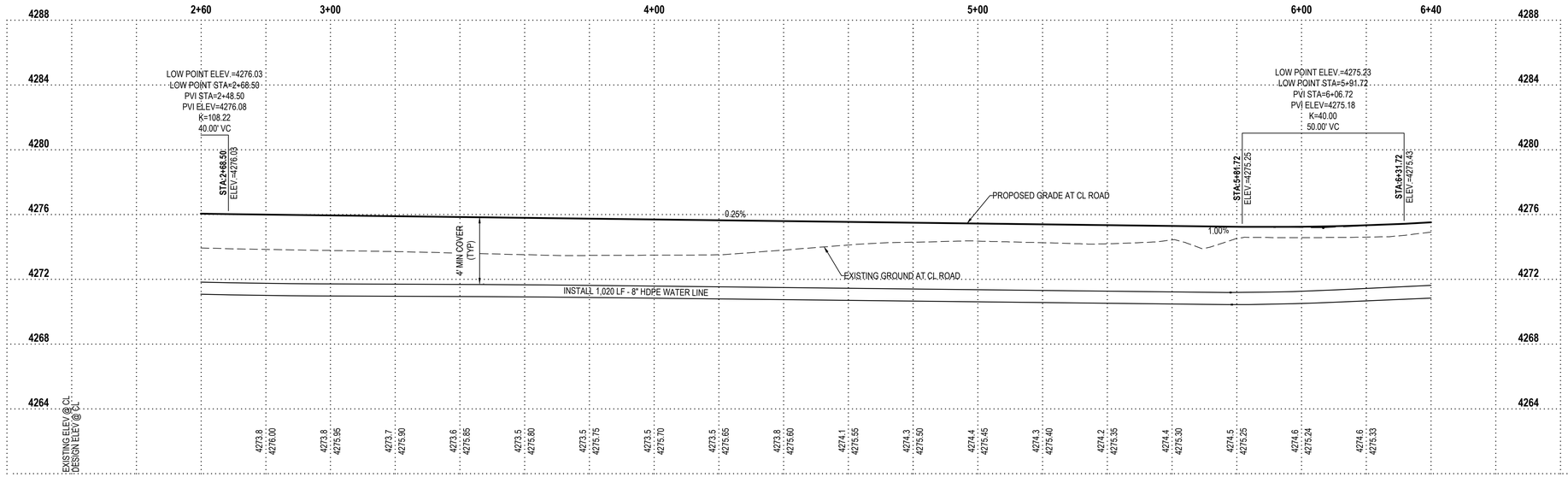
WHITE ROCK BAY GROUP CAMPGROUND LOOP ROAD



CODE OFFICIAL STAMP
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
REVIEWED FOR CODE COMPLIANCE
SIGNATURE:
DATE: 01/25/2022

ENSIGN
THE STANDARD IN ENGINEERING

SALT LAKE CITY
45 W. 10000 S., Suite 500
Sandy, UT 84070
Phone: 801.255.0529

LAYTON
Phone: 801.547.1100

TOOELE
Phone: 435.843.3590

CEDAR CITY
Phone: 435.865.1453

RICHFIELD
Phone: 435.896.2983

WWW.ENSIGNENG.COM

FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:
PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT L. ROUSSELLE EXP. 6/30/2023 STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WHTF DESIGN & DFCM COMMENTS	GWO
2	01/12/2022	DFCM COMMENTS	GWO
3			
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PLAN AND PROFILE UTILITY

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-500-19

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

Know what's below. Call before you dig.

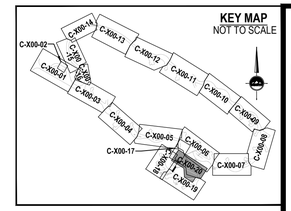
BENCHMARK

NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4315.30'

NORTH

KEY MAP
NOT TO SCALE



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(IN FEET)
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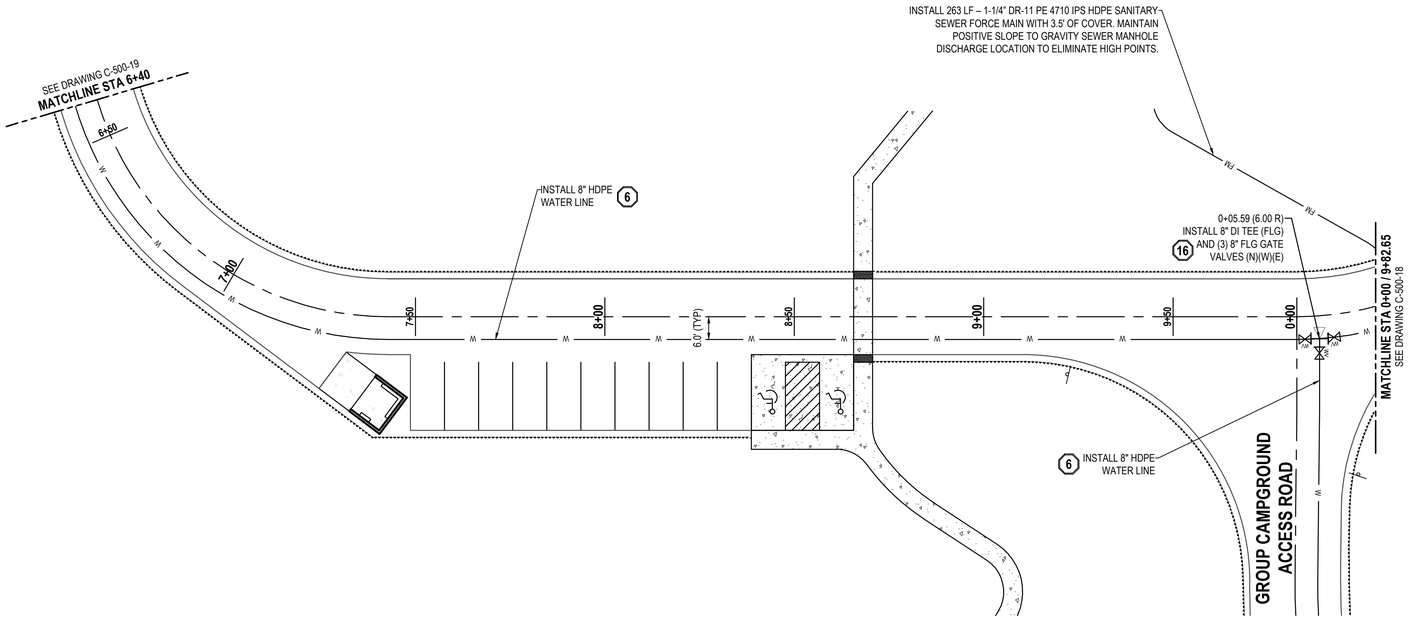

GENERAL NOTES

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3. EXISTING WATER LINES AND WATER SYSTEM TO REMAIN IN SERVICE THROUGHOUT CONSTRUCTION. COORDINATE FINAL CONNECTIONS AND PHASING WITH ANTELOPE ISLAND PARK STAFF.
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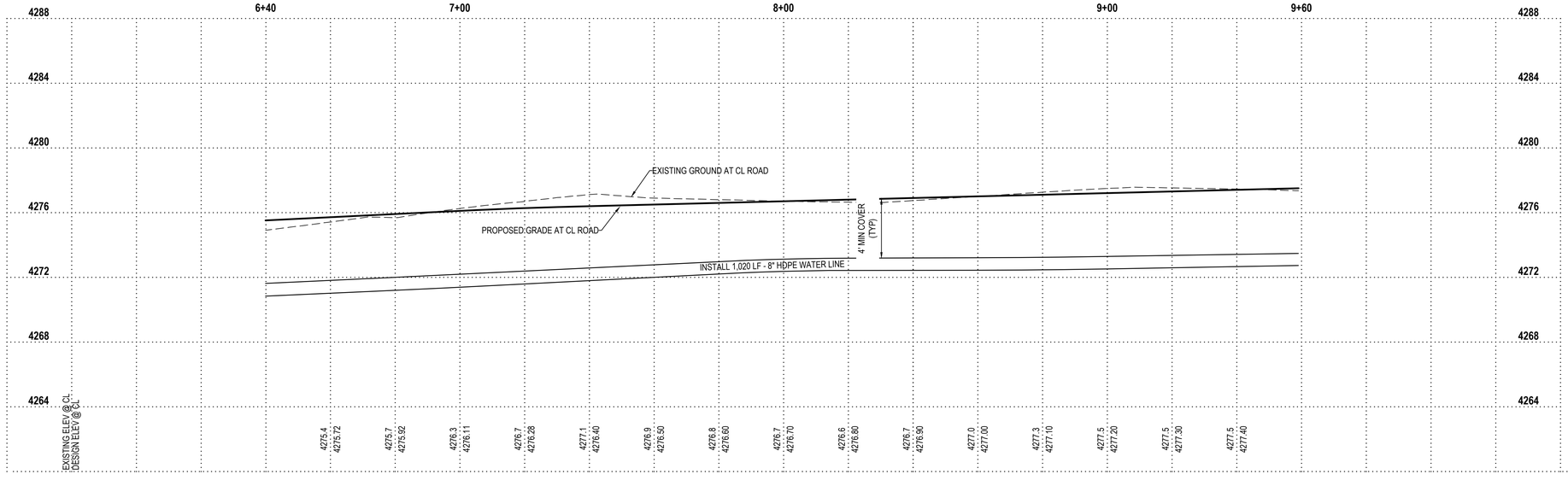

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ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT L. DUBEROW
ROUSSELLE
EXP.3/31/2023
12/2022
STATE OF UTAH

CONFORMANCE SET 01/12/2022

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PLAN AND PROFILE UTILITY

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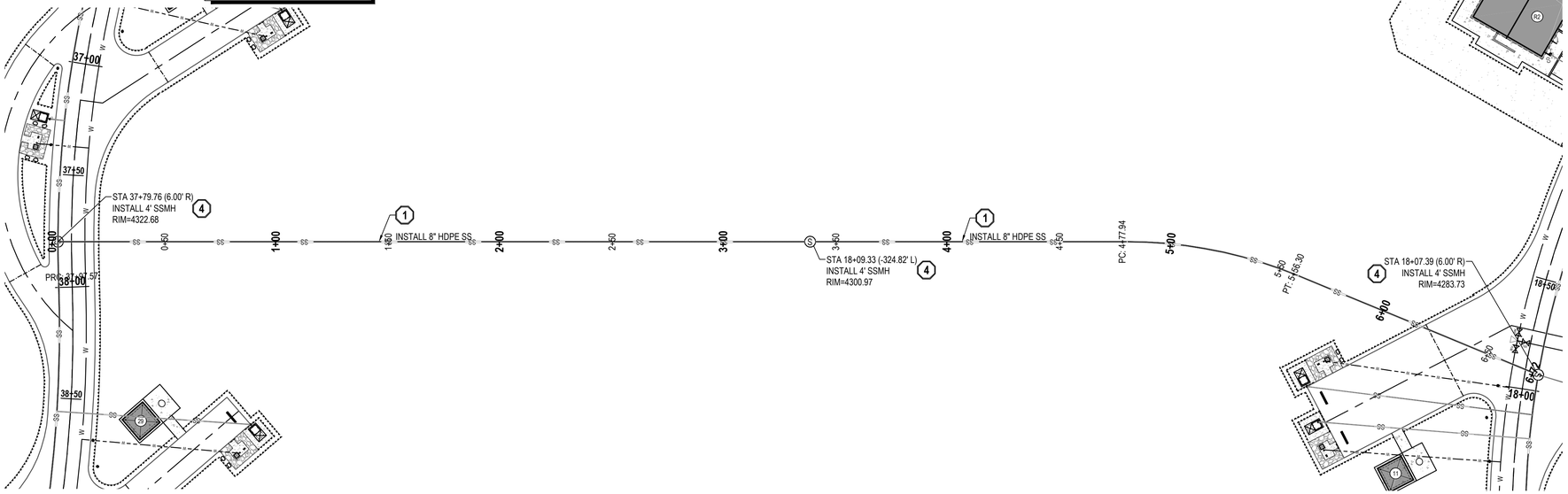

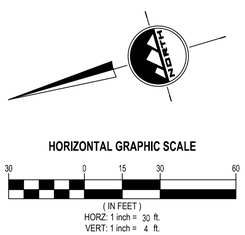

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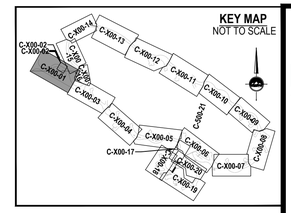
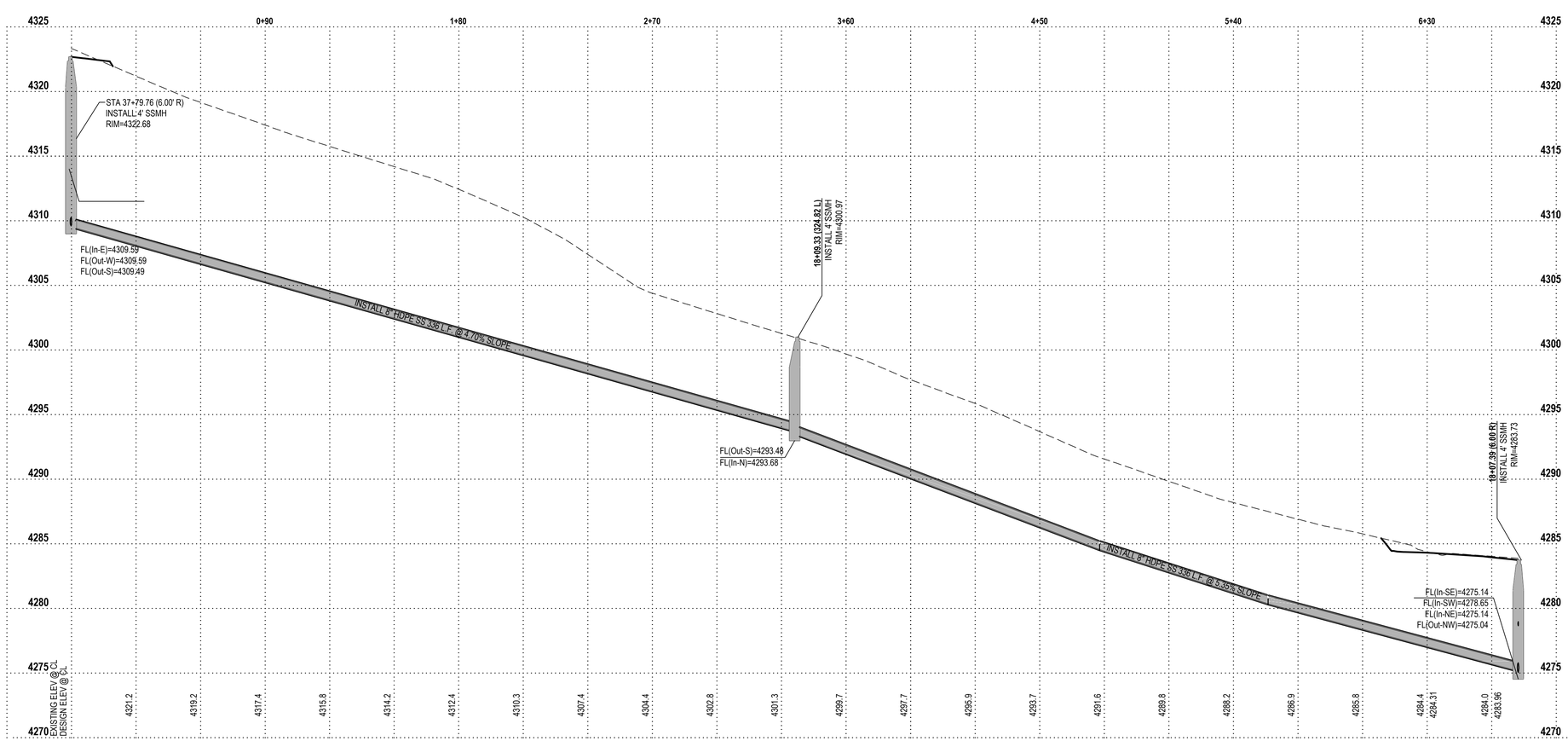


WHITE ROCK BAY 8-INCH SANITARY SEWER LINE



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OGDEN OFFICIAL STAMP

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

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THE STANDARD IN ENGINEERING

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PROJECT #: 22238510
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ROBERT F. DUBEROW
ROUSSELLE
EXP. 3/31/2022
STATE OF UTAH

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PLAN AND PROFILE UTILITY SS

PROJECT NUMBER	PRINT DATE
10970	1/12/2022
DRAWN BY	CHECKED BY
G. OFFERMANN	F. DUBEROW
PROJECT MANAGER	
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C-500-21

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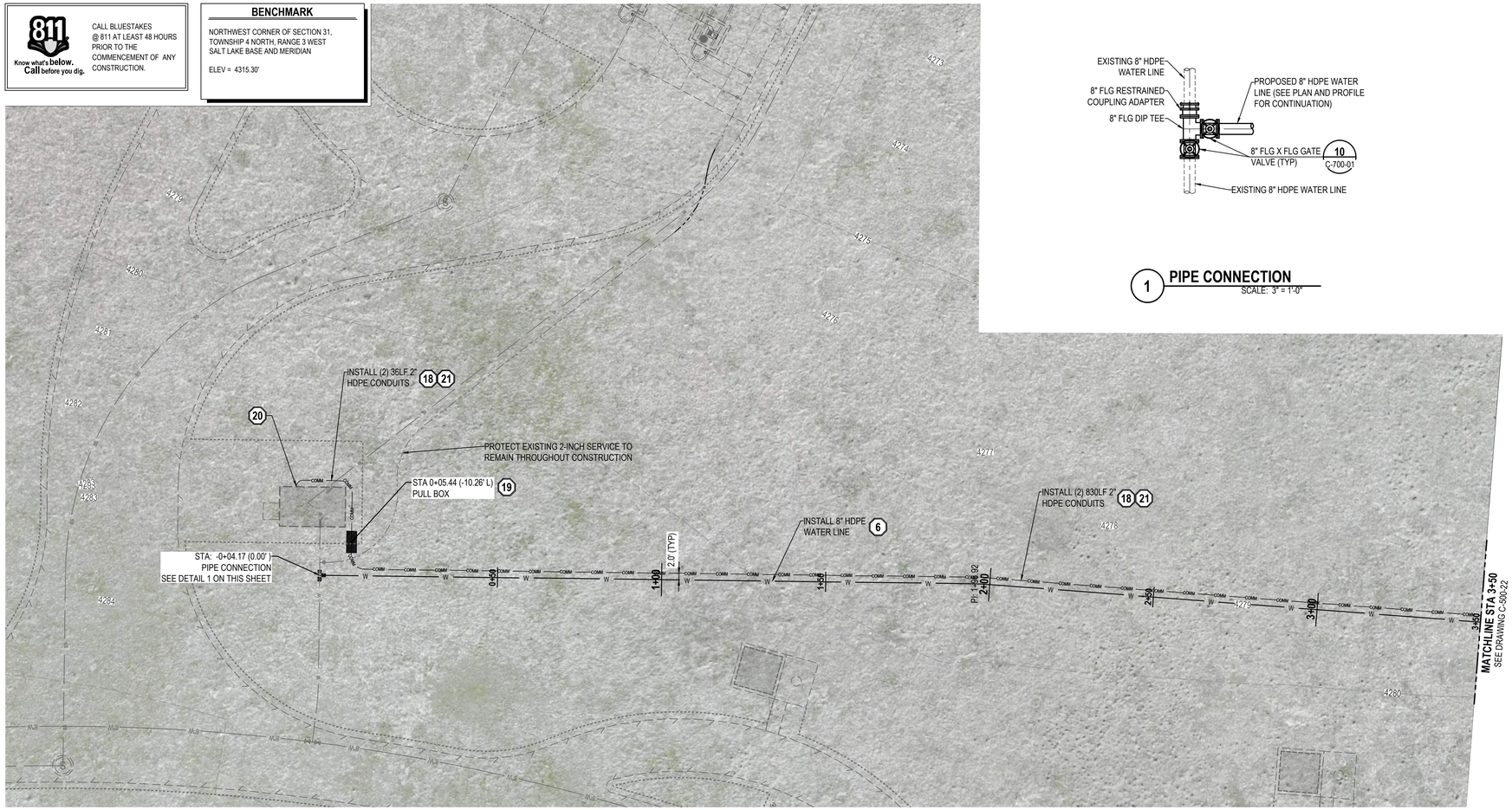
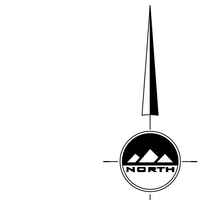


1 **PIPE CONNECTION**
SCALE: 3" = 1'-0"



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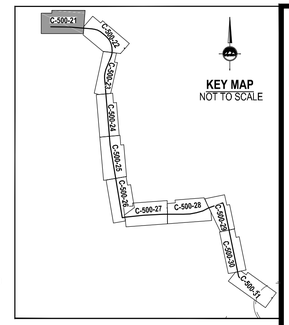

KEY MAP
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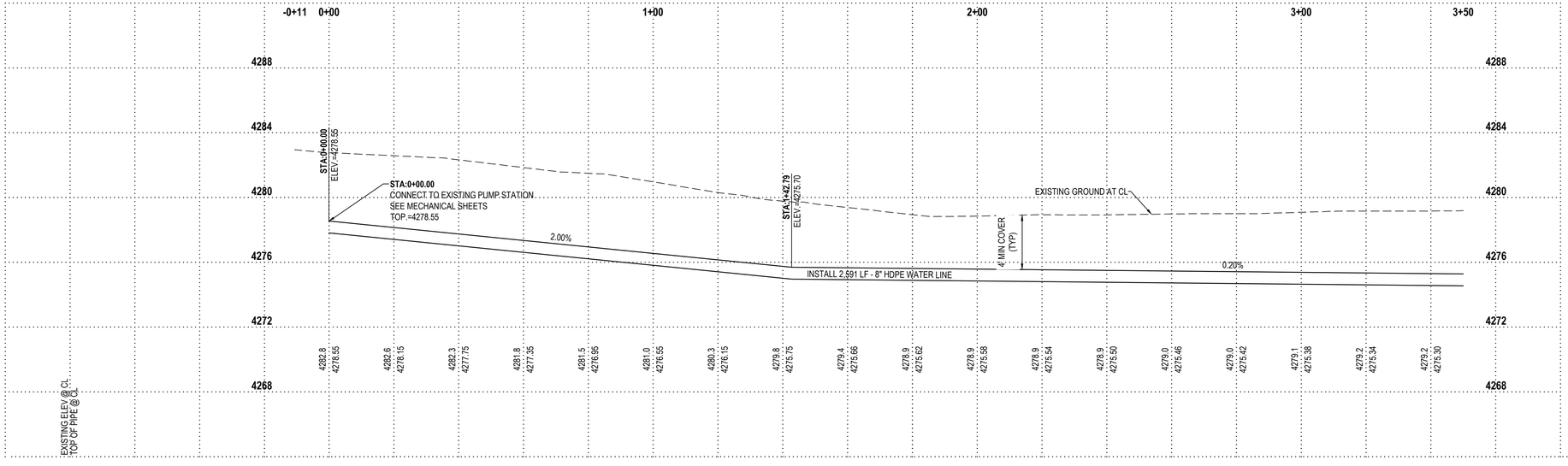
WHITE ROCK BAY OFFSITE WATER LINE



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SIGNATURE:
DATE: 01/25/2022

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FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:
PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT L. ROUSSELLE EXP. 6/30/2023 STATE OF UTAH

CONFORMANCE SET 01/12/2022

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PLAN AND PROFILE UTILITY WATER SUPPLY LINE

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-500-22

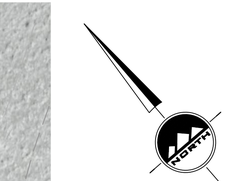
CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

Know what's below. Call before you dig.

BENCHMARK

NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

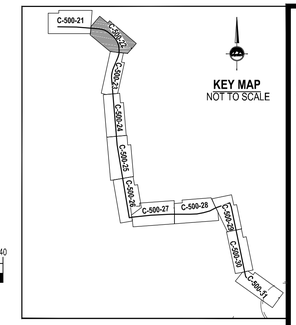
ELEV = 4315.30'



HORIZONTAL GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
HORZ: 1 inch = 20 ft.
VERT: 1 inch = 4 ft.



KEY MAP
NOT TO SCALE

GENERAL NOTES

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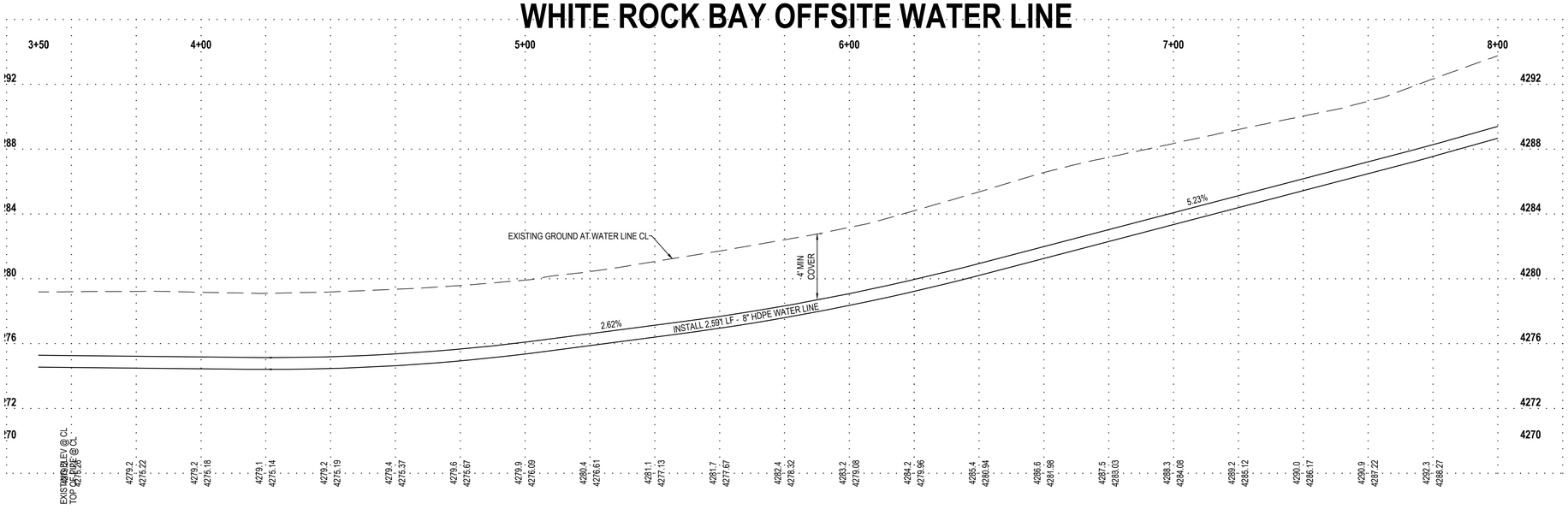

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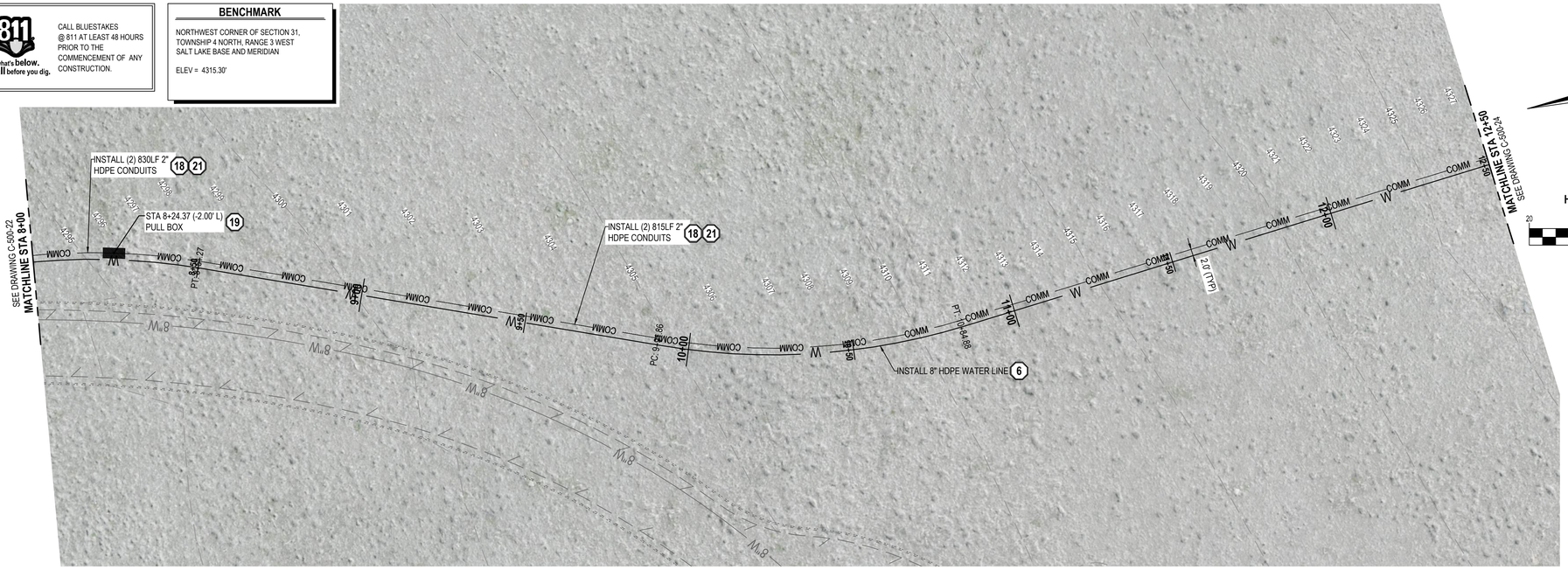

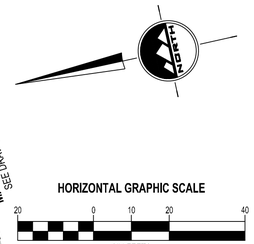

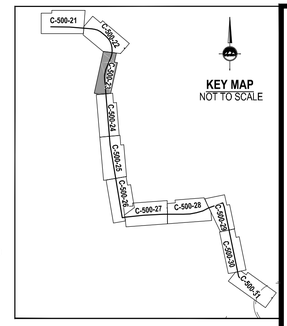

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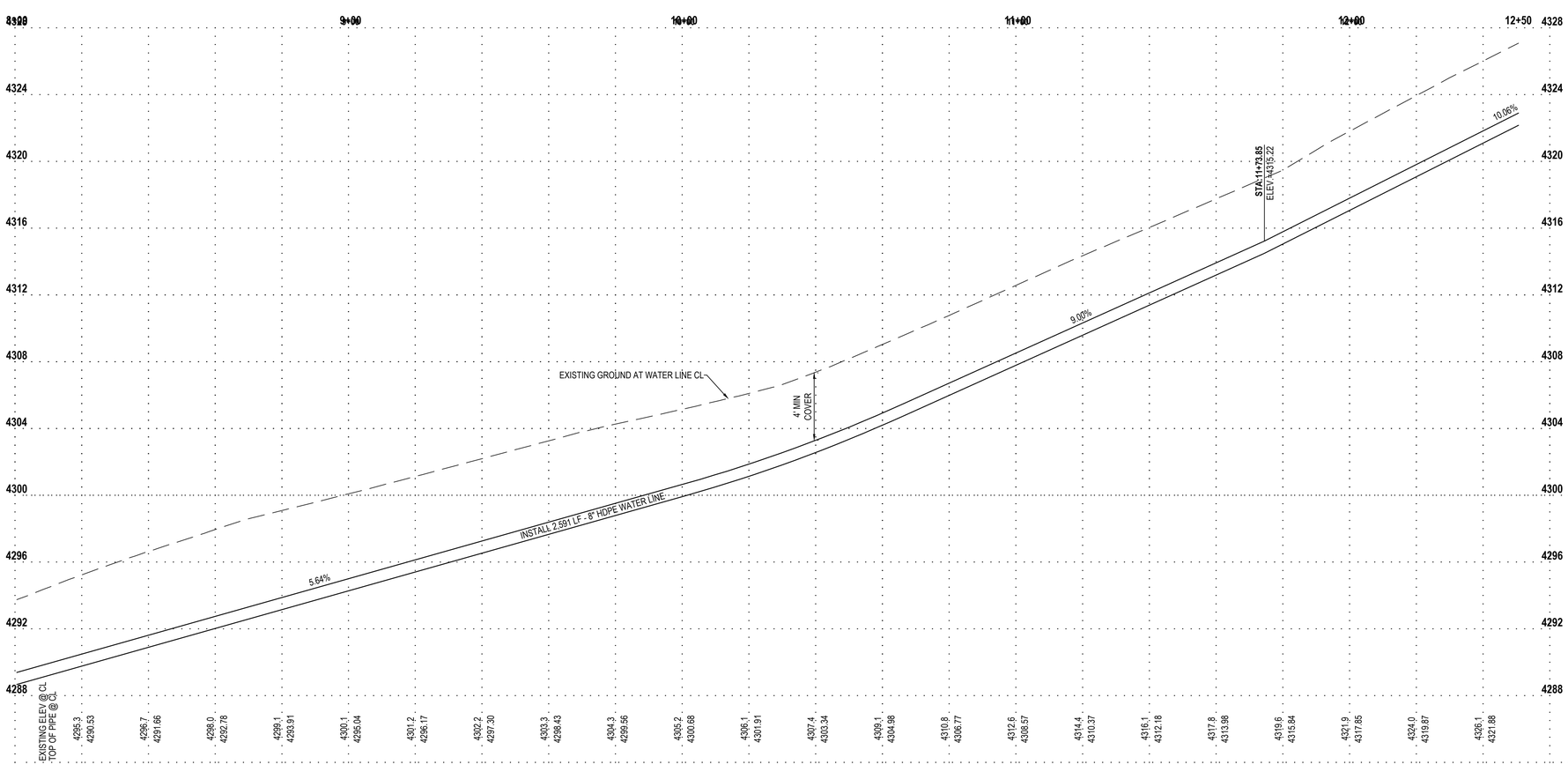

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PLAN AND PROFILE
UTILITY
WATER SUPPLY LINE

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
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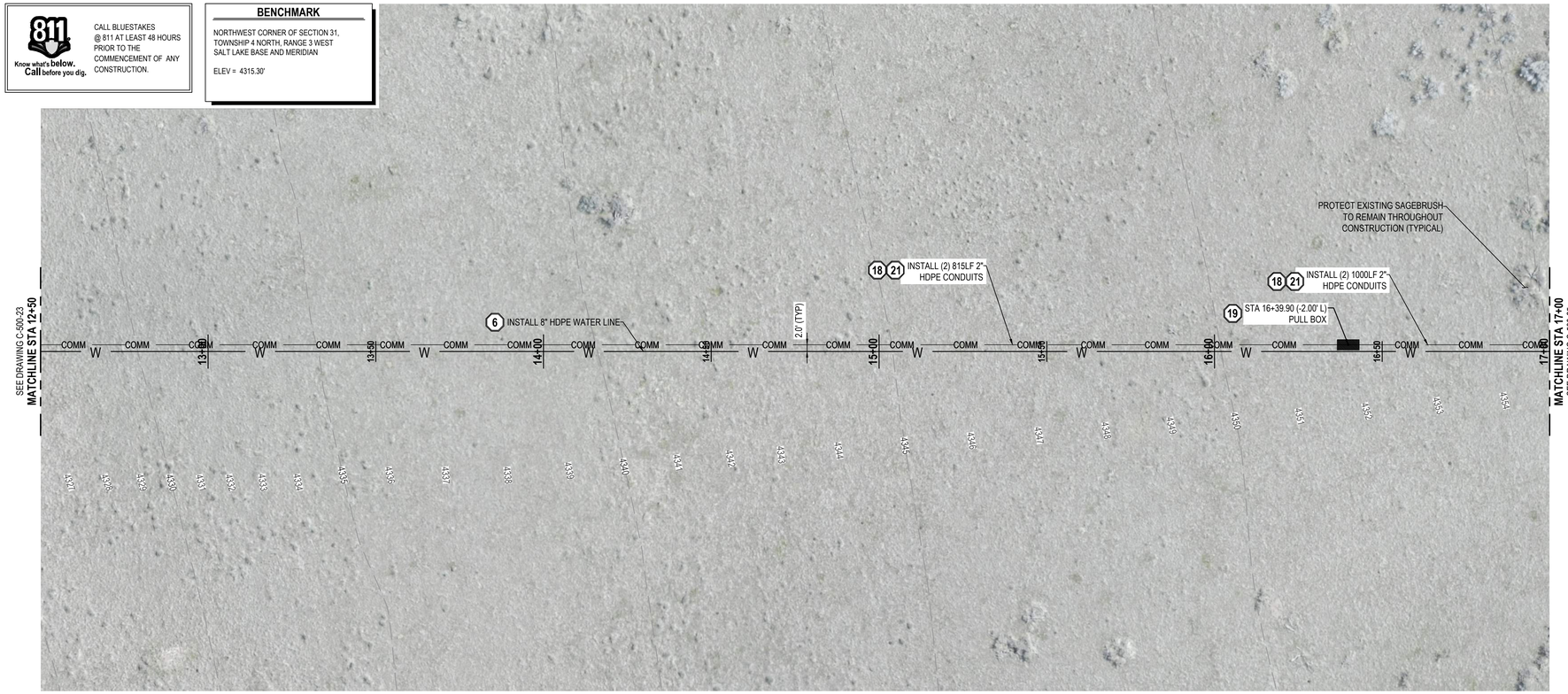

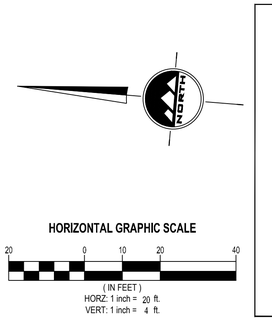

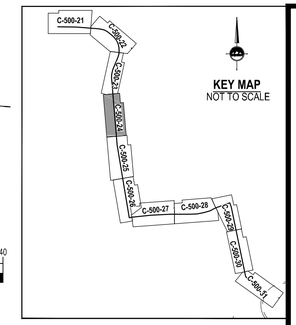

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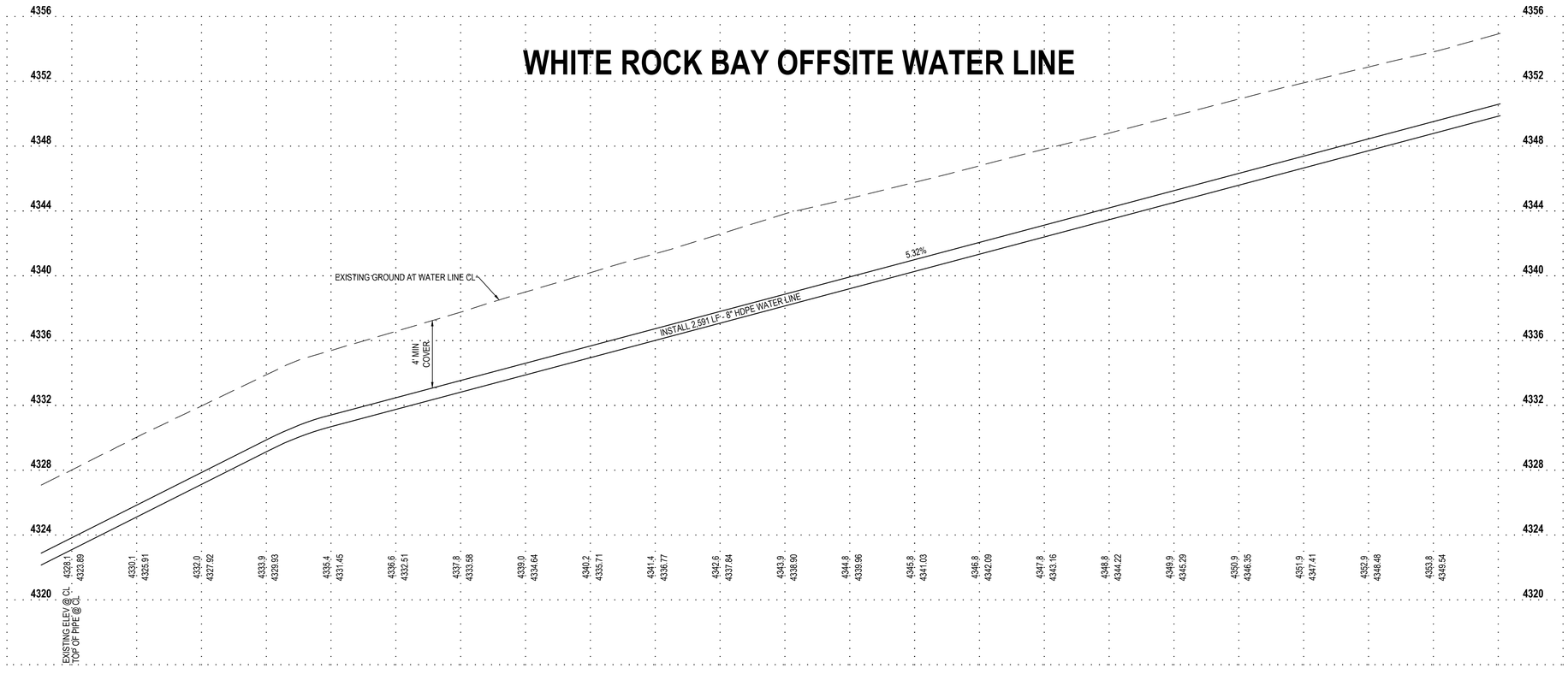

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FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129

CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT L. ROUSSELLE EXP 3/31/2023 STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WRTF DESIGN & DFCM COMMENTS	GWO
2	01/12/2022	DFCM COMMENTS	GWO
3			
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8			

PLAN AND PROFILE
UTILITY
WATER SUPPLY LINE

PROJECT NUMBER	PRINT DATE
10970	1/12/2022
DRAWN BY	CHECKED BY
G. OFFERMANN	F. DUBEROW
PROJECT MANAGER	
R. ROUSSELLE	

C-500-25

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

Know what's below. Call before you dig. 811

BENCHMARK

NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

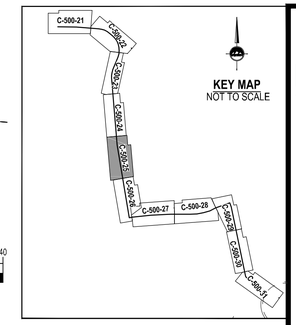
ELEV = 4315.30'

NORTH

HORIZONTAL GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
HORZ: 1 inch = 20 ft.
VERT: 1 inch = 4 ft.



KEY MAP
NOT TO SCALE

GENERAL NOTES

1. CONTRACTOR TO CONTACT CARL ALDRICH WITH ANTELOPE ISLAND STATE PARK, 801-927-0545, PRIOR TO ANY EXCAVATION OR DISTURBANCE FOR CONSTRUCTION MONITORING.
2. CONTRACTOR TO POTHOLE AND LOCATE EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. EXISTING WATER LINES AND WATER SYSTEM TO REMAIN IN SERVICE THROUGHOUT CONSTRUCTION. COORDINATE FINAL CONNECTIONS AND PHASING WITH ANTELOPE ISLAND PARK STAFF.
4. PROVIDE THRUST BLOCKS AT ALL BENDS AND GATE VALVES, SEE DETAIL 1/C-700-01.
5. PIPE LINEAR FOOTAGE SHOWN IS BETWEEN BENDS, TEES, HORIZONTAL CURVES, VERTICAL CURVES, OR DIFFERENT PIPE MATERIALS.
6. SEWER AND WATER LATERAL PIPE LINEAR FOOTAGE IS FROM MAIN CONNECTION TO EXTERIOR BUILDING WALL, EXTERIOR VAULT WALL, DRINKING WATER HYDRANT, OR WATER TOWER.
7. REFER TO ELECTRICAL PLANS FOR ELECTRICAL UTILITY INFORMATION.
8. WHERE HDPE PIPE IS USED, CONNECTIONS SHALL BE FLANGED. FITTINGS SHALL BE COMPLETED WITH A FLANGE ADAPTER FUSED TO PIPE AND A IPS BACK UP RING.
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SCOPE OF WORK:

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

1. 8-INCH DR-17 PE4710 IPS HDPE SANITARY SEWER MAIN.
2. 4-INCH SDR-35 PVC SANITARY SEWER LATERAL AT MIINIMUM 2% SLOPE, INCLUDING CLEANOUTS AT MAXIMUM 100-FOOT SPACING. INSTALLATION AND TRENCHING PER DETAIL 2/C-700-01 AND 5/C-700-01.
3. 6-INCH SDR-35 PVC SANITARY SEWER LATERAL AT MINIMUM 1% SLOPE, INCLUDING CLEANOUTS AT MAXIMUM 100-FOOT SPACING. INSTALLATION AND TRENCHING PER DETAIL 2/C-700-01 AND 5/C-700-01.
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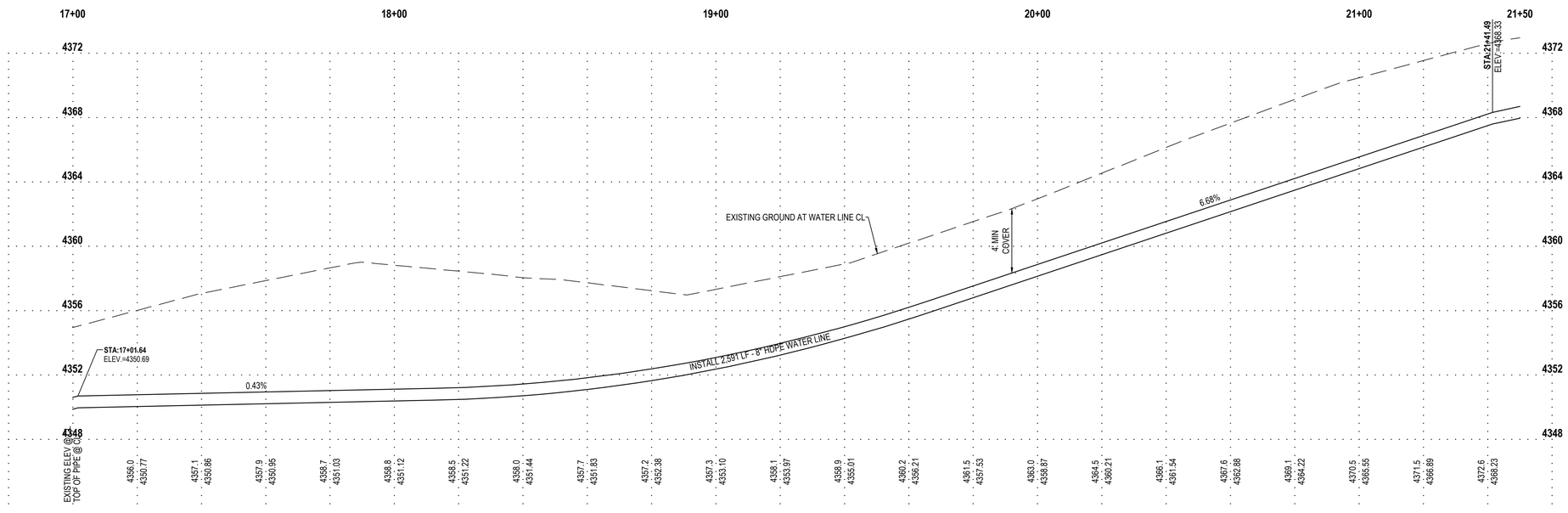
WHITE ROCK BAY OFFSITE WATER LINE



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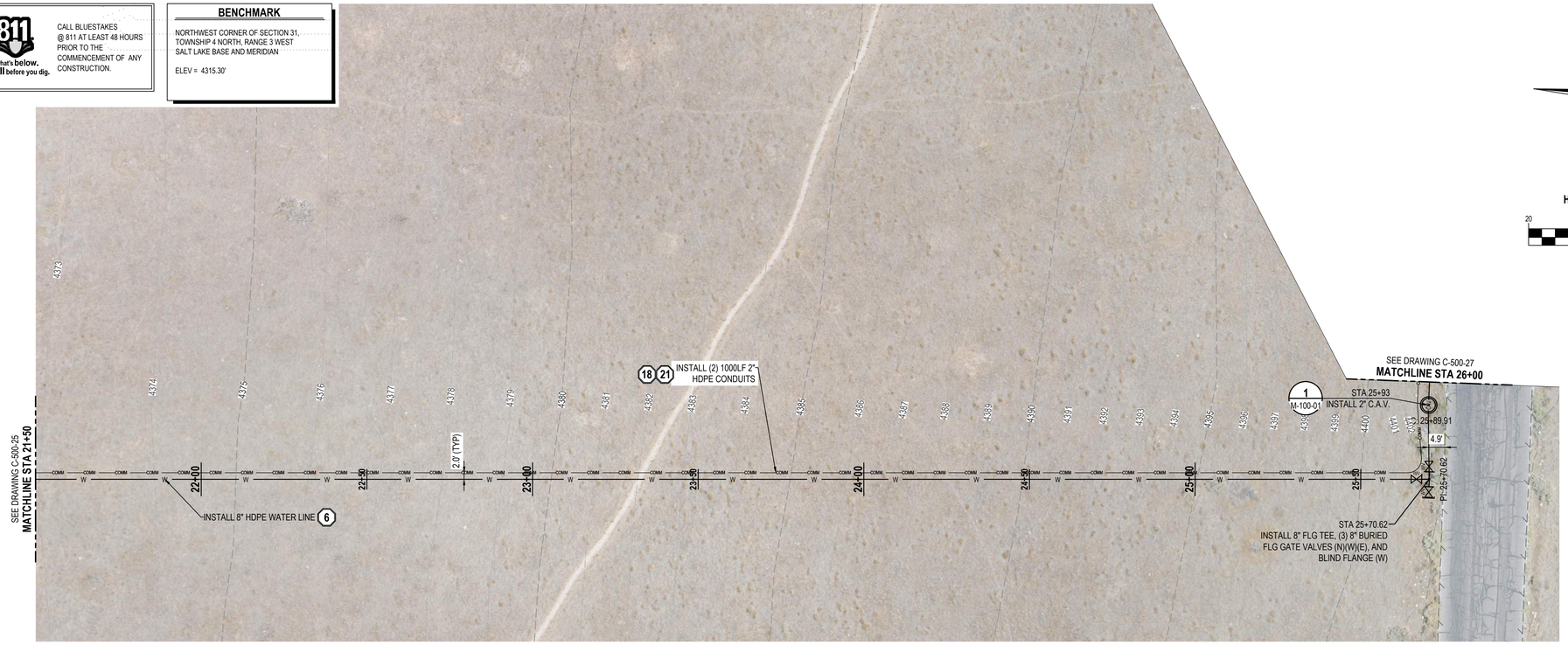

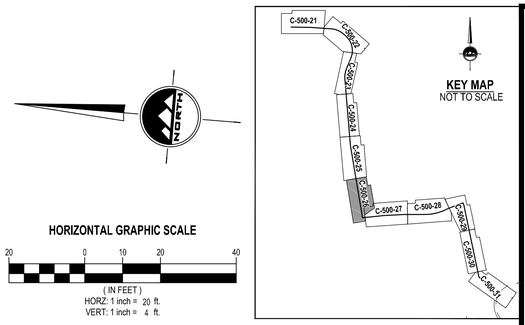

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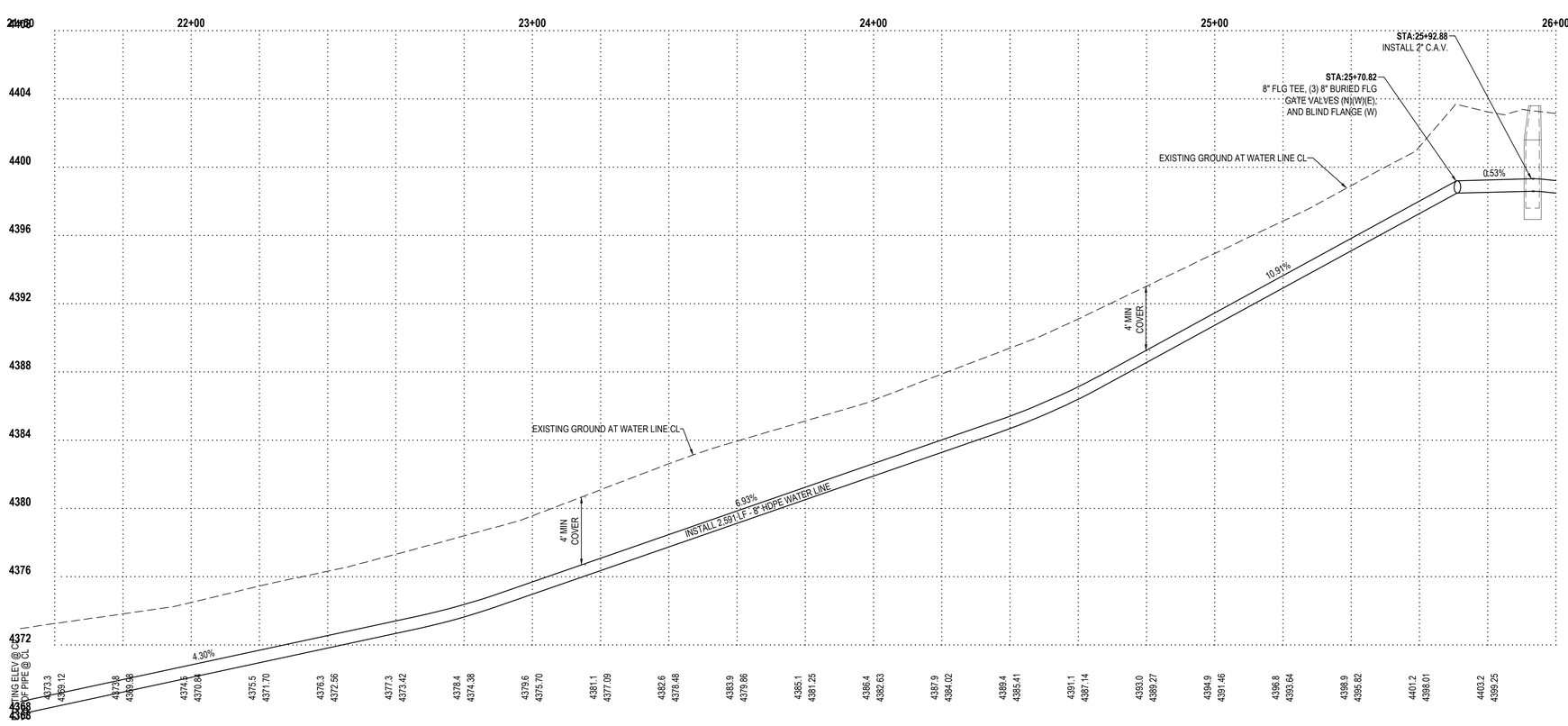

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PROJECT MANAGER	
R. ROUSSELLE	

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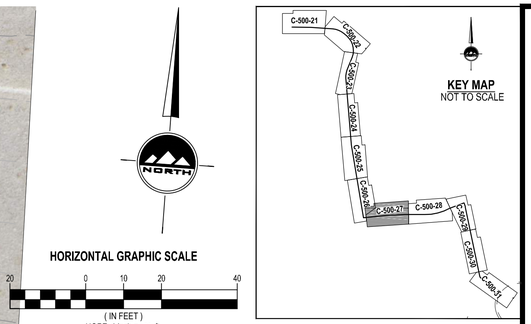

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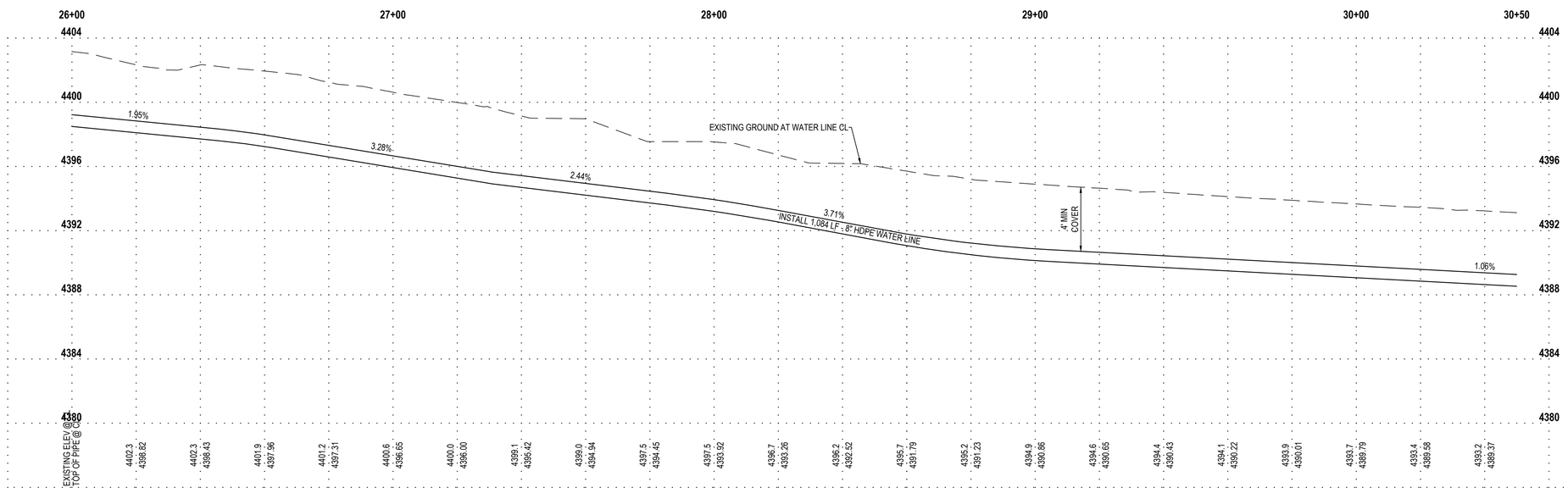

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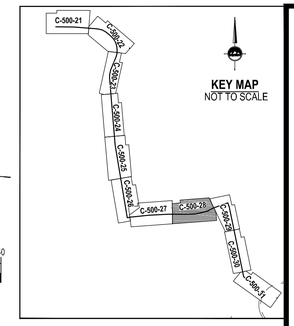

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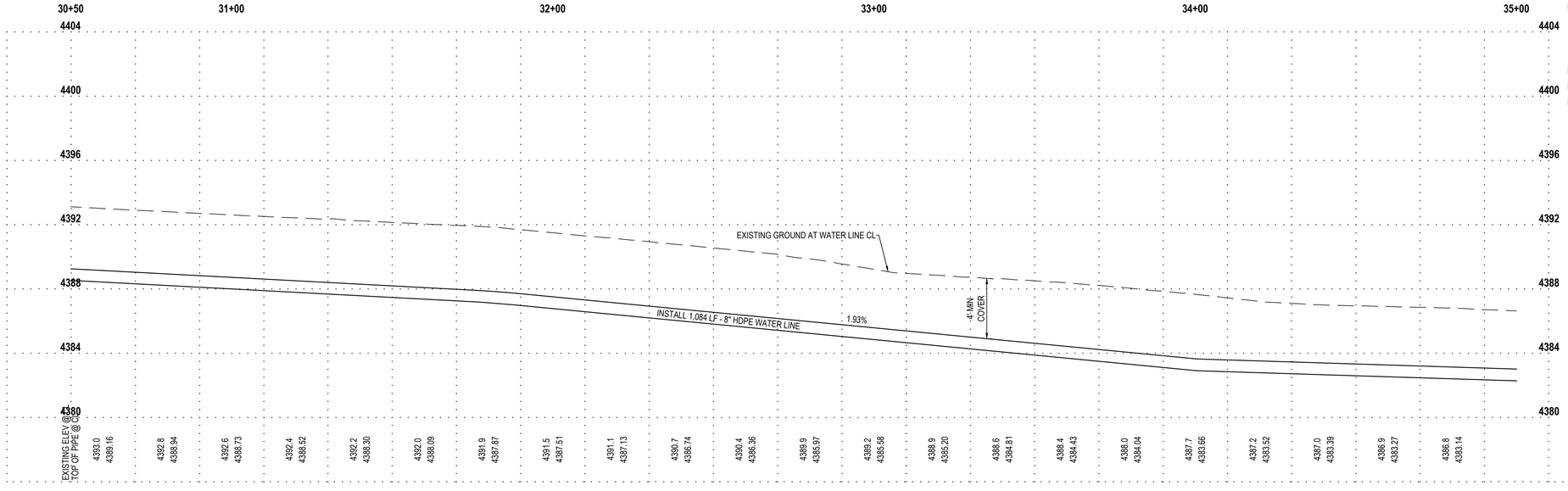
21. INSTALL A 12-STRAND SINGLE MODE FIBER OPTIC CABLE IN 2-INCH CONDUIT FROM RESTROOM R1 ONSITE WASTEWATER DISPOSAL SYSTEM CONTROL PANEL TO NEW BRIDGER BAY BOOSTER PUMP STATION ONSITE WASTEWATER DISPOSAL SYSTEM CONTROL PANEL LOCATION.

WHITE ROCK BAY OFFSITE WATER LINE



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ENSIGN
THE STANDARD IN ENGINEERING

SALT LAKE CITY
45 W. 10000 S., Suite 500
Sandy, UT 84070
Phone: 801.255.0529

LAYTON
Phone: 801.547.1100

TOOELE
Phone: 435.843.3590

CEDAR CITY
Phone: 435.865.1453

RICHFIELD
Phone: 435.896.2983

WWW.ENSIGNENG.COM

FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129

CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT L. ROUSSELLE
EXP. 3/31/2023
STATE OF UTAH

CONFORMANCE SET 01/12/2022

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PLAN AND PROFILE
UTILITY
WATER SUPPLY LINE

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-500-29

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

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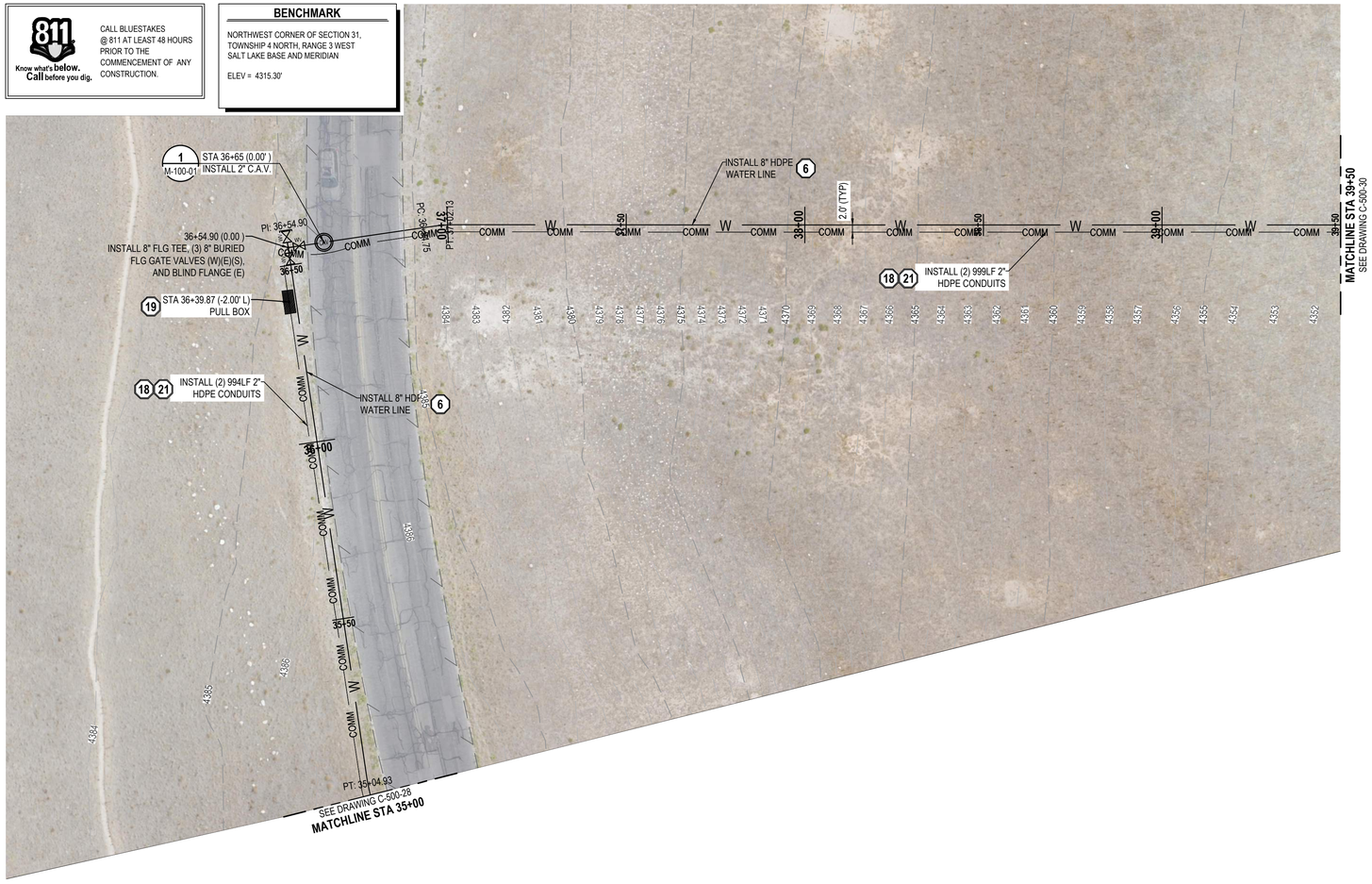
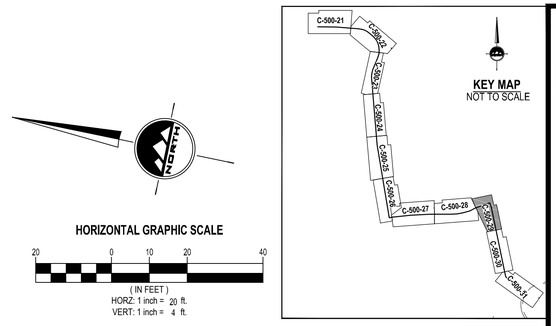
NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4315.30'





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4. PROVIDE THRUST BLOCKS AT ALL BENDS AND GATE VALVES, SEE DETAIL 1/C-700-01.
5. PIPE LINEAR FOOTAGE SHOWN IS BETWEEN BENDS, TEES, HORIZONTAL CURVES, VERTICAL CURVES, OR DIFFERENT PIPE MATERIALS.
6. SEWER AND WATER LATERAL PIPE LINEAR FOOTAGE IS FROM MAIN CONNECTION TO EXTERIOR BUILDING WALL, EXTERIOR VAULT WALL, DRINKING WATER HYDRANT, OR WATER TOWER.
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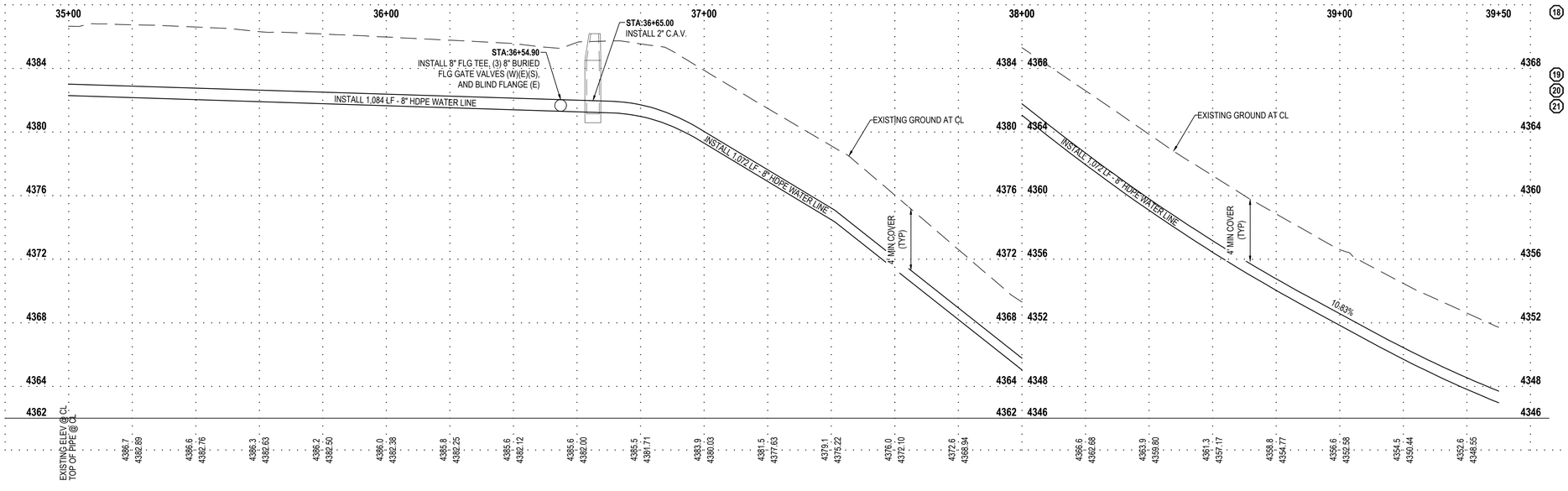

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CONTACT:

PHONE:

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ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2201
ROBERT L. ROUSSELLE
EXP. 3/31/2023
STATE OF UTAH

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PLAN AND PROFILE UTILITY WATER SUPPLY LINE

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-500-30

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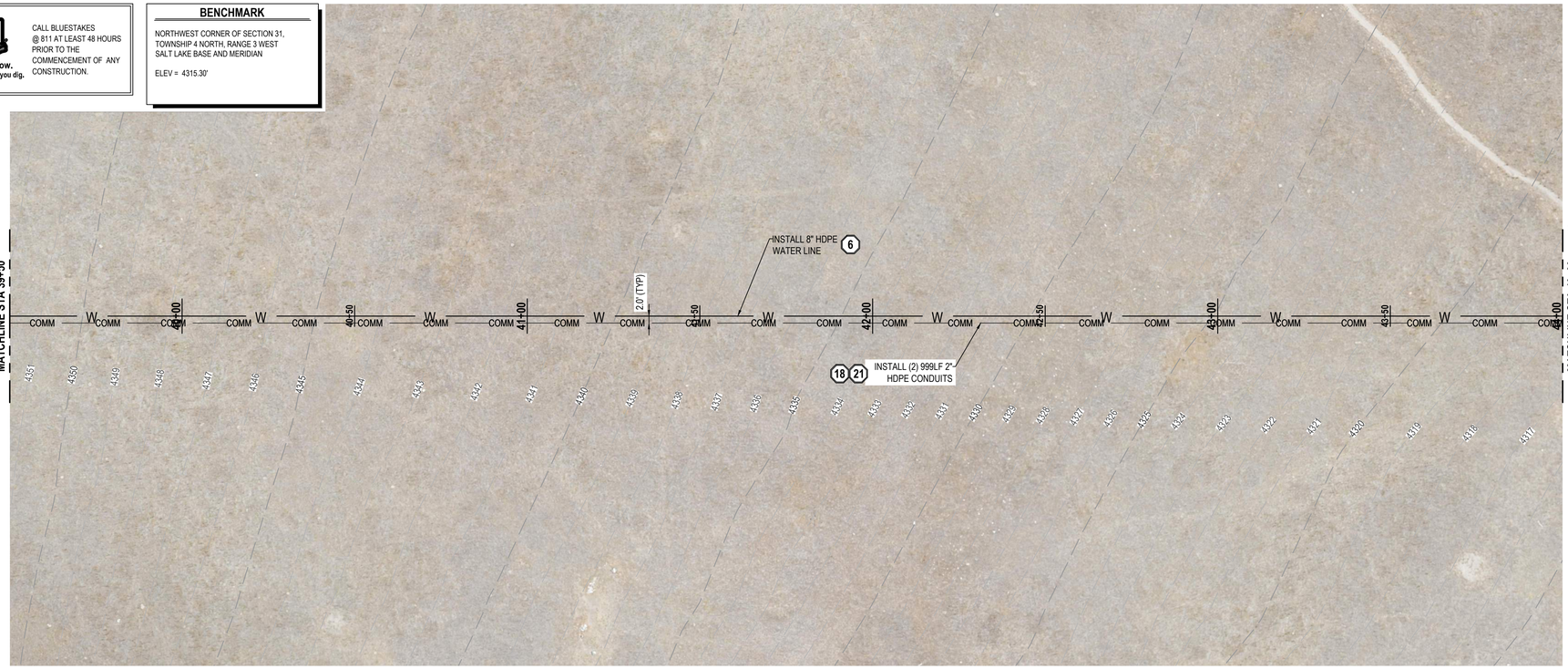

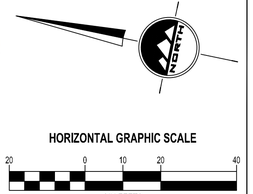

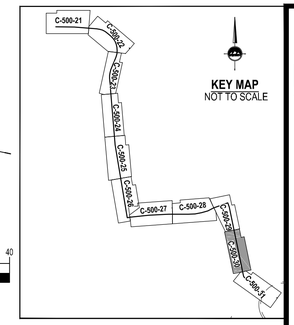

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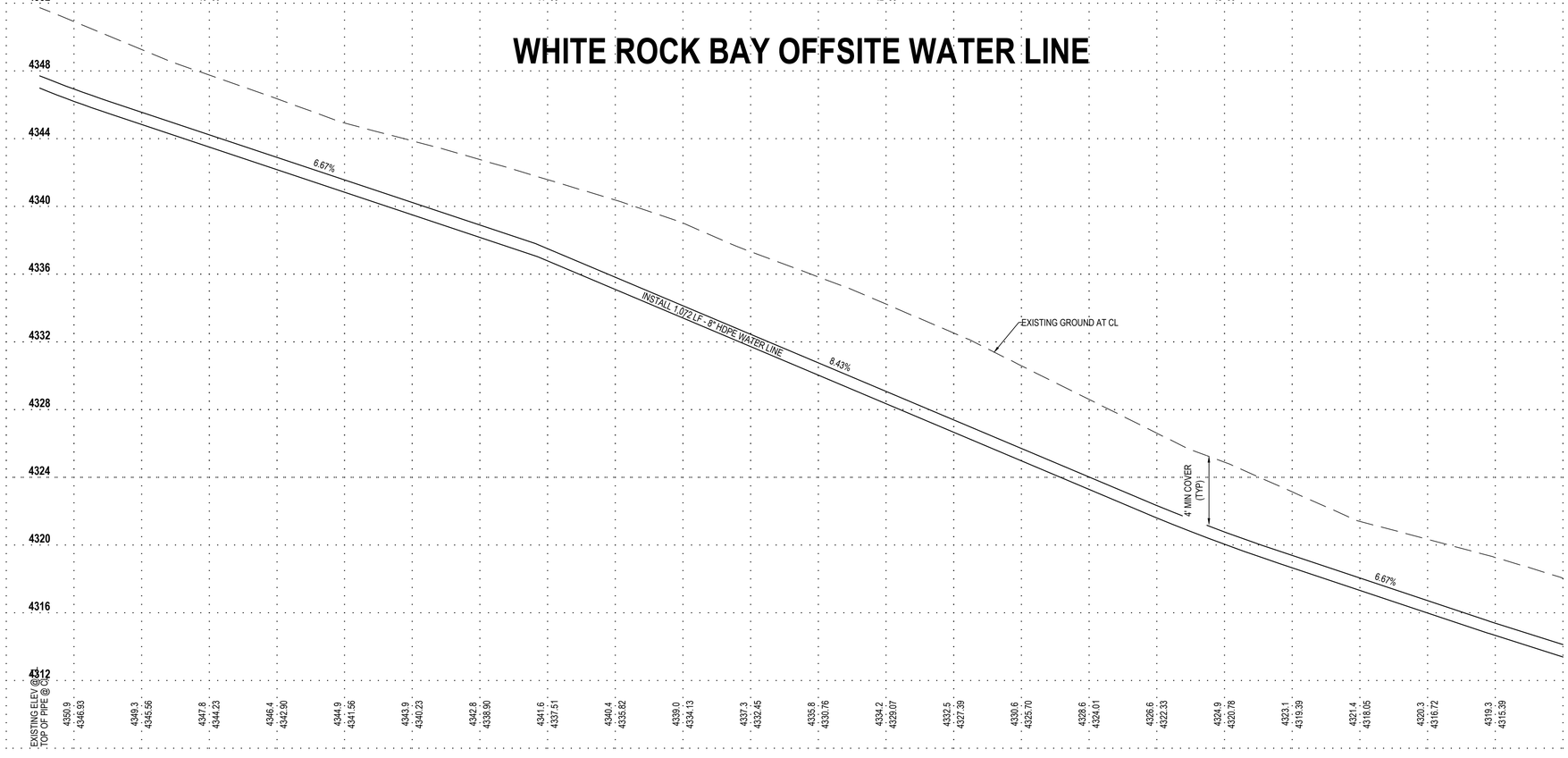

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PLAN AND PROFILE
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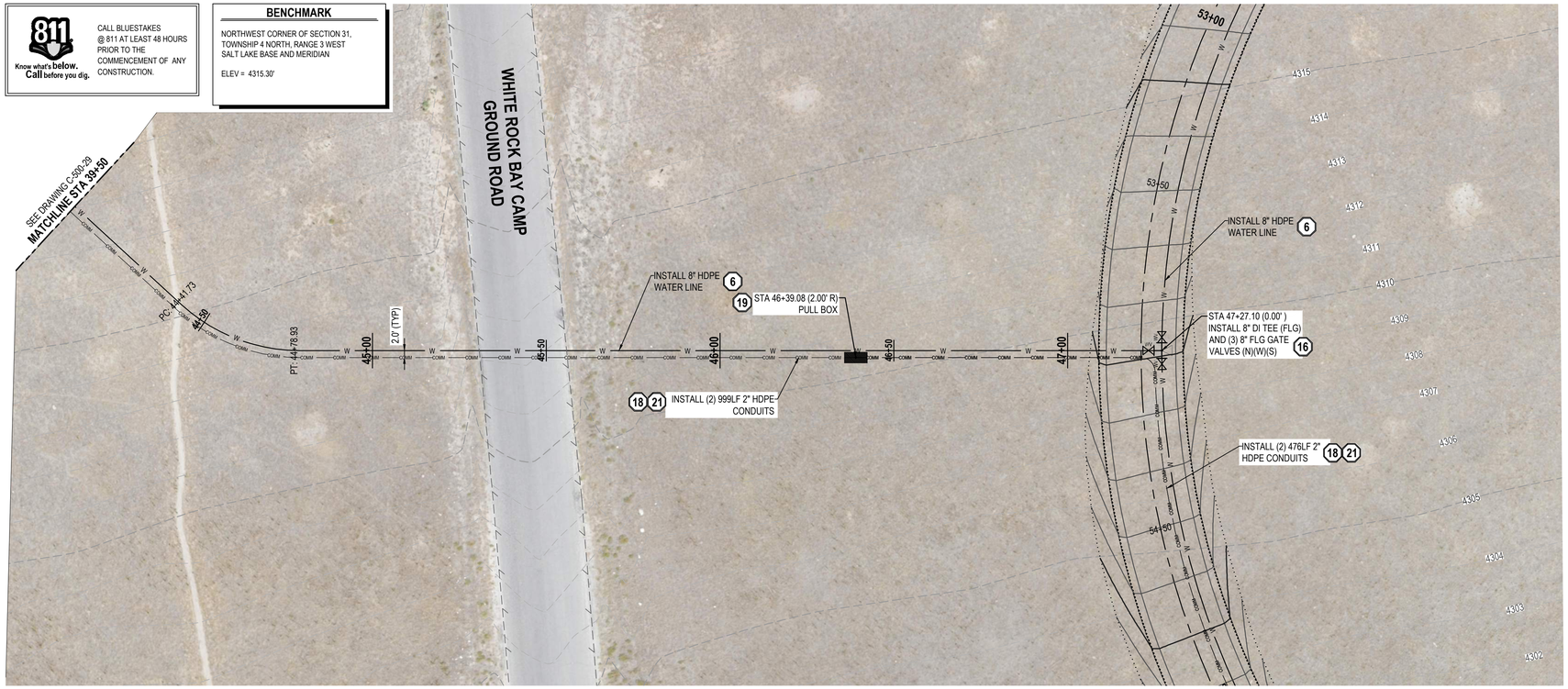
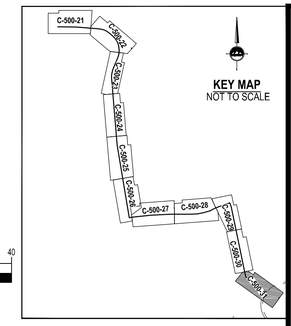


HORIZONTAL GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
HORZ: 1 inch = 20 ft.
VERT: 1 inch = 4 ft.



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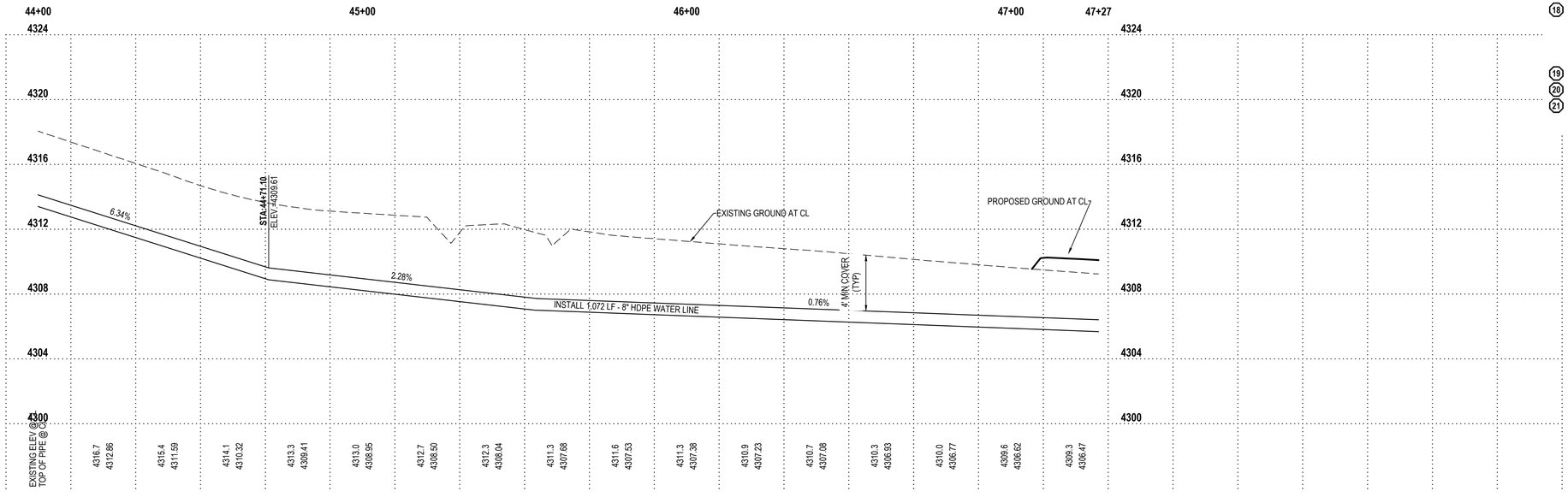
8. 3/4-INCH DR-11 PE4710 IPS HDPE DRINKING WATER YARD HYDRANT LATERAL PER DETAIL 8/C-700-01.
9. 1-1/2-INCH DR-11 PE4710 IPS HDPE DRINKING WATER LATERAL PER DETAIL 7/C-700-01.
10. 2-INCH DR-11 PE4710 IPS HDPE DRINKING WATER LATERAL PER DETAIL 7/C-700-01.
11. 8-INCH DI 90° BEND, FLG
12. 8-INCH DI TEE, FLG
13. CURB STOP PER DETAIL 7/C-700-01
14. MAINTENANCE ACCESSIBLE SEWER DROP PER DETAIL 2/C-600-02.
15. DRINKING WATER YARD HYDRANT PER DETAIL 8/C-700-01
16. BURIED GATE VALVE PER DETAIL 10/C-700-01 (TYPICAL).
17. INSTALL 4-INCH SEWER LATERAL IN 20-LF, 8-INCH DIAMETER C900 DR25 PVC PIPE SLEEVE CENTERED ON 8-INCH WATER MAIN CROSSING. SEAL ENDS OF SLEEVE WITH END SEALS, PLASTIC, OR EQUAL.
18. 2-INCH UNDERGROUND HDPE SCHEDULE 40 CONDUIT WITH 2-INCH UNDERGROUND HDPE SCHEDULE 40 CONDUIT (SPARE) PER DETAIL 7/C-700-03. ALL SWEEPS SHALL BE LONG SWEEPS AND SHALL BE FIBERGLASS. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING CONDUIT DETAILS AND A CONDUIT ROUTING PLAN TO THE ENGINEER FOR APPROVAL. LIMIT RUNS BETWEEN PULL BOXES TO LESS THAN 270 DEGREES. INSTALL CONDUIT 2-FEET OFF CENTERLINE OF WATER MAIN. CONTRACTOR CAN USE WATER TRENCH FOR CONDUIT.
19. COMMUNICATION PULL BOXES PER DETAIL 5/C-700-03.
20. EXISTING PENETRATION THROUGH CONDUIT WALL PER DETAIL C-700-03.
21. INSTALL A 12-STRAND SINGLE MODE FIBER OPTIC CABLE IN 2-INCH CONDUIT FROM RESTROOM R1 ONSITE WASTEWATER DISPOSAL SYSTEM CONTROL PANEL TO NEW BRIDGER BAY BOOSTER PUMP STATION ONSITE WASTEWATER DISPOSAL SYSTEM CONTROL PANEL LOCATION.

WHITE ROCK BAY OFFSITE WATER LINE



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DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
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SIGNATURE:
DATE: 01/25/2022

ENSIGN
THE STANDARD IN ENGINEERING

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FOR:
DFCM
4315 S 2700 W, Fl 3
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CONTACT:

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT L.
ROUSSELLE
EXP. 3/31/2023
STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
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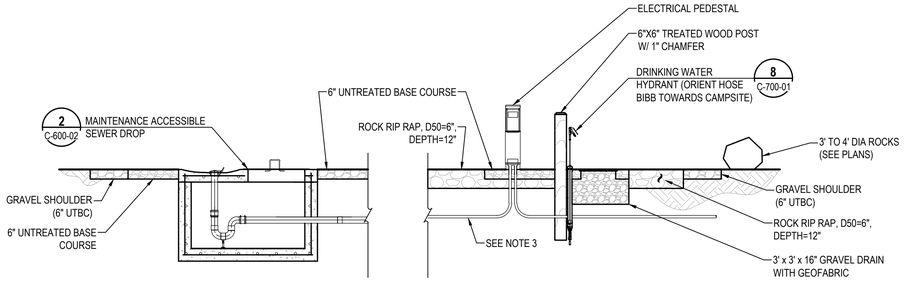
PLAN AND PROFILE
UTILITY
WATER SUPPLY LINE

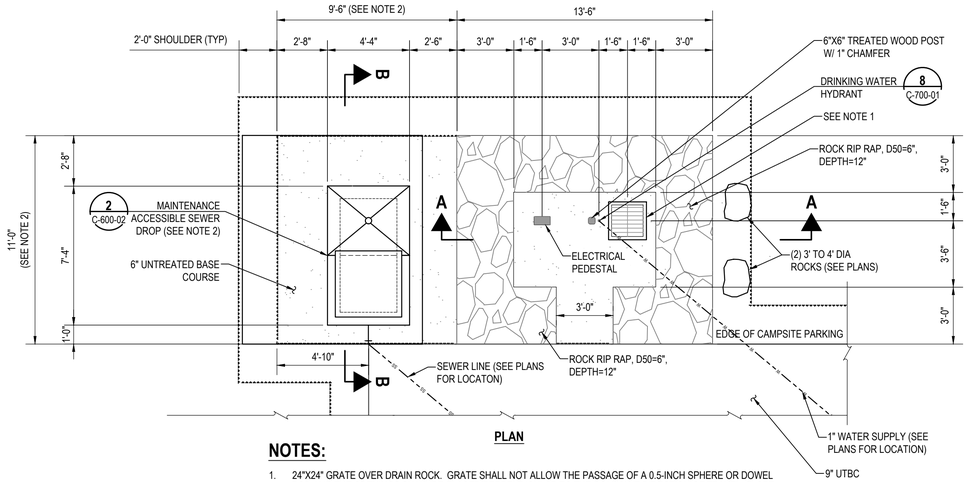
PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-500-32



SECTION B-B

SECTION A-A



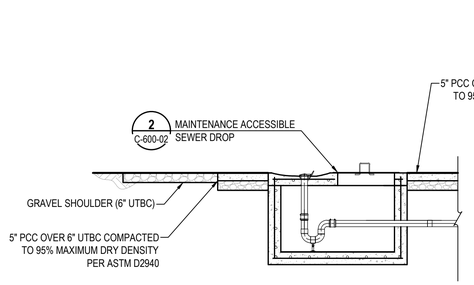
PLAN

NOTES:

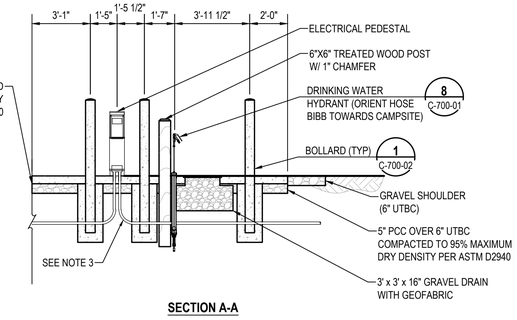
1. 24"X24" GRATE OVER DRAIN ROCK. GRATE SHALL NOT ALLOW THE PASSAGE OF A 0.5-INCH SPHERE OR DOWEL ROD AND THE OPENINGS SHALL BE PLACED PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL. SLOPE PAD 3.5-FEET FROM HYDRANT TO GRATE AT MAX 1.5%.
2. MAINTENANCE ACCESSIBLE SEWER DROP NOT REQUIRED FOR CAMPSITES WITHOUT SEWER CONNECTION
3. CONTRACTOR TO SWEEP CONDUIT INTO ELECTRICAL PEDESTAL TO AVOID CONFLICTS WITH BOLLARDS, POST, AND DRINKING WATER HYDRANT

1 TYPICAL WATER, SEWER AND POWER CONNECTION FOR NON-ACCESSIBLE CAMPSITES

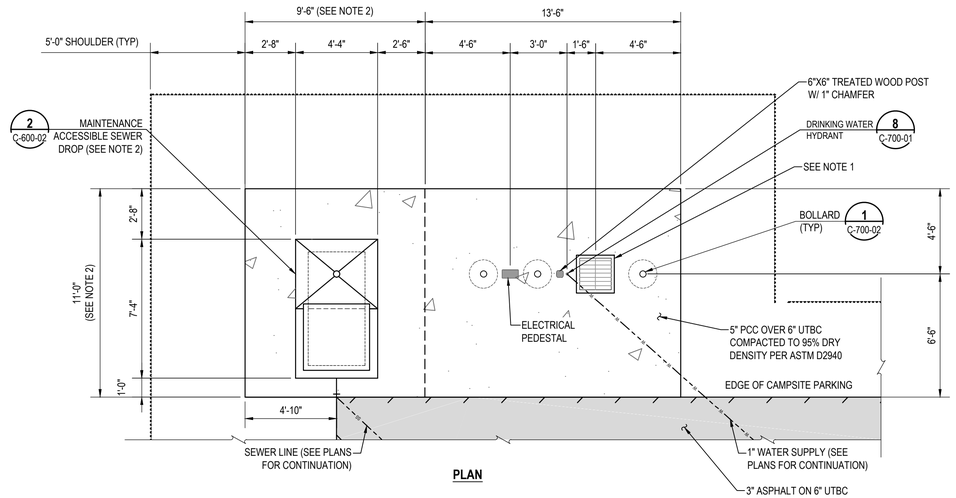
SCALE: 1/4" = 1'-0"



SECTION B-B



SECTION A-A



PLAN

NOTES:

1. 24"X24" GRATE OVER DRAIN ROCK. GRATE SHALL NOT ALLOW THE PASSAGE OF A 0.5-INCH SPHERE OR DOWEL ROD AND THE OPENINGS SHALL BE PLACED PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL. SLOPE PAD 3.5-FEET FROM HYDRANT TO GRATE AT MAX 1.5%.
2. MAINTENANCE ACCESSIBLE SEWER DROP NOT REQUIRED FOR CAMPSITES WITHOUT SEWER CONNECTION
3. CONTRACTOR TO SWEEP CONDUIT INTO ELECTRICAL PEDESTAL TO AVOID CONFLICTS WITH BOLLARDS, POST, AND DRINKING WATER HYDRANT

2 TYPICAL WATER, SEWER AND POWER CONNECTION FOR ACCESSIBLE CAMPSITES

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

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WHITE ROCK BAY CAMPGROUND
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WHITE ROCKS CAMPGROUND RD
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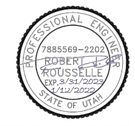
PROJECT #: 22238510
CONTRACT #: 2270048



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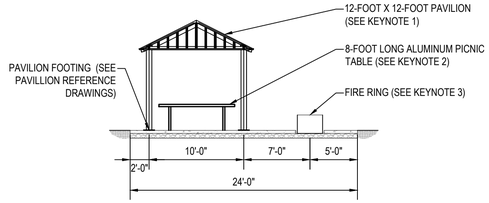
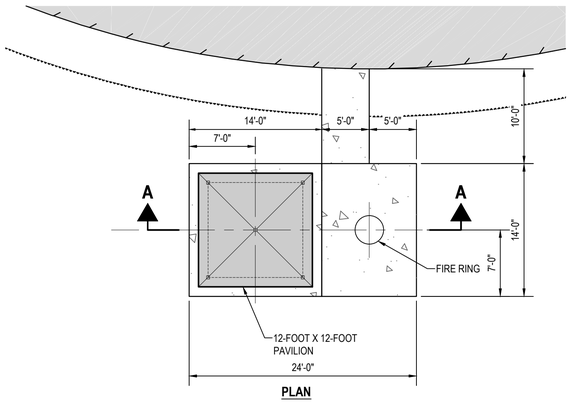
TYPICAL CAMPSITE DETAILS

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-600-01



SECTION A-A

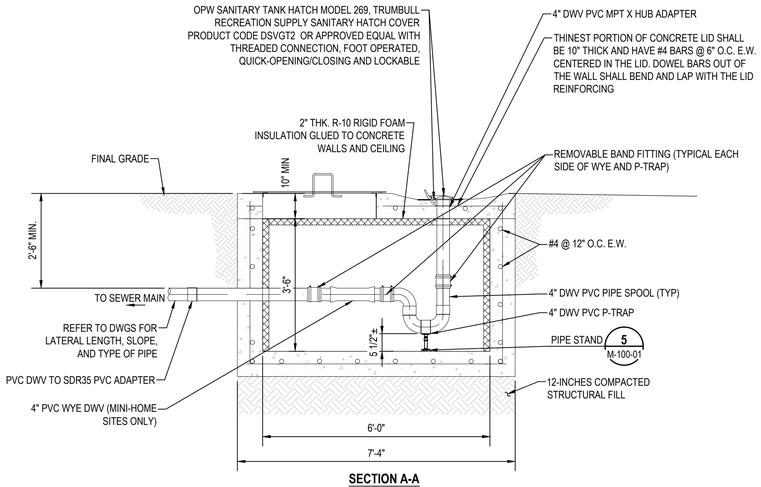


PLAN

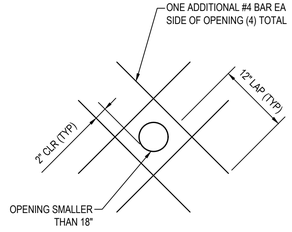
KEY NOTES

KEYNOTE NO.	ITEM	NON-ACCESSIBLE CAMPSITES	ACCESSIBLE CAMPSITES
1	PAVILION	**MODEL NO.** SQ12M-P6 OR APPROVED EQUAL **COLOR:** TUDOR BROWN [ROOF] AND SURREY BEIGE [FRAME] **FINISH:** STANDARD POWDER COAT SYSTEM	**MODEL NO.** SQ12M-P6 OR APPROVED EQUAL **COLOR:** TUDOR BROWN [ROOF] AND SURREY BEIGE [FRAME] **FINISH:** STANDARD POWDER COAT SYSTEM
2	PICNIC TABLE	OUTDOOR ALUMINUM MODEL NO. TFGH-8 OR APPROVED EQUAL. ANCHOR PICNIC TABLE TO CONCRETE PAD.	OUTDOOR ALUMINUM MODEL NO. HTFGH-8 OR APPROVED EQUAL. ANCHOR PICNIC TABLE TO CONCRETE PAD.
3	FIRE RING	PILOT ROCK MODEL NO. FS-30/18/PA OR APPROVED EQUAL. CENTER NOM. 32-INCH DIA. FIRE RING IN 36-INCH DIA. CONCRETE OPENING (DEPTH 4-INCHES). FILL FIRERING WITH 9-INCHES OF GRAVEL AND GRAVEL/SAND BETWEEN THE FIRE RING AND THE ANULUS.	PILOT ROCK MODEL NO. FS-30/24/PA OR APPROVED EQUAL. CENTER NOM. 32-INCH DIA. FIRE RING IN 36-INCH DIA. CONCRETE OPENING (DEPTH 4-INCHES). ONSITE FILL FIRERING WITH 14 3/8-INCHES OF GRAVEL AND GRAVEL/SAND BETWEEN THE FIRE RING AND THE ANULUS.

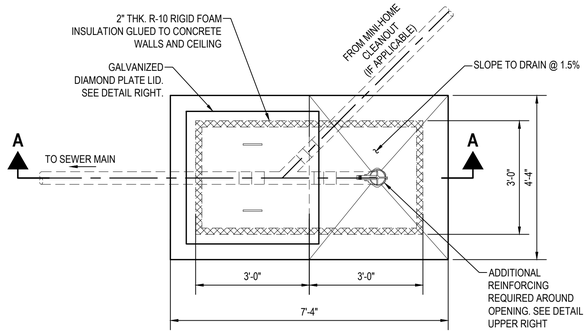
* PAVILION, PICNIC TABLE. AND FIRE RING WILL BE FURNISHED BY OWNER, AND INSTALLED BY THE CONTRACTOR INCLUDING THE FOOTING FOR THE PAVILION AS SHOWN ON THE PAVILION REFERENCE DRAWINGS.



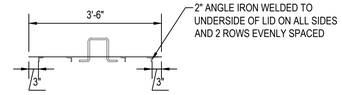
SECTION A-A



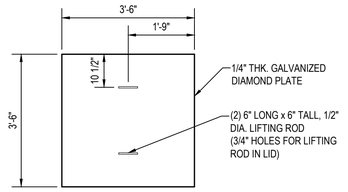
ADDITIONAL REINFORCING @ OPENING DETAIL



PLAN



LID SECTION



LID PLAN

1 TYPICAL CAMP SITE AMENITIES
SCALE: 1/8" = 1'-0"

2 MAINTENANCE ACCESSIBLE SEWER DROP
SCALE: 1/2" = 1'-0"

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CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND ANTELOPE ISLAND

WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT L. ROUSSELLE
EXP. 3/31/2023
STATE OF UTAH

CONFORMANCE SET 01/12/2022

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TYPICAL CAMPSITE DETAILS

PROJECT NUMBER 90850	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-600-02

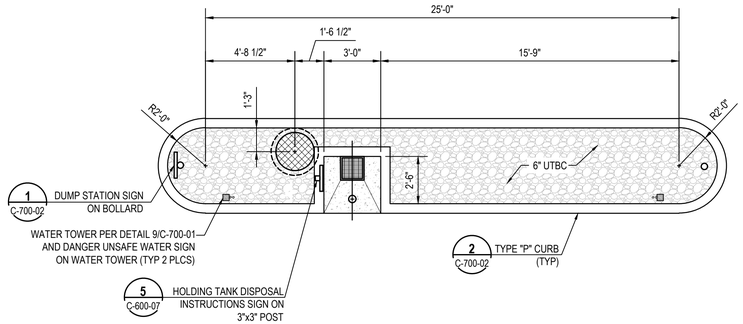
CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

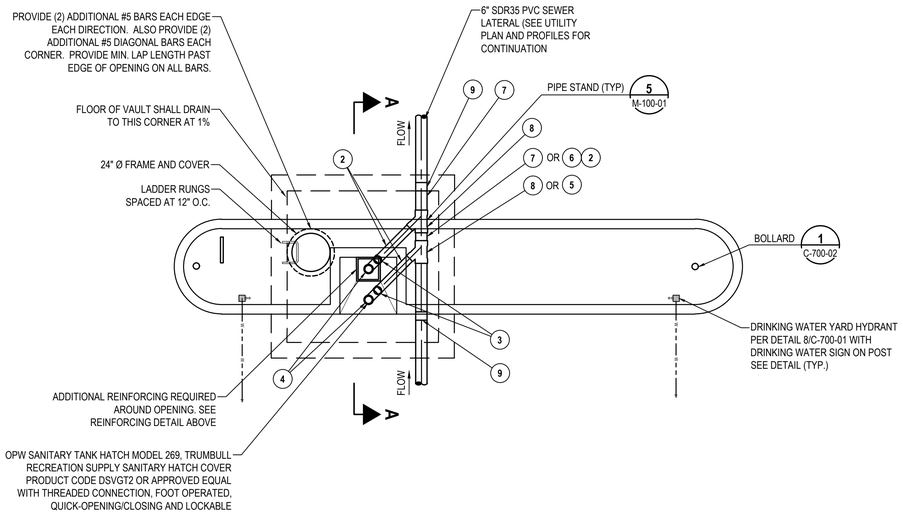
811 Know what's below. Call before you dig.

BENCHMARK

NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4315.30'

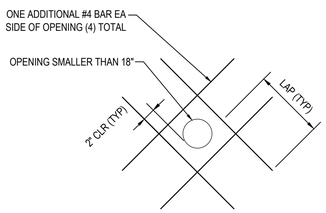




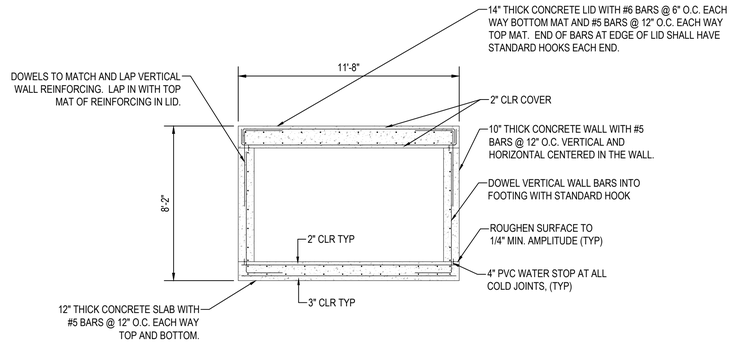
UTILITY PLAN

PIPE AND FITTINGS SCHEDULE					
NO.	**DESCRIPTION**	**SIZE**	**JOINT**	**MATERIAL**	**NOTES**
1	ADAPTER	4"	MPTxHUB	DWV PVC	
2	SPOOL	4"	PE	DWV PVC	
3	REMOVABLE BAND COUPLING	4"	-	RUBBER	STEEL BANDS, FERNCO F105644 OR APPROVED EQUAL
4	P-TRAP	4"	HUB	DWV PVC	
5	45° BEND	4"	HUB	DWV PVC	
6	CONCENTRIC REDUCER	6" x 4"	HUB	DWV PVC	
7	SPOOL	6"	PE	DWV PVC	
8	REDUCING WYE	6" x 4"	HUB	DWV PVC	
9	ADAPTER	6"	HUBxPE	DWV PVC	DWV PVC TO SDR35 PVC

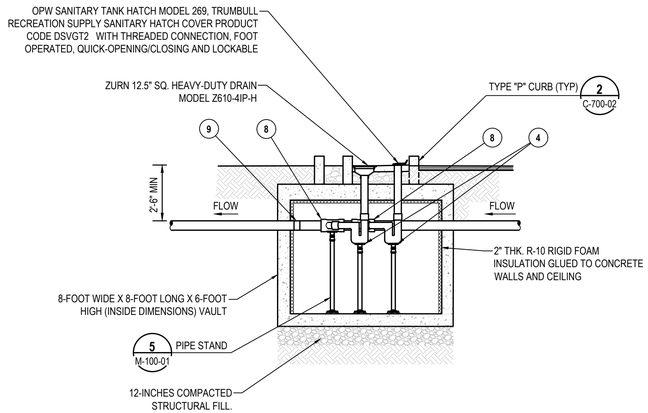
1 **RV DUMP STATION DETAIL**
SCALE: 1/4" = 1'-0"



ADDITIONAL REINFORCING @ OPENING DETAIL



STRUCTURAL REINFORCEMENT DETAIL



SECTION A-A

NOTES:

1. P-TRAPS SHOULD HAVE (2) REMOVABLE BAND FITTINGS TO COMPLETELY REMOVE P-TRAP AND SHALL EACH BE SUPPORTED BY ADJUSTABLE PIPE STAND.
2. CAST-IN-PLACE VAULT SHOWN. VAULT SHALL BE HS-20 RATED.
3. CONCRETE SHALL BE 5,000 PSI CONCRETE WITH MAX W/C RATIO OF 0.40.
4. XYPEX BIOSAN C500 MIXTURE TO BE ADDED TO CONCRETE MIX AT A RATE OF 2% BY WEIGHT CEMENTITIOUS MATERIAL. CONTACT MANUFACTURER FOR MIX DESIGN REQUIREMENTS AND PLACEMENT.

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SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT L. ROUSSELLE EXP. 6/30/2023 STATE OF UTAH

CONFORMANCE SET 01/12/2022

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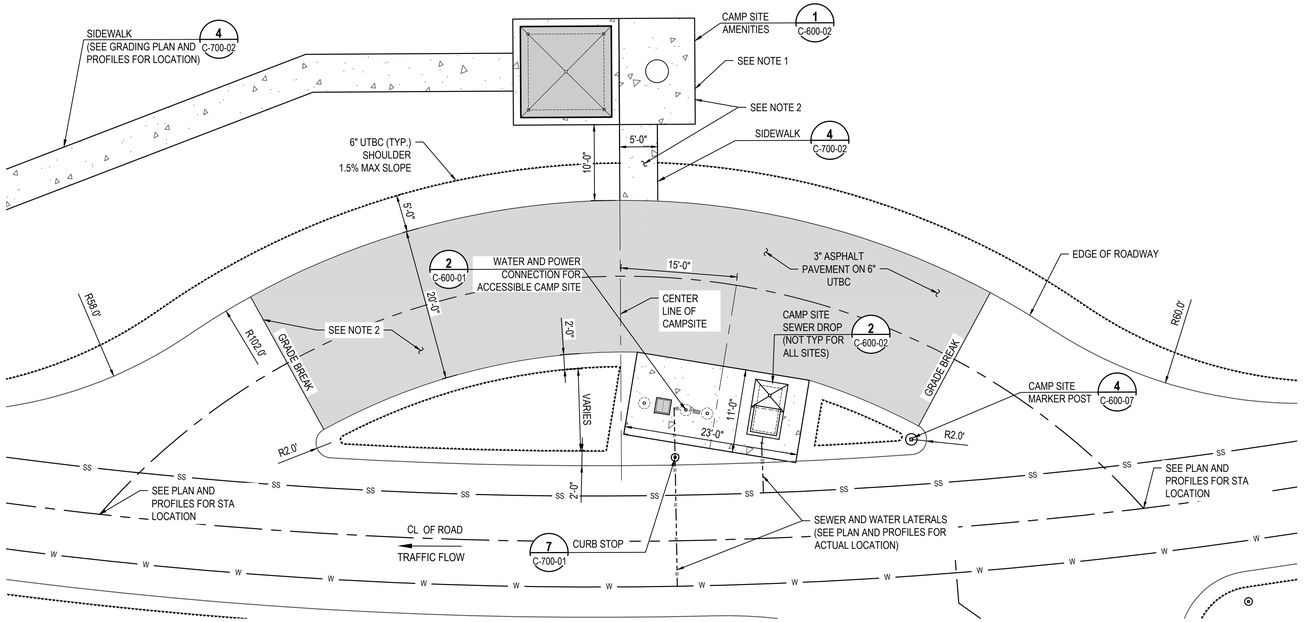
RV DUMP STATION DETAIL

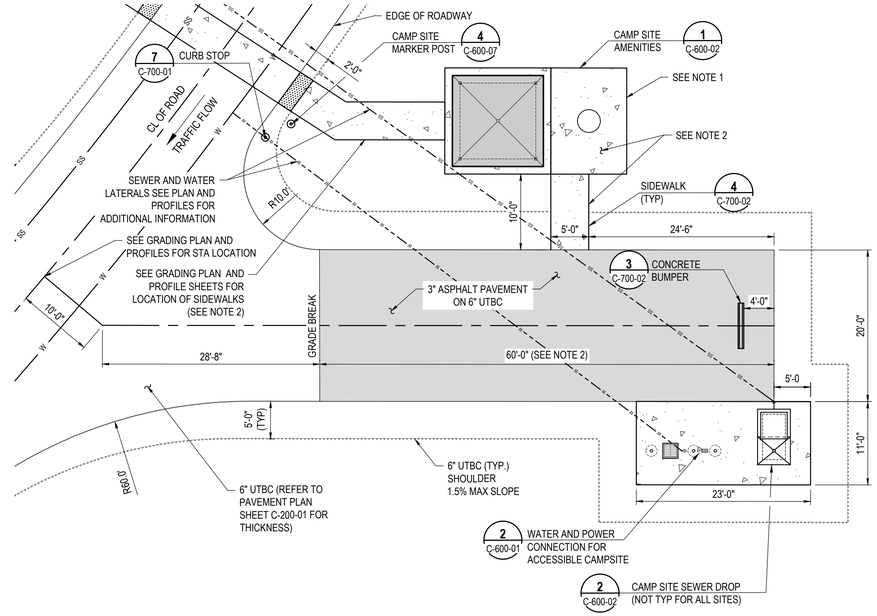
PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-600-03



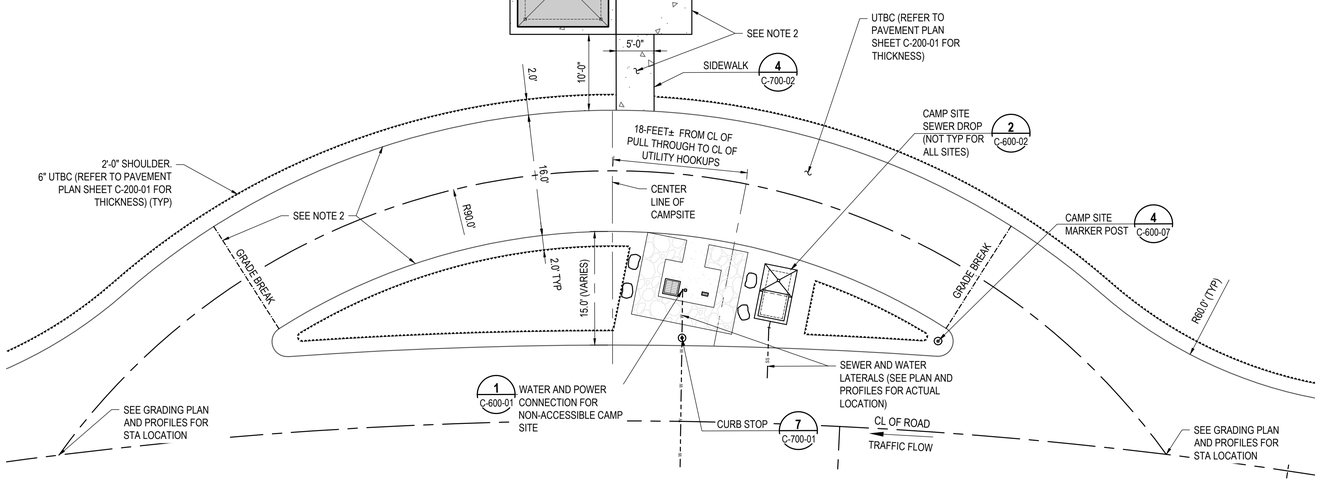
1 ACCESSIBLE PULL THROUGH CAMP SITE (TYP)

SCALE: 1" = 10'



2 ACCESSIBLE BACK-IN CAMP SITE (TYP)

SCALE: 1" = 10'



3 PULL THROUGH CAMP SITE (TYP)

SCALE: 1" = 10'

NOTES

1. PROVIDE JOINT PATTERN SPACING TO PRODUCE LENGTH X WIDTH RATIO OF 0.8 MINIMUM TO 1.2 MAXIMUM. MAXIMUM PANEL SIZES SHALL BE 15-FEET LONG X 12-FEET WIDE. ALL JOINTS IN PAVEMENT SECTION SHALL BE SEALED. CONTRACTOR TO PROVIDE CONSTRUCTION JOINTS AT SECTIONS JOINTING PREVIOUSLY POURED SECTIONS.
2. 2% MAX SLOPE IN ANY DIRECTION (REFER TO PLAN AND PROFILE GRADING PLANS FOR FINISH GRADE ELEVATIONS)

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SYRACUSE, UTAH 84075

PROJECT #: 22238510
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PROFESSIONAL ENGINEER
7885569-2202
ROBERT J.
ROUSSELLE
EXP.3/31/2023
1/12/2022
STATE OF UTAH

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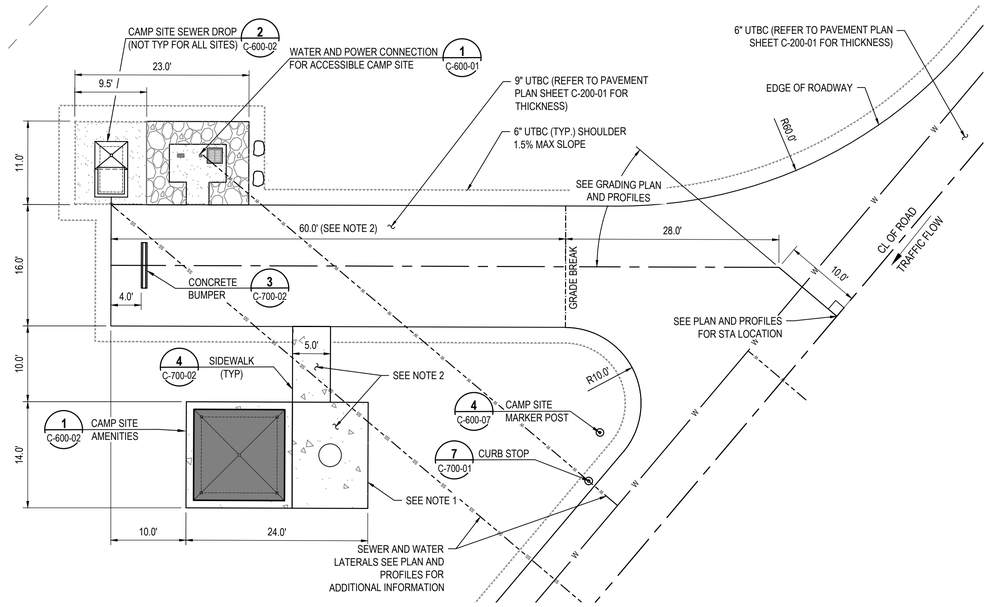
TYPICAL CAMP SITE DETAILS

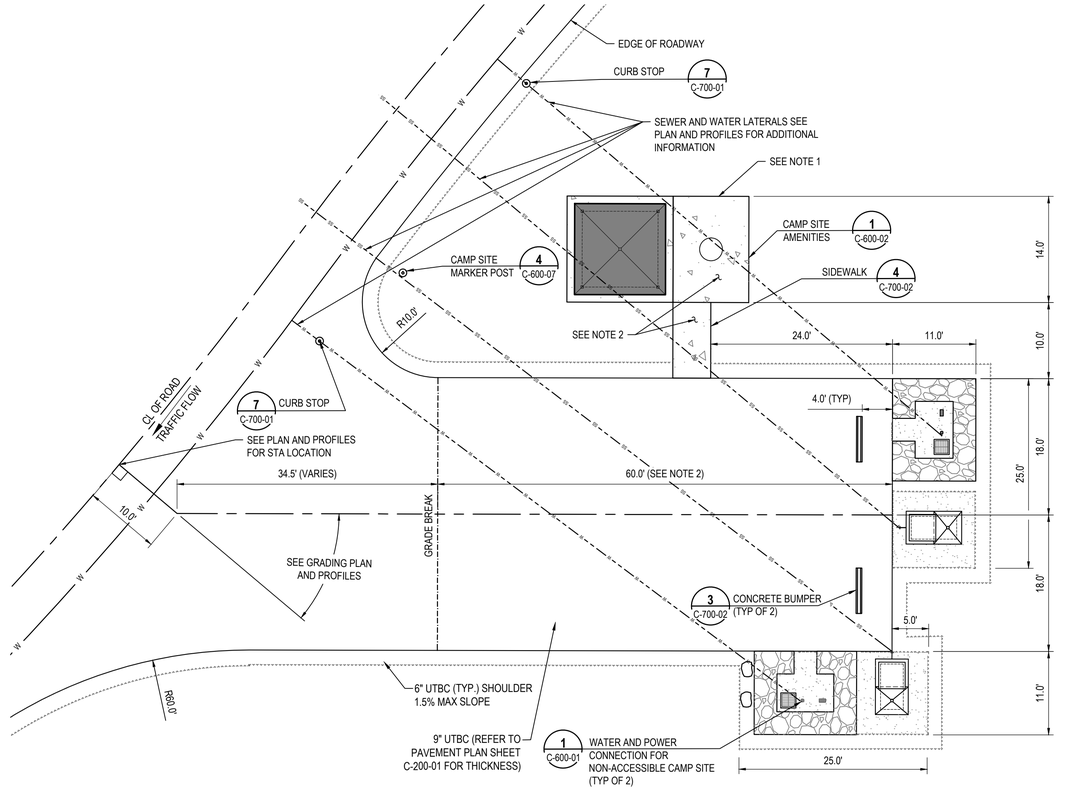
PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-600-04



1 TYPICAL BACK-IN CAMP SITE DETAIL

SCALE: 1" = 10'



2 TYPICAL DOUBLE BACK IN RV CAMP SITE DETAIL

SCALE: 1" = 10'

NOTES

1. PROVIDE JOINT PATTERN SPACING TO PRODUCE LENGTH X WIDTH RATIO OF 0.8 MINIMUM TO 1.2 MAXIMUM. MAXIMUM PANEL SIZES SHALL BE 15-FEET LONG X 12-FEET WIDE. ALL JOINTS IN PAVEMENT SECTION SHALL BE SEALED. CONTRACTOR TO PROVIDE CONSTRUCTION JOINTS AT SECTIONS JOINTING PREVIOUSLY POURED SECTIONS.
2. 2% MAX SLOPE IN ANY DIRECTION (REFER TO PLAN AND PROFILE GRADING PLANS FOR FINISH GRADE ELEVATIONS)

CODE OFFICIAL STAMP
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DATE: 01/25/2022

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FOR:
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4315 S 2700 W, Fl 3
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CONTACT:
PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT L. ROUSSELLE
EXP.3/31/2023
01/12/2022
STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
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2	01/12/2022	DFCM COMMENTS	GWO
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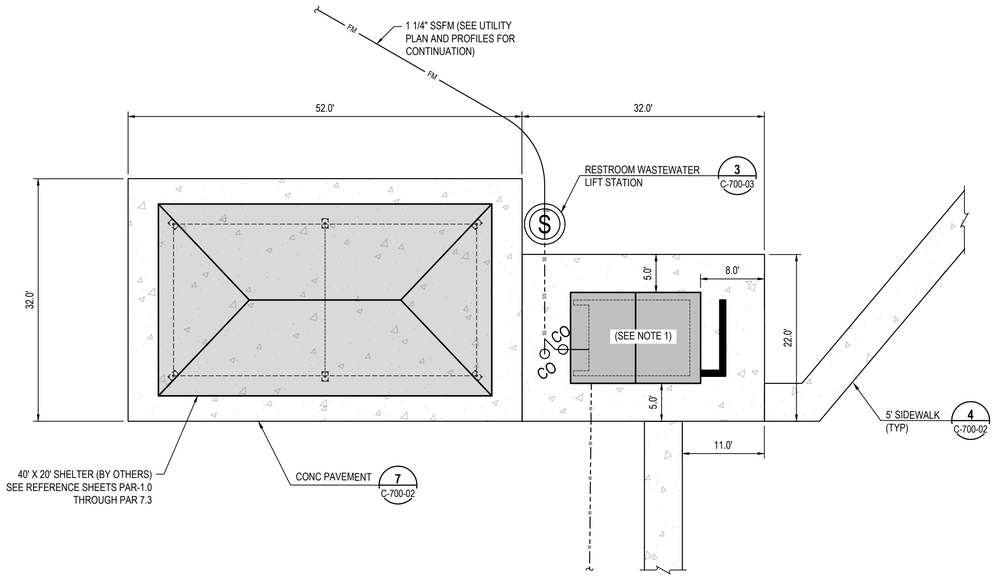
TYPICAL CAMP SITE DETAILS

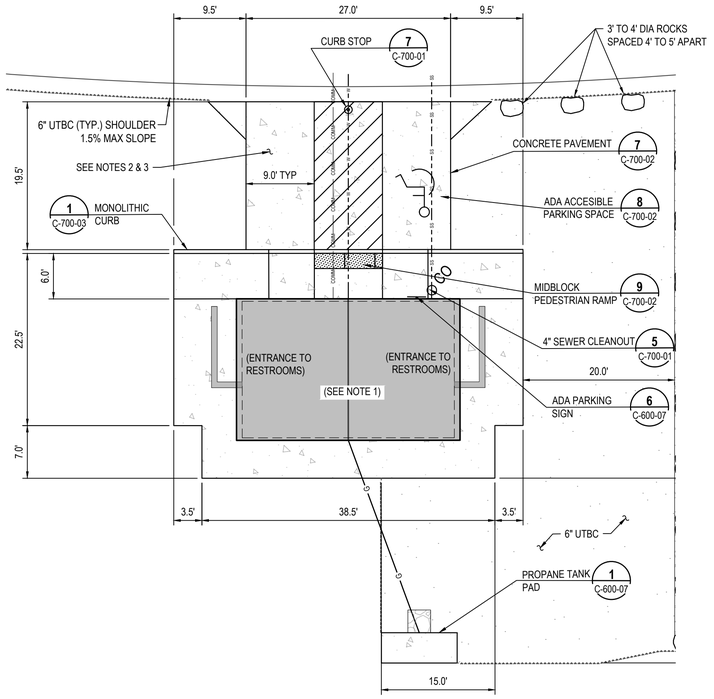
PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-600-05



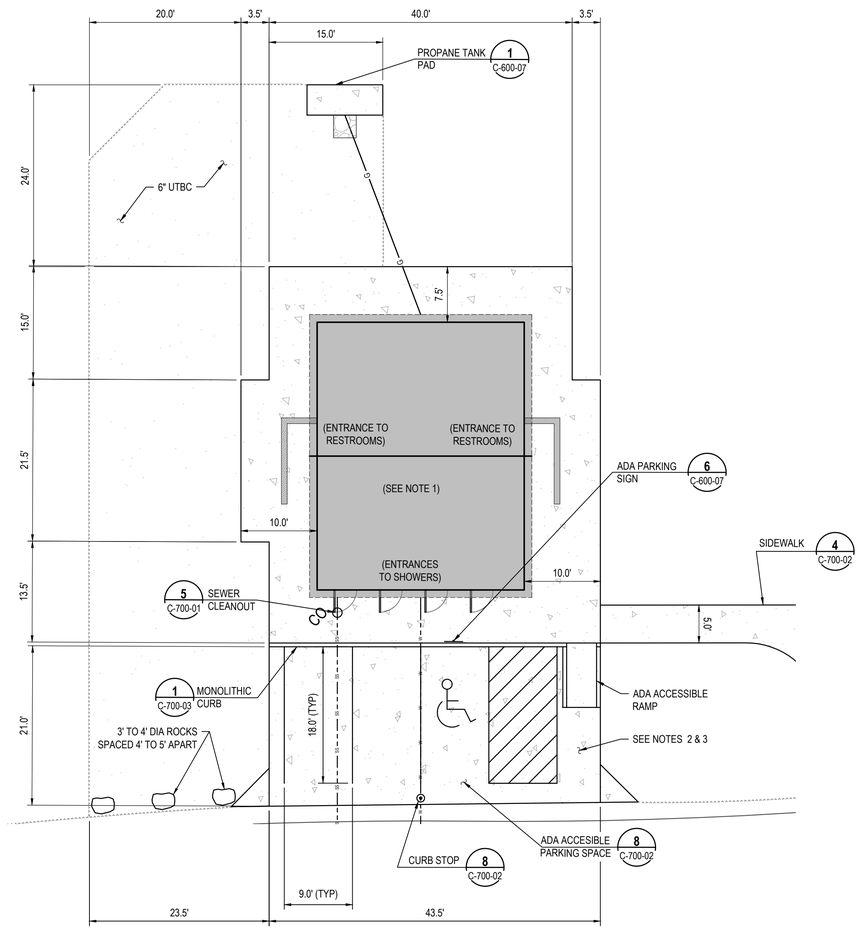
1 UNISEX RESTROOM DETAIL

SCALE: 1" = 10'



3 TYPICAL SMALL RESTROOM SITE DETAIL

SCALE: 1" = 10'



2 TYPICAL LARGE RESTROOM DETAIL

SCALE: 1" = 10'

NOTES

1. REFER TO RESTROOM ARCHITECTURAL, STRUCTURAL, ELECTRICAL, AND MECHANICAL SHEETS FOR ADDITIONAL INFORMATION.
2. PROVIDE JOINT PATTERN SPACING TO PRODUCE LENGTH X WIDTH RATIO OF 0.8 MINIMUM TO 1.2 MAXIMUM. MAXIMUM PANEL SIZES SHALL BE 15-FEET LONG X 12-FEET WIDE. ALL JOINTS IN PAVEMENT SECTION SHALL BE SEALED. CONTRACTOR TO PROVIDE CONSTRUCTION JOINTS AT SECTIONS JOINTING PREVIOUSLY POURED SECTIONS.
3. 2% MAX SLOPE IN ANY DIRECTION (REFER TO GRADING PLAN AND PROFILES PLANS FOR FINISH GRADE ELEVATIONS)

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WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT L. ROUSSELLE EXP. 9/31/2022 STATE OF UTAH

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TYPICAL RESTROOM DETAILS

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
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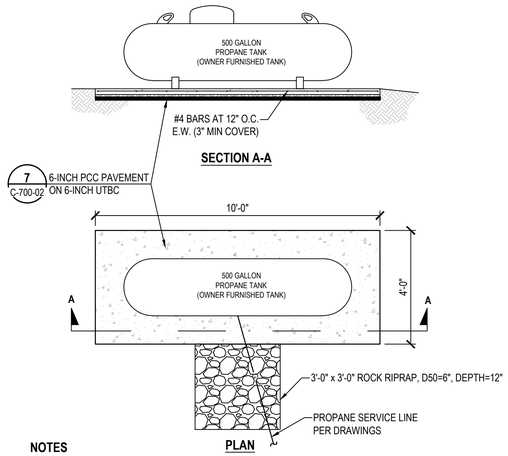
PROJECT MANAGER R. ROUSSELLE	

C-600-06

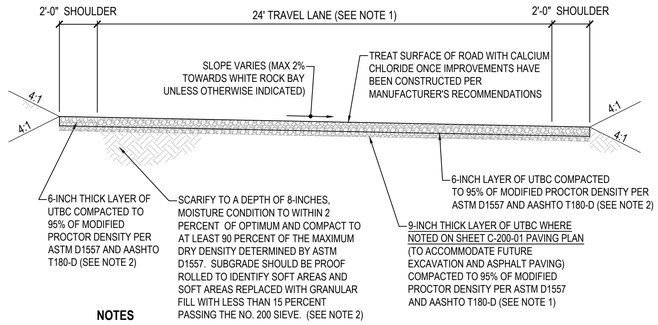


NOTES

1. CONTRACTOR TO REFER TO RESTROOM DRAWINGS AND UTILITY PLAN AND PROFILE SHEETS FOR SIZE OF PROPANE GAS LINE TO RESTROOM FROM TANK. CONTRACTOR TO INSTALL PROPANE GAS LINE.

1 PROPANE TANK PAD

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

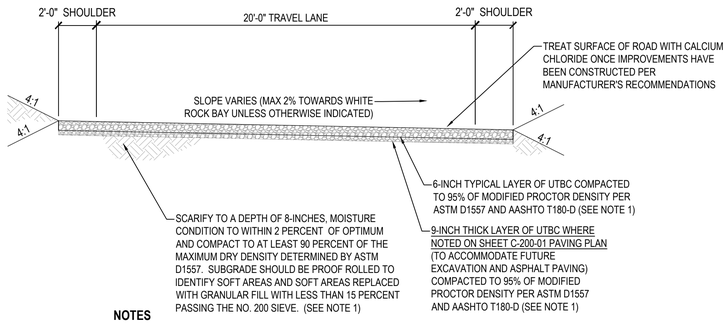


NOTES

1. ENTRANCE ROAD WIDTH VARIES.
2. REFER TO GEOTECHNICAL REPORT FOR COMPACTION REQUIREMENTS.

2 TYPICAL TWO-WAY ROAD SECTION - UTBC

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

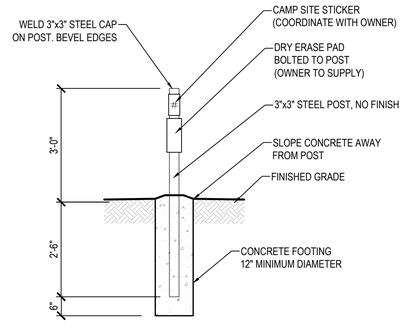


NOTES

1. REFER TO GEOTECHNICAL REPORT FOR COMPACTION REQUIREMENTS.

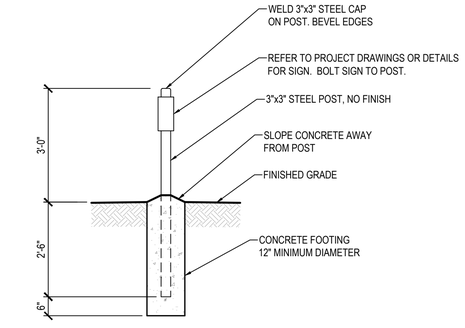
3 TYPICAL CAMPGROUND LOOP ROAD SECTION - UTBC

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



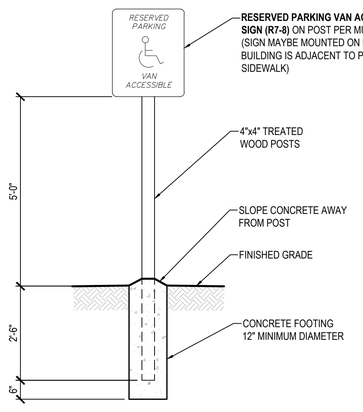
4 CAMP SITE MARKER POST

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



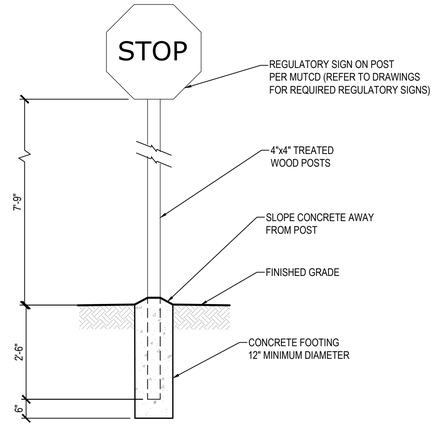
5 SIGN POST

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



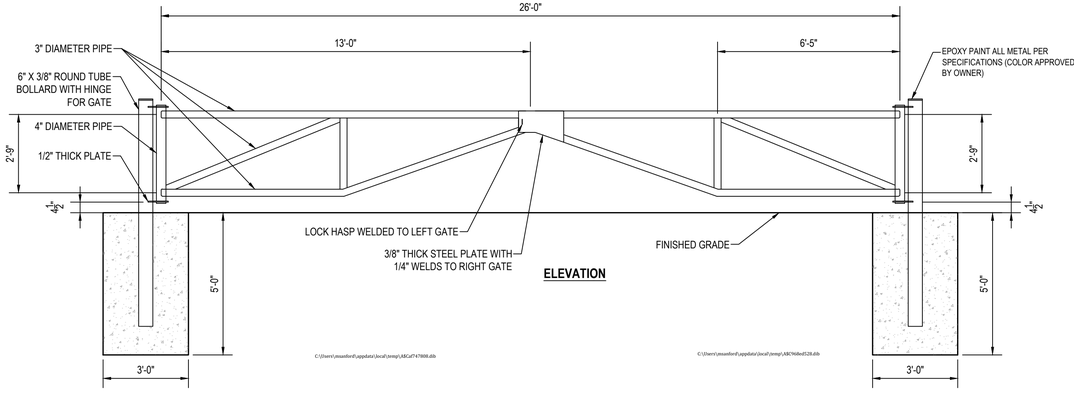
6 ACCESSIBLE PARKING SIGN

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



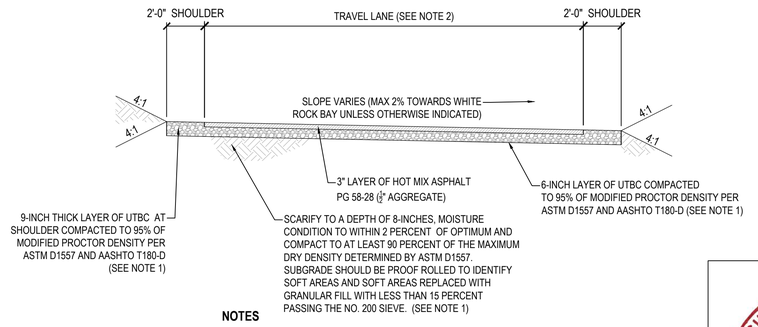
7 REGULATORY SIGN

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



8 ENTRANCE/EXIT GATE

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



NOTES

1. REFER TO GEOTECHNICAL REPORT FOR COMPACTION REQUIREMENTS.
2. ROAD WIDTHS VARY. REFER TO GRADING PLAN AND PROFILE SHEETS AND PAVEMENT PLAN.

9 TYPICAL ROAD SECTION - ASPHALT ALTERNATE 2

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

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT L. ROUSSELLE EXP. 9/31/2022 STATE OF UTAH 1/12/2022

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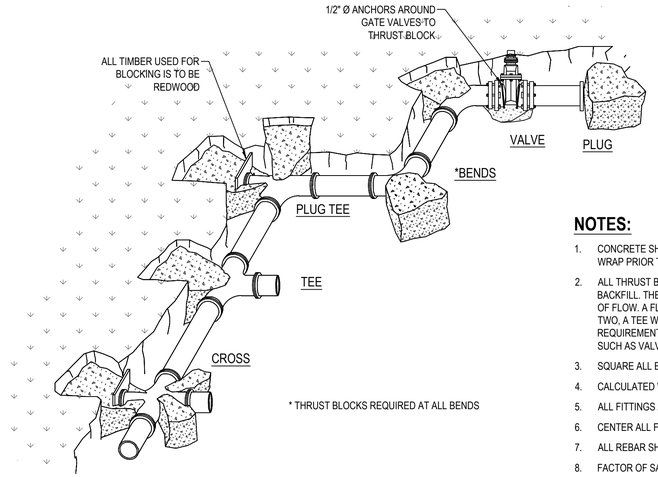
TYPICAL CAMPGROUND DETAILS

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-600-07



* THRUST BLOCKS REQUIRED AT ALL BENDS

THRUST BLOCK BEARING AREA IN SQ. FT. @150 PSI WORKING PRESSURE

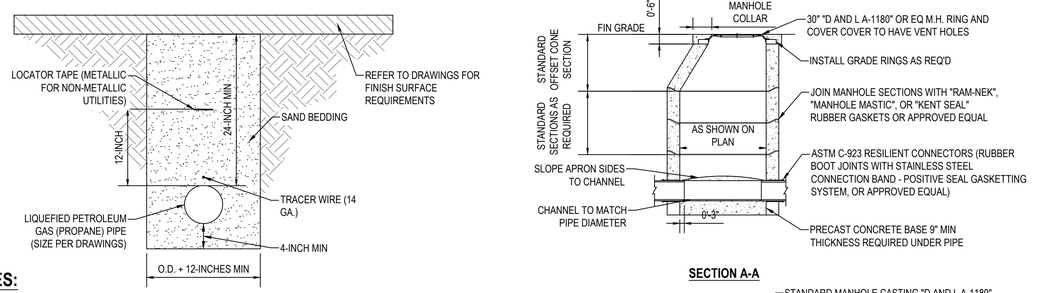
PIPE SIZE	CROSS	TEE	WYE	DEAD END	VALVE	90° BEND	45° BEND	22.5° BEND	11.25° BEND
4	2.7	1.9	1.9	1.9	1.9	2.7	1.5	1.0	1.0
6	6.0	4.3	4.3	4.3	4.3	6.0	3.3	1.7	1.0
8	10.7	7.6	7.6	7.6	7.6	10.7	5.8	3.0	1.5
10	16.7	11.8	11.8	11.8	11.8	16.7	9.1	4.6	2.4
12	24.0	17.0	17.0	17.0	17.0	24.0	13.0	6.7	3.4
14	32.7	23.1	23.1	23.1	23.1	32.7	17.7	9.1	4.6
16	42.7	30.2	30.2	30.2	30.2	42.7	23.1	11.8	6.0
18	54.0	38.2	38.2	38.2	38.2	54.0	29.3	14.9	7.5
20	66.7	47.2	47.2	47.2	47.2	66.7	36.1	18.4	9.3
24	96.0	67.9	67.9	67.9	67.9	96.0	52.0	26.5	13.4

NOTES:

1. CONCRETE SHALL NOT BE PLACED AROUND JOINTS AND BOLTS. COVER ALL METAL CONTACT AREAS WITH A POLY WRAP PRIOR TO CONCRETE PLACEMENT.
2. ALL THRUST BLOCK BEARING FACES SHALL BE PLACED AGAINST UNDISTURBED SOIL OR APPROVED COMPACTED BACKFILL. THE BEARING FACE IS CONSIDERED TO BE THE FACE PLANE OF THE BLOCK PERPENDICULAR TO THE AXIS OF FLOW. A FLANGED OR CAPPED PIPE END WILL HAVE ONE BEARING FACE, AND ELBOW THRUST BLOCK WILL HAVE TWO, A TEE WILL HAVE THREE, AND A CROSS WILL HAVE FOUR, EACH OF WHICH MUST MEET THE TABLE REQUIREMENTS. FLOW IS CONSIDERED TO BE IN BOTH DIRECTIONS FOR STRAIGHT THROUGH IN LINE COMPONENTS SUCH AS VALVES, REDUCERS, AND ETC., WHICH THEREFORE HAVE A MINIMUM OF TWO BEARING FACES.
3. SQUARE ALL EDGES TO RECEIVE CONCRETE. THRUST BLOCKS SHALL BE GENERALLY CUBIC IN CONFIGURATION.
4. CALCULATED WITH AN ALLOWABLE BEARING PRESSURE OF 1500 LBS. PER SQ. FT.
5. ALL FITTINGS AND VALVES SHALL BE ANCHORED WITH TWO #5 REBAR.
6. CENTER ALL FITTINGS OVER THRUST BLOCKS.
7. ALL REBAR SHALL BE FUSION BONDED EPOXY COATED AFTER IT HAS BEEN SHAPED OR BENT TO FIT.
8. FACTOR OF SAFETY OF 1.5 WAS USED TO ACCOUNT FOR PRESSURE TESTING.

1 THRUST BLOCK DETAIL

SCALE: NONE



NOTES:

UTILIZE TYPE K TEMPER DRAWN WITH MINIMUM FITTINGS. USE PIPE BENDS WHERE COUPLERS ARE REQUIRED. USE WROUGHT COUPLERS BRAZED WITH B CUP-5 BRAZING JOINT FILLER ALLOY.

WRAPPING: SCOTCHWRAP 10 MIL PVC TAPE.

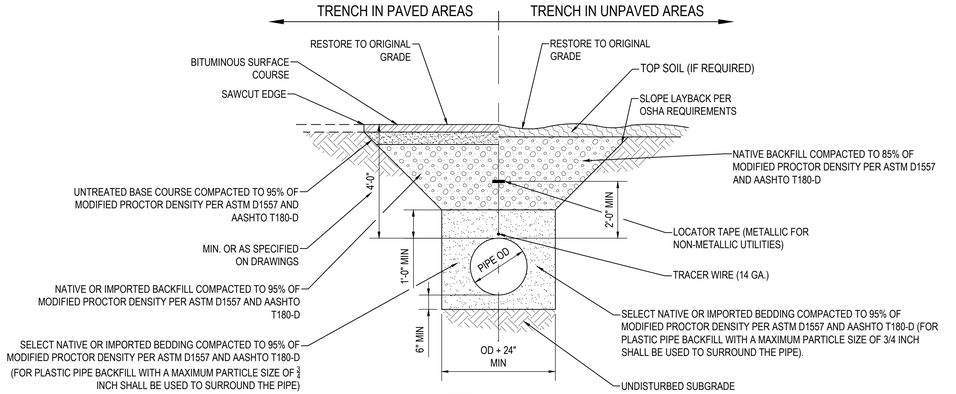
CONTRACTOR'S OPTIONS, WHEN ACCEPTABLE TO JURISDICTIONAL AUTHORITIES:

1- HIGH DENSITY POLYETHYLENE PIPE AND FITTINGS; ASTM D-3350:335434C, PPI:PE "3408/3406", TYPE III, GRADE P34 CATEGORY 5 PER ASTM D1248, SDR 11 PIPE, U.L. LISTED FOR L.P. GAS SERVICE.

2- SCHEDULE 40 STEEL WITH WELDED FITTINGS AND WRAPPED WITH SCOTCH WRAP 10 MIL PVC TAPE.

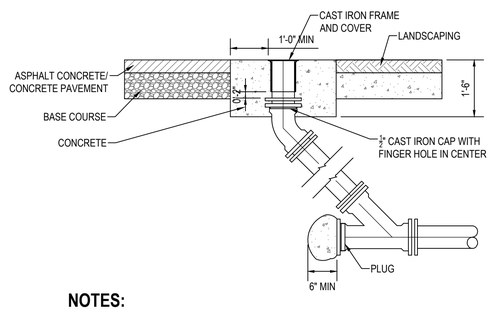
2 TYPICAL UTILITY TRENCH DETAIL

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



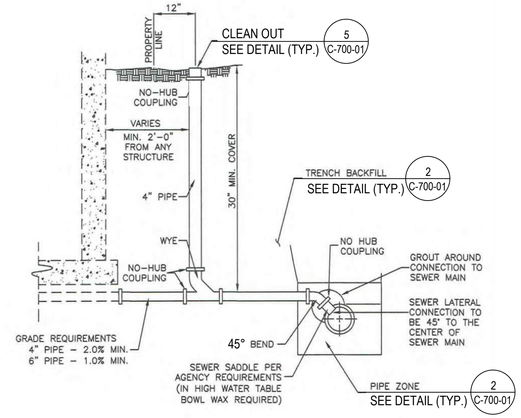
NOTE:

REFER TO GEOTECHNICAL REPORT FOR OMPACTION REQUIREMENTS.



NOTES:

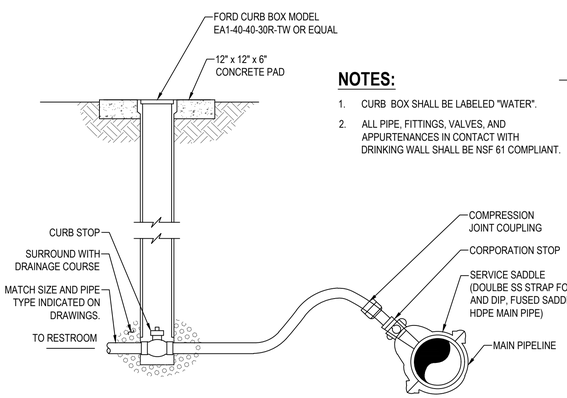
1. IF IN UNIMPROVED AREA, TOP SHALL BE 6" ABOVE GRADE.
2. SEE PLAN FOR STATION AND INVERT ELEVATION. PIPE AND FITTINGS SHALL BE OF THE SAME MATERIAL AS THE MAIN LINE SEWER.
3. SET COVER AND CONCRETE COLLAR 1/4" TO 1/2" BELOW GRADE IN PAVED ASPHALT CONCRETE AREAS AND FLUSH WITH FINISH GRADE ELSEWHERE.



NOTES:
1. INSTALL ELECTROFUSION GASKET BRANCH SADDLE WHEN CONNECTING SDR35 PVC SEWER LATERAL TO HDPE SEWER MAIN.

3 PROPANE SERVICE TRENCH DETAIL

SCALE: 1" = 1'-0"

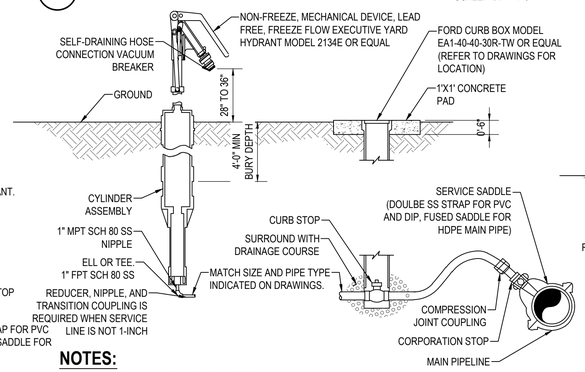


NOTES:

1. CURB BOX SHALL BE LABELED "WATER".
2. ALL PIPE, FITTINGS, VALVES, AND APPURTENANCES IN CONTACT WITH DRINKING WALL SHALL BE NSF 61 COMPLIANT.

4 PRECAST MANHOLE

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

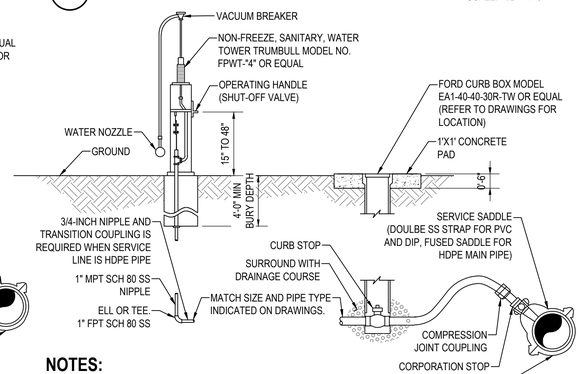


NOTES:

1. CURB BOX SHALL BE LABELED "WATER".
2. ALL PIPE, FITTINGS, VALVES, AND APPURTENANCES IN CONTACT WITH DRINKING WALL SHALL BE NSF 61 COMPLIANT.
3. INSTALL YARD HYDRANT SO THAT THE ADAPTER OR BUSHING IS ABOVE GRADE FOR SERVICING.
4. YARD HYDRANT HANDLE SHALL MEET ASSE 1057 SANITARY YARD HYDRANT STANDARD AND MEET ADA 5 LBF OPERATING REQUIREMENTS.
5. CONTRACTOR TO FLUSH YARD HYDRANT WATER SERVICE PER MANUFACTURER'S RECOMMENDATIONS PRIOR TO INSTALLING YARD HYDRANT.

5 CLEANOUT TO GRADE

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

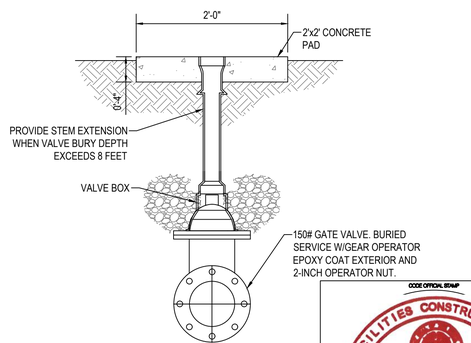


NOTES:

1. CURB BOX SHALL BE LABELED "WATER".
2. ALL PIPE, FITTINGS, VALVES, AND APPURTENANCES IN CONTACT WITH DRINKING WALL SHALL BE NSF 61 COMPLIANT. PVC PIPE SHALL NOT HAVE GLUED JOINTS.
3. TOWER SHALL BE 9-FEET, 6-INCH OVERALL, WITH RISER EXTENDED FOR 12-FOOT REACH, STAINLESS STEEL OPERATING HANDLE, VACUUM BREAKER, NON-KINK INDUSTRIAL HOSE., BUMPER TO PROTECT SPRAY NOZZLE, AND MEET ADA 5 LBF OPERATING REQUIREMENTS.
4. CONTRACTOR TO FLUSH CAMPGROUND WATER TOWER WATER SERVICE PER MANUFACTURER'S RECOMMENDATIONS PRIOR TO INSTALLING WATER TOWER.

6 SEWER LATERAL CONNECTION

SCALE: NONE



NOTE:

PROVIDE PROTECTIVE COATING TO EXTERIOR SURFACE OF VALVE BODY AND PROVIDE STAINLESS STEEL NUTS AND BOLTS.

7 WATER SERVICE

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

8 DRINKING WATER YARD HYDRANT

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

9 CAMPGROUND WATER TOWER

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

10 BURIED GATE VALVE

SCALE: 1" = 1'-0"

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7885569-2202
ROBERT L. DUBEROW
ROUSSELLE
EXP. 3/31/2023
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CIVIL DETAILS

PROJECT NUMBER	PRINT DATE
10970	1/12/2022
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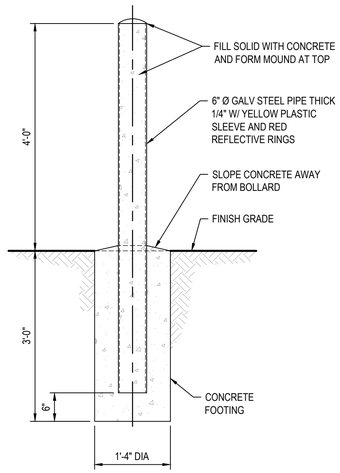
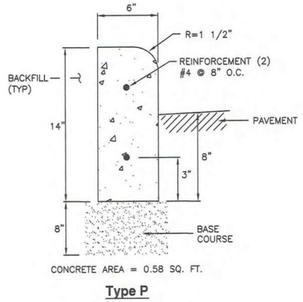
G. OFFERMANN	F. DUBEROW
PROJECT MANAGER	
R. ROUSSELLE	

C-700-01



1 PIPE BOLLARD DETAIL

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



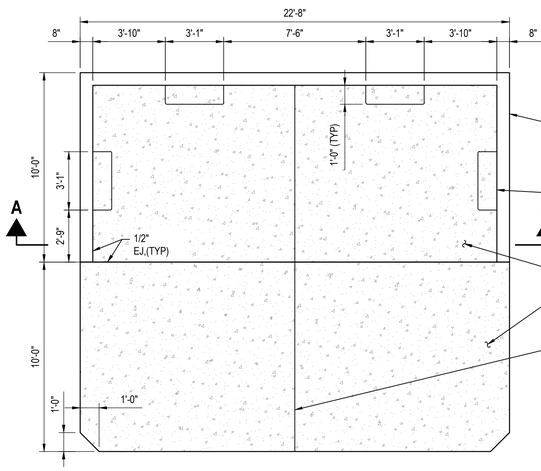
Type P

NOTE:

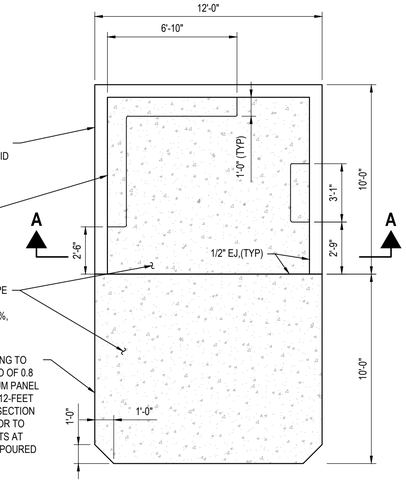
SEE APWA STANDARDS PLAN NO. 209.

2 TYPE "P" CURB

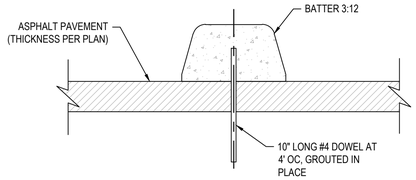
SCALE: NONE



PLAN

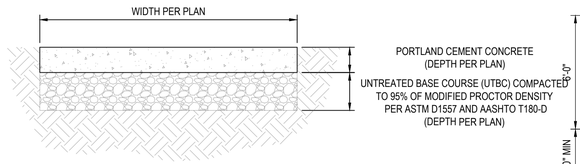


PLAN



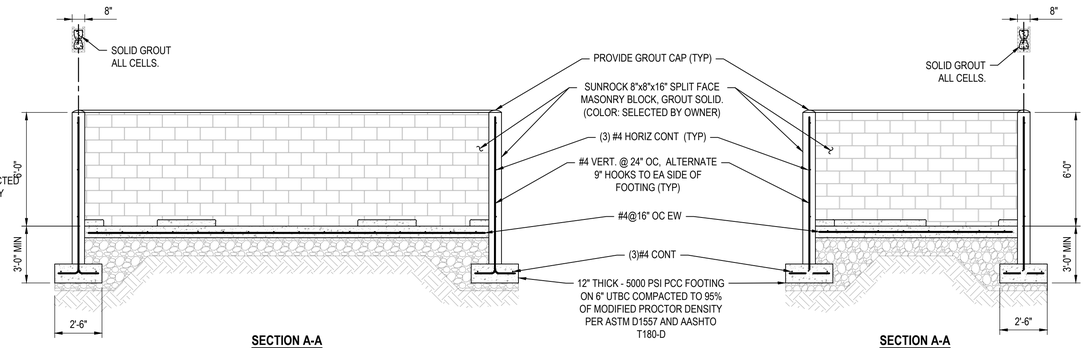
NOTES:

1. CURB SHALL BE CONSTRUCTED OF PORTLAND CEMENT CONCRETE.
2. EPOXY CEMENT COAT SHALL BE APPLIED TO PAVEMENT SURFACE PRIOR TO INSTALLATION OF PCC CURB.
3. ALL EXPOSED CORNERS ON CONCRETE BUMPER TO BE ROUNDED WITH A 1/2" RADIUS.



NOTES:

1. CONTRACTOR SHALL PROVIDE CONTROL JOINTS EVERY 5 FEET AND EXPANSION JOINTS EVERY 20 FEET.
2. SIDEWALK ADJACENT TO STRUCTURES SHALL HAVE 2% MAX. CROSS SLOPE AWAY FROM STRUCTURE UNLESS OTHERWISE NOTED

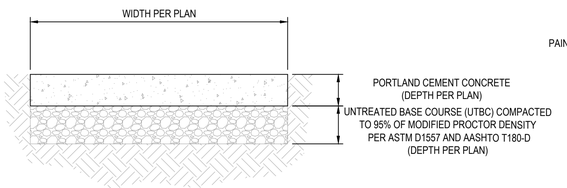


SECTION A-A

SECTION A-A

3 CONCRETE BUMPER

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

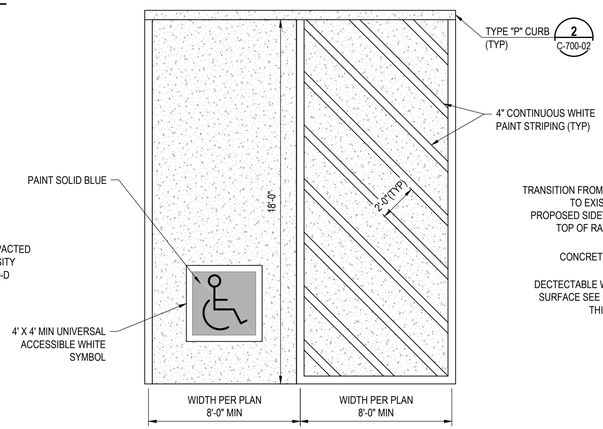


NOTE:

PROVIDE JOINT PATTERN SPACING TO PRODUCE L X W=0.8 TO 1.2. ALL JOINTS IN PAVEMENT SECTION SHALL BE SEALED. CONTRACTOR TO PROVIDE CONSTRUCTION JOINTS AT SECTIONS JOINTING PREVIOUSLY POUR SECTIONS.

4 TYPICAL SIDEWALK

SCALE: NONE

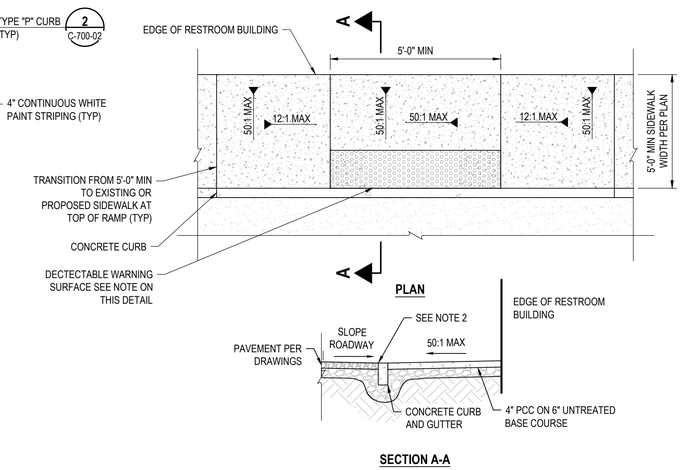


NOTES:

1. STALL AND AISLE DIMENSIONS PER PLAN.
2. CLEAN ALL SURFACES TO RECEIVE STRIPING.

5 DUAL MASONRY TRASH ENCLOSURE DETAIL

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



SECTION A-A

6 MASONRY TRASH ENCLOSURE DETAIL

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

PEDESTRIAN RAMP NOTES

1. GRATINGS OR SIMILAR ACCESSES SHALL NOT BE LOCATED IN THE AREA AT THE BASE OF THE CURB RAMP OR LANDING AREA. IF OBSTRUCTIONS SUCH AS GRATINGS, INLETS, UTILITY POLES, PULL BOXES, FIRE HYDRANTS, ETC. ARE ENCOUNTERED, THE LOCATION AND DIMENSIONS SHALL BE ADJUSTED UPON APPROVAL OF THE ENGINEER.
2. NO LIP SHALL BE PERMITTED AT THE CURB RAMP SLOPE TO GUTTER PAN. GRINDING SHALL BE 6" MINIMUM PERPENDICULAR TO FLOWLINE FOR RETROFIT.
3. PLANTMIX BITUMINOUS SURFACE SHALL BE FLUSH WITH THE EDGE OF THE GUTTER PAN IN THE AREA OF THE CURB RAMP. GRINDING WIDTH 9" MINIMUM OR 12:1 PLANTMIX SURFACE MINUMUM FOR RETROFIT.
4. ROUGH BROOM TEXTURE ON CURB RAMPS AND WINGS. TEXTURE SHALL PROVIDE A VISUAL CONTRAST TO SIDEWALK.
5. CURB RAMP WINGS DO NOT HAVE TO BE WITHIN CROSSWALK. HOWEVER THE RAMP ITSELF HAS TO BE INSIDE CROSSWALK.
6. ALL SLOPE RATES ARE RELATIVE TO LEVEL AND SHALL MEET ADAAG STANDARDS.
7. GUTTER SHALL MAINTAIN POSITIVE DRAINAGE TO PREVENT PONDING. AT RAMP.
8. DETECTABLE WARNING SURFACE SHALL BE ARMOR CAST PRODUCTS COMPANY ADA-C-2460-RD "BRICK RED" OR EQUAL. DETECTABLE WARNING SURFACE SHALL BE INSTALLED PER MANUFACTURES INSTALLATION GUIDELINES AND CONFORM TO ADAAG (4.29.2) "CONTRAST".
9. ALL CONCRETE TO BE REMOVED TO SAW CUT OR EXPANSION JOINTS.
10. MAXIMUM SLOPE OF GUTTER AT RAMP IS 50:1 MAX.
11. RAMP SHALL MEET LATEST ADA STANDARDS.

7 TYPICAL CONCRETE PAVEMENT

SCALE: NONE

8 VAN ACCESSIBLE PARKING SPACE

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

9 MIDBLOCK PEDESTRIAN RAMP

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

CODE OFFICIAL STAMP
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
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SIGNATURE:
DATE: 01/25/2022

ENSIGN
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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT L. ROUSSELLE EXP.3/31/2023 STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WWTF DESIGN & DFCM COMMENTS	GWD
2	01/12/2022	DFCM COMMENTS	GWD
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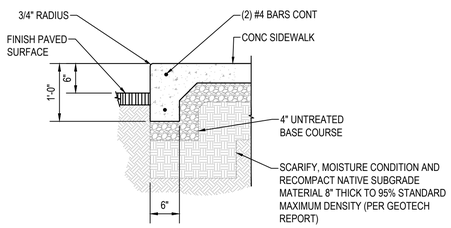
CIVIL DETAILS

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-700-02

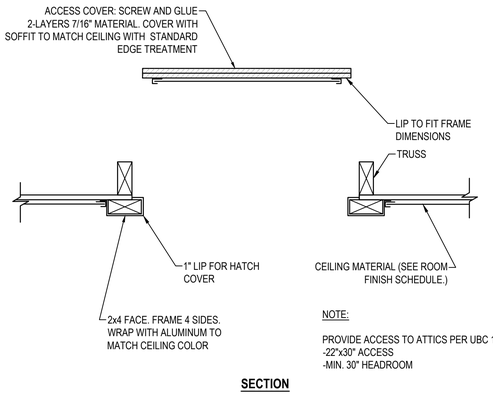


NOTE:

CONSTRUCT PER NOTES AND SPECIFICATIONS ASSOCIATED WITH APWA STANDARD PLAN NO. 231.

1 MONOLITHIC CURB DETAIL

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



NOTE:

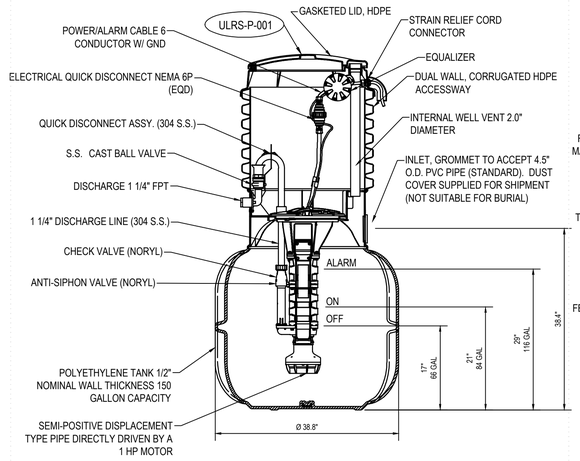
PROVIDE ACCESS TO ATTICS PER UBC 1505.1
-22"x30" ACCESS
-MIN. 30" HEADROOM

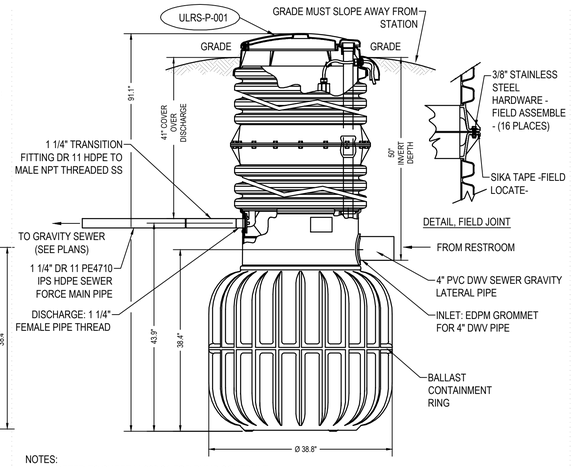
SECTION

2 TYPICAL ATTIC ACCESS DETAIL

(SEE APWA STANDARD PLAN NO. 209)

SCALE: NONE

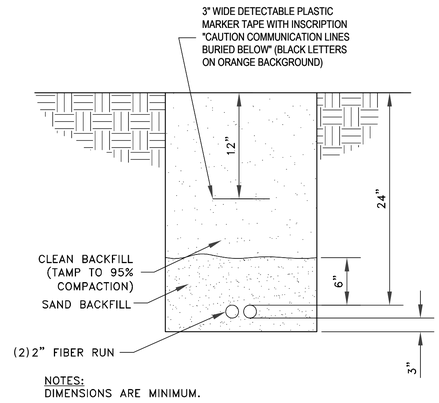




NOTES:
1. REFER TO SHEET M-200-01 FOR PUMP SCHEDULE.
2. INSTALL LIFT STATION PER MANUFACTURERS RECOMMENDATIONS.

3 RESTROOM WASTEWATER LIFT STATION DETAIL

SCALE: NONE



NOTES:
DIMENSIONS ARE MINIMUM.

4 DUCT BANK DETAIL

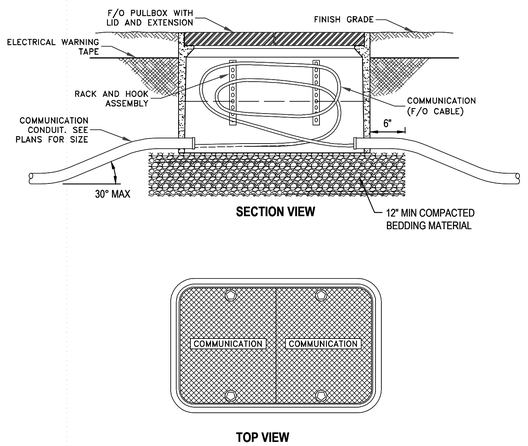
SCALE: NONE

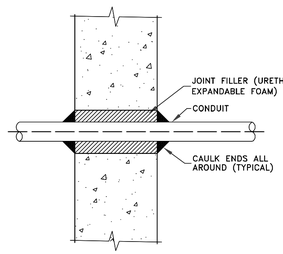
COMMUNICATION PULL BOX (FIBER OPTIC) NOTES:

1. BACKFILL ACCORDING TO THE PLANS AND SPECS.
2. CONDUIT(S) FROM THE TYPICAL TRENCH SECTION SHOULD NOT DEFLECT BY MORE THAN 1 FOOT PER 10 FEET FROM THE ALIGNMENT PRECEDING OR FOLLOWING PULL BOX ENTRANCE/EXIT.
3. TOP OF CONDUITS ENTERING THROUGH SIDE OF PULL BOX SHALL BE LOCATED AT LEAST 20 INCHES BELOW EXISTING FINISHED GROUND.
4. SEE PROJECT PLAN SHEETS FOR NUMBER AND SIZE OF CONDUIT.
5. IF MORE THAN 3 CONDUITS ARE REQUIRED, KNOCKOUT SHALL BE WIDENED 1/4 INCH MORE THAN THE ADDITIONAL CONDUIT WIDTH.
6. ALL PULL BOXES SHALL BE FURNISHED WITH TWO RACKS & HOOKS INSTALLED ON EACH OF THE TWO LONG SIDES.
7. CONDUITS SHALL ENTER THROUGH KNOCKOUTS.
8. PULL BOX AND STEEL COVER SHALL SUPPORT AASHTO H20-44 TRUCK LOADING.
9. LOCKING MECHANISM SHALL BE PROVIDED FOR COVER. FOUR 3/4 INCH PENTA HEAD BOLTS AT 90° SHALL BE USED. ONE 3/4 INCH PENTA HEAD SOCKET AND RATCHET SHALL BE PROVIDED WITH EVERY 10 PULL BOXES.
10. 'COMMUNICATION' SHALL BE THE TITLE ON THE LIDS.
11. ALL CONDUITS SHALL HAVE BELL ENDS.
12. INSTALL CONDUIT PLUGS ON EACH CONDUIT ENTERING THE PULL BOX, IF NOT USED.
13. FURNISH AND INSTALL CAPS OR DUCT PLUGS FOR ALL UNUSED CONDUIT.
14. PULL BOX HEIGHT ABOVE FINISHED GRADE SHALL PERMIT 2 INCH OF SURFACE LANDSCAPING, IF APPLICABLE, TO MATCH EXISTING CONDITIONS.
15. PULL BOX SPACING A MINIMUM OF 1,000 FEET FOR HDPE CONDUIT.

5 COMMUNICATION PULL BOX DETAIL

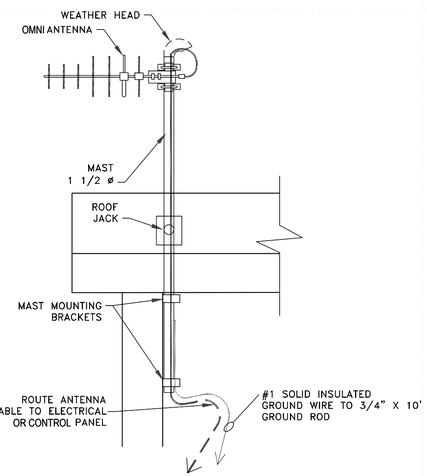
SCALE: NONE





6 CONDUIT PENETRATION AT EXISTING WALL OR SLAB

SCALE: NONE



7 OMNI ANTENA THRU ROOF DETAIL

SCALE: NONE

CODE OFFICIAL STAMP

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CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT J. ROUSSELLE
EXP 3/31/2023
STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WWTF DESIGN & DFCM COMMENTS	GWD
2	01/12/2022	DFCM COMMENTS	GWD
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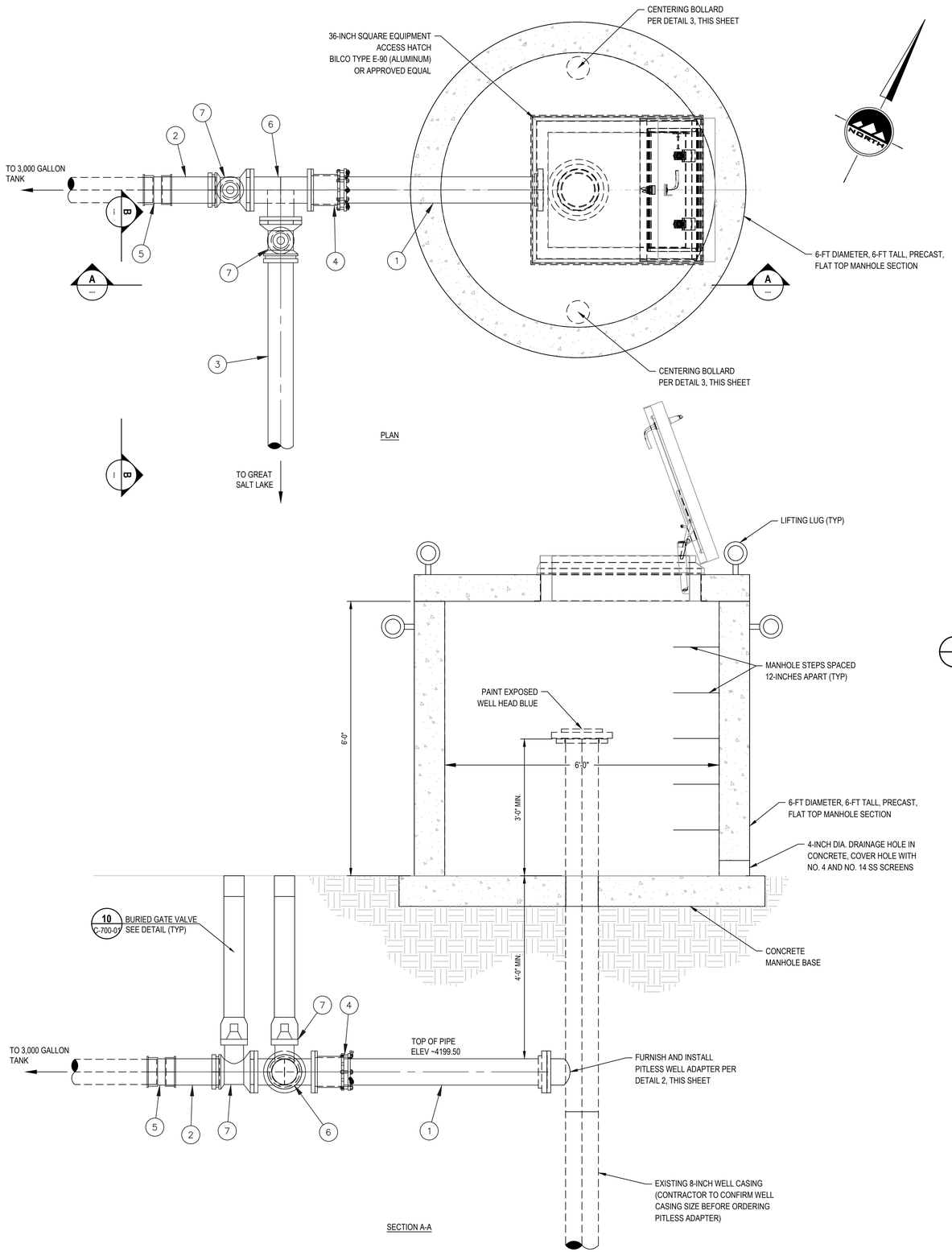
CIVIL DETAILS

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

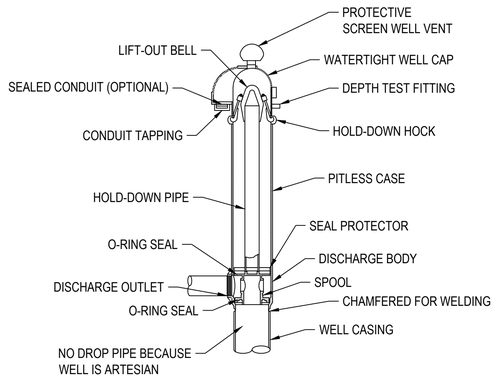
C-700-03



BILL OF MATERIALS					
ID	SIZE	MATERIAL	SHORT DESCRIPTION	FITTING	REMARKS
1	6"	DI	PIPE	PE X FL	
2	6"	DI	PIPE	PE	
3	6"	DI	PIPE	PE X BELL	
4	6"	DI	RESTRAINED FLANGED COUPLING ADAPTER	FL X RJ MJ	
5	6"	DI	SLEEVE	RJ MJ	
6	6"	DI	TEE	FL	
7	6"	DI	BURIED GATE VALVE	FL X RJ MJ	

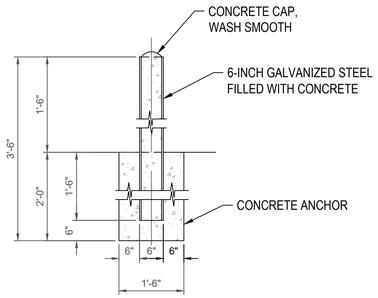
NOTES:

1. ALL BOLTS IN MANHOLE ARE TO BE STAINLESS STEEL.
2. THE CONTRACTOR'S WELL DRILLER TO OBTAIN AN APPLICATION TO RENOVATE AN EXISTING WELL THROUGH THE UTAH DIVISION OF WATER RIGHTS FOR THE PARK WELL IMPROVEMENTS PRIOR TO CONSTRUCTION. THE DRILLER SHALL VIDEO THE WELL AND PROVIDE A DIGITAL COPY OF THE VIDEO TO THE OWNER ACCESSING THE CONDITION OF THE WELL. THERE IS NO WELL LOG ON FILE WITH THE DIVISION OF WATER RIGHTS, BUT THE WELL IS ANTICIPATED TO BE AN 8-INCH CASING, 500-FEET DEEP. DURING THIS WORK THE DRILLER SHALL NOTE INFORMATION ON THE WELL AND SUBMIT TO THE UTAH DIVISION OF WATER RIGHTS.



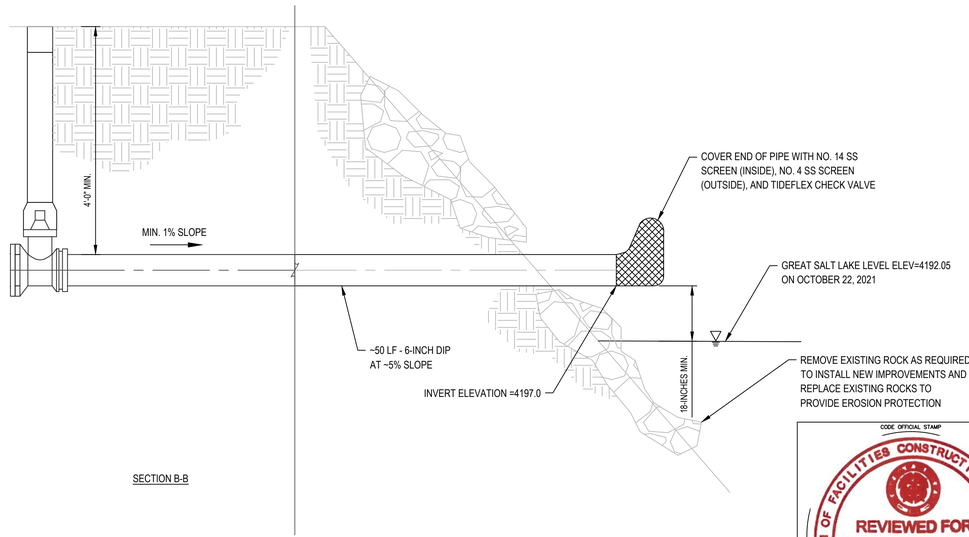
2 -- INDUSTRIAL PITLESS UNIT WITH FLOWING WELL SPOUT

SCALE: NONE



3 -- PIPE BOLLARD CENTERING GUIDE DETAIL

SCALE: NONE



1 -- ARTESIAN WELL HEAD MODIFICATIONS

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

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SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT L. ROUSSELLE
EXP 6/30/2023
STATE OF UTAH

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NO.	DATE	REVISION	BY
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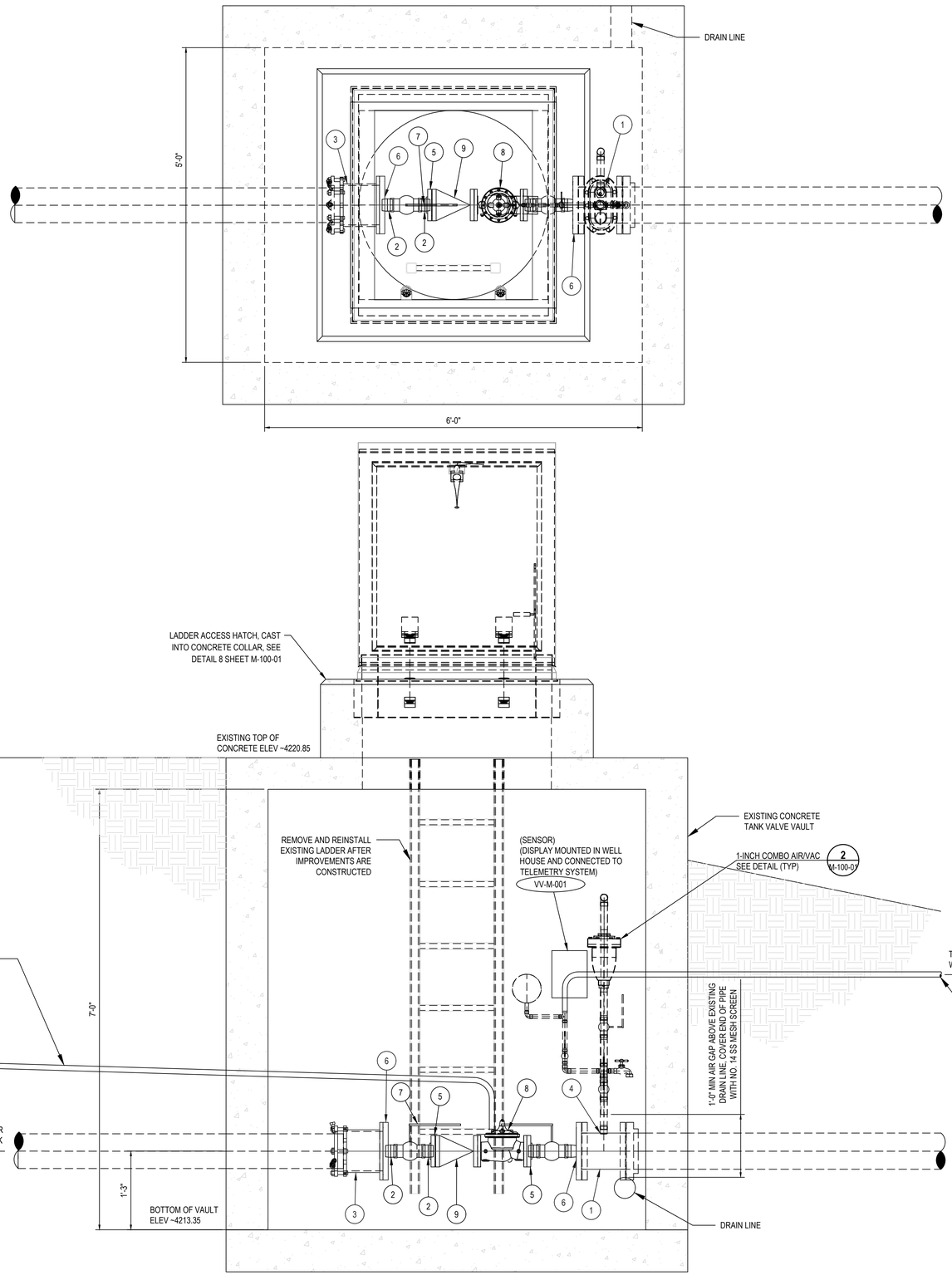
PARK WELL HEAD UPGRADES

PROJECT NUMBER	PRINT DATE
10970	1/12/2022
DRAWN BY	CHECKED BY
G. OFFERMANN	F. DUBEROW
PROJECT MANAGER	
R. ROUSSELLE	

C-700-04



BILL OF MATERIALS					
ID	SIZE	MATERIAL	ITEM DESCRIPTION	END TYPE	REMARKS
1	6"	DI	PIPE SPOOL	FL X FL	
2	2"	GALV	PIPE NIPPLE, CLOSE TYPE	THDM	
3	6"	DI	RESTRAINED FLANGED COUPLING ADAPTER	FL X RJ	ROMAC DJ400 OR EQUAL
4	6"x1"	CS	THREADOLET	WELD X THDF	
5	2"	GALV	FLANGE	THDF X FL	
6	6"	GALV	FLANGE	THDF X FL	
7	2"	SS	BALL VALVE	THDF	APOLLO STAINLESS STEEL MODEL NO. 76-100 SERIES OR EQUAL
8	2"	DI	ALTITUDE VALVE	FL X FL	CLA-VAL 210-01 WITH VALVE POSITION INDICATOR WITH AIR RELEASE, OR EQUAL
9	2"	DI	SWING CHECK VALVE	FL X FL	

NOTES:

1. ALL BOLTS IN VAULT ARE TO BE STAINLESS STELL.
2. PAINT PIPES, FITTINGS, PIPE STANDS, AND APPURTENANCES BLUE.
3. PAINT VALVES RED UNLESS ALREADY PAINTED.
4. CONSTRACTOR MAY USE SADDLE TAPS IN PLACE OF THREADOLETS.
5. REFER TO SHEET G-100-08 AND G-100-09 FOR ADDITIONAL TELEMETRY AND CONTROL INFORMATION.

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SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT L. ROUSSELLE
EXP. 3/31/2023
STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WHITE DESIGN & DFCM COMMENTS	GVMO
2	01/12/2022	DFCM COMMENTS	GVMO
3			
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VALVE VAULT

PROJECT NUMBER	PRINT DATE
10970	1/12/2022
DRAWN BY	CHECKED BY
G. OFFERMANN	F. DUBEROW
PROJECT MANAGER	
R. ROUSSELLE	

C-700-05

811 Know what's below. Call before you dig.

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

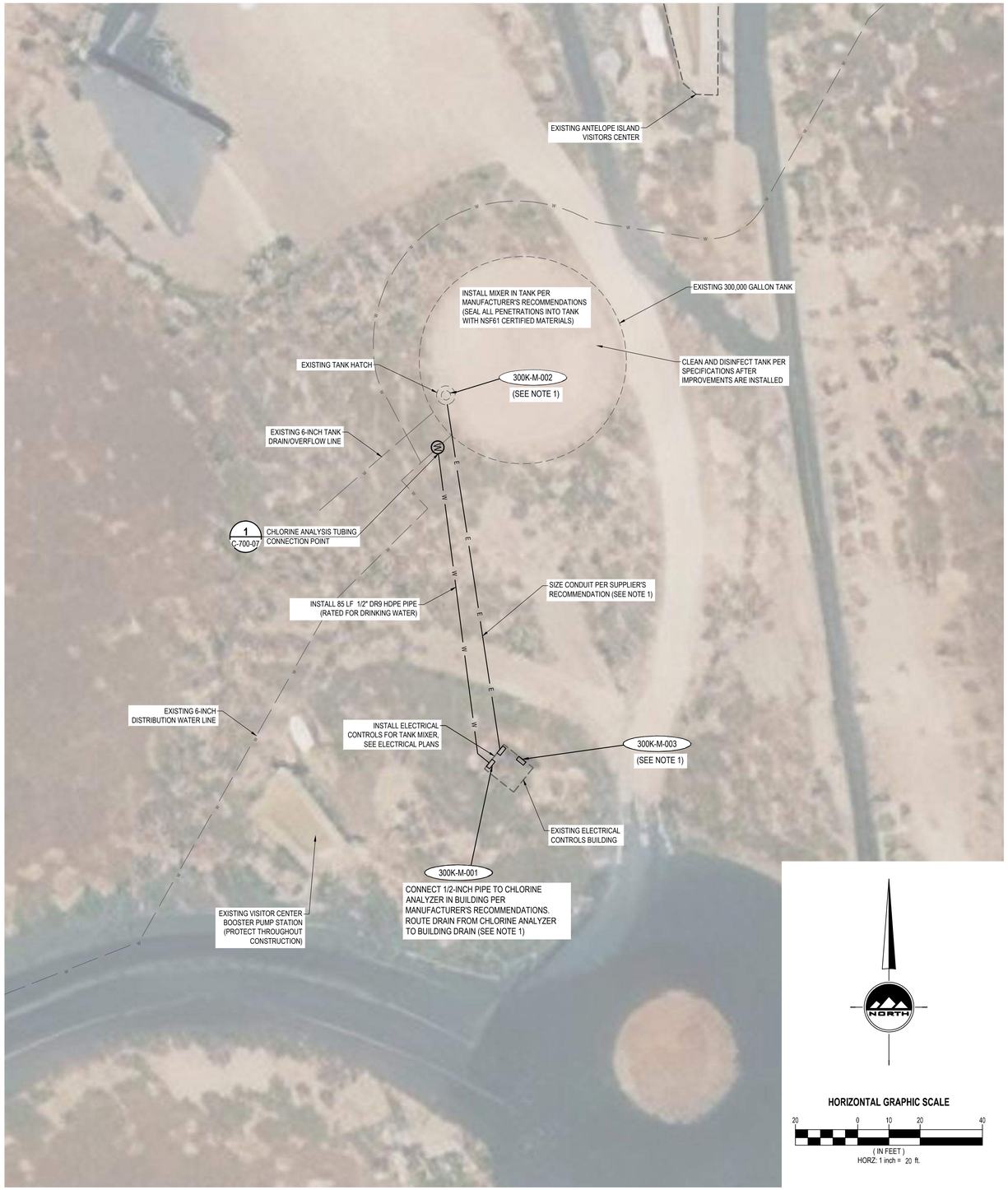
BENCHMARK

NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4315.30'

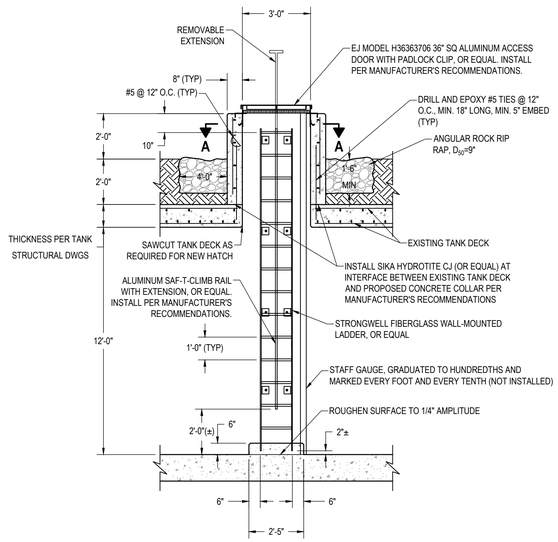
NOTES:

1. REFER TO SHEETS G-100-09, G-100-10 AND ELECTRICAL DRAWINGS, FOR ADDITIONAL INFORMATION.
2. CHLORINE ANALYZER AND TANK MIXER IMPROVEMENTS ARE ALTERNATE 1.

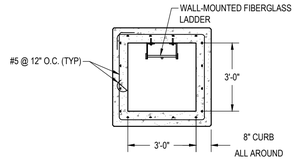


INTERIOR LADDER NOTES:

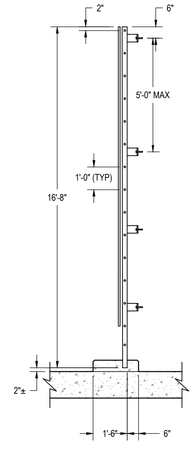
1. ALL MATERIAL FOR INTERIOR AND EXTERIOR LADDER CAGE, SIDERAILS, RUNGS, BRACKETS, AND BASE PLATES TO BE FIBERGLASS.
2. USE SS 316 FOR ALL BOLTS UNLESS NOTED OTHERWISE.
3. BOLT HEADS SHALL BE ENCAPSULATED WITH HIGH IMPACT POLYPROPYLENE COPOLYMER. BOLT HEAD ENCAPSULATION SHALL BE CERTIFIED TO MEET ANSI/NSF 61 FOR INDIRECT ADDITIVES.



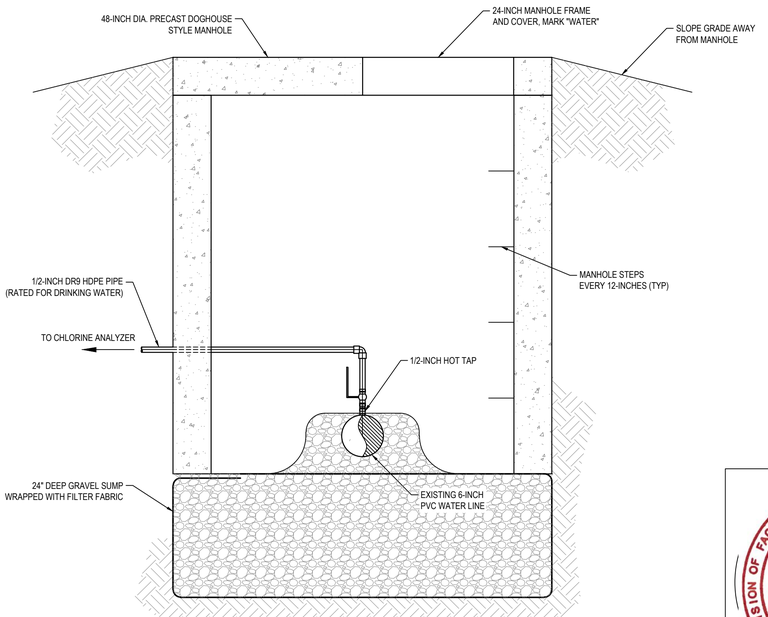
1 INTERIOR LADDER AND ROOF HATCH
SCALE: NONE



SECTION A-A



LADDER DETAIL



1 C-700-06 CHLORINE ANALYSIS TUBING CONNECTION POINT
SCALE: NONE

CODE OFFICIAL STAMP
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT J. ROUSSELLE EXP. 6/31/2022 STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
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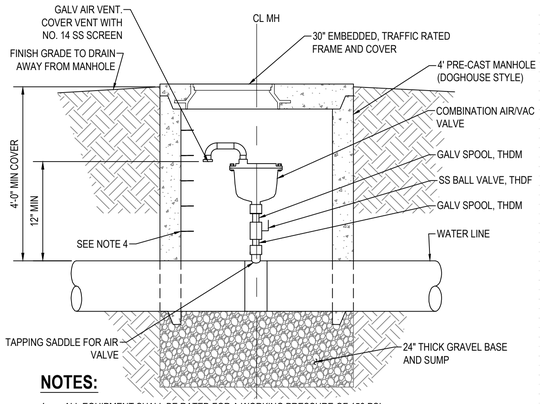
6			
7			
8			

300K GAL
TANK UPDATES

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

C-700-06

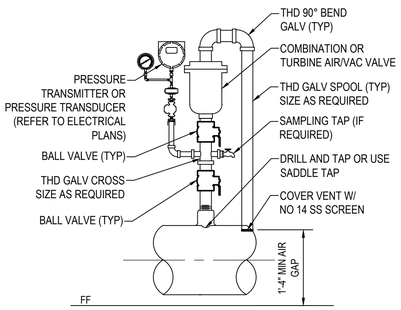


NOTES:

1. ALL EQUIPMENT SHALL BE RATED FOR A WORKING PRESSURE OF 150 PSI.
2. SIZE VALVE AND TAPPING SLEEVE PER UTILITY PLAN AND PROFILE DRAWINGS.
3. DETAIL SHOULD ONLY BE USED IN AREAS WITHOUT GROUNDWATER.
4. MANHOLE STEPS UNIFORMLY SPACED (12" MAX.) POLYPROPYLENE COVERING OVER STEEL STEPS MODEL PSI-375 AS MANUFACTURED BY M.A. INDUSTRIES OR APPROVED EQUAL

1 COMBINATION AIR/VAC VALVE STATION DETAIL

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

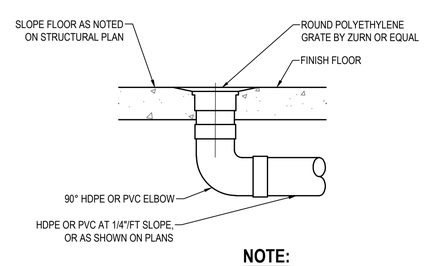


NOTE:

REFER TO PROJECT DRAWINGS FOR AIR/VAC, PIPING, FITTINGS, AND VALVE SIZES.

2 COMBINATION AIR/VACUUM VALVE DETAIL

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

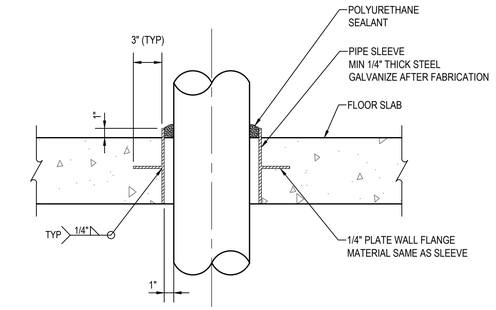


NOTE:

REPLACE ELBOW WITH P-TRAP WHERE SPECIFIED.

3 TYPICAL FLOOR DRAIN DETAIL

SCALE: NONE

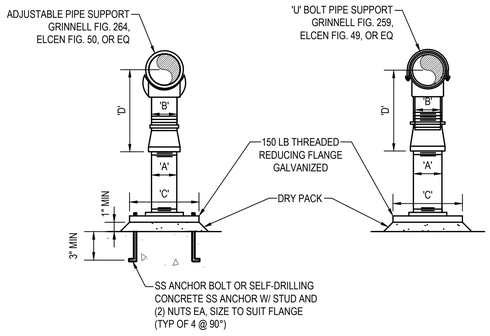


NOTE:

ALL FLOOR PENETRATIONS FOR HARD PIPING OF EQUIPMENT SHALL HAVE A FLOOR SLEEVE.

4 TYPICAL FLOOR PIPE DETAIL

SCALE: NONE

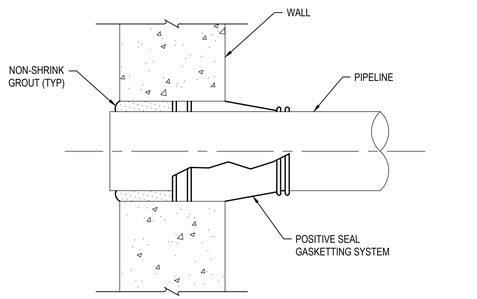


ADJUSTABLE PIPE SUPPORT APPROXIMATE DIMENSIONS IN INCHES					
PIPE DIA	'A'	'B'	'C'	'D' MINIMUM	'D' MAXIMUM
2 1/2	2 1/2	1 1/2	9	8	11 1/2
3	2 1/2	1 1/2	9	8 1/4	11 3/4
3 1/2	2 1/2	1 1/2	9	8 1/2	12
4	3	*2 1/2	9	10 1/4	14
6	3	*2 1/2	9	11 5/8	15 1/4
8	3	*2 1/2	9	13 5/8	16 1/2
10	3	*2 1/2	9	14 5/8	18 1/4
12	3	*2 1/2	9	15 5/8	19 3/4
14	4	3	11	18 7/8	20 3/4
16	4	3	11	19 7/8	22 1/4
18	6	3 1/2	13 1/2	21 1/4	24
20	6	3 1/2	13 1/2	23 1/4	25 1/2
24	6	4	13 1/2	26 1/2	28 1/1
30	6	4	13 1/2	29 5/8	31 1/2
32	6	4	13 1/2	30 5/8	32 3/4
36	6	4	13 1/2	32 5/8	34 3/4

*SEE MFR.

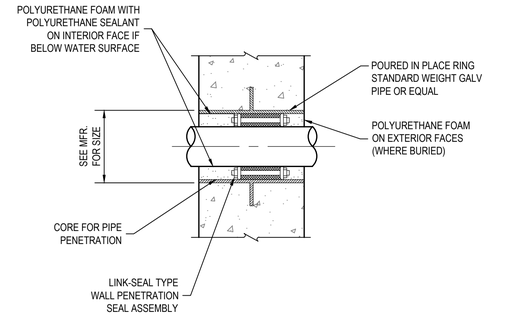
5 TYPICAL PIPE SUPPORT DETAIL

SCALE: NONE



6 RUBBER BOOT DETAIL

SCALE: NONE

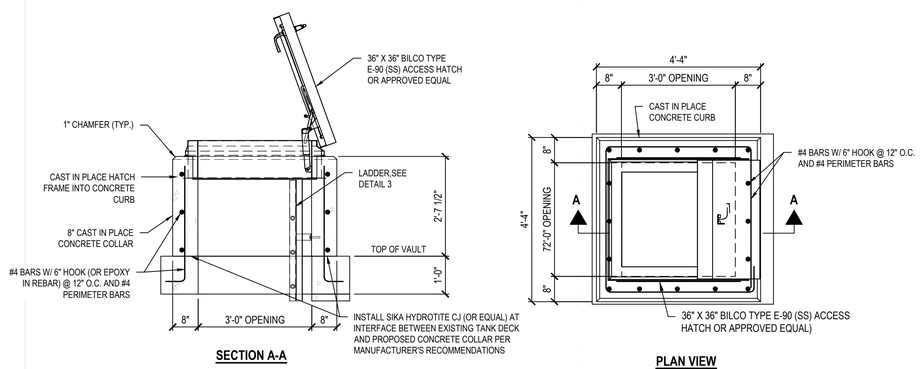


NOTES:

1. PIPE SLEEVE FOR WALL PENETRATION SEAL ASSEMBLY SIZED BY MFR.
2. BOLTS SHALL BE SS.

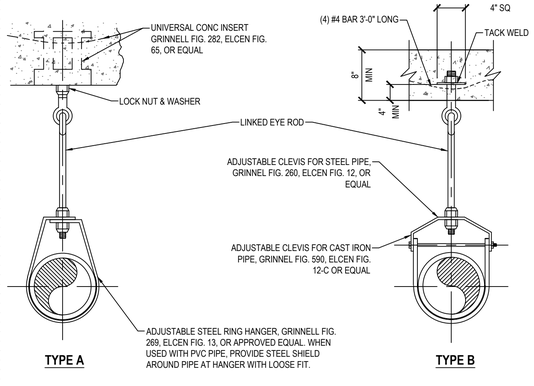
7 TYPICAL LINK SEAL DETAIL

SCALE: NONE



8 LADDER ACCESS HATCH DETAIL

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



9 PIPE HANGER DETAIL

SCALE: NONE

PIPE HANGER RODS AND SUPPORT SPACING					
PIPE DIA (INCHES)	ROD DIA (INCHES)	MAX SUPPORT SPACING (FEET)		WEIGHT LIMIT (LBS)	
		STEEL PIPE	C.L. PIPE	TYPE 'A'	TYPE 'B'
1 & SMALLER	3/8	6	5	610	1700
1 1/4 TO 2	3/8	9	5	610	1700
2 1/2 TO 3 1/2	1/2	12	5	1130	3200
4 TO 5	5/8	14	5	1430	3800
6, 8	3/4	16	5	1430	3800
10, 12	7/8	18	-	1430	3800
14, 16	1	20	-	1430	3800

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT E. ROUSSELLE EXP. 3/31/2023 STATE OF UTAH

CONFORMANCE SET 01/12/2022

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1	12/01/2021	WHITE DESIGN & DFCM COMMENTS	GWD
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MECHANICAL DETAILS

PROJECT NUMBER 10970
PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN
CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE

M-100-01

Mechanical Equipment Schedule

Tag #	Description/Type	HP/Size	Remarks
Well House			
WH-M-001	Magnetic Flow Meter	2"	Siemens 5100W Mag or Equal. Provide with appropriate cable length to transmitter and 4-20mA output.
WH-M-002	Spill Containment Scale	27" X 31" 120V	SpillSafe LX Drum Scale Model 26-SC6-HA4 or Equal
WH-M-003	Chlorine Storage Drum	15 Gallons	Supplied by Owner
WH-M-004	Digital Scale Indicator	120V	SpillSafe LX Indicator Model Solo G2 Digital Indicator with one (1) 4-20mA Output or Equal
WH-M-005	Compound Gauge	1/4"	Ashcroft Model 1279 (30 Hg Vac to 60 psi) or Equal
WH-M-006	Pressure Transmitter	N/A	Supplied by Pump Manufacturer
WH-M-007	Pressure Gauge	1/4"	Ashcroft Model 1279 (0 to 150 psi) or Equal
WH-M-008	Pressure Transmitter	N/A	Supplied by Pump Manufacturer
WH-M-009	Retractable Chemical Injection Quill with Corp Stop	3/4"	250 psi rated, Saf-T-Flo, or Equal
WH-M-010	Pump Controls (Wall Mounted)	N/A	Constant Speed (Supplied by Pump Manufacturer
WH-M-011	RTU (Wall Mounted)	N/A	Mission Communications MyDro 850 RTU with multi-carrier radio or Equal Note: Expansion module(s) may be required for extra I/O. It shall be the contractors responsibility to determine based on the required I/O and operations narrative on Sheet G-100-07 if expansion modules are required. The RTU to be supplied by Pump Manufacturer. Contractor will furnish and install RTU along with terminations, wiring, conduit, connections, appurtenances, programming, software, service plan, on-site training of the operator to operate the telemetry system. (For drinking water system only at this location)
300K Gallon Water Storage Tank			
300K-M-001	Chlorine Residual Analyzer	115V	Evoqua Depolox 400 M Chlorine Residual Analyzer with one (1) 4-20mA Output or Equal ALTERNATE 1
300K-M-002	Tank Mixer Wet Assembly	0.5 HP / 230V (3 Phase)	PAX Water Technologies PWM100 Mixer Wet Assembly, including: Spiral-shaped nozzle, Stainless-Steel ballast ball and housing, EPDM molded foot, Integrated power cable, ability to function continuously regardless of tank cycles, 230V single phase 0.5 horsepower water-cooled motor powered by the PAX Control Center, 150-ft flat-jacketed 4-conductor, stainless steel strain relief for 4 wire flat-jacketed cable, O&M manuals, construction submittal, manufacturer's field services start-up and operator training. Control Center Dry Assembly with SCADA Compatibility installed in existing electrical controls building as shown on Sheet C-700-07, including: NEMA 4 Enclosure: · Lockable and weather resistant · Overall weight of control center 55 lbs. · Operating temperature range -4°F to 129°F · Green and Red LED Indicator lights to display motor status · White LED Indicator light to display power · Cooling fan Motor Controller/VFD: · Allen Bradley · On-site power requirement: 115VAC single phase · VFD Rating: 1 HP · HOA Switch · Manual speed control · Thermal shut-off protection built-in · Current overload protection built-in · 300mA trip level GFCI · Sine filter · Branch-circuit protection SCADA outputs included: · Digital Output signal indicating motor running · Digital Output signal indicating fault · Digital Input/Output signal for remote motor on/off · RS-485 or Dry Contact connections · 4-20mA signal OR APPROVED EQUAL ALTERNATE 1
300K-M-003	RTU (Wall Mounted)	N/A	Mission Communications MyDro 850 RTU with multi-carrier radio or Equal Note: Expansion module(s) may be required for extra I/O. It shall be the contractors responsibility to determine based on the required I/O and operations narrative on Sheet G-100-07 if expansion modules are required. The RTU to be supplied by Pump Manufacturer. Contractor will furnish and install RTU along with terminations, wiring, conduit, connections, appurtenances, programming, software, service plan, on-site training of the operator to operate the telemetry system. (For drinking water system only at this location)
Bridger Bay Booster Pump Station			
BP-M-007	RTU (Wall Mounted)	N/A	Mission Communications MyDro 850 RTU with multi-carrier radio or Equal Note: Expansion module(s) may be required for extra I/O. It shall be the contractors responsibility to determine based on the required I/O and operations narrative on Sheet G-100-07 if expansion modules are required. The RTU to be supplied by Pump Manufacturer. Contractor will furnish and install RTU along with terminations, wiring, conduit, connections, appurtenances, programming, software, service plan, on-site training of the operator to operate the telemetry system. (For drinking water system only)
BP-M-008	RTU (Wall Mounted)	N/A	Orenco compatible cellular modem with multi-carrier radio, unless Verizon cell service is available at project site, and Omi Antenna (mount per detail 7/C-700-03) or Equal. Note: The RTU to be supplied by Pump Manufacturer. Contractor will furnish and install RTU along with terminations, wiring, conduit, connections, appurtenances, programming, software, service plan, on-site training of the operator to operate the telemetry system. (For onsite wastewater system only)
R1-M-001	RTU (Wall Mounted)	N/A	Orenco compatible cellular modem with multi-carrier radio, unless Verizon cell service is available at project site, and Omi Antenna (mount per detail 7/C-700-03) or Equal. Note: The RTU to be supplied by Pump Manufacturer. Contractor will furnish and install RTU along with terminations, wiring, conduit, connections, appurtenances, programming, software, service plan, on-site training of the operator to operate the telemetry system. (For onsite wastewater system only)

NOTES:

1. BOOSTER PUMPS, PRESSURE TRANSDUCERS, AND PUMP CONTROL PANEL TO BE SUPPLIED BY PUMP SUPPLIER.
2. RECOMMENDED RTU (TELEMETRY SYSTEM) TO BE SUPPLIED BY PUMP SUPPLIER.
3. ALL VALVES, FITTINGS, PUMPS, AND MECHANICAL EQUIPMENT SHALL BE RATED FOR A MINIMUM PRESSURE RATING OF 150 PSI. WASTEWATER TREATMENT EQUIPMENT INFORMATION IS SHOWN ON THE DRAWINGS AND IN THE SPECIFICATIONS.

Valve Schedule

Tag #	Description/Type	HP/Size	Remarks
Well House			
WH-V-001	No-Slam Silent Check Valve	1 1/2"	Threaded, Val-Matic Model 1401.5THDR.1, or Equal
WH-V-002	Ball Valve	1 1/2"	Apollo Stainless Steel Model No. 76-100 S
WH-V-003	Combination Air/Vac Valve	1"	Val-Matic Model No. 201C.2, or Equal
WH-V-004	Smooth Nosed Sampling Tap	1/2"	Matco-Norca Model No. FY-691LF, or Equal
WH-V-005	Combination Air/Vac Valve	1"	Val-Matic Model No. 201C.2, or Equal
WH-V-006	No-Slam Silent Check Valve	1 1/2"	Threaded, Val-Matic Model 1401.5THDR.1, or Equal
WH-V-007	Ball Valve	1 1/2"	Apollo Stainless Steel Model No. 76-100 S
WH-V-008	Ball Valve	1 1/2"	Apollo Stainless Steel Model No. 76-100 S
WH-V-009	Ball Valve	1 1/2"	Apollo Stainless Steel Model No. 76-100 S
WH-V-010	Ball Valve	1 1/2"	Apollo Stainless Steel Model No. 76-100 S

Pump Schedule

Tag #	Description/Type	HP/Size	Remarks
Bridger Bay Booster Pump Station			
BPS-P-001	Booster Pump (Duty)	15 HP / 480V (3 Phase)	Grundfos Model CRE 20-6, or Equal, Capable of TDH 273 feet at 120 gpm, minimum pump efficiency 70%
BPS-P-002	Booster Pump (Duty)	15 HP / 480V (3 Phase)	Grundfos Model CRE 20-6, or Equal, Capable of TDH 273 feet at 120 gpm, minimum pump efficiency 70%
BPS-P-003	Booster Pump (Spare)	15 HP / 480V (3 Phase)	Grundfos Model CRE 20-6, or Equal, Capable of TDH 273 feet at 120 gpm, minimum pump efficiency 70%
Well House			
WH-P-001	Booster Pump (Duty)	3.35 HP / 208V (3 Phase)	Grundfos Model CM 10-2, or Equal, Capable of TDH 140 feet at 35 gpm, minimum pump efficiency 70%
WH-P-002	Booster Pump (Spare)	3.35 HP / 208V (3 Phase)	Grundfos Model CM 10-2, or Equal, Capable of TDH 140 feet at 35 gpm, minimum pump efficiency 70%
WH-P-003	Dosing Pump with Pump Repair Kit and Safety Spill Kit	24 W / 100-240V	Grundfos Model DDA 7.5-16 SMART Digital Diaphragm Dosing Pump or Equal
Unisex Restroom			
URLS-P-001	Packaged Lift Station	1 HP / 120V (1-Phase)	E/One Model DH151-93 Grinder Pump Lift Station and Alarm Panel and Buck Boost Transformer or Equal. Mount Alarm Panel to building exterior. Refer to Electrical drawings for additional information.

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DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

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WHITE ROCK BAY CAMPGROUND
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WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT J. ROUSSELLE
EXP.3/31/2023
STATE OF UTAH

CONFORMANCE SET 01/12/2022

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8			

MECHANICAL SCHEDULES

PROJECT NUMBER	PRINT DATE
10970	1/12/2022
DRAWN BY	CHECKED BY
G. OFFERMANN	F. DUBEROW
PROJECT MANAGER	
R. ROUSSELLE	

M-200-01

ABBREVIATIONS

(E)	EXISTING
(F)	FUTURE
(N)	NEW
(R)	RELOCATED
(X)	DEMOLISH/DELETE
AFF	ABOVE FINISHED FLOOR
AIC	AMP INTERRUPTING CURRENT (SYMMETRICAL)
AL	ALUMINUM
BG	BELOW GRADE
C	CONDUIT
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CKT	CIRCUIT
CLG	CEILING
CO	CONDUIT ONLY
CTR	ABOVE COUNTER DEVICE
CU	COPPER
EM	EMERGENCY
EMC	DOMESTIC HOT WATER RECIRC.
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FLA	FULL LOAD AMPS
GFI	GROUND FAULT INTERRUPTER
GFP	GROUND FAULT PROTECTOR
GND	GROUND
GRC	GALVANIZED RIGID CONDUIT
IG	ISOLATED GROUND
LTG	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MLO	MAIN LUGS ONLY
NAC	NOTIFICATION APPLIANCE CIRCUIT
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NTS	NOT TO SCALE
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
PNL	PANEL
S	SWITCHED
SPD	SURGE PROTECTIVE DEVICE
ST	SHUNT TRIP
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VR	VANDAL RESISTANT
WG	WIRE GUARD
WP	WEATHER PROOF
XFMR	TRANSFORMER

ELECTRICAL LEGEND

NOTE: ALL ITEMS MAY NOT APPEAR ON DRAWINGS

SNOW SENSOR	
HEAT TRACE	
LINEAR SUSPENDED PENDANT FIXTURE	
LINEAR SUSPENDED PENDANT FIXTURE (EMERGENCY POWER)	
RECESSED DOWN LIGHT	
RECESSED DOWN LIGHT (EMERGENCY POWER)	
RECESSED LIGHT FIXTURE	
RECESSED LIGHT FIXTURE (EMERGENCY POWER)	
RECESSED WALL MOUNTED LIGHT FIXTURE	
RECESSED WALL MOUNTED LIGHT FIXTURE (EMERGENCY POWER)	
CEILING SURFACE / PENDANT SUSPENDED FIXTURE	
EMERGENCY BATTERY LIGHT FIXTURE	
LIGHT TRACK WITH LIGHT FIXTURE	
STRIP LIGHT FIXTURE	
SURFACE LIGHT FIXTURE	
SURFACE LIGHT FIXTURE (EMERGENCY POWER)	
WALL MOUNTED LIGHT FIXTURE	
WALL MOUNTED LIGHT FIXTURE	
WALL MOUNTED LIGHT FIXTURE (EMERGENCY POWER)	
WALL MOUNTED LIGHT FIXTURE (EMERGENCY POWER)	
EXIT LIGHT CEILING	
WALL MOUNTED EXIT LIGHT	
DUAL POLE MOUNTED LIGHT FIXTURE	
GROUND MOUNTED LIGHT FIXTURE	
POLE MOUNTED LIGHT FIXTURE	
POLE TOP MOUNTED LIGHT FIXTURE	
$3K 3-WAY KEY SWITCH	
$3 3-WAY SWITCH	
$4 4-WAY SWITCH	
$X EXPLOSION PROOF	
$K KEY SWITCH	
$LM LOW VOLTAGE MASTER	
$LV LOW VOLTAGE SWITCH	
$M MOMENTARY CONTACT SWITCH	
$P PILOT LIGHT	
$PB PUSHBUTTON SWITCH	
$RC REMOTE CONTROL	
$ SINGLE POLE SWITCH	
$VR SWITCH WITH VANDAL RESISTANT COVER PLATE	
C CONTACTOR	
D DIMMER SWITCH, WALL MOUNT	
ECU EMERGENCY CONTROL RELAY UNIT	
OS OCCUPANCY SENSOR, CEILING MOUNT	
OS OCCUPANCY SENSOR, WALL MOUNT	
PC PHOTO CELL	
PP POWER PACK	
SP SLAVE POWER PACK	
TS DIGITAL TIME SWITCH	
COMBO FLOORBOX WITH DUPLEX RECEPTACLE AND DATA	
COMBO FLOORBOX WITH QUADRAPLEX RECEPTACLE AND DATA	
DUPLEX RECEPTACLE	
DUPLEX RECEPTACLE (EMERGENCY POWER)	
DUPLEX RECEPTACLE GFI	
DUPLEX RECEPTACLE ISOLATED GROUND	
DUPLEX RECEPTACLE, FLUSH CEILING	
DUPLEX RECEPTACLE, FLUSH CEILING ISOLATED GROUND	
DUPLEX RECEPTACLE, FLUSH IN FLOOR	
DUPLEX RECEPTACLE, PEDESTAL MOUNTED	
POKE-THRU DEVICE	
QUADRAPLEX RECEPTACLE	
QUADRAPLEX RECEPTACLE GFI	
QUADRAPLEX RECEPTACLE ISOLATED GROUND	
QUADRAPLEX RECEPTACLE, PEDESTAL MOUNTED	
RANGE RECEPTACLE	
SINGLE RECEPTACLE	
SPECIAL OUTLET TO MATCH EQUIPMENT PLUG	
SPECIAL OUTLET TO MATCH EQUIPMENT PLUG, FLUSH IN FLOOR	
EMERGENCY POWER OFF BUTTON, 46" AFF	
GA GENERATOR ANNUNCIATOR	
J JUNCTION BOX	
JF JUNCTION BOX, FLUSH IN FLOOR	
MAGNETIC STARTER	
MANUAL STARTER	
M METER BASE	
MOTOR CONNECTION	
J MULTI OUTLET ASSEMBLY	
PS POWER SUPPLY	
PB PULL BOX	
R RELAY	
SB SPLICE BOX	
$T THERMAL SWITCH	
T THERMOSTAT	
T TRANSFORMER (FLOOR PLAN)	
F COMBINATION STARTER/FUSED DISCONNECT SWITCH	
COMBINATION STARTER/NON-FUSED DISCONNECT SWITCH	
F FUSED DISCONNECT SWITCH	
G GENERATOR	
NONFUSE DISCONNECT SWITCH	
LIGHTING ARRESTOR	
RECESSED ELECTRICAL PANELBOARD	
RECESSED EQUIPMENT CABINET AS NOTED	
SURFACE ELECTRICAL PANEL	
SURFACE EQUIPMENT CABINET	
19" TELECOM EQUIPMENT RACK WITH VERTICAL WIRE MGMT.	
3D,1P COMMUNICATIONS OUTLET - ABOVE COUNTER: D=DATA, P=TELEPHONE, F=FIBER, # INDICATES QTY. NO DESIGNATION=(2) DATA OUTLET, (1) TELEPHONE OUTLET	
3D,1P COMMUNICATIONS OUTLET - FLUSH IN FLOOR: D=DATA, P=TELEPHONE, F=FIBER, # INDICATES QTY. NO DESIGNATION=(2) DATA OUTLET, (1) TELEPHONE OUTLET	
3D,1P COMMUNICATIONS OUTLET: D=DATA, P=TELEPHONE, F=FIBER, # INDICATES QTY, NO DESIGNATION=(2) DATA OUTLET, (1) TELEPHONE OUTLET	
# DATA OUTLET-ABOVE COUNTER: # INDICATES QTY.; NO DESIGNATION =(2) DATA OUTLET	
# DATA OUTLET-FLUSH IN FLOOR:# INDICATES QTY.; NO DESIGNATION =(2) DATA OUTLET	
# DATA OUTLET: # INDICATES QTY.; NO DESIGNATION =(2) DATA OUTLET	
# TELEPHONE OUTLET - ABOVE COUNTER: # INDICATES QTY.; NO DESIGNATION =(1) TELEPHONE OUTLET	
# TELEPHONE OUTLET - FLUSH IN FLOOR: # INDICATES QTY.; NO DESIGNATION =(1) TELEPHONE OUTLET	
# TELEPHONE OUTLET: # INDICATES QTY.; NO DESIGNATION =(1) TELEPHONE OUTLET	
19" TELECOM EQUIPMENT RACK	
CABLE TRAY FOR DATA TELEPHONE AND SOUND/PAGING ONLY (NO CONTROL WIRING)	
C CLOCK	
C CLOCK, WALL MOUNTED	
IC INTERCOM STATION, SECURITY	
RA RESCUE ANNUNCIATOR STATION	
RC RESCUE CALL STATION	
MS SECURITY MOTION SENSOR, CEILING MOUNTED	
MS SECURITY MOTION SENSOR, WALL MOUNTED	
WIRELESS TRANSMITTER	
PUSH BUTTON	
START-STOP BUTTON	
UP-DOWN-STOP BUTTON	
BELL	
BUZZER	
CHIME	
PROGRAM HORN	
CR CARD READER	
DC DOOR CONTACT	
ES ELECTRIC STRIKE	
EH ELECTRICAL HINGE	
EL ELECTRICAL LATCH	
K KEYCARD	
MAGNETIC DOOR HOLDER (WALL OR FLOOR MOUNT)	
ML MAGNETIC LOCK	
ROUND T.V./SECURITY CAMERA	
RX SECURITY REQUEST TO EXIT	
T.V./SECURITY CAMERA	
CM FIRE ALARM CONTROL MODULE	
Z FIRE ALARM FSD CONTROL RELAY	
MM FIRE ALARM MONITOR MODULE	
FSD FIRE SMOKE DAMPER	
S DUCT SMOKE DETECTOR	
F FIRE ALARM MANUAL PULL STATION	
PS FIRE ALARM PRESSURE SWITCH	
FS FLOW SWITCH	
HD HEAT DETECTOR	
TS O.S. & Y. VALVE TAMPER SWITCH	
2 PHOTO ELECTRIC SMOKE DETECTOR	
R RATE OF RISE/THERMAL DETECTOR	
F FIRE ALARM BELL	
F FIRE ALARM CHIME	
FV FIRE ALARM CHIME/VISUAL	
F FIRE ALARM HORN	
FV FIRE ALARM VISUAL SIGNAL	
FV FIRE ALARM VISUAL SIGNAL WITH HORN	
SS FIRE ALARM VISUAL SIGNAL WITH SPEAKER	
ANN FIRE ALARM ANNUNCIATOR	
FACP FIRE ALARM CONTROL PANEL	
FAVE FIRE ALARM VOICE EVACUATION PANEL	
NAC NOTIFICATION APPLIANCE CIRCUIT EXTENDER	
RFCC REMOTE FIRE COMMAND CENTER	
# DRAWING NOTE DESIGNATOR	
# LIGHT FIXTURE DESIGNATION	
# MECHANICAL EQUIPMENT DESIGNATION	
CONDUIT CONCEALED IN SLAB, UNDERGROUND OR UNDER FLOOR	
CONDUIT CONCEALED IN WALLS, CEILING OR FLOOR	
EQUIPMENT GROUND CONDUCTOR	
EXISTING CONDUIT	
FLEXIBLE CONDUIT	
STUB DOWN	
STUB OUT	
STUB UP	
200A LOADBREAK MOLDED PRODUCT TERMINATION (15KV)	
600A DEADBREAK MOLDED PRODUCT SPLICE (15KV)	
600A DEADBREAK MOLDED PRODUCT TERMINATION (15KV)	
BREAKER	
BREAKER ENCLOSED	
G&W UNIVERSAL CE SPLICE (15KV)	
G&W UNIVERSAL CE TERMINATION (15KV)	
MANHOLE	
MEDIUM VOLTAGE SPLICE (15KV HEATSHRINK OR LOADSHRINK)	
TRANSFORMER (ONE-LINES)	
AMP AMP (ONE-LINE)	
S CEILING SPEAKER, RECESSED	
EQUIPMENT CABINET	
M MICROPHONE RECEPTACLE, FLUSH FLOOR	
M MICROPHONE RECEPTACLE, WALL	
SP SPLITTER	
TV T.V. OUTLET	
VC VOLUME CONTROL	
S WALL SPEAKER	

DRAWING INDEX

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 7918
KEVIN D. WARNER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

NO.	DATE	REVISION	Issued by
1	12/01/2021	WWTF DESIGN & DFCM COMMENTS	CEA
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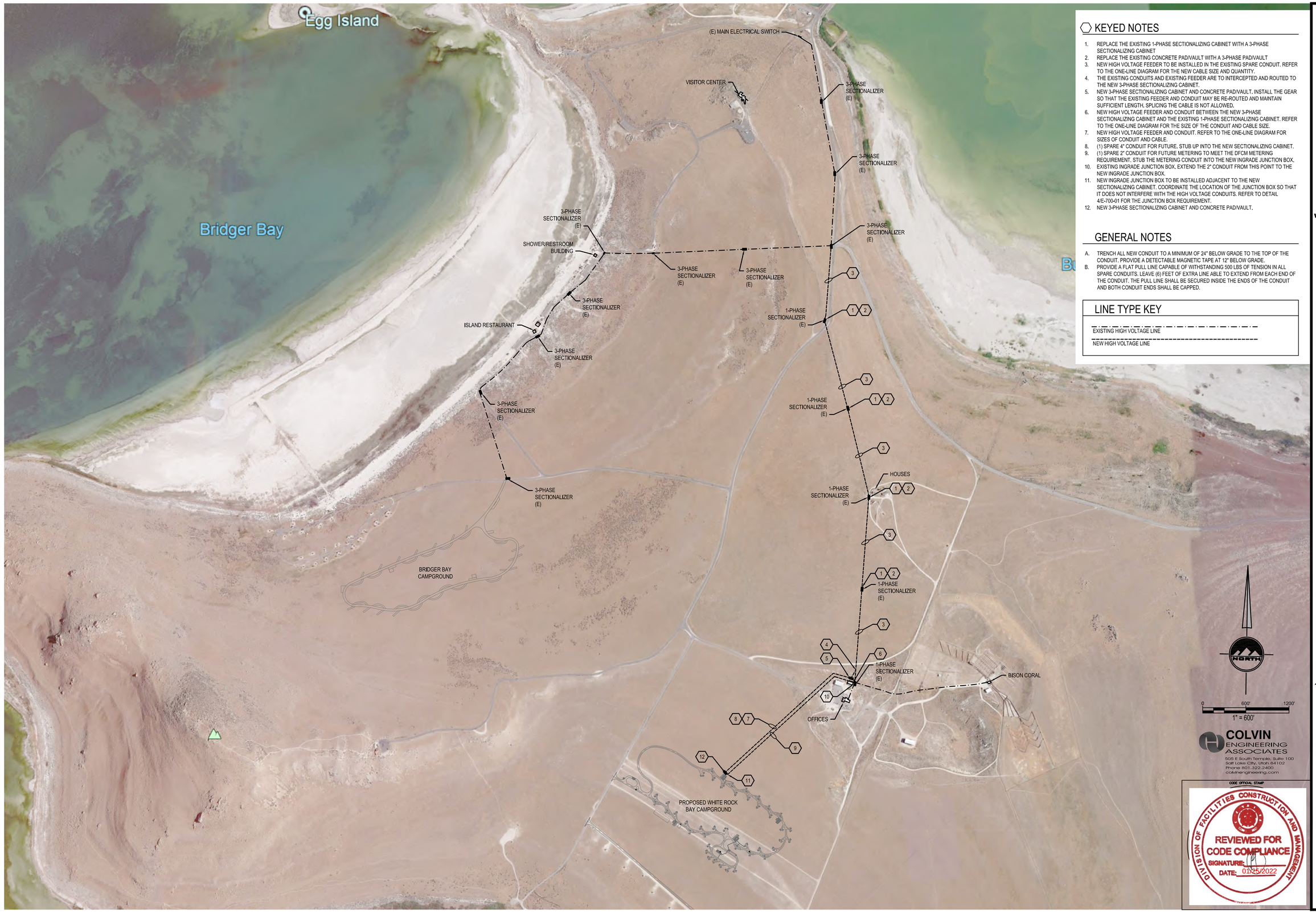
SHEET INDEX, SYMBOL SCHEDULE

PROJECT NUMBER: 2021-095.00	PRINT DATE: 01/12/2022
DRAWN BY: CSC	CHECKED BY: KDG
PROJECT MANAGER: PL	

EG-100-01



KEYED NOTES

1. REPLACE THE EXISTING 1-PHASE SECTIONALIZING CABINET WITH A 3-PHASE SECTIONALIZING CABINET
2. REPLACE THE EXISTING CONCRETE PAD/VAULT WITH A 3-PHASE PAD/VAULT
3. NEW HIGH VOLTAGE FEEDER TO BE INSTALLED IN THE EXISTING SPARE CONDUIT. REFER TO THE ONE-LINE DIAGRAM FOR THE NEW CABLE SIZE AND QUANTITY.
4. THE EXISTING CONDUITS AND EXISTING FEEDER ARE TO INTERCEPTED AND ROUTED TO THE NEW 3-PHASE SECTIONALIZING CABINET.
5. NEW 3-PHASE SECTIONALIZING CABINET AND CONCRETE PAD/VAULT. INSTALL THE GEAR SO THAT THE EXISTING FEEDER AND CONDUIT MAY BE RE-ROUTED AND MAINTAIN SUFFICIENT LENGTH. SPLICING THE CABLE IS NOT ALLOWED.
6. NEW HIGH VOLTAGE FEEDER AND CONDUIT BETWEEN THE NEW 3-PHASE SECTIONALIZING CABINET AND THE EXISTING 1-PHASE SECTIONALIZING CABINET. REFER TO THE ONE-LINE DIAGRAM FOR THE SIZE OF THE CONDUIT AND CABLE SIZE.
7. NEW HIGH VOLTAGE FEEDER AND CONDUIT. REFER TO THE ONE-LINE DIAGRAM FOR SIZES OF CONDUIT AND CABLE.
8. (1) SPARE 4" CONDUIT FOR FUTURE. STUB UP INTO THE NEW SECTIONALIZING CABINET.
9. (1) SPARE 2" CONDUIT FOR FUTURE METERING TO MEET THE DFCM METERING REQUIREMENT. STUB THE METERING CONDUIT INTO THE NEW INGRADE JUNCTION BOX.
10. EXISTING INGRADE JUNCTION BOX. EXTEND THE 2" CONDUIT FROM THIS POINT TO THE NEW INGRADE JUNCTION BOX.
11. NEW INGRADE JUNCTION BOX TO BE INSTALLED ADJACENT TO THE NEW SECTIONALIZING CABINET. COORDINATE THE LOCATION OF THE JUNCTION BOX SO THAT IT DOES NOT INTERFERE WITH THE HIGH VOLTAGE CONDUITS. REFER TO DETAIL 4/E-700-01 FOR THE JUNCTION BOX REQUIREMENT.
12. NEW 3-PHASE SECTIONALIZING CABINET AND CONCRETE PAD/VAULT.

GENERAL NOTES

A. TRENCH ALL NEW CONDUIT TO A MINIMUM OF 24" BELOW GRADE TO THE TOP OF THE CONDUIT. PROVIDE A DETECTABLE MAGNETIC TAPE AT 12" BELOW GRADE.
B. PROVIDE A FLAT PULL LINE CAPABLE OF WITHSTANDING 500 LBS OF TENSION IN ALL SPARE CONDUITS. LEAVE (6) FEET OF EXTRA LINE ABLE TO EXTEND FROM EACH END OF THE CONDUIT. THE PULL LINE SHALL BE SECURED INSIDE THE ENDS OF THE CONDUIT AND BOTH CONDUIT ENDS SHALL BE CAPPED.

LINE TYPE KEY

EXISTING HIGH VOLTAGE LINE

NEW HIGH VOLTAGE LINE

NORTH

0 600' 1200'
1" = 600'

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 2088
KENNETH D. GARDNER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

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MEDIUM VOLTAGE DISTRIBUTION

PROJECT NUMBER	PRINT DATE
2021-095.00	01/12/2022
DRAWN BY	CHECKED BY
CSC	KDG
PROJECT MANAGER	
PL	

ES-100-01

ES-200-12
MDP
DP1
RR1
XFMR
R1
ES-200-11
ES-200-10
DP3
RR3
XFMR
R3
ES-200-02
ES-200-04
DP4
RR4
XFMR
R4
ES-200-03
ES-200-09
DP2
RR2
XFMR
R2
ES-200-07
ES-200-05
XFMR
R5
DP-5
ES-200-08
ES-200-06

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PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 2018
KEVIN D. GARDNER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

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NORTH

0 100' 200'
1" = 100'

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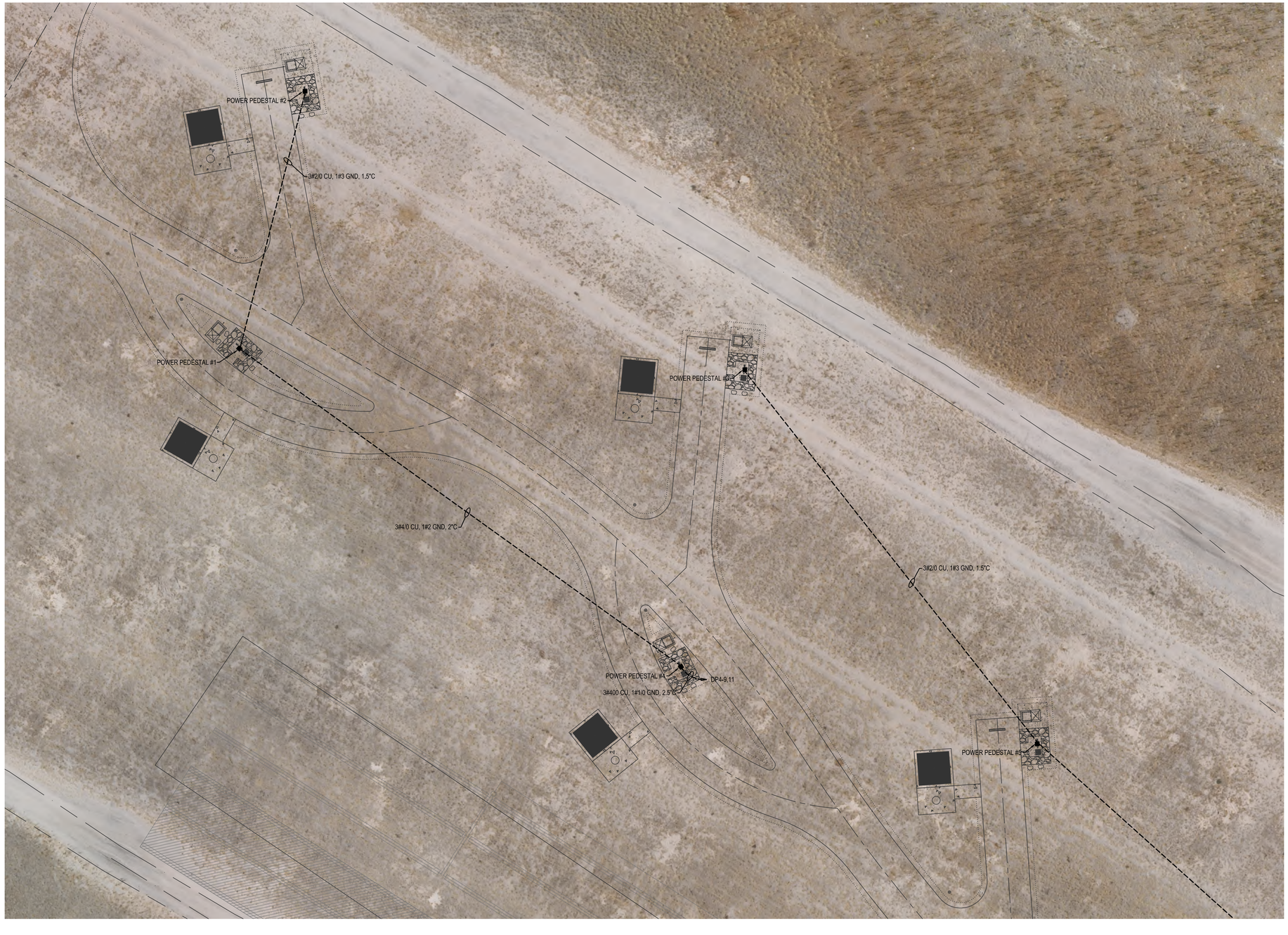
OVERALL SITE PLAN

PROJECT NUMBER	PRINT DATE
2021-095.00	01/12/2022
DRAWN BY	CHECKED BY
CSC	KDG
PROJECT MANAGER	
PL	

ES-200-01

GENERAL NOTES

A. THE ELECTRICAL CONDUITS ARE TO BE INSTALLED AT 48" DEEP. PROVIDE A MAGNETIC DETECTABLE RIBBON AT 12" BELOW GRADE.



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PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 208
KEVIN D. GARNER
STATE OF UTAH

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01/12/2022

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NORTH

0 20' 40'
1" = 20'

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SITE PLAN

PROJECT NUMBER 2021-095.00	PRINT DATE 01/12/2022
DRAWN BY CSC	CHECKED BY KDG
PROJECT MANAGER PL	

ES-200-02

KEYED NOTES

1. THE ELECTRICAL CONTRACTOR IS TO PROVIDE THE CONDUIT AND WIRE BETWEEN THE CONTROL PANEL AND THE SITE EQUIPMENT. REFER TO THE WASTEWATER SYSTEM DRAWINGS FOR THE TERMINATION POINTS FOR EACH CONDUIT AND THE REQUIRED WIRES FOR EACH PIECE OF EQUIPMENT.

GENERAL NOTES

A. THE ELECTRICAL CONDUITS ARE TO BE INSTALLED AT 48" DEEP. PROVIDE A MAGNETIC DETECTABLE RIBBON AT 12" BELOW GRADE.

NORTH

0 20' 40'
1" = 20'

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SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 2088
KEVIN D. GARDNER
STATE OF UTAH

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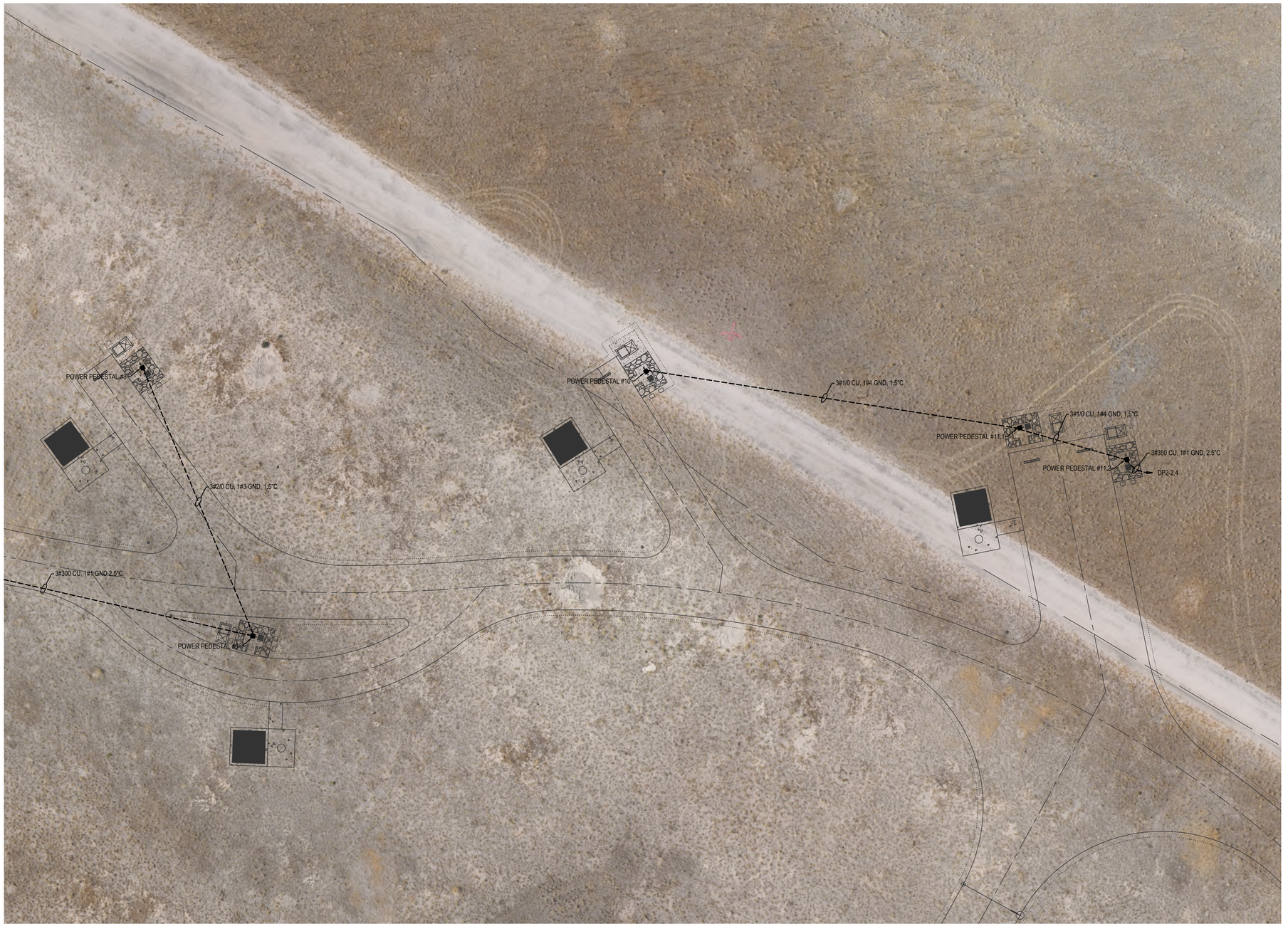
SITE PLAN

PROJECT NUMBER: 2021-095.00
PRINT DATE: 01/12/2022
DRAWN BY: CSC
CHECKED BY: KDG
PROJECT MANAGER: PL

ES-200-03

GENERAL NOTES

A. THE ELECTRICAL CONDUITS ARE TO BE INSTALLED AT 48" DEEP. PROVIDE A MAGNETIC DETECTABLE RIBBON AT 12" BELOW GRADE.



0 20' 40'
1" = 20'

NORTH

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CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 2
KEVIN D. MARINER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

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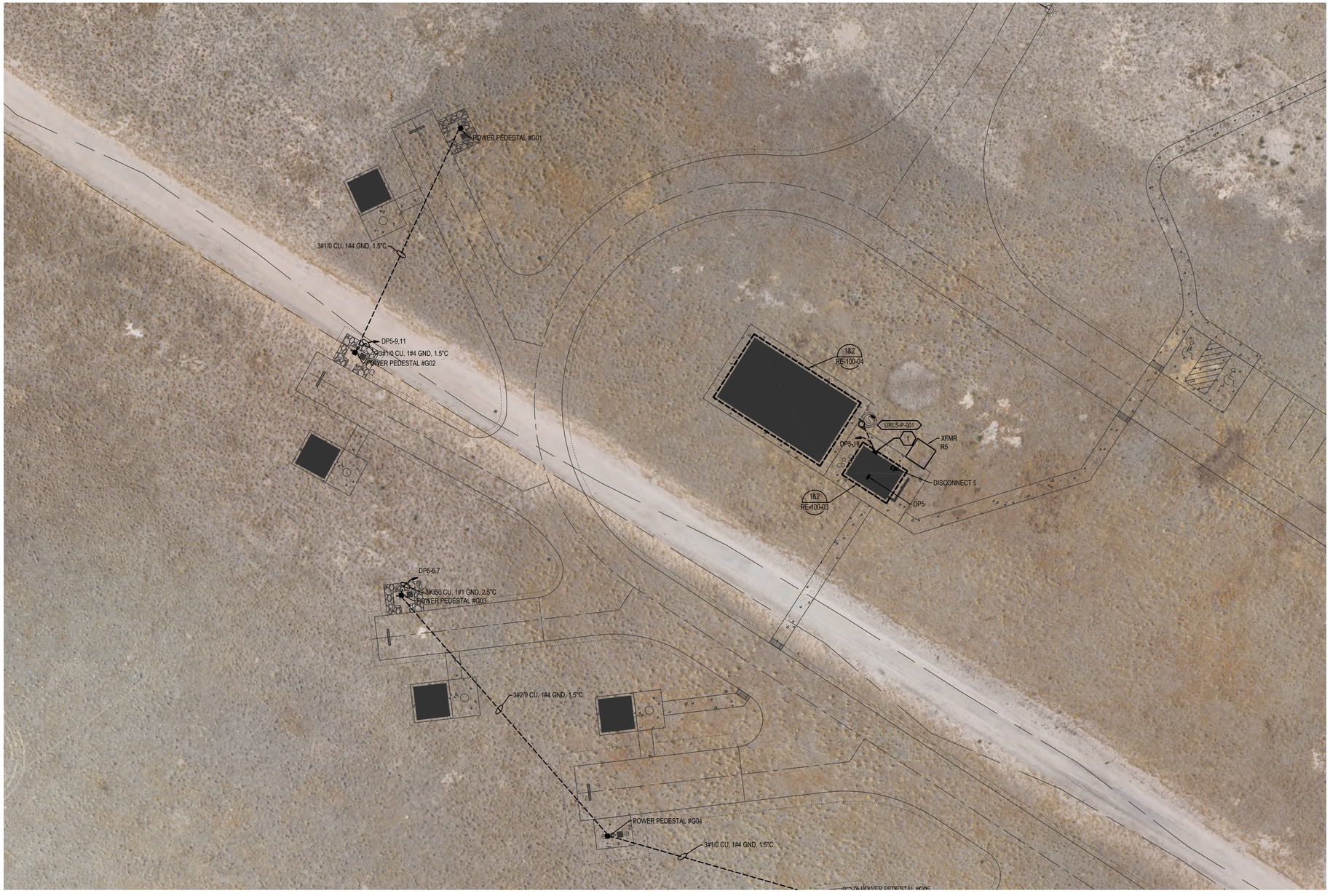
2	01/12/2022	DFCM COMMENTS	CEA

SITE PLAN

PROJECT NUMBER	PRINT DATE
2021-095.00	01/12/2022
DRAWN BY	CHECKED BY
CSC	KDG
PROJECT MANAGER	
PL	

ES-200-04



KEYED NOTES

1. THE WASTEWATER LIFT STATION PANEL IS PROVIDED AS PART OF THE LIFT STATION EQUIPMENT. THE ELECTRICAL CONTRACTOR IS TO MAKE ALL 120V CONNECTIONS. ALL LOW VOLTAGE CONNECTIONS WILL BE BY THE LIFT STATION INSTALLER.

GENERAL NOTES

A. THE ELECTRICAL CONDUITS ARE TO BE INSTALLED AT 48" DEEP. PROVIDE A MAGNETIC DETECTABLE RIBBON AT 12" BELOW GRADE.

NORTH

0 20' 40'
1" = 20'

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PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 2
KENNETH D. MARINER
STATE OF UTAH

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SITE PLAN

PROJECT NUMBER 2021-095.00	PRINT DATE 01/12/2022
DRAWN BY CSC	CHECKED BY KDG
PROJECT MANAGER PL	

ES-200-05

GENERAL NOTES

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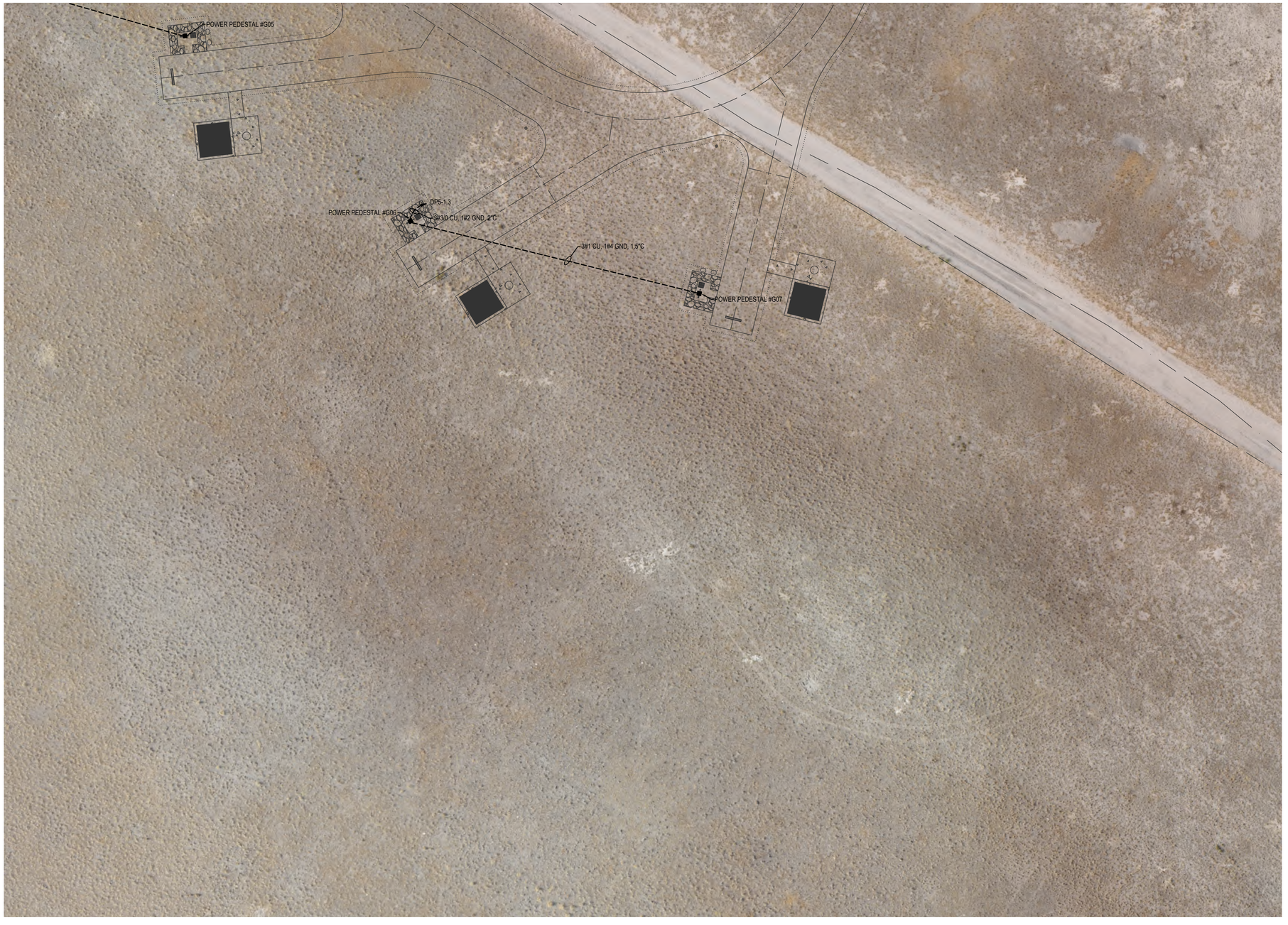

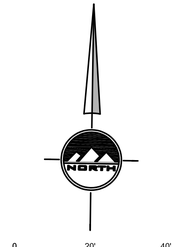

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SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 208
KEVIN D. GARDNER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

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SITE PLAN

PROJECT NUMBER: 2021-095.00
PRINT DATE: 01/12/2022
DRAWN BY: CSC
CHECKED BY: KDG
PROJECT MANAGER: PL

ES-200-06

GENERAL NOTES

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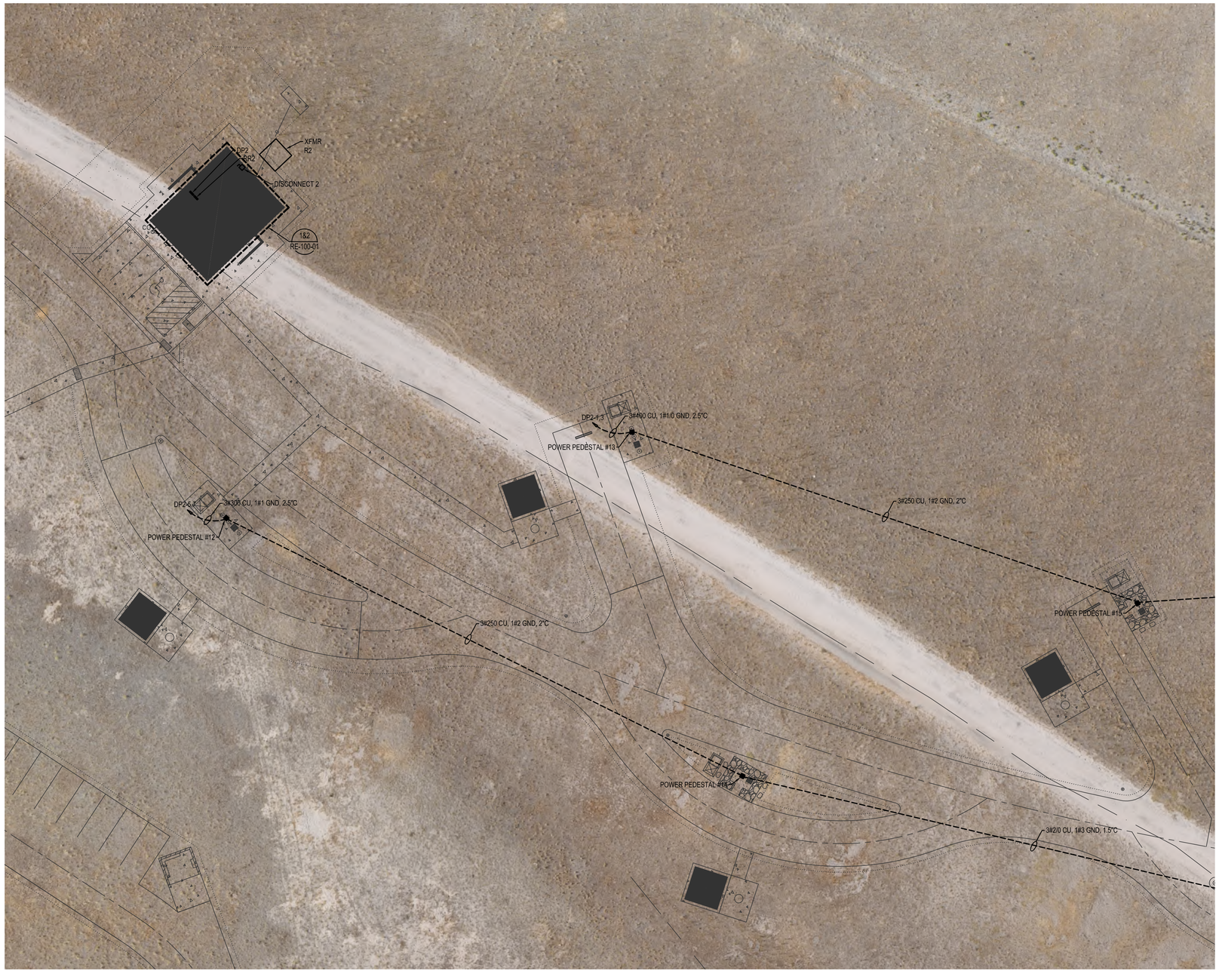

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CEDAR CITY
Phone: 435.865.1453

RICHFIELD
Phone: 435.896.2983

WWW.ENSIGNENG.COM

FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 20181
KEVIN D. WERNER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

NO.	DATE	REVISION	Issued by
1	12/01/2021	WWTF DESIGN & DFCM COMMENTS	CEA
2	01/12/2022	DFCM COMMENTS	CEA

NORTH

0 20' 40'
1" = 20'

COLVIN ENGINEERING ASSOCIATES
505 E South Temple, Suite 100
Salt Lake City, Utah 84102
Phone 801.322.2400
colvinengineering.com

CODE OFFICIAL STAMP
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
REVIEWED FOR CODE COMPLIANCE
SIGNATURE:
DATE: 01/25/2022

SITE PLAN

PROJECT NUMBER	PRINT DATE
2021-095.00	01/12/2022
DRAWN BY	CHECKED BY
CSC	KDG

PROJECT MANAGER
PL

ES-200-07

GENERAL NOTES

A. THE ELECTRICAL CONDUITS ARE TO BE INSTALLED AT 48" DEEP. PROVIDE A MAGNETIC DETECTABLE RIBBON AT 12" BELOW GRADE.

NORTH

0 20' 40'

1" = 20'

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SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 7988
KEVIN D. GARDNER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

NO.	DATE	REVISION	Issued by
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SITE PLAN

PROJECT NUMBER	PRINT DATE
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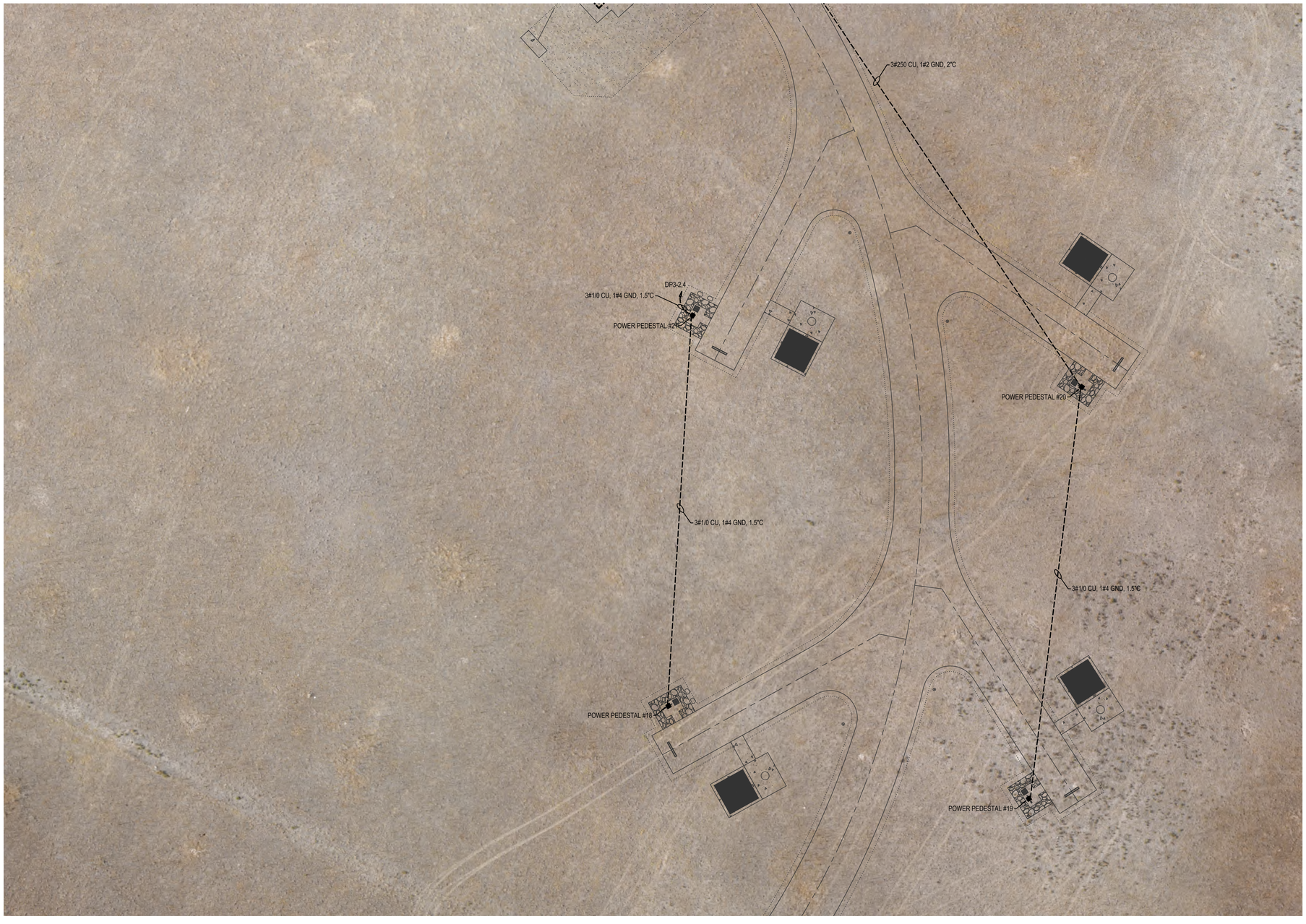
CSC	KDG
PROJECT MANAGER	
PL	

ES-200-08

GENERAL NOTES

A. THE ELECTRICAL CONDUITS ARE TO BE INSTALLED AT 48" DEEP. PROVIDE A MAGNETIC DETECTABLE RIBBON AT 12" BELOW GRADE.



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NORTH

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1" = 20'

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PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 2088
KEVIN D. GARNER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

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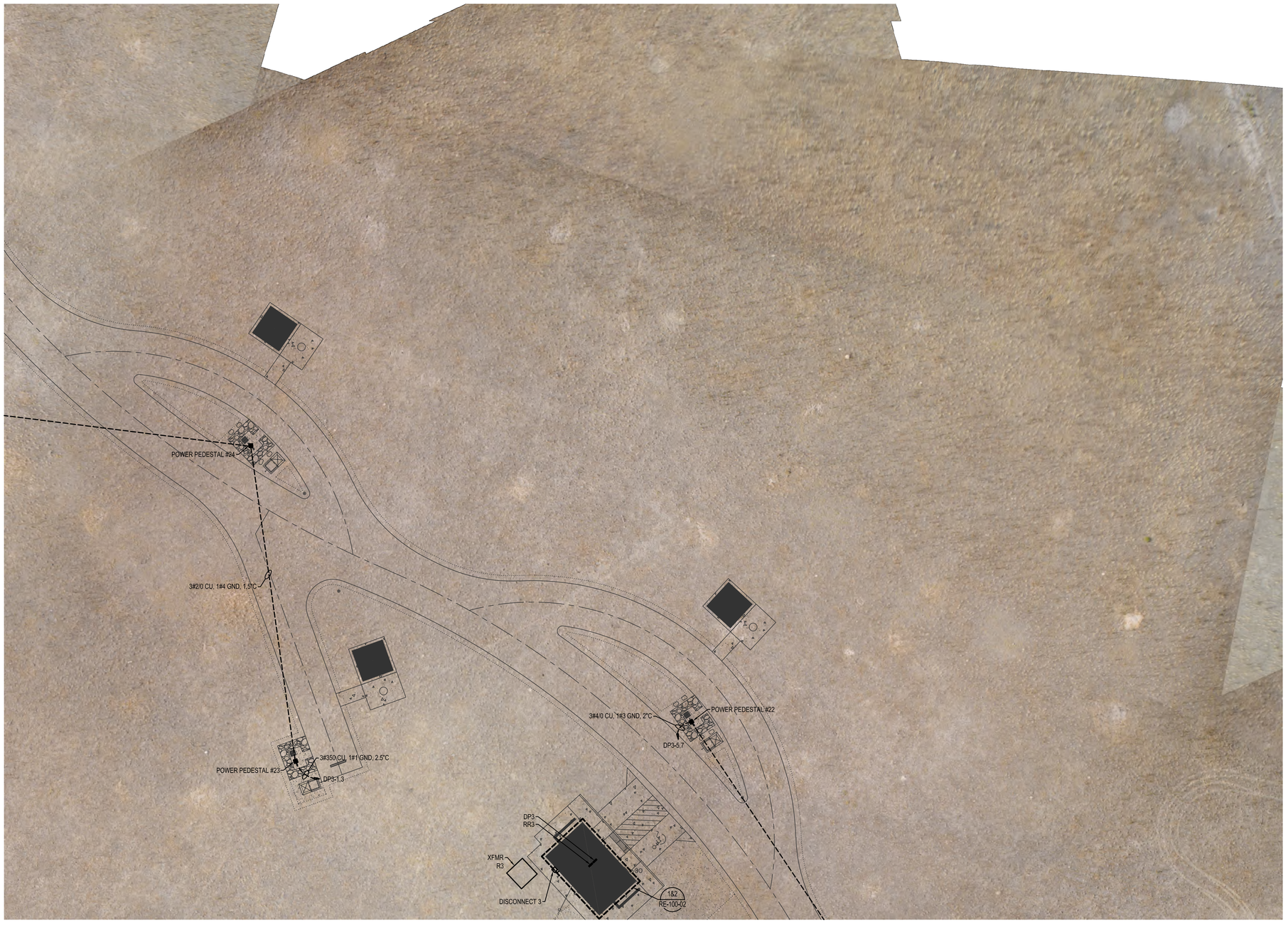
SITE PLAN

PROJECT NUMBER 2021-095.00
PRINT DATE 01/12/2022
DRAWN BY CSC
CHECKED BY KDG
PROJECT MANAGER PL

ES-200-09

GENERAL NOTES

A. THE ELECTRICAL CONDUITS ARE TO BE INSTALLED AT 48" DEEP. PROVIDE A MAGNETIC DETECTABLE RIBBON AT 12" BELOW GRADE.



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FOR:
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CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
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WHITE ROCKS CAMPGROUND RD
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PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 2018
KEVIN D. GARDNER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

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SITE PLAN

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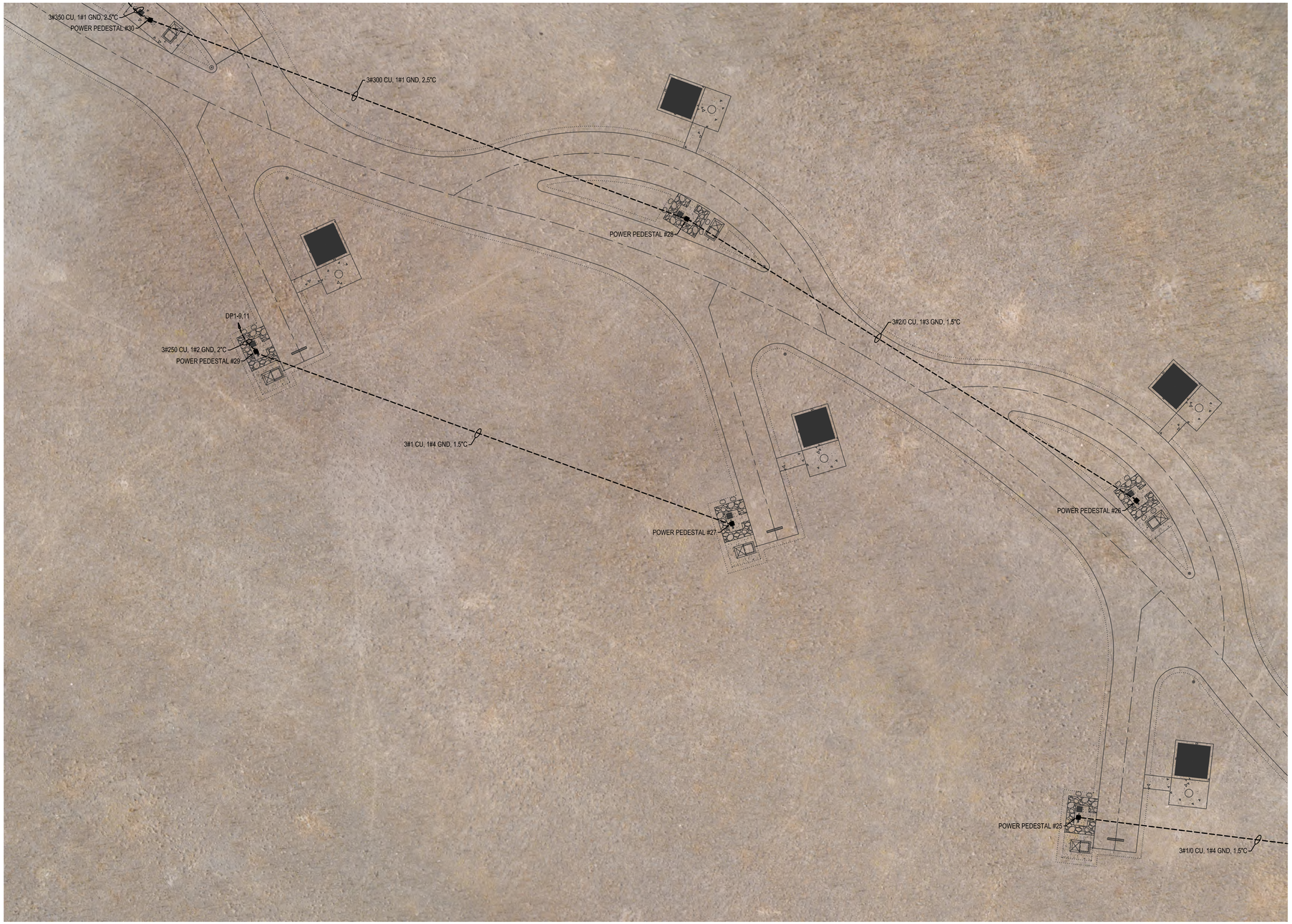
CSC	KDG

PROJECT MANAGER
PL

ES-200-10

GENERAL NOTES

A. THE ELECTRICAL CONDUITS ARE TO BE INSTALLED AT 48" DEEP. PROVIDE A MAGNETIC DETECTABLE RIBBON AT 12" BELOW GRADE.



NORTH

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1" = 20'

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CONTACT:

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PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 2010
KEVIN D. GARNER
STATE OF UTAH

CONFORMANCE SET
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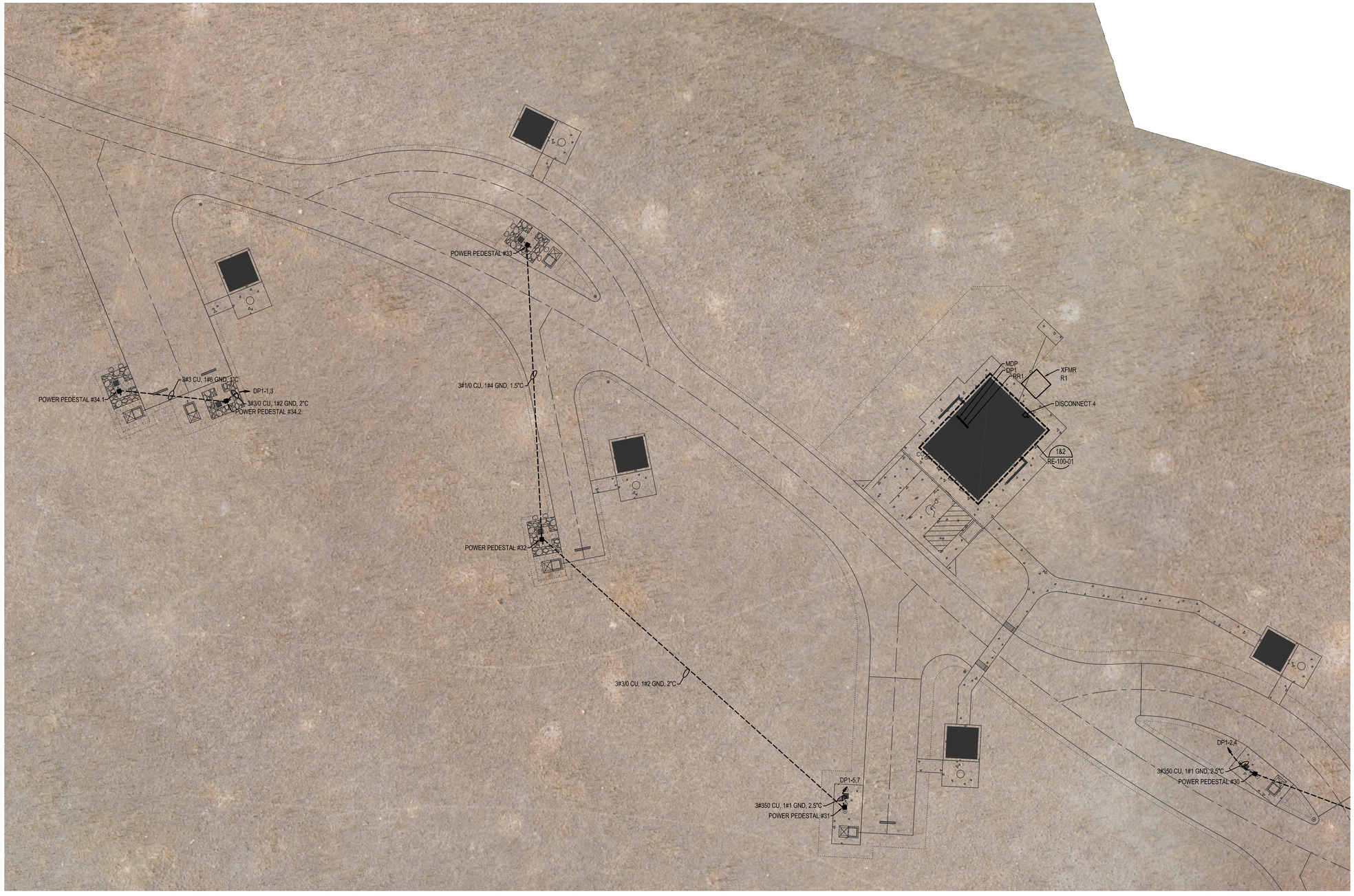
PROJECT NUMBER 2021-095.00
PRINT DATE 01/12/2022
DRAWN BY CSC
CHECKED BY KDG
PROJECT MANAGER PL

ES-200-11

GENERAL NOTES

A. THE ELECTRICAL CONDUITS ARE TO BE INSTALLED AT 48" DEEP. PROVIDE A MAGNETIC DETECTABLE RIBBON AT 12" BELOW GRADE.



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FOR:
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PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 2
KEVIN D. CARTER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

NO.	DATE	REVISION	Issued by
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NORTH

0 20' 40'
1" = 20'

COLVIN ENGINEERING ASSOCIATES
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SITE PLAN

PROJECT NUMBER	PRINT DATE
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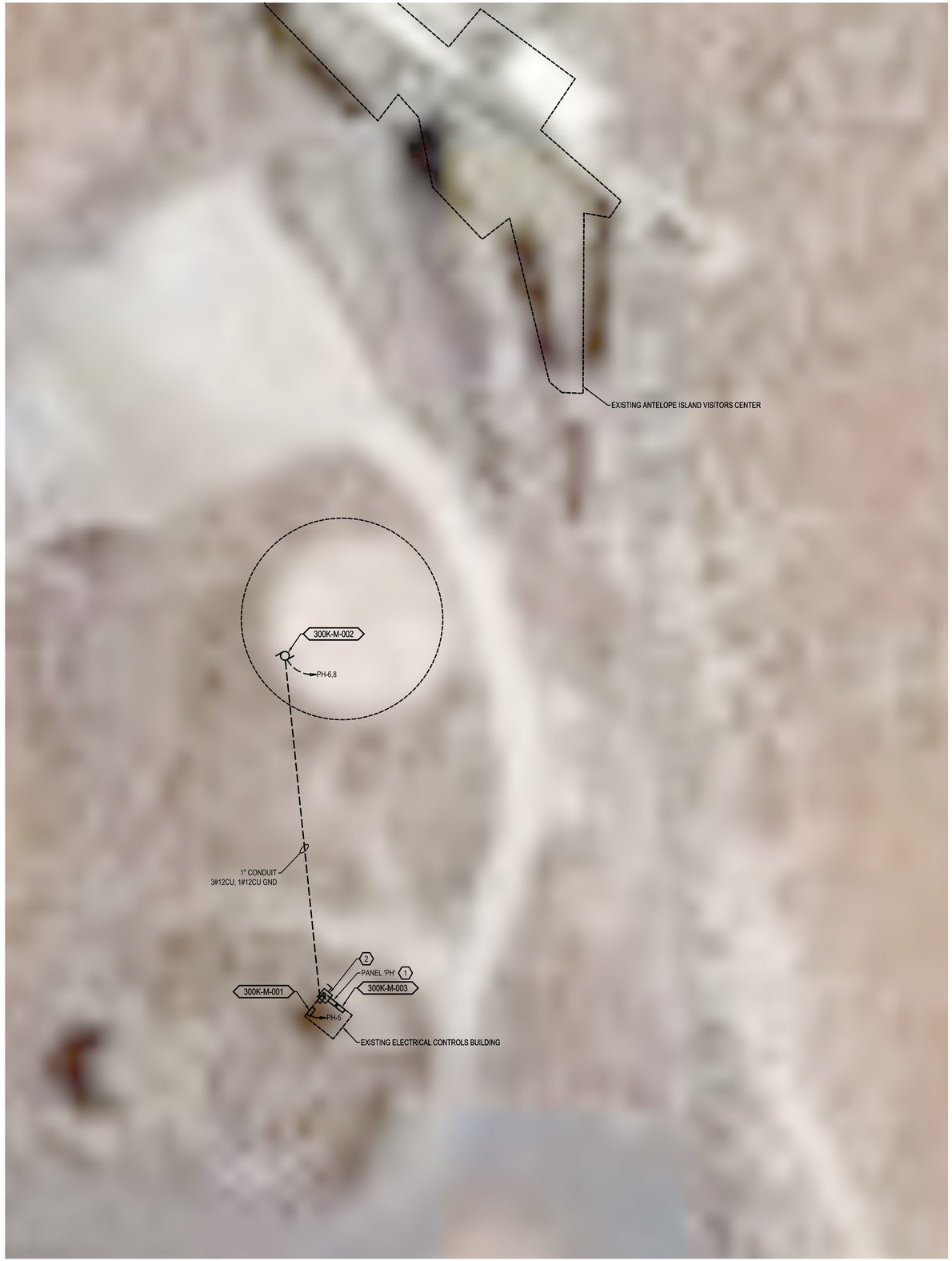
CSC	KDG
PROJECT MANAGER	
PL	

ES-200-12



KEYED NOTES

1. REPLACE THE EXISTING LOAD CENTER WITH A NEW LOAD CENTER. REFER TO THE PANEL SCHEDULES AND ONE-LINE. RECONNECT ALL EXISTING LOADS TO THE NEW LOAD CENTER.
2. THE EXISTING DISCONNECT FOR THE LOAD CENTER IS TO REMAIN AND BE RE-USED.

GENERAL NOTES

A. THE ELECTRICAL CONDUITS ARE TO BE INSTALLED AT 48" DEEP. PROVIDE A MAGNETIC DETECTABLE RIBBON AT 12" BELOW GRADE.

NORTH

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FOR:
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4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129

CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 7988
KEVIN D. GARNER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

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300K GAL TANK ELECTRICAL

PROJECT NUMBER	PRINT DATE
2021-095.00	01/12/2022
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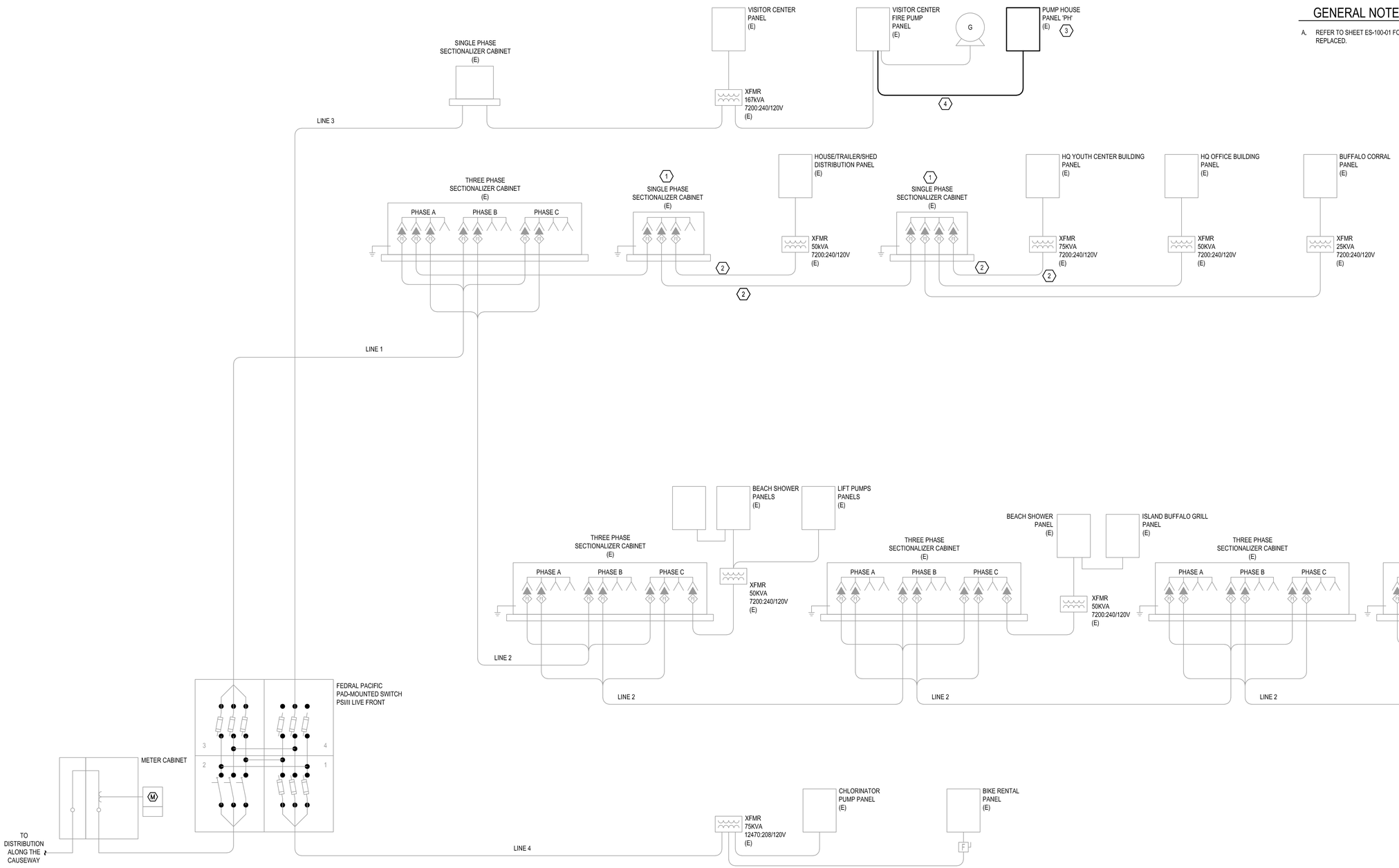
CSC	KDG
PROJECT MANAGER	
PL	

ES-300-01



1 E-500-01 ONE-LINE DIAGRAM - EXISTING CONDITIONS
SCALE: NTS

KEYED NOTES

1. THE EXISTING SINGLE-PHASE SECTIONALIZING CABINET AND VAULT ARE TO BE REPLACED. REFER TO E-500-02 FOR THE NEW CONDITIONS.
2. THE EXISTING FEEDER IS TO BE RECONNECTED TO THE NEW SECTIONALIZING CABINET. MAINTAIN THE ELBOWS FOR RE-USE.
3. THE EXISTING LOAD CENTER IS TO BE REPLACED. REFER TO E-500-02 FOR THE NEW CONDITIONS.
4. THE EXISTING FEEDER FROM THE FIRE PUMP PANEL TO THE PUMP HOUSE PANEL IS TO BE RE-USED.

GENERAL NOTES

A. REFER TO SHEET ES-100-01 FOR THE TOTAL COUNT OF SECTIONALIZER CABINETS TO BE REPLACED.

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SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 208[illegible]
KEVIN D. MARINER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

NO.	DATE	REVISION	Issued by
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ONE-LINE DIAGRAM

PROJECT NUMBER	PRINT DATE
2021-095.00	01/12/2022
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PL	

E-500-01

FEEDER SCHEDULE
SYMBOL CONDUIT & WIRE SIZE

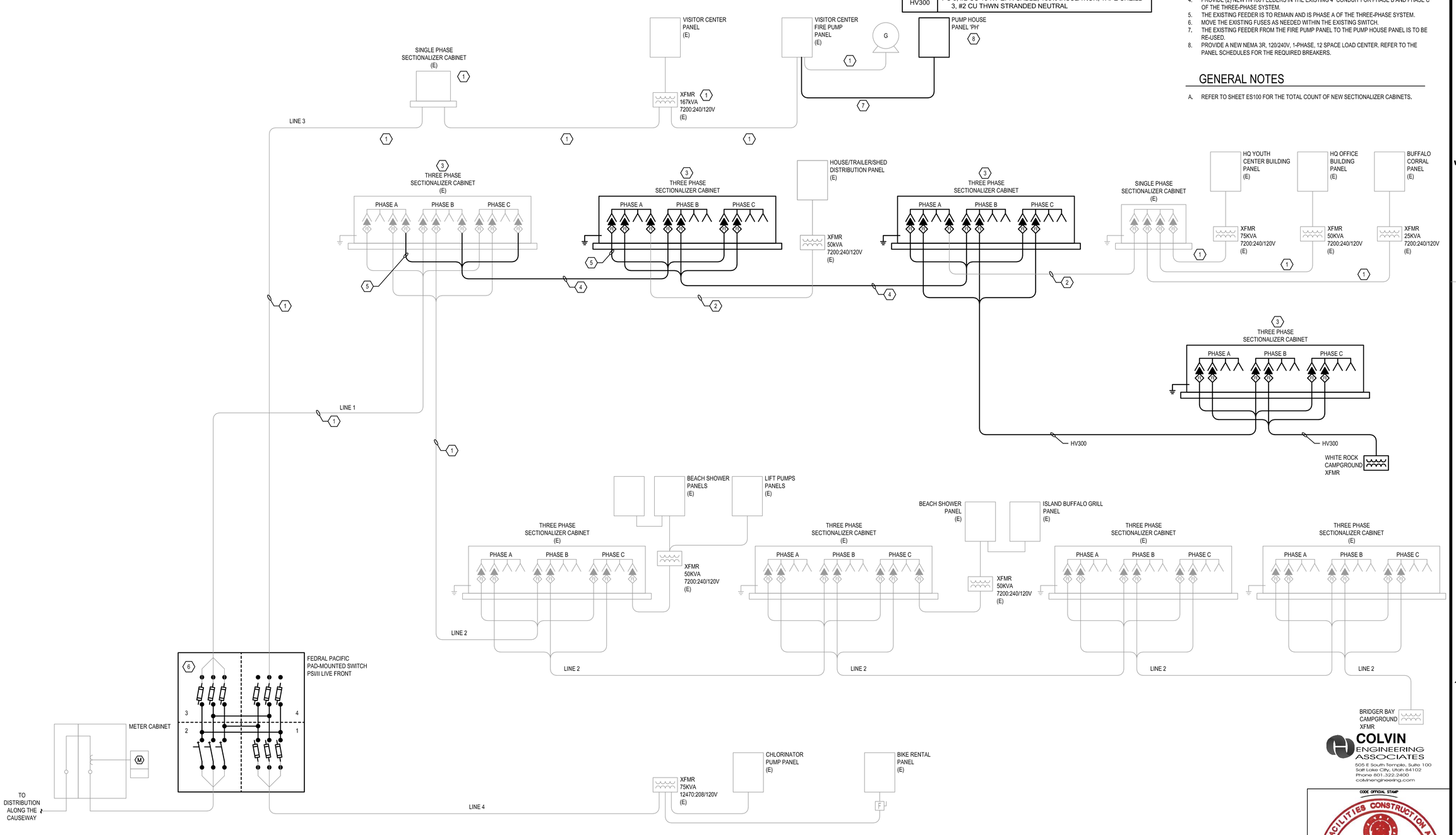
HV100	4"C #2 CU 15 KV EPR CABLE, 133% INSULATION, TAPE SHEILD #2 CU THWN STRANDED NEUTRAL
HV300	4"C 3, #2 CU 15 KV EPR CABLE, 133% INSULATION, TAPE SHEILD 3, #2 CU THWN STRANDED NEUTRAL

KEYED NOTES

1. NO WORK IS EXPECTED ALONG THIS LINE. IT IS SHOWN FOR INFORMATION ONLY.
2. EXISTING FEEDER IS TO BE RECONNECTED TO THE NEW SECTIONALIZING CABINET.
3. PROVIDE NEW THREE-PHASE, 15KV SECTIONALIZING CABINET WITH CONCRETE VAULT. SEE DETAIL 3/EX601 FOR CABINET. SEE DETAIL 4/EX601 FOR THE VAULT. THE TOTAL COUNT OF CABINETS IS TO BE OBTAINED FROM SHEET ES100.
4. PROVIDE (2) NEW HV100 FEEDERS IN THE EXISTING 4" CONDUIT FOR PHASE B AND PHASE C OF THE THREE-PHASE SYSTEM.
5. THE EXISTING FEEDER IS TO REMAIN AND IS PHASE A OF THE THREE-PHASE SYSTEM.
6. MOVE THE EXISTING FUSES AS NEEDED WITHIN THE EXISTING SWITCH.
7. THE EXISTING FEEDER FROM THE FIRE PUMP PANEL TO THE PUMP HOUSE PANEL IS TO BE RE-USED.
8. PROVIDE A NEW NEMA 3R, 120/240V, 1-PHASE, 12 SPACE LOAD CENTER. REFER TO THE PANEL SCHEDULES FOR THE REQUIRED BREAKERS.

GENERAL NOTES

A. REFER TO SHEET ES100 FOR THE TOTAL COUNT OF NEW SECTIONALIZER CABINETS.



1 E-500-02 ONE-LINE DIAGRAM - NEW CONDITIONS

SCALE: NTS

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THE STANDARD IN ENGINEERING

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FOR:
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PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 298810
KEVIN D. GARDNER
STATE OF UTAH

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ONE-LINE DIAGRAM

PROJECT NUMBER 2021-095.00	PRINT DATE 01/12/2022
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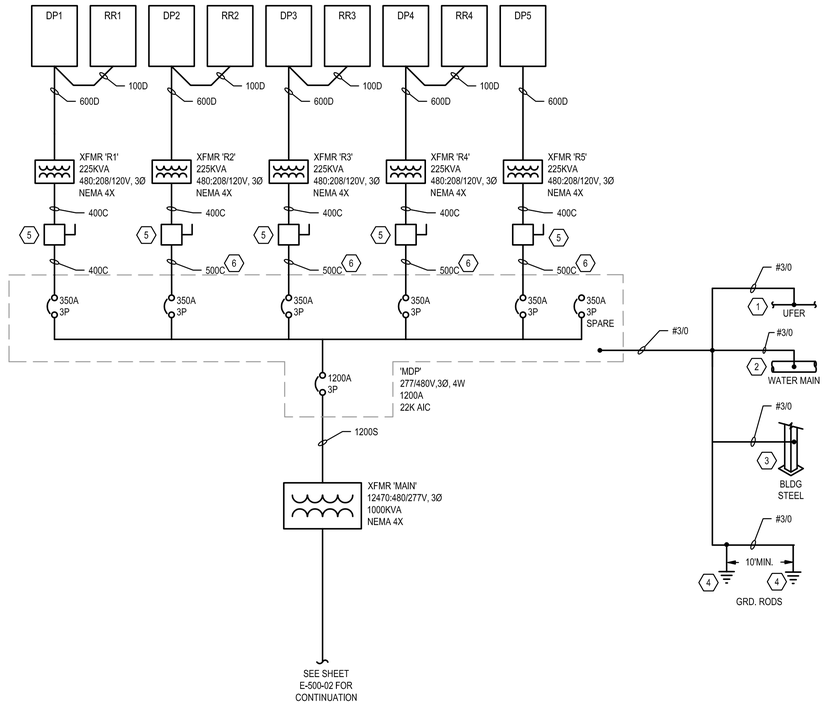
E-500-02

FEEDER SCHEDULE	
SYMBOL	CONDUIT & WIRE SIZE
20A	0.75"C 2#12, 1#12 GRD
20B	0.75"C 3#12
20C	0.75"C 3#12, 1#12 GRD
20D	0.75"C 4#12, 1#12 GRD
30A	0.75"C 2#10, 1#10 GRD
30B	0.75"C 3#10
30C	0.75"C 3#10, 1#10 GRD
30D	0.75"C 4#10, 1#10 GRD
40A	0.75"C 2#8, 1#8 GRD
40B	0.75"C 3#8
40C	0.75"C 3#8, 1#10 GRD
40D	0.75"C 4#8, 1#10 GRD
60A	0.75"C 2#6, 1#10 GRD
60B	0.75"C 3#6
60C	0.75"C 3#6, 1#10 GRD
60D	1"C 4#6, 1#10 GRD
70A	1"C 2#4, 1#8 GRD
70B	1"C 3#4
70C	1"C 3#4, 1#8 GRD
70D	1.25"C 4#4, 1#8 GRD
80A	1"C 2#3, 1#8 GRD
80B	1.25"C 3#3
80C	1.25"C 3#3, 1#8 GRD
80D	1.25"C 4#3, 1#8 GRD
100A	1"C 2#2, 1#8
100B	1.25"C 3#2
100C	1.25"C 3#2, 1#8 GRD
100D	1.5"C 4#2, 1#8 GRD
100S	1.25"C 4#2
125A	1.25"C 2#1, 1#6 GRD
125B	1.25"C 3#1
125C	1.5"C 3#1, 1#6 GRD
125D	2"C 4#1, 1#6 GRD
125S	1.5"C 4#1
150A	1.25C" 2#1/0, 1#6 GRD
150B	1.5"C 3#1/0
150C	1.5"C 3#1/0, 1#6 GRD
150D	2"C 4#1/0, 1#6 GRD
150S	2"C 4#1/0
175A	1.5"C 2#2/0, 1#6 GRD
175B	2"C 3#2/0
175C	2"C 3#2/0, 1#6 GRD
175D	2"C 4#2/0, 1#6 GRD
175S	2"C 4#2/0
200A	1.5"C 2#3/0, 1#6 GRD
200B	2"C 3#3/0
200C	2"C 3#3/0, 1#6 GRD
200D	2.5"C 4#3/0, 1#6 GRD
200S	2"C 4#3/0
225A	2"C 2#4/0, 1#4 GRD
225B	2"C 3#4/0
225C	2"C 3#4/0, 1#4 GRD
225D	2.5"C 4#4/0, 1#4 GRD
225S	2.5"C 4#4/0
250A	2"C 2#250KCM, 1#4 GRD
250B	2.5"C 3#250KCM
250C	2.5"C 3#250KCM, 1#4 GRD
250D	2.5"C 4#250KCM, 1#4 GRD
250S	2.5"C 4#250KCM
300A	2.5"C 3#350KCM
300B	3"C 4#350KCM
300C	3"C 3#350KCM, 1#4 GRD
300D	3"C 4#350KCM, 1#4 GRD
300S	3"C 4#350KCM
400A	(2) SETS 2"C 3#4/0
400B	(2) SETS 2.5"C 4#4/0
400C	(2) SETS 2.5"C 3#4/0, 1#3 GRD
400D	(2) SETS 2.5"C 4#4/0, 1#3 GRD
400S	(2) SETS 2.5"C 4#4/0
500A	(2) SETS 2.5"C 3#250KCM
500B	(2) SETS 2.5"C 4#250KCM
500C	(2) SETS 2.5"C 3#250KCM, 1#2 GRD
500D	(2) SETS 3"C 4#250KCM, 1#2 GRD
500S	(2) SETS 3"C 4#250KCM
600A	(2) SETS 2.5"C 3#350KCM
600B	(2) SETS 3"C 4#350KCM
600C	(2) SETS 3"C 3#350KCM, 1#1 GRD
600D	(2) SETS 3.5"C 4#350KCM, 1#1 GRD
600S	(2) SETS 3"C 4#350KCM
800A	(3) SETS 2.5"C 3#350KCM
800B	(3) SETS 3"C 4#350KCM
800C	(3) SETS 3"C 3#350KCM, 1#1/0 GRD
800D	(3) SETS 3.5"C 4#350KCM, 1#1/0 GRD
800S	(3) SETS 3.5"C 4#350KCM
1000A	(3) SETS 3"C 3#500KCM
1000B	(3) SETS 3"C 4#500KCM
1000C	(3) SETS 3"C 3#500KCM, 1#2/0 GRD
1000D	(3) SETS 3.5"C 4#500KCM, 1#2/0 GRD
1000S	(3) SETS 4"C 4#500KCM
1200A	(4) SETS 2.5"C 3#400KCM
1200B	(4) SETS 3"C 4#400KCM
1200C	(4) SETS 3"C 3#400KCM, 1#3/0 GRD
1200D	(4) SETS 3"C 4#400KCM, 1#3/0 GRD
1200S	(4) SETS 4"C 4#400KCM

KEYED NOTES

1. UFER OF CONCRETE ENCASED ELECTRODE SHALL BE 60' MINIMUM LENGTH OF #3/0 COPPER PLACED WITHIN 2.5-3.5 INCHES OF BOTTOM OF EXTERIOR WALL FOOTING THAT IS ½ INCH DIAMETER OR GREATER.
2. CLAMP TO BUILDING WATER MAIN AS REQUIRED BY NEC 250.52(A)(1) WHERE AVAILABLE FOR INSPECTION IF POSSIBLE.
3. CLAMP TO BUILDING STRUCTURAL STEEL PER NEC 250.52(A)(2) WHERE AVAILABLE FOR INSPECTION.
4. 10' LONG, 5/8 INCH DIAMETER COPPER RODS SHALL BE BURIED 24 INCH BELOW GRADE TO TOP OF ROD. CADWELD CONNECTION TO CONDUCTOR LEAVING 6 FEET SLACK IN CONDUCTOR BETWEEN RODS. RODS SHALL BE SPACED MINIMUM OF 10 FEET APART.
5. DISCONNECT SWITCH, 400A, NEMA 4X.
6. FEEDER HAS BEEN UPSIZED TO MITIGATE VOLTAGE DROP



1 E-500-03 ONE-LINE DIAGRAM - CAMPGROUND DISTRIBUTION

SCALE: NTS

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 390810
KEVIN D. GARNER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

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ONE-LINE DIAGRAM

PROJECT NUMBER	PRINT DATE
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E-500-03

PANEL: DP1

120 / 208	4	W	3	PH	600 Amps			Main Breaker					KAIC
DESCRIPTION	TYPE	LOAD	BKR	P	CKT	A	B	C	CKT	BKR	P	TYPE	LOAD	DESCRIPTION
PEDESTALS 34,1 ,34,2	N	10400	150	2	1	26000			2	200	2	N	15600	PEDESTALS 26,28,30
-	N	10400	-	-	3		26000		4	-	-	N	15600	-
PEDESTALS 31,32,33	N	15600	200	2	5			15600	6	150	2			SPARE
-	N	15600	-	-	7	15600			8	-	-			-
PEDESTALS 27,29	N	10400	150	2	9		10400		10	200	2			SPARE
-	N	10400	-	-	11			10400	12	-	-			-
PANEL: RR1	N	10062	100	1	13	10062			14	20	1			SPARE
-	N	8668	-	1	15		8668		16	20	1			SPARE
-	N	9694	-	1	17			9694	18	20	1			SPARE
SPARE			20	1	19	0			20					SPACE
SPARE			20	1	21		0		22					SPACE
SPARE			20	1	23			0	24					SPACE
SPACE					25	0			26					SPACE
SPACE					27		0		28					SPACE
SPACE					29			0	30					SPACE
						51662	45068	35694	.					
CONNECTED LOAD	132.4	KVA			367.6	Amps								
NEC DEMAND LOAD	132.4	KVA			367.6	Amps								

PANEL: DP2

120 / 208	4	W	3	PH	600 Amps			Main Breaker					KAIC
DESCRIPTION	TYPE	LOAD	BKR	P	CKT	A	B	C	CKT	BKR	P	TYPE	LOAD	DESCRIPTION
PEDESTALS 13,15,17	N	15600	200	2	1	26000			2	150	2	N	10400	PEDESTALS 10,11
-	N	15600	-	-	3		26000		4	-	-	N	10400	-
PEDESTALS 12,14,16	N	15600	200	2	5			15600	6	150	1			SPARE
-	N	15600	-	-	7	15600			8	-	-			-
PANEL: RR2	N	10062	100	1	9		10062		10	200	2			SPARE
-	N	8668	-	1	11			8668	12	-	-			-
-	N	9694	-	1	13	9694			14	20	1			SPARE
SPARE			20	1	15		0		16	20	1			SPARE
SPARE			20	1	17			0	18	20	1			SPARE
SPACE					19	0			20					SPACE
SPACE					21		0		22					SPACE
SPACE					23			0	24					SPACE
SPACE					25	0			26					SPACE
SPACE					27		0		28					SPACE
SPACE					29			0	30					SPACE
						51294	36062	24268	.					
CONNECTED LOAD	111.6	KVA			309.8	Amps								
NEC DEMAND LOAD	111.6	KVA			309.8	Amps								

PANEL: DP3

120 / 208	4	W	3	PH	600 Amps			Main Breaker					KAIC
DESCRIPTION	TYPE	LOAD	BKR	P	CKT	A	B	C	CKT	BKR	P	TYPE	LOAD	DESCRIPTION
PEDESTALS 23,24,25	N	15600	200	2	1	26000			2	150	2	N	10400	PEDESTALS 18,21
-	N	15600	-	-	3		26000		4	-	-	N	10400	-
PEDESTALS 19,20,22	N	15600	200	2	5			15600	6	200	2			SPARE
-	N	15600	-	-	7	15600			8	-	-			-
PANEL: RR3	N	6868	100	3	9		6868		10	20	1			SPARE
-	N	7140	-	-	11			7140	12	20	1			SPARE
-	N	9882	-	-	13	9882			14					SPACE
SPARE			20	1	15		0		16					SPACE
SPARE			20	1	17			0	18					SPACE
SPACE					19	0			20					SPACE
SPACE					21		0		22					SPACE
SPACE					23			0	24					SPACE
SPACE					25	0			26					SPACE
SPACE					27		0		28					SPACE
SPACE					29			0	30					SPACE
						51482	32868	22740	.					
CONNECTED LOAD	107.1	KVA			297.3	Amps								
NEC DEMAND LOAD	107.1	KVA			297.3	Amps								

PANEL: DP4

120 / 208	4	W	3	PH	600 Amps			Main Breaker					KAIC	
DESCRIPTION	TYPE	LOAD	BKR	P	CKT	A	B	C	CKT	BKR	P	TYPE	LOAD	DESCRIPTION	
PEDESTALS 07,08,09	N	15600	200	2	1	22468			2	100	3	N	6868	PANEL: RR4	
-	N	15600	-	-	3		22740		4	-	-	N	7140	-	
PEDESTALS 03,05,06	N	15600	200	2	5			25482	6	-	-	N	9882	-	
-	N	15600	-	-	7	25200			8	100	3	N	9600	WASTEWATER CONTROL PANEL	1
PEDESTALS 01,02,04	N	15600	200	2	9		25200		10	-	-	N	9600	-	1
-	N	15600	-	-	11			25200	12	-	-	N	9600	-	1
SPARE			20	1	13	0			14	20	1			SPARE	
SPARE			20	1	15		0		16	20	1			SPARE	
SPARE			20	1	17			0	18	20	1			SPARE	
SPACE					19	0			20					SPACE	
SPACE					21		0		22					SPACE	
SPACE					23			0	24					SPACE	
SPACE					25	0			26					SPACE	
SPACE					27		0		28					SPACE	
SPACE					29			0	30					SPACE	
						47668	47940	50682	.						
CONNECTED LOAD	146.3	KVA			406.1	Amps									
NEC DEMAND LOAD	146.3	KVA			406.1	Amps									

PANEL: DP5

120 / 208	4	W	3	PH	600 Amps			Main Breaker					KAIC
DESCRIPTION	TYPE	LOAD	BKR	P	CKT	A	B	C	CKT	BKR	P	TYPE	LOAD	DESCRIPTION
PEDESTALS G06, G07	N	10400	150	2	1	14560			2	50	2	M	4160	IEWH-1
-	N	10400	-	-	3		14560		4	-	-	M	4160	-
PEDESTALS G03,G04,G05	N	16000	200	2	5			20160	6	50	2	M	4160	IEWH-1
-	N	16000	-	-	7	20160			8	-	-	M	4160	-
PEDESTALS G01, G02	N	10400	150	2	9		11696		10	20	1	M	1296	EUH-1
	N	10400	-	-	11			11242	12	20	2	M	842	HAND DRYER
SPARE			150	2	13	842			14	-	-	M	842	-
-			-	-	15		200		16	20	1	L	200	LIGHTING
SPARE			200	2	17			1920	18	30	1	M	1920	URLS-P-001
-			-	-	19	573			20	20	1	R	573	RECEPTACLES, EF-1
SPARE			20	1	21		0		22	20	1	L		PAVILION LIGHTING
SPARE			20	1	23			540	24	20	1	R	540	PAVILION RECEPTACLE
SPACE					25	540			26	20	1	R	540	PAVILION RECEPTACLE
SPACE					27		0		28	20	1			SPARE
SPACE					29			0	30	20	1			SPARE
						36675	26456	33862	.					
CONNECTED LOAD	97.0	KVA			269.2	Amps								
NEC DEMAND LOAD	97.0	KVA			269.4	Amps								

KEYED NOTES

1. CONFIRM THE BREAKER SIZE WITH THE WASTEWATER SYSTEM SHOP DRAWINGS PRIOR TO ORDERING THE BREAKER.

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER No. 291 KEVIN D. WARNER STATE OF UTAH

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E-600-01

PANEL: RR1

120 / 208	4	W	3	PH		100	Amps	Main Lugs					KAIC
DESCRIPTION	TYPE	LOAD	BKR	P	CKT	A	B	C	CKT	BKR	P	TYPE	LOAD	DESCRIPTION
SPACE					1	4160			2	50	2	M	4160	IEWH-1
EXHAUST FANS	M	244	20	1	3		4404		4	-	-	M	4160	-
IGWH-1 (X2)	M	192	20	1	5			4352	6	50	2	M	4160	IEWH-1
SHOWER TRANSFORMER	M	500	20	1	7	4660			8	-	-	M	4160	-
RECEPTACLES	R	1080	20	1	9		1922		10	20	2	N	842	HAND DRYER
WASHER	N	1200	20	1	11			2042	12	-	-	N	842	-
LIGHTING	L	400	20	1	13	1242			14	20	2	N	842	HAND DRYER
DRYER	N	1500	30	2	15		2342		16	-	-	N	842	-
-	N	1500	-	-	17			3300	18	20	1	N	1800	B-1
SPACE					19	0			20	20	1			SPARE
SPACE					21		0		22	20	1			SPARE
SPACE					23			0	24	20	1			SPARE
						10062	8668	9694	.					
CONNECTED LOAD	28.4	KVA				78.9	Amps							
NEC DEMAND LOAD	28.5	KVA				79.2	Amps							

PANEL: RR2

120 / 208	4	W	3	PH		100	Amps	Main Lugs					KAIC
DESCRIPTION	TYPE	LOAD	BKR	P	CKT	A	B	C	CKT	BKR	P	TYPE	LOAD	DESCRIPTION
LIGHTING	L		20	1	1	4160			2	50	2	M	4160	IEWH-1
EXHAUST FANS	M	244	20	1	3		4404		4	-	-	M	4160	-
IGWH-1 (X2)	M	192	20	1	5			4352	6	50	2	M	4160	IEWH-1
SHOWER TRANSFORMER	M	500	20	1	7	4660			8	-	-	M	4160	-
RECEPTACLES	R	1080	20	1	9		1922		10	20	2	N	842	HAND DRYER
WASHER	N	1200	20	1	11			2042	12	-	-	N	842	-
LIGHTING	L	400	20	1	13	1242			14	20	2	N	842	HAND DRYER
DRYER	N	1500	30	2	15		2342		16	-	-	N	842	-
-	N	1500	-	-	17			3300	18	20	1	N	1800	B-1
SPACE					19	0			20	20	1			SPARE
SPACE					21		0		22	20	1			SPARE
SPACE					23			0	24	20	1			SPARE
						10062	8668	9694	.					
CONNECTED LOAD	28.4	KVA				78.9	Amps							
NEC DEMAND LOAD	28.5	KVA				79.2	Amps							

PANEL: RR3

120 / 208	4	W	3	PH		100	Amps	Main Lugs					KAIC
DESCRIPTION	TYPE	LOAD	BKR	P	CKT	A	B	C	CKT	BKR	P	TYPE	LOAD	DESCRIPTION
EXHAUST FANS	M	66	20	1	1	1866			2	20	1	M	1800	B-2
EUH-1	M	1296	20	1	3		2138		4	20	2	M	842	HAND DRYER
IEWH-1	M	4160	50	2	5			5002	6	-	-	M	842	-
-	M	4160	-	-	7	5002			8	20	2	M	842	HAND DRYER
IEWH-1	M	4160	50	2	9		5002		10	-	-	M	842	-
-	M	4160	-	-	11			4880	12	20	1	R	720	RECEPTACLES
LIGHTING	L		20	1	13	0			14	20	1			SPARE
SPARE			20	1	15		0		16	20	1			SPARE
SPARE			20	1	17			0	18	20	1			SPARE
SPACE					19	0			20					SPACE
SPACE					21		0		22					SPACE
						6868	7140	9882	.					
CONNECTED LOAD	23.9	KVA				66.3	Amps							
NEC DEMAND LOAD	23.9	KVA				66.3	Amps							

PANEL: RR4

120 / 208	4	W	3	PH		100	Amps	Main Lugs					KAIC
DESCRIPTION	TYPE	LOAD	BKR	P	CKT	A	B	C	CKT	BKR	P	TYPE	LOAD	DESCRIPTION
EXHAUST FANS	M	66	20	1	1	1866			2	20	1	M	1800	B-2
EUH-1	M	1296	20	1	3		2138		4	20	2	M	842	HAND DRYER
IEWH-1	M	4160	50	2	5			5002	6	-	-	M	842	-
-	M	4160	-	-	7	5002			8	20	2	M	842	HAND DRYER
IEWH-1	M	4160	50	2	9		5002		10	-	-	M	842	-
-	M	4160	-	-	11			4880	12	20	1	R	720	RECEPTACLES
LIGHTING	L		20	1	13	0			14	20	1			SPARE
SPARE			20	1	15		0		16	20	1			SPARE
SPARE			20	1	17			0	18	20	1			SPARE
SPACE					19	0			20					SPACE
SPACE					21		0		22					SPACE
						6868	7140	9882	.					
CONNECTED LOAD	23.9	KVA				66.3	Amps							
NEC DEMAND LOAD	23.9	KVA				66.3	Amps							

PANEL: PH

120 / 240	3	W	1	PH		100	Amps	Main Lugs					KAIC
DESCRIPTION	TYPE	LOAD	BKR	P	CKT	A	B	CKT	BKR	P	TYPE	LOAD	DESCRIPTION
EXISTING LOAD			20	1	1	0		2	20	1			EXISTING LOAD
EXISTING LOAD			20	1	3		0	4	30	1			EXISTING LOAD
RTU AND ANALYZER	N	144	20	1	5	408		6	20	2	M	264	300K-M-002 PUMP
SPARE			20	1	7		264	8	-	-	M	264	-
SPACE					9	0		10					SPACE
SPACE					11		0	12					SPACE
						408	264						
CONNECTED LOAD	0.7	KVA				2.8	Amps						
NEC DEMAND LOAD	0.7	KVA				2.8	Amps						

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 2988
KEVIN D. GARNER
STATE OF UTAH

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ELECTRICAL SCHEDULES

PROJECT NUMBER 2021-095.00
PRINT DATE 01/12/2022
DRAWN BY CSC
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PROJECT MANAGER PL

E-600-02

Series Volt Drop 600

Project Name: Antelope Island White Rock
Project Number: 10970
Designed By: Trevor Stott
Item Name: DP4-1,3
Notes: -NONE-

Calculation of Series Voltage Drop and Series Loads
Voltage: 208
Load Circuit: 1-PH, 3-W
Power Factor: 1
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 1
Conduit: PVC/ABS
Maximum Voltage Drop Percentage(VD%) at end of circuit: 2.95

Segment Number	Segment Size	Segment Feet	Amps Load	Segment Amps	Segment %VD	Total %VD
1	600	261	50	150.00	0.88	0.88
2	250	221	50	100.00	1.11	1.99
3	2/0	200	50	50.00	0.96	2.95

File Name: I:\PROJECTS\2021 Projects\2021-095.00 Antelope Island White Rock Bay Campground \Electrical\Voltage Drop\EDR\DP4-1,3.edr

Date Created: 10/25/2021 2:16:16 PM
Date Modified: 10/25/2021 2:54:17 PM

Source: EDR, Electrical Designer's Reference
Software Version: 11.1 (Build 17). Based on the 2011 NEC®.

Series Volt Drop 600

Project Name: Antelope Island White Rock
Project Number: 10970
Designed By: Trevor Stott
Item Name: DP4-5,7
Notes: -NONE-

Calculation of Series Voltage Drop and Series Loads
Voltage: 208
Load Circuit: 1-PH, 3-W
Power Factor: 1
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 1
Conduit: PVC/ABS
Maximum Voltage Drop Percentage(VD%) at end of circuit: 2.94

Segment Number	Segment Size	Segment Feet	Amps Load	Segment Amps	Segment %VD	Total %VD
1	400	200	50	150.00	0.96	0.96
2	250	203	50	100.00	1.02	1.98
3	2/0	200	50	50.00	0.96	2.94

File Name: I:\PROJECTS\2021 Projects\2021-095.00 Antelope Island White Rock Bay Campground \Electrical\Voltage Drop\EDR\DP4-5,7.edr

Date Created: 10/25/2021 2:16:16 PM
Date Modified: 10/25/2021 2:46:33 PM

Source: EDR, Electrical Designer's Reference
Software Version: 11.1 (Build 17). Based on the 2011 NEC®.

Series Volt Drop 600

Project Name: Antelope Island White Rock
Project Number: 10970
Designed By: Trevor Stott
Item Name: DP4-2,4
Notes: -NONE-

Calculation of Series Voltage Drop and Series Loads
Voltage: 208
Load Circuit: 1-PH, 3-W
Power Factor: 1
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 1
Conduit: PVC/ABS
Maximum Voltage Drop Percentage(VD%) at end of circuit: 2.96

Segment Number	Segment Size	Segment Feet	Amps Load	Segment Amps	Segment %VD	Total %VD
1	400	210	50	150.00	1.01	1.01
2	4/0	225	50	100.00	1.35	2.36
3	2/0	125	50	50.00	0.60	2.96

File Name: I:\PROJECTS\2021 Projects\2021-095.00 Antelope Island White Rock Bay Campground \Electrical\Voltage Drop\EDR\DP4-2,4.edr

Date Created: 10/25/2021 2:16:16 PM
Date Modified: 10/25/2021 2:40:16 PM

Source: EDR, Electrical Designer's Reference
Software Version: 11.1 (Build 17). Based on the 2011 NEC®.

Series Volt Drop 600

Project Name: Antelope Island White Rock
Project Number: 10970
Designed By: Trevor Stott
Item Name: DP2-2,4
Notes: -NONE-

Calculation of Series Voltage Drop and Series Loads
Voltage: 208
Load Circuit: 1-PH, 3-W
Power Factor: 1
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 1
Conduit: PVC/ABS
Maximum Voltage Drop Percentage(VD%) at end of circuit: 2.87

Segment Number	Segment Size	Segment Feet	Amps Load	Segment Amps	Segment %VD	Total %VD
1	350	202	50	150.00	1.11	1.11
2	1/0	53	50	100.00	0.61	1.72
3	1/0	200	50	50.00	1.15	2.87

File Name: I:\PROJECTS\2021 Projects\2021-095.00 Antelope Island White Rock Bay Campground \Electrical\Voltage Drop\EDR\DP2-2,4.edr

Date Created: 10/25/2021 2:16:16 PM
Date Modified: 10/25/2021 3:15:09 PM

Source: EDR, Electrical Designer's Reference
Software Version: 11.1 (Build 17). Based on the 2011 NEC®.

Series Volt Drop 600

Project Name: Antelope Island White Rock
Project Number: 10970
Designed By: Trevor Stott
Item Name: DP5-5,7
Notes: -NONE-

Calculation of Series Voltage Drop and Series Loads
Voltage: 208
Load Circuit: 1-PH, 3-W
Power Factor: 1
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 1
Conduit: PVC/ABS
Maximum Voltage Drop Percentage(VD%) at end of circuit: 2.89

Segment Number	Segment Size	Segment Feet	Amps Load	Segment Amps	Segment %VD	Total %VD
1	350	198	50	150.00	1.09	1.09
2	2/0	126	50	100.00	1.21	2.30
3	1/0	102	50	50.00	0.59	2.89

File Name: I:\PROJECTS\2021 Projects\2021-095.00 Antelope Island White Rock Bay Campground \Electrical\Voltage Drop\EDR\DP5-5,7.edr

Date Created: 10/25/2021 2:16:16 PM
Date Modified: 10/25/2021 3:19:55 PM

Source: EDR, Electrical Designer's Reference
Software Version: 11.1 (Build 17). Based on the 2011 NEC®.

Series Volt Drop 600

Project Name: Antelope Island White Rock
Project Number: 10970
Designed By: Trevor Stott
Item Name: DP5-2,4
Notes: -NONE-

Calculation of Series Voltage Drop and Series Loads
Voltage: 208
Load Circuit: 1-PH, 3-W
Power Factor: 1
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 1
Conduit: PVC/ABS
Maximum Voltage Drop Percentage(VD%) at end of circuit: 2.94

Segment Number	Segment Size	Segment Feet	Amps Load	Segment Amps	Segment %VD	Total %VD
1	1/0	204	50	100.00	2.36	2.36
2	1/0	101	50	50.00	0.58	2.94

File Name: I:\PROJECTS\2021 Projects\2021-095.00 Antelope Island White Rock Bay Campground \Electrical\Voltage Drop\EDR\DP5-2,4.edr

Date Created: 10/25/2021 2:16:16 PM
Date Modified: 10/25/2021 3:23:31 PM

Source: EDR, Electrical Designer's Reference
Software Version: 11.1 (Build 17). Based on the 2011 NEC®.

Series Volt Drop 600

Project Name: Antelope Island White Rock
Project Number: 10970
Designed By: Trevor Stott
Item Name: DP5-1,3
Notes: -NONE-

Calculation of Series Voltage Drop and Series Loads
Voltage: 208
Load Circuit: 1-PH, 3-W
Power Factor: 1
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 1
Conduit: PVC/ABS
Maximum Voltage Drop Percentage(VD%) at end of circuit: 2.76

Segment Number	Segment Size	Segment Feet	Amps Load	Segment Amps	Segment %VD	Total %VD
1	3/0	254	50	100.00	1.89	1.89
2	1	121	50	50.00	0.87	2.76

File Name: I:\PROJECTS\2021 Projects\2021-095.00 Antelope Island White Rock Bay Campground \Electrical\Voltage Drop\EDR\DP5-1,3.edr

Date Created: 10/25/2021 2:16:16 PM
Date Modified: 10/25/2021 3:26:34 PM

Source: EDR, Electrical Designer's Reference
Software Version: 11.1 (Build 17). Based on the 2011 NEC®.

Series Volt Drop 600

Project Name: Antelope Island White Rock
Project Number: 10970
Designed By: Trevor Stott
Item Name: DP2-5,7
Notes: -NONE-

Calculation of Series Voltage Drop and Series Loads
Voltage: 208
Load Circuit: 1-PH, 3-W
Power Factor: 1
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 1
Conduit: PVC/ABS
Maximum Voltage Drop Percentage(VD%) at end of circuit: 2.95

Segment Number	Segment Size	Segment Feet	Amps Load	Segment Amps	Segment %VD	Total %VD
1	300	136	50	150.00	0.87	0.87
2	250	210	50	100.00	1.05	1.92
3	2/0	213	50	50.00	1.03	2.95

File Name: I:\PROJECTS\2021 Projects\2021-095.00 Antelope Island White Rock Bay Campground \Electrical\Voltage Drop\EDR\DP2-5,7.edr

Date Created: 10/25/2021 2:16:16 PM
Date Modified: 10/25/2021 3:46:30 PM

Source: EDR, Electrical Designer's Reference
Software Version: 11.1 (Build 17). Based on the 2011 NEC®.

Series Volt Drop 600

Project Name: Antelope Island White Rock
Project Number: 10970
Designed By: Trevor Stott
Item Name: DP2-1,3
Notes: -NONE-

Calculation of Series Voltage Drop and Series Loads
Voltage: 208
Load Circuit: 1-PH, 3-W
Power Factor: 1
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 1
Conduit: PVC/ABS
Maximum Voltage Drop Percentage(VD%) at end of circuit: 2.93

Segment Number	Segment Size	Segment Feet	Amps Load	Segment Amps	Segment %VD	Total %VD
1	400	195	50	150.00	0.93	0.93
2	250	194	50	100.00	0.97	1.90
3	2/0	213	50	50.00	1.03	2.93

File Name: I:\PROJECTS\2021 Projects\2021-095.00 Antelope Island White Rock Bay Campground \Electrical\Voltage Drop\EDR\DP2-1,3.edr

Date Created: 10/25/2021 2:16:16 PM
Date Modified: 10/25/2021 3:49:17 PM

Source: EDR, Electrical Designer's Reference
Software Version: 11.1 (Build 17). Based on the 2011 NEC®.

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 2088
KEVIN D. GARDNER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

NO.	DATE	REVISION	Issued by
1	12/01/2021	WWTF DESIGN & DFCM COMMENTS	CEA
2	01/12/2022	DFCM COMMENTS	CEA

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CODE OFFICIAL STAMP
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REVIEWED FOR CODE COMPLIANCE
SIGNATURE:
DATE: 01/25/2022

ELECTRICAL SCHEDULES

PROJECT NUMBER	PRINT DATE
2021-095.00	01/12/2022
DRAWN BY	CHECKED BY
CSC	KDG
PROJECT MANAGER	
PL	

E-600-03

Series Volt Drop 600

Project Name: Antelope Island White Rock
Project Number: 10970
Designed By: Trevor Stott
Item Name: DP1-1,3
Notes: -NONE-

Calculation of Series Voltage Drop and Series Loads
Voltage: 208
Load Circuit: 1-PH, 3-W
Power Factor: 1
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 1
Conduit: PVC/ABS
Maximum Voltage Drop Percentage(VD%) at end of circuit: 2.88

Segment Number	Segment Size	Segment Feet	Amps Load	Segment Amps	Segment %VD	Total %VD
1	3/0	302	50	100.00	2.24	2.24
2	3	53	50	50.00	0.64	2.88

File Name: I:\PROJECTS\2021 Projects\2021-095.00 Antelope Island White Rock Bay Campground \Electrical\Voltage Drop\EDR\DP1-1,3.edr

Date Created: 10/25/2021 2:16:16 PM
Date Modified: 10/25/2021 4:08:10 PM

Source: EDR, Electrical Designer's Reference
Software Version: 11.1 (Build 17). Based on the 2011 NEC®.

Series Volt Drop 600

Project Name: Antelope Island White Rock
Project Number: 10970
Designed By: Trevor Stott
Item Name: DP3-5,7
Notes: -NONE-

Calculation of Series Voltage Drop and Series Loads
Voltage: 208
Load Circuit: 1-PH, 3-W
Power Factor: 1
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 1
Conduit: PVC/ABS
Maximum Voltage Drop Percentage(VD%) at end of circuit: 2.96

Segment Number	Segment Size	Segment Feet	Amps Load	Segment Amps	Segment %VD	Total %VD
1	4/0	80	50	150.00	0.72	0.72
2	250	260	50	100.00	1.31	2.03
3	1/0	161	50	50.00	0.93	2.96

File Name: I:\PROJECTS\2021 Projects\2021-095.00 Antelope Island White Rock Bay Campground \Electrical\Voltage Drop\EDR\DP3-1,3.edr

Date Created: 10/25/2021 2:16:16 PM
Date Modified: 10/25/2021 3:57:51 PM

Source: EDR, Electrical Designer's Reference
Software Version: 11.1 (Build 17). Based on the 2011 NEC®.

Series Volt Drop 600

Project Name: Antelope Island White Rock
Project Number: 10970
Designed By: Trevor Stott
Item Name: DP3-2,4
Notes: -NONE-

Calculation of Series Voltage Drop and Series Loads
Voltage: 208
Load Circuit: 1-PH, 3-W
Power Factor: 1
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 1
Conduit: PVC/ABS
Maximum Voltage Drop Percentage(VD%) at end of circuit: 2.71

Segment Number	Segment Size	Segment Feet	Amps Load	Segment Amps	Segment %VD	Total %VD
1	1/0	158	50	100.00	1.83	1.83
2	1/0	153	50	50.00	0.88	2.71

File Name: I:\PROJECTS\2021 Projects\2021-095.00 Antelope Island White Rock Bay Campground \Electrical\Voltage Drop\EDR\DP3-1,3.edr

Date Created: 10/25/2021 2:16:16 PM
Date Modified: 10/25/2021 3:57:51 PM

Source: EDR, Electrical Designer's Reference
Software Version: 11.1 (Build 17). Based on the 2011 NEC®.

Series Volt Drop 600

Project Name: Antelope Island White Rock
Project Number: 10970
Designed By: Trevor Stott
Item Name: DP3-1,3
Notes: -NONE-

Calculation of Series Voltage Drop and Series Loads
Voltage: 208
Load Circuit: 1-PH, 3-W
Power Factor: 1
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 1
Conduit: PVC/ABS
Maximum Voltage Drop Percentage(VD%) at end of circuit: 2.95

Segment Number	Segment Size	Segment Feet	Amps Load	Segment Amps	Segment %VD	Total %VD
1	350	142	50	150.00	0.78	0.78
2	2/0	122	50	100.00	1.17	1.95
3	1/0	174	50	50.00	1.00	2.95

File Name: I:\PROJECTS\2021 Projects\2021-095.00 Antelope Island White Rock Bay Campground \Electrical\Voltage Drop\EDR\DP3-1,3.edr

Date Created: 10/25/2021 2:16:16 PM
Date Modified: 10/25/2021 3:57:51 PM

Source: EDR, Electrical Designer's Reference
Software Version: 11.1 (Build 17). Based on the 2011 NEC®.

Series Volt Drop 600

Project Name: Antelope Island White Rock
Project Number: 10970
Designed By: Trevor Stott
Item Name: DP1-2,4
Notes: -NONE-

Calculation of Series Voltage Drop and Series Loads
Voltage: 208
Load Circuit: 1-PH, 3-W
Power Factor: 1
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 1
Conduit: PVC/ABS
Maximum Voltage Drop Percentage(VD%) at end of circuit: 2.98

Segment Number	Segment Size	Segment Feet	Amps Load	Segment Amps	Segment %VD	Total %VD
1	350	190	50	150.00	1.05	1.05
2	300	222	50	100.00	0.94	1.99
3	2/0	205	50	50.00	0.99	2.98

File Name: I:\PROJECTS\2021 Projects\2021-095.00 Antelope Island White Rock Bay Campground \Electrical\Voltage Drop\EDR\DP1-2,4.edr

Date Created: 10/25/2021 2:16:16 PM
Date Modified: 10/25/2021 4:14:41 PM

Source: EDR, Electrical Designer's Reference
Software Version: 11.1 (Build 17). Based on the 2011 NEC®.

Series Volt Drop 600

Project Name: Antelope Island White Rock
Project Number: 10970
Designed By: Trevor Stott
Item Name: DP1-5,7
Notes: -NONE-

Calculation of Series Voltage Drop and Series Loads
Voltage: 208
Load Circuit: 1-PH, 3-W
Power Factor: 1
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 1
Conduit: PVC/ABS
Maximum Voltage Drop Percentage(VD%) at end of circuit: 2.9

Segment Number	Segment Size	Segment Feet	Amps Load	Segment Amps	Segment %VD	Total %VD
1	350	174	50	150.00	0.96	0.96
2	3/0	165	50	100.00	1.22	2.18
3	1/0	124	50	50.00	0.72	2.90

File Name: I:\PROJECTS\2021 Projects\2021-095.00 Antelope Island White Rock Bay Campground \Electrical\Voltage Drop\EDR\DP1-5,7.edr

Date Created: 10/25/2021 2:16:16 PM
Date Modified: 10/25/2021 4:18:03 PM

Source: EDR, Electrical Designer's Reference
Software Version: 11.1 (Build 17). Based on the 2011 NEC®.

Series Volt Drop 600

Project Name: Antelope Island White Rock
Project Number: 10970
Designed By: Trevor Stott
Item Name: DP3-1,3
Notes: -NONE-

Calculation of Series Voltage Drop and Series Loads
Voltage: 208
Load Circuit: 1-PH, 3-W
Power Factor: 1
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 1
Conduit: PVC/ABS
Maximum Voltage Drop Percentage(VD%) at end of circuit: 2.95

Segment Number	Segment Size	Segment Feet	Amps Load	Segment Amps	Segment %VD	Total %VD
1	350	142	50	150.00	0.78	0.78
2	2/0	122	50	100.00	1.17	1.95
3	1/0	174	50	50.00	1.00	2.95

File Name: I:\PROJECTS\2021 Projects\2021-095.00 Antelope Island White Rock Bay Campground \Electrical\Voltage Drop\EDR\DP3-1,3.edr

Date Created: 10/25/2021 2:16:16 PM
Date Modified: 10/25/2021 3:57:51 PM

Source: EDR, Electrical Designer's Reference
Software Version: 11.1 (Build 17). Based on the 2011 NEC®.

Series Volt Drop 600

Project Name: Antelope Island White Rock
Project Number: 10970
Designed By: Trevor Stott
Item Name: DP1-2,4
Notes: -NONE-

Calculation of Series Voltage Drop and Series Loads
Voltage: 208
Load Circuit: 1-PH, 3-W
Power Factor: 1
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 1
Conduit: PVC/ABS
Maximum Voltage Drop Percentage(VD%) at end of circuit: 2.98

Segment Number	Segment Size	Segment Feet	Amps Load	Segment Amps	Segment %VD	Total %VD
1	350	190	50	150.00	1.05	1.05
2	300	222	50	100.00	0.94	1.99
3	2/0	205	50	50.00	0.99	2.98

File Name: I:\PROJECTS\2021 Projects\2021-095.00 Antelope Island White Rock Bay Campground \Electrical\Voltage Drop\EDR\DP1-2,4.edr

Date Created: 10/25/2021 2:16:16 PM
Date Modified: 10/25/2021 4:14:41 PM

Source: EDR, Electrical Designer's Reference
Software Version: 11.1 (Build 17). Based on the 2011 NEC®.

Series Volt Drop 600

Project Name: Antelope Island White Rock
Project Number: 10970
Designed By: Trevor Stott
Item Name: DP1-5,7
Notes: -NONE-

Calculation of Series Voltage Drop and Series Loads
Voltage: 208
Load Circuit: 1-PH, 3-W
Power Factor: 1
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 1
Conduit: PVC/ABS
Maximum Voltage Drop Percentage(VD%) at end of circuit: 2.9

Segment Number	Segment Size	Segment Feet	Amps Load	Segment Amps	Segment %VD	Total %VD
1	350	174	50	150.00	0.96	0.96
2	3/0	165	50	100.00	1.22	2.18
3	1/0	124	50	50.00	0.72	2.90

File Name: I:\PROJECTS\2021 Projects\2021-095.00 Antelope Island White Rock Bay Campground \Electrical\Voltage Drop\EDR\DP1-5,7.edr

Date Created: 10/25/2021 2:16:16 PM
Date Modified: 10/25/2021 4:18:03 PM

Source: EDR, Electrical Designer's Reference
Software Version: 11.1 (Build 17). Based on the 2011 NEC®.

MECHANICAL EQUIPMENT SCHEDULE

DESCRIPTION		VOLT	PH	HP		WATTS		MCA	FLA	AMPS	DISCONNECT				STARTER			WIRING REQUIREMENTS						NOTES
ID #	NAME			RATING	AMPS	RATING	AMPS				MANUAL STARTER	SIZE	FUSE SIZE	FURN. BY	TYPE	SIZE	FURN. BY	WIRES			GROUND	CONDUIT	BREAKER	
B-1	BOILER	120	1				15.0				YES	THERMAL SWITCH		DIV 26	-	-	-	2	#	12	1 # 12	3/4"	20	
B-2	BOILER	120	1				15.0				YES	THERMAL SWITCH		DIV 26	-	-	-	2	#	12	1 # 12	3/4"	20	
IGWH-1	GAS WATER HEATER	120	1				0.8				YES	THERMAL SWITCH		DIV 26	-	-	-	2	#	12	1 # 12	3/4"	20	
IEWH-1	ELECTRIC WATER HEATER	208	1			8300.0	40.0					60	50	Div 26	-	-	-	2	#	8	1 # 10	3/4"	50	
EUH-1	ELECTRIC UNIT HEATER	120	1				10.8				YES	THERMAL SWITCH		DIV 26	-	-	-	2	#	12	1 # 12	3/4"	20	
ERP-1	ELECTRIC RADIANT PANEL	120	1				6.3				YES	THERMAL SWITCH		DIV 26	-	-	-	2	#	12	1 # 12	3/4"	20	
EF-1	EXHAUST FAN	120	1			22.0	0.2				YES	THERMAL SWITCH		DIV 26	-	-	-	2	#	12	1 # 12	3/4"	20	
EF-2	EXHAUST FAN	120	1			78.0	0.7				YES	THERMAL SWITCH		DIV 26	-	-	-	2	#	12	1 # 12	3/4"	20	
EF-3	EXHAUST FAN	120	1			33.0	0.3				YES	THERMAL SWITCH		DIV 26	-	-	-	2	#	12	1 # 12	3/4"	20	
P-1	PUMP	120	1			45.0	0.4				YES	THERMAL SWITCH		DIV 26	-	-	-	2	#	12	1 # 12	3/4"	20	
P-2	PUMP	120	1			197.0	1.6				YES	THERMAL SWITCH		DIV 26	-	-	-	2	#	12	1 # 12	3/4"	20	
P-3	PUMP	120	1			45.0	0.4				YES	THERMAL SWITCH		DIV 26	-	-	-	2	#	12	1 # 12	3/4"	20	
P-4	PUMP	120	1			45.0	0.4				YES	THERMAL SWITCH		DIV 26	-	-	-	2	#	12	1 # 12	3/4"	20	
GF-1	GLYCOL FEEDER	120	1				0.5				YES	THERMAL SWITCH		DIV 26	-	-	-	2	#	12	1 # 12	3/4"	20	
URLS-P-001	LIFT STATION	120	1	1	16.0						YES			w/ Unit			w/ Unit	2	#	10	1 # 10	3/4"	25	
300K-M-001	CHLORINE RESIDUAL ANALYZER	120	1				1.2				YES			DIV 26				2	#	12	1 # 12	3/4"	20	
300K-M-002	TANK MIXER ASSEMBLY	240	1	1/2	4.9							30	10	w/ VFD	VFD		w/ Unit	2	#	12	1 # 12	3/4"	20	
300K-M-003	RTU (WALL MOUNTED)																	3	#	12	1 # 12	3/4"	20	
																		3	#	12	1 # 12	3/4"	20	
																		3	#	12	1 # 12	3/4"	20	

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 5088
KEVIN D. GARDNER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

NO.	DATE	REVISION	Issued by
1	12/01/2021	WHITE DESIGN & DFCM COMMENTS	CEA
2	01/12/2022	DFCM COMMENTS	CEA

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SIGNATURE:
DATE: 01/25/2022

ELECTRICAL SCHEDULES

PROJECT NUMBER: 2021-095.00
PRINT DATE: 01/12/2022
DRAWN BY: CSC
CHECKED BY: KDG
PROJECT MANAGER: PL

E-600-04

LUMINAIRE SCHEDULE

TYPE		DESCRIPTION	LAMP(S)/BALLAST(S)	INPUT (VA)	VOLTAGE	MANUFACTURER	CATALOG #
A	DESCRIPTION:	4' WRAPAROUND	LED	34	MVOLT	DAY-BRITE	NWL440L8CST-3000KUNV-DIM
	SIZE:	47-3/4" X 7" X 2-7/8"	4000 LUMENS				
	HOUSING:	POLYCARBONATE	3000 KELVIN				
	FINISH:	MATTE WHITE	80 CRI				
	LENS	FROSTED POLYCARBONATE					
	ACCESSORIES:						
	MOUNTING:	SURFACE MOUNT					
AE	DESCRIPTION:	4' WRAPAROUND	LED	34	MVOLT	DAY-BRITE	NWL440L8CST-3000KUNV-DIM-EM
	SIZE:	47-3/4" X 7" X 2-7/8"	4000 LUMENS				
	HOUSING:	POLYCARBONATE	3000 KELVIN				
	FINISH:	MATTE WHITE	80 CRI				
	LENS	FROSTED POLYCARBONATE					
	ACCESSORIES:	EMERGENCY BATTERY PACK					
	MOUNTING:	SURFACE MOUNT					
B	DESCRIPTION:	5" SURFACE DOWNLIGHT ROUND	LED	10	MVOLT	LIGHTOLIER	S5R-830K-7W-Z10U
	SIZE:	5-3/8" DIAMETER x 5/8" HEIGHT	650 LUMENS			COOPER	SMD6R-6930-WHE
	HOUSING:	ALUMINUM	3000 KELVIN				
	FINISH:	WHITE	80 CRI				
	MOUNTING:	SURFACE MOUNT, INSTALL FOR WET LOCATION					
C2	DESCRIPTION:	SURFACE CORNER MOUNT LINEAR - 2FT	LED	28	MVOLT	KENALL	CC-2-3-45L30K-DCC-DV-0/1-2
	SIZE:	26" LENGTH x 9" WIDTH x 9" HEIGHT	2300 LUMENS				
	HOUSING:	DIE-FORMED STEEL	3000 KELVIN				
	FINISH:	POLYESTER POWDER COAT WHITE	82 CRI				
	LENS:	.125" PRISMATIC ACRYLIC					
	LENS DOOR:	STAINLESS STEEL WITH ALLEN HEAD FASTENERS					
C4	DESCRIPTION:	SURFACE CORNER MOUNT LINEAR - 4FT	LED	47	MVOLT	KENALL	CC-4-3-45L30K-DCC-DV-0/1-2
	SIZE:	50" LENGTH x 9" WIDTH x 9" HEIGHT	4300 LUMENS				
	HOUSING:	DIE-FORMED STEEL	3000 KELVIN				
	FINISH:	POLYESTER POWDER COAT WHITE	82 CRI				
	LENS:	.125" PRISMATIC ACRYLIC					
	LENS DOOR:	STAINLESS STEEL WITH ALLEN HEAD FASTENERS					
D	DESCRIPTION:	EXTERIOR WALL SCONCE AT MAINTENANCE SHED	LED	18	MVOLT	LIGMAN	UCI-30131-18W-T2-W27-SCBA-120/277-DIM-F
	SIZE:	8.4" DIAMETER BOTTOM / 4.7" DIAMETER TOP, 6.3" HEIGHT, 11.5" FROM WALL	2100 LUMENS				
	HOUSING:	ALUMINUM	2700 KELVIN				
	FINISH:	STANDARD COLOR BY ARCHITECT	80 - 90 CRI				
	OPTICS:	TYPE II					
	OPTIONS:	DIMMING, FROSTED LENS					
	BUG RATING:	B0 - U0 - G0					
	MOUNTING:	WALL MOUNT - MUST MEET DARK SKY					
F	DESCRIPTION:	LINEAR SURFACE MOUNT	LED	46	MVOLT	KENALL	MLHA5-48-R-SCBA-PP-45T-27/65K9-ATW-DV-DL
	SIZE:	50.5" LENGTH x 5.33" WIDTH x 3.75" HEIGHT	3700 LUMENS				
	HOUSING:	MARINE GRADE ALUMINUM	2700 KELVIN				
	FINISH:	POLYESTER POWDER COAT - COLOR BY ARCHITECT	90+ CRI				
	LENS:	UV STABILIZED EXTRUDED POLYCARBONATE					
	MOUNTING:	SURFACE					
	RATING:	DAMP LOCATION					
	LED:	TUNABLE WHITE WITH ANALOG 0-10V BALLAST					

NOTES:

1	ALL LIGHT FIXTURES SHALL HAVE A MINIMUM 5 YEAR WARRANTY.
2	ALL LED LIGHT FIXTURES SHALL HAVE REPLACEABLE AND UPGRADABLE LED MODULES, LM79 AND LM80 LISTED, WITH 50,000 HR MIN. L70 RATING.
3	ROUGH-IN OPENINGS TO BE COORDINATED WITH APPROVED SHOP DRAWINGS PRIOR TO ROUGH-IN.

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 2088
KEVIN D. GARNER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

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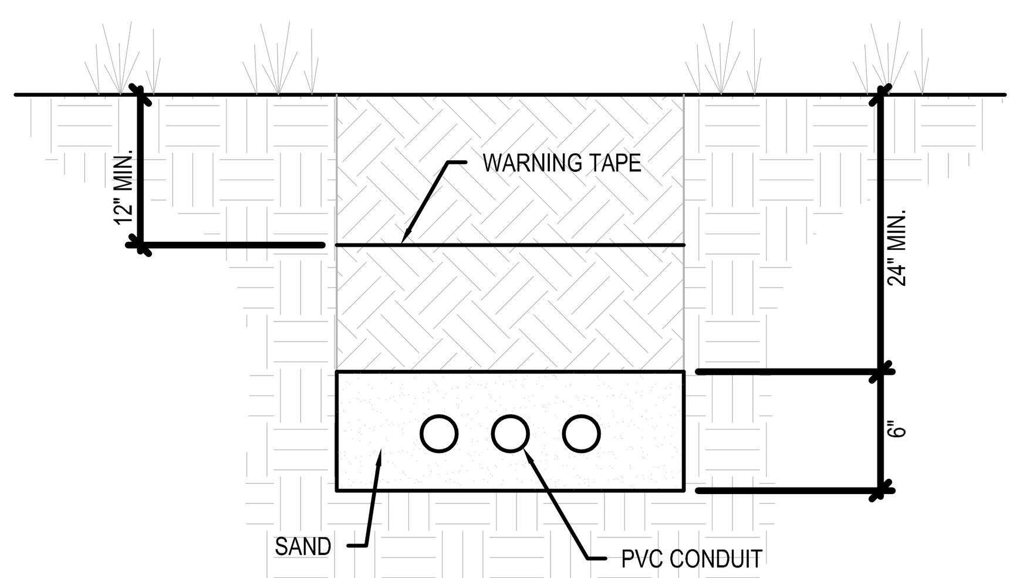
E-600-05



3 TRENCH DETAIL

SCALE: NTS

Midwest Electric Products
Section 11 – RV Equipment – Metallic

Application Information

Midwest Metallic RV power centers are a cost effective favorite among campground owners seeking to offer the essential amenities to their campers while keeping their upfront and lifetime costs to a minimum. All components are factory assembled and wired to reduce installation time. The power centers are manufactured using heavy gauge galvanized steel that are top-coated with a durable power coat finish for years of maintenance free operation. These dependable power centers are available in either single-sided or double-sided construction and have a variety of circuit protection, receptacles and convenience options available. Mounting options include surface mount, pad mount, or earth burial post. This versatility gives campground owners the features that their campers expect.

Features and Benefits

Rugged Durability
- Rolled edge door for cord protection
- All-in-one construction for factory assured terminations
- G90 galvanized steel construction for superior corrosion and fading resistance
- Welded flange NEMA 3R construction for lasting service in outdoor installations
- 10kAIC

Installation Ease
- All components factory wired and assembled, reducing installation time
- Door has stay open position for user convenience
- All terminals accept copper or aluminum wire for added installation flexibility
- Wide range of receptacle configurations
- Broad range of concentric knockouts to accommodate varied wiring needs
- Post door removable for installation ease

User Safety
- Dead front construction prevents accidental contact with live parts
- Padlock provision to prevent unauthorized access
- GFCI weather and tamper resistant GFI receptacles
- Rolled edge post bottoms to protect incoming service cable

UL LISTED

RV Equip – Metallic

Model Number System

Model numbers for RV products are based on the following system. Example: Model Number U041CP6010.

U *Unmetered* — **Metering**
M = Ring Type Meter Socket
R = Ringless Meter Socket
U = Unmetered

0 4 1 *Series Number* — **Series Number**
Assigned by Midwest

C *Circuit Breaker* — **Type of Protection**
C = Circuit Breaker Installed
E = Empty Spaces for Field-Installed Breakers
F = Fused
G = Ground Fault Breaker Protection
H = Hybrid: Combination of Different Protection, Example: Fuse/Switch
P = Puller, Non-Fused
T = Circuit Breaker with Triple Tap Lugs

P6 *Earth Burial Post* — **Post Options**
B1 = Barrier
B4 = Back-to-Back Pad Mount Post
B6 = Back-to-Back Earth Burial Post
HP = Head Post Design
P4 = Pad Mount Post
P6 = Earth Burial Post
R1 = Vertical Barrier for Meter Compartment (Top & Bottom)
R2 = Horizontal Barrier Between Meter and Circuit Breaker Compartments. Vertical Barriers in Both Meter and Circuit Breaker Compartments.
S4 = Stud Termination Pad Mount Post
S6 = Stud Termination Earth Burial Post
TL = Twin Lugs Per Phase (Loop-feed for Surface Mount Units)
W4 = Back-to-Back, Stud Termination Pad Mount Post
W6 = Back-to-Back, Stud Termination Earth Burial Post

010 *Options* — **Options**
010 = GFCI Duplex Receptacle
031 = GFCI Duplex Receptacle; TV/Tel
033 = GFI Breaker (Double Pole); GFCI Duplex Receptacle
034 = Meter with Lever Bypass
L10 = Lighted with GFCI Receptacles
L31 = Lighted with TV/Tel

Data subject to change without notice.

11-4

RV EQUIPMENT - UNMETERED - METALLIC

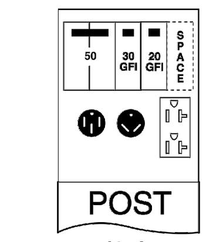


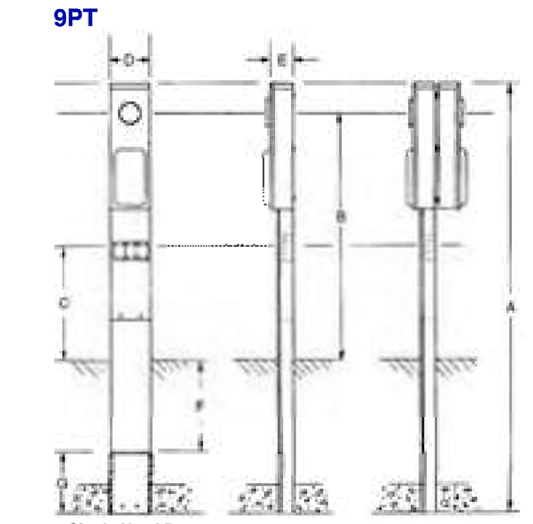
Fig. E
U075GP6019
BR54U, BR32U, 5-20R2

Fig.	Model Number Earth Burial	Model Number Pad Mount	Receptacles	Circuit Protection	Amps	Wire Range*	Cabinet Size	Hub Opening	Load & Neutral Bar	Unit Wt.	Std Pkg.	UL
E	U075GP6019	—	BR54U, BR32U, 5-20R2	THQL2150, THQL1130GFT, THQL1120GFT	100	Z	9PT		LC55N1	47		

Post Dimensions

Earth Burial

9PT



Single Head Post — Double Head Post (Back-to-Back)

Key	Unmetered	Metered
A	65"	77-1/2"
B	—	45-1/4"
C	19-1/8"	19-1/8"
D	9"	9"
E	3-1/2"[1]	3-1/2"[1]
F	18"	18"
G	6"	6"

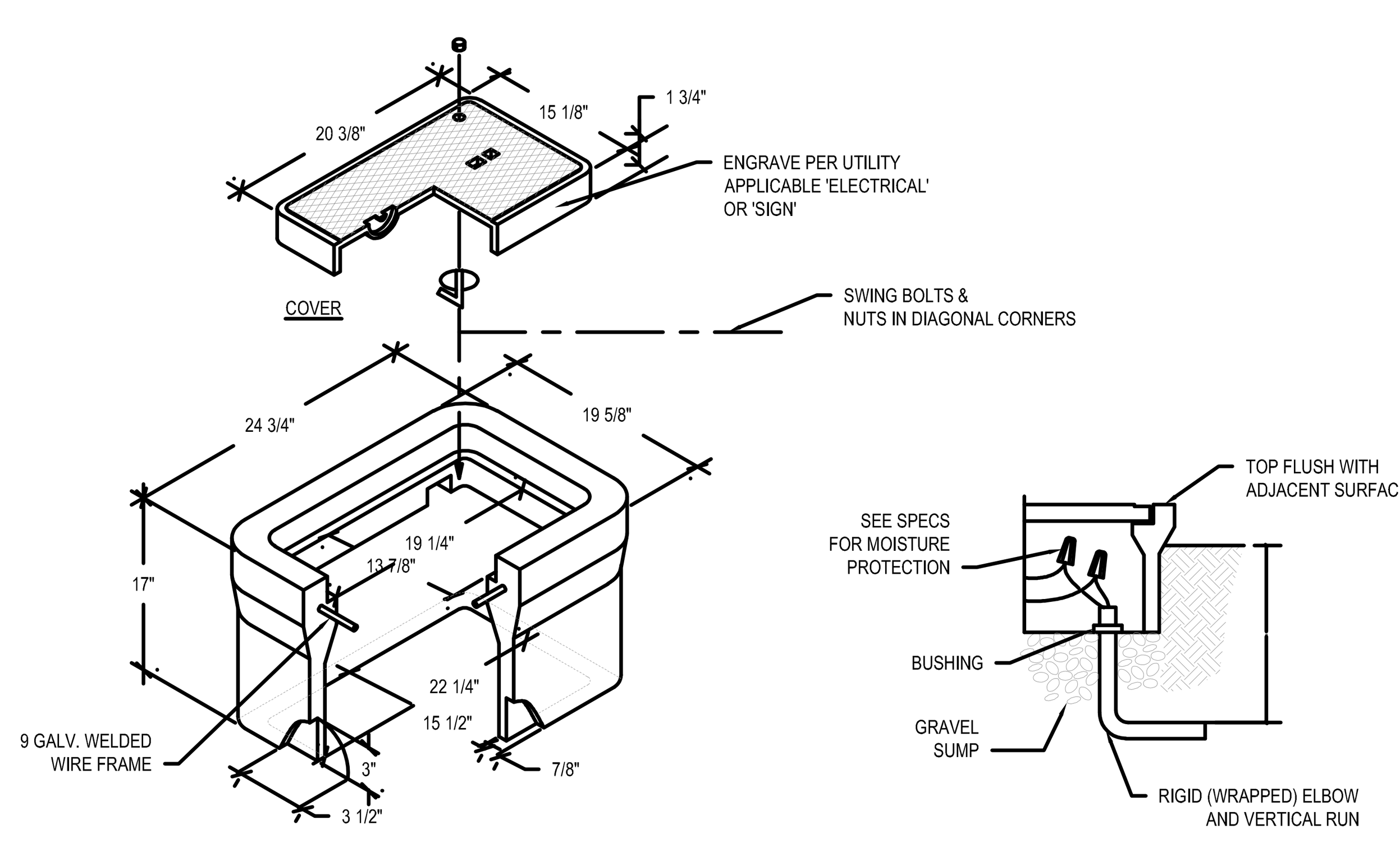
[1] Some models available in 4-3/8". Contact distributor/factory.

Wire Range Table

Connector	Copper Solid	Copper Strand	Aluminum Solid	Aluminum Strand
Line - Meter Socket	—	1/0-250	—	1/0-250
Load - CB Base Lugs	—	2-250	—	2-250
Neutral - Large Single Lugs	—	2-250	—	2-250
Neutral - Small Single Lugs	14-8	14-1/0	12-8	12-1/0
Neutral - 6 Large Hole	14-8	10-4	—	6-4
Neutral - 8 Small Hole	14-8	12-8	12-8	12-8
Equipment Ground	12-8	12-2	12-8	12-2

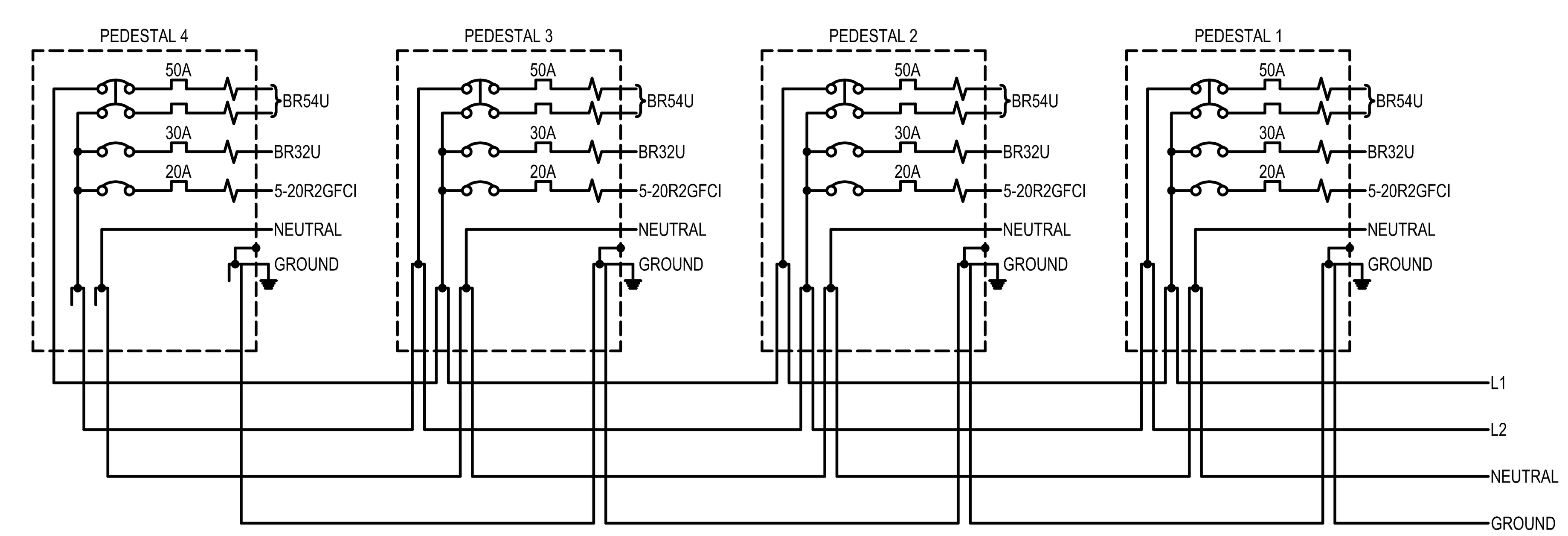
1 BASIS OF DESIGN FOR THE PEDESTAL.
MIDWEST NON-METALLIC ELECTRICAL PEDESTAL DETAIL

SCALE: NTS



4 CONCRETE J-BOX DETAIL

SCALE: NTS



2 TYPICAL PEDESTAL INTERCONNECTION

SCALE: NTS

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PROJECT #: 22238510
CONTRACT #: 2270048

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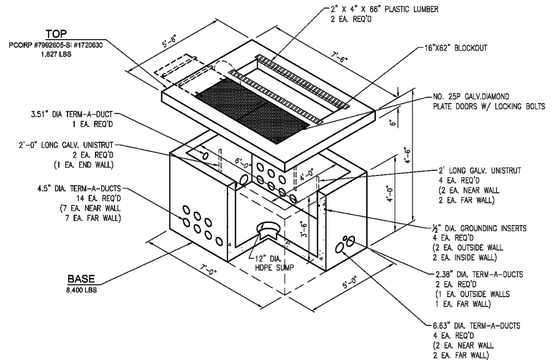
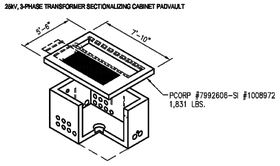
E-700-01

15kV, 3-PHASE TRANSFORMER SECTIONALIZING CABINET PADVAULT, STOCK ITEM 7992605 -STOCK ITEM 1720630
25kV, 3-PHASE TRANSFORMER SECTIONALIZING CABINET PADVAULT, STOCK ITEM 7992606 -STOCK ITEM 1008972
35kV, 3-PHASE TRANSFORMER SECTIONALIZING CABINET PADVAULT, STOCK ITEM 7992607 -STOCK ITEM 1008972

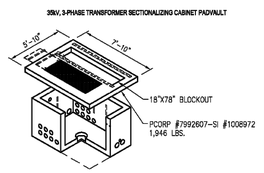


OPTIONAL TOPS

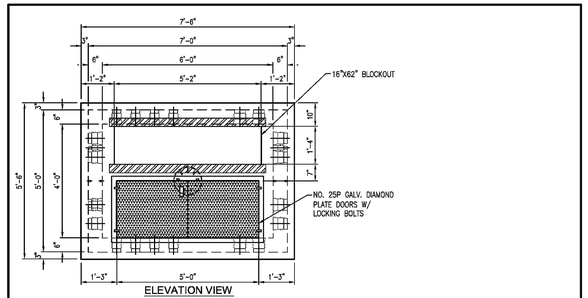
25kV, 3-PHASE TRANSFORMER SECTIONALIZING CABINET PADVAULT



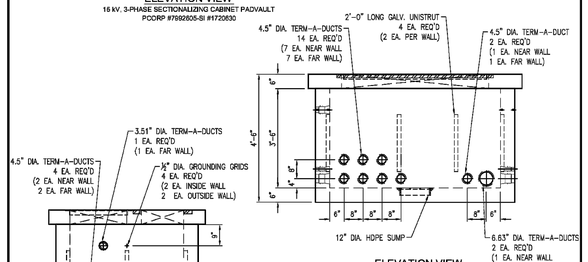
35kV, 3-PHASE TRANSFORMER SECTIONALIZING CABINET PADVAULT



Oldcastle Precast	GV 221	4' x 6' Padvault 3 Phase Fuse Cabinet Pacificorp
801 West 12th Street, Ogden, Utah 84404 Phone: 801-399-1171 Fax: 801-392-7849	FILE NAME: GV221CATALOG ISSUE DATE: 12/2010 www.oldcastleprecast.com	Copyright © 2010



ELEVATION VIEW
16 kV, 3-PHASE SECTIONALIZING CABINET PADVAULT
PCORP #7992605-SI #1720630



ELEVATION VIEW

END VIEW

* LIFTING DEVICE TYPE & LOCATION MAY CHANGE WITHOUT NOTICE

Oldcastle Precast	GV 221	4' x 6' Padvault 3 Phase Fuse Cabinet Pacificorp
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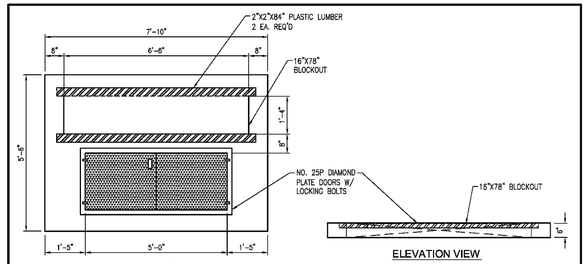
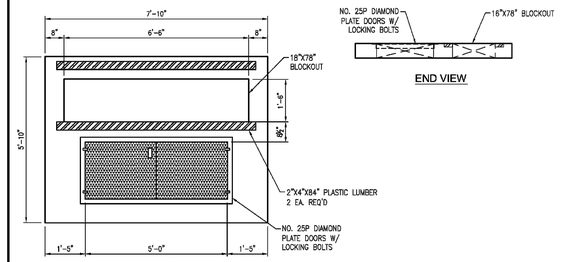


PLAN VIEW
25 kV. 3-PHASE SECTIONALIZING CABINET PAD
S\ #7992606

ELEVATION VIEW



END VIEW

PLAN VIEW
35 kV. 3-PHASE SECTIONALIZING CABINET PAD
S\ #7992607

* LIFTING DEVICE TYPE & LOCATION MAY CHANGE WITHOUT NOTICE

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SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 298[illegible]
KEVIN D. WARNER
STATE OF UTAH

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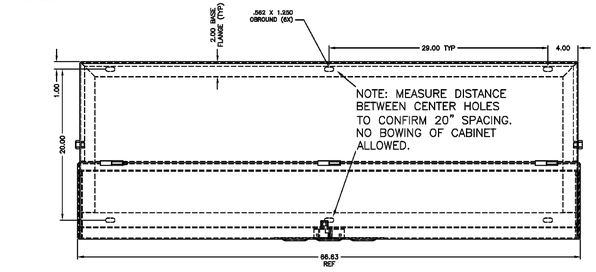
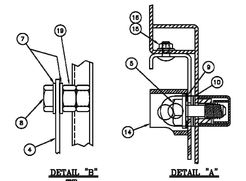
E-700-02

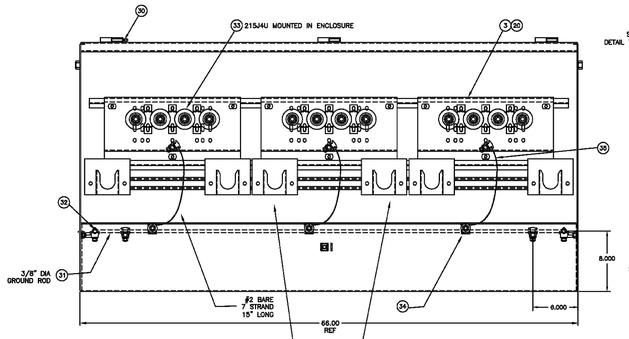
1 PAINT ALL OVER TO ACHIEVE 2.5 – 3.0 MILS

2 PLACE (6) CLEATS, LAG SCREWS AND 1/2" FLAT WASHERS IN CLOTH BAG, SECURELY ZIP-TIE (1) BAG PER UNIT TO PARKING STAND.

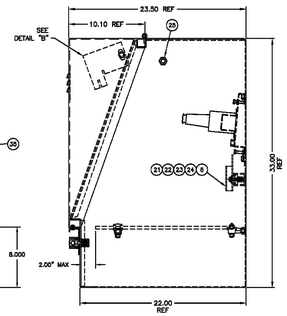
3 PACK SECURELY AS SHOWN.

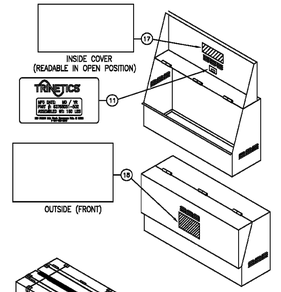


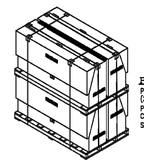




NOTE: PARKING STANDS MUST BE ALIGNED WITH THE LEFT/RIGHT EDGES OF THE LOADBREAK JUNCTIONS.







PACKAGING NOTE:
PLACE (2) PER PALLET.
(2) PALLETS PER PACK AS SHOWN.
PLACE CARDBOARD PAD & (2) CORNERS BETWEEN UNITS.
STRETCHWRAP AND USE (4) BANDS.

ITEM	QTY	PART#	DESCRIPTION	MATERIAL
1	1	63388137	BODY WELDMENT	12S ALUM
2	1	63488255	COVER WELDMENT	12S ALUM
3	3	63323245	MOUNTING BAR 21"	#12GA STST
4	2	63380314	WND STOP – PACIFICORP	ALUMINUM
5	1	61216202	PENTA BOLT	STN STL
6	6	63236802	MOUNTING PLATE WELD'T.	#12GA STST
7	10	92801305	1/2 FLAT WASHER	STN STL
8	2	92138120	1/2–13 x 1.25 HHCS	STN STL
9	1	612079	1/2 SPRING	STN STL
10	1	612048	1/2 DIE WAY WASHER	STN STL
11	1	61700100	STICKER–D PER CUST. SPEC.	
13	AR	817055	MUNSELL GREEN POWDER	PAINT
14	1	63348901	HANDLE WELD'T 1.38"	ALUMINUM
15	2	92205108	1/4–20 x .50 CARR. BOLT	STN STL
16	2	92251705WZ	1/4–20 WHIZ LOCK NUT	STN STL
17	1	81718102	DECAL–DANGER (PACIFICORP)	DECAL
18	1	81731728	DECAL–WARNING (PACIFICORP)	DECAL
19	2	92320608	1/2–13 HEX NUT	STN STL
20	9	92078120PT	5/16–18 x 1.25 HHCS	STN STL
21	12	92098118	3/8–16 x 1.00 HHCS	STN STL
22	12	92820701	3/8 LOCK WASHER	STN STL
23	12	92801005	3/8 FLAT WASHER	STN STL
24	12	83308803	3/8–16 UNISTRUT NUT	STN STL
25	2	812129	DAPLUG 5/8"	PLASTIC
26	6	63242302	HOLD DOWN CLEAT(UNPAINTED)	.25 STST
27	6	61721253	PALLET 70 X 50	
28	6	92514232	LAG SCREW 1/2 x 2.0"	ZINC
29	1	817026	CLOTH BAG 5 x 8	
30	1	81207201	ROLL PIN .125# x .50	STN STL
31	1	63456115P	3/8" GROUND ROD	CU
33	7	GTCS34A	3/8" ROD DONNECTOR	
33	3	215J4U	15KV HUBBELL JUNCTION	JUNC
34	3	133237901	PARALLEL CONNECTOR	
35	3	133235200	15" L #2 BARE STRANDED	CU

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000	RELEASED ON ERP 302154	1/7/22	AG
LET	DESCRIPTION	ECO #	

SCALE: NTS	SECTIONALIZING ENCL. PACIFICORP CC3366–23.5TH(R)–AL W/215J4U
SHEET #	1/7/22
DRAWN	CHKD 13/84
DOCUMENT NO.	302154
REV	000
PART NO.	63788051–502
QTY/PART #: 0 P105	SHEET 1 OF 1

CUSTOMER PN: #####

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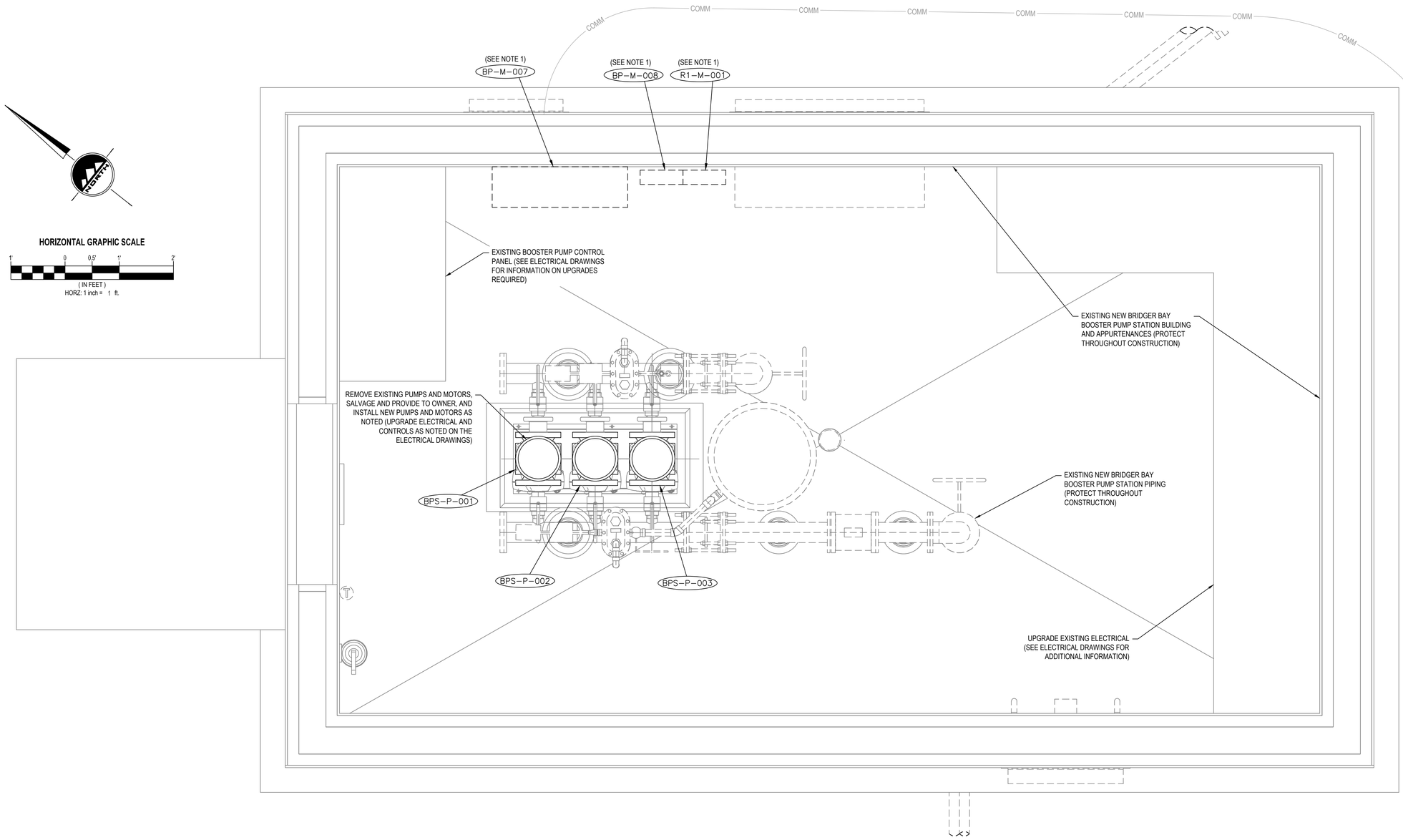
PROJECT MANAGER: PL	

E-700-03



NOTES:

1. SEE DRAWING M-200-01 FOR PUMP SCHEDULE.
2. REFER TO SHEETS G-100-09, G-100-10 AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

CODE OFFICIAL STAMP

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SALT LAKE CITY
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RICHFIELD
Phone: 435.896.2983

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FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129

CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND ANTELOPE ISLAND

WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
7885569-2202
ROBERT J. ROUSSELLE
EXP. 3/31/2023
STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	W/ITF DESIGN & DFCM COMMENTS	GWO
2	01/12/2022	DFCM COMMENTS	GWO
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6			
7			
8			

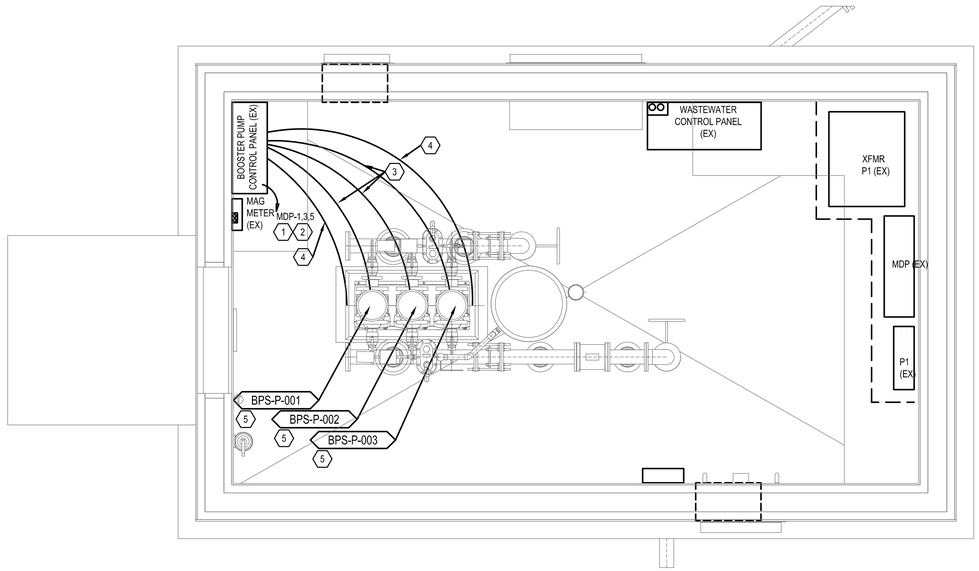
BRIDGER BAY PUMP STATION MECHANICAL PLAN

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

BPM-100-01

KEYED NOTES

1. REPLACE THE EXISTING BREAKER WITH A NEW 70A/3P BREAKER.THE EXISTING PANELBOARD IS AN EATON POW-R-LINE4.
2. REMOVE THE EXISTING FEEDER. PULL A NEW FEEDER IN THE EXISTING CONDUITS. 4#4CU, 1#8GND.
3. THE FEEDER BETWEEN THE CONTROL PANEL AND THE PUMP WILL BE REPLACED BY THE PUMP SUPPLIER.
4. THE COMMUNICATION CONDUITS/WIRE ARE TO REMAIN.
5. REFER TO SHEET M-200-01 FOR THE PUMP SCHEDULE.



1 BRIDGER BAY PUMP HOUSE - ELECTRICAL PLAN
SCALE: 1/2"=1'-0"

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

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WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 7088
KEVIN D. GARNER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

NO.	DATE	REVISION	Issued by
1	12/07/2021	WWTF DESIGN & DFCM COMMENTS	CEA
2	01/12/2022	DFCM COMMENTS	CEA

COLVIN ENGINEERING ASSOCIATES
505 E South Temple, Suite 100
Salt Lake City, Utah 84102
Phone 801.322.2400
colvinengineering.com

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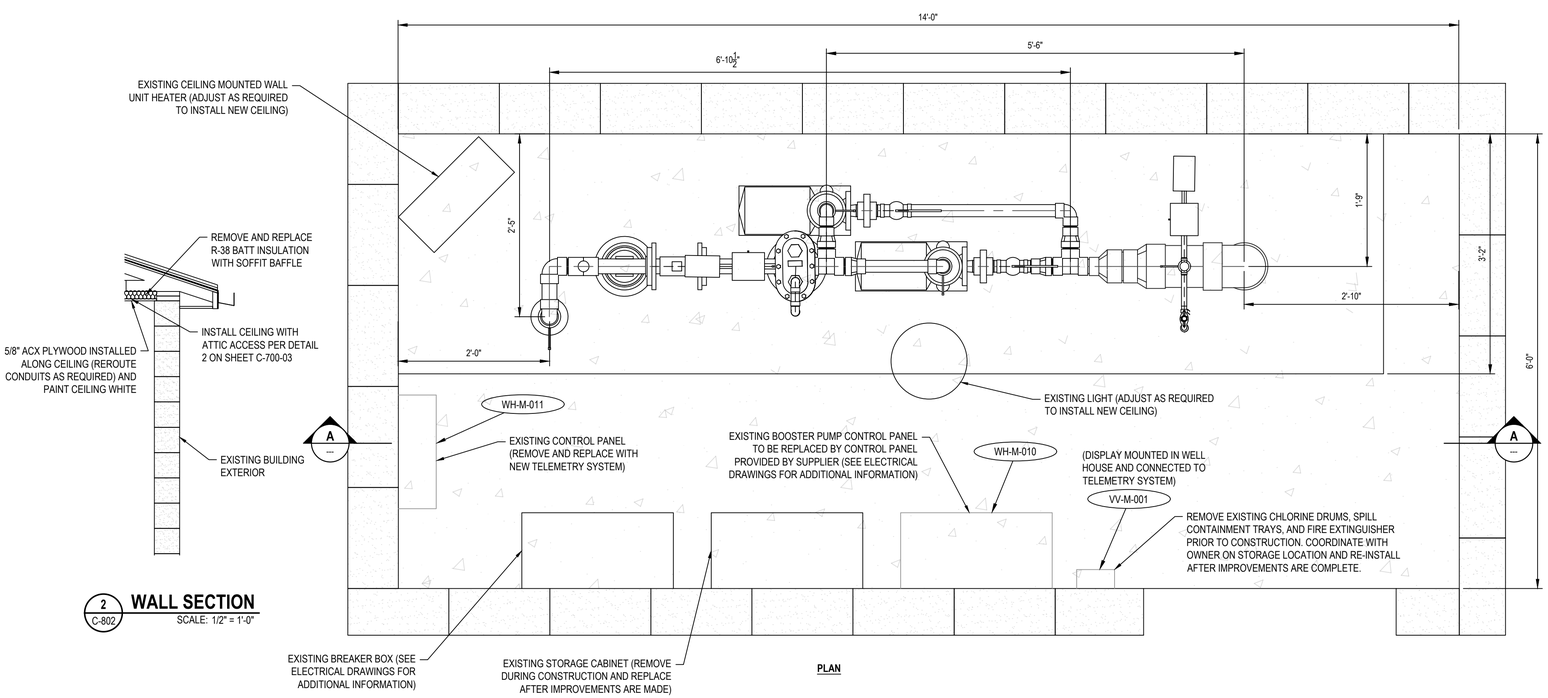
DATE: 01/25/2022

BRIDGER BAY PUMP STATION UPGRADES ELECTRICAL PLAN

PROJECT NUMBER	PRINT DATE
2021-095.00	01/12/2022
DRAWN BY	CHECKED BY
CSC	KDG
PROJECT MANAGER	
PL	

BS-100-01

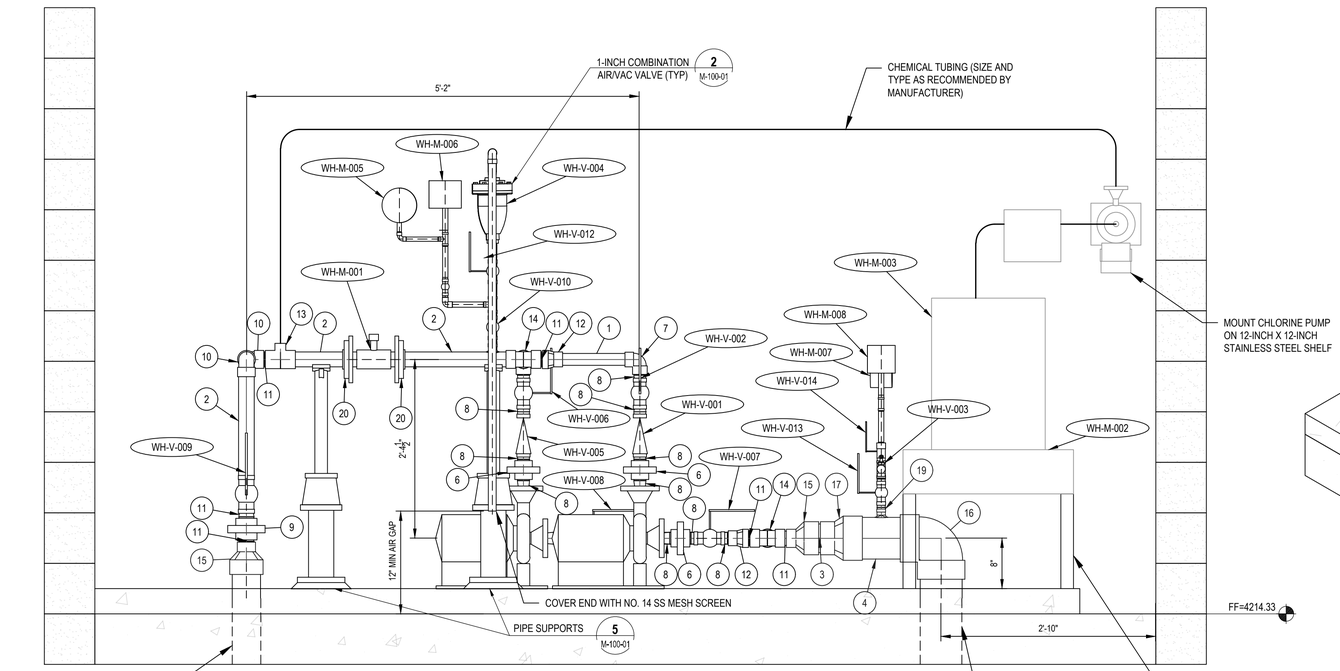


2 C-802 **WALL SECTION**
SCALE: 1/2" = 1'-0"

BILL OF MATERIALS					
ID	SIZE	MATERIAL	SHORT DESCRIPTION	FITTING	REMARKS
1	1 1/2"	GALV	PIPE SPOOL	THDM	
2	2"	GALV	PIPE SPOOL	THDM	
3	4"	GALV	PIPE NIPPLE, CLOSE TYPE	THDM	
4	6"	GALV	PIPE SPOOL	THDM	
5	1"	GALV	PIPE NIPPLE, CLOSE TYPE	THDF	
6	1 1/2"	GALV	UNION	THDF	
7	1 1/2"	GALV	90° ELBOW	THDF	
8	1 1/2"	GALV	PIPE NIPPLE, CLOSE TYPE	THDM	
9	2"	GALV	UNION	THDF	
10	2"	GALV	90° ELBOW	THDF	
11	2"	GALV	PIPE NIPPLE, CLOSE TYPE	THDM	
12	2"x1 1/2"	GALV	REDUCER	THDF	
13	2"x1"	GALV	REDUCING TEE	THDF	
14	2"	GALV	TEE	THDF	
15	4"x2"	GALV	REDUCER	THDF	
16	6"	DI	90° ELBOW	THDF	
17	6"x4"	GALV	REDUCER	THDF	
18	2"x1"	GALV	THREADOLET	WELD X THDF	
19	6"x1"	CS	THREADOLET	WELD X THDF	
20	2"	GALV	FLANGE	FL X THDF	

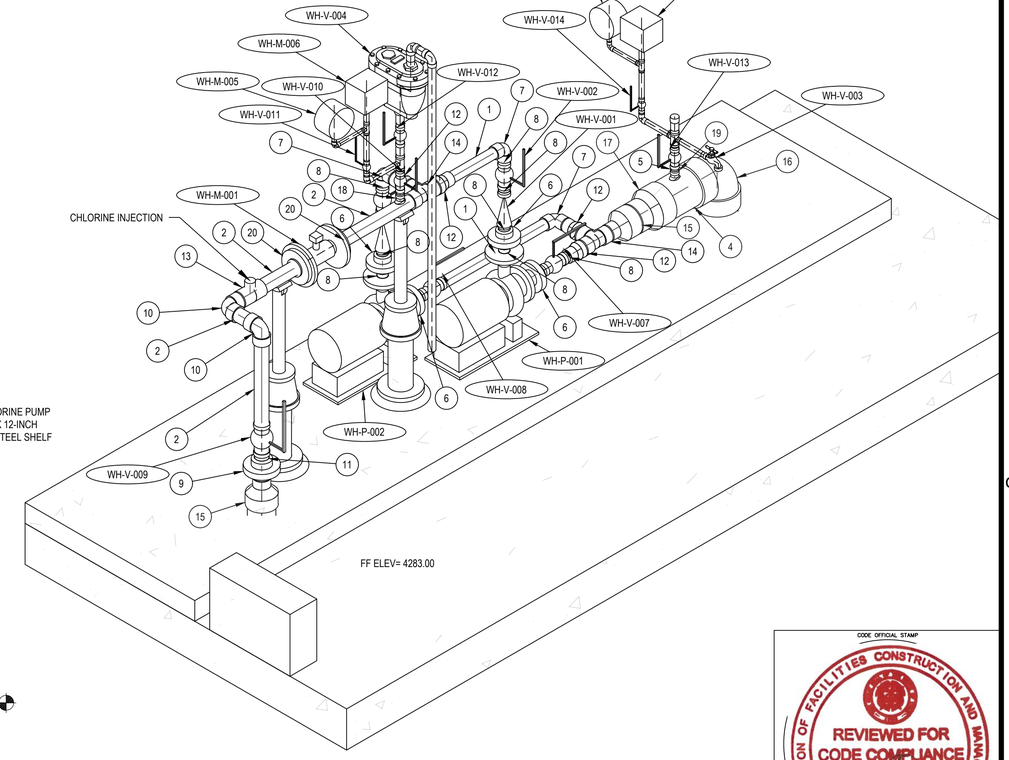
NOTES:

1. ALL BOLTS IN VAULT ARE TO BE STAINLESS STEEL.
2. PAINT PIPES, FITTINGS, PIPE STANDS, AND APPURTENANCES BLUE.
3. PAINT VALVES RED UNLESS ALREADY PAINTED.
4. CONTRACTOR MAY USE SADDLE TAPS IN PLACE OF THREADOLETS.
5. REFER TO SHEET G-100-09 AND C-100-10 FOR ADDITIONAL TELEMETRY AND CONTROL INFORMATION.
6. ANCHOR BOOSTER PUMPS TO PAD PER MANUFACTURER'S RECOMMENDATIONS.



SECTION A-A

A WHM-100-01 **PUMP HOUSE PIPING**
SCALE: 1" = 1'-0"



ISOMETRIC VIEW

CODE OFFICIAL STAMP
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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER 7885569-2202 ROBERT J. ROUSSELLE EXP. 3/31/2023 STATE OF UTAH

CONFORMANCE SET 01/12/2022

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1	12/01/2021	WHTF DESIGN & DFCM COMMENTS	GWO
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3			
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6			
7			
8			

WELL HOUSE MECHANICAL PLAN

PROJECT NUMBER	PRINT DATE
10970	1/12/2022
DRAWN BY	CHECKED BY
G. OFFERMANN	F. DUBEROW
PROJECT MANAGER	
R. ROUSSELLE	

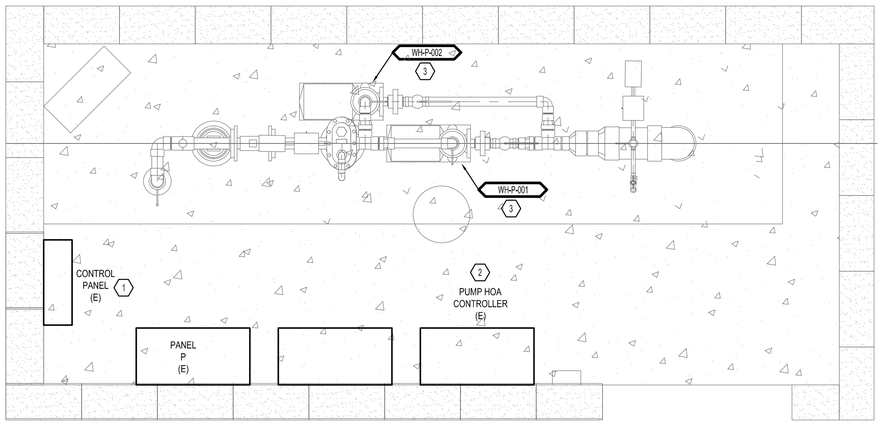
WHM-100-01

KEYED NOTES

1. THE EXISTING CONTROL PANEL WILL BE REPLACED. THE ELECTRICAL CONTRACTRACTOR IS TO DISCONNECT THE 120V CIRUIT FROM THE EXISTING CONTROL PANEL, AND RECONNECT TO TO THE NEW CONTROL PANEL ONCE IT HAS BEEN INSTALLED. RE-USE THE EXISTING CIRCUIT FOR THE CONTROL PANEL.
2. THE EXISTING PUMP CONTROLLER WILL BE REPLACED. THE ELECTRICAL CONTRACTOR IS TO DISCONNECT THE PANEL, AND RECONNECT THE NEW CONTROLLER. RE-USE THE EXISTING CIRCUIT FOR THE PUMP CONTROLLER.
3. THE EXISTING PUMPS WILL BE REPLACED. THE ELECTRICAL CONTRACTOR IS TO DISCONNECT THE CIRCUIT, AND RECONNECT TO THE NEW PUMP. RE-USE THE EXISTING CIRCUIT FROM THE PUMP CONTROLLER.

GENERAL NOTES

A. THE PUMP HOUSE WILL HAVE A NEW CEILING INSTALLED. REFER TO SHEET WHM-100-01 FOR THE ELECTRICAL ITEMS THAT NEED TO BE REMOVED AND REPLACED FOR THE CEILING INSTALLATION.



1 WELL HOUSE - ELECTRICAL PLAN
SCALE: 1/2"=1'-0"

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

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PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 2088
KEVIN D. GARDNER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

NO.	DATE	REVISION	Issued by
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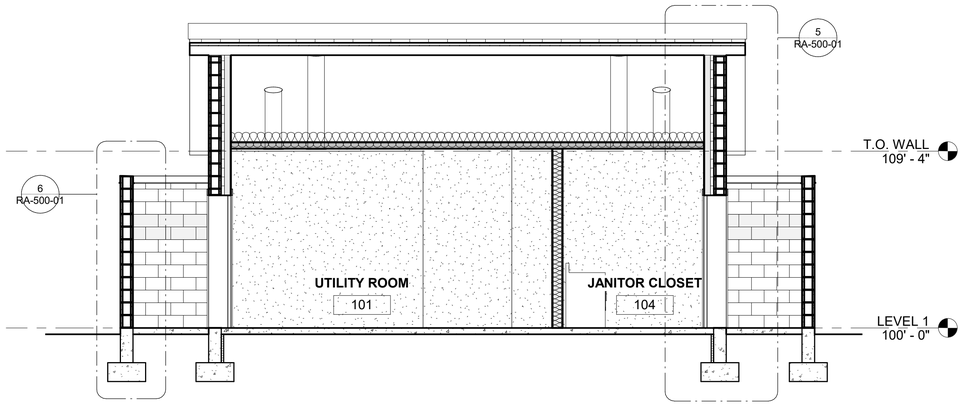
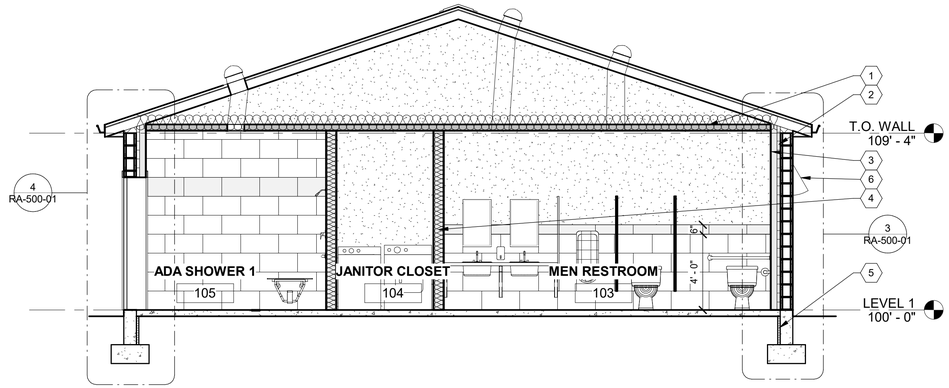
WELL HOUSE UPGRADES ELECTRICAL DRAWINGS

PROJECT NUMBER	PRINT DATE
2021-095.00	01/12/2022
DRAWN BY	CHECKED BY
CSC	KDG
PROJECT MANAGER	
PL	

WH-100-01



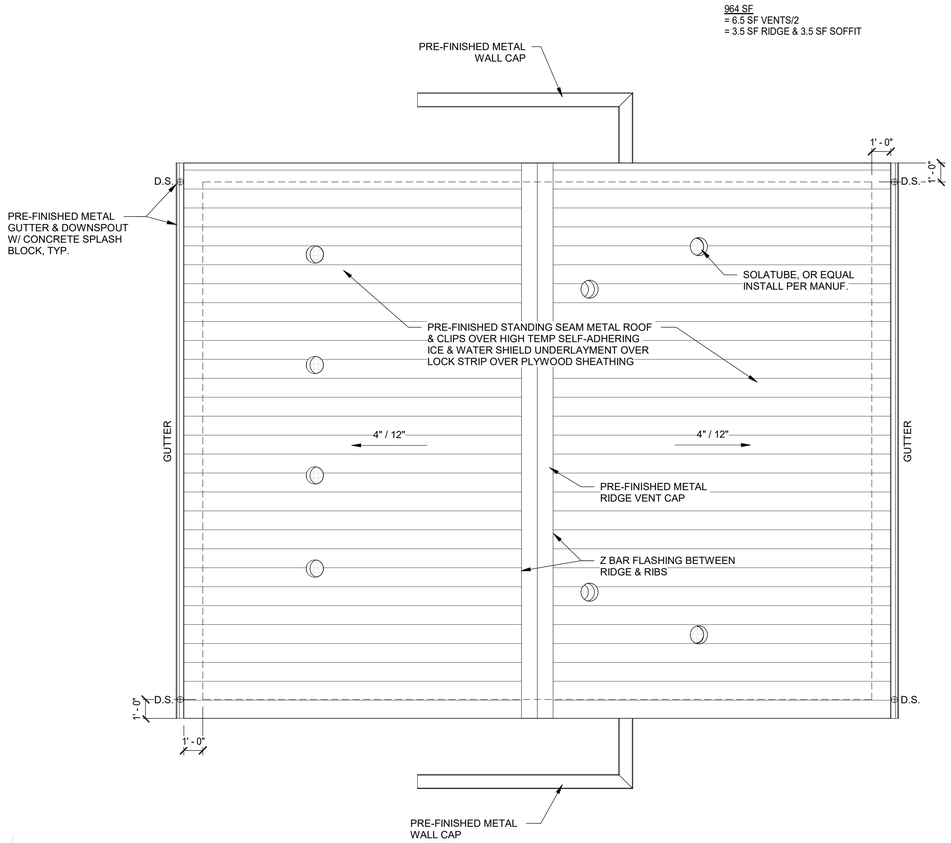
4 BUILDING SECTION
SCALE: 1/4" = 1'-0"



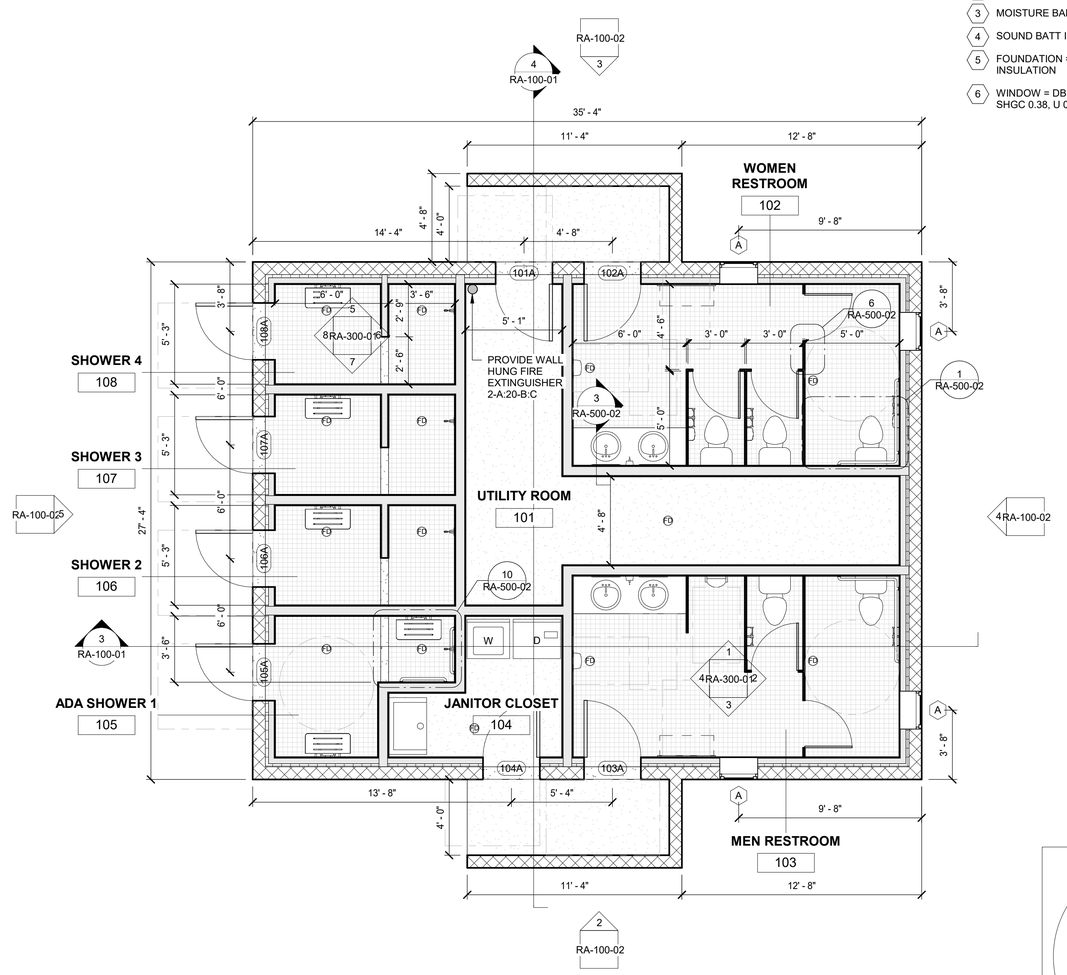
3 BUILDING SECTION
SCALE: 1/4" = 1'-0"

BUILDING SECTION KEYED NOTES

1. R-30 BATT OR BLOWN-IN CEILING INSULATION
2. R-10 CONT. RIGID INSULATION
3. MOISTURE BARRIER
4. SOUND BATT INSULATION
5. FOUNDATION = VERT. 2 FT R-10 RIGID INSULATION
6. WINDOW = DBL. PANE W/ THERMAL BREAK, SHGC 0.38, U 0.35 MIN.



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



1 LARGE RESTROOM FLOOR PLAN- TYPICAL OF 2
SCALE: 1/4" = 1'-0"

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND

WHITE ROCKS CAMPGROUND
SYRACUSE, UTAH 84075

PROJECT # 22238510
CONTRACT # 2270048

STATE OF UTAH
STEVEN N. WARR
22-114812-0301
1/12/2022
LICENSED ARCHITECT

CONFORM SET 01/12/21

NO.	DATE	REVISION
1	12/1/21	CONFORM SET
2	1/12/22	CONFORM SET

LARGE RESTROOM FLOOR PLAN

PROJECT NUMBER	DATE
10970	12/01/2021
DRAWN BY	CHECKED BY
R. MALIGON	C. DUNCAN
APPROVED BY	DESIGNED BY
S. WARR	C. DUNCAN

RA-100-01

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DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
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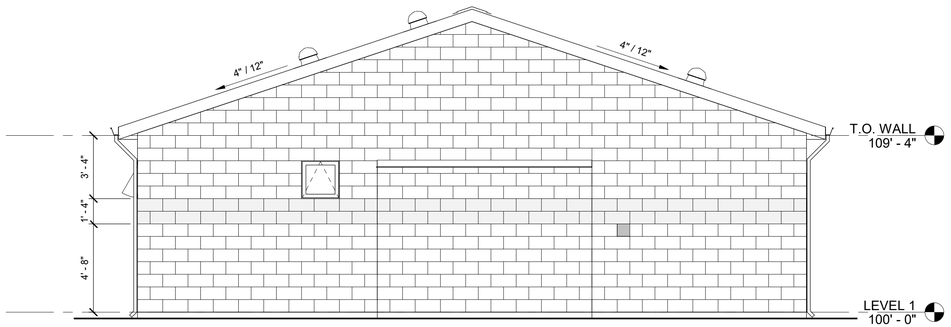
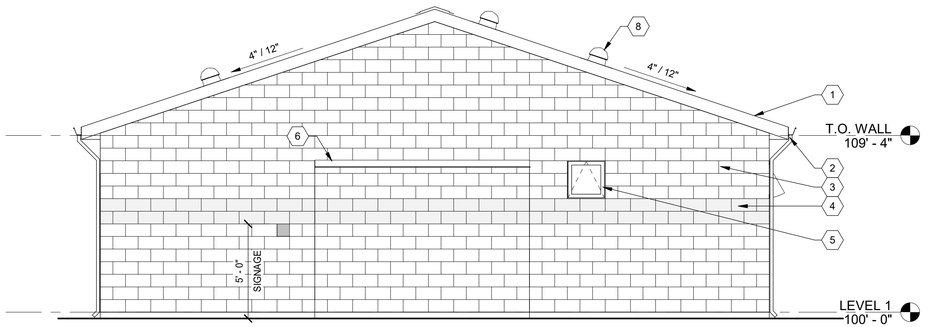
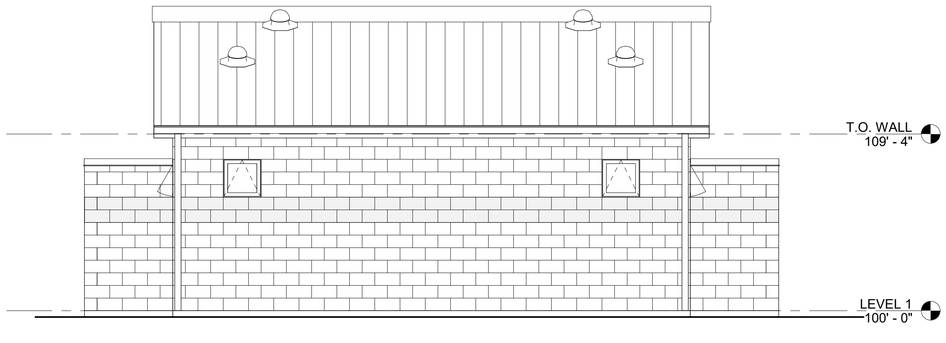


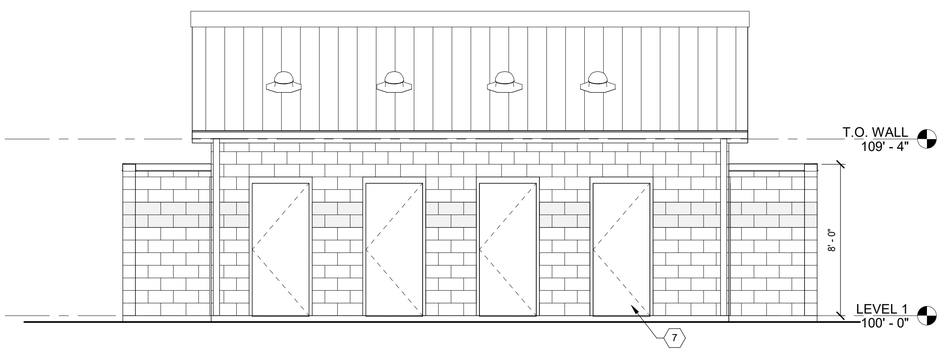
3 REAR ELEVATION
SCALE: 1/4" = 1'-0"



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



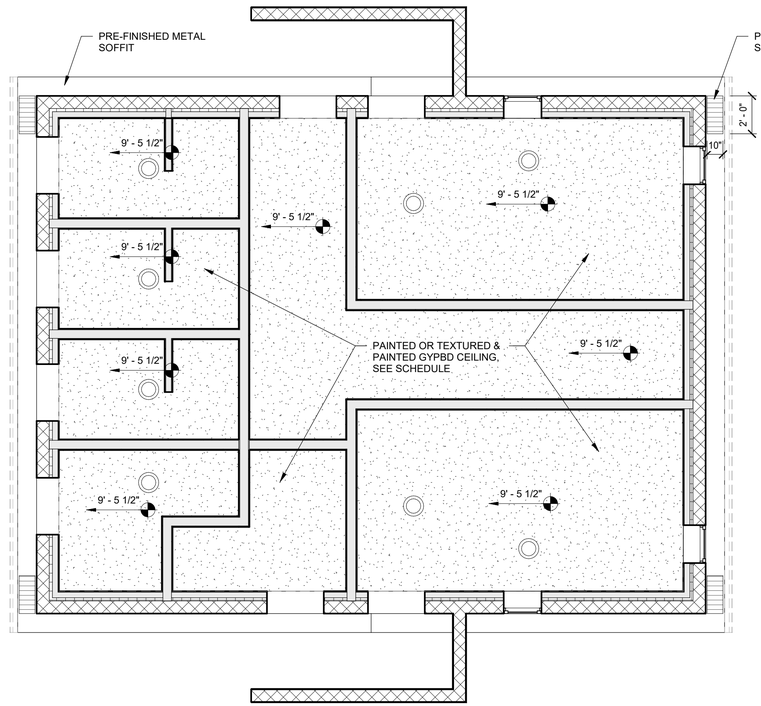
4 SIDE ELEVATION
SCALE: 1/4" = 1'-0"



5 SIDE ELEVATION
SCALE: 1/4" = 1'-0"

BUILDING ELEVATION KEYED NOTES

1. PRE-FINISHED STANDING SEAM METAL ROOF & RIDGE VENT, COLOR: KOKO BROWN
2. PRE-FINISHED METAL FACIA, GUTTER, DOWNSPOUT, SOFFIT & FLASHINGS, COLOR: KOKO BROWN
3. 1 SIDE (2 OR 3 SIDES ON END CORNER & WING WALLS) SMOOTH FACE 8X8X16 MASONRY BLOCK EXT. SEALED W/ WATER REPELLENT CLEAR SEALANT, COLOR: OAK.
4. 1 SIDE (2 OR 3 SIDES ON END CORNER & WING WALLS) SMOOTH FACE 8X8X16 MASONRY BLOCK EXT. SEALED W/ WATER REPELLENT CLEAR SEALANT, COLOR: WALNUT
5. OPERABLE AWNING WINDOW FRAME, COLOR: DARK BROWN
6. PRE-FINISHED METAL WALL CAP, COLOR: KOKO BROWN
7. DOOR & FRAME, COLOR: KOKO BROWN
8. SOLATUBE, OR EQUAL. INSTALL PER MANUF.
9. SIGNAGE - SEE DETAIL



1 LARGE RESTROOM CEILING PLAN
SCALE: 1/4" = 1'-0"

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND
SYRACUSE, UTAH 84075

PROJECT # 22238510
CONTRACT # 2270048

STATE OF UTAH · STEVEN N. WARR · 22-114812-0301 · 1/14/2021 · LICENSED ARCHITECT

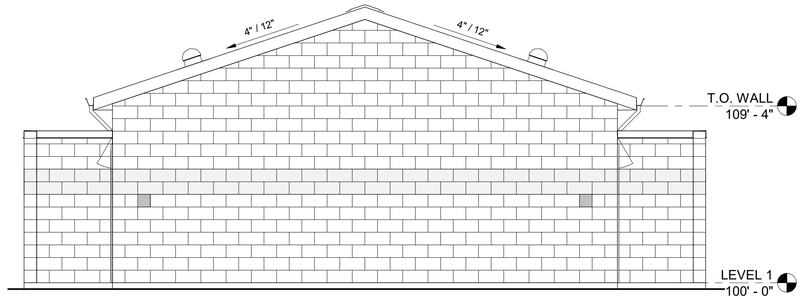
CONFORM SET 01/12/21

NO.	DATE	REVISION
1	12/1/21	CONFORM SET
2	1/12/22	CONFORM SET

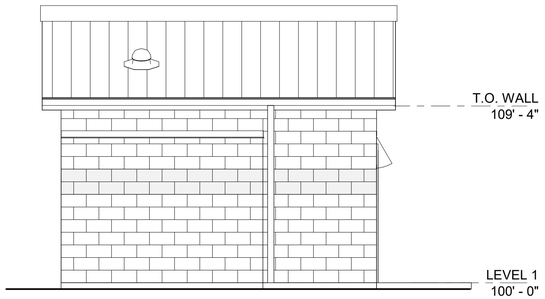
LARGE RESTROOM ELEVATIONS

PROJECT NUMBER	DATE
10970	12/01/2021
DRAWN BY	CHECKED BY
R. MALIGON	C. DUNCAN
APPROVED BY	DESIGNED BY
S. WARR	C. DUNCAN

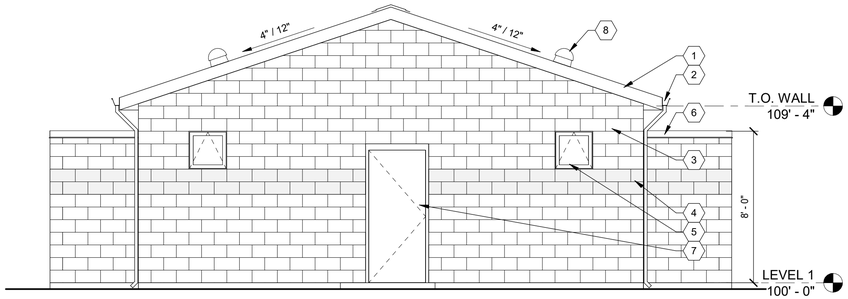
RA-100-02



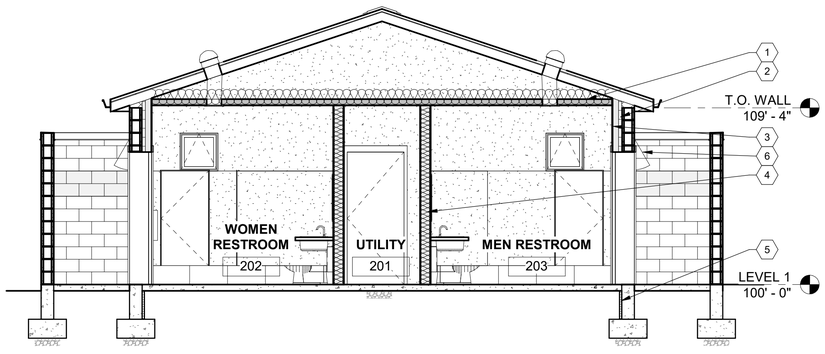
6 REAR ELEVATION
SCALE: 1/4" = 1'-0"



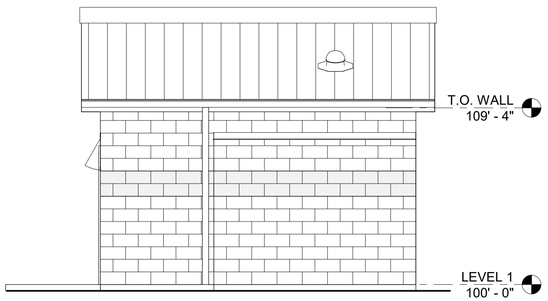
5 SIDE ELEVATION
SCALE: 1/4" = 1'-0"



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



9 BUILDING SECTION
SCALE: 1/4" = 1'-0"



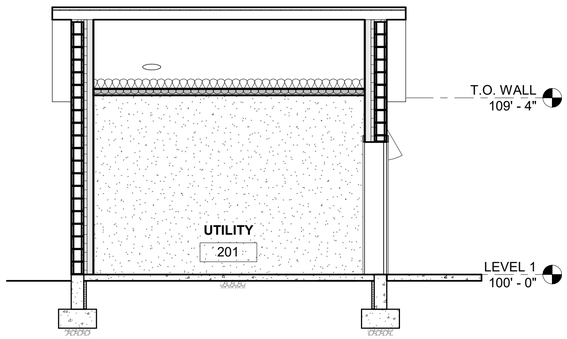
7 SIDE ELEVATION
SCALE: 1/4" = 1'-0"

BUILDING SECTION KEYED NOTES

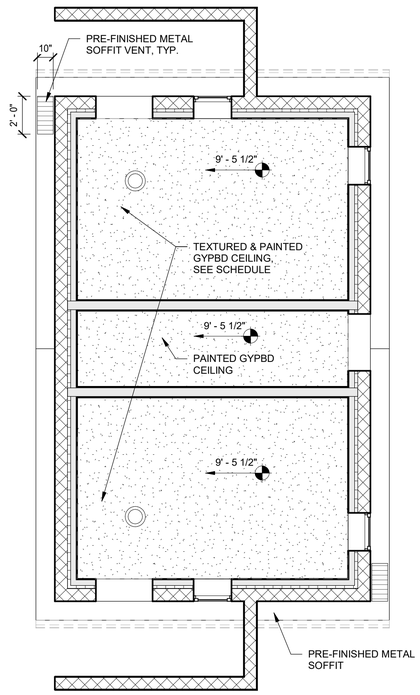
1. R-30 BATT OR BLOWN-IN CEILING INSULATION
2. R-10 CONT. RIGID INSULATION
3. MOISTURE BARRIER
4. SOUND BATT INSULATION
5. FOUNDATION = VERT. 2 FT R-10 RIGID INSULATION
6. WINDOW = DBL. PANE W/ THERMAL BREAK, SHGC 0.38, U 0.35 MIN.

BUILDING ELEVATION KEYED NOTES

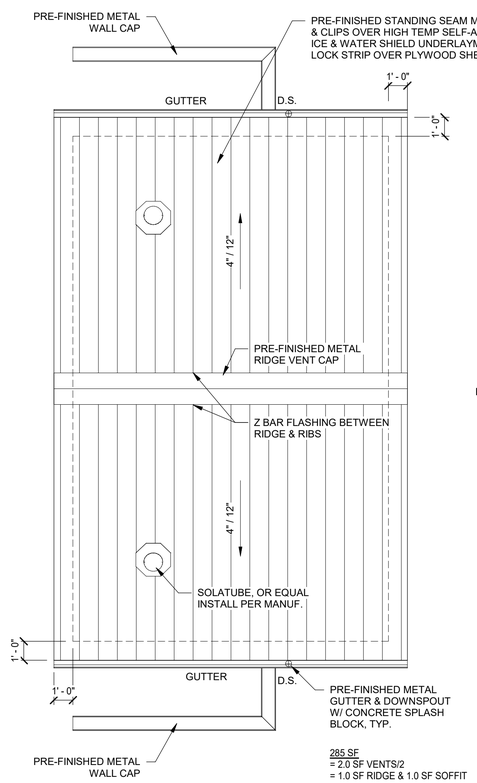
1. PRE-FINISHED STANDING SEAM METAL ROOF & RIDGE VENT, COLOR: KOKO BROWN
2. PRE-FINISHED METAL FACIA, GUTTER, DOWNSPOUT, SOFFIT & FLASHINGS, COLOR: KOKO BROWN
3. 1 SIDE (2 OR 3 SIDES ON END CORNER & WING WALLS) SMOOTH FACE 8X8X16 MASONRY BLOCK EXT. SEALED W/ WATER REPELLENT CLEAR SEALANT, COLOR: OAK.
4. 1 SIDE (2 OR 3 SIDES ON END CORNER & WING WALLS) SMOOTH FACE 8X8X16 MASONRY BLOCK EXT. SEALED W/ WATER REPELLENT CLEAR SEALANT, COLOR: WALNUT
5. OPERABLE AWNING WINDOW FRAME, COLOR: DARK BROWN
6. PRE-FINISHED METAL WALL CAP, COLOR: KOKO BROWN
7. DOOR & FRAME, COLOR: KOKO BROWN
8. SOLATUBE, OR EQUAL. INSTALL PER MANUF.
9. SIGNAGE - SEE DETAIL



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

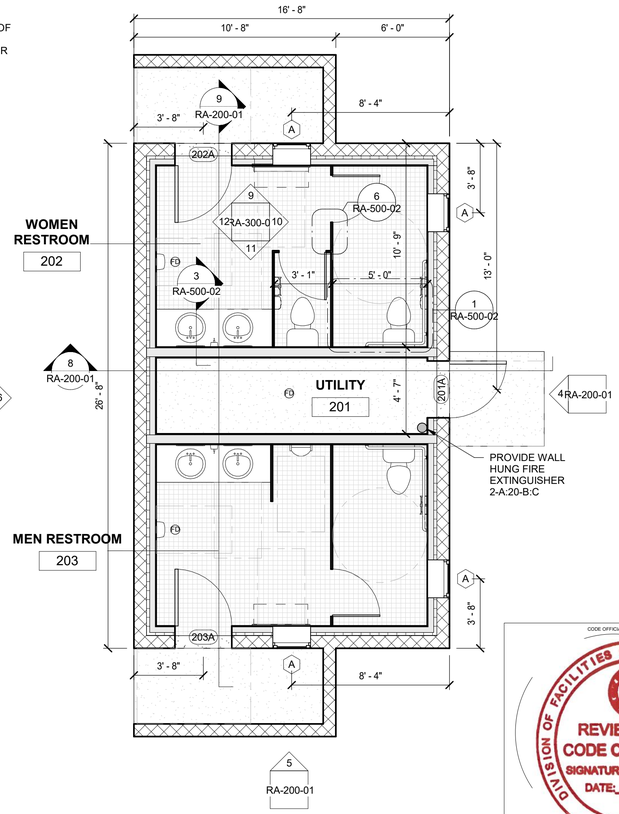


3 CEILING PLAN
SCALE: 1/4" = 1'-0"



285 SF
= 2.0 SF VENTS/2
= 1.0 SF RIDGE & 1.0 SF SOFFIT

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



1 SMALL RESTRM. FLR. PLAN- TYP. OF 2
SCALE: 1/4" = 1'-0"

CODE OFFICIAL STAMP
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
REVIEWED FOR CODE COMPLIANCE
SIGNATURE:
DATE: 01/25/2022

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FOR:
DFCM PROJECT
4315 S 2700 W, FI 3
SALT LAKE CITY, UTAH 84129

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND

WHITE ROCKS CAMPGROUND
SYRACUSE, UTAH 84075

PROJECT # 22238510
CONTRACT # 2270048

STATE OF UTAH
STEVEN N. WARR
22-11481 2-0301
1/14/2022
LICENSED ARCHITECT

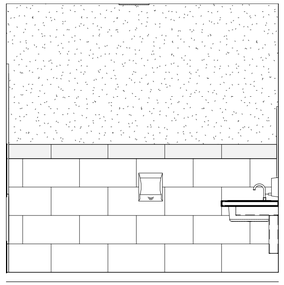
CONFORM SET 01/12/21

NO.	DATE	REVISION
1	12/1/21	CONFORM SET
2	1/12/22	CONFORM SET

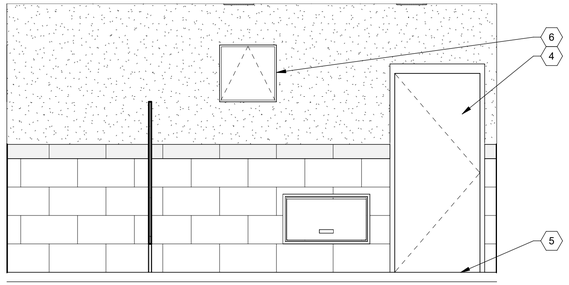
SMALL RESTROOM FLOOR PLAN & ELEVATIONS

PROJECT NUMBER	DATE
10970	12/01/2021
DRAWN BY	CHECKED BY
R. MALIGON	C. DUNCAN
APPROVED BY	DESIGNED BY
S. WARR	C. DUNCAN

RA-200-01



4 INT ELEV - LARGE RESTROOM
SCALE: 3/8" = 1'-0"



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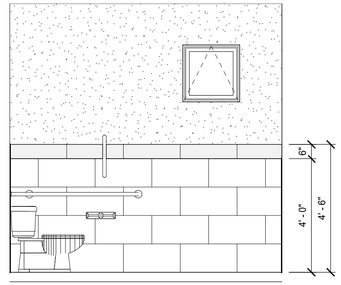
SCALE: 3/8" = 1'-0"



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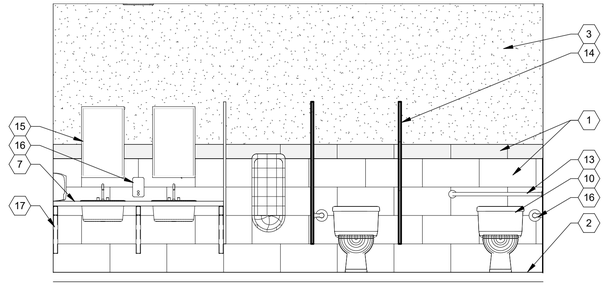
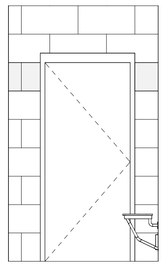
SCALE: 3/8" = 1'-0"



1 INT ELEV - LARGE RESTROOM
SCALE: 3/8" = 1'-0"

INTERIOR ELEVATION KEYED NOTES

1. 4X4 TILE, COLOR: TAN WITH ACCENT BAND OF 4X4 TILE, COLOR BROWN OVER TILE BACKERBOARD
2. 12" X 12" (1" MOSAIC) FLOOR TILE , COLOR: MESA MULTI MOSAIC
3. PAINTED GYP.BD., COLOR: HONEYMILK
4. PAINTED DOOR & FRAME, COLOR: KOKO BROWN
5. DOOR THRESHOLD, PRECAST CONCRETE, COLOR: DARK BROWN
6. PAINTED WINDOW FRAME, COLOR: DARK BROWN
7. COUNTERTOP-QUARTZ, COLOR: SILESTONE SIENNA RIDGE 12 OR NEW MOUNTAIN
8. WALL MOUNT ADA BENCH
9. SINK/LAVATORY, SEE PLUMBING
10. WATER CLOSET/URINAL, SEE PLUMBING
11. SHOWER HEAD AND CONTROLS, SEE PLUMBING
12. MOP SINK, SEE PLUMBING
13. STAINLESS GRAB BARS
14. PHENOLIC CORE TOILET PARTITION W/ BRACING, DOOR & HARDWARES, COLOR: LIGHTER TAN
15. ACCESSORIES:
    1. HAND DRYER, SEE SPEC & MEP PLANS
    2. 18"x30" WALL MOUNTED MIRROR, FRAMELESS
    3. WALL MOUNTED BABY CHANGING STATION
    4. COMBINATION UTILITY SHELF/MOP AND BROOM HOLDER
16. OTHER ACCESSORIES: (OWNER FURNISHED AND CONTRACTOR INSTALLED)
    1. SOAP DISPENSER
    2. TOILET PAPER DISPENSER
    3. SANITARY NAPKIN DISPENSER
    4. SANITARY NAPKIN DISPOSAL UNIT
    5. TRASH RECEPTICAL
    6. AIR FRESHENERS
17. STEEL FABRICATED WALL MOUNTED COUNTER TOP BRACE AND SUPPORT



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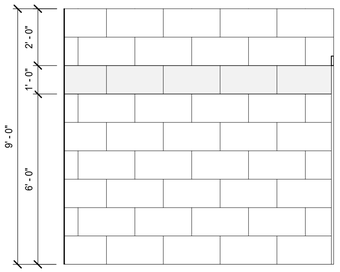
SCALE: 3/8" = 1'-0"



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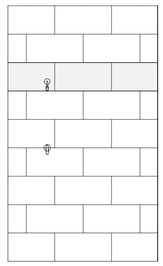
SCALE: 3/8" = 1'-0"



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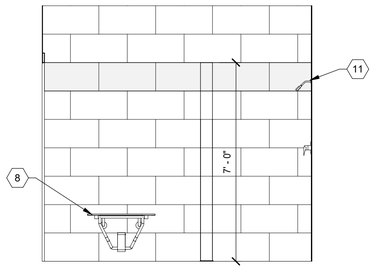
SCALE: 3/8" = 1'-0"



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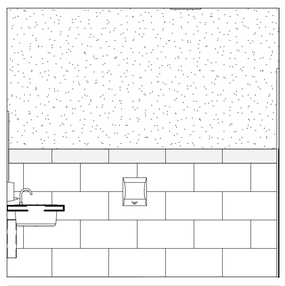
SCALE: 3/8" = 1'-0"



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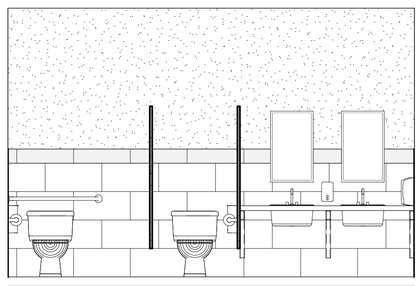
SCALE: 3/8" = 1'-0"



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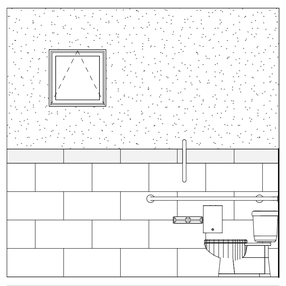
SCALE: 3/8" = 1'-0"



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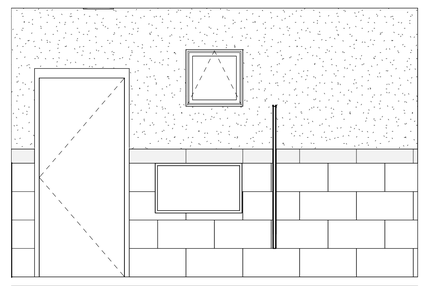
SCALE: 3/8" = 1'-0"



9 INT ELEV - SMALL RESTROOM
SCALE: 3/8" = 1'-0"

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PROJECT # 22238510
CONTRACT # 2270048

STATE OF UTAH
STEVEN N. WARR
22-114812-0301
LICENSED ARCHITECT
1/14/2022

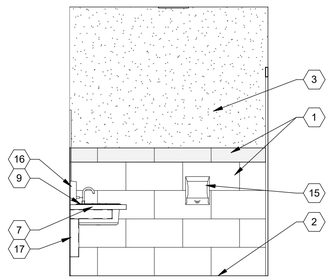
CONFORM SET 01/12/21

NO.	DATE	REVISION
1	12/1/21	CONFORM SET
2	1/12/22	CONFORM SET

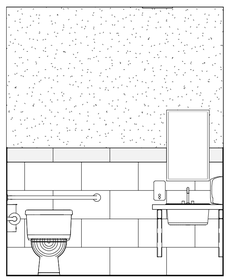
LARGE & SMALL RESTRM. INTERIOR ELEVATIONS

PROJECT NUMBER	DATE
10970	12/01/2021
DRAWN BY	CHECKED BY
R. MALIGON	C. DUNCAN
APPROVED BY	DESIGNED BY
S. WARR	C. DUNCAN

RA-300-01



13 INT ELEV - UNISEX
SCALE: 3/8" = 1'-0"



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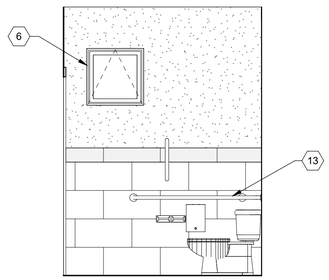
SCALE: 3/8" = 1'-0"



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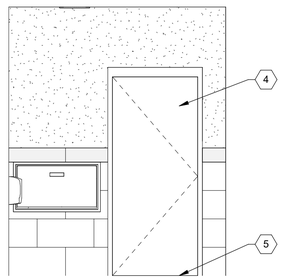
SCALE: 3/8" = 1'-0"



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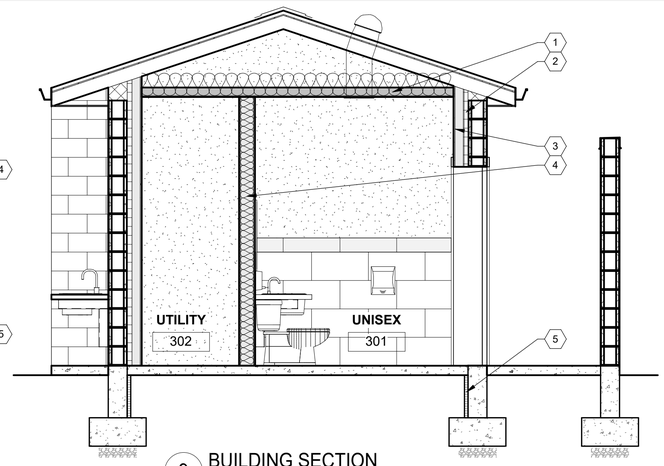
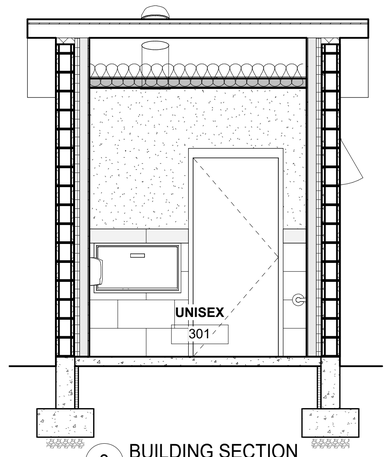
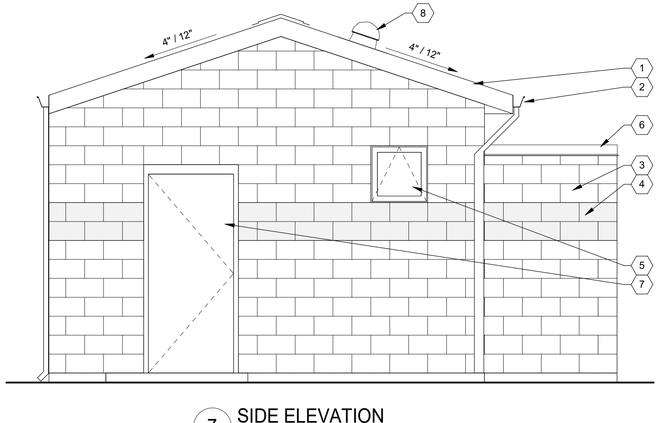
SCALE: 3/8" = 1'-0"



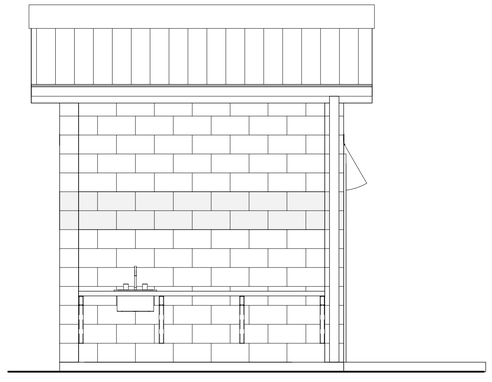
9 BUILDING SECTION
SCALE: 3/8" = 1'-0"



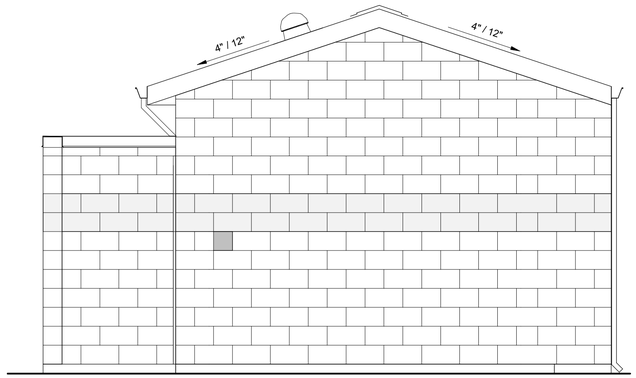
8 BUILDING SECTION
SCALE: 3/8" = 1'-0"



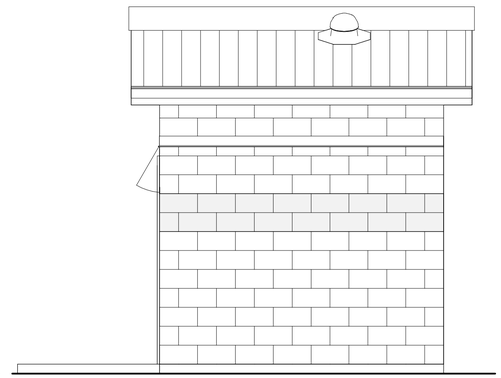
7 SIDE ELEVATION
SCALE: 3/8" = 1'-0"



6 REAR ELEVATION
SCALE: 3/8" = 1'-0"



5 SIDE ELEVATION
SCALE: 3/8" = 1'-0"



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

BUILDING ELEVATION KEYED NOTES

1. PRE-FINISHED STANDING SEAM METAL ROOF & RIDGE VENT, COLOR: KOKO BROWN
2. PRE-FINISHED METAL FACIA, GUTTER, DOWNSPOUT, SOFFIT & FLASHINGS, COLOR: KOKO BROWN
3. 1 SIDE (2 OR 3 SIDES ON END CORNER & WING WALLS) SMOOTH FACE 8X8X16 MASONRY BLOCK EXT. SEALED W/ WATER REPELLENT CLEAR SEALANT, COLOR: OAK.
4. 1 SIDE (2 OR 3 SIDES ON END CORNER & WING WALLS) SMOOTH FACE 8X8X16 MASONRY BLOCK EXT. SEALED W/ WATER REPELLENT CLEAR SEALANT, COLOR: WALNUT
5. OPERABLE AWNING WINDOW FRAME, COLOR: DARK BROWN
6. PRE-FINISHED METAL WALL CAP, COLOR: KOKO BROWN
7. DOOR & FRAME, COLOR: KOKO BROWN
8. SOLATUBE, OR EQUAL. INSTALL PER MANUF.
9. SIGNAGE - SEE DETAIL

BUILDING SECTION KEYED NOTES

1. R-30 BATT OR BLOWN-IN CEILING INSULATION
2. R-10 CONT. RIGID INSULATION
3. MOISTURE BARRIER
4. SOUND BATT INSULATION
5. FOUNDATION = VERT. 2 FT R-10 RIGID INSULATION
6. WINDOW = DBL. PANE W/ THERMAL BREAK, SHGC 0.38, U 0.35 MIN.

INTERIOR ELEVATION KEYED NOTES

1. 4X4 TILE, COLOR: TAN WITH ACCENT BAND OF 4X4 TILE, COLOR BROWN OVER TILE BACKERBOARD
2. 12" X 12" (1" MOSAIC) FLOOR TILE , COLOR: MESA MULTI MOSAIC
3. PAINTED GYP.BD., COLOR: HONEYMILK
4. PAINTED DOOR & FRAME, COLOR: KOKO BROWN
5. DOOR THRESHOLD, PRECAST CONCRETE, COLOR: DARK BROWN
6. PAINTED WINDOW FRAME, COLOR: DARK BROWN
7. COUNTERTOP-QUARTZ, COLOR: SILESTONE SIENNA RIDGE 12 OR NEW MOUNTAIN
8. WALL MOUNT ADA BENCH
9. SINK/LAVATORY, SEE PLUMBING
10. WATER CLOSET/URINAL, SEE PLUMBING
11. SHOWER HEAD AND CONTROLS, SEE PLUMBING
12. MOP SINK, SEE PLUMBING
13. STAINLESS GRAB BARS
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15. ACCESSORIES:
    1. HAND DRYER, SEE SPEC & MEP PLANS
    2. 18"x30" WALL MOUNTED MIRROR, FRAMELESS
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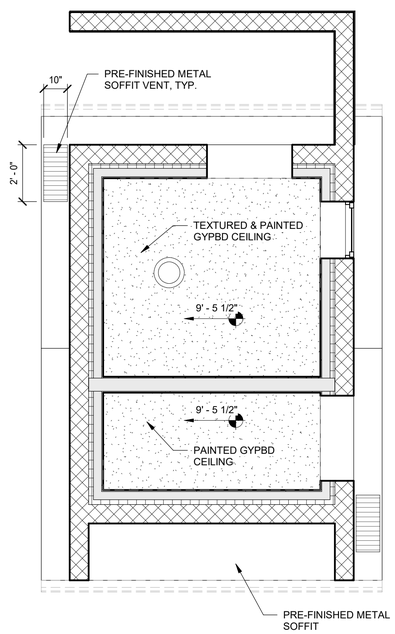
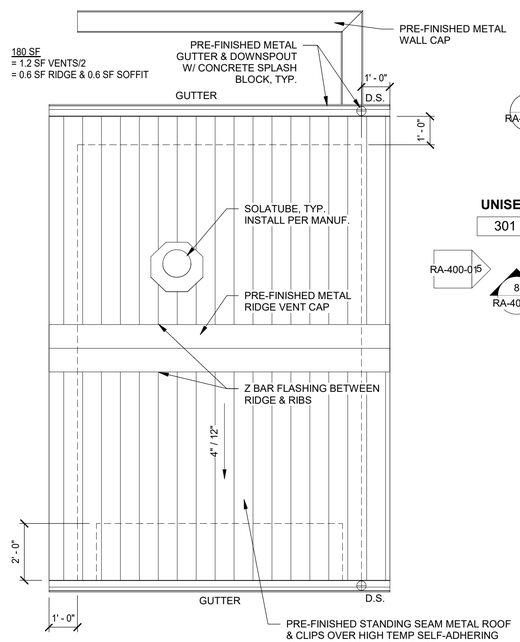
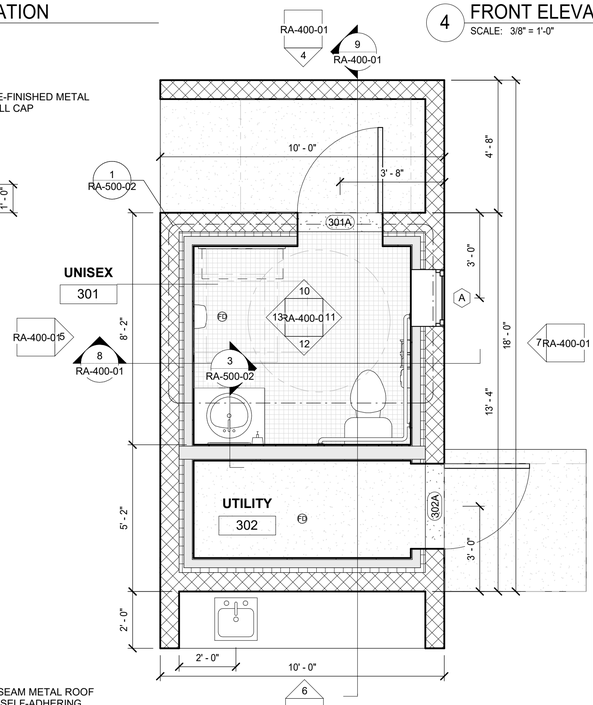


3 CEILING PLAN
SCALE: 3/8" = 1'-0"



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



1 UNISEX RESTROOM FLOOR PLAN- TYP. OF 1
SCALE: 3/8" = 1'-0"

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DATE: 01/25/2022

ENSIGN
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RICHFIELD
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FOR:
DFCM PROJECT
4315 S 2700 W, FI 3
SALT LAKE CITY, UTAH 84129

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND

WHITE ROCKS CAMPGROUND
SYRACUSE, UTAH 84075

PROJECT # 22238510
CONTRACT # 2270048

STATE OF UTAH
STEVEN N. WARR
22-114812-0301
LICENSED ARCHITECT
01/12/2022

CONFORM SET 01/12/21

NO.	DATE	REVISION
1	12/1/21	CONFORM SET
2	1/12/22	CONFORM SET

UNISEX RESTROOM FLOOR PLAN & ELEVATIONS

PROJECT NUMBER	DATE
10970	12/01/2021
DRAWN BY	CHECKED BY
R. MALIGON	C. DUNCAN
APPROVED BY	DESIGNED BY
S. WARR	C. DUNCAN

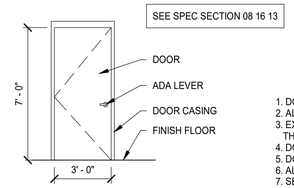
RA-400-01

ROOM SCHEDULE

NUMBER	NAME	FLOOR FINISH	BASE FINISH	WALL FINISHES				CEILINGS		COMMENTS
				NORTH	EAST	SOUTH	WEST	HEIGHT	FINISH	
101	UTILITY ROOM	CONCRETE	4" RUBBER	PAINT	PAINT	PAINT	PAINT	9' - 0"	PAINT TEXTURED	SEALED CONCRETE FLOOR
102	WOMEN RESTROOM	TILE	TILE	TILE/PAINT	TILE/PAINT	TILE/PAINT	TILE/PAINT	9' - 0"	PAINT TEXTURED	
103	MEN RESTROOM	TILE	TILE	TILE/PAINT	TILE/PAINT	TILE/PAINT	TILE/PAINT	9' - 0"	PAINT TEXTURED	
104	JANITOR CLOSET	CONCRETE	4" RUBBER	PAINT	PAINT	PAINT	PAINT	9' - 0"	PAINT TEXTURED	SEALED CONCRETE FLOOR
105	ADA SHOWER 1	TILE	TILE	TILE	TILE	TILE	TILE	9' - 0"	PAINT TEXTURED	
106	SHOWER 2	TILE	TILE	TILE	TILE	TILE	TILE	9' - 0"	PAINT TEXTURED	
107	SHOWER 3	TILE	TILE	TILE	TILE	TILE	TILE	9' - 0"	PAINT TEXTURED	
108	SHOWER 4	TILE	TILE	TILE	TILE	TILE	TILE	9' - 0"	PAINT TEXTURED	
201	UTILITY	CONCRETE	4" RUBBER	PAINT	PAINT	PAINT	PAINT	9' - 0"	PAINT TEXTURED	SEALED CONCRETE FLOOR
202	WOMEN RESTROOM	TILE	TILE	TILE/PAINT	TILE/PAINT	TILE/PAINT	TILE/PAINT	9' - 0"	PAINT TEXTURED	
203	MEN RESTROOM	TILE	TILE	TILE/PAINT	STONE TILE/PAINT	TILE/PAINT	TILE/PAINT	9' - 0"	PAINT TEXTURED	
301	UNISEX	TILE	TILE	TILE/PAINT	TILE/PAINT	TILE/PAINT	TILE/PAINT	9' - 0"	PAINT TEXTURED	
302	UTILITY	CONCRETE	4" RUBBER	PAINT	PAINT	PAINT	PAINT	9' - 0"	PAINT TEXTURED	SEALED CONCRETE FLOOR

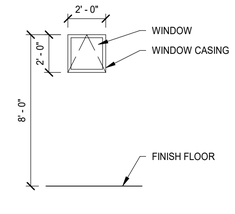
DOOR SCHEDULE

MARK	WIDTH	HEIGHT	FRAME TYPE	FRAME FINISH	DOOR TYPE	DOOR FINISH	FIRE RATING	HARDWARE	COMMENTS
101A	3' - 0"	7' - 0"	COMPOSITE	PAINT	INSULATED FIBERGLASS	PAINT	NA	LOCKSET	
102A	3' - 0"	7' - 0"	COMPOSITE	PAINT	INSULATED FIBERGLASS	PAINT	NA	PASSAGE	w/ DEADBOLT
103A	3' - 0"	7' - 0"	COMPOSITE	PAINT	INSULATED FIBERGLASS	PAINT	NA	PASSAGE	w/ DEADBOLT
104A	3' - 0"	7' - 0"	COMPOSITE	PAINT	INSULATED FIBERGLASS	PAINT	NA	LOCKSET	
105A	3' - 0"	7' - 0"	COMPOSITE	PAINT	INSULATED FIBERGLASS	PAINT	NA	PRIVACY	w/ DEADBOLT
106A	3' - 0"	7' - 0"	COMPOSITE	PAINT	INSULATED FIBERGLASS	PAINT	NA	PRIVACY	w/ DEADBOLT
107A	3' - 0"	7' - 0"	COMPOSITE	PAINT	INSULATED FIBERGLASS	PAINT	NA	PRIVACY	w/ DEADBOLT
108A	3' - 0"	7' - 0"	COMPOSITE	PAINT	INSULATED FIBERGLASS	PAINT	NA	PRIVACY	w/ DEADBOLT
201A	3' - 0"	7' - 0"	COMPOSITE	PAINT	INSULATED FIBERGLASS	PAINT	NA	LOCKSET	
202A	3' - 0"	7' - 0"	COMPOSITE	PAINT	INSULATED FIBERGLASS	PAINT	NA	PASSAGE	w/ DEADBOLT
203A	3' - 0"	7' - 0"	COMPOSITE	PAINT	INSULATED FIBERGLASS	PAINT	NA	PASSAGE	w/ DEADBOLT
301A	3' - 0"	7' - 0"	COMPOSITE	PAINT	INSULATED FIBERGLASS	PAINT	NA	PRIVACY	w/ DEADBOLT
302A	3' - 0"	7' - 0"	COMPOSITE	PAINT	INSULATED FIBERGLASS	PAINT	NA	PRIVACY	w/ DEADBOLT

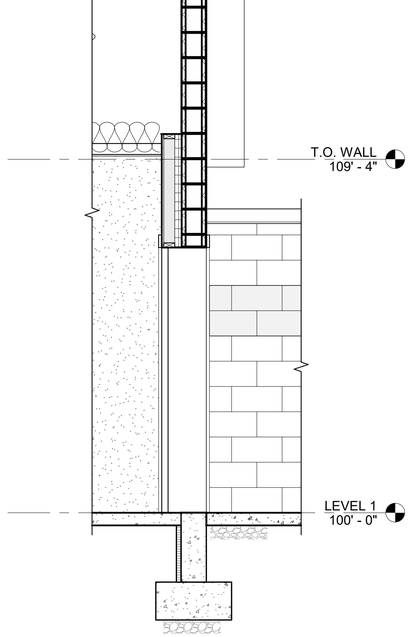


1 DOOR ELEVATION
SCALE: N.T.S.

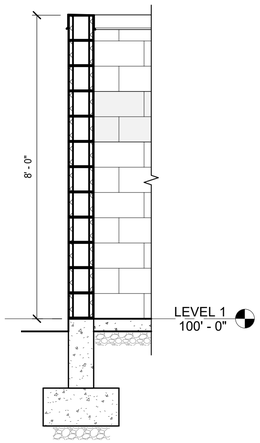
1. DOOR THRESHOLDS TO BE LESS THAN 1/2" ABOVE FINISH FLOOR.
2. ALL DOOR HARWARE TO BE ADA LEVER TYPE.
3. EXIT DOORS ARE TO BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY, SPECIAL KNOWLEDGE OR EFFORT.
4. DOORS TO MEET THE REQUIREMNTS OF IBC 1010.
5. DOOR HARDWARE TO BE LOCATED IN DOOR PER 1010.1.9.2
6. ALL LOCKSETS SHALL COMPLY WITH 1010.1.9.3 AND 1010.1.9.4
7. SEE SPEC SECTION 08 71 00 DOOR HARDWARE



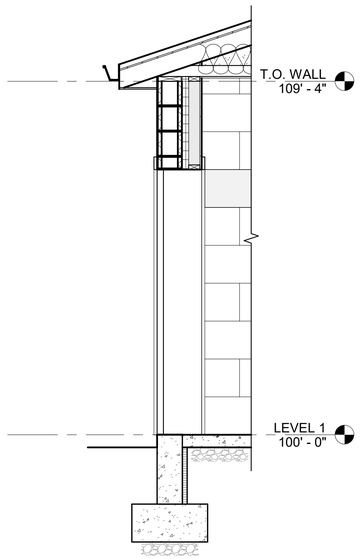
2 WINDOW ELEVATION
SCALE: N.T.S.



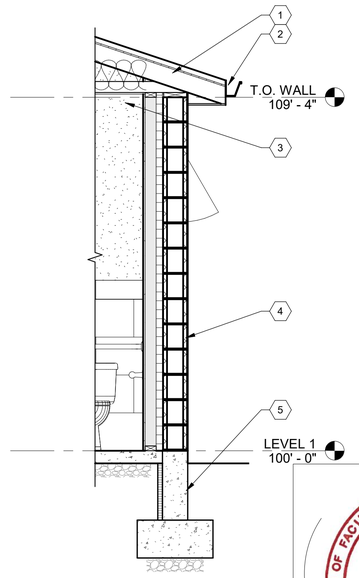
5 WALL SECTION, TYP.
SCALE: 1/2" = 1'-0"



6 WALL SECTION, TYP.
SCALE: 1/2" = 1'-0"



4 WALL SECTION, TYP.
SCALE: 1/2" = 1'-0"



3 WALL SECTION, TYP.
SCALE: 1/2" = 1'-0"

WALL SECTION KEYED NOTES

1. ROOF STRUCTURE, SEE STRUCTURAL
2. FACIA, GUTTER, FLASHING & SOFFIT
3. FRAMED CEILING
4. EXTERIOR WALL
5. FOOTING & FOUNDATION, SEE STRUCTURAL

CODE OFFICIAL STAMP

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
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SIGNATURE:
DATE: 01/25/2022

ENSIGN
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FOR:
DFCM PROJECT
4315 S 2700 W, FI 3
SALT LAKE CITY, UTAH 84129

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND

WHITE ROCKS CAMPGROUND
SYRACUSE, UTAH 84075

PROJECT # 22238510
CONTRACT # 2270048

STATE OF UTAH
STEVEN N. WARR
22-114812-0301
LICENSED ARCHITECT
1/14/2022

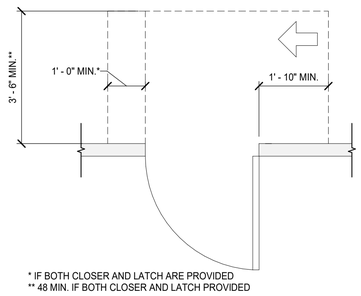
CONFORM SET 01/12/21

NO.	DATE	REVISION
1	12/1/21	CONFORM SET
2	1/12/22	CONFORM SET

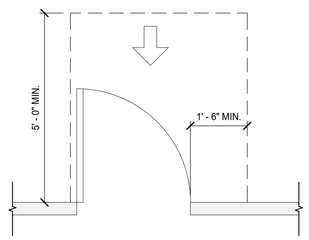
RESTROOM SCHED. & WALL SECTIONS

PROJECT NUMBER	DATE
10970	12/01/2021
DRAWN BY	CHECKED BY
R. MALIGON	C. DUNCAN
APPROVED BY	DESIGNED BY
S. WARR	C. DUNCAN

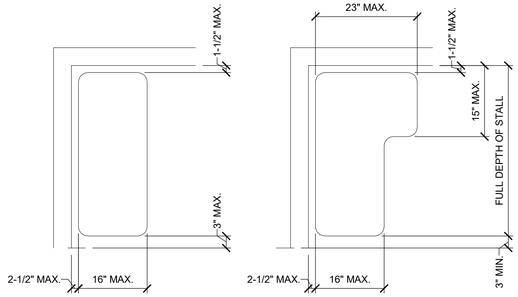
RA-500-01



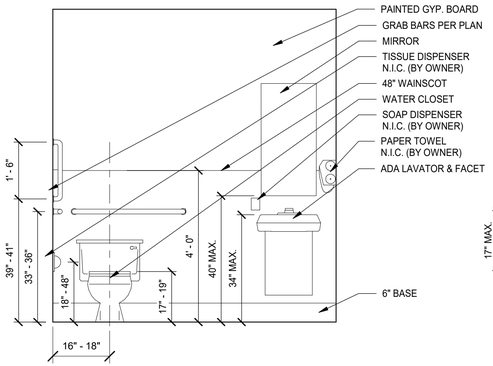
16 CLEARANCE AT HINGE APPROACH, PUSH SIDE
SCALE: N.T.S.



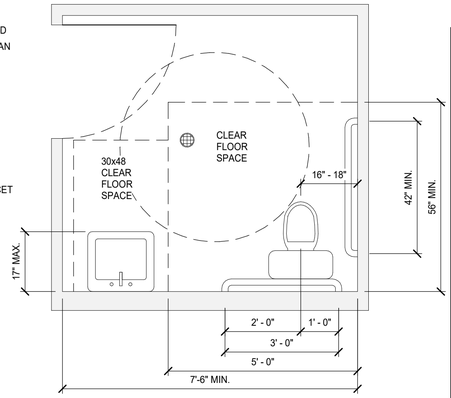
12 CLEARANCE AT FRONT APPROCH, PULL SIDE
SCALE: N.T.S.



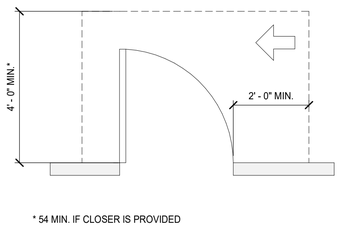
8 ADA SHOWER SEAT
SCALE: N.T.S.



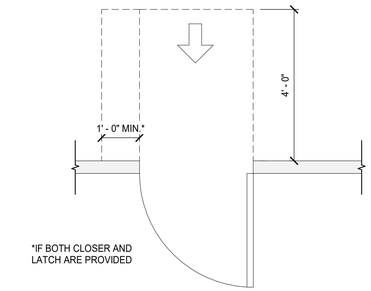
4 ADA RESTROOM ELEVATION
SCALE: N.T.S.



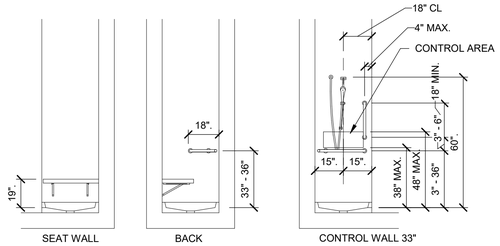
1 ADA RESTROOM
SCALE: N.T.S.



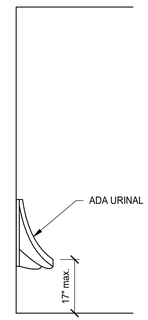
17 CLEARANCE AT LATCH APPROACH, PULL SIDE
SCALE: N.T.S.



13 CLEARANCE AT FRONT APPROCH, PUSH SIDE
SCALE: N.T.S.



9 ADA SHOWER - TRANSFER ELEV.
SCALE: N.T.S.



5 ADA URINAL DETAIL
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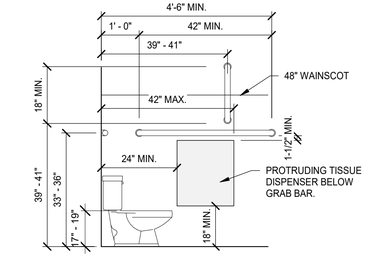
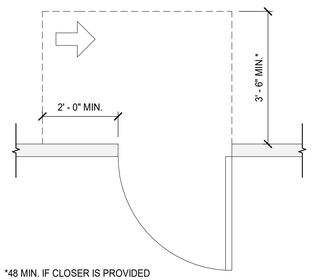
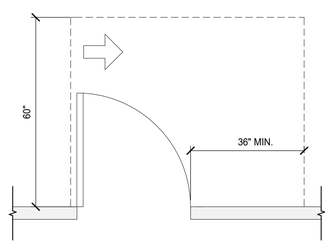


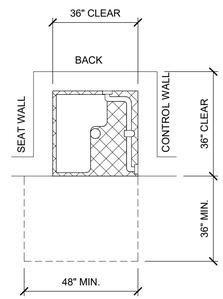
2 ADA RESTROOM SIDEWALL
SCALE: N.T.S.



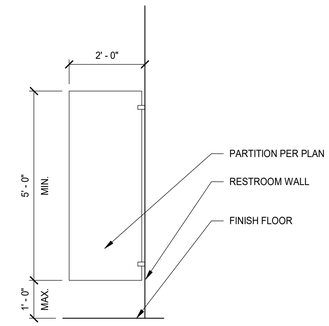
18 CLEARANCE AT LATCH APPROACH, PUSH SIDE
SCALE: N.T.S.



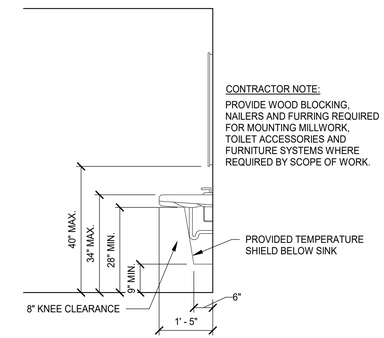
14 CLEARANCE @ HINGE APPROACH, PULL SIDE A
SCALE: N.T.S.



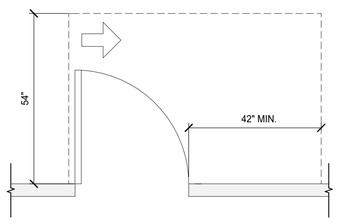
10 ADA SHOWER - TRANSFER
SCALE: N.T.S.



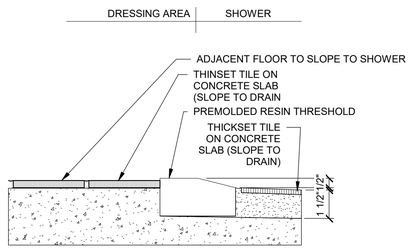
6 STALL PARTITION
SCALE: N.T.S.



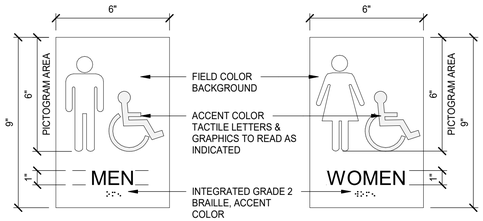
3 ADA SINK ELEV.
SCALE: N.T.S.



15 CLEARANCE @ HINGE APPROACH, PULL SIDE B
SCALE: N.T.S.



11 TYPICAL H.C. SHOWER THRESHOLD DETAIL
SCALE: N.T.S.



7 ADA RESTROOM SIGNS
SCALE: N.T.S.

ENSIGN
THE STANDARD IN ENGINEERING
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Phone: 435.865.1453
RICHFIELD
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FOR:
DFCM PROJECT
4315 S 2700 W, FI 3
SALT LAKE CITY, UTAH 84129

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND
SYRACUSE, UTAH 84075

PROJECT # 22238510
CONTRACT # 2270048

STATE OF UTAH
STEVEN N. WARR
22-114812-0301
1/14/2022
LICENSED ARCHITECT

CONFORM SET 01/12/21

NO.	DATE	REVISION
2	1/12/22	CONFORM SET

RESTROOM ADA DETAILS

PROJECT NUMBER	DATE
10970	12/01/2021
DRAWN BY	CHECKED BY
R. MALIGON	C. DUNCAN
APPROVED BY	DESIGNED BY
S. WARR	C. DUNCAN

RA-500-02

CODE OFFICIAL STAMP
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
REVIEWED FOR CODE COMPLIANCE
SIGNATURE:
DATE: 01/25/2022

EXTERIOR COLORS

KOKO BROWN
(DOOR & WINDOW FRAME)

WALNUT
(ACCENT BLOCK)

OAK
(BLOCK)

KOKO BROWN
(ROOF, SOFFIT, FLASHING, ETC.)

INTERIOR COLORS

HONEYMILK
(INTERIOR WALL PAINT
SEMI-GLOSS FINISH)

KOKO BROWN
(DOOR, WINDOW FRAME &
DOOR FLOOR THRESHOLD)

MESA MULTI MOSAIC
1" X 1"
(FLOOR TILE)

4X4 BROWN
(WALL ACCENT TILE)

4X4 TAN
(WALL TILE)

ENSIGN
THE STANDARD IN ENGINEERING

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FOR:
DFCM PROJECT
4315 S 2700 W, FI 3
SALT LAKE CITY, UTAH 84129

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND

WHITE ROCKS CAMPGROUND
SYRACUSE, UTAH 84075

PROJECT # 22238510
CONTRACT # 2270048

STATE OF UTAH
STEVEN N. WARR
22-114812-0301
1/4/2021
LICENSED ARCHITECT

CONFORM SET 01/12/21

NO.	DATE	REVISION
1	12/1/21	CONFORM SET
2	1/12/22	CONFORM SET

RESTROOM FINISH COLORS

PROJECT NUMBER	DATE
10970	12/01/2021
DRAWN BY	CHECKED BY
R. MALIGON	C. DUNCAN
APPROVED BY	DESIGNED BY
S. WARR	C. DUNCAN

RA-500-03

CODE OFFICIAL STAMP
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
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SHEET INDEX

DESIGN CRITERIA

1. GOVERNING BUILDING CODE: **2018 IBC**
   A. RISK CATEGORY = II

2. ROOF LOADING:
   A. ROOF LIVE LOAD = 20 PSF
   B. ROOF DEAD LOAD = 20 PSF
      a. TOP CHORD DEAD LOAD = 13 PSF
      b. BOTTOM CHORD DEAD LOAD = 7 PSF
   C. ROOF SNOW LOAD (FLAT), p_f = 22 PSF
      a. GROUND SNOW LOAD, p_g = 29 PSF
      b. SNOW EXPOSURE FACTOR, C_e = 0.9
      c. THERMAL FACTOR, C_t = 1.2
      d. SNOW LOAD IMPORTANCE FACTOR, I_s = 1.0
      e. SLOPE FACTOR, C_s = 1.0
      f. DRIFT SURCHARGE LOADS = (SEE ROOF PLANS)
   D. RAIN LOADS:
      a. RAIN INTENSITY, I = 1.5 IN/HR

3. SEISMIC LOADING:
   A. S_S = 0.80g
   B. S_1 = 0.29g
   C. S_{DS} = 0.64g
   D. S_{D1} = 0.29g
   E. BASIC SEISMIC FORCE RESISTING SYSTEM = BEARING WALL SYSTEM: SPECIAL REINFORCED MASONRY SHEAR WALLS
   F. ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE PROCEDURE
   G. RESPONSE MODIFICATION FACTOR, R = 5.0
   H. DESIGN BASE SHEAR = 0.128W
   I. SEISMIC RESPONSE COEFFICIENT, C_S = 0.128
   J. SEISMIC DESIGN CATEGORY = D
   K. SITE CLASS = D (DEFAULT)
   L. IMPORTANCE FACTOR, I_e = 1.0

4. WIND LOADING:
   A. BASIC WIND SPEED, V = 103 MPH - 3 SEC GUST
   B. ASD WIND SPEED, V_{asd} = 80 MPH - 3-SEC GUST
   C. EXPOSURE = D
   D. INTERNAL PRESSURE COEFFICIENT, GC_{pi} = ± 0.18
   E. WIND DIRECTIONALITY FACTOR, K_d = 0.85
   F. WIND TOPOGRAPHIC FACTOR, K_{zt} = 1.0
   G. COMP. & CLADDING WIND PRESSURE:

COMPONENTS & CLADDING DESIGN WIND PRESSURE (PSF)

LOCATION			EFFECTIVE WIND AREA (FT^2)				
			< 10	20	50	100	>500
WALLS	ZONE 5: WITHIN 3-FT OF BUILDING CORNER		-32.2	-30.2	-27.1	-25.1	-20.0
	ZONE 4: ALL OTHER AREAS		-26.1	-25.1	-24.1	-22.5	-20.0
	ZONE 4 & 5: POSITIVE PRESSURES		16.7	16.0	16.0	16.0	16.0
ROOF	ZONE 3R: WITHIN 3-FT OF ROOF RIDGE AT GABLE ENDS		-77.1	-65.9	-52.6	-40.4	-40.4
	ZONE 3E, 2R & 2N: WITHIN 3-FT OF ROOF CORNERS, ROOF RIDGE & GABLE ENDS		-64.9	-56.7	-44.5	-36.3	-24.1
	ZONE 2E & 1: WITHIN 3-FT OF ROOF EDGE & IN ROOF FIELD		-44.5	-44.5	-28.1	-16.0	-16.0
	ALL ZONES: POSITIVE PRESSURES		16.0	16.0	16.0	16.0	16.0
	N/A		-	-	-	-	-
	N/A		-	-	-	-	-
PARAPETS	N/A	LOAD CASE A	-	-	-	-	-
		LOAD CASE B	-	-	-	-	-
	N/A	LOAD CASE A	-	-	-	-	-
		LOAD CASE B	-	-	-	-	-

5. SERVICEABILITY CRITERIA:

	TOTAL	LIVE / SNOW
A. DEFLECTION LIMITS:		
a. ROOF	L/240	L/360
b. PERIMETER BEAMS	--	L/600 (3/4" MAX.)
B. ALLOWABLE STORY DRIFT:		
a. SEISMIC	0.010 x STORY HEIGHT	

GENERAL

1. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE GOVERNING BUILDING CODE AND SUPPLEMENTS UNLESS HIGHER STANDARD IS REQUIRED BY LOCAL BUILDING OFFICIAL.

2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE.

3. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL APPLICABLE OSHA SAFETY REQUIREMENTS DURING CONSTRUCTION AND SHALL BE RESPONSIBLE FOR SAFETY AND PROTECTION WITHIN AND ADJACENT TO THE SITE.

4. AT ANY GIVEN TIME DURING AND AFTER CONSTRUCTION, THE CONTRACTOR AND/OR OWNER SHALL ENSURE THE LOADS ON THE STRUCTURE DO NOT EXCEED THE SPECIFIED DESIGN LOADS. CONSTRUCTION MATERIAL SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOF.

5. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE ENGINEER BEFORE CONTINUING WITH CONSTRUCTION.

6. THE TYPICAL DETAILS SHALL BE USED WHEREVER APPLICABLE UNLESS OTHERWISE NOTED ON THE DRAWINGS. SPECIFIC NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

7. ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY WORK INVOLVED. IN CASE OF CONFLICT, FOLLOW MOST STRINGENT REQUIREMENT AS DETERMINED BY STRUCTURAL ENGINEER WITHOUT COST TO OWNER.

8. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES.

9. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.

10. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING WITH APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION. DO NOT PENETRATE ANY STRUCTURAL ELEMENTS (BEAMS, COLUMNS, WALLS, SLABS, STEEL DECKS, ETC.) WITHOUT PRIOR WRITTEN APPROVAL OF STRUCTURAL ENGINEER THROUGH ARCHITECT.

11. ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED.

DEFERRED SUBMITTALS

1. DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND WHICH ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL WITHIN A SPECIFIED PERIOD.

2. SUBMITTAL DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD THROUGH THE ARCHITECT AND GENERAL CONTRACTOR WITHIN 6 WEEKS OF AWARD OF CONTRACT TO THE GENERAL CONTRACTOR. ONCE THE SUBMITTAL DOCUMENTS HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS, THE ENGINEER OF RECORD WILL FORWARD THEM TO THE ARCHITECT WITH A NOTATION INDICATING THAT THEY ARE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE ARCHITECT WILL FORWARD THE DEFERRED SUBMITTAL DOCUMENTS TO THE GENERAL CONTRACTOR WHO WILL MAINTAIN ONE SET ON SITE FOR REFERENCE BY THE CITY INSPECTOR. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

3. ITEMS THAT ARE SUBMITTED FOR CONSIDERATION AS DEFERRED SUBMITTALS ARE AS FOLLOWS:
   A. PRE-ENGINEERED WOOD TRUSSES

SHOP DRAWINGS

1. SHOP DRAWINGS SHALL BE SUBMITTED TO THE GENERAL CONTRACTOR PRIOR TO FABRICATION OR ERECTION FOR THE FOLLOWING ITEMS:
   A. CONCRETE MIX DESIGNS
   B. REINFORCING STEEL
   C. PRE-ENGINEERED WOOD TRUSSES
   D. MASONRY BLOCK, MORTAR, AND GROUT SUBMITTALS

2. THE GENERAL CONTRACTOR SHALL SUBMIT ELECTRONIC COPIES OF ALL SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OR ERECTION. FIVE (5) WORKING DAYS (MINIMUM) SHALL BE ALLOWED FOR THE REVIEW OF THESE SHOP DRAWINGS BY THE STRUCTURAL ENGINEER.

3. THE GENERAL CONTRACTOR WILL REVIEW AND STAMP ALL SHOP DRAWINGS AND PRODUCT DATA FOR CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS PRIOR TO SUBMISSION. ANY SHOP DRAWINGS OR PRODUCT DATA NOT REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR WILL BE RETURNED WITHOUT REVIEW.

4. ANY SHOP DRAWING NOT CHECKED AND INITIALED BY THE SUPPLIER/DETAILER PRIOR TO SUBMITTING FOR ARCHITECTURAL AND ENGINEERING REVIEW, WILL BE RETURNED WITHOUT REVIEW.

5. THE CONSTRUCTION DOCUMENTS MAY NOT BE REPRODUCED AND USED TO CREATE SHOP DRAWINGS WITHOUT THE PERMISSION FROM THE ARCHITECT OR ENGINEER.

CONCRETE

1. CONCRETE SHALL CONFORM TO ALL REQUIREMENTS OF ACI 318-14 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", EXCEPT AS MODIFIED BY THE SUPPLEMENTAL REQUIREMENTS BELOW:

   NO WATER TO BE ADDED TO CONCRETE ON SITE EITHER BEFORE OR AFTER PLACEMENT

ELEMENT TYPE	MINIMUM COMP. STRENGTH f'c (psi)	EXPOSURE CLASSES F	S	W	C	CEMENT TYPE	MAX. W/C RATIO	AIR CONTENT %	MAX. AGG. SIZE	MAX. FLY ASH %	APPLICABLE SPECIFIC INSTRUCTION NOTES
FOOTINGS	3000	F0	S0	W0	C1	II	0.45	5	3/4"	25	
FDTN WALLS, PEDESTALS, & GRADE BEAMS	4500	F2	S0	W0	C1	II	0.45	6	3/4"	25	
INTERIOR SLAB ON GRADE	4000	F0	S0	W0	C0	II	0.45	--	1 1/2"	25	
INT. REINFORCED SLAB ON GRADE	4000	F0	S0	W0	C0	II	0.45	--	1 1/2"	25	

2. CONCRETE SHALL ATTAIN THE LISTED MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS.

3. AIR CONTENT TOLERANCE IS +/- 1-1/2% AT THE TIME OF FINAL PLACEMENT.

4. AIR ENTRAINMENT SHALL BE ADJUSTED FOR THE USE OF ADMIXTURES AND FLY ASH.

5. SUPERPLASTICIZER MAY BE ADDED TO INCREASE SLUMP AS REQUIRED FOR PLACEMENT.

6. CALCIUM CHLORIDE SHALL NOT BE ADDED TO THE CONCRETE MIX.

7. USE TYPE V CEMENT WHEN HIGH SULPHATE RESISTANCE IS REQUIRED BY THE GEOTECHNICAL REPORT OR WHEN THE 'S' EXPOSURE CLASS IS DESIGNATED AS S2 OR S3. IF S3 IS REQUIRED, POZZOLAN OR SLAG CEMENT IN ACCORDANCE WITH ASTM C1012 IS ALSO REQUIRED.

8. MATERIAL DESIGNATIONS:
   A. CEMENT = ASTM C150
   B. NORMAL WEIGHT AGGREGATES = ASTM C33
   C. LIGHTWEIGHT AGGREGATES = ASTM C330
   D. FLY ASH; CLASS F POZZOLAN = ASTM C618
   E. REINFORCING STEEL
      a. NORMAL = ASTM A615
      b. WELDABLE = ASTM A706
   F. DEFORMED BAR ANCHORS (DBA) = ASTM A496
   G. HEADED STUD ANCHORS (HSA) = ASTM A108
   H. AIR ENTRAINMENT ADMIXTURES = ASTM C260
   I. WATER REDUCING ADMIXTURES = ASTM C494, TYPE 'A'
   J. RETARDING ADMIXTURES = ASTM C494, TYPE 'B'
   K. WATER REDUCING & RETARDING ADMIXTURES = ASTM C494, TYPE 'D'
   L. HIGH RANGE WATER REDUCING ADMIXTURES = ASTM C494, TYPE 'F'
   M. HIGH RANGE WATER REDUCING & RETARDING ADMIXTURES = ASTM C494, TYPE 'G'
   N. ADMIXTURES ARE TO COME FROM AN ISO9001 QUALITY CERTIFIED MANUFACTURER. ALL ADMIXTURES ARE TO COME FROM THE SAME MANUFACTURER TO ENSURE COMPATIBILITY.
   O. NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER PRODUCTS THAT REACT ADVERSELY WITH THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.

9. A STATEMENT OF MIX DESIGN FOR ALL CONCRETE SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER PRIOR TO COMMENCING WORK.

10. PLACEMENT, CURING, AND PROTECTION OF CONCRETE SHALL CONFORM TO ACI 318-14. THE USE OF CHEMICALS OR ADDITIVES TO PREVENT FREEZING SHOULD NOT BE PERMITTED. REFER TO SPECIFICATIONS AND TO DIRECTIVES BY STRUCTURAL ENGINEER FOR ADDITIONAL COLD WEATHER REQUIREMENTS. ALL CONCRETE SHALL BE PROPERLY VIBRATED IN PLACE USING INTERNAL VIBRATING RODS (MECHANICAL OR ELECTRICAL).

11. ALL SLABS ON GRADE SHALL BE PLACED WITH CONTROL JOINTS OR SAW CUTS AT NO MORE THAN 30 TIMES THE SLAB THICKNESS ON CENTER (MAXIMUM) OR AS SHOWN/NOTED ON DRAWINGS. LENGTH TO WIDTH RATIO OF THE SLAB BETWEEN CONTROL JOINTS EACH WAY SHALL BE NO MORE THAN 1.25. COMPLETE CONTROL JOINTS WITHIN 12 HOURS OF CONCRETE PLACEMENT. TOOLED CONTROL JOINTS ARE TO BE AT MINIMUM 1/4 OF THE SLAB THICKNESS AND NO MORE THAN 1/3 OF THE SLAB THICKNESS. FOR SAW CUT CONTROL JOINTS, SEE THE SLAB JOINT TYPICAL DETAILS.

12. SLAB ON GRADE CONSTRUCTION JOINTS SHALL NOT EXCEED 125' - 0" O.C. IN ANY DIRECTION. CONSTRUCTION JOINTS MAY BE EITHER A DOWEL TYPE CONSTRUCTION JOINT OR A KEYWAY TYPE CONSTRUCTION JOINT. SEE THE SLAB JOINT TYPICAL DETAILS FOR MORE INFORMATION.

13. CONCRETE TESTS WILL BE MADE ON MAJOR POURS AND AT SUCH OTHER TIMES AS MAY BE REQUIRED BY THE ENGINEER. EACH TEST SHALL CONSIST OF (3) CYLINDERS OF WHICH ONE SHALL BE TESTED AT SEVEN DAYS, ONE TESTED AT TWENTY-EIGHT DAYS AND ONE RETAINED IN RESERVE FOR LATER TESTS, IF REQUIRED. IN GENERAL, ONE TEST SHALL BE MADE FOR EACH 150 CUBIC YARDS OF CONCRETE OR EVERY 5000 SQUARE FEET OF SURFACE AREA FOR SLABS OR WALLS ON EACH DAY'S POUR. SPECIMENS SHALL BE MADE AND TESTED IN ACCORDANCE WITH ASTM C31 & C39 STANDARDS. SLUMP AND AIR ENTRAINMENT TESTS SHALL ALSO BE MADE WITH EACH SET OF CYLINDERS TAKEN.

14. BEFORE CONCRETE IS POURED, CHECK WITH ALL TRADES TO INSURE PROPER PLACEMENT OF ALL OPENINGS, SLEEVES, CURBS, CONDUITS, BOLTS, INSERTS, ETC., RELATED TO THE WORK.

15. THE CONTRACTOR IS RESPONSIBLE FOR THE PLACEMENT, REMOVAL, AND DESIGN OF ALL FORMWORK AND SHORING.

16. FOR LAP SPLICE LENGTH, SEE CONCRETE REINFORCING LAP SPLICE LENGTH SCHEDULE.

17. SEE CIVIL DRAWINGS FOR SITE CONCRETE REQUIREMENTS.

FOUNDATIONS

1. GEOTECHNICAL CONSULTANT: ***AGEC***

2. REPORT NUMBER: ***1210572***

3. REPORT DATE: ***October 19, 2021***

4. SPREAD FOOTINGS SHALL BEAR ON UNDISTURBED, UNIFORM, NATIVE GRAVEL SOILS OR ENTIRELY ON PROPERLY PLACED AND COMPACTED GRANULAR STRUCTURAL FILL, AS DETERMINED BY THE GEOTECHNICAL ENGINEER OF RECORD. DESIGN SOIL BEARING VALUE IS ***1500*** PSF. BOTTOM OF FOOTINGS SHALL BE A MINIMUM OF **30**-INCHES BELOW LOWEST ADJACENT FINAL GRADE. SEE FOUNDATION PLAN FOR TOP OF FOOTING ELEVATIONS.

5. **A 1.5** ALLOWABLE SOIL BEARING PRESSURE INCREASE IS ALLOWED FOR WIND & SEISMIC LOADING.

6. ALL WATER SHALL BE REMOVED FROM FOUNDATION EXCAVATION PRIOR TO PLACING OF CONCRETE. DO NOT PLACE CONCRETE UNDER WATER OR ON FROZEN GROUND.

7. ANY FILL TO BE PLACED UNDER THE BUILDING AND FOOTINGS SHALL BE A WELL GRADED GRANULAR MATERIAL AS PER GEOTECHNICAL REPORT. WIDTH OF COMPACTED STRUCTURAL FILL SHALL EXTEND A MINIMUM DISTANCE EQUAL TO THE DEPTH OF FILL BEYOND THE EDGES OF THE FOOTINGS.

8. ALL FILL AND BACK FILL SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM RELATIVE DENSITY FOR BUILDING CONSTRUCTION AND 90% FOR GENERAL SITE WORK.

9. ANY UNUSUAL SOIL CONDITIONS (WATER, SOFT LAYERS, ROCK OUTCROPPINGS, ETC. ENCOUNTERED DURING EXCAVATION FOR FOOTINGS SHOULD BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE STRUCTURAL AND SOIL ENGINEERS PRIOR TO PROCEEDING.

MASONRY

1. MASONRY WORK SHALL CONFORM TO ALL REQUIREMENTS OF TMS 402-16 "BUILDING CODE FOR MASONRY STRUCTURES."

2. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90-14 "STANDARD SPECIFICATION FOR LOAD-BEARING CONCRETE MASONRY UNITS", AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'm) OF 2,000 PSI AND AN AVERAGE DENSITY BETWEEN 105 PCF AND 125 PCF (MEDIUM WEIGHT).

3. MORTAR SHALL CONFORM TO ASTM C270-14a, "STANDARD SPECIFICATION FOR MORTAR FOR UNIT MASONRY". USE TYPE S MORTAR WITH A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI. DO NOT USE ADMIXTURES CONTAINING MORE THAN 0.2 PERCENT CHLORIDE IONS.

4. GROUT SHALL CONFORM TO ASTM C476-18, "STANDARD SPECIFICATION FOR GROUT FOR MASONRY", AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF f'm PLUS 500 PSI (2,500 PSI MINIMUM). DETERMINE COMPRESSIVE STRENGTH OF GROUT IN ACCORDANCE WITH ASTM C1019. DO NOT USE ADMIXTURES UNLESS APPROVED BY ENGINEER OF RECORD. FIELD ADDITION OF ADMIXTURES IS NOT PERMITTED IN SELF-CONSOLIDATING GROUT. GROUT SHALL CONSIST OF PART PORTLAND CEMENT, 3 PARTS SAND AND NOT MORE THAN 2 PARTS PEA GRAVEL. MIX GROUT (OTHER THAN SELF-CONSOLIDATING GROUT) TO A CONSISTENCY THAT HAS A SLUMP BETWEEN 8 AND 11 INCHES. MASONRY VIBRATORS SHALL BE USED IN ALL GROUTED CELLS, AND ALL CELLS SHALL BE VIBRATED TWICE.

5. MASONRY COMPRESSIVE STRENGTH VERIFICATION:
   A. MASONRY COMPRESSIVE STRENGTH, f'm SHALL BE VERIFIED USING THE "UNIT STRENGTH METHOD" PER SECTION 1.4 B.2.b OF TMS 602-16 AND AS DESCRIBED BELOW.
   B. PRIOR TO CONSTRUCTION, THE MASONRY UNITS SHALL BE TESTED FOR STRENGTH AND A LETTER OF CERTIFICATION FOR THE GROUT STRENGTH SHALL BE PROVIDED BY THE SUPPLIERS OF THE MASONRY UNITS.
   C. THE CONTRACTOR HAS THE OPTION OF USING THE "MASONRY PRISM TEST METHOD" PER SECTION 1.4 B.3 IN LIEU OF THE "UNIT STRENGTH METHOD."

6. MASONRY REINFORCING:
   A. LAP ALL REINFORCING AS SHOWN ON MASONRY REINFORCING LAP SPLICE LENGTH SCHEDULE.
   B. UNLESS NOTED OTHERWISE, TYPICAL REINFORCING SHALL BE #5 BARS @ 32"O.C. VERTICALLY, #5 BARS @ 48" O.C. HORIZONTALLY.
   C. ALL VERTICAL REINFORCING SHALL BE DOWELED INTO FOUNDATION WALL OR FOOTING BELOW. HORIZONTAL REINFORCING SHALL BE CONTINUOUS AT ALL INTERSECTING WALLS AND AT CORNERS.
   D. UNLESS OTHERWISE NOTED, ADDITIONAL VERTICAL BARS TO MATCH WALL REINFORCING SHALL BE PLACED AT JAMBS OF ALL OPENINGS, ENDS AND INTERSECTIONS OF WALLS.
   E. HORIZONTAL BARS SHALL BE PLACED IN BOND BEAMS FILLED WITH GROUT AT THE TOP OF ALL WALLS, AT EACH FLOOR LEVEL, AND AT 48" O.C. MAXIMUM BETWEEN TOP OF WALL AND FOUNDATION. BOND BEAM UNITS SHALL CONTINUE UNINTERRUPTED AROUND ALL CORNERS AND WALL INTERSECTIONS.
   F. WHERE BOND BEAM REINFORCEMENT IS INTERRUPTED BY ADJACENT STEEL FRAMING, DOWELS MATCHING BOND BEAM REINFORCEMENT SHALL BE WELDED TO THE STEEL FRAMING FOR CONTINUITY.
   G. ALL REINFORCING SHALL BE IN PLACE PRIOR TO GROUTING. VERTICAL REINFORCING BARS SHALL BE HELD IN POSITION AT THE TOP, BOTTOM AND AT INTERVALS NOT FARTHER APART THAN 200 BAR DIAMETERS.

7. NO MASONRY SHALL BE LAID WHEN THE TEMPERATURE OF THE OUTSIDE AIR IS BELOW 40 DEGREE F., UNLESS APPROVED METHODS ARE USED DURING CONSTRUCTION TO PREVENT DAMAGE TO THE MASONRY. SUCH METHODS SHALL INCLUDE PROTECTION OF THE MASONRY FOR A PERIOD OF AT LEAST 48 HOURS. SEE SECTION 1.8 C OF THE TMS 602 - 16 FOR OTHER CONSTRUCTION AND PROTECTION REQUIREMENTS.

8. UNLESS APPROVED OTHERWISE BY THE ENGINEER, LOW LIFT GROUTED CONSTRUCTION PRACTICE SHALL BE USED. UNITS MAY BE LAID TO A HEIGHT NOT EXCEEDING 8 FEET; HOWEVER, IF THE HEIGHT EXCEEDS 4 FEET, CLEANOUTS MUST BE USED/ SUCH CLEANOUTS SHALL BE PROVIDED BY SUITABLE OPENING IN THE FACE SHELLS IN THE BOTTOM COURSE OF EACH REINFORCED CELL.

9. ALL ANCHOR BOLTS AND REINFORCING STEEL MUST BE PLACED IN GROUTED CELLS.

10. STOP GROUT POUR 2" BELOW TOP OF BLOCK UNITS BETWEEN EACH GROUT LIFT.

11. UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS, ONLY CELLS WITH REINFORCING SHALL BE GROUTED SOLID. ADDITIONALLY, ALL STEEL JOIST AND BEAM POCKETS SHALL BE GROUTED SOLID AND ALL MASONRY BELOW GRADE SHALL BE GROUTED SOLID. CELLS SHALL BE ALIGNED TO PRESERVE UNOBSTRUCTED VERTICAL CAVITIES OF 2" X 3" MINIMUM.

12. UNLESS NOTED OTHERWISE, MASONRY WALLS SHALL BE CONSTRUCTED UTILIZING COMMON RUNNING-BOND WITH FULLY MORTARED BED JOINTS.

13. UNLESS OTHERWISE NOTED ON THE PLANS, PLACE CONTROL JOINTS IN MASONRY WALLS SUCH THAT NO STRAIGHT RUN OF WALL EXCEEDS THE LESSER OF THE LENGTH TO HEIGHT RATIO OF 1.5 TO 1 OR 40'-0".

14. ALL UNITS SHALL BE LAID IN RUNNING BOND UNLESS NOTED OTHERWISE. VERTICAL ALIGNMENT OF CELLS SHALL MAINTAIN A CONTINUOUS CLEAR, UNOBSTRUCTED CELL NOT LESS THAN 3 INCHES SQUARE. MINIMUM DEPTH OF HORIZONTAL BOND BEAM CHANNEL BELOW TOP OF UNIT SHALL BE 1-1/2 INCHES, AND CHANNEL SHALL BE 3 INCHES WIDE MINIMUM. ALL UNITS SHALL BE FREE OF DUST AND DIRT AT THE TIME OF LAYING.

CODE OFFICIAL STAMP

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
REVIEWED FOR CODE COMPLIANCE
SIGNATURE:
DATE: 01/25/2022

ENSIGN
THE STANDARD IN ENGINEERING

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FOR:
DFCM PROJECT
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SALT LAKE CITY, UTAH 84129

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND

WHITE ROCKS CAMPGROUND
SYRACUSE, UTAH 84075

PROJECT # 22238510
CONTRACT # 2270048

PROFESSIONAL STRUCTURAL ENGINEER
No. 9062337
CODY J. SANTOS
STATE OF UTAH
1/12/2022

CONFORMANCE SET
01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WWTF DESIGN & DFCM COMMENTS	A. BURTON
2	01/12/2022	DFCM COMMENTS	A. BURTON

GENERAL STRUCTURAL NOTES

PROJECT NUMBER 10970	DATE 01/12/22
DRAWN BY C. GINN	CHECKED BY C. SANTOS
APPROVED BY C. SANTOS	DESIGNED BY A. BURTON

RS-000-01

WOOD

1. ALL STRUCTURAL LUMBER, UNLESS NOTED OTHERWISE, SHALL BE DOUGLAS FIR-LARCH NO. 2 OR BETTER.

2. ALL NAILING OF FRAMING LUMBER AND PLYWOOD SHALL BE AS PER THE 2018 IBC TABLE 2304.10.1, UNLESS NOTED OTHERWISE.

3. PROVIDE BRIDGING ON ALL SOLID SAWN RECTANGULAR LUMBER MEMBERS PER THE 2018 IBC SECTION 2308.4.6.

4. ALL PLYWOOD ROOF AND FLOOR DIAPHRAGMS AND SHEAR WALLS SHALL BE APA RATED STRUCTURAL SHEATHINGS WITH A SPAN INDEX RATING AND THICKNESS AS NOTED ON THE DRAWINGS.

5. FRAMING CONNECTORS: ALL NOTATIONS REFER TO SIMPSON STRONG-TIE CONNECTORS. EQUIVALENT USP CONNECTORS ARE ACCEPTABLE. USE OF OTHER MANUFACTURERS CONNECTORS IS SUBJECT TO REVIEW AND APPROVAL BY THE ENGINEER.

6. ALL BOLTS FOR CONNECTIONS SHALL HAVE WASHERS PLACED UNDER NUTS AND HEADS. BOLT HOLES TO BE DRILLED 1/16 " LARGER THAN BOLT DIAMETER.

7. ALL FASTENERS, INCLUDING NUTS AND WASHERS INSTALLED IN PRESERVATIVE TREATED WOOD OR FIRE TREATED WOOD SHALL BE HOT-DIPPED ZINC COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE, OR COPPER. THESE FASTENERS SHALL MEET THE REQUIREMENTS OF 2018 IBC SECTION 2304.10.5.
   EXCEPTION: PLAIN CARBON STEEL FASTENERS, INCLUDING NUTS AND WASHERS IN SBX / DOT AND ZINC BORATE PRESERVATIVE TREATED WOOD IN AN INTERIOR, DRY ENVIRONMENT SHALL BE PERMITTED PER 2018 IBC SECTION 2304.10.5.1.

WOOD STRUCTURAL PANEL SHEATHING

1. ALL WOOD STRUCTURAL PANELS SHALL BE IDENTIFIED WITH THE APPROPRIATE TRADEMARK OF APA AND SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF VOLUNTARY PRODUCT STANDARD PS 1, VOLUNTARY PRODUCT STANDARD PS 2, OR APA PRP-108 PERFORMANCE STANDARDS. PANEL THICKNESS, GRADE AND GROUP NUMBER OR SPAN RATING SHALL BE AT LEAST EQUAL TO THAT SHOWN ON THE DRAWINGS. APPLICATIONS SHALL BE IN ACCORDANCE WITH RECOMMENDATIONS OF APA.

PRE-ENGINEERED OPEN-WEB WOOD TRUSSES

1. THIS WORK INCLUDES THE COMPLETE FURNISHINGS AND INSTALLATION OF PRE-ENGINEERED OPEN WEB WOOD TRUSSES.

2. PRODUCTS SHALL BE CUSTOM DESIGNED TO FIT THE DIMENSIONS AND LOADS INDICATED ON THE PLANS. A COMPLETE SET OF DESIGN CALCULATIONS SHALL BE PREPARED UNDER THE SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER.

3. SHOP DRAWINGS SHALL BE SUBMITTED SHOWING LAYOUT AND DETAILS NECESSARY FOR PROPER PRODUCT PLACEMENT IN THE BUILDING. DO NOT PROCEED WITH FABRICATION AND/OR CUTTING UNTIL SHOP DRAWINGS AND DESIGN CALCULATIONS HAVE BEEN REVIEWED BY THE ENGINEER OF RECORD.

4. MATERIALS
   A. TOP AND BOTTOM CHORDS SHALL BE CONTINUOUS LENGTH FINGER-JOINTED MACHINE STRESS RATED LUMBER (MSR) PROOF LOADED PER ANSI A190.1. THE WEBS SHALL BE MANUFACTURED FROM VISUALLY GRADED OR MSR LUMBER. MOISTURE CONTENT FOR ALL LUMBER AT TIME OF MANUFACTURE SHALL NOT EXCEED 15%. ALL MULTIPLE LUMBER PLIES SHALL BE FACE-BONDED (GLUED) IN ACCORDANCE WITH ANSI A190.1.

5. FABRICATION
   A. THE TRUSSES SHALL BE MANUFACTURED WITH QUALITY AUDITS PERFORMED BY A THIRD-PARTY INSPECTION AGENCY.

6. IDENTIFICATION
   A. EACH OF THE TRUSSES SHALL BE IDENTIFIED BY A STAMP INDICATING MANUFACTURER'S NAME, PLANT LOCATION, AND THE INDEPENDENT INSPECTION AGENCY'S LOGO AND EVALUATION REPORT NUMBER.

7. ERECTION AND INSTALLATION
   A. OPEN WEB TRUSSES, IF STORED PRIOR TO ERECTION SHALL BE STORED IN A VERTICAL POSITION AND PROTECTED FROM THE WEATHER. THEY SHALL BE HANDLED WITH CARE SO THEY ARE NOT DAMAGED. THEY ARE TO BE ERECTED AND INSTALLED IN ACCORDANCE WITH THE PLANS AND ANY MANUFACTURER'S DRAWINGS AND INSTALLATION SUGGESTIONS THAT MAY BE PROVIDED. TEMPORARY CONSTRUCTION LOADS THAT CAUSE STRESSES BEYOND DESIGN LIMITS ARE NOT PERMITTED. ERECTION BRACING IS TO BE PROVIDED TO KEEP TRUSSES STRAIGHT PLUMB AS REQUIRED AND TO ASSURE ADEQUATE LATERAL SUPPORT FOR THE INDIVIDUAL TRUSSES AND THE ENTIRE SYSTEM UNTIL THE SHEATHING MATERIAL HAS BEEN APPLIED. APPARENT DAMAGE TO TRUSSES, IF ANY, SHALL BE REVIEWED/APPROVED BY THE MANUFACTURER PRIOR TO INSTALLATION. CUTTING OR ALTERING THE TRUSSES IN NOT PERMITTED.
   B. COMPRESSION WEB MEMBERS SHALL BE BRACED AS REQUIRED BY THE TRUSS MANUFACTURER ACCORDING TO THE TRUSS MANUFACTURERS DETAILS.

8. WARRANTY
   A. THE PRODUCT DELIVERED SHALL BE FREE FROM MANUFACTURING ERRORS OR DEFECTS IN WORKMANSHIP AND MATERIAL.

ADHESIVE ANCHORING SYSTEMS

1. ACCEPTABLE MANUFACTURER'S (UNLESS NOTED OTHERWISE ON PLANS, ALL ADHESIVE SHALL BE APPROVED AND RATED FOR CRACKED CONCRETE):
   A. SIMPSON STRONG-TIE:
      a. SET-XP, SEE ESR-2508 REPORT FOR CONCRETE SPECIFICATIONS OR IAPMO 265 REPORT FOR MASONRY SPECIFICATIONS.
      b. SET-3G, SEE ESR-4057 REPORT FOR CONCRETE SPECIFICATIONS
      c. AT-XP, SEE IAPMO 263 REPORT FOR CONCRETE SPECIFICATIONS OR IAPMO 281 REPORT FOR MASONRY SPECIFICATIONS

   B. HILTI:
      a. HIT-RE 500-V3, SEE ESR-3814 REPORT FOR CONCRETE SPECIFICATIONS
      b. HIT-HY 200, SEE ESR-3187 REPORT FOR CONCRETE SPECIFICATIONS

   C. DEWALT:
      a. PURE 110+, SEE ESR 3298 REPORT FOR CONCRETE SPECIFICATIONS.
      b. AC 200+, SEE ESR 4027 FOR CONCRETE SPECIFICATIONS.
      c. AC 100+ GOLD, SEE ESR 2582 REPORT FOR CONCRETE SPECIFICATIONS OR ESR 3200 FOR MASONRY SPECIFICATIONS.

2. ANCHOR INSTALLATION:
   A. INSTALL ANCHORS PER MANUFACTURER'S REQUIREMENTS. THESE REQUIREMENTS INCLUDE, BUT ARE NOT LIMITED TO, HOLE PREPARATION, HOLE SIZE, EPOXY PROPORTIONS AND QUANTITIES, INSTALLATION TEMPERATURE, AND CURE TIMES.

3. INSTALLATION OF ADHESIVE ANCHORS THAT ARE TO BE UNDER SUSTAINED TENSION LOADING HORIZONTAL TO VERTICALLY OVERHEAD INSTALLATION SHALL BE DONE BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI AND IN ACCORDANCE WITH ACI 318-2014 (SECTION 17.8.2.2). PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.

4. PER ACI 318-2014 (SECTION 17.1.2) ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS AT TIME OF ANCHOR INSTALLATION. FOR INSTALLATIONS SOONER THAN 21 DAYS CONSULT ADHESIVE MANUFACTURER.

5. IF TEMPERATURE OF BASE MATERIAL AT TIME OF ADHESIVE INSTALLATION IS AT 45 DEGREES (FAHRENHEIT) OR LESS, AN ACRYLIC ADHESIVE (DEWALT AC200+, HILTI HIT-HY200, SIMPSON AT-XP) IS REQUIRED.

SPECIAL INSPECTION

SPECIAL INSPECTIONS:

1. SPECIAL INSPECTIONS ARE REQUIRED AS DESCRIBED IN CHAPTER 17 OF THE 2018 IBC. THE OWNER OR OWNER'S AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION ON THE TYPES OF WORK SPECIFIED IN SECTION 1705 AND IDENTIFY THE APPROVED AGENCIES TO THE BUILDING OFFICIAL. THESE SPECIAL INSPECTIONS AND TESTS ARE IN ADDITION TO THE INSPECTIONS BY THE BUILDING OFFICIAL THAT ARE IDENTIFIED IN SECTION 110.

2. THE SPECIAL INSPECTION REQUIREMENTS OF THIS SECTION OF THE GENERAL STRUCTURAL NOTES SERVE AS THE ENGINEER OF RECORD'S STATEMENT OF SPECIAL INSPECTIONS REQUIRED BY CHAPTER 17 OF THE 2018 IBC.

SPECIAL INSPECTOR QUALIFICATIONS & RESPONSIBILITIES:

1. PRIOR TO THE START OF CONSTRUCTION, THE APPROVED AGENCIES SHALL PROVIDE WRITTEN DOCUMENTATION TO THE BUILDING OFFICIAL DEMONSTRATING THE COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING OF THE SPECIAL INSPECTORS WHO WILL PERFORM THE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION.

2. APPROVED AGENCIES SHALL KEEP RECORDS OF ALL SPECIAL INSPECTIONS AND TESTS. THE APPROVED AGENCY SHALL SUBMIT REPORTS OF SPECIAL INSPECTIONS AND TEST TO THE BUILDING OFFICIAL AND TO THE ARCHITECT / ENGINEER OF RECORD.
   A. REPORTS SHALL INDICATE THAT WORK INSPECTED OR TESTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS.
   B. ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
   C. ANY DISCREPANCIES THAT ARE NOT CORRECTED SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE ARCHITECT/ENGINEER OF RECORD PRIOR TO COMPLETION OF THAT PHASE OF WORK.
   D. THE INSPECTOR SHALL KEEP A MARKED-UP SET OF DRAWINGS SHOWING THE EXTENT AND TIME OF ALL INSPECTIONS AND TESTING.
   E. A FINAL SIGNED REPORT DOCUMENTING ALL REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AND ARCHITECT/ENGINEER OF RECORD AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF WORK BY THE OWNER OR OWNER'S AGENT. THE REPORT SHALL INCLUDE THE MARKED-UP SET OF DRAWINGS OUTLINED ABOVE.

CONTRACTOR RESPONSIBILITIES:

1. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND/SEISMIC FORCE RESISTING SYSTEM, DESIGNATED WIND/SEISMIC SYSTEM, OR A WIND/SEISMIC FORCE RESISTING COMPONENT SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THAT SYSTEM OR COMPONENT. THIS STATEMENT SHALL CONTAIN ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL INSPECTION REQUIREMENTS.

2. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH ALL REQUIRED INSPECTIONS, TESTING AND STRUCTURAL OBSERVATIONS. THE CONTRACTOR SHALL NOT PROCEED WITH SUBSEQUENT WORK UNTIL REQUIRED INSPECTIONS, TESTING AND STRUCTURAL OBSERVATIONS HAVE BEEN COMPLETED.

3. ALL WORK REQUIRING SPECIAL INSPECTION SHALL REMAIN ACCESSIBLE AND EXPOSED UNTIL COMPLETION OF THE REQUIRED SPECIAL INSPECTIONS.

4. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AT LEAST (2) DAYS PRIOR TO ANY REQUIRED STRUCTURAL OBSERVATIONS.

SPECIAL INSPECTION OF FABRICATED ITEMS:

1. ALL FABRICATION OF STRUCTURAL, LOAD-BEARING OR LATERAL LOAD-RESISTING MEMBERS OR ASSEMBLIES PERFORMED OFFSITE SHALL BE SPECIAL INSPECTED PER SECTION 1704.2.5.

2. WHERE THE FABRICATOR IS REGISTERED AND APPROVED IN ACCORDANCE WITH SECTION 1704.2.5.1, THEY SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE OWNER OR THE OWNER'S AGENT FOR SUBMITTAL TO THE BUILDING OFFICIAL AT THE COMPLETION OF FABRICATION STATING THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

SUBMITTALS TO THE BUILDING OFFICIAL:

1. IN ADDITION TO THE SUBMITTAL OF REPORTS OF SPECIAL INSPECTIONS AND TESTS IN ACCORDANCE WITH SECTION 1704.2.4, REPORTS AND CERTIFICATES SHALL BE SUBMITTED BY THE OWNER OR OWNER'S AGENT TO THE BUILDING OFFICIAL FOR EACH OF THE FOLLOWING:
   A. CERTIFICATES OF COMPLIANCE FOR APPROVED FABRICATORS.
   B. CERTIFICATES OF COMPLIANCE FOR SEISMIC QUALIFICATIONS OF NON-STRUCTURAL COMPONENTS, SUPPORTS, AND ATTACHMENTS.
   C. CERTIFICATES OF COMPLIANCE FOR DESIGNATED SEISMIC SYSTEMS.
   D. REPORTS OF PRE-CONSTRUCTION TESTS FOR SHOTCRETE.
   E. CERTIFICATES OF COMPLIANCE FOR OPEN-WEB STEEL JOISTS AND JOIST GIRDERS.
   F. REPORTS OF MATERIAL COMPLIANCE FOR WELDABILITY OF REINFORCING BARS IN CONCRETE.
   G. REPORTS OF MILL TESTS FOR REINFORCING BARS USED IN SPECIAL CONCRETE MOMENT FRAMES, SPECIAL STRUCTURAL WALLS OR COUPLING BEAMS.

STRUCTURAL OBSERVATIONS:

1. STRUCTURAL OBSERVATIONS ARE NOT REQUIRED FOR THIS PROJECT. HOWEVER, STRUCTURAL OBSERVATIONS MAY BE PERFORMED BY A REPRESENTATIVE FROM ENSIGN ENGINEERING AS DEEMED NECESSARY.

REQUIRED SPECIAL INSPECTION OR TESTING:

MATERIALS, SYSTEMS AND COMPONENTS REQUIRING SPECIAL INSPECTION OR TESTING PER CHAPTER 17 OF THE 2018 IBC ARE AS LISTED IN THE GENERAL SHEETS.

STEEL REINFORCING

1. TYPICAL REINFORCING BAR STRENGTHS:
   A. REINFORCING (NON-WELDABLE) = ASTM A615, DEFORMED, Fy = 60 KSI (420 MPa)
   B. REINFORCING (WELDABLE) = ASTM A706, DEFORMED, Fy = 60 KSI (420 MPa)

2. TYPICAL CLEAR CONCRETE COVERAGES:
   A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH = 3"
   B. FORMED CONCRETE EXPOSED TO EARTH OR WEATHER = 2" (#6 AND LARGER)
      = 1-1/2" (#5 AND SMALLER)
   C. ALL OTHERS PER LATEST EDITION OF ACI 318.

3. TYPICAL CLEAR MASONRY COVERAGES:
   A. MASONRY FACE EXPOSED TO EARTH OR WEATHER: = 2" (#6 AND LARGER)
      = 1-1/2" (#5 AND SMALLER)
   B. MASONRY NOT EXPOSED TO EARTH OR WEATHER: = 1-1/2"

4. ALL BARS PER CRSI SPECIFICATIONS AND HANDBOOK. LATEST ACI CODE AND DETAILING MANUAL APPLY. SECURELY TIE ALL BARS IN LOCATION BEFORE PLACING CONCRETE OR MASONRY. REINFORCING BAR SPACINGS GIVEN ARE MAXIMUM ON CENTERS.

5. ALL REINFORCING TO BE WELDED SHALL BE WELDED IN ACCORDANCE WITH AWS D1.4. NO TACK WELDING OF REINFORCING BARS IS ALLOWED WITHOUT PRIOR REVIEW OF PROCEDURE BY STRUCTURAL ENGINEER.

CODE OFFICIAL STAMP

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
REVIEWED FOR CODE COMPLIANCE
SIGNATURE:
DATE: 01/25/2022

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FOR:
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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND

WHITE ROCKS CAMPGROUND
SYRACUSE, UTAH 84075

PROJECT # 22238510
CONTRACT # 2270048

PROFESSIONAL STRUCTURAL ENGINEER
No. 9062337
CODY J. SANTOS
STATE OF UTAH
1/12/2022

CONFORMANCE SET
01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WWTF DESIGN & DFCM COMMENTS	A. BURTON
2	01/12/2022	DFCM COMMENTS	A. BURTON

GENERAL STRUCTURAL NOTES

PROJECT NUMBER	DATE
10970	01/12/22
DRAWN BY	CHECKED BY
C. GINN	C. SANTOS
APPROVED BY	DESIGNED BY
C. SANTOS	A. BURTON

RS-000-02

STRUCTURAL ABBREVIATIONS

AB.	ANCHOR BOLT(S)
ABV.	ABOVE
ADD.	ADDITION (AL)
@	AT
ALT.	ALTERNATE
APPROX.	APPROXIMATE
ARCH.	ARCHITECT (URAL)
BM.	BEAM
BLK'G.	BLOCKING
BLW.	BELOW
BPL.	BASE PLATE
BRG.	BEARING
BTWN.	BETWEEN
BLDG.	BUILDING
BOT.	BOTTOM
C.J.	CONSTRUCTION JOINT OR CONTROL JOINT
CJP.	COMPLETE JOINT PENETRATION
CMU	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
CTR.	CENTER
DB.	DECK BEARING
DBA	DEFORMED BAR ANCHORS
DBL.	DOUBLE
DET.	DETAIL
DIA.	DIAMETER
DIM.	DIMENSION
DWG.	DRAWING
DWL.	DOWEL
EA.	EACH
E.J.	EXPANSION JOINT (SEISMIC SEPARATION JOINT)
ELEV.	ELEVATION
ELEC.	ELECTRICAL
EQUIP.	EQUIPMENT
EQ.	EQUAL
EXIST.	EXISTING
EXP.	EXPANSION / EXPOSED
EXT.	EXTERIOR
E.F.	EACH FACE
E.W.	EACH WAY
F.D.	FLOOR DRAIN
FDTN.	FOUNDATION
F.F.	FINISH FLOOR
FIN.	FINISH
FL.	FLOOR
FT.	FOOT
FTG.	FOOTING
FV.	FIELD VERIFY
GA.	GAUGE
GALV.	GALVANIZED
GLB.	GLU-LAMINATED BEAM
GR.	GRADE
GSN	GENERAL STRUCTURAL NOTES
HB.	HORIZONTAL BRIDGING
HT.	HEIGHT
HORIZ.	HORIZONTAL
HSA	HEADED STUD ANCHORS
IBC	INTERNATIONAL BUILDING CODE
ICBO	INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS
IN.	INCH
INSUL.	INSULATION
INT.	INTERIOR
I.F.	INSIDE FACE
JT.	JOINT
JST.	JOIST
KLF	KIPS PER LINEAL FOOT
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
K	KIPS
LF.	LINEAL FOOT
LBS	POUNDS
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
MAS.	MASONRY
MAX.	MAXIMUM
MCJ.	MASONRY CONTROL JOINT
MECH.	MECHANICAL
MFR.	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
OPN'G.	OPENING
OPP.	OPPOSITE
O.C.	ON CENTER
O.F.	OUTSIDE FACE
OWSJ.	OPEN WEB STEEL JOIST
PAF	POWDER ACTUATED FASTENER
PCF	POUNDS PER CUBIC FOOT
PL.	PLATE
PNL	PANEL
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT
REINF.	REINFORCING
RBS	REDUCED BASE STUD
R.D.	ROOF DRAIN
REQ'D.	REQUIRED
SHT.	SHEET
SHT'G.	SHEATHING
SI	SPECIAL INSPECTION
S.O.G.	SLAB ON GRADE
STD.	STANDARD
STIFF.	STIFFENER
STL.	STEEL
SQ.	SQUARE
SIM.	SIMILAR
STRC.	STRUCTURAL
STAG.	STAGGERED
T&B	TOP AND BOTTOM
TEMP.	TEMPORARY
T.O.	TOP OF
T.O.C.	TOP OF CONCRETE
T.O.F.	TOP OF FOOTING
T.O.S.	TOP OF SLAB
T.O.W.	TOP OF WALL
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
w/	WITH
WWF	WELD WIRE FABRIC
WWM	WELD WIRE MESH
WT.	WEIGHT
WP	WOOD POST

SYMBOLS & MARKS LEGEND

- CONTINUOUS CONCRETE FOOTING
- SPOT / MAT CONCRETE FOOTING
- ADDITIONAL CONC. REINFORCING (PLAN VIEW) CENTERED AT CORNERS, LAP SPLICE NOT PERMITTED
- S ——— S FOOTING STEP
- STEP IN TOP OF CONCRETE
- CONCRETE WALL
- CONCRETE COLUMN IN WALL
- FOUNDATION BLOCK OUT
- MASONRY WALL
- MASONRY COLUMN IN WALL
- MASONRY LINTEL
- WOOD WALL
- HSS TUBE STEEL COLUMN
- WIDE FLANGE STEEL COLUMN
- PIPE/HSS STEEL COLUMN
- HAIRPIN
- TIE ROD
- STRAPPING
- T-1 MARK / MARKER DESIGNATING WALL
- WALL REQUIRING HOLDOWN, FLOOR-TO-FLOOR TIE OR ANCHOR TIE DOWN
- (xx) INDICATES NUMBER OF REQUIRED HSA's FOR STEEL BEAM OR STEEL BEAM SECTION. SEE GSN
- C = xx INDICATES PRE-CAMBER AT MID-SPAN OF STEEL BEAM. SEE GSN
- CW-# CONCRETE WALL
- FC# CONTINUOUS FOOTING
- FS# SPOT FOOTING
- RW-# RETAINING WALL
- CC-# CONCRETE COLUMN
- CP-# CONCRETE PEDESTAL
- H-# HOLDOWN
- AT-# ANCHOR TIE DOWN
- AB# ANCHOR BOLT
- SC-# STEEL COLUMN
- CB-# CONCRETE BEAM
- ML-# MASONRY LINTEL
- MW-# MASONRY WALL

- OPENING
- xx CONCRETE SUSPENDED SLAB. SEE KEYED NOTES FOR REQUIREMENTS
- SD-x CONCRETE OVER STEEL DECK. SEE PLAN FOR ORIENTATION & GSN & SCHEDULE FOR REQUIREMENTS
- SD-x STEEL DECK. SEE PLAN FOR ORIENTATION & GSN & SCHEDULE FOR REQUIREMENTS
- Dx SNOW DRIFT. SEE SCHEDULE
- HORIZONTAL BRIDGING
- CROSS BRIDGING
- ROOF OVERBUILD
- BLOCK OUT AT COLUMN
- ## / S### DETAIL # / SHEET # — DETAIL/SECTION REFERENCE
- x KEY NOTE
- LEVEL NAME / XX'-XX" SPOT ELEVATION SYMBOL
- INDICATES SPAN DIRECTION OF CONCRETE ELEMENTS
- EXTENT OF CONDITION SPECIFIED
- CONTINUATION OF CONDITION SPECIFIED
- MOMENT CONNECTION
- COLLECTOR IDENTIFICATION
- BEAM SPLICE
- L-# LEDGER
- RB-# ROOF BEAM
- FB-# FLOOR BEAM
- WP-# WOOD POST
- WS-# WALL STUD
- SW-# SHEAR WALL
- T-# FLOOR-TO-FLOOR TIE
- XW-# FLAT STRAP BRACED WALL
- SFB-# COLD FORMED STEEL FLOOR BEAM
- SFRS INDICATES MEMBER IS PART OF SEISMIC FORCE RESISTING SYSTEM

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SALT LAKE CITY, UTAH 84129

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND
SYRACUSE, UTAH 84075

PROJECT # 22238510
CONTRACT # 2270048

PROFESSIONAL STRUCTURAL ENGINEER
No. 9062337
CODY J. SANTOS
STATE OF UTAH
1/12/2022

CONFORMANCE SET
01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WWTF DESIGN & DFCM COMMENTS	A. BURTON
2	01/12/2022	DFCM COMMENTS	A. BURTON

GENERAL STRUCTURAL NOTES

PROJECT NUMBER 10970	DATE 01/12/22
DRAWN BY C. GINN	CHECKED BY C. SANTOS
APPROVED BY C. SANTOS	DESIGNED BY A. BURTON

RS-000-03

CONCRETE REINFORCING LAP SPLICE LENGTH SCHEDULE

BAR SIZE	BAR DIAMETER (IN.)	f'c = 3,000 PSI				f'c = 3,500 PSI				f'c = 4,000 PSI			
		TYPICAL SPLICE (IN)		TOP BAR SPLICE (IN)		TYPICAL SPLICE (IN)		TOP BAR SPLICE (IN)		TYPICAL SPLICE (IN)		TOP BAR SPLICE (IN)	
		CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B
3	0.375	17	22	22	29	16	21	21	26	15	20	20	25
4	0.500	22	29	29	38	21	27	27	35	19	25	25	33
5	0.625	28	36	36	47	26	34	34	43	24	31	31	40
6	0.750	33	43	43	56	31	40	40	52	29	38	38	48
7	0.875	48	63	63	82	45	59	59	75	42	55	55	70
8	1.000	55	72	72	94	51	66	66	86	48	62	62	81
9	1.128	62	81	81	105	58	75	75	98	54	70	70	91
10	1.270	70	91	91	118	65	85	85	109	61	79	79	103
11	1.410	78	101	101	131	72	94	94	121	67	87	87	113

NOTES:

1. ALL LAP SPLICE LENGTHS ARE CLASS B UNLESS NOTED OTHERWISE ON PLANS.
2. HORIZONTAL BARS ARE CLASSIFIED AS TOP BARS WHERE 12" OR MORE OF FRESH CONCRETE IS CAST BELOW THE LAP SPLICE.
3. FOR ALL EPOXY-COATED BARS, LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY:
   - 1.5 WHEN CLEAR COVER IS LESS THAN 3 BAR DIAMETERS & CLEAR SPACING IS LESS THAN 6 BAR DIAMETERS, OR
   - 1.2 FOR ALL OTHER EPOXY-COATED BARS.
4. FOR ALL LIGHT-WEIGHT CONCRETE, LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.33.

MASONRY REINFORCING LAP SPLICE LENGTH SCHEDULE

BAR SIZE	BAR DIAMETER (IN.)	f'm = 2,000 PSI							
		6" CMU		8" CMU		10" CMU		12" CMU	
		CENTERED REINFORCING	EACH FACE REINFORCING	CENTERED REINFORCING	EACH FACE REINFORCING	CENTERED REINFORCING	EACH FACE REINFORCING	CENTERED REINFORCING	EACH FACE REINFORCING
3	0.375	15	--	15	15	15	15	15	15
4	0.500	20	--	20	21	20	20	20	20
5	0.625	28	--	25	37	25	31	25	31
6	0.750	53	--	38	79	30	57	30	57
7	0.875	--	--	52	--	40	78	35	78
8	1.000	--	--	79	--	61	117	50	117

NOTES:

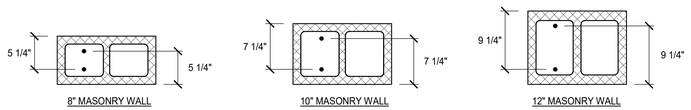
1. FOR ALL EPOXY-COATED BARS, LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.50.
2. ALL LAP SPLICE LENGTHS SHOWN ARE IN UNITS OF INCHES.

MASONRY WALL SCHEDULE - SMART

MARK	THICKNESS	VERTICAL REINFORCING			HORIZONTAL REINFORCING			COMMENTS
		SIZE	SPACING	LOCATION	SIZE	SPACING	LOCATION	
MW-8A	8"	#5	32" O.C.	CENTERED	#5	32" O.C.	CENTERED	--
MW-8B	8"	#5	24" O.C.	CENTERED	#5	32" O.C.	CENTERED	--
MW-8C	8"	#5	16" O.C.	CENTERED	#5	32" O.C.	CENTERED	--
MW-8D	8"	#5	8" O.C.	CENTERED	#5	32" O.C.	CENTERED	--

NOTES:

1. INSTALL (2) #5 BARS AROUND ALL WINDOWS, DOORS, OPENINGS, WALL ENDS, & CORNERS, TYPICAL U.N.O.
2. INSTALL SOLID GROUTED, 8" BOND BEAM (8" TOTAL DEPTH) WITH (2) #5 LONGITUDINAL BARS @ EACH FLOOR & ROOF BEARING ELEVATIONS.
3. DOWELS MATCHING VERTICAL REINFORCING SIZE & SPACING SHALL EXTEND INTO FOOTING & TERMINATE WITH A 90-DEGREE STANDARD HOOK. ENSURE VERTICAL DOWEL HOOKS AROUND BOTTOM MAT OF FOOTING REINFORCING, U.N.O.
4. ANCHOR HORIZONTAL BAR ENDS AROUND VERTICAL BARS WITH A 180-DEGREE HOOK AT ALL WALL ENDS & OPENING EDGES.
5. INSTALL BENT CORNER BARS TO MATCH HORIZONTAL REINFORCING AT ALL CORNERS & WALL INTERSECTIONS. EACH LEG OF BENT CORNER BARS TO LAP HORIZONTAL WALL REINFORCING.
6. SEE MASONRY REINFORCING LAP SPLICE LENGTH SCHEDULE FOR MINIMUM LAP SPLICE LENGTHS.
7. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.
8. SPECIAL INSPECTION IS REQUIRED FOR ALL MASONRY, SEE GENERAL STRUCTURAL NOTES.
9. BAR PLACEMENT IN WALL FOR *EACH FACE* VERTICAL REINFORCING:



8" MASONRY WALL | 10" MASONRY WALL | 12" MASONRY WALL

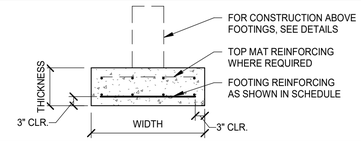
EACH FACE VERTICAL REINFORCING

CONCRETE FOOTING SCHEDULE - SMART

MARK	WIDTH	LENGTH	THICKNESS	LONGITUDINAL REINFORCING			TRANSVERSE REINFORCING			COMMENTS
				QUANTITY	SIZE	SPACING	QUANTITY	SIZE	SPACING	
FC2.0	2' - 0"	CONT.	12"	(2)	#5	EVENLY	--	--	--	--
FC3.0	3' - 0"	CONT.	12"	(3)	#5	EVENLY	--	--	--	--

NOTES:

1. CONTRACTOR TO DETERMINE REQUIRED DEPTH OF FOOTINGS TO MEET FROST PROTECTION. SEE FOUNDATION SECTION OF GSN FOR MINIMUM REQUIREMENTS.
2. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.



CONCRETE WALL SCHEDULE - SMART

MARK	THICKNESS	REINFORCING						COMMENTS
		HORIZONTAL			VERTICAL			
		SIZE	SPACING	LOCATION	SIZE	SPACING	LOCATION	
CW-8A	8"	#5	16" O.C.	CENTER	#5	SEE NOTE 10	CENTER	TYPICAL U.N.O.

NOTES:

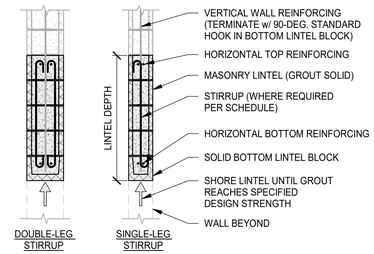
1. EXTEND VERTICAL BARS FROM THE FOOTING TO WITHIN 3" OF TOP OF WALL.
2. DOWELS MATCHING VERTICAL REINFORCING SIZE & SPACING SHALL EXTEND INTO FOOTING & TERMINATE WITH A 90-DEGREE STANDARD HOOK. ENSURE VERTICAL DOWEL HOOKS AROUND BOTTOM MAT OF FOOTING REINFORCING.
3. EXTEND VERTICAL LEG OF DOWEL MIN. LAP SPLICE LENGTH INTO WALL.
4. ALTERNATE DIRECTION OF STANDARD HOOK AT EVERY OTHER BAR.
5. INSTALL (1) REBAR WITHIN 4" OF TOP & BOTTOM OF WALL, U.N.O.
6. INSTALL CORNER REINFORCING SO AS TO LAP HORIZONTAL REINFORCING. SEE "TYPICAL CONCRETE WALL INTERSECTION REINFORCING" STRUCTURAL DETAIL.
7. INSTALL (2) REBAR ABOVE, (1) REBAR @ EACH SIDE, & (1) REBAR BELOW ALL OPENINGS. PLACE STEEL WITHIN 2" OF OPENINGS, VERTICAL BARS AROUND OPENINGS SHALL EXTEND FROM THE FOOTING TO WITHIN 3" OF TOP OF WALL & EXTEND HORIZONTAL BARS MIN. LAP SPLICE LENGTH BEYOND EDGE OF OPENINGS.
8. ALL CONCRETE WALL TYPES MAY NOT BE USED, SEE PLAN FOR REQUIREMENTS.
9. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.
10. VERTICAL BAR SPACING SHALL MATCH MASONRY WALL VERTICAL BAR SPACING AT DOWEL LOCATIONS, BUT SHALL NOT BE GREATER THAN 16" O.C. MAX.

MASONRY LINTEL SCHEDULE - SMART

MARK	LINTEL DEPTH	HORIZONTAL REINFORCING			STIRRUPS			COMMENTS
		QUANTITY	SIZE	LOCATION	SIZE	TYPE	SPACING	
ML-8A	16"	(2)	#5	TOP & BOTTOM	--	--	--	--

NOTES:

1. ALL MASONRY LINTELS SHALL BE CONSTRUCTED USING SINGLE OPEN-ENDED MASONRY UNITS FOR FULL DEPTH OF LINTEL ABOVE SOLID BOTTOM LINTEL BLOCK.
2. ALL MASONRY LINTELS SHALL BE SOLID GROUTED AND GROUTED MONOLITHICALLY WITH ADJACENT SUPPORT WALL OR COLUMN AT EACH END.
3. WALL REINFORCING ABOVE ALL LINTELS SHALL MATCH THAT OF ADJACENT WALL TYPE, TYPICAL U.N.O. TERMINATE VERTICAL WALL REINFORCING WITH 90-DEGREE STANDARD HOOK IN BOTTOM LINTEL BLOCK. LAP SPLICE NOT PERMITTED WITHIN LINTEL.
4. TERMINATE STIRRUPS WITH 180-DEGREE STANDARD HOOK AT TOP & BOTTOM OF LINTEL, ALTERNATE DIRECTION OF SINGLE-LEG STIRRUP.
5. EXTEND ALL HORIZONTAL REINFORCING MINIMUM LAP SPLICE LENGTH BEYOND THE EDGE OF THE OPENING. IF EXTENSION CANNOT BE ACHIEVED, TERMINATE BARS WITH 90-DEGREE STANDARD HOOK AT END OF WALL OR COLUMN.
6. SPLICE TOP HORIZONTAL BARS AT MID-SPAN OF LINTEL ONLY & BOTTOM HORIZONTAL BARS OVER SUPPORTS ONLY. SEE MASONRY REINFORCING LAP SPLICE LENGTH SCHEDULE FOR MINIMUM LAP SPLICE LENGTHS.
7. HORIZONTAL WALL REINFORCING SHALL BE CONTINUOUS THROUGH MASONRY LINTEL. WHERE HORIZONTAL WALL REINFORCING & HORIZONTAL LINTEL REINFORCING OCCUR IN SAME COURSE, USE LARGER REINFORCING.
8. NO PENETRATIONS PERMITTED THROUGH MASONRY LINTEL.
9. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.



DOUBLE-LEG STIRRUP | SINGLE-LEG STIRRUP

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RICHFIELD
Phone: 435.896.2983

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FOR:
DFCM PROJECT
4315 S 2700 W, FI 3
SALT LAKE CITY, UTAH 84129

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND
SYRACUSE, UTAH 84075

PROJECT # 22238510
CONTRACT # 2270048

PROFESSIONAL STRUCTURAL ENGINEER
1/12/2022
No. 9062337
CODY J. SANTOS
STATE OF UTAH

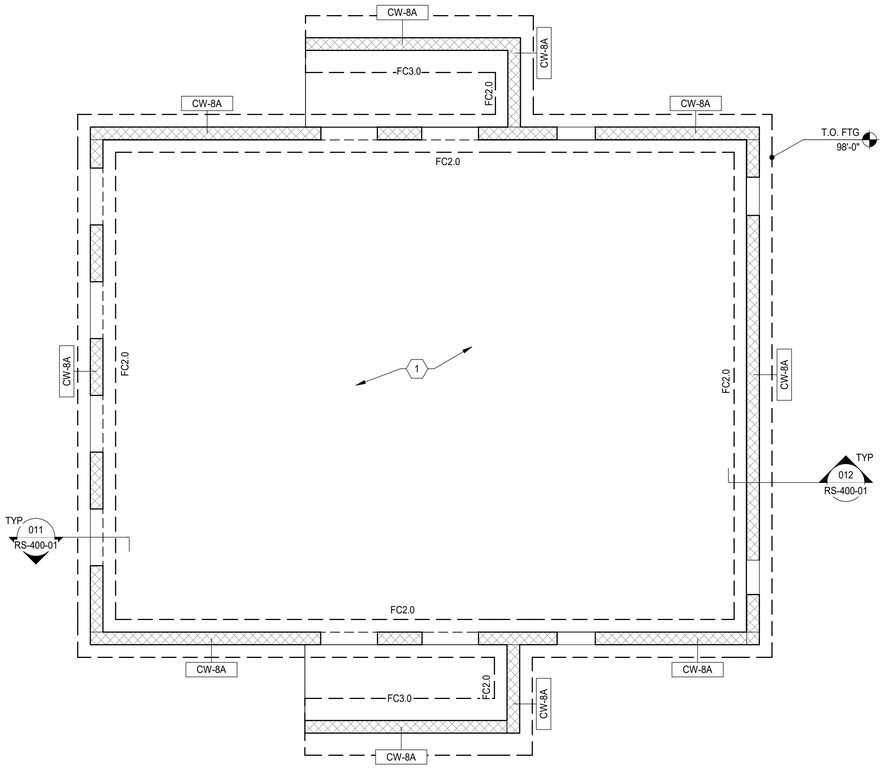
CONFORMANCE SET
01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WWTF DESIGN & DFCM COMMENTS	A. BURTON
2	01/12/2022	DFCM COMMENTS	A. BURTON

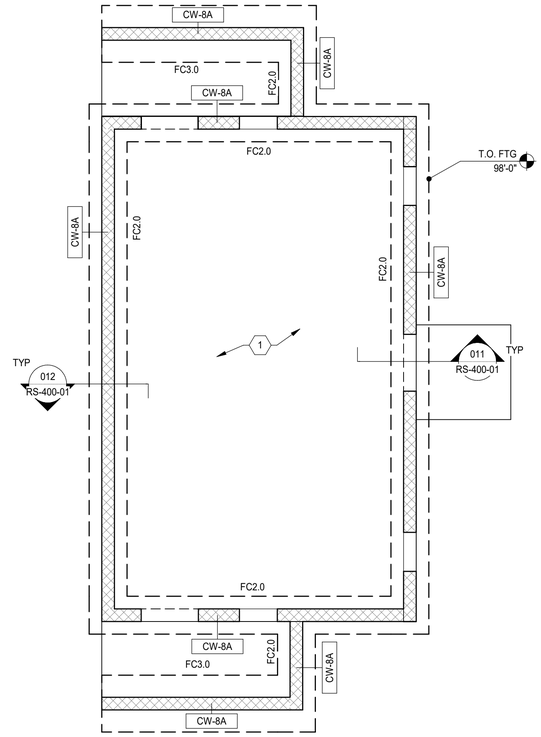
STRUCTURAL SCHEDULES

PROJECT NUMBER	DATE
10970	01/12/22
DRAWN BY	CHECKED BY
C. GINN	C. SANTOS
APPROVED BY	DESIGNED BY
C. SANTOS	A. BURTON

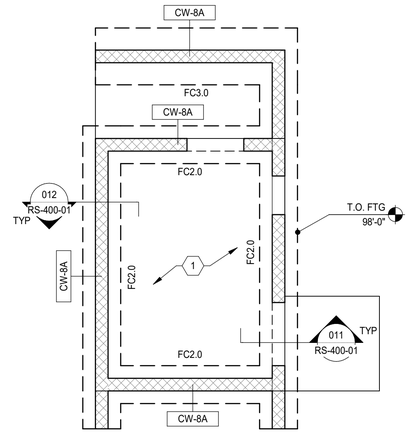
RS-000-04



1 FOOTING & FOUNDATION PLAN LARGE BUILDING
SCALE: 1/4" = 1'-0"



2 FOOTING & FOUNDATION PLAN SMALL BUILDING
SCALE: 1/4" = 1'-0"



3 FOOTING & FOUNDATION PLAN UNISEX BATHROOM
SCALE: 1/4" = 1'-0"

FOUNDATION GENERAL NOTES

1. REFER TO ARCHITECTURAL PLANS FOR ALL DIMENSIONS. CONTRACTOR TO VERIFY ALL DIMENSIONS BEFORE STARTING CONSTRUCTION. DO NOT SCALE DRAWINGS. RESOLVE ANY DISCREPANCY WITH THE ARCHITECT. NOTIFY STRUCTURAL ENGINEER THROUGH THE ARCHITECT OF ANY VARIATIONS FROM DIMENSIONS AND CONDITIONS SHOWN BY THIS DRAWING.
2. COORDINATE STRUCTURAL REQUIREMENTS AT WALLS AND FOOTINGS WITH TYPICAL STRUCTURAL DETAILS.
3. COORDINATE LOCATIONS OF UTILITY TRENCHES (IF APPLICABLE) WITH RESPECTIVE DRAWINGS AND SUB-CONTRACTORS. SLAB REINFORCING SHALL BE CONTINUOUS OVER TRENCH.
4. ALL TOP OF FOOTING ELEVATIONS ARE BASED ON FINISH FLOOR = 100'-0". VERIFY WITH ARCHITECTURAL PLANS.
5. PROVIDE MINIMUM FROST DEPTH PER GENERAL STRUCTURAL NOTES. COORDINATE FOOTING STEPS (IF APPLICABLE) WITH CIVIL AND ARCHITECTURAL PLANS. SEE TYPICAL CONCRETE STEPPED FOOTING DETAIL IN STRUCTURAL DETAILS.
6. CONTRACTOR SHALL COORDINATE FLOOR SLAB DEPRESSIONS AND SLAB SLOPES WITH ARCHITECTURAL PLANS.
7. NOT ALL OPENINGS THROUGH FLOORS AND WALLS ARE SHOWN. COORDINATE PENETRATION REQUIREMENTS (ADDITIONAL FRAMING ELEMENTS OR REINFORCING) AND LOCATIONS WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND TYPICAL STRUCTURAL DETAILS.
8. PROVIDE CONTROL JOINTS IN ALL SLABS PER THE GENERAL STRUCTURAL NOTES AND TYPICAL SLAB JOINT DETAIL.
9. CENTER ALL SPOT FOOTINGS UNDER COLUMNS AS SHOWN ON PLAN, TYPICAL U.N.O. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS TO ALL STEEL COLUMNS.
10. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.

FOUNDATION KEYED NOTES

(1) 4" CONCRETE SLAB OVER 4" LAYER OF FREE-DRAINING STRUCTURAL FILL AS REQUIRED PER THE GEOTECHNICAL REPORT. SLOPE SLAB TO FLOOR DRAINS AS REQUIRED BY THE ARCHITECTURAL PLANS.

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FOR:
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4315 S 2700 W, FI 3
SALT LAKE CITY, UTAH 84129

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND

WHITE ROCKS CAMPGROUND
SYRACUSE, UTAH 84075

PROJECT # 22238510
CONTRACT # 2270048

PROFESSIONAL STRUCTURAL ENGINEER
No. 9062337
CODY J. SANTOS
STATE OF UTAH
1/12/2022

CONFORMANCE SET
01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WWTF DESIGN & DFCM COMMENTS	A. BURTON
2	01/12/2022	DFCM COMMENTS	A. BURTON

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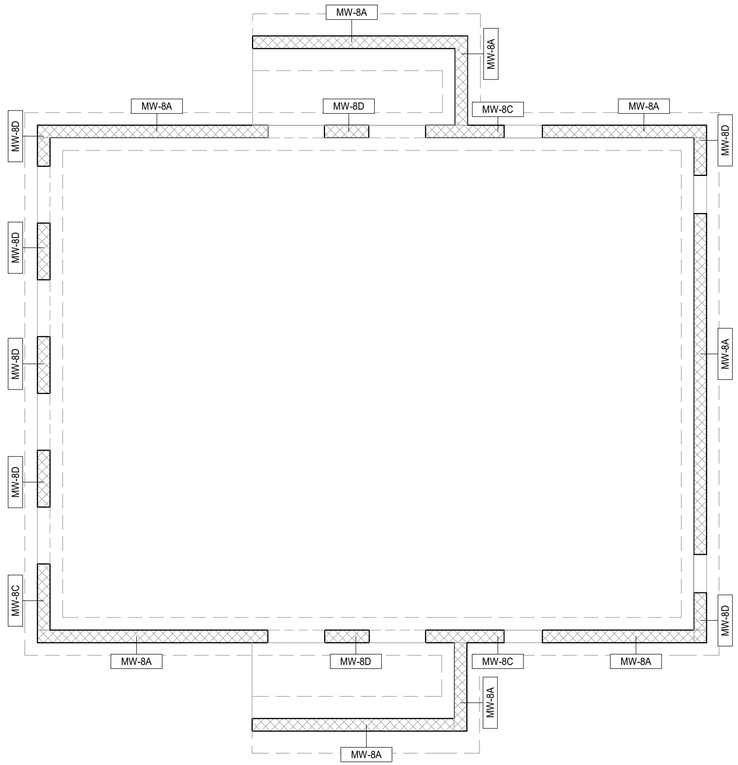
FOOTING & FOUNDATION

PROJECT NUMBER 10970	DATE 01/12/22
DRAWN BY C. GINN	CHECKED BY C. SANTOS
APPROVED BY C. SANTOS	DESIGNED BY A. BURTON

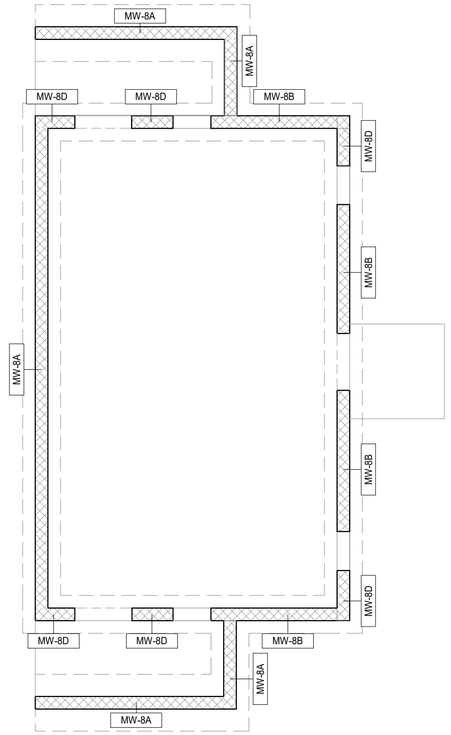
RS-100-01

WALL PLAN GENERAL NOTES

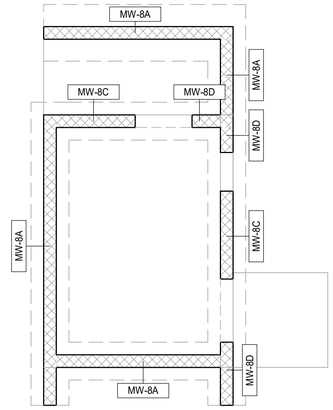
1. REFER TO ARCHITECTURAL PLANS FOR ALL DIMENSIONS. CONTRACTOR TO VERIFY ALL DIMENSIONS BEFORE STARTING CONSTRUCTION. DO NOT SCALE DRAWINGS. RESOLVE ANY DISCREPANCY WITH THE ARCHITECT. NOTIFY STRUCTURAL ENGINEER THROUGH THE ARCHITECT OF ANY VARIATIONS FROM DIMENSIONS AND CONDITIONS SHOWN BY THIS DRAWING.
2. NOT ALL OPENINGS THROUGH FLOORS AND WALLS ARE SHOWN. COORDINATE PENETRATION REQUIREMENTS (ADDITIONAL FRAMING ELEMENTS OR REINFORCING) AND LOCATIONS WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND TYPICAL STRUCTURAL DETAILS.



1 WALL PLAN LARGE BUILDING
SCALE: 1/4" = 1'-0"



2 WALL PLAN SMALL BUILDING
SCALE: 1/4" = 1'-0"



3 WALL PLAN UNISEX BATHROOM
SCALE: 1/4" = 1'-0"

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND

WHITE ROCKS CAMPGROUND
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PROJECT # 22238510
CONTRACT # 2270048

PROFESSIONAL STRUCTURAL ENGINEER
No. 9062337
CODY J. SANTOS
STATE OF UTAH
1/12/2022

CONFORMANCE SET
01/12/2022

NO.	DATE	REVISION	BY
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WALL PLANS

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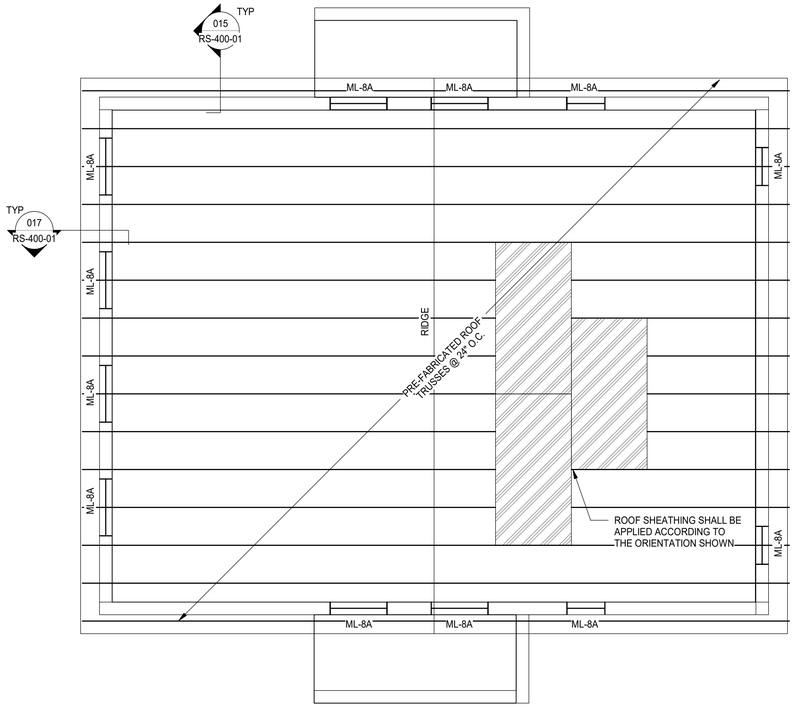
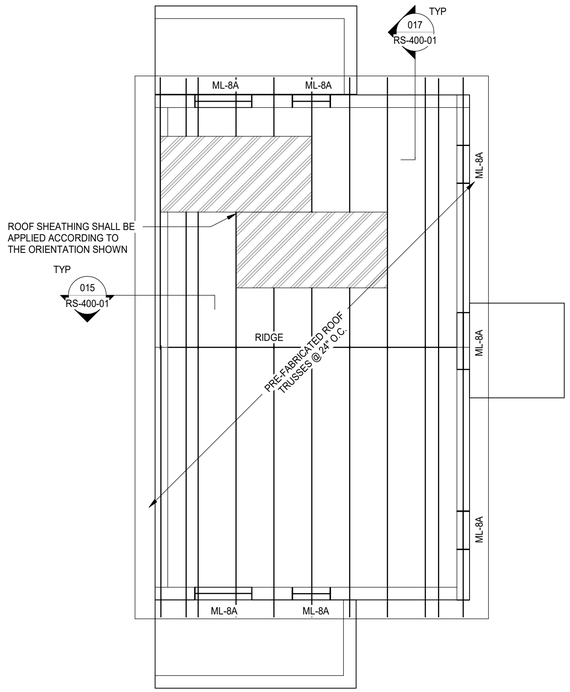
SIGNATURE:
DATE: 01/25/2022

PROJECT NUMBER	DATE
10970	01/12/22
DRAWN BY	CHECKED BY
C. GINN	C. SANTOS
APPROVED BY	DESIGNED BY
C. SANTOS	A. BURTON

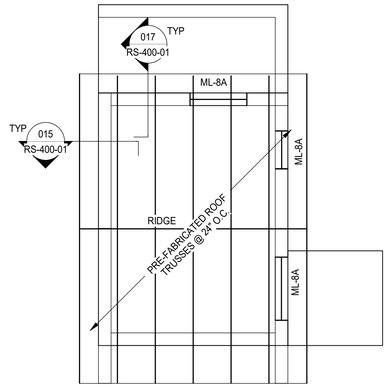
RS-100-02



1 ROOF PLAN LARGE BUILDING
SCALE: 1/4" = 1'-0"



2 ROOF PLAN SMALL BUILDING
SCALE: 1/4" = 1'-0"



ROOF SHEATHING TO BE APPLIED SIMILAR TO SHEATHING SHOWN ON LARGE AND SMALL BUILDING ROOF PLANS

3 ROOF PLAN UNISEX BATHROOM
SCALE: 1/4" = 1'-0"

ROOF FRAMING GENERAL NOTES

1. REFER TO ARCHITECTURAL PLANS FOR ALL DIMENSIONS. CONTRACTOR TO VERIFY ALL DIMENSIONS BEFORE STARTING CONSTRUCTION. DO NOT SCALE DRAWINGS. RESOLVE ANY DISCREPANCY WITH THE ARCHITECT. NOTIFY STRUCTURAL ENGINEER THROUGH THE ARCHITECT OF ANY VARIATIONS FROM DIMENSIONS AND CONDITIONS SHOWN BY THIS DRAWING.
2. NOT ALL OPENINGS THROUGH ROOF AND WALLS ARE SHOWN. COORDINATE OPENING SIZES AND LOCATIONS WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND TYPICAL STRUCTURAL DETAILS.
3. SEE ARCHITECTURAL DRAWINGS FOR ROOF DRAINAGE PLAN AND LOCATIONS.
4. ALL MASONRY LINTELS DESIGNATED ON THIS SHEET OCCUR ABOVE WALL OPENINGS IN LEVEL BELOW, U.N.O.
5. INSTALL SIMPSON H1 CLIPS @ 24" O.C. AT TRUSS BEARING LOCATIONS.
6. ALL SPECIFIED HARDWARE IS SIMPSON STRONG-TIE. INSTALL ALL HARDWARE PER MANUFACTURER'S SPECIFICATIONS. CONTACT ENGINEER FOR ALL HARDWARE SUBSTITUTIONS.
7. INSTALL FULL-DEPTH TRUSS BLOCKING AT ALL TRUSS BEARING LOCATIONS.
8. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.

ROOF SHEATHING GENERAL NOTES

1. INSTALL 5/8" 24/16 APA RATED SHEATHING.
2. NAIL PANELS w/ 0.131"x2-1/2" NAILS @ 6" EDGE / 12" FIELD.
3. INSTALL H CLIPS AT ALL UNSUPPORTED PANEL EDGES.
4. PROVIDE 1/8" GAP BETWEEN PANELS AT INSTALLATION.

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PROFESSIONAL STRUCTURAL ENGINEER
No. 9062337
CODY J. SANTOS
STATE OF UTAH
1/12/2022

CONFORMANCE SET
01/12/2022

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2	01/12/2022	DFCM COMMENTS	A. BURTON

ROOF PLANS

PROJECT NUMBER 10970	DATE 01/12/22
DRAWN BY C. GINN	CHECKED BY C. SANTOS
APPROVED BY C. SANTOS	DESIGNED BY A. BURTON

RS-100-03

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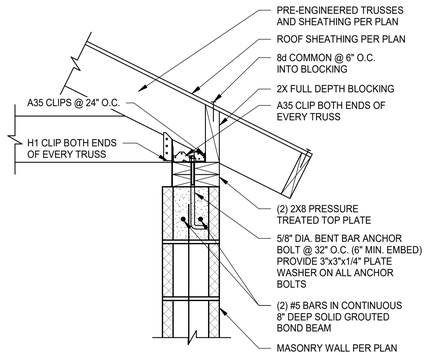
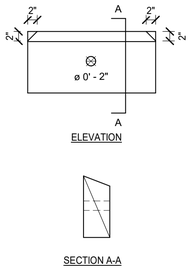


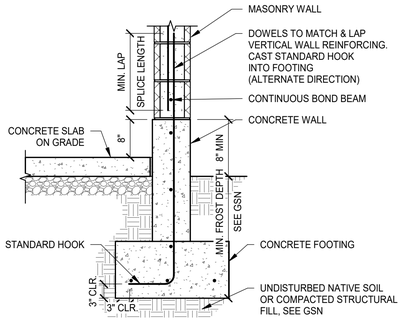


NOTES:

1) CUT CORNERS OR DRILL 2" HOLE FOR ATTIC VENTILATION
2) SLOPE TOP OF BLOCK TO MATCH ROOF SLOPE

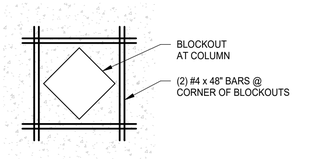
017 TRUSS BEARING DETAIL

SCALE: N.T.S.

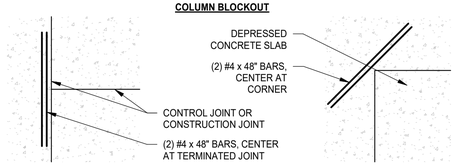


012 FOOTING EXTERIOR

SCALE: N.T.S.



COLUMN BLOCKOUT

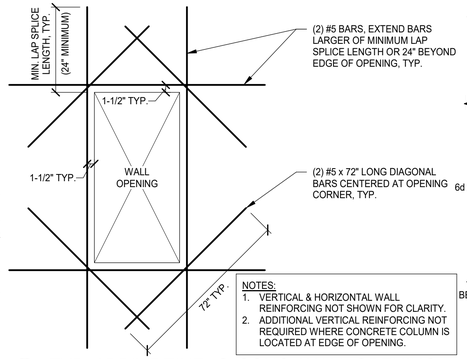


SLAB JOINT INTERSECTION

DEPRESSED SLAB

008 TYPICAL ADD'L REINF. @ OPENINGS IN S.O.G.

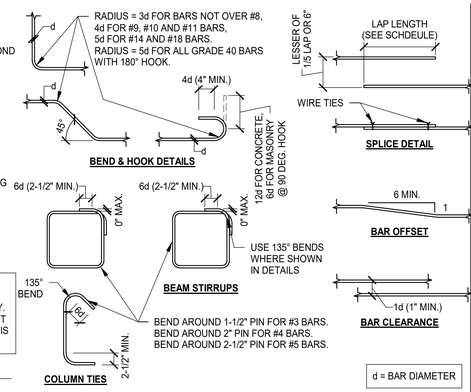
SCALE: N.T.S.



NOTES:
1. VERTICAL & HORIZONTAL WALL REINFORCING NOT SHOWN FOR CLARITY.
2. ADDITIONAL VERTICAL REINFORCING NOT REQUIRED WHERE CONCRETE COLUMN IS LOCATED AT EDGE OF OPENING.

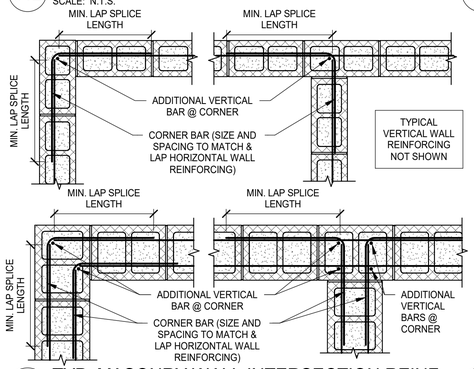
004 TYP. ADD'L REINF. @ CONC. WALL OPENING

SCALE: N.T.S.



001 TYPICAL REINFORCING BAR DETAILS

SCALE: N.T.S.



013 TYP. MASONRY WALL INTERSECTION REINF.

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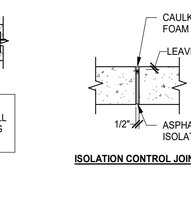
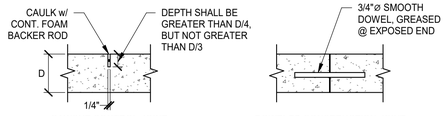


ISOLATION CONTROL JOINT

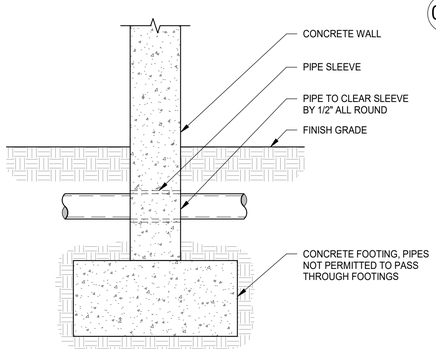


SAWCUT CONTROL JOINT

DOWELED CONSTRUCTION JOINT

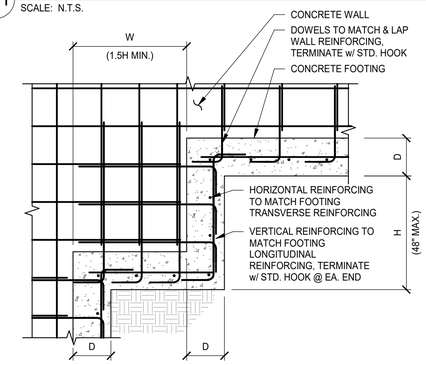
009 TYPICAL SLAB JOINT DETAILS

SCALE: N.T.S.



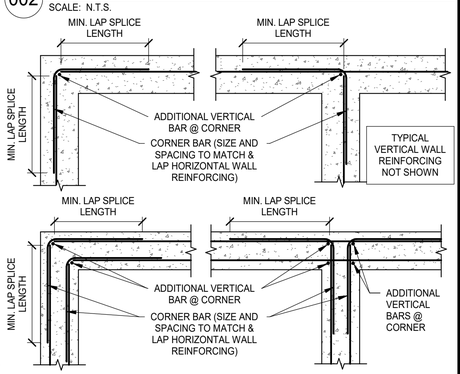
005 TYPICAL PIPE PENETRATION THRU FDTN.

SCALE: N.T.S.



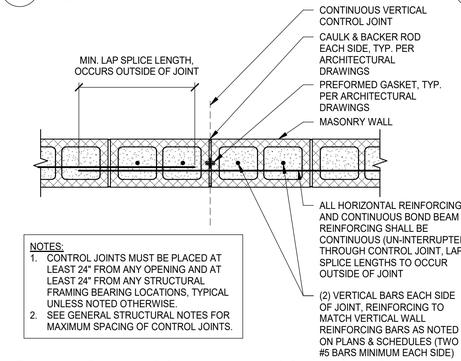
002 TYPICAL CONCRETE STEPPED FOOTING

SCALE: N.T.S.



003 TYPICAL CONC. WALL INTERSECTION REINF.

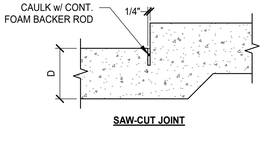
SCALE: N.T.S.

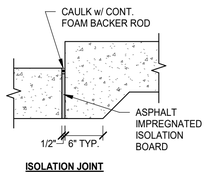


NOTES:
1. CONTROL JOINTS MUST BE PLACED AT LEAST 24" FROM ANY OPENING AND AT LEAST 24" FROM ANY STRUCTURAL FRAMING BEARING LOCATIONS, TYPICAL UNLESS NOTED OTHERWISE.
2. SEE GENERAL STRUCTURAL NOTES FOR MAXIMUM SPACING OF CONTROL JOINTS.

014 TYPICAL MASONRY WALL CONTROL JOINT

SCALE: N.T.S.

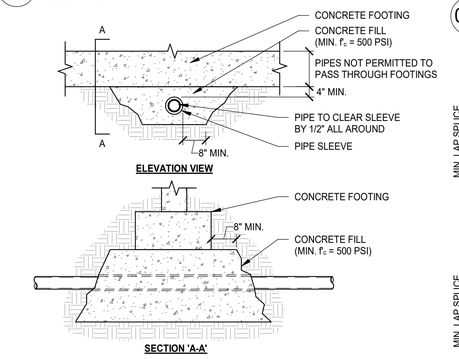




ISOLATION JOINT

010 TYPICAL SLAB DEPRESSION DETAILS

SCALE: N.T.S.

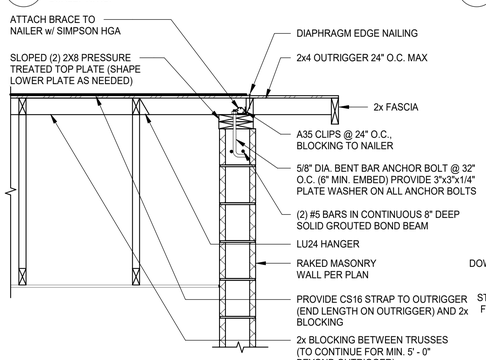


ELEVATION VIEW

SECTION 'A-A'

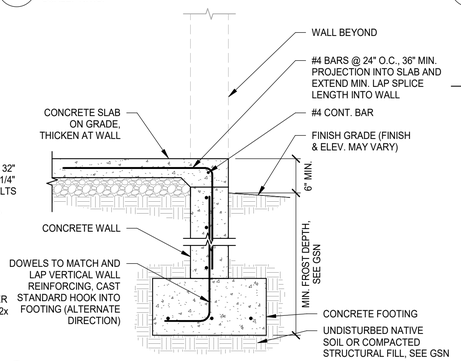
006 TYPICAL PIPE PASSING BELOW FOOTING

SCALE: N.T.S.



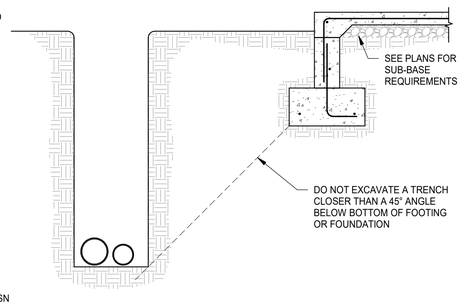
015 RAKE WALL BRACING

SCALE: N.T.S.



011 CONCRETE WALL @ WALL OPENING

SCALE: N.T.S.



007 TYPICAL TRENCH PARALLEL TO FOUNDATION

SCALE: N.T.S.

CODE OFFICIAL STAMP

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ENSIGN
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FOR:
DFCM PROJECT
4315 S 2700 W, FI 3
SALT LAKE CITY, UTAH 84129

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND
SYRACUSE, UTAH 84075

PROJECT # 22238510
CONTRACT # 2270048

PROFESSIONAL STRUCTURAL ENGINEER
No. 9062337
CODY J. SANTOS
STATE OF UTAH
1/12/2022

CONFORMANCE SET
01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WWTF DESIGN & DFCM COMMENTS	A. BURTON
2	01/12/2022	DFCM COMMENTS	A. BURTON

STRUCTURAL DETAILS

PROJECT NUMBER	DATE
10970	01/12/22
DRAWN BY	CHECKED BY
C. GINN	C. SANTOS
APPROVED BY	DESIGNED BY
C. SANTOS	A. BURTON

RS-400-01

MECHANICAL LEGEND

NOTE: ALL ITEMS MAY NOT APPEAR ON DRAWINGS

ITEM	SYMBOL
GATE VALVE	
OS & Y PATTERN GATE VALVE	
BALL VALVE	
BUTTERFLY VALVE	
MOTORIZED VALVE OPERATOR	M
GAS COCK	
PLUG VALVE	
CHECK VALVE (SWING OR LIFT AS REQ'D)	
SOLENOID VALVE	
AUTOMATIC CONTROL VALVE (2-WAY)	
AUTOMATIC CONTROL VALVE (3-WAY)	
PRESSURE REDUCING VALVE	
P & T RELIEF VALVE	
AIR VENT (AUTOMATIC)	
CURB COCK	
THERMAL EXPANSION VALVE	
STRAINER	
CALIBRATED BALANCE VALVE	
VENTURI FLOW METER	
REDUCER	
PET COCK OR GAUGE COCK	
PRESSURE GAUGE W/GAUGE COCK	
THERMOMETER	
TEMPERATURE & PRESSURE TEST PLUG	
IN-LINE PUMP	
FLOW SWITCH	F
AQUASTAT	A
TEMPERATURE SENSING WELL	T
HOSE BIBB OR SILLCOCK	
YARD HYDRANT	H
FLOOR DRAIN	
FLOOR SINK	
MANHOLE	
WALL CLEANOUT	
FLOOR OR GRADE CLEANOUT	
GRADE CLEANOUT W/ CONCRETE PAD	
VENT THROUGH ROOF	
POST TYPE FDC CONNECTION	
WALL TYPE FDC CONNECTION	
FIRE HOSE CABINET	
FIRE DEPT. HORN & LIGHT	
EXPANSION JOINT	
FLEXIBLE PIPE CONNECTION	
REDUCED PRESSURE BACKFLOW PREVENTER	RPBP
DIRECTION OF FLOW	
ELBOW DOWN	
ELBOW UP	
PIPE CAP	
TEE DOWN	
UNION	
DOMESTIC COLD WATER	X" DCW
DOMESTIC HOT WATER	X" DHW
DOMESTIC HOT WATER RECIRC.	X" DHWR
TEMPERED WATER	X" T
SANITARY (PLBG) VENT	X" V
SANITARY WASTE ABOVE GRADE	X" W
SANITARY WASTE BELOW GRADE	X" W
GREASE WASTE ABOVE GRADE	X" GW
GREASE WASTE BELOW GRADE	X" GW
DRAIN	X" D
ROOF DRAIN	X" RD
OVERFLOW DRAIN	X" OD
FIRE SERVICE	X" F
NATURAL GAS	X" G
PROPANE	X" P
COMPRESSED AIR	X" CA
INDUSTRIAL WATER (NON-POTABLE)	X" IW
DEIONIZED WATER	X" DI
DEIONIZED WATER RETURN	X" DIR
REVERSE OSMOSIS	X" RO
HEAT TRACING	
CHILLED WATER SUPPLY	X" CHS
CHILLED WATER RETURN	X" CHR
CONDENSER WATER SUPPLY	X" CS
CONDENSER WATER RETURN	X" CR
GROUND LOOP SUPPLY	X" GLS
GROUND LOOP RETURN	X" GLR
HEATING WATER SUPPLY	X" HWS
HEATING WATER RETURN	X" HWR
RADIANT FLOOR SUPPLY	X" RFS
RADIANT FLOOR RETURN	X" RFR
SNOW MELT SUPPLY	X" SMS
SNOW MELT RETURN	X" SMR
STEAM	X" S
STEAM CONDENSATE RETURN	X" SCR
WATER TREATMENT	X" WT
FUEL OIL SUPPLY	X" FOS
FUEL OIL RETURN	X" FOR
REFRIGERANT LIQUID	X" RL
REFRIGERANT SUCTION	X" RS
HOT GAS	X" HG
HOT GAS BYPASS	X" HGBP
VACUUM	X" VAC
MEDICAL AIR	X" MA
OXYGEN	X" O2
NITROUS OXIDE	X" N2O
NITROGEN	X" N
HYDROGEN	X" H
HELIUM	X" HE
CARBON DIOXIDE	X" CO2
ARGON	X" AR
DUCT SIZE (IN), FIRST FIGURE IS SIDE SHOWN	18/12
BURIED OR UNDERFLOOR DUCT	
FLEXIBLE DUCT (HELICAL)	
SPIN-IN FITTING W/ MVD	
FLEXIBLE DUCT CONNECTION	
SUPPLY SLOT DIFFUSER	
SUPPLY DIFFUSER	
RETURN GRILLE	
RADIAL SUPPLY DIFFUSERS	
RETURN AIR DUCT SECTION	
RETURN AIR DUCT UP	
RETURN AIR DUCT DOWN	
SUPPLY AIR DUCT SECTION	
SUPPLY AIR DUCT UP	
SUPPLY AIR DUCT DOWN	
EXHAUST AIR DUCT SECTION	
EXHAUST AIR DUCT UP	
EXHAUST AIR DUCT DOWN	
ACCESS PANEL	
MANUAL VOLUME DAMPER	
GRAVITY BACKDRAFT DAMPER	G
MOTORIZED DAMPER	M
AIR FLOW STATION	F
FIRE DAMPER	F
SMOKE DAMPER	S
COMBINATION FIRE/SMOKE DAMPER	FS
DUCT TRANSITION	
ELBOW W/ TURNING VANES	
TEE W/ 45° ENTRY	
WYE W/ 45° ENTRY	
THERMOSTAT OR TEMP SENSOR EQUIPMENT TAG	T X-X
HUMIDISTAT OR HUMIDITY SENSOR	H
CARBON MONOXIDE SENSOR	C
CARBON DIOXIDE SENSOR	C_2
NITROGEN DIOXIDE SENSOR	N
POINT OF REMOVAL FROM EXISTING	
POINT OF CONNECTION TO EXISTING	
DETAIL TAG	DETAIL NO. / DRAWING NO.
KEYED NOTE	NOTE NO.
SECTION CUT LINE	SECTION NO. / DRAWING NO.

ABBREVIATIONS

	NOTE: NOT ALL ABBREVIATIONS WILL BE USED ON SHEETS.
AD	ACCESS DOOR
AF	AIRFOIL
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
BI	BACKWARD INCLINE
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BTU/H	BRITISH THERMAL UNITS PER HOUR
CAP	CAPACITY
CBV	CALIBRATED BALANCE VALVE
CFM	CUBIC FEET PER MINUTE
CV	CONSTANT VOLUME
CV	CONTROL VALVE
DB	DRY BULB
DCW	DOMESTIC COLD WATER
DF	DRINKING FOUNTAIN
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RECIRC
DIA	DIAMETER
DN	DOWN
DSN	DOWN SPOUT NOZZLE
DW	DISHWASHER
E	EXISTING
EA	EACH OR EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EFF	EFFICIENCY
ELEV	ELEVATION
ENCL	ENCLOSURE
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EWC	ELECTRIC WATER COOLER
EWT	ENTERING WATER TEMPERATURE
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FO	FLAT OVAL
FPM	FEET PER MINUTE
FS	FLOOR SINK
FT	FEET
FV	FACE VELOCITY
GA	GAUGE
GAL	GALLON
GD	GARAGE DRAIN
GEA	GREASE EXHAUST AIR
GPM	GALLONS PER MINUTE
HP	HORSE POWER
HR	HOUR
HT	HEIGHT
IN	INCH
INWC	INCHES OF WATER COLUMN
INWG	INCHES OF WATER GAUGE
L	LAVATORY OR LOUVER
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM

ABBREVIATIONS

	NOTE: NOT ALL ABBREVIATIONS WILL BE USED ON SHEETS.
MBH	THOUSAND BRITISH THERMAL UNITS
MECH	MECHANICAL
MIN	MINIMUM
MPSA	MEDUIM PRESSURE SUPPLY AIR
MUA	MAKE-UP AIR
MVD	MANUAL VOLUME DAMPER
NC	NOISE CRITERIA OR NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OD	OVERFLOW DRAIN
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
PD	PRESSURE DROP
PG	PROPYLENE GLYCOL
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
RA	RETURN AIR
RAD	RADIUS
RD	ROOF DRAIN
RLF	RELIEF AIR
RPBP	REDUCED PRESSURE BACKFLOW PREVENTOR
SA	SUPPLY AIR OR SHOCK ARRESTOR
SEN	SENSIBLE
SF	SQUARE FEET
SIM	SIMILAR
SL	SEA LEVEL
SP	STATIC PRESSURE
SS	SERVICE SINK OR STAINLESS STEEL
TOD	TOP OF DUCT
TSP	TOTAL STATIC PRESSURE
TYP.	TYPICAL
U	URINAL
V	VENT
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VTR	VENT THROUGH THE ROOF
W	WASTE
W/	WITH
W/O	WITHOUT
WB	WET BULB
WC	WATER CLOSET
WCO	WALL CLEANOUT
WHA	WATER HAMMER ARRESTOR
WPD	WATER PRESSURE DROP
WT	WEIGHT
Ø	ROUND OR DIAMETER

DRAWING INDEX - MECHANICAL

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WHITE ROCK BAY CAMPGROUND ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD SYRACUSE, UTAH 84075

PROFESSIONAL ENGINEER
01/12/2022
No. 318584-2202
Michael E. Dallon
STATE OF UTAH

CONFORMANCE SET
01/12/2022

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2	01/12/2022	DFCM COMMENTS	CEA

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RESTROOM MECHANICAL LEGEND, SYMBOLS & ABBREVIATIONS

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2021-095.00	01/12/2022
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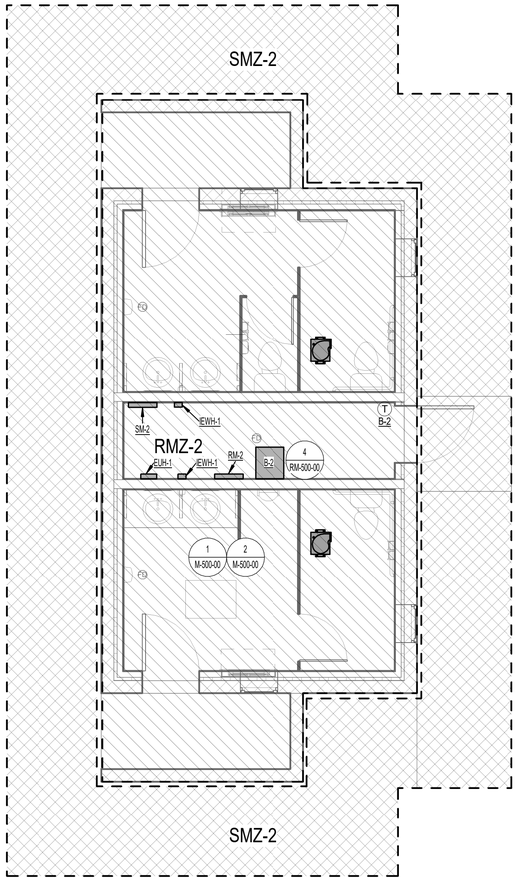
DCR	MED
APPROVED BY	DESIGNED BY
MED	DCR

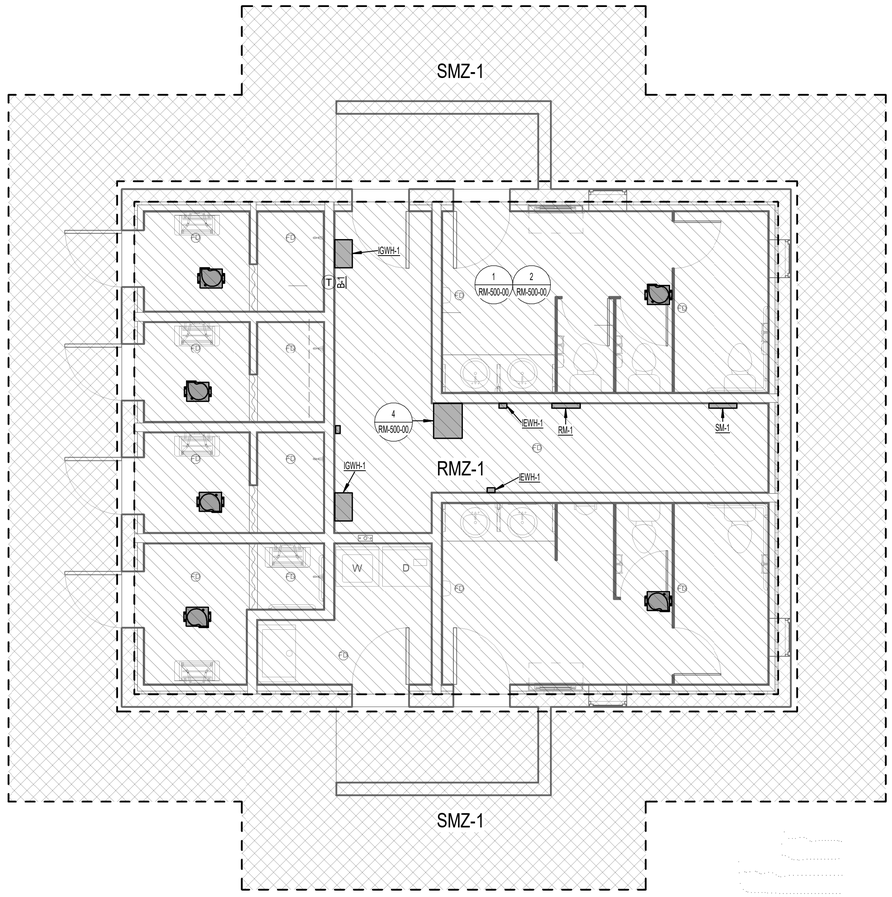
RM-000-01



2 SMALL RESTROOM PIPING PLANS

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

6' 0' 4' 8' 16'



1 LARGE RESTROOM PIPING PLANS

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

3' 0' 2' 4' 8'

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FOR:

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SALT LAKE CITY, UTAH 84129

WHITE ROCKS BAY CAMPGROUND AND ANTELOPE ISLAND

WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROFESSIONAL ENGINEER
01/12/2022
No. 318584-2202
Michael E. Dallon
STATE OF UTAH

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RESTROOM RADIANT AND SNOWMELT PLANS

PROJECT NUMBER	DATE
2021-095.00	01/12/2022
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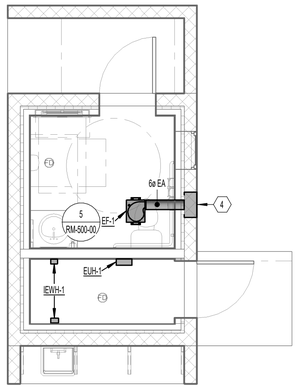
DCR	MED
APPROVED BY	DESIGNED BY
MED	DCR

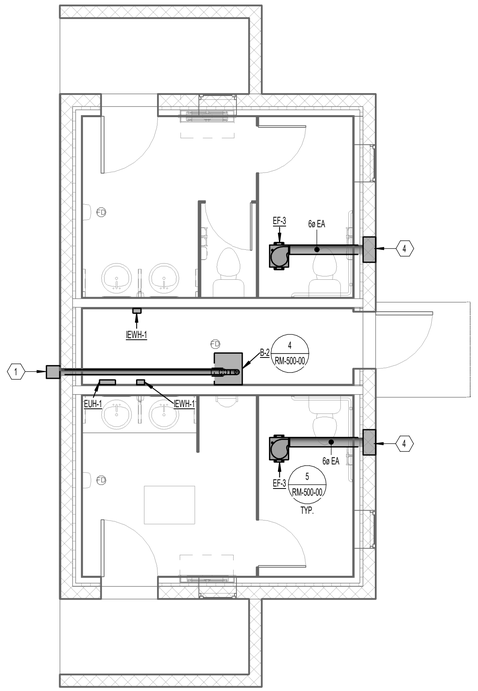
RM-100-00



3 UNISEX RESTROOM MECHANICAL PLANS

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

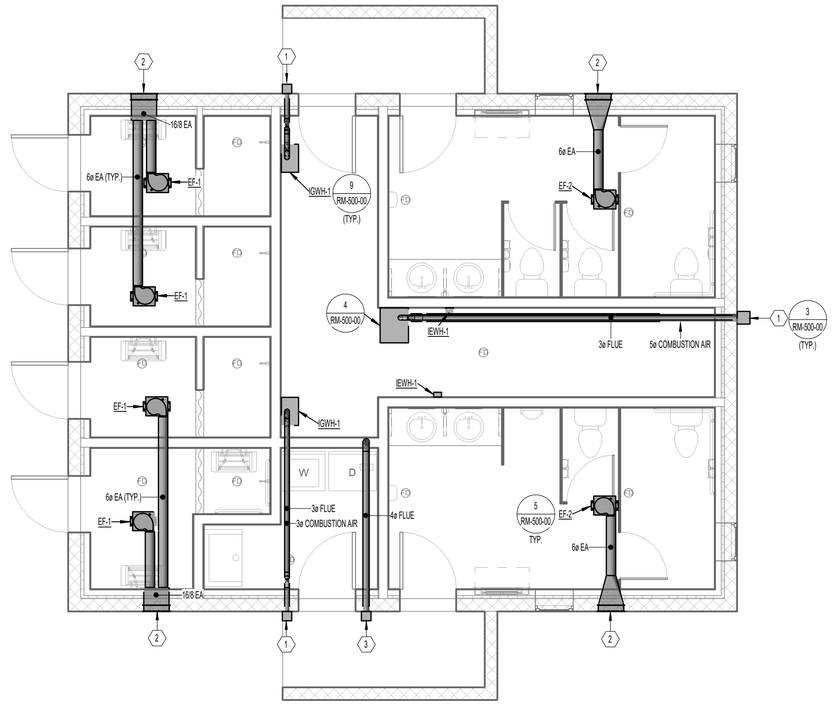
3' 0' 2' 4' 8'



2 SMALL RESTROOM MECHANICAL PLANS

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

3' 0' 2' 4' 8'



1 LARGE RESTROOM MECHANICAL PLANS

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

3' 0' 2' 4' 8'

KEYED NOTES

1. ROUTE FLUE AND COMBUSTION DUCT TO MANUFACTURER'S CONCENTRIC SIDEWALL VENT KIT. COORDINATE ELEVATION WITH ARCHITECT.
2. COORDINATE PLENUM AND CORRESPONDING BRICK VENT WITH CMU WALL BLOCK. PROVIDE 16X8 BRICK VENT. (ARCHITECTURAL LOUVERS, MODEL EX OR EQUAL). PROVIDE WITH INSECT SCREEN. COORDINATE ELEVATION WITH ARCHITECT.
3. PROVIDE WITH 4" DRYER VENT CAP (DRYER WALL VENT, MODEL DWV4, OR EQUAL). CONTRACTOR TO COORDINATE COLOR WITH ARCHITECT. COORDINATE ELEVATION WITH ARCHITECT.
4. PROVIDE 16X8 BRICK VENT. (ARCHITECTURAL LOUVERS, MODEL EX OR EQUAL). PROVIDE WITH INSECT SCREEN. COORDINATE ELEVATION WITH ARCHITECT.

GENERAL NOTES

A. ALL FLUE AND VENT OUTLETS TO BE 3'-0" MINIMUM ABOVE ALL BUILDING DOORS AND WINDOWS.
B. DO NOT SCALE DRAWINGS. SEE ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLAN FOR EXACT LOCATION OF DOORS, WINDOWS, CEILING DIFFUSERS, ETC. CLOSELY COORDINATE NEW MECHANICAL WITH ALL ELECTRICAL, ARCHITECTURAL AND STRUCTURAL MEMBERS. DUCTWORK AND PIPE ROUTING IS APPROXIMATE, DIAGRAMMATIC AND IS NOT TO BE SCALED. PROVIDE ALTERNATE ROUTING, OFFSETS AND TRANSITIONS AS REQUIRED FOR COORDINATION OF ALL WORK WITHOUT ADDITIONAL COST TO THE OWNER.
C. COORDINATE DUCT ROUTING WITH PLUMBING AND MECHANCIAL PIPING. PROVIDE OFFSETS AS REQUIRED.
D. FIELD VERIFY ALL MECHANICAL AND PLUMBING ITEMS PRIOR TO COMMENCING NEW WORK. NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR CONTRACTOR'S FAILURE TO BECOME FAMILIAR WITH EXISTING CONDITIONS.
E. ALL MECHANICAL WORK SHALL BE COORDINATED WITH THE WORK PERFORMED UNDER OTHER DIVISIONS TO AVOID INTERFERENCE.
F. NO DUCT OR PIPE TO ROUTE OVER ELECTRICAL EQUIPMENT.
G. SEE ARCHITECTURAL PLANS FOR CEILING HEIGHTS.

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PROFESSIONAL ENGINEER
01/12/2022
No. 318584-2202
Michael E. Dallon
STATE OF UTAH

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RESTROOM MECHANICAL PLANS

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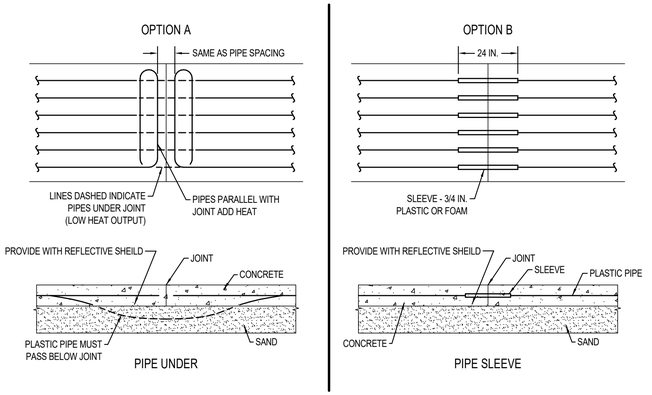
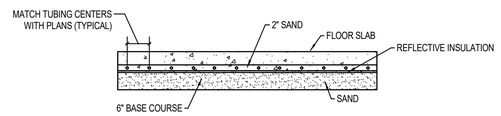
DCR	MED
APPROVED BY	DESIGNED BY
MED	DCR

RM-100-01



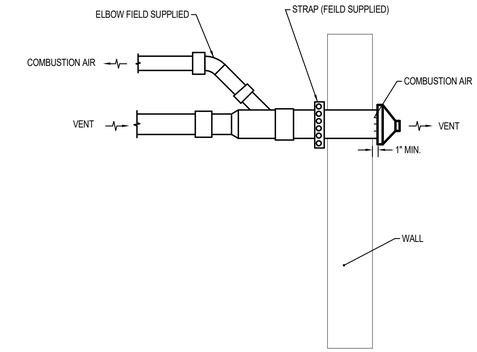
1 SNOWMELT / RADIANT TUBING DETAIL

RM-500-00 SCALE: NTS



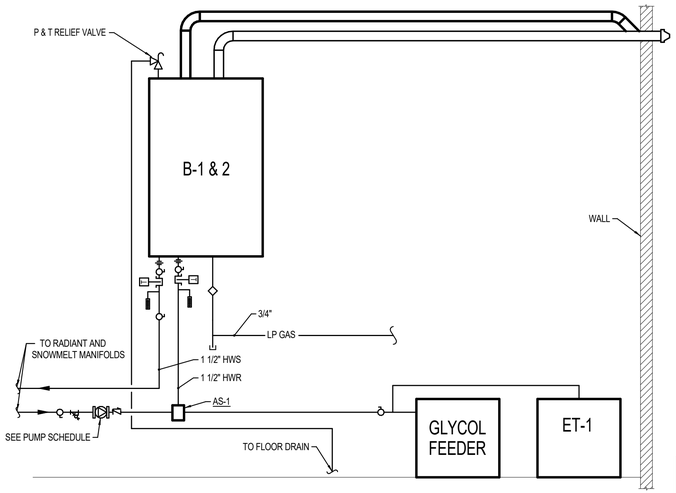
2 RADIANT TUBING PLACEMENT DETAIL

RM-500-00 SCALE: NTS



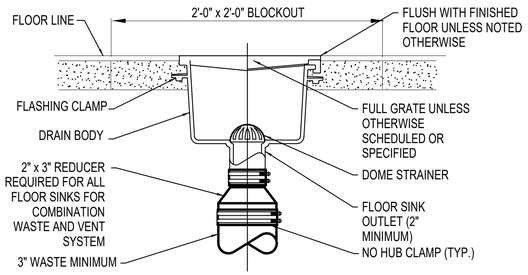
3 BOILER CONCENTRIC VENT KIT

RM-500-00 SCALE: NTS



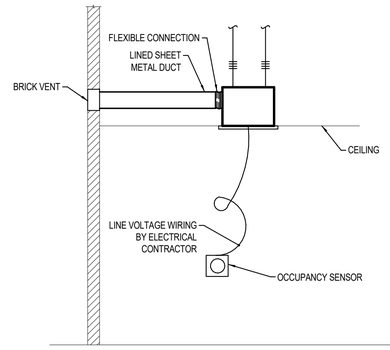
4 BOILER DETAIL

RM-500-00 SCALE: NTS



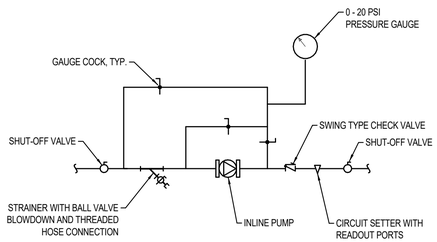
7 FLOOR SINK DETAIL

RM-500-00 SCALE: NTS



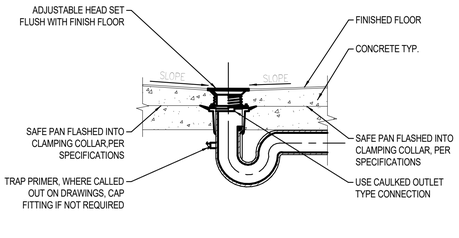
5 EXHAUST FAN - INLINE

RM-500-00 SCALE: NTS



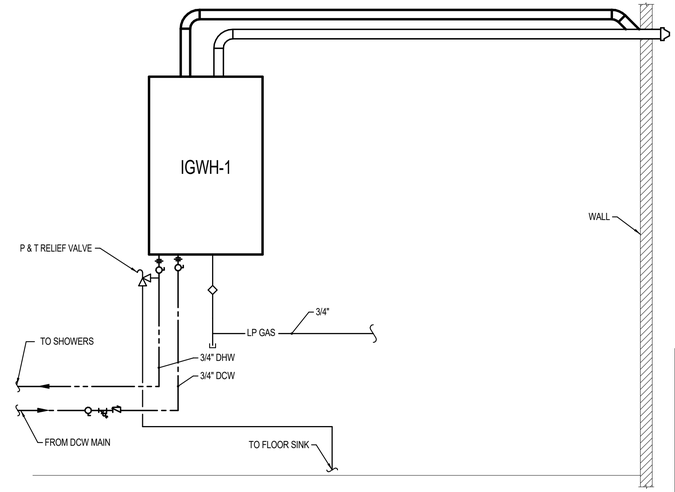
8 PUMP- INLINE PIPING

RM-500-00 SCALE: NTS



6 FLOOR DRAIN DETAIL

RM-500-00 SCALE: NTS



9 TANKLESS GAS WATER HEATER DETAIL

RM-500-00 SCALE: NTS

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WHITE ROCK BAY CAMPGROUND ANTELOPE ISLAND

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RESTROOM MECHANICAL DETAILS

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DRAWN BY DCR	CHECKED BY MED
APPROVED BY MED	DESIGNED BY Designer

RM-500-00

ELECTRIC RADIANT PANEL HEATER SCHEDULE (ERP)

PLAN CODE	OUTPUT (BTUH)	LOCATION	WATTS	ELECTRICAL		DIMENSIONS		MANUFACTURER & MODEL NO.	REMARKS
				VOLT / PH	AMPS	L (IN)	W (IN)		
ERP-1	2560	UNISEX RESTROOM	750	120 / 1	6.25	48	24	QMARK CP751	1, 2

1 - LINE VOLTAGE T-STAT ON WALL.
2 - PROVIDE STARTER WITH UNIT.

FORCED DRAFT CONDENSING BOILER SCHEDULE (B)

PLAN CODE	MBH CAPACITY		ASME PRESSURE RATING	OPERATING PRESSURE	% EFF	FLUE TYPE	FLUE SIZE	INTAKE SIZE	GPM	PD (FT)	MAX SIZE				BURNER			MANUFACTURER & MODEL NO	REMARKS
	INPUT	OUTPUT									DEPTH (IN)	WIDTH (IN)	HEIGHT (IN)	OPERATING WT (LBS)	HP	VOLT/ PH	GAS PRESSURE		
B-1	150	123	80	60	95	POLYPRO	3"	5"	9.3	0.48	22	18	39	180	NA	120/1	10 OZ	VIESSMENN B2HE-150	1, 2, 3
B-2	120	98	80	45	95	POLYPRO	3"	5"	6.2	0.48	20	18	34	110	NA	120/1	10 OZ	VIESSMENN B2HE-120	1, 2, 3

(1) PROVIDE WITH MANUFACTURERS COAXIAL VENT KIT. (2) PROVIDE WITH GLYCOL FEEDER (AXIOM DMF150, OR EQUAL). (3) PROVIDE WITH MANUFACTURER'S WITH NEUTRALIZATION KIT.

RADIANT MANIFOLD SCHEDULE (RM)

PLAN CODE	SERVING ZONE	EFFECTIVE AREA (LF)	BTUH / LF	BTUH	EWT	DELTA T	GLYCOL (%)	GPM	TUBE SIZE	TUBE CENTERS (IN)	# OF CIRCUITS	P.D. (FT)	HEADER SIZE (IN)	MANUFACTURER & MODEL NO	COMMENTS
RM-1	LARGE RESTROOM RADIANT FLOOR	1102	17	18,734	92	20	40	19	1/2" EPEXB	12	5	4.3	1 1/4"	VIEGA	1, 2, 3
RM-2	SMALL RESTROOM RADIANT FLOOR	1500	150	225,000	140	20	0	20	1/2" EPEXB	12	2	5.9	1 1/4"	VIEGA	1, 2, 3

1 - PROVIDE A COMPLETE TEKMAR CONTROLS SYSTEM FOR EACH SNOWMELT MANIFOLD SYSTEM. 2 - PROVIDE MANIFOLDS WITH SHUT OFF/BALANCING/FLOW METERS. 3 - LOOP LENGTHS ASSUME 5' DISTANCE FROM MANIFOLD TO START OF LOOP.

EXPANSION TANK SCHEDULE (ET)

PLAN CODE	SYSTEM SERVED	WATER TEMP (°F)	GLYCOL %	TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	PRE-CHARGE (PSI)	MAX DIMENSIONS			MANUFACTURER & MODEL NO.	REMARKS
							DIA (IN)	HEIGHT (IN)	OPERATING WT (LBS)		
ET-1	RADIANT/ SNOWMELT	-	40	6.3	3.0	50	13	16	60	ZILMET ZHT24-60	-

INSTANTANEOUS GAS WATER HEATER SCHEDULE (IGWH)

PLAN CODE	FUEL TYPE	INPUT (MBH)	MAX. FLOW (GPM)	MIN. FLOW (GPM)	TEMP RISE (°F)	HOT / COLD PIPE (IN)	GAS PIPE	FLUE (IN)	ELECTRICAL		MAX DIMENSIONS (IN)				MANUFACTURER & MODEL NO	REMARKS
									VOLTS / PHASE	AMPS	D	W	H	WT (LB)		
IGWH-1	PROPANE	199	10	0.5	55	3/4"	3/4"	4	120 / 1	0.74	11	17.75	23	65	A.O. SMITH ATI-540HX3-P	1, 2

1 - TEMPERATURE SETPOINT 110°F. 2 - PROVIDE WITH DIRECT VENT CONCENTRIC TERMINATION KIT. 3 - PROVIDE WITH NEUTRALIZATION KIT.

INSTANTANEOUS ELECTRIC WATER HEATER SCHEDULE (IEWH)

PLAN CODE	ACTIVATION GPM	GPM @ TEMP RISE	INPUT (KW)	TEMP RISE (°F)	ELECTRICAL		MAX DIMENSIONS (IN)				MANUFACTURER & MODEL NO	REMARKS
					VOLT / PH	AMP	WIDTH	DEPTH	HEIGHT	WT (LB)		
IEWH-1	0.2	1.0	8.3	57	208/1	40	5.25	3	10.75	4	EEMAX SPEX8208ML	-

1 - SET WATER TEMPERATURE TO 110°F.

ELECTRIC UNIT HEATER SCHEDULE (EUH)

PLAN CODE	AREA SERVED	ELECTRICAL				CFM	DIMENSIONS (LxWxH) (IN)	MOUNTING	MANUFACTURER & MODEL NO.	REMARKS
		TOTAL KW	AMPS	VOLT/PH	FAN HP					
EUH-1	UNISEX UTILITY ROOM	1.25	10.8	120 / 1	1/100	80	10 x 4 x 16	FLUSH WALL MOUNT	INDEECO WLI-934U01250B	1

1 - PROVIDE WITH INTEGRAL THERMOSTAT

EXHAUST FAN SCHEDULE (EF)

PLAN CODE	AREA SERVED	TYPE	CFM @ ELEV	ESP @ ELEV	FAN RPM	MOTOR		SONES	DAMPER TYPE	METHOD OF CONTROL	OPENING SIZE (IN)	MAX OPERATING WT (LBS)	MANUFACTURER & MODEL NO	REMARKS
						WATTS	VOLT/PH							
EF-1	LARGE / UNISEX RESTROOM	CEILING	50	0.25	700	22	120 / 1	1.0	BACKDRAFT	OCCUPANCY	NA	15	COOK GC-128	1, 2, 3
EF-2	LARGE RESTROOMS	CEILING	210	0.25	1100	78	120 / 1	5.5	BACKDRAFT	OCCUPANCY	NA	20	COOK GC-186	1, 2, 3
EF-3	SMALL RESTROOMS	CEILING	100	0.25	915	33	120 / 1	1.5	BACKDRAFT	OCCUPANCY	NA	15	COOK GC-148	1, 2, 3

1 - ALL DATA FOR ELEV = 4300 FT 2 - PROVIDE WITH SPEED CONTROLLER (5 AMP, 120 V). 3 - WHITE GRILLE.

PLUMBING FIXTURE SCHEDULE

PLAN CODE	DESCRIPTION	ROUGH-IN SIZE					REMARKS
		C.W.	H.W.	TEMPERED	WASTE	VENT	
WC-1	WATER CLOSET, STANDARD, WALL MOUNT, MANUAL FLUSH VALVE WITH SIDE MOUNT SENSOR, SIPHON JET, VITREOUS CHINA 1.6 GPF	1"	-	-	3"	2"	AMERICAN STANDARD "AFWALL" 2257.103 SEAT: OLSONITE #10CC/SS FLUSH VALVE: SLOAN "REGAL" 111.1.6 WITH EBV500A SIDE MOUNT BATTERY POWERED SENSOR. COLOR: WHITE SEE ARCH DRAWINGS FOR MOUNTING HEIGHT
WC-2	WATER CLOSET, ADA COMPLIANT, WALL MOUNT, MANUAL FLUSH VALVE WITH SIDE MOUNT SENSOR, SIPHON JET, VITREOUS CHINA 1.6 GPF	1"	-	-	3"	2"	AMERICAN STANDARD "AFWALL" 2257.103 SEAT: OLSONITE #10CC/SS FLUSH VALVE: SLOAN "REGAL" 111.1.6 WITH EBV500A SIDE MOUNT BATTERY POWERED SENSOR. COLOR: WHITE SEE ARCH DRAWINGS FOR MOUNTING HEIGHT
U-1	URINAL, ADA COMPLIANT, VITREOUS CHINA, SIPHON JET, MANUAL FLUSH VALVE WITH SIDE MOUNT SENSOR, 0.5 GPF	3/4"	-	-	2"	1 1/2"	AMERICAN STANDARD "WASHBROOK" 6501.010 FLUSH VALVE: SLOAN "REGAL" 186 WITH EBV500A SIDE MOUNT BATTERY POWERED SENSOR. COLOR: WHITE SEE ARCH DRAWINGS FOR MOUNTING HEIGHT
L-1	LAVATORY, ROUND STAINLESS STEEL, BATTERY POWERED SENSOR FAUCET. WITH BELOW DECK MIXING VALVE, 0.5 GPM.	1/2"	-	1/2"	1 1/2"	1 1/2"	ELKAY ELUH16LV FAUCET: SLOAN OPTIMA EBF-615-4-BAT-BDM-CP-0.5GPM-MLM-IR-FCT
S-1	COUNTER MOUNT STAINLESS STEEL SINK, WALL MOUNTED FAUCET WITH SHUT-OFF VALVES LOCATED IN UTILITY ROOM.	1/2"	1/2"	-	1 1/2"	1 1/4"	BOWL: ELKAY DLSR272210 FAUCET: ELKAY LKB940C STRAINER: ELKAY LKJ35
SH-1	INSTITUTIONAL SHOWER. SELF CLEANING SHOWER HEAD WITH ADJUSTABLE SPRAY NOZZLE, METERED BUTTON WITH ADJUSTABLE TIME, CHROME FINISH, TEMPERATURE LIMIT STOPS	1/2"	1/2"	-	-	-	ACORN "SHOWER-WARE" 538-MV-CI-MSH-TF (NOTE 1) HEAD: MSH VALVE: MVC-1 "TIME-TROL" VALVE. ADJUSTABLE TIME (1 SEC TO 9 MIN), CYCLE INTERRUPT. PLACE VALVE TIMER IN UTILITY AREA.
SH-2	INSTITUTIONAL SHOWER. MULTISPRAY SHOWER HEAD WITH DIVERTER VALVE AND HANDHELP SHOWER & 60" SS HOSE, METERED BUTTON WITH ADJUSTABLE TIME, CHROME FINISH, ADA COMPLIANT, TEMPERATURE LIMIT STOPS	1/2"	1/2"	-	-	-	ACORN "SHOWER-WARE" 538ADA-MV-CI-TF (NOTE 1) HEAD: MSH, W/ HAND HELD. VALVE: (MVC-1) "TIME-TROL" VALVE. ADJUSTABLE TIME (1 SEC TO 9 MIN), CYCLE INTERRUPT. PLACE VALVE TIMER IN UTILITY AREA.
SS-1	SERVICE SINK, ENAMELED CAST IRON, WITH RIM GAURD, 3" GRID DRAIN AND FAUCET WITH VACUUM BREAKER, STOPS, TOP BRACE, CHROME FINISH.	3/4"	3/4"	-	3"	2"	SINK: KOHLER K-6710 FAUCET: KOHLER K-8907
HB-1	HOSE BIBB, LOOSE KEY HANDLE	3/4"	-	-	-	-	JR SMITH 5618
HB-2	HOSE BIBB, 3/4 HANDLE	3/4"	-	-	-	-	JR SMITH 5670
FD-1	FLOOR DRAIN	-	-	-	2"	1 1/4"	JR SMITH 2110

1 - PROVIDE 1 TRANSFORMER PER 4 SHOWER VALVES.

PUMP SCHEDULE (P)

PLAN CODE	TYPE	DUTY	FLOW (GPM)	PRESSURE (FT)	MAX ALLOWABLE WATTS	FLUID	FLUID TEMP RANGE	NPSHR (FT)	MOTOR			WEIGHT (LBS)	MANUFACTURER & MODEL NO.	REMARKS
									SPEED (RPM)	VOLT / PH	VFD			
P-1	CIRCULATOR	RMZ-1	2.2	5.9	45	WATER	35.6 - 230	NA	3460	120/1	NO	20	GRUNDFOS ALPHA1 15-55F	-
P-2	CIRCULATOR	SMZ-1	9.3	19.25	197	40% GLYCOL	35.6 - 230	NA	3460	120/1	NO	30	GRUNDFOS UPS 26-99 FC	-
P-3	CIRCULATOR	RMZ-2	1.1	5.9	45	WATER	35.6 - 230	NA	3460	120/1	NO	20	GRUNDFOS ALPHA1 15-55F	-
P-4	CIRCULATOR	SMZ-2	6.9	10.4	45	40% GLYCOL	35.6 - 230	NA	3460	120/1	NO	20	GRUNDFOS ALPHA1 15-55F	-

SNOWMELT MANIFOLD SCHEDULE (SM)

PLAN CODE	SERVING ZONE	EFFECTIVE AREA (LF)	BTUH / LF	BTUH	EWT	DELTA T	GLYCOL (%)	GPM	TUBE SIZE	TUBE CENTERS (IN)	# OF CIRCUITS	P.D. (FT)	HEADER SIZE (IN)	MANUFACTURER & MODEL NO	COMMENTS
SM-1	SMZ-1	1480	82	121,360	110	30	40	8	3/4" EPEXB	9	4	17.5	1 1/4"	VIEGA	1, 2, 3
SM-2	SMZ-2	1152	77	88,704	104	30	40	6	3/4" EPEXB	9	4	8.6	1 1/4"	VIEGA	1, 2, 3

1 - PROVIDE A COMPLETE TEKMAR CONTROLS SYSTEM FOR EACH SNOWMELT MANIFOLD SYSTEM. 2 - PROVIDE MANIFOLDS WITH SHUT OFF/BALANCING/FLOW METERS. 3 - LOOP LENGTHS ASSUME 5' DISTANCE FROM MANIFOLD TO START OF LOOP.

GLYCOL FEEDER (GF)

PLAN CODE	SERVICE	GALLONS	ELECTRICAL		DIMENSIONS			MANUFACTURER & MODEL NO.	REMARKS
			VOLT / PH	AMPS	L (IN)	D (IN)	H (IN)		
GF-1	BOILER	4.5	120 / 1	0.42	95	11	18.25	AXIOM DMF150	1, 2

1 - PUMP = 1.0 GPM @ FREE FLOW.
2 - ALARM DRY CONTACT: 5A/125VAC.

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FOR:
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WHITE ROCK BAY CAMPGROUND ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROFESSIONAL ENGINEER
01/12/2022
No. 318584-2202
Michael E. Dallon
STATE OF UTAH

CONFORMANCE SET
01/12/2022

NO.	DATE	REVISION	Issued by
1	12/01/2021	WWTF DESIGN&DFCM COMMENTS	CEA
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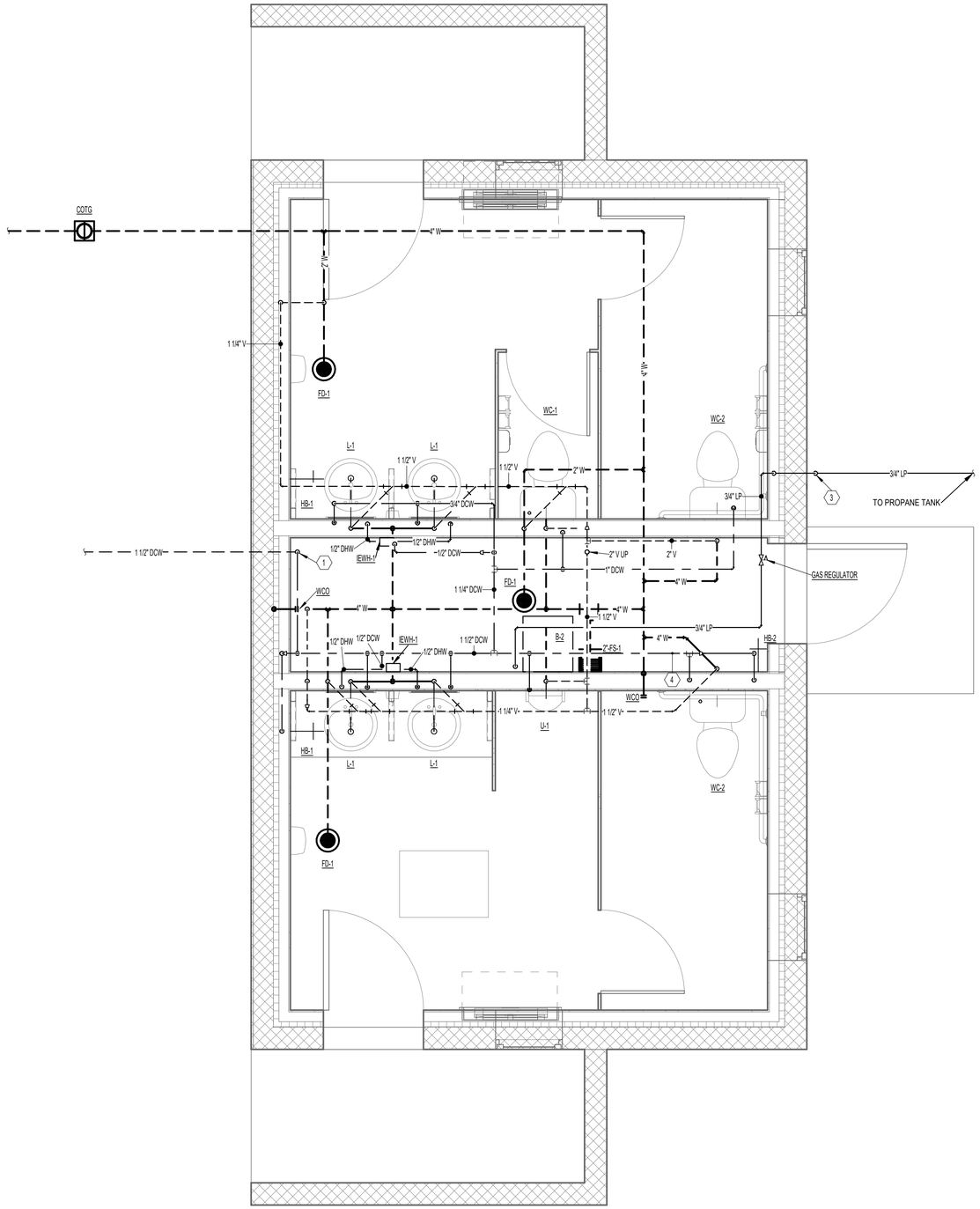
DATE: 01/25/2022

RESTROOM MECHANICAL SCHEDULES

PROJECT NUMBER 2021-095.00
DATE 01/12/2022
DRAWN BY DCR
CHECKED BY MED
APPROVED BY MED
DESIGNED BY Designer

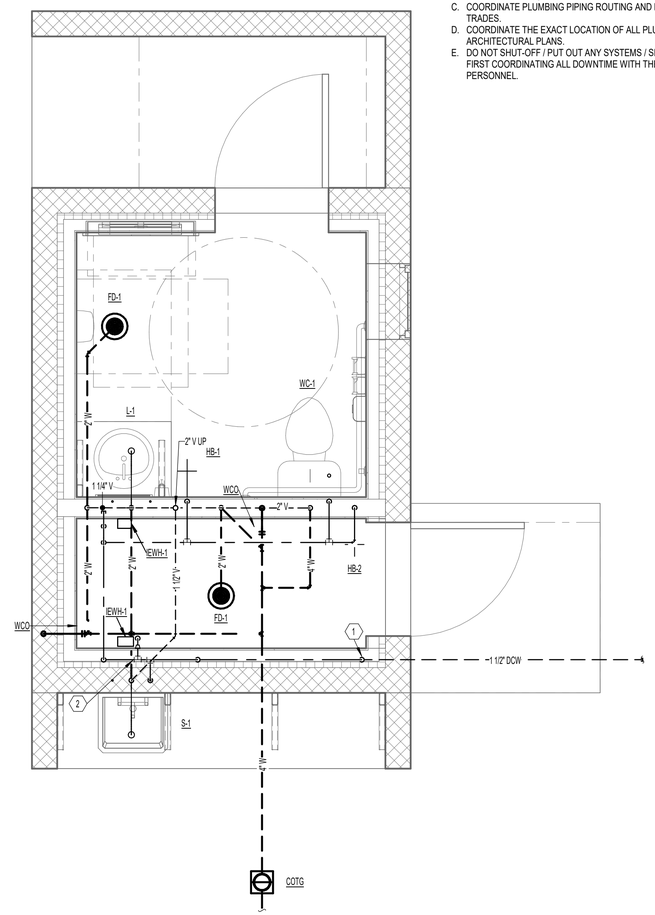
RM-600-00



2 SMALL RESTROOM PLUMBING PLANS

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

3' 0' 2' 4' 8'



3 UNISEX RESTROOM PLUMBING PLANS

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

3' 0' 2' 4' 8'

KEYED NOTES

1. PROVIDE SHUT-OFF VALVE AT MAIN DCW RISER.
2. PROVIDE SHUTOFF AND DRAIN TO S-1. DCW AND DHW CONNECTIONS LOCATED IN UTILITY ROOM FOR WINTERIZATION OF S-1 CONNECTIONS.
3. L.P. PIPING TO ENTER BUILDING A MINIMUM OF 24" ABOVE GRADE. PROVIDE LOCKABLE GAS VALVE FOR L.P. ON RISER COMPLETE WITH LOCK DEVICE, CASE HARDENED PADLOCK AND 4 KEYS.
4. ROUTE WATER PIPING TO AVOID CONFLICT WITH ELECTRICAL PANELS.

GENERAL NOTES

A. ALL WASTE SMALLER THAN 2" ARE TO BE RUN AT 1/4" FOOT PER SLOPE , 3" AND LARGER TO BE RUN AT 1/8" FOOT PER SLOPE.
B. PROVIDE ACCESS DOORS TO ALL MIXING VALVES, REGULATORS, SHUTOFF VALVES, ETC.
C. COORDINATE PLUMBING PIPING ROUTING AND LOCATION WITH ALL TRADES.
D. COORDINATE THE EXACT LOCATION OF ALL PLUMBING FIXTURES WITH ARCHITECTURAL PLANS.
E. DO NOT SHUT-OFF / PUT OUT ANY SYSTEMS / SERVICES WITHOUT FIRST COORDINATING ALL DOWNTIME WITH THE OWNER'S PERSONNEL.

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01/12/2022
No. 318584-2202
Michael E. Dallon
STATE OF UTAH

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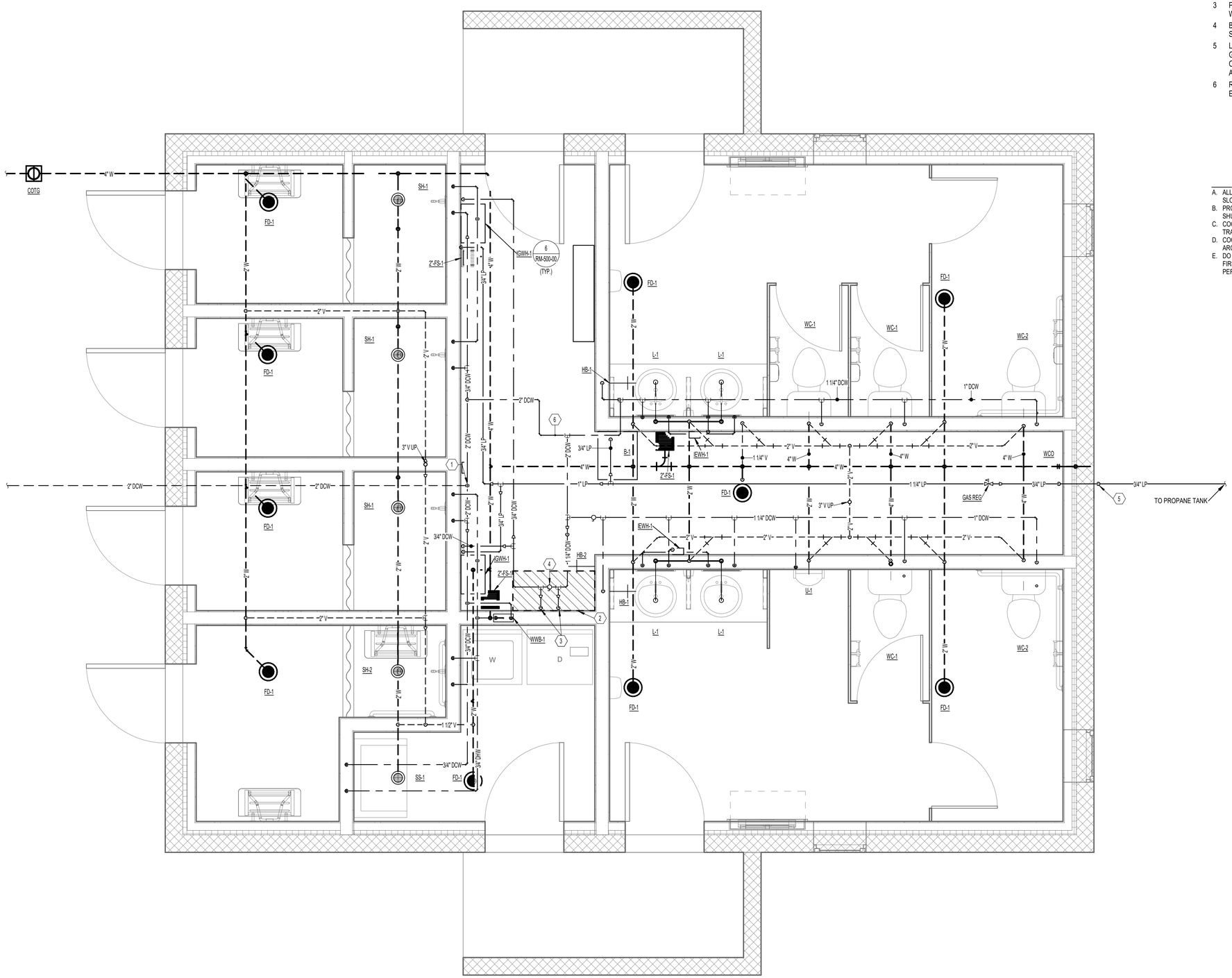
RESTROOM PLUMBING PLAN

PROJECT NUMBER	DATE
2021-095.00	01/12/2022
DRAWN BY	CHECKED BY
DR/MS	MD
APPROVED BY	DESIGNED BY
MD	DCR

RP-100-01



KEYED NOTES

1. PROVIDE SHUT-OFF VALVE AT MAIN DCW RISER.
2. SPACE RESERVED FOR POSSIBLE FUTURE WATER SOFTENER EQUIPMENT
3. PROVIDE SHUTOFF AND END CAP FOR POSSIBLE FUTURE WATER SOFTENER CONNECTIONS.
4. BYPASS VALVE NORMALLY OPEN UNLESS WATER SOFTENER IS ADDED. THEN VALVE IS NORMALLY CLOSED.
5. L.P. PIPING TO ENTER BUILDING A MINIMUM OF 24" ABOVE GRADE. PROVIDE LOCKABLE GAS VALVE FOR L.P. ON RISER COMPLETE WITH LOCK DEVICE, CASE HARDENED PADLOCK AND 4 KEYS.
6. ROUTE WATER PIPING TO AVOID CONFLICT WITH ELECTRICAL PANELS.

GENERAL NOTES

A. ALL WASTE SMALLER THAN 2" ARE TO BE RUN AT 1/4" FOOT PER SLOPE , 3" AND LARGER TO BE RUN AT 1/8" FOOT PER SLOPE.
B. PROVIDE ACCESS DOORS TO ALL MIXING VALVES, REGULATORS, SHUTOFF VALVES, ETC.
C. COORDINATE PLUMBING PIPING ROUTING AND LOCATION WITH ALL TRADES.
D. COORDINATE THE EXACT LOCATION OF ALL PLUMBING FIXTURES WITH ARCHITECTURAL PLANS.
E. DO NOT SHUT-OFF / PUT OUT ANY SYSTEMS / SERVICES WITHOUT FIRST COORDINATING ALL DOWNTIME WITH THE OWNER'S PERSONNEL.

1 LARGE RESTROOM PLUMBING PLANS

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

0' 4' 8' 16'

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PROFESSIONAL ENGINEER
01/12/2022
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Michael E. Dallon
STATE OF UTAH

CONFORMANCE SET
01/12/2022

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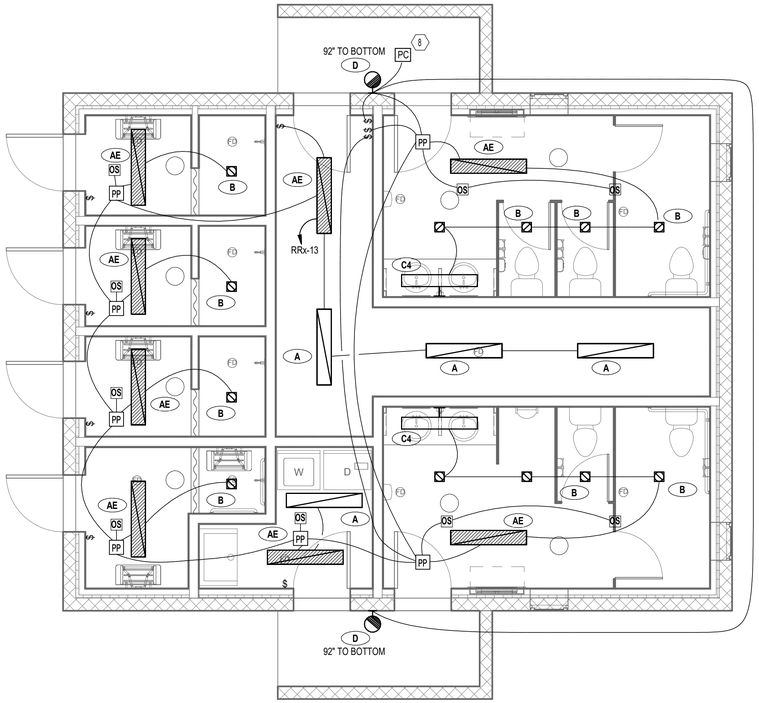
LARGE RESTROOM PLUMBING PLAN

PROJECT NUMBER	DATE
2021-095.00	01/12/2022
DRAWN BY	CHECKED BY
DCR	MED
APPROVED BY	DESIGNED BY
MED	DCR

RP-100-02

KEYED NOTES

1. 'MDP' ONLY OCCURS IN THE NORTH LARGE RESTROOM BUILDING.
2. 'DP1' ONLY OCCURS IN THE SOUTH LARGE RESTROOM BUILDING.
3. 'DP2' ONLY OCCURS IN THE NORTH LARGE RESTROOM BUILDING.
4. RR1 ONLY OCCURS IN THE NORTH LARGE RESTROOM BUILDING.
5. RR2 ONLY OCCURS IN THE SOUTH LARGE RESTROOM BUILDING.
6. THE DISTRIBUTION PANELS AND BRANCH PANELS REQUIRE A 3'6" MINIMUM WORKING CLEARANCE FROM THE FACE OF THE DISTRIBUTION BOARD.
7. TRANSFORMER FOR THE SHOWERS. PROVIDE 120V CONNECTION, THE SHOWER INSTALLER WILL INSTALL ALL 24VDC WIRING.
8. INSTALL PHOTOCELL ON THE NORTH FACING SIDE OF THE BUILDING. THE PHOTOCELL IS SECONDARY TO THE SWITCH, IF THE SWITCH IS OFF IT WILL DISABLE THE PHOTOCELL.
9. THE EXHAUST FAN IS TO TIE INTO THE LIGHTING OCCUPANCY SENSOR FOR CONTROL.

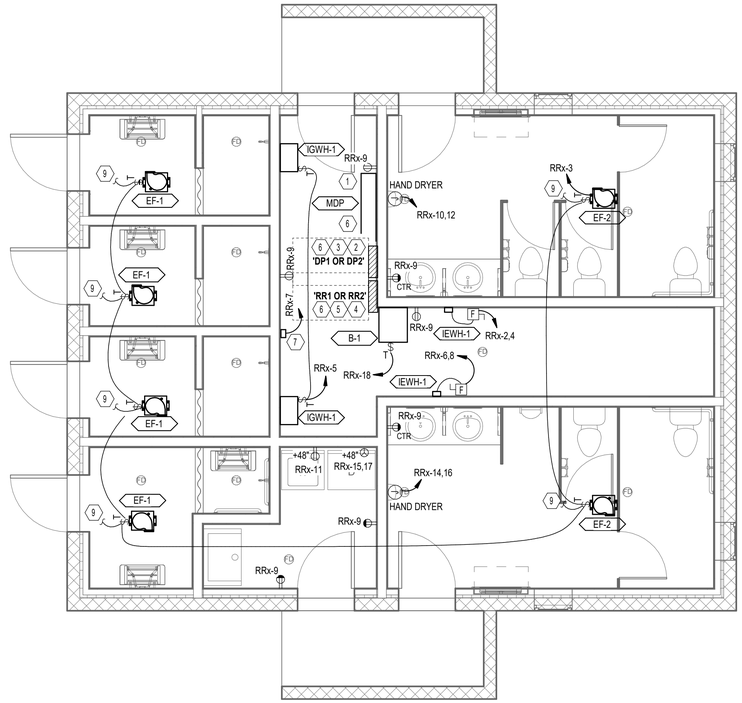


1 RE-100-01 LARGE RESTROOM - LIGHTING PLAN

SCALE: 1/4"=1-0'

0 4' 8'

1/4" = 1'-0"



2 RE-100-01 LARGE RESTROOM - POWER PLAN

SCALE: 1/4"=1-0'

0 4' 8'

1/4" = 1'-0"

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PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 7988
KEVIN D. GARNER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

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DATE: 01-25-2022

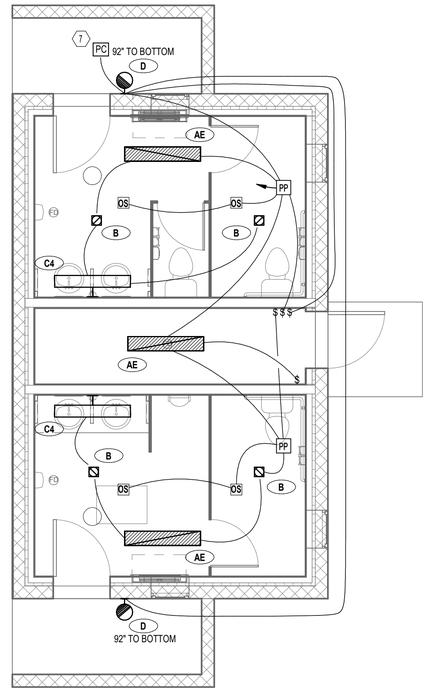
LARGE RESTROOM ELECTRICAL PLANS

PROJECT NUMBER	PRINT DATE
2021-095.00	01/12/2022
DRAWN BY	CHECKED BY
CSC	KDG
PROJECT MANAGER	
PL	

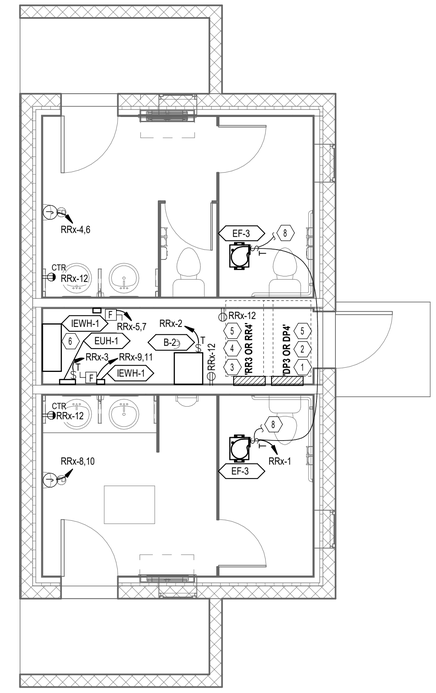
RE-100-01

KEYED NOTES

1 DP3 ONLY OCCURS IN THE NORTHEAST SMALL RESTROOM BUILDING.
2 DP4 ONLY OCCURS IN THE SOUTHWEST SMALL RESTROOM BUILDING.
3 RR3 ONLY OCCURS IN THE NORTHEAST SMALL RESTROOM BUILDING.
4 RR4 ONLY OCCURS IN THE SOUTHWEST SMALL RESTROOM BUILDING.
5 THE DISTRIBUTION PANELS AND BRANCH PANELS REQUIRE A 3'6" MINIMUM WORKING CLEARANCE FROM THE FACE OF THE DISTRIBUTION BOARD.
6 THE WASTEWATER SYSTEM CONTROL PANEL WILL BE INSTALLED AT THIS LOCATION IN THE SOUTH RESTROOM/SHOWER BUILDING. THE WASTEWATER CONTROL PANEL WILL BE CIRCUITED TO DP4-8,10,12.
7 INSTALL PHOTOCELL ON THE NORTH FACING SIDE OF THE BUILDING. THE PHOTOCELL IS SECONDARY TO THE SWITCH, IF THE SWITCH IS OFF IT WILL DISABLE THE PHOTOCELL.
8 THE EXHAUST FAN IS TO TIE INTO THE LIGHTING OCCUPANCY SENSOR FOR CONTROL.



1 RE-100-02 SMALL RESTROOM - LIGHTING PLAN
SCALE: 1/4"=1-0'
0 4' 8'
1/4" = 1'-0"



2 RE-100-02 SMALL RESTROOM - POWER PLAN
SCALE: 1/4"=1-0'
0 4' 8'
1/4" = 1'-0"

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4315 S 2700 W, Fl 3
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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 7988
KEVIN D. GARDNER
STATE OF UTAH

CONFORMANCE SET
01/12/2022

NO.	DATE	REVISION	Issued by
1	12/01/2021	WWTF DESIGN & DFCM COMMENTS	CEA
2	01/12/2022	DFCM COMMENTS	CEA

COLVIN ENGINEERING ASSOCIATES
505 E South Temple, Suite 100
Salt Lake City, Utah 84102
Phone 801.322.2400
colvinengineering.com

CODE OFFICIAL STAMP
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
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SMALL RESTROOM ELECTRICAL PLAN

PROJECT NUMBER	PRINT DATE
2021-095.00	01/12/2022
DRAWN BY	CHECKED BY
CSC	KDG
PROJECT MANAGER	
PL	

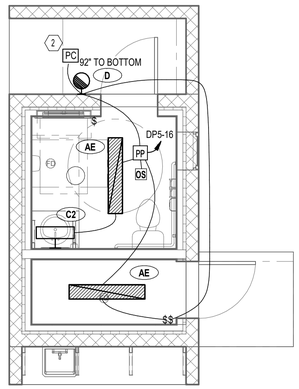
RE-100-02

KEYED NOTES

1 THE DISTRIBUTION PANELS AND BRANCH PANELS REQUIRE A 3'6" MINIMUM WORKING CLEARANCE FROM THE FACE OF THE DISTRIBUTION BOARD.

2 INSTALL PHOTOCELL ON THE NORTH FACING SIDE OF THE BUILDING. THE PHOTOCELL IS SECONDARY TO THE SWITCH, IF THE SWITCH IS OFF IT WILL DISABLE THE PHOTOCELL.

3 THE EXHAUST FAN IS TO TIE INTO THE LIGHTING OCCUPANCY SENSOR FOR CONTROL.



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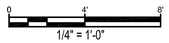
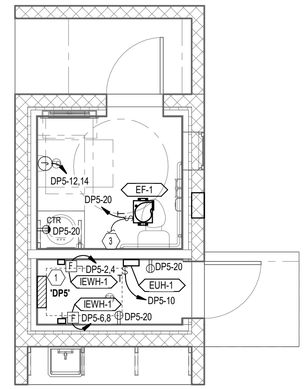
SCALE: 1/4"=1-0'





2 RE-100-03 UNISEX RESTROOM - POWER PLAN

SCALE: 1/4"=1-0'

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PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 2018
KEVIN D. GARNER
STATE OF UTAH

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UNISEX RESTROOM ELECTRICAL PLANS

PROJECT NUMBER	PRINT DATE
2021-095.00	01/12/2022
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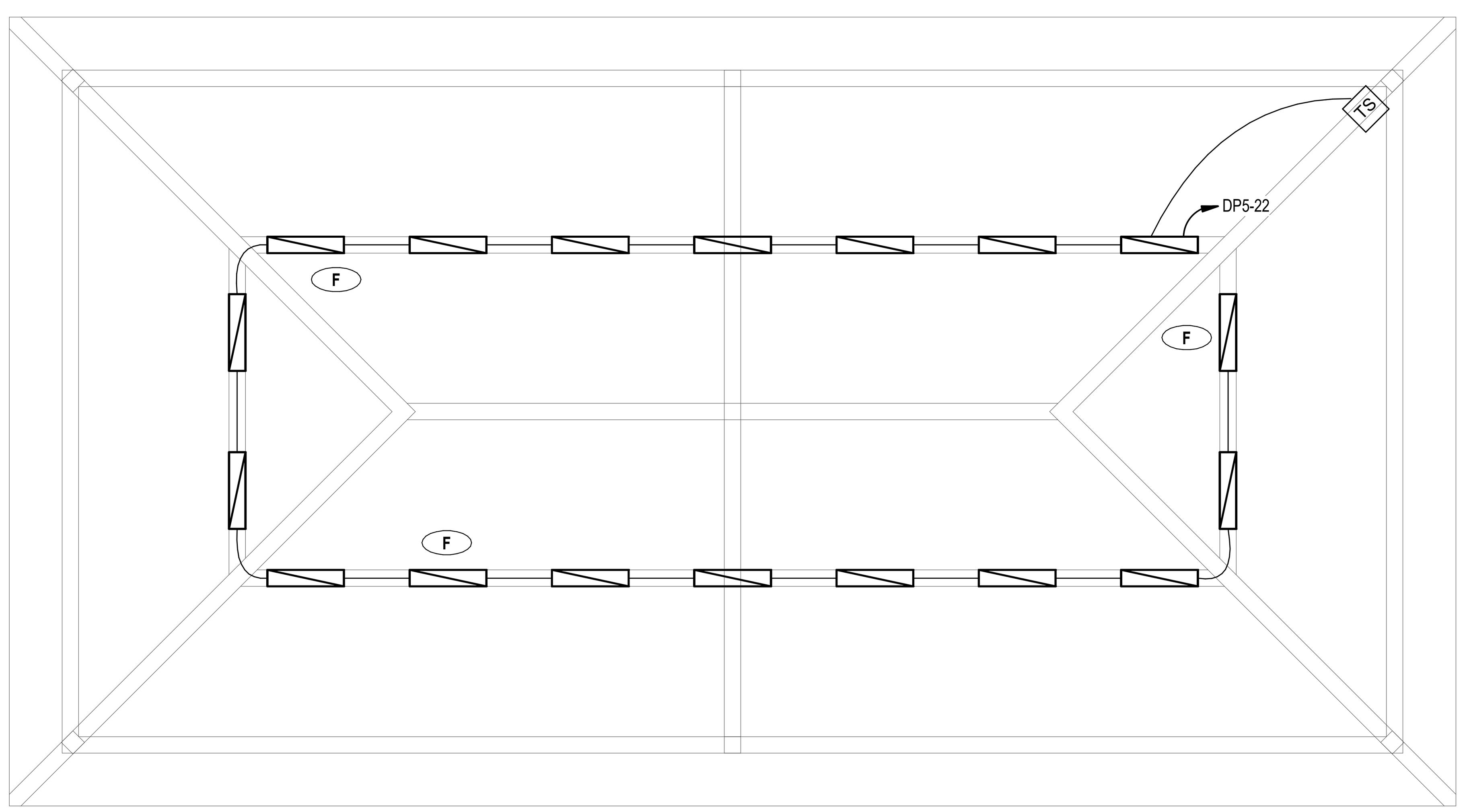
CSC	KDG
PROJECT MANAGER	
PL	

RE-100-03

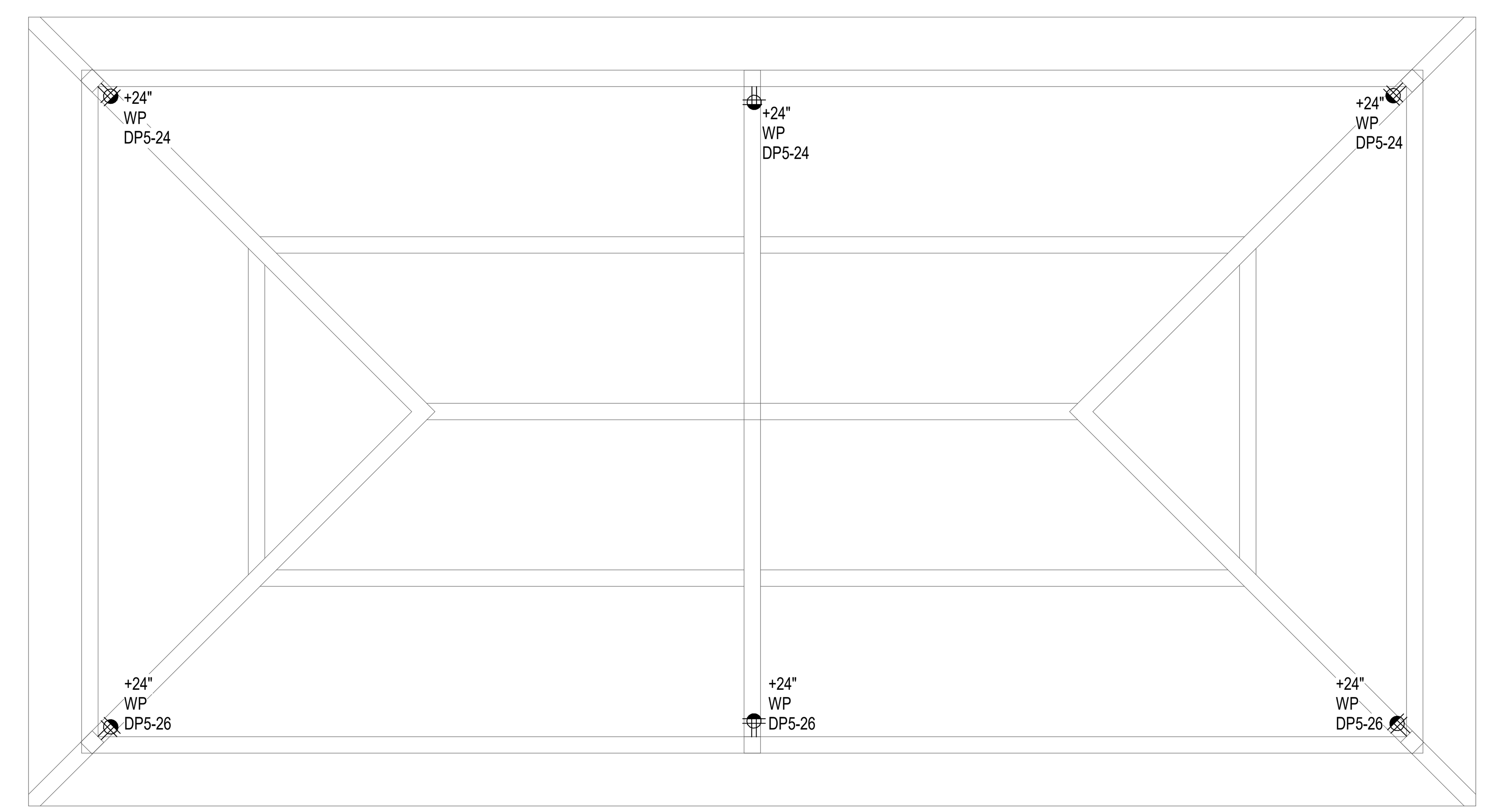


1
RE-100-04

PAVILION - LIGHTING PLAN

SCALE: 1/4"=1-0'

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



2
RE-100-04

PAVILION - POWER PLAN

SCALE: 1/4"=1-0'

0 4' 8'
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PROJECT #: 22238510
CONTRACT #: 2270048

LICENSED PROFESSIONAL ENGINEER
No. 2?188?
KENNETH D. GARNER
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PAVILION
ELECTRICAL PLANS

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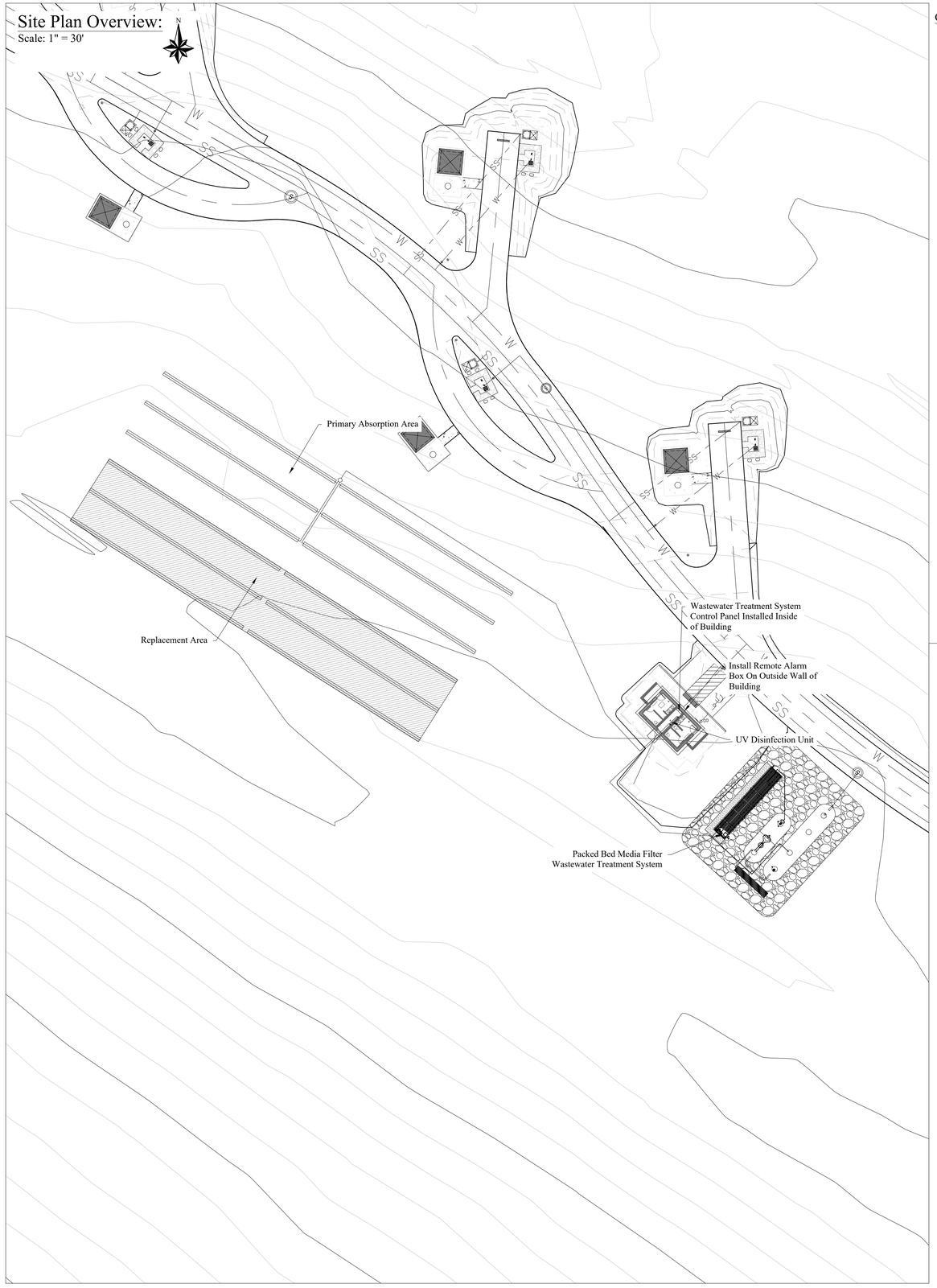
PROJECT MANAGER	
PL	

RE-100-04

Site Plan Overview:

Scale: 1" = 30'



Construction Notes:

DESIGN BASIS:

Daily Flow: 8,250 gpd

RV Spaces w/ Sewer: 3,750 gpd
(30 Spaces) x (125 gpd / space) = 3,750 gpd
RV Spaces (Dump Station)): 2,700 gpd
(54 spaces) x (50 gpd / space) = 2,700 gpd
Undetermined Future Flow: 1,800 gpd
Total Flow:
(3,750 gpd) + (2,700 gpd) + (1,800 gpd) = 8,250 gpd

Soil Loading Rate: 1.0 gpd/ft^2

Absorption Area: 5,775 ft^2 minimum.
(8,250 gpd) / (1.0 gpd/ft^2) = 8,250 ft^2
(8,250 gpd) x 0.7 Packed Bed Media Reduction) = 5,775 ft^2

Trenches: 6 Trenches, each 100 LF at 5' Effective Depth.
*(5,775 ft^2) / (10 ft*LF) = 577.5 ft^2*
(578 ft^2) / (6 Trenches) = 96.33 LF / Trench
Use 100 LF per Trench

SYSTEM NOTES:

1. The proposed new absorption trenches to be installed within the area approved by the Davis County Health Department. Any changes in trench location must be coordinated by obtaining prior approval from the design engineer and the Davis County Health Department.
2. A minimum of 600 lineal feet of deep wall absorption trench to be installed at 5' effective depth.
3. Each trench of the new absorption system to receive equal flow controlled by gate valves, installed in a 24" access basin. Access to the box or basin to be extended to finish grade for regular O&M observations and adjustments.
4. The septic tank shall be 5' minimum from any foundation or footings.
5. The outlet end of the septic tank shall have an effluent filter installed with access from finish grade.
6. The absorption area must be a minimum 50' from any well, stream, watercourse, pond or other open, unlined water system.
7. There are no known easements or drainage right of ways adversely affecting the property.
8. All surface water drainage shall be diverted away from the proposed absorption system.

CONSTRUCTION NOTES:

A. The contractor shall not perform work without the required inspections.
B. Any changes to the plans must be approved by the design engineer and the Davis County Health Department prior to the changes being implemented.
C. Any location of the utilities shown on the plans is approximate. The contractor shall call the Blue Stakes utility locating company, 1-800-662-4111, for field location marking before excavating.
D. The contractor shall field verify underground utilities during construction. The contractor shall be responsible for the correction of any underground utility damaged by contractor's work.
E. The contractor shall verify all field dimensions, existing conditions, and noted assumptions. Any deviations shall be coordinated with the design engineer and the Davis County Health Department prior to proceeding with the related work concerning the deviation.
F. All plan dimensions to take precedence over the scale shown on the plans.
G. Install green insulated 12 gauge copper toning wire approved for direct bury to be placed in all trenches where pipe has been installed, to facilitate future location of installed components.
H. Trench excavation shall not occur when soils are wet enough to smear or during precipitation.
I. System construction shall conform to requirements set forth by the Utah Administrative Code R317-4, Onsite Wastewater Systems Rule and conditions set by Davis County Health Department as part of construction approval permit. Whenever there is a conflict between these requirements, the most stringent shall apply.
J. The contractor is responsible to ensure that the construction permit has been approved and issued prior to construction of the system.
K. The contractor is responsible to have all required inspections to be made by the Davis County Health Department prior to any backfilling.

INSTALLATION NOTES:

A. Sewer pipe from wastewater system to tank and tank to wastewater system must be solid sewer pipe ASTM D-3034. Minimum slope for pipe is 2% or 1/4" per foot.
B. All solid pressure pipe installed within the system must be schedule 40 PVC pipe or approved poly pipe.
C. The contractor shall be responsible to locate property lines and verify minimum setback requirements are met. Any property lines shown on plans are approximate only.
D. All setback requirements shown on plans to be confirmed by field measurements.
E. Trees must be located 5' or more from the absorption system. All vegetation near the absorption system must be shallow rooted.
F. Installed tanks shall be watertight, confirmed by inspection. The tanks shall be filled 24 hours before the inspection to allow stabilization of the water level. During watertight test inspection there shall be no change in the water level for 30 minutes. Nor shall moving water, into or out of the tank, be visible.
G. The proposed packed bed media system is the textile AdvanTex system with all accompanying pumps, floats, valves, control panel, etc. as an integrated wastewater treatment system. Any changes in equipment other than what is proposed requires prior approval by the design engineer to confirm equal in performance and approval criteria.

GENERAL NOTES:

A. Do not dispose of toxics or hazardous chemicals into system (e.g., excess degreasers and cleansers, wax stripper, carpet shampoo, water softener backwash brine, or any other toxic waste products that may harm the biological process within the system).
B. Periodically, the flows and waste strengths discharged into the system should be monitored. If flow or any of the influent waste strengths exceed typical residential wastewater characteristics, measures should be taken to reduce the parameters to typical levels. Otherwise, additional system capacity may be needed.
C. Utah rules require that a properly certified service provider (Level 3) perform routine system maintenance once every six months, including the measurement of sludge and scum in the septic tank and observations of any ponding within the system. The septic tank should be pumped as deemed necessary per the recommendations of sludge and scum accumulation set forth in R317-4. System servicing also requires testing the treated effluent for turbidity. Additional requirements for onsite wastewater system operation and maintenance can be found in R317-4.

OPERATION AND MAINTENANCE:

The proposed system is an alternative onsite wastewater system. All alternative onsite wastewater systems have operational requirements in state and local health department rules. A quick summary of those requirements is listed below. See actual rules for all details.
1. The system must be operated by a Service Provider with Level 3 certification.
2. Semi-annual inspections are required.
3. Inspections should verify system operation and confirm the system is in compliance. Adjustments should be made where needed.
4. O & M Manual to be followed for routine activities.
4. Performance sampling is required as follows:
State Rule:
Turbidity < 20 mg/L (every six months)

Pump Settings
Both the recirculation and discharge pump are to be operated on a timer based control system using the Orenco Systems VCOM Control Panel or Approved Equal.

Actual timer settings to be adjusted as needed for optimal performance. Recirculation ratio should be maintained between 3:1 to 7:1 ratio. Initial settings to be as follows:

Normal ON	1.5 min
Normal OFF	11.5 min
Override ON	1.5 min
Override OFF	5.5 min

Equipment Schedule

Note: The following equipment schedule listed below includes major components and/or unique components of the wastewater treatment system designed. It does not include pipe from component to component or conduit and wire from control panel to component(s). Items not listed in the following schedule are the responsibility of the bidding contractor to procure and install.

Alternate equipment proposed as "equal" may be approved per the requirements listed in the specification Section 46 53 65

Controls

Model #	Description	Qty.
MVP-CAX	Custom MVP Control Panel MVP-S/DAX//D/DAX/DAX208 3 Phase 7C/PTRO/PT/PTRO/RO CS DF DS XF XH (3)UVIB TR MOV Eff	1

Septic Tank #1

Model #	Description	Qty.
25,000 gal. tank	Xerxes 25,000 gallon fiberglass septic tank	1
RR2484	PVC, 24" diameter, 84" tall, access riser	3
FLD24GI2	Fiberglass lid, 24" diameter, 2" insulation	3
RR3084	PVC, 30" diameter, 84" tall, access riser	1
FLD30GI2	Fiberglass lid, 30" diameter, 2" insulation	1
FT1260-36A	Effluent filter, 12" diameter, 36" tall cartridge	1
MF1P-20	Alarm Float	1

Aeration/Clarification Tank #2

Model #	Description	Qty.
15,000 gal. tank	Xerxes 15,000 gallon fiberglass septic tank	1
RR2484	PVC, 24" diameter, 36" tall, access riser	2
FLD24GI2	Fiberglass lid, 24" diam, 2" insulation	2
RR3084+(2)SX	PVC, 30" diameter, 36" tall, access riser	1
FLD30GI2	Fiberglass lid, 30" diam, 2" insulation	1
FITR-P120	High head pump flow inducer tower, 120" tall	1
PF50073200-30	High head pump, 50 gpd, 3/4 hp, 3 phase, 208 V	2
HV200	Pump discharge assembly, 2"	2
Mazzei 2081	Mazzei Injector, Model 2081, 2"	2
Mazzei N25-DT	Mazzei Nozzles, Model N22-DT	8
RR3030	Fiberglass riser, 30" diam, 30" tall	1
FLD30GI2	Fiberglass lid, 30" diam, 2" insulation	1
Maz-Kit WhiteR	Mazzei vent & fitting kit	1
PVU120-2425-L	Universal Pump Vault, 120" tall	1
PF30053200-30	High head pump, 50 gpd, 1/2 hp, 3 phase, 208 V	2
HV125	Pump discharge assembly, 1.25"	2
MF4P -20	Mechanical Float Tree, 4 floats	1
SBE1-4	External Splice Box	3

Packed-Bed Media Filter Treatment System

Model #	Description	Qty.
AX-Max275-42	Textile Packed-Bed Media Filter System, includes recirculation takn volume, dose tank volume, pumps, floats, ventilation fan, UV units, per details on plan sheets	1

Absorption System

Model #	Description	Qty.
VG1500S	PVC Gate Valve, 1.5"	2
RR2430	PVC, 24" diameter, 30" tall, access riser	1
FLD24GI4	Fiberglass access riser, 24" diam, 4" insulation	1
V6402A	2-Zone automatic distributing valve	1
LP15060-10-C	Pre-Drilled Lateral Piping, 1/8" Orifice, 5' O.C., 10' long	60
SEA150-C	Flushing Assembly, 1.5" diameter, Field Cut	6
VB10	Valve Box, 10" diameter	6

Wastewater Design by:
JEX ENVIRONMENTAL SOLUTIONS
Richard Jex, PE, LEHS 435-753-2051
77 West 3650 South Logan, Utah 84321

BENCHMARK

NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4315.30'

811 Know what's below. Call before you dig.

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
DATE: 1/12/2022
NO. 343802-2202
RICHARD F. JEX
STATE OF UTAH

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WWTP DESIGN & DCFM COMMENTS	RJ
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8			

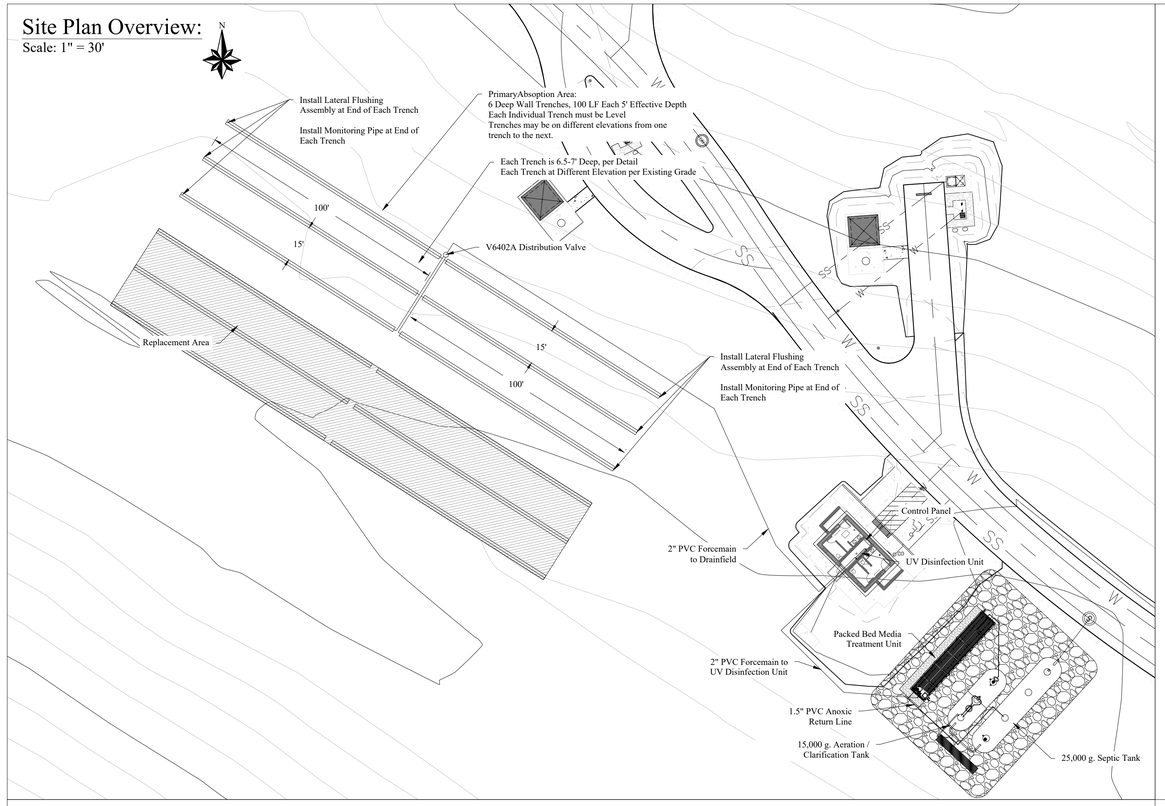
ONSITE WASTEWATER TREATMENT PLANT AND DETAILS

PROJECT NUMBER 10970	PRINT DATE 1/12/22
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

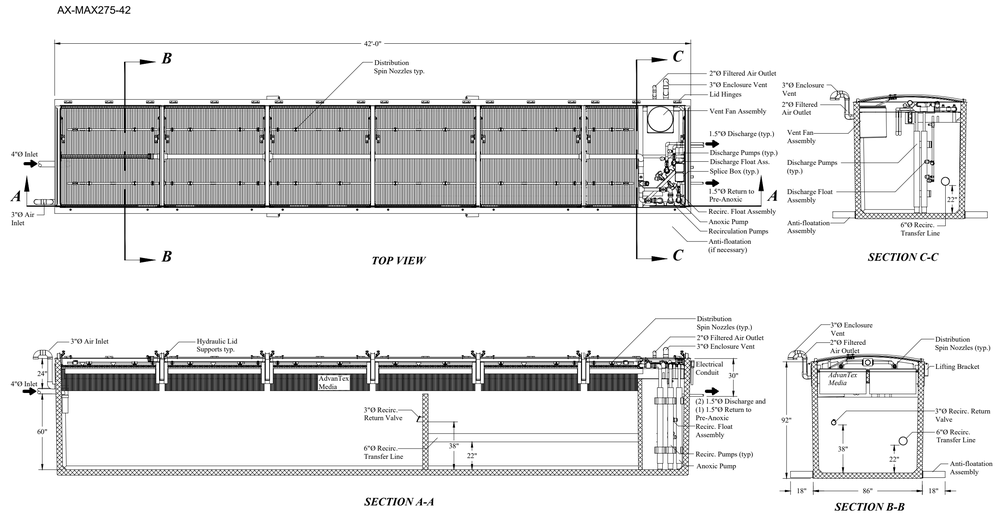
WWC-100-01

Site Plan Overview:

Scale: 1" = 30'

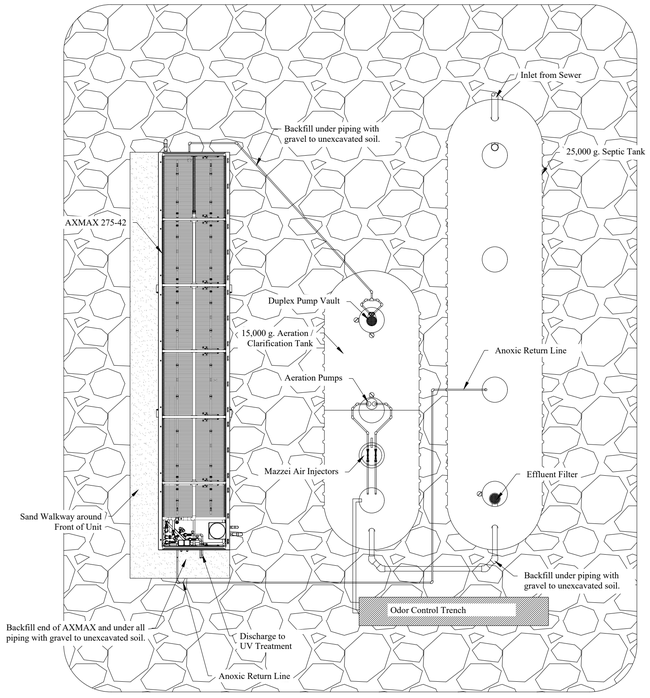


AXMAX275-42:



Site Plan Overview:

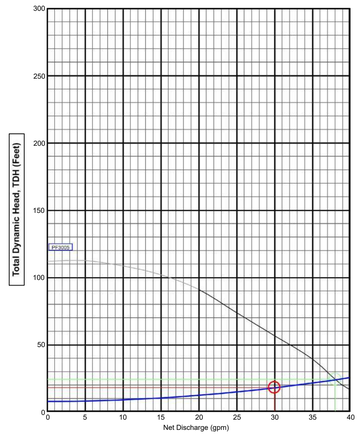
Note:
1) Backfill under all piping with gravel to unexcavated soil.



Pump Selection for a Non-Pressurized System - Commerical Project

White Rock Bay Campground / EQ to AXMAX Pumps

Parameters		
Discharge Assembly Size	1.25	inches
Transport Length	35	feet
Transport Pipe Class	40	
Transport Line Size	1.25	inches
Distributing Valve Model	None	
Max Elevation Lift	8	feet
Design Flow Rate	30	gpm
Flow Meter	None	inches
'Add-on' Friction Losses	0	feet
Calculations		
Transport Velocity	6.5	fps
Frictional Head Losses		
Loss through Discharge	6.3	feet
Loss in Transport	3.9	feet
Loss through Valve	0.0	feet
Loss through Flowmeter	0.0	feet
'Add-on' Friction Losses	0.0	feet
Pipe Volumes		
Vol of Transport Line	2.7	gals
Minimum Pump Requirements		
Design Flow Rate	30.0	gpm
Total Dynamic Head	18.2	feet



PumpData

PF3005 High Head Effluent Pump
30 GPM, 1/2HP
115/230V 1Ø 60Hz, 200V 3Ø 60Hz

Legend

System Curve:
Pump Curve:
Pump Optimal Range:
Operating Point:
Design Point:

Orenco Systems — PROTECTING THE WORLD'S WATER

Wastewater Design by:

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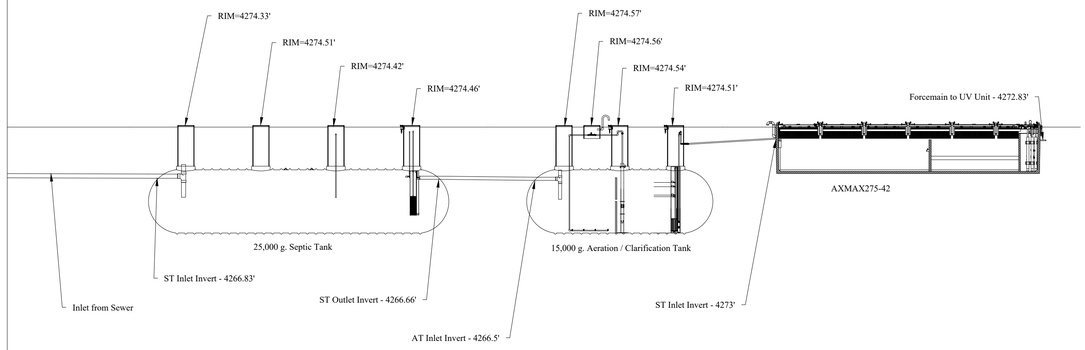
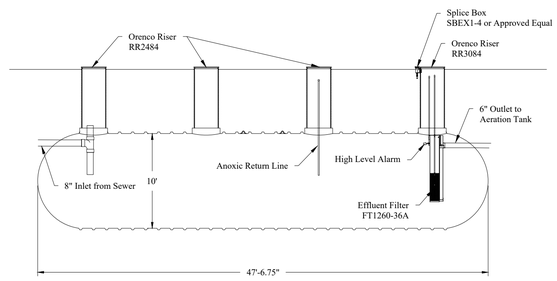
WWC-100-02

System Profile:
Scale: nts



Septic Tank Detail:
Scale: nts



Anoxic Return Detail:
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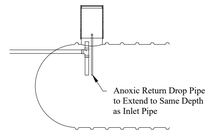

Anoxic Return Detail:
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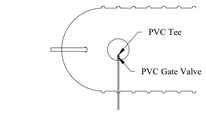

Anoxic Return Detail:
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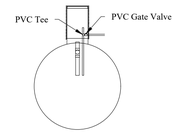
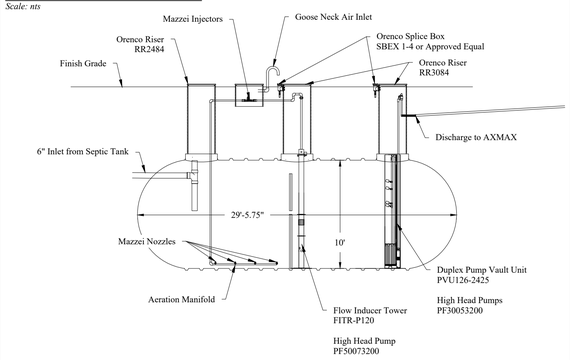
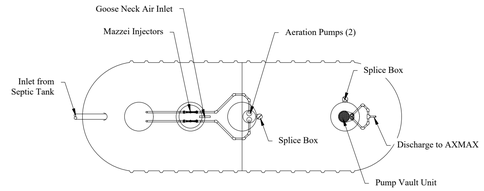


Aeration / Clarification Tank Detail: Side View
Scale: nts

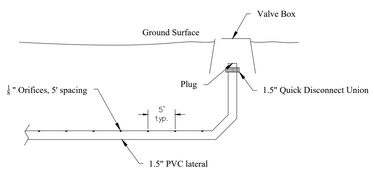


Aeration / Clarification Tank Detail: Top View
Scale: nts

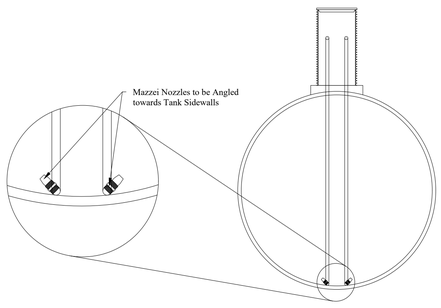


Perforated Lateral Detail:
Scale: nts

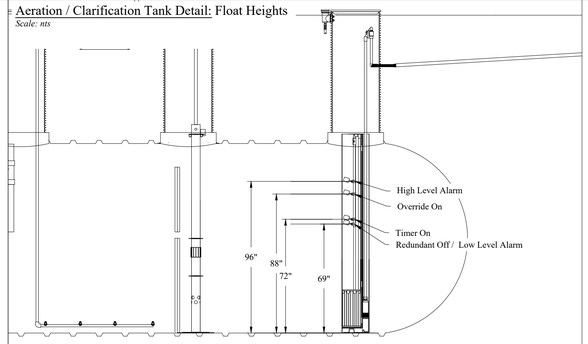
First, middle & end orifices to be in 6 o'clock position if chambers are used.
All orifices to be in the 6 o'clock position if gravel trenches are used.



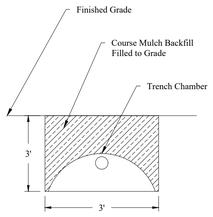
Aeration / Clarification Tank Detail: Nozzles View
Scale: nts



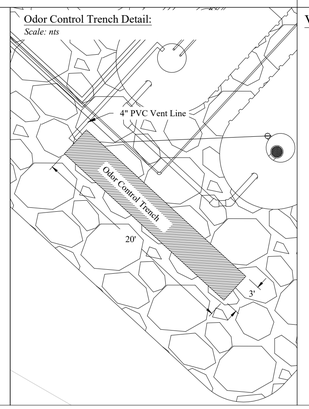
Aeration / Clarification Tank Detail: Float Heights
Scale: nts



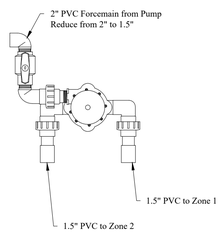
Odor Control Trench Detail:
Scale: nts



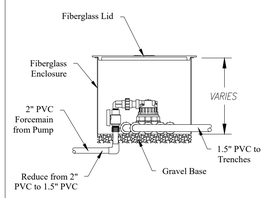
Odor Control Trench Detail:
Scale: nts



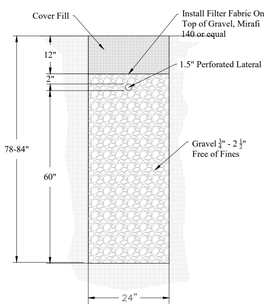
V602 Distribution Valve: Top View



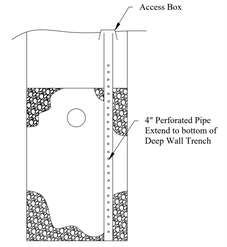
V602 Distribution Valve: Side View



Trench Detail:



Monitoring Pipe Detail:



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LAYTON
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FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
DATE: 1/12/2022
NO. 343802-2202
RICHARD F. JEX
STATE OF UTAH

CONFORMANCE SET 01/12/2022

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7			
8			

Wastewater Design by:
JEX ENVIRONMENTAL SOLUTIONS
Richard Jex, PE, LEHS 435-753-2051
77 West 3650 South Logan, Utah 84321

BENCHMARK

NORTHWEST CORNER OF SECTION 31, TOWNSHIP 4 NORTH, RANGE 3 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4315.30'

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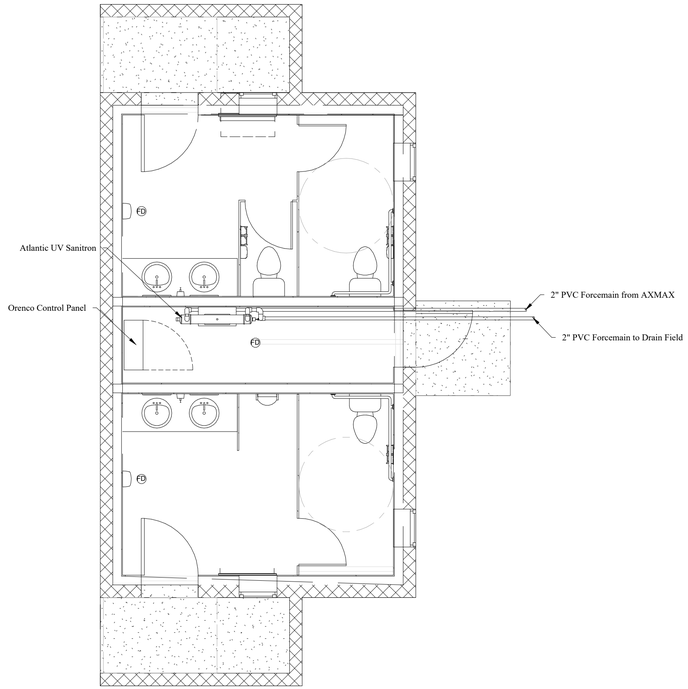
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
REVIEWED FOR CODE COMPLIANCE
SIGNATURE:
DATE: 01/25/2022

ONSITE WASTEWATER TREATMENT PLANT AND DETAILS

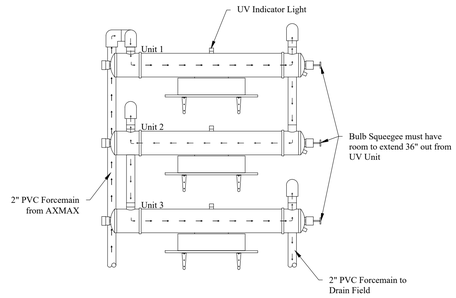
PROJECT NUMBER	PRINT DATE
10970	1/12/22
DRAWN BY	CHECKED BY
G. OFFERMANN	F. DUBEROW
PROJECT MANAGER	
R. ROUSSELLE	

WWC-100-03

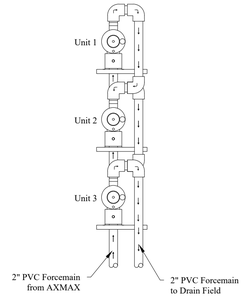
Controls Room Overview:
Scale: nts



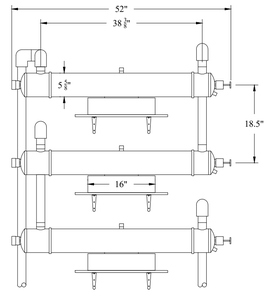
UV Disinfectant Unit: Front View Flow Path
Scale: nts



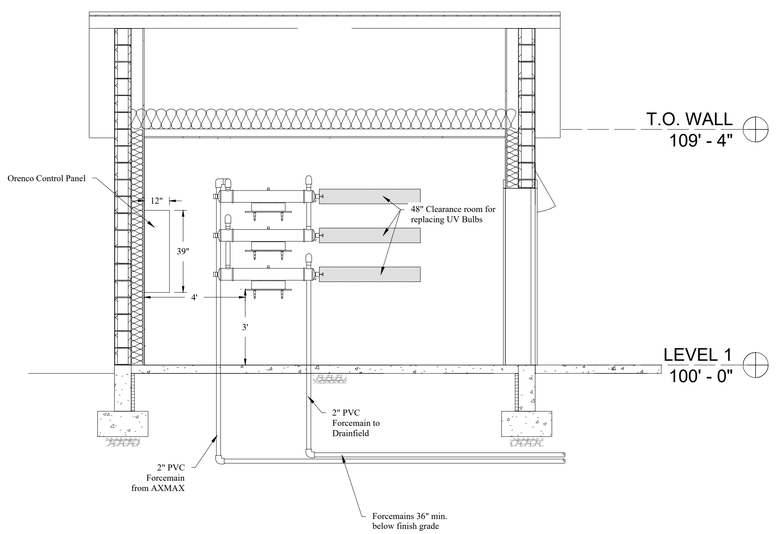
UV Disinfectant Unit: End View Flow Path
Scale: nts



UV Disinfectant Unit: Front View Dimensions
Scale: nts



Controls Room Overview:
Scale: nts



Pump Selection for a Pressurized System - Commerical Project

White Rock Bay Camground / AXMAX Discharge

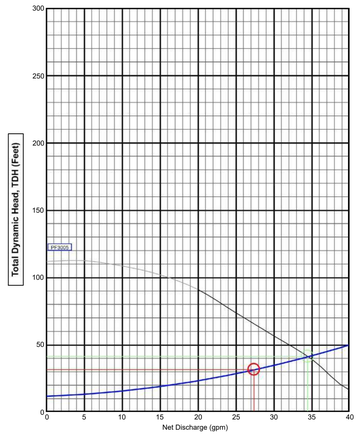
Parameters		
Discharge Assembly Size	2.00	inches
Transport Length Before Valve	400	feet
Transport Pipe Class	40	
Transport Line Size	2.00	inches
Distributing Valve Model	6402	
Transport Length After Valve	25	feet
Transport Pipe Class	40	
Transport Pipe Size	1.50	inches
Max Elevation Lift	12	feet
Manifold Length	30	feet
Manifold Pipe Class	40	
Manifold Pipe Size	1.50	inches
Number of Laterals per Cell	6	
Lateral Length	100	feet
Lateral Pipe Class	40	
Lateral Pipe Size	1.50	inches
Orifice Size	1/8	inches
Orifice Spacing	5	feet
Residual Head	5	feet
Flow Meter	None	inches
'Add-on' Friction Losses	0	feet

Calculations		
Minimum Flow Rate per Orifice	0.43	gpm
Number of Orifices per Zone	63	
Total Flow Rate per Zone	27.4	gpm
Number of Laterals per Zone	3	
% Flow Differential 1st/Last Orifice	1.9	%
Transport Velocity Before Valve	2.6	fps
Transport Velocity After Valve	4.3	fps

Frictional Head Losses		
Loss through Discharge	1.5	feet
Loss in Transport Before Valve	5.3	feet
Loss through Valve	6.2	feet
Loss in Transport after Valve	1.1	feet
Loss in Manifold	0.4	feet
Loss in Laterals	0.2	feet
Loss through Flowmeter	0.0	feet
'Add-on' Friction Losses	0.0	feet

Pipe Volumes		
Vol of Transport Line Before Valve	69.7	gals
Vol of Transport Line After Valve	2.6	gals
Vol of Manifold	3.2	gals
Vol of Laterals per Zone	31.7	gals
Total Vol Before Valve	69.7	gals
Total Vol After Valve	37.5	gals

Minimum Pump Requirements		
Design Flow Rate	27.4	gpm
Total Dynamic Head	31.7	feet



PumpData

PF3005 High Head Effluent Pump
30 GPM, 1/2HP
115/230V 1Ø 60Hz; 200V 3Ø 60Hz

Legend

System Curve:
Pump Curve:
Pump Optimal Range:
Operating Point:
Design Point:

Orenco SYSTEMS
PROTECTING THE WORLD'S WATER

Wastewater Design by:

JEX ENVIRONMENTAL SOLUTIONS

Richard Jex, PE, LEHS 435-753-2051
77 West 3650 South Logan, Utah 84321

BENCHMARK

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TOOELE
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CEDAR CITY
Phone: 435.865.1453

RICHFIELD
Phone: 435.896.2983

WWW.ENSIGNENG.COM

FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:
PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
DATE: 1/12/2022
NO. 343802-2202
RICHARD F. JEX
STATE OF UTAH

CONFORMANCE SET 01/12/2022

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2			
3	01/12/2022	DFCM COMMENTS	RJ
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6			
7			
8			

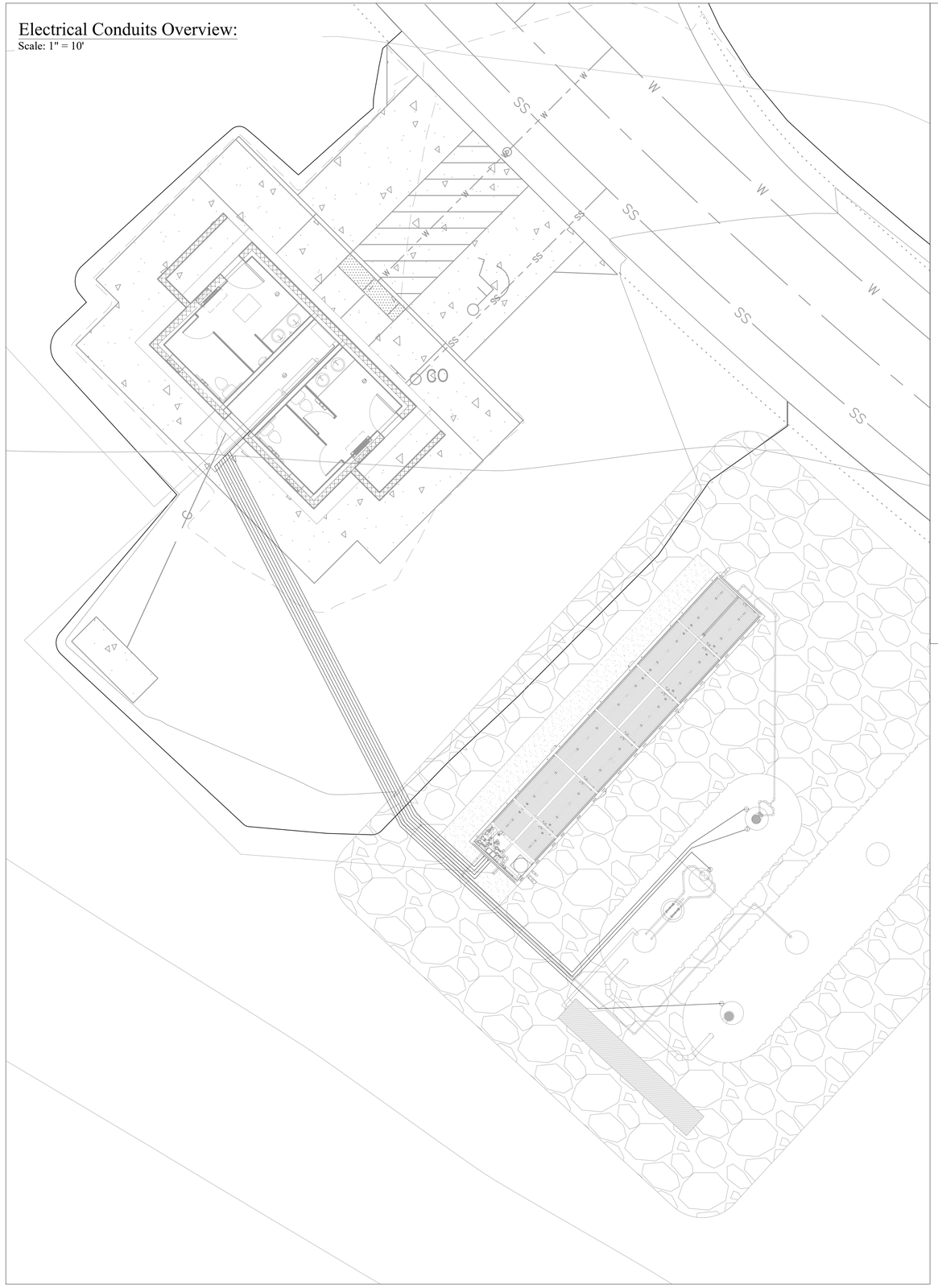
ONSITE WASTEWATER TREATMENT PLANT AND DETAILS

PROJECT NUMBER 10970	PRINT DATE 1/12/22
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

WWC-100-04

Electrical Conduits Overview:

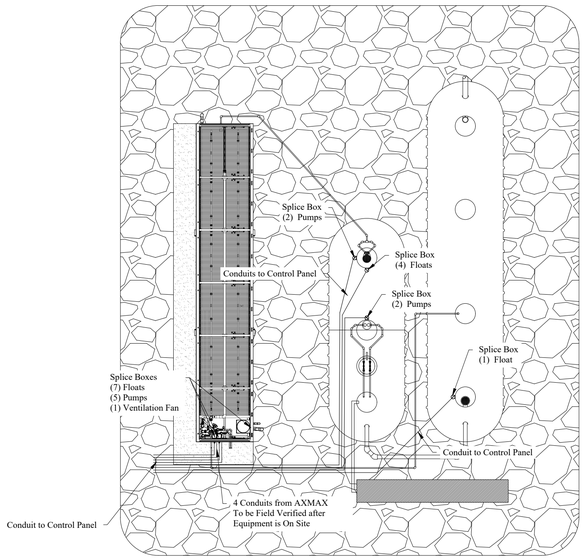
Scale: 1" = 10'



Electrical Conduits Overview:

Scale: 1" = 10'

Note:
1) Each Splice Box Requires Conduit and Wire Connected back to Control Panel at Building.
2) Conduits to be 1" unless otherwise specified.



Wastewater Design by:

JEX ENVIRONMENTAL SOLUTIONS

Richard Jex, PE, LEHS 435-753-2051
77 West 3650 South Logan, Utah 84321

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Phone: 435.896.2983

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FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129

CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

PROFESSIONAL ENGINEER
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RICHARD F. JEX
STATE OF UTAH

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ONSITE WASTEWATER TREATMENT PLANT AND DETAILS

PROJECT NUMBER 10970	PRINT DATE 1/12/22
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

WWC-100-05

ICON Shelter Systems Inc

JOB NUMBER: 5942
JOB NAME: WILLARD BAY STATE PARK - Pond Group
JOB LOCATION: WILLARD UT

REVISION: A
FINAL INSTALLATION DRAWINGS (RRG - 11/21/18)

TABLE OF CONTENTS

DESIGN LOADS

CODE: 2015 INTERNATIONAL BUILDING CODE

TOTAL DEAD: 14.16 P.S.F.
FRAME DEAD: 11.16 P.S.F.
ROOF DEAD: 1.20 P.S.F.
COLLATERAL DEAD: 1.80 P.S.F.
ROOF LIVE LOAD: 20.00 P.S.F.
GROUND SNOW LOAD: 43.00 P.S.F.
ROOF SNOW LOAD: 36.12 P.S.F.
WIND SPEED: 115.00 M.P.H.
EXPOSURE: C
SEISMIC USE GROUP: I
SEISMIC SITE CLASS: D
SEISMIC DESIGN CATEGORY: D
SEISMIC ANALYSIS: SIMPLIFIED

NOTES

MATERIALS

	(ASTM DESIGNATION)
TUBE STEEL (HSS HOLLOW STRUCTURAL SECTION)	A- 500 GRADE B
WIDE FLANGE SECTIONS	A- 992
STRUCTURAL STEEL PLATE	A- 36
ROOF PANELS (STEEL)	A- 446
ANCHOR BOLTS	F1554 GRADE 55
CONNECTION BOLTS	A- 325

ALL WELDING CONFORMS TO THE LATEST EDITION OF AWS D1.1 OR D1.3 AS REQUIRED. ALL WELDING IS PERFORMED BY AWS CERTIFIED WELDERS.

IF THESE DRAWINGS ARE SEALED, THE SEAL APPLIES ONLY TO THE MATERIALS SUPPLIED BY ICON SHELTER SYSTEMS INC. AND IS NOT INTENDED AS THE SEAL OF THE ENGINEER OF RECORD FOR THE ENTIRE PROJECT.

DUE TO STANDARDIZED FABRICATION CHARTS SHOWN MAY BE UPGRADED. REFER TO THE SHIPPING BILL OF MATERIALS FOR POSSIBLE SUBSTITUTIONS.

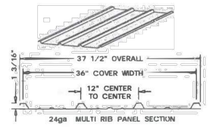
ICON SHELTER SYSTEMS INC. RECOMMENDS THAT THE PRIMARY FRAMING INSTALLER AND THE ROOF INSTALLER HAVE A MINIMUM OF FIVE (5) YEARS OF DOCUMENTED EXPERIENCE INSTALLING THIS TYPE OF PRODUCT.

HIGH STRENGTH BOLTING
ALL HIGH STRENGTH BOLTS SHALL BE A- 325 BOLTS WITH HEAVY HEX NUTS. THE BOLTS ARE TO BE INSTALLED UTILIZING THE "SPECIFICATION FOR STRUCTURAL JOINTS ASTM A325 OR A490 BOLTS" (12/31/2009) AS PREPARED BY RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC) AND THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC). THE BOLTS SHALL BE INSTALLED AS SNUG TIGHTENED WHICH IS DEFINED AS THE TIGHTNESS THAT IS ATTAINED WITH A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH TO BRING THE PLIES INTO FIRM CONTACT, WHICH IS THE CONDITION WHERE THE PLIES OF CONTACT BETWEEN TWO PLIES ARE SOLIDLY SEATED AGAINST EACH OTHER, BUT NOT NECESSARILY IN CONTINUOUS CONTACT WITH UTILIZATION OF THE SNUG TIGHTENING METHOD, NO WASHERS ARE REQUIRED.
ALL CONNECTIONS ARE BEARING TYPE CONNECTIONS UNLESS NOTED OTHERWISE.

IT IS THE RESPONSIBILITY OF THE INSTALLER TO INSURE PROPER TIGHTNESS.

PROPER ERECTION OF THE FRAMING MEMBERS REQUIRES THE MAIN COLUMNS TO BE PLUMB & SQUARE. COLUMNS, RAFTER, AND TIE BEAM CONNECTIONS MUST BE TIGHTENED BEFORE INSTALLING THE PURLINS. PURLINS MUST BE PARALLEL TO THE TIE BEAMS AND EAVE BEAMS.

ROOF



THIS SEAL PERTAINS ONLY TO THE MATERIALS AND INFORMATION SHOWN ON THESE DRAWINGS. THIS SEAL DOES NOT SIGNIFY AN ENGINEER OF RECORD SEAL FOR THE PROJECT. WARRANTY OF SECURITY AND STABILITY ARE THE RESPONSIBILITY OF THE BUILDER AND NOT THE MANUFACTURER.

ICON Shelter Systems Inc
DISTINCTIVE STEEL BUILDINGS
WWW.ICONSHELTERS.COM
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1455 LINCOLN AVE.
HOLLAND MI. 49423
616.396.0919
800.748.0981
616.396.0944 FX

Cover sheet

DRAWN BY: ANGEL
DATE: 11/21/2018
JOB NO.: 5942
REVISION: A
BUILDING TYPE: RH24X44M-P4
PROJECT NAME: WILLARD BAY STATE PARK WILLARD UT
SHEET 1.0

S:\Engineering\Drawings\Jobs\5942\RH24X44M-P4.dwg
PRINTED ON : 11/21/2018

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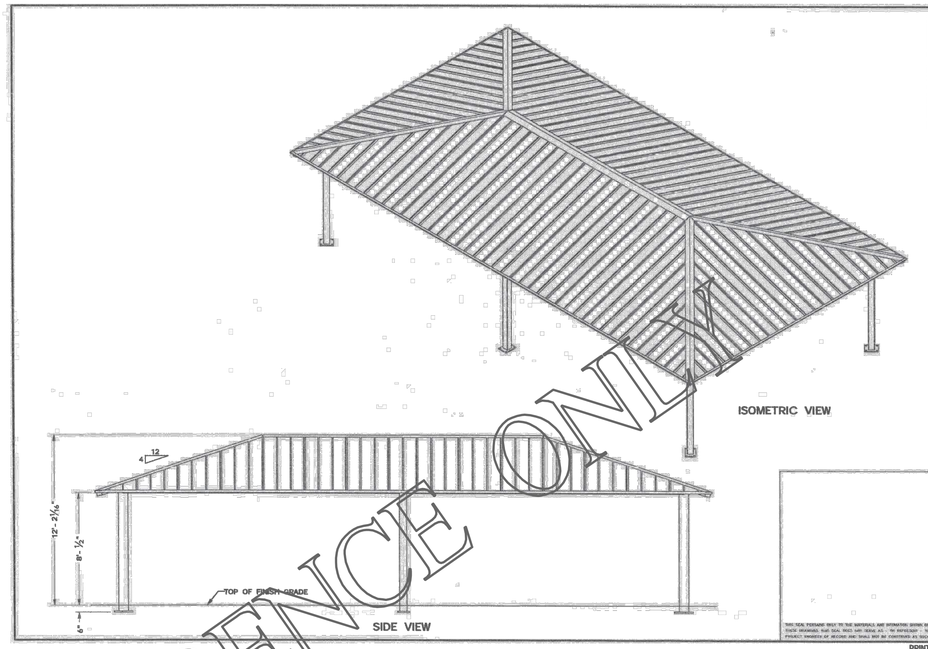
COVER SHEET

PROJECT NUMBER 10970
PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN
CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE

PAR-1.0



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616.396.0919
800.744.0995
616.396.5944 FX

Elevation

DRAWN BY:	ANGEL
DATE:	11/21/2018
JOB NO.:	5942
REVISION:	A
BUILDING TYPE:	RH24X44M- P4
PROJECT NAME:	WILLARD BAY STATE PARK WILLARD UT
SHEET	2.0

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FOR:
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CONTACT:

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
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SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/01/2021	WITF DESIGN & DFCM COMMENTS	GWO
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ELEVATION

PROJECT NUMBER	10970
PRINT DATE	1/12/2022
DRAWN BY	G. OFFERMANN
CHECKED BY	F. DUBEROW
PROJECT MANAGER	R. ROUSSELLE

PAR-2.0

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SIGNATURE:
DATE: 01/25/2022

www.hilti.com

Company:		Page:	1
Address:		Specifier:	
Phone I Fax:	|	E-Mail:	
Design:	Concrete - Feb 17, 2021 (1)	Date:	2/17/2021
Fastening point:			

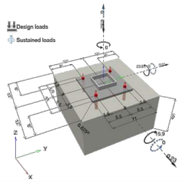
Specifier's comments:

1 Input data

Anchor type and diameter:	**HIT-HY 200 + HAS-V-36 (ASTM F1554 Gr.36) 3/4**
Item number:	2198028 HAS-V-36 3/4"x6" (element) / 2022793 HIT-HY 200-R (adhesive)
Effective embedment depth:	$h_{ef,act}$ = 3.500 in. ($h_{ef,min}$ = 15.000 in.)
Material:	ASTM A 1554 Grade 36
Evaluation Service Report:	ESR-3187
Issued I Valid:	4/1/2020 | 3/1/2022
Proof:	Design Method ACI 318-14 / Chem
Stand-off installation:	e_b = 0.000 in. (no stand-off); t = 0.625 in.
Anchor plate[R]:	l_x x l_y x t = 11.000 in. x 11.000 in. x 0.625 in.; (Recommended plate thickness: not calculated)
Profile:	Square HSS (AISC), HSS5X5X.1875; (L x W x T) = 5.000 in. x 5.000 in. x 0.188 in.
Base material:	cracked concrete, 2500, f'_c = 2,500 psi; h = 40.000 in., Temp. short/long: 32/32 °F
Installation:	**hammer drilled hole, Installation condition: Dry**
Reinforcement:	tension: condition B, shear: condition A; no supplemental splitting reinforcement present edge reinforcement: > No. 4 bar
Seismic loads (cat. C, D, E, or F)	Tension load: yes (17.2.3.4.3 (d)) Shear load: yes (17.2.3.5.3 (c))

[R] - The anchor calculation is based on a rigid anchor plate assumption.

Geometry [in.] & Loading [kip, in.kip]



1.1 Design results

Case	Description	Forces [kip] / Moments [in.kip]	Seismic	Max. Util. Anchor [%]
1	ASCE2.3.1.7 EX	N = -0.620; V_y = 0.230; V_z = 0.370; M_x = -15.900000; M_y = -23.810000; M_z = 0.000000; N_{bua} = 0.000; $M_{x,bua}$ = 0.000000; $M_{y,bua}$ = 0.000000;	yes	62

2 Proof I Utilization (Governing Cases)

		Design values [kip]		Utilization	
Loading	**Proof**	**Load**	**Capacity**	**β_N / β_V [%]**	**Status**
Tension	Bond Strength	2.904	4.757	62 / -	OK
Shear	Concrete edge failure in direction x+	0.436	7.560	- / 6	OK

Loading	**β_N**	**β_V**	**ζ**	**Utilization $\beta_{N,V}$ [%]**	**Status**
Combined tension and shear loads	0.611	0.058	5/3	45	OK

3 Warnings

- Please consider all details and hints/warnings given in the detailed report!

Fastening meets the design criteria!

4 Remarks; Your Cooperation Duties

- Any and all information and data contained in the Software concern solely the use of Hilti products and are based on the principles, formulas and security regulations in accordance with Hilti's technical directions and operating, mounting and assembly instructions, etc., that must be strictly complied with by the user. All figures contained therein are average figures, and therefore use-specific tests are to be conducted prior to using the relevant Hilti product. The results of the calculations carried out by means of the Software are based essentially on the data you put in. Therefore, you bear the sole responsibility for the absence of errors, the completeness and the relevance of the data to be put in by you. Moreover, you bear sole responsibility for having the results of the calculation checked and cleared by an expert, particularly with regard to compliance with applicable norms and permits, prior to using them for your specific facility. The Software serves only as an aid to interpret norms and permits without any guarantee as to the absence of errors, the correctness and the relevance of the results or suitability for a specific application.
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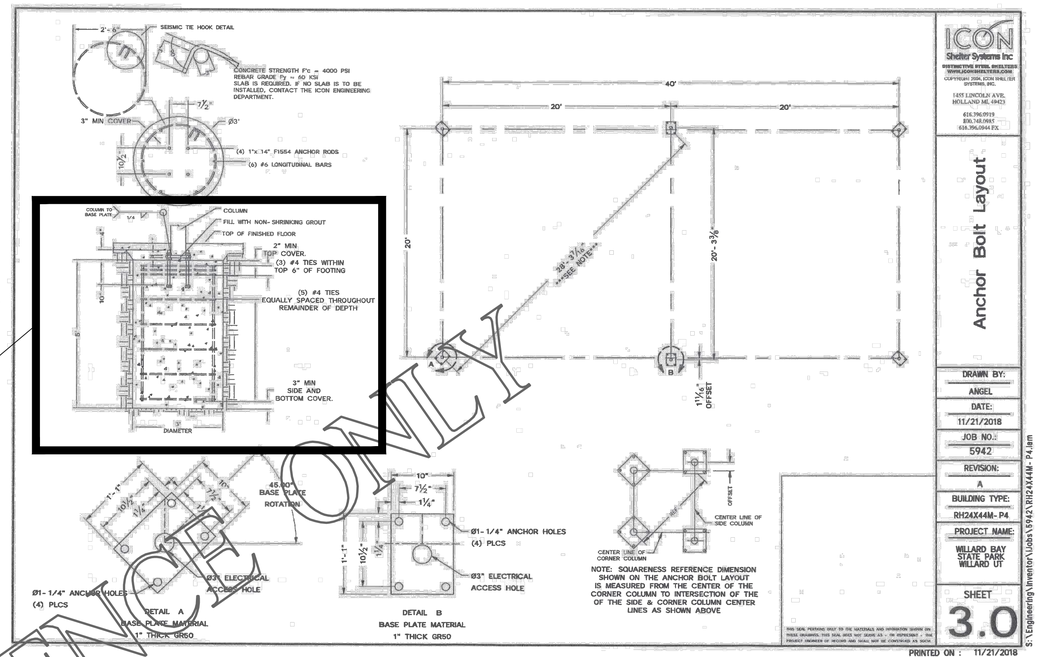
CONTRACTOR TO INSTALL BASEPLATE ON TOP OF SLAB AND DRILL AND EPOXY ANCHORS PER THE ANCHOR DESIGN SHOWN ON THIS SHEET PROVIDED BY BIG T RECREATION AND CALCULATIONS COMPLETE BY ICON (PAVILION SUPPLIER TO PROVIDE DEFERRED SUBMITTAL ON PAVILION)



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PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

CONFORMANCE SET 01/12/2022

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8			

ANCHOR BOLT LAYOUT

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DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
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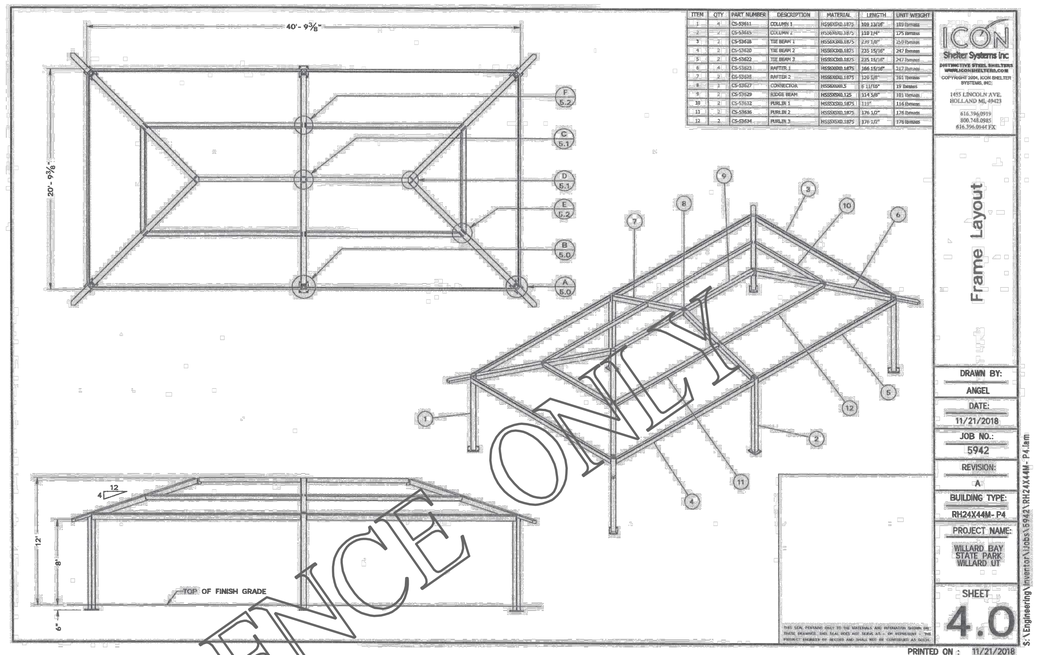
DATE: 01/25/2022

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

PAR-3.0



ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	LENGTH	UNIT WEIGHT
1	4	CS-53611	COLUMN 1	HSS6X6X0.187	169 1/16"	183 lb/mem.
2	2	CS-53615	COLUMN 2	HSS6X6X0.187	159 1/4"	175 lb/mem.
3	2	CS-53618	TIE BEAM 1	HSS6X6X0.187	237 1/8"	257 lb/mem.
4	2	CS-53620	TIE BEAM 2	HSS8X8X0.1875	235 15/16"	247 lb/mem.
5	2	CS-53622	TIE BEAM 3	HSS8X8X0.1875	235 15/16"	247 lb/mem.
6	4	CS-53623	RAFTER 1	HSS8X8X0.1875	166 15/16"	517 lb/mem.
7	2	CS-53626	RAFTER 2	HSS8X8X0.1875	120 1/8"	191 lb/mem.
8	3	CS-53627	CORBELSA	HSS6X6X0.5	1 11/16"	19 lb/mem.
9	2	CS-53629	RIDGE BEAM	HSS20X8.125	314 1/8"	781 lb/mem.
10	2	CS-53632	PURLIN 1	HSS7X3X0.1875	110"	116 lb/mem.
11	2	CS-53634	PURLIN 2	HSS6X2X0.1875	176 1/2"	176 lb/mem.
12	2	CS-53634	PURLIN 3	HSS7X3X0.1875	179 1/2"	176 lb/mem.

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Frame Layout

DRAWN BY: ANGEL
DATE: 11/21/2018
JOB NO.: 5942
REVISION: A
BUILDING TYPE: RH24X44M- P4
PROJECT NAME: WILLARD BAY STATE PARK WILLARD UT
SHEET 4.0

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SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

CONFORMANCE SET 01/12/2022

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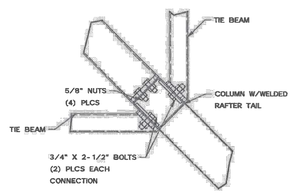
FRAME LAYOUT

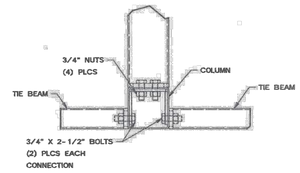
PROJECT NUMBER 10970
PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN
CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE

PAR-4.0



TIE BEAM & RAFTER CONNECTION @ CORNER COLUMN

DETAIL A



TIE BEAM & RAFTER CONNECTION @ CENTER COLUMN

DETAIL B

SEE ATTACHED PACK LIST FOR A LIST OF TRIM AND FASTENERS

NOTE TO INSTALLERS:
WITH FACTORY POWDERCOATED SHELTERS, PAINT EXPOSED FASTENERS OF COMPRESSION RINGS, ORNAMENTATION, KNIFE PLATES, ETC. WITH PROVIDED TOUCH UP PAINT TO PREVENT RUSTING OF FASTENERS

PAINT EXPOSED FASTENERS

ICON
Shelter Systems Inc
DISTINCTIVE STEEL SHELTERS
WORLDWIDE DISTRIBUTION
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800.748.2965
616.396.0844 FX

Frame Connections

DRAWN BY: ANGEL
DATE: 11/21/2018
JOB NO.: 5942
REVISION: A
BUILDING TYPE: RH24X44M-P4
PROJECT NAME: WILLARD BAY STATE PARK WILLARD UT
SHEET 5.0

PRINTED ON: 11/21/2018

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SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
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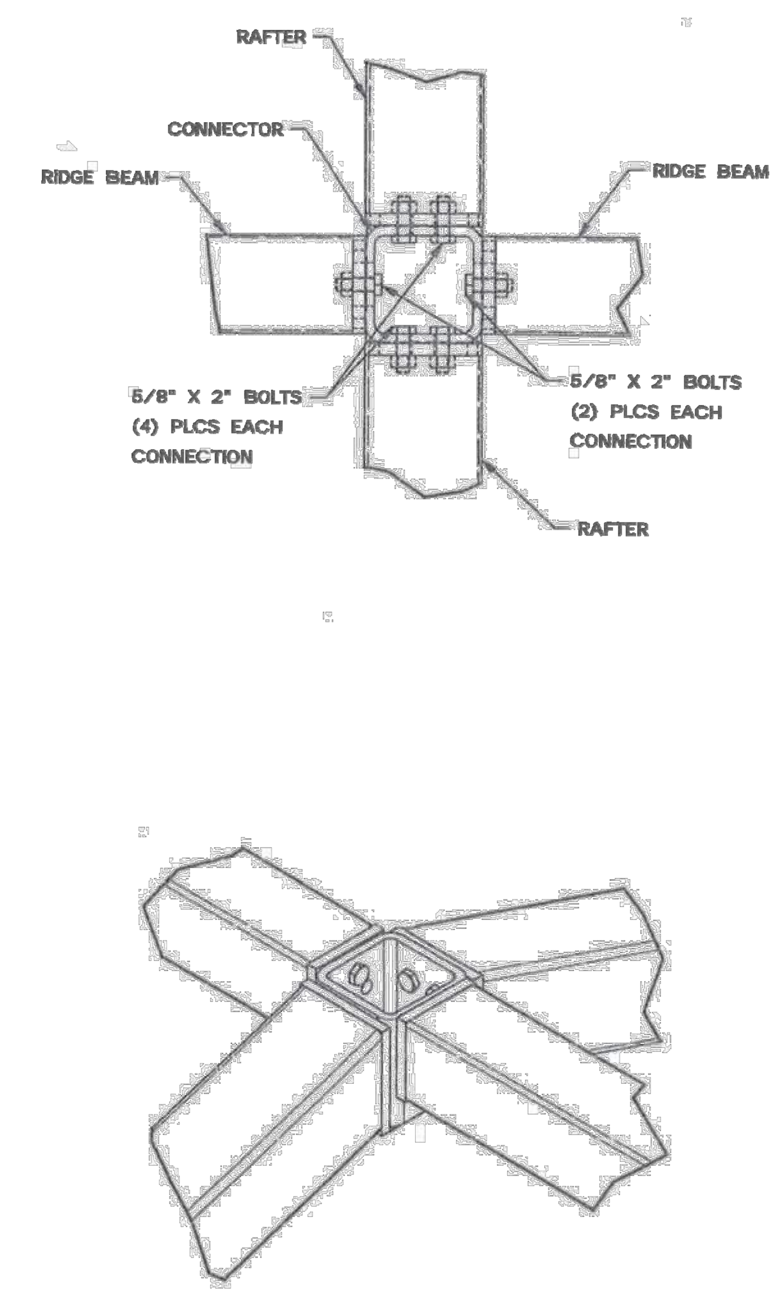
FRAME CONNECTIONS

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

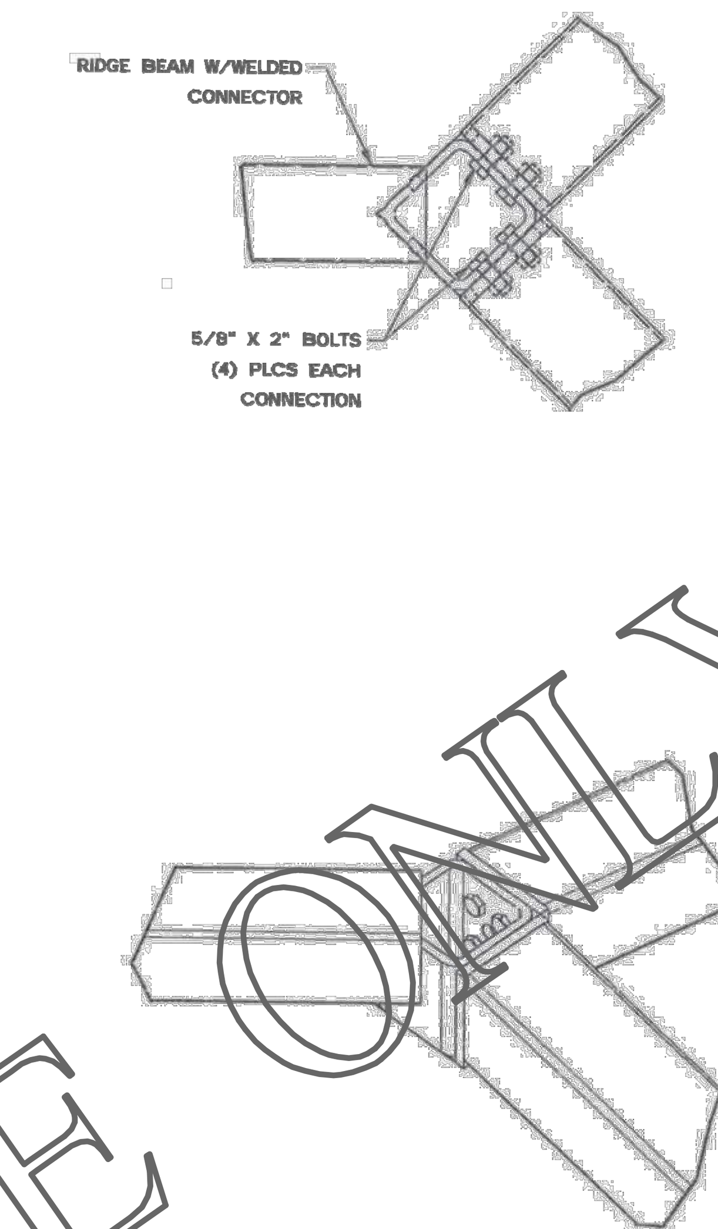
PAR-5.0



INSTALL CONNECTOR TUBE
W/OPEN SIDE UP

RAFTER & RIDGE BEAM CONNECTION
@ CONNECTOR

DETAIL C



INSTALL RIDGE BEAM W/OPEN
CONNECTOR TUBE SIDE UP

RIDGE BEAM CONNECTION
@ RAFTER

DETAIL D

NOTE TO INSTALLERS:
WITH FACTORY POWDERCOATED SHELTERS, PAINT EXPOSED FASTENERS OF COMPRESSION RINGS, ORNAMENTATION, KNIFE PLATES, ETC. WITH PROVIDED TOUCH UP PAINT TO PREVENT RUSTING OF FASTENERS

PAINT EXPOSED FASTENERS

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Frame Connections

DRAWN BY:	ANGEL
DATE:	11/21/2018
JOB NO.:	5942
REVISION:	A
BUILDING TYPE:	RH24X44M- P4
PROJECT NAME:	WILLARD BAY STATE PARK WILLARD UT
SHEET	5.1

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PHONE:

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ANTELOPE ISLAND

WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

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FRAME CONNECTIONS

PROJECT NUMBER 10970
PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN
CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE

PAR-5.1

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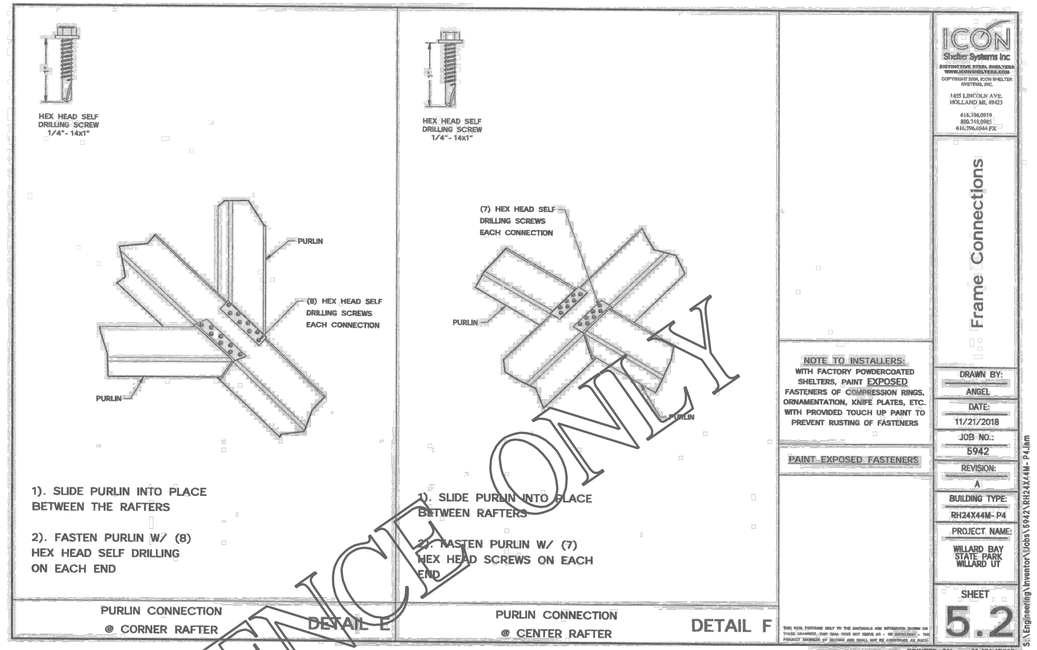
DATE: 01/25/2022



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PROJECT #: 22238510
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FRAME CONNECTIONS

PROJECT NUMBER 10970
PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN
CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE

PAR-5.2

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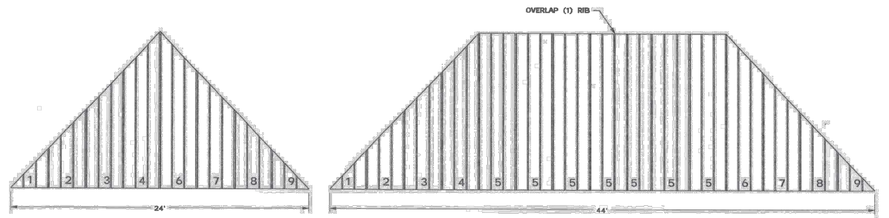


MULTI RIB ROOF LAYOUT - END

MULTI RIB ROOF LAYOUT - SIDE

THE DETAILS SHOWN ARE SUGGESTIONS OR GUIDELINES ON HOW TO ERECT THE METAL ROOFING SYSTEM. THE INFORMATION SHOWN IS ACCURATE, BUT IT IS NOT INTENDED TO COVER ALL INSTANCES, BUILDING REQUIREMENTS, DESIGNS OR CODES. CHANGES TO THE DETAILS MAY BE REQUIRED DUE TO FIELD CONDITIONS.

THE ERECTOR SHOULD THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL INSTALLATION INSTRUCTION MATERIAL BEFORE STARTING WORK.

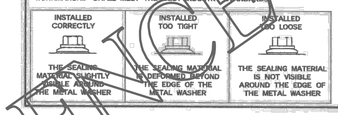
THE PANELS SHOULD BE INSTALLED PLUMB, STRAIGHT, AND ACCURATELY TO THE ADJACENT WORK.

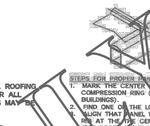
ERECTORS SHALL BE RESPONSIBLE TO ENSURE THAT THE DETAILS MEET PARTICULAR BUILDING REQUIREMENTS AND TO ASSURE ADEQUATE WATER TIGHTNESS.

FOR THE BEST APPEARANCE ALL TRIM AND FLASHING SHALL BE INSTALLED TRUE, AND IN PROPER ALIGNMENT, WITH ALL EXPOSED FASTENERS EQUALLY SPACED.

SOME FIELD CUTTING AND/OR FITTING OF PANELS, TRIM AND FLASHING IS TO BE EXPECTED BY THE ERECTOR. MINOR FIELD CORRECTIONS ARE PART OF NORMAL ERECTION WORK.

THE INSTALLATION SHALL BE PERFORMED BY EXPERIENCED METAL CRAFTSMEN AND WORKMANSHIP SHALL MEET THE SMACNA INDUSTRY STANDARDS.

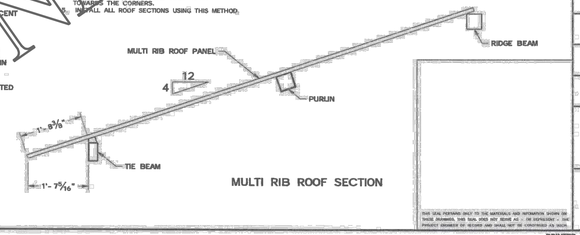




STEPS FOR PROPER PANEL INSTALLATION:
1. MARK THE CENTER OF THE TIE BEAM AND COMPRESSION RING (OR PURLIN ON MULTI TIER BUILDINGS).
2. FIND ONE OF THE LONGEST PANELS.
3. ALIGN THAT PANEL WITH THE CENTER OF THE RIB AT THE RIDGE CENTER LINE OF FRAME.
4. USE ROOF LAYOUT FOR THE CORRECT RIB TO CENTER)
5. INSTALL REMAINING PANELS WORKING OUT TOWARDS THE CORNERS.
6. INSTALL ALL ROOF SECTIONS USING THIS METHOD.

ATTENTION INSTALLERS:
METAL SHAVINGS LEFT ON ROOF WILL QUICKLY RUST AND STAIN THE ROOF FINISH!

DRILLING OR INSTALLING ROOF FASTENERS WILL CAUSE METAL SHAVINGS. THESE SHAVINGS MUST BE CAREFULLY REMOVED AT THE END OF EACH DAY BY EITHER SWEEPING OR BRUSHING THE INSTALLED ROOF.



MULTI RIB ROOF SECTION

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HOLLAND MI, 49423
616.396.0915
800.748.0965
616.396.0944 FX

Multi Rib Roof Layout

DRAWN BY:	ANGEL
DATE:	11/21/2018
JOB NO.:	5942
REVISION:	A
BUILDING TYPE:	RH24X44M- P4
PROJECT NAME:	WILLARD BAY STATE PARK WILLARD UT
SHEET	6.0

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PRINTED ON : 11/21/2018

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DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
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CONTACT:
PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
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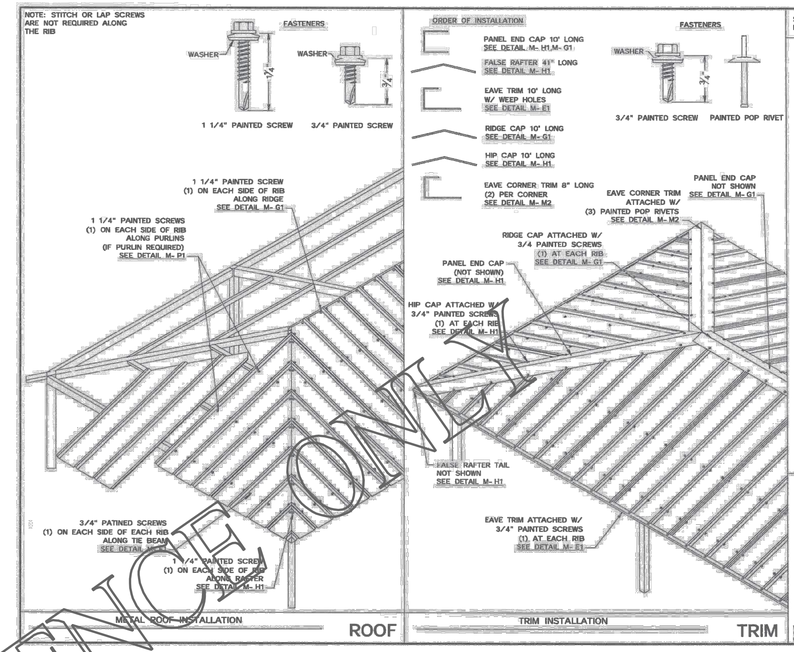
MULTI RIB ROOF LAYOUT

PROJECT NUMBER	10970
PRINT DATE	1/12/2022
DRAWN BY	G. OFFERMANN
CHECKED BY	F. DUBEROW
PROJECT MANAGER	R. ROUSSELLE

PAR-6.0



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PROJECT #: 22238510
CONTRACT #: 2270048

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ROOF CONNECTIONS

PROJECT NUMBER 10970	PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN	CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE	

PAR-7.0

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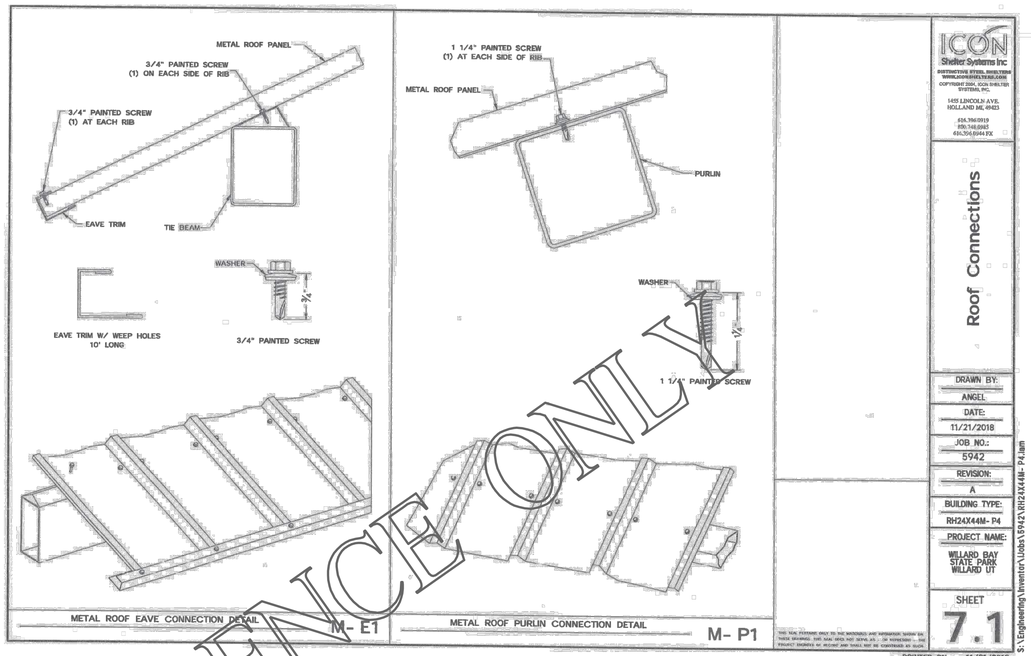

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1455 LINCOLN AVE.
HOLLAND MI, 49423
616.396.0919
800.748.0085
616.396.6944 FX

Roof Connections

DRAWN BY: ANGEL
DATE: 11/21/2018
JOB NO.: 5942
REVISION: A
BUILDING TYPE: RH24X44M- P4
PROJECT NAME: WILLARD BAY STATE PARK WILLARD UT
SHEET 7.1

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PRINTED ON : 11/21/2018

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ROOF CONNECTIONS

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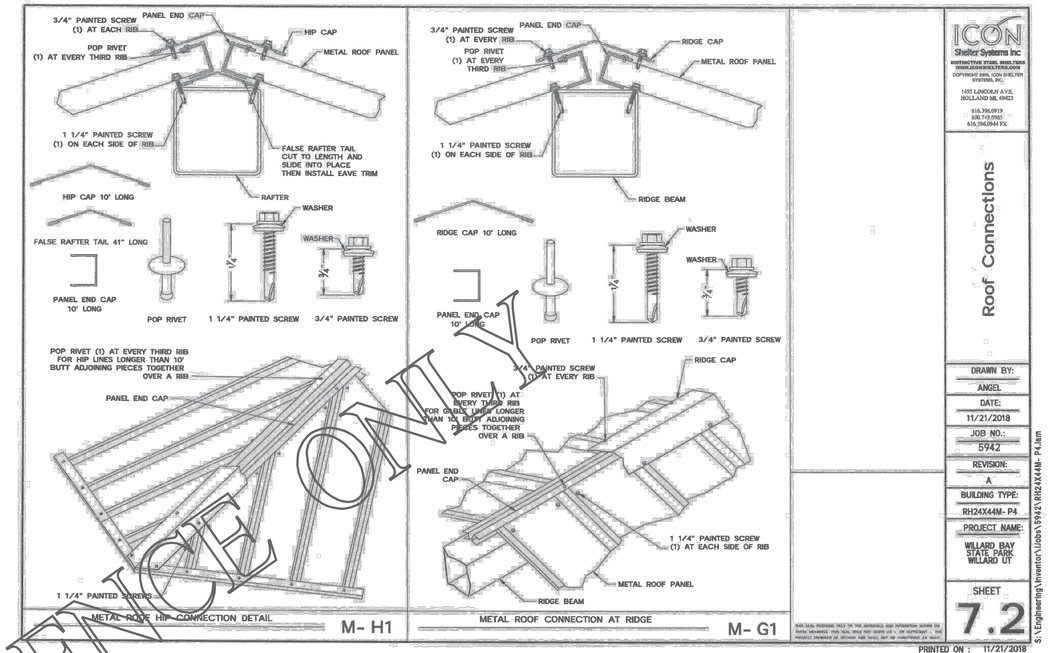
PROJECT MANAGER R. ROUSSELLE

PAR-7.1



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Roof Connections

DRAWN BY: ANGEL
DATE: 11/21/2018
JOB NO.: 5942
REVISION: A
BUILDING TYPE: RH24X44M- P4
PROJECT NAME: WILLARD BAY STATE PARK WILLARD UT
SHEET 7.2

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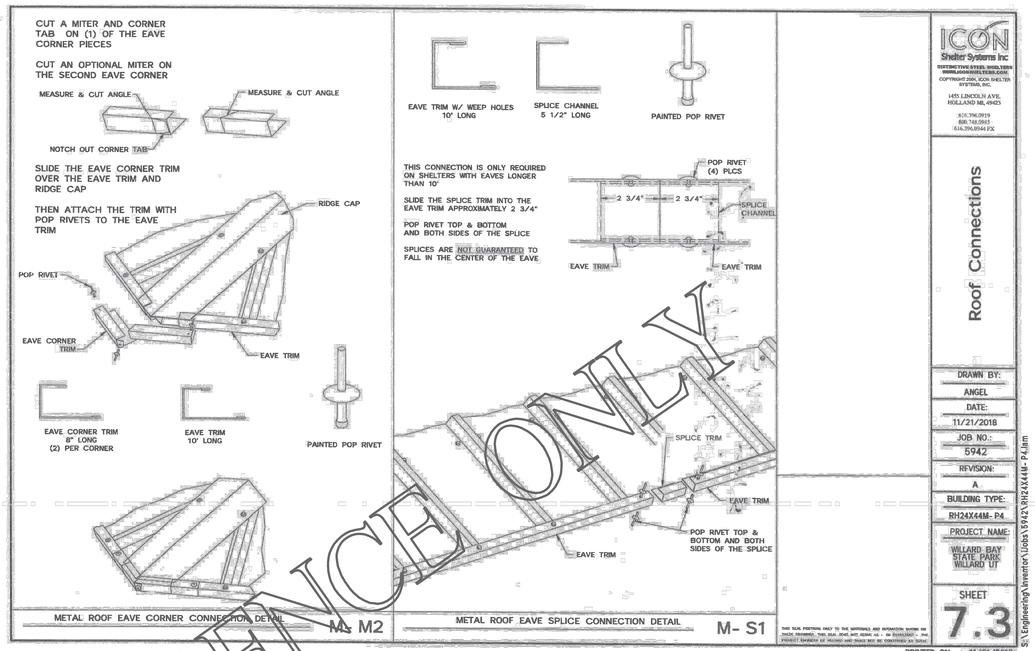
PAR-7.2



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ROOF CONNECTIONS

PROJECT NUMBER 10970
PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN
CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE

PAR-7.3

ICON
Shelter Systems Inc

JOB NUMBER: 6522
JOB NAME: ANTELOPE ISLAND STATE PARK
JOB LOCATION: SYRACUSE UT

REVISION: B
A – INITIAL SUBMITTAL REVISION (4/22/2020) JMD
B – FINAL INSTALLATION DRAWINGS (TB 5/7/2020)

TABLE OF CONTENTS

DESIGN LOADS

CODE: 2018 INTERNATIONAL BUILDING CODE

TOTAL DEAD: 16.39 P.S.F.
FRAME DEAD: 13.39 P.S.F.
ROOF DEAD: 1.20 P.S.F.
COLLATERAL DEAD: 1.80 P.S.F.
ROOF LIVE LOAD: 20.00 P.S.F.
GROUND SNOW LOAD: 43.00 P.S.F.
ROOF SNOW LOAD: 36.12 P.S.F.
WIND SPEED: 110.00 M.P.H.
EXPOSURE: C
SEISMIC USE GROUP: I
SEISMIC SITE CLASS: D
SEISMIC DESIGN CATEGORY: D
SEISMIC ANALYSIS: SIMPLIFIED

NOTES

MATERIALS

	(ASTM DESIGNATION)
TUBE STEEL (HSS HOLLOW STRUCTURAL SECTION)	A-500 GRADE B
WIDE FLANGE SECTIONS	A-992
STRUCTURAL STEEL PLATE	A-36
ROOF PANELS (STEEL)	A-446
ANCHOR BOLTS	F1554 GRADE 55
CONNECTION BOLTS	A-325

ALL WELDING CONFORMS TO THE LATEST EDITION OF AWS D1.1 OR D1.3 AS REQUIRED. ALL WELDING IS PERFORMED BY AWS CERTIFIED WELDERS. THERE IS NO FIELD WELDING REQUIRED, U.N.O.

IF THESE DRAWINGS ARE SEALED, THE SEAL APPLIES ONLY TO THE MATERIALS SUPPLIED BY ICON SHELTER SYSTEMS INC. AND IS NOT INTENDED AS THE SEAL OF THE ENGINEER OF RECORD FOR THE ENTIRE PROJECT.

DUE TO STANDARDIZED FABRICATION PARTS SHOWN MAY BE PREPARED. REFER TO THE SHIPPING BILL OF MATERIALS FOR POSSIBLE SUBSTITUTIONS.

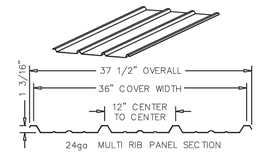
ICON SHELTER SYSTEMS INC. RECOMMENDS THAT THE PRIMARY FRAME INSTALLER AND THE ROOF INSTALLER HAVE A MINIMUM OF FIVE (5) YEARS OF DOCUMENTED EXPERIENCE INSTALLING THIS TYPE OF PRODUCT.

HIGH STRENGTH BOLTING
ALL HIGH STRENGTH BOLTS ARE ASTM A325 GRADE BOLTS WITH HEAVY HEX NUTS. THE BOLTS ARE TO BE ASSEMBLED ACCORDING TO THE "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS" (5/1/2014) AS PREPARED BY RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC) FOR THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC). THE BOLTS SHALL BE INSTALLED AS SNUG TIGHTENED WHICH IS DEFINED AS THE TIGHTNESS THAT IS ATTAINED WITH A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH TO BRING THE PLIES INTO FIRM CONTACT, WHICH IS THE CONDITION WHEN THE PLANES OF CONTACT BETWEEN TWO PLIES ARE SOLIDLY SEATED AGAINST EACH OTHER, BUT NOT NECESSARILY IN CONTINUOUS CONTACT WITH UTILIZATION OF THE SNUG TIGHTENING METHOD, NO WASHERS ARE REQUIRED.
ALL CONNECTIONS ARE BEARING TYPE CONNECTIONS UNLESS NOTED OTHERWISE.

IT IS THE RESPONSIBILITY OF THE INSTALLER TO INSURE PROPER TIGHTNESS.

PROPER ERECTION OF THE FRAMING MEMBERS REQUIRES THE MAIN COLUMNS TO BE PLUMB & SQUARE. COLUMNS, RAFTER, AND TIE BEAM CONNECTIONS MUST BE TIGHTENED BEFORE INSTALLING THE PURLINS. PURLINS MUST BE PARALLEL TO THE TIE BEAMS AND EAVE BEAMS.

ROOF



24ga MULTI RIB PANEL SECTION

FABRICATOR APPROVALS
CLARK COUNTY STEEL FABRICATOR NUMBER: 707
CITY OF LOS ANGELES FABRICATOR NUMBER: FB0034

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COVER SHEET

DRAWN BY: JMD
DATE: 5/7/2020
JOB NO.: 6522
REVISION: B
BUILDING TYPE: SQ12M-P6
PROJECT NAME: ANTELOPE ISLAND STATE PARK SYRACUSE UT
SHEET 1.0

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WHITE ROCKS CAMPGROUND RD
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PROJECT #: 22238510
CONTRACT #: 2270048

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COVER SHEET

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PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN
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PROJECT MANAGER R. ROUSSELLE

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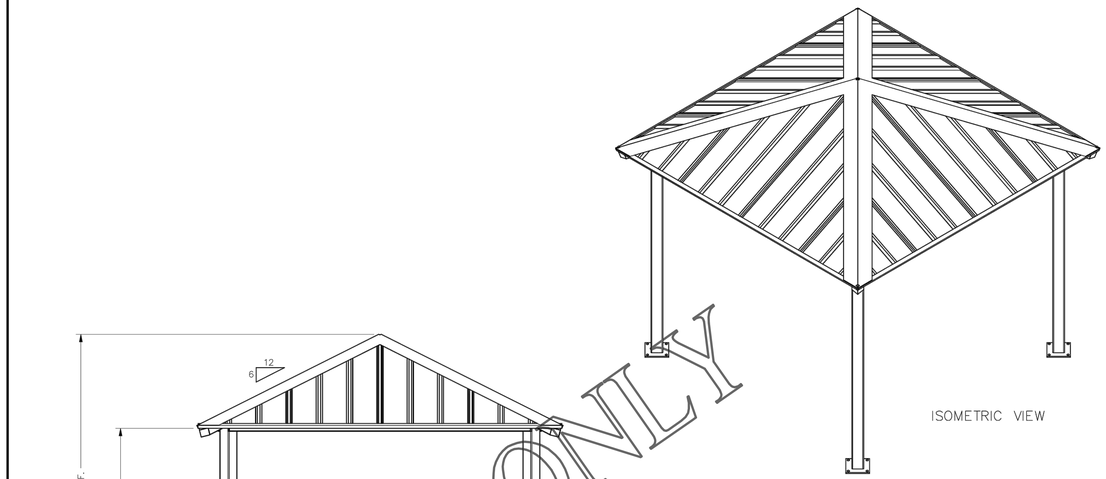

FRONT VIEW

ISOMETRIC VIEW

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ELEVATION

DRAWN BY:	JMD
DATE:	5/7/2020
JOB NO.:	6522
REVISION:	B
BUILDING TYPE:	SQ12M-P6
PROJECT NAME:	ANTELOPE ISLAND STATE PARK SYRACUSE UT
SHEET	2.0

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ELEVATION

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PROJECT MANAGER	R. ROUSSELLE

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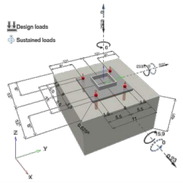
Specifier's comments:

1 Input data

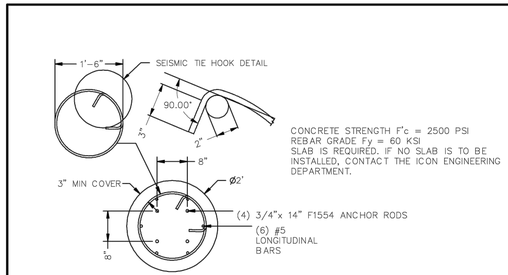
Anchor type and diameter:	**HIT-HY 200 + HAS-V-36 (ASTM F1554 Gr.36) 3/4**
Item number:	2198028 HAS-V-36 3/4"x6" (element) / 2022793 HIT-HY 200-R (adhesive)
Effective embedment depth:	$h_{ef,act}$ = 3.500 in. ($h_{ef,min}$ = 15.000 in.)
Material:	ASTM A 1554 Grade 36
Evaluation Service Report:	ESR-3187
Issued I Valid:	4/1/2020 | 3/1/2022
Proof:	Design Method ACI 318-14 / Chem
Stand-off installation:	e_b = 0.000 in. (no stand-off); t = 0.625 in.
Anchor plate[R]:	l_x x l_y x t = 11.000 in. x 11.000 in. x 0.625 in.; (Recommended plate thickness: not calculated)
Profile:	Square HSS (AISC), HSS5X5X.1875; (L x W x T) = 5.000 in. x 5.000 in. x 0.188 in.
Base material:	cracked concrete, 2500, f'_c = 2,500 psi; h = 40.000 in., Temp. short/long: 32/32 °F
Installation:	**hammer drilled hole, Installation condition: Dry**
Reinforcement:	tension: condition B, shear: condition A; no supplemental splitting reinforcement present edge reinforcement: > No. 4 bar
Seismic loads (cat. C, D, E, or F)	Tension load: yes (17.2.3.4.3 (d)) Shear load: yes (17.2.3.5.3 (c))

[R] - The anchor calculation is based on a rigid anchor plate assumption.

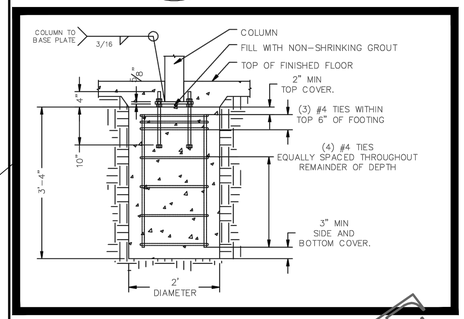
Geometry [in.] & Loading [kip, in.kip]

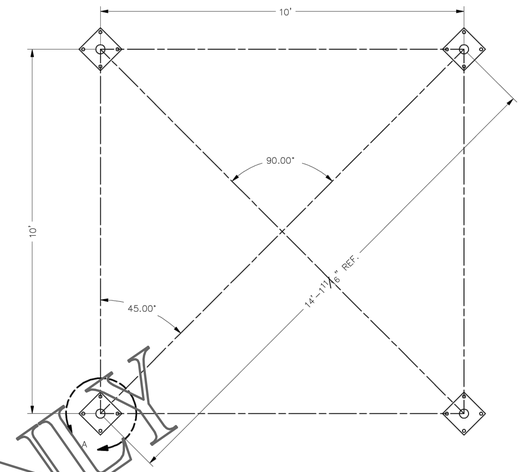


CONTRACTOR TO INSTALL BASEPLATE ON TOP OF SLAB AND DRILL AND EPOXY ANCHORS PER THE ANCHOR DESIGN SHOWN ON THIS SHEET PROVIDED BY BIG T RECREATION AND CALCULATIONS COMPLETE BY ICON (PAVILION SUPPLIER TO PROVIDE DEFERRED SUBMITTAL ON PAVILION)

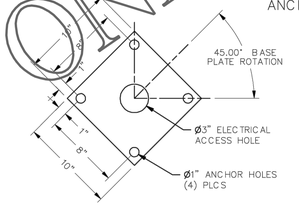


CONCRETE STRENGTH F'c = 2500 PSI
REBAR GRADE Fy = 60 KSI
SLAB IS REQUIRED. IF NO SLAB IS TO BE INSTALLED, CONTACT THE ICON ENGINEERING DEPARTMENT.





ANCHOR BOLT LAYOUT



DETAIL A
BASE PLATE MATERIAL
5/8" THICK GR50

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ANCHOR BOLT LAYOUT

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DATE: 5/7/2020
JOB NO.: 6522
REVISION: B
BUILDING TYPE: SQ12M-P6
PROJECT NAME: ANTELOPE ISLAND STATE PARK SYRACUSE UT
SHEET 3.0

FOR: DFCM
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ANCHOR BOLT LAYOUT

PROJECT NUMBER 10970
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DRAWN BY G. OFFERMANN
CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE

PAS-3.0

1.1 Design results

Case	Description	Forces [kip] / Moments [in.kip]	Seismic	Max. Util. Anchor [%]
1	ASCE2.3.1.7 EX	N = -0.620; V_y = 0.230; V_z = 0.370; M_x = -15.900000; M_y = -23.810000; M_z = 0.000000; N_{bua} = 0.000; M_{xbua} = 0.000000; M_{ybua} = 0.000000;	yes	62

2 Proof I Utilization (Governing Cases)

		Design values [kip]		Utilization	
Loading	**Proof**	**Load**	**Capacity**	**β_N / β_V [%]**	**Status**
Tension	Bond Strength	2.904	4.757	62 / -	OK
Shear	Concrete edge failure in direction x+	0.436	7.560	- / 6	OK

Loading	**β_N**	**β_V**	**ζ**	**Utilization $\beta_{N,V}$ [%]**	**Status**
Combined tension and shear loads	0.611	0.058	5/3	45	OK

3 Warnings

- Please consider all details and hints/warnings given in the detailed report!

Fastening meets the design criteria!

4 Remarks; Your Cooperation Duties

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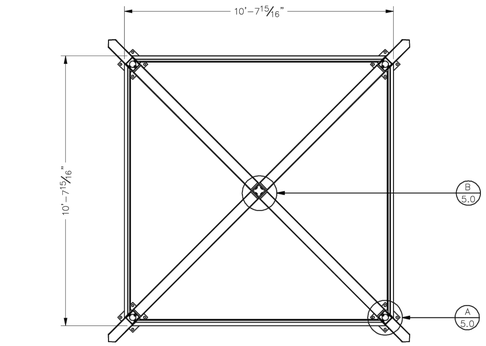
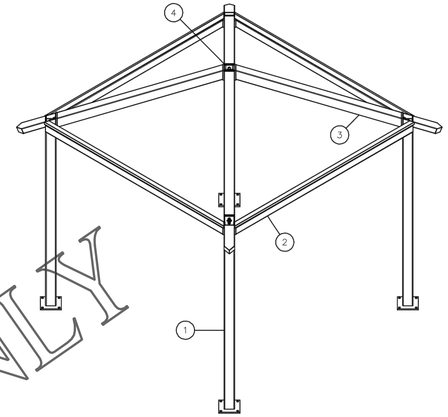
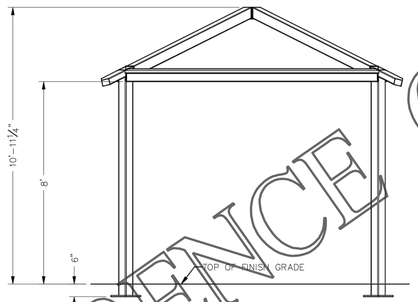
ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	LENGTH	UNIT WEIGHT
1	4	CS-69874	COLUMN	HSS5X5X0.1875	108 9/16	116 lbmass
2	4	CS-59702	TIE BEAM	HSS4X3X0.125	119 1/8	75 lbmass
3	4	CS-59704	RAFTER	HSS5X5X0.125	83 3/8	67 lbmass
4	1	CS-59706	CONNECTOR	HSS5X5X0.500	5 1/2	13 lbmass







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FRAME LAYOUT

DRAWN BY: JMD

DATE: 5/7/2020

JOB NO.: 6522

REVISION: B

BUILDING TYPE: SQ12M-P6

PROJECT NAME: ANTELOPE ISLAND STATE PARK SYRACUSE UT

SHEET 4.0

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

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FRAME LAYOUT

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PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN
CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE

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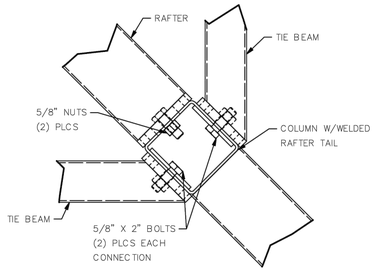
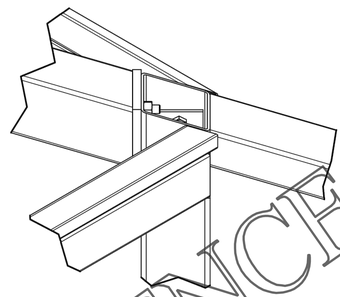
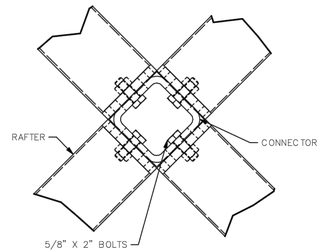
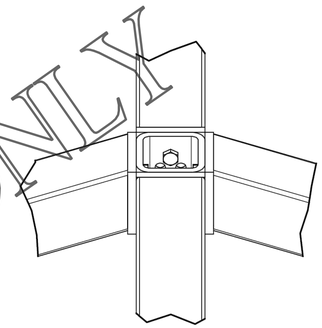




RAFTER & TIE BEAM CONNECTION @ COLUMN — DETAIL A





INSTALL CONNECTOR W/ OPEN SIDE UP

RAFTER CONNECTION @ CONNECTOR — DETAIL B

SEE ATTACHED PACK LIST FOR A LIST OF TRIM AND FASTENERS

NOTE TO INSTALLERS:
WITH FACTORY POWDERCOATED SHELTERS, PAINT EXPOSED FASTENERS OF COMPRESSION RINGS, ORNAMENTATION, KNIFE PLATES, ETC. WITH PROVIDED TOUCH UP PAINT TO PREVENT RUSTING OF FASTENERS

PAINT EXPOSED FASTENERS

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FRAME CONNECTIONS

DRAWN BY:	JMD
DATE:	5/7/2020
JOB NO.:	6522
REVISION:	B
BUILDING TYPE:	SQ12M-P6
PROJECT NAME:	ANTELOPE ISLAND STATE PARK SYRACUSE UT
SHEET	5.0

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WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

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FRAME CONNECTIONS

PROJECT NUMBER	10970
PRINT DATE	1/12/2022
DRAWN BY	G. OFFERMANN
CHECKED BY	F. DUBEROW
PROJECT MANAGER	R. ROUSSELLE

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INSTALLED CORRECTLY	INSTALLED TOO TIGHT	INSTALLED TOO LOOSE
THE SEALING MATERIAL SLIGHTLY VISIBLE AROUND THE METAL WASHER	THE SEALING MATERIAL IS DEFORMED BEYOND THE EDGE OF THE METAL WASHER	THE SEALING MATERIAL IS NOT VISIBLE AROUND THE EDGE OF THE METAL WASHER

THE DETAILS SHOWN ARE SUGGESTIONS OR GUIDELINES ON HOW TO ERECT THE METAL ROOFING SYSTEM. THE INFORMATION SHOWN IS ACCURATE, BUT IT IS NOT INTENDED TO COVER ALL INSTANCES, BUILDING REQUIREMENTS, DESIGNS OR CODES. CHANGES TO THE DETAILS MAY BE REQUIRED DUE TO FIELD CONDITIONS.

THE ERECTOR SHOULD THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL INSTALLATION INSTRUCTION MATERIAL BEFORE STARTING WORK.

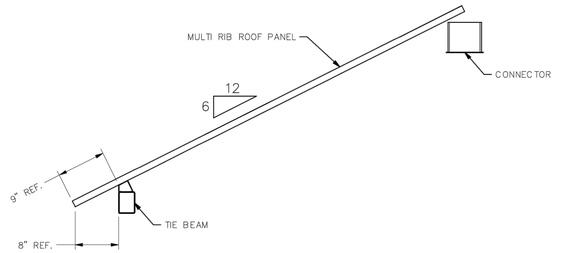
THE PANELS SHOULD BE INSTALLED PLUMB, STRAIGHT, AND ACCURATELY TO THE ADJACENT WORK.

ERECTORS SHALL BE RESPONSIBLE TO ENSURE THAT THE DETAILS MEET PARTICULAR BUILDING REQUIREMENTS AND TO ASSURE ADEQUATE WATER TIGHTNESS.

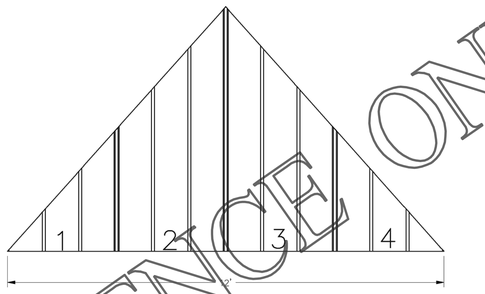
FOR THE BEST APPEARANCE ALL TRIM AND FLASHING SHALL BE INSTALLED TRUE, AND IN PROPER ALIGNMENT, WITH ALL EXPOSED FASTENERS EQUALLY SPACED.

SOME FIELD CUTTING AND/OR FITTING OF PANELS, TRIM AND FLASHING IS TO BE EXPECTED BY THE ERECTOR. MINOR FIELD CORRECTIONS ARE PART OF NORMAL ERECTION WORK.

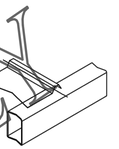
THE INSTALLATION SHALL BE PERFORMED BY EXPERIENCED METAL CRAFTSMEN AND WORKMANSHIP SHALL MEET THE BEST INDUSTRY STANDARDS.



MULTI RIB ROOF SECTION



MULTI RIB ROOF LAYOUT



STEPS FOR PROPER PANEL INSTALLATION:
1. MARK THE CENTER OF THE TIE BEAM AND COMPRESSION RING (OR PURLIN ON MULTI TIER BUILDINGS).
2. FIND ONE OF THE LONGEST PANELS.
3. ALIGN THAT PANEL WITH THE CENTER OF THE RIB AT THE THE CENTER LINE OF FRAME. (SEE ROOF LAYOUT FOR THE CORRECT RIB TO CENTER)
4. INSTALL REMAINING PANELS WORKING OUT TOWARDS THE CORNERS.
5. INSTALL ALL ROOF SECTIONS USING THIS METHOD.

ATTENTION INSTALLERS :
METAL SHAVINGS LEFT ON ROOF WILL QUICKLY RUST AND STAIN THE ROOF FINISH!

DRILLING OR INSTALLING ROOF FASTENERS WILL CAUSE METAL SHAVINGS. THESE SHAVINGS MUST BE CAREFULLY REMOVED AT THE END OF EACH DAY BY EITHER SWEEPING OR BRUSHING THE INSTALLED ROOF.

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ROOF LAYOUT

DRAWN BY: JMD
DATE: 5/7/2020
JOB NO.: 6522
REVISION: B
BUILDING TYPE: SQ12M-P6
PROJECT NAME: ANTELOPE ISLAND STATE PARK SYRACUSE UT
SHEET 6.0

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SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

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ROOF LAYOUT

PROJECT NUMBER 10970
PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN
CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE

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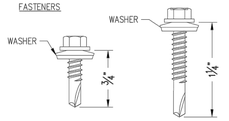
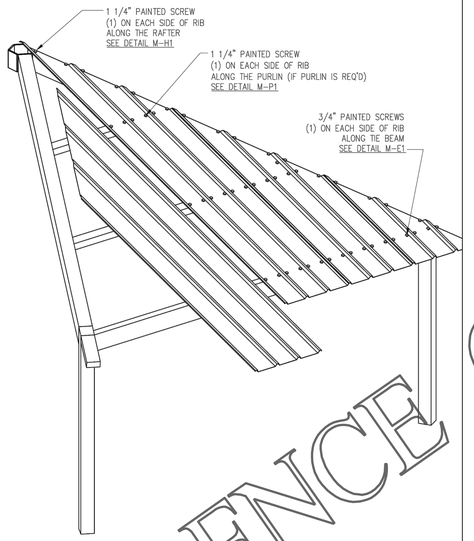
FASTENERS



3/4" PAINTED SCREW 1 1/4" PAINTED SCREW

NOTE: STITCH OR LAP SCREWS ARE NOT REQUIRED ALONG THE RIB



METAL ROOF PANEL INSTALLATION — ROOF

ORDER OF INSTALLATION

PANEL END CAP 10' LONG
SEE DETAIL M-H1

FALSE RAFTER 41" LONG
SEE DETAIL M-H1

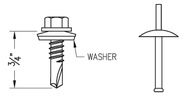
EAVE TRIM 10' LONG
W/ WEEP HOLES
SEE DETAIL M-E1

RIDGE CAP 10' LONG
SEE DETAIL M-H1

ROOF PEAK CAP
SEE DETAIL M-C1

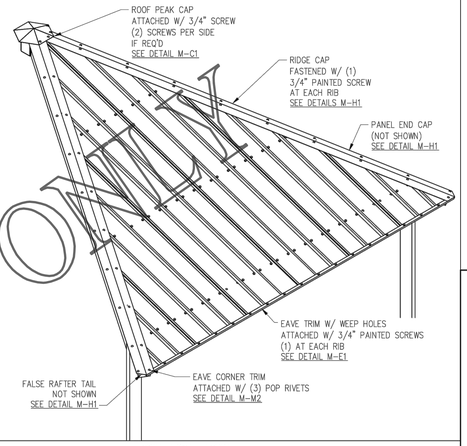
EAVE CORNER TRIM 8" LONG
(2) PER CORNER
SEE DETAIL M-M2

FASTENERS



3/4" PAINTED SCREW

PAINTED POP RIVET



TRIM INSTALLATION — TRIM

SEE ATTACHED PACK LIST FOR A LIST OF TRIM AND FASTENERS

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ROOF DETAILS

DRAWN BY:	JMD
DATE:	5/7/2020
JOB NO.:	6522
REVISION:	B
BUILDING TYPE:	SQ12M-P6
PROJECT NAME:	ANTELOPE ISLAND STATE PARK SYRACUSE UT

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PROJECT #: 22238510
CONTRACT #: 2270048

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ROOF DETAILS

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R. ROUSSELLE	

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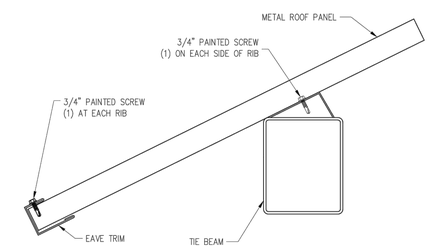
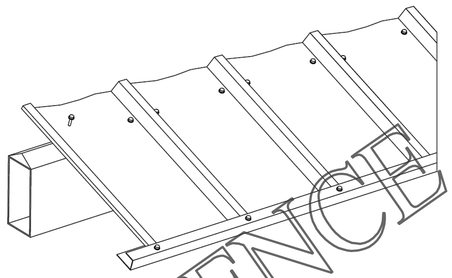
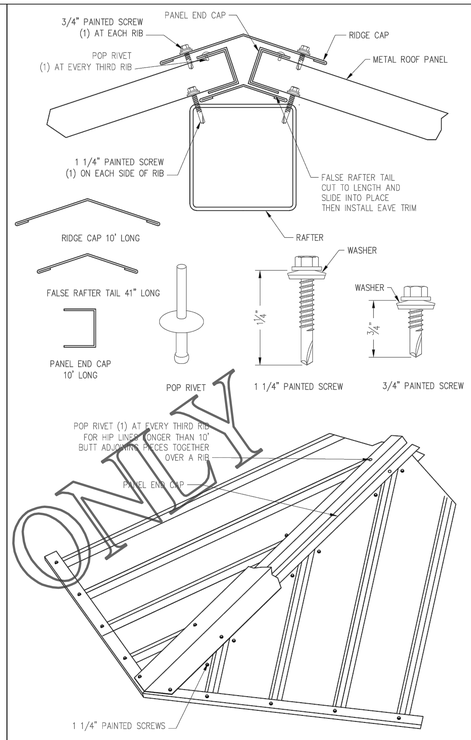




METAL ROOF EAVE CONNECTION DETAIL M-E1



METAL ROOF HIP CONNECTION DETAIL M-H1

THIS SEAL PERTAINS ONLY TO THE MATERIALS AND INFORMATION SHOWN ON THESE DRAWINGS. THIS SEAL DOES NOT SERVE AS — OR REPRESENT — THE PROJECT ENGINEER OF RECORD AND SHALL NOT BE CONSTRUED AS SUCH.

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R. ROUSSELLE	

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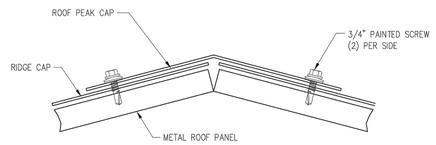
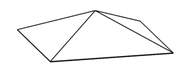
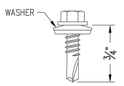
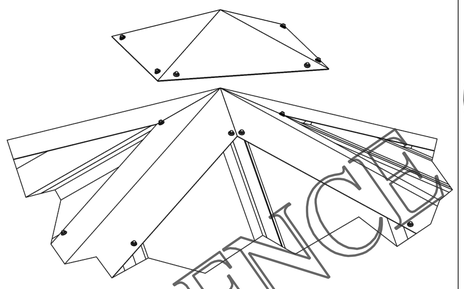




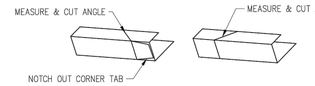




PEAK CAP CONNECTION DETAIL M-C1

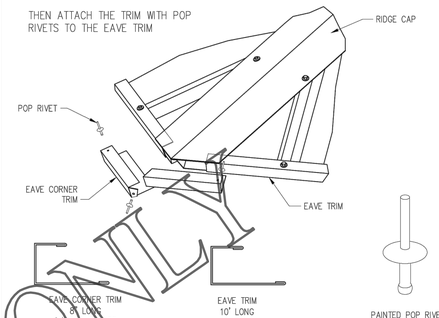
CUT A MITER AND CORNER TAB ON (1) OF THE EAVE CORNER PEICES

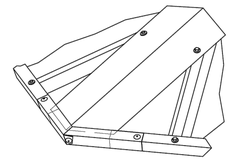
CUT AN OPPTIONAL MITER ON THE SECOND EAVE CORNER



SLIDE THE EAVE CORNER TRIM OVER THE EAVE TRIM AND RIDGE CAP

THEN ATTACH THE TRIM WITH POP RIVETS TO THE EAVE TRIM





METAL ROOF EAVE CORNER CONNECTION DETAIL M-M2

ICON
Shelter Systems Inc
DISTINCTIVE STEEL SHELTERS
WWW.ICONSHELTERS.COM

1455 LINCOLN AVE.
HOLLAND MI. 49423

616.396.0919
800.748.0985
616.396.0944 FX

ROOF DETAILS

DRAWN BY: JMD
DATE: 5/7/2020
JOB NO.: 6522
REVISION: B
BUILDING TYPE: SQ12M-P6
PROJECT NAME: ANTELOPE ISLAND STATE PARK SYRACUSE UT

SHEET R1.2

DWG: Jobs\6522\R-000002 - 6522.dwg

PRINTED ON: 5/7/2020

ENSIGN
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45 W. 10000 S., Suite 500
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FOR:
DFCM
4315 S 2700 W, Fl 3
SALT LAKE CITY, UTAH 84129
CONTACT:

PHONE:

WHITE ROCK BAY CAMPGROUND
ANTELOPE ISLAND
WHITE ROCKS CAMPGROUND RD
SYRACUSE, UTAH 84075

PROJECT #: 22238510
CONTRACT #: 2270048

CONFORMANCE SET 01/12/2022

NO.	DATE	REVISION	BY
1	12/21/2021	INTF DESIGN & DFCM COMMENTS	GWD
2	01/12/2022	DFCM COMMENTS	GWD
3			
4			
5			
6			
7			
8			

ROOF DETAILS

PROJECT NUMBER 10970
PRINT DATE 1/12/2022
DRAWN BY G. OFFERMANN
CHECKED BY F. DUBEROW
PROJECT MANAGER R. ROUSSELLE

PAS-R1.2

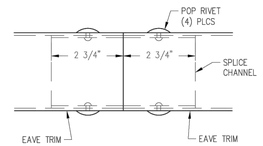
CODE OFFICIAL STAMP
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
REVIEWED FOR CODE COMPLIANCE
SIGNATURE:
DATE: 01/25/2022

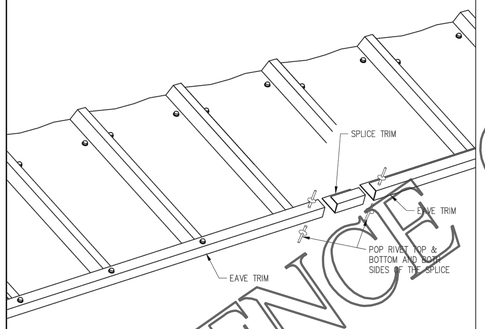
THIS CONNECTION IS ONLY REQUIRED ON SHELTERS WITH EAVES LONGER THAN 10'

SLIDE THE SPLICE TRIM INTO THE EAVE TRIM APPROXIMATELY 2 3/4"

POP RIVET TOP & BOTTOM AND BOTH SIDES OF THE SPLICE

SPLICES ARE NOT GUARANTEED TO FALL IN THE CENTER OF THE EAVE





METAL ROOF EAVE SPLICE CONNECTION DETAIL

M-S1

ICON
Shelter Systems Inc
DISTINCTIVE STEEL SHELTERS
WWW.ICONSHELTERS.COM

1455 LINCOLN AVE.
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800.748.0985
616.396.0944 FX

ROOF DETAILS

DRAWN BY:	JMD
DATE:	5/7/2020
JOB NO.:	6522
REVISION:	B
BUILDING TYPE:	SQ12M-P6
PROJECT NAME:	ANTELOPE ISLAND STATE PARK SYRACUSE UT
SHEET	R1.3

DWG: Jobs\6522\R1-000002 - 6522.dwg

PRINTED ON: 5/7/2020

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ROOF DETAILS

PROJECT NUMBER: 10970	PRINT DATE: 1/12/2022
DRAWN BY: G. OFFERMANN	CHECKED BY: F. DUBEROW
PROJECT MANAGER: R. ROUSSELLE	

PAS-R1.3

CODE OFFICIAL STAMP
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REVIEWED FOR CODE COMPLIANCE
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