

BENTON COUNTY CONSERVATION

CONSTRUCTIONS PLANS FOR

WILDCAT BLUFF RECREATION AREA

CAMPGROUND IMPROVEMENTS

JULY 2024

PROJECT LOCATION:

WILDCAT BLUFF RECREATION AREA
3139 57TH STREET TRAIL
CENTER POINT, IOWA 52213

GOVERNING SPECIFICATIONS

2024 EDITION OF THE "IOWA STATEWIDE URBAN SPECIFICATIONS FOR PUBLIC IMPROVEMENTS" (SUDAS) STANDARD SPECIFICATIONS

IOWA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION", VERSION OCTOBER 2015 AND ALL CURRENT GENERAL SUPPLEMENTAL SPECIFICATIONS AND MATERIALS INSTRUCTIONAL MEMORANDUM SHALL GOVERN AS REFERENCED.

ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

MUTCD 2023 AS ADOPTED BY IOWA DEPARTMENT OF TRANSPORTATION.

PROJECT LOCATION



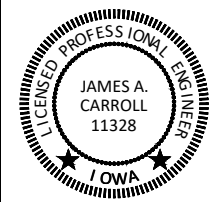
MAP OF WILDCAT BLUFF
BENTON COUNTY, IA



NOTE: EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW, NOTIFY IOWA ONE CALL 1-800-292-8989

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

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Jim Carroll
JAMES A. CARROLL
REG. NO. 11328 DATE: July 25, 2024

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2025


PAGES OR SHEETS COVERED BY THIS SEAL:
G1.01, G1.02, C2.02

PROJECT DATUM

IOWA REGIONAL COORDINATE SYSTEM REGION 12 (IARCS-12)

PREPARED FOR:

BENTON COUNTY CONSERVATION
5718 20TH AVE DRIVE
VINTON, IA 52349
OFFICE: 319-472-4942

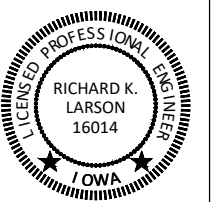


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Jason Graham
JASON GRAHAM
REG. NO. 22668 DATE: July 24, 2024

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2024

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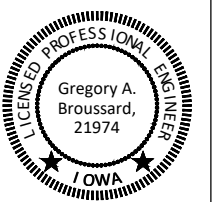


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Rich Larson
RICHARD K. LARSON
REG. NO. 16014 DATE: July 25, 2024

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Greg Broussard
GREGORY A. BROUSSARD
REG. NO. 21974 DATE: July 24, 2024

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ALL SHEETS

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CLIENT PROJ. NO.: 24X.135197.000

BENTON COUNTY CONSERVATION

WILDCAT BLUFF RECREATION AREA CAMPGROUND IMPROVEMENTS

TITLE SHEET

SHEET

A.01

EXISTING TOPOGRAPHIC SYMBOLS

	ACCESS GRATE		REGULATION STATION GAS
	AIR CONDITION UNIT		SATELLITE DISH
	ANTENNA		SIGN TRAFFIC
	AUTO SPRINKLER CONNECTION		SIGNAL CONTROL CABINET
	BARRICADE PERMANENT		SOIL BORING
	BASKETBALL POST		SIREN
	BENCH		TELEPHONE BOOTH
	BIRD FEEDER		TILE INLET
	BOLLARD		TILE OUTLET
	BUSH		TILE RISER
	CATCH BASIN RECTANGULAR CASTING		TRANSFORMER-ELECTRIC
	CATCH BASIN CIRCULAR CASTING		TREE-CONIFEROUS
	CURB STOP		TREE-DEAD
	CLEAN OUT		TREE-DECIDUOUS
	CULVERT END		TREE STUMP
	DRINKING FOUNTAIN		TRAFFIC ARM BARRIER
	DOWN SPOUT		TRAFFIC SIGNAL
	ELECTRIC CAR CHARGE STATION		TRASH CAN
	FILL PIPE		UTILITY MARKER
	FIRE HYDRANT		VALVE
	FLAG POLE		VALVE POST INDICATOR
	FLARED END / APRON		VALVE VAULT
	FUEL PUMP		VAULT
	GRILL		VENT PIPE
	GUY WIRE ANCHOR		WATER SPIGOT
	HANDHOLE		WELL
	HANDICAP SPACE		WETLAND DELINEATED MARKER
	IRRIGATION SPRINKLER HEAD		WETLAND
	IRRIGATION VALVE BOX		WET WELL
	LIFT STATION CONTROL PANEL		YARD HYDRANT
	LIFT STATION		

PROPOSED TOPOGRAPHIC SYMBOLS

	CLEANOUT
	MANHOLE
	LIFT STATION
	STORM SEWER CIRCULAR CASTING
	STORM SEWER RECTANGULAR CASTING
	STORM SEWER FLARED END / APRON
	STORM SEWER OUTLET STRUCTURE
	STORM SEWER OVERFLOW STRUCTURE
	CURB BOX
	FIRE HYDRANT
	WATER VALVE
	WATER REDUCER
	WATER BEND
	WATER TEE
	WATER CROSS
	WATER SLEEVE
	WATER CAP / PLUG
	RIP RAP
	DRAINAGE FLOW
	TRAFFIC SIGNS
	LIGHT POLE

SURVEY SYMBOLS

	BENCHMARK LOCATION		CAST IRON MONUMENT
	CONTROL POINT		STONE MONUMENT
	MONUMENT FOUND		

EXISTING TOPOGRAPHIC LINES

	RETAINING WALL
	FENCE
	FENCE-DECORATIVE
	GUARD RAIL
	TREE LINE
	BUSH LINE

SURVEY LINES

	CONTROLLED ACCESS BOUNDARY
	CENTERLINE
	EXISTING EASEMENT LINE
	PROPOSED EASEMENT LINE
	EXISTING LOT LINE
	PROPOSED LOT LINE
	EXISTING RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	SETBACK LINE
	SECTION LINE
	QUARTER LINE
	SIXTEENTH LINE
	TEMPORARY EASEMENT

EXISTING UTILITY LINES

	FORCEMAIN
	SANITARY SEWER
	SANITARY SERVICE
	STORM SEWER
	STORM SEWER DRAIN TILE
	WATERMAIN
	WATER SERVICE
	RECLAIMED WATER

PROPOSED UTILITY LINES

	FORCEMAIN
	SANITARY SEWER
	SANITARY SERVICE
	STORM SEWER
	STORM SEWER DRAIN TILE
	WATERMAIN
	WATER SERVICE
	PIPE CASING
	TRENCHLESS PIPE (PLAN VIEW)
	TRENCHLESS PIPE (PROFILE VIEW)

GRADING INFORMATION

	EXISTING CONTOUR MINOR
	EXISTING CONTOUR MAJOR
	PROPOSED CONTOUR MINOR
	PROPOSED CONTOUR MAJOR
	PROPOSED GRADING LIMITS / SLOPE LIMITS
	PROJECT LIMITS
	PROPOSED SPOT ELEVATION
	RISE:RUN (SLOPE)

HATCH PATTERNS

	HMA PAVEMENT		SIDEWALK		PCC PAVEMENT
	DRIVEWAY		GRAVEL		

EXISTING PRIVATE UTILITY LINES

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	UNDERGROUND FIBER OPTIC
	UNDERGROUND ELECTRIC
	UNDERGROUND GAS
	UNDERGROUND COMMUNICATION
	OVERHEAD ELECTRIC
	OVERHEAD COMMUNICATION
	OVERHEAD UTILITY

UTILITIES IDENTIFIED WITH A QUALITY LEVEL OTHER THAN D:

LINE TYPES FOLLOW THE FORMAT: UTILITY TYPE - QUALITY LEVEL
 EXAMPLE: G-A UNDERGROUND GAS, QUALITY LEVEL A
 UTILITY QUALITY LEVEL (A,B,C,D) DEFINITIONS CAN BE FOUND IN CI/ASCE 38-22.

UTILITY QUALITY LEVELS:

- LEVEL D - INFORMATION COMES SOLELY FROM EXISTING UTILITY RECORDS.
- LEVEL C - SURVEYING ABOVE GROUND UTILITY FACILITIES, SUCH AS MANHOLES, VALVE BOXES, ETC; AND CORRELATING THIS INFORMATION WITH EXISTING UTILITY RECORDS.
- LEVEL B - THE USE OF SURFACE GEOPHYSICAL TECHNIQUES TO DETERMINE THE EXISTENCE AND HORIZONTAL POSITION OF UNDERGROUND UTILITIES.
- LEVEL A - THE USE OF NONDESTRUCTIVE DIGGING EQUIPMENT AT HORIZONTAL AND VERTICAL POSITION OF UNDERGROUND UTILITIES, AS WELL AS THE TYPE, SIZE, CONDITION, MATERIAL, AND OTHER CHARACTERISTICS.

ABBREVIATIONS

A	ALGEBRAIC DIFFERENCE	GV	GATE VALVE	SAN	SANITARY SEWER
ADJ	ADJUST	HDPE	HIGH DENSITY POLYETHYLENE	SCH	SCHEDULE
ALT	ALTERNATE	HH	HANDHOLE	SERV	SERVICE
B-B	BACK TO BACK	HMA	HOT MIX ASPHALT	SHLD	SHOULDER
BLDG	BUILDING	HP	HIGH POINT	STA	STATION
BMP	BEST MANAGEMENT PRACTICE	HWL	HIGH WATER LEVEL	STD	STANDARD
BR	BEGIN RADIUS	HYD	HYDRANT	STM	STORM SEWER
BV	BUTTERFLY VALVE	I	INVERT	TC	TOP OF CURB
CB	CATCH BASIN	K	CURVE COEFFICIENT	TE	TEMPORARY EASEMENT
C&G	CURB AND GUTTER	L	LENGTH	TEMP	TEMPORARY
CIP	CAST IRON PIPE	LO	LOWEST OPENING	TNH	TOP NUT HYDRANT
CIPP	CURED-IN-PLACE PIPE	LP	LOW POINT	TP	TOP OF PIPE
CL	CENTER LINE	LT	LEFT	TYP	TYPICAL
CL	CLASS	MH	MANHOLE	VCP	VITRIFIED CLAY PIPE
CMP	CORRUGATED METAL PIPE	MIN	MINIMUM	VERT	VERTICAL
C.O.	CHANGE ORDER	MR	MID RADIUS	VPC	VERTICAL POINT OF CURVE
COMM	COMMUNICATION	NIC	NOT IN CONTRACT	VPI	VERTICAL POINT OF INTERSECTION
CSP	CORRUGATED STEEL PIPE	NMC	NON-METALLIC CONDUIT	VPT	VERTICAL POINT OF TANGENT
CLVT	CULVERT	NTS	NOT TO SCALE	WM	WATERMAIN
DIA	DIAMETER	NWL	NORMAL WATER LEVEL	WS	WATER SERVICE
DIP	DUCTILE IRON PIPE	OHW	ORDINARY HIGH WATER LEVEL		
DWY	DRIVEWAY	PC	POINT OF CURVE	AC	ACRES
E	EXTERNAL CURVE DISTANCE	PCC	PORTLAND CEMENT CONCRETE	CF	CUBIC FEET
ESMT	EASEMENT	PE	PERMANENT EASEMENT	CV	COMPACTED VOLUME
ELEC	ELECTRIC	PED	PEDESTRIAN, PEDESTAL	CY	CUBIC YARD
ELEV/EL	ELEVATION	PERF	PERFORATED PIPE	EA	EACH
EOF	EMERGENCY OVERFLOW	PERM	PERMANENT	EV	EXCAVATED VOLUME
ER	END RADIUS	PI	POINT OF INTERSECTION	LB	POUND
EX	EXISTING	PL	PROPERTY LINE	LF	LINEAR FEET
FES	FLARED END SECTION	PRC	POINT OF REVERSE CURVE	LS	LUMP SUM
F-F	FACE TO FACE	PT	POINT OF TANGENT	LV	LOOSE VOLUME
FF	FINISHED FLOOR	PVC	POLYVINYL CHLORIDE PIPE	SF	SQUARE FEET
F&I	FURNISH AND INSTALL	PVMT	PAVEMENT	SV	STOCKPILE VOLUME
FM	FORCEMAIN	R	RADIUS	SY	SQUARE YARD
FO	FIBER OPTIC	RCP	REINFORCED CONCRETE PIPE		
F.O.	FIELD ORDER	RET	RETAINING		
GRAN	GRANULAR	R/W	RIGHT-OF-WAY		
GRAV	GRAVEL	RSC	RIGID STEEL CONDUIT		
GU	GUTTER	RT	RIGHT		

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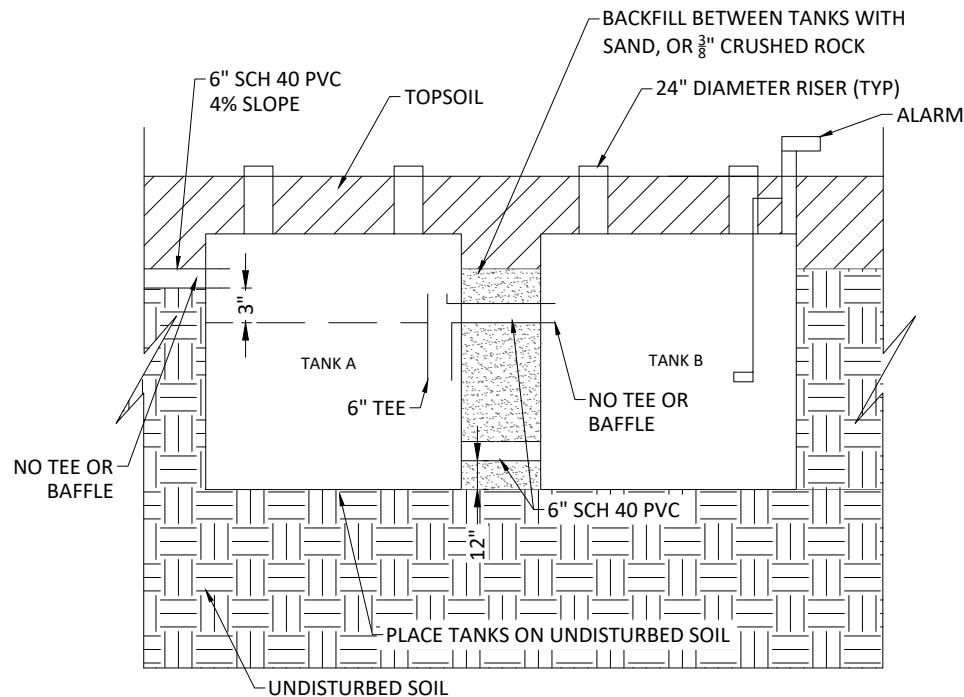
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BENTON COUNTY CONSERVATION
 WILDCAT BLUFF RECREATION AREA CAMPGROUND IMPROVEMENTS

LEGEND

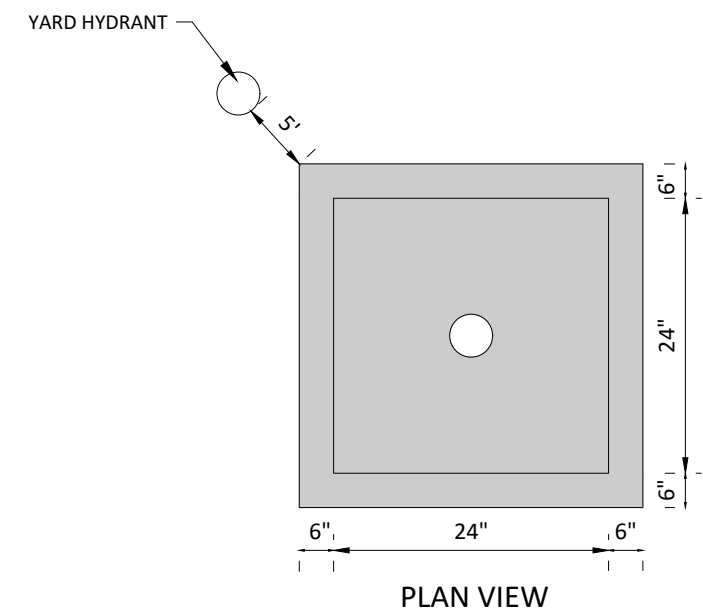
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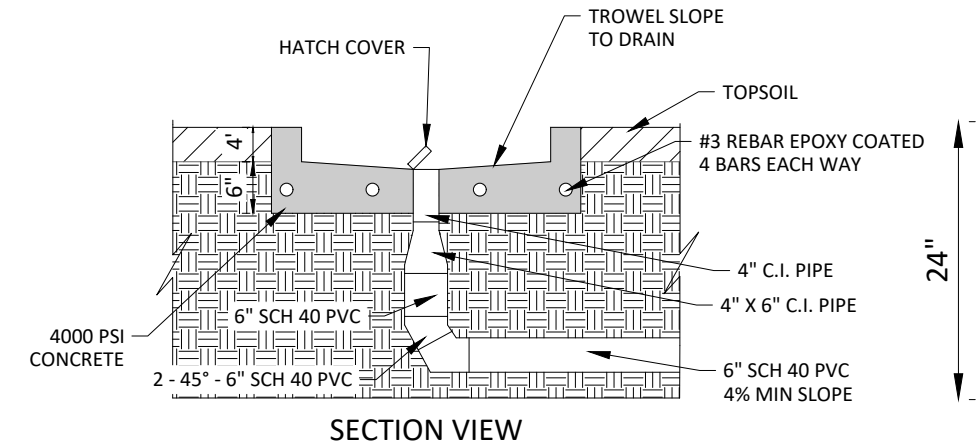


- NOTES:
1. ALL TANKS SHALL MEET IOWA 567-69 REQUIREMENTS AND SHALL BE CONCRETE.
 2. A & B 2,000 GALLONS EACH.
 3. LIDS CAN BE FLUSH OR ABOVE GRADE, DISCUSS WITH OWNER.
 4. LOCAL SOILS MAY BE USED ON SIDES AND OUTSIDE ENDS OF TANKS.
 5. 24" DIAMETER RISERS SHALL HAVE POLYLOK SAFETY SCREEN IN EACH RISER WITH POLYLOK HEAVY DUTY LIDS WITH 4 SS SCREWS PER LID.
 6. TANK SHALL HAVE SJE RHOMBUS TANK ALER SOLAR ALARM SYSTEM, PART NUMBER 1052473, HIGH LEVEL, 10 W SOLAR PANEL OR APPROVED OUTDOOR BATTERY SYSTEM.
 7. BOTTOM OF BOTH TANKS AT THE SAME ELEVATION.
 8. HIGH WATER ALARM FLOAT SET AT 2/3 TANK VOLUME.

1 PUMP TANKS
SCALE: N.T.S.



- NOTES:
1. 4 - INCH THREADED HATCH COVER, CAST IRON BASE DESIGNED AS SELF ACTING LUG, WITH BRONZE CAP AND FOOT PEDAL, ONE PIECE PEDAL WITH SINGLE FLAT FACE SEAT BETWEEN CAP AND BASE FOR POSITIVE CLOSE AND FLY TIGHT. LOCKABLE, SELF CLOSING. OPW 269 PRODUCT CODE DSVGT2.
 2. PRODUCT SOURCE OR SIMILAR: www.trumbullrecreation.com (800) 243-0134
 3. WATER LINE SHALL NOT BE INSTALLED UNDER SEWER PIPE OR DUMP STATION.
 4. PLACE PAD ON UNDISTURBED SOIL.
 5. THE SEWER LINE FROM THE DUMP STATION WILL ENTER ON THE SIDE OF THE HOLDING TANK, NOT THE END.



2 DUMP STATION
SCALE: N.T.S.

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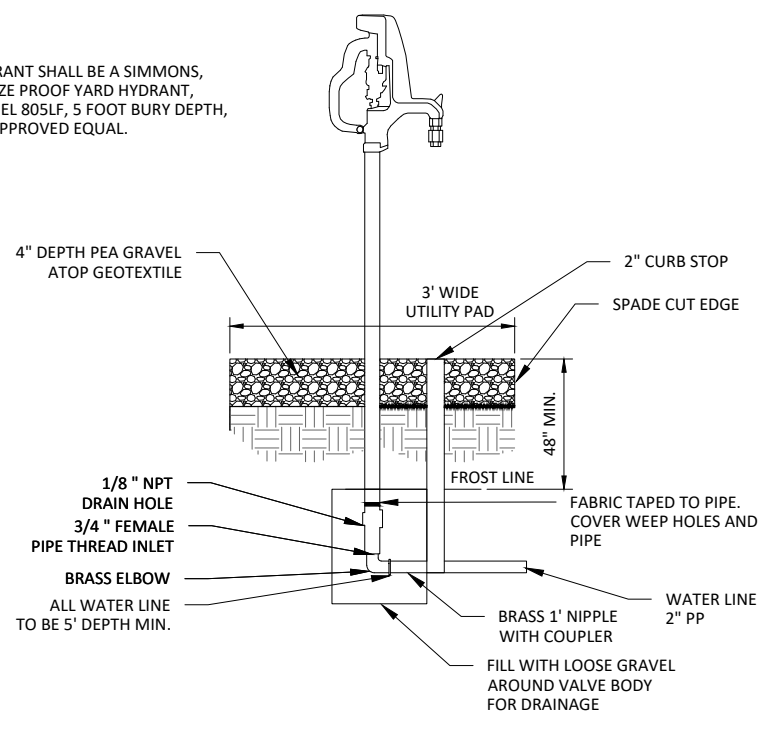


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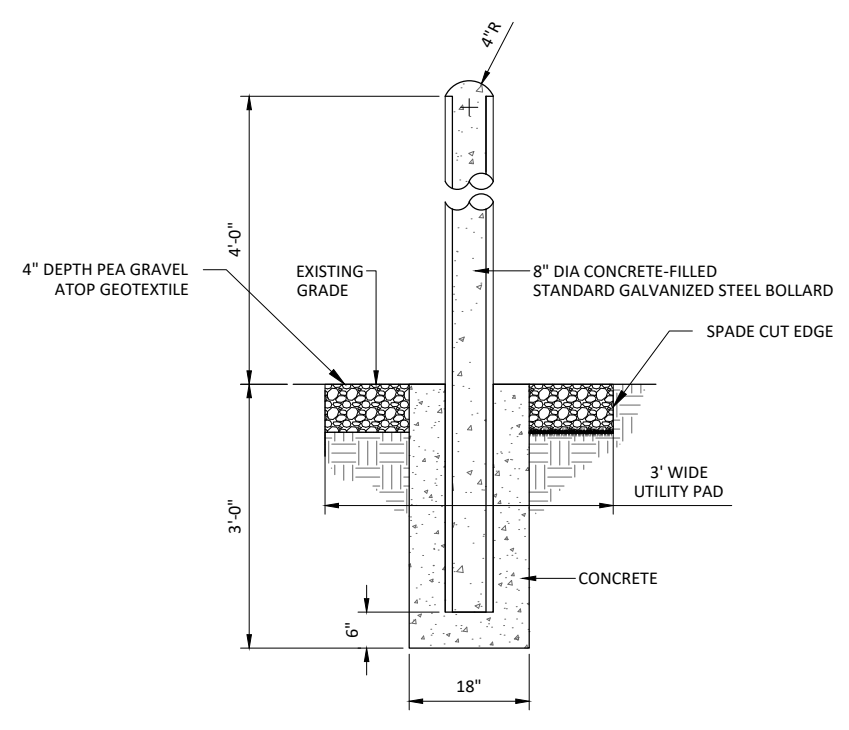
BENTON COUNTY CONSERVATION
WILDCAT BLUFF RECREATION AREA CAMPGROUND IMPROVEMENTS
DETAILS

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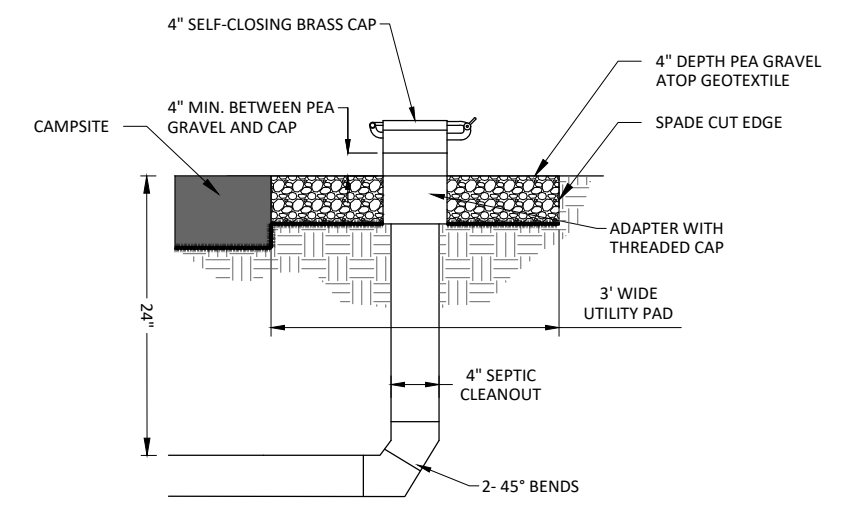
NOTE:
 1. HYDRANT SHALL BE A SIMMONS, FREEZE PROOF YARD HYDRANT, MODEL 805LF, 5 FOOT BURY DEPTH, OR APPROVED EQUAL.



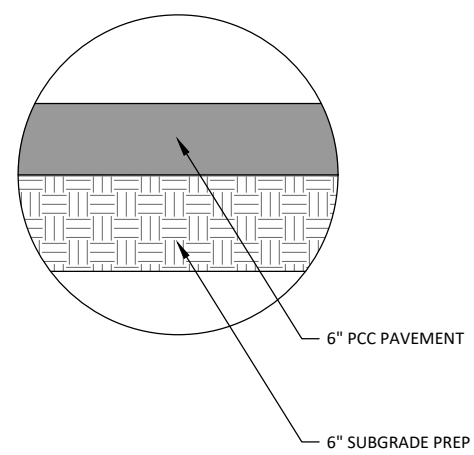
3 YARD HYDRANT DETAIL
 SCALE: N.T.S.



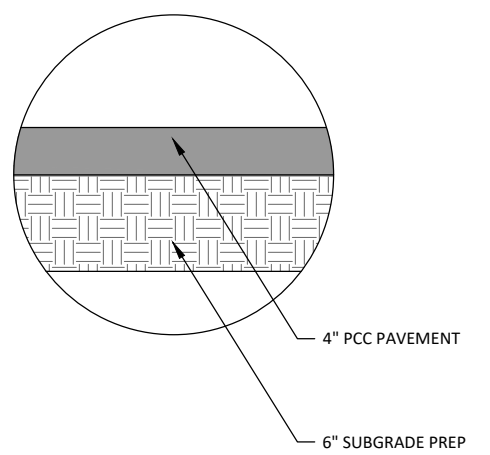
4 BOLLARD GUARD POST
 SCALE: N.T.S.



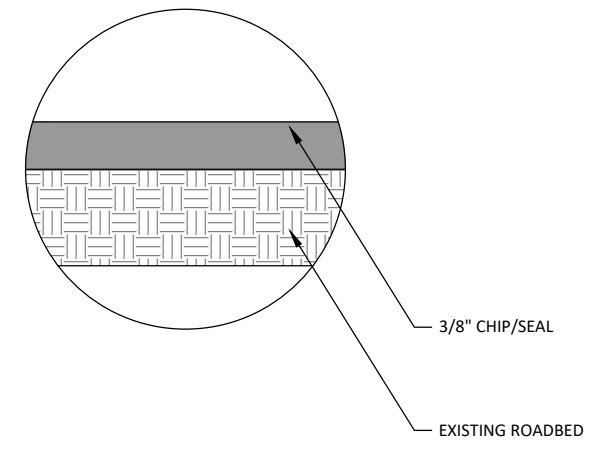
5 SEPTIC CLEANOUT AND CAP
 SCALE: N.T.S.



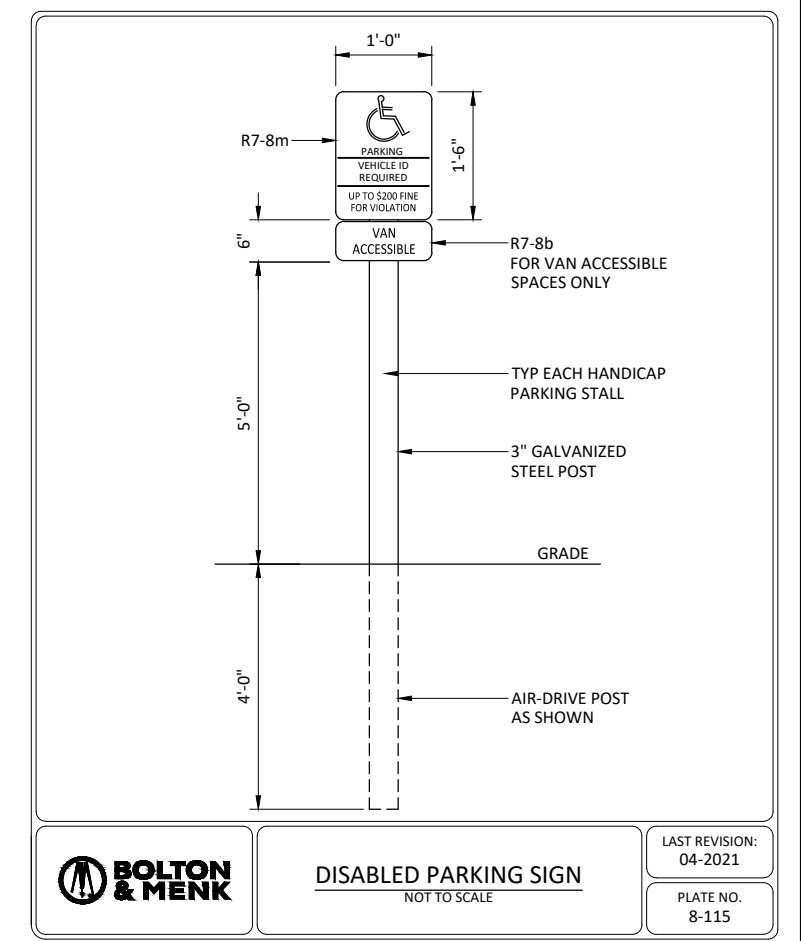
6 6" PCC PAVEMENT
 SCALE: N.T.S.



7 4" PCC PAVEMENT
 SCALE: N.T.S.



7 3/8" CHIP/SEAL
 SCALE: N.T.S.



DISABLED PARKING SIGN
 NOT TO SCALE

LAST REVISION:
 04-2021
 PLATE NO.
 8-115

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BENTON COUNTY CONSERVATION
 WILDCAT BLUFF RECREATION AREA CAMPGROUND IMPROVEMENTS
 DETAILS

SHEET
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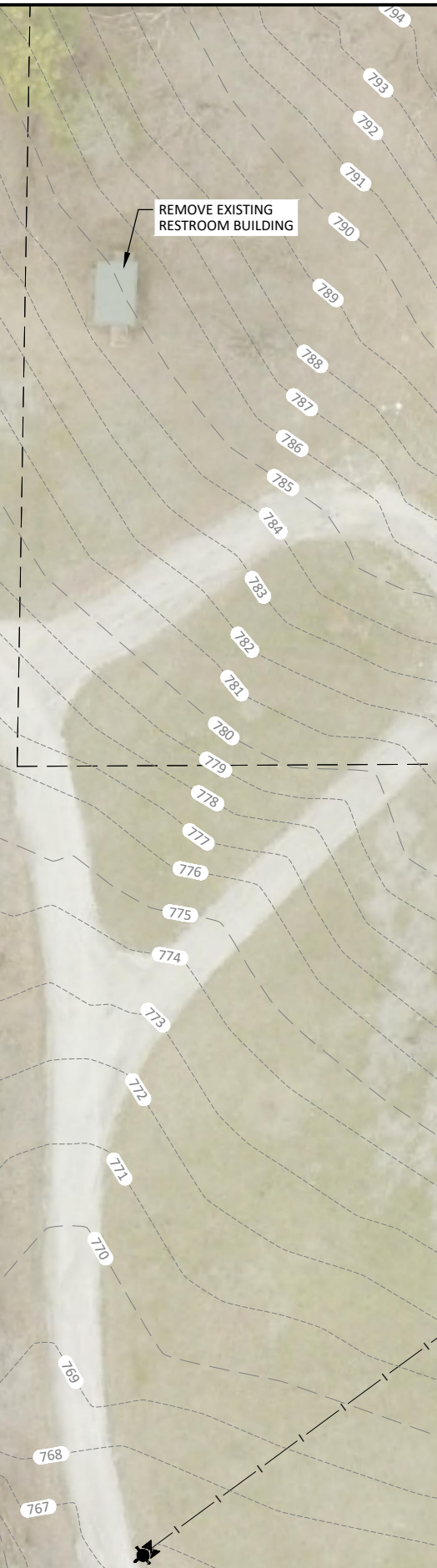
NOTE:
 CONTRACTOR SHALL REMOVE EXISTING RESTROOM, PUMP OUT EXISTING CONCRETE VAULT, BREAK UP CONCRETE BOTTOM OF EXISTING VAULT TO ENSURE DRAINAGE AND FILL IN EXISTING CONCRETE VAULT WITH EXCESS SOIL MATERIAL FROM SHOWER HOUSE CONSTRUCTION



REMOVE EXISTING RESTROOM BUILDING

PROPERTY LINE

EXISTING WATER SERVICE



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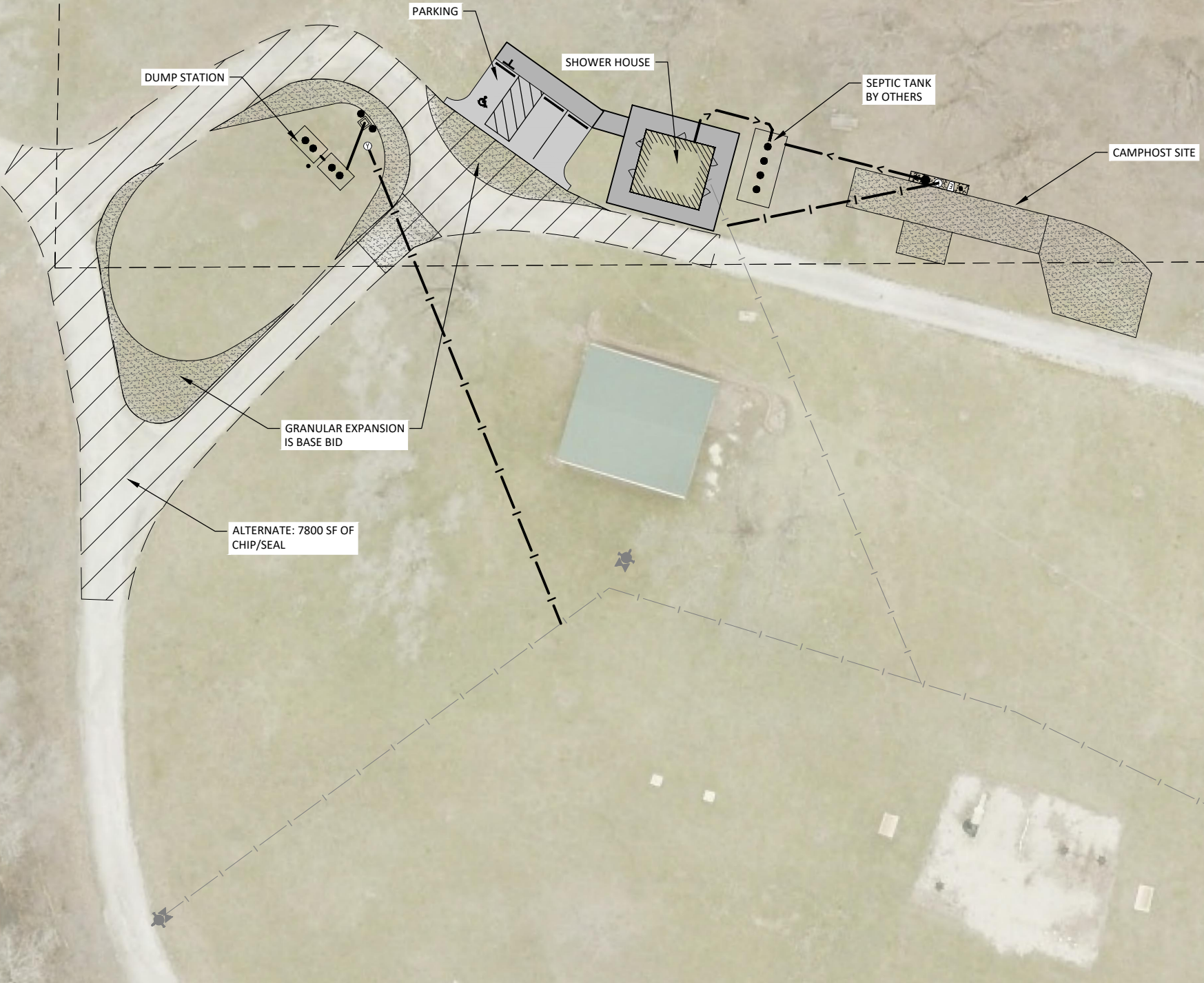


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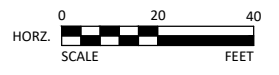
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 WILDCAT BLUFF RECREATION AREA CAMPGROUND IMPROVEMENTS
 EXISTING CONDITIONS & REMOVALS

SHEET
C1.01

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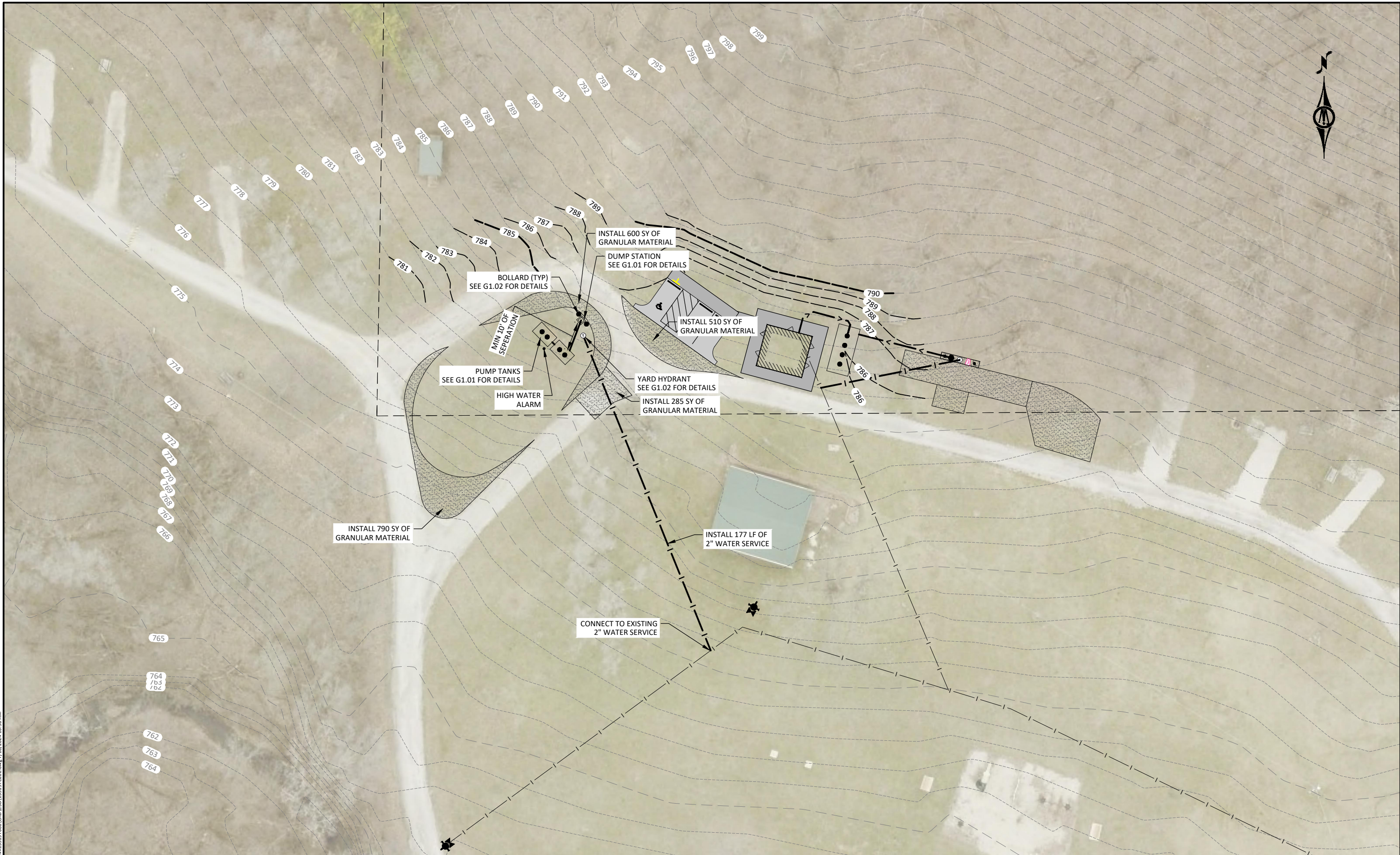
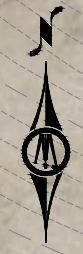
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BENTON COUNTY CONSERVATION
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GEOMETRICS - OVERALL LAYOUT & ALTERNATE

SHEET
C2.01



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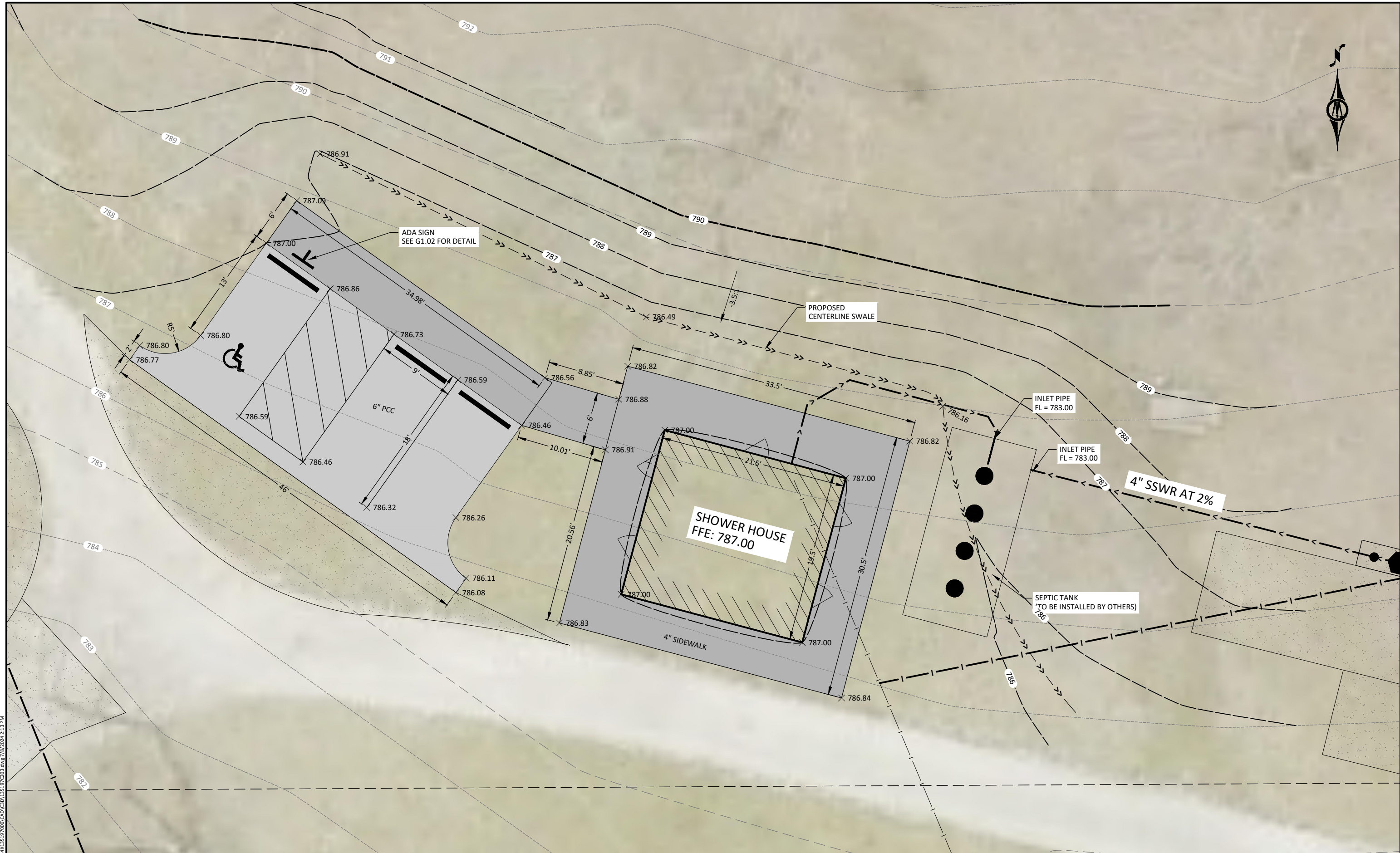
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BENTON COUNTY CONSERVATION
WILDCAT BLUFF RECREATION AREA CAMPGROUND IMPROVEMENTS
DUMP STATION & ACCESS ROAD

SHEET
C2.02



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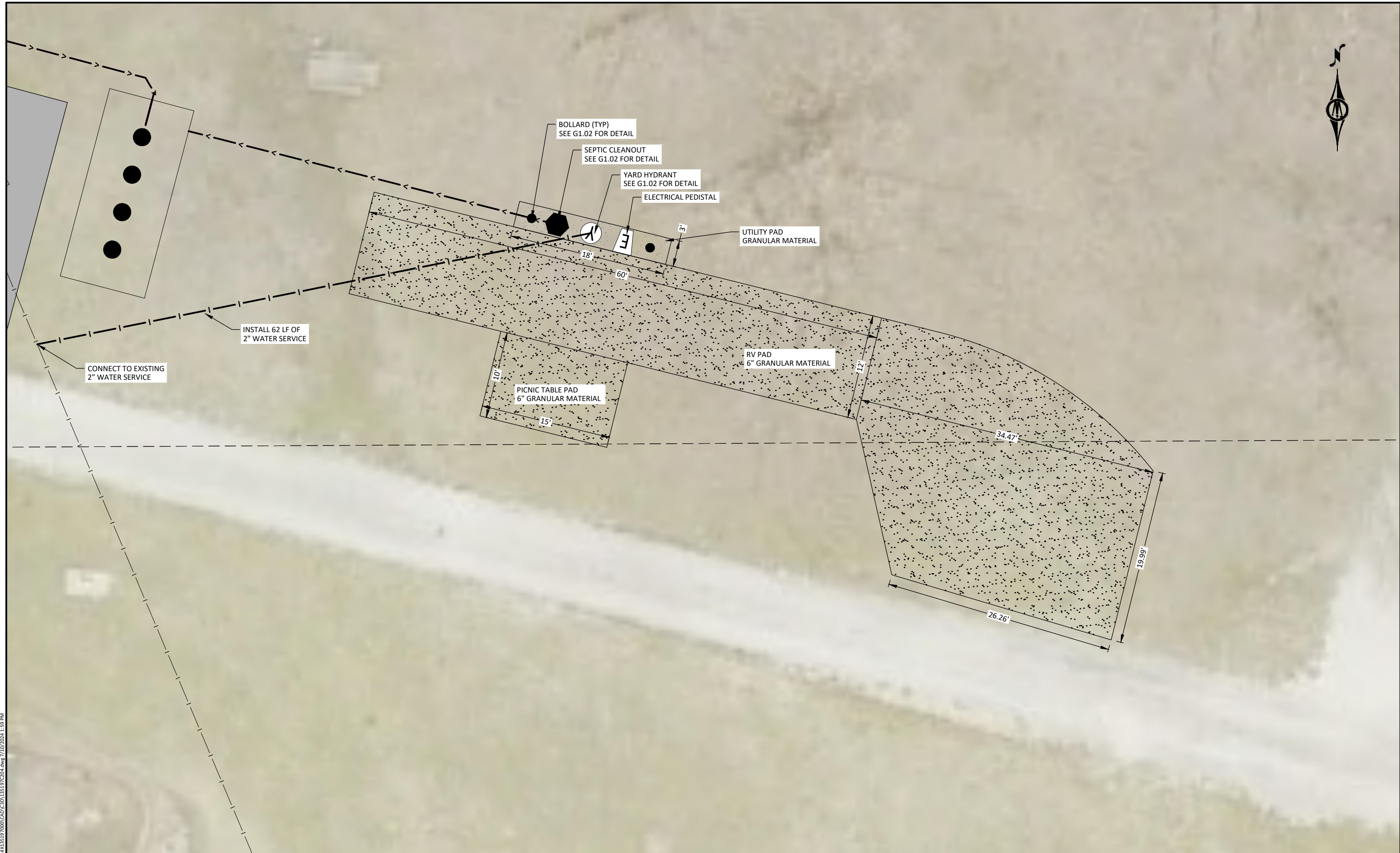
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CLIENT PROJ. NO.	24X.135197.000

BENTON COUNTY CONSERVATION
 WILDCAT BLUFF RECREATION AREA CAMPGROUND IMPROVEMENTS
 SHOWER HOUSE & PARKING

SHEET
C2.03



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BENTON COUNTY CONSERVATION
 WILDCAT BLUFF RECREATION AREA CAMPGROUND IMPROVEMENTS
 CAMP HOST SITE IMPROVEMENT

SHEET
C2.04

SCHEDULE GENERAL NOTES	
SYMBOL	DESCRIPTION
(LSIG)	ELECTRONIC TRIP CIRCUIT BREAKER (LONG TIME, SHORT TIME, GROUND FAULT)
(LSI)	ELECTRONIC TRIP CIRCUIT BREAKER (LONG TIME, SHORT TIME, INST)
(LSIA)	ELECTRONIC TRIP CIRCUIT BREAKER (LONG TIME, SHORT TIME, INST, GROUND FAULT ALARM)
(HL)	HANDLE LOCK
(SD)	DENOTES SERVICE DISCONNECT
(ST)	120V SHUNT TRIP OPERATOR
(G)	GROUND FAULT CIRCUIT INTERRUPTER
(E)	EXISTING BREAKER IN EXISTING PANEL
(N)	NEW BREAKER IN EXISTING PANEL
(NE)	NEW BREAKER, EXTEND EXISTING LOAD
(A)	ARC FLASH

GENERAL ELECTRICAL SYMBOLS	
	CONNECTION TO MECHANICAL EQUIPMENT
	ELECTRICAL CONNECTION TO MISC EQUIPMENT
	EMERGENCY STOP PUSH BUTTON. REFER TO SCHEDULE FOR ADDITIONAL INFORMATION.
	DIGITAL POWER METER, LCD DISPLAY, MONITORING OF VOLTAGE, CURRENT, POWER, PF, FREQUENCY, MIN/MAX AND AVERAGE VALUES, AND ENERGY
	PANELBOARD - SEE SCHEDULES FOR MORE INFORMATION
	UTILITY TRANSFORMER - PROVIDED BY UTILITY
	SWITCHBOARD - SEE SCHEDULES FOR MORE INFORMATION
	TRANSFORMER - SEE SCHEDULES FOR MORE INFORMATION
	DISCONNECT SWITCH, HEAVY DUTY. SIZE INDICATED ON PLANS (A/B/C) WHERE A = RATING IN AMPS, B = NUMBER OF POLES, C = NEMA RATING (E.G. 1 = NEMA 1), XXX = NAME OF LOAD SERVED
	POWER METER

GENERAL ELECTRICAL SYMBOLS	
C.M.	CONSTRUCTION MANAGER
M.C.	MECHANICAL CONTRACTOR
P.C.	PLUMBING/PIPING CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR
A.T.C.	AUTOMATIC TEMPERATURE CONTROLS CONTRACTOR
G.C.	GENERAL CONTRACTOR
F.P.C.	FIRE PROTECTION CONTRACTOR
K.E.C.	KITCHEN EQUIPMENT CONTRACTOR
<u>EQUIPMENT</u>	SCHEDULED EQUIPMENT (UNDERLINED)
EQUIPMENT	NON-SCHEDULED EQUIPMENT
X_EQUIPMENT	EXISTING EQUIPMENT (X_PREFIX)
A	6" ABOVE COUNTER OR BACKSPLASH TO CENTERLINE OF DEVICE
M	INSTALL DEVICE IN MILLWORK
XX	LOCATION-SPECIFIC MOUNTING HEIGHT ABOVE FINISHED FLOOR TO CENTERLINE OF DEVICE
H	INSTALL DEVICE HORIZONTALLY
B	BLACK DEVICE COLOR WITH BLACK UNBREAKABLE THERMOPLASTIC COVER PLATE
/	USED BETWEEN TWO OR MORE SUBSCRIPTS
	SECTION VIEW, TOP REPRESENTS DETAIL NUMBER, BOTTOM REPRESENTS SHEET NUMBER
	ENLARGED VIEW, TOP REPRESENTS VIEW NUMBER, BOTTOM REPRESENTS SHEET NUMBER

GENERAL LIGHTING SYMBOLS	
SYMBOL	DESCRIPTION
	DOUBLE FACED EXIT SIGN
	SINGLE FACED EXIT SIGN
	RECESSED ARCHITECTURAL TROFFER
	RECESSED DOWNLIGHT
	EMERGENCY FIXTURE
	POLE MOUNTED SITE FIXTURE
	POLE MOUNTED SITE FIXTURE
	INDUSTRIAL FIXTURE
	SURFACE OR PENDANT LINEAR FIXTURE
	SURFACE OR PENDANT CIRCULAR FIXTURE
	WALL MOUNTED FIXTURE
	WALL SCONCE
	HIGH BAY

GENERAL SWITCH SYMBOLS	
SYMBOL	DESCRIPTION
	SWITCH, REFER TO SUBSCRIPT SCHEDULE FOR MORE INFORMATION.
	REFER TO SUBSCRIPT SCHEDULE FOR MORE INFORMATION
	REFER TO SUBSCRIPT SCHEDULE FOR MORE INFORMATION
	REFER TO SUBSCRIPT SCHEDULE FOR MORE INFORMATION

GENERAL POWER SYMBOLS	
SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE, NEMA 5-20R, EMERGENCY POWER
	DUPLEX RECEPTACLE, REFER TO SUBSCRIPT SCHEDULE FOR MORE INFORMATION.
	CORD REEL
	CORD DROP
	DOUBLE DUPLEX RECEPTACLE, NEMA 5-20R
	SIMPLEX RECEPTACLE, NEMA 5-20R
	SPECIAL RECEPTACLE
	RECESSED FLOOR BOX OR POKE-THRU
	DOUBLE DUPLEX RECEPTACLE, NEMA 5-20R, EMERGENCY POWER

GENERAL FIRE ALARM SYMBOLS	
SYMBOL	DESCRIPTION
	FIRE ALARM CONTROL PANEL
	NOTIFICATION APPLIANCE CIRCUIT EXTENDER PANEL
	FIRE ALARM REMOTE ANNUNCIATOR PANEL
	FIRE PROTECTION POST INDICATOR VALVE AND TAMPER SWITCH
	FIRE PROTECTION AIR PRESSURE SWITCH
	FIRE PROTECTION VALVE TAMPER SWITCH
	FIRE PROTECTION WATER FLOW SWITCH
	BEAM SMOKE REFLECTOR
	LINEAR BEAM SMOKE DETECTOR
	LINEAR BEAM SMOKE DETECTOR
	DUCT SMOKE DETECTOR
	DUCT SMOKE DETECTOR REMOTE INDICATOR STATION
	HEAT INDICATOR ADDRESSABLE
	LINEAR HEAT DETECTION CABLE
	ADDRESSABLE FIRE ALARM MANUAL PULL STATION
	SMOKE DETECTOR
	FIRE ALARM AUDIO/VISUAL NOTIFICATION APPLIANCE, CEILING MOUNTED
	FIRE ALARM VISUAL NOTIFICATION APPLIANCE, CEILING MOUNTED
	FIRE ALARM SPEAKER NOTIFICATION APPLIANCE, CEILING MOUNTED
	FIRE ALARM SPEAKER/VISUAL NOTIFICATION APPLIANCE, CEILING MOUNTED
	FIRE ALARM HORN NOTIFICATION APPLIANCE, WALL MOUNTED
	FIRE ALARM AUDIO/VISUAL NOTIFICATION APPLIANCE, WALL MOUNTED
	FIRE ALARM SPEAKER NOTIFICATION APPLIANCE, WALL MOUNTED
	FIRE ALARM SPEAKER/VISUAL NOTIFICATION APPLIANCE, WALL SWITCH
	FIRE ALARM VISUAL NOTIFICATION APPLIANCE, WALL MOUNTED
	ADDRESSABLE MONITOR MODULE
	ADDRESSABLE RELAY MODULE
	MAGNETIC DOOR HOLDER
	HVAC ELEVATOR HOISTWAY DAMPER
	HVAC SMOKE DAMPER
	ZONE ADAPTER MODULES
	CO DETECTOR
	SMOKE DETECTOR
	VOICE COMMAND CENTER
	DUCT CO DETECTOR
	BELL
	HIGH FIDELITY SPEAKER - CEILING MOUNT
	HIGH FIDELITY SPEAKER - WALL MOUNT
	AIR SAMPLING SMOKE DETECTOR

GENERAL ELECTRICAL NOTES	
1.	ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH N.E.C., LOCAL, AND ALL OTHER APPLICABLE CODES.
2.	INSTALLATION OF EQUIPMENT SHALL BE IN ACCORDANCE WITH CURRENT STANDARDS AND SPECIFICATIONS APPROVED BY THE AUTHORITY HAVING JURISDICTION (AHJ). PLACE ALL CABLEWIRING IN CONDUIT OR RACEWAY UNLESS NOTED OTHERWISE.
3.	FEEDERS ON DRAWINGS ARE SCHEMATIC ONLY. CONDUIT RUNS SHALL COMPLY WITH CONDUIT SPECIFICATIONS AND CONTAIN BENDS THAT ARE NOT GREATER THAN 90 DEGREES. CONDUITS ABOVE GRADE SHALL BE RUN PARALLEL TO OR PERPENDICULAR WITH BUILDING LINES AND STRUCTURE.
4.	ALL FEEDER AND BRANCH CIRCUITS TO PANELS, MOTORS, LIGHTS, RECEPTACLES, GENERAL DISTRIBUTION, ETC. SHALL CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR SIZED ACCORDING TO THE N.E.C. THE CONDUIT SYSTEM SHALL NOT BE CONSIDERED AN ACCEPTABLE GROUND.
5.	ALL WIRING AND FEEDER SIZES ON DRAWINGS ARE SIZED FOR COPPER WIRING UNLESS SPECIFICALLY NOTED OTHERWISE.
EQUIPMENT/DEVICE HOME RUN KEY	
1.	BRANCH CIRCUIT WIRING SHALL BE #12AWG UNLESS NOTED OTHERWISE ON THE PLAN OR IN THE SCHEDULES.
2.	AS A MINIMUM USE 10 AWG CONDUCTOR FOR 20 AMPERE, 120 VOLT BRANCH CIRCUIT HOME RUNS LONGER THAN 100 FEET.
3.	REFER TO SPECIFICATION SECTION 280519 FOR ADDITIONAL REQUIREMENTS.
LINE TYPE KEY	
	NEW WORK BY THE E.C. (DARK SOLID LINE)
	NEW UNDERGROUND WORK BY THE E.C. (DARK DASHED LINE)
	WORK BY OTHERS AND/OR EXISTING (LIGHT SOLID LINE)
	DEMO WORK BY THE E.C. (DARK DASHED LINE)

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BENTON COUNTY CONSERVATION
WILDCAT BLUFF RECREATION AREA CAMPGROUND IMPROVEMENTS
ELECTRICAL GENERAL NOTES & SYMBOLS

SHEET
E.00



- KEYED NOTES:**
1. PROVIDE 30' COIL OF CONDUCTORS AT BASE OF POLE FOR FINAL CONNECTION BY UTILITY. COORDINATE WITH UTILITY FOR ADDITION OF NEW POLE MOUNTED TRANSFORMER.
 2. PANEL 'A1' PROVIDED WITH PREFABRICATED SHOWER BUILDING. PROVIDE NEW 50A/2P BREAKER FOR RV PEDESTAL AND 20A/1P BREAKER FOR SEPTIC PUMP.
 3. E.C. TO PROVIDE CONNECTION TO SEPTIC PUMP AND PUMP CONTROLLER. PUMP AND CONTROLLER PROVIDED AND INSTALLED BY OTHERS. WIRED BY E.C. COORDINATE.
 4. SERVICE DISCONNECT, GROUND RODS, AND ANY UNAVOIDABLE SURFACE RACERWAYS SHALL BE MOUNTED ON NORTH FACE OF BUILDING TO MINIMIZE VIEW FROM ROAD.
 5. SERVICE CONDUCTORS FROM UTILITY POLE TO FDS-SERVICE. REFER TO RISER AND GROUNDING DETAIL ON SHEET E-99 FOR ADDITIONAL INFORMATION.

N
 1 **ELECTRICAL SITE PLAN**
 1" = 20'-0"

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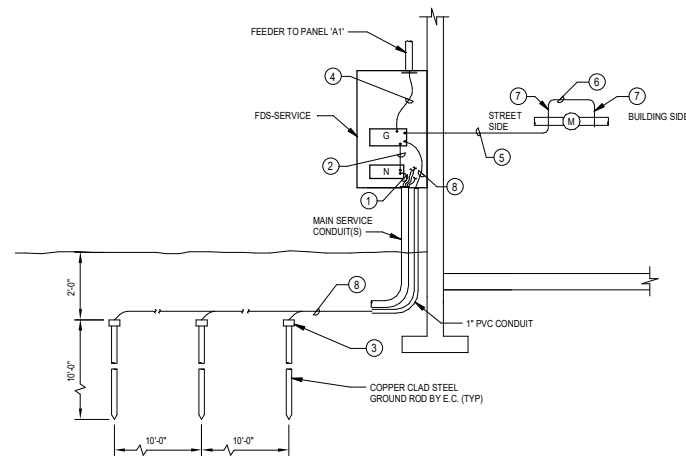
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BENTON COUNTY CONSERVATION
 WILDCAT BLUFF RECREATION AREA CAMPGROUND IMPROVEMENTS
ELECTRICAL SITE PLAN

SHEET
E.10

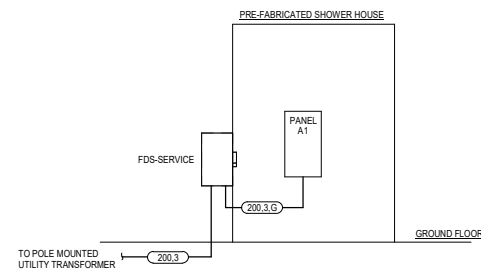
GENERAL ELECTRICAL SCHEDULE		
SYMBOL	DESCRIPTION	MANUFACTURER
	CONNECTION TO MECHANICAL EQUIPMENT	MOTOR/EQUIPMENT FURNISHED AND INSTALLED BY OTHERS.
	ELECTRICAL CONNECTION TO MISC. EQUIPMENT	EQUIPMENT FURNISHED AND INSTALLED BY OTHERS
PANEL 'A1'	BRANCH CIRCUIT PANELBOARD, 240/120V, 1-PHASE, 3-WIRE, NEMA 1 HOUSING, PROVIDED PRE-INSTALLED BY OTHERS WITH SHOWER HOUSE, REFER TO PANEL SCHEDULES FOR DETAILS	PROVIDED BY OTHERS
FDS-XXX A/B/C/D	FUSIBLE DISCONNECT SWITCH, HEAVY DUTY, SIZE INDICATED ON PLANS (A/B/C/D) WHERE A = RATING IN AMPS, B = NUMBER OF POLES, C = NEMA RATING (E.G. 1 = NEMA 1), D = FUSE SIZE IN AMPS, XXX = NAME OF LOAD SERVED, PROVIDE FUSES OF RATING PER MFR RECOMMENDATION	SQUARE D CLASS 3110 SIEMENS CUTLER-HAMMER GENERAL ELECTRIC
	PEDESTAL MOUNTED RV POWER CONNECTION CABINET, 120/240V, SINGLE PHASE, NEMA 3R, LOCKABLE HINGED COVER, (1) 14-50R RECEPTACLE, (1) TT30R RECEPTACLE, (1) 5-20R GFI RECEPTACLE, (1) 50A/2P BREAKER, (1) 30A/1P BREAKER, (1) 20A/1P BREAKER, PROVIDE PVC CONDUIT TO 3' BELOW GRADE	MLBANK US0000-XL-75 MIDWEST ELECTRIC U075CP010 PRE-APPROVED EQUAL

PANELBOARD: A1											
LOCATION: SURFACE / TYPE 1			VOLTAGE: 240/120 Single			MAIN DEVICE: 200 A - MCB			BUS RATING: 225		
FED FROM:			PHASE: 1			WIRE: 3			NEUTRAL RATING: 100%		
NOTES: PANEL BY OTHERS											
LOAD DESCRIPTION	BKR	PL	CKT	A		B		CKT	PL	BKR	LOAD DESCRIPTION
(N) RV PEDESTAL	50 A	2	1	6.0	1.2			2	1	20 A	(N) SEPTIC PUMP
			3			6.0	1.2	4	1	20 A	(N) SEPTIC CONTROLLER
			5					6			
			7					8			
			9					10			
			11					12			
			13					14			
			15					16			
			17					18			
			19					20			
			21					22			
TOTAL LOAD:				7200 VA		7200 VA					
TOTAL AMPS:				60 A		60 A					
Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals:							
POWER	12000 VA	100%	12000 VA								
MTR	2400 VA	113%	2700 VA								
				CONNECTED LOAD: 14400 VA							
				ESTIMATED DEMAND: 14700 VA							
				CONNECTED CURRENT: 60 A							
				EST. DEMAND CURRENT: 61 A							
NOTES: (N) DENOTES E.C. SUPPLIED BREAKER IN EXISTING PANEL. ALL OTHER BREAKERS ARE BY OTHERS.											



2 SERVICE GROUNDING DETAIL
N.T.S.

- GROUNDING KEYED NOTES:**
(SEE PLANS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION)
- SERVICE NEUTRAL CONDUCTOR, SAME SIZE AS PHASE CONDUCTORS.
 - MAIN BONDING JUMPER, SIZE THE SAME AS THE MAIN GROUNDING ELECTRODE CONDUCTOR.
 - FURNISH AND INSTALL COUNTERPOISE SYSTEM GROUND ROD USING AN EXOTHERMIC CONNECTION. VERIFY THAT SERVICE GROUND IMPEDANCE IS LESS THAN 5 OHMS.
 - EQUIPMENT GROUND CONDUCTOR: SIZE PER NEC TABLE 250.122 OR AS SHOWN ON THE PLANS.
 - COPPER BONDING CONDUCTOR: #6 MINIMUM
 - #6 COPPER JUMPER OVER WATER METER.
 - GROUND STRAP FOR WATER PIPING.
 - MAIN COPPER GROUNDING ELECTRODE CONDUCTOR: #6 MINIMUM



1 ELECTRICAL RISER DIAGRAM
N.T.S.

- GENERAL NOTES:**
(SEE PLANS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION)
- SITE IS PART OF A PRIMARY METERED SYSTEM.

PANEL FEEDER SCHEDULE - COPPER						
CALL OUT	OCPD RATING	PARALLEL SETS	PHASE	NEUTRAL	GRD	CONDUIT
200,3	200	1	#3/0	#3/0		2"
200,3,G	200	1	#3/0	#3/0	#6	2"

PANEL FEEDER SCHEDULE - ALUMINUM						
CALL OUT	OCPD RATING	PARALLEL SETS	PHASE	NEUTRAL	GRD	CONDUIT
200,3	200	1	250KCM	250KCM		2-1/2"
200,3,G	200	1	250KCM	250KCM	#4	2-1/2"

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BENTON COUNTY CONSERVATION
WILDCAT BLUFF RECREATION AREA CAMPGROUND IMPROVEMENTS
ELECTRICAL DETAILS AND SCHEDULES

SHEET
E.50

GENERAL NOTES

1. TYPICAL STRUCTURAL DETAILS AND NOTES SHALL APPLY UNLESS NOTED OTHERWISE ON THE DRAWINGS.
2. EXAMINE SITE AND DRAWINGS TO DETERMINE LOCATIONS AND DIMENSIONS OF UTILITIES, AND SITE IMPROVEMENTS.
3. THE STRUCTURAL DESIGN IS BASED ONLY ON THE STRUCTURE IN ITS COMPLETED STATE. CONTRACTORS AND THEIR SUBCONTRACTORS SHALL TAKE WHATEVER PRECAUTIONS ARE NECESSARY TO WITHSTAND ALL HORIZONTAL AND VERTICAL LOADING THAT MAY BE ENCOUNTERED DURING THE CONSTRUCTION PROCESS PRIOR TO THE COMPLETION OF THE STRUCTURE.
4. WRITTEN DISTANCES & ELEVATIONS SHALL GOVERN OVER SCALED DISTANCES & ELEVATIONS.
5. SCALES SHOWN ARE BASED ON FULL SIZE (22X34) DRAWINGS. REDUCE SCALES BY 2 FOR 11X17 DRAWINGS.
6. FOUNDATION LAYOUT AND DIMENSIONS BASED ON 10119 BENTON CO - WILDCAT BLUFF SUBMITTAL DRAWINGS SENT TO BOLTON AND MENK ON 07/08/2024.

MATERIAL NOTES:

REINFORCED CONCRETE:	
CONCRETE:	4000 PSI @ 28 DAYS AIR CONTENT: 6.5% ± 1.5% W/C+P: 0.42
REINFORCEMENT BARS:	
DEFORMED BARS	ASTM A615, GRADE 60

DESIGN CRITERIA & LOADING

1. CODE: 2015 INTERNATIONAL BUILDING CODE (IBC) and 2015 IOWA BUILDING CODE AMENDMENTS.
2. DESIGN LOADING

DEAD LOADS (D)		CALCULATED
MATERIALS		
LIVE LOADS (L)		
FLOOR		60 PSF
ROOF LIVE LOADS (L/r)		
UNIFORM		20 PSF
SNOW LOADS (S)		
P _g GROUND SNOW LOAD		25 PSF
P _f FLAT-ROOF SNOW LOAD		17 PSF
C _e SNOW EXPOSURE FACTOR		0.9
I _s SNOW LOAD IMPORTANCE FACTOR		1.0
C _t THERMAL FACTOR		1.2
C _s SLOPE FACTOR		0.9
WIND LOAD (W)		
V BASIC WIND SPEED		109 MPH (3 SECOND GUST)
V _{asd} ASD WIND SPEED (V*(0.6))		84.5 MPH
RISK (OCCUPANCY) CATEGORY		II
EXPOSURE CATEGORY		C
GC _{pi} INTERNAL PRESSURE COEFFICIENT		+/- 0.18

CONCRETE NOTES:

1. LAP SPLICES AND 90 DEGREE END HOOKS SHALL BE AS SHOWN BELOW UNLESS NOTED. WHEN BARS OF TWO DIFFERENT SIZES ARE SPLICED, THE LONGER LAP LENGTH SHALL APPLY.

F'C=4000 PSI	FOOTING		90 DEGREE HOOK
BAR SIZE	BAR LAP	TOP BAR	
#4	25 IN.	32 IN.	8 IN.
#5	31 IN.	40 IN.	10 IN.
2. REINFORCING BARS SHALL HAVE THE FOLLOWING CONC. COVER UNLESS NOTED OTHERWISE.

FOOTINGS AND OTHER UNFORMED SURFACES	3"
CONCRETE EXPOSED TO EARTH, WEATHER OR FLUIDS	
#5 BARS OR SMALLER	1-1/2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	
SLABS, WALLS & JOISTS	3/4"
3. CONCRETE SHALL BE PLACED WITHOUT CONSTRUCTION JOINTS EXCEPT WHERE SPECIFICALLY SHOWN ON THE DRAWINGS OR AS APPROVED BY THE ENGINEER.
4. CAST-IN-PLACE CONCRETE SHALL NOT BE PLACED IN STANDING WATER, ON FROZEN SOIL OR ON FROZEN CONCRETE.
5. FOR LOCATIONS AND DIMENSIONS OF SLEEVES, AND OPENINGS NOT SHOWN ON THE STRUCTURAL DRAWINGS, SEE CIVIL/MECHANICAL, PLUMBING, HVAC AND ELECTRICAL DRAWINGS. CONTRACTOR SHALL VERIFY AND COORDINATE REQUIREMENTS FOR AND LOCATION OF ABOVE ITEMS WHETHER SHOWN ON THE STRUCTURAL DRAWINGS OR NOT.
6. BEVEL ALL EXPOSED CORNERS OF CONCRETE 3/4" x 3/4".

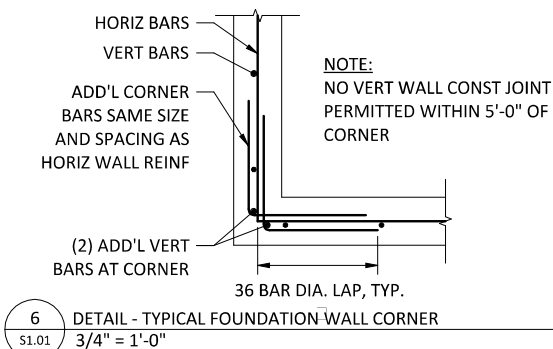
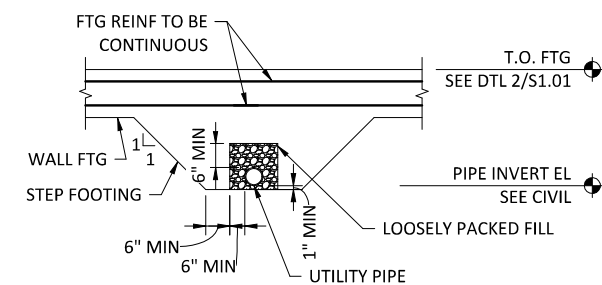
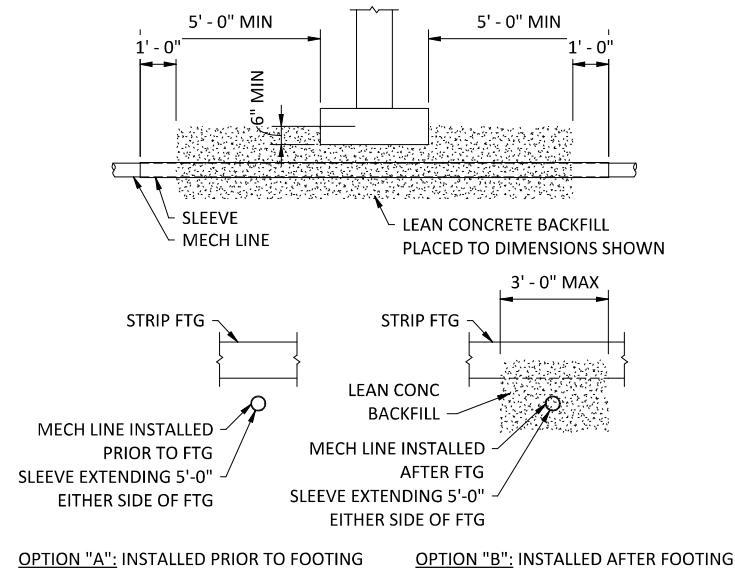
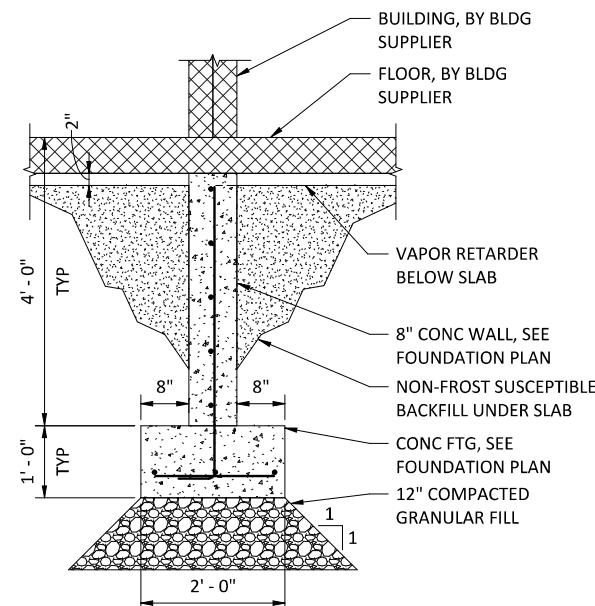
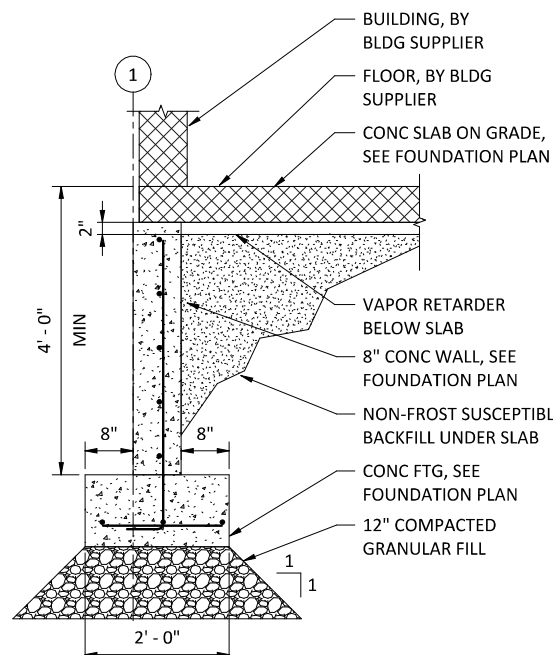
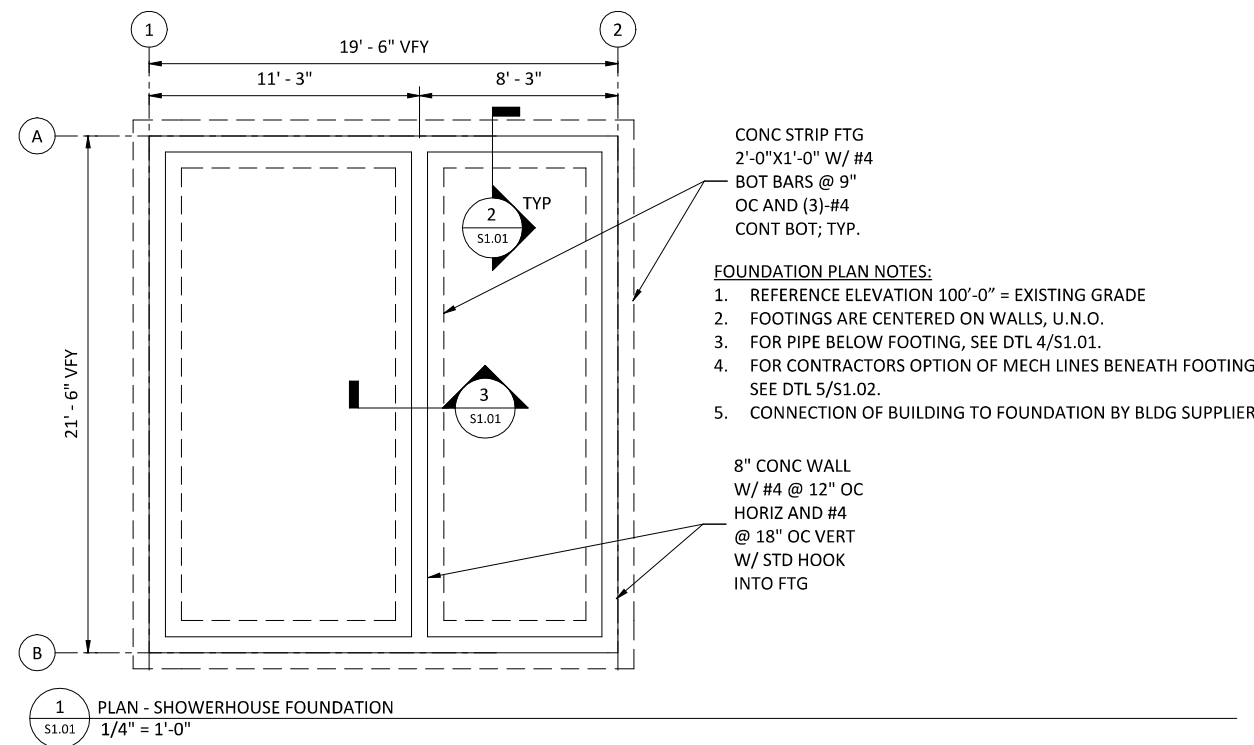
FOUNDATION AND SOIL NOTES:

1. PROVIDE A MINIMUM OF 5'-0" OF SOIL COVER AT ALL UNHEATED STRUCTURE FOOTINGS.
2. PROTECT FOUNDATION SOILS FROM FREEZING DURING CONSTRUCTION.
3. PLACE FILL AND BACKFILL AND COMPACT TO FOLLOWING MAXIMUM STANDARD PROCTOR DENSITIES UNLESS NOTED OTHERWISE IN THE SPECIFICATIONS:

LOCATION	DENSITY
FILL BELOW FOOTINGS	100%
FILL BELOW SLABS ON GRADE	98%
PIPE AND STRUCTURE EXCAVATIONS	95%
GREEN SPACES	90%
4. ASSUMED SOIL BEARING PRESSURES:
ASSUMED ALLOWABLE SOIL BEARING PRESSURE: 1,500 PSF

EXCAVATION NOTES:

1. TEMPORARY GROUND CONTROL IS BY CONTRACTOR DESIGN.
2. CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL TEMPORARY SHEETING AND BRACING NECESSARY TO PROTECT PERSONNEL AND ADJACENT PROPERTY FROM INJURY OR DAMAGE DURING CONSTRUCTION OPERATION.
3. EXCAVATIONS OR TRENCHING WITHIN CLOSE PROXIMITY TO UNDERGROUND STRUCTURES, UTILITIES, OR UTILITY POLES WILL REQUIRE PROTECTION AND SUPPORT TO PREVENT DAMAGE OR INTERRUPTION TO SERVICE. THE COST TO PROVIDE THIS PROTECTION SHALL BE INCLUDED IN THE CONTRACTOR'S TOTAL BASE BID PRICE.



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JWE			
JCG			
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BENTON COUNTY CONSERVATION
 WILDCAT BLUFF CAMPGROUND IMPROVEMENTS
 STRUCTURAL NOTES, FOUNDATION PLAN, AND DETAILS