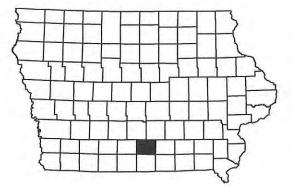
IOWA DEPARTMENT OF NATURAL RESOURCES

CONSTRUCTION DOCUMENTS FOR RED HAW STATE PARK CAMPGROUND UPGRADE PROJECT LUCAS COUNTY, IOWA

DNR PROJECT #15-05-59-02







JASON K. KRUSE, IOWA REG. NO. 19718 MY CENSE RENEWAL DATE IS DECEMBER 31, 2017 PAGES OR SHEETS COVERED BY THIS SEAL: SHEETS 1-10

	DIRE	CTORY						
PROJECT MANAGER		CONSTRU	CTION INSPECTOR					
COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES	COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES					
ADDRESS	806 E. TRAIL RIDGE PLACE	ADDRESS	806 E. TRAIL RIDGE PLACE					
CITY,STATE,ZIP INDIANOLA, IA 50125		CITY,STATE,ZIP	INDIANOLA, IA 50125					
CONTACT	JASON KRUSE	CONTACT	JASON KRUSE					
TELEPHONE	515-250-3707	TELEPHONE	515-250-3707					
FAX		FAX						
EMAIL	jason.kruse@dnr.lowa.gov	EMAIL	jason.kruse@dnr.iowa.gov					

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF REMOVAL OF THE EXISTING CAMPGROUND CAMP PADS AND ELECTRIC AND INSTALLING NEW GRAVEL CAMP PADS AND ELECTRIC SERVICES AT RED HAW STATE PARK IN DAVIS COUNTY, IOWA.

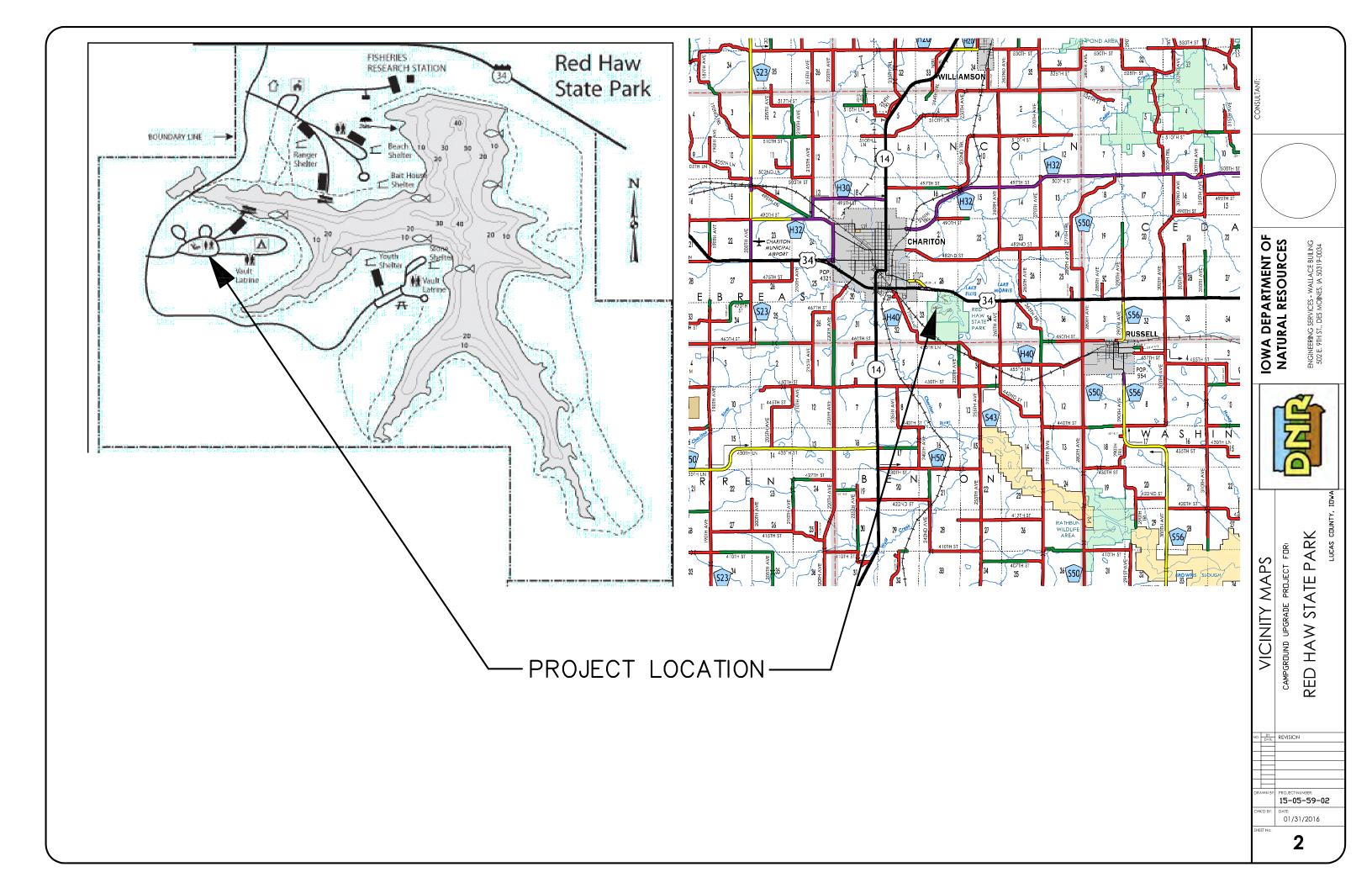
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STATE PARK

RED HAW

15-05-59-02 01/31/2016



ESTIMATED PROJECT QUANTITIES

ITEM NO.	ITEM	UNIT	QUANTITY
1	TREE REMOVALS	EA	6
2	DEMOLITION	LS	1
3	GRADING	LS	1
4	8' FILTER SOCK	LF	300
5	WATERLINE CONNECTION TO EXISTING	EA	1
6	WOODFORD MODEL S-3 SANITARY YARD HYDRANTS	EA	3
7	1-INCH HDPE PIPE	LF	121
8	ENGINEERING FABRIC	SY	2216
9	MACADAM STONE	TONS	540
10	CLASS "A" ROADSTONE	TONS	350
11	TRAFFIC CONTROL	LS	1
12	SEEDING, FERTILIZING AND HYDROMULCH	AC	1.4
13	ELECTRICAL IMPROVEMENTS	LS	1
14	NPDES GENERAL PERMIT #2 & SWPPP	LS	1
15	MOBILIZATION	LS	1
16	ROMART WATER TOWER AND SIGN	EA	1
17	KIOSK	LS	1
18			
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GENERAL NOTES

- TWO WEEKS PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY: A. DISTRICT ENGINEER: JASON KRUSE 515-250-3707
- CONSTRUCTION CAN BEGIN AFTER LABOR DAY, 9/6/15 AND MUST BE COMPLETED BY 11/23/16.
- 3. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH STATEWIDE URBAN STANDARD DESIGN SPECIFICATIONS FOR PUBLIC IMPROVEMENTS (SUDAS). ALL CONSTRUCTION TESTING TO BE IN ACCORDANCE WITH SUDAS AND IS THE EXPENSE OF THE CONTRACTORS.
- 4. THE CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS PRIOR TO THE START OF CONSTRUCTION AND NOTIFY THE ABOVE MENTIONED CONTACTS OF ANY DISCREPANCIES.
- THE LOCATIONS AND DIMENSIONS SHOWN ON THE PLANS FOR EXISTING FACILITIES ARE IN ACCORDANCE WITH AVAILABLE INFORMATION WITHOUT UNCOVERING AND MEASURING. THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OF THIS INFORMATION OR THAT ALL EXISTING UNDERGROUND FACILITIES ARE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ALL PUBLIC AND/OR PRIVATE UTILITIES SERVING THE AREA TO DETERMINE THE PRESENT EXTENT AND LOCATION OF THEIR FACILITIES BEFORE BEGINNING WORK.
- 6. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROPER UTILITY IMMEDIATELY UPON BREAKING OR DAMAGE TO ANY UTILITY LINE OR APPURTENANCE, OR THE INTERRUPTION OF THEIR SERVICE. HE SHALL NOTIFY THE PROPER UTILITY INVOLVED. IF EXISTING UTILITY LINES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESULVED.
- CONTRACTOR TO PROTECT ALL UTILITY, PAVING, BUILDINGS, ETC. DUTSIDE OF LIMITS OF PROPOSED CONSTRUCTION.
- 8. PROTECT EXISTING TREES AND VEGETATION DUTSIDE OF CONSTRUCTION AREAS.

	ESTIMATE REFERENCE INFORMATION
ITEM NO.	. DESCRIPTION
1	TREE REMOVALS A. REMOVE 6 TREES IDENTIFIED ON THE PLANS INCLUDING GRINDING STUMPS. FILL WITH DIRT AND SEED.
2	DEMOLITION A. CONTRACTOR TO REMOVE AND DISPOSE OF OFF-SITE PROPERLY THE EXISTING CAMP POSTS, CAMPFIRE RINGS, HYDRANTS, VALVES AND PCC PADS, GRAVEL CAMP PADS, CAMP PAD ELECTRICAL BOXES, AND DISTRIBUTION PANELS. SECONDARY ELECTRIC LINES MAY BE CUT 12' BELOW GRADE AND ABANDONED. DEMOLISH EXISTING KIOSK.
3	GRADING A. CONTRACTOR SHALL GRADE THE SITE (APPROXIMATELY 430 CY). TOPSOIL TO BE STRIPPED AND STOCKPILED AND RESPREAD TO A MINIMUM DEPTH OF 4-INCHES. EXISTING CAMP PAD GRAVEL MATERIAL CAN BE USED AS BASE FILL MATERIAL BELOW NEW CAMP PAD LOCATIONS AND IN DEEPER FILL LOCATIONS.
4	FILTER SOCK A. CONTRACTOR SHALL INSTALL 8-INCH FILTER SOCK AS DIRECTED AND REQUIRED BY THE SWPPP.

WATERLINE CONNECTION TO EXISTING A. INCLUDED IN THIS ITEM IS CONNECTION TO AN EXISTING WATERLINE FOR THE NEW HYDRANT. 5

WOODFORD MODEL S-3 SANITARY YARD HYDRANT A. CONTRACTOR TO INSTALL WOODFORD MODEL S-3 SANITARY YARD HYDRANT (INCLUDING CURB STOPS, CONCRETE, AND RIVER ROCK, 6

1-INCH HDPE PIPE A. WATERLINE TO NEW HYDRANT, 5' MINIMUM BURY DEPTH. 7

ENGINEERING FABRIC A. CONTRACTOR SHALL INSTALL ENGINEERING FABRIC, MIRAFI 600X OR APPROVED EQUAL, BELOW CAMP PADS AS LOCATED IN THE PLANS. FABRIC SHALL CONFORM TO 10WA DOT SPECIFICATION SECTION 4196.01. 8

MACADAM STONE A. CONTRACTOR TO INSTALL 5-INCH DEPTH MACADAM STONE ON TOP OF ENGINEERING FABRIC IN CAMP PADS AS LOCATED IN THE PLANS. MATERIAL SHALL CONFORM TO IOWA DOT SPECIFICATION SECTION 4122.02.

CLASS 'A' CRUSHED LIMESTONE A. CONTRACTOR TO INSTALL 2-3 INCHES OF CLASS 'A' ROADSTONE ON TOP OF MACADAM STONE IN CAMP PADS AS LOCATED IN THE PLANS. 10

TRAFFIC CONTROL A. CONTRACTOR TO INSTALL TYPE III ROAD CLOSED BARRICADE SIGNAGE AT CAMPGROUND ENTRANCE ROAD. 11

SEEDING, FERTILIZING AND HYDRO-MULCHING
A. CONTRACTOR SHALL SEED, FERTILIZE AND MULCH ALL DISTURBED AREAS (APPROXIMATELY 1.4 ACRES). USE IOWA DOT SPECIFICATIONS
FOR FERTILIZER AND HYDROMULCH RATE. SUBMIT A FINELEAF AND TALL FESCUE (FULL SHADE/HIGH TRAFFIC) MIX TO THE ENGINEER FOR
APPROVAL.

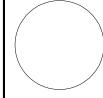
ELECTRICAL IMPROVEMENTS
A. CONTRACTOR SHALL INSTALL ELECTRICAL IMPROVEMENTS AS DETAILED IN THE PLANS INCLUDING CT CABINET, 800 AMP DISTRIBUTION PANEL, ALL UNDERGROUND WIRING TO CAMPSITES, NEW CAMP PEDISTALS, CONNECTIONS TO EXISTING SHOWER, LIFT STATION, AND SECURITY LIGHTS. ALL ROAD CROSSINGS SHALL BE BORED WITH 3' CONDUIT. ALL WORK SHALL COMPLY WITH CURRENT CODES AND ALLIANT ENERGY'S STANDARDS.

NPDES GENERAL PERMIT #2 & SWPPP
A. CONTRACTOR SHALL OBTAIN THE NECESSARY NPDES GENERAL PERMIT #2 AS GREATER THAN 1 ACRE OF AREA IS BEING DISTURBED WITH THIS PROJECT AND TO PREPARE A SWPPP IN ACCORDANCE WITH PERMIT #2. CONTRACTOR IS RESPONSIBLE FOR SUPPLYING INSPECTIONS & RECORD KEEPING.

MOBILIZATION A. COSTS ASSOCIATED WITH TRANSPORTATION OF EQUIPMENT AND PERSONNEL, BONDING, INSURANCE, AND OTHER MISCELLANEOUS ITEMS. 15

RUMART WATER TOWER AND SIGN A. CONTRACTOR SHALL PROVIDE AND INSTALL RUMART WATER TOWER AND ALL UNDERGROUND PLUMBING BACK TO THE CURB STOP, REPLACE CONCRETE MOUNTING PAD. INCLUDE THE ROMART NON-POTABLE WATER SIGN.

KIOSK A. CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS ASSOCIATED WITH THE KIOSK. 17



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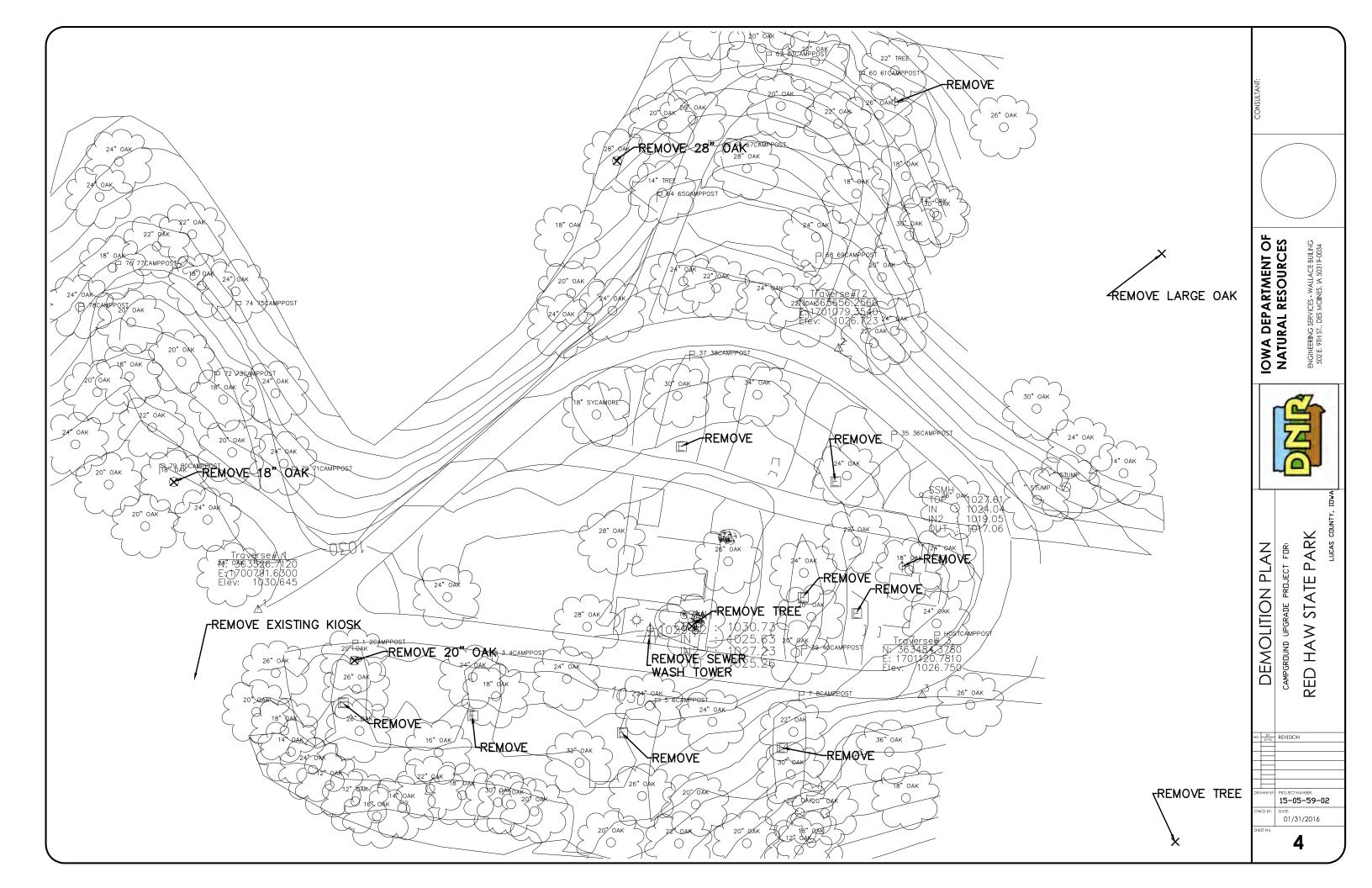
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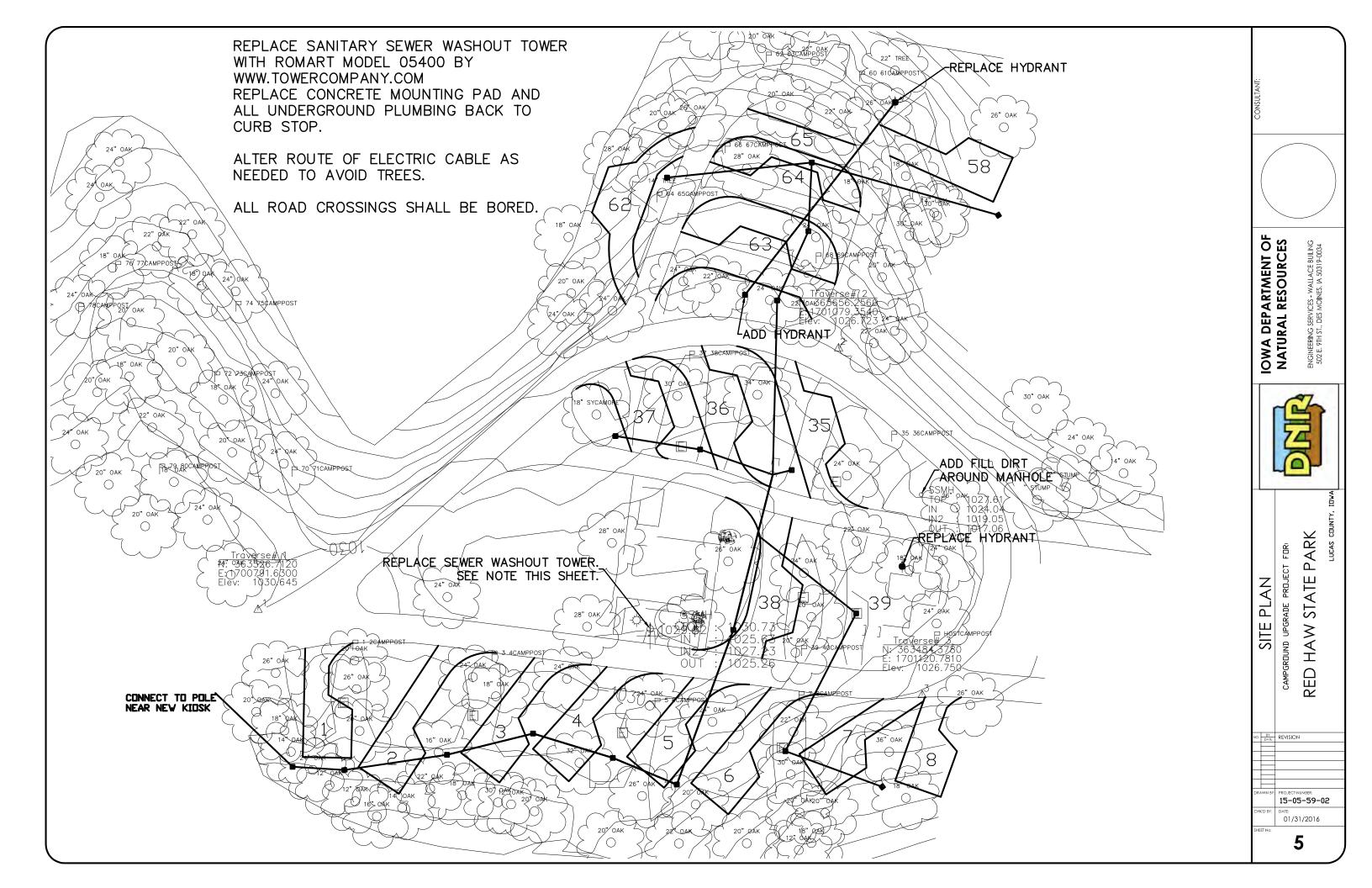
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DETAILS

CAMPGROUND ELECTRICAL SYSTEM STANDARD DRAWING NO TS-1

MAX.

DOUBLE TRENCH

AFTER INSTALLATION OF THE ELECTRICAL CONDUCTORS, AND AT LOCATIONS WHERE THE TRENCHING OPERATIONS CROSS THE CAMPSITE VEHICLE PARKING PADS, THE CONTRACTOR SHALL PLACE AND COMPACT A MINIMUM OF 4" OF GRANULAR SURFACING ABOVE THE COMPACTED TRENCH BACKFILL.

2. THE CONTRACTOR SHALL SEED AREAS DISTURBED BY TRENCHING ACTIVITY WITH AN "URBAM" OR "RURAL" SEED MIXTURE, AS SPECIFIED ON THE PLAN DRAWINGS. THE COST OF SEEDING SHALL BE CONSIDERED AS INCIDENTAL TO OTHER ITEMS OF WORK.

3. TRENCHING AND BACKFILL SHALL CONFORM TO SECTION 02200, PART 3.05 OF THE TECHNICAL SPECIFICATIONS.

NOTES:

DETAILS OF TRENCHES FOR SECONDARY CIRCUITS

REVISION DATE 1/21/97

EXCESS EXCAVATION "ROWED" ON CENTER OF TRENCH

EXISTING GRADE

SITE RUN BACKFILL

LOOSE DRY SOIL OR CLEAN PIT RUN SAND, FREE OF RUBBISH AND ROCKS LARGER THAN 1 /2" DIA., TAMPED—

GROUND CONDUCTOR

EXCESS EXCAVATION "ROWED" ON CENTER OF TRENCH

6" ENCASEMENT OF 3000 P.S.I. CONCRETE

- 2-1/2" SCHEDULE 80 P.V.C. CONDUIT

- COPPER, 600 VOLTS DIRECT BURIED CABLE, TYPE U.S.E. SECONDARY LINE (120/240 V.)

EXCESS EXCAVATION "ROWED" ON CENTER OF TRENCH

- LOOSE DRY SOIL OR CLEAN PIT RUN SAND, FREE OF RUBBISH AND ROCKS LARGER THAN 1/2" DIA., TAMPED

ONE 15 KV. PRIMARY CABLE

EXISTING GRADE

- CAUTION TAPE

SITE RUN BACKFILL

GROUND CONDUCTOR

SINGLE TRENCH WITH LESS

THAN MINIMUM BURIAL DEPTH

EXISTING GRADE

CAUTION TAPE

SITE RUN BACKFILL

- TAMPED

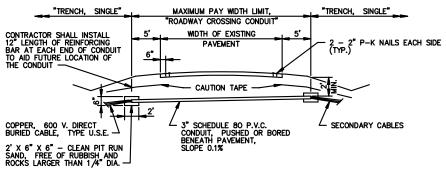
COMBINED PRIMARY AND

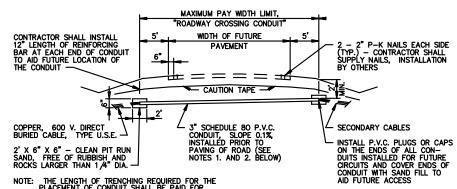
SECONDARY TRENCH

— TAMPED

SINGLE TRENCH

R, 600 VOLTS DIRECT BURIED TYPE U.S.E. SECONDARY LINE (120/240 V.)





TRENCH BACKFILL, PLACED AROUND ROADWAY CROSSING CONDUIT BENEATH FUTURE PAVEMENT, SHALL BE FREE FROM STONES AND BE FIRMLY TAMPED AROUND THE SIDES (NOT THE TOP) OF THE CONDUIT, TO DEVELOP MAXIMUM SUPPORTING STRENGTH. COMPACTION OF TOP 12" OF BACKFILL BENEATH FUTURE PAVEMENT WILL BE CONSIDERED SUITABLE IF THE RESULTING DENSITY WITH ADEQUATE MOISTURE, IS REASONABLY UNIFORM THROUGHOUT EACH COMPACTED LIFT AND IS AT LEAST 95 PERCENT OF MAXIMUM DENSITY, DETERMINED IN ACCORDANCE WITH STANDARD PROCTOR DENSITY TEST.

CAMPGROUND ELECTRICAL SYSTEM STANDARD DRAWING NO. RC-1

CROSSING CONDUITS FOR SECONDARY CIRCUITS

DETAILS OF ROADWAY

REVISION DATE 1/25/95

– DISTRIBUTION PANEL: SQUARE-D, I-LINE; OR GENERAL ELECTRIC CCB; OR APPROVED EQUAL POSTS AND RACK AS REQUIRED BY -ALLIANT ENERGY POSTS AND RACK AS REQUIRED BY ALLIANT ENERGY DRIP HOOD ELECTRIC UTILITY CO., INSTALLED BY CONTRACTOR 0 6X6-W2.0XW2.0 WELDED WRE FABRIC, OR NO. 4 BARS AT 10" C. TO C. BOTH - COUPLINGS BETWEEN STEEL AND P.V.C. CONDUITS SHALL BE SMOOTH AND SHALL BE EM-BEDDED IN CONCRETE PAD PADLOCKING HANDLE (PAD-LOCK SUPPLIED BY OTHERS) EXPOSED CONDUIT SHALL BE RIGID STEEL CONCRETE PAD 1" CHAMFER > GROUND LINE - R - G 100 N CLASS "A" CRUSHED STONE, OR CLASS "C" GRAVEL AS REQUIRED BY ALLIANT— SAND/ MAIN CABLES FROM TRANS-FORMER: BY ALLIANT ENERGY 90° ELL - STEEL OR SCH. 80 P.V.C. CONDUIT WITH BUSHINGS: 2-1/2" FOR NO. 4/0 AWG - 250 MCM CONDUCTORS, 2" DIA. FOR NO. 1/0 - NO. 3/0 AWG CONDUCTORS, 1-1/2" DIA. FOR NO. 2 - NO. 1 AWG CONDUCTORS, AND 1-1/4" DIA FOR NO. 6 - NO. 4 AWG CONDUCTORS. EXTRA CONDUITS FOR FUTURE — CIRCUITS SHALL HAVE P.V.C. PLUG OR CAP AND BE COVERED WITH 12" DEPTH OF SAND

PAD-MOUNTED DISTRIBUTION PANEL DETAIL

IF THE PROJECT SITE DOES NOT HAVE PRIMARY METERING, A METER FOR SECONDARY CIRCUITS SHALL BE INSTALLED ON THE SIDE OF THE MAIN DISTRIBUTION PANEL. THE METER BASE INSTALLATION SHALL BE IN CONFORMANCE WITH THE ELECTRIC UTILITY COMPANYS

NOTES:

- REQUIREMENTS AND BE SUBJECT TO THEIR APPROVAL. 2. THE COST FOR INSTALLING "MAIN CIRCUIT CABLES"
 SHALL BE INCLUDED IN THE COST FOR INSTALLING THE
 MAIN DISTRIBUTION PANEL. THE CONTRACTOR SHALL
 ARRANGE WITH THE ELECTRIC UTILITY COMPANY FOR
 CONNECTION OF THE MAIN CIRCUIT CABLES TO THE
 TRANSFORMER.

- 800 AMP/240 VOLT MAIN DISTRIBUTION PANEL FEATURES: 1. SYSTEM: 120/240 V., 3-WIRE CONTINUOUS GROUND, SINGLE PHASE.
- 2. SQUARE-D TYPE HCM I-LINE, OR GENERAL ELECTRIC TYPE CCB, PANELBOARD.
- 800 AMP MA (SQUARE-D) OR TJK6 (G.E.) 2-POLE MAIN CIRCUIT BREAKER, EXCEPT WHEN PLAN DRAWINGS REQUIRE MAIN LUGS ONLY.
- 4. SOLID NEUTRAL
- 5. EQUIPMENT GROUND BAR MOUNTED IN PANEL.
 - 6. DEADFRONT, NEMA TYPE 3R ENCLOSURE.
 - 7. GASKET SEALING AROUND DOOR OPENING.

 - 9. THREE-POINT VAULT TYPE LOCKING MECHANISM WITH CHROME FINISH PAD-LOCKING HANDLE.
 - 10. CABINET FINISH: RUST INHIBITING PRIMER AND FINISH COAT OF STANDARD GRAY BAKED ENAMEL.
 - 11. BRANCH BREAKERS: TYPES FA & Q2 (SQUARE-D) OR TYPES TEB & TQD (G.E.) THERMAL MAGNETIC CIRCUIT BREAKERS.

CAMPGROUND ELECTRICAL SYSTEM STANDARD DRAWING NO. MP-3

DETAILS OF PAD-MOUNTED 800 AMP / 240 VOLT MAIN DISTRIBUTION PANEL

REVISION DATE 2/10/16

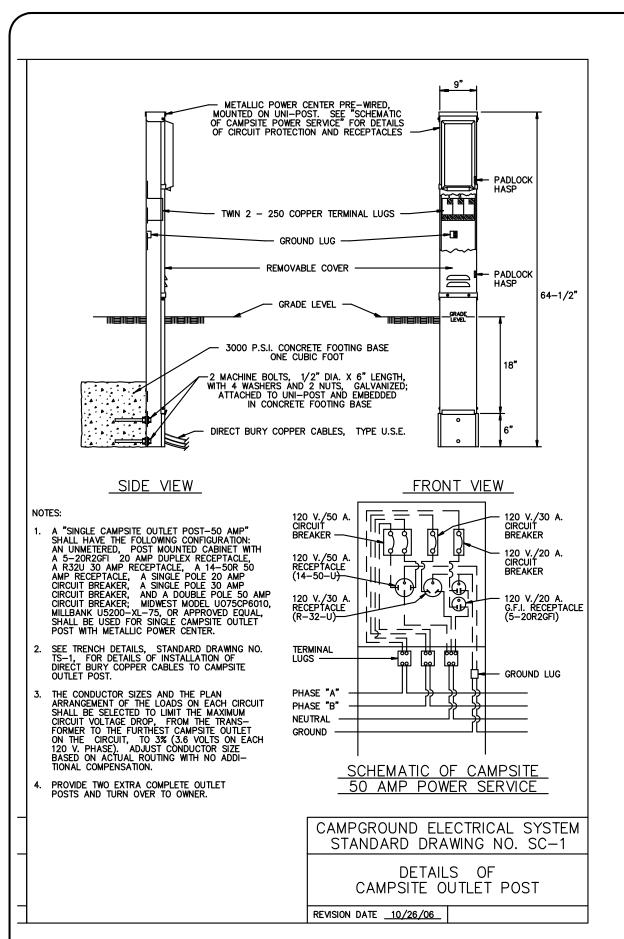
ROADWAY CROSSING CONDUIT BENEATH

EXISTING PAVED ROAD

ROADWAY CROSSING CONDUIT BENEATH
FUTURE PAVEMENT

NOTES:

- FOR ROADWAY CROSSING CONDUIT BENEATH FUTURE PAVEMENT, PLACE CONDUIT IN TRENCH THAT IS GRADED TRUE AND IS FREE FROM STONES OR SOFT SPOTS. IN ROCKY SOIL, PLACE SELECTED BACKFILL IN BOTTOM OF TRENCH AND AROUND CONDUIT.





ELECTRIC SERVICE RULES

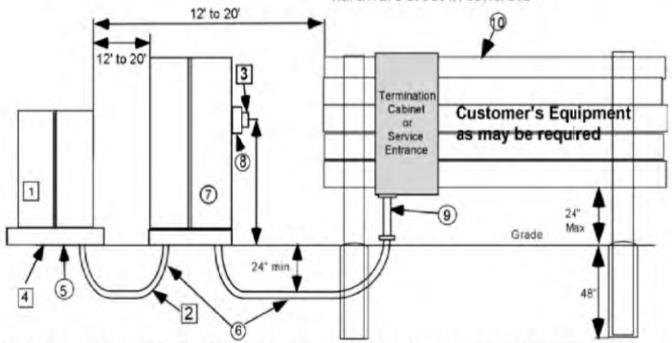
Chapter 8

FARM SERVICES Issued Jan 2015

808. UNDERGROUND SERVICE TO A FARM, FROM A PAD-MOUNT TRANSFORMER, WITH PAD-MOUNT CURRENT TRANSFORMER CABINET, 301 - 3000 AMPS.

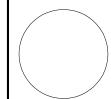
Utility furnishes, installs & maintains

- Pad-mounted transformer
- Service lateral in conduit
- Meter
- Box Pad for i phase transformer
- Customer furnishes, installs, & maintains
- 5. Concrete transformer Pad 3 phase
- 6. Rigid conduit
- 7. Pad-mounted instrument transformer cab.
- 8. Approved meter socket
- g. Expansion joint
- 10. Field-built structure requires treated 6"X 6" posts, 2"X 6" planks, galvanized hardware & set in concrete



- 1. Any Instrument metered service may utilize pad-mount metering equipment. However, it is recommended that Instrument Cabinets, larger than 1200 amps, not be mounted on field built structures.
- 2. A Clear space of 10 feet shall be provided in front of the transformer to provide "Hot Stick" operation by Alliant Energy employees.
- 3. If the transfer switch is service entrance rated equipment and has a sufficiently high fault current rating, then a separate service overcurrent device is not required.
- Customer to install primary conduit into the transformer see section 409.
- 5. Sites with multiple service points require each service point to be identified per National Electrical Code Section 547.9

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OWA DEPARTMENT OF NATURAL RESOURCES SERVICES - WALLACE BUILING , DES MOINES, IA 50319-0034



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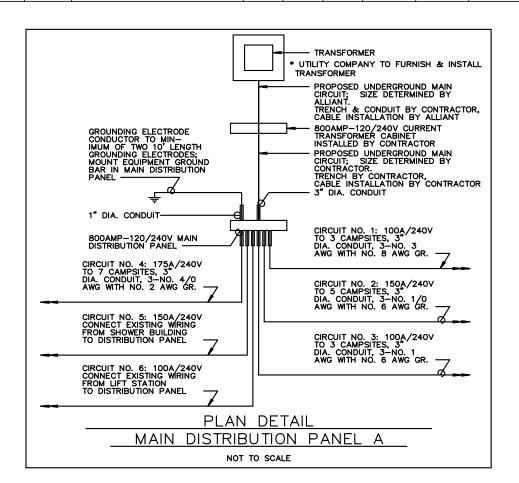
DETAILS

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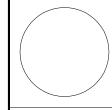
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CIRCUIT NO. OF OR CAMP CONDUCTOR SITES	MP CAMPCITE NUMBERS	TRENCH LEN		NOTH LE	LENGTH	LENGTH	NGTH C B	NGTH C. B.	SIZE (AWG) & LENGTH (FT.) OF GR. CONDUCTOR (TYPE THW OR USE)				SIZE (AWG) & LENGTH (FT.) OF CONDUCTOR									
		INL	THOIT LLI		OF ROAD XING CONDUIT	OF WARNING TAPE (FT.)	C. B. OR FUSE SIZE (AMP)		GR. ((TYPE	CONDUCTHW OR	TOR USE)				YPE U.S	S.E.					TYPE U.F.	
		SERVED	SGL.	DBL.	TRPL.	(FT.)	(FT.)	(AMP)	#8	#6	#2			#3	#1	#1/0	#4/0	10-2				
MAIN CIRCUIT		800 AMP DISTRIBUTION PANEL A																				
		FROM 800 AMP CT CABINET																				
																						<u> </u>
1N/1GR			88				88	100/2-P	128					128								
1A	3	35,36,37												128								
1B	(3)	(35,36,37)												128								<u> </u>
2N/2GR			267			60	267	150/2-P		382						382						
2A	5	63,64,65,62,58														382						
2B	(5)	(63,64,65,62,58)														382						
3N/3GR			183			40	183	100/2-P		258					258							
3A	3	39,7,8													258							
3B	(3)	(39,7,8)													258							
4N/4GR			374			40	374	175/2-P			436						436	68				
4A	7+kiosk	38,6,5,4,3,2,1,kiosk															436					
4B	7+kiosk	(38,6,5,4,3,2,1,kiosk)															436					
5N/5GR		RECONNECT EXISTING WIRING						150/2-P														
5A		EXISTING SHOWER BLDG																				
5B																						
6N/6GR		RECONNECT EXISTING WIRING						100/2-P														
6A		EXISTING LIFT STATION																				
6B																						
SUB-TOTAL	15	SECONDARY CIRCUITS	912	_	_	140	912	_	128	640	436	_	_	384	774	1146	1308	68	_	_	_	_
SUB-TOTAL	_	MAIN CIRCUITS	_	_	_	_	_	_	-	_	_	-	_	_	_	_	_	_	_	_	_	-
TOTAL	15	FOR ALL CIRCUITS	912	_	_	140	912	_	128	640	436	_	_	384	774	1146	1308	68	_	_	_	_



GENERAL NOTES

- 1. CONSISTENTLY THROUGHOUT THE PROJECT, THE PHASE "A" CONDUCTOR, THE PHASE "B" CONDUCTOR, AND THE NEUTRAL CONDUCTOR SHALL BE DISTINGUISHED FROM EACH OTHER BY COLOR CODING, OR BY SURFACE DEFORMATIONS OR OTHER MARKINGS IN THE CONDUCTOR INSULATION. THE GROUND CONDUCTORS SHALL HAVE GREEN COLORED INSULATION.
- 2. THE CONDUCTOR SIZES AND THE PLAN ARRANGEMENT OF THE LOADS ON EACH CIRCUIT WERE SELECTED TO LIMIT THE MAXIMUM CIRCUIT VOLTAGE DROP, FROM THE TRANSFORMER TO THE FURTHEST CAMPSITE OUTLET ON THE CIRCUIT, TO 3% (3.6 VOLTS ON EACH 120V PHASE).
- 3. ALL CONDUCTORS SHALL BE COPPER

ONSULTANT



ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034

IOWA DEPARTMENT OF NATURAL RESOURCES



PARK

CAMPGROUND UPGRADE PROJECT FOR: LED HAW STATE PAR

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DETAILS

ELECTRICAL

REVISION

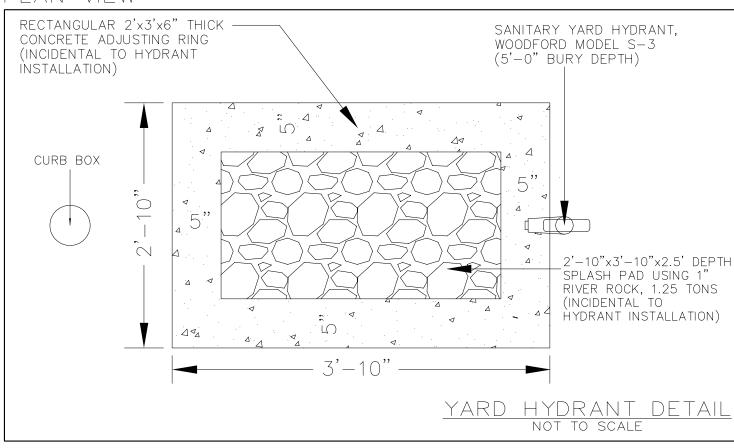
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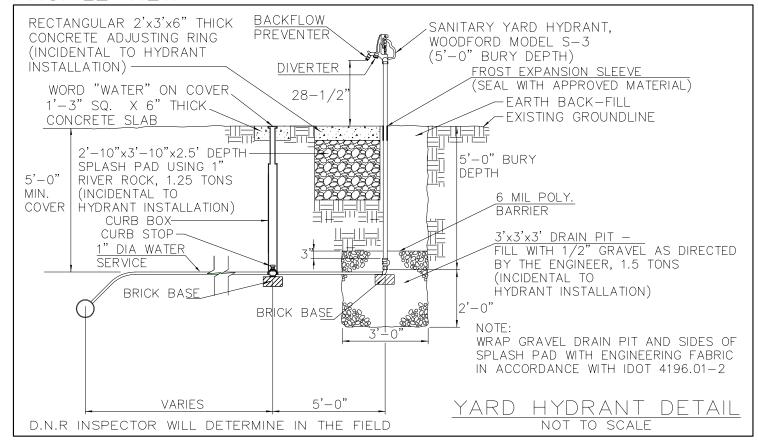
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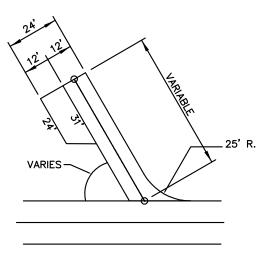
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PLAN VIFW



PROFILE VIEW



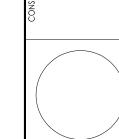


BACK-IN SITE WITH LIVING SPACE

NOTE:

SLOPE NOT TO EXCEED 2% IN ANY DIRECTION ON CAMP PADS UNLESS OTHERWISE DIRECTED BY THE D.N.R. CONSTRUCTION INSPECTOR. SHAPE CAMP PADS WITH A 25' RADIUS AT THE INTERSECTION WITH THE ROADWAY WHEREVER POSSIBLE. ROLL GRADE SMOOTH WITH STEEL ROLER. THEN PLACE ENGINEERING FABRIC, COVER WITH 5" MACADAM. ROLL & VIBRATE MADADAM. THEN PLACE AND ROLL 2-3" OF CLASS "A".

CAMP PAD TYPICAL DIMENSIONS LAYOUT



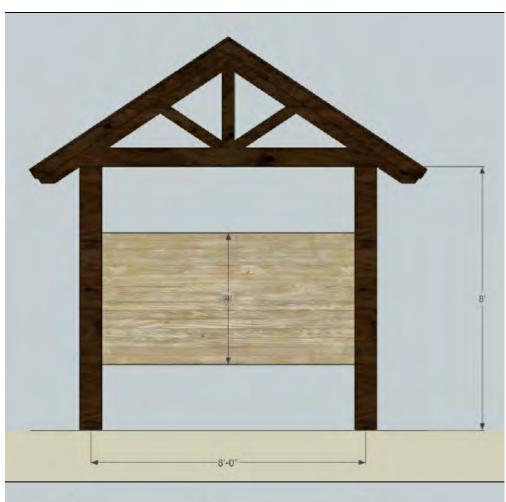
IOWA DEPARTMENT OF NATURAL RESOURCES SERVICES - WALLACE BUILING , DES MOINES, IA 50319-0034

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HYDRANT DETAILS

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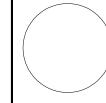




KIOSK NOTES:

- 1. KIOSK SHALL BE ON 12'X12' CONCRETE SLAB, 6" THICK
- 2. COLUMNS SHALL BE 8"X8" MCQ TREATED, 4' BELOW GRADE
- 3. TOP & BOTTOM CHORD SHALL BE 8"X8" ROUGH SAWN DOUGLAS FIR
- 4. WEB SHALL BE 4"X8" ROUGH SAWN DOUGLAS FIR
- 5. ROOF DECKING: 2"X6" TONGUE & GROOVE RED CEDAR
- 6. SHINGLES: CERTANTEED LANDMARK TL, WEATHERED WOOD COLOR
- 7. PANELS: 2"X6" TONGUE & GROOVE RED CEDAR
- 8. HARDWARE: ALL HEAVY TIMBER BOLTS PAINTED WITH BLACK EPOXY
- 9. TWO COATS OF TWP (COLOR TO BE DETERMINED) TO ALL WOOD

CONSULTANT:



URCES LACE BUILING

OWA DEPARTMENT NATURAL RESOURC



PARK

GROUND UPGRADE PROJECT FOR:

HAW STATE PARK

BY REVISION

PROJECT NUMBER: 15-05-59-02 CHK'D BY: DATE: 01/31/2016

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