

IOWA DEPARTMENT OF NATURAL RESOURCES

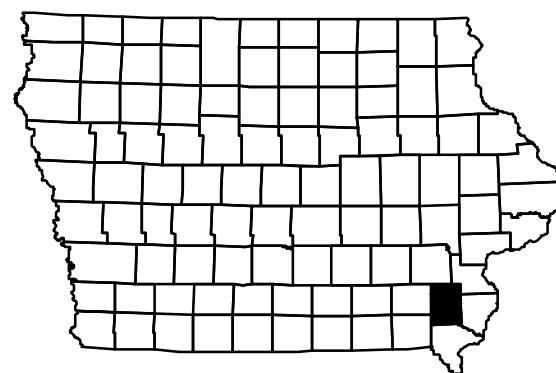
CONSTRUCTION DOCUMENTS

FOR GEODE STATE PARK

CAMPGROUND UPGRADE PROJECT

HENRY COUNTY, IOWA

DNR PROJECT #18-06-44-01
DOT PROJECT #SP-616-0(13)--7C-44



I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

BRETT A. JOHNSON, IOWA REG. NO. 13653 DATE
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2017

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D.01	SEAL COAT SITE PLAN

DIRECTORY			
PROJECT MANAGER		CONSTRUCTION INSPECTOR	
COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES	COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES
ADDRESS	502 EAST 9TH STREET	ADDRESS	502 EAST 9TH STREET
CITY, STATE, ZIP	DES MOINES, IA 50319	CITY, STATE, ZIP	DES MOINES, IA 50319
CONTACT	BRETT JOHNSON	CONTACT	MICHAEL DUFOE
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PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF REMOVAL OF THE EXISTING CAMPGROUND CAMP PADS, ELECTRIC SERVICE LINES, DUMP STATION AND SHOWER & RESTROOM VAULT BUILDINGS AND INSTALLING NEW GRAVEL CAMP PADS, ELECTRIC SERVICES, WATER SERVICES, SANITARY SEWER SERVICES, A NEW SHOWER BUILDING, A NEW VAULT RESTROOM BUILDING AND INSTALLING A NEW DUMP STATION LOCATED AT GEODE STATE PARK IN HENRY COUNTY, IOWA.

AUTHORIZATION TO BID

AUTHORIZATION - PARKS | WILDLIFE | FISHERIES | LAW ENFORCEMENT | FORESTRY DATE

ENGINEERING BUREAU CHIEF DATE

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

COVER SHEET

CAMPGROUND UPGRADE PROJECT FOR:
GEODE STATE PARK

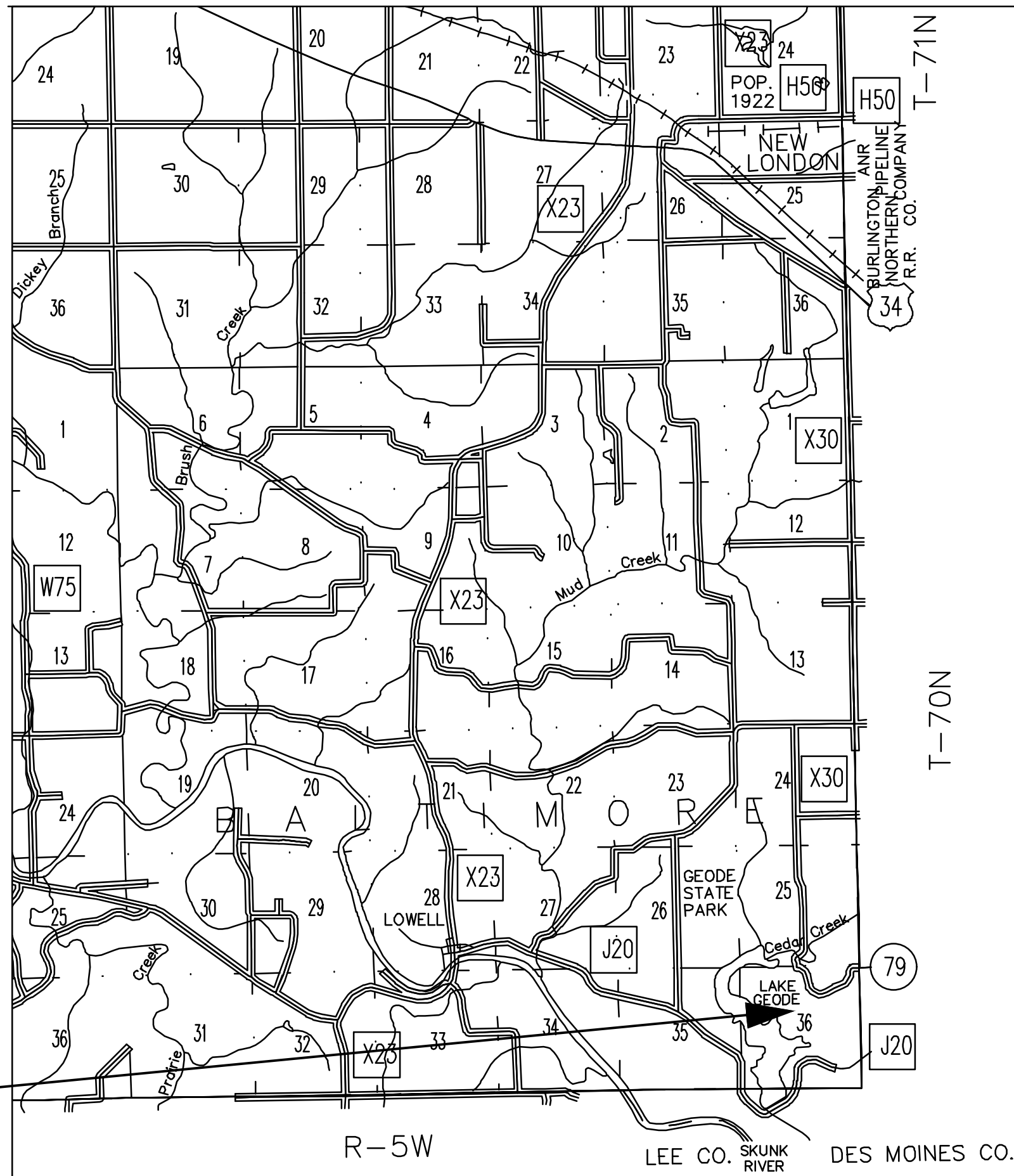
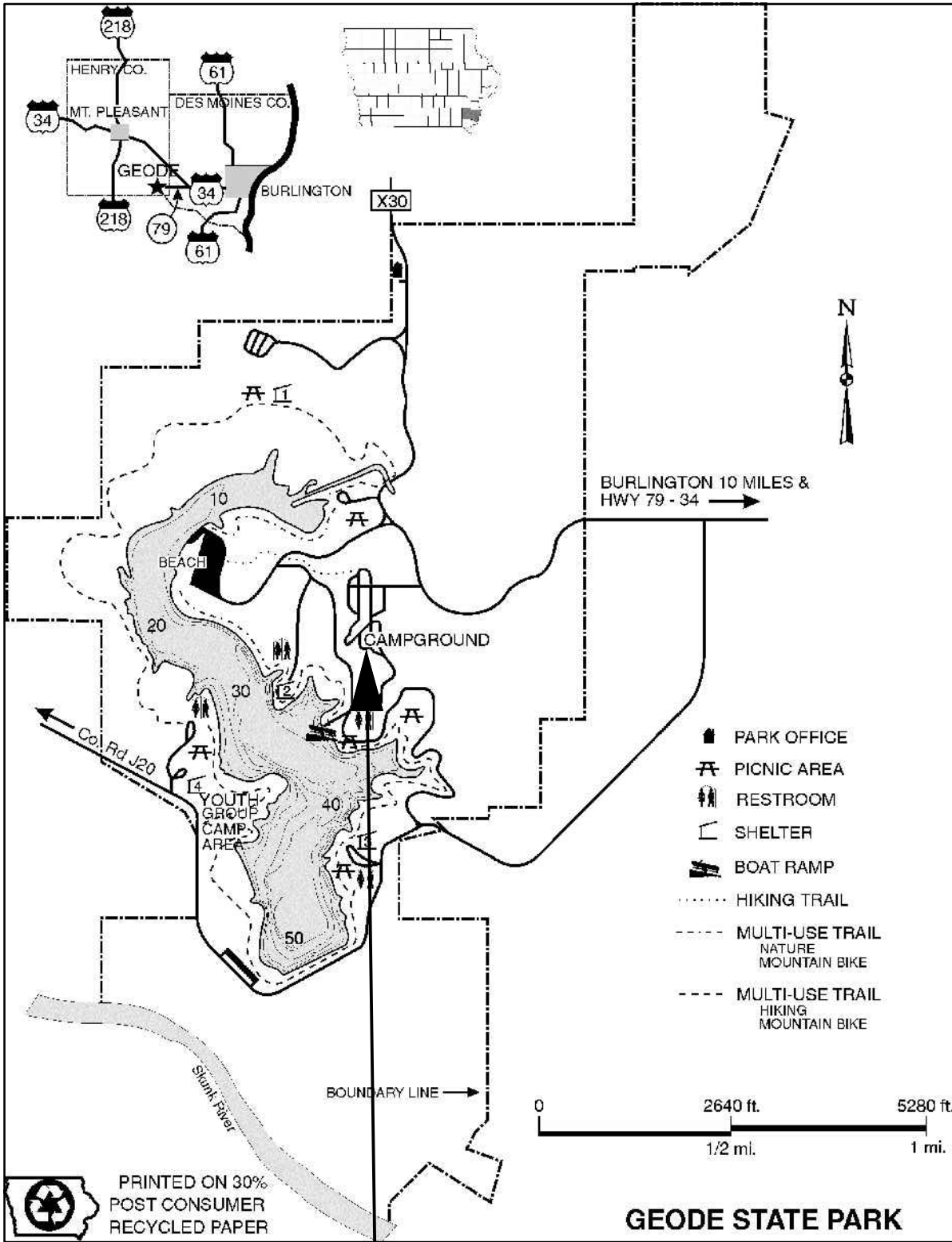
HENRY COUNTY, IOWA

DRAWN BY: PROJECT NUMBER:
18-06-44-01

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11/1/2017

SHEET NO.:

1



PROJECT LOCATION

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-3034



VICINITY MAPS

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

HENRY COUNTY, IOWA

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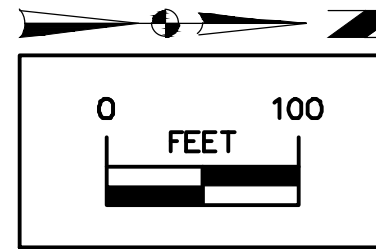
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CLEARING & GRUBBING NOTES

1. CONTRACTOR TO REMOVE TREES (63± TOTAL) AS INDICATED, INCLUDING ROOTS, TO A DEPTH OF AT LEAST 12-INCHES IN ACCORDANCE WITH SUDAS SECTION 2010.3.01.C. PLACE BACKFILL TO FILL HOLE AND COMPACT.
2. CONTRACTOR TO DISPOSE OF MATERIAL OFF-SITE PROPERLY.
3. SMALLER CALIPER TREES (1-3") MIGHT BE RELOCATED BY PARK STAFF PRIOR TO DEMOLITION (18± TOTAL).

DEMOLITION NOTES

1. CONTRACTOR TO REMOVE EXISTING GRAVEL IN AREAS DETAILED (ASSUMED 4 INCH DEPTH). GRAVEL CAN BE USED AS BASE FILL UNDER NEW CAMP PADS. EXCESS GRAVEL CAN BE SPREAD IN PARKING AREA TO THE NORTHEAST, SEE LOCATION BELOW.
2. CONTRACTOR TO REMOVE EXISTING HYDRANTS, VALVES AND SERVICE LINES WHERE DETAILED ON PLANS. EXISTING 3-INCH PVC WATER LINE CAN BE ABANDONED.
3. CONTRACTOR TO SALVAGE FIRE RINGS FOR RE-USE LATER. COORDINATE WITH DNR INSPECTOR.
4. CONTRACTOR TO SALVAGE CAMP POST MARKERS FOR RE-USE LATER. COORDINATE WITH DNR INSPECTOR.
5. CONTRACTOR TO REMOVE & DISPOSE OF EXISTING 30-AMP CAMPSITE OUTLET POSTS.
6. CONTRACTOR TO REMOVE WOOD BOLLARDS (66± TOTAL) & DISPOSE OF PROPERLY UNLESS PARK STAFF WISHES TO SALVAGE.



LEGEND

EXISTING/PROPOSED

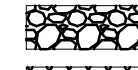
- SAN 8" SANITARY SEWER
- ST 8" STORM SEWER
- E 2" ELECTRIC LINE
- W 2" WATER MAIN
- ~~~~~ TREE LINE
- ☼ TREE TO BE REMOVED



FIRE RING TO BE REMOVED/SALVAGED



CAMPSITE POST MARKER TO BE REMOVED/SALVAGED



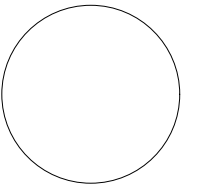
GRAVEL AREA TO BE REMOVED



TREED AREA TO BE REMOVED



CONSULTANT:



IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-3034



OVERALL DEMOLITION PLAN

CAMP-GROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

HENRY COUNTY, IOWA

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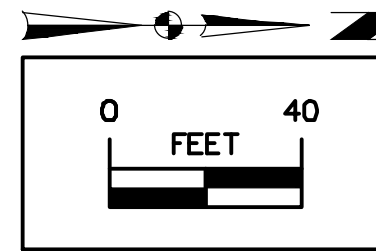
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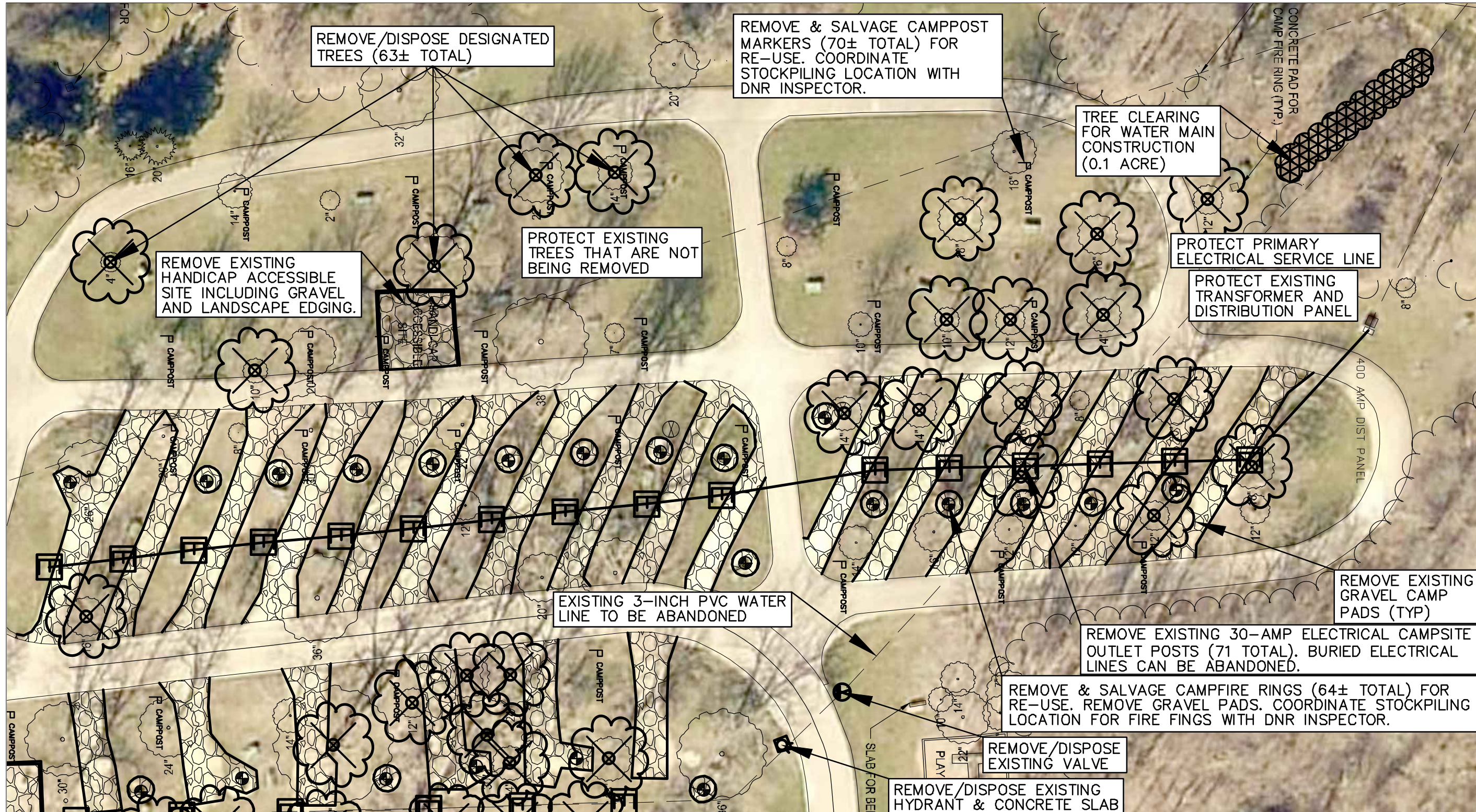
DEMOLITION NOTES

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6. CONTRACTOR TO REMOVE WOOD BOLLARDS (66± TOTAL) & DISPOSE OF PROPERLY UNLESS PARK STAFF WISHES TO SALVAGE.



LEGEND

- | | | | |
|----------|--------------------|--|---|
| — SAN 8" | SANITARY SEWER | | FIRE RING TO BE REMOVED/SALVAGED |
| — ST 8" | STORM SEWER | | CAMPSITE POST MARKER TO BE REMOVED/SALVAGED |
| — E 2" | ELECTRIC LINE | | GRAVEL AREA TO BE REMOVED |
| — W 2" | WATER MAIN | | TREED AREA TO BE REMOVED |
| | TREE LINE | | |
| | TREE TO BE REMOVED | | |



CONSULTANT:

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DEMOLITION PLAN (NORTHWEST)

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

HENRY COUNTY, IOWA

NO. BY DATE REVISION

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18-06-44-01

CHD BY: DATE:

11/1/2017

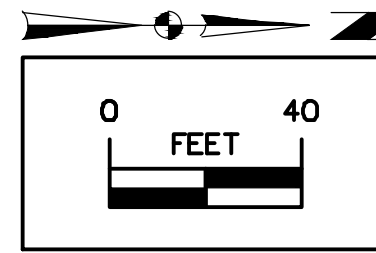
SHEET No:

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LEGEND

EXISTING/PROPOSED

— SAN 8"
— ST 8"
— E 2"
— W 2"

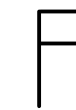
SANITARY SEWER
STORM SEWER
ELECTRIC LINE
WATER MAIN
TREE LINE



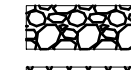
TREE TO BE REMOVED



FIRE RING TO BE REMOVED/SALVAGED



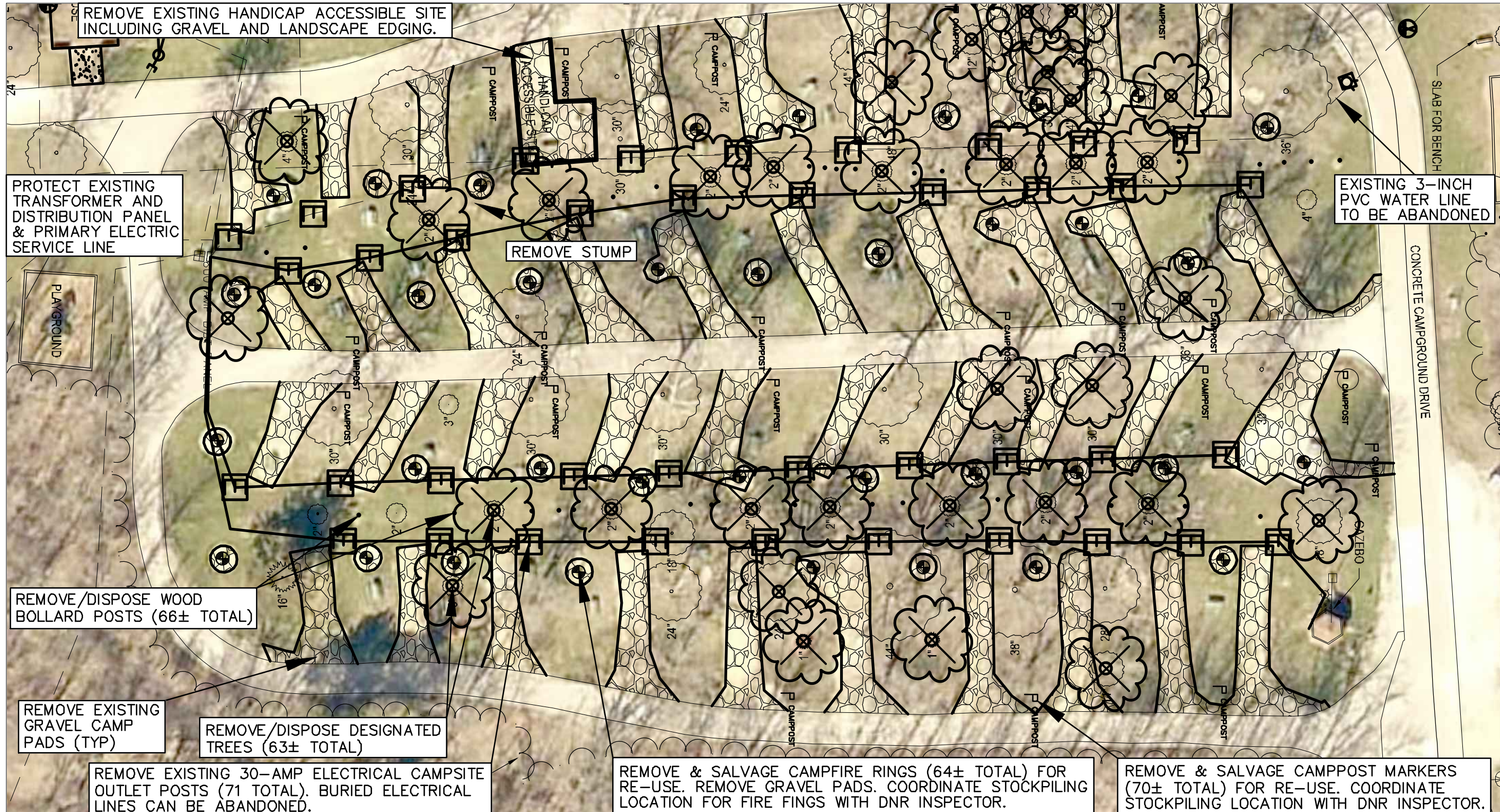
CAMPSITE POST MARKER TO BE REMOVED/SALVAGED



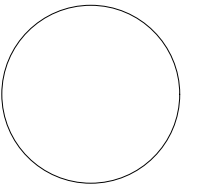
GRAVEL AREA TO BE REMOVED



TREED AREA TO BE REMOVED



CONSULTANT:



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



DEMOLITION PLAN (NORTHEAST)

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

HENRY COUNTY, IOWA

NO. BY DATE REVISION

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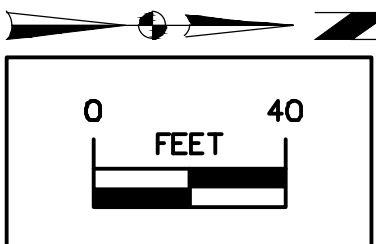
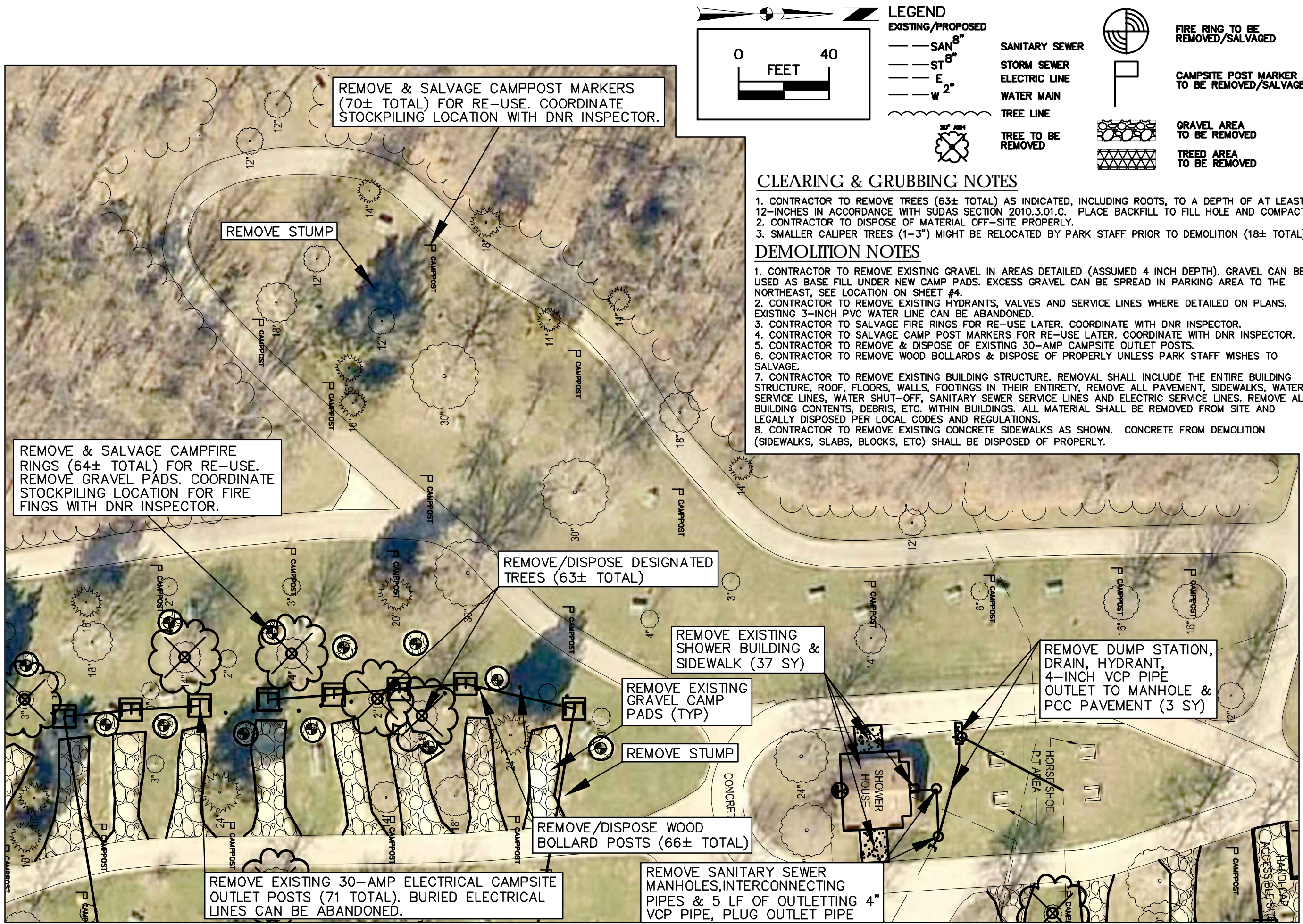
18-06-44-01

CHKD BY: DATE:

11/1/2017

SHEET NO.:

6



LEGEND

— SAN 8"	SANITARY SEWER		FIRE RING TO BE REMOVED/SALVAGED
— ST 8"	STORM SEWER		CAMPSITE POST MARKER TO BE REMOVED/SALVAGED
— E 2"	ELECTRIC LINE		GRAVEL AREA TO BE REMOVED
— W 2"	WATER MAIN		TREED AREA TO BE REMOVED
	TREE LINE		
	TREE TO BE REMOVED		

CLEARING & GRUBBING NOTES

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2. CONTRACTOR TO DISPOSE OF MATERIAL OFF-SITE PROPERLY.
3. SMALLER CALIPER TREES (1-3") MIGHT BE RELOCATED BY PARK STAFF PRIOR TO DEMOLITION (18± TOTAL).

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5. CONTRACTOR TO REMOVE & DISPOSE OF EXISTING 30-AMP CAMPSITE OUTLET POSTS.
6. CONTRACTOR TO REMOVE WOOD BOLLARDS & DISPOSE OF PROPERLY UNLESS PARK STAFF WISHES TO SALVAGE.
7. CONTRACTOR TO REMOVE EXISTING BUILDING STRUCTURE. REMOVAL SHALL INCLUDE THE ENTIRE BUILDING STRUCTURE, ROOF, FLOORS, WALLS, FOOTINGS IN THEIR ENTIRETY, REMOVE ALL PAVEMENT, SIDEWALKS, WATER SERVICE LINES, WATER SHUT-OFF, SANITARY SEWER SERVICE LINES AND ELECTRIC SERVICE LINES. REMOVE ALL BUILDING CONTENTS, DEBRIS, ETC. WITHIN BUILDINGS. ALL MATERIAL SHALL BE REMOVED FROM SITE AND LEGALLY DISPOSED PER LOCAL CODES AND REGULATIONS.
8. CONTRACTOR TO REMOVE EXISTING CONCRETE SIDEWALKS AS SHOWN. CONCRETE FROM DEMOLITION (SIDEWALKS, SLABS, BLOCKS, ETC) SHALL BE DISPOSED OF PROPERLY.

CONSULTANT:

IOWA DEPARTMENT OF
NATURAL RESOURCES

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



DEMOLITION PLAN (SOUTHWEST)

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

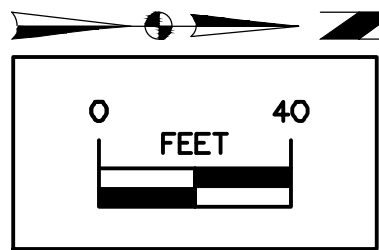
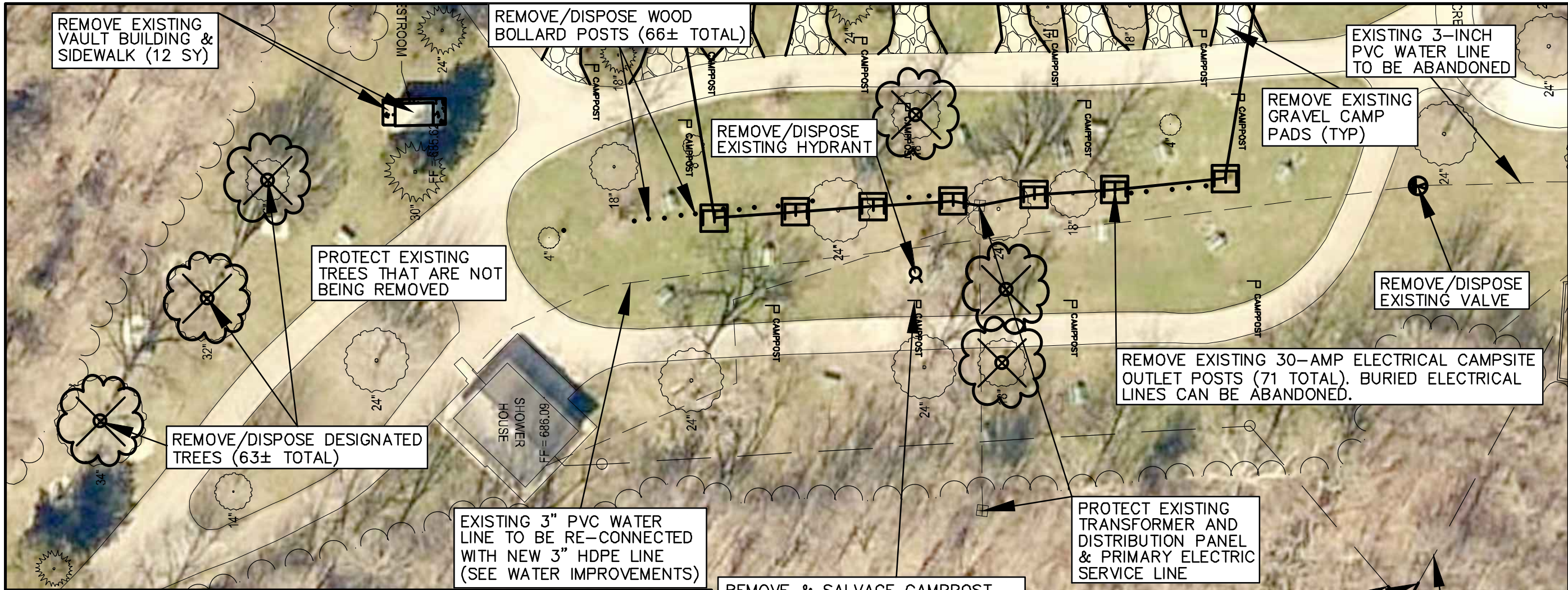
HENRY COUNTY, IOWA

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18-06-44-01

CHD BY: DATE:
11/1/2017

SHEET NO:



LEGEND		EXISTING/PROPOSED	
	SAN 8"		SANITARY SEWER
	ST 8"		STORM SEWER
	E		ELECTRIC LINE
	W 2"		WATER MAIN
			TREE LINE
			TREE TO BE REMOVED
			FIRE RING TO BE REMOVED/SALVAGED
			CAMPSITE POST MARKER TO BE REMOVED/SALVAGED
			GRAVEL AREA TO BE REMOVED

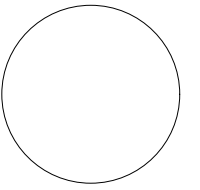
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7. CONTRACTOR TO REMOVE EXISTING VAULT RESTROOM BUILDING STRUCTURE. REMOVAL SHALL INCLUDE THE ENTIRE BUILDING STRUCTURE, ROOF, FLOORS, WALLS, FOOTINGS IN THEIR ENTIRETY, REMOVE ALL PAVEMENT, SIDEWALKS, STORAGE VAULT. REMOVE ALL BUILDING CONTENTS, DEBRIS, ETC. WITHIN BUILDINGS. ALL MATERIAL SHALL BE REMOVED FROM SITE AND LEGALLY DISPOSED PER LOCAL CODES AND REGULATIONS. PLACE FILL IN EXCAVATION. GRAVEL FROM DEMOLITION (COMPACTED) CAN BE USED FOR FILL, CAP WITH 12-INCHES OF TOPSOIL.
8. CONTRACTOR TO REMOVE EXISTING CONCRETE SIDEWALKS AS SHOWN. CONCRETE FROM DEMOLITION (SIDEWALKS, SLABS, BLOCKS, ETC) SHALL BE DISPOSED OF PROPERLY.

CLEARING & GRUBBING NOTES

1. CONTRACTOR TO REMOVE TREES (63± TOTAL) AS INDICATED, INCLUDING ROOTS, TO A DEPTH OF AT LEAST 12-INCHES IN ACCORDANCE WITH SUDAS SECTION 2010.3.01.C. PLACE BACKFILL TO FILL HOLE AND COMPACT.
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502 E. 9TH ST., DES MOINES, IA 50319-0034



DEMOLITION PLAN (SOUTHEAST)

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

HENRY COUNTY, IOWA

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SHEET NO:

GEODE SANITARY RUN #1, EXISTING STRUCTURE TO NEW MH#1, MAINTAIN SAME FLOWLINES AS EXISTING

No.	Type	Length	Direction	Start Station	End Station	Start Point	End Point
1	Line	179.69'	6% @ 1.20% N35° 27' 40" W	0+00.00'	1+79.69'	(2226654.1469', 306963.1596')	SANITARY VAULT (2226549.8970', 307109.5220') MH #1

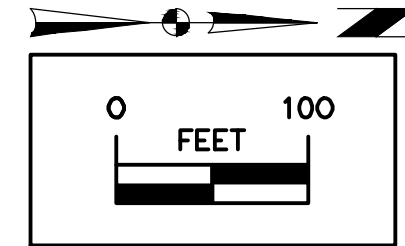
GEODE SANITARY RUN #2, EXISTING MH TO CAMP PADS TO THE NORTH

No.	Type	Length	Direction	Start Station	End Station	Start Point	End Point
1	Line	105.68'	6" @ 3.20% N44° 53' 36" W	0+00.00'	1+05.68'	(2226482.7820', 307051.8280')	EXISTING MH (2226408.1957', 307126.6924') MH#2
2	Line	99.65'	6" @ 1.00% N1° 08' 25" E	1+05.68'	2+05.33'	(2226408.1957', 307126.6924')	MH#2 (2226410.1790', 307226.3273') MH#3
3	Line	399.72'	6" @ 2.10% N4° 56' 05" W	2+05.33'	6+05.06'	(2226410.1790', 307226.3273')	MH#3 (2226375.7935', 307624.5702') MH#4

GEODE SANITARY RUN #5, MH#3 TO DUMP SITE

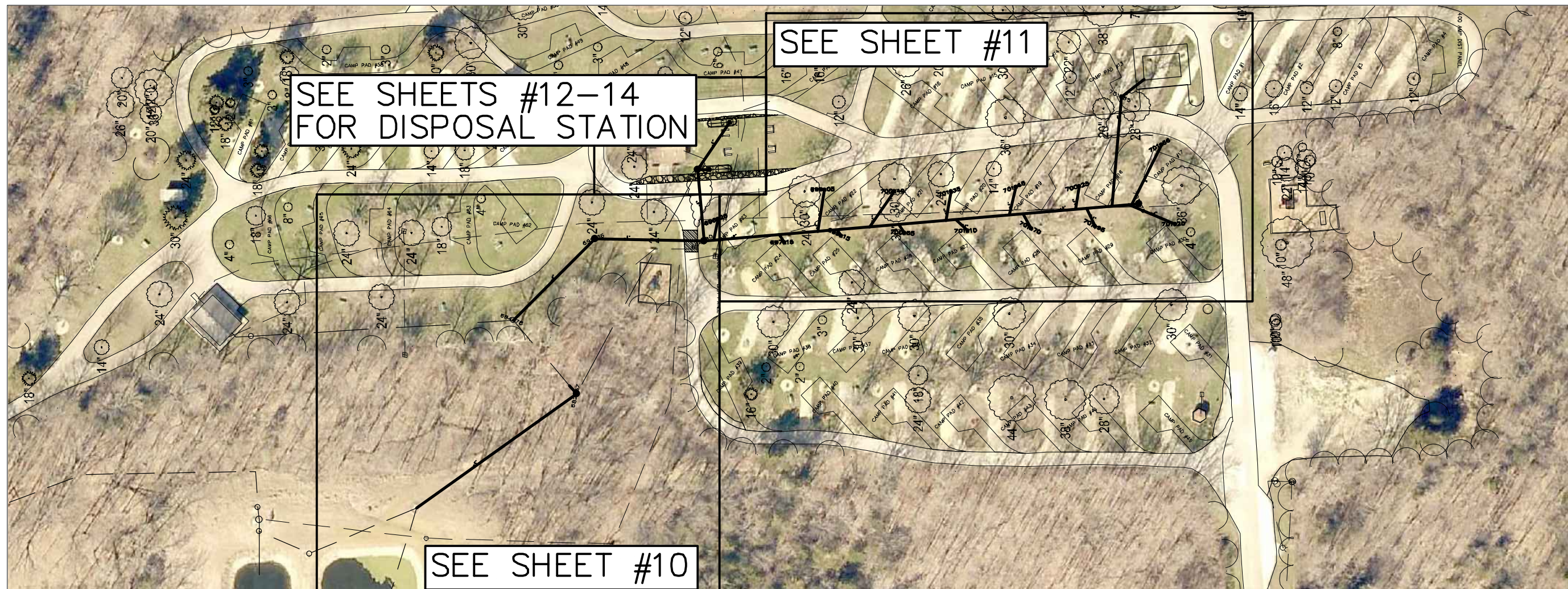
No.	Type	Length	Direction	Start Station	End Station	Start Point	End Point
1	Line	65.56'	6" @ 8.00% S85° 05' 49" W	0+00.00'	0+65.56'	(2226410.1790', 307226.3273')	MH#3 (2226344.8620', 307220.7240') MH#5 @ DUMP SITE

SEE SHEETS #15-17 FOR
SANITARY SEWER PROFILE
INFORMATION

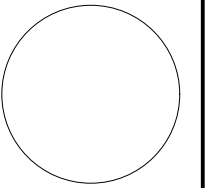


LEGEND

— SAN 8" —	SANITARY SEWER
— ST 8" —	STORM SEWER
— E —	ELECTRIC LINE
— W 2" —	WATER MAIN
○ ●	MANHOLE/CLEANOUT
~~~~~	TREE LINE



CONSULTANT:



IOWA DEPARTMENT OF  
NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING  
502 E. 9TH ST., DES MOINES, IA 50319-3034



**OVERALL SANITARY PLAN**

CAMP-GROUND UPGRADE PROJECT FOR:

**GEODE STATE PARK**

HENRY COUNTY, IOWA

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CHK'D BY: DATE:

11/1/2017

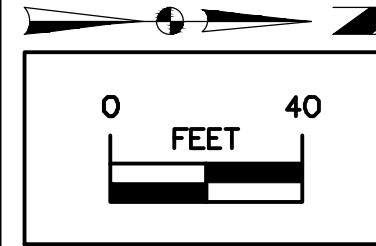
SHEET No:

GEODE SANITARY RUN #1, EXISTING STRUCTURE TO NEW MH#1, MAINTAIN SAME FLOWLINES AS EXISTING

No.	Type	Length	Direction	Start Station	End Station	Start Point	End Point
1	Line	179.69'	6% @ 1.20%	N35° 27' 40"W	0+00.00'	1+79.69'	{2226654.1469', 306963.1596'} SANITARY VAULT (2226549.8970', 307109.5220') MH#1

GEODE SANITARY RUN #2, EXISTING MH TO CAMP PADS TO THE NORTH

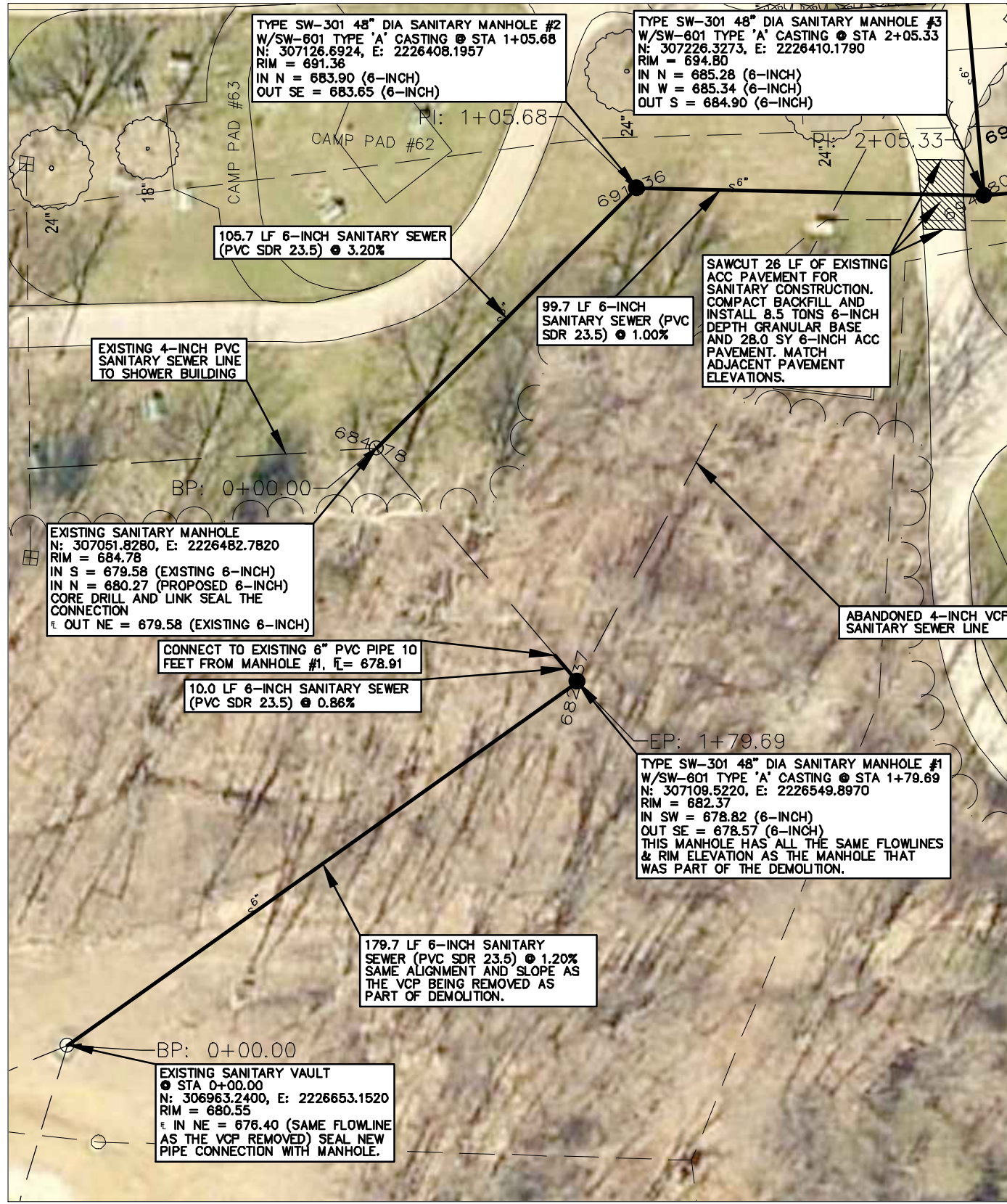
No.	Type	Length	Direction	Start Station	End Station	Start Point	End Point
1	Line	105.68'	6" @ 3.20%	N44° 53' 36"W	0+00.00'	1+05.68'	{2226482.7820', 307051.8280'} EXISTING MH (2226408.1957', 307126.6924') MH#2
2	Line	99.65'	6" @ 1.00%	N1° 08' 25"E	1+05.68'	2+05.33'	{2226408.1957', 307126.6924'} MH#2 (2226410.1790', 307226.3273') MH#3



**LEGEND**

EXISTING/PROPOSED

- SAN 8" — SANITARY SEWER
- ST 8" — STORM SEWER
- E — ELECTRIC LINE
- W 2" — WATER MAIN
- ● MANHOLE/CLEANOUT
- ~~~~~ TREE LINE

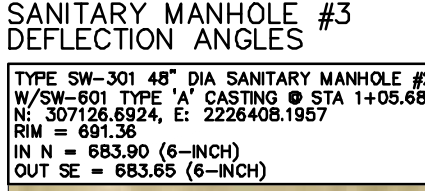
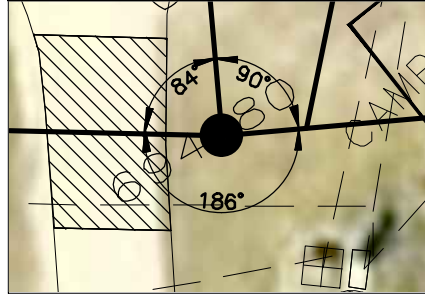
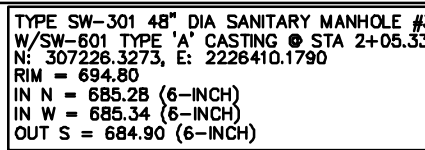


WEST SAW CUT LINE FOR SANITARY SEWER CROSSING

No.	Type	Length	Direction	Start Station	End Station	Start Point	End Point
1	Line	13.81'	N1° 08' 25"E	0+00.00'	0+13.81'	{2226399.7871', 307206.7420'}	{2226400.0620', 307220.5517'}

EAST SAW CUT LINE FOR SANITARY SEWER CROSSING

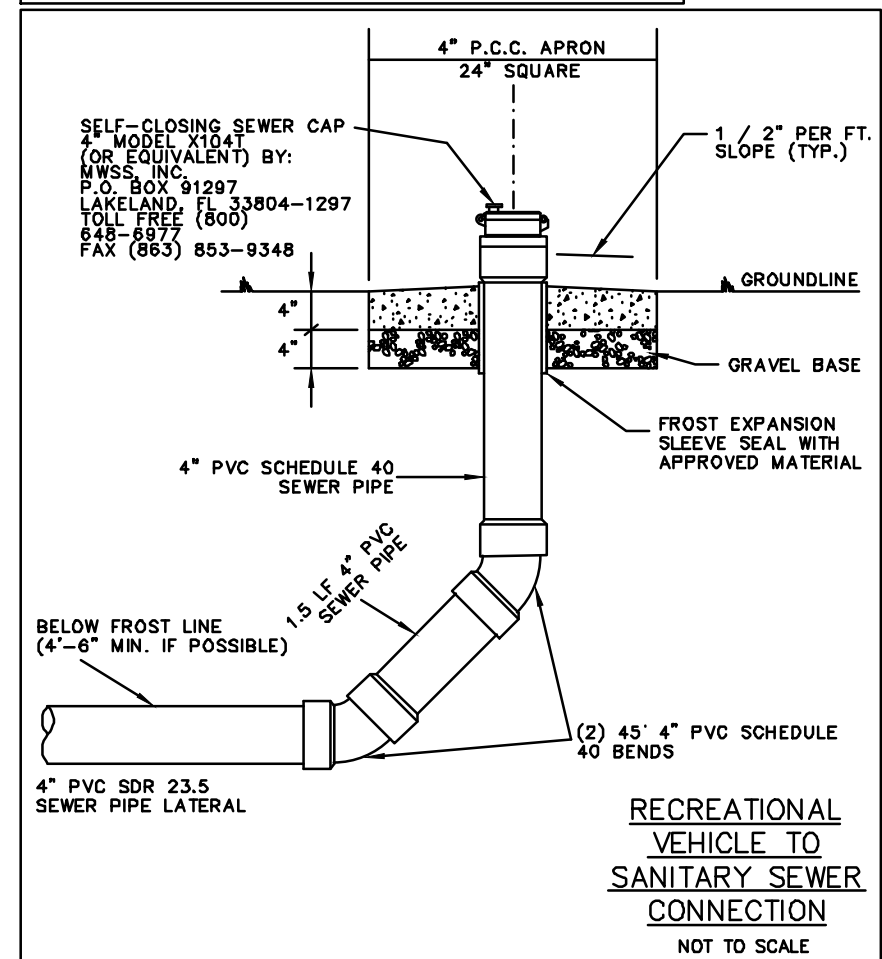
No.	Type	Length	Direction	Start Station	End Station	Start Point	End Point
1	Line	12.16'	N1° 08' 25"E	0+00.00'	0+12.16'	{2226419.8333', 307208.8637'}	{2226420.0752', 307221.0180'}



**SANITARY SEWER NOTES**

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH STATEWIDE URBAN STANDARD DESIGN SPECIFICATIONS FOR PUBLIC IMPROVEMENTS (SUDAS).
- SANITARY SEWER CONNECTIONS TO EXISTING MANHOLES SHALL BE CORE DRILLED AND USE LINK SEAL CONNECTIONS.
- THERE ARE 2 OTHER SANITARY SEWER ROAD CROSSINGS. THERE IS A BID LINE ITEM FOR THESE CROSSINGS. CONTRACTOR SHALL EITHER BORE THE PIPE ACROSS OR SAW CUT AND OPEN CUT THE EXISTING PAVEMENT. IF OPEN CUT, THE CONTRACTOR SHALL INCLUDE THE COST OF SAW CUTTING, COMPACTION OF THE BACKFILL, INSTALL 6-INCHES OF COMPACTED GRANULAR BASE AND 6-INCHES OF MATCHING PAVEMENT TYPE, EITHER ACC OR PCC. WHICHEVER METHOD THE CONTRACTOR CHOOSES, THE TOTAL COST OF THESE CROSSINGS SHALL BE INCLUDED IN THIS BID LINE ITEM.

SEE SHEETS #15-17 FOR SANITARY SEWER PROFILE INFORMATION



CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

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

SANTARY PLAN (SOUTH PORTION)

CAMPGROUND UPGRADE PROJECT FOR:

**GEODE STATE PARK**

HENRY COUNTY, IOWA

NO.	BY	DATE	REVISION

DRAWN BY: PROJECT NUMBER: **18-06-44-01**

CHEK BY: DATE: 11/1/2017

SHEET No: **10**

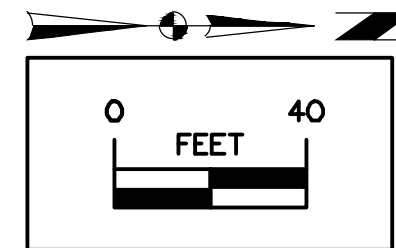
GEODE SANITARY RUN #2, EXISTING MH TO CAMP PADS TO THE NORTH

No.	Type	Length	Direction	Start Station	End Station	Start Point	End Point
1	Line	105.68' 6" @ 3.20%	N44° 53' 36"W	0+00.00'	1+05.68'	{2226482.7820', 307051.8280'} EXISTING MH	{2226408.1957', 307126.6924'} MH#2
2	Line	99.65' 6" @ 1.00%	N1° 08' 25"E	1+05.68'	2+05.33'	{2226408.1957', 307126.6924'} MH#2	{2226410.1790', 307226.3273'} MH#3
3	Line	399.72' 6" @ 2.10%	N4° 56' 05"W	2+05.33'	6+05.06'	{2226410.1790', 307226.3273'} MH#3	{2226375.7935', 307624.5702'} MH#4

GEODE SANITARY RUN #5, MH#3 TO DUMP SITE

No.	Type	Length	Direction	Start Station	End Station	Start Point	End Point
1	Line	65.56' 6" @ 8.60%	S85° 05' 49"W	0+00.00'	0+65.56'	{2226410.1790', 307226.3273'} MH#3	{2226344.8620', 307220.7240'} MH#5 @ DUMP SITE

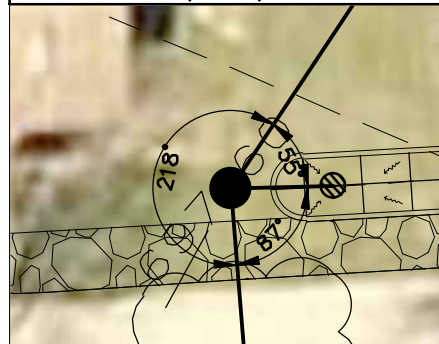
SEE SHEETS #15-17 FOR SANITARY SEWER PROFILE INFORMATION



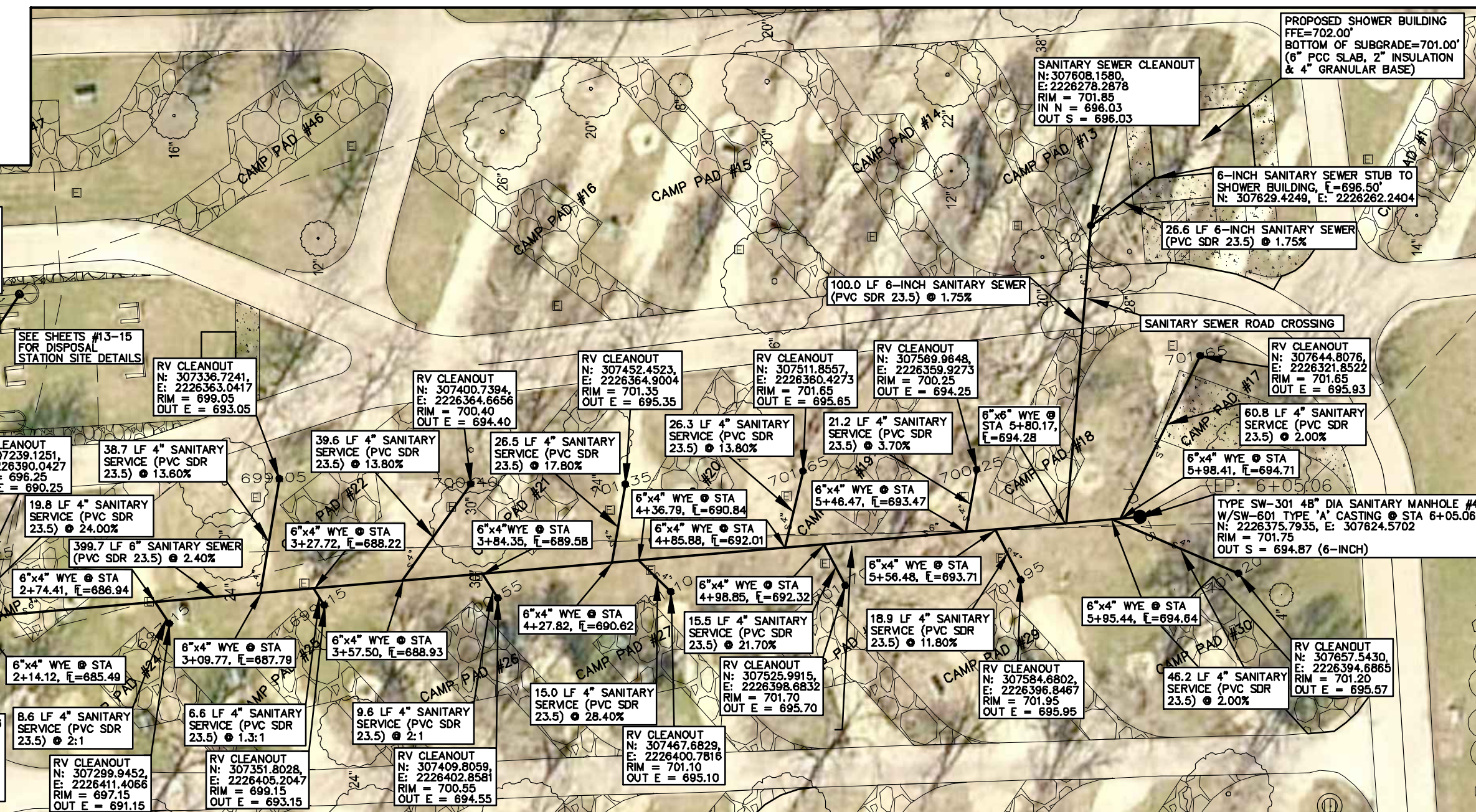
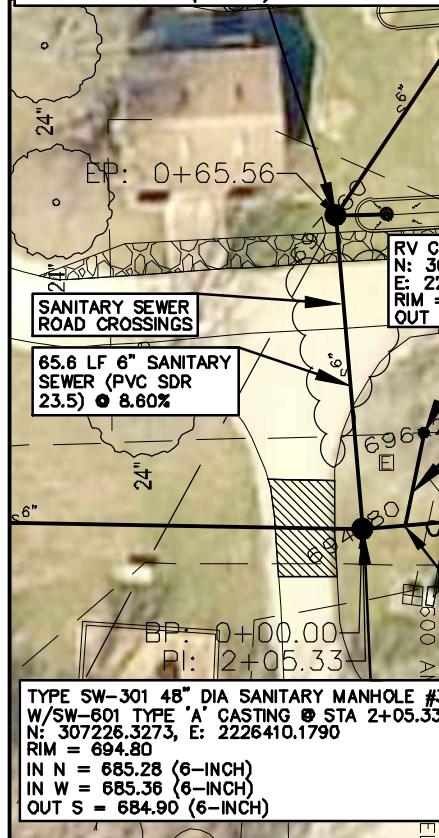
LEGEND

- EXISTING/PROPOSED
- SAN 8" — SANITARY SEWER
  - ST 8" — STORM SEWER
  - E — ELECTRIC LINE
  - W 2" — WATER MAIN
  - ● MANHOLE/CLEANOUT
  - ~ TREE LINE

TYPE SW-301 48" DIA SANITARY MANHOLE #5  
W/SW-601 TYPE 'A' CASTING @ STA 0+65.56  
N: 307220.7240, E: 2226344.8620  
RIM = 697.60  
IN NW = 691.25 (6-INCH)  
IN N = 691.75 (6-INCH)  
OUT SE = 691.00 (6-INCH)



TYPE SW-301 48" DIA SANITARY MANHOLE #5  
W/SW-601 TYPE 'A' CASTING @ STA 0+65.56  
N: 307220.7240, E: 2226344.8620  
RIM = 697.60  
IN NW = 691.25 (6-INCH)  
IN N = 691.75 (6-INCH)  
OUT SE = 691.00 (6-INCH)



CONSULTANT:

IOWA DEPARTMENT OF  
NATURAL RESOURCES  
ENGINEERING SERVICES - WALLACE BUILDING  
502 E. 9TH ST., DES MOINES, IA 50319-0034



SANITARY PLAN (WEST PORTION)  
CAMP-GROUND UPGRADE PROJECT FOR:  
GEODE STATE PARK  
HENRY COUNTY, IOWA

NO.	BY	REVISION

DRAWN BY: PROJECT NUMBER: 18-06-44-01  
CHD BY: DATE: 11/1/2017  
SHEET NO:

WEST DUMP STATION BACK OF CURB CONTROL

No.	Type	Length	Radius	Direction	Start Station	End Station	Chord length	Chord Direction	Start Point	End Point	Center Point
1	Line	20.00'		N4° 26' 28" W	0+00.00'	0+20.00'			(2226299.5393', 307232.7197')	(2226297.9906', 307252.6596')	
2	Curve	9.42'	3.00'		0+20.00'	0+29.42'	6.00'	N85° 33' 32" E	(2226297.9906', 307252.6596')	(2226303.9726', 307253.1242')	(2226300.9816', 307252.8919')
3	Line	20.00'		S4° 26' 28" E	0+29.42'	0+49.42'			(2226303.9726', 307253.1242')	(2226305.5213', 307233.1843')	
4	Curve	9.42'	3.00'		0+49.42'	0+58.85'	6.00'	S85° 33' 32" W	(2226305.5213', 307233.1843')	(2226299.5393', 307232.7197')	(2226302.5303', 307232.9520')

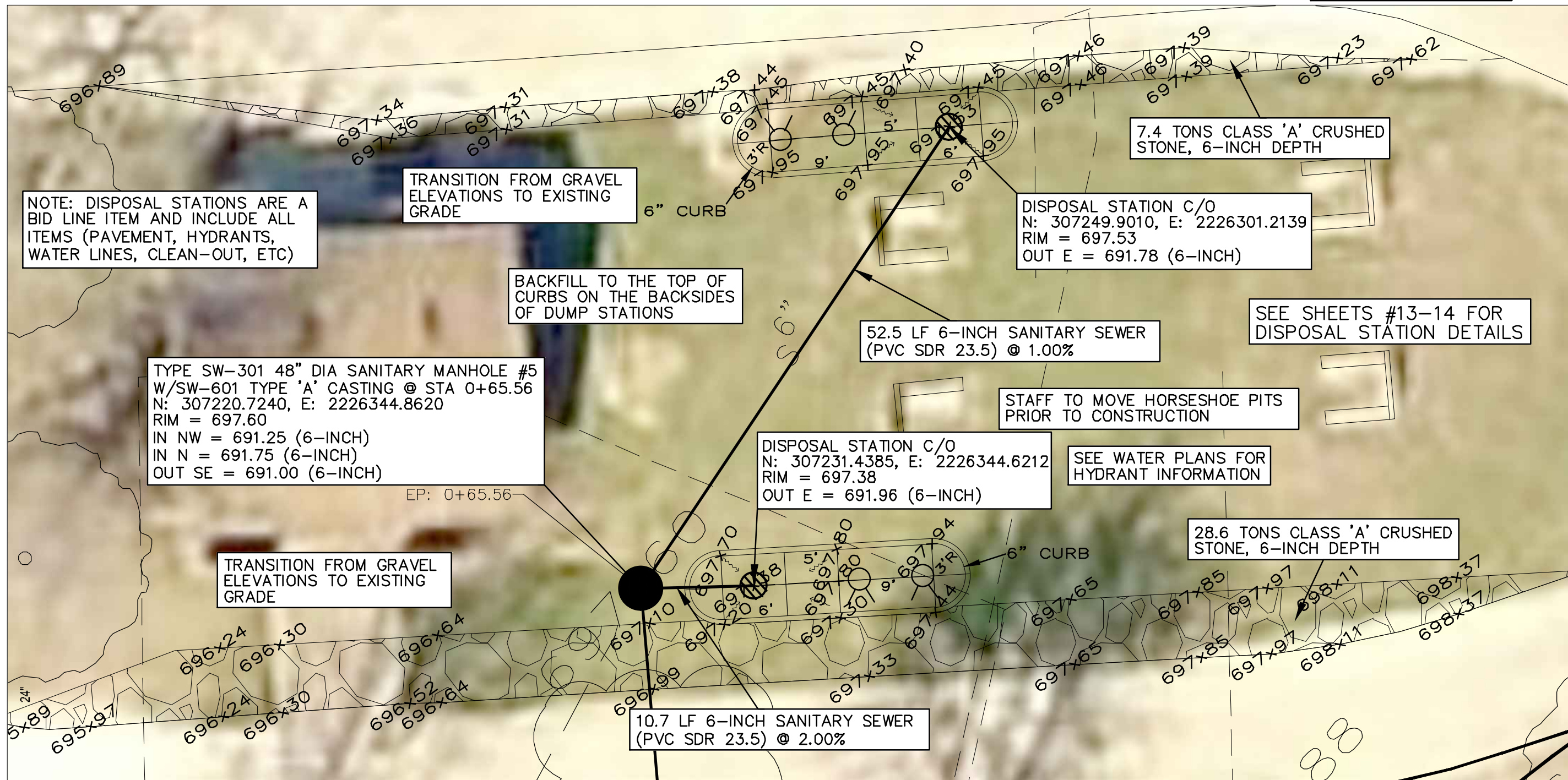
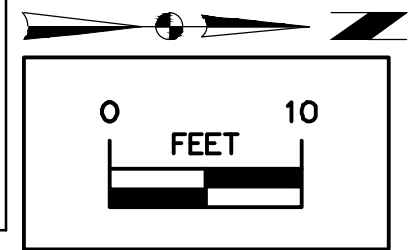
EAST DUMP STATION BACK OF CURB CONTROL

No.	Type	Length	Radius	Direction	Start Station	End Station	Chord length	Chord Direction	Start Point	End Point	Center Point
1	Line	20.00'		N3° 15' 47" W	0+00.00'	0+20.00'			(2226341.7969', 307228.2726')	(2226340.6584', 307248.2402')	
2	Curve	9.42'	3.00'		0+20.00'	0+29.42'	6.00'	N86° 44' 13" E	(2226340.6584', 307248.2402')	(2226346.6487', 307248.5817')	(2226343.6536', 307248.4110')
3	Line	20.00'		S3° 15' 47" E	0+29.42'	0+49.42'			(2226346.6487', 307248.5817')	(2226347.7871', 307228.6142')	
4	Curve	9.42'	3.00'		0+49.42'	0+58.85'	6.00'	S86° 44' 13" W	(2226347.7871', 307228.6142')	(2226341.7969', 307228.2726')	(2226344.7920', 307228.4434')

LEGEND

EXISTING/PROPOSED

- SAN 8" SANITARY SEWER
- ST 8" STORM SEWER
- E 2" ELECTRIC LINE
- W 2" WATER MAIN
- MANHOLE/CLEANOUT
- TREE LINE



NOTE: DISPOSAL STATIONS ARE A BID LINE ITEM AND INCLUDE ALL ITEMS (PAVEMENT, HYDRANTS, WATER LINES, CLEAN-OUT, ETC)

TRANSITION FROM GRAVEL ELEVATIONS TO EXISTING GRADE

BACKFILL TO THE TOP OF CURBS ON THE BACKSIDES OF DUMP STATIONS

TYPE SW-301 48" DIA SANITARY MANHOLE #5  
W/SW-601 TYPE 'A' CASTING @ STA 0+65.56  
N: 307220.7240, E: 2226344.8620  
RIM = 697.60  
IN NW = 691.25 (6-INCH)  
IN N = 691.75 (6-INCH)  
OUT SE = 691.00 (6-INCH)

TRANSITION FROM GRAVEL ELEVATIONS TO EXISTING GRADE

10.7 LF 6-INCH SANITARY SEWER (PVC SDR 23.5) @ 2.00%

52.5 LF 6-INCH SANITARY SEWER (PVC SDR 23.5) @ 1.00%

DISPOSAL STATION C/O  
N: 307231.4385, E: 2226344.6212  
RIM = 697.38  
OUT E = 691.96 (6-INCH)

STAFF TO MOVE HORSESHOE PITS PRIOR TO CONSTRUCTION

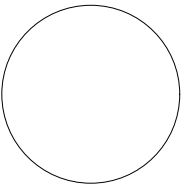
SEE WATER PLANS FOR HYDRANT INFORMATION

SEE SHEETS #13-14 FOR DISPOSAL STATION DETAILS

7.4 TONS CLASS 'A' CRUSHED STONE, 6-INCH DEPTH

28.6 TONS CLASS 'A' CRUSHED STONE, 6-INCH DEPTH

CONSULTANT:



IOWA DEPARTMENT OF NATURAL RESOURCES

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



SANITARY DISPOSAL STATION

CAMPGROUND UPGRADE PROJECT FOR:

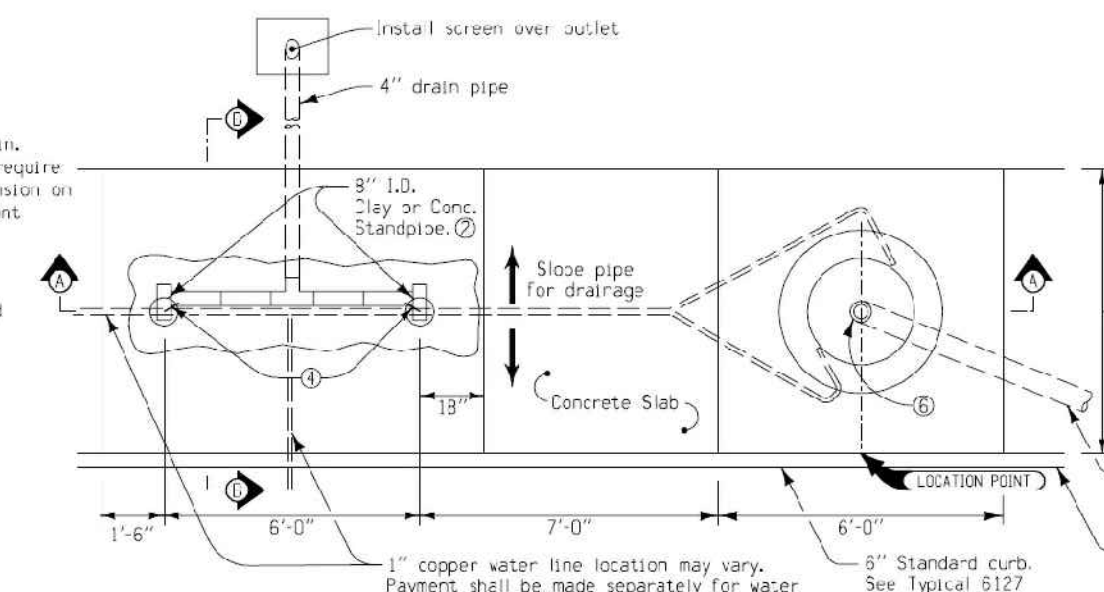
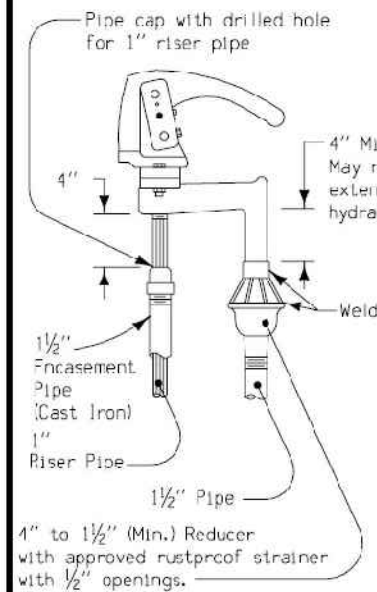
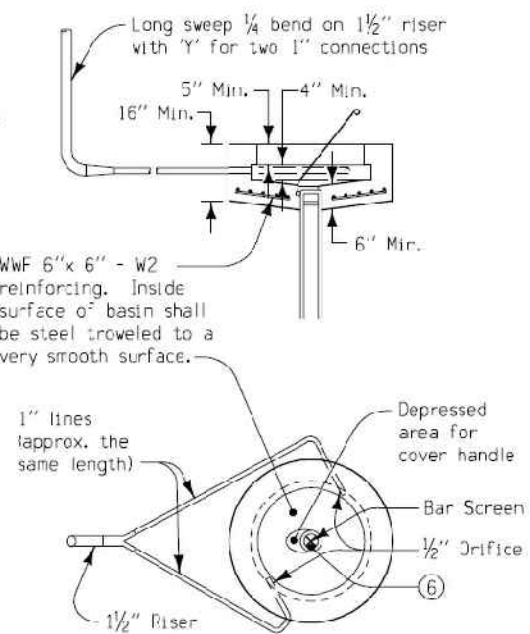
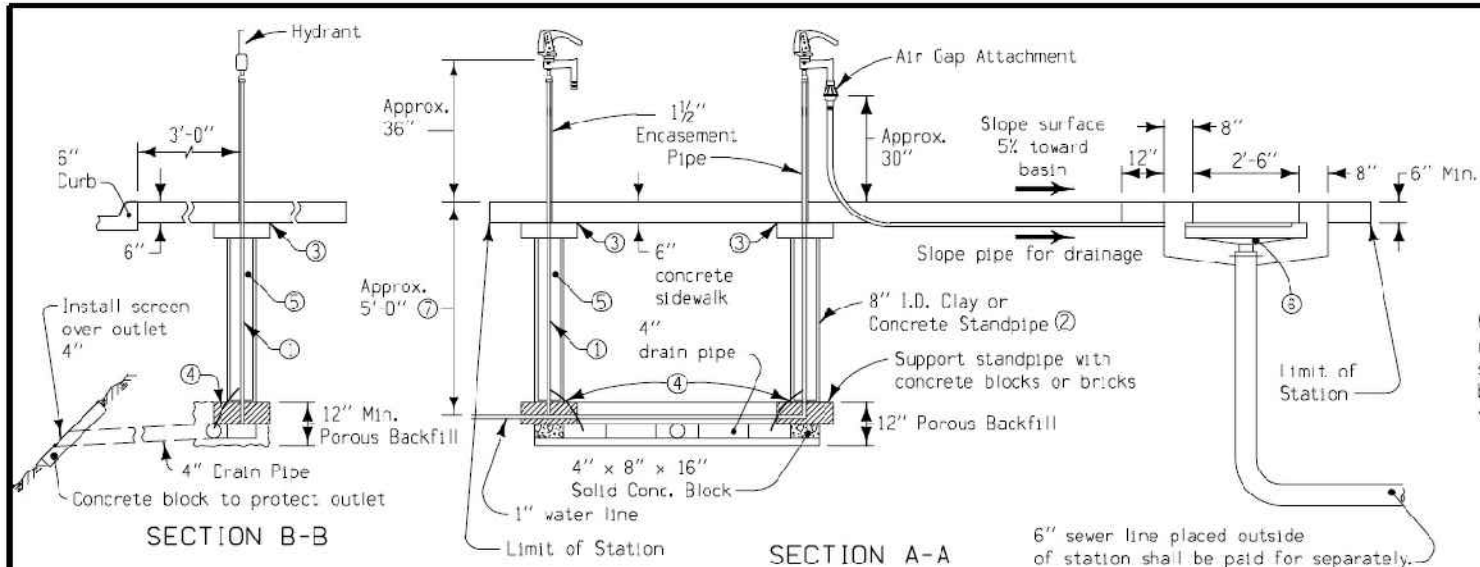
GEODE STATE PARK

HENRY COUNTY, IOWA

NO.	BY	DATE	REVISION

DRAWN BY: PROJECT NUMBER: 18-06-44-01  
CHKD BY: DATE: 11/1/2017

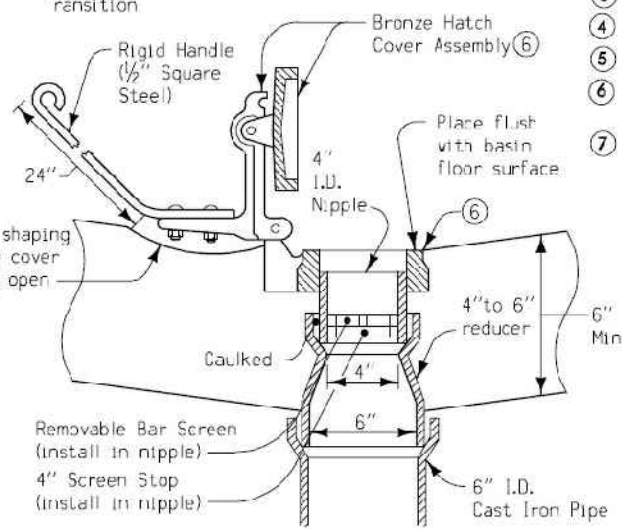
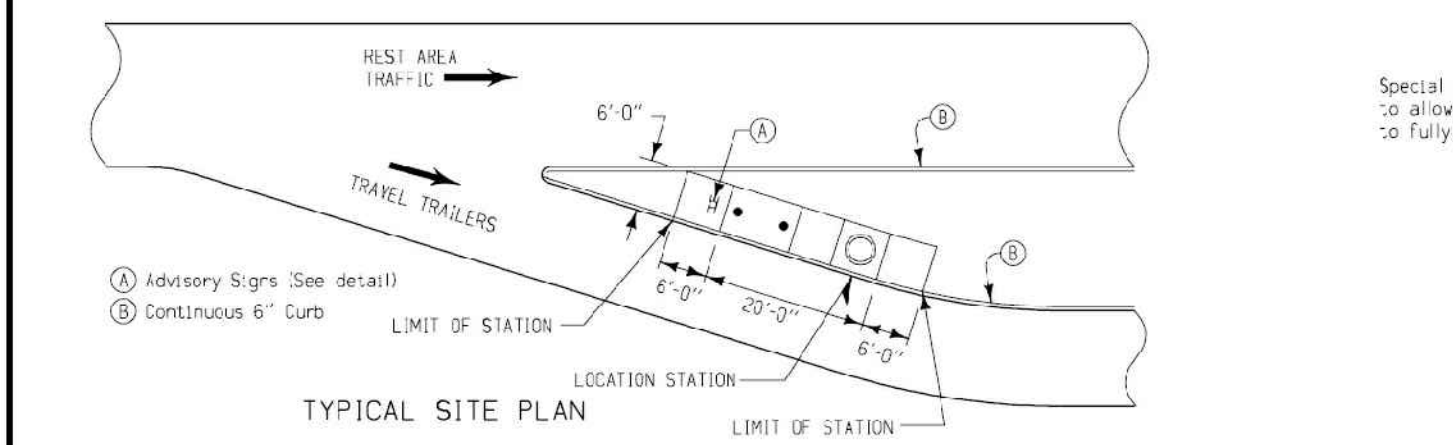
SHEET No:



DETAILS OF HYDRANT AND AIR GAP ATTACHMENT

TYPICAL PLAN OF DISPOSAL STATION FOR TRAVEL TRAILER

ADVISORY SIGNS



DETAILS OF CAST BRONZE HATCH COVER

GENERAL NOTES:

Details shown are the general requirements for construction of a facility for disposing of liquid waste carried by travel trailers and motor homes. Alternate designs for the various details may be submitted for approval.

All construction shall be in accordance with current Standard and Supplemental Specifications and project plans. All accessory hardware shall be galvanized or painted as directed by the Engineer. Any work or materials required which are not specifically covered shall be as directed or approved by the Engineer.

Hydrants shall be combination freezeless and standard operating units or freezeless and self-closing (as designated on the plans), of a design and construction approved by the Engineer and equipped with approved model accessory attachment as indicated. Riser pipe for hydrants shall be one inch I.D. galvanized water pipe.

After the water line (to the last hydrant on the line) has been placed and inspected, the line shall be tested and proven free of leaks under 100 lbs. per square inch air pressure with soap and water or other proven means. The line shall be required to maintain such pressure 24 hours. Upon successful completion of inspection and testing, excavated material shall be returned to the trench and tamped. Water lines for rim flush basin shall be either type "K" copper or galvanized pipe with appropriate fittings as necessary and installed as shown and as directed by the Engineer.

Advisory signs and a single 4 inch x 4 inch post shall be furnished by the Iowa Department of Transportation. Signs are to be mounted back-to-back on post. Exact location is to be determined by the Engineer at the time of installation by the Contractor.

Details shown for hatch cover are typical. It shall be self-closing, cast bronze type of a design and construction approved by the Engineer. Handle shall be shaped to ensure self-closing feature.

Price bid for each "Sanitary Disposal Station" shall be considered full compensation for furnishing all materials and performing all work necessary to construct the facility as directed by the Engineer.

- ① Place hydrant drain a minimum of 2 inches above porous backfill to ensure proper operation.
- ② Position 8 inch I.D. Standpipe so that no damage will result to the normal operation of water lines and drain tile located in the immediate vicinity.
- ③ Block standpipe to prevent concrete from entering pipe during construction of slab.
- ④ Copper tube connection from hydrant.
- ⑤ Inside of standpipe shall be void of material.
- ⑥ 4" cast iron threaded base with bronze cover and handle and provisions for locking - model 41 from VAREC, Inc. Cypress, CA.
- ⑦ Below frost line at depth as directed by the Engineer.

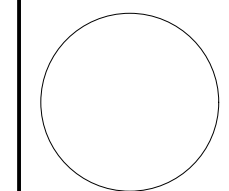
Iowa Department of Transportation  
Project Development Division

STANDARD ROAD PLAN RA-59

REVISION: Replaces Standard Road Plan RA 24.	REVISION NO. New
APPROVED BY: <i>Jay C. Chapp</i> 11-05-99 DESIGN METHODS ENGINEER	REVISION DATE 02-11-00

SANITARY DISPOSAL STATION  
TRAVEL TRAILER

CONSULTANT:



IOWA DEPARTMENT OF  
NATURAL RESOURCES  
ENGINEERING SERVICES - WALLACE BUILDING  
502 E. 9TH ST., DES MOINES, IA 50319-0034

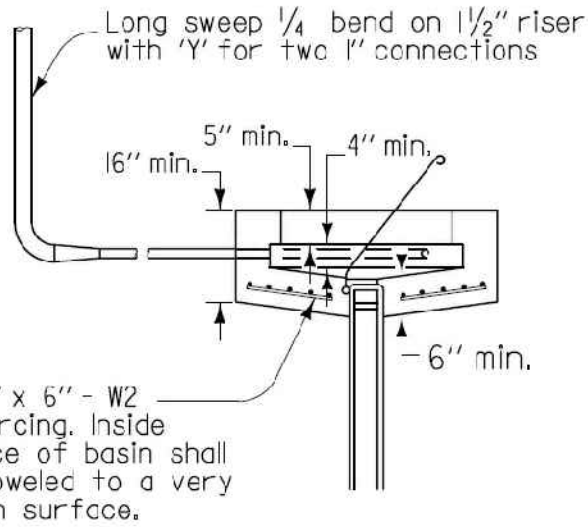


SANITARY DISPOSAL STATION

CAMPGROUND UPGRADE PROJECT FOR:  
GEODE STATE PARK

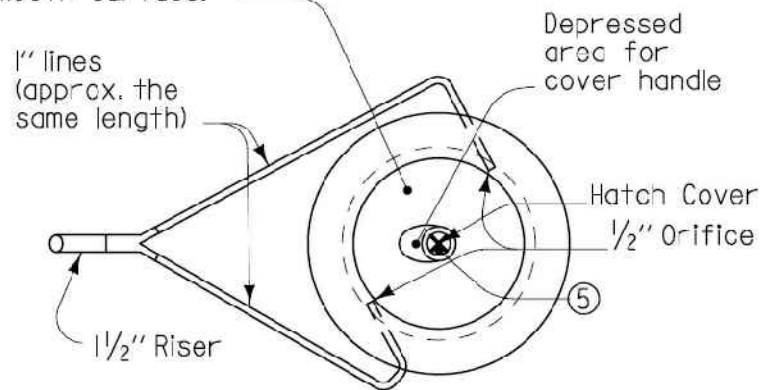
HENRY COUNTY, IOWA

NO.	BY	REVISION
DRAWN BY:	PROJECT NUMBER:	
	18-06-44-01	
CH'D BY:	DATE:	
	11/1/2017	
SHEET NO.:		



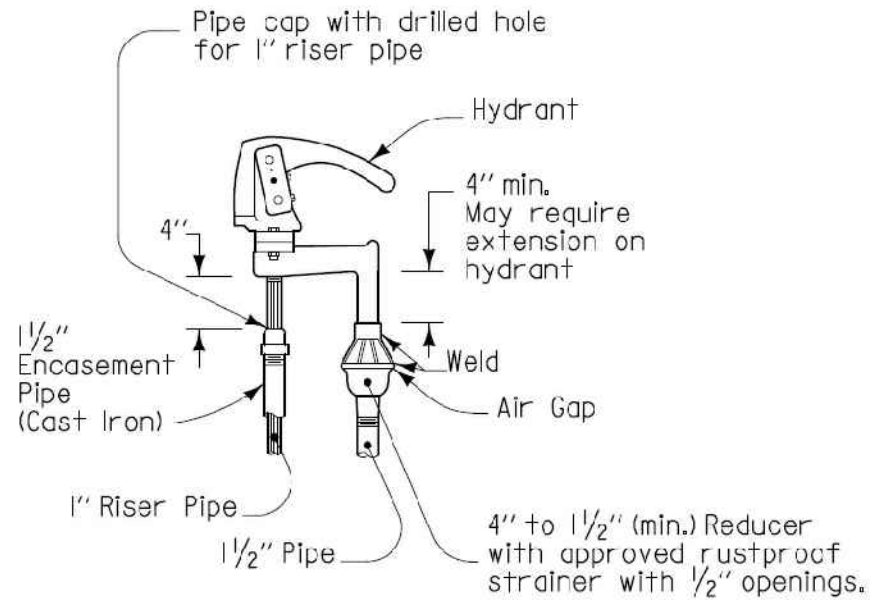
TYPICAL SECTION

WWF 6" x 6" W2 reinforcing. Inside surface of basin shall be troweled to a very smooth surface.

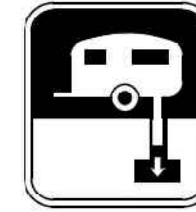


PLAN

RIM FLUSH BASIN



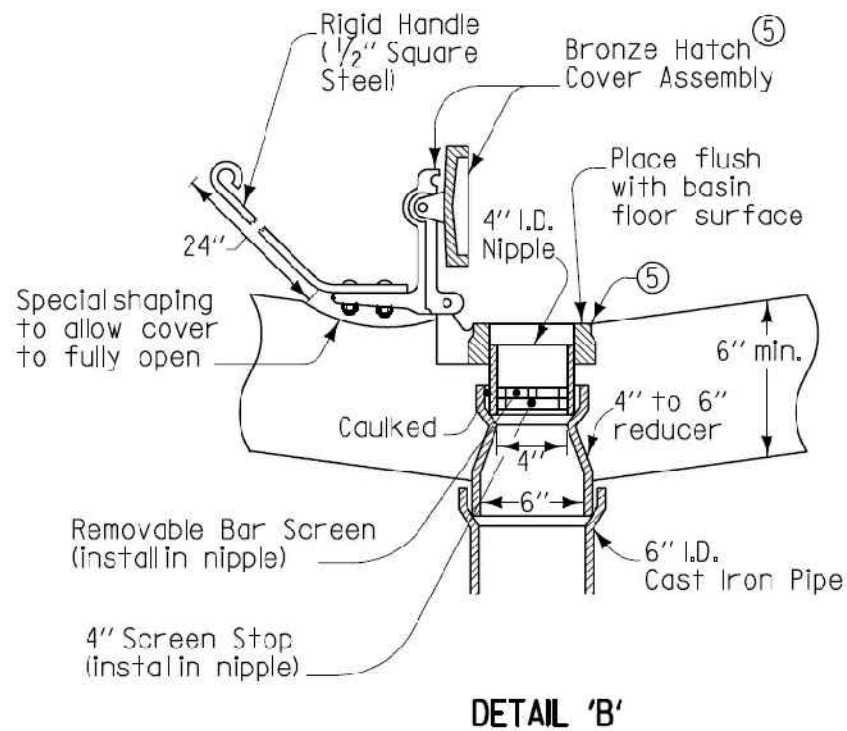
DETAIL 'A'



(Facing Traffic)

(Facing Facility)

ADVISORY SIGNS

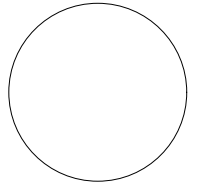


DETAIL 'B'

⑤ 4-inch cast iron threaded base with bronze cover and handle and provisions for locking model 41 from VAREC, Inc. Cypress, CA.

	REVISION
	NEW 10-20-09
<b>STANDARD ROAD PLAN</b>	<b>SW-350</b>
REVISIONS: Nev. Replaces RA-59.	SHEET 2 of 2
<i>Deanna Maifeld</i> APPROVED BY DESIGN METHODS ENGINEER	
<b>TRAVEL TRAILER DUMP STATION</b>	

CONSULTANT:



IOWA DEPARTMENT OF  
NATURAL RESOURCES

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



SANITARY DISPOSAL STATION

CAMPGROUND UPGRADE PROJECT FOR:

**GEODE STATE PARK**

HENRY COUNTY, IOWA

NO.	DATE	REVISION

DRAWN BY: PROJECT NUMBER: 18-06-44-01

CHK'D BY: DATE: 11/1/2017

SHEET No:

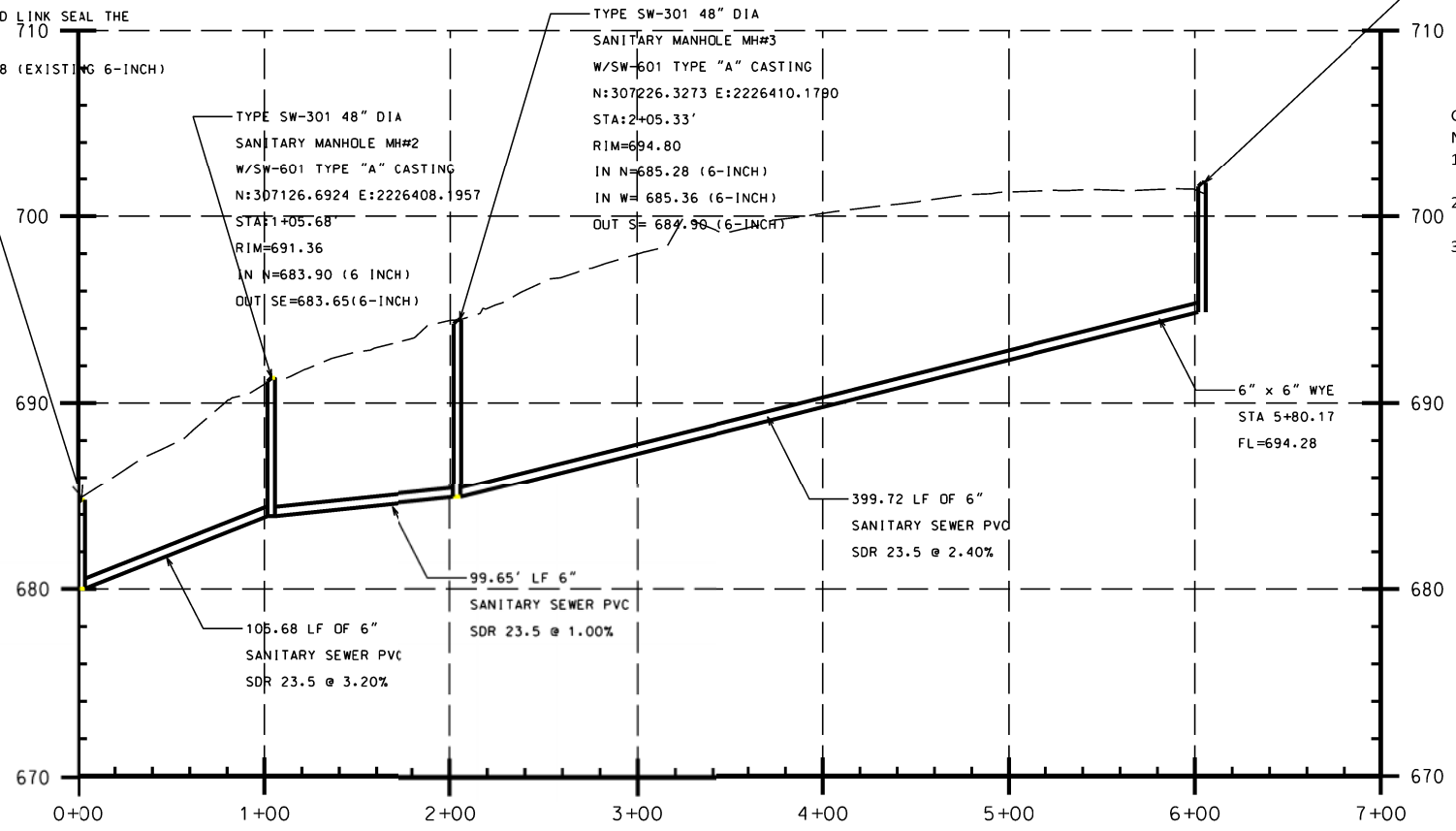
GEODE SANITARY RUN #2, EXISTING MH TO CAMP PADS TO THE NORTH

SERVICE FROM SHOWER BUILDING  
SEE SHEET 11 FOR DETAILS



EXISTING SANITARY MANHOLE  
N:307051.8280, E:2226482.7820  
STA:0+00  
RIM=684.78  
IN S= 679.58 (EXISTING 6-INCH)  
OUT N= 680.27 (NEW 6-INCH)  
CORE DRILL AND LINK SEAL THE CONNECTION

GEODE SANITARY RUN #2, EXISTING MH TO CAMP PADS TO THE NORTH



TYPE SW-301 48" DIA  
SANITARY MANHOLE MH#4  
W/SW-601 TYPE "A" CASTING  
N307624.5702 E2226375.7935  
STA:6+05.06'  
RIM=701.75  
OUT S=694.87 (6-INCH)



GEODE SANITARY RUN #2, EXISTING MH TO CAMP PADS TO THE NORTH

No.	Type	Length	Direction	Start Station	End Station	Start Point	End Point
1	Line	105.68' 6" @ 3.20%	N44°53' 36"W	0+00.00'	1+05.68'	(2226482.7820', 307126.6924')	(2226408.1957', 307126.6924')
2	Line	99.65' 6" @ 1.00%	N1°08' 25"E	1+05.68'	2+05.33'	(2226408.1957', 307126.6924')	(2226410.1790', 307226.3273')
3	Line	399.72' 6" @ 2.40%	N4°56' 05"W	2+05.33'	6+05.06'	(2226410.1790', 307226.3273')	(2226375.7935', 307624.5702')

CONSTRUCTION NOTE:  
FOR CONNECTION FOR RV CLEANOUT. SANITARY SERVICE AND WYE CONNECTION SEE SHEET 11

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES  
ENGINEERING SERVICES - WALLACE BUILDING  
502 E. 9TH ST., DES MOINES, IA 50319-0034



SEWER RUN NO.2  
CAMPGROUND UPGRADE PROJECT FOR:  
GEODE STATE PARK  
HENRY COUNTY, IA

NO.	BY	DATE	REVISION

DRAWN BY: ES PROJECT NUMBER: 18-06-44-01  
CHKD BY: BJ DATE: 11/1/2017  
SHEET No: 15

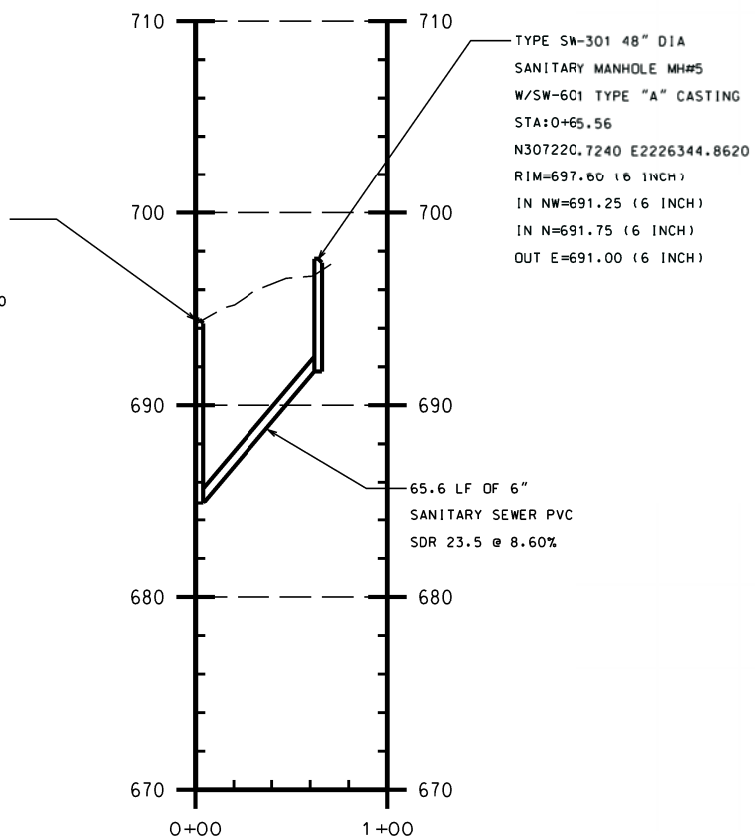
**GEODE SANITARY RUN MH#3 TO DUMP SITE**

SEE DETAILS FOR  
RV DUMPSTATION ON  
SHEET 13-15

TYPE SW-301 48" DIA  
SANITARY MANHOLE MH#5  
W/SW-601 TYPE "A" CASTING  
STA:0+65.56  
N307220.7240 E2226344.8620  
RIM=697.60 (6 INCH)  
IN NW=691.25 (6 INCH)  
IN N=691.75 (6 INCH)  
OUT E=691.00 (6 INCH)

GEODE SANITARY RUN #5,  
MH#3 TO DUMP SITE

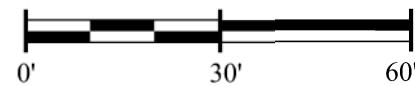
TYPE SW-301 48" DIA  
SANITARY MANHOLE MH#3  
W/SW-601 TYPE "A" CASTING  
N:307226.3273 E:2226410.1790  
STA:2+05.33'  
RIM=694.80  
IN N=685.28 (6-INCH)  
IN W= 685.36 (6-INCH)  
OUT S= 684.90 (6-INCH)



TYPE SW-301 48" DIA  
SANITARY MANHOLE MH#3  
W/SW-601 TYPE "A" CASTING  
N307226.5402 E 2226415.443'  
RIM=694.45.  
IN N=685.28 (6' SERVICE)  
IN W=685.34 (6' SERVICE)  
IN E=685.18 (6' SERVICE)  
OUT S=684.90 (6' SERVICE)



SCALE: 1" = 30'



GEODE SANITARY RUN #5, MH#3 TO DUMP SITE

No.	Type	Length	Direction	Start Station/Station	Start Point	End Point
1	Line	65.56'	8° 22' 26" N 90° 30' 33" W	0+00.00' @ 697.60'	(2226410.1790, 307226.3273) (2226344.8620, 307220.7240)	(2226415.4432, 307226.5402)
<p>MANHOLE: RIM=694.80, IN N=685.28', IN W=685.36', CUT S=684.90'      MANHOLE @ DUMP SITE: RIM=697.60, IN NW=691.25', IN N=691.75', CUT E=691.00'</p>						

CONSULTANT:

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NATURAL RESOURCES

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



SANITARY SEWER RUN MH#3

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

HENRY COUNTY, IA

NO. BY DATE REVISION

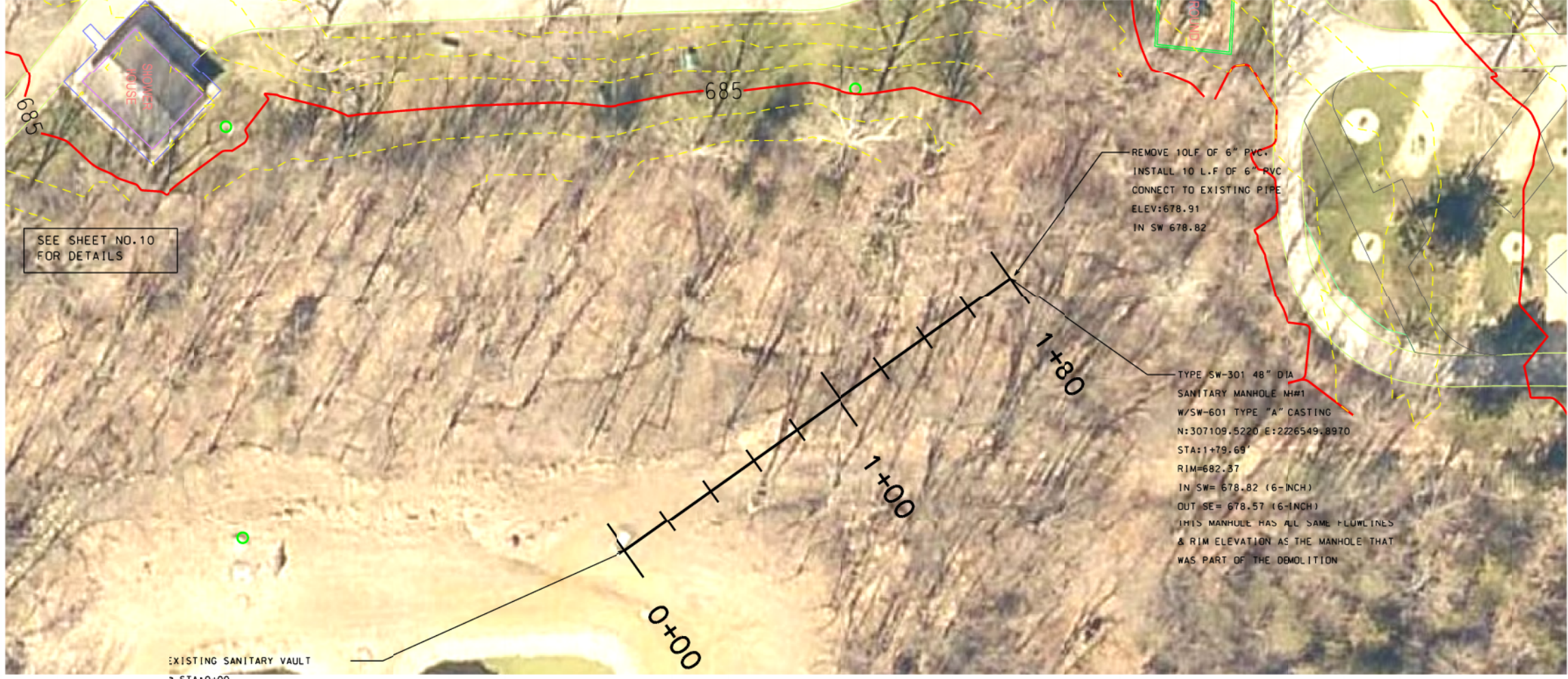
DRAWN BY: ES PROJECT NUMBER: 18-06-44-01  
CHKD BY: BJ DATE: 11/1/2017

SHEET No:

16



GEODE SANITARY RUN #1



SEE SHEET NO. 10 FOR DETAILS

EXISTING SANITARY VAULT  
 @ STA:0+00  
 N:306963.2400 E:2226653.1520  
 RIM=680.55  
 FL IN NE=676.40(SAME FLOWLINE AS THE VCP REMOVED) SEAL NEW PIPE CONNECTION WITH MANHOLE

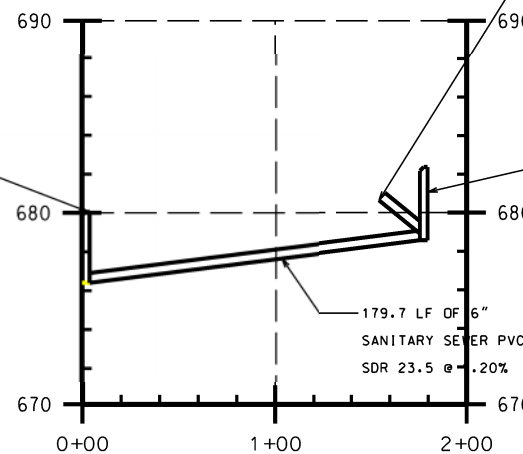
GEODE SANITARY RUN #1, EXISTING STRUCTURE TO NEW MH#1, MAINTAIN SAME FLOWLINES AS EXISTING

No.	Type	Length	Direction	Start Station	End Station	Start Point	End Point
1	Line	179.69'	6% @ 1.20% N35°27'40"W	0+00.00'	1+79.69'	(2226654.1469',306963.1596')	(2226549.8970',307109.5220')

SAN VAULT, RIM=680.55, IN NW=676.40'  
 MH #1, RIM=682.37, IN SW=678.82', IN NW=678.62 (REMOVE PIPE AND ABANDON LEG), OUT SE=678.57'

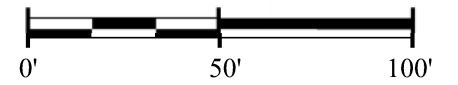
EXISTING SANITARY VAULT  
 @ STA:0+00  
 N:306963.2400 E:2226653.1520  
 RIM=680.55  
 FL IN NE=676.40(SAME FLOWLINE AS THE VCP REMOVED) SEAL NEW PIPE CONNECTION WITH MANHOLE

GEODE SANITARY RUN #1,  
 EXISTING STRUCTURE TO  
 NEW MH#1, MAINTAIN  
 SAME FLOWLINES AS EXISTING



REMOVE 10LF OF 6" PVC.  
 INSTALL 10 L.F OF 6" PVC  
 CONNECT TO EXISTING PIPE  
 ELEV:678.91  
 IN SW 678.82

EXISTING MANHOLE  
 N307109.5220 E E2226549.8970  
 RIM=682.37.  
 IN SW=678.82 (6' SERVICE)  
 OUT SE=678.57 (6' SERVICE)



NORTH  
 SCALE: 1" = 50'

CONSULTANT:

IOWA DEPARTMENT OF  
 NATURAL RESOURCES

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



SEWER RUN NO.1

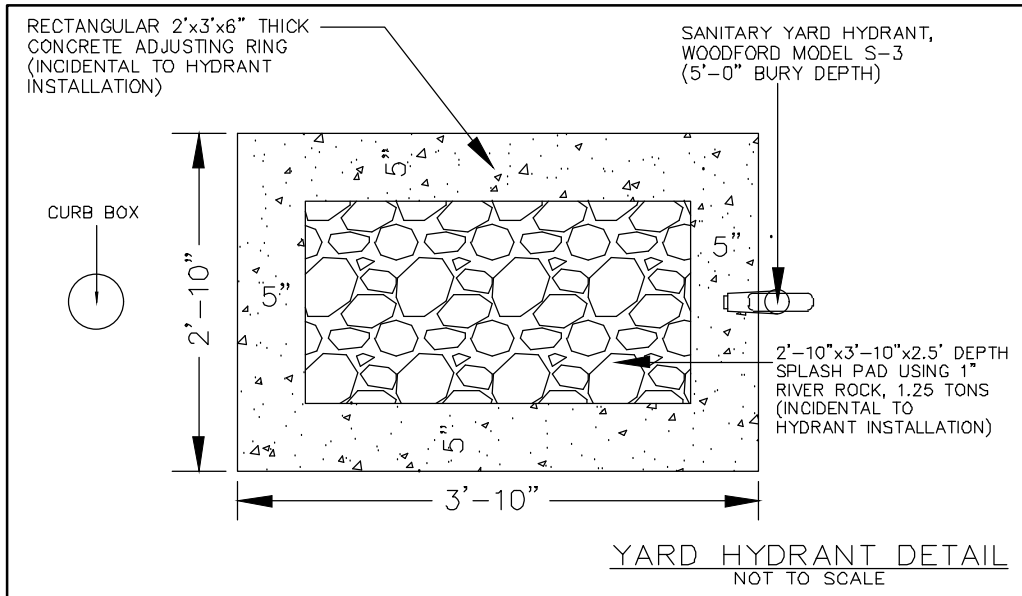
CAMPGROUND UPGRADE PROJECT FOR:  
 GEODE STATE PARK

HENRY COUNTY, IA

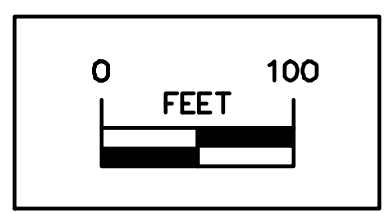
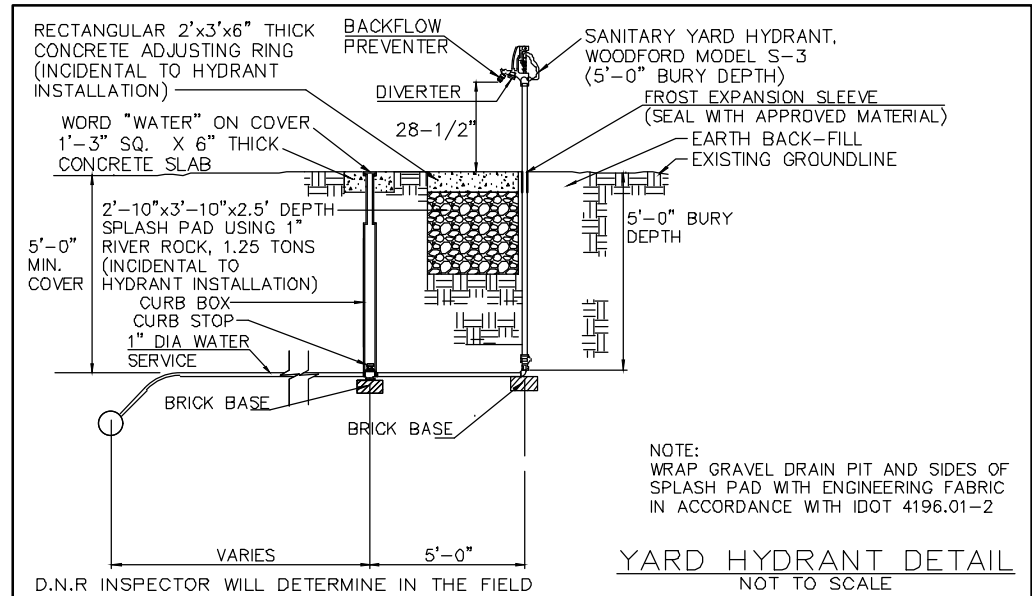
NO.	BY	REVISION

DRAWN BY: ES PROJECT NUMBER: 18-06-44-01  
 CHKD BY: SJ DATE: 11/1/2017

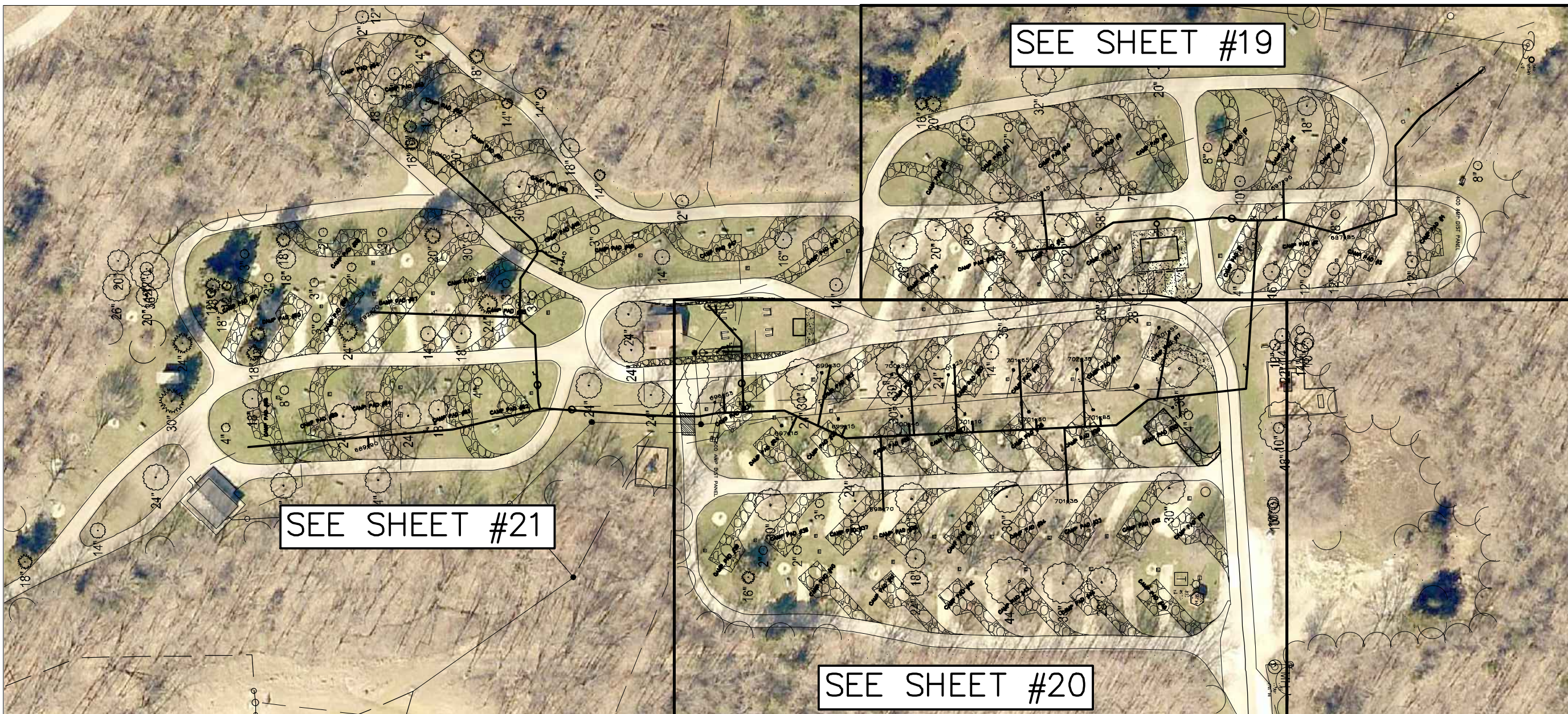
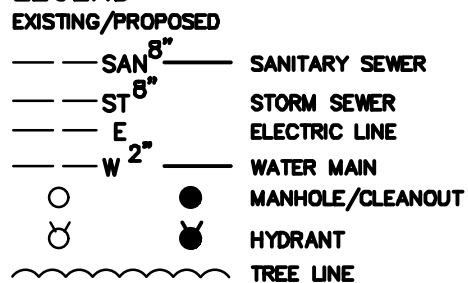
PLAN VIEW



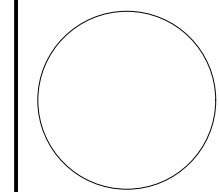
PROFILE VIEW



LEGEND



CONSULTANT:



IOWA DEPARTMENT OF NATURAL RESOURCES

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



OVERALL WATER PLAN

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

HENRY COUNTY, IOWA

NO. BY DATE REVISION

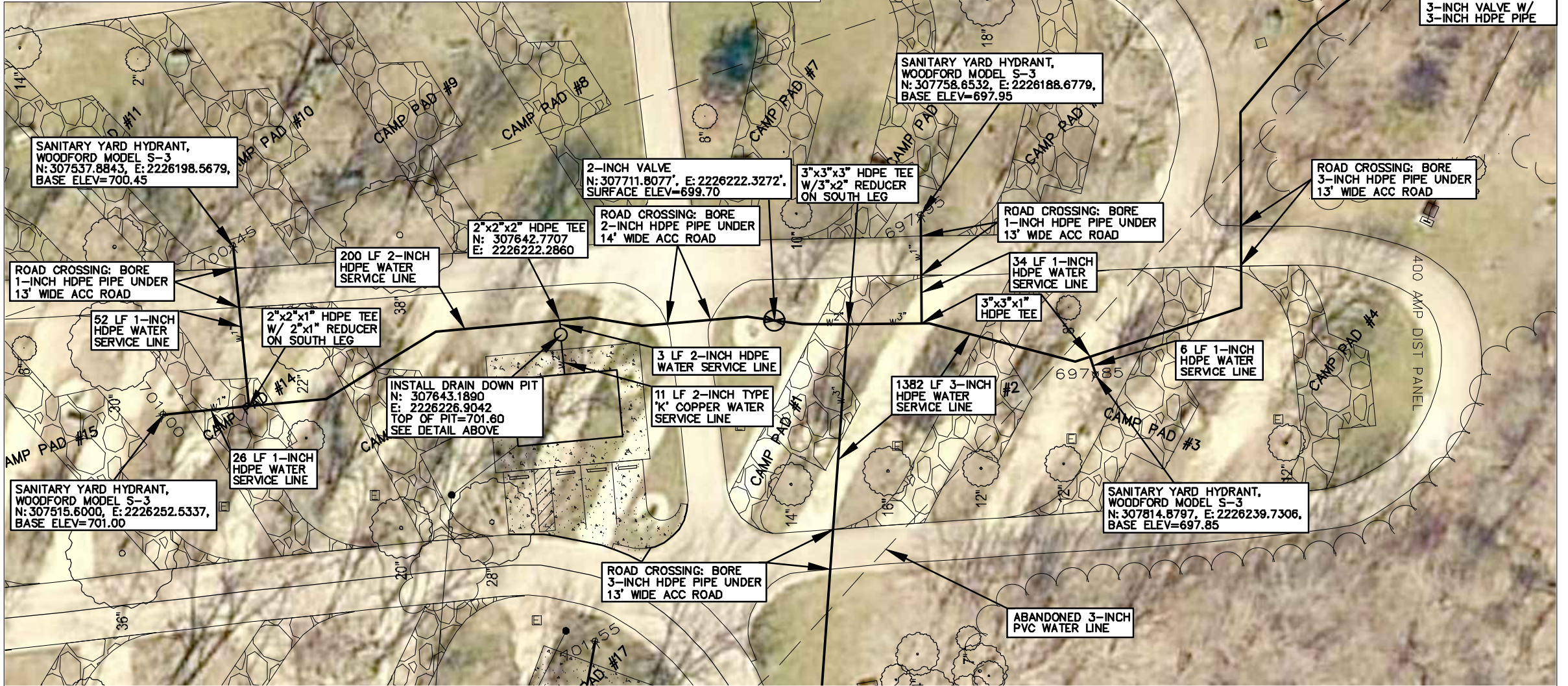
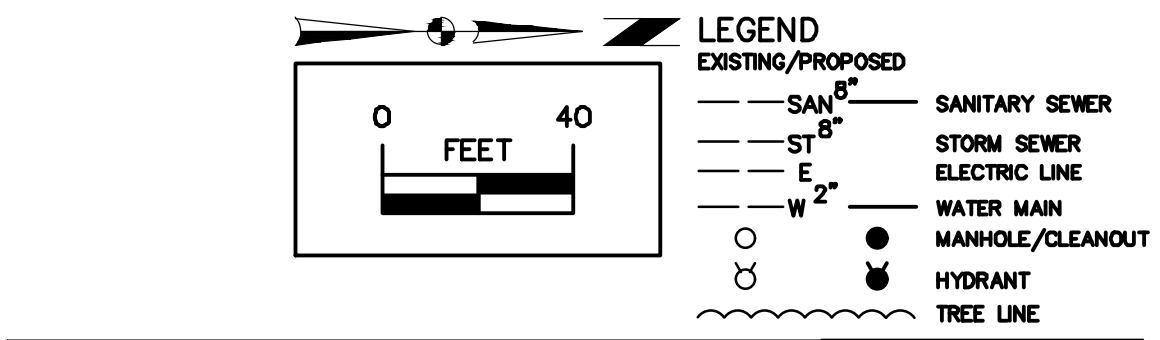
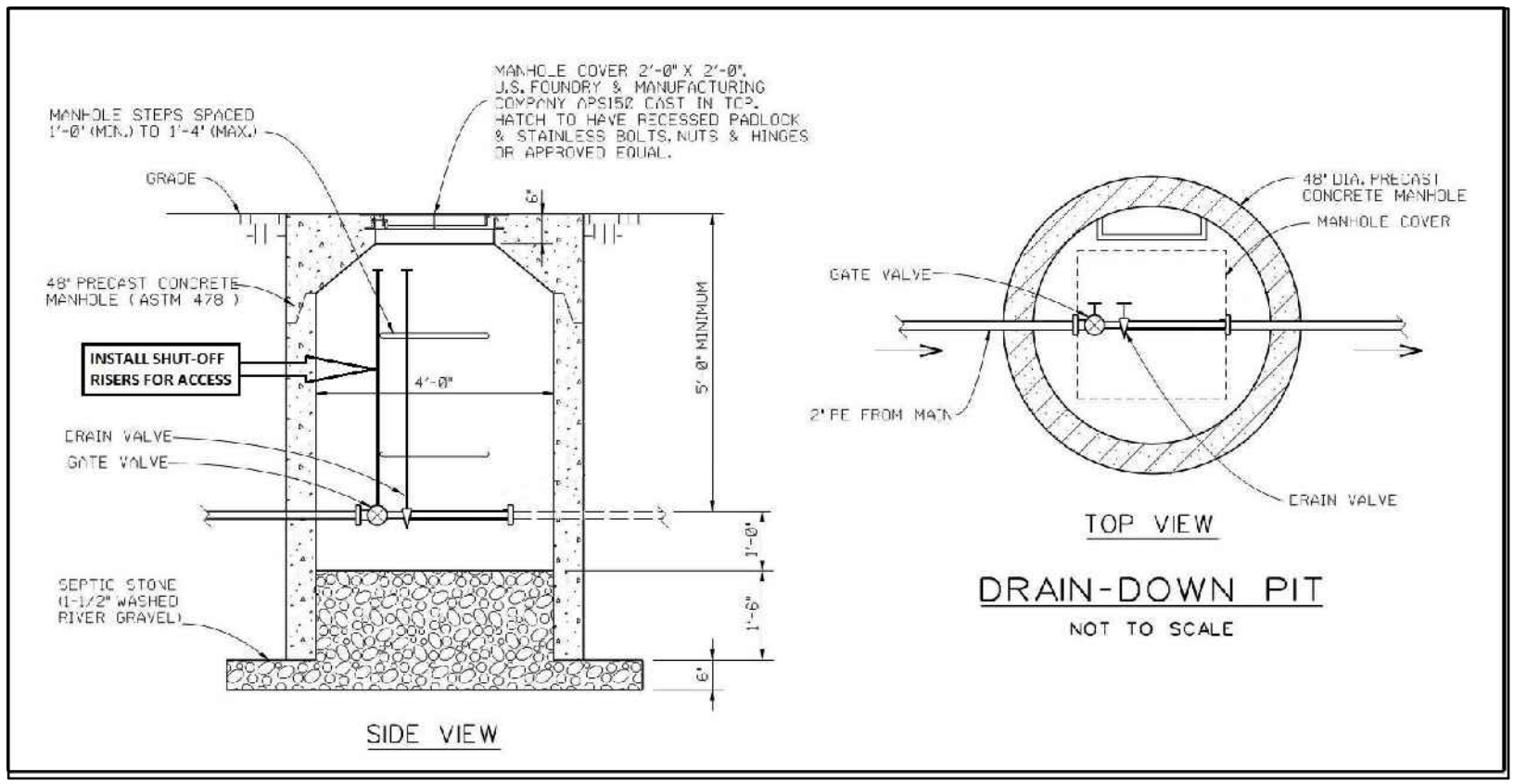

DRAWN BY: PROJECT NUMBER:

18-06-44-01

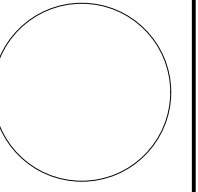
CHK'D BY: DATE:

11/1/2017

SHEET No:



CONSULTANT:



IOWA DEPARTMENT OF  
NATURAL RESOURCES  
ENGINEERING SERVICES - WALLACE BUILDING  
502 E. 9TH ST., DES MOINES, IA 50319-0034



WATER PLAN (NORTHEAST)  
CAMPGROUND UPGRADE PROJECT FOR:  
GEODE STATE PARK  
HENRY COUNTY, IOWA

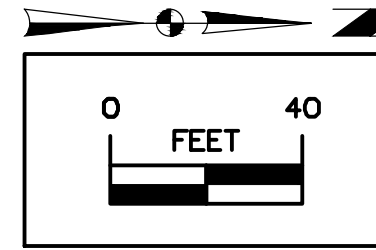
NO.	BY	REVISION

DRAWN BY: PROJECT NUMBER:  
**18-06-44-01**

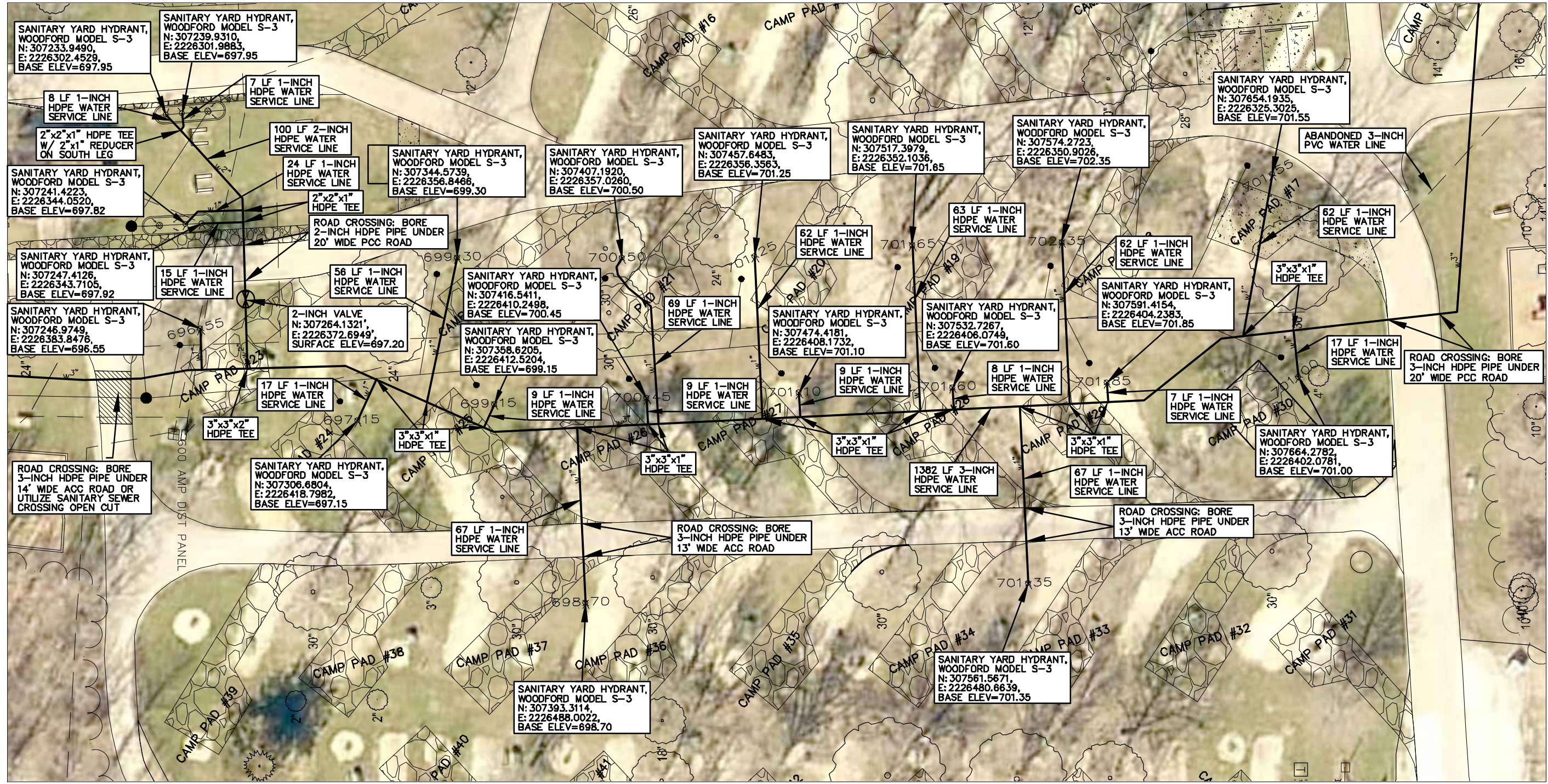
CHK'D BY: DATE:  
11/1/2017

SHEET No:

NOTE: DISPOSAL STATIONS ARE A BID LINE ITEM AND INCLUDE ALL ITEMS (PAVEMENT, HYDRANTS, WATER LINES, CLEAN-OUT, ETC)



- LEGEND**  
EXISTING/PROPOSED
- SAN 8" — SANITARY SEWER
  - ST 8" — STORM SEWER
  - E — ELECTRIC LINE
  - W 2" — WATER MAIN
  - ● MANHOLE/CLEANOUT
  - ~ TREE LINE



CONSULTANT:

IOWA DEPARTMENT OF  
NATURAL RESOURCES

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



WATER PLAN (EAST)

CAMP-GROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

HENRY COUNTY, IOWA

NO.	BY	REVISION

DRAWN BY: PROJECT NUMBER:  
**18-06-44-01**

CH'D BY: DATE:  
11/1/2017

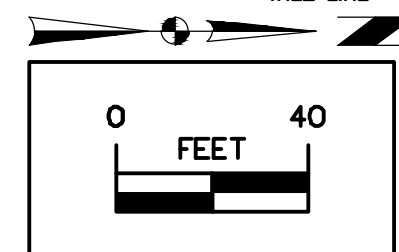
SHEET No:



**LEGEND**

EXISTING/PROPOSED

- SAN 8" — SANITARY SEWER
- ST 8" — STORM SEWER
- E — ELECTRIC LINE
- W 2" — WATER MAIN
- ● MANHOLE/CLEANOUT
- ~~~~~ TREE LINE



CONSULTANT:

IOWA DEPARTMENT OF  
NATURAL RESOURCES

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502 E. 9TH ST., DES MOINES, IA 50319-0034



WATER PLAN (SOUTH)

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

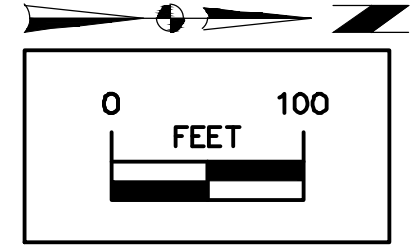
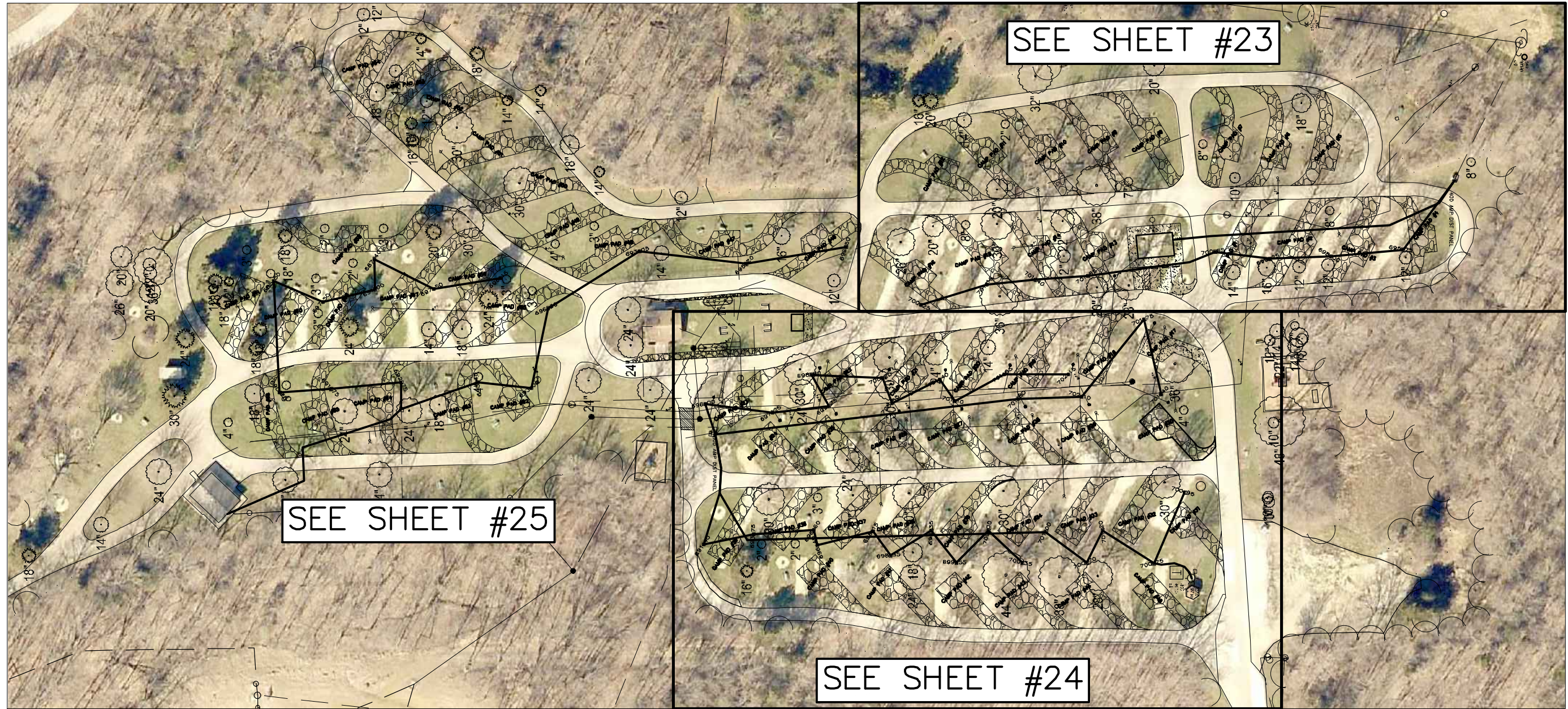
HENRY COUNTY, IOWA

NO.	BY	REVISION

DRAWN BY: PROJECT NUMBER:  
**18-06-44-01**

CHK'D BY: DATE:  
11/1/2017

SHEET NO:

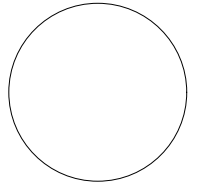


**LEGEND**

**EXISTING/PROPOSED**

- SAN 8" — SANITARY SEWER
- ST 8" — STORM SEWER
- E — ELECTRIC LINE
- W 2" — WATER MAIN
- ● MANHOLE/CLEANOUT
- ● HYDRANT
- ● 50 AMP CAMPOST
- ~~~~~ TREE LINE

CONSULTANT:



IOWA DEPARTMENT OF  
NATURAL RESOURCES  
ENGINEERING SERVICES - WALLACE BUILDING  
502 E. 9TH ST., DES MOINES, IA 50319-3034



**OVERALL ELECTRICAL PLAN**

CAMPGROUND UPGRADE PROJECT FOR:

**GEODE STATE PARK**

HENRY COUNTY, IOWA

NO. BY DATE REVISION

NO.	BY	DATE	REVISION

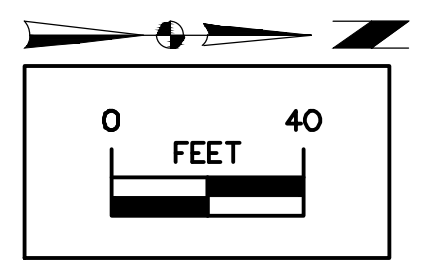
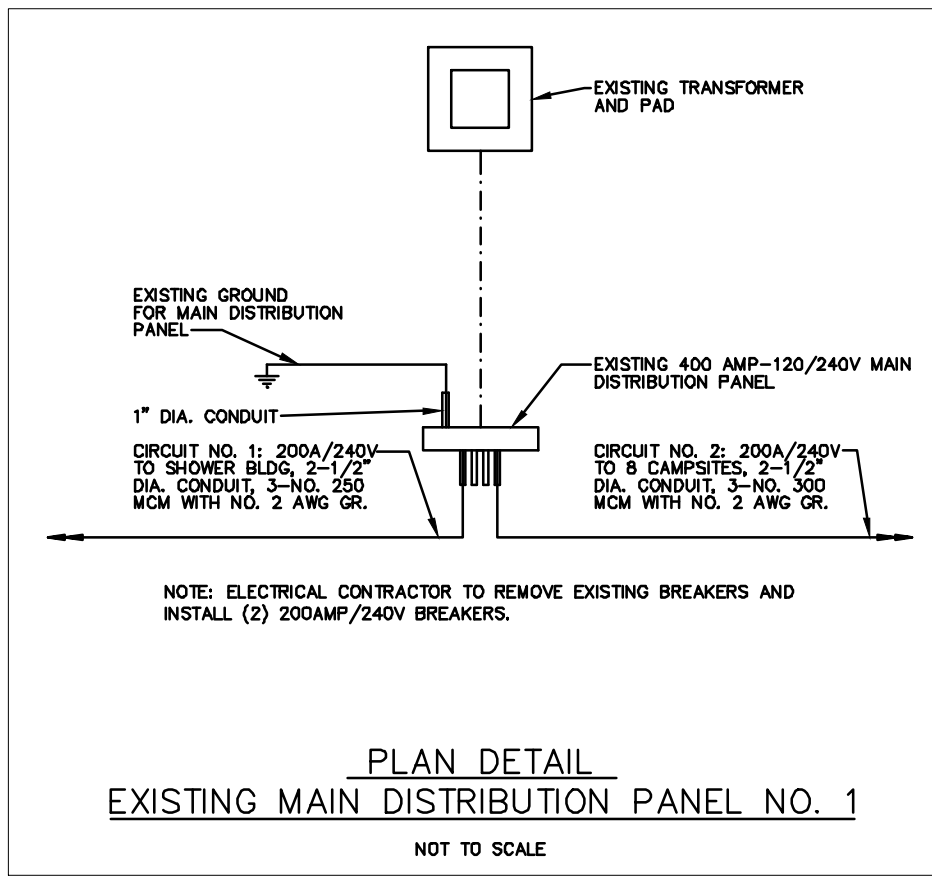
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18-06-44-01

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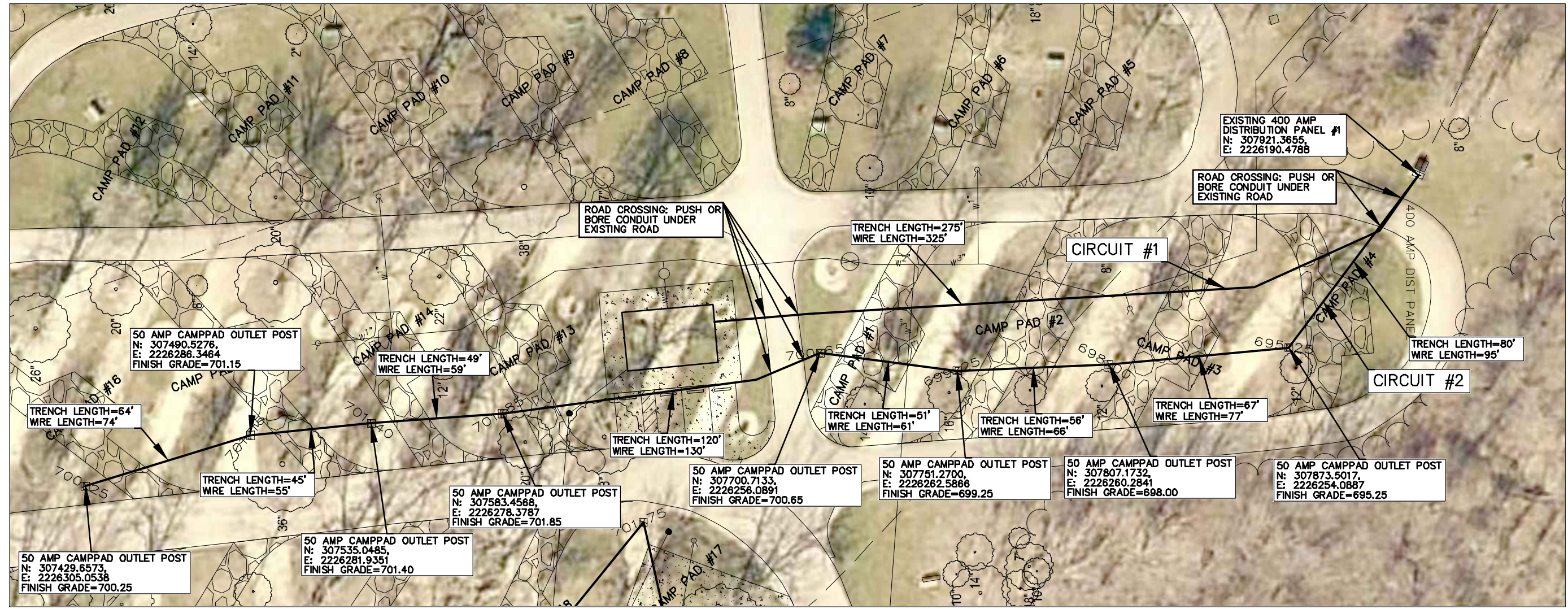
11/1/2017

SHEET No:



**LEGEND**  
EXISTING/PROPOSED

— SAN 8" —	SANITARY SEWER
— ST 8" —	STORM SEWER
— E —	ELECTRIC LINE
— W 2" —	WATER MAIN
○	MANHOLE/CLEANOUT
○	HYDRANT
○	50 AMP CAMPOST
~~~~~	TREE LINE



CONSULTANT:

IOWA DEPARTMENT OF
NATURAL RESOURCES

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



ELECTRICAL PLAN (NORTHWEST)

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

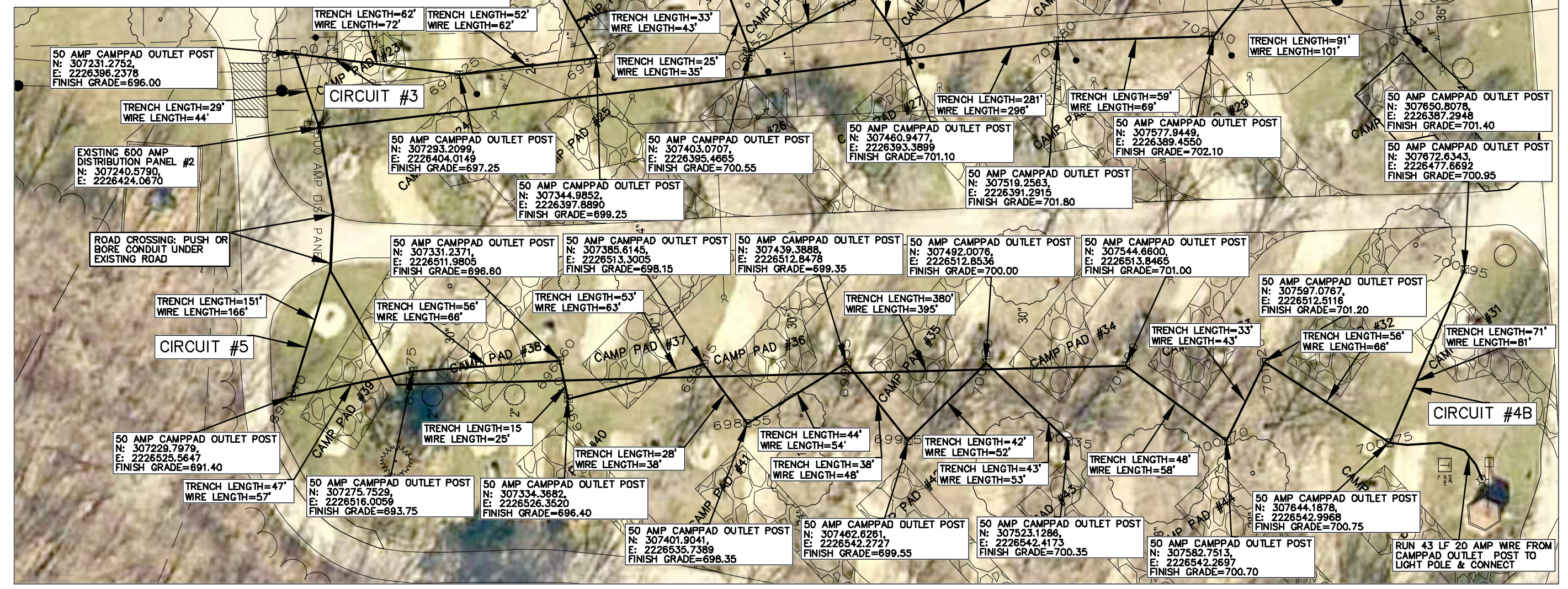
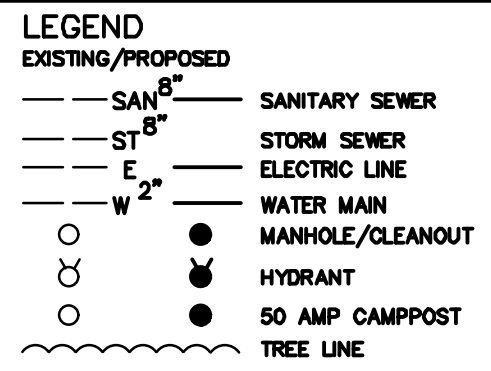
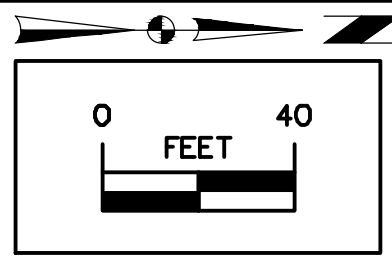
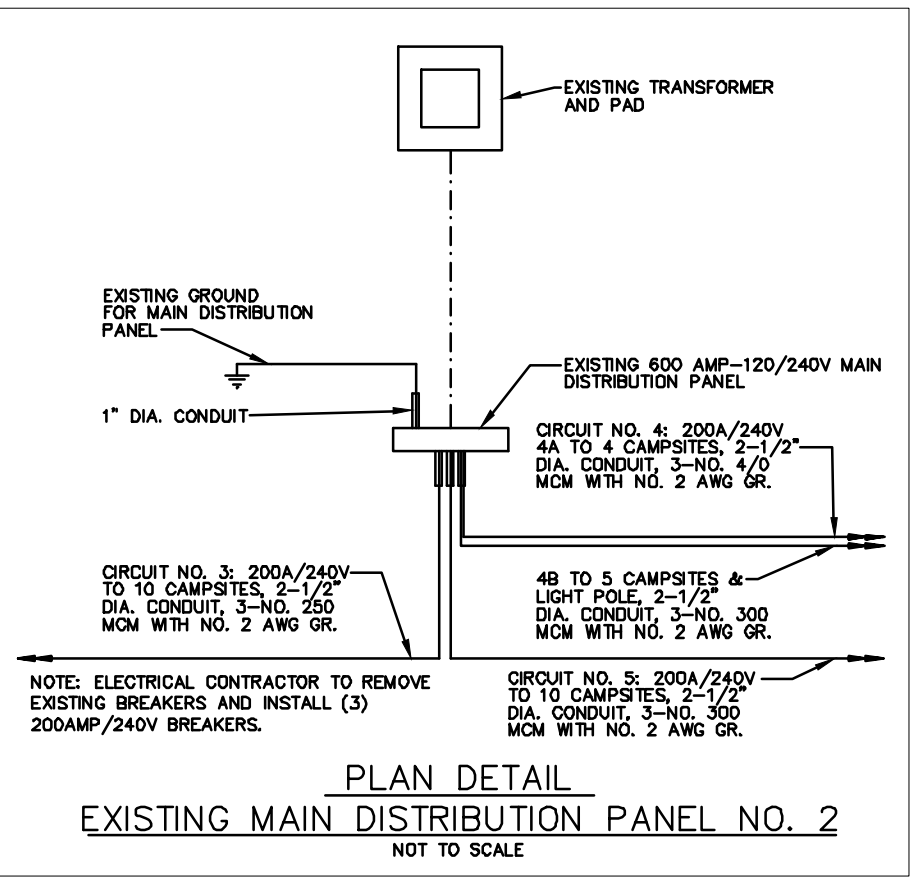
HENRY COUNTY, IOWA

NO.	BY	REVISION

DRAWN BY: PROJECT NUMBER:
18-06-44-01

CHD BY: DATE:
11/1/2017

SHEET NO:
23



CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

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

ELECTRICAL PLAN (NORTHEAST)

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

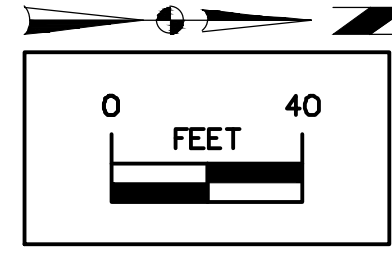
HENRY COUNTY, IOWA

NO.	DATE	REVISION

DRAWN BY: PROJECT NUMBER: 18-06-44-01

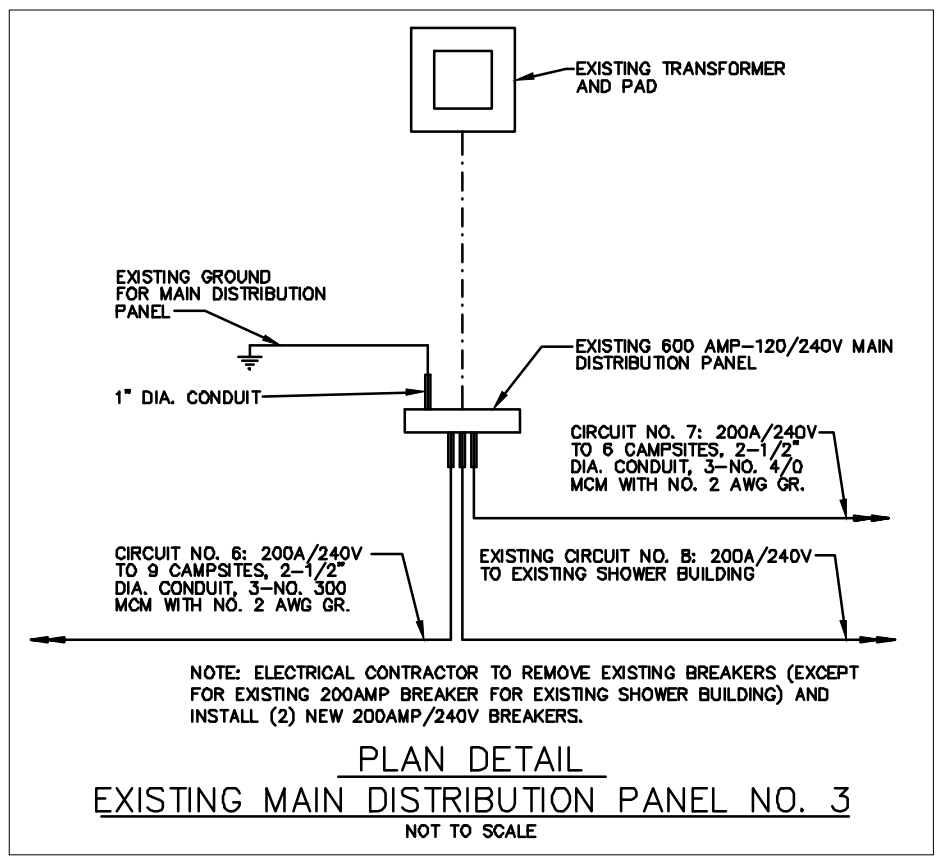
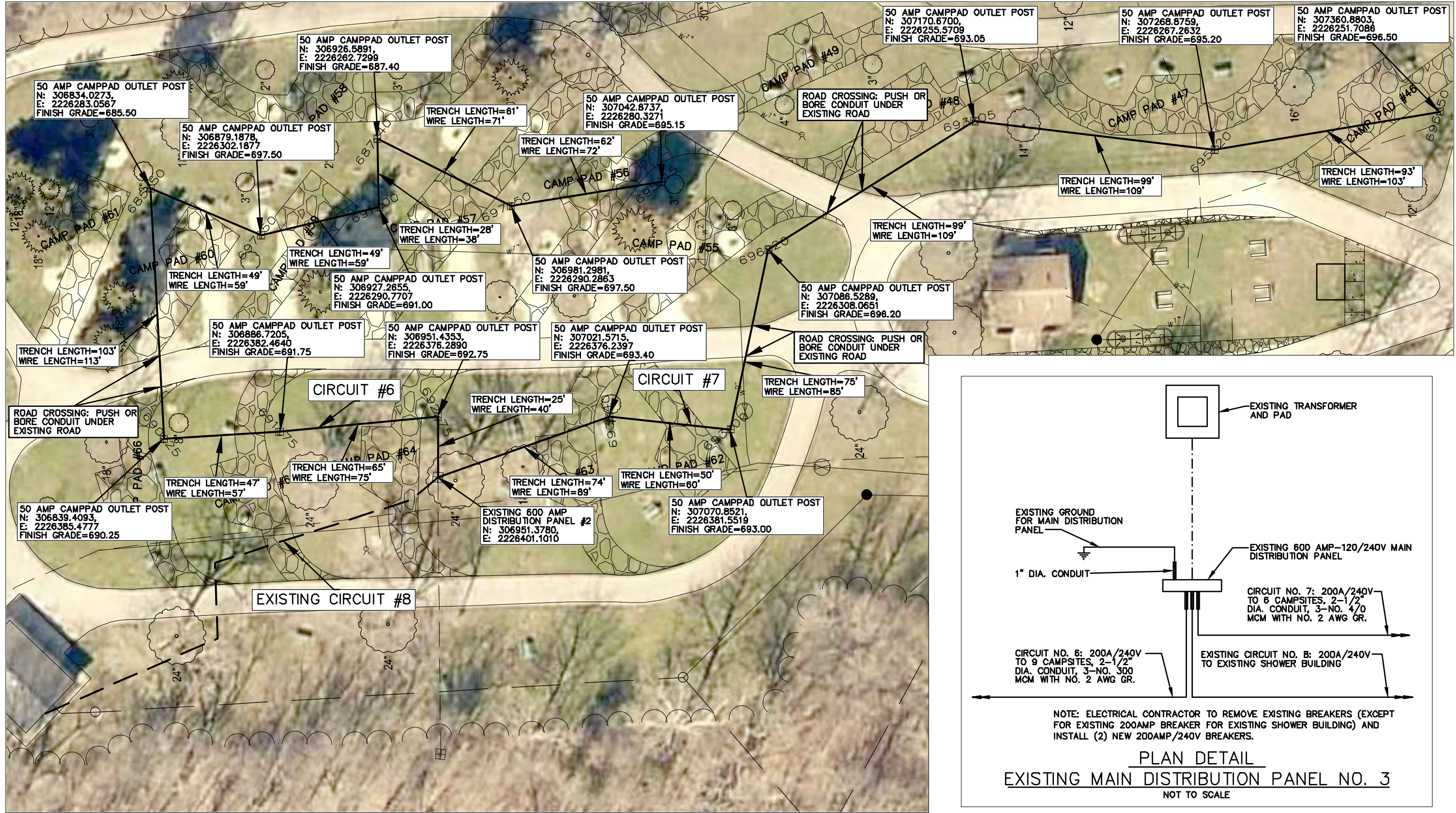
CHD BY: DATE: 11/1/2017

SHEET NO: 24



LEGEND

EXISTING/PROPOSED	
--- SAN 8" ---	SANITARY SEWER
--- ST 8" ---	STORM SEWER
--- E ---	ELECTRIC LINE
--- W 2" ---	WATER MAIN
○ ●	MANHOLE/CLEANOUT
○ ●	HYDRANT
○ ●	50 AMP CAMPOST
~~~~~	TREE LINE



CONSULTANT:

**IOWA DEPARTMENT OF NATURAL RESOURCES**

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



**ELECTRICAL PLAN (SOUTH)**

CAMPGROUND UPGRADE PROJECT FOR:  
**GEODE STATE PARK**

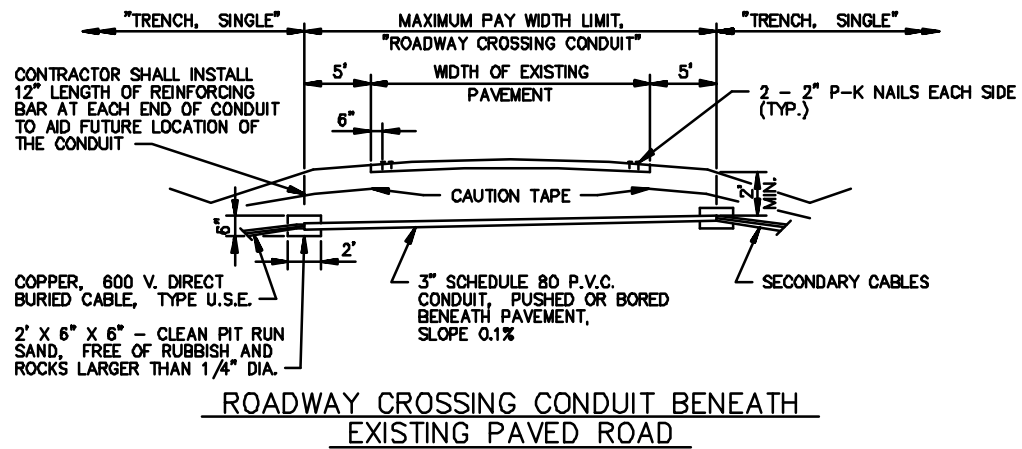
HENRY COUNTY, IOWA

NO.	BY	DATE	REVISION

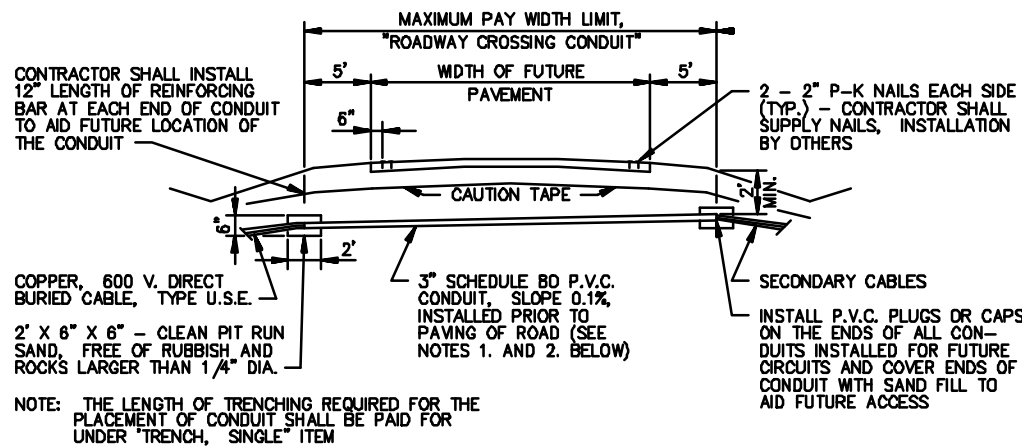
DRAWN BY: PROJECT NUMBER: **18-06-44-01**

CHKD BY: DATE: 11/1/2017

SHEET NO: **25**



**ROADWAY CROSSING CONDUIT BENEATH EXISTING PAVED ROAD**

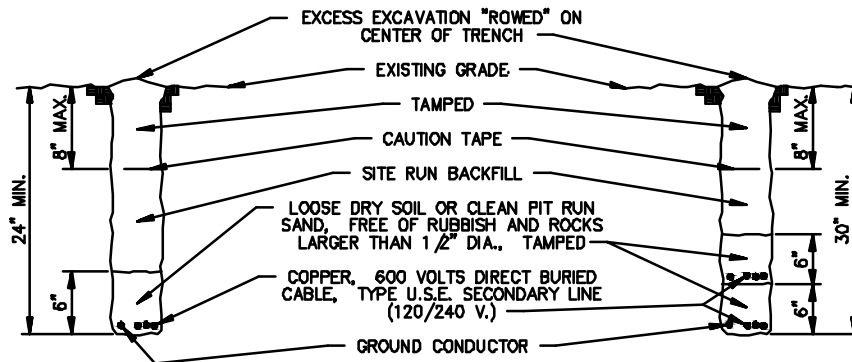


**ROADWAY CROSSING CONDUIT BENEATH FUTURE PAVEMENT**

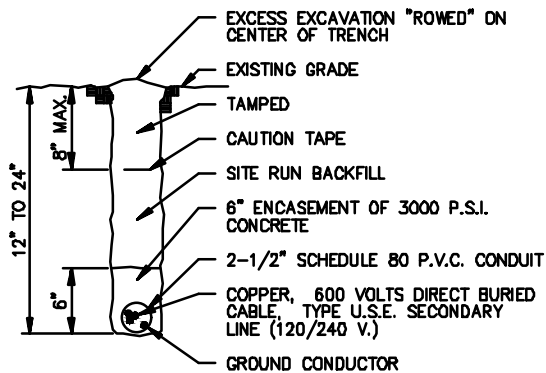
**NOTES:**

- 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.
- 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.

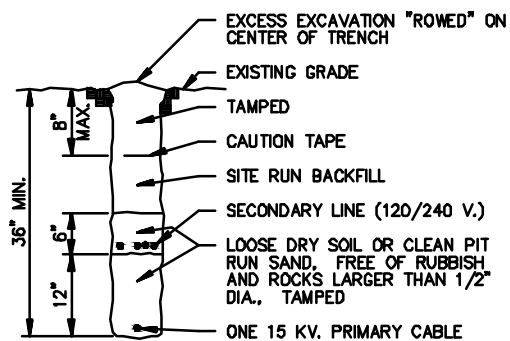
CAMPGROUND ELECTRICAL SYSTEM  
STANDARD DRAWING NO. RC-1  
DETAILS OF ROADWAY  
CROSSING CONDUITS  
FOR SECONDARY CIRCUITS  
REVISION DATE 1/25/95



**SINGLE TRENCH**



**SINGLE TRENCH WITH LESS THAN MINIMUM BURIAL DEPTH**



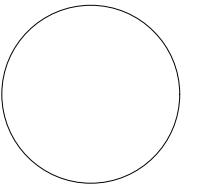
**COMBINED PRIMARY AND SECONDARY TRENCH**

CAMPGROUND ELECTRICAL SYSTEM  
STANDARD DRAWING NO TS-1  
DETAILS OF TRENCHES  
FOR SECONDARY CIRCUITS  
REVISION DATE 1/21/97

**NOTES:**

- 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.
- THE CONTRACTOR SHALL SEED AREAS DISTURBED BY TRENCHING ACTIVITY WITH AN "URBAN" OR "RURAL" SEED MIXTURE, AS SPECIFIED ON THE PLAN DRAWINGS. THE COST OF SEEDING SHALL BE CONSIDERED AS INCIDENTAL TO OTHER ITEMS OF WORK.
- TRENCHING AND BACKFILL SHALL CONFORM TO SECTION 02200, PART 3.05 OF THE TECHNICAL SPECIFICATIONS.

CONSULTANT:



IOWA DEPARTMENT OF  
NATURAL RESOURCES

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



ELECTRICAL DETAILS

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

HENRY COUNTY, IOWA

NO. BY DATE REVISION

DRAWN BY: PROJECT NUMBER:

18-06-44-01

CHK'D BY: DATE:

11/1/2017

SHEET No:

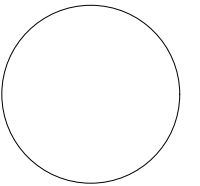
CIRCUIT SCHEDULE

CIRCUIT OR CONDUCTOR	NO. OF CAMP SITES	FACILITY OR CAMPSITE NUMBERS SERVED	TRENCH LENGTH			LENGTH OF ROAD XING CONDUIT (FT.)	LENGTH OF WARNING TAPE (FT.)	C. B. OR FUSE SIZE (AMP)	SIZE (AWG) & LENGTH (FT.) OF GR. CONDUCTOR (TYPE THW OR USE)					SIZE (AWG) & LENGTH (FT.) OF CONDUCTOR							TYPE U.F.	
			SGL.	DBL.	TRPL.				#6	#4	#2	#1/0	#3/0	TYPE U.S.E.								
														#1	#1/0	#2/0	#3/0	#4/0	250 MCM	300 MCM		1500 MCM
		EXISTING 400 AMP DISTRIBUTION PANEL #1																				
1N/1GR			225			50	225	200/2-P			325							325				
1A		NEW SHOWER BUILDING																325				
1B		(NEW SHOWER BUILDING)																325				
2N/2GR			482			50	482	200/2-P			617							188	429			
2A	8	4,3,2,1,13,14,15,16																188	429			
2B	(8)	(4,3,2,1,13,14,15,16)																188	429			
		EXISTING 600 AMP DISTRIBUTION PANEL #2																				
3N/3GR			451				451	200/2-P			556							165	391			
3A	10	23,24,25,22,21,26,20,27,19,18																165	391			
3B	(10)	(23,24,25,22,21,26,20,27,19,18)																165	391			
4N/4GR			1065			25	1065	200/2-P			1190				251	296				643		
4A	9	28,29,17,30,33,44,32,45,31													251	296				643		
4B	(9)	(28,29,17,30,33,44,32,45,31)													251	296				643		
5N/5GR			492			25	492	200/2-P			622									333	289	
5A	10	39,38,37,40,36,41,35,42,34,43																		333	289	
5B	(10)	(39,38,37,40,36,41,35,42,34,43)																		333	289	
		EXISTING 600 AMP DISTRIBUTION PANEL #3																				
6N/6GR			464			25	464	200/2-P			584									469	115	
6A	9	64,65,66,61,60,59,58,57,56																		469	115	
6B	(9)	(64,65,66,61,60,59,58,57,56)																		469	115	
7N/7GR			440			50	440	200/2-P			555				406	149						
7A	6	63,62,55,48,47,46													406	149						
7B	(6)	(63,62,55,48,47,46)													406	149						
8N/8GR		EXISTING 200 AMP SERVICE TO EXISTING SHOWER BUILDING																				
8A																						
8B																						
SUB-TOTAL	52	SECONDARY CIRCUITS	3619	-	-	225	3619	-	-	-	4449	-	-	-	-	-	1971	1830	5118	4428	-	-
SUB-TOTAL	-	MAIN CIRCUITS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	52	FOR ALL CIRCUITS	3619	-	-	225	3619	-	-	-	4449	-	-	-	-	-	1971	1830	5118	4428	-	-

GENERAL NOTES

- 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.
- 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% (6 VOLTS ON EACH 120V PHASE).
- ALL CONDUCTORS SHALL BE COPPER

CONSULTANT:



IOWA DEPARTMENT OF NATURAL RESOURCES

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



ELECTRICAL DETAILS

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

HENRY COUNTY, IOWA

NO. BY DATE REVISION

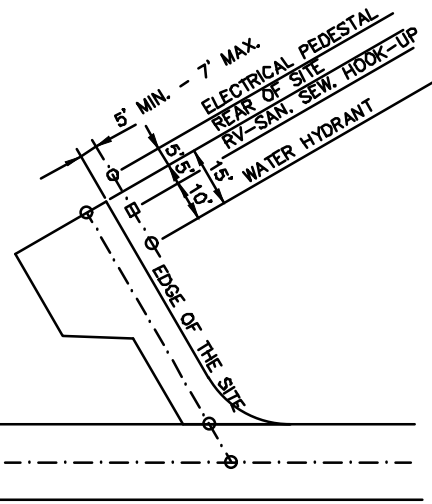
DRAWN BY: PROJECT NUMBER:

18-06-44-01

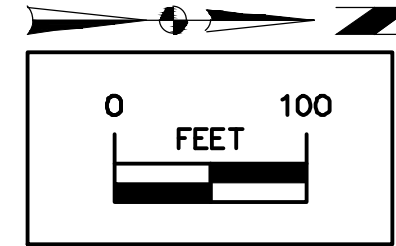
CHK'D BY: DATE:

11/1/2017

SHEET No:



SINGLE BACK-IN SITE  
UTILITY LOCATIONS-FULL HOOK UPS  
NOT TO SCALE



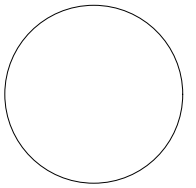
LEGEND

EXISTING/PROPOSED

- SAN 8" — SANITARY SEWER
- ST 8" — STORM SEWER
- E — ELECTRIC LINE
- W 2" — WATER MAIN
- ● MANHOLE/CLEANOUT
- ● HYDRANT
- ● 50 AMP CAMPOST
- ~ TREE LINE



CONSULTANT:



IOWA DEPARTMENT OF  
NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING  
502 E. 9TH ST., DES MOINES, IA 50319-3034



OVERALL GRADING PLAN

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

HENRY COUNTY, IOWA

NO. BY DATE REVISION

DRAWN BY: PROJECT NUMBER:

18-06-44-01

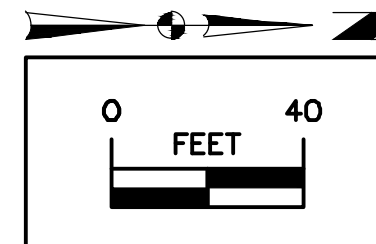
CHK'D BY: DATE:

11/1/2017

SHEET No:

28

SEE SHEETS #38, 39 & A.01  
FOR SHOWER BUILDING DETAILS.



**LEGEND**

EXISTING/PROPOSED	
— SAN 8" —	SANITARY SEWER
— ST 8" —	STORM SEWER
— E —	ELECTRIC LINE
— W 2" —	WATER MAIN
○	MANHOLE/CLEANOUT
~~~~~	TREE LINE



INSTALL ENGINEERING FABRIC (9,831 SY TOTAL)
ON TOP OF COMPACTED SUBGRADE WITH A
4-INCH DEPTH MACADAM STONE (1,917 TONS
TOTAL) AND A 2-INCH CAP LAYER OF
3/8-INCH MINUS CRUSHED LIMESTONE (1,033
TONS TOTAL) FOR EACH CAMPPAD (TYP).

INSTALL 123 SY 6-INCH NON-REINFORCED
PCC WITH 6-INCH GRANULAR SUBBASE
(38 TONS) FOR CAMPPAD #17.

CONSULTANT:

IOWA DEPARTMENT OF
NATURAL RESOURCES

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



GRADING PLAN (NORTHWEST)

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

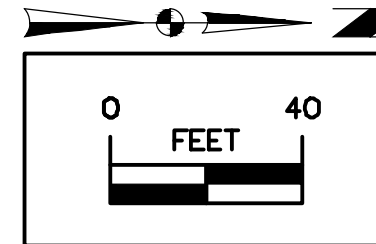
HENRY COUNTY, IOWA

NO.	BY	REVISION

DRAWN BY: PROJECT NUMBER:
18-06-44-01

CHKD BY: DATE:
11/1/2017

SHEET NO:



LEGEND
EXISTING/PROPOSED

— SAN 8" —	SANITARY SEWER
— ST 8" —	STORM SEWER
— E —	ELECTRIC LINE
— W 2" —	WATER MAIN
○ ●	MANHOLE/CLEANOUT
~~~~~	TREE LINE



INSTALL ENGINEERING FABRIC (9,831 SY TOTAL) ON TOP OF COMPACTED SUBGRADE WITH A 4-INCH DEPTH MACADAM STONE (1,917 TONS TOTAL) AND A 2-INCH CAP LAYER OF 3/8-INCH MINUS CRUSHED LIMESTONE (1,033 TONS TOTAL) FOR EACH CAMPPAD (TYP).

CONSULTANT:

IOWA DEPARTMENT OF  
NATURAL RESOURCES

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



GRADING PLAN (NORTHEAST)

CAMPGROUND UPGRADE PROJECT FOR:

**GEODE STATE PARK**

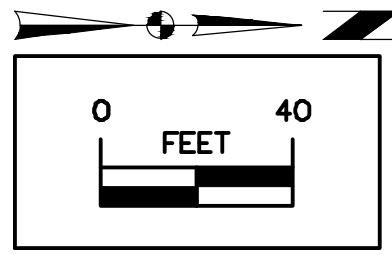
HENRY COUNTY, IOWA

NO.	BY	REVISION

DRAWN BY: PROJECT NUMBER:  
**18-06-44-01**

CHKD BY: DATE:  
11/1/2017

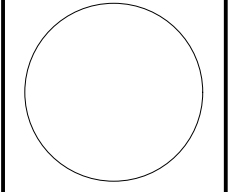
SHEET No:



**LEGEND**

EXISTING/PROPOSED		
— SAN 8"	—	SANITARY SEWER
— ST 8"	—	STORM SEWER
— E	—	ELECTRIC LINE
— W 2"	—	WATER MAIN
○	●	MANHOLE/CLEANOUT
~~~~~		TREE LINE

CONSULTANT:



IOWA DEPARTMENT OF
NATURAL RESOURCES

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



GRADING PLAN (SOUTH)

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

HENRY COUNTY, IOWA

NO. BY DATE REVISION

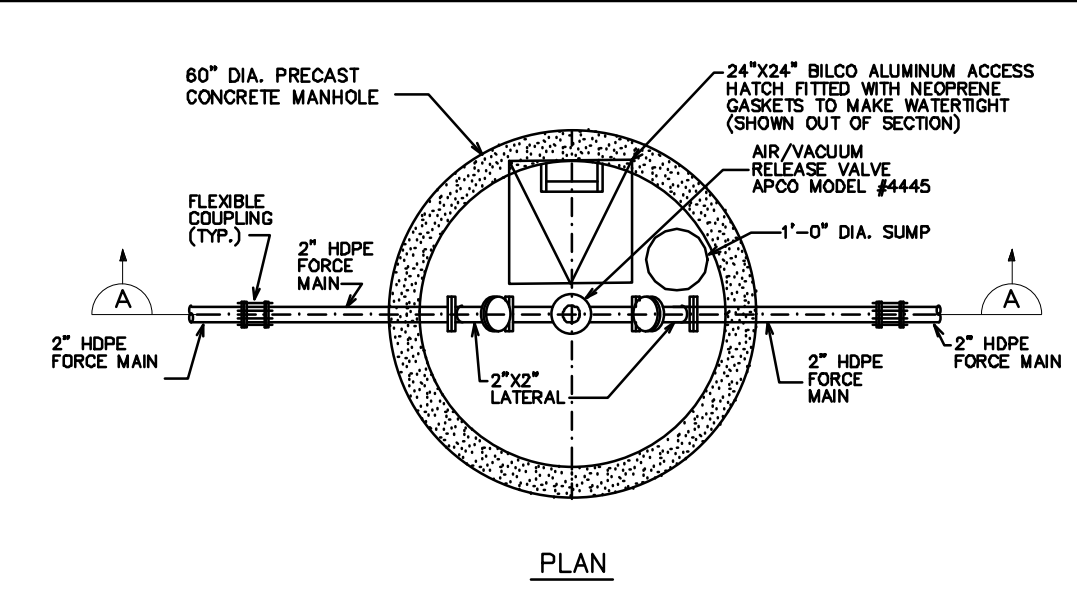
DRAWN BY: PROJECT NUMBER:
18-06-44-01

CH'D BY: DATE:
11/1/2017

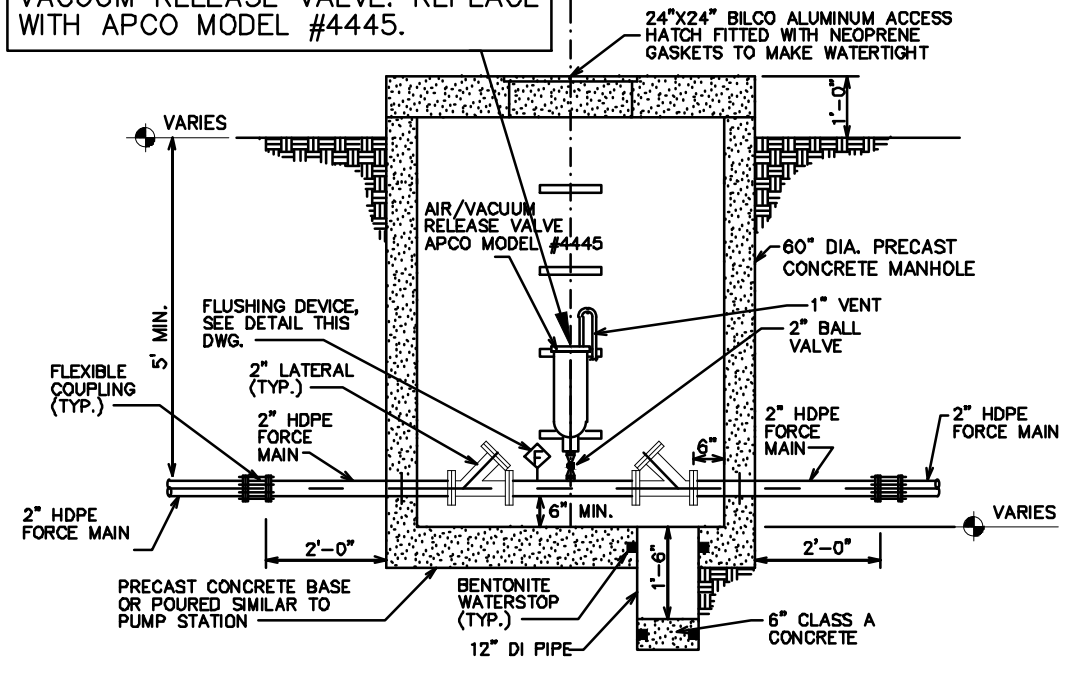
SHEET NO.:



APPROXIMATE LOCATION OF SANITARY SEWER FORCE MAIN AIR RELEASE MANHOLE. CONTRACTOR TO REPLACE THE AIR VACUUM RELEASE VALVE. REPLACE WITH APCO MODEL #4445.



CONTRACTOR TO REPLACE THE AIR VACUUM RELEASE VALVE. REPLACE WITH APCO MODEL #4445.



SECTION A
AIR RELEASE MANHOLE
 NOT TO SCALE

CONSULTANT:

IOWA DEPARTMENT OF
 NATURAL RESOURCES
 ENGINEERING SERVICES - WALLACE BUILDING
 502 E. 9TH ST., DES MOINES, IA 50319-0034



AIR RELEASE MANHOLE

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

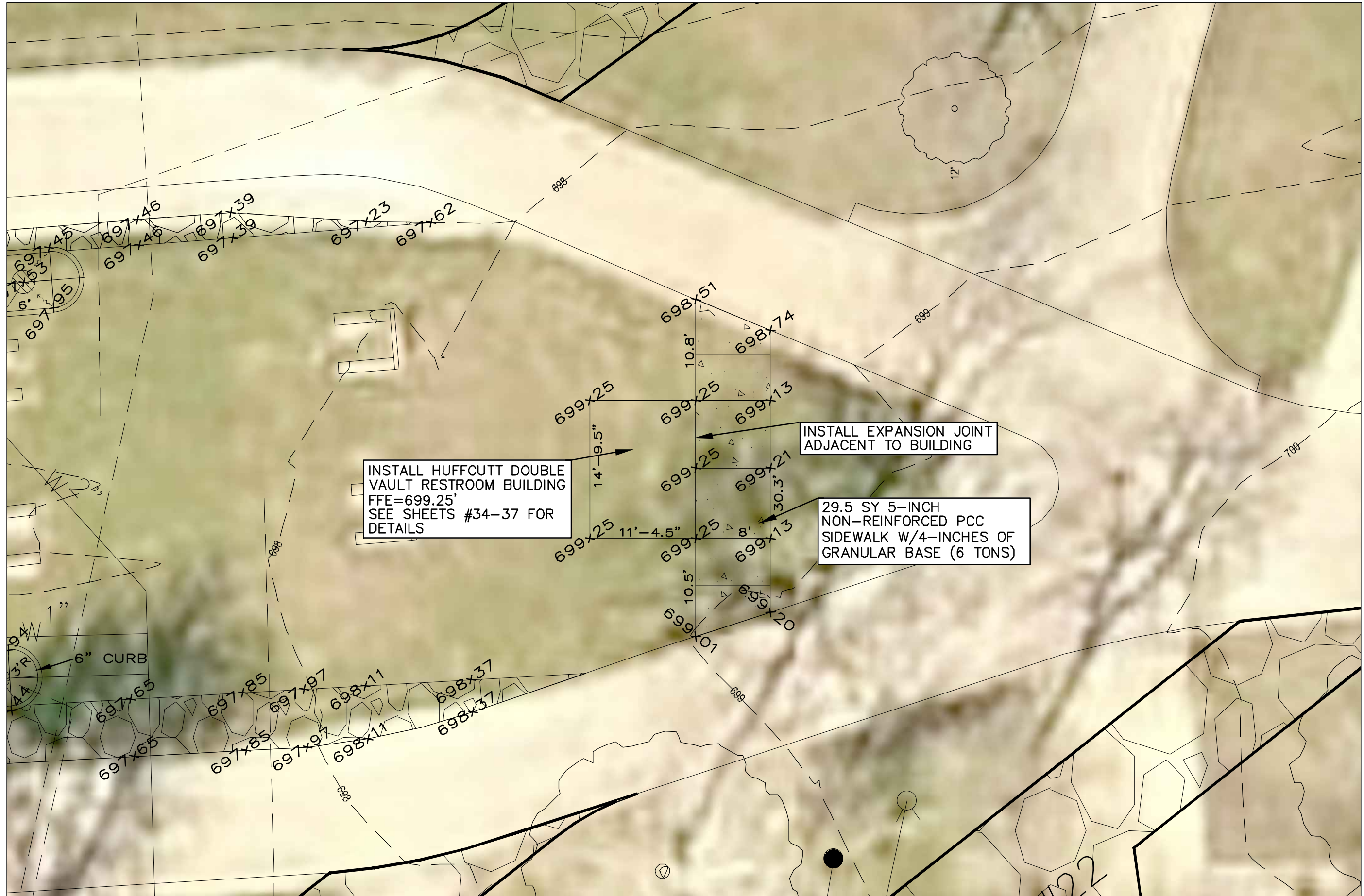
HENRY COUNTY, IOWA

NO.	BY	DATE	REVISION

DRAWN BY: PROJECT NUMBER:
18-06-44-01

CHK'D BY: DATE:
 11/1/2017

SHEET No:

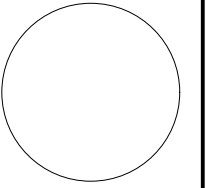


INSTALL HUFFCUTT DOUBLE
VAULT RESTROOM BUILDING
FFE=699.25'
SEE SHEETS #34-37 FOR
DETAILS

INSTALL EXPANSION JOINT
ADJACENT TO BUILDING

29.5 SY 5-INCH
NON-REINFORCED PCC
SIDEWALK W/4-INCHES OF
GRANULAR BASE (6 TONS)

CONSULTANT:



IOWA DEPARTMENT OF
NATURAL RESOURCES

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



DOUBLE VAULT RESTROOM BLDG

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

HENRY COUNTY, IOWA

NO. BY DATE REVISION

NO.	BY	DATE	REVISION

DRAWN BY: PROJECT NUMBER:

18-06-44-01

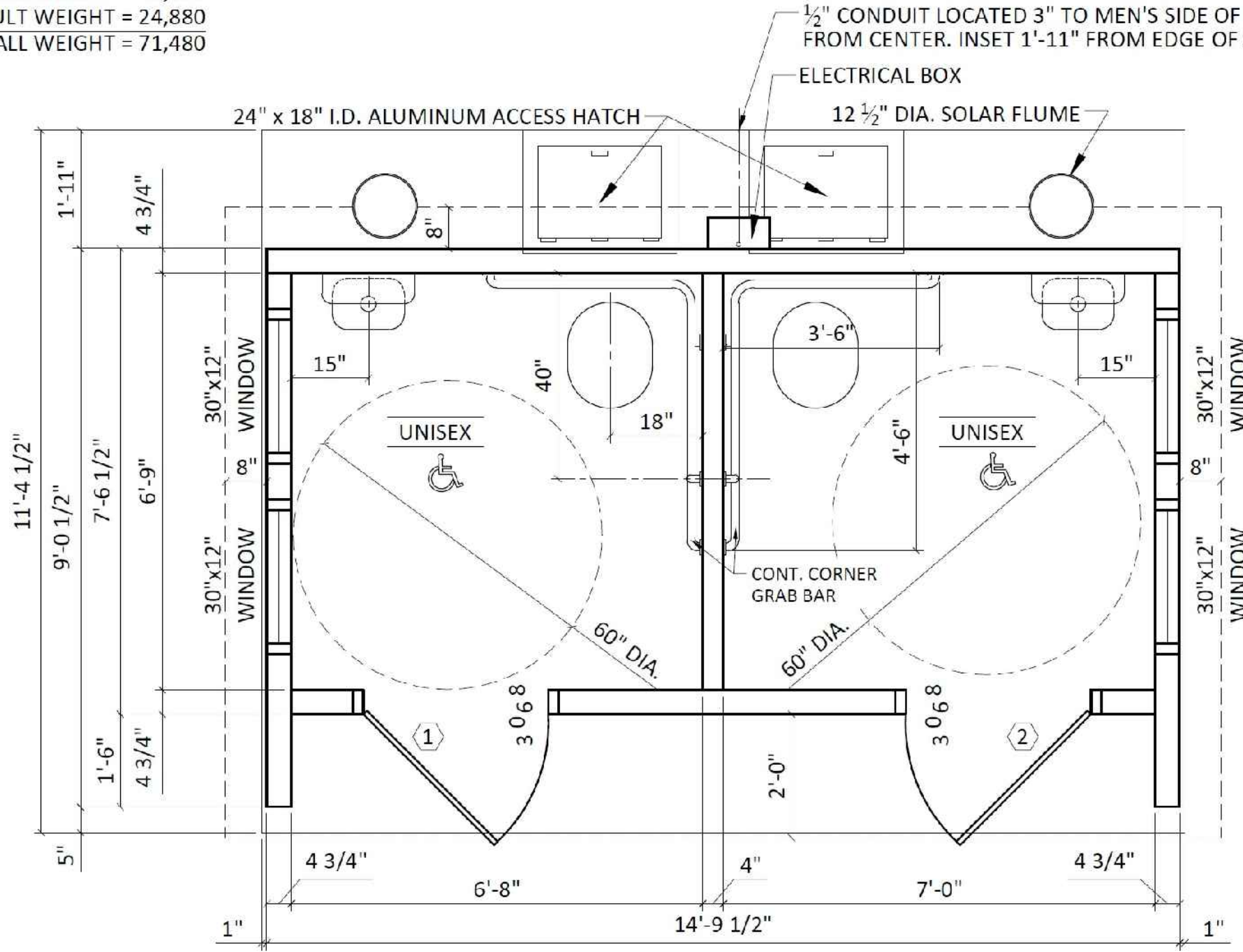
CHK'D BY: DATE:

11/1/2017

SHEET No:

BUILDING CUBIC YARDS = 11.65
 VAULT CUBIC YARDS = 6.22
 OVERALL CUBIC YARDS = 13.52

BUILDING WEIGHT = 46,600
 VAULT WEIGHT = 24,880
 OVERALL WEIGHT = 71,480



1 FLOOR PLAN

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



PRELIMINARY DRAWINGS	
SUBMITTAL DRAWINGS	
CHECK SET	
PRODUCTION DRAWINGS	
PROJECT DELIVERY DATE	

THIS DRAWING SHALL NOT BE COPIED OR SUBMITTED TO OTHERS WITHOUT THE CONSENT OF THIS COMPANY.

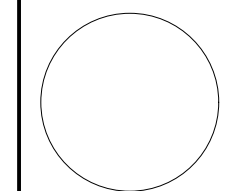
4154 123rd STREET
 CHIPPEWA FALLS, WI 54729
 (715) 723-7446 * (800) 924-1516
 FAX (715) 723-7111 * www.huffcutt.com

HUFFCUTT CONCRETE, INC.
 N.P.C.A. CERTIFIED PLANT

PROJECT:
IOWA WOOD DUCK
16-XXXX

1 of 20

CONSULTANT:



IOWA DEPARTMENT OF
 NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
 502 E. 9TH ST., DES MOINES, IA 50319-3034



DOUBLE VAULT RESTROOM BLDG

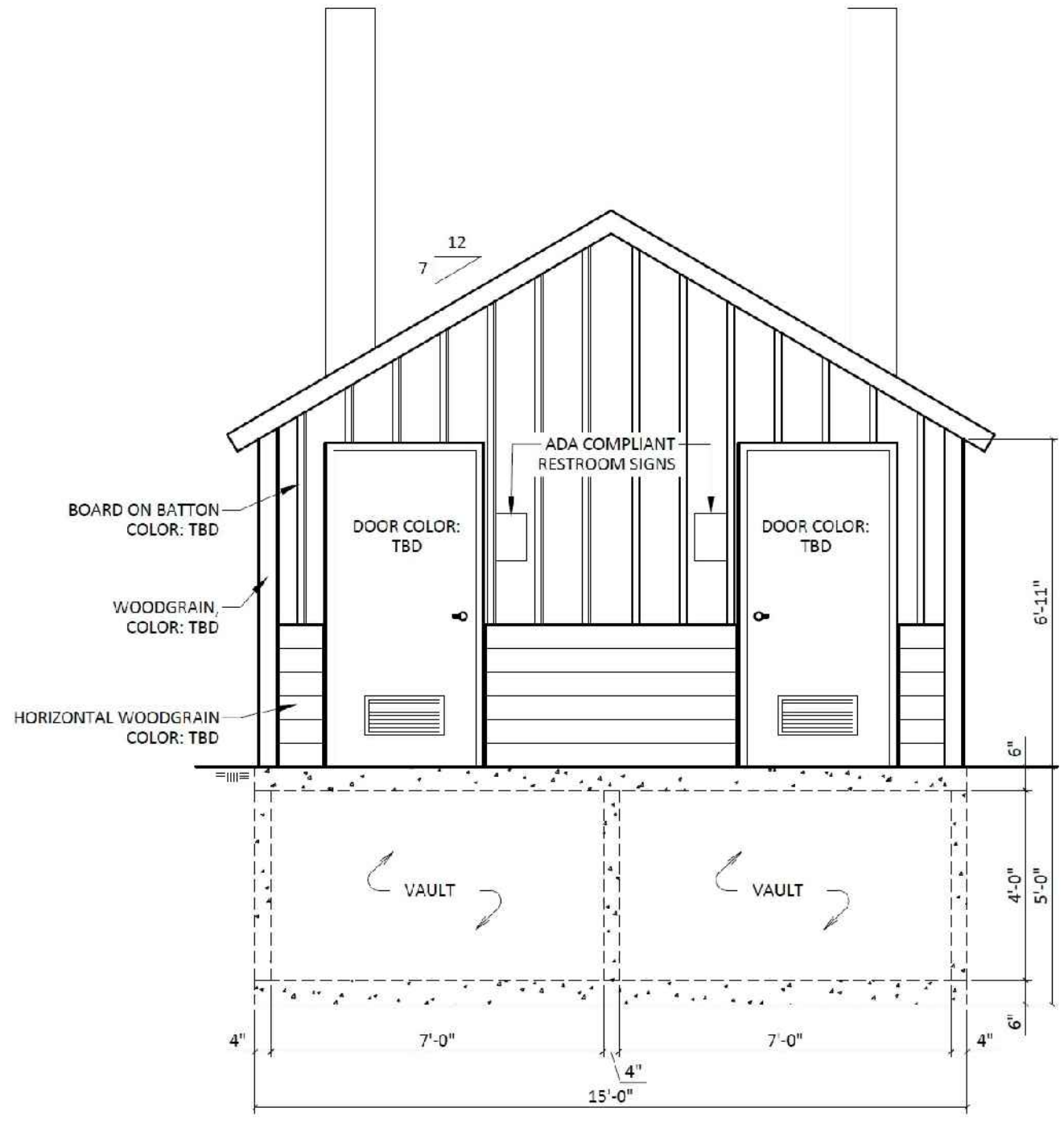
CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

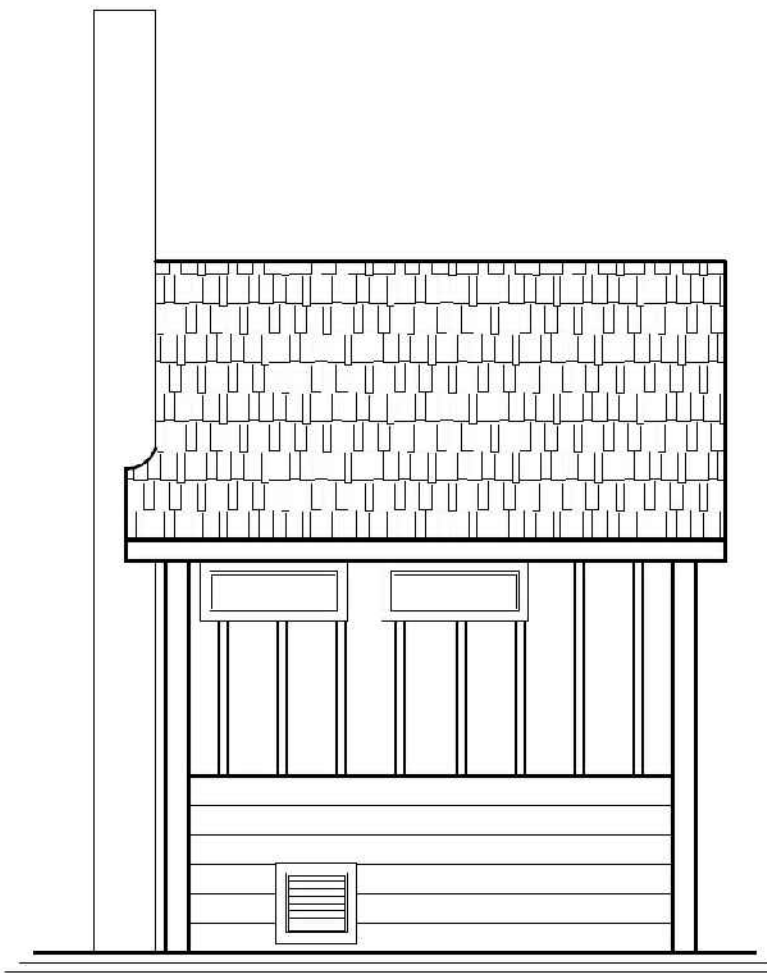
HENRY COUNTY, IOWA

NO.	BY	DATE	REVISION

DRAWN BY: PROJECT NUMBER: **18-06-44-01**
 CH'D BY: DATE: 11/1/2017
 SHEET No:



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



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



PRELIMINARY DRAWINGS	03/09/17
SUBMITTAL DRAWINGS	
CHECK SET	
PRODUCTION DRAWINGS	
PROJECT DELIVERY DATE	

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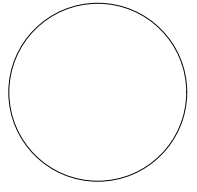
41.54 123rd STREET
CHIPPEWA FALLS, WI 54729
(715) 723-7446 * (800) 924-1516
FAX (715) 723-7111 * www.huffcutt.com



PROJECT:
IOWA WOOD DUCK
16-XXXX

3 OF 20

CONSULTANT:



IOWA DEPARTMENT OF
NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-3034



DOUBLE VAULT RESTROOM BLDG

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

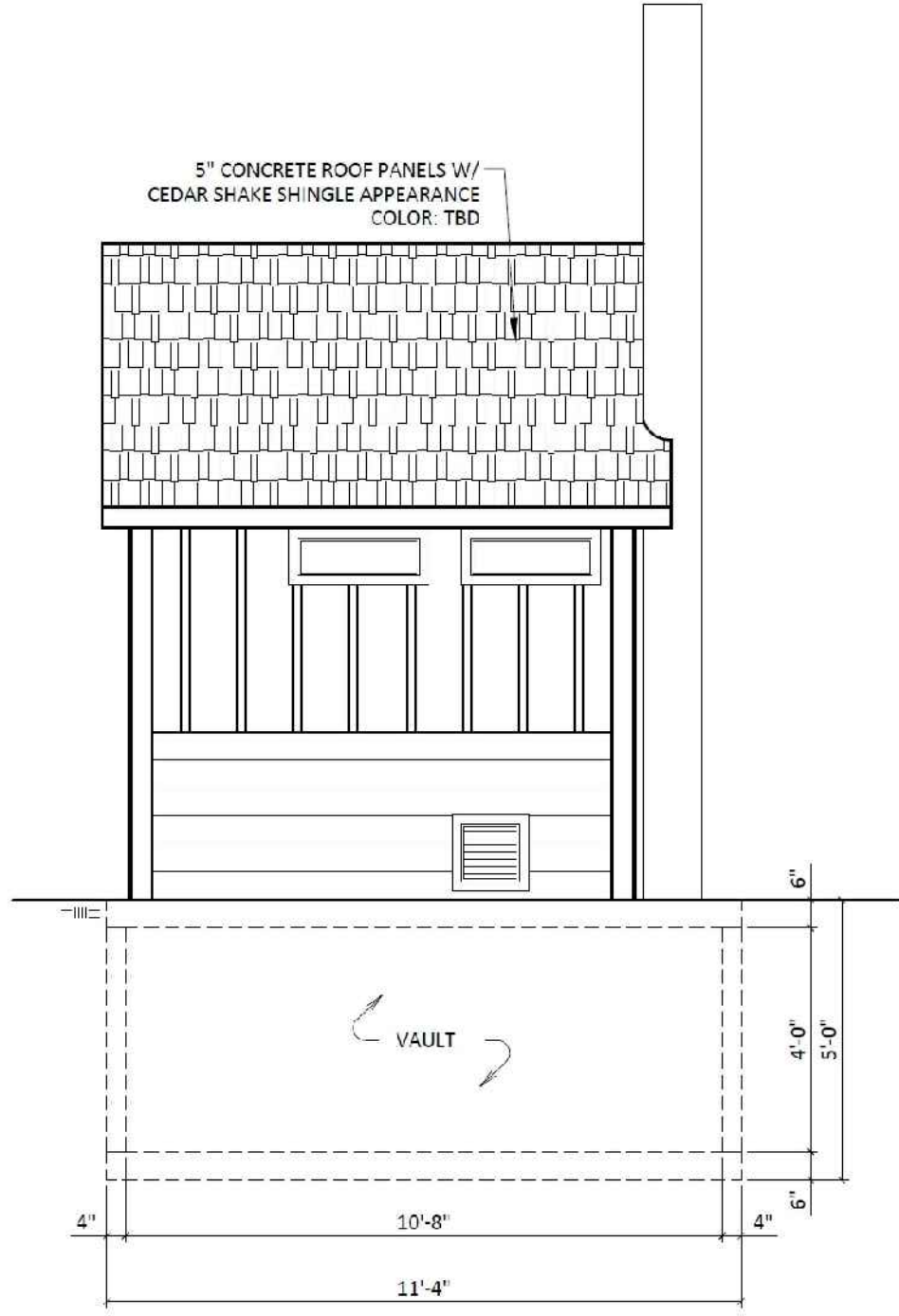
HENRY COUNTY, IOWA

NO.	BY	DATE	REVISION

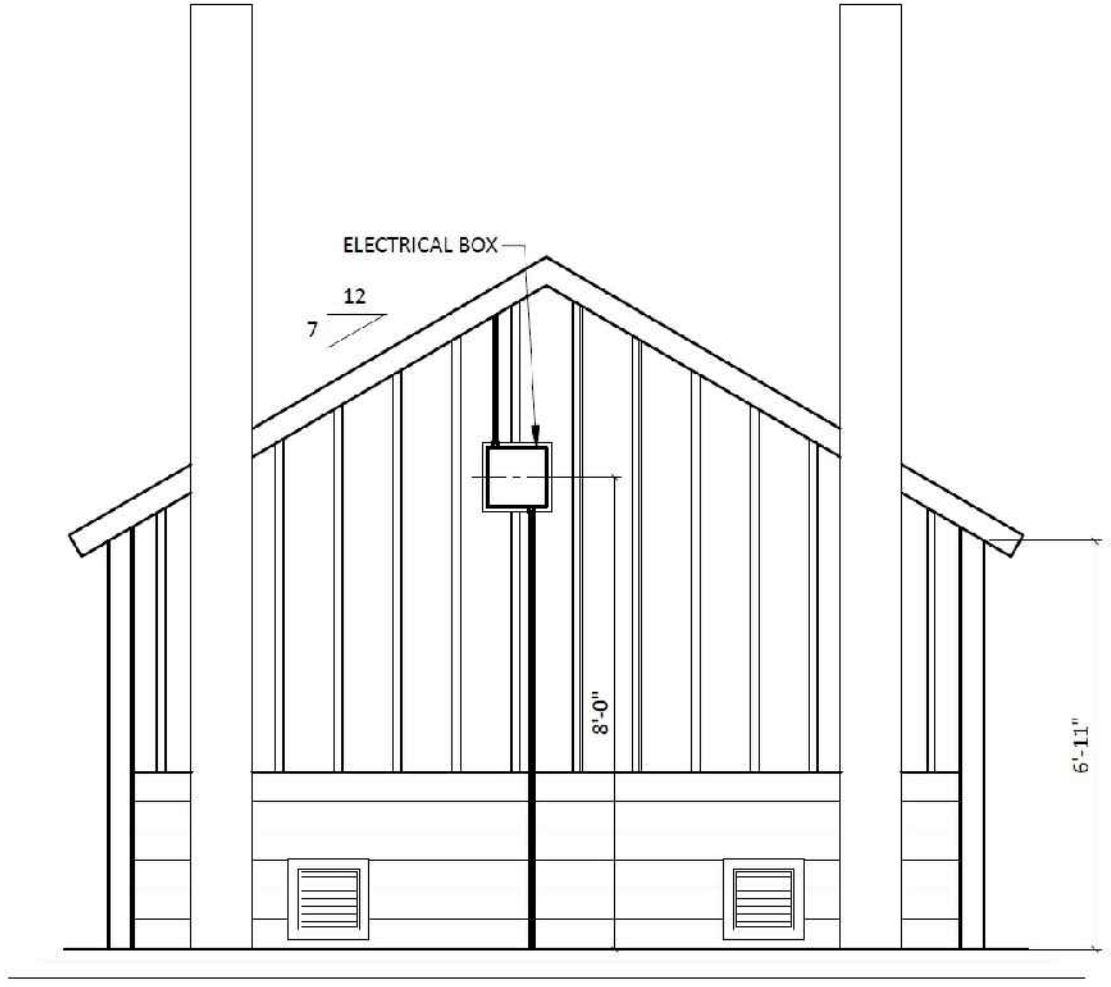
DRAWN BY: PROJECT NUMBER:
16-06-44-01

CHK'D BY: DATE:
11/1/2017

SHEET No:



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



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



PRELIMINARY DRAWINGS	03/09/17
SUBMITTAL DRAWINGS	
CHECK SET	
PRODUCTION DRAWINGS	
PROJECT DELIVERY DATE	

THIS DRAWING SHALL NOT BE COPIED OR SUBMITTED TO OTHERS WITHOUT THE CONSENT OF THIS COMPANY.

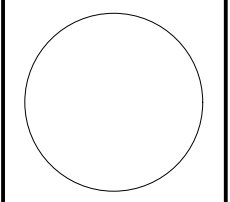
HUFFCUTT
concrete, inc
N.P.C.A. CERTIFIED PLANT

PROJECT:
IOWA WOOD DUCK
16-XXXX

4 OF 20

4 OF 20

CONSULTANT:



IOWA DEPARTMENT OF
NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-3034

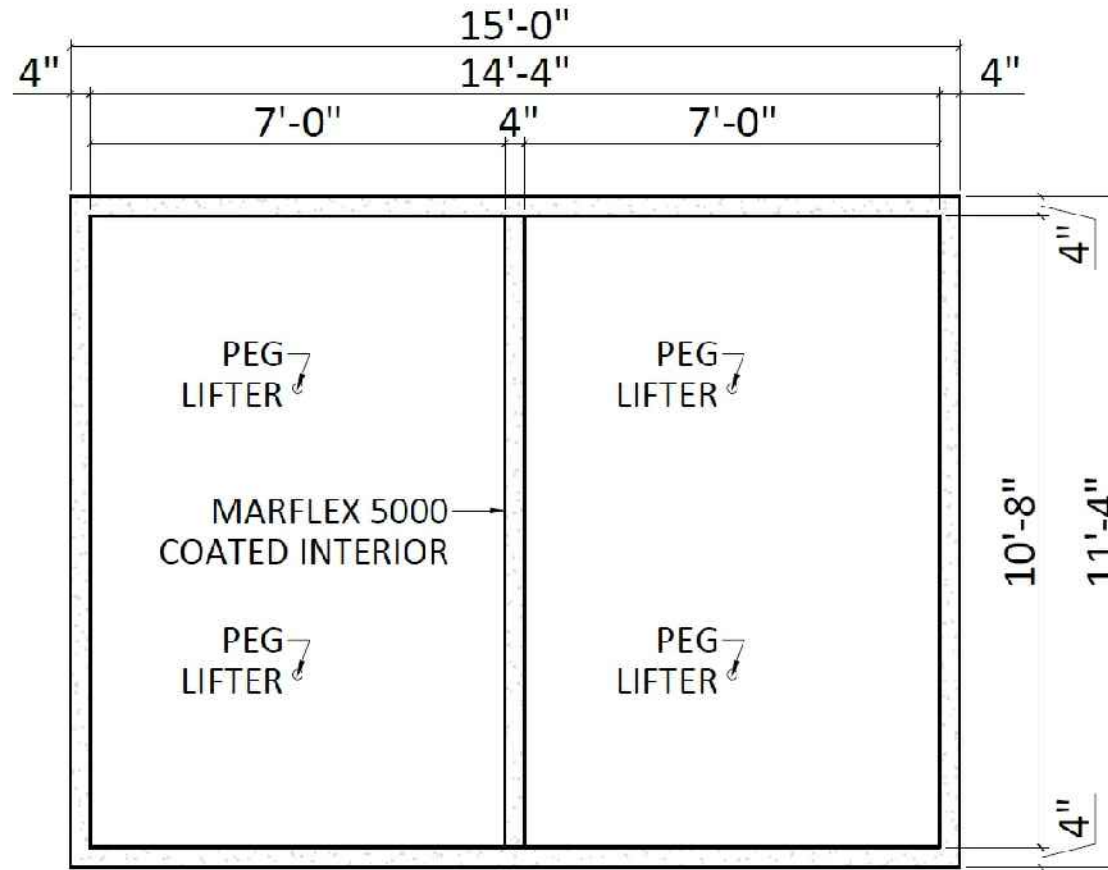


DOUBLE VAULT RESTROOM BLDG
CAMPGROUND UPGRADE PROJECT FOR:
GEODE STATE PARK
HENRY COUNTY, IOWA

NO.	BY	DATE	REVISION

DRAWN BY: PROJECT NUMBER: **16-06-44-01**
CHK'D BY: DATE: 11/1/2017
SHEET No:

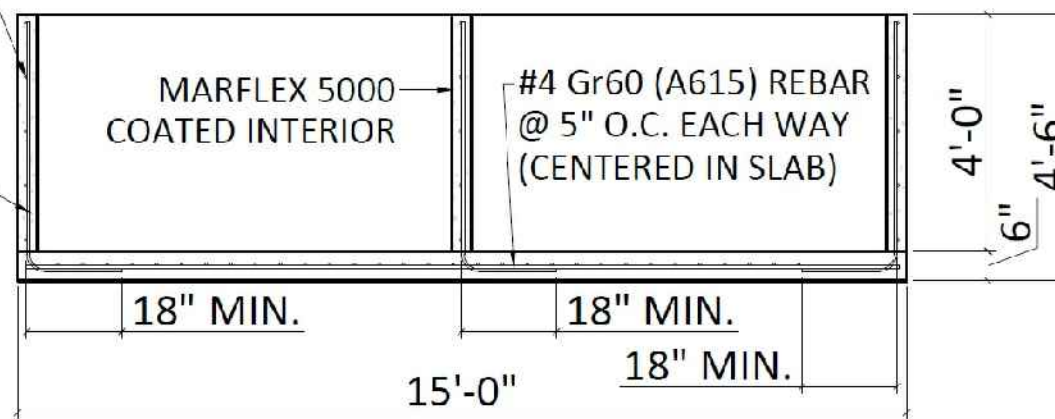
USE GRADE 60 (A615) REBAR
 $H = \pm 1"$ $V = \pm \frac{1}{2}"$
 CONC. = 5,000 PSI @ 28 DAYS



1 VAULT PLAN VIEW
 SCALE: 1/4" = 1'-0"

#4 Gr60 (A615) HORIZ. REBAR @ 12" O.C. (LAP DISTANCE = 24" MIN. WHERE REQUIRED) TIE TO VERTICAL BARS.

#4 Gr60 (A615) VERTICAL REBAR @ 6" O.C. (CENTER IN WALL) W/ 18" MIN. HOOK IN BOTTOM SLAB (1 1/2" CLEAR FROM SLAB BOTTOM)



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

VAULT FLOOR CUBIC YARD = 3.15
 VAULT FLOOR WEIGHT = 12,600 LBS

VAULT WALLS CUBIC YARD = 3.07
 VAULT WALLS WEIGHT = 12,280 LBS

VAULT CUBIC YARD = 6.22
 VAULT WEIGHT = 24,880 LBS



PRELIMINARY DRAWINGS	03/09/17
SUBMITTAL DRAWINGS	
CHECK SET	
PRODUCTION DRAWINGS	
PROJECT DELIVERY DATE	

THIS DRAWING SHALL NOT BE COPIED OR SUBMITTED TO OTHERS WITHOUT THE CONSENT OF THIS COMPANY.

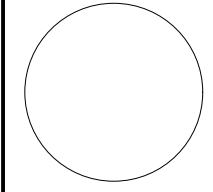
4154 123rd STREET
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HUFFCUTT CONCRETE, INC.
 N.P.C.A. CERTIFIED PLANT

PROJECT:
IOWA WOOD DUCK
16-XXXX

5 of 20

CONSULTANT:



IOWA DEPARTMENT OF
 NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
 502 E. 9TH ST., DES MOINES, IA 50319-3034



DOUBLE VAULT RESTROOM BLDG

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

HENRY COUNTY, IOWA

NO. BY DATE REVISION

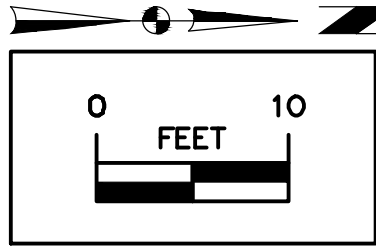
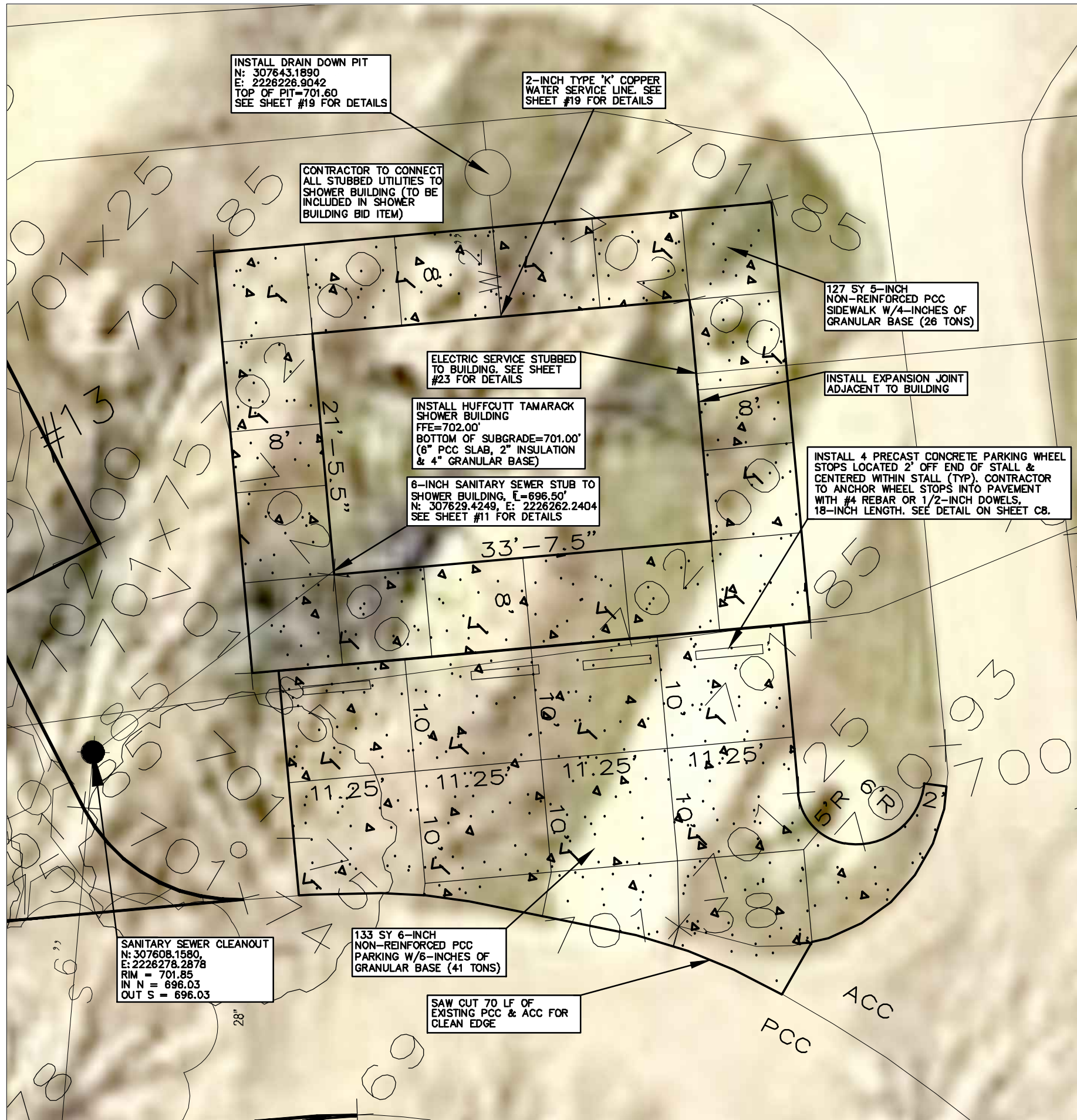
DRAWN BY: PROJECT NUMBER:

16-06-44-01

CHK'D BY: DATE:

11/1/2017

SHEET No:

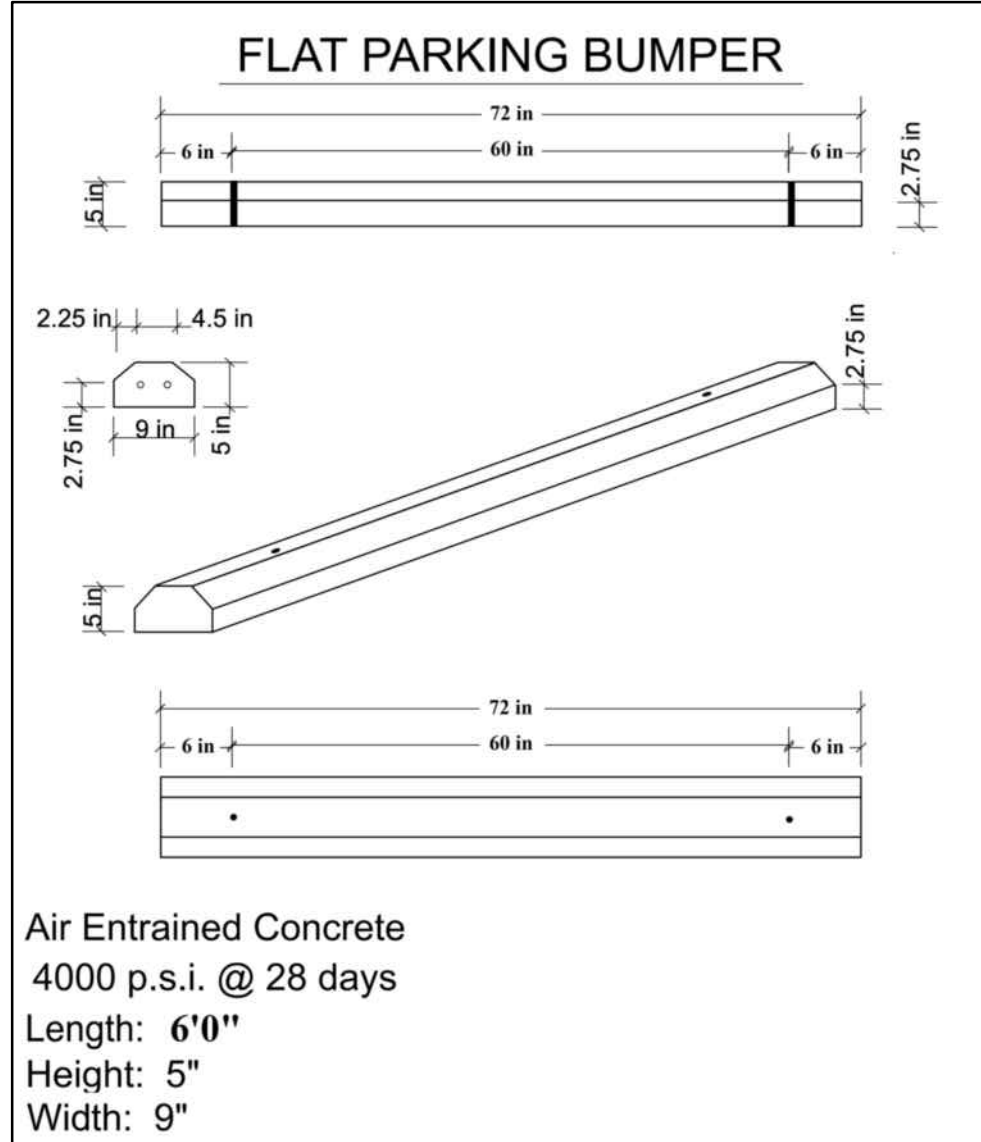


LEGEND
EXISTING/PROPOSED

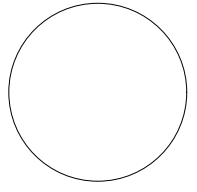
— SAN 8" —	SANITARY SEWER
— ST 8" —	STORM SEWER
— E —	ELECTRIC LINE
— W 2" —	WATER MAIN
○	MANHOLE/CLEANOUT
~~~~~	TREE LINE

SEE SHEET #39 FOR PARKING STALL DIMENSIONS, PAVEMENT MARKINGS & HANDICAP STALL DETAILS

SEE SHEET #A.01 FOR TAMARACK FLOOR PLAN. MORE DETAILED PLANS ARE AVAILABLE IF WANTED.



CONSULTANT:



IOWA DEPARTMENT OF  
NATURAL RESOURCES  
ENGINEERING SERVICES - WALLACE BUILDING  
502 E. 9TH ST., DES MOINES, IA 50319-0034

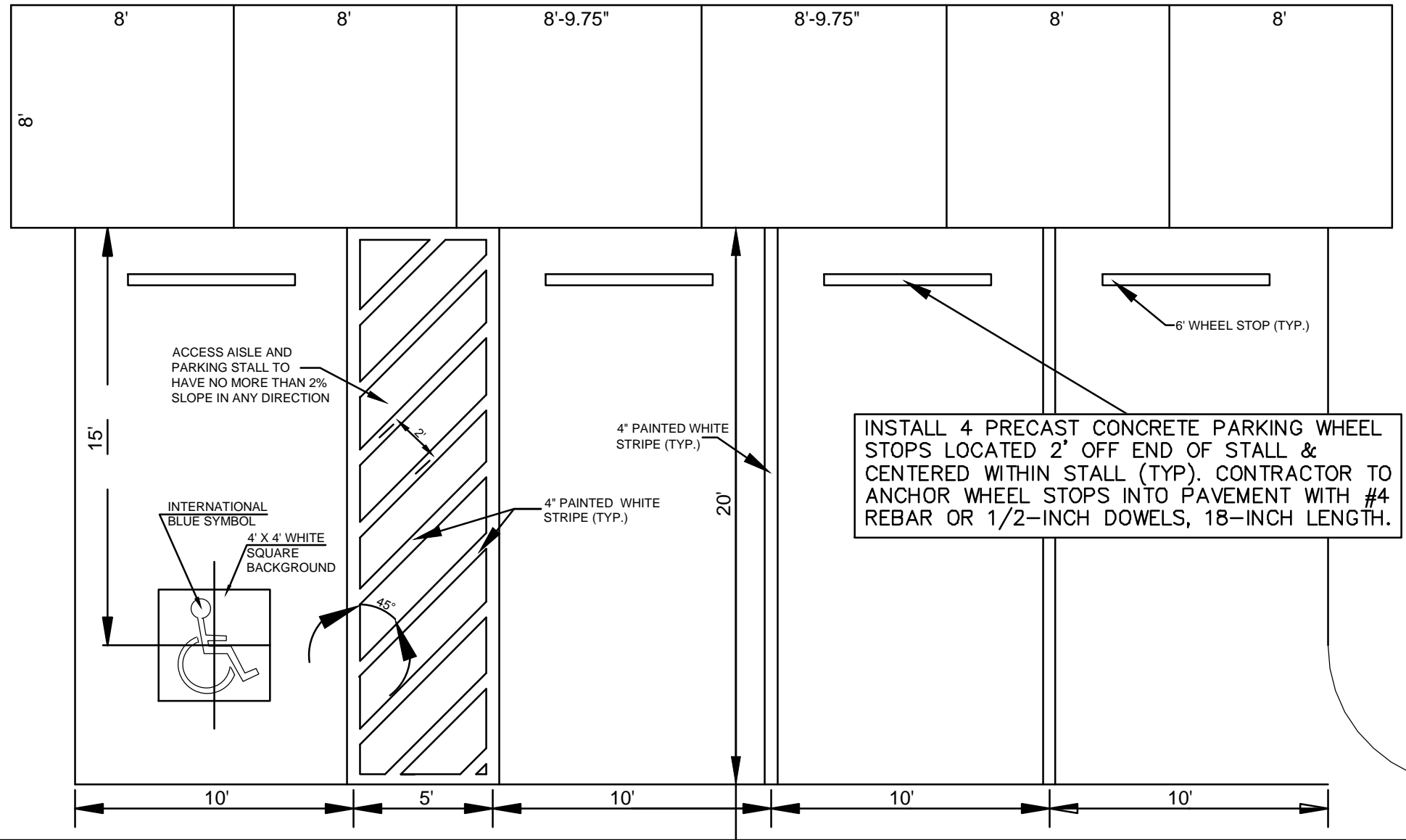


SHOWER BUILDING SITE PLAN  
CAMPGROUND UPGRADE PROJECT FOR:  
**GEODE STATE PARK**  
HENRY COUNTY, IOWA

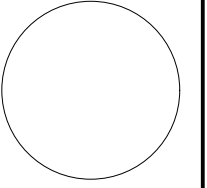
NO.	BY	DATE	REVISION

DRAWN BY: PROJECT NUMBER: **18-06-44-01**  
CHK'D BY: DATE: 11/1/2017  
SHEET No:

PAVEMENT MARKINGS FOR PARKING STALLS  
DETAIL  
NOT TO SCALE



CONSULTANT:



IOWA DEPARTMENT OF  
NATURAL RESOURCES

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



SHOWER BUILDING PARKING DETAILS

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

HENRY COUNTY, IOWA

NO. BY DATE REVISION

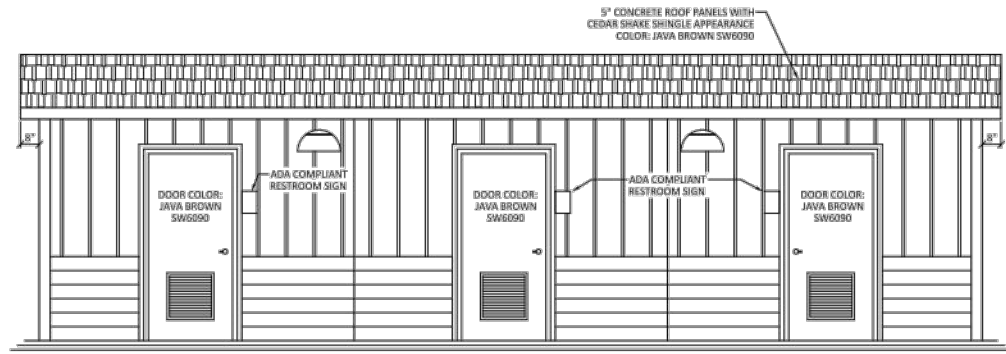
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18-06-44-01

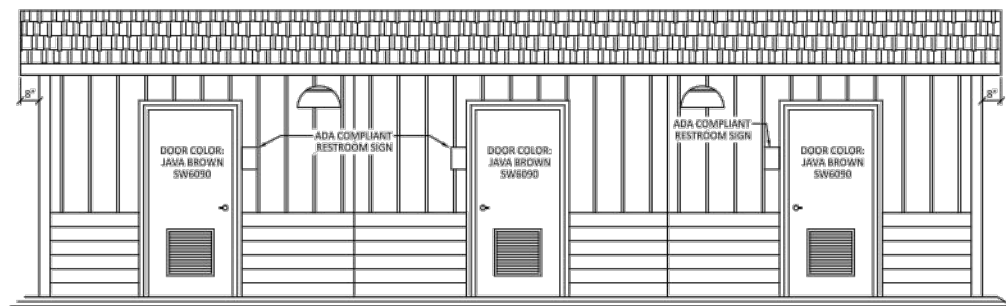
CHK'D BY: DATE:

11/1/2017

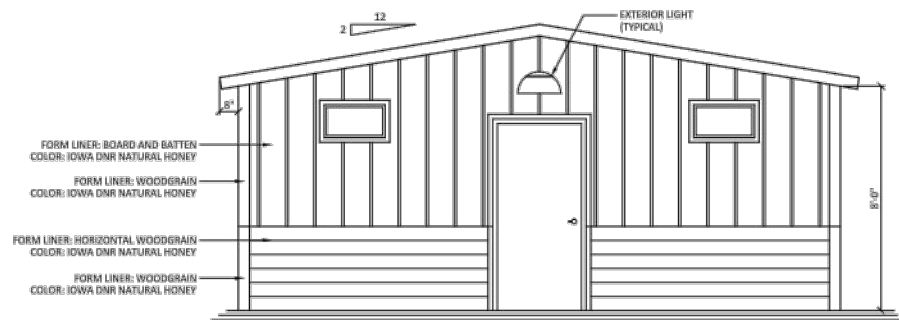
SHEET No:



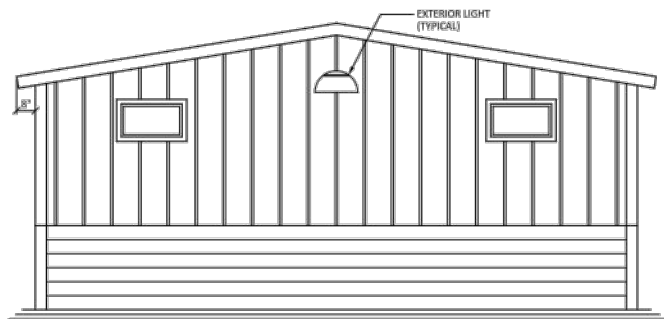
1 FRONT ELEVATION



2 REAR ELEVATION

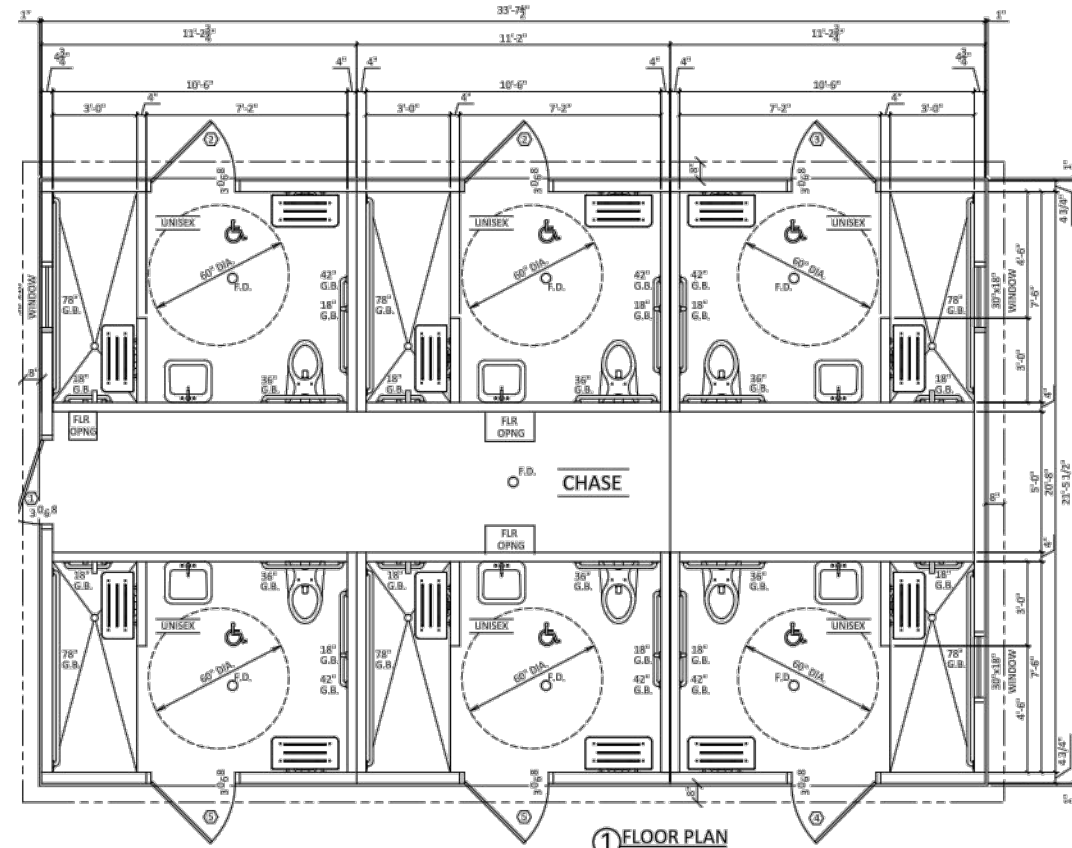


1 LEFT ELEVATION



2 RIGHT ELEVATION

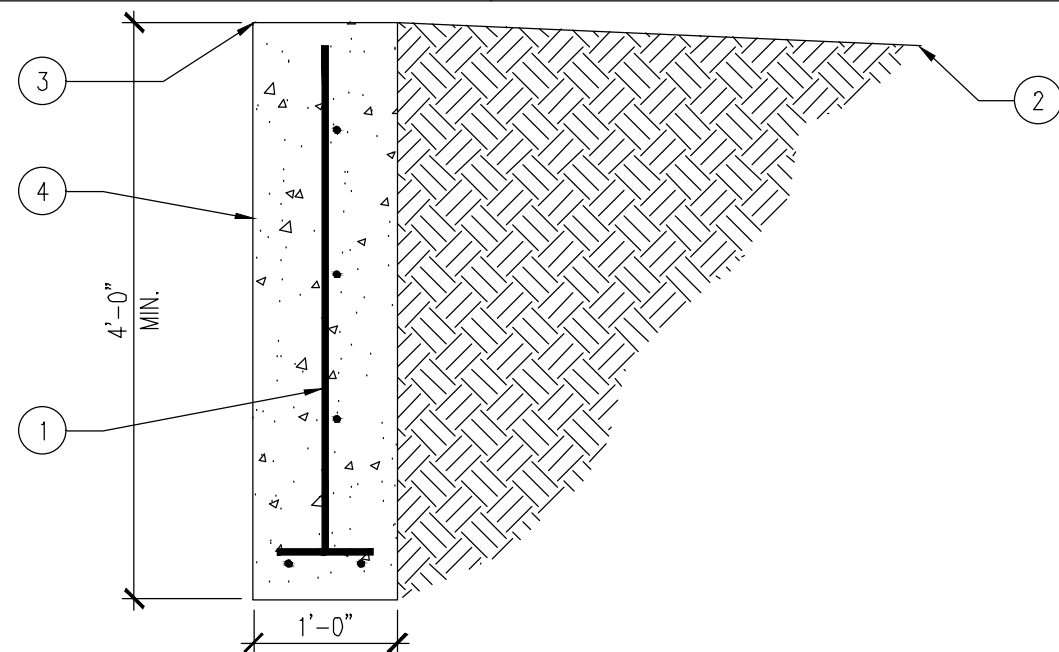
IOWA STANDARD 6-HOLE FAMILY STYLE SHOWER



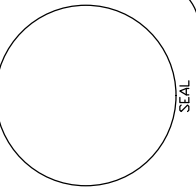
1 FLOOR PLAN

FOOTING KEYNOTES

- #4 REBAR 12" O.C. BOTH DIRECTIONS WITH 2 #4 REBAR RUNNING CONTINUOUS AT THE BASE OF FOOTING.
  - GRADE, RESLOPE AWAY FROM BUILDING.
  - FORM TOP 6" OF FOUNDATION TO MAKE A CLEAN EXTERIOR EDGE.
  - 12" X 48" DEEP, CONCRETE TRENCH FOOTING. ENTIRE BUILDING PERIMETER AND AT ALL PRECAST WALLS WHERE UNITS CONNECT.
- *FOOTING TO BE PLACED AROUND ENTIRE PERIMETER OF RESTROOM AND BETWEEN ALL MODULES.



01 DETAIL - FOUNDATION DESIGN  
SCALE: 3/4" = 1'-0"



IOWA DEPARTMENT OF  
NATURAL RESOURCES  
ENGINEERING SERVICES - WALLACE BUILDING  
502 E. 9TH ST., DES MOINES, IA 50319-0034  
P: 515.725.8200  
F: 515.725.8202



CAMPGROUND UPGRADE FOR:  
GEODE STATE PARK

DANVILLE, IA 52623

3333 RACINE AVE.

DRAWN BY: PROJECT NUMBER  
18-06-44-04  
CHK'D BY: DATE  
10.25.2017  
SHEET NO:

A.01



ESTIMATED PROJECT QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL
1	3/4" Crushed Stone	Tons	141
2	Binder Bitumen	Gallons	3,761
3	Traffic Control	Lump Sum	1
4	Mobilization	Lump Sum	1

ESTIMATE REFERENCE INFORMATION

ITEM NO.	DESCRIPTION
3	A. Traffic control shall consist of placing two Class III barriers at the entrance of the campground.

GENERAL NOTES

Verify actual locations and elevations with DNR Engineer.

All work shall conform to and be performed in accordance with all applicable codes and ordinances.

The contractor shall visit the site and inspect the project area and thoroughly familiarize themselves with the actual job conditions prior to bidding and the start of work. Failure to visit the project site shall not relieve the contractor from performing the work in accordance to the plans, specification, special provisions and contract.

The contractor shall verify, at the site, all dimensions and conditions shown on the plans and shall notify the DNR Engineer of any discrepancies, omissions, and/or conflicts prior to proceeding with the work.

It shall be the contractor's responsibility to provide waste areas or disposal sites for excess material (excavated material or broken concrete) which is not desirable to be incorporated into the work involved on this project. No payment for overhaul will be allowed for material hauled to these sites. No material shall be placed within the right-of-way, unless specifically stated in the plans or approved by the DNR Engineer.

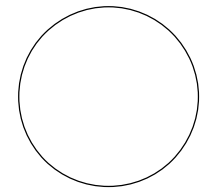
The contractor shall not disturb desirable grass areas and desirable trees outside the construction limits. The contractor will not be permitted to park or service vehicles and equipment or use these areas for storage of materials. Storage, parking and service areas will be subject to the approval of the DNR Engineer.

Where utilities and fixtures are shown as Existing on the plans or encountered within the construction area, it shall be the responsibility of the contractor to notify the DNR Engineer of those utilities prior to the beginning of any construction. The contractor shall be afforded access to these facilities for necessary modification of services. Underground facilities, structures and utilities have been plotted from available surveys and records and therefore their locations must be considered approximate only. It is possible there may be others, the existence of which is presently not known or shown. It is the contractor's responsibility to determine their existence and exact location and to avoid damage thereto. No claims for additional compensation will be allowed to the contractor for any interference or delay caused by such work.

The contractor shall shape graded area to maintain surface drainage. All elevations are to finish grade.

The contractor is expected to have materials, equipment, and labor available on a daily basis to install and maintain erosion control features on the project. This may involve seeding, silt fence, rock ditch checks, silt basins or silt dikes.

CONSULTANT:



**IOWA DEPARTMENT OF NATURAL RESOURCES**  
 ENGINEERING SERVICES - WALLACE BUILDING  
 502 E. 9TH ST., DES MOINES, IA 50319-0034

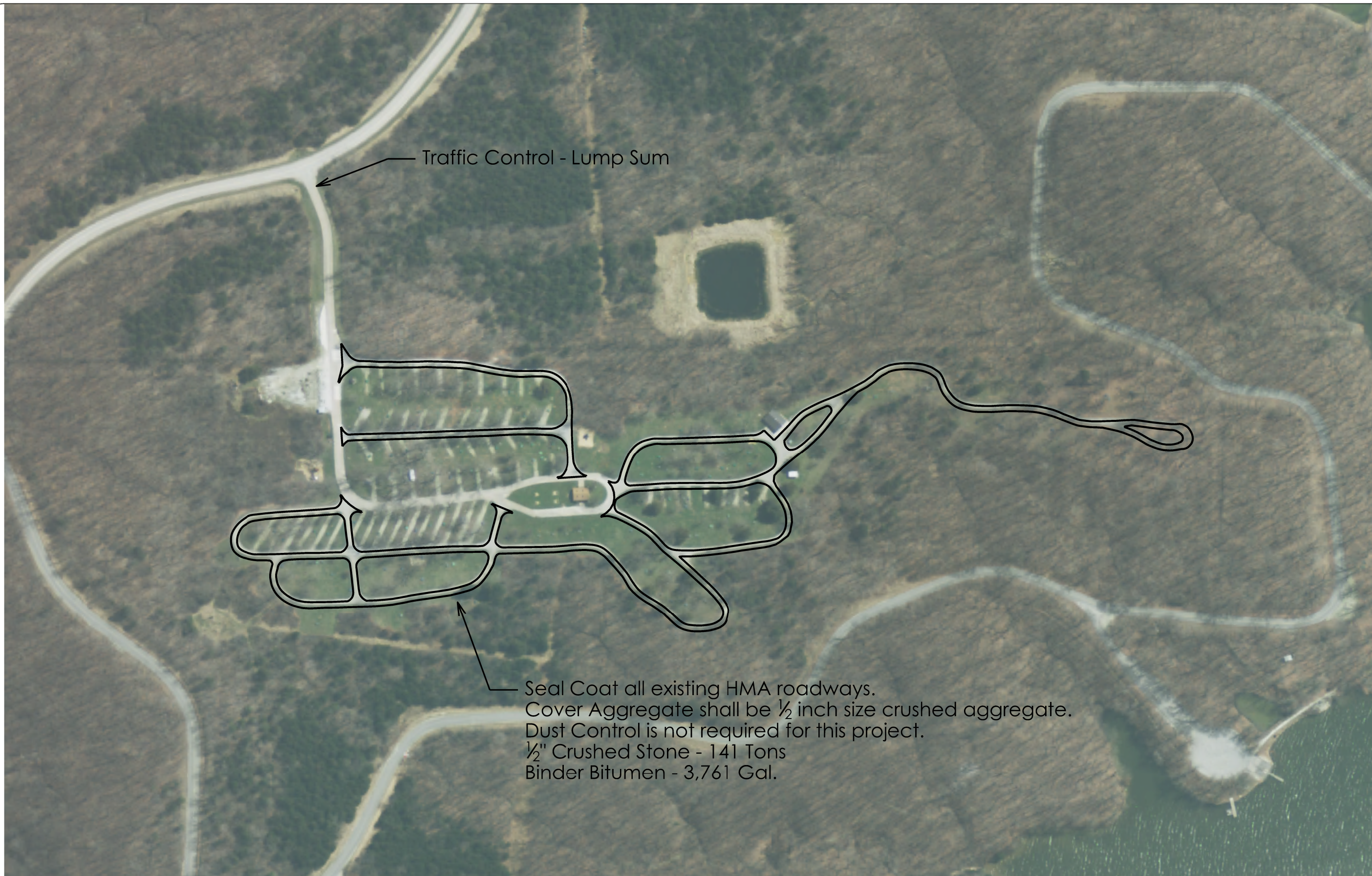


QUANTITIES AND GENERAL INFORMATION

CAMPGROUND RENOVATION FOR:  
**GEODE STATE PARK**  
 HENRY COUNTY

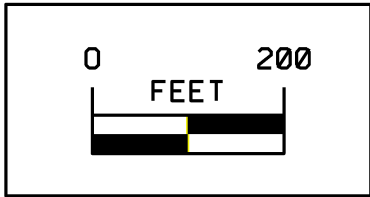
NO.	BY	REVISION

DRAWN BY:	PROJECT NUMBER:
CHK'D BY:	DATE:
SHEET NO.:	

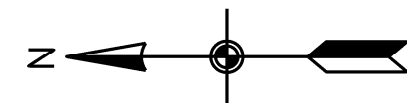


Traffic Control - Lump Sum

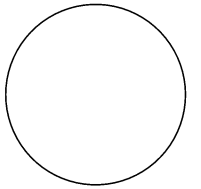
Seal Coat all existing HMA roadways.  
 Cover Aggregate shall be 1/2 inch size crushed aggregate.  
 Dust Control is not required for this project.  
 1/2" Crushed Stone - 141 Tons  
 Binder Bitumen - 3,761 Gal.



Note:  
 The campground will be closed to the public during construction



CONSULTANT:



IOWA DEPARTMENT OF  
 NATURAL RESOURCES

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



SITE PLAN

CAMPGROUND RENOVATION FOR:  
 GEODE STATE PARK

HENRY COUNTY

NO.	BY	REVISION

DRAWN BY: PROJECT NUMBER:  
 DNR - 18-06-44-04  
 DOT - SP-616-0(13)-7C-44

CHK'D BY: DATE:

SHEET No:

**D.01**