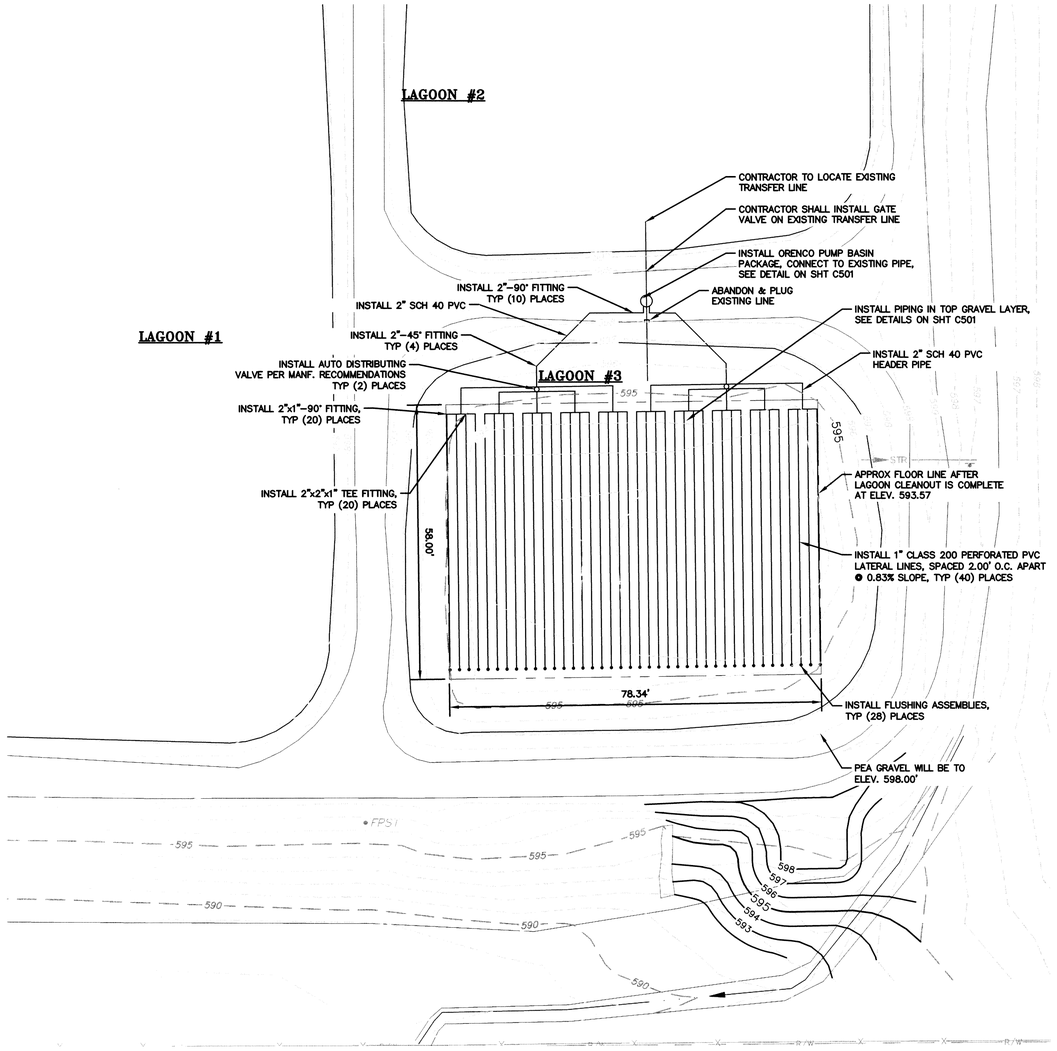


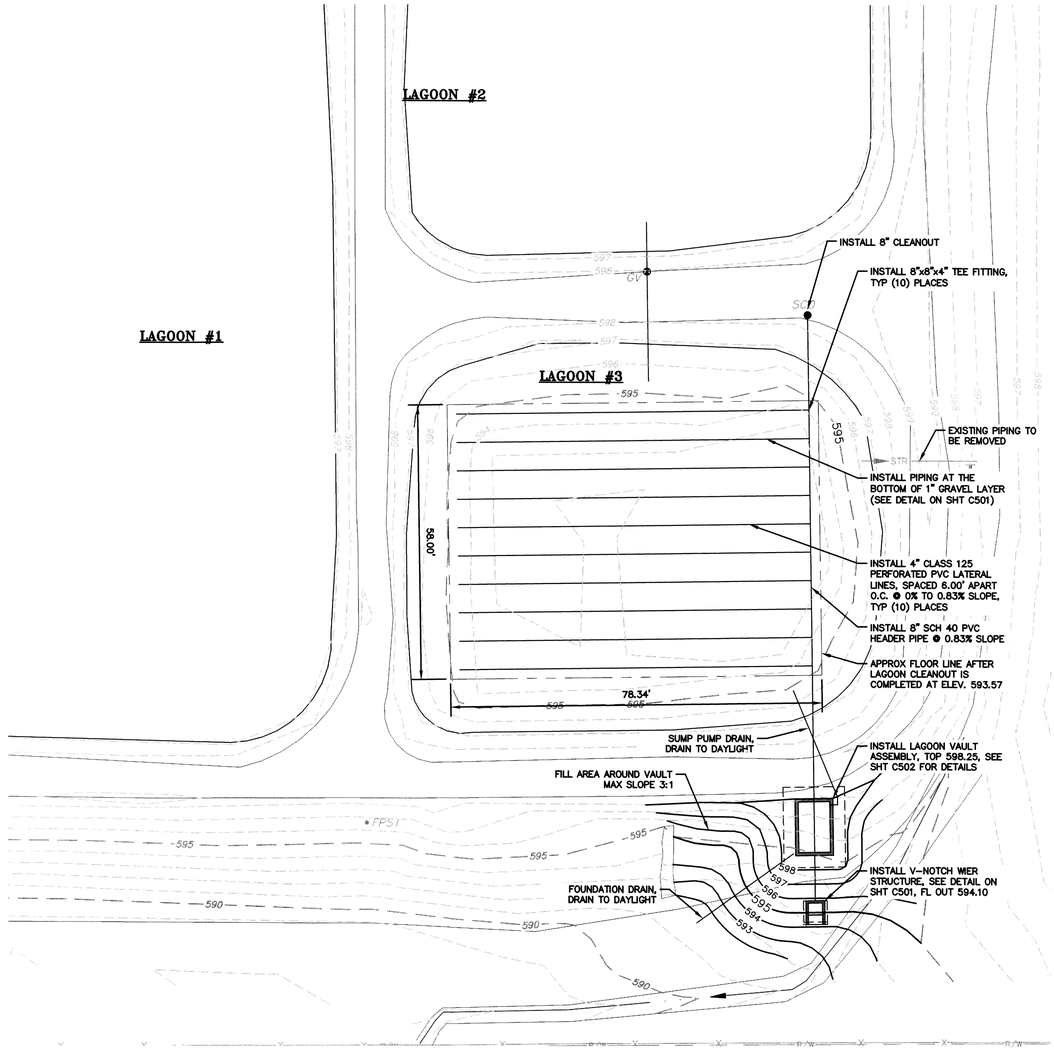
DISTRIBUTION PIPING PLAN

NORTH

SCALE: 1"=16'

16 8 0 16

NOTES:
1. SEE SHT C501 AND C502 FOR DETAILS.
2. NEW DISTRIBUTION LATERALS SHALL BE ORENCO MODEL LP-150-24 OR APPROVED EQUAL. IT SHALL BE 1" PRE-DRILLED CLASS 200 PIPE WITH $\frac{3}{8}$" ORIFICES ON 24" CENTERS, WITH A COUPLING ON ONE END.
3. EACH ORIFICE SHALL BE COVERED WITH A STANDARD ORENCO (OR APPROVED EQUAL) ORIFICE SHIELD.
4. A FLUSHING ASSEMBLY SHALL BE PROVIDED AT THE END OF EACH DISTRIBUTION LATERAL. THE FLUSHING ASSEMBLY SHALL BE ORENCO MODEL SE-K-075-V OR APPROVED EQUAL. FLUSHING ASSEMBLY SHALL INCLUDE A VALVE BOX ENCLOSURE AND BALL VALVE.
5. ALL ORIFICES MUST BE INSTALLED IN THE UP ORIENTATION, WITH THE EXCEPTION OF EVERY FIFTH ORFICE. IT SHALL BE IN THE DOWNWARD ORIENTATION.
6. ALL FITTINGS SHALL BE SCH 80.



COLLECTION PIPING PLAN

NORTH

SCALE: 1"=16'

16 8 0 16

NOTES:
1. SEE SHT C501 AND C502 FOR DETAILS.
2. THE SAND FILTER COLLECTION LATERALS (DRAINS) SHALL BE ORENCO MODEL SFCD OR APPROVED EQUAL. COLLECTION PIPE SHALL BE 4" CLASS 125 PVC WITH $\frac{3}{4}$" SLOTS, 4" ON CENTER. 4" COLLECTION DRAIN CAPS SHALL BE PROVIDED ON THE WESTERLY END OF EACH PIPE (END NOT CONNECTED TO THE HEADER).
3. ALL FITTINGS SHALL BE SCH 80.

NO.	DATE	REVISIONS	BY	APP'D
1	4-30-12	QUANTITIES	JMR	DES
2				
3				
4				
5				

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MISSOURI CERTIFICATE OF AUTHORITY: F00139850

Designed By: DES
Drawn By: JMB
Checked By: DES
Issue Date: 6/18/12

STATE OF MISSOURI DENNISE KEITH NUMBER E-20058 REGISTERED PROFESSIONAL ENGINEER

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Lenexa, KS
Macon, MO
North Kansas City, MO
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CIVIL ENGINEERS ELECTRICAL ENGINEERS MECHANICAL ENGINEERS STRUCTURAL ENGINEERS LANDSCAPE ARCHITECTS LAND SURVEYORS LAND PLANNERS

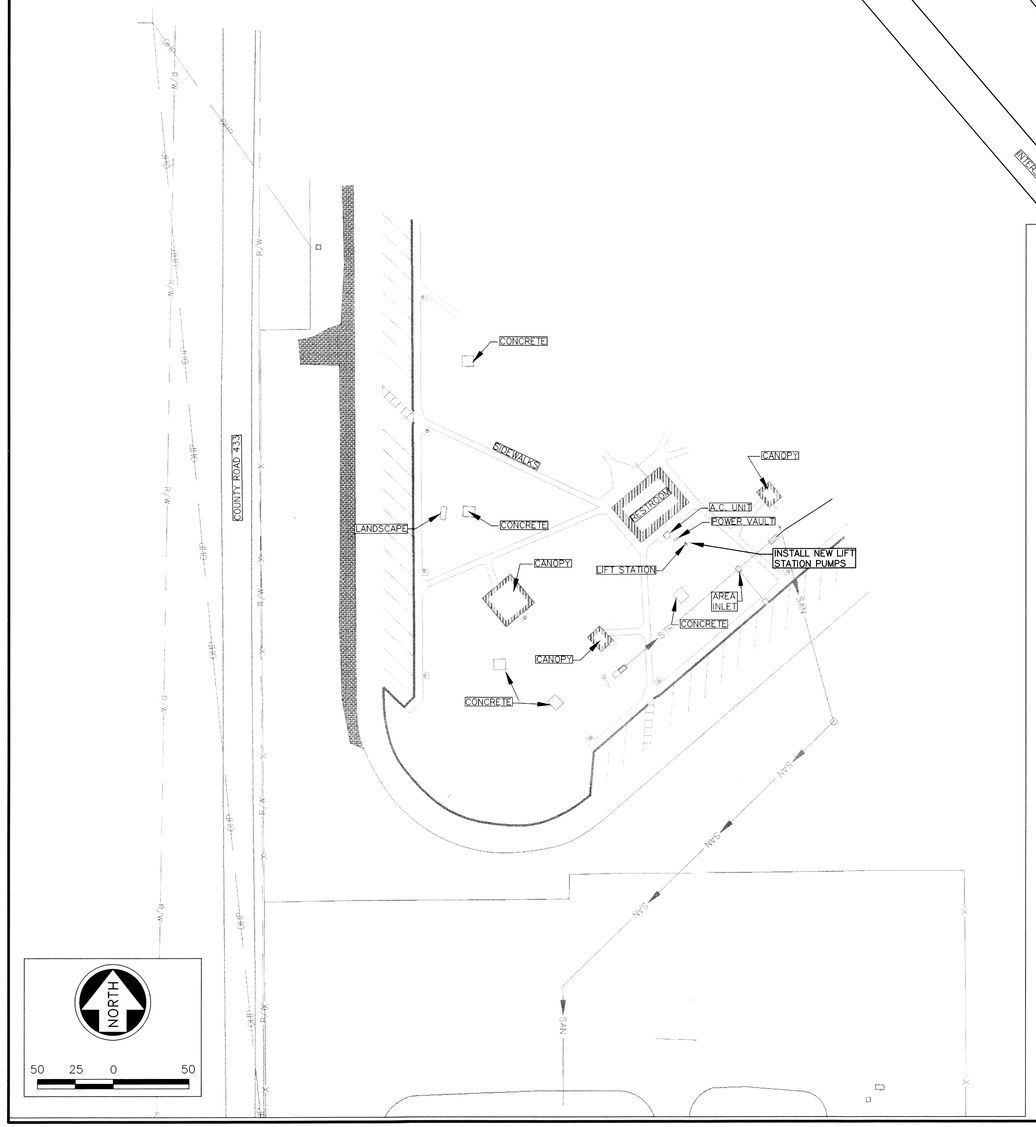
REST AREA SEWER SYSTEM IMPROVEMENTS
CAPE GIRARDEAU, FRUITLAND, MISSOURI

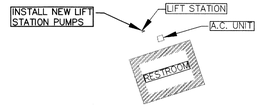
LAGOON IMPROVEMENTS
SAND FILTER PIPING PLAN

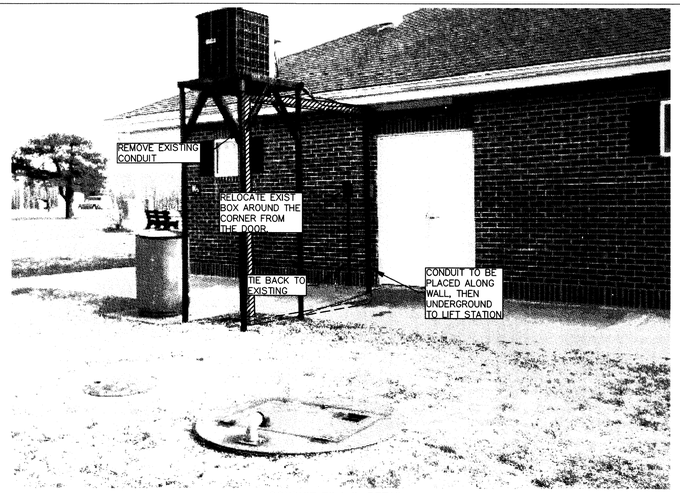
110535-010

SHEET NO.
C104

L:\110535-010_CAD\CIVIL\110535-010 - C - SAN - 2.DWG
LAYOUT: C104 | BY: JREUELSBERGER | DATE: 6/18/2012
XREF DWG1: NONE | XREF DWG2: NONE
XREF DWG3: NONE | XREF DWG4: NONE







CONDUIT TO L.S. DETAIL
SCALE: N.T.S

NOTES:
1. CONTRACTOR SHALL PAY ATTENTION TO THE PIPING LAYOUT, TO ENSURE THAT THE HATCH LOCATION & PUMP BASE LOCATION ALLOWS ROOM IN WETWELL FOR FULL WIDTH OF DISCHARGE HEADER AND EASY PUMP REMOVAL. CONTRACTOR SHALL SUBMIT, TO THE ENGINEER, A SCALED SKETCH WITH DIMENSIONS SHOWING THE PUMP LOCATION & DISCHARGE HEADER LOCATION IN RELATION TO THE HATCH LOCATION. THIS SKETCH SHALL BE USED FOR THE INSTALLATION OF COMPONENTS.

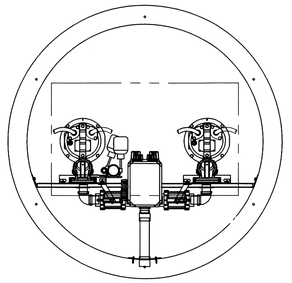
2. EXISTING FLOAT LEVELS FOR ON/OFF OF PUMPS AND ALARMS SHALL BE USED.

3. CONTROL FLOATS SHALL BE ADJUSTABLE OR REPLACEABLE WITHOUT ENTERING THE WETWELL

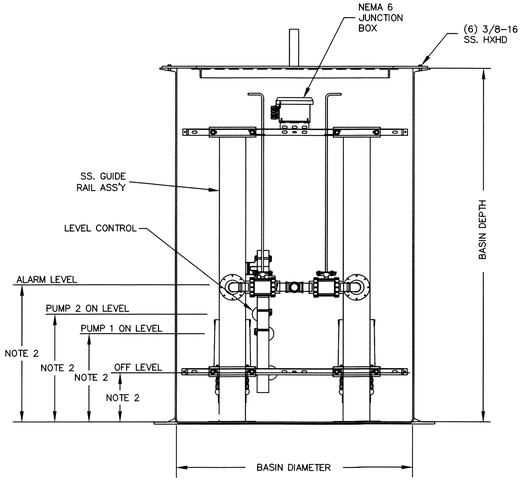
4. PROVIDE SUFFICIENT CABLE TO ALLOW DISCONNECTION WITHOUT ENTERING INTERIOR OR LIFT STATION.

5. REST AREA ON EAST SIDE OF HIGHWAY: ELECTRICAL CONDUIT SHALL BE PLACED UNDERGROUND FROM THE RESTROOM BUILDING TO THE LIFT STATION. (SEE CONDUIT TO L.S. DETAIL)

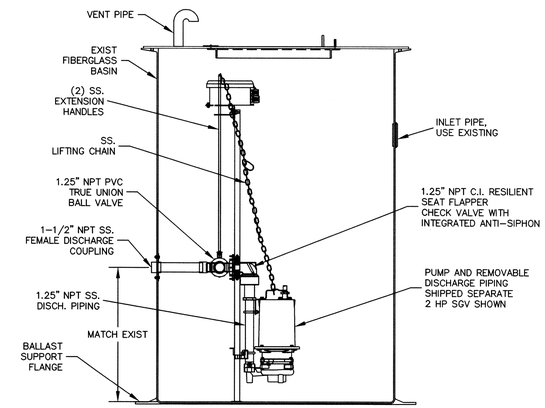
6. COORDINATE WITH MODOT ON CONSTRUCTION TIME FOR LIFT STATION REHAB. PROVIDE MIN. OF 48 HOURS NOTICE.



	WEST L.S.	EAST L.S.
(FL) 4" INFLUENT PIPE	611.41	629.94
(FL) 2" EFFLUENT PIPE	611.54	632.26
TOP L.S.	613.90	633.07
FLOOR L.S.	608.80	628.06



DETAIL BY CRANE PUMPS



NO.	DATE	REVISIONS	BY	APP'D
1	6/18/12	ADDED CONDUIT TO L.S. DETAIL		
2				
3				
4				
5				

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MISSOURI CERTIFICATE OF AUTHORITY: F001139850

Designed By: PW
Drawn By: JWR
Checked By: PW
Issue Date: 6/18/12

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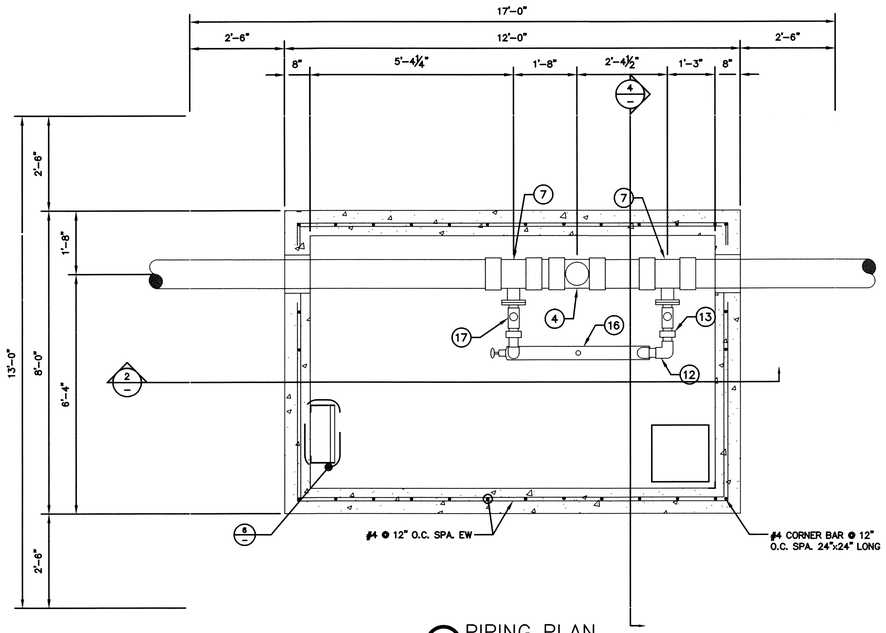
REST AREA SEWER SYSTEM IMPROVEMENTS
CAPE GIRARDEAU, FRUITLAND, MISSOURI

LIFT STATION SITE PLAN

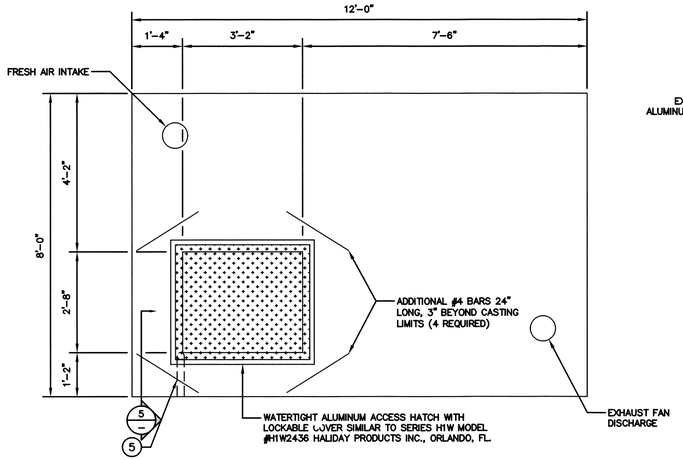
110535-010

SHEET NO.
C105

L:\110535-010_CAD\CIVIL\110535 - LIFT STATIONS.DWG
LAYOUT: LS SITE
BY: JREIGLSBERGER DATE: 6/18/2012
XREF DWG1: NONE
XREF DWG2: NONE
XREF DWG3: NONE
XREF DWG4: NONE



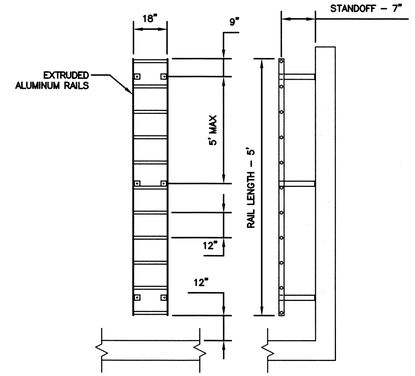
1 PIPING PLAN
NTS



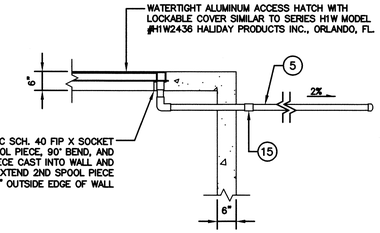
3 TOP SLAB PLAN
NTS

ACCESS LADDER NOTES:

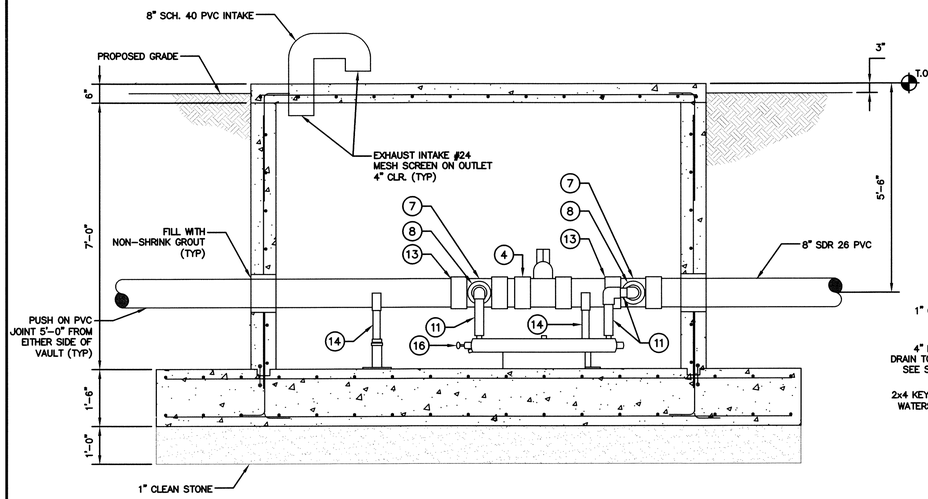
1. LADDER SHALL BE ALL ALUMINUM WELDED CONSTRUCTION.
2. LADDER SHALL HAVE SLIP RESISTANT RIBBED RUNS DESIGN.
3. LADDER SHALL BE HOLIDAY PRODUCTS SERIES LIB LADDER.



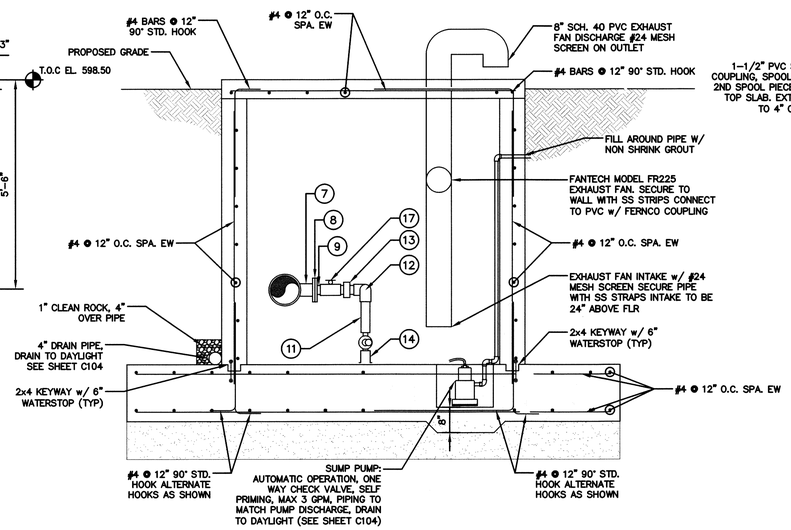
6 ACCESS LADDER DETAIL
NTS



5 HATCH DRAIN PIPE
NTS



2 PIPING SECTION
NTS



4 PIPING SECTION AND REINFORCING PLAN
NTS

PIPING SCHEDULE

NUMBER	DESCRIPTION
1	~~8" PVC FLG. X P.E.~~
2	~~8" RETAINER GLAND (MEGA LUG)~~
3	~~Z-LOK FLEXIBLE MANHOLE CONNECTOR~~
4	8" BALL VALVE WITH SOCKET ENDS FROM SPEARS MFG.
5	1–1/2" SCH. 80 PVC DRAIN PIPE
6	~~20" DIA. X 3/8" PLATE STEEL WASHER~~
7	8"X2" REDUCING TEE – FLG. X FLG.
8	3" FLANGE W/2" THRD. TAP
9	2"X1–1/4" SCH. 80 PVC TT BUSHING
10	1–1/4" SCH. 80 PVC MALE X SOCKET ADAPTER
11	1–1/4" SCH. 80 PVC PIPE
12	1–1/4" SCH. 80 PVC 90 DEG. BEND
13	1–1/4" SCH. 80 PVC UNION
14	ADJUSTABLE PIPE SUPPORT
15	1–1/2" SCH 80 UNION
16	UV CANISTER
17	1–1/4" FULL PORT PVC BALL VALVE

GENERAL NOTES

1. LAPPING OF WATERSTOPS SHALL NOT BE PERMITTED. WATERSTOPS BE BUTT WELDED.
2. CONCRETE PLACEMENTS ARE TO END AT CONSTRUCTION JOINTS.
3. WATERSTOPS ARE REQUIRED AT ALL CONSTRUCTION JOINT LOCATIONS.
4. FILL ALL CONSTRUCTION JOINTS WITH POLYURETHANE CAULK.
5. ALTERNATE POUR SEQUENCE SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.

NO.	DATE	REVISIONS	BY	APP'D
1				
2				
3				
4				
5				

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Drawn By: JMB
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REST AREA SEWER SYSTEM IMPROVEMENTS
CAPE GIRARDEAU, FRUITLAND, MISSOURI

LAGOON IMPROVEMENTS
VAULT DETAILS

110535–010

SHEET NO.
C502

L:\110535-010_CAD\CIVIL\110535-010 - C - DET - 00.DWG
LAYOUT: C502 | BY: JREIGELSBERGER | DATE: 6/18/2012
XREF DWG1: NONE | XREF DWG2: NONE
XREF DWG3: NONE | XREF DWG4: NONE