State of New Mexico
ENVIRONMENT DEPARTMENT
Environmental Health Division
Las Cruces Office
1170 N. Solano Dr., Suite M
www.nmenv.state.nm.us

BILL RICHARDSON
Governor

RON CURRY
Secretary

CINDY PADILLA
Deputy Secretary

ANA MARIE ORTIZ
Director

May 23, 2007

Permit Conditions: DA070269

The following permit conditions apply to above stated permit. Failure to meet stated conditions may result in the cancellation of the permit and any associated actions resulting from non-compliance with NMAC 7.3. The Sections 403, 602, 604, 901 and 903 apply to this permit concerning the installation and operation of a Advanced Treatment Unit (KOI RTF). The following is a summary of the requirements of this section but may not include every detail required under these sections.

1. Section 403d – The property owner shall have all maintenance contracts in effect for the duration of the permit.

2. Section 602- Secondary treatment Standards. The BOD5 shall not exceed a 6-sample rolling average of 30 mg/L with no single sample to exceed 60 mg/L.

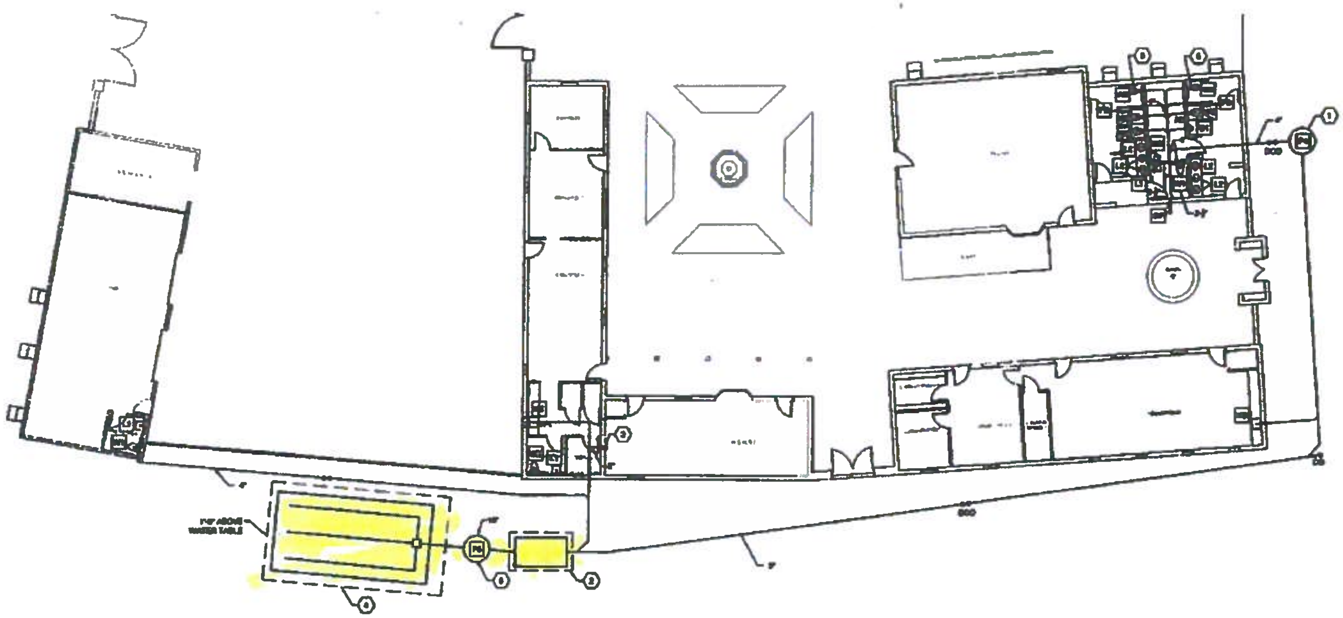
3. Section 604 Disinfection Treatment Standards. System requiring disinfection shall provide treated effluent not to exceed 200 CFUs of fecal coliform bacteria per 10o mls

4. Section 901D -The department shall be notified with 7 day of the start up of the unit. The sampling schedule shall be determined at that time to meet the requirements of Section 901. The system shall be tested for 5-day BOD and Fecal Coliform. .

5. The clearance to groundwater must be met. The area has surfacing groundwater, Section 605 required a minimum of 1 foot of clearance to groundwater with secondary treatment and disinfection.

6. Different site conditions (water table depth, soil type) than otherwise state on the permit application may require a change to the system design and will/may be made in the field at the time of installation. Changes in site conditions may also require a change in the testing requirements.

7. All setback and clearance requirement must be met as per NMAC 20.3.7



1 SEWER PLAN

SEWAGE EJECTION PUMP SYSTEM

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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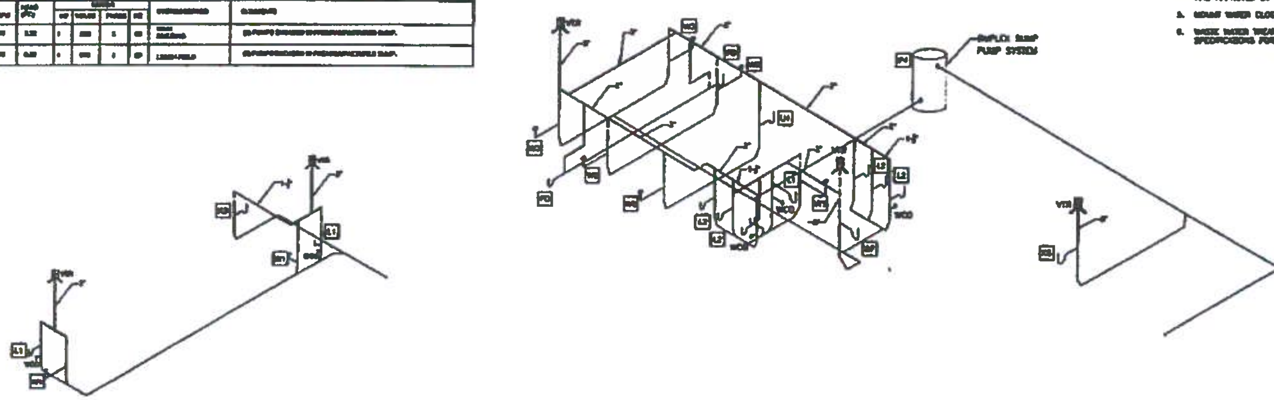


WASTE AND VENT RISER DIAGRAMS

N.T.S.

GENERAL NOTES

A. SEE RISER DETAILS FOR DETAILED SEWER AND VENT PIPE SIZING.

B. COORDINATE EXACT LOCATION OF ROOF PENETRATIONS WITH ROOF STRUCTURE LOCATIONS. ALL PENETRATIONS TO BE A MIN. OF 10" FROM WALLS, CURBS, PIPES, VENT STACKS, AND OTHER ROOF PENETRATIONS.

C. COORDINATE ALL PLUMBING AND PIPING WITH OTHER EQUIPMENT.

D. INSTALL ALL MATERIALS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

E. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND INSTALLATION HEIGHT OF ALL PLUMBING FIXTURES & EXACT BUILDING DIMENSIONS.

F. INSULATE ALL HOT WATER, COLD WATER AND P-TRAPS WITH TRAP WRAP TO ADA REQUIREMENTS.

G. SEE P&S SHEET FOR PLUMBING FIXTURE SCHEDULE. ALL PLUMBING FIXTURE SUBSTITUTION SHALL BE BY ENGINEER APPROVAL.

H. CONTRACTOR TO COORDINATE AND VERIFY SERVICE CONNECTIONS ON ALL FIXTURES.

J. MANIFOLD ALL PLUMBING VENTS ABOVE FLOOD LEVEL OF PLUMBING FIXTURES.

K. PROVIDE CHROME-PLATE STEEL ESCUTCHEONS FOR PIPES AT WALL PENETRATIONS.

L. HOT AND COLD WATER SIZES ARE 1/2" UNLESS OTHERWISE SPECIFIED.

M. ALL WATER PIPES ARE OVERHEAD AND SHALL BE CONCEALED WHERE EVER POSSIBLE. ANY EXPOSED PIPING SHALL BE COORDINATED WITH ARCHITECT PRIOR TO INSTALLATION. SLOPE TO DRAIN. SEWER AND VENT SIZES ARE 2" UNLESS OTHERWISE SPECIFIED.

N. HOT AND COLD WATER PIPING IS TO BE INSTALLED ACCORDING TO UPC. INSULATE HOT WATER AND COLD WATER SUPPLY PIPING WITH 1" FIBERGLASS INSULATION.

O. 1" INSULATION/ACCOUSTICAL PIPE WRAP FOR BOTH SUPPLY AND RETURN. SUGGESTED SUPPLIER: [illegible] OR EQUIVALENT.
PIPE MATERIAL: PEX PIPE FOR DOMESTIC WATER.

P. AIR CHAMBER ABOVE DOMESTIC HOT AND COLD WATER LAVATORY STOPS AT WATER CLOSETS. (TYPICAL)

Q. CONTRACTOR RESPONSIBLE FOR LOCATING ALL UTILITY LINES.

R. ALL AIR VENTS, GAUGES, THERMOMETERS, AND TRAP PRIMERS SHALL BE MOUNTED IN AN ACCESSIBLE LOCATION, OR BEHIND AN ACCESS PANEL, PROVIDED BY PLUMBING CONTRACTOR.

S. ALL FLOOR DRAINS SHALL BE EQUIPPED WITH SPECIFIED TRAP PRIMER.

T. UTILITY EXPANSION CHARGES SHALL BE PAID FOR BY OWNER AND ARE NOT TO BE INCLUDED IN THIS CONTRACT.

KEYED NOTES

1. SUMP SYSTEM BY [illegible] PUMP. SEE SHEET M3 FOR DETAIL AND SPECIFICATIONS.

2. [illegible] GALLON SEPTIC TANK TO BE SUPPLIED BY PLUMBING CONTRACTOR.

3. STUB UP AND CAP 3" SEWER LINE FOR FUTURE USE.

4. LEACH FIELD DESIGNED AND INSTALLED BY OTHERS. CONSTRUCTION DOCUMENTS OF OTHERS SHALL BE PROVIDED TO AND APPROVED BY ENGINEER PRIOR TO START OF WORK.

5. MOUNT WATER CLOSET AT ADA HEIGHT, 17" TO [illegible] A.F.F.

6. WASTE WATER TREATMENT CENTER BY [illegible]. SEE SPECIFICATIONS FOR DETAILS OF SYSTEM.

TELCK-HENSLEY ENGINEERING GROUP

PARK FACILITIES

MESILLA VALLEY BOSQUE STATE PARK

Dona Ana County, New Mexico

SEWER PLAN
FLOOR PLAN

M3

$150 KSmith

245 1E 3

APPLICATION FOR A LIQUID WASTE PERMIT

NMED Permit Number: DA076269
Permit Approved for ___ Bedrooms

NMED Inspection Required ___ No ___ Yes, Call _____ for Appointment

Date NMED Received: 4/17/07

SYSTEM OWNER'S NAME: Last, First, MI | Home Phone: | Business Phone:
Mesilla Valley Bosque State Park | 505-476-3396 |

MAILING ADDRESS: Street/PO Box, | City | State | Zip Code

SYSTEM LOCATION: Street Address/Location - give directions to site | County:
5000 Calle del Norte | DONA ANA

~~Creek~~

SUBDIVISION: N/A | BLOCK | LOT | UNIFORM PROPERTY CODE: 4-004-139-402-104

TOWNSHIP: 24S | RANGE: 1E | SECTION: 3 | QTR | QTR | QTR | LATITUDE | LONGITUDE

INSTALLER'S NAME & FIRM: Johnny's Septic Tank Co. | PHONE: 526-5442

MAILING ADDRESS: Street/PO Box: 2155 Dona Ana Rd | City: Las Cruces, NM | State | Zip Code: 88007

CID License No./Certification: 25764 | MM-1 | MM-98 | MS-1 | MS-3: X | Homeowner

I. PERMIT APPLICATION

A. Proposed Liquid Waste System is for: X New Construction
___ Replacement of an existing system ___ Modification to an existing system

B. Manufactured Housing (mobile) ___ Yes X No

C. Proposed System is: X Conventional ___ Mound ___ Holding Tank
___ Evapotranspiration X Other; Describe: Advanced (MA 813107)

II. WASTEWATER SOURCES & DESIGN FLOWS IN GALLONS PER DAY (gpd)

A. Proposed liquid waste system use and design flow:

___ Single family residence with ___ no. of bedrooms _____ gpd
___ Multiple family units; ___ no. of units; ___ no. bedrooms per unit _____ gpd
3 Other (type) Park Flow sizing units _____ 1100 gpd

B. Are there other sewage sources on this property? ___ Yes X ___ No _____ gpd

TOTAL WASTEWATER FLOW ON PROPERTY - 1100 gpd

III. SITE INFORMATION

A. Lot Size: 138.24 Acres (nearest 0.01 acre) Date of Record: N/A (Plat Date or Subdivision Date)

B. Depth from Ground Surface to: surface water observed
Seasonal High Water Table 2 feet per Armando 10-17-06
Bedrock, Caliche, Tight Clay >20 feet
Gravel, Cobbles, Highly permeable soil >20 feet

C. Soil Description: (NMED may require both texture description and percolation rate)
Texture:
___ Coarse sand or gravel; (give percolation rate below)
___ Sand; (give percolation rate below) ___ Fine Sand
X Sandy Loam; ___ Loam; ___ Silty Loam;
___ Clay Loam; ___ Clay;
___ Other; (describe) _____

D. Domestic Water Source: ___ On-site X Off-site;
___ Private X Public ___ Shared
State Engineer Well Permit # _____
Name of Public Water System _____

Irrigation Well or Flood Irrigated Area on the lot. ___ Yes ___ No

IV. SYSTEM DESIGN

A. X Treatment Unit Please see attached information
___ Septic Tank Capacity _____ Gallons
Manufacturer: Koi Certification No: N/A
___ Other (specify): Treatment to include disinfection

B. Disposal System: ___ Trench ___ Bed ___ Seepage Pit ___ Mound
___ Evapotranspiration ___ Other, Specify: elevated drainfield
Materials ___ Pipe and Gravel X Gravelless (specify) Infiltrators

C. Minimum required absorption area 2200 square feet
Trench or Bed width to be determined depth below distribution pipe ___ ft.
Total Trench or Bed length 456 ft. Number of trenches: N/A
Number of gravelless units 114

D. Depth from ground surface to bottom of absorption area -2 ft.

NMED retain white copy

JC

V. SITE PLAN: Diagram the lot and liquid waste system. Show setbacks to the objects listed below within 200 feet of system and the direction of groundwater flow. Give distances from:

Treatment Unit to:			Disposal System to:	
>5	ft.	Property line	>5	ft.
>5	ft.	Property line	>5	ft.
>5	ft.	Buildings	>8	ft.
>5	ft.	Structures	>8	ft.
N/A	ft.	Wells	N/A	ft.
N/A	ft.	Irrigation	N/A	ft.
N/A	ft.	Arroyos	N/A	ft.
N/A	ft.	Surface Water	N/A	ft.

Draw picture of system or attach a picture file

As-built will be submitted
All set-backs will be met
Please see attached site plan

VI. The foregoing information is correct and true to the best of my knowledge. I understand that the issuing of this permit does not relieve me from the responsibility of complying with all applicable provisions of the New Mexico Plumbing Code and the New Mexico Liquid Waste Disposal Regulations. Obtaining this permit does not relieve me from the responsibility of obtaining any permit required by state, city or county regulation or ordinance or other requirements of state or federal law.

Signature — Date: 4-18-07

___ Owner X Contractor ___ Other ___

VII. NMED PERMIT A permit for construction of the liquid waste disposal system described herein is hereby:

___ Granted ✓ Granted subject to conditions ___ Denied

Conditions ___ Reasons for Denial:

The clearances to groundwater must be met. The site has surfacing groundwater and the clearance must account for this. Elevate drainfield must be designed accordingly. See permit condition

M. M. — NMED Representative — Date: 8/22/07

NOTE: This permit may be canceled for failure to meet any condition specified: failure to complete the system within one year; for providing inaccurate or incomplete information; or for failure to notify NMED that the system is completed.

If you have questions call: ___

NMED Inspection History	NMED Representative	Date
SB, C, L	M. M.	4/27/07

VIII. NMED FINAL APPROVAL:

The system described above ✓ was ___ was not inspected.

M. M. — NMED Representative — Date: 12/3/07

KOI RTF SYSTEM

PART 1 - GENERAL

1.01 SUPPLIER/INSTALLER (KOI RTF SUBCONTRACTOR): All labor and materials required for the complete installation of the properly operating KOI RTF systems will be provided by the KOI RTF Subcontractor - LINK SUMMERS LLC, P.O. Drawer P, Taos, New Mexico 87571 under a 'turnkey' construction subcontract with the Prime Contractor. The name of the person authorized to act for Link Summers LLC is Link E. Summers, telephone 505- 758-4999. Fees and permits shall be paid by the Prime Contractor.

1.02 GENERAL DESCRIPTION OF THE SYSTEM: The KOI RTF system incorporates the first, second and third elements of a three stage sewage treatment plant. The first stage is provided by a new primary treatment - a portion of the solids are settled and partially digested in the primary tank. The KOI RTF system provides treatment by the natural process of biochemical oxidation and final clarification prior to discharge. The KOI RTF system is configured for automatic desludging and denitrification.

A. The effluent from the Primary-Treatment and Level-Control tank flows to the pump zone of the KOI RTF units, located in the sump below the KOI RTF filter module. It is then lifted by Grundfos stainless steel submersible pumps to the distribution assemblies where it is sprinkled over the surface of filter media. The oxidation process takes place as the water trickles through the media and over the biological film that grows on the media surface. The pumps operate on a timed sequence (generally eight minutes on and three minutes off) thereby ensuring re-circulation of treated water is returned to the sump zone where the humus sludge is allowed to settle. The denitrification recirculation pumps operate every 4 hours for twelve minutes to carry the sludge and nitrified water back to the anoxic area of the Primary-Treatment and Level-Control tank.

B. Each KOI RTF unit is a sealed unit; the air needed for the oxidation process is drawn into the filter module by means of a fan located on top of each unit. The air is vented from the module by means of the final effluent pipe either through a vented chamber or a vent pipe fitted to the plant discharge pipe.

C. Flow through the KOI RTF units is by gravity. The pumps are used only for the treatment of primary tank effluent, recirculation of effluent to the primary tank, and desludging of the KOI RTF sump.

D. Operation is automatic. Provision shall be provided for remote notification and alarm for all critical components of operation.

E. The system shall be constructed so as to be operable during the coldest temperatures recorded at the site, and for the duration of such low temperatures. The KOI RTF tank shall be partially buried and shall have topside insulation which is the manufacturer's standard for the units specified. Natural heat is generated by the biological oxidation process.

F. CAPACITY: The system is designed for 1,100 gallons per day discharge capacity from the site.

G. CONDITION OF ENTERING EFFLUENT: 800 mg/l BOD, TKN 120 mg/l.

H. DISCHARGE EFFLUENT, REQUIRED QUALITY: 60 mg/l Total Nitrogen (or as specified in Discharge Plan)

PART 2 - PRODUCTS AND MATERIALS

2.01 There will be a 4,000 gallon FRP primary tank (Xerxes) followed by two KOI RTF Model 16/19 units installed in series complete with all required equipment and accessories for proper automatic, remotely monitored operation. The final component is a 600 gallon disinfection unit/wet well (L.F. Manufacturing).

A. The KOI RTF system includes four motors, each 1/3 Hp, 1 phase, 115 volt, 60 cycle, 9 amps; two fans, 115 volt, 1 phase, 60 cycle, <5.0 amp; and Koi proprietary controls, wiring, and an autodialer. In addition there are two flow equalization pumps in the primary tank and two pumps in the disinfection/lift station wet well.

B. KOI's responsibility includes shipping, transportation of units to job site, and installation of all equipment and appurtenances, complete and operational.

C. The KOI RTF system includes all required valves, pumps, controls, piping, wiring, fittings, and labor. The Koi system does not include the disposal system..

D. KOI shall provide Instruction and training of custodial personnel at the site in the proper use of biodegradable cleaners and disinfectants. Materials which are harmful to the operation of septic tanks are also harmful to the proper operation of the KOI RTF systems, including, among others, organic solvents, gasoline, photographic fluids, paints & thinners, pesticides & fungicides, mud, and grease in excess of 100 mg/l.

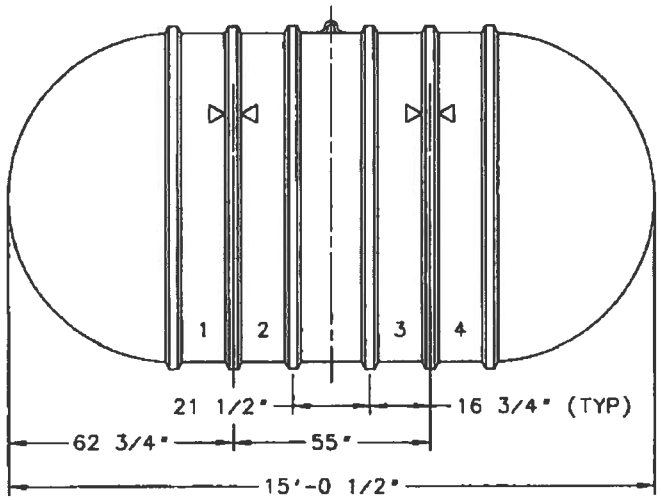
E. KOI will provide organic and inorganic materials required for proper operation of the system, and provide start-up and testing required to ascertain that the system is operating as required.

F. OWNER understands that a maintenance contract must be in place at all times with an approved maintenance service provider for the system to comply with New Mexico Liquid Waste Regulations.

PART 3 - EXECUTION

3.01 KOI shall set up the autodialer to notify that critical components are out of acceptable range. Remote notification shall be by telephone, and shall notify Link Summers LLC.

3.02 The Supplier/Installer (KOI) shall warrant to the Owner (not to the General Contractor) that the product and parts in the KOI RTF Wastewater Treatment Plant are free from defects in material and workmanship for a period of two (2) full years from date of completion of construction and final inspection by NM Environment Department. The warranty does not include any of the service wiring or telephone wiring ahead of the KOI RTF connection point, any plumbing ahead of the Primary-Treatment and Level-Control Tank, any plumbing or electrical work downstream of the last valve and sampling port installed by KOI. The cost of all warranty work by KOI is included in the lump-sum allowance paid to KOI by the General (Prime) Contractor. The warranty is not expected to cover processes or devices that have been subjected to external damage (such as by firearms or explosives) or damage due to altered or improper siting or overload protection accomplished by personnel other than KOI's.



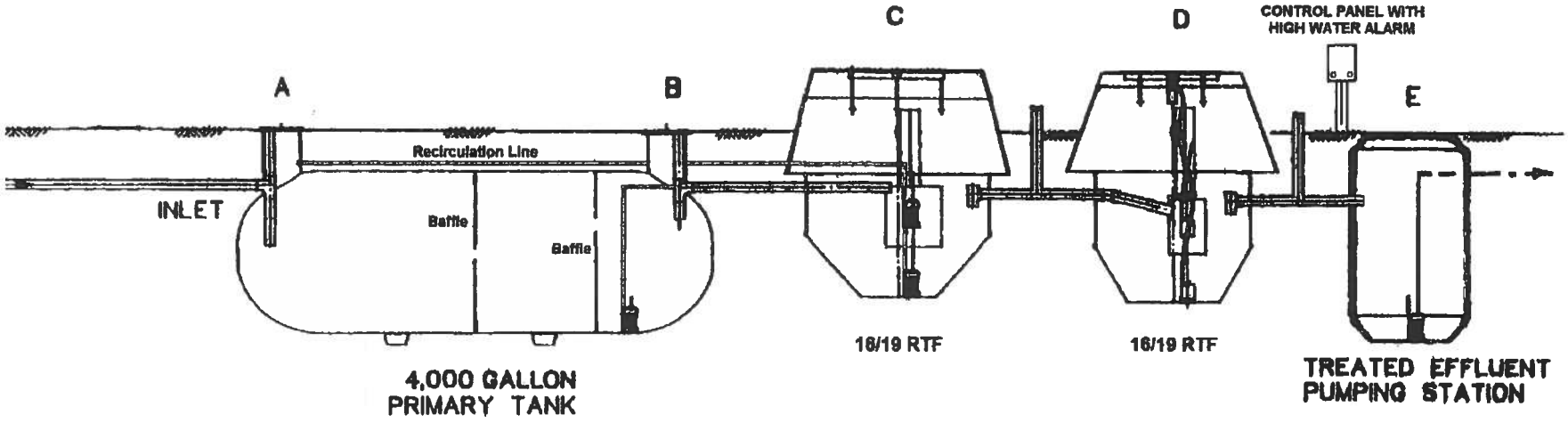
For non UL-listed configurations only.

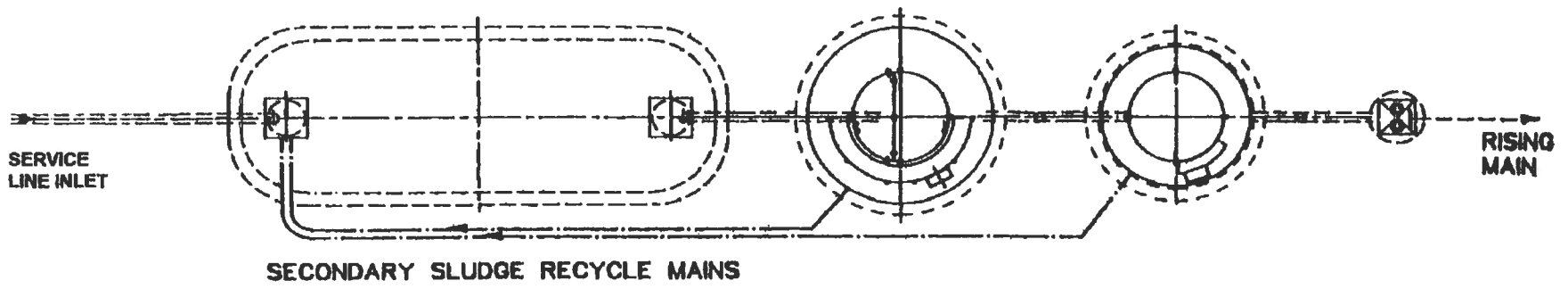
XERXES® CORPORATION

TITLE
8' DIA. S.W.T.
CAP. 4,000 GALLONS

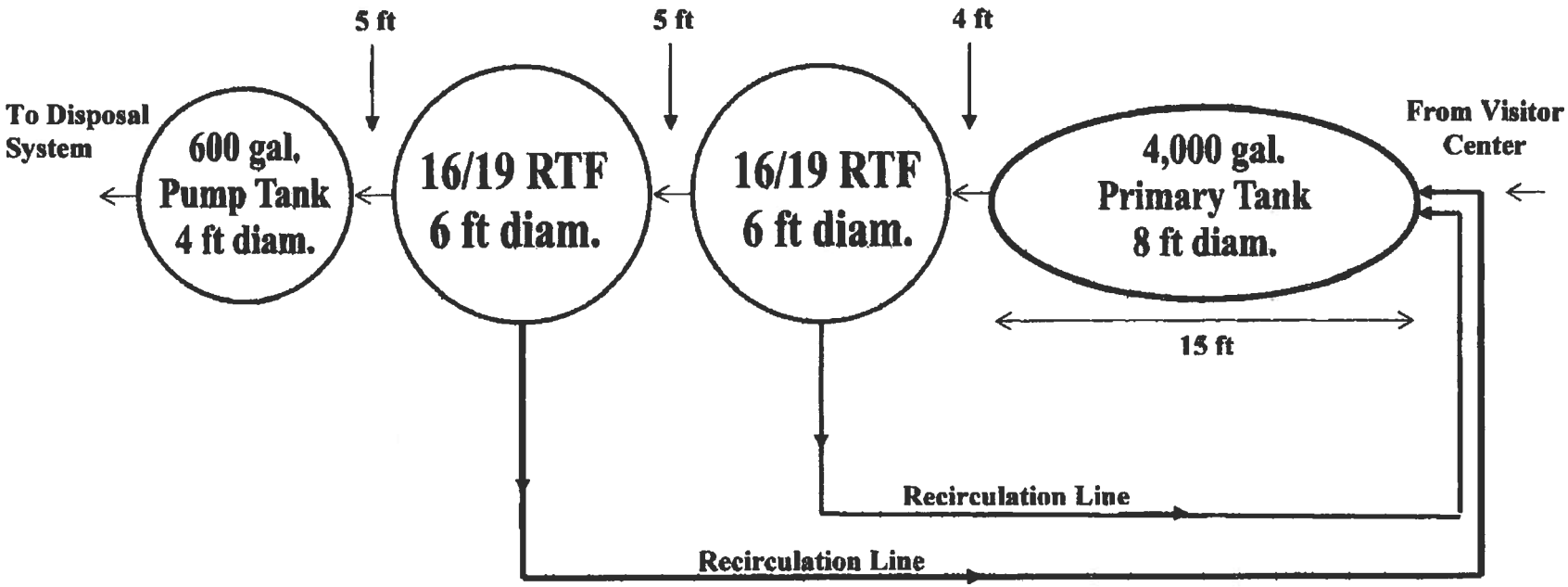
DATE 8-05 | DR. NO. S10-871.01

MESILLA VALLEY BOSQUE STATE PARK
WASTEWATER SYSTEM





Mesilla Valley State Park
Schematic for Wastewater System



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9190 Double Diamond Pkwy., Ste 120
Reno, NV 89521
(800) 980-9898