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Date: **JUL 25 2013**
Symbol: ENV-DO-13-0082
LAUR: 13-25308

Mr. Jerry Schoeppner, Chief
Ground Water Quality Bureau
New Mexico Environment Department
Harold Runnels Building, Room N2250
1190 St. Francis Drive
P.O. Box 26110
Santa Fe, NM 87502

RECEIVED

JUL 29 2013

NMED
Hazardous Waste Bureau

Dear Mr. Schoeppner:

SUBJECT: NOTIFICATION OF PLANNED CHANGE, NEW MICROFILTER TREATMENT UNIT, RADIOACTIVE LIQUID WASTE TREATMENT FACILITY, DP-1132

The U.S. Department of Energy and Los Alamos National Security, LLC (DOE/LANS) are notifying you of a planned change in the operating conditions at the Technical Area (TA)-50 Radioactive Liquid Waste Treatment Facility (RLWTF) at Los Alamos National Laboratory. The New Mexico Environment Department (NMED) was previously notified of the installation of a new microfilter treatment unit in the August 2012 supplement to Discharge Permit Application DP-1132 (ENV-RCRA-12-0173) and in a September 2012 communication to the Environmental Protection Agency (ENV-RCRA-12-0205). The installation of the microfilter treatment unit is a necessary project to replace the 14-yr old tubular ultrafilter (TUF) treatment unit.

Enclosure 1 is the technical specifications cut sheet for Model No. EF/EFC-424 membrane microfiltration unit installed at the TA-50 RLWTF. Enclosure 2 is a process schematic showing the location of the microfilter within the RLWTF's low-level treatment system. And Enclosure 3 is a floor plan of the RLWTF showing the physical location of the microfilter within TA-50 Building 1.

Currently, DOE/LANS are conducting a readiness review of the microfilter. Startup is expected before the end of CY2013.



Please contact Robert S. Beers by telephone at (505) 667-7969 or by email at bbeers@lanl.gov if you have questions regarding this report.

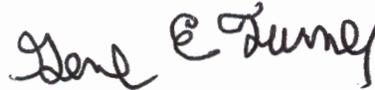
Sincerely,



Alison M. Dorries
Division Leader
Environmental Protection Division
Los Alamos National Security LLC

AMD:GET:RSB/lm

Sincerely,



Gene E. Turner
Environmental Permitting Manager
Environmental Projects Office
Los Alamos Field Office
U.S. Department of Energy

Enclosures

1. Siemens Technical Specifications Cut Sheet for the RLWTF's Microfilter Treatment Unit
2. Process Schematic of Low-Level Treatment Operations at the RLWTF
3. Floor Plan of the RLWTF Low-Level Treatment Units

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ENCLOSURE 1

Siemens Technical Specifications Cut Sheet for the
RLWTF's Microfilter Treatment Unit

ENV-DO-13-0082

LAUR-13-25308

Date: JUL 25 2013

Membrane Microfiltration Systems (EF and EFC Series)

Microfiltration Systems

The Siemens tubular polymeric microfiltration systems are skid-mounted and factory assembled. The factory assembly, including wiring and testing, ensures easy reassembly and installation.

The tubular membranes are designed for very high solids loadings and can operate with up to 2.0 to 5.0 weight percent solids. The KYNAR® membrane is very chemically inert so it can withstand pH ranges from 0.0 to 14.0 standard units.

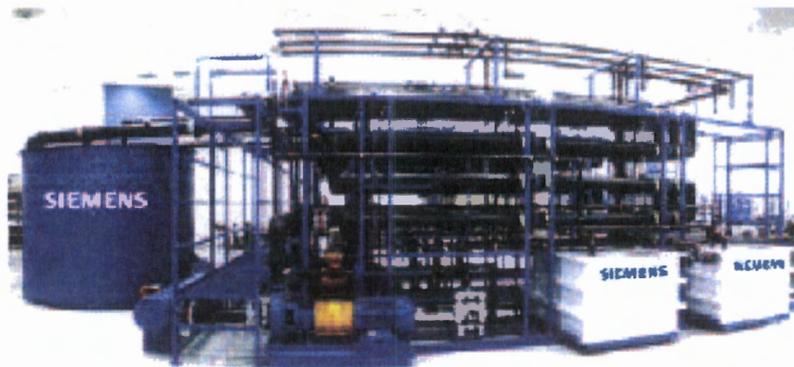
The rugged membranes are non-plugging, abrasive and chlorine resistant. All materials in contact with the wastewater or cleaning solutions are either PVC, polyethylene, stainless steel or other corrosion resistant materials.

The membrane provides for an absolute barrier to the passage of solids and therefore is capable of removing metals (and other contaminants) to their solubility limits.

This also results in the removal of most colloids and therefore provides a filtrate that exhibits a very low SDI, making the filtrate a perfect feed for a reverse osmosis unit or other polishing technology.

A fully automatic backpulse mechanism is included to periodically cause a reverse flow of filtrate across the membrane, dislodging contaminants and allowing the high velocity flow to sweep them away. The backpulse prolongs the on-line cycles and reduces the cleaning requirements.

Each system is supplied fully assembled with all necessary equipment for operation, including a piped-in-place cleaning system, which includes two tanks and a dedicated cleaning pump. Units are designed for automatic operation and can be supplied with a fully automated cleaning cycle if required.



EFC-7200

Features

- PVDF (KYNAR®) membrane provides excellent chemical resistance and long life
- Tubular design allows for high solids loading
- Piped-in-place cleaning system is standard on all units
- Units are skid-mounted
- Rapid installation assured by skidded assemblies and mistake proof electrical connections

Membrane Microfiltration Systems (EF and EFC Series)

Specifications								
Model Number	EF/EFC-400	EF/EFC-424	EF/EFC-1200	EF/EFC-2400	EF/EFC-3600	EF/EFC-4800	EF/EFC-7200	EF/EFC-10800
Capacity (Nominal)	4-24 gpm 1-5.5 m ³ /hr	8-48 gpm 2-11 m ³ /hr	8-48 gpm 1.8-11 m ³ /hr	20-96 gpm 4.5-22 m ³ /hr	36-144 gpm 8-33 m ³ /hr	42-192 gpm 9-43 m ³ /hr	72-288 gpm 16-65 m ³ /hr	108-322 gpm 4-98 m ³ /hr
Tubes per Module	4	4	10	10	10	10	10	10
Quantity (min-max)	4-12	8-24	6-12	12-24	18-36	24-48	36-72	54-108
Concentration Tank Volume (Note: Included with EFC Series only.)	275 gallons 1.0 m ³	550 gallons 2.1 m ³	660 gallons 2.5 m ³	1,375 gallons 5.2 m ³	1,700 gallons 6.4 m ³	2,600 gallons 9.8 m ³	4,280 gallons 16.2 m ³	5,000 gallons 18.9 m ³
Process Pump(s)	Qty. 1 7.5 HP	Qty. 1 15 HP	Qty. 1 20 HP	Qty. 1 30 HP	Qty. 1 50 HP	Qty. 2 30 HP	Qty. 2 50 HP	Qty. 3 50 HP
Dimensions (L x W x H)	11'-10" x 4'-10" x 4'-11" 3,607 x 1,473 x 2,718 mm	18'-3" x 5'-4" x 11'-7" 5,563 x 1,626 x 3,531 mm	24'-7" x 5'-10" x 9'-10" 7,493 x 1,778 x 2,997 mm	25'-5" x 7'-1" x 10'-0" 7,747 x 2,159 x 3,048 mm	33'-0" x 8'-1" x 11'-10" 10,058 x 2,464 x 3,607 mm	26'-9" x 9'-6" x 11'-3" 8,153 x 2,896 x 3,429 mm	37'-10" x 17'-1" x 11'-11" 11,532 x 5,207 x 3,632 mm	39'-4" x 25'-3" x 11'-11" 11,989 x 7,696 x 3,632 mm
Shipping Weight	1,000 lbs 450 kg	2,000 lbs 900 kg	7,500 lbs 3,400 kg	10,000 lbs 4,550 kg	15,000 lbs 6,800 kg	18,000 lbs 8,160 kg	29,000 lbs 13,150 kg	43,000 lbs 19,500 kg
Operating Weight	4,000 lbs 1,810 kg	8,000 lbs 3,630 kg	18,000 lbs 8,160 kg	26,000 lbs 11,800 kg	34,000 lbs 15,420 kg	52,000 lbs 23,590 kg	73,000 lbs 33,110 kg	98,000 lbs 44,450 kg

The model selected by the RLWTF is the EF/EFC-424 unit with 20 tubes.

Siemens
Water Technologies
2000 Marconi Drive
Warrendale, PA 15086
866.525.0621 Toll Free
724.772.6520 Phone
724.772.6521 Fax

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EP-WP-EFCdr-IUE-0707
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KYNAR is a trademark of Siemens, its subsidiaries or affiliates.

The information provided in this literature contains merely general descriptions or characteristics of performance which in actual case of use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of the contract.

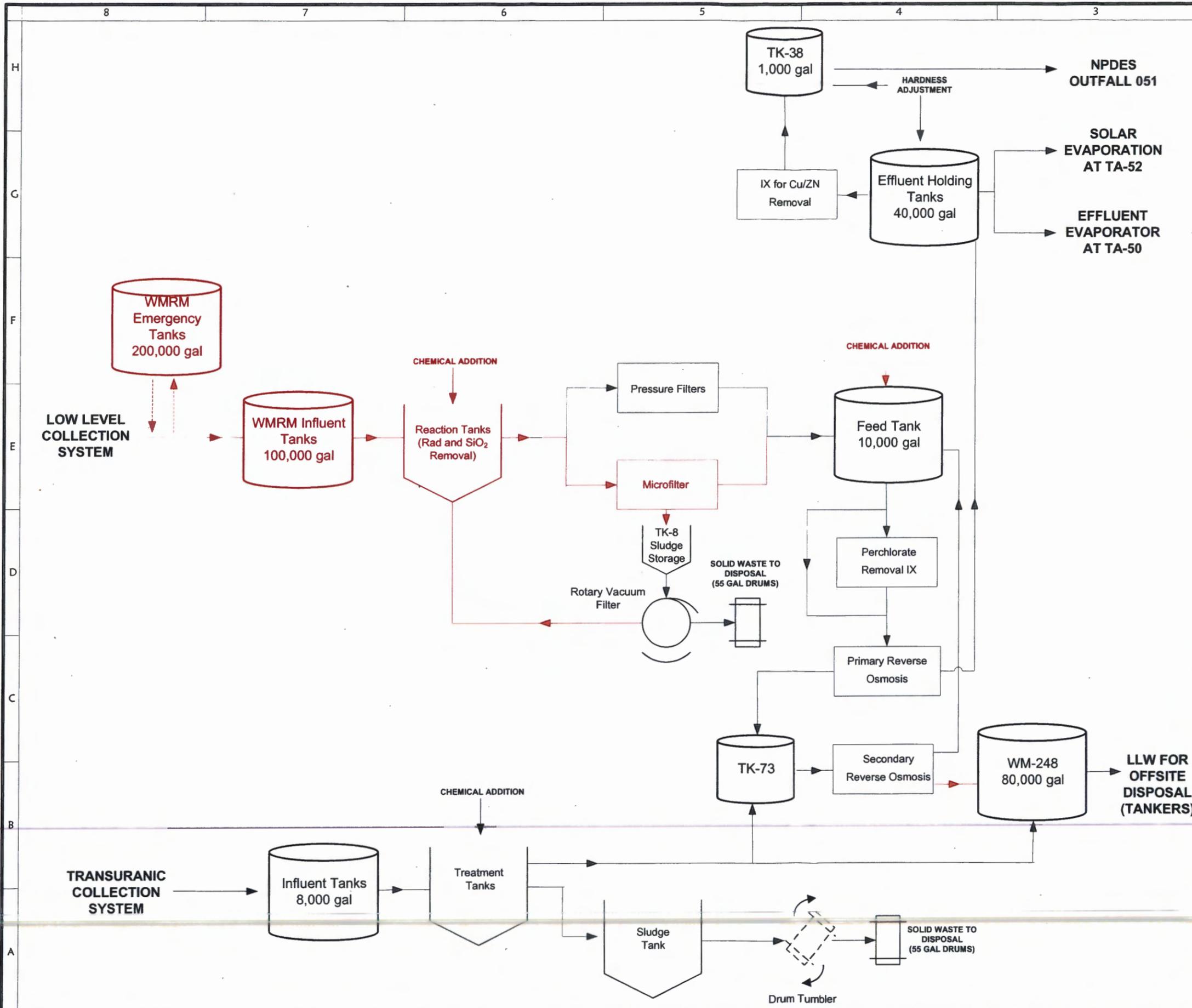
ENCLOSURE 2

Process Schematic of Low-Level Treatment
Operations at the RLWTF

ENV-DO-13-0082

LAUR-13-25308

Date: JUL 25 2013



General Notes

NOTES:
 THIS PROCESS SCHEMATIC DEPICTS TYPICAL FLOW PATHS WHEN TREATING WATER AT THE TA50 RLWTF. ACTUAL TREATMENT MAY VARY DEPENDING UPON WATER QUALITY. FOR EXAMPLE, WATER FROM THE CLARIFIER MAY BE SENT TO EITHER THE GRAVITY FILTER OR THE PRESSURE FILTERS, THUS BYPASSING A SET OF FILTERS. OR PERMEATE FROM THE SECONDARY RO UNIT MAY BE SENT TO EFFLUENT HOLDING TANKS RATHER THAN TO THE PERCHLORATE FEED TANK.

No.	Date	Class Rev	ADC	Description	DFT	CHK	CSE SME	APP
3	05/15/2012	3	U	CHANGES FOR BRIDGING PROJECT	JCR	JCDS	RLS	RLS
2	01/11/2012	2	U	CHANGES FROM DISCHARGE PERMIT MTNG	JCR	JCDS	RLS	RLS
1	10/31/2011	1	U	CHANGES FROM WQH - RLW MEETING	JCR	JCDS	RLS	RLS

ENGINEERING STANDARDS PROGRAM
Radioactive Liquid Waste Treatment Facility (RLWTF)

PROCESS SCHEMATIC NPDES OUTFALL 051 POST GROUND WATER PERMIT MODS	DRAFTER	J. Ruiznavarro
	CHECKER	J.C Del Signore
	CSE / SME	R. Swickley
	Date	10/31/2011
SUBMITTED		APPROVED FOR RELEASE
R. Swickley		R. Swickley
Los Alamos National Laboratory Los Alamos, NM 87545		RLWTF-SD-PFD-001
1 OF 1		
CLASSIFICATION	ADC	DATE
UNCLASSIFIED		10/31/2011
PROJECT ID.		REV.
N/A		3

ENCLOSURE 3

Floor Plan of the RLWTF Low-Level
Treatment Units

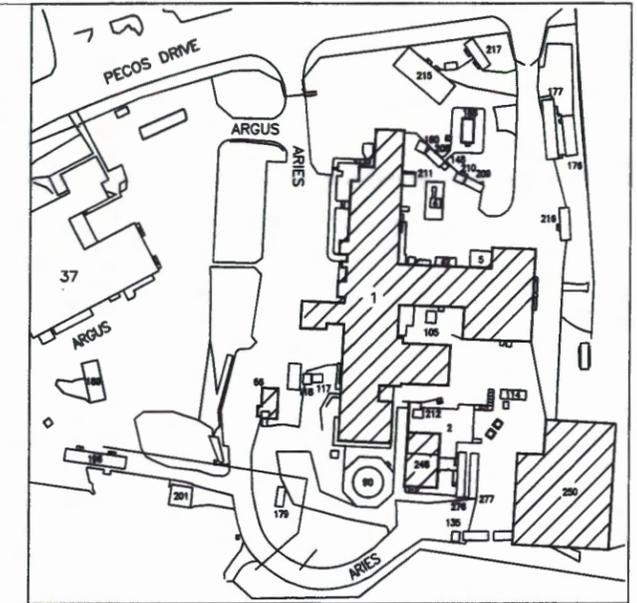
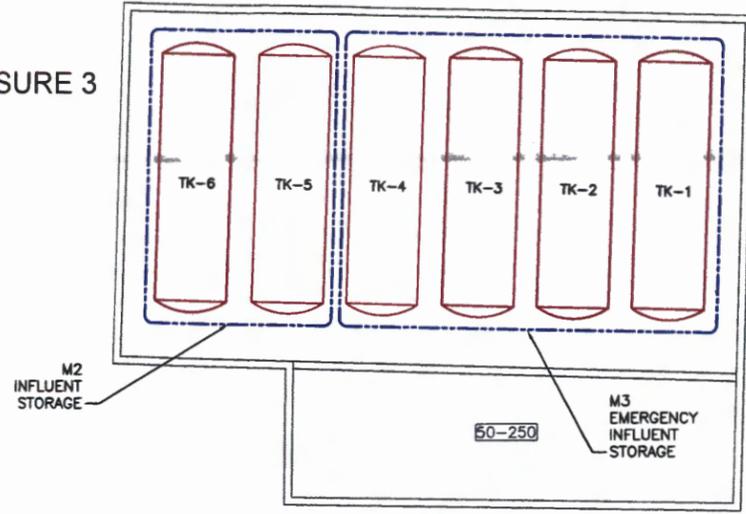
ENV-DO-13-0082

LAUR-13-25308

Date: JUL 25 2013

ENV-DO-13-0082
LAUR-13-25308

ENCLOSURE 3



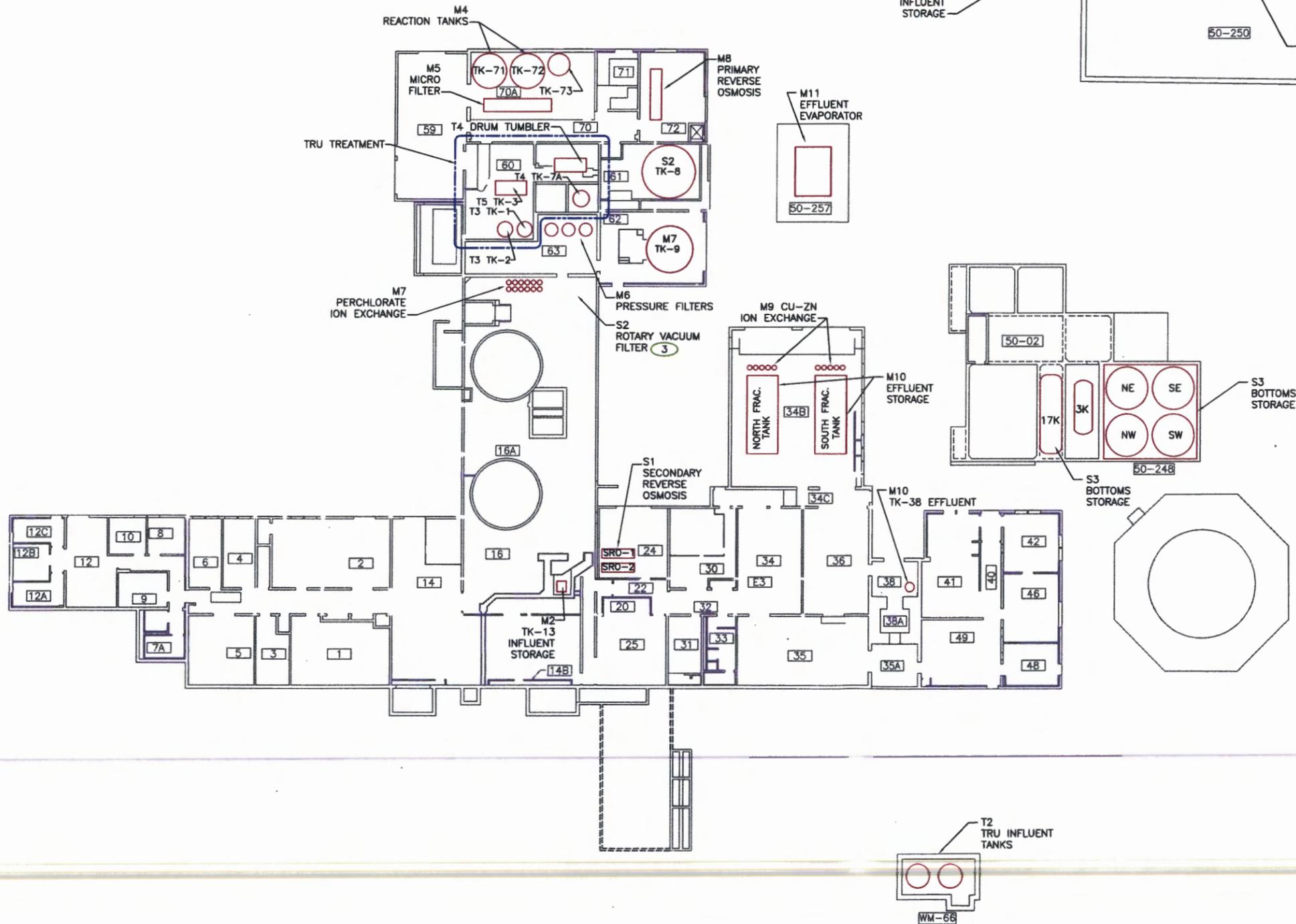
LOCATION PLAN
SCALE: NONE TA-50

GENERAL NOTES

1. IF THIS SHEET IS NOT 11X17, THEN IT IS A REDUCED OR ENLARGED SIZE PLOT. USE INDICATED SCALE ACCORDINGLY.

KEYED NOTES

- ① SCALE APPLIES TO BUILDING STRUCTURES AND RELATIVE BUILDING LOCATIONS WITHIN THE SITE. DEPICTED SIZE OF TREATMENT UNITS AND STORAGE TANKS ARE FOR REFERENCE ONLY.
- ② TREATMENT UNIT NOT SHOWN ON SKETCH.
- ③ ROTARY VACUUM FILTER LOCATED THIS AREA SOUTH-EAST CORNER RM. 116A



RLWTF TREATMENT UNITS
SCALE: 1/8" = 4'-4" ①

RLWTF TREATMENT UNITS	
② M1	COLLECTION SYSTEM
M2	INFLUENT STORAGE
M3	EMERGENCY INFLUENT STORAGE
M4	REACTION TANKS
M5	MICRO FILTER
M6	PRESSURE FILTERS
M7	PERCHLORATE ION EXCHANGE
M8	PRIMARY REVERSE OSMOSIS
M9	COPPER ZINC ION EXCHANGE
M10	EFFLUENT STORAGE
M11	EFFLUENT EVAPORATOR
② M11	SOLAR EVAPORATION
② M11	NPDES OUTFALL #051
② T1	TRU COLLECTION SYSTEM
T2	TRU INFLUENT STORAGE
T3	TRU TREATMENT
T4	TRU SLUDGE
T5	TRU EFFLUENT
S1	SECONDARY REVERSE OSMOSIS
③ S2	ROTARY VACUUM FILTER
S3	BOTTOMS STORAGE

Prepared By: 11/19/07
 RLWTF MAJOR EQUIPMENT 7-17-11 LDRG