County of San Diego

Department of Environmental Health and Quality

Land and Water Quality
5500 Overland Ave., Suite 210, San Diego, CA 92123 / (858) 565-5173
www.sdcdehq.org

ONSITE WASTEWATER TREATMENT SYSTEM LAYOUT APPROVAL
EXPIRATION DATE: 4/4/2025

Owner: East County Fire Protection District
Address: Public Agency\
El Cajon, 00000
Phone:

Site: 1811 SUNCREST BLVD, EL CAJON
Parcel: 509-191-16-00
Certification: PERCOLATION TEST
Record ID: DEH2024-LOWTS-018360

This project is **APPROVED** for the following:

Commercial / Residential: Commercial
Gallons / Day: 450
Number of Bedrooms:

THIS IS NOT AN ONSITE WASTEWATER TREATMENT SYSTEM PERMIT

You have until 4/4/2025 to obtain a septic permit. However, a site recheck may be required at any time to determine if site conditions have changed. Refer to the County of San Diego, Department of Environmental Health and Quality, Local Agency Management Program for Onsite Wastewater Treatment Systems for all applicable setbacks and standard conditions of approval.

ONSITE WASTEWATER SYSTEM REQUIREMENTS

Primary Septic Tank (in gallons): 1000
Pump Tank (in gallons): 1000

Supplemental Treatment Type: Other, *Other Supplemental Treatment:*
Make/Model of Supplemental Treatment: NORWECO MODEL TNT 500/600
System Details: RESIDENTIAL WW TREATMENT PLANT SYSTEM, TRAFFIC RATED.
JENSEN HP (TRAFFIC RATED) 1,000 GAL. WITH NORWECO HB 105 SUBMERSIBLE PUMP.
1.2" SCHEDULE 40 PVC SUPPLY LINE KRAIN INDEX

Soil Disposal System	System Type	Length	Width	Depth	Cap Depth	Spacing	Depth of Medium	# of Pods
Primary Dwelling	Drip Dispersal Line	563		1		2		
Reserve	Drip Dispersal Line	563		1		2		

CONDITIONS TO BE COMPLETED PRIOR TO THE ISSUANCE OF A SEPTIC PERMIT

Potable Water Source: Public Water Supply
Water District: Padre Dam Municipal Water District
DEHQ Grading Inspection: REQUIRED
DEHQ Building Plan Review: REQUIRED

COMMENTS: PROPOSED FIREHOUSE WITH LIVING QUARTERS
SCOPE OF WORK:
1.)INSTALL 1,000 GALLON SEPTIC TANK TRAFFIC RATED
2.) INSTALL NORWECO 500/600 TNT TREATMENT TANK (TRAFFIC RATED)
3.) JENSEN HP 1,000 PUMP CHAMBER
4.) 563' GEO FLOW DRIPLINES

CONDITIONS OF APPROVAL:

REVIEW OF PHYSICAL GRADING AT THE PROJECT SITE. CALL THE INSPECTION LINE PHONE NUMBER 858-694-2553 TO SCHEDULE THE GRADING CHECK.

THE SEPTIC CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER PRIOR TO INSTALLATION OF ANY SYSTEM COMPONENTS AND COORDINATE NECESSARY INSPECTION(S) BY THE ENGINEER.

FINAL APPROVAL SHALL REQUIRE:
- **WRITTEN CERTIFICATION AND AS BUILT FROM DESIGN ENGINEER**
- **TELEMETRY**
- **COPY OF MAINTENANCE AGREEMENT**
- **OBTAIN AN ANNUAL OPERATING PERMIT**

County of San Diego
Department of Environmental Health and Quality
Land and Water Quality
5500 Overland Ave., Suite 210, San Diego, CA 92123 / (858) 565-5173
www.sdcdehq.org

Approved By: Thalia Hernandez **Date:** 4/4/2024

ATTACHMENT E - SEPTIC PLAN

COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH AND QUALITY
LAND AND WATER QUALITY DIVISION

Proposed New Cistern
Proposed Firehouse w/ lm
quarte

ONSITE WASTEWATER TREATMENT SYSTEM LAYOUT SUBMITTAL APPLICATION

DEH PROJECT #: LOWTS-018360

SITE LOCATION: 1811 SUNCREST BLVD	**CITY:** EL CAJON	**APN:** 509-191-16-00
OWNER NAME: SAN MIGUEL FIRE DEPARTMENT	**PHONE:** 619-670-0500	**EMAIL:** GTOCKSTEIN@COX.NET
OWNER MAILING ADDRESS: 2850 VIA ORANGE WAY, SPRING VALLEY, CA. 91978		
CONTACT NAME: GENE MATTER, PE	**PHONE:** 619-992-9523	**EMAIL:** GENE@PROENGINEERINGSOLUTIONS.COM

Is there a lock or gate to access parcel or community?	[x] YES [ ] NO	If yes, provide lock/gate code(s):	CALL/TEXT GEORGE TOCKSTEIN : 619-972-2765
Are there dogs or animals on the parcel?	[ ] YES [x] NO	If yes, special instructions:	

NOTICE: All items indicated below are required to be submitted for the application to be deemed complete. Review of the submittal will begin after all required items have been submitted. Please indicate item is included in submittal

SECTION 1 – Required Items for Complete Layout Submittal

[x]	Professional's name, mailing address, email address, and phone number
[x]	Type of proposed construction (Ex: Residential, Commercial, Industrial)
[x]	Scope of work: Residential: [ ] Type of Construction [ ] # Bedrooms
[x]	Scope of work: Commercial: [ ] Business Type [x] Volume of Wastewater [ ] Character and Strength of Wastewater
[ ]	Commercial Food Service-location, design, and size of oil/grease interceptor
[x]	Legal Basis of parcel (map and lot number, plat number, etc.)
[x]	Vicinity Map; Scale (engineer scale not to exceed 1"=60'); North arrow; Layout does not exceed 11" x 17" paper
[x]	Property Lines and lot dimensions (provide an over sheet (larger scale allowed) and detail sheet(s) for large parcels)
[x]	Topographic lines and elevation points (include pad grade, finished floor, septic tank, leach lines, slope arrows, slope range, etc.).
[x]	Existing and proposed primary and reserve Onsite Wastewater Treatment System (OWTS) tank and dispersal design detail
[x]	All setback distances are shown on layout
[x]	All proposed and existing grading; Rock outcroppings; Slopes in excess of 20%
[x]	All known, recorded easements on or within 20 feet of lot boundaries (open-space, utility, road, waterline, etc.)
[x]	Identify source of potable water; Location of all public waterlines on or within 20 feet of property and signed water line statement
[ ]	Location of all wells on or within 150 of feet of property line; Location of all Public wells within 600 feet of property line NA
[ ]	Location of drinking water reservoir within 2,500' of property line NA
[ ]	Location of drainage ways; location of streams, springs, ponds, flood plains, lakes within 200 feet of property line NA
[x]	All soils testing information, such as deep borings, test holes, and/or percolation tests, plotted on the design (matches flagged locations in field)
[x]	Depth to groundwater data and specific method used to determine depth to groundwater
[x]	Location of all stormwater treatment and retention features
[ ]	Sign-off of layout by local water district or company, if required (Vista Irrigation District, Rincon del Diablo, Yuima, County Service Areas) NA

SECTION 2 – REQUIRED LAYOUT ITEMS FOR A SUPPLEMENTAL TREATEMENT SYSTEM (OWTS-STS)
Note: Include design for dispersal system for reserve areas

[x]	All Items listed in **Section 1**
[x]	List all STS components and show location on parcel
[x]	Design specifications and configuration for dispersal system for primary and reserve areas
[x]	GeoFlow worksheet for drip dispersal line (if used)
[x]	Pump(s) specifications and pump(s) curve; Friction and head loss calculation
[x]	Control/Alarm Box with telemetric reporting
[x]	Sizing calculations from the design professional
[x]	Documentation of the 24-hour emergency storage above the alarm on float(s)

Received
FEB 29 2024
County of San Diego
Dept. of Environmental Health
Land & Water Quality Div.

Notice: The acceptance of this project for submittal does not constitute an approval of the project. Additional items may be required upon completion of the property visit by the field specialist.

I certify that the above checkbox items are provided and shown on the layout and the layout plot plan shows all known easements on the parce and all public water lines on or withing 20 feet of the parcel boundaries. I understand that failure to submit the required application items may cause a delay of the project review until all items required for a full and complete review are submitted.

George Tockstein — Property Owner Signature — 2-27-24 — Date

Design Professional Signature — 2-27-24 — Date

RESIDENTIAL ONSITE WASTEWATER TREATMENT SYSTEM DESIGN PLAN

DESIGN OF SUPPLEMENTAL TREATMENT SYSTEM FOR NEW FIRE STATION WITH LIVING QUARTERS.

LOCATION: 1811 SUNCREST BLVD, CREST, 92021
APN: 509-191-16-00
LEGAL DESC: SEC 3 TOWNSHIP 16, RANGE 1 EAST , SAN BERNARDO MERIDIAN

OWNER:
SAN MIGUEL FIRE DEPARTMENT
2850 VIA ORANGE WAY
SPRING VALLEY, CA. 91978
PH: 619-670-0500

SCOPE OF WORK:
1. INSTALL 1000 GALLON SEPTIC TANK (TRAFFIC RATED)
2. INSTALL NORWECO 500/600 TNT TREATMENT TANK (TRAFFIC RATED)
3. JENSEN HP 1000 PUMP CHAMBER
4 INSTALL 563' GEO FLOW DRIPLINES

DAILY FLOW:
450 GALLONS PER DAY
BASED ON HISTORICAL USAGE WITH FACTOR OF SAFETY. SEE APPENDIX E

BASIS OF DESIGN:
PERCOLATION TEST PERFORMED 2/15/24 BY GENE MATTER, PE,
STS APPLIED RATE = 42 MPI, 0.4 G/D/SF

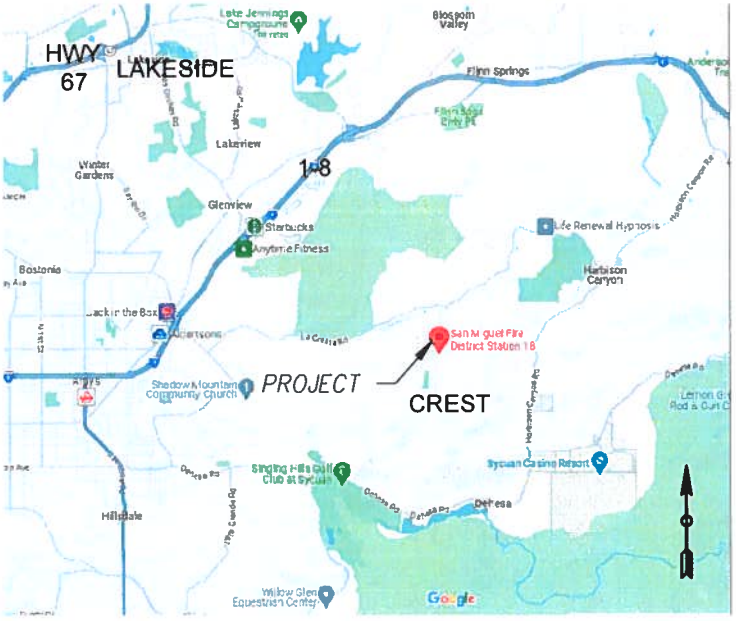
POTABLE WATER SOURCE:
PADRE DAM W.D

DATE SOURCE:
TOPO: SANGIS FILE "2018_ 2FT"

NOTES:

SHEET INDEX:

VICINITY MAP:



PREPARED BY:

GENE MATTER, PE
PRINCIPAL CIVIL ENGINEER
11351 MANZANITA ROAD
LAKESIDE, CA. 92040
GENE@PROENGINEERINGSOLUTIONS.COM

I CERTIFY THE LAYOUT DRAWING SHOWS THE LOCATION OF ALL EASEMENTS ON THE LOT AND AND PUBLIC WATER LINES ON OR WITHIN 20 FEET OF THE LOT BOUNDARIES.

GENE MATTER, PE

REGISTERED PROFESSIONAL ENGINEER
RICHARD E. MATTER JR.
No. C68281
Exp. 9/30/25
CIVIL
STATE OF CALIFORNIA

ATTACHMENT F - SEPTIC PLAN

APN 509-123-40-00

APN 509-123-09-00

APN 509-123-05-00

NORTH LANE

ELECT SERVICE (E)

WATER SERVICE (E)

OUTFALL

25' WATER S/B

1614

Gases fuel tanks
199 gallon propane
Generators

5' RETAINING WALL (P)

1st floor garage

STS RESERVE DISPERSAL FIELD

STS TREATMENT

SEE SHEET 3 FOR STS LAYOUT

CONCRETE DRAINAGE VAULT

NEW 2 STORY FIRE STATION (60'X70')

APN 509-191-16-00

0.51 ACRES

99'

100'

SUNCREST BLVD

STS PRIMARY DISPERSAL FIELD

APN 509-191-20-00

1616

1618

1620

DRIVEWAY (P)

DRIVEWAY (P)

CONCRETE TCBMP (MODULAR WETLAND)

215'

DEH Record #: DEH2024-LOWTS-0183600
Any changes to the Structures, Driveway and Grading as shown on this plan, will void this approval.
SEE COMMENTS ON ATTACHED SHEET FOR ANY SPECIAL CONDITIONS OF APPROVAL.
Jhaliah Hernandez 4/4/24
Specialist Date

APN 509-191-09-00

APN 509-191-10-00

SCALE: 1:20'

LAYOUT PREPARED BY:
GENE MATTER, PE, C68281
11351 MANZANITA ROAD, LAKESIDE, CA
619-992-9523
email: gene@proengineeringsolutions.com

REVISIONS

#	DESCRIPTION	DATE
1		
2		
3		
4		
5		

APN 509-191-16-00

1811 SUNCREST BLVD

SEPTIC LAYOUT CONCEPT

ARCHITECT / ENGINEER SEAL

NOT FOR CONSTRUCTION

SHEET INFORMATION

DRAWN BY: GM

CHECKED BY: GM

DATE: 12/07/23

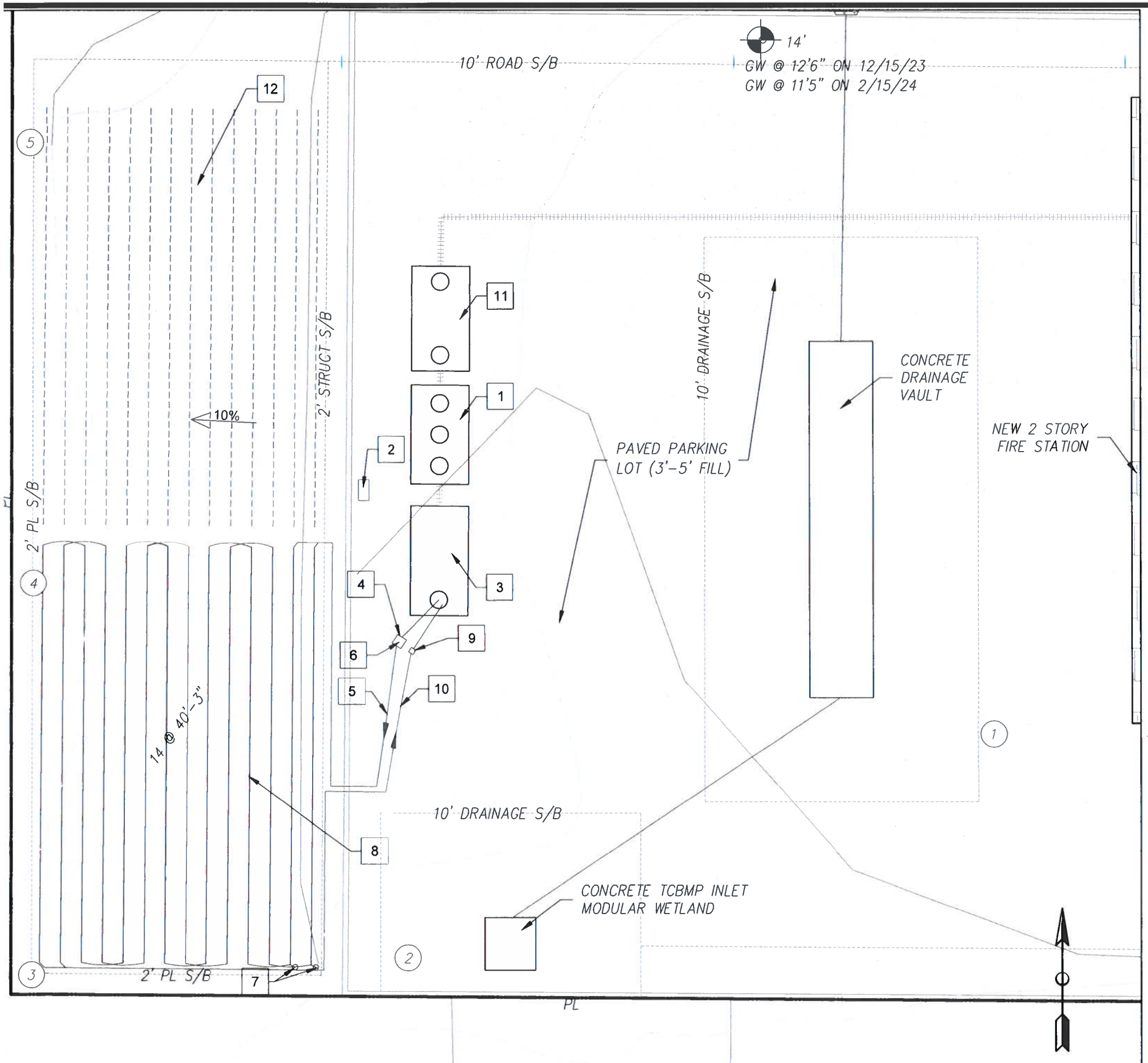
SCALE: 1:20

JOB NUMBER:

CAD FILE:

SHEET NUMBER

2



1. NORWECO MODEL TNT 500/600 RESIDENTIAL WASTE WATER TREATMENT PLANT SYSTEM, TRAFFIC RATED
2. FREE STANDING CONTROL PEDESTAL SERVICE PRE CONTROL CENTER 960
3. JENSEN HP 1000 (TRAFFIC RATED))WITH NORWECO HB105 SUBMERSIBLE PUMP
4. 1" GEOFLOW AUTOMATIC SPORTY HEADWORKS WHWS-V-1.5F-A
5. 1/2" SCHEDULE 40 PVC SUPPLY LINE
6. KRAIN INDEX VALVE WITH 1 ZONES AND 40 PSI MAX PRESSURE REDUCER ON EACH SUPPLY LINE
7. GEOFLOW AIR VENT (AT ALL HIGH LOCATIONS)
8. DISPERSAL FIELD 563 L.F. WASTEFLOW PC-1 1/2 GPH GEOFLOW PIPE W/OMITTERS AT 2' O.C. 12" BURIAL DEPTH IN 1 ZONE, 2 LATERALS PER ZONE
9. CHECK VALVE AT EACH RETURN LINE
10. 1/2" SCHEDULE 40 PVC RETURN LINE
11. 1000 GALLON PRE-TREATMENT SEPTIC TANK (TRAFFIC RATED)
12. 100% RESERVE DISPERSAL FIELD

(#) PERCOLATION TEST HOLE

GROUNDWATER OBSERVATION HOLE

TIGHTLINE

NOTES:

1. MAINTAIN 2% MINIMUM GRADE FROM HOUSE OUTFALL TO STS TANK.
2. CONTRACTOR SHALL VERIFY GRADE AND TANK DEPTH REQUIREMENTS CAN BE OBTAINED. CONTACT ENGINEER FOR ADJUSTMENTS IF NEEDED.
3. CONTRACTOR SHALL ADD AIR VACS ASA NEEDED AT ALL HIGH POINTS WITHIN DRIPFIELD
4. CONTRACTOR SHALL ADD CONCRETE EMBEDDED METALLIC MARKERS AT EACH CORNER OF DRIPFIELD FOR EASY LOCATING IN THE FUTURE.
5. DISPERSAL FIELD TO BE PLANTED WITH SHALLOW ROOTED GRASS.

LAYOUT PREPARED BY:
GENE MATTER, PE, C68281
11351 MANZANITA ROAD, LAKESIDE, CA
619-992-9523
email: gene@proengineeringsolutions.com

REVISIONS		
#	DESCRIPTION	DATE
1		
2		
3		
4		
5		

APN 509-191-16-00

1811 SUNCREST BLVD

SEPTIC LAYOUT CONCEPT

ARCHITECT / ENGINEER SEAL

NOT FOR CONSTRUCTION

ATTACHMENT E - SEPTIC PLAN

SHEET INFORMATION

DRAWN BY: GM
CHECKED BY: GM
DATE: 12/07/23
SCALE: 1:10
JOB NUMBER:

SHEET NUMBER

3

NOTE: If this drawing is not on 11" x 17", it has been revised from its original size.

1811 SUNCREST BLVD

JENSEN
HP 1000 (TRAFFIC RATED)

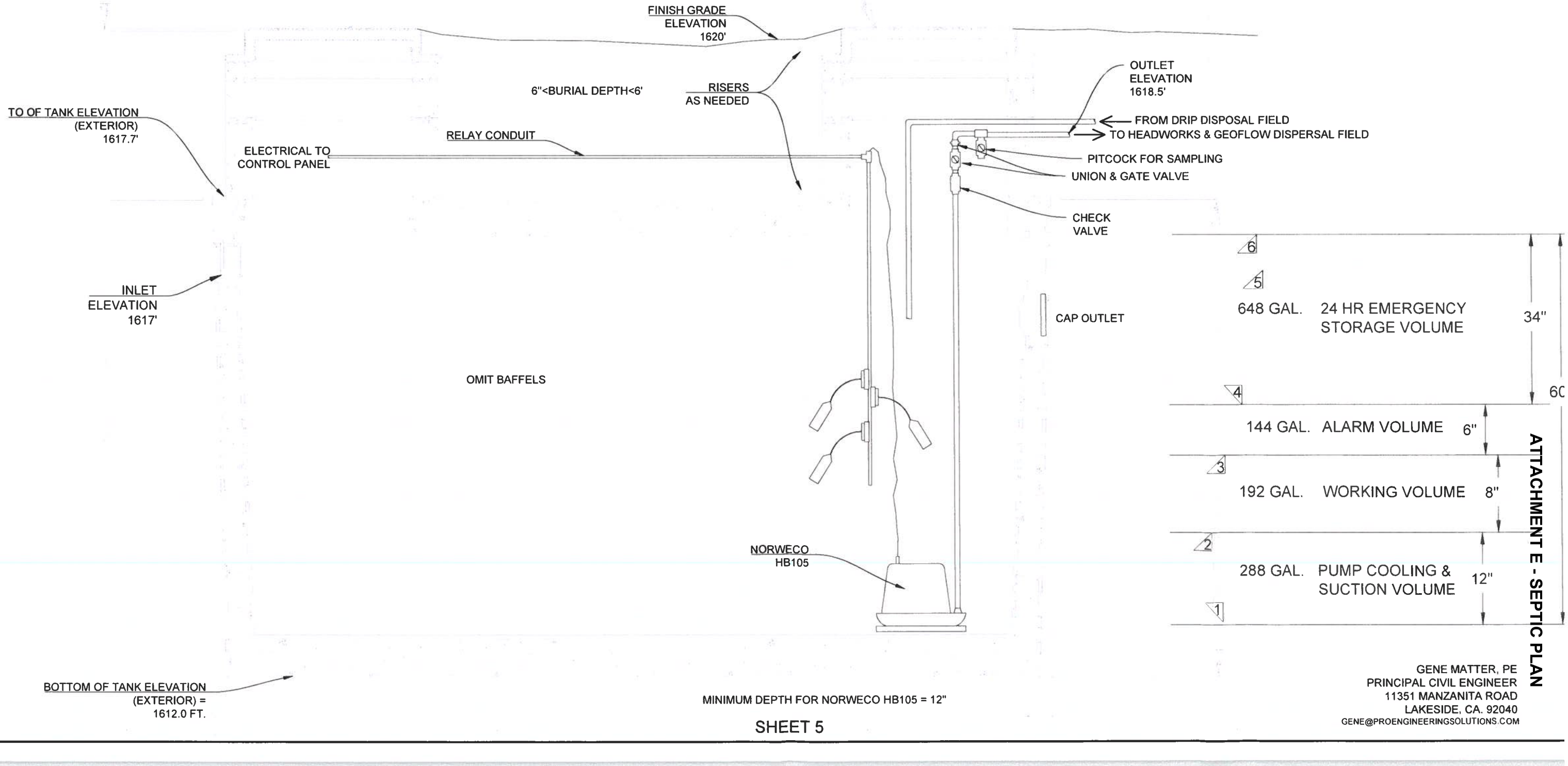
PUMP TANK STORAGE CALCULATIONS

TOTAL CAPACITY (GALS)		WATER SURFACE STATUS, ACTION, AND DEPTH			ELEV.	CAPACITY (GALS)
1230	6	MAX LEVEL	6"	0.5'	1617.5'	123
1107	5	INLET LEVEL	28"	2.3'	1617'	574
533	4	ALARM ON	6"	0.5'	7614.9'	123
410	3	PUMP ON	8"	0.67'	1614.2'	164
246	2	PUMP OFF	12"	1.0'	1613.5'	246
0	1	TANK BOTTOM	0"	0.0'	1612.5'	0

1240 GALLON /60" = 20.5 GALLONS PER INCH

24 HR EMERGENCY STORAGE NEEDED:
450 GALLONS OR 22" (@ 20.5 GALLONS/IN)

EMERGENCY CAPACITY:
34"X 20.5 GPI = 697 GALLONS > 450 GALLONS:
ACCEPTABLE



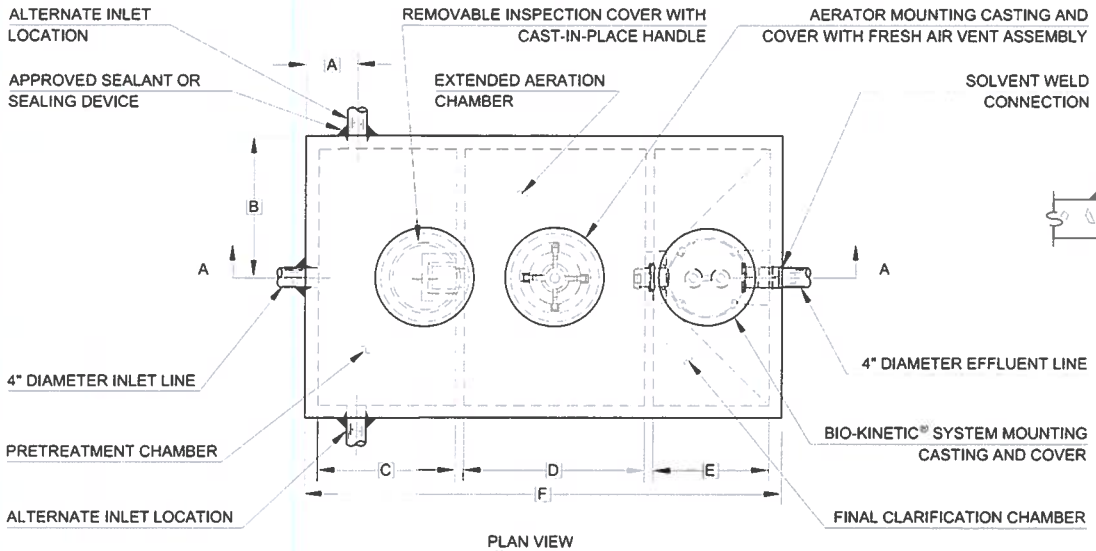
ATTACHMENT E - SEPTIC PLAN

GENE MATTER, PE
PRINCIPAL CIVIL ENGINEER
11351 MANZANITA ROAD
LAKESIDE, CA. 92040
GENE@PROENGINEERINGSOLUTIONS.COM

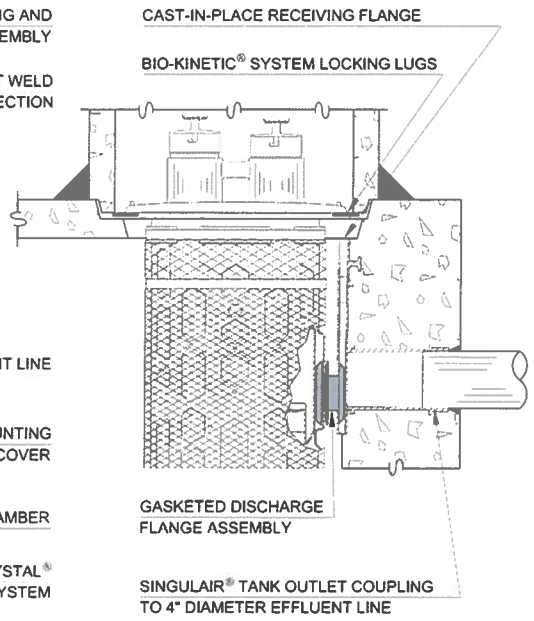
DAILY FLOW:
450 GALLONS PER DAY
SEE APPENDIX E

STS CHAMBER DETAIL
1811 SUNCREST BLVD

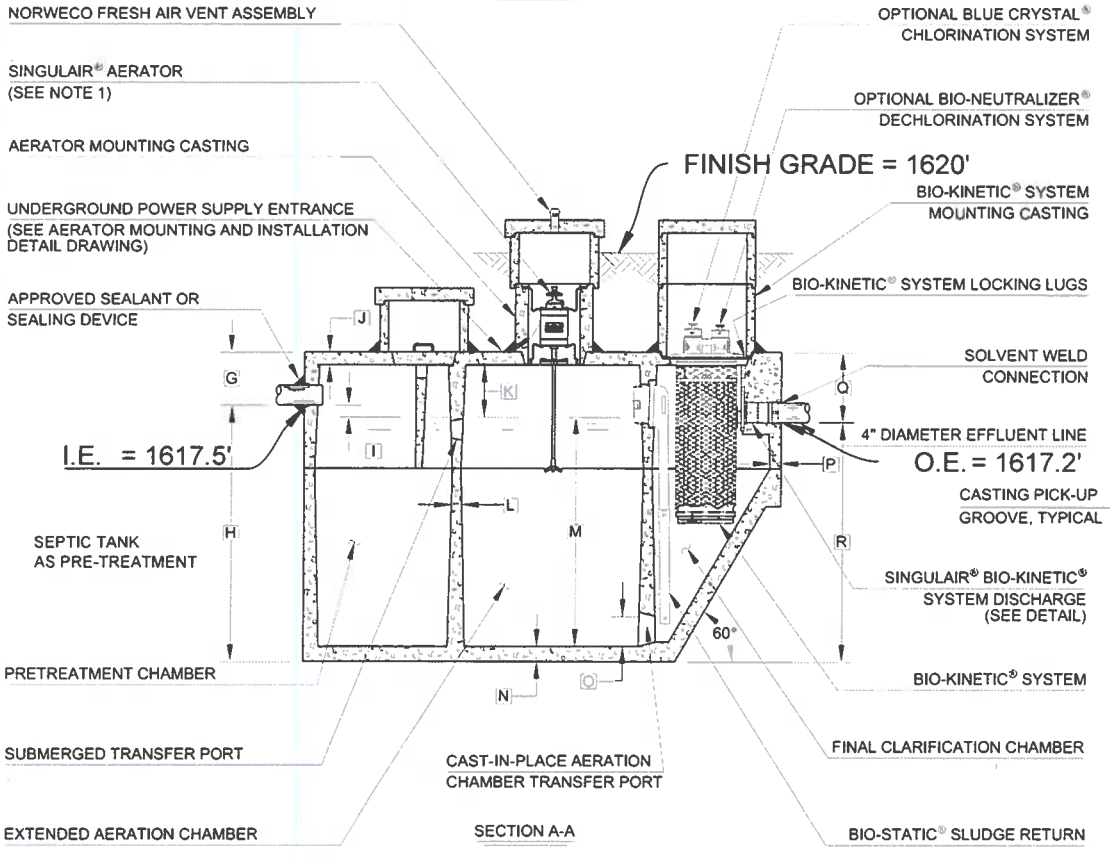
GENE MATTER, PE
PRINCIPAL CIVIL ENGINEER
11351 MANZANITA ROAD
LAKESIDE, CA. 92040
GENE@PROENGINEERINGSOLUTIONS.COM



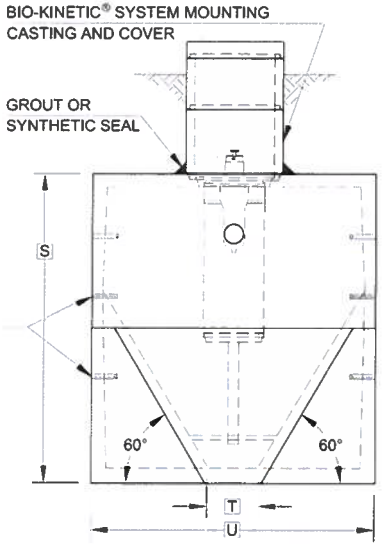
PLAN VIEW



BIO-KINETIC® SYSTEM DISCHARGE DETAIL



SECTION A-A



OUTLET END VIEW

NOTE: TOTAL SYSTEM CAPACITY: 1,300 GALLONS
RATED CAPACITY: 600 GALLONS PER DAY

GENERAL NOTES:

1. SINGULAIR® AERATOR, AS TESTED AND ACCEPTED BY NSF, OPERATING 60 MINUTES ON / 60 MINUTES OFF.
2. FALL THROUGH SINGULAIR® PLANT FROM INLET INVERT TO OUTLET INVERT IS FOUR INCHES. INLET INVERT IS TWELVE INCHES BELOW TANK TOP.
3. ON DEEPER INSTALLATIONS, PRECAST RISERS MUST BE USED TO EXTEND AERATOR MOUNTING CASTING AND BIO-KINETIC® SYSTEM MOUNTING CASTING TO GRADE. INSPECTION COVER ON PRETREATMENT CHAMBER MUST BE DEVELOPED TO WITHIN TWELVE INCHES OF GRADE.
4. TANK REINFORCED PER ACI STD. 318.
5. REMOVABLE COVERS ON RISERS WEIGH IN EXCESS OF SEVENTY-FIVE POUNDS EACH TO PREVENT UNAUTHORIZED ACCESS.
6. CONTACT THE LOCAL, LICENSED SINGULAIR® DISTRIBUTOR FOR ELECTRICAL REQUIREMENTS.

PROJECT ENGINEER'S APPROVAL:
I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

DATE:

NAME:

CONTRACTOR'S CERTIFICATION:
I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

DATE:

NAME:

CRITICAL DIMENSIONS

A	1'- 0"	N	0'- 3"
B	2'- 9"	O	0'- 6"
C	2'- 8"	P	0'- 2 ½"
D	3'- 7"	Q	1'- 4"
E	2'- 3"	R	4'- 8"
F	9'- 3"	S	6'- 0"
G	1'- 0"	T	1'- 0"
H	5'- 0"	U	5'- 6"
I	0'- 3"	V	
J	0'- 3"	W	
K	1'- 0"	X	
L	0'- 2"	Y	
M	4'- 6"	Z	

U.S. AND FOREIGN PATENTS PENDING

norweco

SINGULAIR® BIO-KINETIC® WASTEWATER TREATMENT SYSTEM
MODEL TNT - 500 GPD

6-21-07	B
BDS	
JMM	
2-16-06	
NTS	

ATTACHMENT E - SEPTIC PLAN

APPENDIX A
DISPOSAL FIELD CALCULATIONS

norweco®

Engineering the future of water and wastewater treatment

Project Name:	SUNCREST BLVD (FS 18)
Contact Name:	GEORGE
Prepared By:	Gene Matter
Date:	42 MPI, 0.4 G/D/SF

DRIP IRRIGATION DESIGN SUMMARY

SYSTEM PARAMETERS

Total Quantity of Effluent to be Disposed per Day	450	Gallons / Day
Soil Loading Rate	0.400	Gallons / Square Foot / Day
Total Dispersal Field Area	1,125	Square Feet
Drip Field Pressure	25	PSI
Flush Velocity	2.00	Feet / Second
Distance From Pump Tank to Drip Field	75	Feet

ZONE PARAMETERS

Number of Zones	1	
Dispersal Area per Zone	1125	Square Feet
Number of Laterals	2	
Drip Tubing Lateral Line Length	281	Feet
Drip Tubing per Zone	563	Linear Feet
Total Number of Emitters per Zone	281	
Dose Rate per Zone	4.78	Gallons / Minute
Doses per Zone per Day	24	

COMPONENT PARAMETERS

Total Drip Tubing Required	563	Linear Feet
Emitter Drip Rate	1.02	Gallons / Hour
Drip Tubing Spacing	24	Inches
Drip Emitter Spacing	24	Inches
Supply Manifold Size	1	Inches
Return Manifold Size	1/2	Inches

PUMP PARAMETERS

Total Static Head	20.00	Feet
Total Friction Loss	93.76	Feet
Total Dynamic Head	113.76	Feet
Minimum Pump Delivery	8.13	Gallons / Minute

PUMP TIMER SETTINGS

Pump "On" Time Setting	4.75	Minutes
Pump "Off" Time Setting	55.25	Minutes

APPENDIX B
PERCOLATION TEST DATA

ATTACHMENT E - SEPTIC PLAN

COUNTY OF SAN DIEGO

DEPARTMENT OF ENVIRONMENTAL HEALTH & QUALITY
PERCOLATION TEST REPORT

DEHQ Control #: _____
Date: _____
Activity Code: _____

Assessor's Parcel Number: 509-191-16-00 Map # _____ Lot # _____

Site Address 1811 SUNCREST BLVD Town: CREST Zip Code: 92021

Owner: SAN MIGUEL FIRE DEPARTMENT Phone: 619-670-0500

Mailing Address: 2850 VIA ORANGE WAY, SPRING VALLEY, CA. 91978

Test Hole #	Test Depth	Stabilized Rate	Test Hole #	Test Depth	Stabilized Rate	Average Perc Rate
1	12"	31	5	12"	35	42 MPI 0.4 G/D/SF
2	12"	38				
3	12"	42				
4	12"	29				

13' Deep Boring H20 @ 8' 8" verified 3/13/24

Vertical seepage pits: Provide soils log, uniformity/capacity test results, and calculations on separate 8-1/2" x 11" sheets of paper

TYPE OF SOIL: (clay, silt, sand, decomposed granite, etc.)

Surface: LIGHT BROWN SANDY SILTY
0.5-4 ft. below surface: SANDY CLAY
4-12 ft. below surface: COURSE SAND WITH SILT
12-14 ft. below surface: TAN SILTY SAND
_____ ft. below surface: _____
Depth to Refusal: 14' Depth to Groundwater: 11'5"

RECOMMENDATIONS:

Septic Tank: 1000 gal Pump Chamber: _____ gal Surge Tank: _____ gal
Leach Line Length: _____ ft Seepage Pit Type: _____ Number of Pits: _____
Trench Depth: _____ ft Length: _____ ft Width: _____ ft
Rock below Pipe: _____ in Total Depth: _____ ft Cap Depth: _____ ft

Other: STS: NORWECO TNT 500/600 TREATMENT, JENSEN HP1000 PUMP CHAMBER, 563' GEOFLOW DRIPLINE
Proposed Structure: NEW FIRE STATION WITH LIVING QUARTERS

WATER SUPPLY:

Source of Potable Water: PADRE DAM W.D. Well Permit Number: _____

I have reviewed this percolation data and design of the subsurface sewage disposal system for this parcel and find the data and design to be accurate and in compliance with state and local regulations, and good engineering practice.

Registered CE, PE, Geologist, REHS: GENE MATTER, PE

Address: 11351 MANZANITA ROAD, LAKESIDE, CA. 92040 Phone: 619-992-9523 Date: 2/15/24

FOR DEPARTMENT USE ONLY

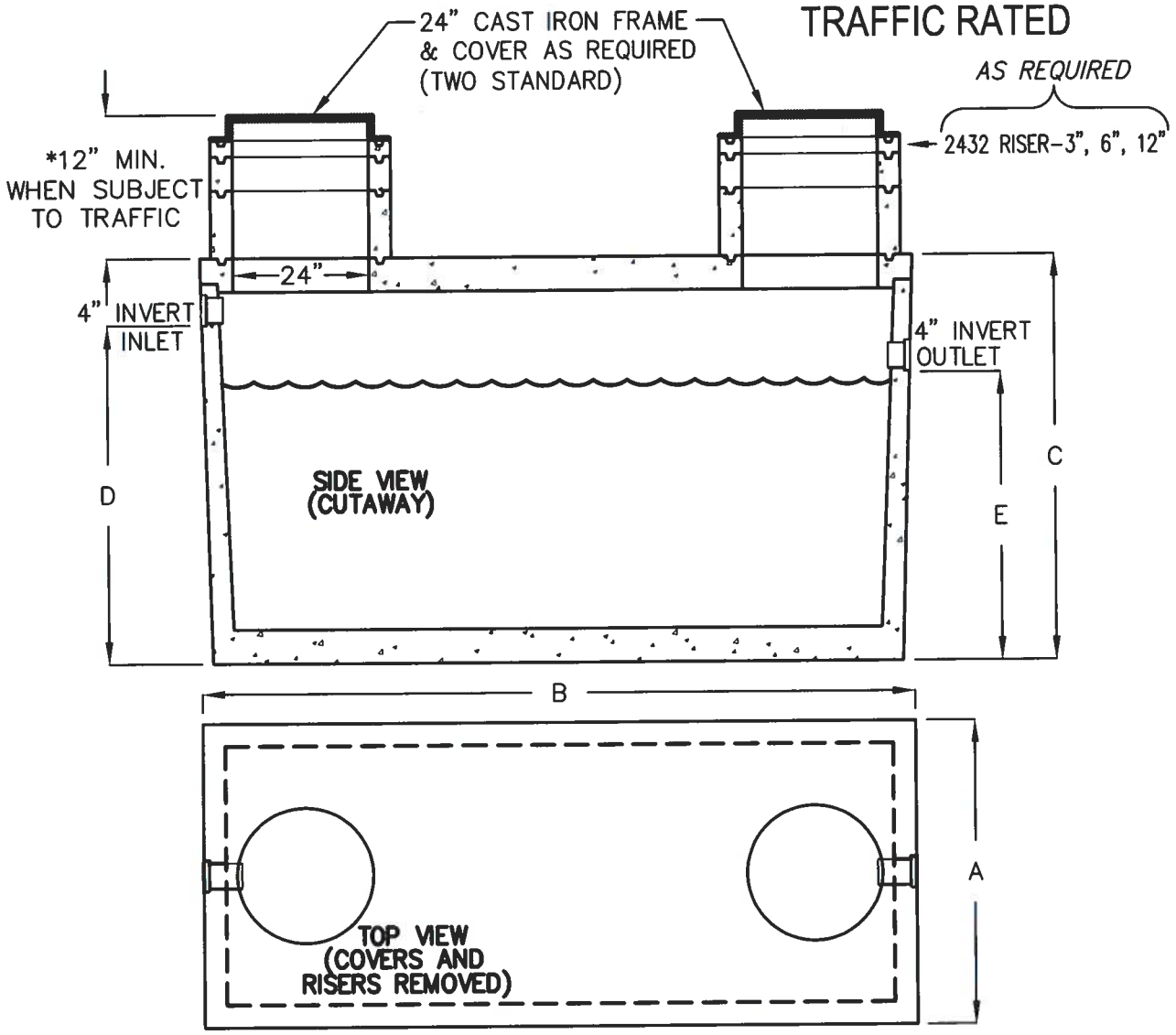
Approved: Yes ✓ No ___ Date: 4/4/24
Specialist: Thalia L. Hernandez
Building Plan Review: REQUIRED Date: TBD
Grading Inspection: WAIVED Date: 4/4/24
Water Sample Analysis Results: WAIVED Date: 4/4/24

Final Map Required: Yes ___ No ___

APPENDIX C
PARTS SPECIFICATIONS

750 - 1,500 GALLON HOLDING TANKS

TRAFFIC RATED



NOTE: NOT RECOMMENDED FOR POTABLE WATER OR ABOVE GROUND USE. NO WARRANTIES EXPRESSED OR IMPLIED FOR MERCHANTIBILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

MODEL NUMBER	LIQUID CAPACITY GALLONS	TOTAL TANK VOLUME	WIDTH "A"	OVERALL LENGTH "B"	TANK HEIGHT "C"	INLET "D"	OUTLET "E"	MINIMUM EXCAVATION WIDTH	MINIMUM EXCAVATION LENGTH	*DEPTH OF BURY	TANK WEIGHT LBS.
HP-750	750	924	4'-0"	8'-1"	6'-0"	5'-0"	4'-9"	5'-0"	9'-1"	6' MAX.	9,000
HP-1000	1000	1240	5'-1"	8'-2"	6'-0"	5'-0"	4'-9"	6'-1"	9'-2"	6' MAX.	11,000
HP-1200	1200	1485	5'-9"	8'-6"	6'-0"	5'-0"	4'-9"	6'-9"	9'-6"	6' MAX.	12,600
HP-1500	1500	1870	5'-7"	10'-8"	6'-0"	5'-0"	4'-9"	6'-7"	11'-8"	6' MAX.	14,900
LARGER SIZES AVAILABLE UPON REQUEST, CONTACT JENSEN PRECAST FOR DETAILS.											

- TANK DESIGNED FOR H-20 TRAFFIC WHEEL LOAD WITH DRY SOIL CONDITIONS (WATER TABLE BELOW TANK).
- SUITABLE NATIVE OR SUB-BASE SHALL BE PREPARED TO HANDLE ANTICIPATED LOADS. THE EXCAVATION SHALL BE BEDDED WITH SUITABLE GRANULAR MATERIAL AND SHALL BE COMPACTED TO 90% MAXIMUM DRY DENSITY, OR TO REQUIREMENTS OF THE PROJECT GEOTECHNICAL ENGINEER.
- FOR COMPLETE DESIGN AND PRODUCT INFORMATION CONTACT JENSEN PRECAST.

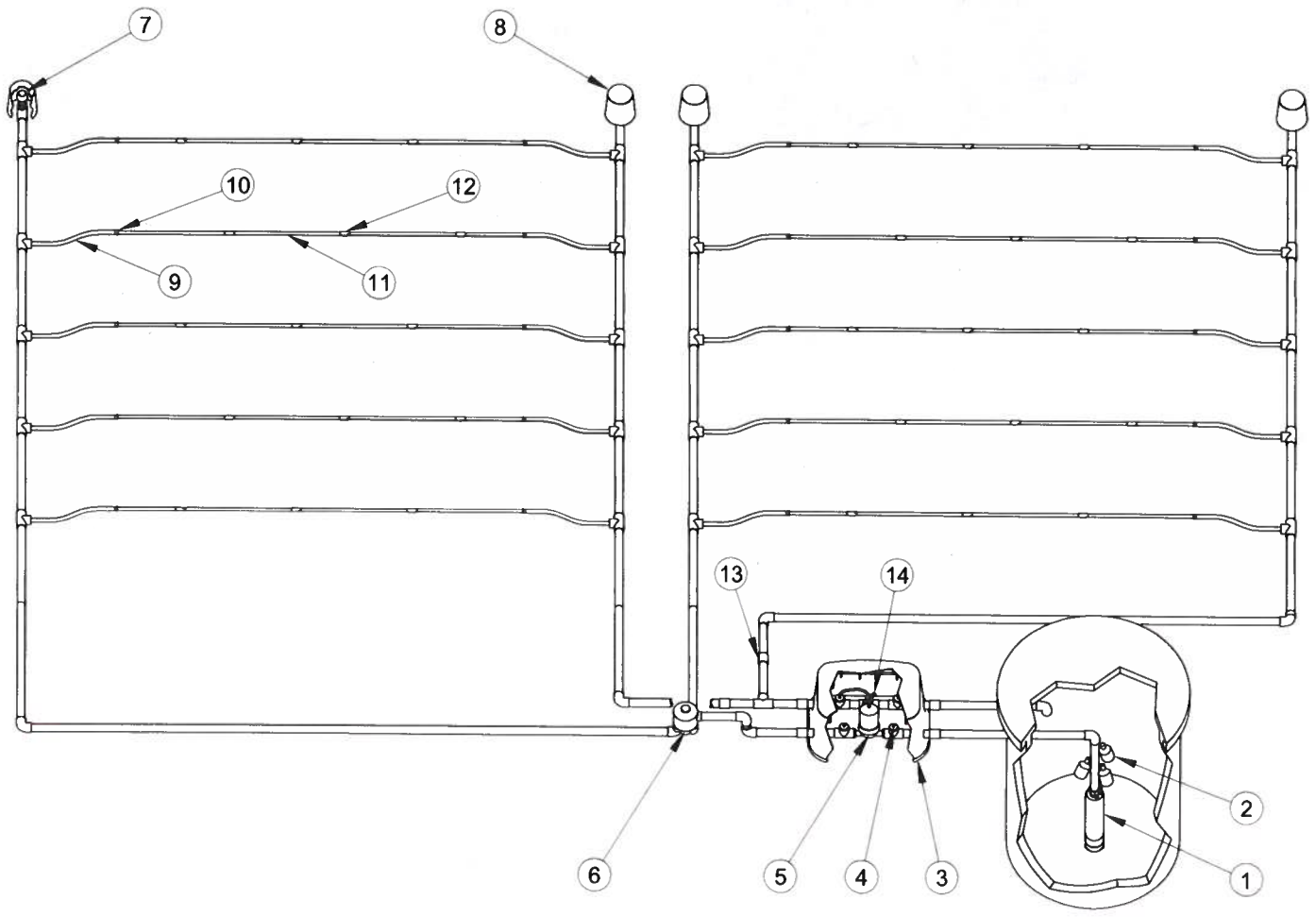
10-01-03
750thru1500_holding_tanks-W.dwg

JENSEN PRECAST

norweco® SINGULAIR®

SUBSURFACE DRIP DISPOSAL SYSTEMS

PRE-ENGINEERED DESIGNS PARTS LIST



TWO ZONE DRIP SYSTEM

1	HB105 Submersible Effluent Pump	8	Relief Valve Enclosure
2	Pump Float Switches	9	Flexible PVC Hose
3	Headworks Enclosure	10	Compression Fitting
4	Schrader Valve	11	Drip Emitter Tubing
5	1" Disc Filter	12	Pressure Compensating Drip Emitter
6	Zone Indexing Valve	13	PVC Check Valve
7	Air/Vacuum Relief Valve	14	PVC Flush Valve

PRE-ENGINEERED DESIGNS PARTS LIST (Page 2 of 4)

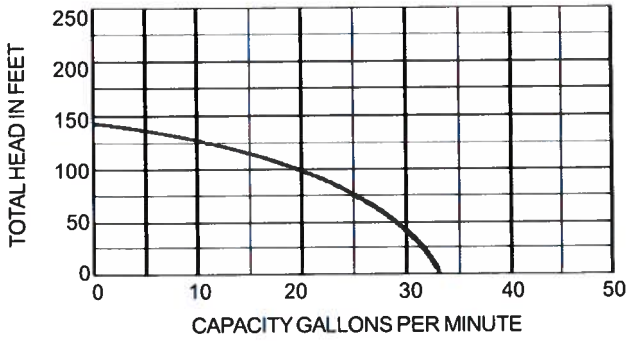
INTEGRATED SYSTEM CONTROLS

Integrated system controls (ISC) by Norweco eliminate the need to install and maintain separate controls for different components of the treatment system. One control center manages it all.

Certified and listed by NSF and CSA, ISC control centers bring together into one enclosure alarm/pump test switches, alarm silence switches, audible/visual alarms, failsafe features, remote monitoring, telemetry and aerator/pump timers.

EFFLUENT PUMP SPECIFICATIONS

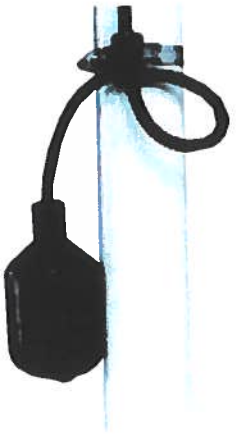
The pump shall be a Norweco Model HB105 high head submersible pump, designed to handle filtered effluent and be capable of passing 1/16" spherical solids. The 115 volt, single phase, 60 cycle pump shall be UL and CSA listed and capable of running dry for short durations without damage to the motor or pump end.



The pump motor shall be 1/2 horsepower rated and operate at 3450 RPM. The motor assembly shall have corrosion resistant stainless steel exterior construction and incorporate a dual action starting switch to provide automatic torque reversal. Electrical surge protection shall be provided. Automatic motor overload protection shall be included at the top end of the motor windings and shall be wired in series to automatically cease operation when the motor winding temperature reaches 266° F. The 10 foot long motor power cord shall be 14-3, jacketed, type SJOW. The power cord shall be sealed at the motor entrance by means of a rubber grommet and stainless steel compression plate. The pump impeller shall be of the six vane enclosed type, constructed of engineered thermoplastic. The impeller shall have a hexagonal I.D. and be positively driven by a hexagonal 300 series stainless steel pump shaft. The pump shall be warranted by the manufacturer against defects in material and workmanship for a period of one year under normal use and service.

FLOAT SWITCH

The mechanically-activated, wide-angle pump control switch provides automatic operation of the effluent dosing pump. This commercial duty float switch is not sensitive to rotation or turbulence, allowing it to be used in both calm and turbulent applications. Float switch features consist of UL recognition, NSF Standard 61 listing, CSA certification and Water Quality Association approval. **NOTE:** This switch is not recommended for controlling non-arcing electric loads or electric loads less than <100 milliamps, 12 VAC. Switch must be used with pumps that provide integral thermal overload protection.



FLOAT SWITCH TECHNICAL DATA

Cable	Flexible 16 Gauge, 2 Conductor SJOW, Water Resistant
Float Housing	2.74" Diameter x 4.83" Long, High Impact, Corrosion Resistant, Polypropylene
Water Depth	30 Feet
Electrical	120/125 VAC 50/60 Hz Single Phase
Maximum Pump Starting Current	78 Amps
Maximum Pump Running Current	13 Amps
Maximum Pump HP	1/2 HP

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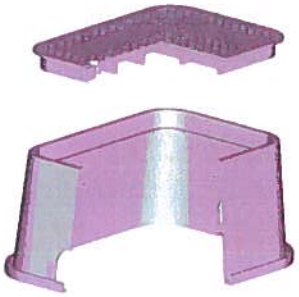
PRE-ENGINEERED DESIGNS PARTS LIST (Page 3 of 4)

HEADWORKS ENCLOSURE

The headworks enclosure is purple in color and rectangular in shape. Green enclosures are available if state and local regulations permit. All hydraulic system control components are contained within this open bottom enclosure. Components are conveniently arranged so that all necessary connections can be accessed from grade during routine service.



HEADWORKS ENCLOSURE TECHNICAL DATA

Enclosure Length	15"
Enclosure Width	21"
Enclosure Depth	12"
Enclosure Color (Standard)	Purple

SCHRADER VALVE

Schrader valves are manufactured with viton and PTFE threaded seals and are used with a liquid pressure gauge to accurately monitor system operating pressure. Located upstream and downstream of the disc filter and upstream of the flush valve.

SCHRADER VALVE TECHNICAL DATA

Connection	1/4" NPT
Maximum Pressure	200 PSI
Temperature Range	40° F to 300° F
Thread Size	0.305" - 32

1" DISC FILTER

The disc filter is completely corrosion resistant and designed to capture and retain effluent suspended solids. 1" disc filters are manufactured specially for small flow applications. A built-in tap allows for continuous flushing of filtered solids to the return line. Operation is automatic and requires no special tools.

1" DISC FILTER TECHNICAL DATA

	Metric	Imperial
Maximum Pressure	10 Bar	145 PSI
Flow Rate	6 m^3/h	26 GPM
Flow Rate	4 m^3/h	18 GPM
Filtration Surface Area	316 cm^2	49 in^2
Filtration Volume	440 cm^3	27 in^3
Filter Length	237 mm	9 11/32"
Filter Width	158 mm	6 7/32"
Distance Between Connections	158 mm	6 7/32"
Weight	1 kg	2.2 lbs.

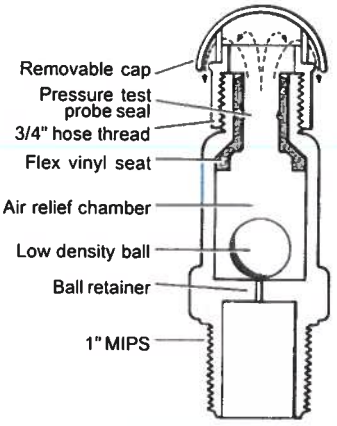
ZONE INDEXING VALVE

Zone indexing valves offer a reliable and economical way to automate multiple zoned residential and small commercial effluent drip disposal systems. Indexing valves are constructed of high strength, noncorrosive ABS polymer for long service life. Available in four and six outlet models, these valves make it easy to change from two to six disposal zones. Valves are easily maintained and serviced for long product life due the simplicity of the design. Reliably automates multiple zoned residential and small commercial effluent disposal systems with flows as low as 10 GPM and pressures of 25-75 PSI.

AIR/VACUUM RELIEF VALVE

Air/vacuum relief valves are installed at the high points of the drip field to keep soil from being pulled into the drip emitters due to back siphoning or back pressure. They are also used for proper draining of the supply and return lines in freezing conditions.

The air/vacuum relief valve provides instant and continuous vacuum relief and noncontinuous air relief. Both the body and the removable cover shall be constructed of molded plastic. The body and the cover shall be connected with a 3/4" hose thread.



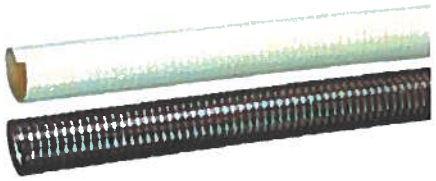
PRE-ENGINEERED DESIGNS PARTS LIST (Page 4 of 4)

RELIEF VALVE ENCLOSURE

Manufactured from low density polymer resin, this 6" round enclosure provides a secure housing for the relief valve.

FLEXIBLE PVC HOSE

Designed to be glued into Schedule 40 PVC fittings, this flexible hose is used to connect drip tubing to supply and return lines. The hose is also used in single trench disposal zones to make loops in the drip tubing. Saves time and labor. Requires fewer fittings than rigid pipe. Smooth bore construction allows unrestricted flow. Use with recommended PVC primer and cement.



COMPRESSION FITTING

Compression fittings and adapters are specifically designed for use in subsurface effluent drip disposal systems. Manufactured from high strength polymer resin, these fittings simplify the installation of the emitter tubing.

COMPRESSION FITTING TECHNICAL DATA

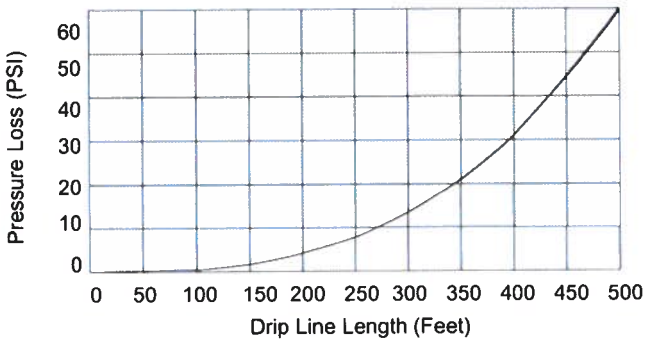
1/2" Slip x 1/2" Drip Line
Weight: 0.005 lbs.

DRIP EMITTER TUBING

The drip tubing shall consist of nominal sized ½" linear low density, polyethylene tubing with turbulent flow drip emitters bonded to the inside wall. The drip emitter flow passage shall be 0.032" x 0.045" square. The tubing shall have an outside diameter (O.D.) of approximately 0.64" and an inside diameter (I.D.) of approximately 0.55". The tubing shall consist of three layers; the inside layer shall be a bactericide protection, the middle layer shall be black and the outside layer shall be purple striped for easy identification. The pressure compensating emitters shall be molded from virgin polyethylene resin with a silicone rubber diaphragm and shall have a nominal discharge rate of 1.02 gallons per hour. Each emitter shall be impregnated with a root growth inhibitor to protect against root intrusion.

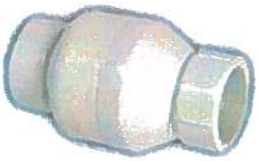
Flow Rate vs. Pressure / TDH		
Drip Tubing	Head	Pressure
1.02 GPH	16 - 139 Feet	7 - 60 PSI

Pressure Loss vs. Length of Drip Line



CHECK VALVE

PVC (Polyvinyl Chloride) check valves prevent effluent from flowing into resting disposal zones when active zones are being dosed. The check valves also allow maintenance to be performed without losing pressure in the system ahead of the maintenance.



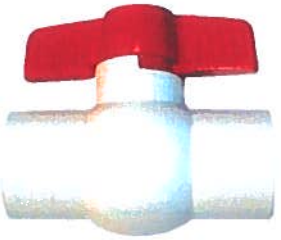
Check valves are a vital component in multi-zone effluent drip disposal systems. The check valves are available as a union check valve combination, allowing a convenient connect/disconnect location anywhere in the system.

FLUSH VALVE

The flush valve is used to establish system operating pressure, allowing a continuous flow through the disposal field.

FLUSH VALVE TECHNICAL DATA

Size: 1 1/4" PVC Ball Valve (Standard)
Rated for 150 PSI at 73° F



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MODEL AT 1500

UV DISINFECTION SYSTEM

INSTALLATION AND OPERATION MANUAL

The Model AT 1500 UV disinfection system is listed with Underwriters Laboratories (UL) under Standard 979 as a residential treatment device. The installer should provide a power disconnect switch mounted to the exterior of the facility being serviced to de-energize power to the unit during maintenance. Electrical work must be performed in accordance with the latest edition of the National Electrical Code, as well as all applicable local codes. **CAUTION: DO NOT LOOK DIRECTLY AT THE UV LAMP OR EXPOSE SKIN DURING OPERATION. PERMANENT EYE DAMAGE AND SKIN BURNS WILL OCCUR FROM UV RADIATION EXPOSURE. UV BLOCKING SAFETY GLASSES MUST BE WORN DURING INSTALLATION, SERVICE OR ANY TIME THE BULB MAY BE ILLUMINATED.**

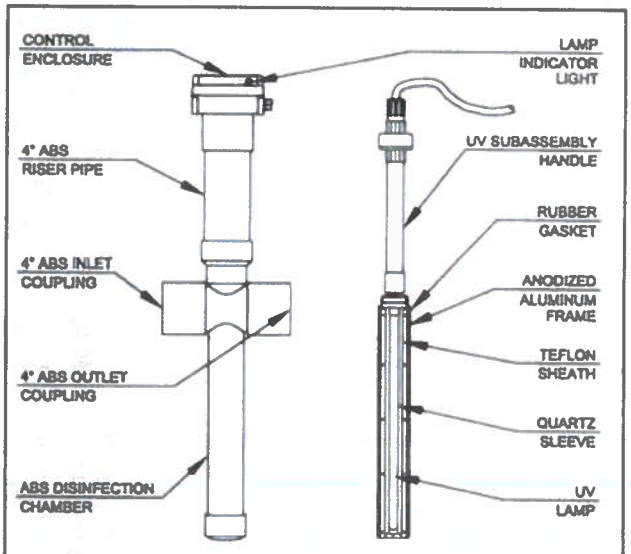
COMPONENTS

The Model AT 1500 UV disinfection system consists of the following components:

1) Control enclosure
2) 4" ABS riser pipe
3) 4" ABS inlet coupling
4) Turbulence inducer
5) 4" ABS outlet coupling
6) Disinfection chamber
7) UV lamp (bulb)
8) UV subassembly with anodized aluminum frame, quartz sleeve and Teflon sheath
9) Subassembly handle
10) Dielectric grease (5 g)

These components should be supplied by the installer:

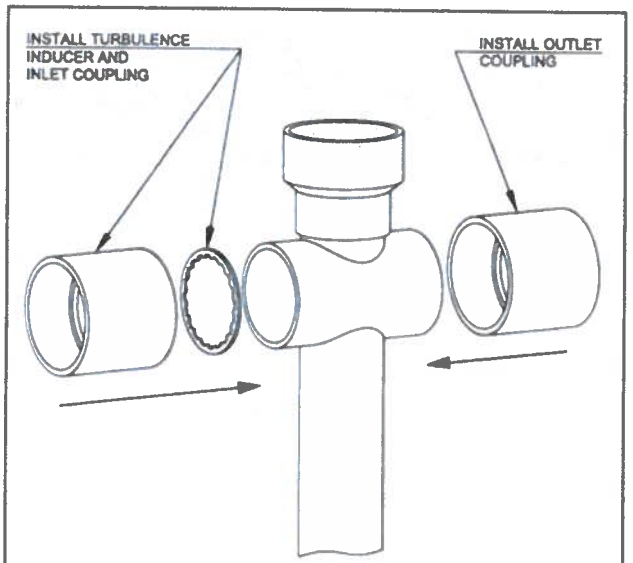
1) Disconnect switch
2) Solvent cement
3) Hacksaw
4) Glycerin (optional)
5) Clean, soft cloth
6) Isopropyl alcohol
7) #14/2 AWG electrical cable
8) Conduit and fittings



UV DISINFECTION CHAMBER AND SUBASSEMBLY

INSTALLATION INSTRUCTIONS

1. The excavation for the wastewater treatment system upstream of the UV disinfection device should include an additional 3 feet of length to allow for installation of the Model AT 1500.
2. Carefully unpack the Model AT 1500 system. Remove and properly discard all packaging materials from the system components. The UV lamp should remain in the protective shipping sleeve until it is installed.
3. Insert the turbulence inducer into the 4" inlet coupling. Solvent weld the inlet coupling to the disinfection chamber with the turbulence inducer towards the chamber. Solvent weld the 4" outlet coupling to the disinfection chamber.



INLET AND OUTLET COUPLING

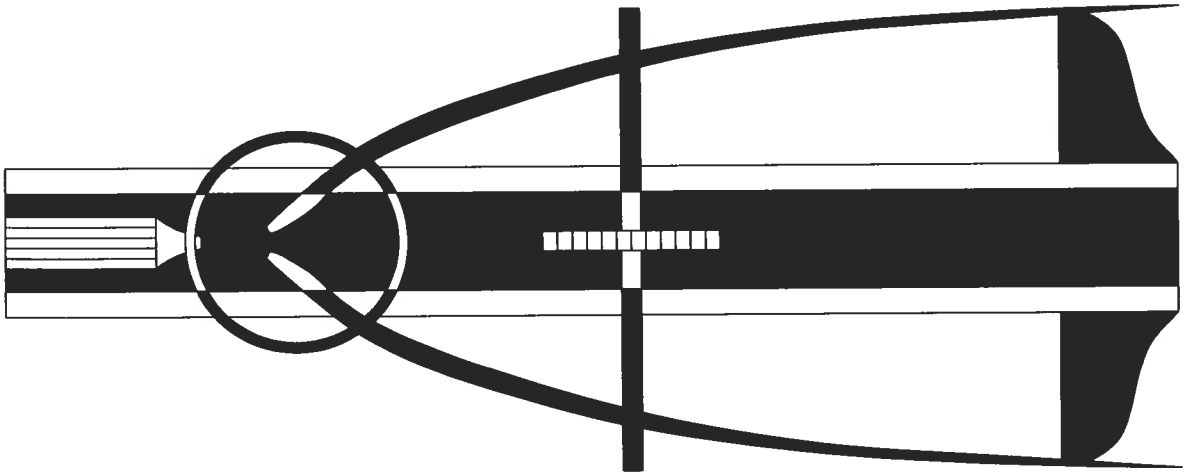
4. Solvent weld the effluent line of the upstream treatment system to the 4" inlet coupling of the Model AT 1500. Next, solvent weld the 4" outlet coupling to the final effluent line. Cover the open top of the disinfection chamber and backfill up to the bottom of the plumbing.

SERVICE PRO®
CONTROL CENTER WITH MCD® TECHNOLOGY

SPECIFICATIONS

GENERAL SPECIFICATIONS

The contractor shall furnish and install one complete Service Pro control center with MCD technology as described in the following specifications. Monitoring, Compliance and Diagnostic (MCD) functions for the domestic wastewater treatment system and auxiliary equipment shall be accomplished by combining solid state microprocessor technology with optional advanced telemetry and web-based data acquisition. The control center shall operate the Singulair wastewater treatment plant and monitor the entire system, including up to three auxiliary treatment components. Once commissioned, the telemetry system shall communicate with the Service Pro website and monitoring center to record all maintenance and alarm details. The website shall function as the user interface to manage all operational data with password protected access available to distributors, service providers, regulatory agencies and homeowners.



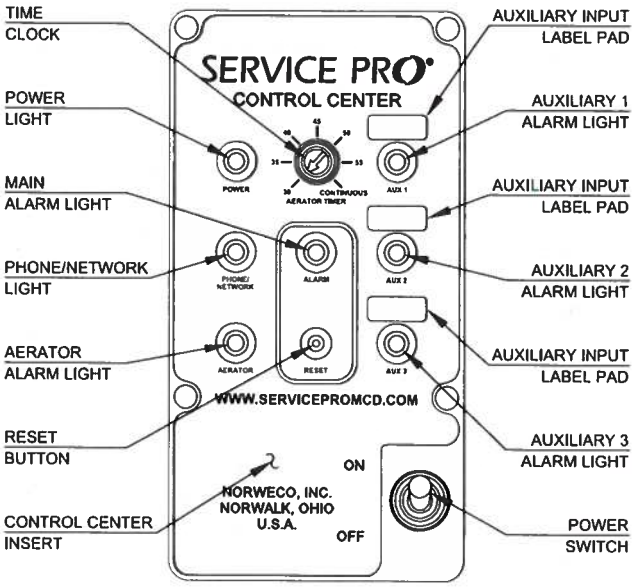
OPERATING CONDITIONS

The Service Pro control center with MCD technology shall be UL Listed and provide Monitoring, Compliance and Diagnostic functions for the Singulair wastewater treatment plant and auxiliary equipment using a microprocessor based platform. The microprocessor shall contain nonvolatile memory to prevent loss of programming in the event of a power failure. When used with the Singulair Model 960 system, the programmed run cycle shall not permit the aerator to be "off" for more than thirty minutes per hour. When used with the Singulair Model TNT system, the programmed run cycle for the aerator shall be sixty minutes "on" and sixty minutes "off." The control center shall be housed in a NEMA rated electrical enclosure designed specifically for outdoor use. Control centers that do not include integral telemetry equipment require multiple enclosures with interconnecting wiring and shall not be considered for this application.

SERVICE PRO®

MONITORING FUNCTIONS

The Service Pro control center shall monitor the operation of the Singulair system and up to three auxiliary treatment components. The performance of the Singulair aerator shall be constantly monitored to detect any aerator over current, aerator under current or open motor condition. If any one of these conditions is detected, power to the aerator shall be interrupted, a diagnostic sequence shall begin and the visual alarm shall activate. After a factory programmed recovery interval, an automatic restart attempt shall be initiated. If normal aerator operation does not resume during 24 programmed recovery and restart cycles, the audible alarm shall activate and, if the telemetry system has been enabled, the control center shall report the specific condition to the Service Pro monitoring center. In the event that any of the auxiliary inputs detect an operational problem, the audible and visual alarms shall immediately activate and, if the telemetry system has been enabled, the control center shall report the specific alarm condition to the monitoring center. The distributor shall be automatically notified by the Service Pro monitoring center of the specific alarm condition using phone, fax or email.



SERVICE PRO CONTROL CENTER
MODEL 960 SYSTEM

COMPLIANCE FUNCTIONS

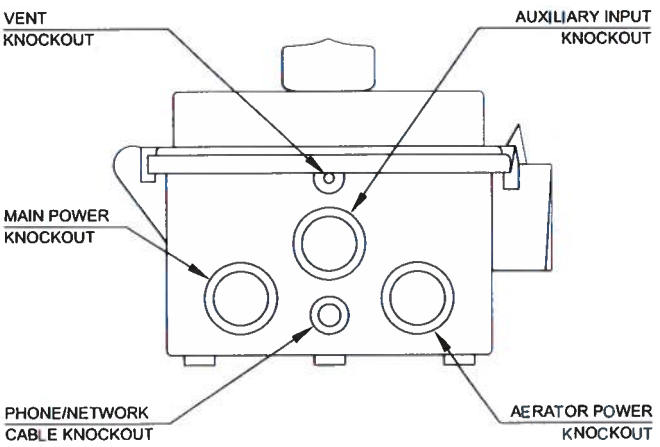
The Service Pro control center shall insure compliance with regulatory requirements by confirming normal system operation, providing remote system monitoring and automatically recording operating data and service visits. Distributors shall have the ability to grant regulatory agencies access to reports about installations in their jurisdiction that have been recorded on the Service Pro website. The optional integrated telemetry system shall enable the Service Pro control center to communicate with the monitoring center via standard residential telephone or Internet service. By use of the alarm reset button, the monitoring center shall be notified of the beginning and end of any service visit. The monitoring center shall provide a time and date stamped record of each service visit and post the data to the Service Pro website. If telemetry is enabled, the control panel shall automatically contact the monitoring center monthly and deliver a heartbeat call indicating proper system operation. If the heartbeat call is not received, the monitoring center shall provide notification to the service provider indicating the system has not confirmed proper operation and a site visit is required. Control centers and/or telemetry systems without the heartbeat feature do not provide proactive confirmation of system compliance and shall not be considered for this application.

DIAGNOSTIC FUNCTIONS

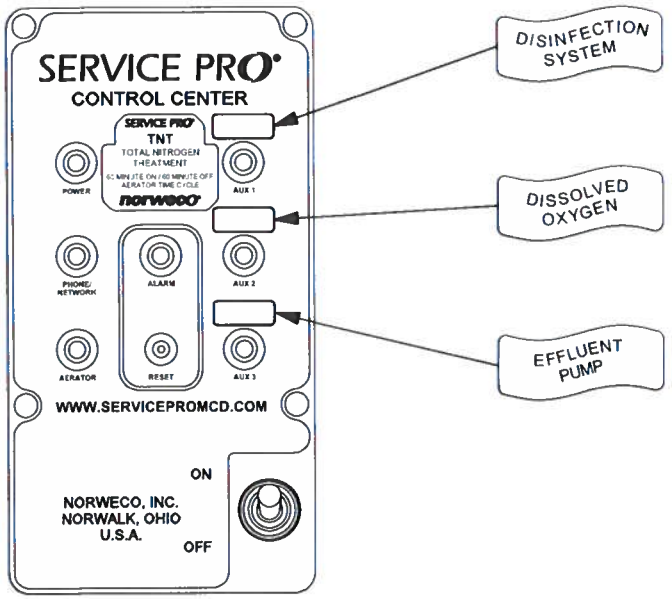
The diagnostic functions of the Service Pro panel shall insure automatic identification of any alarm condition from the Singulair system or accessory equipment. Excessive load on the aerator from any cause, including effluent pump failure, a Bio-Kinetic system requiring service or system high water, shall result in the control center visual alarm indicating an aerator over current condition. An open electrical circuit anywhere in the control center or aerator, a broken service wire between the control center and the aerator, open motor windings within the aerator or an aerator that has been left unplugged shall activate the visual alarm indicating an aerator under current condition. Any aerator alarm condition shall activate the diagnostic sequence during which the control center shall allow for a temporary condition to correct itself before a call is made to the remote monitoring center. The diagnostic sequence shall include up to 24 automatic restart attempts within a two hour period. During this diagnostic period when the control center is attempting to automatically restart the Singulair aerator, pushing the reset button shall result in a manual restart attempt. Any successful restart attempt shall return the system to normal operation and the visual alarm shall deactivate. If the condition has not been corrected after 24 manual or automatic restart attempts, the control center shall activate the audible alarm and, if the telemetry system has been enabled, notify the monitoring center of the specific alarm code. Any auxiliary equipment malfunction shall immediately activate the control center audible and visual alarms. If enabled, the telemetry system shall then call the monitoring center to identify the specific auxiliary alarm.

CONTROL CENTER COMPONENTS

The Service Pro control center shall use a microprocessor based platform to control and monitor the wastewater treatment system. Nonvolatile memory built into the solid state circuit board shall prevent programming loss in the event of a power failure to the facility being served. The pre-wired controls shall be mounted in a lockable NEMA rated enclosure designed specifically for outdoor use. The corrosion resistant enclosure shall have knockouts molded into the bottom surface to facilitate installation of electrical conduit and the system phone or network line. Each control center shall be a UL Listed assembly and shall include a time clock, main alarm light, reset button, power switch, power light, phone/network light, aerator alarm light and three auxiliary alarm lights. The power switch shall control power for all Service Pro control center and aerator functions. The green power light shall be lit when the controls are energized and is the only light that will be illuminated during normal system operation. The yellow phone/ network light shall be illuminated when the telemetry system is communicating. The red aerator alarm light shall be illuminated when normal operation of the aerator has been interrupted. The red auxiliary input lights shall illuminate only when the respective optional device requires service. The main alarm circuit of the Service Pro control center shall contain both visual and audible alarms and a reset button. Both the audible and visual alarms shall comply with the requirements of NSF/ANSI Standard 40 and Standard 245 regarding visual and audible signaling equipment. The main alarm light shall be visible through the closed door of the enclosure via a red weatherproof lens. When activated by either an aerator or auxiliary alarm, the main alarm light shall flash a programmed pattern to indicate the specific alarm condition. The reset button shall be centrally located on the control center and accessible from outside the enclosure via a weatherproof boot. Pressing the reset button shall cause a manual restart attempt of the aerator and re-initiate the programmed run cycle. If the audible alarm has been activated, pressing the reset button shall silence the alarm. The visual alarm shall remain active during the time the audible alarm is silenced. If the alarm condition has not been corrected after 48 hours, the audible alarm will reactivate. If telemetry is enabled, the control panel shall automatically call the Service Pro monitoring center. Data transmitted by the control center shall be received by the monitoring center and recorded in the database maintained via the Service Pro website. The monitoring center shall automatically notify the distributor or service provider when a Service Pro panel reports an alarm condition or fails to initiate a monthly heartbeat call.



BOTTOM OF ENCLOSURE WITH KNOCKOUTS



MODEL TNT CONTROL CENTER WITH AUXILIARY ALARM LABELS

MODEL 960 SYSTEM OPERATION

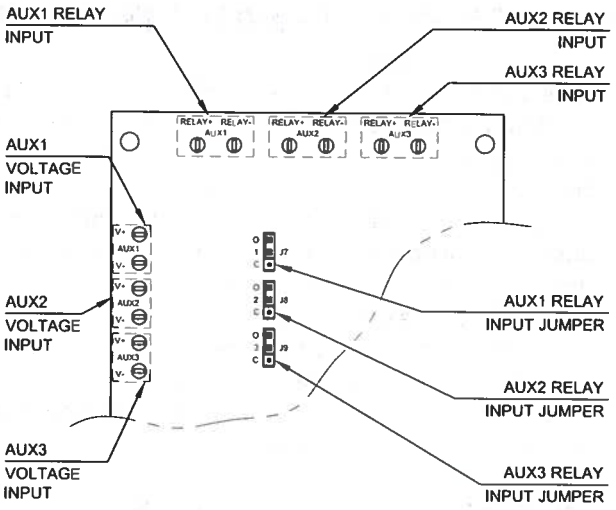
When a Service Pro control center is used with the Model 960 Singulair system, the aerator run cycle shall be controlled by an adjustable, pre-wired time clock. The minimum setting shall not permit the aerator to be "off" for more than 30 minutes per hour. The time clock shall be adjustable in 5 minute increments and designed so that any adjustment results in additional run time up to "continuous" operation (60 minutes per hour). Use of a time clock can seriously affect system performance and operating cost. Systems that have not been performance certified at the minimum time clock setting by an independent testing laboratory shall not be considered for this application.

MODEL TNT SYSTEM OPERATION

The Service Pro control center supplied with the Model TNT Singulair system shall be equipped with a factory programmed timer that controls aerator operation. The non-adjustable timer shall create a 60 minute aeration cycle followed by a 60 minute anoxic cycle during which the aerator shall be "off". A total of twelve hours of aerator operation per day shall be provided.

MCD® TECHNOLOGY

AUXILIARY ALARMS

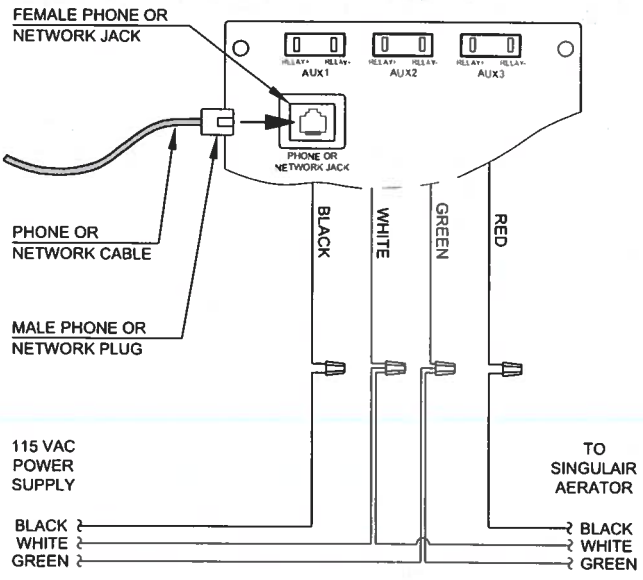


AUXILIARY ALARM INPUTS

The Service Pro control center shall contain three auxiliary alarm inputs to monitor accessory components. Each auxiliary input shall allow connection to a voltage signal, normally open relay contacts or normally closed relay contacts, using the appropriate input terminals and jumpers. The voltage input connections are located along the left edge of the circuit board and shall automatically adjust to accept any input voltage from 5 to 120 VAC/DC without programming or jumper adjustment. The relay input connections are located along the top edge of the circuit board and shall be configured for normally open (O) or normally closed (C) relay contacts by placing jumpers over the appropriate pins (labeled JP7, JP8 and JP9). Any auxiliary alarm signal shall activate that specific auxiliary alarm light and the main alarm light, sound the audible alarm and call the remote monitoring center if the telemetry function is enabled. Once connected to the remote monitoring center, the control center shall identify which auxiliary alarm has been activated. Each auxiliary input shall be labeled in the space provided on the control center insert using the factory-supplied preprinted labels. The auxiliary inputs shall be used to monitor wastewater treatment equipment only. Connection of household appliances, security systems or other unauthorized equipment is prohibited and shall void the limited warranty.

TELEMETRY FUNCTIONS (Optional)

Optional integrated telemetry shall permit interactive communication between the monitoring center and the Singulair system, including all auxiliary equipment. The panel shall be factory programmed to contact the Service Pro monitoring center where the database of specific system information and a call record is maintained. The control center shall be shipped from the factory with the telemetry function disabled. Following panel installation and execution of the remote monitoring agreement, a commissioning process shall activate the telemetry function and establish communications with the Service Pro monitoring center via a toll-free telephone number or Internet connection. During normal operations, the heartbeat feature shall initiate a communication to the monitoring center at monthly intervals. The panel shall also contact the monitoring center to report alarm conditions. During each communication, the control center shall identify the individual installation and deliver the operational status or specific alarm code. The panel shall confirm receipt of the message before ending the communication. If not confirmed, the panel shall repeat until successful. The telemetry system shall have the ability to share a phone line or Internet connection with the facility being served. A dedicated telephone line or Internet connection shall not be required. If a telephone line is utilized, the panel shall automatically check phone line availability before initiating a call. If the phone line is not available, the system shall check every five minutes until the line becomes clear. When a clear line is available, the panel shall connect with the monitoring center. If the telemetry system is in the process of communicating and the telephone is picked up, the telemetry system shall immediately disconnect. The telephone shall be available for use after the person attempting to initiate a call momentarily hangs up to clear the phone line. The panel shall continue to monitor use of the telephone line. When the control center detects the telephone line is available for use, the telemetry system shall repeat the interrupted communication to the remote monitoring center.



WIRING DIAGRAM

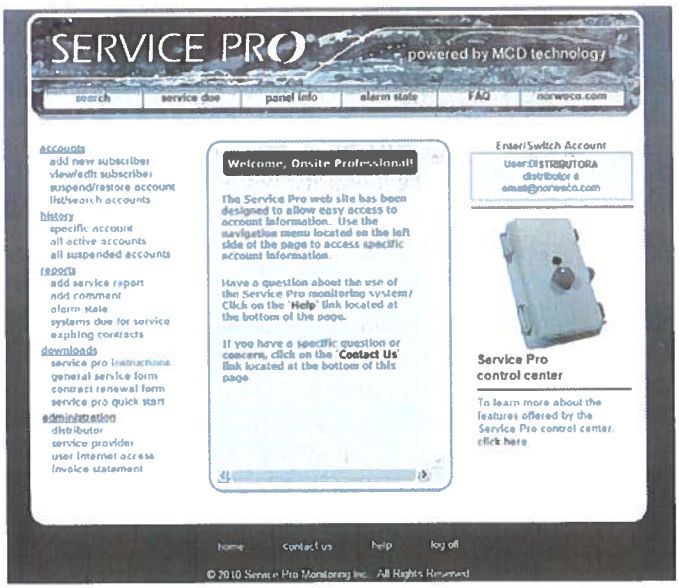
SPECIFICATIONS

SERVICE PRO® MONITORING CENTER

The Service Pro monitoring center shall include a 128 bit encrypted, password protected website for interface with the database of wastewater treatment system information. Access to the secure website shall be obtained through a unique user name and password that gives users tiered access to data from the wastewater treatment systems being monitored. Access levels shall include distributors, service providers, local regulatory agencies, state regulatory agencies and individual system owners. Distributors and service providers shall be able to create accounts, maintain service records and grant regulatory agencies access to the website. Individual system owners shall be able to view information regarding their own systems, as well as download instructional information. The monitoring center database shall contain the following information for each system registered: owner's name and system address, aerator serial number, control center serial number, system model number(s), auxiliary alarm information, accessory equipment information, permit information, service contract information, account status, service history and complete alarm history. Access to all wastewater treatment system information shall be password protected and limited exclusively to distributors, service providers, regulatory agencies and system owners. Integrity of stored data shall be maintained through the use of multiple servers operating in geographically isolated locations.

COMMISSIONING PROCESS

The Service Pro control center shall be programmed to initiate communications with the website and remote monitoring center via the commissioning process. Commissioning shall typically be initiated at Singulair system start-up and shall require no special tools or electronic equipment. The colored indicator lights on the face of the control center insert shall be used to confirm each step through the commissioning process. The Service Pro telemetry system shall send a communication to the monitoring center identifying the control panel and indicating that telemetry features have been enabled. If the control center has been correctly commissioned, the red alarm light in the center of the Service Pro panel shall flash five times and then turn off. If commissioning is not performed, the telemetry features shall remain disabled, but all Singulair wastewater treatment system operating controls and diagnostic features shall be fully functional.



www.servicepromcd.com

SERVICE MANAGEMENT MODULE

All routine and emergency service shall be managed by the Service Pro monitoring center and shall be accessible through the password protected website. Systems where the telemetry functions are not activated shall be managed by manual entries into the website. When a Singulair installation is registered, the service frequency for the system shall be entered into the database. An online report shall constantly notify distributors and service providers of the systems that are due for service in the next 90 days, including both warranty and extended service contract inspections. All systems with service contracts expiring within the next 90 days in a given geographic area also shall be posted to an online report. Any system in the area that is currently experiencing an alarm condition shall be posted and viewable by the distributor and service provider. Distributors shall have the ability to grant regulatory officials access to system reports. These reports shall improve maintenance efficiency by allowing all service visits and installation inspections to be scheduled by date and grouped by physical proximity.

When service to the Singulair wastewater treatment system is performed, the date and time of the service visit as reported by the Service Pro telemetry system shall be posted on the website. If the telemetry system has not been commissioned, the website shall have the ability to receive manually entered service reports and post them with all inspection and compliance information. Manually completed service reports shall be automatically incorporated into the Service Pro website for electronic tracking. The service reports shall specify the inspection date, service performed and the condition of all equipment, including the Singulair aerator, Bio-Kinetic system, control center, optional disinfection system and effluent disposal system.

CERTIFICATION AND TESTING

The Service Pro control center shall be certified by internationally accredited, independent testing laboratories to verify product safety and performance. The control center shall meet the requirements of Underwriter's Laboratory (UL) Standard 508 and the Canadian Standards Association (CSA) Standard CAN/CSA-C22.2 No. 68-92 (R2004). The telemetry equipment shall be licensed by the Federal Communications Commission (FCC) under Standard 68. The circuit board shall be tested by an independent agency for certification and approval to ANSI C62-41 for 320 joules of intermittent electrical surge protection. The Service Pro control center shall be tested by an independent third party laboratory for electromagnetic compatibility per European Standard EN61000-6-1, including radiated and conducted radio frequency testing, electrostatic discharge testing and fast burst transient testing. To prevent corrosion from humidity or potentially harmful gasses associated with the treatment of domestic wastewater, the completed circuit board shall be conformal coated with a UL Recognized acrylic resin meeting military specification MIL-46058C.

The Service Pro control center shall be listed by NSF International and CSA for compliance with all applicable standards. The enclosure for the control center shall be certified as complying with NEMA standards for outdoor rated electrical enclosures. The current sensing circuit of the control center shall be tested to maintain accuracy to within 5% of the design parameters when operated in ambient temperatures from -20° to 160° Fahrenheit. The control center shall meet the requirements of NSF/ANSI Standard 40 and Standard 245 for use with Singulair wastewater treatment systems, including performance testing of the audible and visual alarms. Control centers not complying with applicable standards, certifications and testing have not been proven suitable for long term use and shall not be considered for this application.

WARRANTY PROGRAM

The manufacturer shall provide a three year limited warranty against defects in material and workmanship under normal use and service for each Service Pro control center with MCD technology. The warranty shall also cover any other Singulair components purchased from the manufacturer. The Singulair distributor shall provide warranty program details to the regulatory agency, contractor and customer as required.

EQUIPMENT MANUFACTURER

The equipment specified herein shall be the product of a manufacturer having a minimum of seven years experience in the construction of prefabricated wastewater treatment equipment and systems. Bids shall be prepared on the basis of the equipment and material specified herein for purposes of determining the low bid. This is not done, however, to eliminate other products or equipment of equal quality and efficiency. If equipment is to be substituted, approval of such substitution must be made prior to execution of any order. It is assumed that substitution will result in a reduction of cost to the contractor and that if accepted, these savings will be passed along by a reduction in the base bid.

PROGRESS THROUGH SERVICE SINCE 1906

norweco®

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FAX (419) 663-5440
www.norweco.com

APPENDIX D
STS NOTES

CONSTRUCTION REQUIREMENTS FOR DRIP DISPERSAL SYSTEMS as a "Supplemental Treatment System" (STS)...(presumed to be the same as an advance treatment system by definition)

1. An STS must to be installed by a licensed qualified service provider certified to install the specific STS proposed and the system must be installed according to the qualified professional's specifications for location, components, size and depth.

2. The natural soil cover over a drip dispersal system shall be at least 6 inches but no greater than 12 inches.

3. The drip dispersal system shall be covered with vegetation to allow for uptake of nutrients from the wastewater.

4. The drip dispersal system shall be designed and maintained to reduce orifice clogging and root intrusion.

5. The drip dispersal system shall be designed, located and maintained to prevent vehicular traffic over it.

6. The setbacks required between drip dispersal systems and other components of the OWTS as well as structures, property lines, easements, watercourses, wells, or grading shall be the same as required for leach lines with the exception that the setback to structures and property lines can be reduced to 2 feet. See the setback table found in Chapter 1 of this LAMP for the complete list of setbacks.

7. The maximum slope allowed for the installation of a drip dispersal system shall be 40 percent.

8. Drip dispersal systems are pressure distribution systems and head loss calculations shall be provided to ensure proper hydraulic pressure at the emitter.

9. Drip dispersal system emitter lines shall be designed as a continuous loop circuit with no dead-ends.

10. Vacuum release valves shall be installed at the highpoint of the emitter lines.

11. The maximum emitter longitudinal spacing on an emitter line shall be 2 feet. The maximum spacing between adjacent emitter lines in an absorption bed configuration shall be 2 feet.

12. Drip dispersal systems shall be time dosed over a 24-hour period. Demand control dosing shall override timed dosing in periods of flow where timed dosing cannot accommodate the excessive flow.

13. Drip dispersal systems shall be designed to have a minimum operating pressure at the emitter head of 10 pounds per square inch (psi, a maximum operating pressure of 45 psi, a maximum system operation pressure of 60 psi, and a maximum discharge rate per emitter of 1.5 gallons per hour.

14. All drip dispersal systems shall incorporate an automatic mechanism for backwashing or flushing the drip lines and filters.15. Septic tanks, pump chambers or other related components of an STS including risers shall undergo a water tightness test at the site of the installation. Anti-floatation devices shall be utilized as needed.

16. The STS shall include a petcock on the dosing pump discharge line or other suitable location as agreed upon by DEH for effluent sampling.

17. All components of the STS shall be certified in writing by the qualified professional who designed the STS that the installation was completed per the approved design.

OPERATION AND MAINTENANCE

1 . All STS require an annual operating permit, issued by DEH. The annual operating permit will define the monitoring and maintenance requirements as specified by the manufacturer and/or qualified professional who designed the system.

2. An operation and maintenance manual shall be provided by the qualified professional that includes the qualified professionals name, address, telephone number, and business and professional license number. A copy shall be maintained at the site and shall be available to the qualified service provider.

3. All STS must be maintained by a qualified service provider and a maintenance contract must be kept in place throughout the life of the STS.

4. All STS require, at a minimum, biannual inspections by the qualified service provider to ensure proper operation and maintenance of the system. Copies of the inspection results shall be provided to the DEH within 30 days of the inspection being completed.

5. The drip dispersal system shall be flushed once every three months for the first year or until vegetation is established, whichever occurs first. Flushing shall occur every six months thereafter.

6. The qualified service provider shall be responsible for responding to alarms and performing telemetric monitoring of the STS, replacing faulty equipment and collecting effluent samples for quality analysis as needed.

7. All failures, malfunctions, service requests, alarms, or other instances where an STS requires the attention of a qualified service provider shall be reported to DEH within 72 hours of the incident occurring.

8. Recordation to the title and property records at the County of San Diego Recorder's Office of a Covenant and Agreement acknowledging the existence of the STS and requirements to maintain an annual operating permit and maintenance contract is required prior to final approval of the system installation.

9. Failure to maintain an annual operating permit or provide the biannual inspection results to DEH will result in enforcement action and may result in condemnation of the structure.

APPENDIX E
DAILY FLOW CALC.

San Miguel Fire Station 18
1811 Suncrest Blvd
Daily Flow Calculation

	2023	2022	Avg.	Avg
	Meter HCF		Gallon/Month	Gallon/Day
January	9.2	9.9	7143.4	230
February	7.9	7.9	5909.2	211
March	8	7.9	5946.6	192
April	8	10	6732	224
May	8	9	6358	205
June	7.2	12	7180.8	239
July	10	10	7480	241
August	9.1	6.8	5946.6	192
September	11	9	7480	249
October	7	6.8	5161.2	166
November	7.9	7.1	5610	187
December	7.8	5.9	5123.8	165
			Avg Daily Usage:	209

Current staffing is 2 firefighters per shift.
Factor of Safety includes doubling of shift, although not planned anytime soon.

CUSTOMER - ACCOUNT #: 024107-30911248
SAN MIGUEL FIRE
1809 SUNCREST BLV
GOV - GOVERNMENT
STATEMENT DATE 1/19/2024

Meter Number	Billing Period	Days	Prior Read	Current Read	Water Units in HCF
87092160	12/11-01/15	35	497	507	10

News

Santee Lakes Community Survey
Be a part of setting the course of Santee Lakes Recreation Preserve for years to come by participating in a community survey. We are looking for your feedback about events, amenities, guest experience, future goals and more. Those who take the survey will have the opportunity to enter to win a two night cabin stay at Santee Lakes. Complete the survey at: www.padredam.org/santeelakessurvey

WATER

1 HCF = 748 Gallons

NEW ACTIVITY

SDCWA Infrastructure Charge		$4.24
System Charge		40.97
Water Charges	10 HCF @ 8.18	81.80
Pumping/Energy	10 HCF @ 1.28	12.80
Eastern Tax Credit	10 HCF @ -0.74	-7.40
New Water Charges		**$132.41**

PAID
JAN 26 2024
BY: 32526

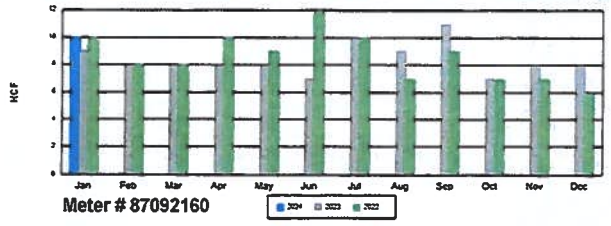
SEWER

Sewer service is not provided to your property by Padre Dam.

Department OPS
Account 3.6176-018

Approved by PO#96
Approval Date

Water Use



Meter # 87092160

Total Amount Due

Prior Balance	$270.20
Late Fee	12.91
Payment(s) Received	-256.09
Balance:	**$27.02**
New Water Charges	132.41
New Charges Due 2/3/2024	**$132.41**
Total Account Balance	

ATTACHMENT E - SEPTIC PLAN

PADRE DAM
Municipal Water District
PO Box 719003
Santee CA 92072-9003

Customer - Account Number	024107-30911248
Service Address	1809 SUNCREST BLV
Prior Balance DUE NOW:	$155.23
Total Due by 12/30/2023	$114.97
Total Account Balance Due	$270.20
If Paid Late	$297.22

VISA MasterCard

Pay with eCheck, Visa, MasterCard or Discover - Free paperless bills at www.padredam.org

PA81214A
9000002622 00.0000.2622 2622/1

SAN MIGUEL FIRE
2850 VIA ORANGE WAY
SPRING VALLEY CA 97978-1746

PADRE DAM M.W.D.
P O BOX 6900
ARTESIA CA 90702-6900

02410730911248000000000270202

Please detach and return top portion with payment in the return envelope provided.

CUSTOMER - ACCOUNT #: 024107-30911248
SAN MIGUEL FIRE
1809 SUNCREST BLV
GOV - GOVERNMENT
STATEMENT DATE 12/15/2023

Meter Number	Billing Period	Days	Prior Read	Current Read	Water Units in HCF
87092160	11/12-12/11	29	489	497	8

News

Rate Information
Water and pumping rates in 2024 will increase solely due to increases from the San Diego County Water Authority (CWA) and San Diego Gas & Electric (SDG&E). The increases will apply to water use on or after January 1 and will appear on bills mailed on or after February 1, 2024. It is necessary to pass-through cost increases from CWA and SDG&E to ensure there are sufficient revenues to provide services to District customers and maintain the safety and reliability of infrastructure. One hundred percent of pass-through increases will be used to pay external providers. Padre Dam does not use any revenue from pass-throughs for its internal costs.

WATER

1 HCF = 748 Gallons

NEW ACTIVITY		
SDCWA Infrastructure Charge		$4.24
System Charge		40.97
Water Charges	8 HCF @ 8.18	65.44
Pumping/Energy	8 HCF @ 1.28	10.24
Eastern Tax Credit	8 HCF @ -0.74	-5.92
New Water Charges		**$114.97**

SEWER

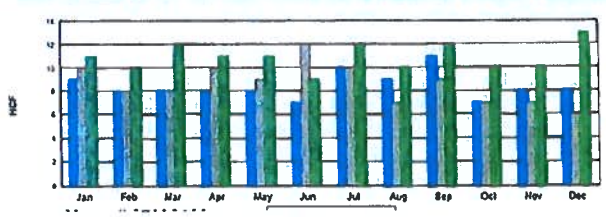
Sewer service is not provided to your property by Padre Dam.

PAID
PAID JAN 11 2024 PAID
BY: 32458

Department OPS
Account 3.6170.018

Approved by PO#96
Approval Date

Water Use



Total Amount Due

Prior Balance	$141.12
Late Fee	14.11
Prior Balance DUE NOW:	$155.23
New Water Charges	114.97
New Charges Due 12/30/2023	$114.97
Total Account Balance	

PADRE DAM
PO Box 719003
Santee CA 92072-9003

Customer - Account Number	024107-30911248
Service Address	1809 SUNCREST BLV
Prior Balance:	$26.15
Total Due by 12/2/2023	$114.97
Total Account Balance Due	$141.12
If Paid Late	$155.23

VISA

Pay with eCheck, Visa, MasterCard or Discover - Free paperless bills at www.padredam.org

PA81116A
9000002615 00.0000.2615 2615/1

SAN MIGUEL FIRE
2850 VIA ORANGE WAY
SPRING VALLEY CA 97978-1746

PADRE DAM M.W.D.
P O BOX 6900
ARTESIA CA 90702-6900

02410730911248000000000141122

Please detach and return top portion with payment in the return envelope provided.

CUSTOMER - ACCOUNT #: 024107-30911248
SAN MIGUEL FIRE
1809 SUNCREST BLV
GOV - GOVERNMENT
STATEMENT DATE 11/17/2023

Meter Number	Billing Period	Days	Prior Read	Current Read	Water Units In HCF
87092160	10/15-11/12	28	481	489	8

News

Don't Pour Fats, Oils and Grease Down the Drain
Protect your pipes this holiday season by disposing of fats, oils and grease in the trash, not down the drain. When poured down the drain, substances like cooking grease, gravy and sauces cause expensive blockages and backups in home and community wastewater systems.

WATER

1 HCF = 748 Gallons

NEW ACTIVITY		
SDCWA Infrastructure Charge		$4.24
System Charge		40.97
Water Charges	8 HCF @ 8.18	65.44
Pumping/Energy	8 HCF @ 1.28	10.24
Eastern Tax Credit	8 HCF @ -0.74	-5.92
New Water Charges		$114.97

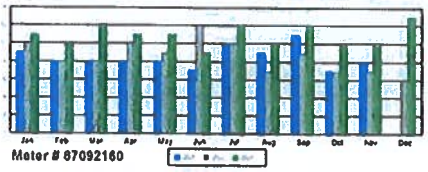
SEWER

Sewer service is not provided to your property by Padre Dam.

Department Ops
Account 3.6170
Approved by PO #96
Approval Date

PAID
PAID DEC 07 2023 PAID
BY: 32373

Water Use



Meter # 87092160

Current Usage: 8 HCF = 5,984 Gallons
Gallons Per Day: 214 Gallons*
*Gallons per day are based on the number of days in the billing period

Total Amount Due

Prior Balance	$261.49
Late Fee	26.15
Payment(s) Received	-261.49
Balance:	$26.15
New Water Charges	114.97
New Charges Due 12/2/2023	$114.97
Total Account Balance	$141.12

CUSTOMER - ACCOUNT #: 024107-30911248
SAN MIGUEL FIRE
1809 SUNCREST BLV
GOV - GOVERNMENT
STATEMENT DATE 10/20/2023

Meter Number	Billing Period	Days	Prior Read	Current Read	Water Units in HCF
87092160	09/17-10/15	28	474	481	7

News

Low-Income Rate Assistance
The Low-Income Household Water Assistance Program is a federal program that provides financial assistance to low-income Californians to help manage their residential water utility costs. The program may be able to help qualifying low-income customers pay down residential water or wastewater bills. Visit www.padredam.org/LIHWAP for more information.

WATER

1 HCF = 748 Gallons

NEW ACTIVITY

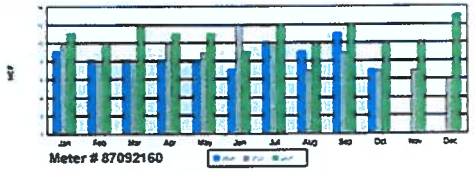
SDCWA Infrastructure Charge		$4.24
System Charge		40.97
Water Charges	7 HCF @ 8.18	57.26
Pumping/Energy	7 HCF @ 1.28	8.96
Eastern Tax Credit	7 HCF @ -0.74	-5.18
New Water Charges		**$106.25**

SEWER

Sewer service is not provided to your property by Padre Dam.

Department Ops
Account 3.6170.018
Approved by PO#96
Approval Date

Water Use



Meter # 87092160

Current Usage: 7 HCF = 5,236 Gallons
Gallons Per Day: 187 Gallons*

*Gallons per day are based on the number of days in the billing period

Total Amount Due

Prior Balance	$141.13
Late Fee	14.11
Prior Balance DUE NOW:	$155.24
New Water Charges	106.25
New Charges Due 11/4/2023	$106.25
Total Account Balance	**$261.49**

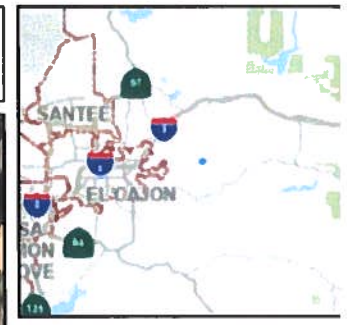
There is a PAST DUE balance of $155.24. Please pay NOW to avoid further fees/charges and service disconnection as outlined on the back of your bill. Noticed and disconnected service will result in additional fees/charges and a deposit. If you have already paid in full, THANK YOU!

PAID
PAID NOV 03 2023
BY: 32290

ATTACHMENT E - SEPTIC PLAN

LUEG GIS
Land Use & Environment Group
Geographic Information Services

Map Title



Legend

Department of Environmental Health and Quality

- LWQD Well Permits
- SDWS Permits
- Monitoring Well Permits
- 40-Foot Topographic Contou
- Stream/River (NHD)
- Intermittant Streams (NHD)

0 300 600 ft

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes

ATTACHMENT E - SEPTIC PLAN