COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH AND QUALITY

ONSITE WASTEWATER TREATMENT SYSTEM LAYOUT AND DESIGN REPORT RESIDENTIAL PROJECTS

Instructions: Complete all applicable sections and provide all required attachments related to the specific project. See instructions sheet for more information. Use additional paper if needed. This template may not be required for an Onsite Wastewater Treatment System (OWTS) replacement or repairs authorized under the OWTS Replacement/Repair Permit Application and Authorization Form.

Check if Section Completed	REQUIRED FOR ALL RESIDENTIAL PROJECTS - COMPLETE ALL SECTIONS
☐	SECTION A - GENERAL INFORMATION
☐	SECTION B - PROJECT LOCATION INFORMATION
☐	SECTION C - PROJECT TYPE INFORMATION
☐	SECTION D - RESIDENTIAL SCOPE
☐	SECTION E - LAYOUT DIAGRAM
☐	SECTION F - PUBLIC SEWER AVAILABILITY
☐	SECTION G - POTABLE WATER SOURCE
☐	SECTION H - SITE EVALUATION INFORMATION
☐	SECTION I - SEPTIC TANK INFORMATION
☐	QUALIFIED PROFESSIONAL COMMENTS AND SIGNATURE
	REQUIRED FOR ALL RESIDENTIAL PROJECTS - COMPLETE THE SECTION BASED ON APPLICABLE DISPERSAL FIELD TYPE
☐	SECTION J - LEACH LINE DISPERSAL INFORMATION
☐	SECTION K - DEEP BED DISPERSAL INFORMATION
☐	SECTION L - VERTICAL SEEPAGE PIT DISPERSAL INFORMATION
☐	SECTION M - DRIP DISPERSAL INFORMATION
☐	SECTION N - SHALLOW BED DISPERSAL INFORMATION
☐	SECTION O - PRESBY-TYPE DISPERSAL INFORMATION
☐	SECTION P - OTHER DISPERSAL TYPE INFORMATION
	REQUIRED FOR PUMP AND/OR SUPPLEMENTAL TREATMENT SYSTEMS
☐	SECTION Q - PUMP SYSTEM DESIGN INFORMATION
☐	SECTION R - SUPPLEMENTAL TREATMENT SYSTEM INFORMATION
☐	SECTION S - PROPERTY OWNER CERTIFICATION OF FEASIBILITY
	REQUIRED FOR ALL VARIANCE REQUESTS
☐	SECTION T - VARIANCE REQUEST INFORMATION

DEHQ Use Only

RECORD ID #: DEH LOWTS

DATE RECEIVED:

SECTION A – GENERAL INFORMATION *Required for All Projects*

PROJECT LOCATION:	**CITY:**	**APN:**
OWNER NAME:		**PHONE:**
OWNER MAILING ADDRESS:		**EMAIL:**
BUSINESS MAILING ADDRESS:		
QUALIFIED PROFESSIONAL COMPANY NAME:		**PHONE:**
QUALIFIED PROFESSIONAL ADDRESS:		
QUALIFIED PROFESSIONAL NAME:		**EMAIL:**
QUALIFIED PROFESSIONAL TITLE:	**LICENSE/REGISTRATION TYPE:**	

SECTION B – PROJECT LOCATION INFORMATION *Required for All Projects*

DESCRIPTION OF THE GENERAL PROJECT LOCATION: (**ATTACH** vicinity map)

DESCRIPTION OF PARCEL: (**ATTACH** layout diagram or separate diagram, if needed to show entire parcel)

Assessor's Parcel Number:	**Parcel Acreage:**
Parcel or Tentative Map and Lot Number:	**Plat Number:**

SECTION C – PROJECT TYPE INFORMATION *Required for All Projects*

PROJECT TYPE:

☐ Primary Residence ☐ Second Unit Dwelling/Accessory Dwelling Unit ☐ Other:

☐ New OWTS ☐ Replacement OWTS ☐ Repair/Modification OWTS

Does Project Include Tying a New Dwelling Unit into Existing OWTS? ☐ Yes ☐ No

OTHER PERMIT INFORMATION: (PDS Record ID: Building Permit/Discretionary Permit)

PROJECT DESCRIPTION: (Description should match the description provided in the building permit or discretionary permit application)

GRADING INFORMATION: Does the project include grading of the site? Check Yes even if a grading permit is not required. ☐ Yes ☐ No

If yes, provide description location/areas, purpose and timing of proposed grading activities. Include grading permit # and **ATTACH** grading plans, if applicable.

SECTION D – RESIDENTIAL SCOPE *Required for All Projects*

DESCRIPTION OF RESIDENTIAL SCOPE: Provide a description of the existing and proposed residential units, the number of bedrooms for each unit, and the OWTS that serves each unit. All residential units and their OWTS to be labeled and shown on layout diagram.

ATTACH: Diagram showing locations and labels of all buildings (if not included in the layout diagram)

# Existing Residential Units:	Total # Existing Bedrooms:	# Existing OWTS:
# Proposed Residential Units:	Total # Proposed Bedrooms:	# Proposed OWTS:
# Total Persons served:	NOTE: If OWTS serves 20 or more persons, then it may be a Class V Underground Injection Well per EPA. If so, register system with EPA and provide copy of registration.	

# Other buildings with plumbing fixtures: ☐ Garage_____ ☐ Barn_____ ☐ Shop_____ ☐ Other:		
Are floor drains installed or proposed? ☐ YES ☐ NO	Describe Activities in Floor Drain Area:	
Is there a gray water system in use? ☐ YES ☐ NO	If yes, provide Permit ID and date:	
Total wastewater volume per day for parcel: (calculate using 150 gallons per bedroom, plus any other sources of wastewater)	Gallons	
☐ Domestic (low) strength wastewater only to be discharged (from kitchen, handwash sinks, showers, toilets, washing machine).		
☐ Non-domestic or high strength wastewater is proposed (i.e. home kitchen business).		
Describe activities generating additional wastewater: (e.g., home kitchen, hobby, other home-based business)		

SECTION E – LAYOUT DIAGRAM *Required for All Projects*

ATTACH: An OWTS Design Layout Diagram: Diagram must be drawn to scale and include all required elements noted in the Sections 3.8-2 and 5.2-1 See Checklist in guidance section. All related setback distances must be shown. Diagrams submitted without all required information will be returned as an incomplete submittal.

SECTION F – PUBLIC SEWER AVAILABILITY *Required for All Projects*

PUBLIC SEWER AVAILABILITY: Answer the four questions below. If answers are No, no further action needed for this section.
If answers to questions below are Yes, connection to sewer is required unless one of the conditions noted below exist (see notes). If any of these conditions are applicable, attach the associated documentation.

Is property located within a sewer district? ☐ YES ☐ NO	Is property annexed or proposed to annex into a sewer district? ☐ YES ☐ NO
Does property abut a sewer? ☐ YES ☐ NO	Is the building served by OWTS located within 200 feet of a sewer? ☐ YES ☐ NO
SewerDistrict Name:	

Notes:
1) **ATTACH:** Letter or documentation from sewer district if any of the above applies, but District cannot provide connection to public sewer. Documentation must provide basis for infeasibility of connection.
2) Exemption to connection requirement may be applicable if (a) construction and connection fee costs are greater than twice the cost of the OWTS and (b) an OWTS can be installed pursuant to ordinance and LAMP requirements. **ATTACH:** Documentation of detailed estimate of construction costs and fees for connection to sewer and detailed estimate of design and construction costs and fees for permitting and installation of OWTS.

SECTION G – POTABLE WATER SOURCE *Required for All Projects*

Provide information on the potable water source.

ATTACH: All associated documentation, such as DEHQ well permits, well sampling lab results, DEHQ well water potability approval, public water provider sign-off of Layout Diagram. Provide signed public water line statement in on the Layout Diagram.

Public Water Source - Public Water Provider Name:

Note: Sign-off of OWTS Layout Diagram by Vista Irrigation District, Rincon del Diablo, Yuima, or County Service Areas water providers is required.

Private Water Well Source: ☐ Existing Water Well ☐ Proposed New Water Well	Will water well serve five or more total buildings? ☐ YES ☐ NO
Is water well located up slope from existing or proposed OWTS location? ☐ YES ☐ NO	

For new OWTS, new water well, or if requested: Provide the following information and attach DEHQ well permit, sample results, and potability approval. Well water potability requirements per LAMP Section 3.7.11.5.

Water Well Installation Date:	Permit #:	Date Well Approved by DEHQ:
Water Sample Results Date: (within 1 year of submittal)	Date Water Results Approved by DEHQ:	Nitrate (as Nitrogen): mg/L
Total Coliform Bacteria: (Absent/Present/Not Sampled)	Fecal Coliform Bacteria: (Absent/Present/Not Sampled)	Escherichia coli: (Absent/Present/Not Sampled)

SECTION H – SITE EVALUATION INFORMATION *Required for All Projects*

ATTACH any prior historical certification documentation, applicable *Percolation Test and Soil Profile Results Form* or *Vertical Seepage Pit Capacity Test and Soil Profile Test Results Form*.

Historical Certification Information

Historic Parcel/Final Map/ Plat Number, Lot number, and Date:	Historic Design Percolation Rate for Parcel/Lot: MPI

Percolation/Capacity Test and Soil Profile Summary

ATTACH: Either a Percolation Test Results Form or a Vertical Seepage Pit Results Form, whichever is applicable.

Percolation/Capacity test methodology as per DEHQ Guidelines? ☐ YES ☐ NO	If No, attach detailed description of methodology used and DEHQ approval.	
Design Percolation Rate for Primary Dispersal: MPI	Predominate Soil Type:	Uniform Soils? ☐ YES ☐ NO

Design Percolation Rate for Reserve Dispersal: MPI	Predominate Soil Type:	Uniform Soils? ☐ YES ☐ NO
Vertical Pit Absorptive Capacity per Attached Testing Form: Gallons/Day		Uniform Soils? ☐ YES ☐ NO

Depth to Groundwater Evaluation Information

Soil depth/separation to groundwater to be determined by percolation rate per LAMP Table 6.3-1 and Sections 6.3.2 or Section 6.3.3 for Supplemental Treatment Systems (STS) (2' for STS Nitrogen Reduction and 3' for STS Pathogen Reduction).

Soil Depth/Separation to Groundwater Required: ft	Soil Depth/Separation to Groundwater Measured: ft
Groundwater MUN Beneficial Use Excepted Area? (Required For Vertical Seepage Pits) ☐ YES ☐ NO	Additional Groundwater Monitoring Required? ☐ YES* ☐ NO

Notes:
1) Recognized/legal groundwater basin per Department of Water Resources Bulletin 118. Informational Map : San Diego Basin Plan Map (ca.gov)
2) MUN is the municipal beneficial use type. Excepted areas are those areas where the MUN beneficial use is not applicable. See map referenced above.
3) ***ATTACH:** *Groundwater Monitoring Results Form*, if ongoing monitoring was performed and completed. For assistance, contact DEHQ.

Slope Information

Provide slope information to show predominant range of slope in the area. Slope Classes: 0-3% Nearly Level; 3-7% Gently Sloping; 7-12% Strongly Sloping; 12-20% Moderately Sloping; 20-30% Steep; 30-40% Very Steep; > 40% Extremely Steep.
ATTACH: Topographical map.

Percent Slope Tank Area **%** Primary Dispersal **%** Reserve Dispersal **%** **Does the slope exceed 30%?** ☐ YES ☐ NO

For slopes 30% - 40%, was there any evidence of slope instability documented during the initial site evaluation screening? ☐ YES ☐ NO

If Yes to the above, a Slope Stability Study is needed. Attach Slope Stability Study.
Notes: The slope stability study shall determine the potential for land movement to impact the dispersal system as well as the potential of the dispersal field to affect slope stability. The study shall identify any mitigating actions, if applicable, to effectively maintain slope stability with dispersal field usage.

Other Site Conditions Information: List any structures, trees or other plants, or other obstacles located within or near the proposed primary and dispersal areas and any proposed actions relating to their removal.

SECTION I – SEPTIC TANK INFORMATION *Required for All Projects*

Septic tank requirements are found in LAMP Chapter 7.0. Tank capacity to be based on LAMP Table 7.2-1 for a primary dwelling and Table for 7.2-2 for multiple dwellings on one septic system.

ATTACH: Tank Specifications Traffic Rating Engineering Design, if needed Tank Anchoring Engineering Design, if needed

☐ Install New Tank ☐ Destroy Existing Tank and Replace with New Tank ☐ Reuse Existing Tank		Total # Tanks to be Installed:
Tank #1 Size Required: Gallons	**Tank #1 Size Proposed:** Gallons	Tank Construction:
Manufacturer/Model:		IAPMO Approved? ☐ YES ☐ NO
Tank #2 Size Required: Gallons	**Tank #2 Size Proposed:** Gallons	Tank Construction:
Manufacturer/Model:		IAPMO Approved? ☐ YES ☐ NO

Tank/Risers are subject to or within 5 feet of vehicle traffic? ☐ YES ☐ NO **If Yes**, provide engineering calculations for traffic rating design.

Is tank in area with potential for contact with groundwater? ☐ YES ☐ NO **If Yes**, tank anchoring required. Provide engineering design.

Are risers required* or proposed? ☐ YES ☐ NO	Riser Construction:
If Yes, Manufacturer and Model:	IAPMO Approved? ☐ YES ☐ NO

Is an effluent filter proposed (NSF/ANSI Standard 46 Certified)? ☐ YES ☐ NO **If Yes,** Manufacturer and Model:

Notes:
1) Prefabricated tanks and risers shall be approved by the International Association of Plumbing and Mechanical Officials (IAPMO). Metal and wooden septic tanks are prohibited.
2) Tanks must be anchored to counter any potential buoyant forces in areas of high groundwater.
3) *Septic tank access openings with greater than six (6) inches of cover must have risers to within six (6) inches of finished grade. Risers and lids that are at or above grade must be watertight and lockable or require tools to be opened.
4) Effluent filters must be National Sanitation Foundation/American National Standard Institute (NSF/ANSI) Standard 46 certified.

SECTION J – LEACH LINE DISPERSAL INFORMATION *Use for Leach Line Dispersal*

Information below must be consistent with design shown on OWTS layout diagram.
Leach line length to be determined from LAMP Table 8.2-1 and shall be based on number of bedrooms and percolation design rate.

Dispersal Area	Total Leach Line Length Required	Total Leach Line Length Proposed	Number Leach Line Trenches	Distribution Type (Equal, Serial, Pressure Dose)	Leach Line Trench Dimensions			
					Width	Rock Depth	Soil Cover/ Cap Depth	Total Depth
Primary Dispersal	ft	ft			ft	ft	ft	ft
Reserve Dispersal	ft	ft			ft	ft	ft	ft

Is Rock-less or Chamber Dispersal Proposed? ☐ YES ☐ NO

If Yes, provide manufacturer/ model: IAPMO APPROVED? ☐ YES ☐ NO

Observation Port Proposed? ☐ YES ☐ NO **If Yes,** provide number: Show locations on layout diagram.
Note: An observation port is required for every 100 feet of leach line length.

Magnetic Tape Proposed? ☐ YES ☐ NO **If Yes,** provide number: Show locations on layout diagram.

SECTION K – DEEP BED DISPERSAL INFORMATION *Use for Deep Bed Dispersal*

Information below must be consistent with design shown on OWTS layout diagram. Percolation rates must be 30 minutes per inch or faster. Infiltrative Surface Area to be determined from LAMP Table 8.5-2. Deep bed dimensions to be determined from LAMP Table 8.5-3.

Dispersal Area	Total Infiltrative Surface Area Required	Distribution Type (Equal, Serial, Pressure Dose)	Deep Bed Dimensions					
			Width	Length	Proposed Infiltrative Surface Area	Rock Depth	Soil Cover/ Cap Depth	Total Depth
Primary Dispersal – Bed #1	sq ft		ft	ft	sq ft	ft	ft	ft
Primary Dispersal – Bed #2	sq ft		ft	ft	sq ft	ft	ft	ft
Reserve Dispersal – Bed #1	sq ft		ft	ft	sq ft	ft	ft	ft
Reserve Dispersal – Bed #2	sq ft		ft	ft	sq ft	ft	ft	ft

Observation Port Proposed? ☐ YES ☐ NO **If Yes,** provide number: Show locations on layout diagram.

Magnetic Tape Proposed? ☐ YES ☐ NO **If Yes,** provide number: Show locations on layout diagram.

SECTION L – VERTICAL SEEPAGE PIT INFORMATION *Use for Vertical Seepage Pit Dispersal*

Information below must be consistent with design shown on OWTS layout diagram. Allowed only in areas excepted by the Regional Board from the Municipal and Domestic Supply Beneficial Use per San Diego Region Basin Plan. Vertical seepage pit capacity to be determined from LAMP Table 8.6-2 and Appendix II. Minimum total capacity is five times the required septic tank capacity per day or 5000 gallons per day, whichever is greater. Minimum capacity required for each individual seepage pit is 1,667 gallons per day.

Dispersal Area	Total Absorptive Capacity Volume Required	Number of Pits	Total Absorptive Capacity Volume Proposed	Distribution Type (Equal, Serial, Pressure Dose)	Vertical Seepage Pit Dimensions			
					Diameter	Rock Depth	Soil Cover/ Cap Depth	Total Depth
Primary Dispersal #1	Gal		Gal		ft	ft	ft	ft
Primary Dispersal #2	Gal		Gal		ft	ft	ft	ft
Reserve Dispersal #1	Gal		Gal		ft	ft	ft	ft
Reserve Dispersal #2	Gal		Gal		ft	ft	ft	ft

Existing Pit to be Retained? ☐ YES ☐ NO

Observation Port Proposed? ☐ YES ☐ NO **If Yes,** provide Number. Show locations on layout diagram.

Magnetic Tape Proposed? ☐ YES ☐ NO **If Yes,** provide Number. Show locations on layout diagram.

SECTION M – DRIP DISPERSAL INFORMATION *Use for Drip Dispersal*

Information below must be consistent with design shown on OWTS layout diagram.
Infiltrative Surface Area to be determined from LAMP Table 8.3-1 based on slowest percolation rate and peak daily wastewater flow.
Peak daily flow to be calculated based on 150 gallons per bedroom.
Drip dispersal area dimensions to be determined from LAMP Table 8.7-1.

ATTACHMENTS: Design Specification Worksheet(s) Design Layout Sizing Calculations

Minimum Infiltrative Surface Area Calculation

Peak Daily Flow (gallons/day)	÷	Application Rate from LAMP Table 8.3-1 [Based on percolation test highest (slowest) rate] (gallons/day/sq ft)	=	Required Infiltrative Surface Area (sq ft)
	÷		=	

Dispersal Area	Total Infiltrative Surface Area Required	Drip Dispersal Dimensions				
		Total SQ FT Infiltrative Surface Area Proposed	Linear Feet Drip Line	Drip Line Spacing	Emitter Spacing	Soil Cover Depth
Primary Dispersal Zone 1	sq ft	sq ft	ft	ft	ft	ft
Primary Dispersal Zone 2	sq ft	sq ft	ft	ft	ft	ft
Reserve Dispersal Zone 1	sq ft	sq ft	ft	ft	ft	ft
Reserve Dispersal Zone 2	sq ft	sq ft	ft	ft	ft	ft

Provide attachments to include the following information: Check when completed/attached.

- ☐ List of drip dispersal system components (headworks, valves, filters, pressure gauges, flow meter, drip lines, emitters, air/vacuum relief valves, valve boxes, supply and return manifold and lines, control panel with audio/visual alarms and timed dosing, etc.).
- ☐ Layout diagram of the configuration of the drip dispersal system for the primary and reserve dispersal areas. Diagram to show continuous loop for emitter lines, vacuum release valves at high point of emitter lines.
- ☐ Drip dispersal system design sizing calculations, specification worksheet (if used) (i.e. GeoFlow worksheet).
- ☐ Complete pump information in Section R.
- ☐ Drip dispersal dosing calculations.
- ☐ Head loss calculations to ensure proper hydraulic pressure at the emitter. Emitter head minimum operating pressure of 10 pounds per square inch (psi), maximum operating pressure of 45 psi, and a maximum system operating pressure of 60 psi. Maximum discharge rate per emitter of 1.5 gallons per hour.
- ☐ Automatic backwashing and flushing mechanisms and components specifications.
- ☐ Control and/or alarm box with telemetric reporting specifications.
- ☐ Name/type of vegetation to be planted in drip dispersal area:
- ☐ Operations and Maintenance Plan.

SECTION N – SHALLOW BED DISPERSAL INFORMATION *Use for Shallow Bed Dispersal*

Information below must be consistent with design shown on OWTS layout diagram.
Used in areas with level ground, uniform coarse sand, sand, loamy coarse sand, or loamy sand soils with percolation design rates of three minutes per inch or faster. Infiltrative Surface Area to be determined from LAMP Table 8.8-2. (1-Bedroom – 3-bedrooms: 400 sq ft; 4-bedrooms: 500 sq ft; 5-bedrooms: 625 sq ft; 6 bedrooms: 750 sq ft)

Dispersal Area	Total Infiltrative Surface Area Required	Total Infiltrative Surface Area Proposed	Distribution Type (Equal, Pressure Dose)	Shallow Bed Dimensions				
				Width	Length	Rock Depth	Soil Cover/ Cap Depth	Total Depth
Primary Dispersal #1	sq ft	sq ft		ft	ft	ft	ft	ft
Primary Dispersal #2	sq ft	sq ft		ft	ft	ft	ft	ft
Reserve Dispersal #1	sq ft	sq ft		ft	ft	ft	ft	ft
Reserve Dispersal #2	sq ft	sq ft		ft	ft	ft	ft	ft

Observation Port Proposed? ☐ YES ☐ NO **If Yes,** provide number. Show locations on layout diagram.

Magnetic Tape Proposed? ☐ YES ☐ NO **If Yes,** provide number. Show locations on layout diagram.

SECTION O – PRESBY-TYPE DISPERSAL *Use for Presby-Type Dispersal*

All proposed designs must meet minimum infiltrative surface areas requirements in LAMP Table 8.3-1. No reduction in infiltrative surface area is permitted. All other design calculations must conform to manufacturer's specifications. Information below must be consistent with design shown on OWTS layout diagram.

ATTACH: Design Calculations/Specifications List of All Components Layout Diagram must include Plan View (overhead) and Section View (side).

Minimum Infiltrative Surface Area Calculation

Peak Daily Flow (gallons/day) (150 gallons/day/bedroom)	÷	Application Rate from LAMP Table 8.3-1 (Based on percolation test design rate) (gallons/day/sq ft)	=	Required Infiltrative Surface Area (sq ft)
	÷		=	

System Configuration: Below Ground-Level; Below Ground-Level Below Ground-Slope; Other

Number of Beds: **Dispersal Area % Slope:** % **Allowable Installation % Slope:** %

Total Length Pipe Proposed: ft **Number of Rows of Pipe Proposed:** ft **Pipe Spacing Proposed:** ft

Dispersal Area	Sand Bed Area Proposed	Sand Bed Area Plus Extension	Distribution Type (Equal, Serial, Combined Serial)	Dimensions				
				Total Bed Width	Total Bed Length	Sand Depth	Soil Cover/ Cap Depth	Total Depth
Primary Dispersal #1	sq ft	sq ft		ft	ft	ft	ft	ft
Primary Dispersal #2	sq ft	sq ft		ft	ft	ft	ft	ft
Reserve Dispersal #1	sq ft	sq ft		ft	ft	ft	ft	ft
Reserve Dispersal #2	sq ft	sq ft		ft	ft	ft	ft	ft

Observation Port Proposed? ☐ YES ☐ NO **If Yes,** provide number: Show locations on layout diagram.

Magnetic Tape Proposed? ☐ YES ☐ NO **If Yes,** provide number: Show locations on layout diagram.

SECTION P – OTHER DISPERSAL TYPE

See LAMP Section 8.9 for proposed other dispersal system types. All proposed designs must meet minimum infiltrative surface areas requirements. Additional infiltrative surface area may be required based on the proposed dispersal design. Provide source of dispersal system design specifications and parameters (e.g. EPA Design Manual).

ATTACHMENTS: Design Calculations and Specifications.

Describe proposed dispersal type.

SECTION Q – PUMP SYSTEM DESIGN INFORMATION *Required for Pump Systems*

Provide the information as noted in the checklist below:

ATTACHMENTS: Pump Worksheet/Other Approved Design Worksheet Pump/Control/Alarm Box/Other Component List and Schematics

Pump Curves Pump Tank Specifications Traffic Rating Engineering Design (if needed) Tank Anchoring Engineering Design (if needed)

Tank #1 Purpose: ☐ Pump Tank ☐ Surge Tank ☐ Other:	Tank Size: Gallons
Construction:	Manufacturer/Model:
Tank #2 Purpose: ☐ Pump Tank ☐ Surge Tank ☐ Other:	Tank Size: Gallons
Construction:	Manufacturer/Model:

Tank/Risers are subject to or within 5 feet of vehicle traffic? ☐ YES ☐ NO **If Yes**, provide engineering calculations for traffic rating design.

Is tank in area with potential for contact with groundwater? ☐ YES ☐ NO **If Yes**, tank anchoring required. Provide engineering design.

Are risers required or proposed? ☐ YES ☐ NO If Yes, Manufacturer and Model:

Is an effluent filter proposed? ☐ YES ☐ NO If Yes, Manufacturer and Model:	
Notes: 1) Prefabricated tanks and risers shall be approved by the International Association of Plumbing and Mechanical Officials (IAPMO). Metal and wooden septic tanks are prohibited.2) Tanks must be anchored to counter any potential buoyant forces in areas of high groundwater. 3) Septic tank access openings with greater than six (6) inches of cover must have risers to within six (6) inches of finished grade. Risers and lids that are at or above grade must be watertight and lockable or require tools to be opened. 4) Effluent filters must be National Sanitation Foundation/American National Standard Institute (NSF/ANSI) Standard 46 certified.	
Checklist for pump system required submittal items: Check when completed and attached.	
☐	List of pump system components.
☐	Size, manufacturer, model of pump tank and/or surge tank, if proposed.
☐	Pump System Worksheet or other approved design worksheet (i.e. GeoFlow).
☐	Pump size, manufacturer, model.
☐	Pump design specifications and pump curve(s). Pump tank side view.
☐	Friction and head loss calculations.
☐	24-hour emergency storage capacity calculations.
☐	Sampling port on dosing pump discharge line.
☐	Control and/or alarm box with telemetric reporting component/design specifications/schematics.
☐	Visual and audible telemetric alarm specifications.

SECTION R – SUPPLEMENTAL TREATMENT SYSTEM INFORMATION *Required for Supplemental Treatment Systems*

ATTACHMENTS: Provide the following information as attachments on the supplemental treatment system:

Supplemental Treatment System Specifications and Detail Schematics **Pump Worksheet or Other Approved Design Worksheet**

Pump/Control/Alarm Box/Other Components List and Schematics **Certification Information**

☐	Residential supplemental treatment for nitrogen reduction. (NSF/ANSI 245 Residential Wastewater Treatment Systems - Nitrogen Reduction)
☐	Residential supplemental treatment for pathogen reduction. (NSF/ANSI 46 Wastewater Treatment Systems - Pathogen Reduction)
☐	Other (NSF/ANSI 40 or 46):

Treatment System Manufacturer/Model:	Rated Capacity of System: Gallons/ Day
An **Operation and Maintenance Plan** has been developed for this specific system and includes all the items in the check list provided in the *OWTS Layout and Design Report Guidance* document.	☐ YES ☐ NO

SECTION S – PROPERTY OWNER CERTIFICATION OF FEASIBILITY TO INSTALL, OPERATE, AND MAINTAIN AN OWTS WITH SUPPLEMENTAL TREATMENT ***Required for Supplemental Treatment System Projects***

Initial Purchase and Installation Cost Estimate:	$	Annual Operation/Maintenance Cost Estimate:	$

Owner Responsibilities – Initial Each Responsibility after Reading to Indicate Understanding	**Owner Initial**
Recording with County Recorder's Office a document with acknowledgement of and promise to comply with the requirements of the annual operating permit, ongoing operation and maintenance, and property owner responsibilities.	
Obtaining a DEHQ Annual Operating Permit.	
Maintaining service contract with a Qualified Service Provider to be in effect at all times.	
Ensuring ongoing operation and maintenance of the system in accordance with the Operations and Maintenance Plan.	
Maintaining a copy of the Operation and Maintenance Plan and making available to Qualified Service Provider.	
Providing copies of all inspection reports to DEHQ within 30 days of the inspection date.	
Ensuring system malfunctions and other emergencies are immediately responded to by Qualified Service Provider.	
Reporting all failures, malfunctions, service requests, alarms, and issues by providing copy of service report and other associated documentation to DEHQ within 30 days.	

OWNER STATEMENT:

I certify that I understand the initial and ongoing costs and responsibilities associated with the installation, operation, and maintenance of an OWTS with supplemental treatment and certify that the installation, operation, and maintenance of an OWTS with supplemental treatment is financially and operationally feasible for me. I also understand that if I fail to meet the responsibilities required of me noted above, I may be subject to the revocation of the annual operating permit, enforcement action by DEHQ, and/or the loss of coverage under the Conditional Waiver of Waste Discharge Requirements, which may result in mandatory reporting to the appropriate Regional Water Quality Control Board.

Property Owner Signature **Date**

SECTION T – VARIANCE REQUEST ***Required for Variance Requests***

See LAMP Section 10.3 for information on variance requests.
The proposed alternative design included in this application must:
1) Maintain substantial conformance, to the greatest extent practicable, with the minimum requirements of the LAMP.
2) Is adequate to accommodate the sewage flows from the buildings being served.
3) Is able to achieve the same practical protection to public health and groundwater as afforded by the LAMP requirements by modification of the system design.
4) Is able to provide an adequate level of protection to adjacent properties.

Describe the LAMP requirement or San Diego County Regulatory Code that cannot be met:

Describe the site condition or restraint that prevent the requirement to be met:

Describe the alternative design that meets the requirements as noted above:

I certify that the proposed alternative repair or replacement design provided in this application maintains substantial conformance, to the greatest extent practicable, with the minimum requirements of the LAMP and is adequate to accommodate all expected sewage flows from the buildings being served.

Property Owner Signature **Date**

Design Qualified Professional Signature **Date**

QUALIFIED PROFESSIONAL COMMENTS/STAMP/SIGNATURE	
Qualified Professional Comments:	
Qualified Professional Certification/Stamp	
I hereby certify that the information provided on this form and the associated attachments is accurate and true and representative of the site conditions and that the sizing, design, and siting of the proposed OWTS meets all applicable LAMP and San Diego County Regulatory Code requirements. I certify that the applicable LAMP required items for an OWTS layout diagram are provided and shown on the submitted layout diagram, including all known easements and all public water lines on or within 25 feet of the parcel boundaries. I understand that any required items omitted on the layout diagram may cause a delay of the project review until all items required for a full and complete review are submitted. I certify that all work, reporting, or documentation was performed or compiled within the scope of my professional license or registration.	
Qualified Professional Signature	***Date***
Print Name	***Title/License or Registration No.***

OWTS LAYOUT AND DESIGN REPORT GUIDANCE

Complete the sections as noted below. Additional information can be provided in the Qualified Professional Comments area or as an attachment.

SECTIONS REQUIRED FOR ALL OWTS PROJECTS

Complete the following sections for all projects. Use the provided checklists to ensure all required information is submitted.

SECTION A – GENERAL INFORMATION

Provide project location, owner information, and qualified professional information, as indicated.

SECTION B – PROJECT LOCATION INFORMATION

Provide project location and acreage information. Provide any information on the Planning and Development Services subdivision map and lot number, or plat number, if known.

SECTION C – PROJECT TYPE INFORMATION

Provide information on the type of residential project, as indicated. Provide information on **any** grading that is proposed or needed, even if a grading plan or permit is not required by Planning and Development Services or the Department of Public Works.

ATTACH grading diagram or plan.

SECTION D – RESIDENTIAL SCOPE

Provide information on the existing and proposed residential uses on the parcel, as indicated. Provide information on the existing and proposed volume and strength of the wastewater generated on the parcel. Wastewater volume is calculated at 150 gallons per bedroom per LAMP Section 6.5. Wastewater volumes exceeding 3,500 gallons per day are not covered under the scope of the local permitting program and are subject to Regional Water Quality Control Board review and approval. Wastewater from normal household activities from residential toilets, sinks, washing machines, and dishwashers are considered low strength wastewater per LAMP Section 6.4.1. The volume and characteristics of any wastewater generated from activities other than normal household activities must be provided. For example, a residence with a home kitchen providing fried chicken for sale will likely result in additional wastewater volume and characteristics including additional fats, oils, grease.

SECTION E – LAYOUT DIAGRAM

The Layout Diagram must be drawn to scale and include all required elements noted in the LAMP Sections 3.8-2 and 5.2-1 (see checklist below). All related setback distances must be shown. Diagrams submitted without all required information will be returned as an incomplete submittal.

ATTACH an OWTS Design Layout Diagram

Checklist for All OWTS Layout Map Required Elements:

☐	Property lines and lot dimensions-provide an over sheet (larger scale allowed and detail sheet(s) for large parcels).
☐	Location of all existing and proposed buildings or structures.
☐	Location of all known, recorded easements on or within 20 feet of lot boundaries (open-space, utility, road, waterline, etc.).
☐	Topographical lines and elevation points-include pad grade, finished floor, slope arrows, percent slope, and direction of fall, slope range, etc.
☐	Location of existing and proposed septic tank and leach lines/dispersal system.
☐	Location of existing and proposed primary and designated reserve dispersal areas.
☐	All setback distances-see setback table in LAMP Section 6.6.1.
☐	Location of rock outcroppings or other significant features.
☐	Location of recorded easements on or within 20 feet of parcel.
☐	Location of all public water lines located on or within 25 feet of property line. Signed statement that the layout diagram includes all public water lines on or within 25 feet of the parcel boundaries.
☐	Location of all water wells on or within 150 feet of parcel.
☐	Location of all public water wells on or within 600 feet of parcel.
☐	Location of drinking water reservoirs on or within 2,500 feet of parcel.

☐	Location of streams (perennial, intermittent, and ephemeral), creeks, rivers, and springs on or within 100 feet of parcel.
☐	Location of ponds, lakes, vernal pools, other surface water bodies on or within 200 feet of parcel.
☐	Location of stormwater features, surface runoff channels, swales, man-made ponds, and ditches 5 feet in depth or less on or within 25 feet of parcel.
☐	Location of stormwater features, surface runoff channels, swales, man-made ponds, and ditches greater than 5 feet in depth on or within 50 feet of parcel.
☐	For OWTS with pump system(s)-location of all pump system components.
☐	For OWTS with Supplemental Treatment-location of all system components.

SECTION F – PUBLIC SEWER AVAILABILITY

Answer the four questions provided in this section. If the answers to the four questions are all NO, then no further action is needed.

If any of the answers to the questions are YES, then indicate the appropriate sewer district. Connection to sewer is required unless one of the conditions noted below exist.

1) The Sewer District has provided documentation that it cannot provide connection to the public sewer. The documentation must provide a basis for the infeasibility to connect to the sewer. **ATTACH: Documentation from sewer district.**
2) Exemption to connection requirement may be applicable if (a) construction and connection fee costs are greater than twice the cost of the OWTS and (b) an OWTS can be installed pursuant to ordinance and LAMP requirements. **ATTACH: Documentation of detailed estimate of construction costs and fees for connection to sewer, and documentation of detailed estimate of design and construction costs and fees for permitting and installation of an OWTS.**

SECTION G – POTABLE WATER SOURCE

Provide information on the source of potable water for the project.

If parcel is to be served by a Public Water System, provide name of the water system provider. Please note that a sign-off of the Layout Diagram by the water provider is required for Vista Irrigation District, Rincon del Diablo, Yuima, or County Service Areas.

If parcel is to be served by an onsite water well, provide the information as indicated. Indicate if the well will serve 5 or more total buildings on the parcel. These buildings should be the same as indicated in Section D.

For new water wells or for existing wells not previously sampled (usually sampled at time of new OWTS proposal), provide well sample results to indicate if bacteria was absent, present, or if not sampled. Well sampling requirements are in LAMP Section 3.7.11.5. Water must be sampled within 12 months of submittal to DEHQ and must be analyzed by a laboratory certifi3d by the State Water Resources Control Board for that analysis pursuant to California Health and Safety Code Division 101, Part 1, Chapter 4, Article 3, commencing with Section 100825.

Nitrate (as Nitrogen) - Water must be analyzed for Nitrate (as Nitrogen) and shall be less than the maximum contaminant level as specified in the California Code of Regulations Section 64431 (10 mg/L).
Bacteria - Water must also be negative for the presence of total coliform bacteria and fecal coliforms or *Escherichia coli* (E. coli).
Other Contaminants - For areas near known sources of contamination, additional water testing may be required.

ATTACH: Any related documentation, such as Well Permits, well sampling results, DEHQ well potability approval, public water provider sign off on Layout Diagram, if appropriate.

SECTION H - SITE EVALUATION INFORMATION

Provide all applicable information as indicated.

Historical Certification Information – Provide the subdivision of land map number, lot number, and date, if known. If the original certification is included on the subdivision of land map, provide the historic percolation design rate for the parcel (lot).

Percolation/Capacity Test and Soil Profile Information – Provide a summary of the percolation and soil testing information, as indicated and as applicable.

Depth to Groundwater Evaluation Information – Provide the information on groundwater depth as indicated. Minimum depth to groundwater requirements is found in LAMP Table 6.3-1.

If the parcel/dispersal system is located in an area subject to high groundwater, additional ongoing groundwater monitoring will be required per LAMP Section 4.1. Check with DEHQ to determine if ongoing groundwater monitoring is required. Groundwater monitoring results for ongoing monitoring are to be documented on the *Groundwater Monitoring Results Form*.
Slope Information – Provide slope information to show predominant range of slope. Slope Classes: 0-3% Nearly Level; 3-7% Gently Sloping; 7-12% Strongly Sloping; 12-20% Moderately Sloping; 20-30% Steep; 30-40% Very Steep;>40% Extreme. A Slope Stability Study is required for 30%-40% slopes where evidence of slope instability was found during the screening conducted as part of the site evaluation process per LAMP Section 4.4.
Other Site Conditions Information – Provide any other information relating to site conditions not captured above.
ATTACH: The *Percolation Test and Soil Profile Results Form* or *Vertical Seepage Pit Capacity Test and Soil Profile Results Form*, whichever is applicable. ATTACH: The Groundwater Monitoring Results Form if the required ongoing groundwater monitoring has been conducted and completed.

SECTION I – SEPTIC TANK INFORMATION
Provide information on the septic tank, as indicated. Septic tanks must meet the requirements of LAMP Chapter 7.0. Tank sizing is found in LAMP Table 7.2-1 for primary dwelling and Table 7.2-2 for multiple dwellings on same system. All tanks must be IAPMO approved. Metal and redwood tanks are prohibited. Concrete septic tanks that do not have IAPMO approval must have construction plans by a licensed civil engineer approved by DEHQ. Traffic rating calculations by a licensed civil engineer must be included for any septic tank subject to or within five feet of vehicular traffic. Septic tank anchoring specifications to address any potential buoyancy must be included for any septic tank subject to contact with groundwater, including perched water. Risers are required when the installation will result in more than six inches of soil cover and must have watertight and securable lids. NSF/ANSI Standard 46 certified effluent filters are optional unless required by a manufacturer or Qualified Professional.

QUALIFIED PROFESSIONAL COMMENTS/STAMP/SIGNATURE
Provide any additional information and comments relating to the project in the comments section and sign. Licensed engineers should provide a valid stamp in this section and on the Layout Diagram.

REQUIRED FOR ALL PROJECTS - DISPERSAL SYSTEM

Complete the appropriate section based on proposed dispersal field type

SECTION J – LEACH LINE DISPERSAL INFORMATION
Provide the information as indicated for leach line dispersal systems. Leach line requirements are found in LAMP Section 8.4. Leach line length is determined from Table 8.2-1 and is based on the number of bedrooms (see LAMP Section 6.5.1) and the percolation design rate (see LAMP Section 4.3.13.2). Table 8.2-1 provides an equivalent square foot infiltrative surface to that in the OWTS Policy *Table 3: Application Rates as Determined from Stabilized Percolation Rate* using a conversion to linear feet of two square feet per linear foot. Leach line dimensions and specifications are found in LAMP Section 8.4.2.

SECTION K – DEEP BED DISPERSAL INFORMATION
Provide the information as indicated for deep bed dispersal systems. Deep bed requirements are found in LAMP Section 8.5. Deep bed dispersal systems must have percolation rates of 30 minutes per inch or faster. Deep bed dispersal sizing must be consistent with LAMP Table 8.5-2 based on number of bedrooms (see LAMP Section 6.5-1) and the percolation design rate (see LAMP Section 4.3.13.2). Table 8.5-2 provides an equivalent square foot infiltrative surface to that allowed in the OWTS Policy *Table 3: Application Rates as Determined from Stabilized Percolation Rate*. The dimensions and associated square foot infiltrative surface areas is determined from Table 8.5-3 and is calculated using the bottom and two sidewall (rock) areas of the deep bed. Deep bed dimensions and specifications are found in LAMP Section 8.5.2

SECTION L – VERTICAL SEEPAGE PIT INFORMATION
Provide the information as indicated for vertical seepage pit systems. Vertical seepage pit requirements are found in LAMP Section 8.6. Vertical seepage pit sizing must be consistent with LAMP Table 8.6-2 based on five times the volume of the required septic tank volume with a total minimum absorptive capacity of 5,000 gallons per day or 1,667 gallons per day for any individual pit. Actual absorptive capacity is determined from capacity testing found in LAMP Appendix II. Vertical seepage pit dimensions and specifications are found in LAMP Section 8.6.2.

SECTION M – DRIP DISPERSAL INFORMATION
Provide the information as indicated for drip dispersal systems. Drip dispersal system requirements are found in LAMP Section 8.7. Drip dispersal sizing must be consistent with LAMP Table 8.3-1 using the peak flow and highest (slowest) percolation rate. The minimum square footage is 400 square feet regardless of flow. Drip dispersal dimensions and specifications are found in LAMP Section 8. The Layout Diagram must show the configuration of the drip dispersal system for the primary and reserve dispersal areas and must show continuous loop for emitter lines, vacuum release valves at high point of emitter lines.

ATTACH: The design specifications, dosing calculations, and drip line/emitter sizing calculations worksheets/documentation, a list of system components, automatic backwashing and flushing mechanisms specifications and components, control and alarm

box with telemetric report specifications, name/type of vegetation to be planted in the drip dispersal area, and an Operations and Maintenance Plan for the system.

SECTION N – SHALLOW BED DISPERSAL INFORMATION

Provide the information as indicated for shallow bed dispersal systems. Shallow bed dispersal system requirements are found in LAMP Section 8.8 and are used in areas with sandy soils having a percolation rate of 1-3 minutes per inch, particularly intended for areas overlying the Borrego Springs groundwater basin as a nitrate area of concern per the Water Quality Control Plan for the Colorado River Basin. Shallow bed sizing must be consistent with LAMP Section 8.8.3. Shallow bed dimensions and specification are found in LAMP Section 8.8.2.

SECTION O – PRESBY-TYPE DISPERSAL

Provide the information as indicated for Presby-type dispersal systems. All proposed designs must meet minimum infiltrative surface areas requirements in LAMP Table 8.3-1. No reduction in infiltrative surface area is permitted for these systems. All other design calculations must conform to manufacturer's specifications. The OWTS layout diagram must include a Plan View (overhead) and Section View (side cross section).

ATTACH: The design calculations and specifications, list of components, and specifications of sand fill.

SECTION P – OTHER DISPERSAL TYPE

Provide detailed plans for the proposed subsurface dispersal system not included in sections above. Include the source of the design (e.g. EPA Design Manual).

ATTACH: The design and sizing calculations and specifications, list of components, and all other information needed for a complete review.

REQUIRED FOR PUMP AND/OR SUPPLEMENTAL TREATMENT SYSTEM PROJECTS

Complete the following sections for pump systems and/or supplemental treatment systems.

SECTION Q –- PUMP SYSTEM DESIGN INFORMATION

Provide the information as indicated for pump system. Pump systems information is found in LAMP Section 7.4. Prefabricated tanks and risers shall be approved by the International Association of Plumbing and Mechanical Officials (IAPMO). Metal and wooden septic tanks are prohibited. Tanks must be anchored to counter any potential buoyant forces in areas of high groundwater. Septic tank access openings with greater than six (6) inches of cover must have risers to within six (6) inches of finished grade. Risers and lids that are at or above grade must be watertight and lockable or require tools to be opened. Effluent filters must be National Sanitation Foundation/American National Standard Institute (NSF/ANSI) Standard 46 certified. Use the provided check list to ensure all required items are submitted for review.

ATTACH: The design and sizing calculations and specifications on a pump worksheet, pump/control box/alarm box/list of components specifications and schematics, pump curves, pump tank specifications, traffic rating design calculations (if needed), and tank anchoring design calculations (if needed).

SECTION R – SUPPPLEMENTAL TREATMENT SYSTEM INFORMATION

Provide the information as indicated for a supplemental treatment system. Supplemental treatment systems are found in LAMP Chapter 9.0. Supplemental treatment for nitrogen reduction must be certified to meet NSF/ANSI 245 standard. Use the provided check list to ensure all required items are submitted for review. Complete the applicable information in Section Q for pumps, Section I for septic tanks, and Sections J – P for the applicable dispersal system. Have the property owner complete and sign Section S - Property Owner Certification and Feasibility to Install, Operate, and Maintain an OWTS with Supplemental Treatment.

Notes:
1) NSF/ANSI 40: Water Treatment System Components-provides material, design, construction and performance requirements for testing and certifying residential wastewater treatment systems with rated capacities between 400 and 1,500 gallons per day (for $CBOD_5$, TSS, pH, and Color, Odor, Oily Film and Foam standards).
2) NSF/ANSI 46: Water Treatment System Components-components and devices used in wastewater treatment systems such as grinder pumps, septic tank effluent filters, chlorination devices, and UV disinfection devices.
3) NSF/ANSI 245: Nitrogen Reduction-Requires a minimum 50% reduction of total nitrogen for residential wastewater treatment systems with rated capacities between 400 and 1,500 gallons per day.
4) Pathogen reduction effluent to not exceed a 30-day average of TSS of 30 mg/L and shall further achieve an effluent fecal coliform bacteria concentration less than or equal to 200 Most Probable Number (MPN) per 100 milliliters. (OWTS Policy 10.10.1)

ATTACH: The supplemental treatment system specifications and detailed schematics, list of system components to include component name, manufacturer, model and certification or rating, and specifications/schematics of components.

Operations and Maintenance Plan

An Operations and Maintenance Plan must be developed for the specific Supplemental Treatment System and be provided to the property owner. The Operations and Maintenance Plan must include the items provided in LAMP Section 9.3 and in the following check list.

☐	Property Information including property location and property owner contact Information.
☐	Property owner responsibilities as provided in LAMP Sections 9.3 and 9.4.
☐	System Professional Contacts: Qualified Service Provider, Registered Septic Pumper, Qualified Professional System Designer, Licensed Installer, DEHQ Notification Contact Information.
☐	System location on property. Design details of system. Attach a copy of the Layout Approval and Installation Permit with "As Built" diagram.
☐	Operation instructions to include specific tasks and frequencies.
☐	Monitoring/Maintenance/Inspection Activities to include specific tasks and frequencies.
☐	Activities related to any potential repairs to the system, including notification to DEHQ and steps to obtain a repair permit.
☐	Records retention activities.

SECTION S – PROPERTY OWNER CERTIFICATION OF FEASIBILITY TO INSTALL, OPERATE, AND MAINTAIN AN OWTS WITH SUPPLEMENTAL TREATMENT

Provide the information as indicated on the initial and ongoing costs to install, operate and maintain an OWTS with supplemental treatment. Provide to property owner to read and understand the costs as well as the owner responsibilities that are associated with this type of OWTS. Ensure the property owner initials each responsibility identified and signs the certification. The Layout Report will not be approved until this certification by the property owner is completed and submitted.

REQUIRED FOR PROJECTS WHERE A VARIANCE IS REQUESTED

Complete the following sections for projects where a LAMP standard or San Diego Regulatory Code requirement cannot be met and a variance from that standard is being requested.

SECTION T – REQUEST FOR VARIANCE

Provide the information as indicated. See LAMP Section 10.3 for information on variance requests. The proposed alternative design included in this application must:

1. Maintain substantial conformance, to the greatest extent practicable, with the minimum requirements of the LAMP.
2. Is adequate to accommodate the sewage flows from the buildings being served.
3. Is able to achieve the same practical protection to public health and groundwater as afforded by the LAMP requirements by modification of the system design.
4. Is able to provide an adequate level of protection to adjacent properties.