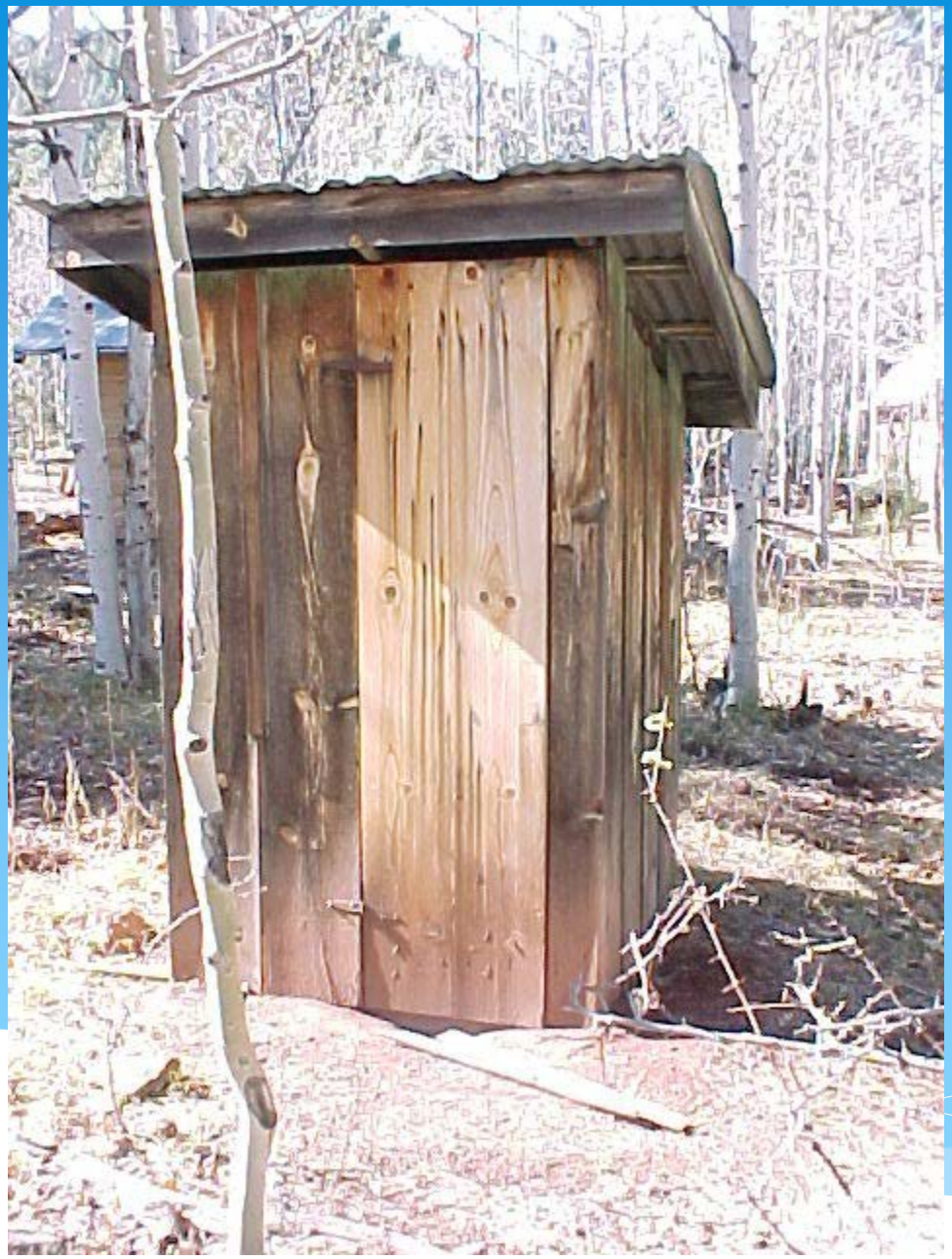
INTRODUCTION

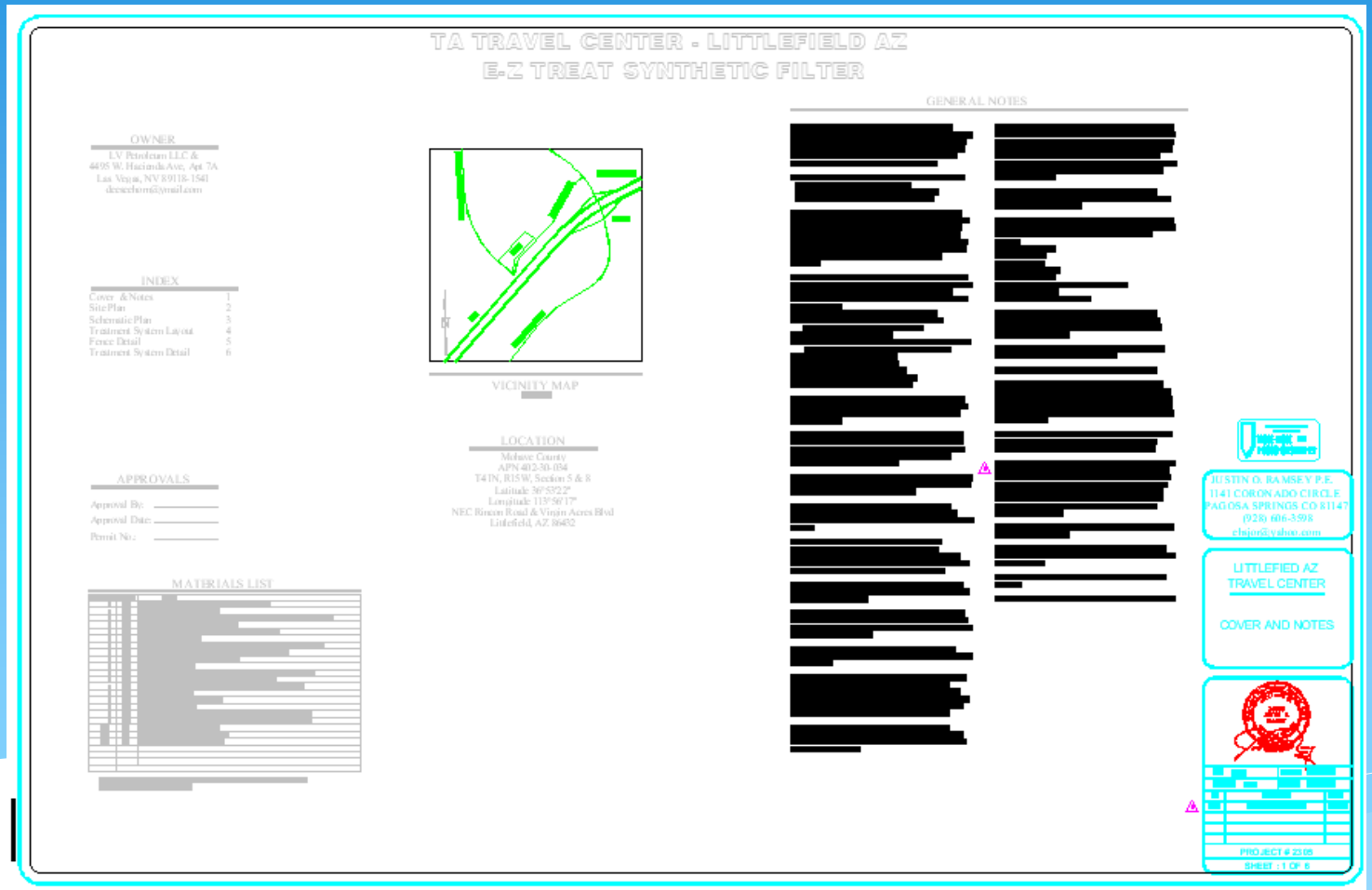
- Justin Ramsey, PE
  - BS Environmental Engineering
  - ME Civil Engineering
  - Licensed Engineer
    - Consulting Engineer with 20+ years in water/wastewater



CONSTRUCTION INSPECTIONS

- PLANS VS. REGULATORY REVIEW VS INSTALLATION
  - Plans – Guidance documents on how the system should be constructed
    - Plans – Construction plans – Design Report – O&M Manual
  - Regulatory Review – 3rd party oversight assuring the construction documents adhere to state requirements
  - Plans – Construction plans – Design Report – O&M Manual
    - In Arizona in culminates in a Construction Authorization
  - Installation – The on-the-ground construction of the system.

CONSTRUCTION PLANS



CONSTRUCTION PLANS

EZ Treat Filter					
Project:	APN 402-30-034 Littlefield AZ Travel Center				
Design:	JOR				
Date:	1/16/2023				
Design Criteria					
Design Flow Rate		=	12620	gpd	Per CA Permit # EQS-2022-01137
Treatment System					
EZ Treat Model		:	Big EZ #5L		
Flow per Pod		:	4,119	gpd	
Min number of pods		=	3		
Actual number of pods		:	6		
Number of nozzles per pod		:	60		
Performance		:			
BOD		:	5	mg/l	
TSS		:	5	mg/l	
TN		:	15	mg/l	
TC		:	100,000	mg/cfu	
Pre-Treatment (Septic) Tank Design					
Minimum Size		=	12,620	gal.	
Actual Nominal Tank Size		:	20,000		
Number of Tanks		:	2		
Total Volume		=	40,000	Gal	(include 15,000 gallon EQ Tank)
Manufacturer		:	Wieser		
Nominal Tank Dimensions (Interior)		=	20,000	gal.	
Length		=	354	in	
Width		=	138	in	
Height		=	118	in	
Total Volume		=	24,956	gal.	
Outlet Invert		=	108	in	
Lid Thickness		:	3.5	in	TBD
Effluent Filter		:	Polylok PL-525		

OPERATION AND MAINTENANCE (O&M) MANUAL AND DESIGN REPORT

LITTLEFIELD AZ TRAVEL CENTER

Prepared for:

LV Petroleum LLC/Ash Fork TC LLC
4495 W. Hacienda Avenue
Apt 7A
Las Vegas, NV 89118
(702) 683-8008
guy@lvpetroleum.net

Prepared by:

JUSTIN O. RAMSEY, PE
1141 Coronado Circle
Pagosa Springs, CO 81147

January 12, 2023

Project No. 2305

REGULATORY REVIEW

Replacement Check List
For rules filed within the
3rd Quarter
July 1- September 30, 2016

THE ARIZONA ADMINISTRATIVE CODE

Within the stated calendar quarter, this Chapter contains all rules made, amended, repealed, renumbered, and recodified; or rules that have expired or were terminated due to an agency being eliminated under sunset law.
These rules were either certified by the Governor's Regulatory Review Council or the Attorney General's Office; or exempt from the rulemaking process, and filed with the Office of the Secretary of State. Refer to the historical notes for more information.
Please note that some rules you are about to remove may still be in effect after the publication date of this Supplement. Therefore, all superseded material should be retained in a separate binder and archived for future reference.

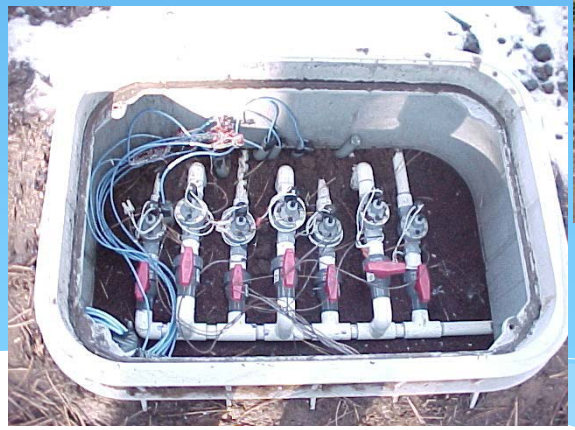
Title 18. Environmental Quality

Chapter 9. Department of Environmental Quality - Water Pollution Control

Supplement Release Quarter: 16-3

Sections, Parts, Exhibits, Tables or Appendices modified
A.C.C. citation updated in R18-9-1011(B)

CONSTRUCTION



CONSTRUCTION INSPECTIONS

- Inspection process serves multiple purposes
  - Compliance Assurance
  - Quality Control
  - Risk Mitigation
  - Operational Efficiency
  - Trust

CONSTRUCTION INSPECTIONS

- Key aspects of inspections
  - Site Preparation
  - Material Quality and Usage
  - Structural Integrity
  - Equipment Installation
  - Safety Measures

CONSTRUCTION INSPECTIONS

- Inspection Procedures
  - Pre-construction meeting
  - Site visits
  - Documentation and reporting
  - Testing and analysis
  - Collaboration and communication

CONSTRUCTION INSECTIONS

MATERIALS LIST

AMOUNT	UNITS	ITEM
1	EA	2" 2-Way Cleanouts
65	LF	4" Sewer Service (for both residence and garage)
1	EA	Yavapai Precast 2,000 Gal Septic Tank w/ 20" access risers
1	EA	Polylock PL-525 Effluent Filter
2	EA	Yavapai Precast 1,000 Gal Recirculation and Discharge Tanks
1	EA	Sta-Rite Step 30 230 V. 1.0 HP Pump & Appurtenances in Recirc Tk
1	EA	E-Z Treat Re-Circulating By-Pass Valve Model #BPV-400
2	EA	E-Z Treat Model #600 Synthetic Filter Module
1	EA	E-Z Treat Control Panel Model 8127X recirculation and discharge
1	EA	24" Dia 3.2 ft high pvc with cap on bottom for Cl2 Contact Chamber
1	EA	Norweco LF-2000 Chlorination System w/ 5 lb pale of Cl2 Tablets
1	EA	Sta-Rite Step 30 115 V. 0.5 HP pump & Appurtenances
1	EA	Geoflow Headworks (installed within Pump Tank)
55	LF	1.50" Supply Line/Manifold
55	LF	1.00" Return Line/Manifold
1,612	LF	Geoflow WFPC16-2-24 Drip Line (0.53 GPH discharge emitters)
2	EA	Geoflow Air/Vacuum Relief Valves

The items furnished in the materials list are initial estimates. The contractor is soley responsible for all required materials.

CONSTRUCTION INSPECTIONS

- MILESTONE INSPECTIONS
  - Start of Construction
  - Tank Excavation
  - Tank Placement
  - Tank Leakage Testing
  - Field installation
  - Startup

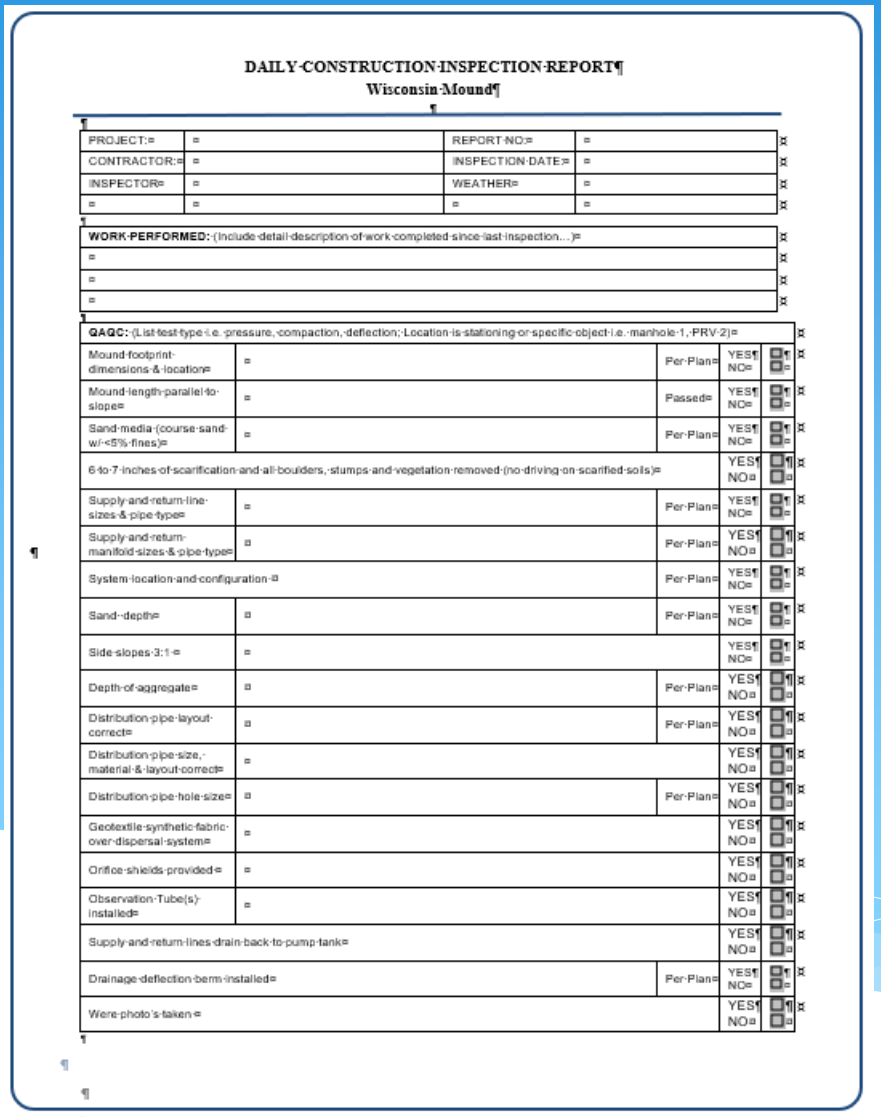
A construction schedule shall be prepared and provided to the Owner or his/her representative and to Coconino County prior to commencement of work. The Construction Schedule Milestones shall include at a minimum:

Start of Construction;
Tank Excavation;
Tank Placement;
Tank Leakage Testing;
Trench Excavation
Trench Backfill;
Completion of Project.

*System need not be built in this order

Inspections by the county and/or design engineer are essential for facilitating the final approval of this project. Un-inspected system components and construction steps can be rejected and may require exposure, and/or replacement.

CONSTRUCTION INSPECTIONS



DAILY CONSTRUCTION INSPECTION REPORT
Wisconsin Mound

PROJECT:		REPORT NO:	
CONTRACTOR:		INSPECTION DATE:	
INSPECTOR		WEATHER	

WORK PERFORMED: (Include detail description of work completed since last inspection…)

QAQC: (List test type i.e. pressure, compaction, deflection; Location is stationing or specific object i.e. manhole 1, PRV 2)					
Mound footprint dimensions & location		Per Plan	YES NO	☐ ☐	
Mound length parallel to slope		Passed	YES NO	☐ ☐	
Sand media (course sand w/ <5% fines)		Per Plan	YES NO	☐ ☐	
6 to 7 inches of scarification and all boulders, stumps and vegetation removed (no driving on scarified soils)			YES NO	☐ ☐	
Supply and return line sizes & pipe type		Per Plan	YES NO	☐ ☐	
Supply and return manifold sizes & pipe type		Per Plan	YES NO	☐ ☐	
System location and configuration		Per Plan	YES NO	☐ ☐	
Sand depth		Per Plan	YES NO	☐ ☐	
Side slopes 3:1			YES NO	☐ ☐	
Depth of aggregate		Per Plan	YES NO	☐ ☐	
Distribution pipe layout correct		Per Plan	YES NO	☐ ☐	
Distribution pipe size, material & layout correct			YES NO	☐ ☐	
Distribution pipe hole size		Per Plan	YES NO	☐ ☐	
Geotextile synthetic fabric over dispersal system			YES NO	☐ ☐	
Orifice shields provided			YES NO	☐ ☐	
Observation Tube(s) installed			YES NO	☐ ☐	
Supply and return lines drain back to pump tank			YES NO	☐ ☐	
Drainage deflection berm installed		Per Plan	YES NO	☐ ☐	
Were photo's taken			YES NO	☐ ☐	

CERTIFICATE OF WATERTIGHTNESS

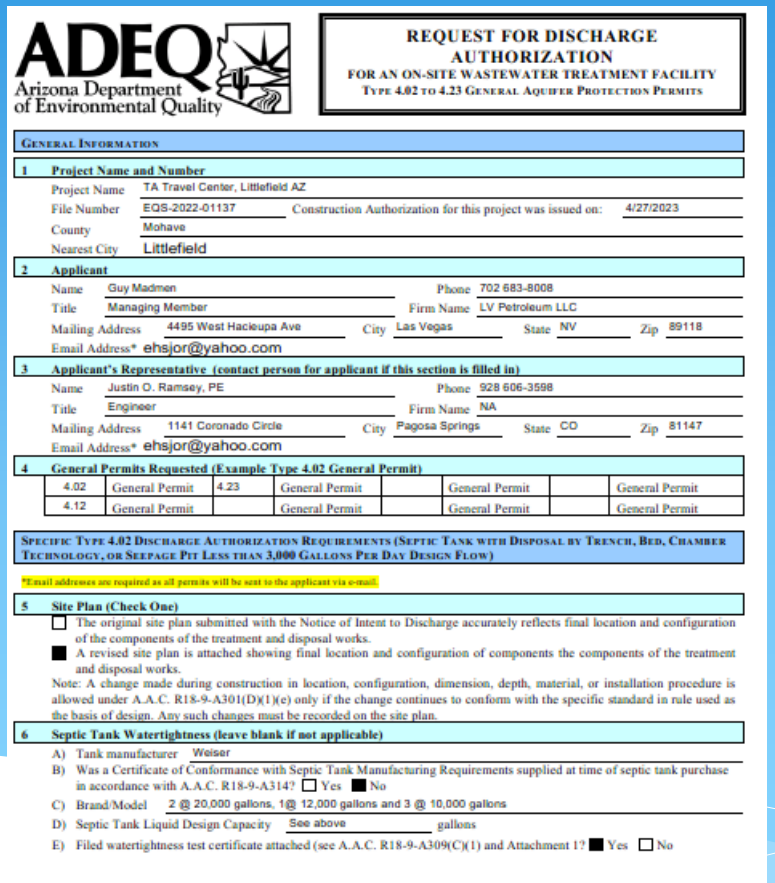
of an Installed Septic Tank Determined by Field Watertightness Testing
Under Arizona Administrative Code R18-9-A309(C)(1)

1	**Project Information**			
	A) Applicant Name			
	B) Project Name			
	C) APN Number			
2	**Watertightness Tester**			
	A) Name			
	B) Company			
	C) Address			
3	**Septic Tank Information**			
	A) Manufacturer			
	B) Design Liquid Capacity			
4	**Watertightness Test Information**			
	Description		**Date**	**Time**
	1. Start presoak with clean water			
	2. Start watertightness test			
	3. End watertightness test			
	☐ Passed **watertightness** test without repair (no water drop over 1-hour period per A.A.C. R18-9- A314(5)(d)(ii)) ☐ Passed watertightness test following repair			
5	**Certification**			
	I have tested the installed septic tank for the above-named project in accordance with the watertightness testing requirements specified in Arizona Administrative Code R18-9-A314(5)(d) and certify that the septic tank passed the watertightness test.			
	Signature of Tester: _____			
	Date of Certification:			

CONSTRUCTION INSECTIONS

- ELECTRICAL
  - 120 vs 208 vs 360
    - Reverse flow of pump

DISCHARGE AUTHORIZATION



ADEQ Arizona Department of Environmental Quality

REQUEST FOR DISCHARGE AUTHORIZATION
FOR AN ON-SITE WASTEWATER TREATMENT FACILITY
TYPE 4.02 TO 4.23 GENERAL AQUIFER PROTECTION PERMITS

GENERAL INFORMATION

1 Project Name and Number

Project Name: TA Travel Center, Littlefield AZ
File Number: EQS-2022-01137 Construction Authorization for this project was issued on: 4/27/2023
County: Mohave
Nearest City: Littlefield

2 Applicant

Name: Guy Madmen Phone: 702 683-8008
Title: Managing Member Firm Name: LV Petroleum LLC
Mailing Address: 4495 West Hackeupa Ave City: Las Vegas State: NV Zip: 89118
Email Address*: ehsjor@yahoo.com

3 Applicant's Representative (contact person for applicant if this section is filled in)

Name: Justin O. Ramsey, PE Phone: 928 606-3598
Title: Engineer Firm Name: NA
Mailing Address: 1141 Coronado Circle City: Pagosa Springs State: CO Zip: 81147
Email Address*: ehsjor@yahoo.com

4 General Permits Requested (Example Type 4.02 General Permit)

4.02	General Permit	4.23	General Permit		General Permit		General Permit
4.12	General Permit		General Permit		General Permit		General Permit

SPECIFIC TYPE 4.02 DISCHARGE AUTHORIZATION REQUIREMENTS (SEPTIC TANK WITH DISPOSAL BY TRENCH, BED, CHAMBER TECHNOLOGY, OR SEEPAGE PIT LESS THAN 3,000 GALLONS PER DAY DESIGN FLOW)

*Email addresses are required as all permits will be sent to the applicant via e-mail.

5 Site Plan (Check One)

☐ The original site plan submitted with the Notice of Intent to Discharge accurately reflects final location and configuration of the components of the treatment and disposal works.
■ A revised site plan is attached showing final location and configuration of components the components of the treatment and disposal works.

Note: A change made during construction in location, configuration, dimension, depth, material, or installation procedure is allowed under A.A.C. R18-9-A301(D)(1)(e) only if the change continues to conform with the specific standard in rule used as the basis of design. Any such changes must be recorded on the site plan.

6 Septic Tank Watertightness (leave blank if not applicable)

A) Tank manufacturer: Weiser
B) Was a Certificate of Conformance with Septic Tank Manufacturing Requirements supplied at time of septic tank purchase in accordance with A.A.C. R18-9-A314? ☐ Yes ■ No
C) Brand/Model: 2 @ 20,000 gallons, 1@ 12,000 gallons and 3 @ 10,000 gallons
D) Septic Tank Liquid Design Capacity: See above gallons
E) Filed watertightness test certificate attached (see A.A.C. R18-9-A309(C)(1) and Attachment 1? ■ Yes ☐ No

CONSTRUCTION INSECTIONS

CERTIFICATE OF COMPLETION & FINAL INSPECTION

County Permit No.: EQS-2022-01137	File No: 2305
Project Description: Installation of two 20,000-gallon Pre-Treatment tanks with effluent Filters, one 12,000-gallon flow equalization tank, three 10,000 gallon recirculation tanks, six 5-L 60N/24N EZ-Treat Textile Filters, a calcite media bed and a 10,000 gallon discharge tank. System serves a commercial truck stop with restaurants.	

I Justin O Ramsey inspected the construction of the above described project, and certify that (*check each item that applies and revise underline text where applicable*):

- ☒ 1) The work on this project has been completed.
- ☒ 2) The materials utilized and installed are in conformance with the approved plans and specifications and the Mohave County Development Services Certificate of Approval to Construct.
- ☒ 3) Any deviation from the approved plans and the Certificate of Approval to Construct have been noted on the attached "As-Built" plans prepared and sealed pursuant to ARS 32-125 on 6/16/23 consisting of 4 sheet(s).
- ☒ 4) A final construction inspection was conducted by Justin Ramsey, PE on 11/30/23
- ☐ 5) All construction and preoperational tests (infiltration, exfiltration, pressure, deflection, chlorination, bacti, etc.) were properly conducted and met ADEQ and Mohave County requirements.
- ☐ 6) Supporting data for required testing are attached, consisting of __ pages.
- ☒ 7) All changes made during construction are shown on the "As-Built" and these changes comply with the key elements of the approved plans and the ADEQ and Mohave County minimum design and construction standards contained in statute, rule or referenced codes.
- ☐ 8) Other, see additional information in Attachment A.

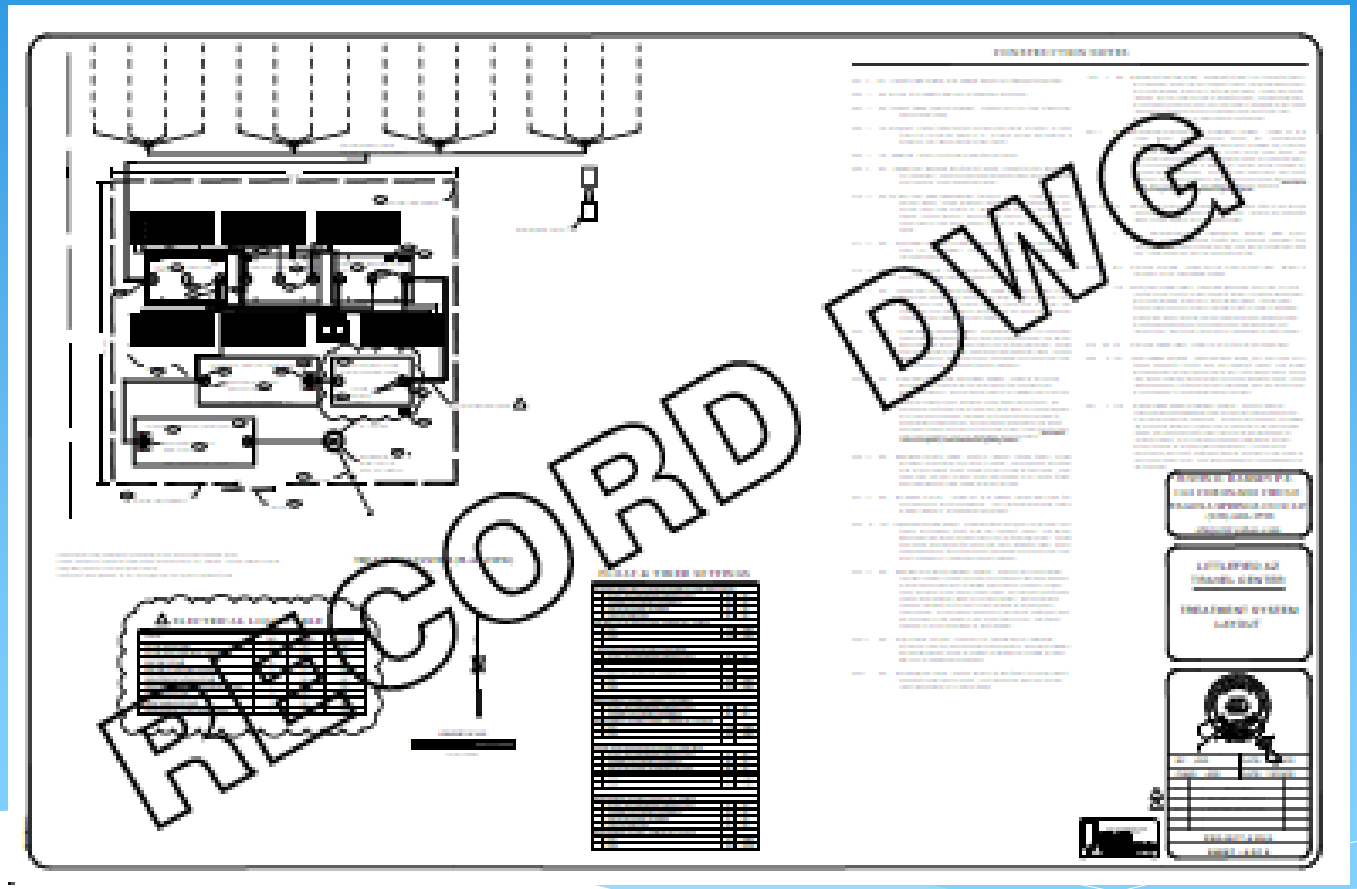
Construction observation/inspections were provided in accordance with generally accepted good construction practices. The observations made were adequate to enable me to render my professional opinion that the contractor's performance was acceptable in accordance with the approved construction plans.

This certificate shall not constitute a warranty or guarantee of any sort and is merely a statement to the best of my knowledge and belief based on limited observations on the construction site. In all cases the contractor shall retain responsibility for the quality of their work and for adhering to plans and specifications.

"As built plans" are actually "record drawings" that represent a compilation of information received from the contractor, sub-contractors and personal observations. The information was evaluated in light of the limited observations made, therefore, the accuracy of this information cannot be warranted by myself. A reasonable attempt was made to show any deviation and all changes on the record drawings.

Leakage testing was completed during the final inspection on the tanks. No drop in the water level or leakage was observed during the test.

DISCHARGE AUTHORIZATION



Conclusion

- Construction Inspections are Indispensable for ensuring:
  - Compliance
  - Quality
  - longevity

Questions

?