



**May 29<sup>th</sup>, 2025**

Electronically Filed in TPUC Docket  
Room on May 29, 2025 at 7:22 p.m.

**Chairman David Jones**  
**TN Public Utility Commission**  
502 Deaderick Street, 4<sup>th</sup> Floor  
Nashville, TN 37243

**25-00038**

Re: **Declaration of Private Sewage System - Letter of Determination**  
**Waterloo RV Park Development**  
Lawrenceburg, Lawrence County, TN  
**Five Rivers Group Investments, LP – Owner & Developer**  
**Landmark Engineering Group Project #01-25-1816**

**Chairman Jones**

On behalf of the development owners, Five Rivers Group Investments, LP, I hereby request a letter of determination regarding whether a CCN is required for the referenced project. The project includes the construction of a private sanitary sewer collection system and wastewater treatment plant with capacity of 35,000 gpd.

The project is being proposed as an RV Park Community and the facility will be owned, rented and maintained by Five Rivers Group Investments, LP. The project consists of approximately 100 RV stalls, 50 cabins, pool, clubhouse and amenities. The Extended Aeration wastewater treatment plant and related system components to be privately owned, operated and maintained by Five Rivers Group Investments, LP. The wastewater system will serve the proposed development and no other users or parcels in Lawrenceburg, TN.

Waterloo RV Park Development project will require State Operating Permit from TDEC. Five Rivers Group Investments, LP will own the property, wastewater system, and all structures and improvements. The RV visitors will never be charged for use of the wastewater system. As required for operation and maintenance of the wastewater system, the property owner shall maintain a contract with a qualified wastewater operator certified by TDEC.

A Pre-application meeting was held with TDEC, and the minutes of that meeting are included herewith as part of our TPUC submittal. TDEC has requested a determination from TPUC that a CCN is not required for the construction and operation of the wastewater treatment system prior to submittal of the preliminary Plan & report and final construction plans for SOP.

**Engineer's TPUC Letter - Five Rivers Group Investments, LP  
Determination CCN is not Required**

Waterloo RV Park, Lawrenceburg, Lawrence County, TN  
Landmark Engineering Group Project #01-25-1816

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In addition, I have included owner's letter, Site Plan, Preliminary WWTP plan set, Plat of Survey, Owner's Property Deed, Owner's Corporate Certificate of Formation, TN Secretary of State registration, and TDEC pre-application meeting minutes.

If you have any concerns or questions, please contact me at (309) 755.3400, extension 1200, mobile phone @ (309) 269.6350 or by email at [mike.shamsie@landgroup.biz](mailto:mike.shamsie@landgroup.biz) .

Respectfully Submitted,



**Michael Shamsie, PE, CFM, CPESC**

Tennessee PE Registration #106732, Expiration 10/31/2026

**Landmark Engineering Group, Inc**

6700 Tower Circle, Suite 330

Franklin, TN 37067

Office (309) 755.3400 Mobile (309) 269.6350

*From the desk of  
Matt Brown*

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**May 22<sup>nd</sup>, 2025**

**Chairman David Jones**  
**TN Public Utility Commission**  
502 Deaderick Street, 4<sup>th</sup> Floor  
Nashville, TN 37243

Re: **Declaration of Private Sewage System - Letter of Determination**  
**Waterloo RV Park**  
Lawrenceburg, Lawrence County, TN  
**Five Rivers Group Investments, LP – Owner & Developer**

I am a member of and represent Five Rivers Group Investments, LP who is the owner and developer of the proposed Waterloo RV Park project located in Lawrenceburg, Lawrence County, TN. The project includes the construction of a private sanitary sewer collection system and wastewater treatment plant with capacity of 35,000 gpd.


The project is being proposed as an RV Park Community and the facility will be owned, rented and maintained by our company, Five Rivers Group Investments, LP. The project consists of approximately 100 RV stalls, 50 cabins, pool, clubhouse and amenities.

The private sanitary sewer collection system and wastewater treatment plant will only serve the Waterloo RV Park project. The wastewater treatment plant operation, maintenance and repair costs are the sole costs of our company with no tenant or user billing or usage fees charged. The wastewater treatment plant will not provide service to any other parcels or developments. This is a private sewage system and not available to the general public at any time or for any other non-owned facilities.

The wastewater treatment plant shall be owned and permanently maintained by our company and operated under a contract with a duly licensed wastewater operator in accordance with TDEC standards.

If you have any questions or need additional information, please contact our Engineer, Michael Shamsie, at (309) 755.3400, extension 1200, mobile phone @ (309) 269.6350 or by email at [mike.shamsie@landgroup.biz](mailto:mike.shamsie@landgroup.biz).

Respectfully Submitted,



**Mr. Matt Brown, Member**  
**Five Rivers Group Investments, LP**  
613 Ewing Avenue  
Nashville, Tennessee 37203  
Mobile (615) 490.5144

APPLICATION FOR REGISTRATION  
OF FOREIGN LIMITED PARTNERSHIP

SS-4473



Tre Hargett  
Secretary of State

Division of Business Services  
Department of State

State of Tennessee  
ATTN: Corporate Filing  
312 Rosa L. Parks Ave, 6th FL  
Nashville, TN 37243-1102  
(615) 741-2286

Filing Fee: \$600

For Office Use Only

FILED

Pursuant to the provisions of the Tennessee Uniform Partnership Act of 2017, T.C.A. § 61-3-1003, the undersigned foreign limited partnership submits the following application for registration:

1. The exact legal name of the foreign limited partnership in its home jurisdiction is: FIVERIVERS GROUP INVESTMENTS, LP - WATERLOO 1819 US FUND, A SERIES OF FIVERIVERS GROUP INVESTMENTS, LP

If different, the name under which the foreign limited partnership is to be registered in Tennessee: WATERLOO 1819 US FUND, A SERIES OF FIVERIVERS GROUP INVESTMENTS, L.P.

Note: Pursuant to the Tennessee Revised Limited Partnership Act of 2017 § 61-3-112, each foreign limited partnership name must contain the words "Limited Partnership" or the abbreviation L.P.

2. The limited partnership was formed under the laws of the State/Country of Delaware and the effective date of formation was 06/30/24.

3. The above-named foreign limited partnership validly exists as a limited partnership under the laws of the jurisdiction of its organization as of the date of this filing.

4. The name of the registered agent and complete registered office address in Tennessee is:

Agent's Name: Eric Alban

Street Address: 572 Glen Echo Dr.

City: Old Hickory ST: TN Zip Code: 37138 County: Wilson

5a. The complete address of the principal office is:

ecoleman@theadvisory-global

Street Address: 572 Glen Echo Dr.

City: Old Hickory ST: TN Zip Code: 37138 County: Wilson

5b. The mailing address (if different from the principal street address) is:

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ ST: \_\_\_\_\_ Zip Code: \_\_\_\_\_

6. Fiscal Year Close Month: December



APPLICATION FOR REGISTRATION  
OF FOREIGN LIMITED PARTNERSHIP

SS-4473



Tre Hargett  
Secretary of State

Division of Business Services  
Department of State

State of Tennessee  
ATTN: Corporate Filing  
312 Rosa L. Parks Ave. 6th FL  
Nashville, TN 37243-1102  
(615) 741-2286

Filing Fee: \$600

For Office Use Only

7. The name and complete address (business, residence, or mailing) of each general partner is:

Name: FiveRivers Group Investments, LLC - Waterloo 1819 US, GP, a series of FiveRivers Group Investments, LLC

Address: 572 Glen Echo Dr.

City: Old Hickory ST: TN Zip Code: 37138 County: Wilson

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ ST: \_\_\_\_\_ Zip Code: \_\_\_\_\_ County: \_\_\_\_\_

☐ Additional general partner(s) is/are listed on the attached page(s) which is/are fully incorporated herein by reference (check and complete if applicable).

8. If applicable, this Limited Partnership has the additional designation of: series limited partnership

9. If the Limited Partnership commenced doing business in Tennessee prior to the approval of the application, the date of commencement (month, day, and year): \_\_\_\_\_

Note: Additional filing fees may apply. See T.C.A. § 61-3-1002(f)

10. Effective Date if the document is not to be effective upon filing by the Secretary of State, the delayed effective date/time is: \_\_\_\_\_ (date), \_\_\_\_\_ (time).

A delayed effective date may not be later than the 90th day after the date this document is filed with the Secretary of State.

A certificate of existence (or a document of similar import) duly authenticated by the Secretary of State or other official having custody of Limited Partnership records in the jurisdiction under whose law it was formed, is attached. The certificate shall not bear a date of more than sixty (60) days prior to the date the application is filed. T.C.A. § 61-3-1003(2).

Note: The application must be executed by a general partner.

Jennifer Dye  
Signature

Authorized Signatory of the General Partner  
Title/Signer's Capacity

Jennifer Dye  
Printed Name

08/08/2024  
Date

Submitter Name: \_\_\_\_\_ Phone #: (\_\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

FIVERIVERS GROUP INVESTMENTS, LP - WATERLOO 1819 US FUND, A SERIES OF FIVERIVERS GROUP INVESTMENTS, LP

Entity Type: Foreign Limited Partnership (LP)  
Formed in: DELAWARE  
Term of Duration: Perpetual  
LP88 Act: No  
Number of Partners: 0

Status: Active  
Control Number: 001567101  
Initial Filing Date: 8/9/2024 11:12:00 AM  
Fiscal Ending Month: December  
AR Due Date: 04/01/2025  
Obligated Member Entity: No

Registered Agent  
ERIC ALBIAN  
572 GLEN ECHO DR  
OLD HICKORY, TN 37138

Principal Office Address  
572 GLEN ECHO DR  
OLD HICKORY, TN 37138

AR Standing: Delinquent	RA Standing: Good	Other Standing: Good	Revenue Standing: N/A
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History (1)			
Type	Date	Tracking Number	Change History
Initial Filing for FIVERIVERS GROUP INVESTMENTS, LP - WATERLOO 1819 US FUND, A SERIES OF FIVERIVERS GROUP INVESTMENTS, LP	8/9/2024 11:12:00 AM	B1606-0002	

This Instrument prepared by: The Advisory PLLC

### QUIT CLAIM DEED

KNOW ALL MEN BY THESE PRESENTS, that Waterloo, LLC on this the 21st day October, 2024, for and in consideration of the sum of One and no/100 Dollars, do(es) hereby bargain, sell, release, remise, quit claim and convey unto FiveRivers Group Investments, LP Waterloo 1819 US Fund, a series of FiveRivers Group Investments, LP all right, title and interest in and to the following described real estate, to wit:

Situated, lying and being in the 6th Civil District of Lawrence County, Tennessee, on the waters of Spring Creek and Beeler Branch and the North side of Waterloo Road being more particularly described as follows:

Beginning in the center of a cement bridge across Spring Creek in center of Waterloo Road as follows; South 50 degrees East 4 poles; South 65 degrees East 4 poles; South 86 degrees East 4 poles; North 78 degrees East 4 poles; North 68 degrees East 4 poles; North 54 degrees East 8 poles; North 50 degrees East 4 poles; North 43 degrees East 8 poles North 45 degrees East 15 poles, more or less to point in center of Waterloo Road with elm pointer; thence North 34 degrees West 3 poles, more or less, to center of Spring Creek with elm, red bud and maple pointers; thence with center and meandering of said Spring Creek as follows: North 28 degrees East 4 poles; North 52 degrees East 6 poles; North 25 degrees East 4 poles; where Beeler Branch intersects said Spring Creek; thence with center of Beeler Branch as follows: North 8 degrees East 4 poles, North 8 degrees West 4 poles; North 6 degrees West 4 poles North 4 poles; North 5 degrees West 8 poles; leaving said branch North 13 degrees East 2-1/2 poles to black walnut tree at corner of wire fence W. E. Robertson's corner; thence with net wire fence and W.E. Robertson's South line and original North boundary line, North 84 degrees West 69 poles to old post with sassafras pointer; thence North 87 degrees West 37 poles to elm tree marked as a corner of 7-2/10 acre tract on the South line of James Douser's land; thence South about 9 degrees East 498 feet more or less to large poplar marked corner; thence with edge of field 12 feet in wood at all points as follows: South about 59-1/2 degrees East 200 feet to cedar tree; South 40-1/2 degrees East 200 feet to sumac bush 12 feet West of field; thence across wood, field and wood South 19 degrees East 306 feet to center of Waterloo Road; thence with center and meandering of said Waterloo Road as follows: South 77-1/2 degrees East 3-2/3 poles; South 75 degrees East 4 poles; South 65 degrees East 4 poles; South 50 degrees East 21 poles, all with Waterloo Road to the beginning, containing by estimation to be 36-2/10 acres, more or less.

Being the same property conveyed to Eddie Rhinehart and wife, Misty Rhinehart by Warranty Deed from James E. Donnelly and wife, Kaley Donnelly of record in Book 598, Page 541, Register's Office for Lawrence County, Tennessee, dated May 01, 2020 and recorded on July 02, 2020.

Being the same property conveyed to Onyx Hall, LLC, a Tennessee limited liability company by Warranty Deed from Eddie Rhinehart and Misty Rhinehart, husband and wife of record in Book 667, page 742, Register's Office for Lawrence County, Tennessee, dated February 24, 2022 and recorded on March 2, 2022.

Being the same property conveyed to Waterloo, LLC, a Tennessee limited liability company by Warranty Deed from Onyx Hall, LLC of record in Book 746, page 373-375, Register's Office for Lawrence County, Tennessee, dated May 30, 2024 and recorded on May 31, 2024.

This is property more commonly known as 232 Waterloo Road, Lawrenceburg, TN 38464.

[Signature Page Follows]

**BK/PG: 762/95-97**

**24005768**



3 PGS:AL-QUITCLAIM DEED

HAILEY BATCH: 143654

**10/28/2024 - 09:14:33 AM**

VALUE 0.00

MORTGAGE TAX 0.00

TRANSFER TAX 0.00

RECORDING FEE 15.00

DP FEE 2.00

REGISTER'S FEE 0.00

TOTAL AMOUNT 17.00

STATE OF TENNESSEE, LAWRENCE COUNTY

**TERRA DICKEY**

REGISTER OF DEEDS

IN TESTIMONY WHEREOF I/we have hereunto set my/our hand(s) this 22nd day of October, 2024.

John Cascarano

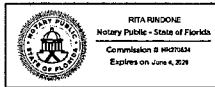
STATE OF Florida  
COUNTY OF Miami-Dade

Before me, the undersigned Notary Public in and for the County and State aforesaid, personally appeared

John Cascarano

with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and who acknowledged to be person(s) within named and that x executed the foregoing instrument for the purpose therein contained.

Witness my hand and seal this 22nd day of October, 2024. Whom produced a DRIVER LICENSE



Rita Rindone Notary Public  
HH270624

My commission expires: 06/04/2026

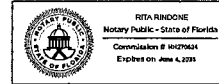
Notarized remotely online using communication technology via Proof.

I, or we, hereby swear or affirm that to the best of affiant's knowledge, information, and belief, the actual consideration for this transfer is \$ 0.

John Cascarano Affiant

STATE OF Florida  
COUNTY OF Miami-Dade

Subscribed and sworn before me this 22nd day of October, 2024.  
Whom produced a DRIVER LICENSE



Rita Rindone Notary Public  
HH270624

My commission expires: 06/04/2026

The following information is not a part of this Deed:

Property Address: 232 Waterloo Rd.

Lawrenceburg, TN 38464

Owner's Name and Address FiveRivers Group Investments, LP Waterloo 1819 US Fund,  
a series of FiveRivers Group Investments, LP

Parcel Number 087 005.00

Mail Tax Bills to: 572 Glen Echo Dr.  
Old Hickory, TN 37138

Notarized remotely online using communication technology via Proof.

I, Eugene Coleman Jr, do hereby make oath that I am a licensed attorney and/or the custodian of the original version of the electronic document tendered for registration herewith and that this electronic document is a true and exact copy of the original document executed and authenticated according to law on 10/27/24 (date of document).

[Signature]  
Affiant Signature

10/23/24  
Date

State of Tennessee  
County of SHELBY

Sworn to and subscribed before me this 23 day of October, 2024.

Ashley Merkling  
Notary's Signature

MY COMMISSION EXPIRES: 02/07/2027





STATE OF TENNESSEE  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF WATER RESOURCES

William R. Snodgrass - Tennessee Tower  
312 Rosa L. Parks Avenue, 11<sup>th</sup> Floor  
Nashville, TN 37243-1102

**PROJECT NAME:** Waterloo RV Park  
**DATE REQUESTED:** 4/12/25  
**MEETING LOCATION:** Microsoft Teams  
**PERMIT:** SOP TBD

**COUNTY:** Maury  
**DATE HELD:** 4/22/25  
**MEETING TIME:** 10 central  
**WPN:** 25.0226

**PARTICIPANTS/REPRESENTING:** (checklist ITEM I.A)

TDEC: Angela Jones, PE ([angela.jones@tn.gov](mailto:angela.jones@tn.gov)), Tim Hill, PE ([timothy.hill@tn.gov](mailto:timothy.hill@tn.gov)), Bryan Pope ([bryan.pope@tn.gov](mailto:bryan.pope@tn.gov)), Brad Smith ([Bradley.e.smith@tn.gov](mailto:Bradley.e.smith@tn.gov))

Landmark Engineering: Mike Shamsie, PE ([mike.shamsie@landgroup.biz](mailto:mike.shamsie@landgroup.biz)), Jim Hysen ([jim@landventures.com](mailto:jim@landventures.com))

Five Rivers Development: Eric Albian ([eric@channelpartnerships.com](mailto:eric@channelpartnerships.com)), Matt Brown ([mattbrown1895@gmail.com](mailto:mattbrown1895@gmail.com))

Contract Operator: Chuck Steffins ([c72442@hotmail.com](mailto:c72442@hotmail.com))

**PROJECT BACKGROUND AND PURPOSE:** (checklist ITEM B)

Waterloo RV Park is a proposed RV campground outside Lawrenceburg. The park proposes approximately 95 RV sites, 50 cabins and onsite amenities. The park is expected to be mostly short term, seasonal rentals. The closest public sewer connection is reported to be approximately 5 miles away.

**SUMMARY OF PRELIMINARY ENGINEERING REPORT CONSIDERATIONS** (checklist ITEMS C, D, E):

The proposed treatment facility is a Gainey Concrete Activated Sludge Plant. RV sites are based on 120 gpd/unit and the cabins at 300 gpd/unit. Due to limited soil availability, temporary storage in a holding pond and beneficial reuse thru irrigation is proposed. The collection system is proposed to be conventional gravity.

The Division conveyed the following observations with the proposal and considerations moving forward:

1. Although the site is proposed to be a single owner and rentals, a letter of determination from the Tennessee Public Utility Commission will be required.
2. There should not be an extra allowance for i/i due to the gravity collection system. The proposed design flow is 34,000 gpd. Note Rule 0400-40-02-.03(3) prohibits activated sludge plants under 30,000 gpd and requires justification for its implementation between 30,000-100,000 gpd.
3. Rule 0400-40-06-10 states that "only demonstrated, consistent, year-round reuse demands can be counted toward wasteload commitments to reduce the amount of wastewater subject to discharge or land application permits..." and that "Wasteload commitments based on reuse shall not exceed 25% of the total wasteload commitments". Temporary storage in a holding pond cannot be used to offset disposal requirements.
4. While not discussed in the meeting, it should be noted a separate non-potable reuse "purple pipe" distribution system would be required if landscape irrigation with non-potable reuse water were to be part of the project.
5. There are different regulatory requirements for land application and non-potable reuse which are included in 0400-40-06.
6. The engineering report should include the items in Appendix 1-D-2 of the Design Criteria for Review of Sewage Works Construction Plans and Documents as well as the following items:
  - a. The system head curve plotted on the pump curve for flushing the system. If using two pumps, the pumps should be added.
  - b. The hydraulic grade lines for the flushing system at the design flow rate.
  - c. The hydraulic grade line at the dosing rate when the system is pressurized.
  - d. An analysis of the system showing if PRVs are required in any low portions for the system.
  - e. The system head curve plotted on the pump curve for dosing.



STATE OF TENNESSEE  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF WATER RESOURCES

William R. Snodgrass - Tennessee Tower  
312 Rosa L. Parks Avenue, 11<sup>th</sup> Floor  
Nashville, TN 37243-1102

- f. The time it takes to pressurize the most critical zone and a calculation showing the volume in the operating range of the dosing tank includes the volume required to dose each zone for the design time.
- g. A description of how the design prevents pooling of water in a certain section of the zone when that section is no longer dosing.

**SUMMARY OF RECEIVING WATERS OR SITE SUITABILITY:** (checklist ITEM F)

The proposed loading rate is 0.15gpd/ft<sup>2</sup> based on soil suitability. Note that TDEC does not have reserve requirements in its rules, however, local jurisdictions may. The site reports to have approximately 1.5 acres of suitable soil area. Based on the projected demand of 34,000 gpd, approximately 5.2 acres would be required. It was recommended to investigate more soils area on the site.

**SUMMARY OF ANTICIPATED PERMITTING NEEDS:** (checklist ITEM G, I, J, K):

A Permit Application should be emailed to [water.permits@tn.gov](mailto:water.permits@tn.gov). Permit fees must be by check.

Depending on the Letter of Determination from the TPUC:

If a CCN is required, then a utility, municipality or private-public utility registered with TPUC will be required to hold the permit and have easements for the sewer assets on site.

If a CCN is not required, then financial security will be required per Rule 0400-40-.06-11.

To incorporate reuse provisions in the permit, the application must also include the necessary items called out for in Rule 0400-40-06-10 (such as the Reclaimed Water Management Plan).

A link to TDEC's Rules: <https://publications.tnsosfiles.com/rules/0400/0400-40/0400-40.htm>

Link to the Division of Financial Assurance: <https://www.tn.gov/environment/about-tdec/fin-financial-responsibility.html>



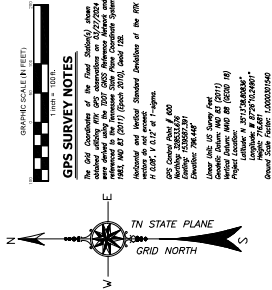
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453	9/1/2057 JKL
454	10/1/2057 JKL
455	11/1/2057 JKL
456	12/1/2057 JKL
457	1/1/2058

Being the same property conveyed to Edle & Misty Rhinehart, as recorded in Deed Book 667, Page 742, in the Register's Office for Lawrence County, Tennessee.

area = 33.669 ± Acres by  
way (including to centerline of

Subject Property is Tax Parcel ID: 087 005.00 001 as shown on Lawrence County Property Maps.

CURVE #	DELTA	RADIUS (FT)	ARC LENGTH (FT)	EXTERNAL TANGENT (FT)	CHORD BEARING	CHORD DISTANCE (FT)
C1	28.41	477.85	236.91	120.94	N59°21'43"W	234.49
C2	69.13	240.00	289.58	165.36	S89°45'57"W	272.33

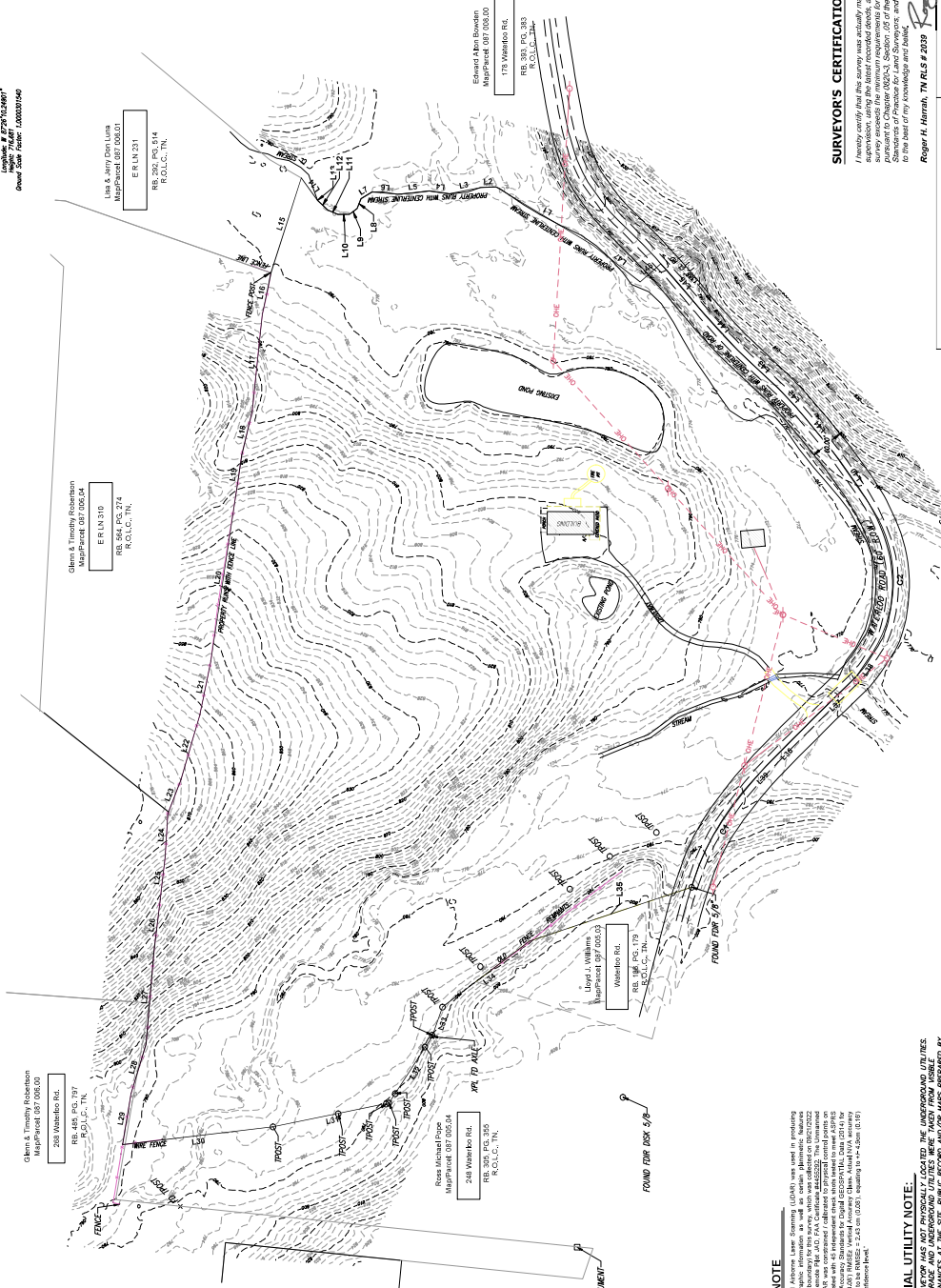


## 53°01'44"W

L2	S2	52097462E	27.60
L2	S3	52119440E	56.81
L4	S4	50805384E	36.39
L4	S5	50809710E	57.48
L6	S6	50597125E	46.06
L7	S7	52025941E	22.99
L8	S8	50826702E	18.83
L9	S9	53087392E	7.47
L10	S10	50805446E	20.30
L11	S11	50237187E	20.10
L12	S12	54254204E	24.90
L13	S13	???	0.00
L14	S14	53578905E	49.67
L15	S15	50805715E	178.10
L16	S16	50877562E	76.77
L17	S17	50901472E	128.61
L18	S18	50872072E	81.56
L19	S19	50805702E	72.37
L20	S20	50815462E	300.38
L21	S21	50805702E	97.96
L22	S22	52755452E	238.80
L23	S23	50806710E	65.20
L24	S24	50807407E	77.33

DIRECTION	LENGTH (FT)
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L26	L25	S877072	77.63
L26	L25	S877042	76.68
L27	L26	S876921	93.29
L28	L27	S876821	92.08
L29	L28	M087640	271.27
L30	L29	M177530	271.78
L31	L30	M076530	141.27
L32	L31	M067530	56.33
L33	L32	M076830	185.40
L34	L33	M767510	300.00
L35	L34	M672210	127.68
L36	L35	M475620	125.47
L37	L36	M475620	43.52
L38	L37	M675030	1.36
L39	L38	M675030	115.12
L40	L39	S877130	96.37
L41	L40	S877020	58.70
L42	L41	S877020	105.89
L43	L42	S877130	99.44
L44	L43	S877130	108.80
L45	L44	S877257	49.48
L46	L45	S175942	106.37
L47	L46	S175942	



Unmanned Aerialborne Laser Scanning (LiDAR) was used in producing the topographic information as well as certain planimetric features (excluding polygons) for this study which was collected on DRG12022222 by TWM Remote Sensing, Inc. FVA Certificate #4452592. The Unmanned Aerial LiDAR was constrained / calibrated to ground control points on site and yielded with 45 independent check points listed to meet ASPRS Positional Accuracy Standards for Digital Geospatial Data (2014) for a 2.5cm (0.08") RMSE/6 Vertical Accuracy Class. Actual NADA (2014) was found to be RMSEs = 2.43 cm (0.008'), equating to  $\pm 4.9$  mm (0.16") 95% confidence limit.

THIS SURVEY HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. ABOVE GROUND, THE STUDY AREA UTILITIES WERE IDENTIFIED BY THE CITY OF CHICAGO AND THE ILLINOIS POWER COMPANY. OTHERS, THEREFORE, RELIANCE ON TYPE, SIZE AND LOCATION OF UTILITIES SHOWN ON THESE DRAWINGS IS AT THE USER'S RISK. THE FOLLOWING INFORMATION IS PROVIDED FOR YOUR INFORMATION AND IS NOT TO BE CONSIDERED A GUARANTEE. THE USER SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES PRIOR TO ANY DECISION RELATIVE TO WHAT IS MADE. AVAILABILITY AND COST OF SERVICE SHOULD BE CONFIRMED WITH THE APPROPRIATE UTILITY COMPANY. IF IT IS A REQUIREMENT, PER THE UNDERGROUND UTILITY DAMAGE PREVENTION ACT, THE USER SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UNDERGROUND UTILITY OWNERS, NOT LESS THAN (3) THREE MORE THAN (10) WORKING DAYS PRIOR TO THE DATE OF THEIR INTENT TO EXCAVATE AND ALSO TO AVOID ANY POSSIBLE HAZARD OR CONFLICT. TENNESSEE ONE CALL



The Location of existing underground utilities are shown at approximate locations only and are based upon the field location of visible utility apparatus and information provided by utility companies.

I hereby certify that this survey was actually made on the ground under my direct supervision, using the latest recorded deeds, and other information; and that this survey exceeds the minimum requirements for a Category 1 Urban Land Survey pursuant to Chapter 2002-1, Section .05 of the Department of Insurance Standards of Practice for Licensed Surveyors; and that this survey is true and correct to the best of my knowledge and belief.

Roger H. Harrah, TN RLS # 2039

*R. Harrah*



**Boundary Survey**  
232 Waterloo Road  
Deed Book 667, Page 742

*Lawrenceburg  
Lawrence County, Tennessee*

DATE OF DRAWING: 04-25-2024	MANAGER: RHH	CADDIST:
PROJECT NUMBER: 240485		
FIELD BOOK NUMBER:		
LAST FIELD WORK: 04-08-2024		
CREW CHIEF(S): J./SGM		
REV. DRAWING:		
SCALE: 1"= 100'		SHEET 1 OF 1



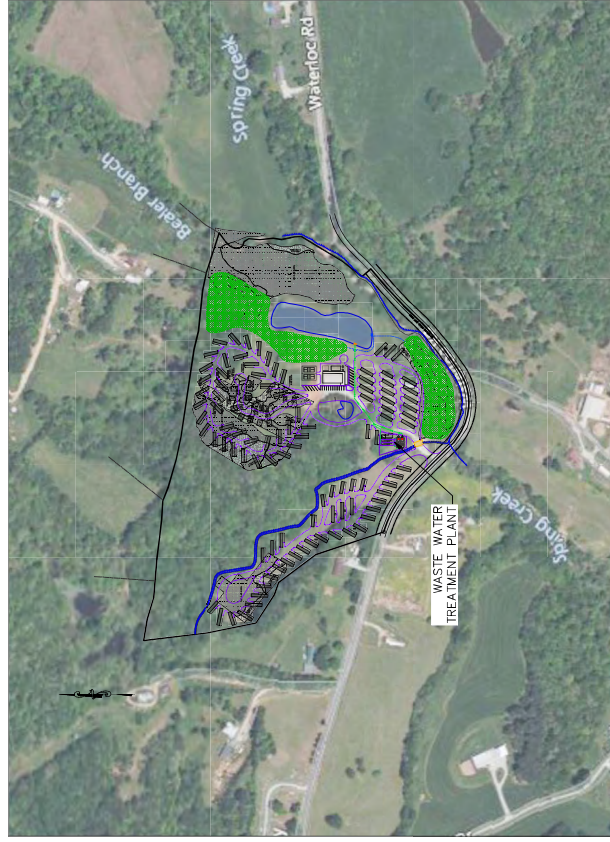
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# PRELIMINARY WASTE WATER TREATMENT SYSTEM PLANS FOR

## WATERLOO RV PARK

232 WATERLOO ROAD, LAWRENCEBURG, TENNESSEE

Sheet List Table	
Sheet Number	Sheet Title
P1	COVER SHEET
P2	OVERALL SITE PLAN
P3	PRELIMINARY WMP SITE PLAN
P4	PRELIMINARY WMP DETAIL
P5	HOLDING TANK DETAIL
P6	HOLDING TANK DETAIL



## KEY MAP

WATERSHED - SPRING CREEK

## UTILITY NOTES

JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS CONTRACTOR SHALL ALSO REQUEST THE LOCAL CABLE T.V. COMPANY FOR LOCATION OF THEIR FACILITIES

LOCATION REQUESTS SHOULD BE MADE TO THE PUBLIC WORKS DEPARTMENT FOR WATER, SANITARY AND STORM SEWERS.

ANY REVISIONS TO THE APPROVED

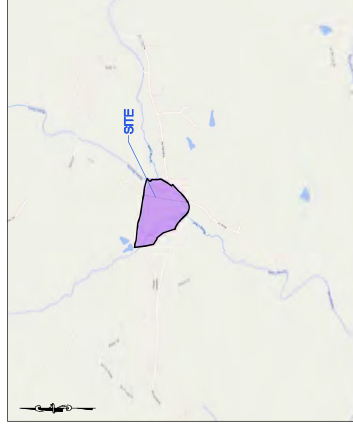
ENGINEERING PLANS MUST BE REVIEWED AND APPROVED BY THE GOVERNING AGENCIES, OWNER, AND THE ENGINEER OF RECORD BEFORE ANY WORK IS PERFORMED REGARDING THE REVISED ITEMS.

## SITE BENCHMARK

## DUTY TO INDEMNIFY

[illegible]

## PROJECT LOCATION



## PROJECT TEAM

**CLIENT:** FIVE RIVERS GROUP INVESTMENT  
613 EWING AVENUE  
NASHVILLE, TENNESSEE 37203

**CONTACT: MR. ERIC ALBIAN**  
**PHONE: (615) 293-2756**

**ENGINEER:**  **Landmark**  
ENGINEERING GROUP  
6700 TOWER CIRCLE, STE. 330  
FRANKLIN, TN 37067

**CONTACT: MR. MICHAEL SHAMSIE, P.E.  
PHONE: (309) 755-3400**



I HEREBY CERTIFY THAT THESE PLANS AND SPECIFICATIONS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF INDIANAPOLIS.

4/23/2025  
MICHAEL R. SHAMISE, P.E. DATE  
IN. P.E. #106732 ALL SHEET COVERED BY SEAL  
EXP. DATE OCTOBER 2026  
IF SEAL AND/OR SIGNATURE IS NOT A CONTRASTING  
COLOR, THIS DOCUMENT IS NOT AN ORIGINAL.

01-25-1816

2

DATE: 4/23/2025

DESIGNED BY: MRS  
CHECKED BY: MRS

## 五

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-25-18

"CALL TENNESSEE ONE CALL  
BEFORE YOU DIG"  
(615) 367-1110 OR 811

NO.	DESCRIPTION
REVISIONS	

A. DRAINAGE EASEMENTS OUTSIDE DEDICATED PUBLIC RIGHT-OF-WAY ARE NOT THE RESPONSIBILITY OF THE CITY/COUNTY.

B. IF ANY ROADS ARE TO BE BUILT (PUBLIC OR PRIVATE), THE FOLLOWING NOTE MUST BE ADDED:

\* ROAD GRADES WILL NOT EXCEED TEN (10) PERCENT. \*

D. IF A NATURAL DRAINAGE CHANNEL (OR SINK HOLE/DEPRESSION) EXISTS ON THE PROPERTY, THE FOLLOWING NOTE MUST APPEAR: NO CUT, FILL OR CONSTRUCTION WITHIN THIRTY (30) FEET OR AS REQUIRED BY TDEC BUFFER REQUIREMENTS OF TOP OF STREAM BANK (OR SINK HOLE/DEPRESSION)."

E. IF A DRAINAGE WAY APPEARS AS A BLUE LINE ON USGS 7 1/2-MINUTE QUADRANGULAR MAP, THE STREAM MUST BE IDENTIFIED AS SUCH AND THE FOLLOWING NOTE MUST APPEAR: "NO ALTERATION OF THIS (THESE) STREAM(S) SHOWN WILL OCCUR PRIOR TO WRITTEN APPROVAL BEING GRANTED BY THE APPROPRIATE AUTHORITIES."

G. THIS DEVELOPMENT IS TO BE SERVED BY PUBLIC SEWER SYSTEM.  
JANUARY 02, 2009.

SUBDIVISION DEVELOPMENT, STRUCTURES TO BE ERCTED ON LOTS PROPOSED WITHIN THIS SUBDIVISION SHALL BE CONSTRUCTED WITH POSITIVE DRAINAGE, DRAINING AWAY FROM THE EXTERIOR OF THE STRUCTURE, AT THE FOLLOWING MINIMUM THRESHOLD: 5% FOR A MINIMUM DISTANCE OF 10 FEET FROM THE PERIMETER OF THE STRUCTURE.

BEFORE DEVELOPMENT OF THIS SUBDIVISION; THE BUILDER AND OWNER SHOULD INVESTIGATE THE CURRENT SOIL CONDITIONS AND CONSULT WITH OTHERS TO ASSURE THAT A CONVENTIONAL FOOTING WILL BE ADEQUATE.

THAT THE LOTS WILL DRAIN THE SURFACE WATER, WITHOUT PONDING ON THE LOT OR UNDERNEATH THE BUILDINGS TO THE DRAINAGE SYSTEM DESIGNED BY THE SUBDIVISION ENGINEER.

PROPERTY INFORMATION  
232 WATERLOO ROAD  
LAWRENCEBURG COUNTY, TN  
6TH CIVIL DISTRICT  
DEED BOOK 667, PAGE 742.


# COVER SHEET

COVER SHEET

## Landmark



"CALL TENNESSEE ONE CALL  
BEFORE YOU DIG"  
(615) 367-1110 OR 811



OVERALL SITE PLAN  
WATERLOO RV PARK  
LAWRENCEBURG, TENNESSEE

L42	S47°10'28"W	45.0
L43	S43°20'34"W	105.9
L44	S47°13'30"W	99.4

L45	S49°22'51"N	108.8
L46	S41°29'42"E	49.48



LINE #	LINE TABLE	
	DIRECTION	LENGTH (FT)
629	S83°10'27"E	774.63
626	S83°16'16"E	92.30
627	S83°06'59"E	166.68
628	S83°05'32"E	93.29
629	S80°18'33"E	92.08
630	N05°46'45"E	217.37
631	N11°27'33"E	211.78
632	N65°37'43"E	141.27
633	N02°30'30"E	56.33
634	N43°05'10"E	195.40
635	N18°22'17"E	306.02
636	N45°35'26"E	121.06
637	N44°28'26"E	126.47
638	N05°40'10"E	434.52
639	N45°28'22"E	1.66
640	S59°11'59"E	115.12
641	S59°09'19"E	96.77
642	S47°10'28"E	45.00
643	S43°20'30"E	105.99
644	S47°13'20"E	99.64
645	S49°22'15"E	43.48
646	S47°09'10"E	43.48
647	S37°25'20"E	106.37

LANDSCAPED AREAS

GOOD SOILS FOR DRIFT FIELD

NOT SUITABLE SOILS FOR DRIFT FIELD

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"CALL TENNESSEE ONE CALL  
BEFORE YOU DIG"  
(615) 367-1110 OR 811

REVISIONS	
NO.	DESCRIPTION

**Landmark**  
ENGINEERING GROUP  
101 W. 2ND AVENUE, SUITE 201  
COAL VALLEY, IL 61240  
FAX (309) 759-5522  
CIVIL, ENGINEERING AND LAND PLANNING  
TENNESSEE DESIGN FIRM NUMBER F-21044

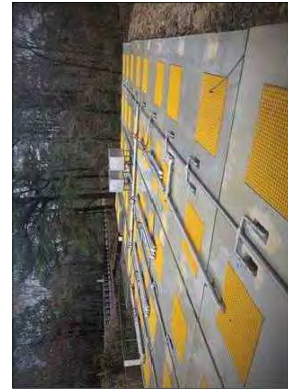
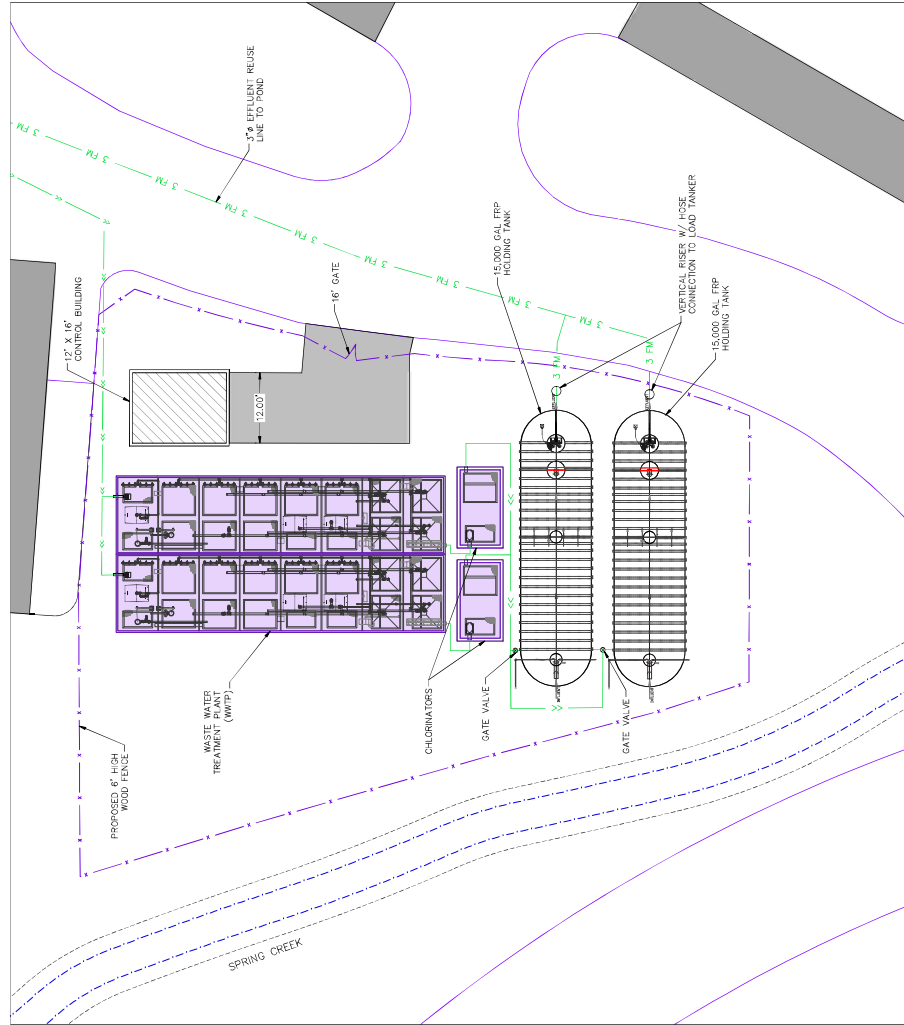


PRELIMINARY WWT SITE PLAN

DATE: 4/23/2025  
DRAWN BY: HLG  
DESIGNED BY: MRS  
CHECKED BY: MRS

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01-25-1816



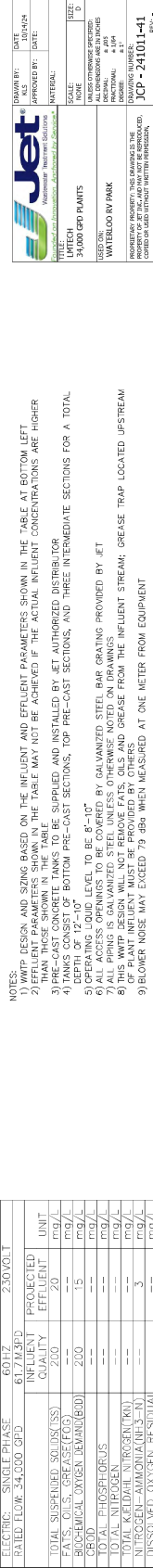
EXAMPLE WWTP PICTURE #1



EXAMPLE WWTP PICTURE #2

WATERLOO, IOWA. PARKS, LANDSCAPING, INC. - 200 PER YEAR  
PHASE 1 CARGES - 10 TO 300 GPD - 3,000 GPD  
PHASE 2 PERMANENT CARGES - 10 TO 120 GPD - 11,400 GPD  
PHASE 3 PERMANENT CARGES - 10 TO 300 GPD - 4,000 GPD  
SWIMMING POOL - 1,500 GPD  
BATH HOUSE PERMANENT CARGES - 1,000 GPD  
BATH HOUSE PERMANENT CARGES - 3 UNITS - 5,000 GPD  
TWO (2) LAUNDRY FACILITIES - 5,000 GPD  
AUXILIARY BUILDING/OFFICE - 500 GPD  
TOTAL PROJECTED STORM FLOW - 34,000 GPD  
TOTAL PROJECTED STORM FLOW VOLUME - 34,000 GPD  
EXTENDED SANITARY SEWER SYSTEM THROUGHOUT R/P PARK  
GRAVITY SANITARY WASTE WATER TREATMENT PLANT,  
34,000 GPD W/MT. TO CONSIST OF TWENTY (20) 17,000 GPD UNITS.  
4. FLOWERS - 1000 GPD PER DAY. 5,000 GALLONS = 25.0 GPD OF  
4. FLOWERS - 1000 GPD PER DAY. 5,000 GALLONS = 25.0 GPD OF  
5. SIZE 8000 REDUCTION WITH NANO2 OXYGEN INJECTION,  
W/MT. CONTROLLED FLOW OF 12.0 GPD TO EACH UNIT.  
POSITIVE DISPLACEMENT PUMPS WITH LOW FLOW TO EACH UNIT.  
W/MT. DEEP EFFLUENT AREA REQUIRED - 34,000 GPD / 0.167 GPD/INCH = 203,593 INCHES  
W/MT. DEEP EFFLUENT AREA REQUIRED - 203,593 INCHES / 12 INCHES = 16,966 INCHES  
W/MT. DEEP EFFLUENT AREA AVAILABLE ON SITE - 1,500 ACRES  
W/MT. DEEP EFFLUENT AREA TO BE USED IN NON-SEASONAL PERIODS - 16,966 INCHES / 12 INCHES = 1,414 ACRES  
TWO (2) 1,500 GPD CALSON REUSE PUMP HOLDING TANKS,  
DURING SEASONAL PERIODS - REUSE EFFLUENT TO BE UTILIZED  
DURING SEASONAL PERIODS - REUSE EFFLUENT TO BE UTILIZED  
NON-SEASONAL R/P PARK USAGE IS BASED ON 50 PER DAY  
DURING NON-SEASONAL PERIODS, 4,000 GPD TO BE STORED  
DURING NON-SEASONAL PERIODS, POOL & BATH HOUSE ARE  
DURING NON-SEASONAL PERIODS, POOL & BATH HOUSE ARE  
DURING R/P OCCUPANCY WILL ULTIMATELY BE 80% OR LESS DUE  
TO THE HOLDING CELL HAS THE VOLUME CAPACITY TO STORE  
THE NON-SEASONAL PERIOD IS APPROXIMATELY 90 TO 120 TO 120  
THE NON-SEASONAL HOLDING CELL CAPACITY IS 280 DAYS  
HOLDING CELL FOR RE-USE DURING THE 8 TO 9 MONTHS OF  
100% OF THE EFFLUENT VOLUME TO UTILIZE FOR LANDSCAPE R/P  
THE ACTUAL FLOW VOLUME IS ESTIMATED AT 60 GPD ANTICIPATED  
THE ESTIMATED EFFLUENT FLOW VOLUME IS IN THE RANGE OF 18  
PROPOSED HOLDING CELL AREA - 1.10 ACRES.  
PROPOSED HOLDING CELL STORAGE VOLUME IS APPROXIMATELY  
THE PROJECTED ANNUAL EFFLUENT FLOW VOLUME = 126,000 GPD  
GPD/THREE MONTHS WITHIN R/P PARK IS APPROXIMATELY  
LAWN IRRIGATION OF 3" OF WATER OVER THE OPEN SPACE  
APPROXIMATE LAWN IRRIGATION USAGE IS 85,000 TO 127,000 GPD  
THE W/MT EFFLUENT VOLUME WILL ULTIMATELY MEET THE OPEN  
3.01 ACRES OF OPEN SPACE.  
EVAPORATION WILL OCCUR DAILY WITHIN THE 10-ACRE SURFACE  
EVAPORATION RATE OF 1.975" PER DAY. THE SURFACE AT  
OVER THE COURSE OF WEEK BASED ON 7 DAYS OF EVAPORATION  
SURF. SATURATION WITHIN HOLDING CELL  
NO SATURATION ON THE BOTTOM OF THE 10 ACRE HOLDING CELL  
NO PLANT TRANSPIRATION WITHIN AND AROUND HOLDING CELL  
ORGANIC LOADING  
PROJECTED LOADING OF 50,000 GPD (TWIN 20,000 GPD UNIT  
BOOTS PER DAY = 65 POUNDS PER DAY  
PHOSPHORUS = 16 POUNDS PER DAY  
PHOSPHORUS = 16 POUNDS PER DAY  
W/MT FLOW CHANGERS OF APPROXIMATELY 225 OF W/MT VOLUME  
J/F STATIONS TO COMPLEX DRAIN SINKER PUMPS WITH CH  
FLOWERS & MUDS TO BE WITHIN CONTROL BUILDING AT 61  
EFFLUENT DISCHARGE TO HOLDING TANKS  
PROPOSED EFFLUENT LIMITS - BOGS - 7.5 MG/L TSS - 10  
DISSOLVED OXYGEN OF EFFLUENT - 10 MG/L  
EFFLUENT LIMITS SHALL BE PER 1600 SEC PERMIT

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PROJECT: UTECH	60HZ	230VOLT
ELECTRIC: SINGLE PHASE	6173 SPD	PROTECTED
RATED FLOW: 34,000 GPD	THRU VOLUME	EFFICIENT
	200	20
TOTAL SUSPENDED SOLIDS (SS)	---	---
FATS, OILS, GREASE (FOG)	---	---
BIOLOGICAL OXYGEN DEMAND (BOD)	200	15
CHEMICAL OXYGEN DEMAND (COD)	---	---
TOTAL PHOSPHORUS	---	---
TOTAL NITROGEN	---	---
TOTAL KED/RED NITROGEN (TKN)	---	---
PERCENT AVAILABLE NITROGEN (PAN)	---	3
UNSATURATED VOLUME (UNSAT)	---	---

34,000 GPD WASTE WATER TREATMENT PLANT  
NOT TO SCALE

- 1) WTP DESIGN AND SIZING BASED ON THE INFLUENT AND EFFLUENT PARAMETERS SHOWN IN THE TABLE AT BOTTOM LEFT
- 2) EFFLUENT PARAMETERS SHOWN IN THE TABLE MAY NOT BE ACHIEVED IF THE ACTUAL INFLUENT CONCENTRATIONS ARE HIGHER
- 3) PRE-CAST CONCRETE TANKS TO BE SUPPLIED AND INSTALLED BY JET AUTHORIZED DISTRIBUTOR
- 4) TANKS CONSIST OF BOTTOM PRE-CAST SECTIONS, TOP PRE-CAST SECTIONS, AND THREE INTERMEDIATE SECTIONS FOR A TOTAL OF 5 SECTIONS
- 5) OPERATING LIQUID LEVEL TO BE 8'-10"
- 6) ALL ACCESS OPENINGS TO BE COVERED BY GALVANIZED STEEL BAR GRATING PROVIDED BY JET
- 7) ALL PHINS IS GALVANIZED STEEL UNLESS OTHERWISE NOTED ON DRAWINGS
- 8) GREASE TRAP TO BE PROVIDED AND GREASE FROM THE INFLUENT STREAM; GREASE TRAP LOCATED UPSTREAM OF PLANT INFLUENT MUST BE PROVIDED BY OTHERS
- 9) BLOWER NOISE MAY EXCEED 79 dBS WHEN MEASURED AT ONE METER FROM EQUIPMENT

4,000 GPD WASTE WATER TREATMENT PLANT  
NOT TO SCALE

PCU 1.1		
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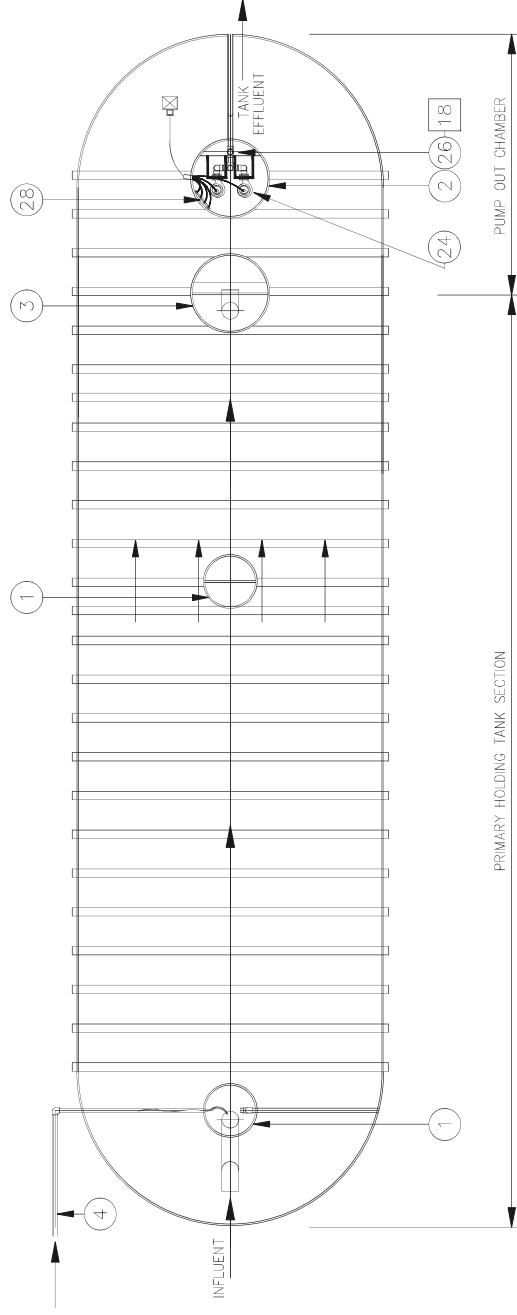
PRELIMINARY WWTP DETAIL

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15,000 GALLON FRP HOLDING TANKS  
NOT TO SCALE





## PLAN ON TREATMENT PLANT

PROCESS TANK NOTES:

- |    |  |
|----|--|
| 1  | TANK DEPTHS IS MEANT TO BE A GENERAL CONFIGURATION. ACTUAL TANK LENGTH, DIAMETER AND RISER LOCATIONS MAY VARY DEPENDING ON REQUIREMENTS. |
| 2  | EFFLUENT ASSEMBLY (LIFTERS OR TEE) TO BE SIZED TO ACCOMMODATE ALL FORWARD FLOWS AND REVERSED FLOWS.—                                     |
| 3  | THROTTLING VALVES), LIFTERS AND PIPING UNIONS (IF APPLICABLE) TO BE LOCATED 16" (MAX) FROM TOP OF RISER.                                 |
| 4  | SEE WWP SYSTEM HYDRAULIC PROFILE FOR INVERT AND FLOAT ELEVATIONS.  |
| 5  | CHEMICAL FEEDS SHOWN, ARE "IF SPECIFIED".  |
| 6  | CONSULT TECHNICAL MANUAL FOR EQUIPMENT AND ELECTRICAL DETAILS.   |
| 7  | CONSULT CONTROL PANEL'S FIELD WIRING DIAGRAM (SHIPPED IN PANEL) FOR REQUIREMENTS.  |
| 8  | TANK RISER LENGTHS TO BE DETERMINED AND INSTALLED SEPARATELY. FOLLOW ALL FRP TANK INSTALLATION INSTRUCTIONS.                             |
| 9  | FOR INSTALLATION AND BACKFILLING INSTRUCTIONS CONSULT AND ADHERE TO THE FRP TANK MANUAL.   |
| 10 | IF INSTALLED IN SEASONAL GROUNDWATER CONTACT ENGINEER TO SPECIFY ANCHORING & CONCRETE DEADMAN REQUIREMENTS.                              |
| 11 | MAXIMUM OVERBURDEN NOT TO EXCEED 6' WITHOUT WRITTEN AUTHORIZATION FROM THE MANUFACTURER.   |
| 12 | AQUACELL® PROCESS-REACTIONS) MUST BE PRECEDED BY PRIMARY SETTLING OR SCREENING AND FOLLOWED BY SECONDARY CLARIFICATION.—                 |
| 13 | FIELD AIR PIPING SHALL BE SCHED 80 CPVC, GALVANIZED OR STAINLESS STEEL, BY CONTRACTOR. (IF APPLICABLE)                                   |
| 14 | FRP SLIDE RAIL SUPPORT, SHIPPED LOOSE WITH HARDWARE, INSTALLED BY CONTRACTOR. (IF APPLICABLE)  |
| 15 | SIZE AND QUANTITY OF MIXERS WILL DEPEND ON TANK SIZE AND GEOMETRY. (IF APPLICABLE)   |
| 16 | TANK RISER ABOVE MIXER MUST BE TALL ENOUGH FOR MIXER BASE, MIXER ASSEMBLY AND SUITABLE HEADSPACE. (IF APPLICABLE)                        |
| 17 | STANDARD PUMPED INLET ASSEMBLY CONFIGURATION SHOWN, SEE DETAIL. SEE TECHNICAL MANUAL FOR ANY JOB SPECIFIC REQUIREMENTS.                  |
| 18 | IF FLOW BY GRAVITY, INFLUENT STRUCTURE TO BE A SUITABLE SIZED PIPE & INLET TEE, WITH INVERT 6" (MIN) ABOVE WATER LEVEL.                  |
| 19 | SEE ALL P&ID PIPING INSIDE TANKS. SEE SEPARATE DRAWINGS FOR DETAILS.   |

15,000 GALLON FRP HOLDING TANK  
NOT TO SCALE

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HOLDING TANK DETAIL

4/23/2025



DATE: 4/23/2025  
DRAWN BY: HLG  
DESIGNED BY: MRS  
CHECKED BY: MRS

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NO.	DESCRIPTION	DATE