



MEMORANDUM

ROBERTSON COUNTY DEVELOPMENT OFFICE
527 SOUTH BROWN STREET, SPRINGFIELD, TN 37172
TEL. (615) 384-3666

TO: Planning Commission Members
FROM: Planning Staff
DATE: April 17, 2025

The Robertson County Planning Commission will hold its monthly meeting on **Thursday April 24, 2025, at 7:00 P. M.** on the 2nd Floor, Judicial Complex, Robertson County Office Building. Assistant Director, Hunter Mantooh, is available to answer questions at (615) 384-3666 or hmantooh@robcotn.org.

AGENDA

1. Roll Call:
2. Comments from Citizens: Persons wishing to speak for or against any item must sign the log sheet prior to the meeting.
3. Announcements: Rezoning from this agenda will be heard at the next County Commission meeting on April 21, 2025.
4. Approval of Minutes: Approval of Minutes of March 27, 2025, meeting.
5. Old Business: None
6. New Business:
 - A. **Kitty Waggoner, Executor:** Rezone request for 19.92 acres of property located at 6841 Hwy 41 N., Cedar Hill. Tax Map 054, Parcel 013.00 from AG-2 to R-40 (7th Voting District). Represented by Nettie Boyle, PE, CSR Engineering.
 - B. **Glen Fry:** Rezone Request for 2.80 surveyed acres of property located at 8345 Horseshoe Rd., Cross Plains. Tax Map 085, Parcel 082.00 from AG-2 to R-40 (2nd Voting District). Represented by Steve Artz, Steven E Artz and Associates.
 - C. **Hershel Wooden Estate, Barbara Spain, Executor:** Rezone Request for 2.09 surveyed acres of the 11.00 surveyed acres of property located at 4540 Roy Cole Rd., Springfield. Tax Map 060, Part of Parcel 076.00 from AG-2 to RP-80 (8th Voting District). Represented by Steve Artz, Steven E Artz and Associates.

- D. **Reyes Construction, Inc.:** Rezone Request for 73.63 acres of property located on Pinson School Rd., Springfield. Tax Map 093, Parcels 199.00 & 199.01 from AG-2 to RP-80 (3rd Voting District). Represented by Nettie Boyle, PE, CSR Engineering.
- E. **Armando Chavarria:** Rezone Request for 10.03 surveyed acres of property located at 3095 Burr Rd. Ext., Springfield. Tax Map 101, Parcel 112.00 from AG-2 to C-1 (10th Voting District). Represented by Applicant.
- F. **Eddie Smith:** Final Site Plan for Mini Storage/Warehousing Buildings, located at Hwy 31 W., Cottontown. Tax Map 096, Parcel 074.06 (2nd Voting District). Represented by Josh Lyon, P.E., Klover Engineering Services.
- G. Reports from Staff: None
- H. Adjourn

The Robertson County Planning Commission met on March 27, 2025 at 7:00 p.m. in the Judicial Complex, Second Floor, Robertson County Office Building, Springfield, Tennessee.

Roll Call:

MEMBERS PRESENT:

Eric Thompson
Matt Crabtree
Charles "Gene" Federman
Jeremy Stinson
William B Henry
Robert Buck

MEMBERS ABSENT:

Jeremiah Pierce
Cheryl Elliott

OTHERS PRESENT:

Hunter Mantooth
Pam Groves

The meeting was called to order by Secretary Gene Federman at 7:04 pm.

Roll Call was completed by Hunter Mantooth. Six were present.

Announcements: Secretary Gene Federman announced that the zoning from this agenda will be heard at the County Commission on April 21, 2025. Any citizens wishing to speak for or against any items on the agenda will need to sign in on the sheet provided. Four citizens signed up to speak.

Motion to approve Minutes from previous meeting of February 27, 2025, made by Eric Thompson with a second by Matt Crabtree.

Motion passed 5 – 0.

1. Old Business:

- A. **Kitty Waggoner, Executor:** Rezone Request for 19.92 acres of property located at 6841 Hwy 41 N., Cedar Hill. Tax Map 054, Parcel 013.00 from AG-2 to R-20 (7th Voting District). Represented by Nettie Boyle, PE, CSR Engineering. **WITHDRAWN 3.10.25**
Mr. Federman announced that this item had been withdrawn, and the board had no action to take.

2. New Business:

- A. **Brandon Frank on behalf of RKMB, LLC:** Rezone request for 151.35 acres of property located on Hwy 161, Springfield. Tax Map 044, Parcels 010.00 and 011.00 from AG-2 to R-40 (8th Voting District). Represented by Applicant.
Hunter Mantooth announced that this item had been deferred till further notice by an email received on 3.25.25. There will be no public comment on this item since it has been deferred. Everyone that had signed up to speak was on this item.
- B. **Melvin Norfleet, Jr.:** Rezone Request for 1.87 acres of the 19.12 surveyed acres of property located at 4938 Starks Rd., Cross Plains. Tax Map 050, Part of Parcel 121.00 from AG-2 to RP-80 (1st Voting District). Represented by Steve Artz, Steven E Artz and Associates.
Steve Artz was there to present and answer questions. No one signed up to speak on this matter. No questions from the commission.
Motion to recommend was made by Matt Crabtree with a second from Eric Thompson.
Motion passed 5 – 0.

- C. **R3 Properties:** Rezone Request for 2.00 acres of the 14.407 surveyed acres of property located at 2746 Kinneys Rd., Cedar Hill. Tax Map 054, Part of Parcel 088.00 from AG-2 to RP-80 (7th Voting District). Represented by Clint Head, Young, Hobbs & Associates. Clint Head was there to present and answer questions. No one signed up to speak on this item and no questions from the commission.
Motion to recommend was made by Matt Crabtree with a second from Eric Thompson.
Motion passed 5 - 0.
- D. **Rashmee Sarvaria:** Rezone Request for 4.97 acres (TN portion) of the 6.04 acres of property located at 6247 Lake Springs Rd., Portland. Tax Map 012, Part of Parcel 046.00 from AG-2 to C-1 (3rd Voting District). Represented by Josh Lyon, P.E., Klobber Engineering Services.
Josh Lyon was there to present and answer questions. Also stated the landowner was also here if there were any questions for him. No one signed up to speak on this item and no questions from the board.
Motion to recommend was made by Eric Thompson with a second by Matt Crabtree.
Motion passed 5 - 0.
- E. **Brandon Frank on behalf of Michael and Diane Selfridge and Brian Linderman:** Preliminary Plat approval for Kristy Meadows located on Gideon Rd., Greenbrier. Tax Map 104, Parcel 068.02 (3rd Voting District). Represented by applicant.
Brandon Frank was there to present and answer questions. No one signed up to speak on this item and no questions from the board.
Motion to approve was made by William Henry with a second by Robert Buck,
Motion passed 5 - 0.
- F. **Blackpatch Properties, LLC:** Final Site Plan for Beristain Construction Office, located at Hwy 41 N., Springfield. Tax Map 069, Parcel 002.03 (11th Voting District). Represented by Josh Lyon, P.E., Klobber Engineering Services.
Josh Lyon was there to present and answer questions. Owners were also present if there were any questions for them. No one signed up to speak on this item. The board and the planner discussed the accessory structure definition and size that was submitted. After much discussion all were satisfied and motion made.
Motion to approve was made by William Henry with a second by Matt Crabtree.
Motion passed 5 - 0.

Reports from Staff: Nothing from the planning staff.

A motion to adjourn made by Jeremy Stinson with a second by Eric Thompson.
Motion passed 5-0 and the meeting was adjourned at 7:19 pm.

Respectfully submitted,



Gene Federman, Secretary

New Business: A



ROBERTSON COUNTY DEVELOPMENT OFFICE
ROBERTSON COUNTY OFFICE BUILDING
527 SOUTH BROWN STREET, SPRINGFIELD, TENNESSEE 37172
615-384-3666
Application for Rezoning

Applicant Information:

Name: CARL BREWER (c/o KITTY WAGGONER)
Mailing Address: 1602 LEVIS SMITH RD. PENDLETON, SC 29670
Email: CLAYJONES35@GMAIL.COM
Telephone Number: (615) 586-1000

Applicant's Representative Information:

Name: NETTIE BOYLE, PE
Name of Firm: CSR ENGINEERING
Mailing Address: 118 N. GREENWOOD ST. LEBANON, TN 37087
Email: NETTIE.BOYLE@CSRENGINEERS.COM
Telephone Number: (615) 619-9877

Property Information:

Owner (if not applicant provide letter giving applicate permission): _____
Physical Address: 6841 HWY 41 N. CEDAR HILL, TN 37032
Tax Map and Parcei Number: MAP 54, PARCEL 013.00
Current Zoning Designation: AG-2 AGRICULTURAL / RESIDENTIAL DISTRICT
Requested Zoning Designation: R-40 LOW DENSITY RESIDENTIAL DISTRICT

Will this property be subdivided (or combined) in some way within the next year? ☒ Yes ☐ No

Purpose of rezoning request:

FOR THE PROPOSED DEVELOPMENT OF LOW DENSITY
SINGLE FAMILY RESIDENTIAL LOTS.

SUBMITTAL REVIEW PROCEDURE:

1. Deliver one (1) copy of this application & any supporting materials to the Development Office before or by the final due date (Please see attached schedule- the "Corrections Due" does not apply to this type of application)
2. Provide copy of deed to prove ownership.
3. Provide aerial photograph of the property from TN Property Viewer
4. Provide Legal description **AND** Survey of the areas to be rezoned including map and parcel number
5. Provide water letter from utility company stating location and size of current water line, adequate pressure for domestic use and if/where fire hydrants are required
6. Pay the review fee.
7. Email a .PDF of the application & supporting materials to hmantooth@robcofn.org
8. Attend the Planning Commission meeting. Be ready to present and answer questions. Failure to appear at the Planning Commission meeting may result in the denial of the application.

Kitty B. Waggoner
dotloop verified
03/06/25 10:31 AM EST
8DBY-63E5-ZLC9-CT07

Owner of Record Signature & DATE

Nettie Boyle
2025.01.23 09:16:55-06'00'

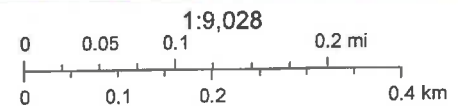
Applicant's Signature & DATE

Robertson County - Parcel: 054 013.00



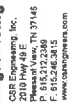
Date: January 14, 2025

County: ROBERTSON
Owner: BREWER CARL C/O KITTY WAGGONER
Address: HWY 41N 6841
Parcel ID: 054 013.00
Deeded Acreage: 19.92
Calculated Acreage: 0
Vexcel Imagery Date: 2023



State of Tennessee, Comptroller of the Treasury, Division of Property Assessments (DPA), Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/ NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

The property lines are compiled from information maintained by your local county Assessor's office but are not conclusive evidence of property ownership in any court of law.



CSE Engineering, Inc.
2010 Hwy 49 E
Pleasant View, TN 37146
P. 615.212.2369
F. 615.246.3815
www.cseengineering.com

CLAY JONES
FOR
CEDAR HILL PROPERTY

CLAY JONES
FOR
CEDAR HILL PROPERTY

[illegible]

DESIGNER	DATA
REVIEWER	MM

PROJECT 24-004

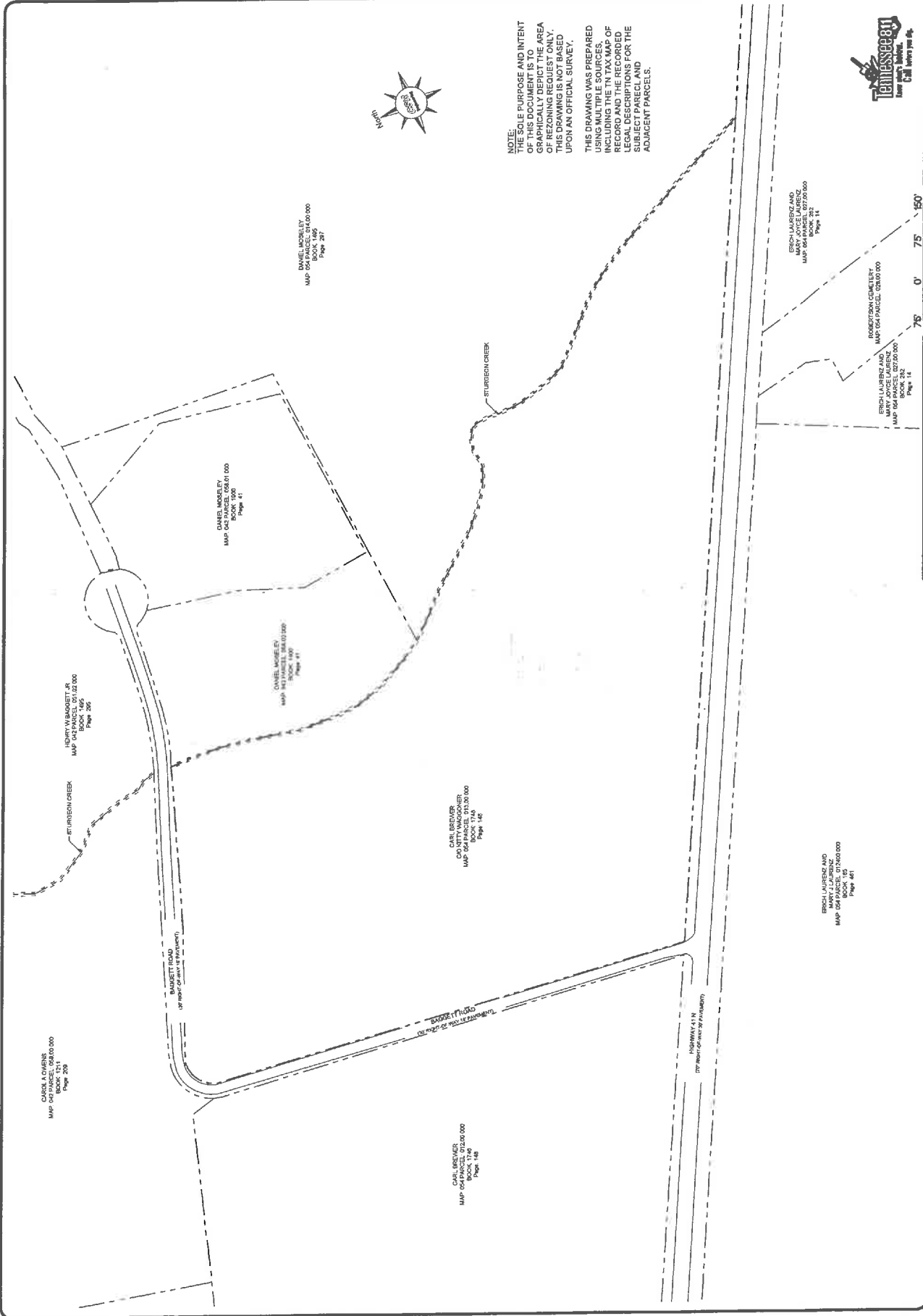
DATE 01-24-25

SHEET **A1**



NOTE: THE SOLE PURPOSE AND INTENT OF THIS DOCUMENT IS TO GRAPHICALLY DEPICT THE AREA OF REZONING REQUEST ONLY. THIS DRAWING IS NOT BASED UPON AN OFFICIAL SURVEY.

THIS DRAWING WAS PREPARED USING MULTIPLE SOURCES, INCLUDING THE TN TAX MAP OF RECORD AND THE RECORDED LEGAL DESCRIPTIONS FOR THE SUBJECT PARCEL AND ADJACENT PARCELS.



SCALE: 1-75

PURPOSE FOR ISSUE: _____ REVIEW: _____

PLAT CONTAINS 19.877 ACRES

CURVE DATA TABLE

CURVE	RADIUS	TANGENT	LENGTH	DELTA	CHORD	CH-BEARING
C-1	39.14'	52.80'	72.89'	109°41'48"	82.80'	N 55°40'03"E

PROPERTY REFERENCE
CARL BREWER
C/O KITTIE L. BAGGETT
MAP 43, PCL 5803 T.A.O.R.C.T.
EB 1746, PG 148 R.O.R.C.T.

SURVEY OF CARL BREWER PROPERTY 6841 HWY 41 NORTH			
SCALE 1" = 100'	DRAWN BY A.T.D.	APPROVED A.T.D.	DATE 03/09/23
8TH CIVIL DISTRICT ROBERTSON COUNTY TENNESSEE			
DRAWING NO. BAGGETT			

NOTE: THIS SURVEY WAS PREPARED FROM CURRENT DEEDS OF RECORD AND DOES NOT REPRESENT A TITLE SEARCH OR A GUARANTEE THAT THE SURVEYED PROPERTY IS THE SAME AS SHOWN ON A CURRENT AND ACCURATE TITLE SEARCH MAY OR WILL REVEAL.

NOTE: THE SURVEYOR HAS NOT PHYSICALLY LOCATED ANY UTILITIES. UTILITIES LOCATED BY OTHER SURVEYS OR BY THE ASSOCIATED UTILITY AUTHORITY ARE APPROXIMATE. THIS SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES, IF SHOWN, ARE ACCURATELY LOCATED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT INDICATED UTILITIES ARE THE SAME TYPE, MAKE, SIZE AND LOCATION AS INDICATED ON THE DEEDS OF RECORD. THE SURVEYOR HAS NOT VERIFIED THE ACTUAL LOCATION OF ANY AND ALL UTILITIES SHOULD BE VERIFIED PRIOR TO MAKING ANY DECISION RELATIVE TO THIS PROPERTY.

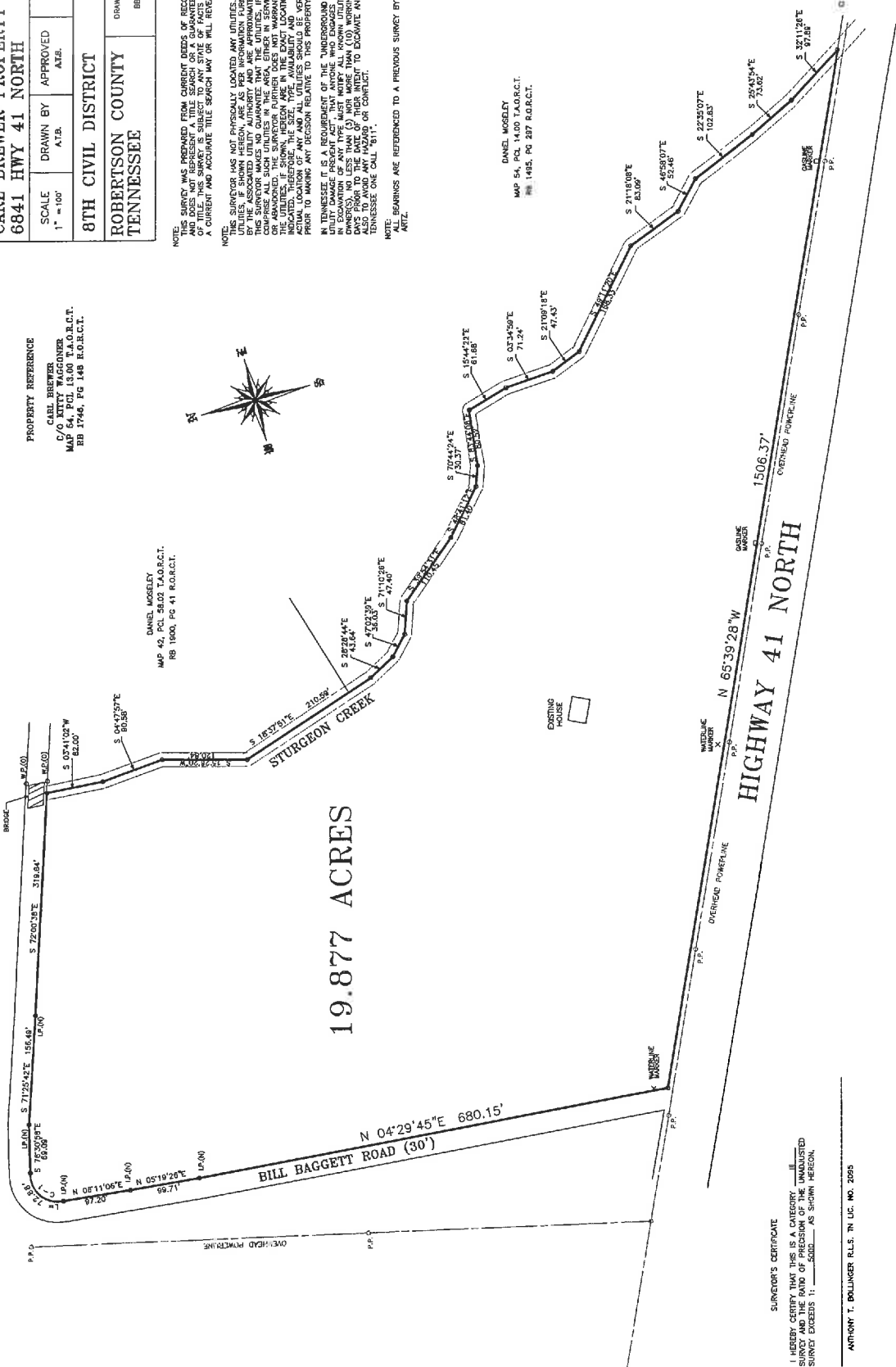
IN TENNESSEE, IT IS A REQUIREMENT OF THE "UNDERGROUND UTILITY LOCATING ACT" THAT ANY PERSON OR ENTITY ENGAGED IN EXCAVATION OF ANY TYPE MUST NOTIFY ALL KNOWN UTILITY OWNERS AT LEAST 10 BUSINESS DAYS PRIOR TO THE EXCAVATION. THE SURVEYOR IS NOT RESPONSIBLE FOR THE EXCAVATION OF ANY TYPE THAT IS MORE THAN 100' DEEPER THAN THE SURFACE OF THE GROUND. THE SURVEYOR IS ALSO TO AVOID ANY HAZARD OR CONFLICT.

TENNESSEE ONE CALL "811".

MILL BEARINGS ARE REFERENCED TO A PREVIOUS SURVEY BY STEVEN ANTZ.



DANIEL WOSLEY
MAP 43, PCL 5803 T.A.O.R.C.T.
RB 1800, PG 41 R.O.R.C.T.



SURVEYOR'S CERTIFICATE
I, ANTHONY T. BOLLINGER, R.L.S., DO HEREBY CERTIFY THAT THIS IS A CORRECT AND TRUE SURVEY AND THE BASIS OF PRESSION OF THE UNANNOUNCED SURVEY EXCEEDS 1:5000 AS SHOWN HEREON.

ANTHONY T. BOLLINGER R.L.S. TN LIC. NO. 2095

ANTHONY T. BOLLINGER, R.L.S.
119 FISHER DRIVE
GREENBRIER, TENNESSEE 37073
615/218-0169



CSR Engineering Inc.
118 N. Greenwood St.
Lebanon, TN 37087
Phone: (615) 212-2389
Fax: (615) 246-3715
www.csrengineers.com

To: Hunter Mantooth,
Assistant Director, Planning and Zoning
Robertson County Development Offices

From: Nettie Boyle, Project Engineer
CSR Engineering

Date: January 21, 2025

Subject: Capacity Request for Sewer and Water - Referencing Rezoning Application
Map 54, Parcel 013.00
6841 Hwy 41 N, Cedar Hill, TN 37032

Dear Ms. Mantooth,

I am writing to address the capacity request for sewer and water services in support of the rezoning application for the above-referenced site.

Sewer Service:

We have been in communication with Adenus regarding connection to their sewer treatment system maintained by TN Wastewater. Adenus has provided an email confirming capacity to accommodate 43 residential units at the subject site per our request. This email is submitted as part of the rezoning application's capacity request requirement.

Water Service:

Regarding water service, we have engaged in discussions with the West Robertson Water Authority. While there is an existing water line along Highway 41 in front of the site, the line requires significant upgrades. Currently, the West Robertson Water Authority cannot issue a capacity confirmation. However, we were informed by Mr. Jay Walker of the West Robertson Water Authority that there are approved engineering plans to install a new 12-inch trunk line along Highway 41, pending funding approval. This upgrade will provide sufficient capacity to service the site. Construction on the new line is anticipated to begin as early as February 2025.

Should you require additional information or documentation, please do not hesitate to reach out.

Sincerely,

Nettie Boyle
Project Engineer
CSR Engineering

Nettie Boyle

From: Jeff Riden <Jeff.Riden@Adenus.com>
Sent: Tuesday, January 21, 2025 1:26 PM
To: Nettie Boyle
Cc: Keith Townsend; Bryan Bellar
Subject: Re: Sewer Capacity Request for property in Cedar Hill TN

Nettie -

We can provide up to the 43 taps you need for your project, however the ultimate factor in determining this is how much useable soils are available for the treatment system. Assuming this is a residential project, design flow is 300 gpd per home so total design flow will be 12, 900 gpd. We require 50% reserve soils in addition to primary soils so ballpark we're looking at 2 acres of soils that will need to be used for the system (these soils will eventually be conveyed to the utility). If you've had the area soil mapped, etc... please send that information to Keith so he can evaluate it. Based on what you have available we can confirm how much capacity we can provide.

Keith, please correct anything I may have misstated or missed.

Thanks,
Jeff

From: Nettie Boyle <nettie.boyle@csrengineers.com>
Sent: Tuesday, January 21, 2025 10:52 AM
To: Jeff Riden <Jeff.Riden@Adenus.com>
Subject: RE: Sewer Capacity Request for property in Cedar Hill TN

You don't often get email from nettie.boyle@csrengineers.com. [Learn why this is important](#)

*** This is an EXTERNAL email. Please exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ***

Good morning, Jeff,

Thank you for getting back with me it is greatly appreciated.
We are currently walking through the rezoning process with a maximum number of units of 43.
Could you give me a written capacity letter noting how many taps you could provide us?
What documents do you need from me to process this capacity request?

This is for Parcel 13 (19.92 Ac.) at the intersection of Hwy 41 and Billy Badgett Rd. just north of Cedar Hill.
Speaking with Mr. Keith Townsend, your line runs right in front of our parcel.

Thank you for your time this morning.

Nettie Boyle, PE
CSR Engineering
Office: (615)212-2389 ext 508
Direct: (615)619-9877



West Robertson Water Authority

604 Keysburg Road • Adams, TN 37010 • (615) 696-2266

January 24, 2025

This letter confirms that West Robertson Water Authority has reviewed the request for water service for the proposed development located 6841 Hwy 41, Cedar Hill, TN 37037 (map 54, parcel 013.00). Based on the provided information on the proposed number of lots, we confirm that the water system does not currently have adequate capacity to serve the proposed project.

We confirm that the water capacity and fire flow required to support the development at 6841 Hwy 41, Cedar Hill, TN 37037 (map 54, parcel 013.00) will be available in the near future following the construction of the planned 12-inch trunk line along Highway 41. Construction of this new 12-inch line is anticipated to begin in early to mid-2025, contingent upon funding approval.

The capacity and fire flow availability with the installed new 12" line are as follows:

1. Potable Water Supply:

o The water system can provide a daily demand capacity sufficient for the anticipated needs of the development.

2. Fire Flow Availability:

o The water system can deliver a fire flow in compliance with the requirements of local fire code or fire authority.

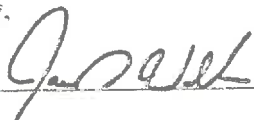
3. Conditions and Requirements:

o Connection to the water system will require adherence to all applicable standards.

o Fees associated with connection and capacity, as outlined in our fee schedule, must be paid prior to initiating service.

Please contact our office at 615-696-2266 or office@wrwatn.com if you have any questions or require additional information.

Sincerely,



James D Walker

Superintendent



West Robertson Water Authority

604 Keysburg Road • Adams, TN 37010 • (615) 696-2266

March 24, 2025

To Whom It May Concern:

This letter, requested by Clay Jones regarding property located on 6481 Hwy 41N, Cedar Hill, Tennessee.

This property is in the jurisdiction of the West Robertson Water Authority (WRWA) and can be serviced by our water system. The WRWA has approved this property for four residential water taps with the meters to be installed within the boundaries of this property.

This letter is to serve as a guarantee of availability of water services for the property in question. This guarantee is good for one year from the date of this letter. If you need any further information, please feel free to email me at walker@wrwatn.com or call at the number listed above.

Sincerely,

Jay Walker

Superintendent

West Robertson Water Authority

**Robertson County Development Office
Agenda Review Sheet
Planning Commission Meeting
April 24, 2025
Amanda Harrington, Planning Advisor**



Applicant: Carl Brewer (c/o Kitty Waggoner)
Representative: Nettie Boyle, PE

Request: Rezone **19.92 acres**
Tax Map 054, Parcel 013.00
from AG-2 to R-40

Property Information:

- ◆ Tax Map 054, Parcels 013.00
- ◆ 6841 Hwy 41 N., Cedar Hill
- ◆ Total lot acreage: 19.92 acres
(867,715.20 sq. ft.)
- ◆ **Rezone Request: 19.92 acres.**
(867,715.20 sq. ft.)

Project Narrative

Discussion & Observations:

The applicant wishes to rezone 19.92 acres. The subject property is mainly surrounded by AG-2 zones with a few R-40 zones in the immediate vicinity with varying lot sizes. Several of the surrounding AG-2 zoned lots are nonconforming that would be considered RP-80 and R-40 by today's zoning regulations. The applicant's request to rezone R-40 appears to be dimensionally appropriate. Please see Exhibit 1 for zoning map exhibit.

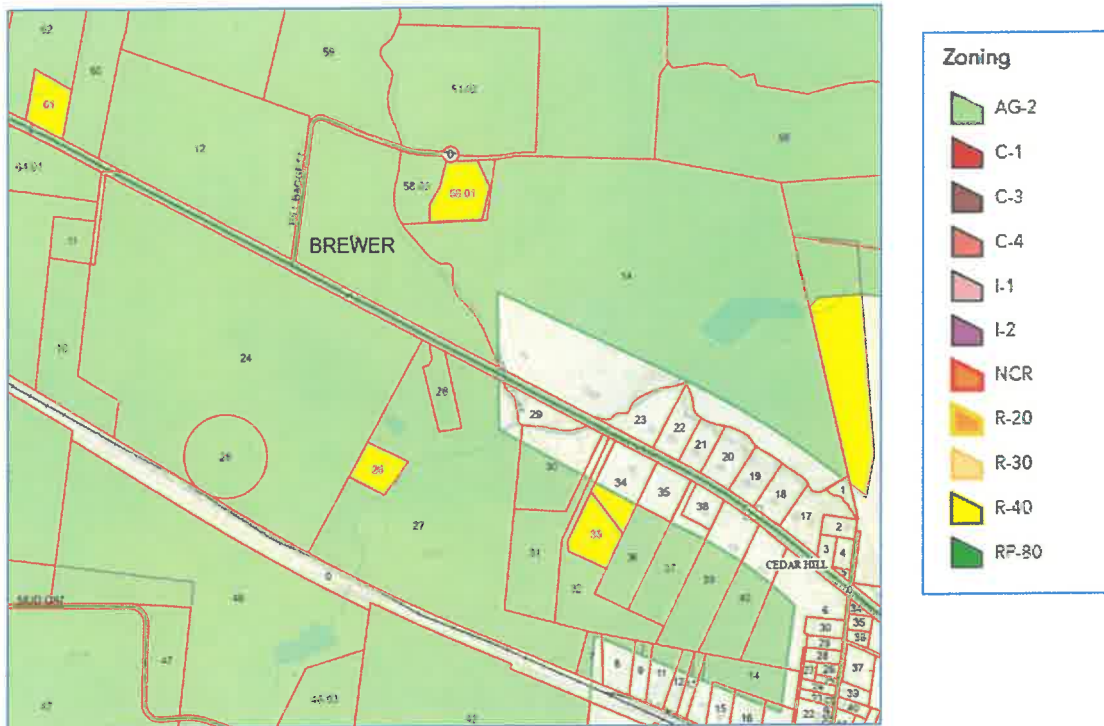
Conformance with Robertson County Land Use Plan: The 2040 Land Use Plan calls for this area to remain designated as Rural. Agrarian and rural type uses ranging from open space to agriculture, homesteads associated with agricultural uses and agriculture service businesses are encouraged within this category. The R-40 zoning designation is intended to be applied in Sub-Urban and General Urban areas of the adopted 2040 comprehensive Growth and Development Plan.

Recommendation: Negative. The R-40 zoning designation is intended to apply in Sub-Urban and General Urban areas of the adopted 2040 Comprehensive Growth and Development Plan. RP-80 is the only zoning designation in the Comprehensive Plan intended to apply to areas designated to remain Rural in the Plan.



Exhibit 1

Austin Peay University Zoning Map



New Business: B



ROBERTSON COUNTY DEVELOPMENT OFFICE
ROBERTSON COUNTY OFFICE BUILDING
527 SOUTH BROWN STREET, SPRINGFIELD, TENNESSEE 37172
615-384-3666

Application for Rezoning

Applicant Information:

Name: Glen Fry
Mailing Address: 2240 S Mount Pleasant Road, Greenbrier, TN, 37073
Email: N/A
Telephone Number: (615) 579-8956

Applicant's Representative Information:

Name: Steve Artz
Name of Firm: Steven E. Artz and Associates, Inc.
Mailing Address: 4800 Hwy. 431 N Springfield, TN. 37172
Email: artz.steve@gmail.com
Telephone Number: (615) 382-0481

Property Information:

Owner (if not applicant provide letter giving applicant permission): Glen Fry
Physical Address: 8345 Horseshoe Road, Cross Plains, TN, 37049
Tax Map and Parcel Number: Map 85, Parcel Number 82
Current Zoning Designation: AG-2
Requested Zoning Designation: R40

Will this property be subdivided (or combined) in some way within the next year? Yes No

Purpose of rezoning request:

The purpose of this rezoning is to lay the foundation to create a 2 lot subdivision.

SUBMITTAL REVIEW PROCEDURE:

1. Deliver one (1) copy of this application & any supporting materials to the Development
2. Office before or by the final due date (Please see attached schedule- the "Corrections Due" does not apply to this type of application)
3. Provide copy of deed to prove ownership.
4. Provide aerial photograph of the property from TN Property Viewer
5. Provide Legal description **AND** Survey of the areas to be rezoned including map and parcel number
6. Provide water letter from utility company stating location and size of current water line, adequate pressure for domestic use and if/where fire hydrants are required
7. Pay the review fee.
8. Email a .PDF of the application & supporting materials to hmantooth@robcofn.org
9. Attend the Planning Commission meeting. Be ready to present and answer questions. Failure to appear at the Planning Commission meeting may result in the denial of the application.


Owner of Record Signature & DATE

 3-12-25
Applicant's Signature & DATE

Robertson County - Parcel: 085 082.00



Date: March 12, 2025

County: ROBERTSON

Owner: FRY GLEN

Address: HORSESHOE RD 8345

Parcel ID: 085 082.00

Deeded Acreage: 2.9

Calculated Acreage: 0

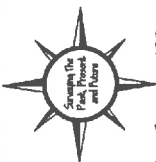
Vexcel Imagery Date: 2023



State of Tennessee, Comptroller of the Treasury, Division of Property Assessments (DPA), Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/ NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

The property lines are compiled from information maintained by your local county Assessor's office but are not conclusive evidence of property ownership in any court of law.

Learning Basis Notes:
 Bearings shown herein are based on the Tennessee State Plane Coordinate System of 1983, Two (2) control points were established using a Carlson PSC7 Dual Frequency Receiver on February 28, 2025. The grid coordinates of the control points were determined using the DOT Real-Time Kinematic Network, Virtual Reference Station, (VRS) Northing 751555.51, Easting 1849155.35. - Referenced to NAD83 (2011) (EPOCH 120). (GEOID 128)



Age Group	Yes (%)	No (%)
18-24	~85	~15
25-34	~75	~25
35-44	~65	~35
45-54	~55	~45
55-64	~45	~55
65+	~35	~65

3. No Title Report was furnished to this surveyor therefore the survey shown hereon is subject to any and all findings an accurate Title Report may reveal.

2. This survey was made using the latest recorded deeds and physical evidence found in the field.
3. All distances shown herein are based on a field run survey using EDM equipment and have been adjusted for temperature.
4. The survey shown herein was made in accordance with Chapter 0820-0-07, Standards of Practice as adopted by the State of Tennessee Board of Examiners for Land Surveyors.

Legend
P.O.C. Point of Commencement
P.O.B. Point of Beginning
P.C.O. Iron Pin (Old)
P.C.N. Iron Pin (New)

- Overhead Power Line
 LI Refer to Line Table Shown
 Hereon for Data
 CI Refer to Curve table Shown
 Hereon for Data

Owner
2240 South Mount Pleasant Road
Greentree, TN, 37073
(615) 579-8956



I hereby certify that this General Property Survey is a Category III Survey and the Ratio of Precision of the Unadjusted Survey is 1:5000+ and that this survey meets the current Tennessee Minimum Standards of Precision.

Cad File No. 2500345CA
Coord. File No. 2101865CA

[illegible]Steven E. Artz
and Associates, Inc.

Land Surveyors
P.O. Box 929 Springfield, TN 37772
email: arthur@arthur.com
(414) 747-0449

Rezoning Request For

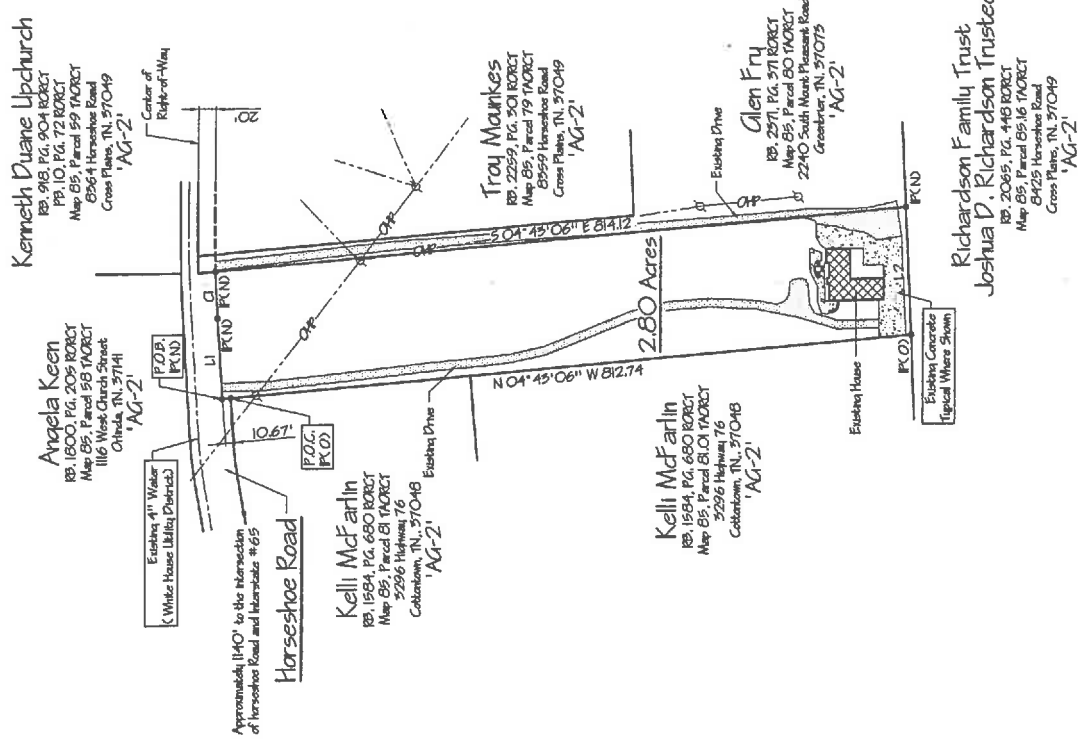
Glenn Fry
11th Civil District
Robertson County, Tennessee

Property Address:
3345 Horseshoe Road
Troy, TN 37049

Need Reference:
Record Book 2371, Page 374 RORCT
Map 85, Parcel 82 TACRCT

Curve Table					
NUMBER	DELTA ANGLE	RADIUS	TANGENT	ARC LENGTH	CHORD LENGTH
CI	Q1°51'34"	1689.00	27.41	54.28	54.28

Line Table		
NUMBER	DIRECTION	DISTANCE
L1	N 86° 31' 09" E	95.25
L2	S 87° 25' 10" W	150.10



Present Zoning Classification - 'AG-2'
Proposed Zoning Classification - 'R40'

[illegible]

Steven E. Artz and Associates, Inc.

Surveyor's Description
March 10, 2025

The following paragraph describes a tract of land in the 11th Civil District of Robertson County, Tennessee, said tract being that property which was conveyed to Glen Fry, by Bobby Fry and Carolyn Fry, in a deed of record which is recorded in Record Book 2371, Page 374, Register's Office for Robertson County, Tennessee, RORCT.

Beginning at an iron pin (new), in the southerly margin of Horseshoe Road, said iron pin being located from an iron pin (old), in the southerly margin of said road, the northeast corner of a tract of land which belongs to Kelli McFarlin, having a deed reference in Record Book 1584, Page 680, RORCT,
N 04°43'06" W, 10.67 feet, **to the point of beginning**, the northwest corner of this tract and continuing with the southerly margin of said road, as follows:
N 86°31'09" E, 95.25 feet to an iron pin (new);
thence with a curve to the right, having a radius of 1689.00 feet, an arc distance of 54.81 feet, and a chord bearing and distance of N 87°26'56" E, 54.81 feet to an iron pin (new), in the southerly margin of Horseshoe Road, in the westerly boundary of a tract of land which belongs to Glen Fry, having a deed reference in Record Book 2371, Page 371, RORCT;
thence, S 04°43'06" E, 814.12 feet, to an iron pin (new), the southwest corner of said tract of land which belongs to Glen Fry, in the northerly boundary of a tract of land which belongs to Joshua D. Richardson, Trustee, having a deed reference in Record Book 2065, Page 448, RORCT;
thence, S 87°23'10" W, 150.10 feet to an iron pin (old), in the northerly boundary of said tract of land which belongs to Joshua D. Richardson, Trustee, the southeast corner of a second tract of land which belongs to Kelli McFarlin, having a deed reference in Record Book 1584, Page 680, RORCT;
thence, N 04°43'06" W, passing a common corner of said second mentioned tract of land which belongs to Kelli McFarlin, and said first mentioned tract which belongs to Kelli McFarlin, and continuing on passing previously mentioned northeast corner of said first mentioned tract of land which belongs to Kelli McFarlin, and continuing on in all, 812.74 feet, to the point of beginning, containing **2.80 acres**, as surveyed by Steven E. Artz, Tennessee License No. 1708, d/b/a, Steven E. Artz and Associates, Inc., 4800 Highway 431 North, Springfield, Tennessee, 37172, dated March 10, 2025.

The above described tract of land may be found on Tax Map 85, Parcel 82, in the Tax Assessor's Office for Robertson County, Tennessee.

File:Steve\250034L

Land Surveyors-Tennessee and Kentucky

**Phone: (615) 382-0481
4800 Highway 431 North**

**Fax: (615) 382-0262
Springfield, Tennessee 37172**



WHITE HOUSE UTILITY DISTRICT

P.O. BOX 608, 3303 HIGHWAY 31-W—WHITEHOUSE, TENNESSEE 37188

TELEPHONE (615) 672-4110 — FAX (615) 672-8098

January 10, 2025

Mr. Glenn Fry
2240 S Mount Pleasant Rd
Greenbrier, TN 37073

**RE: Water Availability for 8345 Horseshoe Rd
Robertson County, Tax Map 085 Parcel 082.00
Cross Plains, TN**

Dear Mr. Fry,

This letter will confirm White House Utility District can provide one additional domestic water service for the property mentioned above as long as the new lot fronts Horseshoe Rd or has an easement dedicated for the water service line to lie within. We understand you intend to alter the existing parcel such that one new residential lot will result.

WHUD's existing four-inch water main located on the north side of Horseshoe Rd can provide domestic water flow for this project. No fire sprinkler flows, fire hydrant flows, commercial flows, or irrigation flows have been requested.

A water facilities fee of \$467 per new lot will need to be paid to WHUD before we will release a signed plat or before we will sell a water tap, whichever comes first. Standard water tap fees will be due at the time service is requested. WHUD's tap fee schedule is available on our web site at www.whud.org. The current tap fee for a ¾" residential tap is \$2,000 with a \$50 account setup fee applied to the first bill, but that is subject to change over time.

Please note that all fees, rates, and conditions noted in this letter are current as of the date of this letter and are subject to change over time. WHUD will hold the conditions stated above for a 90-day period past the date of this letter. You may request an extension of fee status in writing prior to expiration of the 90-day period. WHUD will review the request and either deny or grant the request in writing.

Please contact our Engineering Department at 615-672-4110 ext. 262 if you have any questions.

Sincerely,

Pat Harrell, PE
District Engineer

**Robertson County Development Office
Agenda Review Sheet
Planning Commission Meeting
April 24, 2025
Amanda Harrington, Planning Advisor**



Applicant: Glen Fry
Representative: Steve Artz

Request: Rezone **2.80 surveyed acres**
Tax Map 085, Parcel 082.00
from AG-2 to R-40

Property Information:

- ◆ Tax Map 085, Parcels 082.00
- ◆ 8345 Horseshoe Rd., Cross Plains
- ◆ Total lot acreage: 2.80 surveyed acres
(121,968 sq. ft.)
- ◆ **Rezone Request: 2.80 surveyed acres**
(121,968 sq. ft.)

Discussion & Observations:

The applicant wishes to rezone 2.80 surveyed acres. The subject property is mainly surrounded by AG-2 zones with one RP-80 in the immediate vicinity with varying lot sizes. *Please see Exhibit 1 for zoning map exhibit.*



Zoning: Several of the surrounding AG-2 zoned lots are nonconforming that would be considered R-40 by today's zoning regulations. The applicant's request to rezone R-40 appears to be dimensionally appropriate.

Robertson County Comprehensive Plan: The 2040 Comprehensive Plan calls for this area to remain Sub-Urban & General Urban.

Location of Sub-Urban Areas. The Sub-Urban areas consist of low density residential, and support uses in progressive degrees of urban intensity with higher density/intensity in areas generally adjacent to the General Urban areas and lower density/intensity in areas adjacent to the Rural category.

- Location of Sub-Urban Areas. The Sub-Urban area serves as a transition between the rural areas and the more intense urban areas.
- Sub-Urban Uses. Predominantly low density/estate residential with low key support uses combined with some agriculture and equestrian activities.

Location of General Urban. The following criteria shall be used for creating new areas or expansion of General Urban. **A)** The General Urban area is expected to capture intensive non-residential uses and shall, therefore, be served by major roadways. **B)** The character of the General Urban area is predominantly non-residential providing industrial job centers interspersed with higher intensity

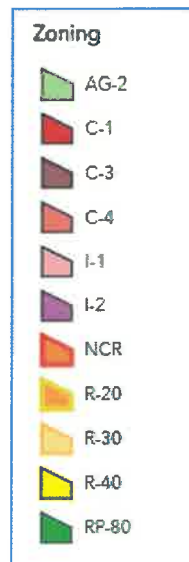
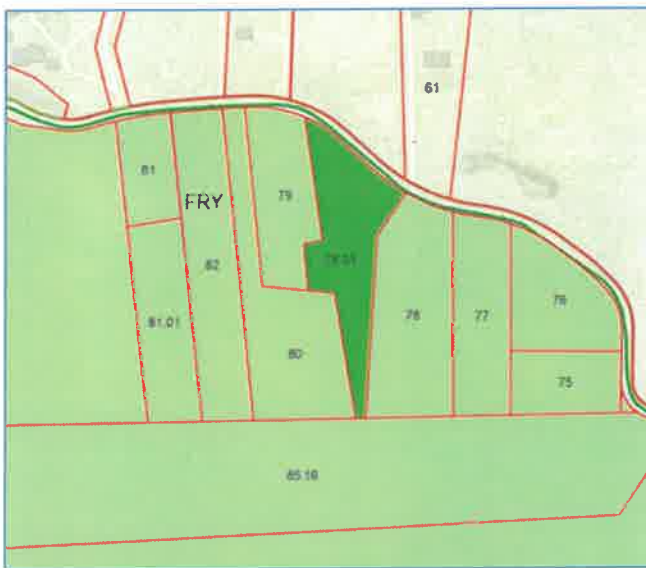
commercial uses and workforce housing as a whole. **C)** The General Urban areas shall be located where infrastructure includes potable water and sewer systems, stormwater management systems, and major paved public streets or highways. **D)** Designation of new General Urban areas should only be allowed if adjacent to other general urban areas, unless justification for a new area, at an appropriate scale, can be demonstrated.

Recommendation: Positive. The Land Use Plan calls for R-40 to be applied in areas that are identified as Sub-Urban and Urban in the Land Use Plan. Further, the applicant's request to rezone to R-40 appears to be dimensionally appropriate.

**** END COMMENTS ****

Exhibit 1

Austin Peay University Zoning Map



New Business: C



ROBERTSON COUNTY DEVELOPMENT OFFICE
ROBERTSON COUNTY OFFICE BUILDING
527 SOUTH BROWN STREET, SPRINGFIELD, TENNESSEE 37172
615-384-3666

Application for Rezoning

Applicant Information:

Name: HERNDEN ESTATE
Mailing Address: 4540 ROY COLE ROAD, SPRINGFIELD, TN. 37172
Email: N/A
Telephone Number: BARBARA SPAIN - 615-533-9163

Applicant's Representative Information:

Name: STEVE ARTZ
Name of Firm: STEVEN E. ARTZ & ASSOCIATES, INC.
Mailing Address: 4800 HIGHLAND AVE, SPRINGFIELD, TN. 37172
Email: artz.steve@gmail.com
Telephone Number: 615-382-0481

Property Information:

Owner (if not applicant provide letter giving applicant permission): HERNDEN ESTATE
Physical Address: 4540 ROY COLE ROAD, SPRINGFIELD, TN. 37172
Tax Map and Parcel Number: MAP 60, PLO PARCEL 76
Current Zoning Designation: AG-2
Requested Zoning Designation: R80

Will this property be subdivided (or combined) in some way within the next year? ☒ Yes ☐ No

Purpose of rezoning request:

WISHING TO CREATE ONE LOT FOR THE
CONSTRUCTION OF A NEW HOME

SUBMITTAL REVIEW PROCEDURE:

1. Deliver one (1) copy of this application & any supporting materials to the Development Office before or by the final due date (Please see attached schedule- the "Corrections Due" does not apply to this type of application)
- ✓ 2. Provide copy of deed to prove ownership.
- ✓ 3. Provide aerial photograph of the property from TN Property Viewer
- ✓ 4. Provide Legal description **AND** Survey of the areas to be rezoned including map and parcel number
5. Provide water letter from utility company stating location and size of current water line, adequate pressure for domestic use and if/where fire hydrants are required
6. Pay the review fee.
7. Email a .PDF of the application & supporting materials to hmantooth@robco tn.org
8. Attend the Planning Commission meeting. Be ready to present and answer questions. Failure to appear at the Planning Commission meeting may result in the denial of the application.


Owner of Record Signature & DATE

1-18-25


Applicant's Signature & DATE

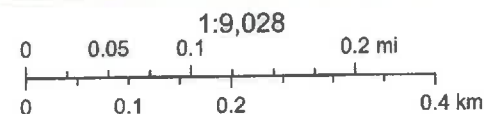
-2.2.23

Robertson County - Parcel: 060 076.00



Date: February 2, 2025

County: ROBERTSON
Owner: WOODEN HERSEL ETUX WOODEN JEAN
Address: ROY COLE RD 4540
Parcel ID: 060 076.00
Deeded Acreage: 0
Calculated Acreage: 11



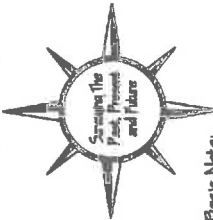
State of Tennessee, Comptroller of the Treasury, Division of Property Assessments (DPA), Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/ NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

The property lines are compiled from information maintained by your local

Steven E. Artz
and Associates, Inc.
Land Surveyors
P.O. Box 925 Springfield, TN, 37172
email: artz@seav.com (615) 382-0481

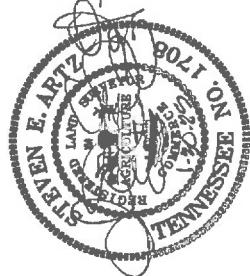


TSPCS Grid North (NAD83)



Bearing Basis Note:
Bearings shown hereon are based on the Tennessee State Plane Coordinate System of 1983. Two (2) control points were established using a Carlson BR70 Dual Frequency Receiver on October 15, 2024. The grid coordinates of the control points were derived using the TDOT Real-Time Kinematic Network, Virtual Reference Station, (VRS) Northing: 751535.08, Easting: 1849162.89 - Referenced to NAD83 (2011) (EPOCH 2010), GEOID 123.

Legend
P.O.B. Point of Beginning
P.C.N. Iron Pin (New)
O Power Pole
LI Overhead Power Line
LI Refer to Line Table Shown
Hereon for Data
C1 Refer to Curve Table Shown
Hereon for Data



I hereby certify that this General Property Survey is a Calculated Survey and the Ratio of Precision of the Unadjusted Survey is 1:10000+ and that this survey meets the current Tennessee Minimum Standards of Practice.

Rezoning Request For **Hershel Wooden Estate**

15th Civil District
Robertson County, Tennessee

No. 240285
Date 1/30/25
By SEA
CAD File No. 240285SCA
Coord File No. 240285CA

Surveyor's Notes:

1. No Title Report was furnished to this surveyor at the time of this survey, therefore, the survey shown hereon is subject to any and all findings an accurate Title Report may reveal.
2. This survey was made using the latest recorded deeds and physical evidence found in the field.
3. The survey shown hereon was made in accordance with Chapter 0820-3-07, Standards of Practice as adopted by the State of Tennessee Board of Examiners for Land Surveyors.

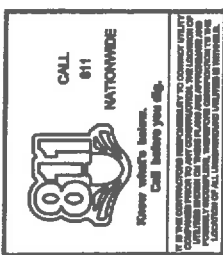
Deed Reference:

Deed Book 293, Page 250 RORCT
Map 60, part of Parcel 76 TAORCT

Hershel Wooden Estate

Owner
4540 Ray Cole Road
Springfield, TN, 37172
Contact: Barbara Spain
(615) 535-9965

CALL BEFORE YOU DIG

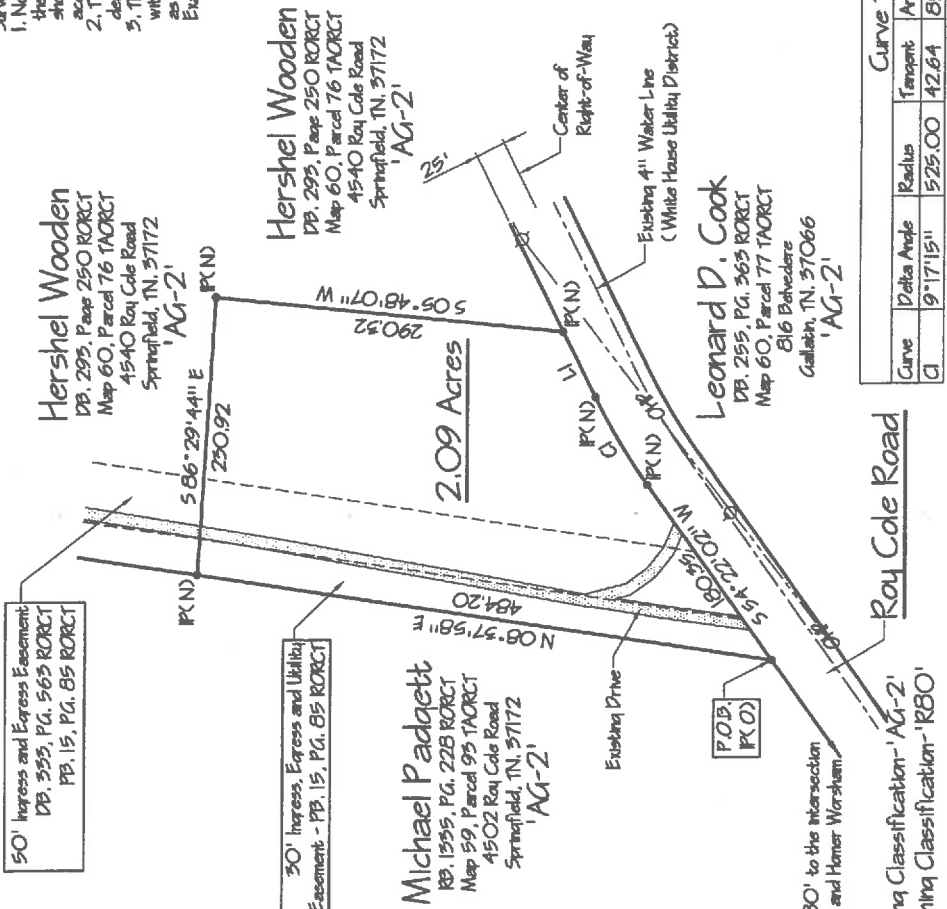


Line Table

Line	Bearing	Distance
L1	S 63° 39' 17" W	60.67

Curve Table

Curve	Delta Angle	Radius	Tangent	Arc Length	Chord Bearing	Chord Length
G1	9° 17' 15"	525.00	42.64	85.10	S 59° 00' 40" W	85.01



Approximately 680' to the intersection of Ray Cole Road and Homer Worsham Road
Present Zoning Classification - 'AG-2'
Proposed Zoning Classification - 'R80'

Steven E. Artz and Associates, Inc.

Surveyor's Description
January 30, 2025

The following paragraphs describe a tract of land in the 15th Civil District of Robertson County, Tennessee, said tract being a portion of that property, which was conveyed to Hershel Wooden, et ux, by Billy M. Cole, et ux, in a deed of record which is recorded in Deed Book 293, Page 250, Register's Office for Robertson County, Tennessee, RORCT.

2.09 acres to be rezoned

Beginning at an iron pin (old), in the northerly margin of Roy Cole Road, the southeast corner of a tract of land which belongs to Michael Padgett, having a deed reference in Record Book 1335, Page 228, RORCT, the southwest corner of this tract and continuing, as follows:

N 08°37'58" E, 484.20 feet to an iron pin (new), in the easterly boundary of said tract of land which belongs to Michael Padgett;

thence with a new line, as follows:

S 86°29'44" E, 230.92 feet to an iron pin (new);

thence, S 05°48'07" W, 290.32 feet to an iron pin (new), in the northerly margin of Roy Cole Road;

thence with the northerly margin of said road, as follows:

S 63°39'17" W, 60.67 feet to an iron pin (new);

thence with a curve to the left, having a radius of 525.00 feet, an arc distance of 85.10 feet, and a chord bearing and distance of S 59°00'40" W, 85.01 feet to an iron pin (new);

thence, S 54°22'02" W, 180.35 feet, to the point of beginning, containing **2.09 acres**, as surveyed by Steven E. Artz, Tennessee License No. 1708, d/b/a, Steven E. Artz and Associates, Inc., 4800 Highway 431 North, Springfield, Tennessee, 37172, dated January 30, 2025.

The above described tract of land is subject to a 30' Ingress, and Egress easement and a 50' Ingress and egress easement of record in Plat Book 15, Page 85, RORCT, with further reference in Deed Book 333, Page 563, RORCT.

The above described tract of land may be found on Tax Map 60, part of Parcel 76, in the Tax Assessor's Office for Robertson County, Tennessee.

File: Steve\240285LRZ

Land Surveyors-Tennessee and Kentucky

**Phone: (615) 382-0481
4800 Highway 431 North**

**Fax: (615) 382-0262
Springfield, Tennessee 37172**



WHITE HOUSE UTILITY DISTRICT

P.O. BOX 608, 3303 HIGHWAY 31-W — WHITE HOUSE, TENNESSEE 37188

TELEPHONE (615) 672-4110 — FAX (615) 672-8098

February 7, 2025

Ms. Connie Spain
4229 Keith Rd
Springfield, TN 37172

**RE: Water Availability for 4540 Roy Cole Rd
Robertson County, Tax Map 60 Parcel 076.00
Springfield, TN**

Dear Ms. Spain,

This letter will confirm White House Utility District can provide one additional domestic water service for the property mentioned above as long as each lot fronts Roy Cole Rd or has an easement dedicated for the water service line to lie within. We understand you intend to alter the existing parcels such that one new residential lot will result.

WHUD's existing four-inch water main located on the southeast side of Roy Cole Rd can provide domestic water flow for this project. No fire sprinkler flows, fire hydrant flows, commercial flows, or irrigation flows have been requested.

A water facilities fee of \$467 per new lot will need to be paid to WHUD before we will release a signed plat or before we will sell a water tap, whichever comes first. Standard water tap fees will be due at the time service is requested. WHUD's tap fee schedule is available on our web site at www.whud.org. The current tap fee for a ¾" residential tap is \$2,000 with a \$50 account setup fee applied to the first bill, but that is subject to change over time.

Please note that all fees, rates, and conditions noted in this letter are current as of the date of this letter and are subject to change over time. WHUD will hold the conditions stated above for a 90-day period past the date of this letter. You may request an extension of fee status in writing prior to expiration of the 90-day period. WHUD will review the request and either deny or grant the request in writing.

Please contact our Engineering Department at 615-672-4110 ext. 262 if you have any questions.

Sincerely,

Pat Harrell, PE
District Engineer

**Robertson County Development Office
Agenda Review Sheet
Planning Commission Meeting
April 24, 2025
Amanda Harrington, Planning Advisor**



Applicant: Barbara Spain, Executor
Hershel Wooden Estate

Representative: Steve Artz

Request: Rezone **2.09 surveyed acres** of the
11.00 surveyed acres
Tax Map 060, Part of Parcel 076.00
from AG-2 to RP-80

Property Information:

- ◆ Tax Map 060, Part of Parcel 076.00
- ◆ 4540 Roy Cole Road, Springfield
- ◆ Total lot acreage: 11.00 surveyed acres (479,160 sq. ft.)
- ◆ **Rezone Request: 2.09 surveyed acres.**
(91,040.40 sq. ft.)

Project Narrative:

RP-80 Minimum Requirements

Minimum Lot Size: 80,000 sq. ft

Front: 60'

Side: 25'

Rear: 25'

Min. Lot Width @ Front Bldg. Setback Line: 175'

Min Road Frontage: 50'

Maximum Height: 35'

Max Bldg. Coverage: 30%



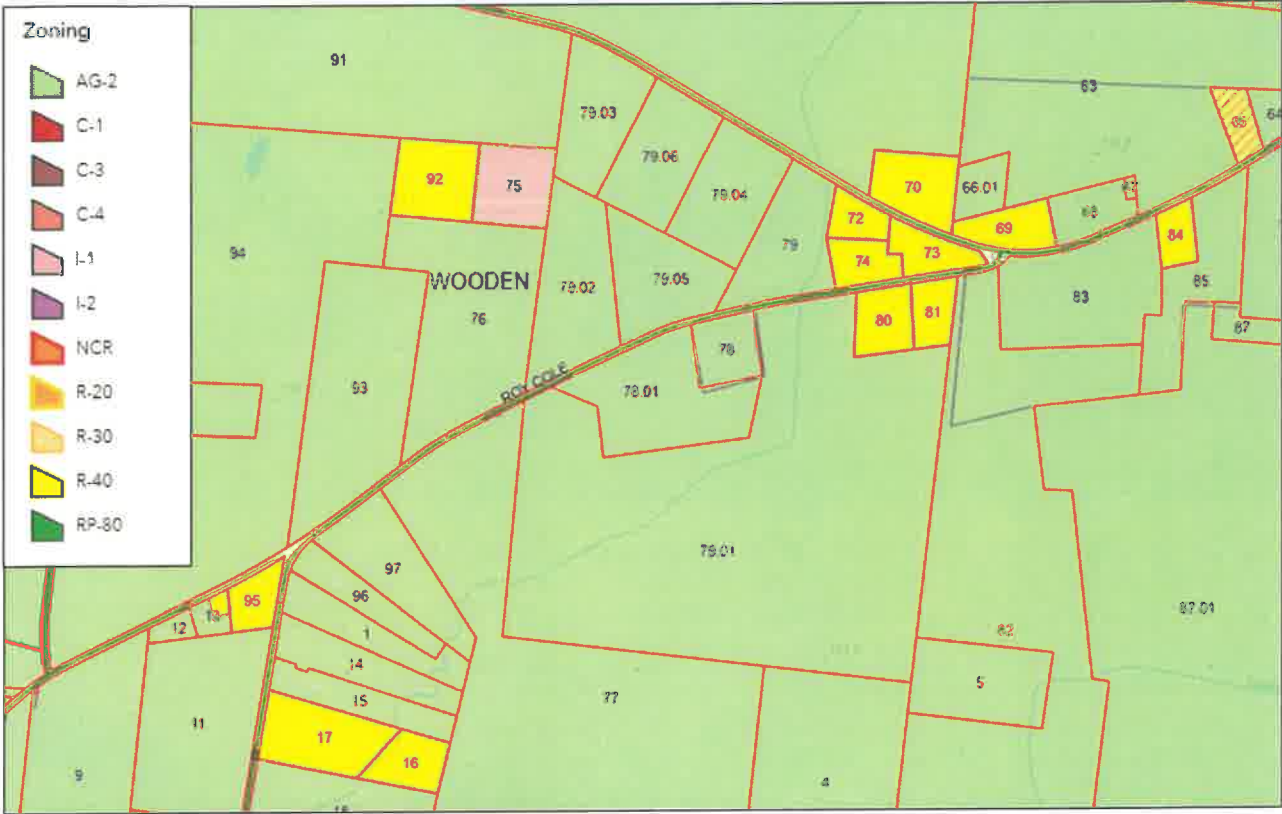
Zoning: The applicant wishes to rezone 2.09 surveyed acres of the 11.00 surveyed acres. The subject property is mainly surrounded by AG-2 zones in the immediate vicinity with varying lot sizes with a few R-40 zones. Several of the surrounding AG-2 zoned lots are nonconforming that would be considered RP-80, R-40 and a couple that would be R-20 by today's zoning regulations. The applicant's request to rezone RP-80 appears to be dimensionally appropriate. *Please see Exhibit 1 for zoning map and Comprehensive Plan exhibit.*

Robertson County 2040 Comprehensive Plan: The Comprehensive Plan calls for this area to remain rural. Location of Rural Preservation Areas. The majority of the County shall remain designated as Rural during the planning horizon of this land use plan. *Uses in Rural Areas:* Agrarian and rural type uses ranging from open space to agriculture, homesteads associated with agricultural uses and agriculture service businesses are encouraged within this category.

Recommendation: Approval. The application of the RP-80 zoning district is appropriate for Rural Designation.

**** END COMMENTS ****

Exhibit 1
Austin Peay University Zoning Map



- Conservation
- Employment Center
- General Urban
- Rural
- Recreation/Open Space
- Sub-Urban

New Business: D



ROBERTSON COUNTY DEVELOPMENT OFFICE
ROBERTSON COUNTY OFFICE BUILDING
527 SOUTH BROWN STREET, SPRINGFIELD, TENNESSEE 37172
615-384-3666

Application for Rezoning

Applicant Information:

Name: Reyes Construcion Inc
Mailing Address: 2520 Memorial Blvd Springfield, TN 37172
Email: reyeshomebuilders@gmail.com
Telephone Number: (615) 474-6728

Applicant's Representative Information:

Name: Nettie Boyle
Name of Firm: CSR Engineering
Mailing Address: 118 N. Greenwood S. Lebanon, TN 37087
Email: nettie.boyle@csrengineers.com
Telephone Number: (615) 619-9877

Property Information:

Owner (if not applicant provide letter giving applicate permission): Reyes Construcion Inc
Physical Address: 3469 Pinson School Rd Springfield, TN 37172
Tax Map and Parcel Number: Map 093, Parcel 199.00 & 199.01
Current Zoning Designation: AG-2 Agricultural / Residential District
Requested Zoning Designation: RP-80 Rural Preservation District

Will this property be subdivided (or combined) in some way within the next year? ☒ Yes ☐ No

Purpose of rezoning request:

The purpose of rezoning the parcel from AG-2 to RP-80 is to facilitate its development into residential lots. This change aligns with the area's growth trends and land use planning goals, allowing for efficient use of the property while maintaining compatibility with surrounding developments. The proposed rezoning will enable the creation of well-planned residential housing, contributing to the community's expansion and meeting the demand for new housing opportunities.

SUBMITTAL REVIEW PROCEDURE:

1. Deliver one (1) copy of this application & any supporting materials to the Development Office before or by the final due date (Please see attached schedule- the "Corrections Due" does not apply to this type of application)
2. Provide copy of deed to prove ownership.
3. Provide aerial photograph of the property from TN Property Viewer
4. Provide Legal description **AND** Survey of the areas to be rezoned including map and parcel number
5. Provide water letter from utility company stating location and size of current water line, adequate pressure for domestic use and if/where fire hydrants are required
6. Pay the review fee.
7. Email a .PDF of the application & supporting materials to hmantooth@robcofn.org
8. Attend the Planning Commission meeting. Be ready to present and answer questions. Failure to appear at the Planning Commission meeting may result in the denial of the application.



Mar 14, 2025

Pedro Reyes (Mar 14, 2025 10:36 CDT)

Owner of Record Signature & DATE

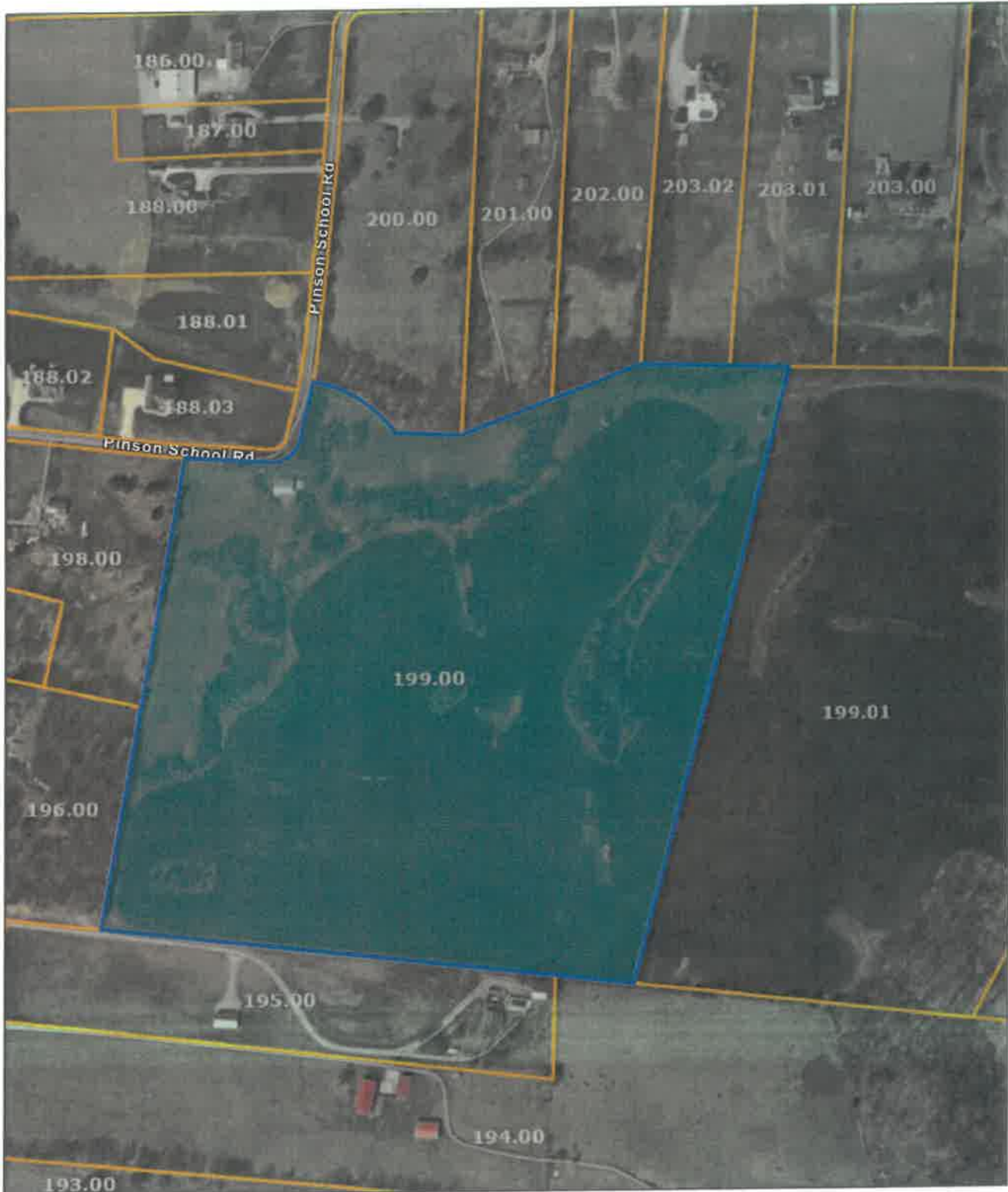


Mar 14, 2025

Nettie Boyle (Mar 14, 2025 10:43 EDT)

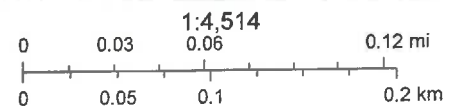
Applicant's Signature & DATE

Robertson County - Parcel: 093 199.00



Date: March 7, 2025

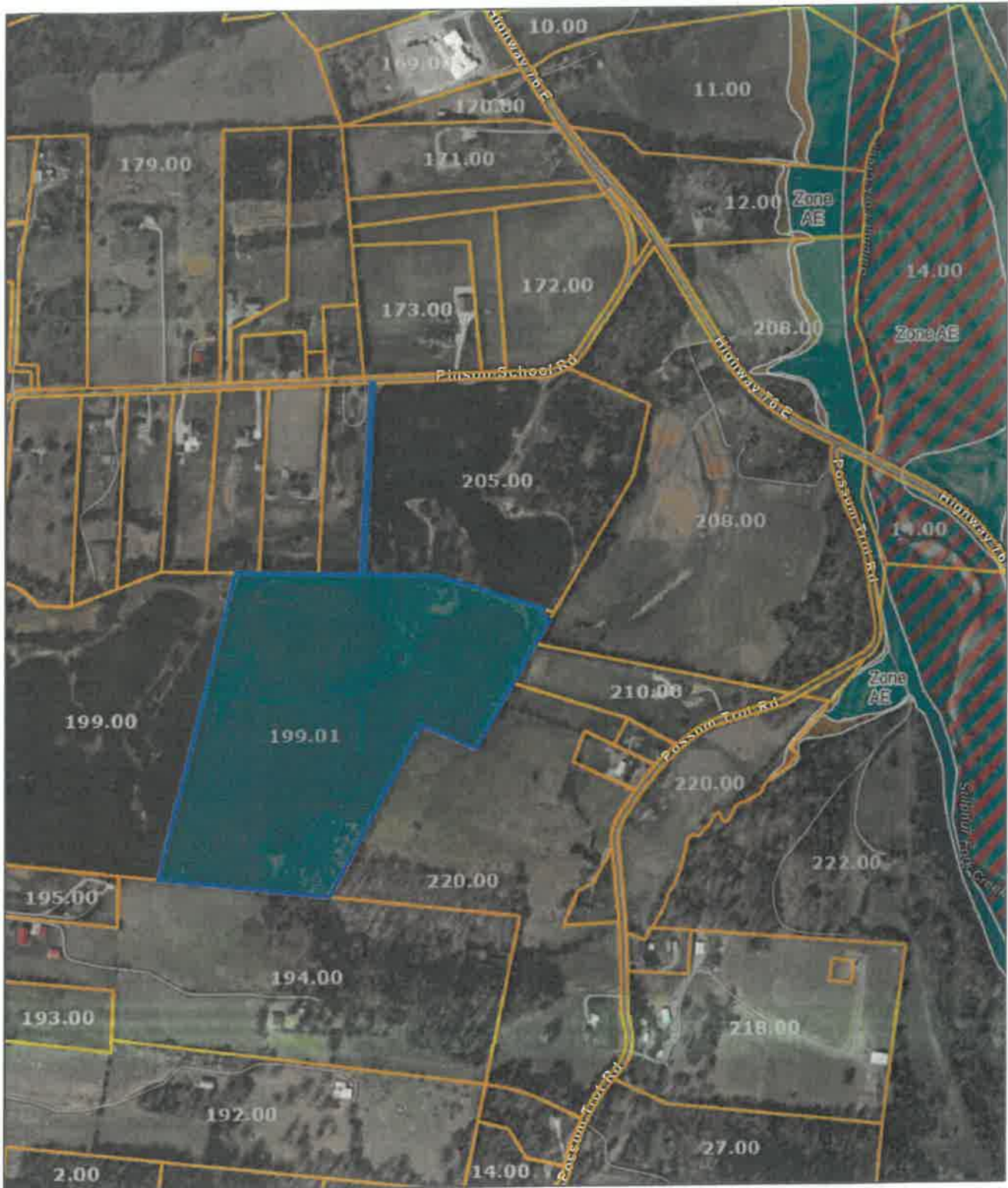
County: ROBERTSON
Owner: REYES CONSTRUCTION INC
Address: PINSON SCHOOL RD 3469
Parcel ID: 093 199.00
Deeded Acreage: 36.16
Calculated Acreage: 0
Vexcel Imagery Date: 2023



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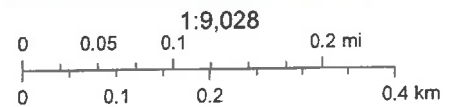
The property lines are compiled from information maintained by your local county Assessor's office but are not conclusive evidence of property ownership in any court of law.

Robertson County - Parcel: 093 199.01



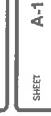
Date: March 7, 2025

County: ROBERTSON
Owner: REYES CONSTRUCTION INC
Address: PINSON SCHOOL RD
Parcel ID: 093 199.01
Deeded Acreage: 37.47
Calculated Acreage: 0
Vexcel Imagery Date: 2023



State of Tennessee, Comptroller of the Treasury, Division of Property Assessments (DPA), Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/ NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

The property lines are compiled from information maintained by your local county Assessor's office but are not conclusive evidence of property ownership in any court of law.



REVISIONS	DESCRIPTION
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NOTE: THE SOLE PURPOSE AND INTENT OF THIS DOCUMENT IS TO GRAPHICALLY DEPICT THE AREA OF INTEREST REQUESTED ONLY. THE DRAWING IS NOT BASED UPON AN OFFICIAL SURVEY.

THIS DRAWING WAS PREPARED USING MULTIPLE SOURCES, INCLUDING THE TIN TAX MAP OF RECORD AND THE RECORDED LEGAL DESCRIPTIONS FROM THE SUBJECT PARCELS AND ADJACENT PARCELS.

CONCEPTUAL DRAWING ONLY. OFFICIAL SURVEY TO BE COMPLETED BY OTHERS AT A LATER DATE.



WHITE HOUSE UTILITY DISTRICT

P.O. BOX 608, 3303 HIGHWAY 31-W—WHITE HOUSE, TENNESSEE 37188

TELEPHONE (615) 672-4110 — FAX (615) 672-8098

March 28, 2025

CSR Engineering
Attn: Ms. Nettie Boyle
118 N Greenwood St
Lebanon, TN 37087

**RE: Water Availability for Pinson School Road Residential Project
Robertson County Tax Map 93 Parcels 199.00 and 199.01
Springfield, TN**

Dear Ms. Boyle,

Based on the information submitted to WHUD on 3/20/2025 you are requesting water and service for thirty-one single-family homes to be constructed on the parcels noted above. Water needs for the project are listed in the attached schedule

In order for WHUD to provide water service to the project, the developer will be required to do the following:

1. Pay fees noted in the attached schedule
2. Install approximately four miles of 12" offsite water main along Hwy 76 as approximately noted on the attached map
3. Install an eight-inch water main through the project connecting Possum Trot Road to Pinson School Road

See the attached map for approximate locations of existing sewer mains.

New utility easements will be required for this project. WHUD will manage and facilitate the acquisition process for all required easements. The developer shall be responsible for all costs associated with the acquisition of easements required for this project.

In conclusion, the information provided is to be considered due diligence in nature. This letter is neither a commitment nor a contract between the developer and WHUD nor is it to be relied upon for the purpose of design.

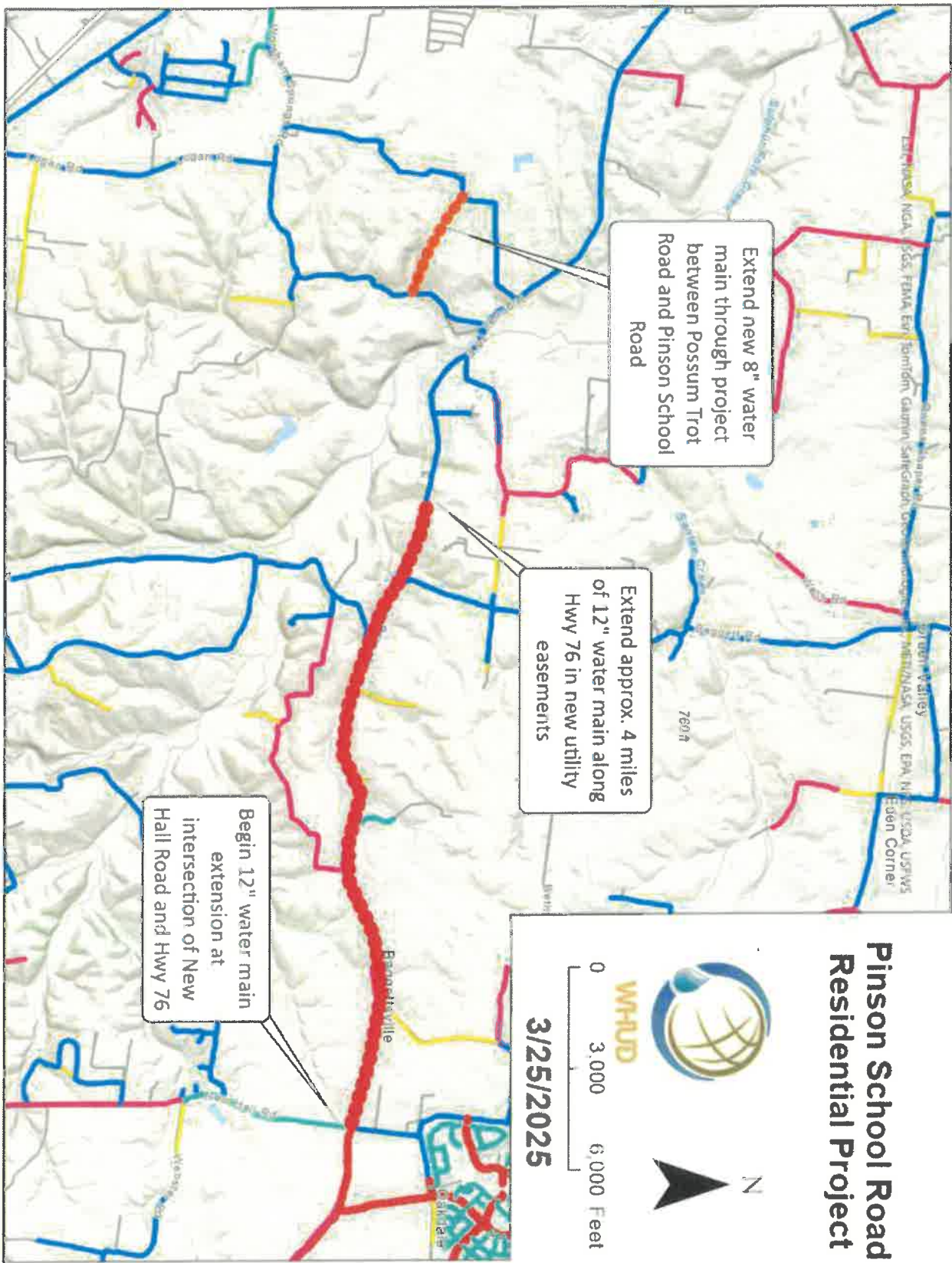
Should the developer desire to move beyond the due diligence inquiry phase of this project it will be necessary for the developer to submit plans and pay noted fees.

Should you have any questions, please contact our Engineering Department at 615-672-4110 ext. 262 or via email at WHUDEngineering@whud.org.

Sincerely,

A handwritten signature in black ink, appearing to read "Pat Harrell". The signature is written in a cursive, flowing style.

Pat Harrell, P.E.
District Engineer



Pinson School Road Residential Project **Schedule of Requested Flows**

Per online application dated March 20, 2025

Lot Count

31 single family homes

Fire Hydrant

Flow Rate: 500 gallons per minute
Static Pressure: None Requested
Residual Pressure: 20 psi

Fire Sprinkler

None Requested

Landscape Irrigation**

None Requested

****Note:**

Landscape irrigation service is not considered a life sustaining/public sanitation/public safety use of water. If droughts or other natural/manmade circumstances restrict WHUD's ability to provide life sustaining/public sanitation/public safety uses of water that are deemed to be higher priority than landscape irrigation; WHUD reserves the right to reduce or curtail altogether landscape irrigation uses of potable water to the extent that higher priority uses of water can be supplied. Further, in order to effectively manage water resources for all customer use types in the future, WHUD will coordinate with irrigation system designers to develop specific use patterns and schedules that will help extend the availability of water and keep costs to customers as affordable as possible.

Pinson School Road Residential Project Fee Schedule

Plan Review Fee **\$1,000 per phase of water plans**

These fees are due at the time of plan submission.

Inspection/Administration fee: **\$7 per linear foot of offsite water main
\$500 per lot of onsite water main**

Actual footage for these fees will be determined during the plan review process.

These fees are due prior to a pre-construction meeting for infrastructure the developer will be required to install to serve the project.

Water Meter tap fee: **5/8" x 3/4" Domestic = \$2,000 each**

These fees are typically paid by home builders at the time service is requested for each lot.

A \$50 account setup fee will be charged on the first monthly bill for each new account.

Water Facilities Fee **\$467 per residential lot**

31 lots x \$467 = \$14,477

These fees are due prior to a pre-construction meeting for infrastructure the developer will be required to install to serve the project.

**Robertson County Development Office
Agenda Review Sheet
Planning Commission Meeting
April 24, 2025
Amanda Harrington, Planning Advisor**



Applicant: Reyes Construction, Inc.
Representative: Nettie Boyle

Request: Rezone **73.63 acres**
Tax Map 093
Parcels 199.00 & 199.01
from AG-2 to RP-80

Property Information:

- ◆ Tax Map 093, Parcels 199.00 & 199.01
- ◆ Pinson School Rd., Springfield
- ◆ Total lot acreage: 73.63 acres
(3,207,322.80 sq. ft.)
- ◆ **Rezone Request: 73.63 acres.**
(3,207,322.80 sq. ft.)

Project Narrative:

RP-80 Minimum Requirements

Minimum Lot Size: 80,000 sq. ft.

Front: 60'

Side: 25'

Rear: 25'

Min. Lot Width @ Front Bldg. Setback Line: 175'

Min Road Frontage: 50'

Maximum Height: 35'

Max Bldg. Coverage: 30%.



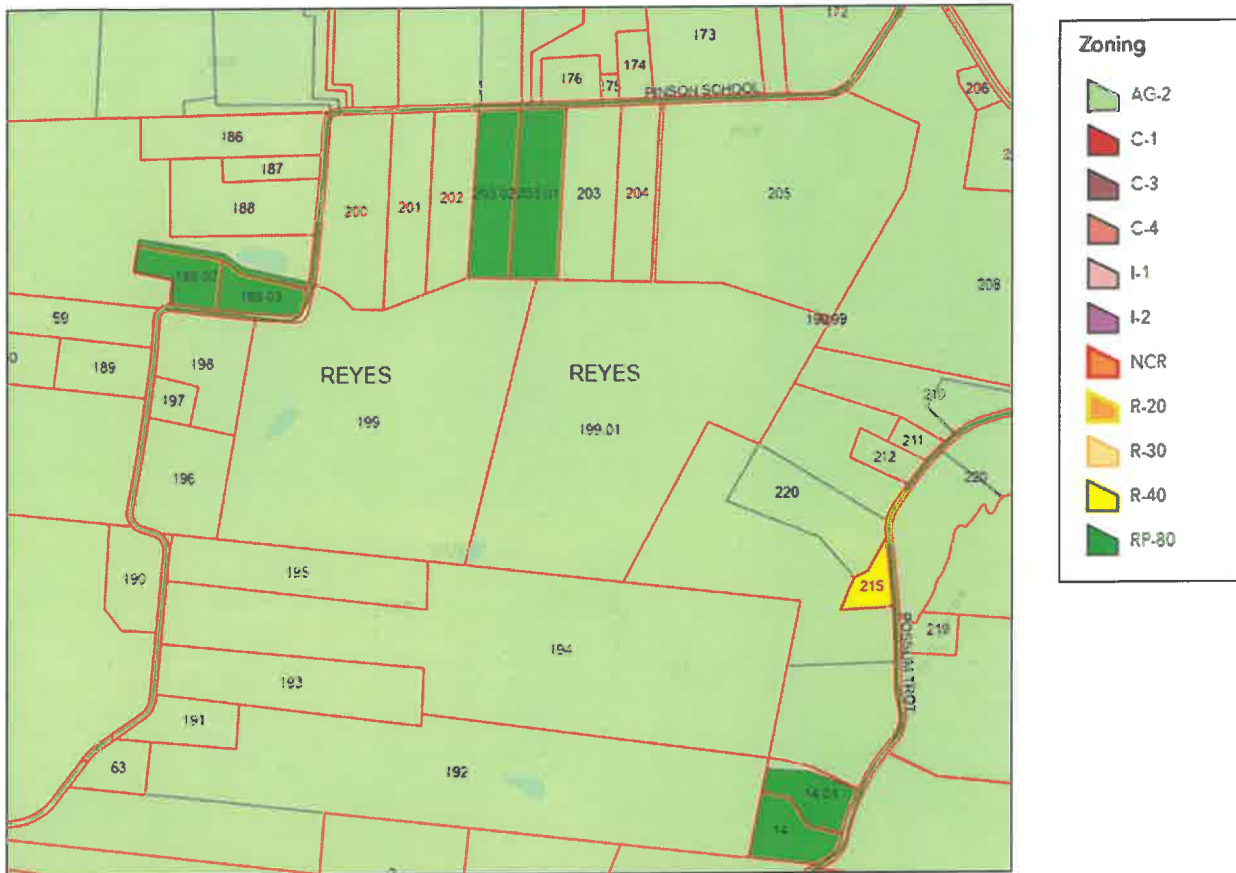
Zoning: The applicant wishes to rezone 73.63 acres. The subject property is mainly surrounded by AG-2 zones with a few RP-80 zones in the immediate vicinity with varying lot sizes. Several of the surrounding AG-2 zoned lots are nonconforming that would be considered RP-80 and R-40 by today's zoning regulations. The applicant's request to rezone RP-80 appears to be dimensionally appropriate. *Please see Exhibit 1 for zoning map and Robertson County Comprehensive Plan Map exhibit.*

Robertson County 2040 Comprehensive Plan: The Comprehensive Plan calls for this area to remain rural. Location of Rural Preservation Areas. The majority of the County shall remain designated as Rural during the planning horizon of this land use plan. *Uses in Rural Areas:* Agrarian and rural type uses ranging from open space to agriculture, homesteads associated with agricultural uses and agriculture service businesses are encouraged within this category.

Recommendation: Approval. The application of the RP-80 zoning district is appropriate for Rural Designation.

**** END COMMENTS ****

Exhibit 1
Austin Peay University Zoning Map



New Business: E



ROBERTSON COUNTY DEVELOPMENT OFFICE
ROBERTSON COUNTY OFFICE BUILDING
527 SOUTH BROWN STREET, SPRINGFIELD, TENNESSEE 37172
615-384-3666

Application for Rezoning

Applicant Information:

Name: Armando Javier Fajardo Chavarria
Mailing Address: 3095 Burr Rd Springfield 37172
Email: esclatocostela942@gmail.com
Telephone Number: 615-424-5209

Applicant's Representative Information:

Name: _____
Name of Firm: _____
Mailing Address: _____
Email: _____
Telephone Number: _____

Property Information:

Owner (if not applicant provide letter giving applicate permission): _____
Physical Address: 3095 Burr Rd Springfield TN 37172
Tax Map and Parcel Number: 101 112.00
Current Zoning Designation: AG-2
Requested Zoning Designation: C-1

Will this property be subdivided (or combined) in some way within the next year? Yes No

Purpose of rezoning request:

Because I have truck sitting on my property and
the county clerk want that I rezoning the property

SUBMITTAL REVIEW PROCEDURE:

1. Deliver one (1) copy of this application & any supporting materials to the Development Office before or by the final due date (Please see attached schedule- the "Corrections Due" does not apply to this type of application)
2. Provide copy of deed to prove ownership.
3. Provide aerial photograph of the property from TN Property Viewer
4. Provide Legal description **AND** Survey of the areas to be rezoned including map and parcel number
5. Provide water letter from utility company stating location and size of current water line, adequate pressure for domestic use and if/where fire hydrants are required
6. Pay the review fee.
7. Email a .PDF of the application & supporting materials to hmantooth@robcofn.org
8. Attend the Planning Commission meeting. Be ready to present and answer questions. Failure to appear at the Planning Commission meeting may result in the denial of the application.

Owner of Record Signature & DATE

ARMANDO FAJARDO
Applicant's Signature & DATE

Robertson County - Parcel: 101 112.00



Date: February 27, 2025

County: ROBERTSON

Owner: CHAVARRIA ARMANDO JAVIER FAJARDO ETUX CASTRO DARITZA ESTELA ESCOTO

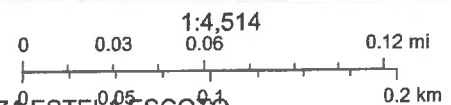
Address: BURR RD EXT 3095

Parcel ID: 101 112.00

Deeded Acreage: 10

Calculated Acreage: 0

Vexcel Imagery Date: 2023



State of Tennessee, Comptroller of the Treasury, Division of Property Assessments (DPA), Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc., METI/ NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

The property lines are compiled from information maintained by your local county Assessor's office but are not conclusive evidence of property ownership in any court of law.

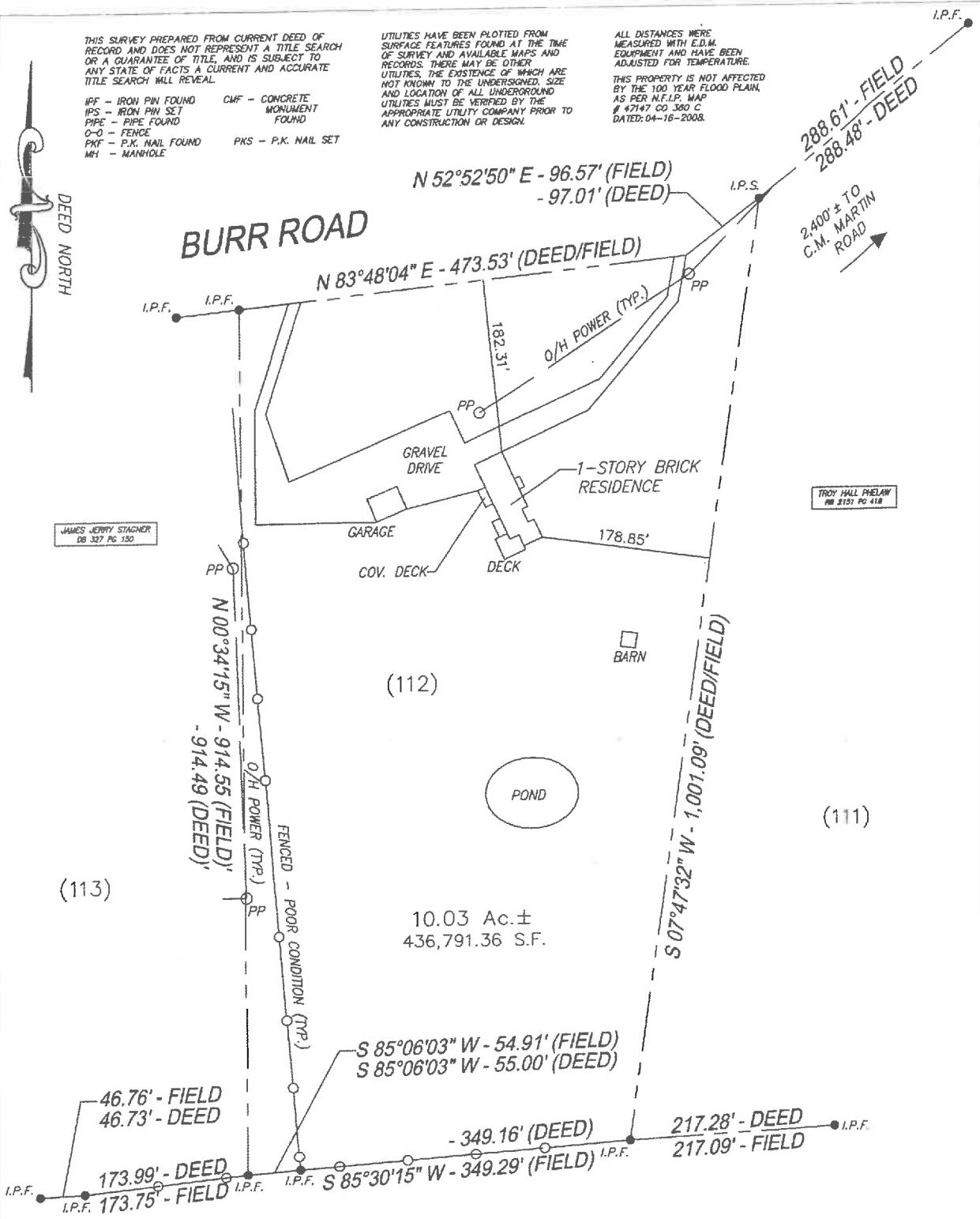
THIS SURVEY PREPARED FROM CURRENT DEED OF RECORD AND DOES NOT REPRESENT A TITLE SEARCH OR A GUARANTEE OF TITLE, AND IS SUBJECT TO ANY STATE OF FACTS A CURRENT AND ACCURATE TITLE SEARCH WILL REVEAL.

IPF - IRON PIN FOUND
IPS - IRON PIN SET
PIPE - PIPE FOUND
O-F - FENCE
PKF - P.K. NAIL FOUND
MH - MANHOLE

CMF - CONCRETE MONUMENT FOUND
PKS - P.K. NAIL SET

UTILITIES HAVE BEEN PLOTTED FROM SURFACE FEATURES FOUND AT THE TIME OF SURVEY AND AVAILABLE MAPS AND RECORDS. THERE MAY BE OTHER UTILITIES, THE EXISTENCE OF WHICH ARE NOT KNOWN TO THE UNDERSIGNED, SIZE AND LOCATION OF ALL UNDERGROUND UTILITIES MUST BE VERIFIED BY THE APPROPRIATE UTILITY COMPANY PRIOR TO ANY CONSTRUCTION OR DESIGN.

ALL DISTANCES WERE MEASURED WITH E.D.M. EQUIPMENT AND HAVE BEEN ADJUSTED FOR TEMPERATURE. THIS PROPERTY IS NOT AFFECTED BY THE 100 YEAR FLOOD PLAIN, AS PER N.F.I.P. MAP # 47147 CO. 360 C DATED: 04-16-2008.



PROPERTY SURVEY

I HEREBY CERTIFY THAT THIS IS A CATEGORY 1 SURVEY AND THE SURVEY WAS PERFORMED IN ACCORDANCE WITH THE CURRENT STANDARDS OF PRACTICE FOR SURVEYORS IN TENNESSEE UNDER THE AUTHORITY OF TCA 62-18-126, AND THE UNADJUSTED CLOSURE IS AT LEAST 1:10,000.

BY: DAVID P. BRACKMAN R.L.S.# 1684

OWNER: ARMANDO JAVIER FAJARDO CHAVARRIA

PROPERTY LOCATED: 3095 BURR ROAD

SPRINGFIELD, ROBERTSON COUNTY, TENNESSEE

PROPERTY MAP-PARCEL No. 101-112.00

RECORDED: RECORD BOOK 2298 PAGE 572 - R.O.R.C. TN

SCALE: 1" = 100'

DATE: FEBRUARY 26, 2025

BRACKMAN
LAND SURVEYING

1707 Gale Lane
Nashville, TN 37212
Email: david@brackmansurvey.com

PH (615) 476-8107
FAX (615) 298-2605

FILE NO. _____



Brackman Land Surveying

David P. Brackman R.L.S.

1707 Gale Lane

Nashville, Tennessee 37212

david@brackmansurvey.com

Office (615) 476-8107

Fax (615) 298-2605

Property Description

3095 Burr Road

Parcel 112..

Beginning at an iron pin on the right of way (R/W) of Burr Road, said point being the northwest corner of Parcel 111 on Map 101 in Robertson County, TN, and also being the northeast corner of herein described tract;

Thence leaving said R/W S 07° 47' 32" W 1001.09' to an iron pin;

Thence S 85° 30' 15" W 349.29' to an iron pin;

Thence S 85° 06' 03" W 54.91' to an iron pin;

Thence N 00° 34' 15" W 914.55' to an iron pin on R/W of Burr Road;

Thence with R/W N 83° 48' 04" E 473.53' to a point;

Thence N 52° 52' 50" E 96.57' to the point of beginning
containing 436,791.36 Sq. Ft. or 10.03 Acres.

David P. Brackman
TN RLS # 1684





CITY OF SPRINGFIELD
Water/Wastewater Department

924 Central Avenue • Springfield, Tennessee 37172 • (615) 382-1600 • FAX (615) 384-6951
www.springfieldtn.gov

February 11, 2025

TO WHO IT MAY CONCERN:

There has been a water availability letter requested by Daritza Escoto for a property located at 3095 Burr Rd in Robertson County. The property is located by Tax Map 101 Parcel 112.00. This letter will serve as notice that there is an existing 6" water main adjacent to this property. The property is currently provided water services by the City of Springfield's Water and Wastewater Department.

If you need further information or have questions, please contact me at 615-382-1600.

Thank you,



Terry Beers, P.E.
Director
Springfield Water and Wastewater Department

**Robertson County Development Office
Agenda Review Sheet
Planning Commission Meeting
April 24, 2025
Amanda Harrington, Planning Advisor**



Applicant: Armando Chavarria

Request: Rezone **10.03 surveyed acres**
Tax Map 101, Parcel 112.00
from AG-2 – C-1

Property Information:

- ◆ Tax Map 101, Parcel 112.00
- ◆ 3095 Burr Rd. Ext., Springfield
- ◆ Total lot acreage: 10.03 surveyed
(436,906.80 sq. ft.)
- ◆ **Rezone Request: 10.03 surveyed acres
(436,906.80 sq. ft.)**

Project Narrative:

C-1 Minimum Requirements

Minimum Lot Size: 25,000 sq. ft.

Front: 30'

Side: 10'

Rear: 20'

Min. Lot Width @ Front Bldg. Setback Line: 100'

Min Road Frontage: 50'

Maximum Height: 35'

Max Bldg. Coverage: 60%.



Zoning: The applicant wishes to rezone 10.03 surveyed acres. The subject property is surrounded by AG-2 zones in the immediate vicinity with varying lot sizes. The applicant's request to rezone to C-1 appears to be dimensionally appropriate. *Please see Exhibit 1 for zoning and Comprehensive Plan map exhibits.*

Robertson County 2040 Comprehensive Plan: The Comprehensive Plan calls for this area to remain Rural. The purpose of the Rural character area in the County shall be to ensure the continuation of agrarian and rural type uses. The closer the Rural areas are to cities and villages, the focus of the area changes from mostly agrarian to mostly rural residential. Location of Rural Preservation Areas. The majority of the County shall remain designated as Rural during the planning horizon of this land use plan. Uses in Rural Areas. Agrarian and rural type uses ranging from open space to agriculture,

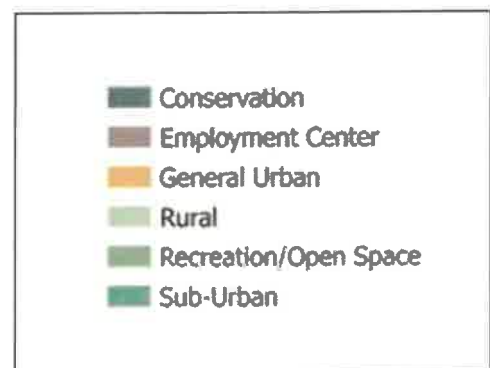
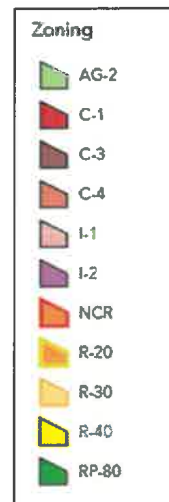
homesteads associated with agricultural uses, and agriculture service businesses are encouraged within this category.

Recommendation: Approval. The Zoning Resolution describes the C-1, General Commercial District, as appropriate in locations where parcels are fronting on either arterial or collector roads as indicated on the latest official major thoroughfare plan. Per the Highway Department, Burr Road is classified as a Collector Road, thus making C-1 appropriate for the location.

**** END COMMENTS ****

Exhibit 1

Austin Peay University Zoning Map



New Business: F



ROBERTSON COUNTY DEVELOPMENT OFFICE
ROBERTSON COUNTY OFFICE BUILDING
527 SOUTH BROWN STREET, SPRINGFIELD, TENNESSEE 37172
615- 384-3666

Application for Site Plan Approval

Type of Site Plan (Please Circle One): Sketch Site Plan Preliminary Site Plan Final Site Plan

Property Information:

1. Current Zoning of Property: C-1 Suburban Commercial District
2. Physical Address of Property: Hwy 31W, Cottontown, TN 37048
3. Tax Map & Parcel Number: Map 096, Parcel 074.06
4. Size of Property (square feet or acres): 2.51 Acres

5. Owner of Record Information

Name: Eddie Smith
Mailing Address (No P.O. Boxes, please): 1436 Latimer Lane, Hendersonville, TN
Email: resinvest@yahoo.com
Telephone Number: 615-504-2368

6. Owner's Representative Information (Surveyor, Self, Engineer, etc.)

Name: Josh Lyon, P.E.
Name of Firm: Klober Engineering Services
Mailing Address (No P.O. Boxes, please): 3556 Tom Austin Hwy, Ste 1, Springfield, TN 37172
Email: josh@klobereng.com
Telephone Number: 615-382-2000

7. Purpose of Site Plan:

Mini Storage/Warehousing with (3) Buildings

SUBMITTAL REVIEW PROCEDURE:

1. Submit 1 hard copy (no smaller than 17" x 22") of the site plan, this completed application, and fee payment to the Robertson County Development Office. **Please ensure the application is signed. Attach proof of ownership of property (copy of deed is typical). Pay the review fee.**
2. Email a .PDF of the submitted site plan to hmantooth@robcofn.org (Hunter Mantooth).
3. Application and site plan will be reviewed, and corrective comments provided, by date listed on calendar (see attached).
4. Submit corrections by date listed on Planning Commission Submittal & Meeting Calendar
5. **FINAL SUBMITTAL:** Deliver one (1) folded hard copies of the corrected plat, no smaller than 17" x 22", and any supporting documentation to the Development Office before or by the final due date.
6. Email a .PDF of the corrected site plan to hmantooth@robcofn.org
7. Attend the Planning Commission meeting. Be ready to present and answer questions. **Failure to appear at the Planning Commission meeting may result in the denial of the application.**


Owner's Signature & DATE


Owner's Representative Signature & DATE

Staff Comments
April 24, 2025
Amanda Harrington, Planning Advisor



Request: Site Plan Approval for 3-Building Mini-Storage Facility

Property: Tax Map 096, Parcel 074.06

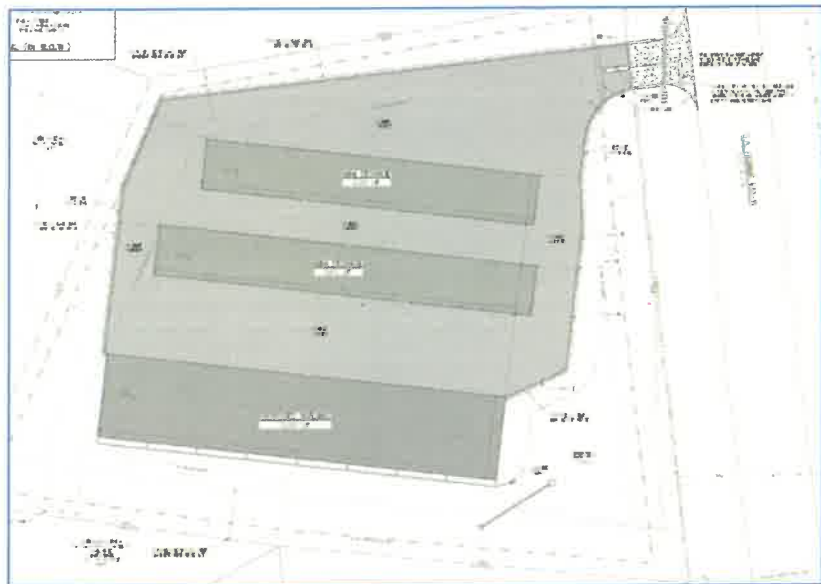
Address: Hwy 31W, Cottontown, TN 37048

Zoning: C-1, Suburban Commercial

The site was reviewed against the Robertson County Zoning Resolution, specifically Article XI, Section 11-3.3, (2), Site Plan Requirements.

No corrective comments are outstanding. Staff recommends approval.

**** END COMMENTS ****



EARL R. MAYO **CONSULTING ENGINEER AND SURVEYOR**
119 SUESAND COURT PLEASANT VIEW, TN 37146 (615)522-4704

April 10, 2025

Traye Fann
County Engineer
Robertson County Planning and Zoning
527 South Brown Street
Springfield, Tennessee 37172

RE: Review of Revised Highway 31 W Mini Storage Site Plan

Dear Traye:

I have reviewed the referenced revised site plan that I received on April 10, 2025 for the April 24, 2025 Planning Commission meeting. All of my previous comments have been addressed.

Only a very cursory review has been performed of these documents in order to get an overall sense of general compliance with the surveying and engineering requirements contained in the Robertson County Subdivision Regulations. No planning related review was performed. This review is not intended as a check of accuracy of the documents or compliance with other state or federal laws and regulations, including Erosion Protection and Sediment Control or water quality design that was not reviewed by me but is to be reviewed by TDEC. No liability for the correctness or completeness of design or surveying performed by others is assumed by me or Robertson County by my review of these documents.

Please contact me if you have any questions or comments. Thank you for the opportunity to serve you.

Sincerely,

Rick Mayo, PE, RLS

SITE PLAN FOR

HIGHWAY 31-W MINI STORAGE

HIGHWAY 31-W
COTTONTOWN, TN 37048
ROBERTSON COUNTY

SHEET INDEX

NOTE	PROJECT NOTES
C1.01	DEMO AND INITIAL EPSC
C1.02	SITE PLAN
C1.03	GRADING & DRAINAGE PLAN
C1.04	INTERMEDIATE EPSC
C1.05	FINAL STABILIZATION
C1.06	PHOTOMETRIC PLAN
C1.07	FIRE TRUCK ROUTING PLAN
C2.01	CONSTRUCTION DETAILS
C2.02	CONSTRUCTION DETAILS



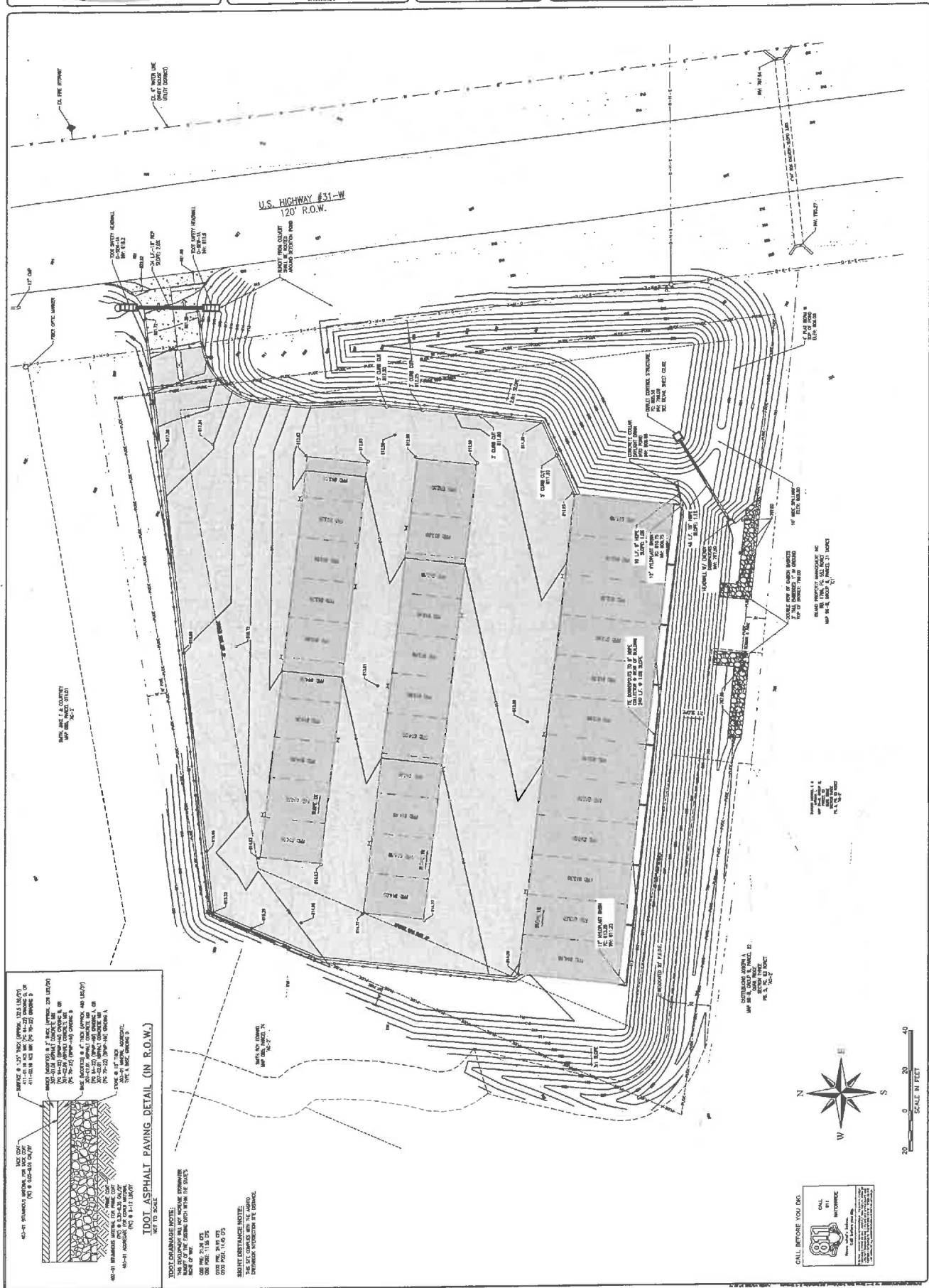
NOT FOR CONSTRUCTION

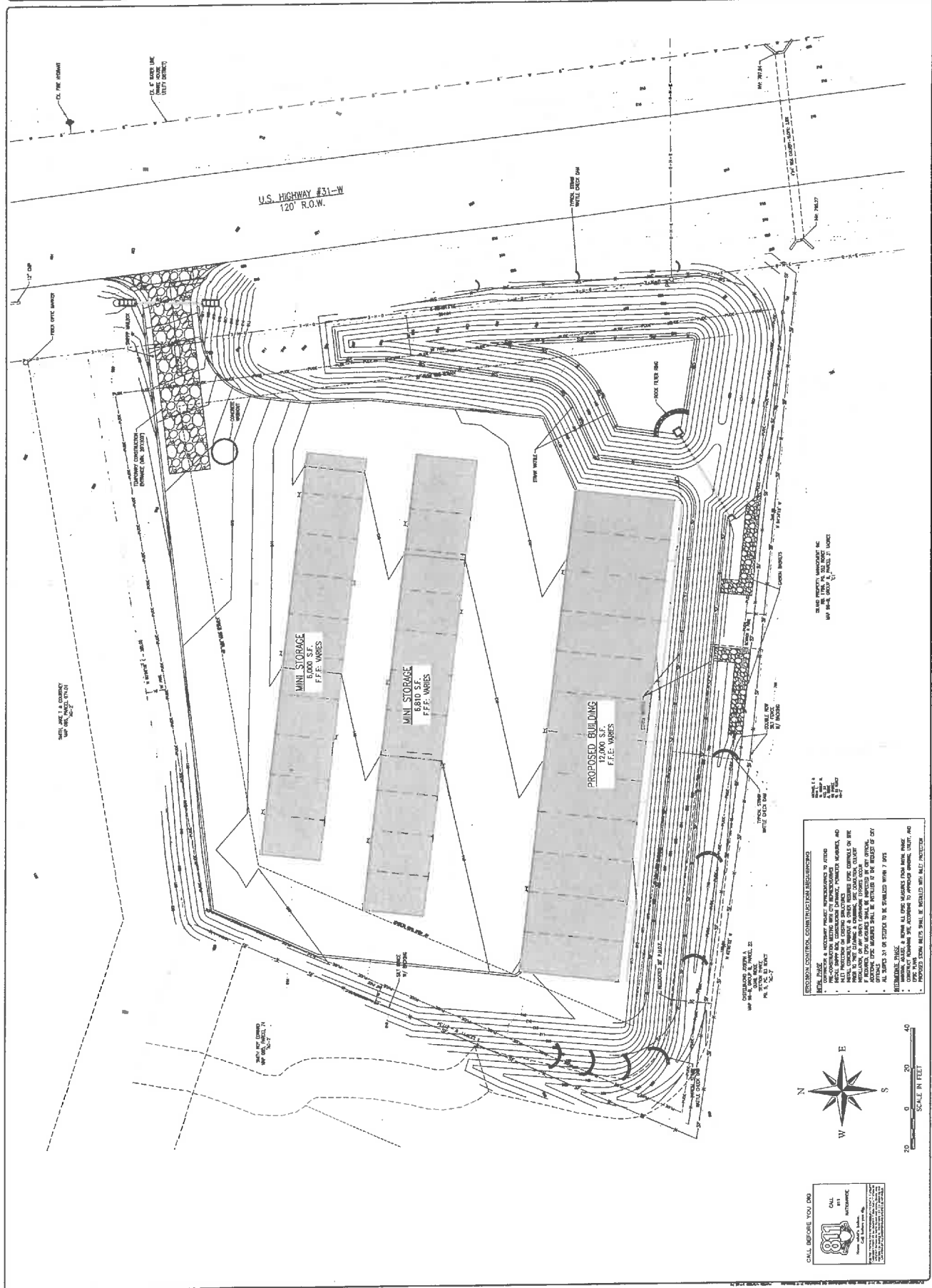


Vicinity Map
Not to Scale









KLOBER
ENGINEERING SERVICES

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REVISIONS

NO.	DATE	DESCRIPTION

DESIGNED BY: JOSHUA M. LOM, P.E. TPA#11131
NOT FOR CONSTRUCTION

MINI STORAGE
HIGHWAY 31-W

ROBERTSON COUNTY
COTTONWOOD TOWNSHIP
TOWNSHIP 31-W
RANGE 1-W

REVISIONS

NO.	DATE	DESCRIPTION

DESIGNED BY: JOSHUA M. LOM, P.E. TPA#11131
NOT FOR CONSTRUCTION

REVISIONS

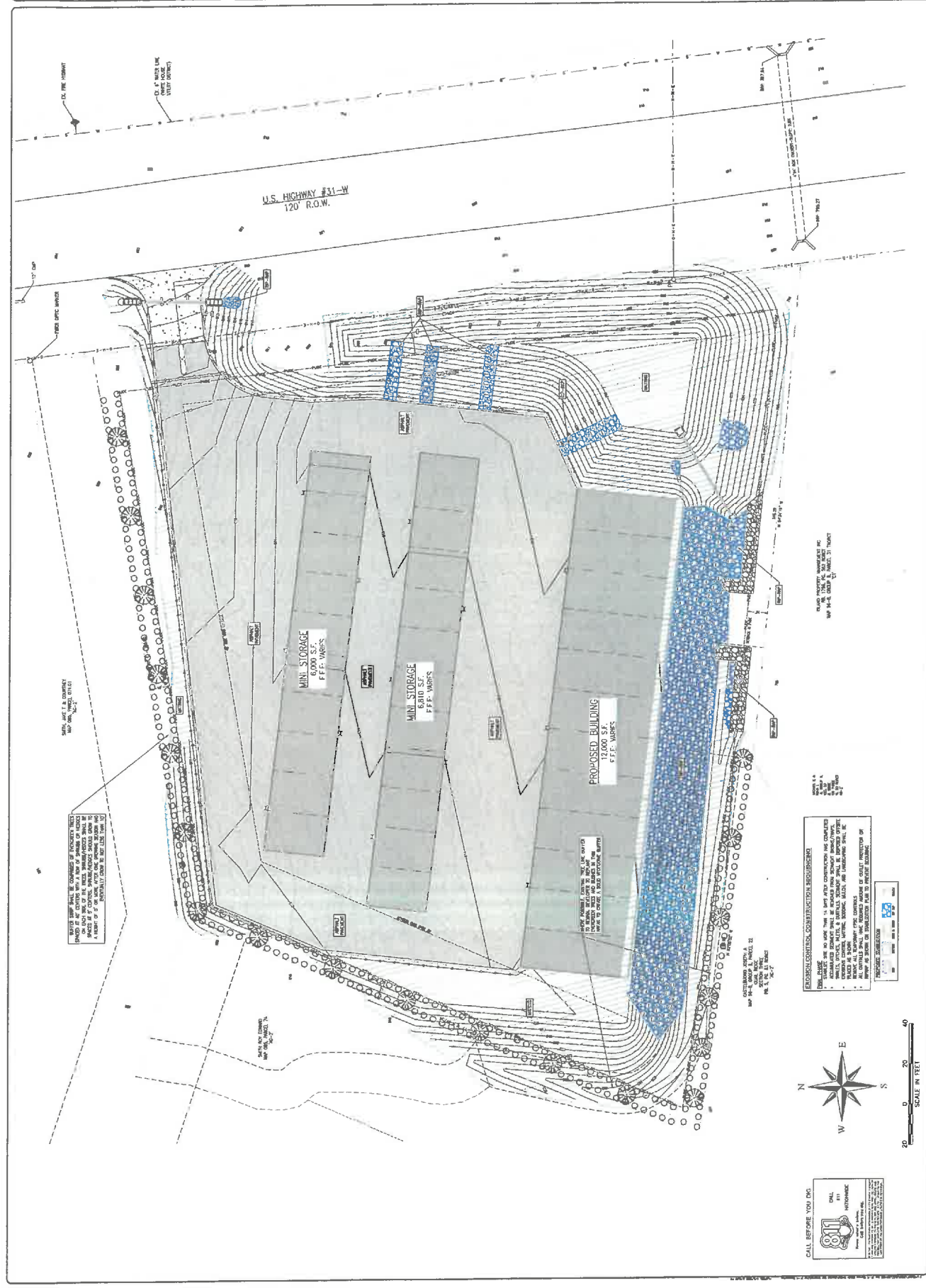
NO.	DATE	DESCRIPTION

DESIGNED BY: JOSHUA M. LOM, P.E. TPA#11131
NOT FOR CONSTRUCTION

REVISIONS

NO.	DATE	DESCRIPTION

DESIGNED BY: JOSHUA M. LOM, P.E. TPA#11131
NOT FOR CONSTRUCTION



CALL BEFORE YOU DIG

811

ONE CALL

SCALE IN FEET

0 20 40

N

E

S

W

FLORIDA/CONSTRUCTION REQUIREMENTS

1. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA BUILDING CODE (FBC) 2018.

2. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA FIRE CODE (FFC) 2018.

3. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA PLUMBING CODE (FPC) 2018.

4. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA ELECTRICAL CODE (FEC) 2018.

5. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA MECHANICAL CODE (FMC) 2018.

6. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA ENERGY CODE (FEC) 2018.

7. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA ENVIRONMENTAL CODE (FEC) 2018.

8. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA SAFETY CODE (FSC) 2018.

9. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA HEALTH CODE (FHC) 2018.

10. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA WASTE CODE (FWC) 2018.

11. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA TRANSPORTATION CODE (FTC) 2018.

12. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA UTILITIES CODE (FUC) 2018.

13. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA COMMUNICATIONS CODE (FCC) 2018.

14. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA AGRICULTURE CODE (FAC) 2018.

15. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA FORESTRY CODE (FFC) 2018.

16. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA MINING CODE (FMC) 2018.

17. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA OIL AND GAS CODE (FOGC) 2018.

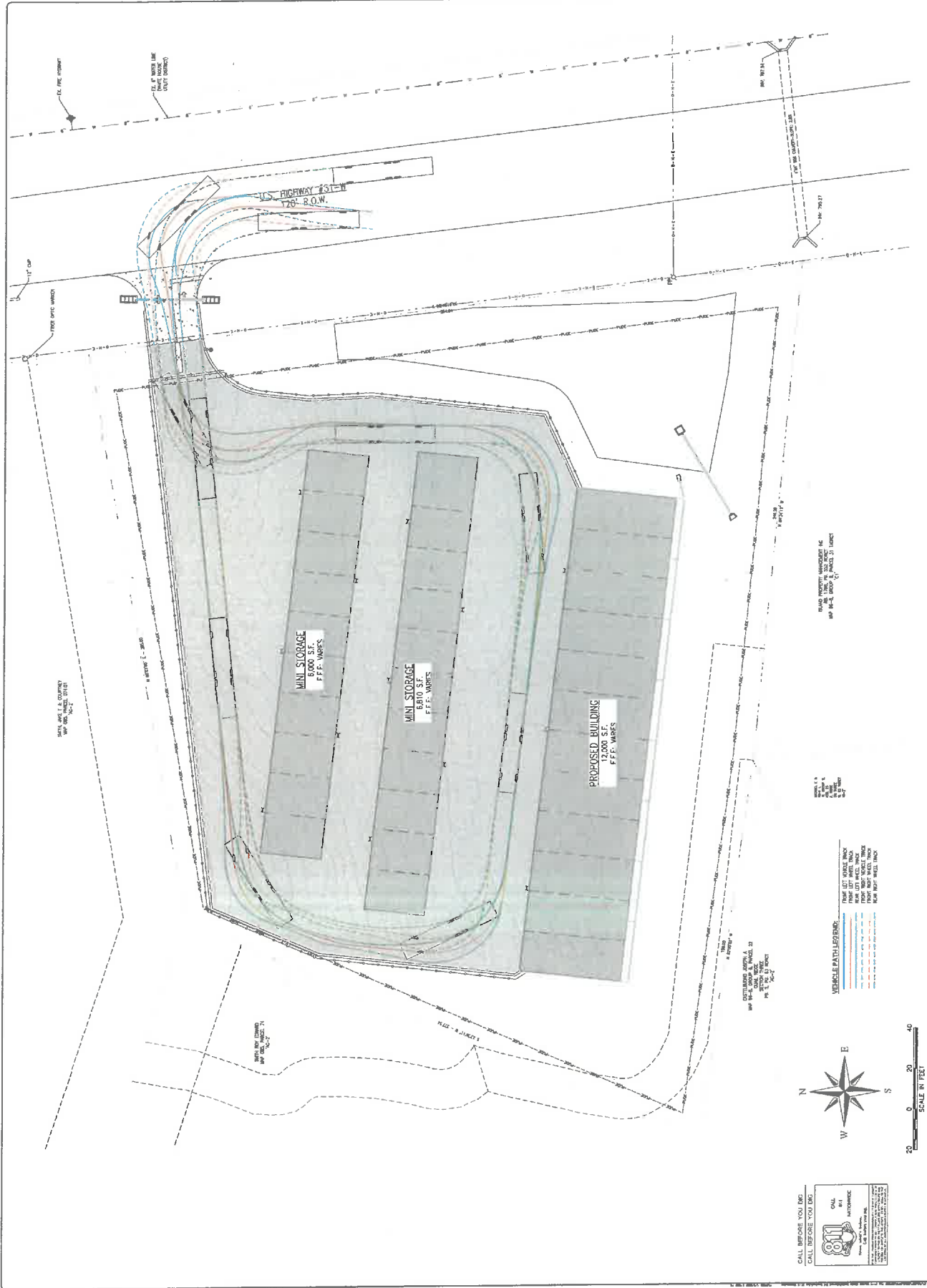
18. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA COASTAL CODE (FCC) 2018.

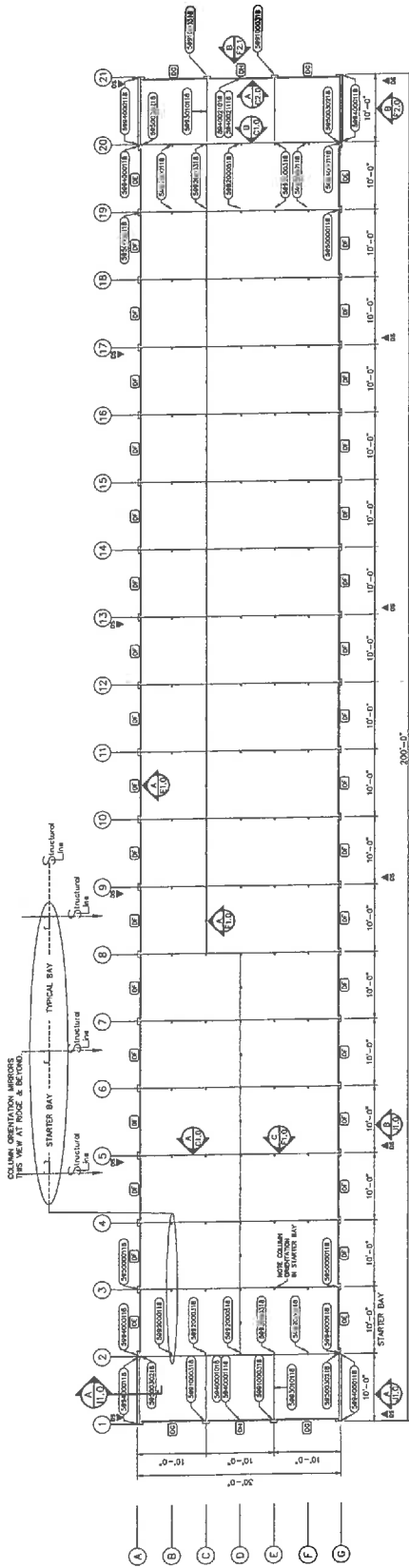
19. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA MARINE CODE (FMC) 2018.

20. ALL BUILDINGS SHALL BE CONFORMED TO FLORIDA HISTORIC CODE (FHC) 2018.

EXIST. 4\"/>



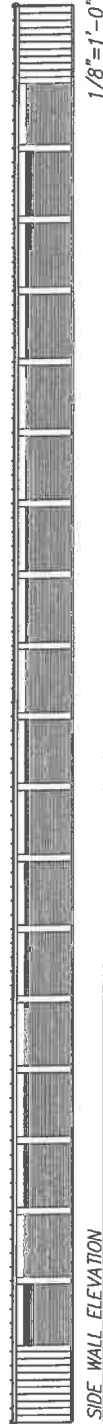




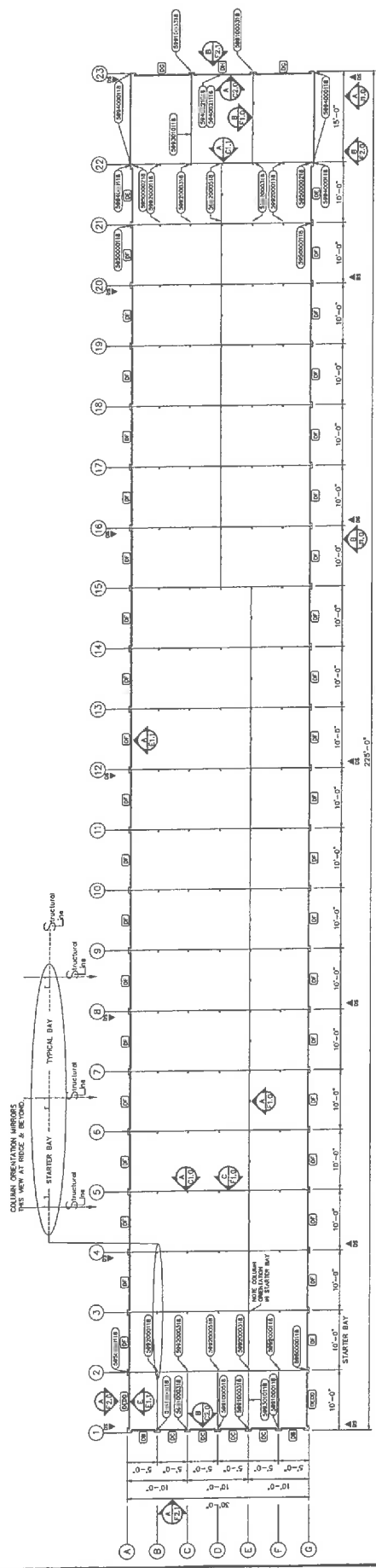
DOOR SCHEDULE				
QTY	CODE	TYPE	SIZE	DESCRIPTION
4	DE	ROLL-UP	8'-8" x 6'-10"	ROLL-UP DOOR, INSULATED 844
32	DF	ROLL-UP	9'-0" x 6'-10"	ROLL-UP DOOR, INSULATED 844
4	DF	ROLL-UP	8'-8" x 6'-6"	ROLL-UP DOOR, INSULATED 844
2	DF	ROLL-UP	9'-0" x 6'-6"	ROLL-UP DOOR, INSULATED 844

DO NOT ORDER DOORS BY OTHERS PRIOR TO RECEIVING THE ERECTION SET.
RO AND DOOR SIZES MAY VARY DUE TO ENGINEERING ISSUES.

ROLL-UP DOORS MEET ASTM E330



1/8"=1'-0"



FLOOR PLAN FOR 8'-4" EAVE, 1/4:12 PITCH, STORAGE BUILDING C

QTY	CODE	TYPE	SIZE	ROUGH OPENING (REF.)	MANUF.	DESCRIPTION	COLOR
2	DB	ROLL-UP	3'-8" x 7'-0"	3'-8" x 7'-0"	TRAC-RITE/eq.	ROLL-UP DOOR, 944	CEDAR RED
4	DC	ROLL-UP	4'-0" x 7'-0"	4'-0" x 7'-0"	TRAC-RITE/eq.	ROLL-UP DOOR, 944	CEDAR RED
2	DE	ROLL-UP	5'-8" x 7'-0"	5'-8" x 7'-0"	TRAC-RITE/eq.	ROLL-UP DOOR, 944	CEDAR RED
2	DEDD	ROLL-UP	8'-8" x 7'-0"	8'-8" x 7'-0"	TRAC-RITE/eq.	NON-OPERATIONAL DOOR, 944	CEDAR RED
30	DE	ROLL-UP	9'-0" x 7'-0"	9'-0" x 7'-0"	TRAC-RITE/eq.	ROLL-UP DOOR, 944	CEDAR RED
2	DE	ROLL-UP	8'-8" x 6'-8"	8'-8" x 6'-8"	TRAC-RITE/eq.	ROLL-UP DOOR, 944	CEDAR RED
1	DE	ROLL-UP	9'-0" x 6'-8"	9'-0" x 6'-8"	TRAC-RITE/eq.	ROLL-UP DOOR, 944	CEDAR RED

ROLL-UP DOORS MEET ASTM E330
DO NOT ORDER DOORS BY OTHERS PRIOR TO RECEIVING THE ERECTION SET.
RO AND DOOR SIZES MAY VARY DUE TO ENGINEERING ISSUES.



END WALL ELEVATION



END WALL ELEVATION



SIDE WALL ELEVATION

1/8" = 1'-0"

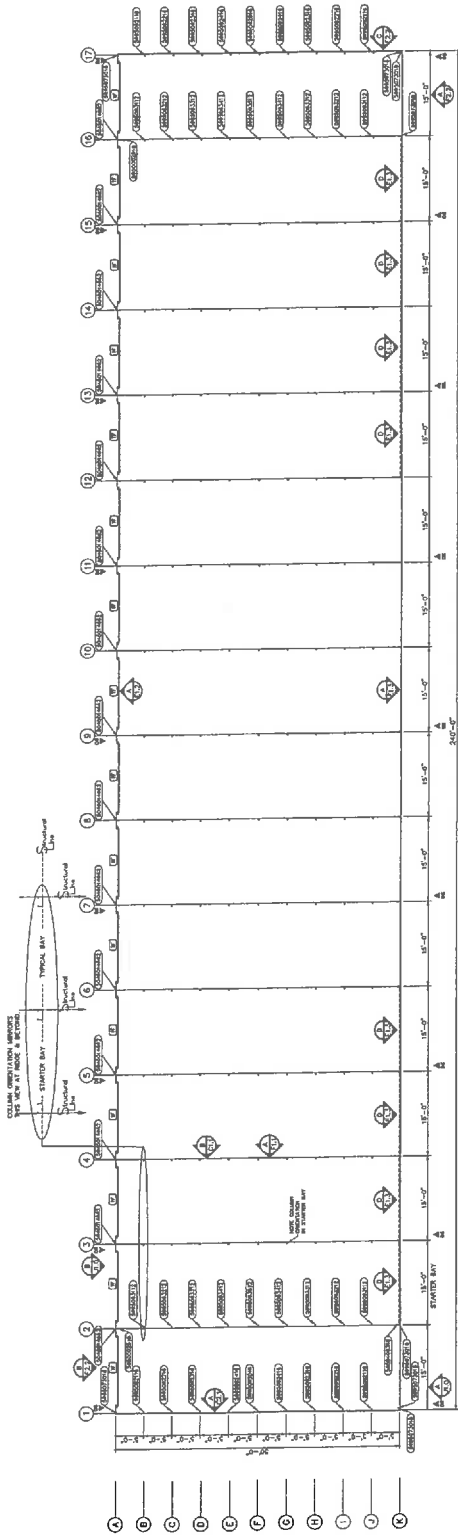
REVISION	DATE	BY	CHKD



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 11400 Highway 58, Suite 100, Nashville, TN 37204
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FLOOR PLAN & ELEVATIONS BLDG. D
 COTTONWOOD, TN
 4033 HWY 31-W
 JOBSITE
 EDDIE SMITH
 3/19/2023
 Scale: 1" = 10'-0"
 Plan No. P08B003
 Sheet No. A3.0



FLOOR PLAN FOR 16'-0" EAVE, 1/4:12 PITCH, STORAGE BUILDING D

DOOR SCHEDULE				
QTY	COORD.	TYPE	SIZE	DESCRIPTION
15	15'-0" x 11'-0"	ROLL-UP	15'-0" x 11'-0"	ROLL-UP DOOR, 877
15	11'-0" x 11'-0"	TRAC-STEEL	11'-0" x 11'-0"	TRAC-STEEL DOOR, 877

DO NOT ORDER DOORS BY OTHERS PRIOR TO RECEIVING THE ELECTION SET.
 RO AND DOOR SIZES MAY VARY DUE TO ENGINEERING ISSUES.

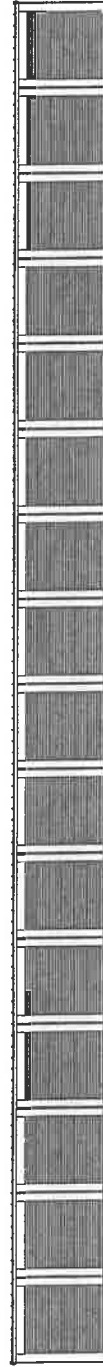
ROLL-UP DOORS MEET ASTM F330



END WALL ELEVATION

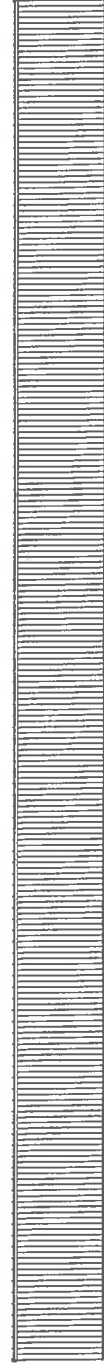


END WALL ELEVATION



SIDE WALL ELEVATION

1/8"=1'-0"



SIDE WALL ELEVATION

1/8"=1'-0"

STORMWATER DESIGN CALCULATIONS

FOR

**Highway 31-W Storage
Highway 31-W
White House, TN 37188**

April 9th, 2025



Prepared By

**KLOBER ENGINEERING SERVICES
3556 Tom Austin Hwy, Suite 1
Springfield, Tennessee 37172
(615) 382-2000**



Serving clients with Civil and Environmental Engineering Services

3556 Tom Austin Hwy, Suite 1
Springfield, Tennessee 37172
(615) 382-2000 Office
(888) 373-4485 Fax

STORM WATER CALCULATIONS

Stormwater Detention

As seen on DM-1, the current site conditions convey runoff to an existing outfall located along the south property line. The project consists of constructing (3) mini-storage buildings totaling 24,810 sf. The post developed site was analyzed by conveying a majority of the site runoff to a detention pond located at the southeast corner of the project. The detention pond will utilize a standard pond discharge box with multiple weirs.

The following tables illustrate storm water runoff data for all drainage basins. The discharge from the pond and the portions that bypass the pond will be below predeveloped conditions.

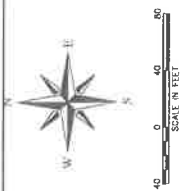
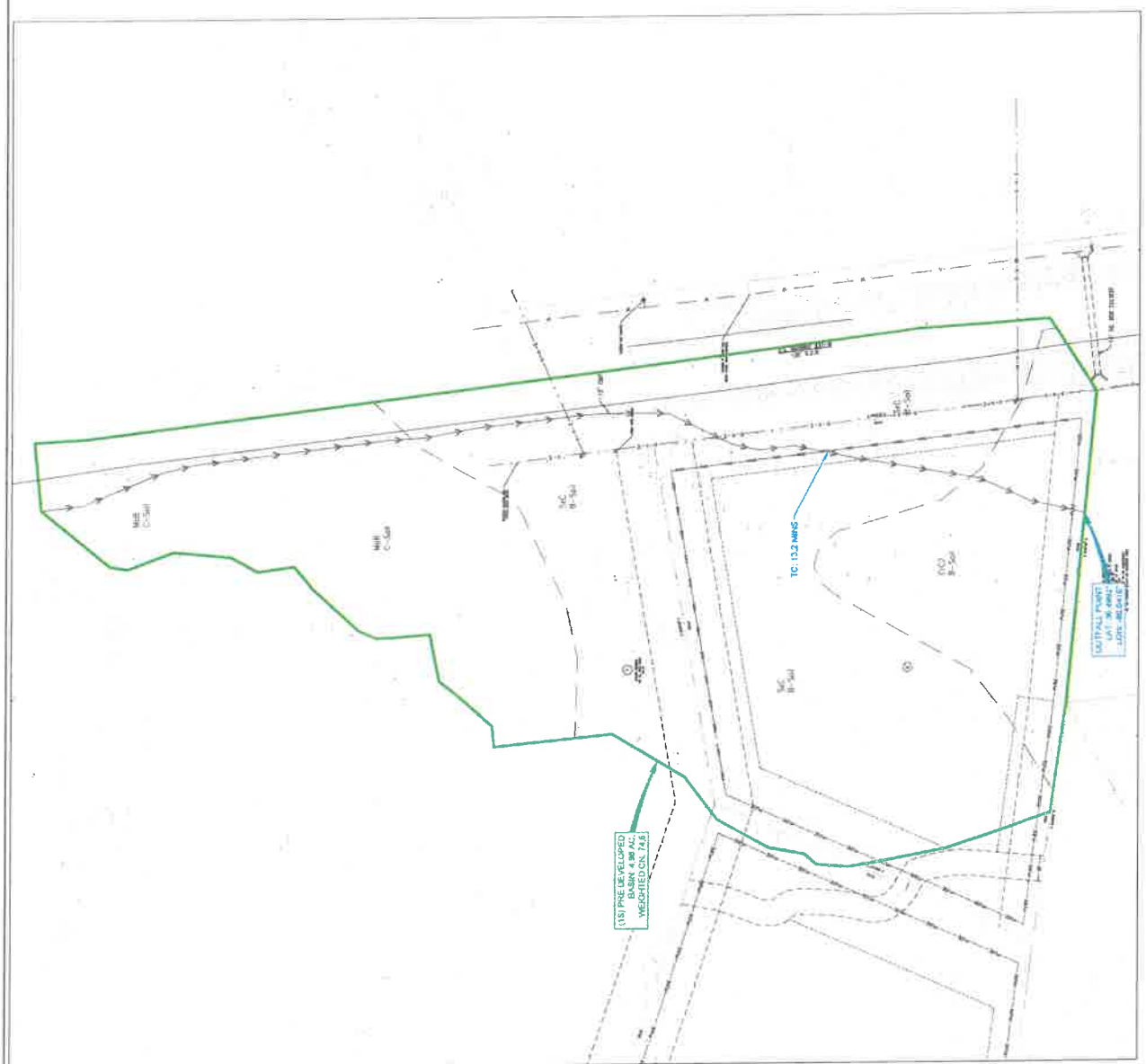
Table 1

Storm Event	(1S): Pre Runoff (cfs)	(2S): Post To Pond (cfs)	(1P): Post Pond Discharge (cfs)	(3S): Post Bypass (cfs)	Peak Ponding Elev.	(1R): Total Post Discharge (cfs)
2 yr.	7.29	8.96	0.82	4.12	801.95	4.87
5 yr.	10.67	11.83	0.91	5.73	802.84	6.56
10 yr.	13.56	14.17	0.97	7.06	803.49	7.95
25 yr.	17.77	17.46	1.51	8.97	804.22	9.93
50 yr.	21.26	20.12	2.77	10.54	804.52	11.55
100yr.	24.95	22.89	4.22	12.17	804.80	14.45

Table 1: Total Drainage Basin Calculation Results (Top of Pond 806.0, Spillway 805.5)

PRE-DEVELOPED

DRAWN BY	CIN
CHECKED BY	IML
PROJECT NO.	COM-21
PRE DEVELOPED DRAINAGE MAP	
SHEET NUMBER DM-1	





Pre-Developed Basin



Routing Diagram for Drainage

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Drainage

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NOAA 24-hr B 2-Year Rainfall=3.56"

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Summary for Subcatchment 1S: Pre-Developed Basin

Runoff = 7.29 cfs @ 12.22 hrs, Volume= 0.504 af, Depth> 1.21"
 Routed to nonexistent node 11R

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NOAA 24-hr B 2-Year Rainfall=3.56"

Area (ac)	CN	Description
0.041	98.0	Roofs, HSG B
0.043	96.0	Gravel surface, HSG C
0.534	98.0	Paved parking, HSG C
3.367	69.0	50-75% Grass cover, Fair, HSG B
0.997	79.0	50-75% Grass cover, Fair, HSG C
4.982	74.6	Weighted Average
4.407		88.46% Pervious Area
0.575		11.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	35	0.0100	0.90		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.60"
8.1	60	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 3.60"
2.7	365	0.0220	2.22		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.7	390	0.0667	3.87		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
13.2	850	Total			

Drainage

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NOAA 24-hr B 5-Year Rainfall=4.35"

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Summary for Subcatchment 1S: Pre-Developed Basin

Runoff = 10.67 cfs @ 12.22 hrs, Volume= 0.732 af, Depth> 1.76"
 Routed to nonexistent node 11R

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NOAA 24-hr B 5-Year Rainfall=4.35"

Area (ac)	CN	Description
0.041	98.0	Roofs, HSG B
0.043	96.0	Gravel surface, HSG C
0.534	98.0	Paved parking, HSG C
3.367	69.0	50-75% Grass cover, Fair, HSG B
0.997	79.0	50-75% Grass cover, Fair, HSG C
4.982	74.6	Weighted Average
4.407		88.46% Pervious Area
0.575		11.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	35	0.0100	0.90		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.60"
8.1	60	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 3.60"
2.7	365	0.0220	2.22		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.7	390	0.0667	3.87		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
13.2	850	Total			

Drainage

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NOAA 24-hr B 10-Year Rainfall=4.99"

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Summary for Subcatchment 1S: Pre-Developed Basin

Runoff = 13.56 cfs @ 12.22 hrs, Volume= 0.929 af, Depth> 2.24"
 Routed to nonexistent node 11R

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NOAA 24-hr B 10-Year Rainfall=4.99"

Area (ac)	CN	Description
0.041	98.0	Roofs, HSG B
0.043	96.0	Gravel surface, HSG C
0.534	98.0	Paved parking, HSG C
3.367	69.0	50-75% Grass cover, Fair, HSG B
0.997	79.0	50-75% Grass cover, Fair, HSG C
4.982	74.6	Weighted Average
4.407		88.46% Pervious Area
0.575		11.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	35	0.0100	0.90		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.60"
8.1	60	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 3.60"
2.7	365	0.0220	2.22		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.7	390	0.0667	3.87		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
13.2	850	Total			

Drainage

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NOAA 24-hr B 25-Year Rainfall=5.89"

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Summary for Subcatchment 1S: Pre-Developed Basin

Runoff = 17.77 cfs @ 12.21 hrs, Volume= 1.221 af, Depth> 2.94"
Routed to nonexistent node 11R

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 25-Year Rainfall=5.89"

Area (ac)	CN	Description
0.041	98.0	Roofs, HSG B
0.043	96.0	Gravel surface, HSG C
0.534	98.0	Paved parking, HSG C
3.367	69.0	50-75% Grass cover, Fair, HSG B
0.997	79.0	50-75% Grass cover, Fair, HSG C
4.982	74.6	Weighted Average
4.407		88.46% Pervious Area
0.575		11.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	35	0.0100	0.90		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.60"
8.1	60	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 3.60"
2.7	365	0.0220	2.22		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.7	390	0.0667	3.87		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
13.2	850	Total			

Drainage

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NOAA 24-hr B 50-Year Rainfall=6.62"

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Summary for Subcatchment 1S: Pre-Developed Basin

Runoff = 21.26 cfs @ 12.21 hrs, Volume= 1.467 af, Depth> 3.53"
Routed to nonexistent node 11R

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 50-Year Rainfall=6.62"

Area (ac)	CN	Description
0.041	98.0	Roofs, HSG B
0.043	96.0	Gravel surface, HSG C
0.534	98.0	Paved parking, HSG C
3.367	69.0	50-75% Grass cover, Fair, HSG B
0.997	79.0	50-75% Grass cover, Fair, HSG C
4.982	74.6	Weighted Average
4.407		88.46% Pervious Area
0.575		11.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	35	0.0100	0.90		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.60"
8.1	60	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 3.60"
2.7	365	0.0220	2.22		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.7	390	0.0667	3.87		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
13.2	850	Total			

Drainage

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NOAA 24-hr B 100-Year Rainfall=7.38"

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Summary for Subcatchment 1S: Pre-Developed Basin

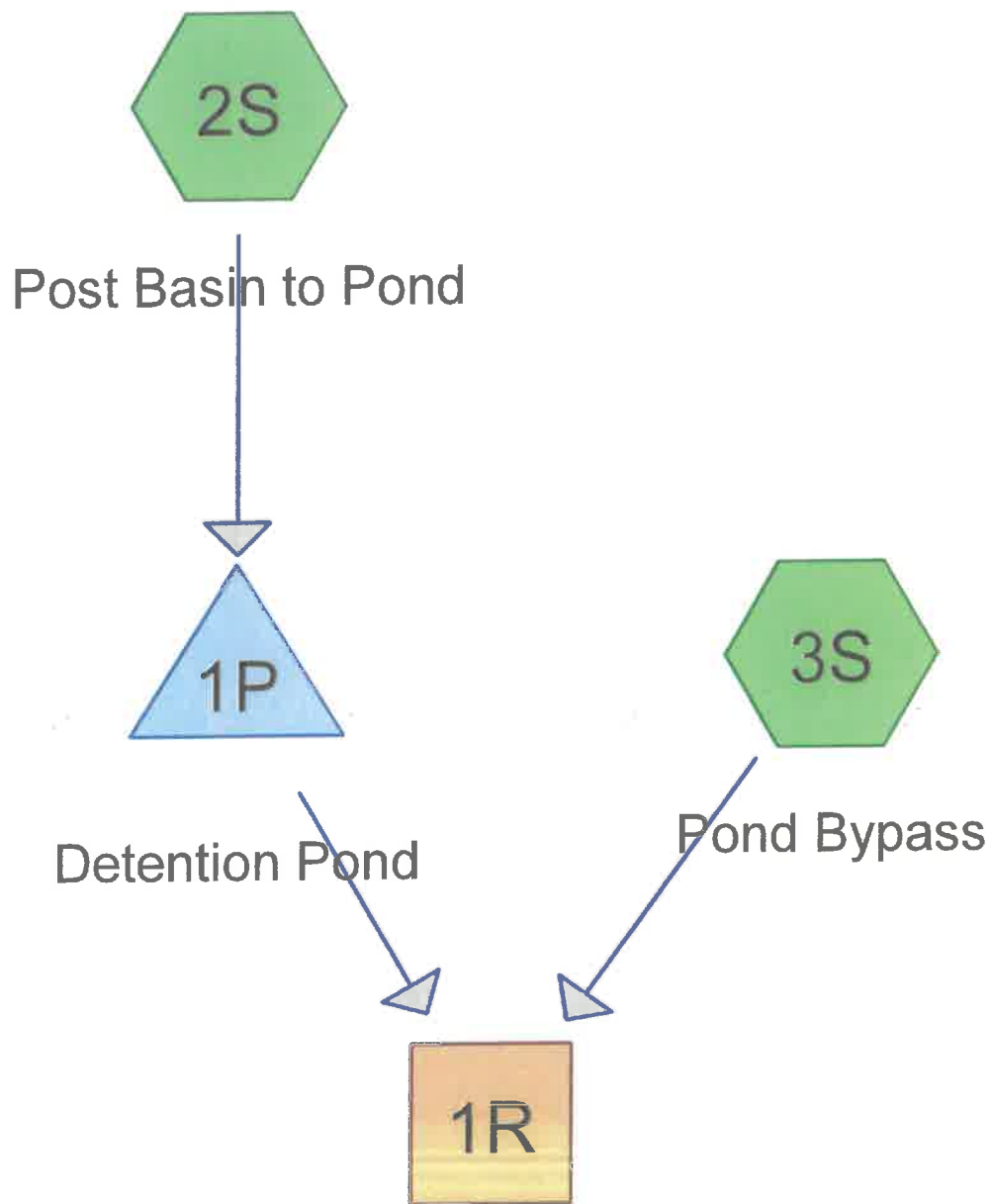
Runoff = 24.95 cfs @ 12.21 hrs, Volume= 1.730 af, Depth> 4.17"
Routed to nonexistent node 11R

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 100-Year Rainfall=7.38"

Area (ac)	CN	Description
0.041	98.0	Roofs, HSG B
0.043	96.0	Gravel surface, HSG C
0.534	98.0	Paved parking, HSG C
3.367	69.0	50-75% Grass cover, Fair, HSG B
0.997	79.0	50-75% Grass cover, Fair, HSG C
4.982	74.6	Weighted Average
4.407		88.46% Pervious Area
0.575		11.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	35	0.0100	0.90		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.60"
8.1	60	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 3.60"
2.7	365	0.0220	2.22		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.7	390	0.0667	3.87		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
13.2	850	Total			

POST-DEVELOPED



Total Post Developed



Routing Diagram for Drainage

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Drainage

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NOAA 24-hr B 2-Year Rainfall=3.56"

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Summary for Subcatchment 2S: Post Basin to Pond

Runoff = 8.96 cfs @ 12.12 hrs, Volume= 0.476 af, Depth> 2.00"
 Routed to Pond 1P : Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NOAA 24-hr B 2-Year Rainfall=3.56"

Area (ac)	CN	Description
0.647	98.0	Roofs, HSG B
0.899	98.0	Paved parking, HSG C
1.010	69.0	50-75% Grass cover, Fair, HSG B
0.304	79.0	50-75% Grass cover, Fair, HSG C
2.860	85.7	Weighted Average
1.314		45.94% Pervious Area
1.546		54.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment 3S: Pond Bypass

Runoff = 4.12 cfs @ 12.21 hrs, Volume= 0.276 af, Depth> 1.56"
 Routed to Reach 1R : Total Post Developed

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NOAA 24-hr B 2-Year Rainfall=3.56"

Area (ac)	CN	Description
0.043	96.0	Gravel surface, HSG C
0.521	98.0	Paved parking, HSG C
0.866	69.0	50-75% Grass cover, Fair, HSG B
0.694	79.0	50-75% Grass cover, Fair, HSG C
2.124	79.9	Weighted Average
1.603		75.47% Pervious Area
0.521		24.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	35	0.0100	0.90		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.60"
8.1	60	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 3.60"
2.7	365	0.0220	2.22		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.0	290	0.1000	4.74		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
12.5	750	Total			

Drainage

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NOAA 24-hr B 2-Year Rainfall=3.56"

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Summary for Reach 1R: Total Post Developed

Inflow Area = 4.984 ac, 41.47% Impervious, Inflow Depth > 1.80" for 2-Year event
 Inflow = 4.87 cfs @ 12.21 hrs, Volume= 0.746 af
 Outflow = 4.87 cfs @ 12.21 hrs, Volume= 0.746 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: Detention Pond

Inflow Area = 2.860 ac, 54.06% Impervious, Inflow Depth > 2.00" for 2-Year event
 Inflow = 8.96 cfs @ 12.12 hrs, Volume= 0.476 af
 Outflow = 0.82 cfs @ 13.00 hrs, Volume= 0.470 af, Atten= 91%, Lag= 52.9 min
 Primary = 0.82 cfs @ 13.00 hrs, Volume= 0.470 af

Routed to Reach 1R : Total Post Developed

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 801.95' @ 13.00 hrs Surf.Area= 4,453 sf Storage= 10,209 cf

Plug-Flow detention time= 131.6 min calculated for 0.469 af (98% of inflow)
 Center-of-Mass det. time= 126.0 min (904.1 - 778.1)

Volume	Invert	Avail.Storage	Storage Description		
#1	798.00'	37,307 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
798.00	16	16.0	0	0	16
799.00	2,130	239.0	777	777	4,543
800.00	2,791	296.0	2,453	3,230	6,984
801.00	3,588	343.0	3,181	6,411	9,396
802.00	4,505	394.0	4,038	10,449	12,409
803.00	5,570	438.0	5,028	15,477	15,352
804.00	6,688	456.0	6,120	21,597	16,708
805.00	7,851	474.0	7,262	28,859	18,119
806.00	9,059	492.0	8,448	37,307	19,585

Device	Routing	Invert	Outlet Devices
#1	Primary	798.00'	15.0" Round Culvert L= 48.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 798.00' / 797.50' S= 0.0104 ' /' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Device 1	798.00'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	804.00'	1.5' long x 1.00' rise Sharp-Crested Rectangular Weir 2 End Contraction(s)

Primary OutFlow Max=0.82 cfs @ 13.00 hrs HW=801.95' (Free Discharge)

1=Culvert (Passes 0.82 cfs of 9.50 cfs potential flow)
 2=Orifice/Grate (Orifice Controls 0.82 cfs @ 9.36 fps)
 3=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Drainage

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NOAA 24-hr B 5-Year Rainfall=4.35"

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Summary for Subcatchment 2S: Post Basin to Pond

Runoff = 11.83 cfs @ 12.11 hrs, Volume= 0.638 af, Depth> 2.68"
 Routed to Pond 1P : Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NOAA 24-hr B 5-Year Rainfall=4.35"

Area (ac)	CN	Description
0.647	98.0	Roofs, HSG B
0.899	98.0	Paved parking, HSG C
1.010	69.0	50-75% Grass cover, Fair, HSG B
0.304	79.0	50-75% Grass cover, Fair, HSG C
2.860	85.7	Weighted Average
1.314		45.94% Pervious Area
1.546		54.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment 3S: Pond Bypass

Runoff = 5.73 cfs @ 12.21 hrs, Volume= 0.385 af, Depth> 2.17"
 Routed to Reach 1R : Total Post Developed

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NOAA 24-hr B 5-Year Rainfall=4.35"

Area (ac)	CN	Description
0.043	96.0	Gravel surface, HSG C
0.521	98.0	Paved parking, HSG C
0.866	69.0	50-75% Grass cover, Fair, HSG B
0.694	79.0	50-75% Grass cover, Fair, HSG C
2.124	79.9	Weighted Average
1.603		75.47% Pervious Area
0.521		24.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	35	0.0100	0.90		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.60"
8.1	60	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 3.60"
2.7	365	0.0220	2.22		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.0	290	0.1000	4.74		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
12.5	750	Total			

Drainage

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NOAA 24-hr B 5-Year Rainfall=4.35"

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Summary for Reach 1R: Total Post Developed

Inflow Area = 4.984 ac, 41.47% Impervious, Inflow Depth > 2.32" for 5-Year event
Inflow = 6.56 cfs @ 12.21 hrs, Volume= 0.963 af
Outflow = 6.56 cfs @ 12.21 hrs, Volume= 0.963 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: Detention Pond

Inflow Area = 2.860 ac, 54.06% Impervious, Inflow Depth > 2.68" for 5-Year event
Inflow = 11.83 cfs @ 12.11 hrs, Volume= 0.638 af
Outflow = 0.91 cfs @ 13.11 hrs, Volume= 0.579 af, Atten= 92%, Lag= 59.4 min
Primary = 0.91 cfs @ 13.11 hrs, Volume= 0.579 af

Routed to Reach 1R : Total Post Developed

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 802.84' @ 13.11 hrs Surf.Area= 5,389 sf Storage= 14,585 cf

Plug-Flow detention time= 167.3 min calculated for 0.577 af (90% of inflow)
Center-of-Mass det. time= 137.4 min (909.8 - 772.3)

Volume	Invert	Avail.Storage	Storage Description		
#1	798.00'	37,307 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
798.00	16	16.0	0	0	16
799.00	2,130	239.0	777	777	4,543
800.00	2,791	296.0	2,453	3,230	6,984
801.00	3,588	343.0	3,181	6,411	9,396
802.00	4,505	394.0	4,038	10,449	12,409
803.00	5,570	438.0	5,028	15,477	15,352
804.00	6,688	456.0	6,120	21,597	16,708
805.00	7,851	474.0	7,262	28,859	18,119
806.00	9,059	492.0	8,448	37,307	19,585

Device	Routing	Invert	Outlet Devices
#1	Primary	798.00'	15.0" Round Culvert L= 48.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 798.00' / 797.50' S= 0.0104 ' /' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Device 1	798.00'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	804.00'	1.5' long x 1.00' rise Sharp-Crested Rectangular Weir 2 End Contraction(s)

Primary OutFlow Max=0.91 cfs @ 13.11 hrs HW=802.84' (Free Discharge)

- 1=Culvert (Passes 0.91 cfs of 10.70 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.91 cfs @ 10.41 fps)
- 3=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Drainage

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NOAA 24-hr B 10-Year Rainfall=4.99"

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Summary for Subcatchment 2S: Post Basin to Pond

Runoff = 14.17 cfs @ 12.11 hrs, Volume= 0.772 af, Depth> 3.24"
 Routed to Pond 1P : Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NOAA 24-hr B 10-Year Rainfall=4.99"

Area (ac)	CN	Description
0.647	98.0	Roofs, HSG B
0.899	98.0	Paved parking, HSG C
1.010	69.0	50-75% Grass cover, Fair, HSG B
0.304	79.0	50-75% Grass cover, Fair, HSG C
2.860	85.7	Weighted Average
1.314		45.94% Pervious Area
1.546		54.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment 3S: Pond Bypass

Runoff = 7.06 cfs @ 12.21 hrs, Volume= 0.477 af, Depth> 2.69"
 Routed to Reach 1R : Total Post Developed

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NOAA 24-hr B 10-Year Rainfall=4.99"

Area (ac)	CN	Description
0.043	96.0	Gravel surface, HSG C
0.521	98.0	Paved parking, HSG C
0.866	69.0	50-75% Grass cover, Fair, HSG B
0.694	79.0	50-75% Grass cover, Fair, HSG C
2.124	79.9	Weighted Average
1.603		75.47% Pervious Area
0.521		24.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	35	0.0100	0.90		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.60"
8.1	60	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 3.60"
2.7	365	0.0220	2.22		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.0	290	0.1000	4.74		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
12.5	750	Total			

Drainage

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NOAA 24-hr B 10-Year Rainfall=4.99"

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Summary for Reach 1R: Total Post Developed

Inflow Area = 4.984 ac, 41.47% Impervious, Inflow Depth > 2.72" for 10-Year event
Inflow = 7.95 cfs @ 12.21 hrs, Volume= 1.128 af
Outflow = 7.95 cfs @ 12.21 hrs, Volume= 1.128 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: Detention Pond

Inflow Area = 2.860 ac, 54.06% Impervious, Inflow Depth > 3.24" for 10-Year event
Inflow = 14.17 cfs @ 12.11 hrs, Volume= 0.772 af
Outflow = 0.97 cfs @ 13.20 hrs, Volume= 0.651 af, Atten= 93%, Lag= 65.3 min
Primary = 0.97 cfs @ 13.20 hrs, Volume= 0.651 af

Routed to Reach 1R : Total Post Developed

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 803.49' @ 13.20 hrs Surf.Area= 6,107 sf Storage= 18,347 cf

Plug-Flow detention time= 183.8 min calculated for 0.651 af (84% of inflow)
Center-of-Mass det. time= 141.4 min (909.9 - 768.5)

Volume	Invert	Avail.Storage	Storage Description		
#1	798.00'	37,307 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
798.00	16	16.0	0	0	16
799.00	2,130	239.0	777	777	4,543
800.00	2,791	296.0	2,453	3,230	6,984
801.00	3,588	343.0	3,181	6,411	9,396
802.00	4,505	394.0	4,038	10,449	12,409
803.00	5,570	438.0	5,028	15,477	15,352
804.00	6,688	456.0	6,120	21,597	16,708
805.00	7,851	474.0	7,262	28,859	18,119
806.00	9,059	492.0	8,448	37,307	19,585

Device	Routing	Invert	Outlet Devices
#1	Primary	798.00'	15.0" Round Culvert L= 48.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 798.00' / 797.50' S= 0.0104 ' / Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Device 1	798.00'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	804.00'	1.5' long x 1.00' rise Sharp-Crested Rectangular Weir 2 End Contraction(s)

Primary OutFlow Max=0.97 cfs @ 13.20 hrs HW=803.49' (Free Discharge)

- 1=Culvert (Passes 0.97 cfs of 11.50 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.97 cfs @ 11.11 fps)
- 3=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Drainage

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NOAA 24-hr B 25-Year Rainfall=5.89"

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Summary for Subcatchment 2S: Post Basin to Pond

Runoff = 17.46 cfs @ 12.11 hrs, Volume= 0.964 af, Depth> 4.05"
 Routed to Pond 1P : Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NOAA 24-hr B 25-Year Rainfall=5.89"

Area (ac)	CN	Description
0.647	98.0	Roofs, HSG B
0.899	98.0	Paved parking, HSG C
1.010	69.0	50-75% Grass cover, Fair, HSG B
0.304	79.0	50-75% Grass cover, Fair, HSG C
2.860	85.7	Weighted Average
1.314		45.94% Pervious Area
1.546		54.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment 3S: Pond Bypass

Runoff = 8.97 cfs @ 12.20 hrs, Volume= 0.611 af, Depth> 3.45"
 Routed to Reach 1R : Total Post Developed

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NOAA 24-hr B 25-Year Rainfall=5.89"

Area (ac)	CN	Description
0.043	96.0	Gravel surface, HSG C
0.521	98.0	Paved parking, HSG C
0.866	69.0	50-75% Grass cover, Fair, HSG B
0.694	79.0	50-75% Grass cover, Fair, HSG C
2.124	79.9	Weighted Average
1.603		75.47% Pervious Area
0.521		24.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	35	0.0100	0.90		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.60"
8.1	60	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 3.60"
2.7	365	0.0220	2.22		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.0	290	0.1000	4.74		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
12.5	750	Total			

Drainage

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NOAA 24-hr B 25-Year Rainfall=5.89"

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Summary for Reach 1R: Total Post Developed

Inflow Area = 4.984 ac, 41.47% Impervious, Inflow Depth > 3.30" for 25-Year event
Inflow = 9.93 cfs @ 12.21 hrs, Volume= 1.372 af
Outflow = 9.93 cfs @ 12.21 hrs, Volume= 1.372 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: Detention Pond

Inflow Area = 2.860 ac, 54.06% Impervious, Inflow Depth > 4.05" for 25-Year event
Inflow = 17.46 cfs @ 12.11 hrs, Volume= 0.964 af
Outflow = 1.51 cfs @ 12.99 hrs, Volume= 0.761 af, Atten= 91%, Lag= 52.3 min
Primary = 1.51 cfs @ 12.99 hrs, Volume= 0.761 af
Routed to Reach 1R : Total Post Developed

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 804.22' @ 12.99 hrs Surf.Area= 6,931 sf Storage= 23,065 cf

Plug-Flow detention time= 184.3 min calculated for 0.759 af (79% of inflow)
Center-of-Mass det. time= 135.8 min (899.8 - 763.9)

Volume	Invert	Avail.Storage	Storage Description			
#1	798.00'	37,307 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
798.00	16	16.0	0	0	16	
799.00	2,130	239.0	777	777	4,543	
800.00	2,791	296.0	2,453	3,230	6,984	
801.00	3,588	343.0	3,181	6,411	9,396	
802.00	4,505	394.0	4,038	10,449	12,409	
803.00	5,570	438.0	5,028	15,477	15,352	
804.00	6,688	456.0	6,120	21,597	16,708	
805.00	7,851	474.0	7,262	28,859	18,119	
806.00	9,059	492.0	8,448	37,307	19,585	

Device	Routing	Invert	Outlet Devices
#1	Primary	798.00'	15.0" Round Culvert L= 48.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 798.00' / 797.50' S= 0.0104 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Device 1	798.00'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	804.00'	1.5' long x 1.00' rise Sharp-Crested Rectangular Weir 2 End Contraction(s)

Primary OutFlow Max=1.51 cfs @ 12.99 hrs HW=804.22' (Free Discharge)

1=Culvert (Passes 1.51 cfs of 12.33 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.03 cfs @ 11.84 fps)

3=Sharp-Crested Rectangular Weir (Weir Controls 0.48 cfs @ 1.52 fps)

Drainage

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NOAA 24-hr B 50-Year Rainfall=6.62"

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Summary for Subcatchment 2S: Post Basin to Pond

Runoff = 20.12 cfs @ 12.11 hrs, Volume= 1.123 af, Depth> 4.71"
 Routed to Pond 1P : Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NOAA 24-hr B 50-Year Rainfall=6.62"

Area (ac)	CN	Description
0.647	98.0	Roofs, HSG B
0.899	98.0	Paved parking, HSG C
1.010	69.0	50-75% Grass cover, Fair, HSG B
0.304	79.0	50-75% Grass cover, Fair, HSG C
2.860	85.7	Weighted Average
1.314		45.94% Pervious Area
1.546		54.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment 3S: Pond Bypass

Runoff = 10.54 cfs @ 12.20 hrs, Volume= 0.722 af, Depth> 4.08"
 Routed to Reach 1R : Total Post Developed

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NOAA 24-hr B 50-Year Rainfall=6.62"

Area (ac)	CN	Description
0.043	96.0	Gravel surface, HSG C
0.521	98.0	Paved parking, HSG C
0.866	69.0	50-75% Grass cover, Fair, HSG B
0.694	79.0	50-75% Grass cover, Fair, HSG C
2.124	79.9	Weighted Average
1.603		75.47% Pervious Area
0.521		24.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	35	0.0100	0.90		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.60"
8.1	60	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 3.60"
2.7	365	0.0220	2.22		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.0	290	0.1000	4.74		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
12.5	750	Total			

Drainage

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NOAA 24-hr B 50-Year Rainfall=6.62"

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Summary for Reach 1R: Total Post Developed

Inflow Area = 4.984 ac, 41.47% Impervious, Inflow Depth > 3.90" for 50-Year event
 Inflow = 11.55 cfs @ 12.21 hrs, Volume= 1.618 af
 Outflow = 11.55 cfs @ 12.21 hrs, Volume= 1.618 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: Detention Pond

Inflow Area = 2.860 ac, 54.06% Impervious, Inflow Depth > 4.71" for 50-Year event
 Inflow = 20.12 cfs @ 12.11 hrs, Volume= 1.123 af
 Outflow = 2.77 cfs @ 12.61 hrs, Volume= 0.896 af, Atten= 86%, Lag= 30.0 min
 Primary = 2.77 cfs @ 12.61 hrs, Volume= 0.896 af
 Routed to Reach 1R : Total Post Developed

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 804.52' @ 12.61 hrs Surf.Area= 7,281 sf Storage= 25,228 cf

Plug-Flow detention time= 165.5 min calculated for 0.893 af (80% of inflow)
 Center-of-Mass det. time= 118.1 min (878.9 - 760.8)

Volume	Invert	Avail.Storage	Storage Description		
#1	798.00'	37,307 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
798.00	16	16.0	0	0	16
799.00	2,130	239.0	777	777	4,543
800.00	2,791	296.0	2,453	3,230	6,984
801.00	3,588	343.0	3,181	6,411	9,396
802.00	4,505	394.0	4,038	10,449	12,409
803.00	5,570	438.0	5,028	15,477	15,352
804.00	6,688	456.0	6,120	21,597	16,708
805.00	7,851	474.0	7,262	28,859	18,119
806.00	9,059	492.0	8,448	37,307	19,585

Device	Routing	Invert	Outlet Devices
#1	Primary	798.00'	15.0" Round Culvert L= 48.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 798.00' / 797.50' S= 0.0104 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Device 1	798.00'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	804.00'	1.5' long x 1.00' rise Sharp-Crested Rectangular Weir 2 End Contraction(s)

Primary OutFlow Max=2.76 cfs @ 12.61 hrs HW=804.52' (Free Discharge)

1=Culvert (Passes 2.76 cfs of 12.66 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.06 cfs @ 12.14 fps)

3=Sharp-Crested Rectangular Weir (Weir Controls 1.71 cfs @ 2.35 fps)

Drainage

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NOAA 24-hr B 100-Year Rainfall=7.38"

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Summary for Subcatchment 2S: Post Basin to Pond

Runoff = 22.89 cfs @ 12.11 hrs, Volume= 1.289 af, Depth> 5.41"
 Routed to Pond 1P : Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NOAA 24-hr B 100-Year Rainfall=7.38"

Area (ac)	CN	Description
0.647	98.0	Roofs, HSG B
0.899	98.0	Paved parking, HSG C
1.010	69.0	50-75% Grass cover, Fair, HSG B
0.304	79.0	50-75% Grass cover, Fair, HSG C
2.860	85.7	Weighted Average
1.314		45.94% Pervious Area
1.546		54.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment 3S: Pond Bypass

Runoff = 12.17 cfs @ 12.20 hrs, Volume= 0.840 af, Depth> 4.75"
 Routed to Reach 1R : Total Post Developed

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NOAA 24-hr B 100-Year Rainfall=7.38"

Area (ac)	CN	Description
0.043	96.0	Gravel surface, HSG C
0.521	98.0	Paved parking, HSG C
0.866	69.0	50-75% Grass cover, Fair, HSG B
0.694	79.0	50-75% Grass cover, Fair, HSG C
2.124	79.9	Weighted Average
1.603		75.47% Pervious Area
0.521		24.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	35	0.0100	0.90		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.60"
8.1	60	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 3.60"
2.7	365	0.0220	2.22		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.0	290	0.1000	4.74		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
12.5	750	Total			

Drainage

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NOAA 24-hr B 100-Year Rainfall=7.38"

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Summary for Reach 1R: Total Post Developed

Inflow Area = 4.984 ac, 41.47% Impervious, Inflow Depth > 4.53" for 100-Year event
Inflow = 14.45 cfs @ 12.22 hrs, Volume= 1.882 af
Outflow = 14.45 cfs @ 12.22 hrs, Volume= 1.882 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: Detention Pond

Inflow Area = 2.860 ac, 54.06% Impervious, Inflow Depth > 5.41" for 100-Year event
Inflow = 22.89 cfs @ 12.11 hrs, Volume= 1.289 af
Outflow = 4.22 cfs @ 12.52 hrs, Volume= 1.042 af, Atten= 82%, Lag= 24.7 min
Primary = 4.22 cfs @ 12.52 hrs, Volume= 1.042 af
Routed to Reach 1R : Total Post Developed

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 804.80' @ 12.52 hrs Surf.Area= 7,612 sf Storage= 27,321 cf

Plug-Flow detention time= 149.1 min calculated for 1.038 af (81% of inflow)
Center-of-Mass det. time= 103.0 min (861.0 - 758.0)

Volume	Invert	Avail.Storage	Storage Description		
#1	798.00'	37,307 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
798.00	16	16.0	0	0	16
799.00	2,130	239.0	777	777	4,543
800.00	2,791	296.0	2,453	3,230	6,984
801.00	3,588	343.0	3,181	6,411	9,396
802.00	4,505	394.0	4,038	10,449	12,409
803.00	5,570	438.0	5,028	15,477	15,352
804.00	6,688	456.0	6,120	21,597	16,708
805.00	7,851	474.0	7,262	28,859	18,119
806.00	9,059	492.0	8,448	37,307	19,585

Device	Routing	Invert	Outlet Devices
#1	Primary	798.00'	15.0" Round Culvert L= 48.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 798.00' / 797.50' S= 0.0104 ' / ' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Device 1	798.00'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	804.00'	1.5' long x 1.00' rise Sharp-Crested Rectangular Weir 2 End Contraction(s)

Primary OutFlow Max=4.22 cfs @ 12.52 hrs HW=804.80' (Free Discharge)

1=Culvert (Passes 4.22 cfs of 12.96 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.08 cfs @ 12.40 fps)

3=Sharp-Crested Rectangular Weir (Weir Controls 3.14 cfs @ 2.92 fps)

CULVERT CALCULATIONS



Runoff to Driveway
Culvert



18" Culvert



Routing Diagram for Drainage

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Drainage

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NOAA 24-hr B 25-Year Rainfall=5.89"

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Page 2

Summary for Subcatchment 4S: Runoff to Driveway Culvert

Runoff = 7.17 cfs @ 12.11 hrs, Volume= 0.390 af, Depth> 3.79"
Routed to Reach RCP : 18" Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 25-Year Rainfall=5.89"

Area (ac)	CN	Description
0.043	96.0	Gravel surface, HSG B
0.325	98.0	Paved roads w/curbs & sewers, HSG C
0.173	69.0	50-75% Grass cover, Fair, HSG B
0.694	79.0	50-75% Grass cover, Fair, HSG C
1.235	83.2	Weighted Average
0.910		73.68% Pervious Area
0.325		26.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

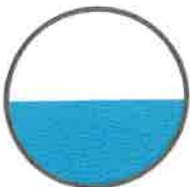
Summary for Reach RCP: 18" Culvert

Inflow Area = 1.235 ac, 26.32% Impervious, Inflow Depth > 3.79" for 25-Year event
Inflow = 7.17 cfs @ 12.11 hrs, Volume= 0.390 af
Outflow = 7.11 cfs @ 12.12 hrs, Volume= 0.390 af, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.29 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.77 fps, Avg. Travel Time= 0.2 min

Peak Storage= 29 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.73' , Surface Width= 1.50'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 14.86 cfs

18.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 34.0' Slope= 0.0200 '/'
Inlet Invert= 0.68', Outlet Invert= 0.00'



Drainage

Prepared by Klobner Engineering

HydroCAD® 10.20-2h s/n 09895 © 2024 HydroCAD Software Solutions LLC

NOAA 24-hr B 100-Year Rainfall=7.38"

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Summary for Subcatchment 4S: Runoff to Driveway Culvert

Runoff = 9.52 cfs @ 12.11 hrs, Volume= 0.528 af, Depth> 5.13"

Routed to Reach RCP : 18" Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 100-Year Rainfall=7.38"

Area (ac)	CN	Description
0.043	96.0	Gravel surface, HSG B
0.325	98.0	Paved roads w/curbs & sewers, HSG C
0.173	69.0	50-75% Grass cover, Fair, HSG B
0.694	79.0	50-75% Grass cover, Fair, HSG C
1.235	83.2	Weighted Average
0.910		73.68% Pervious Area
0.325		26.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Reach RCP: 18" Culvert

Inflow Area = 1.235 ac, 26.32% Impervious, Inflow Depth > 5.13" for 100-Year event
Inflow = 9.52 cfs @ 12.11 hrs, Volume= 0.528 af
Outflow = 9.44 cfs @ 12.12 hrs, Volume= 0.527 af, Atten= 1%, Lag= 0.1 min

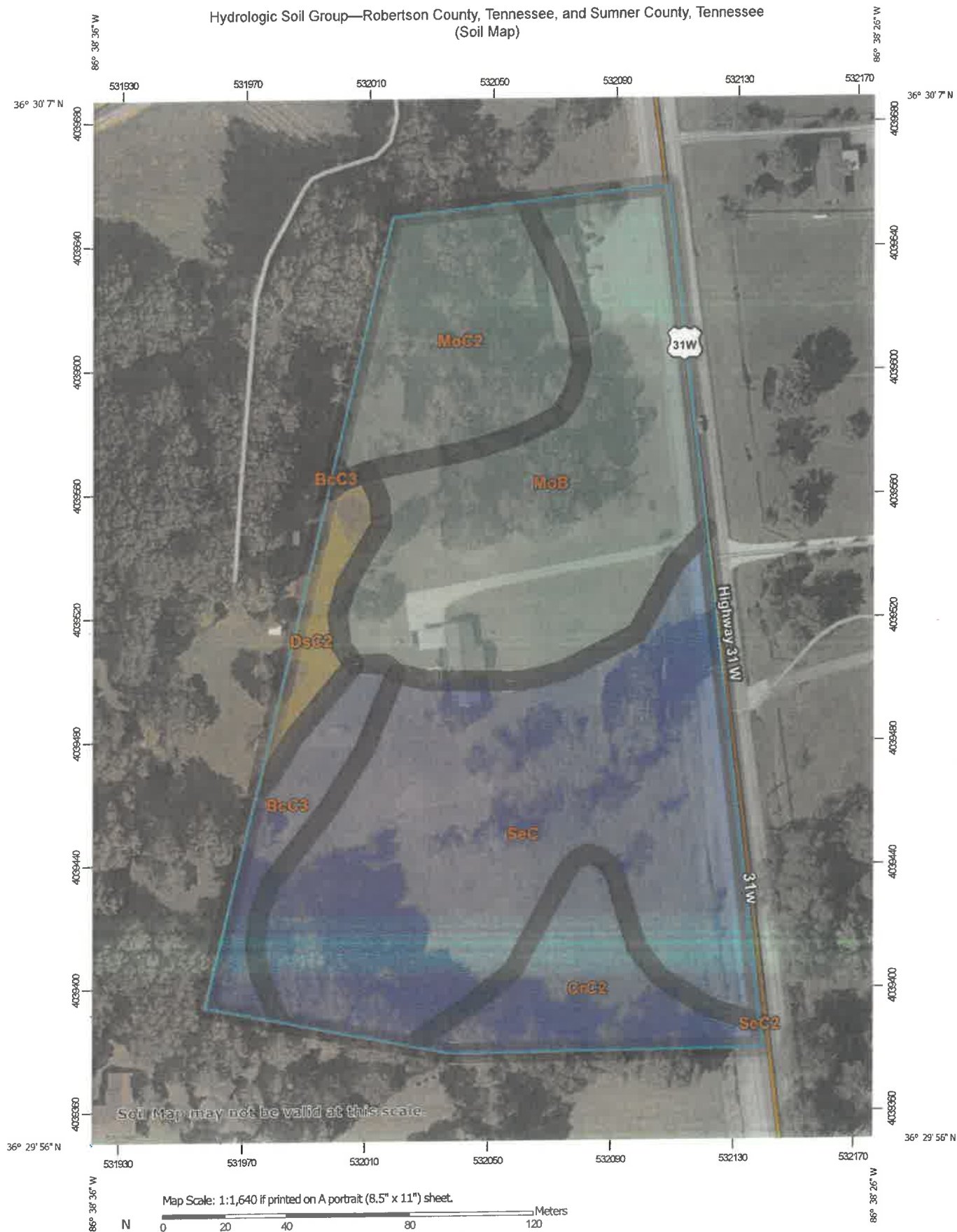
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.88 fps, Min. Travel Time= 0.1 min
Avg. Velocity= 2.94 fps, Avg. Travel Time= 0.2 min

Peak Storage= 36 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.87' , Surface Width= 1.48'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 14.86 cfs

18.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 34.0' Slope= 0.0200 '/'
Inlet Invert= 0.68', Outlet Invert= 0.00'



Hydrologic Soil Group—Robertson County, Tennessee, and Sumner County, Tennessee (Soil Map)

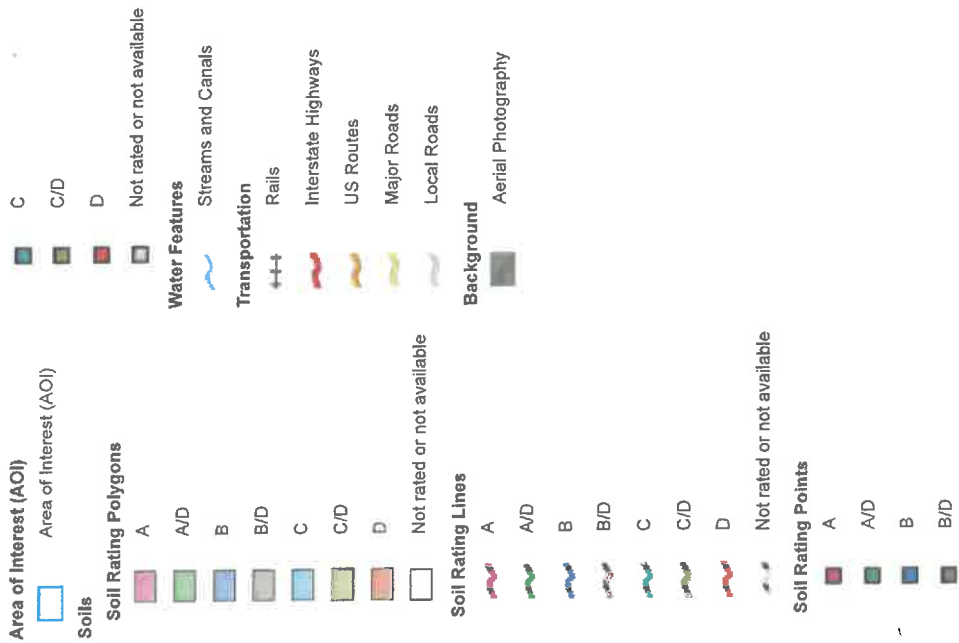


Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

3/5/2025
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MAP LEGEND



MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:15,800 to 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Robertson County, Tennessee
Survey Area Data: Version 22, Sep 12, 2024

Soil Survey Area: Sumner County, Tennessee
Survey Area Data: Version 17, Sep 12, 2024

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 1, 2023—Jul 1, 2023

MAP LEGEND

MAP INFORMATION

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BcC3	Baxter cherty silty clay loam, 5 to 12 percent slopes severely eroded	B	0.5	5.7%
CrC2	Crider silt loam, 6 to 12 percent slopes, eroded	B	0.8	8.5%
DsC2	Dickson silt loam, 5 to 12 percent slopes	C/D	0.3	3.7%
MoB	Mountview silt loam, 2 to 5 percent slopes	C	2.7	28.8%
MoC2	Mountview silt loam, 5 to 12 percent slopes	C	1.2	13.4%
SeC	Sengtown gravelly silt loam, 5 to 12 percent slopes	B	3.7	39.9%
Subtotals for Soil Survey Area			9.2	100.0%
Totals for Area of Interest			9.2	100.0%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
SeC2	Sengtown gravelly silt loam, 5 to 12 percent slopes	B	0.0	0.0%
Subtotals for Soil Survey Area			0.0	0.0%
Totals for Area of Interest			9.2	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher