

Town of Thompson's Station
Municipal Planning Commission
Meeting Agenda
February 22, 2022

Meeting Called To Order - Determination Of Quorum

Pledge Of Allegiance

Minutes-

Consideration Of The Minutes Of The January 25, 2022, Meeting

Documents:

[JANUARY 2022 MINUTES.PDF](#)

Public Comments-

Planner Report & Announcements

AGENDA ITEMS

1. Request For Annexation And A Plan Of Services For Map 120 Parcel 11 (Unnumbered West Harpeth Road), Totaling Approximately 186.25 Acres, Located Within The Town's Urban Growth Boundary, At The Corner Of Caters Creek Pike And West Harpeth Road.

Documents:

[ITEM 1- ANNEXATION PC MEMO MAP WEST HARPETH RD 2-22-22.PDF](#)
[ITEM 1- PLAN OF SERVICES MAP 120 PARCEL 11- WEST HARPETH RD.PDF](#)
[ITEM 1- WEST HARPETH RD ANNEXATION - LETTER OF REQUEST WITH EXHIBITS.PDF](#)
[ITEM 1- WEST HARPETH RD - STEP REPORT.PDF](#)

BOND ACTIONS/REPORT

2. Bond Action Agenda

- a. **Bridgemore 6C RDEC Maintenance Bond Release**
- b. **Bridgemore 6D RDEC Maintenance Bond Release**

Documents:

[ITEM 2- BOND ACTION AGENDA 2-22-22.PDF](#)
[ITEM 2A- BRIDGEMORE 6C MAINTENANCE BOND FORM 2-22-22.PDF](#)
[ITEM 2B- BRIDGEMORE 6D RDEC MAINTENANCE BOND FORM 2-14-22.PDF](#)

3. Update On Long-Held Bonds

Documents:

[ITEM 3- LONG-HELD BOND UPDATES 2-22-22.PDF](#)

Adjourn

*This meeting will be held at 6:00 p.m. at the Thompson's Station Community Center
1555 Thompson's Station Rd West*

Minutes of the Meeting
of the Municipal Planning Commission
of the Town of Thompson 's Station, Tennessee
January 25, 2022

Call to Order:

The meeting of the Municipal Planning Commission of the Town of Thompson's Station was called to order at 6:00 p.m. January 25, 2022.

Commissioners and Staff present were Alderman Shaun Alexander; Chairman Trent Harris; Commissioner Luis Parra; Commissioner Sheila Shipman; Commissioner Bob Whitmer; Commissioner Kreis White; Planning Director Micah Wood; Planning Technician Jennifer Banaszak, Town Attorney Andrew Mills, and Town Engineer Will Owen. Commissioner Tara Rumpler was unable to attend.

Minutes:

The minutes of the November 30, 2021 regular meeting were presented.

Commissioner White made a motion to approve the November 30, 2021 meeting minutes. The motion was seconded and carried by all.

Public Comment:

David McGowan – Regent Homes – Gave the Commission an update regarding the retail space in front of Tollgate Village.

Town Planner Report:

Staff is working to plan a joint BOMA/Planning Commission meeting to view and discuss the All Aboard Comprehensive Planning update.
The County wide Growth Plan update will be presented to the Commission in early spring.

PLANNING COMMISSION ANNUAL MEETING

Annual Meeting: Election of Officers

• **Chairman Nominations:**

Commissioner Whitmer nominated Trent Harris
Alderman Alexander nominated Sheila Shipman

After discussion, Commissioner White made a motion to vote for Commissioner Harris as the Chairman of the Planning Commission. A roll call vote was taken.

Parra – Yea; Shipman – Yea; Harris – Yea; Whitmer – Yea; White – Yea; Alexander – Nay

Commissioner Harris wins the nomination by a vote of 5 to 1 with Alderman Alexander casting the dissenting vote.

- **Vice-Chairman Nominations:**

Commissioner Parra nominated Commissioner Shipman

Chairman Harris nominated Commissioner Whitmer

After discussion, Commissioner Parra made a motion to vote for Commissioner Shipman as Vice -Chairman of the Planning Commission. A roll call vote was taken.

**Parra – Yea; Shipman – Yea; Harris – Nay; Whitmer Yea; White – Yea; Alexander – Yea
Commissioner Shipman wins the nomination by a vote of 5 to 1 with Chairman Harris casting the dissenting vote.**

AGENDA ITEMS:

1. Tollgate Village Subdivision Preliminary Plat – Section 2B for the creation of 29 lots and 4 open space lots in the mixed-use Town Center of Tollgate, located along Tollgate Boulevard.

Mr. Wood reviewed his staff report and recommended approval of the preliminary plat with the following contingencies:

1. The applicant shall ensure that all open space lots are provided lot numbers on the plat.
2. The applicant shall set a pre-application meeting with Town Staff prior to the submittal of the constructions plans for this development.
3. Prior to the approval of construction plans, the developer shall enter into a development agreement for the project.
4. Prior to the approval of construction plans, the developer shall obtain any necessary permits through the Tennessee Department of Environment and Conservation.
5. Prior to the approval of construction plans, all applicable codes and regulations shall be addressed to the satisfaction of the Town Engineer.
6. Any signage proposed for the subdivision shall comply requirements set forth within the Land Development Ordinance.
7. Streetlights shall be incorporated in accordance with the Land Development Ordinance and shall be documented on the construction drawings.
8. All recommendations within the traffic study shall be completed.

Troy Gardner with Ragan Smith (architect for the applicant) and David McGowan with Regent Homes (applicant) came forward to answer any questions that the Commission may have.

After discussion, Commissioner Parra made a motion to approve the Preliminary Plat in Section 2B of Tollgate Village for the creation of 29 lots and 4 open space lots in the mixed-use Town Center located along Tollgate Boulevard. The motion was seconded and carried by all.

2. Consideration of Ordinance 2022-01 and 2022-02, a sector plan amendment and rezoning of land at 4339 Columbia Pike from the G1 controlled Growth to G2 Intended Growth Sector and T2 to D2 Zoning.

Mr. Wood reviewed his Staff report and recommended a favorable recommendation onto the Board of Mayor and Aldermen for the Sector Plan Amendment Ordinance and the Rezoning Ordinance.

Mr. Jimmy Franks (applicant), Mr. Huntly Gordon (attorney for the applicant) and Mr. Brett Smith, Ragan Smith (architect for the applicant) came forward to answer any questions that the Commission may have.

After discussion, Commissioner White made a motion to make an unfavorable recommendation to the Board of Mayor and Alderman for the rezoning and sector plan with the right to bring it back when the new Comprehensive Plan is established. The motion was seconded and carried by a vote of 5 to 1 with Commissioner Whitmer casting the dissenting vote.

3. Consideration of Ordinance 2022-005, rezoning of land for an emergency services station located at unnumbered Thompson’s Station Road (Map 130 Parcel 34.03) from T2 to T3 zoning.

Mr. Wood reviewed his staff report and recommended a favorable recommendation on to the Board of Mayor and Alderman for this rezoning ordinance.

Mr. Todd Warton with the Williamson County Emergency Services office came forward to answer any questions from the Commission.

After discussion, Commissioner Whitmer made a motion to approve Item 3, a consideration of Ordinance 2022-005, rezoning of land for an emergency services station located at unnumbered Thompson’s Station Road from T2 to T3 zoning. The motion was seconded and carried by all present.

BOND ACTIONS/REPORT

4. Bond Actions Agenda:

- a. Tollgate Phase 1 (Regent Homes) Sewer Performance Bond release
- b. Tollgate Phase 1 (Regent Homes) RDEC Performance Bond release

After discussion, Commissioner White made a motion to approve the release of both the sewer performance bond and the RDEC performance bond for Tollgate Phase 1 (Regent Homes). The motion was seconded and carried by all present.

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5. Update on Long Held Bonds

Mr. Wood and Town Attorney Andrew Mills gave a status update of the long held bonds in Tollgate.

There being no further business, the meeting was adjourned at 7:36 p.m.

Trent Harris, Chairman

Attest:

Micah Wood, Secretary

Phone: (615) 794-4333
Fax: (615) 794-3313
www.thompsons-station.com



1550 Thompson's Station Road W.
P.O. Box 100
Thompson's Station, TN 37179

MEMO

DATE: February 22, 2022

TO: Planning Commissioners

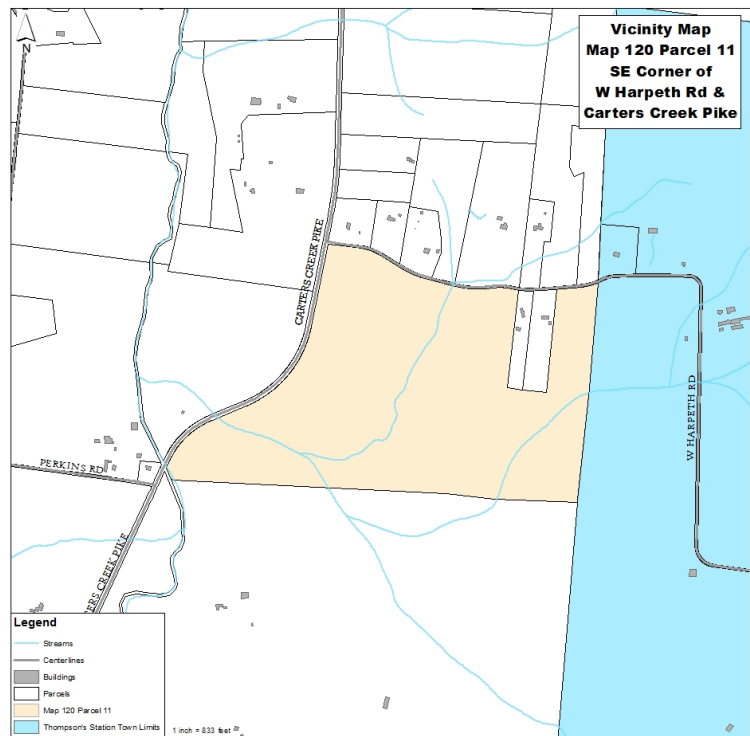
FROM: Micah Wood, AICP Planning Director

SUBJECT: Request for a Plan of Services for Map 120 Parcel 11 (unnumbered West Harpeth Road)

Request

Joe Epps, on behalf of Donnie Cameron, requests annexation of Map 120 Parcels 11 (located in the south of unnumbered West Harpeth Road). The property in total consists of approximately 186 acres. Per the state law, a Plan of Services is required for this annexation process. Therefore, the following Plan of Services is included for Planning Commission review and recommendation onto the BOMA. Once recommended on, this Plan of Services shall be included as part of the annexation process for this property. Per the Town's Annexation Policy, this property shall be zoned T2 upon annexation, with any rezoning/development of this property to be submitted later. The T2 zoning is noted in the Plan of Services.

Since the BOMA has voted to prohibit consideration of up-zonings until the All Aboard Comprehensive Planning updates have been finalized for both the General Plan and the Land Development Ordinance, any rezoning associated with this annexation will be required to wait until such time that those updates have been review and adopted.



Annexation requests, including the Plan of Services and zoning, are discretionary approvals. The Planning Commission should review the annexation request and then make either a favorable or unfavorable recommendation onto the BOMA.

Phone: (615) 794-4333
Fax: (615) 794-3313
www.thompsons-station.com



1550 Thompson's Station Road W.
P.O. Box 100
Thompson's Station, TN 37179

Background

This property is located within the Town's Urban Growth Boundary and, therefore, can be annexed through ordinance. The property is bounded to the east by property within the Town zoned TC (Two Farms property), to the west, north, and south by residential/agricultural uses located within Williamson County. As noted, per the Town's Annexation policy the property shall be zoned T2 upon annexation.

Plan of Services

See attached for the specific Plan of Services. Services are limited within this vicinity; however, the proposed plan of services is consistent with the plan of services available by the Town for this new territory. Sewer, proposed to be provided through an on-site wastewater treatment system, is included in the Plan of Services. As noted, any on-site wastewater treatment will require review by the Town's Utility Board and approval by the BOMA. As an alternative, sewer may be achieved through septic, as approved by Williamson County.

Analysis

The current Land Development Ordinance does not provide approval or review criteria for annexations. The Town's Annexation Policy does provide a framework for analysis and review of these requests. In Staff's review, the annexation request is adjacent to the current Town boundary, has provided sufficient information related to roadway/utility impacts, and, therefore, is appropriate for annexation.

Staff Recommendation

Staff recommends a favorable recommendation onto the BOMA for annexation and to adopt the Plan of Services for this annexation request.

Attachment

Plan of Services
Application Letter of Request

Plan of Services for Map 120 Parcels 11 (unnumbered West Harpeth Road)

A. Police

1. The same regular police protection service now provided within the Town will be extended to the annexed area on the effective date of annexation thirty (30) days after a successful referendum vote. Patrolling, radio responses to calls, and other routine police services, using present personnel and equipment, will be provided on the effective date of annexation per
2. Traffic signs, traffic signals and other street (road) traffic control markings and devices will be installed as the need therefore is established by appropriate study and traffic standards.
3. The Williamson County Sheriff's Department currently provides the aforementioned services to the Town through an interlocal agreement.

B. Fire

The same regular fire protection service now provided within the Town will be extended to the annexed area on the effective date of annexation.

C. Wastewater

1. Wastewater will be provided via an on-site treatment system. The details and official approval of the system shall be according to the Town Code and wastewater policy, subject to review by the Utility Board and approval by the Board of Mayor and Aldermen.
2. Alternatively, wastewater will be provided via individual septic systems

D. Utilities

The applicant shall be responsible for contacting all utility providers and establishing service. Currently, HB&TS provides water, Atmos Energy provides natural gas, and MTEMC provides electricity to the annexation area, and that is not anticipated to change.

E. Streets

1. Emergency maintenance of streets (repair of chuckholes, measures necessary for traffic flow, etc.) in the annexed area will begin after the effective date of annexation.
2. Routine maintenance of the roads and rights-of-way will begin in the annexed area once development of the annexed area occurs.
3. The governing body under current policies of the Town will determine the scheduling of any major paving activity in the annexed area.

Plan of Services for Map 120 Parcels 11 (unnumbered West Harpeth Road)

4. Street name signs, where needed, will be installed in the substantially developed area in accordance with the current policies of the Town.

F. Planning & Codes Services

1. All codes inspection services now provided by the Town will begin in the annexed area and apply to new construction and substantial improvements after the effective date of annexation.
2. All planning and zoning jurisdiction of the Town will extend to the annexed area on the effective date of annexation. Per Town policy, this property shall be annexed T2 upon annexation.

G. Recreation

Residents of the annexed area and all future residents may utilize all existing municipal recreational facilities on the effective date of annexation by referendum under the same policies and guidelines governing current town residents.

H. Schools

Any residential development will have an impact on the Williamson County School System and future development should be coordinated with the Williamson County Schools Planning & Zoning Division.

I. Tax Assessor

The impact of the annexation to the Tax Assessor would be minimal to none.

J. Animal Control

This service is provided by the County, so the impact would be none.

K. Cemetery

There should be no impact as the Town does not operate a local cemetery.



ANDERSON, DELK, EPPS & ASSOCIATES, INC.

Engineering • Land Planning • Surveying

618 GRASSMERE PARK DRIVE • SUITE 4
NASHVILLE, TENNESSEE 37211
Telephone 331-0809
Fax 331-0110

January 12, 2022

Mr. Micah Wood, Town Planner
Town of Thompson's Station
1551 Thompson's Station Road West
Thompson's Station, TN 37179

**Re: Request for Cameron Annexation into Thompson's Station
W Harpeth Road – Map 120, Parcel 11.00, R.O.W.C.**

Dear Mr. Wood:

Our client is requesting the annexation of the above referenced property into the Town of Thompson's Station. We feel that the annexation request meets the Town of Thompson's Station Annexation Policy as follows:

1. Strategic growth by annexation is appropriate when:
 - (a) the location is supported by existing Town infrastructure and services;
 - (b) the location is supported by existing Town infrastructure/services and wastewater service is to be provided by septic as approved by Williamson County; or
 - (c) where infrastructure and services are planned to be provided in an efficient, timely, and orderly manner.
- The location of the Cameron Annexation is at the corner of Carter's Creek Pike and West Harpeth Road. It is located within the Thompson's Station Urban Growth Boundary (UGB) and the adjacent property to the east is within the Thompson's Station Town limits. Interstate 840 is approximately 3 miles to the south via Carter's Creek Pike and downtown Franklin is approximately 8 miles to the northeast via Carter's Creek Pike.

- Potential future development of the Cameron Annexation will include a sanitary sewer collection system, Bioclere wastewater treatment and land drip dispersal system. Based on conversations with HB&TS Utility District, water service will be available with certain offsite improvements.
2. The extension of infrastructure and public services should be used as a tool that strategically directs where growth should take place, and not as a reactive response to development.
- Any extension of infrastructure and public services for the proposed Cameron Annexation shall meet the goal of strategically directing the growth of Thompson's Station. The annexation of the property would encourage growth in the properties currently within the Thompson's Station UGB to the south all the way to Thompson Station Road West. The growth of Thompson's Station into the requested property and the resulting encouraged growth into the properties to the south would tie together northwest portions of the town limits, relieving the gap that currently exists north of Interstate 840 between Thompson Station Road West and West Harpeth Road. Interstate 840 is approximately 3 miles to the south via Carter's Creek Pike and downtown Franklin is approximately 8 miles to the northeast via Carter's Creek Pike.
 - Offsite water improvements for the potential future development of the Cameron Annexation, which were originally planned to accompany the proposed golf course to the east of the property, will encourage growth to the properties along the east which are already within the Thompson's Station town limits, providing closer availability to water flows necessary for any potential future developments. These improvements will also encourage growth in the properties to the south, which lie within the Thompson's Station UGB.
3. Territory shall be zoned T2 after formal annexation. Upon completion of the annexation and initial zoning processes, the property may be rezoned, upon proper application, according to proposed development plans in accordance with The General Plan.
- Understood. Any potential future development of the Cameron Annexation will be preceded by the filing of a rezoning application to Thompson's Station Planning. The requested zoning classification will be determined at the time of the rezoning application and request.

4. Zoning, infrastructure improvements, and community facility investments should be coordinated to maximize efficiency and public benefit while minimizing negative impacts of growth.
 - For the requested Cameron Annexation, efficiency and public benefits would be maximized while the negative impacts of growth would be minimized. Offsite water improvements for the potential future development of the Cameron Annexation would be done concurrently with the development of the property. The property lies between two Williamson County Fire and Rescue Stations and is approximately near the midpoint between the Williamson County Sheriff's Office and the town of Thompson's Station, lying on the western edge of the current furthest town limits. With properties within the town limits adjacent to the east of the Cameron Annexation and also towards Thompson Station Road West to the south, the property is close to current town limits that are patrolled and serviced by police and fire rescue.

5. Applications for annexation shall be accompanied by a cost-benefit analysis that provides Staff, the Planning Commission, and the BOMA with a complete understanding and detailed overview of the long-term impacts of the request for annexation. This information should provide details on existing infrastructure as well as non-existing infrastructure necessary to support the proposed annexation. The information in the cost-benefit analysis should also include a statement describing how the annexation will ensure a continuation of an orderly, planned, and well-designed development of the Town.
 - As the Cameron Annexation is located at the corner of Carter's Creek Pike and West Harpeth Road, there is existing roadway infrastructure for the property. Per conversations with HB&TS, there is water infrastructure along the property as well. However, if the property is to be developed in the future, offsite water improvements will be necessary to provide adequate water and fire flows to any future development of the Cameron Annexation. Potential future development of the Cameron Annexation will include a sanitary sewer collection system, Bioclere wastewater treatment and land drip dispersal system for the future development.
 - See attached Thompson's Station Major Thoroughfare Plan Exhibit.
 - See attached Fiscal Impacts of Annexation – Projected Proposed Development.

Special attention should be given to:

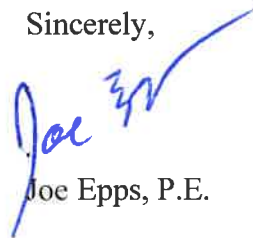
- (a) the current roadway infrastructure conditions for all roadways impacted by the proposed annexation and how any substandard roads will be improved to Town standards and by whom; and
 - The proposed Cameron Annexation is at the corner of Carter's Creek Pike and West Harpeth Road. Any potential future development of the property will impact both roads by having entrances off of each existing road to any future proposed development. During the rezoning and approval process, a Traffic Impact Study (TIS) will be conducted as per Thompson's Station regulations. Any roadway improvements deemed necessary by the TIS for the development of the property will be addressed in the future development plans.
 - (b) the total cost for sewer improvements needed to service the annexed territory, which includes an approved engineer letter of findings (ELF) and an executed Reservation of Wastewater Capacity Agreement.
 - See attached Cameron Wastewater Treatment Facility Engineering Report.
6. Annexation within the UGB should be approached in a comprehensive manner that promotes contiguity and orderly growth, efficient and timely delivery of Town services, and proactive planning for future development.
- The proposed Cameron Annexation lies within the Thompson's Station UGB. It would promote contiguity and orderly growth by facilitating the future growth in the northwest corner of the Thompson's Station UGB. Future annexation and growth in this area would relieve the gap in the town limits that currently exists north of Interstate 840 between Thompson Station Road West and West Harpeth Road.
 - The offsite water improvements for possible future development of the property will increase water access to property within the town limits north of Interstate 840.

January 12, 2022

7. Annexation not within the UGB, while discouraged, may be considered on a case-by-case basis, with consideration of any and/or all of the following:
- (a) The orderly extension of the Town's corporate boundaries;
 - (b) The minimization of gaps between annexed territory/infrastructure service areas;
 - (c) The cost of extending public infrastructure and services;
 - (d) The companionability with the surrounding development pattern;
 - (e) The UGB of other municipalities, including planned future services by other municipalities; and
 - (f) Other restrictions or rules promulgated by statute.
- Since the proposed Cameron Annexation lies within the Thompson's Station UGB, this section of the Annexation Policy does not apply.

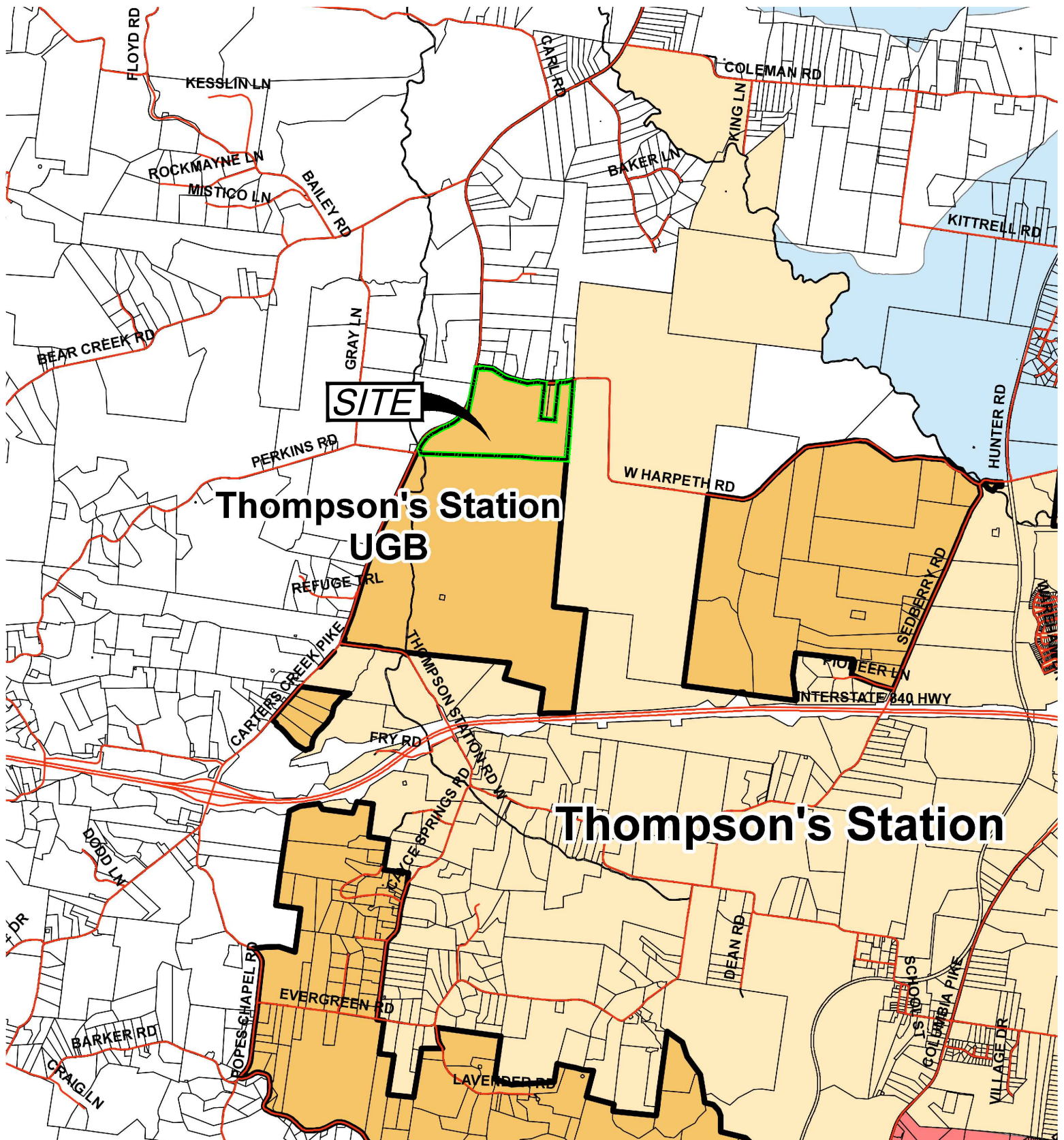
If you have any questions, please call.

Sincerely,



Joe Epps, P.E.

Enclosures



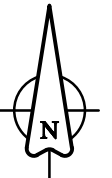
Thompson's Station Urban Growth Boundary Exhibit

Carters Creek Pike and West Harpeth Road

4000 0 4000



Scale in Feet



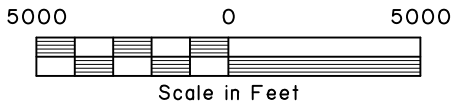
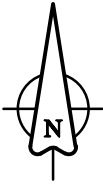
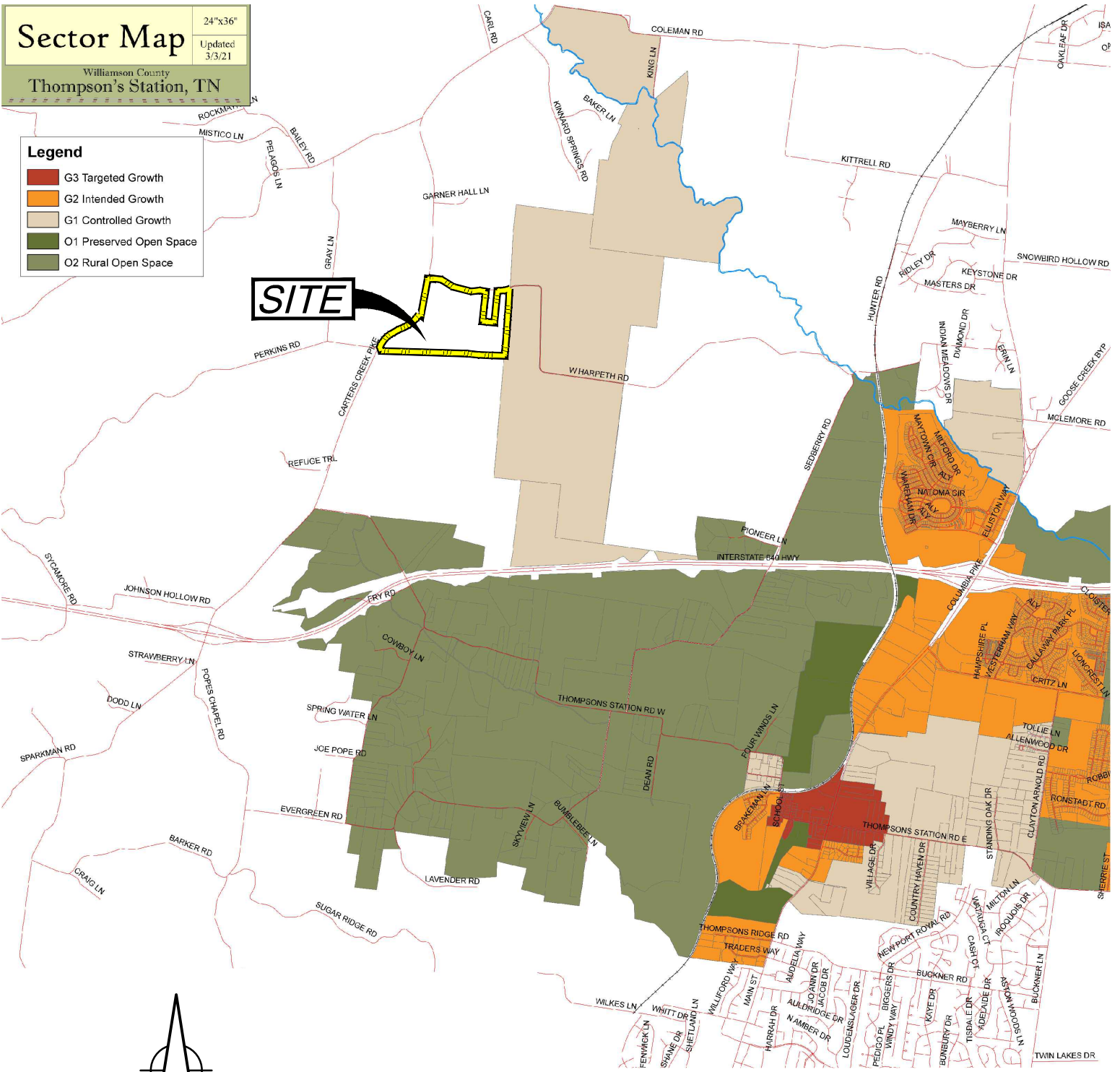
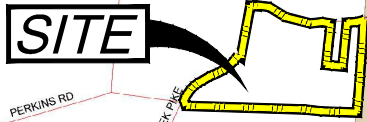
Sector Map

24"x36"
Updated
3/3/21

Williamson County
Thompson's Station, TN

Legend

- G3 Targeted Growth
- G2 Intended Growth
- G1 Controlled Growth
- O1 Preserved Open Space
- O2 Rural Open Space

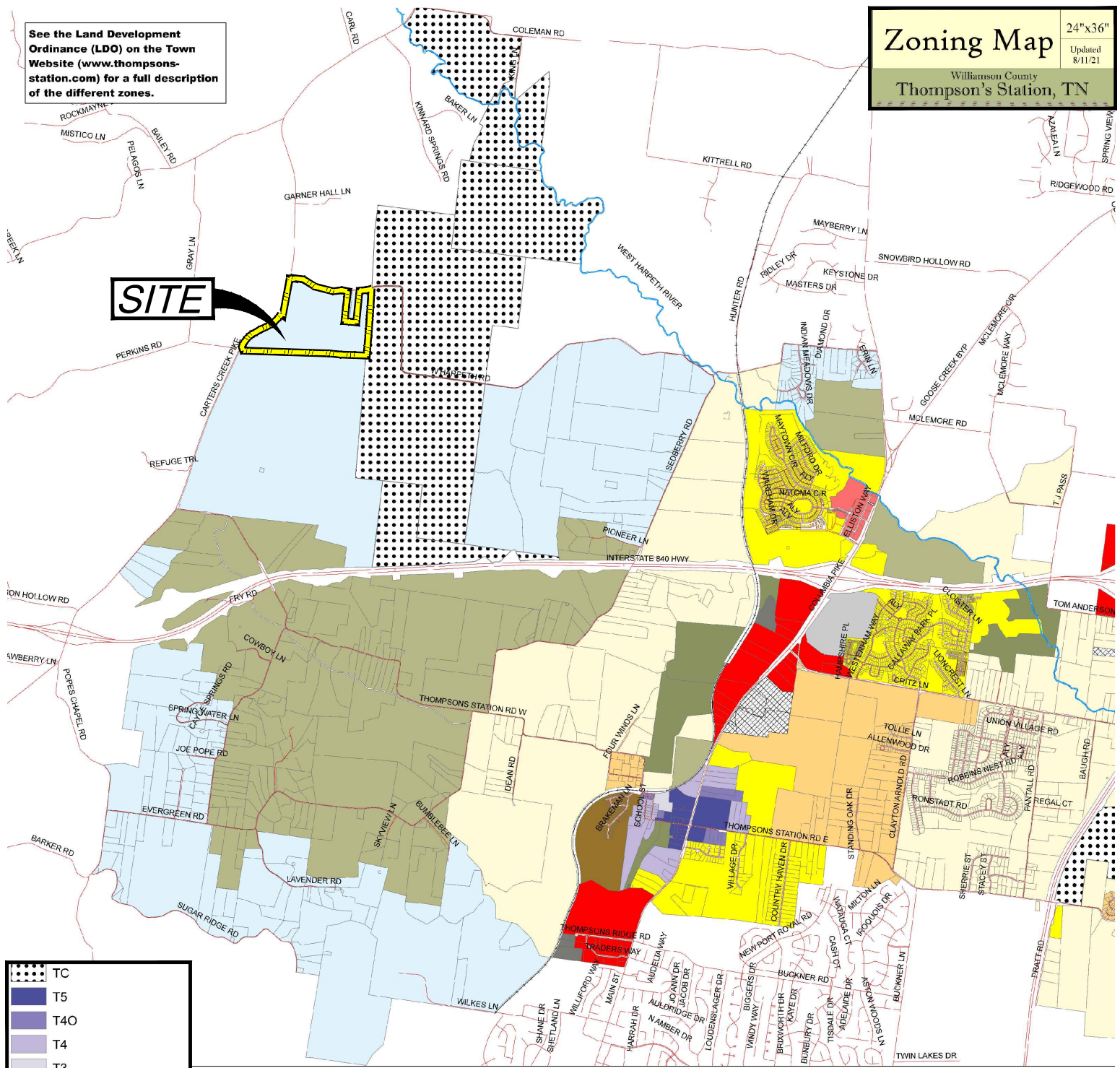


Thompson's Station Sector Map Exhibit

Carters Creek Pike and West Harpeth Road

See the Land Development Ordinance (LDO) on the Town Website (www.thompsonstation.com) for a full description of the different zones.

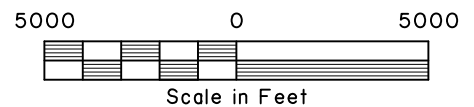
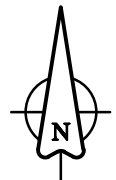
Zoning Map 24"x36"
 Updated 8/11/21
 Williamson County
 Thompson's Station, TN

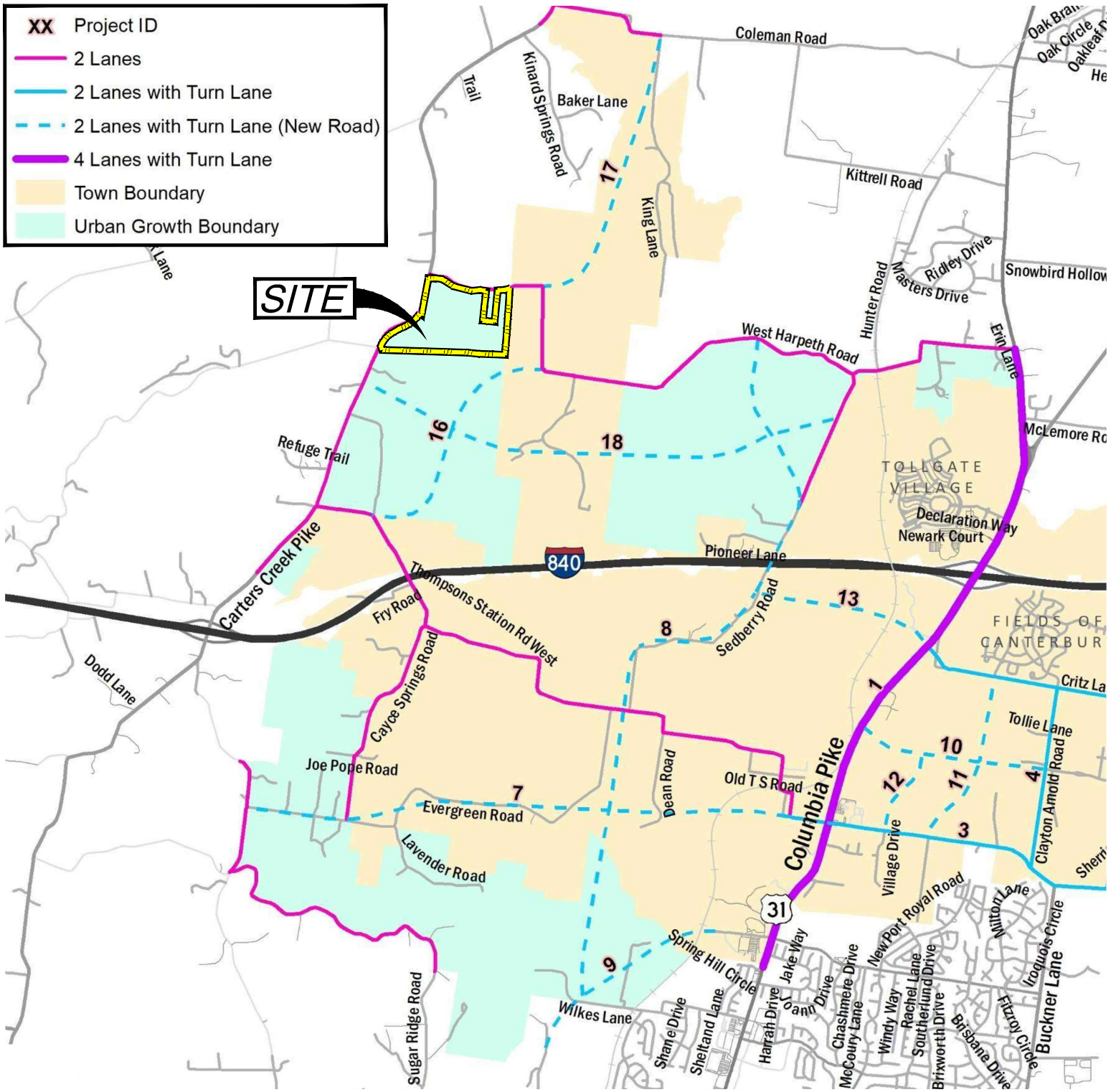
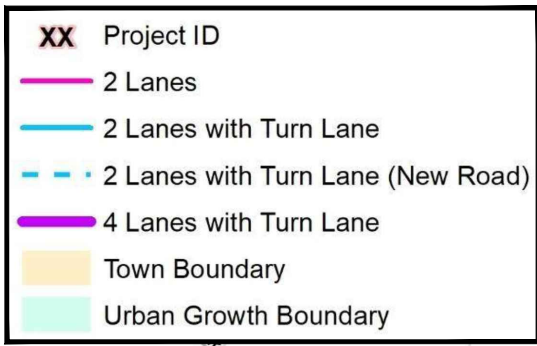


- TC
- T5
- T40
- T4
- T3
- T2
- T1
- D3
- D2
- D1
- CC
- NC
- PN
- SP
- IL
- IM
- Thompson Station UGB

Thompson's Station Zoning Map Exhibit

Carters Creek Pike and West Harpeth Road

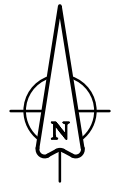
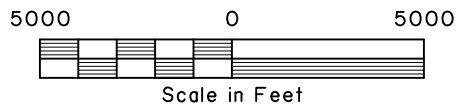




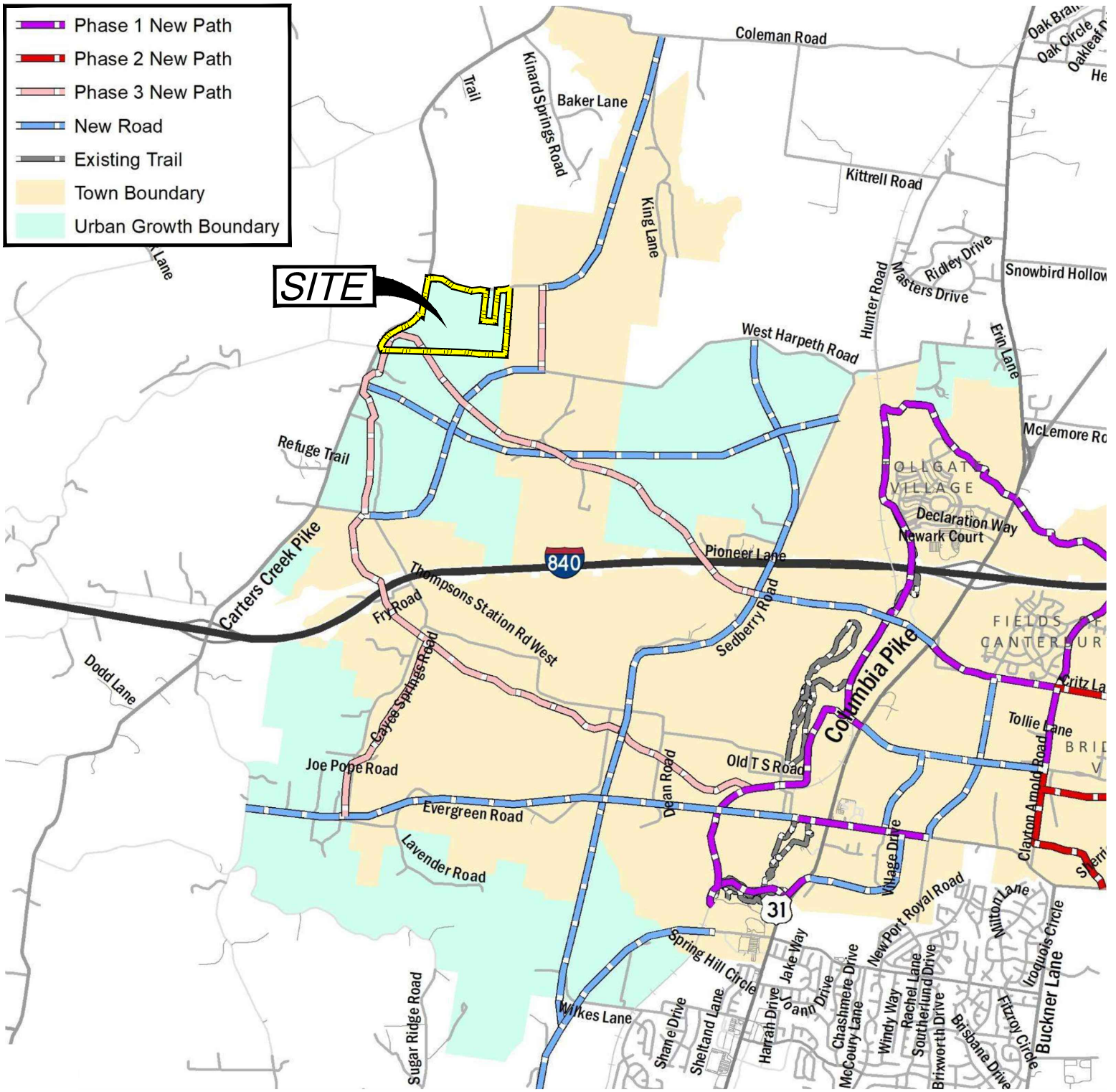
Thompson's Station Major Thoroughfare Plan

Recommended 2040 Roadway Systems Projects Exhibit

Carters Creek Pike and West Harpeth Road



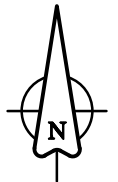
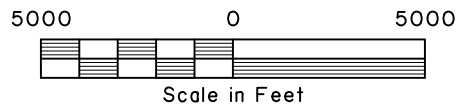
-  Phase 1 New Path
-  Phase 2 New Path
-  Phase 3 New Path
-  New Road
-  Existing Trail
-  Town Boundary
-  Urban Growth Boundary

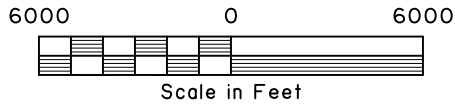
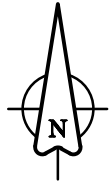


Thompson's Station Major Thoroughfare Plan

Recommended 2040 Greenway Network Exhibit

Carters Creek Pike and West Harpeth Road





Legend :



WILLIAMSON COUNTY
SHERIFF'S OFFICE



WILLIAMSON COUNTY
FIRE AND RESCUE

Thompson's Station
Police and Fire Rescue Exhibit
Carters Creek Pike and West Harpeth Road



Engineering Report

Cameron Wastewater Treatment Facility

Gravity Sanitary Sewer Collection, Bioclere Wastewater Treatment & Land Drip Dispersal System

for

**Donnie Cameron
Thompson Station, TN**

SEC, Inc.
SITE ENGINEERING CONSULTANTS
ENGINEERING • SURVEYING • LAND PLANNING
850 MIDDLE TENNESSEE BLVD • MURFREESBORO, TENNESSEE 37129
PHONE (615) 890-7901
WWW.SEC-CIVIL.COM



Section Index

- 1 General Information of Wastewater Treatment
- 2 Wastewater Effluent Calculations
- 3 Wastewater Treatment
- 4 Effluent Disposal
- 5 Effluent Storage
- 6 Summary of Estimated Cost

1 General Information of Wastewater Treatment

Site Location



Cameron Wastewater Treatment System
TDEC SOP No
Thompson Station, Tennessee

The proposed Cameron Wastewater Treatment Facility is located at the southeast side of Carters Creek Pike and West Harpeth Road. This report will outline wastewater treatment effluent flow of 60,000 gpd. Bioclere was selected as the wastewater treatment option for this area due to the nature of wide range of variable treatment. (IE solids handling, meeting TDEC limits, ease of operation, and minimum sludge volumes). In addition, Littlebury and Pleasant Creek Subdivisions are approved Bioclere systems for Thompson Station. The Bioclere system can also be installed in phases as the development is constructed. In addition, the manufacturer and equipment are local to the Tennessee service area.

Bioclere wastewater treatment: (Effluent flow 60,000gpd)

The best balance of construction cost and phasing would be to **install (2) 30,000 gpd treatment trains.** Because we have gravity collection here, each train would consist of the following...

Domestic Wastewater Flow (120,000gpd)

- (2) 30,000-gallon baffled primary tank (this could be comprised of four 15,000-gallon FRP tanks in series to make it more economical).
- (2) 15,000-gallon flow equalization tank
- (1) FRP dual weir flow splitter manhole
- (3) 36/30 Bioclere units in parallel
- (1) 5,000-gal Final Dose Pump Tank

So, in total for the 60,000 gpd build out we would have 60,000 gallons of primary settling, 30,000 gallons of EQ and (3) 36/30 Biocleres

- The baffled primary tanks will be for the solids to settle out while the grey water flows to the equalization tank
- The equalization tank is designed to reduce hydraulic surges and meter the flow at a consistent rate to the Bioclere units throughout the day. We will recycle back to the primary settling tanks.
- The biocleres will polish the effluent via discharging into the final dose tank.
- The final dose tank will pump effluent through the ultraviolet disinfection building with arkal disc cleaning filters
- Once the effluent leaves the UV building it is dispersed into the drip disposal areas of good suitable soils

The wastewater (effluent) at each home will discharge to a common gravity collection line. The wastewater is then collected from Cameron Subdivision ultimately discharging into a common baffled primary tank (septic tank). At this point, the grey water will flow to equalization tank. The effluent then flows through the equalization tank to a splitter valve manhole. The effluent is then pumped through the bioclere for final polishing. Once the effluent leaves the biocleres it discharges into the final dose tank that pump effluent through ultraviolet disinfection. Once disinfection has taken place, the effluent is pumped to suitable land for underground drip dispersal for land application for the final treatment of the wastewater. The land application area includes 15 drip dispersal zones @ 4,000 LF per zone. In addition, this site will contain primary and reserve area approximately 8.26 acres total. Drip dispersal is designed for 60,000 gpd.

2 Wastewater Effluent Calculations

Daily Flow

Number of 3-BR Buildable Residential Lots	200 lots
Daily Flow for 3-BR	300 gpd/lot
Daily Flow	60000 gpd

Land Application Area

Land Application Area	0.25 gal/sf/day*
Total Area Required	240000 s.f.
or	5.51 acres

* assumed soil absorption rate

Number of Required Zones

Length per zone (@ 4' o.c.)	4000 L.F.
Number of Zones	15.0 Zones

Land Reserve Area

Area per lot	50% S.F./lot
Total Area Required	120000 S.F.
or	2.75 acres

Total Soils Area Required (Land Application + Reserve)

360000 s.f.	8.26 acres
-------------	------------

The land application area includes 15 drip dispersal zones @ 4,000 LF per zone. The site will also contain 50% reserve area approximately 2.75 acres. In addition, there will be a 10-day storage pond installed adjacent to drip dispersal fields. Drip dispersal is designed for 60,000 gpd.

3 Wastewater Treatment

Bioclere 60,000 gpd design



BIOCLERE™

Wastewater Treatment Systems



Features & Benefits

- Treats flows from 200 to 100,000 gpd
- Cost effective treatment with efficient installation and operation
- Treats high strength wastewater
- Internal flow stabilization treats intermittent flows
- Fully automated pump system
- Self adjusting process control
- Small footprint / Compact design
- Gravity flow system
- Quiet operation
- Sealed and insulated for seasonal conditions
- Durable UV resistant fiberglass construction
- Minimal energy usage
- Remote monitoring control options

The Bioclere Advantage

Bioclere is a modified trickling filter over a clarifier. It is designed to treat wastewater with varying organic and nutrient concentrations as well as intermittent flows. Bioclere's natural fixed film treatment process is stable, simple to maintain and inexpensive to operate.

Bioclere reduces biochemical oxygen demand (BOD5) and total suspended solids (TSS) to levels that meet or exceed NSF and EPA standards. As water trickles through the biofilter, organic material is consumed by a

population of microorganisms that form

on the surface of the media. Sloughed solids from the biofilter filter are returned to the primary tank as secondary sludge and treated water is displaced to the next treatment component or the disposal area.

Bioclere is a modular technology. Units can be installed in parallel to accommodate large flows or in series to achieve high levels of treatment. The systems are sealed and insulated to minimize the impact of seasonal temperature variations on the treatment process.

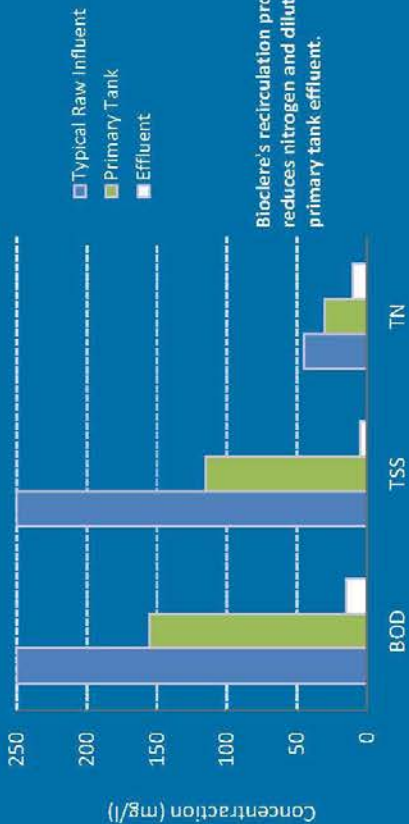
Nitrogen Reduction

Bioclere systems can be designed to consistently convert and reduce nitrogen. Total nitrogen is reduced substantially and cost effectively by recirculating nitrified water from the Bioclere back to the primary settling tank. Large Bioclere systems may incorporate a second stage nitrifying Bioclere and a tertiary anoxic reactor to achieve < 10 mg/l total nitrogen.

Applications include

Residential, commercial, institutional, light industrial and municipal wastewater treatment.

Standard Single Bioclere™ Installation:



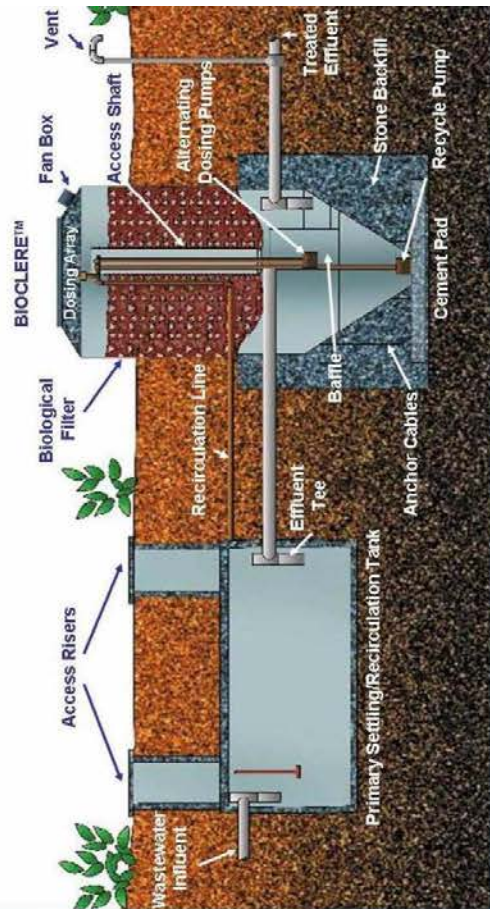
Bioclere's recirculation process reduces nitrogen and dilutes primary tank effluent.



Bioclere 16/12-350 is ANSI/NSF Standard 40 certified by the National Sanitation Foundation (NSF). The above performance results (BOD & TSS) are based on a six month accumulative average from NSF's certification testing

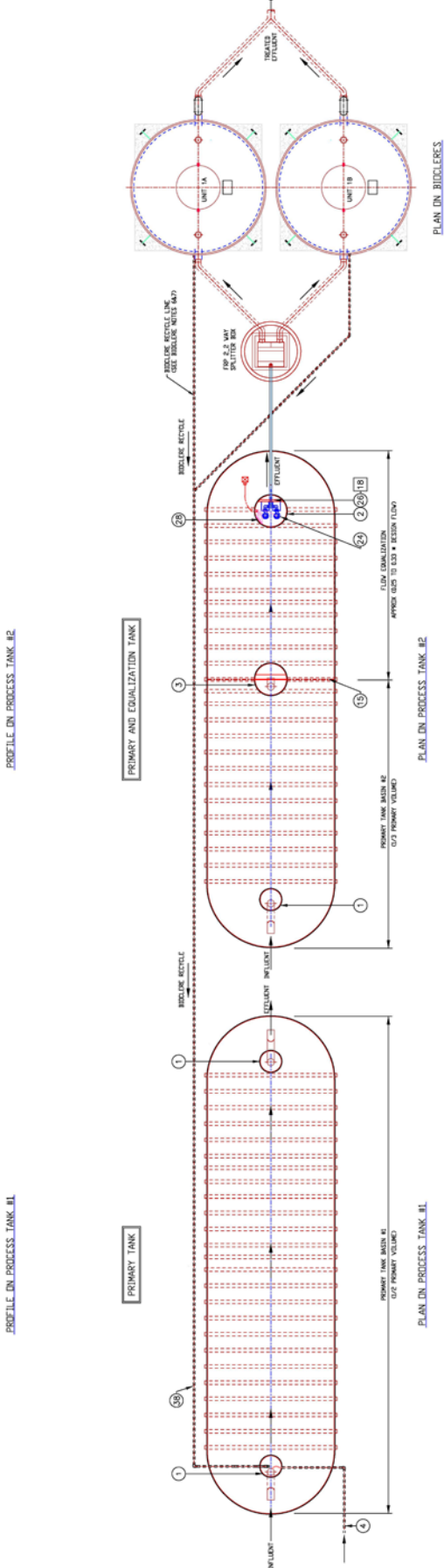
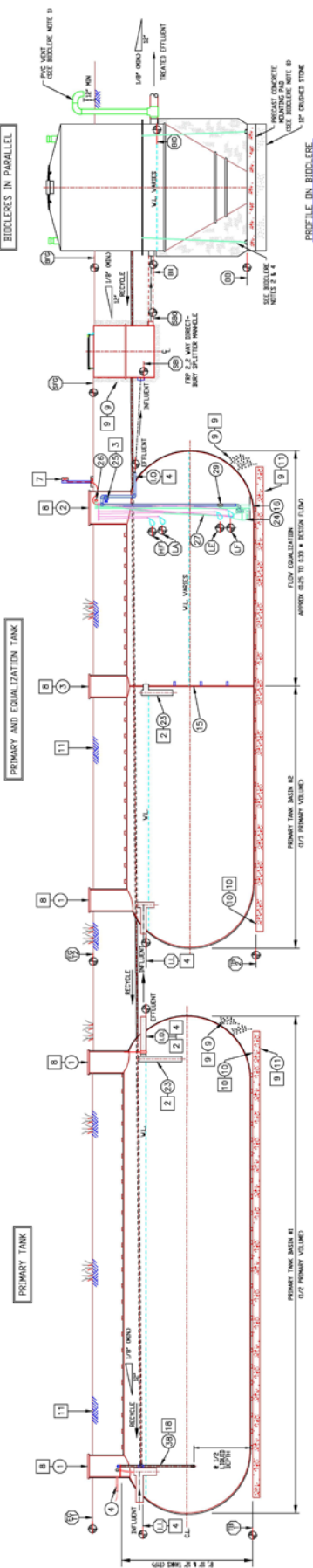


U.S. Environmental Protection Agency's (EPA) technology verification program. Total nitrogen results can be viewed at www.EPA.GOV/ETV. Above TN results are based on achievable standards.



39 Tarklin Place
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 T: 508-985-9050 x105 (Sales) f: 508-985-9072

www.aquapoint.com



SEE SHEET 2 FOR NOTES

□	NOTES
○	COMPONENTS USED
○	COMPONENTS NOT USED
○	FLOAT OR INVERTS
○	ELEVATIONS

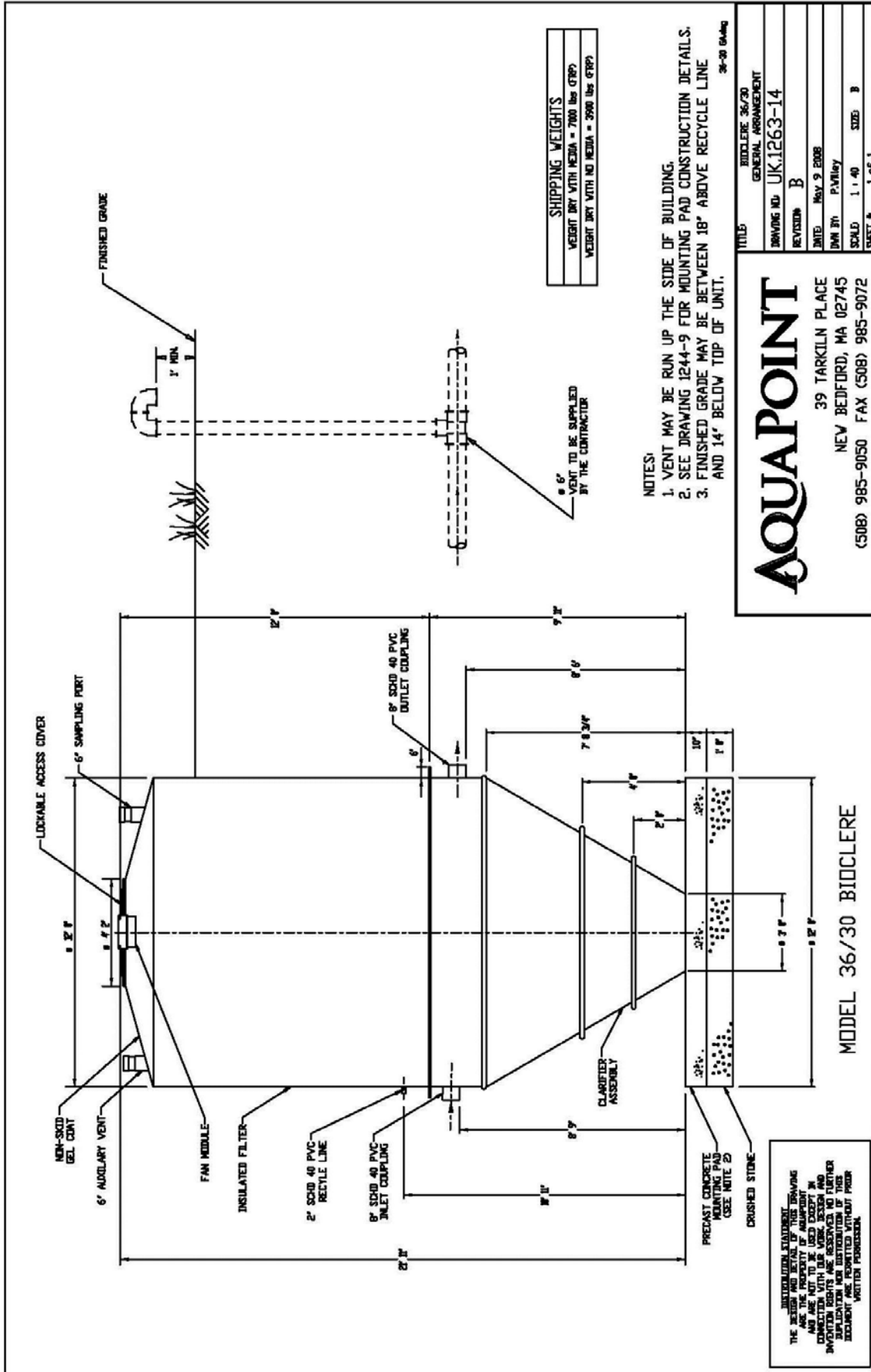
GENERAL TWO STAGE PRIMARY BAFFLED WITH EQUALIZATION TANK, DIRECT BURY FLOW SPLITTER AND TWO BIDDLERS IN PARALLEL.

AquaPoint
 WATER TREATMENT
 10000 W. 100th Ave. Suite 100
 Denver, CO 80231
 TEL: 303.440.2500
 FAX: 303.440.2501
 WWW.AQUAPOINT.COM

PROJECT: SEPT 2009
DATE: 3/7/12
SHEET: 3/7/12
SCALE: 1/4" = 1'-0"

DESIGNER: NICK PETERSON
CHECKER: NICK PETERSON
DATE: 3/7/12
SHEET: 3/7/12

PROJECT: FIRST STAGE PRIMARY TO SECOND STAGE
PROVIDER: FOR TANK TO DIRECT BURY
INSTALLER: FOR TANK TO DIRECT BURY
OPERATOR: FOR TANK TO DIRECT BURY



SHIPPING WEIGHTS	
WEIGHT DRY WITH MEDIA	= 7000 lbs (CRP)
WEIGHT DRY WITH NO MEDIA	= 2900 lbs (CRP)

- NOTES:
1. VENT MAY BE RUN UP THE SIDE OF BUILDING.
 2. SEE DRAWING 1244-9 FOR MOUNTING PAD CONSTRUCTION DETAILS.
 3. FINISHED GRADE MAY BE BETWEEN 18" ABOVE RECYCLE LINE AND 14" BELOW TOP OF UNIT.

TITLE	BIOCLERE 36/30
	GENERAL ARRANGEMENT
DRAWING NO.	UK1263-14
REVISION	B
DATE	MAY 2, 2008
DRAWN BY	P. WILLEY
SCALE	1:1.40
SHEET #	1 OF 1

AQUAPOINT
 39 TARKILN PLACE
 NEW BEDFORD, MA 02745
 (508) 985-9050 FAX (508) 985-9072

MODEL 36/30 BIOCLERE

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4 Effluent Disposal

The effluent will be treated by a series of Biocleres, continuing with ultraviolet disinfection, and pumped to drip dispersal fields. In the Bioclere, the effluent receives the majority of its treatment. The effluent passes through the Bioclere before it is pumped through a disc filter and ultraviolet light / disinfection, effectively destroying bacteria and viruses before releasing it in a subsurface drip irrigation system. At this point, the soil continues to provide treatment on an already cleaned effluent.

Daily Flow

Number of 3-BR Buildable Residential Lots	200 lots
Daily Flow for 3-BR	300 gpd/lot
Daily Flow	60000 gpd

Land Application Area

Land Application Area	0.25 gal/sf/day*
Total Area Required	240000 s.f.
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Number of Required Zones

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Total Area Required	120000 S.F.
or	2.75 acres

Total Soils Area Required (Land Application + Reserve)

360000 s.f.	8.26 acres
-------------	------------

The USDA soils map on following pages references the soils area for the above 8.26 acres required for the 60,000 gpd design.



Wastewater Treatment and Land Application Area
 Land Application Area only for 60,000 gpd design

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ArB	Armour silt loam, 2 to 5 percent slopes	14.9	8.1%
ArB2	Armour silt loam, 2 to 5 percent slopes, eroded	13.1	7.1%
BrC2	Braxton cherty silt loam, 5 to 12 percent slopes, eroded	2.1	1.2%
CaB	Captina silt loam, phosphatic, 2 to 5 percent slopes	6.3	3.4%
CaB2	Captina silt loam, phosphatic, 2 to 5 percent slopes, eroded	6.5	3.5%
DeD	Dellrose gravelly silt loam, 12 to 20 percent slopes, eroded	0.6	0.3%
DeE	Dellrose gravelly silt loam, 20 to 30 percent slopes, eroded	0.8	0.4%
DnB2	Donerail silt loam, 2 to 5 percent slopes, eroded	6.2	3.3%
Eg	Egam silt loam, phosphatic	7.5	4.1%
HbC2	Hampshire silt loam, 5 to 12 percent slopes, eroded	1.7	0.9%
Hu	Huntington silt loam, phosphatic	1.8	1.0%
La	Lanton silt loam, phosphatic	48.6	26.3%
MbA	Maury silt loam, 0 to 2 percent slopes	3.6	2.0%
MbB	Maury silt loam, 2 to 5 percent slopes,	4.4	2.4%
MbB2	Maury silt loam, 2 to 5 percent slopes, eroded	23.4	12.7%
MbC2	Maury silt loam, 5 to 12 percent slopes, eroded	6.5	3.5%
MhE2	Mimosa gravelly silt loam, 20 to 35 percent slopes, eroded	8.2	4.5%
MIC2	Mimosa silt loam, 5 to 12 percent slopes, eroded	5.2	2.8%
MmD3	Mimosa silty clay, 8 to 20 percent slopes, severely eroded	1.2	0.7%
Rc	Rockland	9.1	4.9%
Sc	Sees silty clay loam	0.1	0.0%
SuE	Sulphura channery silt loam, 25 to 55 percent slopes	0.3	0.2%
Tu	Tupelo silt loam, 0 to 2 percent slopes	12.0	6.5%

5 Effluent Storage

Tennessee Department of Environment and Conservation (TDEC) require 24 hours of storage volume for drip dispersal. With drip dispersal as the effluent disposal, the project would not be required to have additional effluent storage unlike spray irrigation.

In addition, we will provide a 10-day holding storage pond for additional wastewater capacity for emergencies.

60,000-gal Effluent Storage

Bioclere REQUIRED STORAGE	
Domestic	60000 gpd
Required Storage	60000 gal.

60,000 GPD

PROVIDED STORAGE	
10 day storage pond	600,000 gal.
2-30,000 gal Primary Tanks	60,000 gal.
2-15,000 gal Equalization Tanks	30,000 gal.
3 Biocleres	10,000 gal.
5,000 gal Dose Tanks	5,000 gal.
Storage Provided	705,000 gal.
EXCESS STORAGE	
	645000 gal.

7 Summary of Estimated Cost

Each Bioclere will use about 750 KwHrs/Mo and the EQ will use about 250 KwHrs/Mo. Therefore, each train will use about 1,750 KwHrs/Mo. Assuming \$0.1 per KwHr that's about \$175 per month. At full build out the system would cost approximately **\$525** in electrical per month or about **\$6,300 annually**. Typically, Bioclere uses about 1/3 the energy of conventional systems that use blowers similar to activated sludge.

Once the energy used for the drip system is added the energy cost will be approximately **\$8,000** per year for electrical cost should be very accurate.

Below is the approximate construction cost of the Bioclere Wastewater Treatment System

Cameron Wastewater Collection, Treatment and Dispersal					
OPINION OF PROBABLE CONSTRUCTION COST					
ITEM NO.	DESCRIPTION	UNIT	Estimated Quantity	unit price	amount
1	Mobilization	LS	1	\$5,000.00	\$5,000.00
2	Construction Surveying	LS	1	\$2,500.00	\$2,500.00
3	Biocleres, primary and equalization tanks	EA	1	\$375,000.00	\$375,000.00
4	Drip Dispersal Emitter Tubing+supply and return fm + installation	LF	60,000	\$2.25	\$135,000.00
5	2" Solenoid Valves, boxes, wiring,& labor (Drip Field)	EA	15	\$850.00	\$12,750.00
6	Flushing Zone Valves, boxes, wiring,& labor (Drip Field)	EA	15	\$500.00	\$7,500.00
7	Stone for Meter Boxes	LS	1	\$2,500.00	\$2,500.00
8	48" Drip Zone Line Markers w/ Labels + installation	EA	15	\$100.00	\$1,500.00
9	Ultra Violet Disinfection Building with all pertinent apparatuses	EA	1	\$75,000.00	\$75,000.00
10	5,000 Gallon Final Dose Tank with all pertinent apparatuses	EA	1	\$15,000.00	\$15,000.00
11	Storage Pond	CY	2,970	\$5.00	\$14,850.00
Total					\$646,600.00

Note:

SEC, Inc. has no control over the cost of labor, materials, equipment or services furnished by others, or over the Contractor(s)' method of determining prices, or over competitive bidding or market conditions. SEC, Inc.'s opinions of Probable Cost are made on the basis of our experience and qualifications and represent our best judgement as an experienced and qualified professional engineering firm, familiar with the construction industry. SEC, Inc. cannot and does not guarantee that proposals, bids or actual project costs will not vary from Opinions of Probable Cost prepared by SEC, Inc. If prior to the Bidding or Negotiating Phase the owner wishes greater assurance as to Project Costs, the owner shall employ an independent cost estimator.

Phone: (615) 794-4333
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www.thompsons-station.com



1550 Thompson's Station Road W.
P.O. Box 100
Thompson's Station, TN 37179

DATE: February 22, 2022
TO: Planning Commissioners
FROM: Micah Wood, AICP
Planning Director
SUBJECT: Item 2 – Bond Action Agenda

The following bonds are on the Bond Action Agenda. The recommendations are summarized for each item, below.

2. Bond Actions

- a. Bridgmore Village Section 6C RDEC Maintenance Bond Release:
Town Staff recommends that Planning Commission release the Maintenance Bond and recommend that BOMA accept the public improvement.

- b. Bridgmore Village Section 6D RDEC Performance Bond Release: Town Staff recommends that Planning Commission release the Maintenance Bond and recommend that BOMA accept the public improvement.

Items 2(a)-(b) may be considered as 1 action item by Planning Commission with approval of the Bond Action Agenda. If there are questions/concerns on any item, it can be removed from the Bond Action Agenda and any others may be approved as a whole.



THOMPSON'S STATION BOND ACTION FORM

BOND	Bridgemore Village Section 6C RDEC Maintenance Surety
Action Request	Release Maintenance Bond and accept dedication of the public improvement.
PLANNING COMMISSON ACTION	Release the Maintenance Surety and recommend BOMA approve the acceptance of this public improvement.
BOMA ACTION	

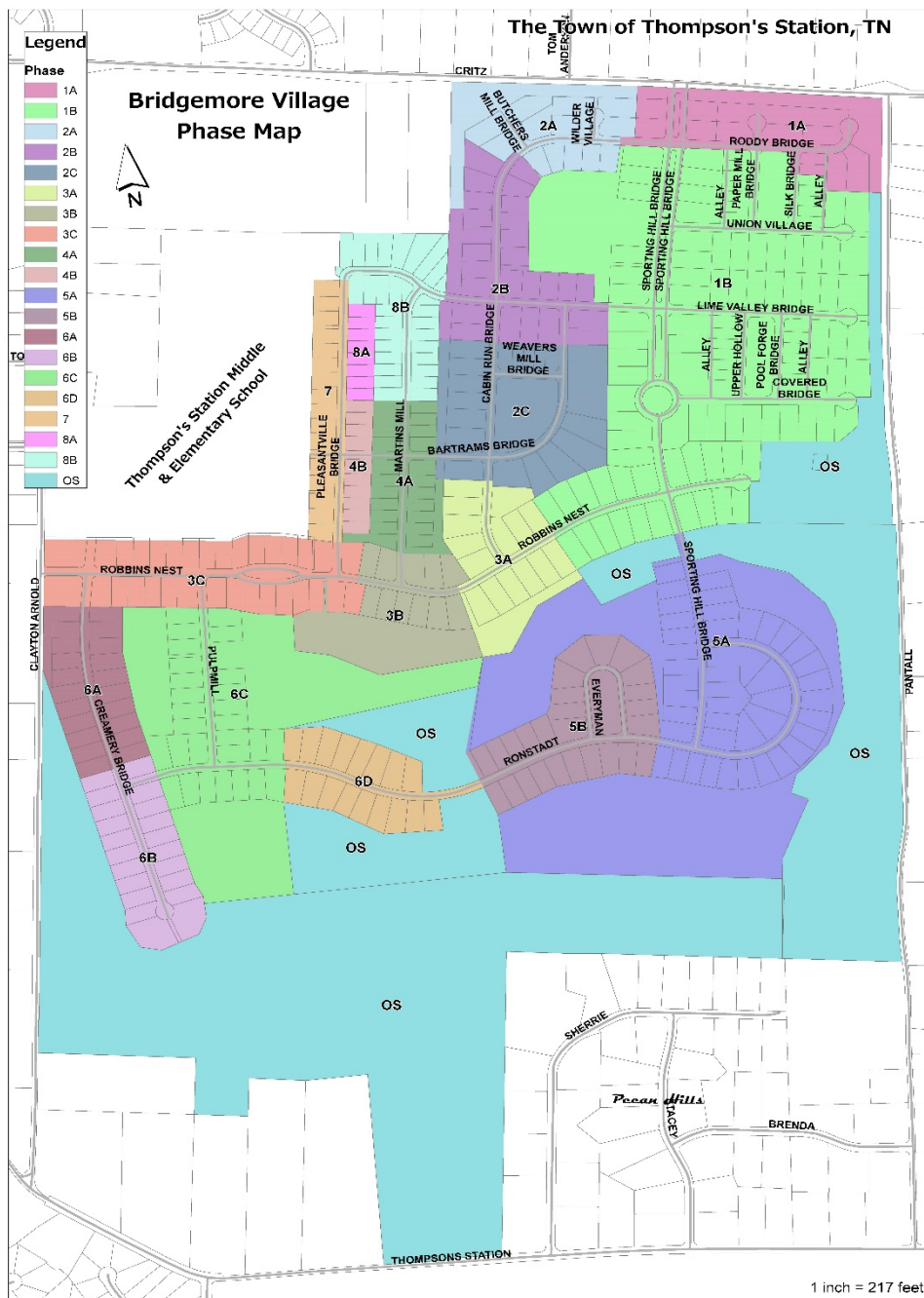
Bond Information

In 2021, this public improvement was moved from Performance to a 1-year maintenance period. There have been no new issues noted by Town Staff or the Town Engineer during the 1- year maintenance period; therefore, this bond may be released, and the improvement accepted by the Town.

Staff recommends the following:

1. Release maintenance surety for roadway, drainage, and erosion control.

2. Recommend BOMA approve the acceptance of the public improvement.



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Thompson's Station, TN 37179

THOMPSON'S STATION BOND ACTION FORM

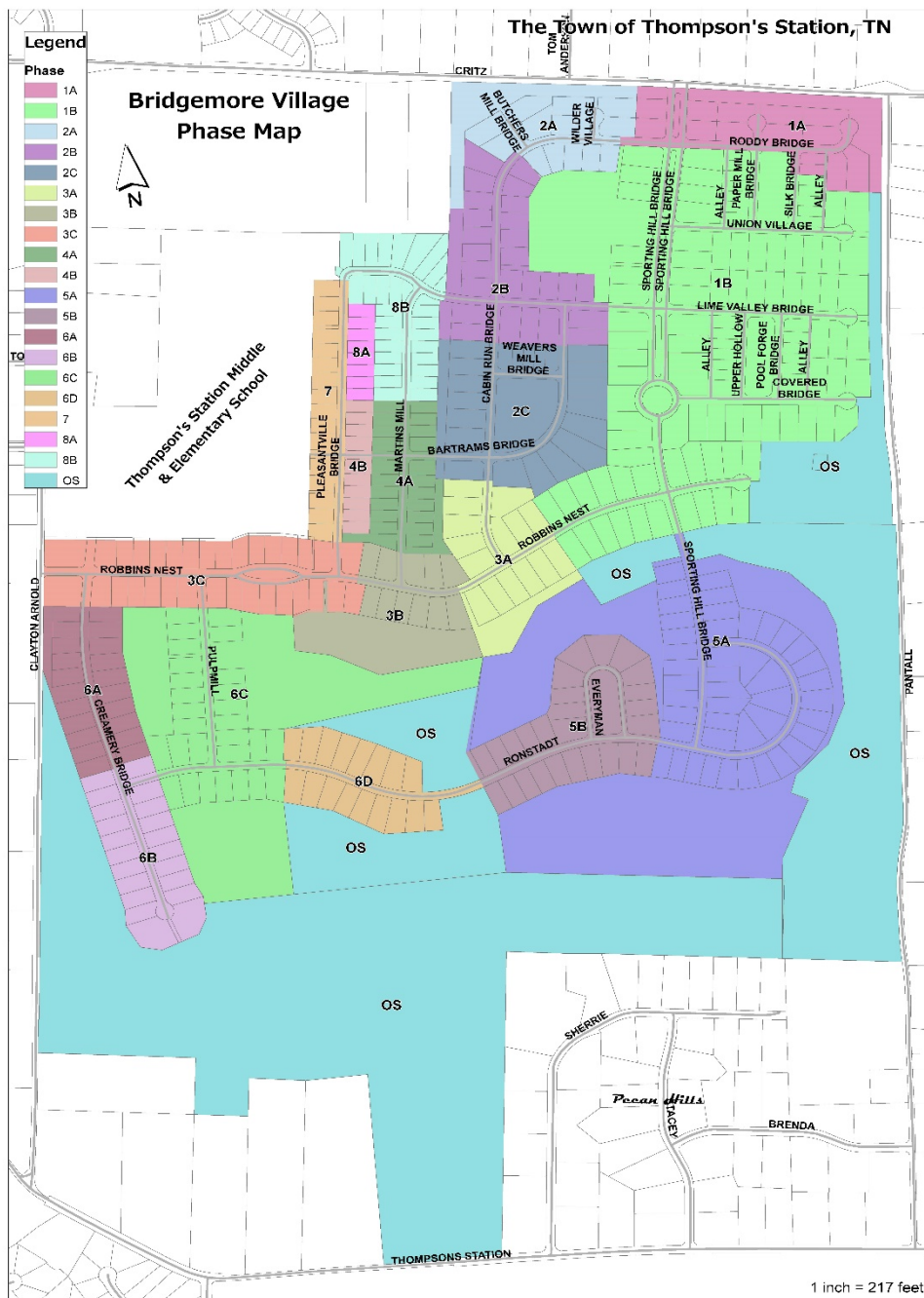
BOND	Bridgemore Village Section 6D RDEC Maintenance Surety.
Action Request	Release Maintenance Bond and accept dedication of the public improvement.
PLANNING COMMISSON ACTION	Release the Maintenance Surety and recommend BOMA approval the acceptance of this public improvement.
BOMA ACTION	

Bond Information

In 2021, this public improvement was moved from Performance to a 1-year maintenance period. There have been no new issues noted by Town Staff or the Town Engineer during the 1- year maintenance period; therefore, this bond may be released, and the improvement accepted by the Town.

Staff recommends the following:

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Thompson's Station, TN 37179

Updates on Long Held-bonds: February 22, 2022, TSPC Meeting

Tollgate- Signed Agreement that work must be completed by June 1, 2022:

- Town Staff, MBSC, Womble Paving, and Ragan Smith met on 2-10-22 to finalize plans for Americus paving. Womble/MBSC/Ragan Smith to provide the Town with a paving schedule/access plan, which the Town will distribute to the Tollgate HOA & impacted residents. Paving schedule to be delivered within 2 weeks of on-site meeting.
- Town Engineer provided final review and comments on punchlist items for Sections 1-8 & 10-17 for applicable sections to be signed off on through the Engineer's Certification. Once the Engineer's Certification for each section is provided, that section can be considered by the Planning Commission for release, according to the LDO and the Town's Infrastructure Dedication Policy.

Bridgemore- Signed Agreement that work must be completed by December 1, 2022:

- Town Staff, MBSC, Womble Paving, and Ragan Smith met on 2-10-22 at Tollgate and also discussed Bridgemore Village. MBSC requests that a separate meeting be held onsite at Bridgemore. Meeting pending at the time of this memo.