

**Town of Thompson's Station
Municipal Planning Commission
Meeting Agenda
June 26, 2018**

Meeting Called To Order

Pledge Of Allegiance

Minutes-

Consideration Of The Minutes Of The May 22, 2018 Meeting

Documents:

[05222018 MINUTES.PDF](#)

Public Comments-

Town Planner Report

Concept Plan For Tollgate Village To Development 25.8 Acres With 232 Units Consisting Of Townhomes, Live/Work, Condominiums And Mixed Use And Up To 60,000 Square Feet Of Commercial (Concept Plan 2018-003).

Documents:

[PLANNER REPORT 06182018.PDF](#)
[PR - TOLLGATE TOWN CENTER CONCEPT PLAN.PDF](#)
[PR - TOLLGATE TOWN CENTER NATURAL RESOURCE MAP.PDF](#)
[PR - TOLLGATE TOWN CENTER ARCHITECTURAL IMAGERY.PDF](#)
[PR- TOLLGATE TOWN CENTER TRIP GENERATION ASSESSMENT MAY 2018.PDF](#)
[PR BARGE DESIGN TRAFFIC MEMO.PDF](#)

New Business:

1. Preliminary Plat For The Development Of Phases 14 - 17 Within The Fields Of Canterbury (PP 2018-003).

Documents:

[ITEM 1 STAFF REPORT.PDF](#)
[ITEM 1 BARGE TRAFFIC MEMO.PDF](#)
[ITEM 1 - PP FC PHASES 14 - 17.PDF](#)

2. Amendment To The Article III, Subdivision Regulations Section 3.9.23 – Roadway Specifications And The Inclusion Of Section 3.9.24 Related To Traffic Studies (LDO Amend 2018-004).

Documents:

[ITEM 2 STAFF REPORT.PDF](#)

3. Request From Aldermen Shepard To Amend Article 1, Sections 1.2.5, 1.3 And

Article 4, Section 4.5 Of The Land Development Ordinance (Zone Amend 2018-005).

Documents:

[ITEM 3 STAFF MEMO.PDF](#)

[ITEM 3 G. SHEPARD LDO AMENDMENT TRANSECT ZONES.PDF](#)

Adjourn

*This meeting will be held at 7:00 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
May 22, 2018

Call to Order:

The meeting of the Municipal Planning Commission of the Town of Thompson's Station was called to order at 7:00 p.m. on the 22th day of May 2018 at the Thompson's Station Community Center with the required quorum. Members and staff in attendance were: Chairman Jack Elder; Vice Chairman Mike Roberts; Chairman Brinton Davis; Alderman Ben Dilks; Commissioner Trent Harris; Commissioner Bob Whitmer; Town Administrator Joe Cosentini; Town Planner Wendy Deats; Town Clerk Jennifer Jones and Town Attorney Todd Moore. Commissioner Shaun Alexander was unable to attend.

Pledge of Allegiance.

Minutes:

The minutes of the April 24, 2018 meeting were previously submitted.

Commissioner Roberts made a motion to approve of the April 24, 2018 meeting minutes. The motion was seconded and carried unanimously.

Public Comment:

None.

Unfinished Business:

- 1. Site plan review for the construction of a gas station/convenience center (Twice Daily) located at 4750 Columbia Pike (SP2018-003; DR 2018-003).**

Mrs. Deats reviewed her report and with contingencies the project will conform to the Town's Land Development Ordinance, therefore, Staff recommends that the Planning Commission approve the site plan subject to the following contingencies:

1. Prior to the approval of a grading or building permit, approval for wastewater shall be obtained from the Board of Mayor and Aldermen.
2. The canopy fascia shall be redesigned to match the colors and materials of the primary building.
3. Prior to the issuance of a building permit, the applicant shall obtain approval from the Design Review Commission.
4. Prior to the issuance of grading or building permits, TDOT approval shall be obtained for access on Columbia Pike (SR6) and a copy of the written approval from TDOT shall be submitted to the Town.
5. Prior to the issuance of grading or building permits, construction plans shall be submitted and approved. Any upgrades to the utility infrastructure for the project shall be incorporated into the construction plans and shall be completed by the applicant in accordance with approvals.
6. Prior to the installation of any signage, the applicant shall obtain approval from the Design Review Commission. All signage shall comply with the standards set forth within the Land Development Ordinance.

7. Prior to the installation of any landscaping, a pre-installation meeting shall occur with staff to confirm all landscaping is installed per approved plans. Irrigation shall be installed in all landscape areas.
8. Prior to the issuance of a building permit, the landscape shall be revised to incorporate Buffer Type 1 along the interior property line and a surety shall be submitted to the Town in the amount of \$40,382 for landscaping.
9. Any change of use, modification or expansion of the project site shall conform to the requirements set forth within the Land Development Ordinance and shall be approved prior to the implementation of any changes to the project.

Charleton Bell with TriStar Energy came forward to request approval on behalf of the applicant.

After discussion, Commissioner Davis made a motion to approve Item 1, Site plan review for the construction of a gas station/convenience center (Twice Daily) located at 4750 Columbia Pike (SP2018-003; DR2018-003) with contingencies as stated 1 -8, and additional contingency number 9. The motion was seconded and carried by all.

New Business:

2. Final Plat for the creation of 20 townhome lots and one open space lot within section 12C in the Fields of Canterbury (FP 2018-010).

Mrs. Deats reviewed her report and Based on the project's compliance with the approved Phase 12 preliminary plat, Staff recommends that the Planning Commission approve the final plat with the following contingencies:

1. Prior to recordation of the final plat, a surety shall be submitted to the Town in the amount of \$97,000 for roadways, drainage and utilities.
2. Prior to recordation of the final plat, a surety shall be submitted to the Town in the amount of \$64,000 for sewer.
3. All tree replacements shall be installed in accordance with the approved replacement plan for phase 12.
4. As built drawings shall be required for the drainage and sewer system with a letter from the Design Engineer that they are constructed per the approved drawings and functioning as intended.

Ryan Manners with Encompass Group came forward on behalf of the applicant and is in agreement with all contingencies.

After discussion, Commissioner Whitmer made a motion to approve Item 2, Final Plat for the creation of 20 townhome lots and one open space lot within section 12C in the Fields of Canterbury with all contingencies. The motion was seconded and carried by all.

Municipal Planning Commission – Minutes of the Meeting
May 22, 2018

Page 3

There being no further business, Alderman Dilks made a motion to adjourn. The motion was seconded and the meeting was adjourned at 7:13 p.m.

Jack Elder, Chairman

Attest:

Brinton Davis, Secretary

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

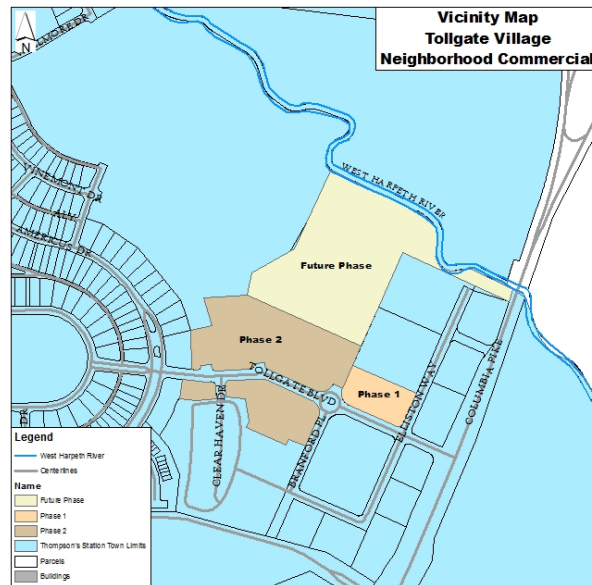


1550 Thompson's Station Road W.
P.O. Box 100
Thompson's Station, TN 37179

DATE: June 19, 2018
TO: Planning Commission
FROM: Wendy Deats, Town Planner
SUBJECT: Planner Report 6/26/2018

Tollgate Village Town Center Concept Plan (CP 2018-003)

Ragan Smith has submitted a concept plan for review for the development of 232 units including townhomes, live/work, condominiums and mixed use and up to 60,000 square feet of commercial totaling 25.8 acres located the north and south side of Tollgate Boulevard within the NC zone.



Zoning/Concept Plan

The land, consisting of approximately 25 acres is located within the NC zone. The site is located on the corner of two local roads: Tollgate Boulevard and Elliston Way in the front of the Tollgate Village subdivision. The subject site is zoned NC which is intended for “neighborhood commercial activities, small scale businesses and high intensity residential” (Section 1.2.7) and permits a density of 12 units per acre.

The project proposes 232 residential units which will consist of 128 townhomes, 19 live/work units, 69 condominiums and 16 mixed use units for a density of nine units an acre. Lot width is not identified on the concept plan, however is a 20 foot minimum for residential, and varies between 50 – 200 feet for non-residential uses. Setbacks are not identified on the concept plan; however, the zone requires a 12-foot front yard setback with 10 feet for a secondary frontage, no side yard setback and a five-foot rear yard setback. Parking setbacks are a minimum of 20 feet from the primary frontage and secondary frontage and a three-foot rear yard setback. Buildings shall be a maximum height of three stories and a frontage is required for all buildings consisting of a stoop, terrace, common entry, gallery, forecourt or shop front.



Lot coverage has not been specified on the concept plan, however, the maximum coverage for non-residential is 50% and 90% for residential. Parking is shown on the concept plan; however, a parking analysis has not been submitted, therefore, Staff will need additional information and all parking along with bicycle parking will be required in accordance with the requirements set forth in the LDO.

The site requires a buffer 3 (semi opaque screen) between the property to the west and the project site to a height of at least 20 feet. A landscaping plan was not submitted but will be required during site plan or plat review.

Natural Resources

Ridgeline Hilltop Preservation/Slopes

The site does not contain any land within the Ridgeline Hilltop Preservation Area. The site does contain slopes in excess of 15% and slopes in excess of 25%. Currently, the concept plan shows one lot with slopes exceeding 25%. All slopes 25% or greater are required to be located within the open space. Therefore, a revision to the plan will be necessary to ensure compliance with the LDO and all steep slopes are located within and platted as open space.

Floodplain

A portion of the overall site is located within the 100-year floodplain, shown on the flood insurance rate map (FIRM – 47187C0335F) as zone AE. The floodway is not identified and Staff does not have enough information to confirm whether any of this area is also located within the floodway. The concept plan shows the existing 100-year flood plain in addition to a “revised” 100-year flood plain. No written documentation is provided to demonstrate approval of the revision. The developer’s engineer has previously requested that the Town sign a Letter of Map Revision (LOMR) and has provided some information related to the conditions on site. Staff is unable to make a determination on the grading activities conducted within the flood plain or floodway and a hydraulic and hydrologic study has not been submitted, therefore, has not signed the LOMR.

Twenty-one townhome lots are shown within this flood zone along with the parking lot and the front portion of four additional townhome lots. The LDO requires that residential structures in AE zones with a determined base flood elevation (BFE) be built a minimum of one (1) foot above the BFE. In the event that the BFE is not established, the lowest floor of the building shall be elevated to three (3) feet above highest adjacent grade. Because Staff cannot confirm the 100-year flood boundary or the presence of floodway, staff recommends no plats or site plans be submitted until a hydraulic & hydrological study is completed and reviewed and a determination on the flood zone is complete.

Woodlands/Trees

The site is predominantly open land and the trees appear outside of the development area. A tree inventory has not been submitted for review and the natural resource map does not show any tree impacts. However, any trees over 18 inches in diameter proposed for removal will be required to have a replacement ratio of one and a half inches for every inch removed.

Geotechnical

A geotechnical report has not been submitted for the project, therefore, should be submitted prior to any future approvals. Any recommended mitigation will be incorporated into future approvals for the

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1550 Thompson's Station Road W.
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Thompson's Station, TN 37179

project.

Storm water Considerations

Storm water detention is proposed throughout the site with pervious pavers and bio retention facilities. Storm water will be reviewed further during the platting process.

Traffic

A trip generation assessment was submitted for the project. The analysis demonstrates that the proposed project will result in 333 a.m. peak trips and 352 p.m. peak trips leaving 264 a.m. peak trips and 439 p.m. peak trips for development of the other vacant parcels within the neighborhood. Staff is concerned that the project increases the trip generation that was originally proposed for this site-specific area of land within the front of Tollgate Village. The Town's traffic engineer has reviewed the trip generation and recommends the existing trips for all approved phases of the development and the planned trips be evaluated to determine the trips generated. In addition, the trip generation analysis should be revised to include the projected trips outlined in February 2017. The traffic engineer believes it is appropriate for the additional access improvements, possibly the southern access (see attached memo).

Sewer

The site has limited availability to sewer taps. The Tollgate Village neighborhood was permitted 943 taps for the entire development. Once the taps are used, the developer will be required to request additional approval of wastewater from the Board of Mayor and Aldermen.

Attachments

Concept Plan

Natural Resource Map

Architectural Renderings

Trip Generation Assessment dated May 2018

Barge Design Traffic Memo

LEGEND

- TOWNHOMES
- CONDOMINIUMS
- LIVE / WORK
- MIXED USE
- COMMERCIAL

SITE DATA:

PROPERTY INFORMATION:
 TAX MAP: 132
 PARCELS: 1.07, 1.08 AND PORTIONS OF PARCELS 1.09 & 1.10
 SITE AREA: 25.80± AC (1,123,820 SF)

OWNER / DEVELOPER:
 REGENT HOMES
 6901 LENOX VILLAGE DRIVE, SUITE 107
 NASHVILLE, TN. 37211
 ATTN: DAVID MCGOWAN
 (615) 333-9000
 david.mcgowan@regenthomes-tn.com

PROJECT PLANNER:
 RAGAN-SMITH ASSOCIATES
 315 WOODLAND STREET
 NASHVILLE, TN. 37206
 ATTN: TROY GARDNER, PLA
 (615) 244-8591
 tgardner@ragansmith.com

ZONING INFORMATION:
 ZONING: NC (NEIGHBORHOOD COMMERCIAL)

RESIDENTIAL
 DWELLING UNITS: 232 UNITS (TOTAL)
 • 16 MIXED USE UNITS
 • 19 LIVE/WORK UNITS
 • 69 CONDOMINIUM UNITS
 • 128 TOWNHOME UNITS

DENSITY PROPOSED: 9.0 UNITS/ACRE (232 D.U./25.80 AC.)
 DENSITY ALLOWED: 12.0 UNITS/ACRE

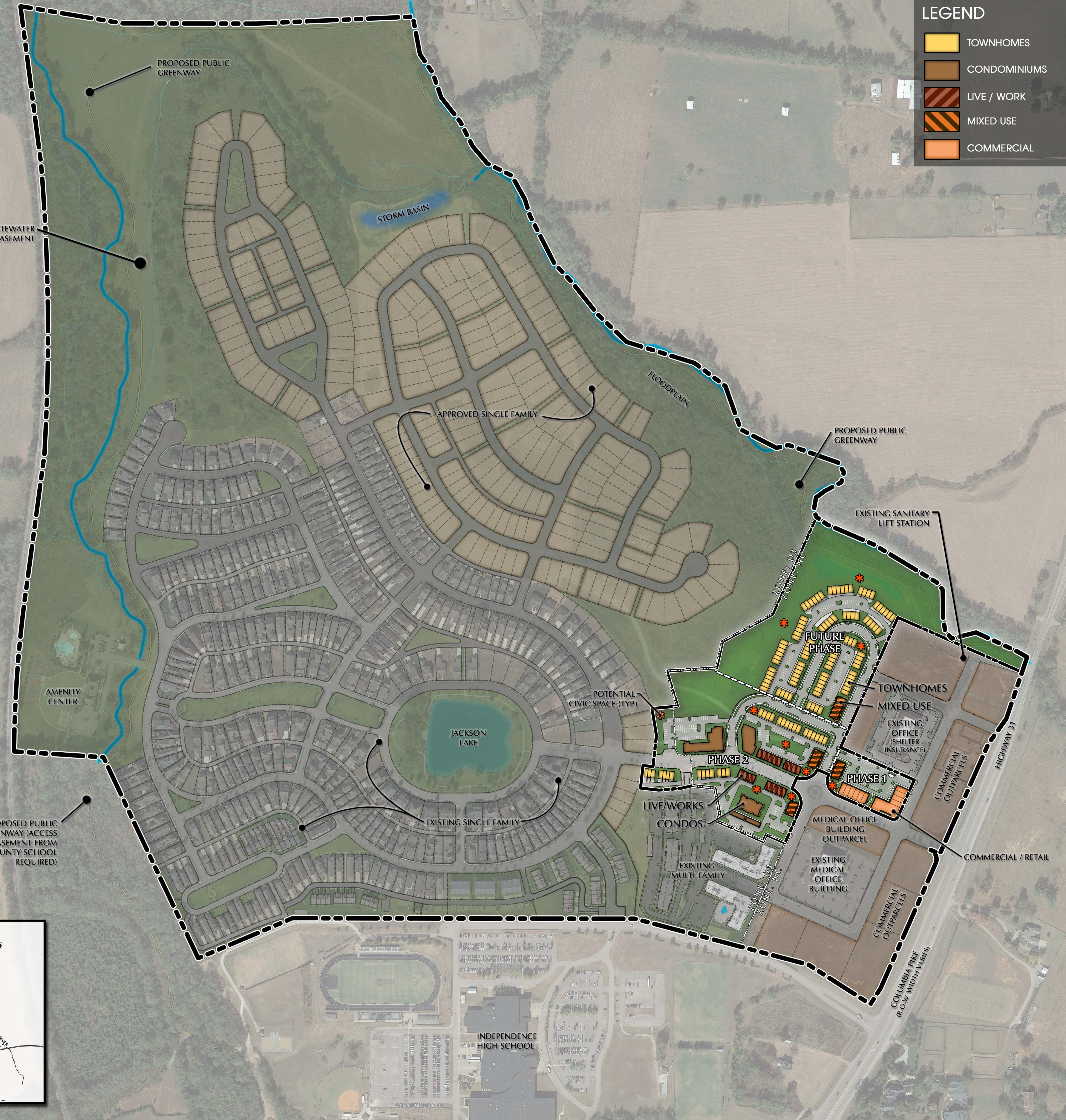
COMMERCIAL
 PROPOSED S.F. 39,000 - 60,000 S.F. (TOTAL)
 • 18,000 - 25,000 S.F. STAND ALONE
 • 12,000 - 20,000 S.F. MIXED USE
 • 9,000 - 15,000 S.F. LIVE/WORK

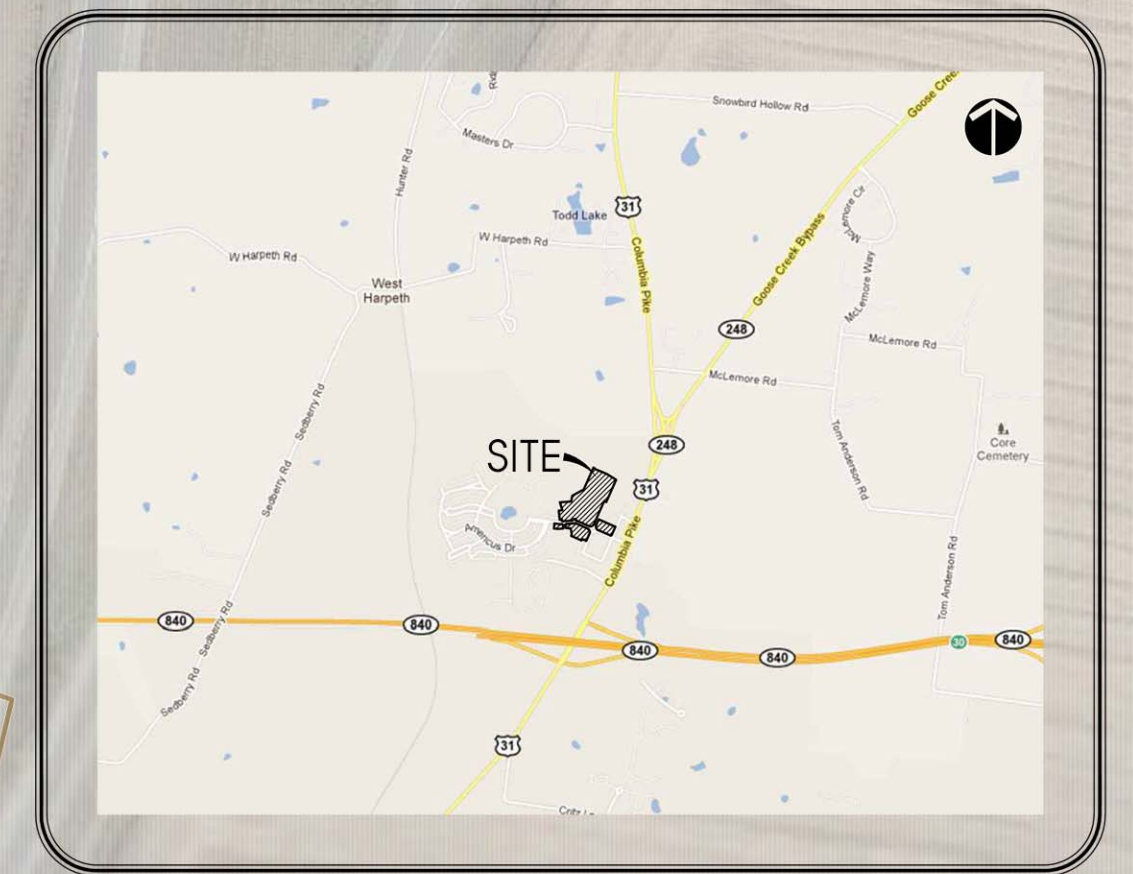
NOTES:

- OPEN SPACE IS NOT REQUIRED IN THE NC ZONE. HOWEVER, CIVIC SPACE WILL BE IDENTIFIED & QUANTIFIED, IN COMPLIANCE WITH THE LAND DEVELOPMENT ORDINANCE, ONCE SITE PLANS AND/OR CONSTRUCTION PLANS ARE SUBMITTED.
- STORMWATER MANAGEMENT/WATER QUALITY MEASURES WILL BE ACCOMPLISHED BY MEANS OF PERVIOUS PAVERS AND BIO-RETENTION FACILITIES AS DETERMINED BY SPACE AVAILABILITY. PERVIOUS PAVERS WILL BE IMPLEMENTED PREDOMINANTLY ON THE SOUTH SIDE OF TOLLGATE BOULEVARD WITH BIO-RETENTION FACILITIES IMPLEMENTED ON THE NORTH SIDE. AN ESTIMATE OF THE TOTAL IMPERVIOUS AREA GENERATED BY THE DEVELOPMENT OF PHASES 1 AND 2 OF THE TOWN CENTER ALONG WITH THE BALANCE OF THE UNDEVELOPED NC ZONED AREA WAS DETERMINED BY TAKING THE PROPOSED AREA OCCUPIED BY BUILDING, ROOF TOPS, SIDEWALKS AND CONVENTIONAL PAVING AND APPLYING A RUNOFF COEFFICIENT OF .90 AS FOLLOWS:

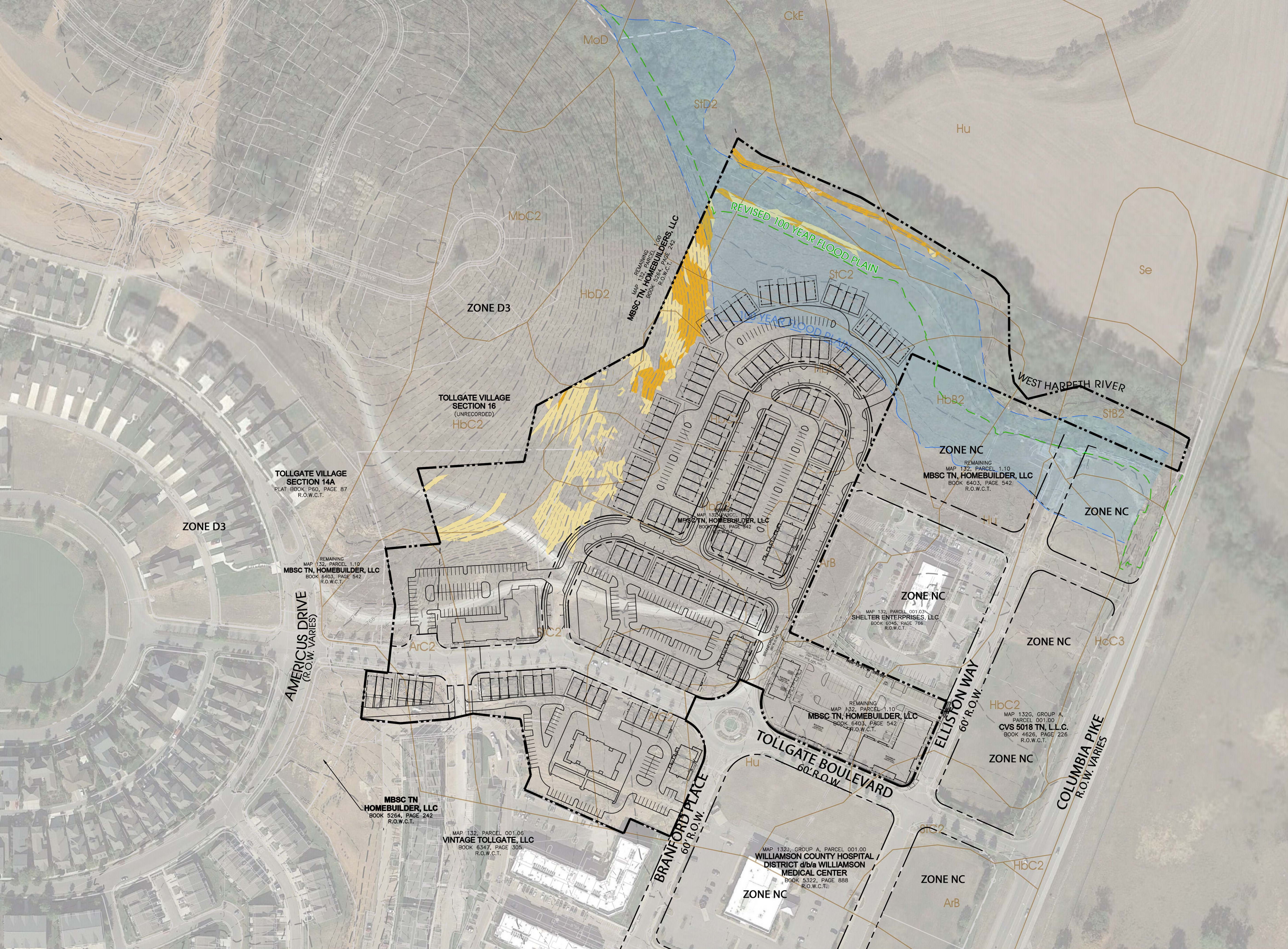
 9.1 ACRES (BUILDING, ROOFTOPS, SIDEWALKS, CONCRETE PAVING) X 0.90
 = 8.19 ACRES IMPERVIOUS AREA
- WATER SERVICE TO THE PROJECT WILL BE PROVIDED BY THE HB&TS UTILITY DISTRICT VIA CONNECTIONS TO EXISTING PUBLIC WATER LINES IN TOLLGATE BOULEVARD AND BRANFORD PLACE. DESIGN WILL CONSIST OF LAYOUTS FOR THE DOMESTIC (AND FIRE SERVICE LINES IF APPLICABLE) REQUIRED TO SERVE THE PROPOSED BUILDINGS. WATER LINE SIZES AND ADEQUATE PRESSURES/FLOWS REQUIRED FOR THE BUILDINGS WILL BE DESIGNED BY THE BUILDING MECHANICAL ENGINEER AND THE SPRINKLER CONSULTANT AS COORDINATED BY THE PROJECT ARCHITECT. WATER LINE EXTENSIONS FOR THE PROJECT WILL BE PRIVATE IN NATURE.

 SANITARY SEWER SERVICE TO THE PROJECT WILL BE PROVIDED BY THE TOWN OF THOMPSON'S STATION. PHASES 1 AND 2 OF THE TOWN CENTER, ALONG WITH THE BALANCE OF THE UNDEVELOPED NC ZONED AREA OF THE TOWN CENTER, WILL REQUIRE THE INSTALLATION OF AN 8" GRAVITY LINE COLLECTION SYSTEM ON BOTH SIDES OF TOLLGATE BOULEVARD. THE SOUTH SIDE WILL BE SERVED VIA A GRAVITY LINE EXTENSION FROM AN EXISTING MANHOLE IN BRANFORD PLACE, WHILE THE NORTH SIDE WILL BE SERVED VIA GRAVITY LINE EXTENSIONS FROM PROPOSED MANHOLES THAT WILL BE INSTALLED AS PART OF FUTURE DEVELOPMENT. ALL WASTE WATER FLOWS FOR UNDEVELOPED NC AREAS WILL BE CONVEYED BY GRAVITY FLOW TO THE EXISTING PUMP STATION AT THE NORTHEAST CORNER OF TOLLGATE VILLAGE, ADJACENT TO THE WEST HARPETH RIVER AND HIGHWAY 31. A DETAILED HYDRAULIC ANALYSIS WILL BE PREPARED DURING THE DESIGN PHASE OF THE PROJECT TO DETERMINE THE SPECIFIC NATURE OF THE PROPOSED IMPROVEMENTS REQUIRED TO SERVE THE PROPOSED BUILDINGS.
- TECHNICAL STUDIES ADDRESSING ENDANGERED SPECIES, NATURAL AND CULTURAL RESOURCES, TRAFFIC IMPACTS AND GEOTECHNICAL CONDITIONS HAVE BEEN OR ARE BEING PREPARED AS APPLICABLE AND WILL BE SUPPLEMENTED AS NECESSARY PENDING EVALUATION OF THE CONCEPT PLAN.
- A PROPOSED PHASING PLAN HAS BEEN SHOWN BASED UPON THE MOST LOGICAL AND ECONOMIC SEQUENCE OF CONSTRUCTION FOR THE PROJECT.



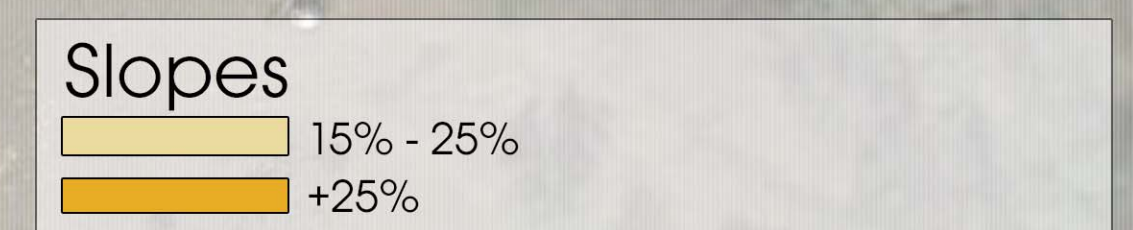


Vicinity Map
N.T.S.



Soils Legend

Map Unit Symbol	Map Unit Name
ArB	Armour silt loam, 2 to 5 percent slopes
Arc2	Armour silt loam, 5 to 12 percent slopes, eroded
CkE	Culleoka silt loam, 20 to 35 percent slopes
HbB2	Hampshire silt loam, 2 to 5 percent slopes, eroded
HbC2	Hampshire silt loam, 5 to 12 percent slopes, eroded
HbD2	Hampshire silt loam, 12 to 20 percent slopes, eroded
HcC3	Hampshire silty clay loam, 5 to 12 percent slopes, severely eroded
Hu	Huntington silt loam, phosphatic
MbC2	Maury silt loam, 5 to 12 percent slopes, eroded
MoD	Ashwood-Mimosa-Rock outcrop complex, 5 to 15 percent slopes
Se	Sequatchie loam, phosphatic
StB2	Stiversville silt loam, 2 to 5 percent slopes, eroded
StC2	Stiversville silt loam, 5 to 12 percent slopes, eroded
StD2	Stiversville silt loam, 12 to 20 percent slopes, eroded



Tollgate Village - Town Center

Existing Conditions & Natural Resources Exhibit



Townhome



Livework



Condo



Mixed Use



Livework



Condo



Mixed Use



Condo

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316 WOODLAND ST. P.O. BOX 60070
NASHVILLE, TN 37206 PH (615) 244-8901
FAX (615) 244-8739 WWW.RAGANSMITH.COM

JOB NO: 10-081 / 1172
DATE: 05-18-2018

Tollgate Village - Town Center

Architectural Imagery

May 18, 2018

HAND DELIVERED

Ms. Wendy Deats, AICP
 Town of Thompson's Station
 1550 Thompson's Station Road West
 Thompson's Station, Tennessee 37179

**RE: TOLLGATE VILLAGE
 TRIP GENERATION ASSESSMENT
 TOWN OF THOMPSON'S STATION, TENNESSEE**

Dear Wendy:

This letter is being submitted as part of a site plan submittal for the remaining portions of the Tollgate Village development located west of Columbia Pike and north of Interstate 840 and Independence High School. The site plan proposes a mix of residential, office, restaurant and retail/commercial uses. The purpose of this letter to provide trip generation information related to the site plan area being reviewed at the Tollgate Village development.

Estimated Trip Generation

An estimate of trip generation for new developments can be established using information from the *Trip Generation Manual* published by the Institute of Transportation Engineers (ITE). The estimated trip generation for the proposed site plan was established using information for the weekday a.m. and p.m. peak hour of the adjacent street as shown in the *ITE Trip Generation Manual, 10th Edition*. Additionally, reductions were included for internal capture trips per ITE and NCHR Report 684 methodologies.

Proposed trip generation for the area being reviewed is shown in Table 1 below.

TABLE 1								
TRIP GENERATION: TOLLGATE VILLAGE SITE PLAN								
Land Use	Total Units / Square Feet	Daily Trips	A.M. Peak Hour			P.M. Peak Hour		
			Enter	Exit	Total	Enter	Exit	Total
Condominiums / Townhomes	197 units	1,448	30	77	107	77	54	131
Mixed Use Residential	16 Units	80	3	7	10	7	5	12
Mixed Use Commercial	20,000 sf	1,974	51	34	85	79	82	161
Live / Work Residential	19 Units	103	3	9	12	8	6	14
Live / Work Office	15,000 sf	168	35	6	41	3	16	19
Restaurant	8,000 sf	897	44	36	80	48	30	78
Retail / Commercial	17,000 sf	1,678	43	29	72	67	70	137
SUBTOTAL		6,348	209	198	407	289	263	552
INTERNAL CAPTURE REDUCTION		-	- 37	- 37	- 74	- 100	- 100	- 200
TOTAL		6,348	172	161	333	189	163	352

As shown in Table 1, the site plan for Tollgate Village is estimated to contribute 333 trips during the a.m. peak hour and 352 trips during the p.m. peak hour.



Maximum Trip Generation Comparison

The Tollgate Village traffic impact study dated February 28, 2017 established maximum total trip generation thresholds for future access scenarios at Tollgate Village. Based upon the efforts currently underway to provide roadway and intersection improvements on Tollgate Boulevard and Columbia Pike, it is reasonable to expect that the access status for Tollgate Village will include the signalization at the intersection of Tollgate Boulevard and Columbia Pike and the completion of a right-in/right-out access to Columbia Pike north of Tollgate Boulevard. The tabulation of the maximum trip generation, existing trip generation, proposed trip generation, and remaining available trip generation capacity is shown in Table 2 below.

TABLE 2		
PEAK HOUR TRIP GENERATION TABULATION: TOLLGATE VILLAGE		
Trip Generation Description	A.M. Peak Hour	P.M. Peak Hour
Maximum Total Trip Generation	1,111	1,380
Existing Trip Generation (per Feb. 2017 Traffic Impact Study)	310	311
Tollgate Village Remaining Single Family Homes (277 homes per Feb. 2017 Traffic Impact Study)	204	278
Tollgate Village Site Plan (Current Proposal, see Table 1)	333	352
Remaining Available Trip Generation Capacity	264	439

As shown in Table 2, the remaining available trip generation capacity after the development at Tollgate Village will be 264 trips during the a.m. peak hour and 439 trips during the p.m. peak hour.

Conclusions

Based on the estimated trip generation for the proposed site plan and the tabulation of trip generation sources at Tollgate Village, the current proposal for residential, office, restaurant and retail/commercial uses can be completed within the available capacity at the access locations for Tollgate Village.

If you have any comments or need any additional information, we would be happy to discuss this project with you at your convenience.

Sincerely,

RAGAN-SMITH ASSOCIATES, INC.

Brandon S. Baxter, P.E., PTOE
Associate

BSB:djb

Enclosures

c: Mr. Brian Rowe

LEGEND

- TOWNHOMES
- CONDOMINIUMS
- LIVE / WORK
- MIXED USE
- COMMERCIAL

SITE DATA:

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 PARCELS: 1.07, 1.08 AND PORTIONS OF PARCELS 1.09 & 1.10
 SITE AREA: 25.80± AC (1,123,820 SF)

OWNER / DEVELOPER:
 REGENT HOMES
 6901 LENOX VILLAGE DRIVE, SUITE 107
 NASHVILLE, TN. 37211
 ATTN: DAVID MCGOWAN
 (615) 333-9000
 david.mcgowan@regenthomes-tn.com

PROJECT PLANNER:
 RAGAN-SMITH ASSOCIATES
 315 WOODLAND STREET
 NASHVILLE, TN. 37206
 ATTN: TROY GARDNER, PLA
 (615) 244-8591
 tgardner@ragansmith.com

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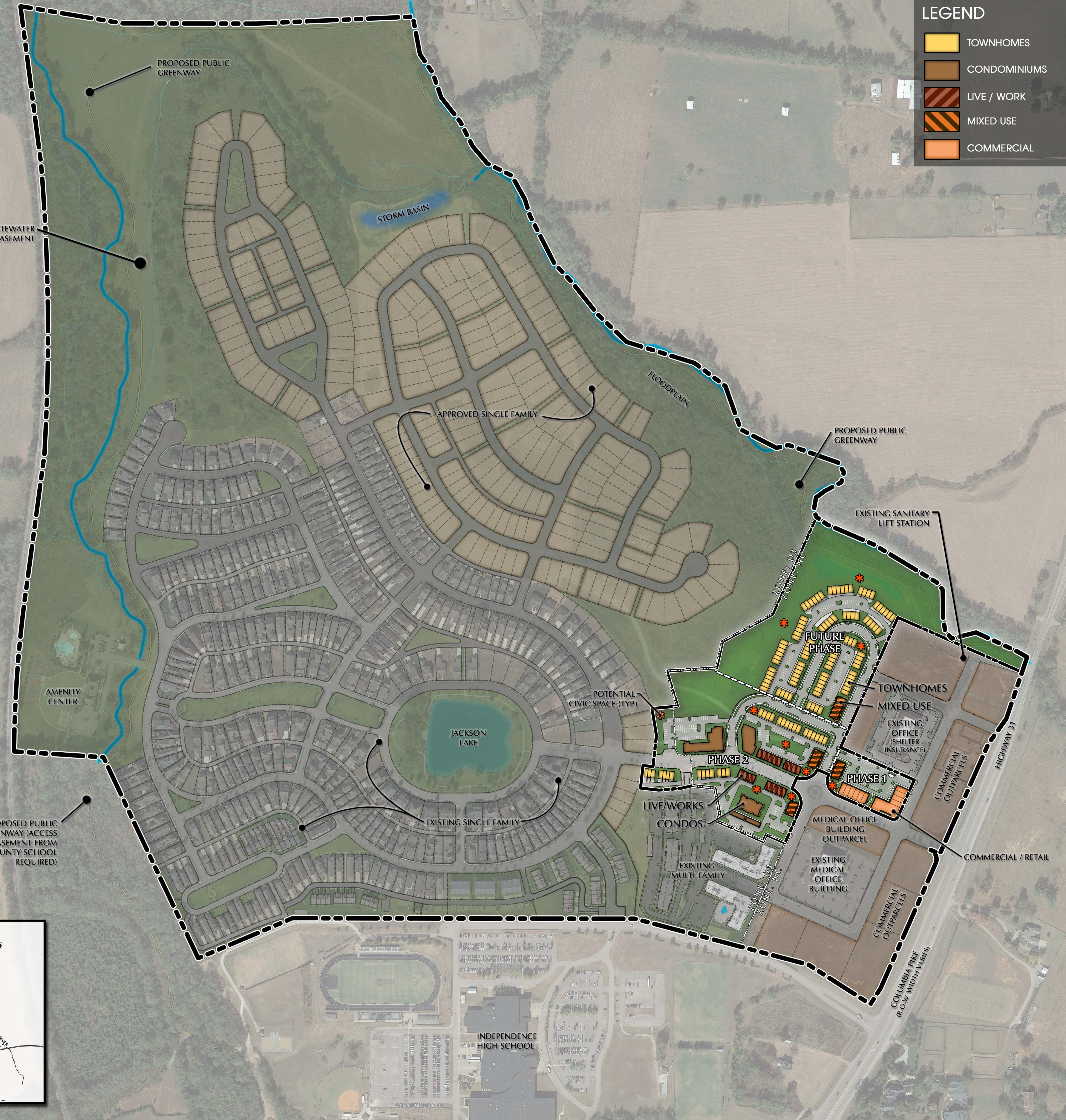
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 = 8.19 ACRES IMPERVIOUS AREA
- WATER SERVICE TO THE PROJECT WILL BE PROVIDED BY THE HB&TS UTILITY DISTRICT VIA CONNECTIONS TO EXISTING PUBLIC WATER LINES IN TOLLGATE BOULEVARD AND BRANFORD PLACE. DESIGN WILL CONSIST OF LAYOUTS FOR THE DOMESTIC (AND FIRE SERVICE LINES IF APPLICABLE) REQUIRED TO SERVE THE PROPOSED BUILDINGS. WATER LINE SIZES AND ADEQUATE PRESSURES/FLOWS REQUIRED FOR THE BUILDINGS WILL BE DESIGNED BY THE BUILDING MECHANICAL ENGINEER AND THE SPRINKLER CONSULTANT AS COORDINATED BY THE PROJECT ARCHITECT. WATER LINE EXTENSIONS FOR THE PROJECT WILL BE PRIVATE IN NATURE.

 SANITARY SEWER SERVICE TO THE PROJECT WILL BE PROVIDED BY THE TOWN OF THOMPSON'S STATION. PHASES 1 AND 2 OF THE TOWN CENTER, ALONG WITH THE BALANCE OF THE UNDEVELOPED NC ZONED AREA OF THE TOWN CENTER, WILL REQUIRE THE INSTALLATION OF AN 8" GRAVITY LINE COLLECTION SYSTEM ON BOTH SIDES OF TOLLGATE BOULEVARD. THE SOUTH SIDE WILL BE SERVED VIA A GRAVITY LINE EXTENSION FROM AN EXISTING MANHOLE IN BRANFORD PLACE, WHILE THE NORTH SIDE WILL BE SERVED VIA GRAVITY LINE EXTENSIONS FROM PROPOSED MANHOLES THAT WILL BE INSTALLED AS PART OF FUTURE DEVELOPMENT. ALL WASTE WATER FLOWS FOR UNDEVELOPED NC AREAS WILL BE CONVEYED BY GRAVITY FLOW TO THE EXISTING PUMP STATION AT THE NORTHEAST CORNER OF TOLLGATE VILLAGE, ADJACENT TO THE WEST HARPETH RIVER AND HIGHWAY 31. A DETAILED HYDRAULIC ANALYSIS WILL BE PREPARED DURING THE DESIGN PHASE OF THE PROJECT TO DETERMINE THE SPECIFIC NATURE OF THE PROPOSED IMPROVEMENTS REQUIRED TO SERVE THE PROPOSED BUILDINGS.
- TECHNICAL STUDIES ADDRESSING ENDANGERED SPECIES, NATURAL AND CULTURAL RESOURCES, TRAFFIC IMPACTS AND GEOTECHNICAL CONDITIONS HAVE BEEN OR ARE BEING PREPARED AS APPLICABLE AND WILL BE SUPPLEMENTED AS NECESSARY PENDING EVALUATION OF THE CONCEPT PLAN.
- A PROPOSED PHASING PLAN HAS BEEN SHOWN BASED UPON THE MOST LOGICAL AND ECONOMIC SEQUENCE OF CONSTRUCTION FOR THE PROJECT.



TRIP GENERATION - 10th GENERATION

Apartment - 197 Dwelling Units

Use ITE Land Use Code 220 (Multifamily) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

$$T = 7.56(X) - 40.86$$

$$T = 7.56(197) - 40.86$$

$$T = 1448$$

A.M. Peak Hour of Adjacent Street Traffic

$$\ln(T) = 0.95 \ln(X) - 0.51$$

$$\ln(T) = 0.95 \ln(197) - 0.51$$

$$T = 91$$

$$\text{Enter} = 0.23(91) = 21$$

$$\text{Exit} = 0.77(91) = 70$$

P.M. Peak Hour of Adjacent Street Traffic

$$\ln(T) = 0.89 \ln(X) - 0.02$$

$$\ln(T) = 0.89 \ln(197) - 0.02$$

$$T = 108$$

$$\text{Enter} = 0.63(108) = 68$$

$$\text{Exit} = 0.37(108) = 40$$

A.M. Peak Hour of Generator

$$\ln(T) = 0.94 \ln(X) - 0.29$$

$$\ln(T) = 0.94 \ln(197) - 0.29$$

$$T = 107$$

$$\text{Enter} = 0.28(107) = 30$$

$$\text{Exit} = 0.72(107) = 77$$

P.M. Peak Hour of Generator

$$T = 0.66(X) + 1.41$$

$$T = 0.66(197) + 1.41$$

$$T = 131$$

$$\text{Enter} = 0.59(131) = 77$$

$$\text{Exit} = 0.41(131) = 54$$

TRIP GENERATION - 10th GENERATION

Apartment - 16 Dwelling Units (Mixed Use)

Use ITE Land Use Code 220 (Multifamily) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

$$T = 7.56(X) - 40.86$$

$$T = 7.56(16) - 40.86$$

$$T = 80$$

A.M. Peak Hour of Adjacent Street Traffic

$$\ln(T) = 0.95 \ln(X) - 0.51$$

$$\ln(T) = 0.95 \ln(16) - 0.51$$

$$T = 8$$

$$\text{Enter} = 0.23(8) = 2$$

$$\text{Exit} = 0.77(8) = 6$$

P.M. Peak Hour of Adjacent Street Traffic

$$\ln(T) = 0.89 \ln(X) - 0.02$$

$$\ln(T) = 0.89 \ln(16) - 0.02$$

$$T = 12$$

$$\text{Enter} = 0.63(12) = 8$$

$$\text{Exit} = 0.37(12) = 4$$

A.M. Peak Hour of Generator

$$\ln(T) = 0.94 \ln(X) - 0.29$$

$$\ln(T) = 0.94 \ln(16) - 0.29$$

$$T = 10$$

$$\text{Enter} = 0.28(10) = 3$$

$$\text{Exit} = 0.72(10) = 7$$

P.M. Peak Hour of Generator

$$T = 0.66(X) + 1.41$$

$$T = 0.66(16) + 1.41$$

$$T = 12$$

$$\text{Enter} = 0.59(12) = 7$$

$$\text{Exit} = 0.41(12) = 5$$

TRIP GENERATION - 10th GENERATION

**Shopping Center - 20,000 Sq. Feet Gross Floor Area (X = GSF/1000)
(Mixed Use)**

Use ITE Land Use Code 820 (Shopping Center) and associated trip generation rates for 24-hour total trips and peak hour trips (Filtered rate for 9-50 1000 SF)

Average Daily Traffic

$$T = 98.72(X)$$

$$T = 98.72(20)$$

$$T = 1974$$

A.M. Peak Hour of Adjacent Street Traffic

$$T = 4.26(X)$$

$$T = 4.26(20)$$

$$T = 85$$

$$\text{Enter} = 0.60(85) = 51$$

$$\text{Exit} = 0.40(85) = 34$$

P.M. Peak Hour of Adjacent Street Traffic

$$T = 8.04(X)$$

$$T = 8.04(20)$$

$$T = 161$$

$$\text{Enter} = 0.49(161) = 79$$

$$\text{Exit} = 0.51(161) = 82$$

TRIP GENERATION - 10th GENERATION

Apartment - 19 Dwelling Units (Live / Work)

Use ITE Land Use Code 220 (Multifamily) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

$$T = 7.56(X) - 40.86$$

$$T = 7.56(19) - 40.86$$

$$T = 103$$

A.M. Peak Hour of Adjacent Street Traffic

$$\ln(T) = 0.95 \ln(X) - 0.51$$

$$\ln(T) = 0.95 \ln(19) - 0.51$$

$$T = 10$$

$$\text{Enter} = 0.23(10) = 2$$

$$\text{Exit} = 0.77(10) = 8$$

P.M. Peak Hour of Adjacent Street Traffic

$$\ln(T) = 0.89 \ln(X) - 0.02$$

$$\ln(T) = 0.89 \ln(19) - 0.02$$

$$T = 13$$

$$\text{Enter} = 0.63(13) = 8$$

$$\text{Exit} = 0.37(13) = 5$$

A.M. Peak Hour of Generator

$$\ln(T) = 0.94 \ln(X) - 0.29$$

$$\ln(T) = 0.94 \ln(19) - 0.29$$

$$T = 12$$

$$\text{Enter} = 0.28(12) = 3$$

$$\text{Exit} = 0.72(12) = 9$$

P.M. Peak Hour of Generator

$$T = 0.66(X) + 1.41$$

$$T = 0.66(19) + 1.41$$

$$T = 14$$

$$\text{Enter} = 0.59(14) = 8$$

$$\text{Exit} = 0.41(14) = 6$$

TRIP GENERATION - 10th GENERATION

**General Office Building - 15,000 Sq. Feet Gross Floor Area (X = GSF/1000)
(Live / Work)**

Use ITE Land Use Code 710 (General Office Building) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

$$\begin{aligned}\ln(T) &= 0.97 \ln(X) + 2.50 \\ \ln(T) &= 0.97 \ln(15) + 2.50 \\ T &= 168\end{aligned}$$

A.M. Peak Hour

$$\begin{aligned}T &= 0.94 (X) + 26.49 \\ T &= 0.94 (15) + 26.49 \\ T &= 41\end{aligned}$$

$$\begin{aligned}\text{Enter} &= 0.86(41) = 35 \\ \text{Exit} &= 0.14(41) = 6\end{aligned}$$

P.M. Peak Hour

$$\begin{aligned}\ln(T) &= 0.95 \ln(X) + 0.36 \\ \ln(T) &= 0.95 \ln(15) + 0.36 \\ T &= 19\end{aligned}$$

$$\begin{aligned}\text{Enter} &= 0.16(19) = 3 \\ \text{Exit} &= 0.84(19) = 16\end{aligned}$$

TRIP GENERATION - 10th GENERATION

High-Turnover (Sit-Down) Restaurant - 8,000 Sq. Feet Gross Floor Area (X = GSF/1000)

Use ITE Land Use Code 932 (High-Turnover (Sit-Down) Restaurant) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

$$T = 112.18(X)$$

$$T = 112.18(8)$$

$$T = 897$$

A.M. Peak Hour of Adjacent Street Traffic

$$T = 9.94(X)$$

$$T = 9.94(8)$$

$$T = 80$$

$$\text{Enter} = 0.55(80) = 44$$

$$\text{Exit} = 0.45(80) = 36$$

P.M. Peak Hour of Adjacent Street Traffic

$$T = 9.77(X)$$

$$T = 9.77(8)$$

$$T = 78$$

$$\text{Enter} = 0.62(78) = 48$$

$$\text{Exit} = 0.38(78) = 30$$

TRIP GENERATION - 10th GENERATION

Shopping Center - 17,000 Sq. Feet Gross Floor Area (X = GSF/1000)

Use ITE Land Use Code 820 (Shopping Center) and associated trip generation rates for 24-hour total trips and peak hour trips (Filtered rate for 9-50 1000 SF)

Average Daily Traffic

$$T = 98.72(X)$$

$$T = 98.72(17)$$

$$T = 1678$$

A.M. Peak Hour of Adjacent Street Traffic

$$T = 4.26(X)$$

$$T = 4.26(17)$$

$$T = 72$$

$$\text{Enter} = 0.60(72) = 43$$

$$\text{Exit} = 0.40(72) = 29$$

P.M. Peak Hour of Adjacent Street Traffic

$$T = 8.04(X)$$

$$T = 8.04(17)$$

$$T = 137$$

$$\text{Enter} = 0.49(137) = 67$$

$$\text{Exit} = 0.51(137) = 70$$

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	Tollgate Village			Organization:	Ragan-Smith
Project Location:	Thompson's Station			Performed By:	TRG
Scenario Description:	Proposed			Date:	5/14/2018
Analysis Year:	Future			Checked By:	BSB
Analysis Period:	AM Street Peak Hour			Date:	5/14/2018

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				41	35	6
Retail				157	94	63
Restaurant				80	44	36
Cinema/Entertainment				0		
Residential				129	36	93
Hotel				0		
All Other Land Uses ²				0		
				407	209	198

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	3	0	0	0
Retail	1		8	0	1	0
Restaurant	5	5		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	1	9	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	407	209	198
Internal Capture Percentage	18%	18%	19%
External Vehicle-Trips ⁵	333	172	161
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	20%	83%
Retail	9%	16%
Restaurant	45%	31%
Cinema/Entertainment	N/A	N/A
Residential	6%	12%
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

⁴Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

⁶Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Tollgate Village
Analysis Period:	AM Street Peak Hour

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	35	35	1.00	6	6
Retail	1.00	94	94	1.00	63	63
Restaurant	1.00	44	44	1.00	36	36
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	36	36	1.00	93	93
Hotel	1.00	0	0	1.00	0	0

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	4	0	0	0
Retail	18		8	0	9	0
Restaurant	11	5		0	1	1
Cinema/Entertainment	0	0	0		0	0
Residential	2	1	19	0		0
Hotel	0	0	0	0	0	

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		30	10	0	0	0
Retail	1		22	0	1	0
Restaurant	5	8		0	2	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	16	9	0		0
Hotel	1	4	3	0	0	

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	7	28	35	28	0	0
Retail	8	86	94	86	0	0
Restaurant	20	24	44	24	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	2	34	36	34	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	5	1	6	1	0	0
Retail	10	53	63	53	0	0
Restaurant	11	25	36	25	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	11	82	93	82	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A
²Person-Trips
³Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator
*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	Tollgate Village			Organization:	Ragan-Smith
Project Location:	Thompson's Station			Performed By:	TRG
Scenario Description:	Proposed			Date:	5/14/2018
Analysis Year:	Future			Checked By:	BSB
Analysis Period:	PM Street Peak Hour			Date:	5/14/2018

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				19	3	16
Retail				298	146	152
Restaurant				78	48	30
Cinema/Entertainment				0		
Residential				157	92	65
Hotel				0		
All Other Land Uses ²				0		
				552	289	263

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		3	1	0	0	0
Retail	1		14	0	40	0
Restaurant	1	12		0	5	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	15	7	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	552	289	263
Internal Capture Percentage	36%	35%	38%
External Vehicle-Trips ⁵	352	189	163
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	100%	25%
Retail	21%	36%
Restaurant	46%	60%
Cinema/Entertainment	N/A	N/A
Residential	49%	35%
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

⁴Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made.

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

⁶Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Project Name:	Tollgate Village
Analysis Period:	PM Street Peak Hour

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	3	3	1.00	16	16
Retail	1.00	146	146	1.00	152	152
Restaurant	1.00	48	48	1.00	30	30
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	92	92	1.00	65	65
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		3	1	0	0	0
Retail	3		44	6	40	8
Restaurant	1	12		2	5	2
Cinema/Entertainment	0	0	0		0	0
Residential	3	27	14	0		2
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		12	1	0	4	0
Retail	1		14	0	42	0
Restaurant	1	73		0	15	0
Cinema/Entertainment	0	6	1		4	0
Residential	2	15	7	0		0
Hotel	0	3	2	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	3	0	3	0	0	0
Retail	30	116	146	116	0	0
Restaurant	22	26	48	26	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	45	47	92	47	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	4	12	16	12	0	0
Retail	55	97	152	97	0	0
Restaurant	18	12	30	12	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	23	42	65	42	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

²Person-Trips

³Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

TRIP GENERATION

Single-Family Detached Housing - 277 Dwelling Units

Use ITE Land Use Code 210 (Single-Family Detached Housing) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

$$\begin{aligned}\ln(T) &= 0.92 \ln(X) + 2.71 \\ \ln(T) &= 0.92 \ln(277) + 2.71 \\ T &= 2655\end{aligned}$$

A.M. Peak Hour of Adjacent Street Traffic

$$\begin{aligned}T &= 0.71(X) + 4.80 \\ T &= 0.71(277) + 4.80 \\ T &= 201\end{aligned}$$

$$\begin{aligned}\text{Enter} &= 0.25(201) = 50 \\ \text{Exit} &= 0.75(201) = 151\end{aligned}$$

P.M. Peak Hour of Adjacent Street Traffic

$$\begin{aligned}\ln(T) &= 0.96 \ln(X) + 0.20 \\ \ln(T) &= 0.96 \ln(277) + 0.20 \\ T &= 270\end{aligned}$$

$$\begin{aligned}\text{Enter} &= 0.63(270) = 170 \\ \text{Exit} &= 0.37(270) = 100\end{aligned}$$

A.M. Peak Hour of Generator

$$\begin{aligned}\ln(T) &= 0.91 \ln(X) + 0.20 \\ \ln(T) &= 0.91 \ln(277) + 0.20 \\ T &= 204\end{aligned}$$

$$\begin{aligned}\text{Enter} &= 0.26(204) = 53 \\ \text{Exit} &= 0.74(204) = 151\end{aligned}$$

P.M. Peak Hour of Generator

$$\begin{aligned}\ln(T) &= 0.94 \ln(X) + 0.34 \\ \ln(T) &= 0.94 \ln(277) + 0.34 \\ T &= 278\end{aligned}$$

$$\begin{aligned}\text{Enter} &= 0.64(278) = 178 \\ \text{Exit} &= 0.36(278) = 100\end{aligned}$$

MEMORANDUM

To: Wendy Deats, Town of Thompson's Station

From: Jonathan Smith, P.E. Barge Design Solutions

Peter Kauffmann, P.E., PTOE Barge Design Solutions

Date: June 18, 2018

Project ID: 3672704

Re: Tollgate Village Trip Generation Assessment

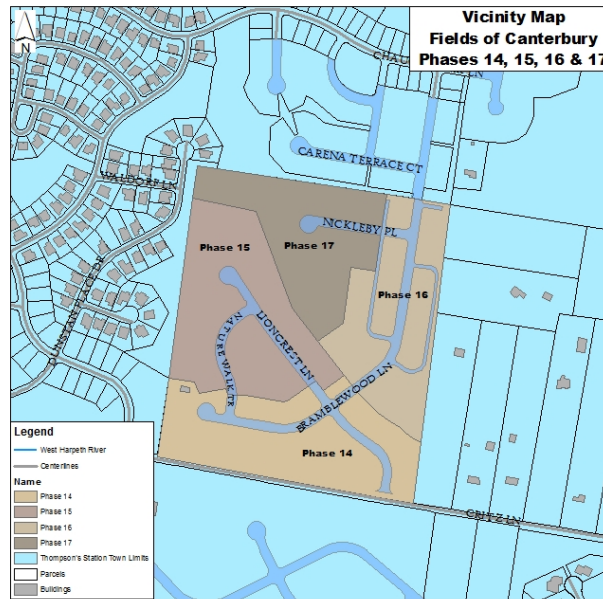
This memorandum reports the findings of the review of the May 18, 2018 memo regarding the Tollgate Village Trip Generation Assessment. Based upon the supplied information, it is recommended that the existing trips (for all approved phases of the development) and planned trips (for the remainder of the development) be evaluated to determine the trips generated by the site. The May 2018 trip generation assessment should be revised to include the anticipated outparcel trips that were included in the February 2017 traffic impact study. It appears that when the May 2018 assessment is considered with the potential impacts of the outparcels from the 2017 study, it is appropriate to at install at least the southern access point. If the access point is not installed as part of the Tollgate development program, it may require the Town to negotiate with individual outparcel developments to construct the access point.

Thompson's Station Planning Commission
Staff Report – Item 1 (PP 2018-003)
June 26, 2018

The Fields of Canterbury Preliminary Plat – Phases 14 - 17 for the creation of 72 single family lots, 85 townhome lots, a pump station lot and four (4) open space lots and the removal of 96 trees totaling 2,239 inches of trees.

PROJECT DESCRIPTION

Ragan Smith & Associates, on behalf of Encompass Land Group submitted a request for a preliminary plat to establish four phases which will include 72 single family lots, 85 townhome lots, a pump station lot, open space lots and the removal of 96 trees.



ANALYSIS

Land Use/Density

The development is located within the D3 – High Intensity zoning district which permits three units an acre and permits housing options that include single-family and townhomes. This plat is a 53.85-acre expansion of The Fields of Canterbury. The original development was 270.5 acres and was approved for 204 townhomes and 612 single-family dwellings for a total of 816 residential units. These phases will add 72 single family and 85 townhomes for a total of 684 single family and 289 townhomes on 324.35 acres for a density of three units an acre.

Lot Width and Setbacks

The single family lots will vary in size from .17 acres to .28 acres with widths greater than 50 feet. The proposed setbacks are 20 feet for the front yard setback, 7.5 feet for the side yard setbacks and 20 feet for the rear yard setback. The townhome lots will have a front yard setback of 15 feet with a minimum of 20 feet for the driveway length and a rear yard setback of 20 feet. In addition, the townhomes will maintain a 15-foot setback in between buildings. Therefore, the preliminary plat conforms to lot widths and setback standards within Land Development Ordinance (LDO).

Roadways

The standard for local roadways is 50 feet. Bramblewood Lane will be extended from phase 13 into these phases. Nickleby Place, Nature Trail Walk and Lioncrest Lane are new roads that will be constructed as part of these phases. All roadways will have a 50 feet right-of-way with a five-foot-

wide landscape strip and a five-foot-wide sidewalk. Street lights are not shown on the plat, however, Staff recommends a contingency that street lights to match the neighborhood lights shall be installed within the landscape strip between the sidewalk and the roadway. Lioncrest, a new roadway will be constructed with a connection to Critz Lane. Critz Lane is currently in design for improvements and Staff is concerned that future road improvements may conflict with the elevation of Lioncrest. Therefore, Staff would recommend that the developer coordinate with the Town during the construction to ensure no conflicts occur between the construction of the proposed road the improvements to Critz Lane.

Critical Lots

No development will occur on slopes exceeding 25%; however, several lots contain slopes between 15 and 25% and are critical lots due to these slopes. Lots 1406-1408, 1414-1415, 1417, 1420, 1423-1425, 1429-1433, 1435, 1501-1502, 1506-1507, 1512, 1516-1523, 1526 and 1531 are designated as critical lots on the plat. A grading plan will be reviewed with the construction plans for the overall phase. Prior to the issuance of building permits, all critical lots require engineered site plans and site-specific grading plans to address any issues.

Open Space

The original development plan was approved with a 25% requirement for open space, however new phases of the neighborhood are subject to the current code open space requirement which is 45%. The total open space within these phases is 25.64 acres or 47% of the project site. Therefore, the project is consistent with the LDO.

Trees

Development of phases 14 - 17 will result in the removal of 96 trees for a total of 2,239 inches. The LDO requires the replacement of trees 18 inches and greater at a ratio of one and a half inches for every inch removed. Therefore, 3,358.5 inches of trees are required to be replaced within the development. This standard is found within Section 3.3.14 Tree Protection in the Subdivision Regulations. The Planning Commission has the authority to grant a deviation if the Commission finds that “extraordinary hardships or practical difficulties may result from strict compliance with the subdivision regulations” and that the deviation from the standard doesn’t have a negative impact on the “general intent and purpose of these regulations.”

The developer has stated that “the design team exercised sensitivity to the existing trees with the product placement, as well as proposed grading and utilities” and is “incorporating retaining walls and multiple building foundation types (including basement, within specific areas) to minimize the impact on the existing trees” (See attached letter for full justification statement). A landscape plan was submitted and the developer proposes to install/plant 900 trees for a total of 2,000 inches of replacement trees and is requesting relief from the remaining 1,358.5 inches. The proposed trees will include two trees per lot, and the remaining trees within the open space area. This includes a buffer type 3 (semi opaque) between the neighboring properties zoned D1 and the neighborhood zoned D3 as required by the LDO.

The standards for tree replacement were considered and reduced/lessened during the adoption of the LDO. However, due to concerns over the reduced protection of trees, the LDO was amended to increase the requirements to the current standard. Therefore, in keeping with the intent of the LDO, Staff does not recommend the Planning Commission grant a deviation from the tree replacement standards.

Construction Route

The construction route for these phases is proposed to be the new road connection to Critz Lane, Lioncrest Lane. This route will provide direct access to these phases of the project and will reduce the construction traffic on other roads within the subdivision.

Traffic Study

A traffic study was submitted and reviewed by the Town's traffic engineer. All comments are addressed except the Town's traffic engineer does not recommend modifying the lane assignments at Critz Lane/Columbia Pike. The concern is that changing the lane assignments can cause the westbound right turn lane movement to be restricted by not permitting right turn movements during the red phase for westbound traffic. Based on their review of the signal timing and the anticipated peak hour volumes, the recommendation instead of lane assignment is that the phasing and timing of the signal operation and equipment be modified to provide a right turn overlap for the westbound right turn and southbound left turn. Staff recommends that this recommendation be added to the traffic study in place of lane assignments.

RECOMMENDATION

With the recommended contingencies, the preliminary plat will comply with the Land Development Ordinance, therefore, Staff recommends Planning Commission approval with the contingencies:

1. Prior to the approval of construction plans, the developer shall enter into a development agreement for the project.
2. Prior to the approval of construction plans, revise the traffic study to include the phasing and timing of signal operation and equipment be modified to provide a right turn overlap for the right turn westbound and left turn southbound.
3. Prior to the approval of construction plans, the landscaping plan shall be revised to incorporate all tree replacement as required by the ordinance.
4. Prior to the approval of construction plans, all applicable codes and regulations shall be addressed to the satisfaction of the Town Engineer. A drainage study shall be submitted to verify that drainage is managed adequately on site.
5. Street lights shall be incorporated into these phases to match the existing neighborhood and shall be documented on the construction drawings.
6. All construction traffic into these phases shall be required to use Lioncrest Lane.
7. During construction, the developer shall comply with all recommendations of the geotechnical report dated June 2, 2017.

ATTACHMENT

Preliminary Plat
Landscape Plan
Construction Route Map
Barge Design Traffic Memo
Tree Replacement Variance Request

615 Third Avenue South, Suite 700
Nashville, TN 37210
Phone: 615.254.1400 |
www.bargedesign.com



MEMORANDUM

To: Wendy Deats, Town of Thompson's Station

From: Jonathan Smith, P.E. Barge Design Solutions

Peter Kauffmann, P.E., PTOE Barge Design Solutions

Date: June 14, 2018

Project ID: 3672702

Re: Canterbury Additions Traffic Impact Study

This memorandum reports the findings of the review of the May 22, 2018 memo regarding the Canterbury Additions Traffic Impact Study. As we previously discussed, generally we are in accordance with the responses from the applicant. However, we do not recommend the proposed modifications to the westbound approach at the intersection of US 31 and Critz Lane. This modification of the recently constructed intersection could cause the westbound right turn movement to be restricted to not allow right turn movements to occur during the red phase for westbound traffic (no right turn on red). Based on our review of the existing signal timing data and the anticipated peak hour volumes provided by the applicant, we would recommend that the signal operations (phasing and timing) and equipment be modified to provide a right turn overlap for the westbound right turn and southbound left turn.

GENERAL NOTES

- 1. THE PURPOSE OF THIS PLAT IS TO CREATE 72 SINGLE FAMILY LOTS, 85 TOWNHOME LOTS, A PUMP STATION LOT, AND OPEN SPACE TRACTS.
2. BEARINGS SHOWN HEREON ARE BASED ON THE TENNESSEE STATE PLANE COORDINATE SYSTEM NAD 1983...
3. THE PROPERTY IS ZONED D3 (HIGH DENSITY RESIDENTIAL)...
4. WITHIN ALL NEW DEVELOPMENTS AND FOR OFF-SITE LINES CONSTRUCTED AS A RESULT OF, OR TO PROVIDE SERVICE TO, THE NEW DEVELOPMENT...
5. BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY, THIS PROPERTY LIES WITHIN FLOOD ZONES "X" (OTHER FLOOD AREAS) AND "X" (OTHER AREAS)...
6. THIS SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES...
7. SANITARY SEWER LINES AND STORM LINES SHOWN HEREON WERE TAKEN FROM A PRELIMINARY DESIGN FOR THIS SECTION...
8. DOMESTIC WATER SUPPLY INFORMATION SHOWN HEREON IS BASED ON A PRELIMINARY DESIGN...
9. ALL PUBLIC STREETS AND DRAINAGE STRUCTURES WITHIN THE RIGHTS-OF-WAY WILL BE MAINTAINED BY THE TOWN OF THOMPSON'S STATION...
10. HOMEOWNER'S ASSOCIATION WILL BE RESPONSIBLE FOR LONG TERM OPERATION AND MAINTENANCE OF STORMWATER INFRASTRUCTURE...
11. ELEVATIONS SHOWN HEREON ARE BASED ON NAVD 88...
12. LOTS SHOWN WITH (*) ARE DESIGNATED AS CRITICAL LOTS...
13. I HEREBY STATE THAT THIS SURVEY WAS DONE IN COMPLIANCE WITH THE CURRENT TENNESSEE MINIMUM STANDARDS OF PRACTICE...
14. ALL OPEN SPACE IS A PUBLIC UTILITY AND DRAINAGE EASEMENT.

BY: JOHN T. DARNALL, TN RLS #1571 DATE: MAY 18, 2018

Table with 2 columns: Phase and Lot Numbers. Includes Phase 14 (lots 1401-1441), Phase 15 (lots 1501-1531), Phase 16 (lots 1601-1657), and Phase 17 (lots 1701-1728).

SITE DATA TABLE (PH. 14-17) listing various area measurements: TOTAL LOT AREA (20.17 ACRES±), TOTAL CRITZ LN R.O.W. IN USE AREA (0.83 ACRES±), TOTAL SITE AREA (53.85 ACRES±), etc.

LEGEND defining symbols for OS (OPEN SPACE), R.O.W. (RIGHT OF WAY), R.O.W.C.T. (REGISTERED OFFICE WILLIAMSON COUNTY, TENNESSEE), CRITICAL LOT, and other features.

DEED REFERENCE

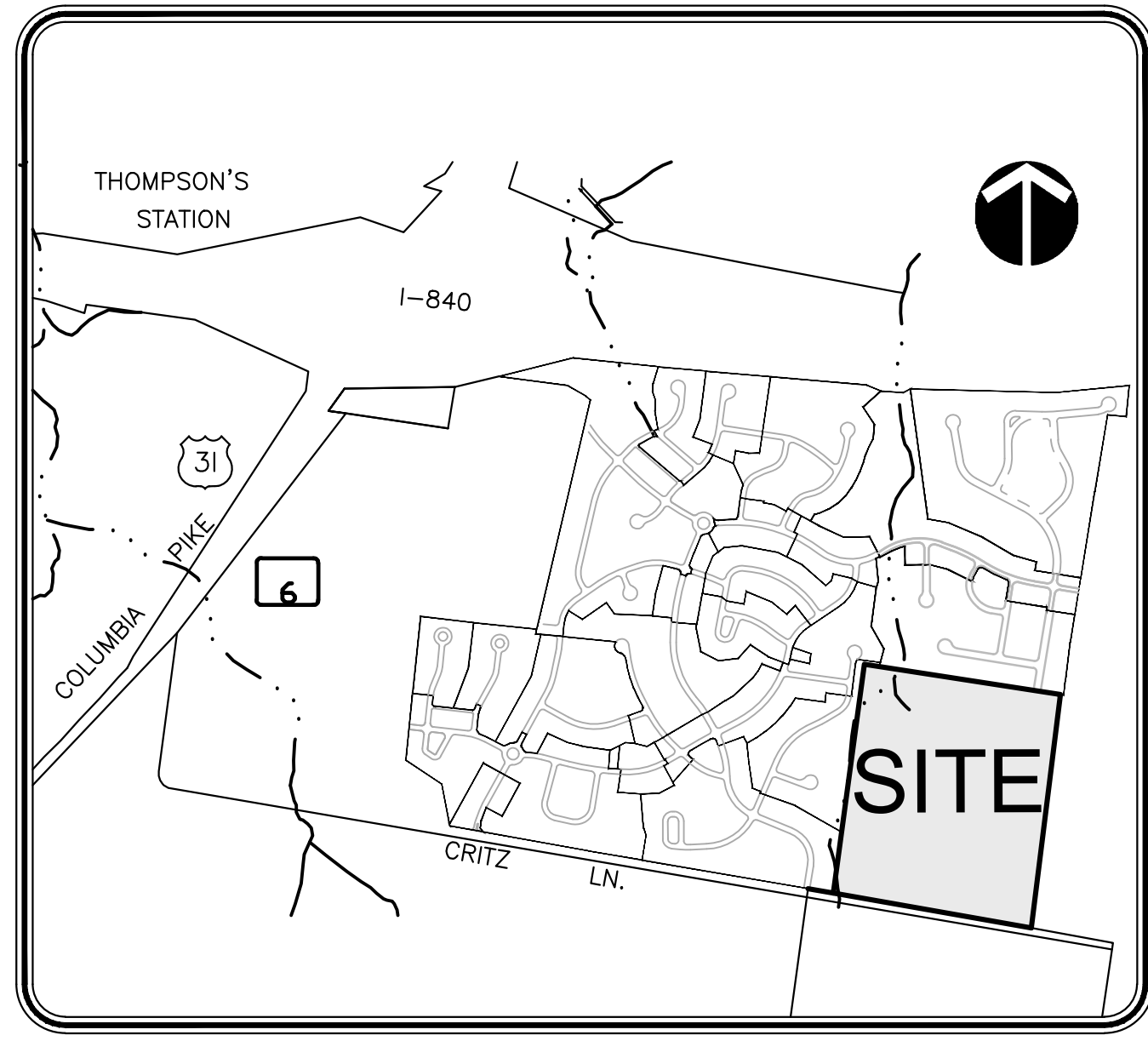
BEING A PORTION OF THE SAME PROPERTY CONVEYED TO EVANS NORTH, LLC FROM AMBER LANE DEVELOPMENT, LLC BY SPECIAL WARRANTY DEED OF RECORD IN BOOK 7195, PAGE 444, REGISTER'S OFFICE FOR WILLIAMSON COUNTY, TENNESSEE.

PROPERTY MAP REFERENCE

BEING PARCEL NUMBER 6.01 AS SHOWN ON WILLIAMSON COUNTY PROPERTY MAP NUMBER 145.

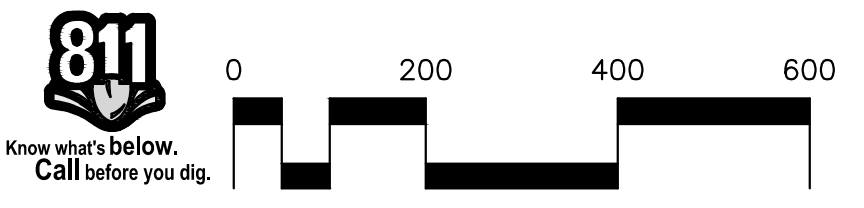


SURVEYOR: RAGAN-SMITH ASSOCIATES, INC. TOWN OF THOMPSON'S STATION, TENNESSEE. OWNER / DEVELOPER: EVANS NORTH, LLC C/O BUCKY INGRAM 121 FIRST AVENUE SOUTH, SUITE 210 FRANKLIN, TENNESSEE 37064



LOCATION MAP N.T.S.

Three LOT AREA TABLES with columns: LOT, SQ. FT.±, ACRES±. Lists lot numbers and their corresponding areas in square feet and acres.



RAGAN-SMITH logo and contact information for CHATTANOOGA CIVIL ENGINEERS, LAND PLANNERS ARCHITECTS SURVEYORS. Includes a professional seal for John T. Darnall, Tennessee No. 1571.

THE FIELDS OF CANTERBURY PHASES 14, 15, 16, AND 17. TOWN OF THOMPSON'S STATION, WILLIAMSON COUNTY, TENNESSEE.

PRELIMINARY PLAT 1 OF 3. Includes a table with columns for Job No., Wk. Order, Designer, Drawn, Scale, Date, and Description. Job No. 05043, Wk. Order 1106, Date MAY 18, 2018.

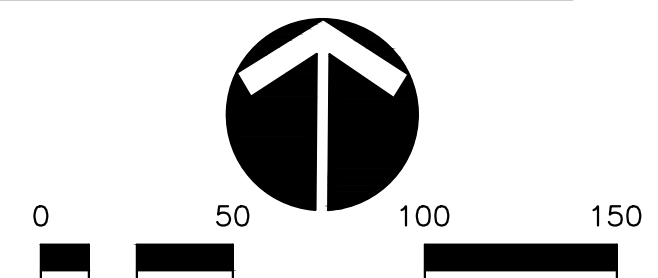
VERTICAL CURVATURE CORRECTIONS APPLIED TO ALL DATA. THIS SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE CURRENT TENNESSEE MINIMUM STANDARDS OF PRACTICE. THIS IS A CATEGORY 1 SURVEY AND THE RATIO OF PRECISION OF THE UNADJUSTED SURVEY IS 1:15,715.

GENERAL NOTES
SEE SHEET 1 FOR NOTES, REFERENCES AND AREA TABLES.

SHEET 3
MATCHLINE

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHD BRG
C1	25.00'	39.27'	90°00'00"	25.00	35.36'	N55°22'43"E
C2	150.00'	169.63'	64°47'40"	95.18	160.74'	N22°01'07"W
C3	825.00'	225.28'	15°38'44"	113.34	224.58'	S46°35'35"E
C4	25.00'	38.51'	88°15'58"	24.25	34.82'	N82°54'12"W
C5	300.00'	243.20'	46°26'50"	128.73	236.59'	N76°11'14"E
C6	50.00'	218.63'	250°31'44"	70.71	81.65'	S44°40'31"W
C7	25.00'	30.77'	70°31'44"	17.68	28.87'	S45°19'29"E
C8	25.00'	39.27'	90°00'00"	25.00	35.36'	N54°24'39"E
C9	200.00'	111.31'	31°53'19"	57.14	109.88'	N06°32'01"W
C10	250.00'	349.23'	80°02'18"	209.92	321.52'	S17°32'29"W
C11	25.00'	39.27'	90°00'00"	25.00	35.36'	N12°33'38"E

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHD BRG
C14	1175.00'	94.27'	4°35'49"	47.16	94.25'	S34°44'17"E
C15	25.00'	39.27'	90°00'00"	25.00	35.36'	S82°02'11"E
C16	25.00'	40.13'	91°57'55"	25.87	35.96'	S06°58'52"W
C17	775.00'	208.50'	15°24'51"	104.88	207.87'	S46°42'31"E
C18	200.00'	226.17'	64°47'40"	126.91	214.31'	N22°01'07"W
C19	25.00'	39.27'	90°00'00"	25.00	35.36'	S34°37'17"E
C20	250.00'	202.66'	46°26'50"	107.27	197.16'	N76°11'14"E
C22	250.00'	139.14'	31°53'19"	71.42	137.35'	N06°32'01"W
C23	200.00'	279.39'	80°02'18"	167.93	257.22'	S17°32'29"W
C24	25.00'	39.17'	89°46'50"	24.90	35.29'	N77°32'57"W
C26	25.00'	39.27'	90°00'00"	25.00	35.36'	N07°57'49"E



- LEGEND**
- IRON ROD (NEW)
(1/2" x 18" w/ CAP STAMPED
"RAGAN SMITH & ASSOCIATES")
 - IRON ROD (OLD)
 - CABLE TV BOX
 - ELECTRIC BOX
 - CATCH BASIN
 - SANITARY SEWER MANHOLE
 - LIGHT STANDARD
 - LOT NUMBER
 - R.O.W. RIGHT-OF-WAY
 - DECIDUOUS TREE
 - EVERGREEN TREE
 - ★ CRITICAL LOT
(SEE NOTE 12)
 - R.O.W.C.T. REGISTER'S OFFICE FOR
WILLIAMSON COUNTY, TN
 - ◆ FIRE HYDRANT
 - WATER VALVE
 - WATER METER
 - SA — SANITARY SEWER LINE
 - ROP — REINFORCED CONCRETE PIPE
 - ST — PROPOSED STORM PIPE
 - X — FENCE
 - P.U.D.E. PUBLIC UTILITY DRAINAGE
EASEMENT
 - R.O.W. RIGHT-OF-WAY
 - M.B.S.L. MINIMUM BUILDING
SETBACK LINE
 - CONCRETE SURFACE
 - 15-25% SLOPES
 - SLOPES IN EXCESS OF 25%



RAGAN SMITH
LAND PLANNERS • CIVIL ENGINEERS
LANDSCAPE ARCHITECTS • SURVEYORS

1000 N. WILSON STREET
NASHVILLE, TENNESSEE 37203
(615) 246-8991

THE FIELDS OF CANTERBURY
FOR
PHASES 14, 15, 16, AND 17
TOWN OF THOMPSON'S STATION, WILLIAMSON COUNTY, TENNESSEE

WK. ORDER: 1106
DESIGNED: N/A
DRAWN: AMR
SCALE: 1"=50'
DATE: MAY 18, 2018

DESCRIPTION:
PRELIMINARY PLAT

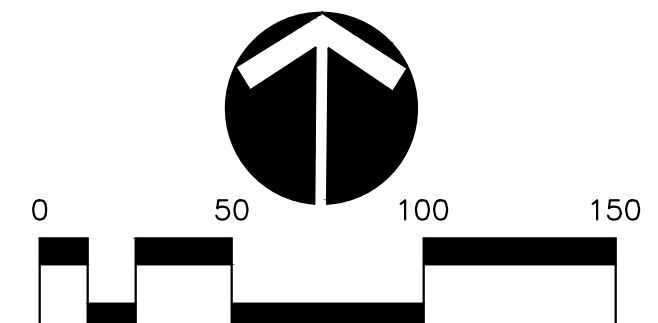
2 OF 3

CONSULT THE DESIGNER'S OFFICE FOR ALL PROJECTS AND FOR ALL INFORMATION.
 PRINTED BY WILSON ENGINEERING AND SURVEYING, INC. LATEST EDITION OF ALL CODES AND REGULATIONS.

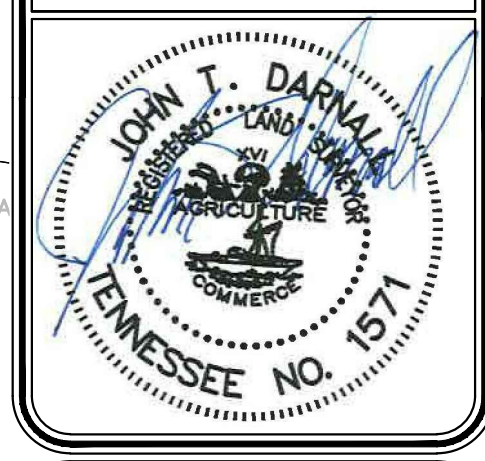
GENERAL NOTES

SEE SHEET 1 FOR NOTES, REFERENCES AND AREA TABLES.

(ZONED D3-RESIDENTIAL)
 PHASE 12 FUTURE DEVELOPMENT
 MAP 132, PARCEL 40.01
HOOD DEVELOPMENT, LLC
 BOOK 4239, PAGE 639
 R.O.W.C.T.



RAGAN SMITH
 LAND PLANNERS • CIVIL ENGINEERS
 LANDSCAPE ARCHITECTS • SURVEYORS
 115 W. WASHINGTON STREET
 CHATTANOOGA, TN 37403
 (615) 248-8991
 www.ragan-smith.com



THE FIELDS OF CANTERBURY
 PHASES 14, 15, 16, AND 17

PRELIMINARY PLAT

3 OF 3

WK. ORDER: 1106
 DESIGNED: N/A
 DRAWN: AMR
 SCALE: 1"=50'
 DATE: MAY 18, 2018
 REV. #



LEGEND

- IRON ROD (NEW) (1/2" x 18" W/CAP STAMPED "RAGAN SMITH & ASSOCIATES")
- IRON ROD (OLD)
- CABLE TV BOX
- ELECTRIC BOX
- CATCH BASIN
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- R.O.W. RIGHT-OF-WAY
- DECIDUOUS TREE
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- FIRE HYDRANT
- WATER VALVE
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- SA — SANITARY SEWER LINE
- RCP — REINFORCED CONCRETE PIPE
- ST — PROPOSED STORM PIPE
- X — FENCE
- P.U.D.E. — PUBLIC UTILITY DRAINAGE EASEMENT
- R.O.W. RIGHT-OF-WAY
- M.B.S.L. MINIMUM BUILDING SETBACK LINE
- CONCRETE SURFACE
- 15-25% SLOPES
- SLOPES IN EXCESS OF 25%

CURVE TABLE

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHD BRG
C12	50.00'	52.36'	60°00'00"	28.87	50.00'	N62°26'22"W
C13	50.00'	209.44'	240°00'00"	86.60	86.60'	S27°33'38"W
C27	275.00'	210.00'	43°45'08"	110.42	204.93'	N31°05'15"E
C28	25.00'	39.27'	90°00'00"	25.00	35.36'	N35°47'19"W
C29	20.00'	31.42'	90°00'00"	20.00	28.28'	S54°12'41"W
C30	20.00'	31.42'	90°00'00"	20.00	28.28'	S35°47'19"E
C31	20.00'	31.42'	90°00'00"	20.00	28.28'	N54°12'41"E
C32	20.00'	31.42'	90°00'00"	20.00	28.28'	N35°47'19"W
C33	20.00'	28.08'	80°26'37"	16.91	25.83'	S58°59'22"W
C34	190.00'	31.69'	9°33'23"	15.88	31.65'	N13°59'22"E
C35	20.00'	31.42'	90°00'00"	20.00	28.28'	N35°47'19"W
C36	25.00'	30.77'	70°31'44"	17.68	28.87'	S63°56'49"W

CURVE TABLE

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHD BRG
C37	50.00'	218.63'	250°31'44"	70.71	81.65'	S26°03'10"E
C38	25.00'	39.27'	90°00'00"	25.00	35.36'	N54°12'41"E
C39	20.00'	31.42'	90°00'00"	20.00	28.28'	S35°47'19"E
C40	20.00'	31.42'	90°00'00"	20.00	28.28'	S54°12'41"W
C41	20.00'	31.42'	90°00'00"	20.00	28.28'	S35°47'19"E
C42	20.00'	31.42'	90°00'00"	20.00	28.28'	S54°12'41"W
C43	20.00'	31.42'	90°00'00"	20.00	28.28'	N35°47'19"W
C44	20.00'	31.42'	90°00'00"	20.00	28.28'	N54°12'41"E
C45	20.00'	31.42'	90°00'00"	20.00	28.28'	S35°47'19"E
C46	20.00'	31.42'	90°00'00"	20.00	28.28'	S54°12'41"W
C47	20.00'	31.42'	90°00'00"	20.00	28.28'	N35°47'19"W
C48	325.00'	248.18'	43°45'08"	130.49	242.19'	N31°05'15"E

CONSULT THE RECORD PLAT(S) FOR THE PREVIOUS PHASE(S) OF THIS DEVELOPMENT. THIS PLAT IS THE PROPERTY OF RAGAN SMITH & ASSOCIATES, INC. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

**Thompson's Station Planning Commission
Staff Report – Item 2 (File: Zone Amend 2018-004)
June 26, 2018**

Land Development Ordinance Amendments (Subdivision Regulations)

PROJECT DESCRIPTION

Staff initiated amendments to the Subdivision Regulations.

BACKGROUND

In order to protect the health, safety and welfare of the community by providing quality roadways, Staff is recommending that standards related to the construction of roadways within the Town. The proposed standards are intended to provide the necessary framework for the Town to be able to ensure adequate planning for roadways within developments.

PROPOSED REVISIONS

Section 3.9.23 Road Construction Specifications (page 66).

The road construction specifications in this Article shall be the minimum standards for construction of public or private improvements located within any subdivision within the jurisdictional area. These specifications shall apply to any person, developer, firm, business or other entity constructing public roadways within the Town. All plans shall be submitted for review and approval and shall be scaled drawings with specifications and shall include all aspects of the street, grading and drainage, including all supplemental documentation verifying engineering calculations, erosion control, on street parking, street lighting and any other information related to the construction activities for the project. The construction plans shall be prepared and stamped by a registered engineer in the State of Tennessee. Prior to any approvals, all necessary state approvals, including but not limited to, the Tennessee Department of Transportation, Tennessee Department of Environment and Conservation and the Tennessee Division of Water Pollution shall be submitted to the Town in writing.

Roadway Construction

- a. Typical cross sections and dimensions of standard local and collector streets are illustrated in Appendix E.
- b. Construction materials and methods including aggregate base stone, asphalt, concrete and roadway subgrades shall be fully tested and constructed in accordance with the designations and requirements within the TDOT Standard Specifications.
- c. Drainage facilities including but not limited to ditches, swales, detention/retention ponds, culverts or other structures shall be inspected, tested, and written documentation shall be submitted for approval by the Town prior to the next phase of construction.
- d. Subgrade and base stone shall be brought to grade with proper crown prior to compaction test being completed. Proof rolling with a tandem axle loaded dump truck (23 tons) shall be conducted by the contractor and witnessed by Town Staff and testing agency personnel.
- e. Proof roll shall be redone if the project is rained on prior to the binder surface installation.
- f. Density test shall be conducted by a local testing agency approved by town staff and licensed by the state of Tennessee and shall be at the expense of the developer. A minimum of one density test per lift for each five-hundred (500) feet of roadway shall be required.

- g. Binder course and surface course shall be inspected and tested per TDOT specifications and written documentation shall be submitted for approval by the Town prior to the next phase of construction.
- h. Any materials or workmanship that does not meet the requirements of the approved plans or specifications shall be brought into compliance with all approvals. A stop work order may be given if substandard materials or workmanship is not corrected. No reduction of sureties will be considered if defective materials or workmanship occurs within the development.
- i. The developer shall provide the necessary labor and supervision to support field testing by a third party at no cost to the Town. The design engineer or a certified quality control inspector shall be present during construction activities. Weekly test reports shall be submitted in writing and reviewed by the Town throughout the duration of the work. Defects in the workmanship shall be corrected at no cost to the Town. A detailed letter from the testing agency shall be provided attesting that all roadway improvements have been constructed in accordance with the plans and specifications prior to the release of performance surety. The letter shall contain the seal of the Engineer and be in report form, including all weekly project activity and the associated testing results.
- j. No asphalt binder shall be installed unless temperature is at least 40 degrees Fahrenheit and rising unless otherwise approved by the Town Engineer.
- k. All projects shall be subject to the inspection during and upon completion of construction activities by authorized Town staff representatives. A Town inspector on-site does not eliminate the requirement for a third-party inspector and a written report to the Town. Upon completion of the project, the project engineer shall submit in writing to the Town that the construction of all infrastructure was completed in compliance with approved plans and a representative from the Town will make a final inspection to determine the acceptability of the work.

Street Lights

Street lights shall be required for all new subdivisions within the Transect Community, D1, D2 and D3 zoning districts. Street lighting should be pedestrian scaled and shall be decorative in a manner to match the character of the neighborhood. Cobra head and shoebox light heads are not permitted within a residential subdivision. Street lighting should provide adequate lighting to enhance walkway safety. Street lights within neighborhoods shall not exceed 15 feet in height. Street lights shall be installed between the curb and the sidewalk within the grass strip. Streetlights should have a maximum distance of 300 feet apart and shall be approved by Middle Tennessee Electric Membership Corporation. The developer ~~subdivider~~ shall bear the financial responsibility for the original installation costs for the materials and labor for street lighting where it is deemed reasonably necessary by the Town Engineer. ~~Street lighting shall be of such size and specification as deemed appropriate by the Town Engineer to meet the specific requirements of the subdivision. Street lights shall be installed between the curb and the sidewalk within the grass strip.~~

As built plans

As built plans shall be submitted to the Town upon completion of construction activities. As built plans shall be submitted with the completion of each phase of the development. The as built plans shall include all pertinent information related to the phase, including

but not limited to, property lines, all cables, utilities, drainage structure, pump stations, etc., detention/retention ponds, any existing structures.

Add the following section to provide additional clarity and guidance in the preparation of traffic studies and analysis.

3.9.24 Traffic Study

- a. A traffic study shall be required for any development that will create 750 trips per day or 100 trips or more during a peak hour or any development located on a major arterial within the Town or a project site located in proximity to a road condition that requires further analysis prior to additional volume should be added in the vicinity.
- b. Traffic studies shall be prepared by a licensed traffic engineer using the standard format as outlined by the Institute of Transportation Engineers. The applicant shall meet with the Town staff prior to initiating the traffic study to review/determine the scope of study. The completed traffic study shall be submitted to the Town for review. Review shall consist of a third-party review and all cost associated with the Town's third-party review shall be the responsibility of the developer/applicant. Traffic studies older than one year shall be updated.
- c. Any project that does not require a traffic study may be required to submit a traffic analysis for access, trip generation, existing conditions and proposed changes to the existing conditions.

RECOMMENDATION

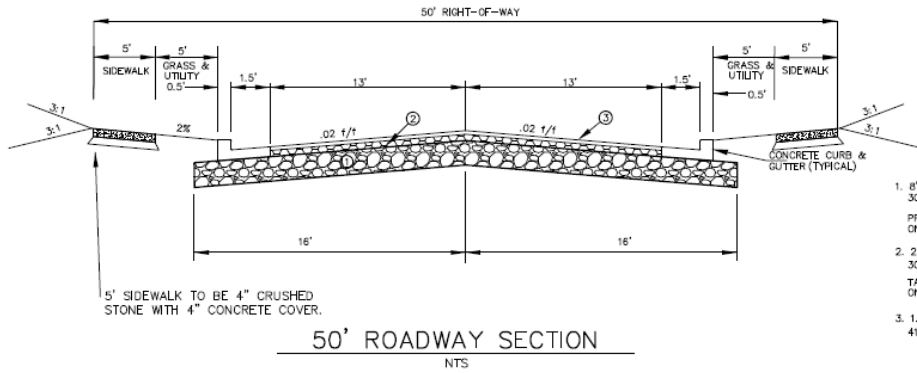
Staff is requesting the Planning Commission adopt these standards in Article 3 of the Land Development Ordinance.

ATTACHMENTS

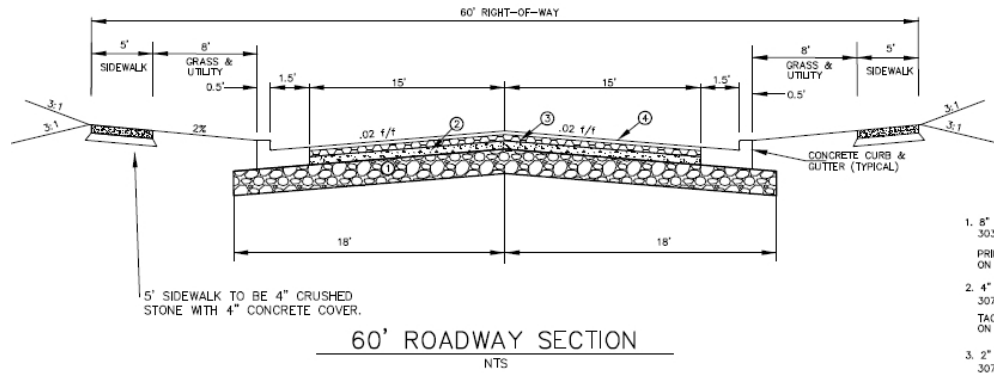
Appendix E – Roadway Cross Sections
Appendix F – Street Lamp Details

Appendix E

Roadway Cross Sections

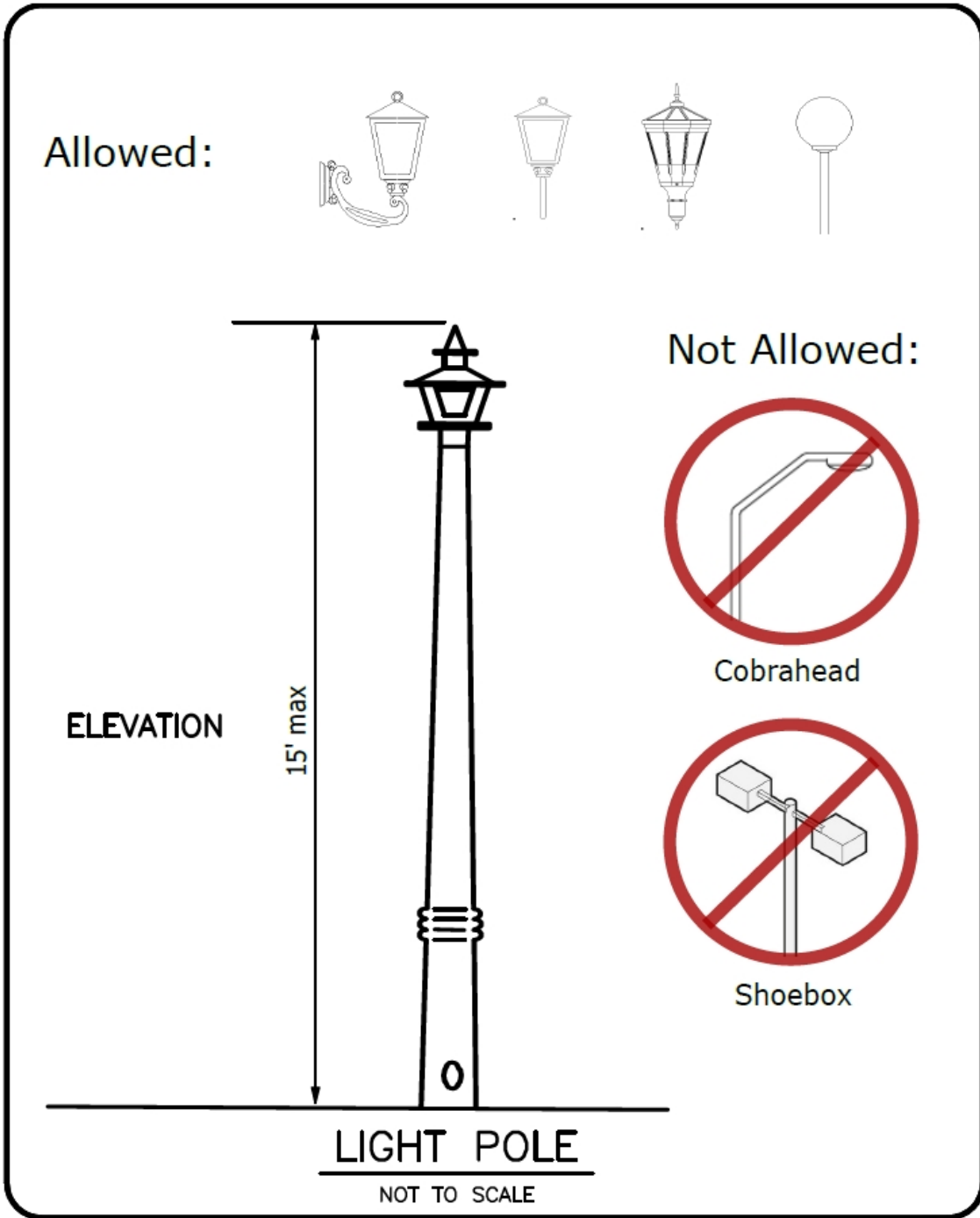


1. 8" THICK MINERAL AGGREGATE BASE COURSE:
303-01 MINERAL AGGREGATE TYPE 'A' BASE GRADING 'D'
- PRIME COAT:
ON THE SURFACE OF THE BASE AT A MINIMUM RATE OF 0.3 - 0.4 GAL./SQ. YD..
2. 2" BITUMINOUS PLANT MIX BASE (HOT MIX):
307-01.08 ASPHALT CONCRETE MIX (PG64-22)(BPMB-HM) GRADING 'B-M2'
- TACK COAT:
ON THE POWER CLEANED SURFACE AT A RATE OF 0.03 - 0.05 GAL./SQ. YD..
3. 1.5" ASPHALTIC CONCRETE WEARING SURFACE:
411-01.10 ASPHALT CONCRETE MIX (PG64-22)(ACS) GRADING 'D'



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303-01 MINERAL AGGREGATE TYPE 'A' BASE GRADING 'D'
- PRIME COAT:
ON THE SURFACE OF THE BASE AT A MINIMUM RATE OF 0.3 - 0.4 GAL./SQ. YD..
2. 4" BITUMINOUS AGGREGATE BASE
307-01.01 ASPHALT CONCRETE MIX (PG64-22)(BPMB-HM) GRADING 'A'
- TACK COAT:
ON THE POWER CLEANED SURFACE AT A RATE OF 0.03 - 0.05 GAL./SQ. YD..
3. 2" BITUMINOUS PLANT MIX BASE (HOT MIX):
307-01.08 ASPHALT CONCRETE MIX (PG64-22)(BPMB-HM) GRADING 'B-M2'
- TACK COAT:
ON THE POWER CLEANED SURFACE AT A RATE OF 0.03 - 0.05 GAL./SQ. YD..
4. 1.5" ASPHALTIC CONCRETE WEARING SURFACE:
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Appendix F
Street Lamp Detail



TOWN OF THOMPSON'S STATION 1550 THOMPSON'S STATION RD WEST P.O. BOX 100 THOMPSON'S STATION TN, 37179		Residential Street Lamp (DETAIL)
NOT TO SCALE	DATE: 6/11/18	



DATE: June 19, 2018
TO: The Planning Commission
FROM: Wendy Deats, Town Planner
SUBJECT: Item 3 – Shepard Land Development Ordinance Amendment

Aldermen Shepard has requested that the Planning Commission review and make recommendations on several sections of the Town's Land Development Ordinance. Staff is providing comment on the areas where additional revision and discussion need to take place. The sections are as follows:

Black text = existing LDO language
RED = requested language to be added or amended
BOLD = staff comments

ARTICLE 1 GENERAL PROVISIONS

1.2 Intent

1.2.6 The Transect

a. That communities should provide meaningful choices in *both residential* living arrangements *and commercial enterprises* as manifested by distinct physical environments.

The intent of the transect is to create an environment for housing diversity and, where appropriate, flexibility in commercial uses. A standalone Hamlet plan would not be a good environment for commercial uses and if required would likely end up having empty commercial buildings or no development of the Hamlet model. Consider the following as an alternative to the requested amendment.

a. That community should provide meaningful choices in residential living arrangements and, where appropriate, commercial enterprises as manifested by distinct physical environments.

1.3 Definitions

This section provides definitions for terms in this ordinance that are technical in nature or that otherwise may not reflect a common usage of the term. Interpretations of the definitions and terminology that are either within this section or not included will be made by the Town Planner.

Commercial: the term collectively defining workplace, office, retail and lodging functions.

Commercial building: a building used for office and/or retail purposes that is required to meet commercial governmental regulations for safety, energy, etc.

Staff is assuming that the proposed definition is intended to ensure compliance with the building codes as related to the construction of such buildings. While the building code does not provide



the definition as proposed, the addition of the term “commercial building” does not appear to create a conflict in the code.

Residential: characterizing premises available for long-term human dwelling. . . .

Residential space: total amount of heated living area measured in square feet inside a dwelling unit that is required to meet governmental regulations for safety, energy, etc.

As defined, garage space would be omitted from the measured square footage. If the intent is to ensure that a total square footage is calculated for residential, Staff recommends correcting the definition to include garage space. If the intent is to permit omit this area, the definition is fine.

Retail: characterizing premises available for the sale of merchandise and food service.

Total space: combined amount of commercial space and residential space measured in square feet.

By definition of the word “total” all space would be calculated, however, as mentioned above, Alderman Shepard proposes to define “residential space” as heated area which excludes any garage space. If this is the intent of defining residential space, then the definition for “total space” would be appropriate to purposefully omit some particular space (such as garage area) from the total calculation. Therefore, if “total space” is incorporated into the code, Staff requests clarification from Alderman Shepard as to whether the intent of the “residential space” definition is to exclude any proposed garage area. Staff does not recommend omitting any area from the total calculations as these numbers are used in other areas of the code and omission of some of the square footage may have unintended consequences in other areas of the code.

Transect: a cross section of the environment showing a range of different habitats. The rural-urban transect of the human environment used in this ordinance is divided into five transect zoning districts. These zoning districts describe physical form and character of a place, according to the intensity of its land use.

ARTICLE 4 ZONING

4.5 Lot Use Restrictions

4.5.1 General to all zones:

4.5.2 General Transect Zone Restrictions.

a. Accessory buildings in T4 and T5 are limited to housing related to the principal dwelling.

b. Minimum required commercial space as a percentage of total space in a Transect Zone is 10%.

Incorporating a minimum percentage for commercial space of total space within the transects would include all zones, including T1, T2 and T3, which would then require these preservation, agricultural and residential zones to include commercial space which is not appropriate for these areas. Consider the following as an alternative for the requested amendment:

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

- b. Minimum required commercial space as a percentage of total space in a T5 district is 10%.**

4.5.3 Transect Zone Restrictions for Residential Use.

4.5.4 Transect Zone Restrictions for G3 Sector (Town Center)

- a. Minimum required commercial space as a percentage of total space in the G3 Sector is 30%.*

This is placing a pretty heavy burden on required commercial space that could up to be vacant or remain undeveloped. Consider the following as an alternative for the requested amendment:

- a. Minimum required commercial space as a percentage of total space in the T5 district is 20%.**

(Note: Currently zoned area in the G3 Sector as T5 includes 73.63 acres. This amendment would require approximately 15 acres be commercial.)

Attachments:
Requested LDO Amendments

Article 1 GENERAL PROVISIONS

1.1 Authority and Applicability

1.2 Intent

1.2.6 The Transect

a. That communities should provide meaningful choices in both **residential** living arrangements **and commercial enterprises** as manifested by distinct physical environments.

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This Section provides definitions for terms in this ordinance that are technical in nature or that otherwise may not reflect a common usage of the term. Interpretations of the definitions and terminology that are either within this section or not included will be made by the Town Planner.

Commercial: the term collectively defining workplace, office, retail, and lodging functions.

Commercial building: a building used for office and/or retail purposes that is required to meet commercial governmental regulations for safety, energy, etc.

Commercial space: total amount of usable square feet inside a commercial building.

Residential: characterizing premises available for long-term human dwelling.

Residential space: total amount of heated living area measured in square feet inside a dwelling unit that is required to meet residential governmental regulations for safety, energy, etc.

Retail: characterizing premises available for the sale of merchandise and food service.

Total space: combined amount of commercial space and residential space measured in square feet.

Transect: a cross-section of the environment showing a range of different habitats. The rural-urban transect of the human environment used in this ordinance is divided into five transect zoning districts. These zoning districts describe the physical form and character of a place, according to the intensity of its land use.

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4.5.4 Transect Zone Restrictions for G3 Sector [Town Center].

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