



Mebane Planning Board
In Person Regular Meeting
June 14, 2021- 6:30 PM

PLEASE TAKE NOTICE that the Mebane Planning Board's Regular Meeting is scheduled for Monday, June 14, 2021 at 6:30 p.m. in the Council Chambers of the Glendel Stephenson Municipal Building located at 106 E. Washington Street, Mebane, NC 27302.

For people who plan to view the meeting, but not participate, the City provides a YouTube live stream by searching *City of Mebane* on YouTube or at the following link:

<https://www.youtube.com/channel/UCoL1RXdRDMzK98p53TMoqww>

Access to the meeting is also available by the following three (3) options:

Option #1- Attend In Person

- Masks may be worn per individual preference, but they are not required for attendance.

For people that do not plan to attend in person but would like to address the Planning Board during the presentation and discussion of an agenda item, see options below.

Option #2- Email Comments to be read aloud by Planning Staff

- Email comment to avogel@cityofmebane.com. Written comments must be received by **4pm Monday, June 14th**.
- Messages must contain commenter's name and address.
- Written comments will be read aloud by the Planning Staff.

Option #3- Conference Telephone

- Email avogel@cityofmebane.com by **2:00pm on Monday, May 3rd** to comment during the meeting.
- Emails must contain commenter's name, address, and **telephone number that you are using to call into the conference line for identification, in addition to the agenda item you would like to comment on.**
- Upon the City's receipt of email, participants will be emailed a confirmation which will include the phone number and access code to use the night of the meeting.
- Callers will be held in queue and asked to mute their phones or speakers until they are called on to speak.
- Speakers will be called in the order in which their email was received.
- Per authority of NCGS 143-318.17, if a person participating remotely willfully disrupts the meeting, then upon direction by the Chair, such person may be removed from electronic participation, or his or her e-mail may not be read.



Planning Board
Regular Meeting Agenda
June 14, 2021, 6:30 p.m.

1. Call to Order
2. Approval of April 12, 2021, Meeting Minutes
3. City Council Actions Update
4. Request for a Special Use Permit to allow a 195-foot monopole non-stealth telecommunications facility on a +/- 3.87-acre property zoned R-20 located at 4449 Landi Lane (PIN 9816764270) by Towercom IV-B, LLC, c/o George Davis, 5611 NC Hwy 55, Suite 201, Durham, NC 27713.
5. Request to Request to establish R-8(CD) zoning on three (3) properties totaling +/- 25.58 acres located at 900, 1002 & 1010 Ben Wilson Road (PINs 9824434841, 9824435349 & 9824435147) outside of the Extra-Territorial Jurisdiction (ETJ) in Orange County for a residential townhome development of 162 homes by Ben Wilson Rd, LLC, c/o James Parker, Jr., 320 Executive Court, Hillsborough, NC 27278
6. New Business
 - a. Applications for open Planning Board positions
7. Adjournment



**Planning Board
Minutes to the Meeting**

April 12, 2021
6:30 p.m.

The Planning Board meeting was held virtually and livestreamed via YouTube. The video can be accessed through the following link: https://www.youtube.com/watch?v=vNm0D7Mm_jl

Members Present Via Zoom: Keith Hoover, Lori Oakley, Kurt Pearson, Vice Chairman Judy Taylor, Larry Teague, and Chairman Edward Tulauskas

Also Present: Audrey Vogel, Planner; Cy Stober, Development Director; Ashley Ownbey, Planner; Kirk Montgomery, IT Director

1. Call to Order

At 6:30 p.m. Chairman Edward Tulauskas called the meeting to order.

2. Approval of March 8, 2021 Minutes

Lori Oakley made a motion to approve the minutes from the March 8, 2021 meeting. Judy Taylor seconded the motion, which passed unanimously.

3. City Council Actions Update

This agenda item was discussed at the end of the meeting. At that time Cy Stober, Development Director, provided an update on the City Council's recent action regarding Oakwood Subdivision rezoning request. The City Council unanimously approved the rezoning request at the April 7th public hearing.

4. Request to rezone the +/- 1.32-acre property located at 7713 US 70 (GPIN 9825532037) from B-3 to B-2 (CD) to allow for redevelopment and improvement of an existing nonconforming use by the Orange County Alcoholic Beverage Control Board c/o Tony DuBois

Staff presented the above application from Orange County Alcoholic Beverage Control Board. Two waivers are requested:

- The City's adopted plans recommend a 10' shared-use path along the property's road frontage, and the applicant is requesting to construct a 5' public sidewalk along the US 70 road frontage. A 14' public easement adjacent to the existing right-of-way will be provided if existing right-of-way cannot accommodate the proposed sidewalk.
- The UDO requires a parking stall length of 19', and the applicant is requesting a parking stall length of 18.5'.



The Planning staff has reviewed the request for harmony with the zoning of the surrounding area and consistency with the City's adopted plans and recommends approval. The Technical Review Committee (TRC) has reviewed the site plan and the applicant has revised the plan to reflect the comments.

Ashley Ownbey provided a brief overview and PowerPoint of the request.

George Retschle, PE of Ballentine Associates, PA 221 Providence Road, Chapel Hill, NC 27514 presented on the behalf of the applicant and answered questions from the Planning Board. Mr. Retschle elaborated on the rezoning request and ABC Store site plan.

Larry Teague asked for clarification about the proposed sidewalk and multiuse path easement. Mr. Retschle clarified that a 5' concrete sidewalk would be provided in addition to a 14' easement dedication for a 10' multiuse path to be constructed in the future. Kurt Pearson asked who would construct the path in the future. Cy Stober responded that it would be the City's responsibility to enhance the sidewalk to a multi-use path in the future. Lori Oakley clarified that the "waiver request" for the multiuse path was not needed as the requirements would be satisfied by the sidewalk and easement. Cy Stober concurred.

Chairman Edward Tulauskas asked if there were any public comments. Audrey Vogel indicated that there were not any participants registered to speak and no written comments were received.

Lori Oakley commented that as a neighbor and resident of the Ashbury subdivision she was happy to see an updated ABC store similar to the one in Hillsborough being proposed. She added that the existing building on the back site is not aesthetically pleasing and that she is pleased with the new building and buffer being proposed. She also added that she supported the waiver request to reduce impervious coverage.

George Retschle responded that the proposed building will not be exactly the same as the Hillsborough ABC store, but it is the quality and the same architect.

Kurt Pearson noted that he was surprised that the adjoining neighbors have not spoken out about the rezoning request, recalling the previous rezoning request for the same site. He noted that there were previous concerns about nighttime activity and safety. Judy Taylor commented that the previous request was for a U-Haul rental center that had nighttime hours. Ms. Taylor noted that those concerns would not be as relevant for the proposed ABC Store use. Lori Oakley added that they may see neighbors commenting at the City Council hearing.



Judy Taylor made a motion to approve the B-2 CD rezoning request as presented and to find that the application is consistent with the objectives and goals in the City's 2017 Comprehensive Land Development Plan *Mebane By Design*. Larry Teague seconded the motion. on. The motion passed unanimously per a roll call vote. Chairman Tulauskas indicated that the request will go before the Mebane City Council on Monday, May 3rd at 6:00 pm.

5. Request to rezone the +/- 1.48-acre property located at S NC 119 Hwy and Millstead Drive (GPIN 9814121597) from B-2 to B-2 (CD) to allow for a multi-tenant, neighborhood shopping center with drive-through restaurant by Evans Street Four, LLC, c/o Meda Williams

Staff presented the above application from Evans Street Four, LLC. The Planning staff has reviewed the request for harmony with the zoning of the surrounding area and consistency with the City's adopted plans and recommends approval. The Technical Review Committee (TRC) has reviewed the site plan and the applicant has revised the plan to reflect the comments.

Ashley Ownbey provided a brief overview and PowerPoint of the request.

Phil Koch at EarthCentric Engineering Inc., 204 West Clay Street, Mebane, NC 27302, presented on the behalf of the applicant and answered questions from the Planning Board. Mr. Koch elaborated on the rezoning request and site plan.

Lori Oakley asked about the sign waiver request. Shawn Sidener at EarthCentric Engineering Inc. responded that it was his understanding that the dimensions of one of the wall signs may exceed the maximum allowable sign area.

Kurt Pearson made a motion to approve the B-2 CD rezoning request as presented and to find that the application is consistent with the objectives and goals in the City's 2017 Comprehensive Land Development Plan *Mebane By Design*. Judy Taylor seconded the motion. on. The motion passed per a roll call vote (4-1). Lori Oakley voted in favor of the B-2 CD rezoning but was not in favor the requested sign waiver. Chairman Tulauskas indicated that the request will go before the Mebane City Council on Monday, May 3rd at 6:00 pm.

6. Comprehensive text amendments to the Mebane Unified Development Ordinance per North Carolina General Statute 160D and State environmental regulations.

Cy Stober provided a presentation of the proposed comprehensive text amendments to the Mebane Unified Development Ordinance. The amendments include:

- Updates to Articles 2, 3, 7, 8, 9, 10, and 12 to comply with 160D statutory amendments
- Revisions to Article 5 "Overlay, Environmental, and Special Purpose Regulations" to reflect the Falls Lake Nutrient Management Strategy, the Upper Eno River Water Supply (II)



Watershed and import the City's Stormwater and Stream Buffer regulations from the City Ordinance

- Update to Article 7 "Subdivision Procedures and Design Standards" to accommodate multimodal transportation

Kurt Pearson thanked City staff for their work in delivering the required amendments. Larry Teague and Lori Oakley echoed Mr. Pearson's remarks. Cy Stober recognized Lawson Brown and Josh Johnson for their hard work on the UDO revisions.

Kurt Pearson made a motion to approve the amendments to the City of Mebane Unified Development Ordinance as presented, finding that the amendments are consistent with the objectives and policies for growth and development in the Comprehensive Land Development Plan Mebane By Design, and are mostly required by State law. Lori Oakley seconded the motion. The motion passed unanimously per a roll call vote.

Cy Stober commented that Staff is revisiting other areas of the UDO for revisions and will be in communication about that.

7. New Business

- (a) Cy Stober noted that the application for available planning board positions will be open in early May. The terms for 5 members of the planning board are soon to expire should they want to apply to be reappointed at the July City Council meeting. He noted that there is one ETJ position open that will require appointment from the Alamance County Board of Commissioners
- (b) Cy Stober announced that board member Mr. Thomas Vinson has retired and stepped down from the Planning Board. Mr. Stober shared remarks of appreciation for his service to the City of Mebane.
- (c) Mr. Sober also noted that the May 3rd City Council meeting will be held in-person. He noted that it is up to further discussion for how the Planning Board will proceed with their next meeting.

Kurt Pearson added that he would prefer to meet in person. He also asked about the progress of the London Ln stoplight project. Cy Stober provided an update on the project, noting that it would be completed this year. Cy Stober also provided an update on the Mebane Oaks Road widening project.

8. Adjournment

There being no further business, the meeting was adjourned at 7:35 p.m.

Summary

Towercom IV-B, LLC, c/o Thomas Johnson, is requesting approval of a special use request for a 199' wireless communication facility (aka "5G tower") at 4449 Landi Lane. The Mebane Unified Development Ordinance, Article 4, Section 7.9.E(2)(f.1). The applicant is also seeking a waiver relieving them of the use-specific setback of 199' from southern and eastern property lines.

The Technical Review Committee (TRC) has reviewed the site plan and the applicant has revised the plan to reflect the comments. The applicant has an agreement to lease the property for this special use, pending approval of the City Council.

Financial Impact

N/A. The site will be privately maintained and not require City services beyond emergency response.

Recommendation

The Planning staff has reviewed the request for harmony with the zoning of the surrounding area and consistency with the City's adopted plans and recommends approval.

Suggested Motion

1. Motion to approve special use request for 199'-tall non-stealth wireless communication facility as presented
and
2. Motion to find that the request is both reasonable and in the public interest because it finds that it:
 - a. Will not materially endanger the public health or safety;
 - b. Will not substantially injure the value of adjoining or abutting property;
 - c. Will be in harmony with the area in which it is located; and
 - d. Will be consistent with the objectives and goals in the City's adopted plans,
3. Motion to deny the special use permit as presented due to a failure to satisfy any one of the four criteria required for approval (**NOTE: criterion for failure must be specified**)

Attachments

1. Special Use Permit Application
2. Zoning Map
3. Site Plan
4. Planning Project Report
5. Technical Memorandum – City Engineering Review
6. Wireless Service Coverage Map
7. Determination of No Hazard to Air Navigation
8. Fall Zone Analysis
9. Real Estate Impact Analysis
10. Photo Simulation of Tower Construction from Surrounding Public ROWs
11. Stormwater Acknowledgment Letter Between Towercom & Property Owner



APPLICATION FOR A SPECIAL USE PERMIT

Application is hereby made for an amendment to the Mebane Zoning Ordinance as follows:

Name of Applicant: Towercom IV-B, LLC

Address of Applicant: 5611 NC Hwy 55, Suite 201, Durham, NC 27713

Address and brief description of property: 4282 Landi, Lane, Mebane, NC 27302

Parcel ID: 172541; Lot 4, Final Plat for the Purpose of Settling the Estate of Leonardo V.

Nelson, recorded in Plat Book 77, Page 6, Alamance County Registry

Applicant's interest in property: (Owned, leased or otherwise) Leased

*Do you have any conflicts of interest with: Elected/Appointed Officials, Staff, etc.?

Yes Explain: _____ No

Type of request: Special Use Permit for a Telecommunications Facility

Sketch attached: Yes No

Reason for the request: To construct a 195 foot monopole telecommunications tower

Signed: *[Signature]*
Date: 5/19/2021

Action by Planning Board: _____

Public Hearing Date: _____ Action: _____

Zoning Map Corrected: _____

The following items should be included with the application for rezoning when it is returned:

1. Tax Map showing the area that is to be considered.
2. Names and addresses of all adjoining property owners within a 300' radius (Include those that are across the street).
3. \$400.00 Fee to cover administrative costs.



APPLICATION FOR A SPECIAL USE PERMIT

4. The information is due 15 working days prior to the Planning Board meeting. The Planning Board meets the 2nd Monday of each month at 6:30 p.m. Then the request goes to the City Council for a Public Hearing the following month. The City Council meets the 1st Monday of each month at 6:00 p.m.



**SUBJECT
PROPERTY
4449 Landi Ln**



**CITY OF MEBANE
ZONING MAP**

**SUBJECT PROPERTY
MILL CREEK TOWERCOM**

1 inch = 200 feet

DATE: 6/08/2021

DRAWN BY: AV

TOWERCOM SITE NAME: MILL CREEK

PROJECT DESCRIPTION: PROPOSED TELECOMMUNICATIONS FACILITY

TOWER TYPE: 195' MONOPOLE (199' OVERALL)

JURISDICTION: CITY OF MEBANE ETJ

DISTURBED AREA: 27,419± S.F. (0.63 AC.)

PRESENT LAND USE: 501-VACANT LAND

PROPOSED LAND USE: COMMERCIAL

CURRENT ZONING: R-20 (RESIDENTIAL)

PARCEL ID: 172541

WATERSHED: GRAHAM-MEBANE LAKE

WATER SUPPLY WATERSHED: WS-IIC, WS-II NSWC

RECEIVING WATER BODY: STAG CREEK

NUMBER OF DWELLING UNITS: 0

SITE OWNER:



**5611 HIGHWAY 55, SUITE 201
DURHAM, NC 27713
(919) 666-2906**

**TOWERCOM SITE NAME:
MILL CREEK**

**4449 LANDI LANE
MEBANE, NC 27302
(ALAMANCE COUNTY)**

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

N.C. LICENSE # C-1794

PROJECT INFORMATION

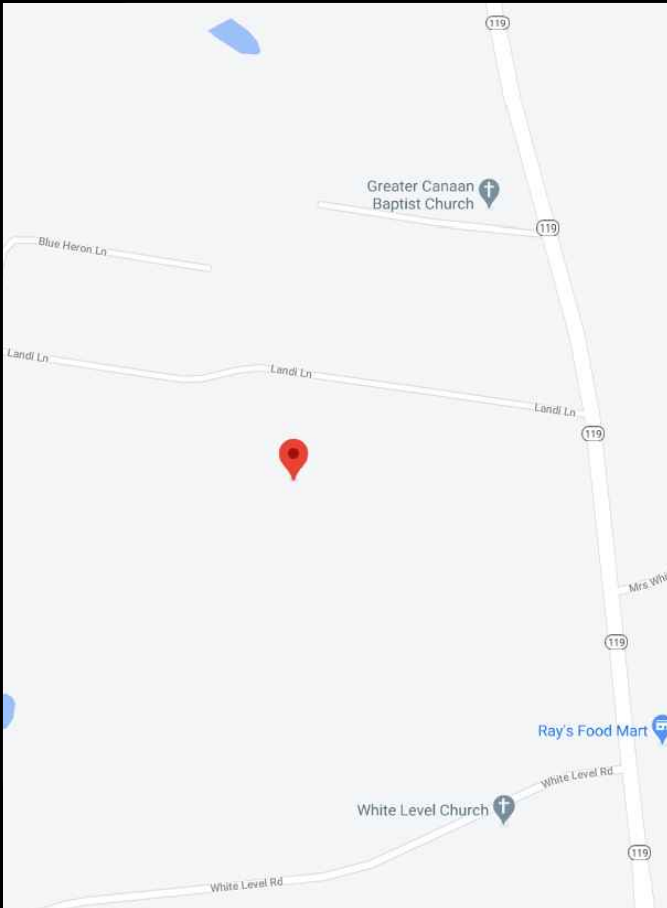
LATITUDE N 36° 07' 45.268" (NAD '83)
LONGITUDE W 79° 16' 45.444" (NAD '83)

EXISTING GROUND ELEV. (AMSL) = 617.74'± (AMSL)
PROPOSED GROUND ELEV. (AMSL) = 618.10'± (AMSL)

1A CERTIFICATION

11	06-08-21	ZONING
10	05-27-21	ZONING
9	05-26-21	ZONING
8	05-11-21	ZONING
7	05-05-21	ZONING
6	05-03-21	ZONING
5	04-29-21	ZONING
4	03-31-21	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: GLB CHECKED BY: JKW



LOCATION MAP

TOWER OWNER:
NAME: TOWERCOM
ADDRESS: 5611 NC HWY 55, SUITE 201
CITY, STATE, ZIP: DURHAM, NC 27713
CONTACT: GEORGE DAVIS
PHONE: (919) 666-2906

CIVIL ENGINEER:
NAME: TOWER ENGINEERING PROFESSIONALS
ADDRESS: 326 TRYON ROAD
CITY, STATE, ZIP: RALEIGH, NC 27603
CONTACT: JEREMY K. WOOSTER, P.E.
PHONE: (919) 661-6351

ELECTRICAL ENGINEER:
NAME: TOWER ENGINEERING PROFESSIONALS
ADDRESS: 326 TRYON ROAD
CITY, STATE, ZIP: RALEIGH, NC 27603
CONTACT: MARK S. QUAKENBUSH, P.E.
PHONE: (919) 661-6351

PROPERTY OWNER
NAME: ADELANA AMORITA NELSON
ADDRESS: 200 HOLT AVENUE, #B
CITY, STATE, ZIP: GREENSBORO, NC 27405
CONTACT: ADELANA AMORITA NELSON
PHONE: (336) 717-5046

SURVEYOR:
NAME: TOWER ENGINEERING PROFESSIONALS
ADDRESS: 326 TRYON ROAD
CITY, STATE, ZIP: RALEIGH, NC 27603
CONTACT: ALAN H. ALLBERT, P.L.S.
PHONE: (919) 661-6351

CONTACT INFORMATION

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING:

1. NORTH CAROLINA BUILDING CODE (2018 EDITION)	4. 2017 NCEC (W/ 2017 NC AMENDMENTS)
2. NORTH CAROLINA CODE COUNCIL	5. LOCAL BUILDING CODE
3. ANSITIA-222-H	6. CITY/COUNTY ORDINANCES

CODE COMPLIANCE

DRAWINGS TO BE PRINTED AT A 200% SCALE

DRAWING SCALE


UTILITIES:
POWER COMPANY: DUKE ENERGY
CONTACT: CUSTOMER SERVICE
PHONE: (800) 544-6900
METER # NEAR SITE: UNKNOWN

TELEPHONE COMPANY: VERIFY
CONTACT: VERIFY
PHONE: VERIFY
PHONE # NEAR SITE: (919) 563-2837
PEDESTAL # NEAR SITE: 4

SHEET	DESCRIPTION	REV
T-1	TITLE SHEET	11
-	SITE SURVEY	-
T2-T6	APPENDIX B	11
N1-N2	GENERAL NOTES	11
C-1	SITE PLAN	11
C-1A	VICINITY MAP	11
C-2	COMPOUND DETAIL	11
C-3	TOWER ELEVATION	11
C-4	COMPOUND FENCE DETAILS	11
C-5AB	GRADING & EROSION CONTROL PLAN I & II	11
C-5C	CLEAN WATER DIVERSION PLAN	11
C-5D	STREAM WATER CROSSING DETAILS	11
C-6A	SILT FENCE & TREE PROTECTION DETAILS	11
C-6B	CULVERT DETAILS	11
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C-7	ACCESS ROAD DETAILS	11
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L-1	LANDSCAPING PLAN	11
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	APPENDIX:	
	-STREAM CROSSING CULVERT CALCULATIONS	
	-STORMWATER NITROGEN & PHOSPHOROUS DATA	

INDEX OF SHEETS

SEAL:



June 8, 2021

SEAL:

SHEET NUMBER: **T-1** REVISION: **11**
TEP #: 249639

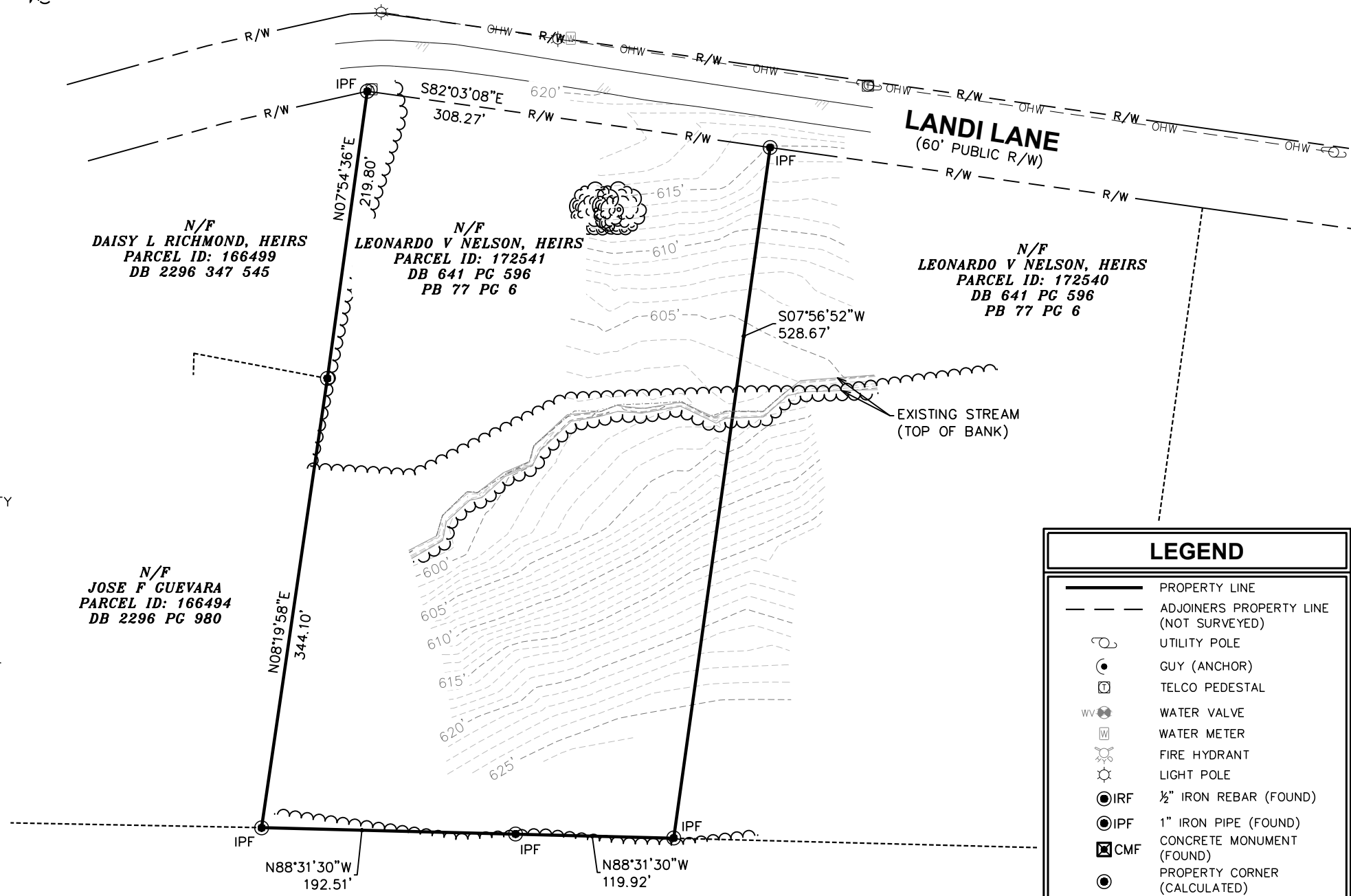


VICINITY MAP n.t.s.

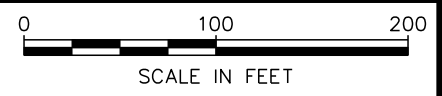


NOTES:

1. PLAN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT.
2. PLAN DOES NOT REPRESENT AN ALTA/NSPS LAND TITLE SURVEY.
3. BASIS OF THE BEARINGS AND COORDINATES IS THE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM (NAD 83/2011) BASED ON DIFFERENTIAL GPS OBSERVATIONS PERFORMED ON AUGUST 24, 2020; TIED TO THE NATIONAL SPATIAL REFERENCE SYSTEM VIA CORS STATIONS AND OPUS; AND EXPRESSED IN US SURVEY FEET.
4. VERTICAL INFORMATION BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88) AND EXPRESSED IN US SURVEY FEET.
5. THIS PLAN DOES NOT REPRESENT AN ACTUAL BOUNDARY SURVEY OF THE PARENT PARCEL. PROPERTY LINES ARE DRAWN FROM FIELD LOCATIONS OF MONUMENTATION, GIS, TAX MAPS, AND INFORMATION FOUND IN DEED BOOK 641, PAGE 596, OF THE ALAMANCE COUNTY REGISTER OF DEEDS.
6. DISTANCES ARE HORIZONTAL GROUND UNLESS OTHERWISE NOTED.
7. PROPERTY LOCATED IN FLOOD ZONE "X", AREA DETERMINED TO BE OUTSIDE 0.2% CHANCE OF ANNUAL FLOOD BASED UPON FEMA COMMUNITY PANEL# 3710981600K, EFFECTIVE NOVEMBER 17, 2017.
8. LESSEE INFORMATION:
TOWERCOM
5611 NC HIGHWAY 55, SUITE 201
DURHAM, NC 27713
9. PROPERTY OWNER INFORMATION:
LEONARDO V NELSON, HEIRS
C/O ADELENA NELSON
4718 MRS WHITE LANE
MEBANE, NC 27302



LEGEND	
	PROPERTY LINE
	ADJOINERS PROPERTY LINE (NOT SURVEYED)
	UTILITY POLE
	GUY (ANCHOR)
	TELCO PEDESTAL
	WATER VALVE
	WATER METER
	FIRE HYDRANT
	LIGHT POLE
	1/2" IRON REBAR (FOUND)
	1" IRON PIPE (FOUND)
	CONCRETE MONUMENT (FOUND)
	PROPERTY CORNER (CALCULATED)
	EDGE OF PAVEMENT
	OVERHEAD WIRE
	RIGHT-OF-WAY
	CHAIN LINK FENCE
	EXISTING TREE LINE



SITE SURVEY

SCALE: 1" = 100'

PREPARED FOR:
TowerCom
5611 NC HIGHWAY 55, SUITE 201
DURHAM, NC 27713

PROJECT INFORMATION:
MILL CREEK
4282 LANDI LANE
MEBANE, NC 27302
(ALAMANCE COUNTY)

PREPARED BY:
TEP ENGINEERING, PLLC
326 TRYON ROAD
RALEIGH, NC 27603-3530
(919) 661-6351
COA # P-1403

SURVEYOR CERTIFICATE
"I, ALAN H. ALBERT, CERTIFY THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION, (DEED DESCRIPTION RECORDED IN BOOK 641 AT PAGE 596) THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS BROKEN LINES, DRAWN FROM INFORMATION FOUND IN BOOK AND PAGE AS REFERENCED HEREIN; THAT RATIO OF PRECISION OR POSITIONAL ACCURACY IS 1: 10,000 OR GREATER; THAT THIS MAP MEETS THE REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56.1600)."
THIS 24TH DAY OF AUGUST, 2020.

ALAN H. ALBERT
NORTH CAROLINA PLS # 3738
PRELIMINARY PLAT
NOT FOR RECORDATION
OR SALES
PROFESSIONAL
SEAL
L-3738
LAND SURVEYOR
ALAN H. ALBERT

SHEET TITLE:
SITE SURVEY

DATE: 08/24/2020 REVISION: 0
SHEET #: 1 OF 1 TEP #: 249639

**2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)**
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: MILL CREEK
 Address: 4449 LANDI LANE, MEBANE, NC Zip Code 27302
 Owner/Authorized Agent: GEORGE DAVIS Phone # (919) 666 - 2906 E-Mail gdavis@towercomenterprises.com
 Owned By: City/County Private State
 Code Enforcement Jurisdiction: City MEBANE County State

CONTACT: Tower Engineering Professionals

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	Tower Engineering Professionals	Jeremy K. Wooster	048394	(919) 661-6351	jkwooster@tepgroup.net
Civil	Tower Engineering Professionals	Mark S. Quakenbush	042109	(919) 661-6351	mquakenbush@tepgroup.net
Electrical					
Fire Alarm					
Plumbing					
Mechanical					
Sprinkler-Standpipe					
Structural					
Retaining Walls >5' High					
Other					

(*Other* should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING CODE: New Building Addition Renovation
 1st Time Interior Completion
 Shell/Core - Contact the local inspection jurisdiction for possible additional procedures and requirements
 Phased Construction - Shell/Core- Contact the local inspection jurisdiction for possible additional procedures and requirements

2018 NC EXISTING BUILDING CODE: EXISTING: Prescriptive Repair Chapter 14
 Alteration: Level I Level II Level III
 Historic Property Change of Use

CONSTRUCTED: (date) _____ **CURRENT OCCUPANCY(S)** (Ch. 3): _____
RENOVATED: (date) _____ **PROPOSED OCCUPANCY(S)** (Ch. 3): _____

OCCUPANCY CATEGORY (Table 1604.5): **Current:** I II III IV
Proposed: I II III IV

BASIC BUILDING DATA
Construction Type: I-A II-A III-A IV V-A
 (check all that apply) I-B II-B III-B V-B
Sprinklers: No Partial Yes NFPA 13 NFPA 13R NFPA 13D
Standpipes: No Yes Class I II III Wet Dry
Fire District: No Yes **Flood Hazard Area:** No Yes
Special Inspections Required: No Yes (Contact the local inspection jurisdiction for additional procedures and requirements.)

Gross Building Area Table			
FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
3 rd Floor		N/A	
2 nd Floor		N/A	
Mezzanine		N/A	
1 st Floor		N/A	
Basement		N/A	
TOTAL		N/A	

ALLOWABLE AREA

Primary Occupancy Classification(s): Select one Select one Select one Select one Select one Select one

Assembly A-1 A-2 A-3 A-4 A-5
 Business
 Educational
 Factory F-1 Moderate F-2 Low
 Hazardous H-1 Detonate H-2 Deflagrate H-3 Combust H-4 Health H-5 HPM
 Institutional I-1 Condition 1 2
 I-2 Condition 1 2
 I-3 Condition 1 2 3 4 5
 I-4
 Mercantile
 Residential R-1 R-2 R-3 R-4
 Storage S-1 Moderate S-2 Low High-piled
 Parking Garage Open Enclosed Repair Garage
 Utility and Miscellaneous

Accessory Occupancy Classification(s): N/A
Incidental Uses (Table 509): N/A

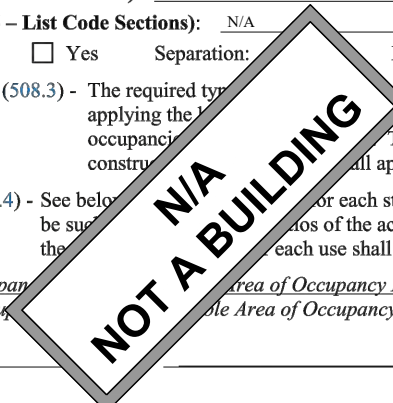
Special Uses (Chapter 4 – List Code Sections): N/A
Special Provisions: (Chapter 5 – List Code Sections): N/A

Mixed Occupancy: No Yes Separation: _____ Exception: _____

Non-Separated Use (508.3) - The required type of occupancy for the building shall be determined by applying the most restrictive type of occupancy classification for each of the applicable occupancies. The most restrictive type of occupancy classification shall apply to the entire building.

Separated Use (508.4) - See below. For each story, the area of the occupancy shall be subdivided into areas of the actual floor area of each use divided by the number of occupancies. Each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \dots + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1.00$$



PLANS PREPARED FOR:

TowerCom
 5611 NC HWY 55, SUITE 201
 DURHAM, NC 27713
 (919) 666-2906

PROJECT INFORMATION:

MILL CREEK

4449 LANDI LANE
 MEBANE, NC 27302
 (ALAMANCE COUNTY)


PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
 326 TRYON ROAD
 RALEIGH, NC 27603-3530
 OFFICE: (919) 661-6351
 www.tepgroup.net

N.C. LICENSE # C-1794

SEAL:



June 8, 2021

11	06-08-21	ZONING
10	05-27-21	ZONING
9	05-26-21	ZONING
8	05-11-21	ZONING
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DRAWN BY: GLB CHECKED BY: JKW

SHEET TITLE:

APPENDIX B

SHEET NUMBER: **T-2** REVISION: **11**
 TEP #: 249639

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2 ⁴ AREA	(C) AREA FOR FRONTAGE INCREASE ^{1,5}	(D) ALLOWABLE AREA PER STORY OR UNLIMITED ^{2,3}

- ¹ Frontage area increases from Section 506.2 are:
- a. Perimeter which fronts a public way
 - b. Total Building Perimeter
 - c. Ratio (F/P) = _____ (F/P)
 - d. W = Minimum width of public way
 - e. Percent of frontage increase = $\frac{F}{P} \times W/30 = \text{_____} (\%)$
- ² Unlimited area applicable under conditions of Section 507.
- ³ Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2).
- ⁴ The maximum area of open parking garage must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1.
- ⁵ Frontage increase is based on the unsprinklered area value in Table 506.2.

NOT A BUILDING

NOT A BUILDING

ALLOWABLE HEIGHT			
	ALLOWABLE	ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)			
Building Height in Stories (Table 504.4)			

¹ Provide code reference if the "Shown on Plans" quantity is not by code.

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING		DETAIL # AND SHEET	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
		REQ'D	PROVIDED (W/REDUCTION)*				
Structural Frame, including columns, girders, trusses							
Bearing Walls							
Exterior							
North							
East							
West							
South							
Interior							
Nonbearing Walls and Partitions							
Exterior walls							
North							
East							
West							
South							
Interior walls and partitions							
Floor Construction							
Including supporting beams and joists							
Floor Ceiling Assembly							
Columns Supporting Floors							
Roof Construction, including supporting beams and joists							
Roof Ceiling Assembly							
Columns Supporting Roof							
Shaft Enclosures - Exit							
Shaft Enclosures - Other							
Corridor Separation							
Occupancy/Fire Barrier Separation							
Party/Fire Wall Separation							
Smoke Barrier Separation							
Smoke Partition							
Tenant/Dwelling Unit/Sleeping Unit Separation							
Incidental Use Separation							

NOT A BUILDING

NOT A BUILDING

* Indicate section number permitting reduction

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T-3	11
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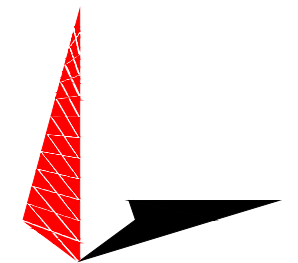
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PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)

LIFE SAFETY PLAN REQUIREMENTS

- Emergency Lighting: Yes No
- Exit Signs: Yes No
- Fire Alarm: Yes No
- Smoke Detection Systems: Yes Partial No
- Panic Hardware: Yes No

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: _____

- Fire and/or smoke rated wall locations (Chapter 7)
- Assumed and real property line locations (if not on the site plan)
- Exterior wall opening area with respect to distance to assumed property lines (705.8)
- Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
- Occupant loads for each area
- Exit access travel distances (1017)
- Common path of travel distances (Tables 1006)
- Dead end lengths (1020.4)
- Clear exit widths for each exit door
- Maximum calculated occupant load that can be accommodated based on egress width (1005.3)
- Actual occupant load for each exit
- A separate schematic plan indicating floor/ceiling and/or roof structure is provided for purposes of occupancy separation (1010.1.9.1)
- Location of doors with panic hardware (1010.1.9.10)
- Location of doors with delayed egress and the amount of delay (1010.1.9.7)
- Location of doors with electromagnetic egress locks (1010.1.9.9)
- Location of doors equipped with hold-open devices
- Location of emergency escape windows (1030)
- The square footage of each fire area (202)
- The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
- Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS (SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED

ACCESSIBLE

LOT OR PARKING AREA	TOTAL # OF PARKING REQUIRED	ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE PROVIDED
		WITH AISLE	132" ACCESS AISLE	8' ACCESS AISLE	
TOTAL					

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

USE	SPACE	WATERCLOSETS			URINALS	LAVATORIES			SHOWERS /TUBS	DRINKING FOUNTAINS	
		MALE	FEMALE	UNISEX		MALE	FEM	UNISEX		REGULAR	ACCESSIBLE
EXIST'G											
NEW											
REQ'D											

SPECIAL

Special approval: (Local Jurisdiction, Department of Health, Fire, etc., describe below)

ENERGY SUMMARY

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: No Yes (Provide code or reference here) _____
(If "No", remainder of this section is not applicable)

Exempt Building: No Yes (Provide code or reference here) _____

Climate Zone: 3A 4A 5A 6A 7A 8A 9A 10A

Method of Compliance: Energy Prescriptive
 ASHRAE Prescriptive
 (Provide code or reference here) _____

THERMAL ENVELOPE (Prescriptive)

Roof/ceiling Assembly (each assembly)
 Description of assembly: _____
 U-Value of total assembly: _____
 R-Value of insulation: _____
 Skylights in each assembly:
 U-Value of skylight: _____
 total square footage of skylights in each assembly: _____

Exterior Walls (each assembly)
 Description of assembly: _____
 U-Value of total assembly: _____
 R-Value of insulation: _____
 Openings (windows or doors with glazing)
 U-Value of assembly: _____
 Solar heat gain coefficient: _____
 projection factor: _____
 Door R-Values: _____

Walls below grade (each assembly)
 Description of assembly: _____
 U-Value of total assembly: _____
 R-Value of insulation: _____

Floors over unconditioned space (each assembly)
 Description of assembly: _____
 U-Value of total assembly: _____
 R-Value of insulation: _____

Floors slab on grade
 Description of assembly: _____
 U-Value of total assembly: _____
 R-Value of insulation: _____
 Horizontal/vertical requirement: _____
 slab heated: _____

**2018 APPENDIX B
 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
 STRUCTURAL DESIGN
 (PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)**

DESIGN LOADS:

Importance Factors: Snow (I_s) _____
 Seismic (I_E) _____

Live Loads: Roof _____ psf
 Mezzanine _____ psf
 Floor _____ psf

Ground Snow Load: _____ psf

Wind Load: Basic Wind Speed _____ (ASCE-7)
 Exposure Category _____

SEISMIC DESIGN CATEGORY: A B C D E F

Provide the following Seismic Design I II III IV

Risk Category (Table 1601-1) _____

Spectral Response Acceleration (S₁) _____ %g

Site Classification (ASCE 7.9.5) B C D E F

Data Source: Field Test Presumptive Historical Data

Basic structural system
 Bearing Wall Dual w/Special Moment Frame
 Building Frame Dual w/Intermediate R/C or Special Steel
 Moment Frame Inverted Pendulum

Analysis Procedure: Simplified Equivalent Lateral Force Dynamic

Architectural, Mechanical, Components anchored? Yes No

LATERAL DESIGN CONTROL: Earthquake Wind

SOIL BEARING CAPACITIES:
 Field Test (provide copy of test report) _____ psf
 Presumptive Bearing capacity _____ psf
 Pile size, type, and capacity _____

PLANS PREPARED FOR:



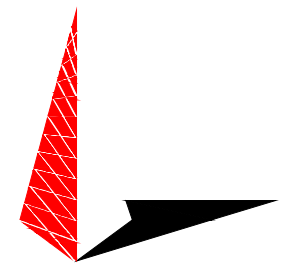
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**2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)**

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone

winter dry bulb: _____
summer dry bulb: _____

Interior design conditions

winter dry bulb: _____
summer dry bulb: _____
relative humidity: _____

Building heating load: _____

Building cooling load: _____

Mechanical Spacing Conditioning System

Unitary

description of unit: _____
heating efficiency: _____
cooling efficiency: _____
size category of unit: _____

Boiler

Size category. If oversized, state reason.: _____

Chiller

Size category. If oversized, state reason.: _____

List equipment efficiencies: _____

**2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)**

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: Energy Code Performance ASHRAE 90.1 Prescriptive
ASHRAE 90.1 Performance ASHRAE 90.1 Prescriptive

Lighting schedule (each fixture type)

lamp type required in fixture _____
number of lamps in fixture _____
ballast type used in fixture _____
number of ballasts _____
total wattage per fixture _____
total interior wattage allowed (whole building or space by space) _____
total exterior wattage allowed _____

**Additional Efficiency Package Options
(When using the 2018 NCECC; not required for ASHRAE 90.1)**

- C406.2 More Efficient HVAC Equipment Performance
- C406.3 Reduced Lighting Power Density
- C406.4 Enhanced Digital Lighting Controls
- C406.5 On-Site Renewable Energy
- C406.6 Dedicated Outdoor Air System
- C406.7 Reduced Energy Use in Service Water Heating

PLANS PREPARED FOR:



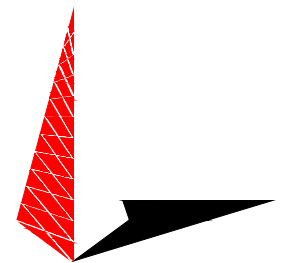
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	TEP #: 249639

GENERAL NOTES:

- ALL REFERENCES MADE TO OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED TOWERCOM OR ITS DESIGNATED REPRESENTATIVE. ALL REFERENCES MADE TO LESSEE (TOWERCOM) IN THESE DOCUMENTS SHALL BE CONSIDERED T-MOBILE WIRELESS OR ITS DESIGNATED REPRESENTATIVE.
- ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING TO HAVE SUFFICIENT EXPERIENCE AND ABILITY, IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF NORTH CAROLINA.
- WORK SHALL BE COMPLETED IN ACCORDANCE WITH ANSI/TIA 222-H STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES, ASCE 7-05 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES AND THE 2018 NORTH CAROLINA BUILDING CODE.
- UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
- ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERSEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
- IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
- THE LESSEE SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL CONDITIONS PRIOR TO SUBMITTING THE PROPOSAL. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS (LATEST REVISION) SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATION. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE LESSEE AND THE LESSEE'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE LESSEE AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.
- ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE LESSEE (TOWERCOM) AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
- THESE DOCUMENTS DO NOT INCLUDE THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. SAFETY, CARE OF ADJACENT PROPERTIES, AND COMPLIANCE WITH LOCAL, PROVINCIAL AND FEDERAL REGULATIONS REGARDING SAFETY, SHALL BE THE CONTRACTOR'S RESPONSIBILITY, AND THIS, PER THE INTERNATIONAL CODE - REGULATORS RESPECTING OCCUPATIONAL SAFETY & HEALTH THE SUCCESSFUL CONTRACTOR WILL SUBMIT HIS SAFETY MANUAL AT THE PROJECT SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
- ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE LESSEE (TOWERCOM)'S PROJECT MANAGER.
- BILL OF MATERIALS AND PART NUMBERS LISTED ON CONSTRUCTION DRAWINGS ARE INTENDED TO AID CONTRACTOR/LESSEE (TOWERCOM). CONTRACTOR/LESSEE (TOWERCOM) SHALL VERIFY PARTS AND QUANTITIES WITH MANUFACTURER PRIOR TO BIDDING AND/OR ORDERING MATERIALS.
- THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC.) ALL MATERIAL NOT SUITABLE FOR SUBGRADE IN ITS PRESENT STATE. AFTER REWORKING, IF THE MATERIAL REMAINS UNSUITABLE, THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL. ALL SUBGRADES SHALL BE PROOF-ROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFT MATERIAL SHALL BE REWORKED OR REPLACED.
- THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PIPES, DITCHES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE LESSEE. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION.
- ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
- ANY BUILDINGS ON THIS SITE ARE INTENDED TO SHELTER EQUIPMENT WHICH WILL ONLY BE PERIODICALLY MAINTAINED, AND ARE NOT INTENDED FOR HUMAN OCCUPANCY.
- TEMPORARY FACILITIES FOR PROTECTION OF TOOLS AND EQUIPMENT SHALL CONFORM TO LOCAL REGULATIONS AND SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- RENTAL CHARGES, SAFETY, PROTECTION AND MAINTENANCE OF RENTED EQUIPMENT SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- THE CONTRACTOR AND ITS SUBCONTRACTORS SHALL CARRY LIABILITY INSURANCE IN THE AMOUNTS AND FORM IN ACCORDANCE WITH SPECIFICATIONS. CERTIFICATES DEMONSTRATING PROOF OF COVERAGE SHALL BE PROVIDED TO PRIOR TO THE START OF THE WORK ON THE PROJECT.

- THE CONTRACTOR SHALL CONTACT ALL APPLICABLE UTILITY SERVICES TO VERIFY LOCATIONS OF EXISTING UTILITIES AND REQUIREMENTS FOR NEW UTILITY CONNECTIONS PRIOR TO EXCAVATING. CONTRACTOR WILL BE RESPONSIBLE TO ASSIST IN COORDINATING AND OBTAINING PRIMARY POWER TO THE SITE PRIOR TO TOWER ERECTION BEFORE PROJECT COMPLETION. (ON SITE VISITS WITH UTILITY COMPANY REPRESENTATIVES AS NECESSARY, ETC...)
- THE CONTRACTOR SHALL GUARANTEE THE WORK PERFORMED ON THE PROJECT BY THE CONTRACTOR AND ANY OR ALL OF THE SUBCONTRACTORS WHO PERFORMED WORK FOR THE CONTRACTOR ON THIS PROJECT. THE GUARANTEE SHALL BE FOR A FULL YEAR FOLLOWING ISSUANCE OF THE FINAL PAYMENT OF HOLDBACK.
- AWARDED CONTRACTOR WILL BE REQUIRED TO SIGN AND RETURN A COPY OF AN AWARD LETTER FOR THE LESSEE (TOWERCOM)'S FILE.
- CONTRACTOR WILL BE REQUIRED TO PROVIDE PROOF OF LICENSE TO PERFORM WORK IN JURISDICTION AT TIME OF BID AWARD.
- CONTRACTOR WILL PROVIDE A CONSTRUCTION SCHEDULE PRIOR TO CONSTRUCTION STARTING AND WILL PROVIDE UPDATE/CHANGES (WITH EXPLANATIONS) TO THAT SCHEDULE WHEN/IF ITEMS ARE DELAYED OR PUSHED OUT.
- CONTRACTOR WILL BE RESPONSIBLE TO PROVIDE PROJECT MANAGERS WITH PHOTOS OF THE MAJOR CONSTRUCTION MILESTONES AS THEY OCCUR.
- CONTRACTOR SHOULD BE PREPARED FOR RANDOM SAFETY INSPECTIONS AT ALL TIMES.
- CONTRACTOR IS EXPECTED TO MAINTAIN PROPER WORKING CONDITIONS AND PROCEDURES PER LOCAL AND FEDERAL STANDARDS AT ALL TIMES.
- CONTRACTOR WILL BE REQUIRED TO OBTAIN THE NECESSARY ELECTRICAL PERMITS AND INSPECTIONS AS REQUIRED BY JURISDICTION.
- CONTRACTOR IS RESPONSIBLE FOR CONCRETE COMPRESSION TESTING.
- CONTRACTOR IS RESPONSIBLE FOR GROUND MEG TESTING AND PROVIDING PROOF OF RESULT.
- WHEN REQUESTED, PROVIDE 3 COPIES OF FABRICATION AND ERECTION DRAWINGS PRIOR TO FABRICATION. ALLOW UP TO 1 WEEK FOR REVIEW BY CONSULTANT.
- IN ADDITION TO CONTRACTOR'S QUALITY CONTROL PROGRAM, INDEPENDENT TESTING AND INSPECTION MAY BE PERFORMED BY LESSEE (TOWERCOM) OR LESSEE (TOWERCOM)'S REPRESENTATIVE.
- SUBMIT RED-LINES COPY OF CONSTRUCTION DRAWINGS UPON COMPLETION OF CONSTRUCTION HIGHLIGHTING CHANGES IN THE STAMPED AND SIGNED AS-BUILT CONDITION FROM SHOWN ON THE DRAWINGS.
- CONTRACTOR WILL BE RESPONSIBLE FOR ALL GRADING AND FILL COMPACTION TESTING REQUIRED AS SET FORTH IN THE GEO TECHNOLOGICAL REPORT PROVIDED BY LESSEE (TOWERCOM).

CONCRETE:

- ALL CONCRETE AND CONCRETE MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE 2018 NORTH CAROLINA BUILDING CODE.
- THE CONTRACTOR SHALL TAKE SAMPLES OF THE CONCRETE POURED UNDER THE CONDITIONS OUTLINED IN THE 2018 NORTH CAROLINA BUILDING CODE.
- ANY FAILURE OF A CONCRETE TEST CYLINDER TO MEET THE SPECIFIED STRENGTH REQUIREMENTS MUST BE REPORTED TO THE DESIGN ENGINEER IMMEDIATELY. CORRECTIVE ACTION MUST BE APPROVED BY THE ENGINEER AND ALL RELATED COSTS SHALL BE AT THE CONTRACTOR'S EXPENSE.
- THE MINIMUM 28-DAY COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE A MINIMUM OF 3,000 PSI (21 MPA), EXCEPT AS NOTED OR DIRECTED IN THE SOIL REPORT. THE CONCRETE, WHEN POURED, SHALL CONTAIN 7% AIR ENTRAINMENT WITH AN ALLOWABLE VARIATION OF +2%.
- CONTRACTOR MUST TAKE SLUMP TEST AT LEAST ONCE FROM EACH TRANSIT MIXER AFTER A MINIMUM OF 5% CONCRETE LOAD HAD BEEN DISCHARGED. SLUMP, UNLESS NOTED OTHERWISE ON THE DRAWINGS, SHALL BE 75 MM (2.95 INCHES).
- MIXED CONCRETE ON SITE (REMOTE AREAS) WITH THE CORRECT PROPORTION OF CEMENT, SAND, GRAVEL, AND AIR-ENTRAINING AGENT ALREADY ADDED, THE DRY PREMIX IS TO BE MIXED IN A CONCRETE BATCHER IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- BEFORE POURING CONCRETE, THE TRANSPORTING EQUIPMENT AND FORMS SHALL BE CLEANED AND ALL DEBRIS AND ICE SHALL BE REMOVED FROM PLACES TO BE OCCUPIED BY THE CONCRETE. ANY WATER THAT HAS ACCUMALATED IN THE FORMS SHALL BE REMOVED.
- ALL CONCRETE SHALL BE VIBRATED AND WORKED AROUND THE REINFORCEMENTS, EMBEDDED FIXTURES AND INTO THE CORNERS OF THE FORMS. ANY EXCESS WATER THAT ACCUMULATES WHILE THE CONCRETE IS BEING POURED SHALL BE REMOVED.

PLANS PREPARED FOR:



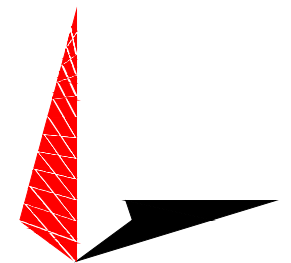
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TOWER ENGINEERING PROFESSIONALS

326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

N.C. LICENSE # C-1794

SEAL:



June 8, 2021

11	06-08-21	ZONING
10	05-27-21	ZONING
9	05-26-21	ZONING
8	05-11-21	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: GLB CHECKED BY: JKW

SHEET TITLE:

GENERAL NOTES I

SHEET NUMBER: REVISION:

N-1

11

TEP #: 249639

CONCRETE (CONTINUED):

9. THE DESIGN ENGINEER SHALL RECEIVE A MINIMUM OF 24 HOURS NOTICE OF EVERY POUR.
10. THE CONCRETE IN FOUNDATIONS MUST BE POURED IN CONTINUOUS POURS BETWEEN CONSTRUCTION JOINTS. NO CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON SITE SPECIFIC DRAWINGS WILL BE PERMITTED. THE CONTRACTOR SHALL PROVIDE EFFICIENT EQUIPMENT TO COMPLETE THE POURING OF EACH SECTION IN ONE CONTINUOUS POUR.
11. ALL FRAMEWORK SHALL BE BUILT IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE SHALL BE THOROUGHLY BRACED AND PLUMBED SO THAT THE FINISHED CONCRETE WILL CONFORM TO THE SHAPES, LINES, GRADES, AND DIMENSIONS INDICATED ON THE SITE DRAWINGS.
12. FORMS AND SHORING SHALL NOT BE REMOVED UNTIL THE CONCRETE IS ADEQUATELY SET. THEIR REMOVAL SHALL BE DONE IN SUCH A MANNER AS TO ENSURE THE COMPLETE SAFETY OF THE STRUCTURE.
13. FORMS WHICH SUPPORT THE WEIGHT OF THE CONCRETE, OR OF SUPERIMPOSED LOADS, SHALL NOT BE REMOVED UNTIL THE CONCRETE IS STRONG ENOUGH TO CARRY ITS OWN WEIGHT, AND SUCH SUPERIMPOSED LOADS AS MAY BE PLACED UPON IT.
14. THE CONCRETE SHALL BE MAINTAINED IN A MOIST CONDITION FOR AT LEAST 5 DAYS AFTER IT HAS BEEN POURED.
15. ALL SURFACES WHICH ARE NOT PROTECTED BY FORMS OR A SEALED WATERPROOF COATING SHALL BE KEPT MOIST BY CONTINUOUS SPRINKLING, OR OTHER MEANS SUCH AS COVERING WITH MOIST SAND, SAWDUST, OR BURLAP.
16. WHERE NECESSARY, THE CONCRETE SHALL BE PROTECTED AGAINST THE WEATHER BY A FRAMED HOUSING, TARPAULINS, OR OTHER SUITABLE COVERING.

REINFORCING STEEL (REBAR):

1. REINFORCING STEEL SHALL MEET CODE AND BE PLACED ACCORDING TO THE APPLICABLE DRAWINGS. THE MINIMUM THICKNESS OF CONCRETE OVER THE STEEL SHALL BE AT LEAST 3".
2. ALL REINFORCEMENTS THAT ARE REQUIRED FOR A DAYS POUR ON CONCRETE SHALL BE SECURELY FIXED IN PLACE IN SUFFICIENT TIME TO PERMIT INSPECTION BEFORE CONCRETING BEGINS.
3. THE DESIGN ENGINEER SHALL BE GIVEN 24 HOURS NOTICE BEFORE THE CONCRETE IS TO BE POURED. FAILURE TO COMPLY MAY NECESSITATE, BUT NOT BE LIMITED TO, THE REMOVAL OF THE POURED CONCRETE AT THE CONTRACTOR'S EXPENSE.

GROUTING:

1. WHERE GROUT IS INDICATED ON THE DRAWINGS UNDER STRUCTURAL BASE PLATES, THIS SHALL BE A NON-SHRINK, NON-FERROUS TYPE. METHODS OF MIXING AND PLACING MUST BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

COLD WEATHER CONCRETING:

1. THE CONTRACTOR SHALL PROVIDE AND HAVE ON THE SITE READY FOR USE, ADEQUATE EQUIPMENT FOR HEATING CONCRETE MATERIALS AND PROTECTING FRESH CONCRETE DURING FREEZING OR NEAR FREEZING WEATHER CONDITIONS, ACCORDING TO THE NORTH CAROLINA UNIFORM STATEWIDE BUILDING CODE.
2. ALL CONCRETE MATERIALS, REBAR, FORMS, FILLERS, AND THE EARTH WITH WHICH THE CONCRETE IS TO COME INTO CONTACT WITH, SHALL BE FREE FROM FROST AND ICE.
3. WHENEVER THE SURROUNDING TEMPERATURE IS BELOW 39°F, ALL CONCRETE POURED IN THE FORMS SHALL HAVE A TEMPERATURE OF 68°F FOR 4 DAYS.
4. THE HOUSING, COVERING, OR OTHER PROTECTION USED FOR THE CURING SHALL REMAIN IN PLACE AND INTACT FOR AT LEAST 24 HOURS AFTER THE ARTIFICIAL HEATING IS DISCONTINUED.
5. SALT, CALCIUM CHLORIDE, OR OTHER CHEMICALS SHALL NOT BE USED IN THE CONCRETE MIX TO PREVENT THE WATER CONTENT FROM FREEZING.

UTILITIES:

1. CONTRACTOR SHALL CONTACT A SUBSURFACE UTILITY LOCATOR FOR LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. LOCATION OF EXISTING SEWER, WATER LINES, GAS LINES, CONDUITS OR OTHER STRUCTURES ACROSS, UNDERNEATH, OR OTHERWISE ALONG THE LINE OF PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS, AND IF SHOWN ARE ONLY APPROXIMATELY CORRECT. CONTRACTOR ASSUMES SOLE RESPONSIBILITY FOR VERIFYING LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES (INCLUDING TEST PITS BY HAND IF NECESSARY) IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT ENGINEER IMMEDIATELY IF LOCATION OF ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLANS, OR IF THERE APPEARS TO BE A CONFLICT.
2. CONTRACTOR SHALL COORDINATE ALL UTILITY CONNECTIONS WITH APPROPRIATE UTILITY LESSEES AND CONSTRUCTION MANAGER.
3. DAMAGE BY THE CONTRACTOR TO UTILITIES OR PROPERTY OF OTHERS, INCLUDING EXISTING PAVEMENT AND OTHER SURFACES DISTURBED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED TO PRE-CONSTRUCTION CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE LESSEE (TOWERCOM). FOR GRASSES AREAS, SEED AND MULCH SHALL BE ACCEPTABLE.
4. THE CONTRACTOR SHALL COORDINATE WITH THE LESSEE (TOWERCOM) THE REQUIREMENTS FOR AND LIMITS OF OVERHEAD AND/OR UNDERGROUND ELECTRICAL SERVICE.
5. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF NEW UNDERGROUND TELEPHONE SERVICE WITH THE TELEPHONE UTILITY AND THE LESSEE (TOWERCOM)'S REQUIREMENTS.
6. ALL UNDERGROUND UTILITIES SHALL BE INSTALLED AND TESTED SATISFACTORY PRIOR TO COMMENCING ANY PAVING OPERATIONS WHERE SUCH UTILITIES ARE WITHIN THE LIMITS OF PAVEMENT.

PLANS PREPARED FOR:



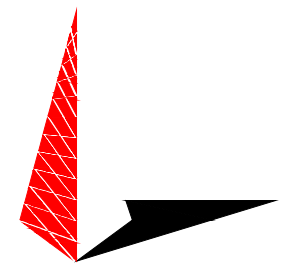
5611 NC HWY 55, SUITE 201
DURHAM, NC 27713
(919) 666-2906

PROJECT INFORMATION:

MILL CREEK

4449 LANDI LANE
MEBANE, NC 27302
(ALAMANCE COUNTY)

PLANS PREPARED BY:



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SHEET TITLE:

GENERAL NOTES II

SHEET NUMBER:

N-2

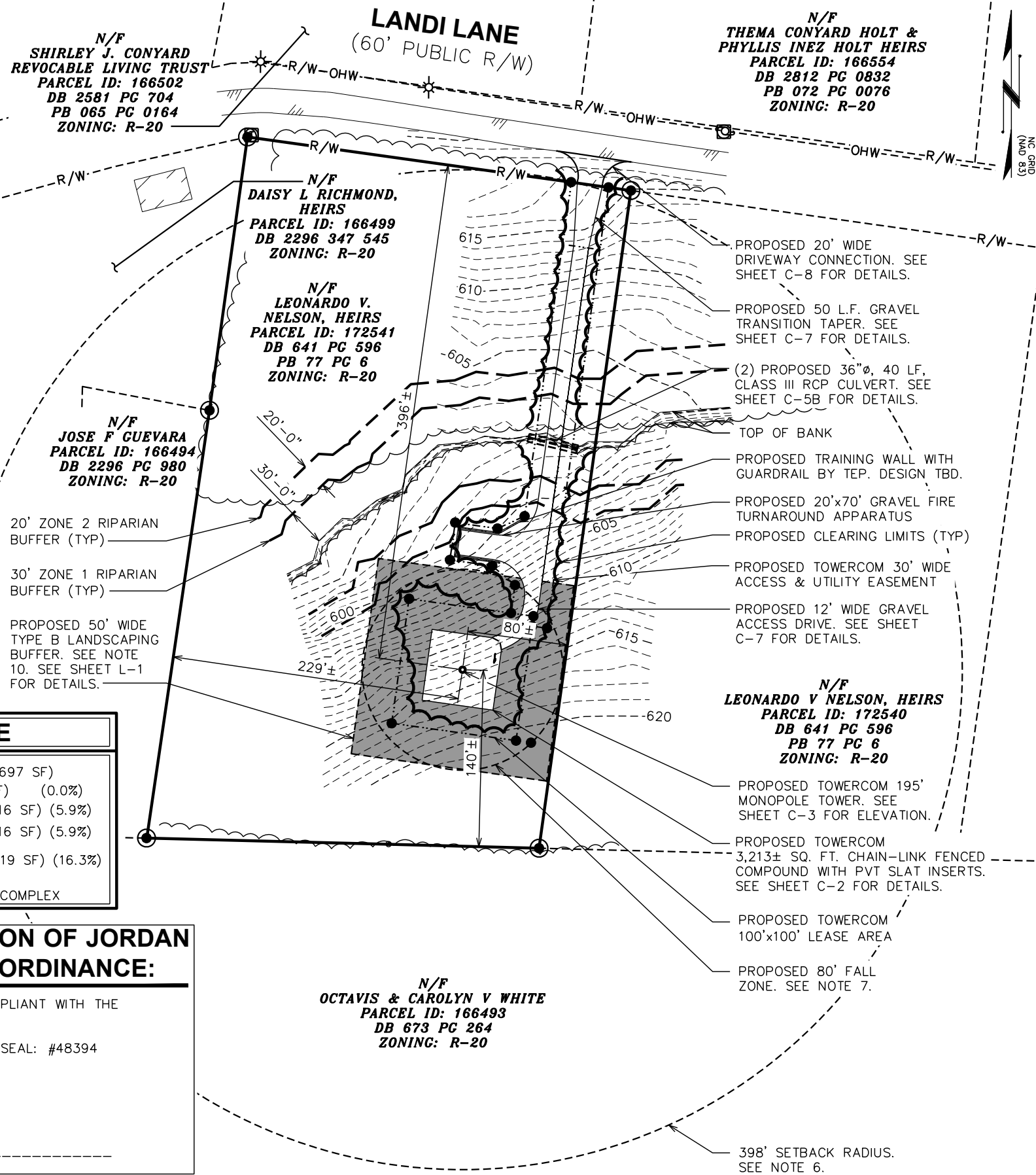
REVISION:

11

TEP #: 249639

NOTES:

1. BASIS OF THE BEARINGS AND COORDINATES IS THE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM (NC NAD 83/2011) BASED ON DIFFERENTIAL GPS OBSERVATIONS PERFORMED ON AUGUST 24, 2020.
2. VERTICAL INFORMATION SHOWN, BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88), IS EXPRESSED IN FEET.
3. ALL DISTANCES ARE GROUND UNLESS OTHERWISE NOTED.
4. THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" (AREA DETERMINED TO BE OUTSIDE THE 0.2% CHANCE OF ANNUAL FLOOD) ACCORDING TO FEMA COMMUNITY PANEL #3710981600K, EFFECTIVE NOVEMBER 17, 2017.
5. EXISTING VEGETATION SHALL BE UTILIZED IN LIEU OF LANDSCAPING UNLESS EXISTING VEGETATION WITHIN THE PROPOSED LANDSCAPING BUFFER DOES NOT MEET LANDSCAPING REQUIREMENTS PER ARTICLE 6-3 OF THE CITY OF MEBANE UNIFIED DEVELOPMENT ORDINANCE.
6. NO RESIDENTIALLY ZONED STRUCTURES ARE LOCATED WITHIN 398' (2x TOWER HEIGHT) OF THE PROPOSED TOWER.
7. TOWER SETBACKS (PER CITY OF MEBANE UDO SECTION 4-7.9.E(2)(g)(ii):
 -ADJACENT PARCEL BOUNDARIES: (FALL ZONE) = 80' (VARIANCE NEEDED)
 -PUBLIC RIGHT-OF-WAY: (1.0)*(TOWER HEIGHT) = (1.0)*(199') = 199'
 -RESIDENTIAL STRUCTURES: (2.0)*(TOWER HEIGHT) = (2.0)*(199') = 398'
 -NEAREST RESIDENTIAL STRUCTURE IS APPROXIMATELY 444' FROM PROPOSED TOWER CENTERLINE.
8. PROPOSED SITE LOCATION WITHIN THE GRAHAM-MEBANE LAKE WATERSHED CRITICAL AREA. WATER SUPPLY WATERSHED CLASSIFICATIONS WS-IIC & WS-II NSWC.
9. PROPOSED SITE LOCATION IS NOT WITHIN THE 5%/70% DISTRICT.
10. THE PROPOSED 50' WIDE LANDSCAPING BUFFER (BOTH WITHIN AND EXTENDING BEYOND THE 100'x100' LEASE AREA) SHALL BE MAINTAINED FOR BUFFER PURPOSES, AND SHALL NOT BE RE-PURPOSED OR DISTURBED FOR ALTERNATE LAND USE.




PLANS PREPARED FOR:
TowerCom
 5611 NC HWY 55, SUITE 201
 DURHAM, NC 27713
 (919) 666-2906

PROJECT INFORMATION:
MILL CREEK
 4449 LANDI LANE
 MEBANE, NC 27302
 (ALAMANCE COUNTY)

PLANS PREPARED BY:

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DRAWN BY: GLB CHECKED BY: JKW

SHEET TITLE:
SITE PLAN

SHEET NUMBER: **C-1** REVISION: **11**
 TEP #: 249639

LEGEND

	EXIST. PROPERTY LINE
	ADJ. PROPERTY LINE
	EXIST. UTILITY POLE
	EXIST. TELCO PEDESTAL
	PROPERTY CORNER
	LEASE/EASE. CORNER
	EXIST. CONTOUR LINE
	EDGE OF PAVEMENT
	OVERHEAD WIRE
	RIGHT-OF-WAY
	CHAIN LINK FENCE
	EXISTING TREE LINE

SITE DATA TABLE

TOTAL PARCEL AREA:	3.87 ACRES±, (168,697 SF)
EXISTING IMPERVIOUS:	0.00 ACRES±, (0 SF) (0.0%)
PROPOSED IMPERVIOUS:	0.23 ACRES±, (10,116 SF) (5.9%)
TOTAL IMPERVIOUS:	0.23 ACRES±, (10,116 SF) (5.9%)
TOTAL PROPOSED DISTURBED AREA:	0.63 ACRES±, (27,419 SF) (16.3%)
SOIL TYPES:	CULLEN CLAY LOAM, MANDALE-SECRET COMPLEX

ENGINEERS CERTIFICATION OF JORDAN LAKE RIPARIAN BUFFER ORDINANCE:

THE PROPOSED DEVELOPMENT AREA IS COMPLIANT WITH THE JORDAN LAKE RIPARIAN BUFFER ORDINANCE.

ENGINEER: JEREMY K. WOOSTER, P.E. NC SEAL: #48394

SIGNATURE: _____

SITE PLAN
 SCALE: 1" = 50'

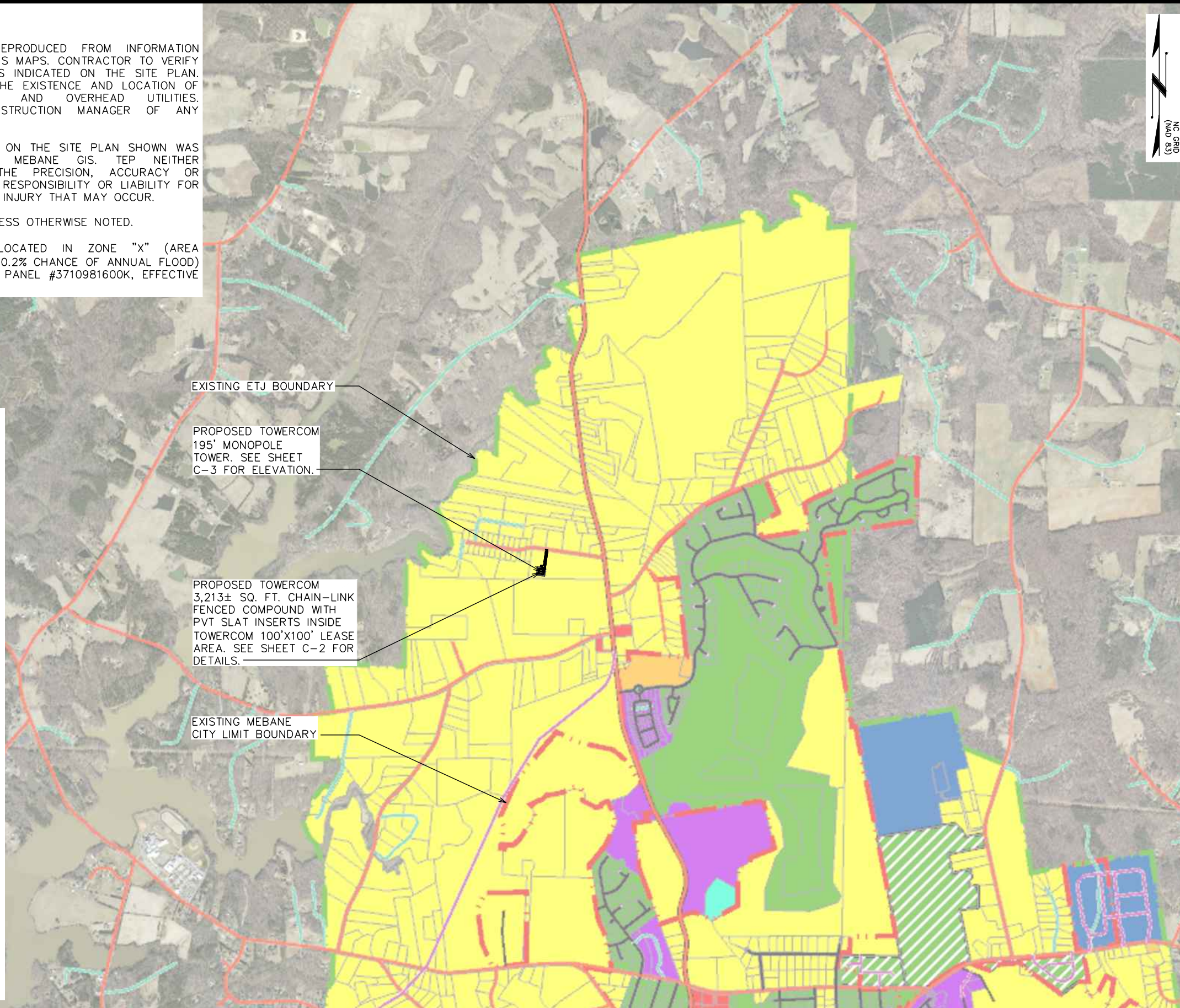
0 100 200
 SCALE IN FEET

NOTES:

1. THE SITE PLAN BELOW IS REPRODUCED FROM INFORMATION PROVIDED BY CITY OF MEBANE GIS MAPS. CONTRACTOR TO VERIFY ALL EXISTING INFORMATION IS AS INDICATED ON THE SITE PLAN. CONTRACTOR IS TO ESTABLISH THE EXISTENCE AND LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES. IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES.
2. EXISTING INFORMATION INDICATED ON THE SITE PLAN SHOWN WAS REPRODUCED FROM CITY OF MEBANE GIS. TEP NEITHER GUARANTEES, NOR ENSURES THE PRECISION, ACCURACY OR CORRECTNESS AND ASSUMES NO RESPONSIBILITY OR LIABILITY FOR DAMAGES, LOSS OF REVENUE, OR INJURY THAT MAY OCCUR.
3. ALL DISTANCES ARE GROUND UNLESS OTHERWISE NOTED.
4. THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" (AREA DETERMINED TO BE OUTSIDE THE 0.2% CHANCE OF ANNUAL FLOOD) ACCORDING TO FEMA COMMUNITY PANEL #3710981600K, EFFECTIVE NOVEMBER 17, 2017.

ZONING

	B-1
	B-2
	Combo B-2 & M-1
	B-2(CD)
	B-3
	CU-B2
	M-1
	M-1(CD)
	M-2
	MHP
	O&I
	O&I(CD)
	R-10
	R-12
	R-12(CD)
	R-15
	R-20
	R-6
	R-6(CD)
	R-8
	R-8(CD)



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PROJECT INFORMATION:

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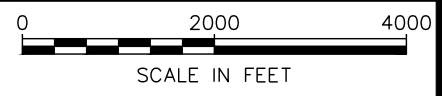
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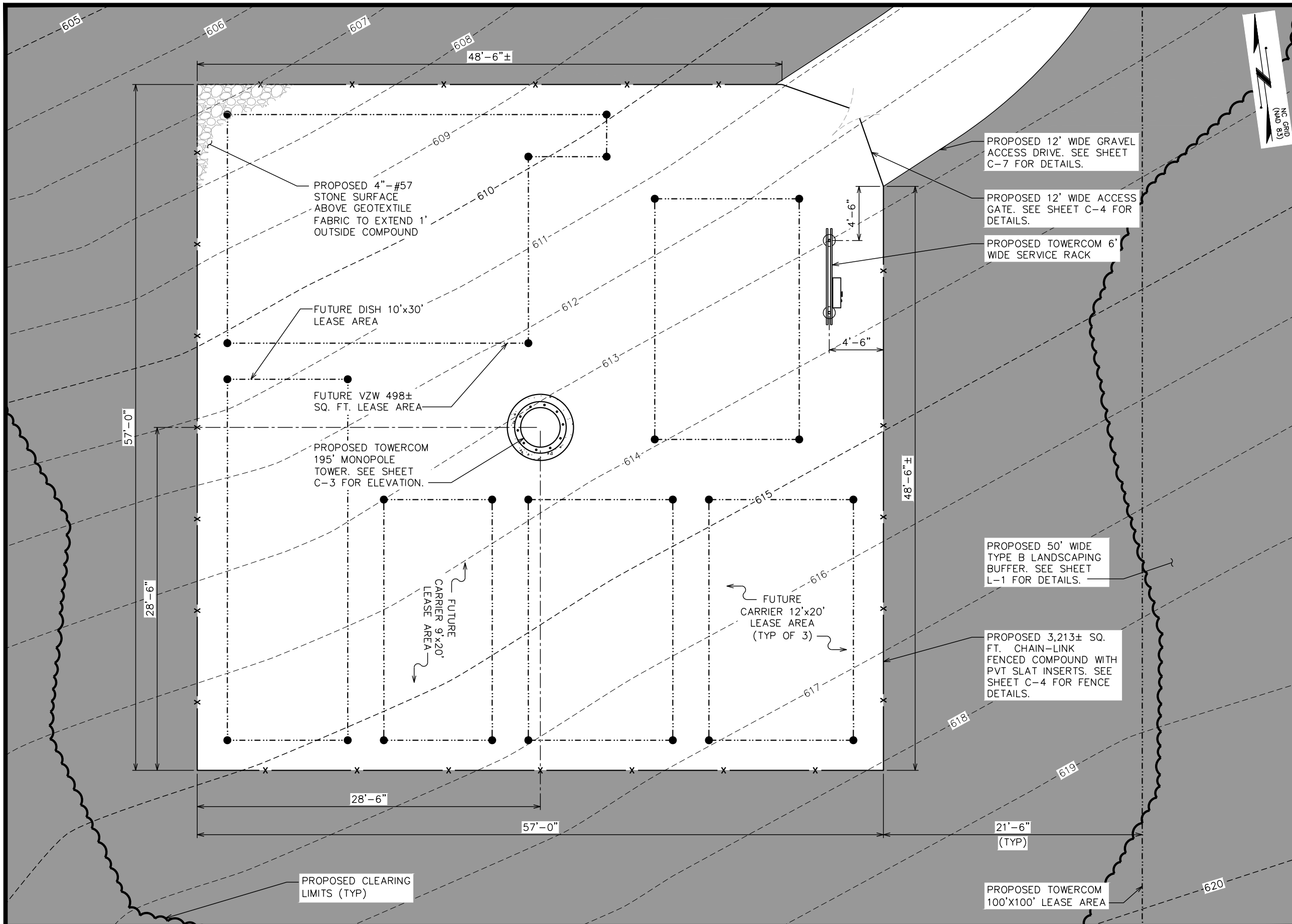
VICINITY MAP

SHEET NUMBER: **C-1A** REVISION: **11**

TEP #: 249639

VICINITY MAP
SCALE: 1" = 1000'





PLANS PREPARED FOR:



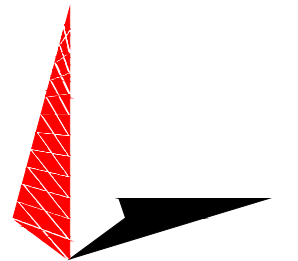
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SHEET TITLE:

**COMPOUND
DETAIL**

SHEET NUMBER:

C-2

REVISION:

11

TEP #: 249639

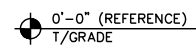
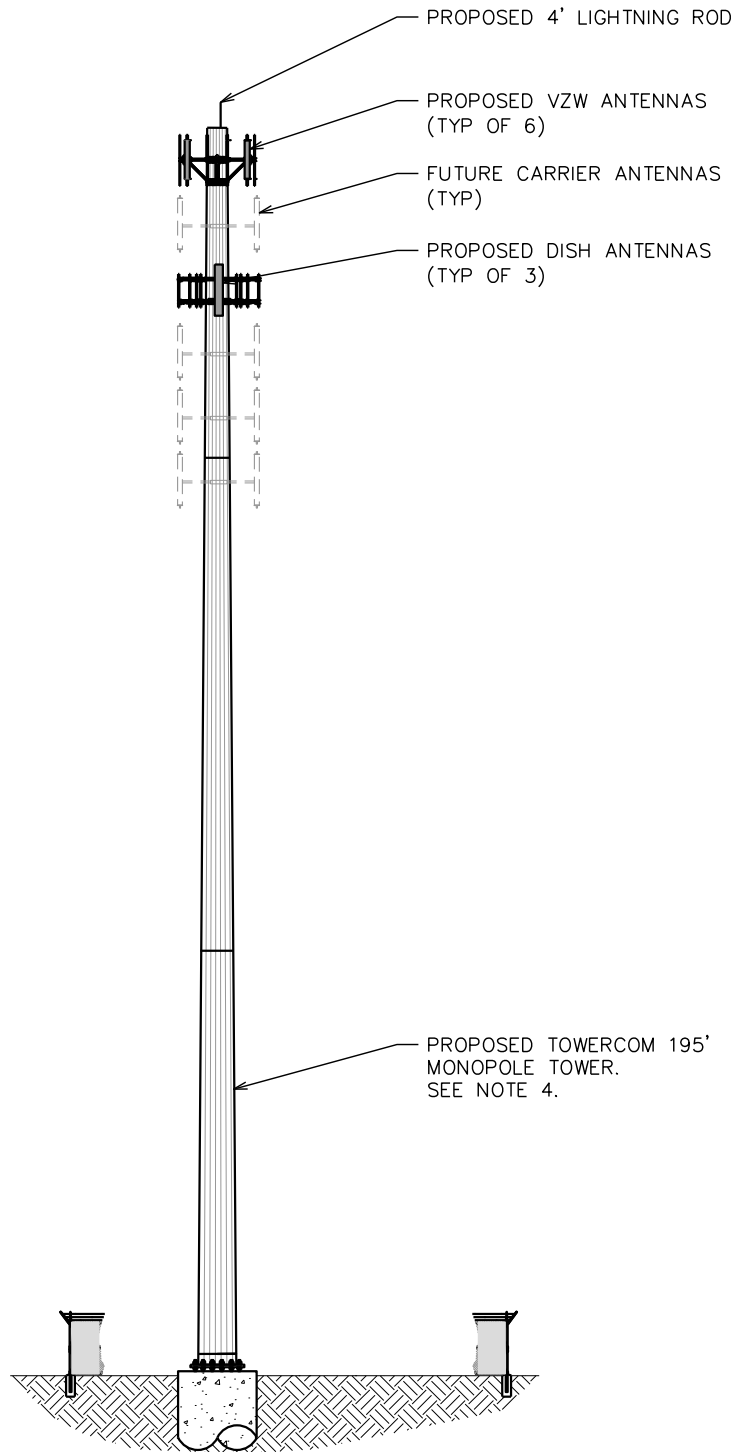
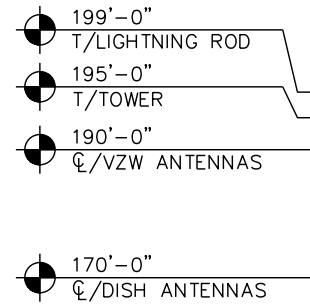
COMPOUND DETAIL

SCALE: 1/4" = 1'-0"



NOTES:

1. PROPOSED CABLES TO BE RUN AS PER SPECIFICATIONS OF PASSING STRUCTURAL ANALYSIS. IF PROPOSED CABLE TO BE RUN INSIDE TOWER USING HOISTING GRIPS (AS DIRECTED BY TOWER MANUFACTURER).
2. TOWER ELEVATION SHOWN FOR REFERENCE ONLY. VERIFY ACTUAL TOWER DESIGN & LOADING WITH TOWER DRAWINGS FROM MANUFACTURER AND/OR PASSING STRUCTURAL ANALYSIS PRIOR TO CONSTRUCTION.
3. CONTRACTOR TO VERIFY PROPOSED LOADING WITH PASSING STRUCTURAL ANALYSIS PRIOR TO CONSTRUCTION. CONTACT USCC IN THE EVENT OF ANY DISCREPANCIES.
4. PROPOSED TOWER TO BE DESIGNED TO ACCOMMODATE AT LEAST (6) ANTENNA ARRAYS PER SECTION 4-7.9(2)(I)(VI) OF THE CITY OF MEBANE WIRELESS COMMUNICATION FACILITIES ORDINANCE.



PLANS PREPARED FOR:



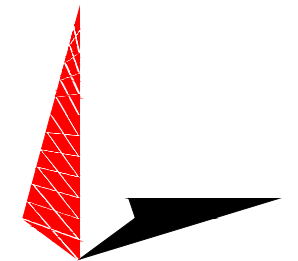
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PROJECT INFORMATION:

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SHEET TITLE:

TOWER ELEVATION

SHEET NUMBER:

C-3

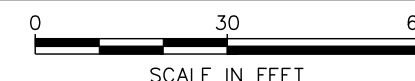
REVISION:

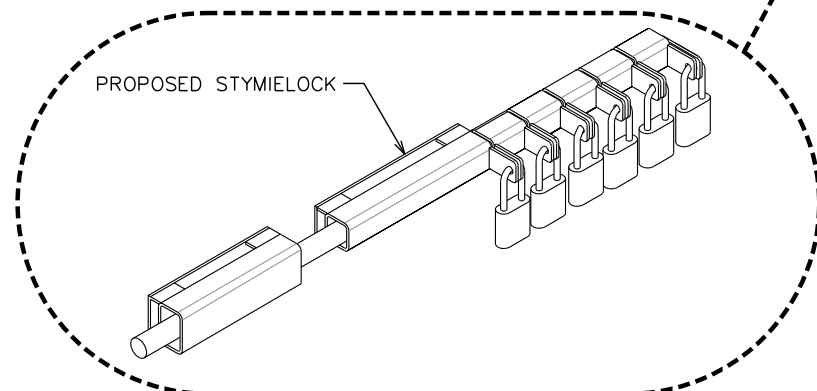
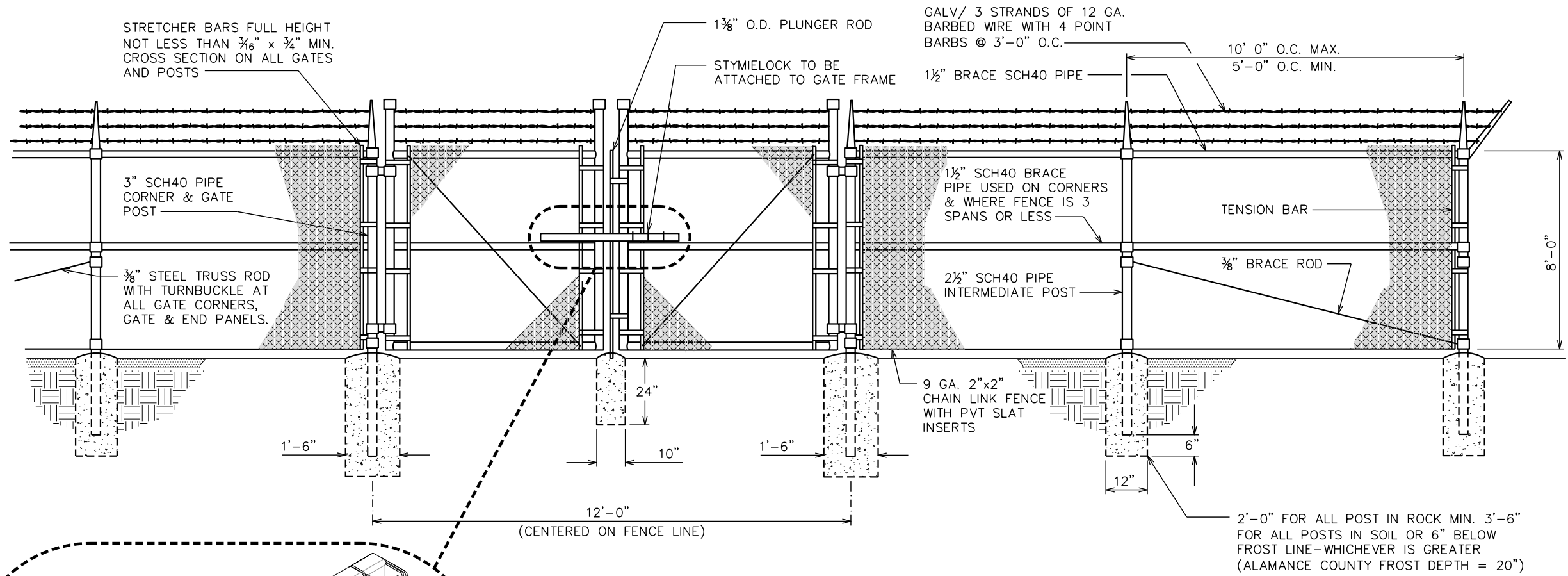
11

TEP #: 249639

TOWER ELEVATION

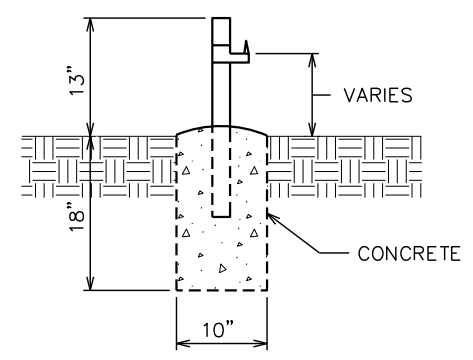
SCALE: 1" = 15'





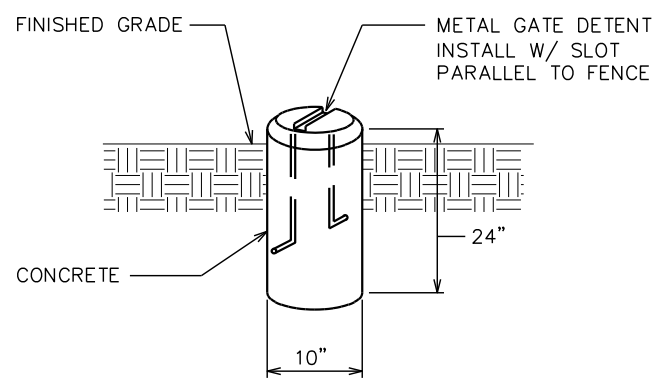
TYPICAL FENCE ELEVATION

SCALE: N.T.S.



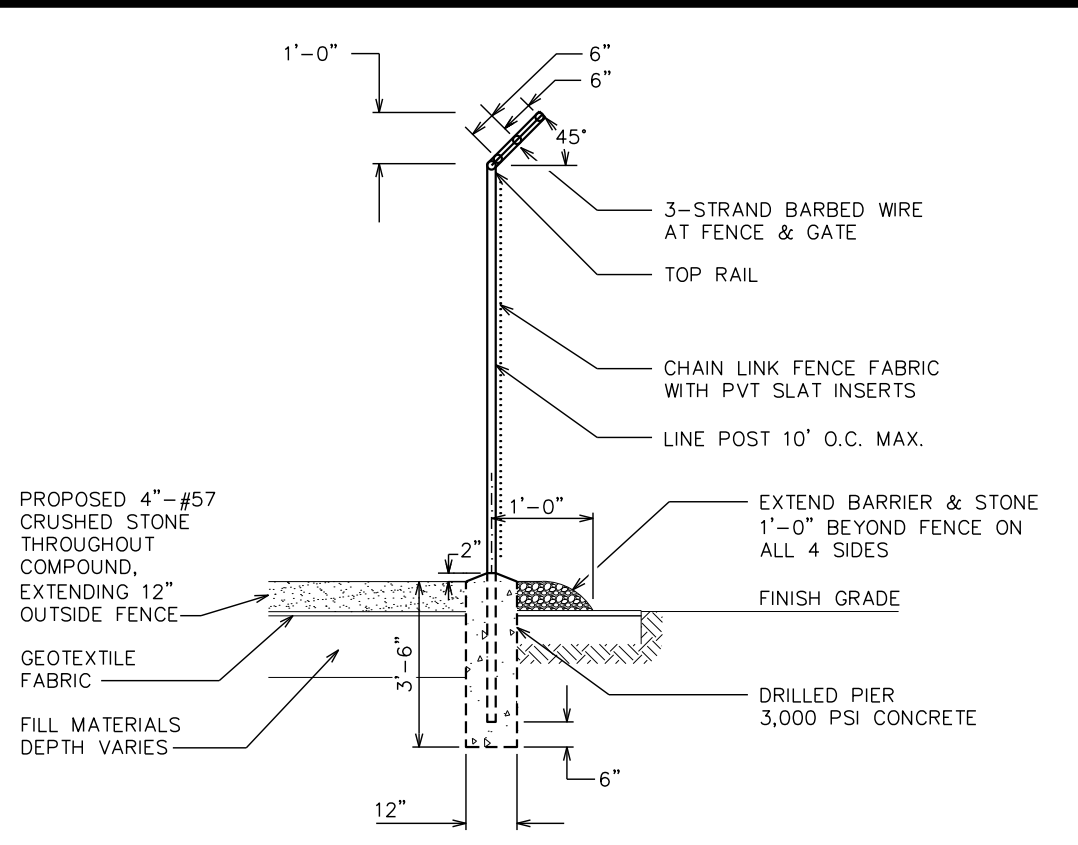
GATE STOP / KEEPER DETAIL

SCALE: N.T.S.



GATE DETENT DETAIL

SCALE: N.T.S.



FENCE / BARBED WIRE ARM DETAIL

SCALE: N.T.S.

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SHEET TITLE:

FENCE DETAILS

SHEET NUMBER: **C-4** REVISION: **11**

TEP #: 249639

NOTES:

1. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ACROSS COMPOUND.
2. TOWERCOM IS THE PARTY RESPONSIBLE FOR OPERATION & MAINTENANCE OF THE DISTURBANCE.

LEGEND

SILT FENCE	
LODA	
TREE PROTECTION FENCE	

TOP OF BANK

30' ZONE 1 RIPARIAN BUFFER (TYP)

20' ZONE 2 RIPARIAN BUFFER (TYP)

PROPOSED SILT FENCE OUTLET (TYP). SEE SHEET C-6A FOR DETAILS.

PROPOSED SILT FENCE (TYP), SEE SHEET C-6A FOR DETAILS.

PROPOSED TREE PROTECTION FENCE (TYP). SEE SHEET C-6A FOR DETAILS.

PROPOSED CLEARING LIMITS (TYP)

T/WALL = 609.0'±
B/WALL = 603.4'±

PROPOSED RETAINING WALL WITH GUARDRAIL BY TEP. DESIGN TBD.

T/WALL = 609.9'±
B/WALL = 604.2'±

T/WALL = 609.9'±
B/WALL = 609.0'±

T/WALL = 607.9'±
B/WALL = 607.4'±

T/WALL = 609.1'±
B/WALL = 605.0'±

PROPOSED DITCH 1.
BOTTOM WIDTH = 0'
SIDE SLOPE = 2:1
DEPTH = 1'-0"
AVG. LONG. SLOPE = 10.0%

APPROXIMATE LIMITS OF DISTURBED AREA (0.63 AC, ±27,419 SQ. FT.)

MATCH LINE "A"

NC GRID (NAD 83)

PLANS PREPARED FOR:



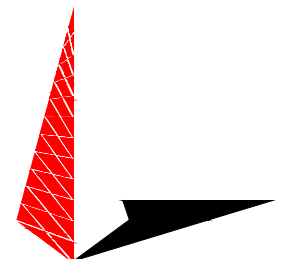
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SHEET TITLE:

GRADING & EROSION CONTROL PLAN I

SHEET NUMBER:	REVISION:
C-5A	11
TEP #:	249639

SITE DATA TABLE

TOTAL PARCEL AREA:	3.87 ACRES±, (168,697 SF)
EXISTING IMPERVIOUS:	0.00 ACRES±, (0 SF) (0.0%)
PROPOSED IMPERVIOUS:	0.23 ACRES±, (10,116 SF) (5.9%)
TOTAL IMPERVIOUS:	0.23 ACRES±, (10,116 SF) (5.9%)
TOTAL PROPOSED DISTURBED AREA:	0.63 ACRES±, (27,419 SF) (16.3%)
SOIL TYPES:	CULLEN CLAY LOAM, MANDALE-SECRET COMPLEX

GRADING & EROSION CONTROL PLAN

SCALE: 1" = 15'



CONSTRUCTION SEQUENCE:

1. REQUEST PRECONSTRUCTION MEETING.
2. OBTAIN GRADING PERMIT.
3. INSTALL ALL EROSION CONTROL MEASURES AS SHOWN.
4. OBTAIN CERTIFICATE OF COMPLIANCE THROUGH ON-SITE INSPECTION BY EROSION CONTROL OFFICER.
5. PROCEED WITH CLEARING AND GRADING UP TO EXISTING CREEK.
6. SET UP DIVERSION PUMP AT THE CREEK. INSTALL THE CULVERT DURING 24 HOURS OF DRY WEATHER WHILE PUMPING THE WATER FROM THE CREEK BED UPSTREAM AROUND THE CONSTRUCTION AREA TO THE CREEK BED DOWNSTREAM. IF THIS PROCESS CANNOT BE COMPLETED IN LESS THAN 24 HOURS, A DIVERSION DITCH MUST BE USED WHILE INSTALLING THE CULVERT.
7. PROCEED WITH THE REMAINDER OF CLEARING AND GRADING.
8. CLEAN SEDIMENT BASINS WHEN ONE-HALF FULL.
9. SEED AND MULCH DENUDED AREA WITHIN 15 DAYS AFTER ANY PHASE OF GRADING.
10. MAINTAIN SOIL EROSION CONTROL MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
11. REQUEST FINAL APPROVAL BY EROSION CONTROL OFFICER.
12. REMOVE SOIL EROSION CONTROL MEASURES AND STABILIZE THESE AREAS.

SEEDBED PREPARATION & SOIL AMENDMENTS:

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
2. RIP THE ENTIRE AREA TO 6 INCHES DEPTH.
3. REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
4. PER ONE TIME ONLY, APPLY THE FOLLOWING UNIFORMLY AND MIX WITH SOIL:
 AGRICULTURAL LIMESTONE – 2 TONS/ACRE (3 TONS/ACRE IN CLAY SOILS)
 FERTILIZER – 1,000 LB/ACRE – 10-10-10
 SUPERPHOSPHATE – 500 LB/ACRE – 20% ANALYSIS
 MULCH – 2 TONS/ACRE – SMALL GRAIN STRAW
 ANCHOR – ASPHALT EMULSION AT 300 GAL/ACRE
5. CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6 INCHES DEEP.
6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER.
7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
8. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME FERTILIZER AND SEEDING RATES.
9. CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

PLANS PREPARED FOR:



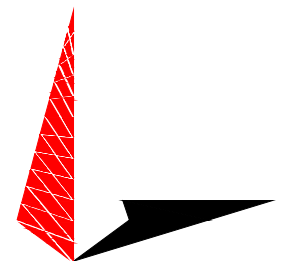
5611 NC HWY 55, SUITE 201
 DURHAM, NC 27713
 (919) 666-2906

PROJECT INFORMATION:

MILL CREEK

4449 LANDI LANE
 MEBANE, NC 27302
 (ALAMANCE COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS

326 TRYON ROAD
 RALEIGH, NC 27603-3530
 OFFICE: (919) 661-6351
 www.tepgroup.net

N.C. LICENSE # C-1794

CONSTRUCTION SEQUENCE

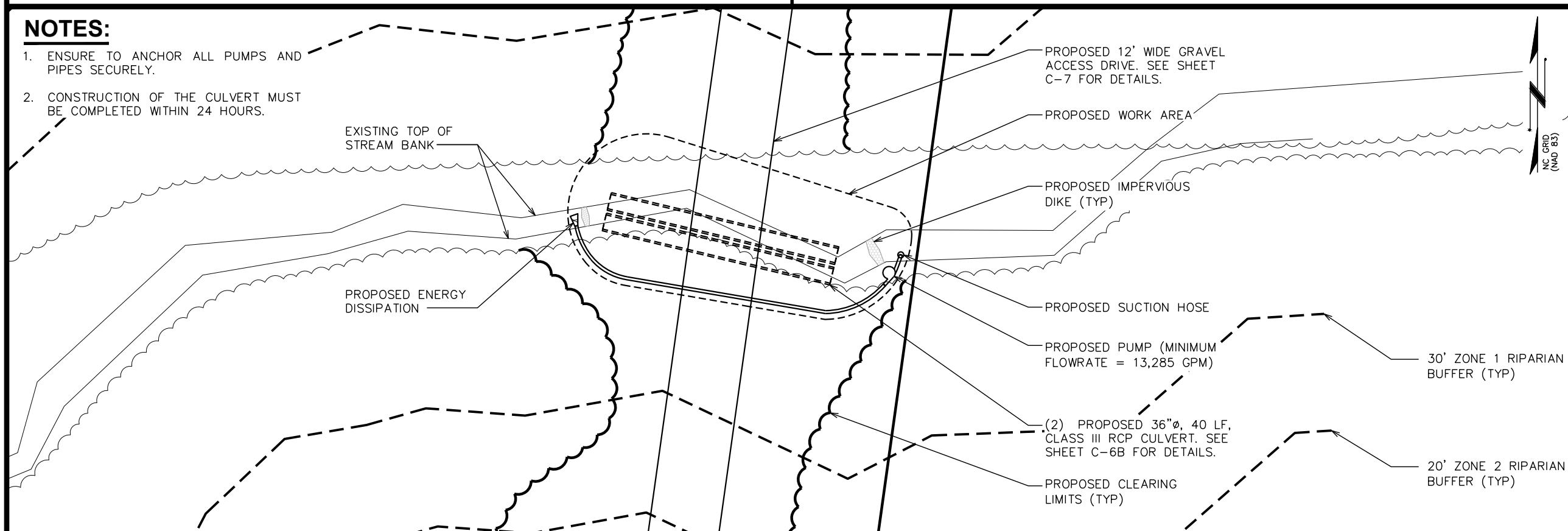
SCALE: N.T.S.

SEEDBED PREPARATION & SOIL AMENDMENTS

SCALE: N.T.S.

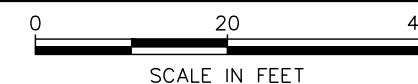
NOTES:

1. ENSURE TO ANCHOR ALL PUMPS AND PIPES SECURELY.
2. CONSTRUCTION OF THE CULVERT MUST BE COMPLETED WITHIN 24 HOURS.



CLEAN WATER DIVERSION PLAN

SCALE: 1" = 10'



SEAL:



June 8, 2021

11	06-08-21	ZONING
10	05-27-21	ZONING
9	05-26-21	ZONING
8	05-11-21	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: GLB | CHECKED BY: JKW

SHEET TITLE:

CLEAN WATER DIVERSION PLAN

SHEET NUMBER: C-5C	REVISION: 11
TEP #:	249639

PLANS PREPARED FOR:



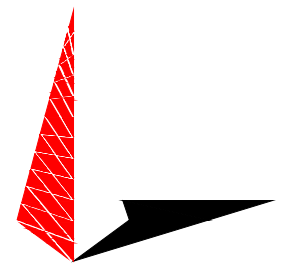
5611 NC HWY 55, SUITE 201
DURHAM, NC 27713
(919) 666-2906

PROJECT INFORMATION:

MILL CREEK

4449 LANDI LANE
MEBANE, NC 27302
(ALAMANCE COUNTY)

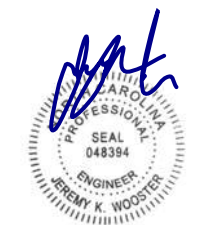
PLANS PREPARED BY:



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N.C. LICENSE # C-1794

SEAL:



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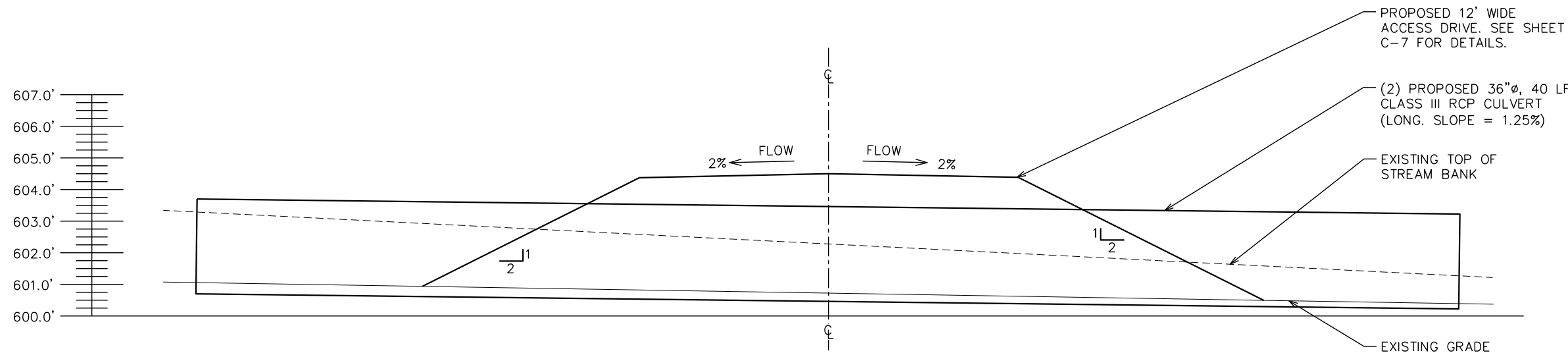
STREAM WATER CROSSING DETAILS

SHEET NUMBER: | REVISION:

C-5D

11

TEP #: 249639



STREAM WATER CROSSING PROFILE

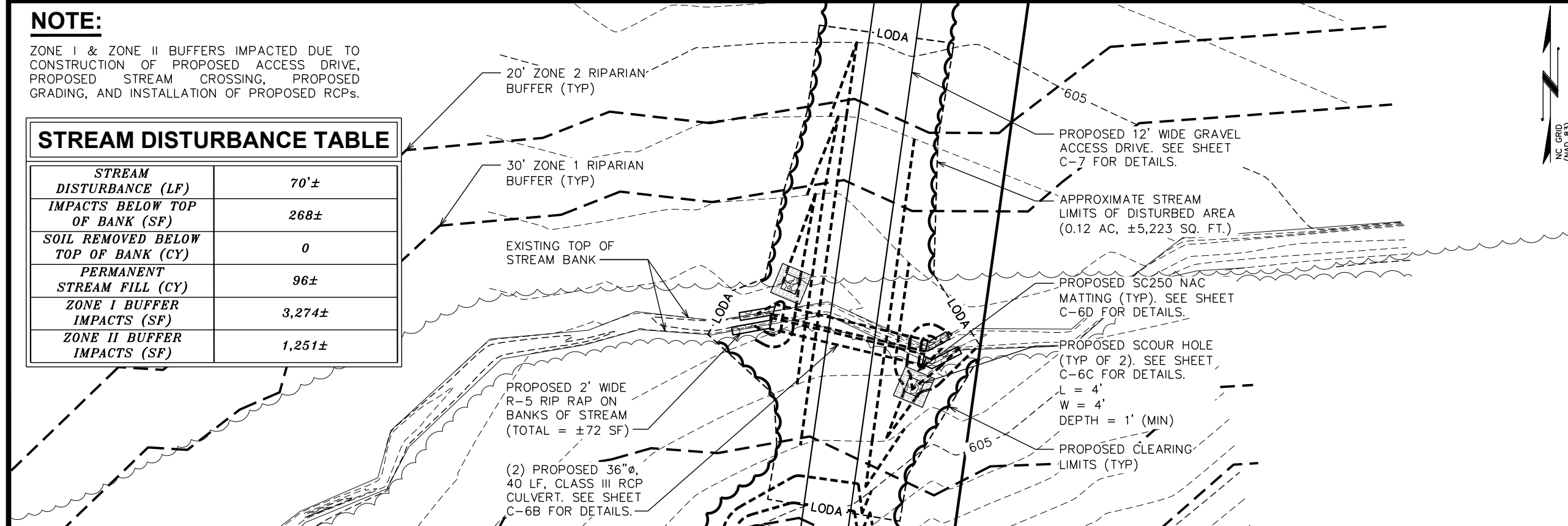
SCALE: N.T.S.

NOTE:

ZONE I & ZONE II BUFFERS IMPACTED DUE TO CONSTRUCTION OF PROPOSED ACCESS DRIVE, PROPOSED STREAM CROSSING, PROPOSED GRADING, AND INSTALLATION OF PROPOSED RCPs.

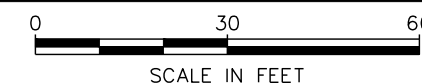
STREAM DISTURBANCE TABLE

STREAM DISTURBANCE (LF)	70'±
IMPACTS BELOW TOP OF BANK (SF)	268±
SOIL REMOVED BELOW TOP OF BANK (CY)	0
PERMANENT STREAM FILL (CY)	96±
ZONE I BUFFER IMPACTS (SF)	3,274±
ZONE II BUFFER IMPACTS (SF)	1,251±



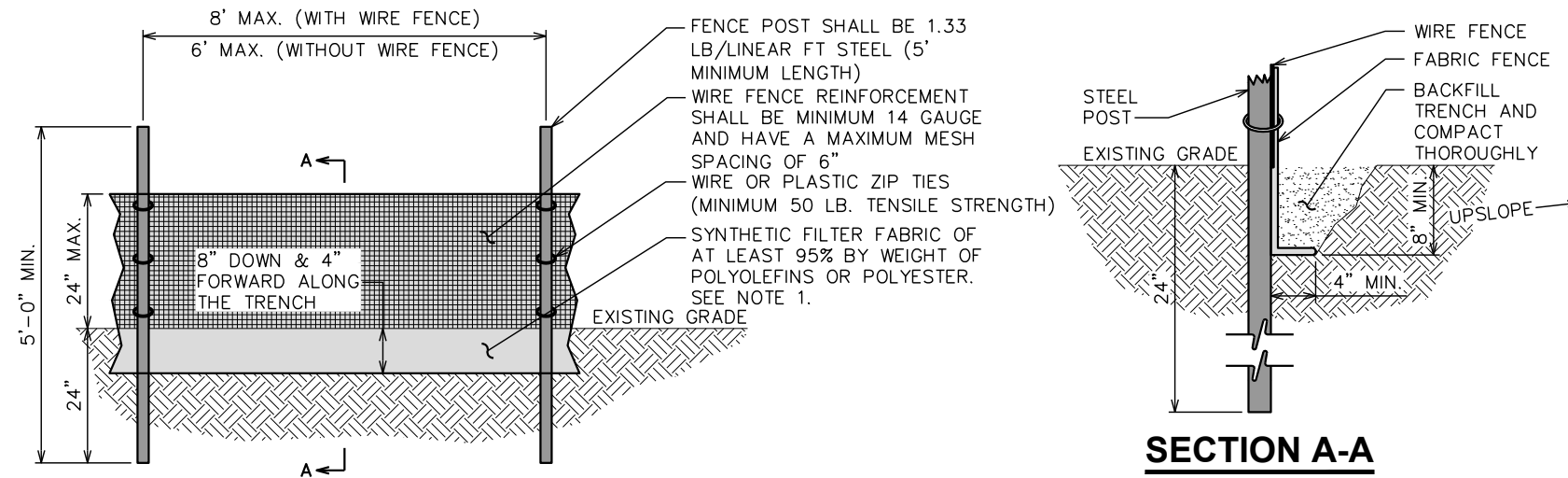
STREAM WATER CROSSING PLAN

SCALE: 1" = 15'



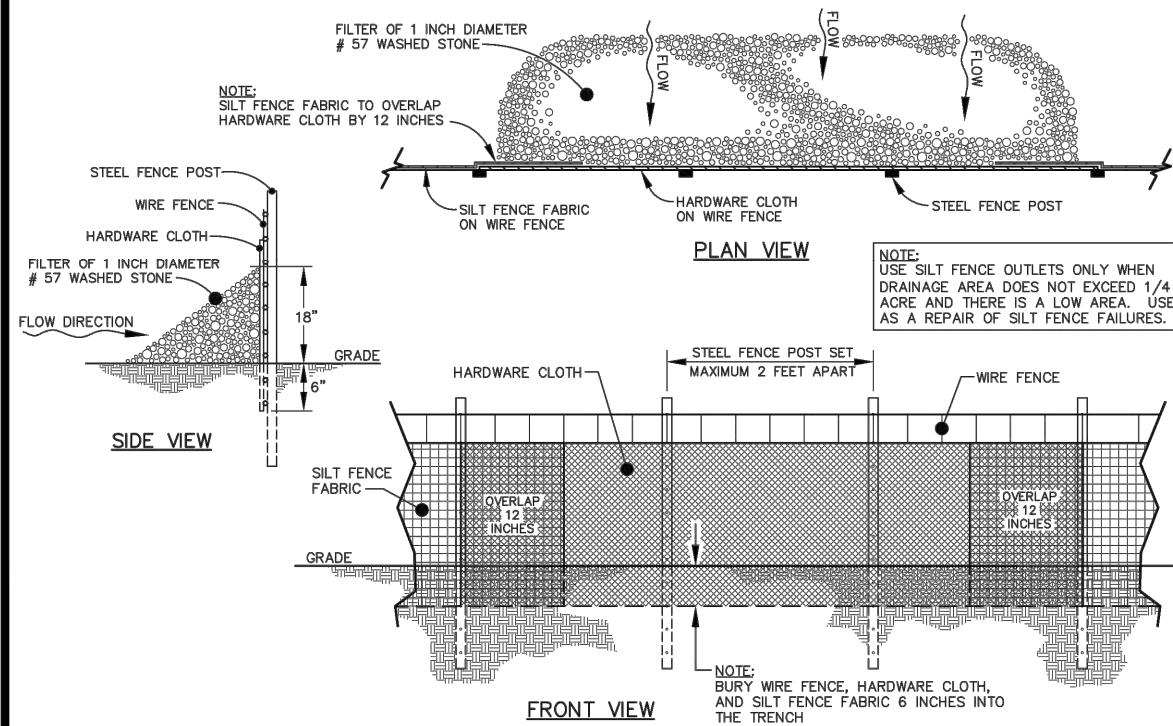
NOTES:

1. FILTER FABRIC SHALL CONFORM TO THE REQUIREMENTS LISTED IN ASTM D 6461.
2. ENDS OF INDIVIDUAL FILTER FABRIC SHALL BE SECURELY FASTENED AT A SUPPORT POST WITH 4 FEET MINIMUM OVERLAP TO THE NEXT POST.
3. PLACE 12 INCHES OF FABRIC ALONG THE BOTTOM AND SIDE OF THE TRENCH.
4. INSPECT SEDIMENT FENCE(S) AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL.
5. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE.
6. AFTER CONSTRUCTION IS COMPLETE, THE CONTRACTOR SHALL REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE AND PROPERLY STABILIZE THE SITE.



SILT FENCE DETAIL

SCALE: N.T.S.



STANDARD SILT FENCE OUTLET DETAIL

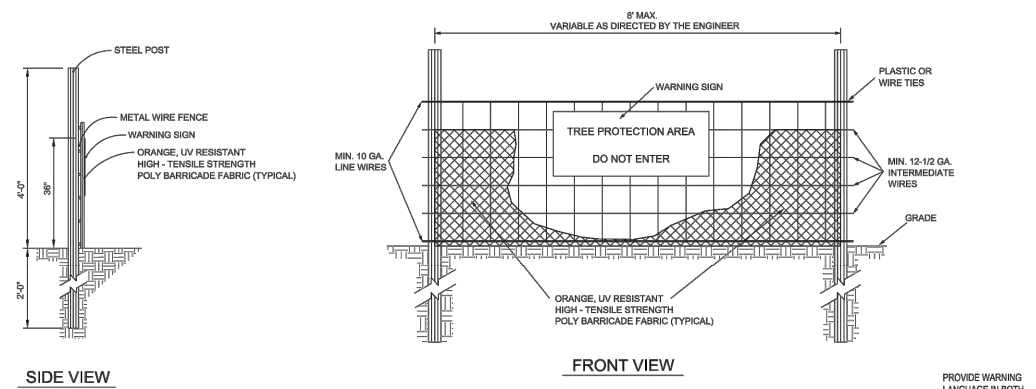
SCALE: N.T.S.

NOTE:

TREE PROTECTION FENCING TO BE INSTALLED AT DRIP LINE OF EXISTING VEGETATION TO REMAIN PRIOR TO GRADING.

STANDARD TREE PROTECTION FENCE DETAIL

SCALE: N.T.S.



- NOTES:
1. TREE PROTECTION FENCING MUST BE INSTALLED AT A MINIMUM RADIUS OF THE CRITICAL ROOT ZONE (SEE DETAIL TPP-02 FOR EXAMPLES)
 2. THE TREE PROTECTION FENCING MUST REMAIN IN PLACE FOR THE DURATION OF THE PROJECT UNLESS OTHERWISE APPROVED BY URBAN FORESTRY STAFF
 3. APPROVED IMPACT PROTECTION DEVICES MUST BE REMOVED AFTER CONSTRUCTION WHEN APPLICABLE.
 4. SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER FOR THE REMAINDER
 5. FOR TREE PROTECTION AREAS LESS THAN 200' IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER PROTECTED AREA.
 6. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC.
 7. ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF RALEIGH BASED ON ACTUAL FIELD CONDITIONS.
 8. SIGNS ARE TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL WITH LETTERS A MINIMUM OF 2 1/2" HIGH, CLEARLY LEGIBLE AND SPACED AS SHOWN.

PLANS PREPARED FOR:



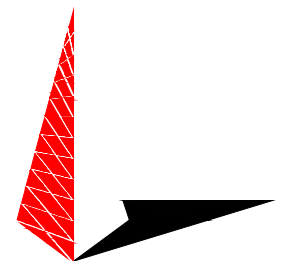
5611 NC HWY 55, SUITE 201
DURHAM, NC 27713
(919) 666-2906

PROJECT INFORMATION:

MILL CREEK

4449 LANDI LANE
MEBANE, NC 27302
(ALAMANCE COUNTY)

PLANS PREPARED BY:



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www.tepgroup.net

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SEAL:



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8	05-11-21	ZONING
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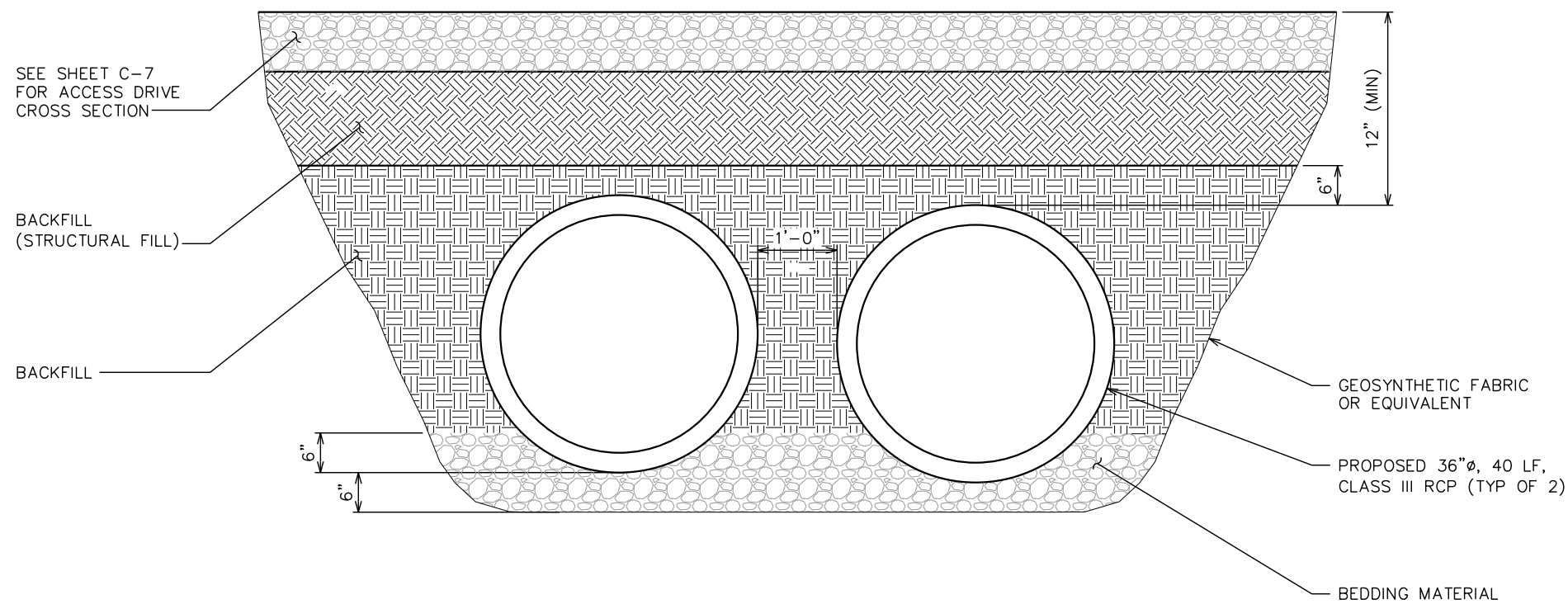
SILT FENCE & TREE PROTECTION FENCE DETAILS

SHEET NUMBER: REVISION:

C-6A

11

TEP #: 249639



PLANS PREPARED FOR:



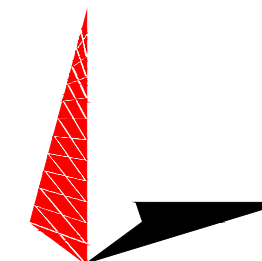
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PROJECT INFORMATION:

MILL CREEK

4449 LANDI LANE
MEBANE, NC 27302
(ALAMANCE COUNTY)

PLANS PREPARED BY:



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9	05-26-21	ZONING
8	05-11-21	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: GLB CHECKED BY: JKW

SHEET TITLE:

**CULVERT
DETAILS**

SHEET NUMBER:	REVISION:
C-6B	11
	TEP #: 249639

36" ϕ CULVERT DETAIL

SCALE: N.T.S.

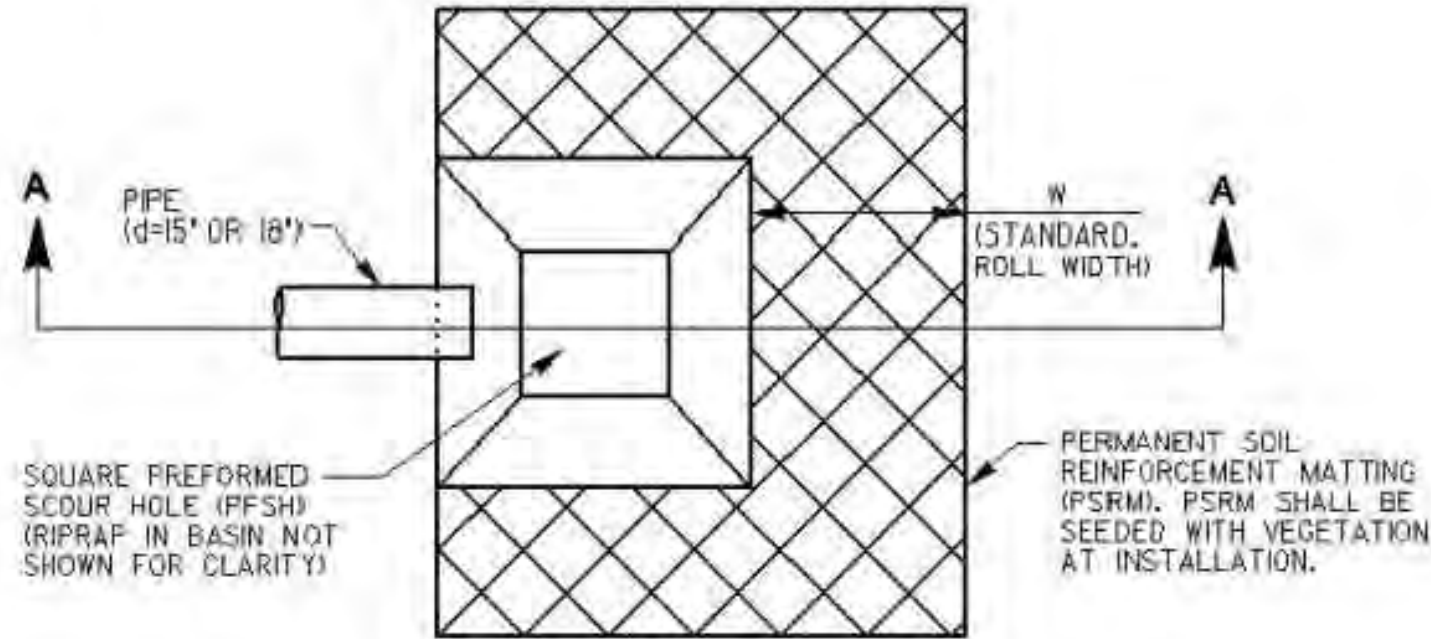


Figure 15-4. Plan view of Prefomed Scour Holes

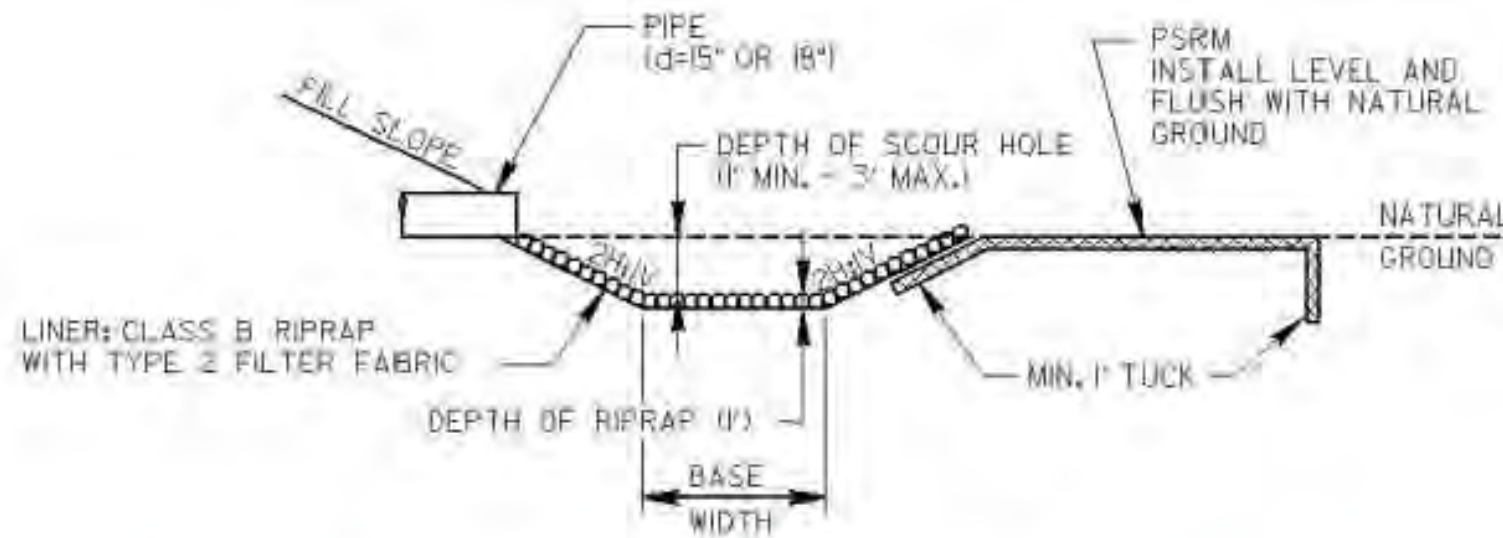


Figure 15-5. Profile view of Prefomed Scour Holes

PLANS PREPARED FOR:

TowerCom

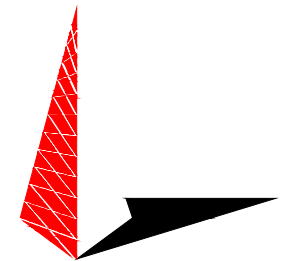
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MILL CREEK

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8	05-11-21	ZONING
REV	DATE	ISSUED FOR:

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SHEET TITLE:

**SCOUR HOLE
DETAILS**

SHEET NUMBER: | REVISION:

C-6C

11

TEP #: 249639

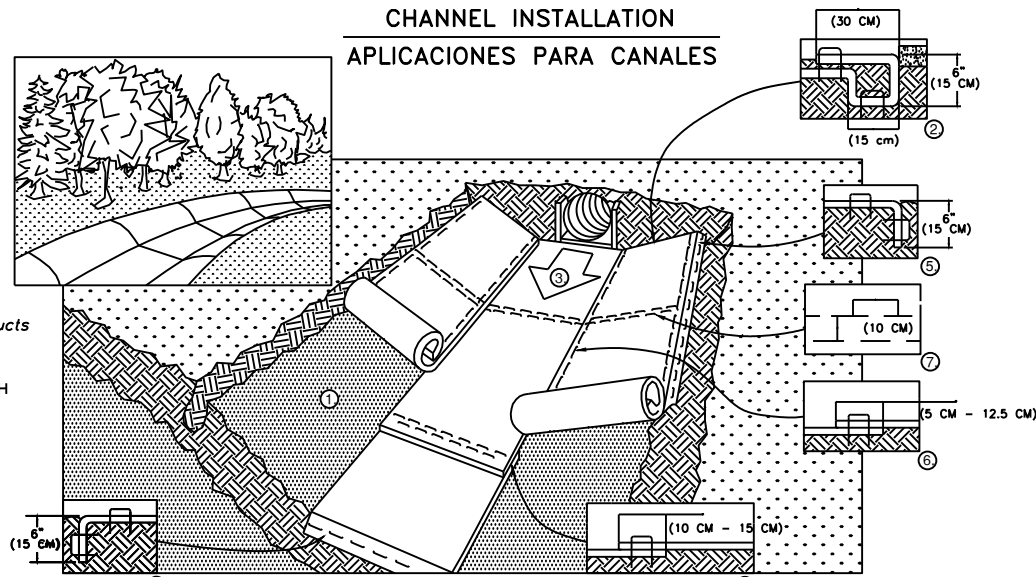
SCOUR HOLE DETAILS

SCALE: N.T.S.



NORTH AMERICAN GREEN
EROSION CONTROL Products
Guaranteed SOLUTIONS

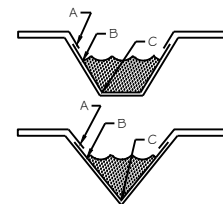
14649 HIGHWAY 41 NORTH
EVANSVILLE, IN 47725
800-772-2040
www.nogreen.com



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECPs), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECPs IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 1 1/2" (30 CM) OF RECPs EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECPs WITH A ROW OF STAPLES/STAKES APPROXIMATELY 1 1/2" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 1 1/2" (30 CM) PORTION OF RECPs BACK OVER SEED AND COMPACTED SOIL. SECURE RECPs OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 1 1/2" (30 CM) ACROSS THE WIDTH OF THE RECPs.
3. ROLL CENTER RECPs IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECPs WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECPs MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE RECPs END OVER END (SHINGLE STYLE) WITH A 4" - 6" (10 CM - 15 CM) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER TO SECURE RECPs.
5. FULL LENGTH EDGE OF RECPs AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 1 1/2" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECPs MUST BE OVERLAPPED APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) (DEPENDING ON RECPs TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9 M - 12 M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE RECPs MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 1 1/2" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

NOTE:

* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECPs.



CRITICAL POINTS

- A. OVERLAPS AND SEAMS
- B. PROJECTED WATER LINE
- C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

PUNTOS CRITICOS

- A. TRASLAPES Y JUNTAS
- B. LINEAS DE AGUA PROYECTADA
- C. FONDO DEL CANAL/VERTICES DE LAS PENDIENTES LATERALES

NOTE:

* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECPs.

NOTA:

* LA SEPARACION HORIZONTAL DE LAS GRAPAS SE DEBE ALTERAR SI SE NECESITA, PARA PERMITIR QUE LAS GRAPAS ASEGUEN LOS PUNTOS CRITICOS A LO LARGO DE LA SUPERFICIE DEL CANAL.

** EN CONDICIONES DE SUELO SUELTO, PUEDE QUE SE NECESITEN GRAPAS O ESTACAS DE MAS DE 6" (15 CM) DE LARGO PARA ASEGURAR LAS MANTAS CORRECTAMENTE.

1. PREPARE EL SUELO DE COLOCAR LAS MANTAS, INCLUYENDO LA APLICACION DE CAL, FERTILIZANTE SEMILLA. NOTA: CUANDO ESTE USANDO CELL-O-SEED NO SIEMPRE EL AREA PREPARADA. CELL-O-SEED TIENE QUE INSTALARSE CON EL LADO DE PAPEL HACIA ABAJO.
2. COMIENCE EN LA CABECERA DEL CANAL SUJETANDO LA MANTA EN UNA ZANJA DE 6" (15 CM) DE PROFUNDIDAD POR 6" (15 CM) DE ANCHO CON APROXIMADAMENTE 1 1/2" (30 CM) DE LA MANTA EXTENDIDA MAS ALLA DE LA PENDIENTE ALTA DE LA ZANJA. SUJETE RELLENE Y COMPACTE LA ZANJA DESPUES DEL ENGRAPE. RIEGUE LA SEMILLA EN EL SUELO COMPACTADO Y DOBLE LAS 1 1/2" (30 CM) REMANENTES DE MANTA SOBRE LA SEMILLA Y EL SUELO COMPACTADO. ASEGURE LA MANTA SOBRE EL SUELO CON UNA LINEA DE GRAPAS O ESTACAS APROXIMADAMENTE 1 1/2" (30 CM) UNA DE LA OTRA A TRAVES DEL ANCHO DE LA MANTA.
3. DESENLLE LA MANTA DEL MEDIO EN EL FONDO DEL CANAL Y EN LA DIRECCION DEL FLUJO DE AGUA CON EL LADO APROPIADO HACIA LA SUPERFICIE DEL SUELO. TODAS LAS MANTAS DEBERAN ASEGURARSE A LA SUPERFICIE DEL SUELO POR MEDIO DE GRAPAS O ESTACAS EN LUGARES APROPIADOS TAL Y COMO SE INDICA EN EL PATRON GUIA DE ENGRAFADO. CUANDO ESTE USANDO EL DOT SYSTEM, LAS GRAPAS O ESTACAS DEBEN COLOCARSE A TRAVES DE CADA UNO DE LOS PUNTOS CON COLOR CORRESPONDIENTES AL PATRON DE ENGRAFADO APROPIADO.
4. COLOQUE LAS MANTAS CONSECUTIVAS BORDE SOBRE BORDE (TIPO ESCALONADO) CON UN TRASLAPES DE 4" - 6" (10 CM - 15 CM). USE UNA LINEA DOBLE DE GRAPAS ESCALONADAS, SEPARADAS POR 4" (10 CM) Y CADA 4" (10 CM) SOBRE EL CENTRO PARA ASEGURAR LAS MANTAS.
5. EN EL TOPE DE LAS DOS PENDIENTES LATERALES DEL CANAL, SE DEBE SUJETAR TODO EL LARGO DE LA ORILLA DE LAS MANTAS CON UNA LINEA DE GRAPAS O ESTACAS APROXIMADAMENTE CADA 1 1/2" (30 CM) UNA DE LA OTRA EN UNA ZANJA DE 6" (15 CM) DE PROFUNDIDAD POR 6" (15 CM) DE ANCHO. RELLENE Y COMPACTE LA ZANJA DESPUES DEL ENGRAPE.
6. LAS MANTAS ADYACENTES DEBEN TRASLAPARSE APROXIMADAMENTE DE 2" - 5" (5 CM - 12.5 CM) (DEPENDIENDO DEL TIPO DE MANTA) Y ENGRAPPARSE.
7. EN APLICACIONES PARA CANALES DE FLUJO ALTO, SE RECOMIENDA DEJAR UNA RANURA PARA EL CHEQUEO DE LAS GRAPAS A INTERVALOS DE 30 A 40 PIES (9 M - 12 M). USE UNA LINEA DOBLE DE PRAPAS ESCALONADAS, SEPARADAS POR 4" (10 CM) Y CADA 4" (10 CM) SOBRE EL CENTRO A TRAVES DE TODO EL ANCHO DEL CANAL.
8. LOS BORDES FINALES DE LAS MANTAS DEBEN SUJETARSE CON UNA LINEA DE GRAPAS O ESTACAS APROXIMADAMENTE CADA 1 1/2" (30 CM) UNA DE LA OTRA EN UNA ZANJA DE 6" (15 CM) DE PROFUNDIDAD POR 6" (15 CM) DE ANCHO. RELLENE Y COMPACTE DESPUES DEL ENGRAFADO.

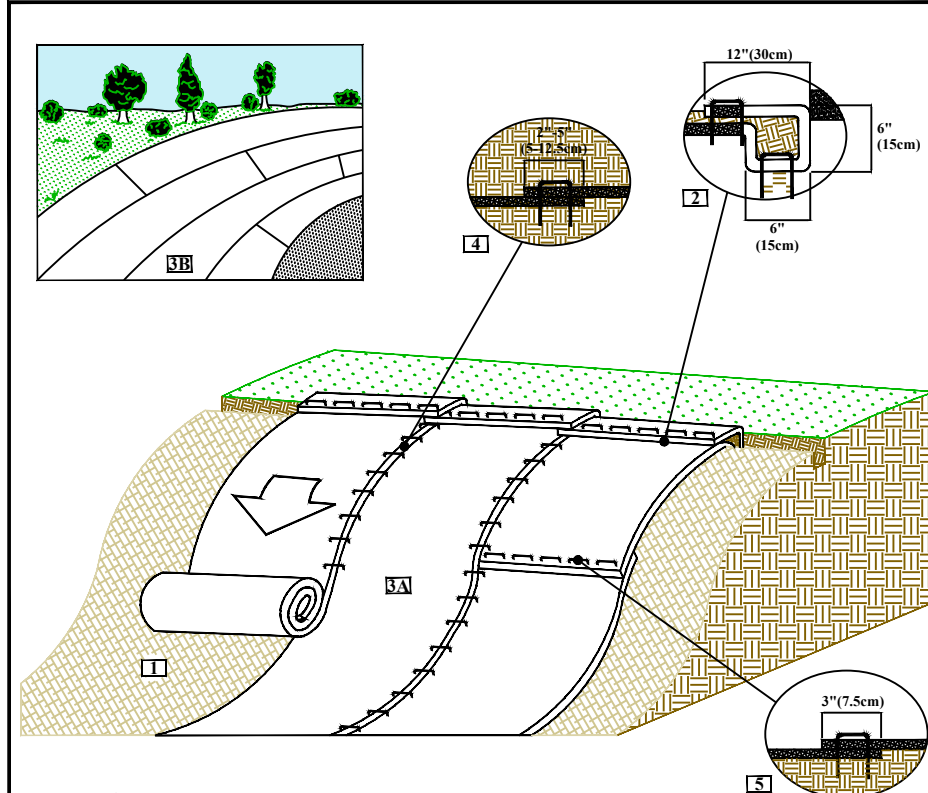
NOTE:

* EN CONDICIONES DE SUELTO, PUEDE QUE SE NECESITEN GRAPAS O ESTACAS DE MAS DE 6" (15 CM) DE LARGO PARA ASEGURAR LAS MANTAS CORRECTAMENTE.

REV. 01/05

CHANNEL INSTALLATION
APLICACIONES PARA CANALES

SLOPE
INSTALLATION
DETAIL



1. Prepare soil before installing rolled erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed.
2. Begin at the top of the slope by anchoring the RECPs in a 6" (15cm) deep X 6" (15cm) wide trench with approximately 12" (30cm) of RECPs extended beyond the up-slope portion of the trench. Anchor the RECPs with a row of staples/stakes approximately 12" (30cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12"(30cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12"(30cm) apart across the width of the RECPs.
3. Roll the RECPs (A) down or (B) horizontally across the slope. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide.
4. The edges of parallel RECPs must be stapled with approximately 2" - 5" (5-12.5cm) overlap depending on the RECPs type.
5. Consecutive RECPs spliced down the slope must be end over end (Shingle style) with an approximate 3"(7.5cm) overlap. Staple through overlapped area, approximately 12"(30cm) apart across entire RECPs width.

NOTE:

In loose soil conditions, the use of staple or stake lengths greater than 6"(15cm) may be necessary to properly secure the RECPs.

Drawing Not To Scale

NORTH AMERICAN GREEN
5401 St. Wendel - Cynthiana Rd.
Poseyville, IN 47633
PH: 800-772-2040
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Disclaimer:

The information presented herein is general design information only. For specific applications, consult an independent professional for further design guidance.

Drawn on: 5-4-17

PLANS PREPARED FOR:



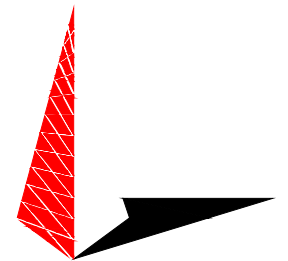
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PROJECT INFORMATION:

MILL CREEK

4449 LANDI LANE
MEBANE, NC 27302
(ALAMANCE COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS

326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

N.C. LICENSE # C-1794

SEAL:



June 8, 2021

11	06-08-21	ZONING
10	05-27-21	ZONING
9	05-26-21	ZONING
8	05-11-21	ZONING
REV	DATE	ISSUED FOR:

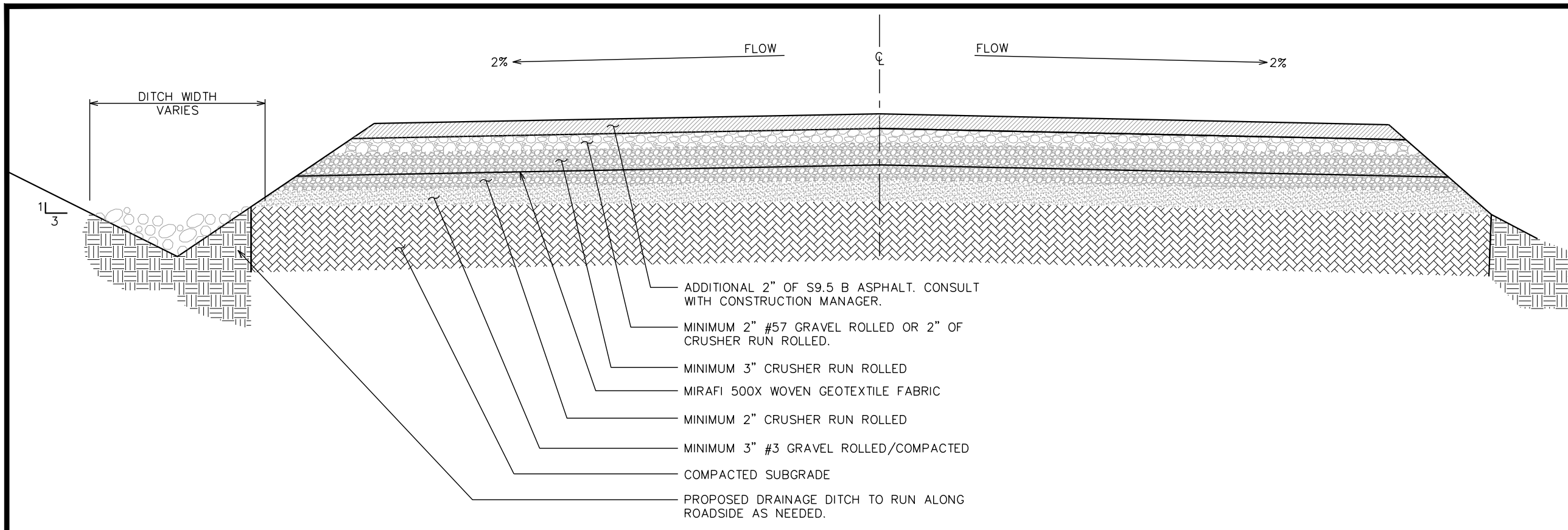
DRAWN BY: GLB CHECKED BY: JKW

SHEET TITLE:
EROSION CONTROL MATTING DETAILS

SHEET NUMBER: **C-6D** REVISION: **11**
TEP #: 249639

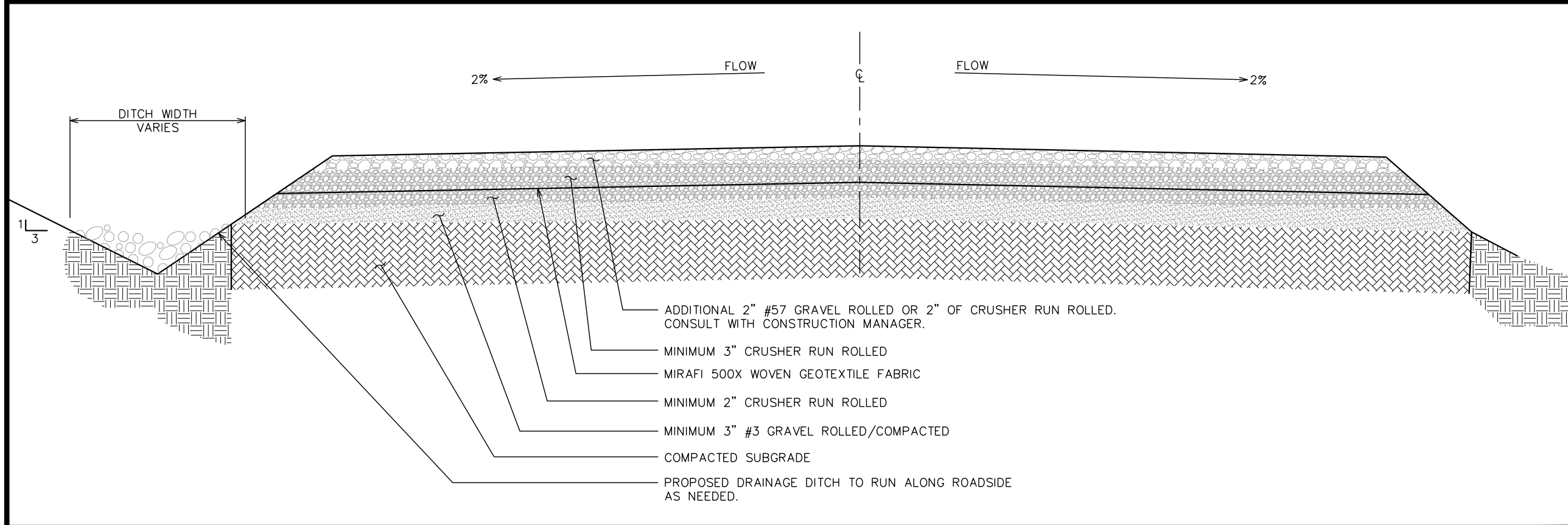
EROSION CONTROL MATTING DETAILS

SCALE: N.T.S.



ASPHALT ROAD SECTION

SCALE: N.T.S.



STANDARD ROAD SECTION

SCALE: N.T.S.

PLANS PREPARED FOR:



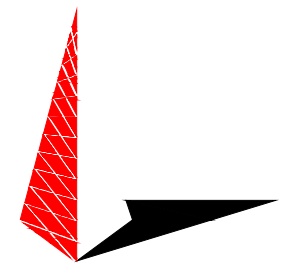
5611 NC HWY 55, SUITE 201
DURHAM, NC 27713
(919) 666-2906

PROJECT INFORMATION:

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REV	DATE	ISSUED FOR:

DRAWN BY: GLB | CHECKED BY: JKW

SHEET TITLE:

**ACCESS ROAD
DETAILS**

SHEET NUMBER:

C-7

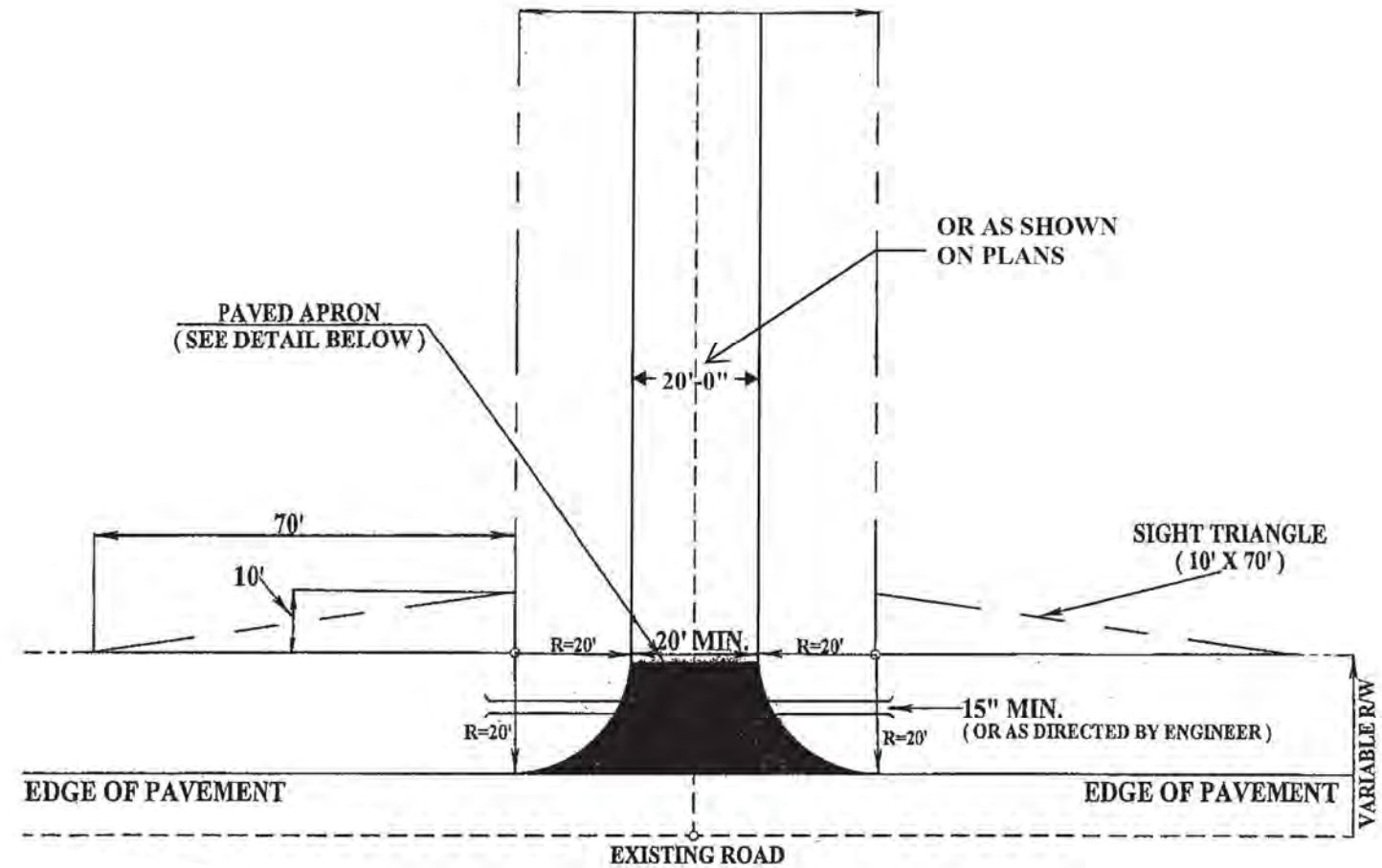
REVISION:

11

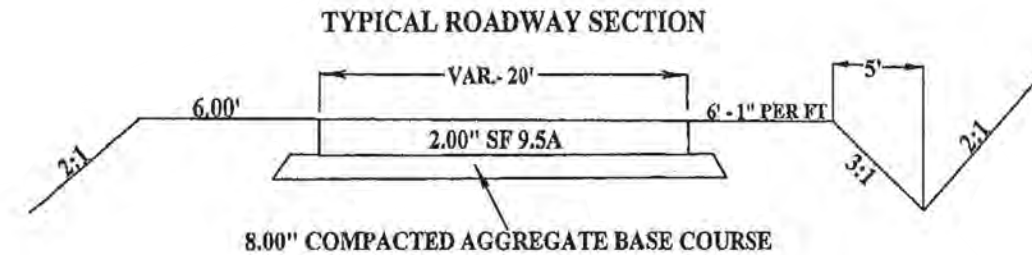
TEP #: 249639

COMMERCIAL DRIVEWAY CONNECTION

NOTE:
 ADDITIONAL R/W MAY BE REQUIRED TO ACCOMMODATE TAPERS, TURN LANES, AND MEDIAN ISLANDS.
 SCALE: 1" = 30'



NOTE: PERMANENT DRAINAGE EASEMENTS MAY BE REQUIRED TO ACCOMMODATE DRAINAGE BEYOND THE RIGHT-OF WAY.



PLANS PREPARED FOR:

TowerCom

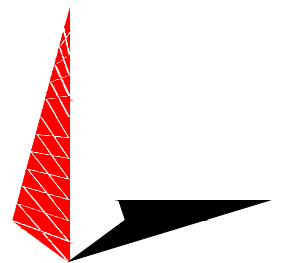
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9	05-26-21	ZONING
8	05-11-21	ZONING

DRAWN BY: GLB CHECKED BY: JKW

SHEET TITLE:

**DRIVEWAY
 CONNECTION
 DETAILS**

SHEET NUMBER:

C-8

REVISION:

11

TEP #: 249639

DRIVEWAY CONNECTION DETAILS

SCALE: N.T.S.

NOTE:

THE DRAWING BELOW SHOWS SIGHT DISTANCE REQUIREMENTS FOR PASSENGER CARS AT A DESIGN SPEED OF 45 MPH, PROVIDED BY NCDOT.

PLANS PREPARED FOR:



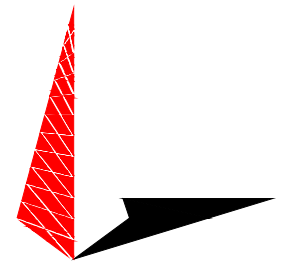
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8	05-11-21	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: GLB CHECKED BY: JKW

SHEET TITLE:

SIGHT TRIANGLES

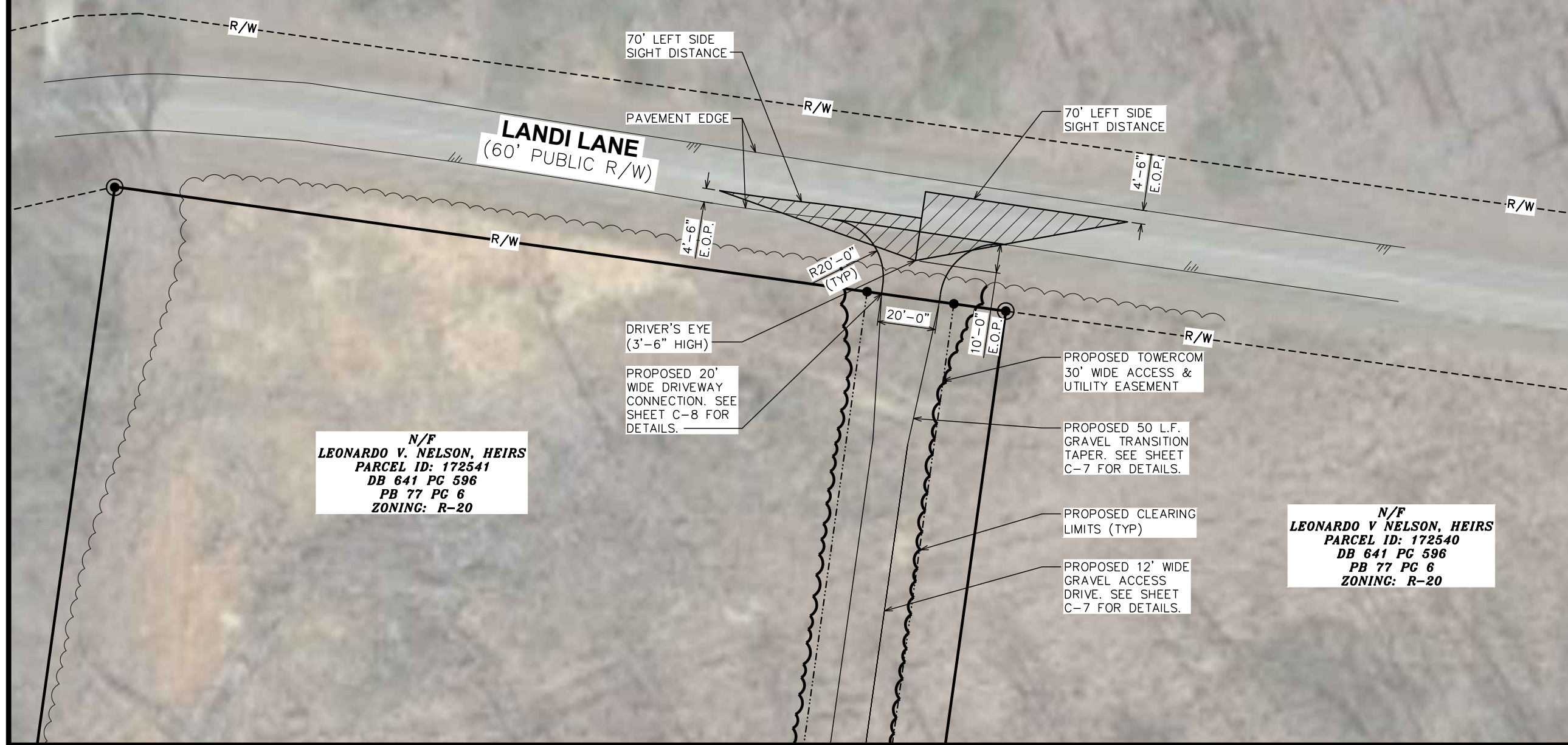
SHEET NUMBER:

C-9

REVISION:

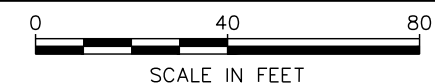
11

TEP #: 249639



SIGHT TRIANGLES

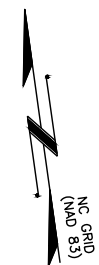
SCALE: 1" = 20'



SCALE IN FEET

PLANTING SCHEDULE

ITEM	QTY.	BOTANICAL NAME	COMMON NAME	HEIGHT @ PLANTING	HEIGHT @ MATURITY	CALIPER/ SPREAD	SPACING	REMARKS
CANOPY TREES								
①	19	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	10'-0" (MIN)	40'-0" (MIN)	2.5"	20'-0"	SHOWN AS
UNDERSTORY TREES								
②	21	ILEX OPACA	AMERICAN HOLLY	8'-0" (MIN)	40'-0" (MIN)	2.0"	20'-0"	SHOWN AS
SHRUBS								
③	89	ILEX GLABRA	INKBERRY HOLLY	36"	4'-0" (MIN)	(3) GALLON	8'-0"	SHOWN AS
MULCH								
④	-	-	-	-	-	-	-	APPLY 3"-4" DEEP FROM THE TRUNKLINE TO THE DRIPLINE. FOR GROUND COVER - APPLY 1"-2" DEEP.



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DRAWN BY: GLB CHECKED BY: JKW

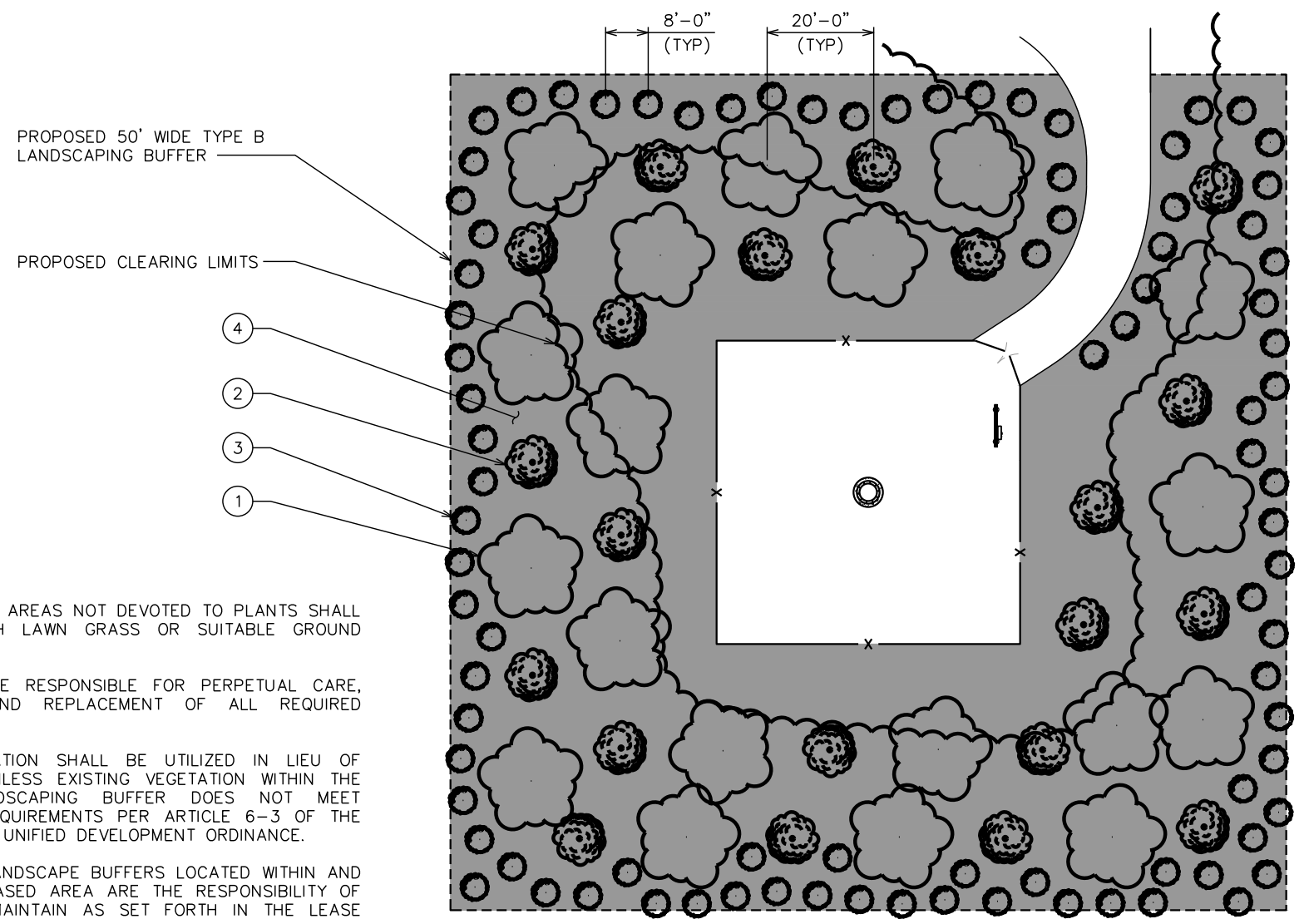
SHEET TITLE:

LANDSCAPING PLAN

SHEET NUMBER: L-1

REVISION: 11

TEP #: 249639



NOTES:

1. ALL BUFFERYARD AREAS NOT DEVOTED TO PLANTS SHALL BE SEEDED WITH LAWN GRASS OR SUITABLE GROUND COVER.
2. OWNER SHALL BE RESPONSIBLE FOR PERPETUAL CARE, MAINTENANCE AND REPLACEMENT OF ALL REQUIRED PLANT MATERIAL.
3. EXISTING VEGETATION SHALL BE UTILIZED IN LIEU OF LANDSCAPING UNLESS EXISTING VEGETATION WITHIN THE PROPOSED LANDSCAPING BUFFER DOES NOT MEET LANDSCAPING REQUIREMENTS PER ARTICLE 6-3 OF THE CITY OF MEBANE UNIFIED DEVELOPMENT ORDINANCE.
4. ALL REQUIRED LANDSCAPE BUFFERS LOCATED WITHIN AND OUTSIDE THE LEASED AREA ARE THE RESPONSIBILITY OF TOWERCOM TO MAINTAIN AS SET FORTH IN THE LEASE AGREEMENT.
5. THE PROPOSED 50' WIDE LANDSCAPING BUFFER (BOTH WITHIN AND EXTENDING BEYOND THE 100'x100' LEASE AREA) SHALL BE MAINTAINED FOR BUFFER PURPOSES, AND SHALL NOT BE RE-PURPOSED OR DISTURBED FOR ALTERNATE LAND USE.

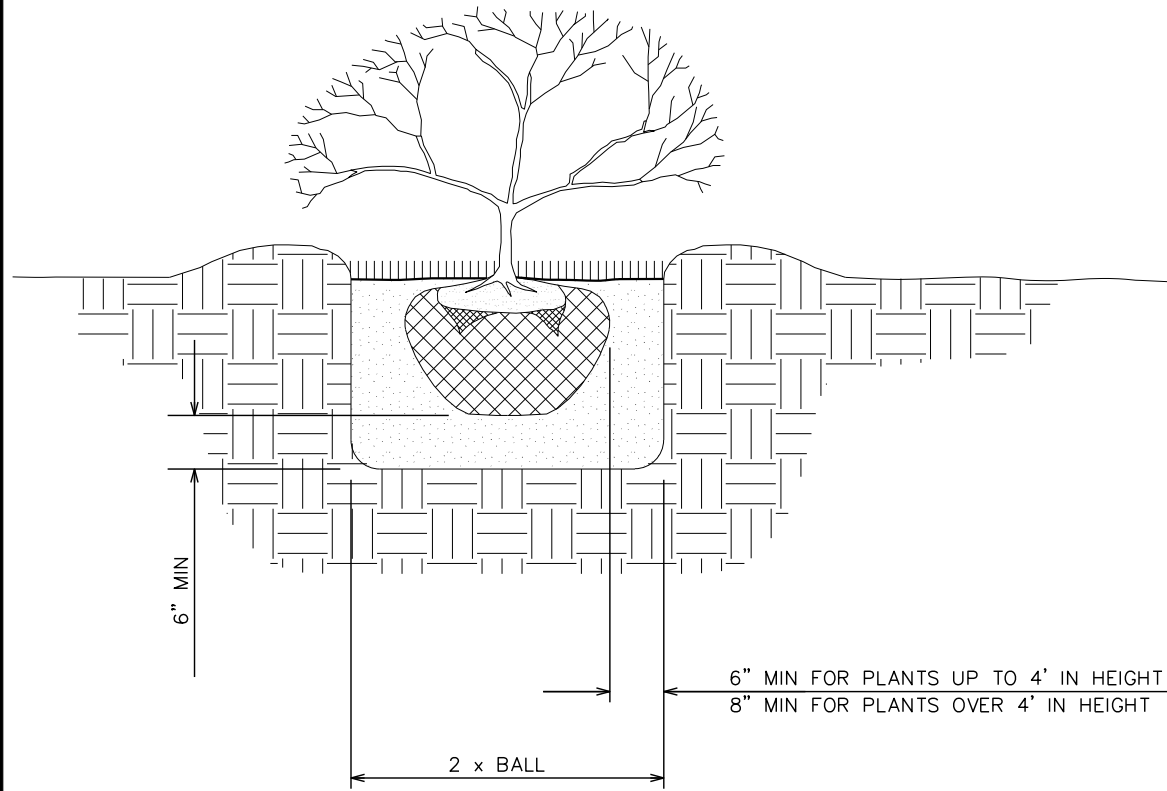
LANDSCAPING PLAN

SCALE: 1" = 15'

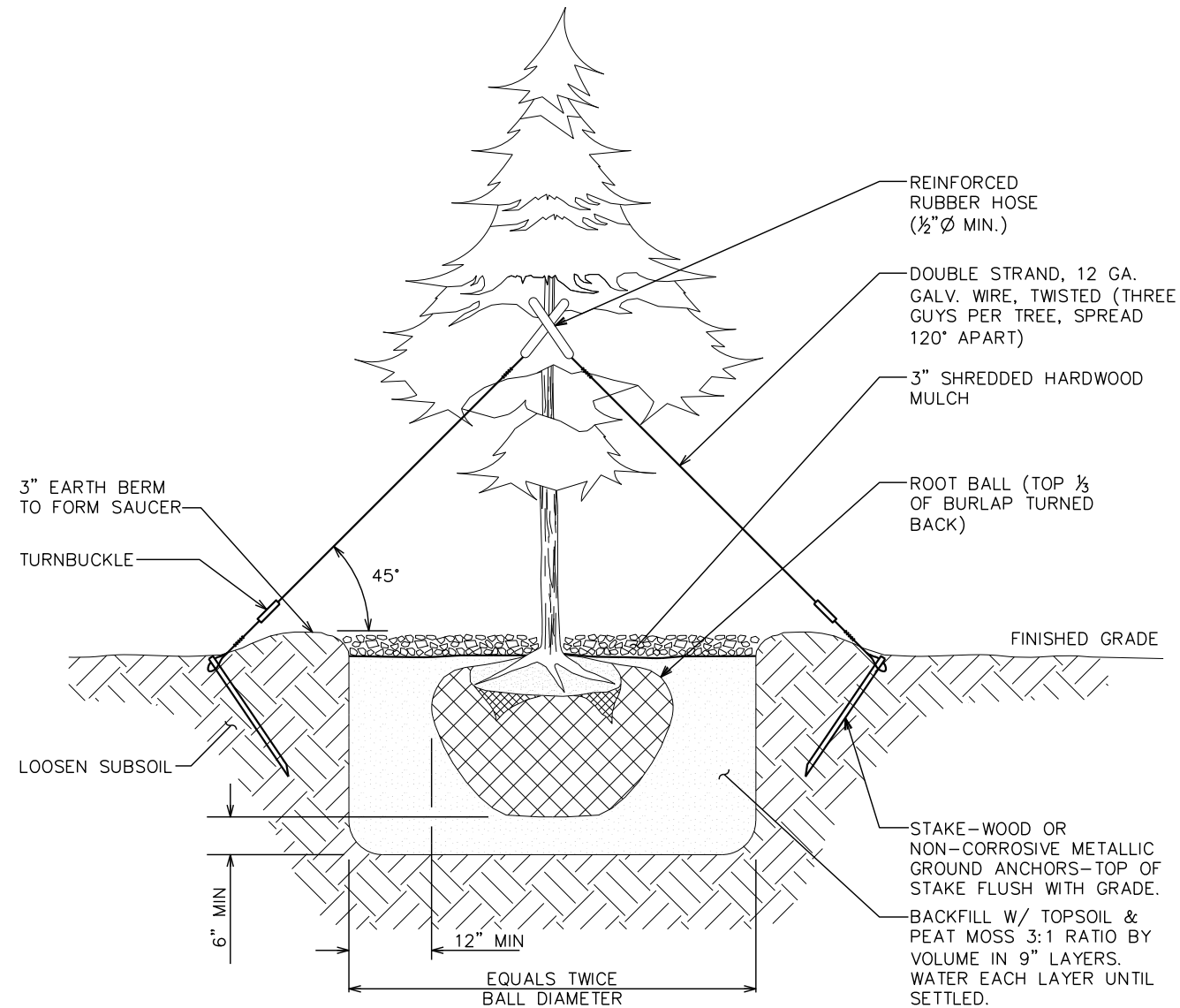


LANDSCAPE NOTES:

1. TOPSOIL TO BE PROVIDED BY SITE CONTRACTOR IN ROUGH GRADE TO WITHIN 1" OF FINISH GRADE.
2. EACH PLANT TO BE IN GOOD CONDITION AFTER SHEARING AND PRUNING.
3. EACH PLANT TO BE FREE FROM DISEASE, INSECT INFESTATION, AND MECHANICAL INJURIES, AND IN ALL RESPECTS BE SUITABLE FOR FIELD PLANTING.
4. ALL PLANTS TO BE FULLY GUARANTEED (LABOR AND MATERIALS) FOR A PERIOD OF NOT LESS THAN (1) YEAR FROM DATE OF INSTALLATION.
5. ALL PLANTS SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK. ANSI Z60.1-1973 IN REGARD TO SIZING, GROWING, AND B&B SPECIFICATIONS.
6. THE CONTRACTOR SHALL PROTECT ALL EXISTING TREES AND SHRUBS WITHIN THE CONSTRUCTION AREA IDENTIFIED AS "TO REMAIN" FROM DAMAGE BY EQUIPMENT AND CONSTRUCTION ACTIVITIES.



SHRUB PLANTING DETAIL



TREE PLANTING DETAIL

PLANS PREPARED FOR:



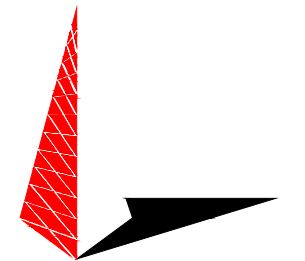
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DRAWN BY: GLB | CHECKED BY: JKW

SHEET TITLE:

LANDSCAPING DETAILS

SHEET NUMBER: | REVISION:

L-2

11

TEP #: 249639

LANDSCAPING DETAILS

SCALE: N.T.S.



Mill Creek

TEP #: 249639
 Analysis: JKW 5/11/2021
 Check: JKW 5/11/2021

TR-55 Stormwater Calculations - Post-Development Curve Number

Drainage Area: 57.41 AC
 Existing Impervious Area: 3.54 AC
 Proposed Impervious Area: 0.00 AC
 Total Impervious Area: 3.54 AC

of Land Cover Entries: (max 20)

#	Hydraulic Soil Group	Land Cover Description	Hydraulic Condition	Area (SF)	Area (AC)	Curve Number	CN-Area
1	C	Impervious (existing)	Good	154190	3.540	98	346.89
2	B	Open Space	Good	956441	21.957	61	1339.37
3	C	Woods	Good	1345549	30.890	70	2162.27
4	C	Other	Good	44469	1.021	100	102.09

Total: 57.41 3950.62

$$\text{Weighted Curve Number} = \frac{\text{Total Product}}{\text{Total Area}} = \frac{3950.62}{57.41} = \boxed{69}$$



TR-55 Stormwater Calculations - Post-Development T_c

Sheet Flow Segments: **1** (max 5)

$$T_t(hr) = \frac{0.007(n \cdot L)^{0.8}}{(P_2)^{0.5} \cdot S^{0.4}}$$

Segment ID	Surface Description	Manning's Roughness Coefficient, n	Flow Len, L (ft)	Two-Year 24 Hour Rainfall, P ₂ (in)	Land Slope, s (ft/ft)	T _T (hr)
AB	Woods (Light Underbrush)	0.400	50.00	3.53	0.01	0.267

Shallow Conc. Flow Segments: **2** (max 20)

$$T_t(hr) = \frac{L}{3600 \cdot V}$$

Segment ID	Surface Description	Flow Length, L (ft)	Watercourse Slope (ft/ft)	Average Velocity, V (ft/s)	T _T (hr)
BC	Unpaved	1805.500	0.009	1.54	0.325
CD	Paved	43.000	0.050	4.55	0.003

Open Channel Flow Segments: **1** (max 5)

$$V = \frac{1.486}{n} \cdot R^{2/3} \cdot S^{1/2} \quad T_t(hr) = \frac{L}{3600 \cdot V}$$

Segment ID	Surface Description	Manning's Roughness Coefficient, n	Flow Len, L (ft)	Area (ft ²)	P _{wetted} (ft)	Slope (ft/ft)	V (ft/s)	T _T (hr)
DE	Unpaved	0.045	1178.000	8.911	7.865	0.020	5.05	0.065

Total T_c = 0.660 hr



TR-55 Stormwater Calculations - Post-Development Peak Discharge

Drainage Area (sq. mi): 0.090
 Curve Number: 69
 Tim of Concentration, T_c (hr): 0.660
 Rainfall Distribution: II

of Storms: 4 (max 5)

$$S = \frac{1000}{CN} - 10$$

$$Q = \frac{(P - 0.2 \cdot S)^2}{(P + 0.8 \cdot S)} \quad q_p = q_u \cdot A_m$$

Storm #	Frequency	Rainfall, P (24 hr)	Initial Abstraction, I _A	I _A /P	Unit Peak Discharge, q _u (csm/in)	Runoff, Q (in)	Peak Discharge, q _p (cfs)
1	2	3.46	0.9062	0.2622	359.29	0.918	29.6
2	10	4.97	0.9062	0.1824	415.78	1.920	71.6
3	25	5.86	0.9062	0.1548	429.69	2.584	99.6
4	100	7.27	0.9062	0.1246	440.62	3.719	147.0

Project Information

Project Name:	Mill Creek	
Submission Date:	05/11/2021	
Project Area (ft ²):	168,697	ft ²
Disturbed Area (ft ²):	27,419	ft ²
Development Land Use Type:	Commercial	
Development Activity Type:	Development - New	
Designated Downtown Area?	no	
Project Location/Address:	4449 Landi Lane, Mebane, NC 27302	
County:	Alamance	
Local Jurisdiction:	Mebane	
Project Latitude Coordinates:	36.129241	N
Project Longitude Coordinates:	79.279290	W
Precipitation Station:	Burlington	
Physiographic Region:	Piedmont	
Nutrient Management Watershed:	Jordan Lake	
Subwatershed:	Jordan - Haw	
Phosphorus Delivery Zone:	Jordan - 030070	
Nitrogen Delivery Zone:	Jordan - 030070	
Project Designer and Contact Phone Number / Email:	Jeremy Wooster, P.E. jkwooster@tepgroup.net (919) 808-9454	
Part of Common Development Plan?	no	
Project Owner Type:	Private	
Project Description:	Proposed telecommunications facility	

Yellow cells require data for PROJECT AREA RUNOFF and NUTRIENT TREATMENT calculations

Green cells require data for NUTRIENT TARGETS, BUYDOWN, & CREDIT/DEBIT calculations

PROJECT AREA LAND COVERS	TN EMC (mg/L)	TP EMC (mg/L)	Pre- Project Area (ft ²)	Post- Project Area (ft ²)
Roof	1.18	0.11	0	0
Roadway	1.64	0.34	0	6,905
Parking/Driveway/Sidewalk	1.42	0.18	0	3,213
Protected Forest	0.97	0.03	0	0
Other Pervious/Landscaping	2.48	1.07	168,697	158,579

Project Summary

Project Name:		Mill Creek			
Project Area (ft ²):	168,697	ft ²	3.8728	acres	Submission Date: May 11, 2021
Disturbed Area (ft ²):	27,419	ft ²	0.6295	acres	
County:	Alamance		Local Jurisdiction:	Mebane	
Development Land Use Type:	Commercial		Owner Type:	Private	
Development Activity Type:	Development - New		Designated Downtown Area?	no	
Nutrient Management Watershed:	Jordan Lake		Subwatershed:	Jordan - Haw	
Phosphorus Delivery Zone:	Jordan - 030070		Nitrogen Delivery Zone:	Jordan - 030070	
Phosphorus Delivery Factor (%):	18%		Nitrogen Delivery Factor (%):	36%	
Phosphorus Loading Rate Target (lb/ac/yr):	1.43		Nitrogen Loading Rate Target (lb/ac/yr):	3.80	
Phosphorus Load Target at Site (lb/yr):	5.54		Nitrogen Load Target at Site (lb/yr):	14.72	
Phosphorus Load Leaving Site w/SCMs (lb/yr):	2.36		Nitrogen Load Leaving Site w/SCMs (lb/yr):	7.27	
P Offsite Buy-Down Threshold Loading Rate (lb/ac/yr):	0.61		N Offsite Buy-Down Threshold Loading Rate	10.00	
Total P Load Reduction Needed (lb/yr):	-3.18		Total N Load Reduction Needed (lb/yr):	-7.44	
P Load Treatment Balance at Site (lb/yr):	-3.18		N Load Treatment Balance at Site (lb/yr):	-7.45	
P Load Treatment Balance at Lake (lb/yr):	-0.57		N Load Treatment Balance at Lake (lb/yr):	-2.68	

Nutrient Export Summary

	Pre-Project Whole Site Conditions	Post-Project Whole Site without SCMs	Post-Project Whole Site with SCMs	Post-Project SCM-Treated Area	Post-Project Untreated Area
Percent Impervious (for runoff calculation) (%)	0.0%	6.0%	6.0%	0.0%	6.0%
Percent Built-Up Area (BUA) (%)	0.0%	6.0%	6.0%	0.0%	6.0%
Annual Runoff Volume (ft ³ /yr)	28,265	58,780	58,780	0	58,780
Annual Runoff % Change (relative to pre-D)	0%	108%	108%		
Total Nitrogen EMC (mg/L)	2.48	1.98	1.98	0.00	1.98
Total Nitrogen Load Leaving Site (lb/yr)	4.38	7.27	7.27	0.00	7.27
Total Nitrogen Loading Rate (lb/ac/yr)	1.13	1.88	1.88	0.00	1.88
Total Nitrogen % Change (relative to pre-D)	0%	66%	66%		
Total Phosphorus EMC (mg/L)	1.07	0.64	0.64	0.00	0.64
Total Phosphorus Load Leaving Site (lb/yr)	1.89	2.36	2.36	0.00	2.36
Total Phosphorus Loading Rate (lb/ac/yr)	0.49	0.61	0.61	0.00	0.61
Total Phosphorus % Change (relative to pre-D)	0%	25%	25%		

SCM/Catchment Summary

SCM ID and Type	Volume Reduction (%)	TN Out (mg/L)	TP Out (mg/L)	TN Out (lbs/ac/yr)	TP Out (lbs/ac/yr)	TN Reduction (%)	TP Reduction (%)
Catchment 1	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
101: NA	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
102: NA	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
103: NA	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
Catchment 2	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
201: NA	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
202: NA	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
203: NA	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
Catchment 3	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
301: NA	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
302: NA	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
303: NA	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
Catchment 4	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
401: NA	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
402: NA	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
403: NA	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
Catchment 5	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
501: NA	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
502: NA	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
503: NA	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
Catchment 6	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
601: NA	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
602: NA	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%
603: NA	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00%

SCM rows in red have a data entry error for the SCM that makes an error in the calculation.

PLANNING PROJECT REPORT

DATE	06/08/21
PROJECT NUMBER	SUP 21-01
PROJECT NAME	Mill Creek TowerCom
	Towercom IV-B, LLC
	5611 NC Hwy 55
APPLICANT	Suite 201
	Durham, NC
	27713

CONTENTS

PROJECT NAME & APPLICANT	PAGE 1
ZONING REPORT	PAGE 3
LAND USE REPORT	PAGE 5
UTILITIES REPORT	PAGE 6
STAFF ZONING REQUEST RECOMMENDATION	PAGE 7



**CITY OF MEBANE
ZONING MAP**

**SUBJECT PROPERTY
MILL CREEK TOWERCOM**

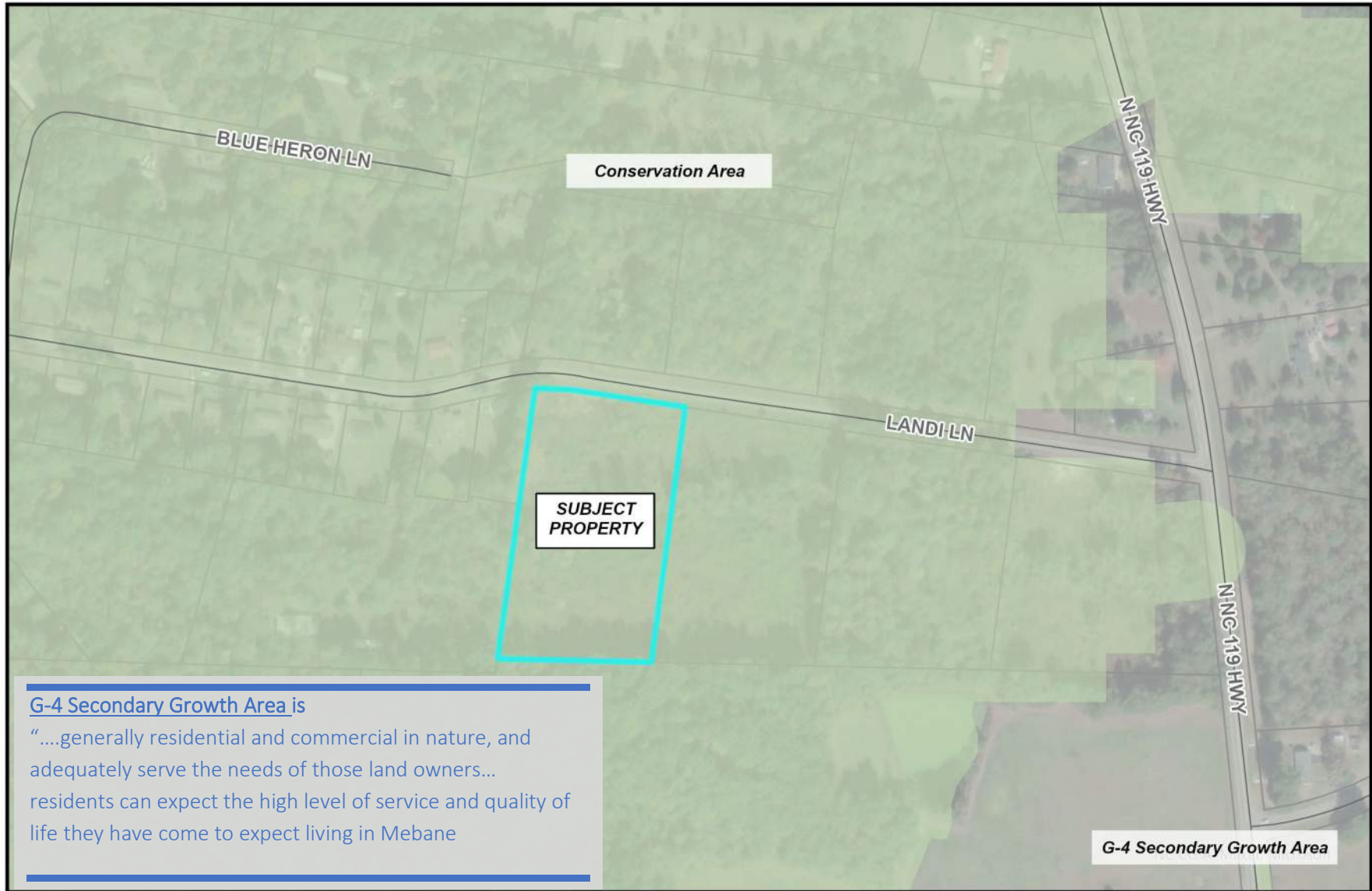
1 inch = 200 feet

DATE: 6/08/2021

DRAWN BY: AV

ZONING REPORT

EXISTING ZONE	R-20 (Single-Family Residential)
REQUESTED ACTION	Special Use Permit to allow for Wireless Communication Facility > 75'
CONDITIONAL ZONE?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
CURRENT LAND USE	Vacant
PARCEL SIZE	+/-3.87 ac
PROPERTY OWNERS	Adelana Amortia Nelson 200 Holt Ave., #B Greensboro, NC 27603 GPIN 9816764270
LEGAL DESCRIPTION	The applicant is requesting a special use permit be granted for a wireless communication facility (aka "5G Tower"). All such facilities >75' in height require a special use permit to be allowed.
AREA ZONING & DISTRICTS	All properties surrounding the subject property are zoned R-20. The property is within the Critical Area of the Graham-Mebane Water Supply (II) Watershed. The
SITE HISTORY	property was subdivided in 2015 into four properties. The properties have historically been vacant.
STAFF ANALYSIS	
CITY LIMITS?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
PROPOSED USE BY-RIGHT?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
SPECIAL USE?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
EXISTING UTILITIES?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
POTENTIAL IMPACT OF PROPOSED ZONE	There is no rezoning request, only a special use request to allow for the 5G Tower.



G-4 Secondary Growth Area is

“...generally residential and commercial in nature, and adequately serve the needs of those land owners... residents can expect the high level of service and quality of life they have come to expect living in Mebane

G-4 Secondary Growth Area

1 inch = 275 feet

LAND USE REPORT

EXISTING LAND USE	Vacant
PROPOSED LAND USE & REQUESTED ACTION	The applicant is requesting a special use permit be granted for a wireless communication facility (aka "5G Tower"). All such facilities >75' in height require a special use permit to be allowed.
PROPOSED ZONING	N/A
PARCEL SIZE	+/-3.87 ac
AREA LAND USE	All of the surrounding land uses are rural single-family residences not using municipal utilities or vacant.
ONSITE AMENITIES & DEDICATIONS	N/A
WAIVER REQUESTED	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
DESCRIPTION OF REQUESTED WAIVER(S)	

CONSISTENCY WITH <i>MEBANE BY DESIGN</i> STRATEGY	
LAND USE GROWTH STRATEGY DESIGNATION(S)	G-4 Secondary Growth Area Graham-Mebane Water Supply (II) Watershed Conservation Area
<i>MEBANE BY DESIGN</i> GOALS & OBJECTIVES SUPPORTED	
<i>MEBANE BY DESIGN</i> GOALS & OBJECTIVES <u>NOT</u> SUPPORTED	

UTILITIES REPORT

AVAILABLE UTILITIES	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
PROPOSED UTILITY NEEDS	The applicant is not proposing to use any public utilities.
UTILITIES PROVIDED BY APPLICANT	Compliance with the NC Water Supply Watershed development requirements requires minimizing the building footprint to 6% of the site, as reviewed and approved by the Mebane Engineering staff.
MUNICIPAL CAPACITY TO ABSORB PROJECT	N/A
CONSISTENCY WITH MEBANE LONG RANGE UTILITY PLAN?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
ADEQUATE STORMWATER CONTROL?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
INNOVATIVE STORMWATER MANAGEMENT?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

TRANSPORTATION NETWORK STATUS

CURRENT CONDITIONS	Landi Lane is a local, dead-end road maintained by NCDOT, that largely serves the needs of its residents. At its intersection with Landi Lane, NC 119 has a safety score of 100, with 10 incidents, including one fatality. NC 119 has an average of 4,400 trips per day at this location, though this increases to 7,400 trips per day at the entrance to the Mill Creek community.
TRAFFIC IMPACT ANALYSIS REQUIRED?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
DESCRIPTION OR RECOMMENDED IMPROVEMENTS	N/A
CONSISTENCY WITH THE MEBANE BICYCLE AND PEDESTRIAN TRANSPORTATION PLAN?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
MULTIMODAL IMPROVEMENTS PROVIDED BY APPLICANT?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
DESCRIPTION OF MULTIMODAL IMPROVEMENTS	The applicant does not propose to make any multimodal improvements, as they are not required by the City's adopted plans and the site will not fully employ any individuals.

STAFF RECOMMENDATION

<p>STAFF ZONING RECOMMENDATION</p>	<p><input type="checkbox"/> APPROVE <input type="checkbox"/> DISAPPROVE</p>
<p>STAFF SPECIAL USE FINDING</p>	<p><input checked="" type="checkbox"/> CONSISTENT <input type="checkbox"/> NOT CONSISTENT.....WITH <i>MEBANE BY DESIGN</i></p>
<p>RATIONALE</p>	<p>The proposed development “Mill Creek Towercom” is consistent with the guidance provided within <i>Mebane By Design</i>, the Mebane Comprehensive Land Development Plan and, as shown by the applicant’s fall zone analysis and buffering commitments, is in harmony with the surrounding zoning of the area.</p>
<p>PUBLIC INTEREST CONFORMANCE?</p>	
<p>ENDANGER PUBLIC HEALTH OR SAFETY?</p>	<p><input type="checkbox"/> YES <input type="checkbox"/> NO</p>
<p>SUBSTANTIALLY INJURE THE VALUE OF ADJOINING OR ABUTTING PROPERTY?</p>	<p><input type="checkbox"/> YES <input type="checkbox"/> NO</p>
<p>HARMONIOUS WITH THE AREA IN WHICH IT IS LOCATED?</p>	<p><input type="checkbox"/> YES <input type="checkbox"/> NO</p>
<p>CONSISTENT WITH <i>MEBANE BY DESIGN</i>, THE MUNICIPAL COMPREHENSIVE LAND DEVELOPMENT PLAN?</p>	<p><input type="checkbox"/> The application is consistent with the objectives and policies for growth and development contained in the City of Mebane Comprehensive Land Development Plan, <i>Mebane By Design</i>, and, as such, has been recommended for approval.</p> <p><input type="checkbox"/> The application is not fully consistent with the objectives and policies for growth and development of the City of Mebane Comprehensive Land Development Plan, <i>Mebane By Design</i>, but is otherwise in the public interest and has been recommended for approval. The Comprehensive Land Development Plan must be amended to reflect this approval and ensure consistency for the City of Mebane’s long-range planning objectives and policies.</p> <p><input type="checkbox"/> The application is not consistent with the objectives and policies for growth and development of the City of Mebane Comprehensive Land Development Plan, <i>Mebane By Design</i>, and, as such, has been recommended for denial.</p>



Technical Memorandum

Date: June 10, 2021

To: Cy Stober, Development Director

From: Franz K. Holt, P.E.

Subject: Proposed Telecommunications Facility at Mill Creek – City Engineering review

The site plans for the subject facility dated May 11, 2021 and prepared by Jeremy Wooster with Tower Engineering Professionals and Engineering Services in Raleigh, NC, have been reviewed by the Engineering Department as a part of the TRC plan review process. Our technical review comments are as follows:

- A. General - Towercom plans to construct a telecommunications tower at 4449 Landi Lane. The parcel area is 3.87 acres of which a portion is being leased for the proposed use. Regardless, the total lot acreage is restricted to the 6% built upon area limitation.
- B. Watershed Overlay District and Phase II Stormwater Requirements
 - 1. Watershed Overlay District requirements are provided under Sec. 5.2 of the UDO. These requirements in the UDO are for the Back-Creek Watershed, which includes the Graham-Mebane Lake. This proposed developed is within the WCA with limitations on built upon area of 6%. The proposed project proposes to meet this requirement at 5.9% built upon area.
 - 2. Phase II Stormwater Post Construction Ordinance
Sec. 5.4 in the UDO provides standards for Storm Water Management and 5.4.F requires compliance with the Mebane Post Construction Runoff Ordinance (which is a stand-alone ordinance titled the Phase II Stormwater Post Construction Ordinance (SPCO)). The standards in the UDO are general standards as the Ordinance itself provides detailed standards. The SPCO does not apply to this project as it will disturb less than one acre of land.
- C. Access - The Towercom Structure will be accessed from Landi Lane with a newly constructed gravel access drive with a 20-foot paved driveway apron within the existing road right of way. The gravel drive width is proposed at 12-feet with 12-inches of compacted stone.
- D. Permits – (not limited to but including the following)
 - 1) Stream buffer authorization permit is required from the City of Mebane for the proposed stream crossing.
 - 2) Driveway permit from NCDOT will be required for the access connection to Landi Lane (S.R. 2005).
 - 3) Corps and NCDEQ permit will be required for the stream crossing.

MILL_CREEK_GOLF SERVICE GAP FILL IN Site

Feb 2021

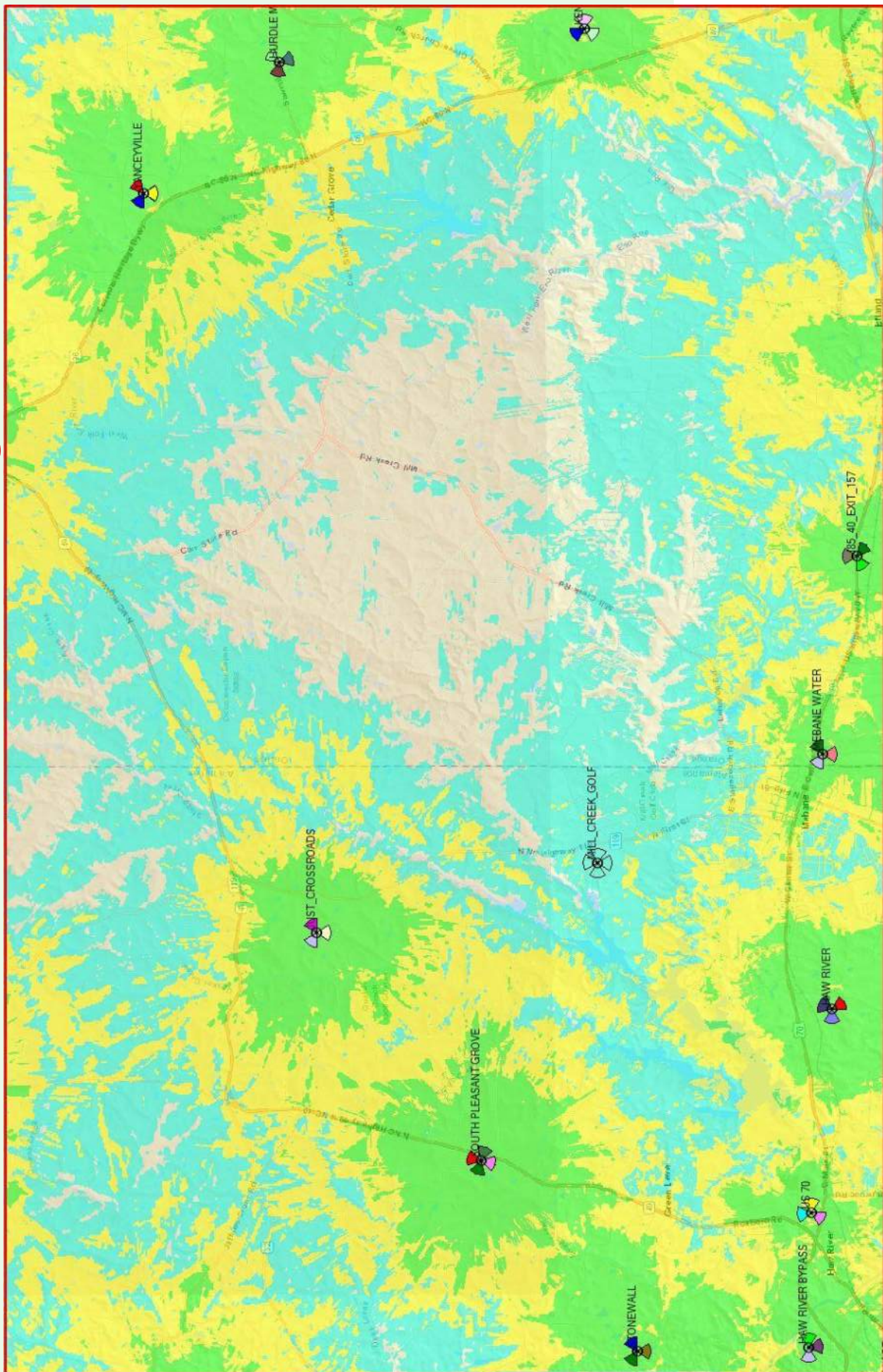
Sam Patel

RF Engineer



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Current VZW 4G LTE Coverage

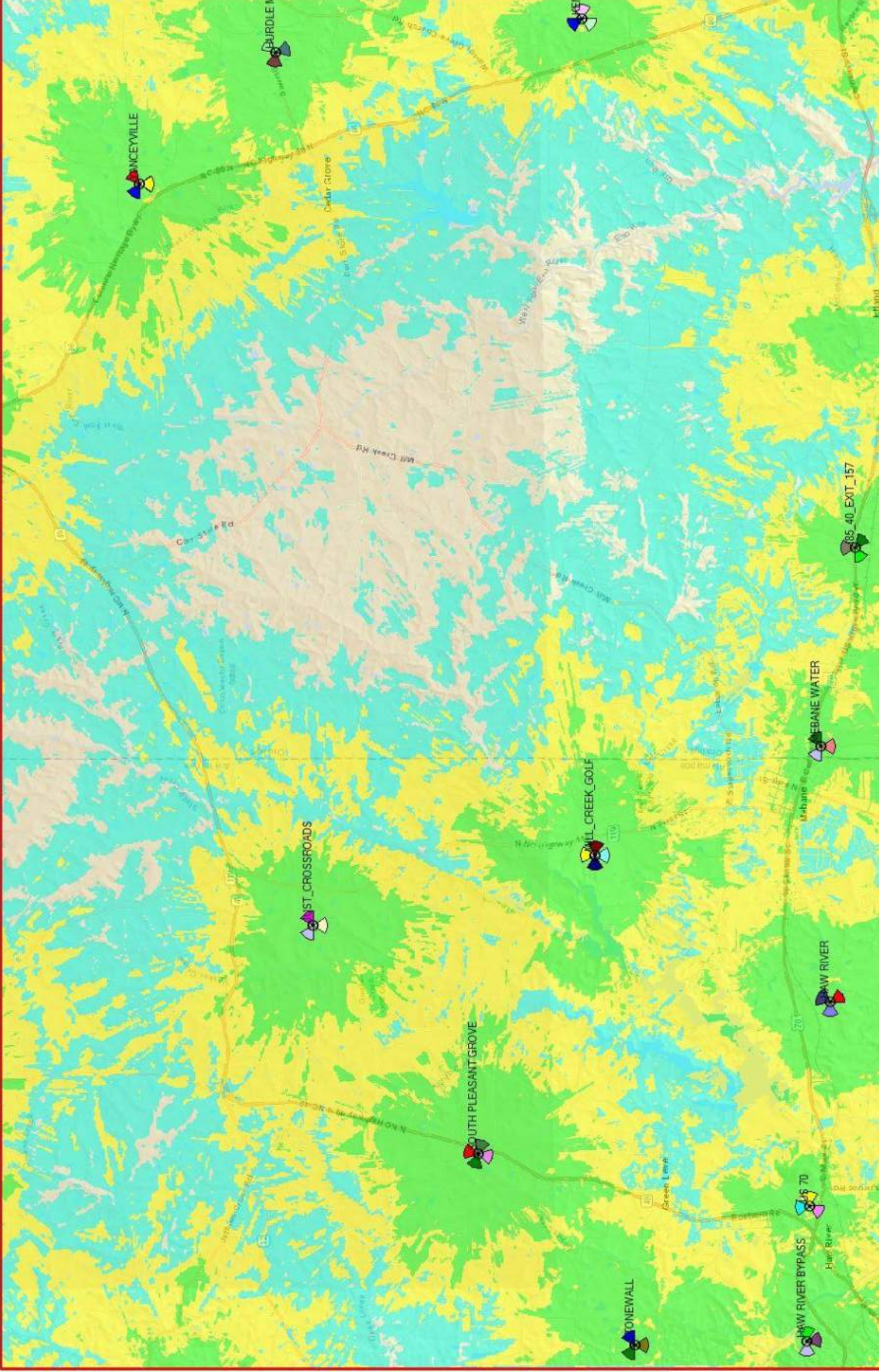


Coverage Level
In-Building
In-Vehicle
On-Street



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Proposed VZW 4G LTE Coverage @ 190' ACL



Coverage Level
In-Building
In-Vehicle
On-Street



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MILL_CREEK_GOLF – Site Objective

- **The coverage objective of the new build site MILL_CREEK_GOLF @ 190 ft is to provide reliable, contiguous coverage to the north of town Mebane, HWY 119 and surrounding areas. Thus improving the drop call performance.**
- **Currently there is an unreliable coverage and excessive drop calls to the north of town Mebane, HWY 119 and surrounding areas.**
- **MILL_CREEK_GOLF @ 190 ft and the existing location will integrate well into the wireless network to provide reliable, contiguous wireless coverage and it will improve the drop calls and overall experience for the customers.**



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Thank You



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Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2021-ASO-11150-OE
 Prior Study No.
 2021-ASO-4770-OE

Issued Date: 05/12/2021

John Moody
 TowerCom (JM)
 5611 NC Hwy 55
 Suite 201
 Durham, NC 27713

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Antenna Tower Mill Creek
 Location: Mebane, NC
 Latitude: 36-07-45.26N NAD 83
 Longitude: 79-16-45.44W
 Heights: 618 feet site elevation (SE)
 199 feet above ground level (AGL)
 817 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 11/12/2022 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (202) 267-0105, or j.garver@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-ASO-11150-OE.

Signature Control No: 476084508-480494915

(DNE)

Jay Garver
Specialist

Attachment(s)
Frequency Data
Map(s)

cc: FCC

Frequency Data for ASN 2021-ASO-11150-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
6	7	GHz	55	dBW
6	7	GHz	42	dBW
10	11.7	GHz	55	dBW
10	11.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
17.7	19.7	GHz	42	dBW
21.2	23.6	GHz	55	dBW
21.2	23.6	GHz	42	dBW
614	698	MHz	1000	W
614	698	MHz	2000	W
698	806	MHz	1000	W
806	901	MHz	500	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2360	MHz	2000	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W





N E L L O

1201 S Sheridan St
South Bend, IN 46619

Phone: 574-288-3632
Fax: 574-288-5860
www.nelloinc.com

May 5, 2021

*TowerCom IV, LLC
5611 NC Hwy, Suite 201
Durham, NC 27713*

Re: Proposed 195' Nello Monopole Tower
Nello Quote #: RFQ 77544
Site: Mill Creek

To Whom It May Concern:

This letter is regarding your inquiry about the expected performance of your proposed tower that will be quoted by Nello based on site-specific criteria.

Our towers are designed to meet or exceed industry standards defined by TIA-222-H, "Structural Standards for Antenna Supporting Structures and Antennas" (TIA Standard). It is our opinion that the possibility of a tower collapse is very unlikely. The tower is designed using extreme wind and ice conditions. In fact, wind speeds specified by the TIA Standard are 50-year wind speeds. That is, they have only a 2% statistical chance of occurring in any given year.

This tower will be designed using the following wind conditions as a minimum: a 112 mph ultimate wind speed with no ice, and a 30 mph 3-second gust wind with 1.5" ice. The TIA Standard specifies 112 mph as the ultimate wind speed required for this site in Alamance County, NC. The "3-second gust wind speed" refers to a wind measured at 33 feet above the ground. Equations in the TIA Standard take into account that wind speed escalates with increasing height of the tower.

Although we cannot guarantee exactly how a tower would fall if it were to fail, the most likely mode of failure would be a buckling failure of one of the tower sections due to excessive wind loading. Nello will design the tower to stay within a fall radius of 80 feet based on design stress levels in accordance with the TIA-222-H Standard and the currently adopted IBC.

The fall radius statement above assumes proper foundation construction and tower installation. The foundation design should be reviewed to ensure that no foundation limit state governs the entire structural system and negates the fall radius design. The fall radius expectancy requires that the foundation be designed with a capacity greater than that of the tower capacity. If the foundation design used in association with this tower is performed by a third party then Nello must be provided the opportunity to review the design in order to confirm that the fall radius remains satisfactory. If for some reason Nello does not provide the tower design or is not given the opportunity to design or review the foundation for this specific project then the content of this letter becomes void.

We hope this has given you a greater degree of comfort regarding the design of your structure. If you have any other questions or concerns regarding the design of your site-specific tower, please contact our engineering or sales department.

Sincerely,

Jason M. Lambert, PE
Vice President of Engineering
Nello

IMPACT STUDY

***Impact Study - Cell Tower
4449 Landi Lane
Mebane, Alamance County,
North Carolina 27302***

Type Report: Impact Study

***Effective Date
May 30, 2021***

Project ID MAD-001



June 6, 2021

Ms. Kathe Post
Project Manager
TowerCom IV B, LLC
5611 NC Highway 55
Suite 201
Durham, NC 27713

RE: Impact Study for Proposed Telecommunications Facility located at 4449 Landi Lane, Mebane, Alamance County, North Carolina.

Dear Ms. Post:

I have completed a study of the proposed tower. The scope of the assignment is to provide an analysis and conclusions addressing whether the proposed development will adversely impact the value of surrounding properties. The study will be included in an application for an amendment to the Mebane Zoning Ordinance for a special use permit.

The impact study is intended to conform to the Uniform Standards of Professional Appraisal Practice (USPAP), the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute. The impact study is not an appraisal as it does not report a value of any property or provide a numerical reference; however, the study employs appraisal methodology to reach our conclusions of the impact of the proposed development.

The proposed tower will be located on a vacant lot located at 4449 Landi Lane in the extraterritorial jurisdiction of the City of Mebane. The property is located along the NC Highway 119 corridor. NC Highway 119 serves as the northern radial growth pattern emanating from the interchange with US Highway 70 south of the proposed development. The location is a factor in the selection of data for comparison and the conclusions of this analysis.

The conclusions of this study are supported by the data and reasoning set forth in the attached narrative. Your attention is invited to the Assumptions and Limiting Conditions section of this report. The analysts certify that we have no present or contemplated future interest in the proposed development, and that our fee for this assignment is in no way contingent upon the conclusions of this study.

EXTRAORDINARY ASSUMPTIONS AND HYPOTHETICAL CONDITIONS:

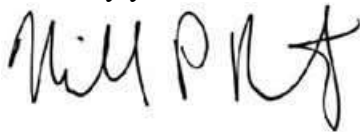
It is an extraordinary assumption of this report that the proposed development will be constructed as detailed in the report. Further, it is an assumption of the study that the existing access will be used to access the proposed wireless facility.

The content and conclusions of this report are intended for our client and for the specified intended uses only. They are also subject to the assumptions and limiting conditions as well as the specific extraordinary assumption set forth in this report.

It is our opinion that the proposed development will enhance or maintain the value of contiguous properties and that it is in an area where it does not substantially detract from the aesthetics and neighborhood character.

Thank you for the opportunity to be of service. If you have any questions or comments, please contact our office.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Michael P. Berkowitz". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

MICHAEL P. BERKOWITZ
MPB REAL ESTATE, LLC

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SCOPE OF THE ASSIGNMENT

In accordance with our agreement with the client, this impact study is specific to the needs of our client as part of an application for a special use permit to be considered by Mebane City Officials. Our study and the reporting of our study is in agreement with our client as follows:

The proposed development requires a Special Use Permit. The report is intended to address some of the items to be considered for approval or denial of the permit. The following was extracted from Chapter 2.18.I of the Mebane Unified Development Ordinance regarding the findings of fact associated with a special use permit.

1. Will materially endanger the public health or safety; or
2. Will substantially injure the value of adjoining or abutting property; or
3. Will not be in harmony with the area in which it is to be located; or
4. Will not be in general conformity with the land use plan or other plans and policies officially adopted by the City Council.

The scope of the assignment includes research of existing towers in the neighborhood. The neighborhoods and their surrounding developments are researched to determine whether the proposed development, referred to as the “Mill Creek Site”, is consistent with the location of other towers in Mebane and their impact, if any, on neighborhood development patterns and property values.

The impact study provides an analysis of the surrounding properties. The analysis includes existing improvements, zoning designations and likely development patterns. The existing uses as of the effective date of this report in concert with the market data provided are contributing factors to the conclusions of this study.

PREMISES OF THE STUDY

Identification of Subject

Mill Creek Site

4449 Landi Lane
Mebane, Alamance County, NC 27302
Tax Parcel ID: 172541

Client, Purpose, and Intended Use and Intended Users

Ms. Kathe Post
Project Manager
TowerCom IV B, LLC
5611 NC Highway 55
Suite 201
Durham, NC 27713

The client and intended user is Ms. Kathe Post. The intended use is as an aid to assist Mebane officials in rendering a decision regarding the issuance of a special use permit for the proposed development. The study is not intended for any other use or users.

Analyst

Michael P. Berkowitz

MPB Real Estate, LLC
1100 Sundance Drive
Concord, NC 28027

Property Inspection

Michael Berkowitz inspected the property and neighborhood surrounding the proposed development. Details of surrounding land uses, and observations are provided throughout the report. I also performed off site visual inspections of several towers located in Mebane and the surrounding area. I consider my observations in the context of the market data. They are a contributing factor to my conclusions. Photographs of the property were taken during Mr. Berkowitz's inspection.

Extraordinary Assumptions of Report

It is an extraordinary assumption of this report that the improvements as described within this report are compliant with the appropriate ordinance regarding items including but not necessarily limited to setbacks, landscaping, access and other items outside our field of expertise for this assignment.

These items will be addressed as part of the application by others with expertise within the respective fields.

Should the extraordinary assumptions not exist, we reserve the right to amend this study.

Effective Date of Study May 30, 2021

Date of Report June 6, 2021

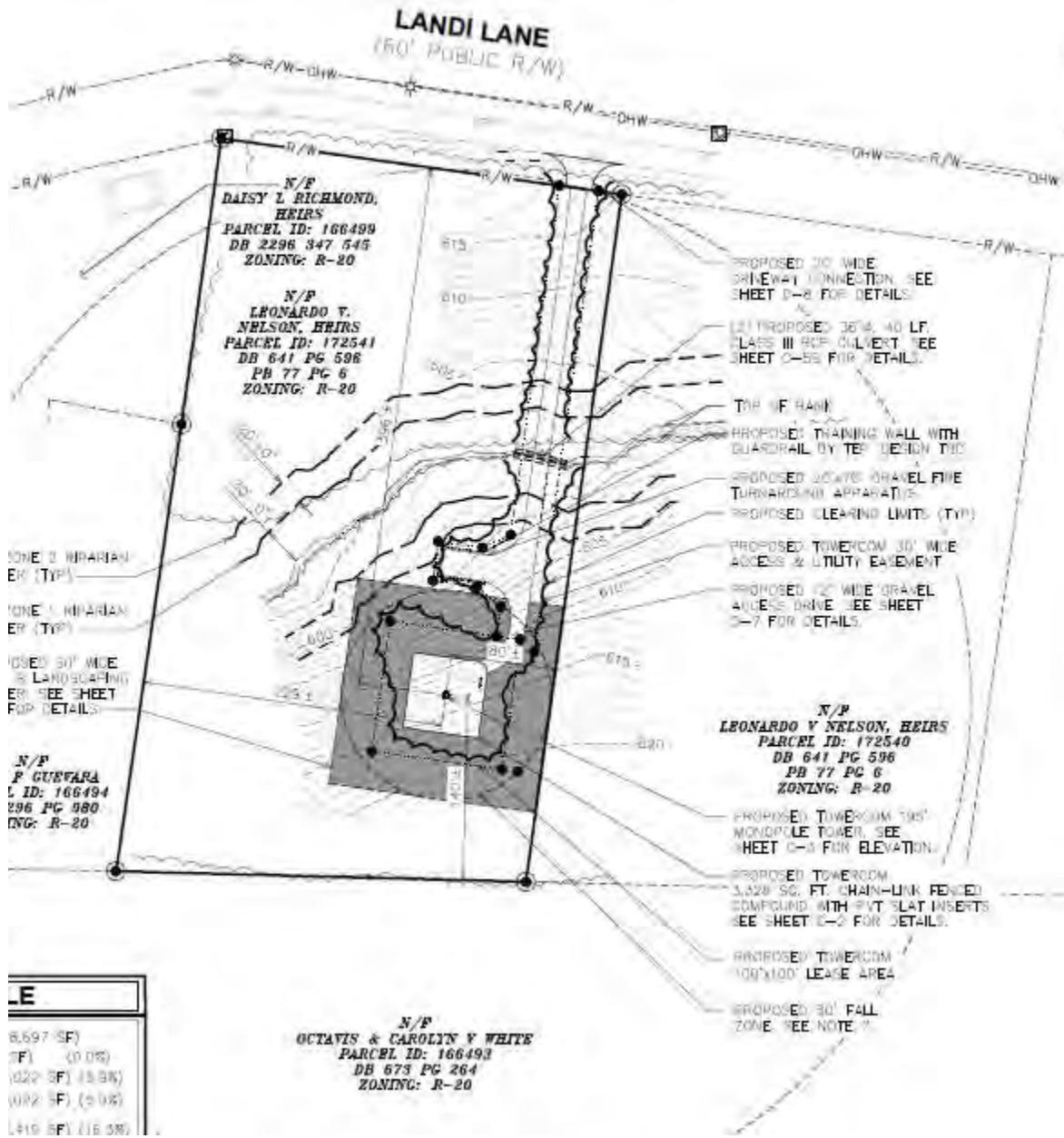
Type Report Impact Study Report

Study Development and Reporting Process In preparing this study, the analyst:

- Analyzes physical affects, if any, of the proposed construction on properties in the immediate area as well as the neighborhood;
- Reviews plans for the proposed development to determine whether it is in compliance with the Mebane Unified Development Ordinance (UDO) with respect to items within my field of expertise;
- Reviews site plan provided by our client with respect to the physical characteristics of the proposed development;
- Reviews Section 8.7 of the Mebane UDO regarding permitted uses with conditions for essential services;
- Researches market data around existing cell towers in Mebane and the surrounding area to determine whether the proposed development is in accordance with the other similar developments in the area.

PROPOSED FACILITY

Tower Based on information provided to the analyst, the proposed tower will consist of a 195-foot “monopole” communications tower. The following site plan shows the proposed site.



SITE PLAN



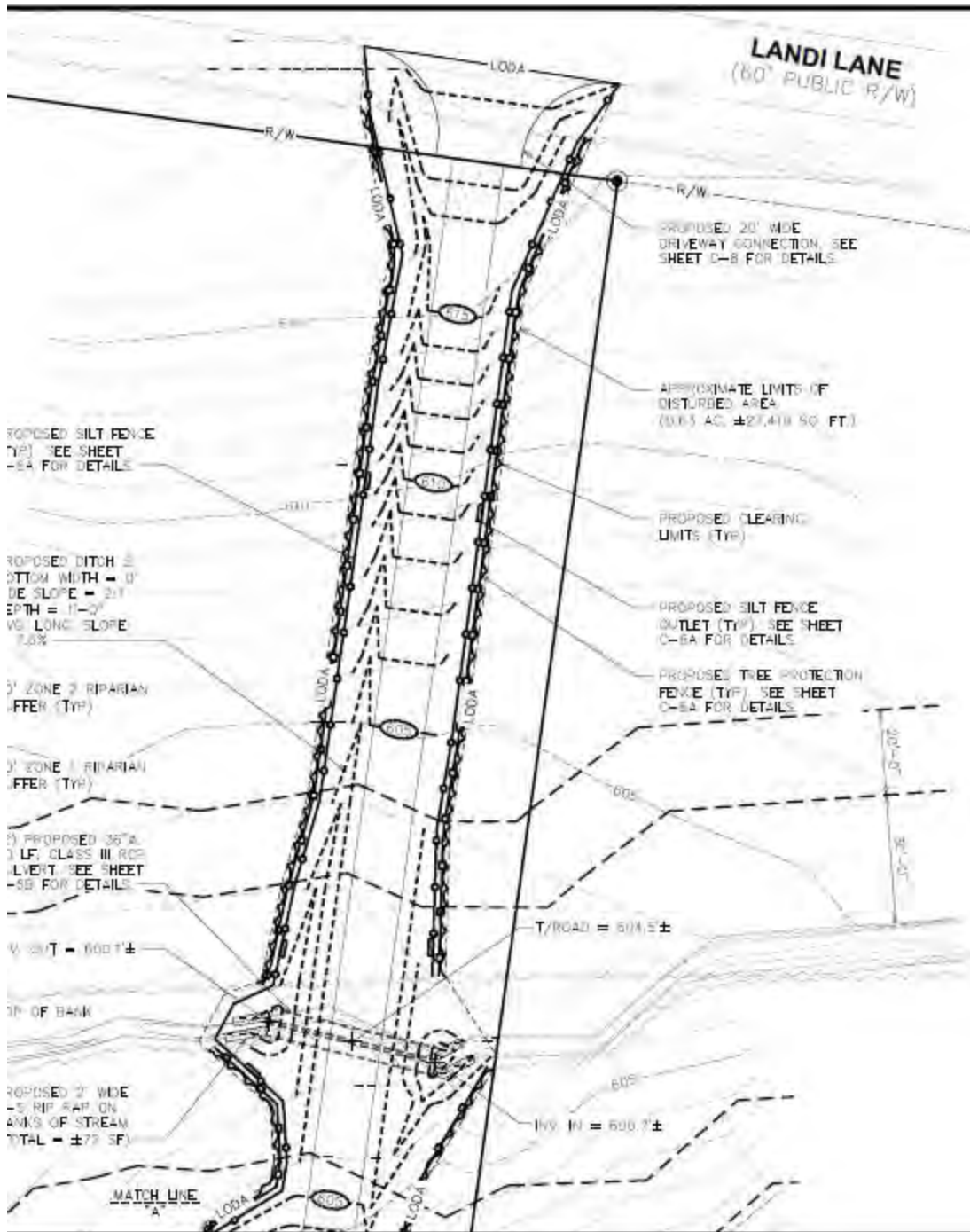
Site Improvements

The site improvements will include an eight-foot-high chain link fence with three strands of barbed wire. The site improvements will include the construction of a gravel driveway that will cross the existing stream on the parcel to the site of the proposed development. The site improvements are consistent with other cell towers observed.

Access

The access to the tower will be via a 20-foot-wide access/utility easement stemming from Landi Lane. The driveway appears consistent with other access points in the

neighborhood. The following exhibit was extracted from the site plans provided for this assignment.



Location

The proposed location is in the southeast corner of the site. Based on the analysis of the site plan and the UDO, the siting of the tower appears to be in the area furthest from the street and closest to the adjacent property to the east, which is under the same ownership.

SURROUNDING LAND USES

The proposed development is located on a 3.78-acre tract of land located at 4449 Landi Lane. Landi Lane connects to NC Highway 119 to the east, which is the primary north/south transportation corridor in the neighborhood.

To the west of the subject are single family residential properties that were primarily constructed in the 1970's. The existing trees will obscure most if not all the tower from the majority of these properties. To the east and north are larger residential lots some of which have been developed with single family dwellings.

To the north of the proposed site are residential lots some of which have been developed with single family dwellings. As with significant portions of the neighborhood all the properties to the north are heavily wooded and will have little to no visual impact from the tower.

To the south is a single-family dwelling situated on a larger parcel used for agricultural purposes. The site consists of 39.63 acres and as with all of the adjacent or abutting properties includes a significant vegetative buffer between the site of the proposed tower and the existing improvements.

For the assignment, we were provided with simulated photographs. The photographs in concert with observations made during the inspection are contributing factors in the analysis. The following are the photographs provided simulating the landscape with and without the tower. Please note that the tower will not be visible from some of the

locations. We note the presence of above ground infrastructure that also has a visual impact on most of the surrounding residential properties.



As we will discuss in the following section, the scope of the assignment is to determine whether the proposed development is in accordance with the Mebane UDO regarding the issuance of a special use permit. The items within our field of expertise are detailed in the following section.

MEBANE UNIFIED DEVELOPMENT ORDINANCE

The Mebane UDO provides four criteria for the approval of a special use permit. The following was extracted from the Mebane UDO.

1. Will materially endanger the public health or safety; or
2. Will substantially injure the value of adjoining or abutting property; or
3. Will not be in harmony with the area in which it is to be located; or
4. Will not be in general conformity with the land use plan or other plans and policies officially adopted by the City Council.

The potential impact on property values of adjacent or abutting properties considers several Physical characteristics associated with the visual impact of the tower in concert with the nature of the adjacent or abutting properties.

Height – The height of the proposed tower is 195 feet. The height of the tower will not require a light. Based on research of the market, the height of the tower is consistent with other towers in the general area. The height of the tower is considered in the potential visual impact on nearby properties.

Residential Proximity – The subject has an R-20 zoning designation. The zoning is consistent with other properties with residential developments in the ETJ of Mebane.

Uses – As noted earlier, the adjacent or abutting properties include a combination of vacant land, low-density and medium density residential properties.

Trees and Vegetation – There is a vegetative buffer around the perimeter of the site between the residential properties and the site. The trees and vegetation on the subject and contiguous properties will reduce the visual impact of the tower.

Design of the Tower – The design of the tower is a monopole construction. The visual footprint is smaller than most towers prevalent in the area. The location and significant tree cover will reduce or eliminate the visual impact of the proposed tower.

Ingress/Egress – The ingress and egress for the tower will be through a driveway to be constructed for the project. It is an assumption of this study that the access will meet all local and state requirements.

Summary

The ordinance intends to protect residential areas and land uses from potential adverse characteristics and to locate the towers in areas to the extent possible to minimize impact on the neighborhood. As part of the scope of the assignment, I have been asked to determine whether the tower as proposed would adversely impact the value of adjacent or abutting properties.

MARKET RESEARCH

A potential issue associated with the impact of the proposed development is on property values. My expertise is in property valuation; therefore, we provide a test as to whether the market provides evidence of a diminution in value based on proximity of a cell tower.

We researched towers in and around Mebane and identify the development patterns around these towers. After analyzing the market data, we compare this information to the proposed site and the physical characteristics and development patterns surrounding the proposed development.

Mebane Area Towers

During our research, we observed several towers in and around Mebane. The cell towers analyzed for direct comparison were chosen for a variety of reasons including but not necessarily limited to:

- *Location* – The proposed location is in an emerging market in the ETJ of Mebane and includes a mixture of residential uses.
- *Adjacent or Abutting Properties* – The adjacent or abutting properties include vacant land, low and medium density residential uses.
- *Construction Type/Height* – The proposed tower is a monopole with a height of 195 feet.

For the research of towers, we rely on information from antennasearch.com, which we consider a reliable source of information. We excluded towers in commercial and industrial areas as there are too many factors present to isolate the impact, if any, of the tower. Some towers were not visible from the public right-of-way or aerial photos and were excluded.

Consistent with the ordinance for UDO, most of the towers in the area are either located on or adjacent to commercial and industrial areas. Influence from major transportation corridors was also considered in the selection of towers. In many cases there are several factors that contributed to the development patterns and values around the towers. The following provides a summary of the three towers found in the most comparable locations to the proposed site.

The first tower is located off Dickey Mill Road approximately two miles from the proposed development. This lattice communication tower has a height of 253 feet and poses a significantly higher visual footprint than the proposed development. A review of market activity for properties adjacent to this tower did not provide empirical evidence adequate in quality or quantity to perform a credible quantitative analysis.

The second tower researched is located at 205 Edgwood Church Road. This tower was constructed in 2001 and has a

height of 250 feet. This tower is also a lattice tower that has a higher level of visual influence on the surrounding properties. Again, the market does not provide data to perform a credible analysis.

The other towers found had other external factors that would not result in a credible analysis. Commercial or industrial properties are not consistent with the location of the proposed development. The relevant information extracted from this analysis is that towers are developed in residential areas. The development of towers in the area has been limited.

Given the absence of local towers and/or market data to develop a quantitative analysis, we provide examples from other markets with residential developments with a visual impact from the tower.

Additional Market Data

As the immediate area provided inadequate information for a quantitative analysis of the visual influence on residential properties, we provide the following examples that include residential developments adjacent to a cell tower.



19950 Burton Lane



This tower was selected as it has visual impact on residential properties without other external factors. The tower is located within the Victoria Bay development in Cornelius, North Carolina. Cornelius is a small town north of Charlotte with influence from Lake Norman. This subdivision includes some homes with frontage on the water. We have excluded these

sales to assist in isolating the influence of the tower if any. The following chart provides a summary of the sales. The sales highlighted in yellow have visual influence from the tower. The sales highlighted in green are for a resale of the same property.

Victoria Bay					
Parcel #	Street Address	Sales Date	Size (SF)	\$/SF	Sales Price
003-381-44	19911 Marina Village Dr.	April 13, 2018	1,620	\$ 138.27	\$ 224,000
003-381-40	18505 Victoria Bay Dr.	November 13, 2018	1,620	\$ 155.86	\$ 252,500
003-381-30	18526 Victoria Bay Dr.	July 1, 2020	2,219	\$ 145.11	\$ 322,000
003-381-62	18611 Victoria Bay Dr.	November 16, 2018	1,620	\$ 146.91	\$ 238,000
003-381-65	18623 Victoria Bay Dr.	February 28, 2018	1,620	\$ 139.51	\$ 226,000
003-381-66	18627 Victoria Bay Dr.	October 18, 2018	1,620	\$ 151.23	\$ 245,000
003-381-25	18624 Victoria Bay Dr.	November 20, 2018	2,052	\$ 119.40	\$ 245,000
003-381-14	20030 Coral Cove Ct.	January 11, 2018	1,620	\$ 134.57	\$ 218,000
003-382-02	18122 Bluff Inlet Rd.	June 19, 2020	2,071	\$ 153.31	\$ 317,500
003-195-09	18111 Bluff Inlet Rd.	May 18, 2018	2,052	\$ 121.83	\$ 250,000
003-195-06	18021 Bluff Inlet Rd.	July 16, 2018	2,012	\$ 136.68	\$ 275,000
003-195-01	18001 Bluff Inlet Rd.	April 17, 2020	1,645	\$ 151.98	\$ 250,000
003-196-23	20815 Brinkley St.	June 17, 2020	2,610	\$ 128.35	\$ 335,000
003-196-12	18208 Harbor Mist Rd.	February 23, 2018	2,709	\$ 108.90	\$ 295,000
003-196-12	18208 Harbor Mist Rd.	August 3, 2018	2,709	\$ 124.03	\$ 336,000
003-196-36	20933 Brinkley St.	September 7, 2018	2,528	\$ 128.56	\$ 325,000
003-194-57	20102 Beard St.	August 21, 2020	2,386	\$ 155.07	\$ 370,000
003-195-59	20115 Beard St.	September 4, 2018	2,263	\$ 124.61	\$ 282,000
003-194-51	20914 Brinkley St.	December 27, 2018	2,609	\$ 109.62	\$ 286,000
003-194-25	18307 Victoria Bay Dr.	February 21, 2018	2,332	\$ 125.21	\$ 292,000
003-194-26	18311 Victoria Bay Dr.	September 21, 2018	2,582	\$ 114.25	\$ 295,000
003-194-25	18327 Victoria Bay Dr.	January 24, 2018	2,609	\$ 105.40	\$ 275,000
003-194-34	18409 Victoria Bay Dr.	August 13, 2018	2,655	\$ 119.77	\$ 318,000

The sales shown have an average price per square foot of \$132.11. Three of the four sales with visual influence from the tower are above the average. Six of the sales in the data set were of the same model of three of the sale with visual influence from the tower. The prices paid per square foot are comparable. The indication from the market is that the visual impact from the tower does not adversely impact property values in Victoria Bay.



10300 Poplar Tent Road



This tower was researched because of its similar location and the ability to isolate the potential impact of the visual influence of the tower. The development is in the ETJ of the Town of Davidson north of Charlotte. The lattice construction poses a larger visual footprint than the proposed monopole tower. The following chart provide sales data for the adjacent development with the most significant characteristics of the comparison listed in the chart. The sales in yellow are for the houses with the highest level of visual influence from the tower as shown in the photograph. The sales highlighted in green are for sales of the same property.

Fullerton @ Skybrook											
Parcel #	Street Address	Sales Date	Size (SF)	\$/SF	Sales Price	Parcel #	Street Address	Sales Date	Size (SF)	\$/SF	Sales Price
4671-72-9757	575 MARTHAS VIEW DR NW	Apr 20 2017	3,033	\$ 93.97	\$ 285,000	4671-83-8097	10375 RUTLEDGE RIDGE DR NW	Feb 15 2017	2,846	\$ 99.79	\$ 284,000
4671-72-9757	575 MARTHAS VIEW DR NW	Mar 25 2019	3,033	\$ 104.85	\$ 318,000	4671-83-8390	10392 RUTLEDGE RIDGE DR NW	Dec 14 2016	2,246	\$ 111.31	\$ 250,000
4671-73-7074	595 MARTHAS VIEW DR NW	Jul 31 2017	2,870	\$ 91.99	\$ 264,000	4671-83-8390	10392 RUTLEDGE RIDGE DR NW	Apr 12 2019	2,246	\$ 119.32	\$ 268,000
4671-73-7074	595 MARTHAS VIEW DR NW	Aug 7 2018	2,870	\$ 77.00	\$ 221,000	4671-83-8706	10415 RUTLEDGE RIDGE DR NW	Feb 16 2018	2,545	\$ 104.13	\$ 265,000
4671-73-7074	595 MARTHAS VIEW DR NW	Mar 7 2019	2,870	\$ 95.12	\$ 273,000	4671-83-8786	10416 RUTLEDGE RIDGE DR NW	Jul 1 2019	2,697	\$ 112.16	\$ 302,500
4671-73-7090	591 MARTHAS VIEW DR NW	Oct 11 2017	3,313	\$ 87.23	\$ 289,000	4671-83-9283	10378 RUTLEDGE RIDGE DR NW	Dec 6 2016	2,696	\$ 111.28	\$ 300,000
4671-73-7090	591 MARTHAS VIEW DR NW	Jun 15 2018	3,313	\$ 90.55	\$ 300,000	4671-83-9388	1314 BRIDGEFORD DR NW	Jan 13 2020	3,315	\$ 95.32	\$ 316,000
4671-73-8245	1223 BRIDGEFORD DR NW	Oct 12 2016	2,563	\$ 95.59	\$ 245,000	4671-83-9388	1314 BRIDGEFORD DR NW	Mar 23 2020	3,315	\$ 96.83	\$ 321,000
4671-73-8297	1227 BRIDGEFORD DR NW	Jul 17 2018	2,835	\$ 105.82	\$ 300,000	4671-83-9536	10404 RUTLEDGE RIDGE DR NW	May 18 2018	3,071	\$ 97.69	\$ 300,000
4671-73-9130	1224 BRIDGEFORD DR NW	Dec 4 2017	2,493	\$ 89.85	\$ 224,000	4671-83-9536	10404 RUTLEDGE RIDGE DR NW	Oct 4 2019	3,071	\$ 105.83	\$ 325,000
4671-82-0649	567 MARTHAS VIEW DR NW	Feb 8 2018	2,870	\$ 98.61	\$ 283,000	4671-92-3547	10327 RUTLEDGE RIDGE DR NW	May 20 2019	3,312	\$ 95.41	\$ 316,000
4671-82-0685	563 MARTHAS VIEW DR NW	Apr 9 2020	2,697	\$ 114.20	\$ 308,000	4671-92-3827	1303 MCDERMOTT WAY NW	Jul 8 2020	2,983	\$ 117.35	\$ 350,000
4671-82-1809	574 MARTHAS VIEW DR NW	Jul 13 2017	2,907	\$ 89.44	\$ 260,000	4671-92-4746	10334 RUTLEDGE RIDGE DR NW	Jul 31 2019	2,675	\$ 108.41	\$ 290,000
4671-82-1842	10345 WESSON HUNT RD NW	Mar 29 2018	2,020	\$ 131.19	\$ 265,000	4671-92-5493	10348 HILLSBOROUGH ST NW	Apr 12 2019	2,567	\$ 108.69	\$ 279,000
4671-82-1895	10349 WESSON HUNT RD NW	Apr 23 2018	2,226	\$ 116.80	\$ 260,000	4671-92-5844	1312 MCDERMOTT WAY NW	Aug 16 2018	3,006	\$ 106.47	\$ 320,000
4671-82-2548	555 MARTHAS VIEW DR NW	Feb 28 2018	2,759	\$ 103.30	\$ 285,000	4671-92-5879	1316 MCDERMOTT WAY NW	Apr 3 2018	2,999	\$ 100.72	\$ 302,000
4671-82-2963	10357 WESSON HUNT RD NW	May 15 2018	2,706	\$ 104.95	\$ 284,000	4671-92-7998	10391 HILLSBOROUGH ST NW	Jul 25 2018	2,545	\$ 115.13	\$ 293,000
4671-82-3618	10346 WESSON HUNT RD NW	Oct 17 2018	3,027	\$ 100.76	\$ 305,000	4671-92-8871	10384 HILLSBOROUGH ST NW	May 29 2019	2,545	\$ 109.23	\$ 278,000
4671-82-4872	10362 WESSON HUNT RD NW	Jun 8 2017	2,251	\$ 114.62	\$ 258,000	4671-93-0526	1311 BRIDGEFORD DR NW	Jan 17 2019	2,723	\$ 101.54	\$ 276,500
4671-82-5817	10366 WESSON HUNT RD NW	Apr 18 2019	2,421	\$ 104.50	\$ 253,000	4671-93-1449	1319 BRIDGEFORD DR NW	Aug 27 2019	2,723	\$ 128.53	\$ 350,000
4671-83-0135	1232 BRIDGEFORD DR NW	Jul 16 2019	2,835	\$ 100.53	\$ 285,000	4671-93-2070	1308 MALDEN ST NW	Jun 18 2020	2,684	\$ 116.24	\$ 312,000
4671-83-1024	10391 DOWLING ST NW	Aug 19 2020	3,204	\$ 109.24	\$ 350,000	4671-93-3227	10404 PORTERS POND LN NW	Jul 17 2018	2,927	\$ 104.54	\$ 306,000
4671-83-1329	1247 BRIDGEFORD DR NW	Feb 12 2018	2,563	\$ 97.93	\$ 251,000	4671-93-3567	10419 PORTERS POND LN NW	Nov 14 2018	3,341	\$ 102.07	\$ 341,000
4671-83-2147	10396 DOWLING ST NW	Apr 16 2018	2,274	\$ 105.54	\$ 240,000	4671-93-4352	10412 PORTERS POND LN NW	Feb 6 2019	2,691	\$ 127.83	\$ 344,000
4671-83-2147	10396 DOWLING ST NW	Oct 12 2018	2,274	\$ 110.38	\$ 251,000	4671-93-4535	10423 PORTERS POND LN NW	Mar 21 2018	2,846	\$ 105.41	\$ 300,000
4671-83-2414	1255 BRIDGEFORD DR NW	May 30 2019	3,235	\$ 82.69	\$ 267,500	4671-93-6127	1361 BRIDGEFORD DR NW	May 11 2018	2,545	\$ 111.98	\$ 285,000
4671-83-2414	1255 BRIDGEFORD DR NW	Sep 20 2019	3,235	\$ 94.59	\$ 306,000	4671-93-6176	1365 BRIDGEFORD DR NW	Apr 25 2018	2,246	\$ 124.44	\$ 279,500
4671-83-3051	10367 WESSON HUNT RD NW	Oct 5 2018	2,441	\$ 103.24	\$ 252,000	4671-93-7187	1373 BRIDGEFORD DR NW	Jul 1 2020	2,739	\$ 125.96	\$ 345,000
4671-83-6383	10395 RUTLEDGE RIDGE DR NW	Nov 2 2017	3,313	\$ 91.31	\$ 302,500	4681-03-0044	10408 HILLSBOROUGH ST NW	Nov 29 2018	2,869	\$ 106.66	\$ 306,000
4671-83-6413	1284 BRIDGEFORD DR NW	Feb 28 2017	2,622	\$ 96.11	\$ 252,000	4681-03-1406	10437 HILLSBOROUGH ST NW	Nov 12 2019	2,545	\$ 117.88	\$ 300,000
4671-83-6464	1290 BRIDGEFORD DR NW	Jun 28 2018	2,551	\$ 116.03	\$ 296,000	4681-03-2205	10428 HILLSBOROUGH ST NW	Sep 1 2017	3,526	\$ 89.34	\$ 315,000
4671-83-7606	10407 RUTLEDGE RIDGE DR NW	Aug 18 2020	2,784	\$ 123.92	\$ 345,000	4681-03-2205	10428 HILLSBOROUGH ST NW	Jun 17 2019	3,526	\$ 98.41	\$ 347,000

The sales have an average price of \$104.96 per square foot or \$291,320. The range of the sales is from \$77.00 to \$131.19 per square foot. The highest price paid per square foot is for a home with visual influence of the tower. After adjusting the sales for a variety of physical and legal characteristics, the conclusion is that the visibility of the tower has no impact on the prices paid.



2735 Odell School Road



This tower was researched because of its similar location and the ability to isolate the potential impact of the visual influence of the tower. The property is in Concord, North Carolina, a suburban City within the Charlotte MSA. The lattice construction poses a larger visual footprint than the proposed monopole tower, but the distance to the properties provides a similar visual impact to the proposed tower. The following chart provide sales data for the adjacent development with the most significant characteristics of the comparison listed in the chart. The sales in yellow are for the houses with the highest level of visual influence from the tower as shown in the photograph.

Wellington Chase											
Parcel Number	Street Address	Sales Date	Size (SF)	\$ per SF	Sales Price	Parcel Number	Street Address	Sales Date	Size (SF)	\$ per SF	Sales Price
4682-02-9341	2673 TREELINE DR	Apr 18 2018	3,270	\$ 119.27	\$ 390,000	4682-22-8895	2560 TREELINE DR	Feb 24 2020	3,525	\$ 103.55	\$ 365,000
4682-11-1574	9658 ESTRIDGE LN	Oct 30 2018	3,968	\$ 87.58	\$ 347,500	4682-22-9436	2477 WELLINGTON CHASE DR	Aug 31 2018	3,376	\$ 139.96	\$ 472,500
4682-11-1748	9711 LOCKWOOD RD	Jul 17 2020	3,925	\$ 115.92	\$ 455,000	4682-22-9533	2483 WELLINGTON CHASE DR	Jul 14 2020	3,269	\$ 118.38	\$ 387,000
4682-11-3479	9650 ESTRIDGE LN	Jul 17 2018	3,875	\$ 103.74	\$ 402,000	4682-22-9865	2556 TREELINE DR	Aug 30 2018	3,038	\$ 130.68	\$ 397,000
4682-11-3479	9650 ESTRIDGE LN	May 13 2019	3,875	\$ 100.13	\$ 388,000	4682-30-0929	2240 WELLINGTON CHASE DR	Apr 19 2018	4,127	\$ 97.65	\$ 403,000
4682-11-3616	9639 LOCKWOOD RD	Jan 6 2020	2,591	\$ 138.94	\$ 360,000	4682-30-4876	2119 PRAIRIE RD	Jun 19 2020	3,017	\$ 142.53	\$ 430,000
4682-11-5205	9643 ESTRIDGE LN	Aug 10 2017	3,741	\$ 126.19	\$ 472,000	4682-30-5975	9564 HORSEBIT LN	Mar 1 2019	2,197	\$ 145.65	\$ 320,000
4682-11-5936	2421 SATCHEL LN	May 16 2018	3,521	\$ 115.02	\$ 405,000	4682-30-7697	2146 PRAIRIE RD	Apr 12 2019	2,223	\$ 137.23	\$ 305,000
4682-11-7717	9622 LOCKWOOD RD	Apr 30 2018	3,470	\$ 112.68	\$ 391,000	4682-30-7948	9565 HORSEBIT LN	Dec 8 2017	3,044	\$ 105.45	\$ 321,000
4682-11-8328	9632 ESTRIDGE LN	Nov 7 2017	3,203	\$ 120.82	\$ 387,000	4682-30-7948	9565 HORSEBIT LN	Nov 20 2018	2,816	\$ 119.85	\$ 337,500
4682-11-8828	2424 SATCHEL LN	Jun 12 2019	3,692	\$ 113.22	\$ 418,000	4682-30-7948	9565 HORSEBIT LN	Sep 25 2019	2,816	\$ 126.07	\$ 355,000
4682-11-9327	9628 ESTRIDGE LN	May 25 2018	3,751	\$ 106.37	\$ 399,000	4682-30-7971	9575 HORSEBIT LN	Aug 14 2018	3,162	\$ 115.43	\$ 365,000
4682-11-9582	9611 LOCKWOOD RD	Sep 19 2019	3,568	\$ 114.63	\$ 409,000	4682-30-8986	2193 PRAIRIE RD	Oct 11 2017	3,134	\$ 106.41	\$ 333,500
4682-12-0539	2670 TREELINE DR	Sep 15 2017	3,099	\$ 117.46	\$ 364,000	4682-30-9638	2158 PRAIRIE RD	Aug 26 2020	2,197	\$ 156.58	\$ 344,000
4682-12-2972	9724 COLTS NECK LN	Jun 14 2019	3,350	\$ 111.94	\$ 375,000	4682-30-9807	2175 PRAIRIE RD	Sep 29 2017	3,098	\$ 115.24	\$ 357,000
4682-12-5916	2568 SHOAL PARK RD	May 15 2019	3,307	\$ 116.42	\$ 385,000	4682-31-1943	2454 WELLINGTON CHASE DR	Jul 27 2020	3,488	\$ 105.50	\$ 368,000
4682-12-8597	2622 TREELINE DR	Sep 28 2018	2,969	\$ 116.20	\$ 345,000	4682-31-4938	9177 MARASOL LN	Dec 29 2017	2,758	\$ 111.31	\$ 307,000
4682-13-3225	2589 SHOAL PARK RD	Feb 10 2020	3,286	\$ 119.60	\$ 393,000	4682-31-5051	9558 HORSEBIT LN	May 14 2018	2,971	\$ 114.44	\$ 340,000
4682-13-3430	2603 SHOAL PARK RD	May 20 2019	3,350	\$ 119.40	\$ 400,000	4682-31-5305	9528 HORSEBIT LN	Apr 26 2018	2,980	\$ 124.83	\$ 372,000
4682-13-3430	2603 SHOAL PARK RD	Sep 17 2019	3,350	\$ 119.40	\$ 400,000	4682-31-5462	9522 HORSEBIT LN	Oct 11 2017	2,991	\$ 123.37	\$ 369,000
4682-13-3438	2609 SHOAL PARK RD	Mar 15 2018	3,304	\$ 116.22	\$ 384,000	4682-31-5781	2265 PRAIRIE RD	Jan 19 2018	3,002	\$ 118.25	\$ 355,000
4682-13-6477	9700 JAMESTOWN RD	May 21 2020	2,948	\$ 118.72	\$ 350,000	4682-31-6552	2247 PRAIRIE RD	Sep 27 2017	2,192	\$ 156.71	\$ 343,500
4682-13-7447	9694 JAMESTOWN RD	Jan 26 2018	3,341	\$ 122.27	\$ 408,500	4682-31-7268	2225 PRAIRIE RD	Nov 3 2017	2,429	\$ 123.10	\$ 299,000
4682-13-8488	9682 JAMESTOWN RD	Nov 27 2017	2,948	\$ 118.72	\$ 350,000	4682-31-7281	2219 PRAIRIE RD	Jun 10 2020	3,157	\$ 121.95	\$ 385,000
4682-13-9457	9676 JAMESTOWN RD	Oct 3 2019	3,443	\$ 114.73	\$ 395,000	4682-31-7334	2231 PRAIRIE RD	Oct 25 2017	2,773	\$ 110.53	\$ 306,500
4682-21-2694	2416 SPUR LN	Apr 16 2020	3,977	\$ 90.52	\$ 360,000	4682-31-7747	2258 PRAIRIE RD	Aug 23 2017	2,975	\$ 122.52	\$ 364,500
4682-21-3463	2408 SPUR LN	Sep 5 2019	3,862	\$ 103.57	\$ 400,000	4682-31-7747	2258 PRAIRIE RD	May 28 2020	2,975	\$ 132.77	\$ 395,000
4682-21-3533	2412 SPUR LN	Oct 3 2019	3,363	\$ 113.29	\$ 381,000	4682-31-7760	2252 PRAIRIE RD	Sep 29 2017	1,699	\$ 161.57	\$ 274,500
4682-21-7415	2404 CLARIDGE RD	Jun 24 2020	4,189	\$ 107.42	\$ 450,000	4682-31-7760	2252 PRAIRIE RD	May 14 2018	1,699	\$ 152.44	\$ 259,000
4682-21-8804	9450 LOCKWOOD RD	Apr 4 2019	3,650	\$ 106.85	\$ 390,000	4682-31-7903	9270 LOCKWOOD RD	Oct 30 2018	3,318	\$ 111.51	\$ 370,000
4682-22-2743	2504 MILL WRIGHT RD	Feb 16 2018	3,465	\$ 112.55	\$ 390,000	4682-31-8115	2213 PRAIRIE RD	Mar 16 2018	2,381	\$ 123.48	\$ 294,000
4682-22-2820	2508 MILL WRIGHT RD	Dec 27 2018	2,948	\$ 118.72	\$ 350,000	4682-31-8476	2236 PRAIRIE RD	Nov 9 2017	2,137	\$ 140.38	\$ 300,000
4682-22-3540	2595 TREELINE DR	Aug 24 2017	3,311	\$ 117.79	\$ 390,000	4682-32-3825	2540 TREELINE DR	Jun 28 2018	2,764	\$ 117.58	\$ 325,000
4682-22-4099	2421 CLARIDGE RD	Oct 25 2018	3,506	\$ 109.67	\$ 384,500	4682-32-5093	9163 MARASOL LN	Jun 5 2018	3,822	\$ 91.18	\$ 348,500
4682-22-4574	2587 TREELINE DR	Jun 15 2018	2,744	\$ 116.62	\$ 320,000	4682-32-5093	9163 MARASOL LN	Aug 28 2019	3,822	\$ 99.03	\$ 378,500
4682-22-4574	2587 TREELINE DR	May 2 2019	2,744	\$ 111.70	\$ 306,500	4682-32-5221	9166 MARASOL LN	Jan 4 2019	3,345	\$ 98.65	\$ 330,000
4682-22-4777	2584 TREELINE DR	Jul 30 2019	3,358	\$ 116.14	\$ 390,000	4682-32-6066	9159 MARASOL LN	Jul 30 2018	2,633	\$ 117.74	\$ 310,000
4682-22-5537	2583 TREELINE DR	Jun 15 2018	3,374	\$ 117.07	\$ 395,000	4682-32-6066	9159 MARASOL LN	Apr 4 2019	2,633	\$ 115.08	\$ 303,000
4682-22-5830	2580 TREELINE DR	Nov 20 2018	2,988	\$ 123.83	\$ 370,000	4682-32-8101	9151 MARASOL LN	Mar 16 2018	3,860	\$ 94.82	\$ 366,000
4682-22-6802	2576 TREELINE DR	May 21 2018	2,823	\$ 121.15	\$ 342,000	4682-32-8653	2516 TREELINE DR	Jun 12 2018	3,384	\$ 110.82	\$ 375,000
4682-22-6864	2572 TREELINE DR	Dec 21 2017	2,732	\$ 119.88	\$ 327,500	4682-40-0970	2182 PRAIRIE RD	May 14 2019	3,069	\$ 128.71	\$ 395,000
4682-22-7854	2568 TREELINE DR	Mar 28 2019	2,812	\$ 120.02	\$ 337,500	4682-41-1696	2437 BENSALAM LN	Jul 16 2018	3,201	\$ 105.59	\$ 338,000
4682-22-7854	2568 TREELINE DR	Jul 3 2019	2,812	\$ 120.91	\$ 340,000	4682-42-0091	2456 TREELINE DR	May 15 2018	3,424	\$ 107.48	\$ 368,000

The sales have an average price of \$117.85 per square foot or \$365,488. The range of the sales is from \$87.58 to \$161.57 per square foot. The quantity of data allows for a credible analysis of the other statistical variances. The standard deviation is \$13.96 per square foot. All the sales with visual influence lie within one standard deviation of the mean. After adjusting the sales for a variety of physical and legal characteristics, the conclusion is that the visibility of the tower has no impact on the prices paid.



Wyndham Estates Sales Summary

Address	Acres	Year Built	Size (SF)	Sale Date	Sale Price	Price/SF
348 ROYAL WINDSOR DR	0.9	2018	2,399	July-18	\$ 260,000	\$ 108.38
344 ROYAL WINDSOR DR	0.73	2016	2,508	November-16	\$ 252,500	\$ 100.68
340 ROYAL WINDSOR DR	0.55	2016	2,708	September-17	\$ 267,500	\$ 98.78
336 ROYAL WINDSOR DR	0.57	2015	2,748	June-15	\$ 230,000	\$ 83.70
345 ROYAL WINDSOR DR	0.8	2017	2,403	April-18	\$ 255,000	\$ 106.12
332 ROYAL WINDSOR DR	0.57	2014	2,772	May-19	\$ 285,000	\$ 102.81
328 ROYAL WINDSOR DR	0.56	2014	2,467	March-15	\$ 219,500	\$ 88.97
339 ROYAL WINDSOR DR	0.89	2017	2,745	December-17	\$ 280,000	\$ 102.00
324 ROYAL WINDSOR DR	0.55	2014	3,117	March-15	\$ 256,500	\$ 82.29
335 ROYAL WINDSOR DR	0.57	2015	2,201	November-15	\$ 240,000	\$ 109.04
320 ROYAL WINDSOR DR	0.54	2014	3,127	October-18	\$ 284,000	\$ 90.82
331 ROYAL WINDSOR DR	0.56	2016	2,274	August-16	\$ 244,000	\$ 107.30
327 ROYAL WINDSOR DR	0.55	2015	2,810	April-16	\$ 239,000	\$ 85.05
312 ROYAL WINDSOR DR	0.77	2013	2,464	March-18	\$ 260,000	\$ 105.52
323 ROYAL WINDSOR DR	0.54	2015	3,139	August-15	\$ 260,500	\$ 82.99
313 ROYAL WINDSOR DR	0.68	2010	2,298	June-15	\$ 212,000	\$ 92.25
309 ROYAL WINDSOR DR	0.73	2010	2,928	September-15	\$ 205,000	\$ 70.01
304 ROYAL WINDSOR DR	0.69	2014	3,103	May-15	\$ 250,000	\$ 80.57
304 ROYAL WINDSOR DR	0.69	2014	3,103	October-18	\$ 285,000	\$ 91.85
305 ROYAL WINDSOR DR	0.8	2015	2,484	June-15	\$ 233,000	\$ 93.80

13935 Old Camden Road

This tower was researched because it provides an additional example of a tower with a high visual influence on residential properties. The monopole construction is more comparable to the proposed tower than the lattice towers from the previous examples. The previous chart provides sales data for the adjacent development with the most significant characteristics of the comparison listed in the chart. The sales in yellow are for the houses with the highest level of visual influence from

the tower as shown in the photograph. The sales highlighted in green are for the properties located furthest from the tower and the lowest level of visual impact.

The sale of the house pictured earlier sold in 2015 and resold last year showing an appreciation of 14%. Further, the resale price of \$285,000 is the highest price point for the neighborhood. After analysis of the factors listed in the chart and other less influential items, the visual impact of the tower is concluded not to adversely impact the value of properties within Wyndham Estates.

Summary

Based on the analysis of the data provided and development patterns around towers, we conclude that the presence of a tower does not impede the orderly development of the area. Further, the market does not recognize an adverse impact to property values for contiguous properties.

Other Considerations

Other potential impacts to the surrounding area include noise, traffic, and lighting. The operation of a cell tower is essentially silent and would not influence the surrounding developments. The additional traffic caused by the proposed development is nominal and would likely occur for routine maintenance. Any increases in traffic are considered nominal and does not impact contiguous properties. The fact that there is an existing tower indicates there will be no variance created by the new tower for these items.

Conclusions

Mebane has experienced growth and this activity is likely to continue. The commercial development at intersections along transportation corridors will provide the necessary services to support the increasing population. These uses are not impeded by the development of a cell tower. The results of studies including those included in this report show consistency between prices paid for single family dwellings in where cell towers are visible. Therefore, I conclude that the proposed development of a cell tower will not substantially injure the value of adjacent or abutting properties.

Subject Neighborhood

In addition to the market activity for existing towers, we also consider the surrounding developments for the subject. The question posed for this study is “would the development of the telecommunications support structure warrant a downward adjustment to adjacent properties?”

When considering an adjustment in an appraisal, the appraiser must consider all factors that could contribute to an adjustment. The aesthetics and location of the proposed development as well as the existing developments are a factor in developing our opinion. The factors considered in developing our opinion include but are not necessarily limited to:

- The market has not shown a detrimental impact on development patterns in areas with visual influence from a tower.
- The proposed tower is in an area with above ground infrastructure
- The existing vegetative buffer will screen most of the tower.
- The proposed tower is shorter than most towers found in the area.

All these factors would contribute to the aesthetic appeal and a hypothetical valuation of properties in the neighborhood. The multitude of factors would indicate that multicollinearity for aesthetics exists along Landi Lane. Multicollinearity arises when multiple items correlate with each other. The multiple factors can cause a distortion of the impact of any of the factors individually without consideration for all the factors that contribute to the common issue.

In the case of the proposed development, the Improved properties along Landi Lane have visual influence from the electrical lines. To attribute any adjustment to the proposed development would be misleading and not result in a credible

adjustment. In other words, any adjustment for the development of a tower in a wooded area without consideration of the numerous other external influences would not be credible.

Therefore, it is our opinion that the proposed development in accordance with the proposed conditions will not have an adverse impact on values of adjacent or abutting properties. We recognize that the aesthetics of the area certainly contribute to the overall appeal, the proposed development has siting and existing buffers to minimize to the extent possible the visual impact of the proposed tower. It is my opinion that the proposed development will not substantially detract from the aesthetics or character of the neighborhood because of its location and existing above ground infrastructure, and proximity to the NC Highway 119 transportation corridor.



Michael P. Berkowitz

ADDENDA

Certifications

CERTIFICATION OF THE APPRAISER

I, Michael P. Berkowitz, certify that, to the best of my knowledge and belief,

1. The statements of fact contained in this report are true and correct.
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.
3. I have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved.
4. I have performed no services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.
5. I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
6. My engagement in this assignment was not contingent upon developing or reporting predetermined results.
7. My compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
8. The reported analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the *Uniform Standards of Professional Appraisal Practice*.
9. I have made a personal inspection of the property that is the subject of this report.
10. No one provided significant real property appraisal assistance to the person(s) signing this certification other than those individuals having signed the attached report.



A handwritten signature in black ink that reads "Michael P. Berkowitz".

Michael P. Berkowitz
 (NC State Certified General Real Estate Appraiser #A6169)
 (SC State Certified General Real Estate Appraiser #CG6277)

June 6, 2021
 Date

(Rev: 06/18/12)

ASSUMPTIONS AND LIMITING CONDITIONS

ASSUMPTIONS AND LIMITING CONDITIONS

Limit of Liability

The liability of MPB REAL ESTATE, LLC and employees is limited to the client only **and to the fee actually received by our firm**. Further, there is no accountability, obligation, or liability to any third party. If this report is placed in the hands of anyone other than client, the client shall make such party aware of all limiting conditions and assumptions of the assignment and related discussions. Further, client will forever indemnify and hold MPB REAL ESTATE, LLC, its officers, and employees harmless from any claims by third parties related in any way to the appraisal or study which is the subject of the report. Third parties shall include limited partners of client if client is a partnership and stockholders of client if client is a corporation, and all lenders, tenants, past owners, successors, assigns, transferees, and spouses of client. MPB REAL ESTATE, LLC will not be responsible for any costs incurred to discover or correct any deficiencies of any type present in the property, physically, financially, and/or legally.

Copies, Distribution, Use of Report

Possession of this report or any copy of this report does not carry with it the right of publication, nor may it be used for other than its intended use; the physical report remains the property of MPB REAL ESTATE, LLC for the use of the client, the fee being for the analytical services only.

The bylaws and regulations of the Appraisal Institute require each member and candidate to control the use and distribution of each report signed by such member or candidate; except, however, the client may distribute copies of this report in its entirety to such third parties as he may select; however, selected portions of this report shall not be given to third parties without the prior written consent of the signatories of this report. Neither all nor any part of this report shall be disseminated to the general public by the use of advertising media, public relations, news, sales or other media for public communication without the prior written consent of MPB REAL ESTATE, LLC.

Confidentiality

This report is to be used only in its entirety and no part is to be used without the whole report. All conclusions and opinions concerning the analysis as set forth in the report were prepared by MPB REAL ESTATE, LLC whose signatures appear on the report. No change of any item in the report shall be made by anyone other than MPB REAL ESTATE, LLC. MPB REAL ESTATE, LLC shall have no responsibility if any such unauthorized change is made.

MPB REAL ESTATE, LLC may not divulge the material contents of the report, analytical findings or conclusions, or give a copy of the report to anyone other than the client or his designee as specified in writing except as may be required by the Appraisal Institute as they may request in confidence for ethics enforcement, or by a court of law or body with the power of subpoena.

Trade Secrets

This report was obtained from MPB REAL ESTATE, LLC and consists of “trade secrets and commercial or financial information” which is privileged and confidential and exempted from disclosure under 5 U.S.C. 552 (b) (4) of the Uniform Commercial Code. MPB REAL ESTATE, LLC shall be notified of any request to reproduce this report in whole or in part.

Information Used

No responsibility is assumed for accuracy of information furnished by or work of others, the client, his designee, or public records. We are not liable for such information or the work of subcontractors. The comparable data relied upon in this report has been confirmed with one or more parties familiar with the transaction or from affidavit or other sources thought reasonable; all are considered appropriate for inclusion to the best of our factual judgment and knowledge. An impractical and uneconomic expenditure of time would be required in attempting to furnish unimpeachable verification in all instances, particularly as to engineering and market-related information. It is suggested that the client consider independent verification as a prerequisite to any transaction involving sale, lease, or other significant commitment of funds for the subject property.

Financial Information

Our value opinion(s) have been based on unaudited financials, and other data provided to us by management and/or owners. If these reports are found to be inaccurate, we reserve the right to revise our value opinion(s). It is noted we are depending on these accounting statements as being accurate and our interpretation of these statements as being accurate as well. If these assumptions later prove to be false, we reserve the right to amend our opinions of value.

Testimony, Consultation, Completion of Contract for Report Services

The contract for report, consultation, or analytical service is fulfilled and the total fee payable upon completion of the report, unless otherwise specified. MPB REAL ESTATE, LLC or those assisting in preparation of the report will not be asked or required to give testimony in court or hearing because of having made the report, in full or in part, nor engage in post report consultation with client or third parties except under separate and special arrangement and at an additional fee. If testimony or deposition is required because of any subpoena, the client shall be responsible for any additional time, fees, and charges, regardless of issuing party.

Exhibits

The illustrations and maps in this report are included to assist the reader in visualizing the property and are not necessarily to scale. Various photographs, if any, are included for the same purpose as of the date of the photographs. Site plans are not surveys unless so designated.

Legal, Engineering, Financial, Structural or Mechanical Nature, Hidden Components, Soil

No responsibility is assumed for matters legal in character or nature, nor matters of survey, nor of any architectural, structural, mechanical, or engineering nature. No opinion is rendered as to the title, which is presumed to be good and marketable. The property is appraised as if free and clear, unless otherwise stated in particular parts of the report. The legal description is assumed to be correct as used in this report as furnished by the client, his designee, or as derived by MPB REAL ESTATE, LLC.

MPB REAL ESTATE, LLC has inspected as far as possible, by observation, the land and the improvements; however, it was not possible to personally observe conditions beneath the soil, or hidden structural, mechanical or other components, and MPB REAL ESTATE, LLC shall not be responsible for defects in the property which may be related.

The report is based on there being no hidden, unapparent, or apparent conditions of the property site, subsoil or structures or toxic materials which would render it more or less valuable. No

responsibility is assumed for any such conditions or for any expertise or engineering to discover them. All mechanical components are assumed to be in operable condition and status standard for properties of the subject type. Conditions of heating, cooling, ventilation, electrical, and plumbing equipment are considered to be commensurate with the condition of the balance of the improvements unless otherwise stated. We are not experts in this area, and it is recommended, if appropriate, the client obtain an inspection of this equipment by a qualified professional.

If MPB REAL ESTATE, LLC has not been supplied with a termite inspection, survey or occupancy permit, no responsibility or representation is assumed or made for any costs associated with obtaining same or for any deficiencies discovered before or after they are obtained. No representation or warranties are made concerning obtaining the above mentioned items.

MPB REAL ESTATE, LLC assumes no responsibility for any costs or consequences arising due to the need, or the lack of need, for flood hazard insurance. An agent for The Federal Flood Insurance Program should be contacted to determine the actual need for Flood Hazard Insurance.

Legality of Use

The report is based on the premise that there is full compliance with all applicable federal, state and local environmental regulations and laws unless otherwise stated in the report; further, that all applicable zoning, building and use regulations, and restrictions of all types have been complied with unless otherwise stated in the report. Further, it is assumed that all required licenses, consents, permits, or other legislative or administrative authority, local, state, federal and/or private entity or organization have been or may be obtained or renewed for any use considered in the value estimate.

Component Values

The distribution of the total valuation in this report between land and improvements applies only under the existing program of utilization. The separate valuations for land and building must not be used in conjunction with any other report and are invalid if so used.

Auxiliary and Related Studies

No environmental or impact studies, special market study or analysis, highest and best use analysis, study or feasibility study has been required or made unless otherwise specified in an agreement for services or in the report.

Dollar Values, Purchasing Power

The market value estimated and the costs used are as of the date of the estimate of value, unless otherwise indicated. All dollar amounts are based on the purchasing power and price of the dollar as of the date of the value estimate.

Inclusions

Furnishings and equipment or personal property or business operations, except as specifically indicated and typically considered as a part of real estate, have been disregarded with only the real estate being considered in the value estimate, unless otherwise stated. In some property types, business and real estate interests and values are combined.

Proposed Improvements, Conditional Value

Improvements proposed, if any, onsite or offsite, as well as any repairs required, are considered for purposes of this report to be completed in a timely, good and workmanlike manner, according to information submitted and/or considered by MPB REAL ESTATE, LLC. In cases of proposed construction, the report is subject to change upon inspection of property after construction is completed.

Value Change, Dynamic Market, Influences, Alteration of Estimate

The estimated value, which is defined in the report, is subject to change with market changes over time. Value is highly related to exposure, time, promotional effort, terms, motivation, and conditions surrounding the offering. The value estimate considers the productivity and relative attractiveness of the property physically and economically in the marketplace.

In cases of reports involving the capitalization of income benefits, the estimate of market value or investment value or value in use is a reflection of such benefits and MPB REAL ESTATE, LLC' interpretation of income and yields and other factors derived from general and specific client and market information. Such estimates are as of the date of the estimate of value; thus, they are subject to change as the market and value is naturally dynamic.

The “estimate of market value” in the report is not based in whole or in part upon the race, color, or national origin of the present owners or occupants of the properties in the vicinity of the property appraised.

Report and Value Estimate

Report and value estimate are subject to change if physical or legal entity or financing differ from that envisioned in this report.

Management of the Property

It is assumed that the property which is the subject of this report will be under prudent and competent ownership and management.

Hazardous Materials

Unless otherwise stated in this report, the existence of hazardous substances, including without limitation, asbestos, polychlorinated biphenyls, petroleum leakage, or agricultural chemicals, which may or may not be present on the property, or other environmental conditions, were not called to the attention of nor did MPB REAL ESTATE, LLC become aware of such during their inspection. MPB REAL ESTATE, LLC had no knowledge of the existence of such materials on or in the property unless otherwise stated. MPB REAL ESTATE, LLC, however, is not qualified to test such substances or conditions. If the presence of such substances such as asbestos, urea formaldehyde foam insulation, or other hazardous substances or environmental conditions, may affect the value of the property, the value estimate is predicated on the assumption that there is no such condition on or in the property or in the proximity that it would cause a loss in value. No responsibility is assumed for any such conditions, nor for any expertise or engineering knowledge required to discover them.

Soil and Subsoil Conditions

Unless otherwise stated in this report, MPB REAL ESTATE, LLC does not warrant the soil or subsoil conditions for toxic or hazardous waste materials. Where any suspected materials might

be present, we have indicated in the report; however, MPB REAL ESTATE, LLC are not experts in this field and recommend appropriate engineering studies to monitor the presence or absence of these materials.

Americans with Disabilities Act (ADA)

“MPB REAL ESTATE, LLC has not made a specific compliance survey and analysis of this property to determine whether or not it is in conformity with the various detailed requirements of the Americans with Disabilities Act (ADA), which became effective January 26, 1992. It is possible that a compliance survey of the property together with a detailed analysis of the requirements of the ADA could reveal that the property is not in compliance with one or more of the requirements of the Act. If so, this fact could have a negative effect upon the value of the property. Since MPB REAL ESTATE, LLC has no direct evidence relating to this issue, we did not consider possible non-compliance with the requirements of ADA in estimating the value of the property.”

Qualifications of the Analyst

QUALIFICATIONS OF THE ANALYST

Michael P. Berkowitz
 MPB Real Estate, LLC, Inc.
 1430 South Mint Street, Suite 102
 Charlotte, North Carolina 28203
 (704) 334-4686
 FAX (704) 334-2759

EDUCATION AND CREDENTIALS

- **Duke University**
 Major: Economics 1985-1989

- **Central Piedmont Community College**
 - R-1 - Introduction to Real Estate Appraisal, 2002
 - R-2 - Valuation Principles and Procedures, 2002
 - R-3 - Applied Residential Property Valuation, 2002
 - G-1 - Introduction to Income Property Appraisal, 2003

- **Bob Ipock and Associates**
 - G-2 - Advanced Income Capitalization Procedures, 2003
 - G-3 - Applied Property Income Valuation 2004

- **Appraisal Institute**
 - 520 Highest and Best Use and Market Analysis, 2004
 - Seminar Rates, Multipliers and Ratios 2005
 - 530 Advanced Sales Comparison and Cost Approaches 2006
 - Seminar Apartment Appraisal, Concepts & Applications 2009
 - Seminar Appraising Distresses Commercial Real Estate 2009
 - Seminar Appraising Convenience Stores 2011
 - Seminar Analyzing Operating Expenses 2011

AFFILIATIONS AND ACTIVITIES

- **Association Memberships**
 North Carolina State Certified General Real Estate Appraiser, October 2006, Certificate No. A6169

RELATED EXPERIENCE

- Provided real estate consulting services for a variety of clients including real estate brokers, property owners and financial planners
- Performed financial feasibility studies for multiple property types including golf communities, and renovation projects.
- Developed plan for self-contained communities.
- Race Track expertise

APPRAISAL EXPERIENCE

A partial list of types of properties appraised include:
Retail Properties, Single and Multi-Tenant, Proposed and Existing
Office Single and Multi-Tenant Proposed and Existing
Mixed-Use Properties, Proposed and Existing
Industrial Properties, Warehouse, Flex and Manufacturing
Vacant Land
Condemnation
C-Stores
Race Tracks

CLIENTELE

Bank of America
Transylvania County
Cabarrus County
Mecklenburg County
City of Statesville
NC Department of Transportation
Henry County, GA
Town of Loudon, NH
First Citizens Bank
RBC Centura Bank
City of Charlotte
City of Concord
Union County
BB & T
Aegon USA Realty Advisors
Sun Trust Bank
First Charter Bank
Regions Bank
Charlotte Housing Authority
Alliance Bank and Trust
Broadway Bank
Duke Energy Corporation
Jim R. Funderburk, PLLC
Hamilton, Fay, Moon, Stephens, Steele & Martin
Senator Marshall A. Rauch
Perry, Bundy, Plyler & Long, LLP
Robinson, Bradshaw & Hinson
CSX Real Property
Baucom, Clayton, Burton, Morgan & Wood, PA
City of Mount Holly
Our Towns Habitat for Humanity
Parker, Poe, Adams & Bernstein, LLP
Central Carolina Bank

Southern Community Bank and Trust



TOWERCOM
MILL CREEK
Landi Lane, Mebane, NC 27302
195ft. MONOPOLE
SIMULATION
View A from Mill Creek entrance
approx. 2,750ft. south-southeast of site





Existing View



TOWERCOM
MILL CREEK
Landi Lane, Mebane, NC 27302
**195ft. MONOPOLE
SIMULATION**
View B from Mill Creek entrance
approximately 1,775ft. southeast of site



TOWERCOM

MILL CREEK

Landi Lane, Mebane, NC 27302

**195ft. MONOPOLE
NOT VISIBLE**

View C from White Level Road
approx. 1,800ft. south-southwest of site



Existing View



TOWERCOM
MILL CREEK
Landi Lane, Mebane, NC 27302
195ft. MONOPOLE
SIMULATION

View D from NC119 and Mrs White Lane
approx. 1,400ft. east-southeast of site



TOWERCOM
MILL CREEK
Landi Lane, Mebane, NC 27302
195ft. MONOPOLE
SIMULATION
View E from Landi Lane
approx. 1,330ft. west-northwest of site

EXISTING view



TOWERCOM

MILL CREEK

Landi Lane, Mebane, NC 27302

**195ft. MONOPOLE
SIMULATION**

View F from NC119
approximately 1,425ft. northeast of site

Prepared by and return to:
Thomas H. Johnson, Jr., Williams Mullen, 301 Fayetteville Street, Suite 1700, Raleigh, NC 27601

**ACKNOWLEDGEMENT OF WATERSHED CRITICAL OVERLAY
(Graham-Mebane Lake Watershed Critical Area)**

This **ACKNOWLEDGEMENT OF WATERSHED CRITICAL OVERLAY** (“Acknowledgment”) dated May ____, 2021 by **ADELANA AMORITA NELSON**, unmarried, of 200 Holt Avenue, #B, Greensboro, NC 27405 (“Owner”) and **TOWERCOM IV-B, LLC**, a Delaware limited liability company (“Towercom”) (together the “Parties”).

W I T N E S S E T H:

WHEREAS, the Parties entered into an Option and Ground Lease Agreement (“Lease”) dated June 22, 2020, in which Owner leased to Towercom a 100’ by 100’ parcel of land for a wireless communications tower (“Tower”) and compound together with non-exclusive easements for access, utilities, construction, installation, maintenance and operation of the Tower and associated facilities (the Tower, compound, easements and associated facilities being referred to as the “Tower Facilities”); and

WHEREAS, the property of the Owner on which the Tower Facilities will be located is all of that certain lot or parcel of land in Alamance County, North Carolina and being more particularly described as Lot 4 as shown on that certain plat of record in Plat Book 77, Page 6, in the Alamance County Registry (the “Property”); and

WHEREAS, properties located within the City of Mebane are subject to development standards as set forth in the Mebane Unified Development Ordinance (“UDO”); and

WHEREAS, the Property is located in the Graham-Mebane Lake Watershed Critical Area and, as a result, is in a Watershed Critical Overlay District (“WCA”) as set forth in Section 5-2C. of the UDO; and

WHEREAS, the Density-Built Upon Limitations set forth in Section 5-2C.2. of the UDO limit non-residential development to six percent (6%) built-upon area without the issuance of a Permit to Exceed that includes implementation of stormwater controls and other requirements per Section 5-2E. of the UDO which built upon area is at the maximum allowed under the UDO; and

WHEREAS, the Lease grants a non-exclusive easement to Towercom to use as much of the Property as necessary to complete the Tower Facilities including, without limitation, meeting the requirements of the UDO; and

WHEREAS, the Tower Facilities will not exceed the six percent (6%) built-upon area but if any part of the remainder of the Property is developed, a Permit to Exceed will be required if approved by the City of Mebane, which approval may not be granted, along with the requirements for the issuance of a Permit to Exceed, including, without limitation, stormwater controls; and

WHEREAS, the City of Mebane has requested that the Owner and Towercom sign this Acknowledgement, acknowledging that the Property is located in a WCA and that any future development on the Property in addition to the Tower Facilities will require a Permit to Exceed under Section 5-2E. along with the associated requirements and the Parties acknowledge that any future development or construction of improvements may not be permissible.

NOW, THEREFORE, in consideration of the recitals above and other good and valuable consideration, the Parties acknowledge and agree as follows:

1. The Property is in a WCA under the UDO.
2. Under the Lease, Towercom has a non-exclusive easement to use the entire Property in calculating its built-upon area.
3. The built-upon area for the Tower Facilities is 5.9%.
4. As a result, any future development will require a Permit to Exceed under Section 5-2E. of the UDO along with the associated requirements including, without limitation, stormwater controls, which Permit to Exceed may not be allowed.
5. If Owner decides to develop any additional portion of the Property which requires a Permit to Exceed under Section 5-2E., that Owner will have to meet the Permit to Exceed requirements under the UDO then in effect including without limitation, stormwater controls.
6. Towercom agrees that if a Permit to Exceed is required for any future development on the Property that it will participate in the cost of construction and maintenance of any requirements of the Permit to Exceed on an equitable basis.

IN WITNESS WHEREOF, Owner and Towercom have executed this Acknowledgement as of the date and year first above written.

[SIGNATURE PAGES FOLLOW]

OWNER:

ADELANA AMORITA NELSON

STATE OF _____
COUNTY OF _____

I certify that the following person(s) personally appeared before me this day, each acknowledging to me that s/he signed the foregoing document in the capacity indicated: ADELANA AMORITA NELSON.

Date: _____, 2021

Signature of Notary Public

Notary Printed Name

My Commission Expires: _____

(Official Seal)

TOWERCOM:

TOWERCOM IV-B, LLC,
a Delaware limited liability company

By: _____
Name: _____
Title: _____
Date: _____

STATE OF _____
COUNTY OF _____

I certify that the following person(s) personally appeared before me this day, each acknowledging to me that s/he signed the foregoing document in the capacity indicated: _____ as

Date: _____, 2021

Signature of Notary Public

Notary Printed Name

My Commission Expires: _____

(Official Seal)



AGENDA ITEM #2

RZ 21-05

Conditional Rezoning –
Meadowstone Townhomes

Presenter

Audrey Vogel, City Planner

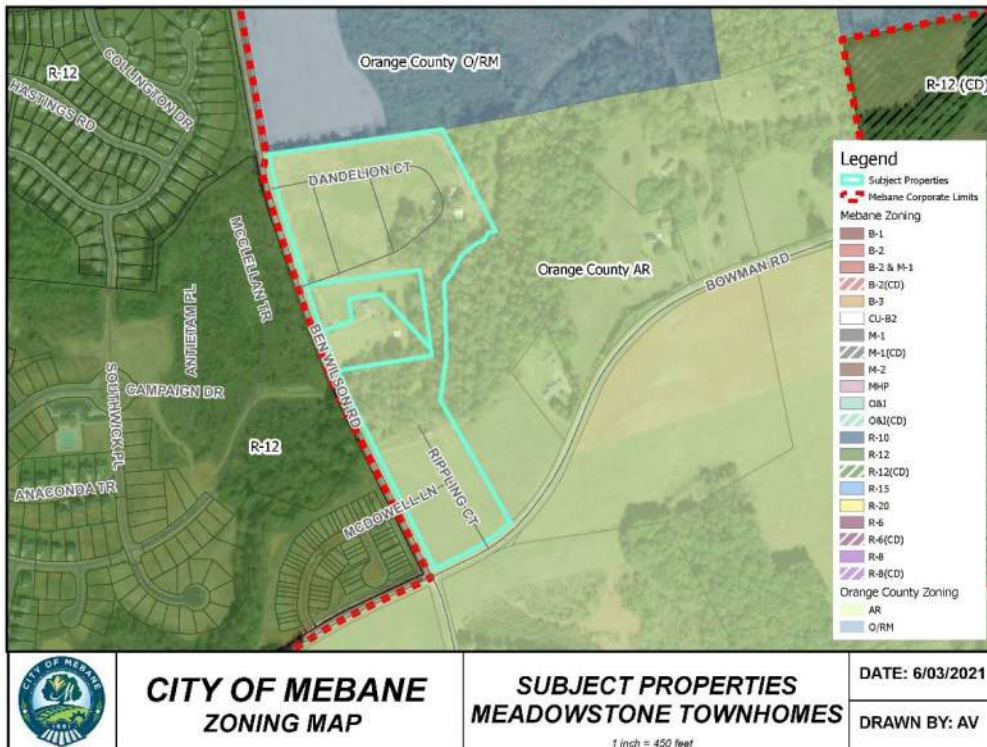
Applicant

Ben Wilson Road, LLC
320 Executive Court
Hillsborough, NC 27278

Public Hearing

Yes No

Zoning Map



Property

900, 1002 & 1010
Ben Wilson Road
9824434841,
9824435349,
9824435147

Proposed Zoning

R-8 (CD)

Current Zoning

AR (Orange County,
Agricultural
Residential)

Size

+/-25.58 acres

Surrounding Zoning

R-12, Orange
County AR and
O/RM

Adjacent Land Uses

Residential, Vacant,
Manufacturing

Utilities

To be extended at
developer's expense

Floodplain

No

Watershed

No

City Limits

No

Summary

Ben Wilson Road, LLC, is requesting approval to establish R-8 CD (Residential Conditional Zoning District) zoning on three (3) properties totaling +/- 25.58 acres located on Ben Wilson Road Rd, with a frontage on Bowman Rd to allow for a residential development of 162 townhomes. The property is located outside of the ETJ in Orange County and is currently zoned AR (Agricultural Residential) by Orange County. Ben Wilson Road, LLC, has the property under contract to purchase, contingent upon approval of the conditional rezoning.

The proposed onsite amenities & dedications include the following:

- The construction of all internal roads with 5’ sidewalks.
- The construction of an amenity center, dog park, playground, and greenspace to exclusively serve development residents to be maintained by the HOA. In total, the site plan features 1.7 acres of active recreation space and 10.44 acres of passive HOA owned open space.
- +/- 3,446 linear feet of a variable 8’-10’-wide asphalt multiuse path through the development and along the frontage of the northern portion of the site on Ben Wilson Road.

Requested waivers:

UDO Requirement	Requested Wavier
30’ front setback	20’ front setback
20’ rear setback	15’ rear setback
15’ side setback	8’ side setback
2.5 parking spaces per 3-bedroom home	2 parking spaces per 3-bedroom home
Per conditional zoning request	Lot area and width as presented.

The UDO calculates that the applicant should provide 4.62 acres in public recreation area valued at \$44,680. The applicant is proposing to dedicate the new multi-use path, 1.10 acres of public recreation area as an alternate to the payment-in-lieu. The multi-use path will be in the City’s right of way and publicly maintained. If this is not possible, a payment *in lieu* will be provided in the amount of \$34,042 (3.52 ac x \$9,671).

A Traffic Impact Analysis was conducted in July 2020. The applicant will be required to provide a southbound left-turn lane on Ben Wilson Road with 100’ of storage but, otherwise, the findings do not yield any offsite recommended improvements.

The Technical Review Committee (TRC) has reviewed the site plan five (5) times and the applicant has revised the plan to reflect the comments.

Financial Impact

The developer will be required to make all of the improvements at his own expense.

Recommendation

The Planning staff has reviewed the request for consistency with the City's adopted plans and finds that it is in the public's interest, recommending approval.

Suggested Motion

1. Motion to approve the R-8 (CD) zoning as presented.
2. Motion to find that **the application is consistent** with the objectives and goals in the City's 2017 Comprehensive Land Development Plan *Mebane By Design*. The request:
 - Is for a property within the City's G-4 Secondary Growth Area and is generally residential in nature (Mebane CLP, p.66);
 - Provides a greenway connection to a different land use, consistent with Open Space and Natural Resource Protection Goal 4.2 (p. 17 & 89);
 - Provides a greenway and open space in a developing area, connecting to other locations, consistent with Open Space and Natural Resource Protection Goal 4.3 (p. 17, 89, & 90); and
3. Motion to **deny** the R-8(CD) rezoning as presented due to a lack of
 - a. Harmony with the surrounding zoning

OR

 - b. Consistency with the objectives and goals in the City's 2017 Comprehensive Land Development Plan *Mebane By Design* or any of the City's other adopted plans.

Attachments

1. Zoning Amendment Application
2. Zoning Map
3. Site Plan
4. Planning Project Report
5. Preliminary Water and Sewer System Approval Letter
6. Technical Memorandum – City Engineering Review
7. Traffic Impact Analysis Executive Summary – Revised June 2021 ([full TIA available at this link](#))
8. Meadowstone TIA Review Comments - Ramey Kemp Associates



APPLICATION FOR A ZONING AMENDMENT

Application is hereby made for an amendment to the Mebane Zoning Ordinance as follows:

Name of Applicant: BEN WILSON ROAD, LLC

Address of Applicant: c/o SUMMIT DESIGN AND ENGINEERING SERVICES, PLLC
320 EXECUTIVE COURT, HILLSBOROUGH, NC 27278

Address and brief description of property to be rezoned: ① 900 BEN WILSON ROAD (PIN 9824434841) 22.87 ACRES
② 1002 BEN WILSON ROAD (PIN 9824435349) 2.01 ACRES ③ 1010 BEN WILSON ROAD (PIN 9824435147) 2.37 ACRES

Applicant's interest in property: (Owned, leased or otherwise) _____

CONTRACT PURCHASER

*Do you have any conflicts of interest with: Elected/Appointed Officials, Staff, etc.?

Yes ___ Explain: _____ No X

Type of re-zoning requested: CONDITIONAL R-8 (CD)

Sketch attached: Yes X No _____

Reason for the requested re-zoning: TRANSITION FROM CURRENT ORANGE COUNTY AGRICULTURAL RESIDENTIAL (AR) GENERAL ZONING DISTRICT TO CITY OF MEBANE R-8(CD) CONDITIONAL ZONING DISTRICT VIA A CONTIGUOUS ANNEXATION PETITION TO PERMIT A 168 MONTH TOWNHOUSE DEVELOPMENT.

Signed: _____

Date: JUNE 8 2020

Action by Planning Board: _____

Public Hearing Date: _____ Action: _____

Zoning Map Corrected: _____

The following items should be included with the application for rezoning when it is returned:

1. Tax Map showing the area that is to be considered for rezoning.
2. Names and addresses of all adjoining property owners within a 300' radius (Include those that are across the street).
3. \$300.00 Fee to cover administrative costs.
4. The information is due 15 working days prior to the Planning Board meeting. The Planning Board meets the 2nd Monday of each month at 6:30 p.m. Then the request goes to the City Council for a Public Hearing the following month. The City Council meets the 1st Monday of each month at 6:00 p.m.



PETITION REQUESTING A CONTIGUOUS ANNEXATION

Annexation Process – Approximately a 2 Month Process

1st Month- Submit a Petition for Annexation to the City Council, the Clerk reports to City Council the Sufficiency of the Annexation and the City Council adopts a Resolution to set a Public Hearing

2nd Month- A Public Hearing is held and normally that same night, the City Council will adopt an Ordinance to set the effective date as the same or the Council will deny the request

Date: JUNE 8, 2020

To the City Council of the City of Mebane:

1. We the undersigned owners of real property respectfully request that the area described in Paragraph 2 below be annexed to the City of Mebane.
2. The area to be annexed is contiguous to the City of Mebane and the boundaries of such territory are as follows: PIN's : ① 9824434841 ② 9824435349 ③ 9824435147
(SEE ATTACHED EXHIBIT)

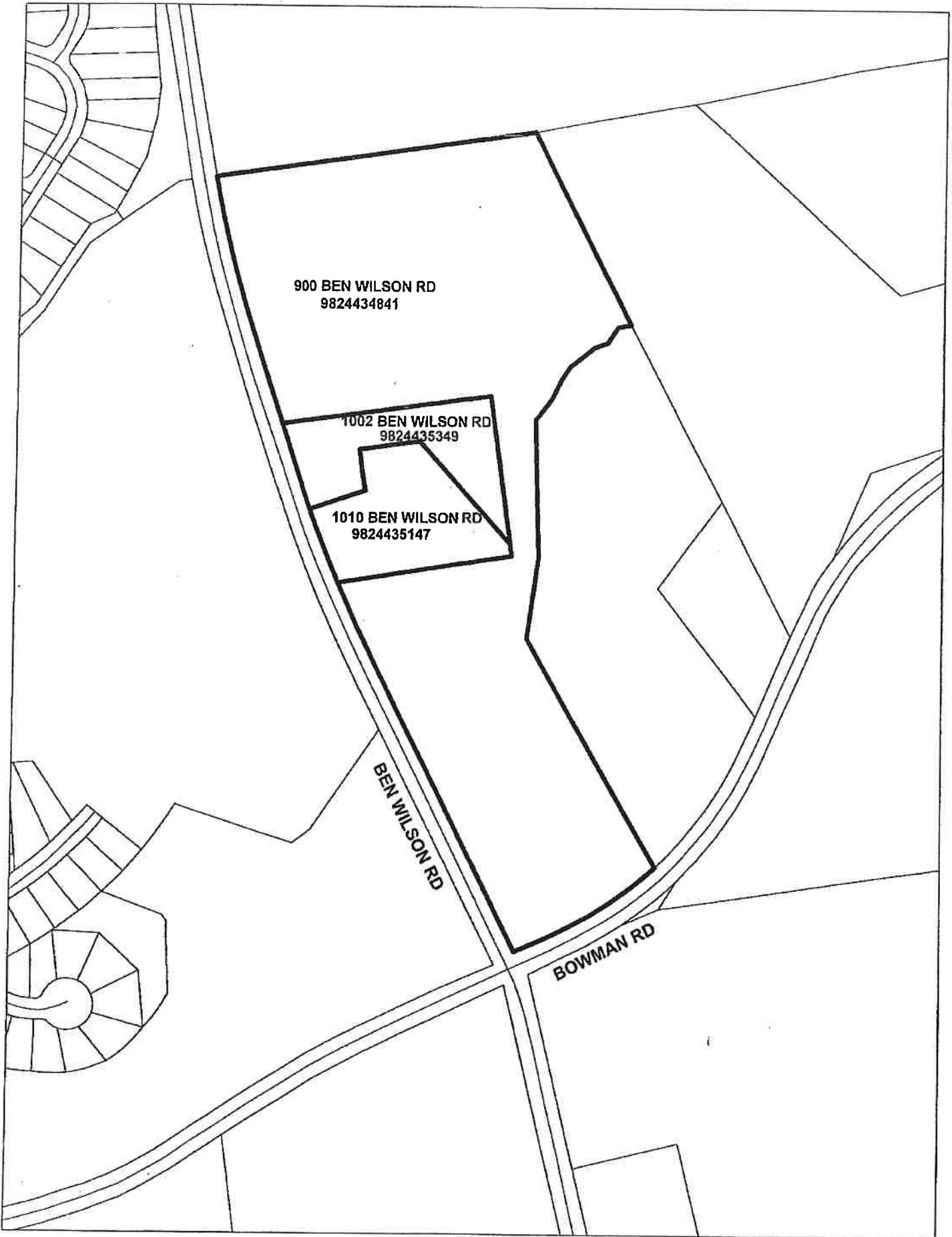
*Please include a Description of Boundaries (Metes and Bounds) on a separate paper.

- **3. We acknowledge that any zoning vested rights acquired pursuant to G.S. 160A-385.1 or or G.S. 153A-344.1 must be declared and identified on this petition. We further acknowledge that failure to declare such rights on this petition shall result in a termination of vested rights previously acquired for the property. (If zoning vested rights are claimed, indicate below and attach proof.)

Name	Address	Do you declare vested rights (Yes or No)	Signature
1. NADINE R. WILSON HEIRS	900 BEN WILSON ROAD MEBANE, NC 27302	No	CONTRACT PURCHASER: BEN WILSON ROAD, LLC
2. J.A. & ALAN WILSON	1002 BEN WILSON ROAD MEBANE, NC 27302	No	DocuSigned by: Alan Wilson
3. J.A. & ALAN WILSON	1010 BEN WILSON ROAD MEBANE, NC 27302	No	DocuSigned by: Joseph A Wilson

*Municipality may wish to require metes and bounds description or map. (Provide 2 paper copies, an electronic copy and 3 mylars)

**This is one possible format for zoning vested rights declaration. This language may require modification to reflect the requirements of the municipal zoning vested rights ordinance, if any.



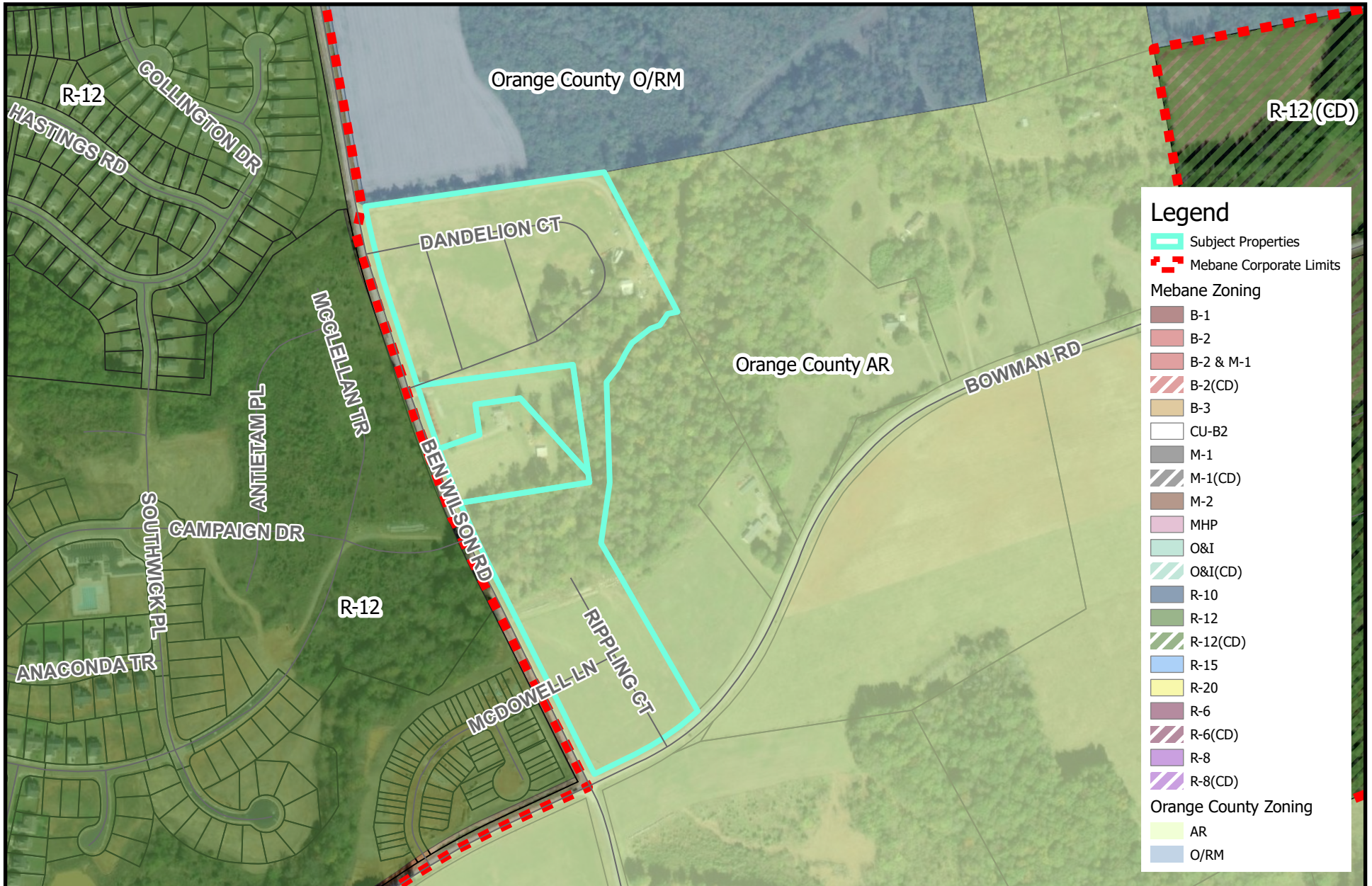
900 BEN WILSON RD
9824434841

1002 BEN WILSON RD
9824435349

1010 BEN WILSON RD
9824435147

BEN WILSON RD

BOWMAN RD



Legend

- Subject Properties
- Mebane Corporate Limits

Mebane Zoning

- B-1
- B-2
- B-2 & M-1
- B-2(CD)
- B-3
- CU-B2
- M-1
- M-1(CD)
- M-2
- MHP
- O&I
- O&I(CD)
- R-10
- R-12
- R-12(CD)
- R-15
- R-20
- R-6
- R-6(CD)
- R-8
- R-8(CD)

Orange County Zoning

- AR
- O/RM



**CITY OF MEBANE
ZONING MAP**

**SUBJECT PROPERTIES
MEADOWSTONE TOWNHOMES**

1 inch = 450 feet

DATE: 6/03/2021

DRAWN BY: AV

SHEET INDEX	
Sheet Title	Sheet Number
COVER SHEET	C-1
EXISTING CONDITIONS PLAN	C-2
OVERALL SITE PLAN	C-3
SITE & UTILITY PLAN PH I & II	C-4
SITE & UTILITY PLAN PH III	C-5
GRADING & STORM DRAINAGE PLAN PH I & II	C-6
GRADING & STORM DRAINAGE PLAN PH III	C-7
LANDSCAPE PLAN PHASE I & II	L-1
LANDSCAPE PLAN PHASE III	L-2
LANDSCAPE DETAILS	L-3
SITE DETAILS	D-1

SITE INFORMATION	
OWNER:	ALAN & ROBIN WILSON AND JOSEPH JR. & JOANNIE WILSON 101 SAM SNEAD DRIVE MEBANE, NC 27302 & NADINE WILSON HEIRS C/O SAMUEL WILSON, JR. 4222 OLD HILLSBOROUGH ROAD MEBANE, NC 27302
DEVELOPER:	BEN WILSON ROAD, LLC 320 EXECUTIVE COURT HILLSBOROUGH, NC 27278 (919) 732-3883 (PHONE) JAMES PARKER, JR.
PIN:	9824-43-4841, 9824-43-5349, 9824-43-5147
REFERENCE:	DB 6580, PG 240 & DB 6580, PG 237
LAND AREA:	21.2, 2.01, 2.37 = 25.58 ACRES
PROPERTY ADDRESS:	900, 1002 & 1010 BEN WILSON ROAD MEBANE, NC
PROPERTY IS NOT LOCATE WITHIN MEBANE ETJ	
EXISTING ZONING:	AR (ORANGE COUNTY)
PROPOSED ZONING:	R-8 (CD)
CURRENT USE:	RESIDENTIAL
PROPOSED USE:	TOWN HOUSE DWELLINGS
JURISDICTION:	MEBANE
STATE:	NORTH CAROLINA
WATERSHED:	HAW CREEK (UNPROTECTED)
TOWNHOMES ALLOWED w/ REZONING:	10/AC = 255
PROPOSED TOWNHOMES:	162 UNITS (X 3 BR/UNIT = 486 BR)
PROPOSED MINIMUM LOT AREA:	2,100 SF
PROPOSED DENSITY:	6.33 D.U./ACRE
IMPERVIOUS AREA	
TOWNHOMES	PH I&II 117 X 1,700 = 198,900 SF PH III 45 X 1,700 = 76,500 SF
PUBLIC R/W & SIDEWALKS	120,101 SF
MULTI-USE PATH	26,370 SF
AMENITY CENTER	
PARKING	6,450 SF
SIDEWALK	1,424 SF
BUILDING	1,000 SF
TOTAL	354,245 SF 130,489 SF
TOTAL IMPERVIOUS PROVIDED FOR ALL PHASES = 484,734 SF (11.12 AC) 43.50 %	
DISTURBED AREA:	
PHASE I&II	685,900 SF (15.74 AC)
PHASE III	265,058 SF (6.08 AC)
TOTAL	950,958 SF (21.83 AC)
UNDISTURBED AREA:	163,307 SF (3.75 AC)
SLOPE < 15%	125,266 SF (2.87 AC)
AREA IN STREAM BUFFER:	176,345 SF (4.04 AC)
PRIVATE COMMON OPEN SPACE	
REQUIRED: 500 SF / UNIT X 162 UNITS = 81,000 SF (1.85 AC)	
PROVIDED: (TOTAL) = 11.33 (44.32%)	
ACTIVE (PUBLIC AND PRIVATE RECREATION SPACE): 1.70 AC.	
PASSIVE (NON-RECREATIONAL HOA PROPERTY): 10.44 AC.	
RECREATION SPACE:	
PRIVATE RECREATION SPACE PROVIDED:	
TOTAL PRIVATE RECREATION SPACE PROVIDED (INCLUDING AMENITY CENTER, PARKING, PLAY GROUND, GREEN SPACE & DOG PARK) = 0.74 AC	
PUBLIC RECREATION SPACE REQUIRED: (162 LOTS) X (1/35 AC./LOT) = 4.62 AC.	
PUBLIC RECREATION SPACE PROVIDED: (3.446 LF GREENWAY/MULTI-USE PATH) X (14 FT. WIDE EASEMENT) = 1.10 AC.	
NOTE: PUBLIC RECREATION SPACE DEFICIT: DEVELOPER WISHES TO HAVE THIS DEFICIT MAKE UP BY PROVIDING THE MULTI-USE PATHS THROUGHOUT THE DEVELOPMENT. IF THIS IS NOT POSSIBLE A PAYMENT IN LIEU WILL BE PROVIDED IN THE AMOUNT OF \$34,042 (3.52 AC X \$9,671/AC).	
PARKING:	
REQUIRED: 162 - THREE BR UNITS X 2.5 SP/UNIT = 405 SPACES	
PROVIDED: 162 - THREE BR UNITS X 2 SP/UNIT (1 DRIVEWAY & 1 GARAGE) = 324 SPACES	
MAIL KIOSK & AMENITY CENTER = 19 SPACES	
TOTAL (INCLUDED 1 VAN ACC. SPACE) = 343 SPACES - A WAIVER IS BEING REQUESTED FROM THIS REQUIREMENT.	
ROADS & RIGHT-OF-WAYS	
LINEAR FEET OF PUBLIC ROADS:	PHASE I&II 2,487 LF PHASE III 911 LF TOTAL 3,398 LF
AREA OF NEW PUBLIC R/W:	PHASE I&II 119,742 SF PHASE III 52,889 SF TOTAL 172,631 SF
CITY OF MEBANE PUBLIC WATER, SANITARY SEWER, & ROADWAYS SHALL BE PROVIDED FOR THIS DEVELOPMENT.	
	PHASE I&II PHASE III BEN WILSON RD. TOTAL
PUBLIC WATER MAIN:	2,586 LF 869 LF 995 LF 4,450 LF
PUBLIC SAN. SEWER:	2,419 LF 879 LF 995 LF 4,293 LF
PUBLIC SIDEWALK:	4,688 LF 983 LF 810 LF 6,481 LF
PUBLIC MULTI-USE PATH:	2,637 LF 810 LF 3,447 LF
STORM DRAINAGE	2,863 LF 808 LF 343 LF 4,014 LF
PROPOSED BUILDING SETBACKS (R-8 CD)	
PROPOSED:	
FRONT:	20 FT.
SIDE:	8 FT.
REAR:	15 FT.
CORNER:	10 FT.
STANDARD R-8 TOWN HOUSE (SEC. 4-7.3 F) ZONING SETBACKS (NOT USED)	
FRONT:	30 FT.
SIDE:	15 FT.
REAR:	20 FT.
CORNER:	18 FT.

PRELIMINARY PLANS FOR MEADOWSTONE TOWNHOMES

900 BEN WILSON ROAD
MEBANE, NORTH CAROLINA 27302

TRC SUBMITTAL #1 JUNE 8, 2020
TRC SUBMITTAL #2 FEBRUARY 9, 2021
TRC SUBMITTAL #3 MARCH 23, 2021
TRC SUBMITTAL #4 APRIL 27, 2021
TRC SUBMITTAL #5 JUNE 4, 2021

OWNER:
ALAN & ROBIN WILSON AND JOSEPH JR. & JOANNIE WILSON
101 SAM SNEAD DRIVE
MEBANE, NC 27302
&
SAMUEL WILSON, JR. (NADINE WILSON HEIRS)
4222 OLD HILLSBOROUGH ROAD
MEBANE, NC 27302

DEVELOPER:
BEN WILSON ROAD, LLC
c/o JAMES PARKER, JR.
320 EXECUTIVE COURT
HILLSBOROUGH, NC 27278
(919) 732-3883 (PHONE)
JAMES PARKER, JR.
james.parker@summitde.net

SURVEY CONTACT:
SUMMIT DESIGN & ENGINEERING SERVICES
THOMAS TELLUP, PLS
320 EXECUTIVE COURT
HILLSBOROUGH, NC 27278
(919) 732-3883 (PHONE)
(919) 732-6676 (FAX)
THOMAS.TELLUP@SUMMITDE.NET

ENGINEER CONTACT:
SUMMIT DESIGN & ENGINEERING SERVICES
TIMOTHY A. SMITH, PE, PLS
320 EXECUTIVE COURT
HILLSBOROUGH, NC 27278
(919) 732-3883 (PHONE)
(919) 732-6676 (FAX)
TIM.SMITH@SUMMITDE.NET

PUBLIC SERVICE CONTACTS :

WATER: CITY OF MEBANE PUBLIC WORKS DEPT.
KYLE SMITH, P.E.
636 CORRIGIDOR STREET
MEBANE, NC 27302
(919) 563-3401

SEWER: CITY OF MEBANE PUBLIC WORKS DEPT.
KYLE SMITH, P.E.
636 CORRIGIDOR STREET
MEBANE, NC 27302
(919) 563-3401

FIRE: CITY OF MEBANE
BOB LOUIS, CHIEF
450 N. FIRST STREET
MEBANE, NC 27302
(919) 563-5718

GAS: PSNC ENERGY / DOMINION ENERGY
BRIAN SMITH
2941 WILDEN DRIVE
DURHAM, NC 27713
(919) 598-7454
BRIAN.SMITH@SCANA.COM

ELECTRIC: PIEDMONT ELECTRIC
2900 S. NC 86
MEBANE, NC 27302
(336) 732-2123

TELEPHONE: AT&T
AARON BOYKINS
(336) 508-3237

STATE ROADWAYS: NCDOT - DIVISION 7, DISTRICT 1
CHARLES N. EDWARDS (CHUCK), PE
DISTRICT ENGINEER
115 E. CRESCENT SQUARE DRIVE
PO BOX 766
GRAHAM, NC 27253
(336) 570-6833

PLANNING: CITY OF MEBANE
CY STOVER, AICP
DEVELOPMENT DIRECTOR
102 S. 5TH STREET
MEBANE, NC 27302
(919) 563-9990

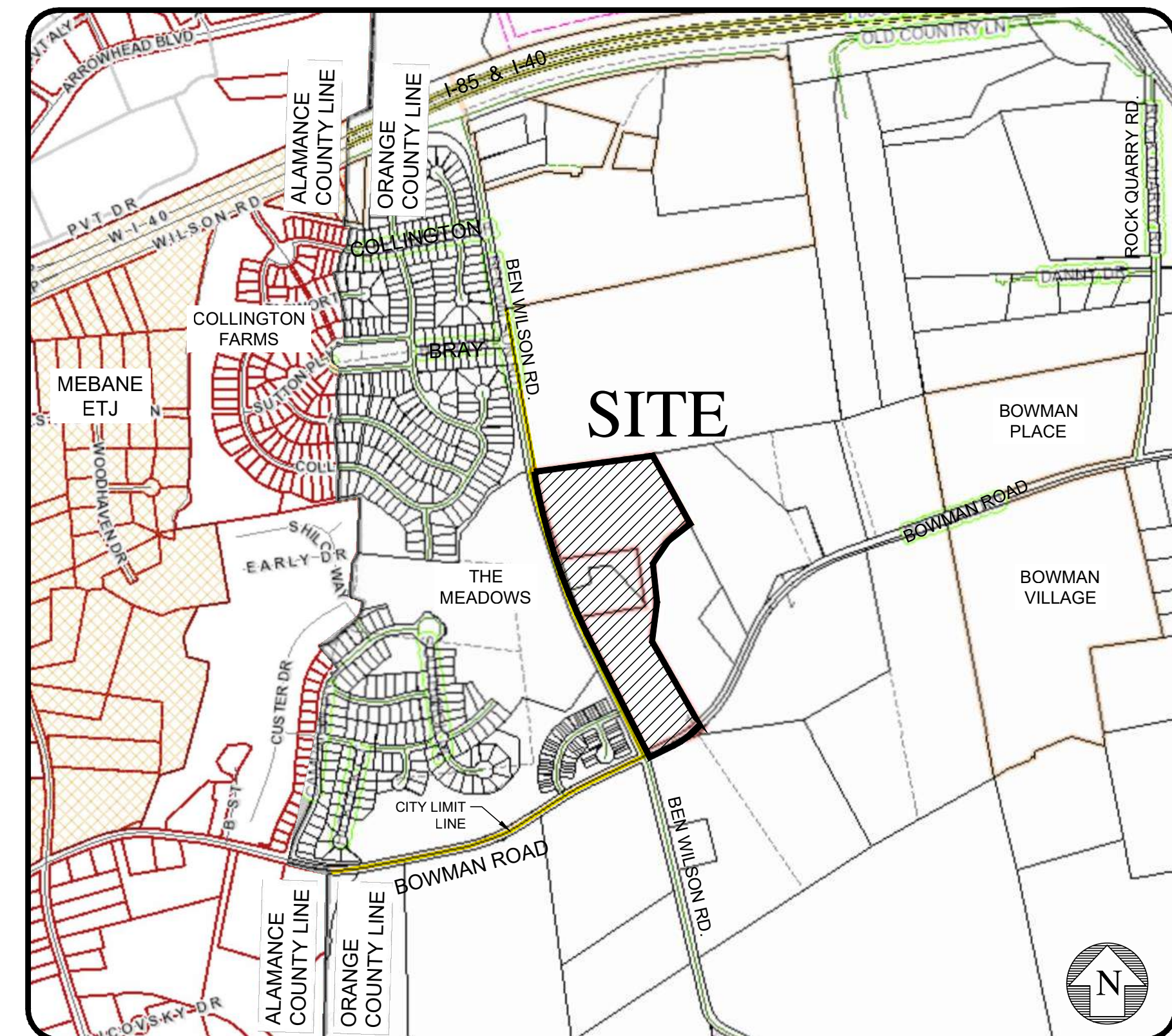
SOLID WASTE: CITY OF MEBANE PUBLIC WORKS DEPT.
108 E. WASHINGTON STREET
MEBANE, NC 27302
(919) 563-5901

RECYCLING: WASTE INDUSTRIES
703 E. GILBREATH STREET
GRAHAM, NC 27253
(336) 229-0525

EROSION CONTROL: ORANGE COUNTY PLANNING & INSPECTIONS DEPT.
STEVE KALTENBACH
EROSION CONTROL & STORMWATER OFFICER II
131 W. MARGARET LANE
HILLSBOROUGH, NC 27278
(919) 245-2587

TRC NOTES:

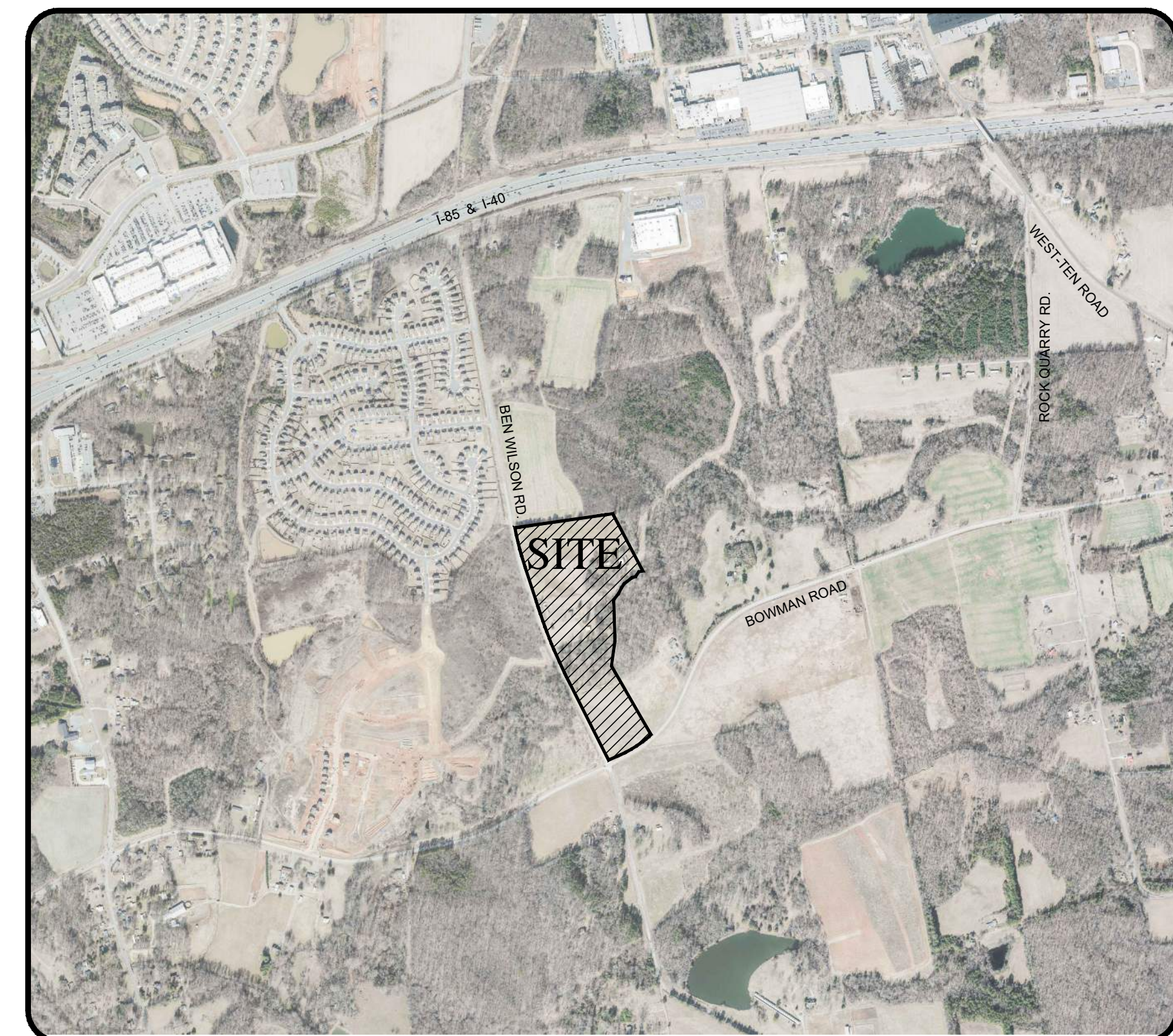
- ALL NEW ROADS WILL BE BUILT TO CITY STANDARDS AND MAINTAINED BY THE CITY OF MEBANE AFTER FINAL ACCEPTANCE.
- THIS SUBDIVISION WILL BE PHASED AS SHOWN ON THE PLANS. THE END OF EACH PHASE SHALL PROVIDE SOME TYPE OF TURNAROUND FOR SERVICE AND EMERGENCY VEHICLES, THAT WILL BE APPROVED BY THE CITY OF MEBANE WITH THE CONSTRUCTION DRAWINGS.
- THIS PROJECT IS SUBJECT TO REZONING AND ANNEXATION BY THE CITY OF MEBANE.
- A TIA HAS BEEN PREPARED FOR THIS PROJECT AND SUBJECT TO APPROVAL BY THE CITY OF MEBANE AND NCDOT.
- TWO ENTRANCE FEATURE SHALL BE PROVIDED AT EACH ENTRANCE INTO THE SITE.
- ANY AMENITY AREA, AND STORMWATER CONTROL MEASURES SHALL BE SCREENED WITH LANDSCAPING AND/OR BERMS. ALSO, THE RECREATION AREA SHALL BE SCREENED FROM THE RESIDENTIAL LOTS WITHIN THE SITE. ALL SCREENING SHALL BE IN ACCORDANCE WITH THE MEBANE UDO AND INCLUDED WITH THE LANDSCAPING PLANS PROVIDED FOR APPROVAL BY THE CITY OF MEBANE. ANY STORMWATER CONTROL MEASURES THAT POND OR HOLD 2 FEET OF WATER SHALL BE FENCED FOR SAFETY.
- MAINTENANCE OF ALL COMMON AREAS WILL BE THE RESPONSIBILITY OF THE HOA FOR THIS SUBDIVISION.
- THE LIMITS OF DISTURBANCE WILL TYPICALLY FOLLOW THE GRADING LIMITS. ALL OPEN SPACES AND UNDISTURBED AREAS WILL BE FENCED OFF ALONG TREE CANOPIES TO PRESERVE EXISTING VEGETATION WHERE SHOWN ON THE PLANS.
- THE SUBDIVISION ROAD NAMES SHOWN HEREON HAVE BEEN APPROVED BY BOTH ALAMANCE COUNTY AND ORANGE COUNTY.
- OPEN SPACE SHALL NOT BE USED FOR FUTURE STRUCTURES EXCEPT FOR INTENDED RECREATIONAL PURPOSES AND IS ACCESSIBLE TO ALL RESIDENTS OF THIS DEVELOPMENT OR GENERAL PUBLIC.
- ALL NOTED PRIVATE COMMON ELEMENTS, INCLUDING BUT NOT LIMITED TO THE PRIVATE RECREATION AMENITIES, ENTRANCE FEATURES, STORMWATER CONTROL MEASURES AND STREET TREES ARE THE RESPONSIBILITY OF THE HOMEOWNERS ASSOCIATION (HOA)
- THE CURRENT PLANS INDICATE PRELIMINARY DRAINAGE EASEMENTS OVER PIPES AND ENGINEERED SWALES. AS PHASED CONSTRUCTION DRAWINGS ARE FINALIZED ALL DRAINAGE WAYS (5 CFS OR MORE) SHALL HAVE A DEDICATED DRAINAGE EASEMENT PER THE CITY OF MEBANE STORM SEWER DESIGN MANUAL WHETHER PIPED OR UN-PIPED.
- THIS PROJECT WILL BE SUBJECT TO THE CITY OF MEBANE REGULATIONS FOR HIGH DENSITY STORMWATER, BUFFER, AND STORM DRAINAGE DESIGN. A FLOOD STUDY WILL BE REQUIRED ALONG WITH A FLOODPLAIN (NON-FEMA) PERMIT.
- A WAIVER IS BEING REQUESTED BY THE DEVELOPER TO PREVENT PROVIDING A STUB ROAD TO THE ADJACENT INDUSTRIAL TRACT AND FROM PROVIDING THE NUMBER OF PARKING SPACES REQUIRED BY THE UDO FOR THIS USE. (SEE SITE INFORMATION).
- STREET LIGHTING AND ASSOCIATED CONDUIT LOCATION WILL BE PROVIDED DURING THE CONSTRUCTION DRAWING APPROVAL PROCESS WHEN DUKE ENERGY CAN PROVIDE THIS INFORMATION.



VICINITY MAP
SCALE: 1" = 2000'

PARCELS

PIN: 9824-43-4841, 9824-43-5147 & 9824-43-5349
PB 79, PG 194 - PB 81, PG 58 - PB 115, PG 86
ZONING: AR (ORANGE COUNTY)
25.58 ACRES



SITE LOCATION MAP
SCALE: 1" = 1000'

CONSTRUCTION BUILD-OUT SCHEDULE

PHASE	# OF UNITS	APPROX. COMPLETION
I	44	FALL 2022
II	73	FALL 2023
III	45	FALL 2024

NO.	REVISIONS	DATE	BY
7			
6			
5		6/09/21	OS
4		4/27/21	OS
3		3/23/21	OS
2		2/9/21	OS
1			

NOT FOR CONSTRUCTION
NORTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
TIMOTHY A. SMITH
06-08-0200

SUMMIT
DESIGN AND ENGINEERING SERVICES
320 EXECUTIVE COURT
HILLSBOROUGH, NC 27278
Voice: (919) 732-3883 Fax: (919) 732-4676
www.summitde.net

PRELIMINARY PLANS
MEADOWSTONE TOWNHOMES
900 BEN WILSON ROAD
MEBANE, NORTH CAROLINA 27302
COVER SHEET

PROJECT NO:
20-0089
DRAWING NAME:
20-0089_CS.dwg
SHEET NO.
C-1

LEGEND

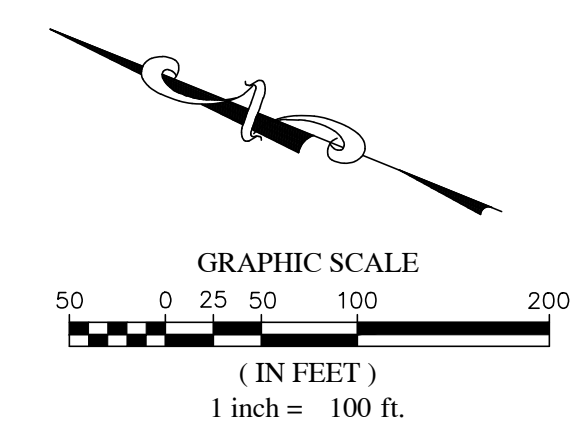
- TELEPHONE PEDESTAL
- CONTROLLER CABINET
- CURB INLET
- DROP INLET
- LIGHT POLE
- WATER METER
- WATER VALVE
- TRAFFIC SIGNAL BOX
- EXISTING SEWER MANHOLE
- CLEAN OUT
- FIRE HYDRANT
- POWER/LIGHT POLE
- GUY WIRE
- EXISTING MONUMENT FOUND
- IRON ROD OR PIPE
- CONCRETE MONUMENT SET
- CONCRETE MONUMENT
- EXISTING PIPE/CULVERT
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING TELEPHONE
- EXISTING GAS LINE
- EXISTING OVERHEAD UTILITY
- EXISTING UNDERGROUND UTILITY
- EXISTING WOODS LINE



Number	Minimum Slope	Maximum Slope	Color	2D AREA
1	15.00%	24.99%	Red	88774 SF
2	25.00%	100.00%	Green	36492 SF

NOTES:

1. ALL ZONING REFERENCES EAST OF BEN WILSON ROAD ARE FOR ORANGE COUNTY, N.C.
2. ALL EXISTING BUILDINGS WITHIN THE SUBJECT BOUNDARY WILL BE REMOVED AS PART OF THE SITE CONSTRUCTION, ALONG WITH THEIR WELLS, SEPTIC SYSTEMS AND UNDERGROUND AND OVERHEAD ELECTRICAL & PHONE SERVICES ETC.
3. INTERIOR LOT LINES WILL BE ABANDONED DURING FINAL PLAT STAGE FOR THIS SITE.
4. SITE BOUNDARY INFORMATION TAKEN FROM PLATS ON RECORD.
5. SITE TOPOGRAPHY TAKEN FROM LIDAR.



NO.	REVISIONS	DATE	BY
7			
6			
5		6/09/21	OS
4	PER. TRC COMMENTS	4/27/21	OS
3	PER. TRC COMMENTS	3/23/21	OS
2	PER. TRC COMMENTS	2/9/21	OS
1	PER. TRC COMMENTS		

COMPRISE (NOT) SUMMIT DESIGN AND ENGINEERING SERVICES
 DRAWING ALTERATION
 IT IS A VIOLATION OF LAW FOR ANY PERSON TO REPRODUCE OR TRANSMIT THIS DOCUMENT IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE PROFESSIONAL ENGINEER, LANDSCAPE ARCHITECT, OR SURVEYOR. ANY VIOLATION OF THIS DOCUMENT IS SUBJECT TO THE PENALTIES OF THE PROFESSIONAL ENGINEERING BOARD AND THE BOARD OF SURVEYING AND MAPPING.

PROJECT ENGINEER/ARCHITECT: TMS (TMS@SUMMITDE.NET)
 PROJECT MANAGER: RPH (RANDY.HALL@SUMMITDE.NET)
 DRAWN BY: DONCHITTY@SUMMITDE.NET
 FIRST ISSUE DATE: 06-08-2020



SUMMIT
 DESIGN AND ENGINEERING SERVICES
 State License #: P-0839
 320 Executive Court
 Hillsborough, NC 27278
 Voice: (919) 732-8883 Fax: (919) 732-4676
 www.summitde.net

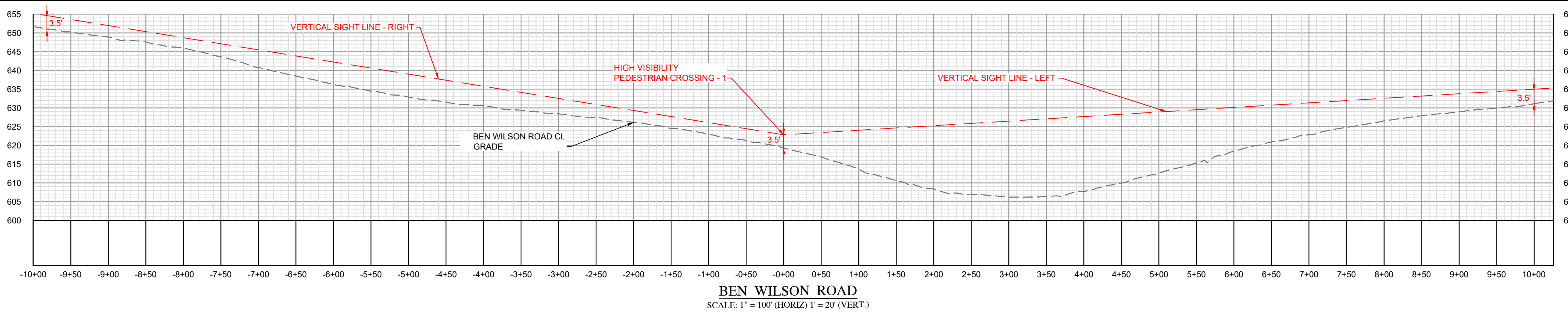
PRELIMINARY PLANS
MEADOWSTONE TOWNHOMES
 900 BEN WILSON ROAD
 MEBANE, NORTH CAROLINA 27302
EXISTING CONDITIONS PLAN

PROJECT NO.: 20-0089
 DRAWING NAME: 20-0089_XC.dwg
 SHEET NO.: C-2



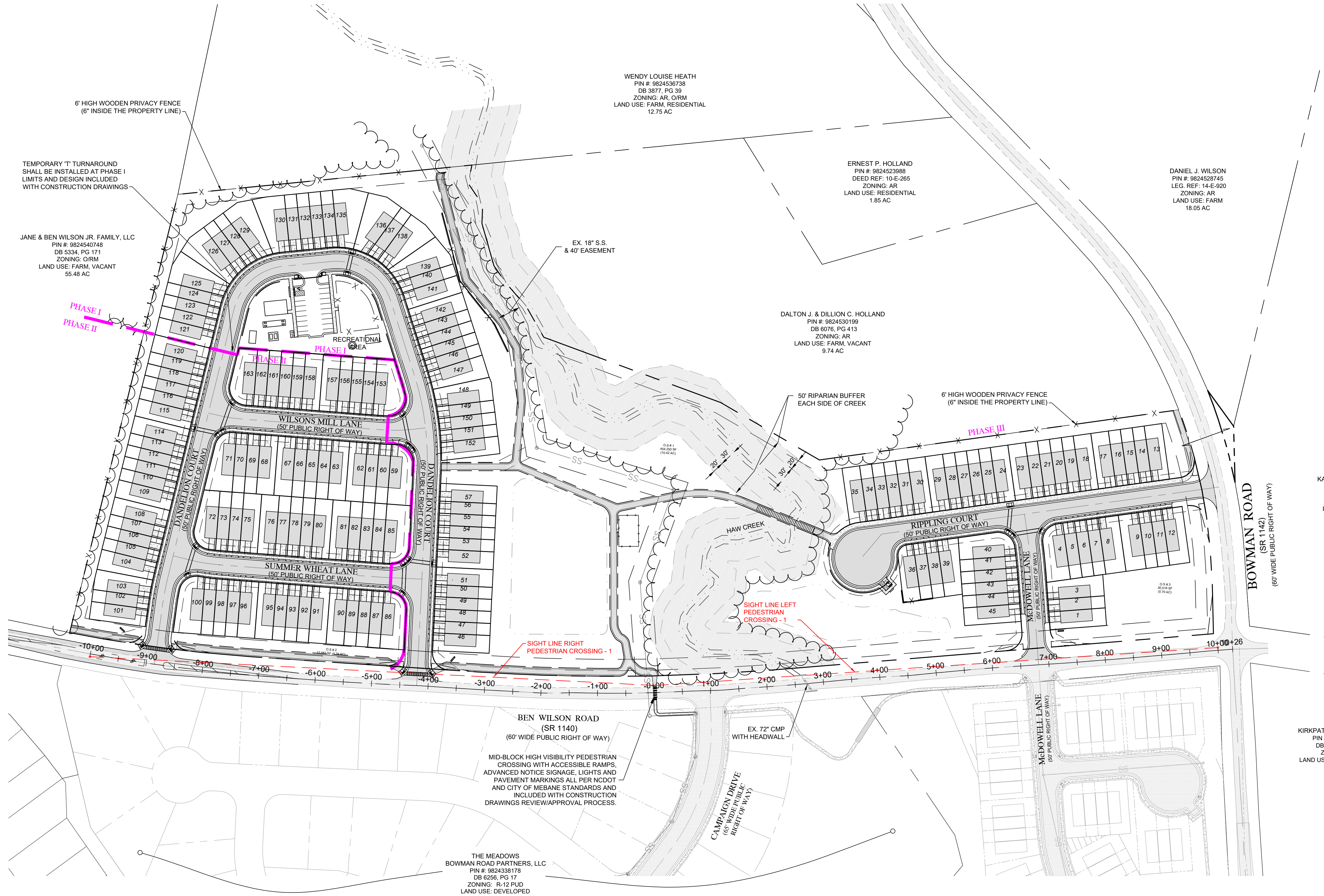
CONTRACTOR SHALL NOTIFY "811" (811) OR (1-800-632-4949) AT LEAST 3 FULL BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR SHALL CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF "811". REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

N:\2020\0089\01\Ben Wilson Rd.LIC - Meadowstone Townhomes - Submittal\CD\2020089_XC.dwg C:\EXISTS\CONTRACTING\2020_08_08\2020_08_08_21_00_00.dwg



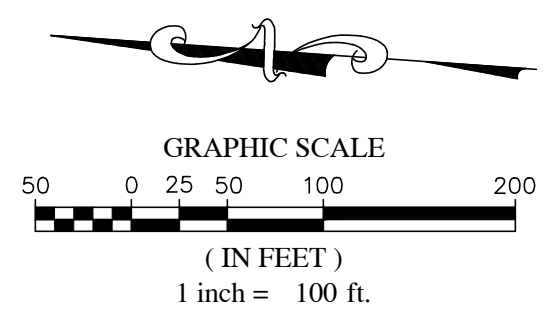
LOT TABLE											
1	3133 SF (0.07 AC)	55	2133 SF (0.05 AC)	110	2133 SF (0.05 AC)						
2	2133 SF (0.05 AC)	56	2133 SF (0.05 AC)	111	2133 SF (0.05 AC)						
3	3441 SF (0.08 AC)	57	3133 SF (0.07 AC)	112	2133 SF (0.05 AC)						
4	3863 SF (0.09 AC)	59	4223 SF (0.10 AC)	113	2133 SF (0.05 AC)						
5	2100 SF (0.05 AC)	60	2244 SF (0.05 AC)	114	3133 SF (0.07 AC)						
6	2100 SF (0.05 AC)	61	2240 SF (0.05 AC)	115	3133 SF (0.07 AC)						
7	2100 SF (0.05 AC)	62	3290 SF (0.08 AC)	116	2133 SF (0.05 AC)						
8	3600 SF (0.08 AC)	63	3290 SF (0.08 AC)	117	2133 SF (0.05 AC)						
9	3600 SF (0.08 AC)	64	2240 SF (0.05 AC)	118	2133 SF (0.05 AC)						
10	2100 SF (0.05 AC)	65	2240 SF (0.05 AC)	119	2133 SF (0.05 AC)						
11	2100 SF (0.05 AC)	66	2240 SF (0.05 AC)	120	3133 SF (0.07 AC)						
12	3600 SF (0.08 AC)	67	3290 SF (0.08 AC)	121	3133 SF (0.07 AC)						
13	3102 SF (0.07 AC)	68	3290 SF (0.08 AC)	122	2133 SF (0.05 AC)						
14	2112 SF (0.05 AC)	69	2240 SF (0.05 AC)	123	2133 SF (0.05 AC)						
15	2112 SF (0.05 AC)	70	2240 SF (0.05 AC)	124	2141 SF (0.05 AC)						
16	2112 SF (0.05 AC)	71	4192 SF (0.10 AC)	125	4296 SF (0.10 AC)						
17	3102 SF (0.07 AC)	72	3598 SF (0.08 AC)	126	4328 SF (0.10 AC)						
18	3102 SF (0.07 AC)	73	2239 SF (0.05 AC)	127	2146 SF (0.05 AC)						
19	2112 SF (0.05 AC)	74	2240 SF (0.05 AC)	128	2146 SF (0.05 AC)						
20	2112 SF (0.05 AC)	75	3290 SF (0.08 AC)	129	4462 SF (0.10 AC)						
21	2112 SF (0.05 AC)	76	3290 SF (0.08 AC)	130	4401 SF (0.10 AC)						
22	2112 SF (0.05 AC)	77	2240 SF (0.05 AC)	131	2133 SF (0.05 AC)						
23	3102 SF (0.07 AC)	78	2240 SF (0.05 AC)	132	2133 SF (0.05 AC)						
24	3102 SF (0.07 AC)	79	2240 SF (0.05 AC)	133	2133 SF (0.05 AC)						
25	2112 SF (0.05 AC)	80	3290 SF (0.08 AC)	134	2137 SF (0.05 AC)						
26	2112 SF (0.05 AC)	81	3290 SF (0.08 AC)	135	4735 SF (0.11 AC)						
27	2112 SF (0.05 AC)	82	2240 SF (0.05 AC)	136	4758 SF (0.11 AC)						
28	2112 SF (0.05 AC)	83	2240 SF (0.05 AC)	137	2146 SF (0.05 AC)						
29	3102 SF (0.07 AC)	84	2239 SF (0.05 AC)	138	4186 SF (0.10 AC)						
30	3102 SF (0.07 AC)	85	4454 SF (0.10 AC)	139	4295 SF (0.10 AC)						
31	2112 SF (0.05 AC)	86	4044 SF (0.09 AC)	140	2163 SF (0.05 AC)						
32	2112 SF (0.05 AC)	87	2134 SF (0.05 AC)	141	3133 SF (0.07 AC)						
33	2112 SF (0.05 AC)	88	2133 SF (0.05 AC)	142	3133 SF (0.07 AC)						
34	2112 SF (0.05 AC)	89	2133 SF (0.05 AC)	143	2133 SF (0.05 AC)						
35	3110 SF (0.07 AC)	90	3133 SF (0.07 AC)	144	2133 SF (0.05 AC)						
36	2948 SF (0.07 AC)	91	3133 SF (0.07 AC)	145	2133 SF (0.05 AC)						
37	2133 SF (0.05 AC)	92	2133 SF (0.05 AC)	146	2133 SF (0.05 AC)						
38	2133 SF (0.05 AC)	93	2133 SF (0.05 AC)	147	3641 SF (0.08 AC)						
39	3451 SF (0.08 AC)	94	2133 SF (0.05 AC)	148	3713 SF (0.09 AC)						
40	3985 SF (0.09 AC)	95	3133 SF (0.07 AC)	149	2141 SF (0.05 AC)						
41	2126 SF (0.05 AC)	96	3133 SF (0.07 AC)	150	2135 SF (0.05 AC)						
42	2133 SF (0.05 AC)	97	2133 SF (0.05 AC)	151	2143 SF (0.05 AC)						
43	2133 SF (0.05 AC)	98	2133 SF (0.05 AC)	152	3208 SF (0.07 AC)						
44	2133 SF (0.05 AC)	99	2140 SF (0.05 AC)	153	4598 SF (0.11 AC)						
45	3133 SF (0.07 AC)	100	4483 SF (0.10 AC)	154	2133 SF (0.05 AC)						
46	3133 SF (0.07 AC)	101	3133 SF (0.07 AC)	155	2133 SF (0.05 AC)						
47	2133 SF (0.05 AC)	102	2134 SF (0.05 AC)	156	2133 SF (0.05 AC)						
48	2133 SF (0.05 AC)	103	3389 SF (0.08 AC)	157	3133 SF (0.07 AC)						
49	2133 SF (0.05 AC)	104	3371 SF (0.08 AC)	158	3133 SF (0.07 AC)						
50	2133 SF (0.05 AC)	105	2133 SF (0.05 AC)	159	2133 SF (0.05 AC)						
51	3133 SF (0.07 AC)	106	2133 SF (0.05 AC)	160	2133 SF (0.05 AC)						
52	3133 SF (0.07 AC)	107	2133 SF (0.05 AC)	161	2133 SF (0.05 AC)						
53	2133 SF (0.05 AC)	108	3133 SF (0.07 AC)	162	2133 SF (0.05 AC)						
54	2133 SF (0.05 AC)	109	3133 SF (0.07 AC)	163	3853 SF (0.09 AC)						

OPEN SPACE TABLE		RECREATION AREA	
O.S. 1	454,250 SF (10.42 AC)	30,576 SF (0.70 AC)	
O.S. 2	12,587 SF (0.28 AC)		
O.S. 3	30,516 SF (0.70 AC)		



NOTES:

- MAIL KIOSKS SHALL BE SCREENED FROM ADJOINING PROPERTIES.
- CANOPY TREES SHALL BE REPLACED FROM WITH UNDERSTORY TREES UNDER EXISTING OVERHEAD POWER LINES AS REQUIRED.



CONTRACTOR SHALL NOTIFY "811" (811) OR (1-800-632-4949) AT LEAST 3 FULL BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR SHALL CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF "811". REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

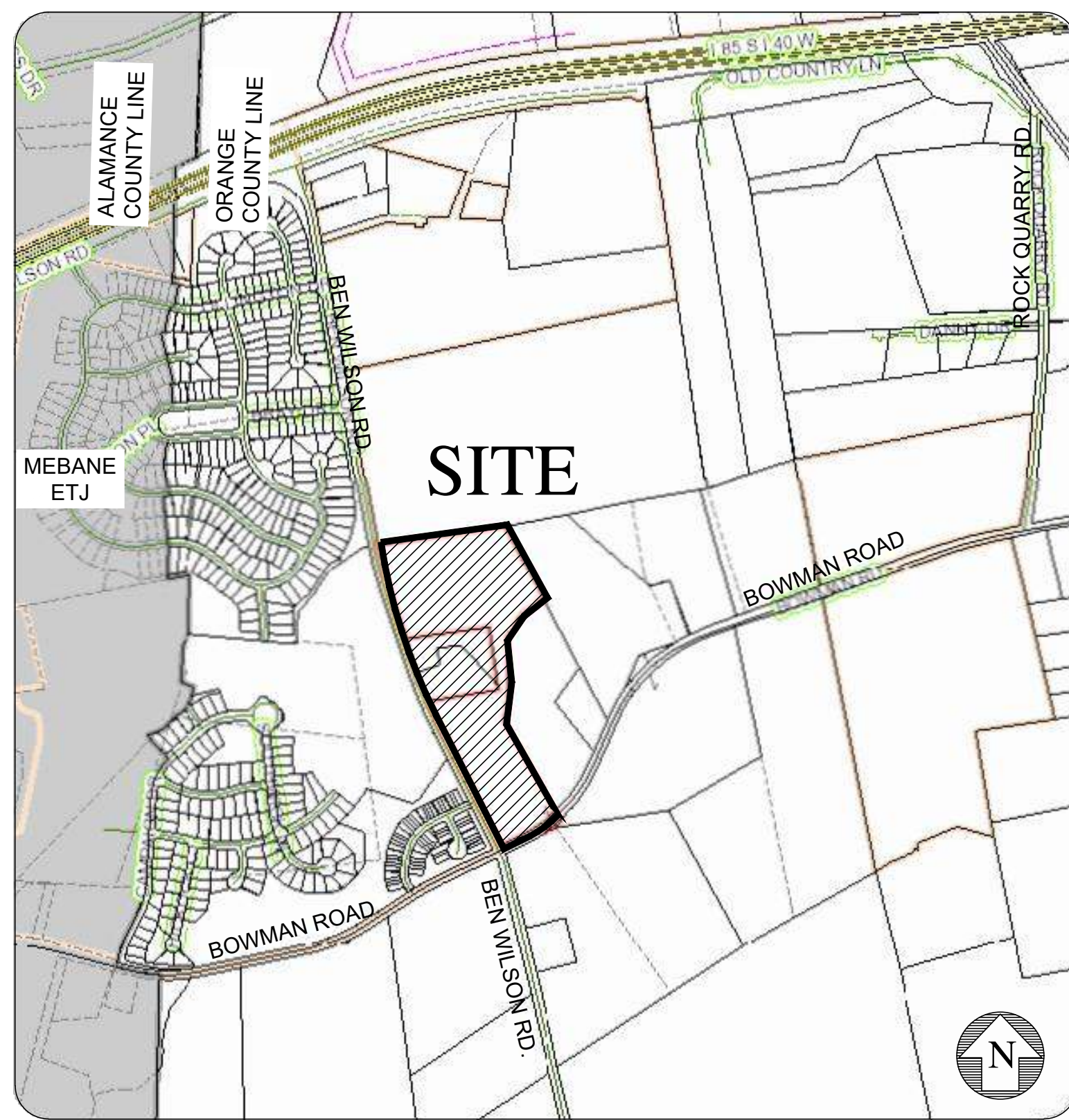
PROJECT NO.	20-0089
DRAWING NAME	20-0089_S.dwg
SHEET NO.	C-3

PROJECT ENGINEER/ARCHITECT	TAS (TAS@SUMMITDE.NET)
PROJECT MANAGER	RRH (RANDY.HALL@SUMMITDE.NET)
DRAWN BY	DCN (DCHITTY@SUMMITDE.NET)
FIRST ISSUE DATE	06-08-2020

DATE	REVISIONS
6/09/21	5
4/27/21	4
3/23/21	3
2/9/21	2
	1

PRELIMINARY PLANS
MEADOWSTONE TOWNHOMES
 900 BEN WILSON ROAD
 MEBANE, NORTH CAROLINA 27302

OVERALL SITE PLAN



VICINITY MAP
SCALE 1" = 2000'

JANE & BEN WILSON JR. FAMILY, LLC
PIN #: 9824540748
DB 5334, PG 171
ZONING ORM
LAND USE: FARM, VACANT
55.48 AC

6' HIGH WOODEN PRIVACY FENCE
(6' INSIDE THE PROPERTY LINE)

20' BLDG. SETBACK & PERIMETER BUFFER

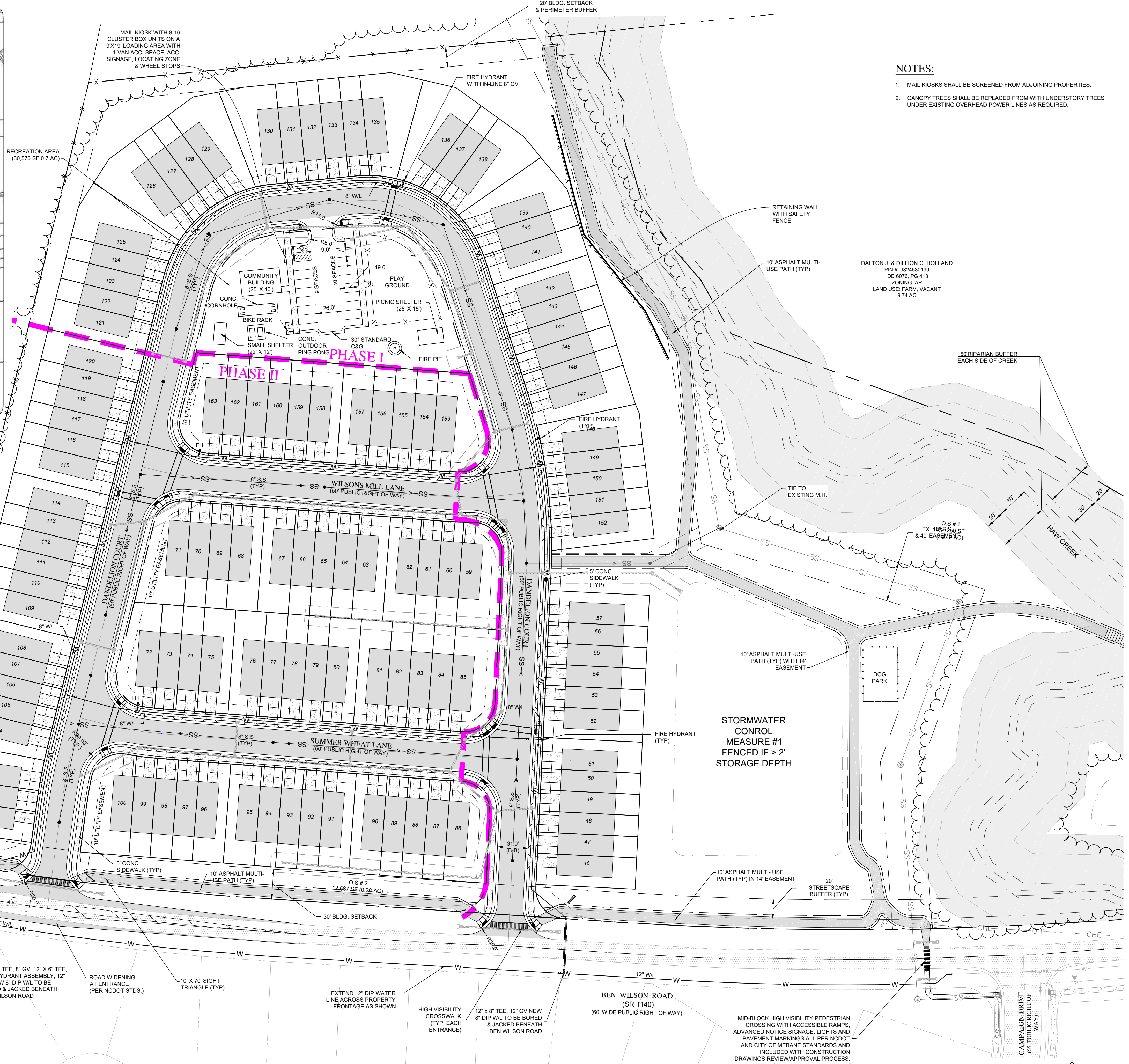
SITE IDENTIFICATION SIGN ON ONE SIDE AND DECORATIVE WALL ENTRANCE FEATURE ON THE OTHER-SPECIFICS TO BE DETERMINED WITH CONSTRUCTION DRAWINGS REVIEW PROCESS.

10' X 70' SIGHT TRIANGLE (TYP)

CONTRACTOR SHALL NOTIFY "NC811" (811) OR (1-800-632-4949) AT LEAST 3 FULL BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR SHALL CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF "NC811". REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.



Know what's below.
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NOTES:

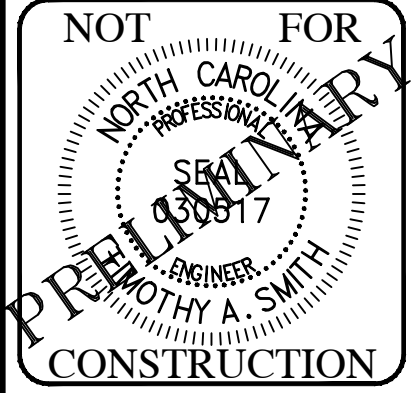
- MAIL KIOSKS SHALL BE SCREENED FROM ADJOINING PROPERTIES.
- CANOPY TREES SHALL BE REPLACED FROM WITH UNDERSTORY TREES UNDER EXISTING OVERHEAD POWER LINES AS REQUIRED.

DALTON J. & DILLION C. HOLLAND
PIN #: 9824530199
DB 8076, PG 413
ZONING: AR
LAND USE: FARM, VACANT
9.74 AC

NO.	DATE	REVISIONS
7		
6		
5	6/04/21	PER. TRC COMMENTS
4	4/27/21	PER. TRC COMMENTS
3	3/23/21	PER. TRC COMMENTS
2	2/9/21	PER. TRC COMMENTS
1		

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SYSTEM, WITHOUT THE WRITTEN PERMISSION
OF THE AUTHOR.

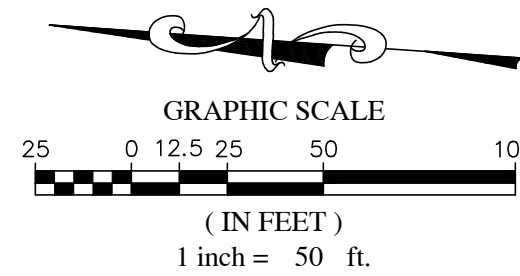
PROJECT ENGINEER/ARCHITECT
TAS (TASIM@SUMMITDE.NET)
PROJECT MANAGER
RPH (RANDY.HALL@SUMMITDE.NET)
DRAWN BY
DCH (DCH@SUMMITDE.NET)
FIRST ISSUE DATE
06-08-2020

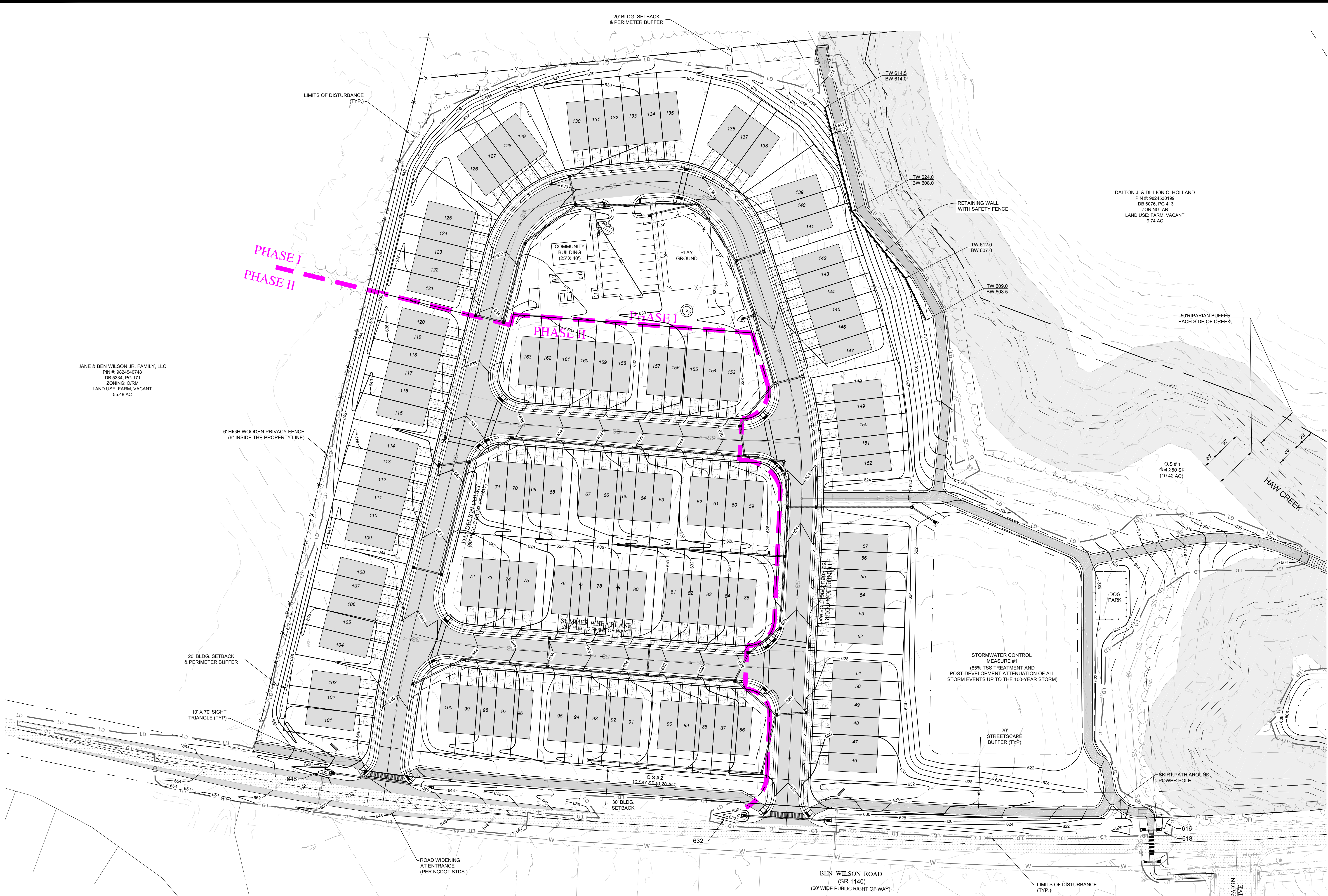


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PRELIMINARY PLANS
MEADOWSTONE TOWNHOMES
900 BEN WILSON ROAD
MEBANE, NORTH CAROLINA 27302
SITE & UTILITY PLAN PH I & II

PROJECT NO.
20-0089
DRAWING NAME:
20-0089_S.dwg
SHEET NO.
C-4





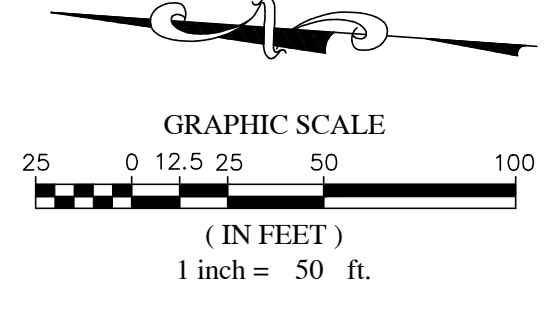
JANE & BEN WILSON JR. FAMILY, LLC
 PIN # 9624540748
 DB 5334, PG 111
 ZONING: OIRM
 LAND USE: FARM, VACANT
 55.48 AC

DALTON J. & DILLON C. HOLLAND
 PIN # 9624530199
 DB 6076, PG 413
 ZONING: AR
 LAND USE: FARM, VACANT
 9.74 AC

CONTRACTOR SHALL NOTIFY "NC811" (811) OR (1-800-632-4949) AT LEAST 3 FULL BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR SHALL CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF "NC811". REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

- NOTES:**
- PIPE SIZES FOR STORM DRAINAGE WILL BE INCLUDED WITH DETAILED DESIGN OF CONSTRUCTION DRAWINGS.
 - SCM'S SHALL HAVE ACCESS EASEMENTS AND ARE NOT SHOWN HEREON.
 - ALL IMPERVIOUS AREAS SHALL DRAIN TO STORM DRAINAGE COLLECTION SYSTEMS AND PIPES TO SCMS AS REQUIRED. BY-PASS SWALES WILL DIVERT CLEAN WATER AROUND THESE SYSTEMS.

DISTURBED AREAS:
 PHASE I&II = 685,900 SF (15.74 AC.)
 PHASE III = 265,058 SF (6.08 AC.)
 TOTAL = 950,958 SF (21.82 AC.)



NO.	DATE	REVISIONS
7		
6		
5	6/04/21	OS
4	4/27/21	OS
3	3/23/21	OS
2	2/9/21	OS
1		

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 ELECTRONIC OR MECHANICAL, INCLUDING
 PHOTOCOPYING, RECORDING, OR BY ANY
 INFORMATION STORAGE AND RETRIEVAL
 SYSTEM, WITHOUT THE WRITTEN PERMISSION
 OF THE ENGINEER. LANDSCAPE ARCHITECTS
 AND ARCHITECTS ARE NOT TO BE HELD
 RESPONSIBLE FOR THE DESIGN OR CONSTRUCTION
 OF THIS PROJECT.

PROJECT ENGINEER/ARCHITECT
 TJS (TJS@SUMMITDE.NET)
 PROJECT MANAGER
 RPH (RANDY.HALL@SUMMITDE.NET)
 DRAWN BY
 DON CHITTY (DON@SUMMITDE.NET)
 FIRST ISSUE DATE
 06-08-2020



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 320 Executive Court
 Hillsborough, NC 27278
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PRELIMINARY PLANS
MEADOWSTONE TOWNHOMES
 900 BEN WILSON ROAD
 MEBANE, NORTH CAROLINA 27302
GRADING & STORM DRAINAGE PLAN PH I & II

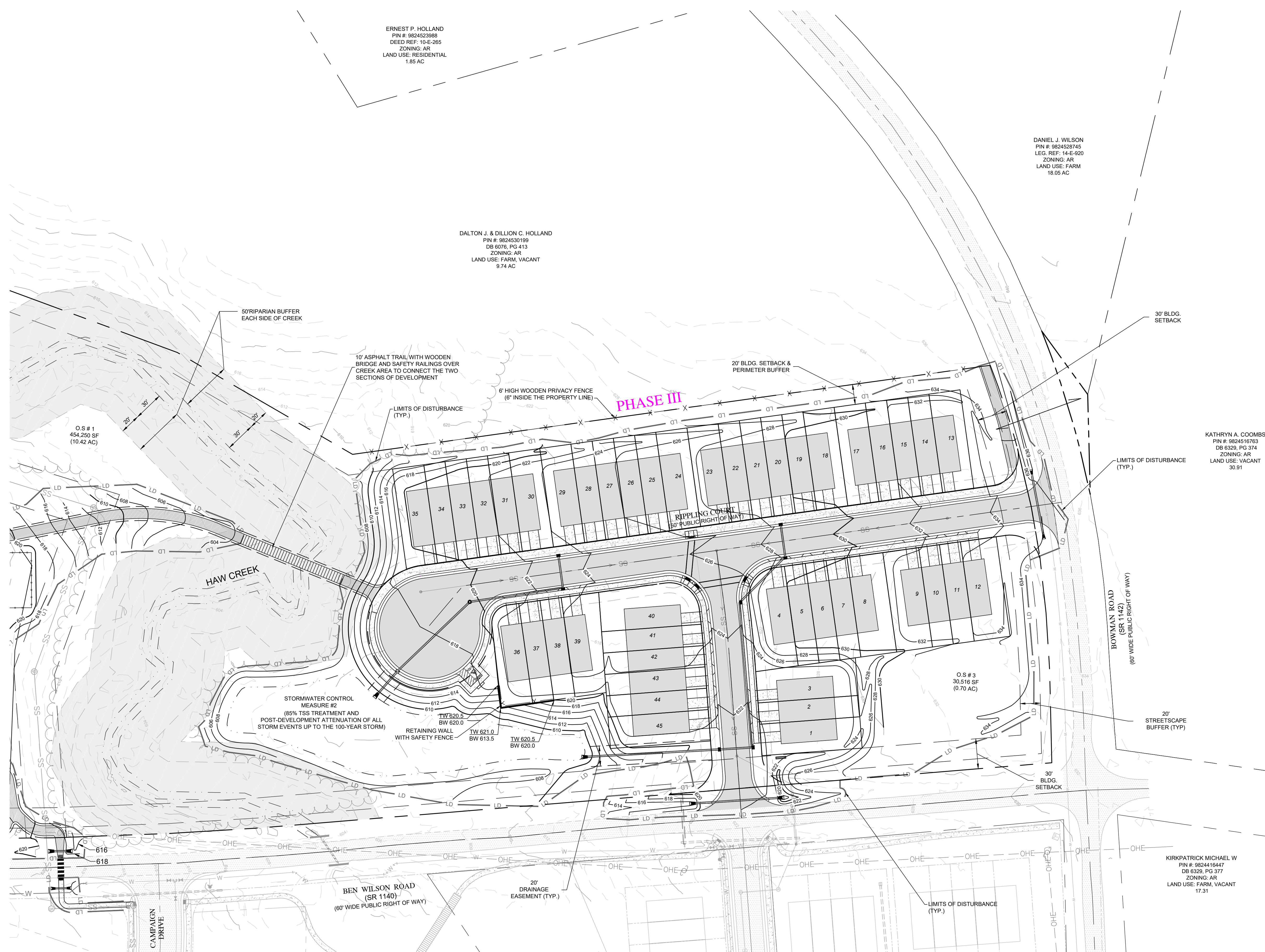
PROJECT NO.
20-0089
 DRAWING NAME:
 20-0089_G.dwg
 SHEET NO.
C-6





Know what's below.
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CONTRACTOR SHALL NOTIFY "811" (811) OR (1-800-632-4949) AT LEAST 3 FULL BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR SHALL CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF "811". REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.



ERNEST P. HOLLAND
PIN #: 9824523988
DEED REF: 10-E-265
ZONING: AR
LAND USE: RESIDENTIAL
1.85 AC

DALTON J. & DILLON C. HOLLAND
PIN #: 9824530199
DB 6076, PG 413
ZONING: AR
LAND USE: FARM, VACANT
9.74 AC

DANIEL J. WILSON
PIN #: 9824528745
LEG. REF: 14-E-920
ZONING: AR
LAND USE: FARM
18.05 AC

KATHRYN A. COOMBS
PIN #: 9824516783
DB 6329, PG 374
ZONING: AR
LAND USE: VACANT
30.91

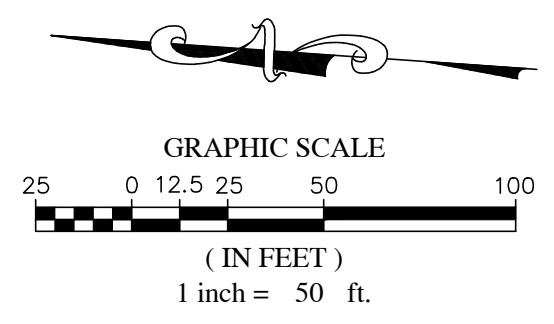
KIRKPATRICK MICHAEL W
PIN #: 9824416447
DB 6329, PG 377
ZONING: AR
LAND USE: FARM, VACANT
17.31

NOTES:

- PIPE SIZES FOR STORM DRAINAGE WILL BE INCLUDED WITH DETAILED DESIGN OF CONSTRUCTION DRAWINGS.
- SCM'S SHALL HAVE ACCESS EASEMENTS AND ARE NOT SHOWN HEREON.
- ALL IMPERVIOUS AREAS SHALL DRAIN TO STORM DRAINAGE COLLECTION SYSTEMS AND PIPES TO SCM'S AS REQUIRED. BY-PASS SWALES WILL DIVERT CLEAN WATER AROUND THESE SYSTEMS.

DISTURBED AREAS:

PHASE I&II = 685,900 SF (15.74 AC.)
PHASE III = 265,058 SF (6.08 AC.)
TOTAL = 950,958 SF (21.82 AC)



NO.	DATE	REVISIONS
7		
6		
5	6/04/21	OS
4	4/27/21	OS
3	3/23/21	OS
2	2/9/21	OS
1		

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PHOTOCOPYING, RECORDING, OR BY ANY
INFORMATION STORAGE AND RETRIEVAL
SYSTEM, WITHOUT THE WRITTEN PERMISSION
OF THE ENGINEER AND ARCHITECT.
DESIGNATION: THE ARCHITECTS.

PROJECT ENGINEER/ARCHITECT
TAS (TMSMTH@SUMMITDE.NET)
PROJECT MANAGER
RPH (RANDY.HALL@SUMMITDE.NET)
DRAWN BY
DON CHITTY (SUMMITDE.NET)
FIRST ISSUE DATE
06-08-2020



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PRELIMINARY PLANS
MEADOWSTONE TOWNHOMES
900 BEN WILSON ROAD
MEBANE, NORTH CAROLINA 27302

GRADING & STORM DRAINAGE PLAN PH III

PROJECT NO.
20-0089
DRAWING NAME:
20-0089_G.dwg
SHEET NO.
C-7

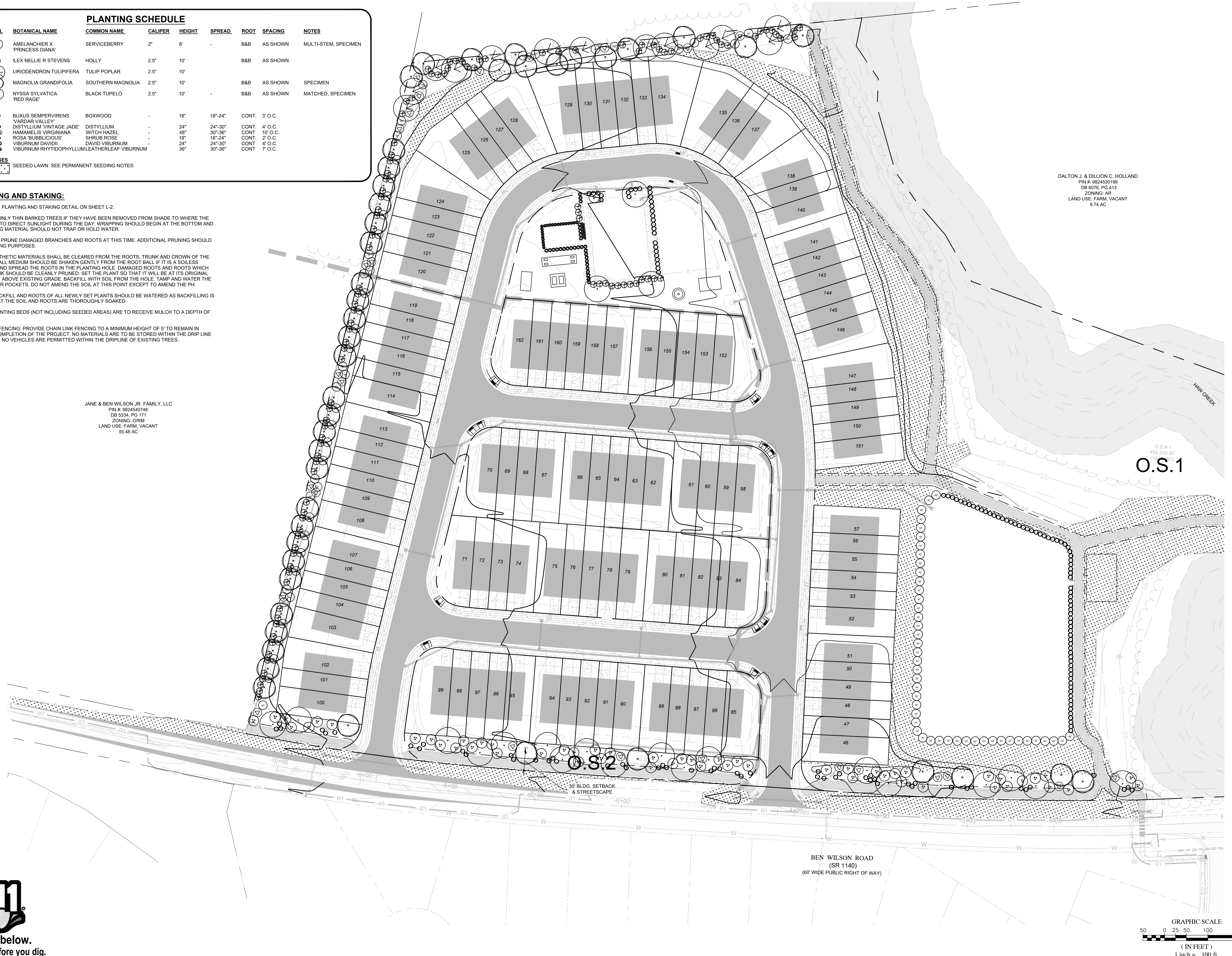
PLANTING SCHEDULE									
QTY.	SYMBOL	BOTANICAL NAME	COMMON NAME	CALIPER	HEIGHT	SPREAD	ROOT	SPACING	NOTES
TREES									
108	AG	AMELANCHIER X 'PRINCESS DIANA'	SERVICEBERRY	2"	8'	-	B&B	AS SHOWN	MULTI-STEM, SPECIMEN
131	IN	ILEX NELLIE R STEVENS	HOLLY	2.5"	10'	-	B&B	AS SHOWN	
24	LT	LIRIODENDRON TULIPIFERA	TULIP POPLAR	2.5"	10'	-	B&B	AS SHOWN	
74	MG	MAGNOLIA GRANDIFOLIA	SOUTHERN MAGNOLIA	2.5"	10'	-	B&B	AS SHOWN	SPECIMEN
41	NS	NYSSA SYLVATICA 'RED RAGE'	BLACK TUPELO	2.5"	10'	-	B&B	AS SHOWN	MATCHED, SPECIMEN
SHRUBS									
32	BVA	BUXUS SEMPERVIRENS 'ARDAR VALLEY'	BOXWOOD	-	18"	18"-24"	CONT.	3' O.C.	
30	DVJ	DISTYLLUM 'VINTAGE JADE'	DISTYLLUM	-	24"	24"-30"	CONT.	4' O.C.	
41	HVI	HAMMELIS VIRGINIANA	WITCH HAZEL	-	48"	30"-36"	CONT.	10' O.C.	
18	RBU	ROSA 'BUBBLICIOUS'	SHRUB ROSE	-	18"	18"-24"	CONT.	2' O.C.	
216	VDA	VIBURNUM DAVIDI	DAVID VIBURNUM	-	24"	24"-30"	CONT.	4' O.C.	
176	VRH	VIBURNUM RHYTIDOPHYLLUM	LEATHERLEAF VIBURNUM	-	36"	30"-36"	CONT.	7' O.C.	
PERENNIALS/ GRASSES									
158,302 SF	SEEDED LAWN. SEE PERMANENT SEEDING NOTES								

TREE PLANTING AND STAKING:

STAKING - SEE TREE PLANTING AND STAKING DETAIL ON SHEET L-2.
 WRAPPING - WRAP ONLY THIN BARKED TREES IF THEY HAVE BEEN REMOVED FROM SHADE TO WHERE THE TRUNK IS EXPOSED TO DIRECT SUNLIGHT DURING THE DAY. WRAPPING SHOULD BEGIN AT THE BOTTOM AND WORK UP. WRAPPING MATERIAL SHOULD NOT TRAP OR HOLD WATER.
 PRUNING - CLEANLY PRUNE DAMAGED BRANCHES AND ROOTS AT THIS TIME. ADDITIONAL PRUNING SHOULD BE ONLY FOR SHAPING PURPOSES.
 PLANTING - ALL SYNTHETIC MATERIALS SHALL BE CLEARED FROM THE ROOTS. TRUNK AND CROWN OF THE PLANT. THE ROOT BALL MEDIUM SHOULD BE SHAKEN GENTLY FROM THE ROOT BALL IF IT IS A SOILESS MIXTURE. LOOSEN AND SPREAD THE ROOTS IN THE PLANTING HOLE. DAMAGED ROOTS AND ROOTS WHICH ENIRCLE THE TRUNK SHOULD BE CLEANLY PRUNED. SET THE PLANT SO THAT IT WILL BE AT ITS ORIGINAL DEPTH OR SLIGHTLY ABOVE EXISTING GRADE. BACKFILL WITH SOIL FROM THE HOLE. TAMP AND WATER THE SOIL TO PREVENT AIR POCKETS. DO NOT AMEND THE SOIL AT THIS POINT EXCEPT TO AMEND THE PH.
 WATERING - THE BACKFILL AND ROOTS OF ALL NEWLY SET PLANTS SHOULD BE WATERED AS BACKFILLING IS BEING DONE SO THAT THE SOIL AND ROOTS ARE THOROUGHLY SOAKED.
 MULCHING - ALL PLANTING BEDS (NOT INCLUDING SEEDED AREAS) ARE TO RECEIVE MULCH TO A DEPTH OF 3".
 TREE PROTECTION FENCING: PROVIDE CHAIN LINK FENCING TO A MINIMUM HEIGHT OF 5' TO REMAIN IN PLACE UNTIL THE COMPLETION OF THE PROJECT. NO MATERIALS ARE TO BE STORED WITHIN THE DRIP LINE OF EXISTING TREES. NO VEHICLES ARE PERMITTED WITHIN THE DRIP LINE OF EXISTING TREES.

JANE & BEN WILSON JR. FAMILY, LLC
 PIN # 9824540748
 DB 5334, PG 171
 ZONING: OIRM
 LAND USE: FARM, VACANT
 55.48 AC

DALTON J. & DILLON C. HOLLAND
 PIN # 9824330199
 DB 6076, PG 413
 ZONING: AR
 LAND USE: FARM, VACANT
 9.74 AC



NO.	DATE	REVISIONS
7		
6		
5	6/09/21	PER. TRC COMMENTS
4	4/27/21	PER. TRC COMMENTS
3	3/23/21	PER. TRC COMMENTS
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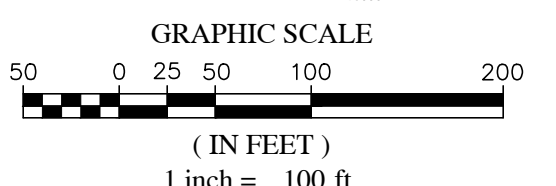
PROJECT ENGINEER/ARCHITECT
 TMS (TMSMTH@SUMMITDE.NET)
 PROJECT MANAGER
 RPH (RANDY.HALL@SUMMITDE.NET)
 DRAWN BY
 DONCHITTY@SUMMITDE.NET
 FIRST ISSUE DATE
 06-08-2020



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PRELIMINARY PLANS
MEADOWSTONE TOWNHOMES
 900 BEN WILSON ROAD
 MEBANE, NORTH CAROLINA 27302
 LANDSCAPE PLAN PHASE III

PROJECT NO.
20-0089
 DRAWING NAME:
 20-0089_LS.dwg
 SHEET NO.
L-1



TREE PLANTING AND STAKING:

STAKING - SEE TREE PLANTING AND STAKING DETAIL ON SHEET L-2.

WRAPPING - WRAP ONLY THIN BARKED TREES IF THEY HAVE BEEN REMOVED FROM SHADE TO WHERE THE TRUNK IS EXPOSED TO DIRECT SUNLIGHT DURING THE DAY. WRAPPING SHOULD BEGIN AT THE BOTTOM AND WORK UP. WRAPPING MATERIAL SHOULD NOT TRAP OR HOLD WATER.

PRUNING - CLEANLY PRUNE DAMAGED BRANCHES AND ROOTS AT THIS TIME. ADDITIONAL PRUNING SHOULD BE ONLY FOR SHAPING PURPOSES.

PLANTING - ALL SYNTHETIC MATERIALS SHALL BE CLEARED FROM THE ROOTS, TRUNK AND CROWN OF THE PLANT. THE ROOT BALL MEDIUM SHOULD BE SHAKEN GENTLY FROM THE ROOT BALL IF IT IS A SOILLESS MIXTURE. LOOSEN AND SPREAD THE ROOTS IN THE PLANTING HOLE. DAMAGED ROOTS AND ROOTS WHICH ENCIRCLE THE TRUNK SHOULD BE CLEANLY PRUNED. SET THE PLANT SO THAT IT WILL BE AT ITS ORIGINAL DEPTH OR SLIGHTLY ABOVE EXISTING GRADE. BACKFILL WITH SOIL FROM THE HOLE. TAMP AND WATER THE SOIL TO PREVENT AIR POCKETS. DO NOT AMEND THE SOIL AT THIS POINT EXCEPT TO AMEND THE PH.

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TREE PROTECTION FENCING - PROVIDE CHAIN LINK FENCING TO A MINIMUM HEIGHT OF 5' TO REMAIN IN PLACE UNTIL THE COMPLETION OF THE PROJECT. NO MATERIALS ARE TO BE STORED WITHIN THE DRIP LINE OF EXISTING TREES. NO VEHICLES ARE PERMITTED WITHIN THE DRIPLINE OF EXISTING TREES.

LANDSCAPING REQUIREMENTS:

TYPE B SEMI-OPAQUE BUFFER:

- SEMI-OPAQUE SCREEN FROM GROUND TO HEIGHT OF AT LEAST 6'
- DECIDUOUS OR EVERGREEN TREES TO REACH MINIMUM HEIGHT OF 40' AT MATURITY; INSTALLED AT 2.5' CALIPER AND 10' HEIGHT.
- AT LEAST 75% OF THE REQUIRED SHRUBS SHALL BE EVERGREENS ADAPTED TO THE AREA.
- MAXIMUM SPACING 20' BETWEEN TREES AND 5'-8" BETWEEN SHRUBS.
- ONE CANOPY TREE PER 20 LINEAR FEET OF BUFFER (35' = 100 REQUIRED)
- 2.814 LINEAR FEET OF BUFFER REQUIRED ALONG PROPERTY LINE. NOTE, 817 LINEAR FEET ARE WITHIN THE STREAM BUFFER AND HAVE EXISTING VEGETATION. THE EXISTING VEGETATION WILL BE MAINTAINED AND WILL ONLY BE SUPPLEMENTED IF NECESSARY. VEGETATION WILL BE PLANTED ALONG THE REMAINING 1,997 LINEAR FEET OF BUFFER.

PROVIDED -

- CANOPY TREES - 100
- SHRUBS - 190 (85% EVERGREEN)

STREETSCAPE LANDSCAPING:

- ONE CANOPY TREE FOR EVERY 40 LINEAR FEET OF STREETSCAPE. (400' = 53 REQUIRED)
- ONE UNDERSTORY FOR EVERY 20 LINEAR FEET OF STREETSCAPE. (400' = 106 REQUIRED)
- SHRUBS SHALL BE PLANTED TO MEET THE INTENT OF THE STREETSCAPE.
- 2,401 LINEAR FEET OF STREETSCAPE REQUIRED. NOTE, 281 FEET OF THE STREETSCAPE IS WITHIN THE STREAM BUFFER AND HAS EXISTING VEGETATION. THE PROJECT WILL MAINTAIN THE EXISTING VEGETATION AND ONLY SUPPLEMENT THAT AREA IF NECESSARY. VEGETATION WILL BE PLANTED ALONG THE REMAINING 2,120 LINEAR FEET OF STREETSCAPE.

PROVIDED -

- CANOPY TREES - 53
- UNDERSTORY TREES - 106
- SHRUBS - 139

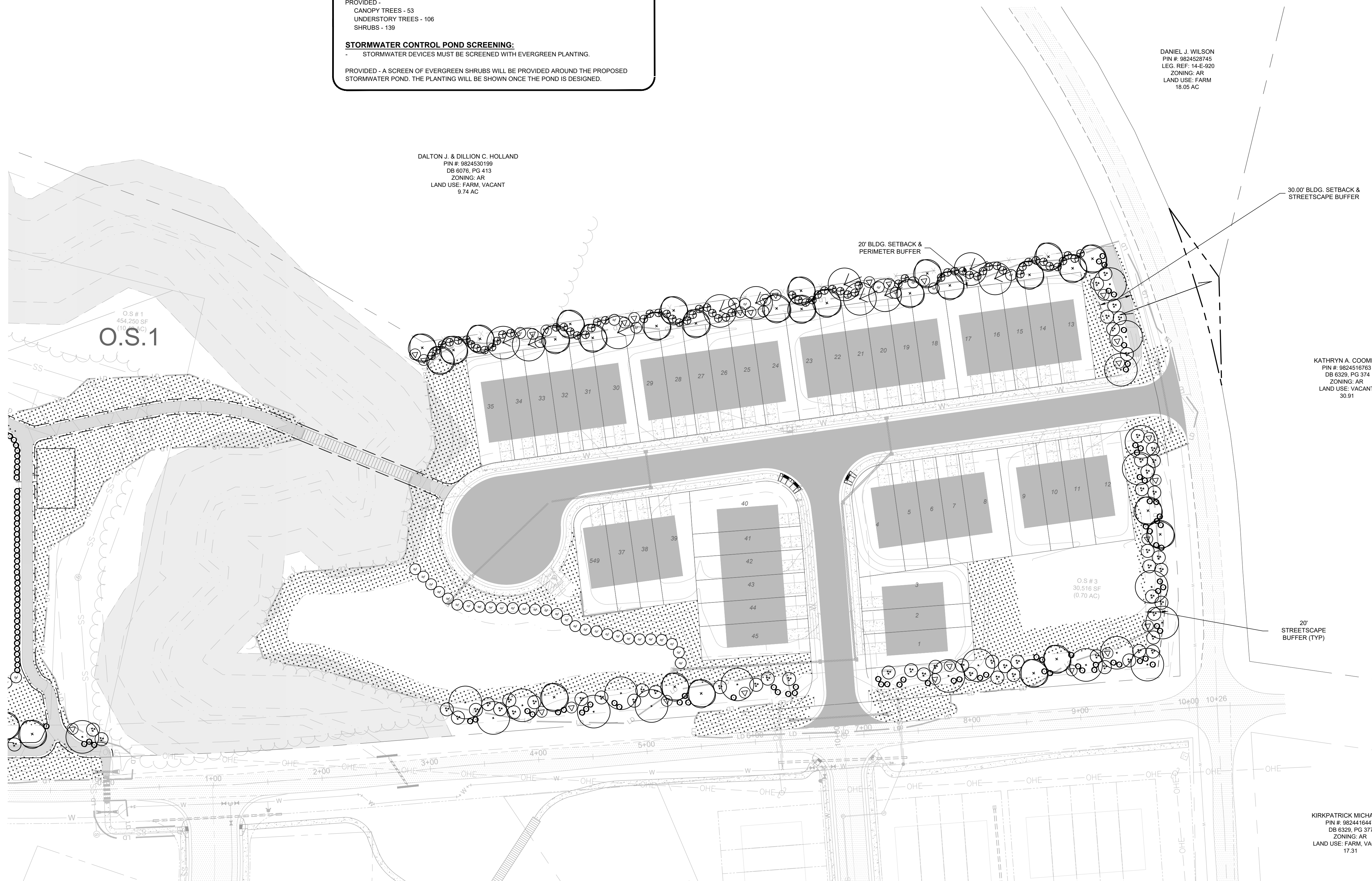
STORMWATER CONTROL POND SCREENING:

- STORMWATER DEVICES MUST BE SCREENED WITH EVERGREEN PLANTING.

PROVIDED - A SCREEN OF EVERGREEN SHRUBS WILL BE PROVIDED AROUND THE PROPOSED STORMWATER POND. THE PLANTING WILL BE SHOWN ONCE THE POND IS DESIGNED.

PLANTING SCHEDULE

QTY.	SYMBOL	BOTANICAL NAME	COMMON NAME	CALIPER	HEIGHT	SPREAD	ROOT	SPACING	NOTES
108	AG (●)	AMELANCHIER X 'PRINCESS DIANA'	SERVICEBERRY	2"	8'	-	B&B	AS SHOWN	MULTI-STEM, SPECIMEN
131	IN (○)	ILEX NELLIE R STEVENS	HOLLY	2.5"	10'	-	B&B	AS SHOWN	
24	LT (○)	LIRIODENDRON TULIPIFERA	TULIP POPLAR	2.5"	10'	-	B&B	AS SHOWN	
74	MG (●)	MAGNOLIA GRANDIFOLIA	SOUTHERN MAGNOLIA	2.5"	10'	-	B&B	AS SHOWN	SPECIMEN
41	NS (●)	NYSSA SYLVATICA 'RED RAGE'	BLACK TUPELO	2.5"	10'	-	B&B	AS SHOWN	MATCHED, SPECIMEN
SHRUBS									
22	BVA (●)	BUXUS SEMPERVIRENS 'VARDAR VALLEY'	BOXWOOD	-	18"	18"-24"	CONT.	3' O.C.	
30	DVJ (●)	DISTYLLUM 'VINTAGE JADE'	DISTYLLUM	-	24"	24"-30"	CONT.	4' O.C.	
41	HVI (●)	HAMAMELIS VIRGINIANA	WITCH HAZEL	-	48"	30"-36"	CONT.	10' O.C.	
18	RBU (●)	ROSA 'BUBBLICIOUS'	SHRUB ROSE	-	18"	18"-24"	CONT.	2' O.C.	
216	VDA (●)	VIBURNUM DAVIDII	DAVID VIBURNUM	-	24"	24"-30"	CONT.	4' O.C.	
176	VRH (●)	VIBURNUM RHYTIDOPHYLLUM/LEATHERLEAF VIBURNUM		-	36"	30"-36"	CONT.	7' O.C.	
PERENNIALS/ GRASSES									
158,302 SF	(*)	SEEDED LAWN: SEE PERMANENT SEEDING NOTES							



DALTON J. & DILLON C. HOLLAND
 PIN #: 9824530199
 DB 6076, PG 413
 ZONING: AR
 LAND USE: FARM, VACANT
 9.74 AC

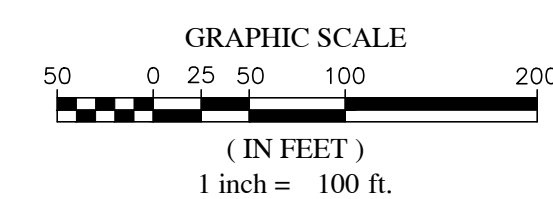
DANIEL J. WILSON
 PIN #: 9824528745
 LEG. REF: 14-E-820
 ZONING: AR
 LAND USE: FARM
 18.05 AC

KATHRYN A. COOMBS
 PIN #: 9824516763
 DB 6329, PG 374
 ZONING: AR
 LAND USE: VACANT
 30.91

KIRKPATRICK MICHAEL W
 PIN #: 9824416447
 DB 6329, PG 377
 ZONING: AR
 LAND USE: FARM, VACANT
 17.31



Know what's below.
 Call before you dig.



NO.	DATE	REVISIONS
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6		
5	6/09/21	
4	4/27/21	
3	3/23/21	
2	2/9/21	
1		

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 (DESCRIPTION OF THE ACTION TAKEN)

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 PROJECT MANAGER
 RPH (RANDY.HALL@SUMMITDE.NET)
 DRAWN BY
 DONCHITTY (SUMMITDE.NET)
 FIRST ISSUE DATE
 06-08-2020



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PRELIMINARY PLANS
MEADOWSTONE TOWNHOMES
 900 BEN WILSON ROAD
 MEBANE, NORTH CAROLINA 27302
LANDSCAPE PLAN PHASE I & II

PROJECT NO.
20-0089
 DRAWING NAME:
 20-0089_LS.dwg
 SHEET NO.
L-2

TREE PLANTING AND STAKING

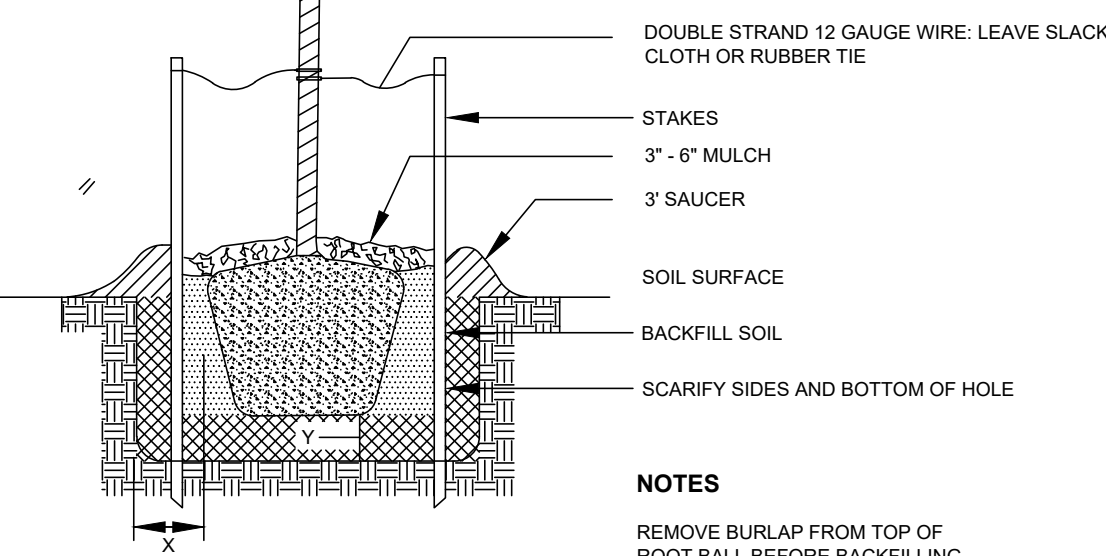
STAKING - TREES WILL BECOME STRONGER FASTER WHEN THE TOP 2/3 OF THE TREE IS FREE TO SWAY. TIE THE TRUNK LOOSELY WITH WIDE STRIPS OF RUBBER OR CLOTH ABOUT 1/2 UP THE TRUNK AND TIE TO THREE STAKES POSITIONED EVENLY AROUND THE TRUNK. STAKES SHOULD BE DRIVEN DEEPLY INTO THE GROUND TO PREVENT DISLODGING. CHECK AT LEAST EVERY THREE MONTHS FOR BINDING OR OTHER PROBLEMS. STAKES AND TIES SHOULD BE REMOVED SIX MONTHS TO ONE YEAR AFTER PLANTING.

WRAPPING - WRAP ONLY THIN BARKED TREES IF THEY HAVE BEEN REMOVED FROM SHADE TO WHERE THE TRUNK IS EXPOSED TO DIRECT SUNLIGHT DURING THE DAY. WRAPPING SHOULD BEGIN AT THE BOTTOM AND WORK UP. WRAPPING MATERIAL SHOULD NOT TRAP OR HOLD WATER.

PRUNING - CLEANLY PRUNE DAMAGED BRANCHES AND ROOTS AT THIS TIME. ADDITIONAL PRUNING SHOULD BE ONLY FOR SHAPING PURPOSES.

PLANTING - ALL SYNTHETIC MATERIALS SHALL BE CLEARED FROM THE ROOTS, TRUNK AND CROWN OF THE PLANT. THE ROOT BALL MEDIUM SHOULD BE SHAKEN GENTLY FROM THE ROOT BALL IF IT IS A SOILLESS MIXTURE. LOOSEN AND SPREAD THE ROOTS IN THE PLANTING HOLE. DAMAGED ROOTS AND ROOTS WHICH ENIRCLE THE TRUNK SHOULD BE CLEARLY PRUNED. SET THE PLANT SO THAT IT WILL BE AT ITS ORIGINAL DEPTH OR SLIGHTLY ABOVE EXISTING GRADE. BACKFILL WITH SOIL FROM THE HOLE. TAMP AND WATER THE SOIL TO PREVENT AIR POCKETS. DO NOT AMEND THE SOIL AT THIS POINT EXCEPT TO AMEND THE PH.

WATERING - THE BACKFILL AND ROOTS OF ALL NEWLY SET PLANTS SHOULD BE WATERED AS BACKFILLING IS BEING DONE SO THAT THE SOIL AND ROOTS ARE THOROUGHLY SOAKED.



SCHEDULE FOR PLANT HOLE SIZE

BARE ROOT, CONTAINER OR BALL SIZE	X	Y
5" TO 30"	8"	4"
30" OR GREATER	12"	6"

NOTES

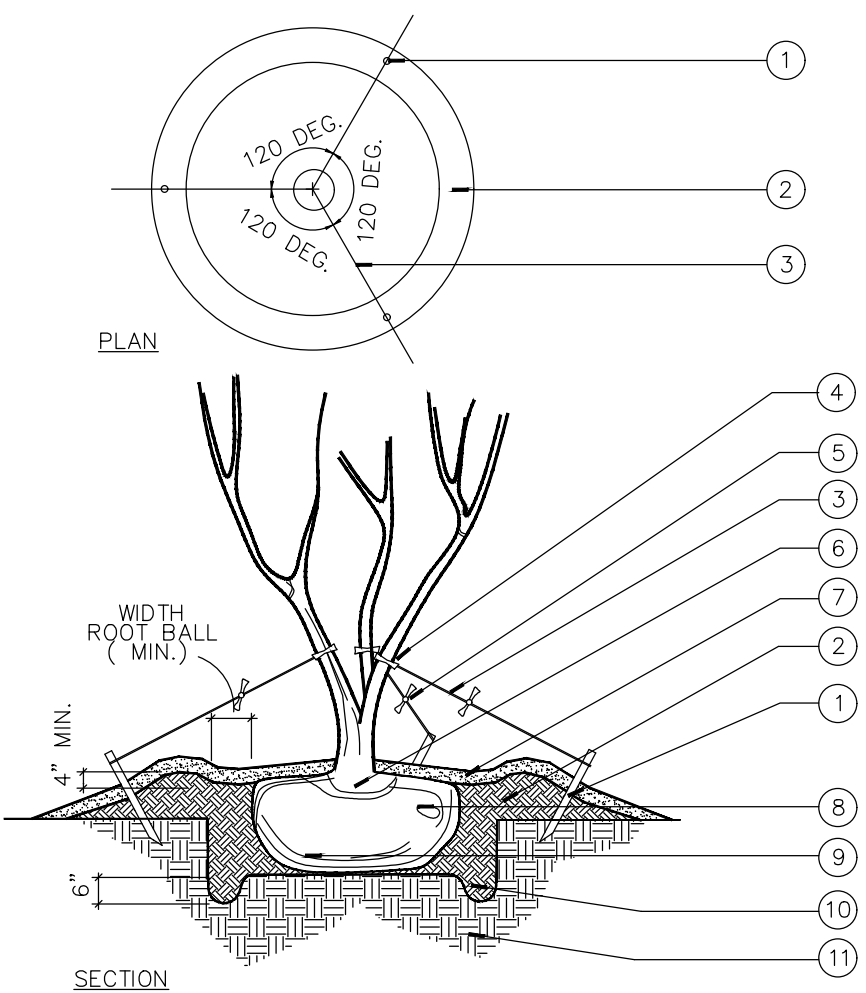
REMOVE BURLAP FROM TOP OF ROOT BALL BEFORE BACKFILLING AROUND BALL IS COMPLETED.

ALL TREES WHICH ARE SMOOTH BARKED AT THE TIME OF PLANTING AND HAVE MORE THAN 2" OF CLEAR TRUNK SHALL BE WRAPPED.

ALL TREE WRAPPING SHALL EXTEND FROM THE TOP OF THE BACKFILL TO THE LOWERMOST TREE BRANCHES.

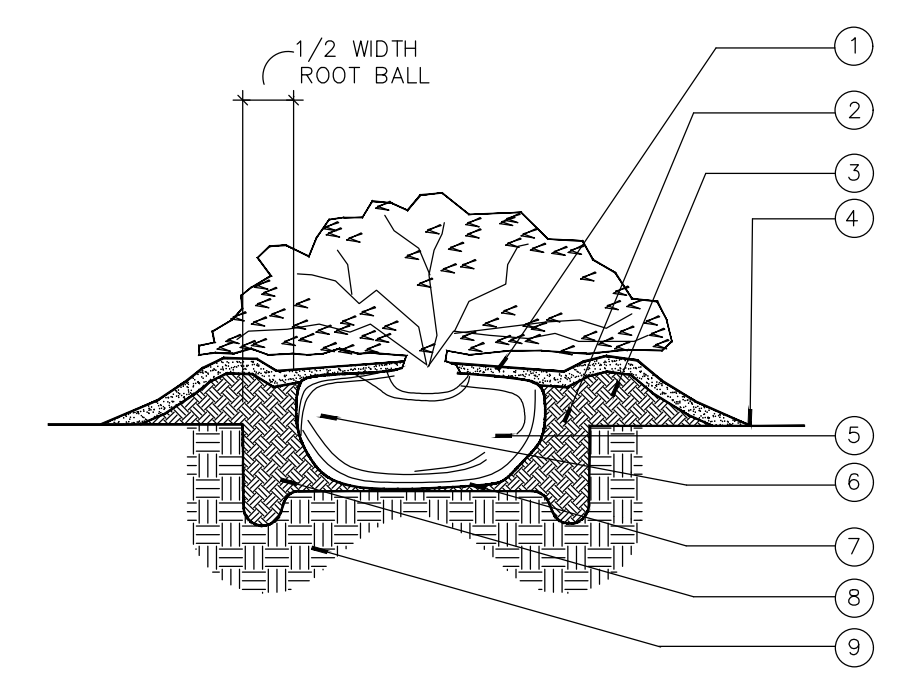
TREE PLANTING AND STAKING DETAIL

1 TREE PLANTING & STAKING DETAIL
SCALE: N.T.S.



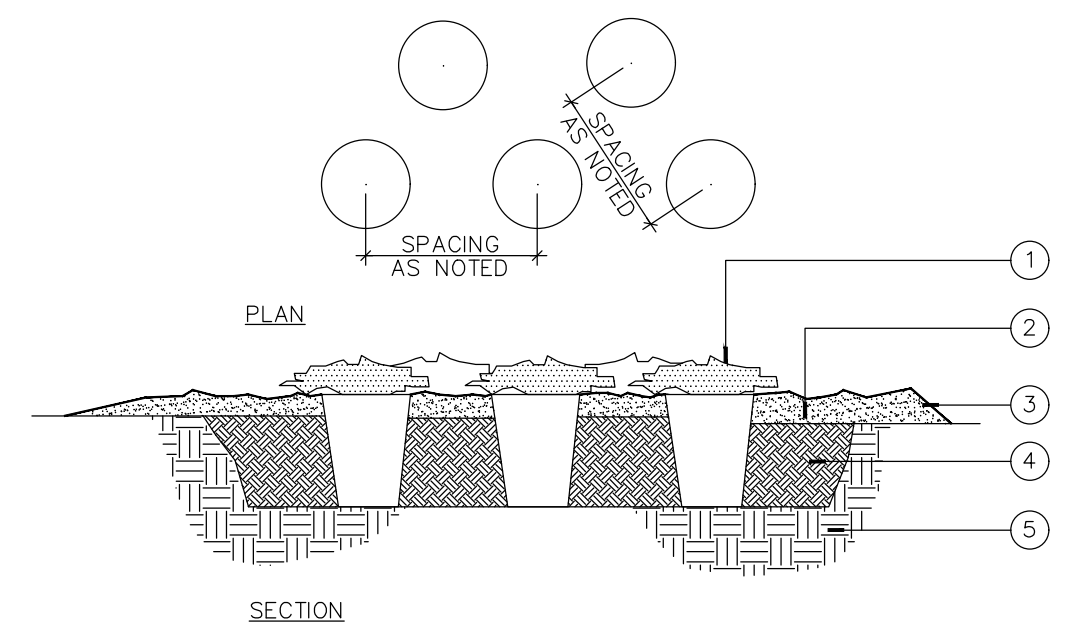
- TREE STAKE - 3 PER TREE, MATERIAL AS PER SPECIFICATIONS
- EARTH SAUCER
- GALVANIZED GUY WIRE, ADD TURNBUCKLES IF NECESSARY TO STABILIZE TREE
- RUBBER CHAFING GUARD
- WARNING FLAGS
- REMOVE THE BURLAP, BURLAP TIES AND WIRE BASKET FROM TOP 1/3 OF ROOTBALL. REMOVE ALL NYLON STRINGS, PLASTIC LINERS AND SYNTHETIC BURLAP--TYPE OF MATERIALS FROM THE ENTIRE ROOTBALL.
- 3" MULCH AS PER SPECIFICATIONS
- ROOT BALL
- EXCAVATE PLANTING PIT TWO TO THREE TIMES AS WIDE AS THE ROOTBALL. INSTALL ROOTBALL 1/4 - 1/3 ABOVE EXISTING / PROPOSED GRADE. LOCATE ROOTBALL ON SOLID SOIL, AND NOT LOOSE BACKFILL.
- BACKFILL W/SOIL AS PER SPECIFICATIONS
- UNDISTURBED EARTH

2 MULTI-TRUNK TREE PLANTING DETAIL
SCALE: N.T.S.



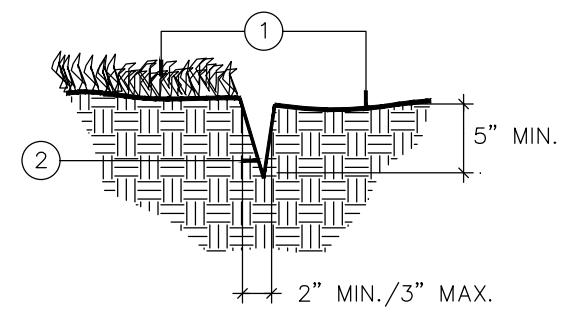
- 2" MULCH LAYER
- BACKFILL W/SOIL AS PER SPECIFICATIONS. MAKE PLANTING MIX CONTINUOUS IN CLUSTER BED PLANTINGS.
- 3" HIGH EARTH SAUCER
- "SHOVEL EDGE" TYP. WHERE BED MEETS LAWN. (REF. DET. 5 THIS SHEET)
- ROOT BALL
- REMOVE THE BURLAP, BURLAP TIES AND WIRE BASKET FROM TOP 1/3 OF ROOTBALL. REMOVE ALL NYLON STRINGS, PLASTIC LINERS AND SYNTHETIC BURLAP--TYPE OF MATERIALS FROM THE ENTIRE ROOTBALL.
- SCARIFY ROOTBALL AND BOTTOM / SIDES OF PLANT PIT
- EXCAVATE PLANTING PIT TWO TO THREE TIMES AS WIDE AS THE ROOTBALL. INSTALL ROOTBALL 1/4 - 1/3 ABOVE EXISTING / PROPOSED GRADE. LOCATE ROOTBALL ON SOLID SOIL AND NOT LOOSE BACKFILL.
- UNDISTURBED EARTH

3 SHRUB PLANTING DETAIL
SCALE: N.T.S.



- GROUNDCOVER
- 2" MULCH LAYER
- "SHOVEL EDGE" TYP. WHERE BEDS MEET LAWN
- BACKFILL W/SOIL AS PER SPECIFICATIONS
- UNDISTURBED EARTH

4 GROUNDCOVER PLANTING DETAIL
SCALE: N.T.S.



- DIFFERENT PLANTING TREATMENTS.
 - SHOVEL EDGE
- GENERAL NOTES**
- A. PROVIDE SMOOTH CONTINUOUS EDGE AS SHOWN. DIG EDGE WITH COMMON SPADE OR STRAIGHT BLADE SHOVEL.

5 SHOVEL EDGE DETAIL
SCALE: N.T.S.

- LANDSCAPE NOTES:**
- ALL EXISTING VEGETATION ON THIS SITE, WITH THE EXCEPTION OF THE SPECIES NOTED, SHALL BE REMOVED PRIOR TO ANY INSTALLATION OF NEW PLANTING MATERIAL.
 - CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES INCURRED BY HIS WORK.
 - ANY AREAS NOT SCHEDULED FOR HARDSCAPE, PLANTINGS, OR SHREDED HARDWOOD MULCH SHALL BE SEEDED LAWN.
 - CONTRACTOR SHALL AMEND ALL PROPOSED PLANT BEDS WITH SOIL CONDITIONER. SOIL CONDITIONER SHALL BE APPLICABLE TO THE GEOGRAPHIC AREA OF INSTALLATION PER THE MANUFACTURER'S SPECIFICATIONS.
 - CONTRACTOR SHALL LIMIT DISTURBANCE WITHIN THE DRIPLINE OF EXISTING TREES TO REMAIN. NO STORAGE OF ANY MATERIALS IS PERMITTED WITHIN THE DRIPLINE OF EXISTING TREES TO REMAIN.
 - CONTRACTOR TO PROVIDE ANNUALS WHICH ARE APPROPRIATE FOR THE PLANTING SEASON AT THE TIME OF INSTALLATION.
 - OWNER RESERVES THE RIGHT TO REJECT ANY DAMAGED OR DYING PLANT MATERIALS. CONTRACTOR SHALL REPLACE SAID PLANTING MATERIALS WITH NO ADDITIONAL COST TO THE OWNER.
 - THE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE.
 - NO PLANT SUBSTITUTIONS ARE PERMITTED WITHOUT WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT.
 - ALL PROPOSED PLANT MATERIALS SHALL COMPLY WITH THE SIZING AND GRADING STANDARDS AS SET FORTH IN THE CURRENT EDITION OF ANSI Z60.180--"AMERICAN STANDARD FOR NURSERY STOCK".

NO.	REVISIONS	DATE	BY
7			
6			
5		6/04/21	OS
4	PER TRC COMMENTS	4/27/21	OS
3	PER TRC COMMENTS	3/23/21	OS
2	PER TRC COMMENTS	2/9/21	OS
1	PER TRC COMMENTS		

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FIRST ISSUE DATE
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PRELIMINARY PLANS

MEADOWSTONE TOWNHOMES

900 BEN WILSON ROAD
MEBANE, NORTH CAROLINA 27302

LANDSCAPE DETAILS

PROJECT NO.
20-0089

DRAWING NAME:
20-0089_LS.dwg

SHEET NO.
L-3



N:\2020\0089 010 Ben Wilson Rd LLC - Meadowstone Townhomes - Submittal\CD\Drawings\02\0089_LS.dwg, L:\LANDSCAPE DETAILS, 06/03/21 11:57 AM, graham.avery, 11

PLANNING PROJECT REPORT

DATE	06/07/2021
PROJECT NUMBER	RZ 21-05
PROJECT NAME	Meadowstone Townhomes
APPLICANT	Ben Wilson Road, LLC 320 Executive Court Hillsborough, NC 27278

CONTENTS

PROJECT NAME & APPLICANT	PAGE 1
ZONING REPORT	PAGE 2
LAND USE REPORT	PAGE 4
UTILITIES REPORT	PAGE 6
STAFF ZONING REQUEST RECOMMENDATION	PAGE 9

ZONING REPORT

EXISTING ZONE	AR (Agricultural Residential) – Orange County	
REQUESTED ACTION	R-8(CD) (Residential Conditional Zoning Districts)	
CONDITIONAL ZONE?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
CURRENT LAND USE	Single-Family Residential, Vacant Farm	
PARCEL SIZE	+/- 25.58 acres	
PROPERTY OWNERS	J A Wilson Jr. Alan R. Wilson 101 Sam Snead Drive Mebane, NC 27302 PIN 9824435349 & 9824435147	Nadine Wilson Heirs 4222 Old Hillsborough Road Mebane, NC 27302 PIN 9824434841

LEGAL DESCRIPTION	The applicant requests to establish R-8(CD) zoning on three (3) properties totaling +/- 25.58 acres at 900, 1002 & 1010 Ben Wilson Road Located Outside of the Extra-Territorial Jurisdiction (ETJ) in Orange County to allow for a residential development of 162 townhomes. The property will require annexation into the City limits prior to action regarding the properties' zoning.
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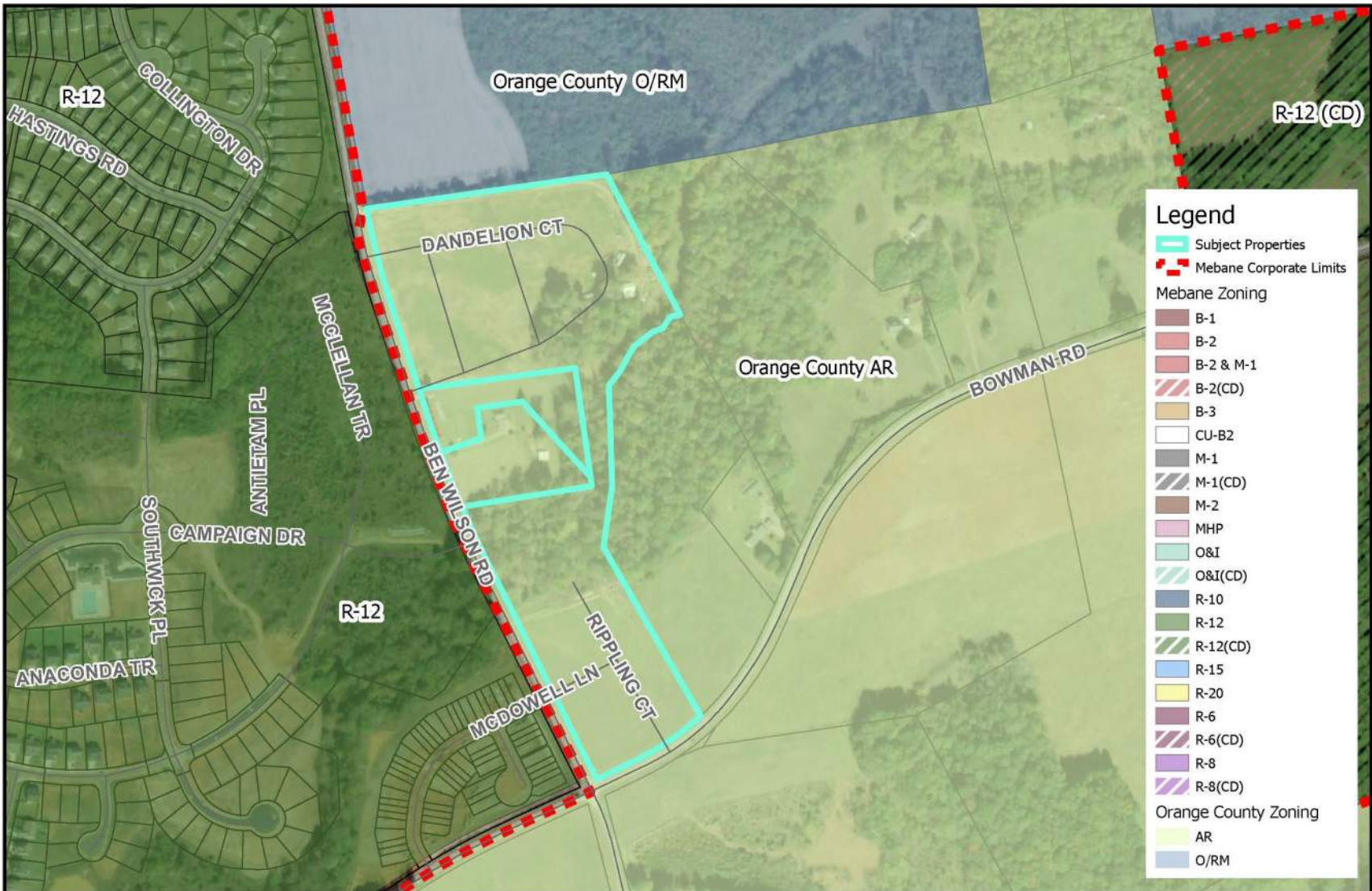
AREA ZONING & DISTRICTS	The properties to the west and northwest of the site are located in Mebane's jurisdiction and zoned R-12 for both townhomes and detached-single family residential use. The adjacent property to the north is zoned O/RM (Office/Research and Manufacturing) in Orange County. The properties surrounding the site to the east and south are zoned AR (Agricultural Residential) in Orange County.
-------------------------	--

SITE HISTORY	The largest of the properties has a present use tax value reflecting its status as a <i>bona fide</i> farm. The other two properties have been rural residential properties.
--------------	--

STAFF ANALYSIS

CITY LIMITS?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
PROPOSED USE BY-RIGHT?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
SPECIAL USE?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
EXISTING UTILITIES?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

POTENTIAL IMPACT OF PROPOSED ZONE	The proposed zoning district will support townhome residential uses consistent and in connection with the R-12 Planned Unit Development to the west of the site. The higher-density nature of townhomes is different in character to the surrounding agricultural residential uses to the south and east, though consistent with the single-family residential use in the area. The by-right development of the O/RM-zoned property to the north will require additional perimeter buffering of this residential use from an office or light manufacturing use.
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**CITY OF MEBANE
ZONING MAP**

**SUBJECT PROPERTIES
MEADOWSTONE TOWNHOMES**

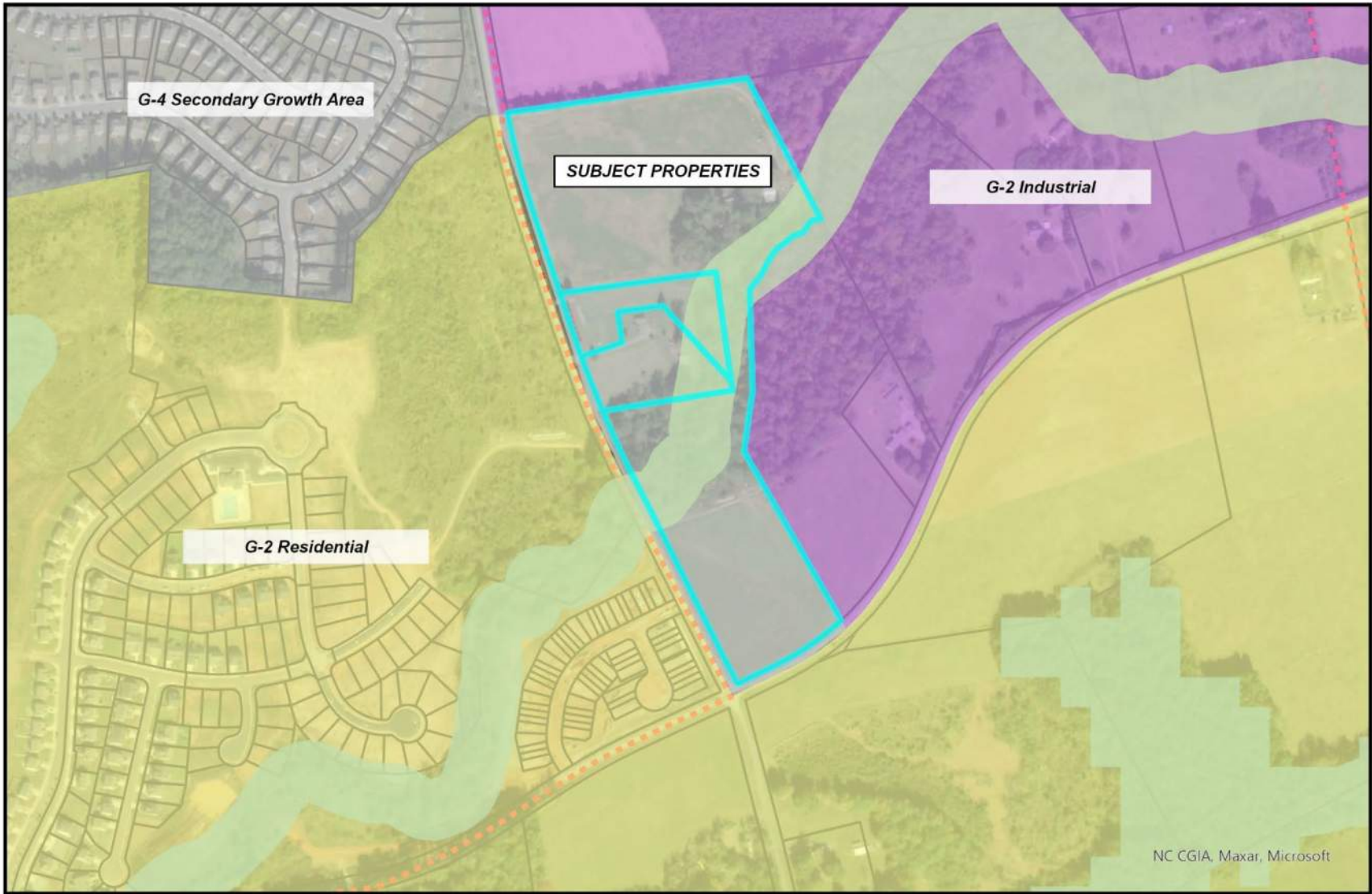
1 inch = 450 feet

DATE: 6/03/2021

DRAWN BY: AV

LAND USE REPORT

EXISTING LAND USE	Single-Family Residential, Vacant, Agricultural
PROPOSED LAND USE & REQUESTED ACTION	The applicant proposes to establish R-8 CD zoning (Residential Conditional Zoning District) on three (3) properties totaling +/- 25.58 acres at 900, 1002 & 1010 Ben Wilson Road Located Outside of the Extra-Territorial Jurisdiction (ETJ) in Orange County to allow for a residential development of 162 townhomes.
PROPOSED ZONING	R-8(CD) (Residential, Conditional Zoning District)
PARCEL SIZE	+/- 25.58 acres
AREA LAND USE	Surrounding properties primarily include residential and agricultural uses and vacant land. The properties to the west of the site include two single family residential subdivisions: The Meadows and Collington Farms. The properties to the north, east, and south include farmland and low density single family residential uses.
ONSITE AMENITIES & DEDICATIONS	The applicant proposes to provide +/- 3,446 linear feet of a variable 8'-10'-wide asphalt multiuse path through the development and along the frontage of the northern portion of the site on Ben Wilson Road. The applicant is also proposing to provide an amenity center, dog park, playground, and greenspace to exclusively serve development residents to be maintained by the HOA. In total, the site plan features 1.7 acres of active recreation space and 10.44 acres of passive HOA owned open space.
WAIVER REQUESTED	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
DESCRIPTION OF REQUESTED WAIVER(S)	<ul style="list-style-type: none"> - 20' front setback rather than the required 30' - 15' rear setback rather than the required 20' - 8' side yard rather than the required 15' - Lot area and width as shown - Allowance for parking deficit. The UDO requires 2.5 spaces per three-bedroom townhome, but the driveways only accommodate two spaces.
CONSISTENCY WITH <i>MEBANE BY DESIGN</i> STRATEGY	
LAND USE GROWTH STRATEGY DESIGNATION(S)	G-4 Secondary Growth Area Conservation Area
<i>MEBANE BY DESIGN</i> GOALS & OBJECTIVES SUPPORTED	<p>OPEN SPACE AND NATURAL RESOURCE PROTECTION 4.2 Provide greenways, parks and open space connectivity between different land uses and across major transportation corridors, thereby advancing safety and health.</p> <p>OPEN SPACE AND NATURAL RESOURCE PROTECTION 4.3 Support park, greenway, and open space expansion in developed and developing areas, prioritizing connectivity between each location.</p>
<i>MEBANE BY DESIGN</i> GOALS & OBJECTIVES <u>NOT</u> SUPPORTED	



1 inch = 450 feet

UTILITIES REPORT

AVAILABLE UTILITIES	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
PROPOSED UTILITY NEEDS	<p>Per the memorandum from Franz Holt of AWCK, the project has an estimated domestic water and sewer demand at approximately 24,300 gallons per day to support the development's 162 3-bedroom, townhomes. Water service is available to Phase 3 from 12-inch water mains recently installed along Ben Wilson and Bowman Road associated with the Meadows and Bowman Village developments. A 12-inch water line extension from the intersection of Campaign Drive at Ben Wilson Road will be required along Ben Wilson Road heading north to serve Phases 1 & 2. The water system layout includes 8-inch and 6-inch water lines. Sewer service is available on-site with connection to the City's existing 18-inch sanitary sewer outfall. Phases 1 and 2 propose to connect to this sewer line. Phase 3 is proposed to connect to previous sewer installation associated with the Meadows Phase 2B. The sewer system layout includes 8-inch line extensions. All water and sewer lines will be turned over to the City of Mebane for ownership and maintenance when completed in accordance with requirements.</p>
UTILITIES PROVIDED BY APPLICANT	<p>Applicant has pledged to provide all on-site utilities.</p>
MUNICIPAL CAPACITY TO ABSORB PROJECT	<p>The City has adequate water & sewer supply to meet the domestic and fire flow demands of the project. The City has available sewer capacity at the WRRF in excess of 0.72 million gallons per day (MGD) and approximately 0.73 MGD at the Graham WWTP for a total of 1.45 MGD. This proposed project and other previously approved/permitted projects will reduce available capacity as they develop over time. The City's Capital Improvement Plan addresses the need for additional sewer capacity at the WRRF.</p>
CONSISTENCY WITH MEBANE LONG RANGE UTILITY PLAN?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
ADEQUATE STORMWATER CONTROL?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
INNOVATIVE STORMWATER MANAGEMENT?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

TRANSPORTATION NETWORK STATUS

The proposed development includes four driveway connections. The northern portion of the site has two connections on Ben Wilson Rd., one of which features a left turn lane with 100' of storage. The southern portion of the site has a connection on Bowman Rd and a connection on Ben Wilson Road at McDowell Ln, which connects to the townhomes at the Meadows subdivision.

CURRENT CONDITIONS

The intersection of Ben Wilson Road and Bowman road has a Level of Service (LOS) A. It is projected to have an LOS B in 2023 with build and no build conditions.

Bowman Road has Safety Score of 77.8 from NCDOT. No safety data is available for Ben Wilson Road. The intersection of Ben Wilson Rd and Bowman Road has had 5 crashes 2015 – 2019 (non-fatal).

TRAFFIC IMPACT ANALYSIS REQUIRED?

YES NO

DESCRIPTION OR RECOMMENDED IMPROVEMENTS

A southbound left-turn lane with 100' of storage from Ben Wilson Road to the site.

CONSISTENCY WITH THE MEBANE BICYCLE AND PEDESTRIAN TRANSPORTATION PLAN?

YES NO

MULTIMODAL IMPROVEMENTS PROVIDED BY APPLICANT?

YES NO

DESCRIPTION OF MULTIMODAL IMPROVEMENTS

The applicant proposes to provide +/- 3,446 linear feet of a 10'-wide asphalt multiuse path through the development and along the frontage of the northern portion of the site on Ben Wilson Road. It will interconnect to the multiuse path network in The Meadows. It aligns with the municipal sanitary sewer easement along the creek, allowing for further extension of the off-road bicycle and pedestrian network to adjoining properties in the future.

STAFF RECOMMENDATION

**STAFF ZONING
RECOMMENDATION**

APPROVE DISAPPROVE

RATIONALE

The proposed development “Meadowstone Townhomes” is consistent with the guidance provided within *Mebane By Design*, the Mebane Comprehensive Land Development Plan. Specifically, it serves Goals 4.2 and 4.3. The proposed project is in harmony with the single-family and multifamily residential uses of some of its nearby properties.



June 9, 2021

Tim Smith, PE with Summit Design and Engineering Services
320 Executive Court
Hillsborough, NC 27268

Subject: Meadowstone – Water and Sewer System

Regarding the subject Preliminary Subdivision Plans and in accordance with paragraph 7-4.3 A.3.a. in the UDO, this memo is provided to indicate that I have reviewed the preliminary water and sewer system layout and find it acceptable and meets City standards based on the following:

Water system – Water service is available to Phase 3 from 12-inch water mains recently installed along Ben Wilson and Bowman Road associated with the Meadows and Bowman Village developments. A 12-inch water line extension from the intersection of Campaign Drive at Ben Wilson Road will be required along Ben Wilson Road heading north to serve Phases 1 & 2. The water system layout includes 8-inch and 6-inch water lines with appropriate valves and fire hydrants along Ben Wilson Road and the proposed internal street network. All water lines will be turned over to the City of Mebane for ownership and maintenance when completed in accordance with requirements. The City has adequate water capacity available to meet the domestic demand and fire flow requirements.

Sanitary Sewer system – Sewer service is available on-site with connection to the City’s existing 18-inch sanitary sewer outfall. Phases 1 and 2 propose to connect to this sewer line. Phase 3 is proposed to connect to previous sewer installation associated with the Meadows Phase 2B. The sewer system layout includes 8-inch line extensions located general within the internal street network with appropriate manhole spacing. All sewer lines will be turned over to the City of Mebane for ownership and maintenance when completed in accordance with requirements.

The permitted sewer use based on 162 3-bedroom townhomes at 80 gallons per day per bedroom is 38,880 gallons per day. Based on a historical water usage of less than 150 gpd per home, the anticipated sewer flow when tributary is approximately 24,300 gallons per day.

The City has available sewer capacity at the WRRF in excess of 0.72 million gallons per day (MGD) and approximately 0.73 MGD at the Graham WWTP for a total of 1.45 MGD. This proposed project and other previously approved/permitted projects will reduce available capacity as they develop over time. The City’s Capital Improvement Plan addresses the need for additional sewer capacity at the WRRF with the following future projects:

- WRRF Expansion – 0.5 MGD.
- GKN and Arbor Creek PS rerouting wastewater to the Graham WWTP – 0.275 MGD current.
- I/I reduction projects (manhole and line rehabilitation) to regain lost capacity.

In addition, staff proposes to address paper flow (flow permitted at a higher amount than when tributary - in the system) by limiting the permitting of wastewater one phase at a time as opposed to multiple phases. This will improve the City’s ability to permit wastewater for approved and planned projects moving forward.

If there are any questions, please let me know.
Sincerely,

Franz K. Holt, P.E. City Engineer
CC: Cy Stober, Development Director and Kyle Smith, Utilities Director



Technical Memorandum

Date: June 9, 2021

To: Cy Stober, Planning Director

From: Franz Holt, P.E.

Subject: Meadowstone – City Engineering review

The preliminary plans for Meadowstone dated June 4th, 2021 and prepared by Tim Smith with Summit Design and Engineering Services in Hillsborough, NC, have been reviewed by the Engineering Department as a part of the TRC plan review process. Our technical review comments are as follows:

A. General

Meadowstone is a 162-unit phased residential townhome development proposed on 25.6-acres and fronting Ben Wilson Road and Bowman Road.

Stormwater management control measures will be required for this project as planned built upon area exceeds 24% (Phase 2 rules for post construction runoff).

Water and Sewer service will be available from extensions of existing City of Mebane water and sewer lines.

Internal streets will be City of Mebane standard 31' b-b roll curb and gutter with sidewalks proposed on both sides of the street.

Amenities include a community building, picnic shelter, playground, fire pit, corn hole, small shelter, outdoor ping pong, a dog park, and multi-use path.

NCDOT driveway permits are required for the proposed roadway connections to Ben Wilson Road (3) and Bowman Road (1). Three-Party NCDOT encroachment agreements are required for work inside NCDOT right-of-way.

B. Water and Sewer System Layout

Regarding the subject Preliminary Subdivision Plans and in accordance with paragraph 7-4.3 A.3.a. in the UDO, this memo is provided to indicate that I have reviewed the preliminary water and sewer system layout and find it acceptable and meets City standards based on the following:

1. Water system – Water service is available to Phase 3 from 12-inch water mains recently installed along Ben Wilson and Bowman Road associated with the Meadows and Bowman Village developments. A 12-inch water line extension from the intersection of Campaign Drive at Ben Wilson Road will be required along Ben Wilson Road heading north to serve Phases 1 & 2. The water system layout includes 8-inch and 6-inch water lines with appropriate valves and fire hydrants along Ben Wilson Road and the

proposed internal street network. All water lines will be turned over to the City of Mebane for ownership and maintenance when completed in accordance with requirements.

The City has adequate water capacity available to meet the domestic demand and fire flow requirements.

2. Sanitary Sewer system – Sewer service is available on-site with connection to the City’s existing 18-inch sanitary sewer outfall. Phases 1 and 2 propose to connect to this sewer line. Phase 3 is proposed to connect to previous sewer installation associated with the Meadows Phase 2B. The sewer system layout includes 8-inch line extensions located general within the internal street network with appropriate manhole spacing. All sewer lines will be turned over to the City of Mebane for ownership and maintenance when completed in accordance with requirements.

The permitted sewer use based on 162 3-bedroom townhomes at 80 gallons per day per bedroom is 38,880 gallons per day. Based on a historical water usage of less than 150 gpd per home, the anticipated sewer flow when tributary is approximately 24,300 gallons per day.

The City has available sewer capacity at the WRRF in excess of 0.72 million gallons per day (MGD) and approximately 0.73 MGD at the Graham WWTP for a total of 1.45 MGD. This proposed project and other previously approved/permitted projects will reduce available capacity as they develop over time. The City’s Capital Improvement Plan addresses the need for additional sewer capacity at the WRRF with the following future projects:

- a) WRRF Expansion – 0.5 MGD.
- b) GKN and Arbor Creek PS rerouting wastewater to the Graham WWTP – 0.275 MGD current.
- c) I/I reduction projects (manhole and line rehabilitation) to regain lost capacity.

In addition, staff proposes to address paper flow (flow permitted at a higher amount than when tributary - *in the system*) by limiting the permitting of wastewater one phase at a time as opposed to multiple phases. This will improve the City’s ability to permit wastewater for approved and planned projects moving forward.

C. Watershed Overlay District and Phase II Stormwater Requirements

1. Watershed Overlay District requirements are provided under Sec. 5.2 of the UDO. These requirements in the UDO are for the Back-Creek Watershed, which includes the Graham-Mebane Lake. The Meadowstone project is tributary to Haw Creek, a Class V watershed and the Watershed Overlay District requirements do not apply to this project. This type of watershed classification (Class V) does not have density restrictions or built upon restrictions as required for the Graham-Mebane Lake watershed.
2. Phase II Stormwater Post Construction Ordinance
Sec. 5.4 in the UDO provides standards for Storm Water Management and 5.4.F requires compliance with the Mebane Post Construction Runoff Ordinance (which is a stand-alone ordinance titled the Phase II Stormwater Post Construction Ordinance (SPCO)). The standards in the UDO are general standards as the Ordinance itself provides detailed standards. The SPCO does apply to this project as it will disturb more than one acre of land and it is estimated that the new built upon will be more than 24% of the site.

The project proposes two engineered storm water control devices with 100 year storm detention post vs. pre-development runoff. The Phase 3 storm water control device is proposed as a wet pond requiring fencing. The Phase 1 and 2 storm water control device type has not been determined at this time (wet pond, stormwater wetland, sand filter, or bio retention basin). When storing 2 feet or more of surface water the storm water control device will require fencing.

D. Storm Drainage System

Sec. 5-4. D. in the UDO provides requirements for storm drainage systems. The preliminary site plans include a preliminary piping layout that indicates certain pipe locations, inlets, and discharge points. Stormwater flows from these pipes will be transported to stormwater management devices before being released.

E. Street Access and TIA

Internal streets are considered local and to be constructed to the City standard of 31-ft. b-b roll curb and gutter section with sidewalks to be constructed generally on both sides of the street. A proposed 8' concrete multi-use path is proposed along the Rippling Court from Bowman Road to the end of the cul-de-sac. The continuation of the multi-use path that is not in road right-of-way will be 10' asphalt and HOA maintained (including the proposed bridge creek crossing). As this path potentially will be extended to other development public easements have been provided. However, until those extensions occur the responsibility for maintenance/ownership remains with the HOA. All internal streets are proposed to have 5' concrete sidewalks on both sides of the road (except where the multi-use path is proposed). Street stubs are not provided to adjacent undeveloped properties.

A Traffic Impact Analysis was submitted and reviewed by the City and NCDOT and indicated the need for a left turn lane on Ben Wilson Road onto proposed Dandelion Court (northern most connection).

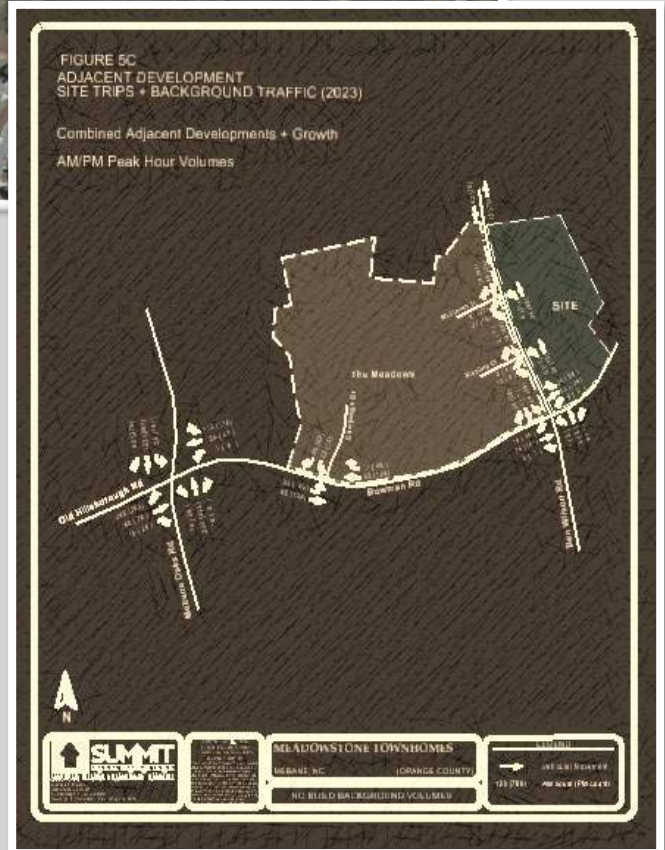
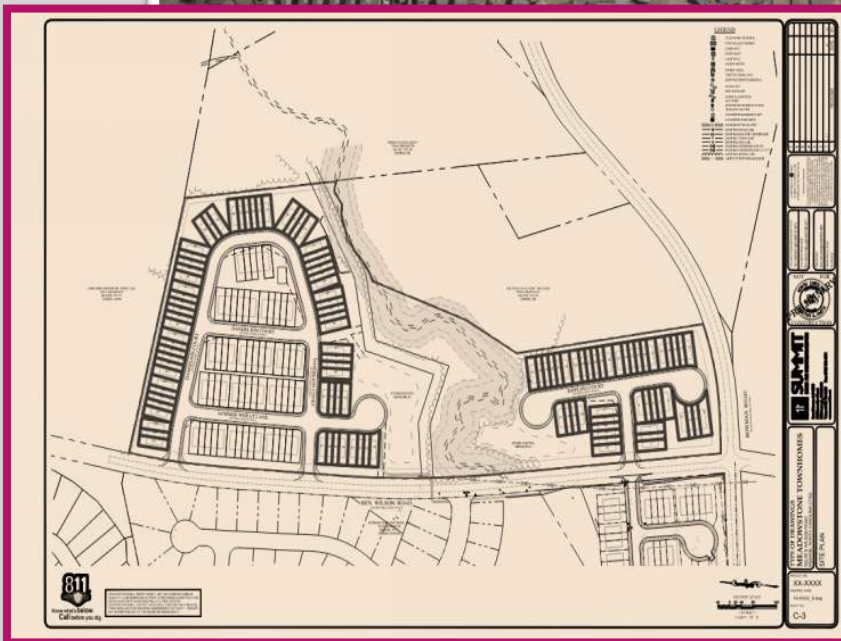
F. Construction Plan Submittal

Sec. 7-6.7. A. in the UDO indicates that construction plans for all street facilities, including water and sewer facilities, shall be submitted following preliminary plat or site plan approval; therefore, construction plans are not required as a part of the site plan review. A utility plan is provided which generally shows the proposed water lines, sewer lines, and storm drainage and stormwater management devices to indicate that the project is feasible for utility service and providing stormwater management. Appendix E which is included in the UDO is a Construction Document checklist which is to be provided at such time as construction plans are submitted after Preliminary Site Plan approval. Based on city engineering review of the referenced preliminary site plans, it is my opinion that said plans are in substantial compliance with the UDO.

JULY 2020 (REVISED JUNE 2021)

Traffic Impact Analysis

*Meadowstone Townhomes
Ben Wilson Road Mebane, NC
Prepared for Ben Wilson Road, LLC*





Meadowstone Townhomes
Ben Wilson Road (SR 1140) & Bowman Road (SR 1142)
Mebane, North Carolina

Traffic Impact Analysis



DocuSigned by:
Edward W Sirgany
39DF9C86A6684E9... 7/21/2021

Prepared by
Summit Design & Engineering
320 Executive Court
Hillsborough, NC 27278
License Number: P-0339

Prepared for
Ben Wilson Road, LLC
320 Executive Court
Hillsborough, NC 27278

July 2020
REVISED June 2021

Executive Summary

Introduction

A proposed residential development consisting of one hundred sixty-three (163) townhomes is planned to be constructed on a site that is on Ben Wilson Road (SR 1140) north of Bowman Road (SR 1142) and south of Bray Drive in Collington Farms subdivision in the City of Mebane in Orange County, North Carolina. The development is being proposed on a combination of three parcels totaling approximately 26 acres. The development will be built in three (3) phases over a three-year period after work commences in 2021. Two separate tracts of townhomes will be constructed on the east side of Ben Wilson Road, with three site entrances proposed, two entrances for the northern, larger grouping of homes, and one entrance further south closer to Bowman Road for the smaller grouping of townhomes. The access points will be street type entrances, each built with one entry lane and one exit lane onto Ben Wilson Road. The accesses will be built to NCDOT and City of Mebane standards, and all internal streets are proposed to be City maintained streets.

Summit Design & Engineering analyzed the development to determine the potential traffic impacts that this project may have on the roadway network. The analysis will identify any transportation improvements that may be required to accommodate the impacts of both the projected background traffic and the new development traffic. The following intersections were included in the study:

- Mebane Oaks Road (SR 1007) & Old Hillsborough Road (SR 2126)
- Bowman Road (SR 1142) & Ben Wilson Road (SR 1140)
- Ben Wilson Road (SR 1140) & Rippling Court (Site Dr. #1)
- Ben Wilson Road (SR 1140) & Dandelion Court (S) (Site Dr. #2)
- Ben Wilson Road (SR 1140) & Dandelion Court (N) (Site Dr. #3)

The Vicinity Map shows the location of the site near Mebane, NC, and the intersections in the vicinity that are part of this Traffic Impact Analysis. The subject intersections were analyzed for the following scenarios:

- 2020 Existing Conditions
- 2021 Future No Build Conditions
- 2021 Future Phase I Build Conditions
- 2023 Future No Build Conditions
- 2023 Future Buildout Conditions

A scoping discussion was held with City of Mebane Planning staff, as well as NCDOT Division 7 staff, to obtain background information and to determine the elements to be covered in this Traffic Impact Analysis (TIA). The topics discussed involved selecting the intersections to be studied, the background growth rate, and any recently approved developments and/or TIP projects that may be impacted or create an impact on the study area. Following the scoping discussion, the NCDOT TIA Checklist was completed and submitted to the City of Mebane, in lieu of a traditional Memorandum of Understanding.

Based on discussions with City and NCDOT staff, it was determined that the study corridor would include the proposed main public street intersections along Ben Wilson Road from and including the intersection at Bowman Road (SR 1142) to the intersection at Dandelion Court (N) (Site Dr. #3). In addition, the existing intersection of Mebane Oaks Road (SR 1007) and Old Hillsborough Road (SR 2126) will be included in the study. The site drives are correspondingly named streets on the site plan, site drive #1 named Rippling Court (an extension of the same named street in The Meadows Phase IV presently under construction), site drive #2 named Dandelion Court, which completes a U-shape pathway through the proposed townhome community and intersects Ben Wilson Road again at site drive #3.

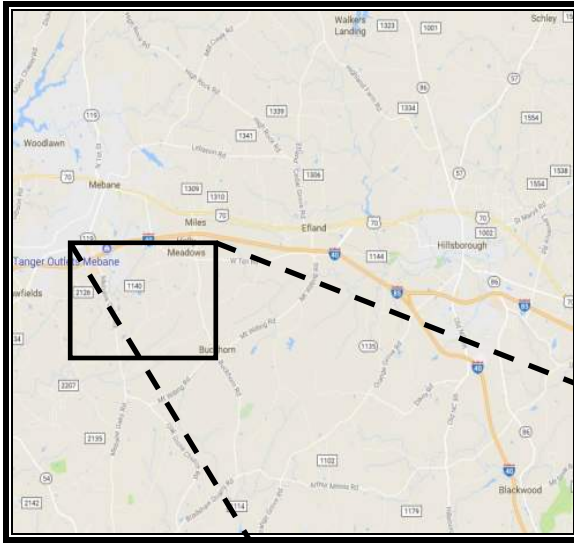
As part of the City of Mebane Unified Development Ordinance, there is consideration to provide a capacity analysis of all transportation modes. However, in light of the lack of a transit system in the area, it was agreed that analysis of the transit mode would not be necessary for this study, but bicycle and pedestrian modes will be applicable.

There are developments in the area that have been approved and under construction (or soon to be) that will need to be considered as part of this Traffic Impact Analysis, specifically the future trips created when they are completed. These developments are The Meadows, The Summit Church, and the Bowman Village/Bowman Place subdivision. These developments are in various stages of permitting and phased construction, and the impacts of the trips generated by those developments are captured within this Traffic Impact Analysis.

As a result of the issues from COVID-19 and stay at home orders, NCDOT has requested that no new data be collected for traffic counting purposes in the short term, until restrictions have been lifted and traffic returns to conditions closer to normal. As a result of this request, it was agreed between the City, NCDOT and the developer that data obtained in October 2015 for the adjacent subdivision, The Meadows, would be acceptable to use, along with applying a growth rate to bring the turn movement counts in close proximity to estimated 2020 levels.

Data was collected at the two existing subject intersections, at Mebane Oaks Road/Old Hillsborough Road and Bowman Road/Ben Wilson Road by Davenport & Associates for use in a TIA developed for The Meadows. Data was collected for the AM and PM peak hours, from 6 AM to 9 AM and from 4 PM to 7 PM to allow for determining the exact peak hours. The turn movement counts were collected on October 14 and 15, 2015 while all traditional and year-round schools were in session. The data was collected in 15-minute intervals at all locations to determine the exact peak hour within the data collection period.

VICINITY MAP



LEGEND

 = Study Area Intersection

- 1 - Mebane Oaks Rd. & Old Hillsborough Rd.
- 2 - Ben Wilson Rd. & Bowman Rd.
- 3 - Ben Wilson Rd. & Rippling Ct./Site Dr #1
- 5 - Ben Wilson Rd. & Dandelion Ct./Site Dr #2
- 6 - Ben Wilson Rd. & Dandelion Ct./Site Dr #3



Trip Generation

The site generation potential of the proposed development was computed using the 10th Edition of *ITE Trip Generation Manual*. The trip generation calculated trips based on a total build of one hundred sixty-three (163) Townhomes (Low Rise) (ITE Land Use Code 220). The developer plans to construct the subdivision in three phases over a period of 3 years. Per NCDOT Congestion Management Standards, and the Rate vs. Equation Spreadsheet effective July 1, 2018, the trip generation was calculated using the Equation Method for the adjacent street peak hour data.

The weekday average daily trips generated, as well as AM and PM Peak Hour trips by development phase are shown for the proposed land use in Table 3:

**TABLE 3
SUMMARY OF SITE TRIP GENERATION**

Phase	ITE Code	Land Use	Size	Units	Adjacent Street Traffic Volumes								
					Wkday Avg # Trips			Weekday AM Peak Hr			Weekday PM Peak Hr		
					Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Phase I	220	LOWRISE1	45	Dwelling Units	150	149	299	5	17	22	18	11	29
Phase II/III	220	LOWRISE1	118	Dwelling Units	446	446	892	12	42	54	39	23	62
		TOTAL	163	Unadjusted Volume	596	595	1191	17	59	76	57	34	91
				Internal Capture				0	0	0	0	0	0
				Pass-By Trips				0	0	0	0	0	0
				Volume Added to Adjacent Streets	596	595	1191	17	59	76	57	34	91

Source: *ITE Trip Generation Manual, 10th Edition*

For a residential type land use, pass-by trips are not utilized, as those type types apply to retail and service type land uses. Similarly, there are no internal capture trips to account for in a residential development.

The 2021 total unadjusted volumes were calculated to be 22 trips during the AM peak hour (5 entering and 17 exiting), and 29 trips during the PM peak hour (18 entering and 11 exiting) at the Phase I build. The average weekday trips added to the network total 299, with 150 entering and 149 exiting vehicles. These trips were distributed to one access point, as this phase of the development will only construct the southernmost section in 2021.

The total unadjusted volumes were calculated to be 76 trips during the AM peak hour (17 entering and 59 exiting), and 91 trips during the PM peak hour (57 entering and 34 exiting) at full buildout. The average weekday trips have been calculated to be 1,191 total, with 596 entering trips and 595 exiting trips. These trips are distributed across all three proposed entrances for the development at full buildout. The Phase I buildout is planned to construct only the first forty-five (45) units in the southern parcel of the site, which has a separate access for these units only, therefore the distribution is slightly different for Phase I and the full buildout.

Adjacent Developments

There are several approved and planned developments within the study area that were identified by the City of Mebane planning staff that could either impact or be impacted by the proposed development. There are three adjacent developments that must be considered for this study: the Summit Church, The Meadows subdivision and Bowman Village / Bowman Place subdivision. Only The Meadows is partially constructed with occupied units, the other two are in various phases of the construction process, and do not have any residential units constructed and occupied to date.

The Summit Church development had a Traffic Impact Study completed in February of this year, however the peak hour for a church generally occurs on a Sunday morning, and has little impact on the weekday typical AM and PM peak hour. For this reason, the Summit Church distributions did not influence the distribution assumptions for the Meadowstone Townhomes.

The Meadows subdivision had a Traffic Impact Analysis completed in 2015, and although proposes a larger number of homes, the trip distributions were useful in the development of the study for Meadowstone Townhomes, since they share a common roadway and similar network. One of the assumptions for The Meadows was that it would be completely built out by 2020, however the development is only partially complete. Approximately 75 homes have been built in Phase I, and are occupied (for the purposes of baseline 2020 traffic). Therefore it was necessary to re-configure the trip distributions for this development according to the current build phases. The same distributions were utilized, however the existing 2020 traffic only has access through one entrance, while the remaining build phases will have access to all three entrances.

The Bowman Village / Bowman Place subdivision, although nearby and in proximity to Meadowstone Townhome development to be included in this study, is likely to impact the roadway network slightly differently. The eastern perimeter of Bowman Village accesses Rock Quarry Road, which provides quick, convenient access to the I-85/I-40 corridor. While there are likely to be trips to and from the west along Bowman Road, it will be considerably less than what would be expected from The Meadows and Meadowstone Townhomes. The trip distribution proposed for Bowman Village / Bowman Place is a 25% / 75% distribution west versus east. The figures in Appendix D show the distributions, and the trip assignments noted in this study were derived from these distributions.

Trip Distribution

The primary site trips for the proposed development were distributed based upon the existing traffic patterns, similar distribution pattern for adjacent developments, and engineering judgement. Since there have been several residential developments in the area recently approved, the trip distributions closely resemble the adjacent developments' distributions.

A review of the existing turning movement counts at the subject intersections indicate directional flow in the peak hours, primarily inbound in the morning (towards the City), and outbound in the afternoon. Distribution ratios have been developed for the Phase I build of the site, since only one complete parcel of the development is proposed to be completed in 2021. For this phase of construction, it was assumed that 60% of the new trips will be generated to/from the north on Ben

Wilson Road, 30% of the new trips to/from the west on Bowman Road and 10% new trips to/from the east on Bowman Road.

A separate distribution for the overall completion of the development was also developed that distributes traffic across all three proposed access points. The primary distributions although similar to the Phase I distribution, have further distribution splits at each access point to the development. Based on the layout of the internal street system within the development, a relative split of two to one (2 to 1) for trips in and out of the northern section of the development is assumed between the streets. A higher percentage of trips to/from the north would be expected to access the parcel from the first street approached, since the entire parcel can be accessed from either street. Some trips can be expected to enter and exit from the furthest street on approach, since that will likely be a shorter route for some number of homes within the development.

Both of the phased distributions and directional splits at the two existing study intersections are reflective of the distributions utilized for The Meadows development, as much as possible. The new trips generated for both of these developments would be expected to be similar, with the main difference in traffic patterns being the additional access that The Meadows provides on Bowman Road. Without a major access point further west on Bowman Road for Meadowstone, it was assumed a higher percentage of trips would utilize the Wilson Road to Ben Wilson Road route, than the proposed trips for The Meadows development.

The results of the study are presented as follows, listed by intersection:

Mebane Oaks Road & Old Hillsborough Road

The proposed development, and the adjacent developments under construction, will add new trips to this currently unsignalized intersection. However, a planned widening project and subsequent signal installation at this intersection provides adequate capacity for these developments in all operating conditions. The Level of Service for this intersection will improve by 2021 to LOS C for the AM and PM peak hours for all future horizons. These improvement will provide adequate capacity in this configuration for several years after the project buildout.

Ben Wilson Road & Bowman Road

The proposed development, and the adjacent developments under construction, will add new trips to this intersection that would be turning movements on Ben Wilson Road, as well as through movements on Bowman Road. The Level of Service for this intersection will remain at B (or better in the 2021 AM peak hours) for all future build or No build conditions. The existing configuration will provide adequate capacity for several years after the project buildout.

Ben Wilson Road & Rippling Court (Site Drive #1)

With the construction of the 2023 full Buildout of the proposed development a fourth leg will be added to this intersection, and new trips generated by the proposed forty-five (45) units. The trips will be added as west bound left and right turns from Rippling Court (WB) and left and right turns from Ben Wilson Road into the site. None of these movements experience excessive delays or queues, and the configuration of the intersection provides adequate capacity. These additional trips will not decrease capacity of the intersection, nor create longer queues on Rippling Court for either approach.

The Level of Service for the intersection overall is A under all future conditions, with less than 10 seconds average delay.

Ben Wilson Road & Dandelion Court (s) (Site Drive #2)

This intersection is planned to be constructed as part of the Phase I Build in 2021 of the development, and will add new trips to the roadway network however, only the new trips generated by the buildout of the townhomes will add any turning traffic at this intersection. All other adjacent developments, as well as the proposed site will add only through movements at this intersection in all but the full build conditions. The trips generated by the site will be left and right turns both from Dandelion Court as well as from Ben Wilson Road. These additional trips will not decrease capacity of the intersection, nor create longer queues on Rippling Court for either approach. The Level of Service for the intersection overall is A under all future conditions, with less than 10 seconds average delay.

Ben Wilson Road & Dandelion Court (n) (Site Drive #3)

This intersection is also planned to be constructed as part of the full buildout of the development, and will add new trips to the roadway network however, only the new trips generated by the buildout of the townhomes will add any turning traffic at this intersection. All other adjacent developments, as well as the proposed site will add only through movements at this intersection in all but the full build conditions. The trips generated by the site will be left and right turns both from Dandelion Court as well as from Ben Wilson Road. A left turn lane will be installed for this development per City of Mebane UDO requirements, and will be constructed at the northern most access of Dandelion Court (Site Drive #3). The turn lane will provide storage of 100 feet for southbound turning vehicles on Ben Wilson Road. The additional trips do not decrease capacity of the intersection, with or without the turn pane provided, and the queues on Dandelion Court are of minimal length. The Level of Service for the intersection overall is A under all future conditions, with less than 10 seconds average delay.

A summary of the existing, No Build conditions and Build conditions is provided on the following page indicating the capability of the roadway network to handle the new trips generated by this site.

HCM 6th Edition (Revised)

Level of Service Summary

AM PEAK		2020	2021		2023		
		EXISTING	NO BUILD	BUILD	NO BUILD	BUILD	BUILD + IMP
1	Mebane Oaks Rd & Old Hillsborough Rd <i>* Existing 4 way stop upgrades to signal in 2021</i>	B (14.0)	C (21.7)	C (22.1)	C (24.8)	C (25.3)	C (25.3)
2	Bowman Rd & Ben Wilson Rd	A (9.5)	A (9.7)	A (9.7)	B (10.1)	B (10.2)	B (10.2)
3	Ben Wilson Rd & Rippling Ct/Site Dr #1	-	A (8.8)	A (8.9)	A (8.9)	A (9.3)	A (9.3)
4	Ben Wilson Rd & McClellan Trl	-	A (9.0)	A (9.0)	A (9.2)	A (9.4)	A (9.4)
5	Ben Wilson Rd & Site Dr #2	-	-	A (8.9)	-	A (9.3)	A (9.3)
6	Ben Wilson Rd & Site Dr #3	-	-	-	-	A (9.1)	A (9.1)

PM PEAK		2020	2021		2023		
		EXISTING	NO BUILD	BUILD	NO BUILD	BUILD	BUILD + IMP
1	Mebane Oaks Rd & Old Hillsborough Rd <i>* Existing 4 way stop upgrades to signal in 2021</i>	F (70.6)	C (20.2)	C (20.4)	C (21.9)	C (22.3)	C (22.3)
2	Bowman Rd & Ben Wilson Rd	B (10.0)	B (10.7)	B (10.9)	B (11.4)	B (11.9)	B (11.9)
3	Ben Wilson Rd & Rippling Ct/Site Dr #1	-	A (8.7)	A (8.8)	A (8.9)	A (9.8)	A (9.8)
4	Ben Wilson Rd & McClellan Trl	-	A (9.0)	A (9.1)	A (9.4)	A (9.6)	A (9.6)
5	Ben Wilson Rd & Site Dr #2	-	-	A (8.9)	-	A (9.4)	A (9.4)
6	Saddle Club Rd. & Shallow Spring Dr. (Site Dr. #2)	-	-	-	-	A (9.1)	A (9.1)

LOS (delay in seconds)

Note: for unsignalized conditions, LOS and delay indicates only minor street approach with longest delay.

Bicycle and Pedestrian Level of Service (BLOS/PLOS) Results

There are several different methods to analyze bicycle and pedestrian modes of transportation, and to determine the Bicycle Level of Service (BLOS) and Pedestrian Level of Service (PLOS), but the method to be used to do this is generally site and network dependent. The *Highway Capacity Manual* can be used to determine a LOS value for each mode of transportation, but it too varies by the chapter of the Manual being utilized.

Separately, but part of the basis for the research and development of the BLOS/PLOS for the *Highway Capacity Manual*, use of the BLOS/PLOS Calculator developed by Sprinkle Consulting is possible that can evaluate features that are not dependent upon pedestrian volumes or bicycle volumes. These analyses developed and utilized the “Level of Traffic Stress” measure that determined how well the features of sidewalks, bicycle paths and lanes, and density of users related to the comfort level of each user.

A corresponding chart of values was factored from algorithms derived from research, that set a scale from A to F, similar to automobile LOS, but not based on delay values that is used for the automobile mode. This model is still used across the US for many cities, large and small, and represents a reasonable estimation of Level of Service where pedestrian and bicycle counts are unavailable.

For the evaluation of this site, the developer has committed to the construction of sidewalks within the subdivision on all streets, as well as a ten-foot wide multi-use path extending from the southernmost cul-de-sac in the northern section of homes, out to Ben Wilson Road. The multi-use path will be constructed along Ben Wilson Road south to a crossing near McClellan Trail to provide access to The Meadows development, and the sidewalk system developed within that subdivision. By crossing the path at this location, it provides a logical crossing point to allow motorists, cyclists and pedestrians to determine the respective movements of vehicles, bikes and pedestrians to minimize conflicts. The crossing will include a high-visibility type crosswalk and appropriate signage on Ben Wilson Road.

Within the subdivision, the sidewalks are proposed to be constructed on both sides of all internal streets, in both northern and southern sections of the development. The sidewalks proposed along the subdivision streets are five (5) feet in width. All sidewalks will be constructed with ADA compliant curb ramps at intersections, in accordance with City of Mebane standards. The results of each condition’s analysis are summarized below:

**BLOS / PLOS SUMMARY
Ben Wilson Road**

	2020 EXISTING	2021		2023		LOS	MODEL SCORE
		NO BUILD	BUILD	NO BUILD	BUILD		
Bicycle LOS	C (2.66)	C (2.92)	C (2.89)	C (3.09)	C (3.14)	A	≤ 1.50
						B	1.51 - 2.50
						C	2.51 - 3.50
						D	3.51 - 4.50
Pedestrian LOS	D (4.11)	D (3.65)	C (3.35)	B (2.48)	B (1.92)	E	4.51 - 5.50
						F	> 5.50

The Buildout Level of Service indicates an improvement in the Level of Service for both pedestrians and cyclists, since the proposed development will be providing a left turn lane for the site, as well as the multi-use path connection from the site to the existing sidewalk on Ben Wilson Road. The analysis provides intuitive results to the differences the pedestrian and bicycle features included in a project can have for various related buildout or no-build conditions. These improvements show a significant improvement in the Level of Service for pedestrians by the addition of the sidewalks, while providing adequate Level of Service for bicyclists.

Conclusions and Recommendations

In summary, the residential development site on the east side of Ben Wilson Road, north of Bowman Road in Mebane (Orange County) was analyzed for five (5) separate conditions including 2020 Existing Conditions, 2021 Phase I Build/No Build Conditions and 2023 Build/No Build Conditions. The trip generation analysis indicates that the proposed development of one hundred sixty-three (163) townhomes to be constructed in three (3) phases starting in 2021 is expected to generate a total of 1,191 trips per day, with 76 trips during the AM peak hour, and 91 trips in the PM peak hour at full buildout.

For the purposes of this study, the total volume added to the adjacent roadway network was not reduced for any pass-by trips or Internal Capture trips, since this is a residential subdivision. Due to the current situation with COVID-19 and its impact on typical traffic patterns, a review of 2015 traffic counts was utilized and projected forward to 2020 to provide the basis current existing traffic conditions. A phased addition of trips generated by The Meadows development was compiled as an adjacent development, since it initially had been planned to be completed by 2020, but is only partially constructed at the time of this study.

All scenarios were configured according to NCDOT Congestion Management requirements for capacity analysis. New trips added to the study area from approved adjacent developments presently under construction were considered and included in the future traffic analysis. An analysis of the Bicycle Level of Service and Pedestrian Level of Service was also calculated as required by the City of Mebane Unified Development Ordinance. An assumption was made that the speed limit on Ben Wilson Road at the current City Limit boundary will be extended south to Bowman Road, as a condition for annexation.

For this site construction, three (3) new street accesses will be built for the site that will provide access from Ben Wilson Road. The two northern site accesses on Ben Wilson Road will be constructed at approximately 500 foot spacing between each other as well as 500 feet to McClellan Trail, a site access for The Meadows development now under construction. The third entrance, which provides access to an isolated parcel of forty-five (45) townhomes, will be constructed directly opposite Rippling Court, just north of Bowman Road. All three access points provide one entering lane and one exiting lane, and the northern most access will provide a south bound left turn lane for traffic entering the site.

In addition to the roadway network within the site, and required sidewalks, the development will also construct a 10-foot wide multi-use path that connects from a cul-de-sac in the northern parcel of home to a sidewalk along Ben Wilson Road. This sidewalk will also provide a connection to the sidewalk network under construction and provided by The Meadows development, and extend south to Bowman Road. Construction of the project is expected to begin in 2021 and be completed by the end of 2023, pending agency approvals.

Summit Design & Engineering developed the existing traffic count information for the existing intersections, calculated the trip generation for the site development and analyzed the traffic impacts to formulate the recommendations in this study. Discussions with NCDOT Division 7 staff as well as City of Mebane Planning Department staff were conducted to determine the complete scope of the report, including the multi-modal aspects of the study.

The existing roadway network demonstrated the ability to adequately handle the added site trips to the network with only minimal improvements, as the Existing, Future No Build and Future Buildout analysis Level of Service indicates adequate roadway capacity under the current operating conditions.

A summary of the results for the study intersections are as follows:

Mebane Oaks Road & Old Hillsborough Road

With the planned construction by NCDOT of additional turn lanes on all approaches, as well as the addition of a traffic signal at this intersection, the capacity and Level of Service are improved greatly for all future conditions, and adjacent approved developments. With the addition of the proposed site traffic to the roadway network, the analysis of this intersection during build conditions indicate that all approaches will operate at acceptable levels of service, and subsequent queues are provided adequate storage length for the turning movements under the NCDOT project. There is adequate capacity available to handle additional traffic for the proposed site, the adjacent developments under construction, and annual growth.

No improvements are recommended for this intersection.

Ben Wilson Road & Bowman Road

The existing configuration shows minimal increases in delay for both peak hours for existing and no build future conditions. The addition of adjacent developments presently under construction do not decrease the capacity of the intersection. Addition of new trips generated by the Meadowstone Townhomes development for both Phase I build and complete buildout also impact the intersection's capacity at minimal decreases, under stop sign control, and the intersections continues to provide adequate future capacity as well as minimal delay, with the highest possible Level of Service classification (A).

No improvements are recommended for this intersection.

Ben Wilson Road & Rippling Court (Site Drive #1)

The construction of the development will create a new, fourth approach leg to the existing three-leg intersection on Ben Wilson Road at Rippling Court. The new approach will be constructed with one entering and one exiting lane providing access to a small, isolated forty-five (45) unit parcel of the development. There is minimal delay associated with the new access drive, and no queuing observed on any of the approaches of the intersection under buildout conditions. There is adequate capacity available on Ben Wilson Road to handle additional traffic for the adjacent developments, the proposed site, as well as annual growth.

Construct a new site access road on the east side of Ben Wilson Road directly opposite Rippling Court and, approximately 350 feet north of Bowman Road with one entry lane and one exit lane. The site access shall be constructed with the Full Buildout (2023) of the subdivision.

Ben Wilson Road & Dandelion Court (s) (Site Drive #2)

The construction of the development will create a new intersection on Ben Wilson Road to access the northern most parcel of new townhomes. The new intersection will be constructed with one entering and one exiting lane on Dandelion Court, allowing entering vehicles from Ben Wilson Road under its current (two-lane/two-way) configuration. There is minimal delay associated with the new intersection, and no queuing observed on any of the approaches of the intersection under buildout conditions. There is adequate capacity available on Ben Wilson Road to handle additional traffic for the adjacent developments, the proposed site, as well as annual growth.

Construct a new site access road on the east side of Ben Wilson Road approximately 525 feet north of McClellan Trail with one entry lane and one exit lane. The site access shall be constructed with the Phase I Build (2021) of the subdivision.

Ben Wilson Road & Dandelion Court (n) (Site Drive #3)

The construction of the development will create a third new intersection on Ben Wilson Road to access the northern most parcel of new townhomes. The new intersection will be constructed with one entering and one exiting lane on the northern end of Dandelion Court, as well as providing a left turn lane for south bound traffic entering the site. There is minimal delay associated with the new intersection, and no queuing observed on any of the approaches of the intersection under buildout conditions. There is adequate capacity available on Ben Wilson Road to handle additional traffic for the adjacent developments, the proposed site, as well as annual growth.

Construct a new site access road on the east side of Ben Wilson Road, approximately 1,000 feet north of McClellan Trail, with one entry lane and one exit lane. The site access shall be constructed with the Phase II and III build of the subdivision.

Construct a left turn lane on Ben Wilson Road southbound for this site access, with 100 feet of storage and appropriate taper. The construction of this turn lane should be completed within the second phase of the project, and be completed prior to the construction of greater than 50 lots.

All driveway accesses roadway shall be constructed to City of Mebane standards and specifications and per the City's Unified Development Ordinance. Any NCDOT requirements related to NCDOT maintained roadways will be designed to NCDOT standards and specifications.

In conclusion, this study has reviewed the impacts of both background traffic conditions and the proposed traffic to be generated by the site as well as the adjacent developments presently under construction, studied the impacts to the roadway network, and has determined that there will be adequate capacity for future traffic. In addition, this study provided a Level of Service analysis for bicycle and pedestrian modes, and found that the amenities and features proposed with the construction of this development will enhance and improve the non-automobile modes of transportation in the area. Speed information was collected for further evaluating the speed on Lebanon Road by NCDOT, as the adjacent developments are built to completion.

June 8, 2021

TO: Cy Stober, AICP
Development Director – City of Mebane
E: cstober@cityofmebane.com

FROM: Michael Karpinski, PE
Ramey Kemp Associates
E: mkarpinski@rameykemp.com

SUBJECT: **Meadowstone Townhomes TIA Review Comments**

Mr. Stober:

Ramey Kemp Associates (RKA) has reviewed the subject TIA and issues the following comments.

Study Summary

The proposed site is a residential development located east of Ben Wilson Road and north of Bowman Road in Mebane, NC. The development is expected to consist of 163 townhomes. The development is proposed to be built in three (3) phases over a three-year period after work begins in 2021, with full buildout anticipated in 2023. Access is proposed via four (4) full access site driveway connections: two (2) site driveways for the northern tract and two (1) site driveways for the southern tract with no cross-connectivity between the tracts.

The development is anticipated to generate approximately 1,191 daily trips during a typical weekday at full buildout – with 76 trips occurring during the morning (AM) peak hour and 91 trips occurring during the afternoon (PM) peak hour. Analysis was performed for five (5) scenarios: 2020 Existing, 2021 Future No-Build, 2021 Future Build (Phase 1), 2023 Future No-Build, and 2023 Future Build (Full Buildout) Conditions. Analysis results indicate that the levels-of-service from the Future No-Build scenarios remain the same with some minor increases in delay under the Future Build scenarios.

At the time the subject TIA was prepared and submitted, NCDOT project 47786 (considered in the analysis of future traffic conditions) was planned to be let the current budget year, and under construction in the fall. This project will improve the Mebane Oaks Road and Old Hillsborough Road intersection with the addition of left-turn lanes on all approaches, right-turn lanes on the southbound and westbound approaches, and installation of a traffic signal. STIP Project No. I-5711 will improve the Mebane Oaks Road / I-40 / I-85 interchange ramp intersections, as well as provide additional lanes on Mebane Oaks Road; however, the southern project limits do not extend to the study intersections for the subject TIA and was therefore not considered in the analysis of future traffic conditions.

The TIA for the subject development recommended an exclusive southbound left-turn lane with 100' of storage on Ben Wilson Road at the intersection of Ben Wilson Road and Site Drive #3. **Based on the review of the Meadowstone Townhomes TIA, no additional improvements within the study area are required to accommodate site traffic associated with the subject development.**

The following comments relate to deviations from various NCDOT and/or City analysis guidelines. However, these variations have either been approved by NCDOT or are not anticipated to significantly impact the analysis results. A revised TIA based on these comments is not requested.

TIA Report

1. Due to the impacts of the COVID-19 pandemic, no new traffic count data was collected; therefore, traffic counts collected in 2015 were projected to the existing analysis year of 2020 utilizing a 2% growth rate to determine the existing AM and PM peak hour traffic volumes at the study intersections. This methodology appears reasonable and is consistent with the approved scope / methodology from the NCDOT TIA Scoping Checklist.
2. An annual growth rate of 1.5% was applied to the existing (2020) peak hour traffic volumes to determine future traffic volumes at Phase 1 (2021) and full buildout (2023). In addition to background traffic projections, three adjacent developments were considered in the analysis of future traffic conditions: The Meadows subdivision, the Summit Church, and the Bowman Village / Bowman Place subdivision. This methodology appears reasonable and is consistent with the approved scope / methodology from the NCDOT TIA Scoping Checklist.
3. Trip generation results presented in the TIA, assuming 163 townhome units, are correct.
4. There is conflicting information regarding the number of townhome units proposed at full buildout when comparing the site plan, TIA report, and the NCDOT TIA Scoping Checklist. The NCDOT TIA Scoping Checklist indicates 168 townhome units, while the TIA report and capacity analysis results for the subject development are based on 163 townhome units. Additionally, the site plan provided in the TIA (Figure 1 – Page 7) illustrates 168 townhome units. The difference in trip generation potential between 163 and 168 townhome units is minor (difference of less than 5 trips during the AM and PM peak hours) and is not expected to significantly impact the capacity analysis results; however, the developer / TIA consultant should coordinate with NCDOT and City staff to confirm the number of townhome units proposed at full buildout.
5. The trip distribution is reasonable and generally consistent with similar developments in the area.
6. Figures 7A & 7B: Phase 1 and Full Buildout Site Trip Assignments – There are minor imbalances (loss or gain of one trip in both the AM and PM peak hours) in site trips between study intersections. Additionally, the entering and exiting trips during both peak hours do not sum to equal the proposed trip generation potential at full buildout (Figure 7B). These are not expected to significantly impact the analysis results.
7. The TIA evaluated bicycle and pedestrian modes of transportation within the study area. The TIA indicated that the developer has committed to the construction of sidewalks within the subdivision on all streets and a ten-foot multi-use path along Ben Wilson Road from the northern tract to provide access to the Meadows subdivision sidewalk system. The results of the analysis using the Sprinkle model under full buildout indicates an improvement in level-of-service for pedestrians since the proposed development will be providing additional sidewalk along Ben Wilson Road. Due to the lack of a transit system servicing

the roadways along the frontage of the proposed development, it was agreed that analysis of the transit mode would not be necessary for this study.

Synchro Analysis

1. NCDOT Congestion Management Guidelines indicate a volume of 4 should be used for any allowable movements that have actual counts lower than 4. Several movements in the Synchro files have volumes less than 4. However, these volumes are relatively low and are not anticipated to significantly impact the analysis results.

General

1. The development is generally consistent with City of Mebane long-range plans. City of Mebane's 2040 Comprehensive Transportation Plan (CTP) does not include any recommendations for pedestrians and bicyclists on Ben Wilson Road or Bowman Road along the site frontage.
2. It should be noted that based on the City of Mebane's 2040 CTP, Mebane Oaks Road is showing the need for widening from the I-85 Interchange to the southern study area boundary, near Oak Grove Church Road, to improve the flow of traffic and decrease delay.