

DESIGN ADJUSTMENT

COMMITTEE

Agenda Item # 1



CASE SUMMARY
Design Adjustment Committee
DAC-12-125

Design Adjustment
February 19, 2025

Todd Rademacher, Planner II, 910.772.4133, Todd.Rademacher@wilmingtonnc.gov

Request

<i>Address</i>	5651 Greenville Loop Rd	
<i>Acreage</i>	Approximately 5 acres	
<i>Request</i>	Request for a design adjustment for the minimum standards for a local street, driveways, and a cul-de-sac street.	
<i>Consultants/ Agents</i>	Tripp Engineering 419 Chestnut Street Wilmington, NC 28401	(910) 763-5100 office@trippengineering.com
<i>Property Owner</i>	Chauncey Archer Brick and Mojo 512 Van Dorn Street Wilmington, NC 28412	(336) 675-5369 Chauncey@brickandmojo.com
<i>Pre-TRC Review</i>	September 9, 2024 & January 30, 2025	
<i>Design Adjustment Committee Action</i>	February 19, 2025; Scheduled for Evidentiary Hearing	

Property Characteristics

<i>Existing Zoning</i>	R-15, Moderate-density single-dwelling district
<i>Current Land Use</i>	Vacant
<i>CAMA Land Use</i>	Watershed Resource Protection
<i>Existing Water Main(s) Public/CFPUA</i>	Greenville Loop Road (12-inch)
<i>Existing Sewer Main(s) Public/CFPUA</i>	Greenville Loop Road (8-inch)
<i>Existing Impervious</i>	2,190 sq. ft.
<i>Proposed Impervious*</i>	Approximate 112,389 sq. ft.

*A stormwater management permit is required.

ADJUSTMENTS REQUESTED

The applicant has requested the following design adjustments (Attachment 3):

1. Relief from the minimum standards for a local street.
2. Relief from the minimum standards for driveway connections.
3. Relief from the minimum standards for driveway design.
4. Relief from the minimum standards for the tangent length between horizontal curves.
5. Relief from the maximum length of a cul-de-sac street.
6. Relief from providing standard turnaround for a cul-de-sac street.

ANALYSIS

1. The site includes one 5-acre parcel that is currently zoned R-15, Moderate-density single-dwelling district zoning district.
2. The applicant is requesting a special use permit for a single-dwelling courtyard development with 25 residential units and associated accessory structures.
3. The proposal includes the construction of a local street from Greenville Loop Road that would provide access to the project. This street would stub to the northern property line allowing for a future road connection.
4. The applicant proposes one-way private drives to provide access to the units within the project.
5. The Technical Standards & Specifications Manual (TSSM) specifies a standard cross-section for a local street. The applicant proposes a non-standard cross-section and a waiver is required. The proposed local street includes the following modifications:
 - Installation of a 5-foot-wide sidewalk only on the east side of the newly created street.
 - Installation of a 6-foot-wide plaza only on the east side of the street.
 - A reduction in the required right-of-way width from 50 feet to 33 feet.
6. The Technical Standards & Specifications Manual (TSSM) specifies the minimum standards for driveway design. The applicant proposes a non-standard driveway connection, and a waiver is required.
 - The minimum angle for driveway connections to streets is 90 degrees. The applicant proposes a non-standard angle of 35.7 degrees to facilitate traffic.
7. The Technical Standards & Specifications Manual (TSSM) specifies minimum standards for residential driveways.
 - The applicant proposes non-standard entrances to driveways. The city standard would require concrete aprons. The applicant is proposing street-style asphalt aprons to connect the driveway to the street and a waiver is required.
8. The Technical Standards & Specifications Manual (TSSM) requires minimum 100-foot tangent lengths between horizontal curves.
 - The applicant proposes 20-foot tangent lengths, and a waiver is required.
9. The *Technical Standards and Specifications Manual* stipulates that the maximum length of a cul-de-sac street be no more than 500 feet. The applicant proposes a cul-de-sac street that exceeds the maximum length by approximate 171.24 feet a waiver is required.
10. The *Technical Standards and Specifications Manual* specifies the minimum standard for a cul-de-sac in Standard Detail for Residential Cul-de-sacs SD 3-04. The proposal does not provide for a standard cul-de-sac, and a waiver is required.

Figure 1. Proposed Site Plan (Attachment 2)

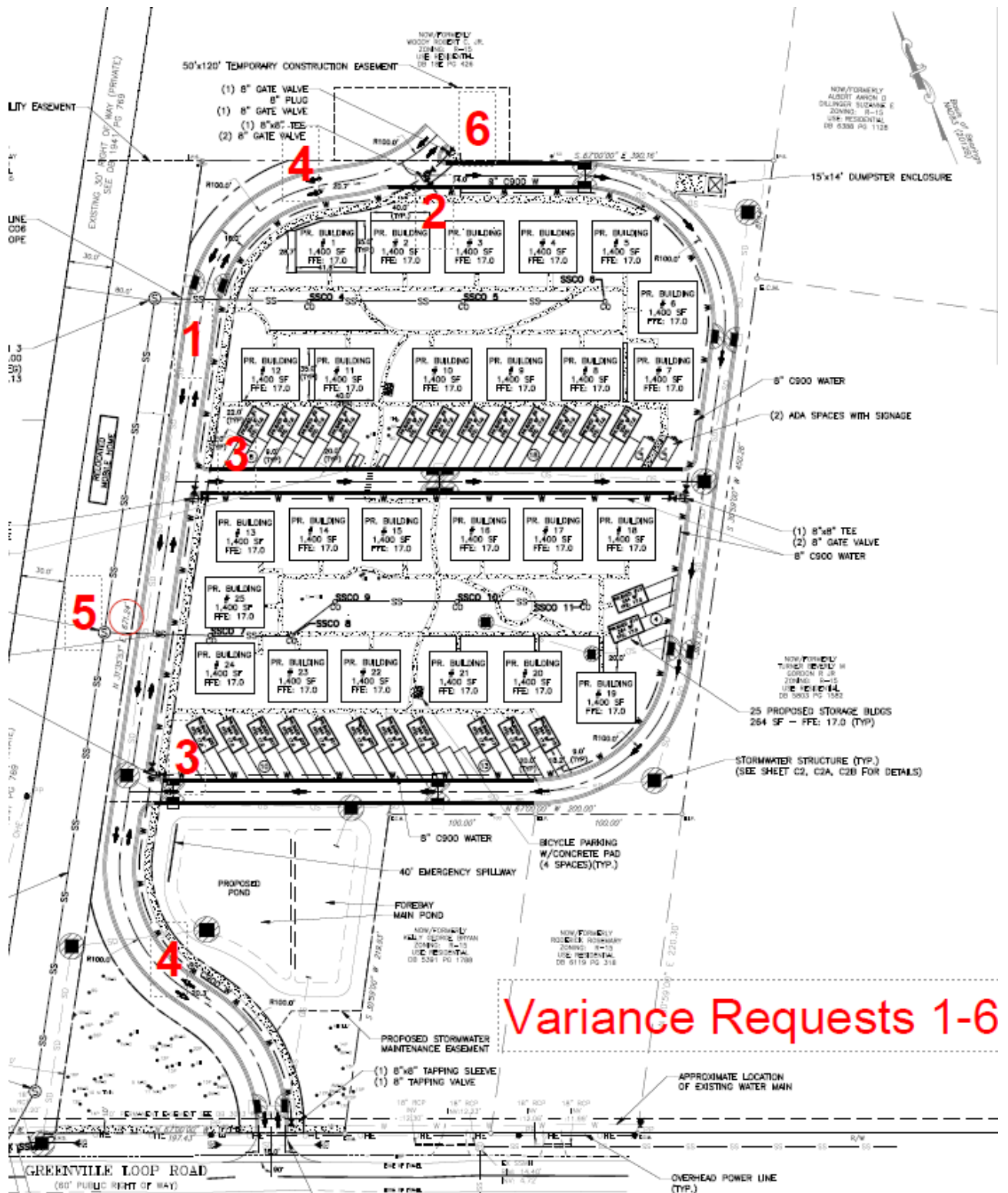


Table 1. Requested Adjustments (Attachment 3)

Adjustment	Requirement	Proposed
<p>1 Street right-of-way, pavement width, alignment, and geometric design standards; Minimum standards for non-arterial streets in residential areas and subdivisions:</p> <ul style="list-style-type: none"> • A non-standard local street cross section <p>CH. VII (B) (Table 1) (Page 7-4) SD 3-01.3</p>	<p>a) Five-foot sidewalks on both sides of the street</p> <p>b) Six-foot plaza on both sides of the street</p> <p>c) 50-foot ROW</p>	<p>a) Sidewalks are provided on the east side of ROW.</p> <p>b) Plaza provided on the east side of ROW.</p> <p>c) 33-foot ROW</p>
<p>Applicant's Justification: A waiver is requested due to:</p> <p>1. Reduced Environmental Impact</p> <ul style="list-style-type: none"> • <u>Preservation of Natural Areas</u>: narrower rights-of-way require less land clearing, preserving more of the natural environment, including vegetation, wildlife habitats, and soil integrity. This minimizes ecological disruption and maintains the local ecosystem's health. • <u>Lower Impervious Surface Area</u>: Smaller roadways reduce the amount of impervious surfaces, which helps improve stormwater management, reduce runoff, and mitigate flooding. This also decreases the heat island effect often associated with wide paved areas. • <u>Material and Energy Savings</u>: Constructing narrower roads uses fewer materials, such as asphalt and concrete, reducing the carbon footprint of road building. Fewer construction activities also mean less disruption to the surrounding environment during the development phase. <p>2. Enhanced Public Safety</p> <ul style="list-style-type: none"> • <u>One-Sided Sidewalk</u>: Our entire proposed community has dwellings only on its eastern side, as the main roadway that we have proposed is situated on the western side in its entirety. Having a sidewalk that would force pedestrians across a main roadway would invite accidents that can be avoided. • <u>Traffic Calming</u>: Narrower streets naturally slow vehicle speeds, reducing the likelihood and severity of accidents. Slower speeds are particularly beneficial in residential areas where pedestrians, cyclists, and children are present. • <u>Improved Pedestrian Safety</u>: Reduced roadway widths shorten crossing distances for pedestrians, making it safer and more convenient to walk within the community. • Encouragement of Active Transportation: Narrow streets, combined with well-designed sidewalks and bike paths, can encourage walking and cycling over driving, promoting healthier and more sustainable transportation habits. <p>3. Community Benefits</p> <ul style="list-style-type: none"> • <u>Aesthetic and Community Character</u>: Narrower streets contribute to a more human-scale, village-like atmosphere, which enhances community connectivity and livability. • <u>Cost Savings</u>: Smaller roads cost less to build and maintain, allowing resources to be allocated to other community improvements like parks, gardens, or community amenities. 		

	Adjustment	Requirement	Proposed
2	Driveways shall be at right angles to roadway. CH.7 C.1.3	90 degrees	35.7 degrees.
<p>Applicant's Justification: A waiver is requested due to:</p> <p>At the northernmost portion of our proposed right-of-way, we have a one-way drive-aisle that has been introduced to provide for additional travel in the neighborhood for two reasons:</p> <ol style="list-style-type: none"> 1. It allows emergency vehicles to have an additional pathway through the community. 2. It provides for the ability to loop back southward towards parking if a resident or guest misses their first right turn. <p>The current technical standard, in table 2 ("Minimum and maximum street design standards") on 7-5 of the Wilmington Technical Standards and Specifications Manual states that the minimum angle of intersection between any two or more streets may be 75°, as proposed, our angle is 35.7°. We are seeking a design adjustment on this roadway turn angle.</p> <p>It's worth noting that because of the drive-aisle being one-way, this will minimize the risk of a dangerous right turn at this angle.;</p>			
	Adjustment	Requirement	Proposed
3	City Standard Detail for a driveway. SD 3-03.1 & 3-03.2	Standard concrete driveway aprons	Street-style asphalt driveway aprons.
<p>Applicant's Justification: A waiver is requested due to:</p> <p>Vista Verde is proposing two street-style driveway isles to provide for the clustered parking that the single-family courtyard style requires.</p> <p>The city standard would be a concrete apron per SD 3-03.1 & 3-03.2.</p> <p>The intention for parking in this development pattern is for parking to be clustered together and to be the focus, so as to not allow for parking to become a focal point and distract from the equilibrium of the rest of the neighborhood. By using street-style drive isles, we can accomplish these goals and tuck parking back behind all of the dwellings where they are intended to be located, without drawing attention to it.</p>			
	Adjustment	Requirement	Proposed
4	Minimum tangent length between horizontal curves. Ch. 7.B, Table 2	Minimum 100-foot tangent length between curves.	20-foot tangent length between curves.

Applicant's Justification:

A waiver is requested due to:

Currently there is a Minimum 100' tangent length between horizontal curves on a roadway (City Technical Standards, Ch. 7, B, Table 2).

Much of our roadways have horizontal curves by design. There are two sections of our proposed roadway, located near the entrance as well as at the northern-most portion of our community where we have 2 "s-shaped" curves that have a tangent length of 20'. There is evidence suggesting that curved residential roadways (often called "traffic-calming streets" or "serpentine roads") can improve safety in several ways:

1. Reduced Vehicle Speeds

- Studies show that straight roads encourage higher speeds, as drivers feel more comfortable accelerating without obstacles.
- Curved roads naturally slow down traffic because drivers must adjust their speed to navigate turns safely.

2. Lower Accident Rates

- Research in traffic-calming measures has found that roads with curves, chicanes (alternating curb extensions), or roundabouts reduce speed-related crashes compared to long, straight roads.
The Federal Highway Administration (FHWA) recognizes horizontal deflections (curves or bends) as effective methods to improve safety.

3. Increased Driver Awareness

- Curves force drivers to pay more attention to the road, reducing distracted driving.
- On straight roads, drivers may become complacent, leading to more aggressive driving or lack of reaction time.

4. Improved Pedestrian & Cyclist Safety

- Curved residential streets discourage cut-through traffic, leading to fewer vehicles and safer conditions for pedestrians.
- Many curved street designs include sidewalks, medians, or landscaping, providing a safer buffer for non-motorized users.

5. Enhanced Neighborhood Environment

- Studies have linked traffic-calmed streets to a better quality of life, as lower speeds lead to less noise, lower emissions, and a safer atmosphere for children.
- Home values in areas with well-designed curved streets are often higher due to perceived safety and aesthetics.

Supporting Research

- The FHWA's Traffic Calming Guide and multiple urban planning studies have shown that curved streets reduce speeds and accidents compared to grid-style straight roads.
- A National Association of City Transportation Officials (NACTO) study found that traffic-calming road designs, including curves and narrower lanes, reduce crash severity and frequency.

	Adjustment	Requirement	Proposed
5	Length of cul-de-sac (from curblineline of intersecting through street to bottom of bulb or end of roadway) CH. VII (B) (Table 2) (Page 7-5)	Maximum 500 feet	671.24 feet
<p>Applicant's Justification: A waiver is requested due to: Future connectivity is to be provided to neighboring property.</p>			
	Adjustment	Requirement	Proposed
6	Standard Detail for Residential Cul-de-sacs SD 3-04	SD 3-04	No cul-de-sac proposed
<p>Applicant's Justification: A waiver is requested due to: Future connectivity is being proposed to the adjoining property as well as the construction of a looped driveway that will provide safe turn around for all vehicles.</p>			

FINDINGS OF FACT

In granting a requested adjustment, the design adjustment committee shall make findings of fact that the following requirements have been met, where applicable.

- The request meets the intent of this chapter.
- The request conforms with adopted comprehensive plans and other applicable plans.
- The request does not increase congestion or compromise safety.
- The request does not create any lots without direct street frontage.

STANDARDS FOR APPROVAL

A request for adjustment from the subdivision design standards or the Technical Standards and Specification Manual shall be deemed reasonable due to one or more of the following:

- Topographic constraints.
- The presence of existing buildings, streams, or other natural features.
- Site layout of adjacent adjoining properties.
- Adjoining uses or their vehicles are incompatible.
- Strict compliance would pose a safety hazard.
- Conflict with an approved or built roadway construction project adjacent to or in the vicinity of the site.

The request from the building design and materials standards shall be deemed reasonable due to one or more of the following situations:

- Unnecessary hardship would result from the strict application of this chapter. It shall not be necessary to demonstrate that in the absence of the adjustment no reasonable use can be made of the property.

- The adjustment would meet the intent of the standards requested for adjustment.
- The adjustment would conform with adopted comprehensive plans and any applicable adopted plans or design manual.
- The adjustment would not substantially injure the value of adjoining or abutting property.
- The character of the requested adjustment would be in harmony with the area in which the subject property is located.
- Strict compliance would pose a safety hazard.

RECOMMENDATION

If the Design Adjustment Committee elects to approve the proposed preliminary plan, staff recommend the following conditions be applied:

1. The use and development of the subject property shall comply with all regulations and requirements imposed by the Land Development Code, the City of Wilmington Technical Standards and Specifications Manual and any other applicable federal, state or local law, ordinance or regulation, as well as any condition stated below. In the event of a conflict, the more stringent requirement or higher standard shall apply.
2. Approval of this change of use plan does not constitute technical approval of a site plan. Final approval by the Technical Review Committee and the issuance of all required permits must occur prior to release of the project for construction.
3. If, for any reason, any condition for approval is found to be illegal or invalid or if the applicant should fail to accept any condition following approval, the approval of the preliminary plan shall be null and void.
4. The use and development of the subject property shall be in accordance with the preliminary plan as submitted and approved by the Design Adjustment Committee on 2/19/25.
5. All City, State and Federal regulations shall be met.

NEIGHBORHOOD CONTACT

Design Adjustment Committee	
<i>Signs Posted</i>	2/6/2025
<i>Property Owner Letters</i>	2/6/2025
<i>Advertisement Date(s)</i>	2/14/2025
<i>Adjacent Owner Inquiry</i>	None

ATTACHMENTS

1. Location Map (dated 1/3/25)
2. Design Adjustment Application (received 11/22/2024)
3. Waiver Request Letter (received 2/7/2025)
4. Proposed Site Plan (received 2/10/2025)

DESIGN ADJUSTMENT APPLICATION

DESIGN ADJUSTMENT COMMITTEE REVIEW



City of Wilmington
Planning and Development

PO Box 1810 | 929 N Front St.
Wilmington, NC 28401
Telephone 910.254.0900

- Subdivision Design Building Design & Materials Technical Standards & Specifications

All projects that require a design adjustment must submit a *Design Adjustment Application*. Design adjustments allow for deviations from the subdivision design standards, building design and material standards, or *Technical Standards and Specifications Manual*. Design adjustments will be heard by the Design Adjustment Committee (DAC) at a quasi-judicial hearing (Section 18-603). Following the DAC decision, construction plans may be submitted via the standard Formal TRC Review process. An application for a design adjustment must be submitted at the time of application for a preliminary subdivision plan or formal site plan review. Application packages must include the following:

- Design Adjustments Application & Fee (\$500.00)
- Design Adjustment Narrative (standard, requested adjustment, justification)
- Mailing Fee for Notification of Adjacent Property owners
 - An invoice will be emailed for the mailing fee at a cost of \$0.85 per notice. Payment must be made within 5 business days of the invoice.

Project Information

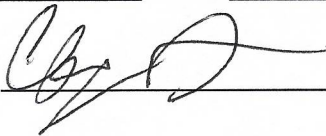
Project Name: Vista Verde
Location: 5651 Greenville Loop Rd Wilmington, NC 28409
Current Zoning: R-15 Site Acreage: 5 Acres
Proposed Land Uses: Single Family Courtyard Community Proposed Number of Units/Lots: 25
AM Peak Hour Vehicle Trips: 21 total PM Peak Hour Vehicle Trips: 27 total

Owner Information

Owner(s)' Name: Chauncey Archer
Mailing Address: 512 Van Dorn Ct Wilmington, NC 28412
Phone: 336-675-5369 Email: chauncey@brickandmojo.com

Consultant/Agent Information

Consultant/Agent Name: same as owner
Mailing Address: same as owner
Phone: same as owner Email: same as owner

Owner Authorization:  Date: 11/21/24

RECEIVED
By Todd Rademacher at 10:18 am, Nov 22, 2024

DESIGN ADJUSTMENT APPLICATION

Design Adjustment Narrative

The Design Adjustment Narrative must identify the standard(s) for which a design adjustment is being requested, the requested adjustments, and the justification for each requested adjustment. The applicant shall provide any pertinent material necessary for review. This may include architectural renderings, materials samples, roadway cross-sections, site or subdivision layouts, or other project specific information. It is recommended that a redline diagram (cutsheet from site plan) be provided to help illustrate each waiver/adjustment being requested.

DAC Review & Approval

In granting the requested adjustment, the design adjustment committee shall make findings of fact that the following requirements have been met, where applicable.

- The request meets the intent of this chapter.
- The request conforms with adopted comprehensive plans and other applicable plans.
- The request does not increase congestion or compromise safety.
- The request does not create any lots without direct street frontage.

A request for adjustment from a subdivision design standard or the Technical Standards and Specification Manual shall be deemed reasonable due to one or more of the following:

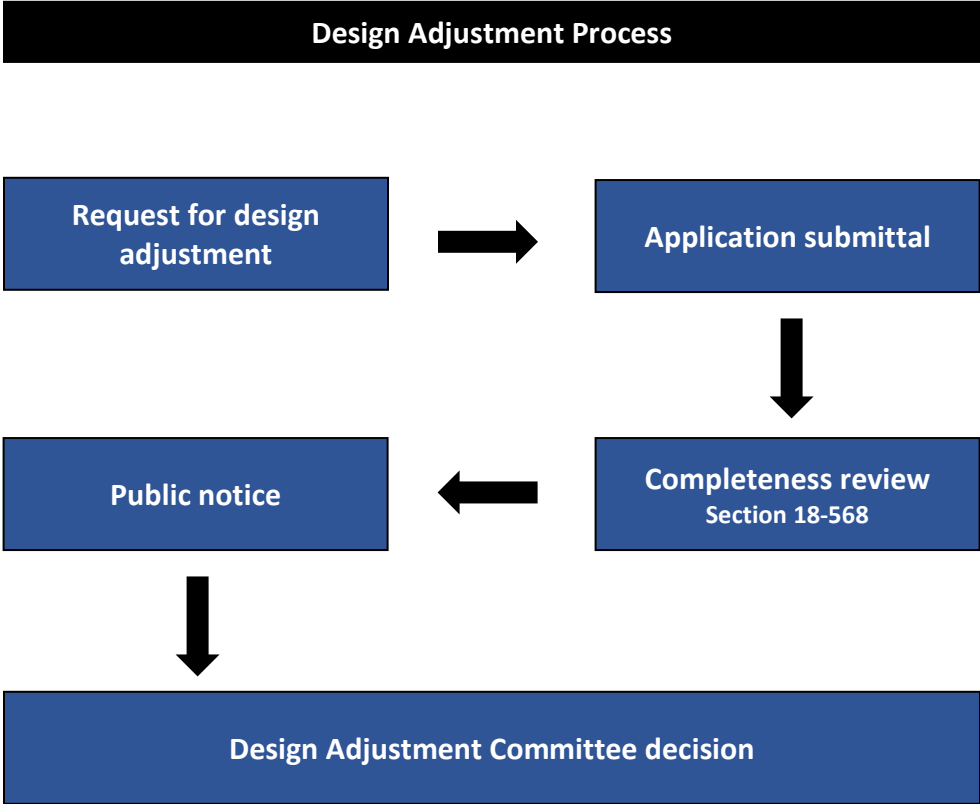
- Topographic constraints;
- The presence of existing buildings, stream, or other natural features;
- Site layout of adjacent adjoining properties;
- Adjoining uses or their vehicles are incompatible;
- Strict compliance would pose a safety hazard; or
- Conflict with an approved or built roadway construction project adjacent to or in the vicinity of the site.

A request for an adjustment from a building design and materials standard shall be deemed reasonable due to one or more of the following situations.

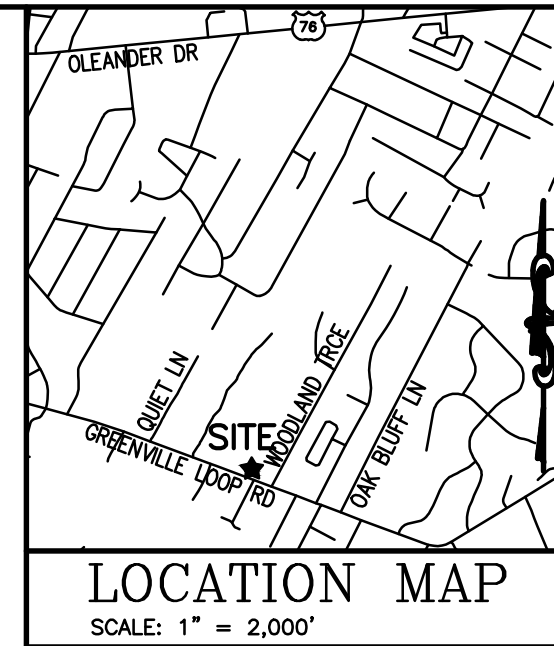
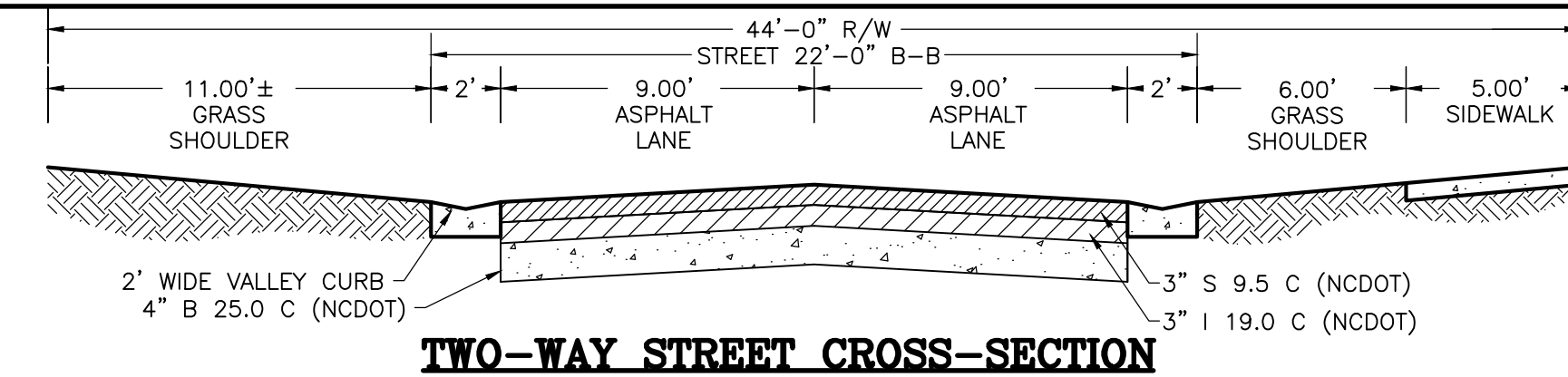
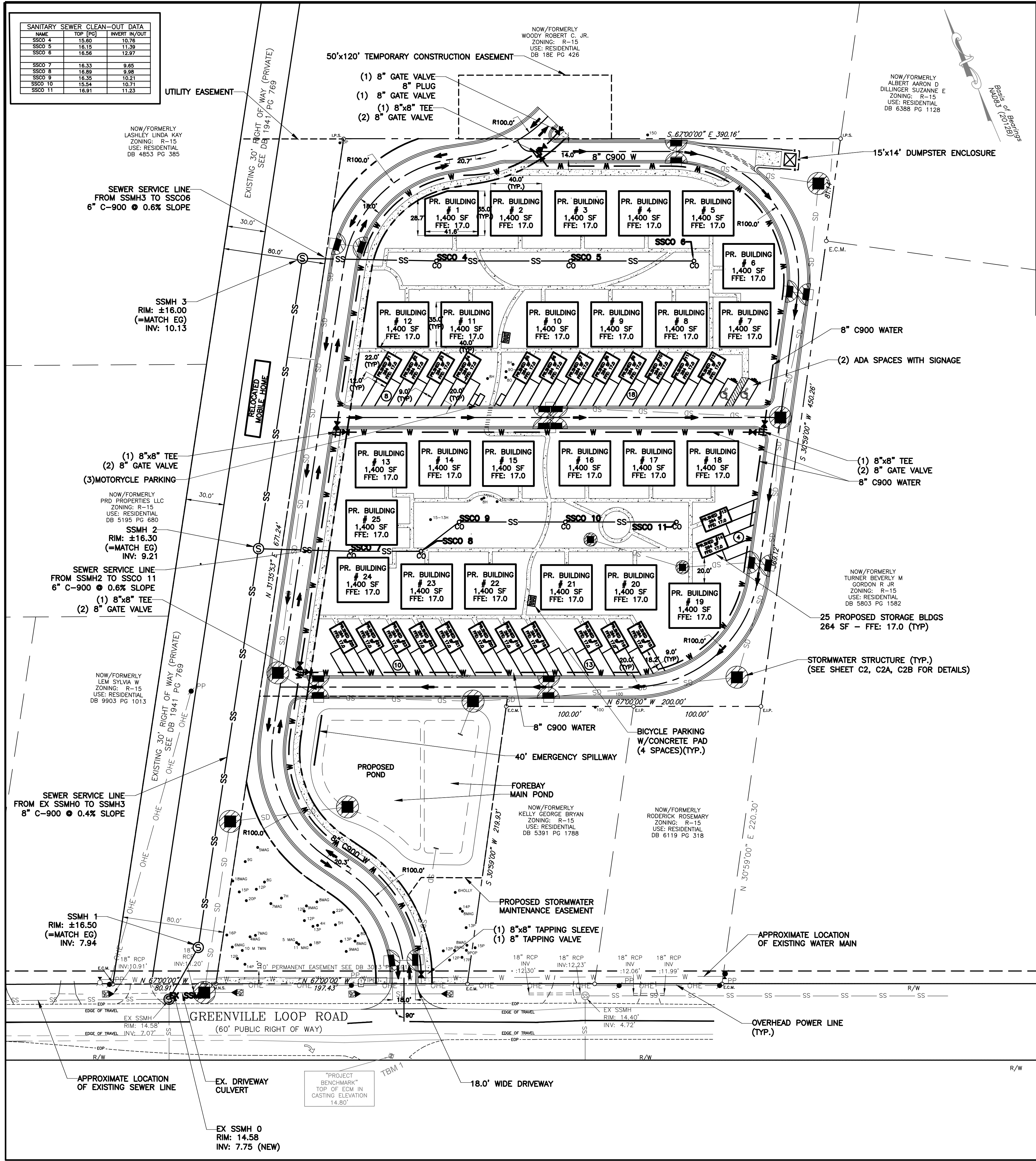
- Unnecessary hardship would result from the strict application of this chapter. It shall not be necessary to demonstrated that in the absence of the adjustment no reasonable use can be made of the property.
- The adjustment would meet the intent of the standards requested for adjustment.
- The adjustment would conform with adopted comprehensive plans and any applicable adopted plans or design manual.
- The adjustment would not substantially injure the value of adjoining or abutting property.
- The character of the requested adjustment would be in harmony with the area in which the subject property is located.
- Strict compliance would pose a safety hazard.

In no instance shall the design adjustment committee consider an application regarding:

- Minimum or maximum dimensional requirements for lot area, building height, or buffer width;
- Increases in maximum allowable residential density;
- Minimum required separation distance between two use types;
- Design elements required for compliance within a local historic district;
- Floodplain regulations; or
- Any condition of approval from another board or commission with purview of the project.



NAME	TOP (PG)	INVERT IN/OUT
SSCO 4	15.60	10.76
SSCO 5	16.16	11.39
SSCO 6	16.56	12.97
SSCO 7	16.33	9.65
SSCO 8	16.89	9.98
SSCO 9	16.35	10.21
SSCO 10	15.54	10.71
SSCO 11	16.91	11.23



No./Date	Description	By

NOTES:

ZONING

- TOPOGRAPHY AND TREE SURVEY COMPLETED BY INTRACOASTAL LAND SURVEYING, PLLC.
- CONTRACTOR SHALL FIELD VERIFY SIZE, MATERIAL, INVERTS AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO INSTALLATION OF PROPOSED CONNECTIONS.
- EXISTING EASEMENTS AS SHOWN
- CONTRACTOR SHALL MAINTAIN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- ADDITIONAL FIRE PROTECTION AND/OR ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.
- UNDERGROUND FIRE LINE(S) MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-341-0696.

SOLID WASTE

- SITE TO USE DUMPSTER.

TRAFFIC

- PLEASE COORDINATE WITH CITY TRAFFIC SIGNS AND MARKINGS MANAGER PRIOR TO INSTALLATION OF ANY TRAFFIC SIGNS.
- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
- ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD STANDARDS.
- ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- ANY BROKEN OR MISSING SIDEWALK PANELS AND CURBING WILL BE REPLACED.
- CONTACT 811 PRIOR TO CONTACTING CITY OF WILMINGTON, TRAFFIC ENGINEERING REDUCING THE UTILITIES IN ROW.
- CONTACT TRAFFIC ENGINEERING AT (910) 341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
- NO PARKING SPACES, FENCES, WALLS, POSTS, LIGHT, SHRUBS, TREES, OR OTHER TYPE OF OBSTRUCTIONS NOT SPECIFICALLY EXEMPTED SHALL BE PERMITTED IN THE SPACE BETWEEN 30 INCHES AND ABOVE GROUND AND 10 FEET ABOVE GROUND LEVEL WITHIN A TRIANGULAR SIGHT DISTANCE.

LANDSCAPING

- A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND THE PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAT. STREET TREES MUST BE LOCATED A MINIMUM OF 15 FEET FROM STREETLIGHTS.
- ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30'-10'.
- PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
- ANY TREES AND/OR AREAS DESIGNATED TO BE PROTECTED MUST BE PROPERLY BARRICADED WITH FENCING AND PROTECTED THROUGHOUT CONSTRUCTION TO INSURE THAT NO CLEARING, GRADING OR STAGING OF MATERIALS WILL OCCUR IN THOSE AREAS.
- NO EQUIPMENT IS ALLOWED ON SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING IS INSTALLED AND APPROVED. PROTECTIVE FENCING IS TO BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT AND CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTIONS ON TREE PROTECTION METHODS.
- ALL CURBING AROUND LANDSCAPE ISLAND TO BE MINIMUM 6" IN HEIGHT.
- TREE PRESERVATION/REMOVAL PERMIT IS REQUIRED PRIOR TO CLEARING AND LAND DISTURBANCE.
- LABEL PROTECTIVE FENCING WITH SIGNS TO BE PLACED EVERY 50 LINEAR FEET, OR AT LEAST TWO (2) PER AREA, IN BOTH ENGLISH AND SPANISH "TREE PROTECTION AREA: DO NOT ENTER".
- STREET TREES MUST BE LOCATED A MINIMUM OF 15 FEET FROM STREETLIGHTS.

CFPUA

- WATER AND SEWER SERVICE SHALL MEET CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) DETAILS AND SPECIFICATIONS.
- PROJECT SHALL COMPLY WITH THE CFPUA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL.
- IF THE CONTRACTOR DESIRES CFPUA WATER FOR CONSTRUCTION, HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
- ANY IRRIGATION SYSTEM SUPPLIED BY CFPUA WATER SHALL COMPLY WITH THE CFPUA'S CONNECTION CONTROL REGULATION. CALL 332-6419 FOR INFORMATION.
- ANY BACKFLOW PREVENTION DEVICES REQUIRED BY CFPUA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES FOR USCFCOHR OR ASSE.
- PUBLIC WATER AND SEWER EXIST WITHIN WRIGHTSVILLE AVE. R/W. NO RECORDS OF INDIVIDUAL EASEMENTS EXIST.
- CONTACT THE NORTH CAROLINA ONE CALL CENTER AT 1-800-632-4949 PRIOR TO DOING ANY DIGGING, CLEARING OR GRADING.
- ANY IRRIGATION SYSTEM SHALL BE EQUIPPED WITH A RAIN AND FREEZER SENSOR.
- CONTRACTOR TO FIELD VERIFY EXISTING WATER AND SEWER SERVICE LOCATIONS, SIZES AND MATERIALS PRIOR TO CONSTRUCTION. ENGINEER TO BE NOTIFIED OF ANY CONFLICTS.

DRAINAGE

- STORMWATER PROVIDED BY STORMWATER POND.

FIRE AND LIFE SAFETY NOTES

- CONTRACTOR SHALL MAINTAIN AN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION
- NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS DELIVERED TO THE JOB SITE
- A HYDRANT MUST BE WITHIN 150' OF THE FDC (MEASURED AS THE TRUCK DRIVES FOR PRACTICAL USE)
- FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT
- LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE FDC'S OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL ALWAYS BE MAINTAINED AROUND THE CIRCUMFERENCE OF HYDRANTS AND FDC'S.
- PRIVATE UNDERGROUND FIRE LINES REQUIRE A SEPARATE UNDERGROUND FIRE LINE PERMIT FROM THE WILMINGTON FIRE AND LIFE SAFETY DIVISION 910-343-0696
- CONTRACTOR SHALL SUBMIT A RADIO SIGNAL STRENGTH STUDY FOR ALL MULTI-STORY COMMERCIAL BUILDINGS AND ALL SINGLE-STORY COMMERCIAL BUILDINGS EXCEEDING 7500 SQ/FT THAT DEMONSTRATES THAT EXISTING EMERGENCY RESPONDER RADIO SIGNAL LEVELS MEET THE REQUIREMENTS OF SECTION 510 OF THE 2018 NC FIRE CODE.
- HALL ISOLATION VALVES WITHIN THE "HOT BOX" AND BETWEEN THE "HOT BOX" AND THE RISER ROOM, MUST BE ELECTRICALLY SUPERVISED.

SITE LIGHTING

- SITE LIGHTING PLAN TO BE PROVIDED BY OTHERS.
- DUKE ENERGY TO PROVIDE STREET LIGHT TO CITY STANDARDS (NON-PHOTOMETRIC)

NCDOT

- NO SURFACE WATERS, WETLANDS, REGULATORY FLOOD ZONES, PROTECTED VEGETATED SETBACKS OR PROTECTED RIPARIAN BUFFERS EXIST ON SITE.

SITE DATA:

PROPERTY OWNER: MOJO INVESTMENTS LLC
PROJECT ADDRESS: 5651 GREENVILLE LOOP ROAD
PIN NUMBER: R06200-003-275-000

AREA NOT IN A FEMA 100-YEAR FLOOD ZONE.
ZONING DISTRICT: R-15 RESIDENTIAL DISTRICT
CAMA LAND USE: WATERSHED RESOURCE PROTECTION
DISTURBED AREA: 5.3 AC
SETBACKS REQUIRED: FRONT: 20', REAR: 25', SIDE: 10'

PROPOSED SETBACKS: FRONT: 259.3', REAR: 41.2', SIDE: 31.7'

TRACT AREA: 217,755 SF (5.0 AC)
BUILDING USE: RESIDENTIAL
EXISTING BUILDING AREA: 2,190 SF
TOTAL PROPOSED BUILDING AREA (GROSS): 41,600 SF
BUILDING LOT COVERAGE (41,600/217,800): 19.1%
NUMBER OF BUILDINGS: 50 (25 HOUSES & 25 SHEDS)
MAXIMUM BUILDING HEIGHT: 35'
BUILDING HEIGHT: 31'-7"
NUMBER OF STORIES: 2
SF PER FLOOR (GROSS): 1ST FLOOR: 1,400 SF, 2ND FLOOR: 1,400 SF

EXISTING IMPERVIOUS AREAS: 2,190 SF
PROPOSED ON-SITE IMPERVIOUS AREA: 41,600 SF
PROPOSED ASPHALT: 43,310 SF
PROPOSED CONCRETE: 22,007 SF
FUTURE: 0 SF
TOTAL IMPERVIOUS AREA: 87,117 SF (40.0%)
IMPERVIOUS ALLOTTED: (90% OF 217,800) 196,020 SF
PROPOSED OFFSITE IMPERVIOUS AREA: 1,303 SF

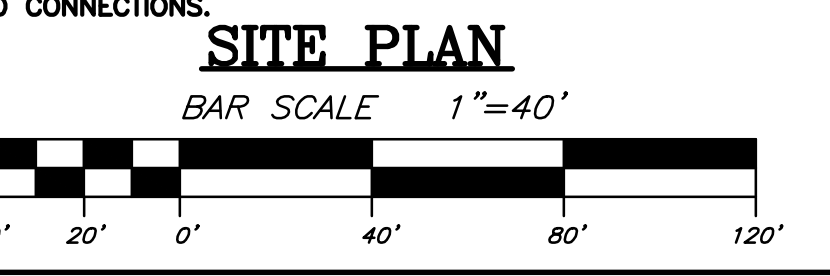
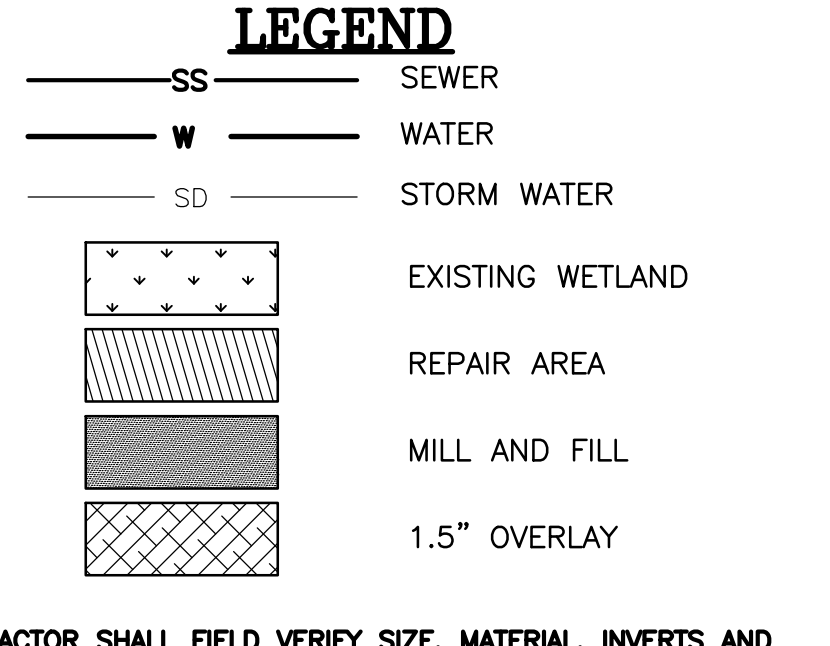
PARKING REQUIRED: NO MINIMUM / NO MAXIMUM (DETACHED DWELLING)
SPACES PROPOSED: 53 SPACES

MOTORCYCLE/MOPED SPACES REQUIRED (1/25): 3 SPACES
MOTORCYCLE/MOPED SPACES PROPOSED: 3 SPACES
ELECTRIC VEHICLE REQUIRED: 0 SPACES
(NONE FOR RESIDENTIAL DETACHED)
ELECTRIC VEHICLE PROPOSED: 0 SPACES

HANDICAP PARKING REQUIRED: 1 PER 25
53/25 = 2.12
2 SPACES/PROVIDED

BICYCLE SPACES REQUIRED: 5 BICYCLE SPACES
(1/5 DWELLING UNITS (MULTIPLE/TOWNHOUSE))
BICYCLE SPACES PROPOSED: 8 BICYCLE SPACES

PUBLIC WATER AND SEWER BY CFPUA
EXISTING WATER FLOW: 300 GPD
EXISTING SEWER FLOW: 270 GPD
PROPOSED WATER FLOW: 6,190 GPD
PROPOSED SEWER FLOW: 5,625 GPD
(=75 GPD/BDRM * 25 HOUSES + 3 BDRM/HOUSE)



SITE AND UTILITY PLAN

VISTA VERDE

5651 GREENVILLE LOOP RD
WILMINGTON, NORTH CAROLINA

TRIPP ENGINEERING, P.C.

419 Chestnut Street
Wilmington, North Carolina 28401
Phone 910-763-5100
Fax 910-763-5631

PRELIMINARY (DO NOT USE FOR CONSTRUCTION)

DATE: 02-07-25
DESIGN: PGT
DRAWN: LAM

C1

24010

Design Adjustment Narrative

Proposed right-of-way for “Vista Verde” a courtyard community

Overview

Vista Verde: Wilmington’s first proposed residential courtyard community, comprised of 25 intelligently designed single-family homes, 3 natural green spaces, and interconnected walking paths. Nestled in nature and set 220’ back from the main road, Vista Verde aspires to set an example of an exceptionally designed community, blended cohesively into the fabric of Greenville Loop.

Site Location: Our site is located at 5651 Greenville Loop Rd in Wilmington, NC

Adjustment Proposal #1: Right-of-way technical standard

Current technical standard

Currently with the proposed community of 25 single-family dwellings, the technical standards would require us to have a "local residential" right-of-way. This is a 50' wide right-of-way, consisting of 24' of pavement with the following on both sides: 2' of curb, 6' of plaza, 5' of sidewalk. (Section 7-4, Table 1, "minimum standards for non-arterial streets in residential areas and subdivisions").

It is our opinion that this is a rather large roadway requirement, especially considering the unique nature of a courtyard style development. Courtyard developments are created to embrace the natural landscape and create eco-friendly greenspaces that promote pedestrian and biking opportunities, as well as provide for a more active lifestyle. The question that has come to the forefront of our minds is: does it make sense for us to have this very large roadway into a community that’s supposed to set the example for being environmentally conscious and more pedestrian driven?

Proposed technical adjustment

We are seeking a design adjustment for our right-of-way to be 33' wide. We would seek to accomplish this by reducing the required standard to meet what the newly proposed technical standards are for a "Residential Standard" right-of-way (Chapter 2, page 2-3, "Functional Classification") with a plaza and sidewalk only on the eastern side of our street. Our 33' wide calculation would be made up of 18' of asphalt, 2' of curb on either side, 6' of plaza on its eastern side, and 5' of sidewalk on its eastern side.

This would serve to benefit our community in 3 ways: reduce the environmental impact of our right-of-way, enhance public safety, and benefit and enrich the community as a whole.

1. Reduced Environmental Impact

Preservation of Natural Areas: narrower rights-of-way require less land clearing, preserving more of the natural environment, including vegetation, wildlife habitats, and soil integrity. This minimizes ecological disruption and maintains the local ecosystem's health.

Lower Impervious Surface Area: Smaller roadways reduce the amount of impervious surfaces, which helps improve stormwater management, reduce runoff, and mitigate flooding. This also decreases the heat island effect often associated with wide paved areas.

Material and Energy Savings: Constructing narrower roads uses fewer materials, such as asphalt and concrete, reducing the carbon footprint of road building. Fewer construction activities also mean less disruption to the surrounding environment during the development phase.

2. Enhanced Public Safety

One-Sided Sidewalk: Our entire proposed community has dwellings only on its eastern side, as the main roadway that we have proposed is situated on the western side in its entirety. Having a sidewalk that would force pedestrians across a main roadway, would invite accidents that can be avoided.

Traffic Calming: Narrower streets naturally slow vehicle speeds, reducing the likelihood and severity of accidents. Slower speeds are particularly beneficial in residential areas where pedestrians, cyclists, and children are present.

Improved Pedestrian Safety: Reduced roadway widths shorten crossing distances for pedestrians, making it safer and more convenient to walk within the community.

Encouragement of Active Transportation: Narrow streets, combined with well-designed sidewalks and bike paths, can encourage walking and cycling over driving, promoting healthier and more sustainable transportation habits.

3. Community Benefits

Aesthetic and Community Character: Narrower streets contribute to a more human-scale, village-like atmosphere, which enhances community connectivity and livability.

Cost Savings: Smaller roads cost less to build and maintain, allowing resources to be allocated to other community improvements like parks, gardens, or community amenities.

Adjustment Proposal #2: Non-conforming turn angle

At the northernmost portion of our proposed right-of-way, we have a one-way drive-aisle that has been introduced to provide for additional travel in the neighborhood for two reasons:

1. It allows for emergency vehicles to have additional pathway through the community;
2. It provides for the ability to loop back southward towards parking if a resident or guest misses their first right turn;

The current technical standard, in table 2 (“Minimum and maximum street design standards”) on Ch.7 C.1.3 of the Wilmington Technical Standards and Specifications Manual states that the minimum angle of intersection between a driveway and a street may be 75°, as proposed, our angle is 35.7°. We are seeking a design adjustment on this roadway turn angle.

It’s worth noting that because of the drive-aisle being one-way, this will minimize risk of a dangerous right turn at this angle.

Adjustment Proposal #3: Street-style driveway isles

Vista Verde is proposing two street-style driveway isles to provide for the clustered parking that the single family courtyard style requires.

The city standard would be a concrete apron per SD 3-03.1 & 3-03.2.

The intention for parking in this development pattern is for parking to be clustered together and to be the focus, so as to not allow for parking to become a focal point and distract from the equilibrium of the rest of the neighborhood. By using street-style drive isles, we can accomplish these goals and tuck parking back behind all of the dwellings where they are intended to be located, without drawing attention to it.

Adjustment Proposal #4: Eliminate tangent line length requirement between horizontal curves

Currently there is a Minimum 100’ tangent length between horizontal curves on a roadway (City Technical Standards, Ch. 7, B, Table 2).

Much of our roadway has horizontal curves by design. There are two sections of our proposed roadway, located near the entrance as well as at the northern-most portion of our community where we have 2 “s-shaped” curves that have a tangent length of 20’. There is evidence suggesting that **curved residential roadways** (often called “traffic-calming streets” or “serpentine roads”) can improve safety in several ways:

1. Reduced Vehicle Speeds

- Studies show that straight roads encourage **higher speeds**, as drivers feel more comfortable accelerating without obstacles.
- Curved roads naturally slow down traffic because drivers must adjust their speed to **navigate turns safely**.

2. Lower Accident Rates

- Research in **traffic-calming measures** has found that roads with curves, chicanes (alternating curb extensions), or roundabouts reduce **speed-related crashes** compared to long, straight roads.
- The Federal Highway Administration (FHWA) recognizes **horizontal deflections (curves or bends)** as effective methods to improve safety.

3. Increased Driver Awareness

- Curves force drivers to **pay more attention** to the road, reducing distracted driving.
- On straight roads, drivers may become **complacent**, leading to more aggressive driving or lack of reaction time.

4. Improved Pedestrian & Cyclist Safety

- Curved residential streets discourage cut-through traffic, leading to **fewer vehicles and safer conditions for pedestrians**.
- Many curved street designs include **sidewalks, medians, or landscaping**, providing a safer buffer for non-motorized users.

5. Enhanced Neighborhood Environment

- Studies have linked traffic-calmed streets to **better quality of life**, as lower speeds lead to **less noise, lower emissions, and a safer atmosphere for children**.
- Home values in areas with well-designed curved streets are often **higher due to perceived safety and aesthetics**.

Supporting Research

- The **FHWA's Traffic Calming Guide** and multiple urban planning studies have shown that curved streets **reduce speeds and accidents** compared to grid-style straight roads.
- A **National Association of City Transportation Officials (NACTO)** study found that **traffic-calming road designs**, including curves and narrower lanes, reduce crash severity and frequency.

In light of all of this, we are requesting for the tangent length requirement of 100' to be eliminated in our plan.

~~Adjustment Proposal #5: Proposal for private streets~~

~~Currently a public street or streets shall be required to serve any multiple family development which contain 50 or more units or has any principal structure more than 500 feet away from any existing public streets (City Technical Standards, Ch. 7, B, General Standards).~~

~~As proposed, our community only contains 25 single family home sites, but some of those do fall outside of the technical standard requiring them to be 500' away or less from any existing street.~~

~~Vista Verde is proposing a private roadway system. This will offer some distinct advantages to our project:~~

- ~~• Private streets reduce the financial burden on the city for maintenance and repairs, and will allow for the community to provide for better long term maintenance and aesthetics~~
- ~~• It allows for some flexibility in our roadway design, working with the the natural landscape, disrupting less, saving more trees, keeping more natural vegetative growth, occupying less space, and using less material.~~
- ~~• A private roadway would allow us to integrate more pedestrian use pathways, community green spaces, and biking opportunities.~~

Potential Community Growth

Our proposed community currently has 25 units, but looking ahead to the future, we hope for it to continue to grow. Even with our request to meet the “residential standard” specification, our neighborhood would never be able to exceed the maximal 150 units that the newly proposed “residential standard” roadway intends to service. Gaining this design adjustment to our proposed community would allow us to achieve the mission of this development plan while capturing the character and vibrance that the city of Wilmington provides for so many.

Thank you for the time and consideration for our request.

Sincerely,
Chauncey Archer
Property Owner / President of Brick & Mojo

336-675-5369
chauncey@brickandmojo.com