

Construction / Site Plan

SUB - XXXX - 2022

Rolesville, Wake County, North Carolina

V1 - SDP-23-06

Add case number SDP-23-06 to the cover sheet.

Vineyard Pine Commercial

4502 Vineyard Pine Lane

March 2023

SITE DATA:

SITE ADDRESS: 4502 VINEYARD PINE LANE
 PIN: 1758453022
 SITE AREA: 1.45 AC (63,259 SF)
 ZONING DISTRICT: OP-CZ (OFFICE AND PROFESSIONAL)
 OVERLAY: NONE
 EXISTING USE: VACANT
 IMPERVIOUS EXISTING: 0 ACRES (0 SF)
 IMPERVIOUS PROPOSED: 1.09 ACRES (47,652 SF)
 IMPERVIOUS PERCENT (%): 75%
 WATERSHED: MILBURNIE LAKE - NEUSE
 HUC: 0302020107
 LATITUDE: 35.906033
 LONGITUDE: -79.688333
 FLOOD ZONE: NONE PER FEMA FIRM

OPEN SPACE SIZE REQ'D: 3163 SF (5%)
 OPEN SPACE SIZE PROVIDED: 10,029 SF (16%)
 SUMMARY OPEN SPACE:
 ACTIVE OPEN AREA 1 = 1834 SF
 ACTIVE OPEN AREA 2 = 950 SF
 TOTAL ACTIVE = 2784 SF (2784 / 3163 = 88%)
 PASSIVE OPEN AREA = 7245 SF
 TOTAL OPEN SPACE = 10,029 SF

BUILDING SETBACKS: 20' (FRONT - VINEYARD PINE)
 15' (SIDE)
 35' (REAR)

BUILDING COMMERCIAL (SF): 18,150 SF

BUILDING HEIGHT (MAX): 35'
 BUILDING HEIGHT (PROVIDED): 35'

PARKING SUMMARY:
 RETAIL SALES: MIN 2.5 / 1000 SF 18,184 / 1000 * 2.5 = 45 SPACES
 RETAIL SALES: MAX 7.5 / 1000 SF 18,184 / 1000 * 7.5 = 136 SPACES
 PARKING PROVIDED: 56 SPACES

BIKE PARKING (REQUIRED): 1 PER 5000 SF BLDG (18,184 / 5000=4)
 BIKE PARKING (PROVIDED): 4
 TOTAL DENUDED AREA: 60,361 SF (1.39 ACRES)

PEDESTRAIN AMENITIES - 4 REQUIRED

PATIO SEATING IN OPEN AREA 1
 PATIO SEATING IN OPEN AREA 2
 PAVERS IN OPEN AREA 1 AND 2
 DECORATIVE PLANTERS IN OPEN AREAS 1 AND 2

Please add a reference box to the recently approved REZ-23-04 and TA-23-04 and any conditions of approval or concessions approved.

SHEET	DESCRIPTION
C0	Cover Sheet
C1	Existing Conditions and Demolition Plan
C2	Site Plan
C3	Grading and Stormwater Plan
C4	Utility Plan
C5	Landscaping Plan
SL1	Site Lighting Plan
SL2	Site Lighting Fixtures
D1	Site Details
D2	Storm Drainage Details
D3	Storm Filter Details
D4	Storm Filter Details
EC1	Erosion Control Plan Phase 1
EC2	Erosion Control Plan Phase 2
EC3	Erosion Control Plan Phase 3
EC4	Erosion Control Plan Phase 4
EC5	Erosion Control Details
EC6	Erosion Control Details
EC7	NCG01 Requirements

PROJECT INFORMATION:

PROJECT: VINEYARD PINE ROAD COMMERCIAL

OWNER / DEVELOPER: MRR DEVELOPMENT, LLC
 10121 CAPITOL BLVD, SUITE 105
 WAKE FOREST, NC 27587
 (330) 573-4030

PHONE: OMAR EL-KAISSI
 CONTACT: OMAR@MEINEKENC.COM
 EMAIL: OMAR@MEINEKENC.COM

ENGINEER: KEITH P. GETTLE, PE
 GETTLE ENGINEERING AND DESIGN, PLLC
 LICENSE: P-2538
 3616 WAXWING CT.
 WAKE FOREST, NC 27587
 (919) 210-3934
 KPGETTLE@GMAIL.COM

PHONE: CAWTHORNE MOSS AND PANCIERA P.C.
 EMAIL: 333 SOUTH WHITE STREET
 WAKE FOREST NORTH CAROLINA 27588
 (919) 556- 3148

PUBLIC IMPROVEMENT QUANTITIES

PHASE NUMBER(S)	PHASE 1
NUMBER OF LOT (S)	1
LOT NUMBERS BY PHASE	1
NUMBER OF UNITS	1
RESIDENTIAL UNITS	0
OPEN SPACE (YES/NO)	YES
PUBLIC WATER (LF)	0
PUBLIC 8" PVC SEWER	0
WATER SERVICE STUBS	1
WATER SERVICE ABANDONED	0
SEWER SERVICE STUBS (NEW)	1
SEWER SERVICE REMOVED	0

Please update the Site Data Table with the following information:

- Proposed Use
- New Zoning designation
- Add required Corner setback (25')
- Update open space to note which open space type is provided per LDO Section 6.2.1.3.D
- Loading Parking Spaces Required
- Loading Parking Spaces Provided

EROSION CONTROL, STORMWATER AND FLOODPLAIN MANAGEMENT

APPROVED

EROSION CONTROL S- _____

STORMWATER MGMT. S- _____

FLOOD STUDY S- _____

DATE _____

ENVIRONMENTAL CONSULTANT SIGNATURE

SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)

The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Form # _____

The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Form # _____

The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh Public Utilities Department Form # _____

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

Plans for the proposed use have been reviewed for general compliance with applicable codes. This limited review, and authorization for construction is not to be considered to represent total compliance with all legal requirements for development and construction. The property owner, design consultants, and contractors are each responsible for compliance with all applicable City, State and Federal laws. This specific authorization below is not a permit, nor shall it be construed to permit any violation of City, State or Federal Law. All Construction must be in accordance with all local, State, and Federal Rules and Regulations.

Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of this approval plan. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be edited once issued. Any modification to this approval once issued will invalidate this approval.

City of Raleigh Development Approval _____
 City of Raleigh Review Officer

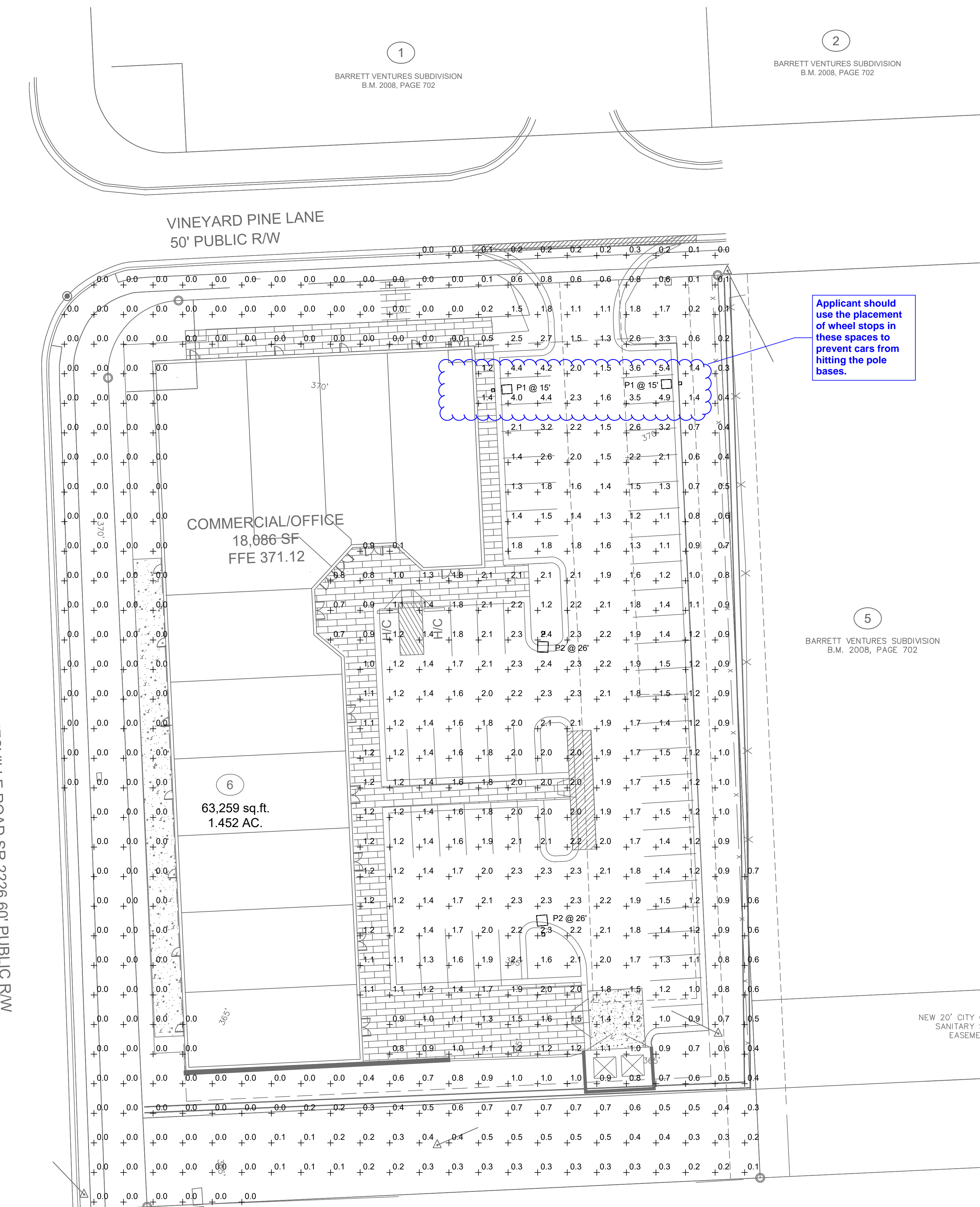
Gettle Engineering and Design, PLLC
 3616 Waxwing Court,
 Wake Forest, North Carolina 27587
 (919) 210-3934 Firm License P-2538

BY	DATE	COMMENT	BY	DATE	COMMENT	BY	DATE	COMMENT	BY	DATE	COMMENT	BY	DATE	COMMENT	BY	DATE	COMMENT
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Cover Sheet
 Vineyard Pine Commercial
 MRR Development, LLC
 Rolesville, Wake County, North Carolina

Project No. 23005
 Dwg No. C0



Applicant should use the placement of wheel stops in these spaces to prevent cars from hitting the pole bases.

Symbol	Label	Image	QTY	Manufacturer	Catalog	Description	Number Lamps	Lamp Output	LLF	Input Power	Notes
□	P1		2	Lithonia Lighting	RSX1 LED P1 40K R4 HS	RSX LED Area Luminaire Size 1 P1 Lumen Package 4000K CCT Type R4 Distribution with HS shield	1	4725	1	51.34	MOUNTING HEIGHT/POLE HEIGHT AS INDICATED ON PLAN.
□	P2		2	Lithonia Lighting	RSX2 LED P4 40K R5	RSX Area Fixture Size 2 P4 Lumen Package 4000K CCT Type R5 Distribution	1	2567	1	189.54	MOUNTING HEIGHT/POLE HEIGHT AS INDICATED ON PLAN.

Please label the proposed location of any building mounted lighting.

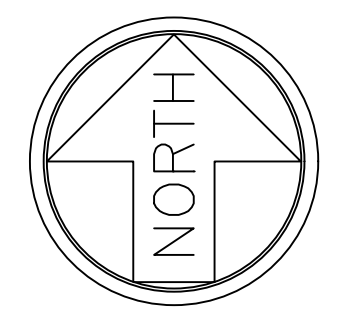
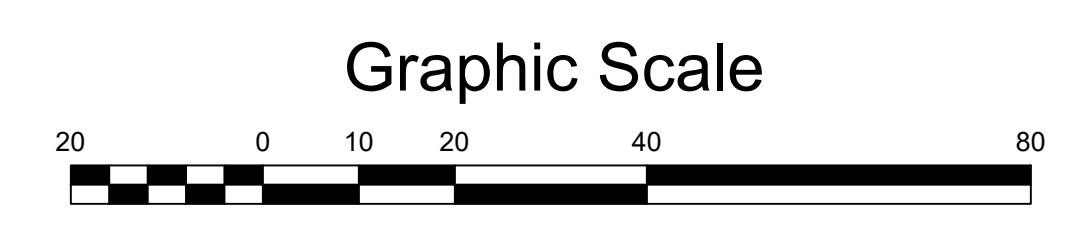
Isofootcandle readings should be adjusted to account for building mounted lighting.

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
PARKING LOT	+	1.8 fc	5.8 fc	0.9 fc	6.2:1	2.0:1
PROPERTY LINE	+	0.2 fc	0.8 fc	0.0 fc	N/A	N/A

NO.	DATE	BY	REVISION DESCRIPTION
1			
2			
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8			



Site Lighting Plan
 Vineyard Pine Commercial
 MRR Development, LLC
 Rolesville, Wake County, North Carolina



Project No.
 Dwg No.
SL1

Though we understand this is a platted easement, the sign easement shall not overlap with any other easements, buildings, or rights-of-way.

If possible, please include the Book and Map page number of Vineyard Pine Lane.

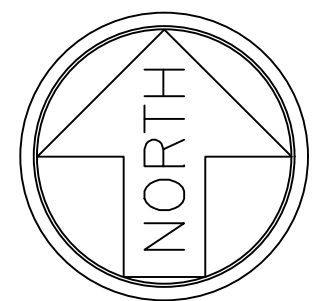
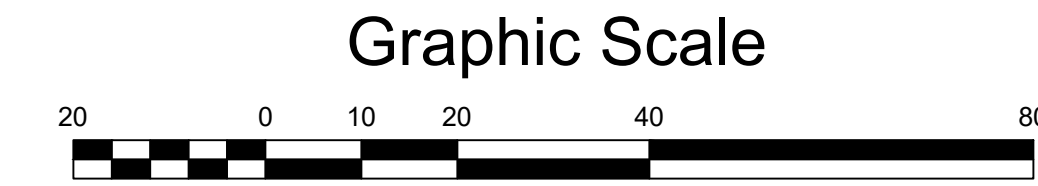
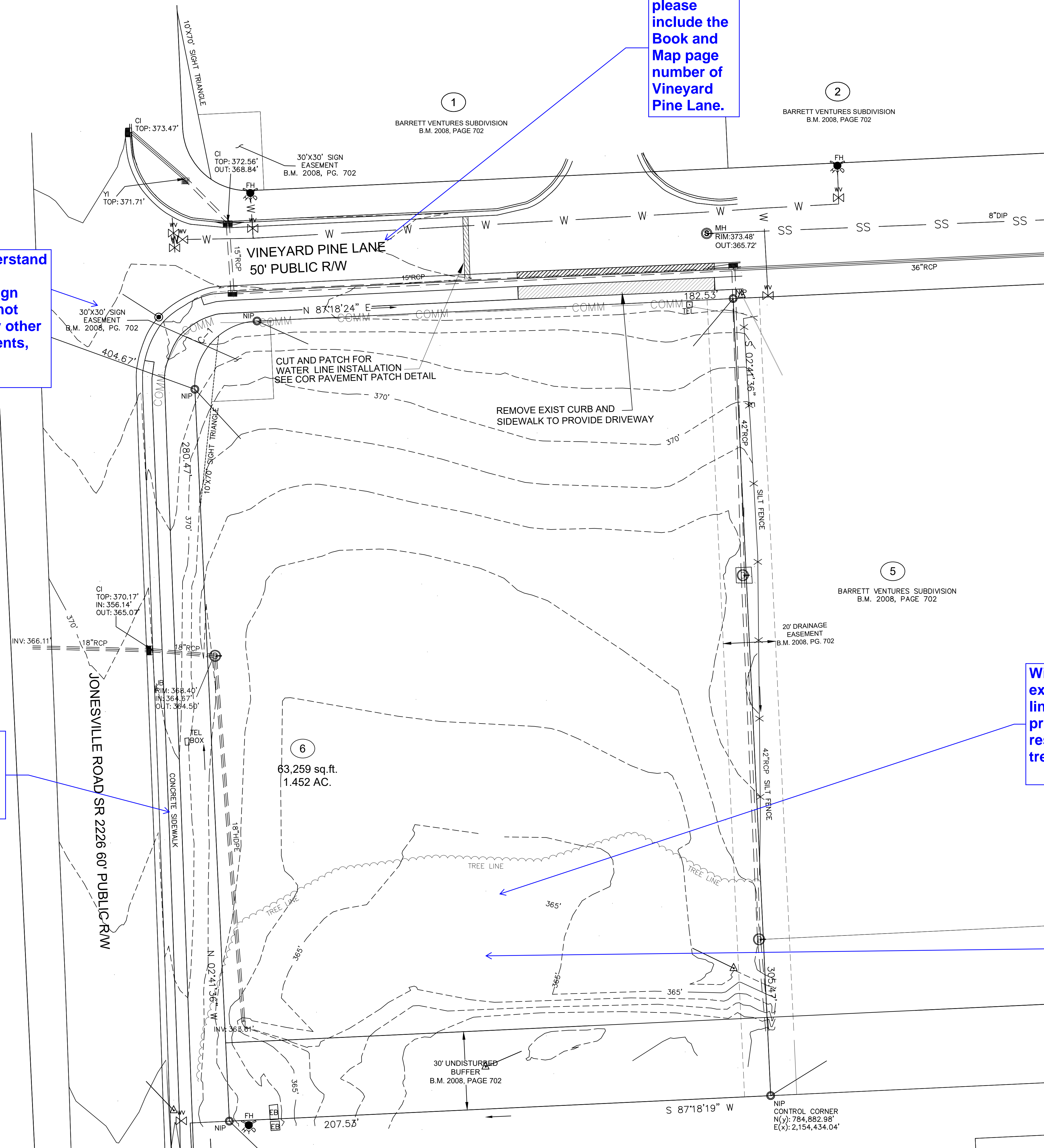
Please provide the width of the existing sidewalk.

Within the existing tree line, please provide the results of the tree survey.

As this is a demo plan, the proposed limits of disturbance should be indicated. The new tree line should be clearly marked and the location of tree protection fencing should be indicated.

SITE NOTES

1. PROPERTY BOUNDARY AND EXISTING CONDITIONS INFORMATION TAKEN FROM A FIELD SURVEY BY CAWTHORNE, MOSS AND PANCIERA, ENTITLED "LOT 6, BARRETT VENTURES, 4502 VINEYARD PINE LANE."
2. NO FLOOD HAZARD AREAS WITHIN PROJECT BOUNDARY PER FEMA MAP 3720174700J.
3. ALL EXISTING ELEVATIONS, FEATURES, AND UTILITIES TO BE FIELD VERIFIED.



NO.	DATE	COMMENT	BY
1			
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Exist. Conditions & Demo Plan
 Vineyard Pine Commercial
 MRR Development, LLC
 Rolesville, Wake County, North Carolina

Project No. 23005
 Dwg No. **C1**

Gettle Engineering and Design, PLLC
 3616 Waxwing Court,
 Wake Forest, North Carolina 27587
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Provide crosswalks across Vineyard Pine Lane and the driveway entrance.

Show connection of paver walkway to the sidewalk

Section 6.4.4.A. 3 and 4 indicate that parking spaces and overhang should not hinder or encroach into a sidewalk and where there is overhang, a minimum clear width shall be provided equal to the minimum sidewalk width required. Please provide wheel stops or increase width of sidewalk

SITE NOTES

- WHERE NEW CURB AND GUTTER IS INSTALLED IN A PUBLIC STREET RIGHT-OF-WAY, USE 30" CURB AND GUTTER. IN OTHER LOCATIONS, USE 24" CURB AND GUTTER.
- ALL CURB DIMENSIONS ARE MEASURED TO BACK OF CURB, AND ALL CURB RADII ARE 3 FEET, UNLESS INDICATED OTHERWISE.
- ALL SITE CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI UNLESS OTHERWISE INDICATED.
- ALL BASE AND PAVING WORK SHALL COMPLY WITH LOCAL STANDARDS. INDICATED PAVEMENT THICKNESSES REFER TO COMPACTED THICKNESS.
- INSTALL ALL PAVEMENT WITH POSITIVE SURFACE DRAINAGE.
- ALL HANDICAPPED PARKING SPACES, AISLES, RAMPS, SIGNAGE, PAVEMENT MARKINGS, CROSSWALKS, AND ACCESSIBLE ROUTES SHALL MEET APPLICABLE REQUIREMENTS OF THE NORTH CAROLINA ACCESSIBILITY CODE.
- ALL HANDICAP ACCESSIBLE PARKING SPACES SHALL HAVE AN R7-8 AND R7-8D SIGN. ALL SIGNS FOR VAN ACCESSIBLE SPACES SHALL ALSO INCLUDE A "VAN ACCESSIBLE" SIGN.
- CONTRACTOR SHALL PROVIDE ADEQUATE TRAFFIC CONTROL MEASURES DURING THE COURSE OF PROJECT WORK IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS, THE N.C. SUPPLEMENT TO THE MUTCD, ANY REGULATORY AGENCY REQUIREMENTS, AND PROJECT-SPECIFIC SAFETY CONSIDERATIONS.
- TIE-INS TO EXISTING PAVEMENT, CURBS, WALKS, ETC. SHALL BE MADE WITH NEAT EDGES AND SMOOTH, GRADUAL TRANSITIONS THAT ARE SAFE, FUNCTIONAL, DURABLE, AND VISUALLY ACCEPTABLE TO THE OWNER AND REVIEW AUTHORITIES.

Building located in the existing sign easment

Pedestrian amenity Active Open Space Area #2 is noted as "Patio Seating Open Area" however, no seating has been labeled or provided. Please update.

The setback along Jonesville Road shall be a corner setback of 25'

Please straighten these parking lines. They appear slanted and thus not to the scale shown.

This loading area is within a 24' drive aisle, visibility and circulation hazard. Please relocated per LDO Section 6.4.5.C.6

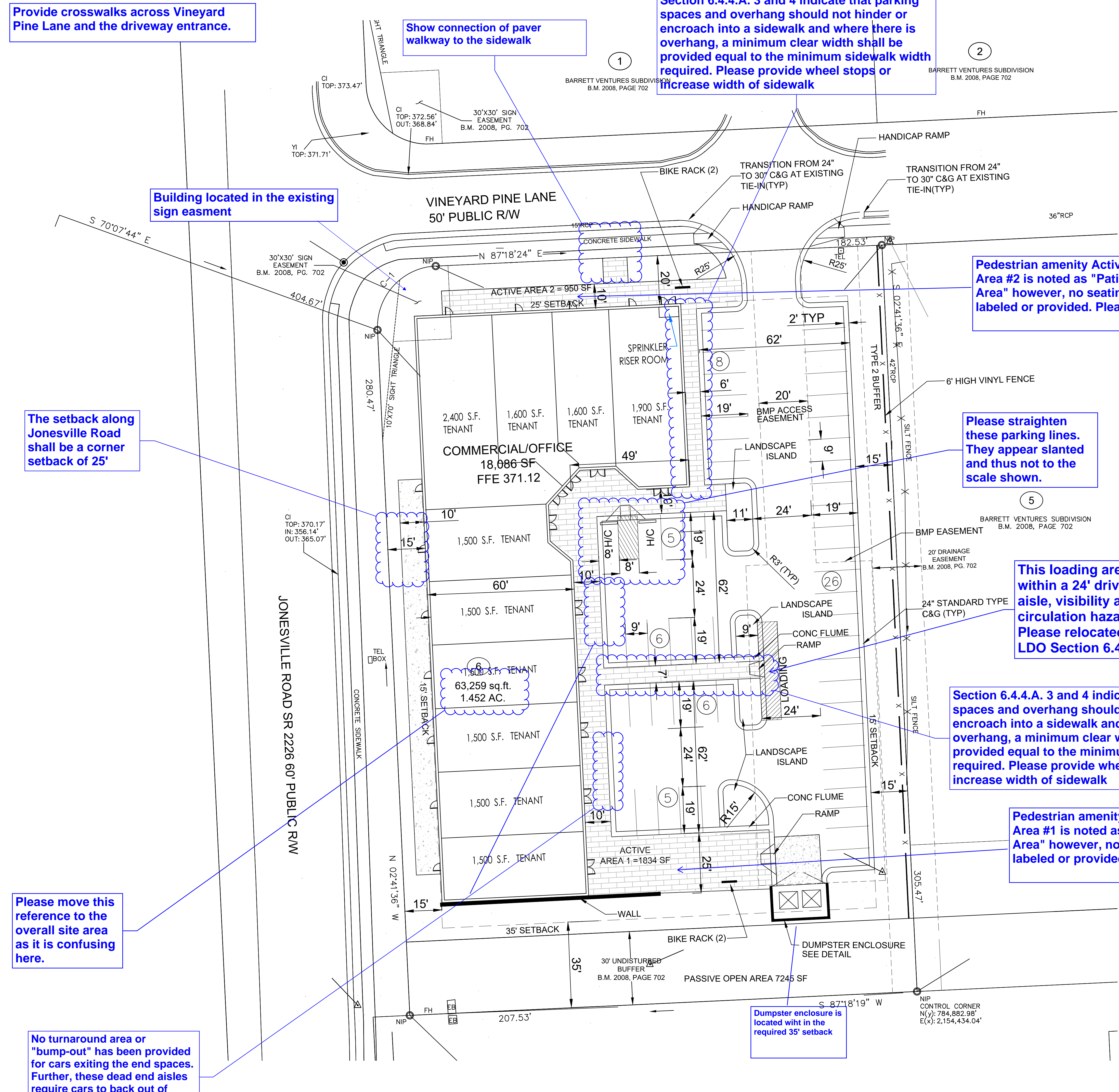
Section 6.4.4.A. 3 and 4 indicate that parking spaces and overhang should not hinder or encroach into a sidewalk and where there is overhang, a minimum clear width shall be provided equal to the minimum sidewalk width required. Please provide wheel stops or increase width of sidewalk

Pedestrian amenity Active Open Space Area #1 is noted as "Patio Seating Open Area" however, no seating has been labeled or provided. Please update.

Please move this reference to the overall site area as it is confusing here.

No turnaround area or "bump-out" has been provided for cars exiting the end spaces. Further, these dead end aisles require cars to back out of driveway if all spaces are occupied

Dumpster enclosure is located with in the required 35' setback

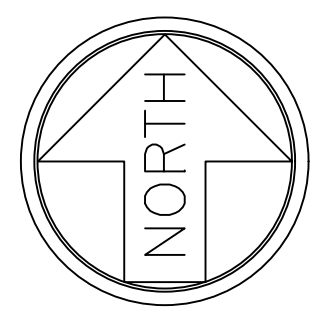
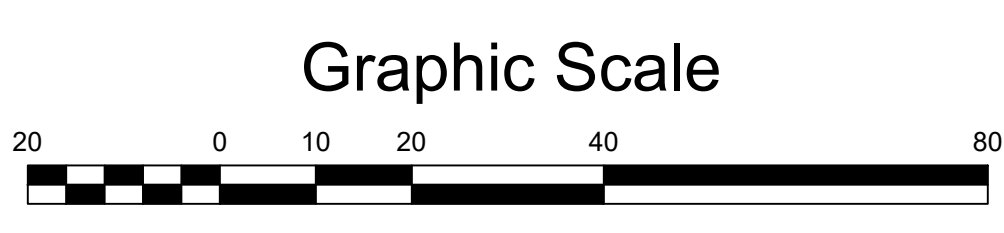


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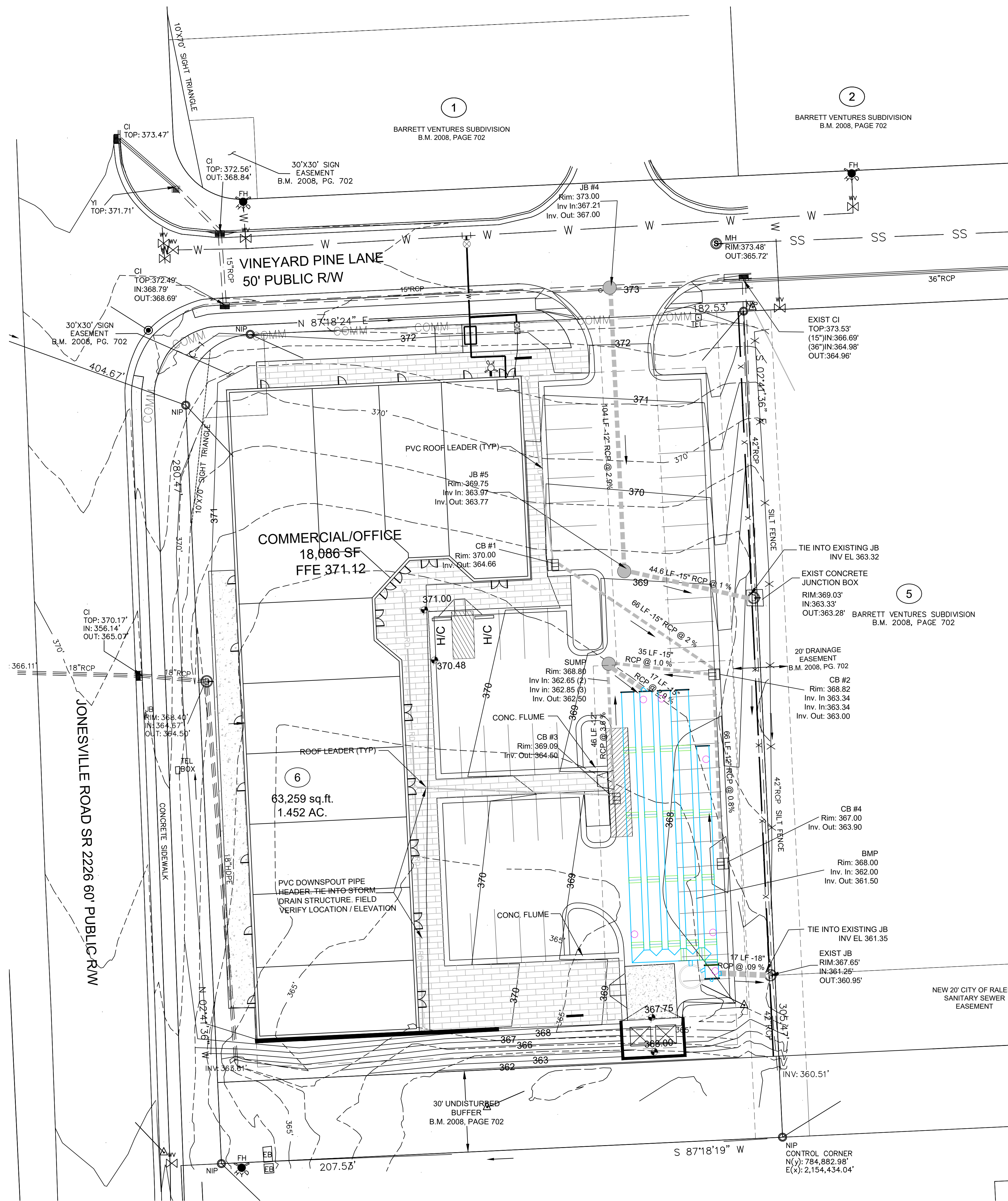
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Site Plan
Vineyard Pine Commercial
MRR Development, LLC
Rolesville, Wake County, North Carolina



Project No.
Dwg No.
C2



GENERAL GRADING AND STORM DRAINAGE SPECIFICATIONS

EXISTING CONDITIONS

- INFORMATION ABOUT EXISTING UNDERGROUND FACILITIES AND SUBSURFACE CONDITIONS INDICATED ON THESE DRAWINGS IS NOT BASED ON AN EXHAUSTIVE INVESTIGATION OF SUCH FACILITIES OR CONDITIONS, AND THE ENGINEER MAKES NO WARRANTY TO ANY PARTY REGARDING THEM. EXISTING UTILITY LINE LOCATIONS SHOWN SHOULD BE CONSIDERED APPROXIMATE, AND ACTUAL UTILITIES AND CONDITIONS MAY DIFFER FROM THOSE INDICATED. IF DIFFERING UTILITIES OR CONDITIONS EXIST, THEY MAY BE ENCOUNTERED DURING THE COURSE OF THE PROJECT WORK, AND MAY IMPACT THE PROJECT SCOPE AND TIME REQUIREMENTS.

PROTECTION AND SAFETY

- PRIOR TO BEGINNING WORK, AND AS NEEDED DURING THE COURSE OF PROJECT WORK, CONTRACTOR SHALL NOTIFY ALL APPLICABLE UTILITY LOCATION SERVICES AND UTILITY PROVIDERS TO REASONABLY VERIFY THE LOCATION OF ALL KNOWN OR SUSPECTED UTILITIES, IN ACCORDANCE WITH STATE REGULATIONS. CONTRACTOR IS ADVISED THAT SOME UTILITY PROVIDERS DO NOT SUBSCRIBE TO ONE-CALL SERVICES, AND MUST BE CONTACTED SEPARATELY.
- CONTRACTOR SHALL PROVIDE ADEQUATE MEANS AND METHODS FOR PROTECTION OF ALL EXISTING UTILITIES AND SITE FEATURES WHICH ARE INTENDED TO REMAIN IN SERVICE OR IN PLACE.
- CONTRACTOR SHALL PROVIDE ADEQUATE TRAFFIC CONTROL MEASURES DURING THE COURSE OF PROJECT WORK IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS, THE N.C. SUPPLEMENT TO THE MUTCD, ANY REGULATORY AGENCY REQUIREMENTS, AND PROJECT-SPECIFIC SAFETY CONSIDERATIONS.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SAFETY PROGRAMS AND MEASURES ON THE PROJECT SITE OR OTHERWISE RELATING TO THE PROJECT WORK, AND SHALL COMPLY WITH ALL SAFETY CODES AND REGULATIONS APPLICABLE THERETO, FOR THE PROTECTION OF WORKERS, VISITORS, AND THE GENERAL PUBLIC.

COMPLIANCE

- ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE STANDARDS AND REQUIREMENTS OF THE CITY OF RALEIGH, TOWN OF ROLESVILLE, WAKE COUNTY SEDIMENTATION AND EROSION CONTROL OFFICE, AND THE N.C. STATE BUILDING CODES.

GRADING

- STRUCTURAL FILL IS DEFINED AS SOIL CLASSIFIED AS SM, SC, ML, AND CL, FREE OF VEGETATIVE MATTER, DEBRIS OR OTHER UNSUITABLE MATTER, FREE OF ROCKS LARGER THAN 3 INCHES IN ANY DIMENSION, CAPABLE OF BEING COMPACTED TO THE REQUIRED DENSITY, AND WHICH HAS BEEN APPROVED FOR USE BY THE GEOTECHNICAL ENGINEER.
- OTHER SOIL NOT MEETING THE DEFINITION FOR STRUCTURAL FILL MAY BE APPROVED BY THE GEOTECHNICAL ENGINEER FOR USE UNDER LIMITED CONDITIONS OR IN LIMITED AREAS.
- STRUCTURAL FILL SHALL GENERALLY BE PLACED AND COMPACTED WHEN THE SOIL'S MOISTURE CONTENT IS WITHIN 4 PERCENTAGE POINTS OF THE SOIL'S OPTIMUM MOISTURE CONTENT, IN LIFTS NOT TO EXCEED 8 INCHES LOOSE THICKNESS, THE IN-PLACE COMPACTED DENSITY SHALL BE AT LEAST 90 PCF. TIGHTER SPECIFICATIONS MAY BE REQUIRED FOR CERTAIN AREAS, SOIL TYPES, OR COMPACTION METHODS.
- STRUCTURAL ZONES SHALL INCLUDE ALL AREAS SUBJECT TO DIRECT BEARING PRESSURE PLUS 10 FEET HORIZONTAL PLUS A 1:1 DOWNWARD SLOPE IN ANY AREAS OF FILL.
- ALL SOIL UNDER PAVEMENTS, BUILDINGS, AND WALKWAYS, OR IN STRUCTURAL ZONES ASSOCIATED WITH THESE AREAS SHALL BE APPROVED IN-SITU SOIL OR STRUCTURAL FILL, COMPACTED TO AT LEAST 95% OF THE SOIL'S MAXIMUM DRY DENSITY (MDD) PER ASTM D-698. TIGHTER REQUIREMENTS MAY APPLY FOR CERTAIN AREAS.
- IN THE BUILDING AREA, THE REQUIRED DENSITY OF FILL SHALL BE 100% MDD, EXCEPT THE TOP 12 INCHES OF FILL SHALL BE AT LEAST 98% MDD. WHERE THE BUILDING WILL BE PLACED ON IN-SITU SOIL, THE SOIL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER AND COMPACTED TO AT LEAST 98% MDD.
- ALL EXCESS OR UNSUITABLE SOIL SHALL BE LEGALLY DISPOSED IN AN OFFSITE OR APPROVED ONSITE LOCATION.
- WHERE LANDSCAPED OR YARD AREAS ADJUT EXTERIOR BUILDING WALLS, FINISHED GROUND ELEVATIONS ADJACENT TO THE WALL SHALL BE AT LEAST 3 INCHES BELOW THE FINISHED FLOOR ELEVATION, AND SHALL SLOPE AWAY FROM THE BUILDING WITH POSITIVE DRAINAGE.

TRENCHING AND BACKFILLING

- WHERE ROCK OR OTHER HARD MATERIAL OCCURS AT THE DESIGNED TRENCH BOTTOM, OVEREXCAVATE TRENCH DEPTH 6 INCHES AND REPLACE OVEREXCAVATION MATERIAL WITH #67 STONE BEDDING.
- WHERE THE DESIGNED TRENCH BOTTOM CONSISTS OF UNSTABLE BEARING SOIL, UNDERCUT TRENCH BOTTOM AND REPLACE UNDERCUT MATERIAL IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
- BACKFILL SOIL SHALL BE STRUCTURAL FILL, PLACED AND COMPACTED IN ACCORDANCE WITH REQUIREMENTS FOR THE SPECIFIC AREA OF WORK, WITHOUT DAMAGING OR DISPLACING PIPE OR STRUCTURES

Stormwater Summary

	Square Feet	Acres
Overall Site	63,162.00	1.45
Impervious Summary		
Pre		
Parking Lot	0.00	0.00
Managed Pervious	63,162.00	1.45
Total		1.45
Post		
Parking Lot	29,394.00	0.67
Roof	18,086.00	0.42
Open Landscape	8,436.00	0.19
Managed Pervious	7,245.00	0.17
Total		1.45

NOTIFICATIONS

- NOTIFY THE ENGINEER AT LEAST TWO BUSINESS DAYS PRIOR TO BEGINNING OR RESUMING ANY STORM DRAINAGE OR STORMWATER IMPOUNDMENT BASIN WORK.
- NOTIFY THE APPLICABLE LOCAL GOVERNMENT AUTHORITIES IN ACCORDANCE WITH THEIR REQUIREMENTS PRIOR TO BEGINNING ANY WORK.
- NOTIFY THE GEOTECHNICAL ENGINEER AND TESTING SERVICE AT LEAST TWO BUSINESS DAYS PRIOR TO BEGINNING OR RESUMING ANY GRADING OR STORMWATER IMPOUNDMENT BASIN WORK.

QUALITY CONTROL

- ALL EARTHWORK OPERATIONS, INCLUDING TOPSOIL STRIPPING, STOCKPILING, EXCAVATION, FILLING, COMPACTING, TRENCHING, BACKFILLING, RETAINING WALLS, AND FINE-GRADING, SHALL BE PERFORMED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER WHO SHALL VERIFY THE SUITABILITY OF SOIL MATERIALS, MONITOR EARTHWORK ACTIVITIES, DIRECT AND OBSERVE PROOFROLLING, AND PROVIDE COMPACTION AND STABILITY TESTING DURING THE PROGRESS OF THE WORK.
- NO SOIL SHALL BE PLACED IN A PERMANENT LOCATION UNLESS IT HAS BEEN APPROVED BY THE GEOTECHNICAL ENGINEER FOR THE INTENDED USE AND LOCATION.
- PRIOR TO PLACEMENT OF ANY FILL, THE SUBGRADE OR PREVIOUS LIFT OF FILL SHALL BE SUCCESSFULLY TESTED OR OTHERWISE APPROVED, AND DETERMINED TO BE READY FOR SUBSEQUENT WORK.
- PRIOR TO PLACEMENT OF ANY AGGREGATE, PAVING, SLABS, STRUCTURES, FOOTINGS, PIPING, OR OTHER WORK, SUBGRADES AND OTHER BEARING SURFACES SHALL BE SUCCESSFULLY TESTED OR OTHERWISE APPROVED, AND DETERMINED TO BE READY FOR SUBSEQUENT WORK.
- CONTRACTOR SHALL ALLOW AND PARTICIPATE IN SOIL TESTING ACTIVITIES, INCLUDING ACTIVE COORDINATION WITH THE GEOTECHNICAL ENGINEER AND FURNISHING PROOFROLLING EQUIPMENT, MATERIALS, AND MANPOWER AS NEEDED.

CLEARING & GRUBBING

- ALL VEGETATIVE MATERIAL DISLOCATED BY CLEARING AND GRUBBING ACTIVITIES SHALL BE COMPLETELY REMOVED FROM THE PROJECT SITE AND LEGALLY DISPOSED. NO ONSITE BURNING OF CLEARING WASTE SHALL OCCUR.
- ALL PAVEMENT, CURB, PIPE, STRUCTURES AND OTHER PHYSICAL SITE FEATURES THAT ARE INDICATED OR REQUIRED TO BE REMOVED SHALL BE LEGALLY DISPOSED IN AN OFFSITE LOCATION.

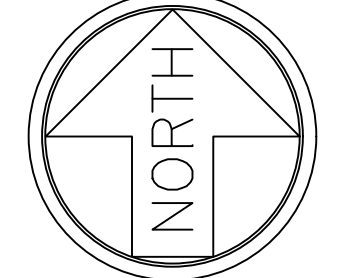
STORM DRAINAGE SYSTEM

- STORM DRAINAGE STRUCTURES SHALL CONFORM TO ROLESVILLE AND NCDOT STANDARDS, AND MAY BE CONSTRUCTED OF EITHER SOLID MASONRY OR PRE-CAST CONCRETE. "KNOCK-OUT" TYPE PRE-CAST STRUCTURES SHALL NOT BE USED WHERE THE DESIGNED PIPE CONFIGURATION WOULD REQUIRE REMOVAL OF STRUCTURAL CORNERS OR ALTERATION OF DESIGNED PIPE ENTRY ANGLES.
- STORM DRAINAGE PIPE LENGTHS SHOWN ARE APPROXIMATE, AS MEASURED FROM THE CENTER OF DRAINAGE STRUCTURES, AND TO THE END OF ANY FLARED END SECTION (FES), AS APPLICABLE.
- CONTRACTOR SHALL VERIFY AND COORDINATE EXACT POSITIONING OF STORM DRAINAGE PIPING AND STRUCTURES, AND SHALL MAKE ADJUSTMENTS AS NEEDED TO PROVIDE PROPER CONNECTIONS, STRUCTURE LOCATIONS, ORIENTATIONS, DIMENSIONS, ELEVATIONS, FRAME PLACEMENT, AND SURFACE DRAINAGE. REFER TO STORM DRAINAGE STRUCTURE DETAILS FOR DIMENSIONS, OFFSETS, CLEARANCES, SETBACKS FROM CURB, AND OTHER REQUIREMENTS. MODIFY STRUCTURES AS NEEDED TO ACCOMMODATE LARGE-DIAMETER PIPING, MULTIPLE PIPE PENETRATIONS, AND PIPE CONNECTION ANGLES.
- STORM DRAINAGE PIPING SHALL BE REINFORCED CONCRETE PIPE (RCP), CLASS III, CONFORMING TO ASTM C76, UNLESS OTHERWISE SPECIFIED. ALL JOINTS SHALL BE FULLY SEALED USING PREFORMED FLEXIBLE BUTYL RUBBER SEALING COMPOUND.

SURFACE DRAINAGE

- ALL SPOT ELEVATIONS SHOWN ARE FINISHED SURFACE ELEVATIONS. SPOT ELEVATIONS SHALL TAKE PRECEDENCE OVER ELEVATION CONTOURS. ALL ELEVATIONS SHOWN ON CURB AND GUTTER REFER TO TOP OF CURB, UNLESS OTHERWISE INDICATED.
- ALL FINISHED PAVEMENT AND YARD SURFACES SHALL BE FINE-GRADED AND FINISHED TO HAVE POSITIVE SURFACE DRAINAGE TO A FREE-FLOWING DRAINAGE OUTLET, WITH NO IRREGULARITIES OR DEPRESSIONS THAT WOULD CAUSE UNINTENDED WATER PONDING.
- USE REVERSE-PITCH CURB AND GUTTER WHERE ADJACENT PAVEMENT SLOPES AWAY FROM CURB, AND STANDARD-PITCH CURB AND GUTTER ELSEWHERE, UNLESS OTHERWISE NOTED. PROVIDE POSITIVE DRAINAGE ALONG AND FROM ALL GUTTERS.
- TIE-INS TO EXISTING PAVEMENT, CURBS, WALKS, ETC. SHALL BE MADE WITH NEAT EDGES AND SMOOTH, GRADUAL TRANSITIONS THAT ARE SAFE, FUNCTIONAL, DURABLE, AND VISUALLY ACCEPTABLE TO THE OWNER AND REVIEW AUTHORITIES.

Graphic Scale



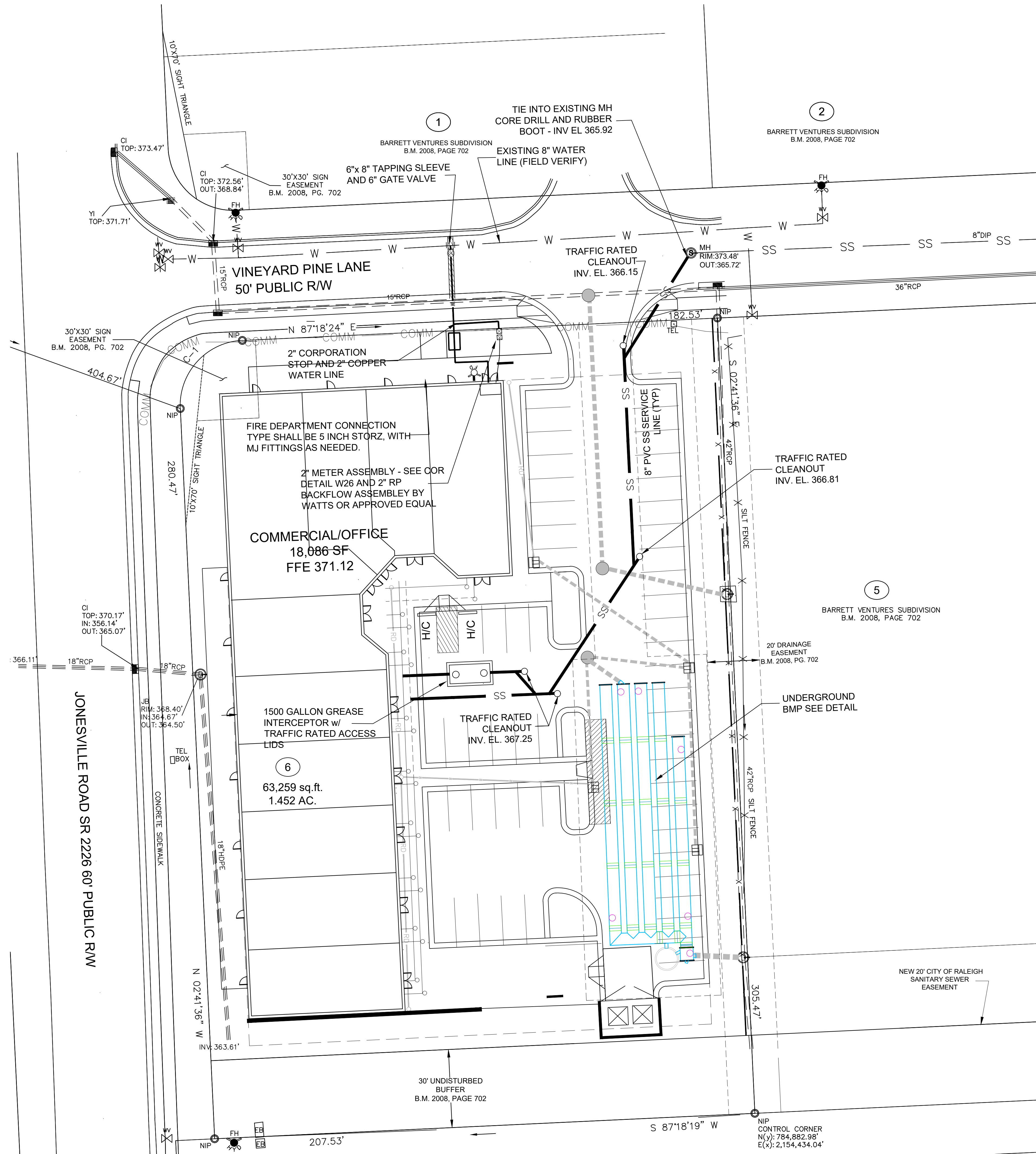
Gettle Engineering and Design, PLLC
 3616 Waxwing Court,
 Wake Forest, North Carolina 27587
 Firm License P-2538
 (919) 210-3934

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Grading and Stormwater Plan
 Vineyard Pine Commercial
 MRR Development, LLC
 Rolesville, Wake County, North Carolina

Project No.
Dwg No. **C3**



CITY OF RALEIGH UTILITY NOTES:

1. ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: COR PUD HANDBOOK, CURRENT EDITION)
2. UTILITY SEPARATION REQUIREMENTS:
 - a) A DISTANCE OF 100" SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVOIR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATERAL SEPARATION CANNOT BE ACHIEVED, FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25" FROM A PRIVATE WELL OR 50" FROM A PUBLIC WELL.
 - b) WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10". IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE PUBLIC UTILITIES DIRECTOR. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER.
 - c) WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATERMAIN, DIP MATERIALS OR STEEL ENCASUREMENT EXTENDED 10" ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS.
 - d) 5.0' MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER.
 - e) MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATERMAIN & RCP STORM DRAIN CROSSINGS, MAINTAIN 24" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER CORPUD DETAILS W-41 & S-49).
 - f) ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED.
3. ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24 HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT.
5. 3.0' MINIMUM COVER IS REQUIRED ON ALL WATER MAINS. 4' MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS.
6. IT IS THE DEVELOPER'S RESPONSIBILITY TO ABANDON OR REMOVE EXISTING WATER AND SEWER SERVICES NOT BEING USED IN REDEVELOPMENT OF A SITE UNLESS OTHERWISE DIRECTED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT. THIS INCLUDES ABANDONING TAP AT MAIN & REMOVAL OF SERVICE FROM ROW OR EASEMENT PER CORPUD HANDBOOK PROCEDURE.
7. INSTALL 3/4" COPPER WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2x2' WATERLINE EASEMENT IMMEDIATELY ADJACENT. (NOTE: IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW AND PRESSURE).
8. INSTALL 4" PVC SEWER SERVICES AT 1.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE AND SPACED EVERY 75 LINEAR FEET MAXIMUM.
9. PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 80 PSI; BACKWATER VALVES ARE REQUIRED ON ALL SANITARY SEWER SERVICES HAVING BUILDING DRAINS LOWER THAN 1'0" ABOVE THE NEXT UPSTREAM MANHOLE.
10. ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDM, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION.
11. NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS AND SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION.
12. GREASE INTERCEPTOR / OIL WATER SEPARATOR SIZING CALCULATIONS AND INSTALLATION SPECIFICATIONS SHALL BE APPROVED BY THE CORPUD FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A BUILDING PERMIT. CONTACT TIM BEASLEY AT (919)996-2324 OR TIMOTHY.BEASLEY@RALEIGHNC.GOV FOR MORE INFORMATION.
13. CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX-B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NORTH CAROLINA. THESE GUIDELINES ARE THE MINIMUM REQUIREMENTS. THE DEVICES SHALL MEET AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) STANDARDS OR BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST. -THE DEVICES SHALL BE INSTALLED AND TESTED (BOTH INITIAL AND PERIODIC TESTING THEREAFTER) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR THE LOCAL CROSS-CONNECTION CONTROL PROGRAM, WHICHEVER IS MORE STRINGENT. CONTACT JOANIE HARTLEY AT (919) 212-5923 OR JOANIE.HARTLEY@RALEIGHNC.GOV FOR MORE INFORMATION.

SEPARATION NOTES:

1. MINIMUM SEPARATION BETWEEN STORM DRAINAGE AND SANITARY SEWER IS 24 INCHES.
2. MINIMUM SEPARATION BETWEEN WATER AND STORM DRAINAGE IS 18 INCHES.
3. MINIMUM SEPARATION BETWEEN WATER AND SANITARY SEWER IS 18 INCHES.

HYDRANT, METER, AND CLEAN-OUT NOTES:

ALL HYDRANTS, METERS, AND SEWER SERVICES ARE SHOWN AT APPROXIMATE LOCATIONS. HYDRANTS, AND METERS, ARE TO BE PLACED WITHIN THE RIGHT-OF-WAY AS INDICATED ON CITY OF RALEIGH DETAIL. SEWER SERVICE SHALL BE PLACED INSIDE LOT AS SHOWN ON CITY OF RALEIGH DETAIL. CONTRACTOR SHALL VERIFY AND CONFIRM PROPER LOCATION ACCORDING TO MUNICIPALITY REQUIREMENTS PRIOR TO INSTALLATION. CONTRACTOR SHALL VERIFY PROPER LOCATION WITH MUNICIPALITY INSPECTOR PRIOR TO INSTALLATION.

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ATTENTION CONTRACTORS

The Construction Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Works Department at (919) 996-2409, and the Public Utilities Department at (919) 996-4540 at least twenty four hours prior to beginning any of their construction.

Failure to notify both City Departments in advance of beginning construction, will result in the issuance of monetary fines, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for Inspection, Install a Downstream Plug, have Permitted Plans on the Jobsite, or any other Violation of City of Raleigh Standards will result in a Fine and Possible Exclusion from future work in the City of Raleigh.

SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)
 The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook, City of Raleigh Public Utilities Department Form # _____

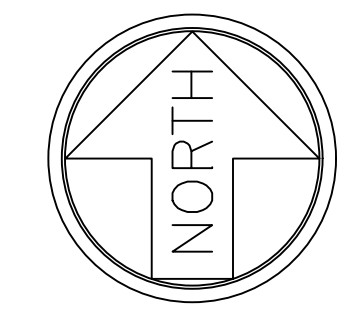
The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook, City of Raleigh Public Utilities Department Form # _____

The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
 City of Raleigh Public Utilities Department Form # _____

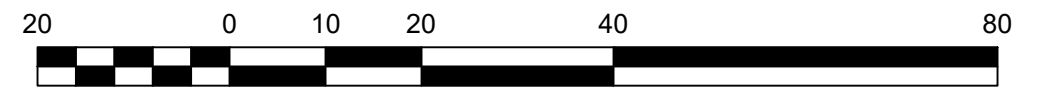
CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

Plans for the proposed use have been reviewed for general compliance with applicable codes. This limited review, and authorization for construction is not to be considered to represent total compliance with all legal requirements for development and construction. The property owner, design consultants, and contractors are each responsible for compliance with all applicable City, State and Federal laws. This specific authorization does not constitute, nor shall it be construed to permit any violation of City, State or Federal Law. All construction must be in accordance with all Local, State, and Federal rules and regulations.

Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be added once issued. Any modification to this approval once issued will invalidate this approval.



Graphic Scale



Gettle Engineering and Design, PLLC
 3616 Waxwing Court,
 Wake Forest, North Carolina 27587
 (919) 210-3934 Firm License P-2538

Utility Plan
 Vineyard Pine Commercial
 MRR Development, LLC
 Rolesville, Wake County, North Carolina

Project No.
 Dwg No.
C4

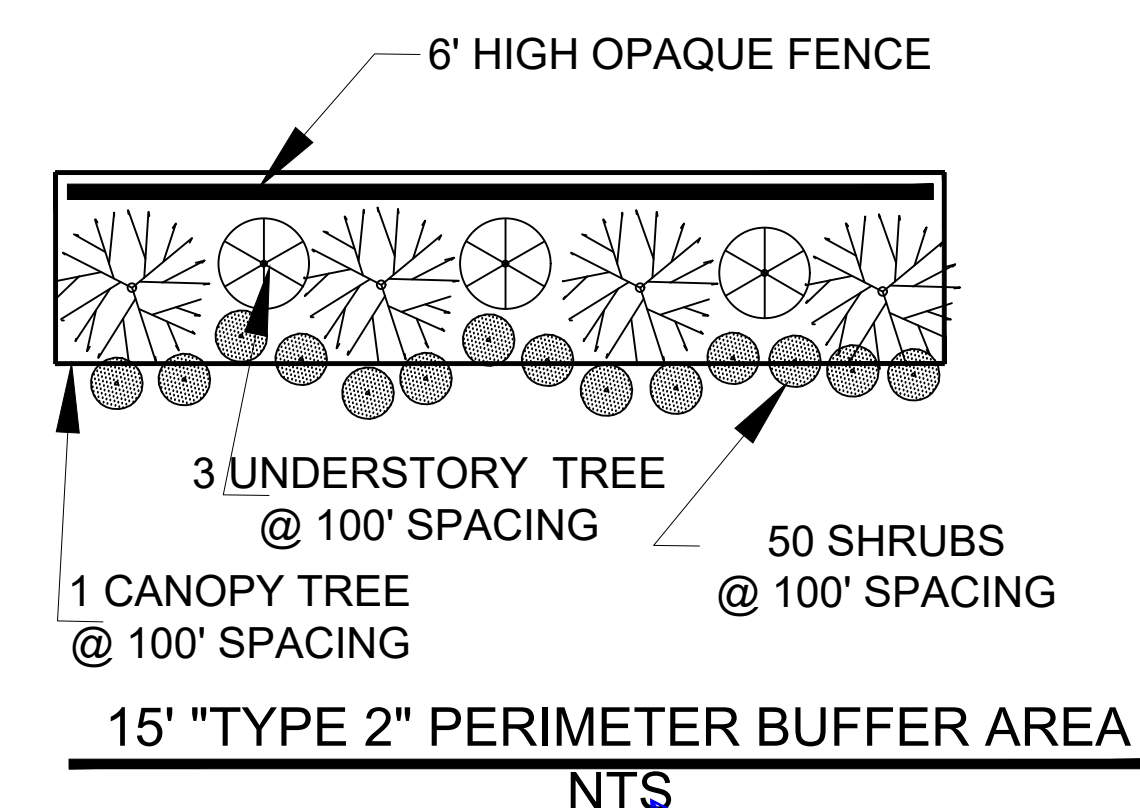
City of Raleigh Development Approval _____
 City of Raleigh Review Officer _____

LANDSCAPE NOTES:

1. LS1 IS FOR PLANTING PURPOSES ONLY. FOR INFORMATION RELATING TO GRADING, REFER TO GRADING PLAN.
2. VERIFICATION OF TOTAL QUANTITIES AS SHOWN IN THE PLANT LIST SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.
3. ALL PLANTS AND PLANTING PROCEDURES SHALL CONFORM TO ACCEPTED STANDARDS ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN LATEST EDITION.
4. ALL SAUCERS SHALL BE SOAKED WITH WATER AND MULCHED IMMEDIATELY FOLLOWING PLANTING.
5. ALL TREES AND SHRUBS SHALL BE FULL WELL BRANCHED PLANTS WHICH ARE CHARACTERISTIC OF THE SPECIES.
6. ALL PERMANENT GRASS IS TO BE BERMUDA.
7. ALL ROOT BALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED PRIOR TO BACKFILLING.
8. REMOVE ALL STRING AND WIRE FROM BASE OF ALL PLANT MATERIAL.
9. MULCH ALL BEDS WITH 3" OF HARDWOOD MULCH, UNLESS OTHERWISE NOTED.
10. IF SHRUB PLANTING BEDS DO NOT HAVE A MIN. 6" TOPSOIL THEN AMENDED WITH 3" PINE PARK TILLED INTO THE SOIL TO A DEPTH OF 8".
11. ALL AREAS NOT COVERED WITH PAVING, GRAVEL, BUILDINGS OR PLANTING BEDS SHALL BE SEEDED AS SHOWN IN THE SEEDED PREP. AND SEEDING SCHEDULE.
12. LAWN AREAS SHALL BE RAKED TO REMOVE ROCKS, STICKS, ROOTS AND OTHER TRASH AND DEBRIS AND SHALL BE SMOOTH FOR EASE OF MOWING.
13. ALL PLANTINGS OF TREES AND SHRUBS SHALL BE A MINIMUM 4' FROM EDGE OF PARKING SPACES.

KEY	COMMON NAME	BOTANICAL NAME	CALL	HGT	SPD	ROOT	REMARKS	QUANT
CANOPY TREES:								
QL	OVERCUP OAK	Quercus lyrata	2 1/2"	14'	7'	B&B	MATCHED	23
UP	CHINESE ELM	Ulmus Parvifolia	2 1/2"	14'	7'	B&B	MATCHED, (3) 40' O/C	14
UNDERSTORY & EVERGREEN TREES:								
LN	NATCHES CREPE MYRTLE	Lag. Indica 'Natchez'	-	8'	4'	B&B	SINGLE-STEM, 40' O/C	18
IEB	EMILY BRUNER HOLLY	Ilex x 'Emily Bruner'	-	8'	4'	B&B	FULL TO GROUND	20
EVERGREEN SHRUBS:								
IC	CARISSA HOLLY	Ilex Cornuta 'Carissa'	-	24"	18"	cont.	5' O/C	192
VJ	PRAQUE VIBURNUM	Viburnum x Pragensis	-	4'	2'	cont.	FULL, 10' O/C	0
VA	SWEET VIBURNUM	Viburnum Awabuki 'Chindo'	-	4'	2'	cont.	FULL 10' O/C	0

NOTE: UNDERSTORY TREES LOCATED WITHIN 20' OF THE OVERHEAD ELECTRIC POWER LINE ALONG LIGON MILL TO HAVE A MAXIMUM HEIGHT OF 12'



Per LDO Section 6.2.4.4.D, terminal parking islands are also required to provide shrubs.

Please provide a table of the buffer calculations for this site according to the length in linear feet.

This area is being shown as a drainage easement on the previous page.
 Per LDO Section 6.2.2.1.C.3, the required buffer shall be adjacent to the easement, as close to the property line as possible.

Furthermore, the fence shall also be shifted as it is not permitted in the easement.

Per LDO Section 6.2.4.4.C, all parking spaces being within sixty (60) feet of the trunk of a canopy tree. Please provide a buffer around each canopy tree to showcase compliance with this requirement.

Please label the 30 foot, undisturbed buffer shown on previous sheets.

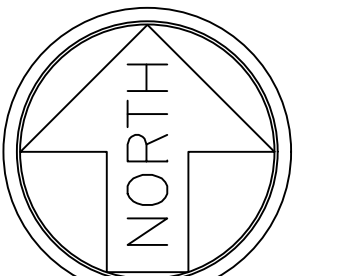
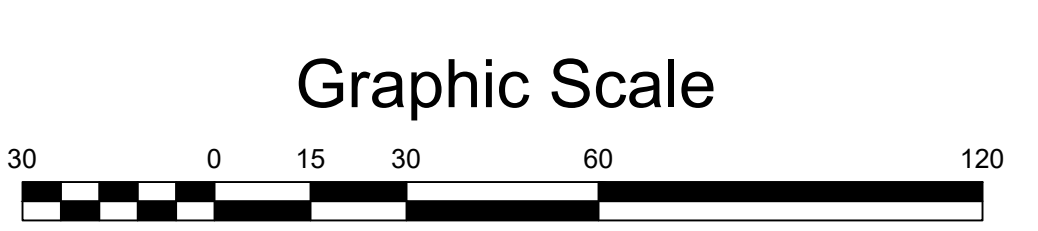
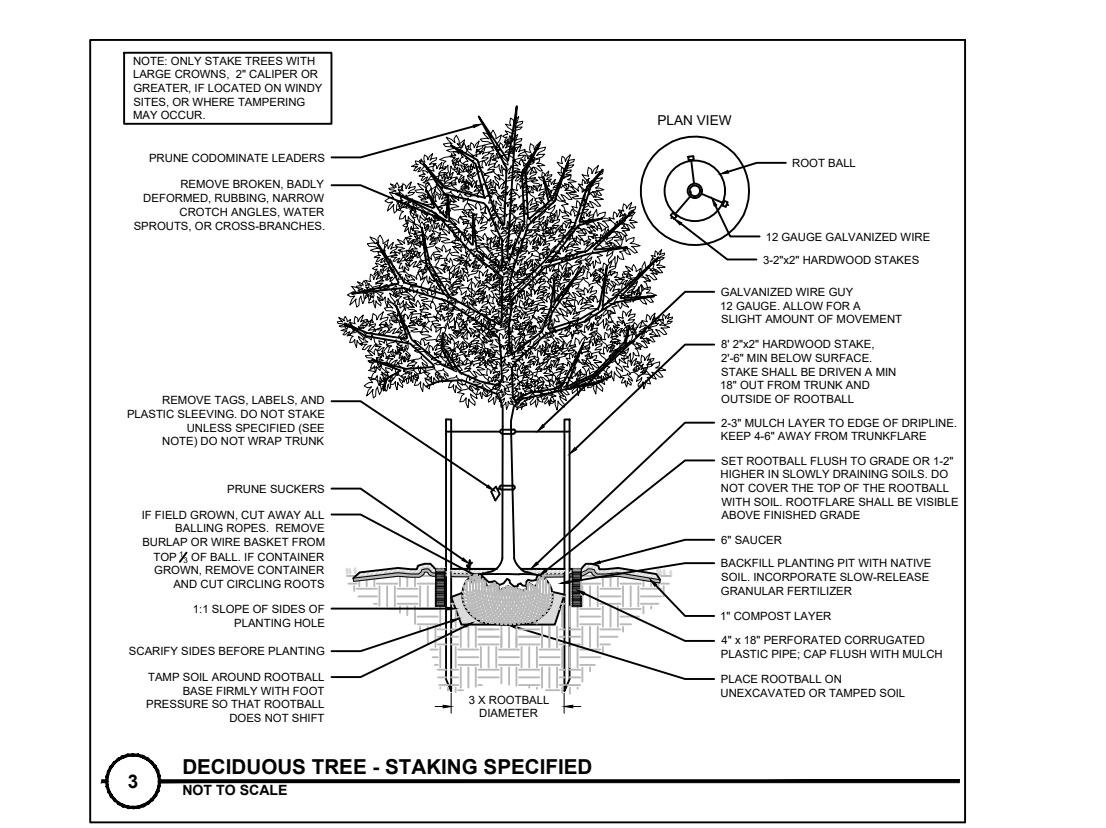
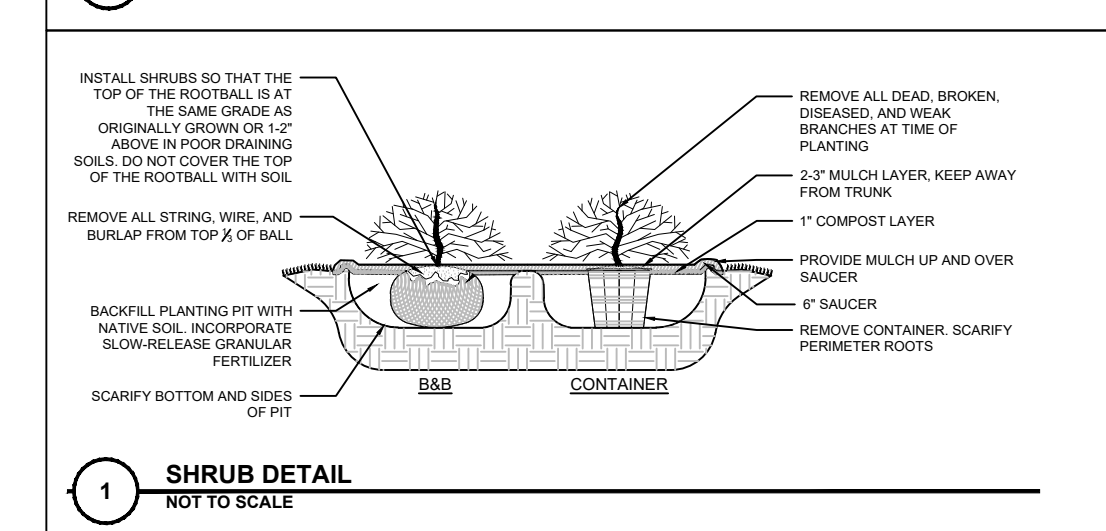
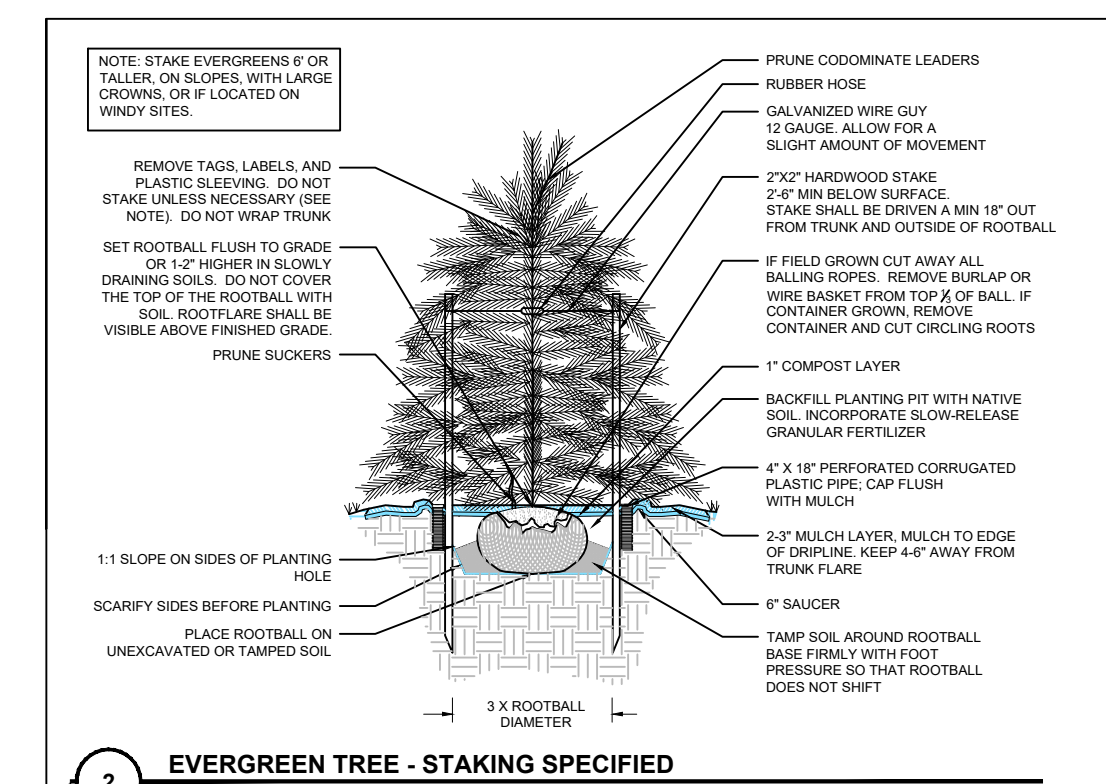
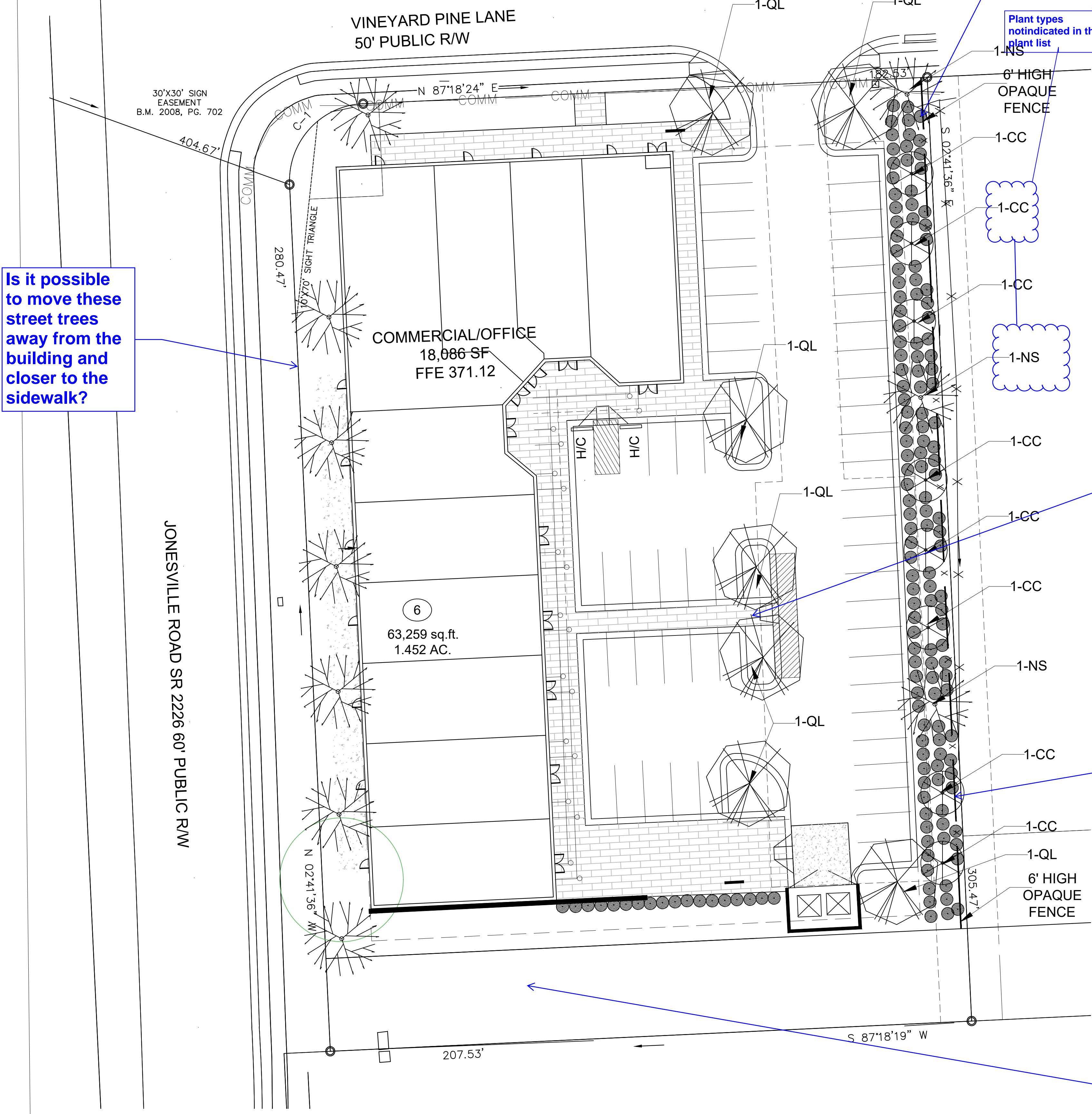
Within the plant list, clearly label what requirement each plant is meeting.
 Per LDO 6.2.4.3.A.5, no more than 60% of any genera is permitted as a canopy tree. Overcup Oaks make up 64% of the canopy trees provided.

Please reconsider the symbols used here as it is difficult to confirm/count trees given the size and color of the shrub symbol. At this time, we are unable to confirm compliance.

Plant types not indicated in the plant list

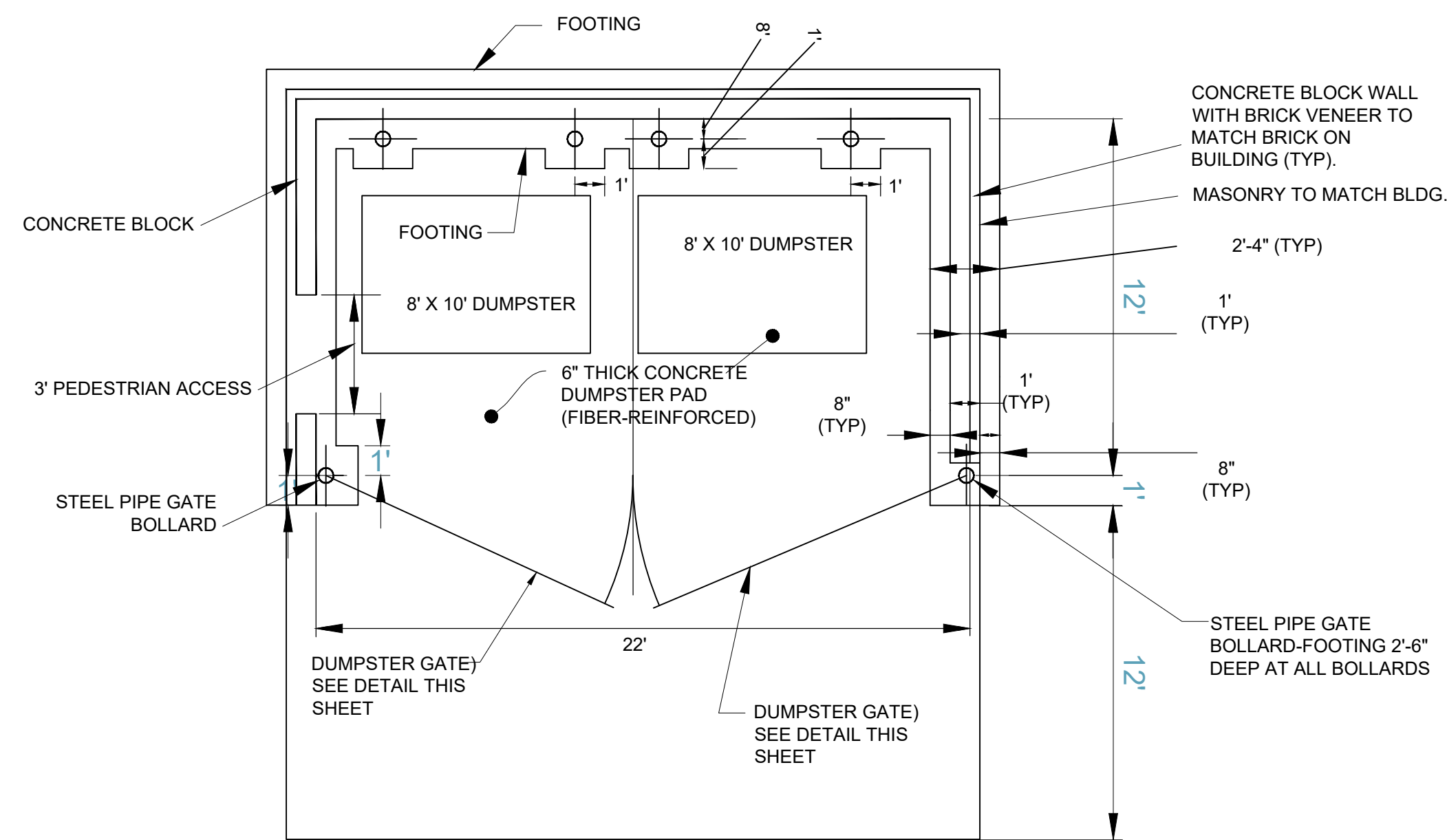
Is it possible to move these street trees away from the building and closer to the sidewalk?

JONESVILLE ROAD SR 2226 60' PUBLIC RW



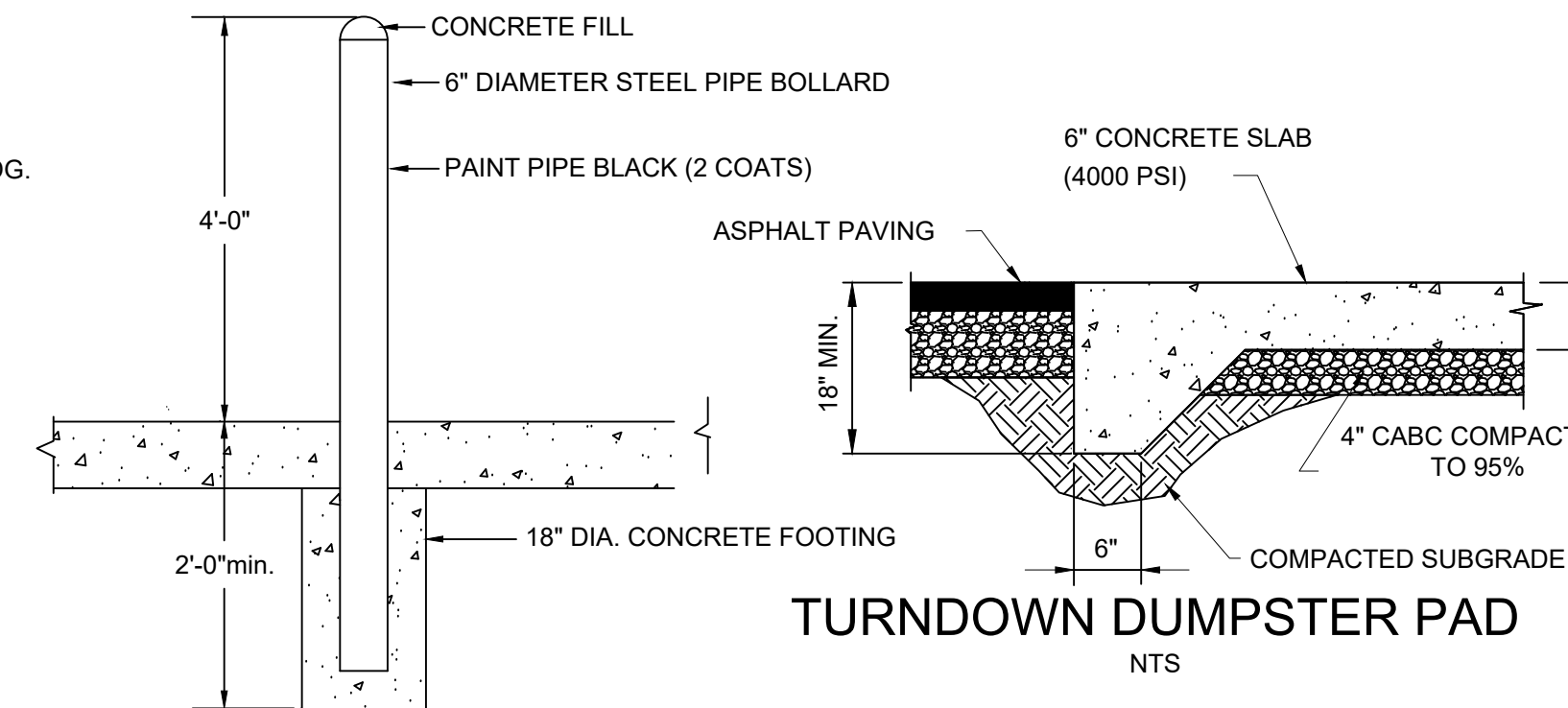
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PLAN VIEW - DUMPSTER ENCLOSURE & PAD

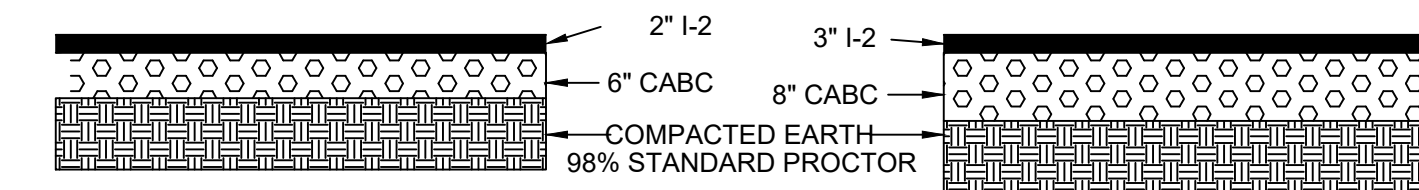
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TURNDOWN DUMPSTER PAD

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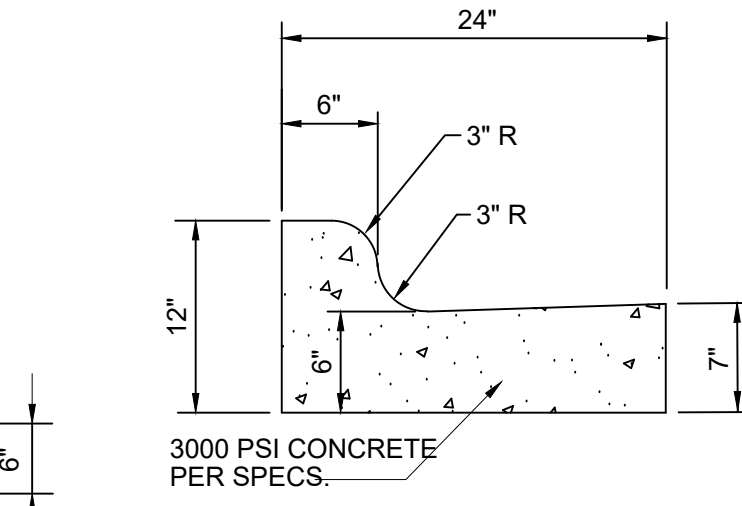
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STANDARD PAVEMENT

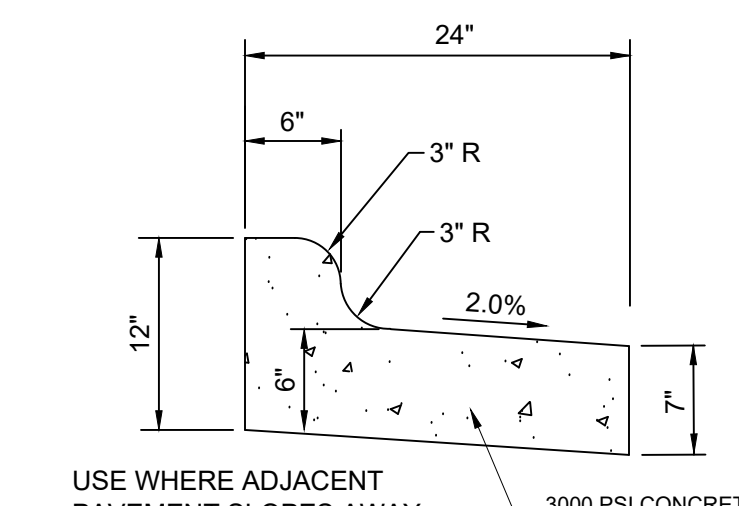
HEAVY DUTY PAVEMENT

CONSTRUCTION PROCEDURES, MIX RATIOS, AGGREGATE SIZES, AND COMPACTED DENSITIES SHALL BE IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES 1995 EDITION.



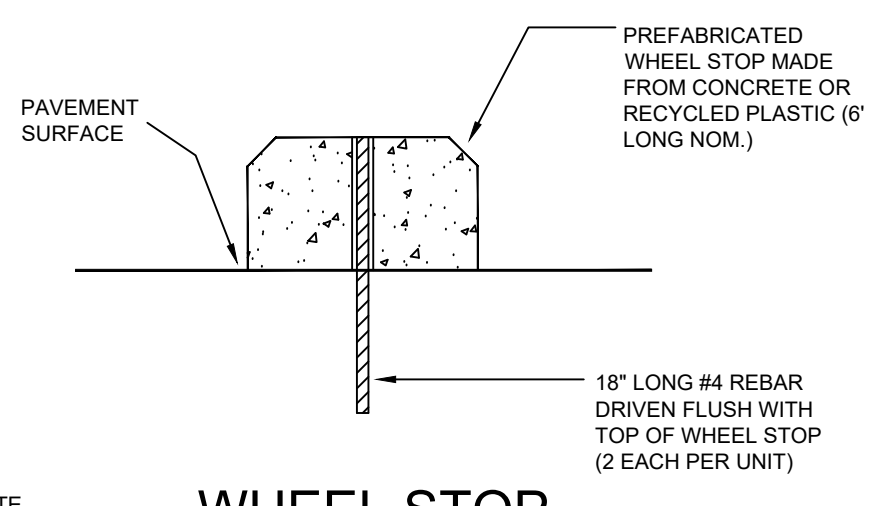
STANDARD 24\"/>

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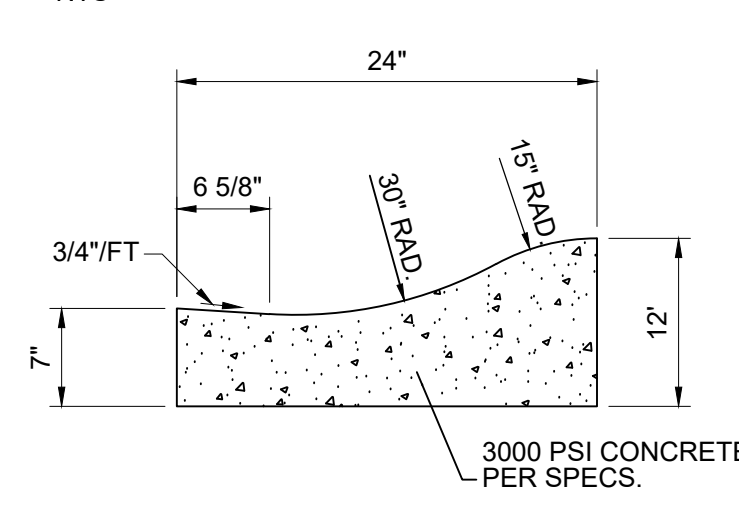
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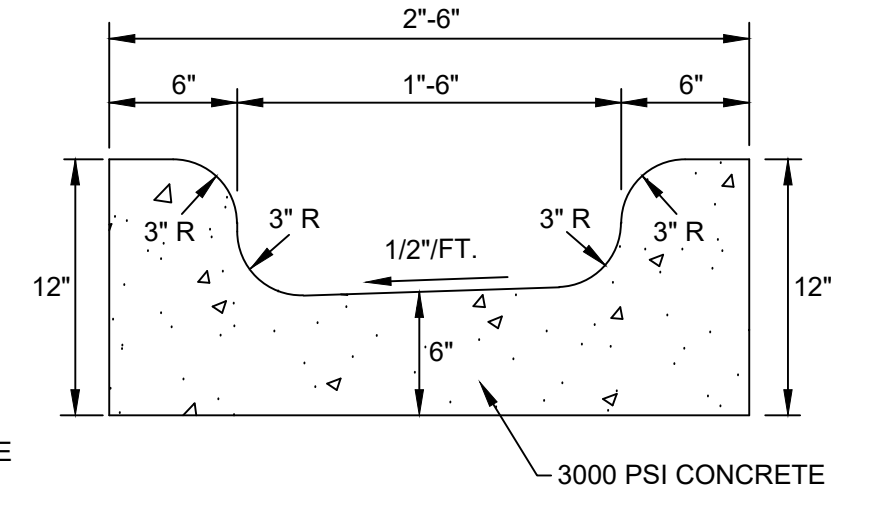
WHEEL STOP

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24\"/>

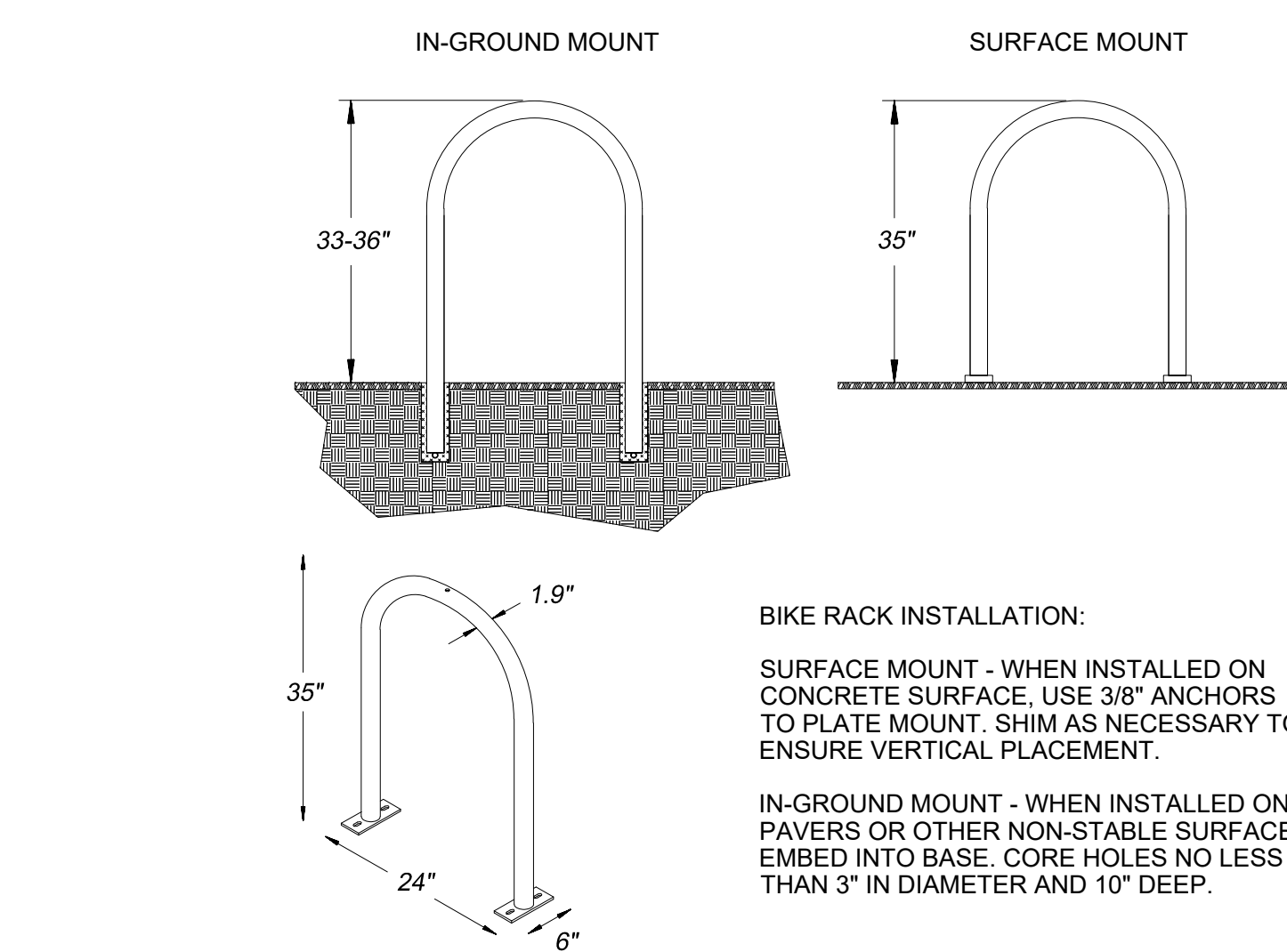
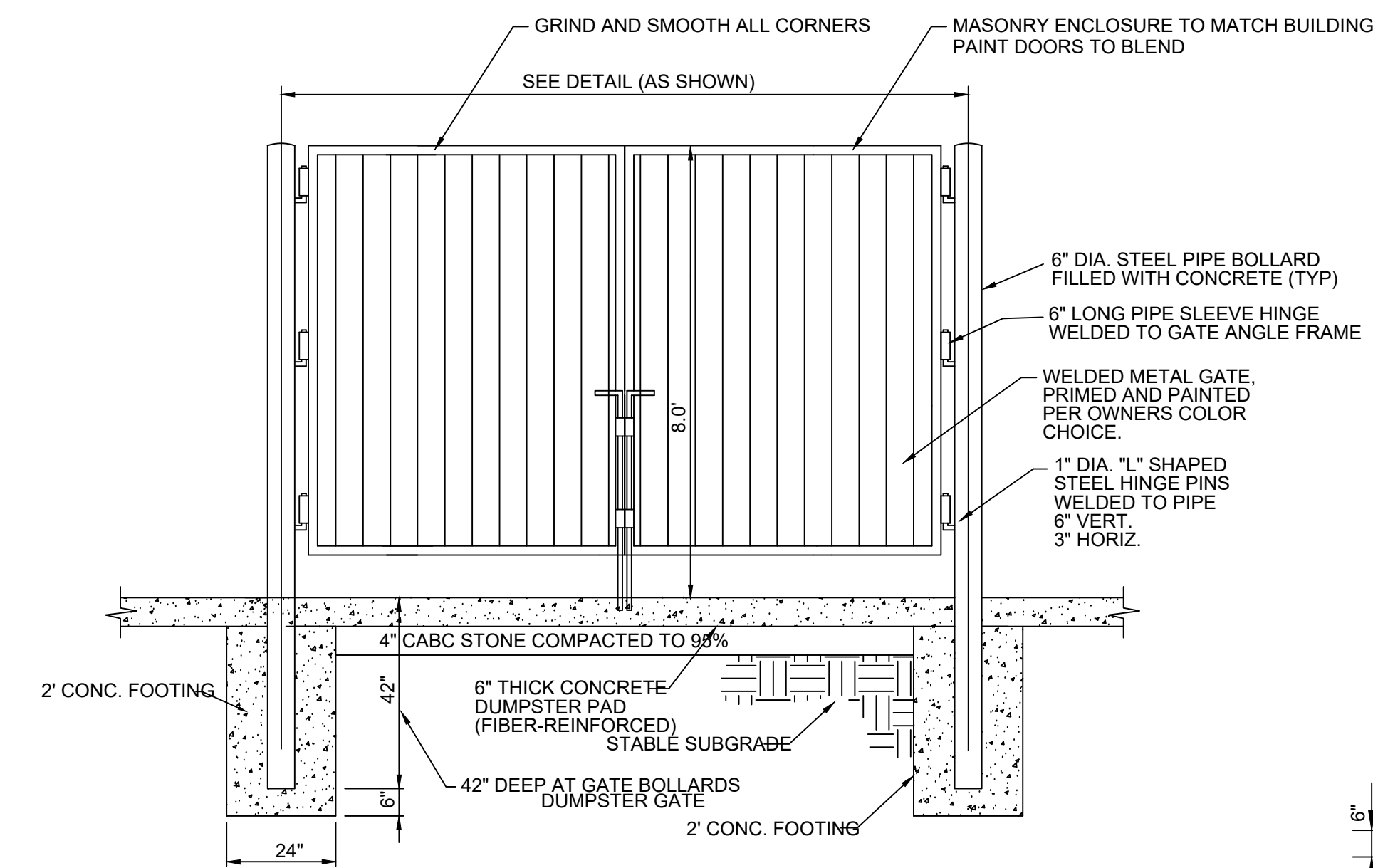
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CONCRETE FLUME DETAIL

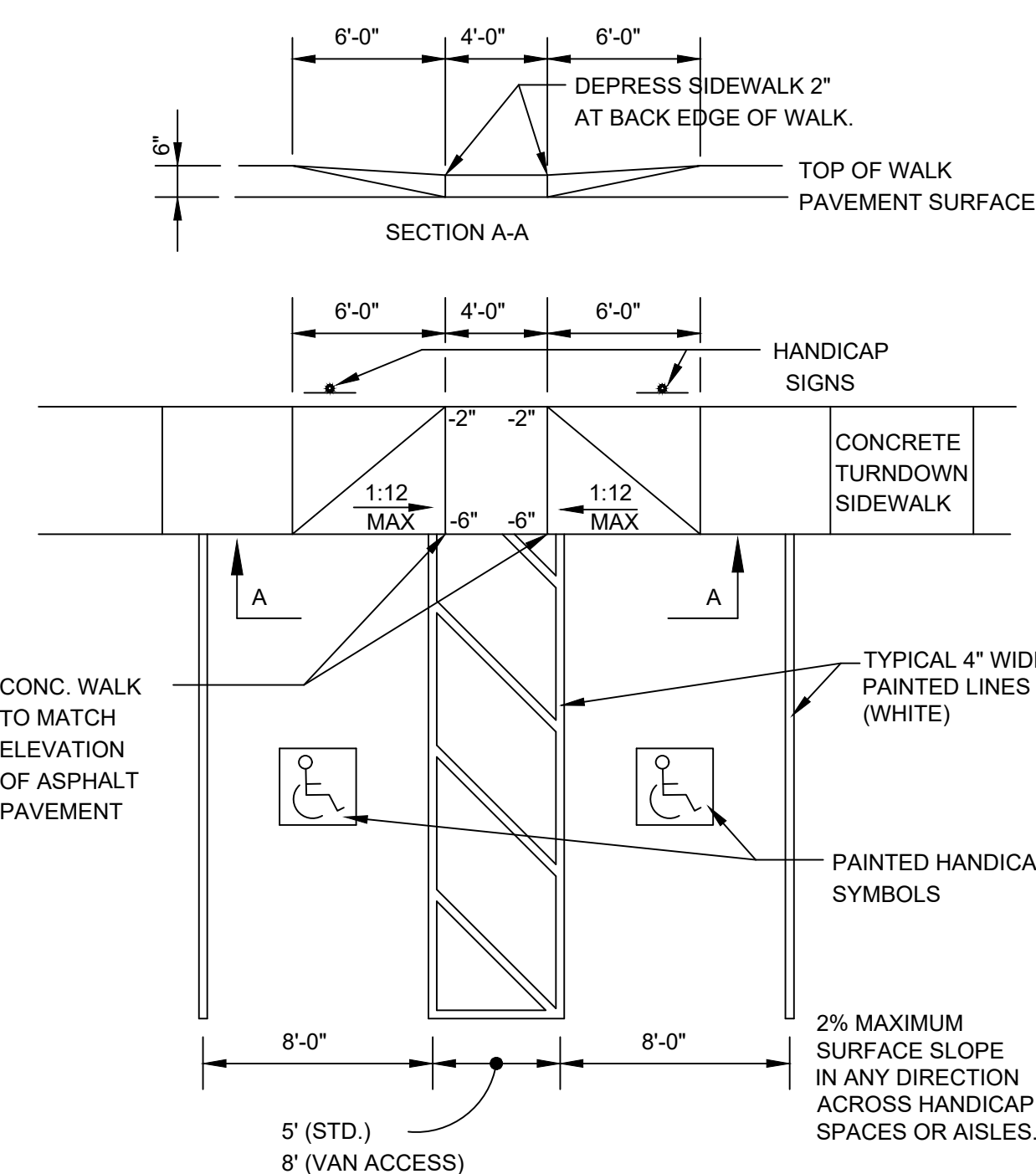
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- CURB AND GUTTER NOTES:
- 10' MAXIMUM BETWEEN CONSTRUCTION JOINTS.
 - 15' MAXIMUM BETWEEN CONSTRUCTION JOINTS ON MACHINE POURS.
 - 1/2" EXPANSION JOINT EVERY 90'.
 - 3000 PSI CONCRETE MINIMUM, 4" SLUMP MAXIMUM.
 - LIQUID MEMBRANE CURING COMPOUND SHALL MEET THE REQUIREMENTS OF SECTION 1028-2 OF NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
 - ALL CONSTRUCTION JOINTS SHALL BE FILLED WITH JOINT FILLER AND SEALER IN ACCORDANCE WITH NCDOT ROADWAY STANDARD DETAIL 846.01. THE JOINT MATERIAL SHALL CONFORM TO SECTION 1028-2 OF NCDOT'S STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
 - ABC STONE REQUIRED UNDER ALL CURB & GUTTER.



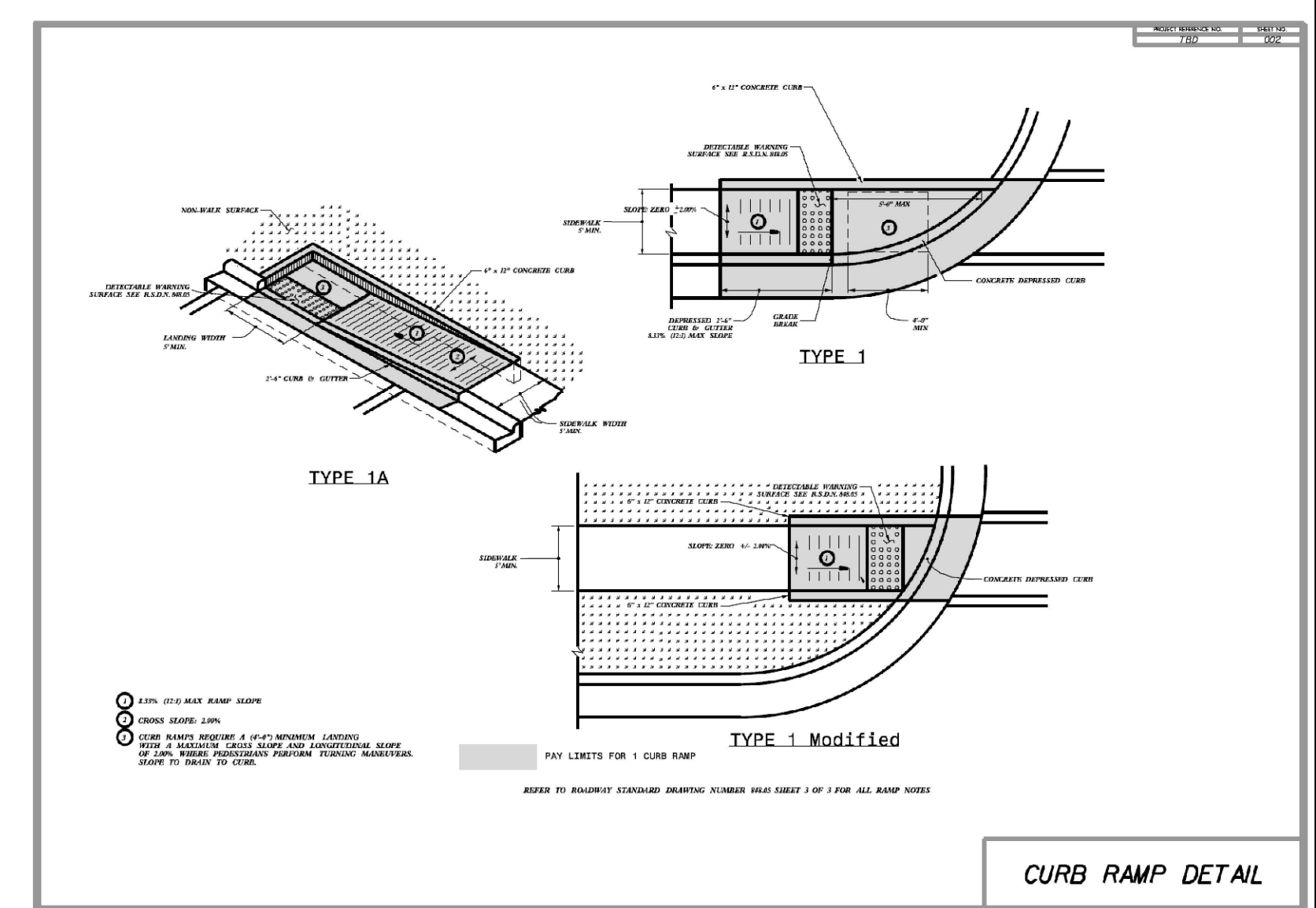
STANDARD BIKE RACK

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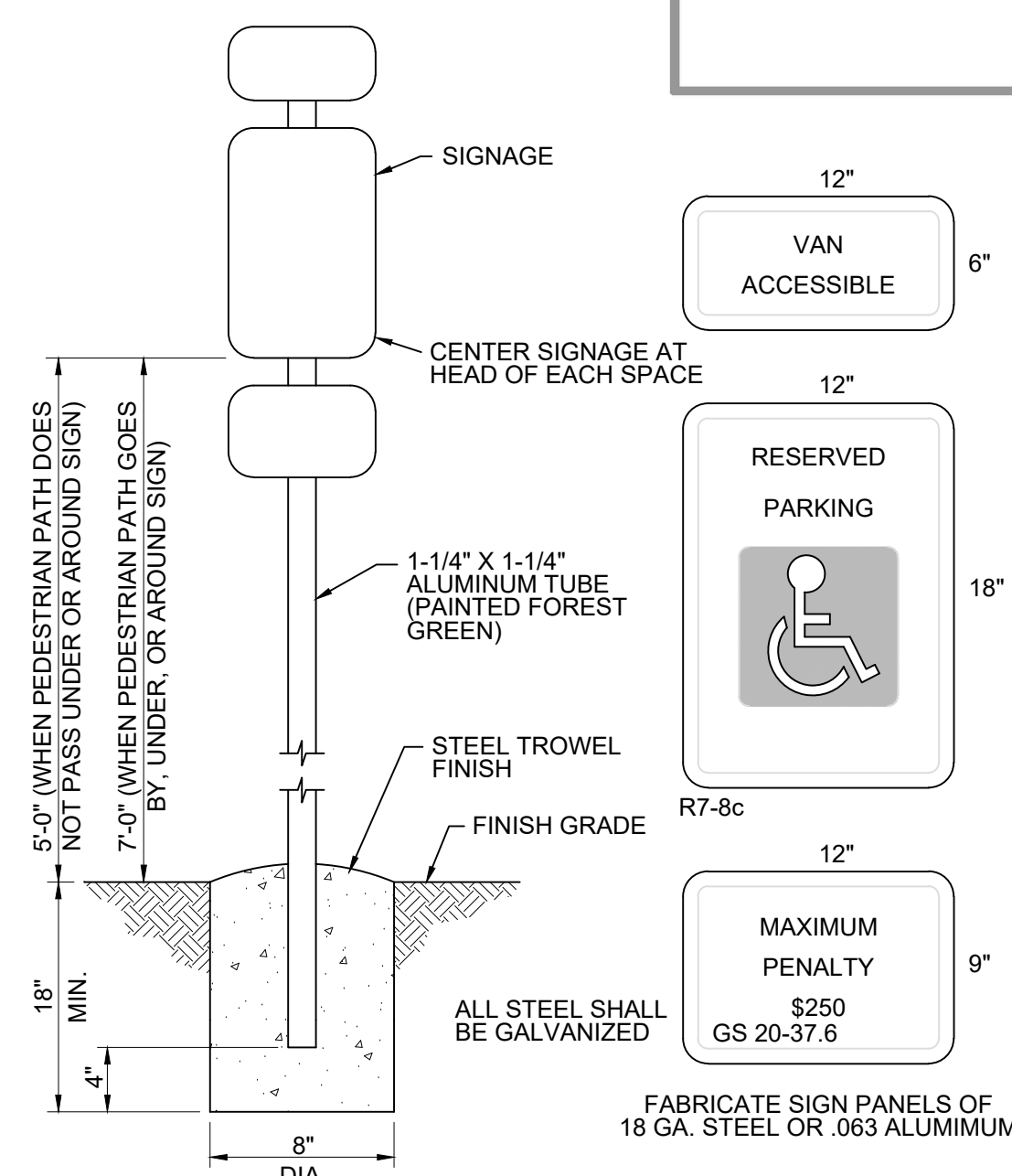


HANDICAP PARKING AND RAMP

TYPE B
NTS

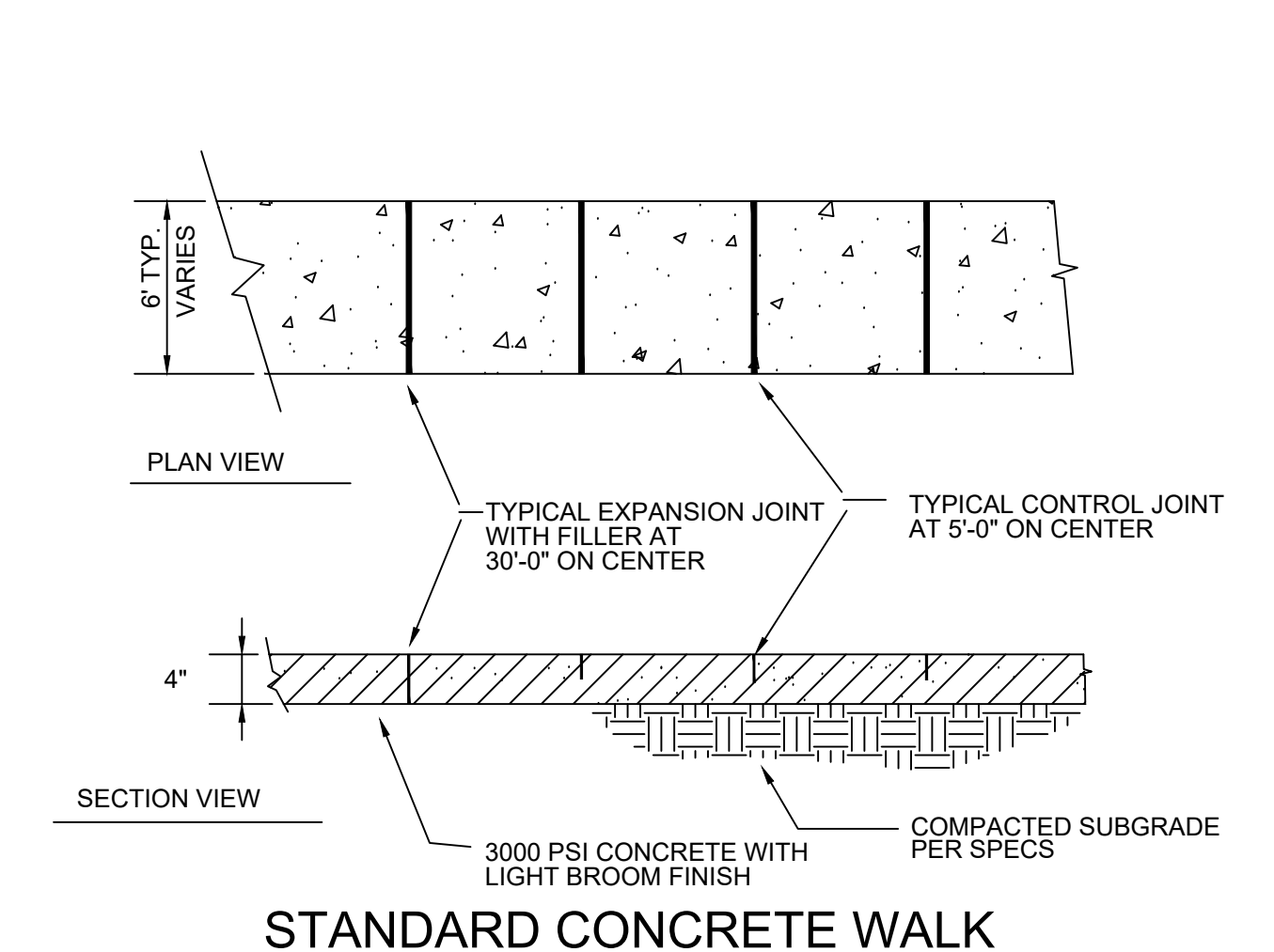


CURB RAMP DETAIL



DETAIL HANDICAP SIGNAGE

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STANDARD CONCRETE WALK

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Gettle Engineering and Design, PLLC
3616 Waxwing Court,
Wake Forest, North Carolina 27587
(919) 210-3934 Firm License P-2538

Site Details
Vineyard Pine Commercial
MRR Development, LLC
Rolesville, Wake County, North Carolina

Project No.

Dwg No.

D1

GENERAL NOTES:
 USE CLASS "B" CONCRETE THROUGHOUT.
 PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
 OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
 USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
 IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
 USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.
 FOR 8'-0" IN HEIGHT OR LESS USE 8" WALLS AND BOTTOM SLAB, OVER 8'-0" TO 16'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.
 CONSTRUCT WITH PIPE CROWNS MATCHING.
 CHAMFER ALL EXPOSED CORNERS 1".
 DRAWING NOT TO SCALE.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE

SHEET 1 OF 2
840.02

GENERAL NOTES:
 USE CLASS "B" CONCRETE THROUGHOUT.
 PROVIDE ALL DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
 OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
 USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
 IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
 CONSTRUCT WITH PIPE CROWNS MATCHING.
 SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.
 INSTALL 2" WEEPHOLES AS DIRECTED BY THE ENGINEER.
 INSTALL STONE DRAINS, OF A MINIMUM OF 1 CUBIC FOOT OF NO. 7MM STONE IN A POROUS FABRIC BAG OR WRAP, AT EACH WEEP HOLE OR AS DIRECTED BY THE ENGINEER.
 CHAMFER ALL EXPOSED CORNERS 1".
 DRAWING NOT TO SCALE.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR CONCRETE DROP INLET 12" THRU 30" PIPE

SHEET 1 OF 1
840.14

MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN (BASED ON MIN. HEIGHT, H, WITH NO RISER) *

PIPE	DIMENSIONS OF BOX & PIPE				COVER DIMENSION			BARS - U			BARS - V			BARS - W			TOTAL CUB. YDS. CONC. IN BOX	DEDUCTIONS FOR ONE PIPE	
	D	A	B	H	E	F	G	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.			LENGTH
12"	3'-0"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	4	1'-5"	2	3'-9"	3	3'-9"	39	0.123	0.321	1.433	0.092	0.127
15"	3'-0"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	4	1'-5"	2	3'-9"	3	3'-9"	43	0.167	0.358	1.714	0.132	0.178	
18"	3'-0"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	4	1'-5"	2	3'-9"	3	3'-9"	39	0.123	0.321	1.433	0.092	0.127	
24"	3'-0"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	4	1'-5"	2	3'-9"	3	3'-9"	39	0.123	0.321	1.433	0.092	0.127	
30"	3'-0"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	4	1'-5"	2	3'-9"	3	3'-9"	39	0.123	0.321	1.433	0.092	0.127	
36"	3'-0"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	4	1'-5"	2	3'-9"	3	3'-9"	39	0.123	0.321	1.433	0.092	0.127	
42"	3'-0"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	4	1'-5"	2	3'-9"	3	3'-9"	39	0.123	0.321	1.433	0.092	0.127	
48"	3'-0"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	4	1'-5"	2	3'-9"	3	3'-9"	39	0.123	0.321	1.433	0.092	0.127	
54"	3'-0"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	4	1'-5"	2	3'-9"	3	3'-9"	39	0.123	0.321	1.433	0.092	0.127	
60"	3'-0"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	4	1'-5"	2	3'-9"	3	3'-9"	39	0.123	0.321	1.433	0.092	0.127	
66"	3'-0"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	4	1'-5"	2	3'-9"	3	3'-9"	39	0.123	0.321	1.433	0.092	0.127	

* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE

SHEET 2 OF 2
840.02

GENERAL NOTES:
 CHAMFER ALL EXPOSED CORNERS 1".
 USE CLASS "B" CONCRETE THROUGHOUT.
 OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
 USE FORMS TO CONSTRUCT THE BOTTOM SLAB.
 IF REINFORCED CONCRETE PIPE IS SET IN BASE SLAB OF BOX, ADD TO BASE AS SHOWN ON STANDARD NO. 840.00.
 PROVIDE ALL JUNCTION BOXES OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTERS IN ACCORDANCE WITH STD. NO. 840.66.
 ADJUST THE STEEL, CONCRETE AND BRICK MASONRY QUANTITIES TO INCLUDE THE ADDITION OF THE MANHOLE (I.E. DIAGONAL BARS SHORTENED AROUND OPENING IN TOP SLAB, ADDITIONAL VARIABLE HEIGHT BRICK MASONRY, OPENING IN TOP SLAB.)
 MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12 FEET.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR CONCRETE JUNCTION BOX (WITH OPTIONAL MANHOLE) 12" THRU 66" PIPE

SHEET 1 OF 1
840.31

SUMP DETAIL

8" THICK WALLS FOR 12" DEPTH OR LESS, 12" DEPTH OR MORE.

CONCRETE SLAB 3000 PSI

MANHOLE RING & COVER DEWEY BROS. MH-RCR-3

2" DIA.

CONCRETE SLAB 3000 PSI

TO STORM FILTER

FROM SITE

4'-0" x 4'-0"

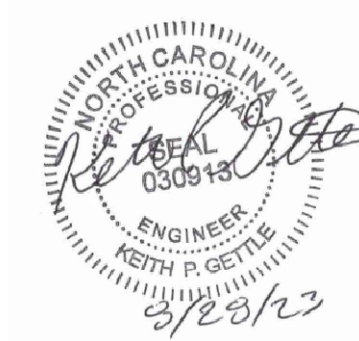
MANHOLE STEPS DEWEY BROS. MH-ST-5 @ 15" O.C. 18 STEPS 2 FT. FROM TOP

1" OF 1/2 CEMENT PLASTER

VARIES

Gettle Engineering and Design, PLLC
 3616 Waxwing Court,
 Wake Forest, North Carolina 27587
 (919) 210-3934
 Firm License P-2538

NO.	DATE	BY	REVISION DESCRIPTION
1			
2			
3			
4			
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6			
7			
8			



Storm Drainage Details
 Vineyard Pine Commercial
 MRR Development, LLC
 Rolesville, Wake County, North Carolina

Project No.
 Dwg No.
D2

PROJECT SUMMARY

CALCULATION DETAILS

- LOADING = HS20/HS25
- APPROX. LINEAR FOOTAGE = 489 LF

STORAGE SUMMARY

- STORAGE VOLUME REQUIRED = 7634 CF
- PIPE STORAGE VOLUME = 7,777 CF
- BACKFILL STORAGE VOLUME = 0 CF
- TOTAL STORAGE PROVIDED = 7,777 CF

PIPE DETAILS

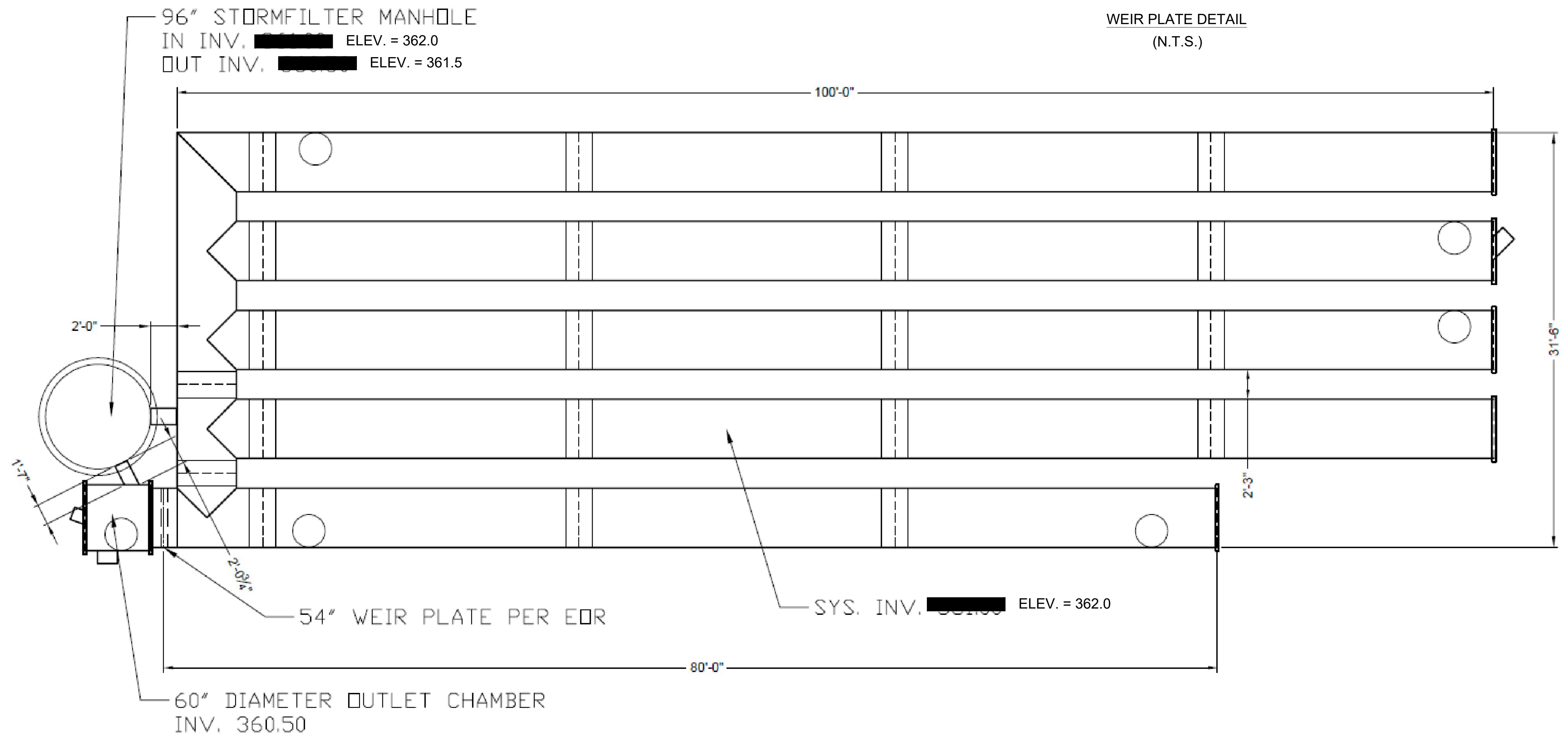
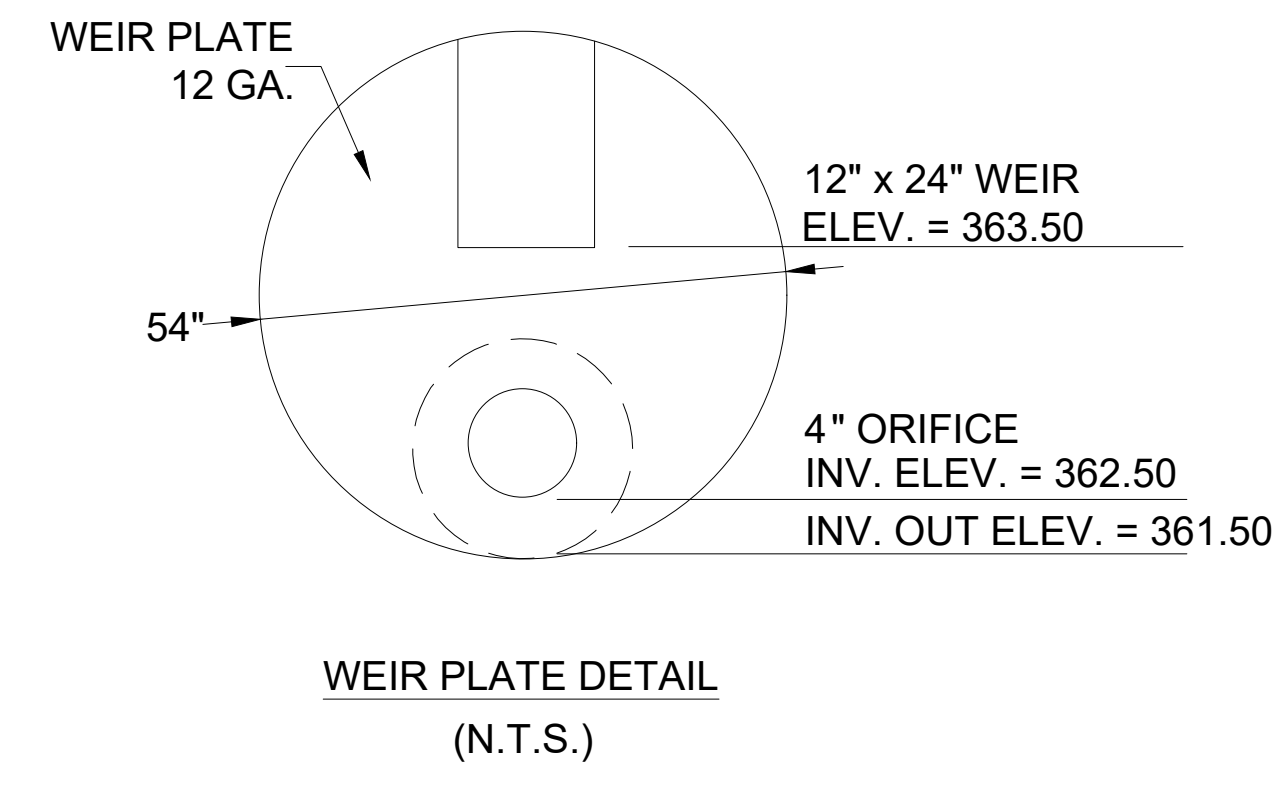
- DIAMETER = 54"
- CORRUGATION = 5x1
- GAGE = 14
- COATING = ALT2
- WALL TYPE = SOLID
- BARREL SPACING = 27"

BACKFILL DETAILS

- WIDTH AT ENDS = 12"
- ABOVE PIPE = 0"
- WIDTH AT SIDES = 12"
- BELOW PIPE = 0"

NOTES

- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE 2 $\frac{3}{8}$ " x $\frac{1}{2}$ " CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- BAND TYPE TO BE DETERMINED UPON FINAL DESIGN.
- THE PROJECT SUMMARY IS REFLECTIVE OF THE DYODS DESIGN, QUANTITIES ARE APPROX. AND SHOULD BE VERIFIED UPON FINAL DESIGN AND APPROVAL. FOR EXAMPLE, TOTAL EXCAVATION DOES NOT CONSIDER ALL VARIABLES SUCH AS SHORING AND ONLY ACCOUNTS FOR MATERIAL WITHIN THE ESTIMATED EXCAVATION FOOTPRINT.
- THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.



ASSEMBLY
SCALE: 1" = 10'

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DATE	REVISION DESCRIPTION	BY

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ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH
CMP DETENTION SYSTEMS
CONTECH
DYODS
DRAWING

Jonesville Road Rolesville Commercial Site
CMP System
Rolesville, NC
DETENTION SYSTEM

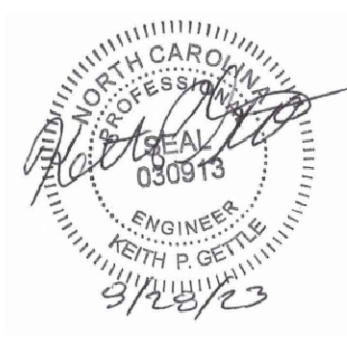
PROJECT No.: 24294	SEQ. No.: 35777	DATE: 8/2/2023
DESIGNED: DYD	DRAWN: DYD	
CHECKED: DYD	APPROVED: DYD	
SHEET NO.: 1		1

Pre and Post Summary Table

	Pre	Post
Q1	1.38	0.94
Q10	4.74	1.82

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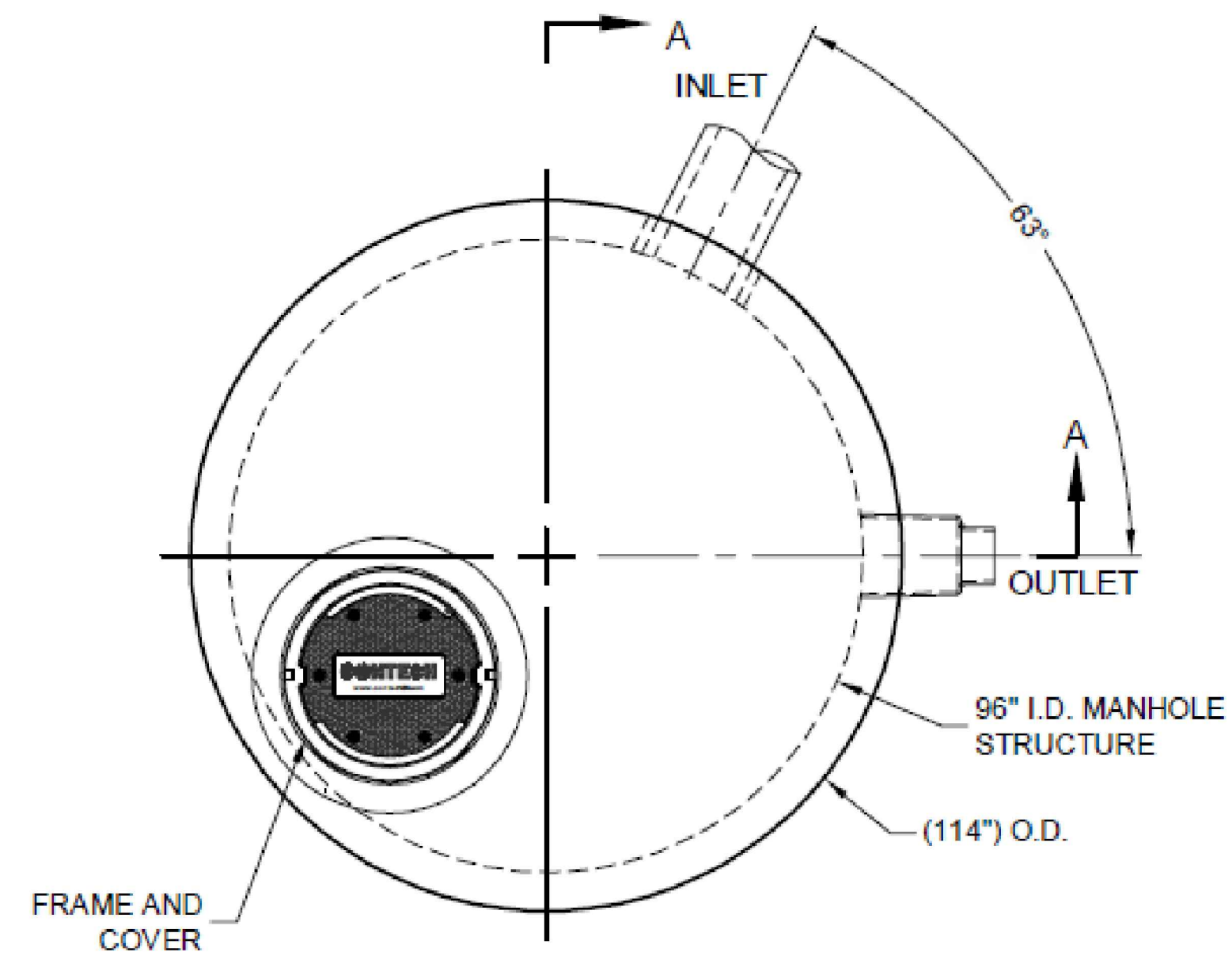
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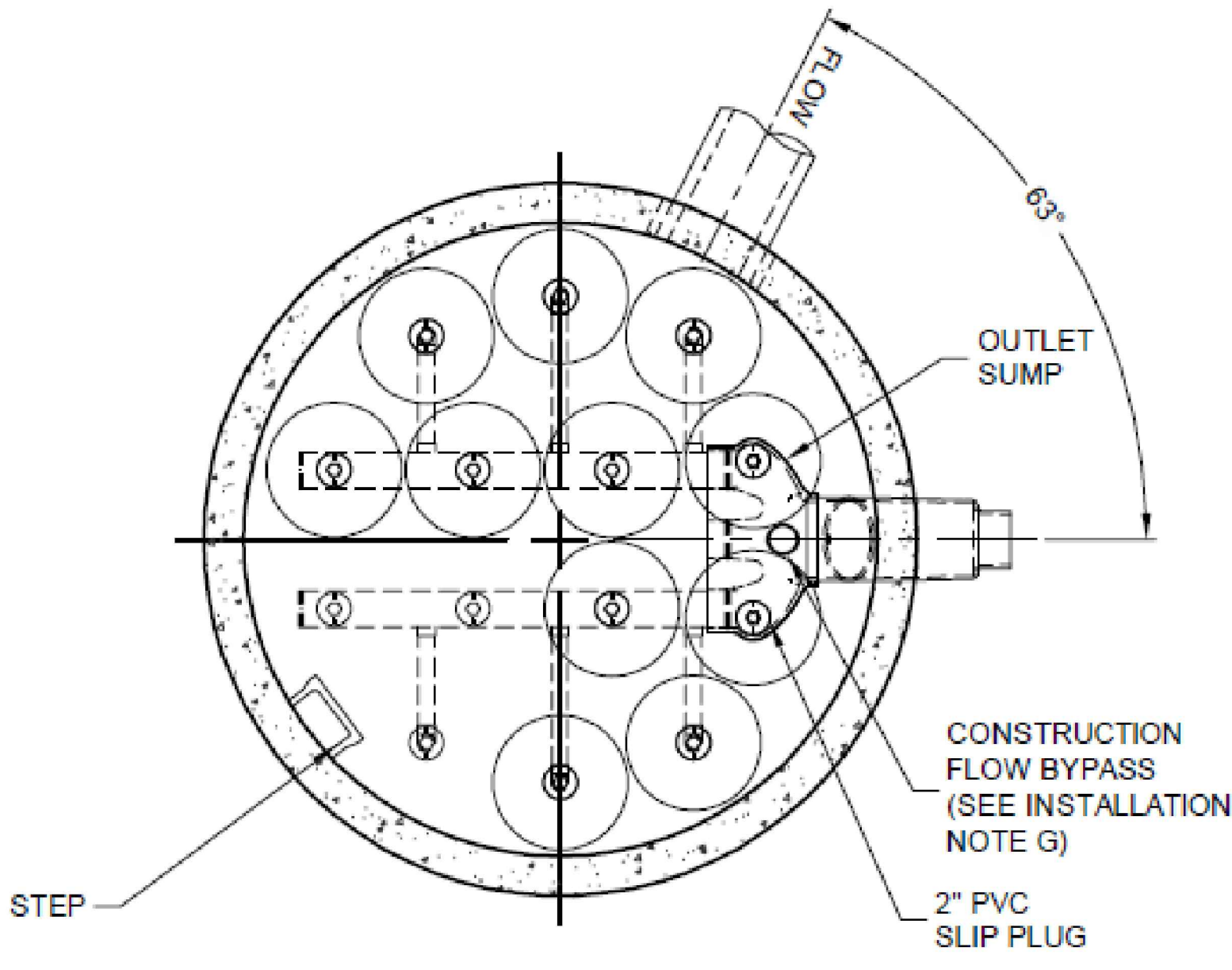
Storm Filter Details
Vineyard Pine Commercial
MRR Development, LLC
Rolesville, Wake County, North Carolina

Project No.
Dwg No.
D3

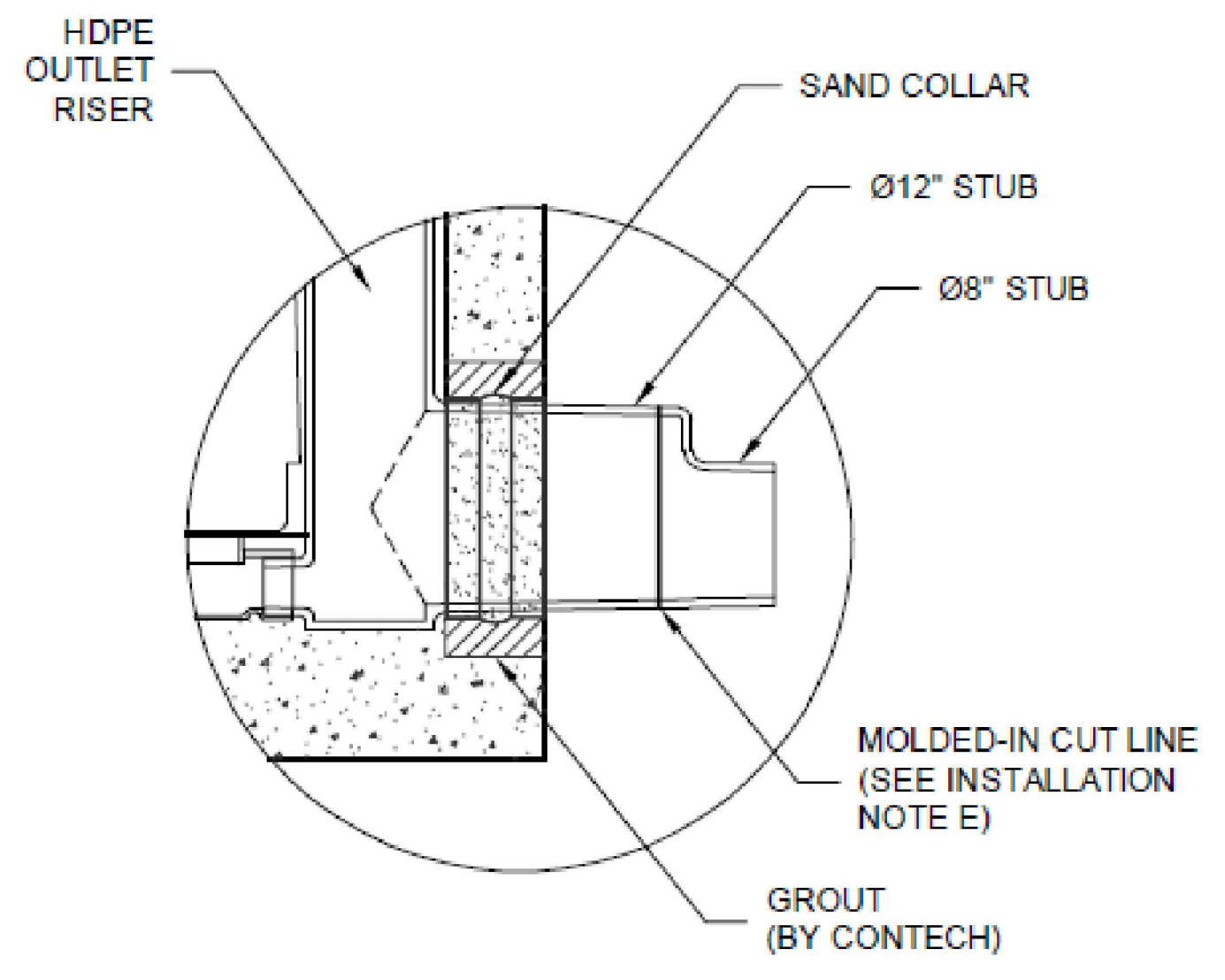
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PLAN VIEW



SECTION B-B
SEALED OUTLET RISER



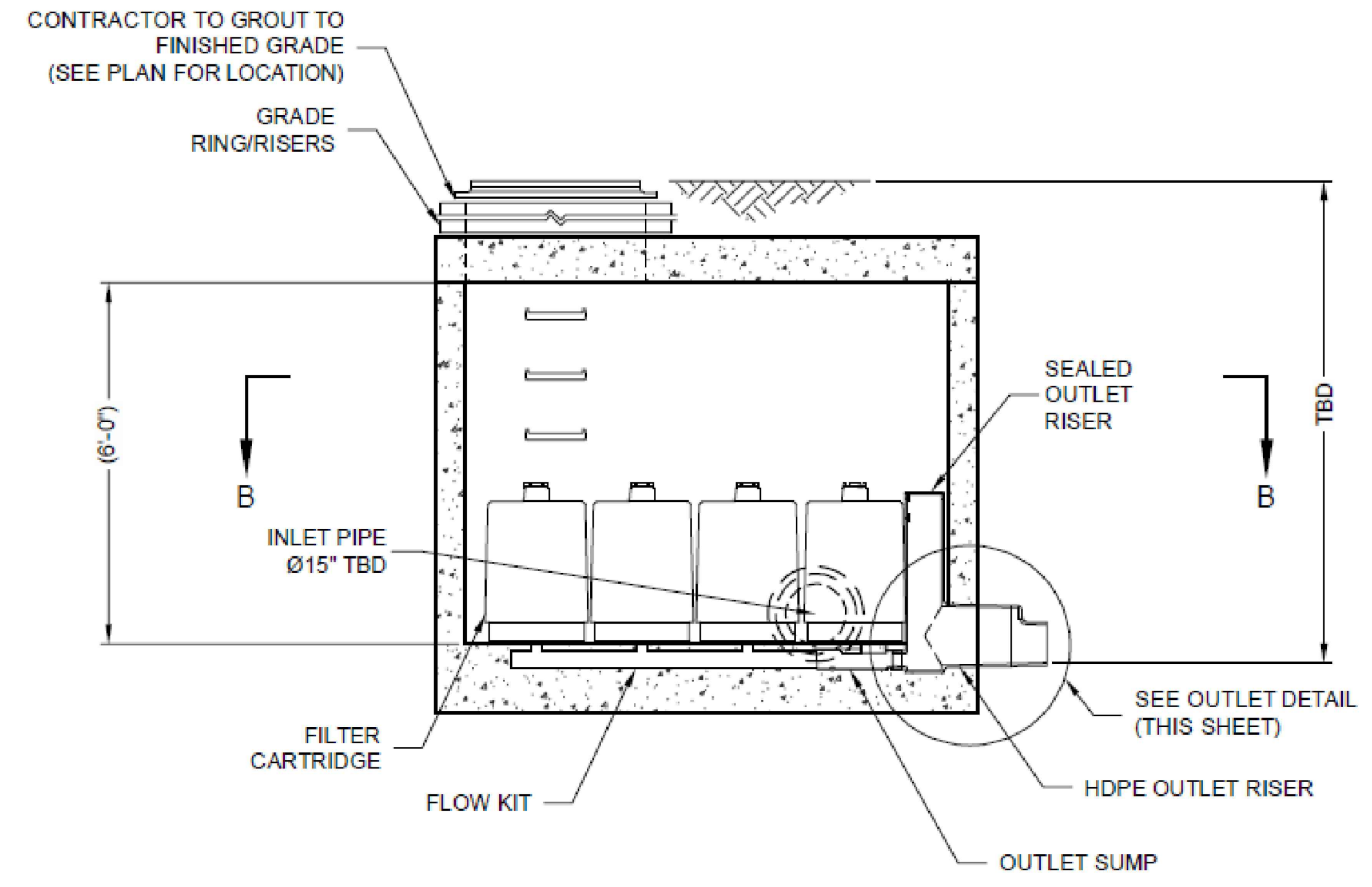
OUTLET DETAIL

MATERIAL LIST - PROVIDED BY CONTECH

COUNT	DESCRIPTION	INSTALLED BY
11	18", VOLUME GPM, PHOSPHOSORB CARTRIDGE (PRP)	PRECASTER
3	2" PVC SLIP PLUG	PRECASTER
1	SEALED OUTLET RISER	PRECASTER
1	FLOW KIT	PRECASTER
1	JOINT SEALANT (BY PRECASTER)	CONTRACTOR
1 PLC	GRADE RINGS/RISERS	CONTRACTOR
1	Ø30" x 4" FRAME AND COVER	CONTRACTOR

SITE DESIGN DATA

WATER QUALITY FLOW RATE	XX CFS
PEAK FLOW RATE	XX CFS
RETURN PERIOD OF PEAK FLOW	XX YRS
FILTER MEDIA TYPE	PHOSPHOSORB



SECTION A-A

RIM ELEV. TBD'

INLET INV. ELEV. **ELEV. = 362.0**

OUTLET INV. ELEV. **ELEV. = 361.5**

PERFORMANCE SPECIFICATION

FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS. SPECIFIC FLOW RATE SHALL BE 1, 1.67, or 2 GPM/SF (MAXIMUM). SPECIFIC FLOW RATE IS THE MEASURE OF THE FLOW (GPM) DIVIDED BY THE MEDIA SURFACE CONTACT AREA (SF). MEDIA VOLUMETRIC FLOW RATE SHALL BE 6 GPM/CF OF MEDIA (MAXIMUM).

GENERAL NOTES

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.conteches.com
- STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
- STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 5' AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
- STORMFILTER STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR METHOD.

INSTALLATION NOTES

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE (LIFTING CLUTCHES PROVIDED).
- CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL SECTIONS AND ASSEMBLE STRUCTURE.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET PIPE(S). ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
- CONTRACTOR TO PROVIDE AND INSTALL CONNECTOR TO THE OUTLET RISER STUB. STORMFILTER EQUIPPED WITH A DUAL DIAMETER HDPE OUTLET STUB. IF OUTLET PIPE IS LARGER THAN 8 INCHES, CONTRACTOR TO REMOVE THE 8 INCH OUTLET STUB AT MOLDED IN CUT LINE. COUPLING BY FERNCO OR EQUAL AND PROVIDED BY CONTRACTOR.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
- CONTRACTOR TO INSTALL SUPPLIED PLUG IN CONSTRUCTION FLOW BYPASS WHEN SYSTEM IS BROUGHT ON LINE (PRESSURE FIT ONLY, DO NOT GLUE).

STRUCTURE WEIGHT
APPROXIMATE HEAVIEST PICK = T.B.D. LBS.
OF X PIECES
MAX. FOOTPRINT = Ø96" MANHOLE STORMFILTER

CONTECH
PROPOSAL
DRAWING

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NO.	DATE	REVISION DESCRIPTION	BY

Ø96" MANHOLE STORMFILTER -
765974-010
JONESVILLE ROAD COMMERCIAL
ROLESVILLE, NC
SITE DESIGNATION: TBD

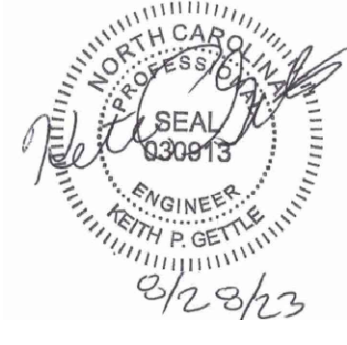
CONTECH
ENGINEERED SOLUTIONS LLC
WWW.CONTECHES.COM
8325 Central Pine Dr., Suite 400, West Chester, OH 45389
800-258-1122 513-345-7000 513-345-7081 FAX

StormFilter
The StormFilter is a patented, self-cleaning, siphon-actuated, radial flow, media-filled stormwater filter.

DATE:	08/02/23
DESIGNED BY:	N/A
CHECKED BY:	BY
APPROVED BY:	BY
PROJECT No.:	765974
SEQUENCE No.:	010
SHEET:	1 OF 1

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3616 Waxwing Court,
Wake Forest, North Carolina 27587
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NO.	DATE	REVISION DESCRIPTION	BY

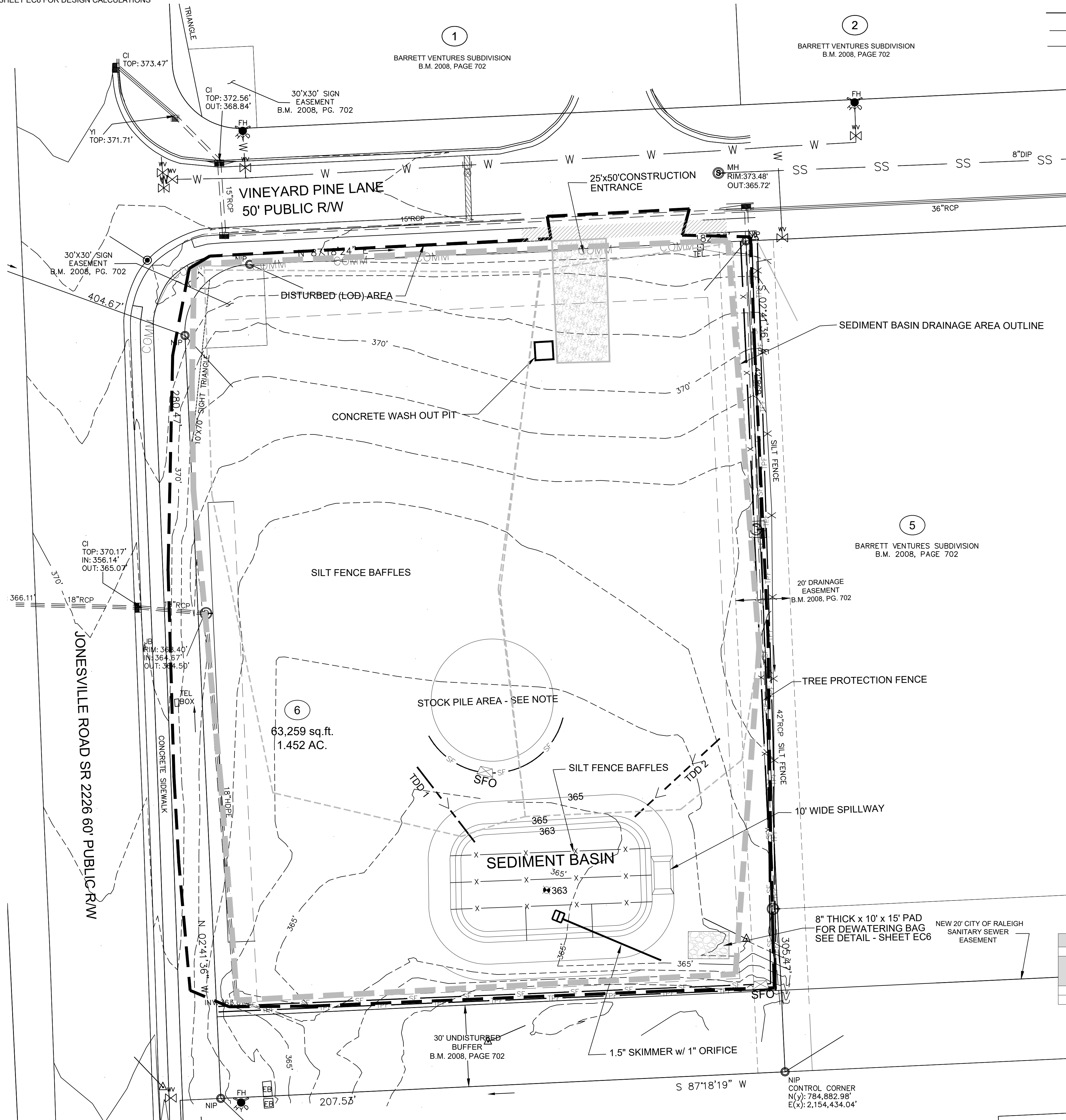


Storm Filter Details
Vineyard Pine Commercial
MRR Development, LLC
Rolesville, Wake County, North Carolina

Project No.
Dwg No.
D4

BASIN NUMBER	DRAIN AREA (ACRES)	BASIN SIZE	Q10 FLOW (CFS)	BASIN SURFACE AREA (SF)	REQUIRED SURFACE AREA (SF)	BASIN VOLUME (CF)	REQUIRED BASIN VOLUME (CF)	SPILLWAY LENGTH (FT)	SKIMMER / ORIFICE DIAMETER (IN.)	TOP OF BERM ELEV.	EMERGENCY SPILLWAY ELEV.	BOTTOM OF BASIN
1	1.83	44' x 74'	5.06	4264	2201	7499	3294	10	1.5 / 1	408.5	408	406

SEE SHEET EC6 FOR DESIGN CALCULATIONS



LINE AND SYMBOL LEGEND

- SILT FENCE OUTLET
- LIMITS OF DISTURBANCE
- SILT FENCE
- TEMPORARY DIVERSION
- TREE PROTECTION FENCE
- STONE FILTER

GENERAL NOTES:

- INSTALL POLYACRYLAMIDE IMPREGNATED STRAW WATTLES (ie: TERRA TUBES) DIRECTLY BELOW STORM WATER OUTFALL. PLACE EROSION CONTROL LINER UNDERNEATH A SERIES OF WATTLES (SEE DETAIL)
- SURROUND THE SKIMMER WITH A BAFFLE AND "KEY" BOTH ENDS INTO THE SIDE OF THE BASIN. INSTALL A TARP UNDERNEATH THE SKIMMER, COVERING THE ENTIRE AREA AROUND THE SKIMMER. PROVIDE A 6"-8" BLOCK TO PLACED UNDER THE SKIMMER ALLOWING THE DEVICE TO REST ON AFTER DEWATERING.
- INSTALL STANDARD GRAVEL YARD INLET PROTECTION UNTIL CURB IS INSTALLED. INSTALL STANDARD GRAVEL BAG CURB INLET PROTECTION AT ALL CURB INLETS.

EROSION CONTROL CONSTRUCTION SEQUENCE - PHASE 1

- SCHEDULE A PRECONSTRUCTION CONFERENCE WITH THE ENVIRONMENTAL WATERSHED MANAGER. OBTAIN A LAND DISTURBING PERMIT.
- INSTALL TREE PROTECTION FENCE.
- INSTALL EROSION CONTROL MEASURES INCLUDING GRAVEL CONSTRUCTION ENTRANCE /EXIT, SEDIMENT TRAPPING MEASURES, STABILIZATION AT PIPE OUTLETS, AND OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED TEMPORARY DIVERSIONS, BERMS AND BASINS IMMEDIATELY AFTER CONSTRUCTION.
- CONTACT THE WAKE COUNTY ENVIRONMENTAL CONSULTANT, JEEVAN NEUPANE (919) 819-8907, FOR AN ONSITE INSPECTION TO OBTAIN A CERTIFICATE OF COMPLIANCE.
- BEGIN CLEARING AND GRUBBING. PERFORM ROUGH GRADING. INSTALLING AND MAINTAINING TEMPORARY DIVERSIONS AS NECESSARY. SEED AND MULCH PERIMETER SLOPES AS SOON AS POSSIBLE.
- STABILIZE DISTURBED AREAS WITHIN 14 WORKING DAYS AFTER COMPLETION OF ANY PHASE OF GRADING. STABILIZATION CONSISTS OF EITHER TEMPORARY MULCHING OR PERMANENT VEGETATION ON AREAS THAT ARE NOT PAVED.
- REGULARLY INSPECT AND MAINTAIN THE EROSION CONTROL DEVICES SO THEY CONTINUE TO FUNCTION PROPERLY.
- KEEP MUD AND DEBRIS OFF THE PUBLIC STREETS AT ALL TIMES. IF MUD OR DEBRIS IS TRACKED FROM THE SITE, USE A SHOVEL AND BROOM TO REMOVE IT IMMEDIATELY. IF MUD AND DEBRIS ARE NOT KEPT OFF THE STREET, ENFORCEMENT ACTION (REVOKING THE GRADING PERMIT AND/OR STOP WORK ORDER) MAY BE TAKEN.
- IF IT IS DETERMINED DURING THE COURSE OF CONSTRUCTION THAT SIGNIFICANT SEDIMENT IS LEAVING THE SITE DESPITE PROPER IMPLEMENTATION AND MAINTENANCE OF THE APPROVED EROSION CONTROL PLAN, THE PERSON RESPONSIBLE FOR THE LAND-DISTURBING ACTIVITY IS OBLIGATED TO TAKE ADDITIONAL PROTECTIVE ACTION.
- CONTINUE TO PHASE 2 EROSION CONTROL ACTIVITIES.

STOCKPILE DESIGN CRITERIA

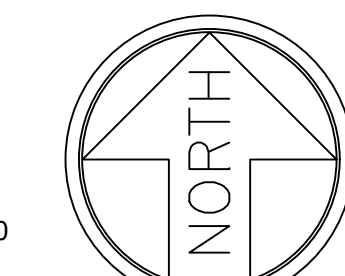
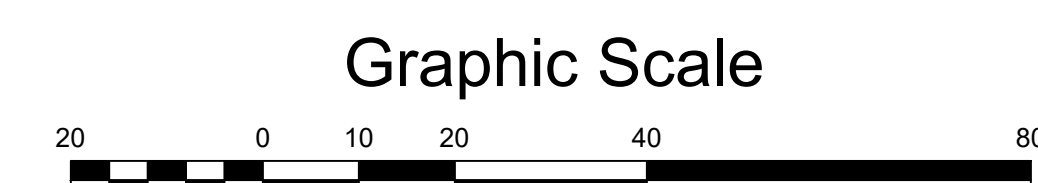
- STOCKPILING MATERIALS ADJACENT TO A DITCH, DRAINAGEWAY, WATERCOURSE, WETLAND, STREAM BUFFER, OR OTHER BODY OF WATER SHALL BE AVOIDED UNLESS AN ALTERNATIVE LOCATION IS DEMONSTRATED TO BE UNAVAILABLE.
- A 25-FOOT TEMPORARY MAINTENANCE AND ACCESS EASEMENT SHALL BE SHOWN AROUND ALL PROPOSED STOCKPILES (EROSION CONTROL MEASURES SURROUNDING THE STOCKPILE SHALL BE SHOWN AT THE OUTER LIMIT OF THIS EASEMENT).
- STOCKPILE FOOTPRINTS SHALL BE SETBACK A MINIMUM OF 25' FROM ADJACENT PROPERTY LINES.
- STOCKPILE HEIGHT SHALL NOT EXCEED 35 FEET.
- STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER.
- STOCKPILING MATERIALS ADJACENT TO A DITCH, DRAINAGEWAY, WATERCOURSE, WETLAND, STREAM BUFFER, OR OTHER BODY OF WATER SHALL BE AVOIDED UNLESS AN ALTERNATIVE LOCATION IS DEMONSTRATED TO BE UNAVAILABLE.
- ANY CONCENTRATED FLOW LIKELY TO AFFECT THE STOCKPILE SHALL BE DIVERTED TO AN APPROVED BMP.
- OFF-SITE SPOIL OR BORROW AREAS MUST BE IN COMPLIANCE WITH WAKE COUNTY LUDO AND STATE REGULATIONS. ALL SPOIL AREAS OVER AN ACRE ARE REQUIRED TO HAVE AN APPROVED SEDIMENT CONTROL PLAN. DEVELOPER/CONTRACTOR SHALL NOTIFY WAKE COUNTY OF ANY OFFSITE DISPOSAL OF SOIL, PRIOR TO DISPOSAL. FILL OF FEMA FLOODWAYS AND ON-ENCROACHMENT AREAS ARE PROHIBITED EXCEPT AS OTHERWISE PROVIDED BY SUBSECTION 14-19-2 OF THE WAKE COUNTY UNIFIED DEVELOPMENT ORDINANCE (CERTIFICATIONS AND PERMITS REQUIRED).
- SEEDING OR COVERING STOCKPILES WITH TARPS OR MULCH IS REQUIRED AND WILL REDUCE EROSION PROBLEMS. TARPS SHOULD BE KEPT IN AT THE TOP OF THE SLOPE TO KEEP WATER FROM RUNNING UNDERNEATH THE PLASTIC.
- IF A STOCKPILE IS TO REMAIN FOR FUTURE USE AFTER THE PROJECT IS COMPLETE (BUILDERS, ETC.), THE FINANCIAL RESPONSIBLE PARTY MUST NOTIFY WAKE COUNTY OF A NEW RESPONSIBLE PARTY FOR THAT STOCKPILE.
- THE APPROVED PLAN SHALL PROVIDE FOR THE USE OF STAGED SEEDING AND MULCHING ON A CONTINUAL BASIS WHILE THE STOCKPILE IS IN USE.
- ESTABLISH AND MAINTAIN A VEGETATIVE BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).

DRAINAGE AREA TO BASIN = 50,530 SF (1.16 AC)

TOTAL DENUDED AREA 60,361 SF (1.39 AC)

Channel Design Calculations

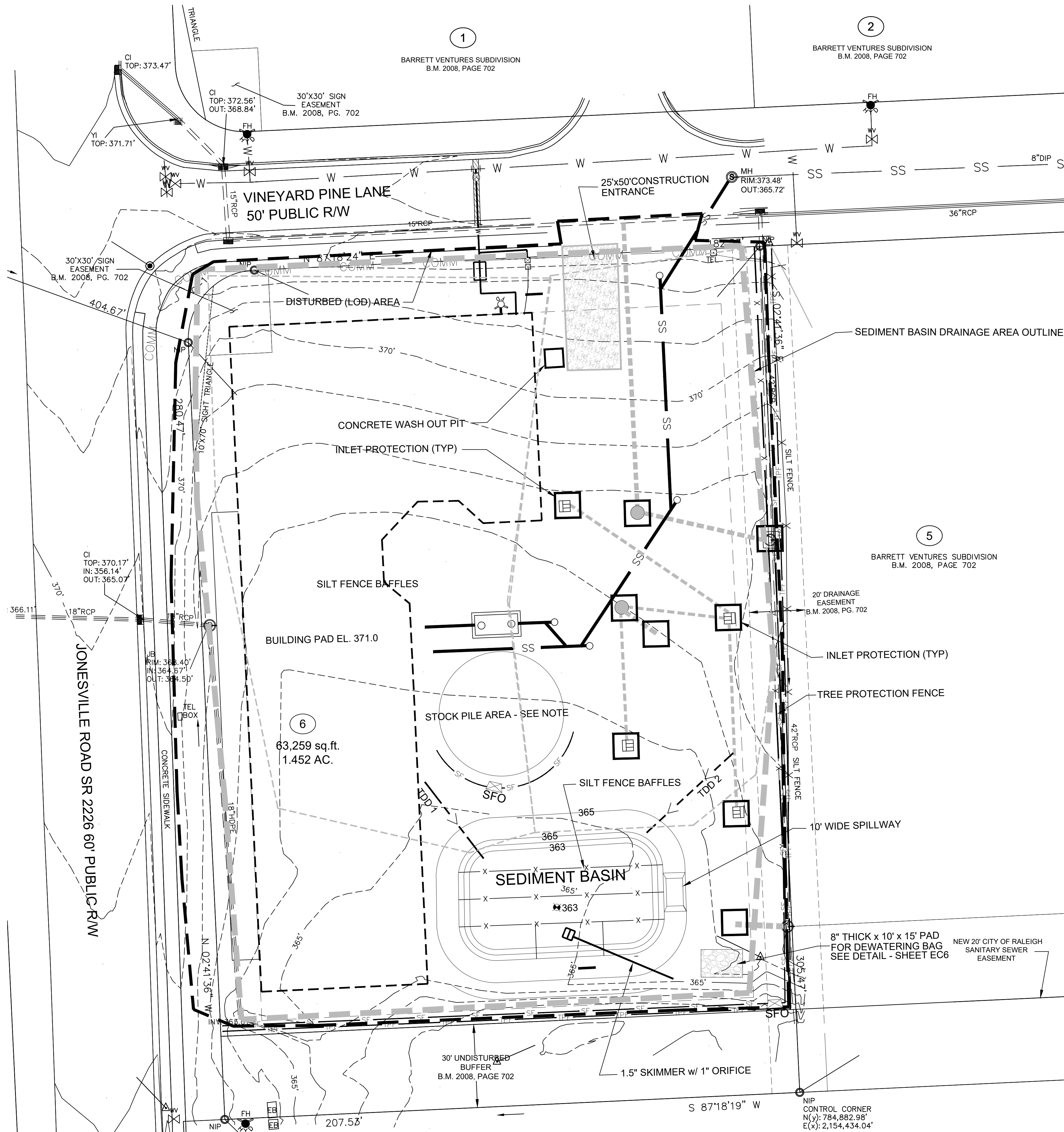
Channel	Drain Area, ac	Channel Length, ft	Channel Drop, ft	C	Q2		Channel Slope, ft/ft	n	Side Slope:1	Bottom Width, ft	Depth of Flow, ft	Velocity, fps	Liner
					I, in/hr	Flow cfs							
TDD1	0.48	218	7	0.55	5.76	1.5	0.0321	0.024	3.00	2.0	#NAME?	#NAME?	#NAME?
TDD2	0.39	198	7	0.55	5.76	1.2	0.0354	0.020	3.00	2.0	#NAME?	#NAME?	#NAME?



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 Wake Forest, North Carolina 27587
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Erosion Control Phase 1
 Vineyard Pine Commercial
 MRR Development, LLC
 Rolesville, Wake County, North Carolina

Project No.
 Dwg No.
EC1



EROSION CONTROL CONSTRUCTION SEQUENCE - PHASE 2

1. INSTALL THE STORM DRAINAGE SYSTEM AND INLET PROTECTION, PROTECTING PIPE OPENINGS AND UNCOVERED STRUCTURES AS SHOWN.
2. INSTALL SANITARY SEWER SYSTEM AND WATER LINE PIPING PER UTILITY PLAN. ENSURE EXISTING UTILITIES ARE PROTECTED DURING CONSTRUCTION ACTIVITIES.
3. STABILIZE DISTURBED AREAS WITHIN 14 WORKING DAYS AFTER COMPLETION OF ANY PHASE OF GRADING. STABILIZATION CONSISTS OF EITHER TEMPORARY MULCHING OR PERMANENT VEGETATION ON AREAS THAT ARE NOT PAVED.
4. REGULARLY INSPECT AND MAINTAIN THE EROSION CONTROL DEVICES SO THEY CONTINUE TO FUNCTION PROPERLY.
5. KEEP MUD AND DEBRIS OFF THE PUBLIC STREETS AT ALL TIMES. IF MUD OR DEBRIS IS TRACKED FROM THE SITE, USE A SHOVEL AND BROOM TO REMOVE IT IMMEDIATELY. IF MUD AND DEBRIS ARE NOT KEPT OFF THE STREET, ENFORCEMENT ACTION (REVOKING THE GRADING PERMIT AND/OR STOP WORK ORDER) MAY BE TAKEN.
6. IF IT IS DETERMINED DURING THE COURSE OF CONSTRUCTION THAT SIGNIFICANT SEDIMENT IS LEAVING THE SITE DESPITE PROPER IMPLEMENTATION AND MAINTENANCE OF THE APPROVED EROSION CONTROL PLAN, THE PERSON RESPONSIBLE FOR THE LAND DISTURBING ACTIVITY IS OBLIGATED TO TAKE ADDITIONAL PROTECTIVE ACTION.
7. CONTINUE TO PHASE 3 ACTIVITIES.

LINE AND SYMBOL LEGEND

- SFO
- LIMITS OF DISTURBANCE
- SILT FENCE
- TEMPORARY DIVERSION
- STONE FILTER

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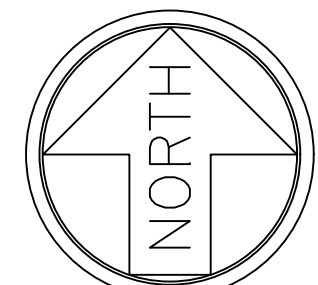


Erosion Control Phase 2
 Vineyard Pine Commercial
 MRR Development, LLC
 Rolesville, Wake County, North Carolina

Project No.

Dwg No.

EC2





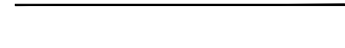

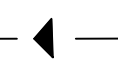
CONSTRUCTION SEQUENCE - PHASE 3

1. CONSTRUCT CONCRETE CURB IN ROADWAYS AND PARKING LOT. PLACE AND COMPACT STONE IN THE ROADWAYS AND PARKING LOT. REMOVE THE GRAVEL ENTRANCE.
2. COMPLETE FINE GRADING AND STABILIZE DISTURBED AREAS AS SOON AS POSSIBLE.
3. ONCE THE SITE IS STABILIZED AND APPROVAL FROM STORMWATER INSPECTIONS TO SCHEDULE THE REMOVAL OF THE SEDIMENT BASIN (SEE NOTES BELOW). DEWATER SEDIMENT BASIN USING A SILT BAG AND MUCK OUT REMAINING SEDIMENT.
2. BEGIN INSTALLATION OF THE BMP AND ASSOCIATED STRUCTURES. CONTACT PROJECT ENGINEER TO INSPECT DURING INSTALLATION PROCESS. SURVEY INVERT ELEVATIONS FOR AS-BUILT INFORMATION REQUIRED BY THE TOWN OF ROLESVILLE AND WAKE COUNTY.
3. GRADE ANY REMAINING AREAS TO FINAL GRADE. UPON COMPLETION THE GROUND COVER SHALL BE PROVIDED AS FOLLOWS:
 - A. STABILIZE BASINS WITH GROUND COVER IMMEDIATELY AFTER INSTALLATION.
 - B. STABILIZE DIVERSION DITCHES INTENDED TO BE IN SERVICE FOR 30 DAYS OR MORE WITH TEMPORARY SEEDING AND EROSION CONTROL NETTING.
 - C. FOR ALL AREAS OF MODERATE AND/OR STEEP SLOPES, PROVIDE TEMPORARY GROUND COVER IF THE SLOPE HAS NOT BEEN DISTURBED FOR A PERIOD OF FOURTEEN (14) DAYS.
 - D. PROVIDE GROUND COVER SUFFICIENT TO RESTRAIN EROSION ON ANY PORTION OF THE SITE UPON WHICH FURTHER LAND-DISTURBING ACTIVITY IS NOT BEING UNDERTAKEN WITHIN FOURTEEN (14) CALENDAR DAYS OF TEMPORARILY OR PERMANENTLY SUSPENDING LAND DISTURBING ACTIVITY.
 - E. ESTABLISH PERMANENT GROUND COVER SUFFICIENT TO RESTRAIN EROSION WITHIN FOURTEEN (14) CALENDAR DAYS FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT AND/OR PRIOR TO FINAL INSPECTION.
4. ONCE THE BMP INSTALLATION IS COMPLETE, TEMPORARY MEASURES ARE REMOVED, THE SITE IS STABILIZED, CONTACT THE WAKE COUNTY ENVIRONMENTAL CONSULTANT, JEEVAN NEUPANE AT (919) 819-8907, TO SCHEDULE A STORMWATER INSPECTION.

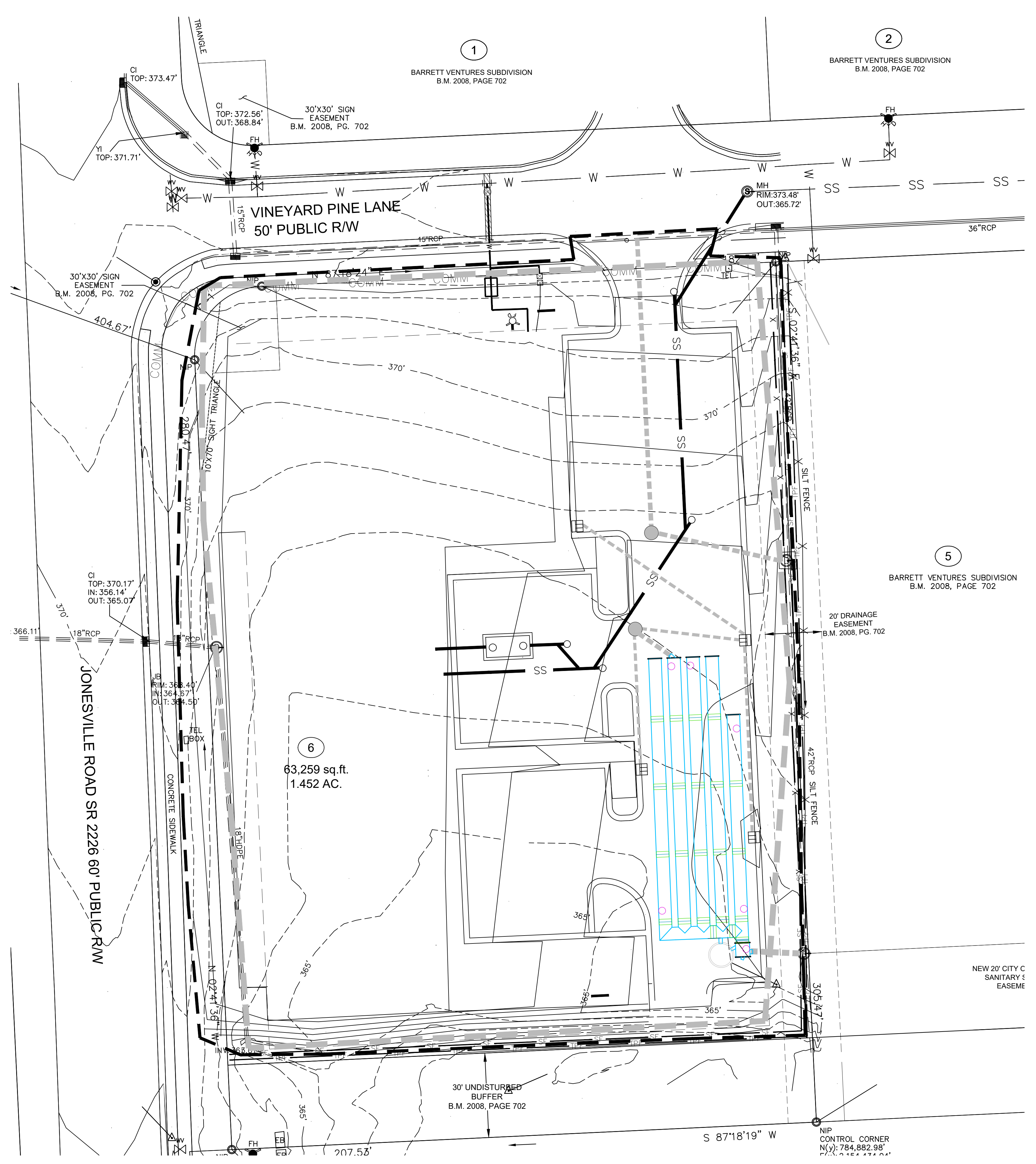
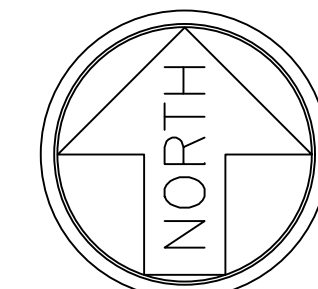
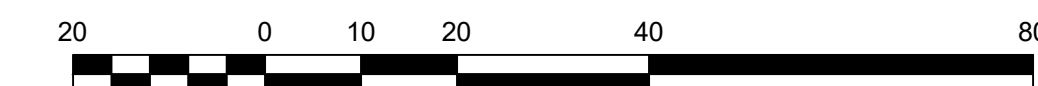
REQUIRED WAKE COUNTY BASIN REMOVAL SEQUENCE

1. SCHEDULE A SITE MEETING WITH THE WAKE COUNTY ENVIRONMENTAL CONSULTANT, JEEVAN NEUPANE AT (919) 819-8907, TO DETERMINE IF A BASIN CAN BE REMOVED. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.
2. CONTACT NCDQD - RALEIGH REGIONAL OFFICE (919) 791-4200 TO DETERMINE THE DIVISION OF ENERGY, MINERAL AND LAND RESOURCES CONTACT PERSON TO RECEIVE DEWATERING NOTIFICATIONS. AT LEAST 10 DAYS PRIOR TO BEGINNING DEWATERING ACTIVITY, SEND EMAIL TO NCDQD-DEMLR CONTACT PERSON AND COPY ENVIRONMENTAL CONSULTANT THAT MET YOU ON SITE. THE EMAIL SHOULD INCLUDE: EASC JURISDICTION; WAKE COUNTY, WAKE COUNTY PROJECT NAME, NUMBER, AND LOCATION (CITY/TOWN), ENVIRONMENTAL CONSULTANT NAME, AND ADDRESS THE FOLLOWING: A) REASON FOR CONVERSION, B) BASIN #, C) DEWATERING METHOD, AND D) ALL OTHER NECESSARY INFO FROM PART II, SECTION G, ITEM 4 OF THE NCG01. (KEEP EMAIL FOR YOUR NPDES MONITORING DOCUMENTATION)
3. AFTER RECEIVING POSITIVE CONFIRMATION FROM NCDQD-DEMLR THAT YOU MAY REMOVE THE BASIN OR ON > DAY 11, WHICHEVER IS SOONER, REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES. IF PIPES NEED TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING.
4. PERFORM SEEDBED PREPARATION, SEED, MULCH AND ANCHOR ANY RESULTING BARE AREAS IMMEDIATELY.
5. INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
6. WHEN SITE IS FULLY STABILIZED, CALL WAKE COUNTY ENVIRONMENTAL CONSULTANT, JEEVAN NEUPANE AT (919) 819-8907, FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVICE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION. NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE.

LINE AND SYMBOL LEGEND

-  SILT FENCE OUTLET
-  LIMITS OF DISTURBANCE
-  SILT FENCE
-  TEMPORARY DIVERSION
-  STONE FILTER

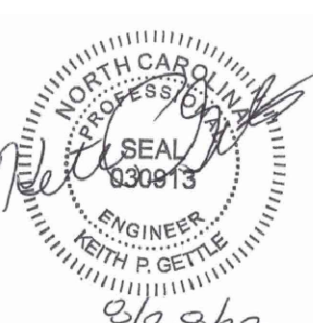
Graphic Scale



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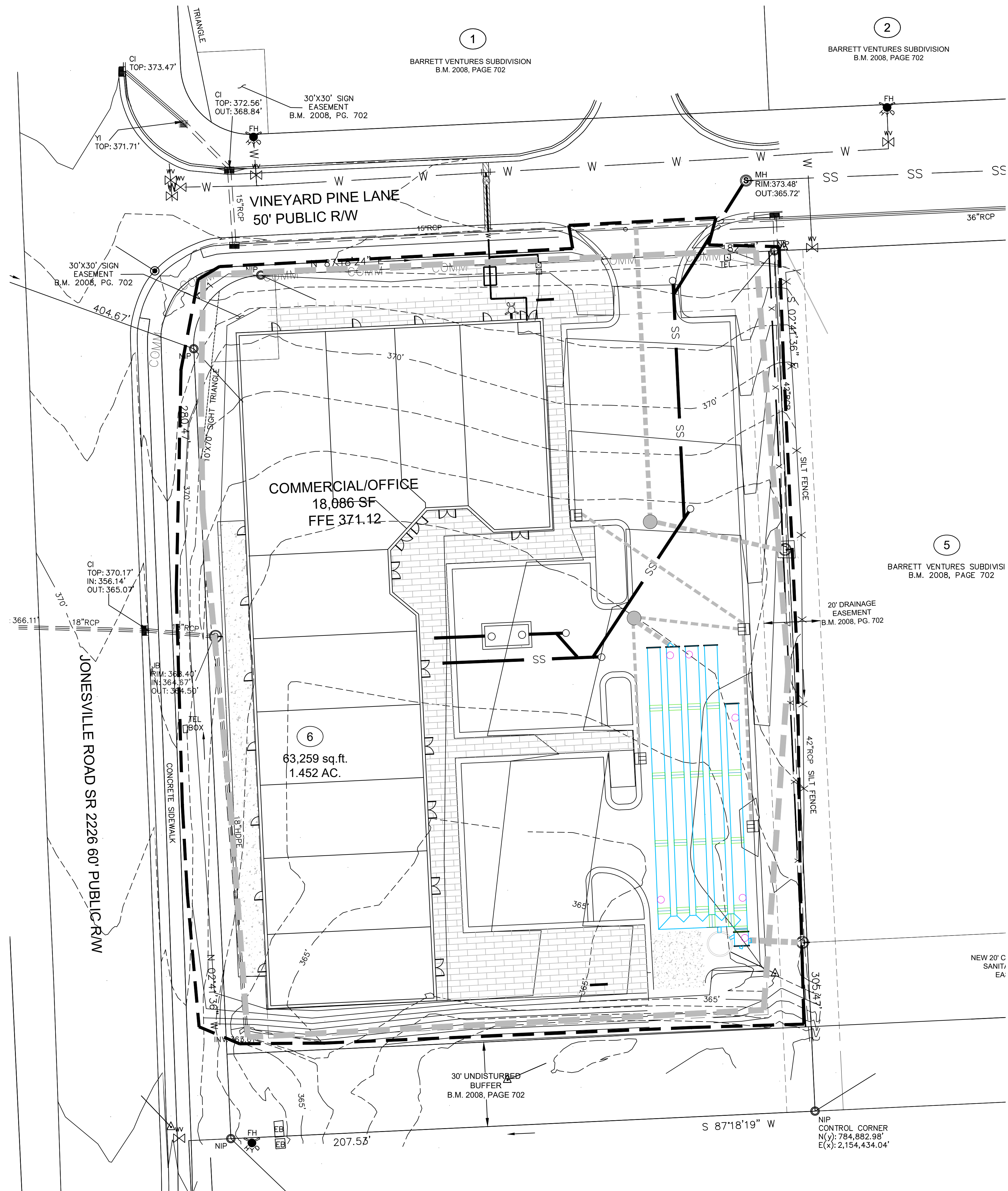
Erosion Control Phase 3

Vineyard Pine Commercial
MRR Development, LLC
Rolesville, Wake County, North Carolina

Project No.

Dwg No.

EC3



CONSTRUCTION SEQUENCE - PHASE 4

1. ENSURE THE SITE IS COMPLIANT WITH THE NCG01 SELF INSPECTION AND GROUND STABILIZATION AND MATERIAL HANDLING.
2. FOR ALL AREAS OF MODERATE AND / OR STEEP SLOPES, PROVIDE TEMPORARY GROUND COVER IF THE SLOPE HAS NOT BEEN DISTURBED FOR A PERIOD OF FOURTEEN (14) DAYS.
3. PROVIDE GROUND COVER SUFFICIENT TO RESTRAIN EROSION ON ANY PORTION OF THE SITE UPON WHICH FURTHER LAND-DISTURBING ACTIVITY IS NOT BEING UNDERTAKEN WITHIN FOURTEEN (14) CALENDAR DAYS OF TEMPORARILY OR PERMANENTLY SUSPENDING LAND DISTURBING ACTIVITY.
4. REMOVE SILT FENCE AND TREE PROTECTION FENCING WHEN GRADING ACTIVITIES ARE COMPLETE AND THE PROJECT SITE IS STABILIZED.
5. ONCE THE BMP INSTALLATION IS COMPLETE, TEMPORARY MEASURES ARE REMOVED, THE SITE IS STABILIZED, CONTACT THE WAKE COUNTY ENVIRONMENTAL CONSULTANT JEEVAN NEUPANE AT (919) 819-8907 TO SCHEDULE A STORMWATER FINAL INSPECTION. BMP CERTIFICATIONS AND AS-BUILT PLANS MUST BE PROVIDED TO WAKE COUNTY / TOWN OF ROLESVILLE PRIOR TO FINAL PLATTING.
6. ONCE THE STORMWATER FINAL INSPECTION IS APPROVED, CLOSE THE GRADING PERMIT AND OBTAIN A CERTIFICATE OF COMPLETION.

NPDES NOTES

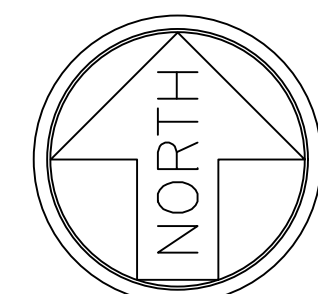
1. THIS PAGE IS SUBMITTED TO COMPLY WITH NPDES GENERAL STORMWATER PERMIT NCG010000.
2. THIS PAGE CAN BE APPROVED BY THE CITY PURSUANT TO NPDES GENERAL STORMWATER PERMIT NCG010000 ONLY.
3. THIS PAGE OF THE APPROVED PLANS IS ENFORCEABLE EXCLUSIVELY PURSUANT TO NPDES GENERAL STORMWATER PERMIT NCG010000.
4. THE CITY / COUNTY IS NOT AUTHORIZED TO ENFORCE THIS PAGE OF THE PLANS AND IT IS NOT A PART OF THE APPROVED PLANS FOR PURPOSES OF ENFORCEMENT ACTION UNDER THE CITY / COUNTY CODE.
5. DOCUMENTATION REQUIRED UNDER THE SITE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY SHALL BE SUBMITTED TO WAKE COUNTY.

NPDES GROUND STABILIZATION SCHEDULE

SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS	APPLICABLE AREA ON THIS SITE
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED	NONE
SLOPES 3:1 OR FLATTER	14 DAYS	7-DAYS FOR SLOPES GREATER THAN 50 FEET IN LENGTH	AS SHOWN
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HQW ZONES)	REMAINDER OF SITE

LINE AND SYMBOL LEGEND

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- LIMITS OF DISTURBANCE
- SILT FENCE
- TEMPORARY DIVERSION
- STONE FILTER



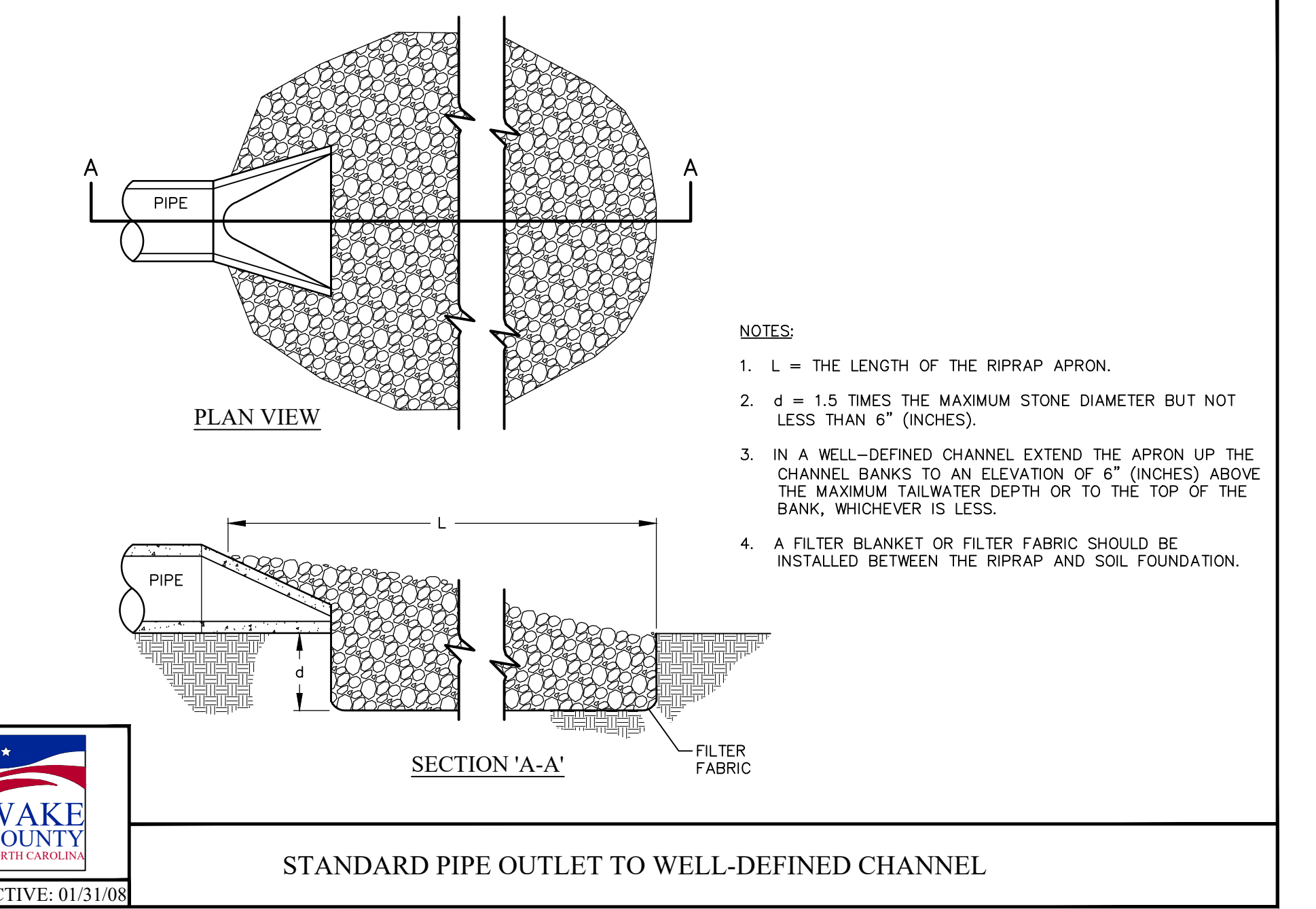
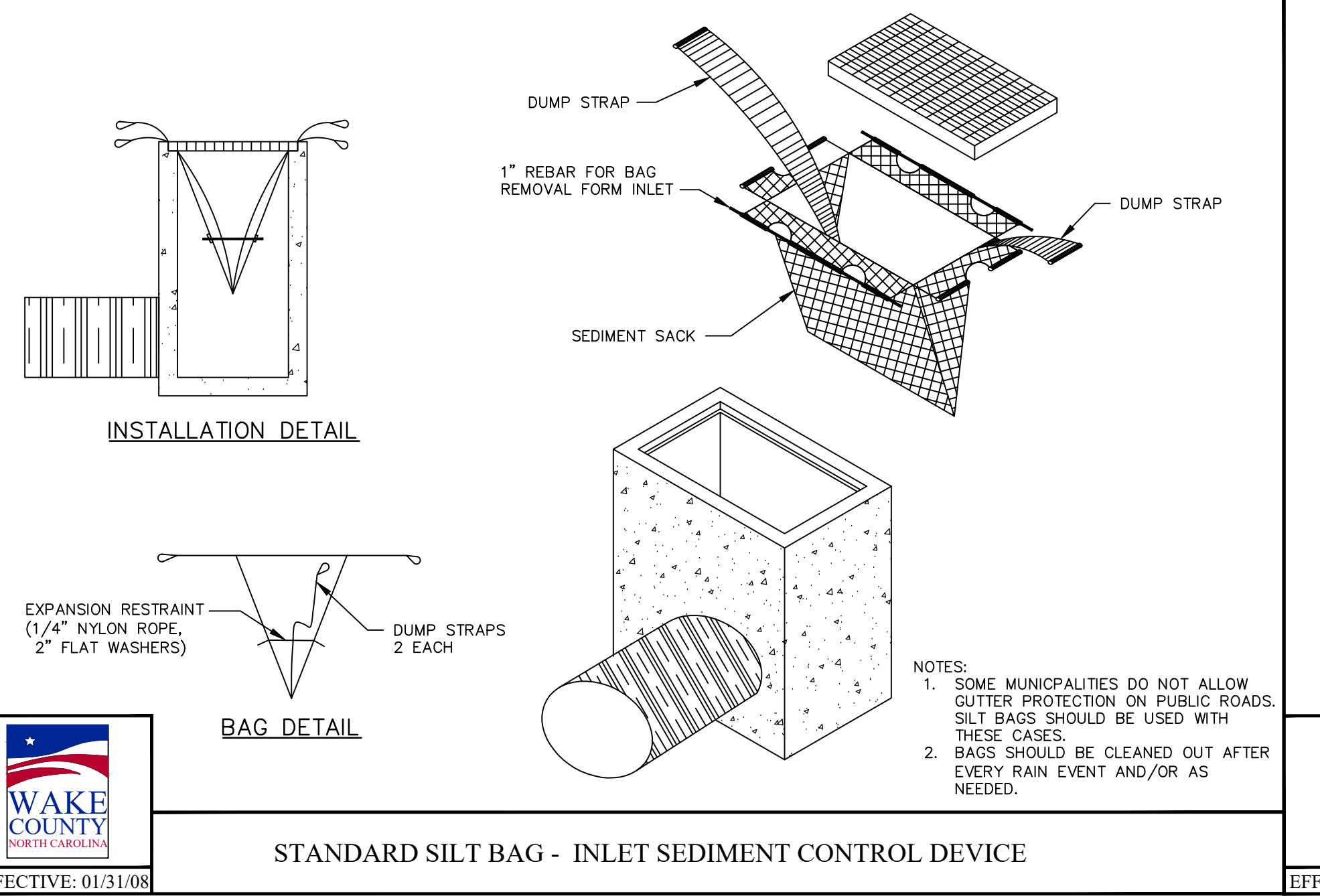
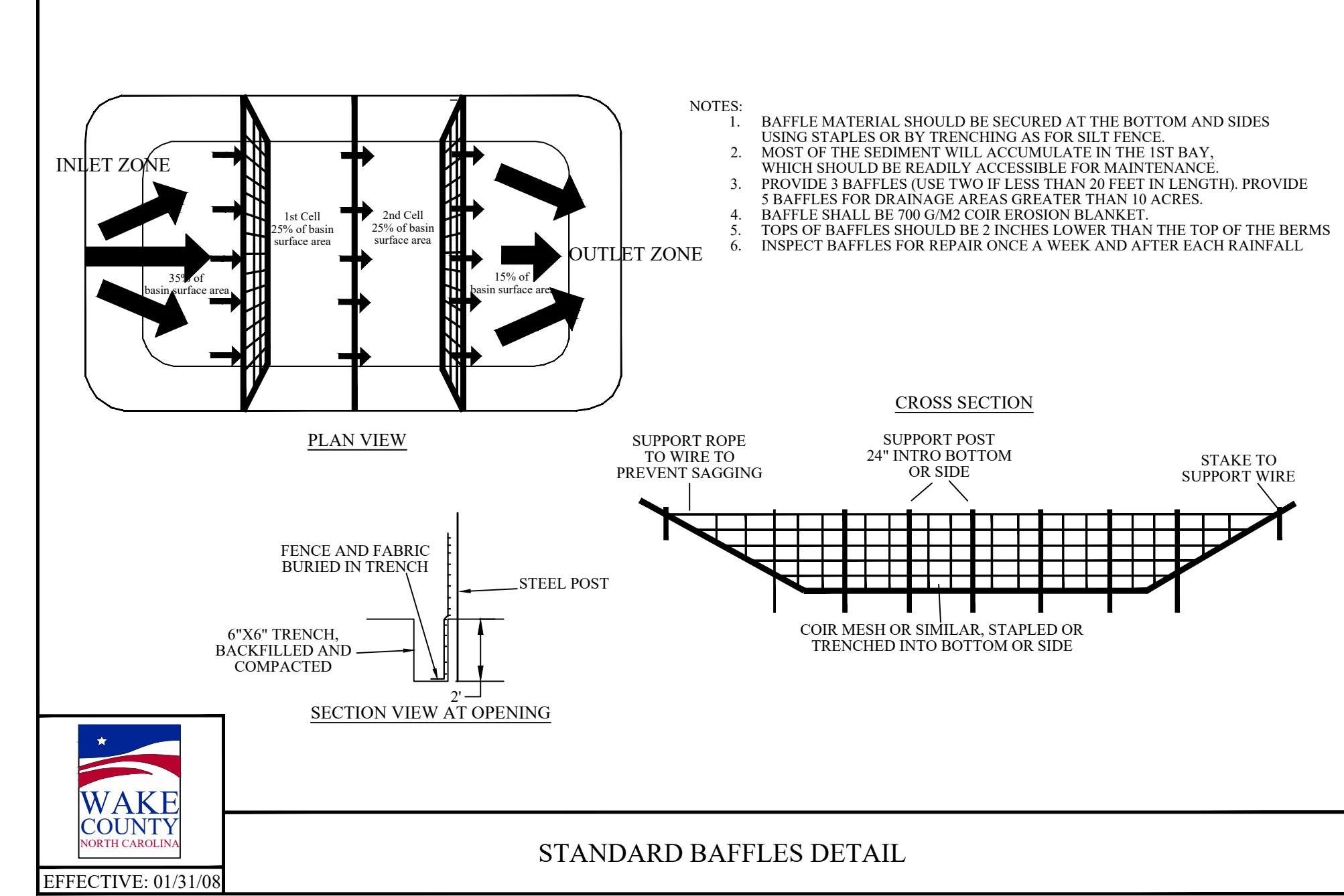
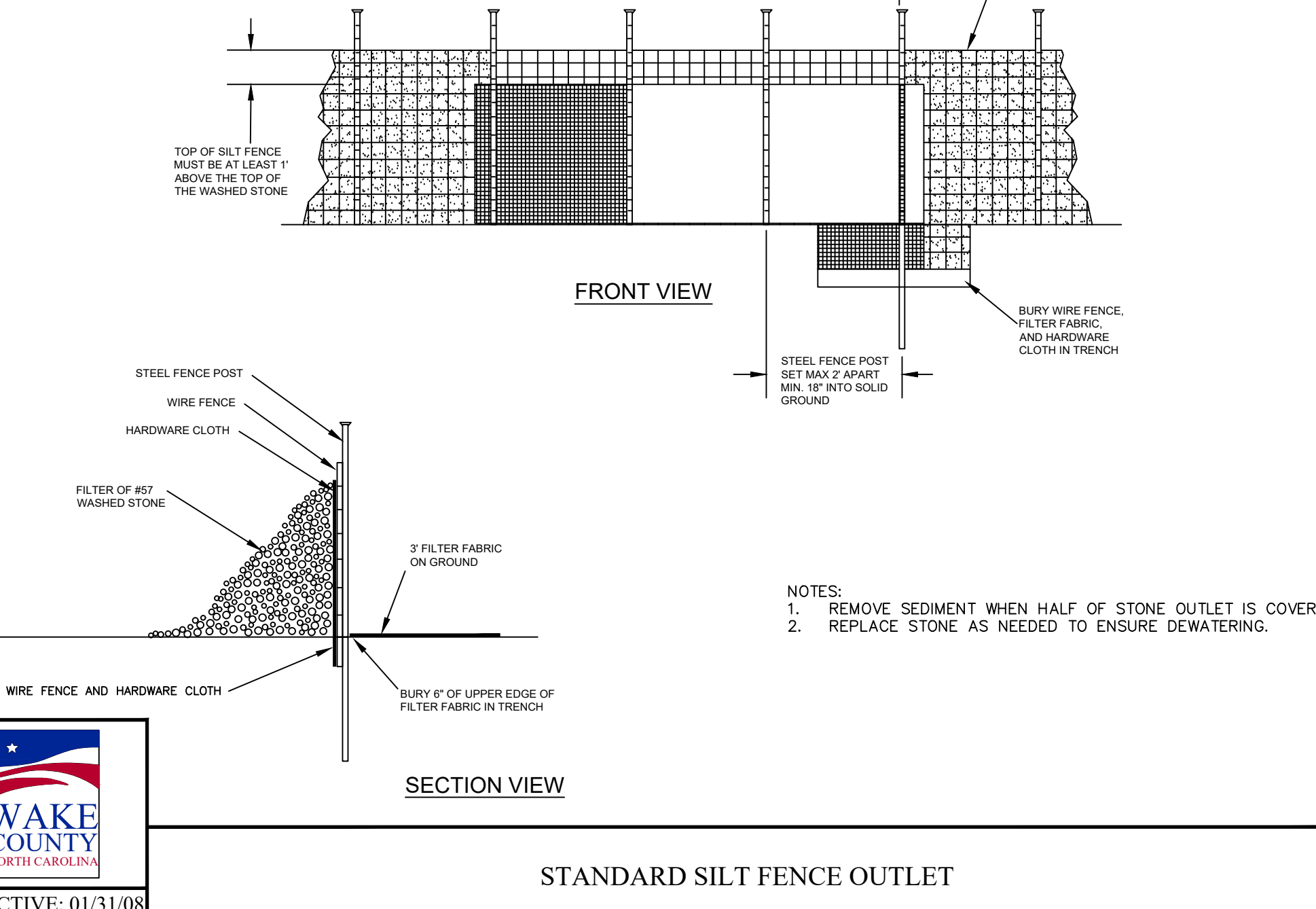
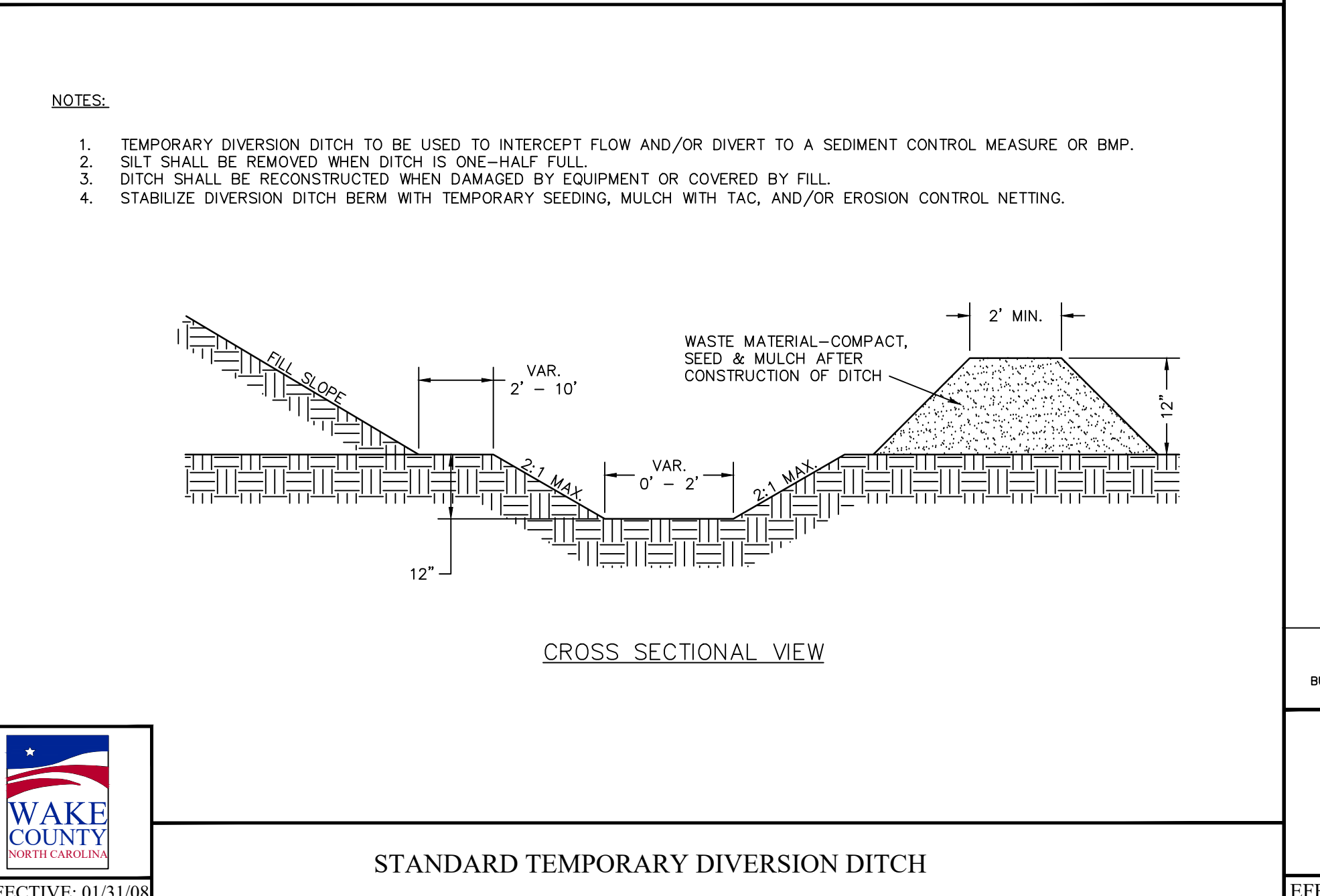
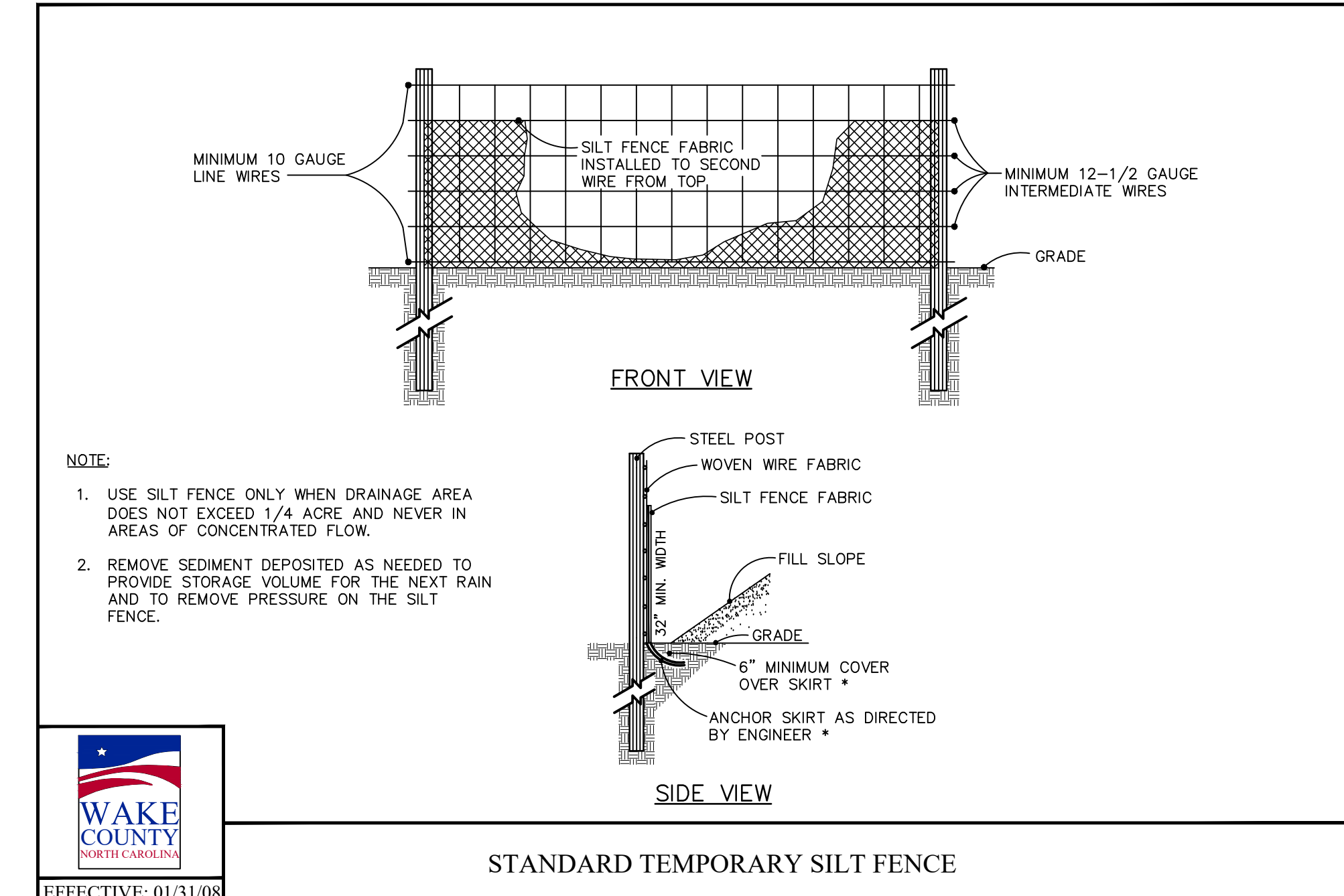
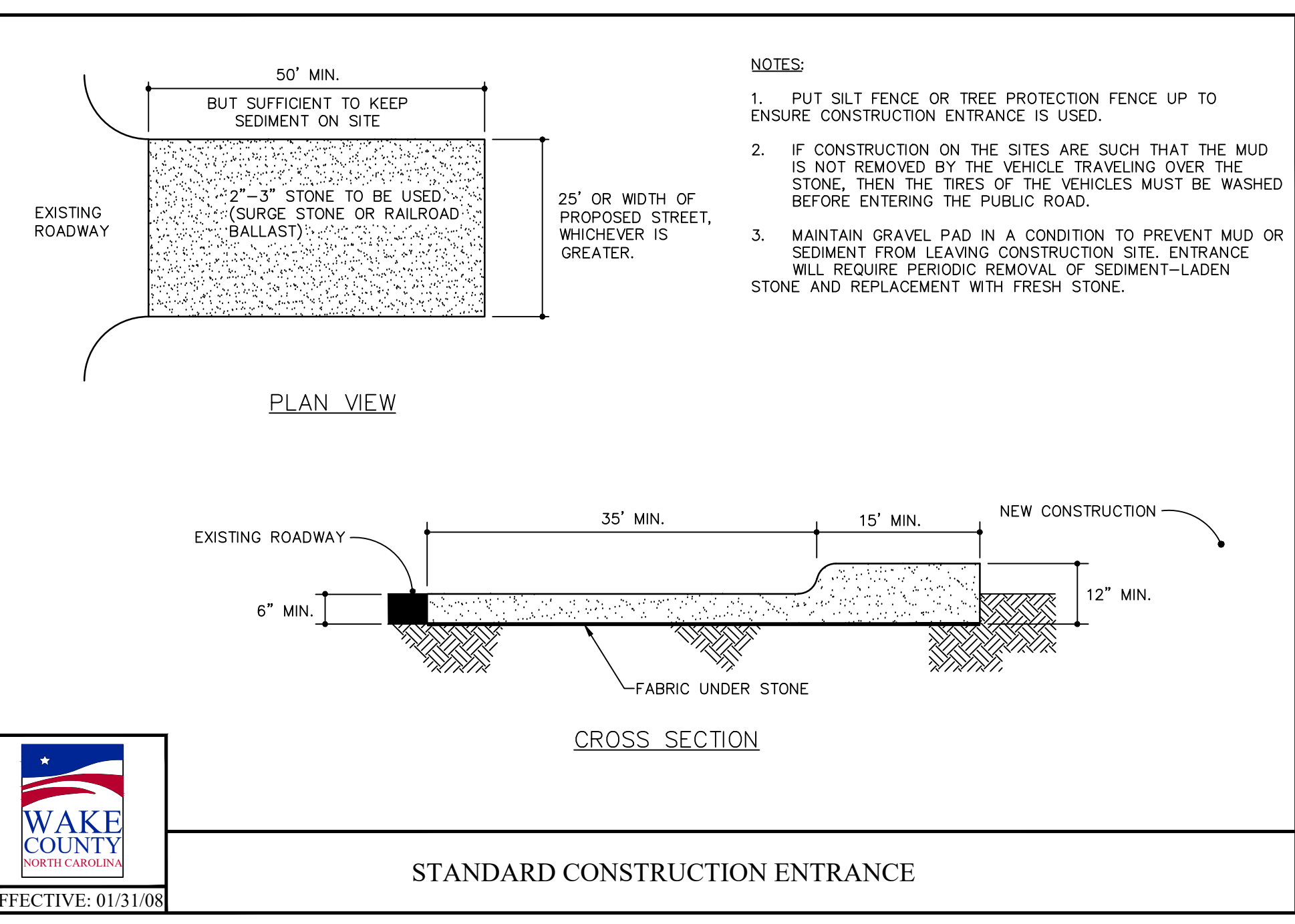
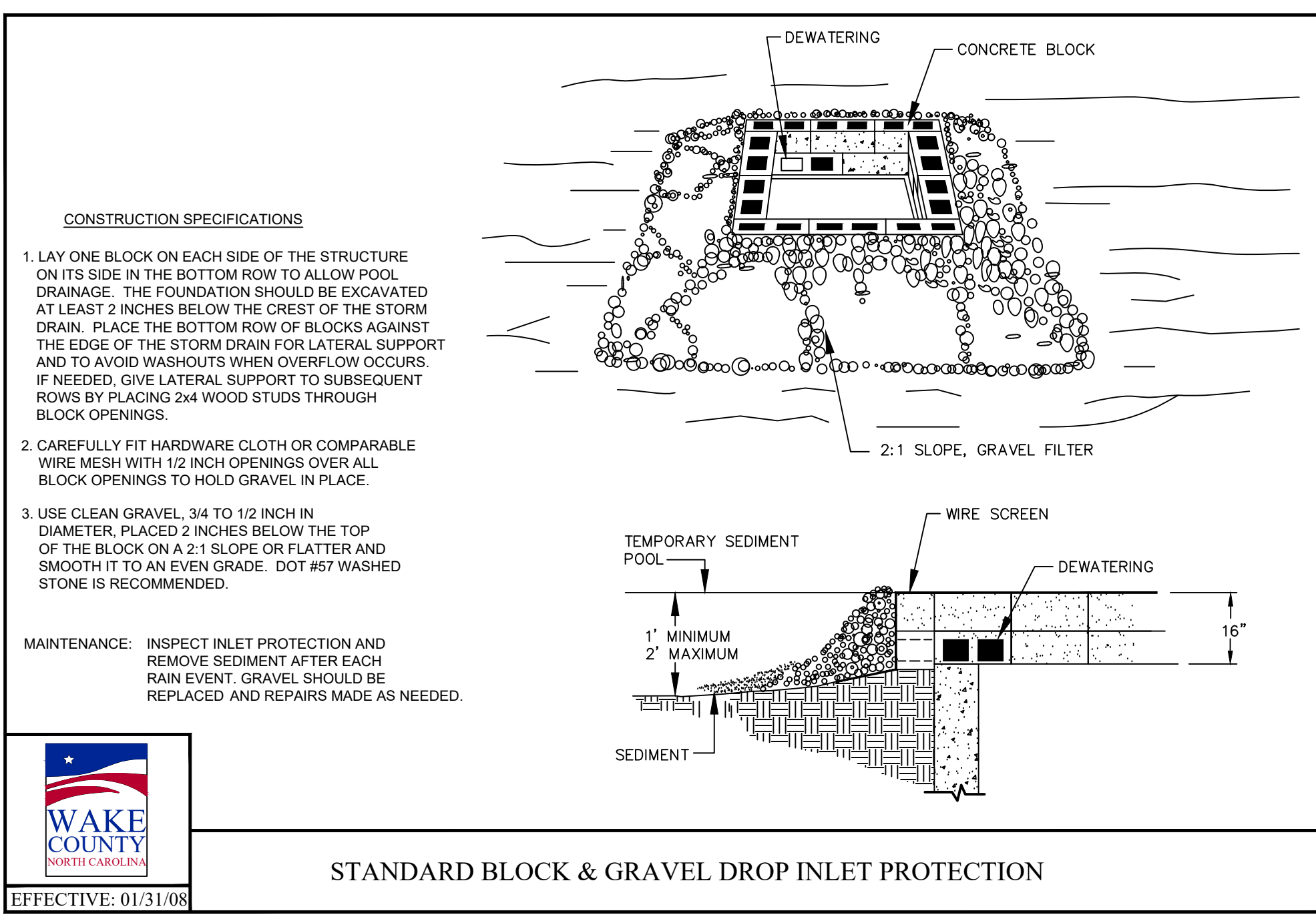
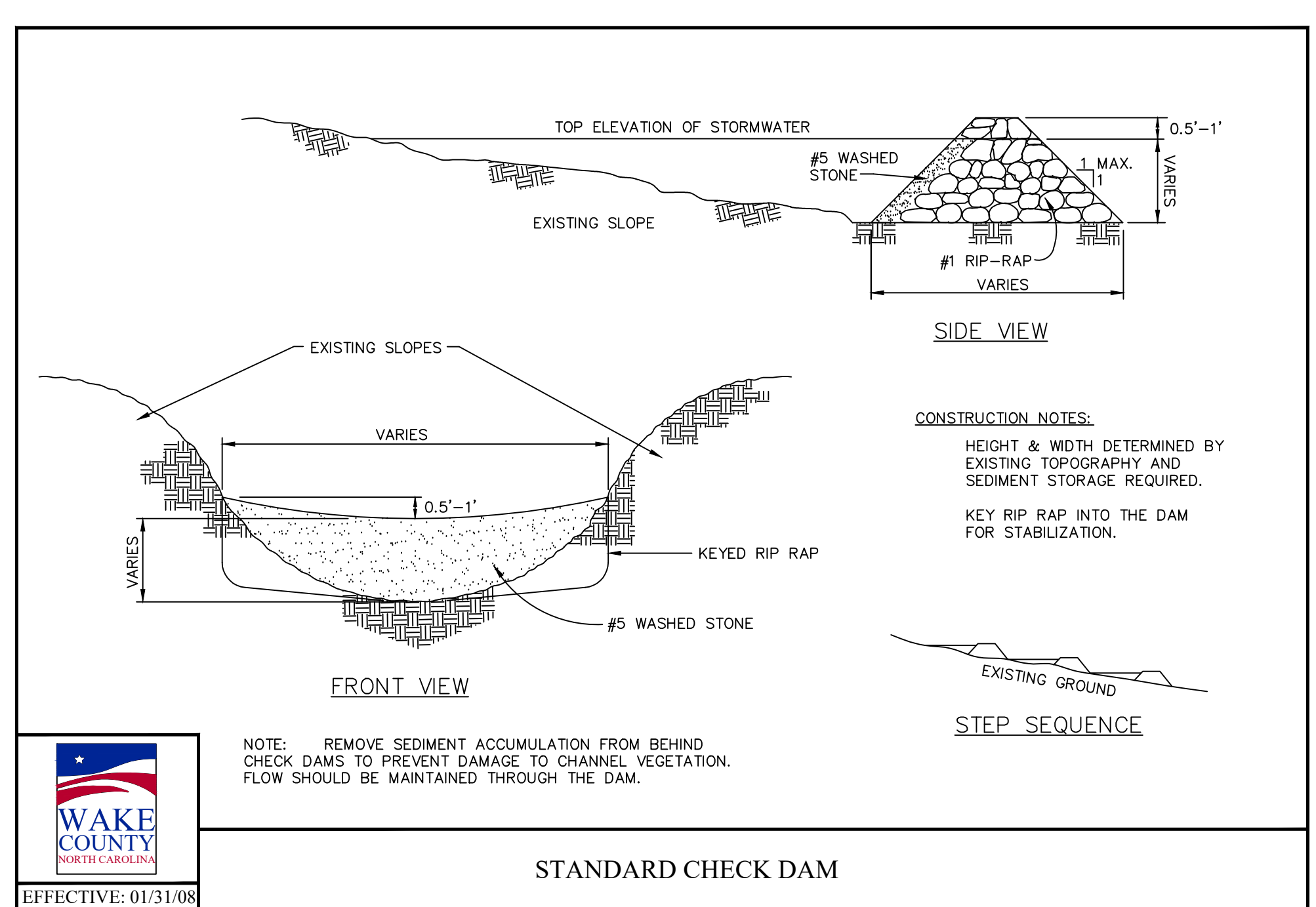
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Erosion Control Phase 4
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 MRR Development, LLC
 Rolesville, Wake County, North Carolina

Project No.
 Dwg No.
EC4

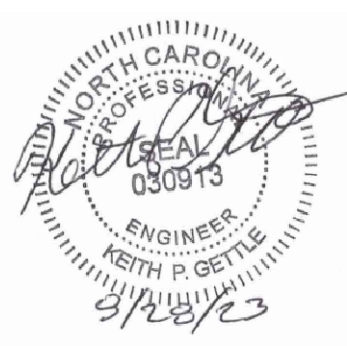
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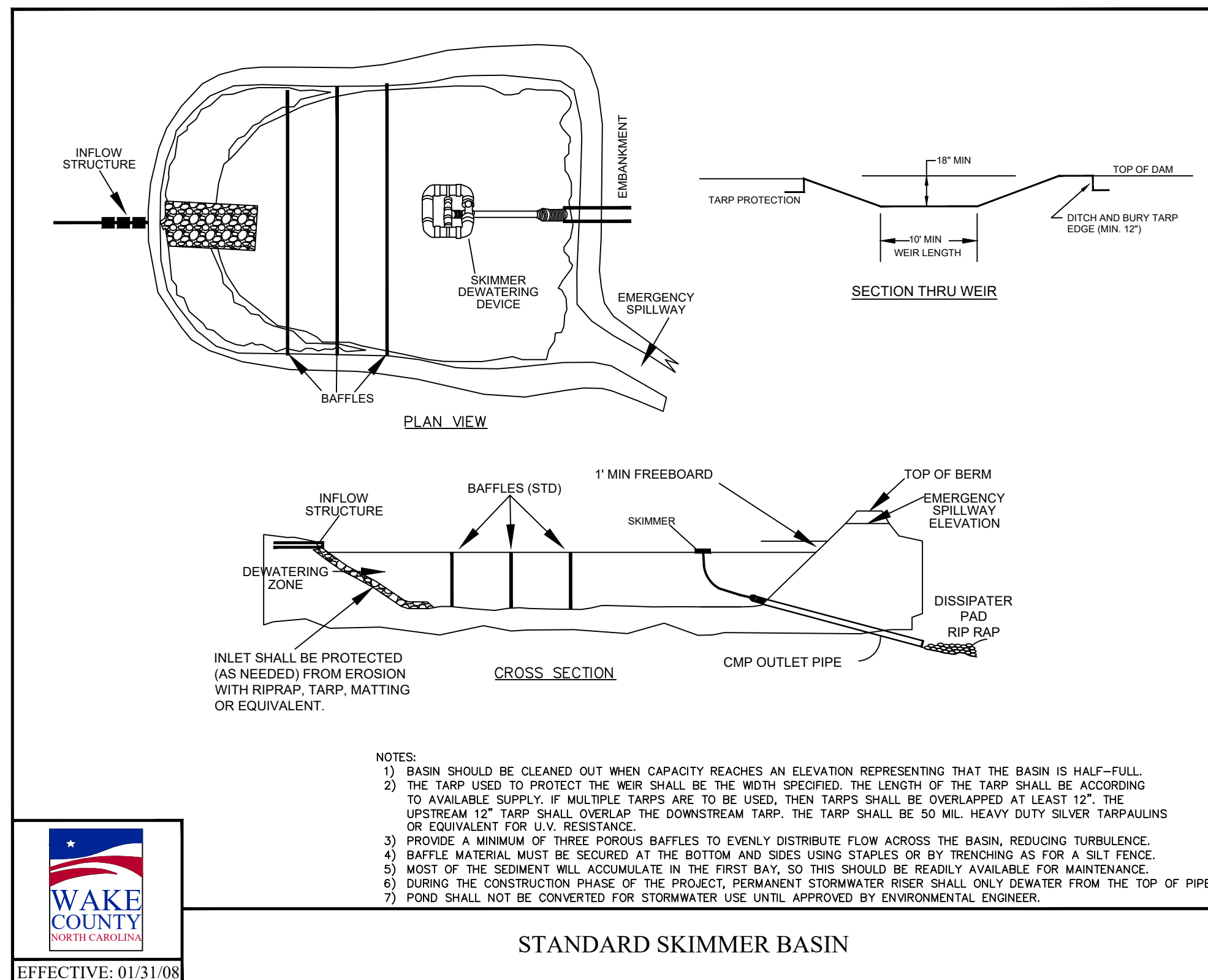
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Erosion Control Details
 Vineyard Pine Commercial
 MRR Development, LLC
 Rolesville, Wake County, North Carolina

Project No.
 Dwg No.
EC5



Skimmer Basin

Okay

1.83 Drainage Area (Acres)
5.06 Peak Flow from 10-year Storm (cfs)

3294 Required Volume (ft³)
2201 Required Surface Area (ft²)
33.2 Suggested Width (ft)
66.3 Suggested Length (ft)

52 Trial Top Width at Spillway Invert (ft)
82 Trial Top Length at Spillway Invert (ft)
2 Trial Side Slope Ratio Z:1 (2 to 3.5 feet above grade)
44 Bottom Width (ft)
74 Bottom Length (ft)
3256 Bottom Area (ft²)
7499 Actual Volume (ft³)
4264 Actual Surface Area (ft²)

Okay

10 Trial Weir Length (ft)
0.5 Suggested Trial Depth of Flow (ft)
10.6 Spillway Capacity (cfs)

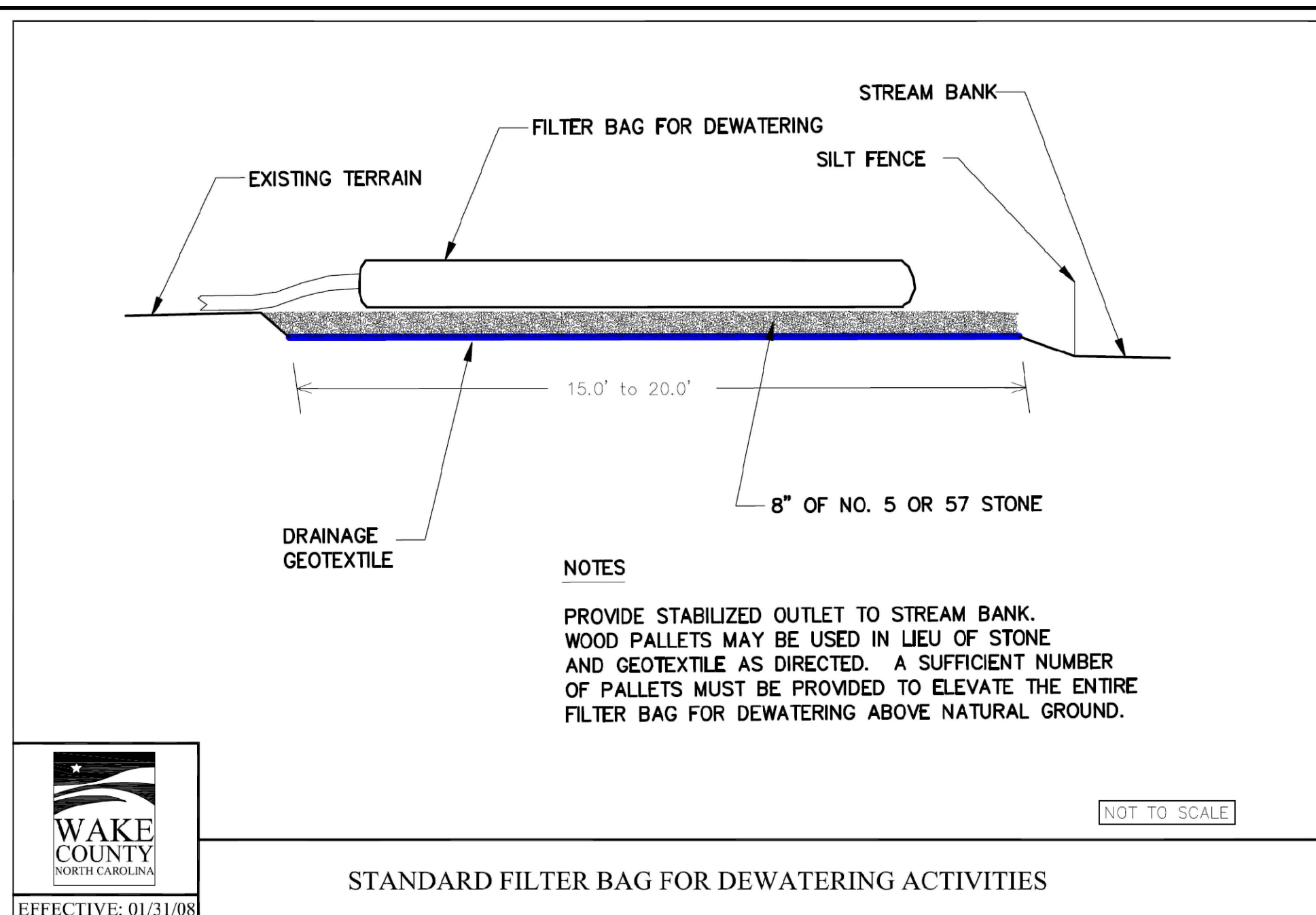
Okay

1.5 Skimmer Size (inches)
0.125 Head on Skimmer (feet)

1 Orifice Size (1/4 inch increments)

4.03 Dewatering Time (days)
Required 3 to 5 days for Wake County

1.5
2
2.5
3
4
5
6
8



MIXTURE:

AGRICULTURAL LIMESTONE:	2 TONS/ACRE (3 TONS/ACRE IN CLAY SOILS)
FERTILIZER:	1,000 LBS/ACRE - 10-10-10
SUPERPHOSPHATE:	500 LBS/ACRE - 20% ANALYSIS
MULCH:	2 TONS/ACRE - SMALL GRAIN STRAW
ANCHOR:	ASPHALT EMULSION AT 300 GALS/ACRE

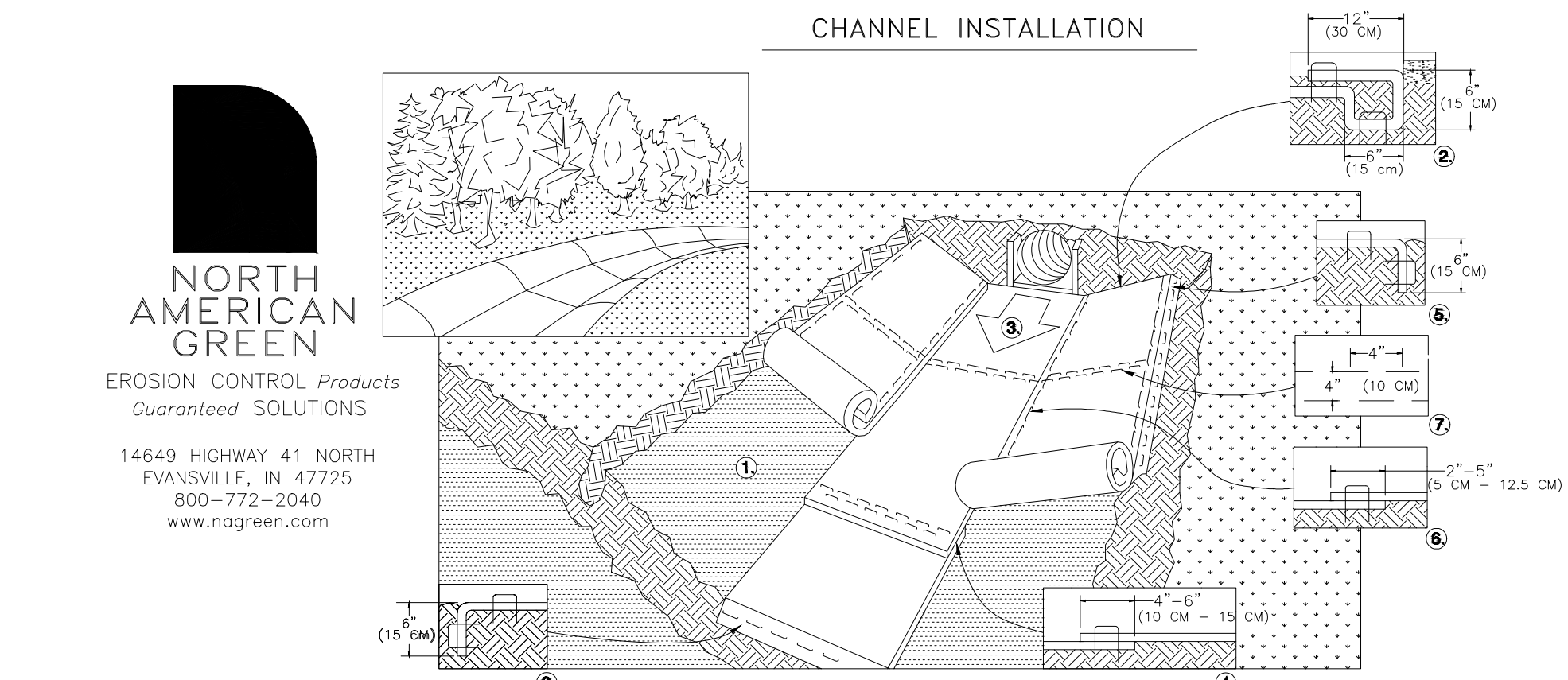
SEEDING SCHEDULE

FOR SHOULDERS, SIDE DITCHES, SLOPES (MAX 3:1):

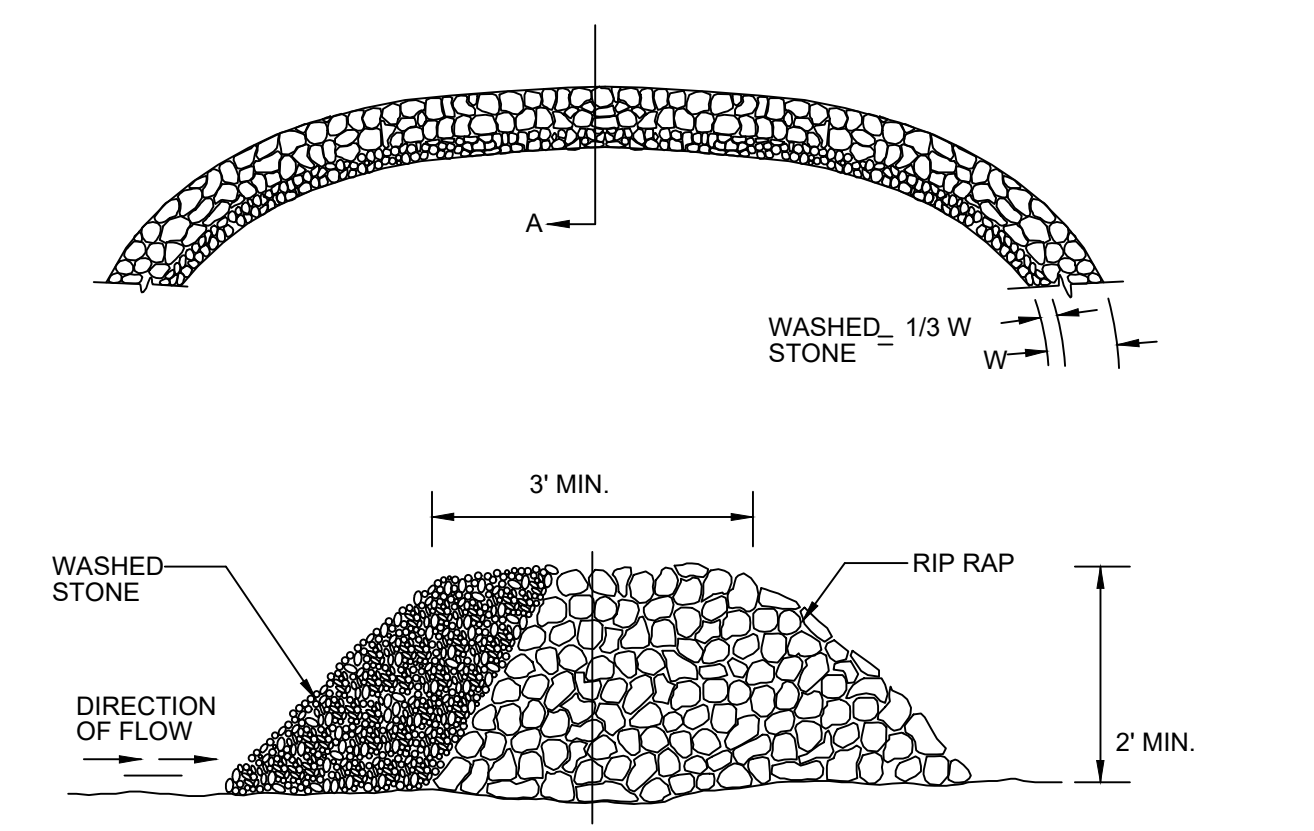
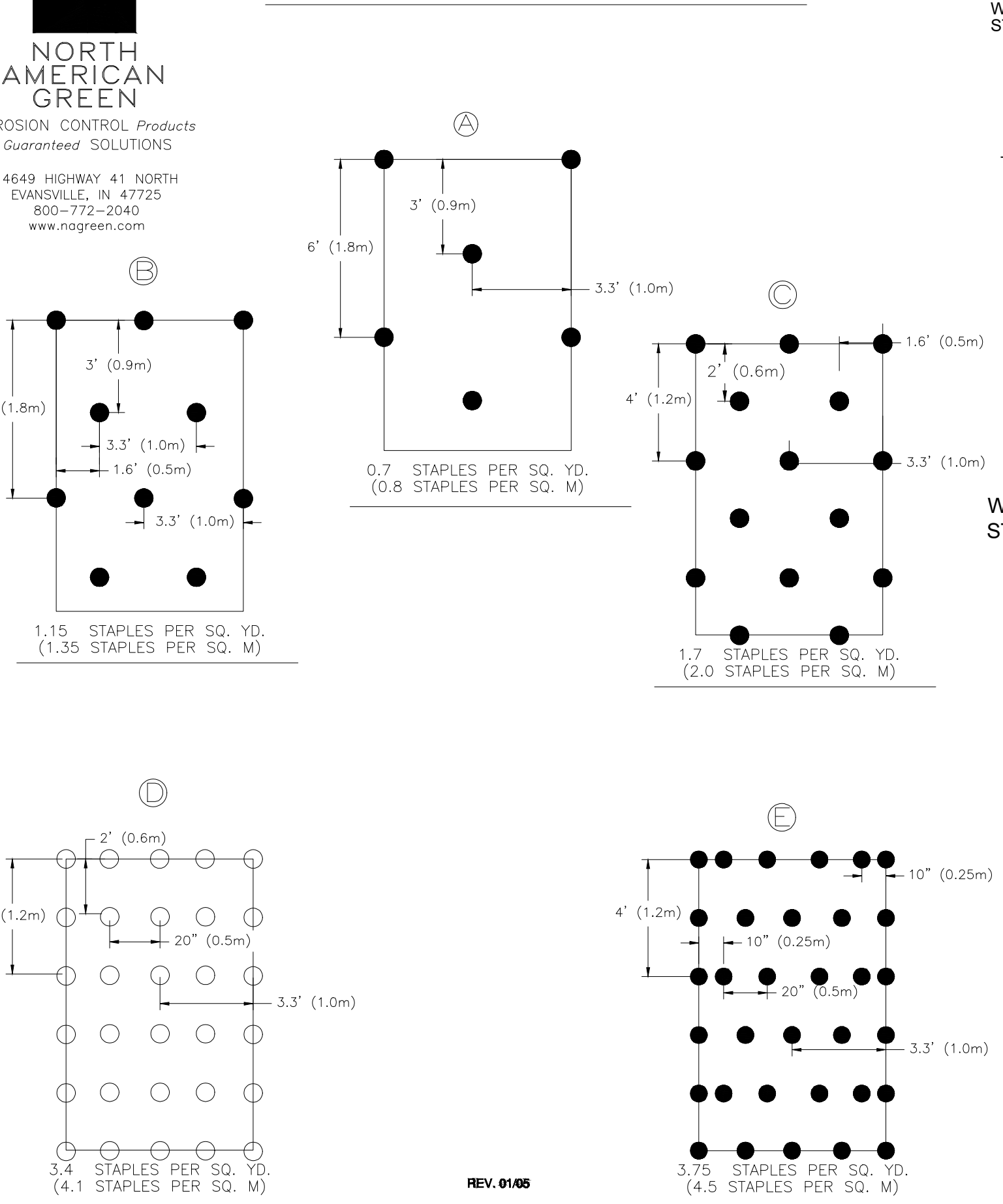
DATE	TYPE	PLANTING RATE
AUG 15 - NOV 1	TALL FESCUE	300 LBS/ACRE
NOV 1 - MAR 1	TALL FESCUE & ABRUZZI RYE	300 LBS/ACRE
MAR 1 - APR 15	TALL FESCUE	300 LBS/ACRE
APR 15 - JUN 30	HULLED COMMON BERMUDAGRASS	25 LBS/ACRE
JUL 1 - AUG 15	TALL FESCUE AND BROWNTOP MILLET OR SORGHUM-SUDAN HYBRIDS**	125 LBS/ACRE (TALL FESCUE): 35 LBS/ACRE (BROWNTOP MILLET): 30 LBS/ACRE (SORGHUM-SUDAN HYBRIDS)

FOR SHOULDERS, SIDE DITCHES, SLOPES (3:1 TO 2:1):

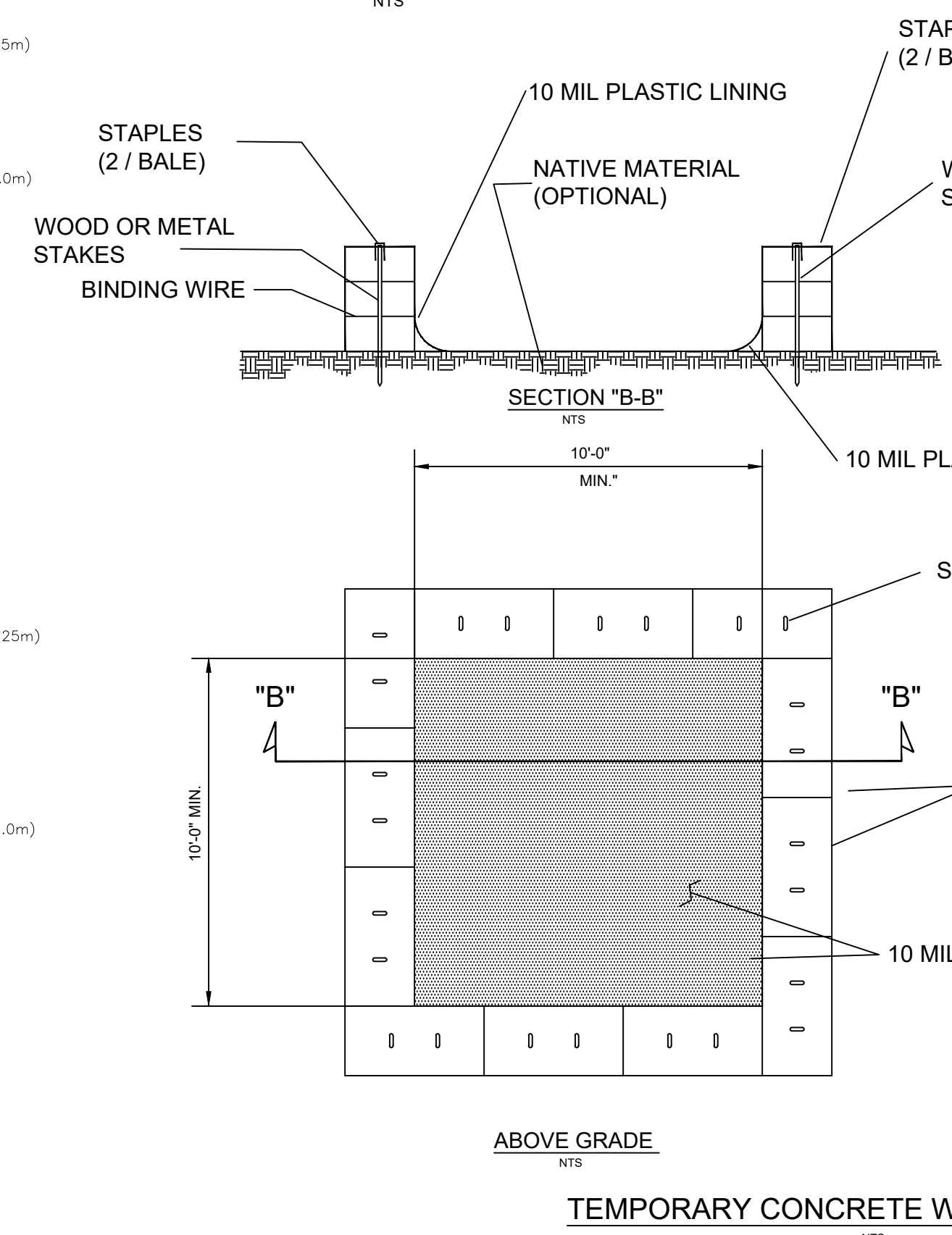
DATE	TYPE	PLANTING RATE
MAR 1 - JUN 1	SERICEA LESPEDEZA (SCARIFIED) AND 50 LBS/ACRE (SERICEA LESPEDEZA); USE THE FOLLOWING COMBINATIONS:	
MAR 1 - APR 15	ADD TALL FESCUE	120 LBS/ACRE
MAR 1 - JUN 30	OR ADD WEEPING LOVE GRASS	10 LBS/ACRE
MAR 1 - JUN 30	OR ADD HULLED COMMON BERMUDAGRASS	25 LBS/ACRE
JUN 1 - SEPT 1	TALL FESCUE AND BROWNTOP MILLET OR SORGHUM-SUDAN HYBRIDS**	120 LBS/ACRE (TALL FESCUE): 35 LBS/ACRE (BROWNTOP MILLET): 30 LBS/ACRE (SORGHUM-SUDAN HYBRIDS)
SEPT 1 - MAR 1	SERICEA LESPEDEZA (UNHULLED - UNSCARIFIED) AND TALL FESCUE	70 LBS/ACRE (SERICEA LESPEDEZA): 120 LBS/ACRE (TALL FESCUE)
NOV 1 - MAR 1	AND ABRUZZI RYE	25 LBS/ACRE



STAPLE PATTERN GUIDE
6.67' (2.03 M) WIDE ROLLS



STONE FILTER CHECK DAM



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Erosion Control Details
Vineyard Pine Commercial
MRR Development, LLC
Rolesville, Wake County, North Carolina

Project No.
Dwg No.
EC6

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7	DATE	BY	COMMENT	BY
8	DATE	BY	COMMENT	BY



GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

Temporary and Permanent Groundcover*

SITE AREA DESCRIPTION	STABILIZATION	TIME FRAME / EXCEPTIONS
Perimeter ditches, swales, ditches, slopes	7 days	None
High Quality Water (HQW) Zones	7 days	None
Slopes steeper than 3:1	7 days	If slopes are 12' or less in length and are not steeper than 2:1, 14 days are allowed.
Slopes 3:1 or flatter	14 days	7 days for slopes greater than 40' in length.
All other areas with slopes flatter than 4:1	14 days	None, except for postcursors and HQW Zones.

*For Falls Lake watershed, in disturbed areas where grading activities are incomplete, provide temporary groundcover no later than seven (7) days for slopes steeper than 3:1; ten (10) days for slopes equal to or flatter than 3:1; fourteen (14) days for areas with no slope.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below.

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none"> Temporary grass seed covered with straw or other mulches and tackifiers Hydroseeding Erosion control products with or without temporary grass seed Appropriately applied straw or other mulch Plastic sheeting 	<ul style="list-style-type: none"> Permanent grass seed covered with straw or other mulches and tackifiers Geotextile fabrics such as permanent soil reinforcement matting Hydroseeding Shrubs or other permanent plantings covered with mulch Uniform and evenly distributed ground cover sufficient to restrain erosion Structural methods such as concrete, asphalt or retaining walls

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the NC DWR List of Approved PAMS/Flocculants.
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the NC DWR List of Approved PAMS/Flocculants and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated stormwater before discharging offsite.
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number of waste containers on site to manage the quantity of waste produced.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow.
- Dispose waste off-site at an approved disposal facility.

PAINT AND OTHER LIQUID WASTE

- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- Provide staking or anchoring of portable toilets during periods of high winds or in high traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access points when feasible.
- Stabilize stockpiles within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

HAZARDOUS AND TOXIC WASTE

- Create designated hazardous waste collection areas on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 03/01/19

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include [40 CFR 122.41]
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) EASC Measures	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	<ol style="list-style-type: none"> Identification of the measures inspected. Date and time of the inspection. Name of the person performing the inspection. Indication of whether the measures were operating properly. Description of maintenance needs for the measure. Corrective actions taken, and Date of actions taken.
(3) Stormwater discharge (SDDs)	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	<ol style="list-style-type: none"> Identification of the discharge outfalls inspected. Date and time of the inspection. Name of the person performing the inspection. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration. Indication of visible sediment leaving the site. Actions taken to correct/prevent sedimentation, and Date of actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: <ol style="list-style-type: none"> Actions taken to clean up or stabilize the sediment that has left the site limits. Date of actions taken, and An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: <ol style="list-style-type: none"> Evidence and actions taken to reduce sediment contributions, and Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit of this permit.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

SECTION B: RECORDKEEPING

1. EASC Plan Documentation

The approved EASC plan as well as any approved deviation shall be kept on the site. The approved EASC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the EASC plan shall be documented in the manner described:

Item to Document	Documentation Requirements
(a) Each EASC Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved EASC Plan.	Initial and date each EASC Measure on a copy of the approved EASC Plan or complete, date and sign an inspection report that lists each EASC Measure shown on the approved EASC Plan. This documentation is required upon the initial installation of the EASC Measures or if the EASC Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved EASC Plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved EASC Plan.	Initial and date a copy of the approved EASC Plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all EASC Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to EASC Measures.	Initial and date a copy of the approved EASC Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

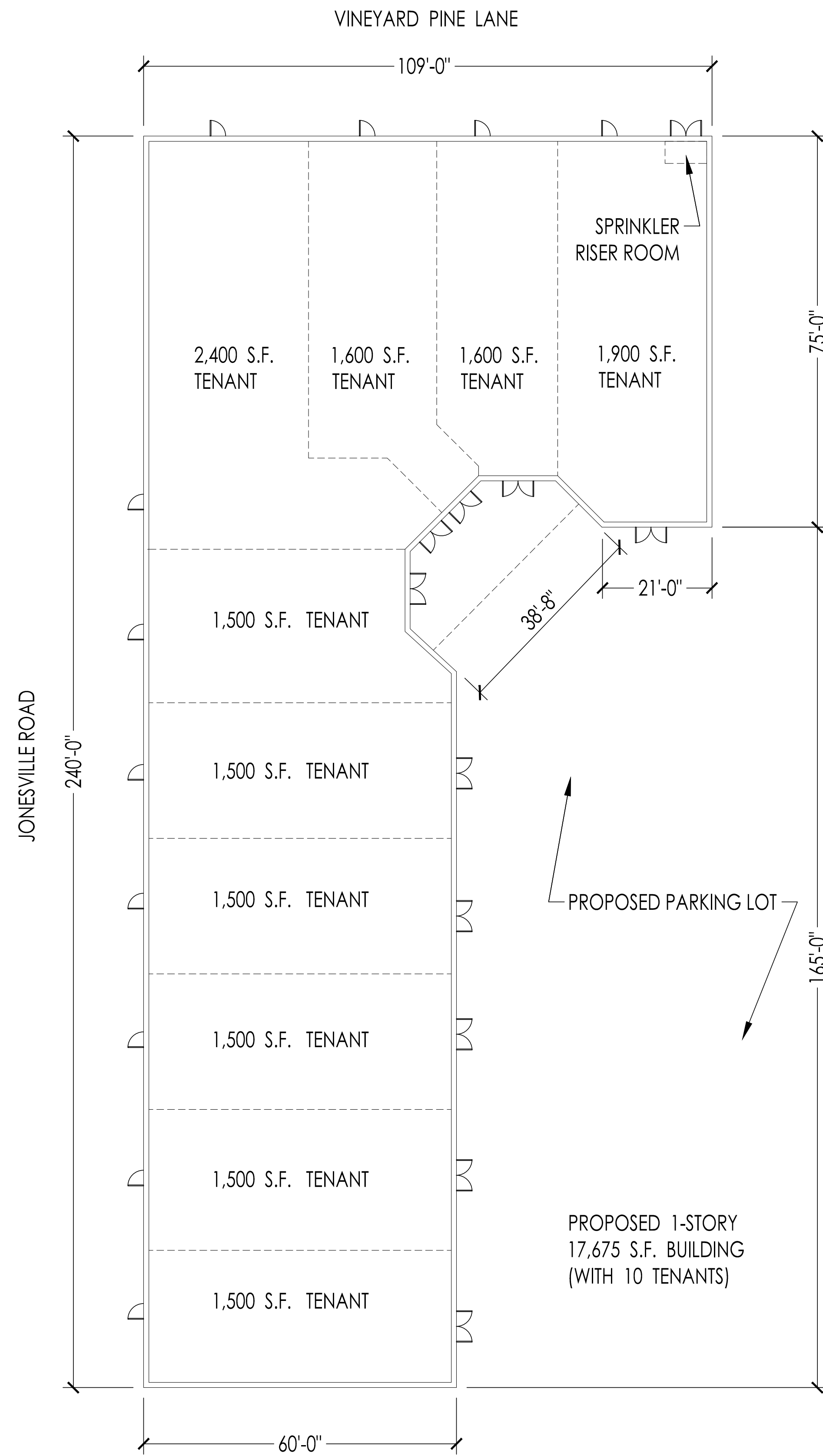
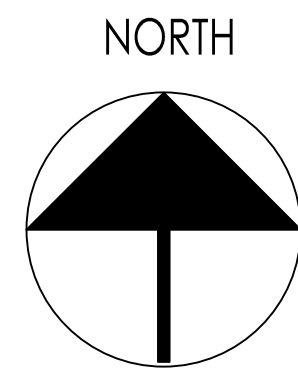
2. Additional Documentation

In addition to the EASC Plan documents above, the following items shall be kept on the site and available for agency inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

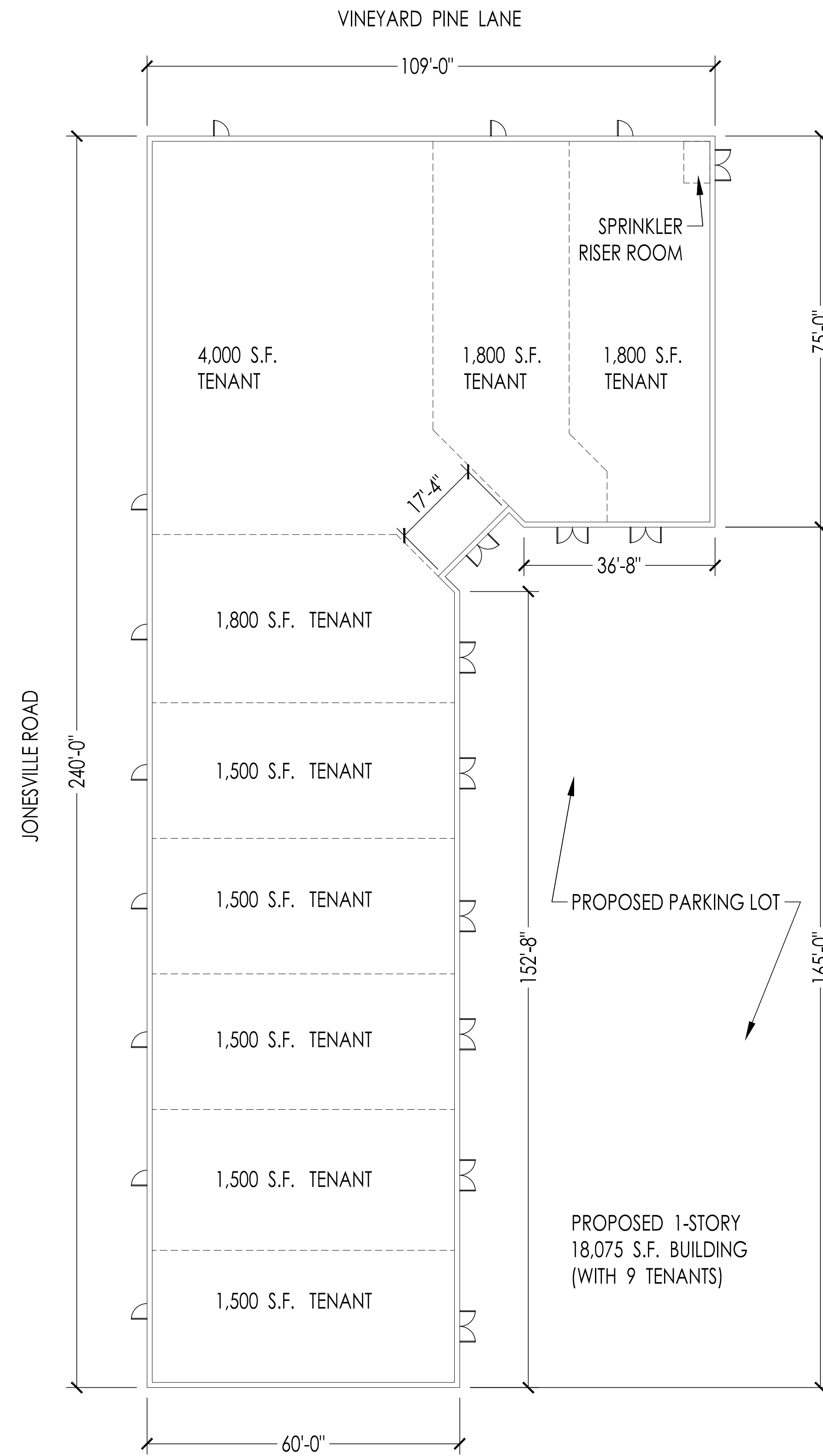
- This general permit as well as the certificate of coverage, after it is received.
- Records of inspections made during the previous 30 days. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.
- All data used to complete the Notice of Intent and older inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 03/01/19



PROPOSED FLOOR PLAN - OPTION D



PROPOSED FLOOR PLAN - OPTION C

PRELIMINARY
NOT FOR CONSTRUCTION

NCSBC 2018

Jonesville Road Commercial Building
4502 Vineyard Pine Lane
Rolesville, NC

Owner:
MR Development LLC
10121 Capital Blvd, Ste. 105
Wake Forest, NC 27587
Tel: 330.573.4030
Contact: Omar El-Kaissi

Architect:
REDLINE Design Group, PA
6601 Six Forks Rd, Ste. 130
Raleigh, NC 27615
Tel: 919.878.1660
Contact: Jon Steindorf

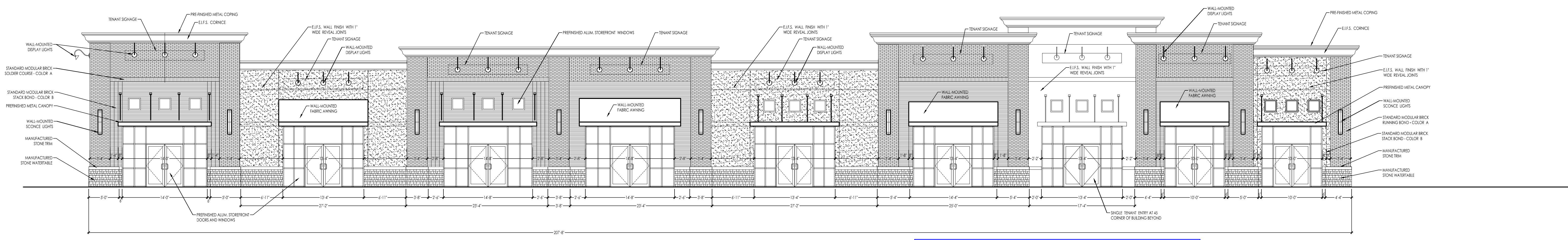
Civil Engineer:
C&O Engineers, Inc.
4932 B Windy Hill Drive
Raleigh, NC 27609
Tel: 919.625.7655
Contact: George McIntyre, PE

DATE: 04/03/2023
REVISIONS:

DRAWING TITLE
FLOOR
PLAN STUDIES

SHEET NO.
A1.1

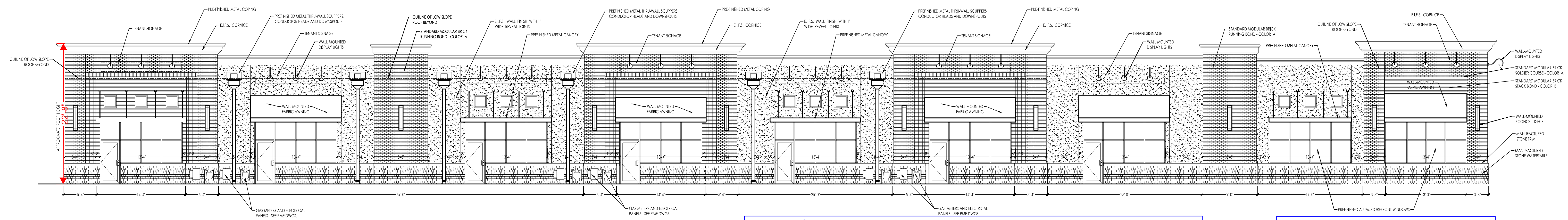
Per LDO Section 6.8.2.D, Facades of 60 or greater feet in width shall incorporate wall offsets of at least one (1) foot of depth a minimum of every forty (40) feet. Illustrated as "D" in Figure 6.8.1.



1 EAST ELEVATION (FACING PARKING LOT) SCALE: 1/8"=1'-0"

Per LDO Section 6.8.4.B, Every entrance for a building shall require two (2) of the following elements: Awning or covered entry way of at least three (3) feet in overhang length, variation in building height, arches, columns, and/or architectural details.

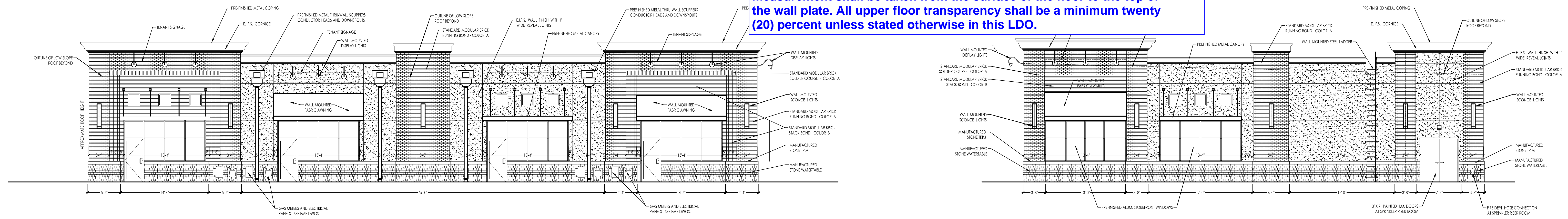
Please provide a materials list to ensure compliance with LDO Section 6.8.2.D.4



2 WEST ELEVATION (FACING JONESVILLE ROAD) SCALE: 1/8"=1'-0"

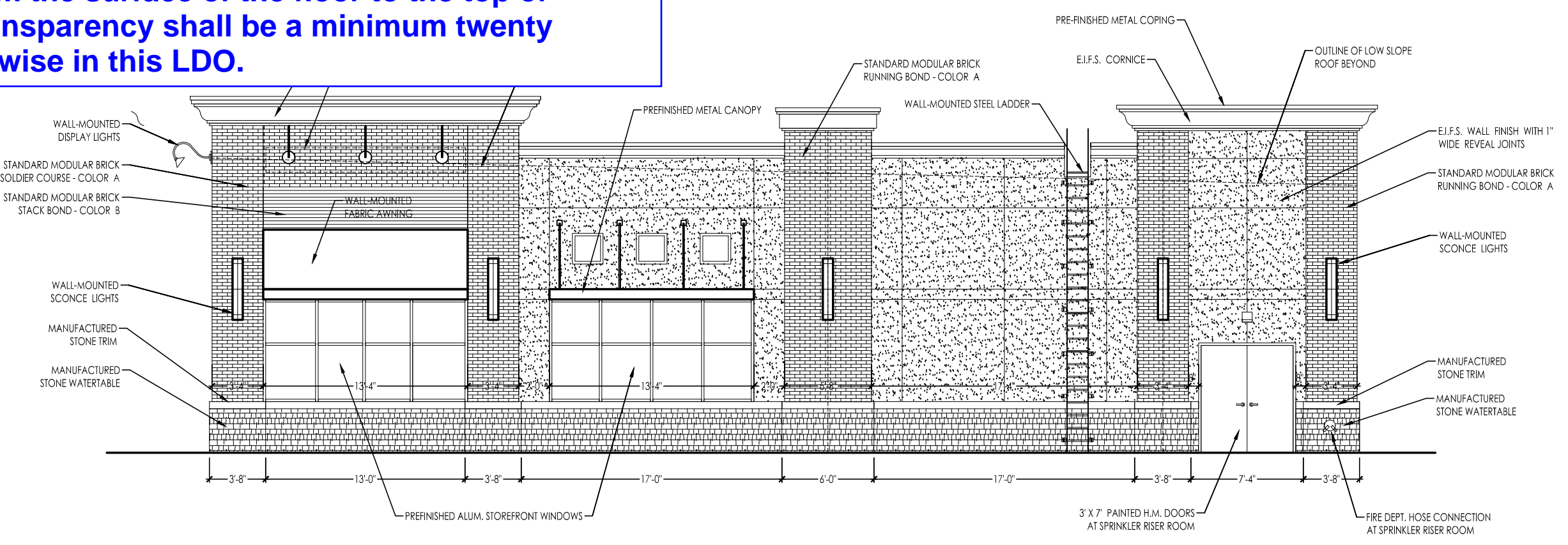
Per LDO Section 6.8.2.D, Ground floor transparency shall be calculated based on the total façade area located between the finished ground floor level and beginning of the upper floor. All ground floor transparency shall be a minimum thirty (30) percent, unless stated otherwise in the LDO. Upper floor transparency is calculated based on total façade area located between the surface of any floor to the surface of the floor above it. If there is no floor above, then the measurement shall be taken from the surface of the floor to the top of the wall plate. All upper floor transparency shall be a minimum twenty (20) percent unless stated otherwise in this LDO.

Please clarify how you are meeting the minimum design requirements within LDO Section 6.8.2.D.6



3 NORTH ELEVATION (FACING VINYARD PINE LANE) SCALE: 1/8"=1'-0"

From the drawings provided, it is unclear where the "L" shape of the building occurs. Only one facade was provided showing that portion of the building.



4 EAST ELEVATION (FACING ENTRANCE DRIVE) SCALE: 1/8"=1'-0"