

# Construction / Site Plan SUB - XXXX - 2022

## Rolesville, Wake County, North Carolina

V1 -  
SDP-23-06

# Vineyard Pine Commercial

## 4502 Vineyard Pine Lane

March 2023

4. DATE OF 1ST  
SUBMITTAL

**SITE DATA:**

SITE ADDRESS: 4502 VINEYARD PINE LANE  
 PIN: 1758453022  
 SITE AREA: 1.45 AC (63,259 SF)  
 ZONING DISTRICT: OP-C2 (OFFICE AND PROFESSIONAL)  
 OVERLAY: NONE  
 EXISTING USE: VACANT  
 IMPERVIOUS EXISTING: 0 ACRES (0 SF)  
 IMPERVIOUS PROPOSED: 1.09 ACRES (47,492 SF)  
 IMPERVIOUS PERCENT (%): 75%  
 WATERSHED: MILBURNIE LAKE-NOUSE  
 HUC: 0302020107  
 LATITUDE: 35.906033  
 LONGITUDE: -79.886333  
 FLOOD ZONE: NONE PER FEMA FIRM

OPEN SPACE SIZE REQD: 3163 SF (5%)  
 OPEN SPACE SIZE PROVIDED: 10,029 SF (16%)  
 SUMMARY OPEN SPACE:  
 ACTIVE OPEN AREA 1 = 1834 SF  
 ACTIVE OPEN AREA 2 = 960 SF  
 TOTAL ACTIVE = 2794 SF (2794 / 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 3.5 / 1000 SF  
 RETAIL SALES: MAX 7.5 / 1000 SF  
 PARKING PROVIDED: 56 SPACES

BIKE PARKING (REQUIRED)  
 1 PER 5000 SF BLDG (18,184 / 5000=4)  
 4

BIKE PARKING (PROVIDED)  
 4

TOTAL DENUEDED 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

1. SITE DATA TO INCLUDE  
 - PROPOSED USE  
 - FLOOD ZONE MAP # AND DATE  
 - CORNER LOT SETBACK REQUIREMENTS, IF ANY (IDENTIFY WHAT STREET IS FRONT)

3. VERIFY THE ORDER AND ADJUST SHEET INDEX.  
 - SHEETS SL1 AND SL2 ARE GIVEN BEFORE SHEET C1,  
 - ADD A1.1 AND A3.1 TO INDEX

2. 56 SPACES PROVIDED vs REQUIRED (what is)?  
 - (3) ACCESSIBLE PARKING SPACES REQUIRED (per 56 count)  
 - (1) VAN ACCESSIBLE SPACE REQUIRED OF (3) (per 56 count)

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

**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" P.V.C SEWER	0
WATER SERVICE STUBS	1
WATER SERVICE ABANDONED	0
SEWER SERVICE STUBS (NEW)	1
SEWER SERVICE REMOVED	0

**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 WAXING 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

**SITE PERMITTING APPROVAL**

Work and Plans (Section 22.04010)

The City of Raleigh reserves the right to suspend or revoke the City's Public Works System as shown on this plan. The applicant shall not use any work and use the report data submitted to the standards and specifications of the City's Public Works System, City of Raleigh Public Utilities Department Permit # \_\_\_\_\_

The City of Raleigh reserves the right to suspend or revoke the City's Public Works System as shown on this plan. The applicant shall not use any work and use the report data submitted to the standards and specifications of the City's Public Works System, City of Raleigh Public Utilities Department Permit # \_\_\_\_\_

The City of Raleigh reserves the right to suspend or revoke the City's Public Works System as shown on this plan. The applicant shall not use any work and use the report data submitted to the standards and specifications of the City's Public Works System, City of Raleigh Public Utilities Department Permit # \_\_\_\_\_

**CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION**

Plans for the proposed use have been reviewed for general compliance with applicable codes. The limited review and endorsement for construction is to be provided to approved local regulations and all legal requirements for the development of all construction. The project owner, design consultant, and contractor are each responsible for compliance with applicable City, State and Federal laws. This specific authorization does not constitute a guarantee, warranty or endorsement of any product or service. The City of Raleigh is not responsible for any errors or omissions on this plan. This approval is valid only for the project and location shown on the plan. Any other use of this plan without the approval of the City of Raleigh is prohibited.

**APPROVED**

EROSION CONTROL  S- \_\_\_\_\_  
 STORMWATER MGMT.  S- \_\_\_\_\_  
 FLOOD STUDY  S- \_\_\_\_\_  
 DATE \_\_\_\_\_

City of Raleigh Development Approval \_\_\_\_\_  
 City of Raleigh Review Officer \_\_\_\_\_

**EROSION CONTROL, STORMWATER AND FLOODPLAIN MANAGEMENT**

**APPROVED**

EROSION CONTROL  S- \_\_\_\_\_  
 STORMWATER MGMT.  S- \_\_\_\_\_  
 FLOOD STUDY  S- \_\_\_\_\_  
 DATE \_\_\_\_\_

ENVIRONMENTAL CONSULTANT SIGNATURE \_\_\_\_\_

CHECK PLAN SHEET SIZE,  
CURRENT PLOT 8 1/2 X 11

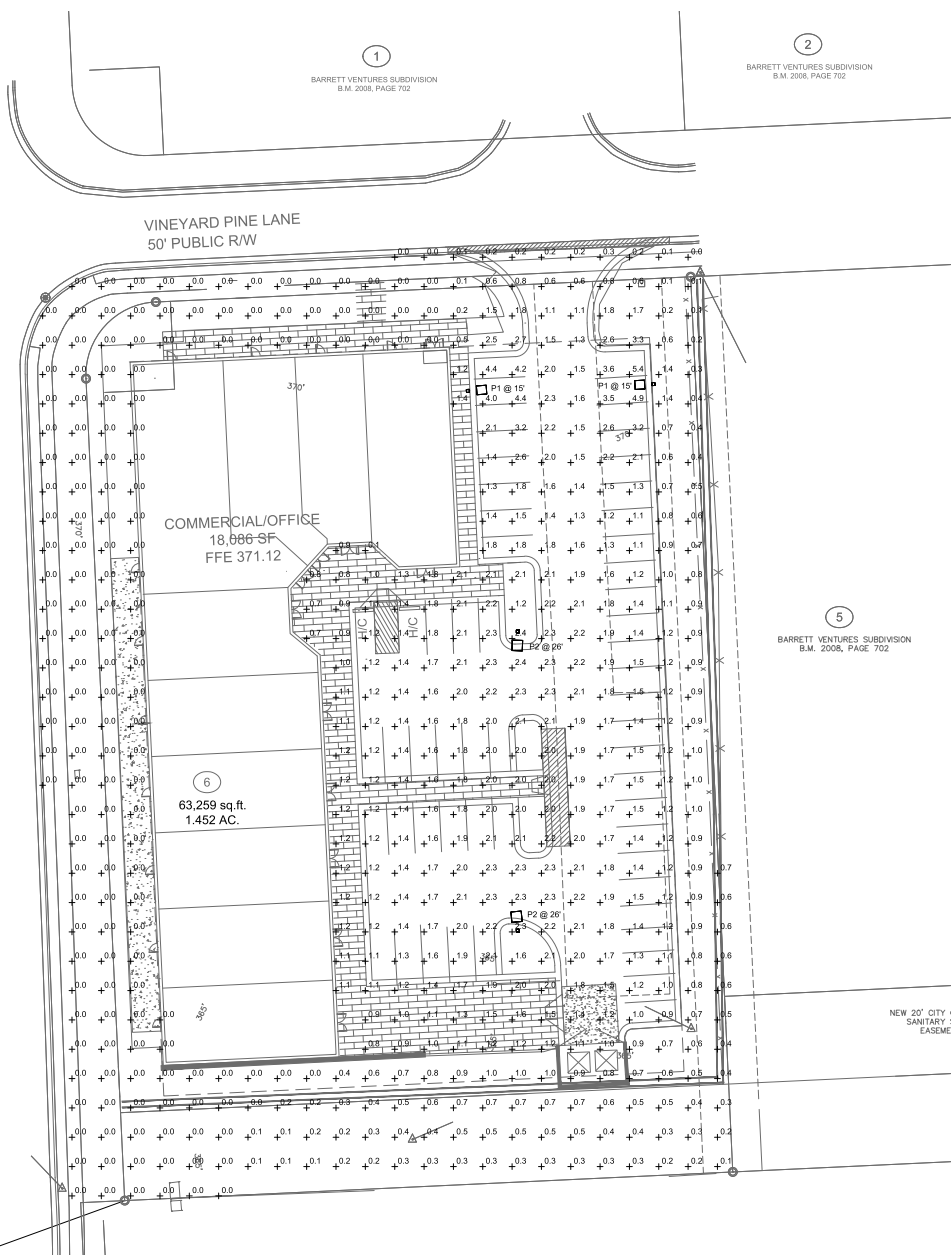
Gettle Engineering and Design, PLLC  
 3616 Waxing Court,  
 Wake Forest, North Carolina 27587  
 (919) 210-3934  
 Firm License P-2538

NO.	DATE	COMMENTS	BY
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			



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

Project No 23005  
 Dwg No.  
**CO**



1  
BARRETT VENTURES SUBDIVISION  
B.M. 2008, PAGE 702

2  
BARRETT VENTURES SUBDIVISION  
B.M. 2008, PAGE 702

5  
BARRETT VENTURES SUBDIVISION  
B.M. 2008, PAGE 702

COMMERCIAL/OFFICE  
18,886 SF  
FFE 371.12





6  
63,259 sq.ft.  
1.452 AC.

NEW 20' CITY  
SANITARY  
EASEMENT

3/4"

JONESVILLE ROAD SR 2226 60' PUBLIC R/W

  
ANGUS CLARK  
ENGINEERING PC  
P.O. Box 15077  
CARY NORTH CAROLINA 27512  
C-2728  
919.869.2874

Symbol	Label	Image	QTY	Manufacturer	Category	Description	Number	Lamp	LLF	Input	Notes
	P1		2	Lithonia Lighting	REX1 LED P1 40X 96 RH	REX LED Area Luminaire Size 1 P1 Lumen Package 4000K CCT Type R4 Distribution with 1% spill	1	4720	1	91.94	MOUNTING HEIGHT/POLE HEIGHT AS INDICATED ON PLAN.
	P2		2	Lithonia Lighting	REX2 LED P2 40X 96	REX Area Fixture Size 2 P2 Lumen Package 4000K CCT Type R4 Distribution	1	2560	1	180.54	MOUNTING HEIGHT/POLE HEIGHT AS INDICATED ON PLAN.

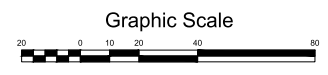
Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
FINISHED LOT	+	1.8%	2.4%	0.8%	2.2	2.3
PROPERTY LINE	+	0.2%	0.4%	0.0%	NA	NA

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

NO.	DATE	BY	CHKD	DESCRIPTION

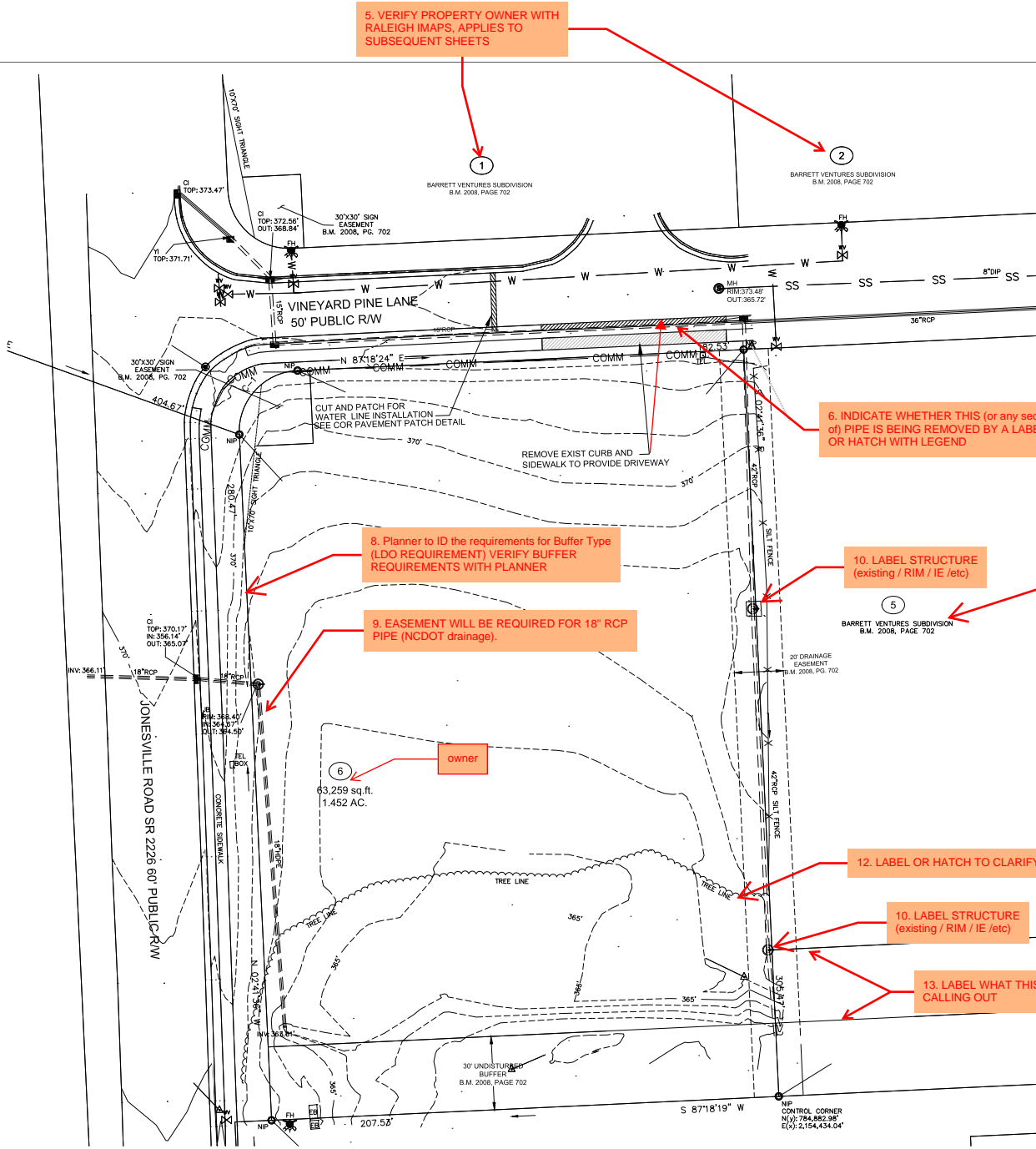


Site Lighting Plan  
Vineyard Pine Commercial  
MRR Development, LLC  
Rolesville, Wake County, North Carolina



Project No.  
Dwg No.  
**SL1**





5. VERIFY PROPERTY OWNER WITH RALEIGH IMAPS, APPLIES TO SUBSEQUENT SHEETS

- SITE NOTES**
- 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.
  - NO FLOOD HAZARD AREAS WITHIN PROJECT BOUNDARY PER FEMA MAP 3720174700J.
  - ALL EXISTING ELEVATIONS, FEATURES, AND UTILITIES TO BE FIELD VERIFIED.

7. INCLUDE LEGENDS OR LABELS DENOTING DEMO ITEMS VS EXITING AND PROTECTED

6. INDICATE WHETHER THIS (or any section of) PIPE IS BEING REMOVED BY A LABEL OR HATCH WITH LEGEND

8. Planner to ID the requirements for Buffer Type (LDO REQUIREMENT) VERIFY BUFFER REQUIREMENTS WITH PLANNER

9. EASEMENT WILL BE REQUIRED FOR 18" RCP PIPE (NCDOT drainage).

10. LABEL STRUCTURE (existing / RIM / IE /etc)

11. THIS LOT IS OWNED BY CARLTON GROUP OF NORTH CAROLINA. CROSSCHECK PROPERTY OWNERS WITH RALEIGH IMAPS AND CORRECT ON SUBSEQUENT SHEETS. ADDITIONALLY, PROVIDE PIN NUMBER FOR EACH ADJACENT PROPERTY

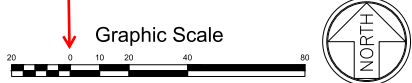
63,259 sq.ft. 1.452 AC.

12. LABEL OR HATCH TO CLARIFY IF TREES ARE TO BE REMOVED

10. LABEL STRUCTURE (existing / RIM / IE /etc)

13. LABEL WHAT THIS LINE(S), CALLING OUT

15. PROPER SCALE-APPLIES TO ALL SHEETS - PLOT TO 24X36



CHECK PLAN SHEET SIZE, CURRENT PLOT 8 1/2 X 11

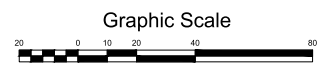
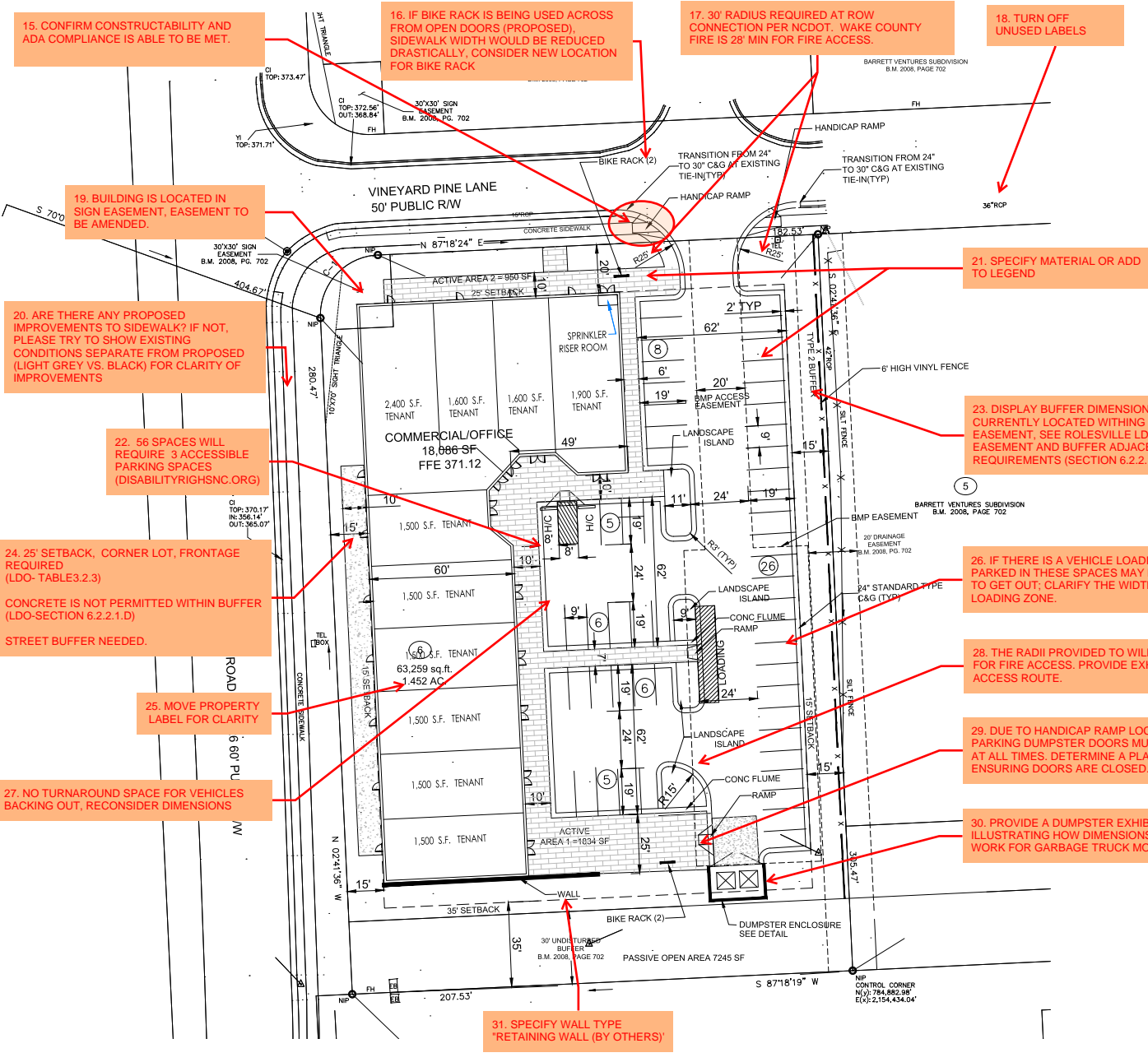
NO.	DATE	DESCRIPTION	BY
1		CONTRACT	BP
2		CONTRACT	BP
3		CONTRACT	BP
4		CONTRACT	BP
5		CONTRACT	BP
6		CONTRACT	BP
7		CONTRACT	BP
8		CONTRACT	BP
9		CONTRACT	BP
10		CONTRACT	BP
11		CONTRACT	BP
12		CONTRACT	BP
13		CONTRACT	BP
14		CONTRACT	BP
15		CONTRACT	BP
16		CONTRACT	BP
17		CONTRACT	BP
18		CONTRACT	BP
19		CONTRACT	BP
20		CONTRACT	BP



NO.	DATE	REVISION/DESCRIPTION
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		



- 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 RADI 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, RAMP, 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 MEET ALL FUNCTIONAL, DURABLE, AND VISUALLY APPEALING REQUIREMENTS OF THE OWNER AND REVIEW AUTHORITIES.



CHECK PLAN SHEET SIZE,  
 CURRENT PLOT 8 1/2 X 11

15. CONFIRM CONSTRUCTABILITY AND ADA COMPLIANCE IS ABLE TO BE MET.

16. IF BIKE RACK IS BEING USED ACROSS FROM OPEN DOORS (PROPOSED), SIDEWALK WIDTH WOULD BE REDUCED DRASTICALLY, CONSIDER NEW LOCATION FOR BIKE RACK

17. 30' RADIUS REQUIRED AT ROW CONNECTION PER NCDOT. WAKE COUNTY FIRE IS 28' MIN FOR FIRE ACCESS.

18. TURN OFF UNUSED LABELS

19. BUILDING IS LOCATED IN SIGN EASEMENT, EASEMENT TO BE AMENDED.

20. ARE THERE ANY PROPOSED IMPROVEMENTS TO SIDEWALK? IF NOT, PLEASE TRY TO SHOW EXISTING CONDITIONS SEPARATE FROM PROPOSED (LIGHT GREY VS. BLACK) FOR CLARITY OF IMPROVEMENTS

22. 56 SPACES WILL REQUIRE 3 ACCESSIBLE PARKING SPACES (DISABILITYRIGHSNC.ORG)

24. 25' SETBACK, CORNER LOT, FRONTAGE REQUIRED (LDO- TABLE3.2.3)  
 CONCRETE IS NOT PERMITTED WITHIN BUFFER (LDO-SECTION 6.2.2.1.D)  
 STREET BUFFER NEEDED.

25. MOVE PROPERTY LABEL FOR CLARITY

27. NO TURNAROUND SPACE FOR VEHICLES BACKING OUT, RECONSIDER DIMENSIONS

31. SPECIFY WALL TYPE "RETAINING WALL (BY OTHERS)"

21. SPECIFY MATERIAL OR ADD TO LEGEND

23. DISPLAY BUFFER DIMENSIONS, THIS BUFFER IS CURRENTLY LOCATED WITHIN DRAINAGE EASEMENT, SEE ROLESVILLE LDO PAGE 15 FOR EASEMENT AND BUFFER ADJACENT TO EASEMENT REQUIREMENTS (SECTION 6.2.2.1)

26. IF THERE IS A VEHICLE LOADING, VEHICLES PARKED IN THESE SPACES MAY NOT BE ABLE TO GET OUT; CLARIFY THE WIDTH OF THE LOADING ZONE.

28. THE RADII PROVIDED TO WILL NOT WORK FOR FIRE ACCESS. PROVIDE EXHIBIT TO SHOW ACCESS ROUTE.

29. DUE TO HANDICAP RAMP LOCATION, AND PARKING DUMPSTER DOORS MUST BE CLOSED AT ALL TIMES. DETERMINE A PLAN FOR ENSURING DOORS ARE CLOSED.

30. PROVIDE A DUMPSTER EXHIBIT ILLUSTRATING HOW DIMENSIONS AND RADIUS WORK FOR GARBAGE TRUCK MOVEMENT

32. PROVIDE SPOT ELEVATIONS AT RADII AND EXISTING WALK TO CONFIRM TIE INS AND ADA COMPLIANCE WORKS

33. APPEARS AS IF STRUCTURE IS BEING PROPOSED OVER EXISTING PIPE, CLARIFY ANY REMOVALS

**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.

34. CLARIFY IF THIS DRAINAGE SYSTEM IS BECOMING A BYPASS FOR EXISTING.

AS NEEDED DURING THE COURSE OF SHALL NOTIFY ALL APPLICABLE 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 FORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS (THE N.C. SUPPLEMENT TO THE MUTCD, ANY REGULATORY ORDINANCES, 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.

**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 COMPACTATION 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.

• 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 BE PERMITTED.

• 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 (IFES), 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 CURBS, 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 REFORMED 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 CURBS AND GUTTER WHERE ADJACENT PAVEMENT SLOPES AWAY FROM CURBS, AND STANDARD-PITCH CURBS 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.

**TRENCHING AND BACKFILLING**

• WHERE ROCK OR TRENCH BOTTOM OVER EXISTING PAVEMENT OR WHERE THE DESIGNED SOIL UNDERCUT ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. ROCK FILL 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		
Parking Lot	0.00	0.00
Managed Pervious	63,162.00	1.45
Total		1.45
Post		
	29,384.00	0.67
	18,860.00	0.42
	8,438.00	0.19
	7,245.00	0.17
		1.45

35. REPEAT COMMENT: 15" RCP MIN PIPE SIZE IS REQUIRED

**42. SHOW SANITARY EASEMENT THAT IS CALLED OUT**

35. REPEAT COMMENT: 15" RCP MIN PIPE SIZE IS REQUIRED

45. CALCS FROM THE UNDERGROUND DRAINAGE FLOW WILL NEED TO BE ADDED AND CHECKED TO EXISTING DRAINAGE SYSTEM.

46. VERIFY IF ADDITIONAL RIP RAP WILL BE NEEDED FOR INCREASED FLOW

36. BASED ON BUILDING PLANS, ALL ROOF DRAINS ARE ON WEST AND NORTH SIDE. SHOW HOW WATER WOULD BE GETTING THROUGH BUILDING

37. INCLUDE A STORM PACKAGE WITH CALCULATIONS FOR CONCRETE FLUME, HGLS, GUTTER SPREAD, RIP RAP SIZING.

38. CORRECT STRUCTURE LEADER THAT IS POINTING TO PIPE

39. CONFIRM ANGLE BETWEEN PIPES AND STRUCTURE SIZES TO ENSURE THIS IS CONSTRUCTABLE

35. REPEAT COMMENT: 15" RCP MIN PIPE SIZE IS REQUIRED

40. EXISTING STORM DRAINAGE WILL REQUIRE AN EASEMENT.

41. INCLUDE TOP AND BOTTOM WALL ELEVATIONS

43. INCLUDE 20' EASEMENT, NEEDED (NCDOT ROAD DRAINAGE OUTLET)

44. PLACE LEADER IN PROPER LOCATION, AND MATCH STORM PACKAGE LABEL TO SHEET LABELS

Graphic Scale



CHECK PLAN SHEET SIZE, CURRENT PLOT 8 1/2 X 11

NO.	DATE	COMMENTS	BY	CHKD
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				



47. INCLUDE SANITARY AND WATER PROFILES

48. CHECK FIRE REQUIREMENTS: FDC WITHIN 100' HOSE LAY OF FIRE HYDRANT

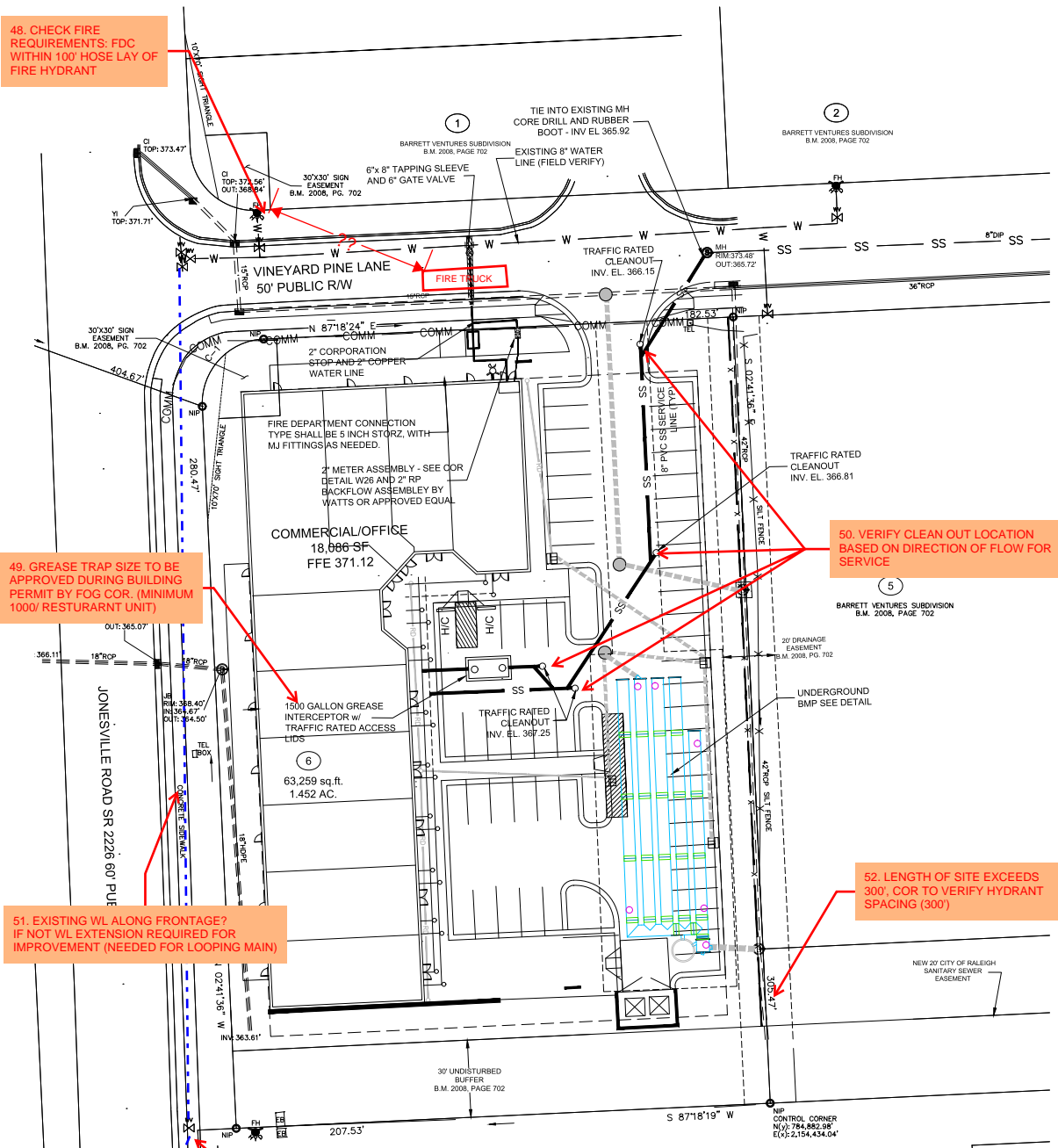
49. GREASE TRAP SIZE TO BE APPROVED DURING BUILDING PERMIT BY FOG COR. (MINIMUM 1000' RESTAURANT UNIT)

51. EXISTING WL ALONG FRONTAGE? IF NOT WL EXTENSION REQUIRED FOR IMPROVEMENT (NEEDED FOR LOOPING MAIN)

53. BASED ON VALVES AT INTERSECTION, VERIFY IF ANY HYDRANTS ARE LOCATED ALONG THIS POTENTIAL EXISTING WATERLINE.

50. VERIFY CLEAN OUT LOCATION BASED ON DIRECTION OF FLOW FOR SERVICE

52. LENGTH OF SITE EXCEEDS 300', COR TO VERIFY HYDRANT SPACING (300')



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
  - b) & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPROVED 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
  - c) 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
  - d) 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
  - e) 5" MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER
  - f) 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-1 & 3-4-0)
  - g) 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" 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 2" COPPER WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2' 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' ABOVE THE NEXT UPSTREAM MANHOLE.
10. ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDOW, USACE & COR 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)996-2334 OR TIMOTHY BEASLEY@RALEIGH.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. WHOEVER IS MORE STRINGENT, CONTACT JOANIE HARTLEY AT (919) 212-6922 OR JOANIE.HARTLEY@RALEIGH.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 UTILITY SERVICES 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.

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

NO.	DATE	COMMENTS	BY	CHK.
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				



ATTENTION CONTRACTORS

The Construction Contractor responsible for the construction of water, sewer, and/or gas, as approved in these plans, is responsible for contacting the Public Works Department at (919) 996-2399, and the Public Utilities Department at (919) 996-4549 at least twenty four hours prior to beginning any type of construction.

Failure to notify both City Departments in advance of beginning construction, will result in the cessation of necessary plans, and require installation of any water or sewer facilities not impacted as a result of this modification failure.

Failure to call for Inspection, Install a Downstream Flag, have Permitted Plans on the Job, 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 requires the construction of all City of Raleigh Public Works projects to be done in accordance with the City of Raleigh Utility Services Manual. The manual and other materials used for this project shall be available for review at the City of Raleigh Public Works Department. The City of Raleigh requires the construction of all City of Raleigh Public Works projects to be done in accordance with the City of Raleigh Utility Services Manual. The manual and other materials used for this project shall be available for review at the City of Raleigh Public Works Department. The City of Raleigh requires the construction of all City of Raleigh Public Works projects to be done in accordance with the City of Raleigh Utility Services Manual. The manual and other materials used for this project shall be available for review at the City of Raleigh Public Works Department.

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

Plans for the proposed work have been reviewed for general conformance with applicable codes. This limited review and certification is not to be construed as an endorsement or approval of the project, nor does it constitute any responsibility for the design or construction of the project. The project designer, engineer, contractor, and construction are each responsible for the design and construction of the project. The project designer, engineer, contractor, and construction are each responsible for the design and construction of the project. The project designer, engineer, contractor, and construction are each responsible for the design and construction of the project.

Electronic Approval: This approval is being issued electronically. This approval shall only apply upon the signature of a City of Raleigh Public Works official. The City of Raleigh reserves the right to revoke this approval at any time without notice. This approval shall be void if the project is not completed in accordance with the plans within the specified time frame. This approval shall be void if the project is not completed in accordance with the plans within the specified time frame.



Graphic Scale



CHECK PLAN SHEET SIZE, CURRENT PLOT 8 1/2 X 11

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

Project No.  
Dwg No.  
**C4**

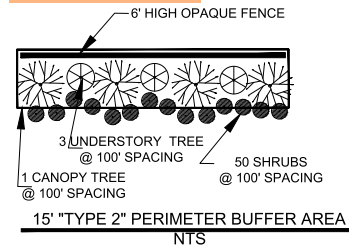
54. TREES AND BUILDING WITHIN EASEMENT

56. TREES ARE IN CONCRETE; KEEP IN MIND LOCATION OF THE STORM SEWER

PLANT LIST								
KEY	COMMON NAME	BOTANICAL NAME	CAL	HGT	SPD	ROOT	REMARKS	QUANT
<b>CANOPY TREES:</b>								
QL	OVERCUP OAK	Quercus imbricaria	2 1/2"	14'	7'	B&B	MATCHED	12
LP	CHINESE ELM	Ulmus Parvifolia	2 1/2"	14'	7'	B&B	MATCHED, DB 40' O/C	12
<b>UNDERSTORY &amp; EVERGREEN TREES:</b>								
LN	NATCHES CREPE MYRTLE	Lag. Indica 'Natchez'	-	8'	4'	B&B	SINGLE-STEM, 40' O/C	18
EB	EMERY BRUNNER HOLLY	Ilex x 'Emery Brunner'	-	8'	4'	B&B	FULL TO GROUND	18
<b>EVERGREEN SHRUBS:</b>								
IC	CARIBBA HOLLY	Ilex Cornuta 'Caribba'	-	24"	18"	cont	5' O/C	72
IV	PRINCE VIBURNUM	Viburnum x 'Princess'	-	4'	2'	cont	FULL, 10' O/C	18
VA	SWEET VIBURNUM	Viburnum Ananthes 'Sweet'	-	4'	2'	cont	FULL, 10' O/C	18

NOTE: UNDERSTORY TREES LOCATED WITHIN 2' OF THE OVERHEAD ELECTRIC POWERLINE ALONG LISON MILL, TO HAVE A MAXIMUM HEIGHT OF 12'.

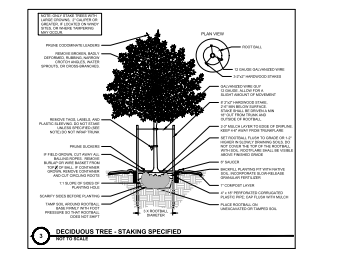
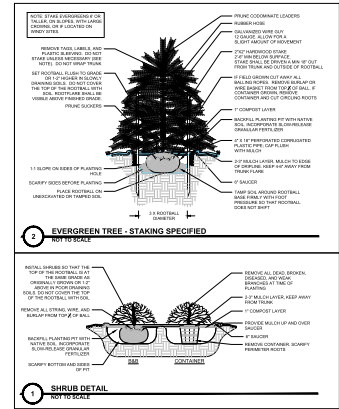
55. INCLUDE IN SITE PLAN



57. 20' STORM EASEMENT OFF PROPERTY LINE, NO PLANTING WITHIN. EASEMENT WILL IMPACT BUFFER START

LANDSCAPE NOTES:

1. L1 S1 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 SEEDING 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.



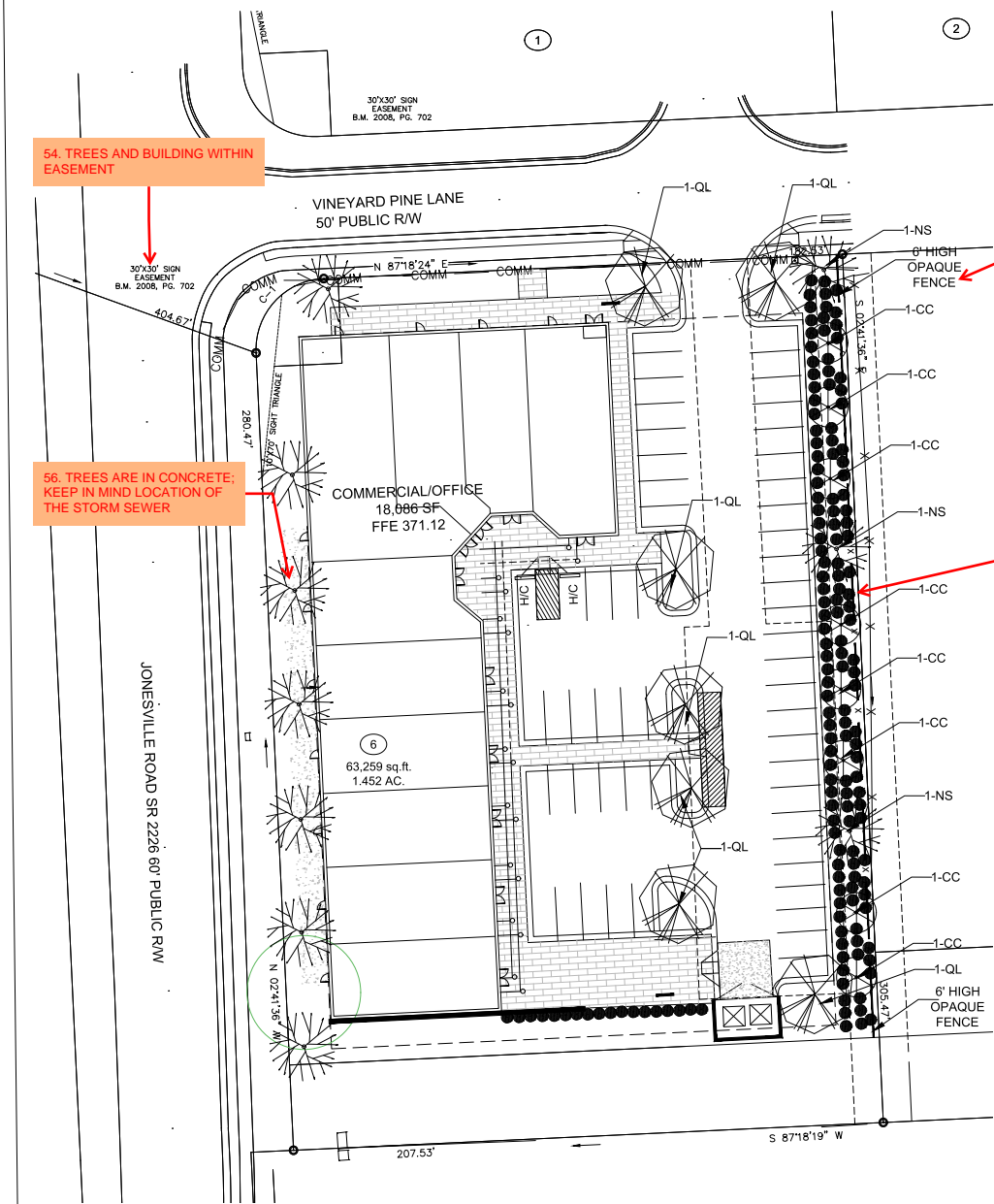
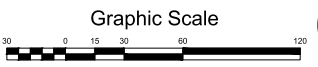
Gettle Engineering and Design, PLLC  
 3616 Waxwing Court,  
 Wake Forest, North Carolina 27587  
 (919) 210-3934  
 Firm License P-2538

NO.	DATE	COMMENTS	BY	APP.
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

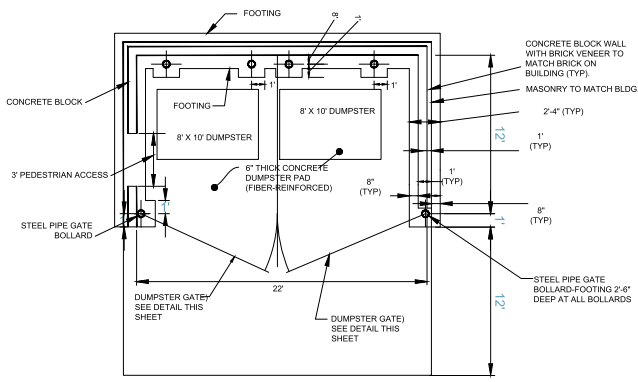


Landscape Plan  
 Vineyard Pine Commercial  
 MRR Development, LLC  
 Rolesville, Wake County, North Carolina

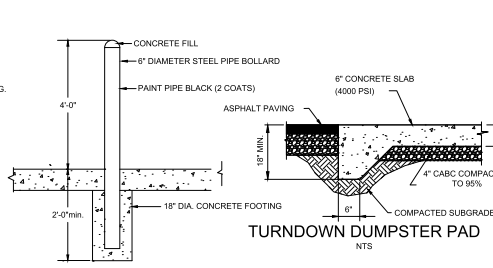
Project No.  
 Dwg No.  
**C5**







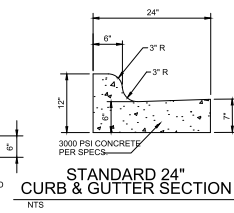
PLAN VIEW - DUMPSTER ENCLOSURE & PAD  
NTS



6\"/>

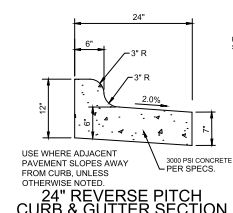


STANDARD PAVEMENT HEAVY DUTY

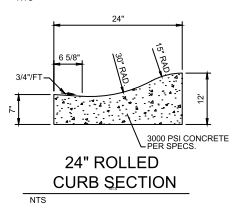


STANDARD 24\"/>

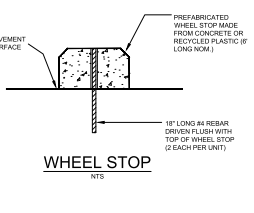
- CURB AND GUTTER NOTES:**
- 1\"/>
  - 2\"/>
  - 3\"/>
  - 4\"/>
  - 5\"/>
  - 6\"/>



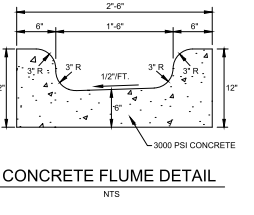
24\"/>



24\"/>



WHEEL STOP  
NTS

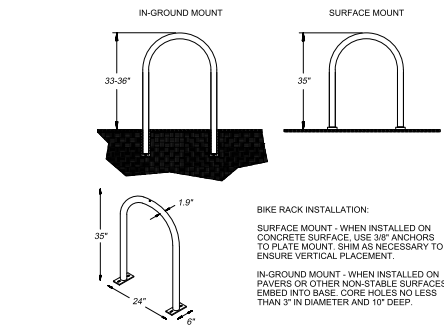
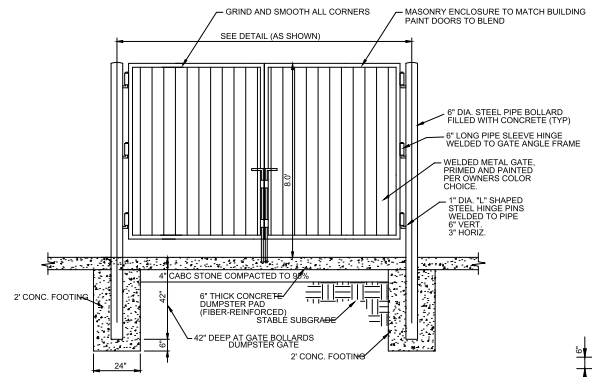


CONCRETE FLUME DETAIL  
NTS

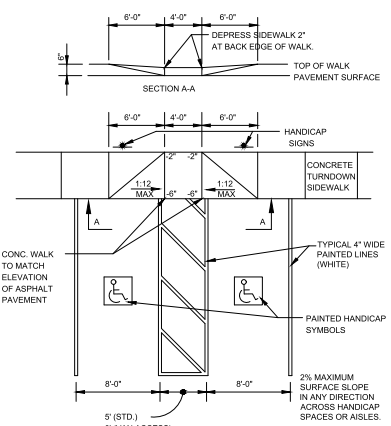
**58. MISSING DETAILS, PLEASE ADD**

**ALL UTILITY DETAILS**

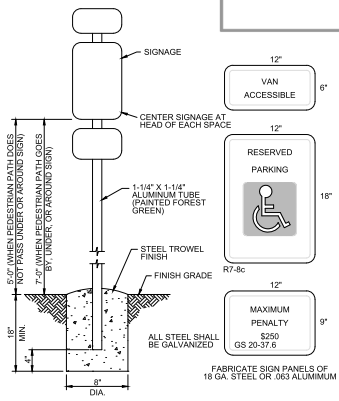
- TRAFFIC RATED CLEAN OUT
- TRENCHING AND BACKFILL DIMENSIONS
- BACKFLOW
- METER AND BOX
- FDC
- ASPHALT PAVING PATCH



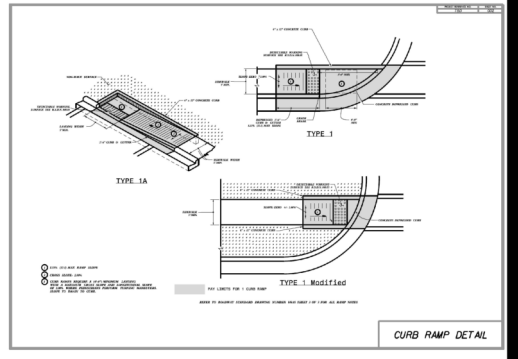
STANDARD BIKE RACK  
NTS



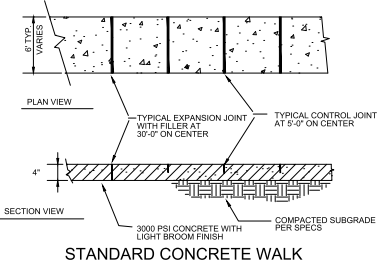
HANDICAP PARKING AND RAMP  
TYPE B  
NTS



DETAIL HANDICAP SIGNAGE  
NTS



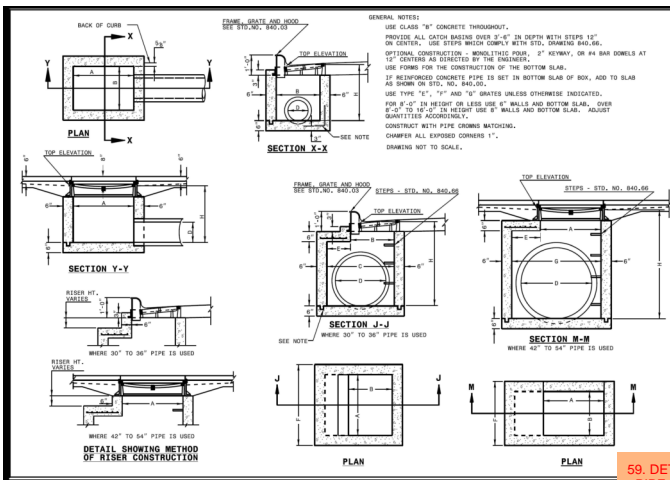
CURB RAMP DETAIL



STANDARD CONCRETE WALK

NO.	DATE	COMMENT	BY
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			



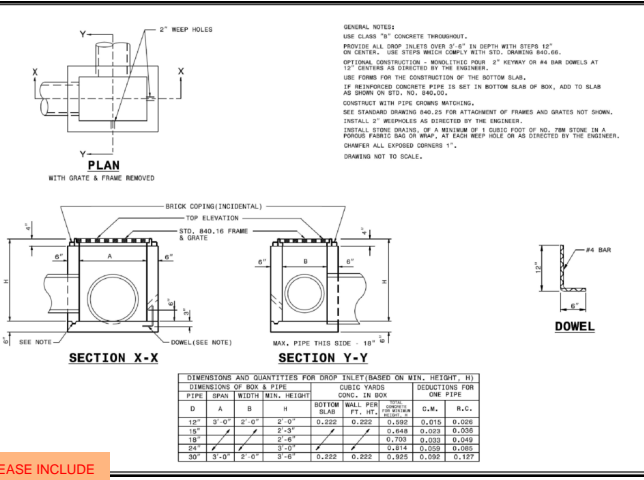


STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

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

SHEET 1 OF 2  
**840.14**

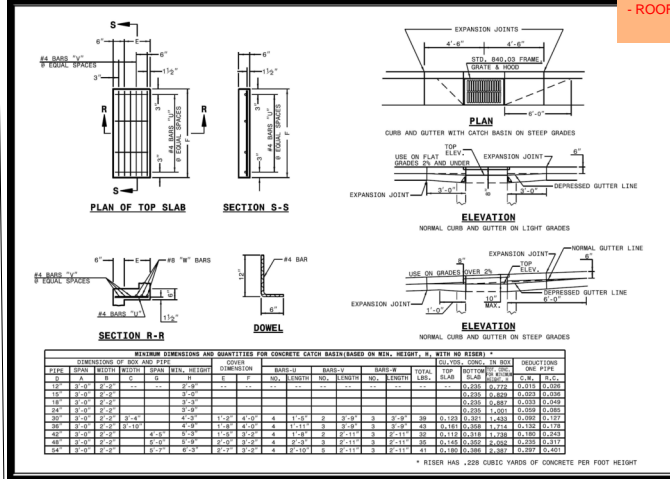
59. DETAILS NEEDED, PLEASE INCLUDE  
 - PIPE BEDDING  
 - ROOF DRAIN CONNECTION



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

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

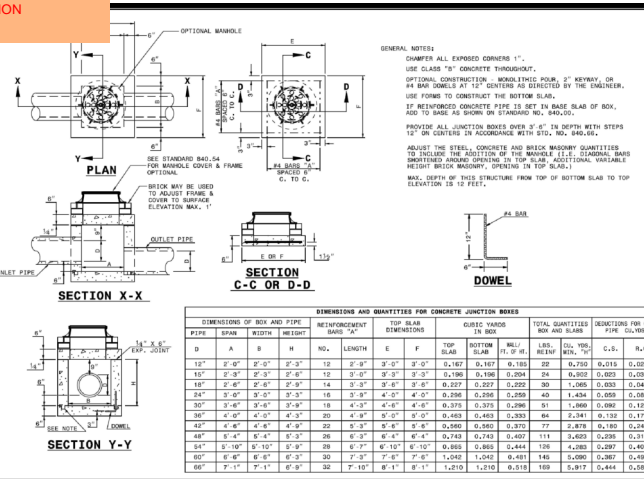
SHEET 1 OF 2  
**840.14**



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

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

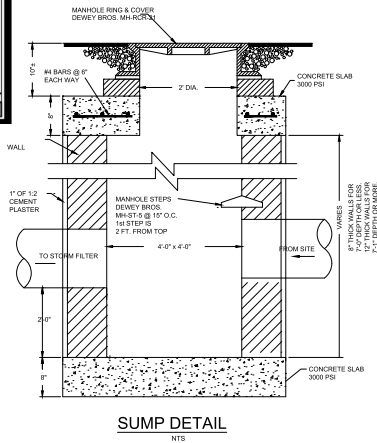
SHEET 2 OF 2  
**840.02**



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 60" PIPE

SHEET 1 OF 2  
**840.31**



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

NO.	DATE	COMMENTS	BY	CHKD.
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				



**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**

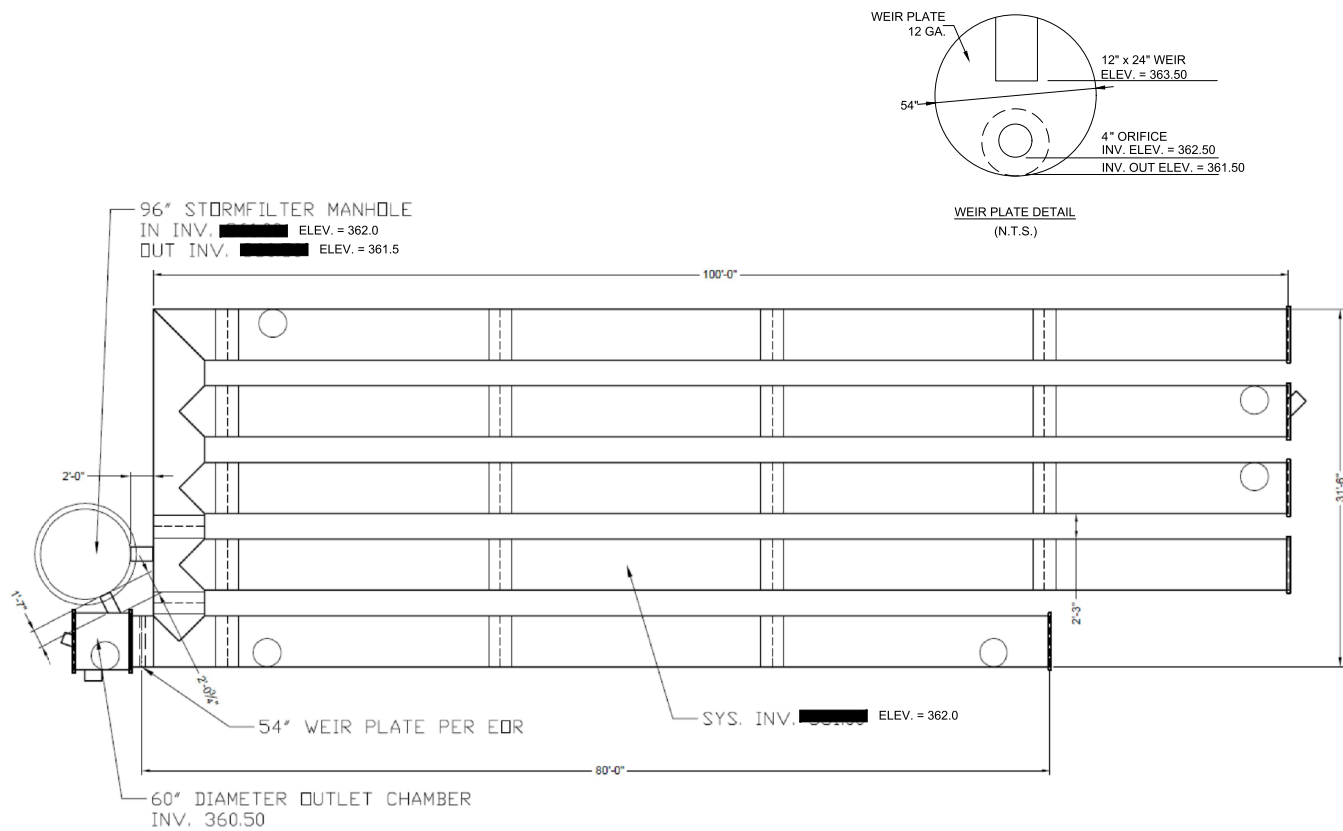
- DIAMETER = 54"
- CORRUGATION = 5x11
- GAGE = 14
- COATING = ALT2
- WALL TYPE = SOLID
- BARREL SPACING = 27"

**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 1/2" x 1/2" CORRUGATION AND 1/8" 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'

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by Contech Engineering Solutions LLC ("Contech"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of Contech. Failure to comply is done at the user's own risk and Contech neither warrants nor accepts any responsibility for such use.

Any discrepancies between the original information upon which the drawing is based and actual field conditions are acknowledged by all work involved. These discrepancies shall be reported to Contech immediately for re-evaluation of the design. Contech accepts no liability for design based on existing information or inaccurate information supplied by others.

DATE	REVISION DESCRIPTION	BY

**CONTECH**  
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  
DRAWINGS

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

PROJECT NO. 24294	DES. NO. 35777	DATE 8/2/2023
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO. 1		

Pre and Post Summary Table

	Pre	Post
Q1	1.38	0.94
Q10	4.74	1.82

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

NO.	DATE	COMMENTS	BY
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
NO.	DATE	REVISION/DESCRIPTION	BY



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

Project No.  
Dwg No.  
**D3**



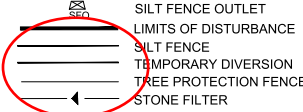
61. INLET PROTECTION WILL BE NEEDED ON EXISTING INLETS ADJACENT TO CONSTRUCTION-APPLIES TO SUBSEQUENT EROSION CONTROL SHEETS

62. LEGEND LINETYPES/HATCHING SHOULD MATCH THE PLANVIEW

BASIN NUMBER	DRAIN AREA(ACRES)	BASIN SIZE	Q10 FLOW(CFS)	BASIN SURFACE AREA(SF)	REQUIRED SURF. AREA(SF)	VOLUME (CF)	(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	406

SEE SHEET EC6 FOR DESIGN CALCULATIONS

LINE AND SYMBOL LEGEND



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) 919-8907, 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.

GENERAL NOTES:

- REGNATED STRAW WATTLES (6" W STORM WATER OUTFALL. PLACE BENEATH A SERIES OF WATTLES (SEE 61. REPEAT COMMENT: INLET PROTECTION REQUIRED
- 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" x 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 CURB BAG INLET PROTECTION AT ALL CURB INLETS.

61. REPEAT COMMENT: INLET PROTECTION WILL BE NEEDED ON EXISTING INLETS ADJACENT TO CONSTRUCTION

63. SILT FENCE NEEDED ALONG ENTIRE SITE

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

TOTAL DENUDED AREA 60,361 SF (1.39 AC)

Channel	Drain Area, ac	Channel Length, ft	Channel Drop, ft	C	Q2 I, in/hr	Flow cfs	Channel Slope, ft/ft	n	Side Slope:1	Bottom Width, ft	Depth of Flow, ft	Velocity f/s	Liner
TDD1	0.48	218	7	0.55	5.78	1.5	0.031	0.024	3:00	2.0	1.8	1.8	#NAME?
TDD2	0.39	198	7	0.55	5.78	1.2	0.034	0.020	3:00	2.0	1.8	1.8	#NAME?

Graphic Scale



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

NO.	DATE	COMMENTS	BY	CHKD.
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

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

Project No.  
Dwg No.  
**EC1**

61. REPEAT COMMENT: INLET PROTECTION REQUIRED

64. THESE AREAS TO BE INCLUDED AS PART OF LIMITS OF DISTURBANCE

61. REPEAT COMMENT: INLET PROTECTION REQUIRED

61. REPEAT COMMENT: INLET PROTECTION REQUIRED



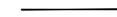

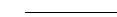
63. REPEAT COMMENT: PROVIDE SLIT FENCE ALONG ENTIRE PROPERTY LINE

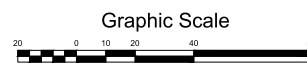
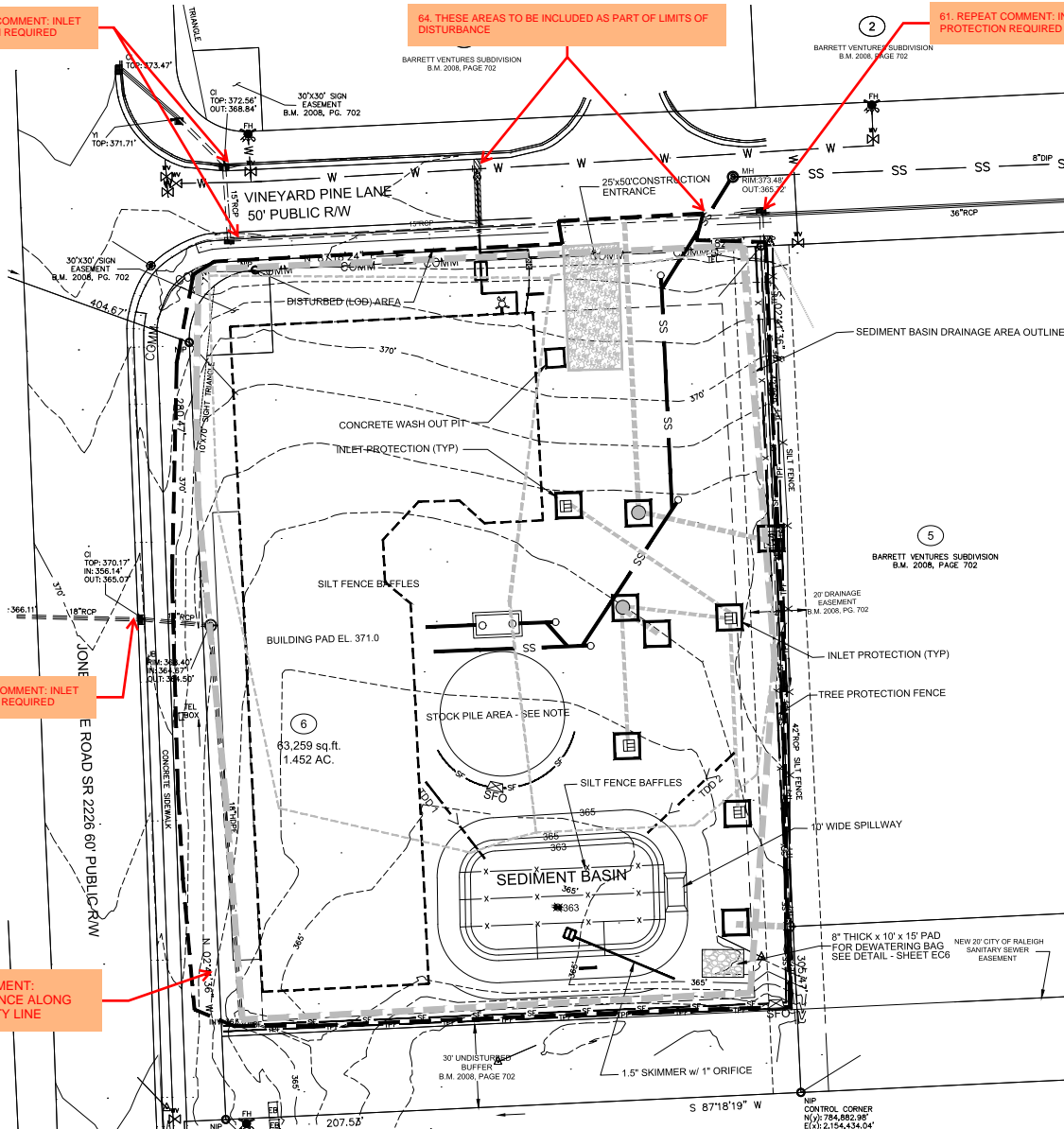
**EROSION CONTROL CONSTRUCTION SEQUENCE - PHASE 2**

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.

62. REPEAT COMMENT: LEGEND LINETYPES/HATCHING SHOULD MATCH THE PLANVIEW

**LINE AND SYMBOL LEGEND**

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



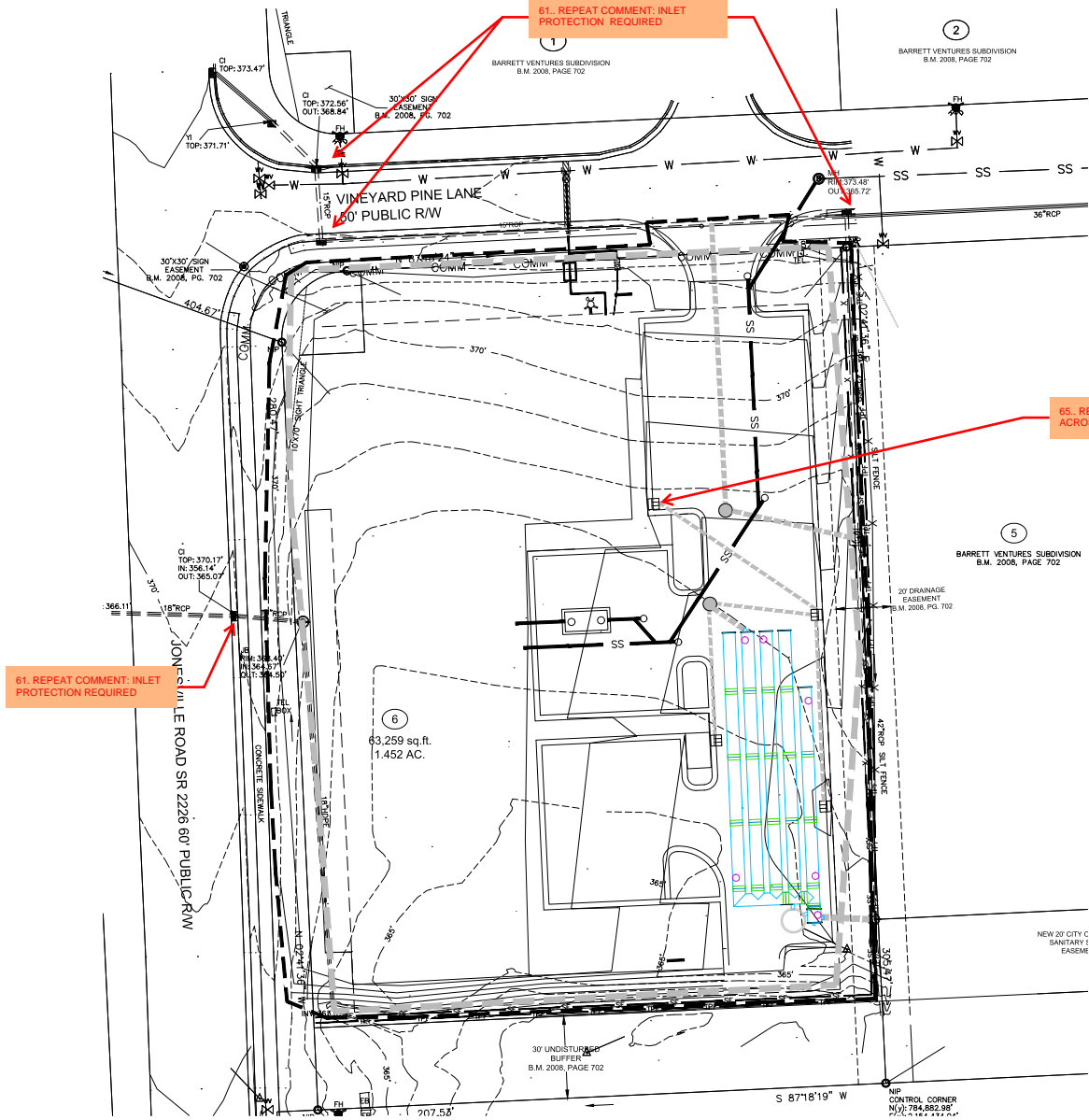
**Gettle Engineering and Design, PLLC**  
 3616 Waxwing Court,  
 Wake Forest, North Carolina 27587  
 (919) 210-3834 Firm License P-2538

NO.	DATE	COMMENTS	BY
1		ISSUED	BY
2		COMMENTS	BY
3		COMMENTS	BY
4		COMMENTS	BY
5		COMMENTS	BY
6		COMMENTS	BY
7		COMMENTS	BY
8		COMMENTS	BY
9		COMMENTS	BY
10		COMMENTS	BY



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

Project No.  
 Dwg No.  
**EC2**



61. REPEAT COMMENT: INLET PROTECTION REQUIRED

61. REPEAT COMMENT: INLET PROTECTION REQUIRED

65. REPEAT COMMENT: INLET PROTECTION ON ALL INLETS ACROSS SITE

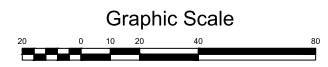
62. REPEAT COMMENT: LEGEND LINETYPES/HATCHING SHOULD MATCH THE PLANVIEW

- 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 SILT 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 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, JEVAN 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, JEVAN 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 NCDOT - 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 NCDOT-DEMR CONTACT PERSON AND COPY ENVIRONMENTAL CONSULTANT THAT MET YOU ON SITE. THE EMAIL SHOULD INCLUDE: BASIC 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 NCDOT-KEEP EMAIL FOR YOUR NPDES MONITORING DOCUMENTATION).
  3. AFTER RECEIVING POSITIVE CONFIRMATION FROM NCDOT-DEMR THAT YOU MAY REMOVE THE BASIN ON > DAY 11, WHICHEVER IS SOONER, REMOVE BASINS AND ASSOCIATED TEMPORARY DIVERSION DITCHES. IF PIPES NEED TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. THE GRADE AREA IN PREPARATION FOR SEEDING.
  4. PERFORM SEEDBED PREPARATION, SEED, MULCH AND ANCHOR ANY RESULTING BARE AREAS IMMEDIATELY.
  5. INSTALL VELOCITY DISSSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
  6. WHEN SITE IS FULLY STABILIZED, CALL WAKE COUNTY ENVIRONMENTAL CONSULTANT, JEVAN 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

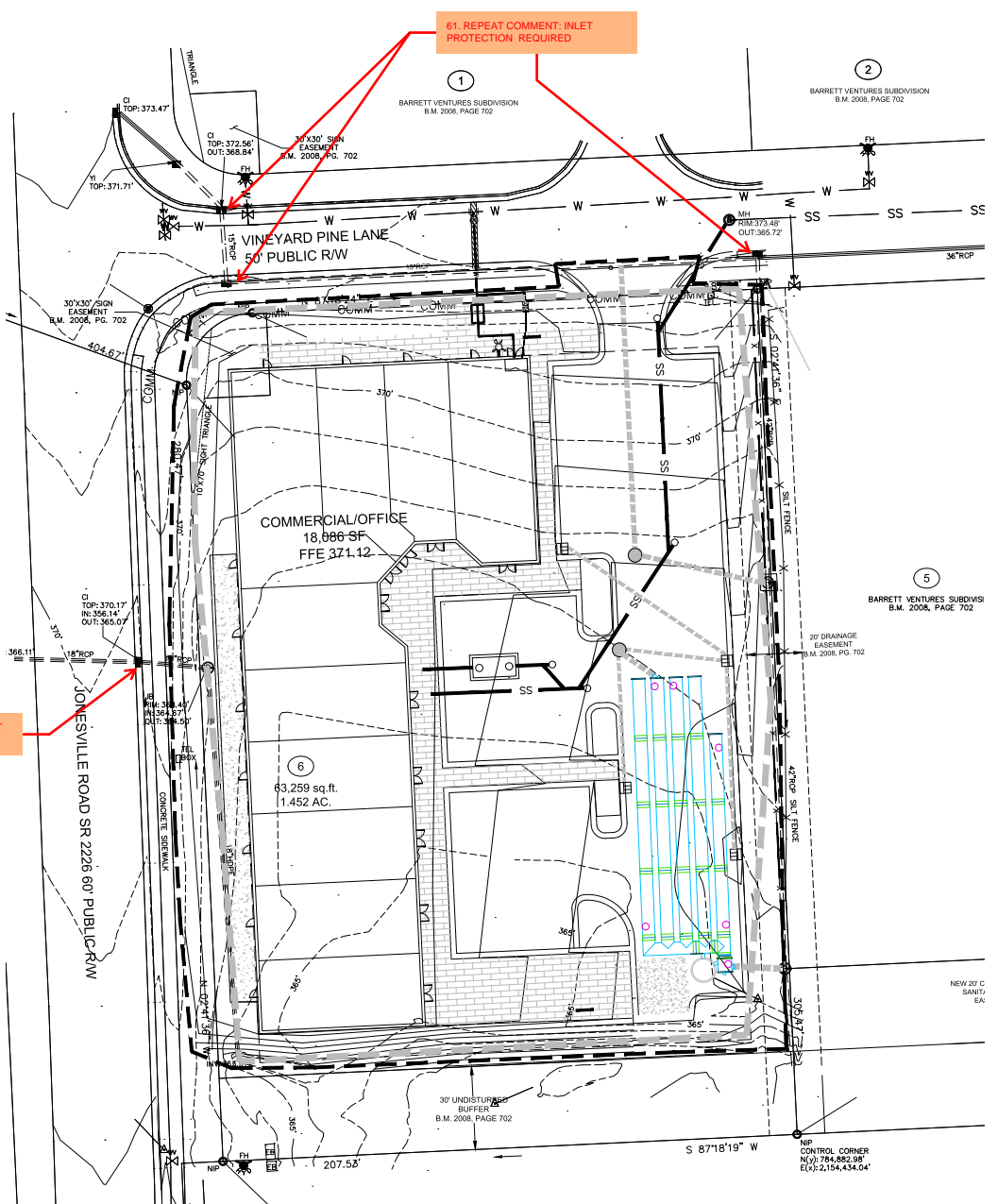


**Gettle Engineering and Design, PLLC**  
 3616 Waxwing Court,  
 Wake Forest, North Carolina 27587  
 (919) 210-3934 Firm License P-2538

NO.	DATE	COMMENT	BY
1		ISSUED FOR PERMIT	BY
2		ISSUED FOR PERMIT	BY
3		ISSUED FOR PERMIT	BY
4		ISSUED FOR PERMIT	BY
5		ISSUED FOR PERMIT	BY
6		ISSUED FOR PERMIT	BY
7		ISSUED FOR PERMIT	BY
8		ISSUED FOR PERMIT	BY
9		ISSUED FOR PERMIT	BY
10		ISSUED FOR PERMIT	BY

**Erosion Control Phase 3**  
 Vineyard Pine Commercial  
 MRR Development, LLC  
 Rolesville, Wake County, North Carolina

Project No.  
 Dwg No.  
**EC3**



61. REPEAT COMMENT: INLET PROTECTION REQUIRED

61. REPEAT COMMENT: INLET PROTECTION REQUIRED

- 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, BEYAN NEUPANE AT (919) 618-8907 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.

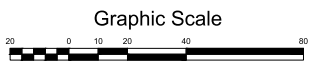
- NPDES NOTES**
1. THIS PAGE IS SUBMITTED TO COMPLY WITH NPDES GENERAL STORMWATER PERMIT: NCG010000.
  2. THIS PAGE CAN BE APPROVED BY THE CITY PURSUANT TO NPDES GENERAL STORMWATER PERMIT NCG010000 ONLY.
  3. THIS PAGE OF THE APPROVED PLANS IS ENFORCEABLE EXCLUSIVELY PURSUANT TO NPDES GENERAL STORMWATER 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 (HOW) ZONES	7 DAYS	NONE	NONE
SLOPES STEEPER THAN 5:1	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	
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HOW ZONES)	REMAINDER OF SITE

- LINE AND SYMBOL LEGEND**
- SILT FENCE OUTLET
  - LIMITS OF DISTURBANCE
  - SILT FENCE
  - TEMPORARY DIVERSION
  - STONE FILTER

62. REPEAT COMMENT: LEGEND LINETYPES/HATCHING SHOULD MATCH THE PLANVIEW



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

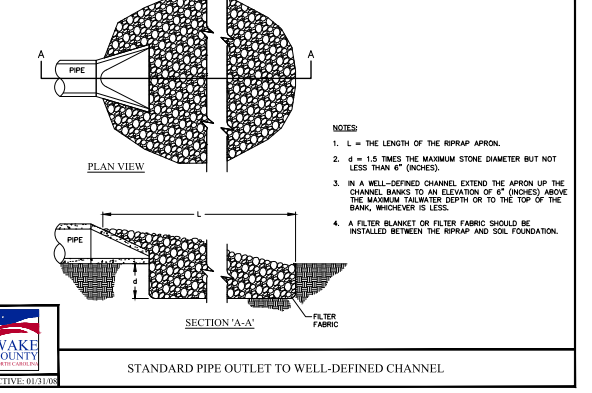
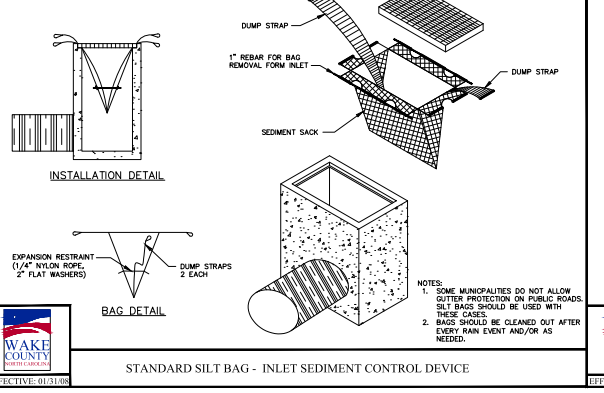
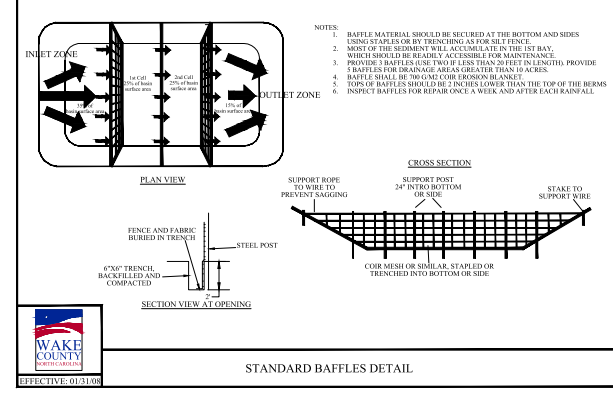
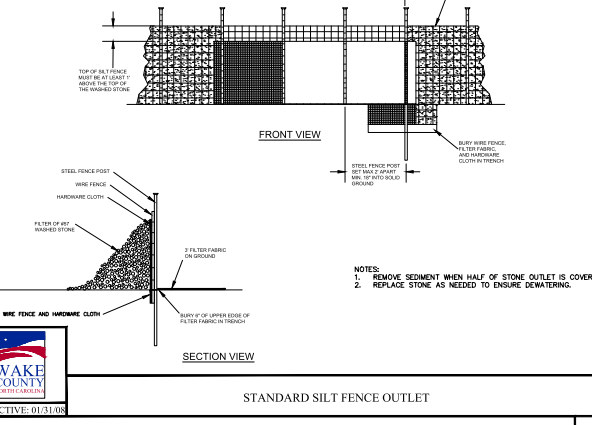
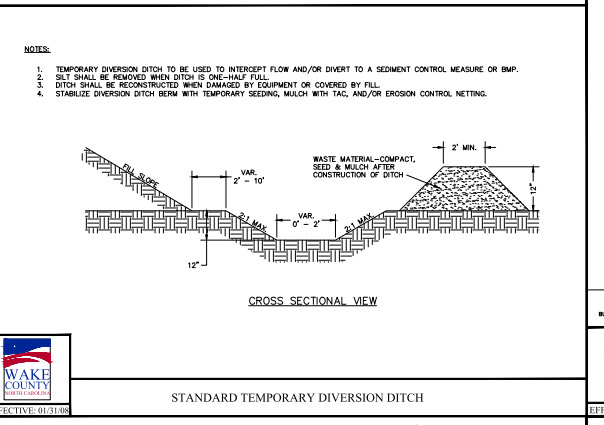
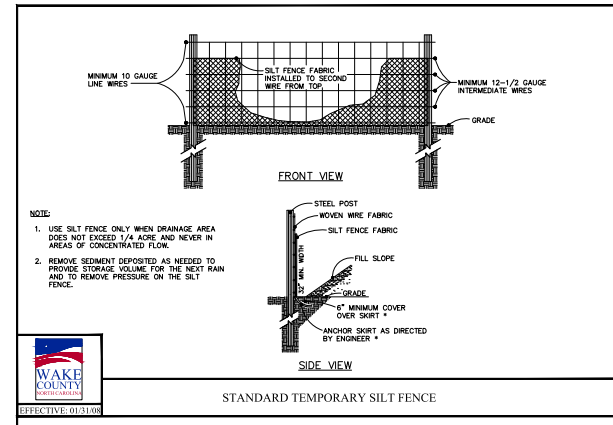
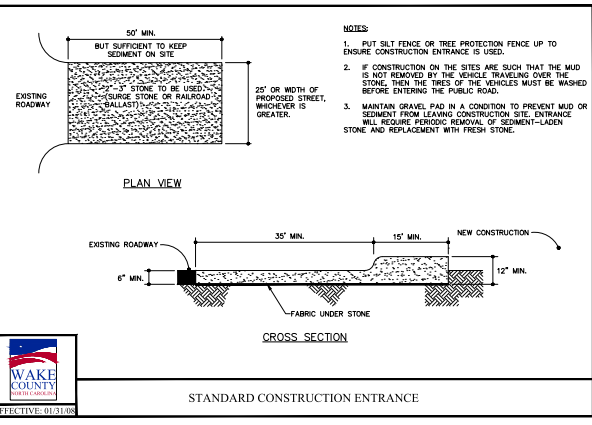
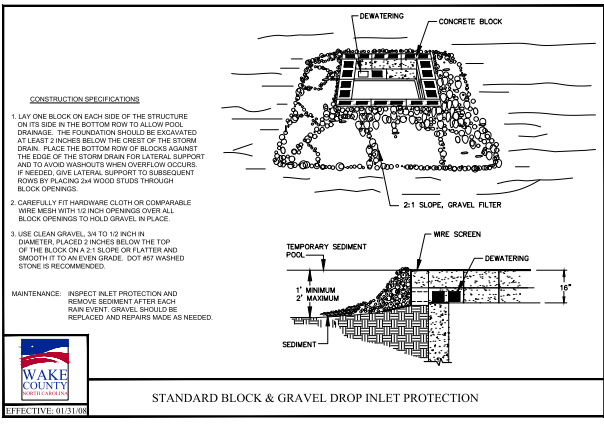
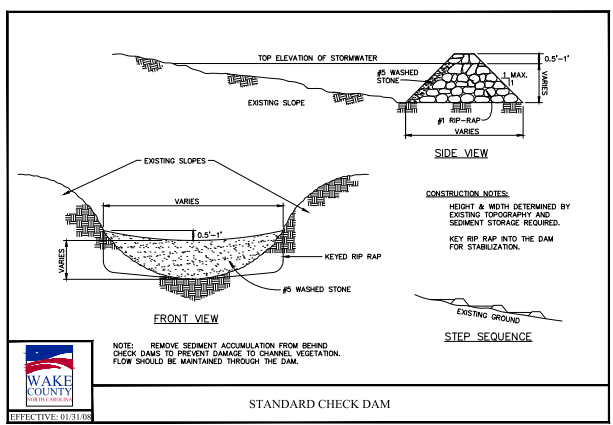
NO.	DATE	REVISION/DESCRIPTION
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		



**Erosion Control Phase 4**  
 Vineyard Pine Commercial  
 MRR Development, LLC  
 Rolesville, Wake County, North Carolina

Project No.  
 Dwg No.  
**EC4**





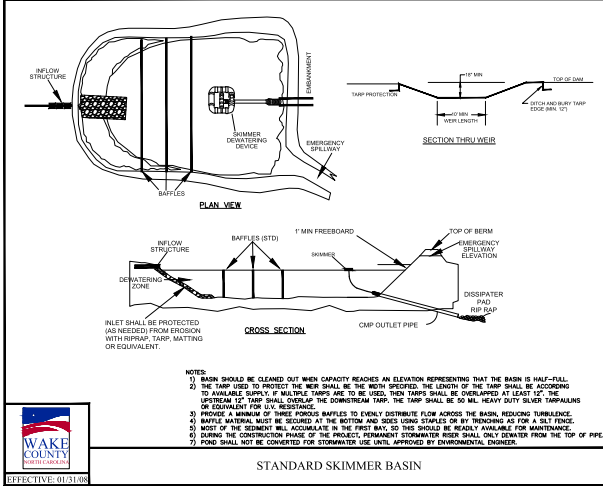
**Gettle Engineering and Design, PLLC**  
 3616 Waxwing Court,  
 Wake Forest, North Carolina 27587  
 (919) 210-3934 Firm License P-2638

NO.	DATE	COMMENTS	BY	APP.
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				



**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 (ft<sup>3</sup>)  
2201 Required Surface Area (ft<sup>2</sup>)  
33.2 Suggested Width (ft)  
66.3 Suggested Length (ft)

52 Trial Top Width at Spillway Invert (ft)  
80 Trial Top Length at Spillway Invert (ft)  
2 Trial Side Slope Ratio Z:1  
2 Trial Depth (ft) (2 to 3.5 feet above grade)  
44 Spillway Width (ft)  
74 Bottom Length (ft)  
5255 Bottom Area (ft<sup>2</sup>)  
7495 Actual Volume (ft<sup>3</sup>)  
4254 Actual Surface Area (ft<sup>2</sup>)

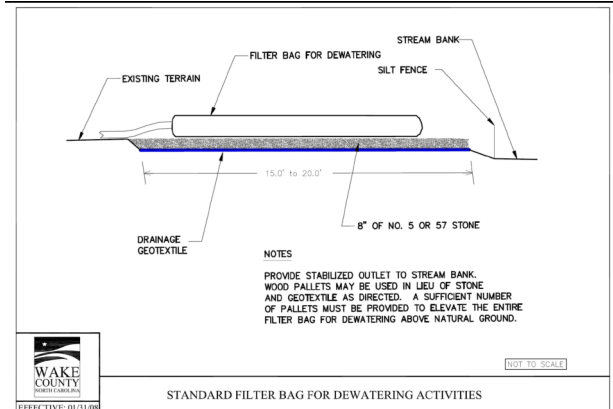
**Okay**

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

**Okay**

1.5 Skimmer Size (inches)  
0.125 Head on Skimmer (feet)  
1.0 Office Size (1/4 inch increments)  
4.03 Dewatering Time (days)  
Requires 3 to 5 days for Wake County

Skimmer Size (inches)
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0



**MIXTURE**

AGRICULTURAL LIMESTONE	2 TONS/ACRE (5 TONS/ACRE IN CLAY SOILS)
FERTILIZER	1,000 LBS/ACRE - 10 TO 10
SUPERPHOSPHATE	500 LBS/ACRE - 200 ANALYSIS
MULCH	2 TONS/ACRE - SMALL GRAN STRAW
ANCHORS	ASPHALT EMULSION AT 300 GAL/SQUARE

**SEEDING SCHEDULE**

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

DATE	TYPE	PLANTING RATE
NOV 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 BERNAUDGRASS	25 LBS/ACRE
JUL 1 - AUG 15	TALL FESCUE AND BROWNTOP MULLET	120 LBS/ACRE (TALL FESCUE); 30 LBS/ACRE (BROWNTOP MULLET);
	OR SORGHUM-SUDAN HYBRID**	30 LBS/ACRE (SORGHUM-SUDAN HYBRID)

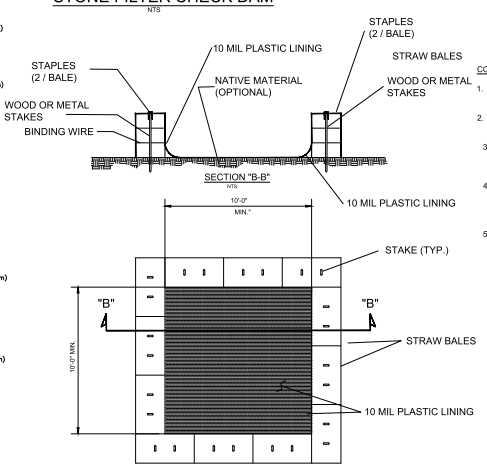
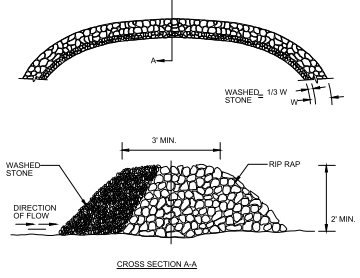
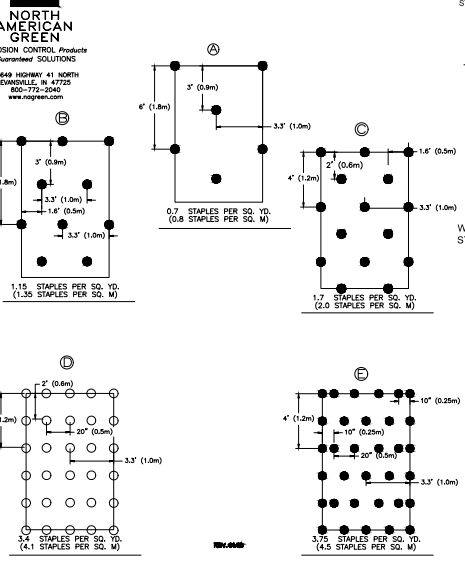
FOR SHOULDERS, SIDE DITCHES, SLOPES (3:1 TO 2:1)

DATE	TYPE	PLANTING RATE
MAR 1 - APR 15	SERIALA LEPEDEZA (UNHULLED) AND 50 LBS/ACRE (SERIALA LEPEDEZA)	30 LBS/ACRE
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 BERNADGRASS	25 LBS/ACRE
JUN 1 - SEPT 1	TALL FESCUE AND BROWNTOP MULLET	120 LBS/ACRE (TALL FESCUE); 30 LBS/ACRE (BROWNTOP MULLET);
	OR SORGHUM-SUDAN HYBRID**	30 LBS/ACRE (SORGHUM-SUDAN HYBRID)
SEPT 1 - MAR 1	SERIALA LEPEDEZA (UNHULLED) AND 50 LBS/ACRE (SERIALA LEPEDEZA)	30 LBS/ACRE
	AND ABRUZZI RYE	25 LBS/ACRE



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

**STAPLE PATTERN GUIDE**  
6.67' (2.03 M) WIDE ROLLS



- CONCRETE WASH OUT AREA NOTES:**
- ACTUAL LAYOUT DETERMINED IN THE FIELD - SEE EC1 PLAN FOR LOCATION
  - THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FEET OF THE FACILITY.
  - LOCATE THE WASHOUT AREA AT LEAST 50-FEET FROM SENSITIVE AREAS SUCH AS STORM DRAINS, OPEN DITCHES OR WATER BODIES, INCLUDING WETLANDS.
  - THE PLASTIC LINING MATERIAL SHOULD BE A MIN OF 10 MIL POLYETHYLENE MATERIAL, AND FREE OF HOLES, TEARS OR OTHER DEFECTS THAT MAY COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
  - WHEN THE FACILITY IS NO LONGER REQUIRED THE HARDENED CONCRETE, SLURRIES AND LIQUIDS SHALL BE PROPERLY DISPOSED OF OFF-SITE. MATERIAL USED TO CONSTRUCT THE FACILITY SHALL BE PROPERLY DISPOSED OF OFF-SITE. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY FACILITY SHALL BE BACKFILLED, REPAIRED, AND STABILIZED TO PREVENT EROSION.

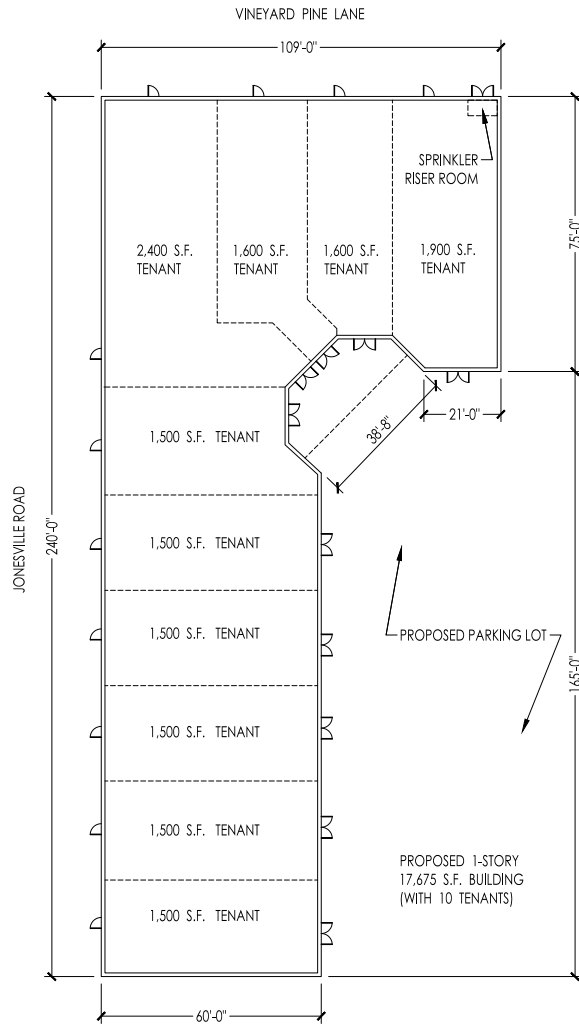
NO.	DATE	REVISION/DESCRIPTION
1	DATE	BY
2	DATE	BY
3	DATE	BY
4	DATE	BY
5	DATE	BY
6	DATE	BY
7	DATE	BY
8	DATE	BY
9	DATE	BY
10	DATE	BY



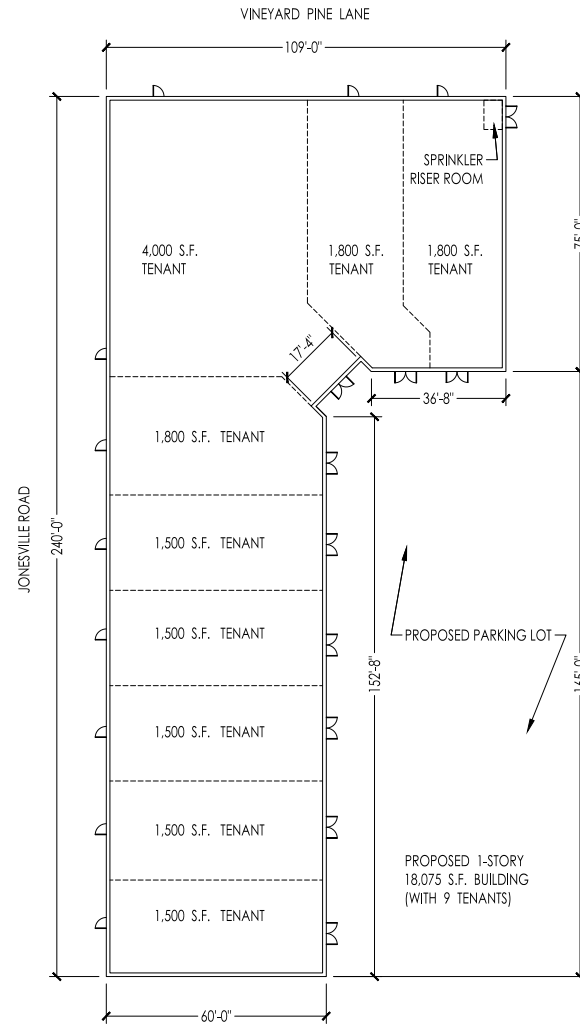
**Erosion Control Details**  
Vineyard Pine Commercial  
MRR Development, LLC  
Rolesville, Wake County, North Carolina

Project No.  
Dwg No.  
**EC6**





PROPOSED FLOOR PLAN - OPTION D



PROPOSED FLOOR PLAN - OPTION C



**REDLINE**

6601 Six Forks Road, Suite 130  
Raleigh, NC 27615  
O: 919.878.1660

PROJECT NO: 21-039  
DATE: 04/03/2023  
DRAWN BY: JLD

PRELIMINARY  
NOT FOR CONSTRUCTION

NCSBC 2018

Jonesville Road Commercial Building  
4502 Vineyard Pine Lane  
Raleigh, NC

**Owner:**  
MRS Development LLC  
10121 Capital Blvd, Ste. 105  
Wake Forest, NC 27387  
Tel: 336.273.4600  
Contact: Omar Eladasi

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

**Civil Engineer:**  
CCO Engineers, Inc.  
4923 Windy Hill Drive  
Raleigh, NC 27609  
Tel: 919.872.7655  
Contact: George McIlroy, PE

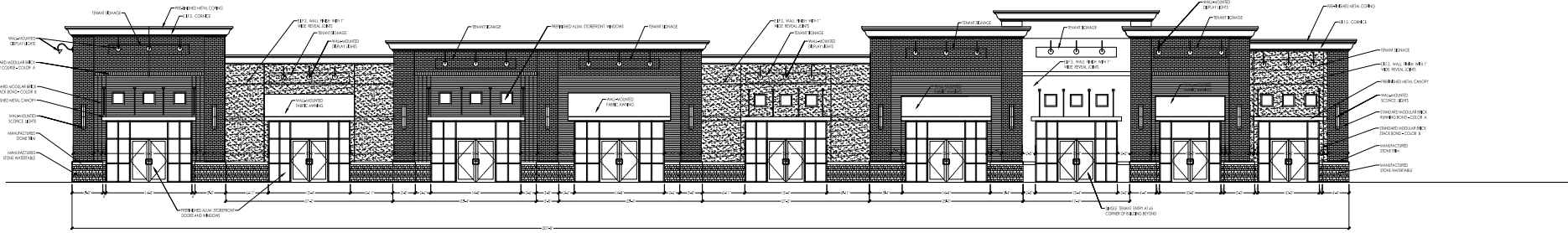
DATE: 04/03/2023

REVISIONS:

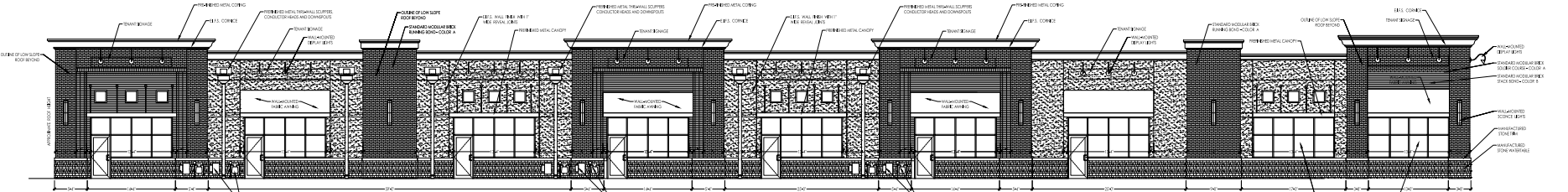
FLOOR  
PLAN STUDIES

SHEET:

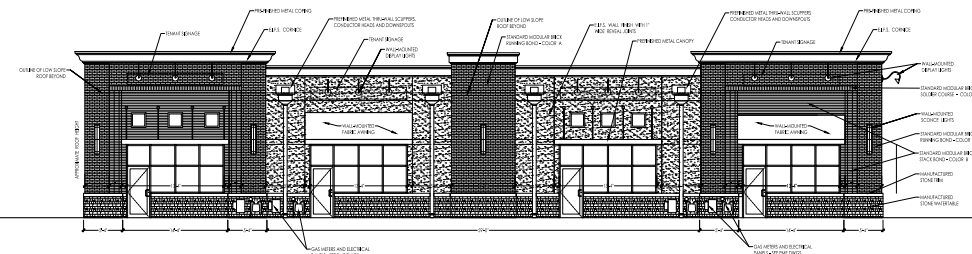
A1.1



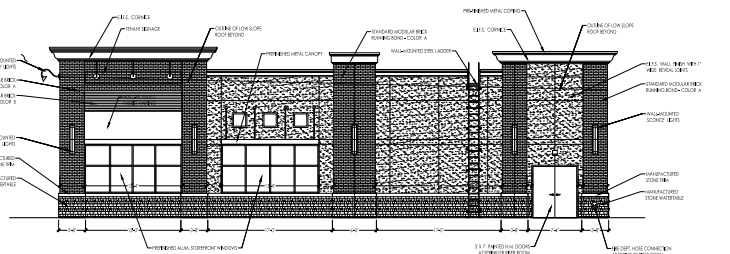
1 EAST ELEVATION (FACING PARKING LOT)  
SCALE: 1/8"=1'-0"



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



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



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



6601 Six Forks Road, Suite 130  
Raleigh, NC 27615  
O: 919.878.5600

PROJECT NO: 21070  
DATE: 04/03/2023  
DRAWN BY: JLD

PRELIMINARY  
NOT FOR CONSTRUCTION

NCSBC 2018

Jonesville Road Commercial Building  
4929 Vineyard Pine Lane  
Raleigh, NC

Owner:  
NCS Development LLC  
10121 Capital Blvd, Ste. 130  
Waste Forest, NC 27587  
Tel: 336.334.8400  
Contact: Orin Shelton

Architect:  
Redline Design Group, PA  
6601 Six Forks Rd, Ste. 130  
Raleigh, NC 27615  
Tel: 919.878.5600  
Contact: Jon Steindorf

Civil Engineer:  
CSO Engineers Inc.  
4929 Vineyard Pine Lane  
Raleigh, NC 27609  
Tel: 919.878.7867  
Contact: George McIntyre, PE

DATE: 04/03/2023  
REVISIONS:

CONCEPT ELEVATIONS

A3.1