

ST. MARK CATHOLIC CHURCH & MAYFAIRE II PROPOSED ROADWAY

CONSTRUCTION DOCUMENTS APRIL 2019

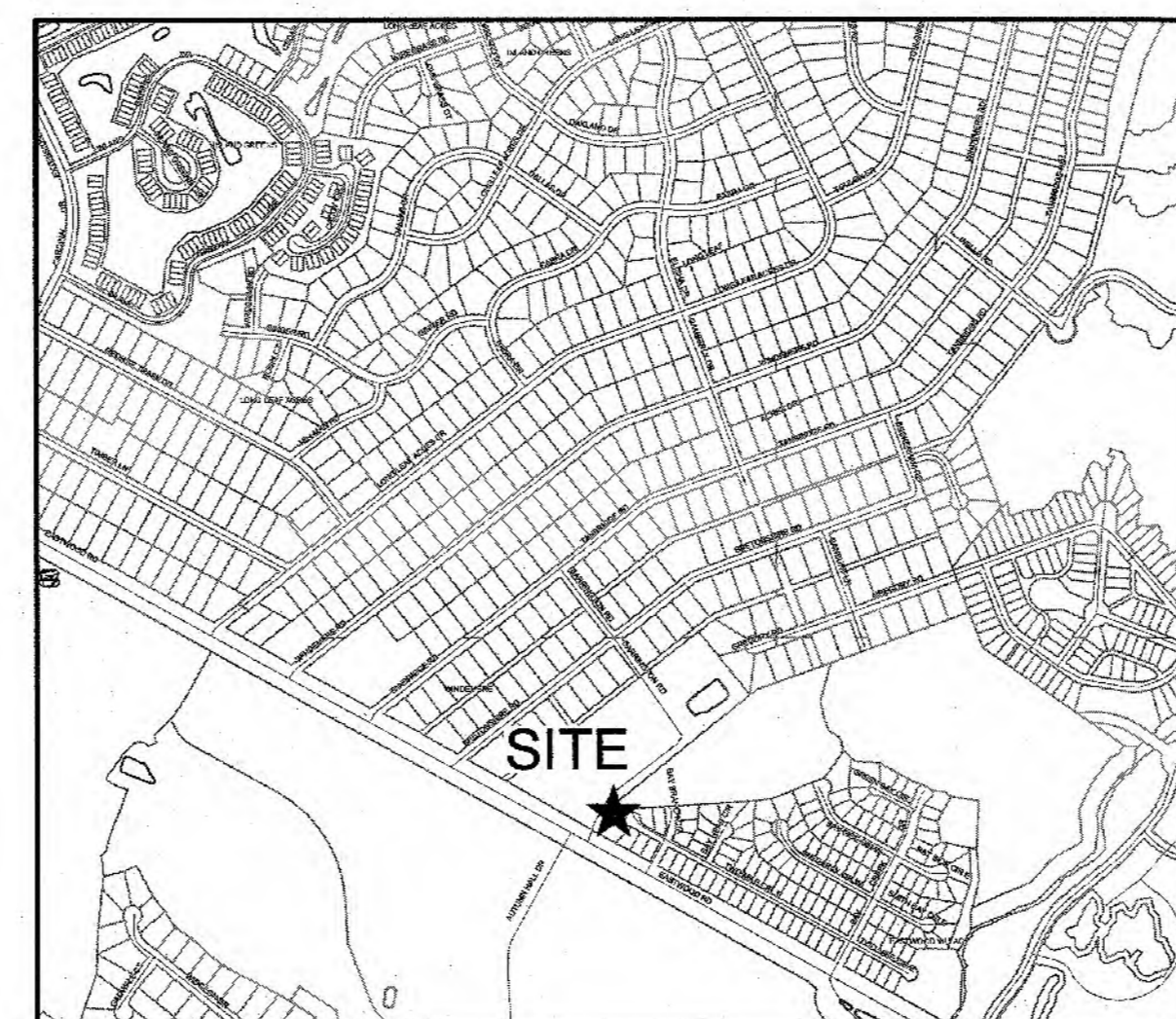
PROJECT ADDRESS:
1011 EASTWOOD ROAD
WILMINGTON, NC 28403

RECEIVED

APR - 8 2019

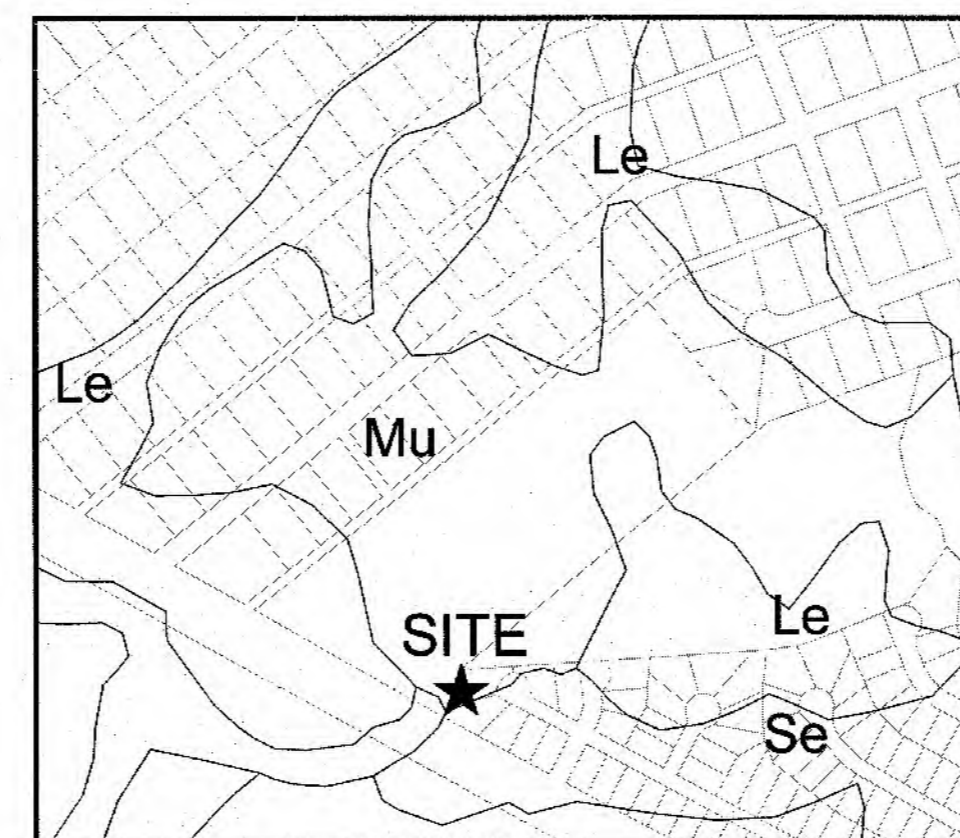
PLANNING DIVISION

| | | |
|---|-----------------------------|------------------------|
| For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance. | NCDENR PWSS WATER PERMIT #: | _____ |
| | WATER CAPACITY: | _____ GPD |
| | DWQ SEWER PERMIT #: | _____ |
| | SEWER CAPACITY: | _____ GPD |
| | SEWER SHED # AND PLANT: | _____ |
| | SEWER TO FLOW THROUGH NEI: | YES or NO (CIRCLE ONE) |
| Approved Construction Plan | | |
| Planning | Name: <u>C. Was</u> | Date: <u>4/8/19</u> |
| Traffic | | Date: <u>4-8-19</u> |
| Fire | | Date: <u>4/9/19</u> |
| | | Signed: <u>E.S.R.</u> |



VICINITY MAP

SCALE: 1"=1000'



SOILS MAP

SCALE: 1"=500'

NOTICE REQUIRED

ALL EXISTING UNDERGROUND UTILITIES SHALL BE PHYSICALLY LOCATED PRIOR TO THE BEGINNING OF ANY CONSTRUCTION IN THE VICINITY OF SAID UTILITIES.

CONTRACTORS SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATION AT LEAST TWO WORKING DAYS, BUT NOT MORE THAN TEN WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION.

CONTRACTORS SHALL CONTACT OVERHEAD ELECTRIC PROVIDER TO COMPLY WITH FEDERAL OSHA 1910.333 MINIMUM APPROACH DISTANCE TO ENERGIZED POWERLINES AND OSH 29 CFR 1926.1407-1411 MUST BE FOLLOWED.

CONTRACTOR SHALL CONTACT AT&T PRIOR TO ANY DEMOLITION TO ALLOW FOR AT&T TO DISCONNECT COMMUNICATIONS CABLES COMING INTO THE SITE.

CONTACT THESE UTILITIES

CITY OF WILMINGTON PLANNING & DEVELOPMENT

ATTN: BRIAN CHAMBERS, PLANNER
PH: 910-342-2782

ATTN: ZONING INSPECTIONS
PH: 910-254-0900

PIEDMONT NATURAL GAS
ATTN: CATHY PLEASANT
PH: 910-251-2827

EMERGENCY DIAL 911
POLICE - FIRE - RESCUE
ATTN: CITY OF WILMINGTON FIRE & LIFE SAFETY
PH: 910-343-0906

CAPE FEAR PUBLIC UTILITY AUTHORITY (WATER & SEWER)

ENGINEERING/INSPECTIONS
PH: 910-332-6560

OPERATIONS/MAINTENANCE
PH: 910-332-6550

DUKE ENERGY
DISTRIBUTION CONSTRUCTION SERVICE
DEP CSC PH: 1-800-452-2777

TRANSMISSION AGENT
BILL WILDER
PH: 910-772-4903

AT&T/BELL SOUTH
ATTN: STEVE DAYVAULT (BUILDING ENGINEERING)
PH: 910-341-0741

ATTN: JAMES BATSON, ENGINEERING
PH: 910-341-1621

SPECTRUM
GENERAL PH: 800-892-4357

OWNER / DEVELOPER:

MAYFAIRE II LLC
530 SE GREENVILLE BLVD, STE 200
GREENVILLE, NORTH CAROLINA 27858
ATTN: H. J. BRODY, (252) 353-2141

ROMAN CATHOLIC DIOCESE OF RALEIGH
7200 STONEHENGE DRIVE
RALEIGH, NORTH CAROLINA 27613
ATTN: BISHOP LUIS RAFAEL ZARAMA, (919) 821-9700

SURVEYOR, ENGINEER (CIVIL), LANDSCAPE ARCHITECT:

PARAMOUNTE ENGINEERING, INC.
122 CINEMA DRIVE
WILMINGTON, NORTH CAROLINA 28403
ATTN: ROB BALLAND, P.E. (910) 791-6707

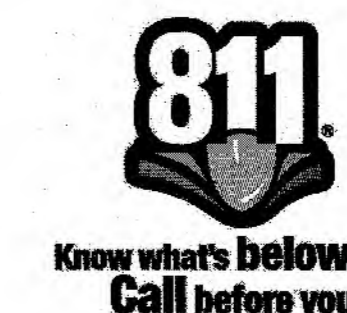
SHEET INDEX

| SHEET NUMBER | SHEET TITLE |
|---------------|------------------------------|
| C-0.0 | COVER SHEET |
| C-1.0 | GENERAL NOTES |
| C-2.0 | SITE INVENTORY MAP |
| C-2.1 | DEMOLITION PLAN |
| C-2.2 | SITE & PLANTING PLAN |
| C-3.0 | PH-I EROSION CONTROL PLAN |
| C-3.1 | GRADNG-DRAINAGE-PH-I EC PLAN |
| C-4.0 | UTILITY PLAN |
| C-5.0 - C-5.2 | ROADWAY PLANS |
| C-6.0 - C-6.2 | DETAILS |

PREPARED BY:

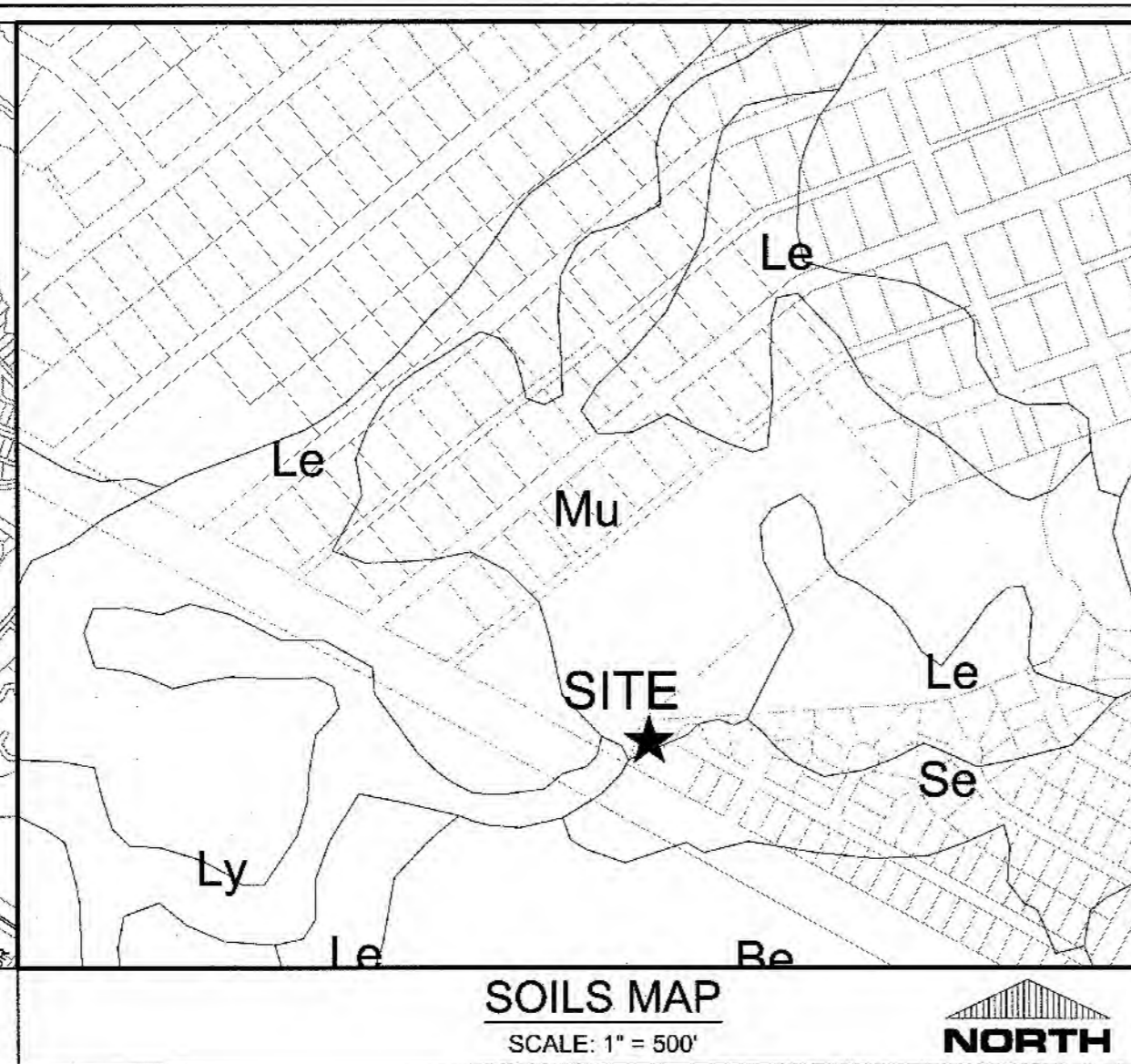
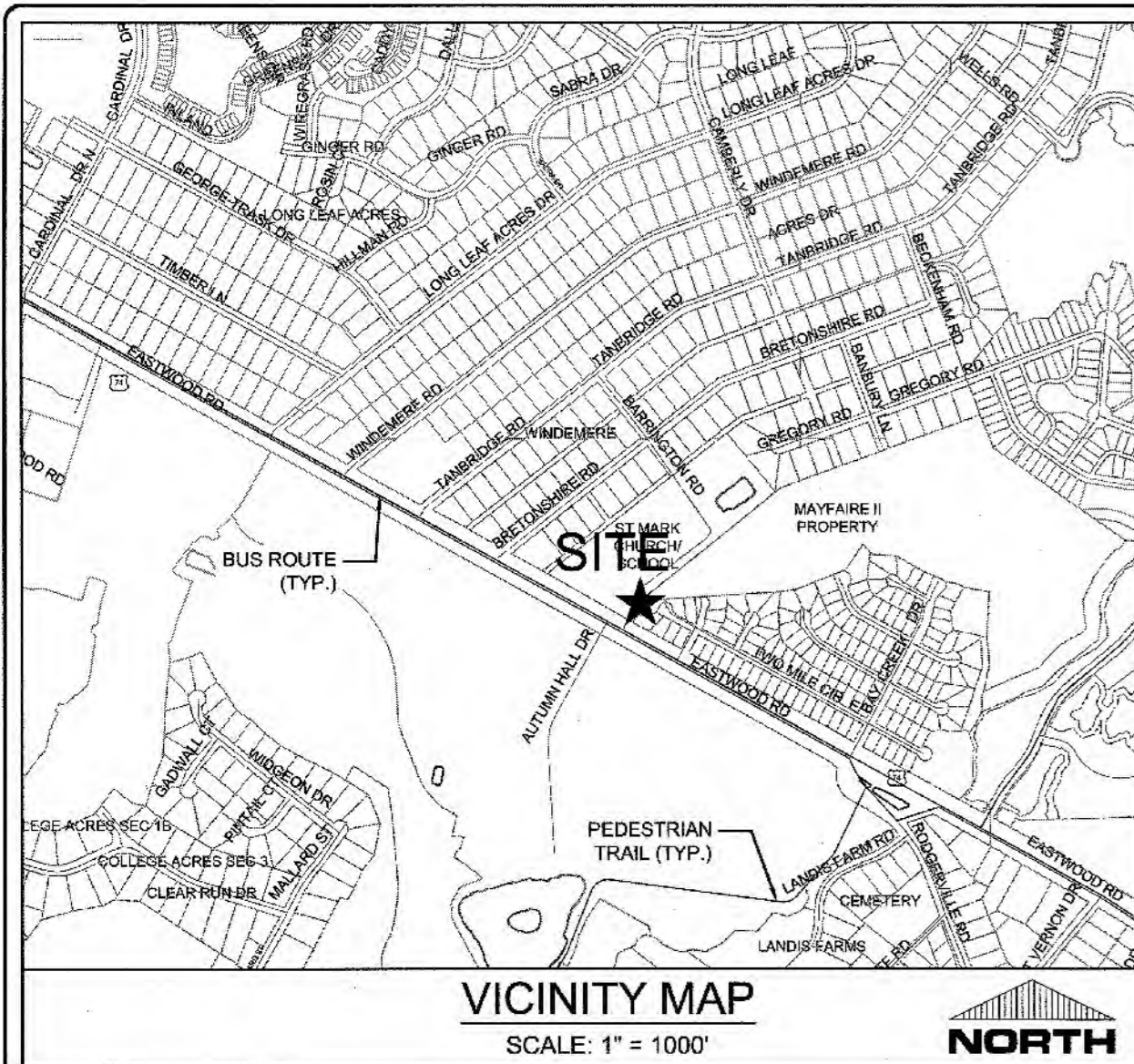
PARAMOUNTE
ENGINEERING, INC.

122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846
PROJECT # 16247.PE



ISSUED FOR CONSTRUCTION

04/05/19



St. Mark Catholic Church/Mayfaire II Entrance - Tree Removal & Required Mitigation

| Qty of Trees | Caliper Inches* | Individual Trunk Calipers AND Individual Cluster | Tree Common Name | City Tree Type Classification | Total Cal. Inches to be Removed | % Mitigation | Significant | Total Qty. of Mitigation Trees Required |
|---|-----------------|--|------------------|-------------------------------|--|--------------|-------------|---|
| Note: *All listed as total caliper inches for entire tree cluster or single tree trunk caliper in compliance with City of Wilmington Land Development Code definition for "Essential Site Improvements". It is anticipated that all trees will be removed for essential site improvements, so only significant trees require mitigation | | | | | | | | |
| REGULATED & SIGNIFICANT TREES | | | | | | | | |
| Category 1 (100% Mitigation) | | | | | | | | |
| 16 | 8 | 8 | OAK | hardwood | 128 | 100% | no | 43 |
| 2 | 9 | 9 | OAK | hardwood | 18 | 100% | no | 6 |
| 4 | 10 | 10 | OAK | hardwood | 40 | 100% | no | 13 |
| 1 | 12 | 12 | OAK | hardwood | 12 | 100% | no | 4 |
| 1 | 13 | 13 | OAK | hardwood | 13 | 100% | no | 4 |
| 1 | 8 | 8 | HOLLY | ornamental flowering | 8 | 100% | yes | 5 |
| 1 | 4 | 4 | MAG | ornamental flowering | 4 | 100% | no | 3 |
| 2 | 5 | 5 | MAG | ornamental flowering | 10 | 100% | no | 7 |
| 1 | 6 | 6 | MAG | ornamental flowering | 6 | 100% | no | 4 |
| 6 | 8 | 8 | MAP (RED MAPLE) | hardwood | 48 | 100% | no | 16 |
| 2 | 9 | 9 | MAP (RED MAPLE) | hardwood | 18 | 100% | no | 6 |
| 1 | 11 | 11 | MAP (RED MAPLE) | hardwood | 11 | 100% | no | 4 |
| | | | | | Total Category 1 Significant Trees Mitigation Required: | 5 | | |
| | | | | | Total Category 1 Regulated Trees To Be Removed with Essential Site Improvements: | 115 | | |
| Category 2 (75% Mitigation) | | | | | | | | |
| 9 | 8 | 8 | GUM | hardwood | 72 | 75% | no | 18 |
| 1 | 16 | 8 | GUM | hardwood | 16 | 75% | no | 4 |
| 2 | 9 | 9 | GUM | hardwood | 18 | 75% | no | 5 |
| | | | | | Total Category 2 Significant Trees: | 0 | | |
| | | | | | Total Category 2 Regulated Trees To Be Removed with Essential Site Improvements: | 27 | | |
| Category 3 (50% Mitigation) | | | | | | | | |
| 18 | 12 | 12 | PINE | conifer | 216 | 50% | no | 36 |
| 5 | 13 | 13 | PINE | conifer | 65 | 50% | no | 11 |
| 6 | 14 | 14 | PINE | conifer | 84 | 50% | no | 14 |
| 5 | 15 | 15 | PINE | conifer | 75 | 50% | no | 13 |
| 6 | 16 | 16 | PINE | conifer | 96 | 50% | no | 16 |
| 3 | 17 | 17 | PINE | conifer | 51 | 50% | no | 9 |
| 1 | 18 | 18 | PINE | conifer | 18 | 50% | no | 3 |
| 1 | 19 | 19 | PINE | conifer | 19 | 50% | no | 3 |
| 1 | 20 | 20 | PINE | conifer | 20 | 50% | no | 3 |
| | | | | | Total Category 3 Significant Trees | 0 | | |
| | | | | | Total Category 3 Regulated Trees To Be Removed with Essential Site Improvements: | 107 | | |
| | | | | | Total Qty. of Significant Tree Mitigation (Essential Site Improvements): | 5 | | |
| | | | | | Total Tree Credits: | 0 | | |
| | | | | | Total Qty. of Mitigation Trees Required on Site (or Pay in Lieu Equivalent): | 5 | | |

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 4-8-19 Permit # 2019020
Signed: S-S 20

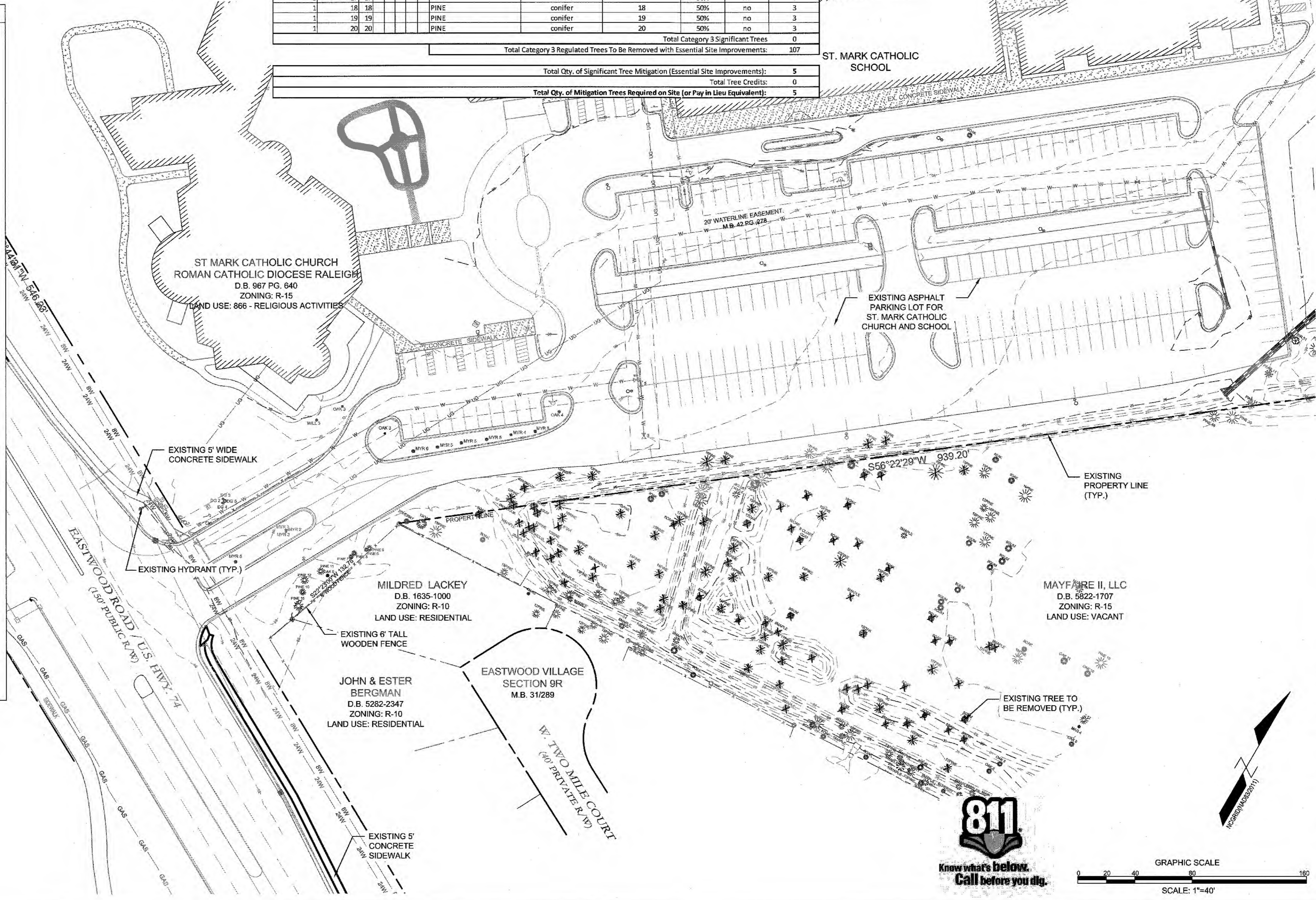
NC DENR PWSS WATER PERMIT #: _____ GPD
WATER CAPACITY: _____ GPD
DWQ SEWER PERMIT #: _____ GPD
SEWER CAPACITY: _____ GPD
SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

Approved Construction Plan
Name: _____ Date: 4/8/19
Planning: W. S. M. D. 4-8-19
Traffic: C. W. 4/9/19
Fire: C. W. 4/9/19

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

SITE INVENTORY DATA

- PREPARER OF THE PLAN: PARAMOUNT ENGINEERING, INC. 122 CINEMA DRIVE WILMINGTON, NC 28403
- APPLICANT NAME: MAYFAIRE II LLC 530 SE GREENVILLE BLVD, STE 200 GREENVILLE, NC 27858
- SITE ADDRESS: 1011 EASTWOOD ROAD WILMINGTON, NC 28403
- PROPERTY OWNER: MAYFAIRE II LLC 530 SE GREENVILLE BLVD, STE 200 GREENVILLE, NC 27858
ROMAN CATHOLIC DIOCESE OF RALEIGH 7200 STONEHENGE DRIVE RALEIGH, NC 27613
- DEVELOPER: SAME AS PROPERTY OWNER
- PROPERTY BOUNDARY: SEE PLAN
- ZONING: R-15 (BOTH PARCELS)
- ADJACENT PROPERTY INFORMATION (OWNER AND ZONING): SEE PLAN
- VICINITY MAP: SEE MAP ABOVE
- TOPOGRAPHY: SEE PLAN
- 100 YEAR FLOOD PLAIN BOUNDARY: SUBJECT PARCEL DOES NOT LIE WITHIN A 100-YEAR FLOOD ZONE AS INDICATED BY FEMA FLOOD ZONE PANEL 3720314700K BEARING AN EFFECTIVE DATE OF AUG. 28, 2018
- LOCATION OF EXISTING DITCHES, CREEKS, AND STREAMS: SEE PLAN
- SOILS: MURVILLE FINE SAND (Mu)
LYNN HAVEN FINE SAND (Ly)
LEON SAND (Le)
- CAMA AEC & ASSOCIATED SETBACKS: N/A
- CAMA LAND CLASSIFICATION: WATERSHED RESOURCE PROTECTION
- CONSERVATION RESOURCES: N/A
- LOCAL, STATE, OR FEDERAL HISTORIC OR ARCHAEOLOGICAL SITE: N/A
- LOCATION OF CEMETERIES, BURIAL SITES, OR BURIAL GROUNDS: N/A
- SQUARE FOOTAGE OF FORESTED AREA, HABITAT, AND DOMINANT SPECIES: N/A
- SECTION 404 WETLANDS AND SECTION 10 WATERS: N/A
- PROTECTED SPECIES OR HABITAT: N/A
- THOROUGHFARES, BIKE ROUTES, SIDEWALKS, TRANSIT FACILITIES (EXISTING): SEE PLAN & VICINITY MAP



PARAMOUNT ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

SITE INVENTORY PLAN
ST. MARK CATHOLIC CHURCH &
MAYFAIRE II ENTRANCE
1011 EASTWOOD ROAD
WILMINGTON, NC 28403

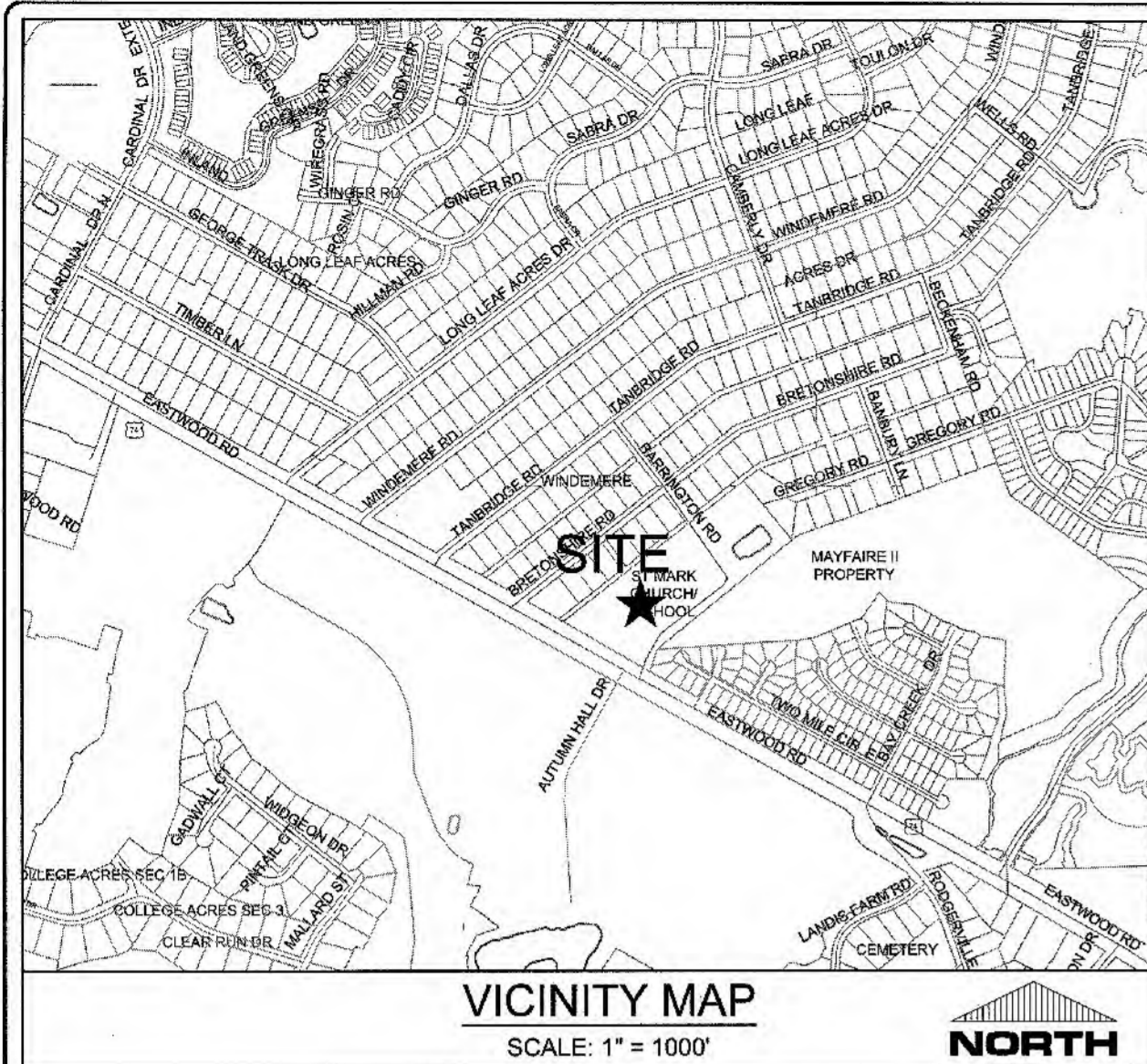
PROJECT STATUS:
PRELIMINARY LAYOUT
FINAL DESIGN
RELEASED FOR CONSTRUCTION

DRAWING INFORMATION:
DATE: 04/05/19
SCALE: 1" = 40'
DRAWN BY: RPB
CHECKED BY: RPB

SEAL:
NORTH CAROLINA PROFESSIONAL SEAL
ENGINEER
ROBERT P. BALLARD
04/05/19

C-2.0
PEI JOB#: 16247.PE

ISSUE FOR CONSTRUCTION



- DEMOLITION NOTES:**
- 1.) CONTRACTOR SHALL REFER TO SHEET C-1.0 GENERAL NOTES FOR DEMOLITION NOTES.
 - 2.) CONTRACTOR SHALL REFER TO THE LANDSCAPE PLANS FOR SPECIFIC TREE REMOVAL.
 - 3.) CONTRACTOR SHALL MAKE NO PAVEMENT CUTS INTO EASTWOOD ROAD WITHOUT THE WRITTEN PERMISSION OF NCDOT.
 - 4.) ALL UTILITIES SHALL BE ABANDONED AND/OR DEMOLISHED AND CAPPED PROPERLY IN ACCORDANCE WITH THE UTILITY OWNERS RULES AND REGULATIONS.
 - 5.) CONTRACTOR SHALL COORDINATE WITH APPLICABLE UTILITY OWNER/PROVIDER FOR DEMOLITION AND/OR RELOCATION OF EXISTING FACILITIES IN PROJECT AREA.

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: 4-8-19 Permit # 2019020
 Signed: *E.S.D.*

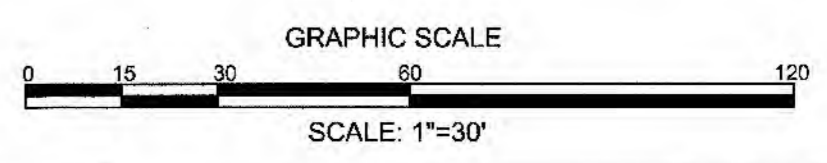
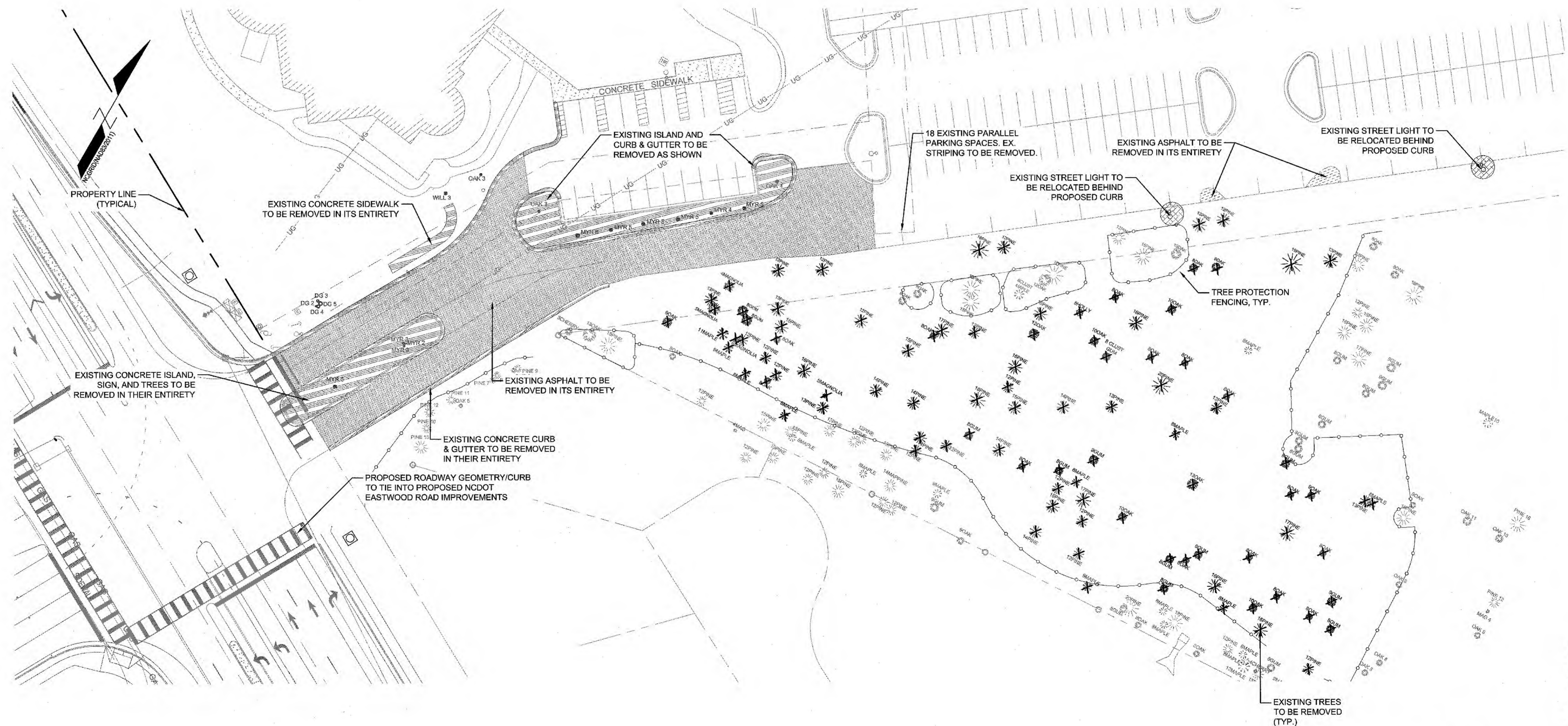
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 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

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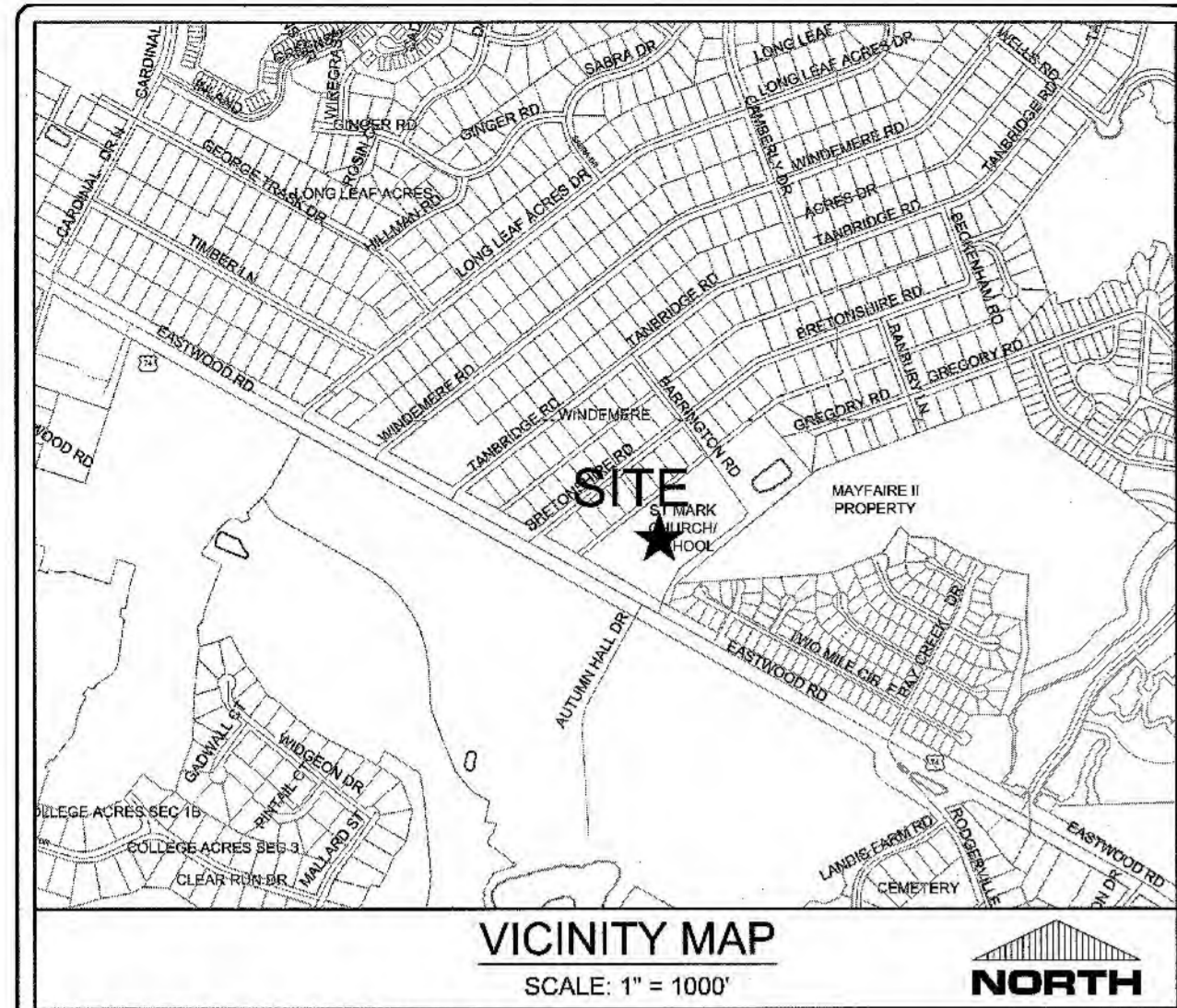
Approved Construction Plan

| | |
|----------------------|----------------------|
| Name | Date |
| <i>W. Stonehenge</i> | 4/8/19 |
| Traffic | <i>48-19</i> |
| Fire | <i>C. Wel</i> 4/9/19 |

| LEGEND | |
|--------|--|
| | EXISTING CONCRETE TO BE REMOVED |
| | EXISTING ASPHALT TO BE REMOVED |
| | EXISTING UTILITY LINE TO BE REMOVED |
| | EXISTING STORM STRUCTURE TO BE REMOVED |
| | EXISTING SIGN/LIGHT/UTILITY POLE TO BE REMOVED |
| | EXISTING PAVEMENT MARKINGS TO BE REMOVED |
| | TREE PROTECTION FENCING |
| | EXISTING TREES TO BE REMOVED |
| | EXISTING BUILDING/STRUCTURE TO BE REMOVED |



| | |
|--|--|
| REVISIONS: | CLIENT INFORMATION: ROMAN CATHOLIC DIOCESE OF RALEIGH 7200 STONEHENGE DRIVE RALEIGH, NC 27613 |
| PARAMOUNT ENGINEERING, INC. 122 Cinema Drive Wilmington, North Carolina 28403 (910) 791-6707 (O) (910) 791-6760 (F) NC License #: C-2846 | DEMOLITION PLAN ST. MARK CATHOLIC CHURCH 1011 EASTWOOD ROAD WILMINGTON, NC 28403 |
| PROJECT STATUS: PRELIMINARY LAYOUT: FINAL DESIGN: RETAINED FOR CONSTRUCTION | DRAWING INFORMATION: DATE: 04/08/19 SCALE: 1" = 30' DRAWN: R.P.B. CHECKED: R.P.B. |
| SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031591 ROBERT P. BALLING 04/05/19 | ISSUED FOR CONSTRUCTION |
| C-2.1 | PEI JOB#: 16247.PE |



SITE DATA TABULATION

OWNER: 1) MAYFAIRE II LLC
530 S.E. GREENVILLE BLVD, STE 200
GREENVILLE, NC 27858
2) ROMAN CATHOLIC DIOCESE OF RALEIGH
7200 STONEHENGE DRIVE
RALEIGH, NC 27613

PROJECT ADDRESS: 1011 EASTWOOD ROAD
WILMINGTON, NC 28403

TAX PARCEL IDENTIFICATION #: 1) R05000-003-012-000
2) R05000-003-006-001

RECORDED DEED BOOK: 1) BK 5843, PG 1291
2) BK 967, PG 640

TOTAL SITE AREA: 1) 39.49 ACRES (1,720,180 SF)
2) 12.28 ACRES (534,917 SF)
R-15 (BOTH PARCELS)

CURRENT ZONING: WATERSHED PROTECTION
EXISTING LAND USE: ROADWAY & CHURCH
PROPOSED LAND USE: ROADWAY & CHURCH

IMPERVIOUS INFORMATION

| EXISTING IMPERVIOUS TO BE REMOVED = | MAYFAIRE II |
|-------------------------------------|-------------|
| 16,423 SF | 0 SF |
| 0 SF | 0 SF |
| 16,423 SF | 0 SF |

PROPOSED IMPERVIOUS

| ASPHALT ROADWAY/PARKING/C&G | 21,796 SF |
|-----------------------------|-----------|
| SIDEWALK/MULTI-USE PATH | 5,494 SF |
| TOTAL PROPOSED = | 27,290 SF |

NET IMPERVIOUS = TOTAL PROPOSED IMPERVIOUS - EXISTING IMPERVIOUS TO BE REMOVED
NET IMPERVIOUS = 22,046 SF - 16,423 SF = 5,623 SF

| EX. IMPERVIOUS UNDISTURBED + PROPOSED | 295,956 SF |
|---------------------------------------|------------|
| % IMPERVIOUS | 27.333 SF |
| | 55.24% |
| | 1.59% |

- GENERAL NOTES**
- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
 - ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD STANDARDS.
 - ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT OF WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
 - ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
 - ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.
 - ALL RADIUS DIMENSIONS ARE MEASURED AT FACE OF CURB UNLESS OTHERWISE NOTED.

- TREE REMOVAL**
- TREES TO BE REMOVED ARE SHOWN ON SITE INVENTORY PLAN (C-2.0). REFER TO C-2.0 FOR TREE REMOVAL AND MITIGATION CHART.

- KEY NOTES:**
- CONCRETE PAVING: REFER TO DETAIL C-6.0
 - ASPHALT PAVING: REFER TO DETAIL C-6.0
 - STANDARD 24" CURB & GUTTER: REFER TO DETAIL C-6.0
 - NCDOT 1'-6" CURB & GUTTER: REFER TO DETAIL C-6.0
 - CONCRETE SIDEWALK: REFER TO DETAIL C-6.0
 - CURB RAMP: REFER TO DETAIL C-6.0
 - STRIPING: PROVIDE 4" WIDE PARKING LOT STRIPING AS SHOWN. USE HIGHWAY MARKING PAINT - WHITE (2 COATS).
 - PAVEMENT MARKINGS: REFER TO DETAIL C-6.0
 - C.O.W. 24" MEDIAN VERTICAL CURB & GUTTER: REFER TO DETAIL C-6.0
 - TACTILE WARNING MAT: REFER TO DETAIL C-6.0
 - LIGHT POLE: REFER TO STREET LIGHTING NOTES ON SHEET C-2.2
 - TREE PROTECTION FENCING: REFER TO DETAIL C-6.1
 - DRAINAGE FLUME: REFER TO DETAIL C-6.2

Approved Construction Plan

Name: *[Signature]* Date: 4/8/19

Planning: *[Signature]* 4/8/19

Traffic: *[Signature]* 4/8/19

Fire: *[Signature]* 4/9/19

APPROVED STORMWATER MANAGEMENT PLAN
Date: 4-8-19 Permit #: 2019020
Signed: *[Signature]*

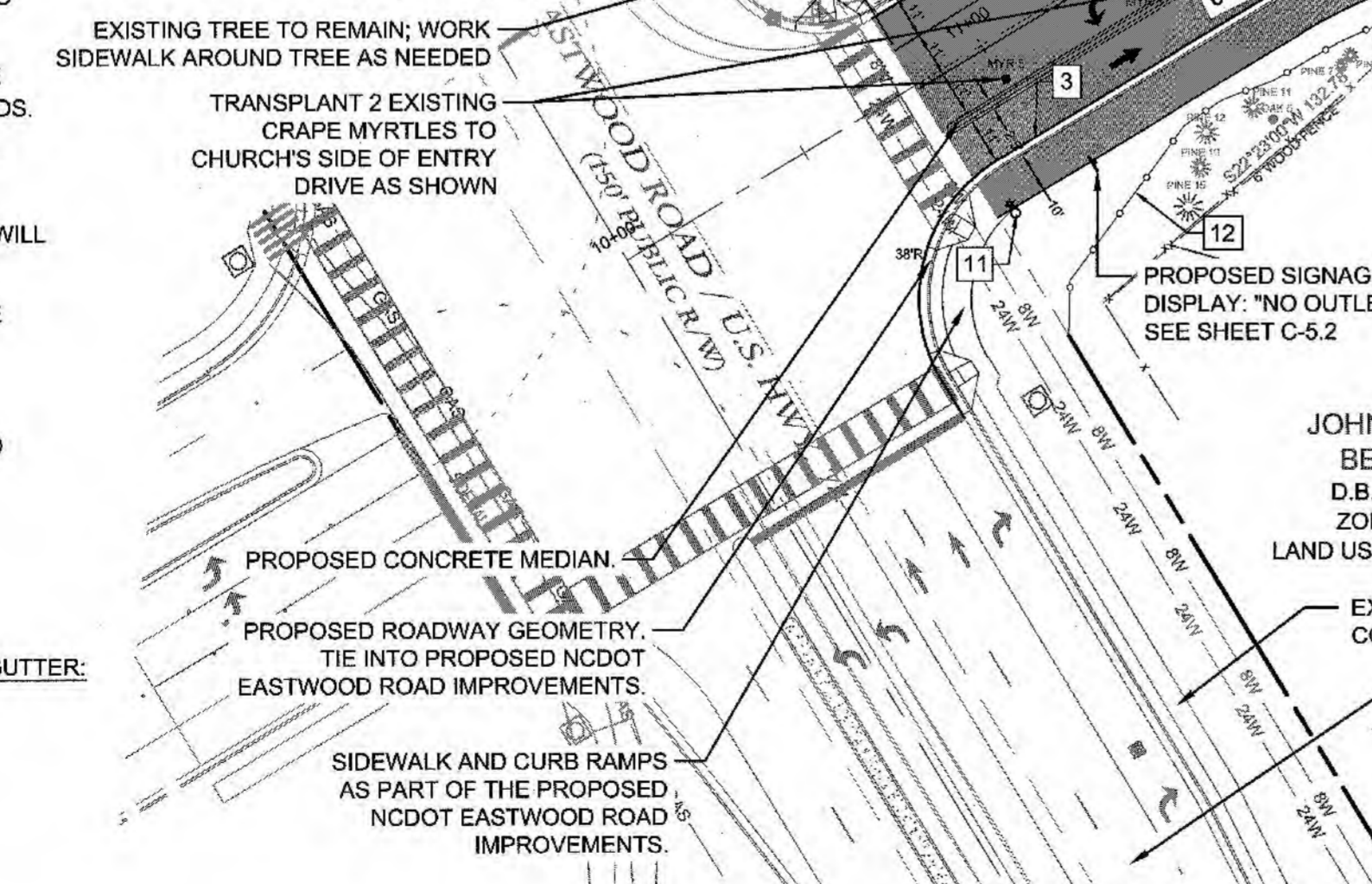
- GENERAL NOTES**
- ALL DEVELOPMENT SHALL BE IN ACCORDANCE WITH THE CITY OF WILMINGTON LAND DEVELOPMENT CODE.
 - PROJECT SHALL COMPLY WITH ALL FEDERAL, STATE, AND NEW HANOVER COUNTY REGULATIONS.
 - PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
 - ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
 - ONCE STREETS ARE OPEN TO TRAFFIC, CONTACT TRAFFIC ENGINEERING TO REQUEST INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
 - TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
 - ANY BROKEN OR MISSING SIDEWALK PANELS WILL BE REPLACED.
 - ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT OF WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER.
 - ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
 - A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. IN CERTAIN CASES, AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
 - INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS.
 - A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE RECORDING OF THE PLAN.
 - CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT OF WAY.
 - TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.

PLANT SCHEDULE

| TREES | BOTANICAL NAME / COMMON NAME | CONT | QTY |
|--------|--|----------------------------|-----|
| | ILEX X ATTENUATA 'FOSTER NO. 2' / FOSTER HOLLY | 8' HT. MIN; MATCH EXISTING | 10 |
| | QUERCUS MARILANDICA / BLACKJACK OAK | 2'-2.5' CAL | 5 |
| SHRUBS | BOTANICAL NAME / COMMON NAME | CONT | QTY |
| | ILEX VOMITORIA 'BORDEAUX' / DWARF YALPUN HOLLY | 3 GAL / 12" H. (MIN.) | 61 |
| | ILEX VOMITORIA 'SCHILLINGS DWARF' / DWARF SCHILLINGS HOLLY | 3' HT. AT INSTALL | 32 |

ALL PROPOSED PLANTS ARE XERISCAPE PLANTS USED FOR DROUGHT TOLERANCE

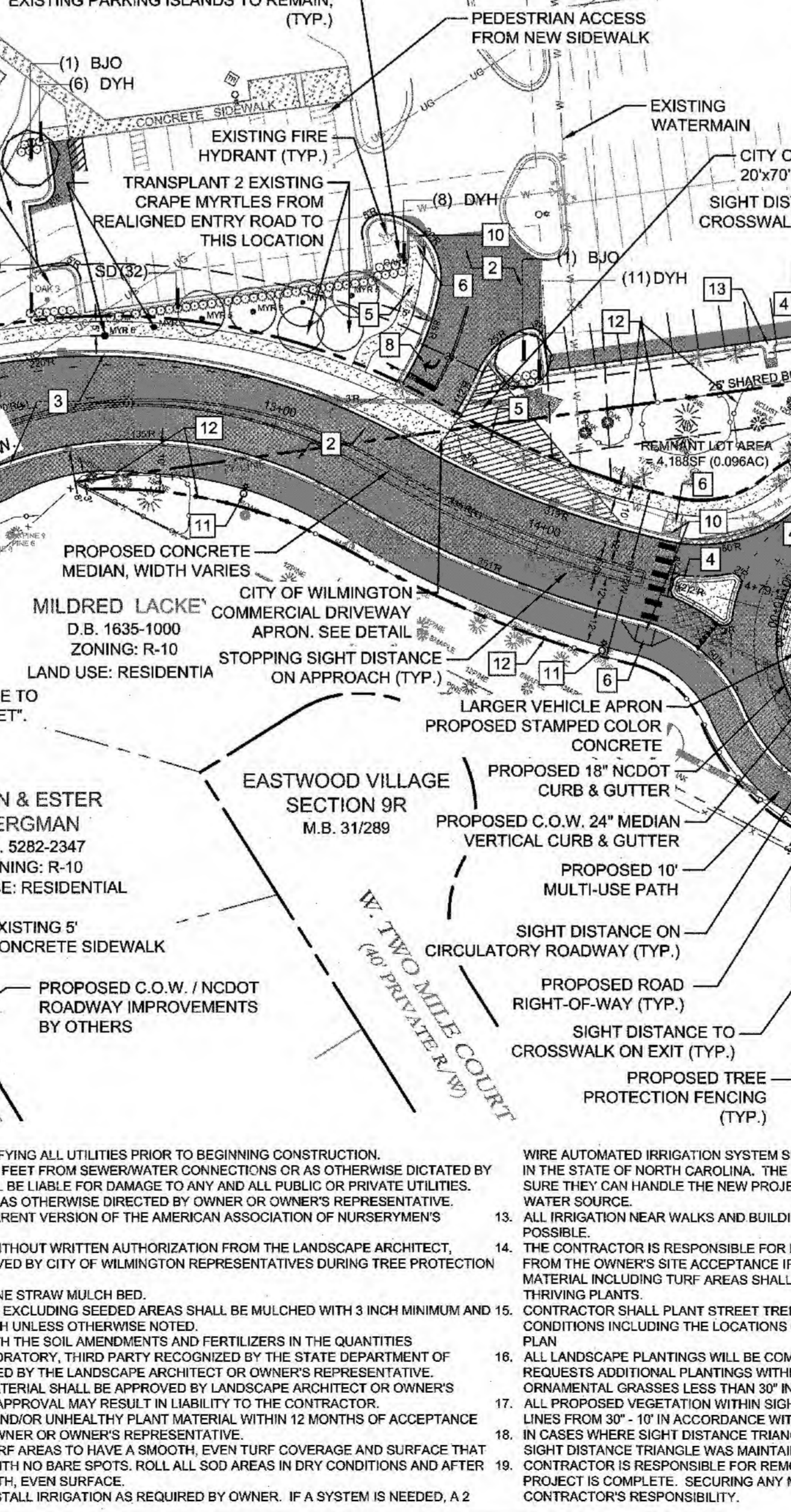
- LIST OF WAIVERS**
- Approval of waiver from the minimum tangent length due to the constraints created by the signal alignment and roundabout approach.
 - Approval of waiver from the minimum horizontal curve radius due to the constraints created by the necessary connection of the St. Mark parking lot to the roundabout.
 - Approval of waiver from the minimum median width due to the need to connect to the existing right-of-way, maintain the sidewalk and multi-use path, and restrict left turns.
 - Approval of waiver from the standard cross-section for a collector street due to variation required to connect to the new traffic signal and the transition to the roundabout.



- LANDSCAPE NOTES:**
- CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
 - TREES SHALL BE LOCATED A MINIMUM OF 5 FEET FROM SEWER/WATER CONNECTIONS OR AS OTHERWISE DICTATED BY LOCAL REGULATIONS. CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ANY AND ALL PUBLIC OR PRIVATE UTILITIES.
 - STAKE ALL TREES AS SHOWN IN DETAIL OR AS OTHERWISE DIRECTED BY OWNER OR OWNER'S REPRESENTATIVE.
 - ALL PLANT MATERIAL SHALL MEET THE CURRENT VERSION OF THE AMERICAN ASSOCIATION OF NURSERYMEN'S STANDARDS.
 - NO EXISTING TREES SHALL BE REMOVED WITHOUT WRITTEN AUTHORIZATION FROM THE LANDSCAPE ARCHITECT, OWNER'S REPRESENTATIVE, OR AS APPROVED BY CITY OF WILMINGTON REPRESENTATIVES DURING TREE PROTECTION FENCING SITE REVIEW.
 - SET ALL TREES IN 5' MINIMUM DIAMETER PINE STRAW MULCH BED.
 - ALL SHRUB BEDS AND/OR PLANTING AREAS EXCLUDING SEEDING AREAS SHALL BE MULCHED WITH 3 INCH MINIMUM AND 4 INCH MAXIMUM DEPTH PINE STRAW MULCH UNLESS OTHERWISE NOTED.
 - PLANTING SOIL MIX: MIX EXISTING SOIL WITH THE SOIL AMENDMENTS AND FERTILIZERS IN THE QUANTITIES RECOMMENDED BY THE SOIL TESTING LABORATORY, THIRD PARTY RECOGNIZED BY THE STATE DEPARTMENT OF AGRICULTURE OR AS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
 - ANY AND ALL SUBSTITUTIONS OF PLANT MATERIAL SHALL BE APPROVED BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. FAILURE IN OBTAINING APPROVAL MAY RESULT IN LIABILITY TO THE CONTRACTOR. THE CONTRACTOR SHALL REPLACE DEAD AND/OR UNHEALTHY PLANT MATERIAL WITHIN 12 MONTHS OF ACCEPTANCE OF THE INSTALLED MATERIAL FROM THE OWNER OR OWNER'S REPRESENTATIVE.
 - THE CONTRACTOR SHALL PREPARE ALL TURF AREAS TO HAVE A SMOOTH, EVEN TURF COVERAGE AND SURFACE THAT IS FREE OF DIVOTS, HOLES, AND DEBRIS WITH NO BARE SPOTS. ROLL ALL SOG AREAS IN DRY CONDITIONS AND AFTER SOIL SETTLING OCCURS TO ASSURE SMOOTH, EVEN SURFACE.
 - CONTRACTOR SHALL REVIEW WITH AND INSTALL IRRIGATION AS REQUIRED BY OWNER. IF A SYSTEM IS NEEDED, A 2

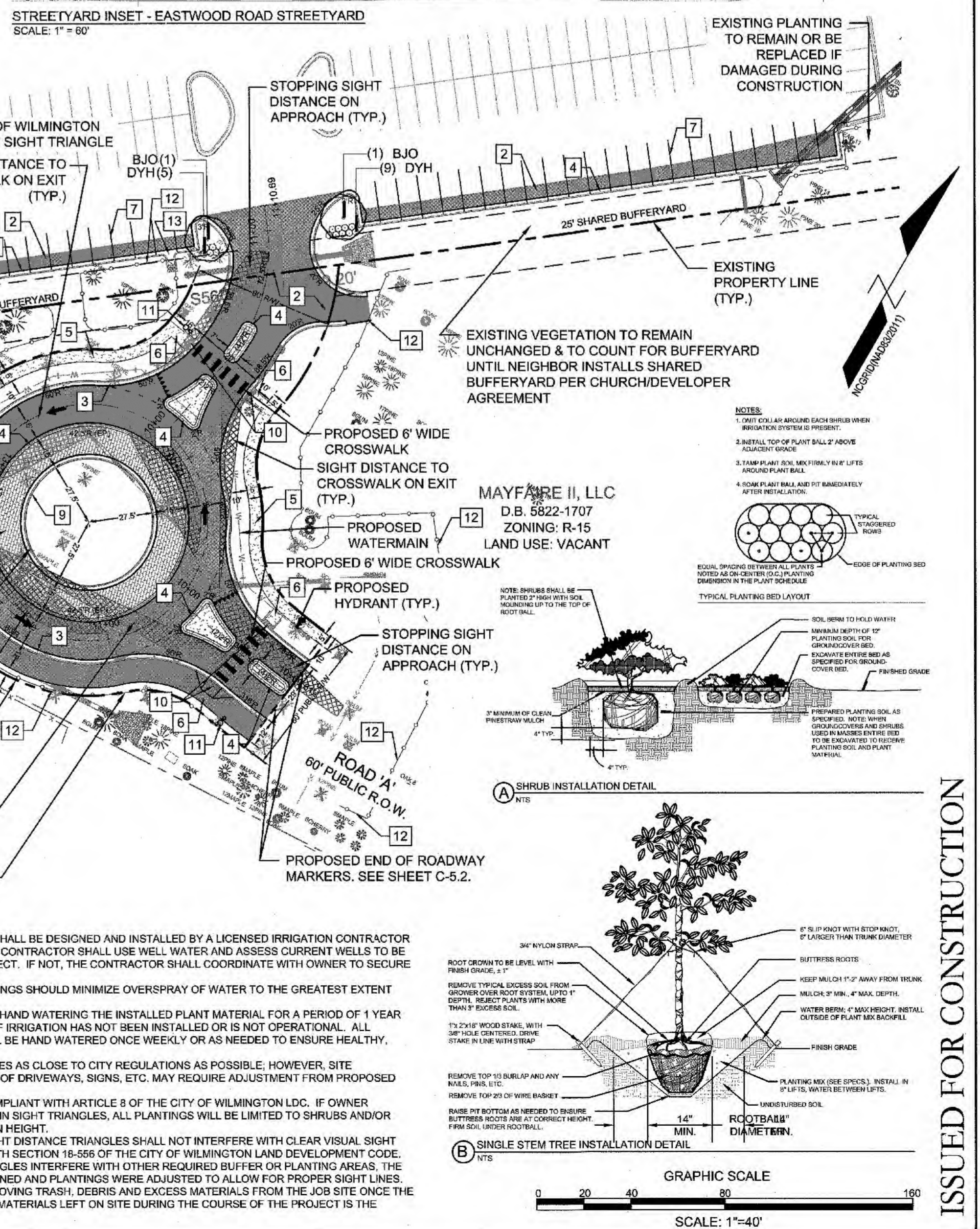
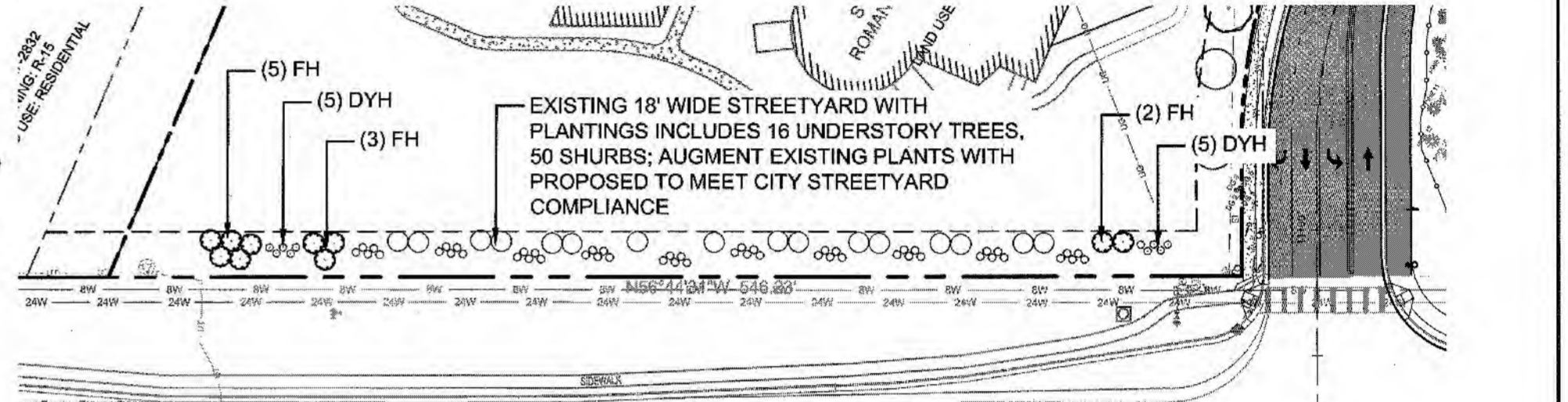
- STREET LIGHTING NOTES:**
- THE STANDARD STREETLIGHT SHALL BE A DEP ENCLOSED CUTOFF (COBRA TYPE), HIGH PRESSURE SODIUM VAPOR (HPSV) OR DEP DESIGNATED LED EQUIVALENT FIXTURE INSTALLED WITHIN THE RECOMMENDED RANGE OF MOUNTING HEIGHTS FOR THE SPECIFIC FIXTURE. THE STANDARD STREETLIGHT SHALL BE INSTALLED ON A WOODEN POLE IN AREAS SERVED FROM OVERHEAD FACILITIES AND ON A FIBERGLASS POLE IN AREAS SERVED FROM UNDERGROUND FACILITIES.
 - A LAYOUT FOR THE STANDARD STREET LIGHTING HAS BEEN PROVIDED WITH THE REVIEW. MINIMUM OF FIVE (5) STREET LIGHTS ARE REQUIRED FOR THIS SUB-DIVISION. ALTHOUGH, DEVELOPERS MAY CHOOSE TO PROVIDE ANY EXTRA LIGHTS OR ORNAMENTAL. ANY INSTALLATIONS ABOVE THE CRITERIA OF STANDARD STREET LIGHTING, WILL BE CONSIDERED AS NONSTANDARD AND HAS TO CONFORM TO THE CITY'S NON-STANDARD STREET LIGHTING PROCEDURE AS PER THE POLICY.
 - DEVELOPERS SHALL BEAR ANY INSTALLATION COSTS ASSOCIATED WITH STREETLIGHTS, IF APPLICABLE. IN AREAS SERVED FROM UNDERGROUND FACILITIES, THE DEVELOPERS SHALL PAY THE ONE-TIME UNDERGROUND CONTRIBUTION CHARGE, IF APPLICABLE.
 - THE PLANNING, DEVELOPMENT AND TRANSPORTATION DIRECTOR OR DESIGNEE AND THE CITY LANDSCAPE DESIGNER WILL COORDINATE PLAZA PLANTINGS AND STREETLIGHT LOCATIONS TO MINIMIZE THE OBSTRUCTION OF LIGHT BY VEGETATION.
 - ALL STREET LIGHTS SHALL BE INSTALLED WITHIN THE PUBLIC ROW.

- FLOOD NOTE**
- THE SUBJECT PARCEL IS NOT LOCATED WITHIN A 100-YEAR FLOOD ZONE AS INDICATED BY FEMA FLOOD ZONE PANEL 3720314700K BEARING AN EFFECTIVE DATE OF AUGUST 28, 2018.
- UTILITIES**
- WATER AND SEWER UTILITIES WILL BE PROVIDED BY CFPWA.
- STREETWAY NOTES**
- PROPOSED STREET (SECONDARY STREETWAY):** 25 NEW SPACES ARE PROVIDED; UDO SEC 18-510 REQUIRES FULL OR 3 STREETWAY
- REQUIRED PLANTING IN STREETWAY (280 LF STREET FRONTAGE) 100 LF X 12 = 3360 / 2 = 1680 / 600=2.8:**
- REQUIRED:**
- 1 CANOPY (3 UNDERSTORY TREES = 1 CANOPY TREE) X 2.8 = 3 CANOPY TREES REQ'D
- 6 SHRUBS X 2.8 = 17 SHRUBS
- PROVIDED:**
- EQUIVALENT OF 3 CANOPY TREES; EXISTING UNDERSTORY TREES TO BE TRANSPLANTED TO STREETWAY, 1 ADDITIONAL CANOPY TREE ADDED; 17 SHRUBS
- EXISTING EASTWOOD RD STREETWAY STREET:** 18' WIDE UNDER POWERLINES; CONTAINS 16 UNDERSTORY TREES, 50 SHRUBS; (485 LF TO PROPOSED NEW STREETS' ROW X 12 = 10; 10x3 UNDERSTORY TREES = 30 TREES, 10 x 6 = 60 SHRUBS REQUIRED TOTAL)
- TO COMPLY WITH CODE, 14 ADDITIONAL UNDERSTORY TREES AND 10 SHRUBS PROVIDED



- 1011 EASTWOOD ROAD - SRB CONDITIONS**
- The use and development of the subject property shall comply with all regulations and requirements imposed by the Land Development Code, City of Wilmington Technical Standards and Specifications Manual, and any other applicable federal, state, or local law, ordinance or regulation, as well as any condition stated below. In the event of a conflict, the more stringent requirement or higher standard shall apply.
 - Approval of this preliminary plan does not constitute technical approval of a site plan. Final approval by the Technical Review Committee and the issuance of all required permits must occur prior to release of the project for construction.
 - If, for any reason, any condition for approval is found to be illegal or invalid or if the applicant should fail to accept any condition following approval, the approval of the preliminary plan shall be null and void.

- 1011 EASTWOOD ROAD - SPECIAL USE PERMIT CONDITIONS**
- The property shall be subject to all of the specific requirements stated in the Land Development Code for the proposed use as well as any additional conditions stated below.
 - The use and development of the subject property shall comply with other supplemental regulations and requirements imposed by the Land Development Code or any other applicable federal, state or local law, ordinance or regulation. In the event of a conflict, the more stringent requirement or higher standard shall apply.
 - If, for any reason, any condition for approval is found to be illegal or invalid or if the applicant should fail to accept any condition following approval, the approval of the site plan for the district shall be null and void and no effect and proceedings shall be instituted to rezone the property to its previous zoning classification.
 - The use and development of the property shall be in accordance with the plan and elevations as submitted and approved.
 - Approval of this special use permit does not constitute technical approval of the site plan. All Technical Review Committee comments shall be followed prior to issuance of a construction release or final zoning approval.



REVISIONS:

CLIENT INFORMATION: ROMAN CATHOLIC DIOCESE OF RALEIGH
7200 STONEHENGE DRIVE
RALEIGH, NC 27613

PARAMOUNT ENGINEERING & PLANNING
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6700 (O) (910) 791-6760 (F)
NC License #: C-2846

SITE & PLANTING PLAN & ST. MARK CATHOLIC CHURCH & MAYFAIRE II ENTRANCE
1011 EASTWOOD ROAD
WILMINGTON, NC 28403

ISSUED FOR CONSTRUCTION

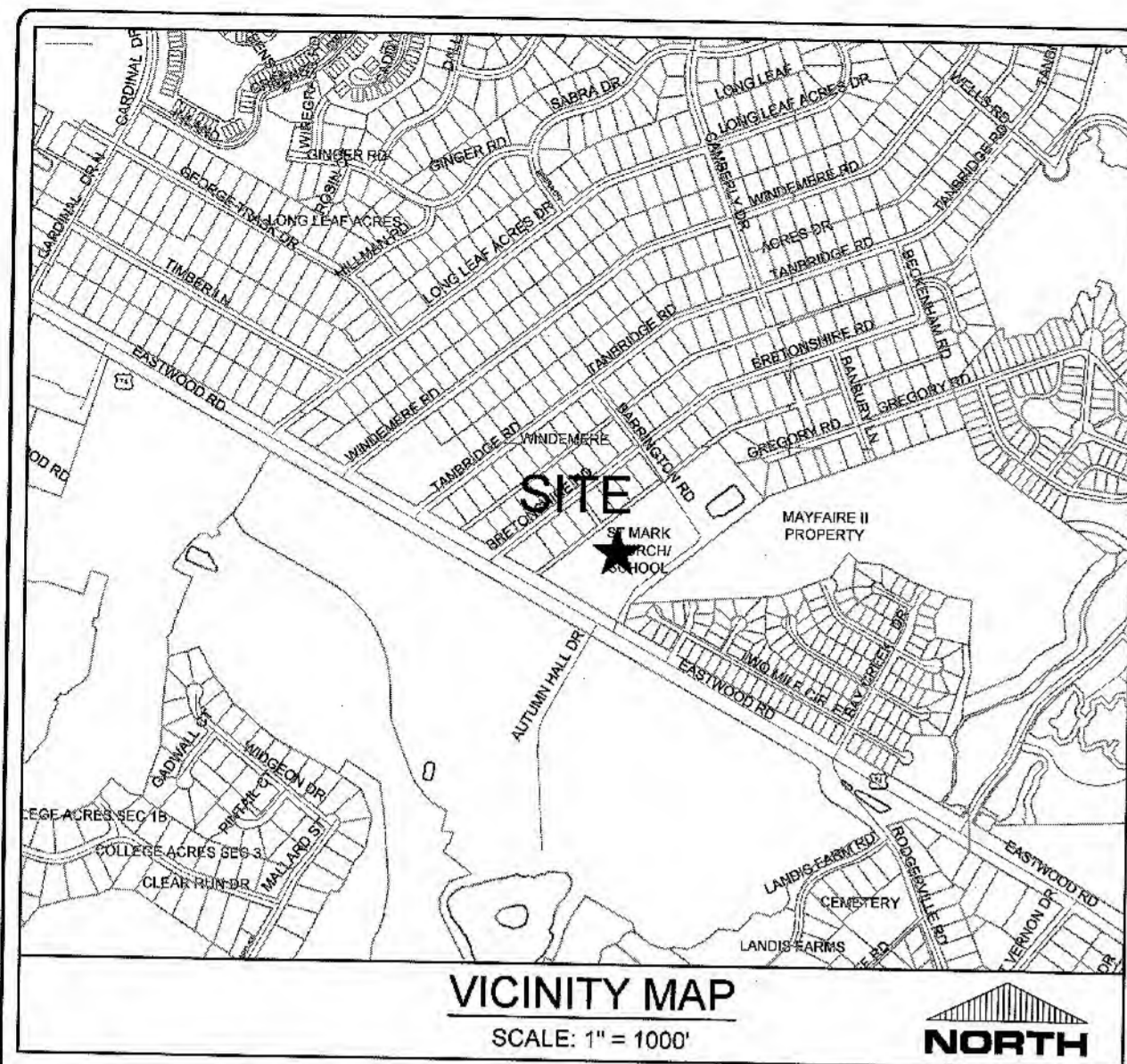
PROJECT STATUS: CONCEPTUAL LAYOUT: []
FINAL DESIGN: []
RELEASED FOR CONSTRUCTION: []

DRAWING INFORMATION: DRAWN BY: []
SCALE: []
DESIGNED BY: []
CHECKED BY: []

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER
ROBERT P. BALLING
03/19/19
04/05/19

C-2.2

PEI JOB#: 16247.PE



LEGEND:

| | |
|----------|--------------------------------|
| — 16 — | EXISTING CONTOUR |
| — 29 — | PROPOSED CONTOUR |
| EG=25.05 | EXISTING GRADE SPOT ELEVATION |
| EP=25.05 | PROPOSED EDGE OF PAVEMENT |
| TW=25.05 | PROPOSED SIDEWALK ELEVATION |
| GL=25.05 | PROPOSED GUTTER FLOW LINE |
| TC=25.05 | PROPOSED TOP OF CURB ELEVATION |
| [Symbol] | INLET PROTECTION |
| [Symbol] | LIMITS OF DISTURBANCE |
| [Symbol] | SILT FENCE |
| [Symbol] | TREE PROTECTION FENCING |
| [Symbol] | DRAINAGE FLOW PATH |
| [Symbol] | DRAINAGE INLET LABEL |
| [Symbol] | SPILL GUTTER |
| [Symbol] | ROCK INLET PROTECTION |
| [Symbol] | GEOTECH BORING LOCATION |
| [Symbol] | DRAINAGE FLOW PATH & SLOPE |
| [Symbol] | TREE TO BE REMOVED |

ASPHALT AREA NOTE:
 SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED SUBGRADE, IN ACCORDANCE WITH ANY SUBSURFACE GEOTECHNICAL EXPLORATION AND TECHNICAL SPECIFICATIONS.

- GENERAL NOTES:**
1. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL STATE OF NC, CITY OF WILMINGTON, AND NEW HANOVER COUNTY STANDARDS AND SPECIFICATIONS.
 2. THE CONTRACTOR SHALL PLACE INLET PROTECTION AROUND ALL STORM DRAIN INLETS TO PROTECT THE SYSTEM FROM COLLECTING SEDIMENTATION DURING CONSTRUCTION. INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE PARKING LOT IS PAVED.
 3. CONTRACTOR SHALL ADJUST ALL FRAMES OF EX. UTILITY INFRASTRUCTURE WITHIN ASPHALT OVERLAY AND NEW ASPHALT AREAS TO MATCH PROPOSED GRADES.
 4. ALL PROPOSED SPOT ELEVATIONS SHOWN IN THE PARKING LOT ARE PROPOSED EDGE OF PAVEMENT OR FACE OF CURB @ GUTTER FOR CURB SECTIONS, UNLESS NOTED OTHERWISE.
 5. ALL ROOF DRAINS SHALL BE DIRECTED TOWARDS ON-SITE COLLECTION SYSTEM. NO ROOF DRAINS SHALL BE DIRECTED OFF-SITE WITHOUT ENTERING THE ON-SITE COLLECTION FIRST.
 6. ALL SIDEWALK CROSS SLOPES HAVE BEEN GRADED TO MEET ADA REGULATIONS. CONTRACTOR SHALL CONFIRM GRADES BEFORE PLACING PAVEMENT OR SIDEWALKS AND REPORT ANY DISCREPANCIES TO OWNER AND/OR ENGINEER.
 7. CONTRACTOR SHALL STAKE SILT FENCE ALONG LIMITS OF DISTURBANCE LINE. THE SILT FENCE LINETYPE IS OFFSET ON THE DRAWING FOR CLARITY.

CITY OF WILMINGTON NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: 4-8-19 Permit # 2019020
 Signed: S-S-R
Approved Construction Plan
 Name: _____ Date: 4/8/19
 Planning: _____
 Traffic: _____
 Fire: _____

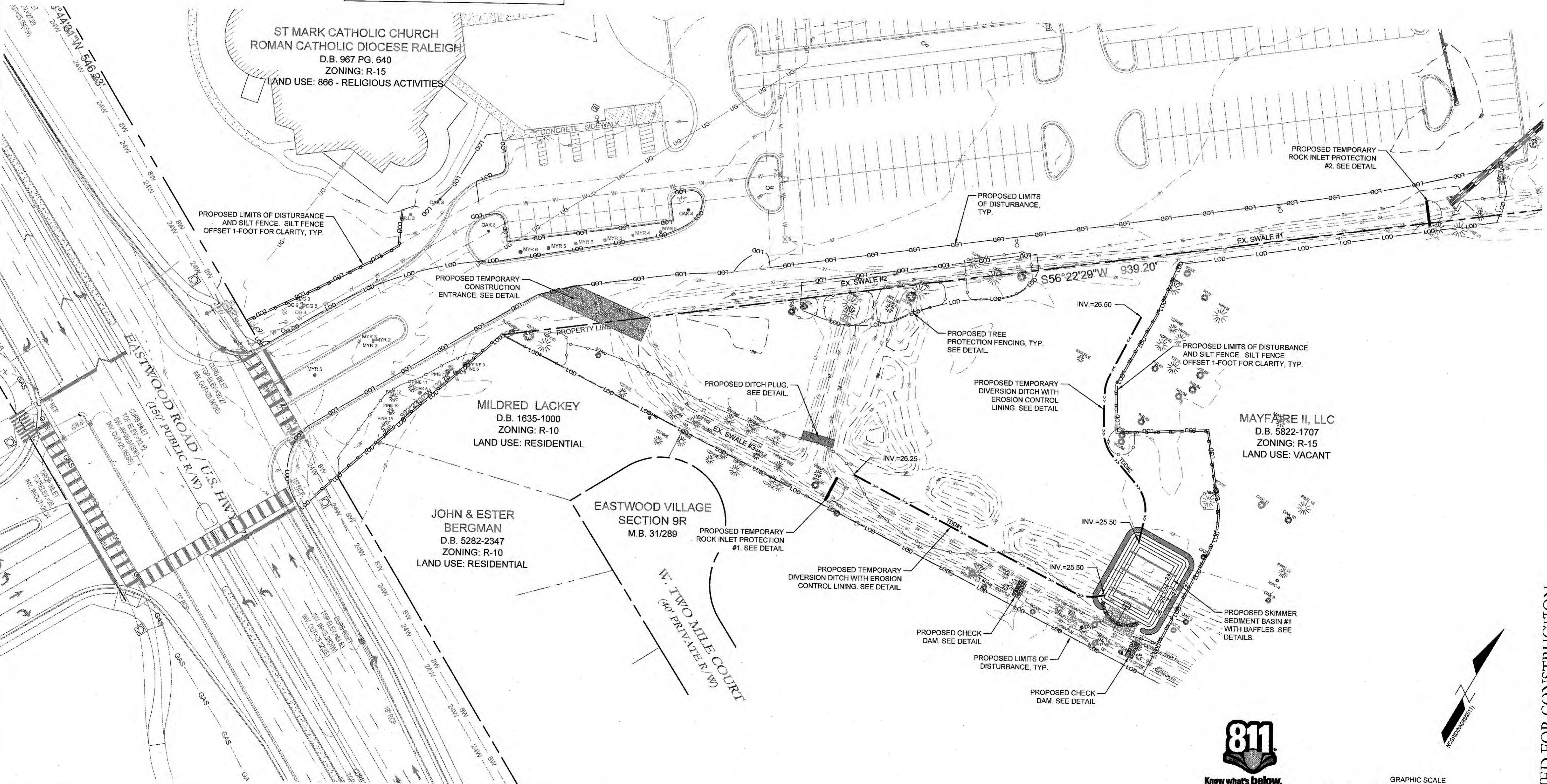
NC DENR PWSS WATER PERMIT #: _____
 WATER CAPACITY: _____ GPD
 DWQ SEWER PERMIT #: _____
 SEWER CAPACITY: _____ GPD
 SEWER SHED # AND PLANT: _____
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

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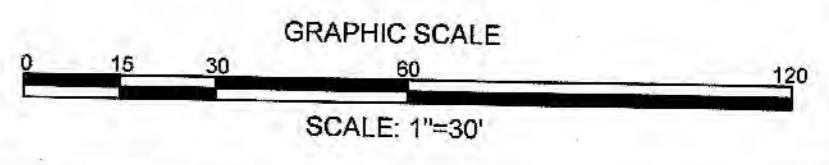
CLIENT INFORMATION:
 ROMAN CATHOLIC DIOCESE OF RALEIGH
 7200 STONEHENGE DRIVE
 RALEIGH, NC 27613

PH-I EROSION CONTROL PLAN
 ST. MARK CATHOLIC CHURCH
 1011 EASTWOOD ROAD
 WILMINGTON, NC 28403

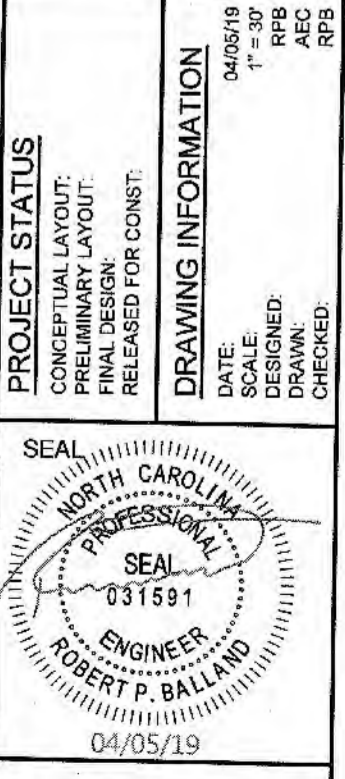
PARAMOUNT ENGINEERING
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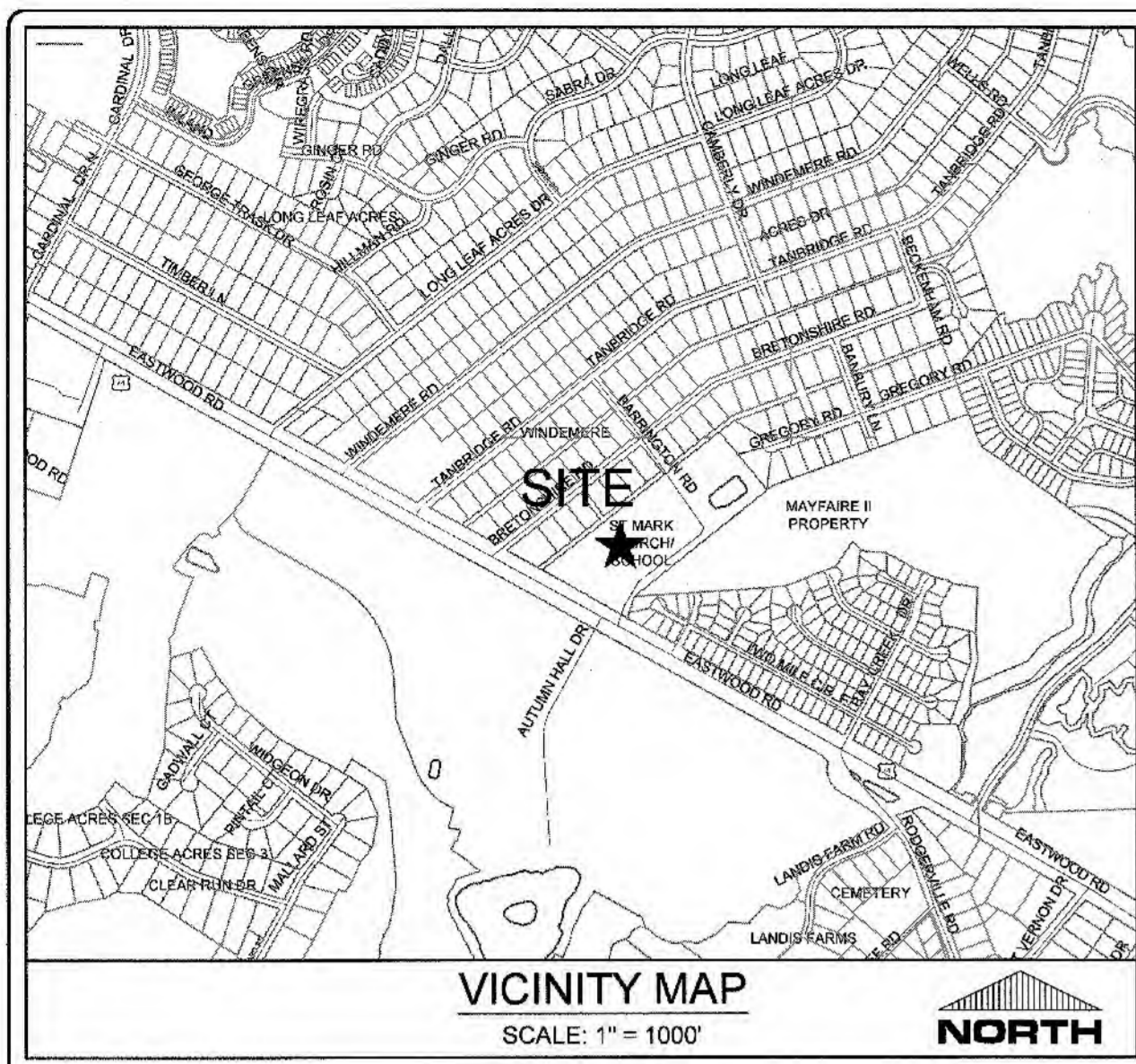
811
 Know what's below.
 Call before you dig.



ISSUED FOR CONSTRUCTION



C-3.0



LEGEND:

- 16 --- EXISTING CONTOUR
- 29 --- PROPOSED CONTOUR
- EG=25.05 EXISTING GRADE SPOT ELEVATION
- EP=25.05 PROPOSED EDGE OF PAVEMENT
- TW=25.05 PROPOSED SIDEWALK ELEVATION
- GL=25.05 PROPOSED GUTTER FLOW LINE
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- [Symbol] LIMITS OF DISTURBANCE
- [Symbol] SILT FENCE
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- [Symbol] DRAINAGE FLOW PATH
- CB-202 DRAINAGE INLET LABEL
- [Symbol] SPILL GUTTER
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- S-01 ELEV. 33.5 GEOTECH BORING LOCATION
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- X TREE TO BE REMOVED

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STORM SEWER SCHEDULE:

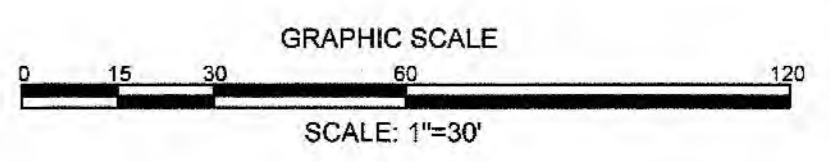
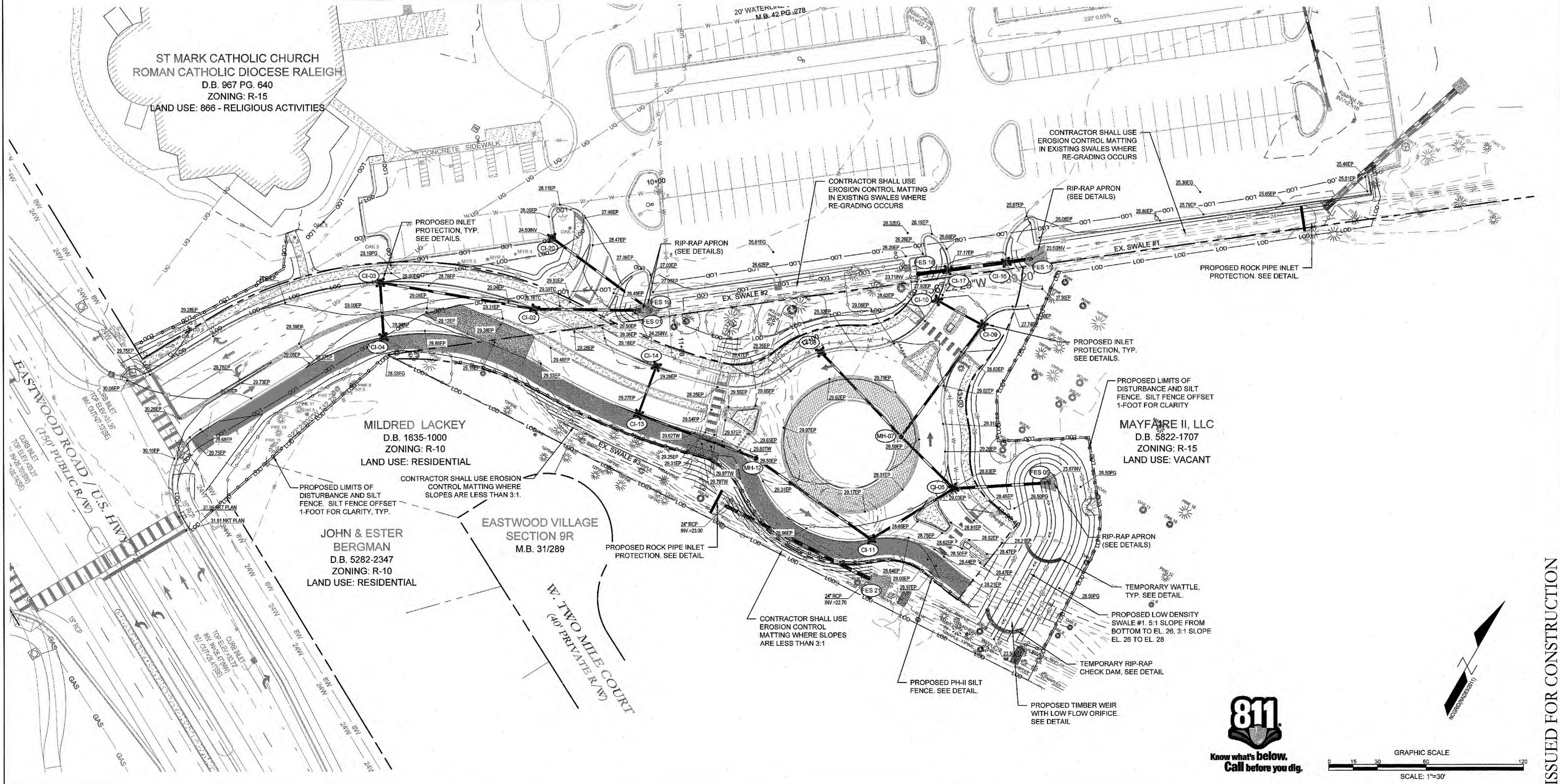
| Upstream Node | Downstream Node | Diameter (in) | Upstream Pipe Invert (ft) | Downstream Pipe Invert (ft) | Pipe Length (ft) | Slope (%) | Upstream Rim Elev (ft) | Downstream Rim Elev (ft) | Pipe Material |
|---------------|-----------------|---------------|---------------------------|-----------------------------|------------------|-----------|------------------------|--------------------------|---------------|
| CI-04 | CI-03 | 15.00 | 24.83 | 24.73 | 33.86 | 0.30 | 28.65 | 28.55 | RCP III |
| CI-03 | CI-02 | 15.00 | 24.73 | 24.44 | 96.50 | 0.30 | 28.55 | 29.05 | RCP III |
| CI-02 | FES 01 | 18.00 | 24.44 | 24.25 | 61.85 | 0.30 | 29.05 | 25.75 | RCP III |
| CI-08 | MH-07 | 15.00 | 24.39 | 24.17 | 72.06 | 0.30 | 29.22 | 30.22 | RCP III |
| MH-07 | CI-06 | 15.00 | 24.17 | 24.04 | 45.41 | 0.30 | 30.22 | 28.75 | RCP III |
| CI-06 | FES 05 | 18.00 | 24.04 | 23.87 | 56.02 | 0.30 | 28.75 | 25.52 | RCP III |
| CI-10 | CI-09 | 12.00 | 24.53 | 24.43 | 32.00 | 0.30 | 28.03 | 28.04 | RCP III |
| CI-09 | MH-07 | 15.00 | 24.43 | 24.17 | 85.39 | 0.30 | 28.04 | 30.22 | RCP III |
| CI-14 | CI-13 | 12.00 | 24.81 | 24.71 | 31.61 | 0.30 | 28.96 | 28.97 | RCP III |
| CI-13 | MH-12 | 15.00 | 24.71 | 24.48 | 77.52 | 0.30 | 28.97 | 29.48 | RCP III |
| MH-12 | CI-11 | 15.00 | 24.48 | 24.22 | 86.73 | 0.30 | 29.48 | 28.75 | RCP III |
| CI-11 | CI-06 | 15.00 | 24.22 | 24.04 | 59.91 | 0.30 | 28.75 | 28.75 | RCP III |
| CI-20 | FES-19 | 15.00 | 24.47 | 24.25 | 72.65 | 0.30 | 28.04 | 26.00 | RCP III |
| FES-18 | CI-17 | 24.00 | 23.71 | 23.66 | 17.96 | 0.32 | 25.70 | 27.10 | RCP III |
| CI-17 | CI-16 | 24.00 | 23.66 | 23.54 | 36.52 | 0.32 | 27.10 | 27.28 | RCP IV |
| CI-16 | FES-15 | 24.00 | 23.54 | 23.50 | 12.16 | 0.32 | 27.28 | 24.49 | RCP IV |

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: 4-8-19 Permit # 2019020
 Signed: *S. S. S.*

Approved Construction Plan
 Name: _____ Date: 4/8/19
 Planning: _____
 Traffic: *W. S. S.* 4-8-19
 Fire: *C. S. S.* 4/9/19

NC DENR PWSS WATER PERMIT #: _____ GPD
 WATER CAPACITY: _____ GPD
 DWQ SEWER PERMIT #: _____
 SEWER CAPACITY: _____ GPD
 SEWER SHED # AND PLANT: _____
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)



REVISIONS:

CLIENT INFORMATION:
 ROMAN CATHOLIC DIOCESE OF RALEIGH
 7200 STONEHENGE DRIVE,
 RALEIGH, NC 27613

PARAMOUNT ENGINEERING
 122 Cinema Drive
 Wilmington, North Carolina 28403
 (910) 791-6707 (O) (910) 791-6760 (F)
 NC License #: C-2846

GRADING-DRAINAGE-EC PLAN
 ST. MARK CATHOLIC CHURCH
 1011 EASTWOOD ROAD
 WILMINGTON, NC 28403

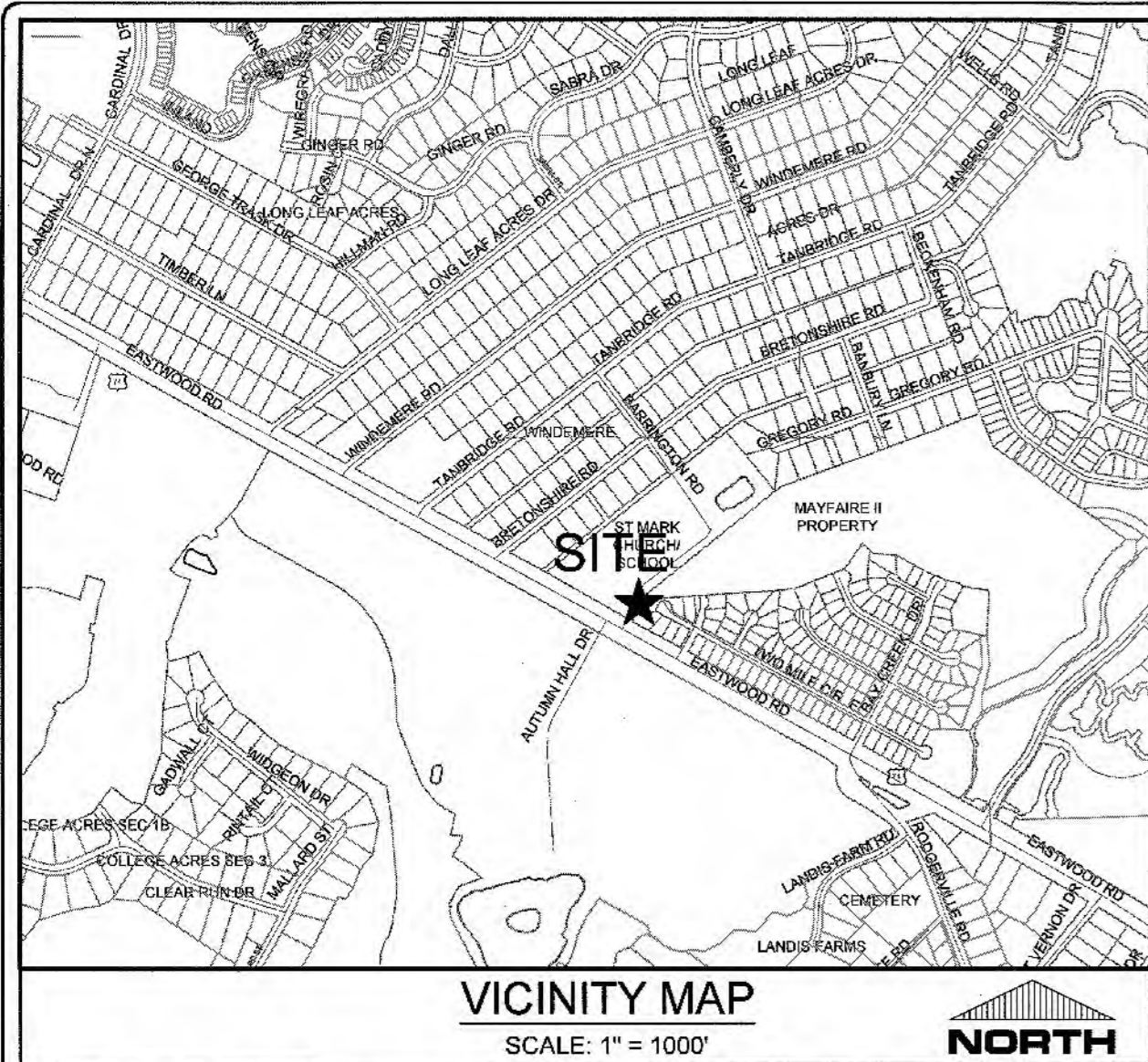
PROJECT STATUS:
 CONCEPTUAL LAYOUT:
 PRELIMINARY LAYOUT:
 RELEASED FOR CONST.

DRAWING INFORMATION:
 DATE: 04/05/19
 DESIGNED: RFB
 DRAWN: RFB
 CHECKED: RFB

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL: 031691
 ENGINEER: ROBERT F. BALLA
 04/05/19

ISSUED FOR CONSTRUCTION

C-3.1
 PEI JOB#: 16247.PE



SITE DATA TABULATION

LAND OWNERS:

1) MAYFAIRE II LLC
530 S.E. GREENVILLE BLVD, STE 200
GREENVILLE, NC 27858

2) ROMAN CATHOLIC DIOCESE OF RALEIGH
7200 STONEHENGE DRIVE
RALEIGH, NC 27613

PROJECT ADDRESS: 1011 EASTWOOD ROAD
WILMINGTON, NC 28403

TAX PARCEL IDENTIFICATION #:
1) R05000-003-012-000
2) R05000-003-006-001

RECORDED DEED BOOK:
1) BK 5843, PG 1291
2) BK 987, PG 640

TOTAL SITE AREA:
1) 39.49 ACRES (1,720,180 SF)
2) 12.28 ACRES (534,917 SF)

CURRENT ZONING: R-15 (BOTH PARCELS)
CAMA LAND USE CLASSIFICATION: WATERSHED RESOURCE PROTECTION
EXISTING LAND USE: ROADWAY & CHURCH
PROPOSED LAND USE: ROADWAY & CHURCH

UTILITY INFORMATION
CONTRACTOR SHALL INSTALL WATER MAIN IN ACCORDANCE WITH CFPWA STANDARD DETAILS AND SPECIFICATIONS.

WATER
THIS PROJECT WILL CONNECT TO EXISTING 8" WATER MAIN LOCATED ON ST. MARK'S CATHOLIC CHURCH PROPERTY. THIS PROJECT IS CONSTRUCTING AN 8-INCH AND 12-INCH WATER MAIN FOR FUTURE SERVICE TO THE ADJACENT PROPERTY. DOMESTIC WATER ALLOCATION PROVIDED BY CFPWA.

UTILITY NOTES: (NCAC 15A.02T.0305 / T15A.18C.0906)

1. WATER MAINS SHALL BE LAID SO AS TO PROVIDE A MINIMUM HORIZONTAL SEPARATION OF 10 FEET FROM SEWERS. IF CONDITIONS EXIST SUCH THAT THIS SEPARATION CANNOT BE ACHIEVED, THE WATER MAIN CAN BE INSTALLED AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, EITHER IN A SEPARATE TRENCH, OR IN THE SAME TRENCH ON A BENCH OF UNDISTURBED EARTH.
2. WHEN CROSSING A WATER MAIN OVER A SEWER, THE WATER MAIN SHALL BE LAID AT LEAST 18 INCHES ABOVE THE SEWER. IF CONDITIONS EXIST SUCH THAT THIS SEPARATION CANNOT BE ACHIEVED, BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH JOINTS THAT MEET WATER MAIN STANDARDS. THE DUCTILE IRON PIPE SHALL EXTEND 10 FEET ON EACH SIDE OF THE CROSSING WITH A SECTION OF WATER MAIN PIPE CENTERED ON THE CROSSING.
3. CROSSING A WATER MAIN UNDER A SEWER, WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND THE SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.
4. WHERE VERTICAL CLEARANCE IS LESS THAN 24" BETWEEN SANITARY SEWER AND STORM DRAIN, SANITARY SEWER SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING AND STORM DRAIN SHALL BE RC PIPE.
5. WHERE VERTICAL CLEARANCE IS LESS THAN 18" BETWEEN WATER MAIN AND STORM DRAIN, WATER MAIN SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING AND STORM DRAIN SHALL BE RC PIPE.

FIRE & LIFE SAFETY NOTES:

1. NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE BUILDINGS WITHIN ANY DEVELOPMENT.
2. HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB.
3. CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION. THIS CAN BE SATISFIED BY INSTALLING THE BASE COURSE OF THE PROPOSED PAVEMENT SECTION.
4. A MINIMUM OF 5' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM OTHER UNDERGROUND UTILITIES.
5. UNDERGROUND FIRE LINE & PRIVATE WATER MAINS MUST BE PERMITTED & INSPECTED BY CITY OF WILMINGTON FIRE & LIFE SAFETY SERVICES FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING.
6. CONSTRUCTION TYPE - IIB CAR DEALERSHIP, BUILDING WILL BE SPRINKLED.
7. ANY FDC MUST BE WITHIN 150' OF A FIRE HYDRANT & WITHIN 40' OF FIRE APPARATUS PLACEMENT.
8. LANDSCAPING OR PARKING CAN NOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT (3') CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF HYDRANTS AND FDC.

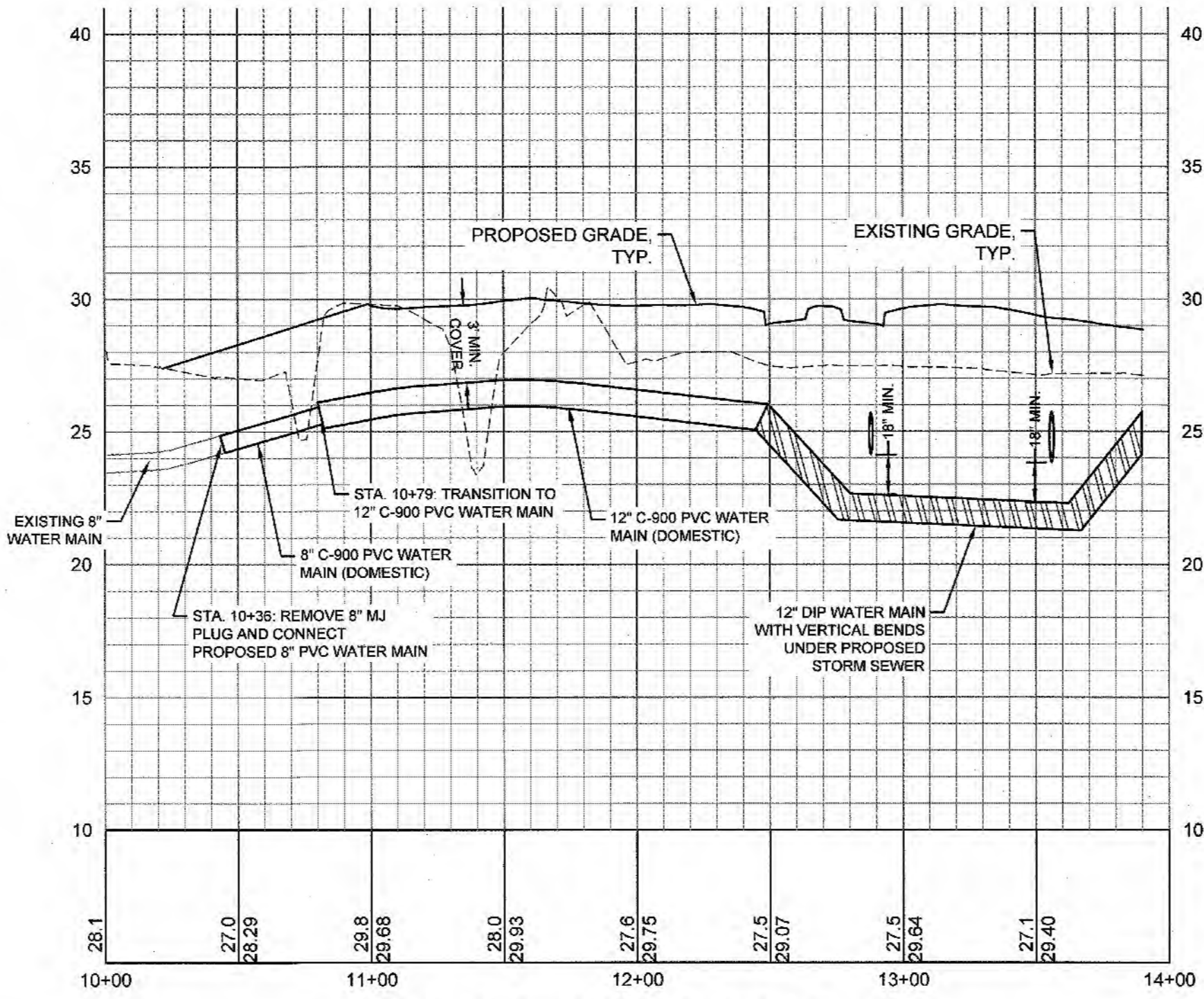
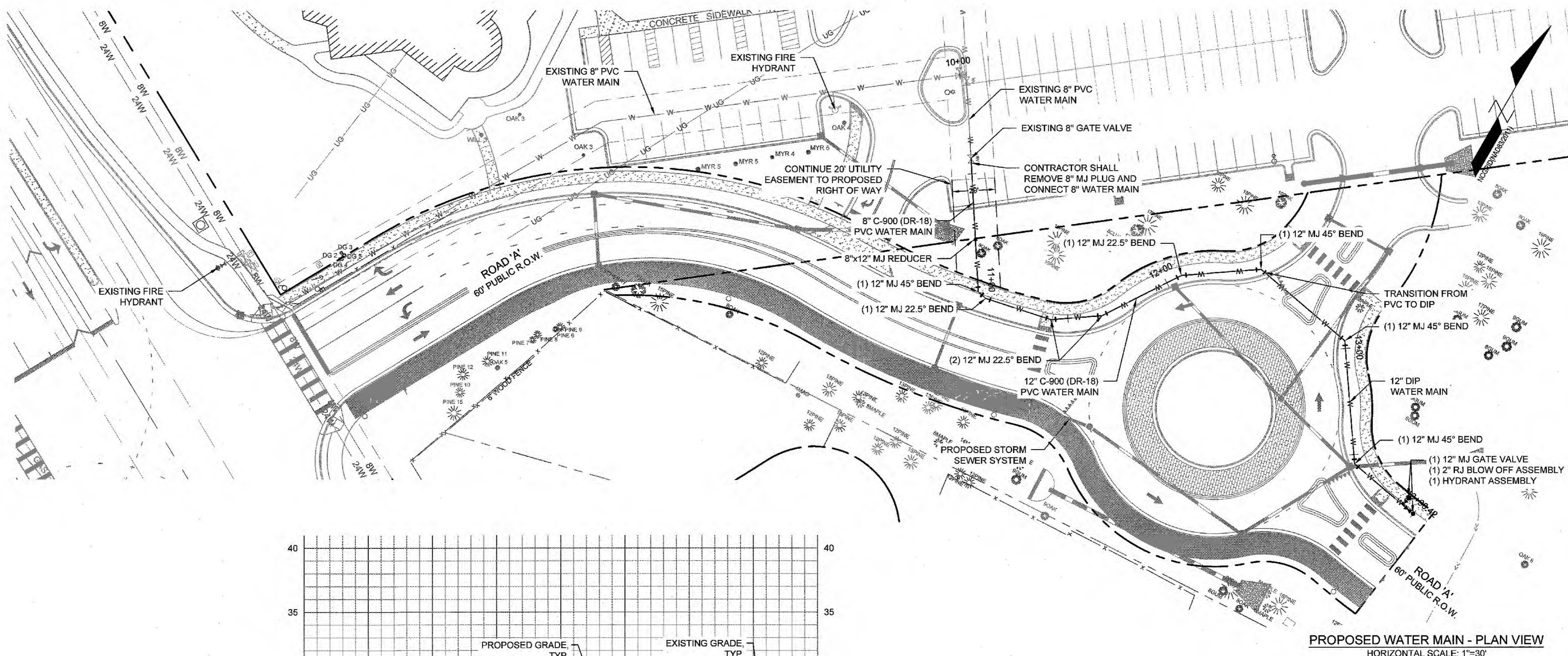
CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 4-8-19 Permit # 2019020
Signed: E-S-22

| | |
|-----------------------------|------------------------|
| NCDENR PWSS WATER PERMIT #: | |
| WATER CAPACITY: | _____ GPD |
| DWQ SEWER PERMIT #: | |
| SEWER CAPACITY: | _____ GPD |
| SEWER SHED # AND PLANT: | |
| SEWER TO FLOW THROUGH NEI: | YES or NO (CIRCLE ONE) |

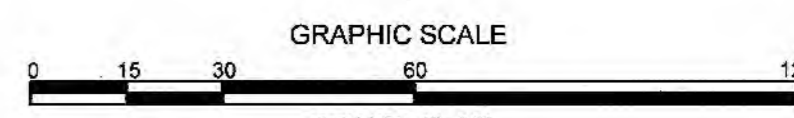
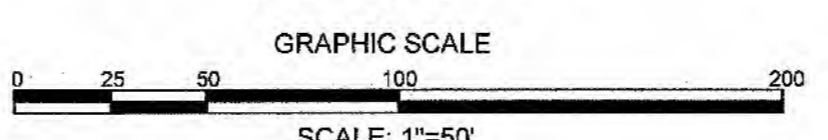
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

Name: _____ Date: 4/6/19
 Planning: W-EMD-4-819
 Traffic: C. Val 4/9/19
 Fire: _____



PROPOSED WATER MAIN - PROFILE VIEW
HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=5'



REVISIONS:

CLIENT INFORMATION:
MAYFAIRE II, LLC
530 SE GREENVILLE BLVD., SUITE 200
GREENVILLE, NC 27858

PARAMOUNT ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

UTILITY PLAN & PROFILE
ST. MARK CATHOLIC CHURCH &
MAYFAIRE II ENTRANCE
EASTWOOD ROAD
WILMINGTON, NC 28403

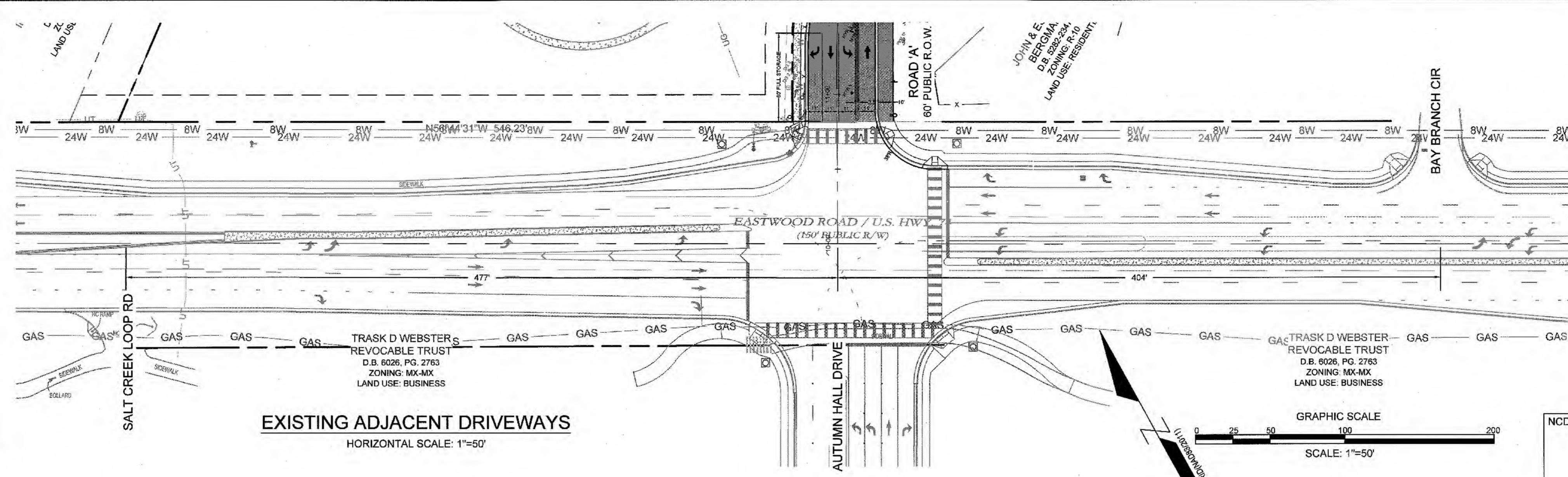
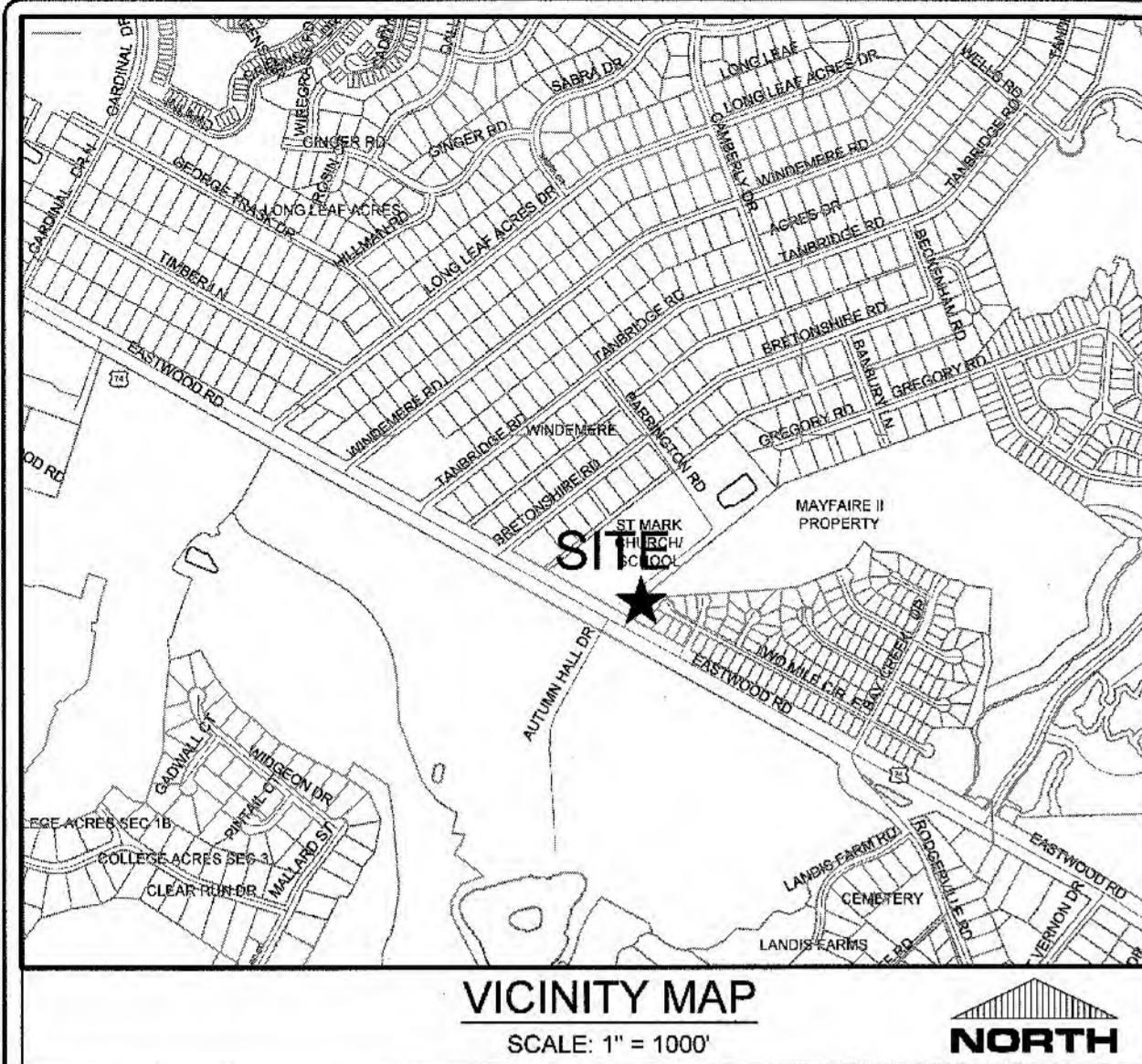
PROJECT STATUS:
DESIGNING LAYOUT: _____
FINAL DESIGN: _____
RELEASED FOR CONSTRUCTION: _____

DRAWING INFORMATION:
DATE: 04/05/19
SCALE: _____
AS NOTED, UNLESS INDICATED OTHERWISE
DRAWN BY: _____
CHECKED BY: _____

SEAL:
NORTH CAROLINA PROFESSIONAL ENGINEER
ROBERT P. BALLARD
031591
04/05/19

C-4.0
PEI JOB#: 16247.PE

ISSUED FOR CONSTRUCTION



CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: 4-8-19 Permit # 2019020
 Signed: E. J. Jell

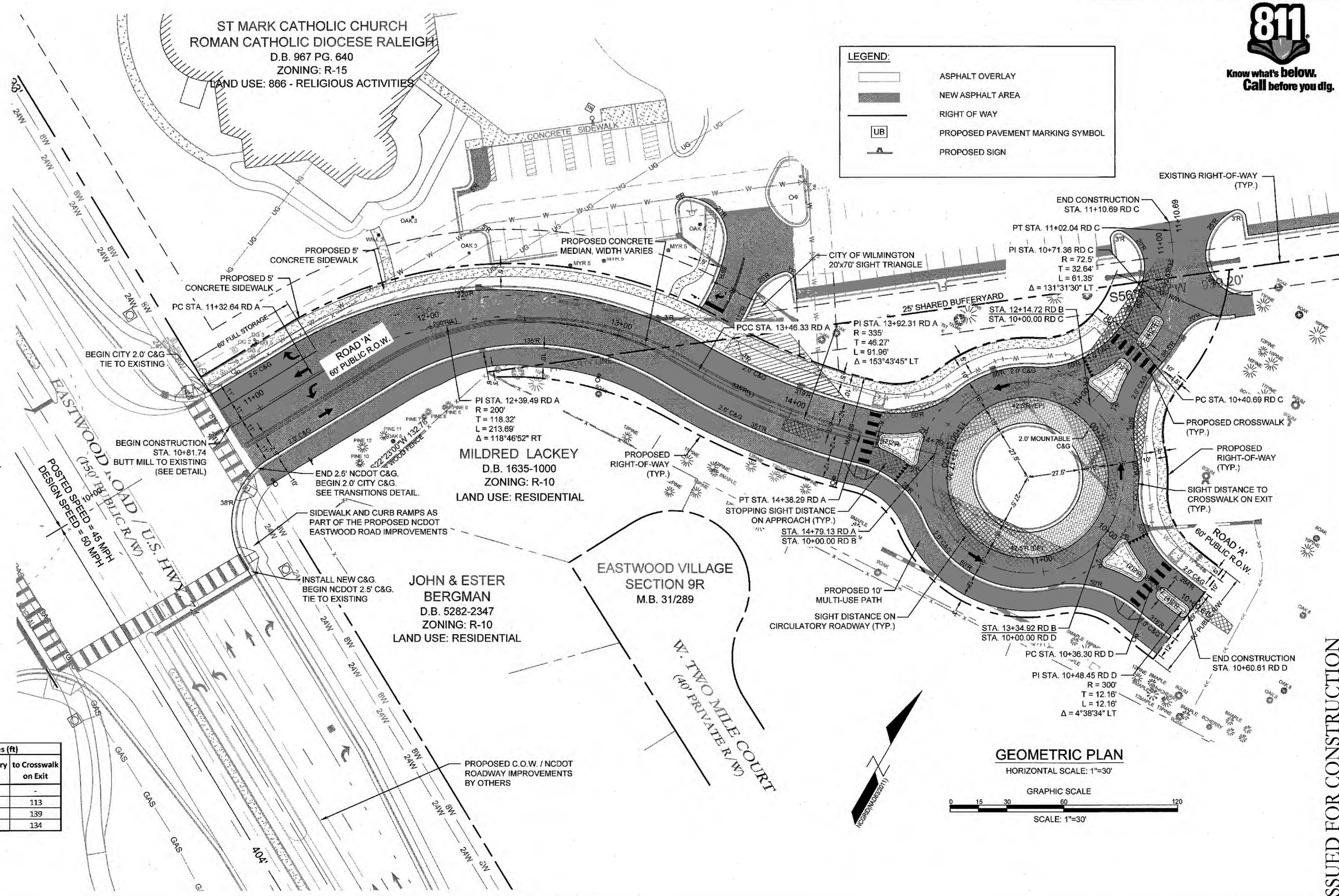
Approved Construction Plan
 Name: _____ Date: 4/8/19
 Planning: _____ Traffic: _____ Fire: _____

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

| | |
|-----------------------------|------------------------|
| NCDENR PWSS WATER PERMIT #: | |
| WATER CAPACITY: | GPD |
| DWQ SEWER PERMIT #: | |
| SEWER CAPACITY: | GPD |
| SEWER SHED # AND PLANT: | |
| SEWER TO FLOW THROUGH NEI: | YES OR NO (CIRCLE ONE) |

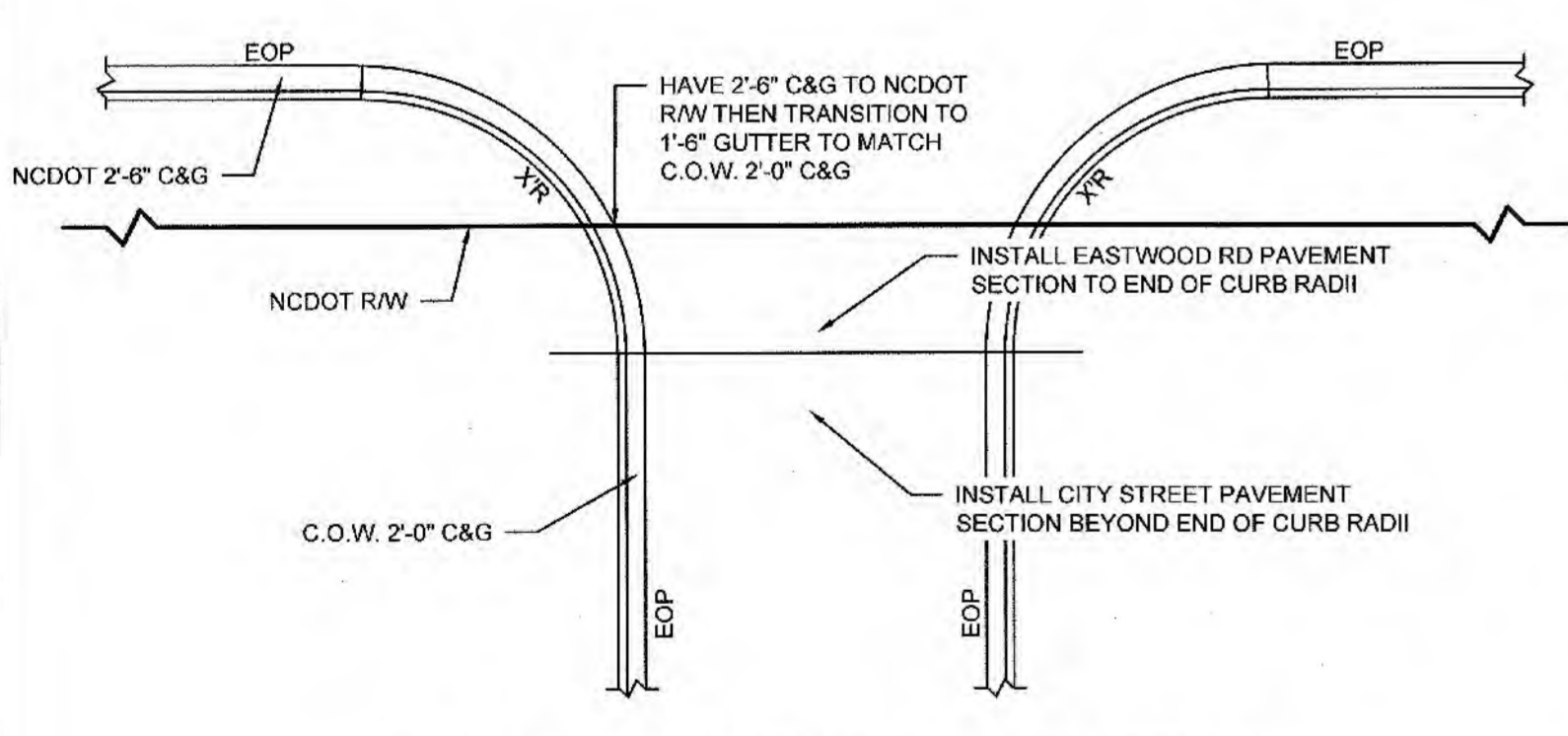
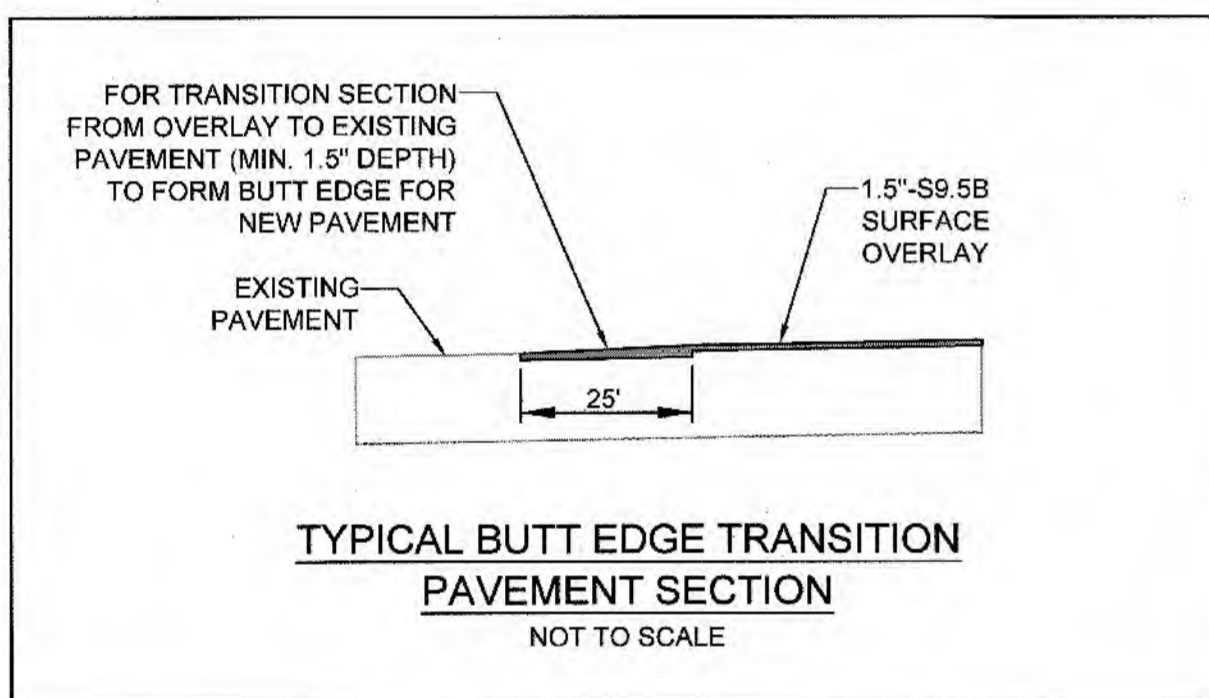


- NOTES:**
- SEE SHEET C-5.1 FOR PROPOSED ROADWAY PROFILES
 - SEE SHEET C-5.1 FOR TYPICAL ROAD SECTIONS
 - SEE SHEET C-5.2 FOR PAVEMENT MARKING
 - NEW ASPHALT AREA = 24,740 SY
 - NEW CURB & GUTTER = 2,220 LF
 - SEE SHEETS C-6.0 FOR TYPICAL DETAILS



LEGEND:

| | |
|----------|----------------------------------|
| [Symbol] | ASPHALT OVERLAY |
| [Symbol] | NEW ASPHALT AREA |
| [Symbol] | RIGHT OF WAY |
| [Symbol] | PROPOSED PAVEMENT MARKING SYMBOL |
| [Symbol] | PROPOSED SIGN |



NCDOT TO CITY OF WILMINGTON TRANSITIONS DETAIL
 NOT TO SCALE
 NCDOT 2'-6" C&G TO CITY 2'-0" C&G
 NCDOT PAVEMENT SECTION TO CITY PAVEMENT SECTION

| Roadway | Design Vehicle | Design Speeds (mph) | | | Measurements (ft) | | Sight Distances (ft) | |
|-----------------------|----------------|---------------------|-------------|------|----------------------|------------------------|----------------------|---|
| | | Entry | Circulating | Exit | Central Island, Dia. | Inscribed Circle, Dia. | Stopping on Approach | on Circulatory Roadway to Crosswalk on Exit |
| Road "B" - Roundabout | WB-50 | 25 | 15 | 15 | 55 | 117 | 77 | 69 |
| Road "C" to Road "A" | | | | | | | | 113 |
| Road "A" to Road "D" | | | | | | | | 139 |
| Road "D" to Road "C" | | | | | | | | 134 |

SUMMARY OF ROUNDABOUT DESIGN CRITERIA
 NOT TO SCALE

REVISIONS:

| | | |
|--|--|--|
| | | |
| | | |

CLIENT INFORMATION:
 ROMAN CATHOLIC DIOCESE OF RALEIGH
 7200 STONEHENGE DRIVE
 RALEIGH, NC 27613

PARAMOUNT ENGINEERING
 122 Cinema Drive
 Wilmington, North Carolina 28403
 (910) 791-6707 (O) (910) 791-6760 (F)
 NC License #: C-2846

GEOMETRIC PLAN
 ST. MARK CATHOLIC CHURCH & MAYFAIRE II ENTRANCE
 1011 EASTWOOD ROAD
 WILMINGTON, NC 28403

ISSUED FOR CONSTRUCTION

PROJECT STATUS:
 CONCEPTUAL LAYOUT:
 PRELIMINARY LAYOUT:
 RELEASED FOR CONSTRUCTION

DRAWING INFORMATION:
 DESIGNED BY:
 CHECKED BY:
 SCALE:
 DATE:

SEAL:
 NORTH CAROLINA PROFESSIONAL ENGINEER
 ROBERT P. BALLARD
 04/05/19

C-5.0
 PEI JOB#: 18247.PE

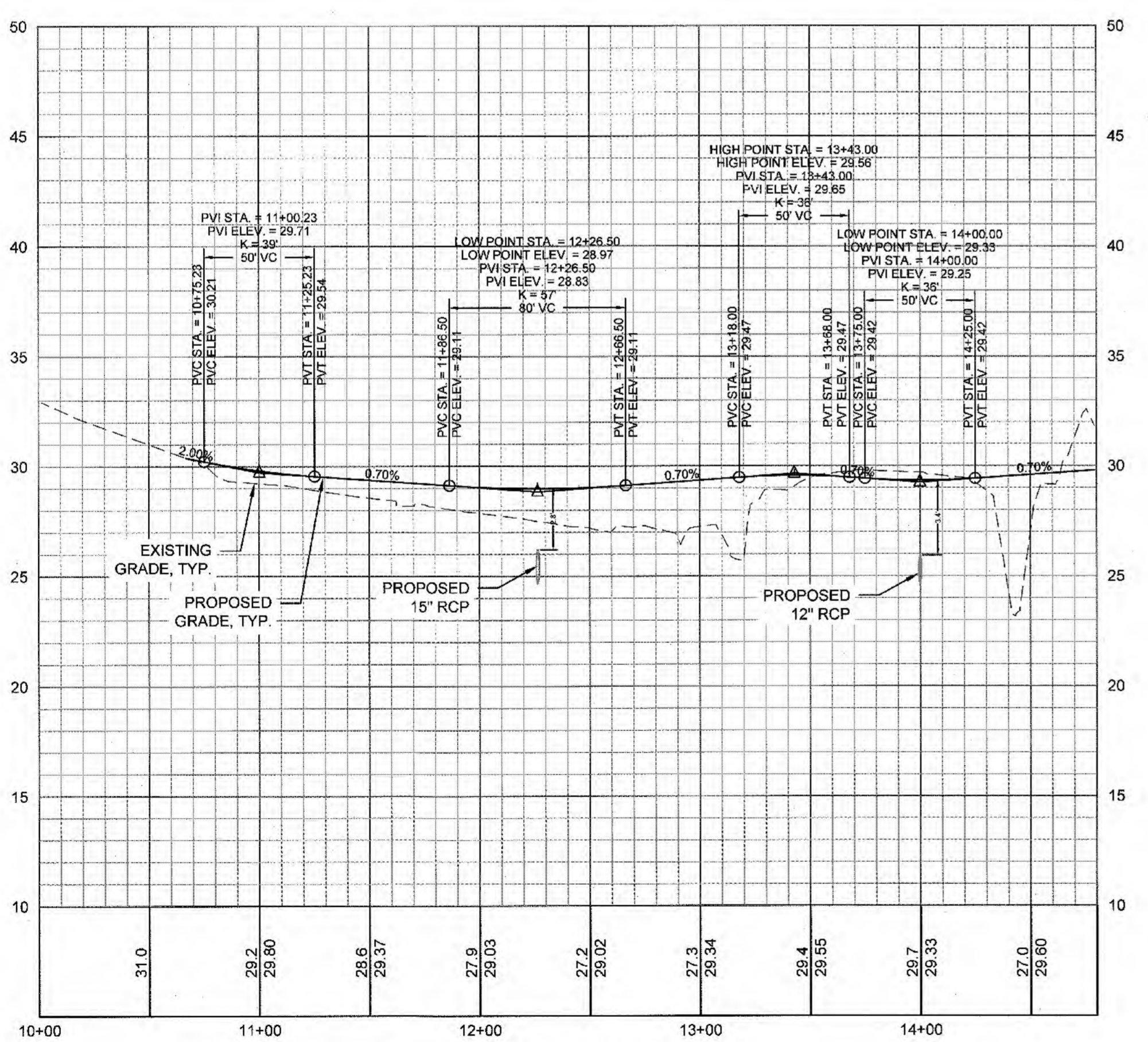
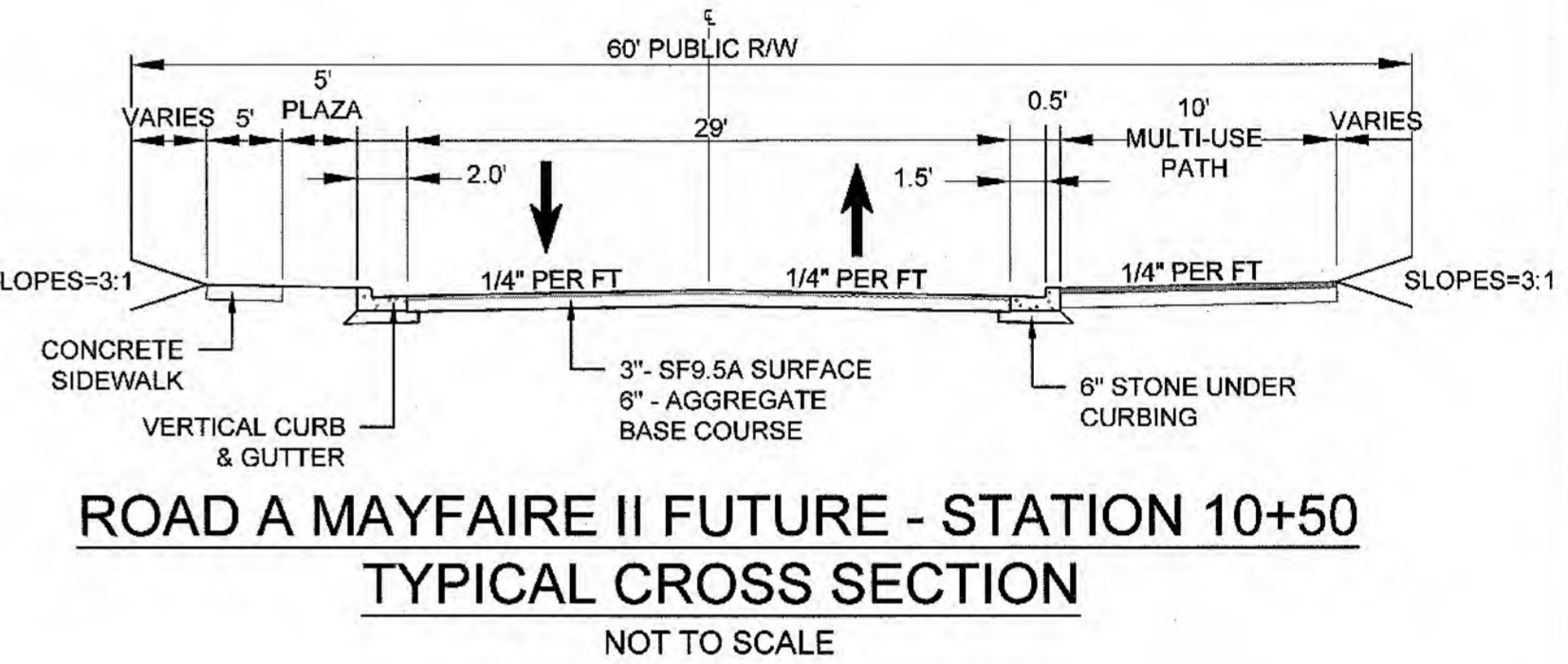
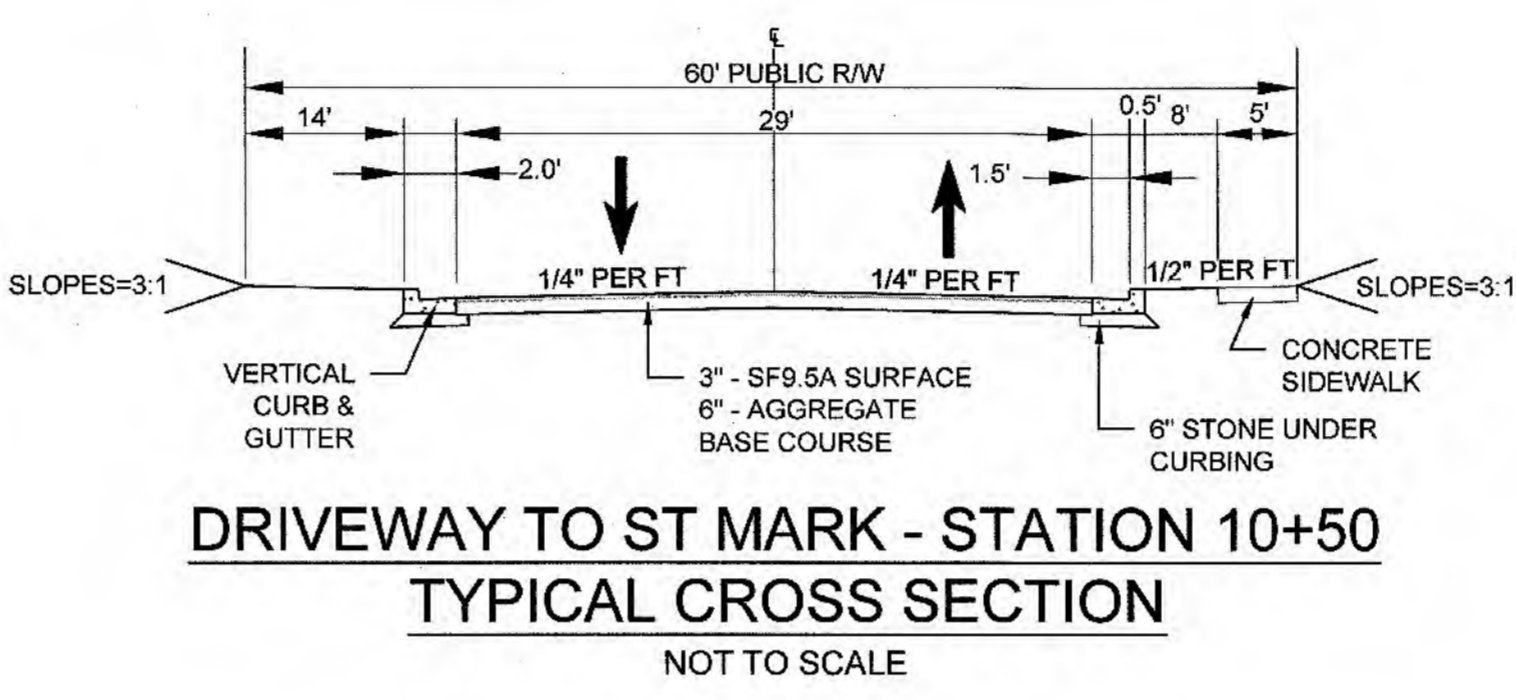
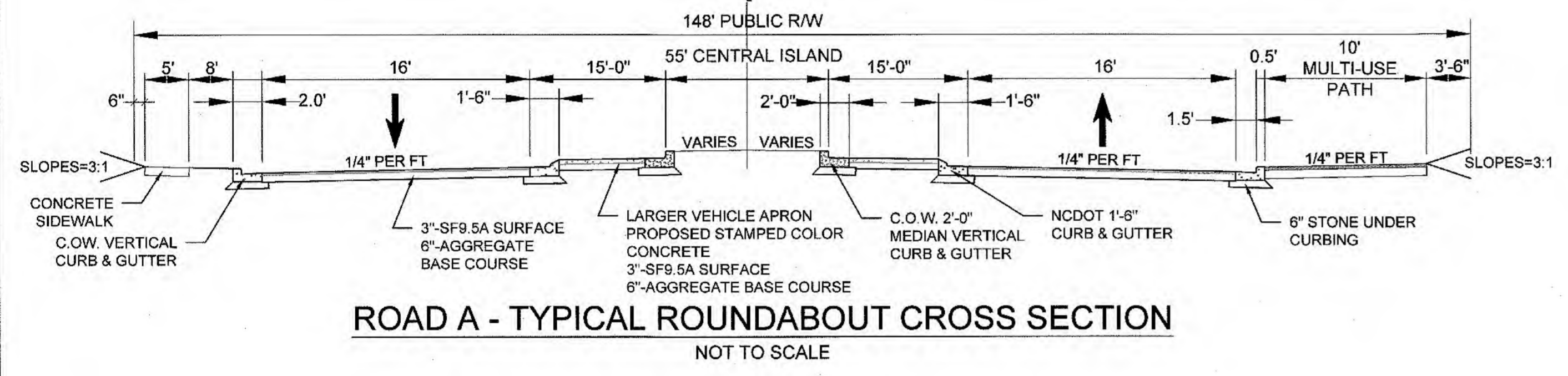
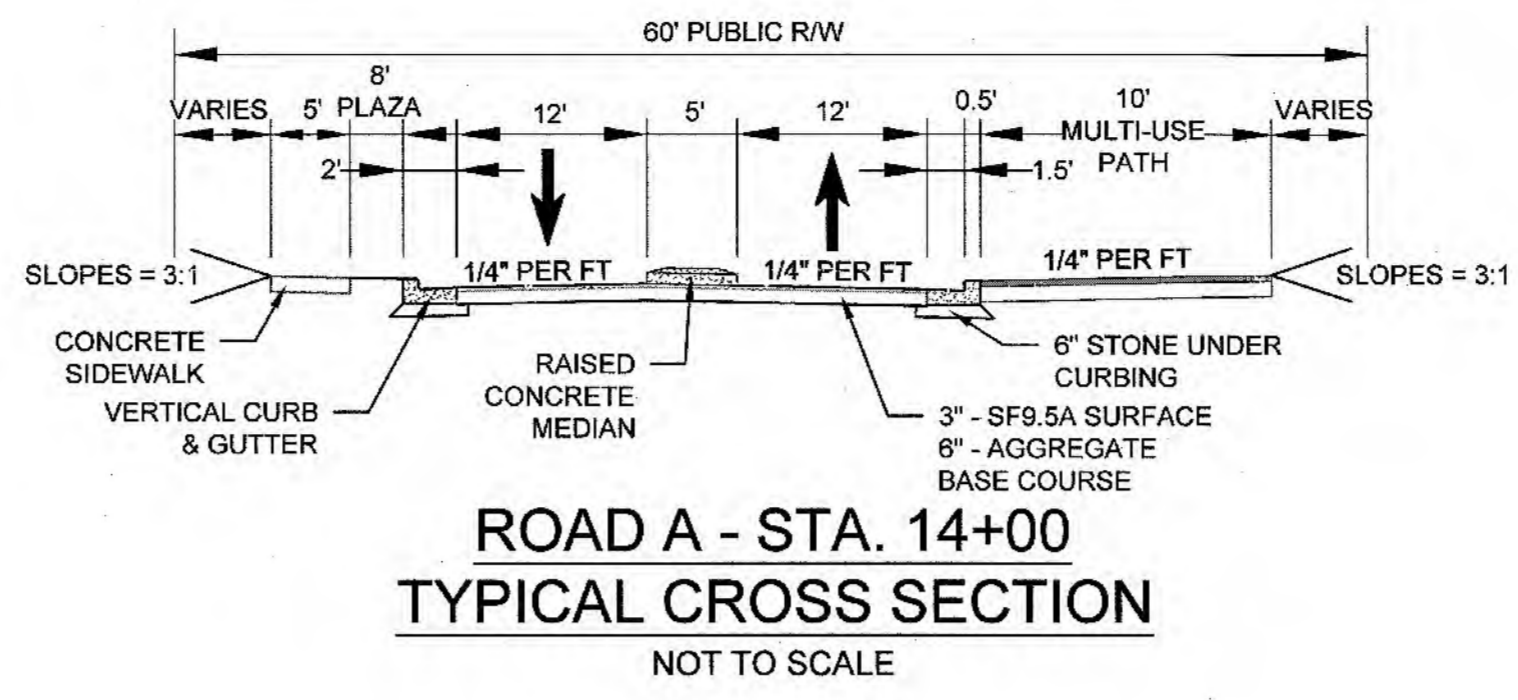
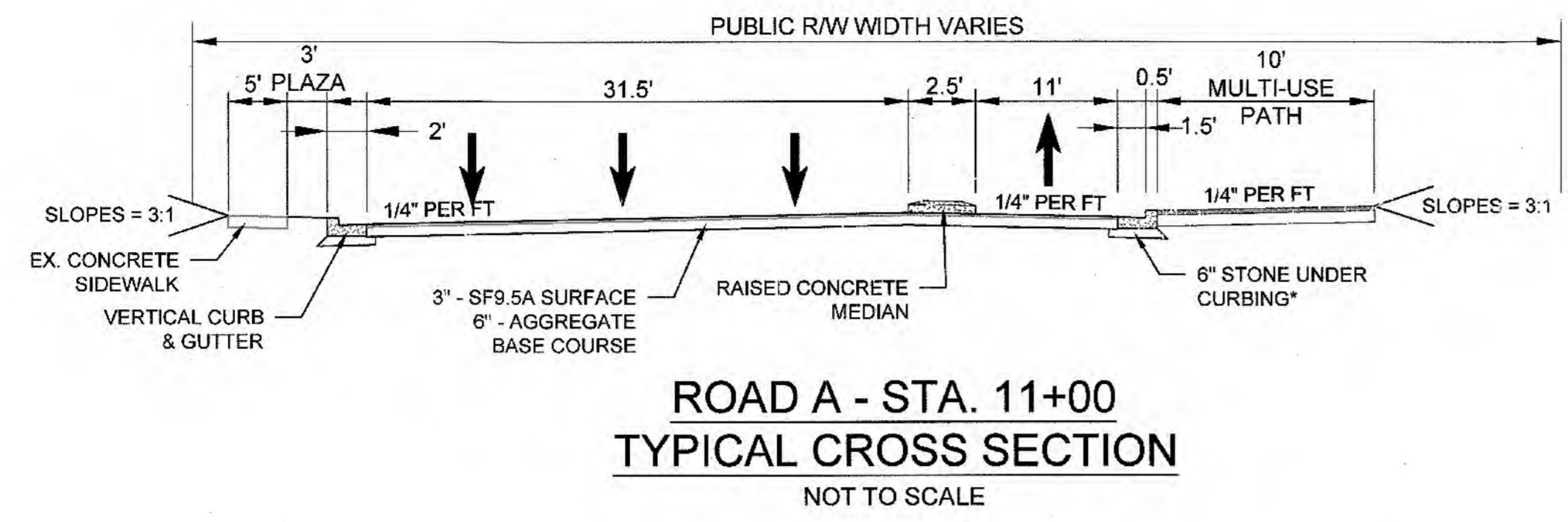
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.



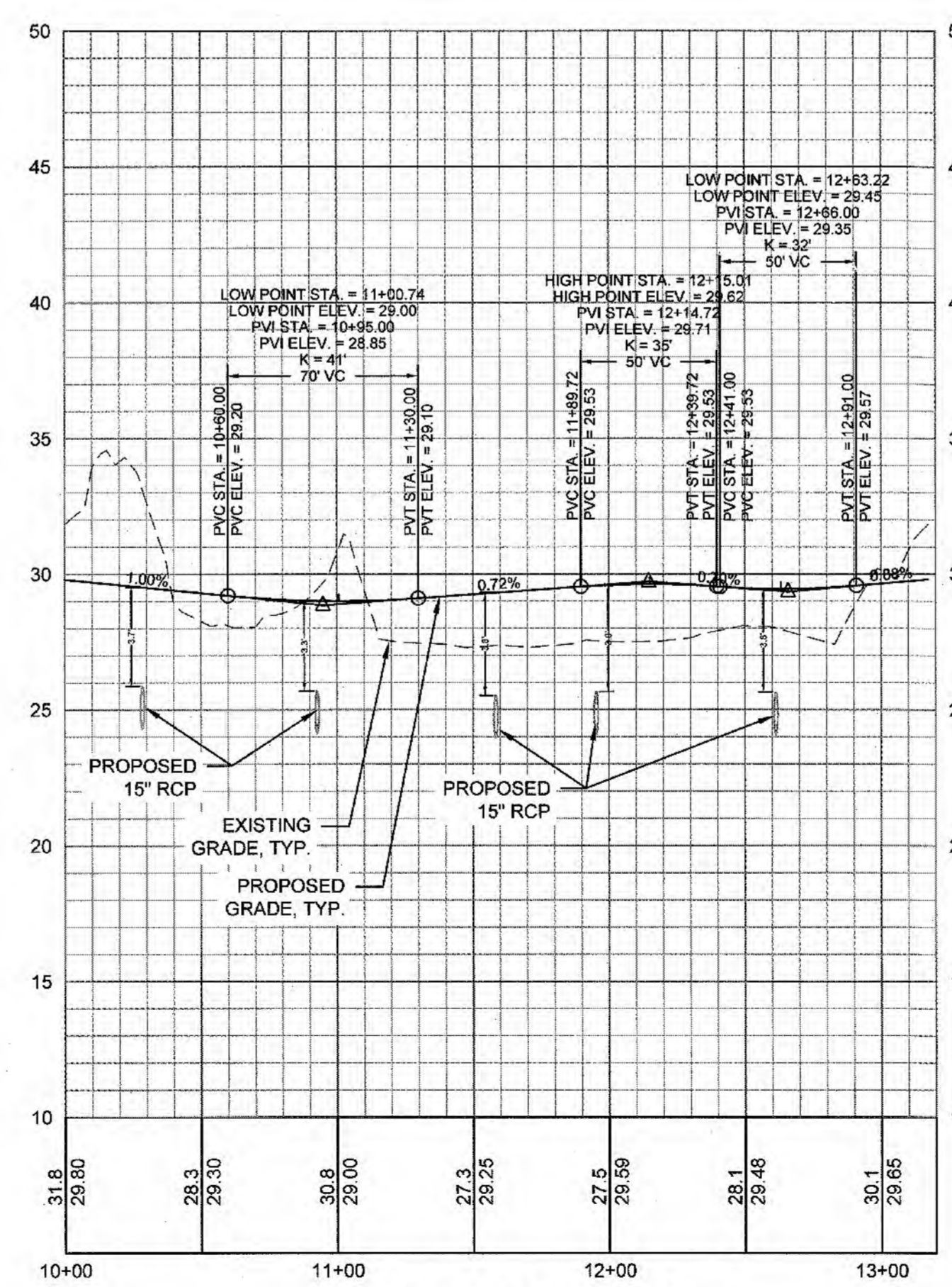
Know what's below. Call before you dig.

Approved Construction Plan

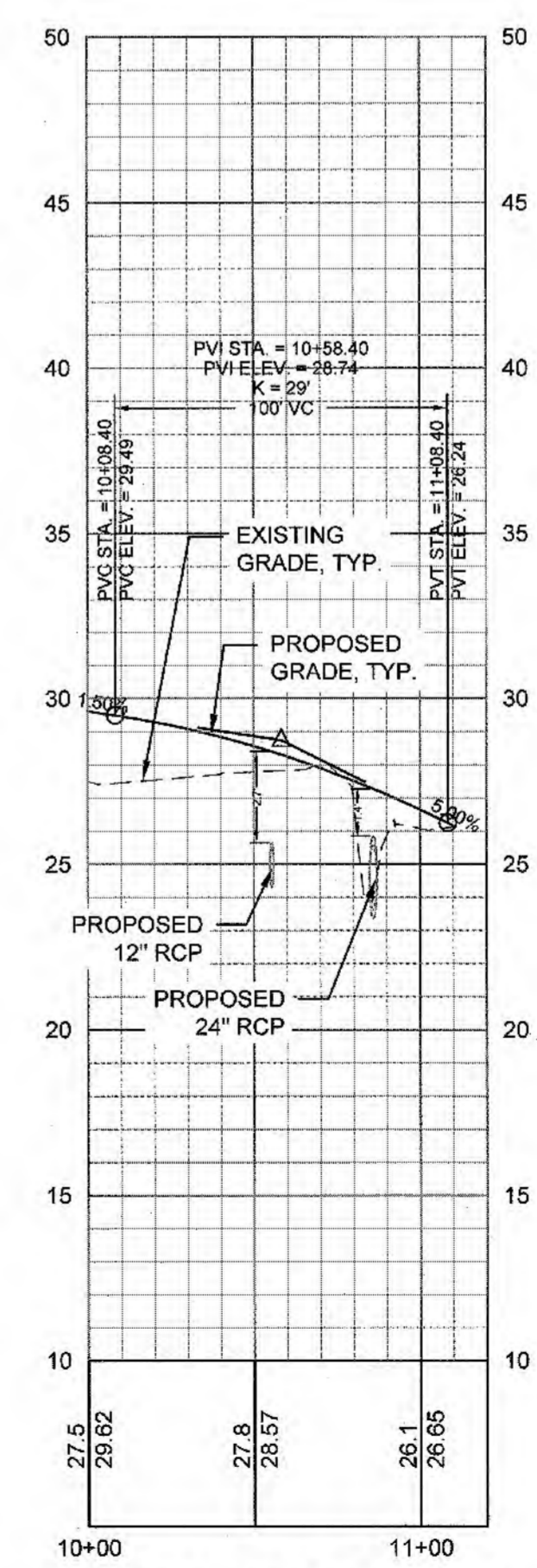
Name: _____ Date: 4/8/19
 Planning: _____
 Traffic: W. G. M. D. S. 4-8-19
 Fire: C. W. H. 4/9/19



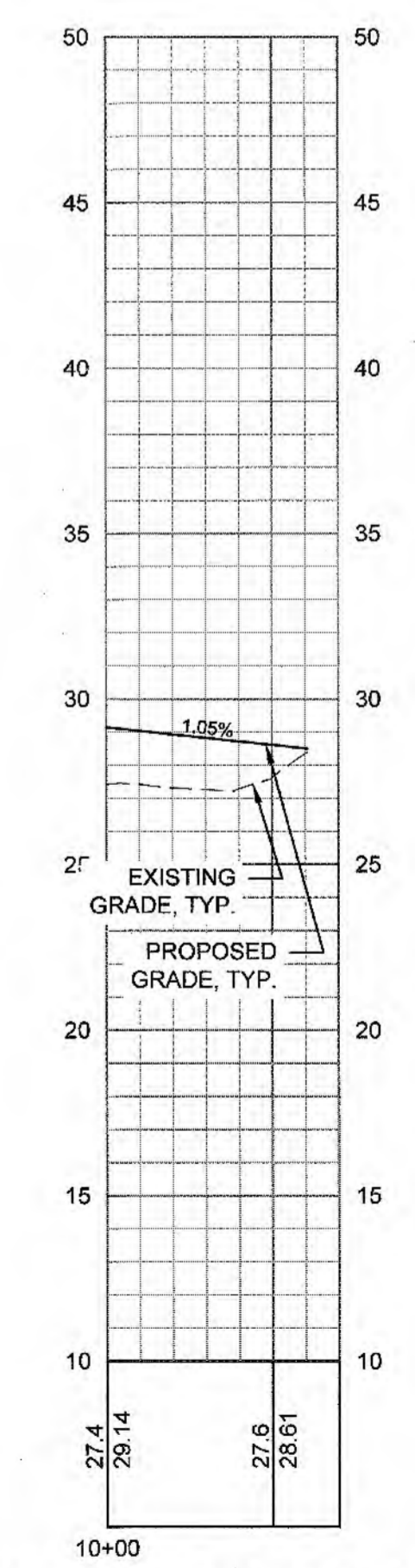
ROAD A (STA. 10+00 - 14+80)
 HORIZONTAL SCALE: 1"=50'
 VERTICAL SCALE: 1"=5'



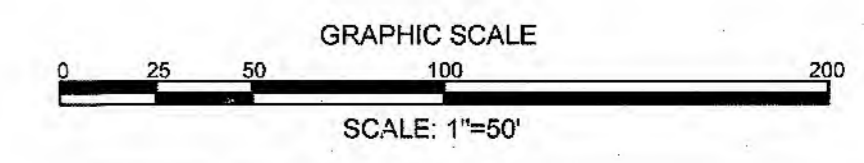
ROAD A - ROUNDABOUT (STA. 10+00 - 13+17)
 HORIZONTAL SCALE: 1"=50'
 VERTICAL SCALE: 1"=5'



ST MARK DRIVEWAY (STA. 10+00 - 11+11)
 HORIZONTAL SCALE: 1"=50'
 VERTICAL SCALE: 1"=5'



ROAD A MAYFAIRE II FUTURE (STA. 10+00 - 10+61)
 HORIZONTAL SCALE: 1"=50'
 VERTICAL SCALE: 1"=5'



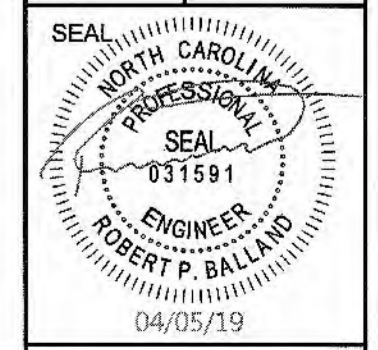
ISSUED FOR CONSTRUCTION

PARAMOUNT ENGINEERING, INC.
 122 Cinema Drive
 Wilmington, North Carolina 28403
 (910) 791-6707 (O) (910) 791-6760 (F)
 NC License #: C-2846

ROAD PROFILES & TYPICAL SECTIONS
 ST. MARK CATHOLIC CHURCH &
 MAYFAIRE II ENTRANCE
 1011 EASTWOOD ROAD
 WILMINGTON, NC 28403

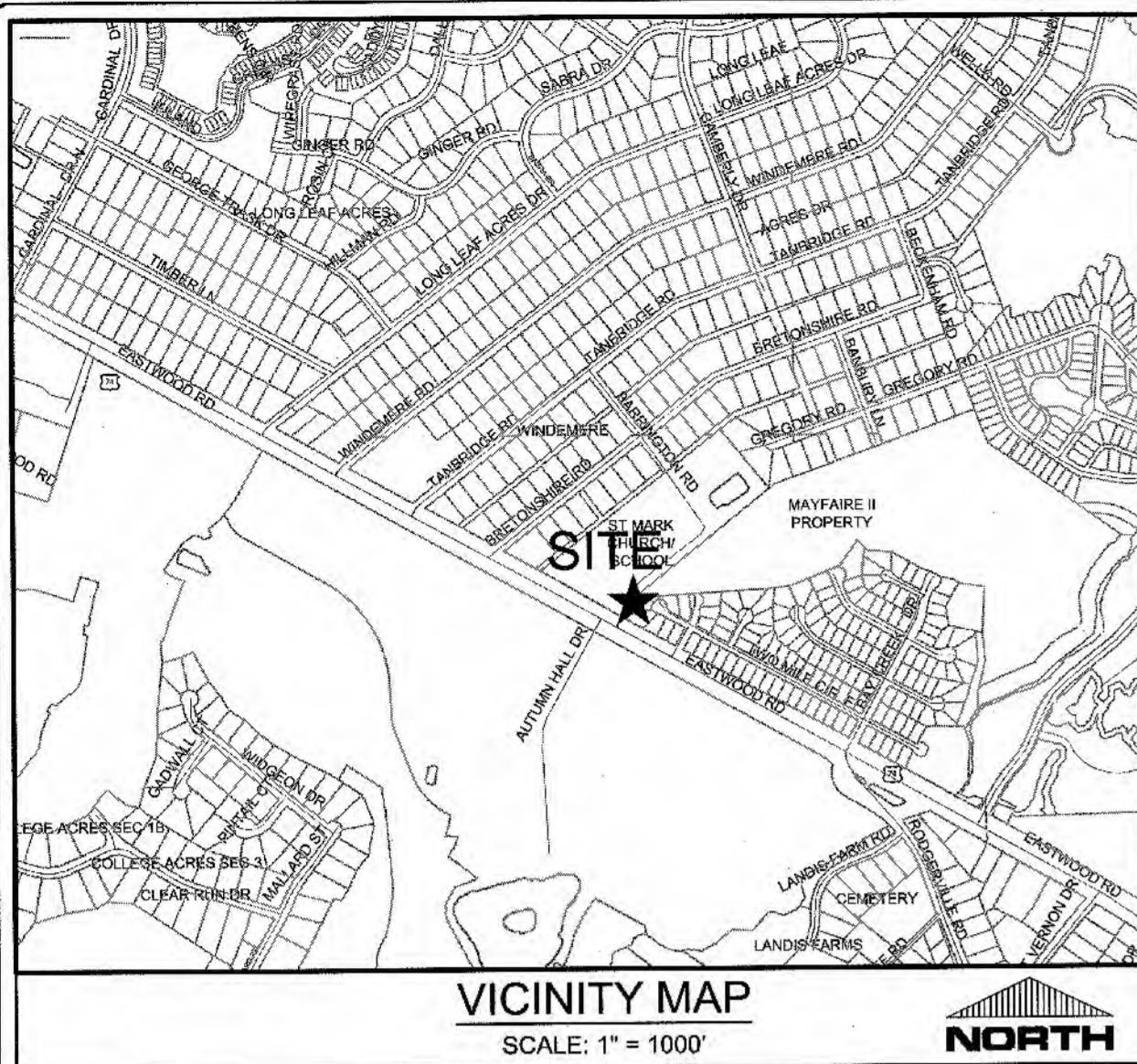
PROJECT STATUS:
 FINAL DESIGN: _____
 PRELIMINARY LAYOUT: _____
 RELEASED FOR CONST: _____

DRAWING INFORMATION:
 DATE: 04/05/19
 SCALE: 1"=50'
 DRAWN: _____
 CHECKED: _____



C-5.1
 PEI JOB#: 16247.PE

REVISIONS:
 CLIENT INFORMATION:
 ROMAN CATHOLIC DIOCESE OF RALEIGH
 7200 STONEHENGE DRIVE
 RALEIGH, NC 27613



LEGEND:

- ASPHALT OVERLAY
- NEW ASPHALT AREA
- RIGHT OF WAY
- PROPOSED PAVEMENT MARKING SYMBOL
- PROPOSED SIGN

PAVEMENT MARKING SCHEDULE

| SYMBOL | DESCRIPTION | MEASUREMENT |
|--------------------------------------|---------------------------------|-------------|
| THERMOPLASTIC, 4", 120 MIL | | |
| T17 | 2 FT. - 4 FT./SP WHITE MINISKIP | 48 LF |
| TD | 3 FT. - 9 FT./SP WHITE MINISKIP | 66 LF |
| TE | WHITE SOLID LANE LINE | 181 LF |
| TOTAL | | 295 LF |
| THERMOPLASTIC, 24", 120 MIL | | |
| T2 | WHITE STOPBAR | 11 LF |
| T3 | WHITE CROSSWALK LINE | 72 LF |
| TOTAL | | 83 LF |
| THERMOPLASTIC SYMBOLS, 90 MIL | | |
| UA | LEFT TURN ARROW | 1 EA |
| UB | RIGHT TURN ARROW | 2 EA |
| UC | STRAIGHT ARROW | 5 EA |
| UM | 12" YIELD LINE TRIANGLE | 18 EA |
| TOTAL | | 26 EA |

- NOTES:**
- ALL PAVEMENT MARKINGS WITHIN NCDOT RIGHT-OF-WAY SHALL BE TO NCDOT STANDARDS. ALL PAVEMENT MARKINGS WITHIN THE CITY OF WILMINGTON RIGHT-OF-WAY SHALL BE TO THE CITY OF WILMINGTON STANDARDS.
 - REMOVE CONFLICTING EXISTING PAVEMENT MARKINGS WITHIN THE CONSTRUCTION AREA.
 - ERADICATE EXISTING PAVEMENT MARKINGS WHEN IN CONFLICT WITH MARKING PLANS WITHIN PROJECT LIMITS.
 - CONSULT WITH CITY OF WILMINGTON FOR SIGN TYPE FOR MULTI-USE PATH.
 - REMOVE PAVEMENT MARKERS FROM ALL ROADS IN CONSTRUCTION AREA AND REPLACE TO CORRESPOND TO FINAL PAVEMENT MARKINGS. ALL PAVEMENT MARKERS ON EASTWOOD ROAD SHALL BE SNOWPLOWABLE (SEE NCDOT STD. DWG. 1253.01)

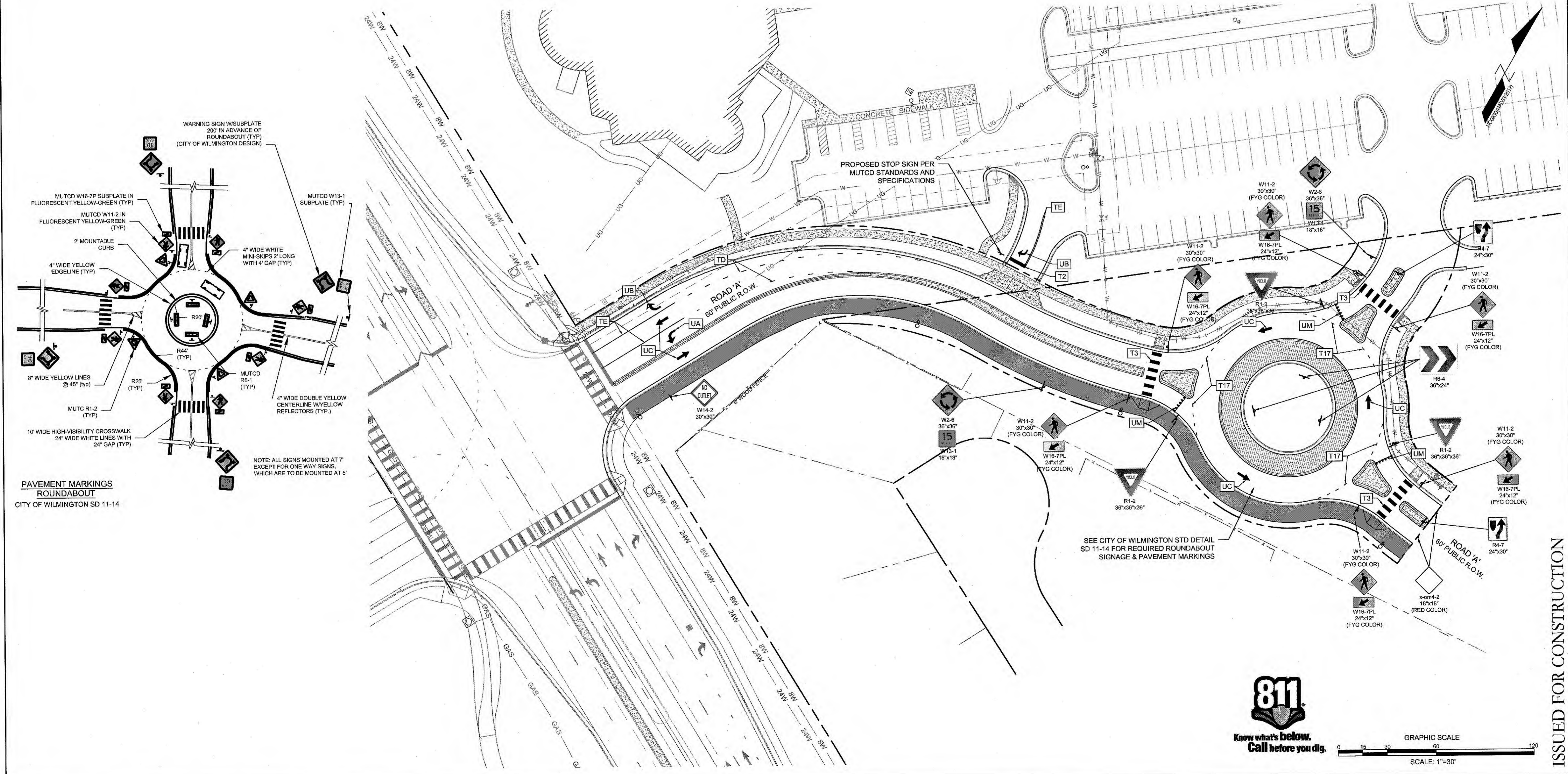
NCDENR PWSS WATER PERMIT #: _____ GPD
 WATER CAPACITY: _____ GPD
 DWQ SEWER PERMIT #: _____ GPD
 SEWER CAPACITY: _____ GPD
 SEWER SHED # AND PLANT: _____
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: 4-8-19 Permit # 2019020
 Signed: S-Sell

Approved Construction Plan

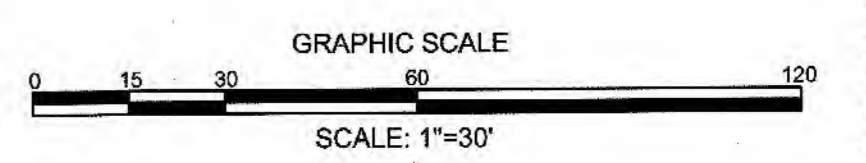
Name: _____ Date: 4/8/19
 Planning: _____
 Traffic: W. Santos 4/8/19
 Fire: C. Wahn 4/9/19

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.



PAVEMENT MARKINGS ROUNDABOUT
 CITY OF WILMINGTON SD 11-14

NOTE: ALL SIGNS MOUNTED AT 7' EXCEPT FOR ONE WAY SIGNS, WHICH ARE TO BE MOUNTED AT 5'



REVISIONS:

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
| | | |
| | | |
| | | |
| | | |
| | | |

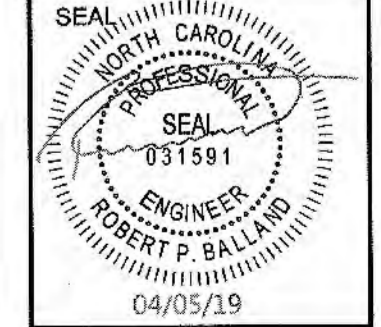
CLIENT INFORMATION:
 ROMAN CATHOLIC DIOCESE OF RALEIGH
 7200 STONEHENGE DRIVE
 RALEIGH, NC 27613

PARAMOUNT ENGINEERING, INC.
 122 Cinema Drive
 Wilmington, North Carolina 28403
 (910) 791-6707 (O) (910) 791-6760 (F)
 NC License #: C-2846

PAVEMENT MARKING & SIGNING PLAN
 ST. MARK CATHOLIC CHURCH & MAYFAIRE II ENTRANCE
 1011 EASTWOOD ROAD
 WILMINGTON, NC 28403

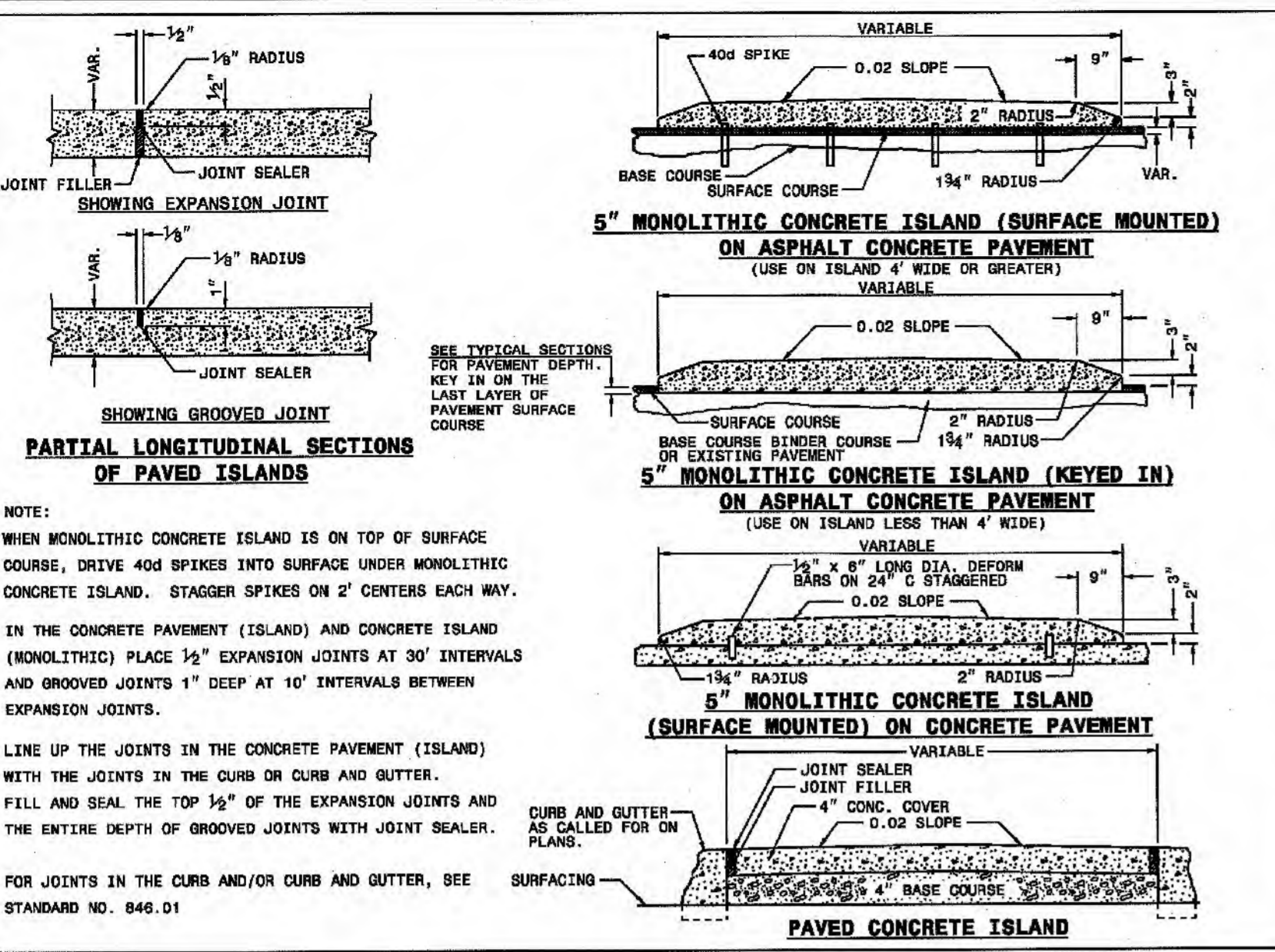
PROJECT STATUS:
 PRELIMINARY LAYOUT: _____
 FINAL DESIGN: _____
 RELEASED FOR CONSTRUCTION: _____

DRAWING INFORMATION:
 DATE: 04/05/19
 SCALE: 1" = 30'
 DRAWN BY: _____
 CHECKED BY: _____



C-5.2
 PEI JOB#: 16247.PE

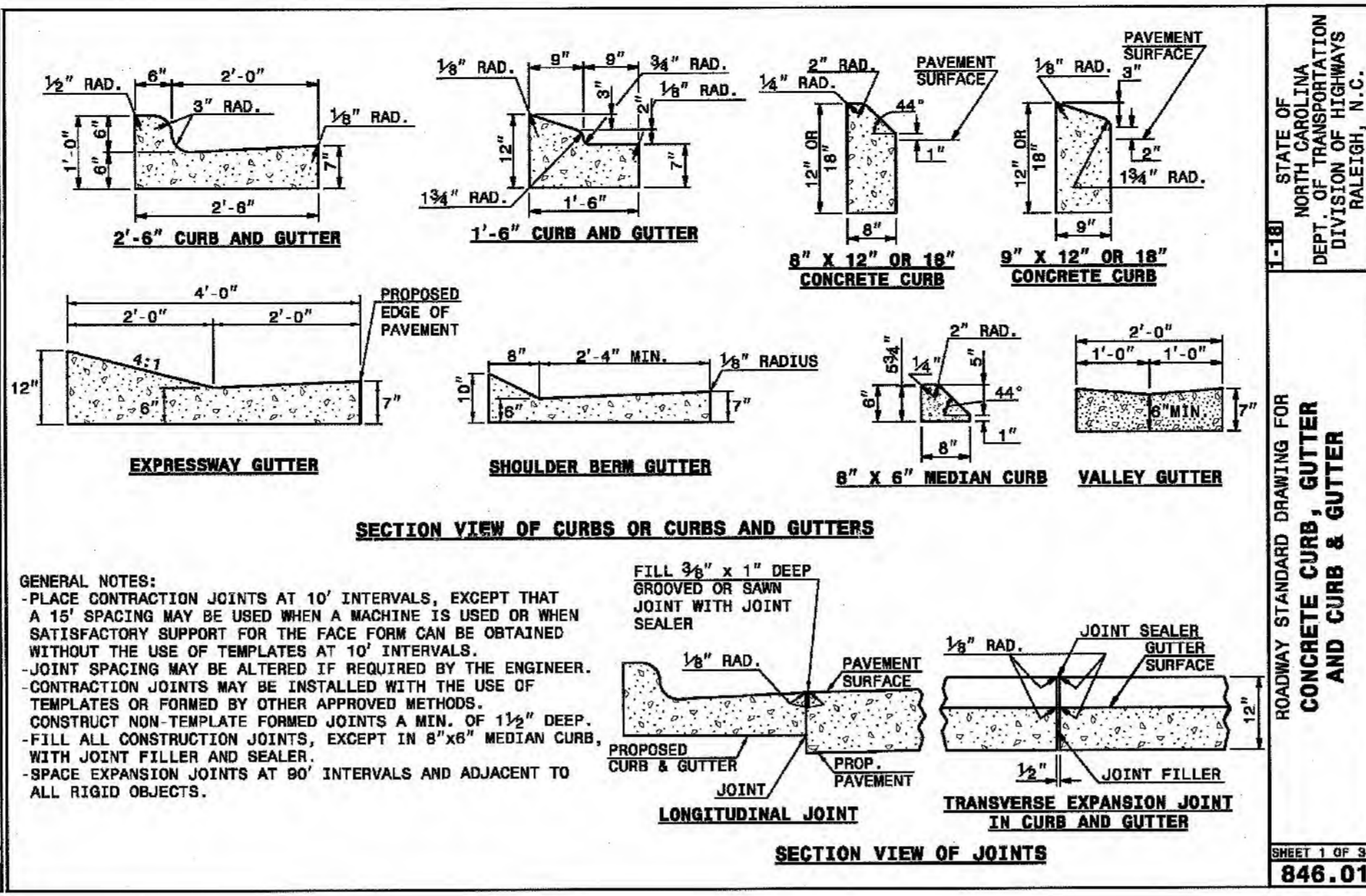
ISSUED FOR CONSTRUCTION



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

ROADWAY STANDARD DRAWING FOR
CONCRETE ISLANDS

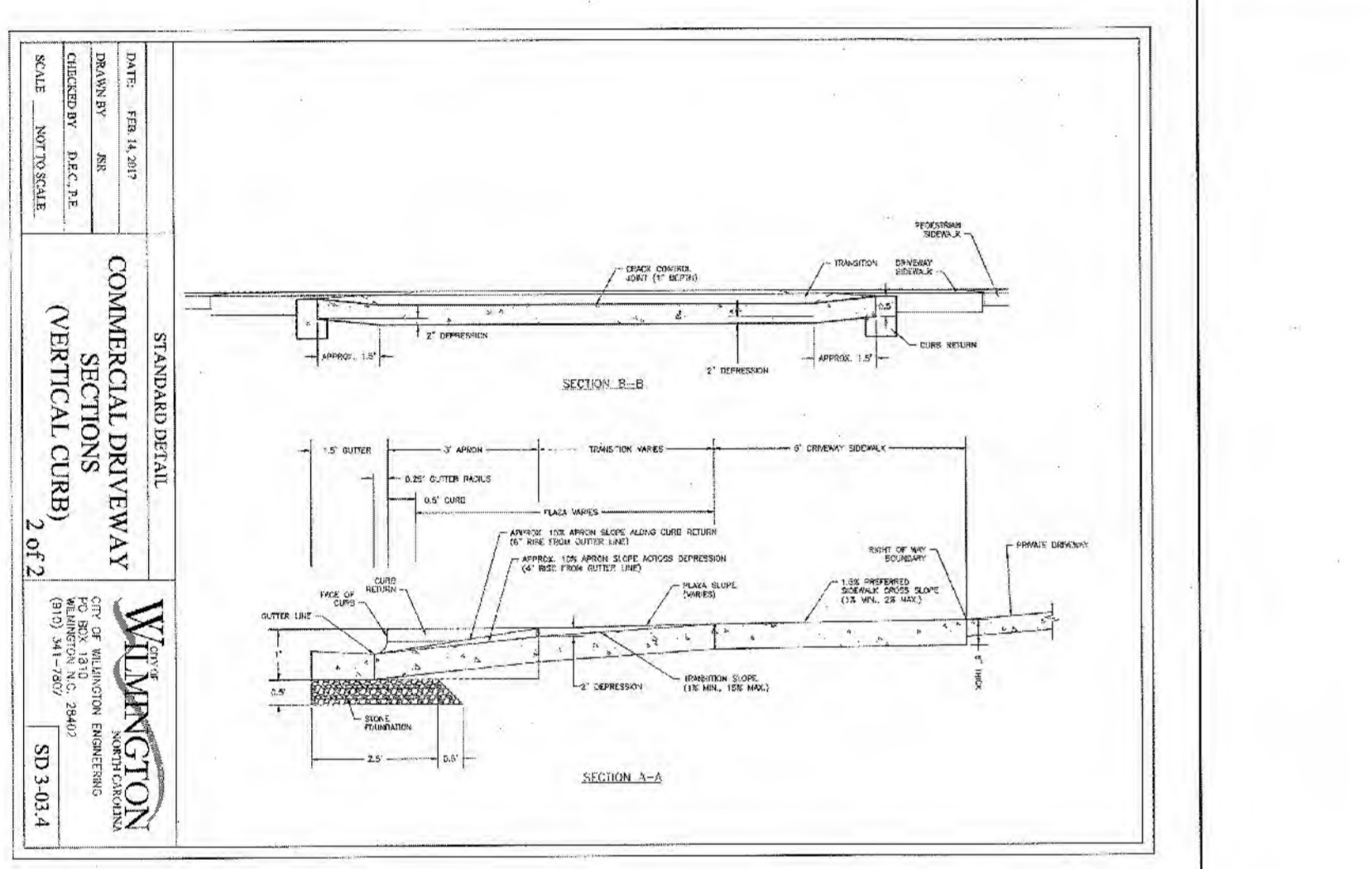
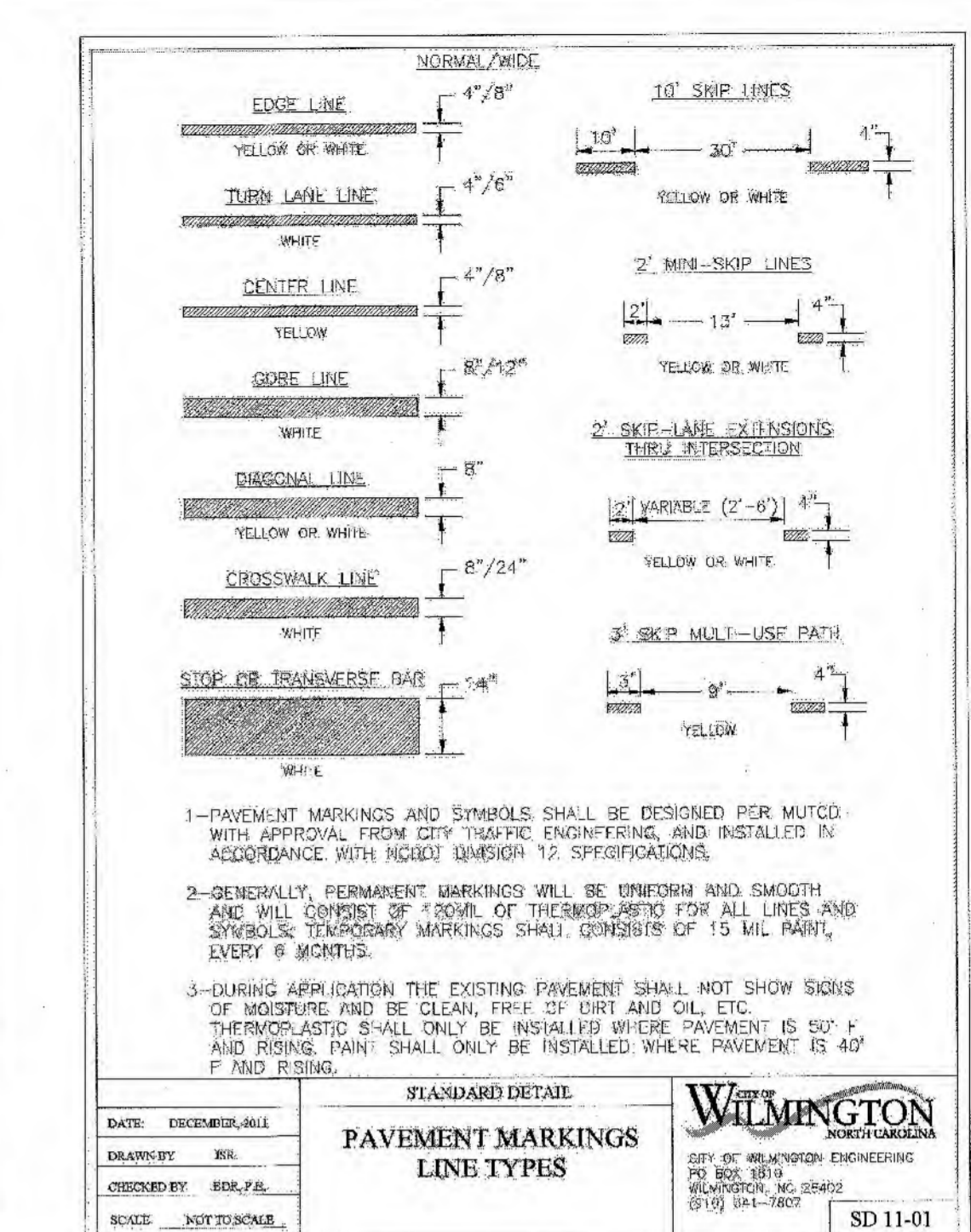
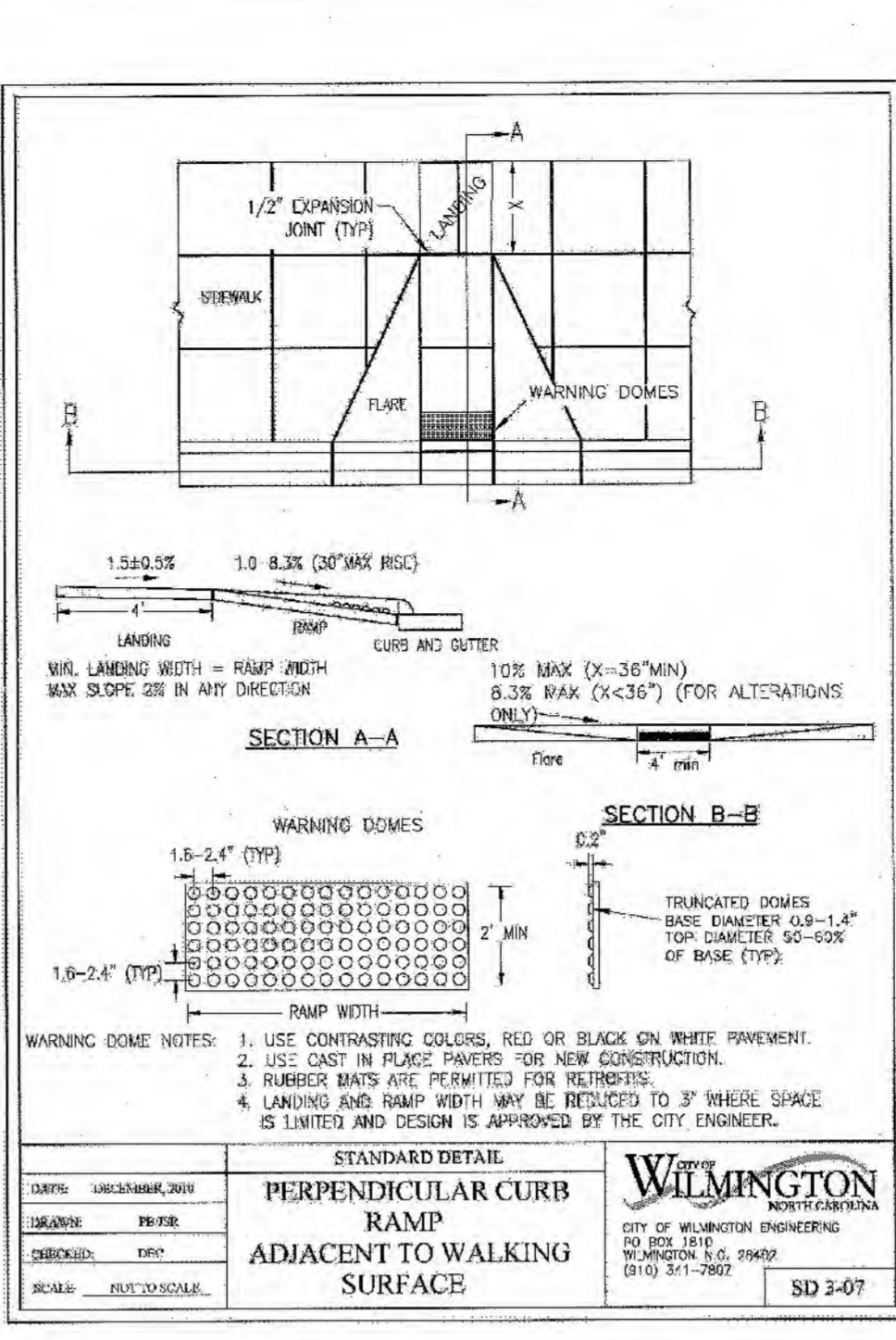
SHEET 1 OF 1
852.01



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

ROADWAY STANDARD DRAWING FOR
CONCRETE CURB & GUTTER

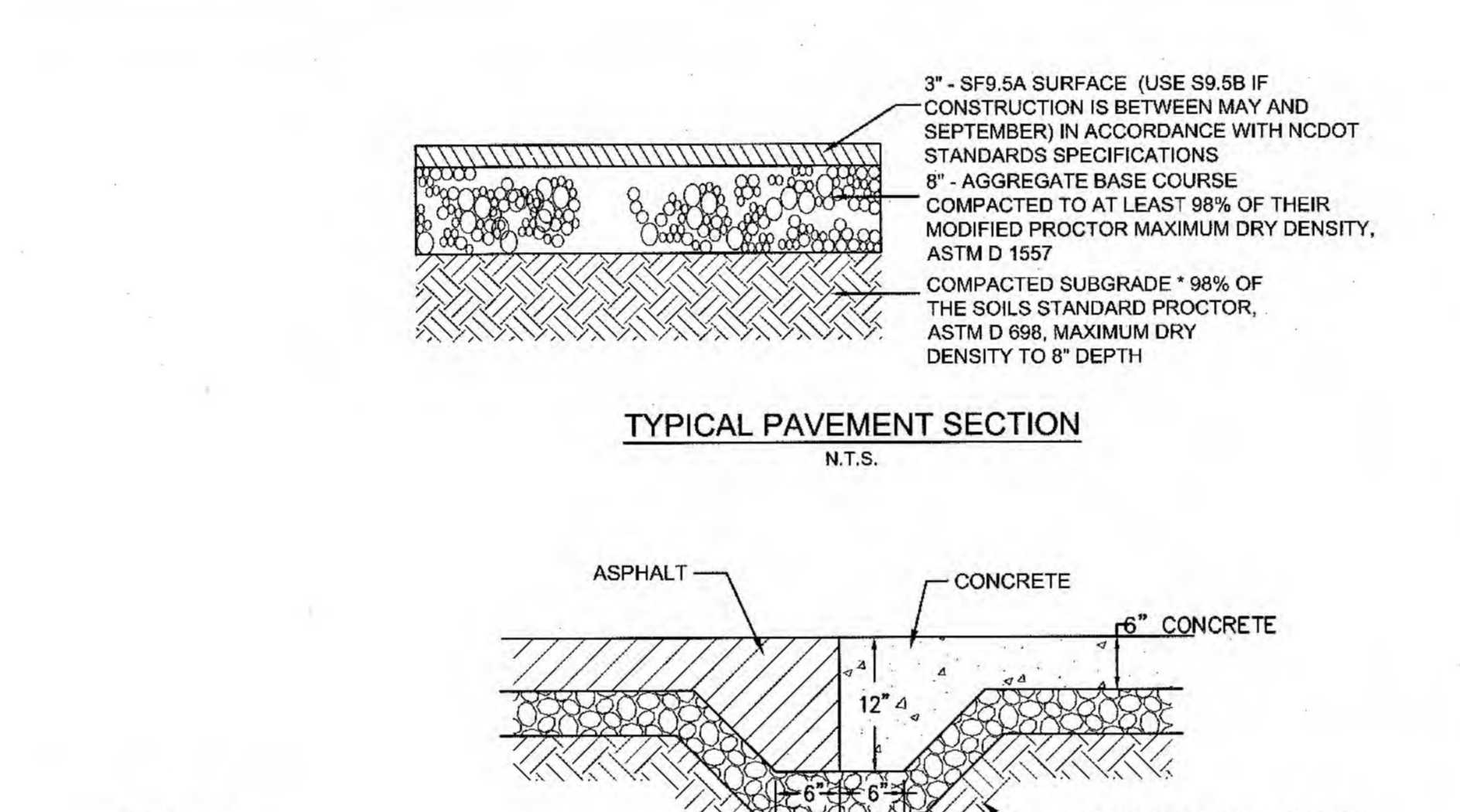
SHEET 1 OF 3
846.01



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

ROADWAY STANDARD DRAWING FOR
COMMERCIAL DRIVEWAY SECTIONS (VERTICAL CURB)

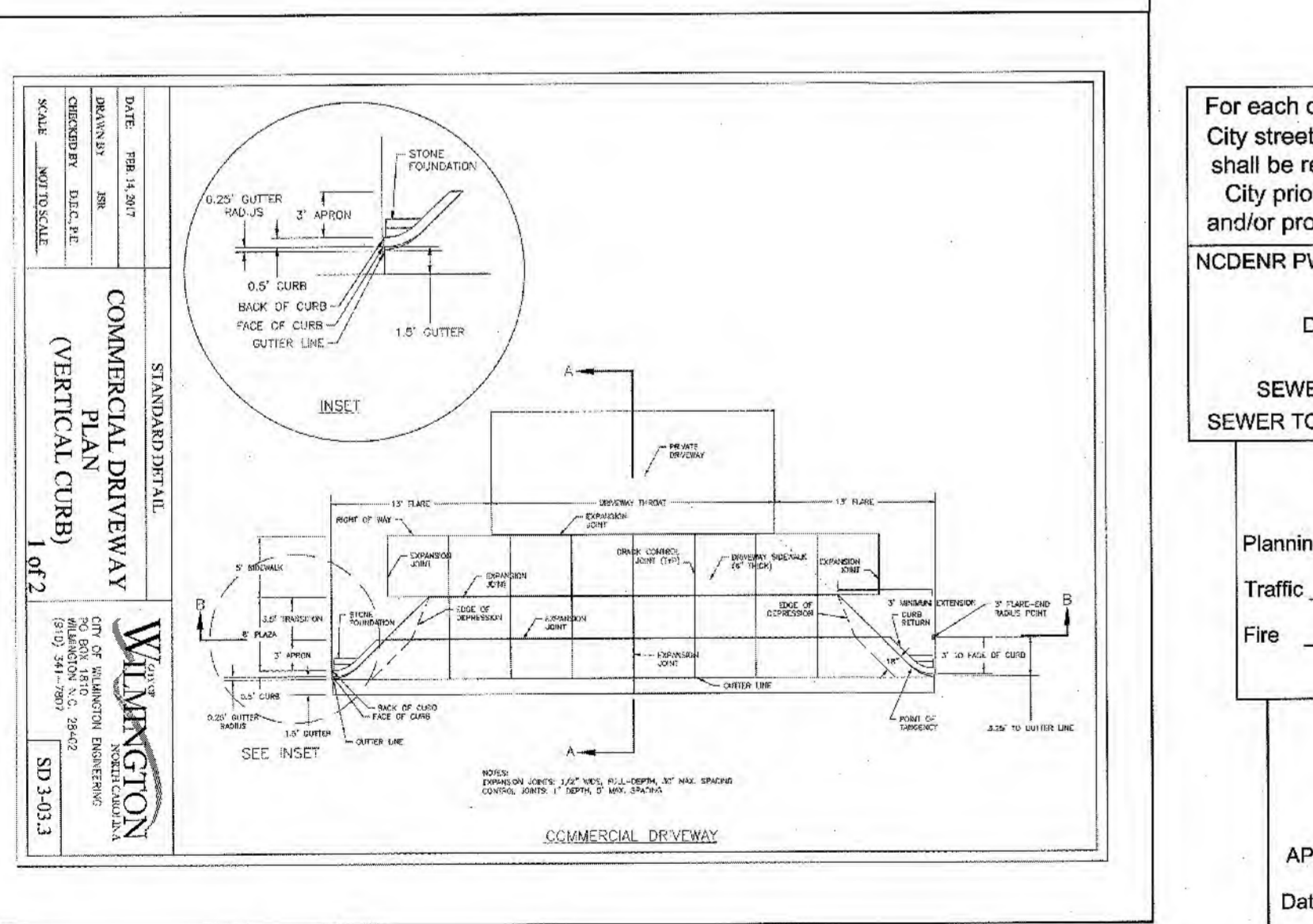
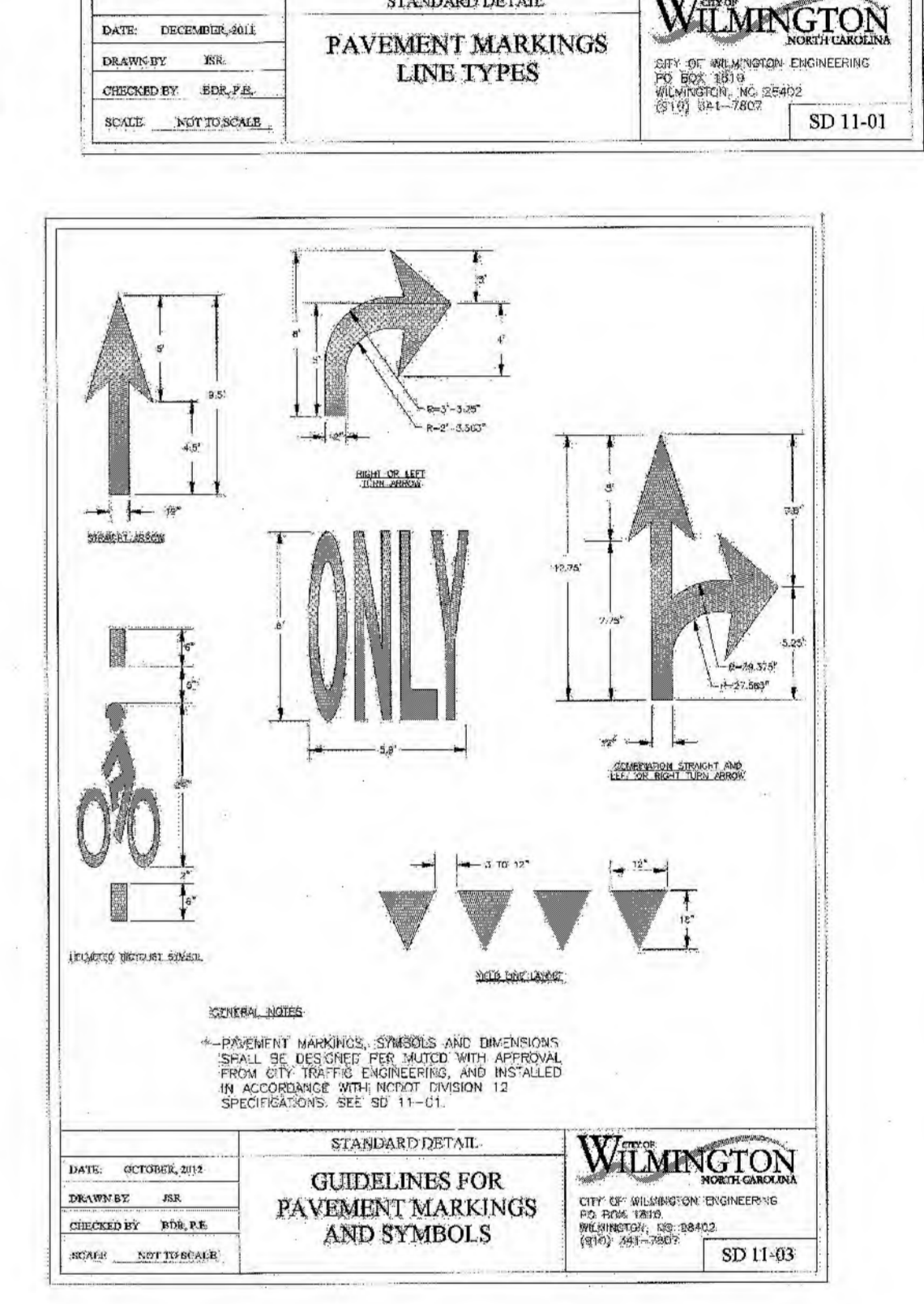
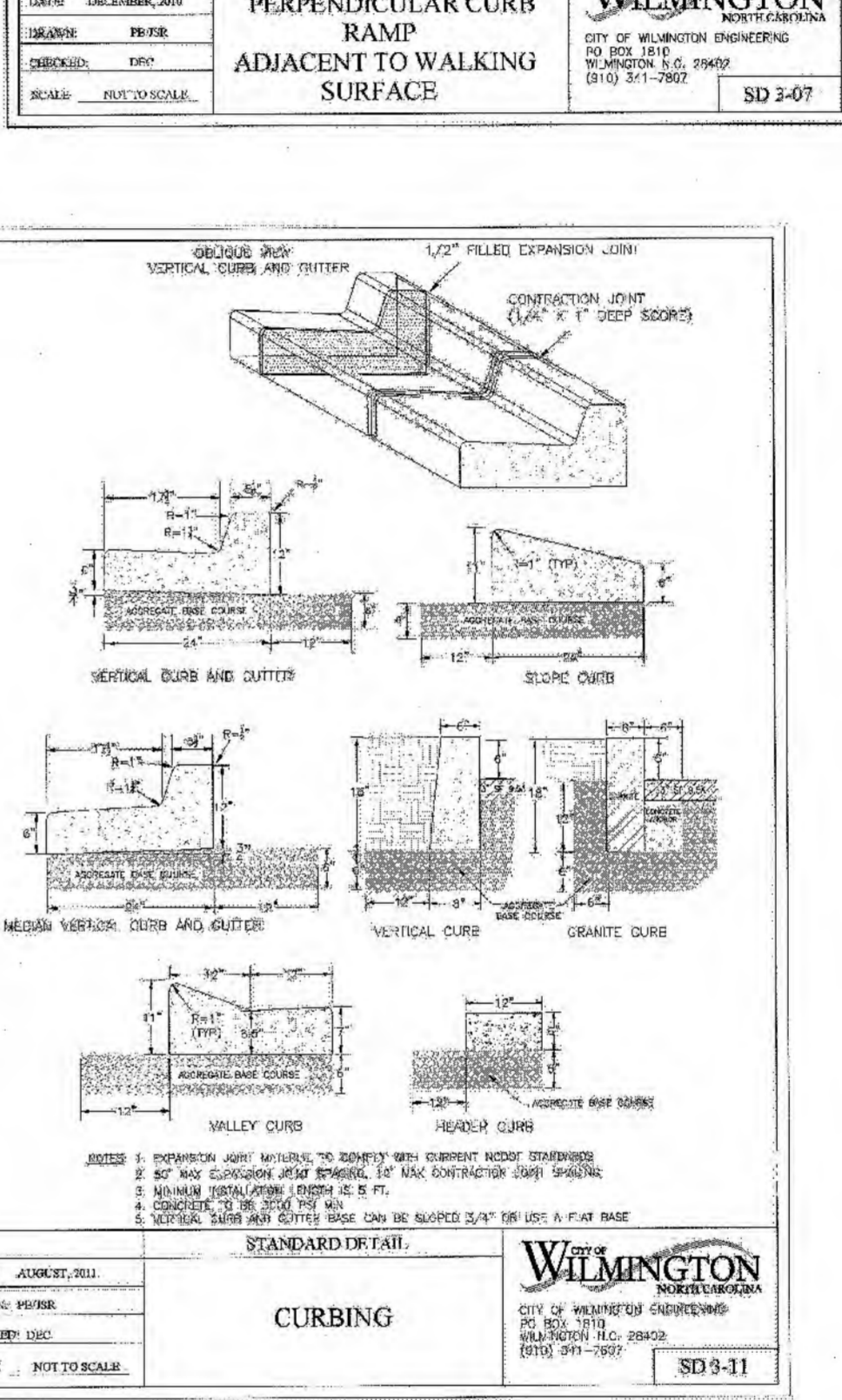
SHEET 2 OF 2
SD 3-03.4



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

ROADWAY STANDARD DRAWING FOR
ASPHALT TO CONCRETE PAVEMENT TRANSITION

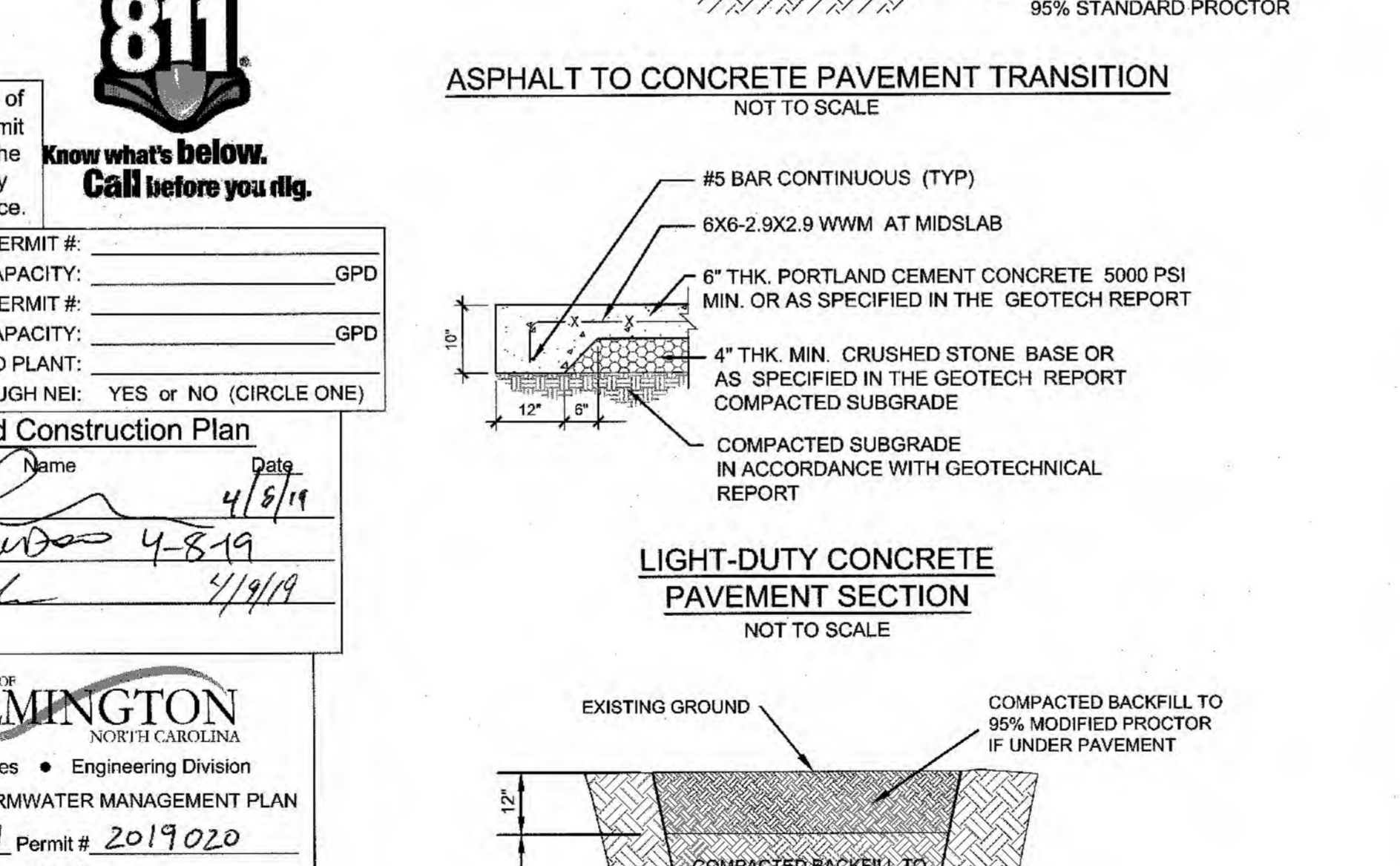
SHEET 1 OF 1
SD 3-07



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

ROADWAY STANDARD DRAWING FOR
COMMERCIAL DRIVEWAY PLAN (VERTICAL CURB)

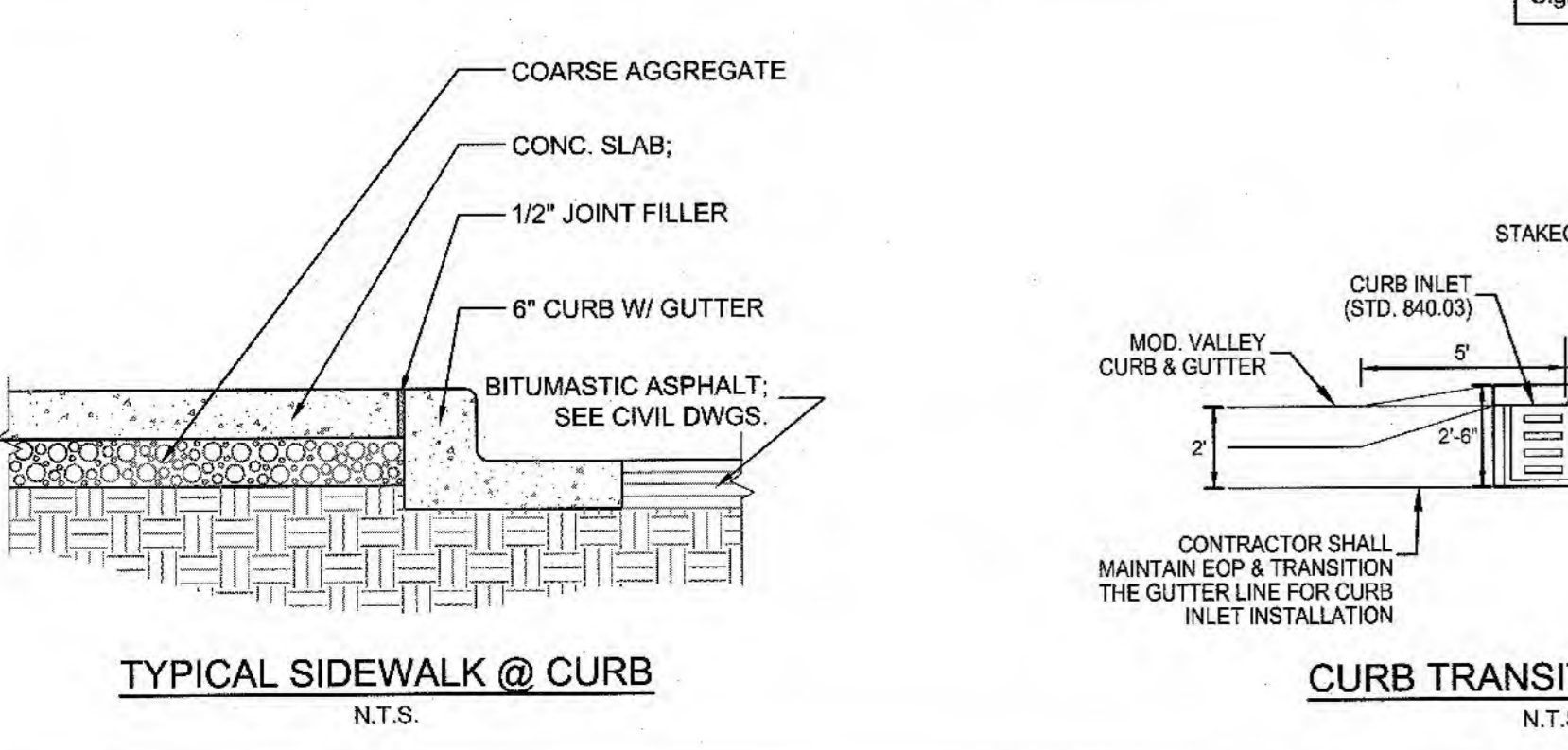
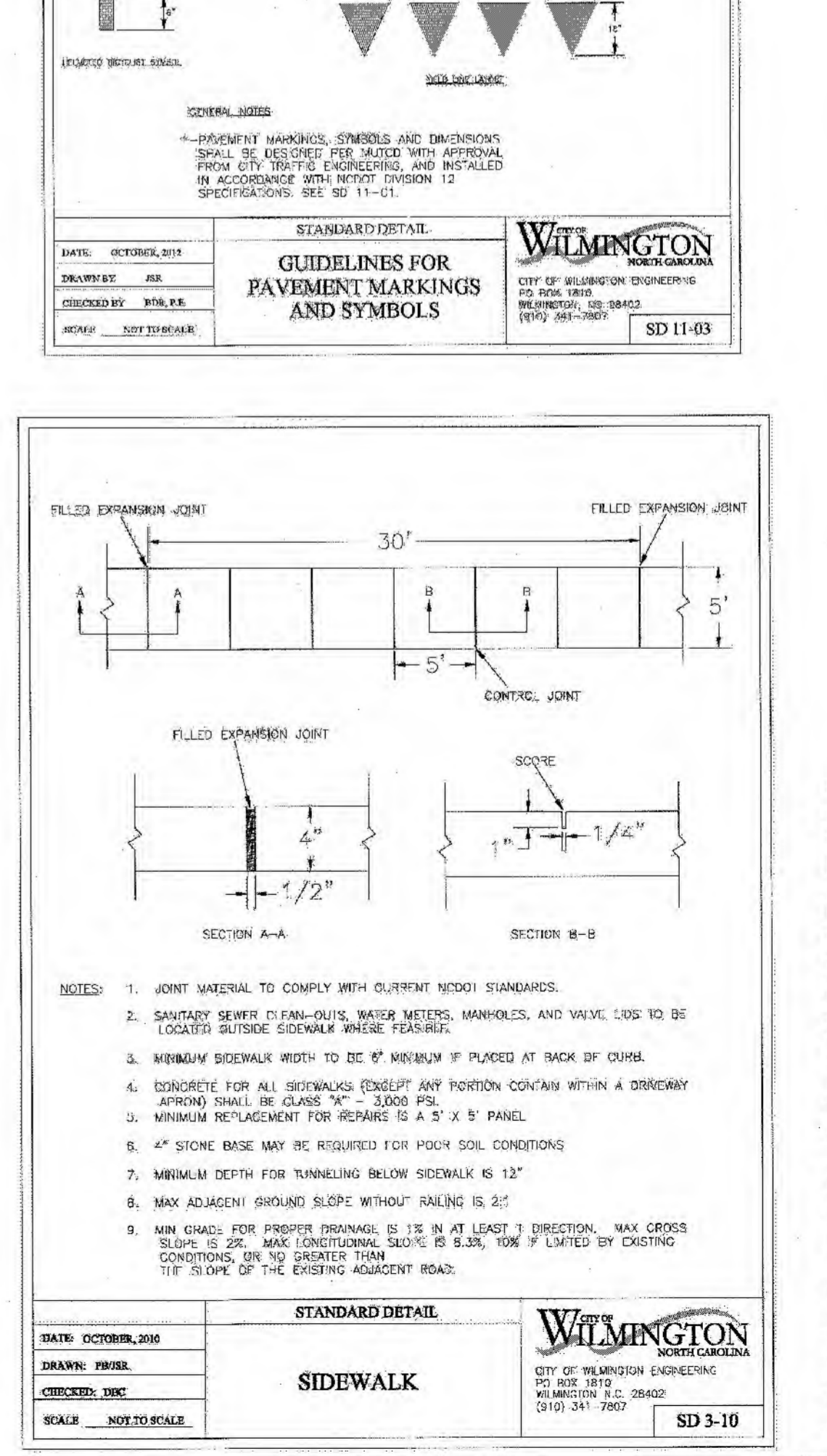
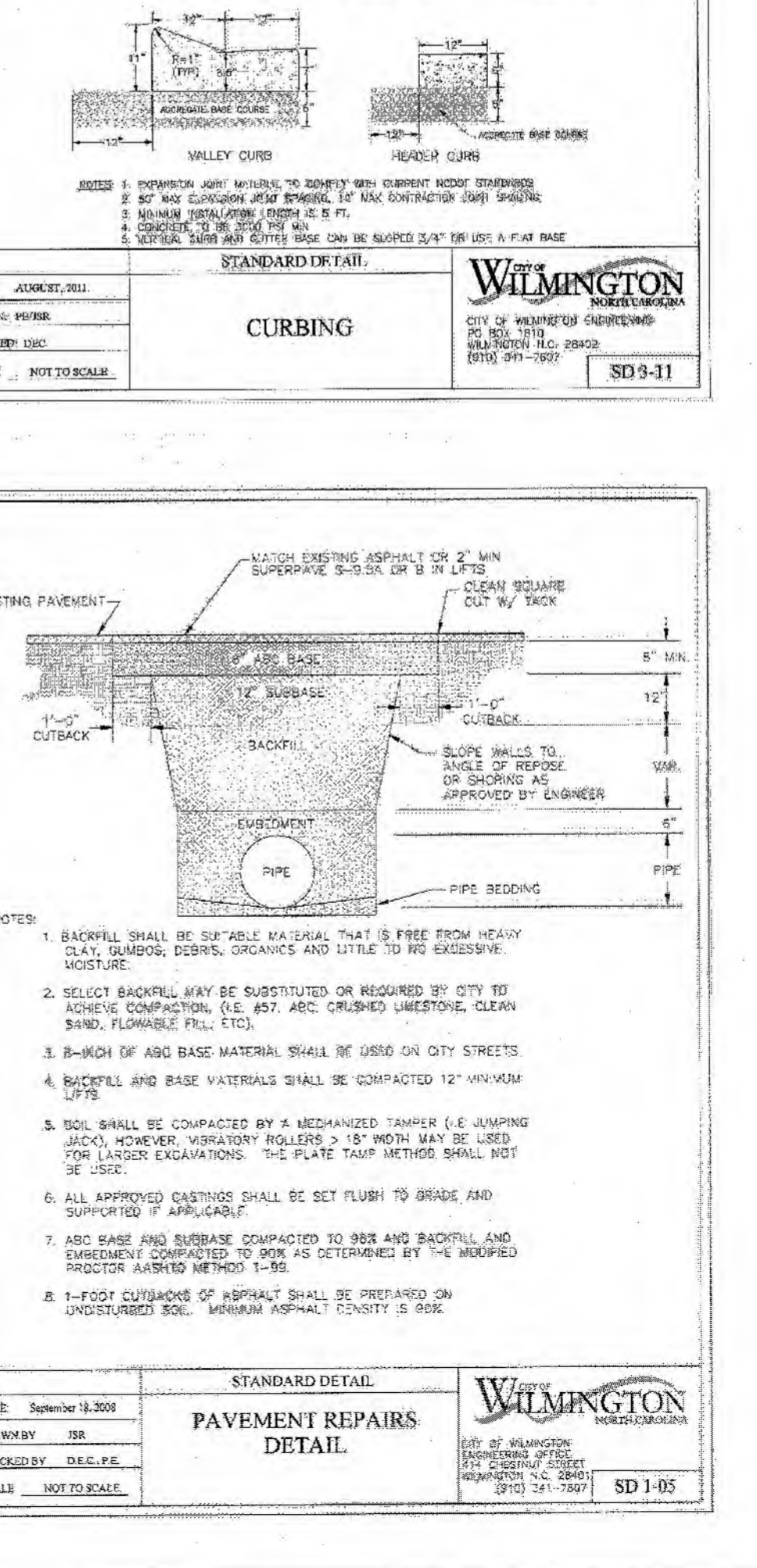
SHEET 1 OF 2
SD 3-03.3



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

ROADWAY STANDARD DRAWING FOR
LIGHT-DUTY CONCRETE PAVEMENT SECTION

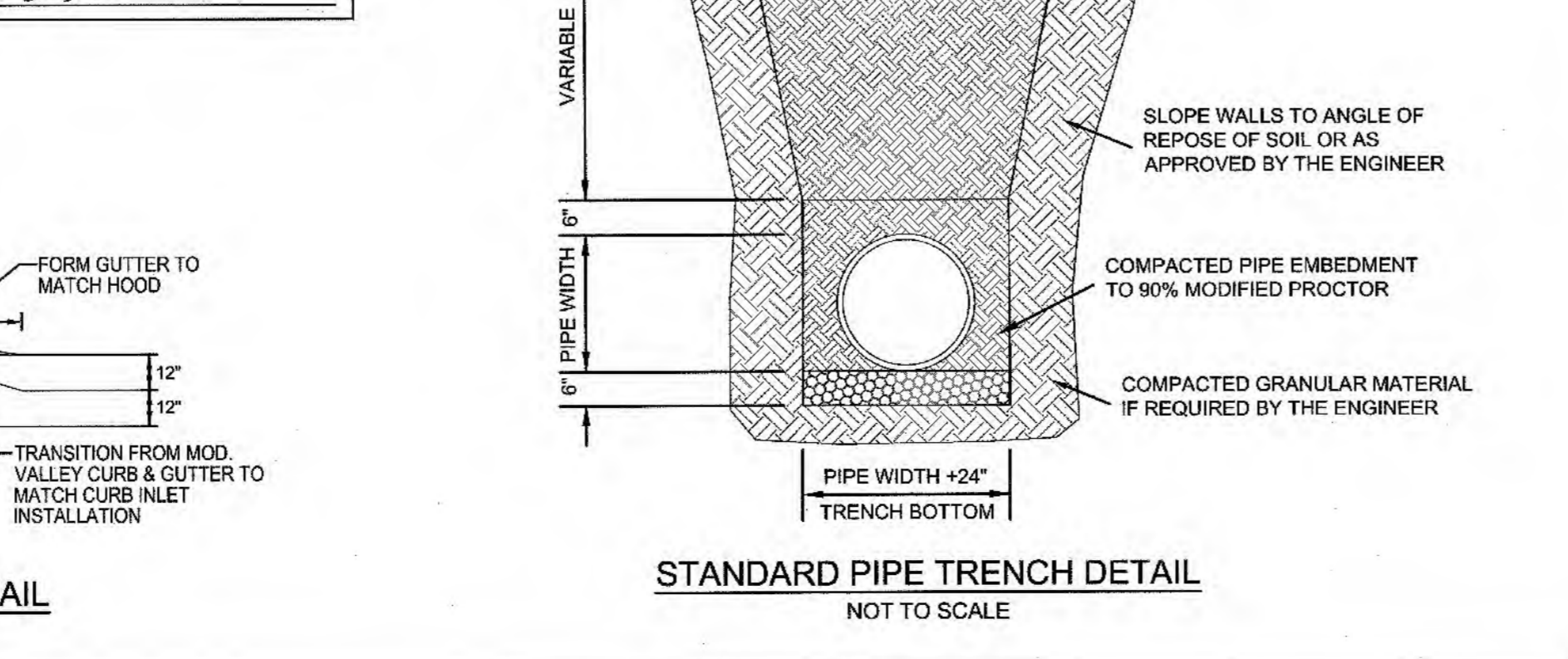
SHEET 1 OF 1
SD 3-11



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

ROADWAY STANDARD DRAWING FOR
TYPICAL SIDEWALK @ CURB

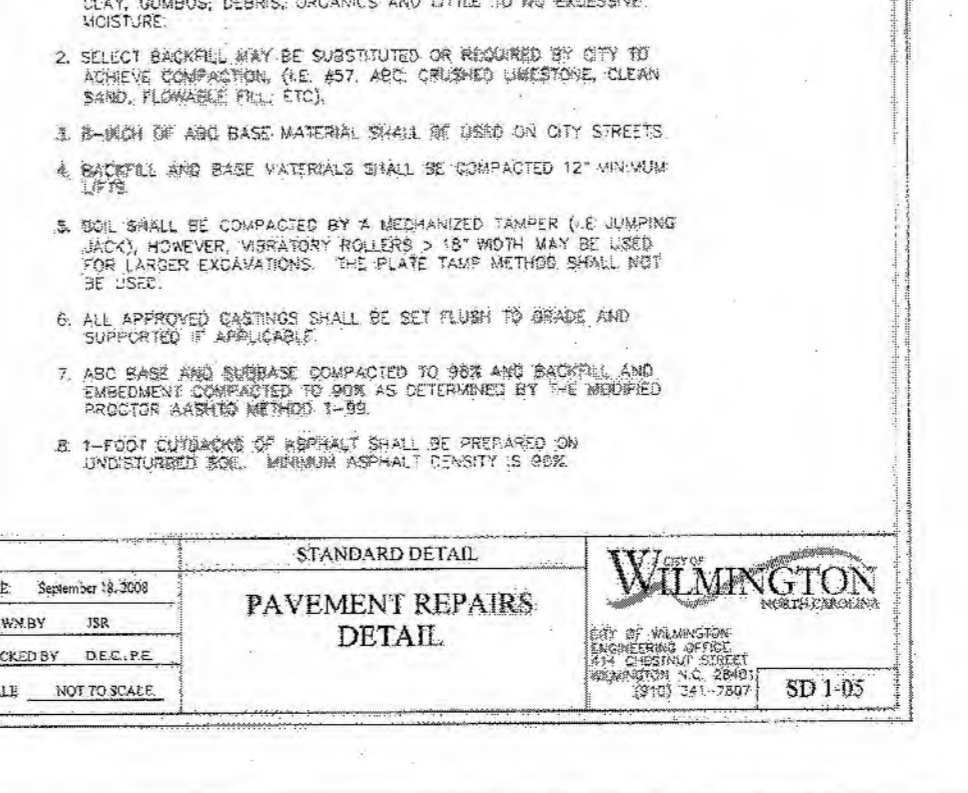
SHEET 1 OF 1
N.T.S.



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

ROADWAY STANDARD DRAWING FOR
CURB TRANSITION DETAIL

SHEET 1 OF 1
N.T.S.



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

ROADWAY STANDARD DRAWING FOR
STANDARD PIPE TRENCH DETAIL

SHEET 1 OF 1
N.T.S.

811
Know what's below.
Call before you dig.

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

NCDCNR PWSS WATER PERMIT #: _____ GPD
WATER CAPACITY: _____
DWQ SEWER PERMIT #: _____ GPD
SEWER CAPACITY: _____
SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

Approved Construction Plan
Name: _____ Date: 4/8/19
Planning: _____ 4-8-19
Traffic: _____
Fire: _____ 4/9/19

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 4-8-19 Permit # 2019020
Signed: _____

ISSUED FOR CONSTRUCTION

PROJECT STATUS:
CONCEPT/LAYOUT: _____
PRELIMINARY/LAYOUT: _____
FINAL DESIGN/PAVING: _____
RELEASED FOR CONSTRUCTION: _____

DRAWING INFORMATION:
DATE: _____
DRAWN BY: _____
CHECKED BY: _____
DESIGNED BY: _____
CREATED: _____

SEAL:
NORTH CAROLINA PROFESSIONAL ENGINEER
NO. 031591
ROBERT P. BALLANTINE
04/05/19

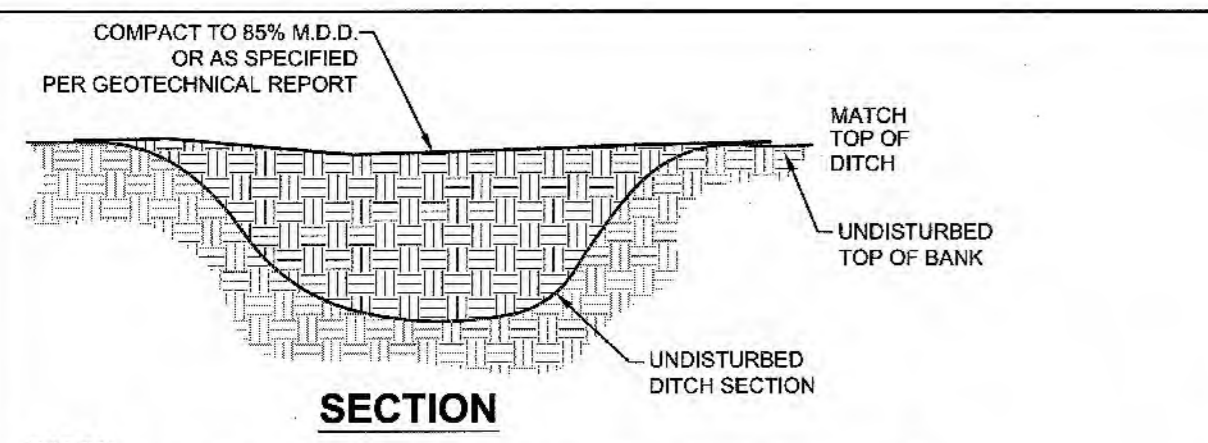
C-6.0

PEI JOB#: 16247 PE

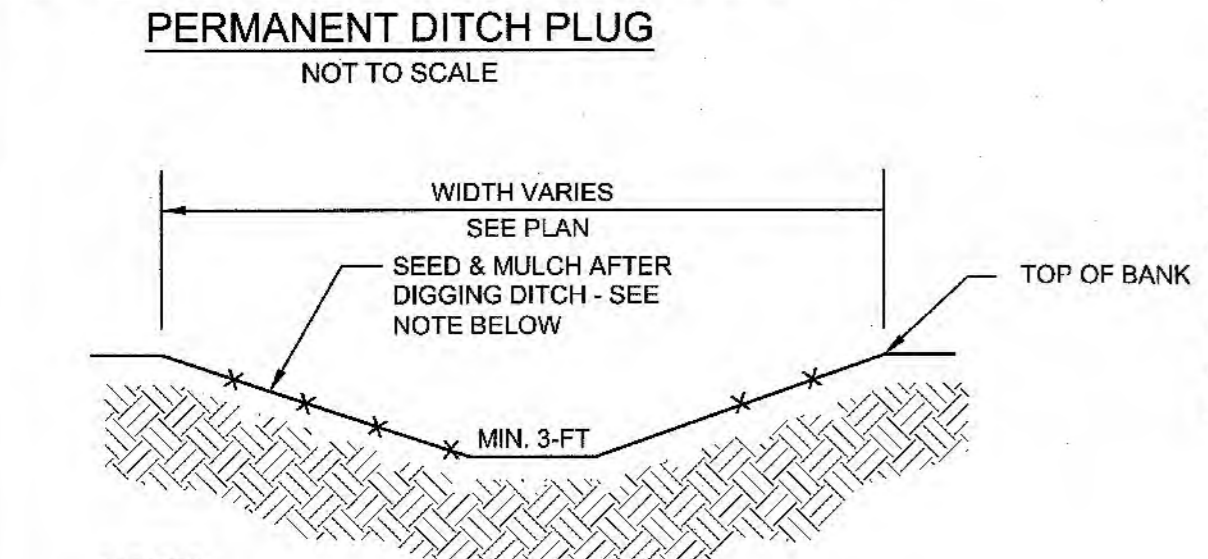
CLIENT INFORMATION:
ROMAN CATHOLIC DIOCESE OF RALEIGH
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RALEIGH, NC 27613

PARAMOUNT ENGINEERING
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

DETAILS
ST. MARK CATHOLIC CHURCH &
MAYFAIRE II ENTRANCE
EASTWOOD ROAD
WILMINGTON, NC 28403



NOTES:
 1. REMOVE ALL BRANCHES AND DEBRIS FROM LOCATION OF DITCH PLUG.
 2. DO NOT EXCAVATE THE EXISTING CHANNEL OR BANKS.
 3. BACKFILL ON TOP OF THE BOTTOM IN 8-INCH LIFTS.
 4. INSPECT PLUG DURING CONSTRUCTION FOR DAMAGE OR BREACH.
 5. REPLANT PLUG PER STREAMBANK STABILIZATION DETAILS.

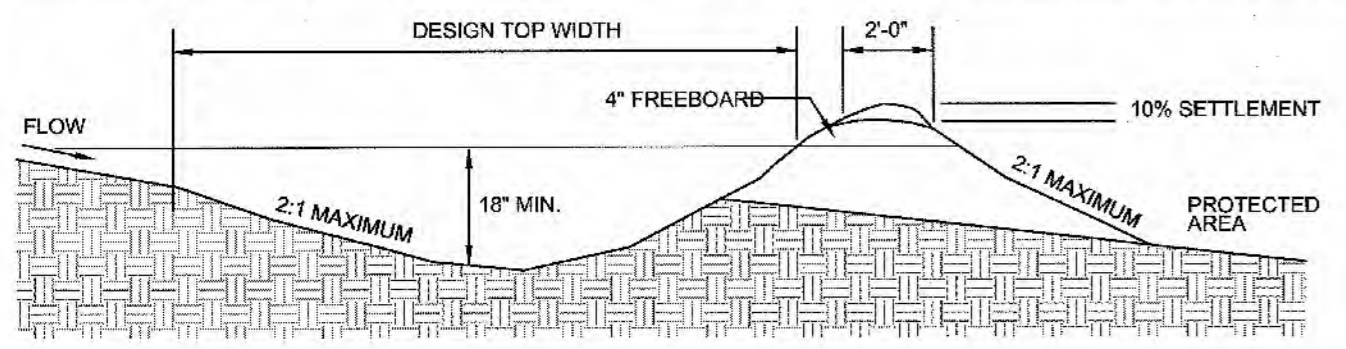


NOTES:
 1. 5:1 SIDE SLOPES.
 2. DITCH TO BE FULLY LINED WITH EROSION CONTROL BLANKETS PRIOR TO SEEDING & MULCHING FROM TOP OF BANK TO TOP OF BANK, AS REQUIRED BY LAND QUALITY.
 3. PROPOSED SWALES WILL HAVE A BOTTOM WIDTH OF MIN. 3-FOOT.
 4. SEE PLAN FOR HORIZONTAL LOCATION OF SWALES.
 5. SWALES TO BE CONSTRUCTED WITH 6" OF DEPTH ADDED TO CALCULATED DEPTH ABOVE.

TYPICAL SWALE
NOT TO SCALE

| SWALE # | RUNOFF | | | CHANNEL | | | | | | | | | | | | | |
|-------------|------------------------|------|---------------------------|-----------------------|------------------------|-------------|-------------|--------------|--------|--------|------------------------|------|------|---------------------------|---------------------------|--------------------------|------------------------|
| | A _d (acres) | C | Q _{design} (cfs) | Q ₅₀ (cfs) | Q ₁₀₀ (cfs) | Length (ft) | Inv In (ft) | Inv Out (ft) | S | d (ft) | A _c (sq ft) | P | R | V _{actual} (fps) | Q _{actual} (cfs) | Adequate Capacity? (Y/N) | Lining Required? (Y/N) |
| EX SWALE #1 | 0.57 | 0.76 | 3.26 | 0.26 | 3.52 | 180 | 23.50 | 22.90 | 0.0033 | 0.61 | 2.95 | 6.06 | 0.43 | 1.22 | 3.81 | Y | N |
| EX SWALE #2 | 0.94 | 0.80 | 5.44 | 1.47 | 8.91 | 175 | 24.25 | 23.71 | 0.0031 | 0.87 | 4.88 | 8.50 | 0.57 | 1.43 | 6.97 | Y | N |
| EX SWALE #3 | 1.26 | 0.65 | 5.62 | 0.92 | 8.92 | 312 | 24.00 | 22.50 | 0.0048 | 0.75 | 3.94 | 7.74 | 0.51 | 1.65 | 6.48 | Y | N |

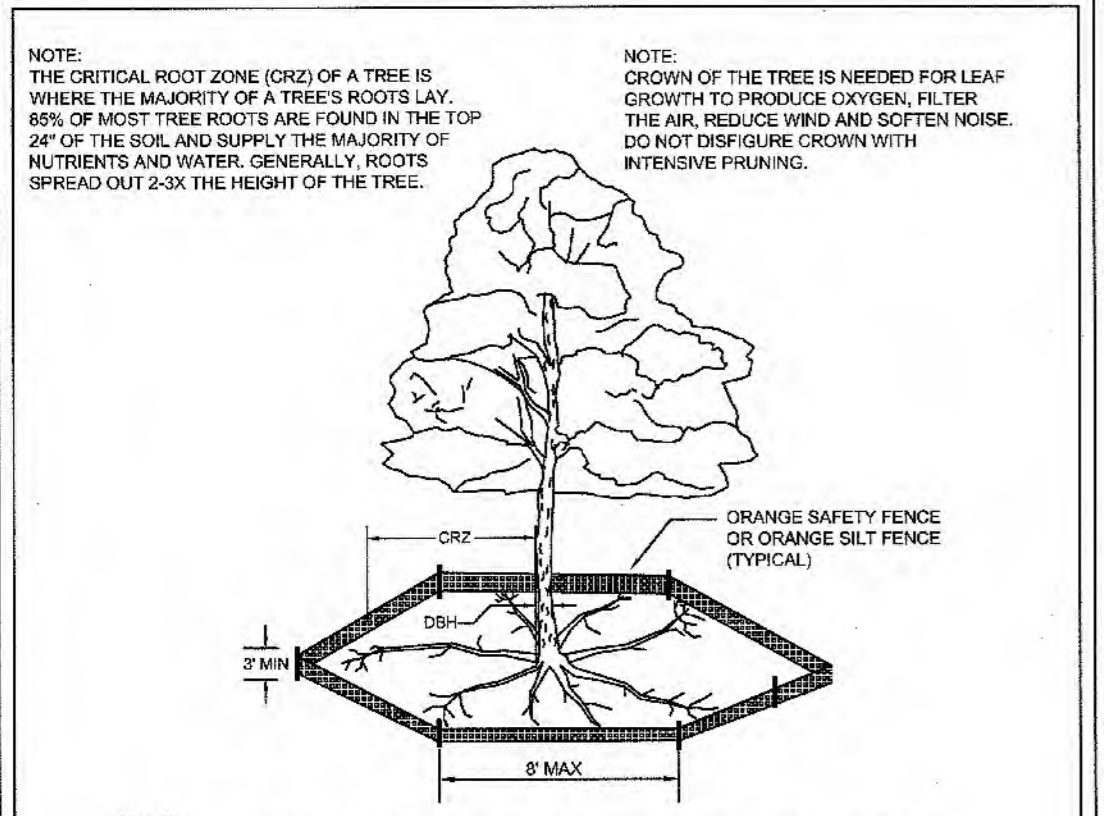
| SWALE # | RUNOFF | | | CHANNEL | | | | | | | | | | | | | |
|---------|------------------------|------|---------------------------|-----------------------|------------------------|-------------|-------------|--------------|--------|--------|------------------------|------|------|---------------------------|---------------------------|--------------------------|------------------------|
| | A _d (acres) | C | Q _{design} (cfs) | Q ₅₀ (cfs) | Q ₁₀₀ (cfs) | Length (ft) | Inv In (ft) | Inv Out (ft) | S | d (ft) | A _c (sq ft) | P | R | V _{actual} (fps) | Q _{actual} (cfs) | Adequate Capacity? (Y/N) | Lining Required? (Y/N) |
| 1 | 0.32 | 0.48 | 1.11 | 0.00 | 1.11 | 105 | 23.87 | 23.50 | 0.0035 | 0.31 | 1.41 | 6.16 | 0.23 | 0.83 | 1.17 | Y | N |



NOTE:
 BUILD RIDGE HIGHER THAN DESIGN AND COMPACT WITH WHEELS OF CONSTRUCTION EQUIPMENT. COMPACTED RIDGE MUST AT OR ABOVE DESIGN GRADE AT ALL POINTS. CHANNEL MUST BE CONSTRUCTED ON DESIGN GRADE. LEAVE SUFFICIENT AREA ALONG DIVERSION TO PERMIT CLEANOUT AND REGRADING.

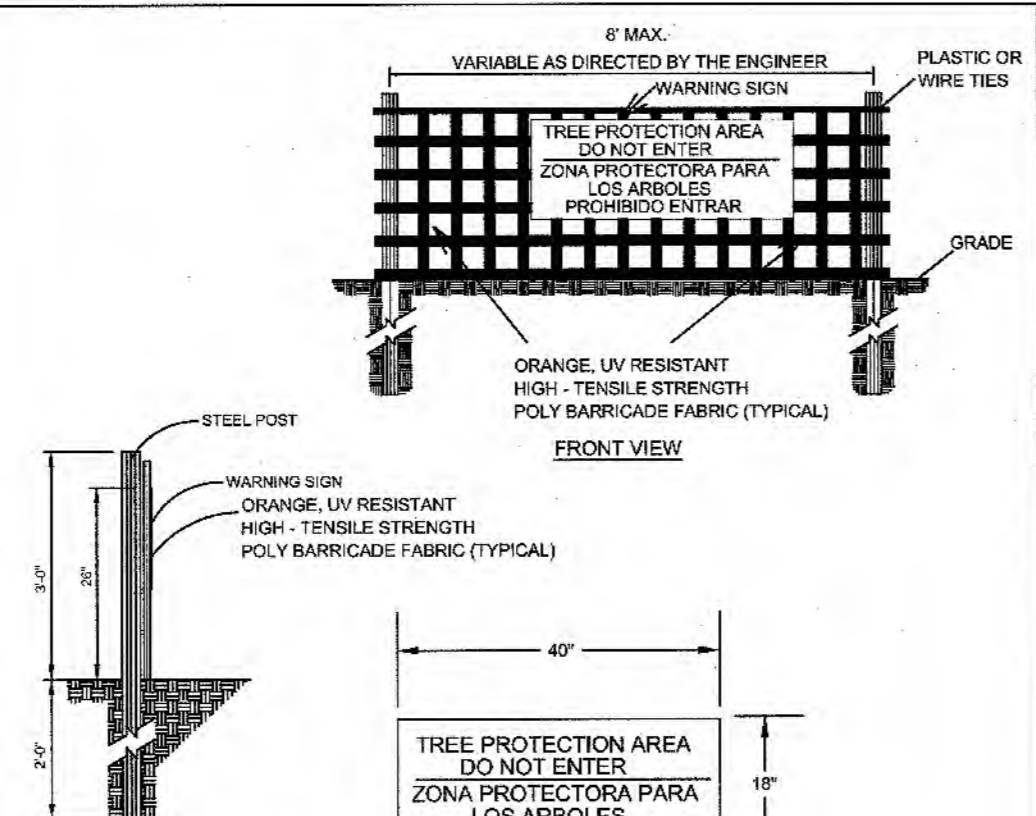
GUIDELINES FOR TEMPORARY DIVERSION DITCH
NOT TO SCALE

| TDD # | RUNOFF | | | CHANNEL | | | | | | | | | | | | | |
|-------|------------------------|------|---------------------------|-----------------------|------------------------|-------------|-------------|---------------|--------|--------|------------------------|------|------|---------------------------|---------------------------|--------------------------|------------------------|
| | A _d (acres) | C | Q _{design} (cfs) | Q ₅₀ (cfs) | Q ₁₀₀ (cfs) | Length (ft) | Inv Up (ft) | Inv Down (ft) | S | d (ft) | A _c (sq ft) | P | R | V _{actual} (fps) | Q _{actual} (cfs) | Adequate Capacity? (Y/N) | Lining Required? (Y/N) |
| 1 | 0.19 | 0.35 | 0.47 | 0.12 | 0.26 | 25.50 | 26.50 | 25.50 | 0.0044 | 0.35 | 0.37 | 2.21 | 0.17 | 1.49 | 0.55 | Y | N |
| 2 | 0.23 | 0.35 | 0.57 | 0.10 | 0.26 | 25.50 | 26.50 | 25.50 | 0.0067 | 0.33 | 0.33 | 2.09 | 0.16 | 1.77 | 0.58 | Y | N |



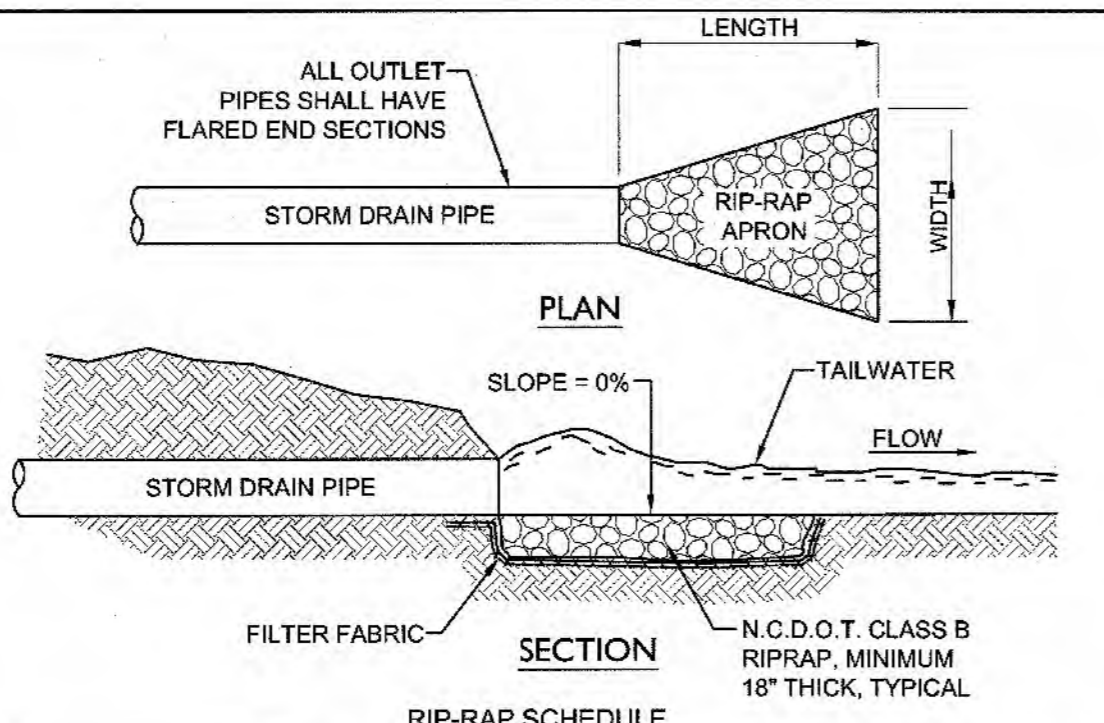
NOTES:
 1. PROTECT CRITICAL ROOT ZONE (CRZ) OF TREES PRIOR TO CONSTRUCTION. CLEARLY MARK THE TREES AND ERECT A PROTECTIVE BARRIER AT THE CRZ. BARRIER SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
 2. CRZ RADIUS IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH).
 3. IF CONSTRUCTION OCCURS WITHIN THE CRZ, AT LEAST 1/2" OF MULCH AND LOGGING MATS SHALL BE PLACED WHERE MACHINERY MANEUVERS TO REDUCE SOIL COMPACTION IN THIS ZONE.
 4. WHERE SIDEWALKS AND PATHWAYS PASS WITHIN CRZ, EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE ROOTS. ALTERNATE CONSTRUCTION METHODS, SUCH AS A REINFORCED SIDEWALK, SHALL BE IMPLEMENTED AS NECESSARY.
 5. FOR ALL TREES, CUTTING OF LARGE STRUCTURAL ROOTS LOCATED NEAR THE BASE OF THE TRUNK IS PROHIBITED. DO NOT COMPACT SOIL BENEATH TREES. NO VEHICLE SHALL BE ALLOWED TO PARK UNDER TREES. NO MATERIALS OR EQUIPMENT SHALL BE STORED BENEATH TREES. DURING THE BARK WITH LAWNMOWERS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED. CONTRACTOR SHALL REPAIR DAMAGE TO TREES.
 6. FAILING TO INSTALL OR MAINTAIN PROTECTION MEASURES SHALL RESULT IN A STOP WORK ORDER AND FINE OF \$500/DAY. DISTURBANCE OTHER THAN THAT ALLOWED ON THE APPROVED PLAN WILL REQUIRE OWNER TO POST A LETTER OF CREDIT FOR 3 YRS FOR TREE MITIGATION.

STANDARD DETAIL
 DATE: JAN, 2015
 DRAWN BY: JSR
 CHECKED BY: RKS, P.E.
 SCALE: NOT TO SCALE
TREE PROTECTION DURING CONSTRUCTION
 SHEET 1 of 2
 SD 15-09
 CITY OF WILMINGTON ENGINEERING
 PO BOX 1610
 WILMINGTON, NC 28402
 (910) 341-7807



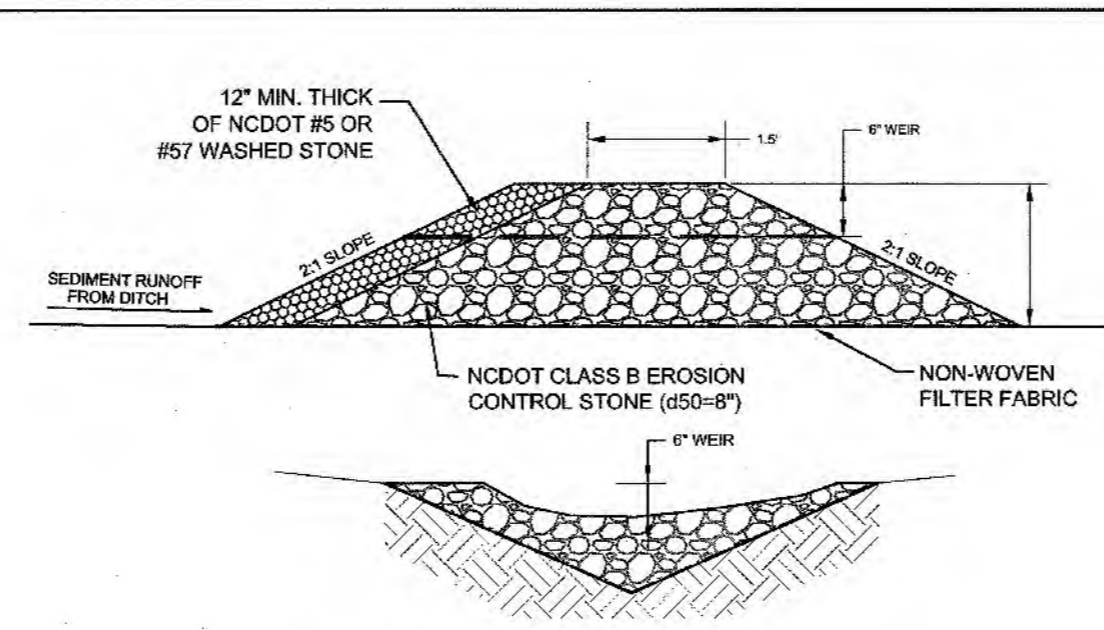
NOTES:
 1. THE TREE PROTECTION FENCING SHALL NOT BE VIOLATED FOR THE ENTIRE DURATION OF THE PROJECT WITHOUT APPROVAL FROM URBAN FORESTRY STAFF.
 2. WARNING SIGNS TO BE MADE OF DURABLE, WEATHER-PROOF MATERIAL. LETTERS TO BE 3" HIGH, MINIMUM, CLEARLY LEGIBLE, AND SPACED AS DETAIL.
 3. SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER. FOR TREE PROTECTION AREAS LESS THAN 100' IN PERIMETER, PROVIDE NO LESS THAN TWO SIGNS PER PROTECTION AREA.
 4. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC. MAINTAIN TREE PROTECTION FENCE AND SIGNS THROUGHOUT DURATION OF PROJECT.
 5. TREE PROTECTION FENCING AND SIGNS SHALL BE REMOVED AFTER CONSTRUCTION.
 6. ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF WILMINGTON, BASED ON ACTUAL FIELD CONDITIONS.

STANDARD DETAIL
 DATE: JAN, 2015
 DRAWN BY: JSR
 CHECKED BY: RKS, P.E.
 SCALE: NOT TO SCALE
TREE PROTECTION DURING CONSTRUCTION
 SHEET 2 of 2
 SD 15-09
 CITY OF WILMINGTON ENGINEERING
 PO BOX 1610
 WILMINGTON, NC 28402
 (910) 341-7807

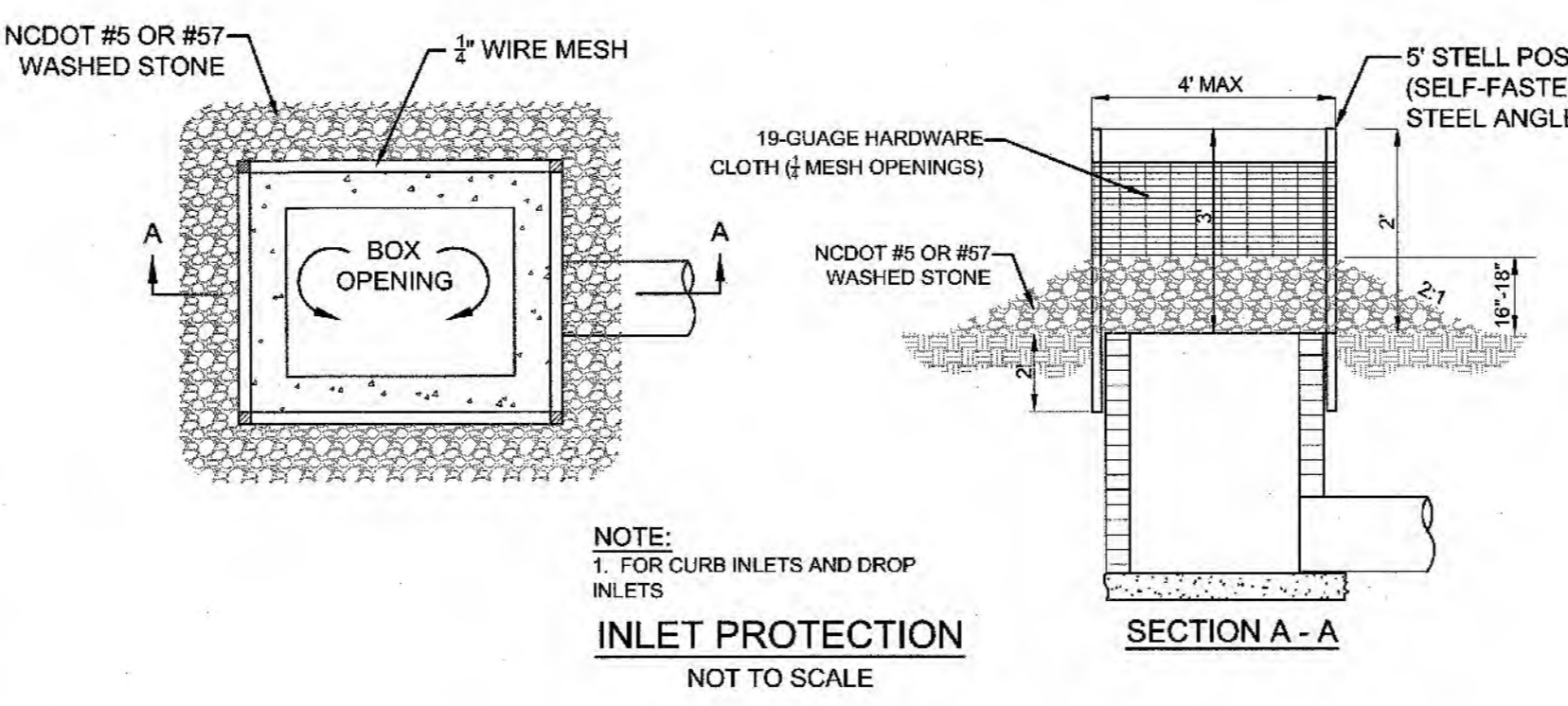


| PIPE DIA. (IN.) | LENGTH (FT.) | UPSTREAM WIDTH (FT.) | DOWNSTREAM WIDTH (FT.) |
|-----------------|--------------|----------------------|------------------------|
| FES-1 | 9 | 4.5 | 10.5 |
| FES-5 | 9 | 4.5 | 10.5 |
| FES-15 | 13 | 6.0 | 15.0 |
| FES-19 | 8 | 3.75 | 9.25 |
| FES-21 | 13 | 6.0 | 15.0 |

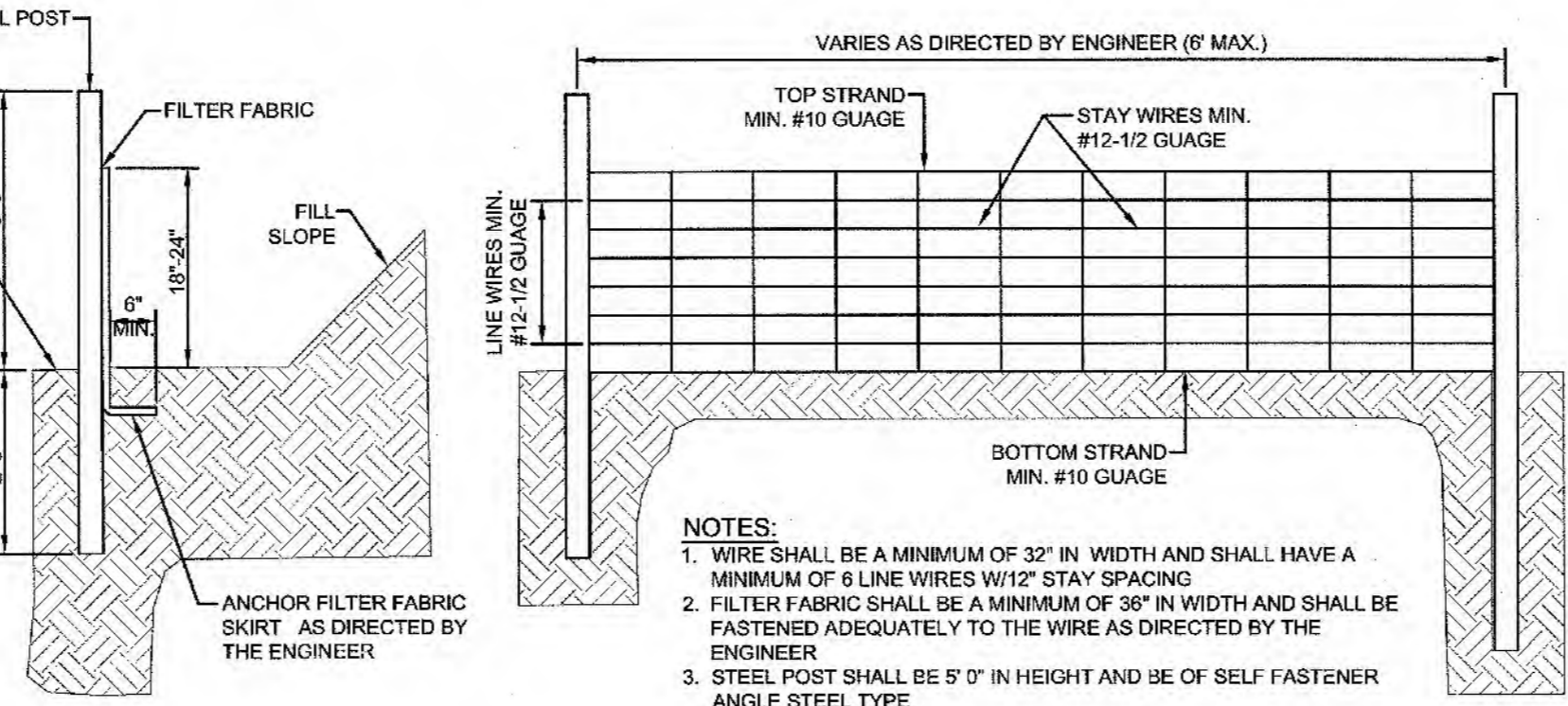
RIP-RAP APRON
NOT TO SCALE



STONE SECTION WITH A WEIR
TEMPORARY CHECK DAM DETAIL
NOT TO SCALE

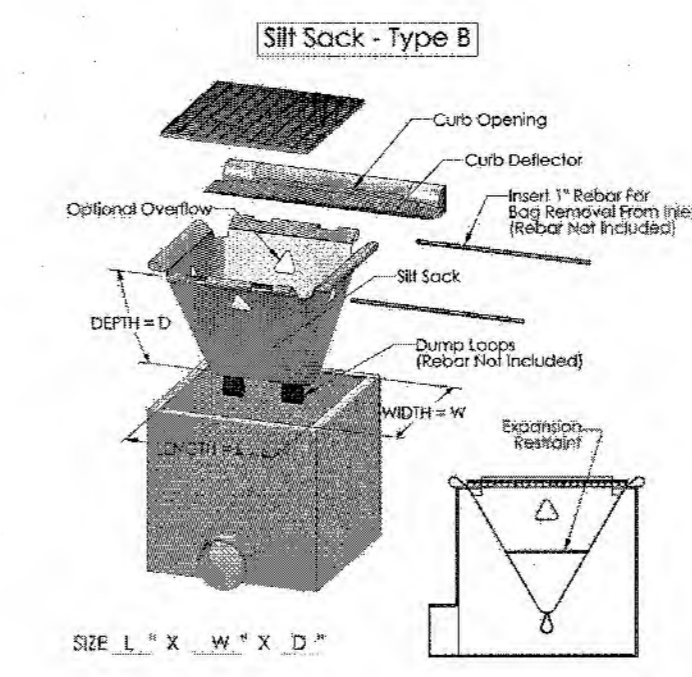


INLET PROTECTION
NOT TO SCALE

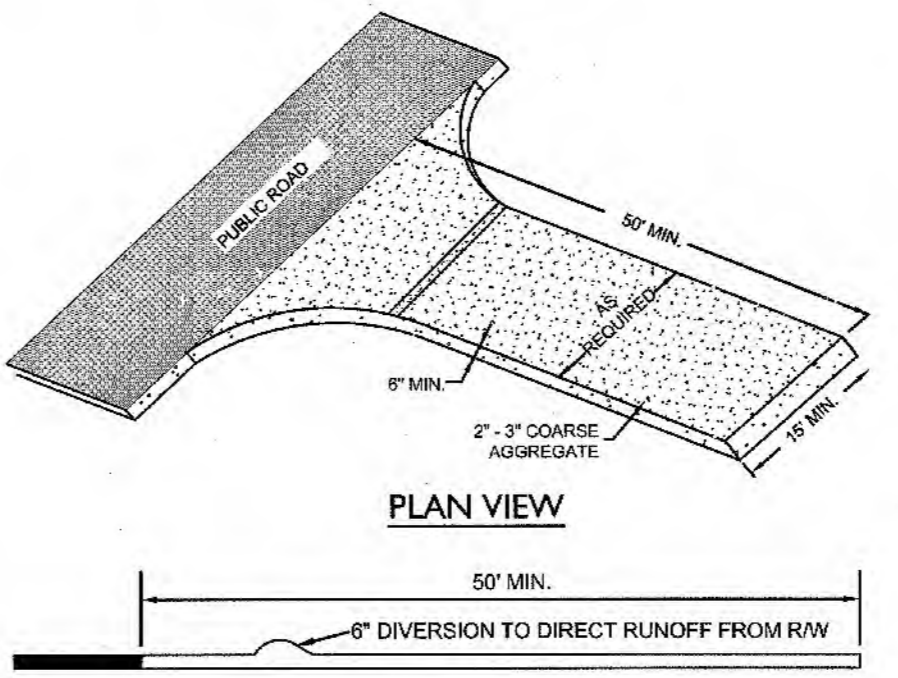


INLET PROTECTION DETAIL
NOT TO SCALE

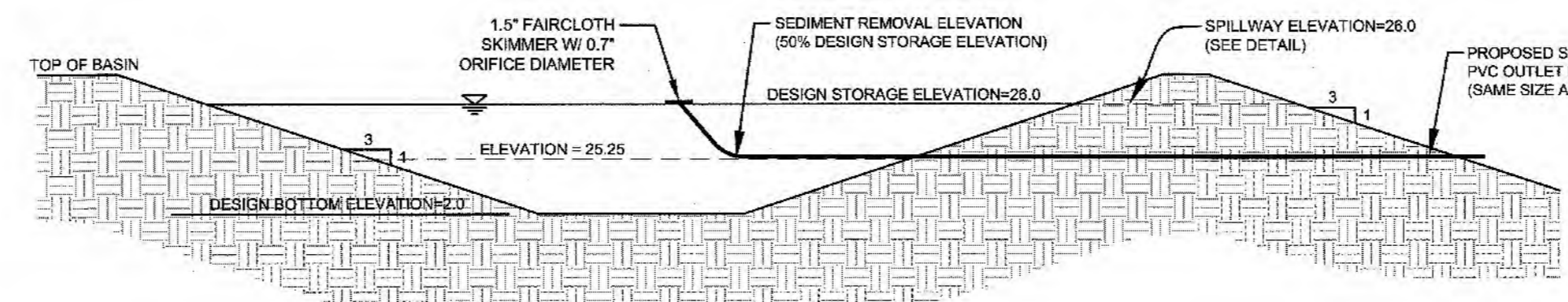
GUIDELINES FOR TEMPORARY SILT FENCE DETAIL
NOT TO SCALE



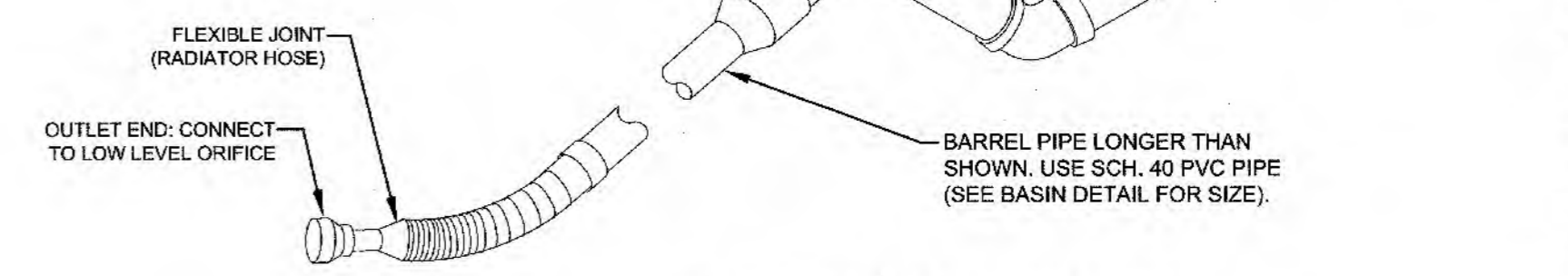
SILT SOCK - TYPE B
NOT TO SCALE



TEMPORARY CONSTRUCTION ENTRANCE
NOT TO SCALE



TEMPORARY SKIMMER SEDIMENT BASIN DETAIL
NOT TO SCALE



FAIRCLOTH SKIMMER DETAIL
NOT TO SCALE

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: 4-8-19 Permit # 2019020
 Signed: S-Sell

Approved Construction Plan
 Name: _____ Date: 4/8/19
 Planning: _____
 Traffic: _____
 Fire: _____
 Sewer to Flow Through NEI: YES or NO (CIRCLE ONE)

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

811
 Know what's below.
 Call before you dig.

ISSUED FOR CONSTRUCTION

PARAMOUNT ENGINEERING
 122 Cinema Drive
 Wilmington, North Carolina 28403
 (910) 791-6707 (O) (910) 791-6760 (F)
 NC License #: C-2846

DETAILS
 ST. MARK CATHOLIC CHURCH & MAYFAIRE II ENTRANCE EASTFAIRE ROAD WILMINGTON, NC 28403

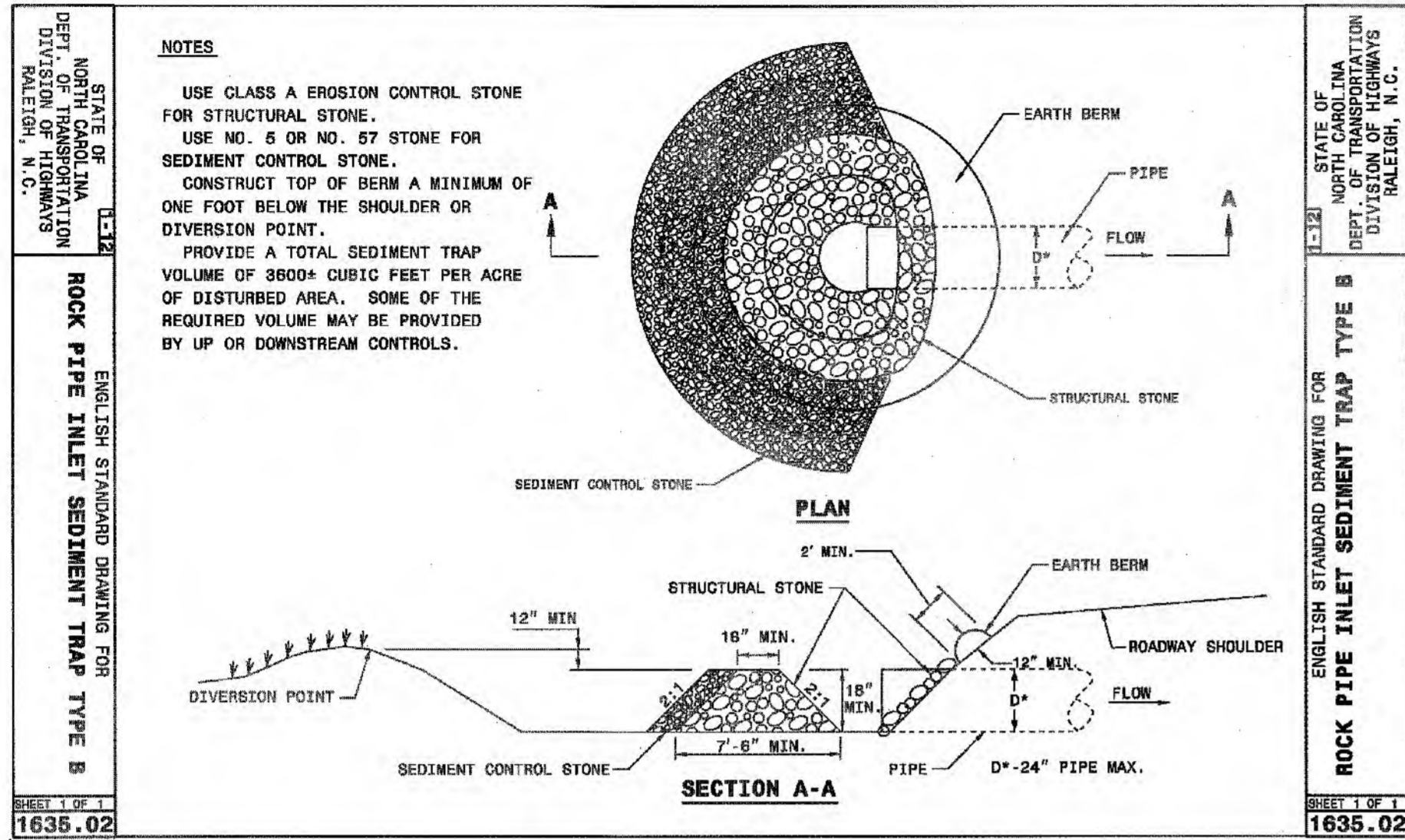
PROJECT STATUS:
 CONCEPTUAL LAYOUT:
 FINAL DESIGN:
 REFERRED FOR CONSTRUCTION:

DRAWING INFORMATION:
 DATE: 04/05/19
 SCALE: 1/8" = 1'-0"
 DRAWN: RKS
 CHECKED: RKS

SEAL:
 PROFESSIONAL ENGINEER
 ROBERT R. BALLARD
 031591
 04/05/19

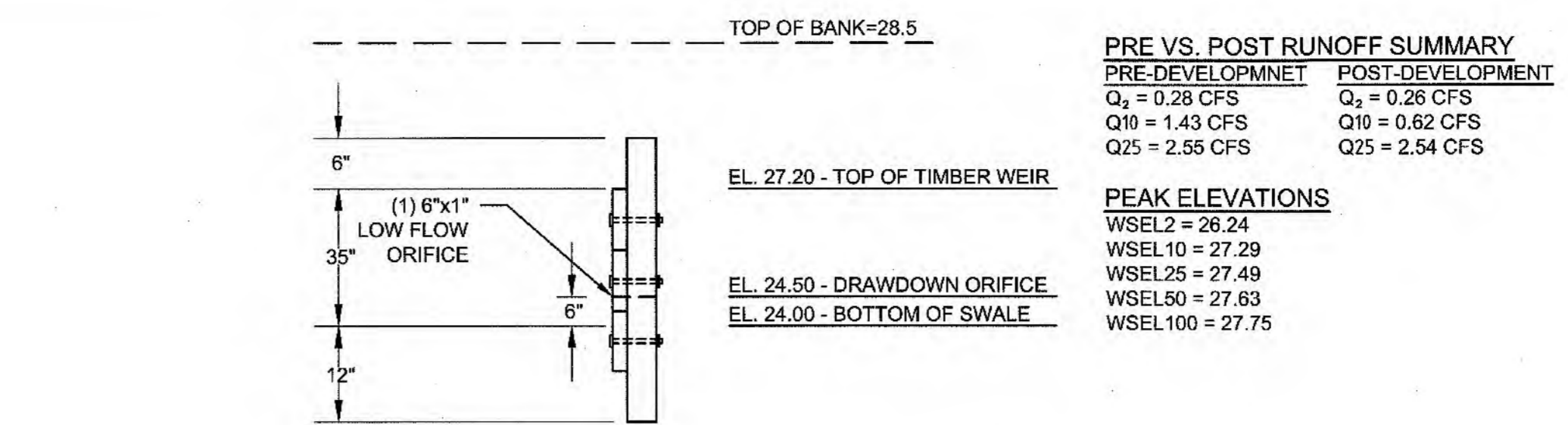
C-6.1

PEI JOB#: 16247.PE

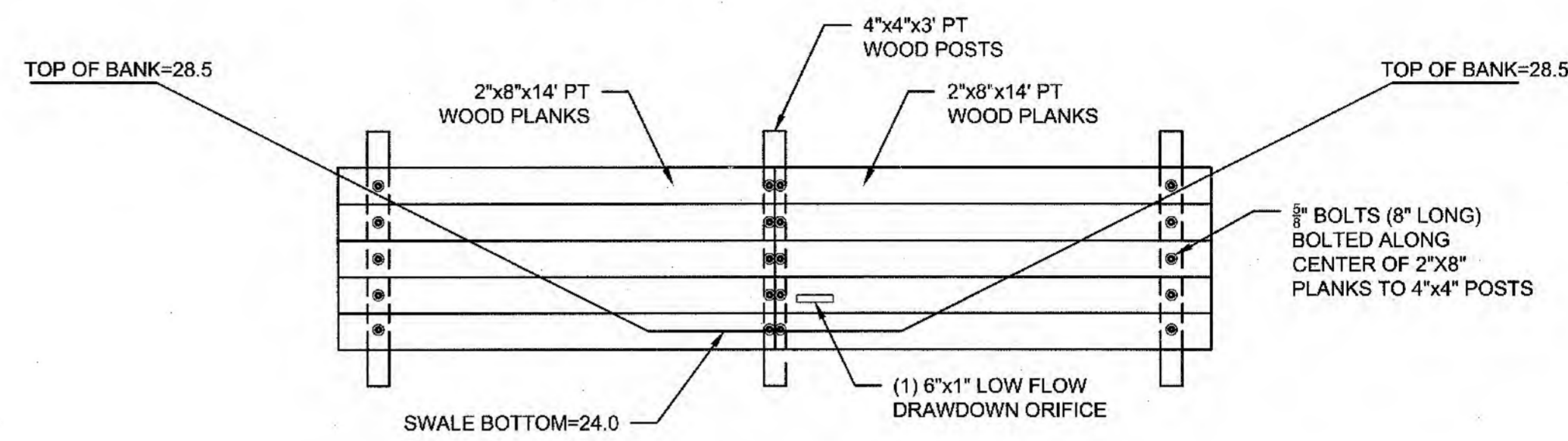


ROCK PIPE INLET PROTECTION
NOT TO SCALE

| Rock Pipe Inlet Protection #1 | | | |
|-------------------------------|-------------------|-------------------------|------------------------|
| Drainage Area (5 Ac. Max.) = | | | 0.27 Ac. |
| Requirements: | | | |
| Min. Volume (3,600 cf/Ac.) = | | | 972 cf |
| Provided: | | | |
| Basin Volume: | | | |
| Contour | Contour Area (SF) | Incremental Volume (CF) | Cumulative Volume (CF) |
| 24.0 | 588 | 0 | 0 |
| 25.0 | 1,055 | 822 | 822 |
| 26.0 | 1,563 | 1,309 | 2,131 |
| Rock Pipe Inlet Protection #2 | | | |
| Drainage Area (5 Ac. Max.) = | | | 0.58 Ac. |
| Requirements: | | | |
| Min. Volume (3,600 cf/Ac.) = | | | 2,088 cf |
| Provided: | | | |
| Basin Volume: | | | |
| Contour | Contour Area (SF) | Incremental Volume (CF) | Cumulative Volume (CF) |
| 23.0 | 184 | 0 | 0 |
| 24.0 | 1,367 | 776 | 776 |
| 25.0 | 2,953 | 2,160 | 2,936 |

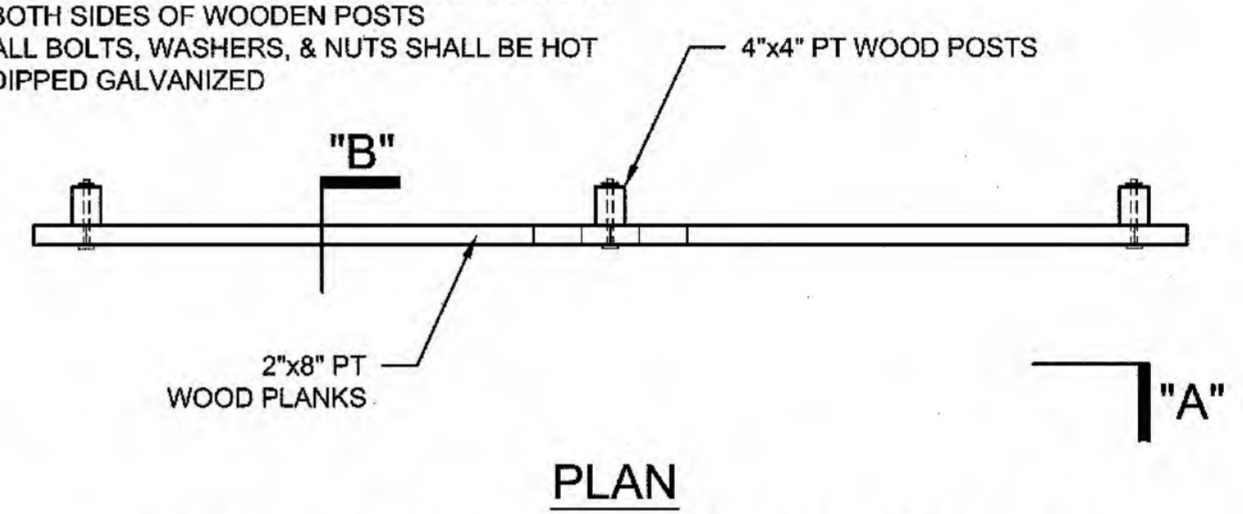


SECTION "B"
NOT TO SCALE

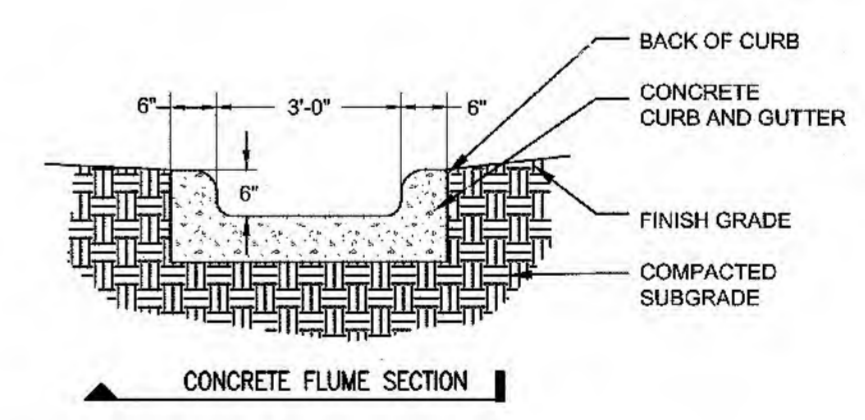


SECTION "A"
NOT TO SCALE

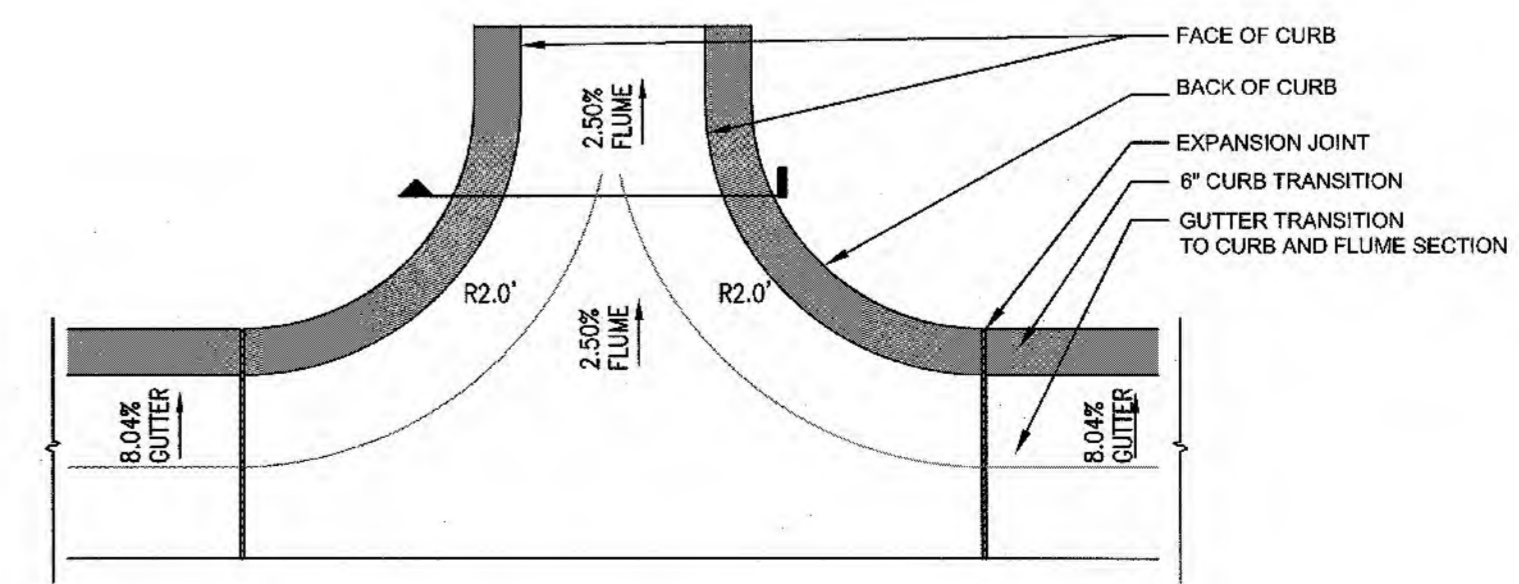
- NOTE:**
- ALL LUMBER SHALL BE PRESSURE TREATED (PT).
 - THE CONTRACTOR SHALL USE 2" WASHERS ON BOTH SIDES OF WOODEN POSTS
 - ALL BOLTS, WASHERS, & NUTS SHALL BE HOT DIPPED GALVANIZED



PLAN
TIMBER WEIR DETAIL (SWALE #1)
NOT TO SCALE



CONCRETE FLUME SECTION



CONCRETE FLUME TRANSITION
NOT TO SCALE

BAFFLES
CONSTRUCTION SPECIFICATION

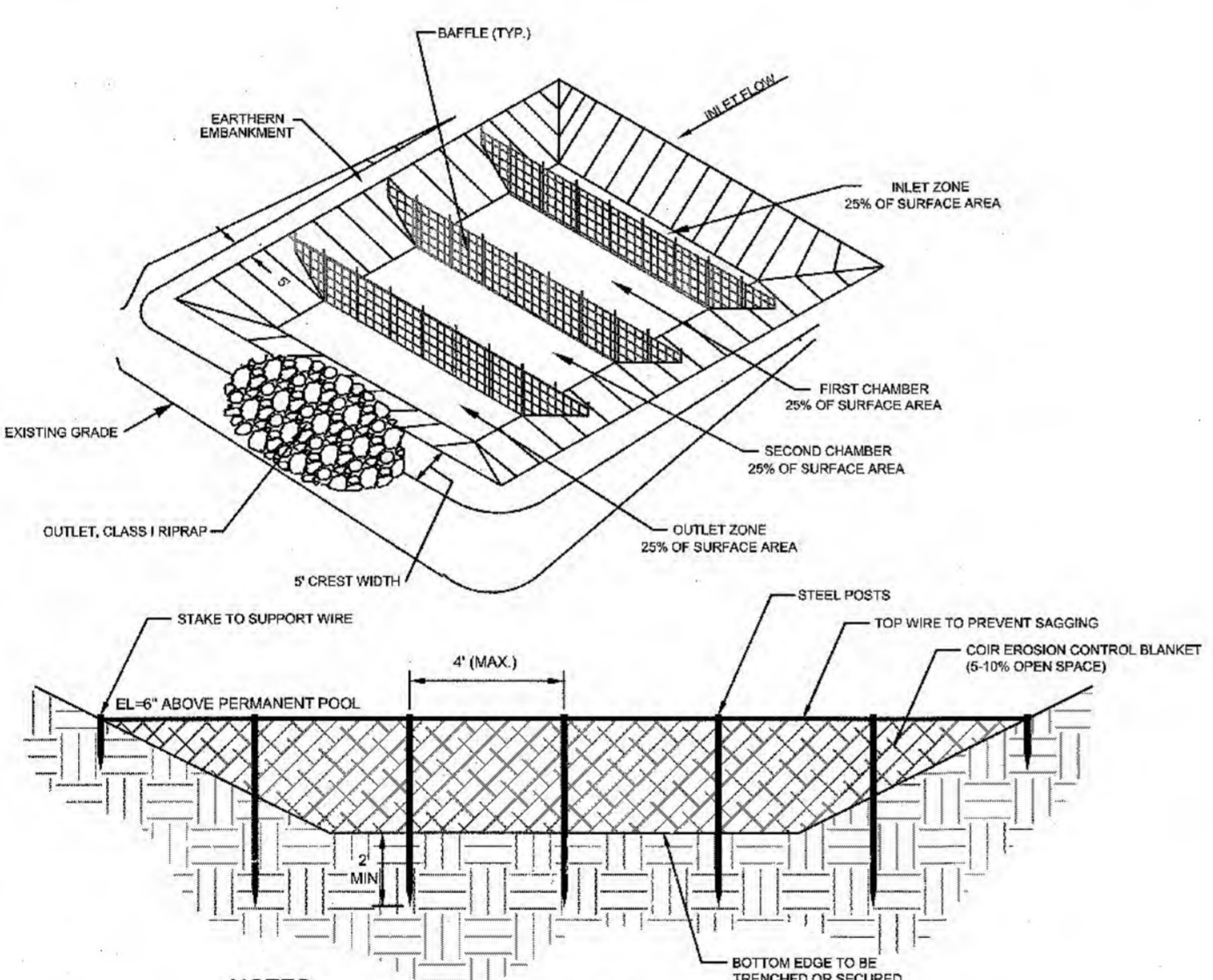
- Grade the basin so that the bottom is level front to back and side to side.
- Install posts or saw horses across the width of the sediment trap (Practice 6.52, Sediment Fence).
- Steel posts should be driven to a depth of 24 inches, spaced a maximum of 4 feet apart, and installed up the side of the basin as well. The top of the fabric should be 6 inches higher than the invert of the spillway. Tops of baffles should be 2 inches lower than the top of the berms. Install at least three rows of baffles between the inlet and outlet discharge point. Basins less than 20 feet in length may use 2 baffles.
- When using posts, add a support wire or rope across the top of the measure to prevent sagging.
- Wrap jute, backed by coir material, over a sawhorse or the top wire. Hammer rebar into the sawhorse legs for anchoring. The fabric should have five to ten percent openings in the weave. Attach fabric to a rope and a support structure with zip ties, wire or staples.
- The bottom and sides of the fabric should be anchored in a trench or pinned with 8-inch erosion control matting staples.
- Do not splice the fabric, but use a continuous piece across the basin.

MAINTENANCE

Inspect baffles at least once a week and after each rainfall. Make any required repairs immediately. Be sure to maintain access to the baffles. Should the fabric of a baffle collapse, tear, decompose, or become ineffective, replace it promptly. Remove sediment deposits when it reaches half full to provide adequate storage volume for the next rain and to reduce pressure on the baffles. Take care to avoid damaging the baffles during cleanup. Sediment depth should never exceed half the designed storage depth. After the contributing drainage area has been properly stabilized, remove all baffle materials and unstable sediment deposits, bring the area to grade, and stabilize it.

NOTE:

Porous baffles shall be installed inside all temporary sediment traps, rock dams, skimmer basin or sediment basins to reduce the velocity and turbulence of the water flowing through the measure, and facilitate the setting of sediment from the water before discharge.



- NOTES:**
- INSTALL ONE CONTINUOUS PIECE OF FABRIC ACROSS THE ENTIRE BASIN-DO NOT SPLICE.

| Surface Area (sf) | Length (ft) | Inlet Area (sf) | Chamber 1 Area (sf) | Chamber 2 Area (sf) | Outlet Area (sf) | Baffle #1 (Distance from End) (ft) | Baffle #2 (Distance from End) (ft) | Baffle #3 (Distance from End) (ft) |
|-------------------|-------------|-----------------|---------------------|---------------------|------------------|------------------------------------|------------------------------------|------------------------------------|
| 1,417 | 80 | 354 | 354 | 354 | 354 | 13 | 25 | 38 |

BAFFLE DETAIL
NOT TO SCALE



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

NC DENR PWSS WATER PERMIT #: _____

WATER CAPACITY: _____ GPD

DWQ SEWER PERMIT #: _____

SEWER CAPACITY: _____ GPD

SEWER SHED # AND PLANT: _____

SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

Approved Construction Plan

Name: _____ Date: 4/9/19

Planning: _____

Traffic: _____

Fire: _____

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: 4-8-19 Permit # 2019020

Signed: E.S.R.

REVISIONS:

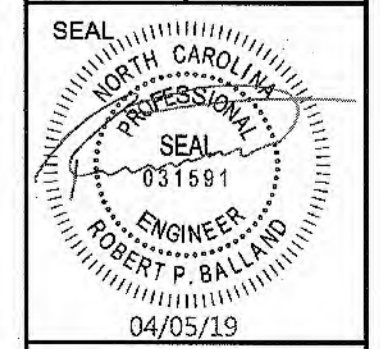
CLIENT INFORMATION:
ROMAN CATHOLIC DIOCESE OF RALEIGH
7200 STONEHENGE DRIVE
RALEIGH, NC 27613

PARAMOUNT ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

DETAILS
ST. MARK CATHOLIC CHURCH & STAYFARE II ENTRANCE
EASTWOOD ROAD
WILMINGTON, NC 28403

PROJECT STATUS:
FINAL DESIGN
PRELIMINARY LAYOUT:
RELEASED FOR CONSTRUCTION

DRAWING INFORMATION:
DATE: 04/05/19
SCALE: AS SHOWN
DRAWN: _____
CHECKED: _____



C-6.2

PEI JOB#: 16247.PE

ISSUED FOR CONSTRUCTION