

REVISIONS		
No./Date	Description	By

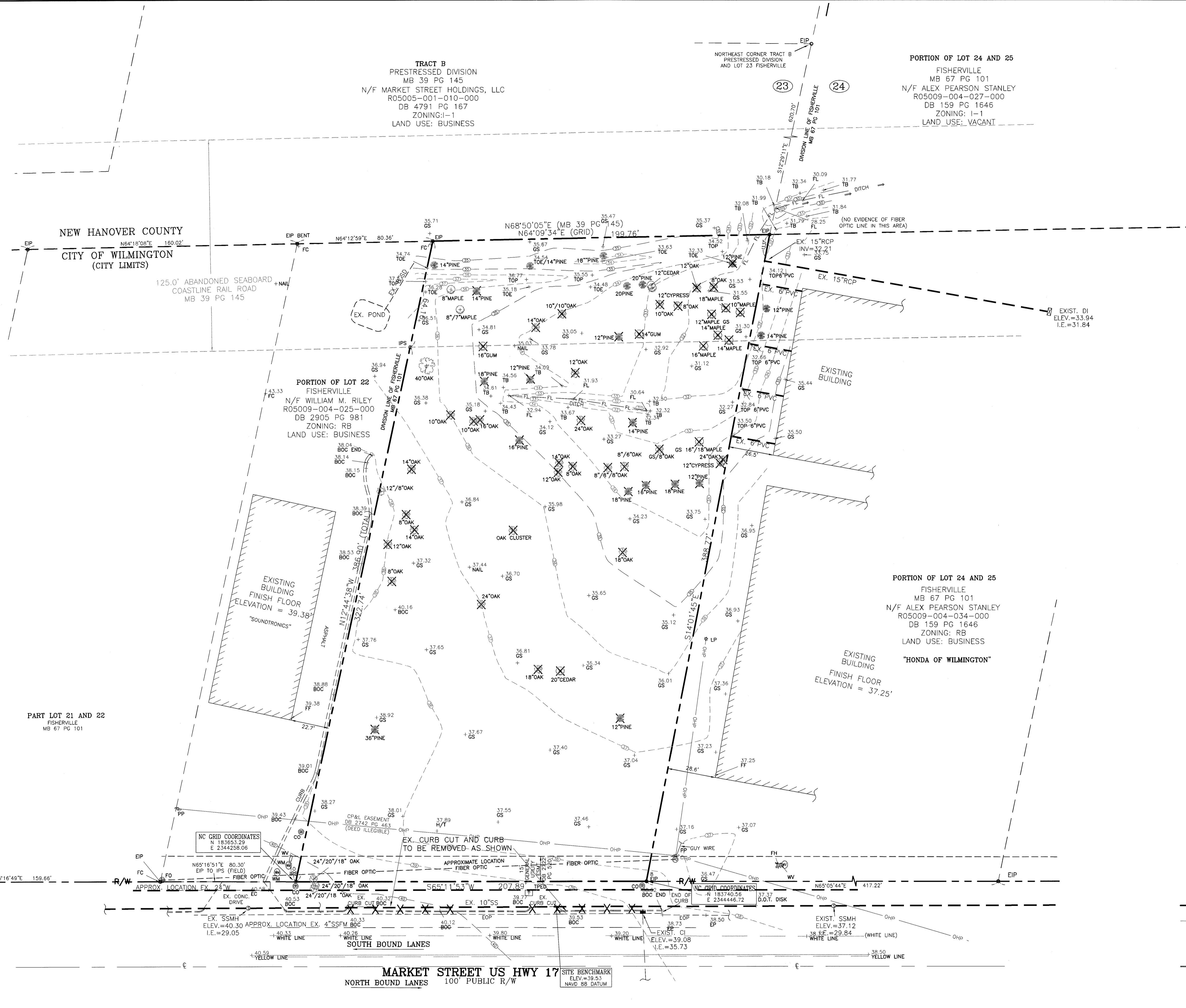


**TRACT B**  
PRESTRESSED DIVISION  
MB 39 PG 145  
N/F MARKET STREET HOLDINGS, LLC  
R05005-001-010-000  
DB 4791 PG 167  
ZONING: I-1  
LAND USE: BUSINESS

**NORTHEAST CORNER TRACT B**  
PRESTRESSED DIVISION  
AND LOT 23 FISHERVILLE

**PORTION OF LOT 24 AND 25**  
FISHERVILLE  
MB 67 PG 101  
N/F ALEX PEARSON STANLEY  
R05009-004-027-000  
DB 159 PG 1646  
ZONING: I-1  
LAND USE: VACANT

NEW HANOVER COUNTY  
CITY OF WILMINGTON  
(CITY LIMITS)



- SITE INVENTORY NOTES:**
- PREPARER OF THE PLAN: TRIPP ENGINEERING, P.C.
  - APPLICANT NAME: MATTHEWS MOTORS, INC.
  - SITE ADDRESS OF THE DEVELOPMENT: 5723 MARKET STREET
  - PROPERTY OWNER: ESSEX FIVE, LLC
  - DEVELOPER: MATTHEWS MOTORS, INC.
  - PROPERTY BOUNDARY: SEE PLAN  
TAX PARCEL INFORMATION: R05009-004-026-000
  - PROPERTY ZONING: RB-REGIONAL BUSINESS DISTRICT
  - ADJACENT PROPERTY OWNER INFORMATION: SEE PLAN
  - VICINITY MAP: SEE PLAN
  - TOPOGRAPHY: SEE PLAN
  - 100-YEAR FLOOD BOUNDARY: N/A
  - EXISTING DITCHES, CREEKS AND STREAMS: SEE PLAN
  - SOIL: L<sub>y</sub>; LYNN HAVEN FINE SAND AND S<sub>e</sub>; SEAGATE FINE SAND
  - CAMA AEC: N/A
  - CAMA LAND CLASSIFICATION: URBAN
  - CONSERVATION RESOURCES: NONE  
ASSOCIATED SETBACKS: N/A
  - HISTORIC OR ARCHAEOLOGICAL SITE: N/A
  - CEMETERIES, BURIAL SITES/GROUNDS: N/A
  - FORESTED AREAS, HABITAT AND DOMINANT SPECIES: N/A
  - WETLANDS: NONE
  - PROTECTED SPECIES OR HABITAT: N/A
  - EXISTING OR PROPOSED THOROUGHFARES, BIKE ROUTES, PEDESTRIAN SIDEWALKS OR TRAILS AND TRANSIT FACILITIES: SEE SITE PLAN
  - EXISTING TREES TO BE REMOVED AS SHOWN.

- LEGEND**
- PROPERTY BOUNDARY
  - EXISTING CONTOUR
  - TREE TO BE REMOVED
  - EXISTING CURB TO BE REMOVED

Approved Construction Plan

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

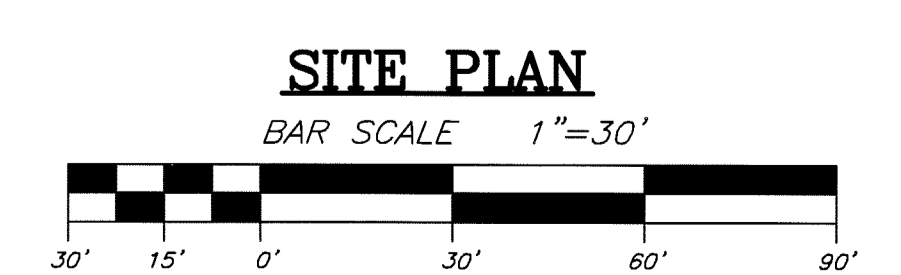
Fire \_\_\_\_\_

STORMWATER MANAGEMENT PLAN  
APPROVED

CITY OF WILMINGTON  
ENGINEERING DEPARTMENT

DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_

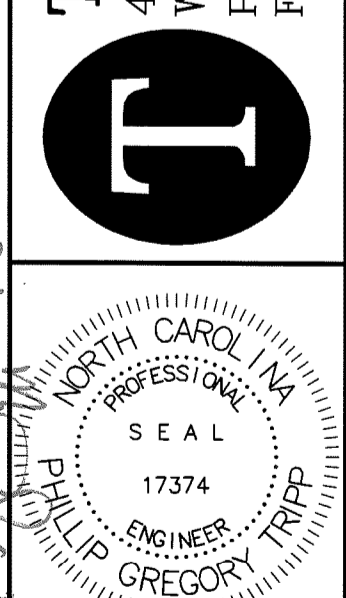
SIGNED \_\_\_\_\_



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

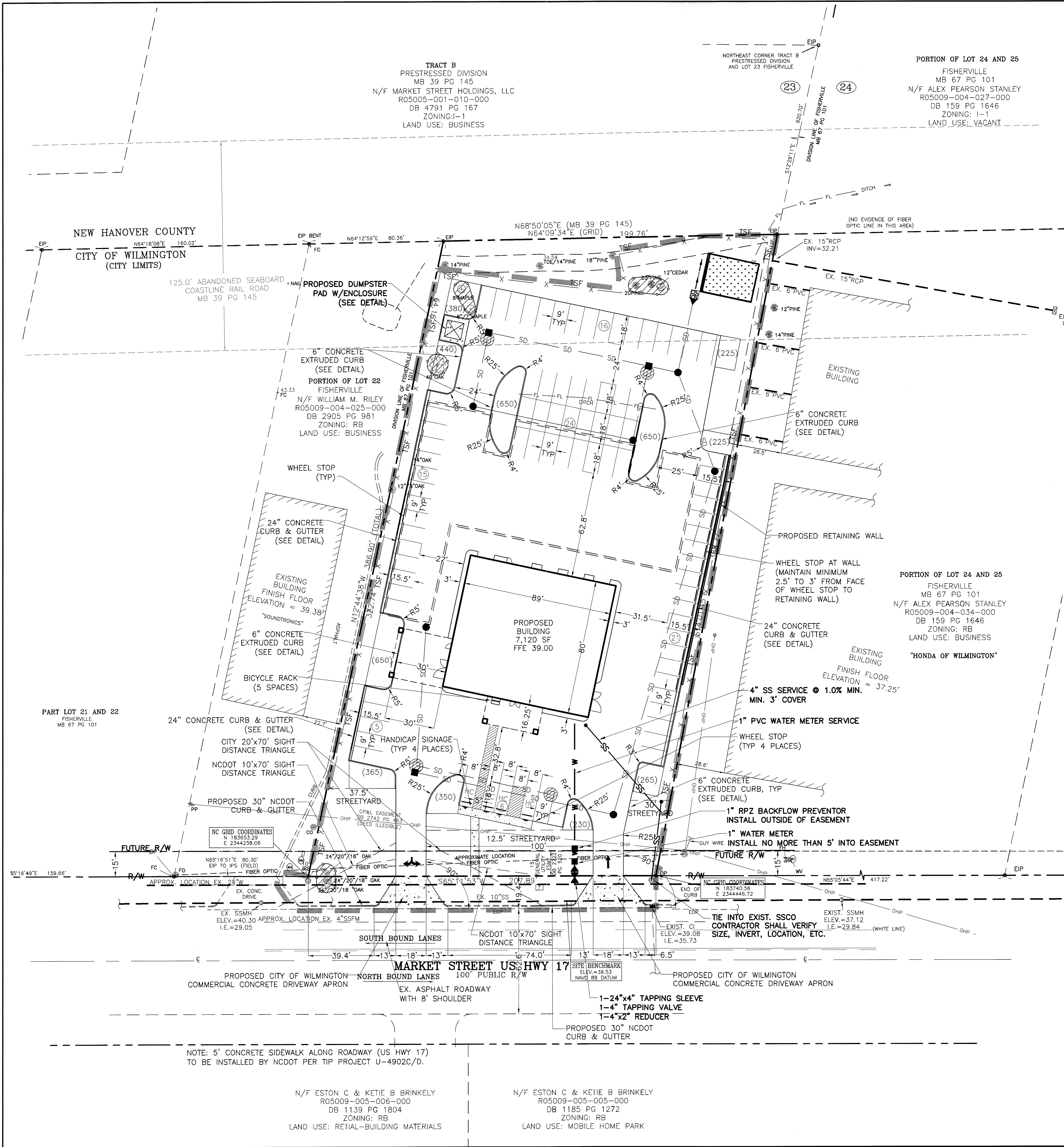
EXISTING CONDITIONS, SITE INVENTORY MAP, AND DEMOLITION PLAN  
**MATTHEWS MOTORS**  
WILMINGTON, NORTH CAROLINA

**TRIPP ENGINEERING, P.C.**  
419 Chestnut Street  
Wilmington, North Carolina 28401  
Phone 910-763-5100  
Fax 910-763-5631  
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DATE 04-28-16  
DESIGN PGT  
DRAWN MLV

**C1**  
SHEET 1 OF 6  
15037



**NOTES:**

**ZONING**

- 1) TOPOGRAPHY COMPLETED BY DANFORD & ASSOCIATES LAND SURVEYING, P.C.
- 2) PERMITTING OF BUSINESS IDENTIFICATION SIGNAGE IS A SEPARATE PROCESS. CITY OF WILMINGTON WILL NOT ALLOW OBSTRUCTIONS WITHIN THE RIGHT-OF-WAY.
- 3) CONTRACTOR SHALL FIELD VERIFY SIZE, MATERIAL, INVERTS AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO INSTALLATION OF PROPOSED CONNECTIONS.
- 4) EXISTING EASEMENTS AS SHOWN.
- 5) CONTRACTOR SHALL MAINTAIN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- 6) UNDERGROUND FIRE LINE(S) MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-341-0696.
- 7) SITE WILL NOT BE FENCED.
- 8) BUILDING CONSTRUCTION TYPE 5 B.

**SOLID WASTE**

- 1) SITE TO USE DUMPSTER AS SHOWN ON PLAN.

**TRAFFIC**

- 1) ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
- 2) 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.
- 3) CONTACT TRAFFIC ENGINEERING AT 910-341-7888 TO ENSURE THAT ALL TRAFFIC SIGNALS FACILITIES AND EQUIPMENT ARE SHOWN ON THE PLAN.
- 4) CALL TRAFFIC ENGINEERING AT 910-341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
- 5) ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.
- 6) CONTACT 910-341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
- 7) ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- 8) NO ROWS TO BE CLOSED.
- 9) NO STREETS PROPOSED.
- 10) OFF SITE PARKING PROPOSED AS SHOWN.
- 11) DRIVEWAYS TO MEET CITY STANDARDS.
- 12) ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- 13) ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- 14) STOP SIGNS AND STREET SIGNS TO REMAIN IN PLACE DURING CONSTRUCTION.
- 15) TACTILE WARNING MATS WILL BE INSTALLED ON ALL WHEELCHAIR RAMPS.
- 16) POSTED SPEED LIMIT: 45 MPH
- 17) ANY TRAFFIC SIGNAL INFRASTRUCTURE ADJUSTMENTS, INCLUDING OVERHEAD OR UNDERGROUND SIGNAL SYSTEM FIBER COMMUNICATION LINES, ARE THE RESPONSIBILITY OF THE APPLICANT/DEVELOPER.
- 18) THE CITY SHALL BE NOTIFIED IMMEDIATELY OF ANY TRAFFIC SIGNAL FACILITIES DAMAGED DURING CONSTRUCTION.

**LANDSCAPING**

- 1) A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND THE PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAN.
- 2) NO OBSTRUCTIONS ARE PERMITTED IN THE SPACE BETWEEN THIRTY (30) INCHES AND TEN (10) FEET ABOVE THE GROUND WITHIN THE TRIANGULAR SITE DISTANCE.
- 3) PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING 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.
- 4) ANY TREES AND/OR AREAS DESIGNATED TO BE PROTECTED MUST BE PROPERLY BARRICADED WITH FENCING AND PROTECTED THROUGHOUT CONSTRUCTION TO INSURE THAT NO CLEARING, GRADING OR STAGING OF MATERIALS WILL OCCUR IN THOSE AREAS.
- 5) NO EQUIPMENT IS ALLOWED ON SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING IS INSTALLED AND APPROVED. PROTECTIVE FENCING IS TO BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT AND CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTIONS ON TREE PROTECTION METHODS.

**CFPUA**

- 1) WATER AND SEWER SERVICE SHALL MEET CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) DETAILS AND SPECIFICATIONS.
- 2) PROJECT SHALL COMPLY WITH THE CFPUA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL.
- 3) IF THE CONTRACTOR DESIRES CFPUA WATER FOR CONSTRUCTION, HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPERS SIDE OF THE WATER METER BOX.
- 4) ANY IRRIGATION SYSTEM SUPPLIED BY CFPUA WATER SHALL COMPLY WITH THE CFPUA CONNECTION CONTROL REGULATIONS. CALL 910-332-6419 FOR INFORMATION.
- 5) ANY BACKFLOW PREVENTION DEVICES REQUIRED BY CFPUA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES FOR USCFCOCHR OR ASSE.
- 6) PUBLIC WATER AND SEWER EXISTING.
- 7) CONTACT THE NORTH CAROLINA ONE CALL CENTER AT 1-800-632-4949 PRIOR TO DOING ANY DIGGING, CLEARING OR GRADING.
- 8) ANY IRRIGATION SYSTEM SHALL BE EQUIPPED WITH A RAIN AND FREEZER SENSOR.
- 9) CONTRACTOR TO FIELD VERIFY EXISTING WATER AND SEWER SERVICE LOCATIONS, SIZES AND MATERIALS PRIOR TO CONSTRUCTION. ENGINEER TO BE NOTIFIED OF ANY CONFLICTS.

**DRAINAGE**

- 1) SHEET FLOW TO PROPOSED DROP INLETS TO UNDERGROUND INFILTRATION SYSTEM.

**LEGEND**

- PROPERTY BOUNDARY
- EXISTING TREE
- PROPOSED SEWER
- PROPOSED WATER
- PROPOSED STORM WATER
- LIMITS OF DISTURBANCE
- TREE PROTECTION - DO NOT DISTURB

**SITE PLAN**  
BAR SCALE 1"=30'

**Approved Construction Plan**

Name	Date
Planning	
Traffic	
Fire	

**STORMWATER MANAGEMENT PLAN**  
APPROVED  
CITY OF WILMINGTON  
ENGINEERING DEPARTMENT  
DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
SIGNED \_\_\_\_\_

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

**REVISIONS**

No.	Date	Description	By
1	07.08.16	NCDOT & CITY COMMENTS	MLV

**LOCATION MAP**

**LOCATION MAP**  
MARTIN LUTHER KING BLVD  
COLLEGE RD  
MARKET ST  
ESTON BLVD  
CAROLINA DR

**TRACT B**  
PRESTRESSED DIVISION  
MB 39 PG 145  
N/F MARKET STREET HOLDINGS, LLC  
R05005-001-010-000  
DB 4791 PG 167  
ZONING: I-1  
LAND USE: BUSINESS

**PORTRION OF LOT 24 AND 25**  
FISHERVILLE  
MB 67 PG 101  
N/F ALEX PEARSON STANLEY  
R05009-004-027-000  
DB 159 PG 1646  
ZONING: I-1  
LAND USE: VACANT

**PORTRION OF LOT 22**  
FISHERVILLE  
N/F WILLIAM M. RILEY  
R05009-004-025-000  
DB 2905 PG 981  
ZONING: RB  
LAND USE: BUSINESS

**PORTRION OF LOT 24 AND 25**  
FISHERVILLE  
MB 67 PG 101  
N/F ALEX PEARSON STANLEY  
R05009-004-034-000  
DB 159 PG 1646  
ZONING: RB  
LAND USE: BUSINESS  
"HONDA OF WILMINGTON"

**PROPOSED BUILDING**  
7,120 SF  
FFE 39.00

**PROPOSED DUMPSTER PAD W/ENCLOSURE**  
(SEE DETAIL)

**PROPOSED CITY OF WILMINGTON - NORTH BOUND LANES**  
100' PUBLIC R/W  
COMMERCIAL CONCRETE DRIVEWAY APRON  
EX. ASPHALT ROADWAY WITH 8' SHOULDER

**MARKET STREET US HWY 17**

**NOTE:** 5' CONCRETE SIDEWALK ALONG ROADWAY (US HWY 17) TO BE INSTALLED BY NCDOT PER TIP PROJECT U-4902C/D.

**N/F ESTON C & KETIE B BRINKELY**  
R05009-005-006-000  
DB 1139 PG 1804  
ZONING: RB  
LAND USE: RETAIL-BUILDING MATERIALS

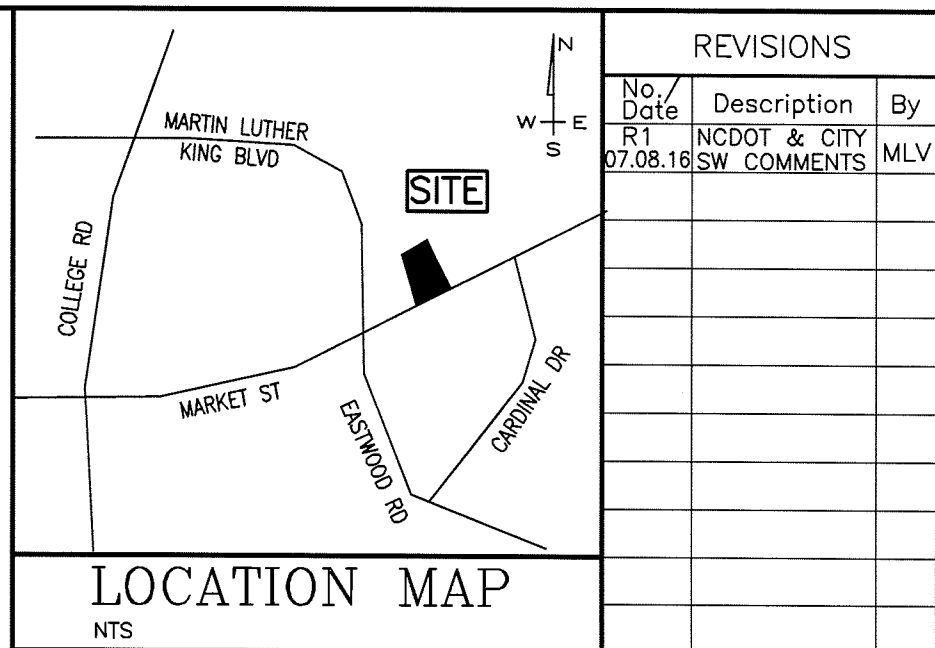
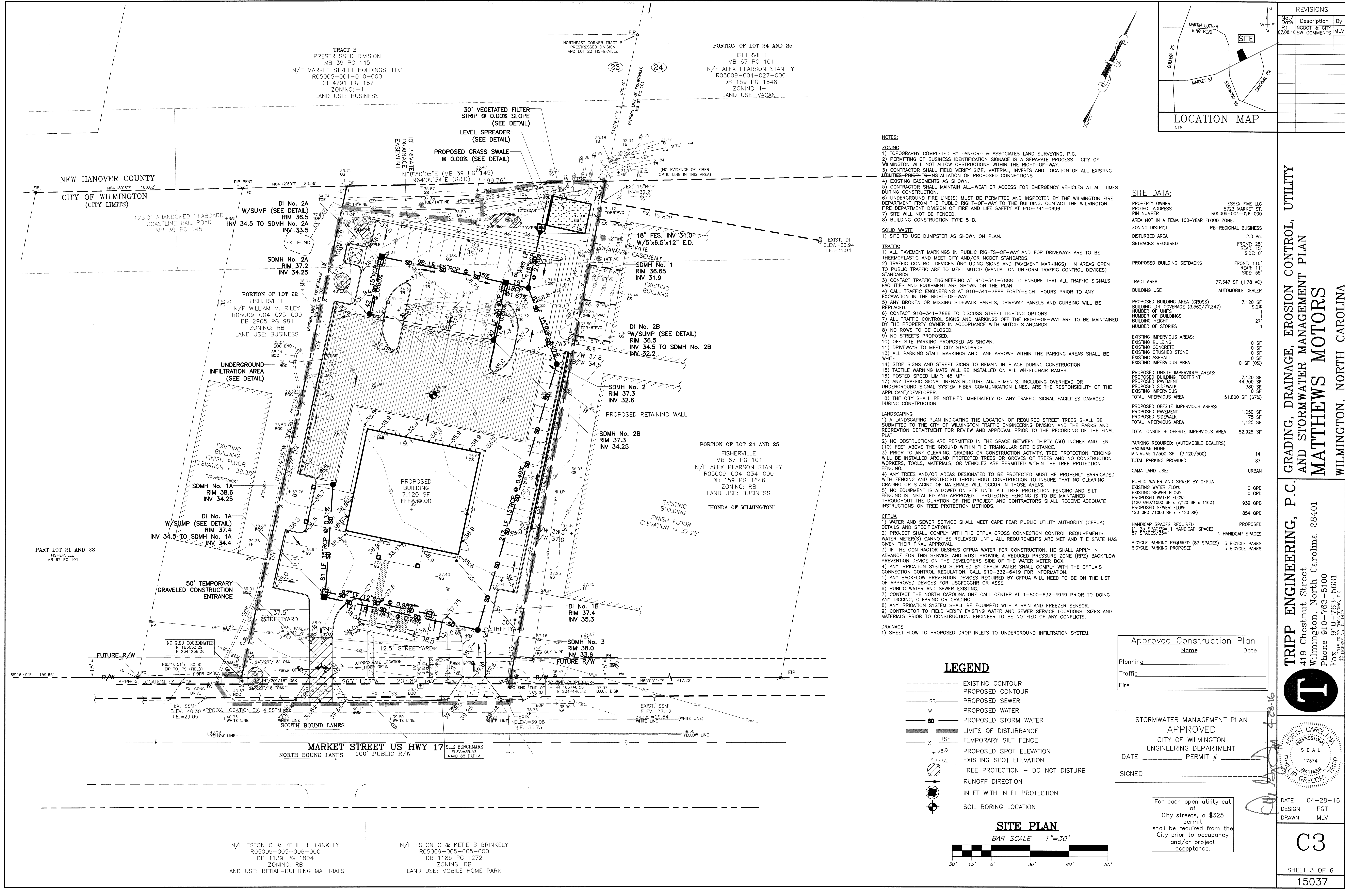
**N/F ESTON C & KETIE B BRINKELY**  
R05009-005-005-000  
DB 1185 PG 1272  
ZONING: RB  
LAND USE: MOBILE HOME PARK

**TRIPP ENGINEERING, P.C.**  
419 Chestnut Street  
Wilmington, North Carolina 28401  
Phone 910-763-5100  
Fax 910-763-5631  
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**MATTHEWS MOTORS**  
WILMINGTON, NORTH CAROLINA

**DATE** 04-28-16  
**DESIGN** PGT  
**DRAWN** MLV

**SHEET 2 OF 6**  
15037



REVISIONS			
No.	Date	Description	By
R1	07.08.16	NC DOT & CITY COMMENTS	MLV

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  - 7) SITE WILL NOT BE FENCED.
  - 8) BUILDING CONSTRUCTION TYPE 5 B.
- SOLID WASTE**
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- DRAINAGE**
- 1) SHEET FLOW TO PROPOSED DROP INLETS TO UNDERGROUND INFILTRATION SYSTEM.

**SITE DATA:**

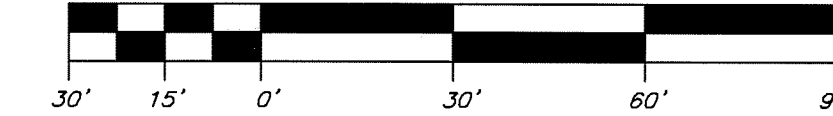
PROPERTY OWNER	ESSEX FIVE LLC
PROJECT ADDRESS	5723 MARKET ST.
FIN NUMBER	R05009-004-026-000
AREA NOT IN A FEMA 100-YEAR FLOOD ZONE.	
ZONING DISTRICT	RB-REGIONAL BUSINESS
DISTURBED AREA	2.0 AC.
SETBACKS REQUIRED	FRONT: 25' REAR: 15' SIDE: 0'
PROPOSED BUILDING SETBACKS	FRONT: 110' REAR: 11' SIDE: 55'
TRACT AREA	77,347 SF (1.78 AC)
BUILDING USE	AUTOMOBILE DEALER
PROPOSED BUILDING AREA (GROSS)	7,120 SF
BUILDING LOT COVERAGE (3,560/77,347)	9.2%
NUMBER OF UNITS	1
NUMBER OF BUILDINGS	1
BUILDING HEIGHT	27'
NUMBER OF STORIES	1
EXISTING IMPERVIOUS AREAS:	
EXISTING BUILDING	0 SF
EXISTING CONCRETE	0 SF
EXISTING CRUSHED STONE	0 SF
EXISTING ASPHALT	0 SF
EXISTING IMPERVIOUS AREA	0 SF (0%)
PROPOSED ONSITE IMPERVIOUS AREAS:	
PROPOSED BUILDING FOOTPRINT	7,120 SF
PROPOSED PAVEMENT	44,300 SF
PROPOSED SIDEWALK	380 SF
EXISTING IMPERVIOUS	0 SF
TOTAL IMPERVIOUS AREA	51,800 SF (67%)
PROPOSED OFFSITE IMPERVIOUS AREAS:	
PROPOSED PAVEMENT	1,050 SF
PROPOSED SIDEWALK	75 SF
TOTAL IMPERVIOUS AREA	1,125 SF
TOTAL ONSITE + OFFSITE IMPERVIOUS AREA	52,925 SF
PARKING REQUIRED: (AUTOMOBILE DEALERS)	
MAXIMUM: NONE	-
MINIMUM: 1/500 SF (7,120/500)	14
TOTAL PARKING PROVIDED:	87
CAMA LAND USE:	URBAN
PUBLIC WATER AND SEWER BY CFPUA	
EXISTING WATER FLOW:	0 GPD
EXISTING SEWER FLOW:	0 GPD
PROPOSED WATER FLOW:	(120 GPD/1000 SF x 7,120 SF x 110%)
PROPOSED SEWER FLOW:	120 GPD /1000 SF x 7,120 SF
PROPOSED WATER FLOW:	854 GPD
PROPOSED SEWER FLOW:	854 GPD
HANDICAP SPACES REQUIRED	PROPOSED
(1-25 SPACES=1 HANDICAP SPACE)	4 HANDICAP SPACES
87 SPACES/25=1	
BICYCLE PARKING REQUIRED (87 SPACES)	5 BICYCLE PARKS
BICYCLE PARKING PROPOSED	5 BICYCLE PARKS

**LEGEND**

- EXISTING CONTOUR
- PROPOSED CONTOUR
- SS --- PROPOSED SEWER
- w --- PROPOSED WATER
- SD --- PROPOSED STORM WATER
- LIMITS OF DISTURBANCE
- x TSF --- TEMPORARY SILT FENCE
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- TREE PROTECTION - DO NOT DISTURB
- RUNOFF DIRECTION
- INLET WITH INLET PROTECTION
- SOIL BORING LOCATION

**SITE PLAN**

BAR SCALE 1"=30'



Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

STORMWATER MANAGEMENT PLAN APPROVED

CITY OF WILMINGTON  
ENGINEERING DEPARTMENT

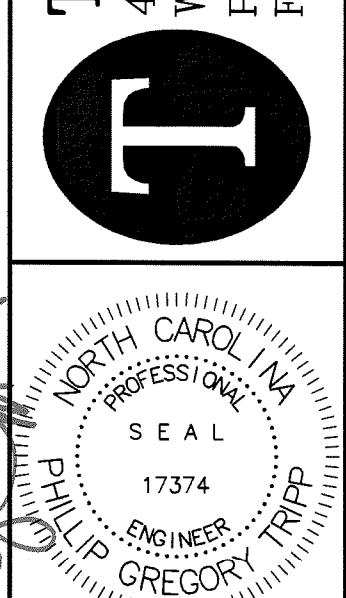
DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_

SIGNED \_\_\_\_\_

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

GRADING, DRAINAGE, EROSION CONTROL, UTILITY AND STORMWATER MANAGEMENT PLAN  
**MATTHEWS MOTORS**  
 WILMINGTON, NORTH CAROLINA

**TRIPP ENGINEERING, P.C.**  
 419 Chestnut Street  
 Wilmington, North Carolina 28401  
 Phone 910-763-5100  
 Fax 910-763-5631  
 © 2015 TRIPP ENGINEERING, P.C.

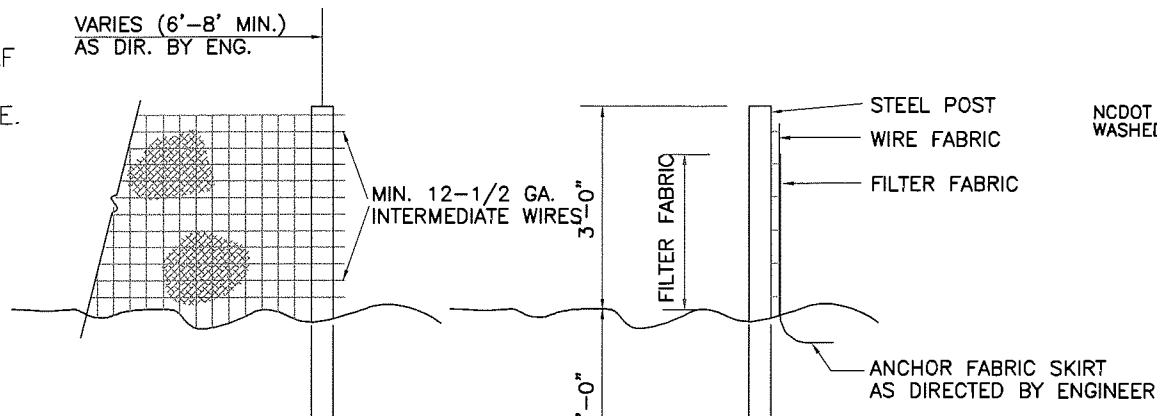
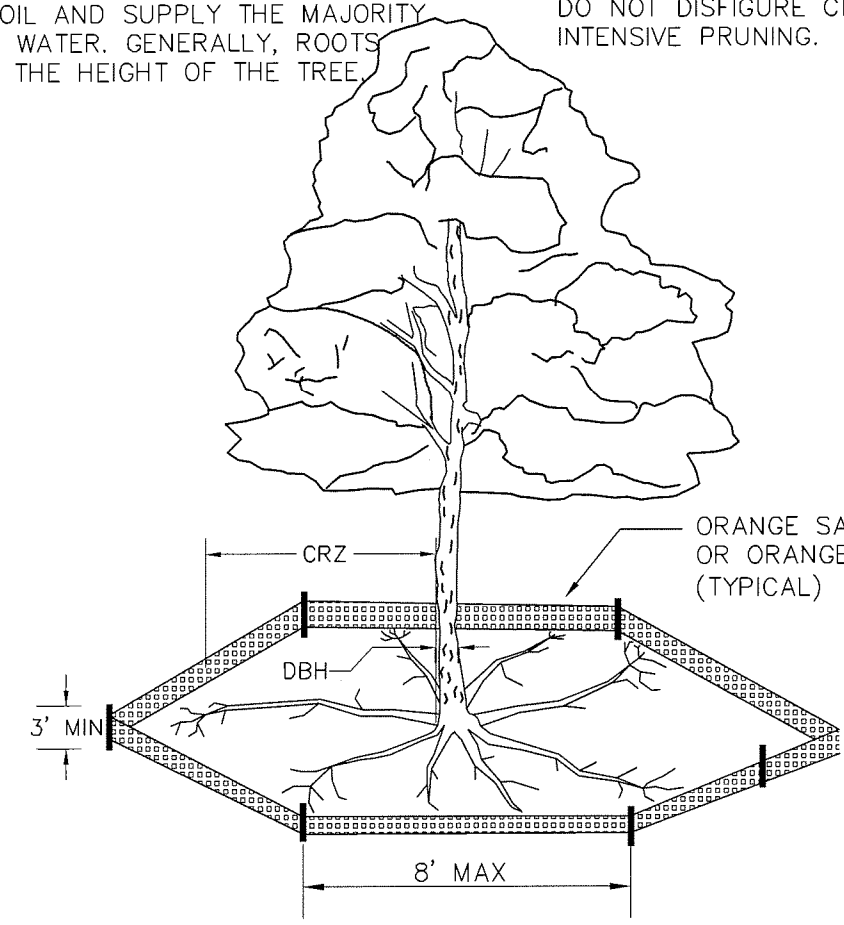


DATE 04-28-16  
DESIGN PGT  
DRAWN MLV

**C3**

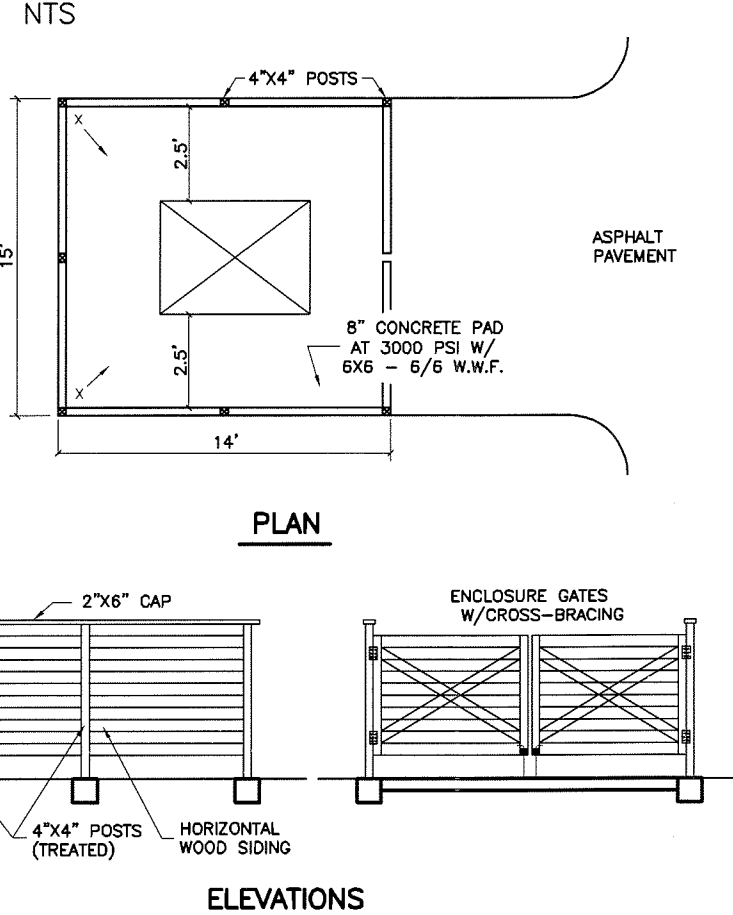
NOTE: THE CRITICAL ROOT ZONE (CRZ) OF A TREE IS WHERE THE MAJORITY OF A TREE'S ROOTS LAY. 85% OF MOST TREE ROOTS ARE FOUND IN THE TOP 24" OF THE SOIL AND SUPPLY THE MAJORITY OF NUTRIENTS AND WATER. GENERALLY, ROOTS SPREAD OUT 2-3X THE HEIGHT OF THE TREE.

NOTE: CROWN OF THE TREE IS NEEDED FOR LEAF GROWTH TO PRODUCE OXYGEN, FILTER THE AIR, REDUCE WIND AND SOFTEN NOISE. DO NOT DISFIGURE CROWN WITH INTENSIVE PRUNING.

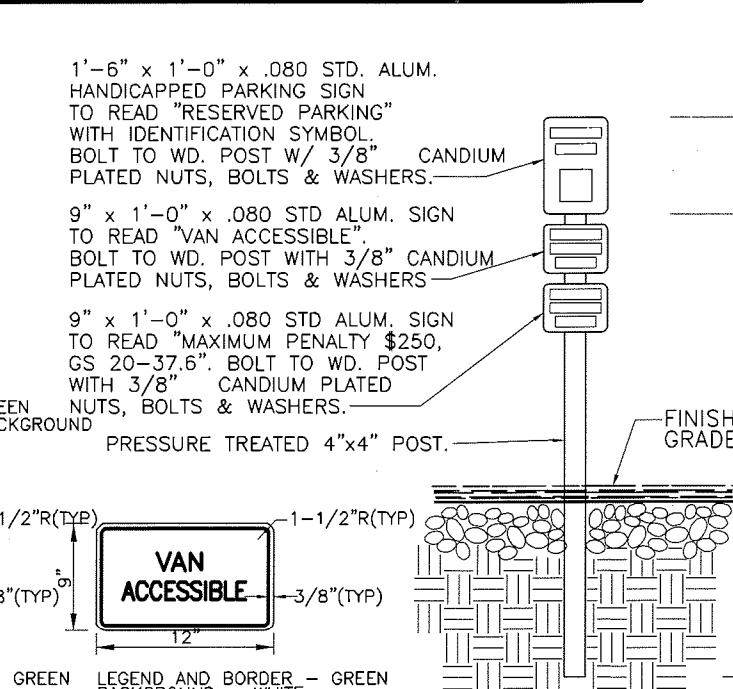


- NOTES:
- FENCE FABRIC SHALL BE A MIN. OF 32" IN WIDTH AND HAVE A MIN. OF SIX LINE WIRES WITH 12" SPACING.
  - FABRIC SHALL BE FOR EROSION CONTROL AND MIN. OF 36" IN WIDTH. FABRIC SHALL BE FASTENED ADEQUATELY TO THE WIRE FABRIC AS DIRECTED BY THE ENGINEER.
  - STEEL POST SHALL BE 5"-Ø" IN HEIGHT AND BE OF THE SELF-FASTENER STEEL ANGLE TYPE.

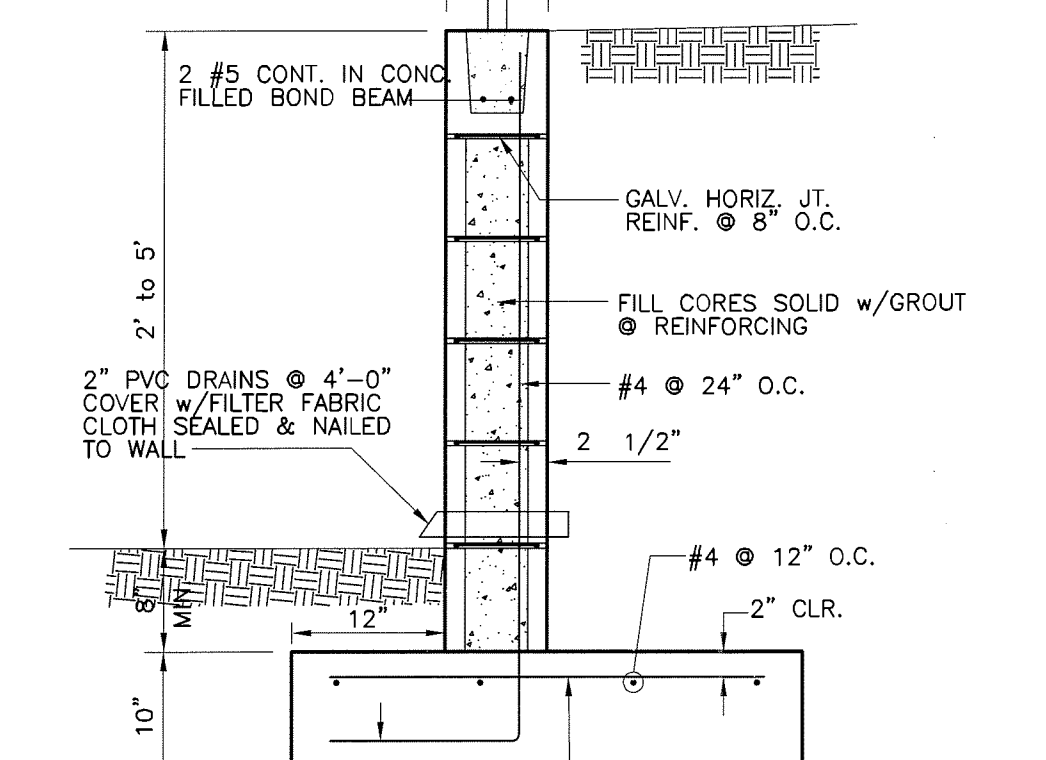
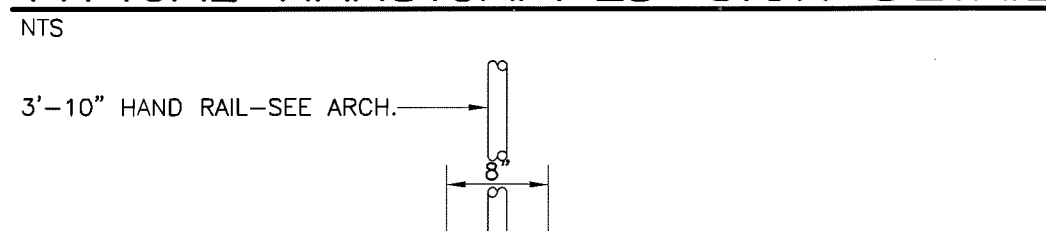
**TEMPORARY SILT FENCE**



**DUMPSTER PAD & ENCLOSURE DETAIL**



**TYPICAL HANDICAPPED SIGN DETAIL**



**TYPICAL RETAINING WALL SECTION**

CONTRACTOR TO SUBMIT SHOP DRAWINGS TO NEW HANOVER COUNTY FOR THE RETAINING WALL PRIOR TO CONSTRUCTION.

**TREE PROTECTION DURING CONSTRUCTION SD 15-09**



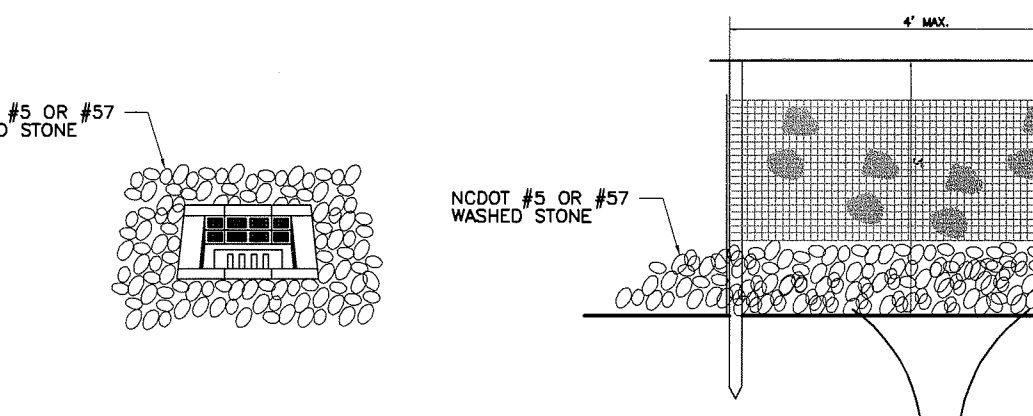
**STORMWATER MANAGEMENT PLAN**

APPROVED  
CITY OF WILMINGTON  
ENGINEERING DEPARTMENT  
DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
SIGNED \_\_\_\_\_

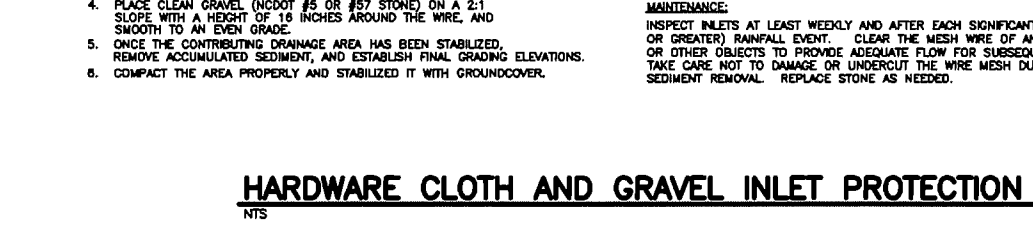
Approved Construction Plan  
Name \_\_\_\_\_ Date \_\_\_\_\_  
Planning \_\_\_\_\_ Traffic \_\_\_\_\_ Fire \_\_\_\_\_

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

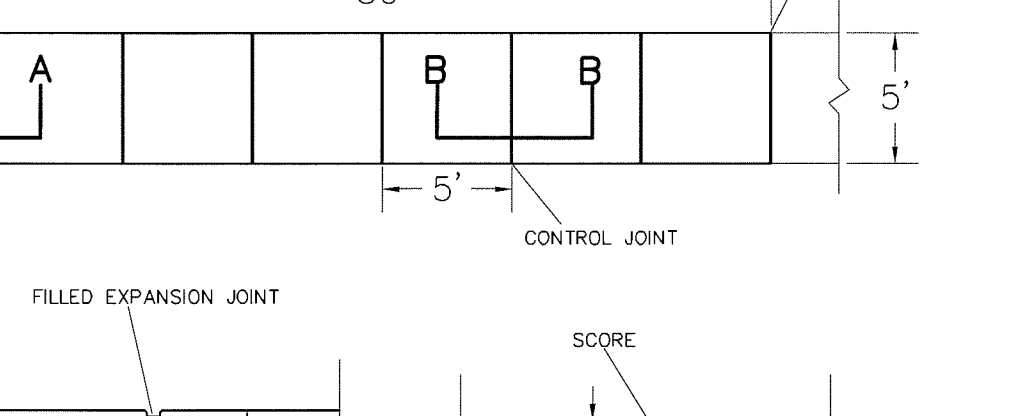
For all utilities:  
May 1 - August 31 - add 10 lbs./acre Koba or Korman Lospozza  
September 1 - April 30 - add 10 lbs./acre Syc Citra



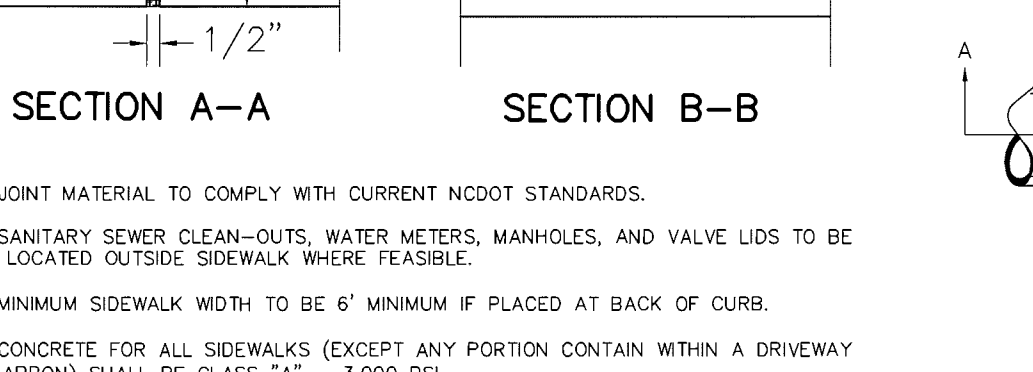
**HARDWARE CLOTH AND GRAVEL INLET PROTECTION**



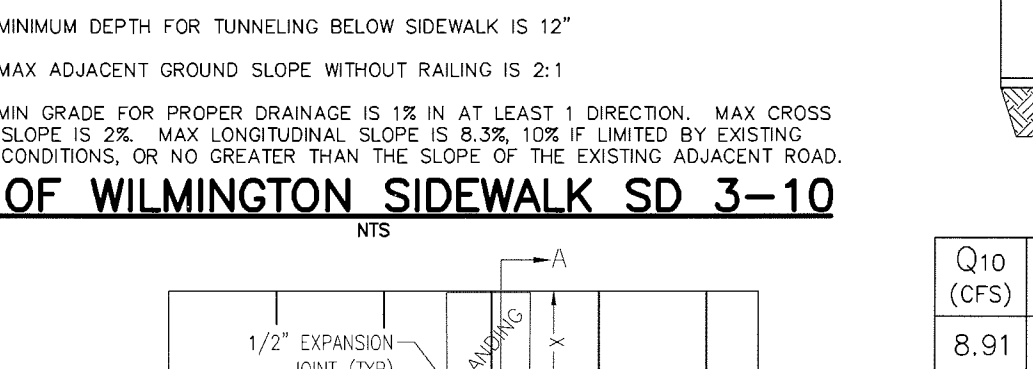
**CITY OF WILMINGTON SIDEWALK SD 3-10**



**ENERGY DISSIPATOR**



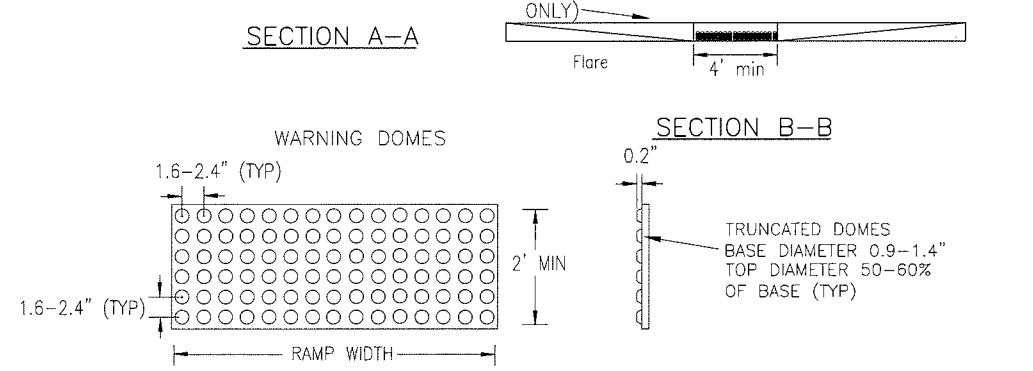
**CITY OF WILMINGTON CURB RAMP SD 3-07**



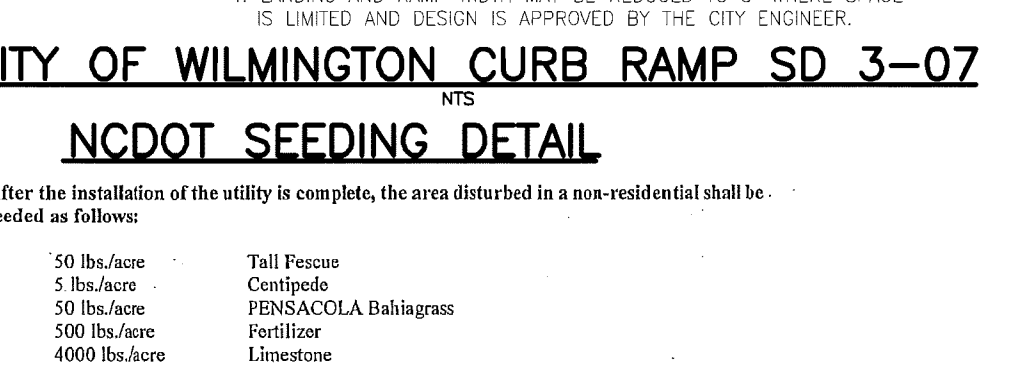
**NCDOT SEEDING DETAIL**

Soil Type	Tall Fescue	Centipede	Pennscola Bahiagrass	Fertilizer	Limestone
50 lbs./acre	50 lbs./acre	50 lbs./acre	500 lbs./acre	4000 lbs./acre	

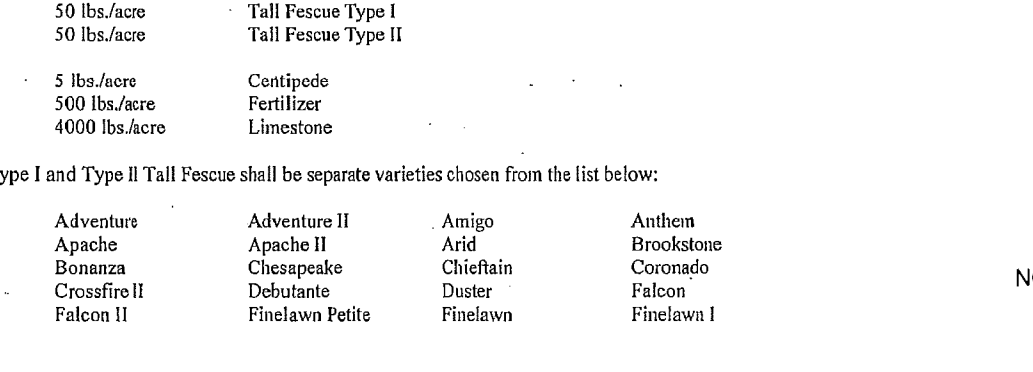
**TYPICAL CURB SECTION**



**EXTRUDED CURB DETAIL**



**CITY OF WILMINGTON PAVEMENT SECTION**



SITE AREA DESCRIPTION	STABILIZATION TIMEFRAME	STABILIZATION EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
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 PERIMETER AND HOW ZONES)

**NPDES GROUND STABILIZATION CRITERIA**

1. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIARIZED WITH EXISTING CONDITIONS BOTH ON AND IMMEDIATELY ADJACENT TO THE SITE.

2. CLEARING: CONTRACTOR SHALL REMOVE ALL TREES AND VEGETATION WITHIN LIMITS OF CONSTRUCTION UNLESS OTHERWISE DESIGNATED TO REMAIN.

3. GRUBBING AND STRIPPING: CONTRACTOR SHALL RAKE AND REMOVE ROOTS, STUMPS, VEGETATION, DEBRIS, EXISTING STRUCTURES ABOVE AND BELOW GRADE, ORGANIC MATERIAL OR ANY OTHER UNSUITABLE MATERIAL WITHIN LIMITS OF CONSTRUCTION.

4. MUCKING: CONTRACTOR SHALL COORDINATE WITH OWNER AND THEIR GEOTECHNICAL REPRESENTATIVE TO COORDINATE REMOVAL OF ANY SOFT AREAS.

5. DISPOSAL: CLEARED, GRUBBED, STRIPPED OR OTHER WASTE MATERIAL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A PROPERLY PERMITTED FACILITY.

6. FILL AND COMPACTION SHOULD COMPLY WITH GEOTECHNICAL REPORT.

7. THE CONTRACTOR SHALL NOTE THAT THE GRADING PLAN MAY NOT REPRESENT A BALANCED EARTHWORK CONDITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CUT AND FILL QUANTITIES AND COMPLETE INSTALLATION TO SPECIFIED GRADES.

8. THE CONTRACTOR SHALL FURNISH SUITABLE BORROW MATERIAL FROM AN OFF-SITE PROPERLY PERMITTED FACILITY AS REQUIRED.

9. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. BEFORE COMMENCING ANY EXCAVATIONS IN OR ALONG ROADWAYS, RIGHT-OF-WAYS, PUBLIC AREAS OR IN PRIVATE EASEMENTS, THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE PERSONNEL OF THEIR INTENT TO EXCAVATE, IN WRITING, NOT LESS THAN 10 DAYS PRIOR TO EXCAVATING. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE DISCONNECTION/RECONNECTION AND/OR THE RELOCATION OF ALL EXISTING UTILITIES WITH APPROPRIATE PERSONNEL.

10. EXISTING SURVEYING PERFORMED BY DANFORD & ASSOCIATES, LAND SURVEYING, PC AND SUPPLIED BY THE OWNER.

11. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AT THE SITE. FURTHERMORE, THE CONTRACTOR SHALL REPORT ALL DISCREPANCIES OR QUESTIONS TO THE ENGINEER PRIOR TO INSTALLATION.

12. THE CONTRACTOR SHALL PROVIDE ANY AND ALL LAYOUT REQUIRED TO CONSTRUCT HIS WORK UNLESS OTHERWISE DIRECTED BY OWNER.

13. ALL PVC UTILITY MAINS SHALL BE INSTALLED WITH A MINIMUM OF 36" COVER AT FINAL GRADE.

14. ALL SERVICE CONNECTIONS SHALL BE INSTALLED TO MEET ALL LOCAL AND STATE CODES. METERS, TAPS, MATERIALS, WORKMANSHIP AND ALL FEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL COMPLY WITH ALL REQUIREMENTS.

15. ALL PAVEMENT, DRIVEWAYS, DRIVEWAYS, PUBLIC AREAS OR IN PRIVATE EASEMENTS, MATERIALS AND EQUIPMENT. APPROPRIATE BARRICADES, SIGNS, LIGHTS OR OTHER TRAFFIC CONTROL DEVICES SHALL BE PROVIDED IN ACCORDANCE WITH NCDOT TO MAINTAIN SAFETY AND TWO WAY TRAFFIC.

16. ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO INSTALLATION. ALL AREAS SHALL BE SLOPED TO DRAIN AWAY FROM BUILDINGS AT ALL TIMES.

17. CONCRETE STORM DRAINAGE PIPE SHALL BE CLASS III WITH RUBBER GASKETED JOINTS AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

18. USE WHITE LANE MARKING PAINT FOR ALL PAVEMENT MARKINGS. PAINT SHALL BE A CHLORINATED RUBBER ALKYLETS FS-T-115, TYPE III, FACTORY MIXED, QUICK DRYING, NON BLEEDING, REFLECTIVE MATERIAL MAY BE ADDED AT OWNER'S OPTION FOR NIGHT REFLECTING.

19. DUCTILE IRON SHALL BE CLASS 50.

20. CONCRETE FOR WALKS, CURBS AND DRIVES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS - AIR ENTRAINED.

21. FIELD TESTING SHALL BE DONE BY AN INDEPENDENT TESTING LABORATORY PAID FOR BY THE OWNER. FIELD TESTING REQUIRED DUE TO A FAILED TEST WILL BE PAID FOR BY THE CONTRACTOR.

22. SEE GEOTECHNICAL REPORT NO. \_\_\_\_\_ DATED \_\_\_\_\_ BY \_\_\_\_\_ FOR ADDITIONAL REQUIREMENTS.

**FALL-WINTER PERMANENT GRASSING DETAIL**

SEEDING MIXTURE SPECIES	RATE (lb./acre)
PENNSCOLA BAHIAGRASS	50
COMMON BERMUDA GRASS	50
STORM MULET	10
TALL FESCUE	10

**FALL-WINTER PERMANENT GRASSING DETAIL**

SEEDING MIXTURE SPECIES	RATE (lb./acre)
RYE (GRASS)	120
STORM MULET	50

**LATE WINTER & EARLY SPRING PERMANENT GRASSING DETAIL**

SEEDING MIXTURE SPECIES	RATE (lb./acre)
RYE (GRASS)	120
STORM MULET	50

**TEMPORARY FALL GRASSING DETAIL**

SEEDING MIXTURE SPECIES	RATE (lb./acre)
RYE (GRASS)	120
STORM MULET	50

**TEMPORARY SUMMER GRASSING DETAIL**

SEEDING MIXTURE SPECIES	RATE (lb./acre)
RYE (GRASS)	120
STORM MULET	50

**TEMPORARY FALL GRASSING DETAIL**

SEEDING MIXTURE SPECIES	RATE (lb./acre)
RYE (GRASS)	120
STORM MULET	50

**TEMPORARY FALL GRASSING DETAIL**

SEEDING MIXTURE SPECIES	RATE (lb./acre)
RYE (GRASS)	120
STORM MULET	50

**TEMPORARY FALL GRASSING DETAIL**

SEEDING MIXTURE SPECIES	RATE (lb./acre)
RYE (GRASS)	120
STORM MULET	50

No./Date	Description	By
07.08.16	CITY SW	MLV

**REVISIONS**

No./Date	Description	By
04-28-16	DESIGN	PGT
	DRAWN	MLV

**REVISIONS**

No./Date	Description	By
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419 Chestnut Street  
Wilmington, North Carolina 28401  
Phone 910-763-5100  
Fax 910-763-5631

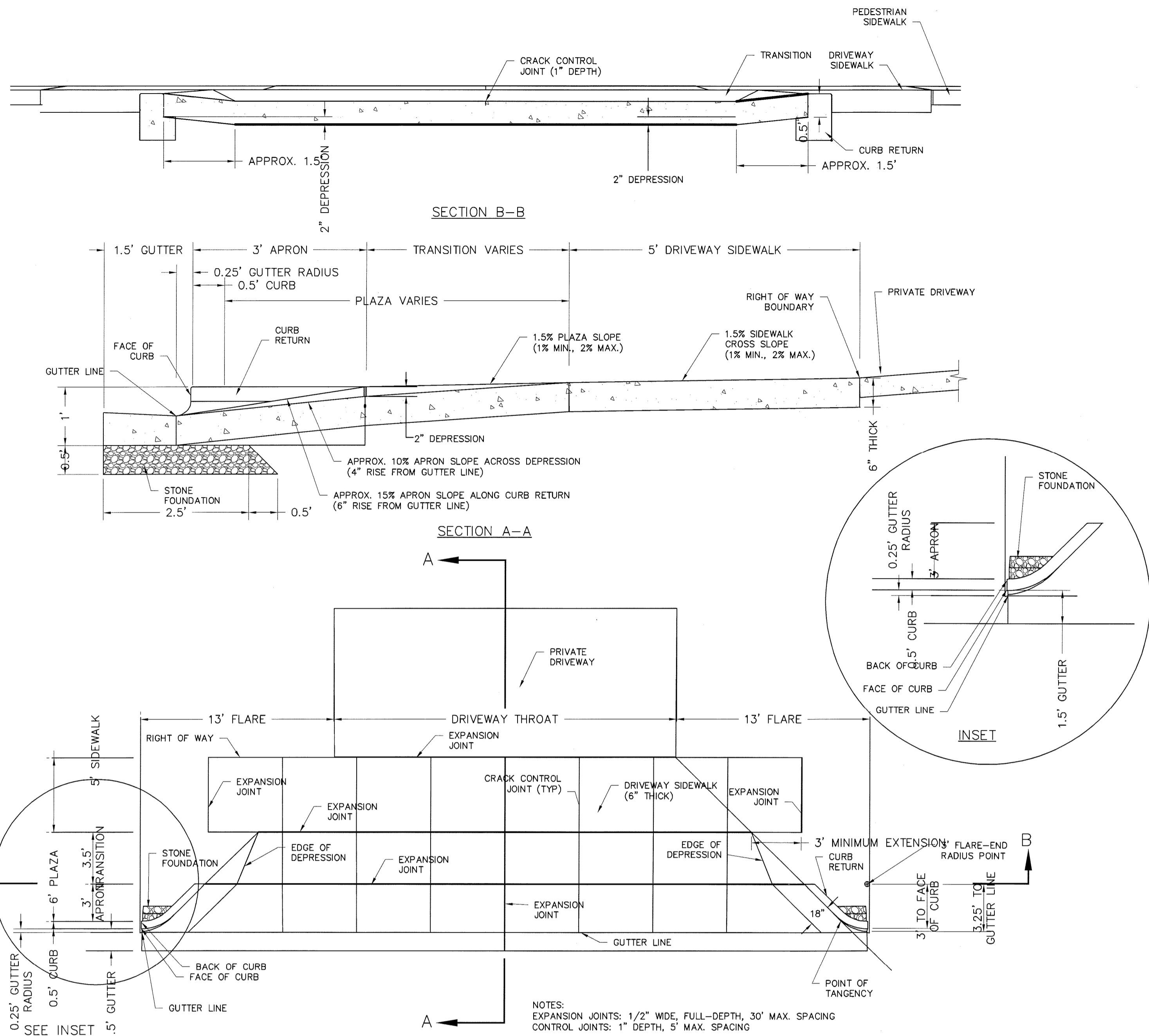
DETAILS AND NOTES

MATTHEWS MOTORS  
WILMINGTON, NORTH CAROLINA

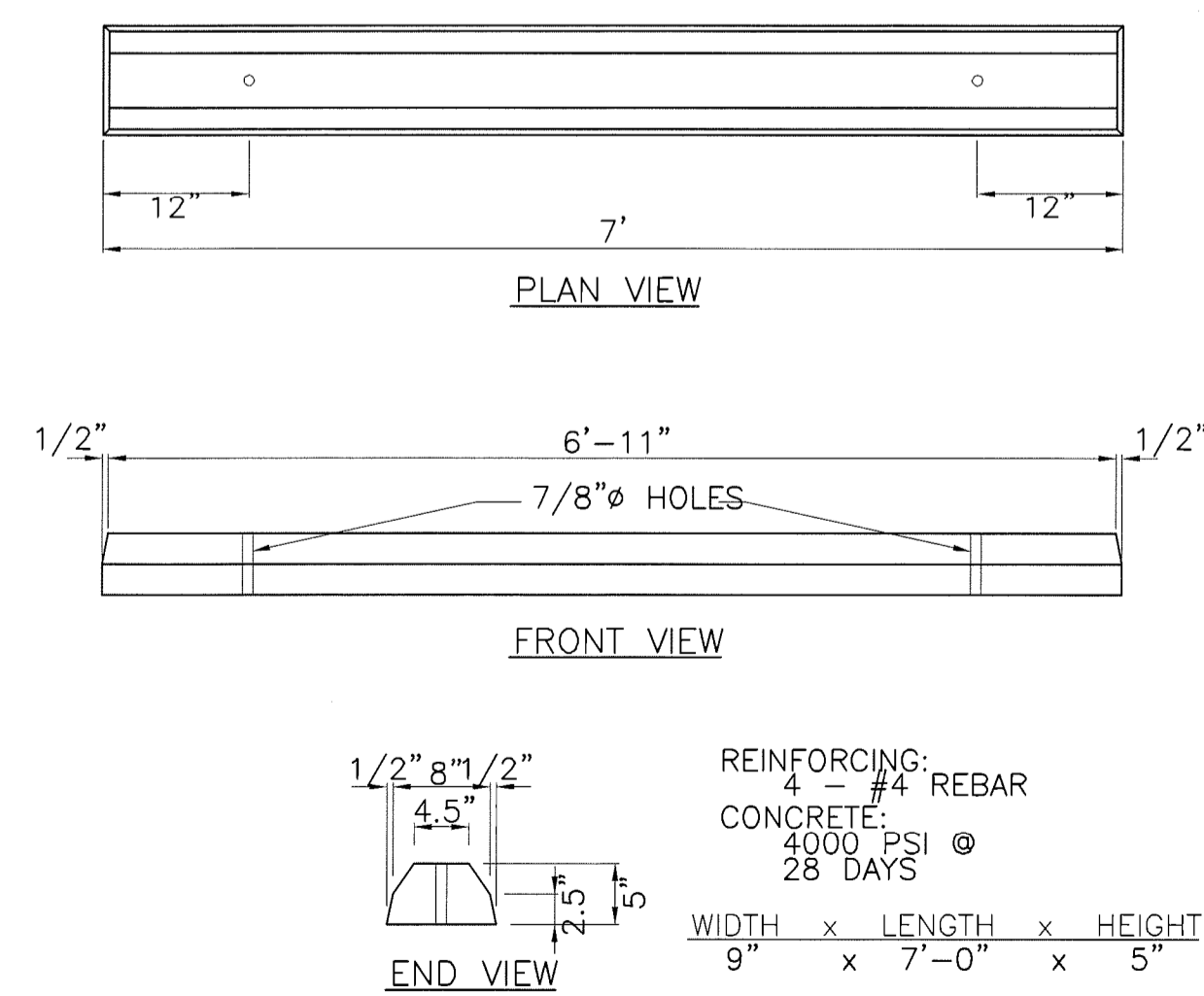
17374  
ENGINEER  
PHILIP L. GREGORY, TRIPP

04-28-16  
DATE  
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DRAWN MLV

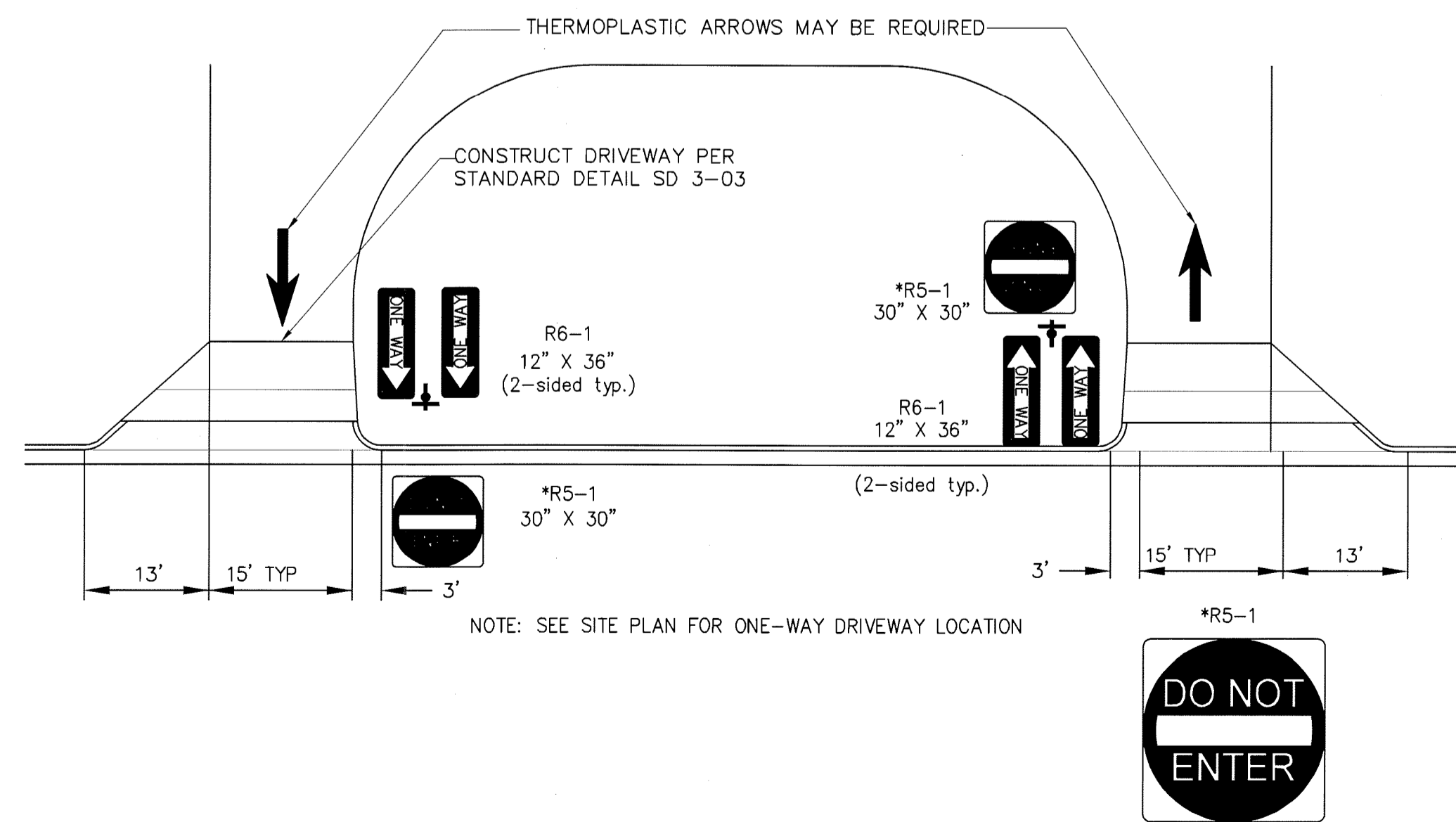
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SHEET 4 OF 6  
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CITY OF WILMINGTON COMMERCIAL DRIVEWAY SD 3-03  
NTS

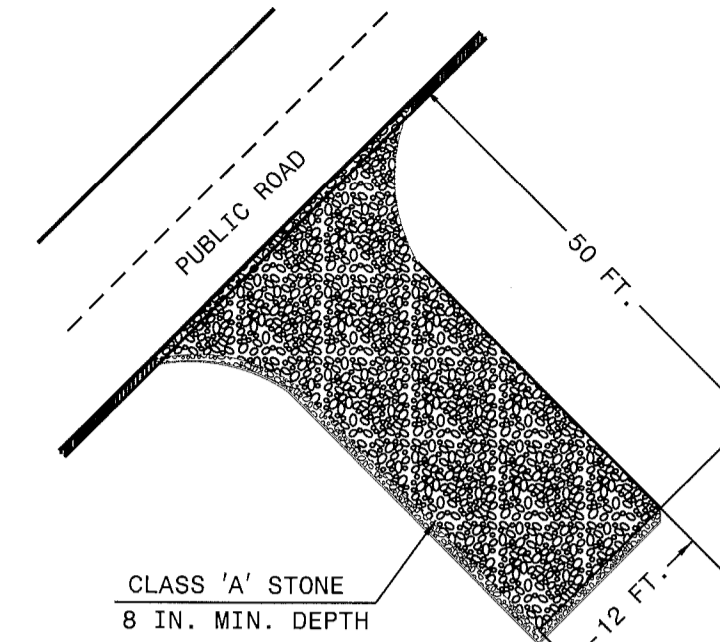


WHEEL STOP DETAIL  
NTS



CITY OF WILMINGTON STANDARD ONE-WAY DRIVEWAY SD 8-21  
NTS

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.  
ENGLISH STANDARD DRAWING FOR GRAVEL CONSTRUCTION ENTRANCE  
SHEET 1 OF 1  
1607.01



- NOTES:
1. PROVIDE TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS.
  2. LOCATE ENTRANCES TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
  3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY.
  4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
  5. LOCATE GRAVEL CONSTRUCTION ENTRANCE AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. PROVIDE FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE.
  6. NUMBER AND LOCATION OF CONSTRUCTION ENTRANCES TO BE DETERMINED BY THE ENGINEER.
  7. USE CLASS 'A' STONE OR OTHER COARSE AGGREGATE APPROVED BY THE ENGINEER.
  8. INSTALL CONSTRUCTION ENTRANCES IN A WAY TO PREVENT VEHICLES FROM BYPASSING CONSTRUCTION ENTRANCE LEAVING PROJECT SITE.

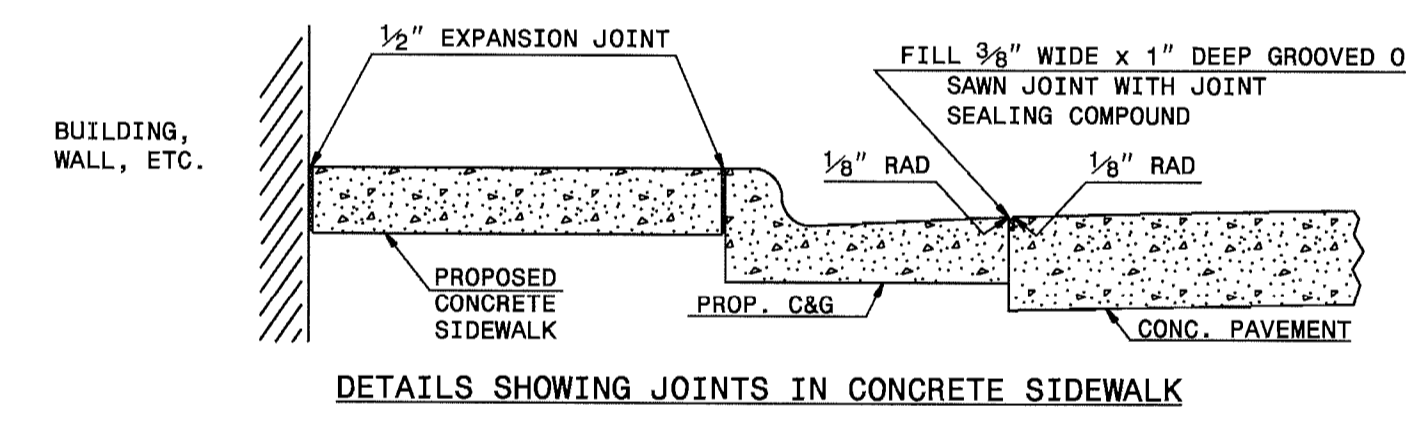
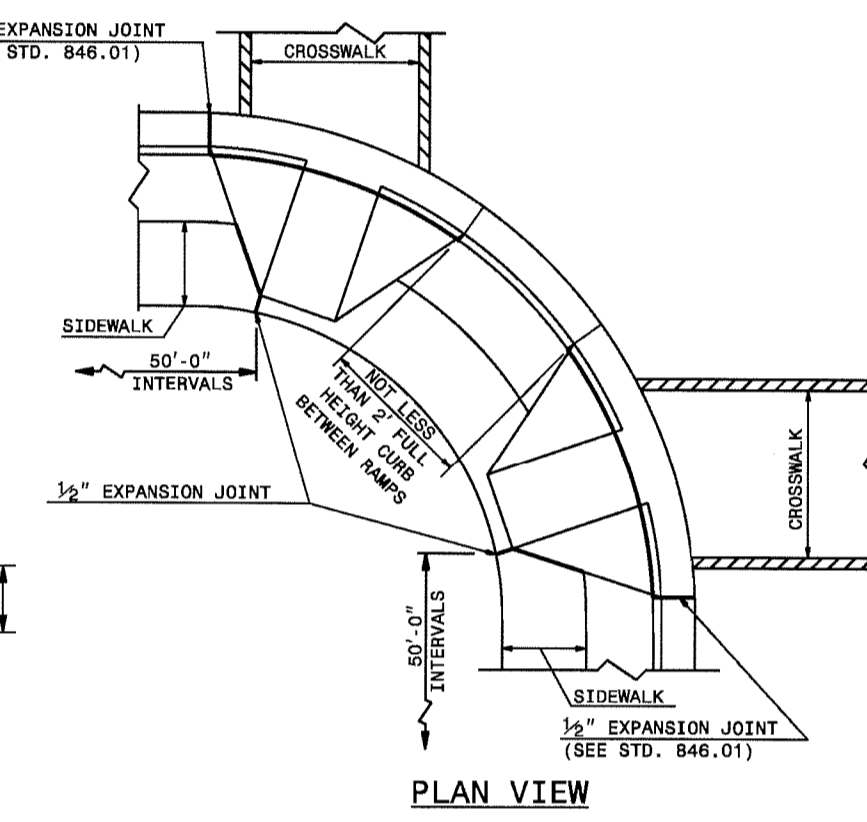
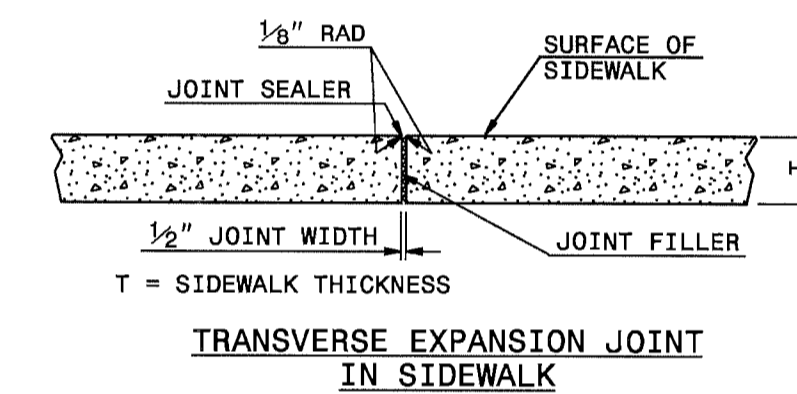
NOTE: PLACE FILTRATION GEOTEXTILE BENEATH STONE

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.  
ENGLISH STANDARD DRAWING FOR GRAVEL CONSTRUCTION ENTRANCE  
SHEET 1 OF 1  
1607.01

REVISIONS		
No.	Date	Description

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.  
ENGLISH STANDARD DRAWING FOR CONCRETE SIDEWALK  
SHEET 1 OF 1  
848.01

- NOTES:
- CONSTRUCT STANDARD SIDEWALK 5' WIDE AND 4" THICK UNLESS OTHERWISE DENOTED ON PLANS.
- PLACE A GROOVE JOINT 1" DEEP WITH 1/8" RADII IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS. A 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.
- SEE STD. DWG. 848.05 FOR WHEELCHAIR RAMP LOCATION REQUIREMENTS AND CONSTRUCTION GUIDELINES.



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.  
ENGLISH STANDARD DRAWING FOR CONCRETE SIDEWALK  
SHEET 1 OF 1  
848.01

DETAILS AND NOTES  
MATHIEWS MOTOTS  
WILMINGTON, NORTH CAROLINA

Approved Construction Plan

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

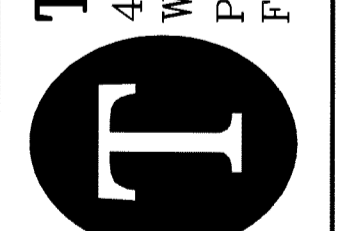
Traffic \_\_\_\_\_

Fire \_\_\_\_\_

STORMWATER MANAGEMENT PLAN  
APPROVED  
CITY OF WILMINGTON  
ENGINEERING DEPARTMENT  
DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
SIGNED \_\_\_\_\_

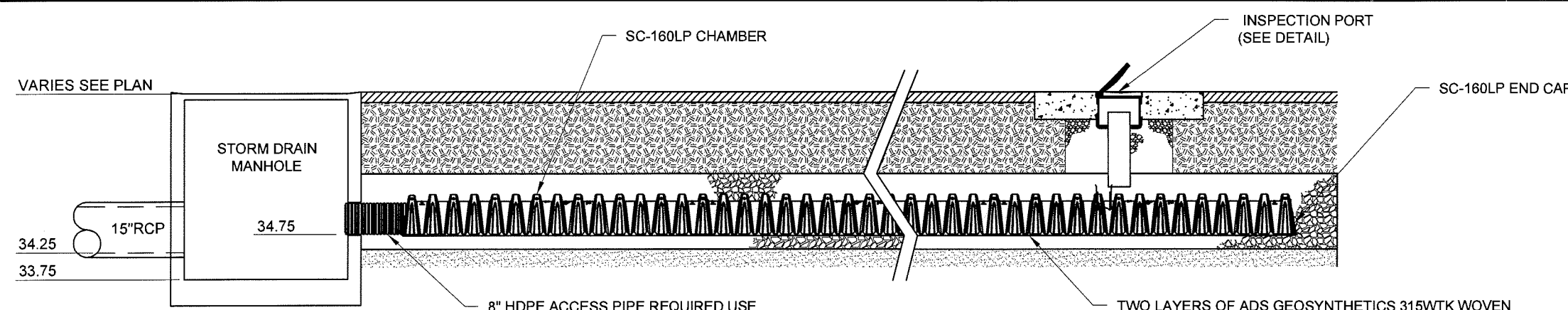
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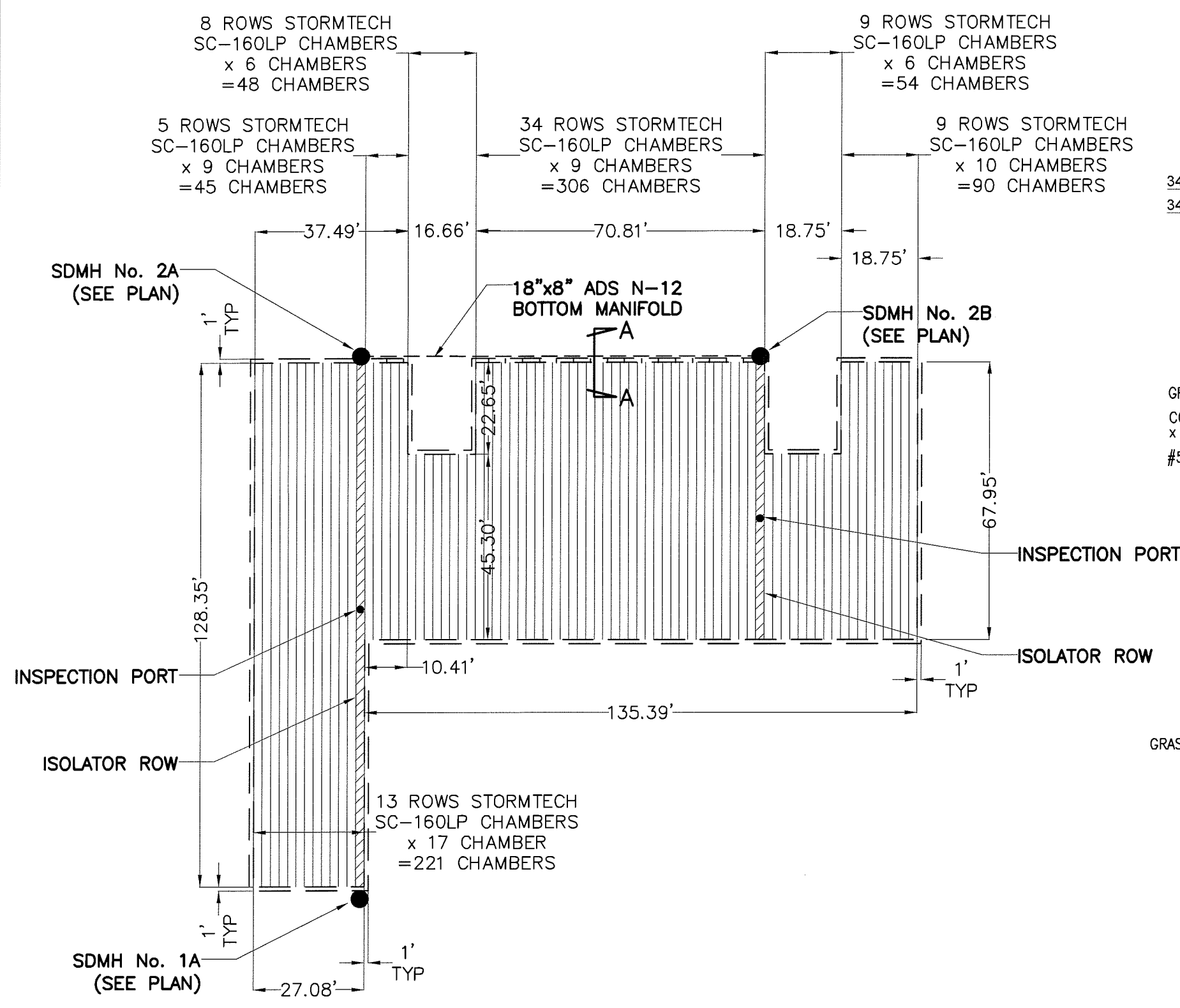
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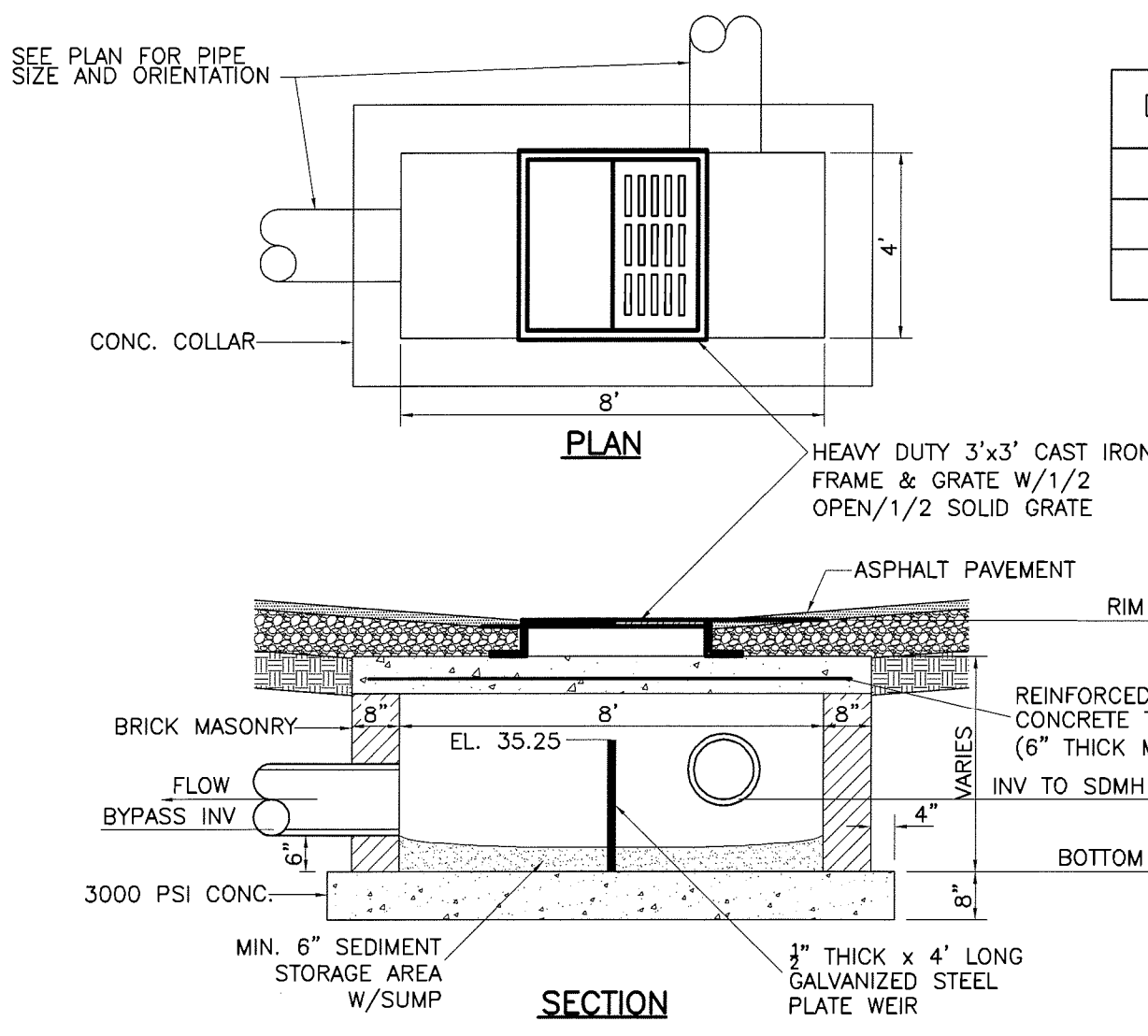
**SC-160LP 6" ISOLATOR ROW DETAIL**

NTS



**STORMWATER CHAMBER PLAN DETAIL**

NTS



**MODIFIED DROP INLET DETAIL**

NTS

Approved Construction Plan

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

STORMWATER MANAGEMENT PLAN APPROVED

CITY OF WILMINGTON ENGINEERING DEPARTMENT

DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_

SIGNED \_\_\_\_\_

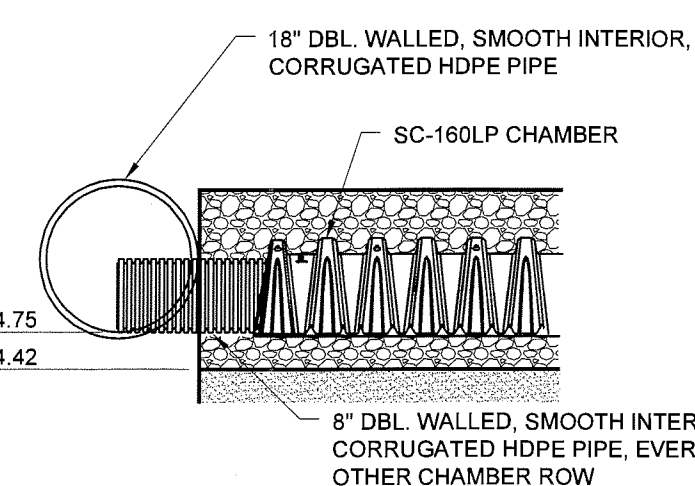
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

**INSPECTION & MAINTENANCE**

- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
    - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
    - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
    - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
    - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
    - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
  - B. ALL ISOLATOR ROWS
    - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
    - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
      - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
      - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
    - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
  - B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
  - C. VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

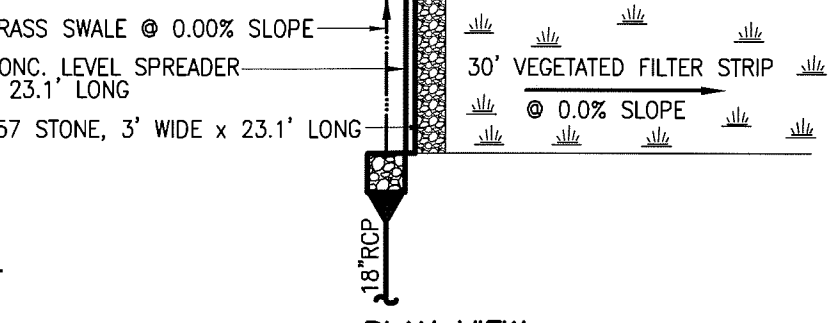
**NOTES**

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



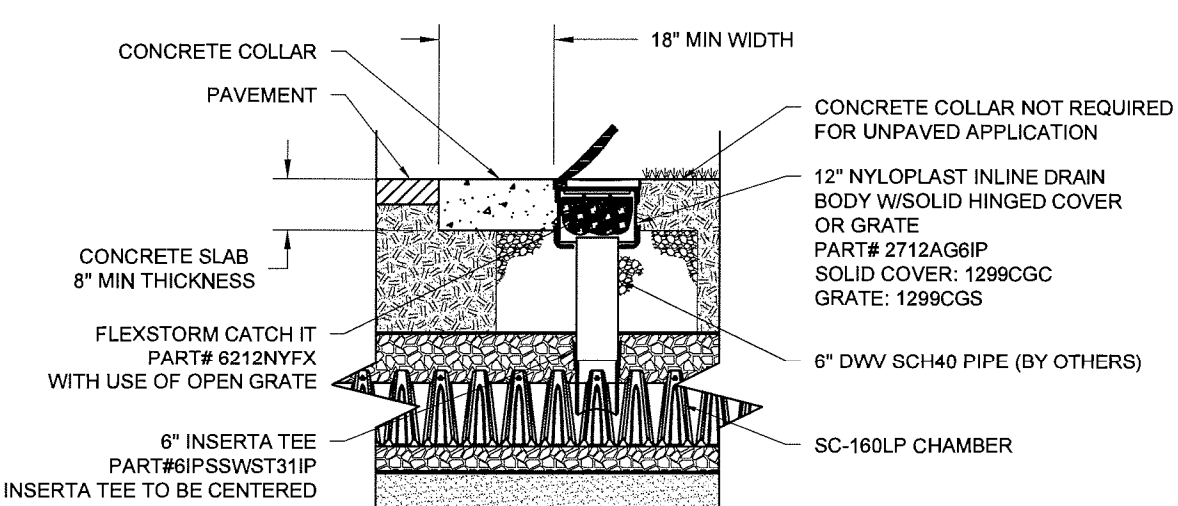
**SECTION A-A**

NTS



**SC-160LP 6" INSPECTION PORT DETAIL**

NTS



**TYPICAL GRASS SWALE**

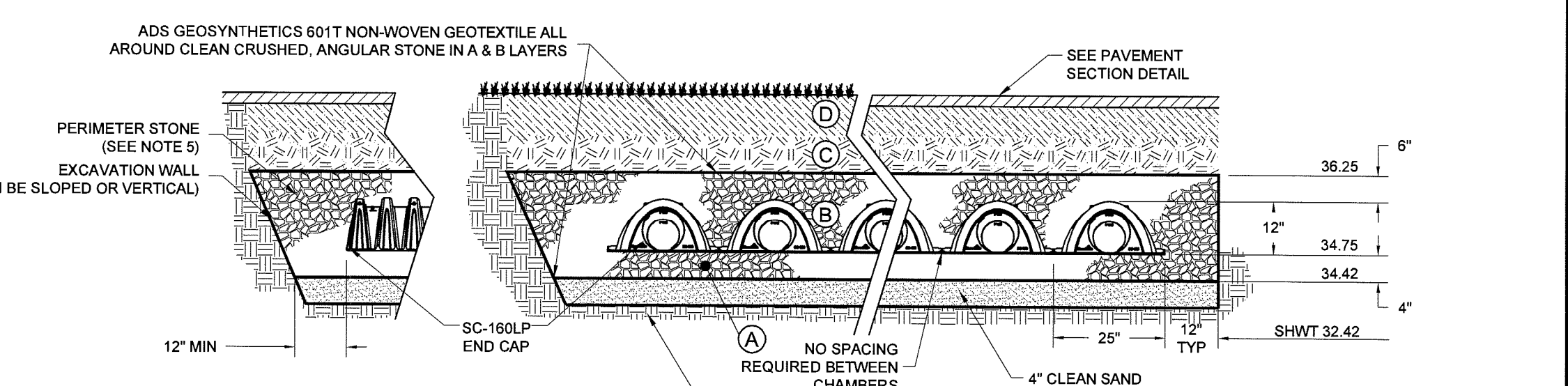
NTS

**ACCEPTABLE FILL MATERIALS: STORMTECH SC-160LP CHAMBER SYSTEMS**

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	N/A	PREPARE PER SITE DESIGN ENGINEERS PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDED STONE (B LAYER) TO THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER ABOVE	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. AASHTO M145* A-1, A-2-4, A-3 OR AASHTO M43* 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE. MATERIALS ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 AN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE	CLEAN, CRUSHED, ANGULAR STONE AASHTO M43* 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER	CLEAN, CRUSHED, ANGULAR STONE AASHTO M43* 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.**

**PLEASE NOTE:**

- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE.
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) MAX LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
- WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.

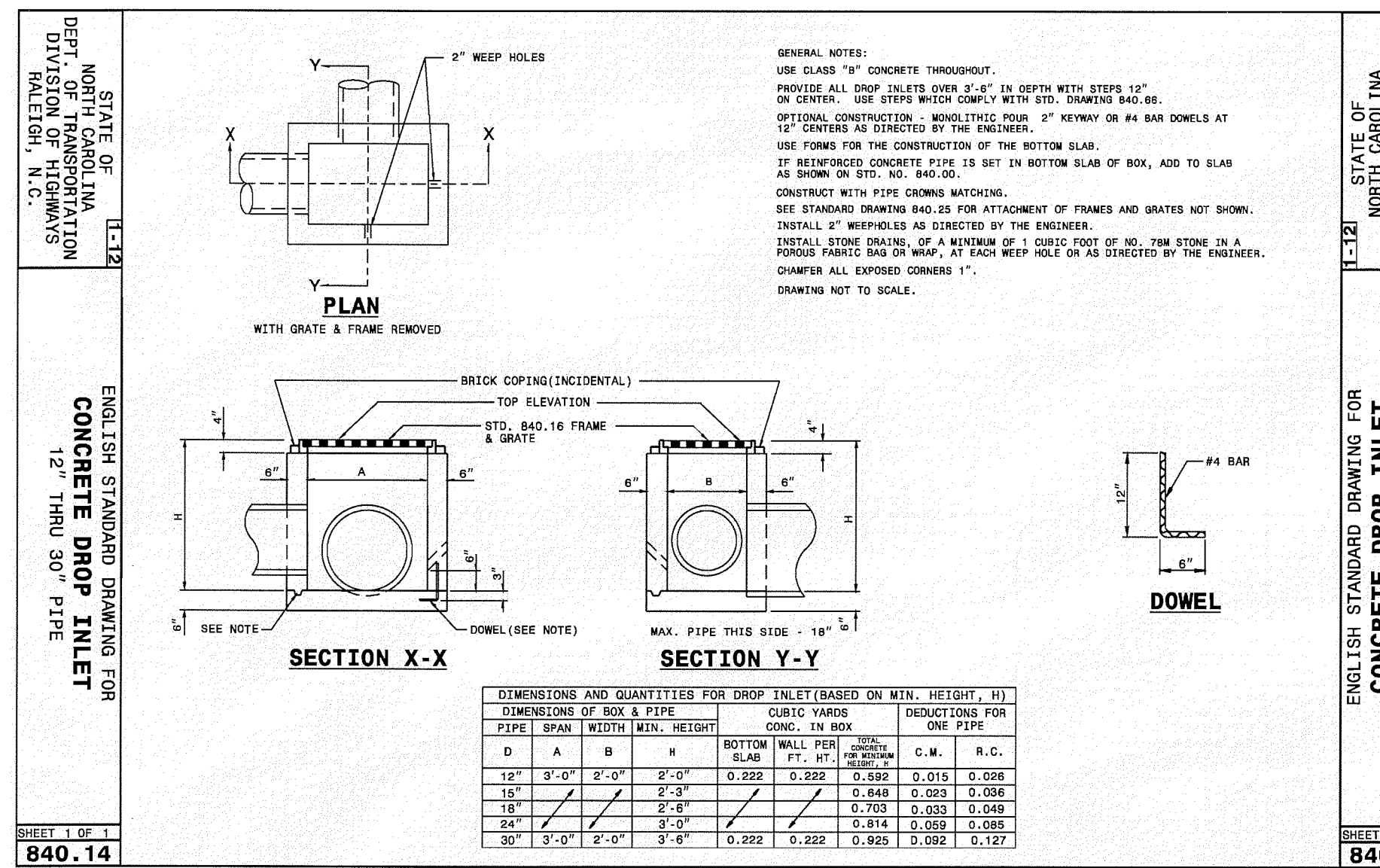


**NOTES:**

- SC-160LP CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- THE GEOTECHNICAL ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

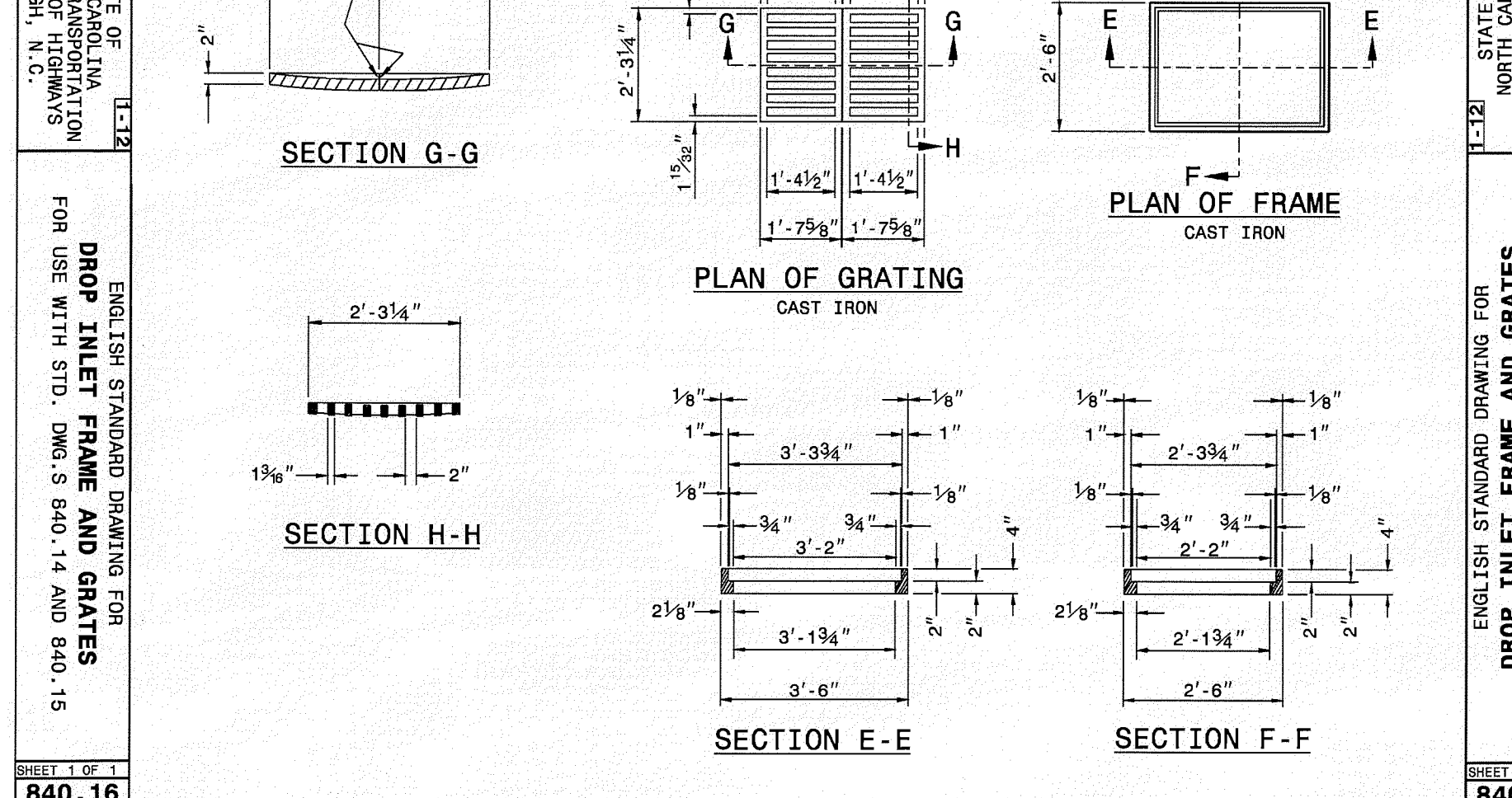
**TYPICAL UNDERGROUND INFILTRATION TRENCH CROSS SECTION**

NTS



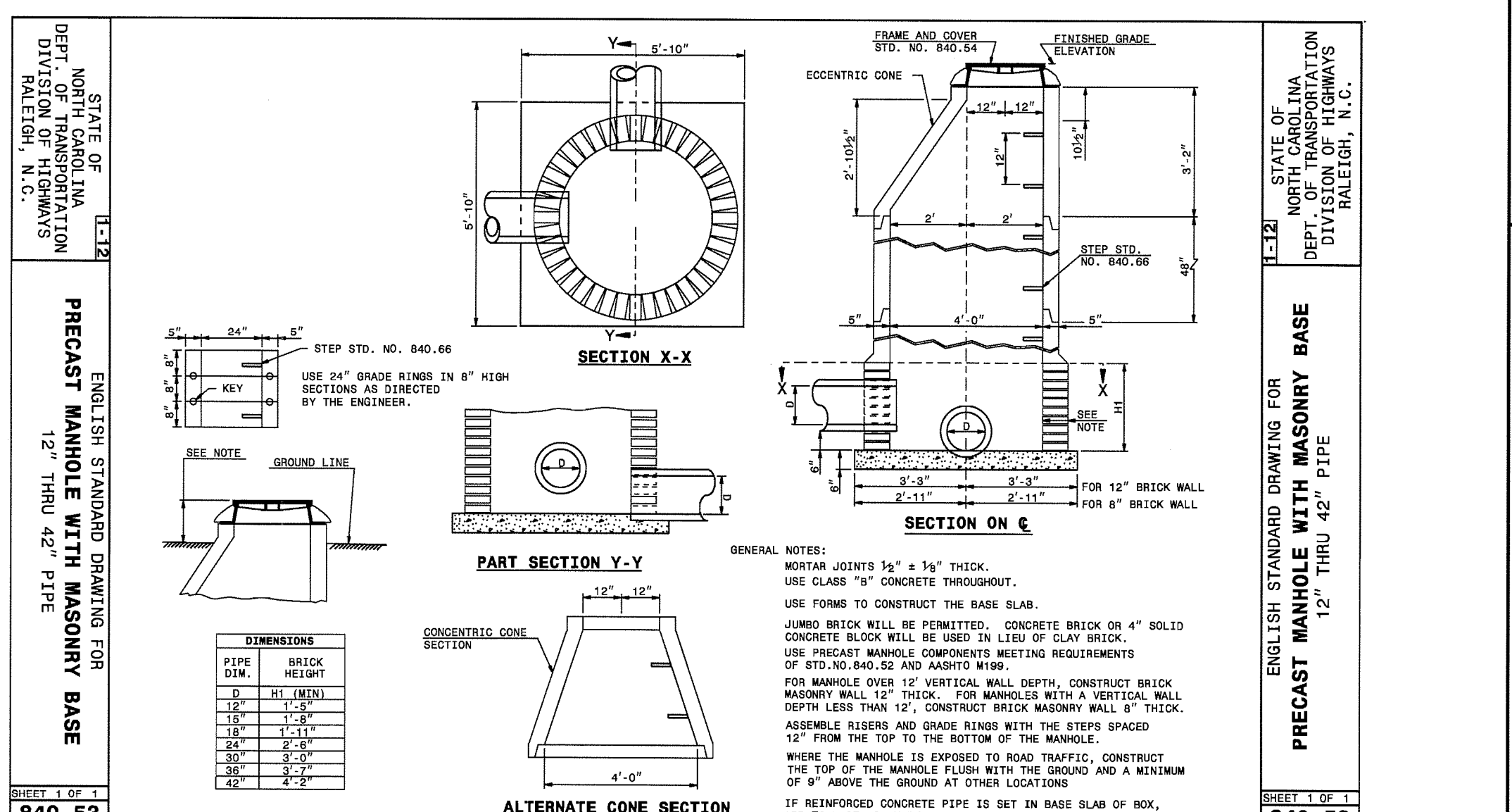
ENGLISH STANDARD DRAWING FOR CONCRETE DROP INLET 12" THRU 30" PIPE

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



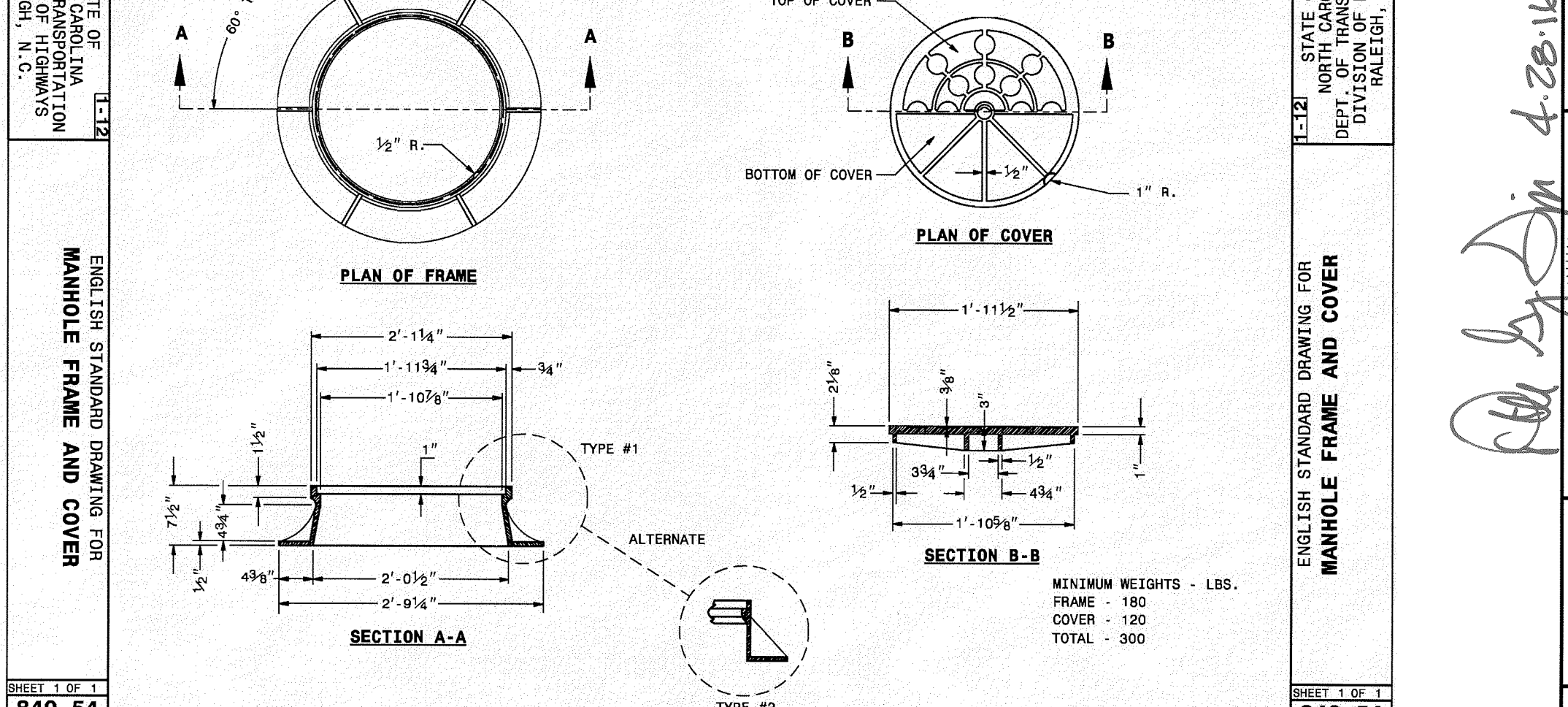
ENGLISH STANDARD DRAWING FOR DROP INLET FRAME AND GRATES FOR USE WITH STD. DIMS. S. 840.14 AND 840.15

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



ENGLISH STANDARD DRAWING FOR PRECAST MANHOLE WITH MASONRY BASE 12" THRU 42" PIPE

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



ENGLISH STANDARD DRAWING FOR MANHOLE FRAME AND COVER

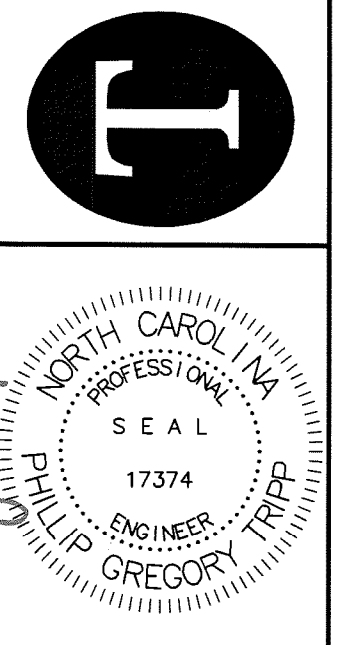
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS WILMINGTON, N.C.

REVISIONS

No. / Date	Description	By
R1 / 07.08.16	CITY SW COMMENTS	MLV

DETAILS AND NOTES

TRIPP ENGINEERING, P.C.  
419 Chestnut Street  
Wilmington, North Carolina 28401  
Phone 910-763-5100  
Fax 910-763-5631



DATE 04-28-16  
DESIGN PGT  
DRAWN MLV

C6  
SHEET 6 OF 6  
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