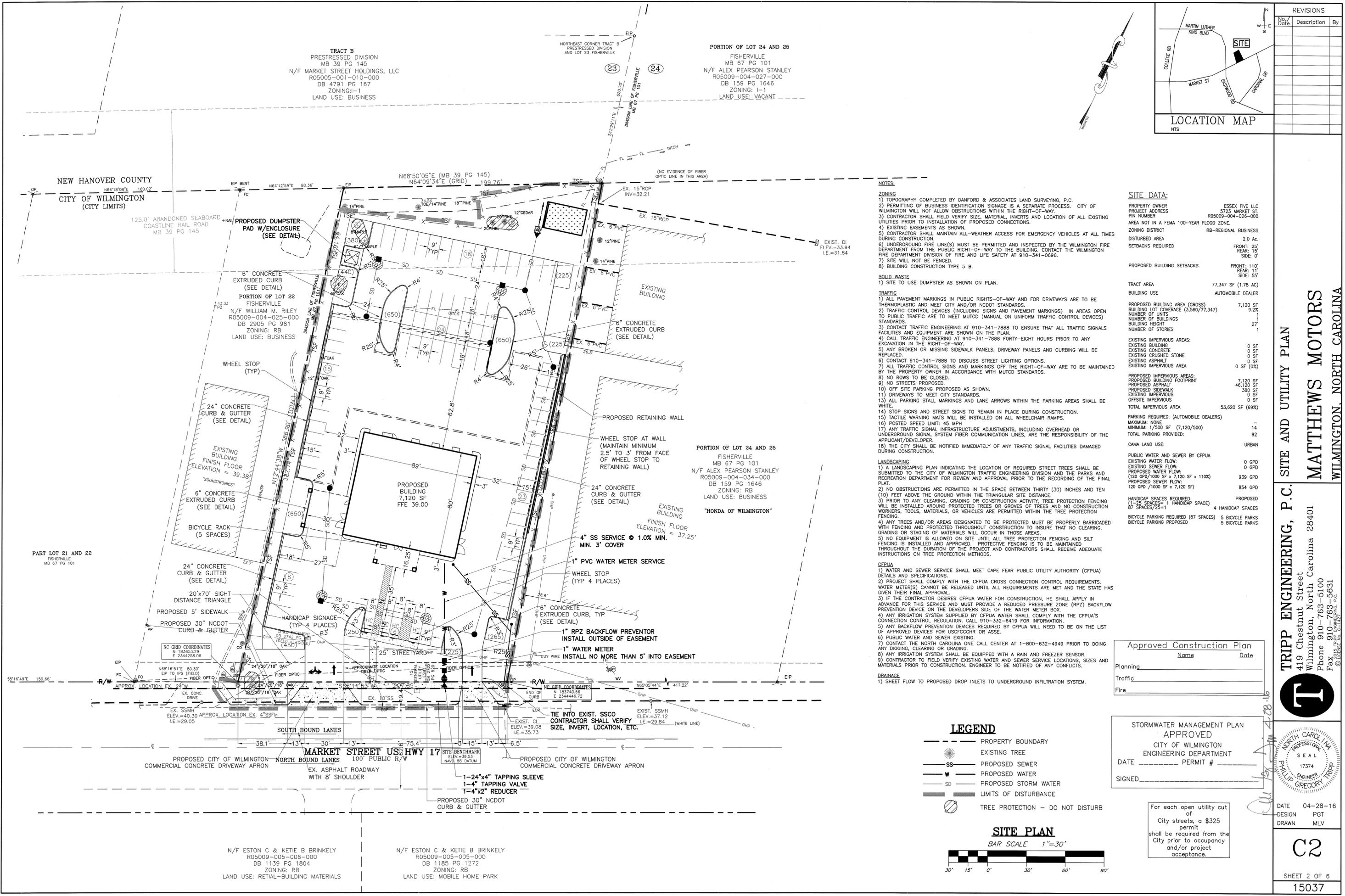


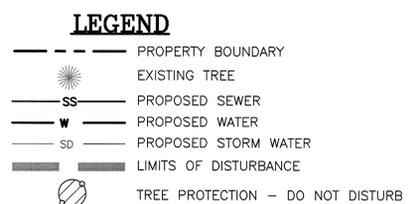
REVISIONS		
No./Date	Description	By



- 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 FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT 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.
 - 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 PLAT.
 - 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 PREPARE 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'S CONNECTION CONTROL REGULATION. 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 USCFCOCCOR 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.

SITE DATA:

PROPERTY OWNER	ESSEX FIVE LLC
PROJECT ADDRESS	5723 MARKET ST.
PROJECT 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 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 IMPERVIOUS AREAS:	
PROPOSED BUILDING FOOTPRINT	7,120 SF
PROPOSED ASPHALT	46,120 SF
PROPOSED SIDEWALK	360 SF
EXISTING IMPERVIOUS	0 SF
OFFSITE IMPERVIOUS	0 SF
TOTAL IMPERVIOUS AREA	53,620 SF (69%)
PARKING REQUIRED: (AUTOMOBILE DEALERS)	
MAXIMUM: NONE	
MINIMUM: 1/500 SF (7,120/500)	14
TOTAL PARKING PROVIDED:	92
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
	854 GPD
HANDICAP SPACES REQUIRED (1-25 SPACES=1 HANDICAP SPACE)	PROPOSED
67 SPACES/25=1	4 HANDICAP SPACES
BICYCLE PARKING REQUIRED (87 SPACES)	5 BICYCLE PARKS
BICYCLE PARKING PROPOSED	5 BICYCLE PARKS



Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

STORMWATER MANAGEMENT PLAN

APPROVED

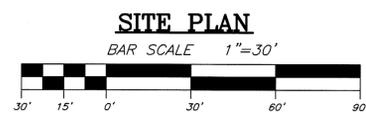
CITY OF WILMINGTON

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.



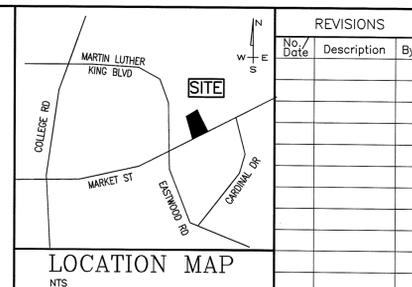
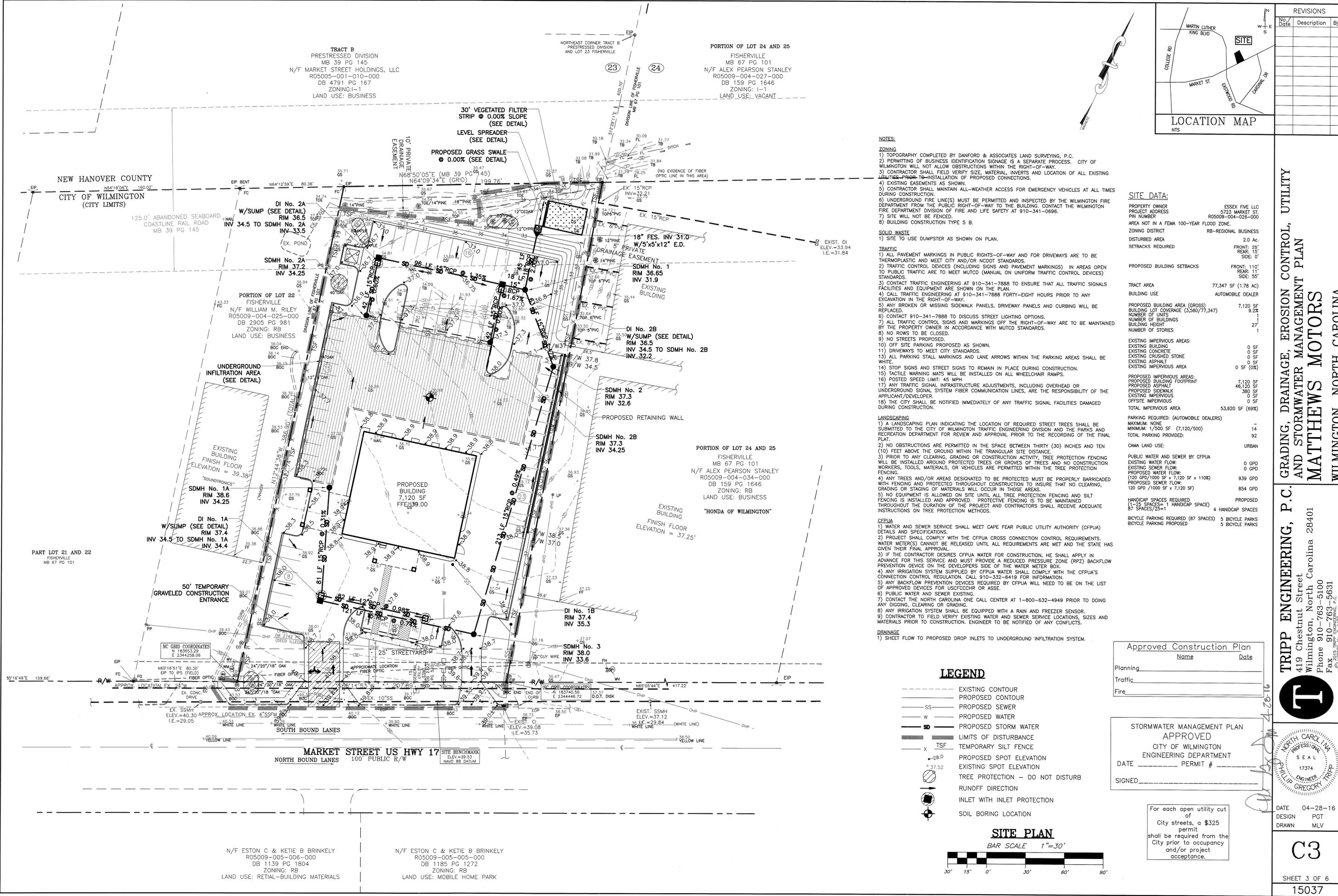
TRIPP ENGINEERING, P.C.
 419 Chestnut Street
 Wilmington, North Carolina 28401
 Phone 910-763-5100
 Fax 910-763-5631
 P.O. BOX 10000 WILMINGTON, NC 28402

MATTHEWS MOTORS
 WILMINGTON, NORTH CAROLINA

SITE AND UTILITY PLAN

DATE 04-28-16
 DESIGN PGT
 DRAWN MLV

SHEET 2 OF 6
 15037



REVISIONS		
No./Date	Description	By

- 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 FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT 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) STOP SIGNS AND STREET SIGNS TO REMAIN IN PLACE DURING CONSTRUCTION.
 - 14) TACTILE WARNING MATS WILL BE INSTALLED ON ALL WHEELCHAIR RAMPS.
 - 15) POSTED SPEED LIMIT: 45 MPH
 - 16) ANY TRAFFIC SIGNAL INFRASTRUCTURE ADJUSTMENTS, INCLUDING OVERHEAD OR UNDERGROUND SIGNAL SYSTEM FIBER COMMUNICATION LINES, ARE THE RESPONSIBILITY OF THE APPLICANT/DEVELOPER.
 - 17) 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.
- CFPIUA**
- 1) WATER AND SEWER SERVICE SHALL MEET CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPIUA) DETAILS AND SPECIFICATIONS.
 - 2) PROJECT SHALL COMPLY WITH THE CFPIUA 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 CFPIUA 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 CFPIUA WATER SHALL COMPLY WITH THE CFPIUA'S CONNECTION CONTROL REGULATIONS. CALL 910-332-6419 FOR INFORMATION.
 - 5) ANY BACKFLOW PREVENTION DEVICES REQUIRED BY CFPIUA 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.

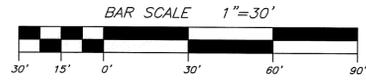
SITE DATA:

PROPERTY OWNER	ESSEX FIVE, LLC
PROJECT ADDRESS	5723 MARKET ST.
PIV 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)	3.2%
NUMBER OF UNITS	1
NUMBER OF BUILDINGS	1
NUMBER OF STORIES	27
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 IMPERVIOUS AREAS:	
PROPOSED BUILDING FOOTPRINT	7,120 SF
PROPOSED ASPHALT	46,120 SF
PROPOSED SIDEWALK	380 SF
EXISTING IMPERVIOUS	0 SF
OFFSITE IMPERVIOUS	0 SF
TOTAL IMPERVIOUS AREA	53,620 SF (69%)
PARKING REQUIRED: (AUTOMOBILE DEALERS)	
MAXIMUM NONE	14
MINIMUM: 1/500 SF (7,120/500)	92
TOTAL PARKING PROVIDED:	92
CAMA LAND USE:	URBAN
PUBLIC WATER AND SEWER BY CFPIUA	0 GPD
EXISTING WATER FLOW:	0 GPD
PROPOSED WATER FLOW:	939 GPD
(120 GPD/1000 SF x 7,120 SF x 110%)	
PROPOSED SEWER FLOW:	854 GPD
120 GPD /1000 SF x 7,120 SF)	
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
- - - 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



Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

STORMWATER MANAGEMENT PLAN
APPROVED

CITY OF WILMINGTON
ENGINEERING DEPARTMENT

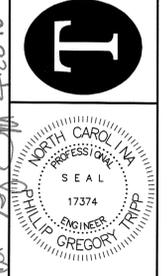
DATE _____ PERMIT # _____

SIGNED _____

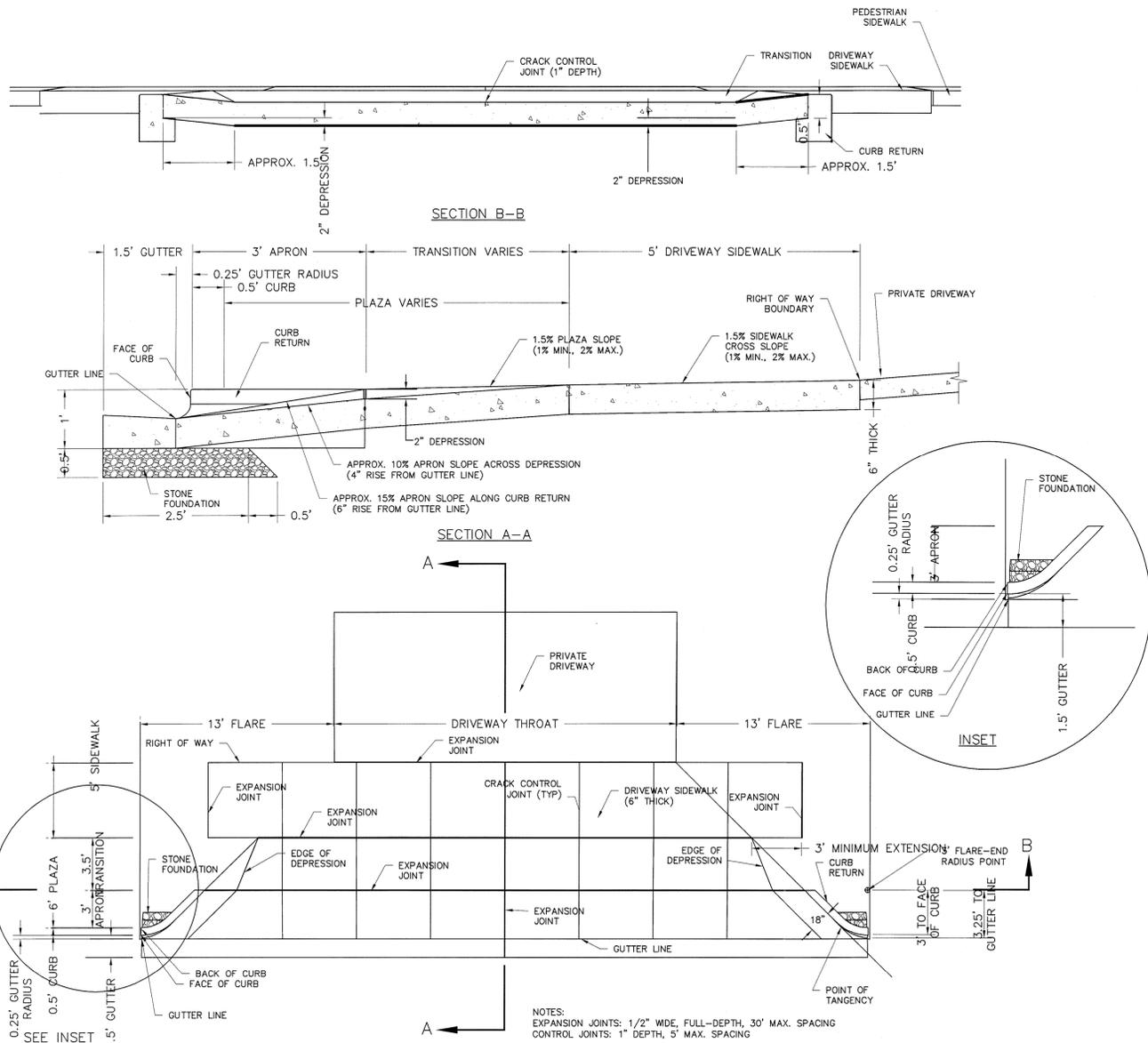
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

UTILITY
 GRADING, DRAINAGE, EROSION CONTROL,
 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
 © LICENSE NO. C-1297

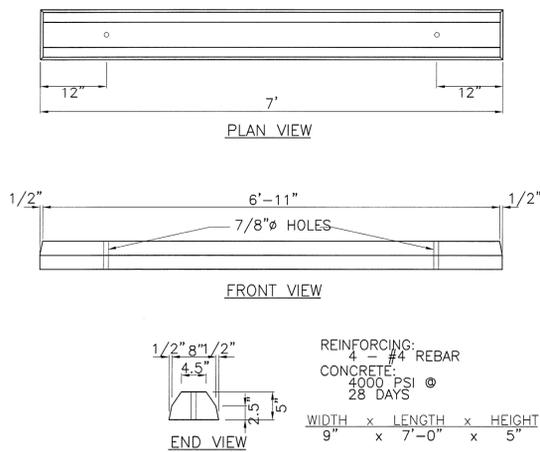


DATE 04-28-16
DESIGN PGT
DRAWN MLV



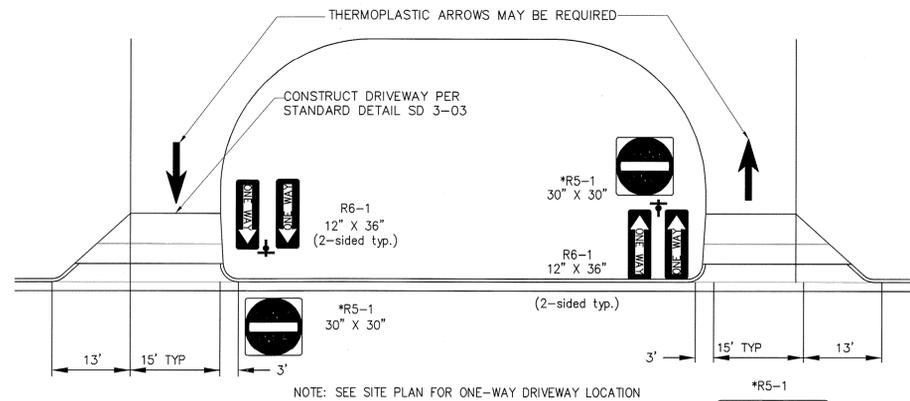
CITY OF WILMINGTON COMMERCIAL DRIVEWAY SD 3-03

NTS



WHEEL STOP DETAIL

NTS



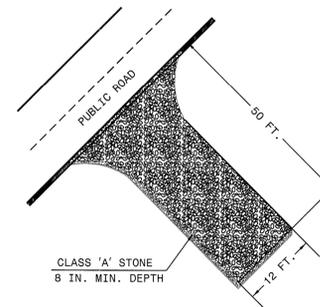
CITY OF WILMINGTON STANDARD ONE-WAY DRIVEWAY SD 8-21

NTS

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

ENGLISH STANDARD DRAWING FOR GRAVEL CONSTRUCTION ENTRANCE

SHEET 1 OF 1 1607.01

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

ENGLISH STANDARD DRAWING FOR CONCRETE SIDEWALK

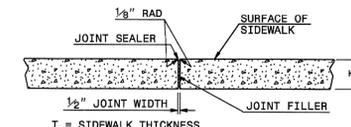
SHEET 1 OF 1 848.01

NOTES

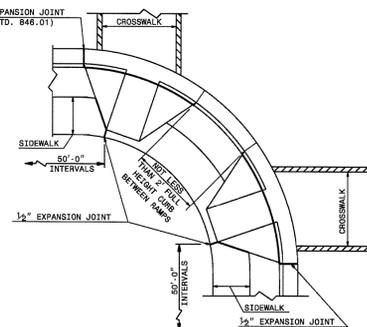
CONSTRUCT STANDARD SIDEWALK 5' WIDE AND 4" THICK UNLESS OTHERWISE DENOTED ON PLANS.

PLACE A GROOVE JOINT 1" DEEP WITH 1/8" RADIUS 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.

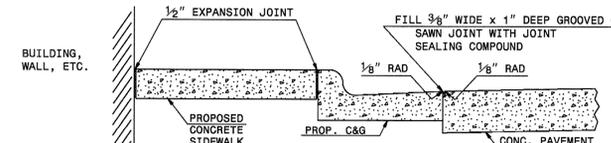
SEE STD. DWG. 848.05 FOR WHEELCHAIR RAMP LOCATION REQUIREMENTS AND CONSTRUCTION GUIDELINES.



TRANSVERSE EXPANSION JOINT IN SIDEWALK



PLAN VIEW



DETAILS SHOWING JOINTS IN CONCRETE SIDEWALK

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

ENGLISH STANDARD DRAWING FOR CONCRETE SIDEWALK

SHEET 1 OF 1 848.01

REVISIONS		
No. / Date	Description	By

DETAILS AND NOTES
MATTHEWS MOTOTS
 WILMINGTON, NORTH CAROLINA

TRIPP ENGINEERING, P.C.
 419 Chestnut Street
 Wilmington, North Carolina 28401
 Phone 910-763-5100
 Fax 910-763-5631
 © 2011 TRIPP ENGINEERING, P.C.



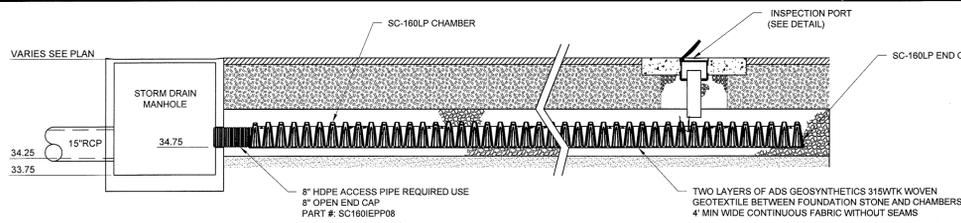
DATE 04-28-16
 DESIGN PGT
 DRAWN MLV

Approved Construction Plan

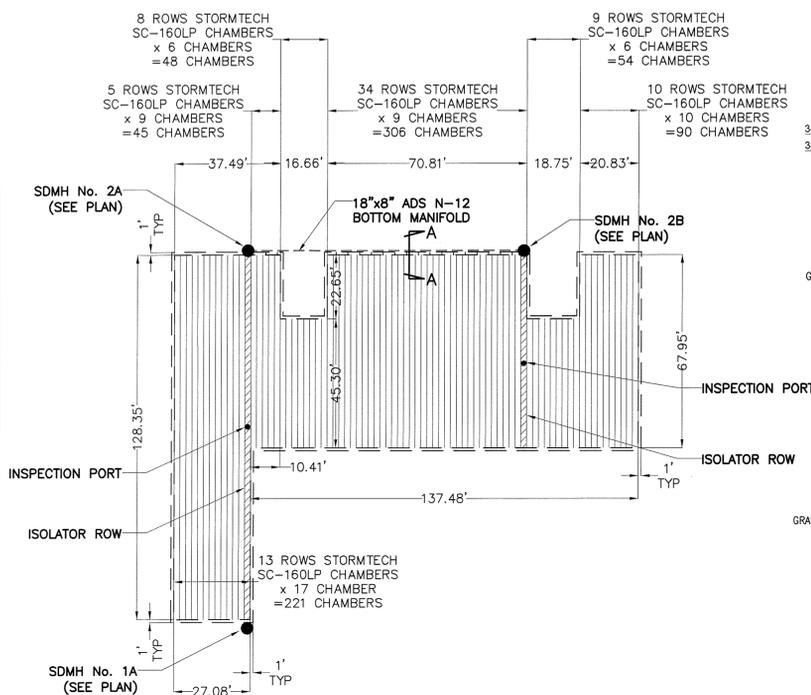
Name	Date
Planning	
Traffic	
Fire	

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

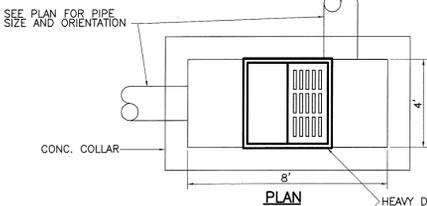
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.



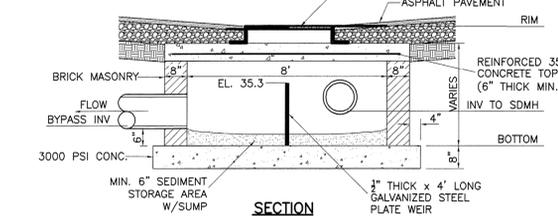
SC-160LP 6" ISOLATOR ROW DETAIL
NTS



STORMWATER CHAMBER PLAN DETAIL
NTS



DI #	RIM	INV TO SDMH	BYPASS INV	BOTTOM
1A	37.40	34.50	34.40	33.90
2A	36.50	34.50	33.50	33.00
2B	36.50	34.50	32.20	31.70



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 _____

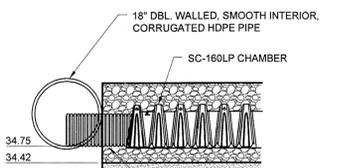
For each open utility cut of
City streets, a \$325
permit
shall be required from the
City prior to occupancy
and/or project
acceptance.

INSPECTION & MAINTENANCE

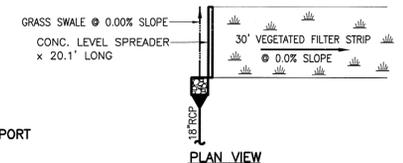
- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- INSPECTION PORTS (IF PRESENT)
 - REMOVE/OPEN LID ON NYLOPLAST FILTER IF INSTALLED
 - USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)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

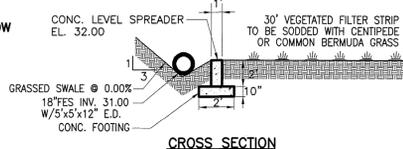
- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



SECTION A-A
NTS

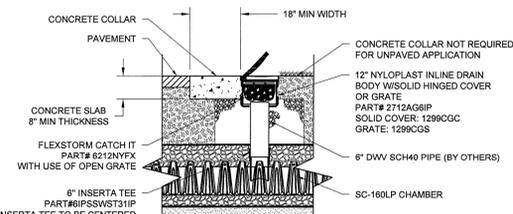


PLAN VIEW



CROSS SECTION

LEVEL SPREADER DETAIL
NTS



SC-160LP 6" INSPECTION PORT DETAIL
NTS

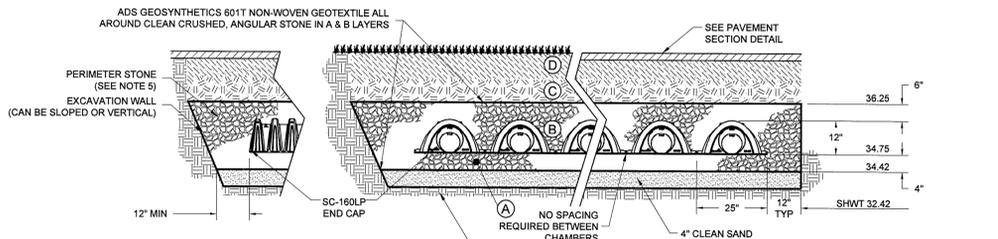
TYPICAL GRASS SWALE
NTS

ACCEPTABLE FILL MATERIALS: STORMTECH SC-160LP CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	ASHTO 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 ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER	AASHTO M1451 A-1, A-2.4, A-3 OR AASHTO M431 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 8, 86, 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. 96% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 96% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). 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	AASHTO M431 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	AASHTO M431 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. **

PLEASE NOTE:

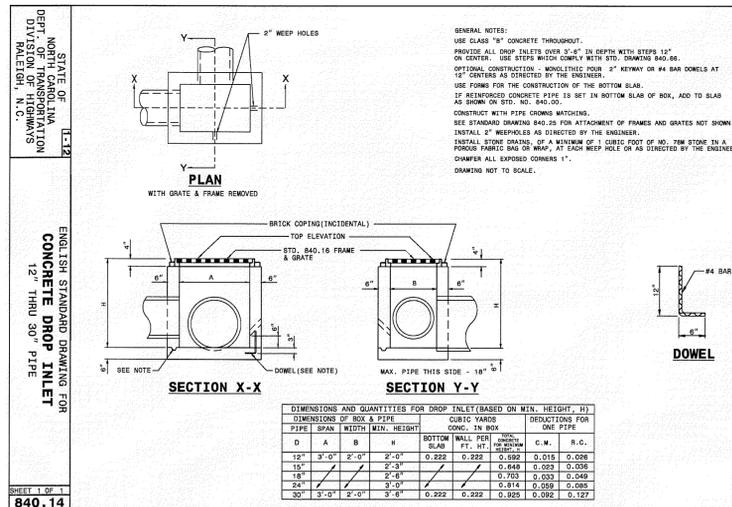
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE"
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED 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

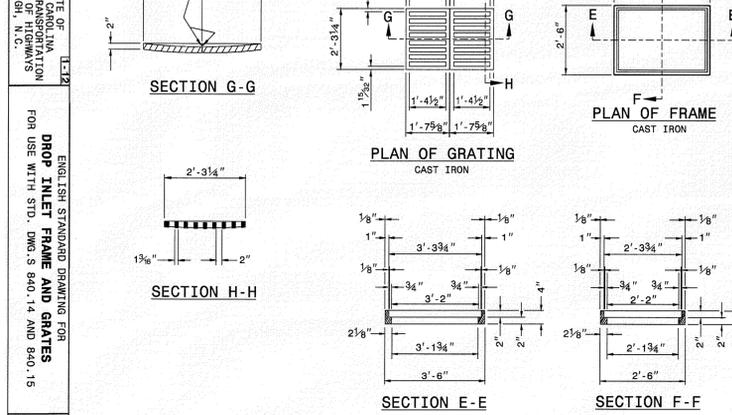


CONCRETE DROP INLET
12" THRU 30" PIPE

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

ENGLISH STANDARD DRAWING FOR
CONCRETE DROP INLET

SHEET 1 OF 1
840.14



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
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
DROP INLET FRAME AND GRATES

SHEET 1 OF 1
840.16

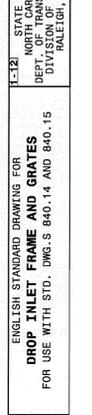


PRECAST MANHOLE WITH MASONRY BASE
12" THRU 42" PIPE

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

ENGLISH STANDARD DRAWING FOR
PRECAST MANHOLE WITH MASONRY BASE

SHEET 1 OF 1
840.53

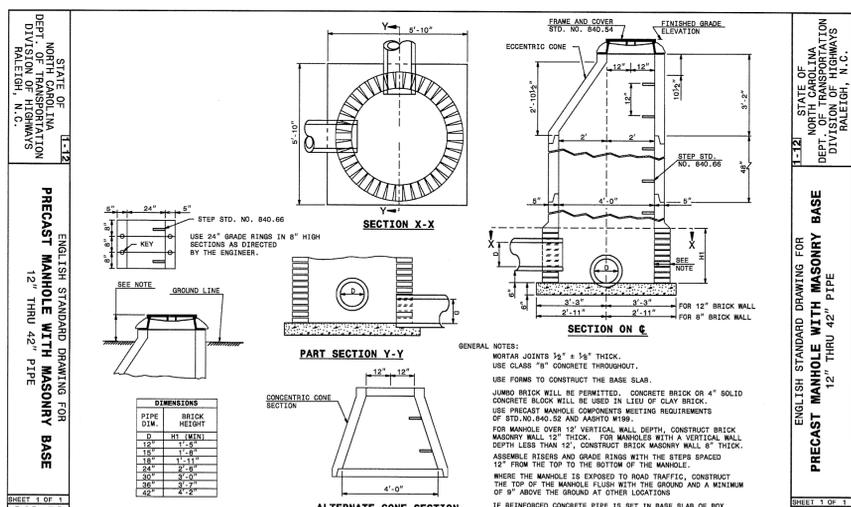


MANHOLE FRAME AND COVER

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

ENGLISH STANDARD DRAWING FOR
MANHOLE FRAME AND COVER

SHEET 1 OF 1
840.54

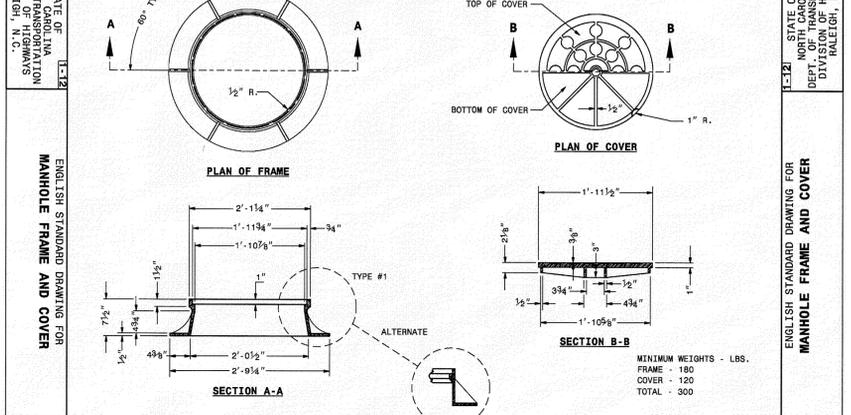


PRECAST MANHOLE WITH MASONRY BASE
12" THRU 42" PIPE

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

ENGLISH STANDARD DRAWING FOR
PRECAST MANHOLE WITH MASONRY BASE

SHEET 1 OF 1
840.53



MANHOLE FRAME AND COVER

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

ENGLISH STANDARD DRAWING FOR
MANHOLE FRAME AND COVER

SHEET 1 OF 1
840.54

REVISIONS

No.	Description	By

DETAILS AND NOTES

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

MATTHEWS MOTOTS
WILMINGTON, NORTH CAROLINA

4-20-16

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

ENGLISH STANDARD DRAWING FOR
MANHOLE FRAME AND COVER

SHEET 6 OF 6
15037