CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
FEBRUARY 11, 2019

SITE DATA

Project Name:	Hendrick Honda of Wilmington
Proposed Site Use:	Automotive Sales & Service
Existing Site Use:	Existing Restaurant, Mobile Ambulatory Facility, Vacant Land
Project Address:	6720 Market Street, Wilmington, NC 28405
Parcel ID Number:	R04320-002-022-000, R04320-002-023-000
Zoning District(s):	RB/R-15
Overlay District(s) Designation:	N/A
Building Setbacks:	
Required:	25' Front Setback, 25' Rear Setback
Total Amount of Acreage within the Project Boundaries:	14.28 AC (622,037 SF)
Building Footprint Size:	
Existing:	378 + 663 + 122 + 37 + 181 + 474 + 283 + 866 + 205 = 3209 Total SF
Proposed:	52,684 + 1,833 = 54,773 Total SF
Building Lot Coverage Calculations:	
Existing:	0.5 Percent Covered
Proposed:	8.6 Percent Covered
Number of Units:	1
Number of Buildings:	2
Building Height(s):	Dealership – 29', Car Wash – 18'
Number of Stories:	Dealership – 2, Car Wash – 1
Square feet per Floor:	Car Dealership: 1st: 52,684 SF, 2nd: 12,302 SF Car Wash: 1,833 SF
Total Amount of Impervious Area:	
Before Development:	16,176 SF
After Development:	453,558 SF
Percent Impervious:	
Before Development:	2.5 %
After Development:	71.4 %
Off Street Parking Calculations:	
Required Parking:	Automotive Dealership (27,691 SF) 56 spots
	Automotive Service (26,713 SF) 45 spots
	Storage/Warehousing (10,582 SF) 11 spots
	Total Parking: 112 Spots
	ADA Parking 5 Spots (of 112 Total)
Proposed Parking:	Standard Parking: 123 Spots
	ADA Parking: 5 Spots
	Inventory Parking: 892 Spots
	Total Parking: 1020 Spots
	Basis of Determination: Wilmington Code of Ordinances, Chapter 18, Article 9, Section 18-532
CAMA Land Use Classification:	Urban

CFPUA UTILITY LENGTHS

SANITARY
- 445.47 LF of Private 6" PVC Gravity Sanitary Sewer Service
- 477.11 LF of Private 2" PVC Force Main Sanitary Service

WATER
- 780.52 LF of Private 8" PVC Fire Water Service
- 376.43 LF of Private 3" PVC Domestic Water Service
- 253.60 LF of Private 2.5" PVC Domestic Water Service
- 544.21 LF of Private 2" PVC Domestic Water Service

NOTE:

1. These plans are to be in strict conformance with the City of Wilmington, New Hanover County, Cape Fear Public Utility Authority, NCDOT, and NCDENR Specifications and Standards.
2. Sediment and erosion control measures shall be maintained throughout this development as indicated in the Erosion Control Phase 1 and Erosion Control Phase 2 Plan Sheets, and per New Hanover County requirements.

FEMA NOTE:

According to the Federal Emergency Management Agency's Flood Insurance Map, dated August 28, 2018, the subject tract shown herein lies within Zone "X" (areas determined to be outside 0.2% annual chance floodplain), Map No. 3720315800K, Panel Number 4572.

SOIL TYPES:

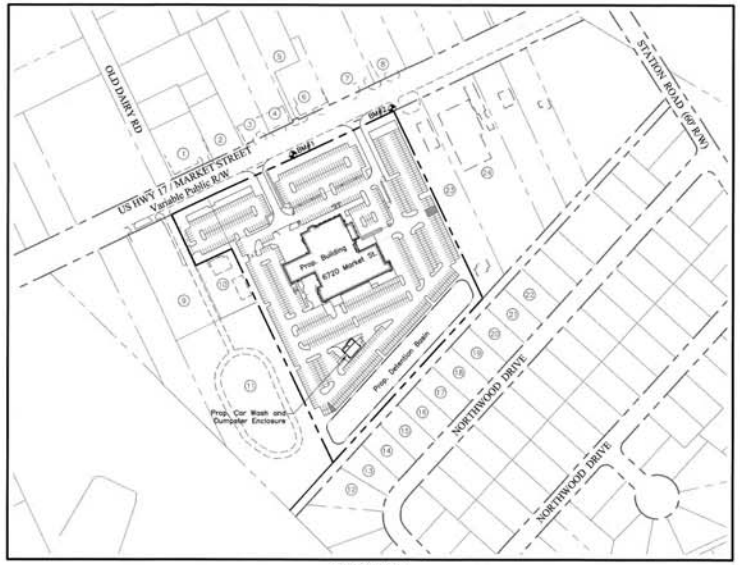
According to a Web Soil Survey provided by the Natural Resources Conservation Service dated September 28, 2018, approximately 43.3% of soils on this site are Kr, Kureb sand, 1 to 6 percent slopes, 37.6% are No, Norfolk fine sandy loam, 0 to 4 percent slopes, 18.1% are Le, Leon sand, and 1.0% are Ku, Kureb–Urban land complex, 1 to 8 percent slopes.

BENCH MARKS

Horizontal: NAD 83 (2011)
Vertical: NAVD 88

BM#1 Fire Hydrant Top Street Side Nut
Northing = 187001.24
Easting = 2351544.93
Elev. = 45.98

BM#2 Chiseled "X" in Sanitary Manhole Rim
Northing = 187159.51
Easting = 2351882.62
Elev. = 41.69

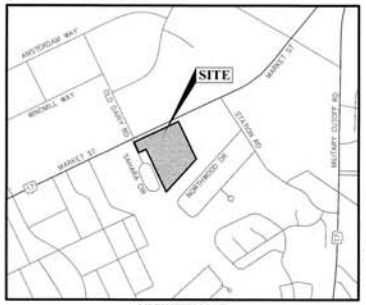


INDEX MAP

GRAPHIC SCALE

0 100 200 400

1 inch = 200 feet



VICINITY MAP
No Scale

ADJACENT PROPERTY OWNERSHIP TABLE

1	EVANS STREET FOUR LLC PID: R04320-001-017-000 DB 6167 P. 2376 ZONED: RB	13	FLINT PID: R05008-002-024-000 DB 5246, P. 0461 ZONED: R-15
2	ELITE DEVELOPERS INC PID: R04320-001-016-000 DB 6165 P. 1328 ZONED: RB	14	LITTLE PID: R05008-002-025-000 DB 5227, P. 1205 ZONED: R-15
3	H&S FAMILY HOLDINGS LLC PID: R04320-001 –002-000 DB 6165 P. 0803 ZONED: RB	15	GREEN PID: R04320-002-001-000 DB 9808, P. 0303 ZONED: R-15
4	H&S FAMILY HOLDINGS LLC PID: R04320-001 –003-000 DB 5454 P. 0691 ZONED: RB	16	CROOM PID: R04320-002-002-000 DB 9906, P. 182012 ZONED: R-15
5	BLOCK TRUST AGREEMENT PID: R04320-001-004-001 DB 6096, P. 1212 ZONED: RB	17	BORDEAUX PID: 04320-002-003-000 DB 9902, P. 1717 ZONED: R-15
6	DALE STARBUCK III PID: R04320-001-004-002 DB 6154 P. 0386 ZONED: RB	18	PRESCOTT PID: R04320-002-004-000 DB 5108, P. 1869 ZONED: R-15
7	J. A. DINKINGS INVESTMENTS LLC PID: R04320-001-004-000 DB 6157 P. 2750 ZONED: RB	19	SHIELDS PID: R04320-002-005-000 DB 9901, P. 0813 ZONED: R-15
8	MCGEE PID: R04320-001-005-000 DB 6162 P. 0774 ZONED: RB	20	GRIFFITH PID: R04320-002-006-000 DB 9907, P. 232012 ZONED: R-15
9	BOYETTE & DOZIER ENTERPRISES, LLC PID: R04320-002-025-000 DB 006171, P. 000051 ZONED: RB	21	CURRIN PID: R04320-002-007-000 DB 5439, P. 2575 ZONED: R-15
10	MERCERS MARINE NC, LLC PID: R04320-002-024-000 DB 5880, P. 1798 ZONED: RB	22	SUNNY LANE LLC PID: R04320-002-008-000 DB 6156, P. 1216 ZONED: R-15
11	MERCERS MARINE NC, LLC PID: R04320-002-029-000 DB 5880, P. 1750 ZONED: R-15	23	SPINEY ARTHUR DOUGLAS TRUST PID: R04320-002-021-000 DB 6178, P. 1835 ZONED: RB
12	MERRITT PID: R05008-002-023-000 DB 6171, P. 0347 ZONED: R-15	24	STEVENS MARKET LLC PID: R04320-002-020-000 DB 6163, P. 2754 ZONED: RB

Sheet Index

Sheet Number	Sheet Title
C1.0	Cover Sheet
C1.1	General Notes & Abbreviations
C1.2	Overall Site Key Plan
C2.0	Overall Existing Conditions and Demolition Plan
C2.1	Existing Conditions and Demolition Plan
C2.2	Existing Conditions and Demolition Plan
C2.3	Existing Conditions and Demolition Plan
C2.4	Existing Conditions and Demolition Plan
C3.0	Erosion Control Phase 1
C3.1	Erosion Control Phase 2
C3.2	Erosion Control Details
C3.3	Erosion Control Details
C4.0	Overall Site Plan
C4.1	Site Plan
C4.2	Site Plan
C4.3	Site Plan
C4.4	Site Plan
C4.5	Fire Apparatus Plan
C4.6	Intersection Sight Distance Plan
C4.7	Intersection Sight Distance Plan
C5.0	Overall Grading Plan
C5.1	Grading Plan
C5.2	Grading Plan
C5.3	Grading Plan
C5.4	Grading Plan
C5.5	Future Intersection Details
C6.0	Pre-Development Tributary Area Plan
C6.1	Post-Development Tributary Area Plan
C6.2	Basin Details
C7.0	Overall Utility Plan
C7.1	Utility Plan
C7.2	Utility Plan
C7.3	Utility Plan
C7.4	Utility Plan
C8.0	Storm Sewer Profiles
C8.1	Storm Sewer Profiles
C8.2	Storm Sewer Profiles
C9.0	Site Details & Storm Structure Table
C9.1	Site Details
C9.2	Site Details
C9.3	Site Details
C9.4	Site Details
C9.5	Utility Details
C9.6	Utility Details
C9.7	Utility Details
L1.0	Overall Tree Survey
L1.1	Tree Survey
L1.2	Tree Survey
L1.3	Tree Survey
L1.4	Tree Survey
L1.5	Tree Survey Table
L2.0	Landscape Plan
L2.1	Landscape Details & Notes

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

Call 1-800-632-4949 before you dig: It's the law!

By law, everyone MUST contact the North Carolina One-Call Center, 1-800-632-4949, at least 48 hours but no more than 10 working days (excluding weekends and legal holidays) before beginning ANY digging project.

DEVELOPER/OWNER
Hendrick Automotive Group
6000 Monroe Road
Charlotte, NC 28212
Contact: Greg Clark
Tel: (704) 566–3313
Fax: (704) 566–3295
greg.clark@hendrickauto.com

CIVIL ENGINEER
EMH&T
301 McCullough Drive, Suite 109
Charlotte, NC 28262
Contact: Brian Rossi, PE
Tel: (704) 353–9948
Fax: (704) 548–0334
brossi@emht.com

SURVEYOR
EMH&T
301 McCullough Drive, Suite 109
Charlotte, NC 28262
Contact: Matthew Rowles, PLS
Tel: (704) 548–0333
Fax: (704) 548–0334
mrowles@emht.com

ARCHITECT
Redline Design Group
1023 W. Morehead Street, Suite 220
Charlotte, NC 28208
Contact: David Eve
Tel: (704) 377–2990
Fax: (704) 377–2909
deve@redlinedg.com

SITE LIGHTING
Teeter Engineering Group
5500 77 Center Drive, Suite 140
Charlotte, NC 28217
Contact: Buck Driggers
Tel: (980) 949–7569
buckd@tegpa.com

NORTH CAROLINA EVANS MECHWART HAMBLETON & TILTON, INC. No. F-1018 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045528 02/11/19 ENGINEER BRIAN R. ROSSI

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
COVER SHEET

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
301 McCullough Dr., Ste. 109, Charlotte, NC 28262
Phone: 704.548.0333 Fax: 704.548.0334 Toll Free: 800.733.1548
emht.com

DATE
February 11, 2019

SCALE
As Noted

JOB NO.
20180410

SHEET
C1.0

GENERAL NOTES

1. IN PERFORMING THE WORK, UNDER THIS CONTRACT, THE CONTRACTOR SHALL BECOME THOROUGHLY FAMILIAR WITH ALL FEDERAL, STATE, AND LOCAL STATUTES, ORDINANCES AND DIRECTIVES WITH RESPECT TO THE ELIMINATION OF EXCESSIVE NOISE AND POLLUTION OF AIR AND WATER DUE TO HIS CONSTRUCTION EQUIPMENT AND OTHER OPERATIONS. ATTENTION SHALL BE GIVEN TO REDUCE THE NOISE OF HEAVY CONSTRUCTION EQUIPMENT AND TO THE CONTROL OF DUST, SMOKE AND FUMES FROM CONSTRUCTION EQUIPMENT AND OTHER OPERATIONS ON THE WORK SITE, AND THE DIRT AND NOISE CREATED BY HEAVY TRUCK OPERATION AREAS AND ADJACENT EXISTING PAVED AREAS. THESE AREAS SHALL BE KEPT FREE FROM DEBRIS AT ALL TIMES. THE DISCHARGE OF OILY, GREASY OR CHEMICAL WASTES INTO WATERWAYS AND TRIBUTARY SEWER WILL NOT BE PERMITTED.
2. THE REQUIREMENTS OF THE CITY OF WILMINGTON TOGETHER WITH THE FOLLOWING SPECIFICATIONS INCLUDING ALL SUPPLEMENTS THERETO, IN FORCE ON THE DATE OF CONTRACT, SHALL GOVERN ALL MATERIAL AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN ON THESE PLANS EXCEPT AS SUCH SPECIFICATIONS ARE MODIFIED BY THE CONSTRUCTION DETAILS SET FORTH ON THE PLANS, NOTES, OR CONTRACT DOCUMENTS. REFERENCED SPECIFICATIONS CONSIDERED PART OF THIS PLAN:
   - CITY OF WILMINGTON STANDARD DETAILS AND SPECIFICATIONS
   - NEW HANOVER COUNTY SOIL EROSION AND SEDIMENTATION CONTROL ORDINANCE (LATEST EDITION)
   - CITY OF WILMINGTON COMPREHENSIVE STORMWATER ORDINANCE (LATEST EDITION)
   - NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) STANDARD SPECIFICATIONS (LATEST EDITION)
   - CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) STANDARD DETAILS AND SPECIFICATIONS

   OTHER FEDERAL, STATE AND LOCAL REGULATIONS AND REQUIREMENTS ARE TO BE INCORPORATED IN THE CONSTRUCTION, WHEN IN CONFLICT WITH THE PLANS AND SPECIFICATIONS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN.
3. THE OWNER REQUIRES THAT ALL CONTRACTORS BE QUALIFIED FOR THE WORK THEY ARE PERFORMING. IT IS PRESUMED THAT CONTRACTORS PERFORMING WORK ARE EXPERIENCED AND KNOWLEDGEABLE ABOUT THE WORK (INCLUDING GOVERNMENTAL REGULATIONS), AND THAT QUALITY PRODUCTS, APPROPRIATE FOR THE APPLICATION, WILL BE USED AND THAT ALL WORK WILL BE INSTALLED IN A PROFESSIONAL WORKMANLIKE MANNER. THE PLANS SHOW LOCATIONS, RELATIONSHIPS, MAGNITUDE AND GENERAL SPECIFICATIONS OF THE WORK REQUIRED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE THAT ALL COMPONENTS INSTALLED FUNCTION PROPERLY AND THAT ALL HARDWARE, FITTINGS, CABLING, CONNECTIONS, SUPPLY LINES, ETC. ARE SUPPLIED AND PROPERLY FITTED, WHETHER DETAILED ON THE PLANS OR NOT. THE CONTRACTOR SHALL ASSURE THAT ALL COMPONENTS AND WORK ARE INSTALLED, COMPLETE IN PLACE, AND OPERATIONAL TO THE SATISFACTION OF THE OWNER AND OWNER'S REPRESENTATIVE.
4. THE CONTRACTOR AND SUB-CONTRACTORS SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUB-CONTRACTOR TO INITIATE, MAINTAIN, AND SUPERVISE SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK.
5. THE CONTRACTOR SHALL PROVIDE FULL TIME SUPERVISION OF ITS WORK WITH EXPERIENCED PERSONNEL. EACH CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS AND SAFETY OF ITS CONSTRUCTION OPERATIONS.
6. THE CONTRACTOR WILL BE EXPECTED TO PHASE CONSTRUCTION IN A WELL-PLANNED AND ORGANIZED MANNER TO AVOID ANY ADVERSE IMPACT TO OTHER SITE CONSTRUCTION ACTIVITIES.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR CONSTRUCTION AND FOR ALL PERMIT APPLICATION FEES, EXCEPT FOR THOSE PERMITS BEING OBTAINED BY THE OWNER. COSTS FOR ALL INSURANCE AND LICENSES REQUIRED SHALL BE BORN BY THE CONTRACTOR.
   OWNER PROVIDED PERMITS INCLUDE:
   - CITY OF WILMINGTON PLANNING APPROVAL
   - CITY OF WILMINGTON STORMWATER APPROVAL
   - NCDOT DRIVEWAY AND ENCROACHMENT PERMIT
   - NEW HANOVER COUNTY SEDIMENT AND EROSION CONTROL PERMIT
   - CAPE FEAR PUBLIC UTILITY AUTHORITY PLAN APPROVAL
   - NCDEQ 15A NCAC 02T .0400 – SYSTEM WIDE WASTEWATER COLLECTION SYSTEMS
   - CITY OF WILMINGTON FIRE DEPARTMENT UNDERGROUND FIRE LINE PERMIT
8. THE CONTRACTOR SHALL FURNISH AND MAINTAIN SANITARY CONVENIENCE FACILITIES FOR THE WORKERS AND INSPECTORS FOR THE DURATION OF THE WORK. COST SHALL BE INCIDENTAL TO THE PRICE BID FOR THE PROJECT IMPROVEMENTS.
9. THE CONTRACTOR SHALL SWEEP AND WASH DOWN ALL HAUL ROUTES OVER CITY/STATE/COUNTY ROADS TO/FROM THE CONSTRUCTION AREA, IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY PERMITS REQUIRED FOR THE WORK. THE CONTRACTOR SHALL PROVIDE WHATEVER MEANS NECESSARY TO ALLEVIATE OR PREVENT DUST NUISANCE AT ALL TIMES. A SWEEPER SHALL BE PROVIDED BY THE CONTRACTOR AS NECESSARY TO KEEP STREETS CLEAN. THE COST OF THIS ITEM IS INCIDENTAL TO THE PROJECT.
10. ALL MAINTENANCE OF TRAFFIC REQUIRED SHALL CONFORM TO NCDOT STANDARDS AND SHALL BE COORDINATED WITH THE OWNER OR OWNER'S REPRESENTATIVE. THE COST OF THIS ITEM IS INCIDENTAL TO THE PROJECT.
11. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS, ELEVATIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION.
12. THE CONTRACTOR IS REQUIRED TO VISIT THE SITE AND FULLY INFORM THEMSELVES CONCERNING ALL CONDITIONS AFFECTING THE SCOPE OF THE WORK. FAILURE TO VISIT THE SITE SHALL NOT RELIEVE THEM FROM ANY RESPONSIBILITY IN THE PERFORMANCE OF THIS WORK. THE CONTRACTOR SHALL INSPECT THE SITE OF THE PROJECT AND FAMILIARIZE THEMSELVES WITH ALL EXISTING CONDITIONS, TRAFFIC, OR OTHER ITEMS THAT AFFECT THE CONTRACT AND THE DETAILED REQUIREMENTS OF CONSTRUCTION.
13. ALL CATCH BASINS, MANHOLES, POLLUTION CONTROL BASINS, AND SIMILAR STRUCTURES NEWLY CONSTRUCTED, ADJUSTED OR RECONSTRUCTED UNDER THE CONTRACT SHALL BE CLEANED OF ANY ACCUMULATION OF SILT, DEBRIS OR ANY FOREIGN MATTER OF ANY KIND AND SHALL BE FREE OF SUCH ACCUMULATION AT THE TIME OF FINAL INSPECTION. CONTRACTOR SHALL ENSURE DOWNSTREAM OUTLETS ARE CLEAR OF DEBRIS TO THE EXTENT IT MAY CAUSE A BACKUP ON THE PROPOSED SYSTEM. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
14. LOCATION OF CONSTRUCTION STAGING AREA IS TO BE COORDINATED WITH THE OWNER OR OWNER'S REPRESENTATIVE PRIOR TO BEGINNING CONSTRUCTION.
15. ALL CONSTRUCTION TRAFFIC SHALL ENTER AND EXIT WORK AREAS FROM A SINGLE LOCATION. THIS LOCATION SHALL BE AGREED TO BY THE OWNER, OWNER'S REPRESENTATIVE AND THE CONTRACTOR.
16. ANY MODIFICATION TO THE WORK SHOWN ON THESE DRAWINGS MUST HAVE PRIOR WRITTEN APPROVAL BY THE OWNER OR OWNER'S REPRESENTATIVE.
17. THE CONTRACTOR SHALL SUBMIT DETAILED PRODUCT AND INSTALLATION DATA FOR ALL CONTRACTOR FURNISHED MATERIALS. DATA MUST BE SUFFICIENT FOR THE OWNER OR OWNER'S REPRESENTATIVE TO DETERMINE IF THE MATERIALS COMPLY WITH THE PROJECTS PLANS AND SPECIFICATION. WRITTEN APPROVAL BY THE OWNER OR OWNER'S REPRESENTATIVE MUST BE RECEIVED BY THE CONTRACTOR PRIOR TO ORDERING OR FURNISHING MATERIALS. OWNER SHALL NOT BE OBLIGATED TO PAY FOR ANY PRODUCTS OR MATERIALS FURNISHED BY THE CONTRACTOR WITHOUT WRITTEN APPROVAL.
18. ALL ITEMS OF WORK CALLED OUT ON THE PLANS FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS PROVIDED SHALL BE PERFORMED BY THE CONTRACTOR AND THE COST OF SAME SHALL BE INCLUDED IN THE VARIOUS IMPROVEMENTS FOR THE PROJECT.
19. IT IS THE INTENT OF THIS PROJECT TO KEEP INCONVENIENCE TO THE PROPERTY OWNERS TO A MINIMUM. ALL WORK IS TO CONTINUE ON A UNIFORM BASIS AND ON SCHEDULE, PARTICULARLY THE RESTORATION AND CLEAN UP OF DISTURBED AREAS.
20. ALL FENCES, SIGNS, DRAINAGE STRUCTURES, LANDSCAPING INCLUDING LAWN AREAS, ETC. REMOVED, DISTURBED OR DAMAGED DURING WORK UNDER THESE IMPROVEMENTS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. PAYMENT FOR SAME SHALL BE INCLUDED IN THE VARIOUS IMPROVEMENT ITEMS FOR THE PROJECT.
21. NON-RUBBER TIRE VEHICLES SHALL NOT BE MOVED ON PUBLIC STREETS. EXCEPTIONS MAY BE GRANTED BY THE AUTHORITY HAVING JURISDICTION. CONTRACTOR SHALL PROVIDE WRITTEN PERMISSION FROM THE AUTHORITY TO THE OWNER PRIOR TO MOVEMENT OF THE VEHICLES. ANY DAMAGE CAUSED BY SUCH MOVEMENT SHALL BE BORNE SOLELY BY THE CONTRACTOR.

EXISTING CONDITIONS

1. BOUNDARY FOR PID R04320-002-022-000 BASED UPON ALTA/NSPS LAND TITLE SURVEY BY EMH&T DATED MAY 17, 2018. TOPOGRAPHIC INFORMATION FOR PID R04320-002-022-000 BASED ON FIELD RUN TOPOGRAPHIC SURVEY PERFORMED BY EMH&T ON JUNE 22, 2018. BOUNDARY FOR PID R04320-002-023-000 BASED UPON ALTA/NSPS LAND TITLE SURVEY BY EMH&T DATED NOVEMBER 26, 2018. TOPOGRAPHIC INFORMATION FOR PID R04320-002-023-000 BASED UPON FIELD RUN TOPOGRAPHIC SURVEY PERFORMED BY EMH&T ON NOVEMBER 7, 2018. CITY OF WILMINGTON / NEW HANOVER COUNTY SUPPLIED GIS INFORMATION OUTSIDE PROJECT LIMITS.
2. SOME UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR TO HAVE A UTILITY LOCATING SERVICE LOCATE ALL UTILITIES PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES.

GEOMETRIC CONTROL

1. THE SURVEY DATA IS BASED ON THE NAD 83 (2011) STATE PLANE COORDINATE SYSTEM AND ELEVATIONS ARE REFERENCED TO THE NAVD 88 DATUM.

SITE ACCESS & MAINTENANCE OF EXISTING ROADWAYS

1. THE CONTRACTOR MUST SUBMIT TO THE OWNER OR OWNER'S REPRESENTATIVE AND THE APPROPRIATE LOCAL AGENCIES A PLAN THAT SHOWS THE PROPOSED HAUL ROUTES FOR THE PROPOSED WORK, AND OBTAIN ANY NECESSARY APPROVALS OR PERMITS FROM THE LOCAL ENTITY WITH JURISDICTION OVER THE ROADS PROPOSED TO BE USED. AT ALL TIMES THE CONTRACTOR SHALL RESPECT POSTED LOAD LIMITS AND SPEED LIMITS OF ALL PUBLIC ROADWAYS.

GENERAL UTILITIES

1. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO START OF WORK, EXCEPT THOSE NOTED AS OWNER PROVIDED.
2. THE CONTRACTOR SHALL CAUSE NOTICE TO BE GIVEN TO NORTH CAROLINA ONE CALL CENTER (811) 3-WORKING DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION BY CALLING 811, OR 1-800-632-4949. 3-WORKING DAYS NOTICE SHALL ALSO BE GIVEN TO OWNERS OF UNDERGROUND UTILITIES SHOWN ON THE PLANS WHO ARE NOT MEMBERS OF A REGISTERED UNDERGROUND PROTECTION SERVICE.
3. ALL EXISTING UTILITIES SHALL REMAIN IN CONTINUOUS OPERATION DURING THE EXECUTION OF THE WORK. THESE UTILITIES MAY INCLUDE, BUT ARE NOT LIMITED TO WATER, SEWER, COMMUNICATIONS, POWER, AND GAS LINES. THE CONTRACTOR SHALL CONTACT THE OWNERS OF ALL UTILITIES PRIOR TO THE START OF THE WORK SO THAT THE OWNERS MAY LOCATE AND STAKE THEIR UTILITIES. THE CONTRACTOR SHALL NOTIFY THE OWNER OR OWNER'S REPRESENTATIVE, IN WRITING, 3 DAYS PRIOR TO UTILITY OWNER LOCATING THE UTILITY.
4. ALL UTILITIES TO BE ABANDONED SHALL BE APPROVED BY THE OWNER OR OWNER'S REPRESENTATIVE PRIOR TO ABANDONING. ALL ABANDONED PIPE OR CONDUIT ARE TO BE SEALED WITH A GROUT PLUG, MINIMUM 1 FOOT THICK. THIS WORK SHALL BE INCIDENTAL TO THE CONTRACT.
5. ALL EXCAVATION NEAR EXISTING CABLES OR OTHER EXISTING UTILITY LINES SHALL BE PERFORMED BY HAND. ANY CABLE OR OTHER EXISTING UTILITY LINE THAT IS DAMAGED DURING THE PERFORMANCE OF THIS CONTRACT SHALL BE REPAIRED IMMEDIATELY, UNDER THE UTILITY OWNER'S DIRECTION AND AT THE CONTRACTOR'S EXPENSE. DURING THE PERIOD OF TIME THAT THE ABOVE TYPES OF CABLES OR UTILITIES ARE OUT OF SERVICE, DUE TO THE CONTRACTOR'S OPERATIONS, ALL CONTRACT WORK SHALL BE SUSPENDED UNLESS OTHERWISE DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE. THE CONTRACTOR WILL NOT BE ALLOWED TO MAKE CLAIMS FOR EXTRA COSTS OR TIME EXTENSIONS DUE TO SUCH STOPPAGES OF WORK.
6. THE CONTRACTOR SHALL PREPARE AND SUBMIT SHOP AND CONSTRUCTION DRAWINGS, CERTIFIED BY A STRUCTURAL ENGINEER LICENSED BY THE STATE OF NORTH CAROLINA, TO THE OWNER OR OWNER'S REPRESENTATIVE WHICH CLEARLY AND ACCURATELY DEPICT THE METHODS AND MEANS BY WHICH THE CONTRACTOR INTENDS TO PROTECT, SHORE, SUPPORT, BRACE, ETC., EXISTING UTILITIES WHEN THE WORK AFFECTS A CABLE, SEWER OR OTHER UTILITY WITHIN THE CONTRACT LIMIT LINES. THIS PROCESS IS ALSO APPLICABLE FOR THE INSTALLATION OF NEW SEWERS AND UTILITIES WITHIN THE CONTRACT LIMIT LINES THAT REQUIRE SHORING AND BRACING.
7. EXISTING CONDITIONS WERE TAKEN FROM AVAILABLE GROUND AND/OR AERIAL SURVEYS, MAPPING AND RECORDS DRAWINGS. INFORMATION SHOWN CONCERNING FEATURES AND UTILITIES IS NOT GUARANTEED, ALL INCLUSIVE OR CORRECT. THE CONTRACTOR SHALL VERIFY THE FEATURES PRIOR TO CONSTRUCTION. EXISTING UTILITIES SHALL BE MAINTAINED IN SERVICE AT ALL TIMES, UNLESS NOTED OTHERWISE ON THE PLANS. THE LOCATION, MATERIAL AND DIMENSIONS OF EXISTING FACILITIES AND OBSTRUCTIONS ARE BASED UPON AVAILABLE RECORDS AND ARE SHOWN ON THE PLANS STRICTLY AS AN AID TO THE CONTRACTOR, BUT MUST NOT BE CONSTRUED AS BEING ACCURATE, CORRECT OR COMPLETE. ALL STRUCTURES ABOVE OR BELOW GROUND THAT ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE PROPERLY SUPPORTED AND MAINTAINED. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH THE OWNER OR OWNER'S REPRESENTATIVE FOR THE PROTECTION, RELOCATION, RECONSTRUCTION OR ADJUSTMENT OF SUCH STRUCTURES AS REQUIRED IN FIELD. IF DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL MAKE REPAIRS OR PAY FOR REPAIRS TO THE STRUCTURE TO THE SATISFACTION OF THE OWNER OR OWNER'S REPRESENTATIVE AND AT THE EXPENSE OF THE CONTRACTOR.
8. IF DURING EXCAVATION, THE CONTRACTOR DISCOVERS A FIELD TILE ABOVE THE INVERT OF THE PROPOSED FACILITY, THE CONTRACTOR SHALL RECORD ITS LOCATION AND COORDINATE WITH THE OWNERS. IF THE FIELD TILE IS BELOW THE INVERT OF THE PROPOSED FACILITY, THE CONTRACTOR SHALL RECORD ITS LOCATION, REPAIR ANY DAMAGE TO THE TILE AND BACKFILL THE TILE ACROSS THE FULL WIDTH OF THE TRENCH WITH COMPACTED COARSE AGGREGATE STONE.
9. MOVING PUBLIC OR QUASI PUBLIC UTILITIES SHALL BE THE RESPONSIBILITY OF THE UTILITY OWNERS. THE CONTRACTOR IS TO NOTIFY THE UTILITY OWNER SUFFICIENTLY IN ADVANCE OF THE SCHEDULE FOR SUCH REMOVALS AND RELOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREMIUM COSTS WHICH BECOME NECESSARY AS A RESULT OF THE CONTRACTOR'S FAILURE TO NOTIFY THE UTILITY OWNER. ALL OTHER UTILITIES NOTED ON THE PLANS TO BE RELOCATED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
10. ALL ITEMS PROPOSED FOR ABANDONMENT, RELOCATION OR DEMOLITION SHALL BE MARKED BY THE CONTRACTOR FOR REVIEW BY THE OWNER OR OWNER'S REPRESENTATIVE. NO ITEM SHALL BE ABANDONED, RELOCATED OR DEMOLISHED UNTIL APPROVED BY THE OWNER OR OWNER'S REPRESENTATIVE.
11. THE OWNER OR OWNER'S REPRESENTATIVE WILL REVIEW THE SHOP DRAWINGS AND PROCEDURES IN ACCORDANCE WITH THE PROVISIONS OF THE APPROPRIATE SECTION OF THE SPECIFICATIONS.
12. THE CONTRACTOR SHALL NOT START ANY WORK WHICH MAY AFFECT EXISTING WATER, SEWER, COMMUNICATIONS, POWER, GAS OR OTHER UTILITY CABLES, PIPELINES OR DUCTS UNTIL THE OWNER OR OWNER'S REPRESENTATIVE HAS REVIEWED AND APPROVED THE SHOP DRAWINGS AND PROCEDURES FOR PROTECTION OF THE UTILITY.
13. IN THE EVENT OF THE CONTRACTOR ENCOUNTERING EXISTING SUBSURFACE DRAINAGE SYSTEMS THAT WERE NOT SHOWN ON THE PLANS, THE CONTRACTOR SHALL MAINTAIN AND PRESERVE THE SUBSURFACE DRAINAGE SYSTEMS OR CONNECT THE SYSTEMS TO THE NEAREST DRAINAGE SYSTEMS AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
14. THE CONTRACTOR SHALL AT ALL TIMES DURING CONSTRUCTION PROVIDE AND MAINTAIN AMPLE MEANS AND DEVICES FOR THE TEMPORARY DIVERSION OF FLOW IN EXISTING SEWERS, DITCHES, AND DRAINS AND THE PROMPT REMOVAL AND PROPER DISPOSAL OF ALL WATER OR SEWAGE ENTERING THE TRENCHES OR OTHER PARTS OF THE WORK, AND SHALL KEEP SAID EXCAVATIONS AS DRY AS PRACTICABLE UNTIL THE STRUCTURES TO BE BUILT THEREIN ARE COMPLETED. THIS WORK SHALL BE INCIDENTAL TO THE CONTRACT.
15. IN LOCATIONS WHERE THE EXISTING DRAINAGE FACILITIES ARE TO REMAIN AND ARE DISTURBED OR DAMAGED DURING CONSTRUCTION BY THE CONTRACTOR, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO RESTORE AND REPLACE THE DAMAGED FACILITIES AT THEIR EXPENSE TO THE SATISFACTION OF THE OWNER OR OWNER'S REPRESENTATIVE. THE SEWER FLOW MUST BE MAINTAINED AT ALL TIMES.

INSPECTIONS

1. INSPECTIONS ON THIS PROJECT WILL BE PROVIDED BY REPRESENTATIVES OF THE CITY OF WILMINGTON AND NEW HANOVER COUNTY AND ANY OTHER AUTHORITY HAVING JURISDICTION AND SHALL BE COORDINATED BY THE CONTRACTOR THROUGHOUT THE DURATION OF THE PROJECT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION & SEDIMENT CONTROL INSPECTIONS.

SUBSURFACE EXPLORATION

1. GEOTECHNICAL PAVEMENT ANALYSIS PREPARED BY NOVA.

CONSTRUCTION LAYOUT/STAKING

1. ALL CONSTRUCTION LAYOUT SERVICES FOR THIS PROJECT SHALL BE PROVIDED BY THE CONTRACTOR.
2. THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCHMARKS, PROPERTY CORNERS, REFERENCE POINTS, STAKES, AND OTHER SURVEY REFERENCE MONUMENTS OR MARKERS. IN THE EVENT THAT THE REFERENCE MONUMENTS OR MARKERS ARE DISTURBED OR DESTROYED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION. RESETTING OF MARKERS SHALL BE PERFORMED BY A PROFESSIONAL SURVEYOR REGISTERED IN NORTH CAROLINA.

STORMWATER

1. THE FLOW IN ALL SEWERS, DRAINS AND WATERCOURSES ENCOUNTERED SHALL BE MAINTAINED BY THE CONTRACTOR AT HIS OWN EXPENSE AND/OR IN THE EVENT THAT SUCH WATERCOURSES AND DRAINS ARE DISTURBED OR DESTROYED DURING THE EXECUTION OF HIS/HER WORK THEY SHALL BE RESTORED BY THE CONTRACTOR AT HIS OWN EXPENSE TO A CONDITION SATISFACTORY TO THE OWNER.

DEMOLITION

1. DEMOLISH AND REMOVE ALL STRUCTURES, FENCE, PIPE, UTILITIES, PAVEMENT, ETC. WITHIN THE PROJECT LIMITS WHICH HAVE BEEN IDENTIFIED FOR DEMOLITION ON THE PLANS. CONTRACTOR SHALL CONFIRM DEMOLITION AND REMOVAL OF ALL ITEMS WITH THE OWNER AND/OR OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK.
2. UNLESS OTHERWISE NOTED, ALL MATERIALS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF-SITE. THIS MATERIAL SHALL BE HAULED, AT THE CONTRACTOR'S EXPENSE, OFF THE OWNER'S PROPERTY IN COMPLIANCE WITH ALL FEDERAL, STATE, AND LOCAL STATUES, RULES AND REGULATIONS.
3. NO OPEN BURNING WILL BE PERMITTED.
4. THE CONTRACTOR SHALL PROGRESS THE DEMOLITION IN AN ORDERLY FASHION AND THE DISPOSAL WORK SHALL COINCIDE WITH THE DEMOLITION IN ORDER THAT THE WASTE MATERIALS SHALL NOT ACCUMULATE AND CAUSE AND UNSAFE CONDITION.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DISPOSAL FEES.

EROSION AND SEDIMENT CONTROL

1. EROSION AND SEDIMENT CONTROL MEASURES ARE REQUIRED AS PART OF THE PROJECT.
2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING NECESSARY AND ADEQUATE MEASURES FOR PROPER CONTROL OF EROSION AND SEDIMENT RUNOFF FROM THE SITE ALONG WITH PROPER MAINTENANCE AND INSPECTION IN COMPLIANCE WITH THE NORTH CAROLINA NPDES GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE SEDIMENTATION AND EROSION CONTROL FEATURES ON THIS PROJECT. ANY SEDIMENT OR DEBRIS THAT HAS REDUCED THE EFFICIENCY OF A CONTROL SHALL BE REMOVED IMMEDIATELY. SHOULD A STRUCTURE OR FEATURE BECOME DAMAGED, THE CONTRACTOR SHALL REPAIR OR REPLACE IT AT NO COST TO THE OWNER.

CLEARING AND GRUBBING

1. ONCE GRADING PERMIT IS ISSUED, PRIOR TO PROCEEDING WITH CONSTRUCTION, ALL PAVEMENTS, VEGETATION, ROOT SYSTEMS, TOPSOIL, AND OTHER DELETERIOUS NON-SOIL MATERIALS SHOULD BE STRIPPED FROM PROPOSED CONSTRUCTION AREAS AND DISPOSED OF OFFSITE BY CONTRACTOR.
2. CLEAN TOPSOIL MAY BE STOCKPILED ONSITE AND SUBSEQUENTLY RE-USED IN LANDSCAPED AREAS IF IT CONFORMS TO TOPSOIL REQUIREMENTS IDENTIFIED IN THE LANDSCAPING PLAN. DEBRIS-LADEN MATERIALS SHOULD BE EXCAVATED, TRANSPORTED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPROPRIATE SOLID WASTE RULES AND REGULATIONS.
3. ALL EXISTING UTILITY LOCATIONS SHOULD BE REVIEWED TO ASSESS THEIR IMPACT ON THE PROPOSED CONDITION AND RELOCATED/GROUTED IN-PLACE AS APPROPRIATE.
4. IF WEAK ZONES ARE PRESENT IN THESE AREAS, THE MATERIALS CONTAINED IN THESE ZONES SHOULD BE STABILIZED IN ACCORDANCE WITH THE GEOTECHNICAL RECOMMENDATIONS.

DEWATERING

1. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL DEWATERING OPERATIONS PER THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AND AS REQUIRED TO ACCOMPLISH THE PROPOSED CONSTRUCTION OPERATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE TO PLACE AND MAINTAIN THE NECESSARY SEDIMENT CONTROL MEASURES TO FILTER THE DEWATERING DISCHARGE. COST FOR THE ABOVE SHALL BE INCLUDED IN THE BID PRICE FOR UTILITY INSTALLATIONS.

EARTHWORK

1. ALL EXCAVATION, EMBANKMENT, SITE PREPARATION AND EARTHWORK CONSTRUCTION FOR THE PROJECT SHALL BE DONE SO IN ACCORDANCE WITH THE GEOTECHNICAL REPORT AND UNDER THE OBSERVATION OF A REGISTERED SOILS ENGINEER.
2. THE CONTRACTOR SHALL RETURN ALL GRADES TO ORIGINAL CONDITION, MATCHING UNDISTURBED AREAS, SO AS TO MAINTAIN ORIGINAL DRAINAGE. COST OF THIS WORK SHALL BE INCLUDED IN THE BID PRICE FOR THE VARIOUS IMPROVEMENT ITEMS.
3. DRAINAGE DITCHES, WATERCOURSES, AND CROSS-SECTIONS THAT ARE DISTURBED BY CONSTRUCTION SHALL BE RESTORED TO THE GRADE THAT EXISTED BEFORE CONSTRUCTION.
4. ANY TOPSOIL OR EXCESS FILL MATERIAL SHALL BE STOCKPILED IN AN AREA APPROVED BY THE OWNER OR OWNER'S REPRESENTATIVE. STOCKPILES AREA(S) SHALL RECEIVE SEDIMENT AND EROSION CONTROL MEASURES SUITABLE TO IT'S SIZE AND LOCATION.
5. SUITABLE AND/OR NON-SUITABLE FILL MATERIALS SHALL BE QUALIFIED BY A GEOTECHNICAL ENGINEER.
6. MATERIAL RECOMMENDATIONS MUST BE RELAYED TO THE OWNER OR OWNER'S REPRESENTATIVE BY THE CONTRACTOR.

UTILITIES

1. THE PROPOSED WATER SERVICE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS AND PER THE CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) STANDARD DETAILS AND SPECIFICATIONS FOR WATER AND SEWER INSTALLATION AND IMPROVEMENT (LATEST EDITION).
2. THE PROPOSED SANITARY SERVICE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS AND PER THE CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) STANDARD DETAILS AND SPECIFICATIONS FOR WATER AND SEWER INSTALLATION AND IMPROVEMENT (LATEST EDITION).
3. THE CONTRACTOR SHALL COMPLETE THE STORM DRAINAGE SYSTEM IN ACCORDANCE WITH THE APPROVED PLANS AND PER CITY OF WILMINGTON AND NCDOT SPECIFICATIONS. IN THE EVENT THAT THE DEVELOPMENT CANNOT BE COMPLETED, DUE TO CIRCUMSTANCES BEYOND THE CONTRACTOR'S CONTROL, THE CONTRACTOR SHALL ENSURE THAT THE COMPLETED STORM DRAINAGE SYSTEM WILL ACCOMMODATE THE STORMWATER RUNOFF GENERATED FROM THE PROJECT AND ADJOINING PHASES OF DEVELOPMENT AND IS COLLECTED AND DISCHARGED IN A PROPER MANNER. IN THIS CASE, THE CONTRACTOR SHALL SUBMIT A PLAN TO PUBLIC WORKS FOR REVIEW/APPROVAL OF THE TEMPORARY DRAINAGE PLAN.

PAVEMENT/BUILDING/LIGHTING

1. THERE ARE NUMEROUS PAVEMENT TYPES (CONCRETE/ASPHALT/STONE) ONSITE. CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW THE PROVIDED GEOTECHNICAL PAVEMENT ANALYSIS REPORT TO REFERENCE APPROXIMATE LOCATIONS OF THE VARYING SECTION DEPTHS/TYPES.
2. BUILDING FOOTPRINT SHALL NOT BE CONSIDERED FINAL. CONTRACTOR TO COORDINATE WITH ARCHITECT FOR LATEST BUILDING FOOTPRINT PRIOR TO STARTING.
3. CONTRACTOR IS RESPONSIBLE TO SAWCUT ASPHALT/CONCRETE AT ALL REMOVAL AREAS TO PROVIDE A CLEAN EDGE TO ABUT NEW CONCRETE.
4. CONCRETE PAVING:
   4.1. ALL CONCRETE SHALL BE IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATIONS.
   4.2. WHEN PLACING CONCRETE AGAINST EXISTING SURFACES, A STRAIGHT EDGE SHALL BE USED TO PREVENT "HUMPING" AT THAT LOCATION.
   4.3. CONSTRUCTION JOINTS SHALL BE CONSTRUCTED WITH AN APPROPRIATELY SIZED EXPANSION GAP TO PREVENT CONCRETE STRESS AND SEALED WITH AN APPROVED SEALANT. SEE DETAILS ON SHEET C9.0.
5. ASPHALT PAVING:
   5.1. ALL ASPHALT SHALL BE IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATIONS.
   5.3. CONSTRUCTION JOINTS SHALL BE CONSTRUCTED WITH AN APPROPRIATELY SIZED EXPANSION GAP TO PREVENT CONCRETE STRESS AND SEALED WITH AN APPROVED SEALANT. SEE DETAILS ON SHEET C9.0.

SITE LIGHTING

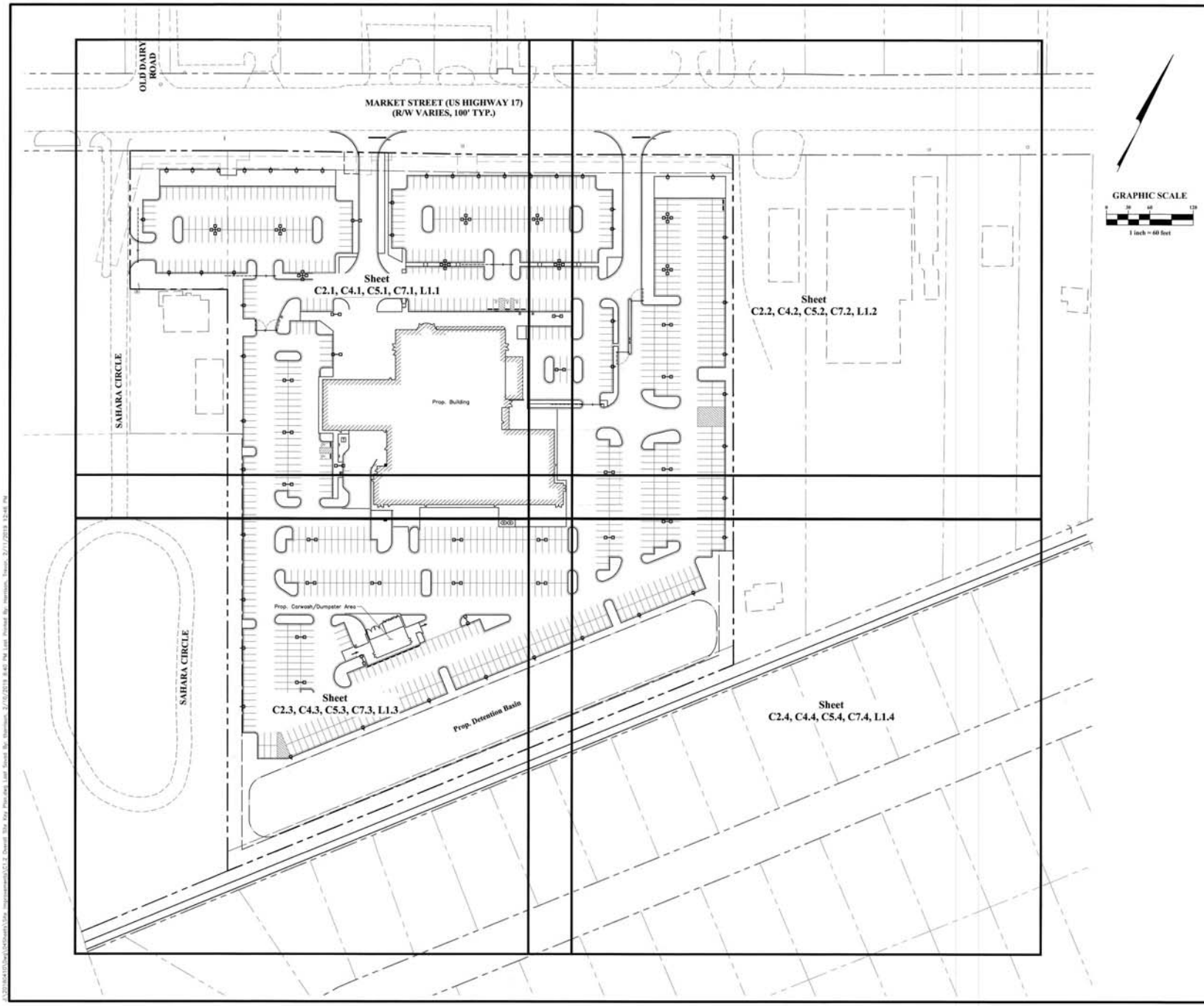
1. SITE LIGHTING IS DESIGNED BY TEETER ENGINEERING GROUP. CONTRACTOR TO INSTALL SITE LIGHTING PER PLANS PROVIDED BY TEETER. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY DISCREPANCIES BETWEEN LIGHT POLE LOCATIONS ON CIVIL PLANS AND SITE LIGHTING PLANS ARE ENCOUNTERED.

AS-BUILT DRAWINGS

1. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A FINAL SET OF AS-BUILT DRAWINGS. THESE PLANS SHALL INCLUDE ALL DEVIATIONS FROM THE CONTRACT DOCUMENTS AS WELL AS INFORMATION ON ALL EXISTING UTILITIES/FEATURES ENCOUNTERED DURING THE WORK.

PROJECT COMPLETION AND ACCEPTANCE

1. THE PROJECT SHALL NOT BE CONSID



REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
OVERALL SITE KEY PLAN

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
www.emht.com

DATE
February 11, 2019

SCALE
1" = 60'

JOB NO.
20180410

SHEET
C1.2

NORTH CAROLINA EVANS, MECHWART, HAMBLETON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045526 02/11/19 ENGINEER BRIAN R. WOOD

LEGEND

EXISTING

- Right of way
- Property Line
- Parcel Line
- Existing Building Setback
- Easement
- Contours
- Building
- Pavement
- Curb
- Fence
- Sign
- Storm Service
- Catch Basin
- Storm Manhole
- Sanitary Service
- Sanitary Cleanout
- Sanitary Manhole
- Water Main
- Hydrant
- Water Meter
- Back Flow Preventer
- Communication Line
- Communication Box
- Over Head Electric Line
- Over Head Wire, Multiple Utilities
- Over Head Comm Line
- Utility Pole
- Power Pole
- Power Box
- Guy Wire
- Light Pole
- Fiber Optic Line
- Soil Boundary
- Tree Line
- Trees (See Sheets L1.0 – L1.5) *Trees may not be drawn to scale
- Ditch

DEMOLITION

- (TBR) To Be Removed
- (TBRL) To Be Relocated
- (DND) Do Not Disturb
- (ATG) Adjust To Grade
- Overhead Electric, to be Removed
- Overhead Wire, to be Removed
- Overhead Comm. Line, to be Removed

GENERAL NOTES

1. Total Site Acreage: 14.28 AC.
2. Ex. Impervious Area: 2.5%
1. Boundary for PID R04320-002-022-000 based upon ALTA/NSPS Land Title Survey by EMH&T dated May 17, 2018. Topographic information for PID R04320-002-022-000 based on field run topographic survey performed by EMH&T on June 22, 2018. Boundary for PID R04320-002-023-000 based upon ALTA/NSPS Land Title Survey by EMH&T dated November 28, 2018. Topographic information for PID R04320-002-023-000 based upon field run topographic survey performed by EMH&T on November 7, 2018. City of Wilmington / New Hanover County supplied GIS information outside project limits.
2. Zoning is RB for parcel R04320-002-023-000. Zoning is split between RB and R-15 for parcel R04320-002-022-000 per the approx. zoning line shown on this sheet.
3. Contractor to verify location and elevation of existing utilities prior to starting demolition of the site. The Contractor shall be responsible for protection and support of all existing utilities during construction. Contractor shall give notice to the Engineer of any conflicts or required relocations not shown hereon.
4. According to the Federal Emergency Management Agency's Flood Insurance Map, dated August 8, 2018, this property is located within Zone "X" (areas determined to be outside 0.2% annual change floodplain), Map No. 3720315800K.
5. All work to be accomplished in strict accordance with all Local Ordinances, City and State.
6. Contractor is to perform a site walk prior to bid to verify existing conditions.
7. The contractor is responsible to provide a separate demolition and construction schedule detailing coordination of existing utility services to be maintained and any utility service interruptions to owner or adjacent properties.
8. Protect adjacent curbs, trees, buildings, utilities and other items to remain from damage. Contractor shall be responsible for repair and/or payment of any damaged item(s) that are to remain.
9. Contractor is responsible to barricade the site as necessary to prevent unauthorized entry and provide safety measures per local, state and federal regulations.
10. For all items to be removed, include all underground elements in bid price, including, but not limited to: foundations, gravel fills, tree roots, old pipe, etc.
11. Any work to be completed within Public R/W shall be properly permitted prior to beginning work. Maintenance of traffic in conformance to all applicable laws and regulations shall be established prior to beginning work.
12. All trenches from demolition of utilities shall be backfilled to 98% of the maximum density obtainable with the standard proctor test, unless otherwise directed by the Geotechnical Engineering report or on-site representative.
13. Utility locations shown are based on site conditions at the time of survey. Contractor(s) are to have all utilities accurately marked prior to construction.
14. Contractor shall coordinate utility removal and relocations with all private utility companies.
15. Protect all utilities to remain. Contractor shall maintain service for all utilities throughout the duration of construction.
16. Refer to erosion control drawings for tree protection notes and details.
17. All demolition items shall be removed and disposed of off-site unless approved by the on-site Geotechnical Engineer as fill material.
18. Disconnect and cap all utilities to be abandoned. Fill all utilities to be abandoned greater than 6 inches in diameter with flowable fill material. Contractor may remove utilities to be abandoned in lieu of abandonment.
19. Protect survey control during construction. Provide additional control as necessary to perform construction operations.
20. Trees shown are trees identified in the Tree Survey performed by CWS and identified as Significant or Regulated Trees per City of Wilmington code and may not be inclusive of all smaller trees on site. Contractor to verify during site walk.

Soil Survey Legend

Symbol	Unit Name	Hydrologic Soil Group
Kr	Kureb sand, 1 to 8 percent slopes	A
Ku	Kureb–Urban land complex, 1 to 8 percent slopes	A
Le	Leon sand	A/D
No	Norfolk fine sandy loam, 0 to 4 percent slopes	B
Pn	Pantego loam	B/D

GRAPHIC SCALE

0 30 60 120

1 inch = 60 feet

NORTH CAROLINA EVANS, MECHNIRT, HAMBLETON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA SEAL 045528 02/11/19 ENGINEER BRIAN R. ROSSI

MARK	DATE	DESCRIPTION

REVISIONS

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
OVERALL EXISTING CONDITIONS AND DEMOLITION PLAN

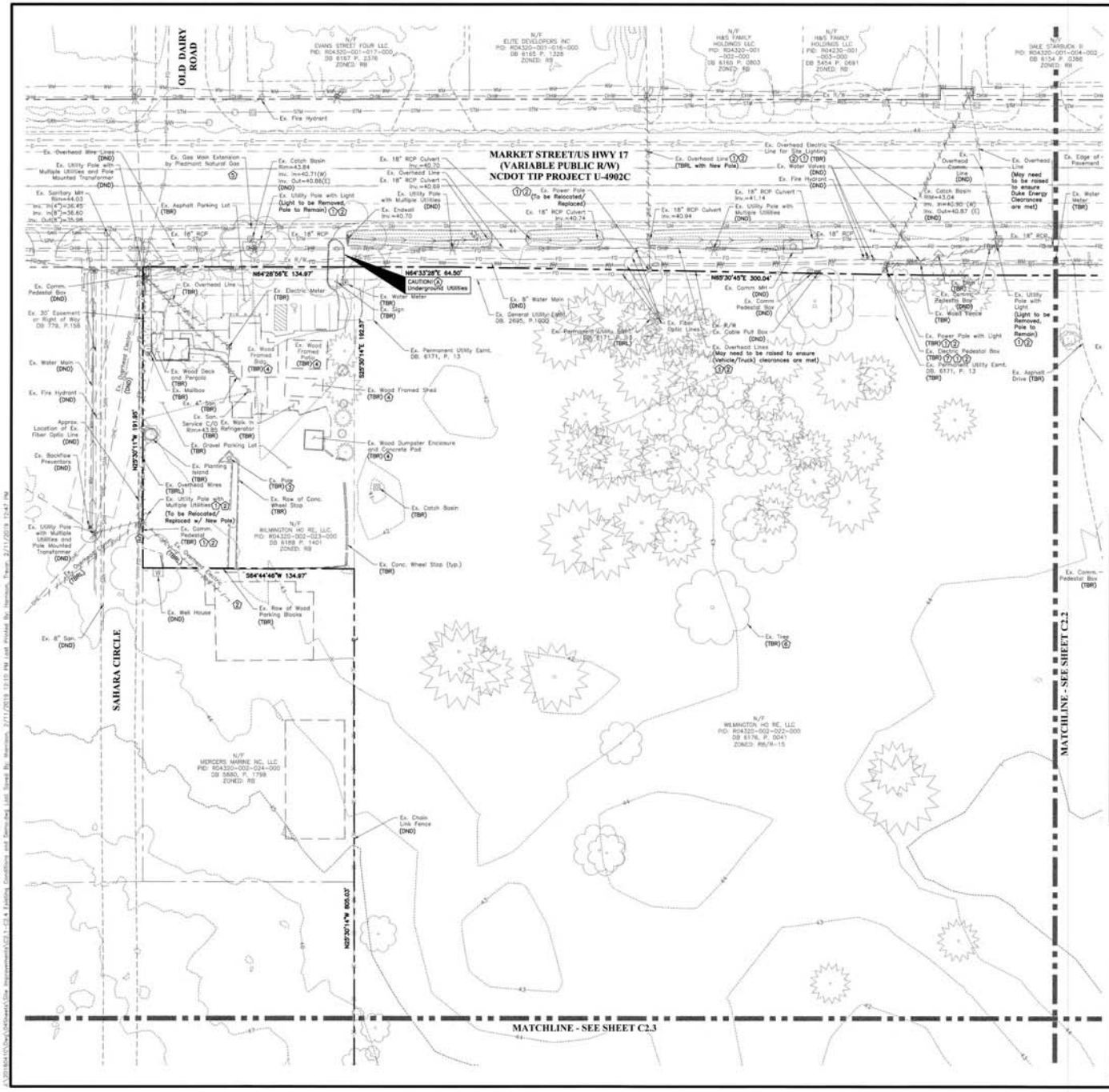
EMHT
Evans, Mechnirt, Hambleton & Tilton, Inc.
Consulting Engineers • Surveyors • Planners
5500 Wrightsville Ave., Ste 10 Wilmington, NC 28403
Phone: 910.452.1200 Fax: 910.452.1201
www.emht.com

DATE: February 11, 2019

SCALE: 1" = 60'

JOB NO.: 20180410

SHEET: C2.0



GRAPHIC SCALE

0 15 30 60

1 inch = 30 feet

(A) Contractor to uncover existing utilities in this area at start of construction to verify any elevation conflicts with proposed storm. Contractor shall coordinate relocation of water and fiber if necessary. An alternate price shall be provided to the owner for utility relocations in this area.

LEGEND

EXISTING

- Right of way
- Property Line
- Parcel Line
- Existing Building Setback
- Easement
- Contours
- Building
- Pavement
- Curb
- Fence
- Sign
- STM — Storm Service
- Catch Basin
- Storm Manhole
- SAN — Sanitary Service
- Sanitary Cleanout
- Sanitary Manhole
- GM — Gas Main
- WM — Water Main
- Fire Hydrant
- Water Meter
- Backflow Preventer
- C — Communication Line
- Communication Box
- OHE — Overhead Electric Line
- OHW — Overhead Wire, Multiple Utilities
- OHC — Overhead Comm Line
- Utility Pole
- Power Pole
- Power Box
- Guy Wire
- Light Pole
- FO — Fiber Optic
- Tree Line
- Ditch

DEMOLITION

(TBR)	To be Removed
(TBRL)	To be Relocated
(DND)	Do not Disturb
(ATG)	Adjust to Grade
(TBA)	To be Abandoned

- OHE — Overhead Electric Line, to be Removed
- OHW — Overhead Wire, to be Removed
- OHC — Overhead Comm. Line, to be Removed
- SAN — Sanitary Service, to be Removed
- STM — Storm Line, to be Removed

GENERAL NOTES

1. Total Site Acreage: 14.28 AC.
   Ex. Impervious Area: 2.55
   Boundary for PID R04320-002-022-000 based upon ALTA/NSPS Land Title Survey by EMH&T dated May 17, 2018. Topographic information for PID R04320-002-022-000 based on field run topographic survey performed by EMH&T on June 22, 2018. Boundary for PID R04320-002-023-000 based upon ALTA/NSPS Land Title Survey by EMH&T dated November 26, 2018. Topographic information for PID R04320-002-023-000 based upon field run topographic survey performed by EMH&T on November 7, 2018. City of Wilmington / New Hanover County supplied GIS information outside project limits.
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4. According to the Federal Emergency Management Agency's Flood Insurance Map, dated August 8, 2018, this property is located within Zone "X" (areas determined to be outside 0.2% annual change floodplain), Map No. 3720315800K.
5. All work to be accomplished in strict accordance with all Local Ordinances, City and State.
6. Contractor is to perform a site walk prior to bid to verify existing conditions.
7. The contractor is responsible to provide a separate demolition and construction schedule detailing coordination of existing utility services to be maintained and any utility service interruptions to owner or adjacent properties.
8. Protect adjacent curbs, trees, buildings, utilities and other items to remain from damage. Contractor shall be responsible for repair and/or payment of any damaged item(s) that are to remain.
9. Contractor is responsible to barricade the site as necessary to prevent unauthorized entry and provide safety measures per local, state and federal regulations.
10. For all items to be removed, include all underground elements in bid price, including, but not limited to: foundations, gravel fills, tree roots, old pipe, etc.
11. Any work to be completed within Public R/W shall be properly permitted prior to beginning work. Maintenance of traffic in conformance to all applicable laws and regulations shall be established prior to beginning work.
12. All trenches from demolition of utilities shall be backfilled to 98% of the maximum density obtainable with the standard proctor test, unless otherwise directed by the Geotechnical Engineering report or on-site representative.
13. Utility locations shown are based on site conditions at the time of survey. Contractor(s) are to have all utilities accurately marked prior to construction.
14. Contractor shall coordinate utility removal and relocations with all private utility companies.
15. Protect all utilities to remain. Contractor shall maintain service for all utilities throughout the duration of construction.
16. Refer to erosion control drawings for tree protection notes and details.
17. All demolition items shall be removed and disposed of off-site unless approved by the on-site Geotechnical Engineer as fill material.
18. Disconnect and cap all utilities to be abandoned. Fill all utilities to be abandoned greater than 6 inches in diameter with flowable fill material. Contractor may remove utilities to be abandoned in lieu of abandonment.
19. Protect survey control during construction. Provide additional control as necessary to perform construction operation.

(1) Contractor to Coordinate Electric Line Removal with Utility Provider.

(2) Contractor to Coordinate Removal of Existing Electric Pole and Associated Service to Adjacent site with Provider and Property owner to minimize outage impacts. All relocation work to be performed by the Provider.

(3) Dectric Pole Removal Shall Include All Underground Facilities

(4) Structure Demolition Shall Also Include All Below Grade Structures and Foundations.

(5) Contractor Shall coordinate with Piedmont Natural Gas (DJ Medeiros (910)431-3233) for new service connection.

(6) Reference L Series Drawings for Complete List of Existing Trees and Removal.

(7) Remove only if associated with site lighting ONLY. Otherwise, DND.

SHEET KEY
Not To Scale

NORTH CAROLINA EVANS, MECHANIT, HAMBLETON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045526 02/11/19 ENGINEER BRIAN R. ROSS

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
EXISTING CONDITIONS AND DEMOLITION PLAN

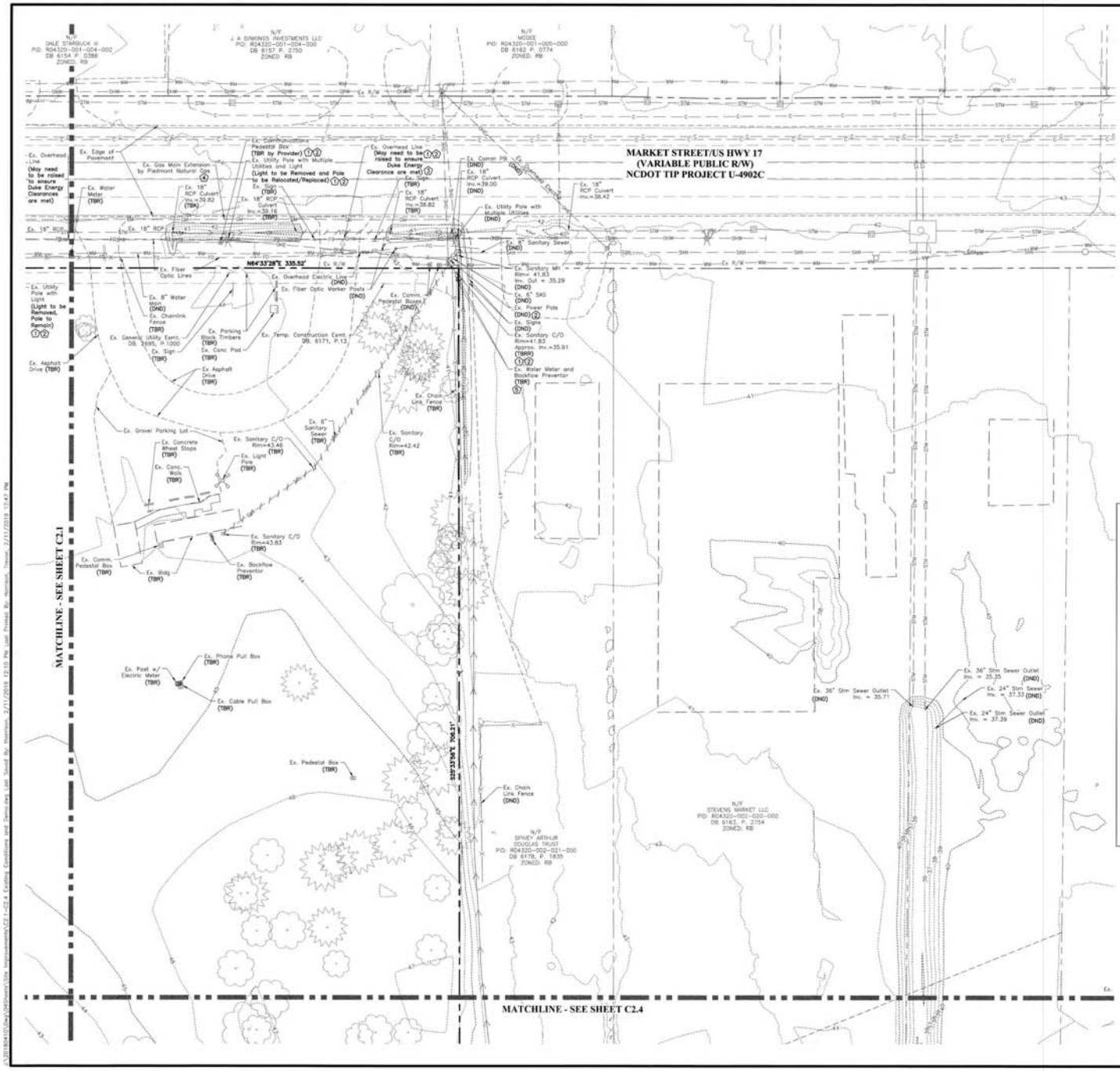
EMH&T
Evans, Mechanit, Hambleton & Tilton, Inc.
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Fax: 614.775.4800
Offices: Columbus, OH • Cincinnati, OH • Cleveland, OH • Charlotte, NC
emht.com

DATE: February 11, 2019

SCALE: 1" = 30'

JOB NO.: 20180410

SHEET: C2.1



LEGEND

EXISTING

- Right of way
- Property Line
- Parcel Line
- Existing Building Setback
- Easement
- Contours
- Building
- Pavement
- Curb
- Fence
- Sign
- Storm Service
- Catch Basin
- Storm Manhole
- Sanitary Service
- Sanitary Cleanout
- Sanitary Manhole
- Gas Main
- Water Main
- Fire Hydrant
- Water Meter
- Backflow Preventor
- Communication Line
- Communication Box
- Overhead Electric Line
- Overhead Wire, Multiple Utilities
- Overhead Comm Line
- Utility Pole
- Power Pole
- Power Box
- Guy Wire
- Light Pole
- Fiber Optic
- Tree Line
- Ditch

DEMOLITION

- (TBR) To be Removed
- (TBRL) To be Relocated
- (DND) Do not Disturb
- (ATG) Adjust to Grade
- (TBA) To be Abandoned
- Overhead Electric Line, to be Removed
- Overhead Wire, to be Removed
- Overhead Comm. Line, to be Removed
- Sanitary Service, to be Removed
- Storm Line, to be Removed

GRAPHIC SCALE

0 15 30 60

1 inch = 30 feet

GENERAL NOTES

1. Total Site Acreage: 14.28 AC.
2. Ex. Impervious Area: 2.5%
1. Boundary for PID R04320-002-022-000 based upon ALTA/NSPS Land Title Survey by EMH&T dated May 17, 2016. Topographic information for PID R04320-002-022-000 based on field run topographic survey performed by EMH&T on June 22, 2018. Boundary for PID R04320-002-023-000 based upon ALTA/NSPS Land Title Survey by EMH&T dated November 26, 2018. Topographic information for PID R04320-002-023-000 based upon field run topographic survey performed by EMH&T on November 7, 2018. City of Wilmington / New Hanover County supplied GIS information outside project limits.
2. Zoning is RB for parcel R04320-002-023-000. Zoning is split between RB and R-15 for parcel R04320-002-022-000 per the approx. zoning line shown on this sheet.
3. Contractor to verify location and elevation of existing utilities prior to starting demolition of the site. The Contractor shall be responsible for protection and support of all existing utilities during construction. Contractor shall give notice to the Engineer of any conflicts or required relocations not shown hereon.
4. According to the Federal Emergency Management Agency's Flood Insurance Map, dated August 8, 2018, this property is located within Zone "X" (areas determined to be outside 0.2% annual change floodplain). Map No. 3720315800K.
5. All work to be accomplished in strict accordance with all Local Ordinances, City and State.
6. Contractor is to perform a site walk prior to bid to verify existing conditions.
7. The contractor is responsible to provide a separate demolition and construction schedule detailing coordination of existing utility services to be maintained and any utility service interruptions to owner or adjacent properties.
8. Protect adjacent curbs, trees, buildings, utilities and other items to remain from damage. Contractor shall be responsible for repair and/or payment of any damaged item(s) that are to remain.
9. Contractor is responsible to barricade the site as necessary to prevent unauthorized entry and provide safety measures per local, state and federal regulations.
10. For all items to be removed, include all underground elements in bid price, including, but not limited to: foundations, gravel fills, tree roots, old pipe, etc.
11. Any work to be completed within Public R/W shall be properly permitted prior to beginning work. Maintenance of traffic in conformance to all applicable laws and regulations shall be established prior to beginning work.
12. All trenches from demolition of utilities shall be backfilled to 98% of the maximum density obtainable with the standard proctor test, unless otherwise directed by the Geotechnical Engineering report or on-site representative.
13. Utility locations shown are based on site conditions at the time of survey. Contractor(s) are to have all utilities accurately marked prior to construction.
14. Contractor shall coordinate utility removal and relocations with all private utility companies.
15. Protect all utilities to remain. Contractor shall maintain service for all utilities throughout the duration of construction.
16. Refer to erosion control drawings for tree protection notes and details.
17. All demolition items shall be removed and disposed of off-site unless approved by the on-site Geotechnical Engineer as fill material.
18. Disconnect and cap all utilities to be abandoned. Fill all utilities to be abandoned greater than 6 inches in diameter with flowable fill material. Contractor may remove utilities to be abandoned in lieu of abandonment.
19. Protect survey control during construction. Provide additional control as necessary to perform construction operation.

1. Contractor to Remove/Replace Existing Cleanout, Service Line extending to manhole is to remain.
2. Contractor to exercise caution when working in the vicinity of the existing utility pole.
3. Contractor to coordinate clearance with Utility Providers to ensure appropriate clearance for truck and fire access.
4. Contractor shall coordinate with Piedmont Natural Gas (Jul Mededros (910) 431-3233) for new service connection.
5. Contractor to confirm water meter and backflow serve this site prior to removal. DND if they serve adjacent property.

SHEET KEY
Not To Scale

NORTH CAROLINA
EVANS MECHANIT HAMBLETON & TILTON, INC.
No. F-1016
CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA
PROFESSIONAL
SEAL
045536
02/11/19
ENGINEER
BRIAN R. ROSSI

MARK	DATE	DESCRIPTION

REVISIONS

Handrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
EXISTING CONDITIONS AND DEMOLITION PLAN

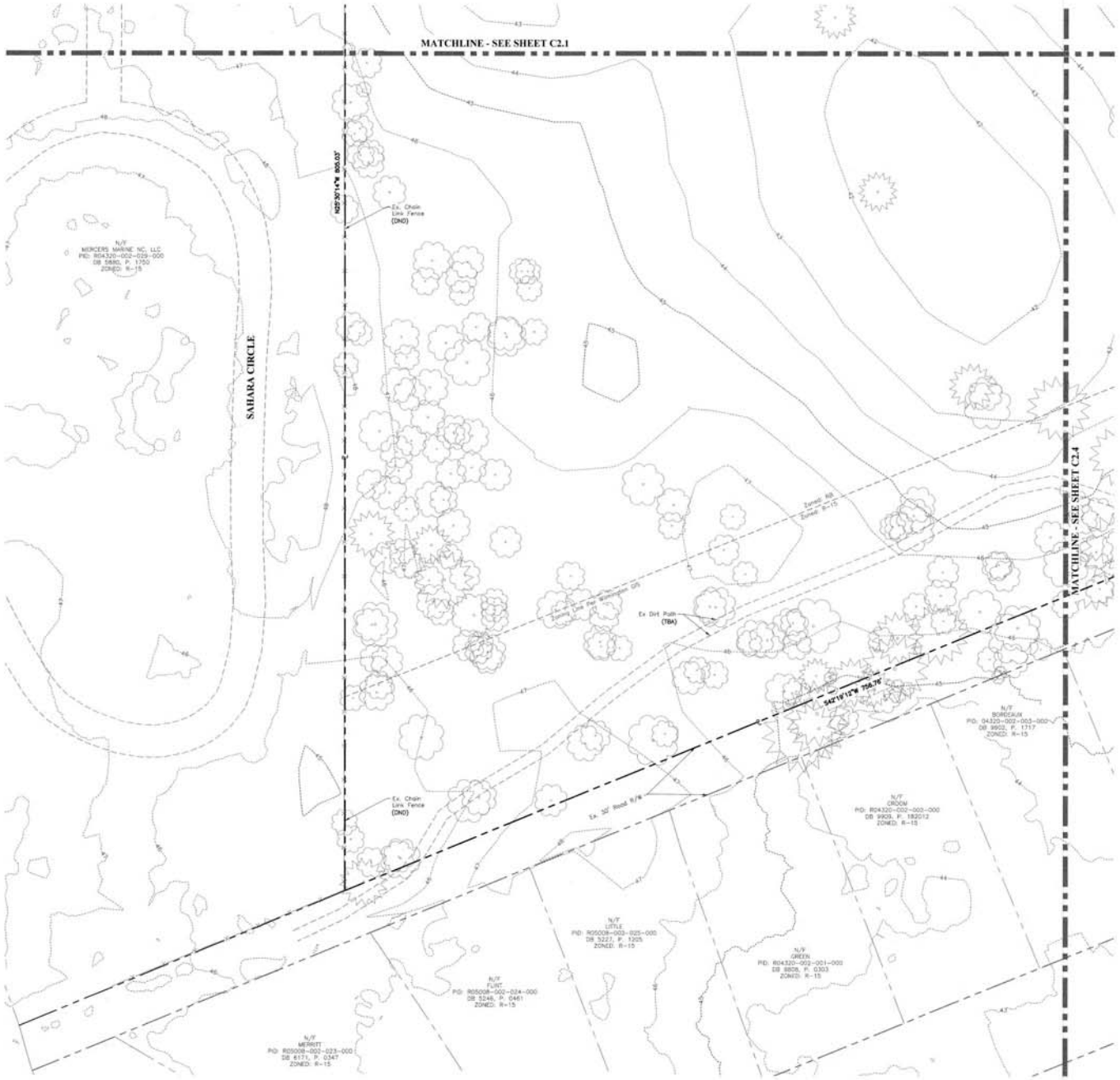
EMH&T
Evans, Mechanit Hamilton & Tilton, Inc.
Civil Engineers & Surveyors
300 Arboretum Pl., Ste. 205 Charlotte, NC 28210
Phone: 704.364.7707 Fax: 704.364.9666 800.173.5449
emht.com

DATE
February 11, 2019

SCALE
1" = 30'

JOB NO.
20180410

SHEET
C2.2



GRAPHIC SCALE

0 15 30 60

1 inch = 30 feet

LEGEND

EXISTING

- Right of way
- Property Line
- Parcel Line
- Existing Building Setback
- Easement
- Contours
- Building
- Pavement
- Curb
- Fence
- Sign
- Storm Service
- Catch Basin
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- Sanitary Cleanout
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- Overhead Electric Line
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DEMOLITION

- (TBR) To be Removed
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GENERAL NOTES

1. Total Site Acreage: 14.28 AC.
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1. Boundary for PID R04320-002-022-000 based upon ALTA/NSPS Land Title Survey by EMH&T dated May 17, 2018. Topographic information for PID R04320-002-022-000 based on field run topographic survey performed by EMH&T on June 22, 2018. Boundary for PID R04320-002-023-000 based upon ALTA/NSPS Land Title Survey by EMH&T dated November 26, 2018. Topographic information for PID R04320-002-023-000 based upon field run topographic survey performed by EMH&T on November 7, 2018. City of Wilmington / New Hanover County supplied GIS information outside project limits.
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18. Disconnect and cap all utilities to be abandoned. Fill all utilities to be abandoned greater than 6 inches in diameter with flowable fill material. Contractor may remove utilities to be abandoned in lieu of abandonment.
19. Protect survey control during construction. Provide additional control as necessary to perform construction operation.

SHEET KEY
Not To Scale

NORTH CAROLINA
EVANS MECHANT HAMBLETON & TILTON, INC.
No. F-1018
CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL
045526
02/11/19
ENGINEER
BRIAN R. ROSS

MARK	DATE	DESCRIPTION

REVISIONS

Handrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
EXISTING CONDITIONS AND DEMOLITION PLAN

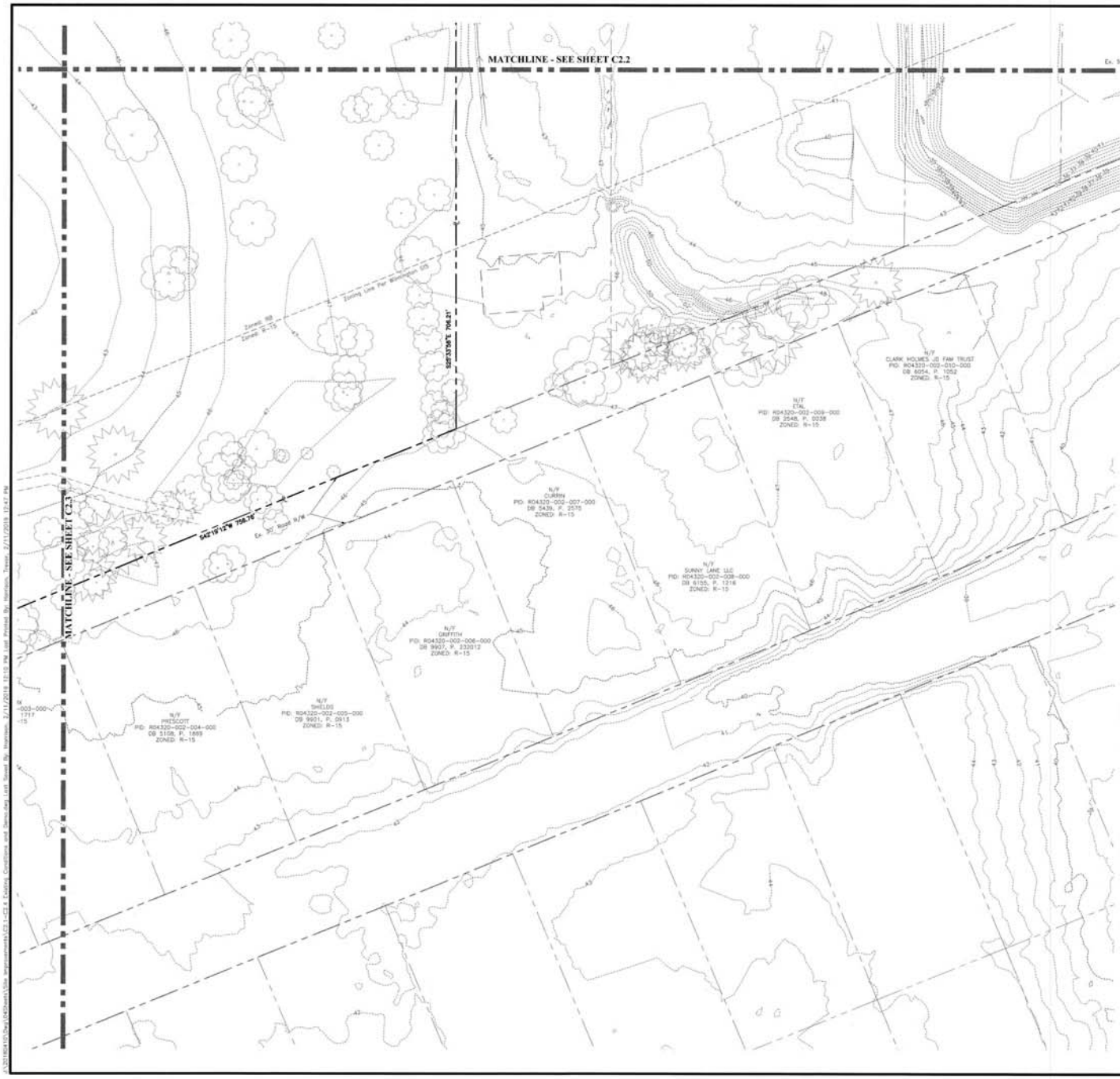
EMHT
Evans, Mechanet, Hambleton & Tilton, Inc.
Consulting Engineers • Surveyors • Planners
3101 Wetmore Avenue, Suite 100, Charlotte, NC 28211
Phone: 704-364-7192 Fax: 704-364-7193
emht.com

DATE
February 11, 2019

SCALE
1" = 30'

JOB NO.
20180410

SHEET
C2.3



LEGEND

EXISTING

- Right of way
- Property Line
- Parcel Line
- Existing Building Setback
- Easement
- Contours
- Building
- Pavement
- Curb
- Fence
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- Sanitary Service, to be Removed
- Storm Line, to be Removed

GRAPHIC SCALE

0 15 30 60

1 inch = 30 feet

GENERAL NOTES

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16. Refer to erosion control drawings for tree protection notes and details.
17. All demolition items shall be removed and disposed of off-site unless approved by the on-site Geotechnical Engineer as fill material.
18. Disconnect and cap all utilities to be abandoned. Fill all utilities to be abandoned greater than 6 inches in diameter with flowable fill material. Contractor may remove utilities to be abandoned in lieu of abandonment.
19. Protect survey control during construction. Provide additional control as necessary to perform construction operation.

SHEET KEY
Not To Scale

NORTH CAROLINA
EVANS, MECHANT, HAMBLETON & TILTON, INC.
No. F-1016
CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL
SEAL 045326
02/11/19
ENGINEER
BRIAN R. ROSSI

MARK	DATE	DESCRIPTION

REVISIONS

Handrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
EXISTING CONDITIONS AND DEMOLITION PLAN

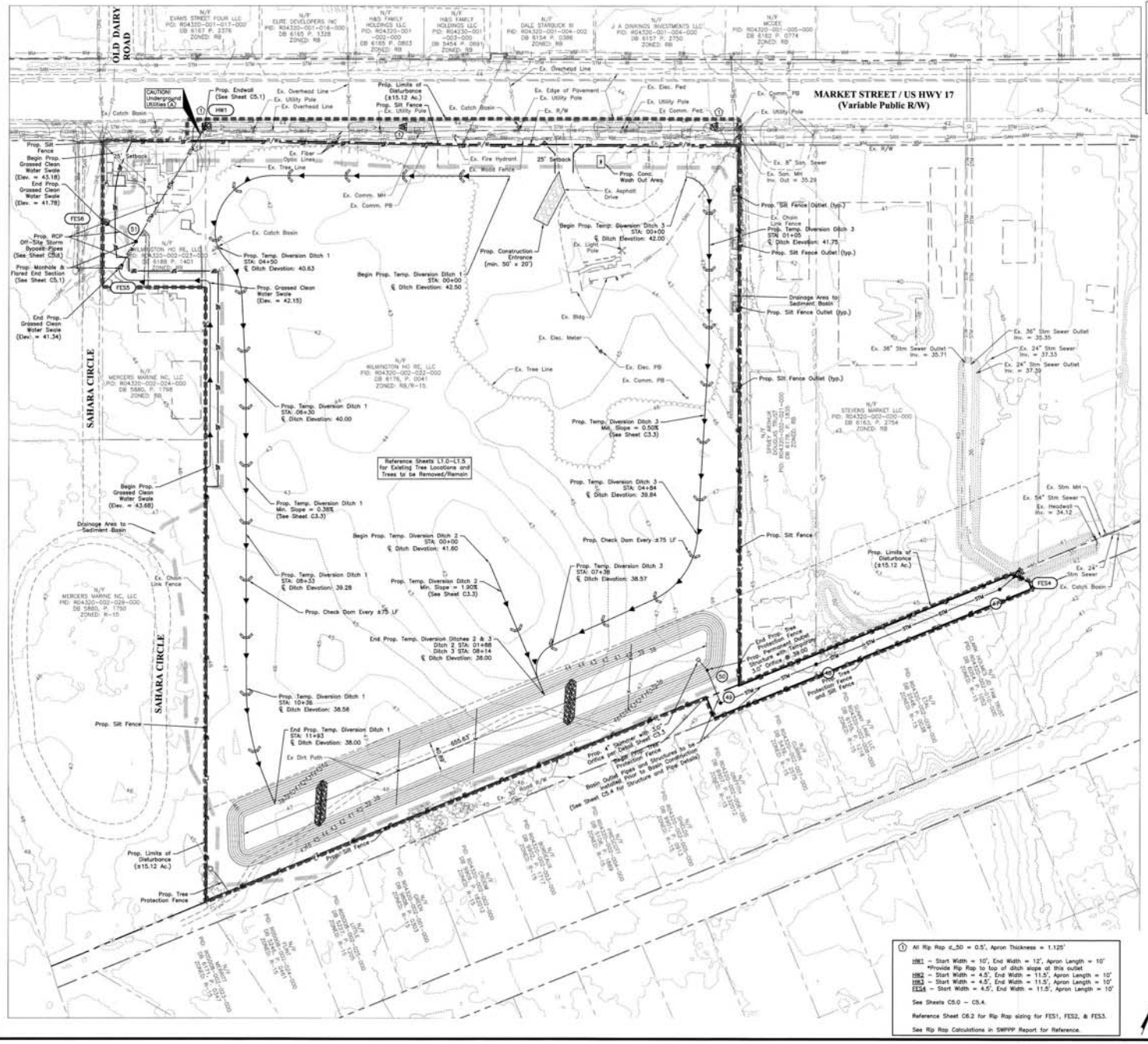
EMH&T
Evans, Mechanet, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Rd., Ste. 110, Charlotte, NC 28212
Phone: 704.562.3000 Fax: 704.562.3001
emht.com

DATE
February 11, 2019

SCALE
1" = 30'

JOB NO.
20180410

SHEET
C2.4



Contractor to uncover existing utilities in this area at start of construction to verify no elevation conflicts with proposed storm. Contractor shall coordinate relation of water and fiber if necessary. An alternate price shall be provided to the owner for utility relocations in this area.

LEGEND

EXISTING
- Right of way
- Property Line
- Parcel Line

PROPOSED
- Proposed Contours
- Proposed Silt Fence (See Detail on Sheet C3.2)
- Temporary Diversion Ditch (See Detail on Sheet C3.3)
- Limits of Disturbance
- Proposed Baffles
- Construction Entrance (See Detail on Sheet C3.2)
- Drainage Area to Sed. Basin
- Tree Protection Fence
- Silt Fence Outlet (See Detail on Sheet C3.2)
- Rip Rap Pad
- Check Dam (See Detail on Sheet C3.3)
- Storm Sewer (See Sheet C5.0 - C5.4)

CONSTRUCTION SEQUENCE

1. Obtain necessary building demolition permits and demolish existing buildings on site.
2. Obtain Grading/Erosion Control Plan Approval from City of Wilmington and New Hanover County.
3. Set up on-site pre-construction meeting with Erosion Control Inspector of the New Hanover County Engineering Department to discuss erosion control measures. Meeting must be scheduled at least 48 hrs in advance of construction start.
4. Install silt fence, inlet protection, tree protection, and construction entrance as shown on plans. Clearing and demolition only as necessary to install Stage 1 devices.
5. Call for on-site inspection by inspector. When approved, inspector issues the Grading Permit and construction work may begin.
6. Construct clean water bypass pipe (structures HW1, FES5, FES6, S1) and swales to divert off-site drainage.
7. Install outlet pipes and structures from the sediment basin to to existing ditch.
8. Begin excavating sediment basin and placing fill as permitted by the erosion control inspector.
9. Contractor can add or modify proposed diversion ditches as needed for construction phasing. Any modification must be coordinated with the New Hanover County Inspector.
10. The contractor shall diligently and continuously maintain all erosion control devices and structures.
11. Stabilize site as areas are brought to finish grade.
12. Coordinate with Inspector prior to removal of erosion control measures.
13. Permanent Sand Filter Media and BMP Plantings shall not be installed until such time as contributing drainage areas are stabilized and basin is mucked out.

EROSION CONTROL NOTES

1. Total Site Area: 14.28 Acres
2. Total Disturbed Area: 15.12 Acres
3. Drainage Area to Basin: 13.51 Acres
4. Remove and spread accumulated sediment from erosion control devices as required.
5. Contractor is fully responsible for maintaining all erosion control devices throughout construction. Devices shall be inspected by the Contractor after each rain and repaired as needed.
6. Temporary stockpiles are not to be located in drainage ways. Maintain 2:1 maximum slope on all stockpiles. Any stockpiles near perimeter of construction area must be wrapped in silt fence and stabilized immediately.
7. All erosion control measures shall conform to the standards set forth in the New Hanover County Soil Erosion and Sedimentation Control Ordinance.
8. Any grading beyond the denuded limits shown on the plan is a violation of the New Hanover County Ordinance and is subject to a fine(s).
9. Slopes shall be graded no steeper than 2:1. Fill slopes greater than 10' require adequate terracing.
10. On site burial pits require an on-site Demolition Landfill Permit From the Zoning Administrator.
11. See erosion control details on sheet(s) C3.2 & C3.3.
12. Streets in front of the project shall be kept clean at all times or wash station will be required.
13. Clean out sediment basins when one-half full.
14. Sediment will be removed from behind the silt fence when is becomes >= 0.5' deep at the fence. The silt fence will be repaired as necessary to maintain a barrier.
15. Additional measures to control erosion and sediment may be required by erosion control inspector.
16. All erosion and sediment control practices will be checked for stability and operation following every runoff producing rainfall but in no case less than once every week. Any needed repairs will be made immediately to maintain all practices as designed.
17. Grading more than one acre without an approved Erosion Control Plan is a violation of the City/County Erosion Control Ordinance and is subject to a fine.
18. All perimeter dikes, swales, ditches, perimeter slopes and all slopes steeper than 3 horizontal to 1 vertical (3:1) shall be provided temporary or permanent stabilization with ground cover as soon as practicable but in any event within 7 calendar days from the last land-disturbing activities.
19. All other disturbed areas shall be provided temporary or permanent stabilization with ground cover as soon as practicable but in any event within 14 calendar days from last land-disturbing activity.
20. A Grading Plan must be submitted for any lot grading exceeding one acre that was not previously approved.
21. Contractor shall modify diversion ditches as needed with the construction sequencing. All modifications to the plan locations must be coordinated with the New Hanover County Inspector.

Type of Skimmer Designed for: Faircloth Skimmer
NOTE: Contractor shall coordinate with Erosion Control Inspector for substitutions.

PHASE I SEDIMENT BASIN

Tributary Denuded Area = 13.51 Ac. Tributary to Basin
Required Storage Volume (13.51 ac*1,800 sf) = 24,318 cf
Provided Storage Volume below Dewatering Elevation of 40.20 = 34,623 cf
10-yr Q = 39.88 cfs
Required Surface Area (39.88 cfs*435 sf) = 17,349 sf
Provided Surface Area at Dewatering Volume Elev. (40.20) = 36,757 sf
Dewatering Orifice = 4" Faircloth Skimmer (3.0" Orifice)

SEDIMENT BASIN

Tributary Denuded Area = 13.51 Ac. Tributary to Basin
Storage Volume Required = (13.51 Ac)(1800 cu.ft/Ac) = 24,318 cu.ft.

Basin Volumes

Elevation	Square Footage (ft^2)	Volume (ft^3)
38	27,436	
39	31,637	29,537
40	35,864	33,750
41	40,109	38,987
42	44,372	42,241
43	48,655	46,514
44	53,488	51,071
Volume of Basin = 241,786 ft^3		Total: 241,786

Volume To Be Detained < 24,318 cu.ft. | Volume of Basin at Dewatering Elev. < 34,623 cu.ft.

① All Rip Rap d_50 = 0.5', Apron Thickness = 1.125'

HW1 – Start Width = 10', End Width = 12', Apron Length = 10'
*Provide Rip Rap to top of ditch slope at this outlet
HW2 – Start Width = 4.5', End Width = 11.5', Apron Length = 10'
HW3 – Start Width = 4.5', End Width = 11.5', Apron Length = 10'
FES4 – Start Width = 4.5', End Width = 11.5', Apron Length = 10'

See Sheets C5.0 – C5.4.

Reference Sheet C6.2 for Rip Rap sizing for FES1, FES2, & FES3.

See Rip Rap Calculations in SWPPP Report for Reference.

GRAPHIC SCALE
0 30 60 120
1 inch = 60 feet

NORTH CAROLINA FIRM LICENSE
DAVIS, MECHHART, HAMBLETON & TILTON, INC. No. F-1016
CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045026 02/01/19 ENGINEER BRIAN R. ROSSI

MARK	DATE	DESCRIPTION

REVISIONS

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
EROSION CONTROL PHASE I

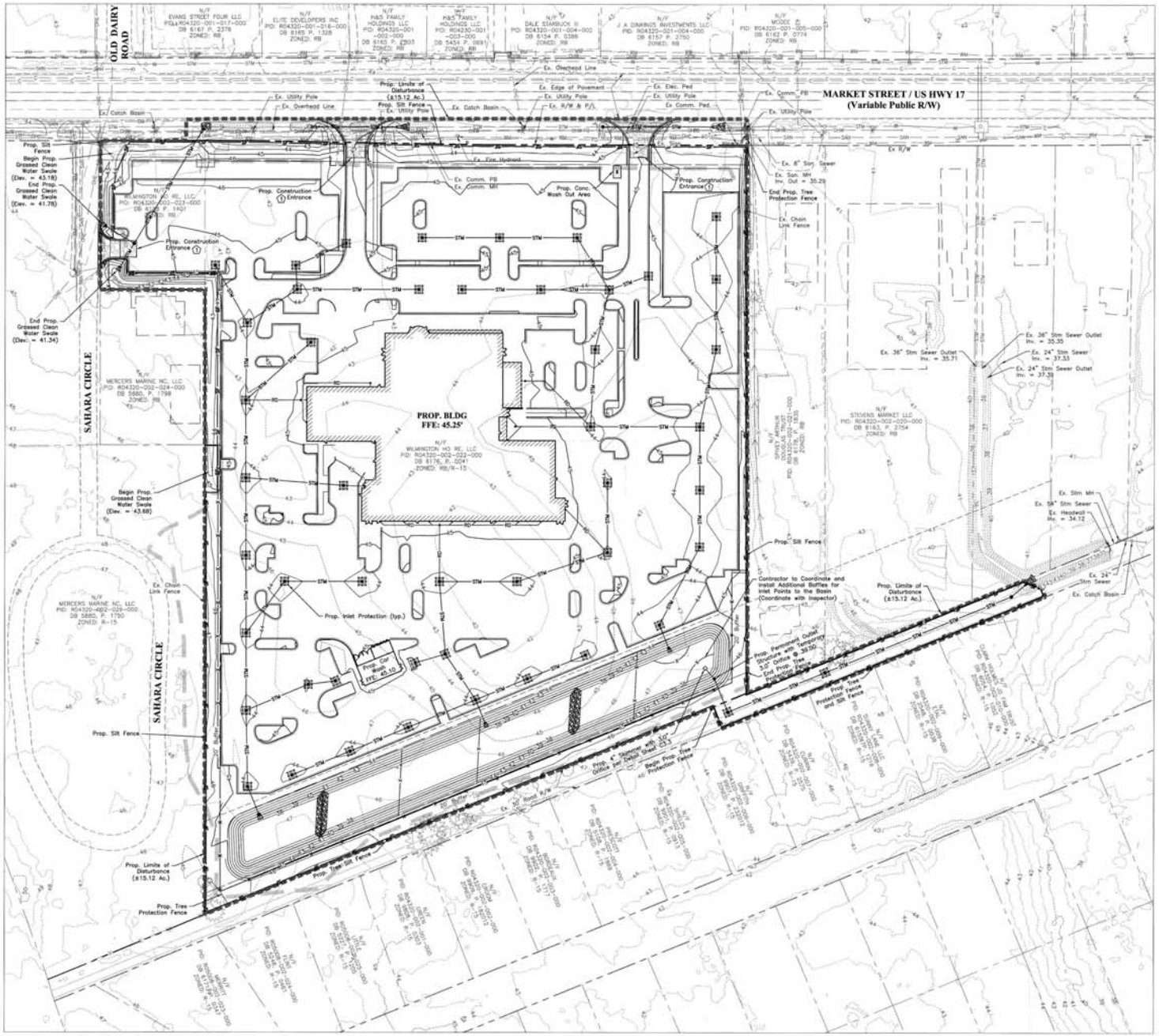
EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 Greenwood Road, Suite 200, Raleigh, NC 27610
Phone: 919.851.1912 Fax: 919.851.1918

DATE
February 11, 2019

SCALE
1" = 60'

JOB NO.
20180410

SHEET
C3.0



LEGEND

EXISTING

- Right of way
- Property Line
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PROPOSED

- Proposed Contours
- Proposed Silt Fence (See Detail on Sheet C3.2)
- Temporary Diversion Ditch (See Detail on Sheet C3.3)
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CONSTRUCTION SEQUENCE

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4. Install silt fence, inlet protection, tree protection, and construction entrance as shown on plans. Clearing and demolition only as necessary to install Stage 1 devices.
5. Call for on-site inspection by Inspector. When approved, Inspector issues the Grading Permit and construction work may begin.
6. Construct clean water bypass pipe and swales to divert off-site drainage.
7. Install outlet pipes and structures from the sediment basin to to existing ditch.
8. Begin excavating sediment basin and placing fill as permitted by the erosion control inspector.
9. Contractor can add or modify proposed diversion ditches as needed for construction phasing. Any modification must be coordinated with the New Hanover County Inspector.
10. The contractor shall diligently and continuously maintain all erosion control devices and structures.
11. Stabilize site as areas are brought to finish grade.
12. Coordinate with Inspector prior to removal of erosion control measures.
13. Permanent Sand Filter Media and BMP Plantings shall not be installed until such time as contributing Drainage Area's are stabilized.

EROSION CONTROL NOTES

1. Total Site Area: 14.28 Acres
2. Total Disturbed Area: 15.12 Acres
3. Drainage Area to Basin: 13.51 Acres
4. Remove and spread accumulated sediment from erosion control devices as required.
5. Contractor is fully responsible for maintaining all erosion control devices throughout construction. Devices shall be inspected by the Contractor after each rain and repaired as needed.
6. Temporary stockpiles are not to be located in drainage ways. Maintain 2:1 maximum slope on all stockpiles. Any stockpiles near perimeter of construction area must be wrapped in silt fence and stabilized immediately.
7. All erosion control measures shall conform to the standards set forth in the New Hanover County Soil Erosion and Sedimentation Control Ordinance.
8. Any grading beyond the denuded limits shown on the plan is a violation of the New Hanover County Ordinance and is subject to a fine(s).
9. Slopes shall be graded no steeper than 2:1. Fill slopes greater than 10' require adequate terracing.
10. On site burial pits require an on-site Demolition Landfill Permit From the Zoning Administrator.
11. See erosion control details on sheet(s) C3.2 & C3.3.
12. Streets in front of the project shall be kept clean at all times or wash station will be required.
13. Clean out sediment basins when one-half full.
14. Sediment will be removed from behind the silt fence when is becomes about 0.5' deep at the fence. The silt fence will be repaired as necessary to maintain a barrier.
15. Additional measures to control erosion and sediment may be required by erosion control inspector.
16. All erosion and sediment control practices will be checked for stability and operation following every runoff producing rainfall but in no case less than once every week. Any needed repairs will be made immediately to maintain all practices as designed.
17. Grading more than one acre without an approved Erosion Control Plan is a violation of the City/County Erosion Control Ordinance and is subject to a fine.
18. All perimeter dikes, swales, ditches, perimeter slopes and all slopes steeper than 3 horizontal to 1 vertical (3:1) shall be provided temporary or permanent stabilization with ground cover as soon as practicable but in any event within 7 calendar days from the last land-disturbing activities.
19. All other disturbed areas shall be provided temporary or permanent stabilization with ground cover as soon as practicable but in any event within 14 calendar days from last land-disturbing activity.
20. A Grading Plan must be submitted for any lot grading exceeding one acre that was not previously approved.
21. Contractor shall modify diversion ditches as needed with the construction sequencing. All modifications to the plan locations must be coordinated with the New Hanover County Inspector.
22. Reference Geotechnical Report by NOVA dated July 24, 2018 for all fill materials placed on site. All fill placement shall be witnessed by the Owner's Field Geotechnical Representative.

(1) Rip Rap to be Removed and Replaced with Wheel Wash Once Pavement is Installed. (Contractor to coordinate with New Hanover County Erosion Control Inspector.)

GRAPHIC SCALE

0 30 60 120

1 inch = 60 feet

NORTH CAROLINA
DAVIS, MECHANT, HAMBLETON & TILTON, INC.
No. F-1016
CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL
045526
02/11/19
ENGINEER
BRIAN R. ROSS

REVISIONS			
MARK	DATE	DESCRIPTION	

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
EROSION CONTROL PHASE 2

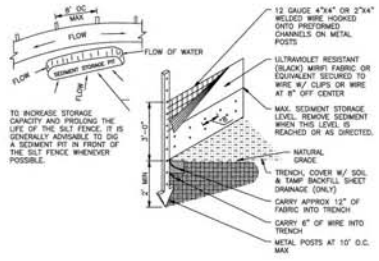
EMHT
Davis, Mechant, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5410-G Jerico Park Drive, Wilmington, NC 28403
Phone: 910-392-0193 Toll Free: 888-773-3648
EMHT#22205

DATE
February 11, 2019

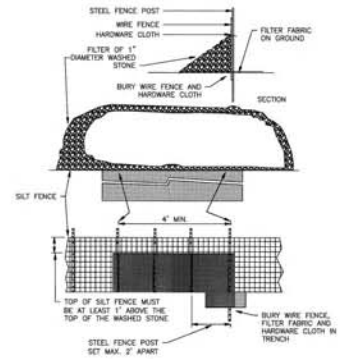
SCALE
1" = 60'

JOB NO.
20180410

SHEET
C3.1

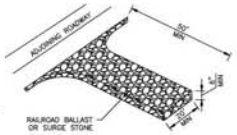


SEDIMENT FENCE DETAIL
Not to Scale



SILT FENCE OUTLET DETAIL
Not to Scale

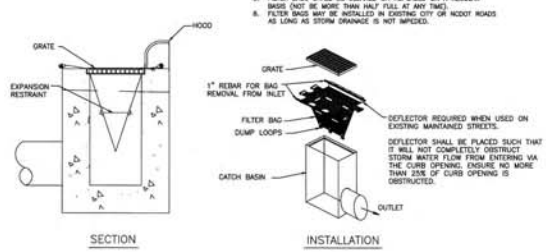
NOTES:
a. RAILROAD BALLAST OR SURGE STONE SHALL BE USED. PAD TO BE 50'L X 20'W X 6"D AT A MINIMUM.
b. TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS IS TO BE PROVIDED.
c. ENTRANCE(S) SHOULD BE LOCATED TO PROVIDE FOR MINIMUM UTILITY BY ALL CONSTRUCTION VEHICLES.
d. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE STILL BE NECESSARY; KEEP SOME HANDY.
e. ANY MATERIAL WHICH STILL MAKES IT ONTO THE ROAD MUST BE CLEANED UP IMMEDIATELY.



NOTES:
APPLICABLE AT ALL POINTS OF INGRESS & EGRESS UNTIL SITE IS STABILIZED. FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE MUST BE PROVIDED.

STABILIZED CONSTRUCTION ENTRANCE DETAIL
Not to Scale

NOTES:
1. INLET MAINTENANCE SHALL BE DOCUMENTED IN PROJECT LOG BOOK.
2. FILTER TYPES SHALL BE APPROVED BY THE CITY INSPECTOR PRIOR TO INSTALLATION.
3. FILTER BAGS MAY BE REMOVED WHEN SITE IS STABILIZED AT THE DIRECTION OF THE ENGINEER.
4. FILTER BAGS SHALL BE REMOVED PRIOR TO STREET ACCEPTANCE AND/OR CLOSE OUT OF GRADING PERMIT.
5. FILTER BAGS SHALL BE CLEANED OR REPLACED ON A REGULAR BASIS (NOT BE MORE THAN HALF FULL AT ANY TIME).
6. FILTER BAGS MAY BE INSTALLED IN EXISTING CITY OR NCDOT ROADS AS LONG AS STORM DRAINAGE IS NOT IMPEDED.



CATCH BASIN INLET PROTECTION
Not to Scale

TEMPORARY SEEDING SCHEDULE

Temporary Seeding Recommendations for Winter and Early Spring

Seeding Mixture Species	Rate (lb/acre)
Rye (grain)	120
Annual lespedeza (Kobe in Piedmont and Coastal Plain, Korean in Mountains)	50

Omit annual lespedeza when duration of temporary cover is not to extend beyond June.

Seeding Dates
Mountains–Above 2500 feet: Feb. 15 – May 15
Below 2500 feet: Feb. 1– May 1
Piedmont–Jan. 1 – May 1
Coastal Plain–Dec. 1 – Apr. 15

Soil Amendments
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10–10–10 fertilizer.

Mulch
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

Temporary Seeding Recommendations for Summer

Seeding Mixture Species	Rate (lb/acre)
German Millet	40

In the Piedmont and Mountains, a small-stemmed Sudangrass may be substituted at a rate of 50 lb/acre.

Seeding Dates
Mountains–May 15 – Aug. 15
Piedmont–May 1 – Aug. 15
Coastal Plain–Apr. 15 – Aug. 15

Soil Amendments
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10–10–10 fertilizer.

Mulch
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

Temporary Seeding Recommendations for Fall

Seeding Mixture Species	Rate (lb/acre)
Rye (grain)	120

Seeding Dates
Mountains–Aug. 15 – Dec. 15
Coastal Plain and Piedmont–Aug. 15 – Dec. 30

Soil Amendments
Follow soil tests or apply 2,000 lb/acre ground agricultural limestone and 1,000 lb/acre 10–10–10 fertilizer.

Mulch
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
Repair and refertilize damaged areas immediately. Topdress with 50 lb/acre of nitrogen in March. If it is necessary to extent temporary cover beyond June 15, overseed with 50 lb/acre Kobe (Piedmont and Coastal Plain) or Korean (Mountains) lespedeza in late February or early March.

PERMANENT SEEDING SCHEDULE

Seeding Mixture Species	Rate (lb/acre)
Tall fescue	80
Sericea lespedeza	20
Kobe lespedeza	10

1. After Aug. 15 use unscarified sericea sea.
2. Where periodic mowing is planned or a neat appearance is desired, omit sericea and increases Kobe lespedeza to 40 lb/acre
3. To extend spring seeding dates into June, add 15 lb/acre hulled Bermudagrass. However, after mid–Apr. it is preferable to seed temporary cover.

Seeding Dates

	Best	Possible
Fall	Aug. 25–Sept. 15	Aug. 20–Oct. 25
Late Winter	Feb. 14–Mar, 21	Feb. 1–Apr. 15

Fall is best for tall fescue and late winter for lespedezas. Overseeding of Kobe lespedeza over fall–seeded tall fescue is very effective.

Soil Amendments
Apply lime and fertilizer according to soil tests, or apply 4,000 lb/acre ground agricultural limestone and 1,000 lb/acre 10–10–10 fertilizer.

Mulch
Apply 4,000 lb/acre grain straw or equivalent cover of another suitable mulch. Anchor straw by tacking with asphalt, netting, or roving or by crimping with a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
Refertilize in the second year unless growth is fully adequate. May be mowed once or twice a year, but mowing is not necessary. Reseed, fertilize and mulch damaged areas immediately.

EROSION AND SEDIMENT CONTROL NARRATIVE

Plan Engineer: EMH&T, Inc.
Brian R. Rossi, PE
301 McCullough Drive, Suite 109
Charlotte, NC 28262
Tel: (704) 548–0333
brossi@emht.com

Developer: Hendrick Automotive Group
Greg Clark
8000 Monroe Road
Charlotte, NC 28212
Tel: (704) 566–3313
greg.clark@hendrickauto.com

Project Description: The proposed project is the grading and construction of an automotive dealership with sales/service building, car wash, parking, and associated appurtenances.

Existing Site Description: The existing site consists of a temporary ambulatory facility, a restaurant, and vacant land.

Adjacent Areas: The site is bordered to the north by Market Street / US Hwy 17. To the south there is a 30' public R/W between the site and residential properties. To the west, the site is bordered by Sahara Circle and a boat dealership, and to the east are warehouse facilities.

Soils: Soil boundary and types are indicated on the Existing Conditions plan sheets.

Receiving Stream: As discussed within the existing site conditions, stormwater runoff from the site is tributary to an Unnamed storm drainage system located to the southeast of the site. The channel discharges into the Howe Creek Basin.

Critical Areas: The existing storm system located onsite shall not be disturbed except as required to tie in per the plans. The clean water bypass swale at the north west side of the site is intended to capture off–site drainage and shall be protected from sediment during construction. Limit runoff to adjacent properties and limit the tracking of mud and dirt onto Market Street.

Erosion & Sediment Control: The Sediment basin will be the primary control used to manage the construction site stormwater runoff. Diversion channels shall be established to route the runoff into the basin. Perimeter sediment fence will be installed to manage the runoff that would flow off–site. Disturbed areas will be temporarily and permanently stabilized throughout construction activities.

Maintenance: The erosion and sediment controls shall be maintained throughout construction activities based upon the observations made during the required site inspections.

Sediment Basin: Inspect the outlet structure to ensure that the basin is draining properly. Remove any accumulated debris which may impede the basin dewatering. Accumulated sediment within the basin shall be removed once the sediment elevation has reached the cleanout elevation as indicated on the detail. A stake installed within the bottom of the basin indicating this elevation can be provided and visually inspected. The removed sediment shall be stabilized on–site.

Diversion Channel & Check Dam: Inspect the channels to ensure runoff from the site is properly being routed to the sediment basin. Remove accumulated sediment from the check dams when the height of the sediment has reached ½ of the dam height. Erosion control matting shall be replaced or reinstalled if damaged by the runoff.

Sediment Fence: Accumulated sediment must be removed from the fence when the sediment reaches ½ the above ground height of the fence. Undermined or overlapped fence must be repaired or replaced with a rock check dam.

Construction Drive: The minimum rock thickness of 6" shall be maintained throughout the utilization of the temporary entrance. Sediment deposited onto the paved roads shall be removed daily.

Soil Stabilization: Seeded areas shall be inspected upon rain events to ensure areas are not washing out. Washed out areas shall be repaired and re–seeded. Temporary sediment controls and/or erosion control matting may need to be utilized if washout problems routinely occur.

CONTRACTOR RESPONSIBILITY: Details have been provided on the plans in an effort to help the Contractor provide erosion and sedimentation control. The details shown on the plan shall be considered a minimum. Additional or alternate details may be found in the North Carolina "Erosion and Sediment Control Planning and Design Manual." The Contractor shall be solely responsible for providing necessary and adequate measures for proper control of erosion and sediment runoff from the site along with proper maintenance and inspection in compliance with the NPDES General Permit for Storm Water Discharges Associated with Construction Activity.

All Erosion & Sediment Control practices are subject to Field Modification at the direction of the New Hanover County Engineering Department and/or North Carolina Department of Environment and Natural Resources.

Phase I Construction Entrance:
Latitude: 34.25835278
Longitude: −77.83621111

CONTRACTOR SITE INSPECTION AND REPORTING REQUIREMENTS
The Contractor shall provide a rain gauge onsite and conduct erosion and sediment control site inspections at least once per every seven days and within 24 hours of a 0.5 inch rain event that occurs over a 24 hour period. The Contractor must take immediate action for any device failure. Records of inspections and corrective actions taken are required.

PROJECT OWNER SELF INSPECTION AND REPORTING REQUIREMENTS
The Project Owner representative must inspect the sediment and erosion control measures on a project after each phase of the project to make sure the the approved erosion and sedimentation control plan is being followed. Self–inspection reports are required.

As a minimum, the inspections shall be performed after each of the following phases of a plan:

1. Installation of perimeter erosion and sediment control measures.
2. Installation of sediment traps/basins.
3. Clearing and grubbing of existing ground cover.
4. Completion of any phase of grading that requires provision of stabilization.
5. Installation of measures during any phase of the project.
6. Completion of construction or development.
7. Installation of stormwater retention measures.
8. Quarterly until the establishment of permanent ground cover is fully established.

If it is observed during inspections that sediment has deposited within a stream or wetland, the Division of Water Quality regional office must be notified within 24 hours and a written response provided within 5 days. A copy of the correspondence is required to be sent to the Division of Land Resource.

NPDES Stormwater Discharge Permit for Construction Activities (NCGO1) — NCDENR/Division of Energy, Mineral and Land Resources

STABILIZATION TIMEFRAMES
(Effective Aug. 3, 2011)

Site Area Description	Stabilization	Timeframe Exceptions
Perimeter dikes, swales, ditches, slopes	7 days	None
High Quality Water (HQW) 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' in length.
All other areas with slopes flatter than 4:1	14 days	None, except for perimeters and HQW Zones.

The referenced details are based on City of Wilmington and NCDEQ standards.

They are not the responsibility or design of the Engineer.

NORTH CAROLINA
EMHT
MECHANIT HAMBLETON & TILTON, INC.
No. F-1016
CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL
045526
02/11/19
ENGINEER
BRIAN R. ROSSI

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
EROSION CONTROL DETAILS

EMHT
Civil Mechanical Engineers & Tilton, Inc.
Engineers & Surveyors, A Professional Corporation
301 McCullough Drive, Suite 109, Charlotte, NC 28262
Phone: 704.548.0333 Toll Free: 888.775.3648
emht.com

DATE
February 11, 2019

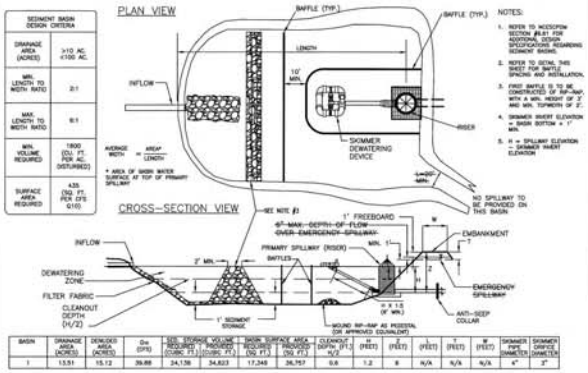
SCALE
As Noted

JOB NO.
20180410

SHEET
C3.2

J:\20180410\Dwg\040Events\Site Improvements\C3.10 Erosion Control Details.dwg Last Saved By: rossi, 2/11/2019 11:24 AM Last Plotted By: hampton, Trevor, 2/11/2019 12:48 PM

SEDIMENT BASIN DESIGN CRITERIA	
DRAINAGE AREA (ACRES)	>10 AC. <100 AC.
MIN. LENGTH TO WIDTH RATIO	2:1
MAX. LENGTH TO WIDTH RATIO	6:1
MIN. VOLUME REQUIRED	1800 (CU. FT. PER AC. DISTURBED)
SURFACE AREA REQUIRED	435 (SQ. FT. PER CFS Q10)



NOTES:
1. REFER TO NCECSPCM SECTION #6.61 FOR ADDITIONAL DETAILS AND SPECIFICATIONS REGARDING SEDIMENT BASINS.
2. REFER TO DETAIL THIS SHEET FOR BAFFLE SPACING AND INSTALLATION.
3. FIRST BAFFLE IS TO BE CONSTRUCTED OF RIP-RAP, WITH A MIN. HEIGHT OF 3' AND MIN. TOPWIDTH OF 2'.
4. SKIMMER INVERT ELEVATION = BASIN BOTTOM + 1' MIN.
5. H = SPILLWAY ELEVATION – SKIMMER INVERT ELEVATION.

BASIN	DRAINAGE AREA (ACRES)	DEWATERED AREA (ACRES)	Qw (CFS)	SED. STORAGE VOLUME REQUIRED (CUBIC FT.)	SED. STORAGE VOLUME PROVIDED (CUBIC FT.)	BASIN SURFACE AREA REQUIRED (SQ. FT.)	BASIN SURFACE AREA PROVIDED (SQ. FT.)	CLEANOUT DEPTH (FT.)	H (FEET)	Z (FEET)	T (FEET)	W (FEET)	SKIMMER PIPE DIAMETER	SKIMMER ORIFICE DIAMETER
1	13.51	15.12	39.88	24,138	34,823	17,348	26,757	0.6	1.2	8	N/A	N/A	4"	2"

SEDIMENT BASIN DETAIL
Not to Scale

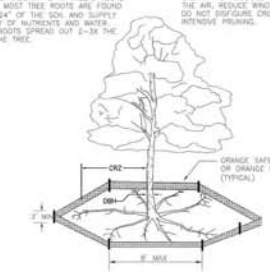
GENERAL NOTES:

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ANY VEGETATION AND ROOT MATERIAL. THE BASIN AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVERSIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE BEING CONSTRUCTED. SPILLWAYS SHOULD NOT BE CONSTRUCTED THROUGH FILL SECTIONS. ALL SPILLWAYS SHOULD BE LINED AND/OR RIPRAPPED.
3. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO DEPTH SHOWN ON STANDARD. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA IN SUCH A MANNER THAT IT WILL NOT ERODE.
4. THE TRAP SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NECESSARY.
5. CONSTRUCTION OPERATION SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION IS MINIMIZED.
6. ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER, UNLESS CERTIFIED BY REGISTERED GEOTECHICAL ENGINEER.
7. SEDIMENT BASIN EMBANKMENTS SHOULD BE PROVIDED WITH EROSION CONTROL AND STABILIZATION.
8. STORAGE AREA MAY BE CONSTRUCTED IN ANY SHAPE PROVIDED THE MINIMUM STORAGE VOLUME REQUIREMENT IS MET. THE BASIN SHOULD ALSO BE ORIENTED SUCH THAT THE FILTER AND THE MAIN FLOW OF WATER AND SEDIMENT ARE ON OPPOSITE ENDS ON THE LONGER BASIN DIMENSIONS.
9. BASIN IS DESIGNED WITHOUT AN EMERGENCY SPILLWAY, SINCE THE SITE FLOOD ROUTES OUT ALONG MARKET STREET.
10. WHENEVER TOPOGRAPHY ALLOWS, THE BASIN LENGTH SHOULD BE TWICE (2X) THE BASIN WIDTH, TO ALLOW FOR SETTLING. BAFFLES SHALL BE INSTALLED IN ALL BASINS.
11. CLEANOUT STAKES SHALL BE PLACED IN ALL SEDIMENT BASINS AT THE LOW POINT IN THE BASIN. THE STAKES SHALL BE MARKED SHOWING THE HALF FULL CLEANOUT POINT, OF THE BASIN.
12. SAFETY FENCING 3' HIGH SHOULD BE PLACED AROUND ALL SEDIMENT BASINS.
13. FOR DESIGN OF SEDIMENT BASINS, REFER TO THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.
14. FOR SLOPES GREATER THAN 10' IN LENGTH AND PROTECTED BY SILT FENCE AT THE TOE OF THE SLOPE, SLOPE TERRACING WILL BE REQUIRED.
15. THE BERM ON SEDIMENT BASINS SHALL BE SEEDED ONCE FINAL GRADE HAS BEEN REACHED. THE SILT FENCE MAY BE REMOVED IF PERMISSION HAS BEEN GRANTED BY THE COUNTY EROSION CONTROL INSPECTOR AFTER THE GRASS HAS GERMINATED AND STABLE GROUND HAS BEEN ESTABLISHED.
16. WASHED STONE AND WIRE BACKING SHALL BE USED WITH SILT FENCE WHENEVER SILT FENCE IS PLACED AT THE TOE OF A SLOPE >10' VERTICAL OR ALONG ANY CHANNEL OR WATER COURSE.

SEDIMENT BASIN NOTES
No Scale

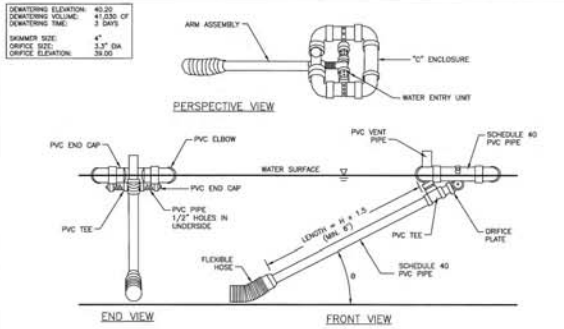
NOTE:
THE CRITICAL ROOT ZONE (CRZ) OF A TREE IS WHERE THE MAJORITY OF A TREE'S ROOTS LAY. 85% OF MOST TREE ROOTS ARE FOUND IN THE TOP 24" OF THE SOIL AND SUPPLY THE MAJORITY OF NUTRIENTS AND WATER. GENERALLY, ROOTS SPREAD OUT 2–3X THE HEIGHT OF THE TREE.

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.



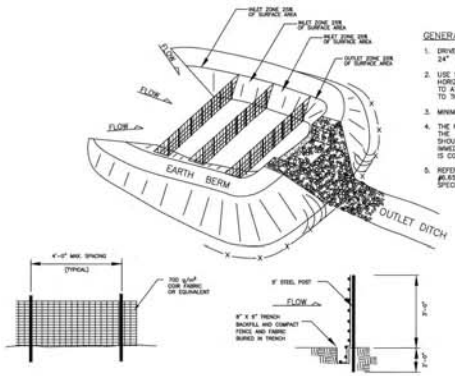
NOTES:
1. PROTECT CRITICAL ROOT ZONE (CRZ) OF TREES PRIOR TO CONSTRUCTION. CLEARLY MARK THE TREES AND ERECT A PROTECTIVE BARRIER AT THE CRZ. BARRIER SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
2. CRZ RADIUS IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH).
3. IF CONSTRUCTION OCCURS WITHIN THE CRZ, AT LEAST 12" OF MULCH AND/OR LOGGING MATTS 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. DAMAGING THE BARK WITH LUMBERJACKETS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED. CONTRACTOR SHALL REPAIR DAMAGE TO TREES.
6. FAILING TO INSTALL OR MAINTAIN PROTECTIVE 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.

DATE JAN. 2015	STANDARD DETAIL	CITY OF WILMINGTON NORTH CAROLINA
DRAWN BY JGB	TREE PROTECTION DURING CONSTRUCTION	CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807
CHECKED BY RDH, P.E.	SHEET 1 of 2	SD 15-09
SCALE NOT TO SCALE		



TYPE OF SKIMMER DESIGNED FOR: FAIRCLOTH SKIMMER
"H" REFERS TO THE HEIGHT FROM INVERT OF FLEXIBLE HOSE ON SKIMMER TO THE INVERT OF THE PRIMARY SPILLWAY.

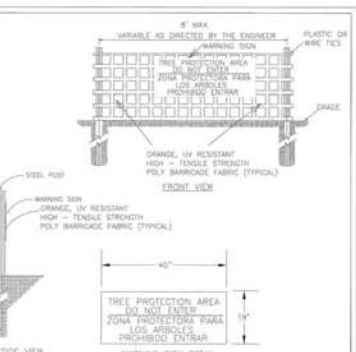
SKIMMER DETAIL
Not to Scale



GENERAL NOTES:

1. DRIVE 5' STEEL POST AT LEAST 24" INTO SOLID GROUND.
2. USE STAPLES 1' APART HORIZONTALLY AND VERTICALLY TO ATTACH THE FILTER FABRIC TO THE WIRE FENCE.
3. MINIMUM BAFFLE SPACING IS 10'.
4. THE FLOOR OF THE BASIN IN THE OUTLET ZONE AND BERMS SHOULD BE SEEDED IMMEDIATELY AFTER THE BASIN IS CONSTRUCTED.
5. REFER TO NCECSPCM SECTION #6.63 FOR ADDITIONAL SPECIFICATIONS.

BAFFLE INSTALLATION DETAIL
Not to Scale



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, WEATHERPROOF MATERIAL. LETTERS TO BE 3" HIGH, MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
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 SIGNAGE SHALL BE REMOVED AFTER CONSTRUCTION.
6. ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF WILMINGTON, BASED ON ACTUAL FIELD CONDITIONS.

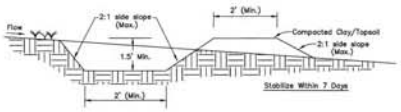
DATE JAN. 2015	STANDARD DETAIL	CITY OF WILMINGTON NORTH CAROLINA
DRAWN BY JGB	TREE PROTECTION DURING CONSTRUCTION	CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807
CHECKED BY RDH, P.E.	SHEET 2 of 2	SD 15-09
SCALE NOT TO SCALE		

The referenced details are based on City of Wilmington and NCDEQ standards.

They are not the responsibility or design of the Engineer.

NORTH CAROLINA EVANS MCDWAIT HAMBLETON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045526 02/11/19 ENGINEER BRIAN R. ROSSI



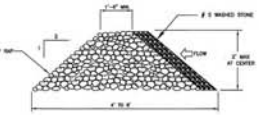
DIVERSION DITCH	DRAINAGE AREA (ACRES)	10-YR Q (CFS)	DEPTH (FT)	BOTTOM WIDTH (FT Min.)	SLOPE (%)	TEMPORARY LINING
1	5.87	17.33	2	2	0.38	Jute Net
2	2.96	8.74	1	2	1.90	Jute Net
3	1.62	4.78	1.5	2	0.50	Jute Net

TEMPORARY DIVERSION DITCH DETAIL
Not to Scale

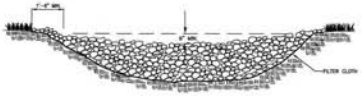
GENERAL NOTES:

1. RIPRAP SIZE TO BE DESIGNED BY ENGINEER.
2. CHECK DAMS MAY BE USED IN SLOPING DITCHES OR CHANNELS TO SLOW VELOCITY OR TO CREATE SEDIMENT TRAPS.
3. ENSURE THAT MAXIMUM SPACING BETWEEN DAMS PLACES THE TOE OF THE UPSTREAM DAM AT THE SAME ELEVATION AS THE DOWNSTREAM DAM (SEE DIAGRAM BELOW).

A AND B ARE AT EQUAL ELEVATIONS



CROSS SECTION



PLAN

TEMPORARY ROCK CHECK DAM DETAIL
Not to Scale

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
EROSION CONTROL DETAILS

EMHT
Environmental Management & Design, Inc.
Engineers • Surveyors • Planners • Scientists
3802 Barrett Drive, Suite 100 Raleigh, NC 27609
Phone: 919.848.0800 fax: 919.848.3800
emht.com

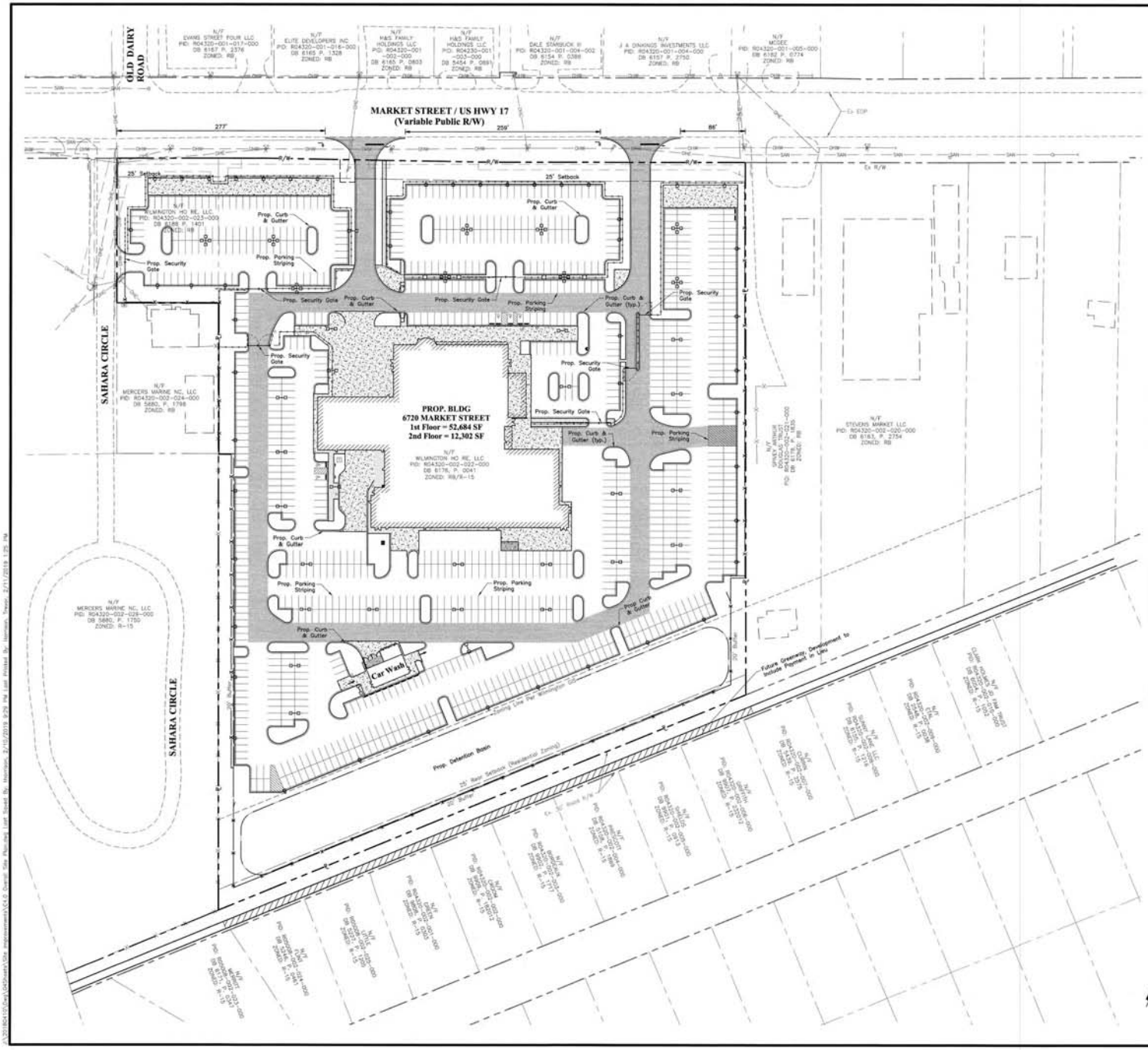
DATE
February 11, 2019

SCALE
As Noted

JOB NO.
20180410

SHEET
C3.3

J:\20180410\Dwg\04Drawing\Site Improvements\C3.10 Erosion Control Details.dwg Last Saved By: jackson, Trevor, 2/11/2019 11:24 AM Last Printed By: Harrison, Trevor, 2/11/2019 12:48 PM



LEGEND

EXISTING
- Right of Way
- Property Line

PROPOSED
- Easement
- Building
- Pavement
- Pond
- Prop. Heavy Duty Flexible Pavement, See Sheet C9.0
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- Fence, See Sheet C9.4
- Bollard Fencing, See Sheet C9.4
- Electric Transformer
- Light Pole (See Electrical Plans for Details)
- Electric Vehicle Charger, See Electrical Plans for Details
- Prop. Keycard Kiosk, See Electrical Plans
- Prop. FDC, See C7.0–C7.4
- Prop. Fire Hydrant, See C7.0–C7.4

Note: See Sheets C2.0 for Overall Existing Conditions Legend.

SITE DATA

Project Name:	Hendrick Honda of Wilmington
Proposed Site Use:	Automotive Sales & Service
Existing Site Use:	Existing Restaurant, Mobile Ambulatory Facility, Vacant Land
Project Address:	6720 Market Street, Wilmington, NC 28405
Parcel ID Number:	R04320-002-022-000, R04320-002-023-000
Zoning District(s):	RB/R-15
Overlay District(s) Designation:	N/A
Building Setbacks:	
Required:	25' Front Setback, 25' Rear Setback
Total Amount of Acreage within the Project Boundaries:	14.28 AC (622,037 SF)
Building Footprint Size:	
Existing:	378 + 863 + 122 + 37 + 181 + 474 + 283 + 866 + 205 = 3208 Total SF
Proposed:	52,684 + 1,833 = 54,773 Total SF
Building Lot Coverage Calculations:	
Existing:	0.5 Percent Covered
Proposed:	8.8 Percent Covered
Number of Units:	1
Number of Buildings:	2
Building Height(s):	Dealership – 29', Car Wash – 18'
Number of Stories:	Dealership – 2, Car Wash – 1
Square feet per Floor:	Car Dealership: 1st: 52,684 SF, 2nd: 12,302 SF Car Wash: 1,833 SF
Total Amount of Impervious Area:	
Before Development:	16,176 SF
After Development:	453,558 SF
Percent Impervious:	
Before Development:	2.5 %
After Development:	71.4 %
Off Street Parking Calculations:	
Required Parking:	Automotive Dealership (27,681 SF) 56 spots
	Automotive Service (28,713 SF) 45 spots
	Storage/Warehousing (10,582 SF) 11 spots
	Total Parking: 112 Spots
	ADA Parking 5 Spots
Proposed Parking:	Standard Parking: 123 Spots
	ADA Parking: 5 Spots
	Inventory Parking: 892 Spots
	Total Parking: 1020 Spots
	Basis of Determination: Wilmington Code of Ordinances, Chapter 18, Article 9, Section 18-532
DMA Land Use Classification:	Urban

GRAPHIC SCALE
0 30 60 120
1 inch = 60 feet

NORTH CAROLINA EVANS, MECHNART, HAMILTON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORITY

NORTH CAROLINA PROFESSIONAL SEAL 045526 02/11/19 ENGINEER BRIAN R. ROSS

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
OVERALL SITE PLAN

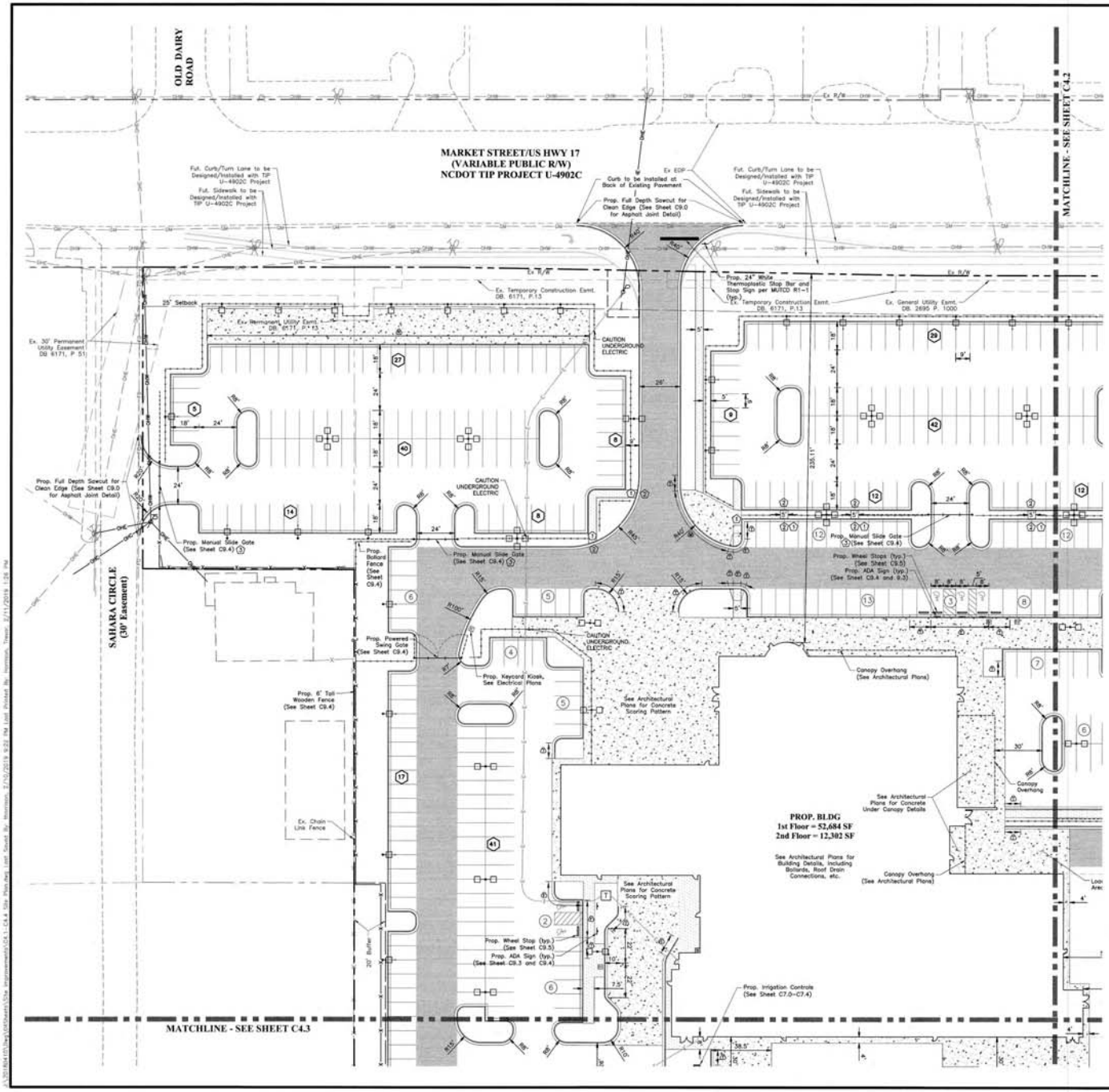
EMHT
Evans, Mechnart, Hamilton & Tilton, Inc.
Engineers • Surveyors • Planners • SLA Firm
3802 Shipyard Blvd, Suite 200, Wilmington, NC 28403
Phone: 910.452.0001 Fax: 910.313.5248
www.emht.com

DATE
February 11, 2019

SCALE
1" = 60'

JOB NO.
20180410

SHEET
C4.0



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REVISIONS

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Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
SITE PLAN

EMHT
Evans, McDonald, Hamilton & Tilton, Inc.
Consulting Engineers & Land Surveyors
101 McCullough Dr., Ste. 100, Charlotte, NC 28262
Phone: 704-332-1205 Fax: 704-332-1206
emht.com

NORTH CAROLINA EVANS MCDONALD HAMILTON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORIZATION

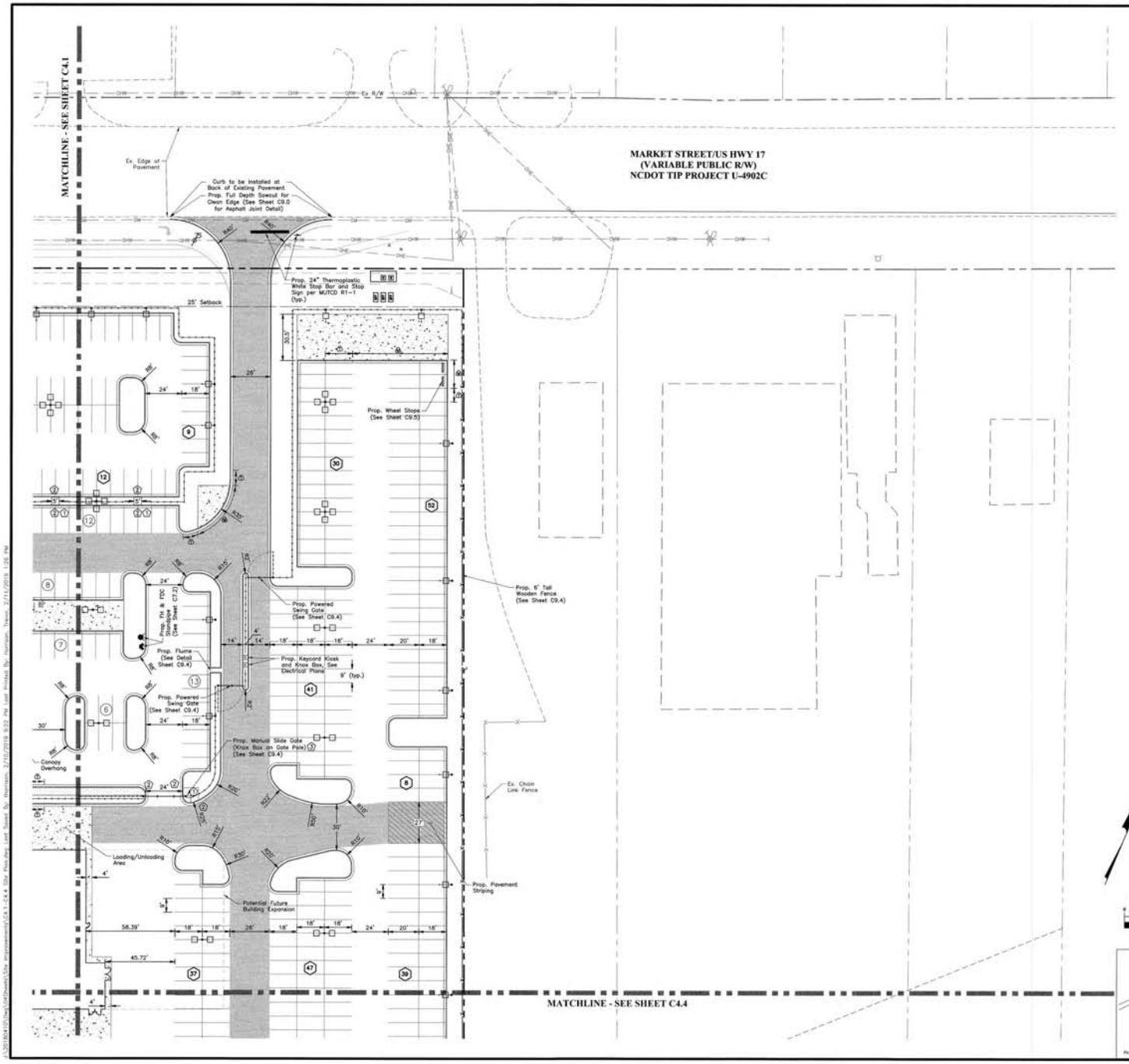
NORTH CAROLINA PROFESSIONAL SEAL 045526 02/11/19 ENGINEER BRIAN R. ROSSI

DATE: February 11, 2019

SCALE: 1" = 30'

JOB NO.: 20180410

SHEET: C4.1



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GRAPHIC SCALE

0 15 30 60

1 inch = 30 feet

SHEET KEY
Not To Scale

NORTH CAROLINA
EWING MECHHART HAMBLETON & TILTON, INC.
No. F-1016
CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL
045526
02/11/19
ENGINEER
BRIAN R. ROSSI

MARK	DATE	DESCRIPTION

REVISIONS

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN

HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
SITE PLAN

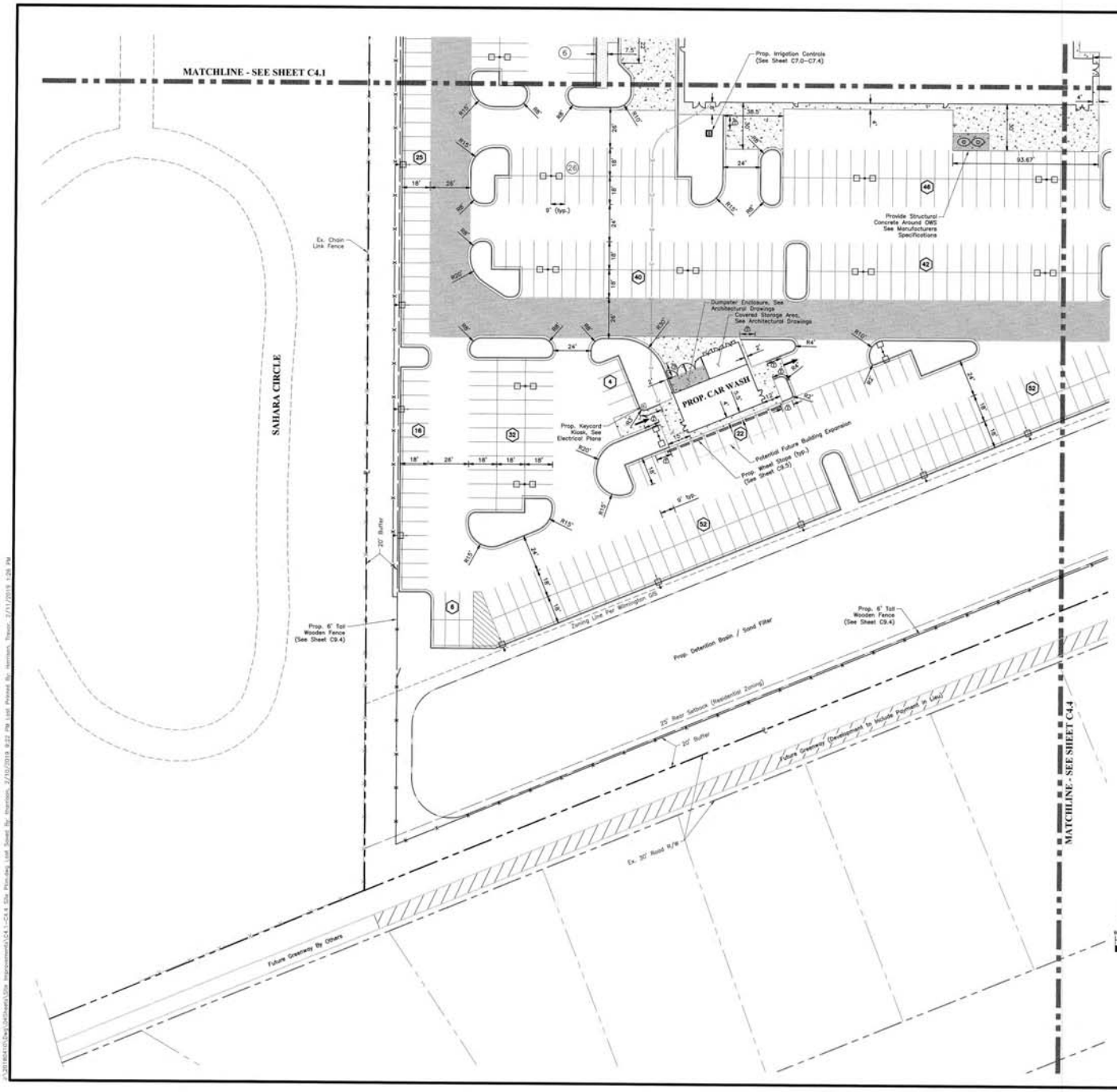
EMHT
Ewing, Mechhart, Hamblton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5410 Trinity Road, Suite 102 Raleigh, NC 27548
Phone: 919.847.3333 Toll Free: 888.773.5368
EMHT.COM

DATE
February 11, 2019

SCALE
1" = 30'

JOB NO.
20180410

SHEET
C4.2



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Not To Scale

NORTH CAROLINA
EMMC McKNART HAMILTON & TILTON, INC.
No. F-1016
CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL
SEAL 045526
02/11/19
ENGINEER
BRIAN R. ROSS

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
SITE PLAN

EMHT
Engineers • Surveyors • Planners • Scientists
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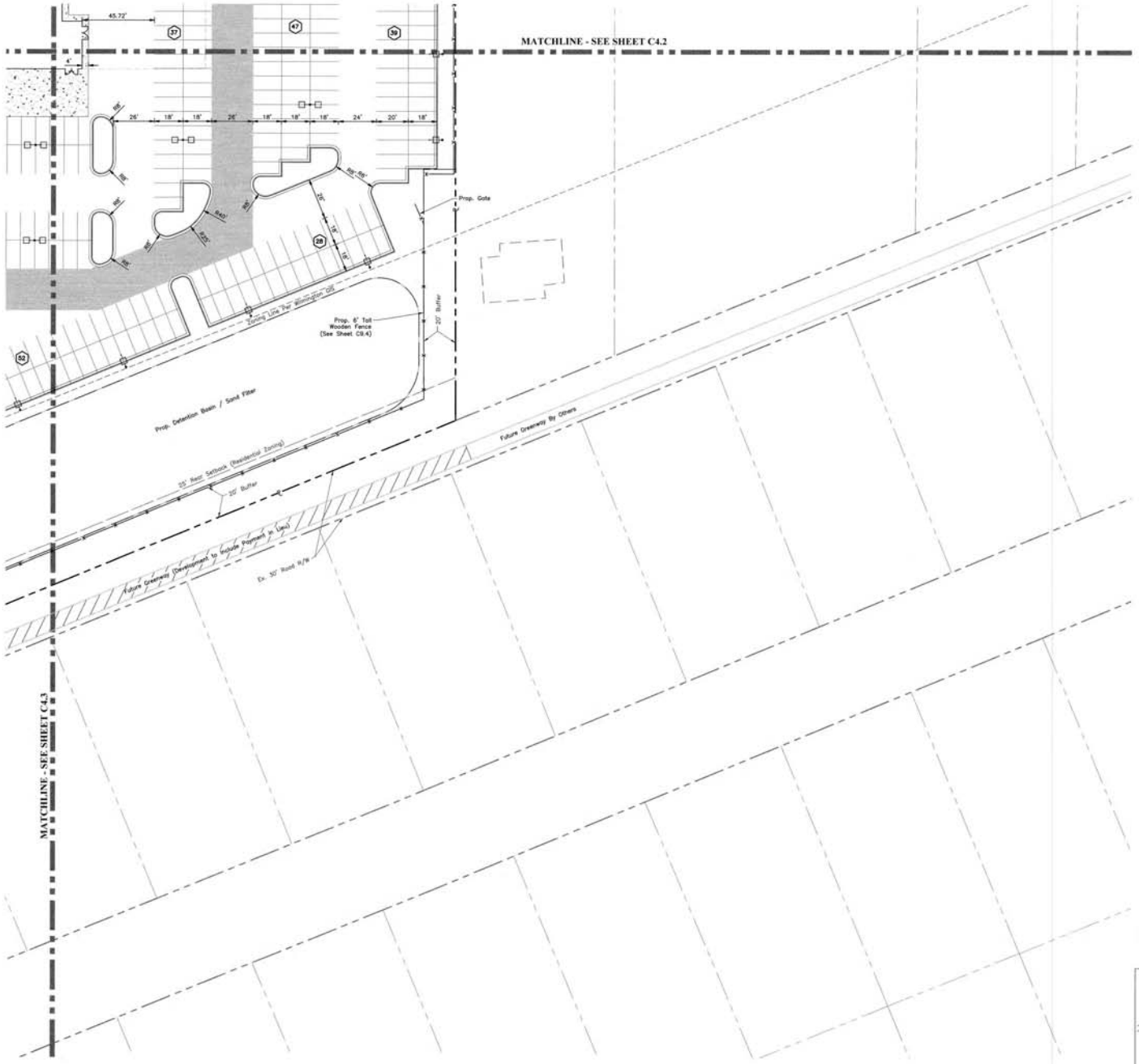
Post Office Box 1576, Wilmington, NC 28402-1576
Phone: (910) 343-1225 Fax: (910) 343-1250
emht.com

DATE
February 11, 2019

SCALE
1" = 30'

JOB NO.
20180410

SHEET
C4.3



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0 15 30 60

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SHEET KEY
Not To Scale

NORTH CAROLINA EVANS MECHANT HAMBLETON & TILTON, INC. No. F-1018 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045526 02/11/19 ENGINEER BRIAN R. ROSS

REVISIONS

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SCALE
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JOB NO.
20180410

SHEET
C4.4

J:\2018\0410\Dwg\LdXfrmats\Site Improvements\C4.1 - C4.4 Site Plan.dwg Last Saved By: Hamilton, Trevor, 2/11/2019 1:39 PM
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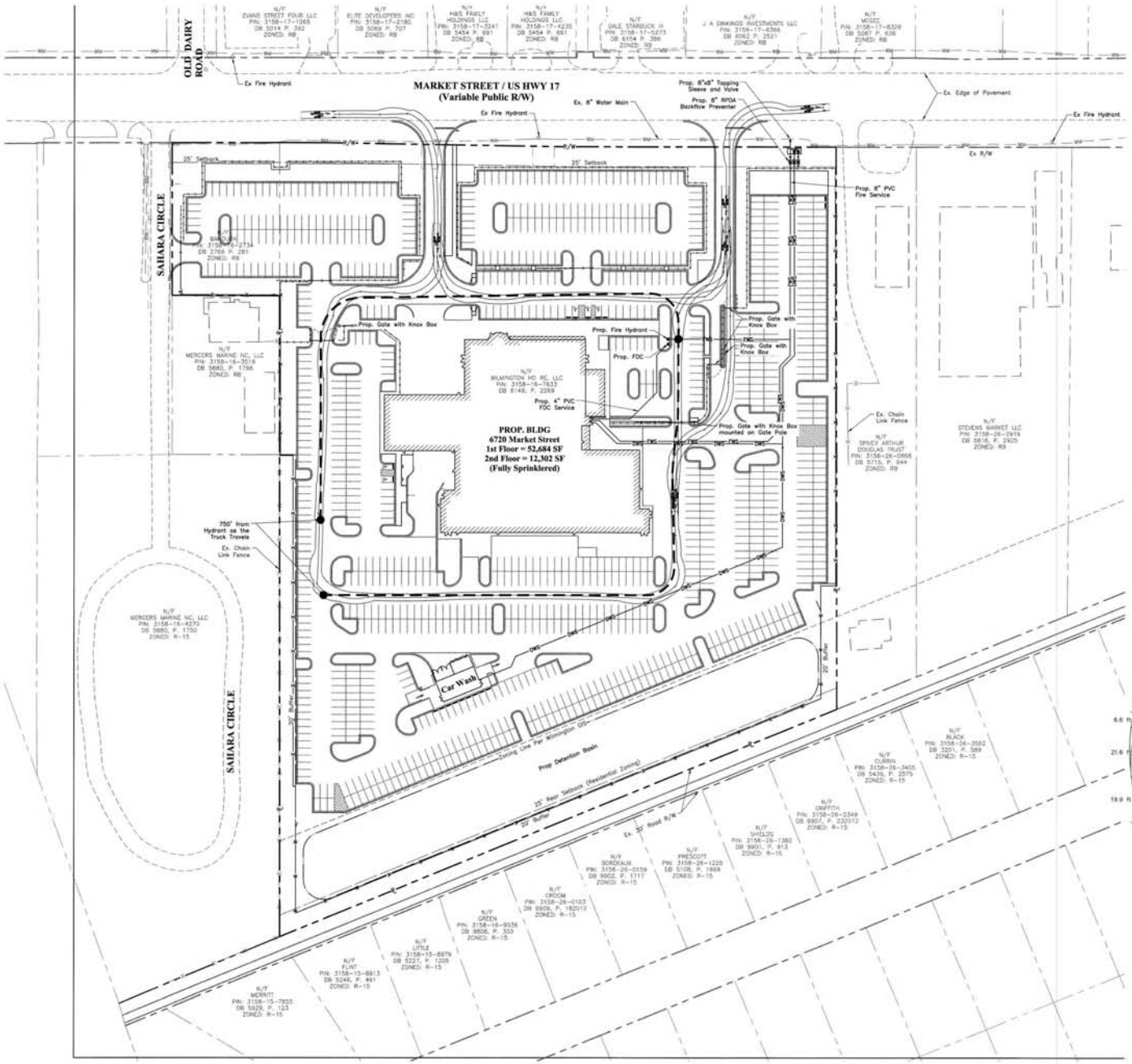
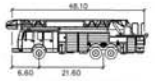


LEGEND

PROPOSED	EXISTING	
		Right of Way / Property Line
		Building / Pavement
		Curb
		Water Main
FWS		Fire Water Service
DWS		Domestic Water Service
FDM		FDC Water Service
		Fire Hydrant (See Sheet C9.5)
		FDC

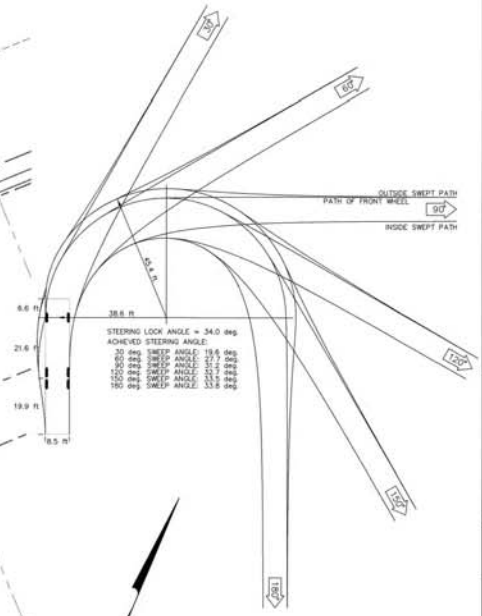
NOTES

1. Contractor shall maintain an all-weather access for emergency vehicles at all times during construction
2. New hydrants must be brought into service prior to combustible materials delivered to the job site
3. A hydrant must be within 150' of the FDC (measured as the truck drives for practical use)
4. FDC must be within 40' of fire apparatus placement
5. Landscaping or parking cannot block or impede the FDC or fire hydrants. A 3-foot clear space shall be maintained around the circumference of the hydrant and FDC
6. Additional fire protection and/or accessibility requirements may be required due to any special circumstances concerning the project.
7. Private Underground Fire Lines require a separate underground fire line permit from the Wilmington Fire and Life Safety Division 910-343-0696
8. All isolation valves within the "Hot Box" must be electrically supervised.
9. See Sheet C9.5 for Fire Hydrant Assembly Detail.



Standard Ladder Truck

	Feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 34.0



GRAPHIC SCALE

0 30 60 120

1 inch = 60 feet

NORTH CAROLINA EVANS MECHART HAMILTON & TILTON, INC. No. F-1018 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045526 02/11/19 ENGINEER BRIAN R. ROSSI

MARK	DATE	DESCRIPTION

REVISIONS

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
FIRE APPARATUS PLAN

EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 Greenwood Avenue, Raleigh, NC 27612
Phone: 919.881.0055 Fax: 919.881.0350
www.emht.com

DATE
February 11, 2019

SCALE
1" = 60'

JOB NO.
20180410

SHEET
C4.5

ISD based on AASHTO – Geometric Design of Highways and Streets

Case B1 – Left Turn from Stop

$ISD = 1.47\ V_{major}\ t_g$

$V_{major} = 50mph$

$t_g = 7.5s + 0.7s = 8.2s$ for a passenger vehicle

Calculated ISD = 1.47(50mph)(8.2s) = 603 ft

Design ISD = 605 ft

Case B2 – Right Turn from Stop

$ISD = 1.47\ V_{major}\ t_g$

$V_{major} = 50mph$

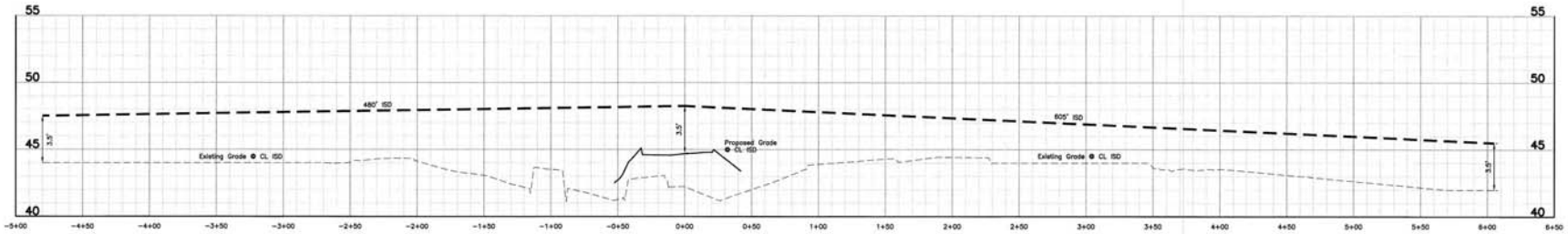
$t_g = 6.5s$ for a passenger vehicle

Calculated ISD = 1.47(50mph)(6.5s) = 478 ft

Design ISD = 480 ft

LEGEND

EXISTING	PROPOSED	
		Right of Way
		Parcel Line
		Easement
		Curb
		Sign
		Power Pole
		Light Pole

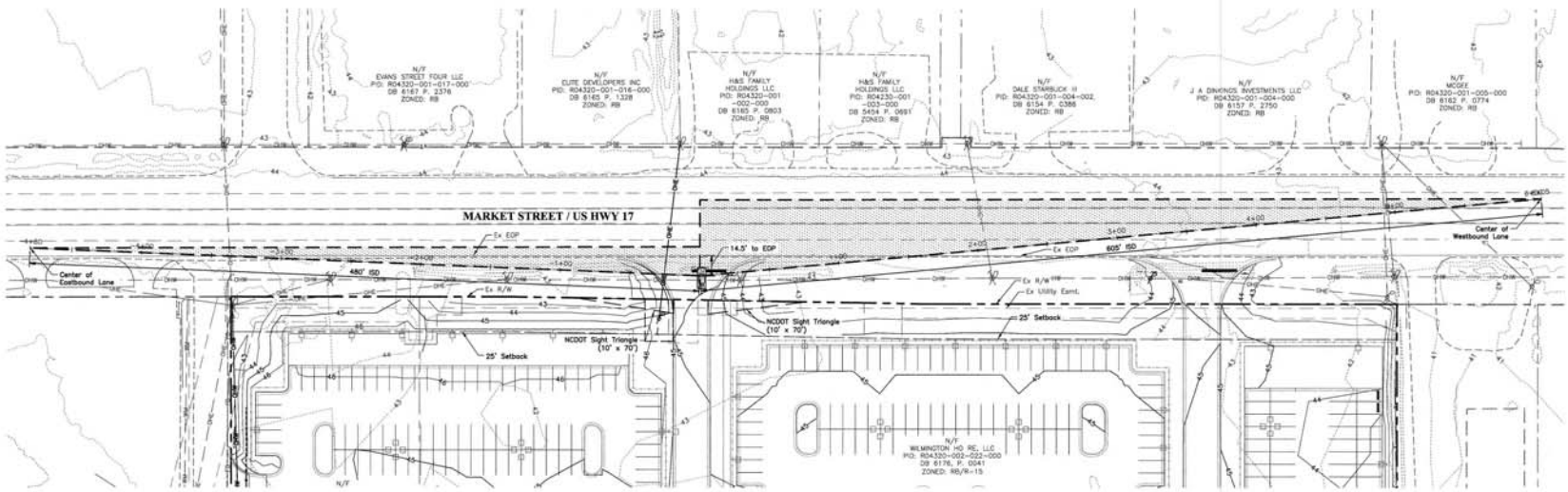


INTERSECTION SIGHT DISTANCE PROFILE

Horizontal Scale: 1"= 40'
Vertical Scale: 1"= 4'

Note: Contractor to coordinate with NCDOT inspector for all traffic control. Field modifications may be required.

Posted Speed Limit = 45 MPH (Market Street/US Hwy. 17)
Design Speed Limit = 50 MPH



GRAPHIC SCALE

0 20 40 80

1 inch = 40 feet

NORTH CAROLINA EVANS MECHANIC HAMILTON & TILTON, INC. No. F-1018 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045526 02/11/19 ENGINEER BRIAN R. ROSS

REVISIONS

MARK	DATE	DESCRIPTION

Handrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
INTERSECTION SIGHT DISTANCE PLAN

EMHT
Evans, Mechanicl, Hamilton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
3301 Atlantic Avenue, Raleigh, North Carolina 27604
Phone: 919.790.0300 Toll Free: 800.733.5646
www.emht.com

DATE
February 11, 2019

SCALE
Horiz: 1" = 40'
Vert: 1" = 4'

JOB NO.
20180410

SHEET
C4.6

ISD based on AASHTO – Geometric Design of Highways and Streets

Case B1 – Left Turn from Stop

$ISD = 1.47\ V_{major}\ t_g$

$V_{major} = 50mph$

$t_g = 7.5s + 0.7n = 8.2s$ for a passenger vehicle

Calculated ISD = 1.47(50mph)(8.2s) = 603 ft

Design ISD = 605 ft

Case B2 – Right Turn from Stop

$ISD = 1.47\ V_{major}\ t_g$

$V_{major} = 50mph$

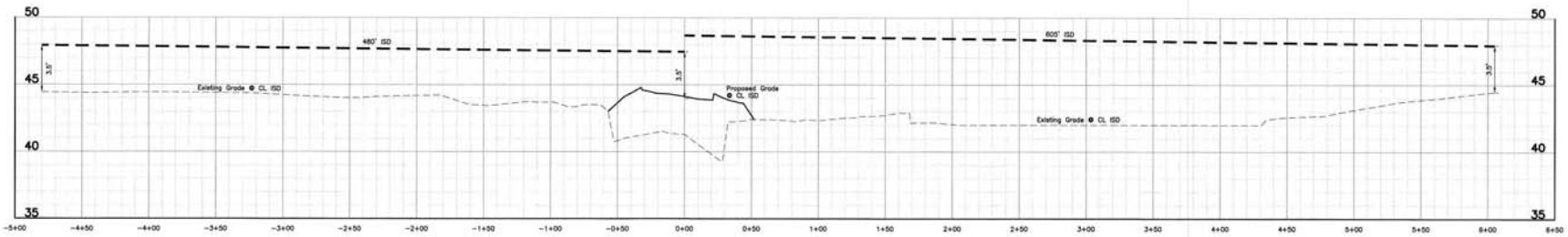
$t_g = 6.5s$ for a passenger vehicle

Calculated ISD = 1.47(50mph)(6.5s) = 478 ft

Design ISD = 480 ft

LEGEND

EXISTING	PROPOSED	
		Right of Way
		Parcel Line
		Easement
		Curb
		Sign
		Power Pole
		Light Pole

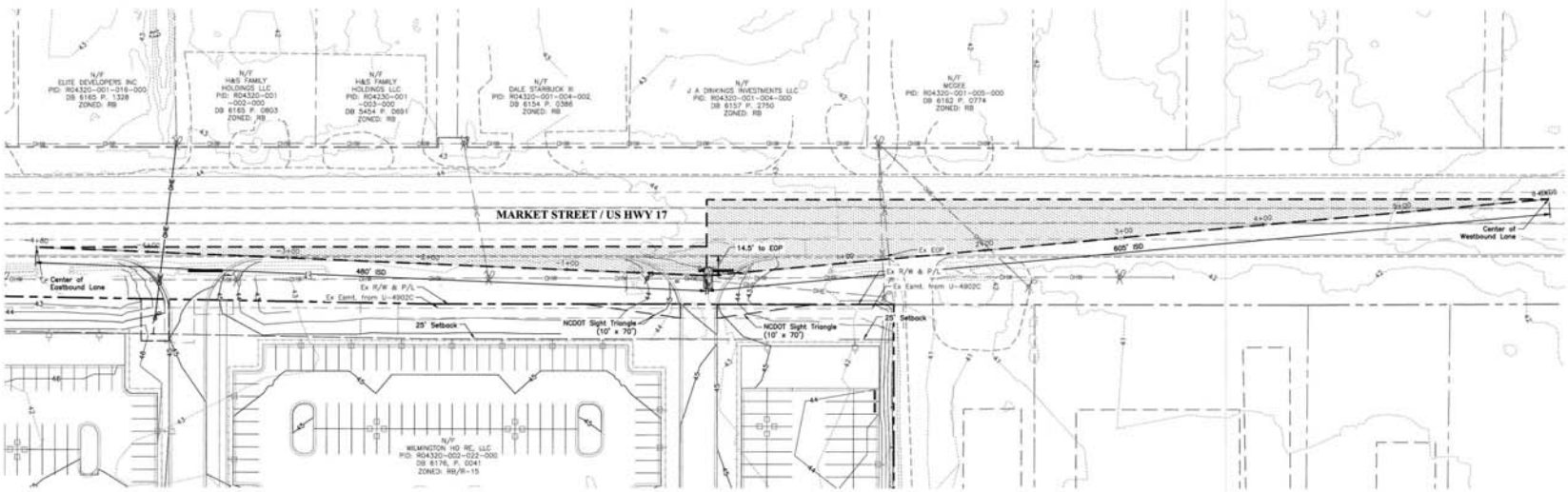


INTERSECTION SIGHT DISTANCE PROFILE

Horizontal Scale: 1"= 40'
Vertical Scale: 1"= 4'

Note: Contractor to coordinate with NCDOT inspector for all traffic control. Field modifications may be required.

Posted Speed Limit = 45 MPH (Market Street/US Hwy. 17)
Design Speed Limit = 50 MPH



GRAPHIC SCALE

1 inch = 40 feet

NORTH CAROLINA EVANS, MECHANIC, HAMBLETON & TILTON, INC. No. F-1018 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045526 ENGINEER BRIAN R. ROSSI 02/11/19

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
INTERSECTION SIGHT DISTANCE PLAN

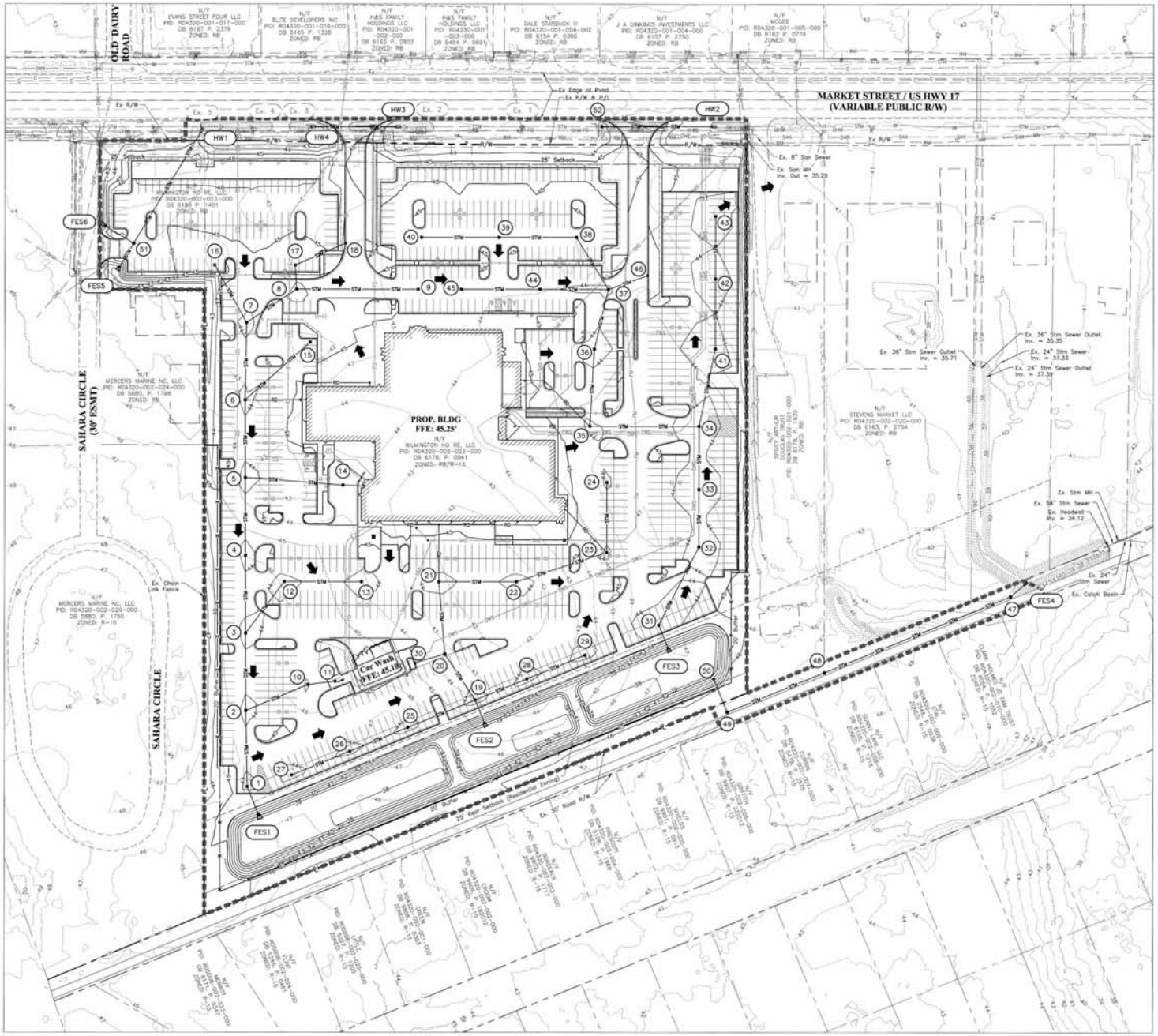
EMHT
Evans, Mechanicl, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Landscape Architects
3011 Horseshoe Dr., No. 19, Charlotte, NC 28269
Phone: 704-596-0717 Fax: 704-596-1823 License: C-0658
www.emht.com

DATE
February 11, 2019

SCALE
Horiz: 1" = 40'
Vert: 1" = 4'

JOB NO.
20180410

SHEET
C4.7



LEGEND

Existing
- Right of way
- Property Line

Proposed
- Easement
- Contours
- Building
- Pavement
- Curb
- Fence
- Sign
- Prop. Rip Rap
- Fiber Optic
- Sanitary Cleanout
- Sanitary Service
- Force Main
- Storm Sewer
- Roof Drain
- Domestic Water Service
- Fire Water Service
- FDC Service Line
- FDC
- Fire Hydrant
- Electric Transformer
- Underground Electric
- Overhead Utility Lines
- Overhead Comm Line
- Overhead Electric Line
- Gas Service
- Gas Meter
- Oil Water Seperator
- Flood Routing Arrow
- Flow Arrow
- Storm Structure Number
- Limits of Disturbance

Note: See Sheets C2.0 for Overall Existing Conditions Legend.

NOTES

1. All spot elevations are top back of curb unless otherwise noted.
2. All contours and spot elevations reflect finished grades. Reference Landscape Plan for hold downs in green space for topsoil.
3. The contractor shall immediately report to owner any discrepancies found between actual field conditions and construction documents and shall wait for instruction prior to proceeding.
4. The contractor shall blend new earthwork smoothly to transition back to existing grade, including any grading work performed in the right-of-way.
5. Limits of clearing shown on grading plan are based upon the approximate cut and fill slope limits, or other grading requirements.
6. The contractor shall ensure positive drainage so that runoff will drain by gravity flow across new pavement areas to new or existing drainage inlets or sheet overland.
7. There shall be no standing water before permanent seeding of parcels.
8. Sediment and erosion control measures shall be maintained throughout this development.
9. All proposed storm sewer pipe shall be Class IV RCP unless otherwise noted. All Underdrains for Roof Drain/Down Spout Connections shall be HDPE.
10. Reference Sheets C4.1–C4.4 for locations of flush, transition, modified, rolled, and full height curb and gutter.
11. See Site and Utility Plan for Easement and Tree Save locations.
22. Reference Geotechnical Report by NOVA dated July 24, 2018 for all fill materials placed on site. All fill placement shall be witnessed by the Owner's Field Geotechnical Representative.

ADA ACCESSIBLE ROUTE INSTRUCTIONS TO CONTRACTOR

Contractors shall exercise appropriate care and precision in construction of ADA accessible components indicated on this sheet. These components, as constructed, must comply with State and Federal accessibility rules and regulations. Finished surfaces along the accessible route of travel from parking space, public transportation, pedestrian access, inter-building access, to points of accessible building entrance/egress, shall comply with ADA & North Carolina building code requirements. These include, but are not limited to the following:

Parking spaces and parking aisles – slope shall not exceed 2.0% in any direction.

Curb ramps – slope shall not exceed 8.3% for a maximum of six (6) feet.

Landings – shall be provided at each end of ramps, shall provide positive drainage, and shall not exceed 2.0% slope in any direction.

Path of travel along accessible route – shall provide a 36 inch or greater unobstructed width of travel, (car overhangs cannot reduce this minimum width), the slope shall be no greater than 5.0% in the direction of travel, and shall not exceed 2.0% in cross slope.

Doorways – shall have a "level" landing area on the exterior side up the door that is sloped no more than 2.0% for positive drainage. This landing area shall be no less than 60 inches (5 feet) long, except where otherwise permitted by ADA standards for alternative doorway opening conditions (see ICC/ANSI A117.1–2003 and other references incorporated by code).

Contractor to warp existing asphalt as necessary to ensure slopes are ADA accessible (see note this sheet). Contractor shall ensure no ponding occurs due to pavement modifications.

GRAPHIC SCALE

0 30 60 120

1 inch = 60 feet

NORTH CAROLINA
EVANS MECHART HAMILTON & TILTON, INC.
No. F-1016
CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL
045526
02/11/19
ENGINEER
BRIAN R. ROSS

MARK	DATE	DESCRIPTION

REVISIONS

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN

HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
OVERALL GRADING PLAN

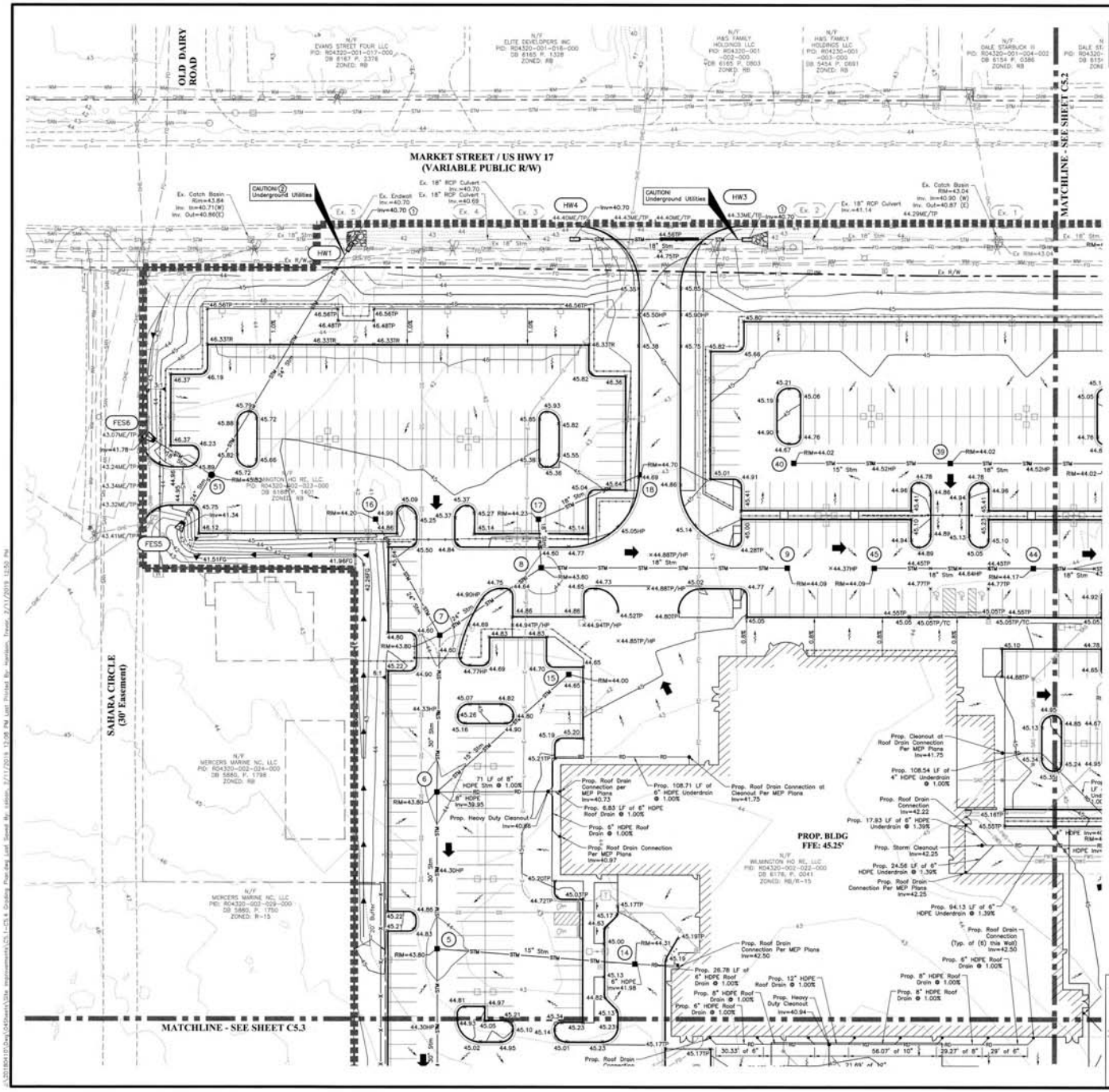
EMH&T
Evans, Mechart, Hamilton, & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 866.775.5368
emht.com

DATE
February 11, 2019

SCALE
1" = 60'

JOB NO.
20180410

SHEET
C5.0



Contractor to uncover existing utilities in this area at start of construction to verify any elevation conflicts with proposed storm. Contractor shall coordinate relocation of water and fiber if necessary. An alternate price shall be provided to the owner for utility relocations in this area.

LEGEND

Existing
- Right of way
- Property Line

Proposed
- Easement
- Contours
- Building
- Pavement
- Curb
- Fence
- Sign
- Prop. Rip Rap
- Fiber Optic
- Sanitary Cleanout
- Sanitary Service
- Storm Sewer
- Domestic Water Main
- Fire Hydrant Service
- FDC
- Fire Hydrant
- Electric Transformer
- Flood Routing Arrow
- Flow Arrow
- Storm Structure Number
- Limits of Disturbance
- 00.00 TOC — Top Back of Curb Elevation
- 00.00 ME — Match Existing Elevation
- 00.00 TP — Top of Pavement Elevation
- 00.00 FG — Finished Grade Elevation
- 00.00 TRC — Top of Rolled Curb Elevation

Note: See Sheets C2.0 for Overall Existing Conditions Legend.

NOTES

1. All spot elevations are top back of curb unless otherwise noted.
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6. Limits of Disturbance, see sheets C3.0 & C3.1.
7. The contractor shall insure positive drainage so that runoff will drain by gravity flow across new pavement areas to new or existing drainage inlets or sheet overland.
8. There shall be no standing water before permanent seeding of parcels.
9. Sediment and erosion control measures shall be maintained throughout this development.
10. All proposed storm sewer pipe shall be Class IV RCP unless otherwise noted. All Underdrains for Roof Drain/Down Spout Connections shall be HDPE.
11. Reference Sheets C4.1–C4.4 for locations of flush, transition, modified, rolled, and full height curb and gutter.
12. See Site and Utility Plan for Easement and Tree Save locations.
13. Reference detail Sheet C9.0 for pavement placement around structures.

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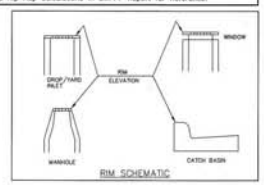
Contractor to warp existing asphalt as necessary to ensure slopes are ADA accessible (see note this sheet). Contractor shall ensure no ponding occurs due to pavement modifications.

(1) All Rip Rap d_{50} = 0.5', Apron Thickness = 1.125'

HW1 – Start Width = 10', End Width = 12', Apron Length = 10'
*Provide Rip Rap to top of ditch slope at this outlet
HW2 – Start Width = 4.5', End Width = 11.5', Apron Length = 10'
HW3 – Start Width = 4.5', End Width = 11.5', Apron Length = 10'
FES4 – Start Width = 4.5', End Width = 11.5', Apron Length = 10'

Reference Sheet C6.2 for Rip Rap sizing for FES1, FES2, & FES3.

See Rip Rap Calculations in SWPPP Report for Reference.



RIM SCHEMATIC

GRAPHIC SCALE

1 inch = 30 feet

SHEET KEY
Not To Scale

NORTH CAROLINA FIRM LICENSE: EMH&T, INC. CERT. OF AUTHORIZATION No. F-1016

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 045536 02/11/19 BRIAN R. POOLE

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
GRADING PLAN

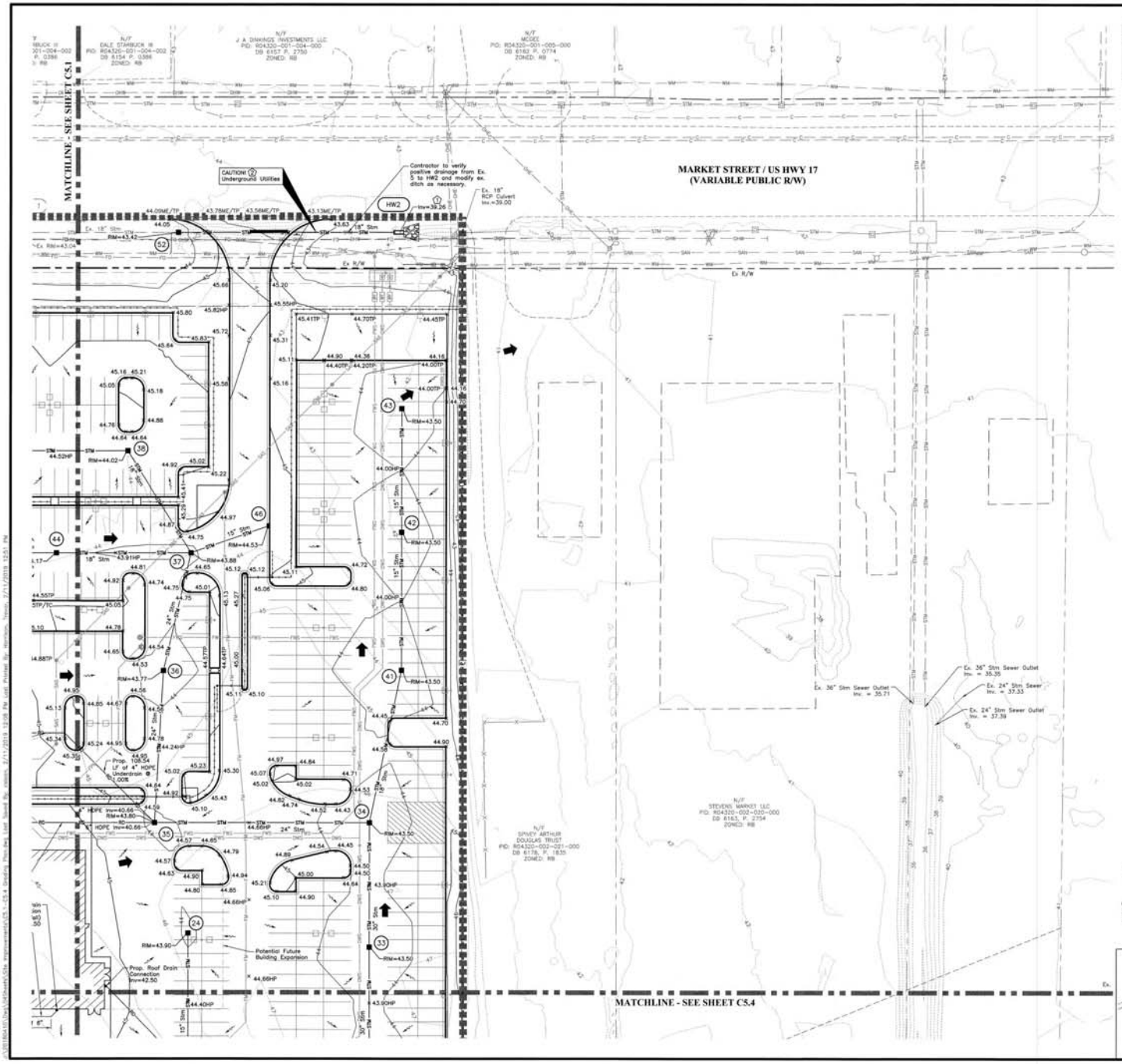
EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Rd., Columbus, OH 43054
Phone: 614.775.4500 Fax: 866.775.5348
emht.com

DATE: February 11, 2019

SCALE: 1" = 30'

JOB NO.: 20180410

SHEET: C5.1



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LEGEND

Existing
- Right of way
- Property Line

Proposed
- Easement
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- Building
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- Curb
- Fence
- Sign
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- Sanitary Service
- Storm Sewer
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*Provide Rip Rap to top of ditch slope at this outlet
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HW3 – Start Width = 4.5', End Width = 11.5', Apron Length = 10'
FES4 – Start Width = 4.5', End Width = 11.5', Apron Length = 10'

Reference Sheet C6.2 for Rip Rap sizing for FES1, FES2, & FES3.

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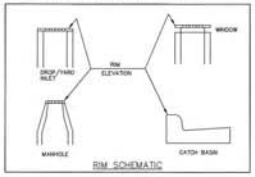


RIM SCHEMATIC

GRAPHIC SCALE
1 inch = 30 feet

SHEET KEY
Not To Scale

NORTH CAROLINA EVANS MECHANIT HAMBLETON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORITY

NORTH CAROLINA SEAL 045538 02/11/19 BRIAN R. ROSSI

REVISIONS

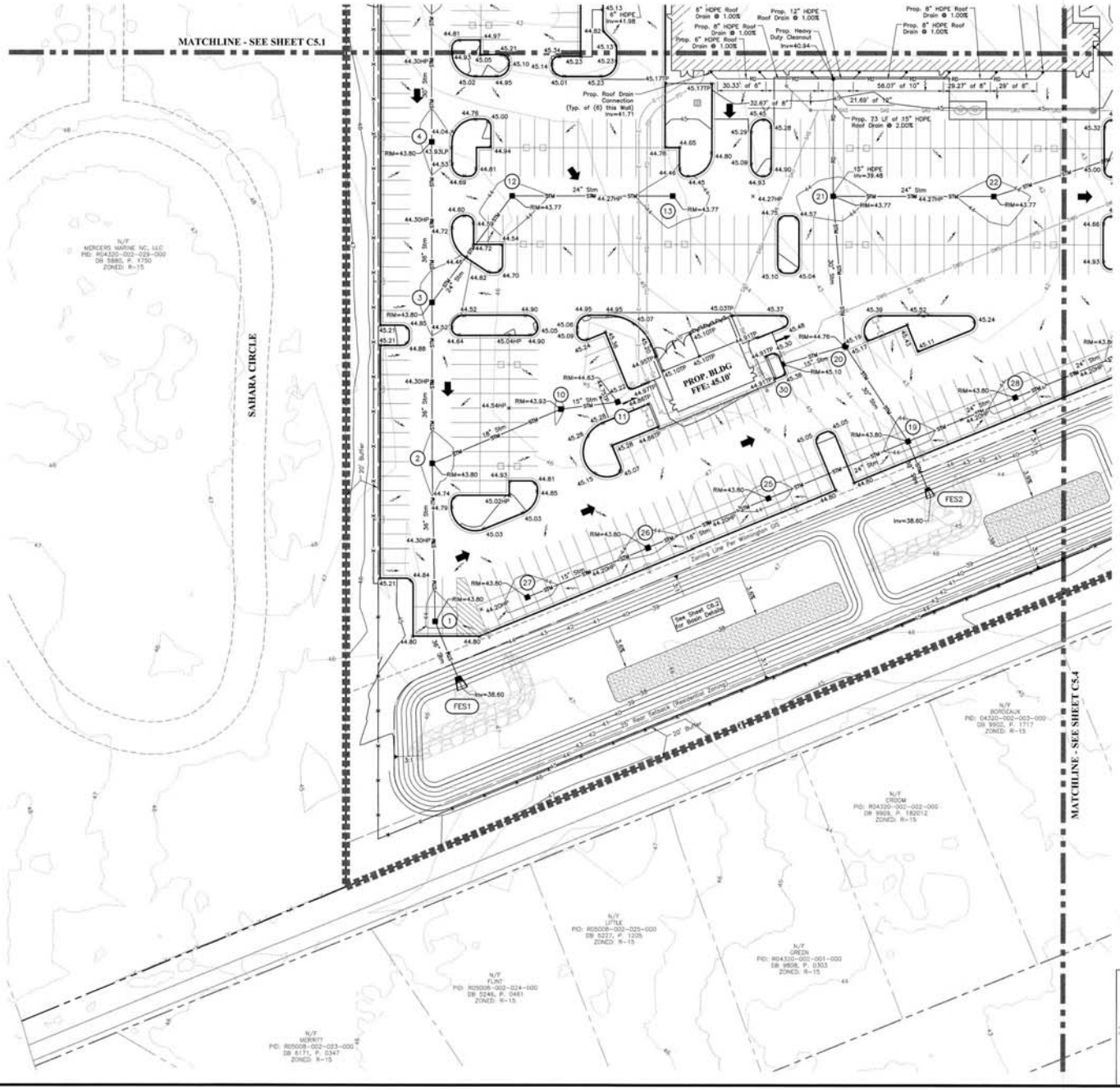
MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
GRADING PLAN

EMHT
Evans, Mechanit, Hamblaton & Tilton, Inc.
PLANNERS • ENGINEERS • SURVEYORS
801 McCullough Dr., Ste. 100, Charlotte, NC 28204
Phone: (704) 333-5131 Fax: (704) 333-7305
emht.com

DATE: February 11, 2019
SCALE: 1" = 30'
JOB NO.: 20180410
SHEET: C5.2



LEGEND

	Existing
	Right of way
	Property Line
	Proposed
	Easement
000	Contours
	Building
	Pavement
	Curb
	Fence
	Sign
	Prop. Rip Rap
FO	Fiber Optic
	Sanitary Cleanout
SAS	Sanitary Service
STM	Storm Sewer
DWS	Domestic Water Main
FWS	Fire Hydrant Service
	FDC
	Fire Hydrant
	Electric Transformer
	Flood Routing Arrow
	Flow Arrow
XX	Storm Structure Number
	Limits of Disturbance
00.00^{K}	Top Back of Curb Elevation
00.00 ME^{K}	Match Existing Elevation
00.00 TP^{K}	Top of Pavement Elevation
00.00 FG^{K}	Finished Grade Elevation
00.00 TR^{K}	Top of Rolled Curb Elevation

Note: See Sheets C2.0 for Overall Existing Conditions Legend.

NOTES

1. All spot elevations are top back of curb unless otherwise noted.
2. All contours and spot elevations reflect finished grades.
3. The contractor shall immediately report to owner any discrepancies found between actual field conditions and construction documents and shall wait for instruction prior to proceeding.
4. The contractor shall blend new earthwork smoothly to transition back to existing grade, including any grading work performed in the right-of-way.
5. Limits of clearing shown on grading plan are based upon the approximate cut and fill slope limits, or other grading requirements.
6. Limits of Disturbance, see sheets C3.0 & C3.1.
7. The contractor shall insure positive drainage so that runoff will drain by gravity flow across new pavement areas to new or existing drainage inlets or sheet overland.
8. There shall be no standing water before permanent seeding of parcels.
9. Sediment and erosion control measures shall be maintained throughout this development.
10. All proposed storm sewer pipe shall be Class IV RCP unless otherwise noted. All Underdrains for Roof Drain/Down Spout Connections shall be HDPE.
11. Reference Sheets C4.1–C4.4 for locations of flush, transition, modified, rolled, and full height curb and gutter.
12. See Site and Utility Plan for Easement and Tree Save locations.
13. Reference detail Sheet C9.0 for pavement placement around structures.

ADA ACCESSIBLE ROUTE INSTRUCTIONS TO CONTRACTOR

Contractors shall exercise appropriate care and precision in construction of ADA accessible components indicated on this sheet. These components, as constructed, must comply with State and Federal accessibility rules and regulations. Finished surfaces along the accessible route of travel from parking space, public transportation, pedestrian access, inter-building access, to points of accessible building entrance/egress, shall comply with ADA & North Carolina building code requirements. These include, but are not limited to the following:

Parking spaces and parking areas – slope shall not exceed 2.0% in any direction.

Curb ramps – slope shall not exceed 8.3% for a maximum of six (6) feet.

Landings – shall be provided at each end of ramps, shall provide positive drainage, and shall not exceed 2.0% slope in any direction.

Path of travel along accessible route – shall provide a 36 inch or greater unobstructed width of travel, (car overhangs cannot reduce this minimum width), the slope shall be no greater than 5.0% in the direction of travel, and shall not exceed 2.0% in cross slope.

Doorways – shall have a "level" landing area on the exterior side up the door that is sloped no more than 2.0% for positive drainage. This landing area shall be no less than 80 inches (5 feet) long, except where otherwise permitted by ADA standards for alternative doorway opening conditions (see ICC/ANSI A117.1–2003 and other references incorporated by code).

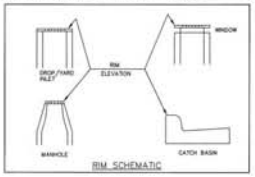
Contractor to warp existing asphalt as necessary to ensure slopes are ADA accessible (see note this sheet). Contractor shall ensure no ponding occurs due to pavement modifications.

(1) All Rip Rap d_50 = 0.5', Apron Thickness = 1.125'

HW1 – Start Width = 10', End Width = 12', Apron Length = 10'
*Provide Rip Rap to top of ditch slope at this outlet
HW2 – Start Width = 4.5', End Width = 11.5', Apron Length = 10'
HW3 – Start Width = 4.5', End Width = 11.5', Apron Length = 10'
FES4 – Start Width = 4.5', End Width = 11.5', Apron Length = 10'

Reference Sheet C6.2 for Rip Rap sizing for FES1, FES2, & FES3.

See Rip Rap Calculations in SWPPP Report for Reference.



RIM SCHEMATIC

GRAPHIC SCALE
0 15 30 60
1 inch = 30 feet

SHEET KEY
Not To Scale

NORTH CAROLINA EVANS, MECHWART, HAMBLETON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045526 02/11/19 ENGINEER BRIAN R. ROSS

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
GRADING PLAN

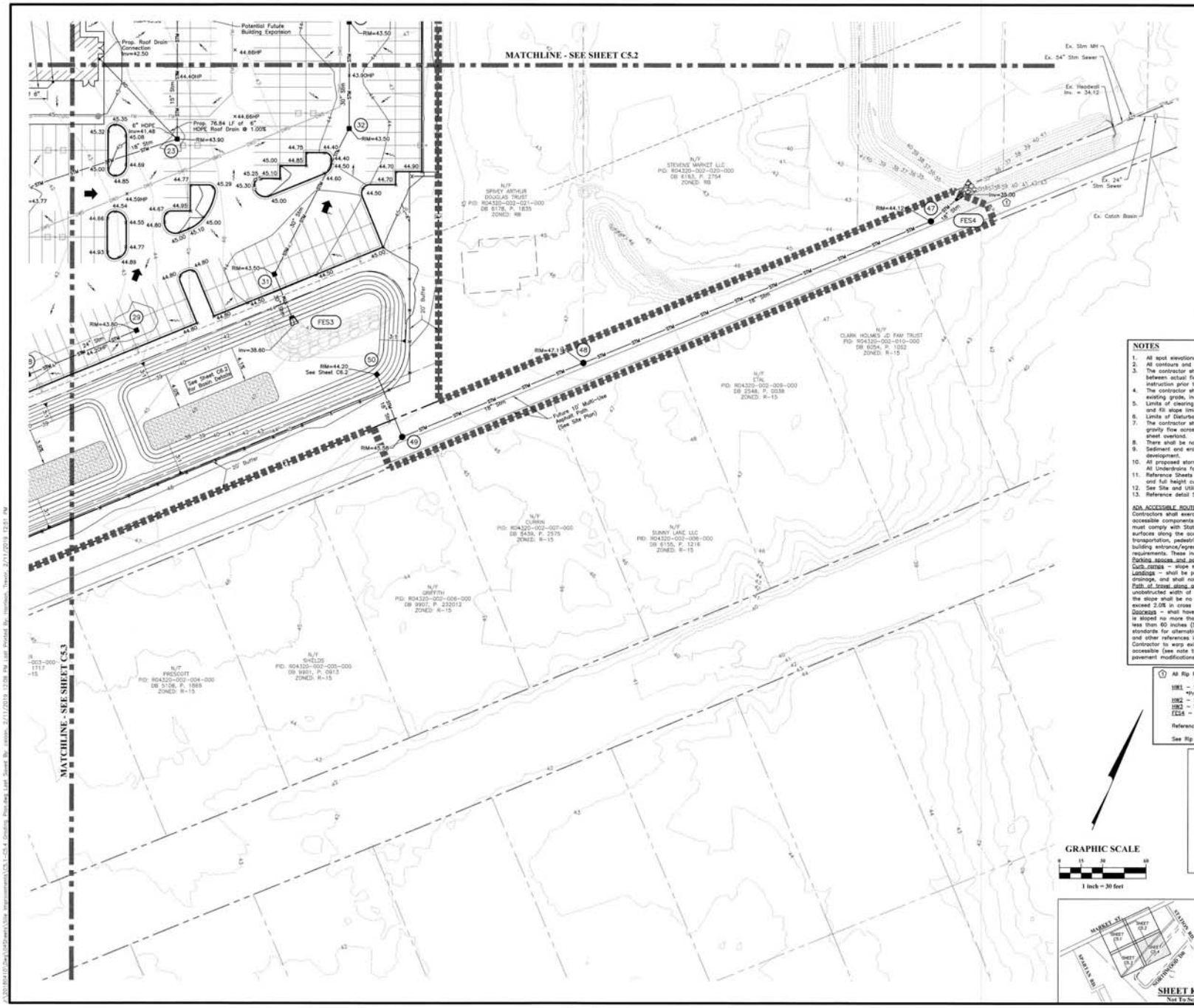
EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Landscape Architects
5500 Greenville Blvd., Suite 101, Greenville, NC 27858
Phone: 252.355.1500 Fax: 252.355.1974
emht.com

DATE: February 11, 2019

SCALE: 1" = 30'

JOB NO.: 20180410

SHEET: C5.3



LEGEND

Existing
- Right of way
- Property Line

Proposed
- Easement
- Contours
- Building
- Pavement
- Curb
- Fence
- Sign
- Prop. Rip Rap
- Fiber Optic
- Sanitary Cleanout
- Sanitary Service
- Storm Sewer
- Domestic Water Main
- Fire Hydrant Service
- FDC
- Fire Hydrant
- Electric Transformer
- Flood Routing Arrow
- Flow Arrow
- Storm Structure Number
- Limits of Disturbance
- 00.00 TB^C — Top Back of Curb Elevation
- 00.00 MS^C — Match Existing Elevation
- 00.00 TP^C — Top of Pavement Elevation
- 00.00 FG^C — Finished Grade Elevation
- 00.00 TR^C — Top of Rolled Curb Elevation

Note: See Sheets C2.0 for Overall Existing Conditions Legend.

NOTES

1. All spot elevations are top back of curb unless otherwise noted.
2. All contours and spot elevations reflect finished grades.
3. The contractor shall immediately report to owner any discrepancies found between actual field conditions and construction documents and shall wait for instruction prior to proceeding.
4. The contractor shall blend new earthwork smoothly to transition back to existing grade, including any grading work performed in the right-of-way.
5. Limits of clearing shown on grading plan are based upon the approximate cut and fill slope limits, or other grading requirements.
6. Limits of Disturbance, see sheets C3.0 & C3.1.
7. The contractor shall insure positive drainage so that runoff will drain by gravity flow across new pavement areas to new or existing drainage inlets or sheet overland.
8. There shall be no standing water before permanent seeding of parcels.
9. Sediment and erosion control measures shall be maintained throughout this development.
10. All proposed storm sewer pipe shall be Class IV RCP unless otherwise noted. All Underdrains for Roof Drain/Down Spout Connections shall be HDPE.
11. Reference Sheets C4.1–C4.4 for locations of flush, transition, modified, rolled, and full height curb and gutter.
12. See Site and Utility Plan for Easement and Tree Save locations.
13. Reference detail Sheet C9.0 for pavement placement around structures.

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Landings – shall be provided at each end of ramps, shall provide positive drainage, and shall not exceed 2.0% slope in any direction.

Path of travel along accessible route – shall provide a 36 inch or greater unobstructed width of travel. (car overhangs cannot reduce this minimum width), the slope shall be no greater than 5.0% in the direction of travel, and shall not exceed 2.0% in cross slope.

Doorways – shall have a "level" landing area on the exterior side up the door that is sloped no more than 2.0% for positive drainage. This landing area shall be no less than 60 inches (5 feet) long, except where otherwise permitted by ADA standards for alternative doorway opening conditions (see ICC/ANSI A117.1–2003 and other references incorporated by code).

Contractor to vary existing asphalt as necessary to ensure slopes are ADA accessible (see note this sheet). Contractor shall ensure no ponding occurs due to pavement modifications.

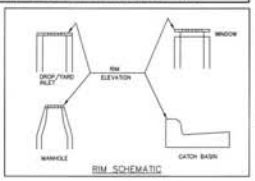
① All Rip Rap d_{50} = 0.5', Apron Thickness = 1.125'

HW1 – Start Width = 10', End Width = 12', Apron Length = 10'
*Provide Rip Rap to top of ditch slope of this outlet
HW2 – Start Width = 4.5', End Width = 11.5', Apron Length = 10'
HW3 – Start Width = 4.5', End Width = 11.5', Apron Length = 10'
FES4 – Start Width = 4.5', End Width = 11.5', Apron Length = 10'

Reference Sheet C6.2 for Rip Rap sizing for FES1, FES2, & FES3.

See Rip Rap Calculations in SWPPP Report for Reference.

GRAPHIC SCALE
0 15 30 60
1 inch = 30 feet



RIM SCHEMATIC

SHEET KEY
Not To Scale

NORTH CAROLINA EVANS, MECHHART, HAMBLETON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045536 04/11/19 ENGINEER BRIAN R. ROSSI

REVISIONS

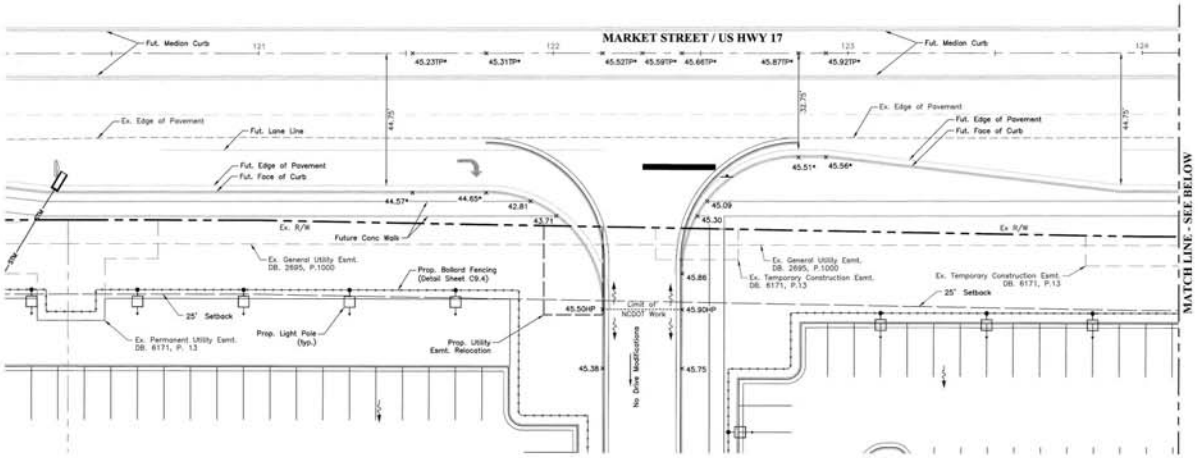
MARK	DATE	DESCRIPTION

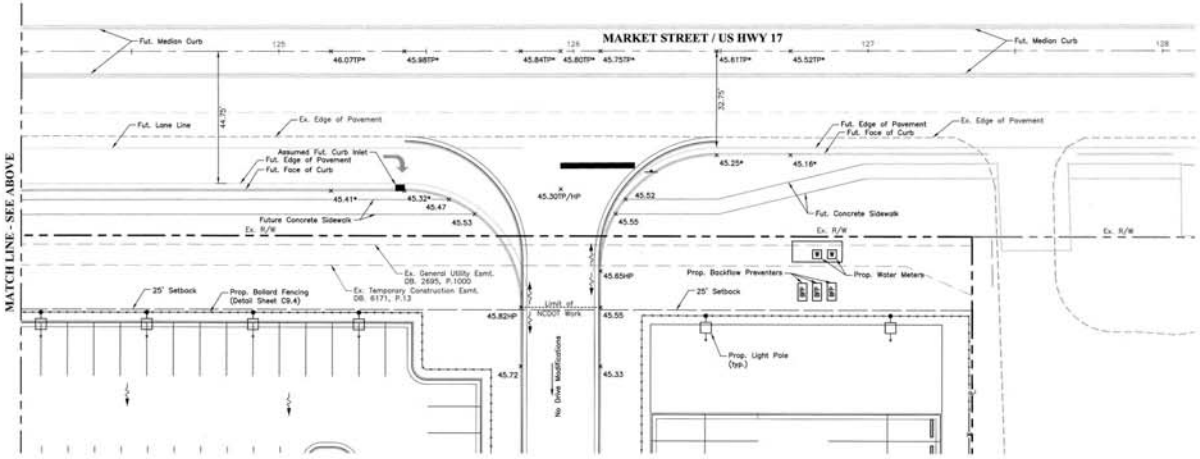
Handrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
GRADING PLAN

EMHT
Evans, Mechhart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Landscape Architects
5500 Greenville Blvd., Suite 101, Greenville, NC 27834
Phone: 252.355.1500 Fax: 252.355.1974
www.emht.com

DATE: February 11, 2019
SCALE: 1" = 30'
JOB NO.: 20180410
SHEET: C5.4





LEGEND

PROPOSED	EXISTING
	Right of way
	Property Line
	Parcel Line
	Building Setback
	Easement
000	Contours
	Building
	Pavement
	Curb
	Fence
	Sign
	Power Pole
	Light Pole
00.00 $_x$	Spot Elevation Top Back of Curb
00.00 WE $_x$	Spot Elevation Match Existing
00.00 TP $_x$	Top of Pavement Elevation
00.00 FG $_x$	Finish Grade
	Flow Arrow

NOTES

- Elevations represented by TIP Project: U-4902C.

  TIP Project: U-4902C Plans are not final and elevations are subject to change.

GRAPHIC SCALE

0 10 20 40

1 inch = 20 feet

GRAPHIC SCALE

0 10 20 40

1 inch = 20 feet

NORTH CAROLINA EWING, MECHHART, HAMBLETON & TILTON, INC. No. F-1019 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045526 02/11/19 ENGINEER BRIAN R. ROSS

REVISIONS

MARK	DATE	DESCRIPTION

Handrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
FUTURE INTERSECTION DETAILS

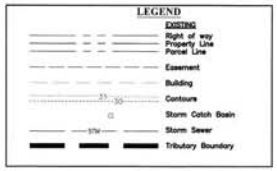
EMH&T
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Fax: 614.775.4800
www.emht.com

DATE
February 11, 2019

SCALE
As Noted

JOB NO.
20180410

SHEET
C5.5



NORTH CAROLINA
CHANG, MECHHART, HAMBLETON & TILTON, INC.
No. F-1016
CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL
045526
02/11/19
ENGINEER
BRIAN R. ROSS

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
PRE-DEVELOPMENT TRIBUTARY AREA PLAN

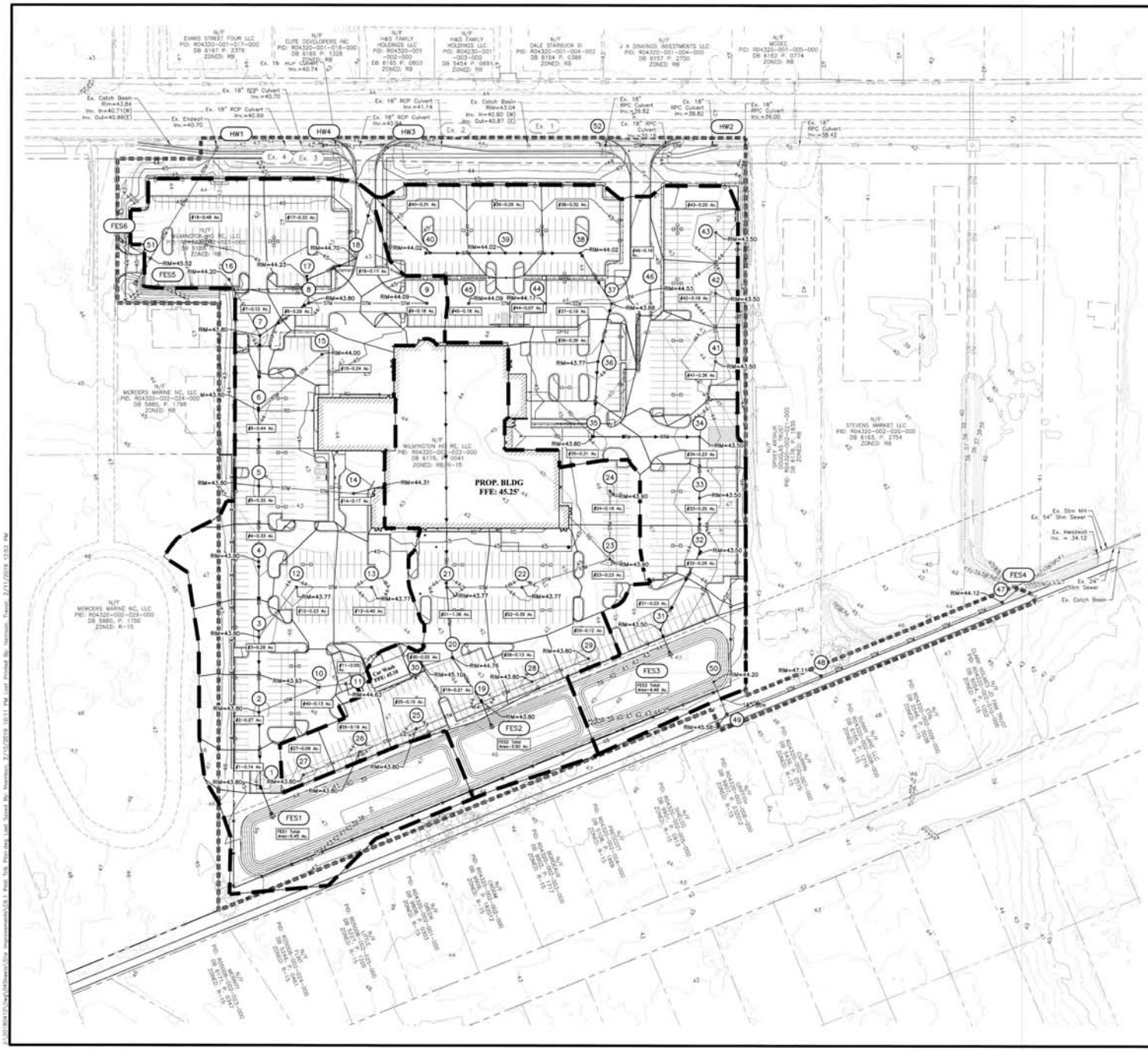
EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 866.775.5368
emht.com

DATE
February 11, 2019

SCALE
1" = 60'

JOB NO.
20180410

SHEET
C6.0



LEGEND

EXISTING

- Right of way
- Property Line
- Parcel Line
- Easement
- Building
- Contours
- Storm Sewer
- Water Main
- Storm Catch Basin
- Tributary Boundary
- Flow Path

ONSITE AREA

FES1: 5.45 AC (CN=92)

FES2: 3.50 AC (CN=92

FES3: 4.49 AC (CN=92)

TOTAL ONSITE AREA: 13.45 AC (73.8% IMPERVIOUS)

GRAPHIC SCALE

0 30 60 120

1 inch = 60 feet

NORTH CAROLINA EVANS, MECHANT, HAMBLETON & TILSTON, INC. No. F-1016 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045526 02/11/19 ENGINEER BRIAN E. ROSSI

REVISIONS

MARK	DATE	DESCRIPTION

Handrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
POST-DEVELOPMENT TRIBUTARY AREA PLAN

EMHT

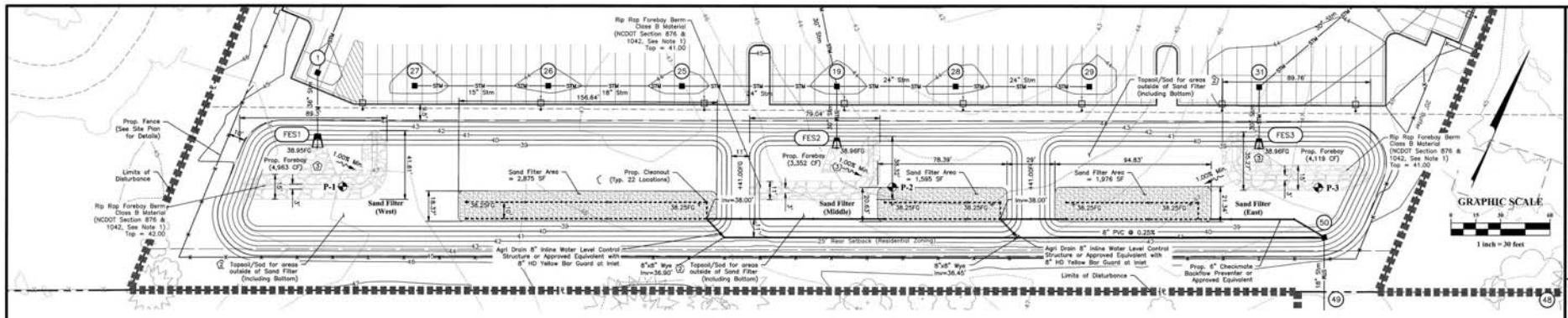
Evans, Mechanet, Hambleton & Tilston, Inc.
Civil Engineers • Land Surveyors • Planners
301 Arco Corporate Dr., Ste. 210 Cary, NC 27511
Phone: 919.481.5000 Fax: 919.481.5001
emht.com

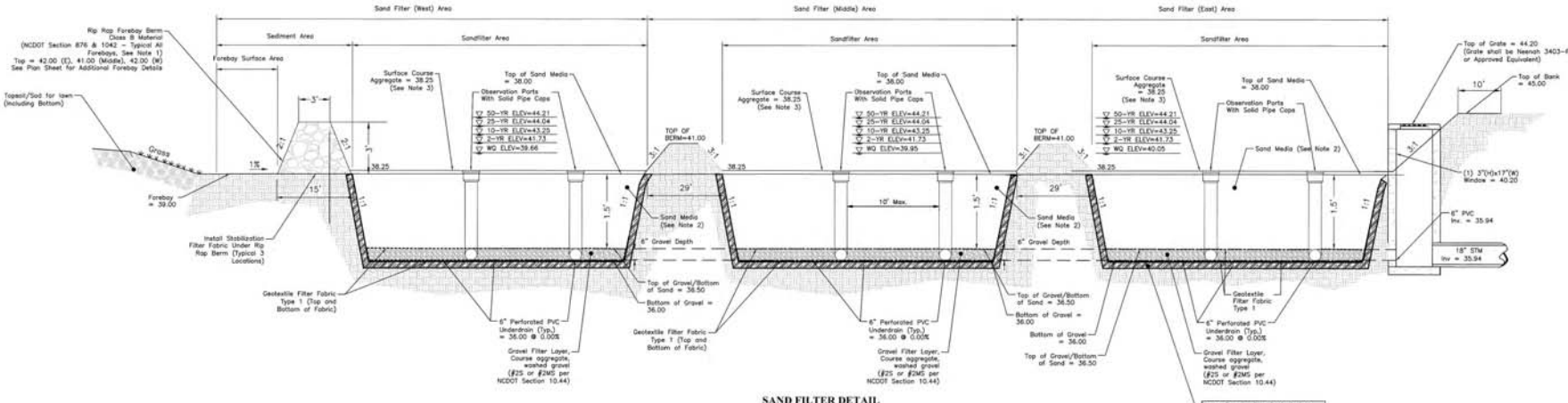
DATE: February 11, 2019

SCALE: 1" = 60'

JOB NO.: 20180410

SHEET: C6.1





SAND FILTER DETAIL

Scale: None

Note: Per the Site Geotechnical Report, the SHWT was not present at borings P-1 and P-2, the SHWT Elevation at P-3 was observed at 37.00. See Boring Locations this sheet.

On-site Geotechnical Engineer to verify elevation of seasonably high water table during construction (SHWT). If water table is within 2' of sand filter elevation (Elevation 734.00), contractor shall install 1' Clay Liner beneath underdrain as shown.

GENERAL NOTES

1. See Erosion and Sediment Control Plans on Sheets C3.0–C3.1 for Erosion Control specific notes. No sand media or sod on bottom of sand filter areas shall be installed prior to site stabilization and conversion of sediment basins.
2. See Grading Plans on Sheets C5.1–C5.4 for grading notes.
3. Reference Sheets C5.0–C5.4 for flood routing/emergency spillway. Site flood routes out of the north east side.

NOTES:

1. Class B Material is to be quarry stone, field stone, or natural stone only, broken concrete not permitted.
2. Washed Sand Media material (course masonry sand, ASTM C33) is to be free of silt, clay, loam, friable or soluble materials, organic matter graded in accordance with AASI/ASTM C 136.
3. Surface Course Aggregate is to be used at the top course of the surface sand filter. Aggregate to fully cover the underlying washed filter sand to depth as shown in the plans and details. Surface course aggregate shall be washed and free of debris, dirt, sawdust, and foreign material. Surface course aggregate shall be rounded, natural river or bank aggregate stone and not crushed, chipped or broken stone. The stone is to be a natural color, earth tones, and undyed, while the sizes range from #1 and #2.
4. Forebay to be stabilized with seed or sod.
5. 6" perforated underdrain system shall be schA0 PVC, ADS Double Wall Smooth (N-8), or equivalent.

Fill embankments shall be formed of suitable material placed in successive layers not to exceed more than six (6) inches in depth for the full width of the cross-section, including the width of the slope area. No stumps, trees, brush, rubbish or other unsuitable materials or substances shall be placed in the embankment. Each successive six (6) inch layer shall be thoroughly compacted by the sheepsfoot tamping roller, 10-ton power roller, pneumatic-tired roller, or other methods approved by the Town/County Engineer. Embankments over and around all pipe culverts shall be of select material, placed and thoroughly tamped and compacted as directed by the Town/County Engineer or his representative.

Pond embankments shall be installed in this same manner and shall be compacted to meet a density of 95% Standard Proctor Test.

KEYNOTES:

6" PVC Cleanouts shall be installed at the end of every underdrain run and at a maximum spacing of 50' on-center. The top of the cleanouts should extend 6" above the top of filter and shall have a water tight cap.

Once the site is fully stabilized, sediment has been removed from the sediment basin and converted into the dry basin/sand filter, all side slopes up to elevation 45.00 and areas outside of the sand filter media shall be sodded. Contractor to ensure sediment does not flow into sand filter media during conversion

All Rip Rap d_{50} = 0.5', Apron Thickness = 1.125'

FES1 – Start Width = 9', End Width = 23', Apron Length = 20'
FES2 – Start Width = 7.5', End Width = 18.5', Apron Length = 16'
FES3 – Start Width = 7.5', End Width = 18.5', Apron Length = 16'

See Rip Rap Calculations in SWPPP Report for Reference.

LEGEND

Proposed	Existing	
		Right of way
		Property Line
		Parcel Line
		Easement
		Edge of Pavemtent
		Curb
		Swale
STM	STM	Storm Service
		Catch Basin
		Storm Manhole
		Flow Arrow
		Perforated PVC Underdrain and Cleanouts
		Solid PVC Underdrain
		Rip Rap (See Detail This Sheet)
		Sand Filter (See Detail This Sheet)
		Fence (See Site Plan for Details)
		Boring Locations

Sand Filter (West) Volume

SAND FILTER WEST			
Basin Volumes			
Elevation	Square Footage (ft²)	Inc. Volume (ft³)	Acc. Volume (ft³)
38.00	1,325	0	0
39.00	3,663	8,330	8,330
40.00	6,126	14,397	22,728
41.00	17,614	16,812	39,540

Volume of Basin = 39,948 ft³

Sand Filter (Middle) Volume

SAND FILTER MIDDLE			
Basin Volumes			
Elevation	Square Footage (ft²)	Inc. Volume (ft³)	Acc. Volume (ft³)
38.00	1,565	0	0
39.00	7,169	4,367	4,367
40.00	9,669	8,084	12,451
41.00	9,927	9,298	21,889

Volume of Basin = 21,889 ft³

Sand Filter (East) Volume

SAND FILTER EAST			
Basin Volumes			
Elevation	Square Footage (ft²)	Inc. Volume (ft³)	Acc. Volume (ft³)
38.00	1,374	0	0
39.00	6,710	5,377	5,377
40.00	10,138	8,452	14,829
41.00	11,064	10,850	25,679

Volume of Basin = 25,679 ft³

Total Combined Volume

COMBINED BASINS (ABOVE EL: 41.00)			
Basin Volumes			
Elevation	Square Footage (ft²)	Inc. Volume (ft³)	Acc. Volume (ft³)
41.00	39,327	0	0
42.00	45,083	42,205	42,205
43.00	49,583	47,188	89,393
44.00	52,621	51,445	140,838
45.00	53,597	53,597	194,435

Total Combined Volume of Basins = 281,951 ft³
(39,948+21,889+25,679+194,435 ft³)

NORTH CAROLINA EVANS MECHWART HAMBLETON & TILTON, INC. CERTIFICATE OF AUTHORIZATION No. F-1016

NORTH CAROLINA PROFESSIONAL SEAL 045526 02/11/19 ENGINEER BRIAN R. ROSSI

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
BASIN DETAILS

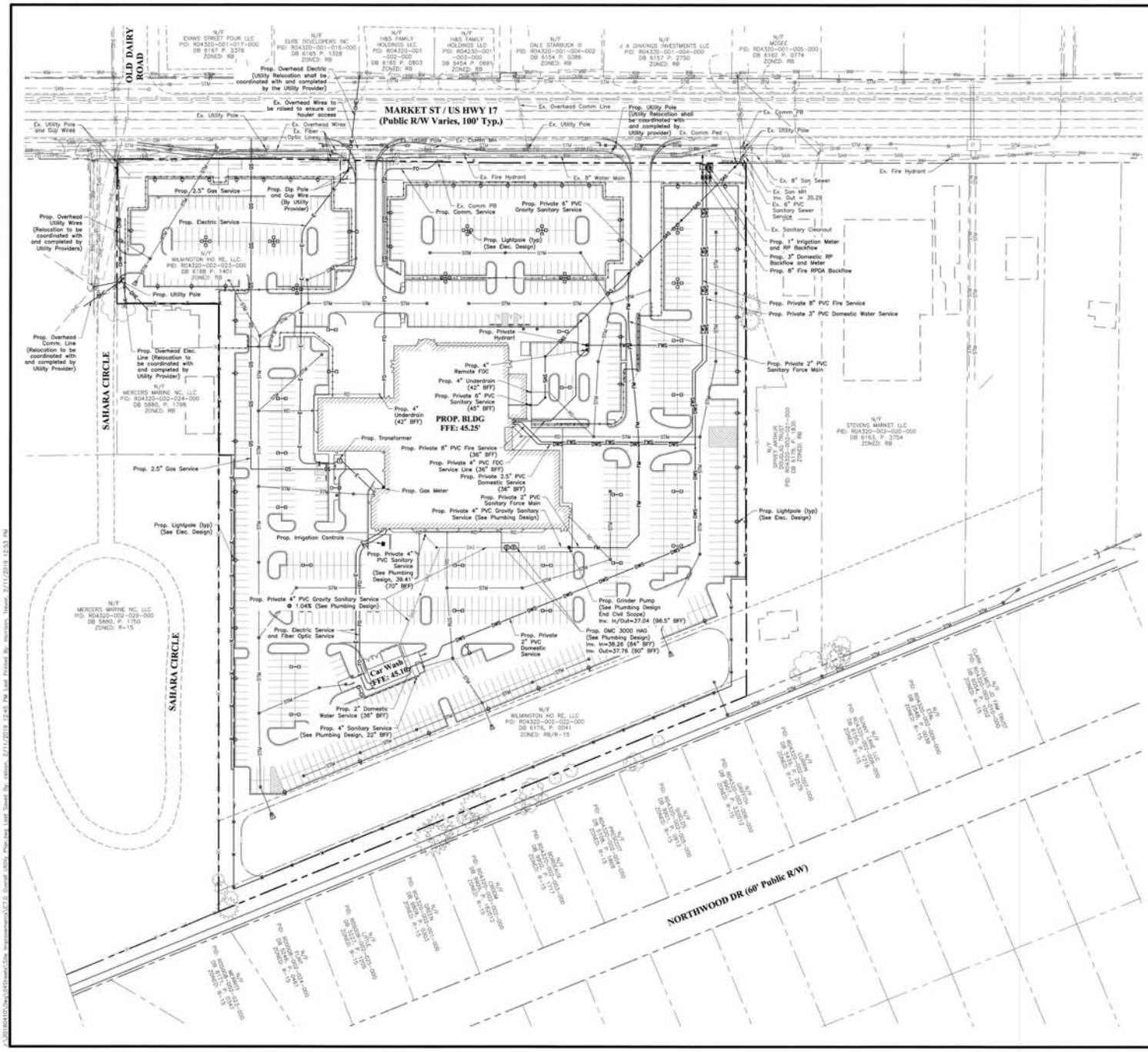
EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 Greenwood Ave. Ste. 110, Charlotte, NC 28262
Phone: (704) 896-1282 Fax: (704) 896-1283
emht.com

DATE: February 11, 2019

SCALE: As Noted

JOB NO.: 20180410

SHEET: C6.2



LEGEND

- Right of way
- Property Line
- Easement
- Building
- Pavement
- Curb
- Fence
- Bollard Fence
- Rip Rap
- FO — Fiber Optic
- Sanitary Cleanout
- SAS — Sanitary Service
- FM — Force Main
- STM — Storm Sewer
- RD — Roof Drain/Under Drain
- E — Underground Electric Line
- OHE — Overhead Electric Line
- OHC — Overhead Communication Line
- OHW — Overhead Wire
- Electric Transformer
- DWS — Private Domestic Water Main
- FWS — Private Fire Water Service
- FFM — Private FDC Service Line
- FDC
- Fire Hydrant
- Irrigation Controls
- GS — Gas Service
- Gas Meter
- OWS — Oil Water Separator
- Lightpole (See Elec. Plans)

Note: See Sheets C2.0 for Overall Existing Conditions Legend.

GENERAL UTILITY NOTES

1. All disturbed areas to be seeded as soon as practically possible, but in no case shall the seeding take longer than 14 days after the construction activity has temporarily or permanently ceased.
2. All excavation for the utilities is unclassified. When excavating, remove all materials of whatever substance is encountered.
3. The Contractor shall carefully study and compare the construction documents and shall immediately report to the Engineer any discrepancies or omissions discovered on the plans or at the site. The Contractor shall take field measurements to verify that all locations are correct prior to commencing construction.
4. Contractor to provide the Engineer a set of marked up construction drawings indicating the as-built location of the sewer, storm and water systems. All features (i.e. bends, valves, manholes, etc.) shall be located to known objects in the field by 2 points).
5. All materials, construction, and plans are to comply with current City of Wilmington Standards, Cape Fear Public Utility Authority Standard Technical Specifications and Cape Fear Public Utility Authority Materials and Specifications Manual.
6. Contact 811 a minimum of 72 hours before digging.
7. Contractor shall verify location of all existing underground utilities and required relocations, prior to beginning work, both public and private. Contractor is fully responsible for all underground utilities and shall repair any damage as a result of this contract.
8. Contractor shall ensure utility removal, abandonment, or installation shall not disrupt normal operations. Contractor shall coordinate all utility work with utility providers.
9. All work to be accomplished in strict accordance with all Local Ordinances, City and State.
10. Backfill all excavations resulting from the Demolition Work to meet the requirements for fill determined by a site soils engineer.
11. No demolition prior to pre construction meeting. Demolition prior to pre construction meeting and grading permit will be subject to immediate civil penalties.
12. Proposed Signs, Lighting & Landscaping will be designed in accordance with the City of Wilmington Standards and Regulations.
13. See Sheets C5.0 – C5.4 for Storm Sewer Specifications.

CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD NOTES

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10. A minimum of 10' of main line shall be replaced for new connections to existing clay gravity sewer mains.

IRRIGATION NOTE

NOTE TO CONTRACTOR

Contractor to coordinate sleeves/irrigation with owner. Bid price shall include all irrigation sleeves and and add alternate for irrigation system.

GRAPHIC SCALE

0 30 60 120

1 inch = 60 feet

NORTH CAROLINA
EVANS MECHANT HAMBLETON & TILTON, INC.
No. F-1016
CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL 045526
02/11/19
BRIAN R. ROSS

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
OVERALL UTILITY PLAN

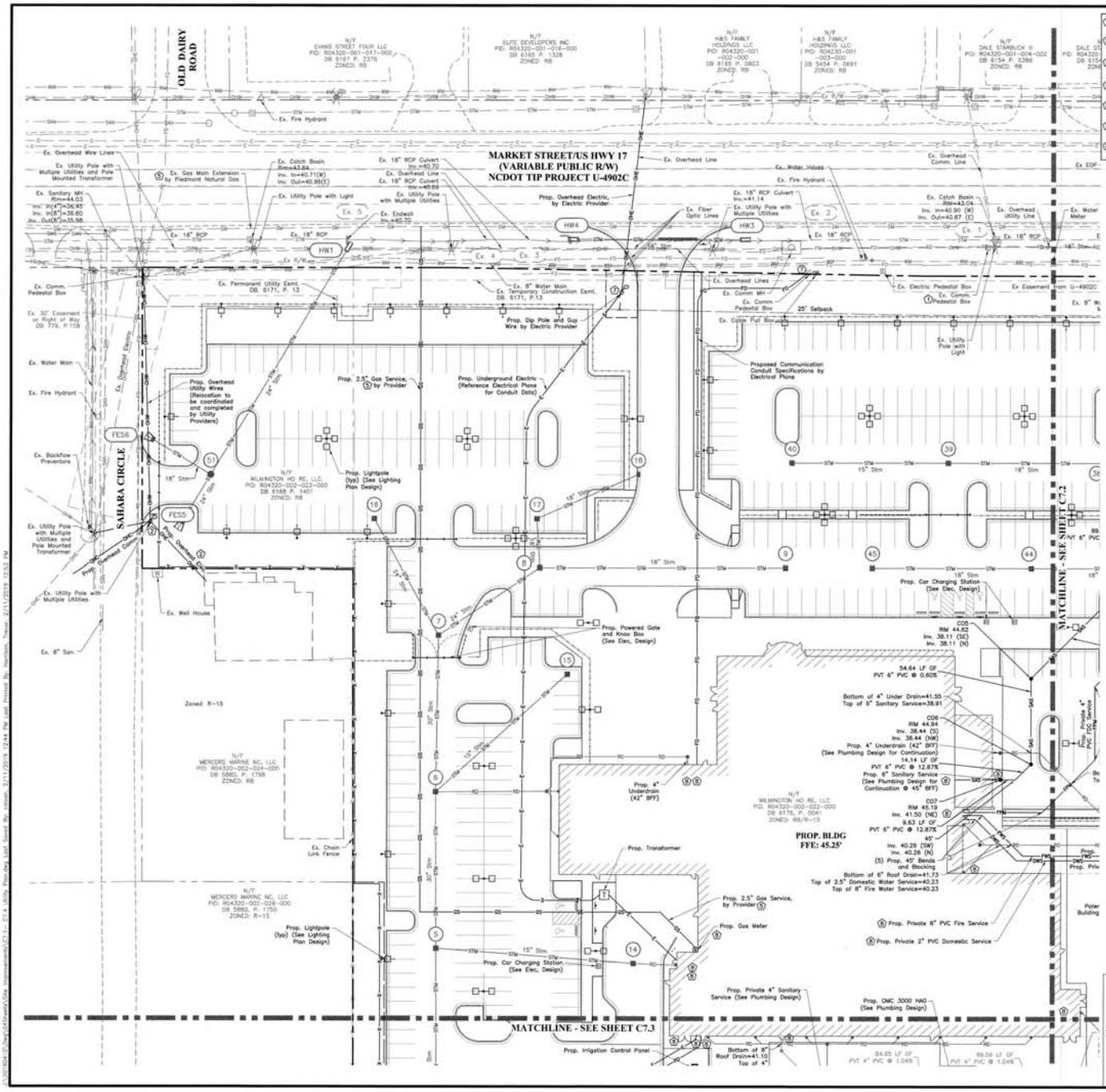
EMHT
Evans, Mechanet, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
3301 Atlantic Avenue, Raleigh, North Carolina 27604
Phone: 919.790.0300 Toll Free: 888.775.3648
#P0642-00

DATE
February 11, 2019

SCALE
1" = 60'

JOB NO.
20180410

SHEET
C7.0



1. Contractor to Coordinate Electric Line Removal with Utility Provider.
2. Contractor to Coordinate Removal of Existing Electric Pole and Associated Service to Adjacent site with Provider and Property owner to minimize outage impacts.
3. Electric Pole Removal Shall Include All Underground Facilities
4. Structure Demolition Shall Also Include All Below Grade Structures and Foundations.
5. Contractor Shall coordinate with Piedmont Natural Gas (DJ Medeiros 910-431-3233) for new service connection.
7. Contractor to coordinate connection location with utility provider in advance and prior to conduit installation.
8. Connection location approximate. Contractor to verify connection location and elevation with architectural drawings.

LEGEND

- Right of way
- Property Line
- Easement
- Building
- Pavement
- Curb
- Fence
- Bollard Fencing
- Sanitary Cleanout
- SAS Sanitary Service
- FM Force Main
- FO Fiber Optic
- STM Storm Sewer
- RD Roof Drain/Under Drain
- DWS Private Domestic Water Service
- FWS Private Fire Water Service
- FFW Private FDC Service Line
- FDC Connection
- Fire Hydrant (See Sheet C9.5)
- Irrigation Control
- E Underground Electric
- OHE Overhead Electric
- OHC Overhead Communication Line
- OHW Overhead Wire
- T Transformer
- XX Storm Structure Number
- GS Gas Service
- Gas Meter
- Oil Water Separator (See MEP Plans)
- Light Pole (See Elec. Plans)

Note: See Sheet C2.1 for the Existing Conditions Legend.

GENERAL UTILITY NOTES

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2. All excavation for the utilities is unclassified. When excavating, remove all materials of whatever substance is encountered.
3. The Contractor shall carefully study and compare the construction documents and shall immediately report to the Engineer any discrepancies or omissions discovered on the plans or at the site. The Contractor shall take field measurements to verify that all locations are correct prior to commencing construction.
4. Contractor to provide the Engineer a set of marked up construction drawings indicating the as-built location of the sewer, storm and water systems. All features (i.e. bends, valves, manholes, etc.) shall be located to known, objects in the field by 2 points).
5. All materials, construction, and plans are to comply with current City of Wilmington Standards, Cape Fear Public Utility Authority Standard Technical Specifications and Cape Fear Public Utility Authority Materials and Specifications Manual.
6. Contact 811 a minimum of 72 hours before digging.
7. Contractor shall verify location of all existing underground utilities and required relocations, prior to beginning work, both public and private. Contractor is fully responsible for all underground utilities and shall repair any damage as a result of this contract.
8. Contractor shall ensure utility removal, abandonment, or installation shall not disrupt normal operations. Contractor shall coordinate all utility work with utility providers.
9. All work to be accomplished in strict accordance with all Local Ordinances, City and State.
10. Backfill all excavations resulting from the Demolition Work to meet the requirements for fill determined by a site soils engineer.
11. No demolition prior to pre construction meeting. Demolition prior to pre construction meeting and grading permit will be subject to immediate civil penalties.
12. Proposed Signs, Lighting & Landscaping will be designed in accordance with the City of Wilmington Standards and Regulations.
13. See Sheets C5.0 – C5.4 for Storm Sewer Specifications.

CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD NOTES

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10. A minimum of 10' of main line shall be replaced for new connections to existing clay gravity sewer mains.

IRRIGATION NOTE

NOTE TO CONTRACTOR
Contractor to coordinate sleeves/irrigation with owner. Bid price shall include all irrigation sleeves and and add alternate for irrigation system.

NORTH CAROLINA EVANS, MECHHART, HAMBLETON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA SEAL 04562 02/11/19 ENGINEER BRIAN R. ROSSI

MARK	DATE	DESCRIPTION

REVISIONS

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
UTILITY PLAN

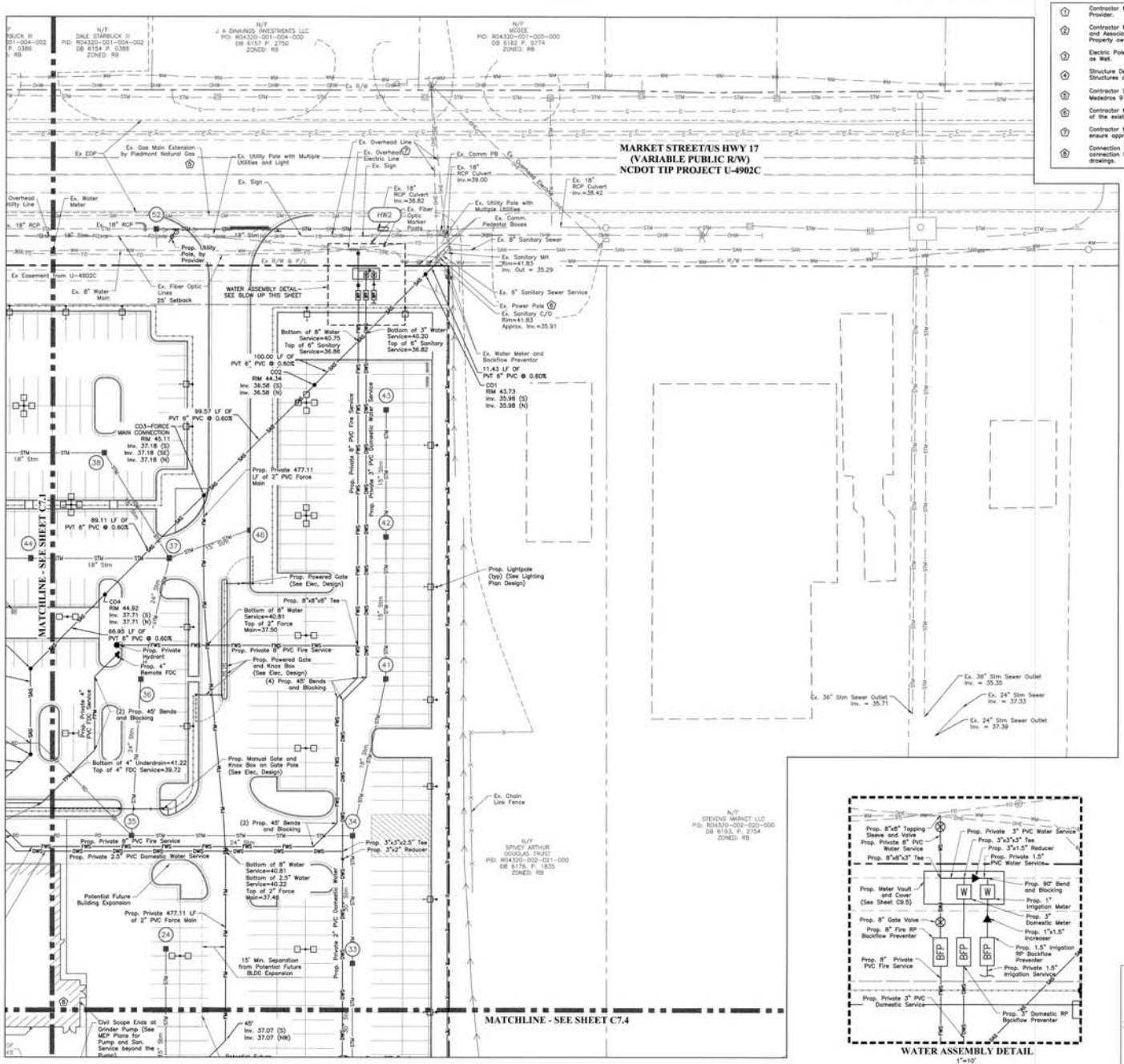
EMHT
Evans, Mechhart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Landscape Architects
3101 Wilmington Rd., Mt. Olive, NC 28365
Phone: 910-658-2083 Fax: 910-658-2084
www.emht.com

DATE
February 11, 2019

SCALE
1" = 30'

JOB NO.
20180410

SHEET
C7.1



WATER ASSEMBLY DETAIL
1"=10'

GRAPHIC SCALE

0 15 30 60

1 inch = 30 feet

SHEET KEY
Not To Scale

①	Contractor to Coordinate Electric Line Removal with Utility Provider.
②	Contractor to Coordinate Removal of Existing Electric Pole and Associated Service to Adjacent site with Provider and Property owner to minimize outage impacts.
③	Electric Pole Removal Shall Include All Underground Facilities as Well.
④	Structure Demolition Shall Also Include All Below Grade Structures and Foundations.
⑤	Contractor Shall coordinate with Piedmont Natural Gas (DJ Mededros 910-431-3233) for new service connection.
⑥	Contractor to exercise caution when working in the vicinity of the existing utility pole.
⑦	Contractor to coordinate clearance with Utility Providers to ensure appropriate clearance for fire access.
⑧	Connection location approximate. Contractor to verify connection location and elevation with architectural drawings.

LEGEND

- Right of way
- Property Line
- Easement
- Building
- Pavement
- Curb
- Fence
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- Sanitary Cleanout
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GENERAL UTILITY NOTES

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NORTH CAROLINA EVANS MECHHART HANBLETON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORITY

NORTH CAROLINA SEAL 045526 2/11/19 ENGINEER BRIAN B. ROSSI

MARK	DATE	DESCRIPTION

REVISIONS

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
UTILITY PLAN

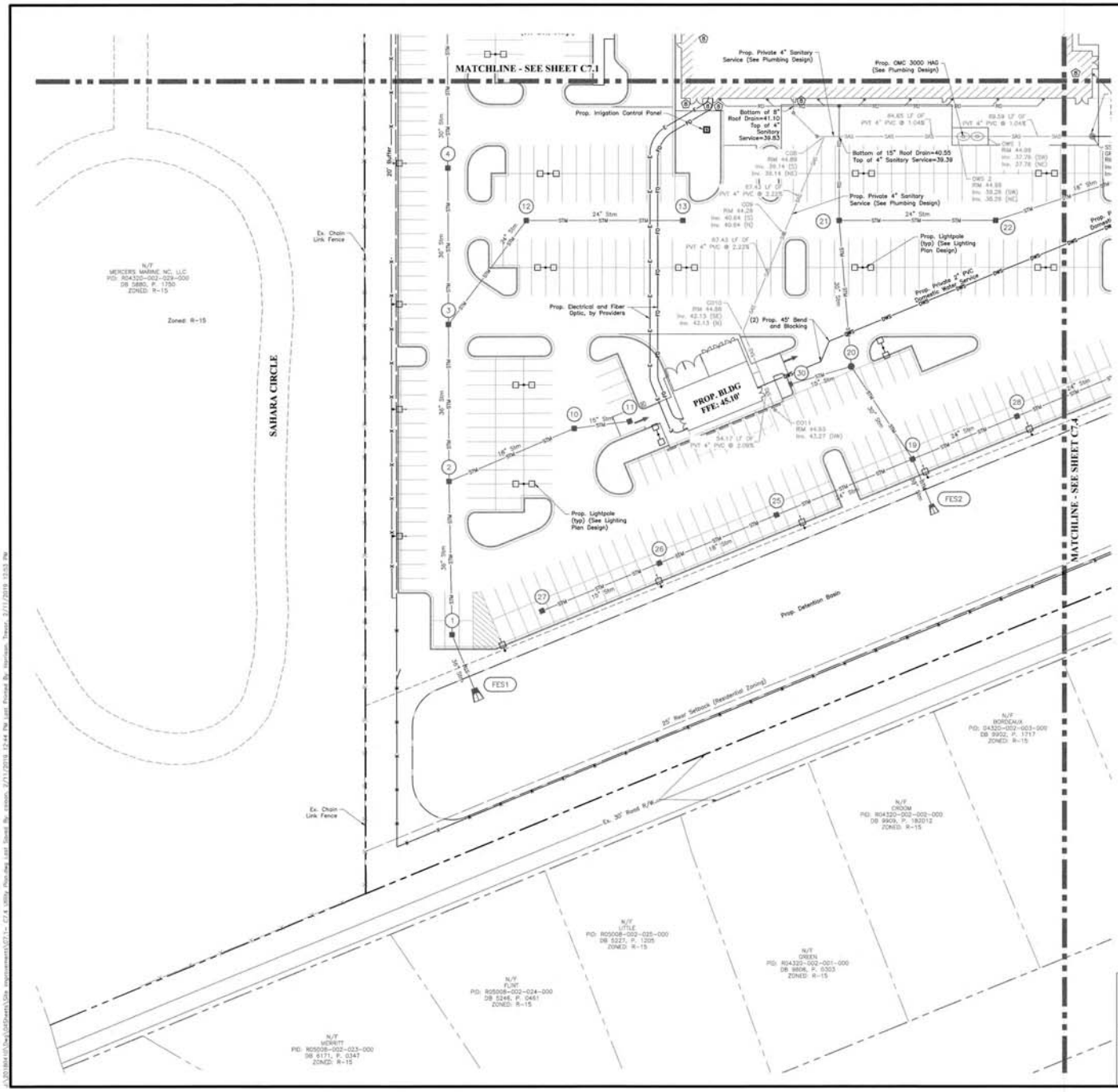
EMHT
Evans, Mechhart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 Greenville Blvd, Suite 101, Greenville, NC 27834
Phone: 252.355.0515 Toll Free: 888.773.3687
www.EMHT.com

DATE
February 11, 2019

SCALE
1" = 30'

JOB NO.
20180410

SHEET
C7.2



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GRAPHIC SCALE

0 15 30 60

1 inch = 30 feet

SHEET KEY
Not To Scale

NORTH CAROLINA EVANS MECHANT HAMBLETON & TILTON, INC. No. F-1018 CERTIFICATE OF AUTHORITY

SEAL 015326 02/11/19 ENGINEER BRIAN R. ROSSI

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
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6720 MARKET STREET
UTILITY PLAN

EMHT
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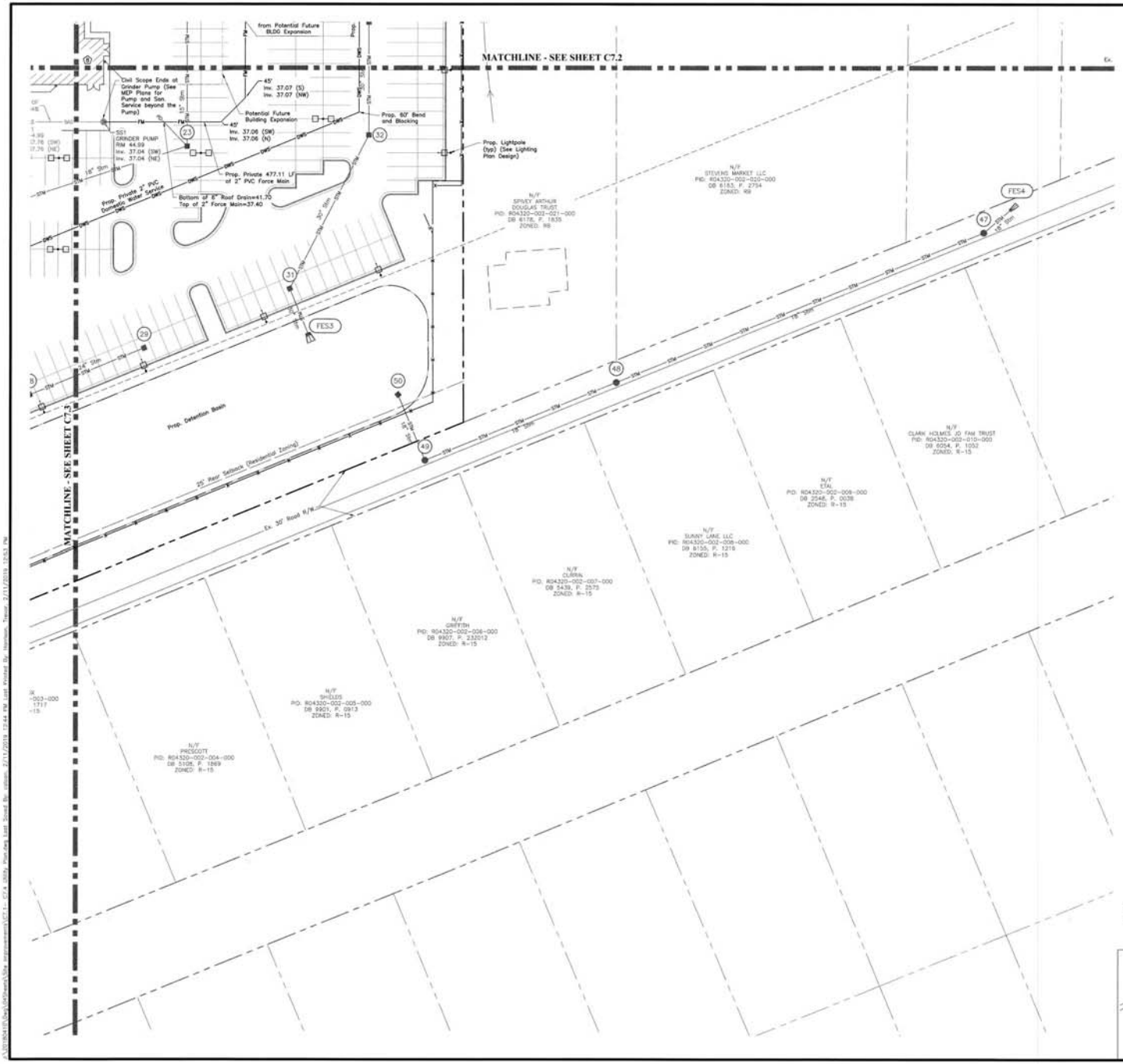
Phone: 919.848.4511 Fax: 919.848.4520 Phone: 980.313.5244
www.emht.com

DATE
February 11, 2019

SCALE
1" = 30'

JOB NO.
20180410

SHEET
C7.3



LEGEND

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GRAPHIC SCALE

0 15 30 60

1 inch = 30 feet

IRRIGATION NOTE

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SHEET KEY
Not To Scale

NORTH CAROLINA EWING MECHANIC HAMBLETON & TILTON, INC. No. F-1318 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045319 02/11/19 ENGINEER BRIAN R. ROSSI

MARK	DATE	DESCRIPTION

REVISIONS

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
UTILITY PLAN

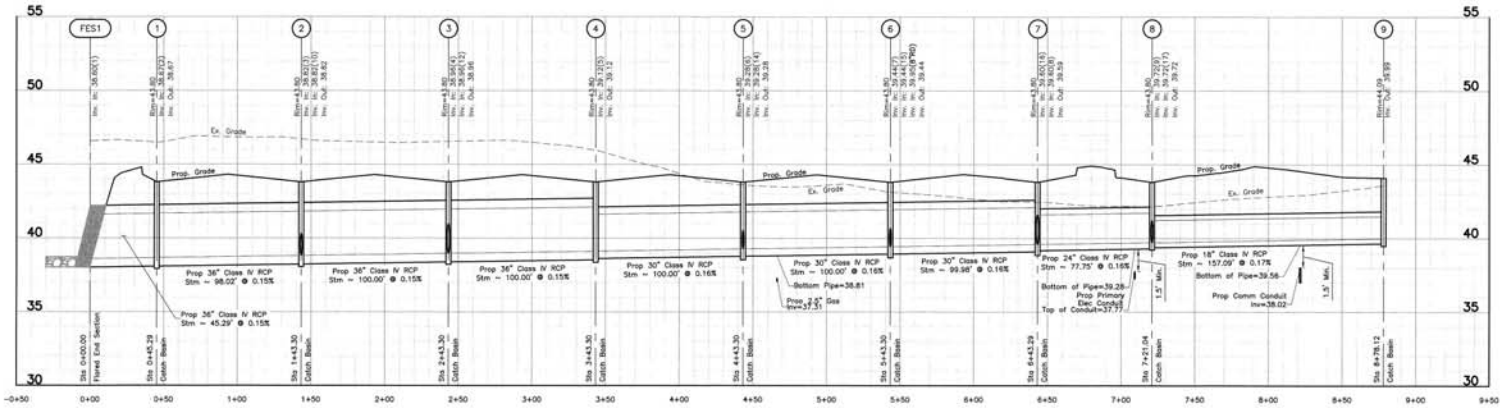
EMHT
Ewing, Mechanicat, Hambleton & Tilton, Inc.
Consulting Engineers & Land Surveyors
30 Wilmington St., Ste. 1B, Charlotte, NC 28202
Office: 704.333.5131 Fax: 704.333.5135
Email: EMHT@EMHT.COM

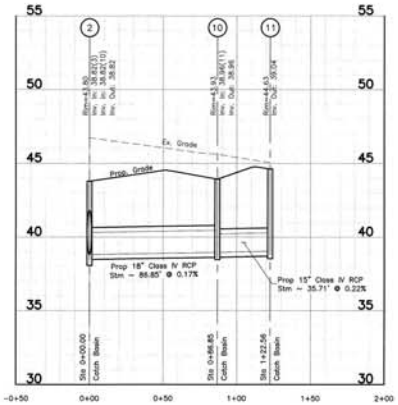
DATE
February 11, 2019

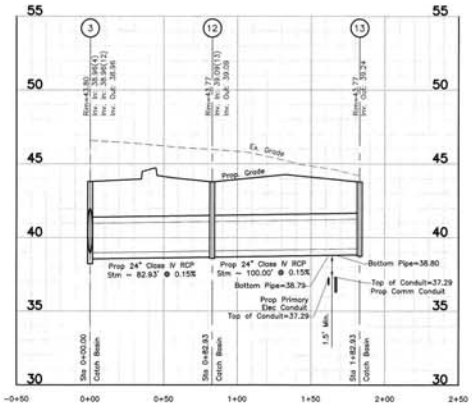
SCALE
1" = 30'

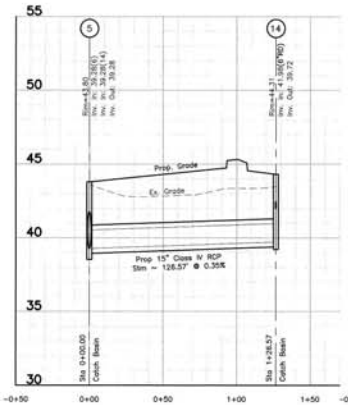
JOB NO.
20180410

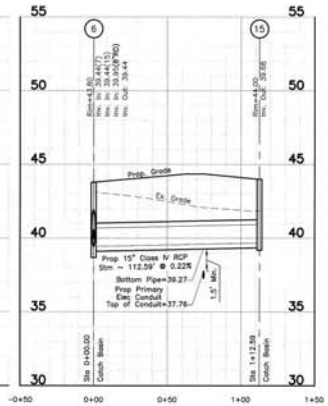
SHEET
C7.4

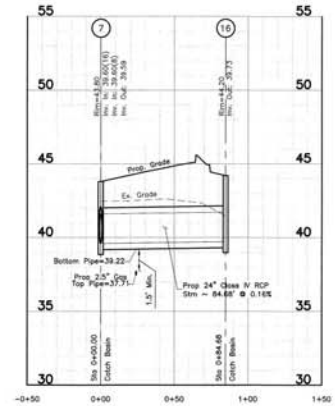


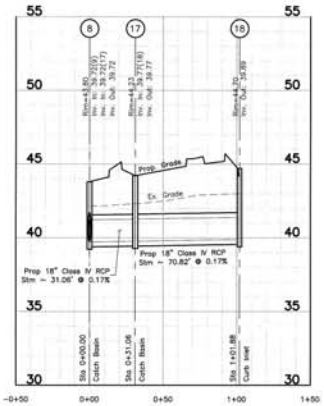


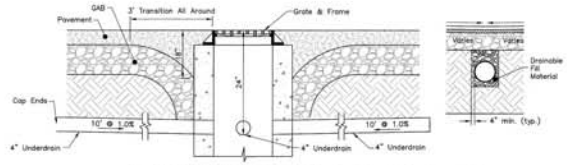












The 4" Perforated Underdrain shall be provided for each structure in all four directions unless otherwise directed or if storm sewer pipe is in conflict.

The Perforated Pipe shall be protected from heavy traffic after installation prior to placement of proposed pavement.

The Contractor shall initially set the top of casting for an inlet structure within the paved areas to the elevation of the intermediate pavement. Prior to final paving of surface course, the Contractor shall adjust the top of casting to finish pavement grade. Cost of the above shall be included in the price bid for the various related sewer items.

STRUCTURE IN PAVEMENT

Not to Scale

NORTH CAROLINA EVANS MECHART HAMILTON & TILTON, INC. No. F-1015 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045526 02/11/19 ENGINEER BRIAN R. ROSSI

REVISIONS

MARK	DATE	DESCRIPTION

Handrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
STORM SEWER PROFILES

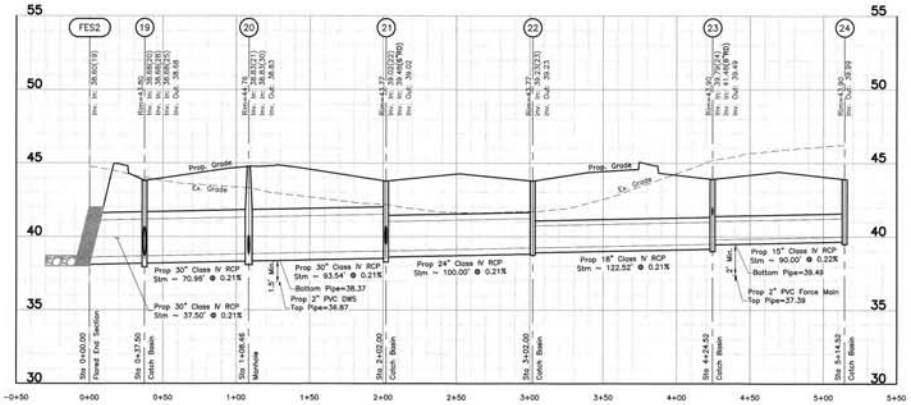
EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5151 McKnight Dr., Ste. 100, Charlotte, NC 28226
(704) 527-0800 FAX (704) 527-1658
www.emht.com

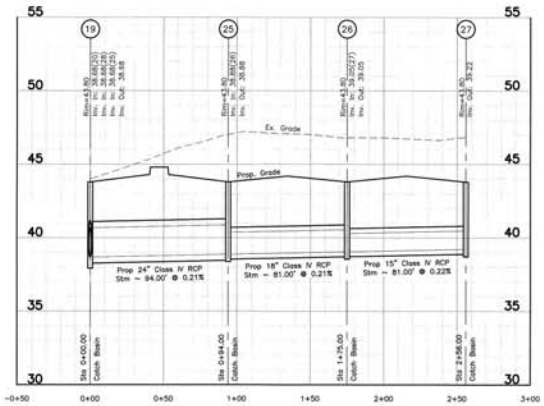
DATE
February 11, 2019

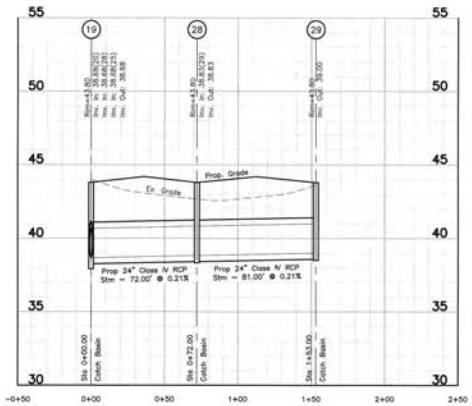
SCALE
Horiz: 1" = 40'
Vert: 1" = 4'

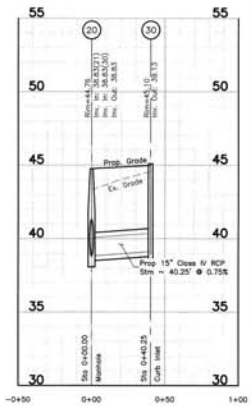
JOB NO.
20180410

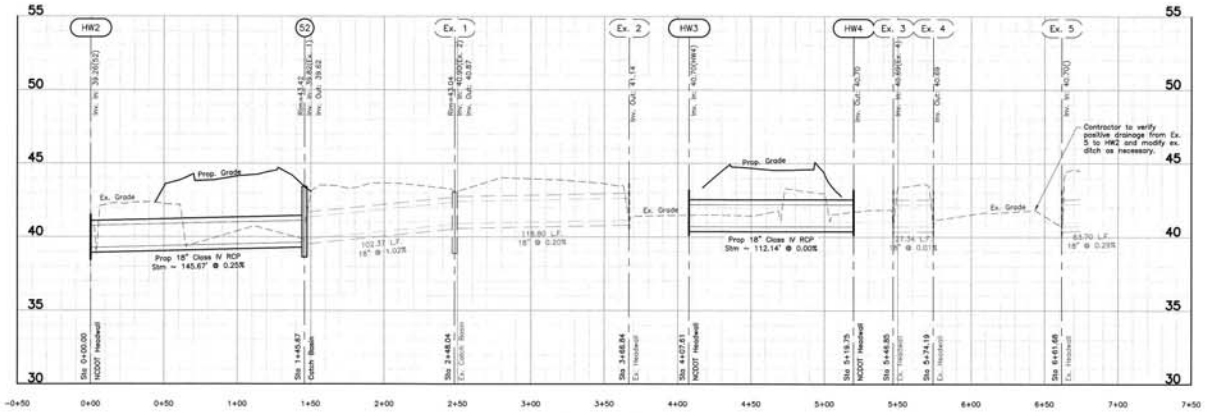
SHEET
C8.0



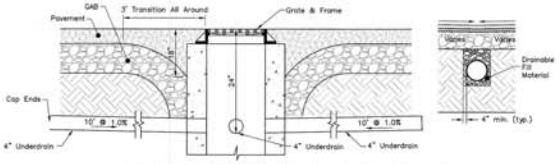








Market Street Ditch Profile



The 4" Perforated Underdrain shall be provided for each structure in all four directions unless otherwise directed or if storm sewer pipe is in conflict.

The Perforated Pipe shall be protected from heavy traffic after installation prior to placement of proposed pavement.

The Contractor shall initially set the top of casting for an inlet structure within the paved areas to the elevation of the intermediate pavement. Prior to final paving of surface course, the Contractor shall adjust the top of casting to finish pavement grade. Cost of the above shall be included in the price bid for the various related sewer items.

STRUCTURE IN PAVEMENT
Not to Scale

MARK	DATE	DESCRIPTION

REVISIONS

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
STORM SEWER PROFILES

EMHT
Evans, McDowell, Hambleton & Tilson, Inc.
Engineers • Surveyors • Planners • Landscape Architects
801 Jones Franklin Rd., Ste. 170 Charlotte, NC 28262
Phone: 704.521.0330 Fax: 704.521.0331 Toll Free: 800.733.5646
emht.com

DATE
February 11, 2019

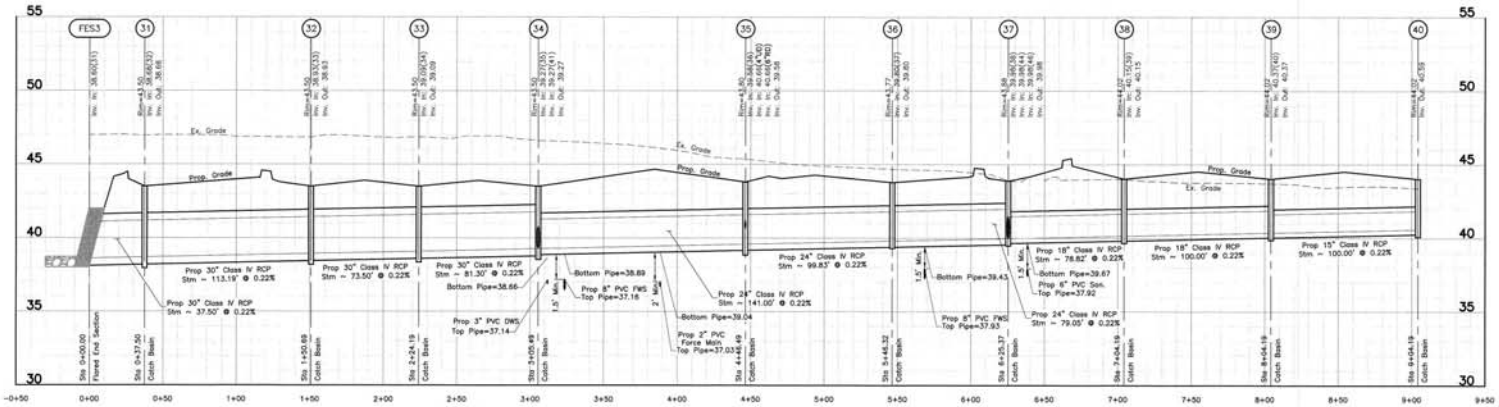
SCALE
Horiz: 1" = 40'
Vert: 1" = 4'

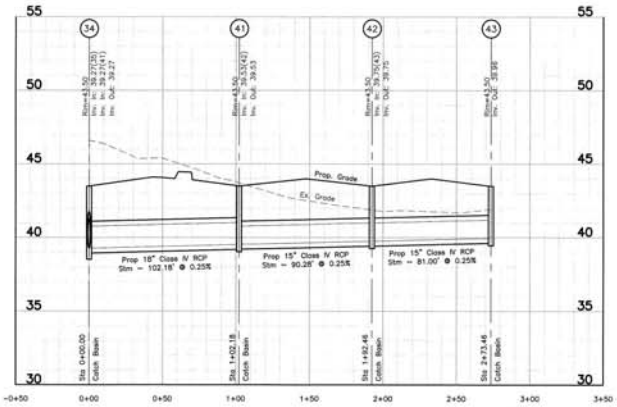
JOB NO.
20180410

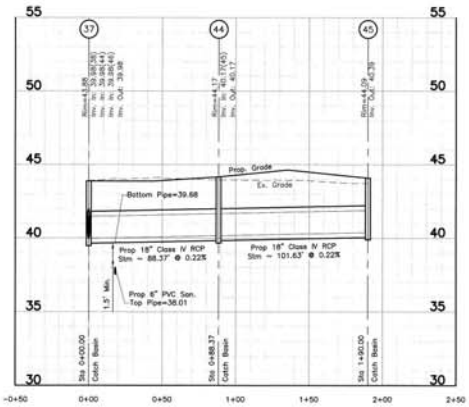
SHEET
C8.1

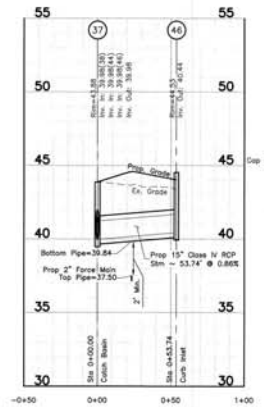
NORTH CAROLINA
EVANS, MCDOWELL, HAMBLETON & TILSON, INC.
No. F-1016
CERTIFICATE OF AUTHORIZATION

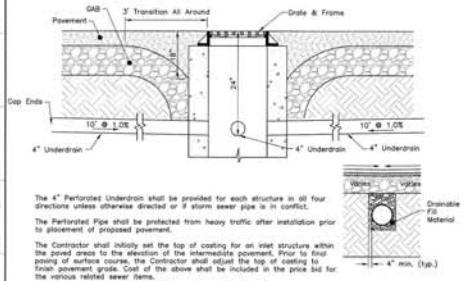
NORTH CAROLINA PROFESSIONAL SEAL
045526
02/11/19
ENGINEER
BRIAN B. ROSS









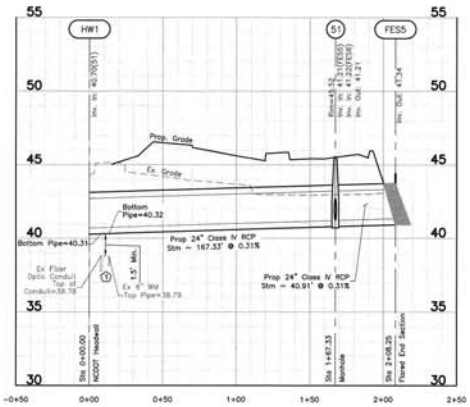


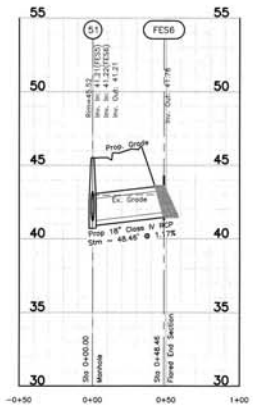
The 4" Perforated Underdrain shall be provided for each structure in all four directions unless otherwise directed or if storm sewer pipe is in conflict.

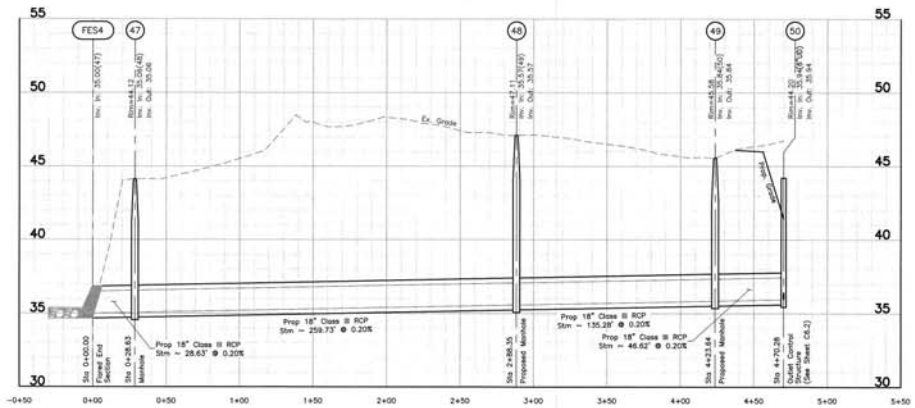
The Perforated Pipe shall be protected from heavy traffic after installation prior to placement of proposed pavement.

The Contractor shall initially set the top of casting for an inlet structure within the paved areas to the elevation of the intermediate pavement. Prior to final paving of surface course, the Contractor shall adjust the top of casting to finish pavement grade. Cost of the above shall be included in the price bid for the various related sewer items.

STRUCTURE IN PAVEMENT
Not to Scale







① Contractor to uncover existing utilities in this area at start of construction to verify any elevation conflicts with proposed storm. Contractor shall coordinate relocation of water and fiber if necessary. An alternate price shall be provided to the owner for utility relocations in this area.

Crossing shown above are representative of relocated locations (conflict with proposed storm has been assumed)

NORTH CAROLINA CLARK MECHANIT HAMBLETON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 045526 02/11/19 BRIAN R. ROSS

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
STORM SEWER PROFILES

EMH&T
Evans, Mechanitt, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 866.775.5368
Fax: 614.775.4800 emht.com

DATE
February 11, 2019

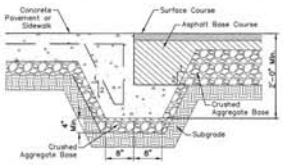
SCALE
Horiz: 1" = 40'
Vert: 1" = 4'

JOB NO.
20180410

SHEET
C8.2

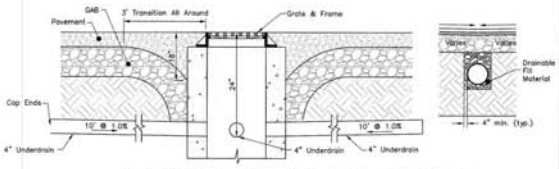
STRUCTURE/PIPE DATA														
Structure Name	Grate/Rim Elevation	Grate/Rim Elevation As-Built	Invert In	As-Built Invert In	Invert Out	As-Built Invert Out	Downstream Pipe Length Feet	As-Built Downstream Pipe Length	Downstream Pipe Size Inches	Downstream Pipe Slope	As-Built Downstream Pipe Slope	Downstream Structure	Structure Type
FES4			35.00 (47)										
HW2			39.28 (52)										
FES2			38.60 (19)										
FES3			38.60 (31)										
FES1			38.60 (1)										
Ex. 1	43.04		40.90 (Ex. 2)		40.87		102.37		18	1.02%		52	
Ex. 3			40.69 (Ex. 4)										
Ex. 4					40.69		27.34		18	0.01%		Ex. 3	
Ex. 5			40.70										
HW4					40.70		112.14		18	0.00%		HW3	
HW3			40.70 (HW4)										
Ex. 2					41.14		118.80		18	0.20%		Ex. 1	
HW1			40.70 (51)										
FES6					41.78		48.46		18	1.17%		51	
FES5					41.34		40.91		24	0.31%		51	
1	43.80		38.67 (2)		38.67		45.29		36	0.15%		FES1	
2	43.80		38.82 (3) 38.82 (10)		38.82		98.02		36	0.15%		1	
3	43.80		38.96 (4) 38.96 (12)		38.96		100.00		36	0.15%		2	
4	43.80		39.12 (5)		39.12		100.00		36	0.15%		3	
5	43.80		39.28 (6) 39.28 (14)		39.28		100.00		30	0.16%		4	
6	43.80		39.44 (7) 39.44 (15) 39.95(8"RO)		39.44		100.00		30	0.16%		5	
7	43.80		39.60 (16) 39.60 (8)		39.59		99.98		30	0.16%		6	
8	43.80		39.72 (9) 39.72 (17)		39.72		77.75		24	0.16%		7	
9	44.09				38.99		157.09		18	0.17%		8	
10	43.93		38.96 (11)		38.96		86.85		18	0.17%		2	
11	44.63				39.04		35.71		15	0.22%		10	
12	43.77		39.09 (13)		39.09		82.93		24	0.15%		3	
13	43.77				39.24		100.00		24	0.15%		12	
14	44.31		41.98(6"RO)		39.72		126.57		15	0.35%		5	
15	44.00				39.68		112.59		15	0.22%		6	
16	44.20				39.73		84.68		24	0.16%		7	
17	44.23		39.77 (18)		39.77		31.06		18	0.17%		8	
18	44.70				39.89		70.82		18	0.17%		17	
19	43.80		38.68 (20) 38.68 (28) 38.68 (25)		38.68		37.50		30	0.21%		FES2	
20	44.76		38.83 (21) 38.83 (30)		38.83		70.96		30	0.21%		19	
21	43.77		39.02 (22) 39.48(15"RO)		39.02		93.54		30	0.21%		20	
22	43.77		39.23 (23)		39.23		100.00		24	0.21%		21	
23	43.90		39.79 (24) 41.48(6"RO)		39.49		122.52		18	0.21%		22	
24	43.90				39.99		90.00		15	0.22%		23	
25	43.80		38.88 (26)		38.88		94.00		24	0.21%		19	
26	43.80		39.05 (27)		39.05		81.00		18	0.21%		25	
27	43.80				39.22		81.00		15	0.22%		26	
28	43.80		38.83 (29)		38.83		72.00		24	0.21%		19	
29	43.80				39.00		81.00		24	0.21%		28	
30	45.10				39.13		40.25		15	0.75%		20	
31	43.50		38.68 (32)		38.68		37.50		30	0.22%		FES3	
32	43.50		38.93 (33)		38.93		113.19		30	0.22%		31	
33	43.50		39.09 (34)		39.09		73.50		30	0.22%		32	
34	43.50		39.27 (35) 39.27 (41)		39.27		81.30		30	0.22%		33	
35	43.80		39.58 (36) 40.66(6"RO) 40.66(4"RO)		39.58		141.00		24	0.22%		34	
36	43.77		39.80 (37)		39.80		99.83		24	0.22%		35	
37	43.88		39.98 (38) 39.98 (44) 39.98 (46)		39.98		79.05		24	0.22%		36	
38	44.02		40.15 (39)		40.15		78.82		18	0.22%		37	
39	44.02		40.37 (40)		40.37		100.00		18	0.22%		38	
40	44.02				40.59		100.00		15	0.22%		39	
41	43.50		39.53 (42)		39.53		102.18		18	0.25%		34	
42	43.50		39.75 (43)		39.75		90.28		15	0.25%		41	
43	43.50				39.96		81.00		15	0.25%		42	
44	44.17		40.17 (45)		40.17		88.37		18	0.22%		37	
45	44.09				40.39		101.63		18	0.22%		44	
46	44.53				40.44		53.74		15	0.86%		37	
47	44.12		35.06 (48)		35.06		28.63		18	0.20%		FES4	
48	47.11		35.57 (49)		35.57		259.73		18	0.20%		47	
49	45.58		35.84 (50)		35.84		135.28		18	0.20%		48	
50	44.20		35.94 ()		35.94		46.62		18	0.20%		49	
51	45.52		41.21 (FES5) 41.22 (FES6)		41.21		167.33		24	0.31%		HW1	
52	43.42		39.82 (Ex. 1)		39.62		145.67		18	0.25%		HW2	

Contractor to field verify existing storm pipe inverts at proposed connection points.



NOTE:
Contractor shall provide turndown anywhere asphalt and concrete or concrete base pavement meet.

CONCRETE/ASPHALT TURNDOWN DETAIL
Not to Scale

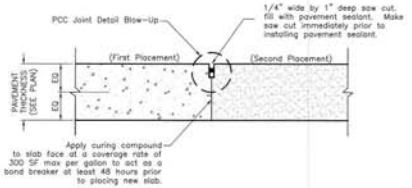


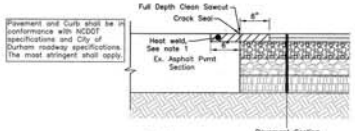
The 4" Perforated Underdrain shall be provided for each structure in all four directions unless otherwise directed or if storm sewer pipe is in conflict.

The Perforated Pipe shall be protected from heavy traffic after installation prior to placement of proposed pavement.

The Contractor shall initially set the top of casting for an inlet structure within the paved areas to the elevation of the intermediate pavement. Prior to final paving of surface course, the Contractor shall adjust the top of casting to finish pavement grade. Cost of the above shall be included in the price bid for the various related sewer items.

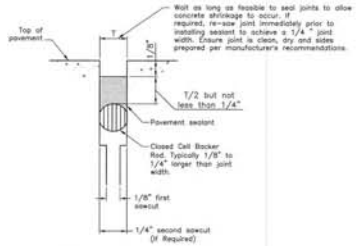
STRUCTURE IN PAVEMENT
Not to Scale





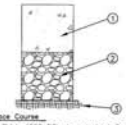
NOTE:
1. Area to be heat-welded is to include the cut and extending for six inches beyond each side of the cut for a nominal depth of two inches.

ASPHALT JOINT DETAIL
Not to Scale



NOTES:
1. Ensure joints are clean and dry prior to the application of the joint sealant.
2. Install closed cell backer rod after joints have been cleaned and dried in accordance with sealant manufacturer's requirements.
3. Install Backer Rod at consistent and uniform depth.
4. Joint sealant application shall be in strict compliance with sealant manufacturer's requirements.

CONCRETE CONSTRUCTION JOINT DETAIL
Not to Scale



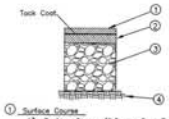
① Surface Course
5.5" Thick 4000 PSI air-entrained Concrete, per Geotechnical Specifications

② Base Course
4" Graded Aggregate Base (GAB)

③ Subgrade
Compacted Subgrade – Per Geotech Report

-The pavement sections contained in this plan shall be reviewed and/or modified by a licensed Geotechnical Engineer retained by the Owner. The Contractor shall coordinate with the Geotechnical Engineer prior to the beginning of construction.
-Unless otherwise noted, concrete pavement construction shall incorporate construction joints between cured concrete and new concrete, contraction joints at 10' spacing, and isolation joints when abutting any fixed structure (including but not limited to foundations, drainage structures, sidewalks, bollards, etc.) according to ACI 224.3R-95, Joints in Concrete Construction.

RIGID PAVEMENT DETAIL - HEAVY DUTY
Not to Scale



① Surface Course
1" Surface Course (9.5 mm SuperPave, NCDOT approved mix)

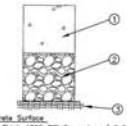
② Asphaltic Binder Course
2" Binder Course (19 mm SuperPave, NCDOT approved mix)

③ Crushed Stone Base
6" Aggregate Base (GAB)

④ Subgrade
Compacted Subgrade – per Geotech Report

The pavement sections contained in this plan shall be reviewed and/or modified by a licensed Geotechnical Engineer retained by the Owner. The Contractor shall coordinate with the Geotechnical Engineer prior to the beginning of construction.

FLEXIBLE PAVEMENT - HEAVY DUTY
Not to Scale



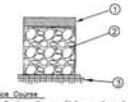
① Concrete Surface
6" Thick 4000 PSI Concrete w/ 6x6 10/10 WWM

② Crushed Stone Base
6" ABC Stone

③ Subgrade
Compacted Subgrade – Per Geotech Report

-The pavement sections contained in this plan shall be reviewed and/or modified by a licensed Geotechnical Engineer retained by the Owner. The Contractor shall coordinate with the Geotechnical Engineer prior to the beginning of construction.
-Unless otherwise noted, concrete pavement construction shall incorporate construction joints between cured concrete and new concrete, contraction joints at 10' spacing, and isolation joints when abutting any fixed structure (including but not limited to foundations, drainage structures, sidewalks, bollards, etc.) according to ACI 224.3R-95, Joints in Concrete Construction.

DUMPSTER PAD PAVEMENT DETAIL
Not to Scale



① Surface Course
2" Surface Course (9.5 mm SuperPave, NCDOT approved mix)

② Crushed Stone Base
6" Aggregate Base (GAB)

③ Subgrade
Compacted Subgrade – per Geotech Report

The pavement sections contained in this plan shall be reviewed and/or modified by a licensed Geotechnical Engineer retained by the Owner. The Contractor shall coordinate with the Geotechnical Engineer prior to the beginning of construction.

FLEXIBLE PAVEMENT - LIGHT DUTY
Not to Scale

NORTH CAROLINA EWING, MECHART, HAMBLETON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA SEAL 045536 02/11/19 ENGINEER BRIAN R. ROSSI

REVISIONS

WORK	DATE	DESCRIPTION

Handrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
SITE DETAILS & STORM STRUCTURE TABLE

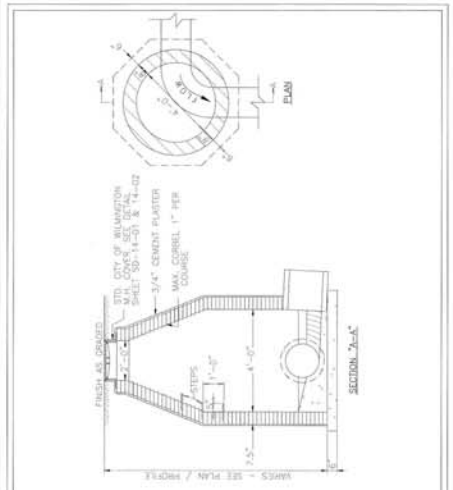
EMHT
Ewing, Mechart, Hamilton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
3802 Shipyard Blvd, Suite 200, Wilmington, NC 28403
Phone: 910.343.0225 Toll Free: 800.775.5368
www.emht.com

DATE
February 11, 2019

SCALE
None

JOB NO.
20180410

SHEET
C9.0

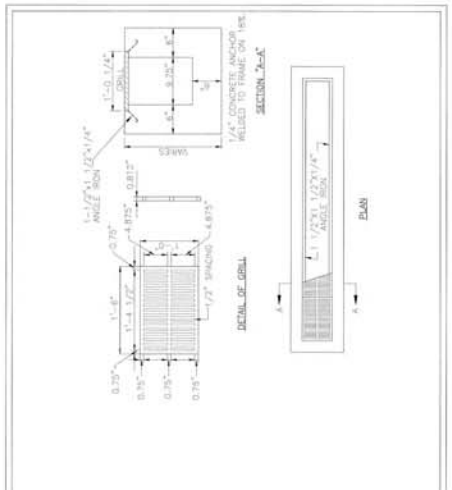


STANDARD DETAIL

GUIDELINES FOR STORM DRAIN MANHOLE

WILMINGTON NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

SD 2-03

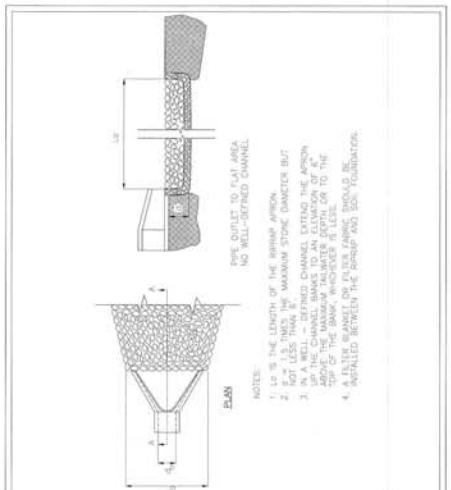


STANDARD DETAIL

TROUGH TYPE DROP INLET BASIN

WILMINGTON NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

SD 2-06

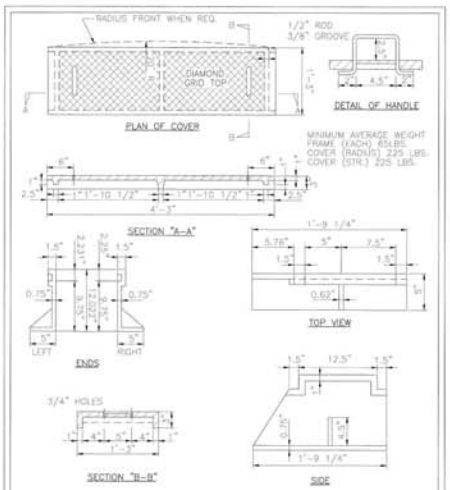


STANDARD DETAIL

PIPE OUTLET PROTECTION

WILMINGTON NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

SD 2-15

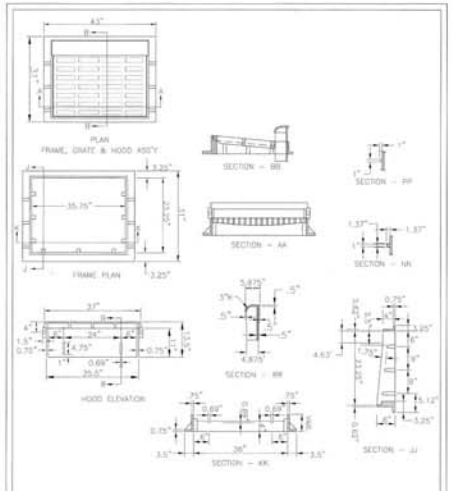


STANDARD DETAIL

CATCH BASIN CASTINGS DETAIL

WILMINGTON NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

SD 2-16

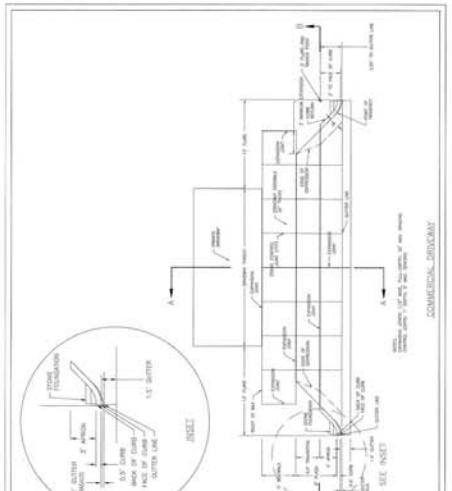


STANDARD DETAIL

CATCH BASIN CASTING FOR 24" HOOD AND GRATE

WILMINGTON NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

SD 2-21



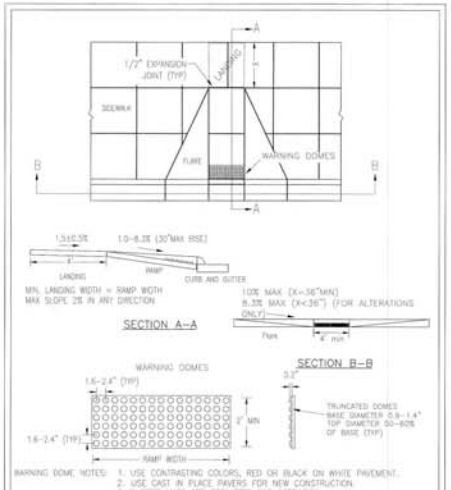
STANDARD DETAIL

COMMERCIAL DRIVEWAY PLAN (VERTICAL CURB)

1 of 2

WILMINGTON NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON N.C. 28402
(910) 341-7807

SD 3-03.3

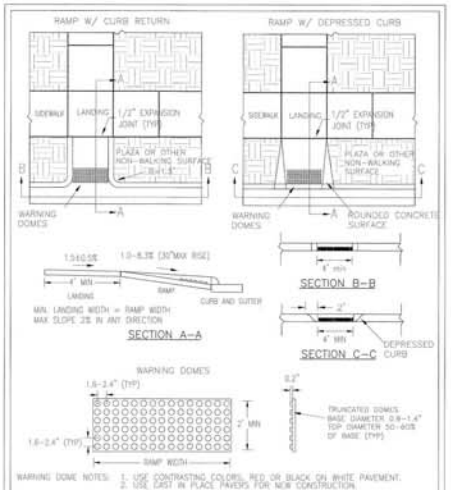


STANDARD DETAIL

PERPENDICULAR CURB RAMP ADJACENT TO WALKING SURFACE

WILMINGTON NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON N.C. 28402
(910) 341-7807

SD 3-07



STANDARD DETAIL

PERPENDICULAR CURB RAMP ADJACENT TO PLAZA

WILMINGTON NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON N.C. 28402
(910) 341-7807

SD3-08

The referenced details are City of Wilmington standard details.
They are not the responsibility or design of the Engineer.

NORTH CAROLINA EVANS MECHANT HAMBLETON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045526 02/11/19 ENGINEER BRIAN R. ROSSI

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
HENDRICK HONDA OF WILMINGTON
SITE DETAILS

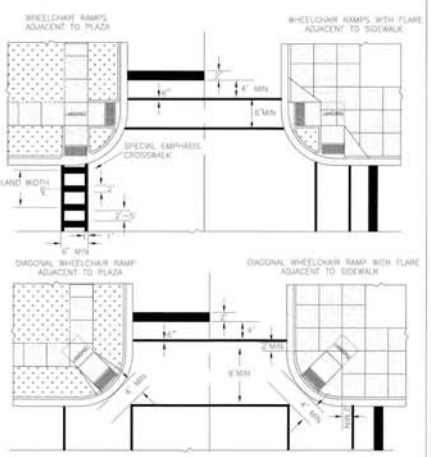
EMHT
Evans, Mechanet, Hambleton & Tilton, Inc.
INTERMODAL CENTER - SUITE 2300
301 Hurstbridge Dr., Mt. Pleasant, SC 29464
Phone: 843-884-0007 Fax: 843-884-0032
emht.com

DATE: February 11, 2019

SCALE: None

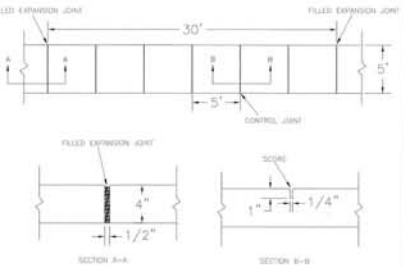
JOB NO.: 20180410

SHEET: C9.1



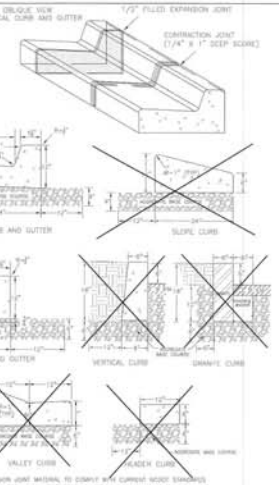
NOTES: 1. RAMPS AT MARKED CROSSINGS MUST BE WHOLLY CONTAINED WITHIN THE MARKINGS.
2. RAMPS AND LANDINGS MUST MEET CURRENT ACCESSIBILITY STANDARDS.

STANDARD DETAIL — INTERSECTION LAYOUT — SD 3-09



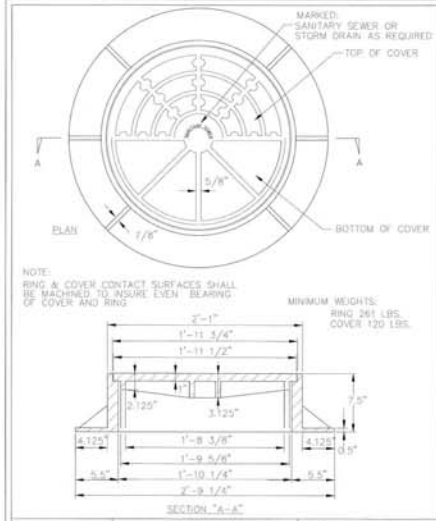
NOTES:
1. JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS.
2. SANITARY SEWER CLEAN-OUTS, WATER METERS, MANHOLES, AND VALVE LIDS TO BE LOCATED OUTSIDE SIDEWALK WHERE FEASIBLE.
3. MINIMUM SIDEWALK WIDTH TO BE 6' MINIMUM IF PLACED AT BACK OF CURB.
4. CONCRETE FOR ALL SIDEWALKS (EXCEPT ANY PORTION CONTAIN WITHIN A DRIVEWAY APRON) SHALL BE CLASS "A" - 3,000 PSI.
5. MINIMUM REPLACEMENT FOR REPAIRS IS A 5' X 5' PANEL.
6. 4" STONE BASE MAY BE REQUIRED FOR POOR SOIL CONDITIONS.
7. MINIMUM DEPTH FOR TUNNELING BELOW SIDEWALK IS 12"
8. MAX ADJACENT GROUND SLOPE WITHOUT RAILING IS 2:1
9. MIN GRADE FOR PROPER DRAINAGE IS 1% IN AT LEAST 1 DIRECTION. MAX CROSS SLOPE IS 2%. MAX LONGITUDINAL SLOPE IS 8.3%, FOR IF LIMITED BY EXISTING CONDITIONS, OR NO GREATER THAN THE SLOPE OF THE EXISTING ADJACENT ROAD.

STANDARD DETAIL — SIDEWALK — SD 3-10

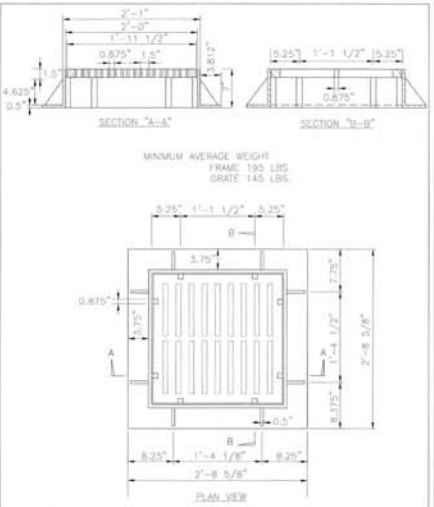


NOTES:
1. EXPANSION JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS
2. 50' MAX EXPANSION JOINT SPACING, 10' MAX CONTRACTION JOINT SPACING
3. MINIMUM INSTALLATION LENGTH IS 5 FT.
4. CONCRETE TO BE 3000 PSI MIN
5. VERTICAL CURB AND GUTTER BASE CAN BE SLOPED 1/4" ON USE A FLAT BASE

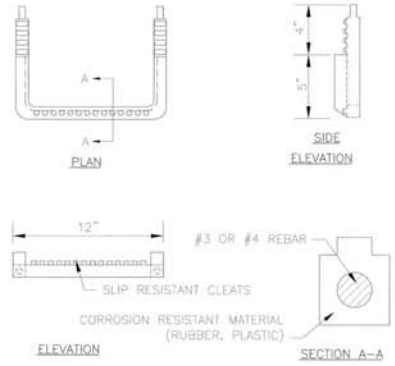
STANDARD DETAIL — CURBING — SD 3-11



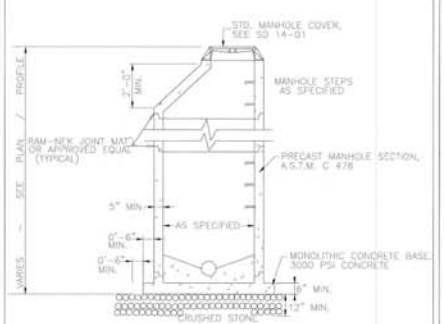
STANDARD DETAIL — STANDARD MAN-HOLE RING AND COVER — SD 14-02



STANDARD DETAIL — DROP INLET CASTINGS — SD 14-04

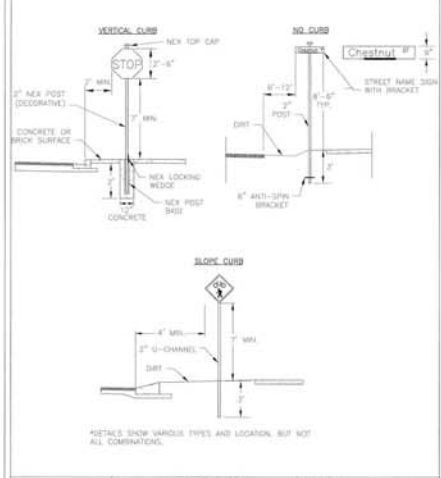


STANDARD DETAIL — SLIP RESISTANT MANHOLE STEP — SD 14-10



NOTE:
EXTENDED BASE MAY NOT BE REQUIRED WHERE MANHOLES ARE GREATER THAN 4 FEET INSIDE DIAMETER

STANDARD DETAIL — PRECAST MANHOLE — SD 14-11



STANDARD DETAIL — STREET SIGNS AND LOCATION — SHEET 1 of 2 — SD 15-03

The referenced details are City of Wilmington standard details.
They are not the responsibility or design of the Engineer.

NORTH CAROLINA EVANS MECHART HAMBLETON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045538 02/11/19 ENGINEER BRIAN R. ROSSI

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
SITE DETAILS

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
www.emht.com

DATE: February 11, 2019
SCALE: None
JOB NO.: 20180410
SHEET: C9.2

SIGNS

1. All signs shall meet the requirements of MUTCD and City Traffic Engineering in effect at the time of construction.

2. All Traffic Control Signs including multi-use paths shall be fabricated with 0.080 inch aluminum blanks using high intensity prismatic reflective sheeting Type IV or better. STOP signs shall be a minimum of 30"x30".

3. SPECIAL DESIGNATION signs by location and type shall adhere to City of Wilmington signage plan (ie. downtown, historic, cross-city trail, parks, riverfront, scenic by-way, parking, etc.) and all associated policies.

4. POST MOUNTED STREET NAME SIGNS shall be fabricated with 9" extruded aluminum street name sign blanks using a standard cut-out. Minimum sign length is 18" long and increasing in 6" increments to 54" maximum as dictated by the number of letters in the name. The color scheme shall be white letters on a green background without a border. Generally, in the downtown and historic areas or as designated in the City of Wilmington signage plan the background shall be blue and contain a topper.

5. Decorative sign posts shall consist of the NEX sign support system, 2" octagonal tube, 14 gauge, powder coated glossy black and include cap, post, base and wedge.

6. All other sign posts shall be u-channel posts made of galvanized steel with 8' posts 2lbs/ft or 12' posts 3lbs/ft. Galvanized NEX post may be substituted with approval from the City Signs and Markings Engineer.

7. OVERHEAD STREET NAME SIGNS shall be fabricated with 0.080 inch aluminum flat sign blanks 18" in height using a standard cut-out. Sign length will be dictated by the number of letters in the name. For mast-arm type traffic signal supports and other overhead support systems refer to the design plans for maximum sign length.

8. All sign lettering, colors and fonts shall adhere to the MUTCD in effect at the time of construction. Florescent Yellow-Green shall be used on signs, in place of Yellow, when listed as an optional color in the MUTCD. Generally, the font will be FHWA series fonts (Highway Gothic.) Other font types require prior City Signs and Markings Engineer approval .

LOCATION

9. Sign locations depend on the edge of road condition. Generally, signs shall be a minimum 2' from face of a vertical curb, 4' from front of slope face curb, and 6' from edge of pavement without curb. Signs shall not be located more than 12' from any of these locations.

10. Sign posts installed in dirt shall be buried a minimum of 36". Octagonal posts shall utilize an anti-spin device, 6" in length minimum. Sign posts installed in concrete or brick shall utilize a base cast in concrete 24" x 12" diameter.

11. Street name signs shall be installed 8'-6" from the ground to the bottom of the sign. Street name signs co-located with STOP signs shall be installed above the STOP sign. A 6" space shall be maintained between the STOP sign and a Street name sign that is parallel to the STOP sign face. All other signs should be mounted per MUTCD guidelines for Urban Areas.

STANDARD DETAIL

STREET SIGNS AND LOCATION

SHEET 2 of 2

DATE: NOVEMBER, 2011 | DRAWN BY: JSR | CHECKED BY: BDR, P.E. | SCALE: NOT TO SCALE

CITY OF WILMINGTON ENGINEERING, PO BOX 1810, WILMINGTON, NC 28402, (910) 341-7807

SD 15-03

WHERE PARKING SPACES THAT ARE RESERVED FOR PERSONS WITH DISABILITIES ARE DESIGNATED TO ACCOMMODATE WHEELCHAIR VANS, A VAN ACCESSIBLE (R7-8P) PLAQUE SHALL BE MOUNTED BELOW THE R7-8 SIGN.

SEE STANDARD DETAIL 15-03 FOR SIGN INSTALLATION IN BOTH SOIL AND PAVEMENT

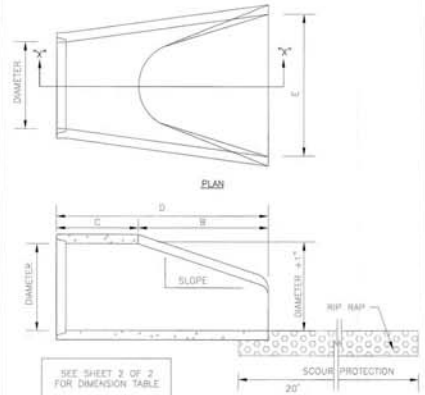
STANDARD DETAIL

VAN ACCESSIBLE PARKING SIGNAGE

DATE: MAY, 2016 | DRAWN BY: JSR | CHECKED BY: PB, P.E. | SCALE: NOT TO SCALE

CITY OF WILMINGTON ENGINEERING, PO BOX 1810, WILMINGTON N.C. 28402, (910) 341-7807

SD 15-19



SHEET 1 OF 2

STANDARD DETAIL

FLARED END SECTION OUTLET

DATE: 2001 | DRAWN BY: JSR/CMR | CHECKED BY: B.P., P.E. | SCALE: NOT TO SCALE

CITY OF WILMINGTON ENGINEERING OFFICE, 305 CHESTNUT STREET, P.O. BOX 1810, WILMINGTON N.C. 28402, (910) 341-7807

SD 1-17

NOTE:

1. STRUCTURAL DESIGN OF END SECTION SHALL CONFORM WITH THAT OF STANDARD REINFORCED CONCRETE.

PIPE DIAMETER	WALL THICKNESS	SLOPE	B	C	D	E	UNIT WEIGHT
12	2 1/4	3:1	24	49	73	24	730
15	2 1/4	3:1	27	46	73	30	910
18	2 1/2	3:1	27	46	73	36	1190
21	2 3/4	3:1	36	37	73	42	1370
24	3	3:1	42	31 1/2	73 1/2	48	1770
27	3 1/4	3:1	48	25 1/2	73 1/2	54	2130
30	3 1/2	3:1	54	19 3/4	73 3/4	60	2380
33	3 3/4	3:1	60	36	96	66	3870
36	4	3:1	63	34 3/4	97 3/4	72	5320
42	4 1/2	3:1	63	35	98	78	5920
48	5	3:1	72	26	98	84	7470
54	5 1/2	2.4:1	66	34	100	90	8810
60	6	2:1	60	39	99	96	11180
72	7	2:1	78	21	99	108	13960

DIMENSIONS IN INCHES WEIGHTS IN POUNDS

SHEET 2 OF 2

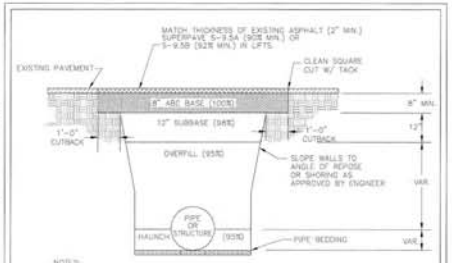
STANDARD DETAIL

FLARED END SECTION OUTLET DIMENSION TABLE

DATE: 2001 | DRAWN BY: JSR/CMR | CHECKED BY: B.P., P.E. | SCALE: NOT TO SCALE

CITY OF WILMINGTON ENGINEERING, PO BOX 1810, WILMINGTON, NC 28402, (910) 341-7807

SD 1-17



NOTES:

1. CONTRACTOR SHALL ENSURE BOTTOM OF TRENCH IS SUITABLE FOR INSTALLATION AND DOES NOT REQUIRE FOUNDATION CONDITIONING STONE.
2. FILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOIL DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.
3. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
5. SOIL SHALL BE INSTALLED IN 6"-8" LIFTS AND COMPACTED BY A MECHANIZED TAMPER (I.E. JUMPING JACK). HOWEVER, VIBRATORY ROLLERS > 18" WIDTH MAY BE USED FOR LARGER EXCAVATIONS. THE PLATE TAMP METHOD SHALL NOT BE USED.
6. ALL APPROVED CASTINGS SHALL BE SET FLUSH TO GRADE AND SUPPORTED IF APPLICABLE.
7. COMPACT MATERIALS TO MINIMUM % DENSITY SHOWN IN DIAGRAM AS DETERMINED BY THE STANDARD PROCTOR METHOD ASTM D-698-A FOR SOILS, AND ASTM D-698-C FOR ABC STONE, AND BY NUCLEAR GAUGE OR CORE SAMPLE FOR ASPHALT.
8. CUTBACKS OF ASPHALT SHALL BE PREPARED ON EDGE OF EXCAVATION OVER TOP OF UNDISTURBED SOIL.

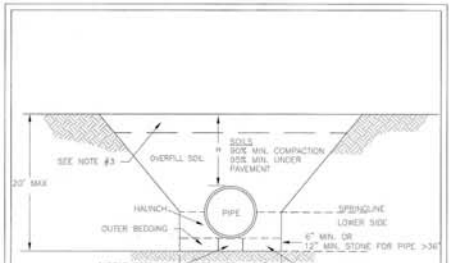
STANDARD DETAIL

PAVEMENT REPAIRS-UTILITY CUTS

DATE: MAY, 2013 | DRAWN BY: JSR | CHECKED BY: D.E.C., P.E. | SCALE: NOT TO SCALE

CITY OF WILMINGTON ENGINEERING OFFICE, 312 OPERATIONS CENTER DRIVE, WILMINGTON N.C. 28412, (910) 341-7807

SD 1-05



NOTES:

1. CONTRACTOR SHALL ENSURE BOTTOM OF TRENCH IS SUITABLE FOR PIPE INSTALLATION AND DOES NOT REQUIRE FOUNDATION CONDITIONING STONE.
2. CONTRACTOR TO INSTALL BEDDING AND PIPE BEFORE INSTALLING HAUNCH AND THEN OVERFILL. SOILS SHALL BE INSTALLED IN 6"-8" LIFTS AND COMPACTED TO MIN. % DENSITY AS DETERMINED BY THE STANDARD PROCTOR ASTM D-698-A METHOD.
3. WHERE IN PAVEMENT, CONTRACTOR SHALL ADHERE TO CITY STREET CUT POLICY AND SD 1-04 OR SD 1-05 FOR ROAD AND PAVEMENT REBUILD.
4. SOIL SHALL BE COMPACTED BY A MECHANIZED TAMP (I.E. JUMPING JACK). HOWEVER, VIBRATORY ROLLERS > 18" WIDTH MAY BE USED FOR LARGER EXCAVATIONS. THE PLATE TAMP METHOD SHALL NOT BE USED.
5. THIS DETAIL IS REPRESENTATIVE AND PIPE TRENCH DESIGN IS SUBJECT TO SPECIFIC SOIL CATEGORY (I, II, III), AND INSTALLATION TYPE (1, 2, 3, 4), AS DIRECTED BY THE ENGINEER AND SITE CONDITIONS.

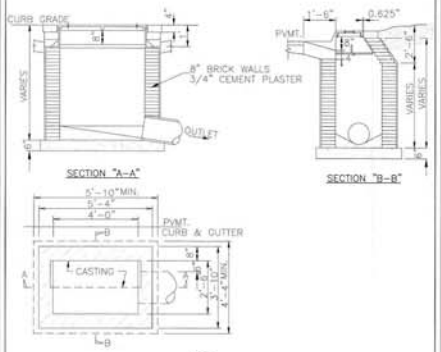
STANDARD DETAIL

PIPE TRENCH TYPICAL

DATE: MAY, 2013 | DRAWN: JSR | CHECKED: BDR, P.E. | SCALE: NOT TO SCALE

CITY OF WILMINGTON ENGINEERING OFFICE, 312 OPERATIONS CENTER DRIVE, WILMINGTON N.C. 28412, (910) 341-7807

SD 1-07



NOTE:

1. 4" DEEP X 8" WIDE CONCRETE COPING ALL AROUND BASIN CASTING.
2. ALL CONCRETE TO BE CLASS "A"
3. FOR CASTING DETAIL SEE SD 2-16

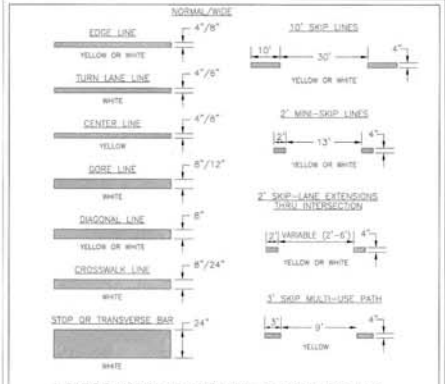
STANDARD DETAIL

CATCH BASIN

DATE: 2006 | DRAWN BY: JSR/CMR | CHECKED BY: B.P., P.E. | SCALE: NOT TO SCALE

CITY OF WILMINGTON ENGINEERING, PO BOX 1810, WILMINGTON, NC 28402, (910) 341-7807

SD 2-01



1-PAVEMENT MARKINGS AND SYMBOLS SHALL BE DESIGNED PER MUTCD WITH APPROVAL FROM CITY TRAFFIC ENGINEERING, AND INSTALLED IN ACCORDANCE WITH NCDOT DIVISION 12 SPECIFICATIONS.

2-GENERALLY, PERMANENT MARKINGS WILL BE UNIFORM AND SMOOTH AND WILL CONSIST OF 120MIL OF THERMOPLASTIC FOR ALL LINES AND SYMBOLS. TEMPORARY MARKINGS SHALL CONSISTS OF 15 MIL PAINT, EVERY 6 MONTHS.

3-DURING APPLICATION THE EXISTING PAVEMENT SHALL NOT SHOW SIGNS OF MOISTURE AND BE CLEAN, FREE OF DIRT AND OIL, ETC. THERMOPLASTIC SHALL ONLY BE INSTALLED WHERE PAVEMENT IS 50° F AND RISING. PAINT SHALL ONLY BE INSTALLED WHERE PAVEMENT IS 40° F AND RISING.

STANDARD DETAIL

PAVEMENT MARKINGS LINE TYPES

DATE: DECEMBER, 2011 | DRAWN BY: JSR | CHECKED BY: BDR, P.E. | SCALE: NOT TO SCALE

CITY OF WILMINGTON ENGINEERING, PO BOX 1810, WILMINGTON, NC 28402, (910) 341-7807

SD 11-01

The referenced details are City of Wilmington standard details. They are not the responsibility or design of the Engineer.

NORTH CAROLINA EVANS MECHWART HAMBLETON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045526 02/11/19 ENGINEER BRIAN R. ROSSI

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
SITE DETAILS

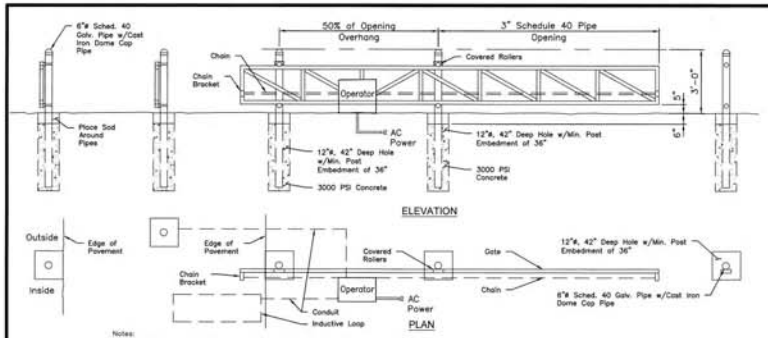
EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 Greenville Blvd., Suite 101, Greenville, NC 27834
Phone: (252) 355-4500 Fax: (252) 355-4501
www.emht.com

DATE: February 11, 2019

SCALE: None

JOB NO.: 20190410

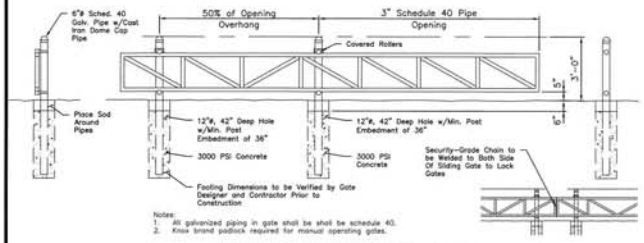
SHEET: C9.3



ELEVATION

Notes:
1. All galvanized piping in gate shall be shall be schedule 40.
2. Motorized gate to have siren operated emergency sensors and Knox key override.
3. Operator system is not to be installed unless specifically requested.
4. Shown for gate layout only. Final configuration design to be in accordance with manufacturer specifications.

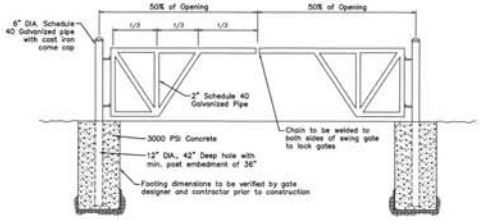
3' TALL MOTORIZED CANTILEVERED SLIDING OPEN FRAME GATE



Notes:
1. All galvanized piping in gate shall be shall be schedule 40.
2. Knox brand padlock required for manual operating gates.

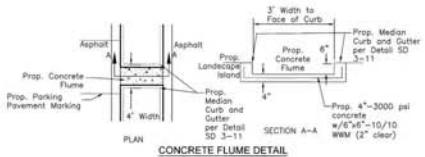
3' TALL CANTILEVERED SLIDING OPEN FRAME GATE

SLIDING GATE DETAIL
Not to Scale

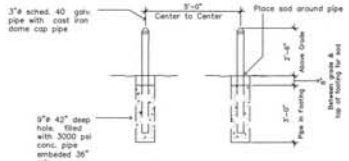


Notes:
1. All galvanized piping in gate shall be shall be schedule 40.
2. Motorized gate to have siren operated emergency sensors and Knox key override.
3. Operator system is not to be installed unless specifically requested.
4. Shown for gate layout only. Final configuration design to be in accordance with manufacturer specifications.
5. Knox brand padlock required for manual operating gates.

SWING GATE DETAIL
Not to Scale

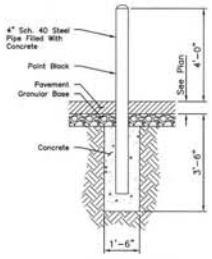


CONCRETE FLUME DETAIL
Not to Scale

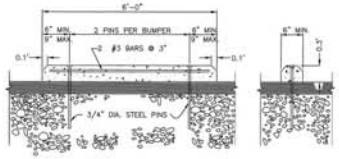


All galvanized piping schedule 40

BOLLARD FENCING DETAIL
Not to Scale

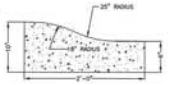


PIPE BOLLARD DETAIL
Not to Scale



NOTE:
Bumpers shall be 3000 PSI Precast Concrete and shall be as shown or similar in configuration.

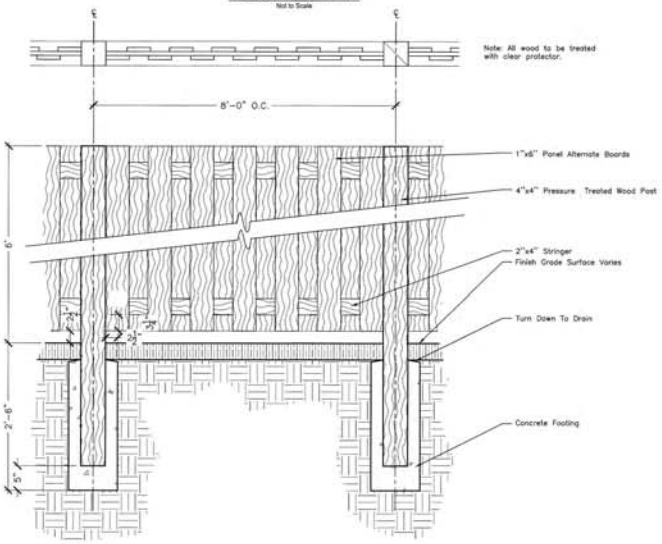
CONCRETE WHEEL STOP DETAIL
Not to Scale



ROLLED CURB DETAIL

Concrete Shall be 3600 PSI in 28 Days

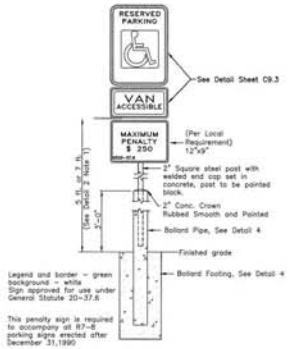
MODIFIED HEIGHT CURB



6' WOOD SCREENING FENCE DETAIL
Not to Scale

Increase spacing 50% D-FHWA (Federal Highway Administration/USDOT)
Series D letters
Legend and border - green
Background - white

Note:
Supplemental van accessible sign (R7-8P) used if there is only one required accessible parking space (must be van accessible) and at each additional required van accessible space. (See Detail 2)



HANDICAP SIGN POST DETAIL

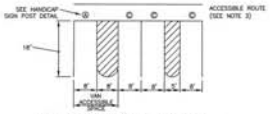
ACCESSIBLE PARKING REQUIREMENTS

TOTAL PARKING SPACES PROVIDED	MINIMUM NUMBER OF ACCESSIBLE SPACES SPACES REQUIRED	MINIMUM NUMBER OF ACCESSIBLE SPACES REQUIRED TO BE VAN ACCESSIBLE
1 TO 25	1	1
26 TO 50	2	1
51 TO 75	3	1
76 TO 100	4	1
101 TO 150	5	1
151 TO 200	6	1
201 TO 300	7	1
301 TO 400	8	1
401 TO 500	9	2
501 TO 1000	2% OF TOTAL	1 IN EVERY 6 ACCESSIBLE SPACES
1001 AND OVER	20 PLUS 1 FOR EACH 100 OVER 1000	1 IN EVERY 6 ACCESSIBLE SPACES

SECTION 4.1.2 (5) OF THE AMERICANS WITH DISABILITIES ACT (ADA).
SEE 4.1.3.(5) (d) FOR MEDICAL CARE FACILITIES

NOTES:
1. ALL 12"x18" ACCESSIBLE SIGNS, (R7-8c & R7-1) SHALL BE MOUNTED AT 7 FEET FROM GRADE TO BOTTOM EDGE OF SIGN FACE (MUTCD). MOUNTING HEIGHT CAN BE REDUCED TO 5 FEET IF PLACED IN AN AREA BETWEEN SIDEWALK AND BUILDING FACE IN WHICH PEDESTRIANS ARE NOT EXPECTED TO USE.
2. REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (MUTCD) U.S. DEPARTMENT OF TRANSPORTATION AND NORTH CAROLINA DEPARTMENT OF TRANSPORTATION SUPPLEMENT.
3. IF ACCESSIBLE ROUTE IS A RAISED SIDEWALK AREA, THEN RAMPS ARE REQUIRED AT LOADING ZONE AREA.

HANDICAP STALL DETAIL



ONE OUT OF EVERY SIX (6) ACCESSIBLE SPACES, BUT NOT LESS THAN ONE, IS REQUIRED TO BE VAN ACCESSIBLE.

PARKING SPACE PAVEMENT MARKINGS

NORTH CAROLINA EVANS MECHWART HAMILTON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA SEAL 045515 02/11/19 ENGINEER BRIAN R. ROSSI

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
SITE DETAILS

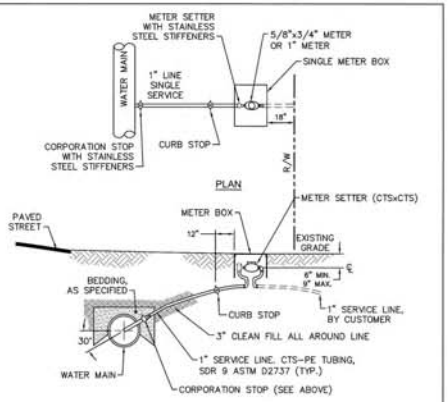
EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Fax: 614.775.4800
emht.com

DATE
February 11, 2019

SCALE
None

JOB NO.
20180410

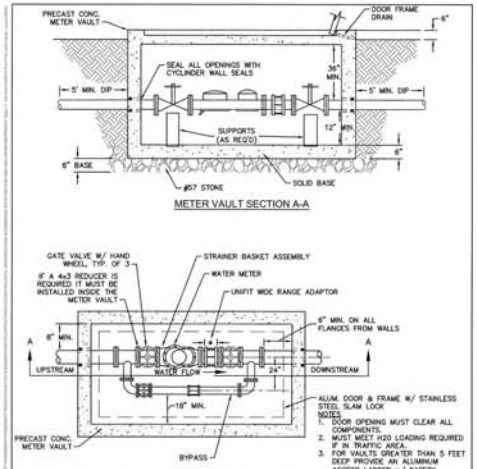
SHEET
C9.4



NOTES:
1. NO JOINT SHALL BE INSTALLED BETWEEN THE MAIN SERVICE TAP AND THE METER STOP. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
2. SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY.
3. METER BOXES SUBJECT TO TRAFFIC LOADS SHALL CONFORM TO ASTM A48, CLASS 30B AND AASHTO H20 LOAD RATING STANDARDS.
4. WATER SERVICE LINE SHALL TERMINATE 18" WITHIN RIGHT-OF-WAY LINE.
5. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.
6. SERVICE PIPING AND METER SETTER TO BE CENTERED IN THE METER BOX.

DETAIL: SINGLE WATER SERVICE CONNECTION - TYPICAL SHORT-SIDE CONNECTION	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560	DETAIL NO: W-1
SCALE: NOT TO SCALE / CFPUA REV. No: 1	CFPUA DETAIL DATE: 01/01/19	SHEET NO: -

Stewardship. Sustainability. Service.



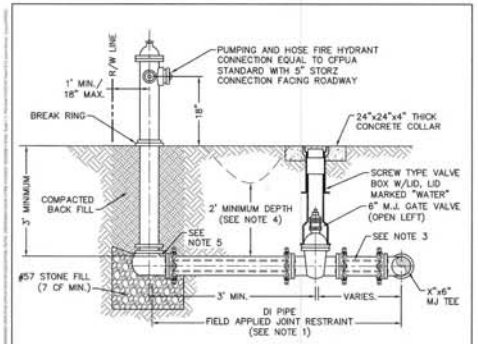
NOTES
1. DOOR OPENING MUST CLEAR ALL COMPONENTS.
2. MUST MEET H20 LOADING REQUIRED IF IN TRAFFIC AREA.
3. FOR VAULTS GREATER THAN 5 FEET DEEP PROVIDE AN ALUMINUM ACCESS LADDER w/ SAFETY EXTENSION AND NON-SKID RUNGS @ 12" o/c ANCHORED TO THE WALL.

Meter Size	By-Pass Size
3"	4"
4"	4"
6"	4"
8"	4"
10"	6"
12"	8"

* FLANGED COUPLING ADAPTER IS BOLTED DIRECTLY TO METER, ONLY ONE PEAFLO PIECE THAT IS 3 TIMES THE PIPE DIAMETER.

DETAIL: COMMERCIAL WATER SERVICE - 3-INCH AND LARGER METERS	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560	DETAIL NO: W-4
SCALE: NOT TO SCALE / CFPUA REV. No: 1	CFPUA DETAIL DATE: 01/01/19	SHEET NO: -

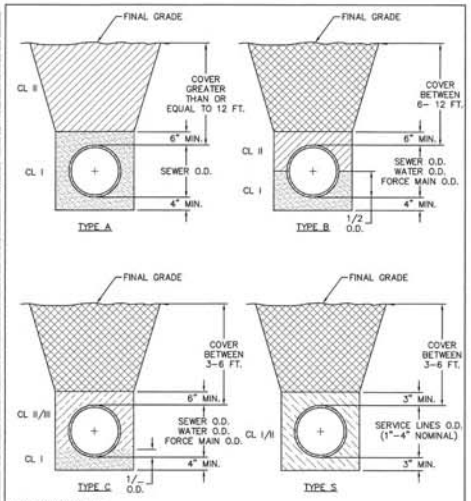
Stewardship. Sustainability. Service.



NOTES
1. JOINT RESTRAINT SYSTEMS SHALL BE WEDGE ACTION STYLE FOR DI.
2. WHEN HYDRANT LEGS REQUIRE FULL LENGTH PIPE SECTIONS, OVER BELL RESTRAINT SYSTEM SHALL HAVE 316 STAINLESS STEEL HARNESS AND FASTENERS.
3. CONTINUOUS 316 STAINLESS STEEL RODS (TEE TO VALVE AND VALVE TO HYDRANT) MAY BE USED WITH COR-BLUE MJ T-BOLT AND GASKET KITS, AS AN ALTERNATIVE.
4. HYDRANT AND VALVE SHALL BE PLACED OUTSIDE DITCH LIMITS.
5. WEEP HOLES OPEN AND UNBLOCKED TO DRAIN.
6. MJ TEE SHALL BE RESTRAINED ON EACH SIDE OF MAIN PLUS MAIN VALVES, FITTING, OR JOINTS WITHIN 10-FEET OF MJ TEE.
7. TRACING WIRE SHALL EXTEND ALONG HYDRANT LATERAL AND UP TO FINISHED GRADE WITH 2-FEET EXTENDED ABOVE THE BREAK RING OF HYDRANT.

DETAIL: FIRE HYDRANT ASSEMBLY	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560	DETAIL NO: W-9
SCALE: NOT TO SCALE / CFPUA REV. No: 1	CFPUA DETAIL DATE: 01/01/19	SHEET NO: -

Stewardship. Sustainability. Service.

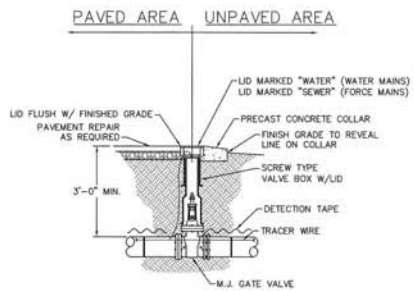


COMPACTION NOTES:

1. ALL ZONES: 95% STD EFFORT PER ASTM D698, EXCEPT AS STATED IN COMPACTION NOTE 2.
2. 12" SUBGRADE UNDER PAVEMENT: 98% STD EFFORT PER ASTM D698.

DETAIL: PIPE EMBEDMENT TYPES	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560	DETAIL NO: WS-4
SCALE: NOT TO SCALE / CFPUA REV. No: 1	CFPUA DETAIL DATE: 01/01/19	SHEET NO: -

Stewardship. Sustainability. Service.

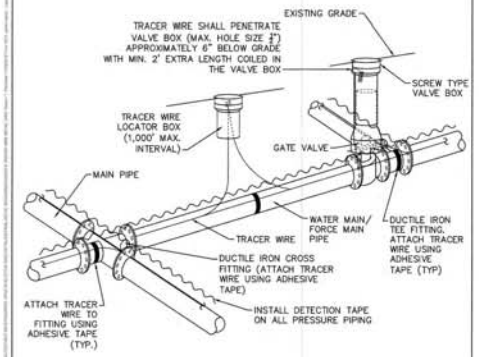


NOTES:

1. TRACER WIRE SHALL PENETRATE VALVE BOX THROUGH DRILLED HOLE APPROX. 6" BELOW GRADE WITH MINIMUM 2-FEET EXTRA LENGTH COILED IN THE VALVE BOX. SEE WS-6.

DETAIL: VALVE DETAIL	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560	DETAIL NO: WS-5
SCALE: NOT TO SCALE / CFPUA REV. No: 1	CFPUA DETAIL DATE: 01/01/19	SHEET NO: -

Stewardship. Sustainability. Service.



NOTES:
1. TRACER WIRE SHALL BE #10 COPPER SOLID CORE COPPER WIRE WITH GAS AND OIL RESISTANT INSULATION AND DIRECT BURY RATING.
2. WIRE SHALL BE STRAPPED TO ALL PVC PIPING WITH ADHESIVE TAPE AT 12 FOOT INTERVALS.
3. SECURE WIRE TO ALL TEE AND CROSS FITTINGS WITH ADHESIVE TAPE.
4. ALL SPLICES IN THE WIRE SHALL BE MADE WITH 3M DBR DIRECT BURY SPLICE KITS.

DETAIL: TRACER WIRE DETAIL	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560	DETAIL NO: WS-6
SCALE: NOT TO SCALE / CFPUA REV. No: 1	CFPUA DETAIL DATE: 01/01/19	SHEET NO: -

Stewardship. Sustainability. Service.

The referenced details are Cape Fear Public Utility Authority standard details.

They are not the responsibility or design of the Engineer.

NORTH CAROLINA EVANS, MECHANAT, HAMBLETON & TILSON, INC. No. F-1018 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045526 02/11/19 ENGINEER BRIAN R. ROSSI

MARK	DATE	DESCRIPTION

REVISIONS

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
HENDRICK HONDA OF WILMINGTON
UTILITY DETAILS

EMHT
Evans, Mechanat, Hambleton & Tilson, Inc.
PE Firm License # C-0782 • PLS Firm License # C-187
902 Jacksonville Rd., Ste. 100 Clinton, NC 28328
Phone: 910-592-0223 • Fax: 910-592-0224
www.emht.com

DATE: February 11, 2019

SCALE: None

JOB NO.: 20180410

SHEET: C9.5

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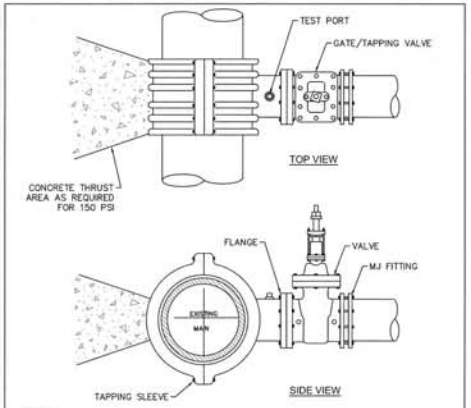
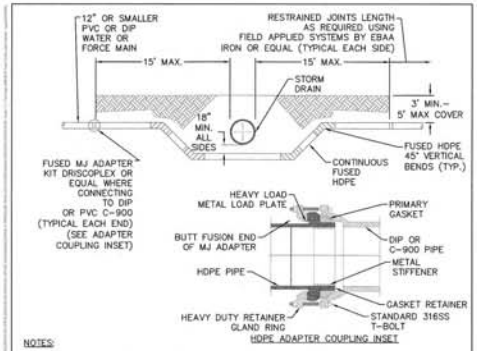


NOTES:

1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
2. TEST PRESSURE SHALL NOT BE APPLIED FOR A MINIMUM OF 7 DAYS AFTER THRUST BLOCK PLACEMENT.
3. BRANCH SHALL NOT EQUAL RUN DIAMETER UNLESS APPROVED BY CFPUA ENGINEERING.
4. TAPPING SLEEVE & VALVE TO BE HYDROSTATICALLY TESTED AT 150 PSI FOR 15 MINUTES WITH ZERO PRESSURE LOSS.

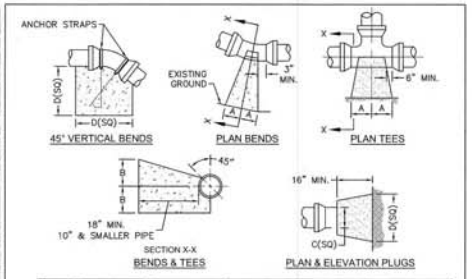
DETAIL: TAPPING SLEEVE AND VALVE ASSEMBLY (4"-24")	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6580	DETAIL NO: WS-9
SCALE: NOT TO SCALE / CFPUA DETAIL DATE: 01/01/19	Stewardship. Sustainability. Service.	SHEET NO: -
CFPUA REV. No: 1		



NOTES:

1. MAY BE USED AS AN ALTERNATIVE TO CFPUA STANDARD DETAIL WS-10 (STORM CROSSING) WITH APPROVAL BY CFPUA. SHALL NOT BE USED FOR DITCH CROSSINGS.
2. NO SERVICE CONNECTIONS, VALVES, TEES, ADDITIONAL FITTINGS OR APPURTENANCES SHALL BE INSTALLED ON HDPE.
3. 45° VERTICAL BENDS MAY BE ELIMINATED IF OFFSET CAN BE ACHIEVED BY DEFLECTING PIPE WITHIN MANUFACTURER'S MAXIMUM BENDING RADIUS.
4. HDPE SHALL BE A MINIMUM OF DR-11 (200 PSI), DIPS, PE 4710, BLUE POTABLE WATER MAINS AND GREEN SEWER FORCE MAINS. INSTALLATIONS IN PUBLIC RIGHT-OF-WAY ARE SUBJECT TO NC DOT REQUIREMENTS, WHICH MAY INCLUDE USE OF DR-9 HDPE.
5. 45° VERTICAL BENDS MAY BE FUSED BY SUPPLIER PRIOR TO DELIVERY TO SITE. IF THE ASSEMBLY IS FUSED ONSITE, IT MUST BE PRESSURE TESTED.

DETAIL: PRESSURE MAIN AND STORM DRAIN CROSSING-HDPE	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6580	DETAIL NO: WS-11
SCALE: NOT TO SCALE / CFPUA DETAIL DATE: 01/01/19	Stewardship. Sustainability. Service.	SHEET NO: -
CFPUA REV. No: 1		



SIZE	90 BENDS A	90 BENDS B	45 BENDS A	45 BENDS B	22-1/2 BENDS A	22-1/2 BENDS B	TEES/PLUGS A	TEES/PLUGS B	45 VERT. BENDS
3"	8"	6"	5"	6"	3"	7"	6"	8"	27"
4"	8"	9"	5"	8"	3"	11"	6"	9"	28"
6"	14"	11"	9"	9"	8"	8"	12"	9"	36"
8"	16"	16"	12"	12"	10"	13"	14"	13"	42"
10"	18"	22"	15"	14"	14"	16"	18"	15"	50"
12"	20"	28"	18"	17"	16"	16"	22"	18"	62"
14"	26"	29"	21"	19"	18"	18"	26"	20"	72"
16"	33"	29"	25"	21"	20"	21"	32"	21"	83"
18"	40"	30"	28"	24"	22"	23"	36"	24"	88"

NOTES:

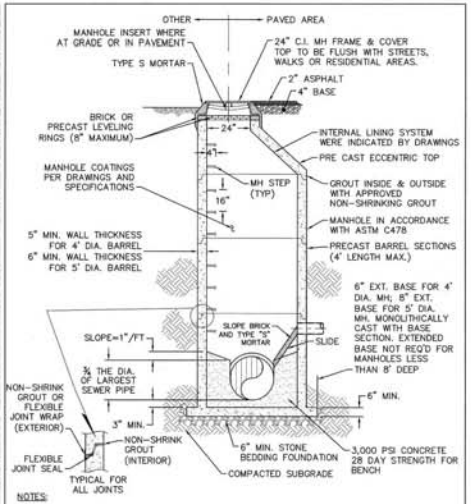
1. THRUST BLOCKING IS NOT PERMITTED EXCEPT IN SPECIAL INSTALLATIONS WHERE DESIGNED BY ENGINEER AND APPROVED BY CFPUA.
2. ALLOW 7-DAY MINIMUM CONCRETE CURE TIME BEFORE PLACING LOAD ON THRUST BLOCK
3. BASED ON 160 PSI TEST PRESSURE AND 2,000 PSF SOIL BEARING CAPACITY.
4. ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED GROUND.
5. PIPE & FITTINGS TO BE WRAPPED IN 10 MIL PLASTIC PRIOR TO THRUST BLOCK BEING POURED.

DETAIL: THRUST BLOCK	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6580	DETAIL NO: WS-13
SCALE: NOT TO SCALE / CFPUA DETAIL DATE: 01/01/19	Stewardship. Sustainability. Service.	SHEET NO: -
CFPUA REV. No: 1		

CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD NOTES:

1. ALL PROPOSED ADDITIONS TO THE CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) WATER DISTRIBUTION AND SANITARY SEWER COLLECTION SYSTEMS, AS SHOWN AND SPECIFIED HEREIN, SHALL BE DESIGNED AND CONSTRUCTED TO CONFORM TO STATE RULES AND THE CFPUA'S MINIMUM TECHNICAL STANDARDS. THE CFPUA MINIMUM TECHNICAL STANDARDS ARE CONTAINED IN THE CURRENT DESIGN GUIDANCE MANUAL, MATERIAL SPECIFICATION MANUAL, TECHNICAL SPECIFICATIONS FOR CONSTRUCTION, AND STANDARD DRAWING DETAILS.
2. SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
3. WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE 18" INSIDE RIGHT-OF-WAY LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE 18" INSIDE RIGHT-OF-WAY LINE.
4. ALL SEWER SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL ALSO BE CONSTRUCTED OF DIP.
5. MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
6. NO FLEXIBLE COUPLINGS SHALL BE USED.
7. ALL STAINLESS STEEL FASTENERS SHALL BE TYPE 316.
8. CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS.
9. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.
10. UNUSED SERVICES SHALL BE ABANDONED. ABANDONED WATER SERVICES SHALL BE DISCONNECTED FROM MAIN.
11. A MINIMUM OF 10' OF MAIN LINE SHALL BE REPLACED FOR NEW CONNECTIONS TO EXISTING CLAY GRAVITY SEWER MAINS.

DETAIL: STANDARD NOTES (REQUIRED ON ALL PLAN AND PROFILE SHEETS)	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6580	DETAIL NO: WS-14
SCALE: NOT TO SCALE / CFPUA DETAIL DATE: 01/02/19	Stewardship. Sustainability. Service.	SHEET NO: -
CFPUA REV. No: 2		

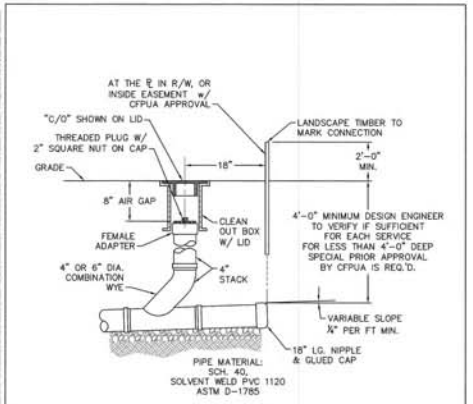


NOTES:

1. FOR MANHOLES UP TO 12 FEET IN DEPTH MINIMUM BARREL DIAMETER SHALL BE 4 FEET. MANHOLES GREATER THAN 12 FEET IN DEPTH SHALL BE A MINIMUM OF 5 FEET IN DIAMETER.

FOR LESS THAN 30" INSIDE DROP

DETAIL: PRECAST CONCRETE MANHOLE SECTION - ECCENTRIC CONE	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6580	DETAIL NO: S-1
SCALE: NOT TO SCALE / CFPUA DETAIL DATE: 01/01/19	Stewardship. Sustainability. Service.	SHEET NO: -
CFPUA REV. No: 1		



NOTES:

1. FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.
2. CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS.

DETAIL: SEWER SERVICE CONNECTION - TYPICAL CLEAN-OUT	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6580	DETAIL NO: S-13
SCALE: NOT TO SCALE / CFPUA DETAIL DATE: 01/01/19	Stewardship. Sustainability. Service.	SHEET NO: -
CFPUA REV. No: 1		

The referenced details are Cape Fear Public Utility Authority standard details.

They are not the responsibility or design of the Engineer.

NORTH CAROLINA CERTIFICATE OF AUTHORITY — EWING MECHANT HAMBLETON & TILTON, INC. No. F-1316

NORTH CAROLINA SEAL 045426 02/11/19 ENGINEER BRIAN R. ROSSI

REVISIONS

MARK	DATE	DESCRIPTION

Handrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
HENDRICK HONDA OF WILMINGTON
UTILITY DETAILS

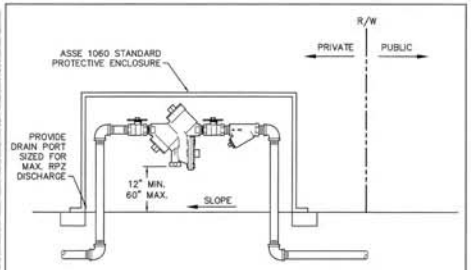
EMHT
Evans, Mechanet, Hambleton & Tilton, Inc.
Engineers • Planners • Surveyors • Landscape Architects
3530 Toringdon Way, Suite 150 Charlotte, NC 28277
Phone: 704 882-1130 Fax: 704 882-1233
License: P0339 • C-0658 • C-187 • C-0658

DATE: February 11, 2019

SCALE: None

JOB NO.: 20180410

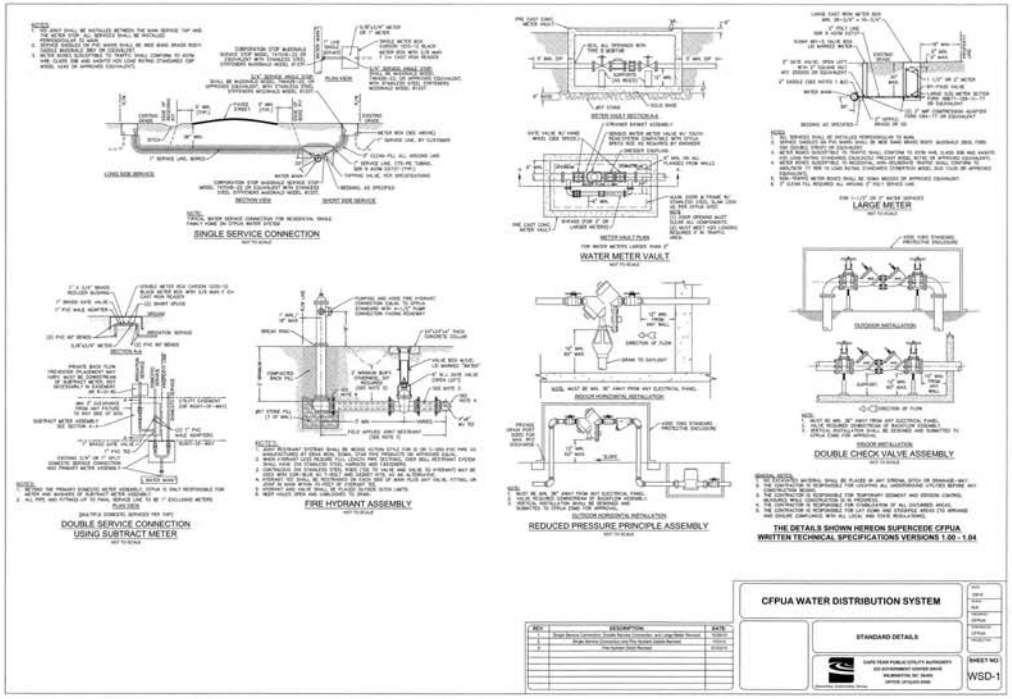
SHEET: C9.6



NOTES:
1. MUST BE MIN. 36" AWAY FROM ANY ELECTRICAL PANEL.
2. VALVE REQUIRED DOWNSTREAM OF BACKFLOW ASSEMBLY.
3. VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPUA EMD FOR APPROVAL.
4. LOCATE AS NEAR TO RIGHT-OF-WAY AS POSSIBLE.
5. MUST COMPLETE CFPUA'S BACKFLOW INSTALLATION FORM. CONTACT COMMUNITY COMPLIANCE AT 910-332-6558 OR COMMUNITY.COMPLIANCE@CFPUA.ORG.
6. ONLY IN-LINE TESTABLE ASSEMBLIES APPROVED BY THE USC FOUNDATION FOR CROSS CONNECTION CONTROL OR ASSE SHALL BE ACCEPTED.

OUTDOOR HORIZONTAL INSTALLATION

DETAIL: REDUCED PRESSURE PRINCIPLE ASSEMBLY		CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship. Sustainability. Service.	DETAIL NO. EM-1
SCALE: NOT TO SCALE	CFPUA DETAIL DATE 01/01/19		SHEET NO. -
CFPUA REV. No: 1			



The referenced details are Cape Fear Public Utility Authority standard details.

They are not the responsibility or design of the Engineer.

NORTH CAROLINA EVANS MECHANIT HAMBLETON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHENTICATION

NORTH CAROLINA PROFESSIONAL SEAL 045536 02/11/19 ENGINEER BRIAN R. ROSSI

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
UTILITY DETAILS

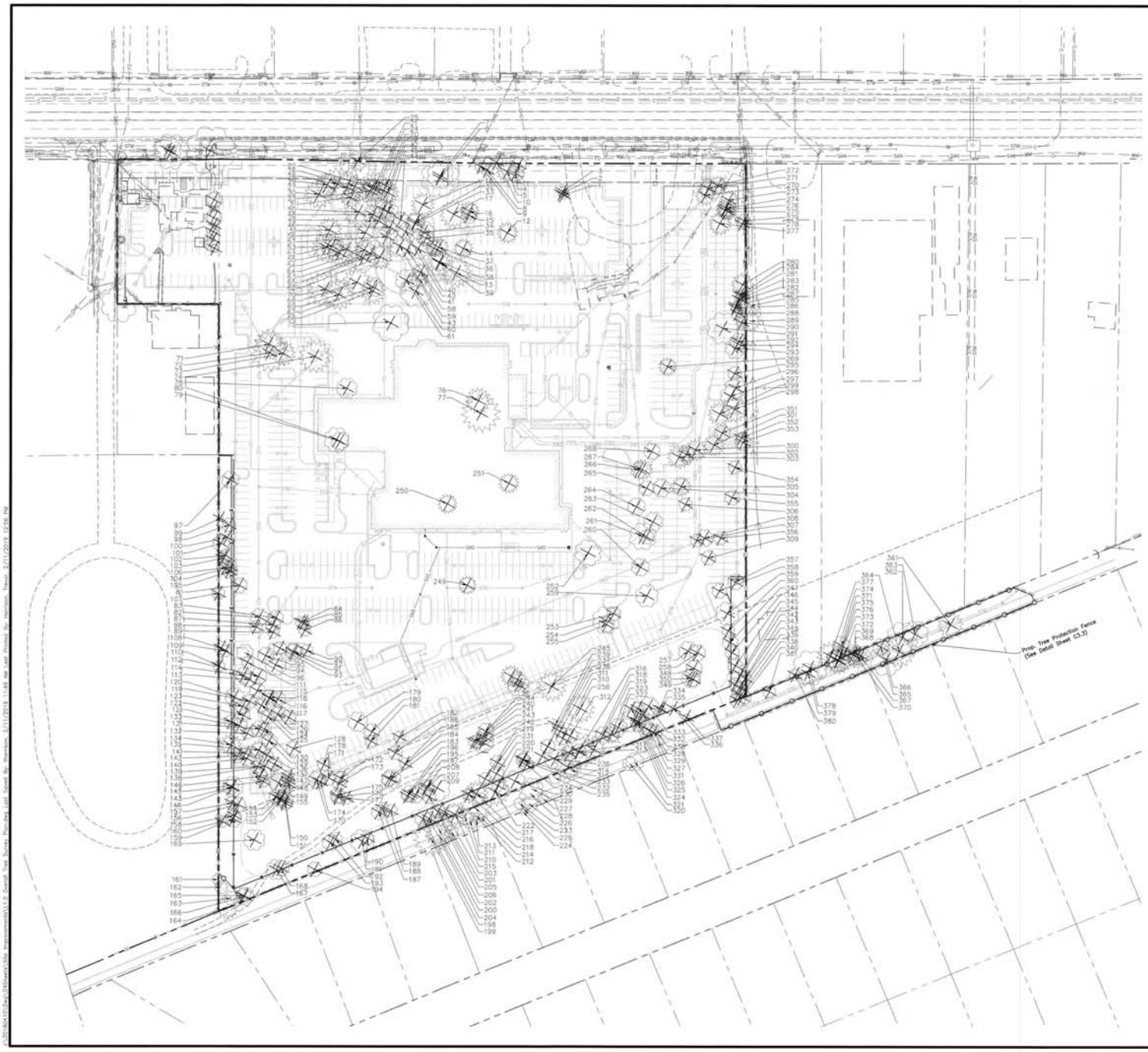
EMHT
Evans, Mechanet, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Landscape Architects
3101 Wellington Ct., Ste. 100, Greensboro, NC 27408
Phone: 336.852.9193 Fax: 336.852.9191 License: C-0832 • LA-0178
www.emht.com

DATE
February 11, 2019

SCALE
None

JOB NO.
20180410

SHEET
C9.7



LEGEND

EXISTING

- Right of way
- Property Line
- Parcel Line
- Existing Building Setback
- Easement
- Building
- Pavement
- Curb
- Fence
- Sign
- Storm Service
- Catch Basin
- Storm Manhole
- Sanitary Service
- Sanitary Cleanout
- Sanitary Manhole
- Water Main
- Hydrant
- Water Meter
- Back Flow Preventer
- Communication Line
- Communication Box
- Over Head Electric Line
- Over Head Wire, Multiple Utilities
- Over Head Comm Line
- Utility Pole
- Power Pole
- Power Box
- Guy Wire
- Light Pole
- Fiber Optic
- Tree Line
- Ditch
- Coniferous Tree
- Deciduous Tree
- Tree To Be Removed

PROPOSED

- Tree Protection Fence (See Detail Sheet C3.3)

GENERAL NOTES

1. The site tree identification survey was performed by Carolina Wetland Services, Inc. on July 10 & 11, 2018.
2. Existing tree locations are based on a combination of a topographic survey performed by EMH&T on July 19, 2018 and a GPS locate performed by CWS while doing the tree survey.
3. See sheet L1.5 for tree identification table.
4. Tree survey only includes Significant and Regulated trees and does not necessarily encompass all existing trees on site.
5. Note trees may not accurately be drawn to scale on the plans. Reference tree identification table for tree sizes.

TREE MITIGATION CALCULATIONS

Sec. 18-460 - Mitigation.
(b) 5 Significant Trees for a total of ±104 DBH removed.
±104 DBH x 2 = 208. 208 / 3 = 70 replacement trees required.

(c) 376 Regulated Trees for a total of ±3528 calculated DBH removed.
±3528 / 3 = 1176 replacement trees calculated. See below for exemption from mitigation.

Sec. 18-461 - Exemptions to Mitigation.
(b) 376 Regulated Trees exempted from mitigation. Replacement trees not provided.

NOTE

Reference Sheet L1.5 for Tree Removal Schedule.

GRAPHIC SCALE

0 30 60 120

1 inch = 60 feet

NORTH CAROLINA
EVANS MECHART HAMILTON & TILTON, INC.
No. F-1016
CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA
SEAL 045526
02/11/19
ENGINEER
BRIAN R. ROSS

MARK	DATE	DESCRIPTION

REVISIONS

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
OVERALL TREE SURVEY

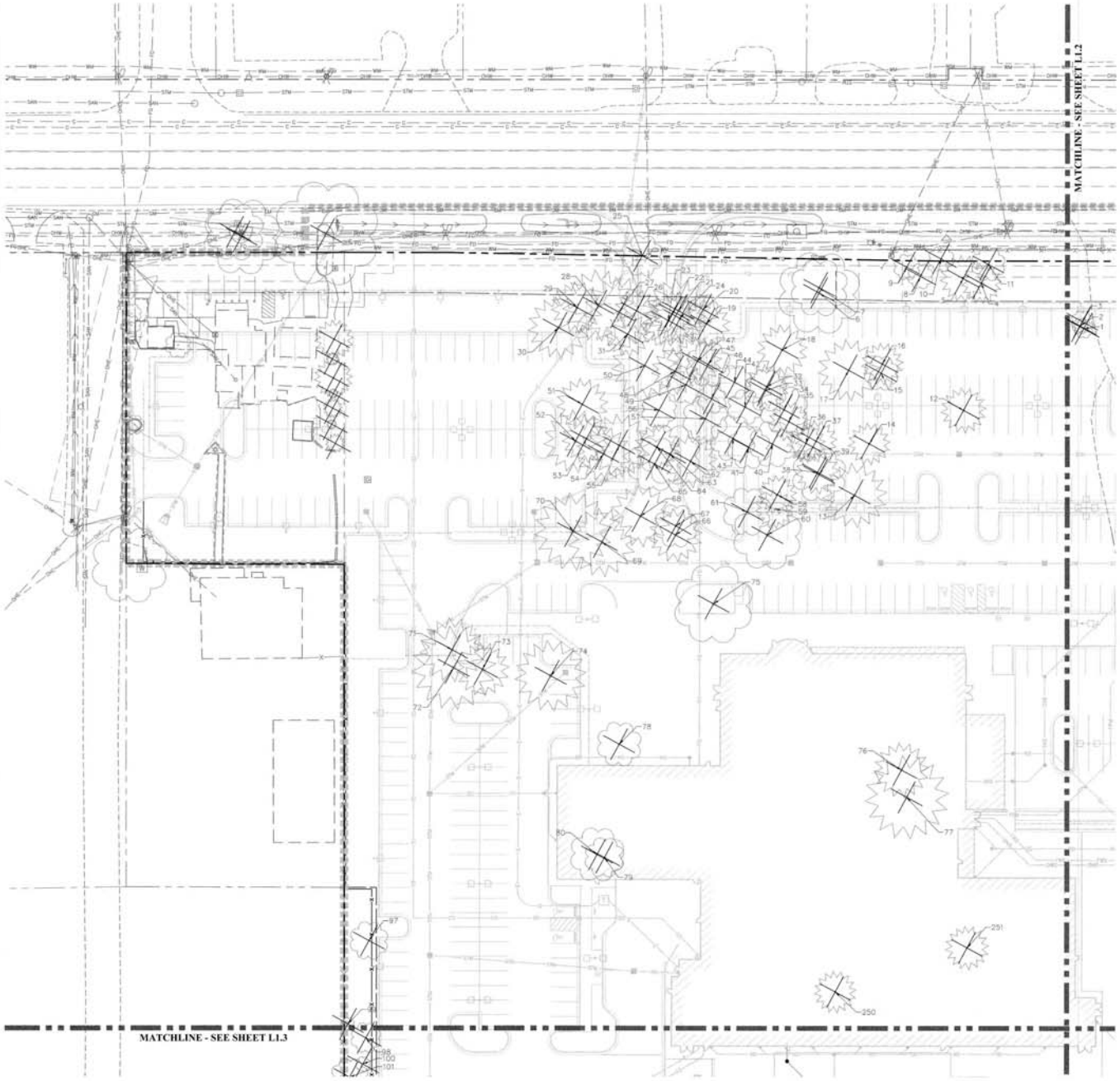
EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 866.775.5368
www.emht.com

DATE
February 11, 2019

SCALE
1" = 60'

JOB NO.
20180410

SHEET
L1.0



LEGEND

- Coniferous Tree
- Deciduous Tree
- Tree To Be Removed
- Prop. Tree Protection Fence (See Detail Sheet C3.3)

GENERAL NOTES

1. The site tree identification survey was performed by Carolina Wetland Services, Inc. on July 10 & 11, 2018.
2. Existing tree locations are based on a combination of a topographic survey performed by EMH&T on July 19, 2018 and a GPS locate performed by CWS while doing the tree survey.
3. See sheet L1.5 for tree identification table.
4. Tree survey only includes Significant and Regulated trees and does not necessarily encompass all existing trees on site.
5. Note trees may not accurately be drawn to scale on the plans. Reference tree identification table for tree sizes.

NOTE

Reference Sheet L1.5 for Tree Removal Schedule.

GRAPHIC SCALE

0 15 30 60

1 inch = 30 feet

SHEET KEY
Not To Scale

NORTH CAROLINA EVANS, MECHANT, HAMBLETON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHENTICATION

NORTH CAROLINA PROFESSIONAL SEAL 045526 02/15/19 ENGINEER BRIAN R. ROSS

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
TREE SURVEY

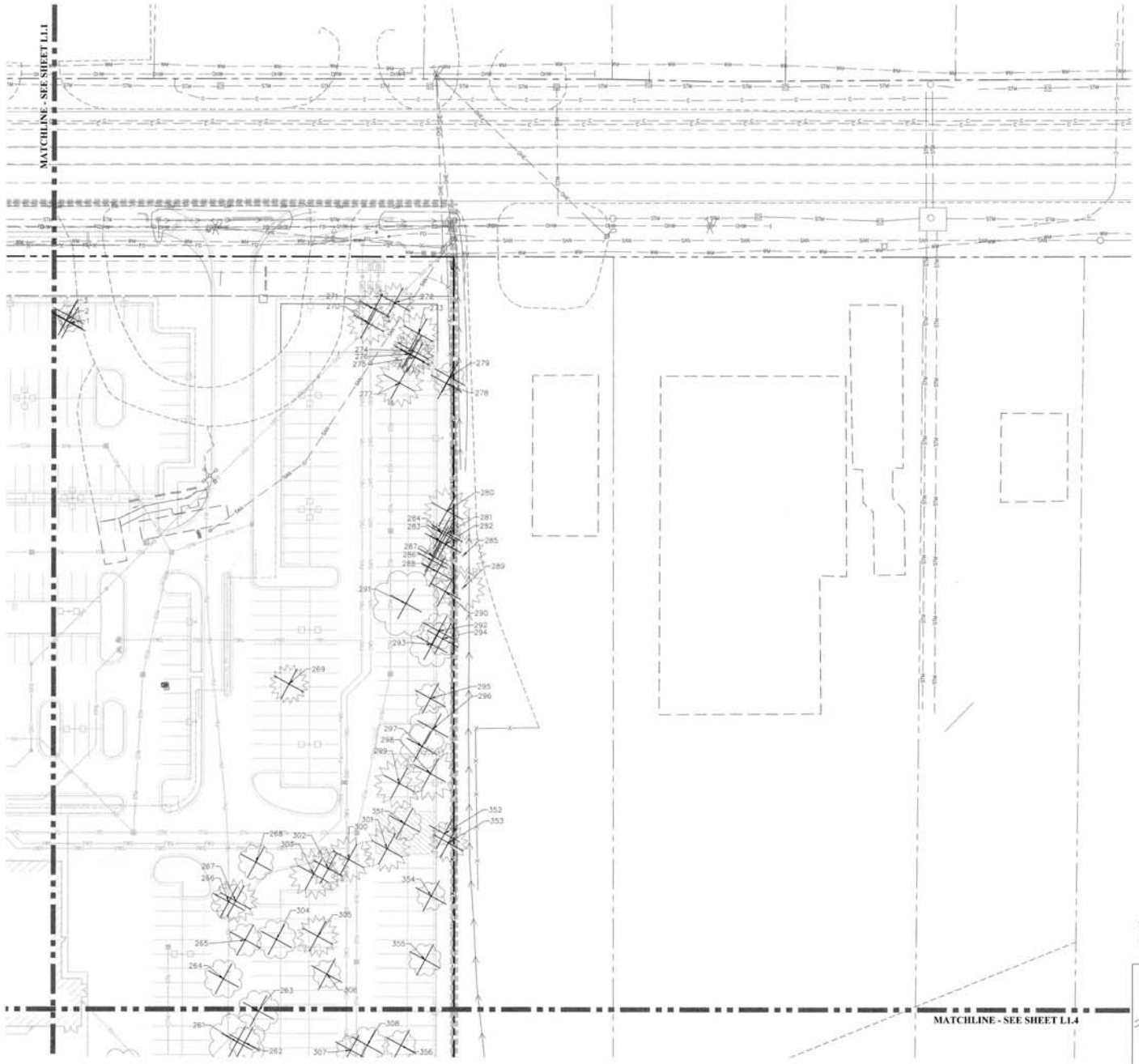
EMH&T
Evans, Mechanet, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
50 Numa Drive, Ste. 100, Chesterfield, MO 63005
Phone: 314.843.8100 Fax: 314.843.8101
www.EMHT.com

DATE
February 11, 2019

SCALE
1" = 30'

JOB NO.
20180410

SHEET
L1.1



LEGEND

- Coniferous Tree
- Deciduous Tree
- Tree To Be Removed
- Prop. Tree Protection Fence (See Detail Sheet C3.3)

GENERAL NOTES

1. The site tree identification survey was performed by Carolina Wetland Services, Inc. on July 10 & 11, 2018.
2. Existing tree locations are based on a combination of a topographic survey performed by EMH&T on July 19, 2018 and a GPS locate performed by CWS while doing the tree survey.
3. See sheet L1.5 for tree identification table.
4. Tree survey only includes Significant and Regulated trees and does not necessarily encompass all existing trees on site.
5. Note trees may not accurately be drawn to scale on the plans. Reference tree identification table for tree sizes.

NOTE

Reference Sheet L1.5 for Tree Removal Schedule.

GRAPHIC SCALE

0 15 30 60

1 inch = 30 feet

SHEET KEY
Not To Scale

NORTH CAROLINA EVANS MECHART HAMBLETON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045536 02/11/19 ENGINEER BRIAN R. ROSSI

MARK	DATE	DESCRIPTION

REVISIONS

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
TREE SURVEY

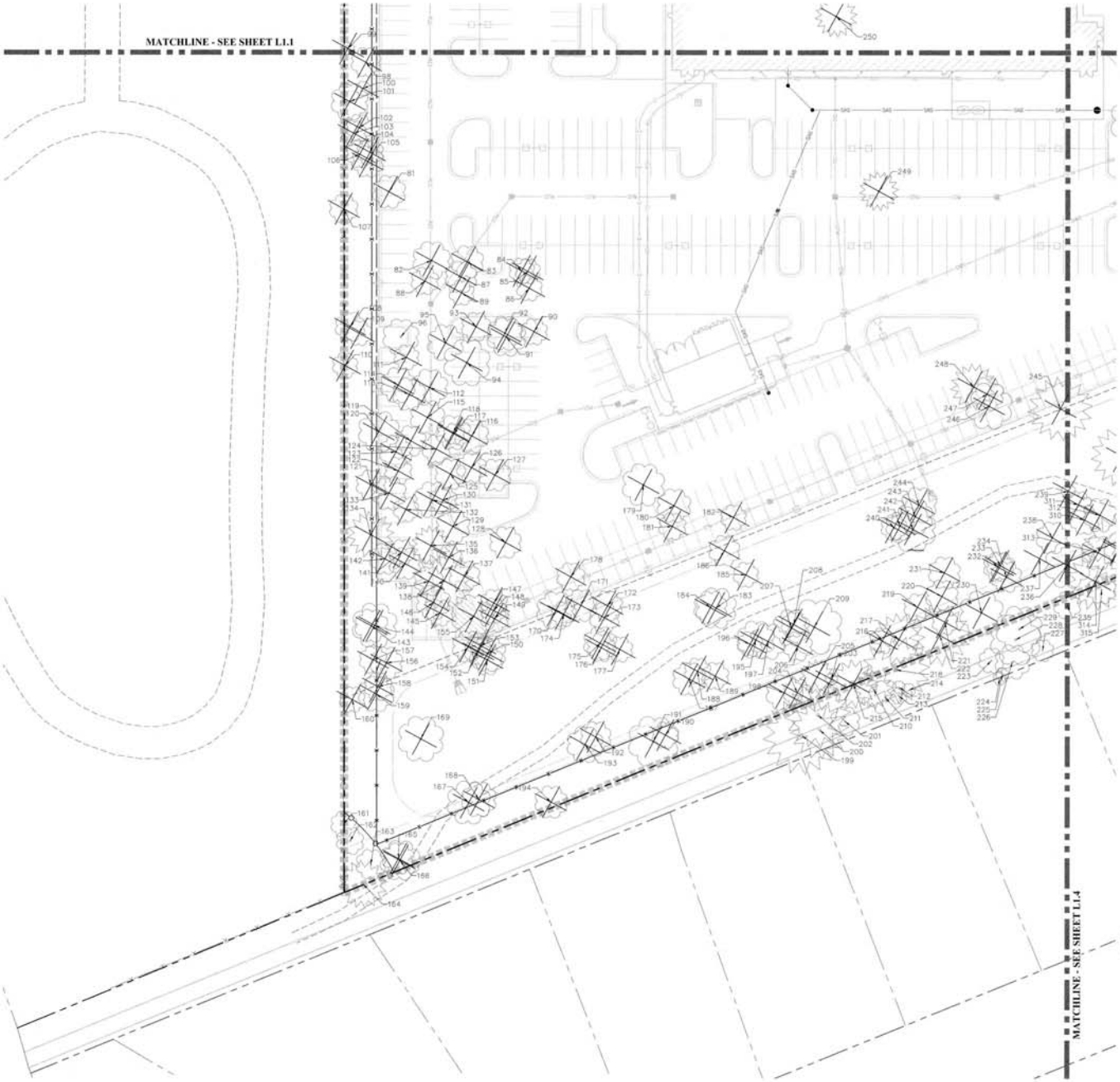
EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 866.775.5450
www.emht.com

DATE
February 11, 2019

SCALE
1" = 30'

JOB NO.
20180410

SHEET
L1.2



LEGEND

- Coniferous Tree
- Deciduous Tree
- Tree To Be Removed
- Prop. Tree Protection Fence (See Detail Sheet C3.3)

GENERAL NOTES

1. The site tree identification survey was performed by Carolina Wetland Services, Inc. on July 10 & 11, 2018.
2. Existing tree locations are based on a combination of a topographic survey performed by EMH&T on July 19, 2018 and a GPS locate performed by CWS while doing the tree survey.
3. See sheet L1.5 for tree identification table.
4. Tree survey only includes Significant and Regulated trees and does not necessarily encompass all existing trees on site.
5. Note trees may not accurately be drawn to scale on the plans. Reference tree identification table for tree sizes.

NOTE
Reference Sheet L1.5 for Tree Removal Schedule.

NOTE
Reference Sheet L1.5 for Tree Removal Schedule.

GRAPHIC SCALE
0 15 30 60
1 inch = 30 feet

SHEET KEY
Not To Scale

NORTH CAROLINA
EVANS MECHNART HAMBLETON & TILTON, INC.
No. F-1016
CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL 045526
02/11/19
BRIAN R. ROSS

REVISIONS		
MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
TREE SURVEY

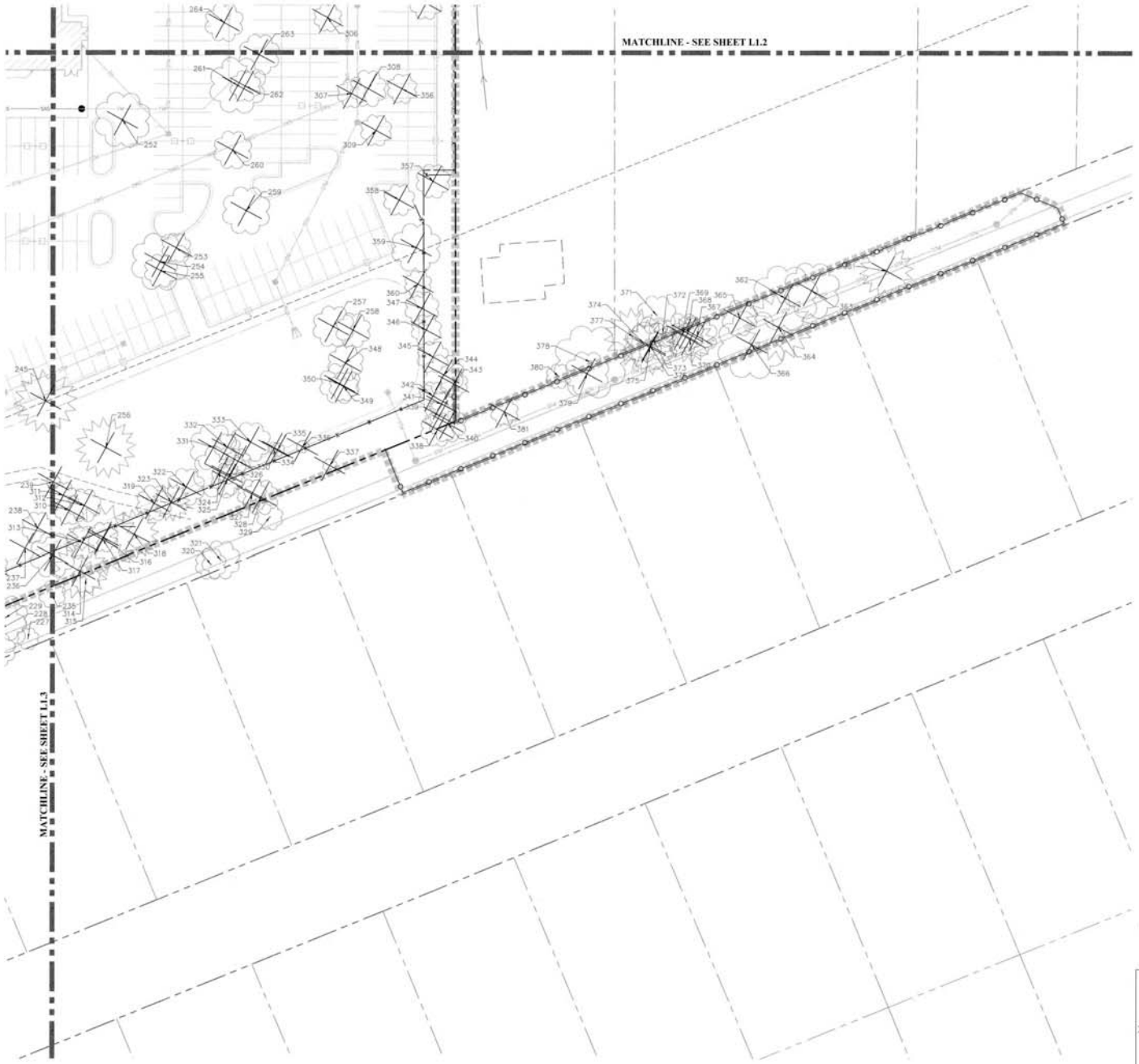
EMHT
Evans, Mechnart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 Greenwood Avenue, Raleigh, NC 27609
Phone: 919.881.0055 Toll Free: 800.733.3648
#F0-1016

DATE
February 11, 2019

SCALE
1" = 30'

JOB NO.
20180410

SHEET
L1.3



LEGEND

- Coniferous Tree
- Deciduous Tree
- Tree To Be Removed
- Prop. Tree Protection Fence (See Detail Sheet C3.3)

GENERAL NOTES

1. The site tree identification survey was performed by Carolina Wetland Services, Inc. on July 10 & 11, 2018.
2. Existing tree locations are based on a combination of a topographic survey performed by EMH&T on July 19, 2018 and a GPS locate performed by CWS while doing the tree survey.
3. See sheet L1.5 for tree identification table.
4. Tree survey only includes Significant and Regulated trees and does not necessarily encompass all existing trees on site.
5. Note trees may not accurately be drawn to scale on the plans. Reference tree identification table for tree sizes.

NOTE

Reference Sheet L1.5 for Tree Removal Schedule.

GRAPHIC SCALE

0 15 30 60

1 inch = 30 feet

SHEET KEY
Not To Scale

NORTH CAROLINA EVANS, MECHANIC, HAMBLETON & ILTON, INC. No. F-1016 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045528 02/11/19 ENGINEER BRIAN R. ROSSI

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
TREE SURVEY

EMH&T
Evans, Mechanet, Hambleton & Ilton, Inc.
5500 New Albany Road, Columbus, OH 43054
30 Jenkinson St., Mt. Clemens, MI 48043
Phone: 614.775.4500 Fax: 614.775.4800
emht.com

DATE: February 11, 2019

SCALE: 1" = 30'

JOB NO.: 20180410

SHEET: L1.4

Tree ID	Common Name	DBH (in)	Category
1*	Flowering dogwood	6.00	Regulated tree
2*	Flowering dogwood	5.00	Regulated tree
3*	Flowering dogwood	7.00	Regulated tree
4*	Loblolly pine	12.50	Regulated tree
5*	Loblolly pine	14.50	Regulated tree
6*	Southern magnolia	26.00	Significant tree
7*	Southern magnolia	18.00	Significant tree
9*	Silver maple	8.00	Regulated tree
8*	Silver maple	8.20	Regulated tree
10*	Red maple	8.00	Regulated tree
11*	Red maple	10.50	Regulated tree
12*	Loblolly pine	14.00	Regulated tree
13*	Loblolly pine	13.00	Regulated tree
14*	Loblolly pine	20.00	Regulated tree
15*	Black cherry	10.80	Regulated tree
16*	Loblolly pine	13.00	Regulated tree
17*	Loblolly pine	19.00	Regulated tree
18*	Longleaf pine	15.60	Regulated tree
19*	Loblolly pine	14.60	Regulated tree
20*	Water oak	9.50	Regulated tree
21*	Loblolly pine	20.00	Regulated tree
22*	Loblolly pine	13.00	Regulated tree
23*	Loblolly pine	16.00	Regulated tree
24*	Loblolly pine	16.00	Regulated tree
25*	Black cherry	13.00	Regulated tree
26*	Loblolly pine	13.30	Regulated tree
27*	Loblolly pine	22.00	Regulated tree
28*	Loblolly pine	22.20	Regulated tree
29*	Loblolly pine	16.00	Regulated tree
30*	Loblolly pine	19.00	Regulated tree
31*	Loblolly pine	14.00	Regulated tree
32*	Longleaf pine	13.60	Regulated tree
33*	Laurel oak	13.20	Regulated tree
34*	Laurel oak	15.00	Regulated tree
35*	Longleaf pine	12.50	Regulated tree
36*	Longleaf pine	12.00	Regulated tree
37*	Loblolly pine	13.00	Regulated tree
38*	Longleaf pine	13.60	Regulated tree
39*	Laurel oak	17.00	Regulated tree
40*	Laurel oak	14.50	Regulated tree
41*	Laurel oak	13.50	Regulated tree
42*	Live oak	11.00	Regulated tree
43*	Laurel oak	14.40	Regulated tree
44*	Laurel oak	10.70	Regulated tree
45*	Laurel oak	14.00	Regulated tree
46*	Live oak	9.20	Regulated tree
47*	Loblolly pine	15.00	Regulated tree
48*	Loblolly pine	14.50	Regulated tree
49*	Laurel oak	11.80	Regulated tree
50*	Loblolly pine	20.50	Regulated tree
51*	Loblolly pine	16.00	Regulated tree
52*	Loblolly pine	19.50	Regulated tree
53*	Loblolly pine	15.00	Regulated tree
54*	Loblolly pine	17.00	Regulated tree
55*	Loblolly pine	19.50	Regulated tree
56*	Laurel oak	11.00	Regulated tree
57*	Water oak	14.30	Regulated tree
58*	Longleaf pine	12.00	Regulated tree
59*	Longleaf pine	12.00	Regulated tree
60*	Live oak	21.50	Regulated tree
61*	Laurel oak	15.00	Regulated tree
62*	Loblolly pine	16.50	Regulated tree
63*	Laurel oak	19.00	Regulated tree
64*	Loblolly pine	14.00	Regulated tree

Tree ID	Common Name	DBH (in)	Category
65*	Laurel oak	17.00	Regulated tree
66*	Loblolly pine	16.50	Regulated tree
67*	Laurel oak	13.50	Regulated tree
68*	Loblolly pine	19.00	Regulated tree
69*	Loblolly pine	21.00	Regulated tree
70*	Loblolly pine	24.00	Regulated tree
71*	Loblolly pine	20.00	Regulated tree
72*	Loblolly pine	26.00	Regulated tree
73*	Loblolly pine	16.50	Regulated tree
74*	Loblolly pine	22.00	Regulated tree
75*	Water oak	25.00	Significant tree
76*	Loblolly pine	17.00	Regulated tree
77*	Loblolly pine	26.00	Regulated tree
78*	Laurel oak	14.00	Regulated tree
79*	Turkey oak	12.50	Regulated tree
80*	Turkey oak	17.00	Regulated tree
81*	Turkey oak	10.50	Regulated tree
82*	Turkey oak	12.00	Regulated tree
83*	Turkey oak	10.40	Regulated tree
84*	Turkey oak	8.10	Regulated tree
85*	Turkey oak	8.00	Regulated tree
86*	Turkey oak	8.20	Regulated tree
87*	Turkey oak	10.10	Regulated tree
88*	Turkey oak	8.80	Regulated tree
89*	Turkey oak	8.00	Regulated tree
90*	Turkey oak	8.40	Regulated tree
91*	Turkey oak	12.30	Regulated tree
92*	Turkey oak	11.00	Regulated tree
93*	Turkey oak	9.20	Regulated tree
94*	Turkey oak	14.80	Regulated tree
95*	Turkey oak	11.60	Regulated tree
96*	Laurel oak	11.40	Regulated tree
97*	Laurel oak	12.00	Regulated tree
98*	Laurel oak	9.50	Regulated tree
99*	Flowering dogwood	4.00	Regulated tree
100*	Southern magnolia	4.70	Regulated tree
101*	Laurel oak	11.80	Regulated tree
102*	Turkey oak	8.50	Regulated tree
103*	Turkey oak	8.00	Regulated tree
104*	Laurel oak	8.50	Regulated tree
105*	Laurel oak	10.10	Regulated tree
106*	Laurel oak	8.80	Regulated tree
107*	Laurel oak	9.00	Regulated tree
108*	Turkey oak	9.50	Regulated tree
109*	Laurel oak	8.00	Regulated tree
110*	Laurel oak	8.00	Regulated tree
111*	Turkey oak	8.00	Regulated tree
112*	Turkey oak	11.70	Regulated tree
113*	Turkey oak	10.50	Regulated tree
114*	Turkey oak	11.20	Regulated tree
115*	Turkey oak	11.00	Regulated tree
116*	Turkey oak	10.70	Regulated tree
117*	Turkey oak	6.80	Regulated tree
118*	Turkey oak	10.90	Regulated tree
119*	Turkey oak	9.70	Regulated tree
120*	Turkey oak	13.00	Regulated tree
121*	Turkey oak	9.50	Regulated tree
122*	Turkey oak	8.70	Regulated tree
123*	Turkey oak	10.40	Regulated tree
124*	Turkey oak	9.00	Regulated tree
125*	Turkey oak	9.70	Regulated tree
126*	Turkey oak	9.50	Regulated tree
127*	Turkey oak	10.20	Regulated tree
128*	Turkey oak	10.00	Regulated tree

Tree ID	Common Name	DBH (in)	Category
129*	Turkey oak	10.80	Regulated tree
130*	Turkey oak	8.80	Regulated tree
131*	Turkey oak	11.50	Regulated tree
132*	Turkey oak	8.00	Regulated tree
133*	Turkey oak	10.90	Regulated tree
134*	Longleaf pine	14.50	Regulated tree
135*	Longleaf pine	12.30	Regulated tree
136*	Turkey oak	8.00	Regulated tree
137*	Turkey oak	9.80	Regulated tree
138*	Longleaf pine	18.20	Regulated tree
139*	Turkey oak	9.20	Regulated tree
140*	Turkey oak	10.10	Regulated tree
141*	Turkey oak	8.20	Regulated tree
142*	Turkey oak	9.90	Regulated tree
143*	Laurel oak	10.50	Regulated tree
144*	Laurel oak	14.20	Regulated tree
145*	Turkey oak	8.40	Regulated tree
146*	Turkey oak	10.90	Regulated tree
147*	Turkey oak	8.70	Regulated tree
148*	Turkey oak	8.00	Regulated tree
149*	Turkey oak	8.70	Regulated tree
150*	Turkey oak	11.50	Regulated tree
151*	Turkey oak	9.60	Regulated tree
152*	Turkey oak	8.80	Regulated tree
153*	Turkey oak	8.10	Regulated tree
154*	Turkey oak	10.00	Regulated tree
155*	Turkey oak	13.80	Regulated tree
156*	Laurel oak	10.20	Regulated tree
157*	Turkey oak	8.80	Regulated tree
158*	Turkey oak	8.90	Regulated tree
159*	Laurel oak	11.40	Regulated tree
160*	Turkey oak	8.20	Regulated tree
161	Black cherry	8.20	Regulated tree
162	Black cherry	8.70	Regulated tree
163	Turkey oak	9.50	Regulated tree
164	Longleaf pine	15.00	Regulated tree
165*	Turkey oak	9.90	Regulated tree
166*	Turkey oak	12.70	Regulated tree
167*	Turkey oak	13.80	Regulated tree
168*	Turkey oak	11.10	Regulated tree
169*	Turkey oak	14.50	Regulated tree
170*	Turkey oak	12.10	Regulated tree
171*	Turkey oak	10.20	Regulated tree
172*	Turkey oak	9.50	Regulated tree
173*	Turkey oak	9.50	Regulated tree
174*	Turkey oak	8.00	Regulated tree
175*	Turkey oak	10.50	Regulated tree
176*	Turkey oak	9.00	Regulated tree
177*	Turkey oak	8.20	Regulated tree
178*	Turkey oak	9.00	Regulated tree
179*	Turkey oak	13.50	Regulated tree
180*	Turkey oak	10.80	Regulated tree
181*	Turkey oak	8.60	Regulated tree
182*	Turkey oak	8.20	Regulated tree
183*	Turkey oak	12.90	Regulated tree
184*	Turkey oak	10.60	Regulated tree
185*	Turkey oak	8.00	Regulated tree
186*	Turkey oak	9.80	Regulated tree
187*	Laurel oak	10.60	Regulated tree
188*	Laurel oak	8.40	Regulated tree
189*	Laurel oak	8.70	Regulated tree
190*	Turkey oak	8.40	Regulated tree
191*	Laurel oak	16.00	Regulated tree
192*	Turkey oak	9.70	Regulated tree

Tree ID	Common Name	DBH (in)	Category
193*	Turkey oak	11.50	Regulated tree
194*	Laurel oak	10.30	Regulated tree
195*	Laurel oak	12.00	Regulated tree
196*	Laurel oak	8.00	Regulated tree
197*	Laurel oak	11.50	Regulated tree
198*	Laurel oak	11.60	Regulated tree
199	Longleaf pine	24.00	Significant tree
200	Longleaf pine	18.00	Regulated tree
201	Black cherry	9.30	Regulated tree
202	Longleaf pine	20.50	Regulated tree
203*	Flowering dogwood	4.00	Regulated tree
204*	Laurel oak	8.80	Regulated tree
205*	Longleaf pine	10.80	Regulated tree
206*	Laurel oak	9.30	Regulated tree
207*	Laurel oak	11.70	Regulated tree
208*	Laurel oak	8.00	Regulated tree
209*	Laurel oak	17.50	Regulated tree
210	Longleaf pine	12.00	Regulated tree
211	Laurel oak	10.70	Regulated tree
212	Flowering dogwood	4.00	Regulated tree
213	Flowering dogwood	5.30	Regulated tree
214	Flowering dogwood	4.30	Regulated tree
215*	Longleaf pine	15.00	Regulated tree
216*	Turkey oak	8.20	Regulated tree
217*	Longleaf pine	16.20	Regulated tree
218	Longleaf pine	21.00	Regulated tree
219*	Laurel oak	8.60	Regulated tree
220*	Turkey oak	10.30	Regulated tree
221*	Turkey oak	8.10	Regulated tree
222*	Longleaf pine	18.90	Regulated tree
223	Laurel oak	8.00	Regulated tree
224	Southern magnolia	4.10	Regulated tree
225	Southern magnolia	4.10	Regulated tree
226	Laurel oak	11.00	Regulated tree
227	Southern magnolia	7.00	Regulated tree
228	Laurel oak	16.00	Regulated tree
229	Laurel oak	14.60	Regulated tree
230*	Turkey oak	13.90	Regulated tree
231*	Laurel oak	10.10	Regulated tree
232*	Laurel oak	9.20	Regulated tree
233*	Laurel oak	8.80	Regulated tree
234*	Laurel oak	9.80	Regulated tree
235	Laurel oak	8.60	Regulated tree
236*	Laurel oak	14.50	Regulated tree
237*	Turkey oak	0.00	Regulated tree
238*	Turkey oak	10.20	Regulated tree
239*	Flowering dogwood	4.50	Regulated tree
240*	Turkey oak	8.20	Regulated tree
241*	Laurel oak	9.00	Regulated tree
242*	Turkey oak	14.50	Regulated tree
243*	Live oak	11.20	Regulated tree
244*	Live oak	11.30	Regulated tree
245*	Loblolly pine	19.80	Regulated tree
246*	Live oak	14.80	Regulated tree
247*	Live oak	10.50	Regulated tree
248*	Longleaf pine	14.30	Regulated tree
249*	Longleaf pine	12.20	Regulated tree
250*	Longleaf pine	13.00	Regulated tree
251*	Longleaf pine	13.50	Regulated tree
252*	Turkey oak	17.90	Regulated tree
253*	Turkey oak	9.40	Regulated tree
254*	Turkey oak	18.60	Regulated tree
255*	Live oak	10.70	Regulated tree
256*	Loblolly pine	19.00	Regulated tree

Tree ID	Common Name	DBH (in)	Category
257*	Turkey oak	13.30	Regulated tree
258*	Turkey oak	11.20	Regulated tree
259*	Turkey oak	15.40	Regulated tree
260*	Turkey oak	12.30	Regulated tree
261*	Live oak	18.20	Regulated tree
262*	Live oak	9.90	Regulated tree
263*	Turkey oak	13.10	Regulated tree
264*	Black gum	12.30	Regulated tree
265*	Turkey oak	10.50	Regulated tree
266*	Laurel oak	11.50	Regulated tree
267*	Longleaf pine	14.00	Regulated tree
268*	Turkey oak	11.40	Regulated tree
269*	Loblolly pine	12.30	Regulated tree
270*	Loblolly pine	13.50	Regulated tree
271*	Loblolly pine	13.30	Regulated tree
272*	Loblolly pine	12.60	Regulated tree
273*	Loblolly pine	13.00	Regulated tree
274*	Loblolly pine	13.30	Regulated tree
275*	Loblolly pine	12.00	Regulated tree
276*	Loblolly pine	12.50	Regulated tree
277*	Loblolly pine	15.20	Regulated tree
278*	Sweetgum	8.00	Regulated tree
279*	Sweetgum	9.00	Regulated tree
280*	Loblolly pine	14.90	Regulated tree
281*	Sweetgum	8.60	Regulated tree
282*	Water oak	10.70	Regulated tree
283*	Southern magnolia	4.60	Regulated tree
284*	Southern magnolia	6.60	Regulated tree
285	Loblolly pine	14.50	Regulated tree
286*	Southern magnolia	7.00	Regulated tree
287*	Southern magnolia	5.70	Regulated tree
288*	Southern magnolia	4.60	Regulated tree
289	Loblolly pine	14.20	Regulated tree
290*	Black gum	8.00	Regulated tree
291*	Laurel oak	21.50	Regulated tree
292*	Water oak	11.60	Regulated tree
293*	Water oak	14.50	Regulated tree
294*	Water oak	10.70	Regulated tree
295*	Black gum	9.50	Regulated tree
296*	Laurel oak	15.40	Regulated tree
297*	Laurel oak	14.30	Regulated tree
298*	Loblolly pine	17.30	Regulated tree
299*	Loblolly pine	15.90	Regulated tree
300*	Loblolly pine	14.50	Regulated tree
301*	Loblolly pine	14.60	Regulated tree
302*	Loblolly pine	12.60	Regulated tree
303*	Loblolly pine	15.80	Regulated tree
304*	Water oak	12.60	Regulated tree
305*	Loblolly pine	13.20	Regulated tree
306*	Turkey oak	9.00	Regulated tree
307*	Black gum	9.20	Regulated tree
308*	Turkey oak	11.80	Regulated tree
309*	Live oak	10.10	Regulated tree
310*	Turkey oak	9.30	Regulated tree
311*	Turkey oak	8.50	Regulated tree
312*	Laurel oak	10.70	Regulated tree
313*	Southern magnolia	10.90	Significant tree
314*	Longleaf pine	17.80	Regulated tree
315	Black cherry	9.00	Regulated tree
316*	Turkey oak	9.70	Regulated tree
317*	Longleaf pine	22.50	Regulated tree
318*	Longleaf pine	15.50	Regulated tree
319*	Black cherry	11.50	Regulated tree
320	Laurel oak	9.90	Regulated tree

Tree ID	Common Name	DBH (in)	Category
321	Laurel oak	12.30	Regulated tree
322*	Black cherry	12.00	Regulated tree
323*	Longleaf pine	12.00	Regulated tree
324*	Tulip poplar	17.00	Regulated tree
325*	Turkey oak	10.50	Regulated tree
326*	Southern magnolia	6.60	Regulated tree
327*	Black cherry	9.50	Regulated tree
328*	Carolina cherry laurel	11.40	Regulated tree
329	Carolina cherry laurel	8.40	Regulated tree
330*	Laurel oak	8.10	Regulated tree
331*	Laurel oak	15.00	Regulated tree
332*	Turkey oak	8.40	Regulated tree
333*	Turkey oak	12.80	Regulated tree
334*	Southern magnolia	4.10	Regulated tree
335*	Southern magnolia	4.50	Regulated tree
336*	Southern magnolia	4.10	Regulated tree
337*	Southern magnolia	4.50	Regulated tree
338*	Laurel oak	11.00	Regulated tree
339*	Laurel oak	9.40	Regulated tree
340*	Laurel oak	12.00	Regulated tree
341*	Laurel oak	8.00	Regulated tree
342*	Laurel oak	9.20	Regulated tree
343*	Laurel oak	8.90	Regulated tree
344*	Laurel oak	13.00	Regulated tree
345*	Black cherry	10.20	Regulated tree
346*	Laurel oak	9.80	Regulated tree
347*	Laurel oak	11.00	Regulated tree
348*	Laurel oak	11.50	Regulated tree
349*	Laurel oak	9.40	Regulated tree
350*	Laurel oak	13.00	Regulated tree
351*	Turkey oak	11.00	Regulated tree
352*	Southern magnolia	7.50	Regulated tree
353*	Loblolly pine	12.40	Regulated tree
354*	Laurel oak	9.00	Regulated tree
355*	Post oak	10.40	Regulated tree
356*	Live oak	9.50	Regulated tree
357*	Laurel oak	11.00	Regulated tree
358*	Laurel oak	10.10	Regulated tree
359*	Laurel oak	15.90	Regulated tree
360*	Laurel oak	8.70	Regulated tree
361*	Longleaf pine	17.00	Regulated tree
362*	Laurel oak	21.00	Regulated tree
363*	Turkey oak	18.00	Regulated tree
364*	Loblolly pine	21.40	Regulated tree
365*	Turkey oak	11.50	Regulated tree
366*	Black cherry	22.00	Regulated tree
367*	Laurel oak	13.00	Regulated tree
368*	Black cherry	10.30	Regulated tree
369*	Black cherry	13.50	Regulated tree
370*	Longleaf pine	14.80	Regulated tree
371	Laurel oak	12.50	Regulated tree
372	Black cherry	9.00	Regulated tree
373	Laurel oak	14.00	Regulated tree
374	Laurel oak	12.00	Regulated tree
375*	Loblolly pine	17.50	Regulated tree
376*	Laurel oak	15.50	Regulated tree
377	Loblolly pine	18.50	Regulated tree
378	Laurel oak	23.50	Regulated tree
379*	Turkey oak	14.20	Regulated tree
380	Laurel oak	8.00	Regulated tree
381*	Laurel oak	8.80	Regulated tree

* Trees To Be Removed

NORTH CAROLINA EVANS MECHANIT HAMBLETON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 045526 02/11/19 ENGINEER BRIAN R. ROSSI

REVISIONS

MARK	DATE	DESCRIPTION

Hendrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
TREE SURVEY TABLE

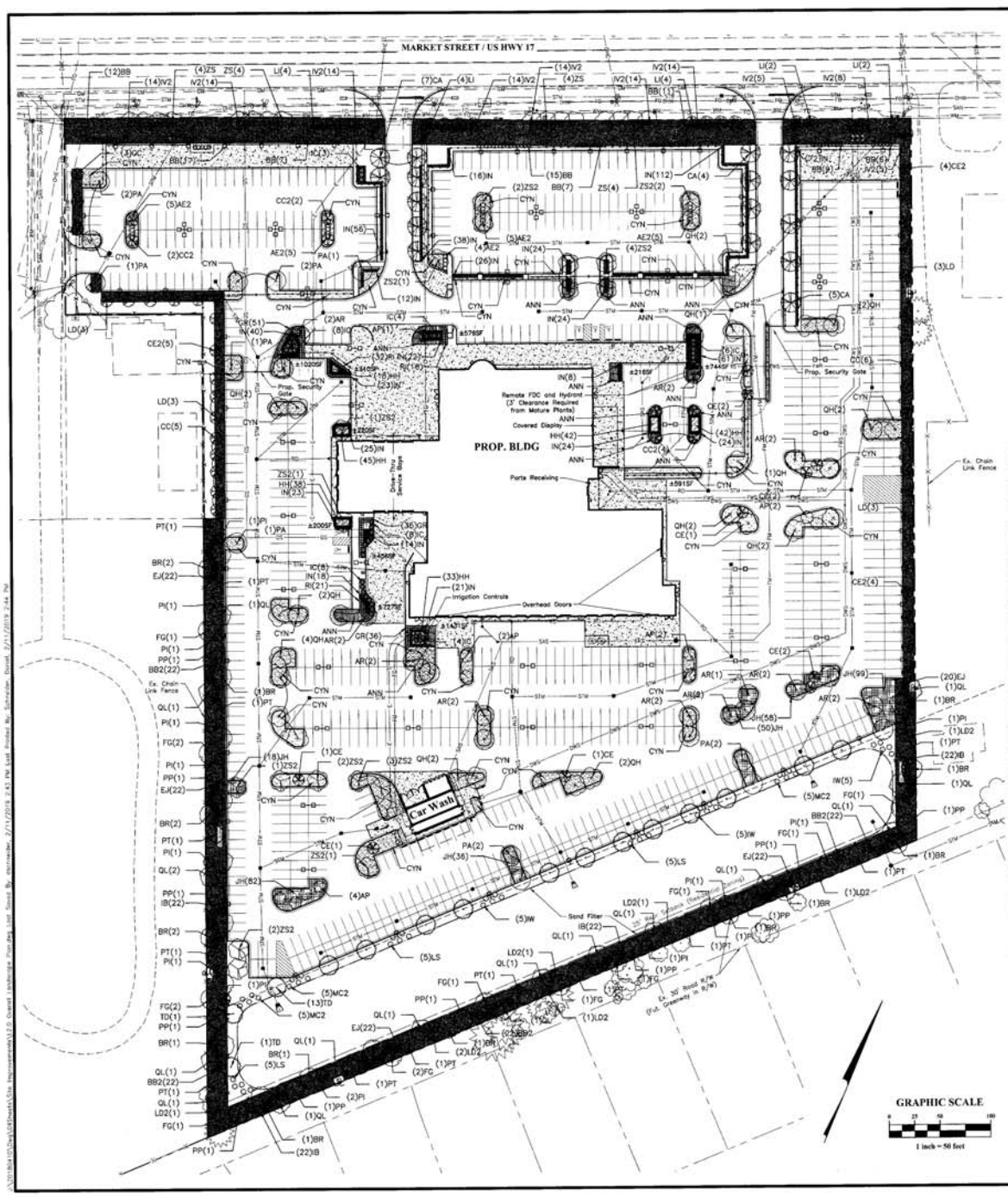
EMHT
Evans, Mechanicit, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners
3301 Atlantic Ave., Ste. 101, Raleigh, NC 27604
Phone: 919.848.0801 Toll Free: 888.775.5648
emht.com

DATE
February 11, 2019

SCALE
None

JOB NO.
20180410

SHEET
L1.5



Landscape Calculations

Sec. 18-448. - General standards for landscaping.
(a) 15 Trees per disturbed acre.
Total Disturbed Area: ±14.34 Ac
Total Trees required: 216 (15x14.34)

18-477 Street Yard Calculations

MARKET STREET FRONTAGE (835 L.F.(-80 for Drives)= 755 L.F.)
RB Zoning Multiplier: 25
Square Footage Required: 25x755=18,875 S.F.
Square Footage Provided: 19,530 S.F.

Trees Required: 32 (1 per 600 S.F.)
Trees Provided: 32
Shrubs Required: 196 (6 per 600 S.F.)
Shrubs Provided: 200

Sec. 18-481. -Parking Lot Landscaping
All parking islands shall be planted per 18-481(a)

(a)(i)Tree Canopy Cover

389,676 S.F. Parking Lot Area @ 20%
75% of trees to be Large Canopy Trees
Required: =77,936 S.F. Tree Canopy
Provided: =78,208 S.F. Provided

93 Canopy Trees @ 707 S.F. = 65,751 S.F. (76.9%)
28 Small Canopy Trees @ 314 S.F. = 8,792 S.F. (23.1%)
Perimeter Tree Partial Cover = 3,660 S.F.

Sec. 18-482. Perimeter landscaping
(a.)Required One Tree per 18-27 feet

West Side: 417 L.F. =16 trees minimum
=16 trees provided
East Side: 523 L.F. =20 trees minimum
=20 trees provided

Sec. 18-490. - Foundation plantings
(a.) Requirements based on 12% S.F. of Building Face.

North Facade (±8106 Facade S.F.): 973 S.F. required \ 1596 S.F. provided
South Facade (±6226 Facade S.F.): 747 S.F. required \ 1431 S.F. provided
East Facade (±6204 Facade S.F.): 744 S.F. required \ 1335 S.F. provided
West Facade (±6160 Facade S.F.): 739 S.F required \ 1876 S.F. provided

TREE MITIGATION CALCULATIONS

Sec. 18-480 - Mitigation.
(b) 5 Significant Trees for a total of ±104 DBH removed.
±104 DBH x 2 = 208. 208 / 3 = 70 replacement trees required.

(c) 376 Regulated Trees for a total of ±3528 calculated DBH removed.
±3528 / 3 = 1176 replacement trees calculated. See below for exemption from mitigation.

Sec. 18-481 - Exemptions to Mitigation.
(b) 376 Regulated Trees exempted from mitigation. Replacement trees not provided.

IRRIGATION NOTE

NOTE TO CONTRACTOR
Contractor to coordinate sleeves/irrigation with owner. Bid price shall include all irrigation sleeves and and add alternate for irrigation system.

PLANT SCHEDULE

BASIN TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION
TD	15	Taxodium distichum	Bald Cypress	2" Cal.	B&B

BUFFER TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION
PP	11	Pinus palustris	Longleaf Pine	8' Ht.	B&B
PT	13	Pinus taeda	Loblolly Pine	8' Ht.	B&B

MITIGATION TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION
BR	16	Betula nigra	River Birch	2" Cal.	B&B
FG	14	Fraxinus pennsylvanica	Green Ash	2" Cal.	B&B
LD2	8	Lagerstroemia 'Indica 'Dallas Red'	Red Crape Myrtle	2" Cal.	B&B
PI	15	Pinus thunbergii	Japanese Black Pine	8' Ht.	B&B
QL	17	Quercus laurifolia	Laurel Oak	2" Cal.	B&B

PARKING LOT TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION
AR	21	Acer rubrum	Red Maple	2" Cal.	B&B
CA	16	Carpinus caroliniana	American Hornbeam	2" Cal.	B&B
PA	12	Platanus x acerifolia	London Plane Tree	2" Cal.	B&B
QH	24	Quercus phellos 'Hightower'	Willow Oak	2" Cal.	B&B
ZS2	20	Zelkova serrata	Sawleaf Zelkova	2" Cal.	B&B

PARKING LOT UNDERSTORY TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION
AP	11	Acer palmatum	Japanese Maple	8'-10' Ht.	B&B
CE	10	Cercis canadensis 'Silver Cloud'	Silver Cloud Redbud	8'-10' Ht.	B&B
CC2	8	Cornus florida 'Cherokee Chief'	Cherokee Chief Dogwood	8'-10' Ht.	B&B

PERIMETER TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION
CE2	13	Cercis canadensis 'Silver Cloud'	Silver Cloud Redbud	8'-10' Ht.	B&B
CC	14	Cornus florida 'Cherokee Chief'	Cherokee Chief Dogwood	8'-10' Ht.	B&B
LD	12	Lagerstroemia indica 'Dallas Red'	Red Crape Myrtle	8'-10' Ht.	B&B

STREET YARD TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION
LI	16	Lagerstroemia 'Indica 'Dallas Red'	Red Crape Myrtle	2" Cal.	B&B
ZS	16	Zelkova serrata	Sawleaf Zelkova	2" Cal.	B&B

BASIN SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION
IW	15	Ilex verticillata	Winterberry	30" Ht.	Cont.
LS	15	Lindera benzoin	Northern Spicebush	30" Ht.	Cont.
MC2	15	Myrica cerifera	Wax Myrtle	36" Ht.	Cont.

BUFFER SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION
BB2	88	Buxus microphylla	Littleleaf Boxwood	36" Ht.	Cont.
EJ	108	Euonymus japonicus	Evergreen Euonymus	12" Ht.	Cont.
IB	88	Ilex cornuta 'Burfordii'	Burford Chinese Holly	12" Ht.	Cont.

INTERIOR LOT SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION
AE2	24	Abelia grandiflora 'Edward Goucher'	Pink Abelia	12" Ht.	Cont.
GR	122	Gardenia jasminoides 'Radicans'	Gardenia	#1	Cont.
IC	41	Ilex cornuta 'Burfordii'	Burford Chinese Holly	36" Ht.	B&B
IN	683	Ilex vomitoria 'Nana'	Dwarf Youpon	12" Ht.	Cont.
RI	69	Rhododendron indicum	Indica Azalea	12" Ht.	Cont.

STREET YARD SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION
BB	84	Buxus microphylla	Littleleaf Boxwood	36" Ht.	Cont.
IV2	116	Ilex vomitoria	Youpon Holly	36" Ht.	B&B

ANNUAL GROUND COVER	BOTANICAL NAME	COMMON NAME	SIZE
ANN	Annuals	Annuals	Annual

GROUND COVER	BOTANICAL NAME	COMMON NAME	SIZE
CYN	Cynodon dactylon	Common Bermuda	Sod

PERENNIAL GROUND COVER	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
HH	218	Hemerocallis x 'Hyperion'	Hyperion Daylily	#1	Cont.	18" o.c.
JH	379	Juniperus horizontalis 'Blue Rug'	Blue Rug Juniper	#1	Cont.	42" o.c.

NORTH CAROLINA CERTIFICATE OF AUTHORIZATION
CHRIS MECHMART
HARBLETON & TILTON, INC.
No. F-1015

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT
No. 1974
2-11-19

REVISIONS

MARK	DATE	DESCRIPTION

Handrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
LANDSCAPE PLAN

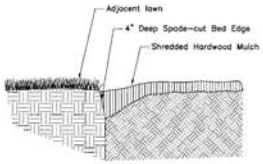
EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 Greenville Blvd, Suite 101, Greenville, NC 27834
Phone: 252.355.2000 Fax: 252.355.2001 www.emht.com

DATE
February 11, 2019

SCALE
1" = 50'

JOB NO.
20180410

SHEET
L2.0



Planting Bed Edge
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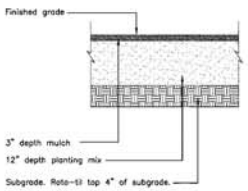

Planting Area Establishment
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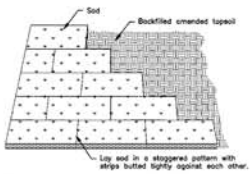
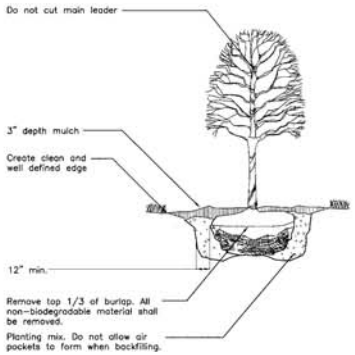


*See Landscape Notes for additional information

Sod Detail
No Scale



Deciduous Tree Planting
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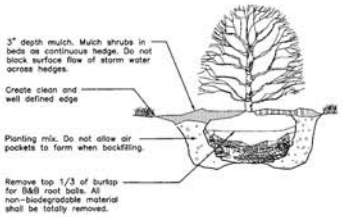

Shrub Planting
No Scale

LANDSCAPE NOTES

1. Provide tree protection fence along tree line of trees indicated to remain.
2. Trees shown on the plan are for compliance with the City of Wilmington Landscape Code. Additional trees may be planted, at the Developer's discretion, without restriction to size or type.
3. All landscape plantings shall be installed per the current edition of the City of Wilmington Technical Standards Manual (TSM) Chapter VI. If discrepancies occur between the details and specifications shown on these plans and those in the TSM, the TSM shall govern.
4. Prior to installation, the landscape contractor shall inspect the general site conditions and verify the subgrade, elevations, utility locations and topsoil provided by the general contractor. The landscape contractor shall notify the general contractor of any unsatisfactory conditions and work shall not proceed until such conditions have been corrected and are acceptable to the landscape contractor.
5. The landscape contractor is responsible for having all underground utilities located and clearly painted or flagged within 10 days of any ground disturbing activity. Owner will not pay for utility repairs due to failure to mark and observe utility locations.
6. The landscape contractor shall be responsible for the quantity of plants shown on plan. Any discrepancies between quantities on the plan and the plant schedule shall be brought to the attention of the Owner and any field adjustments or quantity adjustments must be authorized prior to planting.
7. All plants shall meet or exceed standards set in the American Standard for Nursery Stock, ANSI Z60.1, current edition. All plants shall equal or exceed the measurements and sizes specified in the schedule.
8. All proposed trees shall have straight trunks with strong central leaders intact to the top of the crown unless multi-stem trees are specified. All required trees shall be typical of their species and variety, have normal growth habits, have well-developed branches, be vigorous and have fibrous root systems. Trees with co-dominant branching will NOT be accepted. Trees that have been sheared, topped or cut back to multiply the branching structure will NOT be accepted. Trees shall be free of abrasions, damage, disease, pests and cracks. All pruning cuts greater than ½ inch diameter shall have callus tissue formed prior to planting. No pruning cut on the trunk shall be more than one-half the diameter of the central leader at the height where the cut was made. Root flares shall be located at grade. Trees with more than 2" of soil covering the root ball/flare from will NOT be accepted.
9. Substitutions shall be permitted only with notification and written approval from the City of Wilmington Planning & Zoning Department. Landscape contractor or general contractor is responsible for obtaining City approval. Substituted material shall be equivalent or greater in size than the specified plant. Substituted plants shall have the same essential characteristics and growth habit of the specified plant.
10. The landscape contractor may slightly field adjust plant locations as necessary to avoid utilities.
11. Irrigation system, if applicable, shall be complete and operational prior to landscape planting.
12. All finished planting beds shall be graded to provide positive drainage.
13. Plastic hose parts will not be accepted for tree staking. Nylon straps shall be used.
14. Install all plants in accordance with planting details and specifications show and any applicable City or County Standards.
15. Parking lot and street trees shall be free of branches up to 6' from the top of the root ball.
16. Tree trunks shall be placed a minimum of 5' from sidewalks and curbs and 8' from light posts and fire hydrants.
17. All individually planted trees and shrubs to be backfilled with prepared planting mix.
18. Excavate planting beds to a depth of 12 inches, unless otherwise indicated. Roto-till subgrade of excavation to a depth of 4 inches, unless otherwise indicated. Incorporate a 6 inch lift of planting mix into subrade. Place remaining planting mix in settled 6 inch lifts.
19. Prepared planting mix shall be mixed on site and consist of one part topsoil, one part soil amendment, one part soil from excavation. Topsoil: ASTM D5268, ph range of 5.5 to 7, min. 4 percent organic material, free of stones 1 inch and larger. Soil amendment: Source separated yard waste compost from compost facility meeting the requirements of North Carolina Administrative Code, Title 15A, provisions for solid waste compost facilities.
20. Planting beds, including mulch, shall be no higher than 6 inches above adjacent grade and shall not impede surface water drainage.
21. The landscape contractor shall remove the top 2/3 of wire baskets, top 1/3 of burlap and associated twine and strapping from tree root balls prior to final acceptance of plants.
22. Place mulch in a minimum 4 foot diameter area around each tree, in planting beds indicated, in parking lot islands and peninsulas and full extents of hedges.
23. Mulch shall be tripple-shredded bark mulch of uniform, un-dyed, natural color. It shall be free of twigs, leaves, disease, pest or other material unsightly or injurious to plants. Average applied thickness shall be 3" depth.
24. Lawn areas shall be backfilled with topsoil (ASTM D5268, ph range of 5.5 to 7, min. 4 percent organic material, free of stones 3/4 inch and larger) to a minimum settled thickness of 6 inches. Roto-Til subgrade below lawns to a depth of 4 inches, unless otherwise indicated, prior to placement of topsoil.
25. Landscape contractor shall repair all lawn areas disturbed during construction with sod and warrant a healthy, weed free lawn prior to project acceptance.
26. Install sod over all areas within contract limits that are not covered by paving, buildings or planting beds unless otherwise noted. Sodding shall not begin until area has received topsoil and finished grade.
27. Sod shall consist of improved varieties of Turf-Type Tall Fescue grown from seed certified as Water Star Qualified by the Turfgrass Water Conservation Alliance.
28. Bed edge shall be smooth, consistent, hand trenched 4" deep and "V" shaped unless otherwise noted. All excavated material shall be removed from the bed edge and planting bed.
29. All planting bed edges to be smooth flowing arcs or straight lines as shown on plan. Plant locations and layout of beds shall be located by landscape contractor and approved by Owner prior to planting.
30. Planting beds shall be covered with pre-emergent herbicide applied at product specified rate unless otherwise noted.
31. All trees and shrubs shall be fertilized with controlled release tablets of 20-10-5 composition. Size and number of tablets shall be per manufacturer's instructions.
32. Composition and application rate of lawn fertilizer shall be sufficient to amend soil according to recommendations of a qualified soil testing agency. Submit soil test results and amendment recommendations to Owner. Lawn fertilizer shall be in a dry granular form.
33. Any item or areas damaged during construction shall be repaired or replaced to its original condition at the contractor expense.
34. The landscape contractor shall thoroughly water all plants at time of installation and as needed until project acceptance by owner. Landscape contractor shall guarantee all plants installed for one (1) full year from date of acceptance by the Owner. All plants shall be alive and at a vigorous rate of growth at the end of the guarantee period.
35. Contractor shall coordinate sleeves/irrigation with the Owner. Bid price shall include all irrigation sleeves and an Add Alternate for Irrigation system.

NORTH CAROLINA EVANS MECHWART HAMBLETON & TILTON, INC. No. F-1016 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 2-11-19 No. 1974

MARK	DATE	DESCRIPTION

REVISIONS

Handrick AUTOMOTIVE GROUP

CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
SITE IMPROVEMENT PLAN
FOR
HENDRICK HONDA OF WILMINGTON
6720 MARKET STREET
LANDSCAPE DETAILS & NOTES

EMH&T
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DATE
February 11, 2019

SCALE
1" = 40'

JOB NO.
20180410

SHEET
L2.1