

McADAMS

The John R. McAdams Company, Inc.  
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Durham, NC 27713

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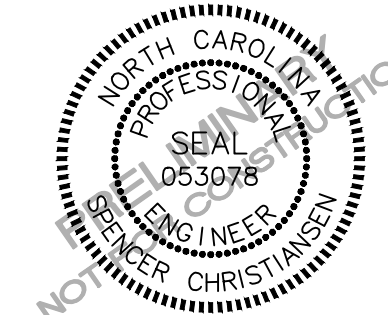
www.mcadamsco.com

CLIENT

TOLL BROTHERS APARTMENT LIVING  
1140 VIRGINIA DR  
FORT WASHINGTON, PA, 19034  
Contact  
PHONE: 202.577.6491



BARBEE CHAPEL APARTMENTS  
CONDITIONAL ZONING PERMIT  
DRAWINGS  
5101 BARBEE CHAPEL RD  
CHAPEL HILL, NC 27517



REVISIONS

NO.	DATE	REVISION
11.23.2022	REVISED PER 1ST CZP COMMENTS	
02.21.2023	REVISED PER 2ND CZP COMMENTS	

PLAN INFORMATION

PROJECT NO. TLA-22001  
FILENAME TLA22001-CM1  
CHECKED BY SJC  
DRAWN BY WHM  
SCALE 1" = 40'  
DATE 09.29.2022

SHEET

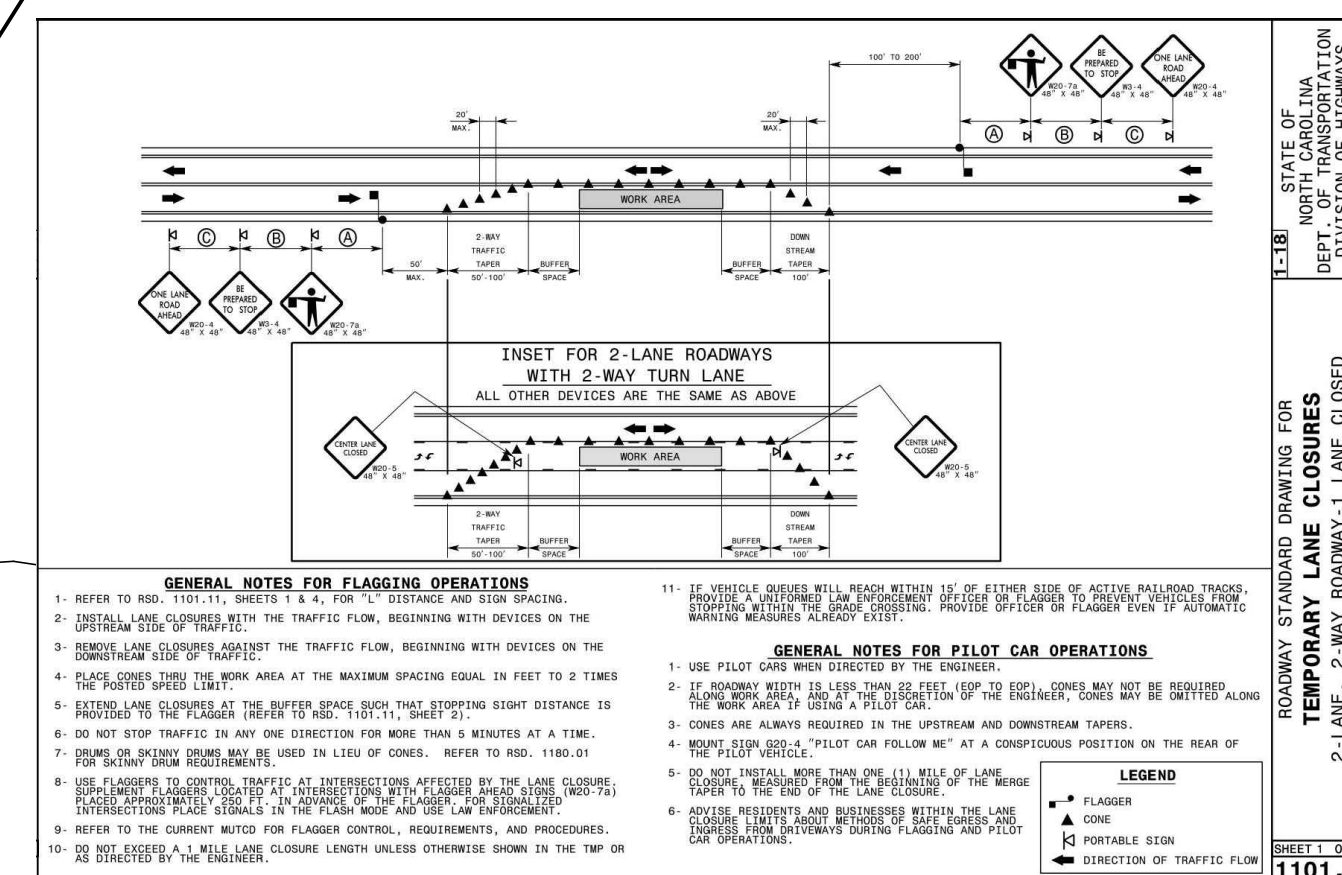
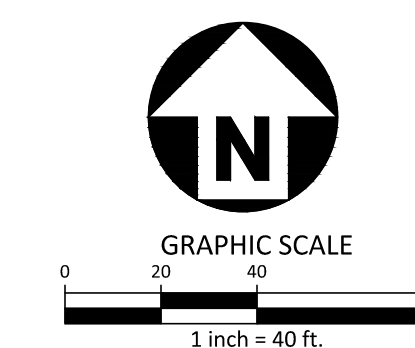
CONSTRUCTION  
MANAGEMENT PLAN  
C7.00

CONSTRUCTION MANAGEMENT NOTES:

- ALL LARGE TRUCKS AS RELATED TO VEHICULAR CONSTRUCTION TRAFFIC SHALL ENTER/LEAVE THE SITE THROUGH THE TEMPORARY CONSTRUCTION ENTRANCES & EXITS AS SHOWN ON THIS PLAN UNLESS OTHERWISE NOTED ON THE EROSION CONTROL PLANS. LANE CLOSURES SHALL BE ESTABLISHED AS SHOWN ON THIS PLAN AND CONSTRUCTION PERSONNEL SHALL BE IN ATTENDANCE TO MANAGE AND DIRECT VEHICULAR AND PEDESTRIAN TRAFFIC.
- ENTRANCE AND EXIT GATES SHALL BE CLOSED UNLESS CONSTRUCTION OR DELIVERY VEHICLES ARE ENTERING OR EXITING THE CONSTRUCTION SITE.
- THE CONTRACTOR SHALL PROVIDE WORK ZONE TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH ALL APPLICABLE NCDOT STANDARDS. REFER TO THE TRAFFIC AND PEDESTRIAN CONTROL PLAN FOR SPECIFIC NOTES AND DETAILS.
- NO OPEN BURNING SHALL BE PERMITTED.
- THE APPLICANT SHALL POST A CONSTRUCTION SIGN ON THE DEVELOPMENT SITE THAT LISTS THE FOLLOWING:
  - PROPERTY OWNER'S REPRESENTATIVE & TELEPHONE NUMBER
  - CONTRACTOR'S REPRESENTATIVE & TELEPHONE NUMBER
  - TELEPHONE NUMBER FOR REGULATORY INFO AT TIME OF BUILDING PERMIT
  - SIGN MAY BE A MAXIMUM OF 32 SF AND A MAXIMUM HEIGHT OF 8 FT.
- FENCING AROUND PROJECT SHALL INCLUDE ACCESS GATES WITH A 20-FOOT SWING OR SLIDE MOTION.
- CONSTRUCTION FENCE SHALL BE MODIFIED AS REQUIRED DURING CONSTRUCTION PHASING FOR PEDESTRIAN CIRCULATION.
- PRIOR TO ANY TRAFFIC LANE AND/OR SIDEWALK CLOSURES, THE APPLICANT SHALL CONTACT THE CHAPEL HILL TRAFFIC ENGINEERING OFFICE (919-969-5096 OR 919-969-5100) AT LEAST 5 WORKING DAYS BEFORE THE PROPOSED WORK TO APPLY FOR A LAND CLOSURE PERMIT.
- ROAD CLOSURES ON PUBLIC STREETS WILL BE PERMITTED BETWEEN MUST BE COORDINATED WITH AND APPROVED BY THE TOWN OF CHAPEL HILL.
- TEMPORARY STREET ROAD SIGNS ARE REQUIRED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADS ALLOWS FOR THE PASSAGE OF VEHICLES. SIGNS SHALL BE OF APPROVED SIZE, WEATHER RESISTANT AND BE MAINTAINED UNTIL REPLACED BY PERMANENT SIGNS.
- CONTRACTOR TO PROVIDE DEDICATED ONSITE PARKING SPACES FOR INSPECTORS AT EACH BUILDING AND NEAR THE JOB TRAILER FOR THE DURATION OF CONSTRUCTION
- ROADS WITH CURB AND GUTTER AND THE FIRST LIFT OF ASPHALT WILL NEED TO BE CONSTRUCTED BEFORE COMBUSTIBLES ARE ON SITE IN ORDER TO MEET REQUIREMENTS FROM FIRE CODE, STORMWATER, AND OWASA. HYDRANTS SHALL BE ACTIVE IN THE AREAS FOR CONSTRUCTION.
- CONSTRUCTION OPERATIONS FROM 7:00 AM TO 9:00 PM ON WEEKDAYS AND 8:00 AM TO 9:00 PM ON THE WEEKENDS FOR WHICH BUILDING PERMITS HAVE BEEN ISSUED, OR CONSTRUCTION OPERATIONS NOT REQUIRING PERMITS DUE TO OWNERSHIP OF THE PROJECT BY AN AGENCY OF GOVERNMENT; PROVIDING ALL EQUIPMENT IS OPERATED IN ACCORD WITH THE MANUFACTURER'S SPECIFICATIONS, AND WITH ALL STANDARD EQUIPMENT, AND WITH MANUFACTURER'S MUFFLERS AND NOISE-REDUCING EQUIPMENT IN USE, AND IN PROPER OPERATING CONDITION.
- CONSTRUCTION PARKING IN RESIDENTIAL NEIGHBORHOODS IS PROHIBITED.

SEE SHEET C0.00 FOR ALL PROJECT, SITE, GRADING, STORM DRAINAGE AND UTILITY NOTES

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENT TOWN OF CHAPEL HILL AND NCDOT ENGINEERING DESIGN AND CONSTRUCTION STANDARDS



OWASA UTILITY EASEMENT  
(D.B. 8392, PG. 452)

N/F  
DUB PROPERTIES  
PIN:9798-82-28-6920  
PID:141873  
D.B. 7876, PG. 177  
P.B. 199, PG. 189

N/F  
NC DEPT OF TRANSPORTATION  
PIN:9798-72-78-8288  
PID:211060  
D.B. 327, PG. 554

N/F  
NR HILLMONT PROPERTY  
OWNER LP  
PIN:9798-82-60-8392  
PID:141884  
D.B. 9440, PG. 209  
P.B. 177, PG. 378

N/F  
NR HILLMONT PROPERTY  
OWNER LP  
PIN:9798-82-21-3916  
PID:141876  
D.B. 9533, PG. 198

M:\Projects\TLA\TLA22001\04-Production\Engineering\Construction Drawings\Current Drawings\TLA22001-CM1.dwg, 2/21/2023 5:11:57 PM, Spencer Christensen



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REVISIONS

Table with 3 columns: NO., DATE, REVISIONS. Includes entries for 11.23.2022 and 02.21.2023.

PLAN INFORMATION

Table with 2 columns: PROJECT NO., FILENAME, CHECKED BY, DRAWN BY, SCALE, DATE. Includes values like TLA-22001, TLA22001-D1, WHM/LIL, NTS, 09.29.2022.

SITE DETAILS

C8.00

STANDARD DETAILS ENGINEERING DEPARTMENT DETAIL ST-5.2 ACCESSIBLE RAMP. Includes diagrams of ramp cross-sections and a table of dimensions for various ramp types.

STANDARD DETAILS ENGINEERING DEPARTMENT DETAIL ST-5.4 ACCESSIBLE RAMP. Includes a list of 13 construction notes and a table of dimensions.

STANDARD DETAILS ENGINEERING DEPARTMENT DETAIL P-1 LOT LAYOUT SCHEDULE. Includes tables for standard and compact automobiles with dimensions A-G, and diagrams of parking layouts.

STANDARD DETAILS ENGINEERING DEPARTMENT DETAIL ST-5.3 ACCESSIBLE RAMP. Includes diagrams of ramp cross-sections and a table of dimensions.

STANDARD DETAILS ENGINEERING DEPARTMENT DETAIL N.T.S. CURB TRANSITION DETAILS. Includes diagrams showing transitions between different curb and gutter types (e.g., 24" standard to 24" valley type).

STANDARD DETAILS ENGINEERING DEPARTMENT DETAIL ST-4 TYPICAL SIDEWALK. Includes a cross-section diagram of a sidewalk with concrete, utility strip, and compacted subgrade.

STANDARD DETAILS ENGINEERING DEPARTMENT DETAIL N.T.S. ACCESSIBLE PARKING SPACE SIGN. Includes diagrams of sign placement and mounting details.

STANDARD DETAILS ENGINEERING DEPARTMENT DETAIL N.T.S. CONCRETE SIDEWALK. Includes a cross-section diagram of a concrete sidewalk with expansion joints and compacted subgrade.

STANDARD DETAILS ENGINEERING DEPARTMENT DETAIL ST-2 CURB & GUTTER SECTION. Includes a cross-section diagram of a curb and gutter with 3000 PSI concrete.

STANDARD DETAILS ENGINEERING DEPARTMENT DETAIL N.T.S. ACCESSIBLE SIDEWALK RAMP. Includes a plan view diagram of a ramp with detectable warning surface and curb tapers.

STANDARD DETAILS ENGINEERING DEPARTMENT DETAIL N.T.S. STANDARD 24" CURB AND GUTTER. Includes a cross-section diagram of a standard curb and gutter.

STANDARD DETAILS ENGINEERING DEPARTMENT DETAIL N.T.S. 24" SPILL CURB AND GUTTER. Includes a cross-section diagram of a spill curb and gutter.

STANDARD DETAILS ENGINEERING DEPARTMENT DETAIL N.T.S. 24" CURB AND GUTTER. Includes a cross-section diagram of a 24" curb and gutter.

SEE SHEET C0.00 FOR ALL PROJECT, SITE, GRADING, STORM DRAINAGE AND UTILITY NOTES  
ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENT TOWN OF CHAPEL HILL AND NCDOT ENGINEERING DESIGN AND CONSTRUCTION STANDARDS

# STORMWATER CONTROL MEASURE 'A' CONSTRUCTION SPECIFICATIONS

## GENERAL NOTES

- PRIOR TO CONSTRUCTION, ANY DISCREPANCIES IN THE PLANS AND NOTES SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION.
- PRIOR TO ANY CONSTRUCTION OR PLACEMENT OF ANY BACKFILL, THE ONSITE GEOTECHNICAL ENGINEER SHALL INSPECT THE EXCAVATION AREA FOR THE UNDERGROUND SCM WITHIN THIS AREA TO ASSESS WHETHER SUITABLE SOILS EXIST AT THE SUBGRADE LEVEL. IF THE CONTRACTOR CONSTRUCTS AND COVERS UP THE UNDERGROUND SCM PRIOR TO INSPECTION, THEN THIS AREA SHALL BE UNCOVERED AND TESTED (TO THE ENGINEER'S AND OWNER'S APPROVAL) AT THE CONTRACTOR'S EXPENSE.
- THE FACILITY SHALL NOT BE USED AS A TEMPORARY EROSION CONTROL DEVICE (I.E. SEDIMENT TRAP OR SEDIMENT BASIN) DURING CONSTRUCTION.
- PRIOR TO PLACING STORMFILTER CARTRIDGES WITHIN THE UNDERGROUND SYSTEM, THE CONTRACTOR SHALL REQUEST AN ONSITE MEETING WITH THE DESIGN ENGINEER AND THE EROSION CONTROL INSPECTOR TO ENSURE THE UPSTREAM DRAINAGE AREA IS COMPLETELY STABILIZED (I.E. GOOD VEGETATIVE COVER). IF THE CONTRACTOR DECIDES TO PLACE THE STORMFILTER CARTRIDGES PRIOR TO APPROVAL FROM THE DESIGN ENGINEER AND THE EROSION CONTROL INSPECTOR, THEN THE CONTRACTOR SHALL EXCAVATE/REPLACE, AS NECESSARY, THE COMPONENTS NEEDED FOR THE SYSTEM TO FUNCTION PROPERLY AT HIS / HER EXPENSE SHOULD THE STORMFILTER CARTRIDGES NOT FUNCTION PROPERLY (I.E. WILL NOT DRAIN DUE TO SEDIMENT DEPOSITION) DUE TO AN UNSTABILIZED UPSTREAM DRAINAGE AREA.
- ONCE CONSTRUCTED, THE STORMFILTER CARTRIDGES SHALL NOT RECEIVE STORMWATER RUNOFF UNTIL THE ENTIRE CONTRIBUTING DRAINAGE AREA TO THE UNDERGROUND SYSTEM HAS BEEN COMPLETELY STABILIZED AND SITE CONSTRUCTION IS COMPLETE.
- ALL COMPONENTS OF THE UNDERGROUND SCM SYSTEM (STORMFILTER MANHOLE, CONCRETE VAULT, JOINT / RISER CONNECTIONS, ENDCAPS, ACCESS MANHOLES, ETC) SHALL BE DESIGNED BY OTHERS. ANY VARIATIONS OR CHANGES MADE FROM THESE SPECIFICATIONS AND DRAWINGS DURING THE ORDERING AND/OR INSTALLATION OF ALL COMPONENTS MUST BE APPROVED BY THE DESIGN ENGINEER. THE STRUCTURAL DESIGN OF THE UNDERGROUND SCM, ALONG WITH ITS ASSUMPTIONS, IS ALSO BY OTHERS. THE JOHN R. MCADAMS COMPANY, INC. AND ITS EMPLOYEES ASSUME NO LIABILITY WITH RESPECT TO ANY ASPECT OF THE STRUCTURAL DESIGN FOR THE UNDERGROUND SCM SYSTEM.
- ALL PIPE / RISER CONNECTIONS AND JOINTS ASSOCIATED WITH THE UNDERGROUND SCM SYSTEM SHALL BE WATER TIGHT. THE MECHANISM FOR ACHIEVING THIS SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR REVIEW.
- THE CONTRACTOR SHALL FURNISH, INSTALL, OPERATE, AND MAINTAIN ANY PUMPING EQUIPMENT, ETC. NEEDED FOR REMOVAL OF WATER FROM VARIOUS PARTS OF THE UNDERGROUND SCM SYSTEM SITE. IT IS ANTICIPATED THAT PUMPING WILL BE NECESSARY IN THE EXCAVATION AREAS DURING PLACEMENT OF FILL WITHIN THIS AREA AS NECESSARY. THE CONTRACTOR SHALL KEEP THE WATER LEVEL BELOW THE BOTTOM OF THE EXCAVATION. THE MANNER IN WHICH THE WATER IS REMOVED SHALL BE SUCH THAT THE EXCAVATION BOTTOM AND SIDE SLOPES ARE STABLE.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ADHERE TO ALL CURRENT OSHA REGULATIONS FOR CONFINED SPACE ENTRY AND PROVIDE SUCH DURING ENGINEER WALK-THROUGH/INSPECTION.
- ALL PIPE PENETRATIONS THROUGH A CONCRETE STRUCTURE (I.E. STORMFILTER CARTRIDGE / DETENTION SYSTEM, STORM DRAINAGE MANHOLES, ETC) SHALL BE MADE WATERTIGHT USING NON-SHRINK CEMENTITIOUS GROUT.
- EXISTING UTILITIES AND STRUCTURES SHOWN, BOTH UNDERGROUND AND ABOVE GROUND, ARE BASED ON A FIELD SURVEY AND THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO BEGINNING RELATED CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.

## STORMWATER MANAGEMENT SYSTEM MATERIAL SPECIFICATIONS

- THE UNDERGROUND STORMWATER MANAGEMENT SYSTEM IS TO BE DESIGNED BY OTHERS. ANY CHANGES TO THE PLANS SHALL BE PROVIDED TO THE DESIGN ENGINEER FOR REVIEW. PRIOR TO INSTALLATION, SHOP DRAWINGS OF THE STORMWATER MANAGEMENT SYSTEM SHALL BE PROVIDED TO THE DESIGN ENGINEER AND TO THE TOWN OF CHAPEL HILL FOR REVIEW.
- FILTER CARTRIDGES SHALL BE CONTECH STORMFILTERS WITH PHOSPHOSORB MEDIA. INSTALLATION OF THE STORMWATER DEVICE SHALL BE PER THE MANUFACTURER'S INSTALLATION GUIDELINES AND SPECIFICATIONS.
- ACCESS RISERS SHALL BE INSTALLED PER STRUCTURAL SPECIFICATIONS. ACCESS STEPS / LADDERS SHALL BE ATTACHED TO THE RISERS TO ALLOW FOR ACCESS INTO THE STORMWATER MANAGEMENT SYSTEM.
- THE 24"Ø DIP OUTLET BARREL OF THE DETENTION SYSTEM SHALL BE CLASS 350 DIP, MEETING THE REQUIREMENTS OF ASTM A716. THE PIPE JOINTS SHALL BE LOCKING JOINTS PER ANSI/AWWA C110/A21.10 OR ANSI/AWWA C153/A21.53 STANDARDS.
- THE CONTRACTOR SHALL INSTALL THE STORMFILTER SYSTEM PER MANUFACTURER'S SPECIFICATIONS. CONTRACTOR TO PROVIDE A LETTER FROM MATERIAL SUPPLIER(S) STATING MATERIALS MEET THE SPECIFIED STANDARDS PRIOR TO INSTALLATION.
- COVER AND REVIEW OF SITE CONDITIONS TO MAINTAIN THE STRUCTURAL INTEGRITY OF THE SYSTEM TO BE THE RESPONSIBILITY OF THE MANUFACTURER.

## STATEMENT OF RESPONSIBILITY

- ALL REQUIRED MAINTENANCE AND INSPECTIONS OF THIS FACILITY SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER, PER THE EXECUTED OPERATION AND MAINTENANCE AGREEMENT FOR THIS FACILITY.

## FOUNDATION NOTES

- ONCE THE EXCAVATION IS COMPLETE AND PRIOR TO INSTALLATION OF THE UNDERGROUND STORMWATER MANAGEMENT SYSTEM, THE ONSITE GEOTECHNICAL ENGINEER SHALL VERIFY THE BEARING CAPACITY OF THE UNDERLYING SOILS TO SERVE AS A FOUNDATION FOR THE UNDERGROUND STORMWATER MANAGEMENT SYSTEM. IF THE ONSITE GEOTECHNICAL ENGINEER DEEMS THE FOUNDATION SOILS AS UNSUITABLE, THEN THE UNSUITABLE MATERIAL SHOULD BE REMOVED DOWN TO A SUITABLE DEPTH AND THEN BUILT BACK UP TO THE CORRECT ELEVATION WITH A COMPACTED BACKFILL MATERIAL THAT IS APPROVED BY THE ONSITE GEOTECHNICAL ENGINEER. THE APPROVED BACKFILL MATERIAL SHOULD HAVE A GRADATION THAT WILL NOT ALLOW THE MIGRATION OF FINES, WHICH COULD CAUSE SETTLEMENT OF THE UNDERGROUND STORMWATER MANAGEMENT SYSTEM. IF NECESSARY, A GEOTEXTILE FABRIC CAN BE USED TO SEPARATE THE UNDERLYING SOILS AND THE BACKFILL MATERIAL. THIS GEOTEXTILE FABRIC (IF USED) IS TO BE SPECIFIED BY THE ON-SITE GEOTECHNICAL ENGINEER.
- PLEASE NOTE THAT IF THE CONTRACTOR CONSTRUCTS AND COVERS UP THE EXCAVATION FOR THE UNDERGROUND STORMWATER MANAGEMENT SYSTEM PRIOR TO INSPECTION, THEN THIS AREA SHALL BE UNCOVERED AND TESTED (TO THE ENGINEER'S AND OWNER'S APPROVAL) AT THE CONTRACTOR'S EXPENSE.
- THE FOUNDATION SUBGRADE SHALL BE GRADED TO A UNIFORM OR SLIGHTLY SLOPING GRADE PRIOR TO PLACEMENT OF THE BEDDING MATERIAL. IF THE FOUNDATION SUBGRADE WILL BE EXPOSED FOR AN EXTENDED PERIOD OF TIME DURING CONSTRUCTION, THEN IT SHOULD BE GRADED TO A SLIGHT SLOPE SUCH THAT SATURATION OF THE SUBGRADE DOES NOT OCCUR.
- THE BEDDING MATERIAL FOR THE UNDERGROUND STORMWATER MANAGEMENT SYSTEM SHALL BE SPECIFIED BY THE ON-SITE GEOTECHNICAL ENGINEER. TYPICALLY, A WELL-GRADED GRANULAR MATERIAL WILL BE USED FOR THE BEDDING. PLEASE NOTE THAT IF CONSTRUCTION EQUIPMENT WILL BE OPERATING FOR AN EXTENDED PERIOD OF TIME ON THE BEDDING, THEN THE APPROPRIATE MEASURES (E.G. ENGINEERED FABRIC, STIFF GEOGRID, ETC.) SHALL BE TAKEN TO ENSURE THE INTEGRITY OF THE BEDDING IS NOT COMPROMISED.
- THE CONTRACTOR SHALL FURNISH, INSTALL, OPERATE, AND MAINTAIN ANY PUMPING EQUIPMENT, ETC. NEEDED FOR REMOVAL OF WATER FROM THE EXCAVATION. IT IS BEST TO BEGIN THE CONSTRUCTION OF THE DETENTION SYSTEMS AT THE DOWNSTREAM END WITH THE OUTLET ALREADY CONSTRUCTED TO ALLOW A ROUTE FOR WATER TO ESCAPE.
- THE CONTRACTOR SHALL PROVIDE A FOUNDATION DRAIN FOR THE UNDERGROUND DETENTION SYSTEM DESIGNED BY OTHERS. THE UNDERDRAIN SYSTEM SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATION AND SHALL POSITIVELY DRAIN TO DOWNSTREAM STRUCTURE. THE ONSITE GEOTECHNICAL ENGINEER SHALL DETERMINE IF FOUNDATION DRAINS ARE NOT REQUIRED FOR THE UNDERGROUND SCM SYSTEM. THE DESIGN ENGINEER SHALL BE NOTIFIED FOLLOWING THIS DETERMINATION.

## BEDDING NOTES

- THE EXCAVATION SUB GRADE MUST BE TRANSIT LEVEL.
- THE EXCAVATION PIT SHALL BE LINED (ON THE BOTTOM AND ALL FOUR SIDES) WITH A NON-WOVEN GEO-TEXTILE (GEOTEX 401 OR APPROVED EQUIVALENT). THE ONSITE GEOTECHNICAL ENGINEER SHALL APPROVE FABRIC FOR USE.
- THE SUBGRADE FOR THE DETENTION SYSTEM CAN BE A CONCRETE SLAB, OR CLEAN GRANULAR MATERIAL WITH A MAXIMUM AGGREGATE SIZE OF 3/4". THE BEDDING SHALL BE FREE FROM ROCK FORMATIONS, PROTRUDING STONES, FROZEN LUMPS, ROOTS, AND OTHER FOREIGN MATERIAL.
- PREPARE THE SUBGRADE PER THE ONSITE GEOTECHNICAL ENGINEER'S DIRECTION (APPROXIMATELY 5'-6" BELOW GRADE ON WHICH SLAB WILL SET). THE BEDDING MATERIAL SHOULD BE GRADED SUCH THAT A SMOOTH UNIFORM GRADE IS ESTABLISHED TO ALLOW FOR OPTIMUM PLACEMENT OF THE SAND FILTER.
- THE SUBGRADE MUST SUPPORT THE DETENTION SYSTEM WITHOUT DIFFERENTIAL SETTLEMENT BETWEEN PIECES.
- IF CONSTRUCTION EQUIPMENT WILL BE OPERATING FOR AN EXTENDED PERIOD OF TIME ON THE BEDDING, THEN THE APPROPRIATE MEASURES (E.G. STIFF GEOGRID, ETC.) SHALL BE TAKEN TO ENSURE THE INTEGRITY OF THE BEDDING IS NOT COMPROMISED.

## BACKFILL MATERIAL NOTES

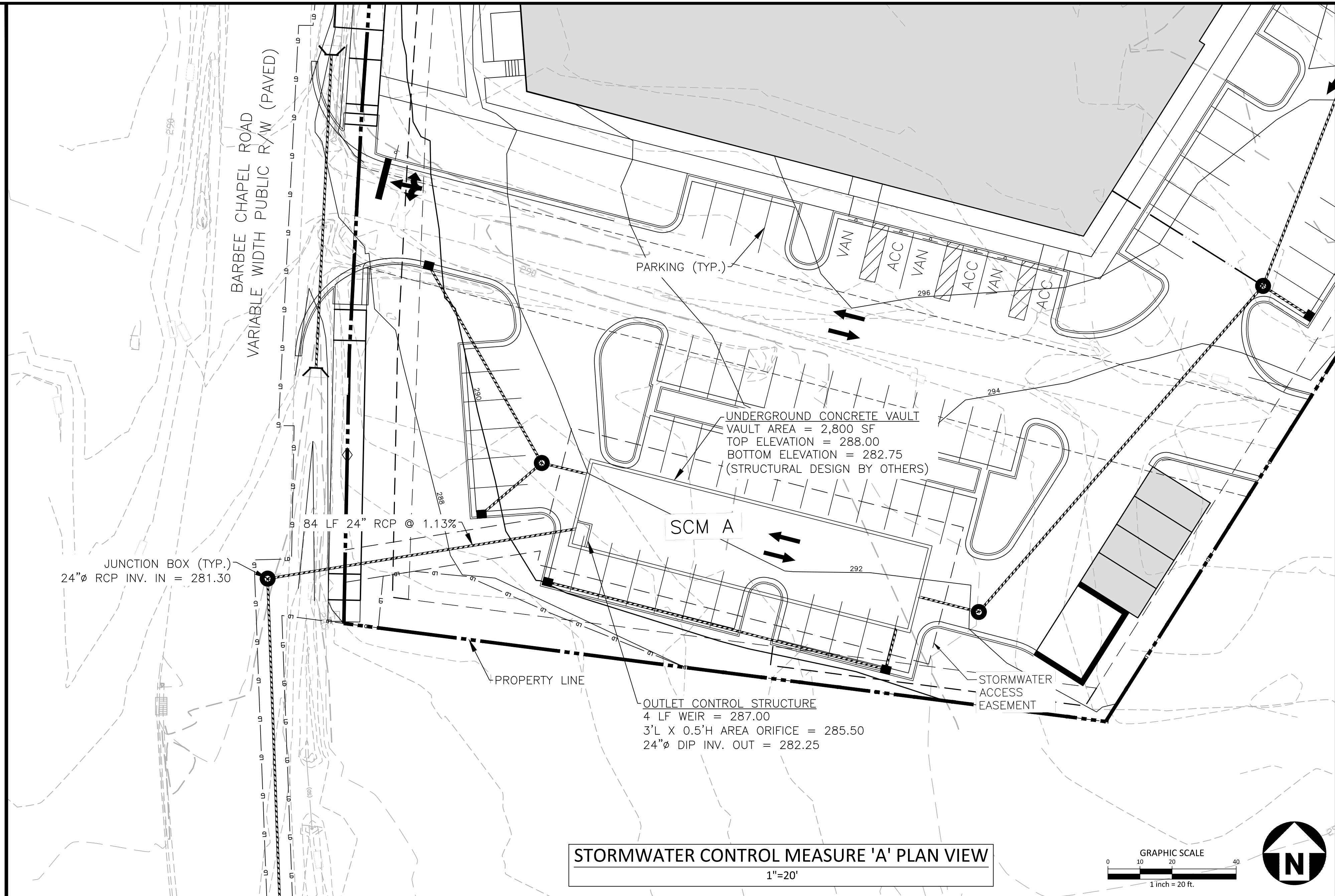
- THE ON-SITE GEOTECHNICAL ENGINEER SHALL SPECIFY THE BACKFILL MATERIAL FOR THE STORMWATER MANAGEMENT SYSTEM.
- THE BACKFILL MATERIAL SHOULD BE FREE OF ROCKS, FROZEN LUMPS, AND OTHER FOREIGN MATTER THAT COULD CAUSE HARD SPOTS WITHIN THE BACKFILL MATERIAL, OR THAT COULD DECOMPOSE AND CREATE VOIDS.
- HIGHLY PLASTIC SILTS, HIGHLY PLASTIC CLAYS, ORGANIC SILTS, ORGANIC CLAYS, AND PEATS SHOULD NOT BE USED AS A BACKFILL MATERIAL.
- THE BACKFILL MATERIAL SHOULD BE PLACED IN 6" LOOSE LIFTS AND COMPACTED TO 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM-D698). THE FILL SOILS SHALL BE COMPACTED AT A MOISTURE CONTENT WITHIN +/- TWO PERCENT OF ITS OPTIMUM MOISTURE CONTENT.
- ANY MATERIAL STOCKPILING ON TOP OF THE STORMWATER MANAGEMENT SYSTEM SHALL BE APPROVED BY THE STRUCTURAL DESIGN ENGINEER OR DETENTION SYSTEM MANUFACTURER.

## UNDERGROUND VAULT CONSTRUCTION NOTES

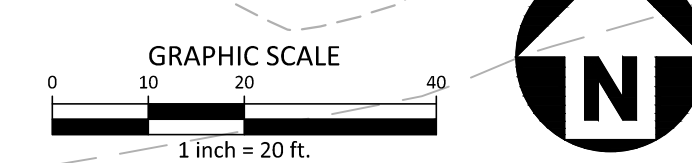
- UNDERGROUND VAULT CONFIGURATION IS TO BE DESIGNED AND PROVIDED BY OTHERS.
- ABSOLUTELY NO RUNOFF SHALL ENTER THE UNDERGROUND VAULT UNTIL ALL CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED.
- MANHOLE ACCESS SHALL BE PROVIDED FOR THE UNDERGROUND VAULT. MANHOLES SHALL BE IN COMPLIANCE WITH TOWN OF CHAPEL HILL STANDARD MANHOLE ACCESS SHALL BE A MINIMUM OF 24 INCHES IN DIAMETER TO COMPLY WITH OSHA CONFINED SPACE REQUIREMENTS (OR MINIMUM OSHA REQUIREMENTS APPLICABLE AT TIME OF CONSTRUCTION). CONTRACTOR SHALL PROVIDE ACCESS LADDERS FOR ACCESS BELOW ALL MANHOLES. MANHOLE COVERS SHALL ALLOW FOR PROPER VENTILATION.

## SYSTEM TESTING NOTES

- PRIOR TO PLACEMENT OF THE BACKFILL MATERIAL AND STORM FILTER CARTRIDGES, CONTRACTOR SHALL TEST FOR WATER TIGHTNESS. ENTRANCES AND EXITS SHALL BE PLUGGED AND THE SYSTEM COMPLETELY FILLED WITH WATER TO DEMONSTRATE WATER TIGHTNESS. WATER TIGHTNESS MEANS NO SIGNIFICANT FOR A PERIOD OF 24 HOURS. SIGNIFICANT LEAKAGE TO BE DETERMINED BY THE CERTIFYING ENGINEER. CONTRACTOR SHALL PLAN AND SCHEDULE THE FIELD TESTING OF THE SYSTEM (WATER TIGHTNESS) WITH THE ENGINEER AT LEAST 2 WORKING DAYS PRIOR TO THE TEST. THE CONTRACTOR SHALL PROVIDE WRITTEN REPORTS TO THE ENGINEER VERIFYING THE WATER TIGHTNESS OF THE STORMWATER VAULT.



STORMWATER CONTROL MEASURE 'A' PLAN VIEW  
1"=20'



### STORMFILTER DESIGN NOTES

- STORMFILTER TREATMENT CAPACITY VARIES BY CARTRIDGE COUNT AND LOCALLY APPROVED SURFACE AREA SPECIFIC FLOW RATE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OR RECORD.
- A 6" x 12" (1829 mm x 305 mm) STANDARD VAULT STYLE STORMFILTER IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (14) AND IS AVAILABLE IN A RIGHT INLET (AS SHOWN) OR LEFT INLET CONFIGURATION. OTHER CONFIGURATIONS ARE AVAILABLE.
- ALL PARTS AND INTERNAL ASSEMBLY PROVIDED BY CONTECH UNLESS OTHERWISE NOTED.

CARTRIDGE SIZE (in. (mm))	27 (686)	18 (457)	LOW DROP*
RECOMMENDED MINIMUM HYDRAULIC DROP (ft. (m))	3.00 (0.90)	2.3 (0.70)	1.8 (0.48)
SPECIFIC FLOW RATE (gpm (L/MIN))	2 (1.36)	1.47 (1.13)	1 (0.68)
CARTRIDGE FLOW RATE (gpm (L/MIN))	22.5 (1.42)	18.79 (1.16)	11.25 (0.71)
	15 (0.95)	12.53 (0.79)	7.5 (0.47)
	10 (0.63)	8.35 (0.53)	5 (0.33)

\* 1.67 gpm/ft<sup>2</sup> (1.15 L/min/ft<sup>2</sup>) SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY

**PLAN VIEW**  
VAULT STYLE: INLET BAY - OUTLET BAY

**FRAME AND COVER**  
(DIAMETER VARIES)  
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS	
STRUCTURE ID:	
WATER QUALITY FLOW RATE (gpm (L/MIN))	
PEAK FLOW RATE (gpm (L/MIN))	
RETURN PERIOD OF PEAK FLOW (YRS)	
CARTRIDGE FLOW RATE	
CARTRIDGE SIZE (IN. (MM))	
RECOMMENDED MINIMUM HYDRAULIC DROP (FT. (M))	
MEDIA TYPE (PERLITE, PS, PSORB)	
NUMBER OF CARTRIDGES REQUIRED	
FILTER BAY RIM ELEVATION	
PIPE DATA	
INLET PIPE 1	INVERT MATERIAL DIAMETER
INLET PIPE 2	
OUTLET PIPE	
NOTES/SPECIAL REQUIREMENTS:	

**GENERAL NOTES**

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- DIMENSIONS MARKED WITH (1) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
- FOR SITE SPECIFIC DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE: [www.contechES.com](http://www.contechES.com)
- STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
- STRUCTURE SHALL MEET AASHTO H20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 8' (1524) AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M293 AND M294 WITH THE CONTECH LOGO.
- FILTER CARTRIDGES SHALL BE MEDIA FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF-CLEANING. RADIAL MEDIA DEPTH SHALL BE 4 INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 30 SECONDS.
- SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm (L/MIN)) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft (sq m)).
- STORMFILTER STRUCTURE SHALL BE PRECAST CONFORMING TO ASTM C-867 AND AASHTO LOAD FACTOR DESIGN METHOD.

**INSTALLATION NOTES**

- ANY SUB-BASE, BACKFILL, DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OR RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER VAULT.
- CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL VAULT SECTIONS AND ASSEMBLY VAULT.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH OUTLET PIPE INVERT WITH OUTLET BAY FLOOR.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

**CONTECH ENGINEERED SOLUTIONS LLC**  
9025 Center Pointe Dr., Suite 400, New Chesley, VA 40969  
800.336.1122 531.645.7000 531.645.7921 FAX

SF0812  
STORMFILTER VAULT  
STANDARD DETAIL

S.T.S.

**McADAMS**  
The John R. McAdams Company, Inc.  
2905 Meridian Parkway  
Durham, NC 27713

phone 919. 361. 5000  
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license number: C-0293, C-187

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**CLIENT**  
TOLL BROTHERS APARTMENT LIVING  
1140 VIRGINIA DR  
FORT WASHINGTON, PA, 19034  
Contact  
PHONE: 202.577.6491



**BARBEE CHAPEL APARTMENTS**  
CONDITIONAL ZONING PERMIT  
DRAWINGS  
5101 BARBEE CHAPEL RD  
CHAPEL HILL, NC 27517



**REVISIONS**

NO.	DATE	REVISED PER
11.23.2022	REVISED PER 1ST C2P COMMENTS	
02.21.2023	REVISED PER 2ND C2P COMMENTS	

**PLAN INFORMATION**

PROJECT NO. TLA-22001  
FILENAME TLA22001-SCMA  
CHECKED BY MCT  
DRAWN BY OVL  
SCALE 1" = 20'  
DATE 09.29.2022

**SHEET**

**SCM A PLAN VIEW**

# C9.00

SEE SHEET C0.00 FOR ALL PROJECT, SITE, GRADING, STORM DRAINAGE AND UTILITY NOTES

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENT TOWN OF CHAPEL HILL AND NCDOT ENGINEERING DESIGN AND CONSTRUCTION STANDARDS