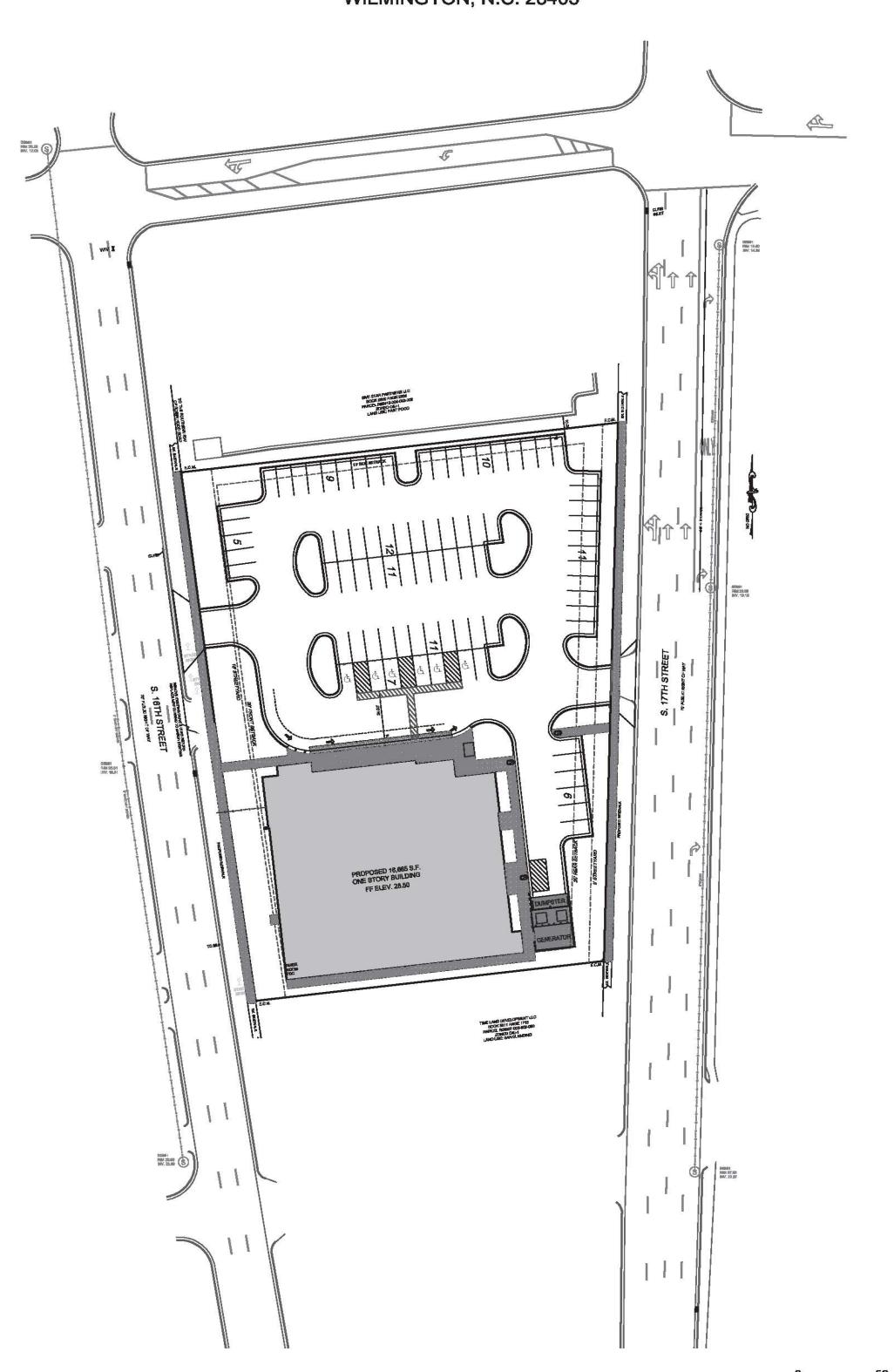
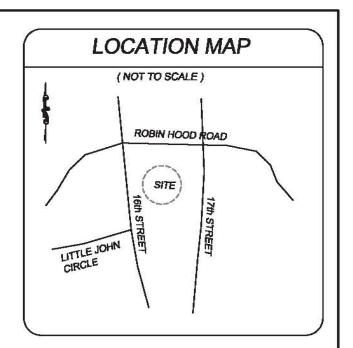
WESCP LLC

1915 & 1919 S. 16th STREET

LOCATED IN THE CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA DESCRIPTION OF WORK: GRADING, PAVING, DRAINAGE, AND UTILITIES OWNER: WESCP LLC

1279 NEW HANOVER MEDICAL PARK WILMINGTON, N.C. 28403





GENERAL NOTES:

1. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT ELEVATIONS AND LOCATIONS OF ALL EXISTING UTILITIES AT ALL CROSSINGS PRIOR TO COMMENCING TRENCH EXCAVATION. IF ACTUAL CLEARANCES ARE LESS THAN INDICATED ON PLAN, THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.

ANY CONDITION DISCOVERED OR EXISTING THAT WOULD NECESSITATE A MODIFICATION OF THESE PLANS SHALL BE BROUGHT TO THE ATTENTION

OF THE DESIGN ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.

- 2. NO CONSTRUCTION IS TO BEGIN BEFORE LOCATION OF EXISTING UTILITIES HAS BEEN DETERMINED. CALL "NC ONE-CALL" AT LEAST 48 HOURS BEFORE COMMENCING CONSTRUCTION.
- 3. ALL TREES WHICH ARE NOT REQUIRED TO BE CLEARED FOR CONSTRUCTION SHALL BE PRESERVED WHEREVER POSSIBLE UNLESS OTHERWISE DIRECTED.
- 4. CONTRACTOR SHALL ADJUST ALL MANHOLES, VALVE AND CURB BOXES TO THE FINAL GRADE UPON COMPLETION OF ALL CONSTRUCTION. ANY BOXES DAMAGED OR OTHERWISE DISTURBED BY THE CONTRACTOR SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST AND EROSION DURING CONSTRUCTION AT HIS EXPENSE. PARKING AREAS SHALL BE WATERED TO CONTROL DUST WHEN ORDERED BY THE ENGINEER.
- 6. NO GEOTECHNICAL TESTING HAS BEEN PERFORMED ON SITE. NO WARRANTY IS MADE FOR SUITABILITY OF SUBGRADE, AND UNDERCUT AND ANY REQUIRED REPLACEMENT WITH SUITABLE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR RESPONSIBLE FOR GEOTECHNICAL TESTING AS NECESSARY.

 7. EXTREME CARE SHALL BE TAKEN TO ENSURE MINIMUM SEPARATIONS AT ALL UTILITY CROSSINGS.
- 8. CONTRACTOR TO ENSURE THAT STREET PAVEMENT IS PLACED SO AS TO DRAIN POSITIVELY TO THE ROADWAY INLETS AND CATCH BASINS.
- 9. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS.
- 10. THIS PLAN IS FOR SITE UTILITIES, GRADING, ROADWORK, AND DRAINAGE ONLY.

 11. AFFECTED NON-MUNICIPAL UTILITIES SHALL BE CONTACTED AND PROVIDED WITH PLANS AND OTHER PERTINENT INFORMATION, WHEN FEASIBLE, TO COORDINATE APPROPRIATE SCHEDULING AND PLACEMENT. AT THE MINIMUM
- THIS SHOULD INCLUDE AT&T AND DUKE (PROGRESS) ENERGY.

 12. ALL CONSTRUCTION TO CONFORM TO CITY STANDARDS AND ALL APPLICABLE STATE & LOCAL CODES.
- CONTRACTOR TO COORDINATE ANY REQUIRED TRAFFIC CONTROL WITH THE STATE AND CITY. CONTRACTOR RESPONSIBLE FOR ANY ADDITIONAL REQUIRED PERMITS.
- 14. CARE SHALL BE TAKEN DURING FINAL GRADING TO ENSURE POSITIVE DRAINAGE TO RECEIVING STRUCTURES. ALL STORM WATER RUNOFF FROM BUILT UPON AREAS (i.e. IMPERVIOUS SURFACES and ROOF DRAINAGE) TO BE DIRECTED TO STORM SEWER COLLECTION SYSTEM (i.e. STORM INLETS OR PONDS) BY SWALES, OVERLAND FLOW, ADDITIONAL GRADING, OR LANDSCAPING INLETS.
- 16. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ANY RELOCATIONS, REALIGNMENTS, DISCONNECTIONS OR CONNECTIONS OF EXISTING UTILITIES WITH APPLICABLE AUTHORITIES.
- 17. CLEARING AND GRUBBING OF SITE TO INCLUDE REMOVAL OF EXISTING CURB, ASPHALT, INLETS, AND ANY OTHER STRUCTURES INCLUDING TREES, STUMPS AND DEBRIS EXISTING ON SITE. TREES NOT REQUIRED TO BE CLEARED FOR CONSTRUCTION SHALL REMAIN UNLESS OTHERWISE DIRECTED.
- 18. ALL SIGNS AND PAVEMENT MARKINGS SHALL MEET NCDOT AND MUTCD STANDARDS
- 19. SANITARY SERVICES SMALLER THAN 8" SHALL HAVE CLEANOUTS AT INTERVALS OF NOT MORE THAN 100". CLEANOUTS SHALL BE PROVIDE FOR SERVICE LINES AND BUILDING DRAINS THAT HAVE HORIZONTAL DIRECTION CHANGES GREATER THAN 45 DEGREES.
- $20. \ \ {\it SEE} \ \ 2018 \ \ {\it IPC} \ \ {\it FOR} \ \ {\it FURTHER} \ \ {\it GUIDANCE} \ \ {\it ON} \ \ {\it UTILITY} \ \ {\it SERVICE} \ \ {\it REQUIRMENTS}.$
- This map is not for conveyance, recordation, or sales.
 A portion of this property is located within in the 0.2% SFHA according to Flood Insurance Rate Map Community ID#
- 3720314500 suffix K effective date 8/28/2018
 3. This property is zoned CB-COMMUNITY BUSINESS, City of Wilmington.
- 4. Water service to be CFPUA (public).
 5. Sewer service to be CFPUA (public).
- Topographic data furnished by Bateman Civil Survey Company.
 No Wetlands exist on site



VESCP LLC OF WINDINGS OF THE PLAN OF THE

OWNER: WESCP LLC 1279 NEW HANOV

NEW HANOVER COUNTY, NORTH CAROLINA

CH
NOVER MEDICAL PARK
N.C. 28403

1279 NEW HANOVER MEDICAL PARK
WILMINGTON, N.C. 28403

HANOVER DESIGN SERVICES, P.A.

LAND SURVEYORS, ENGINEERS & LAND PLANNERS

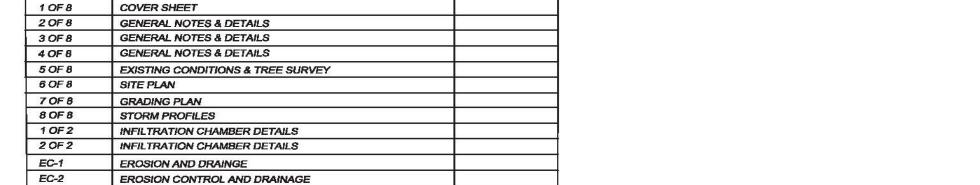
1123 FLORAL PARKWAY
WILMINGTON, N.C. 28403
PHONE: (910) 343-8002
LICENSE # C-0597



6-29-20

Scale: HORZ.: 1"= 50"

AHG



STABILIZATION

7 DAYS

7 DAYS

7 DAYS

14 DAYS

14 DAYS

LEGEND

INV. = INVERT

GIW = GUY WIRE

I.S. = IRON SET

CR = CURB RAMP

= CURB INLET

GT. = GREASE TRAP

WV = WATER VALVE

W/M = WATER METER

B/O = BLOW OFF ASSEMBLY

SWMH = STORM MANHOLE

FVH = FIRE HYDRANT ASSEMBLY

S = SANITARY SEWER MH

= TREE TO BE PERSERVED

= TREE TO BE REMOVED

W = WATER SERVICE

= SEWER CLEANOUT

■ = WATER VALVE

THE SUGHT POLE

PROPERTY LINE

CENTERLINE

EASEMENT

STABILIZATION TIME FRAMES:

High Quality Water (HQW) Zones

Perimeter dikes, swales, ditches and slopes

All other areas with slopes flatter than 4:1

ANY AREAS ON-SITE WITHOUT ACTIVITY SHALL BE STABILIZED WITHIN

15 WORKING DAYS OR 21 CALENDAR DAYS AND AS ABOVE. ALL SLOPES

No geotechnical testing has been performed on site. No warranty is made for suitability of subgrade, and undercut and any required replacement with suitable material shall be the responsibility

EROSION CONTROL AND DRAINAGE

TREE INVENTORY

LANDSCAPE PLAN

DETAILS SHOWN ARE TYPICAL OF INSTALLATIONS REQUIRED BY THE TOWN AND COUNTY. THIS SHEET DOES NOT PURPORT TO SHOW ALL REQUIRED CONSTRUCTION DETAILS, BUT RATHER SERVES AS A GUIDE. THE CONTRACTOR IS RESPONSIBLE FOR ADHERING TO ALL

INDEX TO DRAWINGS

MUST BE STABILIZED WITHIN 21 CALENDAR DAYS OF CEASE OF ANY

SITE AREA DESCRIPTION

Slopes steeper than 3:1

Slopes 3:1 or flatter

NOTE WELL:

SHEET No.

BUILDING SETBACK

COMPUTED PROPERTY LINE

PROPOSED STORM DRAIN

PROPOSED SANITARY SEWER

LIMITS OF DISTURBANCE/PROJECT LIMITS

PROPOSED SIDEWALK

BFP = BACK FLOW PREVENTOR

C\O = SANITARY SEWER CLEAN OUT

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

Public Services

APPROVED STORMWAT

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit #_____

Approved Construction Plan
Date: 7/22/20
2020015
SWP #: 2020021
PO, ES, BM, MB, CW

2 SHEET INDEX UPDATE/FINAL DESIGN 7-21-20
1 TREE UPDATE 7-2-20
REV. NO. REVISIONS DATE

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- 1. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
- 2. ANY TREES AND / OR AREAS DESIGNATED TO BE PROTECTED MUST BE PROPERLY BARRICADED WITH FENCING AND PROTECTED THROUGHOUT CONSTRUCTION TO INSURE

THAT NO CLEARING, GRADING OR STAGING OF MATERIALS WILL OCCUR IN THOSE AREAS.

3. NO EQUIPMENT IS ALLOWED ON SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING IS INSTALLED AND APPROVED. PROTECTIVE FENCING IS TO BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT, AND CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTION ON TREE PROTECTION METHODS.

- 4. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY, MUTCD, AND/OR NCDOT STANDARDS.
- 5. ONCE STREETS ARE OPEN TO TRAFFIC, CONTACT TRAFFIC ENGINEERING TO REQUEST INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
- 6. TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS
- 7. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES AND EQUIPMENT ARE SHOWN ON THE PLAN.
- 8. CONTACT 811 PRIOR TO ANY EXCAVATION. CALL TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY
- 9. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING PRIOR TO ACTUAL STRIPING.
- 10. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE
- MAINTAINED BY THE OWNER IN ACCORDANCE WITH MUTCD STANDARDS
- 11. STOP SIGNS AND STREET SIGNS TO REMAIN IN PLACE DURING CONSTRUCTION.
- 12. TACTILE WARNING MATS WILL BE INSTALLED ON ALL WHEELCHAIR RAMPS.
- 13. A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. IN CERTAIN CASES ENTIRE RESURFACING OF THE OPEN CUT AREA MAY BE REQUIRED
- 14. ANY BROKEN OR MISSING SIDEWALK.DRIVEWAY PANELS OR CURBING SHALL BE REPLACED WHETHER DAMAGED DAMAGED DURING CONSTRUCTION OR DAMAGE WAS EXISTING
- 15. PRIOR TO ENTERING ANY AGREEMENT REGARDING THE SALE OF A HOUSE OR LOT IN A SUBDIVISION, THE BUYER MUST RECEIVE A STREET DISCLOSURE STATEMENT
- 16. ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SITE LINES
- 17. CONTACT THE CITY AT 341-7888 TO DISCUSS STREET LIGHTING OPTIONS. PROPOSED APPROXIMATE LOCATIONS SHOWN ON PLANS
- 18. STREET LIGHTS SHALL BE DEP ENCLOSED CUTOFF (COBRA TYPE), HIGH PRESSURE SODIUM VAPOR (HPSV) OR DESIGNATED LED EQUIVALENT FIXTURE INSTALLED WITHIN THE RECOMMENDED RANGE OF MOUNTING HEIGHTS FOR THE SPECIFIC FIXTURE. THE STANDARD STREET LIGHT SHALL BE INSTALLED ON A FIBERGLASS POLE. SEE CITY TECHNICAL STANDARDS FOR FURTHER DETAIL.

GENERAL UTILITY NOTES

- 19. WATER AND SEWER SERVICE SHALL MEET CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) DETAILS AND SPECIFICATIONS.
- 20. PROJECT SHALL COMPLY WITH CAPE FEAR PUBLIC UTILITY AUTHORITY CROSS CONNECTION CONTROL REQUIREMENTS. WATER METERS CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL, CALL 343-3910 FOR INFORMATION.
- 21. IF THE CONTRACTOR DESIRES CFPUA WATER FOR CONSTRUCTION HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
- 22. ANY IRRIGATION SYSTEM SUPPLIED BY CEPUA WATER SHALL COMPLY WITH CEPUA CROSS CONNECTION CONTROL REGULATIONS. CALL 343-3910 FOR INFORMATION.
- 23. ANY IRRIGATION SYSTEM SHALL BE EQUIPPED WITH A RAIN AND FREEZER SENSOR
- 24. ANY BACKFLOW PREVENTION DEVICES REQUIRED BY CFPUA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USCFCCCHR OR ASSE
- 25. CONTRACTOR TO FIELD VERIFY EXISTING WATER AND SEWER SERVICE LOCATIONS, SIZES AND MATERIALS PRIOR TO CONSTRUCTION. ENGINEER TO BE NOTIFIED OF ANY CONFLICTS.
- 26. CONTRACTOR SHALL MAINTAIN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL
- 27. UNDERGROUND FIRE LINES MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING, CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-341-0696.
- 28. CONTACT THE NORTH CAROLINA ONE CALL CENTER AT 1-800-632-4949 PRIOR TO ANY
- DIGGING, CLEARING OR GRADING. 29. ANY PVC MAINS ARE TO BE MARKED WITH NO.10 INSULATED COPPER WIRE INSTALLED THE ENTIRE LENGTH AND ATTACHED TO THE PIPE AND STRIPPED TO BARE WIRE AND SECURED TO ALL VALVES AND FITTINGS, ACCESSIBLE IN ALL VALVE AND METER BOXES. ALL WATER MAINS SHALL

ADDITIONAL NOTES:

MAINTAIN A MINIMUM OF 3' OF COVER.

- 1. THIS MAP IS PRELIMINARY, NOT INTENDED FOR RECORDATION, SALES, OR CONVEYANCE.
- 2. ALL DISTANCES AS SHOWN ARE HORIZONTAL
- 3. SEWER PROVIDED BY CFPUA
- 4. WATER PROVIDED BY CFPUA
- 5. SITE WILL MEET ALL ZONING REQUIREMENTS.
- 6. REGULATED TREES ON SITE TO BE PRESERVED AS SHOWN. 7. STRIPING AND LANES TO CITY STANDARDS (THERMOPLASTIC).
- 8. NO VEHICULAR ACCESS TO SITE EXCEPT AS SHOWN.
- 9. ALL UTILITIES UNDERGROUND.
- 10. LANDSCAPING AND LIGHTING PLAN BY OTHERS.
- 11. CONTRACTOR TO COORDINATE STAGING OF CONSTRUCTION ACTIVITIES WITH THE OWNER AND ARCHITECT TO FACILITATE ONGOING ADJOINING BUSINESS ACTIVITIES.
- 12. CONTRACTOR TO COORDINATE REMOVAL AND RELOCATION OF LIGHTING AND OTHER NON-MUNICIPAL UTILITIES SUCH AS ELECTRICAL AND TELEPHONE CONNECTIONS WITH THE AFFECTED AGENCIES AND THE OWNER AND ARCHITECT.
- 13. ALL SERVICES TO BE INSTALLED IN ACCORDANCE WITH CITY and CFPUA TECHNICAL STANDARDS.

ADDITIONAL ADA NOTES:

- REFER TO 2018 NCDOT ROADWAY STANDARD DRAWINGS NUMBER 848.05 -848.06 FOR RAMP DESIGN AND DETAILS.
- 2. ALL RAMPS RAMPS, HANDICAP PARKING, AND ACCESSIBLE ROUTES SHALL COMPLY WITH THE LATEST ADA GUIDELINES
- 3. RUNNING SLOPES ALONG AN ACCESSIBLE ROUTE EXCEEDING \$1 SHALL BE
- CONSIDERED A RAMP 4. 8.33% (12:1) MAX RAMP SLOPE
- 5. MAXIMUM CROSS SLOPE ALLOWED ALONG ACCESSIBLE ROUTES: 2.00% 6. ALL CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.
- 7. CONTRACTOR TO ENSURE SLOPES IN HANDICAP PARKING STALLS AND ACCESS ISLES DO NOT TO EXCEED 2% IN ANY DIRECTION.

ADDITIONAL NOTES CONT.:

- 14. This property is not located within a special flood hazard area according to Flood Insurance Rate Map Community Panel #37203126J, effective date April 3, 2006.
- 15. Handicap Ramps shall be provided at all intersections.
- 16. 15 suitable trees per acre are to be preserved or planted in accordance with City of Wilmington standards.
- 17. Refuse collection by dumpster and private hauler.
- 18. Reflectors shall Be Installed As Per City And NCDOT Standards.
- 19. Per the requirements of the stormwater permit, the following shall occur prior to issuance of a certificate of occupancy or operation of the permitted facility. As-built drawings for all stormwater management facilities shall be submitted to the city of Wilmington engineering division * An engineer's certification shall also be submitted, along with all supporting documentation that specifies, under seal that the as-built stormwater measures, controls and devices are in compliance with the approved stormwater management plans.
- 20. All required easement maps shall be reviewed by city staff and recorded prior to issuance of a certificate of occupancy.

* A final inspection by city of Wilmington engineering personnel.

UTILITY NOTES

SEWER AND WATER TO BE PUBLIC AND PROVIDED BY CFPUA. SPECIFIC LOCATION, SIZING, AND DETAILS WILL BE PROVIDED ON THE CONSTRUCTION PLANS AND ARE TO BE APPROVED BY CFPUA AND CITY ENGINEERS.

1. CFPUA STANDARD DETAIL SHEETS FOR SEWER AND WATER TAPS TO BE INCLUDED AS A PART OF THIS PLAN. ATTACHED.

2. 48-HOUR NOTICE AND 3 COMPLETE SETS OF PLANS REQUIRED FOR PRE-CONSTRUCTION MEETING BY CONTRACTOR.

3. NCDOT ENCROACHMENT REQUIRED FOR ANY WORK IN PUBLIC R/W.

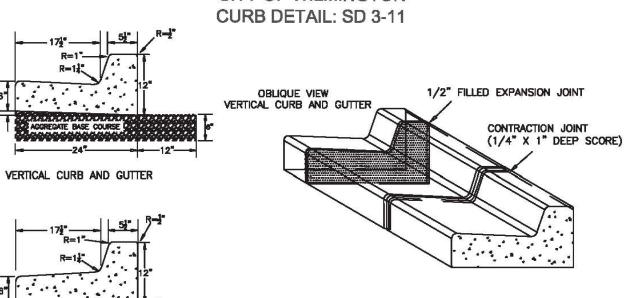
CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD NOTES:

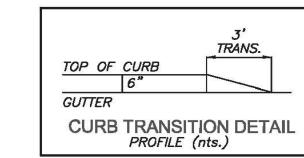
4. ALL FEES TO BE PAID PRIOR TO PRE-CONSTRUCTION MEETING.

- 1. SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN
- 2. WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN THE END OF LINE MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
- ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401 CERAMIC EPOXY LINING.
- 4. MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW
- NO FLEXIBLE COUPLINGS SHALL BE USED.
- 6. ALL STAINLESS STEEL FASTENERS SHALL BE 316.
- 7. CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM
- 8. ALL PROPERTY CORNERS. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.

ADDITIONAL NOTES: CFPUA PERMIT REQUIRED FOR ANY UTILITY SERVICES WORK. CONTRACTOR RESPONSIBLE FOR PERMIT AND COORDINATION WITH CFPUA. ALL SERVICES TO BE INSTALLED IN ACCORDANCE WITH

CITY and CFPUA TECHNICAL STANDARDS. CITY OF WILMINGTON





NOTES: 1. EXPANSION JOINT MATERIAL TO COMPLY WITH CURRENT NODOT STANDARDS 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 3/4" or use a flat base

MEDIAN VERTICAL CURB AND GUTTER

CITY OF WILMINGTON TYPICAL CURB RAMP: SD 3-07 8.3% MAX (X<36") (FOR ALTERATIONS SECTION A-A WARNING DOMES

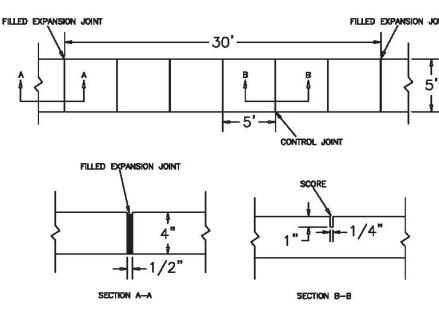
RAMP WIDTH

WARNING DOME NOTES: 1. USE CONTRASTING COLORS, RED OR BLACK ON WHITE PAVEMENT.

. USE CAST IN PLACE PAVERS FOR NEW CONSTRUCTION. 5. RUBBER MATS ARE PERMITTED FOR RETROFITS.

I. LANDING AND RAMP WIDTH MAY BE REDUCED TO 3' WHERE SPACE

CITY OF WILMINGTON TYPICAL SIDEWALK SD 3-10 NTS



- NOTES: 1. JOINT MATERIAL TO COMPLY WITH CURRENT NODOT STANDARDS.
 - 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 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:
 - MIN GRADE FOR PROPER DRAINAGE IS 1% IN AT LEAST 1 DIRECTION. MAX CROSS SLOPE IS 2%. MAX LONGITUDINAL SLOPE IS 8.3%, 10% IF LIMITED BY EXISTING CONDITIONS, OR NO GREATER THAN THE SLOPE OF THE EXISTING ADJACENT ROAD.

ADA NOTES

ADDITIONAL UTILITY/GRADING NOTES

LANDSCAPING INLETS.

WATER MAINS

UTILITIES WITH APPLICABLE AUTHORITIES.

OF 10' EITHER SIDE OF CROSSING

THE WATER LINE TO FIRE HYDRANTS.

AND CFPUA DESIGN STANDARDS

VEHICLES DURING CONSTRUCTION

OF THE 2018 NC FIRE CODE.

SYSTEM PRESENT

- HYDRANTS MUST BE WITHIN 150' OF THE FDC

1. CARE SHALL BE TAKEN DURING FINAL GRADING TO ENSURE POSITIVE

BUILT UPON AREAS (i.e. IMPERVIOUS SURFACES and ROOF DRAINAGE)

OR PONDS) BY SWALES, OVERLAND FLOW, ADDITIONAL GRADING, OR

REALIGNMENTS, DISCONNECTIONS OR CONNECTIONS OF EXISTING

3. CLEARING AND GRUBBING OF SITE TO INCLUDE REMOVAL OF EXISTING

4. MINIMUM SEPARATION SHALL BE MAINTAINED AS FOLLOWS:

PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING.

PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING.

7. ALL WATER MAINS TO BE 8" UNLESS OTHERWISE INDICATED.

4. SEE DETAIL SHEETS FOR TYPICAL UTILITIES HOOKUPS.

STUMPS AND DEBRIS EXISTING ON SITE. TREES NOT REQUIRED TO BE

a. HORIZONTAL CLEARANCE OF 10 FEET BETWEEN SANITARY SEWER AND

b. HORIZONTAL CLEARANCE OF 10 FEET BETWEEN STORM SEWER AND

c. WHERE VERTICAL CLEARANCE IS LESS THAN 18" BETWEEN SANITARY

d. WHERE VERTICAL CLEARANCE IS LESS THAN 24" BETWEEN SANITARY

e. WHERE VERTICAL CLEARANCE IS LESS THAN 18" BETWEEN WATER

MAIN AND STORM DRAIN. WATER MAIN SHALL BE DUCTILE IRON

STANDARDS/ N.C.D.O.T. PAVEMENT AND SUBGRADE STANDARDS).

6. ALL SANITARY SEWER MAINS TO BE 8" UNLESS OTHERWISE INDICATED.

8. TWO VALVES ARE REQUIRED AT "T" INTERSECTIONS AND ONE VALVE ON

9. A BLOW-OFF VALVE IS REQUIRED AT THE TERMINUS OF ALL "DEAD END"

ADDITIONAL FIRE DEPARTMENT NOTES:

- THE FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT

- HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB

MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC

- CONTRACTOR TO MAINTAIN ALL WEATHER ACCESS FOR EMERGENCY

- NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO BUILDING

10. SANITARY SEWER, STORM, WATER, AND OTHER PERTINENT DETAILS/SPECIFICATIONS

TO BE PROVIDED WITH CONSTRUCTION PLANS AND SHALL MEET OR EXCEED CITY

- LANDSCAPING MAY NOT BLOCK ANY FDC OR HYDRANT WITH A 3' CLEAR SPACE

-ADDITIONAL FIRE PROTECTION AND/OR ACCESSIBILITY REQUIREMENTS MAY BE

REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.

COMMERCIAL BUILDINGS THAT DEMONSTRATES THAT EXISTING EMERGENCY RESPONDER RADIO SIGNAL LEVELS MEET THE REQUIREMENTS OF SECTION 510

-ALL ISOLATION VALVES WITHIN THE "HOT BOX" AND BETWEEN THE "HOT BOX"

AND THE RISER ROOM, MUST BE ELECTRICALLY SUPERVISED. (IF SPRINKLER

- CONTRACTOR SHALL SUBMIT A RADIO SIGNAL STRENGTH STUDY FOR ALL

SEWER AND STORM DRAIN, SANITARY SEWER SHALL BE DUCTILE IRON

5. ALL STREETS ARE PROPOSED TO BE PUBLIC (BUILT TO CITY OF WILMINGTON

MAIN, BOTH PIPES SHALL BE DUCTILE IRON PIPE FOR A MINIMUM

SEWER AND WATER OR WHERE SEWER LINE CROSSES ABOVE WATER

2. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ANY RELOCATIONS.

CURB. ASPHALT. INLETS. AND ANY OTHER STRUCTURES INCLUDING TREES.

CLEARED FOR CONSTRUCTION SHALL REMAIN UNLESS OTHERWISE DIRECTED.

DRAINAGE TO RECEIVING STRUCTURES. ALL STORM WATER RUNOFF FROM

TO BE DIRECTED TO STORM SEWER COLLECTION SYSTEM (i.e. STORM INLETS

I. LOCATION OF WHEELCHAIR RAMPS:

1. IN ACCORDANCE WITH THE RATIFIED HOUSE BILL 1296, ALL STREET CURRS IN NORTH CAROLINA BEING CONSTRUCTED OR RECONSTRUCTED FOR MAINTENANCE PROCEDURES, TRAFFIC OPERATIONS, REPAIRS, CORRECTION OF UTILITIES OR ALTERED FOR ANY REASON AFTER SEPTEMBER 1973 SHALL PROVIDE WHEELCHAIR RAMPS FOR THE PHYSICALLY HANDICAPPED AT ALL INTERSECTIONS WHERE BOTH CURB AND GUTTER AND SIDEWALKS ARE PROVIDED AND AT OTHER MAJOR POINTS OF PEDESTRIAN FLOW. 2. WHEELCHAIR RAMPS SHOULD BE LOCATED AS INDICATED IN DETAIL DRAWINGS, HOWEVER EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. MAY AFFECT PLACEMENT.

II. CONSTRUCTION NOTES:

1. NO SLOPE SHALL EXCEED 1"=1" (12:1) ON THE RAMP OR SIDEWALK. 2. IN NO CASE SHALL THE WIDTH OF WHEELCHAIR RAMPS BE LESS THAN 40" (3'-4"). WIDTHS MAY EXCEED 40" IF NECESSARY 3. USE CLASS "A" CONCRETE WITH THE SURFACE HAVING A ROUGH, NON-SKID 4. 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE CONCRETE WHEELCHAIR

5. CONSTRUCTION METHODS SHALL CONFORM WITH THOSE OF THE GOVERNING BODY WHICH HAS JURISDICTION OF THE PARTICULAR STREET. 1. THE INSIDE PEDESTRIAN CROSSWALK LINES SHALL BE ESTABLISHED BY BISECTING THE INTERSECTION RADI WHERE MARKED (SEE NOTE 6).

RAMP JOINS ANY RIGID PAVEMENT OR STRUCTURE.

BEHIND WHICH VEHICLES ARE REQUIRED TO STOP IN

THE SUPERINTENDENT OF DOCUMENTS, U.S GOVERNMENT

2. THE WHEELCHAIR RAMP SHALL BE LOCATED SO THAT THE BEGINNING OF THE WHEEL CHAIR RAMP WILL BE TWO FEET FROM THE INSIDE PEDESTRIAN CROSSWALK LINE. 3. THE WIDTH OF THE PEDESTRIAN CROSSWALK SHALL BE 10 FEET UNLESS A GREATER WIDTH IS REQUIRED TO ACCOMMODATE THE PEDESTRIAN 4. STOP BARS SHALL BE USED WHERE IT IS IMPORTANT TO INDICATE THE POINT

COMPLIANCE WITH A TRAFFIC SIGNAL, STOP SIGN, OR OTHER LEGAL

REQUIREMENTS. 5. PARKING SHALL BE ELIMINATED A MINIMUM OF 20 FEET BACK OF PEDESTRIAN CROSSWALK 6. ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION. THIS IS AVAILABLE FROM

. 85% OF MOST TREE ROOTS ARE FOUND

2. CRZ RADIUS IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH

F CONSTRUCTION OCCURS WITHIN THE CRZ, AT LEAST 12" OF MULCH AND/OR LOGGING MATTS SHALL BE PLACED WHERE MACHINERY MANEUVERS TO REDUCE SC

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

AWNMOWERS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED.

CONTRACTOR SHALL REPAIR DAMAGE TO TREES.

6. FAILING TO INSTALL OR MAINTAIN PROTECTION MEASURES SHALL RESULT IN A STOP

WORK ORDER AND FINE OF \$500/DAY. DISTURBANCE OTHER THAN THAT ALLOWED ON THE APPROVED PLAN WILL REQUIRE OWNER TO POST A LETTER OF CREDIT FOR 3 YRS FOR TREE MITIGATION.

-2" S9.5B SURFACE COURSE

PREPARED SUBGRADE

NOTE WELL: PAVEMENT THICKNESS

AND SUBGRADE REQUIRMENTS MAY BE

INCREASED PER RECOMMENDATION OF

RESPONSIBLE FOR COMPATION TESTING

GEOTECHNICAL CONSULTANT. CONTRACTO

6" COMPACTED ABC

ASPHALT SECTIONS

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.

Public Services • Engineering Division APPROVED STORMWATER MANAGEMENT PLAN

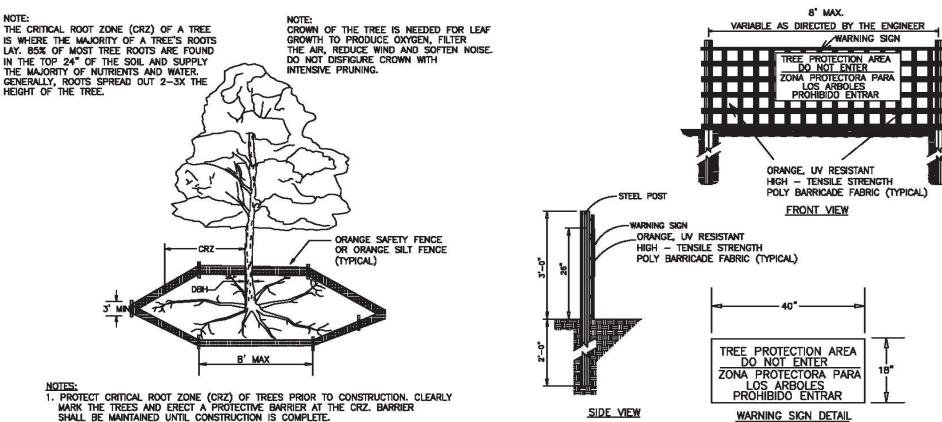
Approved Construction Plan Date: 7/22/20 # 2020015 SWP #: 2020021 PO, ES, BM, MB, CW

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

ADDITIONAL STORM WATER NOTES:

- ALL STORM WATER RUNOFF FROM BUILT UPON AREAS (I.E. IMPERVIOUS SURFACES AND ROOF DRAINAGE) TO BE DIRECTED TO THE STORM SEWER COLLECTION SYSTEM (I.E. STORM INLETS OR PONDS) BY SWALES, OVERLAND FLOW, ADDITIONAL GRADING OR LANDSCAPE INLETS.
- 2. CONTRACTOR TO ENSURE THAT STREET PAVEMENT AND CURBING IS PLACED TO DRAIN POSITIVELY TO CURB INLETS AND DRAINAGE STRUCTURES.
- 3. FOR STORM PIPE MATERIAL AND INSTALLATION SEE DETAILS AND NCDOT STANDARD DRAWINGS 300,1 SHEETS 1-3
- 4. ROOF DRAINS SHALL BE SIZED ACCORDING TO THE 2018 INTERNATIONAAL PLUMBING CODE AND ALL AND SHALL CONFORM TO ANY LOCAL REQUIREMENTS
- 5. ANY ROOF DRAIN LOCATIONS SHOWN HERE ARE APPROXIMATE AND MAY BE FIELD ADJUSTED AS LONG AS THE MINIMUM REQUIRED SLOPE IS MAINTAINED.

CITY OF WILMINGTON TREE PROTECTION STD DETAIL: SD 15-09



PROTECTION AREAS LESS THAN 100' IN PERIMETER, PROVIDE NO LESS

SIDE VIEW WARNING SIGN DETAIL

- 1. THE TREE PROTECTION FENCING SHALL NOT BE VIOLATED FOR THE ENTIRE DURATION OF THE PROJECT WITHOUT APPROVAL FROM URBAN FORESTRY STAFF. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS 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
- 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.

6-29-20

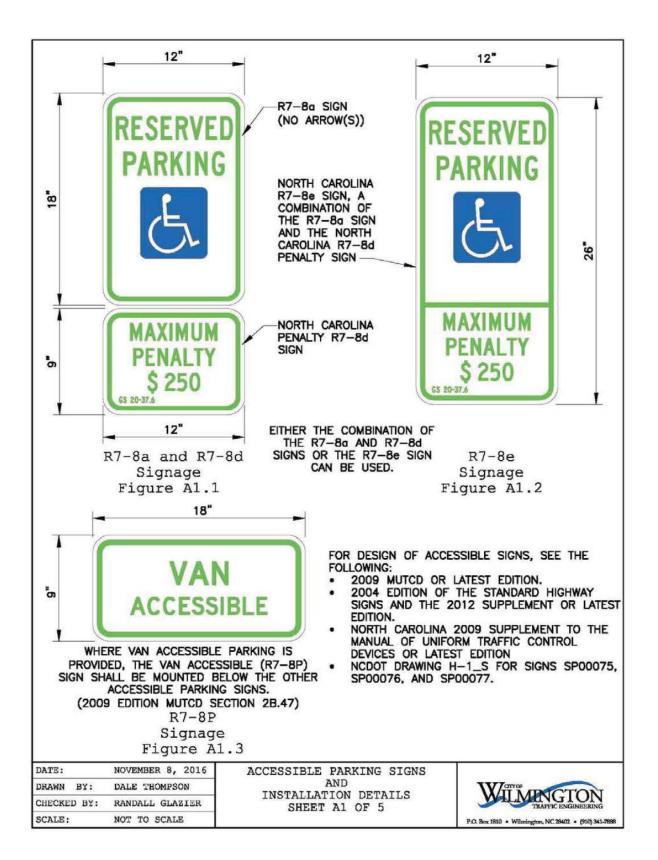
HORZ.: 1"= 20" Project No: 15017

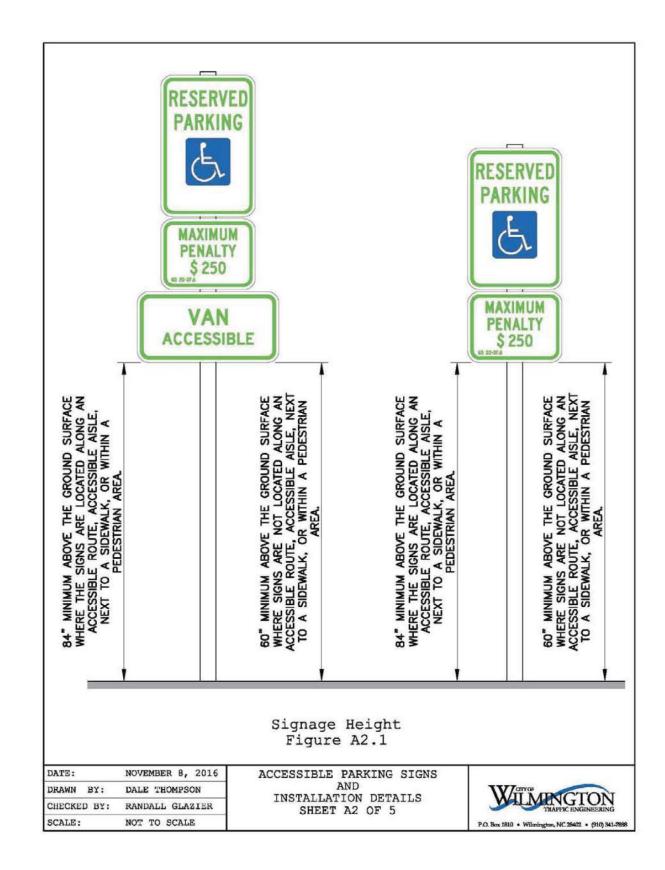
SITE PLAN

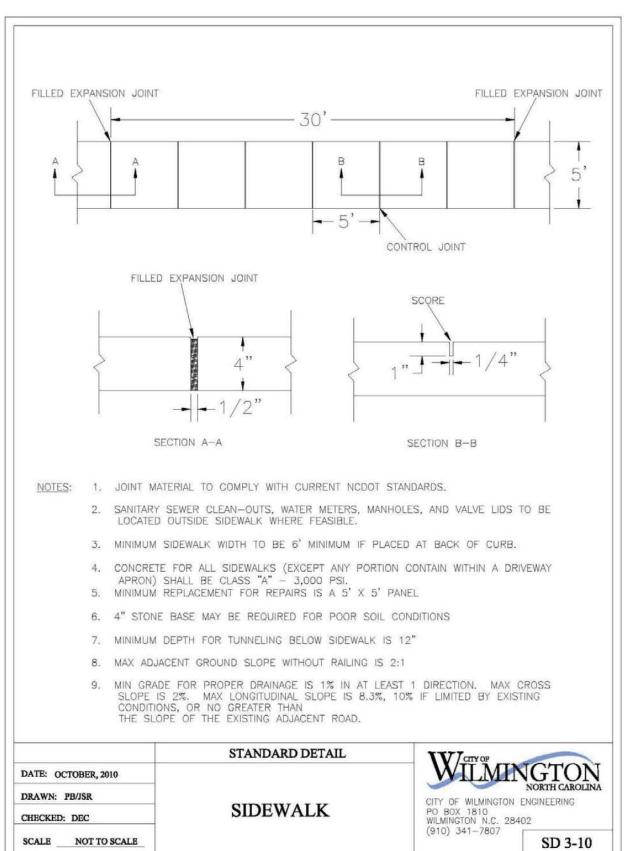
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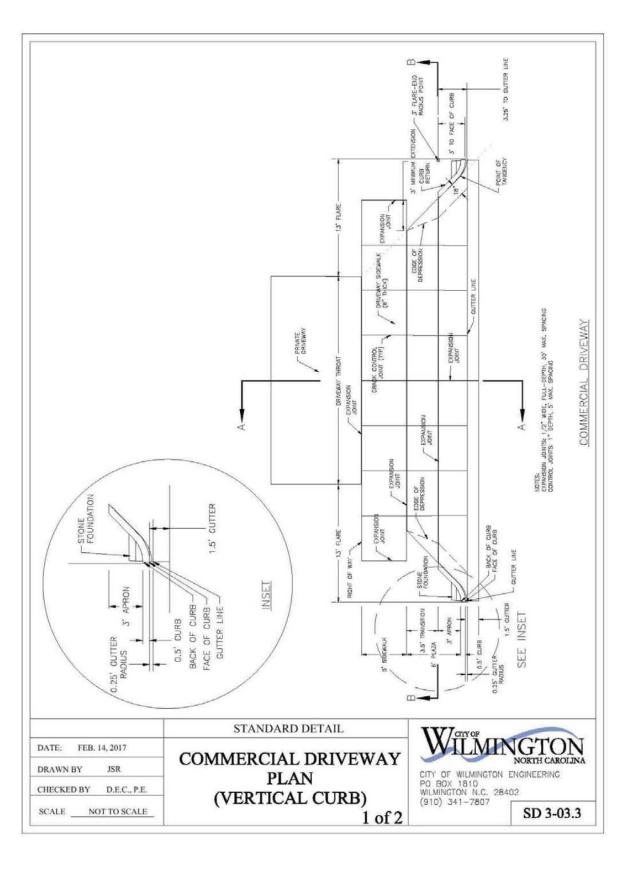
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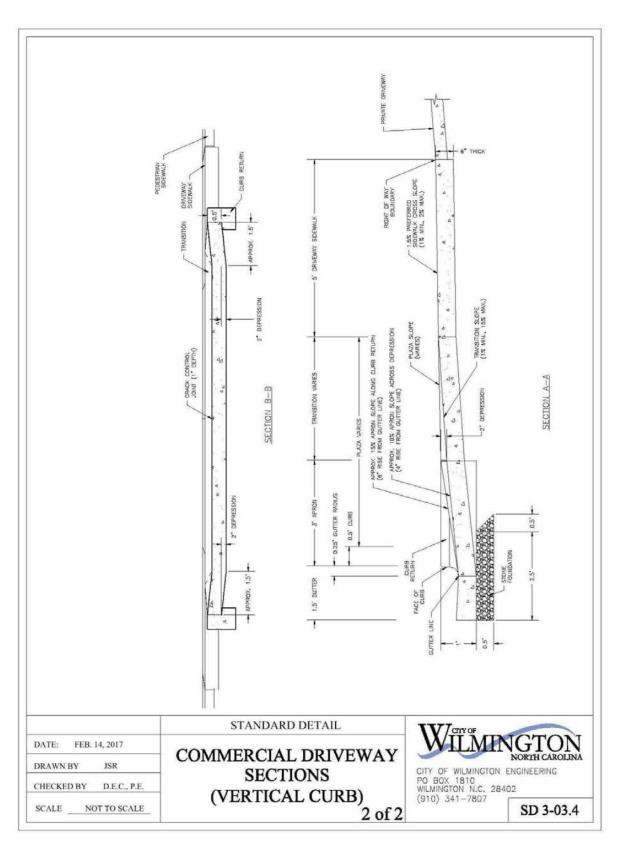
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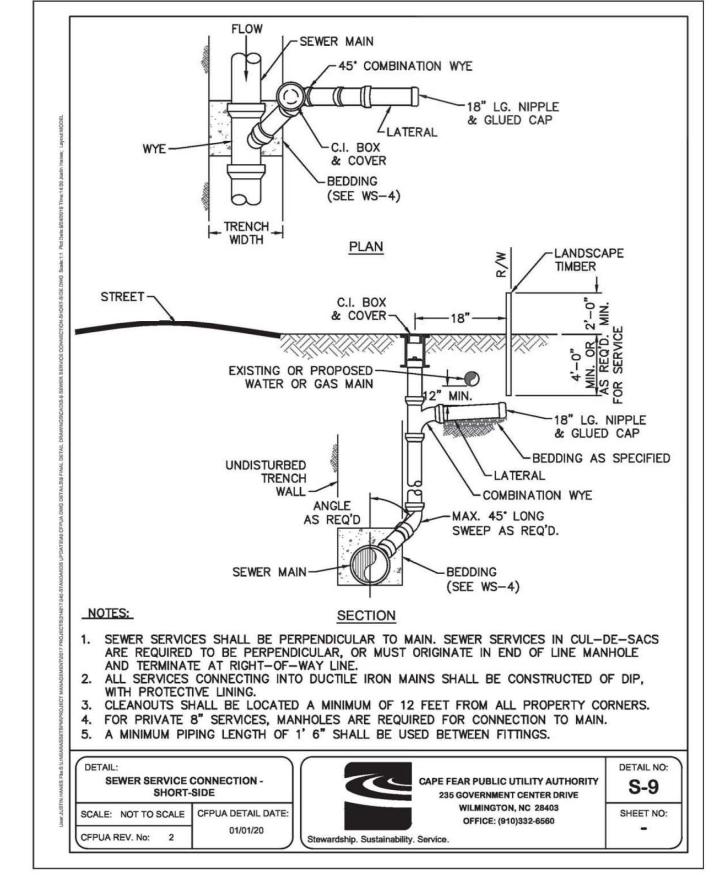


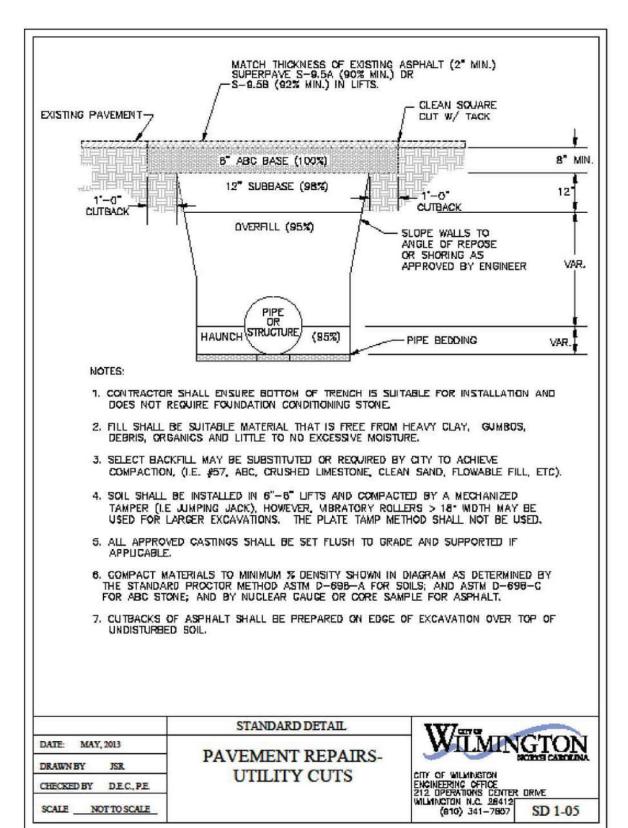


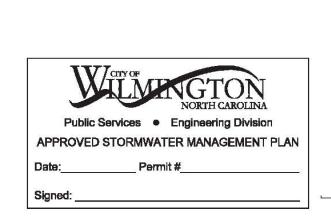






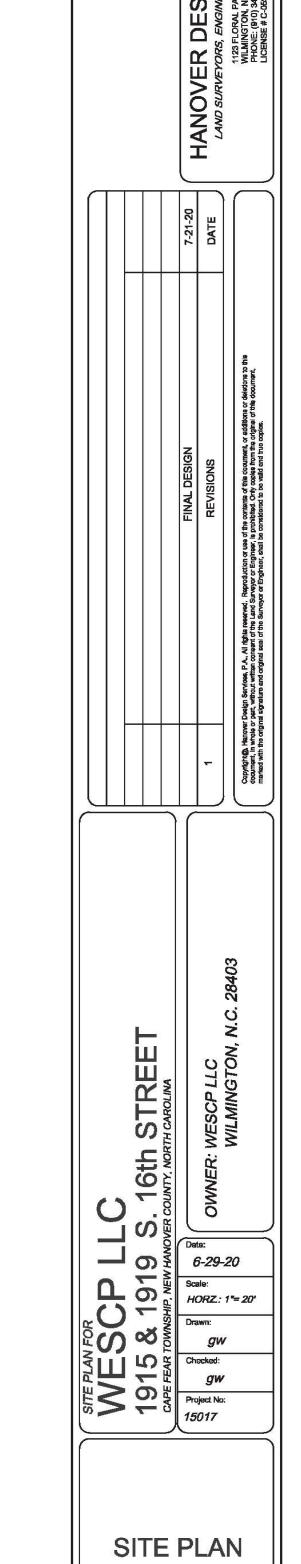






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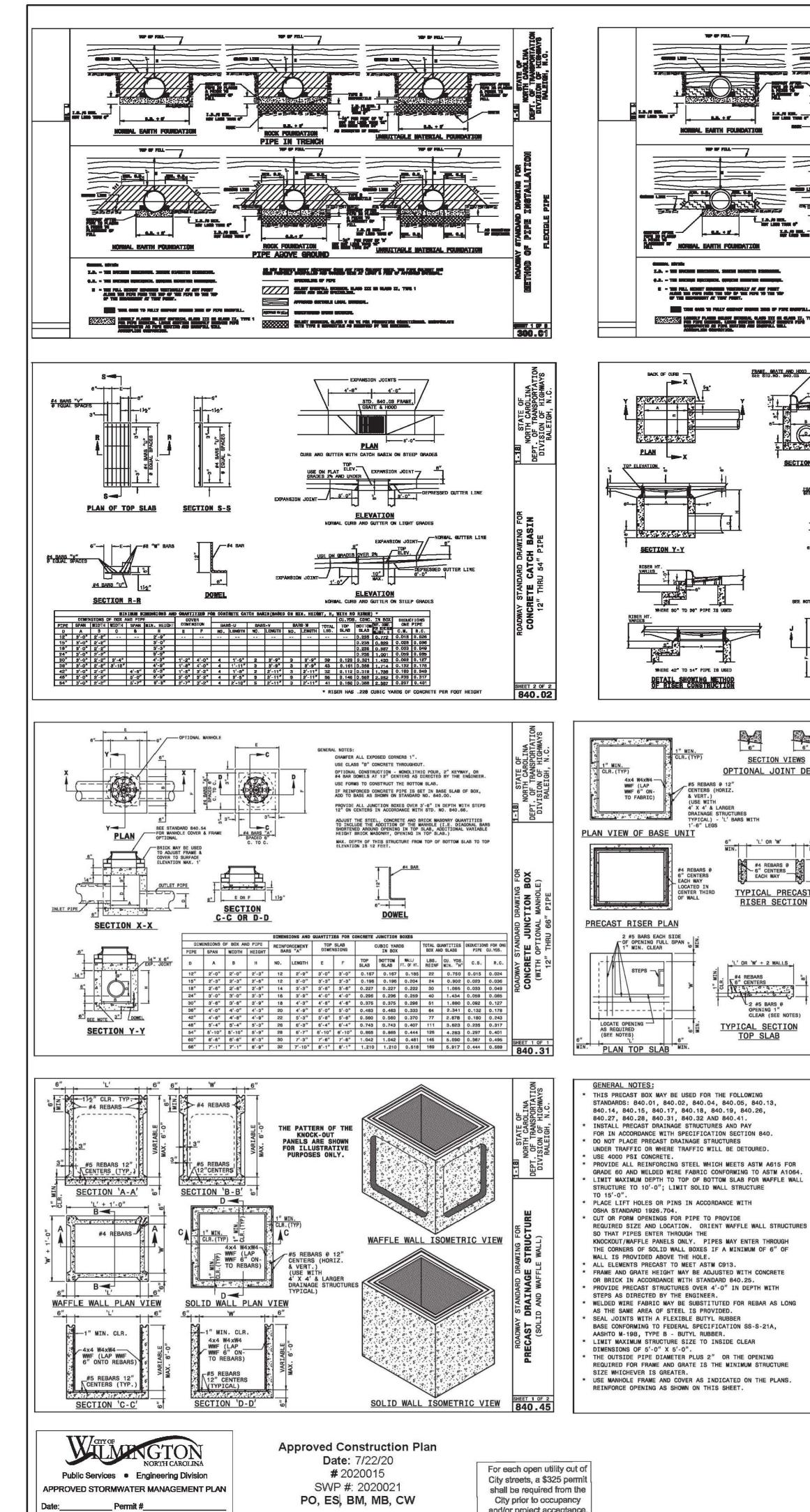


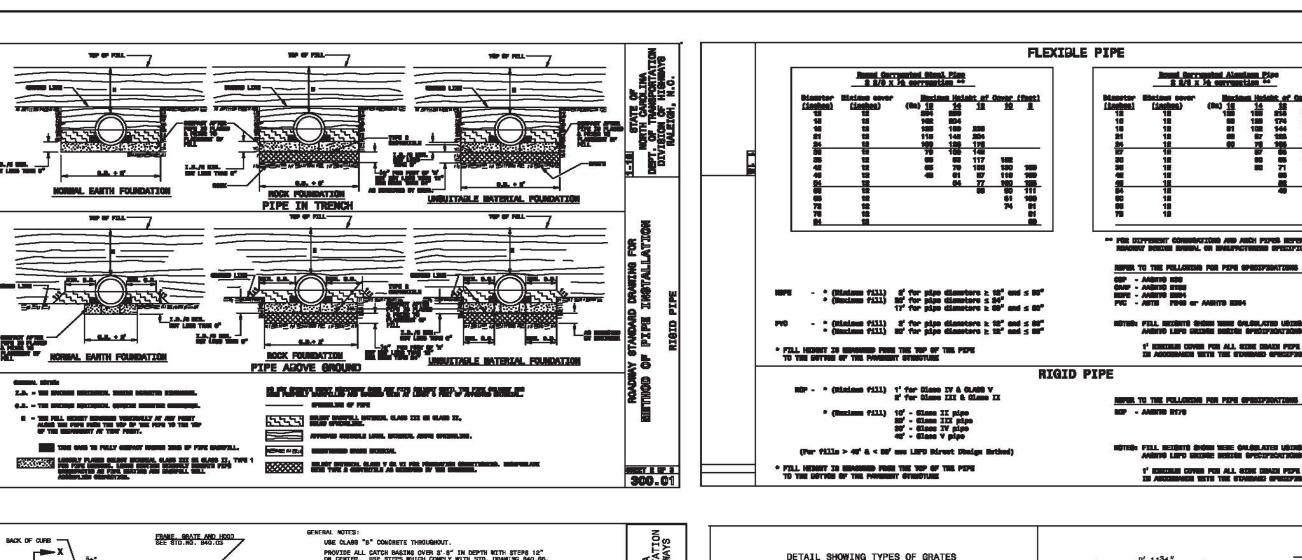
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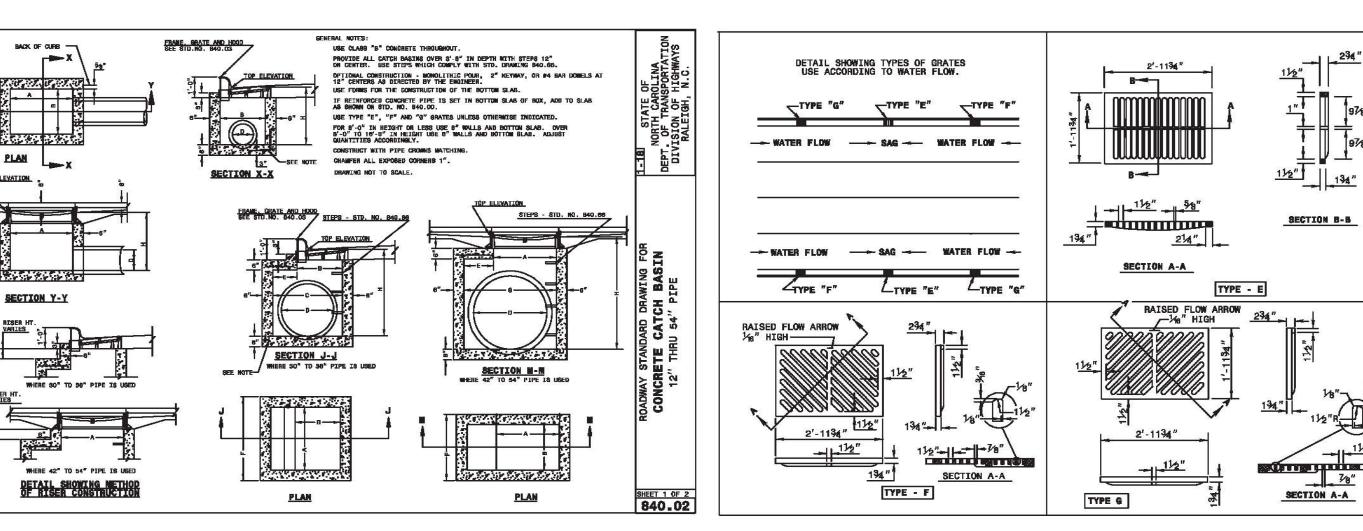
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840.04, 840.05, 840.14, 840.15, 840.31, 840.32, 840.34,

ORIENT STRUCTURES SO THAT CORNERS WILL NOT BE CUT OR MODIFIED UNLESS ALLOWED BY DETAIL IN PLANS.

PRECAST ALL ELEMENTS TO MEET ASTM C913.

FRAME AND GRATE HEIGHT MAY BE ADJUSTED WITH CONCRETE OR BRICK IN ACCORDANCE WITH STANDARD 840.25.

PROVIDE PRECAST STRUCTURES OVER 4'-0" IN DEPTH WITH STEPS 12" ON CENTERS IN ACCORDANGE WITH STD. NO. 840.66.

WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR IF THE SAME MIN. AREA OF STEEL IS PROVIDED.

SEAL JOINTS WITH AN APPROVED SEALANT (SEE SECTION 840 OF NCDOT STANDARD SPECIFICATIONS.

LIMIT MAXIMUM STRUCTURE SIZE INSIDE CLEAR DIMENSIONS TO 6'-0" X 6'-0".

* THE OUTSIDE PIPE DIAMETER PLUS 2" IS THE MINIMUM STRUCTURE SIZE OR THE OPENING REQUIRED FOR GRATE AND FRAME WHICHEVER IS GREATER.

IS GREATER.
ROUND MANHOLE MAY BE USED IN LIEU OF SQUARE PROVIDED 2 EXTRA
#5'S ARE PLACED ON EVERY SIDE NOT ADJACENT TO A WALL. SEE STD.

ISOMETRÍC VIEW

'L' OR 'W' + 1'-0"

#5 BARS @ OPENING

SECTION 'C-C'

CORNER CUT DETAIL (SOLID WALL BOX)

6" 'L' OR 'W' -1 -6

#4 REBARS 6" CENTERS

PRECAST RISER DETAIL

SECTION VIEW

#4 REBARS 6" CENTERS

DWG. 840.34 FOR MANHOLE INSTALLATION.

4x4 W4xW4 WWF (LAP WWF 6" ONTO FABRIC)

#5 REBARS 12"

TYPICAL SECTION
OF BASE UNIT

OPENING SHALL BE LOCATED AS REQUIRED

STEPS -

PLAN TOP SLAB

1" CLR

PRECAST RISER PLAN

SECTION VIEW

OPTIONAL JOINT DETAILS

SECTION VIEWS

#4 REBARS @ 6" CENTERS EACH WAY

'L' OR 'W' + 2 WALLS

#4 REBARS 6" CENTERS

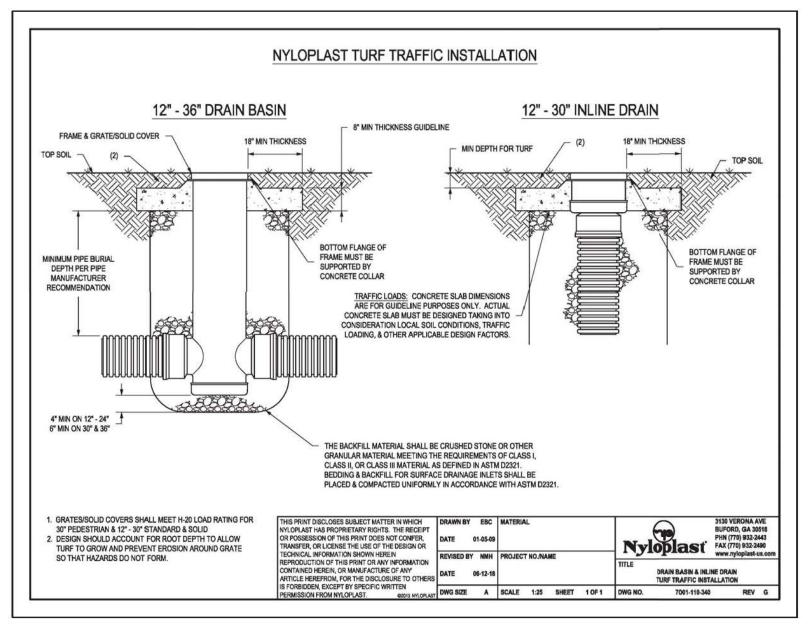
TYPICAL SECTION TOP SLAB

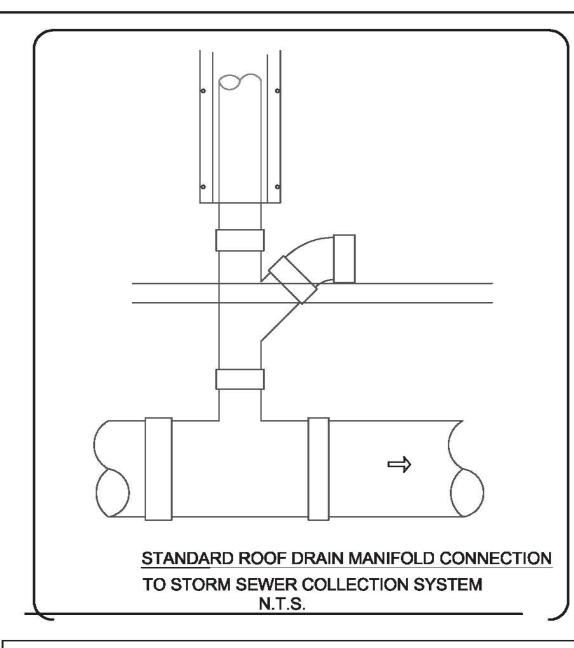
2 #5 BARS @ OPENING 1" CLEAR (SEE NOTES)

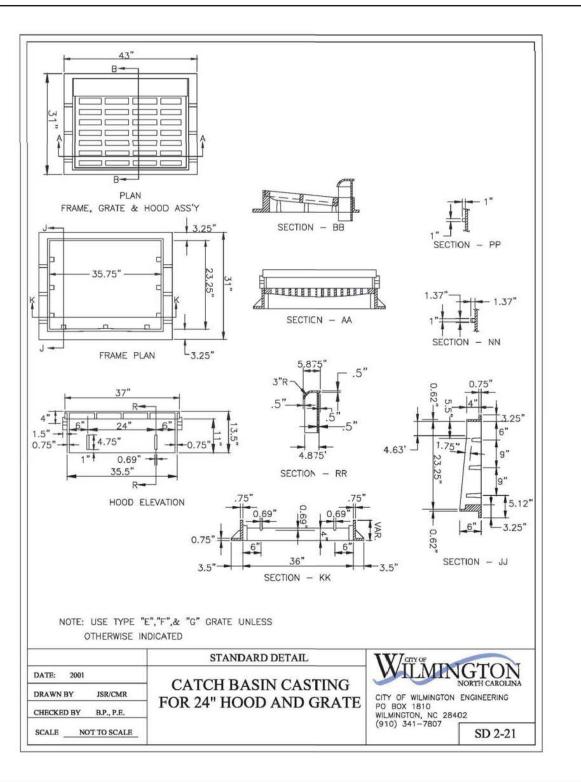
TYPICAL PRECAST RISER SECTION

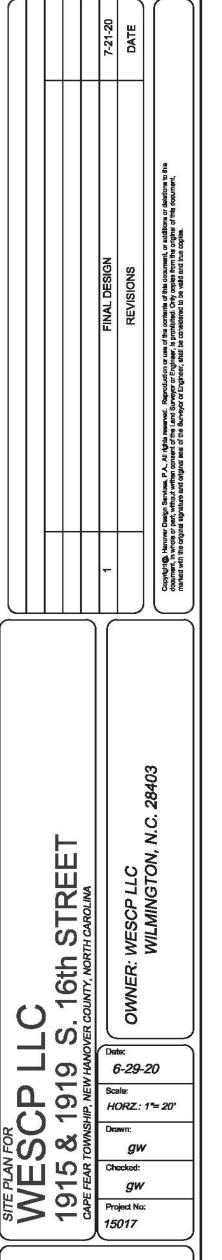
(USE WITH
4' X 4' & LARGER
DRAINAGE STRUCTURES
TYPICAL) - 'L' BARS WITH
1'-6" LEGS

OPTIONAL JOINT DETAILS

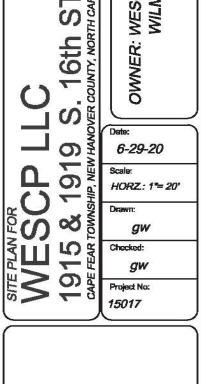




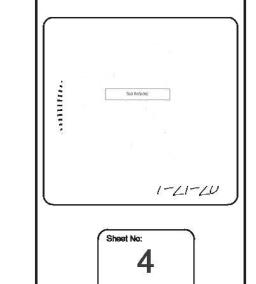




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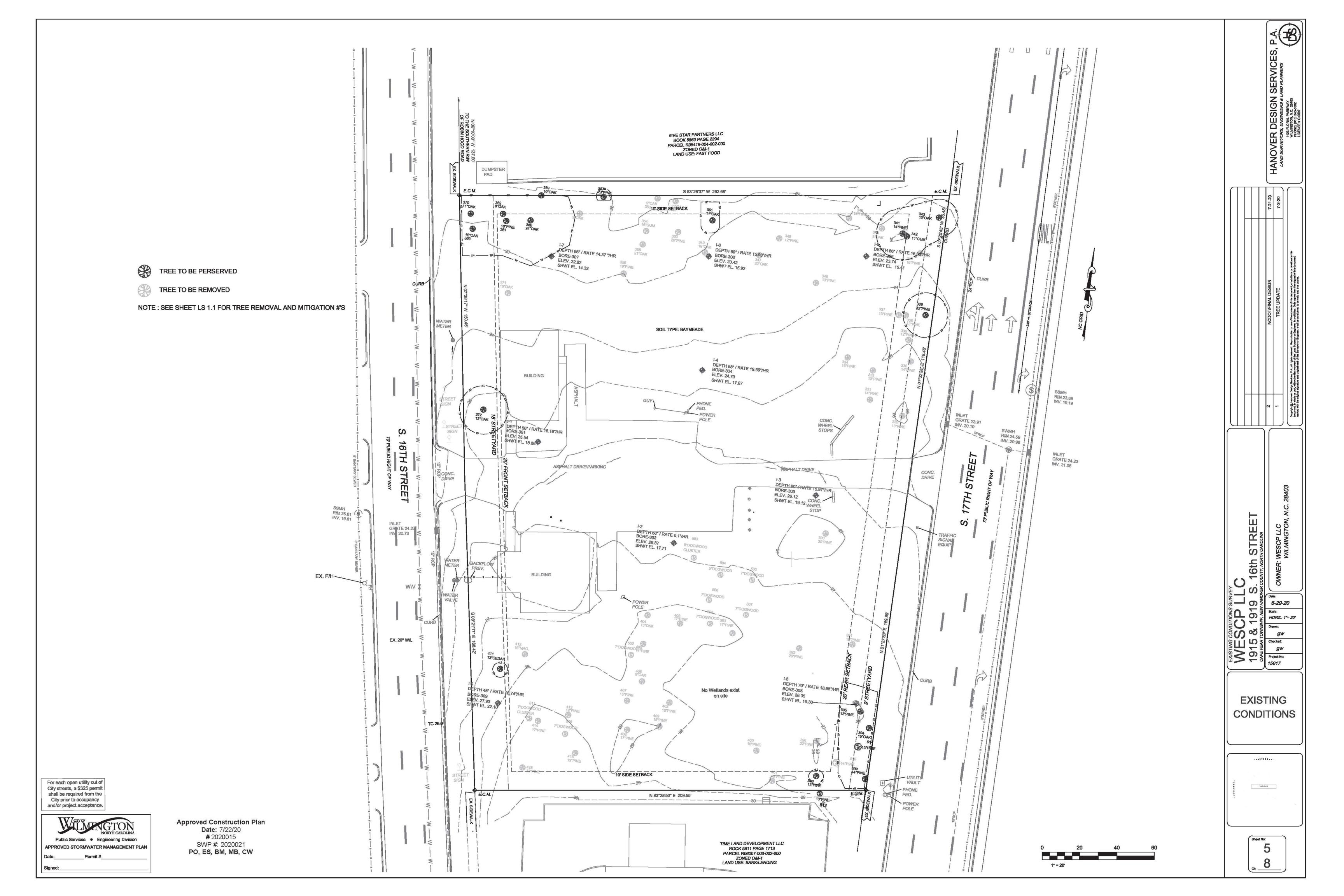


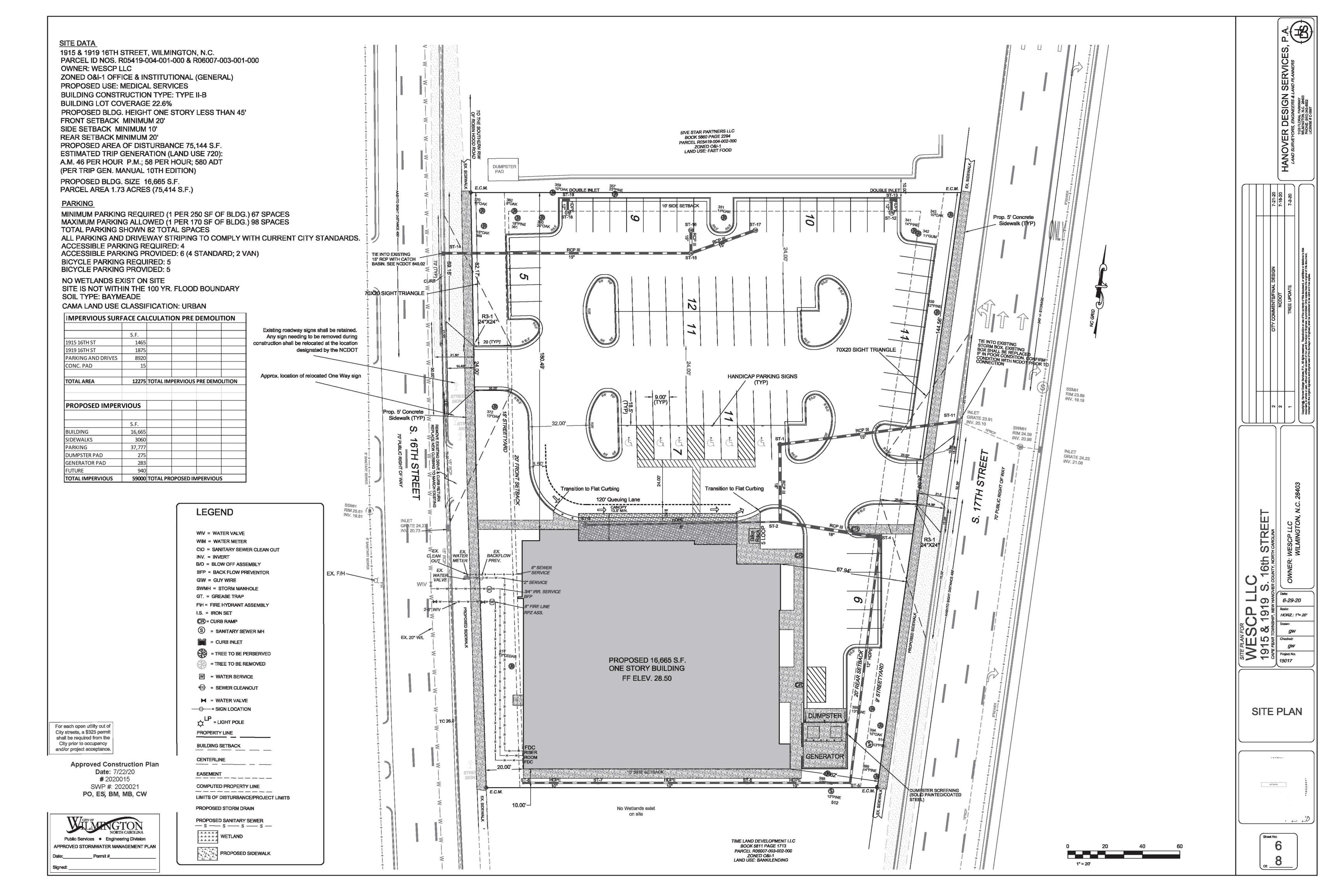


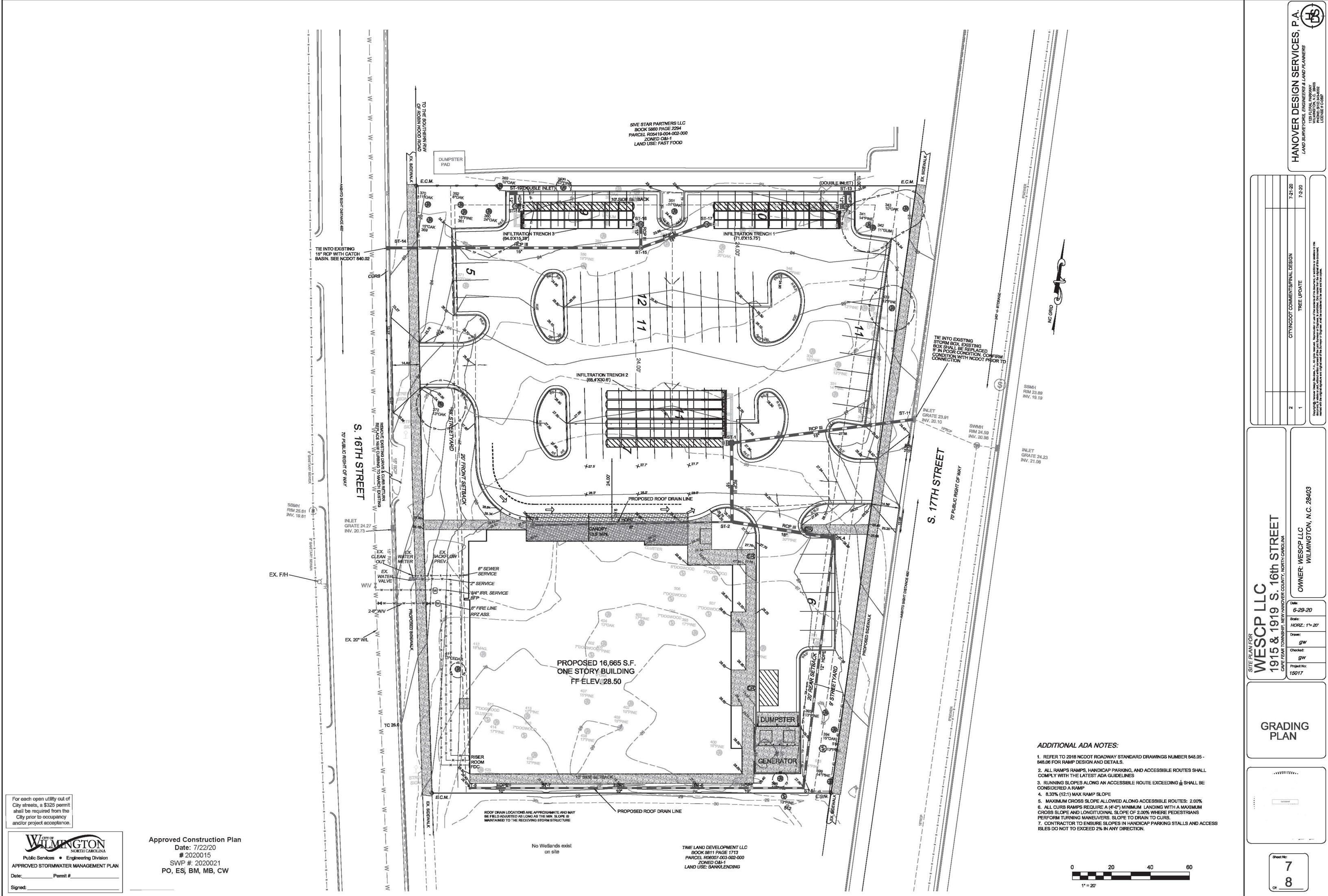


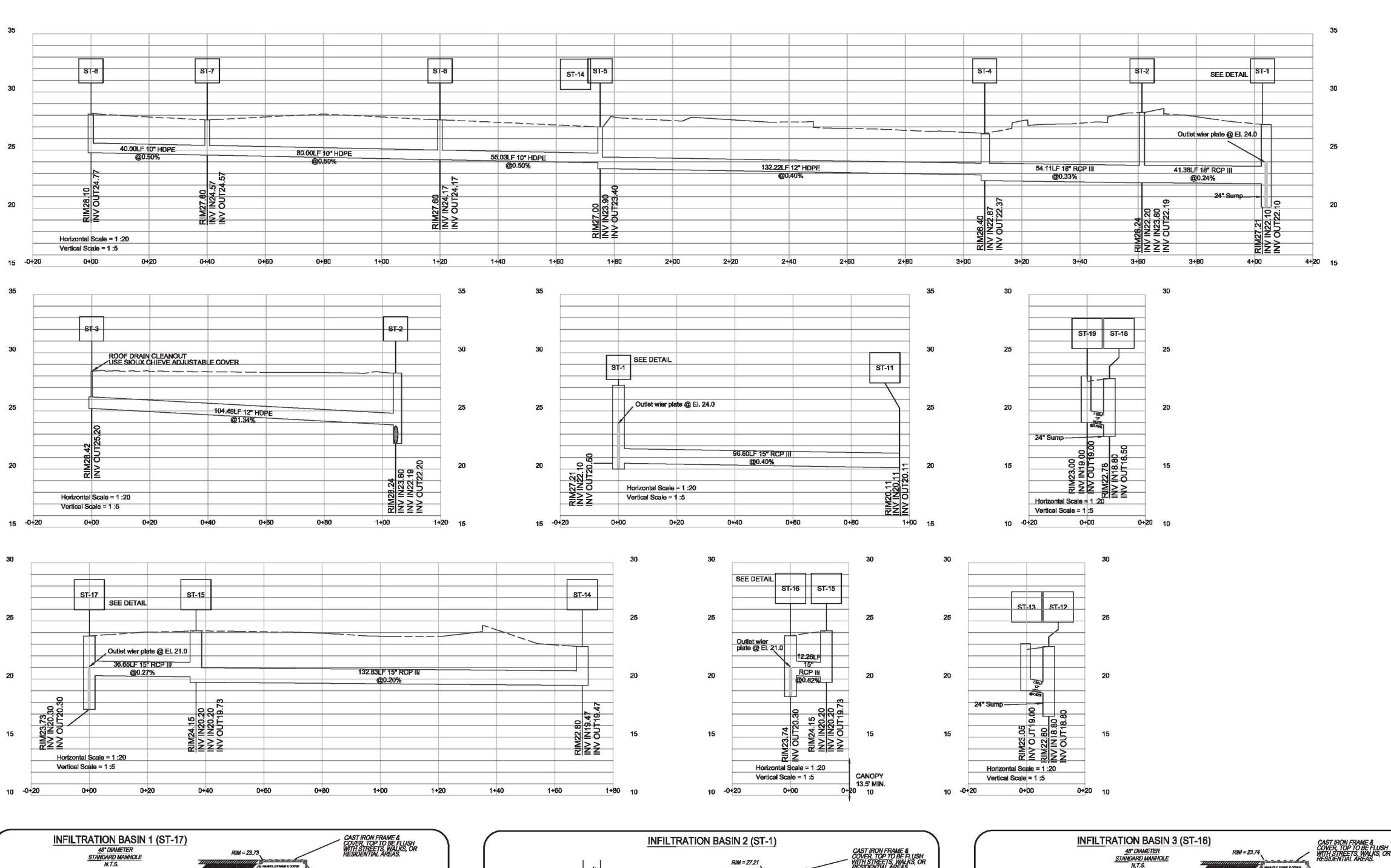
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and/or project acceptance



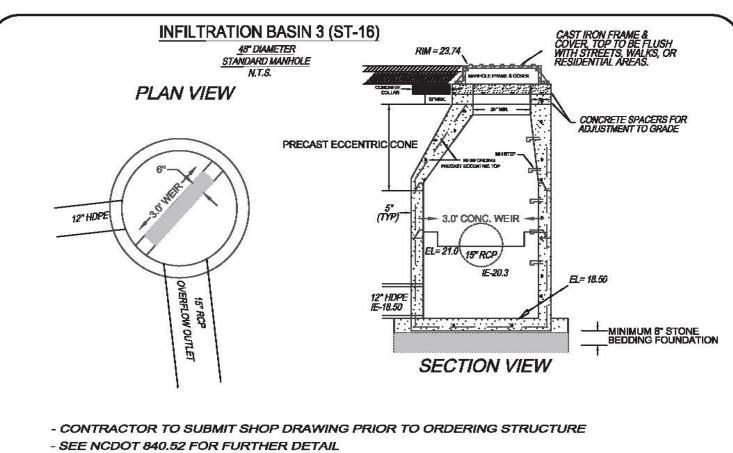


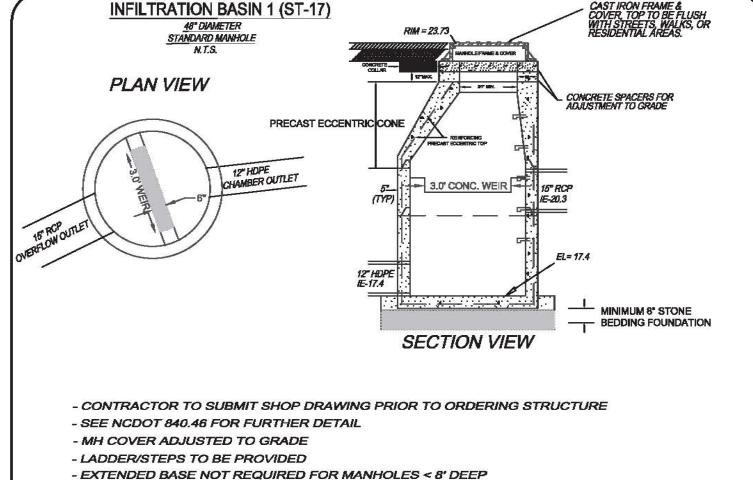




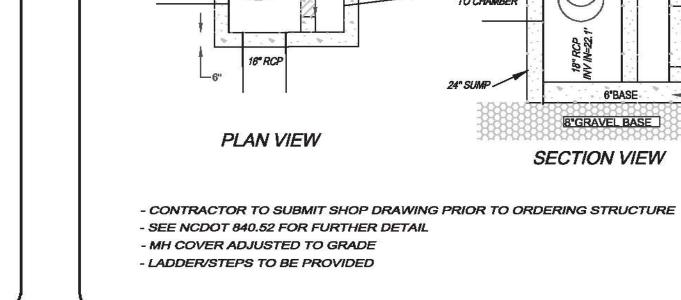
		STORM NETWO	RK SUMMARY			
DN STRUCTURE	UP STRUCTURE	DOWN INVERT (FT)	UP INVERT (FT)	LENGTH (FT)	SLOPE (%)	SIZE (IN
ST-12	ST-13	18.80	19.00	7.62	2.62	120
ST-18	ST-19	18.50	19.00	7.62	6.56	12.0
ST-11	ST-1	20.11	20.50	96.60	0.40	15.0
ST-1	ST-2	22.10	22.20	41.38	0.24	18.0
ST-2	ST-4	22.19	22.37	54.11	0.33	18.0
ST-2	ST-3	23.80	25.20	104.49	1.34	8.0
ST-4	ST-5	22.87	23.40	132.22	0.40	12.0
ST-5	ST-6	23.90	24.17	55.03	0.50	10.0
ST-6	ST-7	24.17	24.57	80.00	0.50	10.0
ST-7	ST-8	24.57	24.77	40.00	0.50	10.0
ST-14	ST-15	19.47	19.73	132.83	0.20	15.0
ST-15	ST-16	20.20	20.30	12.26	0.82	15.0
ST-15	ST-17	20.20	20.30	36.65	0.27	15.0

	7.	STORM NETWORK SUMMARY
NAME	RIM ELEV(FT)	INLET ID
ST-12	22.80	CHAMBER INLET JUNCTION MH
ST-13	23.05	DOUBLE GRATE/CURB
ST-18	22.78	CHAMBER INLET JUNCTION MH
ST-19	23.00	DOUBLE GRATE/CURB
ST-11	23.91	EXISTING GRATE/CURB GRADE
ST-1	27.21	CHAMBER INLET/OUTLET SEE DETAIL
ST-2	28.24	24" YARD INLET (NYOPLAST 24" OR EQUIVALENT)
ST-4	26.40	GRATE/CURB
ST-5	27.00	24" YARD INLET (NYOPLAST 24" OR EQUIVALENT)
ST-6	27.60	24" YARD INLET (NYOPLAST 24" OR EQUIVALENT)
ST-7	27.60	24" YARD INLET (NYOPLAST 24" OR EQUIVALENT)
ST-8	28.10	24" YARD INLET (NYOPLAST 24" OR EQUIVALENT)
ST-3	28.42	ROOF DRAIN C/O
ST-14	22.80	GRATE/CURB
ST-15	24.15	JUNCTION BOX/MH
ST-16	23.74	CHAMBER OUTLET SEE DETAIL
ST-17	23.73	CHAMBER OUTLET SEE DETAIL





- EXTENDED BASE NOT REQUIRED FOR MANHOLES < 8' DEEP
- TRAFFIC RATED NYLOPLAST DRAIN BASIN MAY BE USED IN LIEU OF CONCRETE STRUCTURE



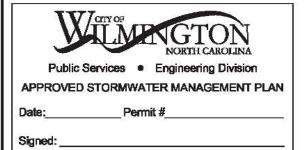
24° HDPE INV OUT=22.0°

MH COVER

- MH COVER ADJUSTED TO GRADE - LADDER/STEPS TO BE PROVIDED - EXTENDED BASE NOT REQUIRED FOR MANHOLES < 8' DEEP - TRAFFIC RATED NYLOPLAST DRAIN BASIN MAY BE USED IN LIEU OF CONCRETE STRUCTURE

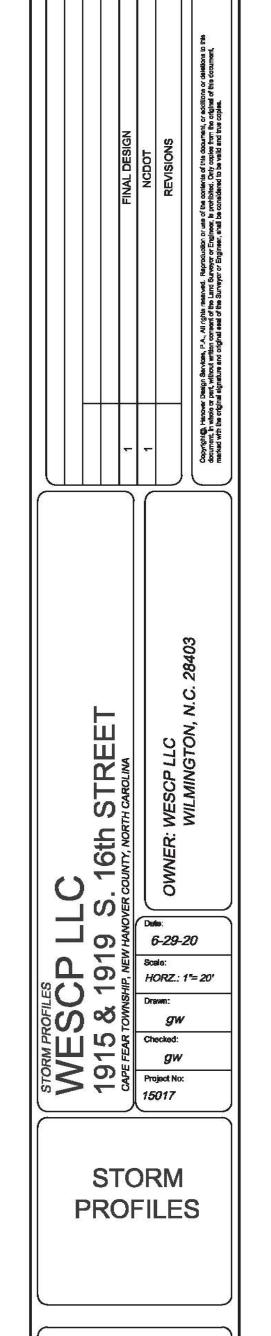
3' OVERFLOW WEIR

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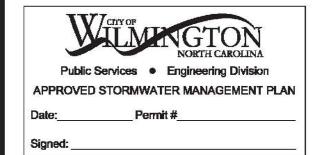
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STORMTECH CHAMBER SPECIFICATIONS

- 1. CHAMBERS SHALL BE STORMTECH SC-740 OR SC-310.
- 2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- 4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE
- 5. CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418-16 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12. ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE
- c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
- 8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.



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IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM

- STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.
- STONESHOOTER LOCATED OFF THE CHAMBER BED. BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
- BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

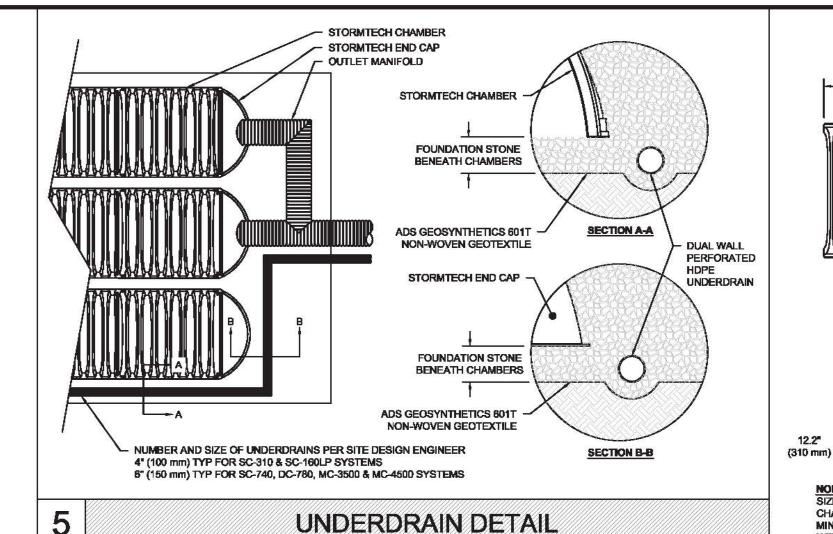
NOTES FOR CONSTRUCTION EQUIPMENT

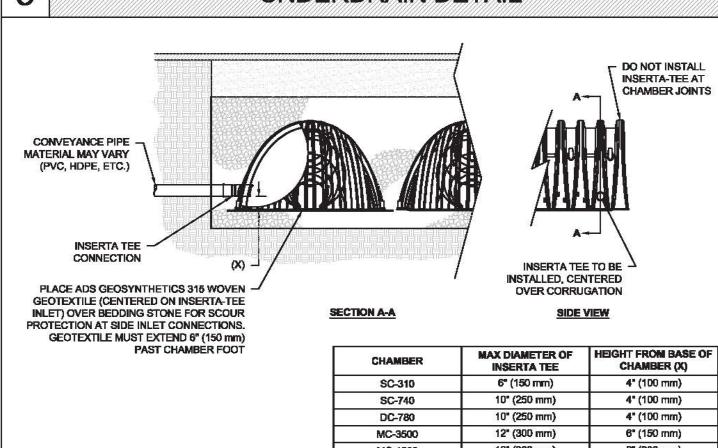
STORMTECH RECOMMENDS 3 BACKFILL METHODS:

- STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE'.
- THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED: NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
- NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE"
- WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION
- 3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING. USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

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MC-4500 12" (300 mm) 8" (200 mm) INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS CONTACT STORMTECH FOR MORE INFORMATION. GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON

INSERTA-TEE SIDE INLET DETAIL

NOTE: ALL DIMENSIONS ARE NOMINAL

BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

51.0" X 30.0" X 85.4"

45.9 CUBIC FEET

74.9 CUBIC FEET

75.0 lbs.

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS

PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"

STUB

6" (150 mm)

8" (200 mm)

10" (250 mm)

12" (300 mm)

15" (375 mm)

PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

— 90.7" (2304 mm) ACTUAL LENGTH ———

CHAMBER STORAGE

MINIMUM INSTALLED STORAGE*

PRE-CORED END CAPS END WITH "PC"

SC740EPE06T / SC740EPE06TPC

SC740EPE06B / SC740EPE06BPC

SC740FPF08T /SC740EPE08TPC

SC740EPE08B / SC740EPE08BPC

SC740EPE10T / SC740EPE10TPC

SC740EPE10B / SC740EPE10BPC

SC740EPE12T / SC740EPE12TPC

SC740EPE12B / SC740EPE12BPC

SC740EPE15T / SC740EPE15TPC

SC740EPE15B / SC740EPE15BPC

SC740EPE18T / SC740EPE18TPC

SC740EPE24B*

85.4" (2169 mm) INSTALLED LENGTH —

BUILD ROW IN THIS DIRECTION

OVERLAP NEXT CHAMBER HERE

(OVER SMALL CORRUGATION)

(1295 mm X 762 mm X 2169 mm)

18.5" (470 mm)

16.5" (419 mm)

14.5" (368 mm)

0.5" (13 mm)

0.6" (15 mm)

0.7° (18 mm)

1.2" (30 mm)

1.3" (33 mm)

(1.30 m²)

(2.12 m²)

Α

10.9" (277 mm)

12.2" (310 mm)

13.4" (340 mm)

14.7" (373 mm)

18.4" (467 mm)

19.7" (500 mm)

18.5" (470 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF

* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm).

5

NOT

REV:

Wilmingto

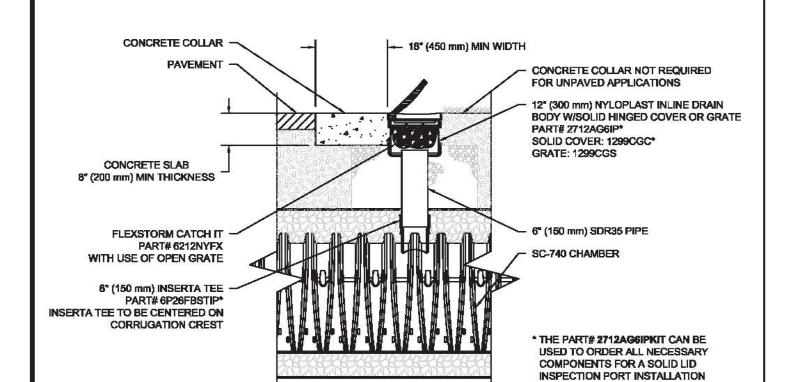
DA

NOTE: PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS.

SC-740 TECHNICAL SPECIFICATIONS

OPTIONAL INSPECTION PORT COVER ENTIRE ISOLATOR ROW WITH ADS SC-740 CHAMBER GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE 8' (2.4 m) MIN WIDE STORMTECH HIGHLY RECOMMENDS FLEXSTORM PURE INSERTS IN ANY UPSTREAM STRUCTURES WITH OPEN GRATES **ELEVATED BYPASS MANIFOLD -**SC-740 END CAP SUMP DEPTH TBD BY **CATCH BASIN** SITE DESIGN ENGINEER OR MANHOLE (24" [600 mm] MIN RECOMMENDED) 4" (600 mm) HDPE ACCESS PIPE REQUIRED TWO LAYERS OF ADS GEOSYNTHETICS 315WTK WOVEN USE FACTORY PRE-FABRICATED END CAP GEOTEXTILE BETWEEN FOUNDATION STONE AND CHAMBERS PART #: SC740EPE24B 5' (1.5 m) MIN WIDE CONTINUOUS FABRIC WITHOUT SEAMS

SC-740 ISOLATOR ROW DETAIL



INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT A. INSPECTION PORTS (IF PRESENT)

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

APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN

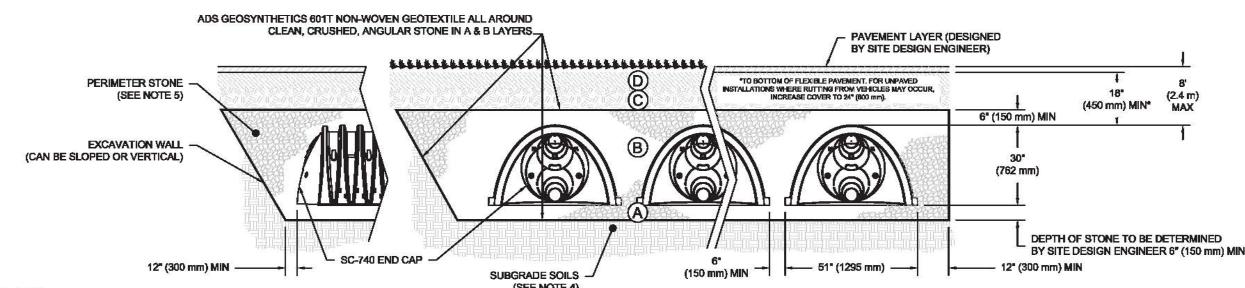
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS. INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

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

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
С	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	OR	BEGIN COMPACTIONS AFTER 12* (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6* (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
В	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ¹ 3, 357, 4, 487, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

- 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR, CRUSHED, ANGU ANGULAR NO. 4 (AASHTO M43) STONE".
- 2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR. 3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



- SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS"
- 2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION
- 3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL
- 4. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE
- 5. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.

WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.

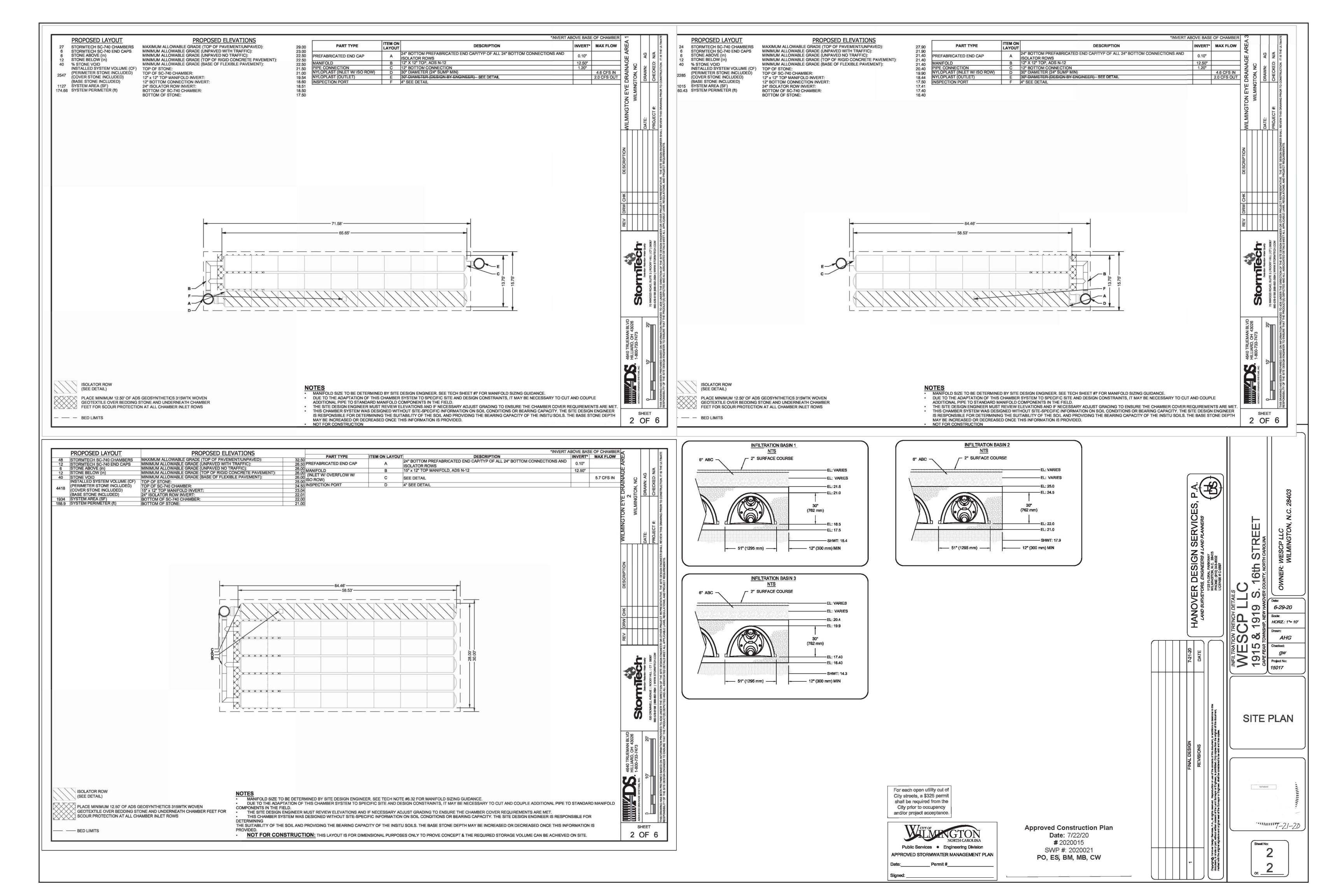
6. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

1-21-20

SC-740 6" (150 mm) INSPECTION PORT DETAIL

SC-740 CROSS SECTION DETAIL

SHEET



WESCP LLC

1915 & 1919 S. 16th STREET

EROSION AND SEDIMENT CONTROL

1279 NEW HANOVER MEDICAL PARK WILMINGTON, N.C. 28403

LEGEND

W/V = WATER VALVE

W/M = WATER METER

CIO = SANITARY SEWER CLEAN OUT

INV. = INVERT

B/O = BLOW OFF ASSEMBLY

BFP = BACK FLOW PREVENTOR

G\W = GUY WIRE SWMH = STORM MANHOLE

GT. = GREASE TRAP

F\H = FIRE HYDRANT ASSEMBLY I.S. = IRON SET

S = SANITARY SEWER MH

= CURB INLET

= CURB RAMP

W = WATER SERVICE

SEWER CLEANOUT

■ = WATER VALVE

___ = SIGN LOCATION

BUILDING SETBACK

PROPERTY LINE

EASEMENT ------

COMPUTED PROPERTY LINE

EXISTING CONTOUR STORM DRAIN

PROPOSED SANITARY SEWER

-s-s-s-s-s-s-s-s-TREE PROTECTION FENCING

INLET PROTECTION

CONSTRUCTION ENTRANCE

(CW) CONCRETE WASHOUT

1) CLASS IV RCP SHALL BE USED WHEN COVER IS LESS THAN 2.0' FOR STORM SEWER

NOTE WELL: 1) CONTRACTOR TO ENSURE THAT

STREET PAVEMENT & CURBING IS PLACED SO AS TO DRAIN POSITIVELY TO CURB INLETS AND DRAINAGE STRUCTURES.

MULTIPLE UTILITIES SHOWN GRAPHICALLY IN PROFILE. DEVIATIONS NOTED AS SHOWN. MAINTAIN 36" COVER AND USE DIP AT CROSSINGS WHEN REQUIRED. SEE COVER SHEET NOTES.

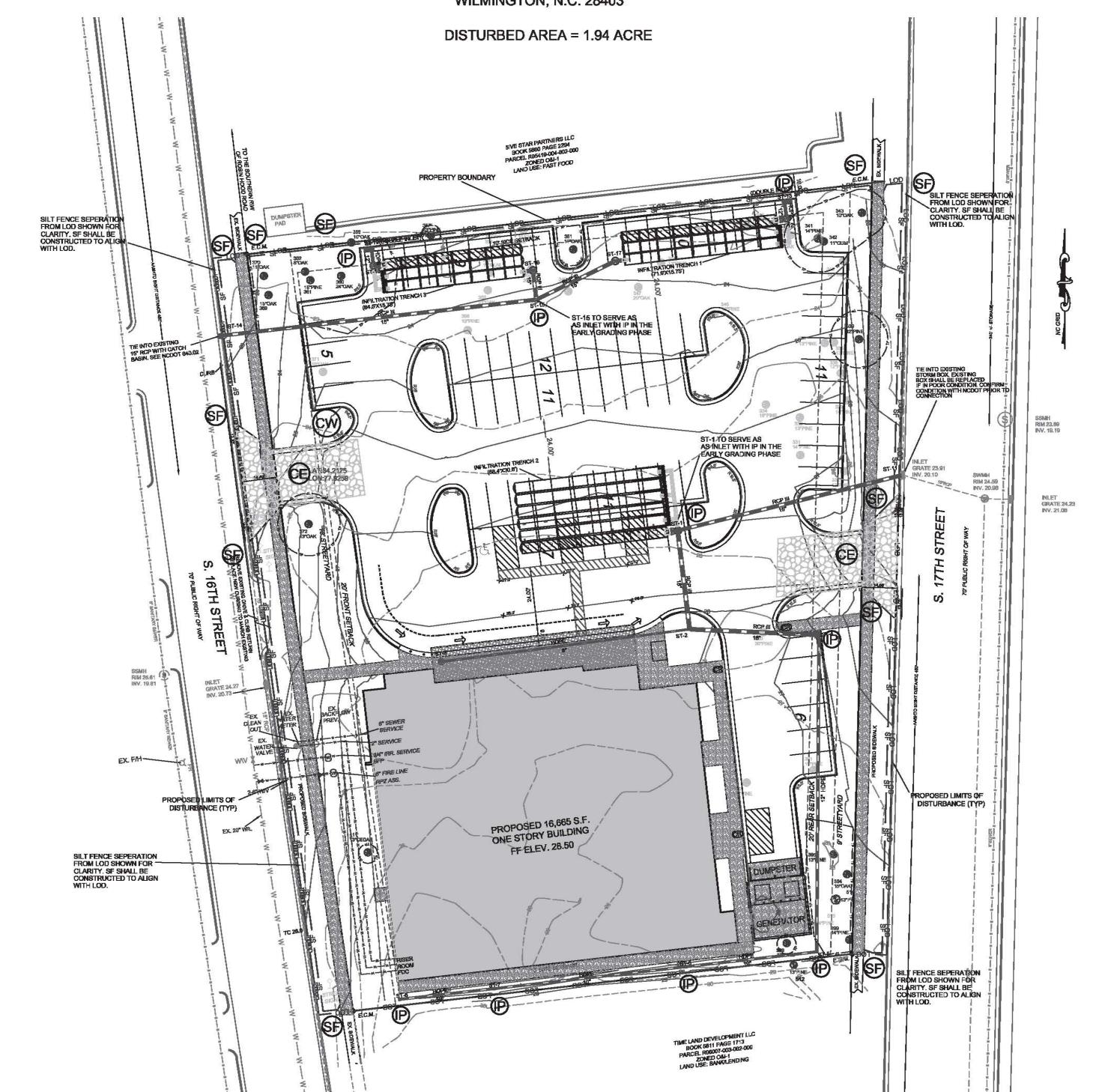
GENERAL NOTES:

This map is not for conveyance, recordation, or sales.

1. EQUIPMENT CLEARANCE MINIMUM 16' FROM TRANSMISSION LINES TO BE MAINTAINED AT ALL TIMES. (REFERENCE: OSHA 1910.269)

2. ANY TREE, OR SHRUB CAN BE PLANTED WITHIN THE RIGHT-OF-WAY AS LONG AS THE MATURE HEIGHT IS 12 FEET OR LESS. WHEN PLANTING TREES AND SHRUBS, PLEASE REMEMBER TO LEAVE SUFFICIENT SPACING TO ALLOW UTILITY MAINTENANCE VEHICLES ACCESS WITHIN THE RIGHT-OF-WAY.

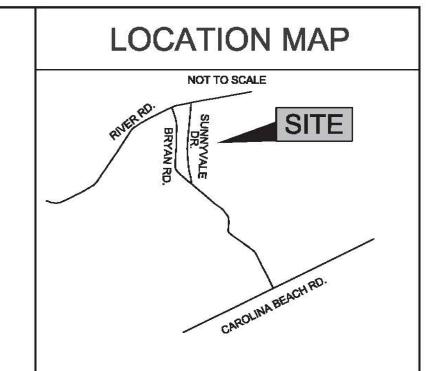
	INDEX TO DRAWINGS	
SHEET No.	DESCRIPTION	
EC-1 OF EC-4	EROSION CONTROL PLANS	
EC-2 OF EC-4	EROSION CONTROL DETAILS	
EC-3 OF EC-4	EROSION CONTROL DETAILS	
EC-4 OF EC-4	EROSION CONTROL DETAILS	
B-1 OF B-1	BASIN DETAILS	
		1



STABILIZATION TIME FRAMES: ANY AREAS ON-SITE WITHOUT ACTIVITY SHALL BE STABILIZED WITHIN 15 WORKING DAYS OR 21 CALENDAR DAYS AND AS ABOVE, ALL SLOPES MUST BE STABILIZED WITHIN 21 CALENDAR DAYS OF CEASE OF ANY

DETAILS SHOWN ARE TYPICAL OF INSTALLATIONS REQUIRED BY THE TOWN AND COUNTY. THIS SHEET DOES NOT PURPORT TO SHOW ALL REQUIRED CONSTRUCTION DETAILS, BUT CITY, COUNTY AND STATE CODES AND CONSTRUCTION STANDARDS. No geotechnical testing has been performed on site. No warranty is made for suitability of subgrade, and undercut and any required replacement with suitable material shall be the responsibility of the contractor.

4	NCDOT COMMENTS/FINAL DESIGN	7-21-20
3	TREE UPDATE	7-2-20
2	EARLY GRADING RELEASE	6-29-20
1	ADDED SILT FENCE NOTE	6-2-20
REV. NO.	REVISIONS	DATE

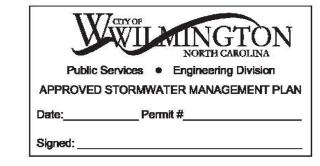


CONSTRUCTION SCHEDULE -

- Obtain approval of Plan and any necessary permits, and hold a pre-construction conference prior to commencing any work.
- 2. Flag work limits and stake-out measures for preliminary grading. Install silt fencing along wetland boundary and as shown, prior to clearing and grubbing site.
- Install Gravel Construction Entrance.
- 4. The storm drain system shall be extended early in the process as possible so runoff can be directed to the inlets with inlet protection.
- 5. Maintain Sediment fence and Inlet protection as this will be the main source of sediment
- 6. Immediately stabilize all non-construction areas.
- 7. Construct any other sediment control Practices shown, prior to rough grading site, stockpiling
- 9. All erosion and sediment control Practices are to be inspected weekly and after any rainfall, and repaired as necessary.
- 10. Upon completion of grading, all areas are to be permanently vegetative stabilized. After site stabilization, temporary measures are to be removed. The temporary sediment basin shall be cleaned out to there design elevations.
- 11. Additional specific erosion control measures updates will be required as the site-specific plans are available for each lot.

MAINTENANCE PLAN -

- 1. All measures to be inspected weekly and after any rainfall event and needed repairs made
- 2. Sediment to be removed from behind the Silt Fence when it becomes 0.5' deep. Fencing to be
- Inspect inlets at least weekly and after each significant (½ inch or greater) rainfall event. Repair any defects in wire and mesh. Replace stone as needed per specification as needed
- 4. All seeded areas shall be fertilized, mulched, and reseeded as necessary, according to specifications provided, to maintain a suitable vegetative cover.
- 5. Construction entrances are to be maintained in a condition to prevent mud or sediment from leaving the construction site. Periodic topdressing with 2" stone may be required. Remove all objectionable material spilled, washed, or tracked onto public roadways immediately.

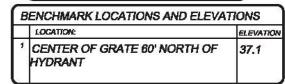


Approved Construction Plan Date: 7/22/20 # 2020015 SWP #: 2020021 PO, ES, BM, MB, CW

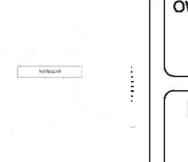
> For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

THIS PLAN TO BE UTILIZED AND REVIEWED ONLY IN CONJUNCTION WITH THE WRITTEN NARRATIVE, WHICH IS AN INTEGRAL PART OF THIS EROSION AND SEDIMENT CONTROL PLAN.





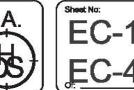




OWNER: WESCP LLC 1279 NEW HANOVER MEDICAL PARK WILMINGTON, N.C. 28403



HANOVER DESIGN SERVICES, P.A. LAND SURVEYORS, ENGINEERS & LAND PLANNERS





5-7-20

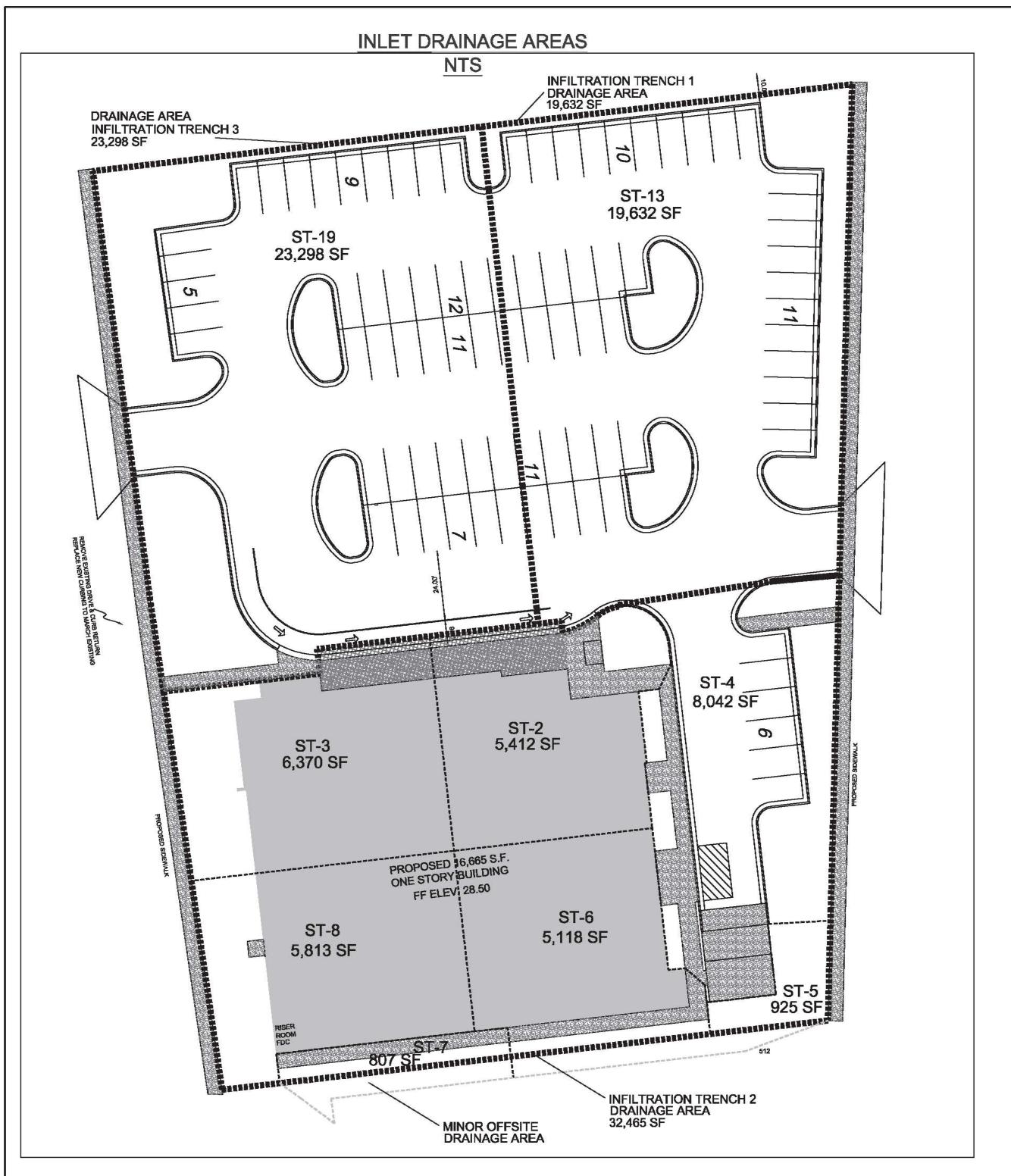
Scale: HORZ.: 1"= 30'

GW

AHG

Project No:

11499



	10-YEAR STORM NETWORK REPORT															
Downstream Node	Upstream Node	Pipe Length (ft)	Drainage Area (Acres)	Total Area (Acres)	Runoff Coef.	Tc (min)	Rainfall Intensity (in/hr)	Runoff (cfs)	Diameter (in)	Slope (%)	Downstream Pipe Invert(ft)	Upstream Pipe Invert (ft)	Downstream HGL (ft)	Upstream HGL (ft)	Upstream Rim Elev (ft)	Downstream Rim Elev (ft)
ST-12	ST-13	7.62	0.45	0.45	0.81	5.00	7.23	2.64	12.00	2.62	18.80	19.00	19.25	19.45	23.05	22.80
ST-18	ST-19	7.62	0.53	0.53	0.76	5.00	7.23	2.94	12.00	6.56	18.50	19.00	18.87	19.37	23.00	22.78
ST-7	ST-8	40.00	0.13	0.13	0.71	5.00	7.23	0.69	10.00	0.50	24.57	24.77	25.02	25.13	28.10	27.60
ST-6	ST-7	80.00	0.02	0.15	0.55	5.00	7.23	0.07	10.00	0.50	24.17	24.57	24.87	24.95	27.60	27.60
ST-5	ST-6	55.03	0.12	0.27	0.89	5.00	7.23	0.76	10.00	0.50	23.90	24.17	24.44	24.81	27.60	27.00
ST-4	ST-5	132.22	0.02	0.29	0.15	5.00	7.23	0.02	12.00	0.40	22.87	23.40	23.40	23.99	27.00	26.40
ST-2	ST-4	54.11	0.18	0.48	0.74	5.00	7.23	0.99	18.00	0.33	22.19	22.37	23.26	23.29	26.40	28.24
ST-1	ST-2	41.38	0.12	0.75	0.88	5.00	7.23	0.79	18.00	0.24	22.10	22.20	22.85	23.14	28.24	27.21
ST-11	ST-1	96.60	0.00	0.75	0.50	5.00	7.23	0.00	15.00	0.40	20.11	20.50	20.90	21.53	27.21	23.91
ST-2	ST-3	104.49	0.15	0.15	0.75	5.00	7.23	0.79	8.00	1.34	23.80	25.20	24.14	25.54	28.42	28.24
ST-15	ST-17	36.65	0.00	0.00	0.50	5.00	7.23	0.00	15.00	0.27	20.20	20.30	20.20	20.30	23.73	24.15
ST-14	ST-15	132.83	0.00	0.00	0.50	5.00	7.23	0.00	15.00	0.20	19.47	19.73	19.59	20.15	24.15	22.80
ST-15	ST-16	12.26	0.00	0.00	0.50	5.00	7.23	0.00	15.00	0.82	20.20	20.30	20.31	20.41	23.74	24.15

For each open utility cut of

City streets, a \$325 permit

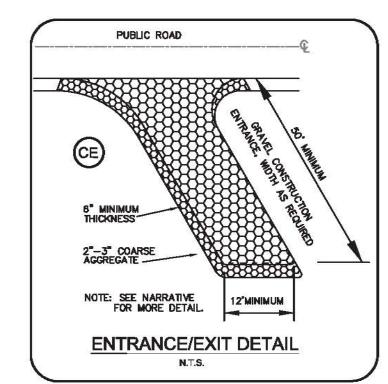
shall be required from the

City prior to occupancy

and/or project acceptance.

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN



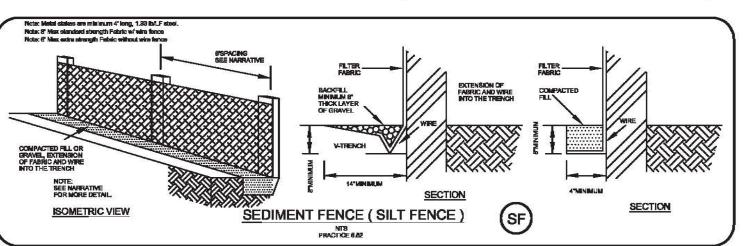
Approved Construction Plan

Date: 7/22/20

2020015

SWP #: 2020021

PO, ES, BM, MB, CW



Sediment Basin Specifications 🦸 6.61 — Construction Specifications 1.Site preparations—Clear, grub and strip topsoil from areas under the

1. Site preparations—Clear, grub and sump topeou from areas unions are seen sembaniament to remove trees, vegetation, roots and other objectionable material. Delay clearing the pool area until the dam is complete and then remove brush, trees and other objectionable materials to facilitate sediment cleanout. Stockpile all topeoil or soil containing organic matter for use on the outer shell of the embanisment to facilitate vegetative establishment. Place temporary and trees to provide management below the booth as peeded. sediment control measures below the bosin as needed.

2.Cut-off trench-Excavate a cut-off trench along the centerline of the earth fill embankment. Cut the trench to stable soil material, but in no case make it less than 2 ft. deep. The cut-off trench must extend into both abutments to at least the elevation of the river crest. Make the minimum bottom width wide enough to permit operation of excovation and compaction equipment but in no case less than 2 ft. Make side elopes of the trench no steeper than 1: 1. Compaction requirements are the same as those for the embankment. Keep the trench dry

during backfilling and compaction operations.

3.Embankment—Take fill material from the approved areas shown on the plans. It should be clean mineral soil, free of roots, woody vegetation, rocks and other objectionable material. Scortly areas on which fill is be placed before placing objectionable material. Scartly creas on which till is be placed before placing fill. The fill material must contain sufficient moisture so it can be formed by hand into a boil without crumbling. If water can be squeezed out of the boil, it is too wet for proper compaction. Place fill material in 6 to 8-inch continuous layers over the entire length of the fill area and then compact it. Compaction may be obtained by routing the construction houling equipment over the fill so that the entire surface of each layer is traversed by at least one wheel or tread track of the heavy equipment, or a compactor may be used.

Construct the embankment to an elevation 10% higher than the design height to allow for estiling.
4.Conduit spillways—Securely attach the riser to the barrel or barrel stub to

make a watertight structural connection. Secure all connections between barrel sections by approved watertight assemblies. Place the barrel and riser on a firm, smooth foundation of impervious soil. Do not use pervious material such as sand, gravel, or crushed stone as backfill around the pipe or anti-seep collars. Place the fill material around the pipe spillway in 4-inch layers and compact it under and around the pipe to at least the same density as th adjacent embarkment. Care must be taken not to raise the pipe from firm contact with its foundation when compacting under the pipe haunches.

Place a minimum depth of 2ft. of hand—compacted backfill over the pipe spillway before crossing it with construction equipment. Anchor the riser in place by concrete or other satisfactory means to prevent flotation. In no case should the

pipe conduit be installed by cutting a trench through the dam after the embanisment is complete.
5.Emergency spillway-install the emergency spillway in undisturbed soil. The achievement of planned elevations, grade, design width, and entrance and east channel elopee are critical to the successful operation of emergency spillway. 6.Unlets—Discharge water into the basin in a morener to prevent erasion. Use diversions with outlet protection to divert sediment-laden water to the upper and of the pool area to improve basin trap efficiency (References: Runaff

Control Measures and Outlet Protection). 7.Erosion control-Construct the structure so that the disturbed area is ninimized. Divert surface water away from bare areas. Complete the embankment before the area is cleared. Stabilize the emergency apilling embankment and all other disturbed areas above the creet of the principal apilling immediately after construction (References: Surface Stabiliza Safety-Sediment basins may attract children and can be dangerous. Avoid steep side slopes, and fence and mark basins with warning signs if trespossing is ikely. Follow all state and local requirements.

Check sediment basins after periods of significant runoff. Remove sediment and restore the basin to its original dimensions when sediment accumulates to onehalf the design depth. Check the embanisment, spillways, and outlet for erasion damage, and inspect the embonkment for piping and settlement. Make all necessary reports immediately. Remove all trash and other debris from the riser and pool area.

Temperary Gravel Construction Entrance/Ent Specification # 5.08 — Construction Specification

- 1. Clear the entrance and edit area of all vegetation, roots and other objectionable material and properly grade it.

 2. Place the gravel to the specific grade and dimensions shown on the plans and
- Provide drainage to carry water to a sediment trap or other suitable outlet.
 Use geotextile fabrics because they improve stability of the foundation in locations subject to seepage or high water table.

Maintain the gravel pad in a condition to prevent mud or sediment from leaving the construction site. This may require periodic topdressing with 2-inch stone After each rainfall, inspect any structure used to trap sediment and dean it out as necessary. Immediately remove all objectionable materials spilled, washed, or tracked anto public roadways.

HARDWARE CLOTH & GRAVEL INLET PROTECTION (Temporary). Specification # 6.51 - Construction Specifications

As fabric, use a 19-gauge hardware cloth with 1/4 inch mesh openings. with a total height of 2 feet minimum. The sediment control stone, with a height of 18 inches, should have an outside slope of 2:1. For stakes, use steel T posts of 1.25 lb/linear foot with a minimum length of 5 ft., driven 2 ft. Into the ground, maximum specing of 4 feet.

- 1. Uniformly grade a shallow depression approaching the inlet. 2. Drive 5-foot steel posts 2 feet into the ground surrounding the inlet. Space poets evenly around the perimeter of the Inlet, a maximum
- 3. Surround the posts with wire mesh hardware cloth. Secure the wire meet to the steel posts at the top, middle, and bottom. Placing a 2—foot anchoring flap of the meet under the gravel is recommended. 4. Place clean gravel (NCDOT #5 or #57 stone) on a 2:1 slope with a height
- of 16 inches around the wire, and smooth to an even grade 5. Once the contributing drainage area has been stabilized, remove the 5. Compact the area property and stabilize with groundcover.

inspect the barrier after each significant rain and make repairs at needed. Remove sediment from the area as necessary to provide adequate storage volume for the next rain. Take care not to damage or undercut the hardware

When the contributing drainage area has been adequately stabilized, remove all materials and any unstable sediment and dispose of them properly. Bring the disturbed area to the grade of the drop inlet and smooth and compact it. Appropriately stabilize all bare areas around the inlet.

Sediment Fence (Sit Fence) Specification 6.62 — Construction Specifications

NA lieu as synthetic filter fabric or a pervious sheet of polypropylene, nylon, polyester, or polyethylene yarn, which is certified by the manufacturer or supplier as conforming to the requirements shown in Table 6.62b. Synthetic filter fabric should centain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6 months of expected usable construction life at a temperature range of 0 to 120 F. 2. Ensure that posts for sediment fences are either 4-inch diameter pine, 2-inch 2.Ensure that poste for securities care enter 4—inch dameter pine, 2—inch diameter ook, or 1.33 lb/linear ft steel with a minimum length of 4. Make sure that steel poste have projectione to facilitate fastening the fabric.

3.For reinforcement of standard strength filter fabric, use wire fence with a minimum 14 gauge and a maximum meets spacing of 8 inches.

Specifications For Sediment Fence Fabric Physical Property Regularments Filtering Efficiency — 85% (mm)

Tensile Strength at Standard Strength— 30 lb/lin in (min)
Extra Strength— 50 lb/lin in (mm)
Slurry Flow Rate — 0.3 gal/eq ft/min (min)
CONSTRUCTION 1.Construct the sediment barrier of standard strength or extra strength

synthetic filter fobrics.

2.Ensure that the height of the sediment fence does not exceed 18 inches above the ground surface. (Higher fences may impound volumes of water sufficient to cause failure of the structure.)

3.Construct the filter fabric from a continuous rall cut to the length of the S.Construct the filter notice from a continuous roll cut to the senger of the barrier to avoid joints. When joints are necessary, securely fasten the filter cloth only at a support post with overlap to the next post.

4. Support standard strength filter fabric by wire mesh fastened securely to the up slape side of the posts using heavy duty wire staples at least 1 inch long, or tie wires. Extend the wire meen support to the bottom of the trench.

5. When a wire mesh support fence is used, space posts a maximum of 8 ft apart. Support posts should be driven securely into the ground to a minimum of 18 6.Extra strength filter fabric with 6ft post specing does not require wire mesh support fence. Stople or wire the filter fabric directly to posts.

7. Excavate a trench approximately 4 inches wide and 8 inches deep along the proposed line of posts and upslape from the barrier (figure 8.62a). 8.Backfill the trench with compacted soil or gravel placed over the filter

9.Do not attach filter fabric to existing trees.

REV. NO.

Maintenance Inspect sediment fences at least once a week and after each rainfall. Make any required repairs immediately.

Should the fabric of a sediment fence collapse, tear, decompose or become Remove sediment deposits an necessary to provide adequate storage volume for the the fence during cleanout.

Remove all fencing materials and unstable sediment deposits and bring the area to grade and stabilize it after the contributing drainage area has been properly

NCDOT COMMENTS/FINAL DESIGN

EARLY GRADING RELEASE

REVISIONS

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locurrient, In whole or part, without written consent of the Land Surveyor or Engineer, is prohibited. Only copies from the original named with the original signature and original weat of the Surveyor or Engineer, shall be considered to be valid and true copies.

Establishment of vegetation should not be attempted on sites that are unsultable due to inappropriote soil texture (Table 6.11a), poor drainage, concentrated overland flow, or steepness of slope until measures have been taken to correct To maintain a good stand of vegetation, the soil must meet certain minimum

Enough fine-grained (sit and clay) material to maintain adequate

moleture and nutrient supply (available water capacity of at least .05 inches water to I inch of soil). Sufficient pare space to permit root penetration. - Sufficient depth of soil to provide an adequate root zone. The depth to rock or impermeable layers such as hardpans should be 12 inches or more, except on slopes steeper than 2:1 where the addition of soil is not feasible. A favorable pH range for plant growth, usually 6.0-6.5.

 Freedom from large roots, branches, stones, large clods of earth, or trash of any kind. Clode and stones may be left an slopes steeper than 3:1 if they are to be hydroseeded.

If any of the above criteria are not met—Le., If the existing soil is too coarse, dense, shallow or acidic to faster vegetation—special amendments are required. The soil conditioners described below may be beneficial or, preferably, topsoil may be applied in accordance with Practice 6.04, Topsoiling.

In order to improve the structure or drainage characteristics of a soil, the following material may be added. These amendments should only be necessary where soils have limitations that make them poor for plant growth or for fine turf establishment (see Chapter 3, Vegetative Considera

Peat-Appropriate types are sphagnum moss peat, hypnum moss peat, reedeedge peat, or peat humus, all from fresh-water sources. Peat should be shredded and conditioned in storage piles for at least 6 months after excavation.

Sand-clean and free of toxic materials

Vermiculite-harticultural grade and fine of toxic substances.

Rotted manure-stable or cattle manure not containing undue amounts of straw or other bedding materials. Thoroughly rotted acadust— free of stones and debris. Add 6 lb. Of nitrogen to each cubic yard. Sludge—Treated serage and industrial sludges are available in various forms: these should be used only in accordance with local, State and Federal

Species Selection
Use the key to Permonent Seeding Miktures (Table 6.11b) to select the most appropriate seeding mixture based on the general site and maintenance factors. A listing of species, including scientific names and characteristics, is given

install necessary mechanical erosion and sedimentation control practices before besiding, and complete grading according to the approved plan.

Lime and fertilizer needs should be determined by soil tests. Soil testing is performed free of charge by the North Carolina Department of Agriculture soil testing laboratory. Directions, sample cartons, and information sheets are available through country agricultural extension offices or from NCDA. Because the NCDA soil testing lab requires 1-6 weeks for sample turn-ground, sampling must be planned well in advance of final grading. Testing is also done by

When soil test are not available, follow rates suggested on the individual specification sheet for the seeding rnlx chosen (Tables 6.11c through 6.11v). Applications rates usually fall into the following ranges: - Ground agricultural limestone
Light-textured, sandy solls; 1-1 1/2 tons/acre

Grasse 800-1200 lb/care of 10-10-10 (or the equivalent)
Grass-legume mixtures: 800-1200 lb/care of 5-10-10 (or the equivalent) apply lime and fertilizer evenly and incorporate into the top 4–6 inches of soil by disking or other suitable means. Operate machinery on the contour. When using a hydroseeder, apply lime and fertilizer to a rough, loose surface.

Roughen surfaces according to Practice 8.03, Surface Roughening. Complete seedbed preparation by breaking up large clods and raking into a smooth, uniform surface (slope less than 3:1) Fill in or level depressions than can collect water. Broadcast seed into a freshly lossened seedbed that has not been sealed by rainfall.

Table 6.11s - Seeding No. 4CP for:

(IP)

Well-Drained Sandy loams to Dry Sands, Coastal Plain; Low to Medium-Care Lawns Species — Centipedegrass — Rote — 10-20 lb/ocre (seed) or 33 bu/ocre (sprige) Seeding dates — Mor. — June, (Sprigging can be done through July where water is oil amendments - Apply lime and fertilizer according to sail test, or apply 300

Sprigging - Plant sprigs in furrows with a tractor-drawn transplanter, or broadcast by hand.

Furrows should be 4-8 inches deep and 2ft apart. Place sprigs about 2 ft. apart. in the row with one end at or above ground level (Figure 6.11d).

Broadcast of rates shown above, and press sprigs into the top 1 1/2 inches of soil with a disk set straight so that sprigs are not brought back toward i

Maintenance - Fertilize very sparingly- 20 lb/acre nitrogen in spring with no phosphorus. Centipedegrass cannot talerate high pH or excess fertilizer.

Table 6.11t - Seeding No. 5CP for: Well-Drained Sandy Loams to Dry Sands; Low Maintenance Seeding mixture Species Rate (lb/acre)
Pensacola Bahiagrass 50
Seriosa lespedeza 30
Common Bermudagrass 10

. Where a neat appearance is desired, omit sericed 2. Use common Bermudagrass only on lectated sites where it cannot become a pest. Bermudogross may be replaced with 5 lb/ocre centipedgross.

Seeding dates - Apr. 1 - July 15 Soil amendments — Apply time and fertilizer according to soil tests, or apply 3,000 lb/acre ground agricultural limestone and 500 lb/acre 10-10-10 fertilizer. Apply 4,000 lb/acre grain straw or equivalent cover of another suitable mutch. Anchor by tacking with asphalt, roving and netting or by crimping with a mulch

onchoring tool. A disk with blodes set nearly straight can be used as a mulch Maintenance - Refertilize the following Apr. with 50 lb/gcre nitrogen. Repeat as growth requires. May be moved only once a year. Where a neat appearance is leaired, amit serices and now as often as needed. Table 6.11v - Seeding No. 7CP for: Grass-lined Channels; Coastal Plain

Seeding Mixture Species — Common Bermudagrass — Rate — 40-80 (1/2 lb/1,000 ft) Seeding dates - Coastal Plain; Apr - July Soil amendments — Apply lime and fertilizer according to soil tests, or apply 3,000 lb/acre ground agricultural limestons and 500 lb/acre 10-10-10 fertilizer. Mulch — Use jute, excelsior matting, or other effective channel lining material to cover the bottom of channels and ditches. The lining should extend above the in drainages not requiring temporary linings, apply 4,000 lb/acre grain stran and anchor straw by stapling netting over the tap. Mulch and anchoring materials must be allowed to wash down slapes where they can clog drainage devices. daintenance —A minimum of 3 weeks is required for establishment. Inspect and repair mulch frequently. Refertilize the following Apr. with 50 lb/acre

Refer to Appendix 8.02 for botenical names

7-21-20

6-29-20

DATE

Construction Road Stabilization Specification # 6.80 — Construction Specifications

- Clear roadbed and parking areas of all vegetation, roots and other objectionable material.

 Ensure that road construction follows the natural contours of the terrain if
- It is possible.

 3. Locate parking areas on naturally flat areas if they are available. Keep grades sufficient for drainage but generally not more than 2 to 3%.

 4. Provide surface drainage, and divert excess runoff to stable areas by using water bars or turnouts (References: Runoff Control Measures).

 5. Keep auts and fills at 21 or flatter for safety and stability and to
- facilitate establishment of vegetation and maintenance.

 6. Spread a 6-inch course of "ABC" crushed stone evenly over the full width of
- 6. Spread a 6-inch course of "ABC" crusted stone eventy over the full width of the road and smooth to avoid depressions.

 7. Where seepage areas or seasonally set areas must be crossed, install subsurface drains or geotextile fabric cloth before placing the crusted stone (Practice 6.81, Subsurface Drain).

 8. Vegetate all roadside ditches, auts, fills and other disturbed areas or otherwise appropriately stabilize as soon as grading is complete (References: Surface Stabilization).

 9. Provide geographics selfacet control measures to present off-site.
- 9. Provide appropriate sediment control measures to prevent off-site

inspect construction roads and parking areas periodically for condition of surface. Constitution of the gravel as needed. Check road disches and other seeded areas for erasion and sedimentation after runoff-producing rains. Maintain all vegetation in a healthy, vigorous condition. Sediment-producing areas should be treated immediately.

Complete grading before preparing seedbeds and install all necessary erasion control practices, such as dikes, waterways and basins. Minimize steep slopes because they make seedbed preparation difficult and increase the erasion hazard. If soils became compacted during grading, loosen them to a depth of 8-8 inches using a ripper, harrow, or chisel plow.

Seedbed Preparation
Good seedbed preparation is essential to successful plant establishment. A good seedbed is well-pulverized, loose and uniform. Where hydroseeding methods are used, the surface may be left with a more irregular surface of large clods and Liming — Apply time according to soil test recommendations. If the pH (acidity) of the soil is not known, an application of ground agricultural firmestone at the rate of 1 to 1 1/2 tons/acre on coarse-textured soils and 2-3 tons/acres on

fine-textured soils is usually sufficient. Apply limestone uniformly and incorporate into the top 4-6 inches of soil. Soils with a pH of 6 or higher

need not be limed.

Fertilizer— Bose application rates on soil tests. When these are not possible, apply a 10-10-10 grade fertilizer at 700-1,000 lb./cars. Both fertilizer and lime should be incorporated into the top 4-6 inches of soil. If a hydraulic seeder is used, do not mix seed and fertilizer more than 30 minutes before

Surface roughering— If recent tillage operations have resulted in a loase surface, additional roughering may not be required except to break up large clods. If rainfall causes the surface to become sealed or crusted, loases R.

Select on appropriate species or species mixture from Table 6.10a, for seeding in late winter and early spring, Table 6.10b for summer, and Table 6.10c for

just prior to seeding by disking, raking, harrowing, or other sultable methods, Groove or furrow slopes steeper than 3:1 on the contour before seeding (Practice 6:03, Surface Roughening).

Evenly apply seed using a cyclone seeder (broadcast), drill, cultipacker seeder, or hydrosesder. Use seeding rates given in Table 6.10a—6.10a. Broadcast seeding and hyroseoding are appropriate for steep slopes where equipment cannot be driven. Hand broadcasting is not recommended because of the difficulty in ochieving a uniform distribution. Small grains should be planted no more than 1 Inch deep, and grasses and legumes no more than 1/2 Inch. Broadcost seed must be covered by raking or chain dragging, and then lightly firmed with a roller or autipacker. Hydroseeded imbitures should include a wood fiber (callulose) mulch.

The use of appropriate mulch will help ensure establishment under normal conditions and is essential to seeding success under harsh site condition (Practice 6.14, Mulching). Horsh site conditions include:

-seeding in fall for winter cover (wood fiber mulches are not considered adequate for this use),
-alopes steeper than 3.1,
-excessively but or day weather.

-exceeded hot or dry weather,
-extress solis(shallow, rocky, or high in clay or sand), and
-areas receiving concentrated flow.

If the area to be mulched is subject to concentrated waterflow, as in channels, anchor mulch with netting (Practice 5.14, Mulching)

Table 6.10a — Temporary Seeding Recommendation for Late Winter and Early Spring Seeding mixture Species—Rys(grain), Annual lespedeza (Kabe in Piedmont and Coastal Piain

Omit annual lespecieza when duration of temporary cover is not to extend beyond

June
Seeding dates—Coastal Plain — Dec. 1 — Apr. 15.
Soil emendments—Follow recommendations of soil tests or apply 2,000 lb/acra ground agricultural limestone and 750 lb/acra 10—10—10 fertilizer.
Mulch—Apply 4,000lb/acra 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. Resead, refertilize and mulch immediately following erasion or other damage.

Table 6.10b - Temporary Seeding Recommendations for Summer Seeding mixture Species—German millet Rate(ib/acre)— 40

Seeding dates-Coastal Plain- Apr. 15-Aug. 15 Soil amendments—Follow recommendations of soil tests or apply 2,000 lb/ocre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer. Mulch —Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netti Mulch -Apply 4,000 lb/acra straw. Anchor straw by tacking with caphait, 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. Receed, refertilize and musch immediately following erceion or other damage.

Table 6.1Dc - Temporary Seeding Recommendation for Fall Seeding mixture Species-Rye(grain)

Seeding dates — Coastal Plain and Pledmont—Aug 15 — Dec. 30
Soil amendments — Follow soil tests or apply 2,000 lb./ocre ground agriculturel
limestone and 1,000 lb/acre 10—10—10 fertilizer.
Mulch— Apply 4,000 lb/acre straw. Anchor straw by tacking with aspholt. 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 extend temporary cover beyond June 15, overseed with 50 lb/acre Kobe (Piedmont and Coastal Piain)

Land Grading
Specification # 6.02 — Construction Specifications Construct and maintain all erasion and sedimentation control practices and measures in accordance with the approved sedimentation control plan and construction schedule. 2.Remove good topsoil from creas to be graded and filled, and preserve it for

use in finishing the grading of all critical areas.

3. Scarify areas to be topsolied to a minimum depth of 2 inches before placing topsoil (Practice 6.04, Topso 4.Clear and grub areas to be filled to remove trees, vegetation, roots, or other objectionable material that would affect the planned stability of the fill. 5.Ensure that fill material is free of brush, rubbish, rocks, logs, stumps, building debris, and other materials inappropriate for constructing stable

6.Place all fill in layers not to exceed 9 inches in thickness, and compact the layers as required to reduce erosion, slippage, settlement, or other related 7.Do not incorporate frazen material or soft, mucky, or highly compressible

materials into fill slopes.

8.Do not place fill on a frazen foundation, due to possible subsidence and suppage.

S.Keep diversions and other water conveyance measures tree of sediment during all phases of development.

10.Handle seeps or springs encountered during construction in accordance with

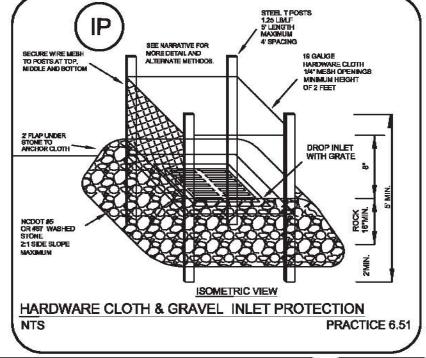
approved methods (Practice 6.8), Subsurface Drain).

11.Permonently stabilize all graded areas immediately after final grading is completed on each area in the grading plan. Apply temporary stab measures on all graded areas when work is to be interrupted or delayed for 30 working days or larger.

12.Ensure that topsoil stockplies, borrow areas, and spoil areas are adequately

protected from erosion with temporary and final stabilization measures, including sediment fencing and temporary seeding as necessary.

Periodically check all graded areas and the supporting erosion and sedimentation control practices, especially after heavy rainfalls. Promptly remove all sediment from diversions and other water—disposal practices. If washauts or breaks occur, repair them immediately. Prompt maintenance of small eroded areas before they become significant guilles is an essential part of an effective



Stormwater and Erosion & Sediment Control Details NEW HANOVER COUNTY, NORTH CAROLINA

OWNER: WESCP LLC 1279 NEW HANOVER MEDICAL PARK WILMINGTON, N.C. 28403

LAND SURVEYORS, ENGINEERS & LAND PLANNERS 1123 FLORAL PARKWAY

LICENSE # C-0597

Sheet No:

HANOVER DESIGN SERVICES, P.A.

EC-2

5-7-20

AS SHOWN

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Project No:

11499

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1-21-20

WILMINGTON, N.C. 28403 PHONE: (910) 343-8002

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having iurisdiction.

	Required Ground Stabilization Timeframes						
Site Area Description		Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations				
(a)	Perimeter dikes, swales, ditches, and perimeter slopes	7	None				
(b)	High Quality Water (HQW) Zones	7	None				
(c)	Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed				
(d)	Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed				
(e)	flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope				

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
 Temporary grass seed covered with straw or other mulches and tackifiers Hydroseeding Rolled erosion control products with or without temporary grass seed Appropriately applied straw or other mulch Plastic sheeting 	 Permanent grass seed covered with straw or other mulches and tackifiers Geotextile fabrics such as permanent soil reinforcement matting Hydroseeding Shrubs or other permanent plantings covered with mulch Uniform and evenly distributed ground cover sufficient to restrain erosion Structural methods such as concrete, asphalt or retaining walls Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

- 1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the NC DWR List of Approved PAMS/Flocculants.
- 2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the NC DWR List of Approved PAMS/Flocculants and in accordance with the manufacturer's instructions.
- 4. Provide ponding area for containment of treated Stormwater before discharging

or surrounded by secondary containment structures.

5. Store flocculants in leak-proof containers that are kept under storm-resistant cover

EQUIPMENT AND VEHICLE MAINTENANCE

- 1. Maintain vehicles and equipment to prevent discharge of fluids.
- 2. Provide drip pans under any stored equipment.
- 3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the
- 4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem
- 6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

- 1. Never bury or burn waste. Place litter and debris in approved waste containers.
- 2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
- 3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- 4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- 5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- 6. Anchor all lightweight items in waste containers during times of high winds. 7. Empty waste containers as needed to prevent overflow. Clean up immediately if
- containers overflow. 8. Dispose waste off-site at an approved disposal facility.
- 9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

- 1. Do not dump paint and other liquid waste into storm drains, streams or wetlands. 2. Locate paint washouts at least 50 feet away from storm drain inlets and surface
- 3. Contain liquid wastes in a controlled area.
- 4. Containment must be labeled, sized and placed appropriately for the needs of site.

waters unless no other alternatives are reasonably available.

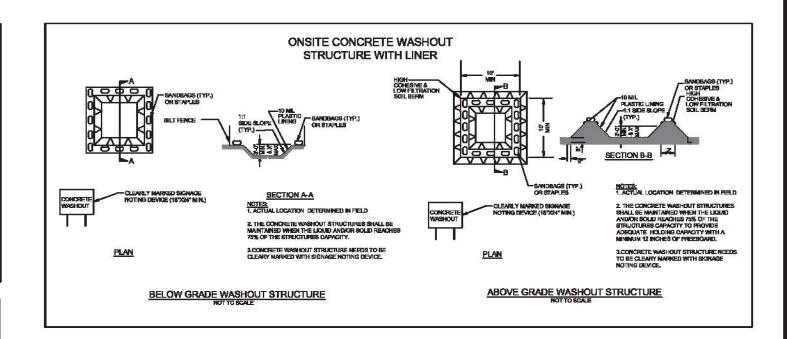
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- 2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- 3. Provide stable stone access point when feasible.
- 4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



CONCRETE WASHOUTS

- 1. Do not discharge concrete or cement slurry from the site.
- 2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- 3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- 4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- 5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- 6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- 7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
- 8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- 9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- 10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

- 1. Store and apply herbicides, pesticides and rodenticides in accordance with label
- 2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- 3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- 4. Do not stockpile these materials onsite.

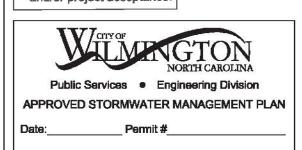
HAZARDOUS AND TOXIC WASTE

- 1. Create designated hazardous waste collection areas on-site.
- 2. Place hazardous waste containers under cover or in secondary containment. 3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

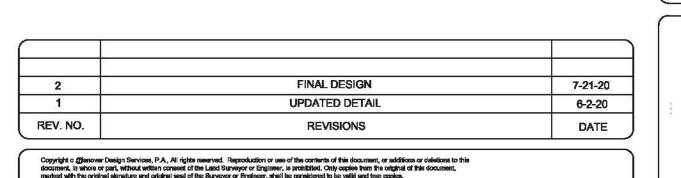
NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

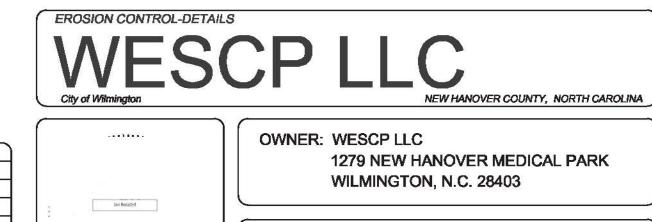
EFFECTIVE: 04/01/19

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



Approved Construction Plan Date: 7/22/20 # 2020015 SWP #: 2020021 PO, ES, BM, MB, CW





1-21-20



5-7-20

AHG

15040

Project No:

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend of holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	 Identification of the measures inspected, Date and time of the inspection, Name of the person performing the inspection, Indication of whether the measures were operating properly, Description of maintenance needs for the measure, Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	 Identification of the discharge outfalls inspected, Date and time of the inspection, Name of the person performing the inspection, Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, Indication of visible sediment leaving the site, Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	 If visible sedimentation is found outside site limits, then a record of the following shall be made: Actions taken to clean up or stabilize the sediment that has left the site limits, Description, evidence, and date of corrective actions taken, and An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	 The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement

SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- (a) This General Permit as well as the Certificate of Coverage, after it is received.
- (b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART II, SECTION G, ITEM (4)

DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- (a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
- (b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
- (c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
- (d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
- (e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
- (f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

PART III

SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:

- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).
- (c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- (d) Anticipated bypasses and unanticipated bypasses.
- (e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

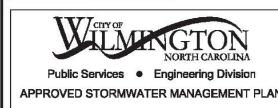
Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment	Within 24 hours, an oral or electronic notification.
deposition in a	Within 7 calendar days, a report that contains a description of the
stream or wetland	sediment and actions taken to address the cause of the deposition.
	Division staff may waive the requirement for a written report on a case-by-case basis.
	• If the stream is named on the NC 303(d) list as impaired for sediment-
	related causes, the permittee may be required to perform additional
	monitoring, inspections or apply more stringent practices if staff
	determine that additional requirements are needed to assure compliance
	with the federal or state impaired-waters conditions.
(b) Oil spills and	Within 24 hours, an oral or electronic notification. The notification
release of	shall include information about the date, time, nature, volume and
hazardous	location of the spill or release.
substances per Item	
1(b)-(c) above	
(c) Anticipated	 A report at least ten days before the date of the bypass, if possible.
bypasses [40 CFR	The report shall include an evaluation of the anticipated quality and
122.41(m)(3)]	effect of the bypass.
(d) Unanticipated	Within 24 hours, an oral or electronic notification.
bypasses [40 CFR	Within 7 calendar days, a report that includes an evaluation of the
122.41(m)(3)]	quality and effect of the bypass.
(e) Noncompliance	Within 24 hours, an oral or electronic notification.
with the conditions	 Within 7 calendar days, a report that contains a description of the
of this permit that	noncompliance, and its causes; the period of noncompliance,
may endanger	including exact dates and times, and if the noncompliance has not
health or the	been corrected, the anticipated time noncompliance is expected to
environment[40	continue; and steps taken or planned to reduce, eliminate, and
CFR 122.41(I)(7)]	prevent reoccurrence of the noncompliance. [40 CFR 122.41(I)(6).
	Division staff may waive the requirement for a written report on a
	case-by-case basis.

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

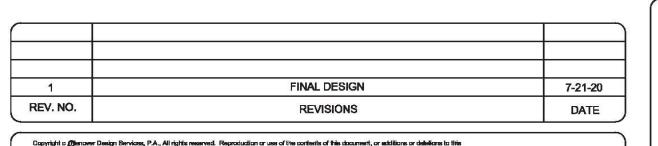
EFFECTIVE: 04/01/19

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



Approved Construction Plan
Date: 7/22/20
2020015
SWP #: 2020021
PO, ES, BM, MB, CW





OWNER: WESCP LLC 1279 NEW HANOVER MEDICAL PARK WILMINGTON, N.C. 28403

Project No:
15040

Sheet No:

5-7-20

N//A

AHG

HANOVER DESIGN SERVICES, P.A.

LAND SURVEYORS, ENGINEERS & LAND PLANNERS

1123 FLORAL PARKWAY
WILLIMINGTON, N.C. 28403
PHONE: (910) 343-8002
LICENSE # C-0597



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NO.	DESCRIPTION	NO.	DESCRIPTION
331	14"PINE	362	8"OAK-CLUSTER
332	13"PINE	369	15"SPLIT-OAK
333	13"PINE	370	11"OAK
334	16"PINE	371	10"OAK
335	14"PINE	372	13"OAK
336	12"PINE	390	30" LONG LEAF
337	13"PINE	391	19"PINE
338	13"PINE	392	20"PINE
339	12"PINE	393	17"PINE
340	16"PINE	394	15"OAK (DEAD)
341	14"PINE	395	13"PINE
342	11"GUM	396	22"PINE
343	10"OAK	514	13"PINE
344	8"OAK	398	13"PINE
345	13"PINE	399	14"PINE
346	13"PINE	400	16"PINE
347	20"OAK	401	18"PINE
348	12"PINE	402	15"PINE
349	19"OAK	403	17"PINE
350	20"PINE	404	13"OAK
351	11"OAK	405	17"PINE
352	11"OAK	406	9"OAK
353	9"OAK	407	15"PINE
354	16"SPLIT-GUM	408	17"PINE
355	21"OAK	409	15"PINE
356	19"PINE	411	13"CEDAR
357	23"PINE	412	16"MAG
358	9"OAK	413	12"PINE
359	10"OAK	414	17"PINE
360	24"OAK	415	12"PINE
361	18"PINE	425	12"PINE
504	5" DOGWOOD	503	8" DOGWOOD
506	7" DOGWOOD	505	7" DOGWOOD
508	7" DOGWOOD	507	7" DOGWOOD
502	7" DOGWOOD	510	7" DOGWOOD
511	7" DOGWOOD	515	14" PINE
	SIGNIFICANT TREE	4	
	REGULATED TREE	49	
	TO BE RETAINED	18	
	TO DETREMITED		

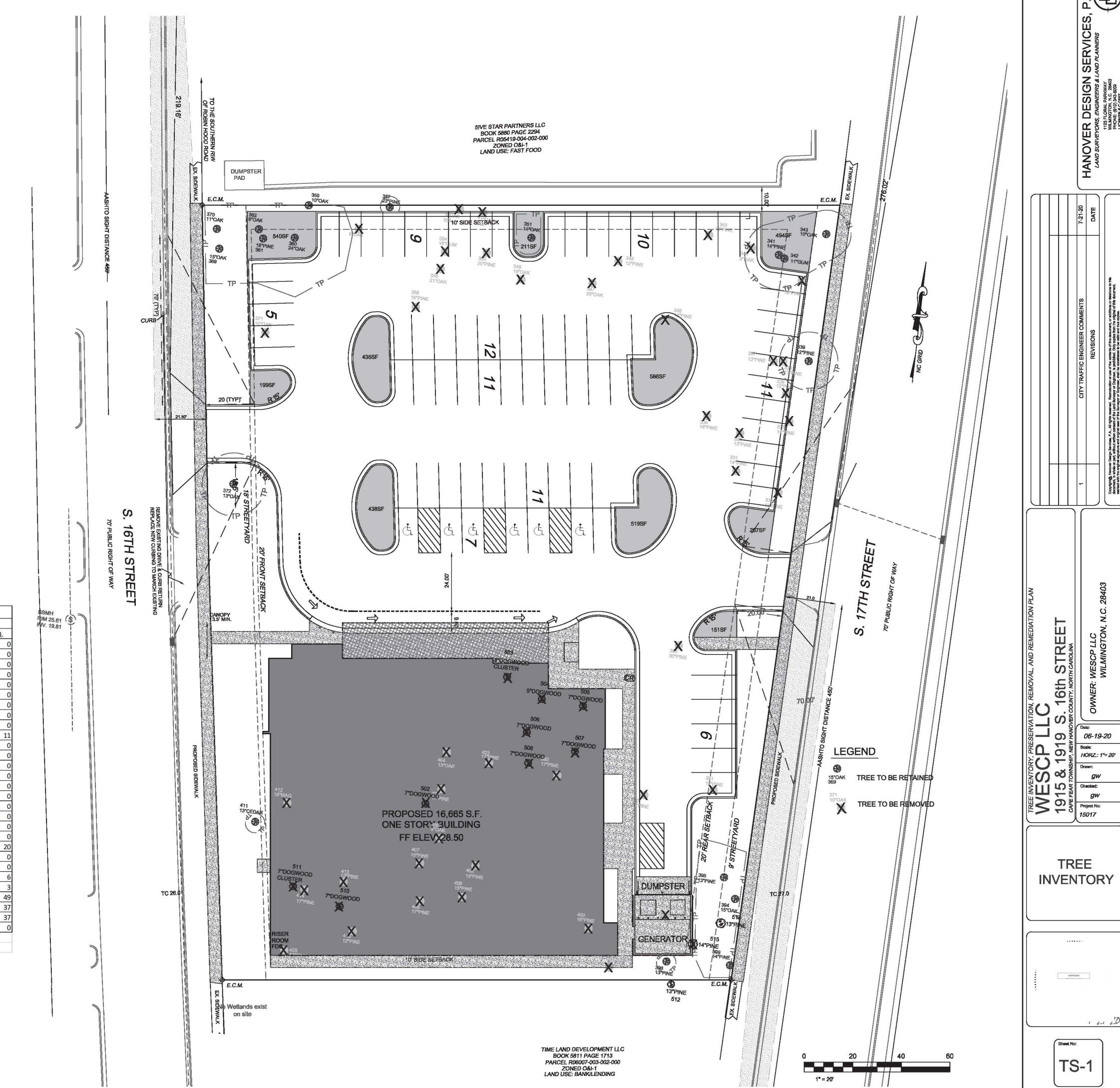
TREE PRESERY	VATION		
NO. OF TREES	CALIPER (INCHES)	TYPE	TOTL (INCHES)
1	8	OAK	
2	10	OAK	107418
2	11	OAK	
1	13	OAK	
1	15	OAK	
1	11	GUM	
1	13	CEDAR	
1	12	PINE	
3	13	PINE	, Tell 1 4 6 5 1
2	14	PINE	
1	18	PINE	
1	23	PINE	
TOTAL RETAINED			2
TOTAL CREDITS			

	CALIPER (INCHES)						
NO. OF TREES	CALIPER (INCHES)	TYPE	CLASSIFICATION	TOTAL (INCHES)	MITIGATION (%)	SIGNIFICANT	MITIGATION NO. REQ.
1	8	OAK	HARDWOOD	. 8	100	NO	
3	9	OAK	HARDWOOD	27	100	NO	
1	10	OAK	HARDWOOD	10	100	NO	
1	11	OAK	HARDWOOD	11	100	NO	
1	13	OAK	HARDWOOD	13	100	NO	
1	19	OAK	HARDWOOD	19	100	NO	
1	20	OAK	HARDWOOD	20	100	NO	
1	21	OAK	HARDWOOD	21	100	NO	1
1	16	GUM	HARDWOOD	16	100	NO	
1	16	MAGNOLIA	FLOWERING	16	100	YES	ľ
5	12	PINE	CONIFER	60	100	NO	
6	13	PINE	CONIFER	78	100	NO	
3	14	PINE	CONIFER	42	100	NO	
3	15	PINE	CONIFER	45	100	NO	
3	16	PINE	CONIFER	48	100	NO	
5	17	PINE	CONIFER	85	100	NO	
1	18	PINE	CONIFER	18	100	NO	F
2	19	PINE	CONIFER	38	100	NO	
2	20	PINE	CONIFER	40	100	NO	
1	22	PINE	CONIFER	22	100	NO	
1	30	PINE	CONIFER	30	100	YES	
8	7	DOGWOOD	FLOWERING	56	100	NO	
1	5	DOGWOOD	FLOWERING	5	100	NO	
1	8	DOGWOOD	FLOWERING	8	100	YES	1
OTAL SIGNIFICA	NT TREE MITIGATION	REQ.					
OTAL REGULATE	D TREES TO BE REMOV	ED WITH ESSENTIAL	SITE IMPROVEMENTS				
OTAL NO. OF SIG	SNIFICANT TREE MITIG	SATION REQ.					
OTAL TREE CRED	ITS						
OTAL NO. OF MI	TIGATION TREES REQ.	ON SITE				14	

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Public Services • Engineering Division APPROVED STORMWATER MANAGEMENT PLAN

Approved Construction Plan
Date: 7/22/20
2020015 SWP #: 2020021 PO, ES, BM, MB, CW



16th STREET

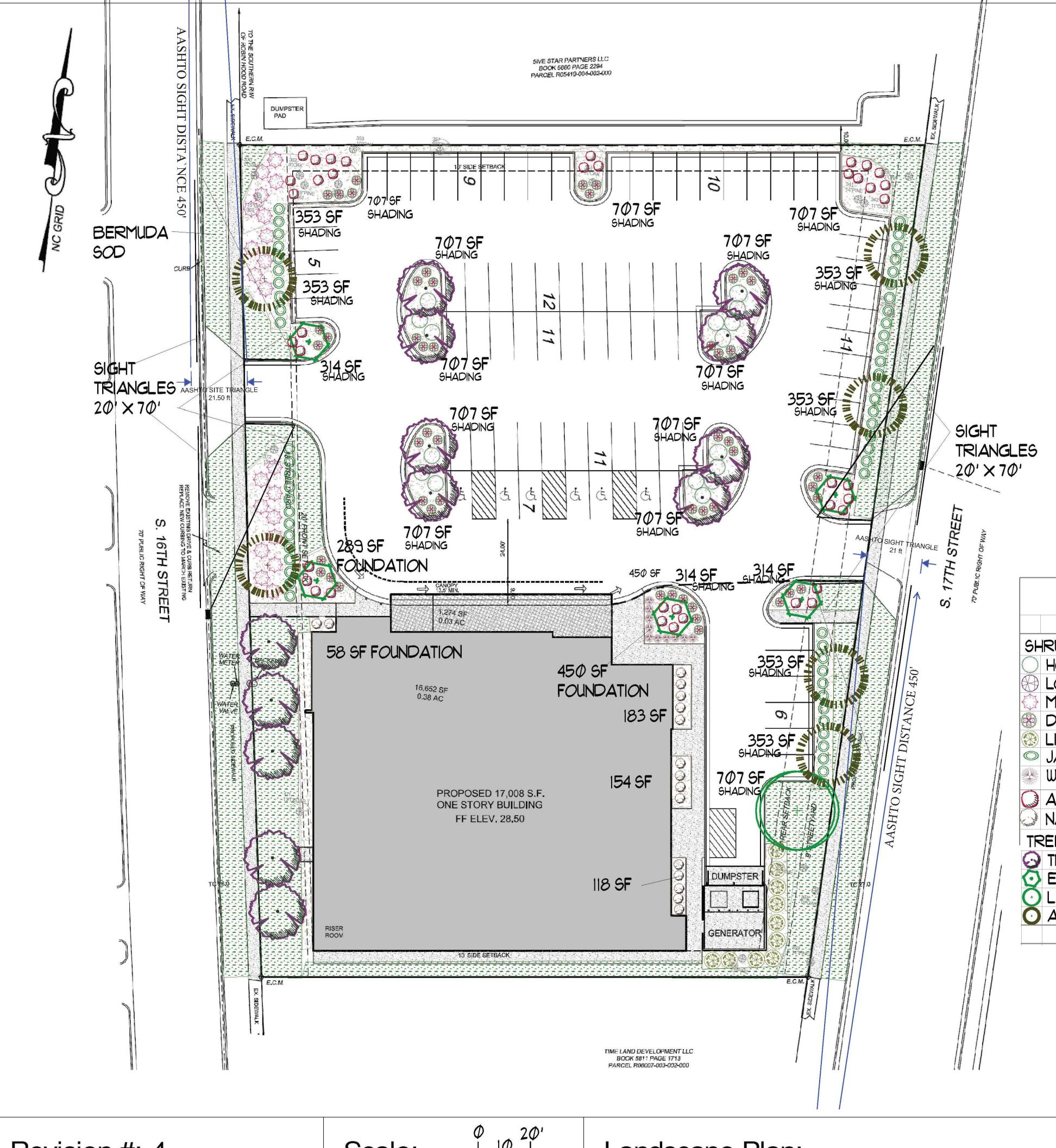
HORZ.: 1"= 20"

TREE

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Sheet No:

1 4 20



1. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION

2. THE AREAS WITHIN THE TRIANGULAR SIGHT DISTANCE SHALL BE MAINTAINED FREE OF ALL OBSTRUCTIONS BETWEEN 30" AND 10'.

3. A RAIN/FREEZE SENSOR SHALL BE USED IF THERE IS AN IRRIGATION SENSOR. 4. USING THE CREATIVE STANDARD OF THE CODE, 50% OF THE STREETYARD SHALL BE PLANTED AS CALLED OUT.

5. ALL PLANT BEDS ARE TO RECEIVE 3-4" OF PINESTRAW OR MULCH. 6. LANDSCAPING SHALL BE COMPLETE BEFORE ISSUANCE OF A CO.

Parking Lot Shading LS Requirements
37,953 SF x 20% = 7,590 SF Shading Req'd
353 x 6 = 2,118 SF

 $314 \times 3 = 942 \text{ SF}$ $157 \times 0 = 0$

 $707 \times 12 = 8,484 \text{ SF}$ TOTAL SHADING PROV'D = 11,544 SF

17TH ST. STREETYARD: 296 LF × 18 = 5328 SF / 600 = 9 TREES 2" CAL. REQ'D, 9 PROV'D. & 53 PLANTS 12" HT., 53+ PROV'D.

16TH ST. STREETYARD: 298 LF × 9 = 2682 SF / 600 = 4 TREES 2" CAL. REQ'D 4 PROV'D. & 27 PLANTS 12" HT., 34 PROV'D.

FOUNDATION PLANTINGS:

SOUTH SIDE: 32' HT. \times 138 LF \times .12 = 53 ϕ SF, 739 SF PROV'D. WEST SIDE: 32' HT. $\times 110$ $\times .12 = 422$ SF, 455 SF PROV'D.

SITE DATA

1915 & 1919 16TH STREET, WILMINGTON, N.C. PARCEL ID NOS. R05419-004-001-000 & R06007-003-001-000

OWNER: WESCP LLC

ZONED O&I-1 OFFICE & INSTITUTIONAL (GENERAL) PROPOSED USE: MEDICAL SERVICES

BUILDING CONSTRUCTION TYPE: TEXTURED CONCRETE BUILDING LOT COVERAGE 22.6%

PROPOSED BLDG. HEIGHT ONE STORY LESS THAN 45' FRONT SETBACK MINIMUM 20' SIDE SETBACK MINIMUM 10' REAR SETBACK MINIMUM 20' PROPOSED AREA OF DISTURBANCE 75,144 S.F.

ESTIMATED TRIP GENERATION:

A.M. 41 PER HOUR P.M. 62 PER HOUR (PER TRIP GEN. MANUAL 6TH EDITION VOL. 2 OF 3)

PROPOSED BLDG. SIZE 17,008 S.F. PARCEL AREA 1.73 ACRES (75,414 S.F.) X 15 = 26 TREES 2" CALIPER REQ'D.

MINIMUM PARKING REQUIRED (1 PER 250 SF OF BLDG.) 67 SPACES MAXIMUM PARKING ALLOWED (1 PER 170 SF OF BLDG.) 98 SPACES

TOTAL PARKING SHOWN 82 TOTAL SPACES ALL PARKING AND DRIVEWAY STRIPING TO COMPLY WITH CURRENT CITY STANDARDS

NO WETLANDS EXIST ON SITE SITE IS NOT WITHIN THE 100 YR, FLOOD BOUNDARY SOIL TYPE: BAYMEADE

CAMA LAND USE CLASSIFICATION: URBAN

IMPERVIOUS SURF	ACE CAI	CULATION PR	RE DEMIOLITION	
	S.F.			
1915 16TH ST	1465			
1919 16TH ST	1875			
PARKING AND DRIVES	8920			
CONC. PAD	15			
OTAL AREA 12275		TOTAL IMPERVIOUS PRE DEMOLITION		
PROPOSED IMPER	/IOUS			
	S.F.			
BUILDING	17008			
SIDEWALKS	3090			
PARKING	37953			
DUMPSTER PAD	275			
GENERATOR PAD	275			
TOTAL IMPERVIOUS	F0C01	1 TOTAL PROPOSED IMPERVIOUS		

	LEGEND					
	COMMON NAME	QTY	QTY	HT	SIZE/CALIPER	
SH	RUB, EVERGREEN BROADLEAF		REQ'D			
Common of the co	HOLLY, YAUPON, DWARF	16	Ø	NA	3 GAL.	NOT REQ'D.
	LOROPETALUM, BLUSH	18	Ф	NA	3 GAL .	NOT REQ'D.
	MISCANTHIS ADAGIO	21	21	12"	3 GAL .	
	DRIFT ROSE	53	Ф	NA	3 GAL .	NOT REQ'D.
	LIGUSTRUM RECURVE	10	10	12"	3 GAL .	-
0	JAPANESE YEW	58	58	3'	7 GAL.	LOW BUFFER
	WINTERGREEN BOXWOOD	10	10	12"	3 GAL .	
	AZALEA ENCORE	38	Ø	NA	3 GAL.	NOT REQ'D.
Samuel	NANDINA GULFSTREAM	16	16	12"	3 GAL .	
TF	REE, DECIDUOUS	-				
0	TRIDENT MAPLE	13	13	NA	2" CAL.	CANOPY
0	EAGLESTON HOLLY, T.F.	5	5	8'	NA	UNDERSTORY
\odot	LIVE OAK	2	2	NA	2" CAL.	CANOPY
0	ALLEE ELM	5	5	NA	2" CAL.	CANOPY

Approved Construction Plan Date: 7/22/20 # 2020015

> SWP #: 2020021 PO, ES, BM, MB, CW

LANDSCAPE, INC. Landscape Installation Professionals

JIM@FREEMANLANDSCAPE.COM 910-796-1166

Revision #: 4

Date: 7/20/2020

Scale:

1'' = 20'

Landscape Plan:

WESCP LLC

Landscape Design by: Jim Freeman - NCLC# 0071

Freeman Landscape, Inc.