

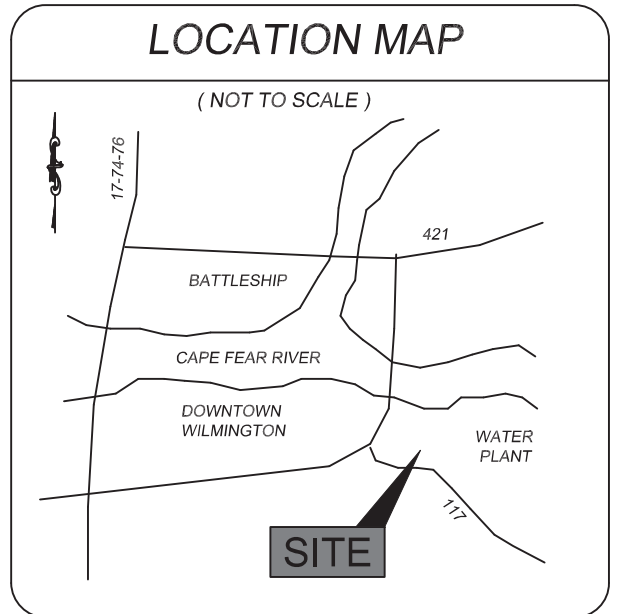
OFF THE HOOK YACHT SALES

N. J.E.L. WADE DRIVE

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

OWNER: OTH REALTY LLC
1701 N J.E.L. WADE DR.
WILMINGTON N.C. 28401

RECEIVED
By Jeff Walton at 11:02 am, Apr 26, 2022



LEGEND

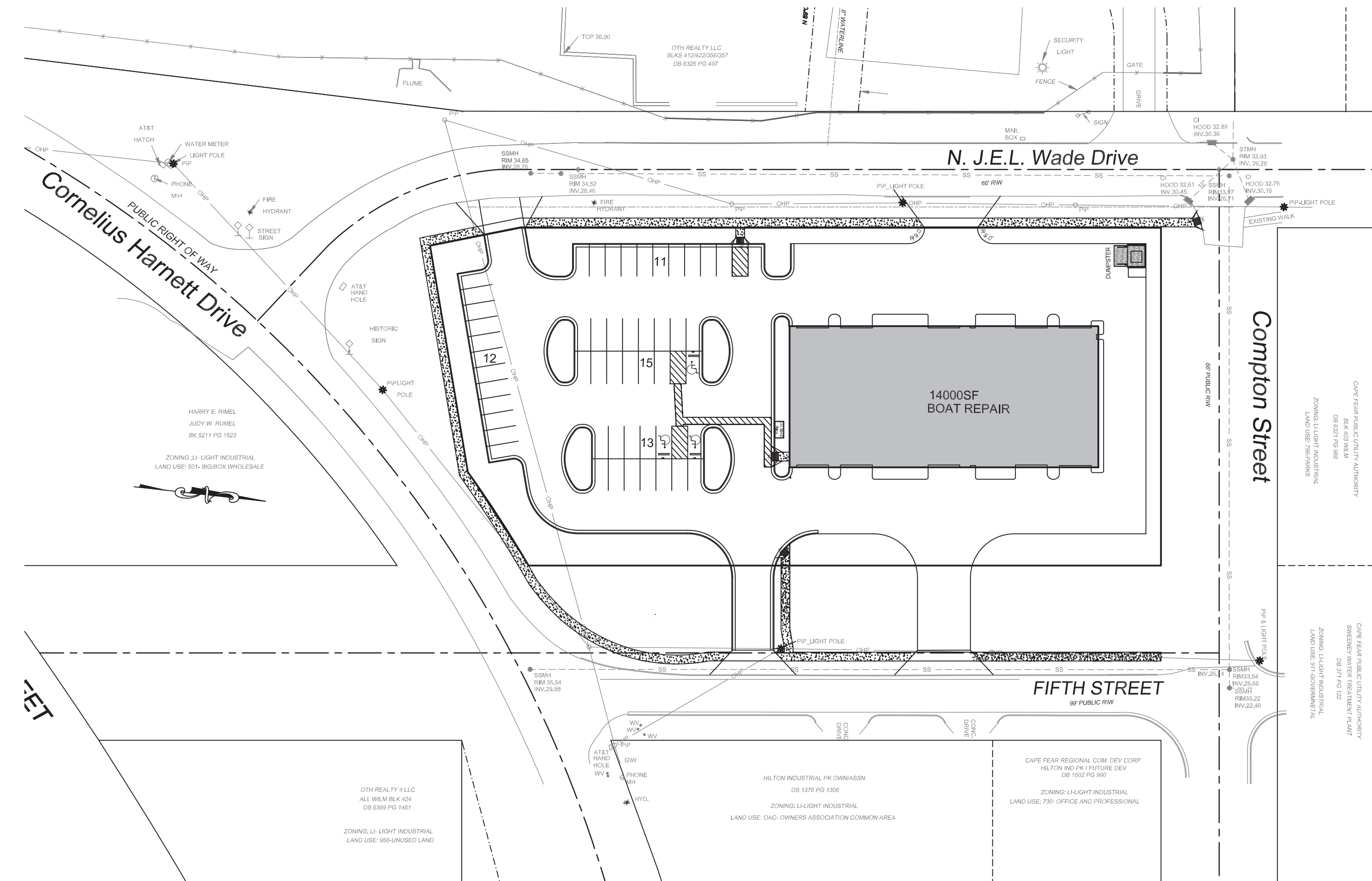
- WV = WATER VALVE
- WM = WATER METER
- C/O = SANITARY SEWER CLEAN OUT
- INV. = INVERT
- B/O = BLOW OFF ASSEMBLY
- BFP = BACK FLOW PREVENTOR
- GW = GUY WIRE
- SWMH = STORM MANHOLE
- GT. = GREASE TRAP
- FH = FIRE HYDRANT ASSEMBLY
- I.S. = IRON SET
- CR = CURB RAMP
- = SANITARY SEWER MH
- = CURB INLET
- ⊙ = TREE TO BE PRESERVED
- ⊗ = TREE TO BE REMOVED
- W = WATER SERVICE
- ⊕ = SEWER CLEANOUT
- ⊕ = WATER VALVE
- ⊙ = SIGN LOCATION
- LP = LIGHT POLE
- = PROPERTY LINE
- = BUILDING SETBACK
- = CENTERLINE
- = EASEMENT
- = COMPUTED PROPERTY LINE
- = LIMITS OF DISTURBANCE/PROJECT LIMITS
- = PROPOSED STORM DRAIN
- = PROPOSED SANITARY SEWER
- ▨ = WETLAND
- ▨ = PROPOSED SIDEWALK
- HC = HANDICAP CROSSING

STABILIZATION TIME FRAMES:	
SITE AREA DESCRIPTION	STABILIZATION
Perimeter dikes, swales, ditches and slopes	7 DAYS
High Quality Water (HQW) Zones	7 DAYS
Slopes steeper than 3:1	7 DAYS
Slopes 3:1 or flatter	14 DAYS
All other areas with slopes flatter than 4:1	14 DAYS

NOTE WELL:
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 ACTIVITY.

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



- ### GENERAL NOTES:
- 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.
 - NO CONSTRUCTION IS TO BEGIN BEFORE LOCATION OF EXISTING UTILITIES HAS BEEN DETERMINED. CALL "NO ONE-CALL" AT LEAST 48 HOURS BEFORE COMMENCING CONSTRUCTION.
 - ALL TREES WHICH ARE NOT REQUIRED TO BE CLEARED FOR CONSTRUCTION SHALL BE PRESERVED WHEREVER POSSIBLE UNLESS OTHERWISE DIRECTED.
 - 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.
 - 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.
 - 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.
 - EXTREME CARE SHALL BE TAKEN TO ENSURE MINIMUM SEPARATIONS AT ALL UTILITY CROSSINGS.
 - CONTRACTOR TO ENSURE THAT STREET PAVEMENT IS PLACED SO AS TO DRAIN POSITIVELY TO THE ROADWAY INLETS AND CATCH BASINS.
 - CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS.
 - THIS PLAN IS FOR SITE UTILITIES, GRADING, ROADWORK, AND DRAINAGE ONLY.
 - 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.
 - 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.
 - 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 POND) BY SWALES, OVERLAND FLOW, ADDITIONAL GRADING, OR LANDSCAPING INLETS.
 - CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ANY RELOCATIONS, REALIGNMENTS, DISCONNECTIONS OR CONNECTIONS OF EXISTING UTILITIES WITH APPLICABLE AUTHORITIES.
 - 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.
 - ALL SIGNS AND PAVEMENT MARKINGS SHALL MEET NCDOT AND MUTCD STANDARDS.
 - SANITARY SERVICES SMALLER THAN 8" SHALL HAVE CLEANOUTS AT INTERVALS OF NOT MORE THAN 100'. CLEANOUTS SHALL BE PROVIDED FOR SERVICE LINES AND BUILDING DRAINS THAT HAVE HORIZONTAL DIRECTION CHANGES GREATER THAN 45 DEGREES.
 - SEE 2018 IPC FOR FURTHER GUIDANCE ON UTILITY SERVICE REQUIREMENTS.
 - 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 FENCING.

- 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
- This property is zoned CB-COMMUNITY BUSINESS, City of Wilmington.
- Water service to be CFPWA (public).
- Sewer service to be CFPWA (public).
- Topographic data furnished by Bateman Civil Survey Company.
- No Wetlands exist on site.

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1 OF 9	COVER SHEET
2 OF 9	GENERAL NOTES & DETAILS
3 OF 9	GENERAL NOTES & DETAILS
4 OF 9	GENERAL NOTES & DETAILS
5 OF 9	EXISTING CONDITIONS & TREE SURVEY
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EC-1	EROSION AND DRAINAGE
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EC-3	EROSION CONTROL AND DRAINAGE
EC-4	EROSION CONTROL AND DRAINAGE
L1	LANDSCAPE PLAN

PARKING
MINIMUM PARKING REQUIRED (1 PER 400 SF OF BLDG.) 35 SPACES
MAXIMUM PARKING ALLOWED (1 PER 250 SF OF BLDG.) 56 SPACES
TOTAL PARKING SHOWN 51 TOTAL SPACES
ALL PARKING AND DRIVEWAY STRIPING TO COMPLY WITH CURRENT CITY STANDARDS
ACCESSIBLE PARKING REQUIRED: 1 PER 25
ACCESSIBLE PARKING PROVIDED: 3
BICYCLE PARKING REQUIRED: 5
BICYCLE PARKING PROVIDED: 5

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

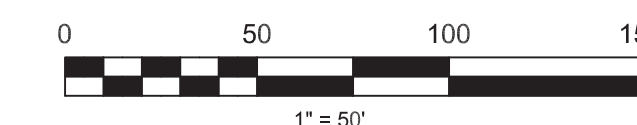
CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

Approved Construction Plan

Name	Date
Planning	_____
Traffic	_____
Fire	_____

REV. NO.	REVISIONS	DATE
3	REVISED ITRC COMMENTS	4-21-2022
2	REVISED ITRC COMMENTS	4-05-2022
1	REVISED ITRC COMMENTS	2-03-2022

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PRELIMINARY PLAN

SITE PLAN
OFF THE HOOK YACHT SALES
N.E. CAPE FEAR RIVER FACILITY
CAPE FEAR TOWNSHIP, NEW HANOVER COUNTY, NORTH CAROLINA

Date: 4-21-2022
Scale: HORIZ.: 1" = 50'
Drawn: GW
Checked: AHG
Project No: 4372
Sheet No: 1
Of: 9

OWNER:
OTH REALTY LLC
1701 N J.E.L. WADE DR.
WILMINGTON N.C. 28401

HANOVER DESIGN SERVICES, P.A.
LAND SURVEYORS, ENGINEERS & LAND PLANNERS
11231 OLD PARKWAY
WILMINGTON, N.C. 28403
PHONE: 910.348.9002
LICENSE # C-5597

CITY STANDARD NOTES:

1. PRIOR TO ANY CLEARING, EXCAVATION, 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.
- TRAFFIC ENGINEERING**
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 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 FROM 30' TO 10'
 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 CFPUA WATER SHALL COMPLY WITH CFPUA 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 USFCO/COCHR 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 TIMES DURING CONSTRUCTION.
 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 910-341-8986.
 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 MAINTAIN A MINIMUM OF 3' COVER.

ADDITIONAL NOTES:

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:

1. REFER TO 2018 NCDOT ROADWAY STANDARD DRAWINGS NUMBER 846.05 - 846.06 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 $\frac{1}{8}$ SHALL BE CONSIDERED A RAMP
4. 8.33% (1:12) 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.:

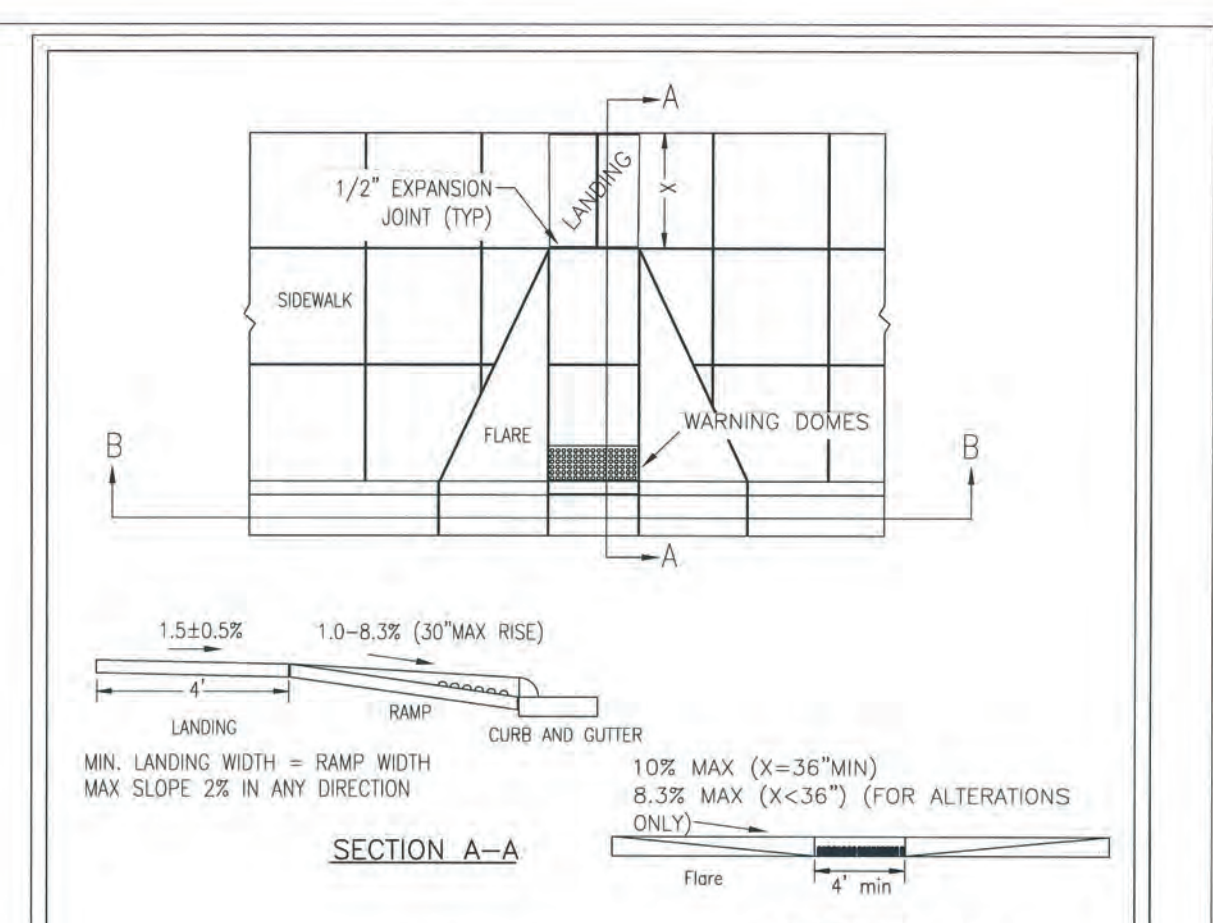
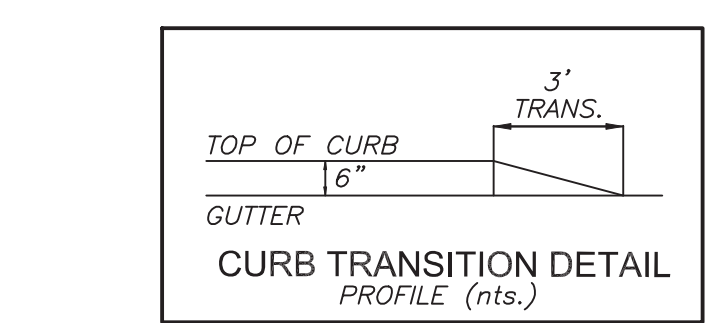
14. This property is not located within a special flood hazard area according to Flood Insurance Rate Map Community Panel #37203126J, effective date April 3, 2006.
15. Handicap Ramps shall be provided at all intersections.
16. 15 suitable trees per acre are to be preserved or planted in accordance with 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.
 - *A final inspection by city of Wilmington engineering personnel.
20. All required easement maps shall be reviewed by city staff and recorded prior to issuance of a certificate of occupancy.

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

CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD NOTES:

1. SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
 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.
 3. 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 DEVELOPMENTS.
 5. 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.



STANDARD DETAIL
PERPENDICULAR CURB RAMP ADJACENT TO WALKING SURFACE

DATE: DECEMBER 2010
DRAWN: PBR/RSR
CHECKED: DRC
SCALE: NOT TO SCALE

City of Wilmington
PUBLIC SERVICES • ENGINEERING DIVISION
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807
SD 3-07

ADDITIONAL UTILITY/GRADING NOTES

1. 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.
2. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ANY RELOCATIONS, REALIGNMENTS, DISCONNECTIONS OR CONNECTIONS OF EXISTING UTILITIES WITH APPLICABLE AUTHORITIES.
3. 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.
4. MINIMUM SEPARATION SHALL BE MAINTAINED AS FOLLOWS:
 - a. HORIZONTAL CLEARANCE OF 10 FEET BETWEEN SANITARY SEWER AND WATER MAINS.
 - b. HORIZONTAL CLEARANCE OF 10 FEET BETWEEN STORM SEWER AND WATER MAINS.
 - c. WHERE VERTICAL CLEARANCE IS LESS THAN 18" BETWEEN SANITARY SEWER AND WATER OR WHERE SEWER LINE CROSSSES ABOVE WATER MAIN, BOTH PIPES SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING.
 - d. WHERE VERTICAL CLEARANCE IS LESS THAN 24" BETWEEN SANITARY SEWER AND STORM DRAIN, SANITARY SEWER SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING.
 - e. WHERE VERTICAL CLEARANCE IS LESS THAN 10" BETWEEN WATER MAIN AND STORM DRAIN, WATER MAIN SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING.
4. SEE DETAIL SHEETS FOR TYPICAL UTILITIES HOOKUPS.
5. ALL STREETS ARE PROPOSED TO BE PUBLIC (BUILT TO CITY OF WILMINGTON STANDARDS/ N.C.D.O.T. PAVEMENT AND SUBGRADE STANDARDS).
6. ALL SANITARY SEWER MAINS TO BE 8" UNLESS OTHERWISE INDICATED.
7. ALL WATER MAINS TO BE 8" UNLESS OTHERWISE INDICATED.
8. TWO VALVES ARE REQUIRED AT "T" INTERSECTIONS AND ONE VALVE ON THE WATER LINE TO FIRE HYDRANTS.
9. A BLOW-OFF VALVE IS REQUIRED AT THE TERMINUS OF ALL "DEAD END" WATER LINES.
10. SANITARY SEWER, STORM, WATER, AND OTHER PERTINENT DETAILS/SPECIFICATIONS TO BE PROVIDED WITH CONSTRUCTION PLANS AND SHALL MEET OR EXCEED CITY AND CFPUA DESIGN STANDARDS

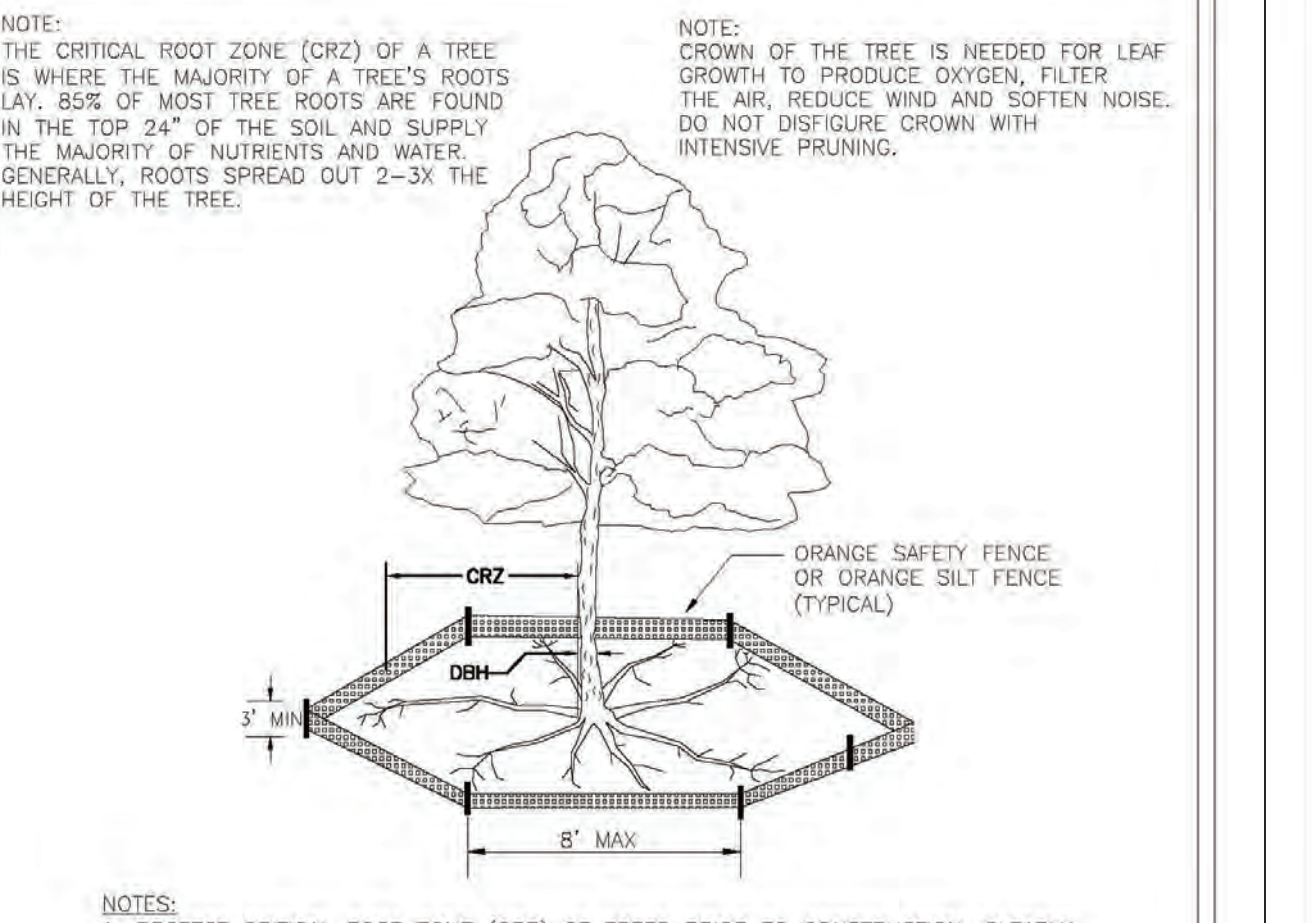
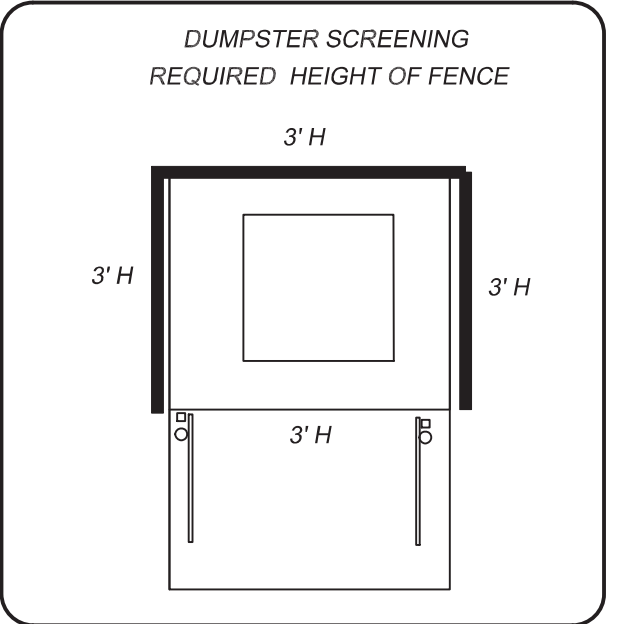
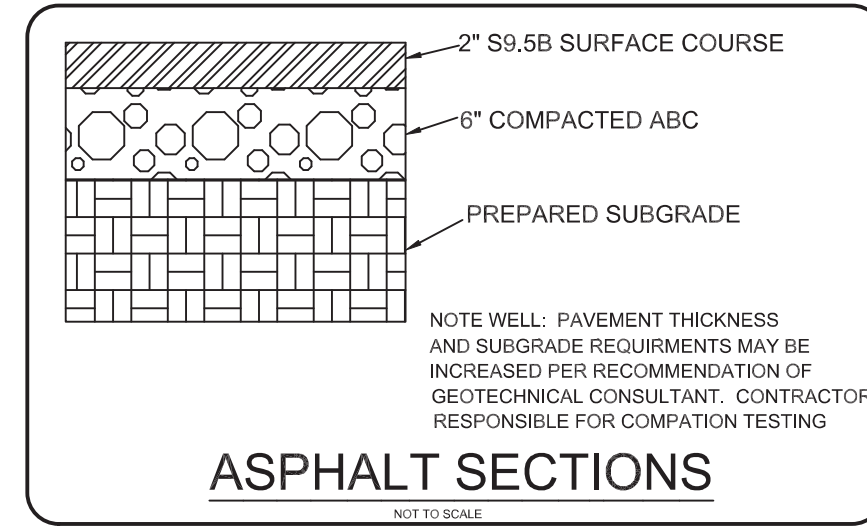
ADDITIONAL FIRE DEPARTMENT NOTES:

- HYDRANTS MUST BE WITHIN 150' OF THE FDC
- THE FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT
- LANDSCAPING MAY NOT BLOCK ANY FDC OR HYDRANT WITH A 3' CLEAR SPACE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC
- CONTRACTOR TO MAINTAIN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES DURING CONSTRUCTION
- HYDRANTS MUST BE LOCATED WITHIN 6" OF THE CURB
- NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO BUILDING CONSTRUCTION
- ADDITIONAL FIRE PROTECTION AND/OR ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.
- CONTRACTOR SHALL SUBMIT A RADIO SIGNAL STRENGTH STUDY FOR ALL COMMERCIAL BUILDINGS THAT DEMONSTRATES THAT EXISTING EMERGENCY RESPONDER RADIO SIGNAL LEVELS MEET THE REQUIREMENTS OF SECTION 510 OF THE 2018 NC FIRE CODE.
- ALL ISOLATION WALLS WITHIN THE "HOT BOX" AND BETWEEN THE "HOT BOX" AND THE RISER ROOM, MUST BE ELECTRICALLY SUPERVISED. IF SPRINKLER SYSTEM PRESENT

ADA NOTES

1. LOCATION OF WHEELCHAIR RAMPS:
 - i. IN ACCORDANCE WITH THE RATIFIED HOUSE BILL 1296, ALL STREET CURBS 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.
 - ii. WHEELCHAIR RAMPS SHOULD BE LOCATED AS INDICATED IN DETAIL DRAWINGS, HOWEVER EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. MAY AFFECT PLACEMENT.
 - iii. 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 TYPE FINISH.
 - 4. 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE CONCRETE WHEELCHAIR RAMP JOINS ANY RIGID PAVEMENT OR STRUCTURE.
 - 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 RAD WHERE MARKED (SEE NOTE D).
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 BEHIND WHICH VEHICLES ARE REQUIRED TO STOP IN 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 THE SUPERINTENDENT OF DOCUMENTS, U.S GOVERNMENT

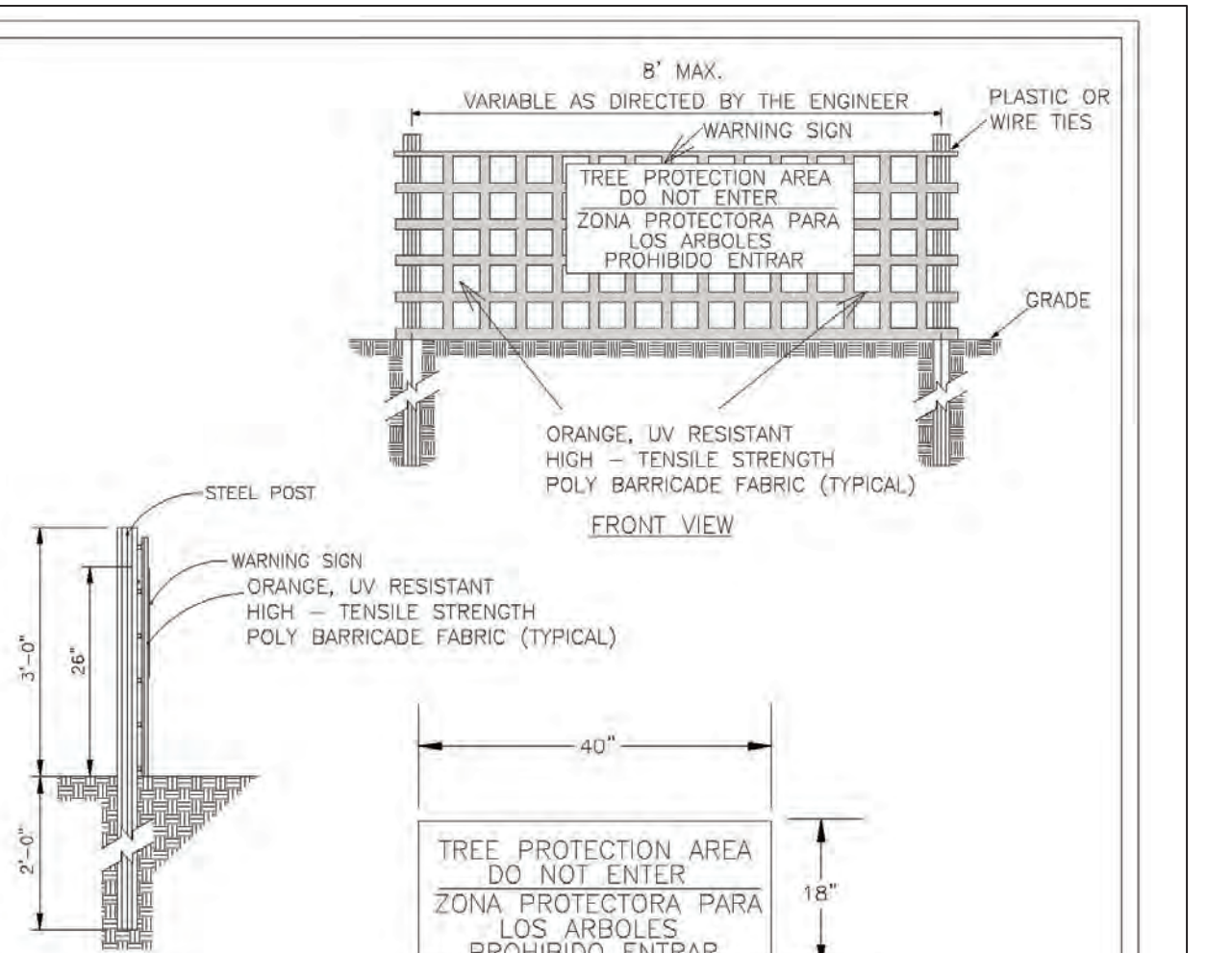


STANDARD DETAIL
TREE PROTECTION DURING CONSTRUCTION

DATE: JAN 2015
DRAWN BY: RSR
CHECKED BY: RDR/L.P.E.
SCALE: NOT TO SCALE

City of Wilmington
PUBLIC SERVICES • ENGINEERING DIVISION
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807
SD 15-09



STANDARD DETAIL
TREE PROTECTION DURING CONSTRUCTION

DATE: JAN 2015
DRAWN BY: RSR
CHECKED BY: RDR/L.P.E.
SCALE: NOT TO SCALE

City of Wilmington
PUBLIC SERVICES • ENGINEERING DIVISION
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807
SD 15-09

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

Signed: _____

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

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

Signed: _____

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

REVISIONS	DATE	DESCRIPTION
4-21-2022	4-21-2022	REVISION 1 TRC COMMENTS
4-05-2022	4-05-2022	REVISION 1 TRC COMMENTS
02-03-2022	02-03-2022	REVISIONS

OWNER: OTH REALTY LLC
1701 N. JEL. WADE DR.
WILMINGTON NC. 28401

Project No: 4372

Scale: HORZ.: 1"= 20'

Date: 4-21-2022

Checked: gw

Drawn: gw

Project No: 4372

TYPICAL DETAILS

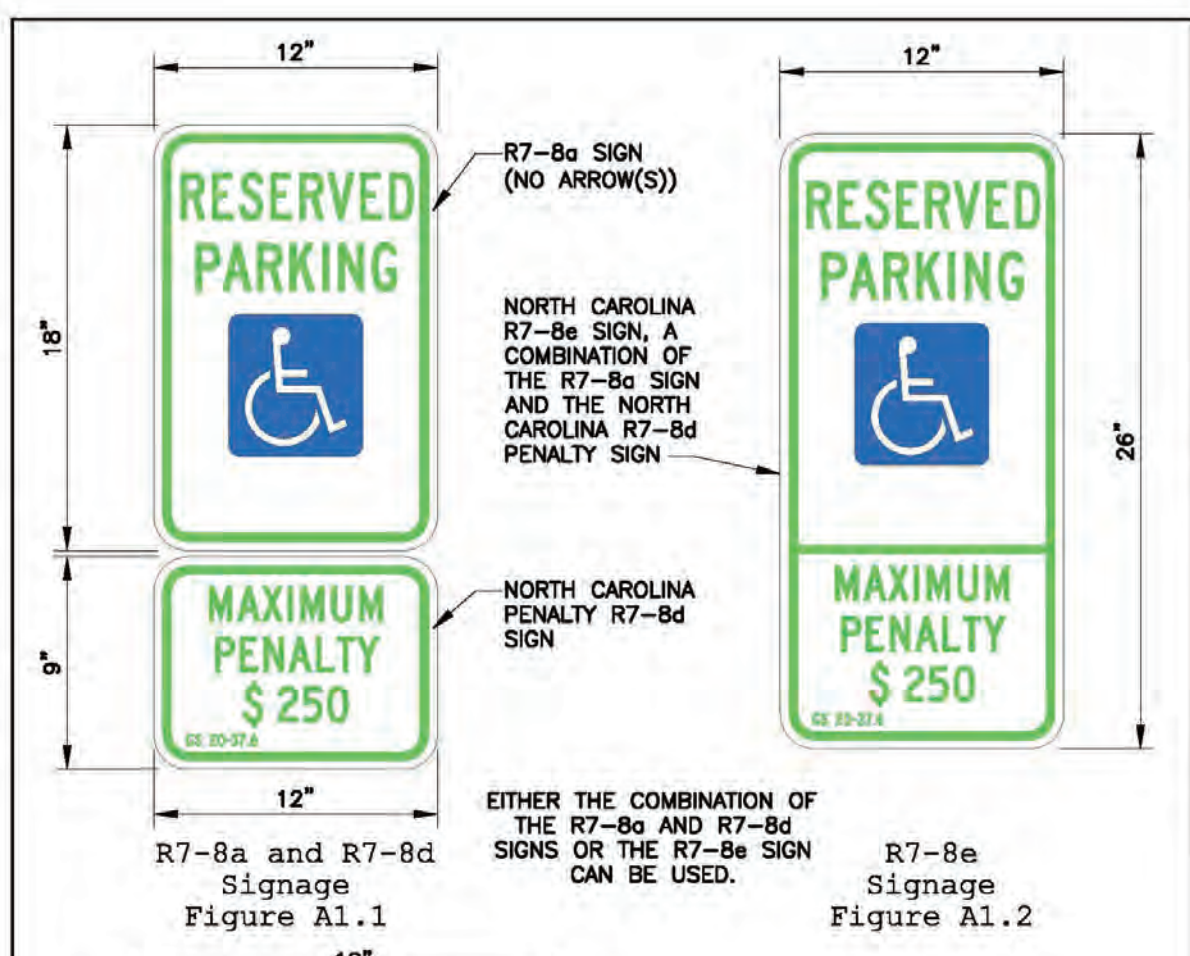
OFF THE HOOK YACHT SALES
N.E. CAPE FEAR RIVER FACILITY

TYPICAL DETAILS

PRELIMINARY PLAN

HANOVER DESIGN SERVICES, P.A.
LAND SURVEYORS, ENGINEERS & LAND PLANNERS
WILMINGTON, N.C. 28403
LICENSE # 60260

Sheet No:
2
of
9



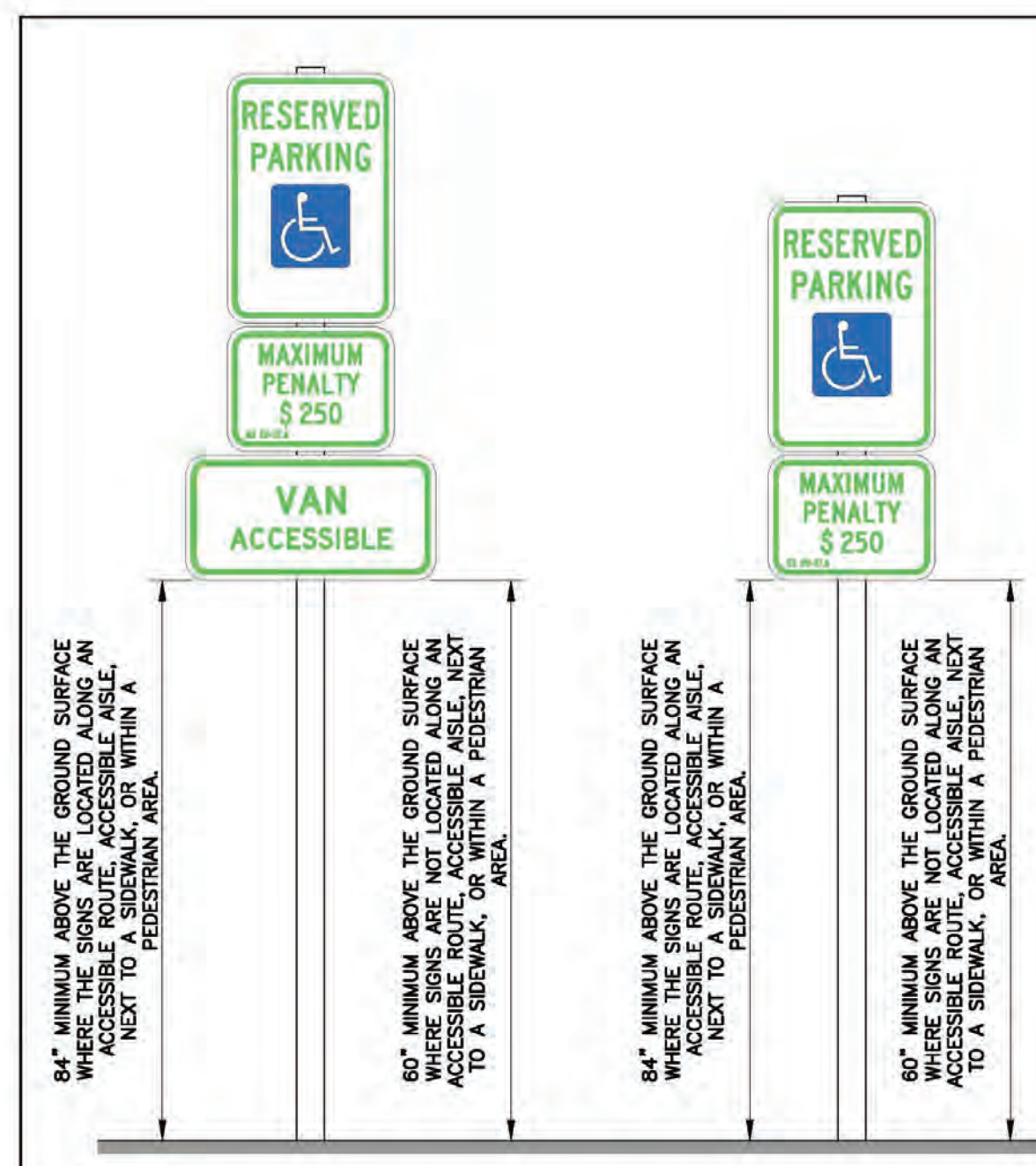
FOR DESIGN OF ACCESSIBLE SIGNS, SEE THE FOLLOWING:

- 2009 MUTCD OR LATEST EDITION.
- 2004 EDITION OF THE STANDARD HIGHWAY SIGNS AND THE 2012 SUPPLEMENT OR LATEST EDITION.
- NORTH CAROLINA 2009 SUPPLEMENT TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES OR LATEST EDITION
- NCDDT DRAWING H-1-1.5 FOR SIGNS SP00075, SP00076, AND SP00077.

WHERE VAN ACCESSIBLE PARKING IS PROVIDED, THE VAN ACCESSIBLE (R7-8P) SIGN SHALL BE MOUNTED BELOW THE OTHER ACCESSIBLE PARKING SIGNS. (2009 EDITION MUTCD SECTION 2B.47)

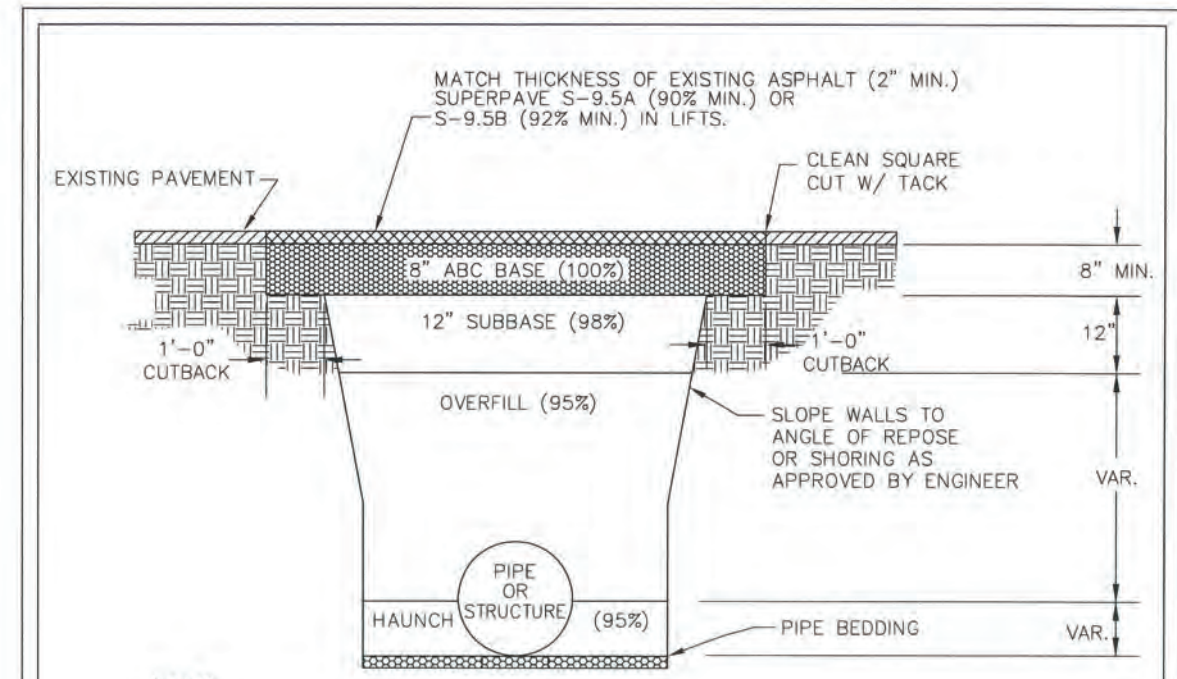
DATE: NOVEMBER 6, 2016
REVISION: -
DRAWN BY: DALE THOMPSON
CHECKED BY: RANDALL GLAZIER
SCALE: NOT TO SCALE

WILMINGTON
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, N.C. 28402
(910) 341-7807
DETAIL NO. 1 227-01



DATE: NOVEMBER 6, 2016
REVISION: -
DRAWN BY: DALE THOMPSON
CHECKED BY: RANDALL GLAZIER
SCALE: NOT TO SCALE

WILMINGTON
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, N.C. 28402
(910) 341-7807
DETAIL NO. 1 227-02

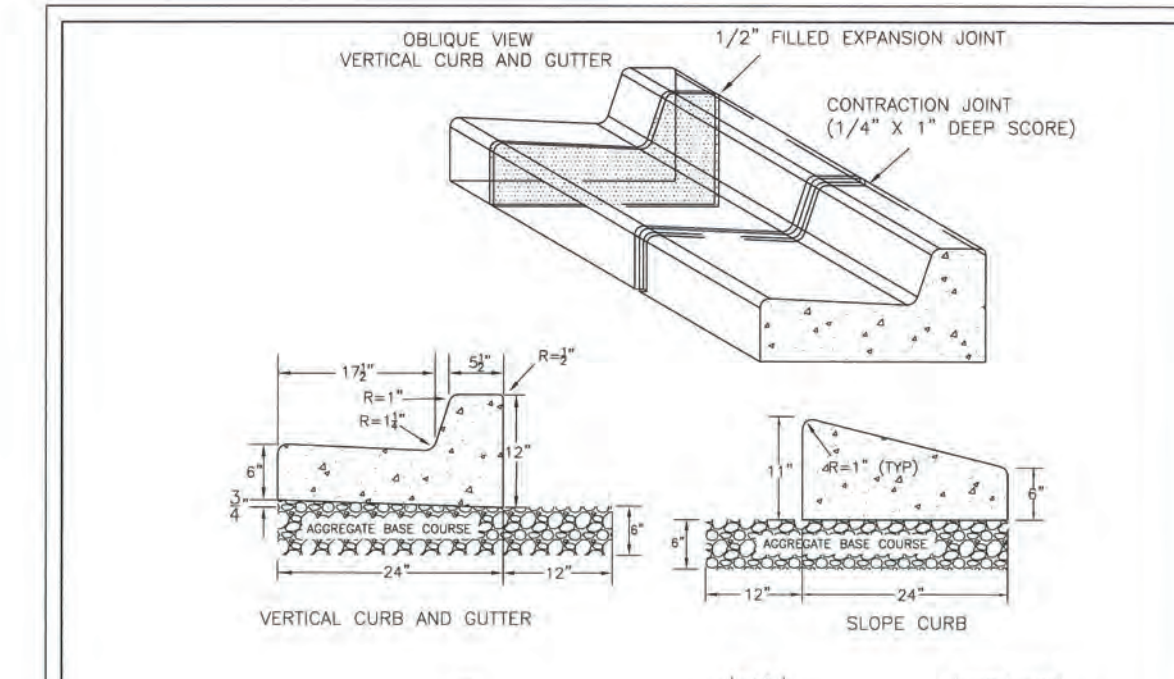


NOTES:

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

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

WILMINGTON
CITY OF WILMINGTON ENGINEERING
177 OPERATING CENTER DRIVE
WILMINGTON, N.C. 28412
(910) 341-7807
SD 1-05

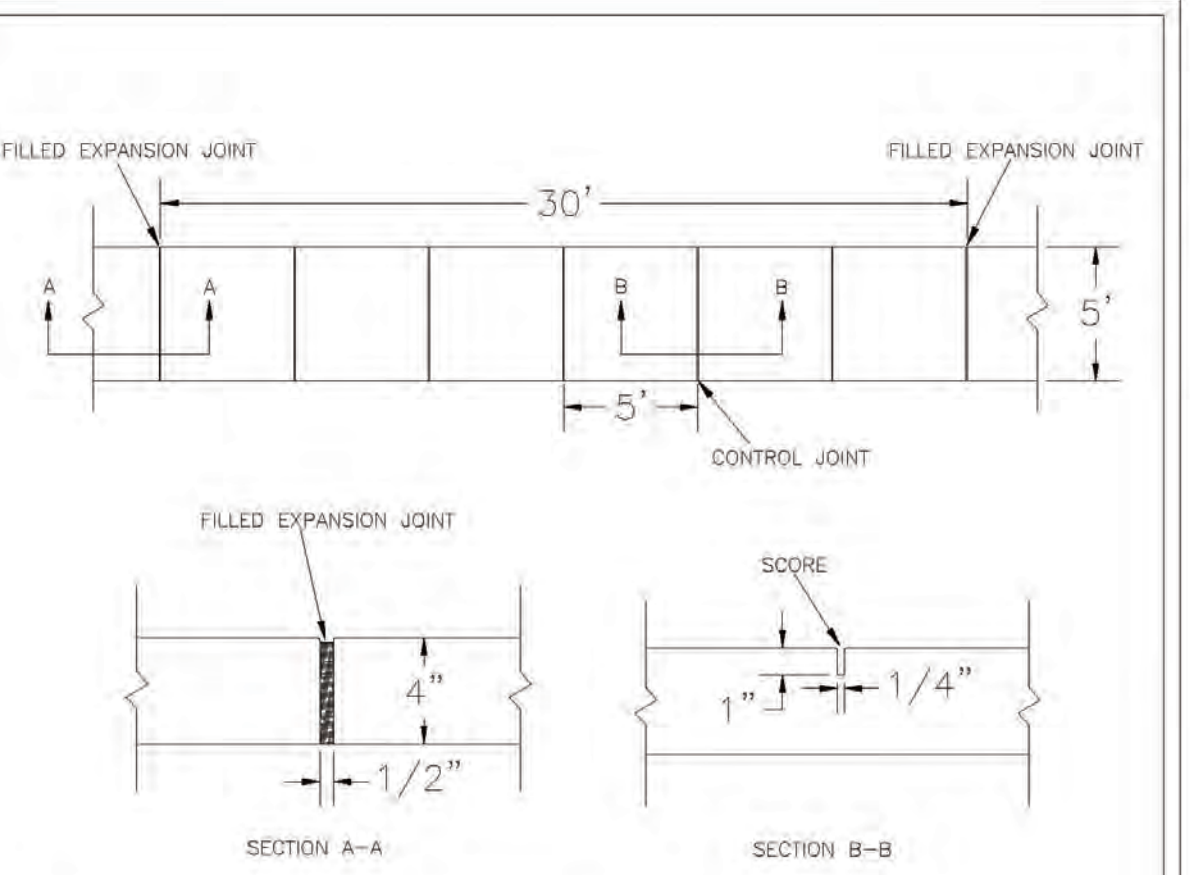


NOTES:

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

DATE: AUGUST, 2011
DRAWN BY: PR/JSR
CHECKED BY: DEC
SCALE: NOT TO SCALE

WILMINGTON
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, N.C. 28402
(910) 341-7807
SD 3-11

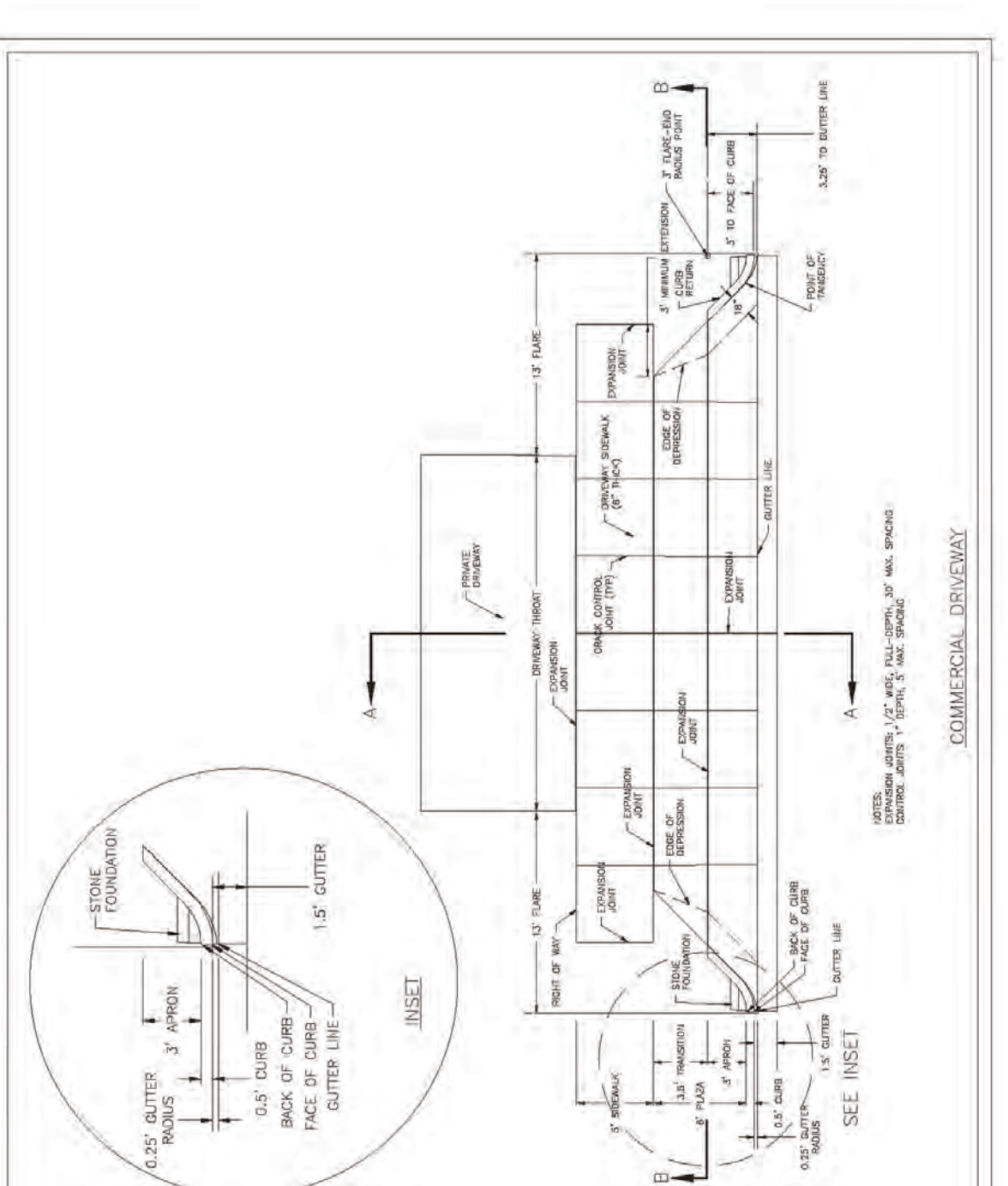


NOTES:

- JOINT MATERIAL TO COMPLY WITH CURRENT NCDDT STANDARDS.
- SANITARY SEWER CLEAN-OUTS, WATER METERS, MANHOLES, AND VALVE LIDS TO BE LOCATED OUTSIDE SIDEWALK WHERE FEASIBLE.
- MINIMUM SIDEWALK WIDTH TO BE 6' MINIMUM IF PLACED AT BACK OF CURB.
- CONCRETE FOR ALL SIDEWALKS (EXCEPT ANY PORTION CONTAIN WITHIN A DRIVEWAY APRON) SHALL BE CLASS "M" - 3,000 PSI.
- MINIMUM REPLACEMENT FOR REPAIRS IS A 5' X 5' PANEL.
- 4" STONE BASE MAY BE REQUIRED FOR POOR SOIL CONDITIONS
- MINIMUM DEPTH FOR TUNNELING BELOW SIDEWALK IS 12"
- MAX ADJACENT GROUND SLOPE WITHOUT RAILING IS 2:1
- 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.

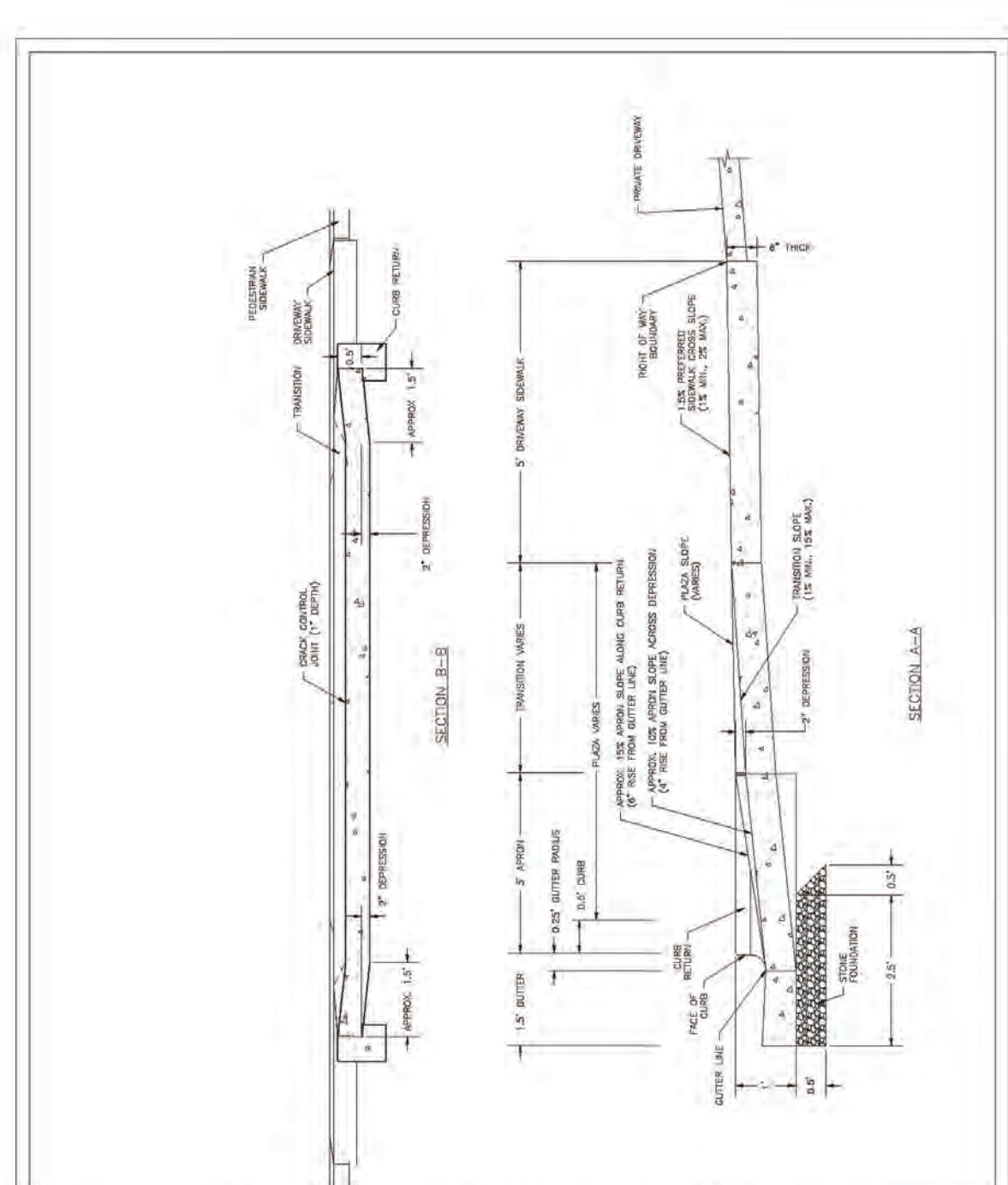
DATE: OCTOBER, 2010
DRAWN BY: PR/JSR
CHECKED BY: DEC
SCALE: NOT TO SCALE

WILMINGTON
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, N.C. 28402
(910) 341-7807
SD 3-10



DATE: FEB. 14, 2017
DRAWN BY: JSR
CHECKED BY: D.E.C., P.E.
SCALE: NOT TO SCALE

WILMINGTON
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, N.C. 28402
(910) 341-7807
SD 3-03.3



DATE: FEB. 14, 2017
DRAWN BY: JSR
CHECKED BY: D.E.C., P.E.
SCALE: NOT TO SCALE

WILMINGTON
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, N.C. 28402
(910) 341-7807
SD 3-03.4

PRELIMINARY PLAN

REVISIONS	DATE	COMMENTS
3	4-21-2022	REVISIONS ITRC COMMENTS
2	4-05-2022	REVISIONS ITRC COMMENTS
1	2-03-2022	REVISIONS ITRC COMMENTS

OWNER: OTH REALTY, LLC
1701 N. L.L. WADE DR.
WILMINGTON, N.C. 28401

DATE: 10-12-21
SCALE: 1" = 20'
DRAWN: gw
CHECKED: gw
PROJECT NO.: 4372

TYPICAL DETAILS

APPROVED CONSTRUCTION PLAN

Name: _____ Date: _____

Planning: _____

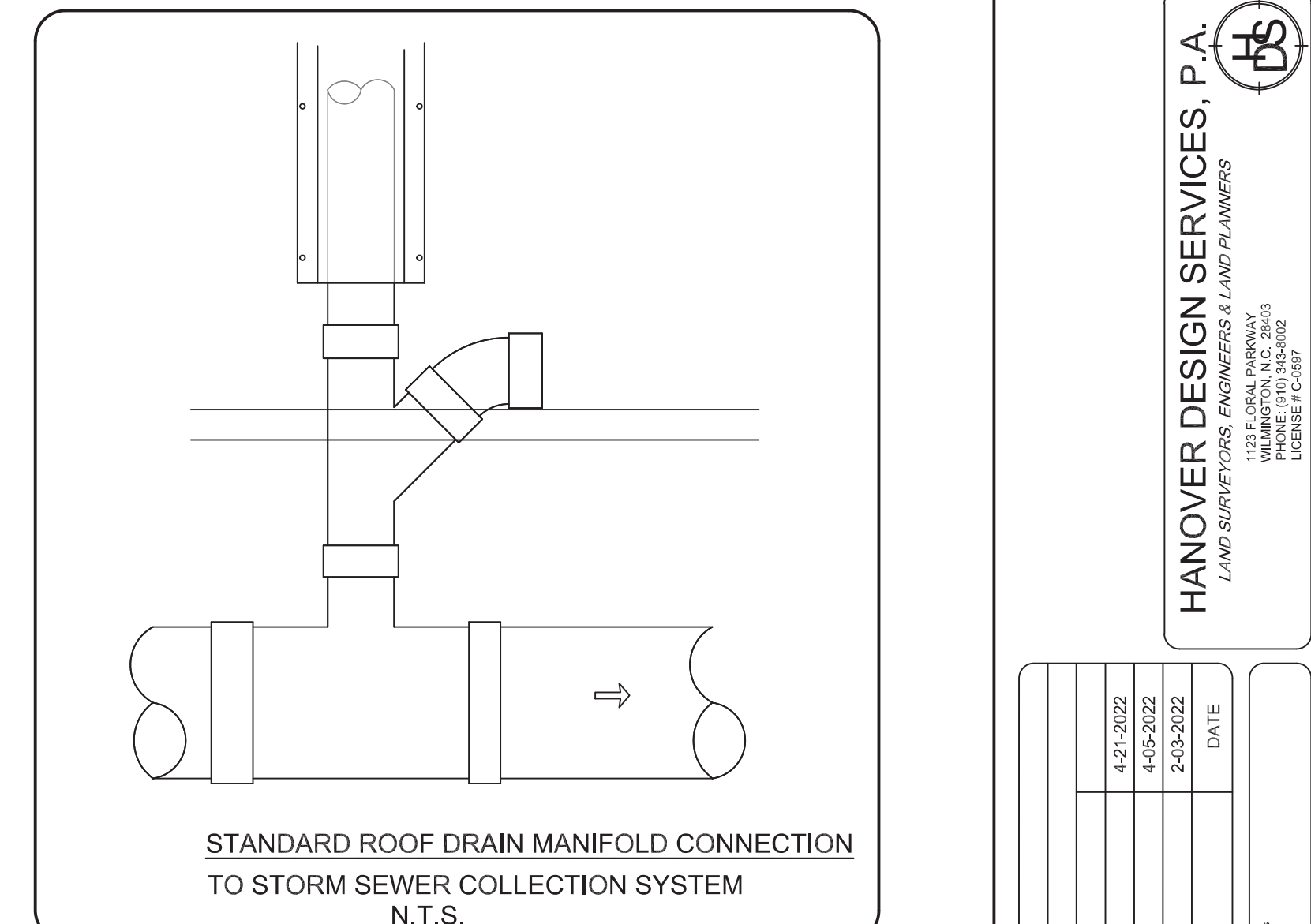
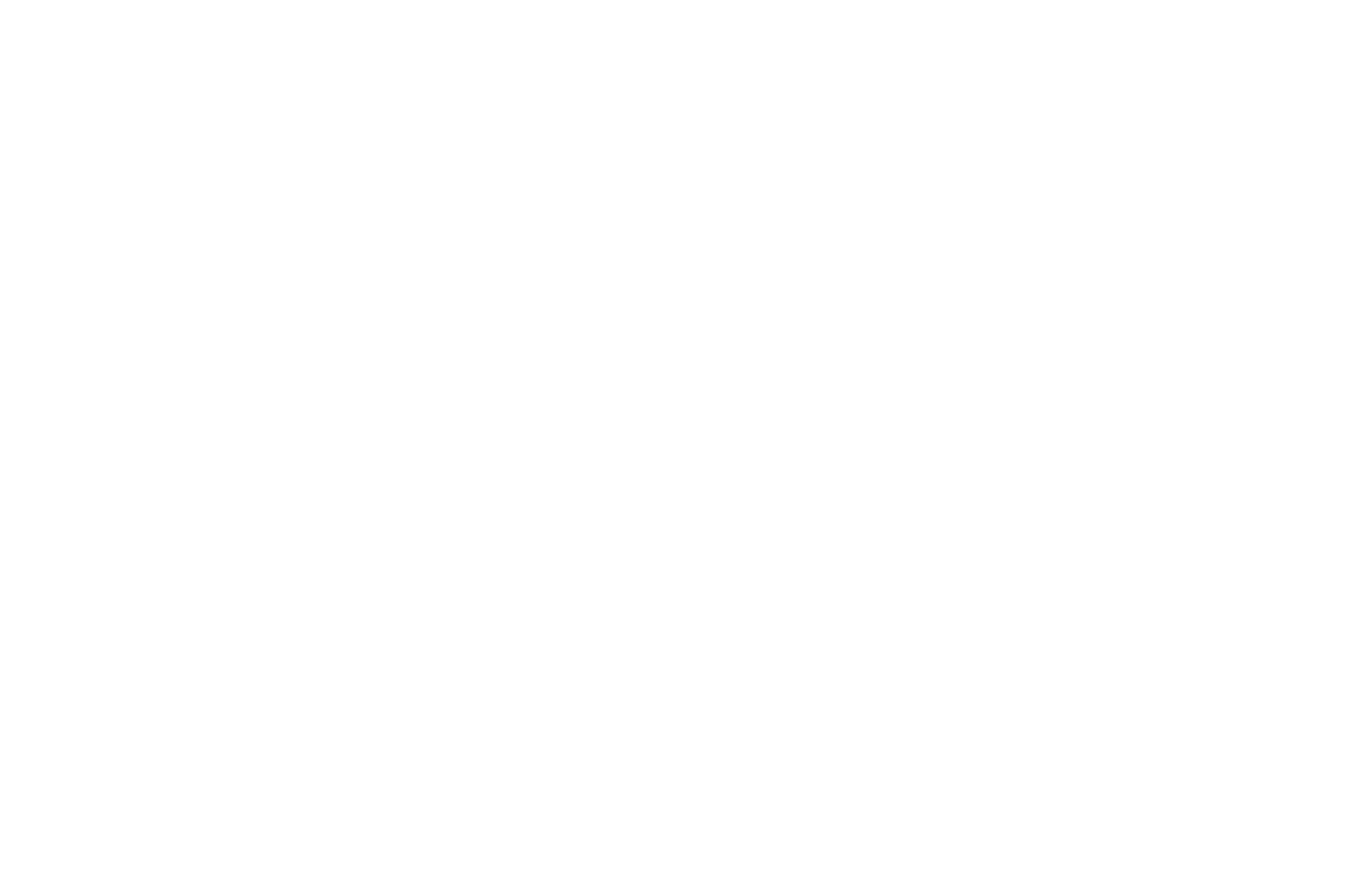
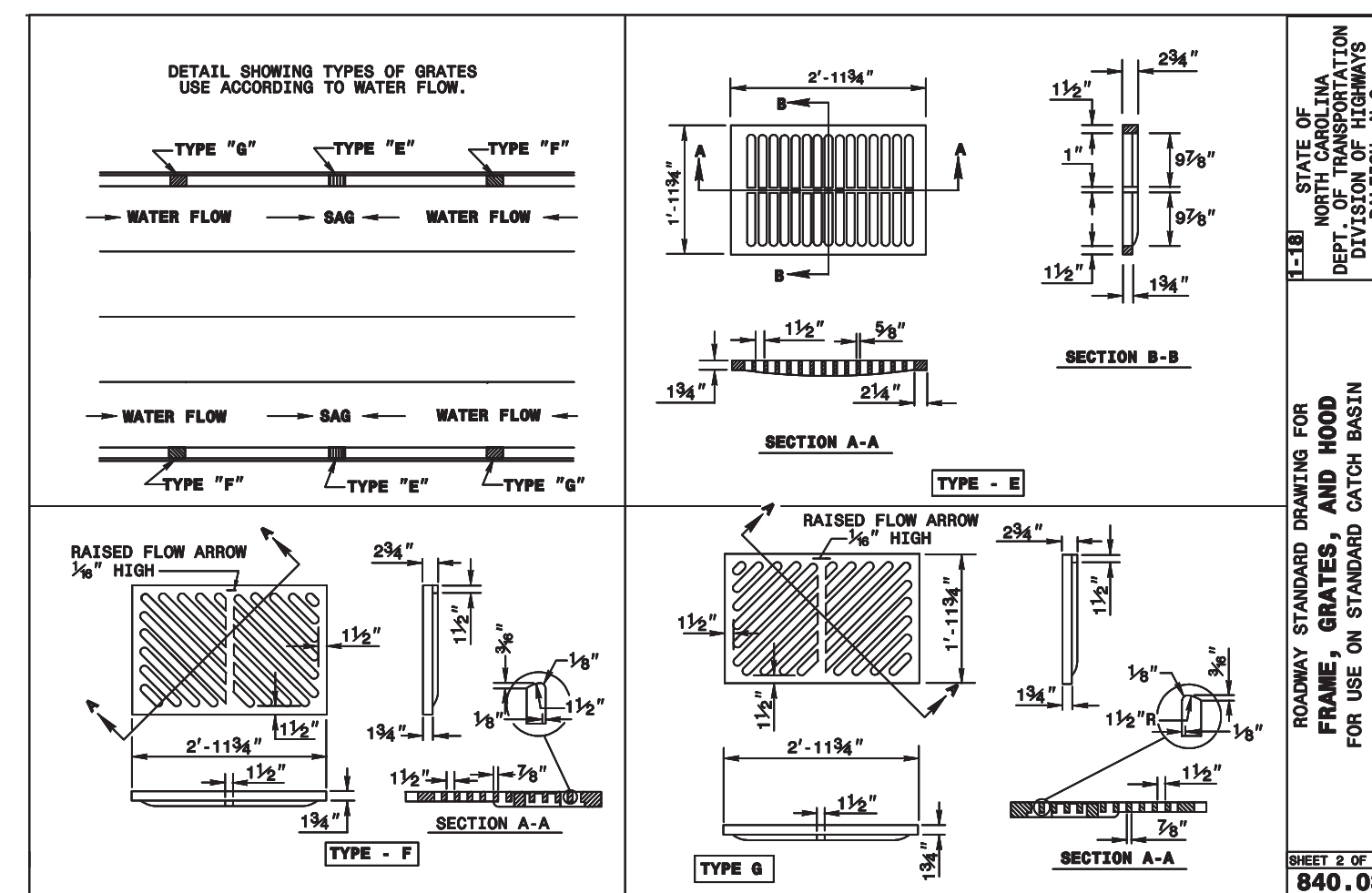
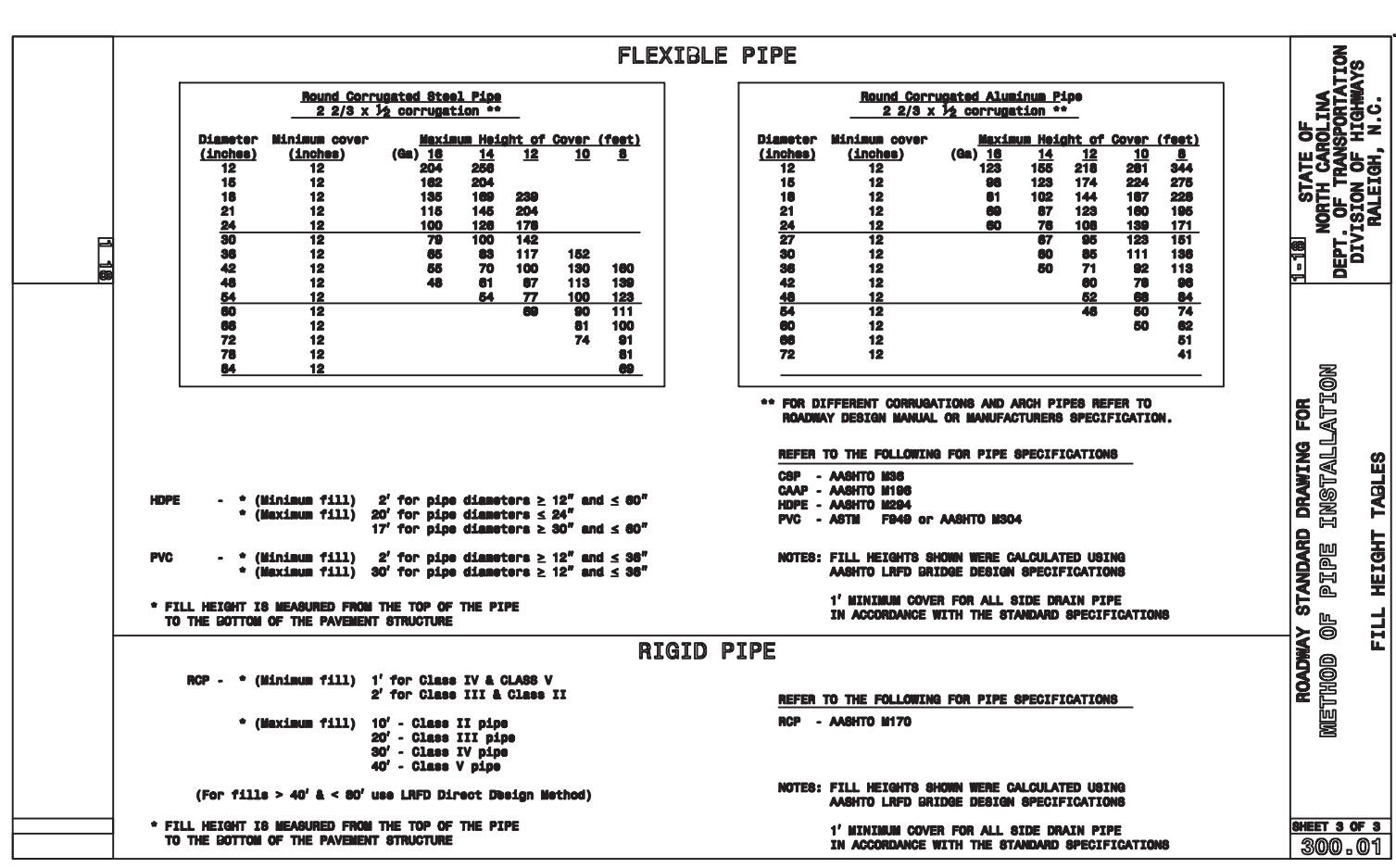
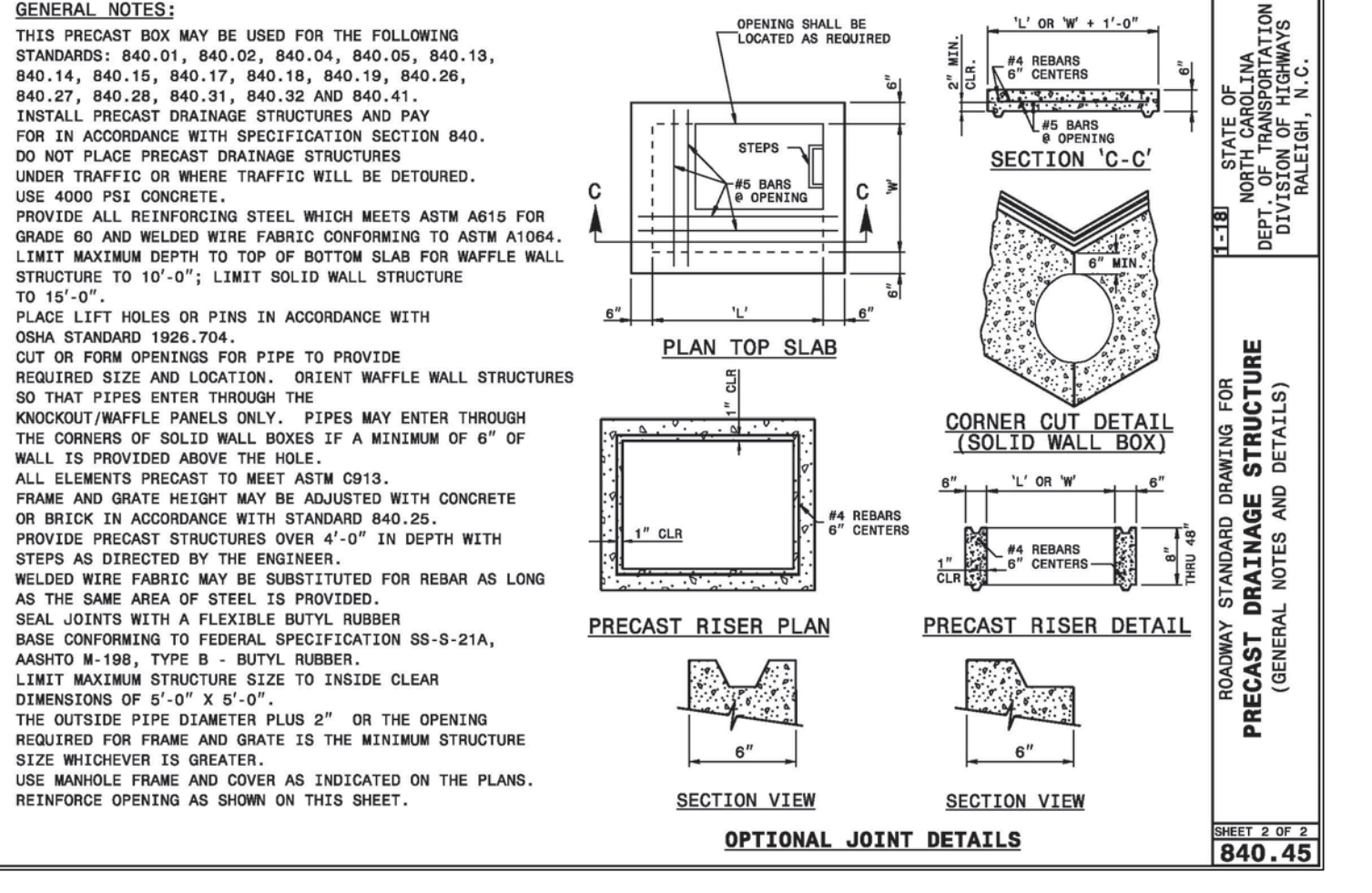
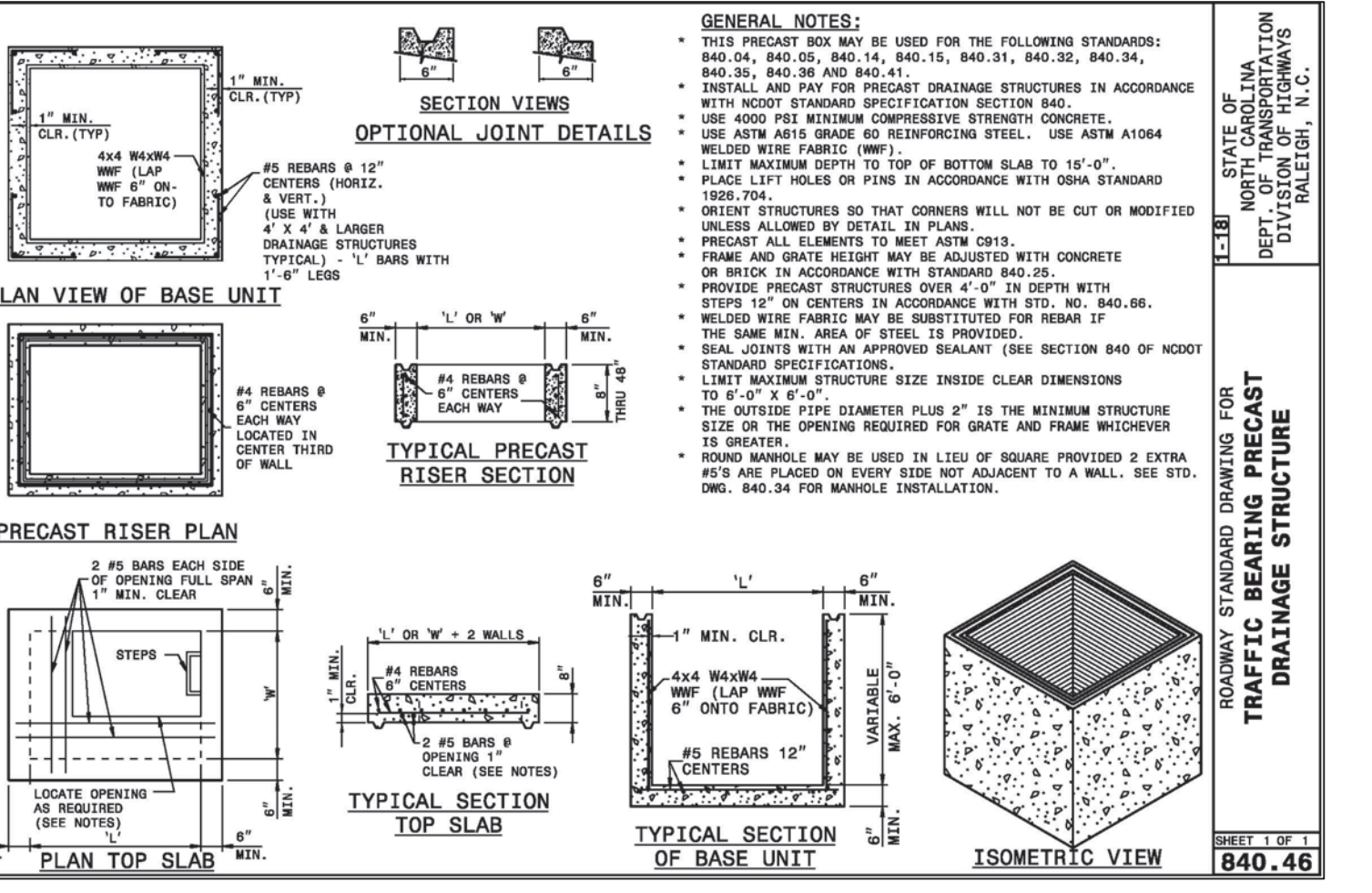
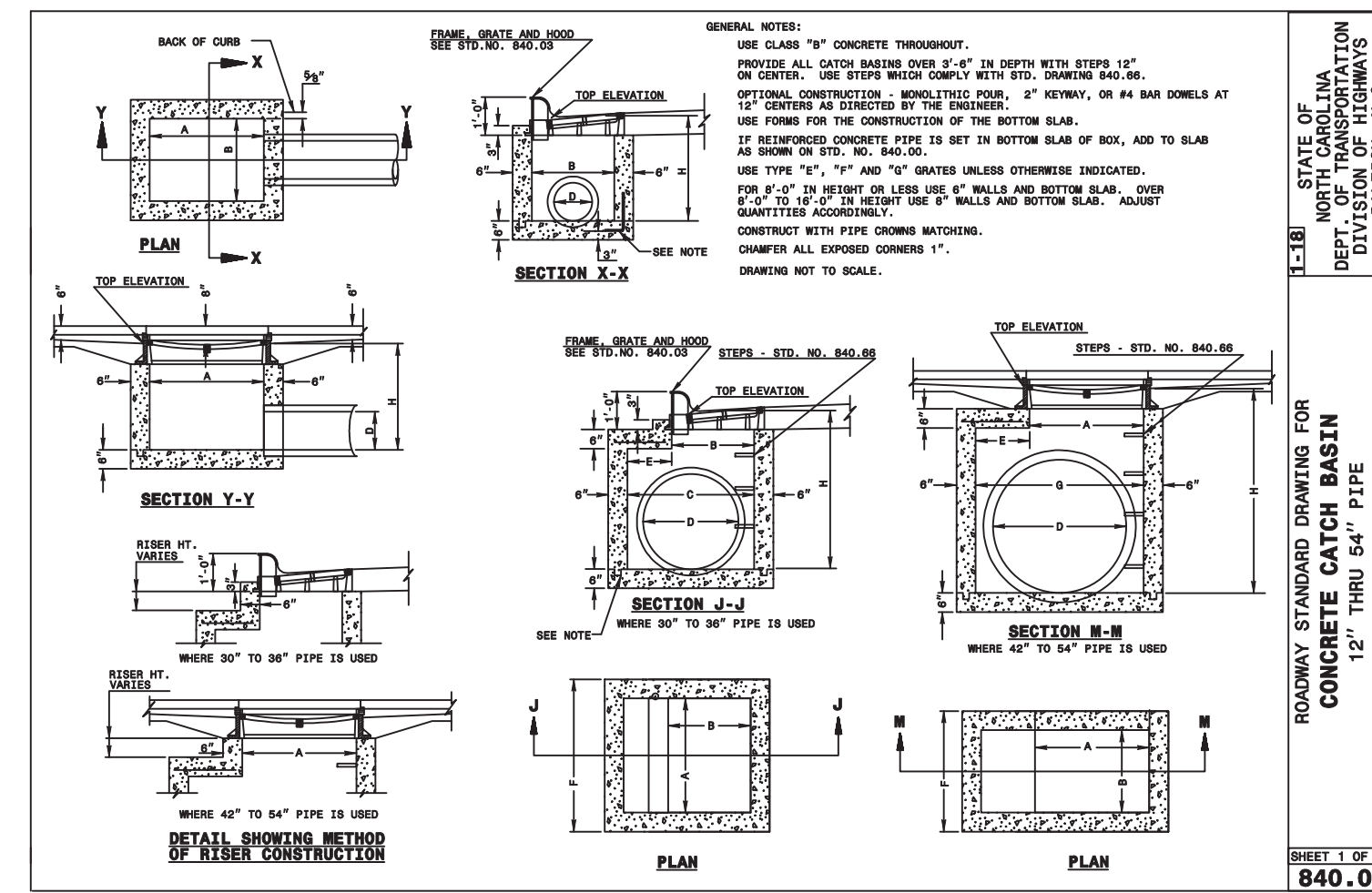
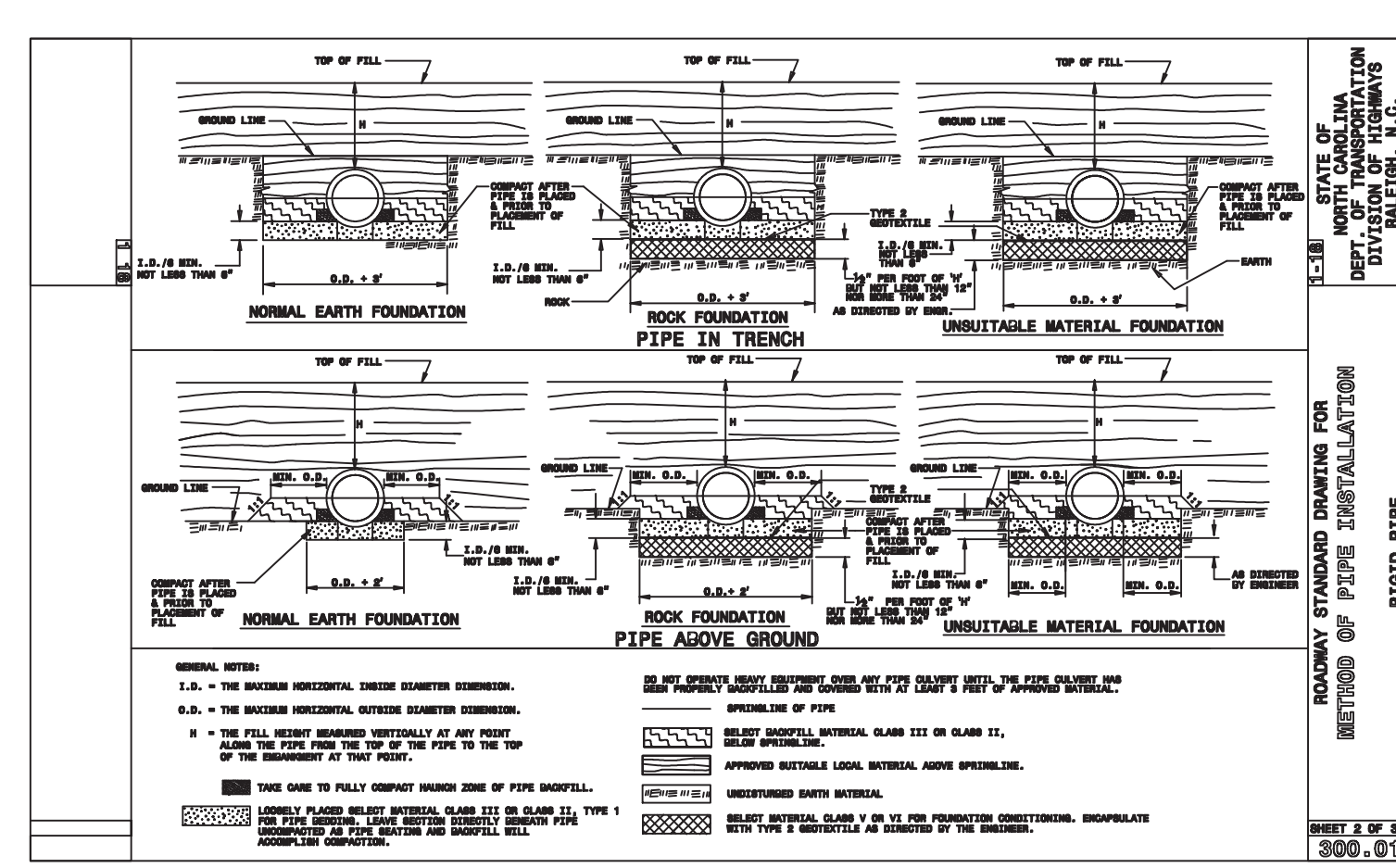
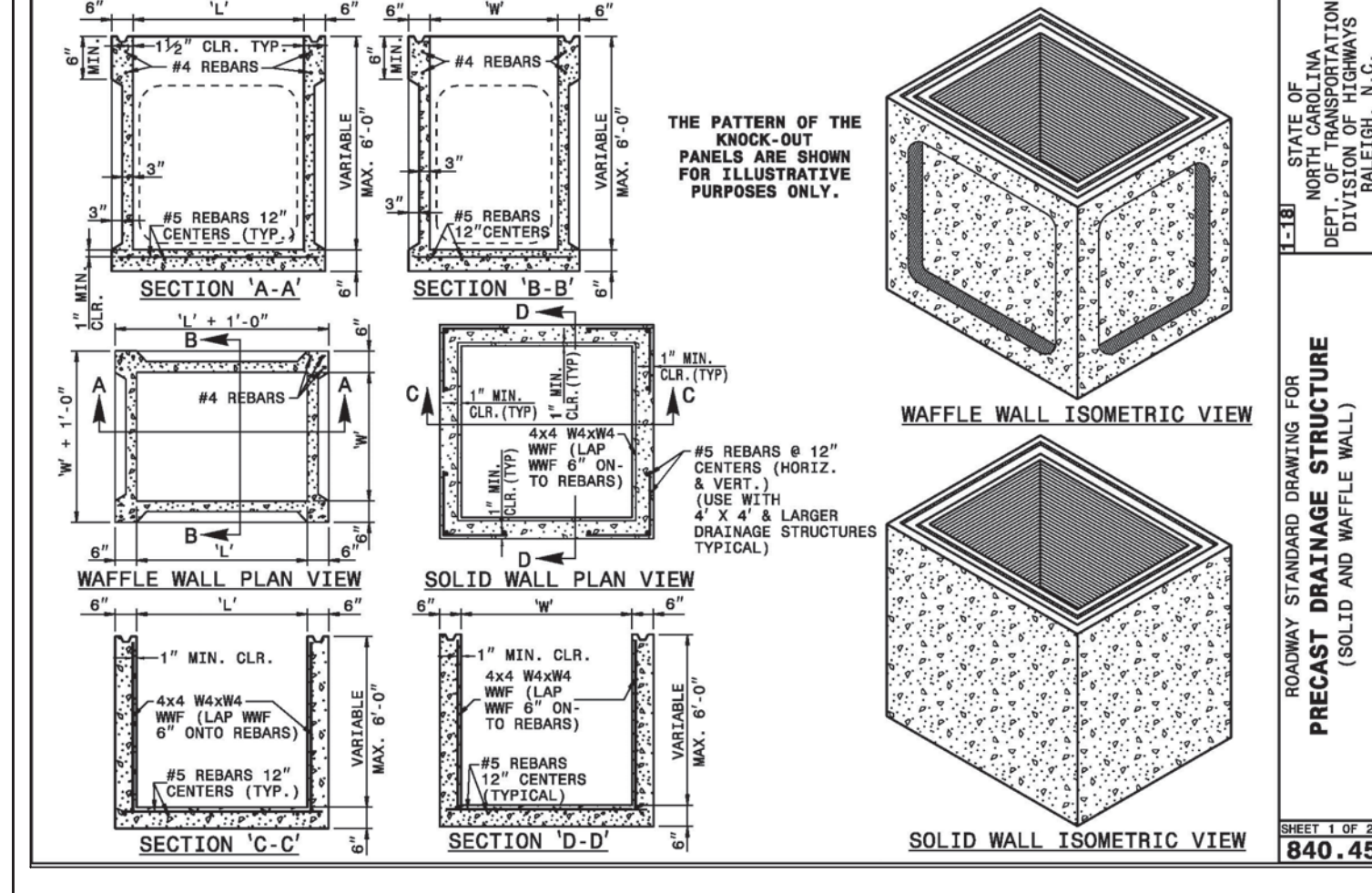
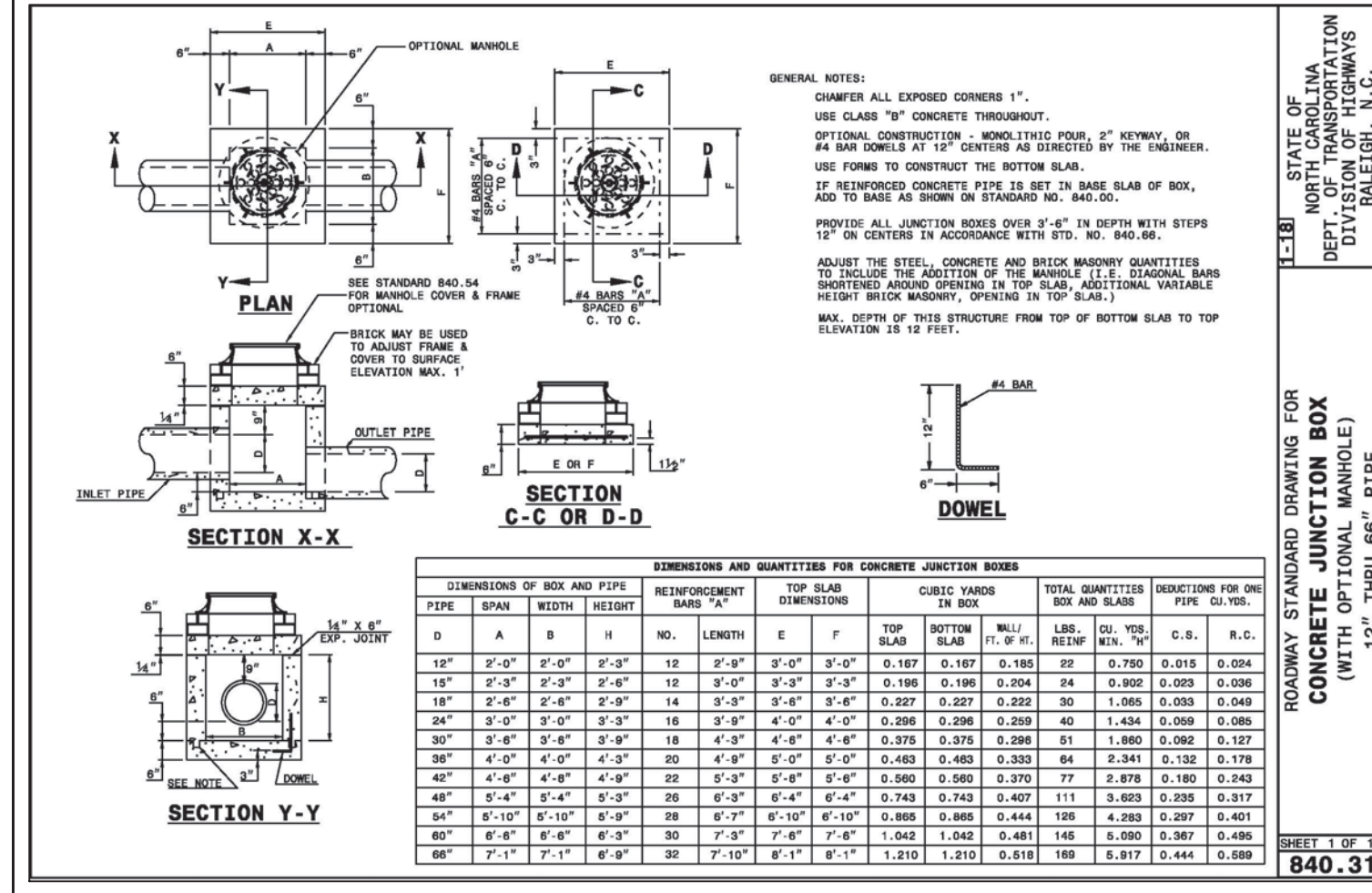
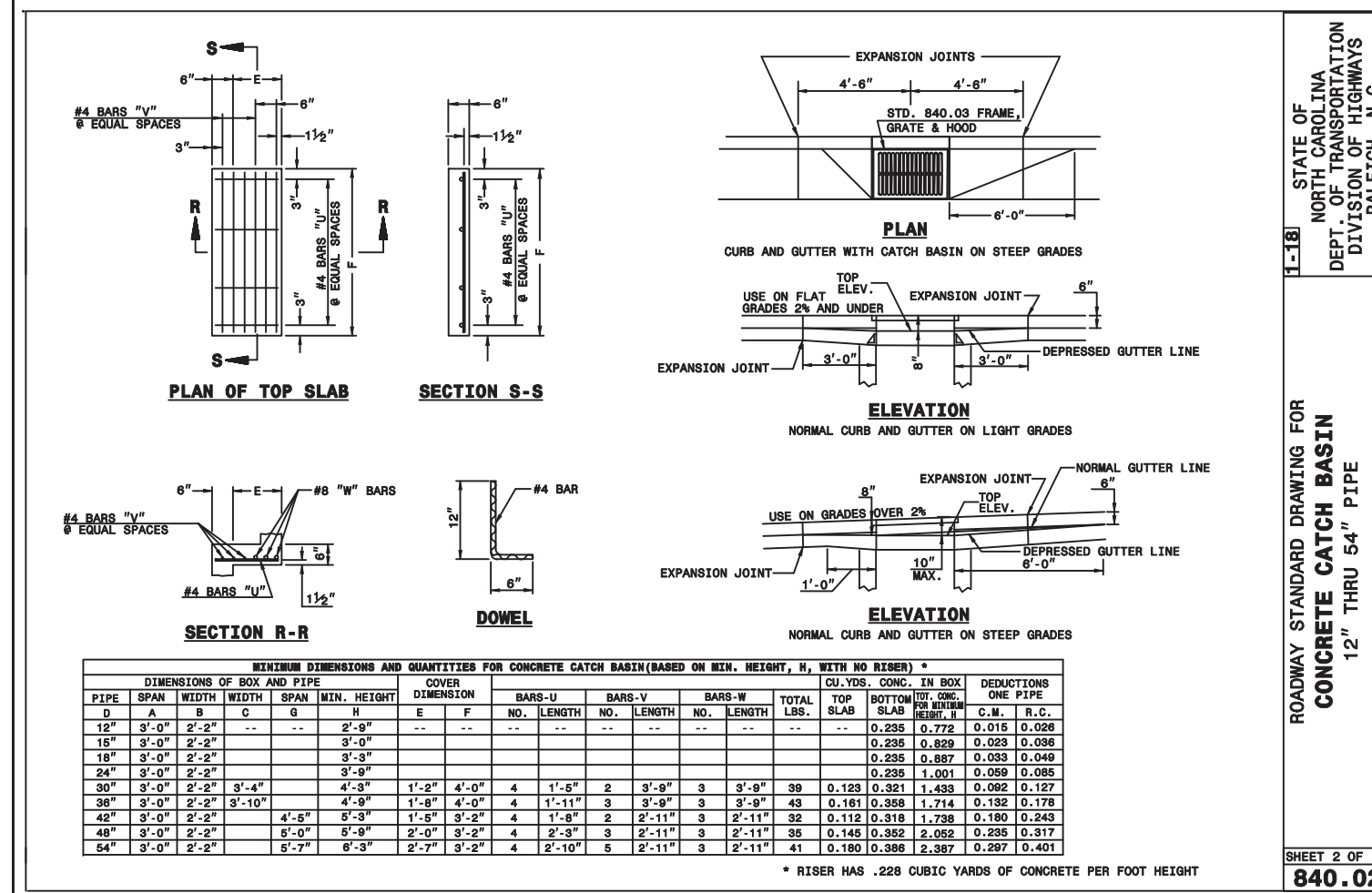
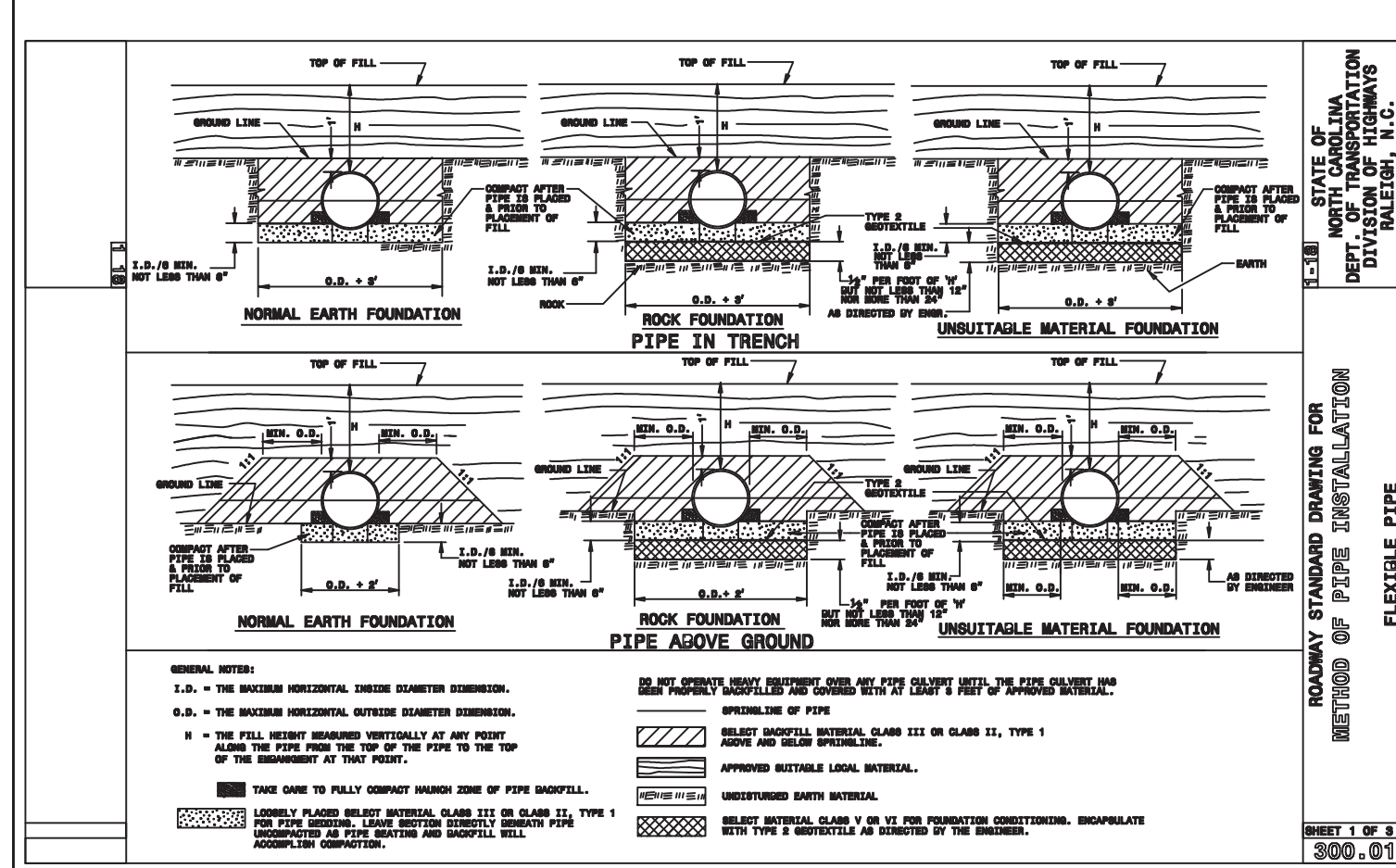
Traffic: _____

Fire: _____

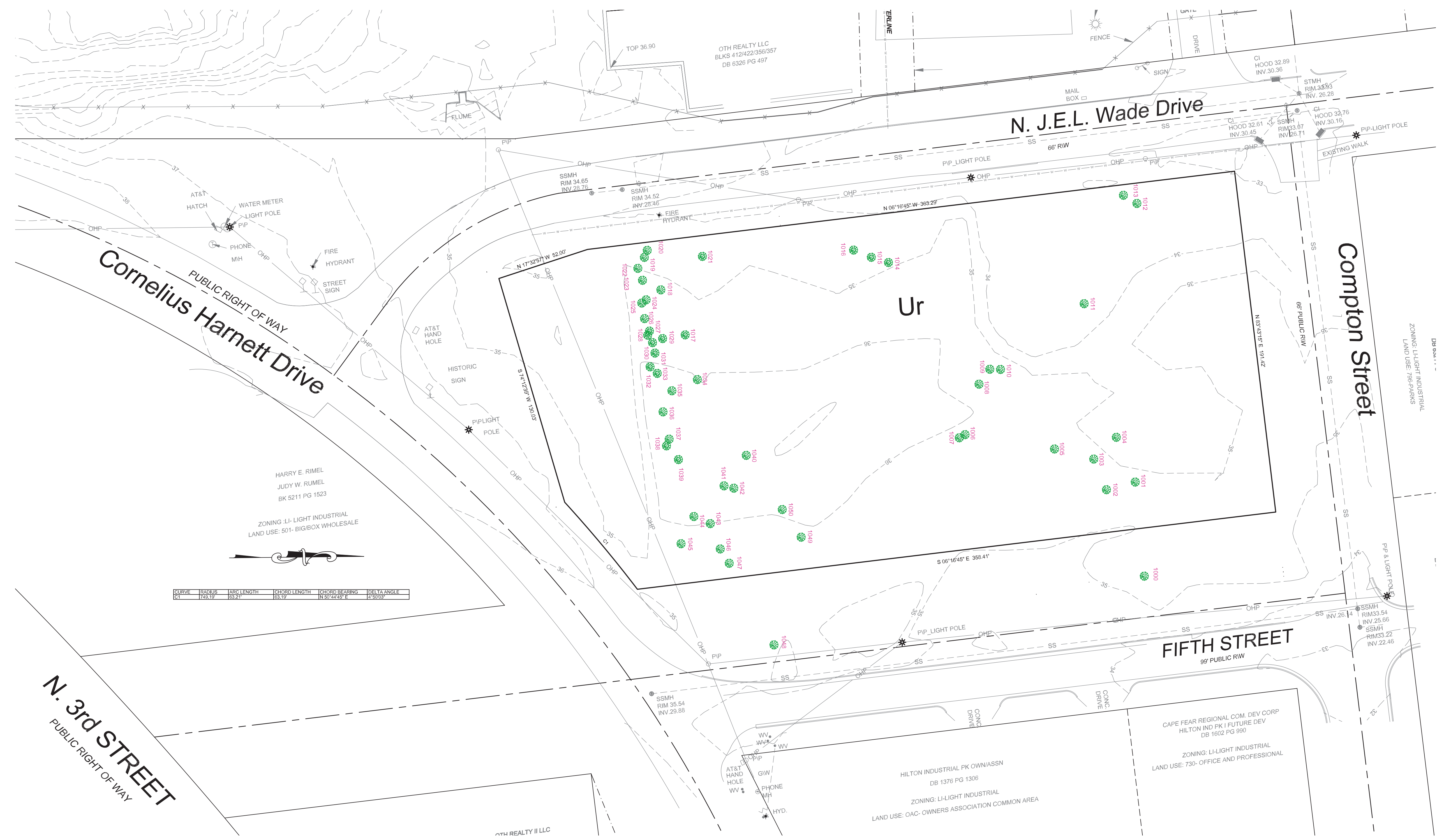
Date: _____ Permit #: _____

Signed: _____

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



NO.	REVISIONS	DATE
3	REVISIONS TRC COMMENTS	4-21-2022
2	REVISIONS TRC COMMENTS	4-03-2022
1	REVISIONS TRC COMMENTS	2-03-2022



CURVE	BACKSIGHT	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	748.19'	83.21'	83.19'	N 50°44'45" E	4°50'09"

N. 3rd STREET
 PUBLIC RIGHT OF WAY

1000.38" OAK	1036.15" OAK	1082.22.5" OAK	1121.17" GUM
1001.37" OAK	1037.14.5" OAK	1083.20.5" OAK	1122.16" HARDWOOD
1002.2" MAG	1038.14" OAK	1084.9" OAK	1123.10" HARDWOOD
1003.36" OAK	1039.20" OAK	1085.13" OAK	1124.50" HARDWOOD
1004.20.5" OAK	1040.19" OAK	1086. TRIPPLE 11" 11" 10" HARD W.	1125.9" HARDWOOD
1005.30" OAK	1041.25" OAK	1087.11" HARDWOOD	1126. TRIPPLE 8.5" HARDWOOD
1006.6" HARDWOOD	1042.20" OAK	1088.9" HARDWOOD	1127.10" HARDWOOD
1007. TWIN 9" 10" HARDWOOD	1043.21" OAK	1089.10" HARDWOOD	1128.12" HARDWOOD
1008.9.5" HARDWOOD	1044.24" OAK	1090.20" HARDWOOD	1129.15" HARDWOOD
1009.12" HARDWOOD	1045.32" OAK	1091.15" HARDWOOD	1130.15" HARDWOOD
1010.8" HARDWOOD	1046.20.5" OAK	1092.24" HARDWOOD	1131.9" HARDWOOD
1011.8.5" MAG	1047.18.5" OAK	1093. TWIN 12" 10" HARD W.	1132.9" HARDWOOD
1012.10" HARDWOOD	1048.38" OAK	1094.14" HARDWOOD	1133.13" HARDWOOD
1013. TWIN 8" 7" HARDWOOD	1049.18.5" HARDWOOD	1095.25" HARDWOOD	1134. TWIN 21" 16" HARDWOOD
1014.9" HARDWOOD	1050.14" HARDWOOD	1096.23" HARDWOOD	1135.24.5" HARDWOOD
1015.9" HARDWOOD	1051.24" OAK	1097.18" HARDWOOD	1136.22" HARDWOOD
1016.10" HARDWOOD	1052.18.5" OAK	1098.18" GUM	1137.15" HARDWOOD
1017.19" OAK	1053.10" OAK	1099.10.5" OAK	1138.15" OAK
1018.19" OAK	1054.17" OAK	1100.34.5" OAK	1140.30.5" HARDWOOD
1019.18" OAK	1055.11.5" OAK	1101.18.5" HARDWOOD	1141.9" HARDWOOD
1020.10" OAK	1056.9.5" OAK	1102.14" OAK	1142.11" HARDWOOD
1021.8.5" HARDWOOD	1057.14.5" OAK	1103.15" OAK	1143. TWIN 9.5" 8" GUM
1022.17" OAK	1058.18.5" OAK	1104. TWIN 22.5" 12.5" OAK	1144.9" HARDWOOD
1023.22" OAK	1059.18" OAK	1105.19" OAK	
1024. TWIN 14" 12" OAK	1061.27" OAK	1106.12.5" OAK	
1025.22" OAK	1062.16" OAK	1107.8.5" OAK	
1026.13.5" OAK	1063.10" HARDWOOD	1110.13.5" HARDWOOD	
1027.8.5" OAK	1064.20" OAK	1111.34" HARDWOOD	
1028.17.5" OAK	1066.19" HARDWOOD	1112.38" HARDWOOD	
1029.11.5" OAK	1075. TWIN 14" 9" OAK	1113. TWIN 9.5" 8" HARD W.	
1030.7" MAG	1076.8" OAK	1114. TRIPPLE 7.5" 11" 9" HARD W.	
1031.23" OAK	1077.15" OAK	1115.9" HARDWOOD	
1032.20.5" OAK	1078.12" OAK	1116.12.5" HARDWOOD	
1033. TWIN 12" 19.5" OAK	1079.9" OAK	1117.5" HARDWOOD	
1034.9.5" OAK	1080.8" OAK	1118.24" HARDWOOD	
1035.24" OAK	1081.20.5" OAK	1119.10" HARDWOOD	

City of WILMINGTON
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____

Approved Construction Plan

Name	Date
Planning	_____
Traffic	_____
Fire	_____

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



REVISIONS	TRC COMMENTS	DATE
3		4-21-2022
2		4-05-2022
1		2-03-2022

EXISTING CONDITIONS

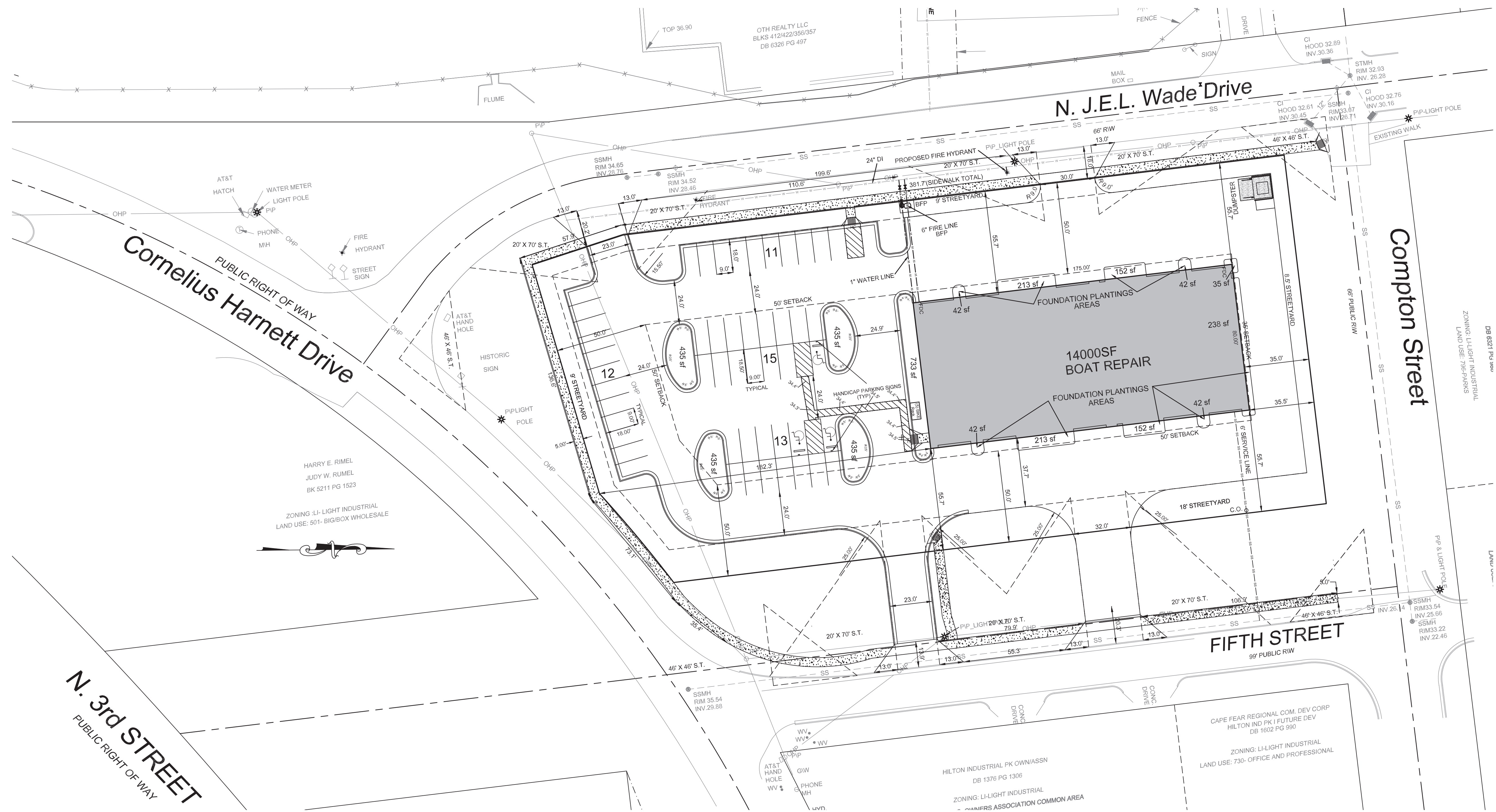
**OFF THE HOOK YACHT SALES
 N.E. CAPE FEAR RIVER FACILITY**

OWNER: OTH REALTY LLC
 1701 N.J.E.L. WADE DR.
 WILMINGTON N.C. 28401

Date: 10-12-21
 Scale: HORZ: 1" = 30'
 Drawn: gw
 Checked: gw
 Project No: 4372

EXISTING CONDITIONS

PRELIMINARY PLAN



IMPERVIOUS CALCULATIONS

BUILDING	14000	SF
PARKING AND DRIVES	46052	SF
SIDEWALKS	142	SF
FUTURE	2,200	SF
TOTAL PROPOSED IMPERVIOUS(NOW AND FUTURE)	62,394	SF

BUILDING LOT COVERAGE

PROPOSED BLDG.	14000	SF
TOTAL TRACT AREA	75588	SF
BUILDING LOT COVERAGE	18.5%	

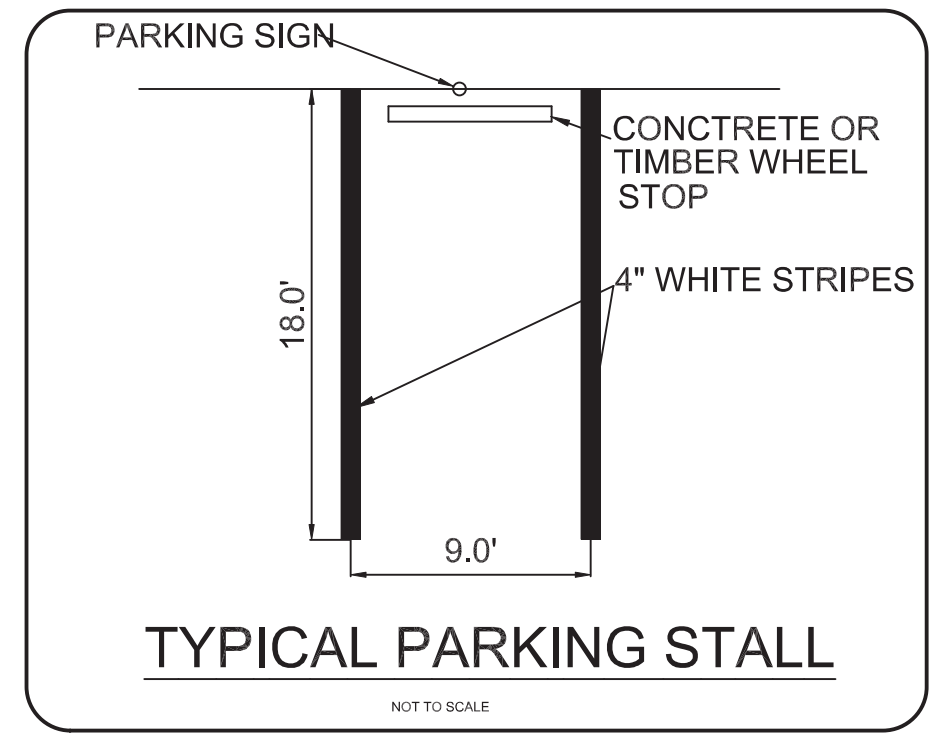
TRIP GENERATION CHART

LAND USE	ITE CODE	AM PEAK HOURS TRIPS= 23		PM PEAK HOUR TRIPS=28	
		24 HR VOLUMES	ENTER EXIT	ENTER EXIT	ENTER EXIT
SOCIAL TRADE CONTRACTOR					
BOAT REPAIR					
14,000 SF PROPOSED	180	143	17 6	9 19	
CURRENT LAND USE	958				

FOUNDATION PLANTINGS
 NORTH BUILDING FACADE 80' X 21'=1660 (SF) X .12= 235.2 (SF)
 SOUTH BUILDING FACADE 80' X 21'=1960 (SF) X .12= 235.2 (SF)
 EAST BUILDING FACADE 1960 (SF) X .12 = 441 (SF)
 WEST BUILDING FACADE 1960 (SF) X .12 = 441 (SF)
 TOTAL FOUNDATION PLANTING REQUIRED = 1,352.4 (SF)
 FOUNDATION PLANTING SHOWN = 2,096 (SF)

SITE DATA
 PARCEL ID. NO. R04805-023-001-000
 OWNER: OTH REALTY II LLC
 1.74 ACRES TOTAL TRACT
 ZONED LI-LIGHT INDUSTRIAL (WITHIN A SPECIAL HIGHWAY OVERLAY DISTRICT)
 PROPOSED USE: BOAT REPAIR
 BUILDING CONSTRUCTION TYPE: TYPE II-B
 BUILDING LOT COVERAGE 18.5%
 PROPOSED BLDG. HEIGHT ONE STORY LESS THAN 45'
 MINIMUM FRONT SETBACK 50'
 MINIMUM REAR SETBACK 0' (35' ABUTTING RESIDENTIAL)
 MINIMUM INTERIOR SIDE SETBACK 0' (20' ABUTTING RESIDENTIAL)
 MINIMUM CORNER LOT SIDE SETBACK 50'
 MAX. HEIGHT 35' (ADDITIONAL HEIGHT REQUIRES GRATER SETBACKS)
 STREET YARD 18' AND 9'
 SOIL TYPES INCLUDE U₁ (URBAN LAND) AND K_u (URBAN LAND COMPLEX)
 CAMA LAND TYPE (URBAN)
 PROPOSED BLDG. SIZE 14,000 S.F.
 PARCEL AREA 1.73 ACRES (75,528 S.F.)

PARKING
 MINIMUM PARKING REQUIRED (1 PER 250 SF OF BLDG.) 35 SPACES
 MAXIMUM PARKING ALLOWED (1 PER 170 SF OF BLDG.) 56 SPACES
 TOTAL PARKING SHOWN 51 TOTAL SPACES
 ALL PARKING AND DRIVEWAY STRIPING TO COMPLY WITH CURRENT CITY STANDARDS.
 ACCESSIBLE PARKING REQUIRED: 1 PER 25
 ACCESSIBLE PARKING PROVIDED: 3
 BICYCLE PARKING REQUIRED: 5
 BICYCLE PARKING PROVIDED: 5



Approved Construction Plan
 Name _____ Date _____
 Planning _____
 Traffic _____
 Fire _____
 Date: _____ Permit # _____
 Signed: _____

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



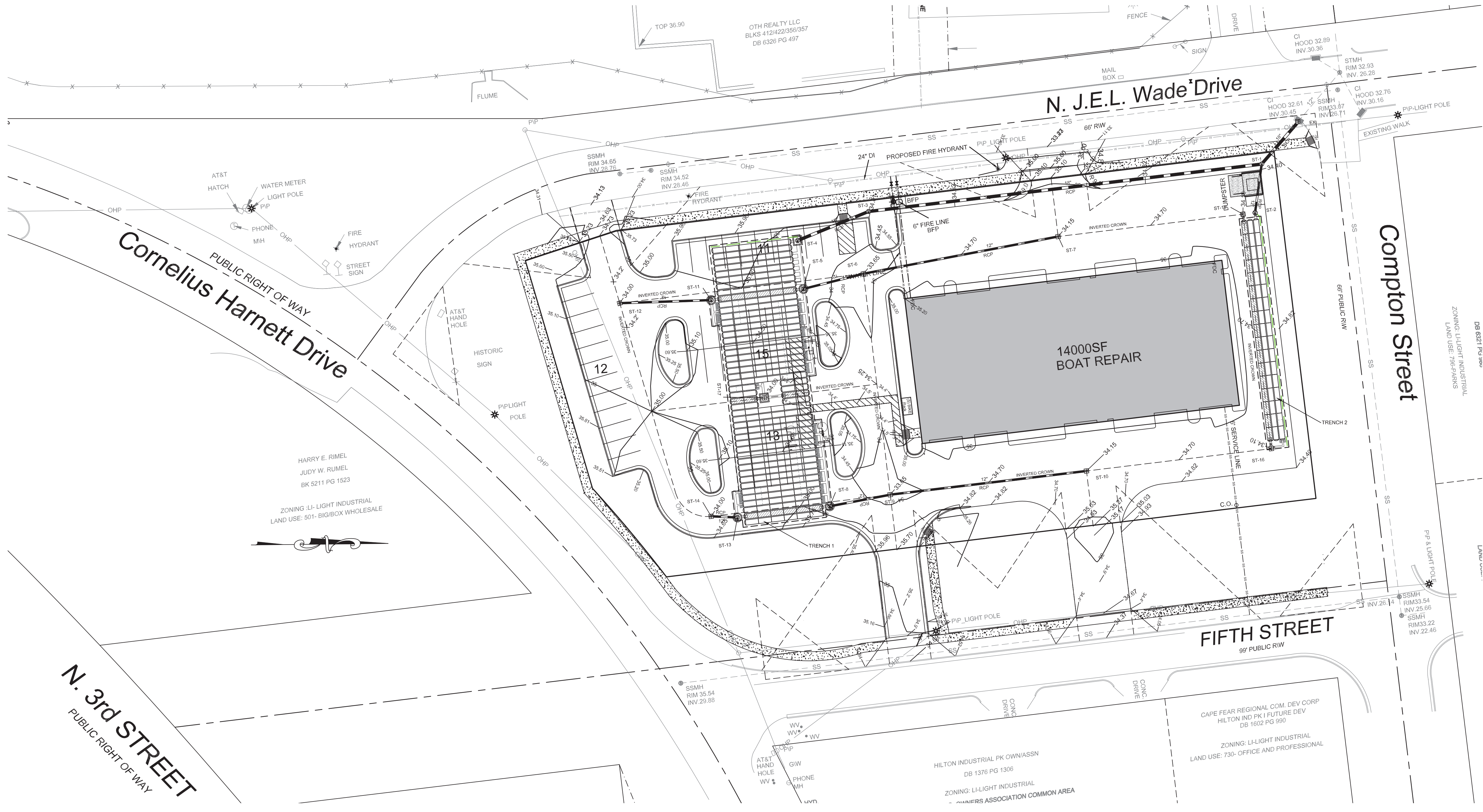
NO.	DATE	REVISIONS / TRC COMMENTS
1	2-03-2022	REVISIONS / TRC COMMENTS
2	4-05-2022	REVISIONS / TRC COMMENTS
3	4-21-2022	REVISIONS / TRC COMMENTS

OFF THE HOOK YACHT SALES
N.E. CAPE FEAR RIVER FACILITY
 OWNER: OTH REALTY LLC
 1701 N.J.E.L. WADE DR.
 WILMINGTON N.C. 28401
 Date: 4-21-2022
 Scale: HORZ.: 1" = 30'
 Drawn: gw
 Checked: gw
 Project No: 4372

SITE PLAN

PRELIMINARY PLAN

Sheet No: **6**
 of **9**



HANOVER DESIGN SERVICES, P.A.
 LAND SURVEYORS, ENGINEERS & LAND PLANNERS
 LICENSE # C-2007

NO.	REVISIONS / TRC COMMENTS	DATE
3	REVISIONS / TRC COMMENTS	4-21-2022
2	REVISIONS / TRC COMMENTS	4-05-2022
1	REVISIONS / TRC COMMENTS	2-09-2022

GRADING PLAN
OFF THE HOOK YACHT SALES
N.E. CAPE FEAR RIVER FACILITY
 CAPE FEAR TOWNSHIP, NEW HANOVER COUNTY, NORTH CAROLINA

OWNER: OTH REALTY LLC
 1701 N. J.E.L. WADE DR.
 WILMINGTON N.C. 28401

Date: 10-12-21
 Scale: HORZ: 1"= 30'
 Drawn: gw
 Checked: gw
 Project No: 4372

GRADING PLAN

PRELIMINARY PLAN

Sheet No: 7
 of 9

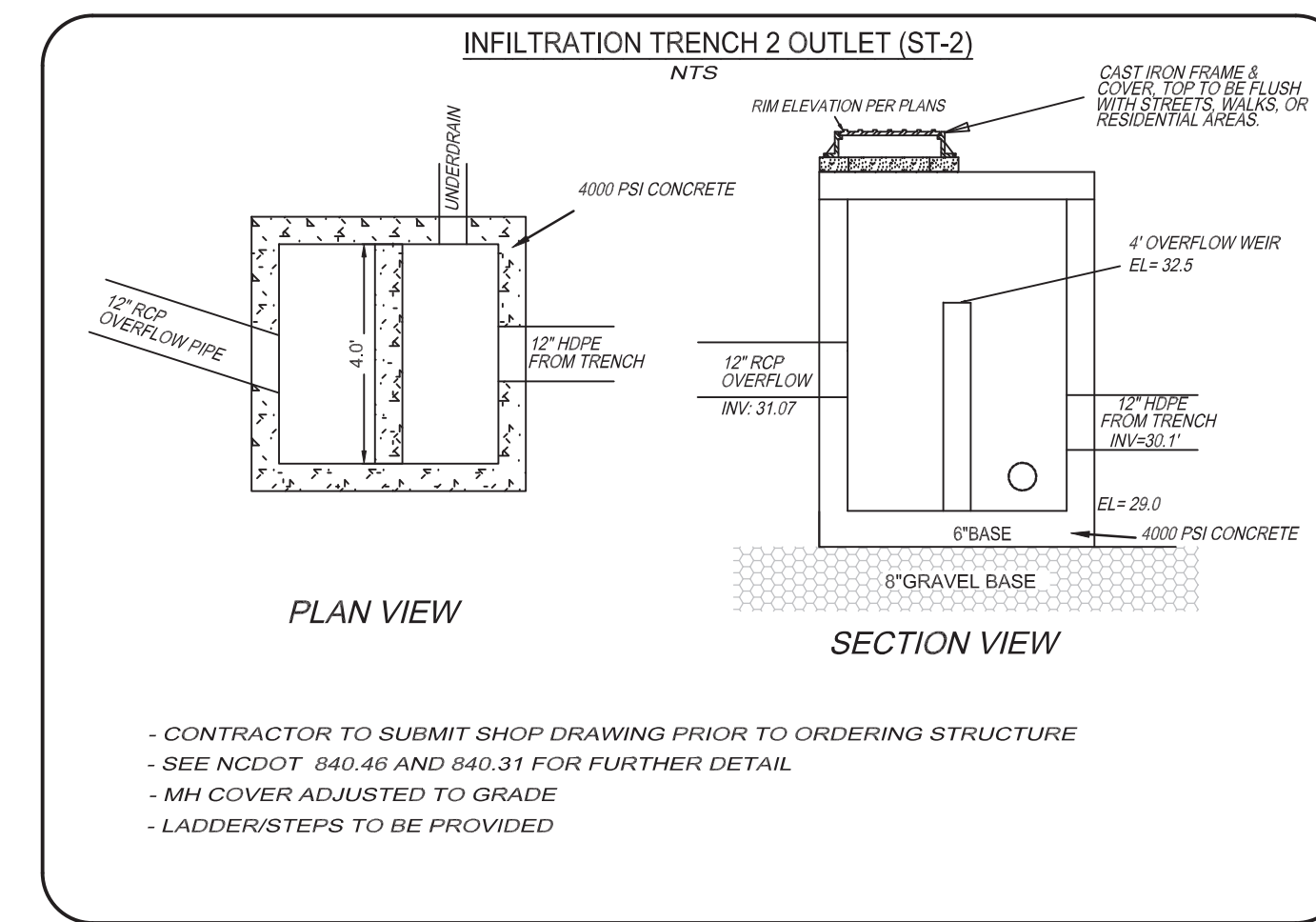
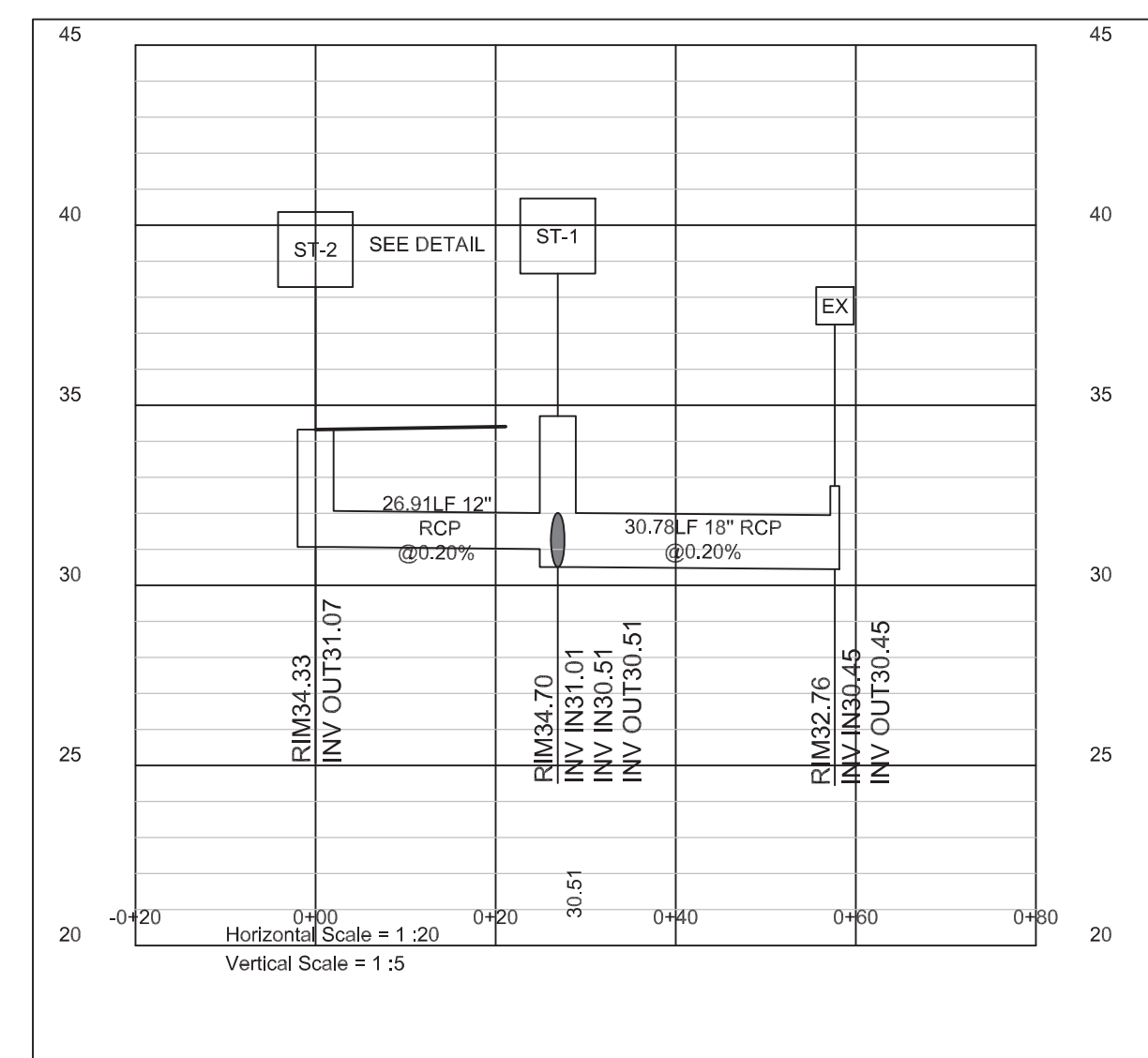
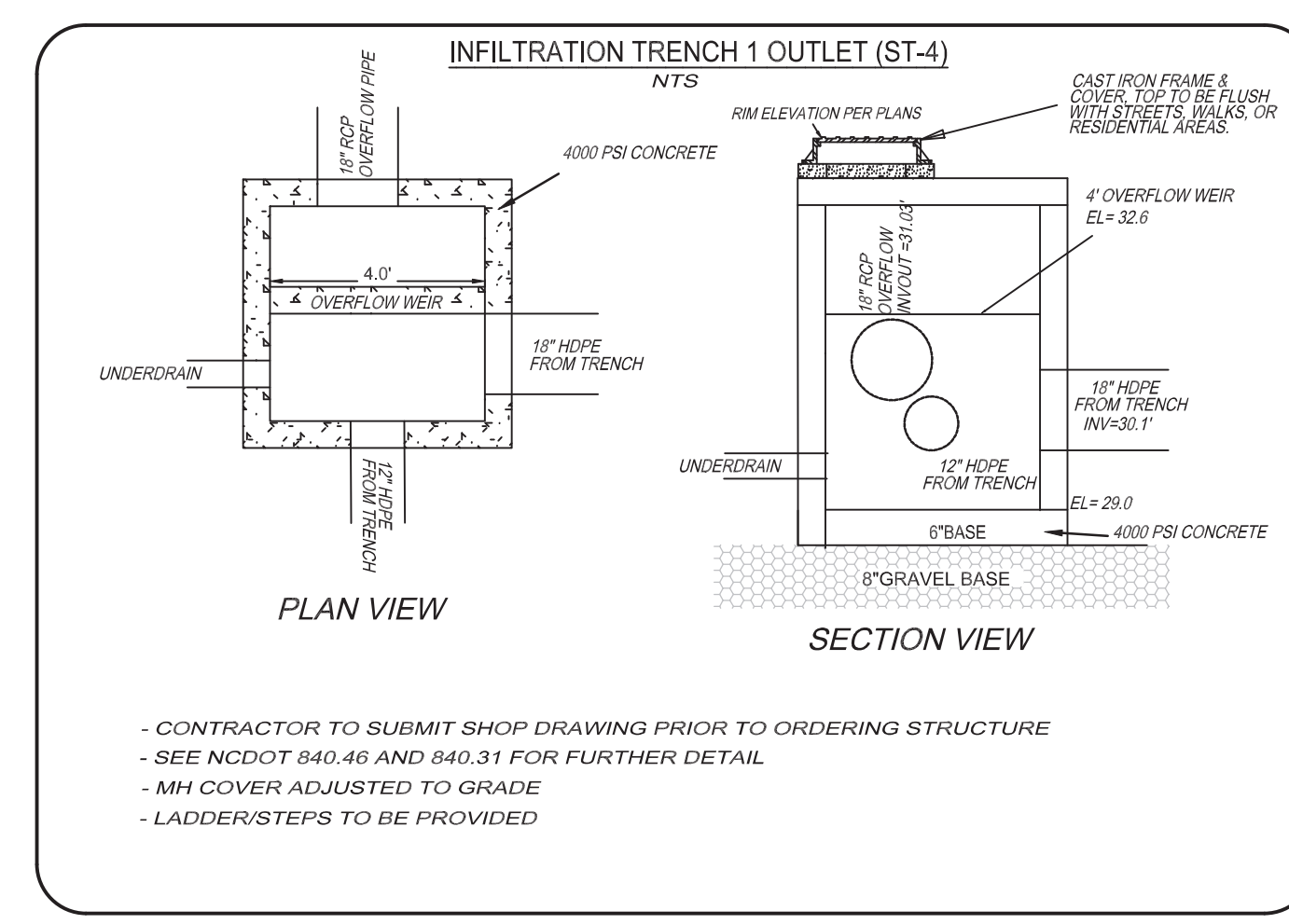
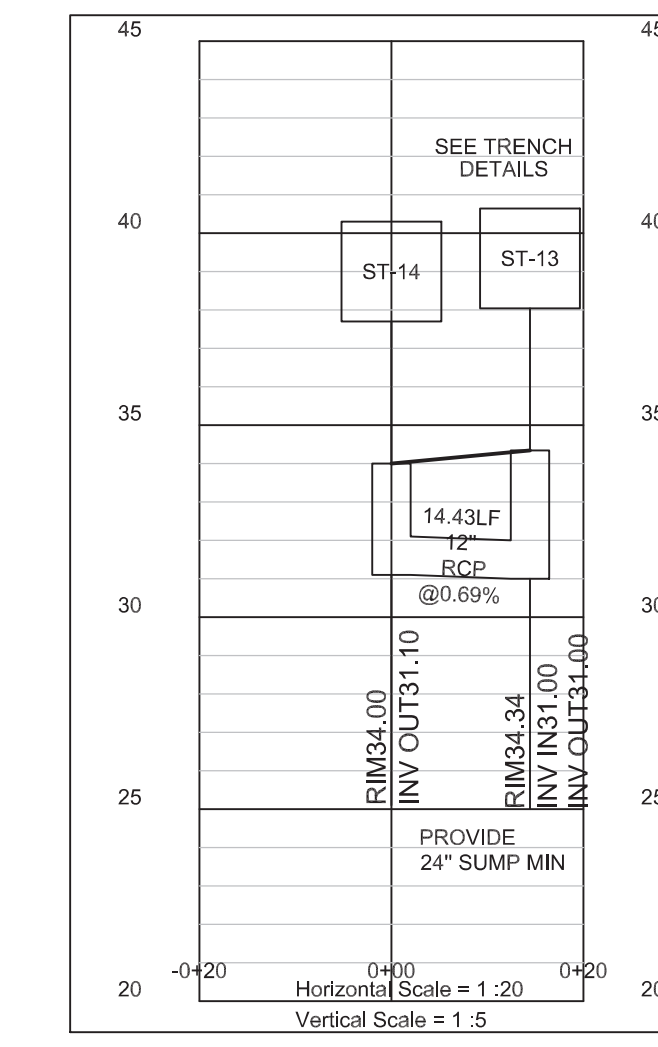
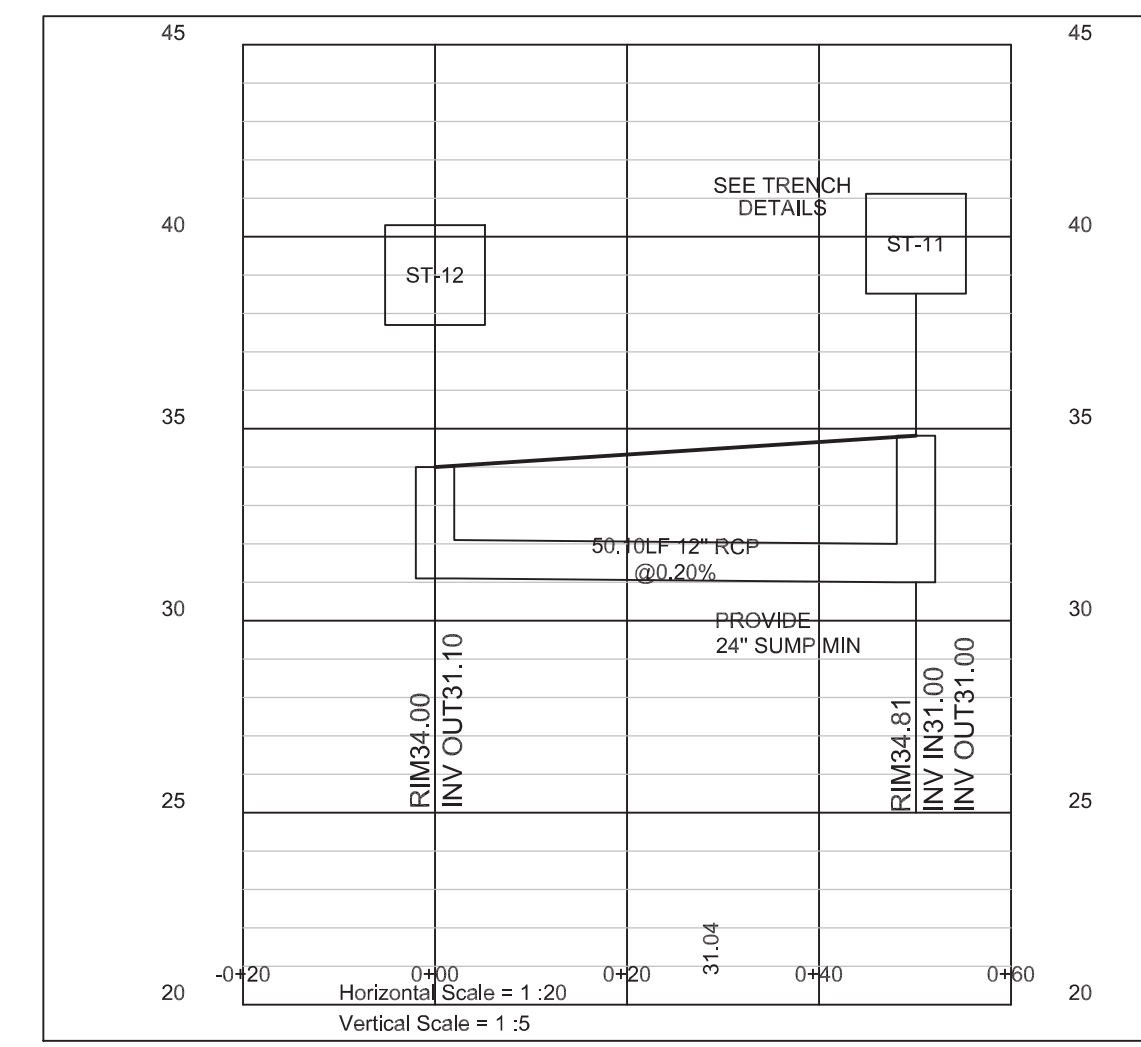
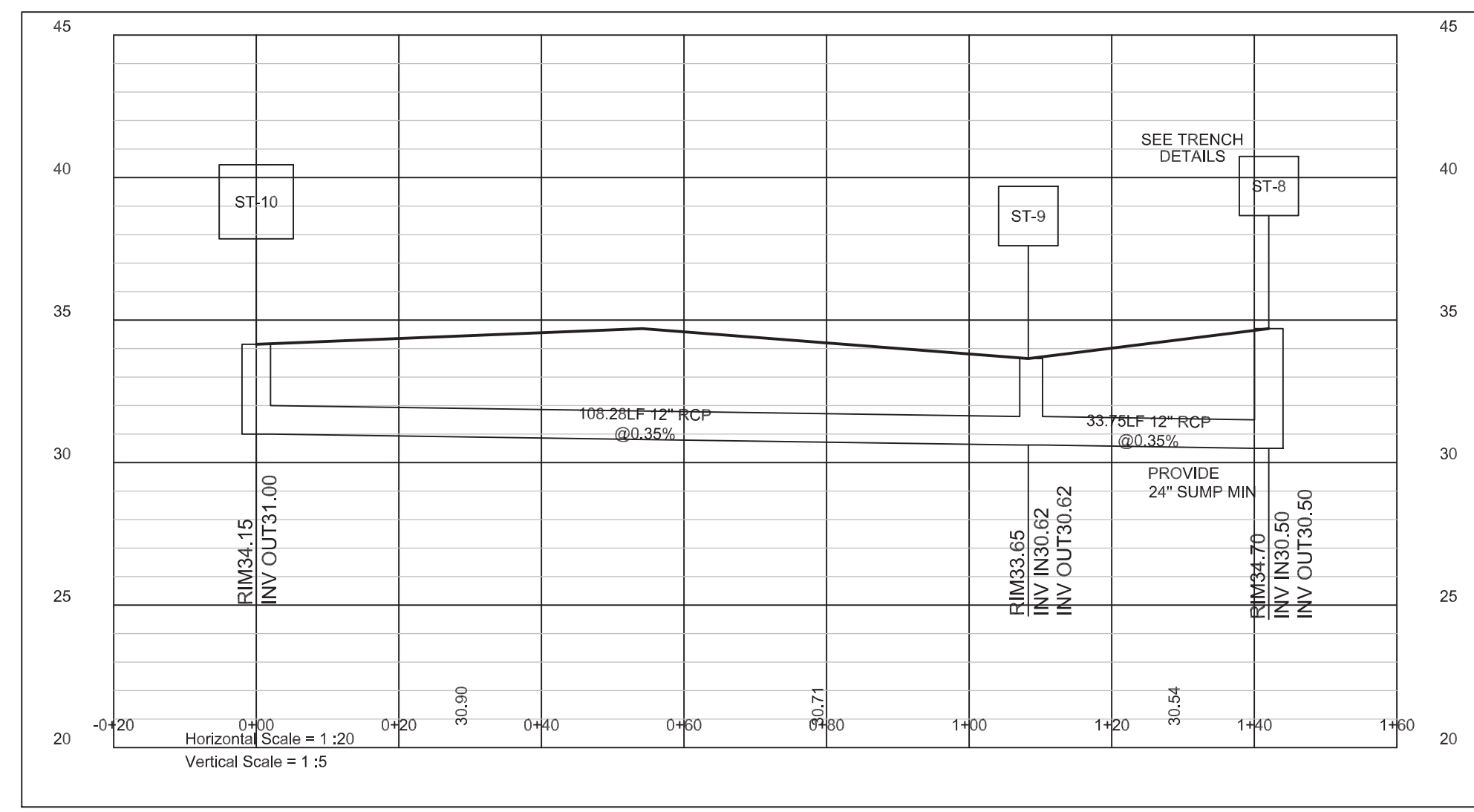
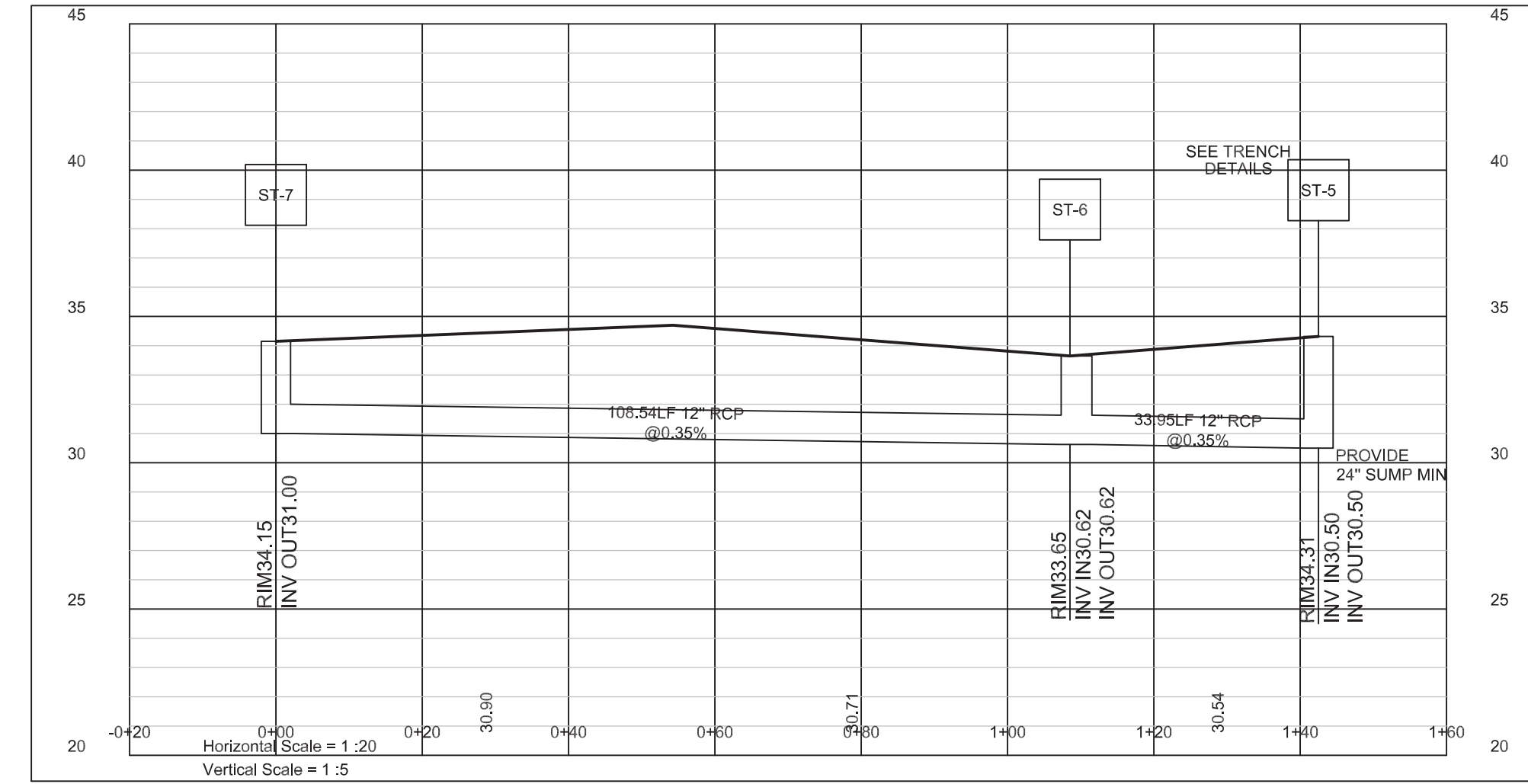
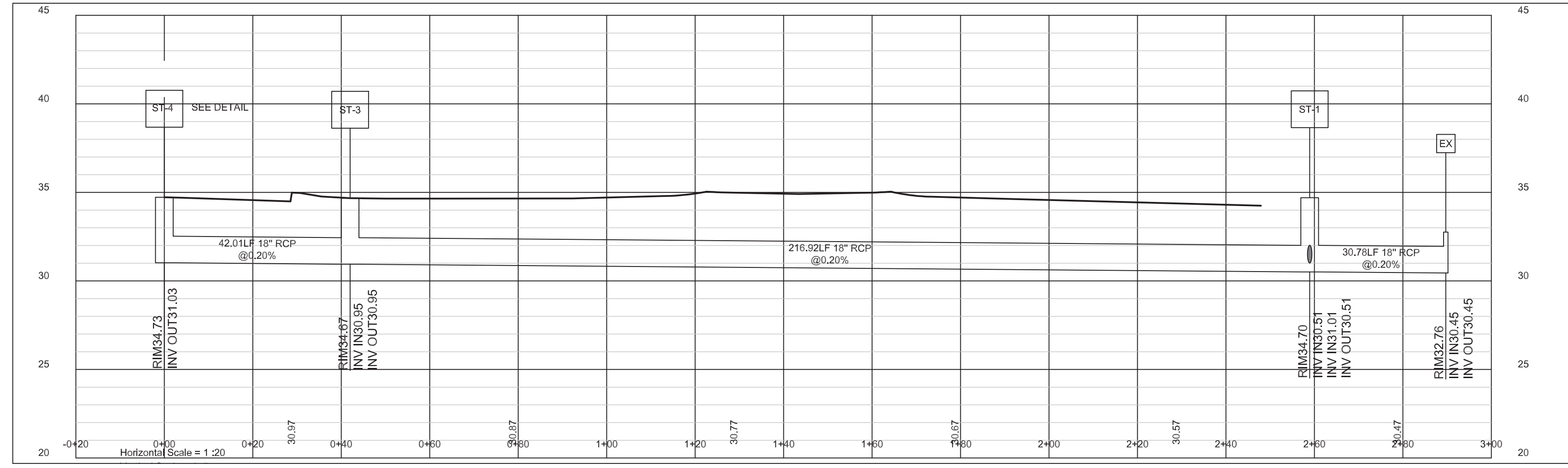
CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____

Approved Construction Plan

Name	Date
Planning _____	_____
Traffic _____	_____
Fire _____	_____

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





REVISIONS	DATE
3	4-21-2022
2	4-05-2022
1	2-03-2022

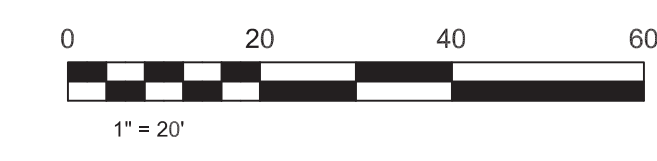
OWNER: **OTH REALTY, LLC**
 1701 N. J. EL. WADE DR.
 WILMINGTON, N.C. 28401

Date: 10-12-21
 Scale: HORZ.: 1" = 20'
 Drawn: gw
 Checked: gw
 Project No: 4372

STORM PROFILES
OFF THE HOOK YACHT SALES
N.E. CAPE FEAR RIVER FACILITY
 CAPE FEAR TOWNSHIP, NEW HANOVER COUNTY, NORTH CAROLINA

STORM PROFILES

PRELIMINARY PLAN



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

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

REVISIONS	DATE
1	2-03-2022
2	4-05-2022
3	4-21-2022

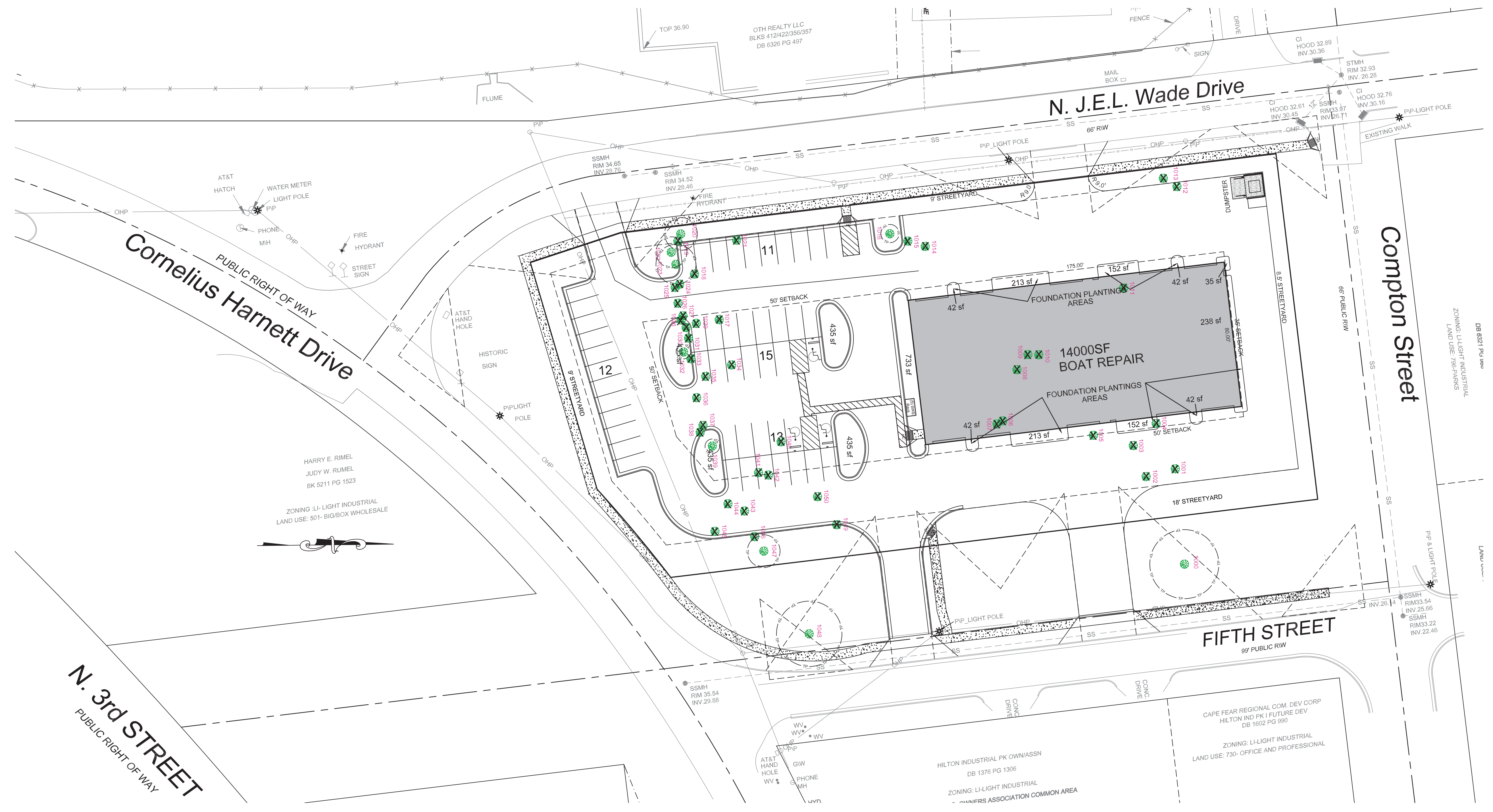
OWNER:
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 WILMINGTON, N.C. 28401

Date: 10-12-21
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 Project No: 4372

TREE SURVEY & REMOVAL PLAN

PRELIMINARY PLAN

Sheet No: 9
 Of: 9



TREE TABLE			
1000,38" OAK	1036,15" OAK	1082,22.5" OAK	1121,17" GUM
1001,37" OAK	1037,14.5" OAK	1083,20.5" OAK	1122,16" HARDWOOD
1002,5" MAG.	1038,14" OAK	1084,9" OAK	1123,16" HARDWOOD
1003,36" OAK	1039,20" OAK	1085,13" OAK	1124,50" HARDWOOD
1004,20.5" OAK	1040,19" OAK	1086,TRIPPLE 11" 11" 10" HARD W.	1125,9" HARDWOOD
1005,30" OAK	1041,25" OAK	1087,11" HARDWOOD	1126,TRIPPLE 8.5" HARDWOOD
1006,8" HARDWOOD	1042,20" OAK	1088,9" HARDWOOD	1127,10" HARDWOOD
1007,TWIN 9" 10" HARDWOOD	1043,21" OAK	1089,10" HARDWOOD	1128,12" HARDWOOD
1008,9.5" HARDWOOD	1044,24" OAK	1090,20" HARDWOOD	1129,15" HARDWOOD
1009,12" HARDWOOD	1045,32" OAK	1091,15" HARDWOOD	1130,15" HARDWOOD
1010,8" HARDWOOD	1046,20.5" OAK	1092,24" HARDWOOD	1131,9" HARDWOOD
1011,8.5" MAG	1047,18.5" OAK	1093,TWIN 12" 10" HARD W.	1132,9" HARDWOOD
1012,10" HARDWOOD	1048,38" OAK	1094,14" HARDWOOD	1133,13" HARDWOOD
1013,TWIN 9" 7" HARDWOOD	1049,18.5" HARDWOOD	1095,26" HARDWOOD	1134,TWIN 21" 16" HARDWOOD
1014,9" HARDWOOD	1050,14" HARDWOOD	1096,23" HARDWOOD	1135,24.5" HARDWOOD
1015,9" HARDWOOD	1051,24" OAK	1097,18" HARDWOOD	1136,22" HARDWOOD
1016,10" HARDWOOD	1052,18.5" OAK	1098,19" GUM	1137,19" HARDWOOD
1017,19" OAK	1053,10" OAK	1099,10.5" OAK	1138,15" OAK
1018,19" OAK	1054,17" OAK	1100,34.5" OAK	1140,30.5" HARDWOOD
1019,19" OAK	1055,11.5" OAK	1101,15.5" HARDWOOD	1141,9" HARDWOOD
1020,19" OAK	1056,8.5" OAK	1102,14" OAK	1142,11" HARDWOOD
1021,19" OAK	1057,14.5" OAK	1103,15" OAK	1143,TWIN 9.5" 8" GUM
1022,19" OAK	1058,18.5" OAK	1104,TWIN 22.5" 12.5" OAK	1144,9" HARDWOOD
1023,22" OAK	1059,19" OAK	1105,19" OAK	
1024,TWIN 14" 12" OAK	1061,27" OAK	1106,12.5" OAK	
1025,22" OAK	1062,16" OAK	1107,8.5" OAK	
1026,13.5" OAK	1063,10" HARDWOOD	1110,13.5" HARDWOOD	
1027,8.5" OAK	1064,20" OAK	1111,34" HARDWOOD	
1028,17.5" OAK	1066,19" HARDWOOD	1112,38" HARDWOOD	
1029,11.5" OAK	1075,TWIN 14" 9" OAK	1113,TWIN 6.5" 9" HARD W.	
1030,7" MAG	1076,9" OAK	1114,TRIPPLE 7.5" 11" 9" HARD W.	
1031,23" OAK	1077,15" OAK	1115,9" HARDWOOD	
1032,20.5" OAK	1079,12" OAK	1116,12.5" HARDWOOD	
1033,TWIN 12" 19.5" OAK	1079.9" OAK	1117,3" HARDWOOD	
1034,9.5" OAK	1080,8" OAK	1118,24" HARDWOOD	
1035,24" OAK	1081,20.5" OAK	1119,10" HARDWOOD	

1016,10" HARDWOOD DENOTES RETAINANCE TREES
 TREE PROTECTION FENCE

WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: Permit #
 Signed:

Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

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PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	
ASIS SALES REP	
PROJECT NO.	



YACHT AREA-1 WILMINGTON, NC

SC-310 STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-310.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2022 (POLYETHYLENE) OR ASTM F2416-16 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS UNSTRUCTURED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- 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 12.10, 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 PRESENCE.
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2737, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE 1) INSTANTANEOUS 11 MIH (45HT) DESIGN TRUCK LIVE LOAD ON MINIMUM COVER (D) MAXIMUM PERMANENT (75-TW) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) ASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, AT THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 2.2.2 OF ASTM F2022 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/IN. AND 5) TO RESET CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° / 22° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
 - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
 - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.05 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD. THE SAFETY FACTORS SHALL BE DETERMINED BY ASTM F2737 AND BY SECTION 3 AND 3.1.2 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
 - THE TEST DESIGNED CRISP MODULUS AS SPECIFIED IN ASTM F2022 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

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

- STORMTECH SC-310 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-750 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONES/ROCKS 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 H/D OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELLED 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" (20.0 mm).
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- A/D'S RECOMMENDS THE USE OF "FLEXIFORM CATCH P" INSERTS DURING CONSTRUCTION FOR ALL INSERTS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

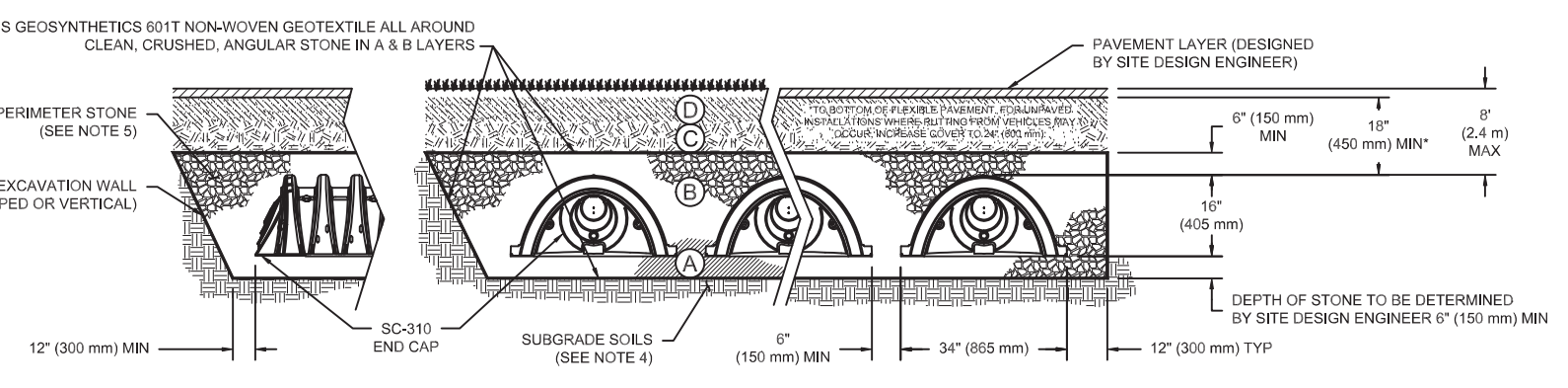
NOTES FOR CONSTRUCTION EQUIPMENT

- STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-750 CONSTRUCTION GUIDE".
 - THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED OVER CHAMBERS.
 - NO RUBBER TRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-750 CONSTRUCTION GUIDE".
 - FULL 3" (75 mm) OF STABILIZED COVER MATERIAL 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 THE STORMTECH STANDARD WARRANTY.
- CONTACT STORMTECH AT 1-888-952-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

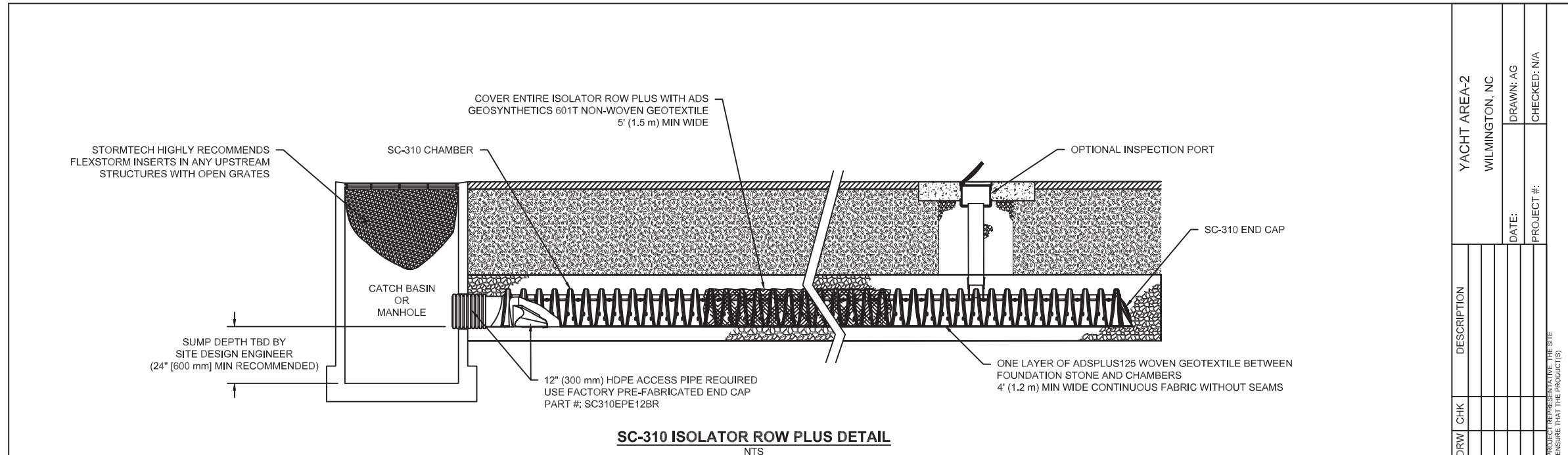
ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

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 FLEDBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE (B LAYER) TO 12" (305 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M44 ¹ A-1, A2-4, A-3 OR AASHTO M43 ² 3, 397, 4, 467, 5, 56, 57, 6, 67, 68, 7, 8, 86, 9, 10	BEGIN COMPACTIONS AFTER 12" (305 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 90% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 13,000 LB (5,900 KG). DYNAMIC FORCE NOT TO EXCEED 20,000 LB (9,070 KG).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 ² 3, 397, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBERS.	AASHTO M43 ² 3, 397, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

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



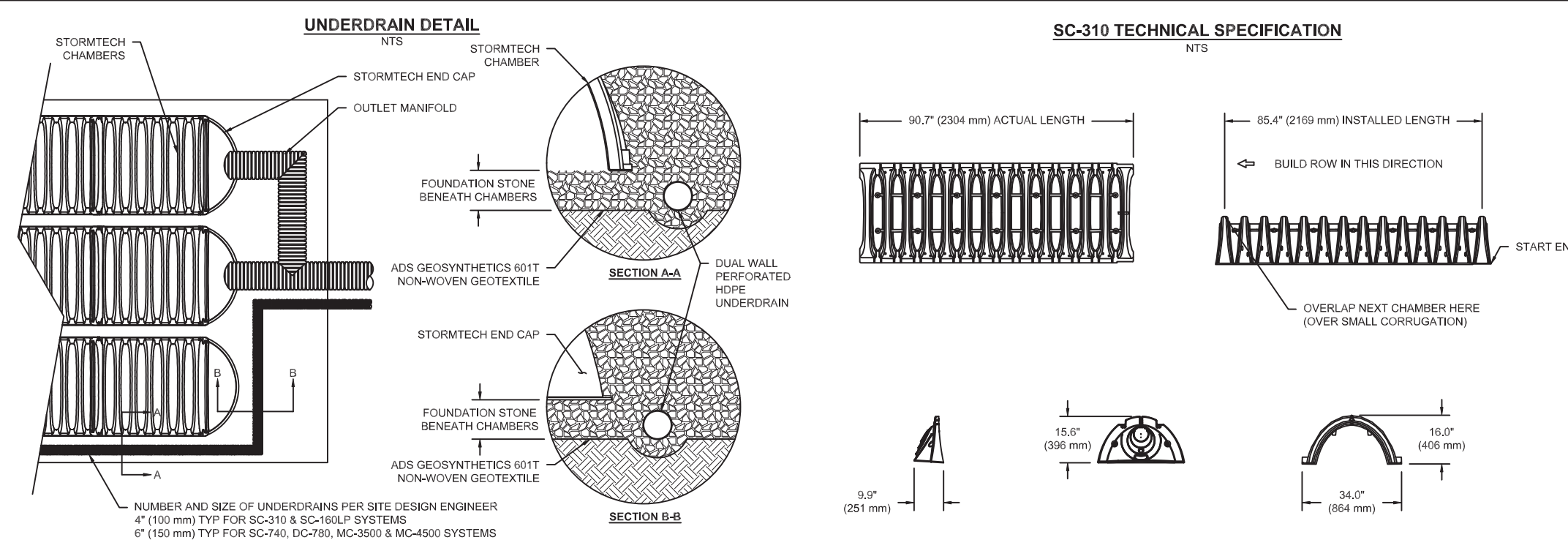
- ### NOTES:
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2022 (POLYETHYLENE) OR ASTM F2416-16 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
 - SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2737, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
 - THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
 - PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
 - REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, AT THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 2.2.2 OF ASTM F2022 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/IN. AND 5) TO RESET CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° / 22° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.



INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- INSPECTION POINTS (IF PRESENT)
 - REMOVE/OPEN LID ON NYLON/PLASTIC LINE DRAIN
 - REMOVE AND CLEAN FLEXTFORM FILTER IF INSTALLED
 - USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
 - ALL ISOLATOR TUBS ROWS
 - REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
 - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
 - MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A PNEUMATIC CLEANING NOZZLE WITH REAR FACING SPREAD OF 42" (1.1 m) OR MORE IS PREFERRED
 - APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFILL WATER IS CLEAN
 - VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

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



PART #	STUB	A	B	C
SC31EFIE07 / SC31EFIE07C	6" (150 mm)	9.6" (244 mm)	5.0" (127 mm)	0.5" (13 mm)
SC31EFIE08 / SC31EFIE08C	8" (200 mm)	11.0" (280 mm)	3.5" (89 mm)	0.5" (13 mm)
SC31EFIE09 / SC31EFIE09C	10" (250 mm)	12.2" (310 mm)	1.4" (36 mm)	0.5" (13 mm)
SC31EFIE10 / SC31EFIE10C	12" (300 mm)	13.3" (338 mm)	—	0.5" (13 mm)
SC31EFIE12B	12" (300 mm)	13.3" (338 mm)	—	0.5" (13 mm)
SC31EFIE12B	12" (300 mm)	13.3" (338 mm)	—	0.5" (13 mm)

PRE-FAB STUBS AT BOTTOM OF END CAP WITH FLANGE END WITH "B"
 PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
 PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "F"
 PRE-CORED END CAPS END WITH "9C"
 NOTE: ALL DIMENSIONS ARE NOMINAL.

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

City of Wilmington, North Carolina
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit #: _____
 Signed: _____

Approved Construction Plan
 Name: _____ Date: _____
 Planning: _____
 Traffic: _____
 Fire: _____



SITE PLAN
OFF THE HOOK YACHT SALES
N.E. CAPE FEAR RIVER FACILITY
 CAPE FEAR TOWNSHIP, NEW HANOVER COUNTY, NORTH CAROLINA
 OWNER: OTH REALTY, LLC
 1701 N. JEL WADE DR.
 WILMINGTON, N.C. 28401
 Date: 4-21-2022
 Scale: NTS
 Drawn: gw
 Checked: gw
 Project No: 4372

PRELIMINARY PLAN
ADS INFILTRATION TRENCH DETAILS

Sheet No: **TD-1**
 of **TD-2**

HANOVER DESIGN SERVICES, P.A.
 LANG SURVEYING, ENGINEERING & LAND PLANNERS
 1531 WALTON PARKWAY
 WILMINGTON, N.C. 28405
 LICENSE # P-12587

REV.	DATE	DESCRIPTION
1	4-21-2022	ISSUE FOR PERMITS
2	4-05-2022	REVISIONS TRIC COMMENTS
3	2-03-2022	REVISIONS TRIC COMMENTS

REV.	DATE	DESCRIPTION
1	4-21-2022	ISSUE FOR PERMITS
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REV.	DATE	DESCRIPTION
1	4-21-2022	ISSUE FOR PERMITS
2	4-05-2022	REVISIONS TRIC COMMENTS
3	2-03-2022	REVISIONS TRIC COMMENTS

TRENCH-1

PROPOSED LAYOUT		PROPOSED ELEVATIONS		PART TYPE	ITEM ON LAYOUT	DESCRIPTION	*INVERT ABOVE BASE OF CHAMBER	INVERT	MAX FLOW
285	STORMTECH SC-310 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)	40.33		A	12" BOTTOM PREFABRICATED END CAP, PART#: SC310EPE12B / TYP OF ALL 12" ISOLATOR ROW PLUS CONNECTIONS		0.90'	
100	STORMTECH SC-310 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)	34.33		B	12" BOTTOM PREFABRICATED END CAP, PART#: SC310EPE12B / TYP OF ALL 12" BOTTOM CONNECTIONS		0.90'	
14	STONE ABOVE (IN)	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)	33.83		C	12" x 8" REDUCING CONCENTRIC MOLDED FITTINGS (12" PIPE)	-0.75'	3.50'	
6	STONE BELOW (IN)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT)	33.83		D	12" x 8" REDUCING CONCENTRIC MOLDED FITTINGS (12" PIPE)	-0.75'	3.50'	
40	STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)	33.83		E	12" x 8" REDUCING CONCENTRIC MOLDED FITTINGS (12" PIPE)	-0.75'	3.50'	
11666 INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)		TOP OF STONE			F	12" x 8" REDUCING CONCENTRIC MOLDED FITTINGS (12" PIPE)	-0.75'	3.50'	
		TOP OF SC-310 CHAMBER			G	12" x 8" REDUCING CONCENTRIC MOLDED FITTINGS (12" PIPE)	-0.75'	3.50'	
		12" x 8" TOP MANIFOLD INVERT (8" PIPE)			H	18" x 12" ADS N-12 (18" PIPE)	-6.02'	5.5 CFS IN	
		12" x 8" TOP MANIFOLD INVERT (8" PIPE)			I	18" x 12" ADS N-12 (18" PIPE)	-6.02'	5.5 CFS IN	
		12" x 8" TOP MANIFOLD INVERT (8" PIPE)			J	CONCRETE STRUCTURE		1.8 CFS IN	
		12" x 8" TOP MANIFOLD INVERT (12" PIPE)			K	CONCRETE STRUCTURE		6.0 CFS OUT	
		12" x 8" TOP MANIFOLD INVERT (12" PIPE)			L	CONCRETE STRUCTURE		1.8 CFS IN	
		12" x 8" TOP MANIFOLD INVERT (12" PIPE)			M	CONCRETE STRUCTURE		5.5 CFS IN	
		12" x 8" TOP MANIFOLD INVERT (12" PIPE)			N	CONCRETE STRUCTURE		5.5 CFS IN	
		12" x 8" TOP MANIFOLD INVERT (12" PIPE)			O	4" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN			
433.6 SYSTEM PERIMETER (R)		BOTTOM OF STONE							

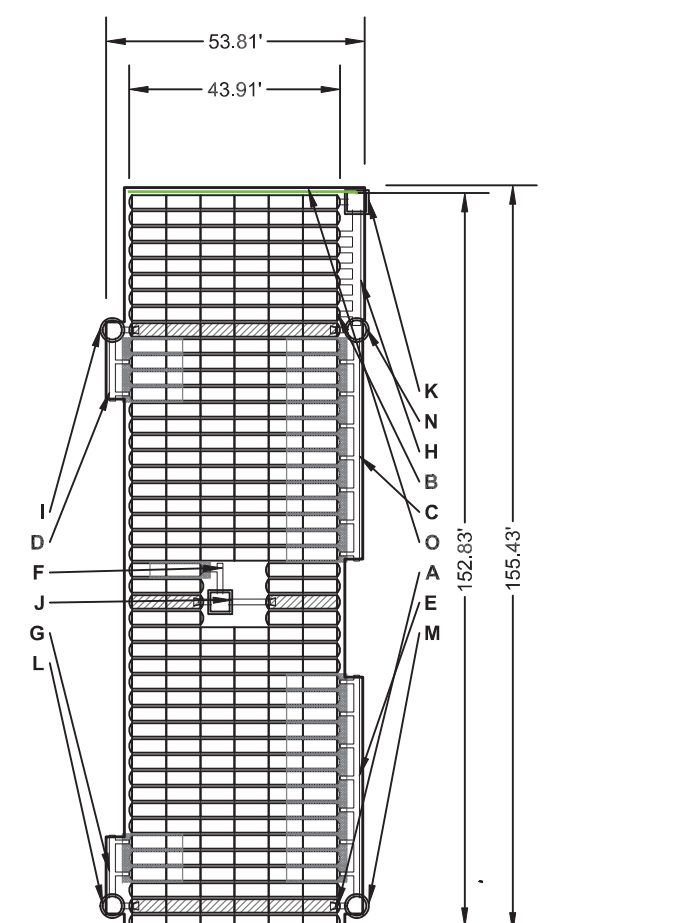
ISOLATOR ROW PLUS
(SEE DETAIL/TYP 4 PLACES)

PLACE MINIMUM 12.5' OF ADSPLUS125 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.



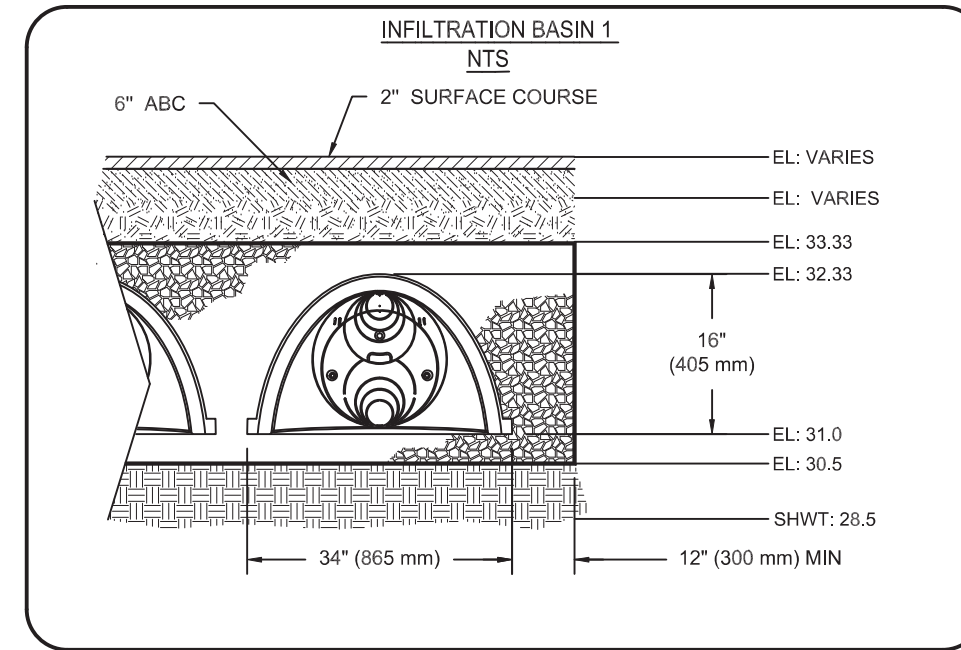
StormTech® Chamber System
4640 TRUMAN BLVD
WILMINGTON, NC 28403
1-800-733-7473

ADS

DESIGNER: DRW: CHK: DATE: PROJECT #:

YACHT AREA-1
WILMINGTON, NC

2 OF 5



TRENCH-2

PROPOSED LAYOUT		PROPOSED ELEVATIONS		PART TYPE	ITEM ON LAYOUT	DESCRIPTION	*INVERT ABOVE BASE OF CHAMBER	INVERT	MAX FLOW
285	STORMTECH SC-310 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)	40.33		A	12" BOTTOM PREFABRICATED END CAP, PART#: SC310EPE12B / TYP OF ALL 12" ISOLATOR ROW PLUS CONNECTIONS		0.90'	
100	STORMTECH SC-310 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)	34.33		B	12" BOTTOM PREFABRICATED END CAP, PART#: SC310EPE12B / TYP OF ALL 12" BOTTOM CONNECTIONS		0.90'	
14	STONE ABOVE (IN)	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)	33.83		C	12" x 8" REDUCING CONCENTRIC MOLDED FITTINGS (12" PIPE)	-0.75'	3.50'	
6	STONE BELOW (IN)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT)	33.83		D	12" x 8" REDUCING CONCENTRIC MOLDED FITTINGS (12" PIPE)	-0.75'	3.50'	
40	STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)	33.83		E	12" x 8" REDUCING CONCENTRIC MOLDED FITTINGS (12" PIPE)	-0.75'	3.50'	
11666 INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)		TOP OF STONE			F	12" x 8" REDUCING CONCENTRIC MOLDED FITTINGS (12" PIPE)	-0.75'	3.50'	
		TOP OF SC-310 CHAMBER			G	12" x 8" REDUCING CONCENTRIC MOLDED FITTINGS (12" PIPE)	-0.75'	3.50'	
		12" x 8" TOP MANIFOLD INVERT (8" PIPE)			H	18" x 12" ADS N-12 (18" PIPE)	-6.02'	5.5 CFS IN	
		12" x 8" TOP MANIFOLD INVERT (8" PIPE)			I	18" x 12" ADS N-12 (18" PIPE)	-6.02'	5.5 CFS IN	
		12" x 8" TOP MANIFOLD INVERT (8" PIPE)			J	CONCRETE STRUCTURE		1.8 CFS IN	
		12" x 8" TOP MANIFOLD INVERT (12" PIPE)			K	CONCRETE STRUCTURE		6.0 CFS OUT	
		12" x 8" TOP MANIFOLD INVERT (12" PIPE)			L	CONCRETE STRUCTURE		1.8 CFS IN	
		12" x 8" TOP MANIFOLD INVERT (12" PIPE)			M	CONCRETE STRUCTURE		5.5 CFS IN	
		12" x 8" TOP MANIFOLD INVERT (12" PIPE)			N	CONCRETE STRUCTURE		5.5 CFS IN	
		12" x 8" TOP MANIFOLD INVERT (12" PIPE)			O	4" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN			
433.6 SYSTEM PERIMETER (R)		BOTTOM OF STONE							

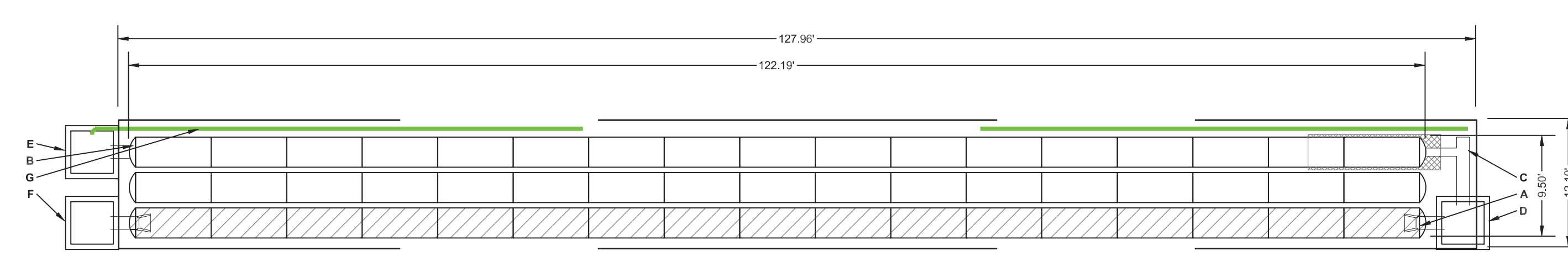
ISOLATOR ROW PLUS
(SEE DETAIL/TYP 4 PLACES)

PLACE MINIMUM 12.5' OF ADSPLUS125 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE.
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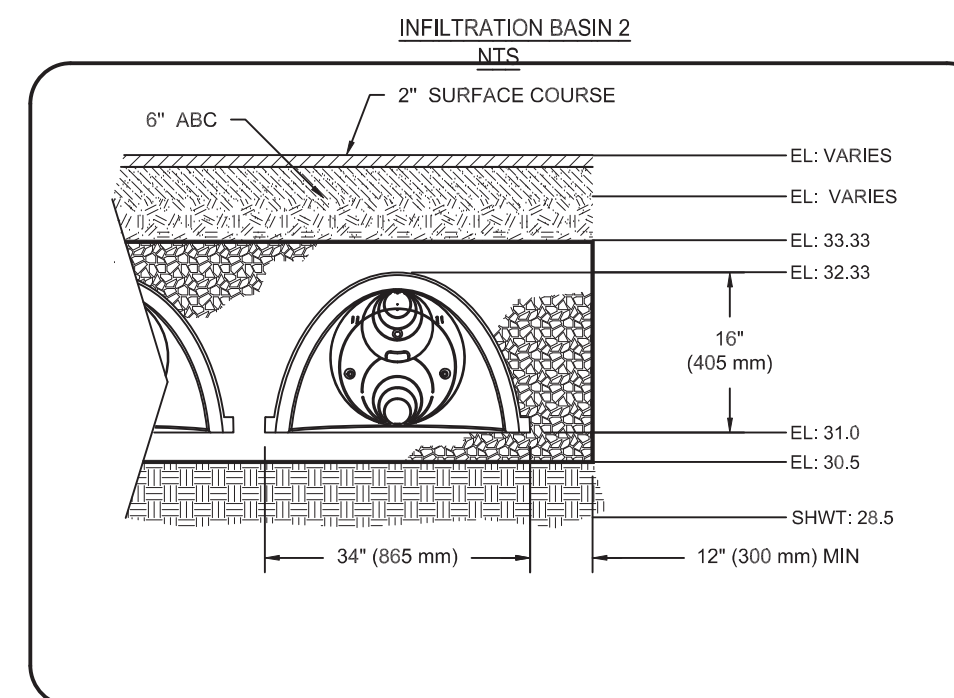
StormTech® Chamber System
4640 TRUMAN BLVD
WILMINGTON, NC 28403
1-800-733-7473

ADS

DESIGNER: DRW: CHK: DATE: PROJECT #:

YACHT AREA-2
WILMINGTON, NC

2 OF 5



HANOVER DESIGN SERVICES, P.A.
LAND SURVEYORS, ENGINEERS & LAND PLANNERS
LICENSE # 26203

REV	DATE	DESCRIPTION
3	4-21-2022	REVISIONS: TRC COMMENTS
2	4-05-2022	REVISIONS: TRC COMMENTS
1	2-03-2022	REVISIONS: TRC COMMENTS

PRELIMINARY PLAN

OFF THE HOOK YACHT SALES
CAPE FEAR TOWNSHIP, NEW HANOVER COUNTY, NORTH CAROLINA
N.E. CAPE FEAR RIVER FACILITY

OWNER: **OTH REALTY, LLC**
1701 N. JELLY WALK DR
WILMINGTON, N.C. 28401

Date: 10-12-21
Scale: AS SHOWN
Drawn: gw
Checked: gw
Project No: 4372

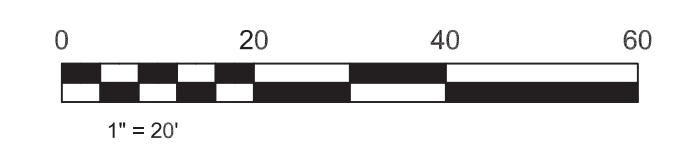
Sheets: **TD-2**
of **TD-2**

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

City of WILMINGTON
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____

Date: _____ Permit # _____
Signed: _____

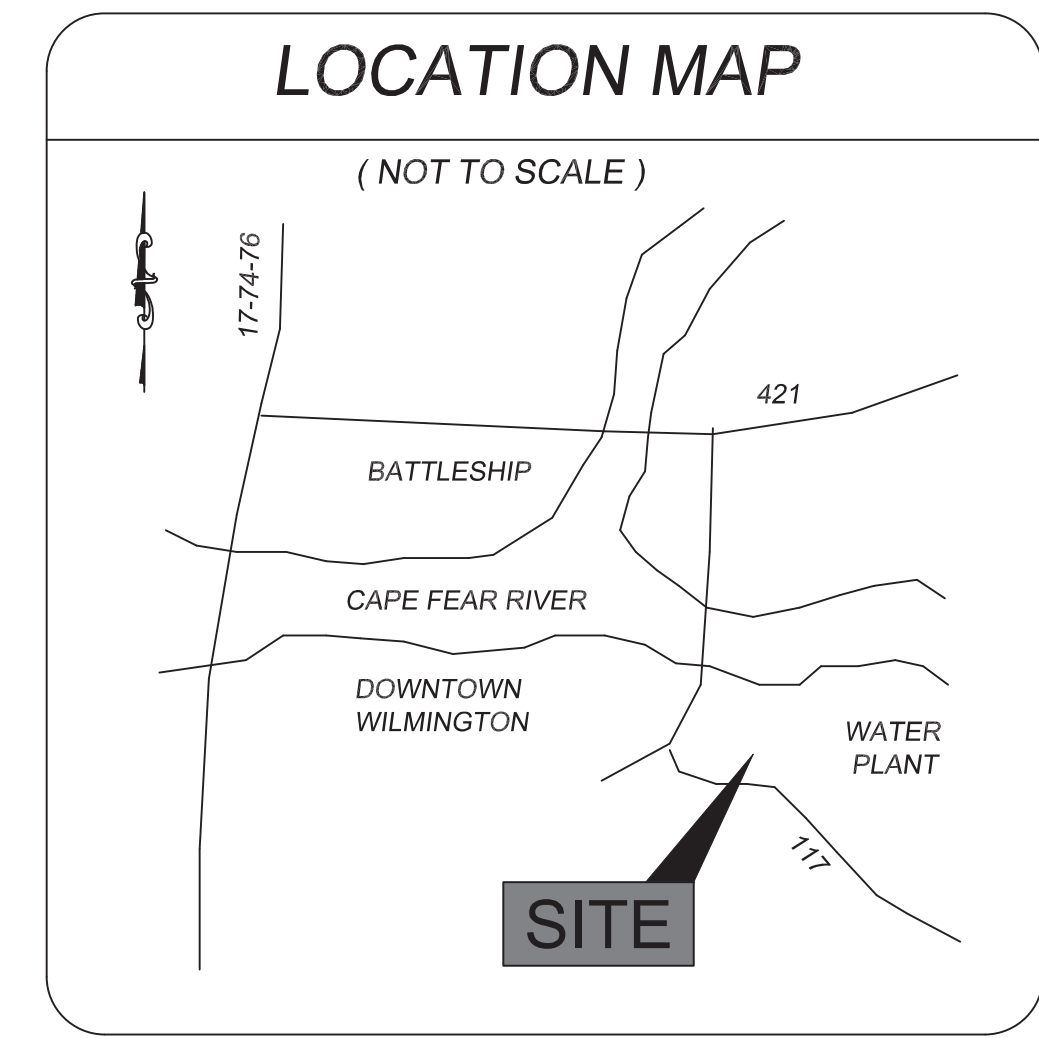


Off The Hook Yacht Sales

N. J.E.L WADE DRIVE

Erosion and Sediment Control

DISTURBED AREA = 2.61 ACRES



HANOVER DESIGN SERVICES, P.A.
LAND SURVEYORS, ENGINEERS & LAND PLANNERS
WILMINGTON, N.C. 28403
LICENSE # 02007

REVISIONS / TRC COMMENTS	DATE
3	4-21-2022
2	4-05-2022
1	2-03-2022

OWNER: OTH REALTY LLC
1701 N.J.E.L. WADE DR.
WILMINGTON N.C. 28401

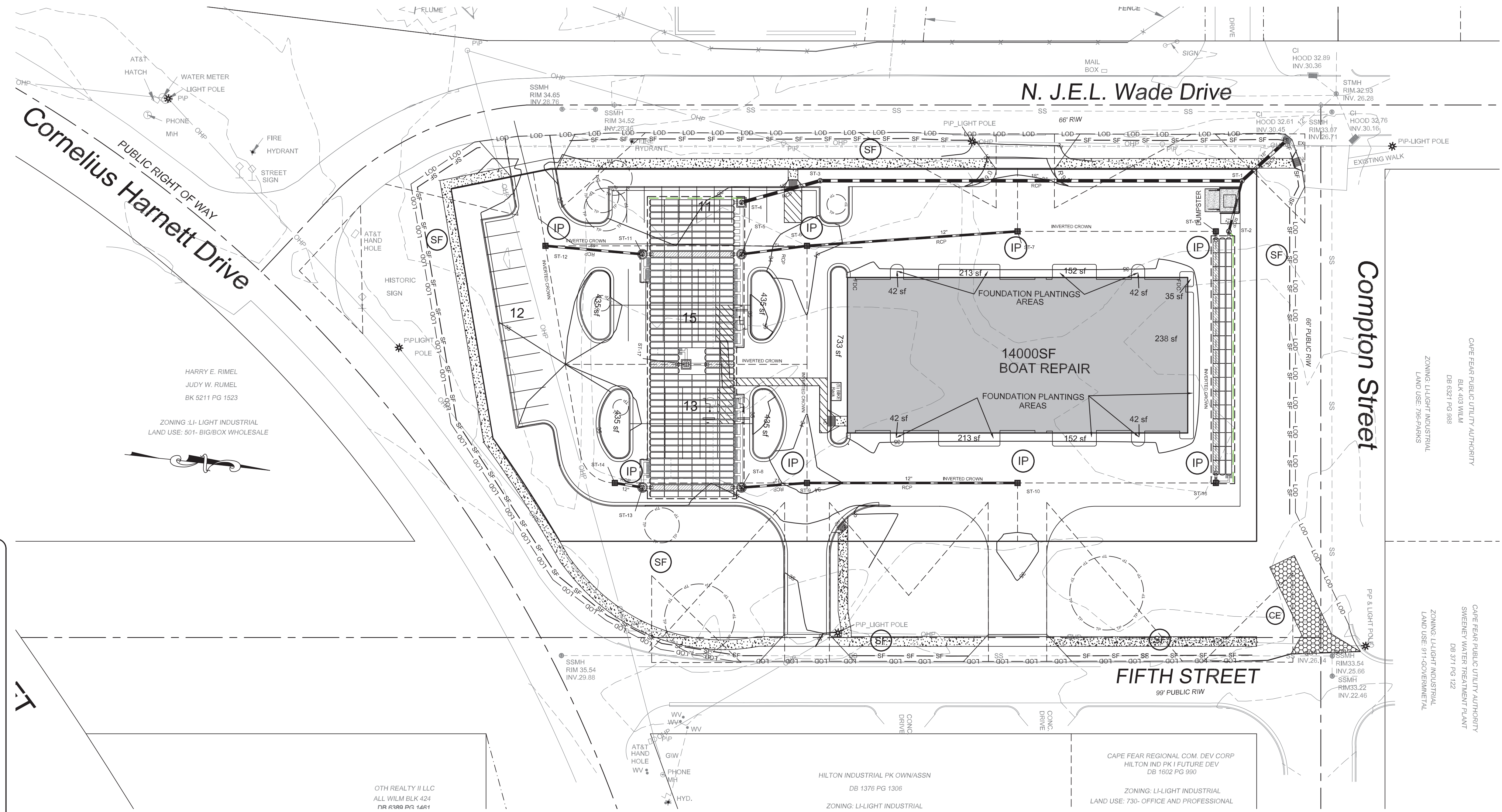
Date: 10-12-21
Scale: HORIZ: 1" = 30'
Drawn: gw/ahg
Checked: ahg
Project No: 4372

EROSION CONTROL

PRELIMINARY PLAN

Sheet No: **EC-1**
EC-4

- ### LEGEND
- WV = WATER VALVE
 - WM = WATER METER
 - C/O = SANITARY SEWER CLEAN OUT
 - INV. = INVERT
 - B/O = BLOW OFF ASSEMBLY
 - BFP = BACK FLOW PREVENTOR
 - GW = GUY WIRE
 - SWMH = STORM MANHOLE
 - GT. = GREASE TRAP
 - FIH = FIRE HYDRANT ASSEMBLY
 - I.S. = IRON SET
 - = SANITARY SEWER MH
 - = CURB INLET
 - = TREE
 - ⊙ = CURB RAMP
 - W = WATER SERVICE
 - ⊕ = SEWER CLEANOUT
 - ⊕ = WATER VALVE
 - ⊕ = SIGN LOCATION
 - HC = HANDICAP CROSSING
- PROPERTY LINE
BUILDING SETBACK
CENTERLINE
EASEMENT
COMPUTED PROPERTY LINE
EXISTING CONTOUR
PROPOSED CONTOUR
PROPOSED STORM DRAIN
PROPOSED 6" SANITARY SEWER SERVICE
PROPOSED FENCE
- IP = INLET PROTECTION
 - CE = CONSTRUCTION ENTRANCE (TYPICAL)
 - LOD = LOD (LIMITS OF DISTURBANCE)
 - SF = SF (SILT FENCE (TYPICAL))
 - CW = CONCRETE WASHOUT
 - TD = TEMPORARY DIVERSION
 - BIP = BLOCK INLET PROTECTION (TEMP)



- ### CONSTRUCTION SCHEDULE -
- Obtain approval of Plan and any necessary permits, and hold a pre-construction conference prior to commencing any work.
 - Flag work limits and stake-out measures for preliminary grading. Install silt fencing as shown.
 - Install Gravel Construction Entrance.
 - The storm drain system shall be extended early in the process as possible so runoff can be directed to the inlets with inlet protection. During clearing process and prior to any major grading and grubbing, the storm drain from existing manhole 1 shall be installed to ST-1 and set at 1" below design grade. Diversion shall be installed on the west side of site to direct runoff here. Once the storm system is installed the inlet shall be brought to the design grade and regular inlet protection may be installed.
 - Maintain Sediment fence, BIP, and inlet protection as this will be the main source of sediment control.
 - Immediately stabilize all non-construction areas.
 - Construct any other sediment control Practices shown, prior to rough grading site, stockpiling topsoil as necessary.
 - Establish final grades.
 - All erosion and sediment control Practices are to be inspected weekly and after any rainfall, and repaired as necessary.
 - 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 these design elevations.

- ### MAINTENANCE PLAN -
- All measures to be inspected weekly and after any rainfall event and needed repairs made immediately.
 - Sediment to be removed from behind the Silt Fence when it becomes 0.5' deep. Fencing to be repaired as needed to maintain a barrier.
 - Inspect inlets at least weekly and after each significant (1/2 inch or greater) rainfall event. Repair any defects. Replace stone as needed per specification.
 - All seeded areas shall be fertilized, mulched, and reseeded as necessary, according to specifications provided, to maintain a suitable vegetative cover.
 - 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.

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

SITE AREA DESCRIPTION	STABILIZATION
Perimeter dikes, swales, ditches and slopes	7 DAYS
High Quality Water (HQW) Zones	7 DAYS
Slopes steeper than 3:1	7 DAYS
Slopes 3:1 or flatter	14 DAYS
All other areas with slopes flatter than 4:1	14 DAYS

GENERAL NOTES:

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

***NOTE WELL:
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.

NOTE WELL:
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.

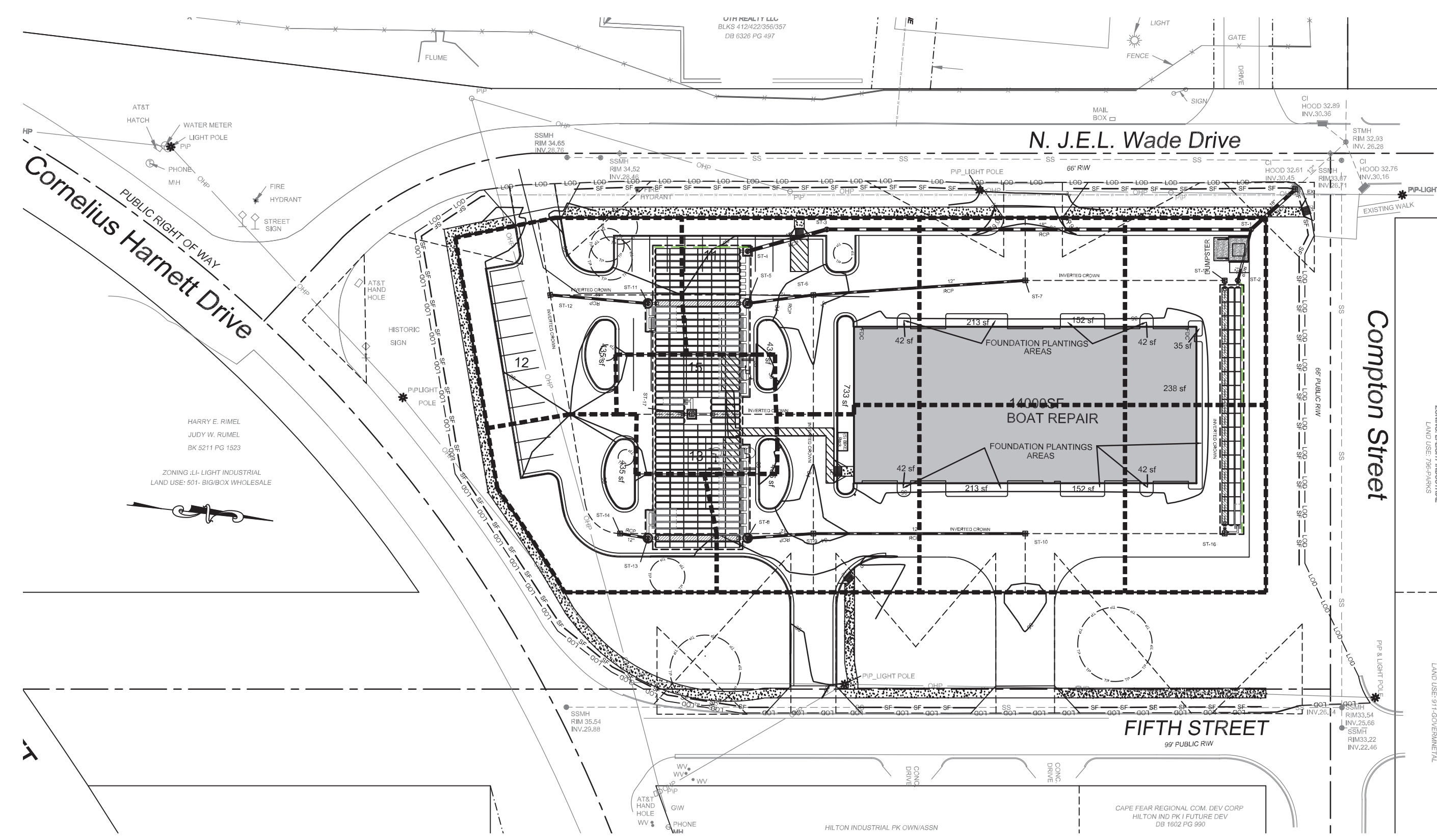
NOTE WELL:
MULTIPLE UTILITIES SHOWN GRAPHICALLY IN PROFILE. DEVIATIONS NOTED AS SHOWN. MAINTAIN 36" COVER AND USE DIP AT CROSSINGS WHEN REQUIRED. SEE COVER SHEET NOTES.

Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

Approved Construction Plan

Name _____ Date _____

Planning _____
Traffic _____
Fire _____



Permanent Seeding
Specification # 6.10 - Specifications

Seeded Requirements
Establishment of vegetation should not be attempted on sites that are unsuitable due to inappropriate soil texture (Table 6.11a), poor drainage, concentrated flow, or steepness of slope until measures have been taken to correct these problems.
To maintain a good stand of vegetation, the soil must meet certain minimum requirements as a growth medium. The existing soil should have these criteria:
- Enough fine-grained (silt and clay) material to maintain adequate moisture and nutrient supply (available water capacity of at least .05 inches water to 1 inch of soil).
- Sufficient pore space to permit root penetration.
- Sufficient depth of soil to provide adequate root zone. The depth to rock or impermeable layers such as horizons 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 and other debris to be left on slopes steeper than 3:1 if they are to be hydroseeded.
- If any of the above criteria are not met, i.e., if the existing soil is too coarse, dense, shallow or acidic to foster vegetation-special amendments are required. The soil conditions described below may be beneficial or preferable. Topsoil may be applied in accordance with Practice 6.04, Topsoiling.

Soil Conditions
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 Considerations).
Fast-Appropriate types are sphagnum moss peat, hynum moss peat, reedbed peat, or peat humus, all from fresh-water sources. Peat should be amended and conditioned in storage piles for at least 6 months after excavation.
Sand-clean and free of toxic materials.
Vermiculite-horticultural grade and free of toxic substances.
Rotted manure-stable of cattle manure not containing undue amounts of straw or other bedding materials.
Thoroughly rotted sawdust-free of stones and debris. Add 6 lb. of nitrogen to each cubic yard.
Sludge-treated sewage and industrial sludges are available in various forms; these should be used only in accordance with local, State and Federal regulations.
Species Selection
Use the key to Permanent Seeding Mixtures (Table 6.11a) to select the most appropriate seeding mixture based on the general site and maintenance conditions. A listing of species, including scientific names and characteristics, is given in Appendix 6.02.

Seeded Preparation
Install necessary mechanical erosion and sedimentation control practices before seeding, and complete grading according to the approved plan.
Lime and fertilizer needs should be determined by soil tests. Soil testing is performed at the discretion of the North Carolina state Agricultural Experiment Station. Directions, sample cards, and information sheets are available through county agricultural extension offices or from NCSU. Because the NCSU soil testing lab requires 1-8 weeks for sample turn-around, sampling must be planned well in advance of final grading. Testing is also done by commercial laboratories.
When soil test are not available, follow rates suggested on the individual specification sheet for the seeding mix chosen (Tables 6.11a through 6.11c). Application rates usually fall into the following ranges:
- Ground agricultural limestone
- Light-textured, sandy soils: 1-1 1/2 tons/acre
- Heavy textured, clayey soils: 2-3 tons/acre
- Fertilizer
- Grasses: 800-1200 lb./acre of 10-10-10 (or the equivalent)
- Grass-legume mixtures: 800-1200 lb./acre of 10-10-10 (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.
Rough surfaces according to Practice 6.03, Surface Roughening.
Complete seeded preparation by breaking up large clods and raking into a smooth, uniform surface (slope less than 3:1) in or level depressions than can collect water. Broadcast seed into a freshly loosened seedbed that has not been seeded by rainfall.

Table 6.10a - Temporary Seeding Recommendation for Late Winter and Early Spring Seeding Mixture
Species - Ryegrass, Annual lespedeza (Kobe in Piedmont and Coastal Plain)
Rate (lb/acre) - 120
Ornamental lespedeza during duration of temporary cover is not to extend beyond June
Seeding dates-Coastal Plain - Dec. 1 - Apr. 15
Soil amendments-Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.
Mulch-Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.
Maintenance-Refer to Table 6.10b for details. Re-seed, re-fertilize and mulch immediately following erosion or other damage.

Table 6.10b - Temporary Seeding Recommendations for Summer Seeding Mixture
Species-German millet
Rate(lb/acre) - 40
Seeding dates-Coastal Plain- Apr. 15-Aug. 15
Soil amendments-Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.
Mulch -Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.
Maintenance-Refer to Table 6.10a for details. Re-seed, re-fertilize and mulch immediately following erosion or other damage.

Table 6.10c - Temporary Seeding Recommendation for Fall Seeding Mixture
Species-Ryegrass
Rate(lb/acre) - 120
Seeding dates - Coastal Plain and Piedmont-Aug 15 - Dec. 30
Soil amendments - Follow soil tests or apply 2,000 lb/acre ground agricultural limestone and 1,000 lb/acre 10-10-10 fertilizer.
Mulch-Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.
Maintenance- Repair and re-fertilize damaged areas immediately. Topdress with 50 lb/acre of nitrogen in March, if it is necessary to extend temporary cover beyond June 15. Covered with 50 lb/acre Kobe (Piedmont and Coastal Plain)

Table 6.11a - Seeding No. 4CP for
Soil amendments - Apply lime and fertilizer according to soil test, or apply 300 lb/acre 10-10-10.
Spraying - Plant sprigs in furrows with a tractor-drawn transplanter, or broadcast by hand.
Furrows should be 4-6 inches deep and 21/2 apart. Place sprigs about 2 ft apart in the row with one end at or above ground level (Figure 6.11a).
Broadcast at rates shown above, and press sprigs into the top 1/2 inches of soil with a disk set straight so that sprigs are not brought back to the surface.
Mulch - Do not mulch.
Maintenance - Fertilize very sparingly: 20 lb/acre nitrogen in spring with no phosphorus. Centipedegrass cannot tolerate high pH or excess fertilizer.

Table 6.11b - Seeding No. 5CP for: Well-Drained Sandy Loams to Dry Sands; Low Maintenance
Seeding Mixture
Species Rate (lb/acre)
Common Bermudagrass 50
Perennial Ryegrass 30
German millet 10

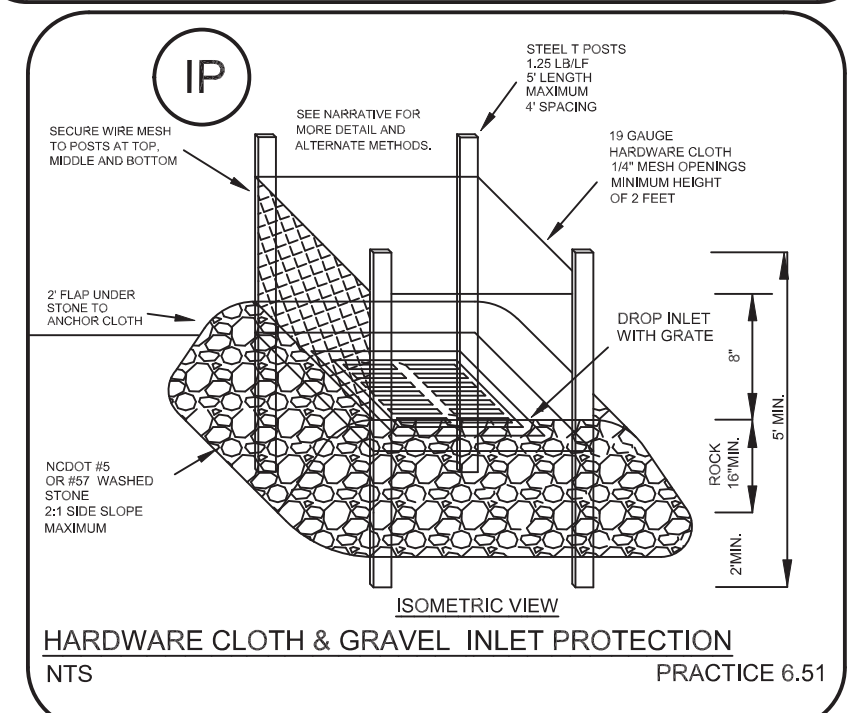
Seeding notes
1. Where a neat appearance is desired, omit ryegrass.
2. Use common Bermudagrass only on isolated sites where it cannot become a pest.
Bermudagrass may be replaced with 5 lb/acre centipedegrass.
Seeding dates - Apr. 1 - July 15
Soil amendments - Apply lime and fertilizer according to soil tests, or apply 3,000 lb/acre ground agricultural limestone and 500 lb/acre 10-10-10 fertilizer.
Mulch - Apply 4,000 lb/acre grain straw or equivalent cover of another suitable mulch. Anchor by tacking with asphalt, netting or by staking with a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.
Maintenance - Refer to the following Appendix, with 50 lb/acre nitrogen. Repeat as growth requires. May be mowed only once a year. Where a neat appearance is desired, omit ryegrass and mow as often as needed.

Table 6.11c - Seeding No. 7CP for: Grass-lined Channels; Coastal Plain
Seeding Mixture
Species - Common Bermudagrass - Rate - 40-80 (1/2 to 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 limestone and 500 lb/acre 10-10-10 fertilizer.
Mulch - Use fill, excelsior matting, or other effective erosion fixing material to cover the bottom of channels and ditches. The lining should extend down the highest anticipated depth flow. On channel side slopes above the height, and in ditches not requiring temporary linings, apply 4,000 lb/acre grain straw and anchor straw by staking netting over the top.
Mulch and anchoring materials must be allowed to wash down slopes where they can be placed.
Maintenance - A minimum of 3 weeks is required for establishment. Inspect and repair much frequently. Refer to the following Appendix, with 50 lb/acre nitrogen.
Refer to Appendix 6.02 for botanical names.

Construction Road Stabilization
Specification # 6.00 - 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.
- Locate parking areas in naturally flat areas if they are available. Keep grades sufficient for drainage but generally not more than 2 to 3%.
- Provide surface drainage and direct excess runoff to stable areas by using water bars or turnoffs (Refer to Surface Control Measures).
- Keep cuts and fills at 2:1 or flatter for safety and stability and to facilitate establishment of vegetation and maintenance.
- Spread a 4-inch course of ABC crushed stone evenly over the full width of the road and smooth to uniform depth.
- Where seepage areas or excessively wet areas must be crossed, install subsurface drains or geotextile fabric dikes before placing the crushed stone (Practice 6.03, Surface Stabilization).
- Vegetate all roadside ditches, cuts, fills and other disturbed areas with appropriate vegetation as soon as grading is complete (Reference: Surface Stabilization).
- Provide appropriate sediment control measures to prevent off-site sedimentation.

Maintenance
Inspect construction roads and parking areas periodically for condition of surface. Topdress with new gravel as needed. Check road ditches and other seepage areas for erosion and sedimentation after runoff-producing rains. Maintain all vegetation in a healthy, vigorous condition. Sediment-producing areas should be treated immediately.



Sediment Basin
Specification # 6.01 - Construction Specifications

- Site preparation-Clear, grub and strip topsoil from areas under the embankment 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 material to facilitate sediment removal.
- Excavation-Excavate to the depth and dimensions shown on the plan and to the elevation of the riser crest. Make the minimum bottom width wide enough to permit operation of excavation and compaction equipment but in no case less than 2 ft. Make side slopes of the trench no steeper than 1:1. Compaction requirements on the same as those for the embankment. Keep the trench dry during backfilling and compaction operations.
- Embankment-Take fill material from the approved area shown on the plans. It should be clean mineral soil, free of rocks, woody vegetation, roots and other objectionable material. Scarify areas on which fill is placed before placing fill. The fill material must contain sufficient material so it can be formed by hand into a ball without crumbling. If water can be squeezed out of the ball, 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 rolling the construction hauling 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 settling.
- Construction-Severely attach the tube 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 on-top-seepage areas. Place the fill material around the pipe in layers and compact it under and around the pipe to at least the same density as the adjacent embankment. Core holes to note the pipe from firm contact with its foundation when compacting under the pipe haunches.
- Place a minimum depth of 6 inches of hand-compacted backfill over the pipe before placing a 1/4-inch coarse aggregate. Anchor the riser in place by concrete or other suitable means to prevent flotation. In no case should the pipe be installed by cutting a trench through the dam after the embankment is complete.
- Emergency pathway-Install the emergency pathway in unobstructed soil. The embankment is complete. grade, design width, and entrance and exit concrete slopes are critical to the success of emergency pathway.
- Discharge water into the basin in a manner to prevent erosion.
- Place clean gravel (NO. 56 or #87 stone) on a 2:1 slope with a height of 18 inches around the pipe, and smooth to an even grade.
- Once the contributing drainage area has been stabilized, remove the accumulated sediment, and install final grades.
- Compact the area properly and stabilize with groundcover.

Maintenance
Inspect the barrier after each significant rain and make repairs as 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 cloth during sediment removal.
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.

Temporary Gravel Construction Entrance/Exit
Specification # 6.05 - Construction Specifications

- Clear the entrance and exit area of all vegetation, roots and other objectionable material and properly grade it.
- Place the gravel on the specific grade and dimensions shown on the plans smooth it.
- Provide drainage to carry water to a sediment trap or other suitable outlet.
- Use geotextile fabric because they improve stability of the foundation in locations subject to seepage or high water tables.

Maintenance
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 clean it out as necessary. Immediately remove all objectionable materials spilled, washed, or trodden onto public roadways.

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

A fabric, use a 1/4-inch mesh 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 slides, use steel 1/2 inch x 1/2 inch x 1/2 inch with a minimum length of 5 ft, driven 2 ft into the ground, maximum spacing of 4 feet.

Specifications

- Uniformly grade a shallow depression approaching the inlet.
- Drive 5-foot steel posts 2 feet into the ground surrounding the inlet.
- Space posts evenly around the perimeter of the inlet, at a maximum of 4 feet apart.
- Support the posts with wire mesh hardware cloth. Secure the wire mesh to the steel posts at the top, middle, and bottom. Flacing a 2-foot anchoring strip of the mesh under the gravel is recommended.
- Place clean gravel (NO. 56 or #87 stone) on a 2:1 slope with a height of 18 inches around the wire, and smooth to an even grade.
- Once the contributing drainage area has been stabilized, remove the accumulated sediment, and install final grades.
- Compact the area properly and stabilize with groundcover.

Maintenance
Inspect the barrier after each significant rain and make repairs as 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 cloth during sediment removal.
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.

Construction Road Stabilization
Specification # 6.00 - 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.
- Locate parking areas in naturally flat areas if they are available. Keep grades sufficient for drainage but generally not more than 2 to 3%.
- Provide surface drainage and direct excess runoff to stable areas by using water bars or turnoffs (Refer to Surface Control Measures).
- Keep cuts and fills at 2:1 or flatter for safety and stability and to facilitate establishment of vegetation and maintenance.
- Spread a 4-inch course of ABC crushed stone evenly over the full width of the road and smooth to uniform depth.
- Where seepage areas or excessively wet areas must be crossed, install subsurface drains or geotextile fabric dikes before placing the crushed stone (Practice 6.03, Surface Stabilization).
- Vegetate all roadside ditches, cuts, fills and other disturbed areas with appropriate vegetation as soon as grading is complete (Reference: Surface Stabilization).
- Provide appropriate sediment control measures to prevent off-site sedimentation.

Maintenance
Inspect construction roads and parking areas periodically for condition of surface. Topdress with new gravel as needed. Check road ditches and other seepage areas for erosion and sedimentation after runoff-producing rains. Maintain all vegetation in a healthy, vigorous condition. Sediment-producing areas should be treated immediately.

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

WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

Approved Construction Plan	
Name	Date
Planning	_____
Traffic	_____
Fire	_____



Table 6.11a - Seeding No. 4CP for
Soil amendments - Apply lime and fertilizer according to soil test, or apply 300 lb/acre 10-10-10.
Spraying - Plant sprigs in furrows with a tractor-drawn transplanter, or broadcast by hand.
Furrows should be 4-6 inches deep and 21/2 apart. Place sprigs about 2 ft apart in the row with one end at or above ground level (Figure 6.11a).
Broadcast at rates shown above, and press sprigs into the top 1/2 inches of soil with a disk set straight so that sprigs are not brought back to the surface.
Mulch - Do not mulch.
Maintenance - Fertilize very sparingly: 20 lb/acre nitrogen in spring with no phosphorus. Centipedegrass cannot tolerate high pH or excess fertilizer.

Table 6.11b - Seeding No. 5CP for: Well-Drained Sandy Loams to Dry Sands; Low Maintenance
Seeding Mixture
Species Rate (lb/acre)
Common Bermudagrass 50
Perennial Ryegrass 30
German millet 10

Seeding notes
1. Where a neat appearance is desired, omit ryegrass.
2. Use common Bermudagrass only on isolated sites where it cannot become a pest.
Bermudagrass may be replaced with 5 lb/acre centipedegrass.
Seeding dates - Apr. 1 - July 15
Soil amendments - Apply lime and fertilizer according to soil tests, or apply 3,000 lb/acre ground agricultural limestone and 500 lb/acre 10-10-10 fertilizer.
Mulch - Apply 4,000 lb/acre grain straw or equivalent cover of another suitable mulch. Anchor by tacking with asphalt, netting or by staking with a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.
Maintenance - Refer to the following Appendix, with 50 lb/acre nitrogen. Repeat as growth requires. May be mowed only once a year. Where a neat appearance is desired, omit ryegrass and mow as often as needed.

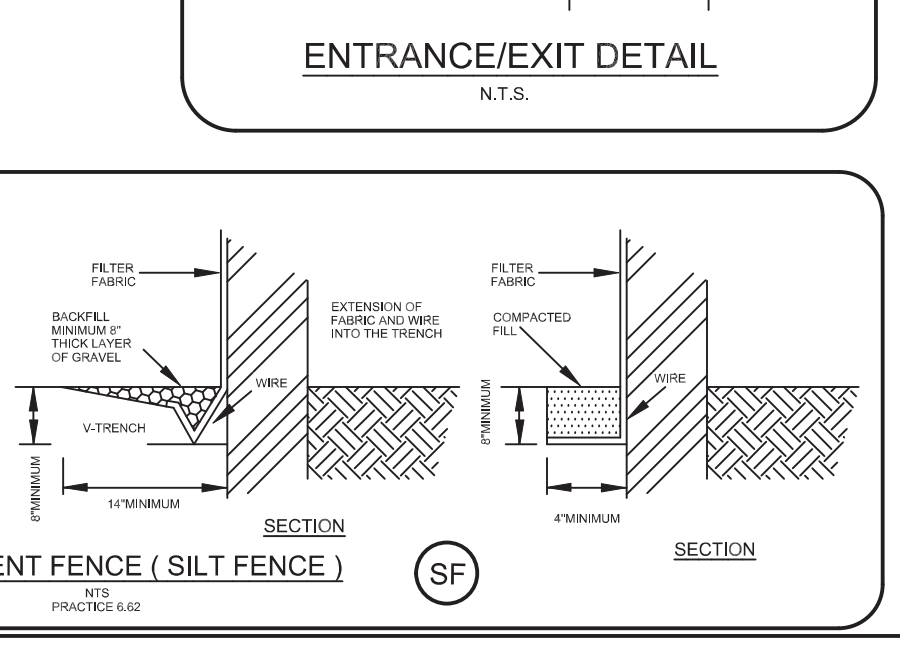


Table 6.11c - Seeding No. 7CP for: Grass-lined Channels; Coastal Plain
Seeding Mixture
Species - Common Bermudagrass - Rate - 40-80 (1/2 to 1,000 ft)
Seeding dates - Coastal Plain; Apr - July
Soil amendments - Apply lime and fertilizer according to soil tests, or apply 3,000 lb/acre ground agricultural limestone and 500 lb/acre 10-10-10 fertilizer.
Mulch - Use fill, excelsior matting, or other effective erosion fixing material to cover the bottom of channels and ditches. The lining should extend down the highest anticipated depth flow. On channel side slopes above the height, and in ditches not requiring temporary linings, apply 4,000 lb/acre grain straw and anchor straw by staking netting over the top.
Mulch and anchoring materials must be allowed to wash down slopes where they can be placed.
Maintenance - A minimum of 3 weeks is required for establishment. Inspect and repair much frequently. Refer to the following Appendix, with 50 lb/acre nitrogen.
Refer to Appendix 6.02 for botanical names.

Construction Road Stabilization
Specification # 6.00 - 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.
- Locate parking areas in naturally flat areas if they are available. Keep grades sufficient for drainage but generally not more than 2 to 3%.
- Provide surface drainage and direct excess runoff to stable areas by using water bars or turnoffs (Refer to Surface Control Measures).
- Keep cuts and fills at 2:1 or flatter for safety and stability and to facilitate establishment of vegetation and maintenance.
- Spread a 4-inch course of ABC crushed stone evenly over the full width of the road and smooth to uniform depth.
- Where seepage areas or excessively wet areas must be crossed, install subsurface drains or geotextile fabric dikes before placing the crushed stone (Practice 6.03, Surface Stabilization).
- Vegetate all roadside ditches, cuts, fills and other disturbed areas with appropriate vegetation as soon as grading is complete (Reference: Surface Stabilization).
- Provide appropriate sediment control measures to prevent off-site sedimentation.

Maintenance
Inspect construction roads and parking areas periodically for condition of surface. Topdress with new gravel as needed. Check road ditches and other seepage areas for erosion and sedimentation after runoff-producing rains. Maintain all vegetation in a healthy, vigorous condition. Sediment-producing areas should be treated immediately.

REV. NO.	REVISIONS / TRC COMMENTS	DATE
3	REVISIONS / TRC COMMENTS	4-21-2022
2	REVISIONS / TRC COMMENTS	4-05-2022
1	REVISIONS / TRC COMMENTS	2-03-2022

Stormwater and Erosion & Sediment Control Details
OFF THE HOOK YACHT SALES
N.E. CAPE FEAR RIVER FACILITY
CAPE FEAR TOWNSHIP, NEW HANOVER COUNTY, NORTH CAROLINA

OWNER: OTH REALTY LLC
1701 N. J.E.L. WADE DR.
WILMINGTON, N.C. 28401

HANOVER DESIGN SERVICES, P.A.
LAND SURVEYORS, ENGINEERS & LAND PLANNERS
1123 FLORISSANT DRIVE
WILMINGTON, N.C. 28403
PHONE: (910) 343-8002
LICENSE # C-5597

Date: 10-12-21
Scale: 1"=50'
Drawn: AHG
Checked: AHG
Project No: 4372
Sheet No: EC-2
EC-4

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 jurisdiction.

SECTION E: GROUND STABILIZATION

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) Areas with slopes 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
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
- 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.
- Provide ponding area for containment of treated Stormwater before discharging offsite.
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- 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 has been corrected.
- 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

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- 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.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

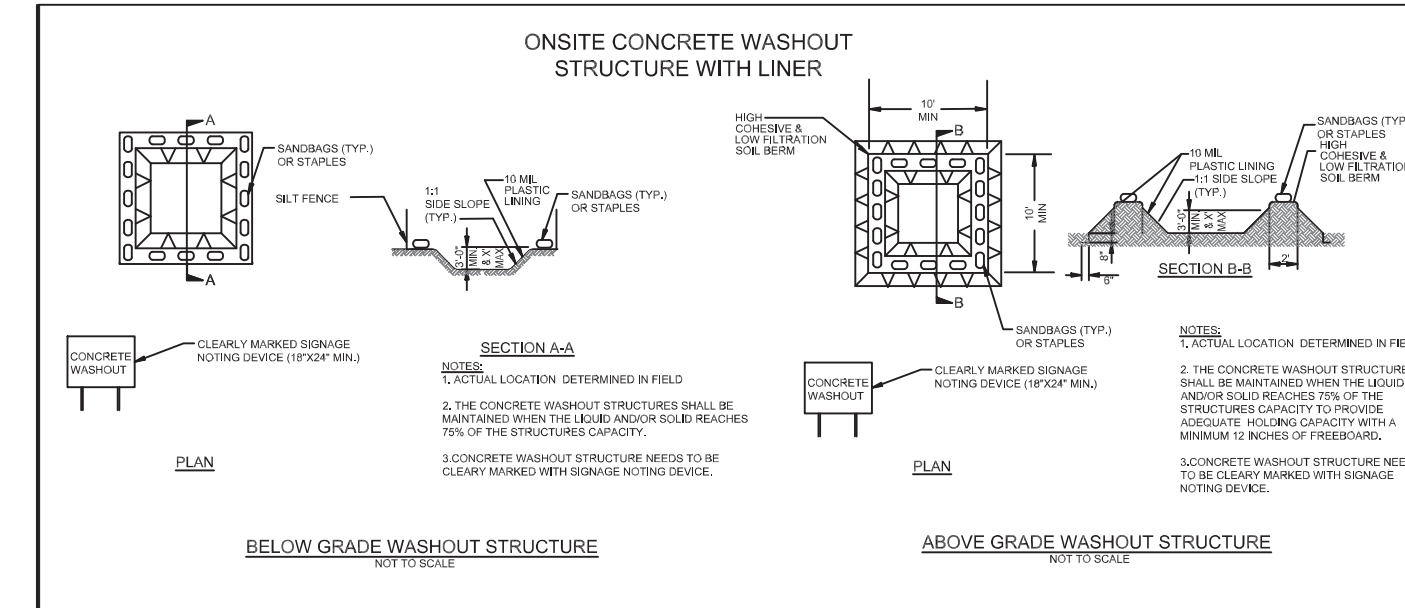
- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- 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.
- 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.
- Provide stable stone access point when feasible.
- 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

- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- 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.
- 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.
- Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

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

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

PRELIMINARY PLAN

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

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

Approved Construction Plan
Name _____ Date _____
Planning _____
Traffic _____
Fire _____

REV. NO.	REVISIONS	DATE
3	REVISIONS \ TRC COMMENTS	4-21-2022
2	REVISIONS \ TRC COMMENTS	4-05-2022
1	REVISIONS \ TRC COMMENTS	2-03-2022

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Stormwater and Erosion & Sediment Control Details
OFF THE HOOK YACHT SALES
N.E. CAPE FEAR RIVER FACILITY
CAPE FEAR TOWNSHIP, NEW HANOVER COUNTY, NORTH CAROLINA

OWNER:
OTH REALTY LLC
1701 N.J.E.L. WADE DR.
WILMINGTON N.C. 28401

HANOVER DESIGN SERVICES, P.A.
LAND SURVEYORS, ENGINEERS & LAND PLANNERS
1123 FLORIAN PARKWAY
WILMINGTON, N.C. 28403
PHONE: (910) 343-8002
LICENSE # C-2597

Date: 10-12-21
Scale: N/A
Drawn: AHG
Checked: AHG
Project No: 4372
Sheet No: EC-3
EC-4

**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 or 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 \geq 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. 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 \geq 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. 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 \geq 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event \geq 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)(c) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. 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). 2. 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.

PART III, 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 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	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 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 deposition in a stream or wetland	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. • Within 7 calendar days, a report that contains a description of the 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 release of hazardous substances per Item 1(b)-(c) above	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> • A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. • Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(l)(7)]	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. • Within 7 calendar days, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(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

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

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

Approved Construction Plan
Name _____ Date _____
Planning _____
Traffic _____
Fire _____

REV. NO.	REVISIONS	DATE
3	REVISIONS \ TRC COMMENTS	4-21-2022
2	REVISIONS \ TRC COMMENTS	4-05-2022
1	REVISIONS \ TRC COMMENTS	2-03-2022

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PRELIMINARY PLAN

Stormwater and Erosion & Sediment Control Details
OFF THE HOOK YACHT SALES
N.E. CAPE FEAR RIVER FACILITY
CAPE FEAR TOWNSHIP, NEW HANOVER COUNTY, NORTH CAROLINA

Date: 10-12-21
Scale: N/A
Drawn: AHG
Checked: AHG
Project No: 4372

OWNER:
OTH REALTY LLC
1701 N.J.E.L. WADE DR.
WILMINGTON N.C. 28401

HANOVER DESIGN SERVICES, P.A.
LAND SURVEYORS, ENGINEERS & LAND PLANNERS
1123 FLORAL PARKWAY
WILMINGTON, N.C. 28403
PHONE: (910) 343-8102
LICENSE # C-6897

Sheet No:
EC-4
EC-4

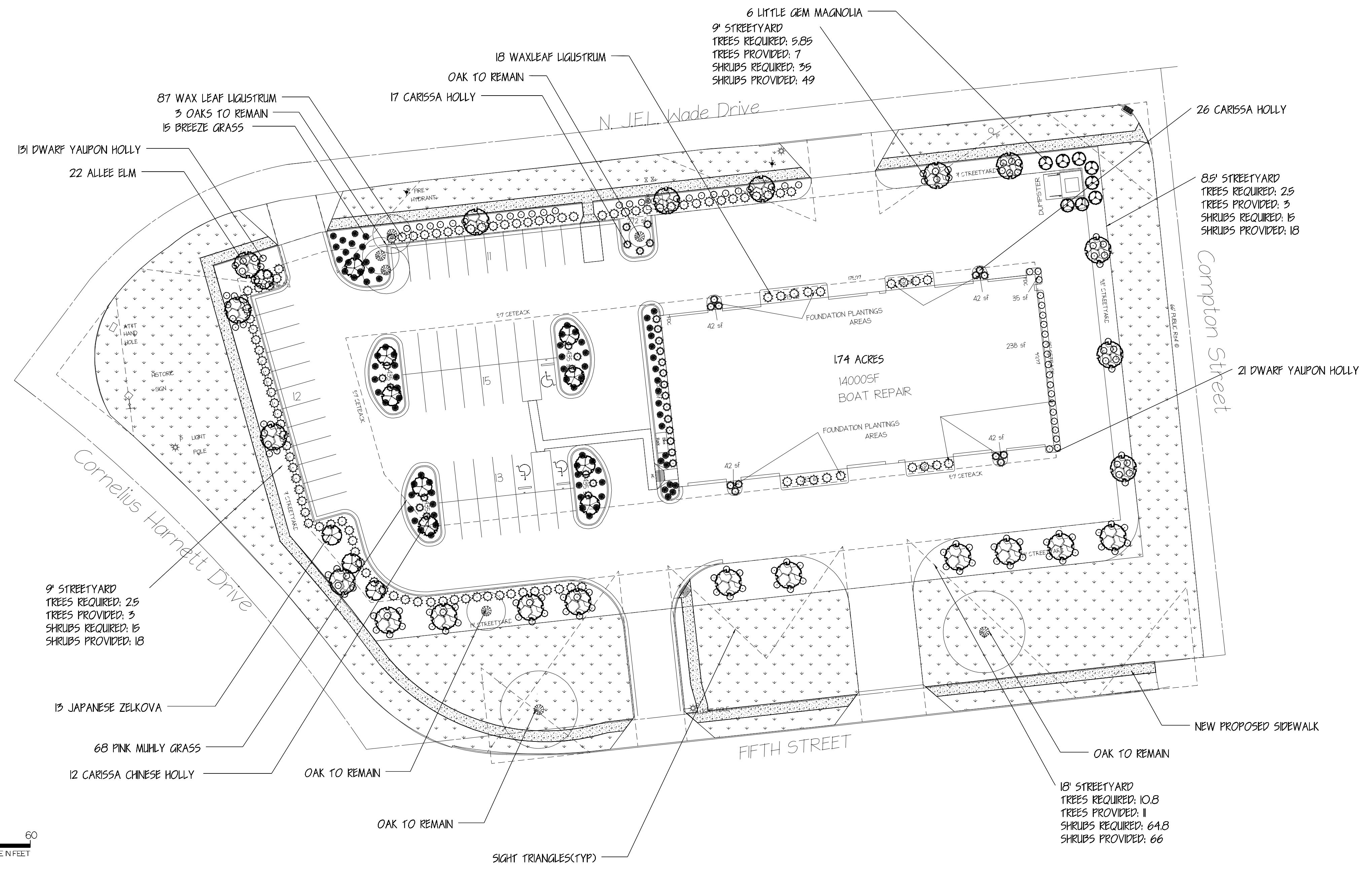
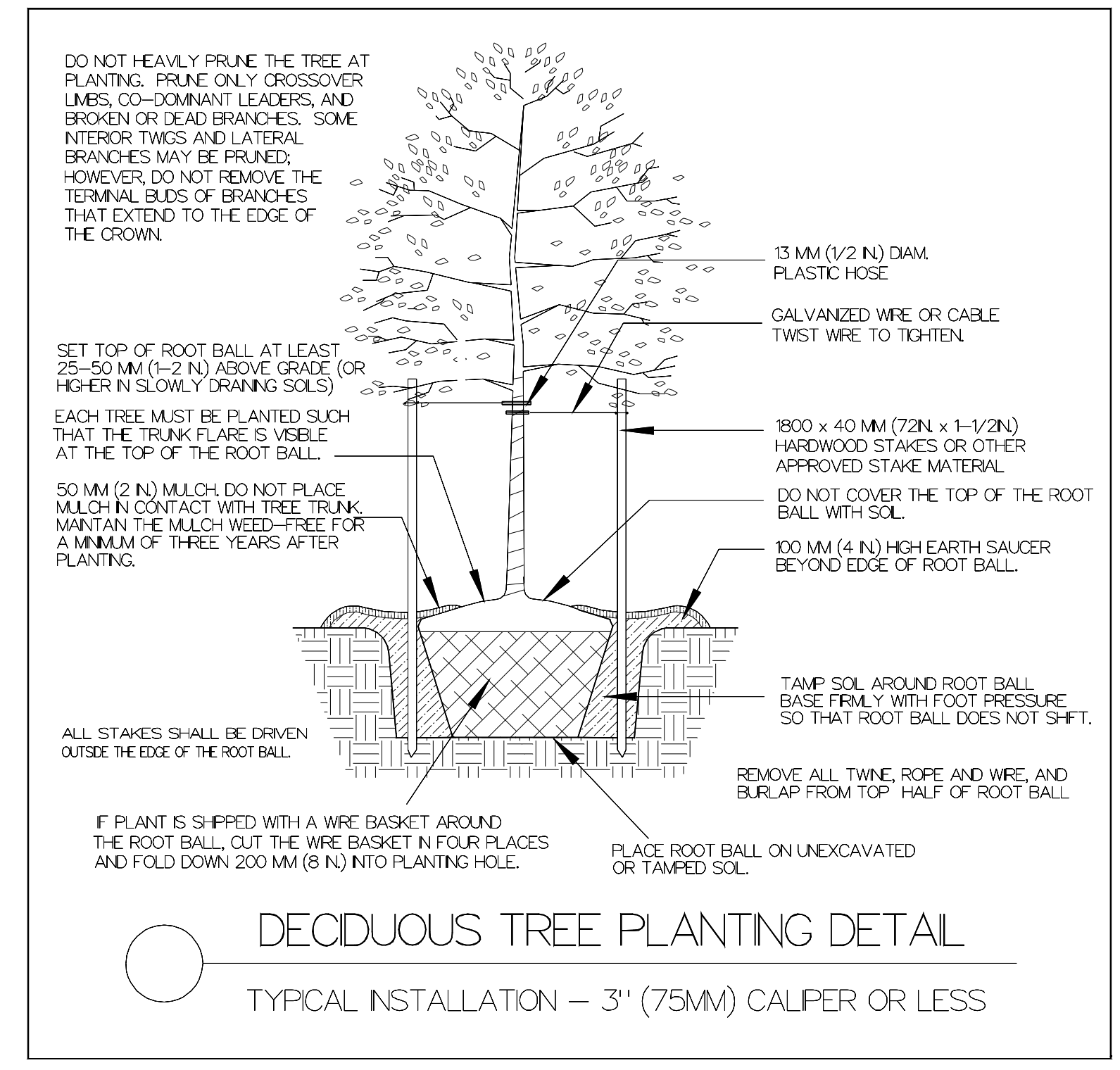
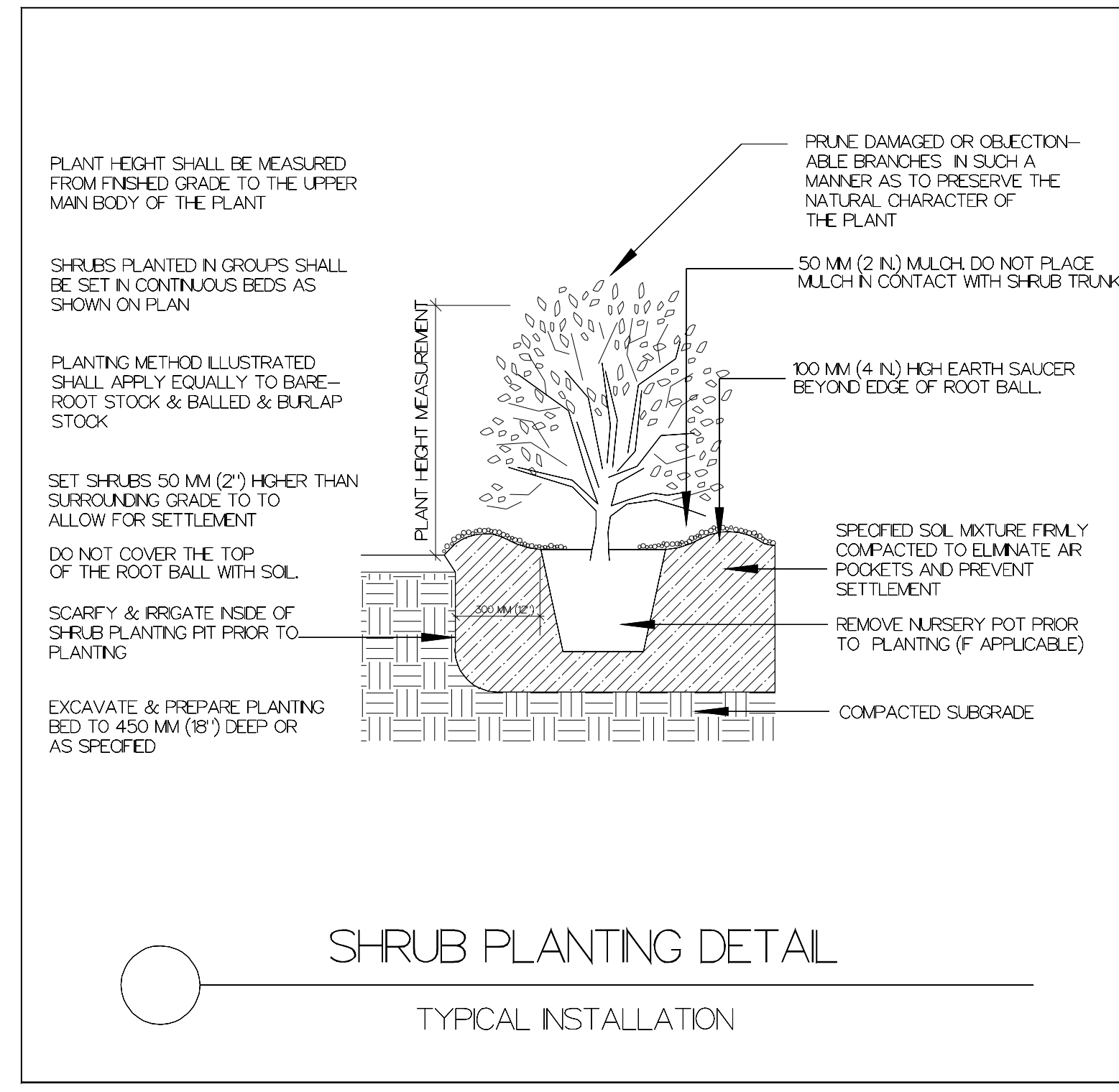
Qty	Botanical Name	Common Name	Size/Condition
Trees			
22	Ulmus chinensis Allee	ALLEE ELM	2" Caliper
13	Zelkova japonica	JAPANESE ZELKOVA	2" Caliper
8	Magnolia grandiflora	LITTLE GEM MAGNOLIA	8' Height
48	Ilex cornuta 'Carissa'	CARISSA CHINESE HOLLY	3G 15'H x 12'1/2"
153	Ilex vomitoria 'Schilling's Dwarf'	SCHILLING'S DWARF YAUPON HOLLY	3G 15'H x 12'1/2"
106	Ligustrum japonica	WAXLEAF LIGUSTRUM	7G 36'H x 24'1/2"
15	Lomandra 'Breeze'	BREEZE GRASS	3G 12'H x 12'1/2"
68	Muhlenbergia capillaris	PINK MUHLY GRASS	3G 12'H x 12'1/2"

PER 18-448, REGARDLESS OF CREDIT (15) TREES PER DISTURBED ACRE 2" OR GREATER MUST BE RETAINED OR PLANTED ON THE DISTURBED SIDE
 REQUIRED TREES: 27
 EXISTING TREES GREATER THAN 2" CALIPER TO REMAIN: 7/ NEW 2" CALIPER TREES TO BE PLANTED: 35

TREE NUMBER	DIAMETER	DESCRIPTION	CREDIT
1000	38"	OAK	6
1016	10"	HARDWOOD	2
1020	18"	OAK	4
1022	17"	OAK	3
1023	22"	OAK	4
1047	18.5"	OAK	4
1048	36"	OAK	6

LANDSCAPE NOTES

EXISTING TREES TO REMAIN
 TREE PROTECTION FENCE TO BE INSTALLED BEFORE CONSTRUCTION BEGINS
 NOT CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ALLOWED WITHIN THE TREE PROTECTION AREA
 ALL DISTURBED AREAS TO BE BERMUDA SOD
 LANDSCAPE BEDS TO BE 3" HARDWOOD MULCH
 EXISTING TREES IN STREETYARD TO BE INCLUDED IN LANDSCAPE CALCULATIONS
 EXISTING TREES IN LANDSCAPE ISLANDS TO BE INCLUDED IN LANDSCAPE CALCULATIONS
 STREETYARD TREES REQUIRED: 21
 STREETYARDS TREES PROVIDED: 24
 STREETYARD SHRUBS REQUIRED: 130
 STREETYARD SHRUBS PROVIDED: 151
 (INDIVIDUAL STREETYARDS NOTED ON PLAN)
 ISLAND TREES REQUIRED: 10
 ISLAND TREES PROVIDED: 12
 REQUIRED CANOPY COVERAGE: 9188 SQ.FT.
 JAPANESE ZELKOVA CANOPY: 9191 SQ. FT.
 PROVIDED CANOPY COVERAGE: 9191 SQ. FT.
 TOTAL FOUNDATION PLANTING REQUIRED= 1352.4 SF
 FOUNDATION PLANTING SHOWN: 2098 SF



NOTES

SUPER SCAPES

REVISION: 1/10/22
REVISION: 3/1/22
REVISION: 3/21/22
REVISION: 4/15/22

SUPERSCAPES INC
 1202 S FRONT STREET
 WILMINGTON NC 28401

OFF THE HOOK
 YACHT SALES
 1701 N J.E.L WADE DR
 WILMINGTON NC

SCALE: 1"=30'	PROJECT NO.
DRAWN BY: BSI	SHEET NO. L-1
CHECKED BY:	DATE: 3/21/2022
DATE OF PRINT:	