HAWTHORNE AT NEW CENTRE CLUBHOUSE & FITNESS CENTER

137 DAPPLE COURT CITY OF WILMINGTON NEW HANOVER COUNTY, NORTH CAROLINA

PRELIMINARY SITE DRAWINGS

REGULATORY REVIEW SET ISSUED 05-17-2016 REVISED 07-21-2016

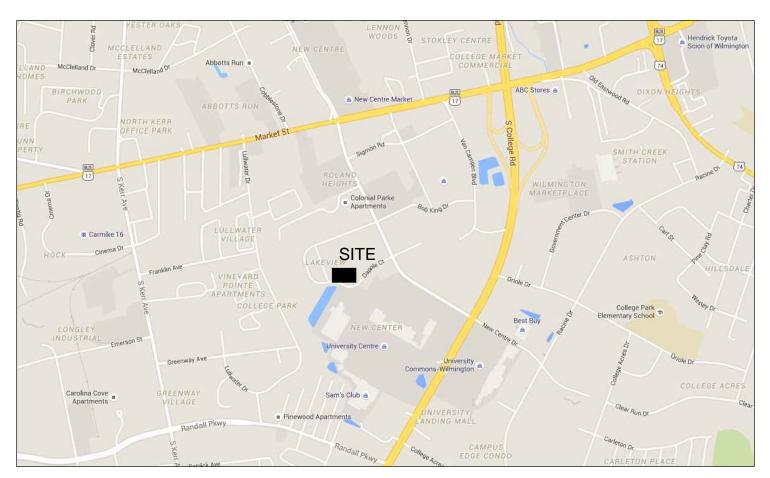
zak@curryeng.com



COVER SHEET	C-00
EXISTING CONDITIONS SURVEY & DEMOLITION PLAN	C-01
TREE REMOVAL PLAN	C-02
PROPERTY OWNERSHIP PLAN	C-03
SITE LAYOUT PLAN	C-04
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NOTES AND DETAILS	D-01
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NOTES AND DETAILS	D-04
LANDSCAPING PLAN	L-01
TOTAL NUMBER OF DRAWINGS:	14

PLANNING

APPROVED CONSTRUCTION PLAN



LOCATION MAP

			LEGEND				
WATER		SITE DEVELOPM	IENT	MISCELLANEOUS	S UTILITIES		
W	- EXISTING WATER LINE		EX. STORM SEWER PIPE	0-ф	EX. LIGHT POLE		
w	- WATERLINE	7 / / /	PROPOSED STORM SEWER	□◆	EX. LIGHT (WALL PACK)		
\oplus	EX. VALVE	S	EX. STORM STRUCTURE		PROPOSED LIGHT POLE		
•	PROPOSED WATER VALVE		CATCH BASIN	Q	EX. UTILITY POLE		
⊕	POST INDICATOR VALVE (PIV)		DROP INLET		UTILITY POLE		
M	EX. WATER METER	<u> </u>	EX. STORM SEWER MANHOLE	/	EX. GUY WIRE		
M	WATER METER		STORM SEWER MANHOLE	\bigcirc	EX. ELECTRICAL METER		
	EX. FIRE HYDRANT	RD	- EX. ROOF DRAIN LEADER	——ОНР——	EX. OVERHEAD ELECTRIC LINE		CIVIL S
-6-	FIRE HYDRANT	RD	ROOF DRAIN LEADER	——ОНР——	PROPOSED OVERHEAD ELECTRIC LINE	@/-AT	DS-DOWN:
D	REDUCER FITTING	*	EX. ROOF DRAIN DOWNSPOUT	UGP	EX. UNDERGROUND ELECTRIC LINE	AC-ACRE AFG- ABOVE FINISHED GRADE	EA-EACH EIP-EXISTI
-3	PLUG FITTING	⊗	ROOF DRAIN DOWNSPOUT	UGP	PROPOSED UNDERGROUND ELECTRIC LINE	APPR-APPROXIMATE ASSY-ASSEMBLY	ELEC-ELEC E/P-EDGE
	- WATERLINE TEE		EX. CURB AND GUTTER	$ \tau $	EX. TELEPHONE PEDESTAL	B/C-BOTTOM OF CURB BOC-BACK OF CURB	EX-EXISTII F/C-FACE (
	- WATERLINE CROSS		CURB AND GUTTER	(T)	TELEPHONE PEDESTAL	B/L-BASE LINE BM-BOOK OF MAPS	FDC-FIRE FFE-FINISH
8	FIRE DEPARTMENT CONNECTION (FDC)		- EXISTING PROPERTY LINE	$\overline{\tau}$	EX. TELEPHONE MANHOLE	BMP-BEST MANAGEMENT PRACTICE BW-BOTTOM OF WALL	FG-FINISH FH-FIRE H
0+	WATERLINE BLOWOFF		- PROPERTY LINE	—— ОНТ——	EX. OVERHEAD TELEPHONE LINE	CB-CATCH BASIN C&G-CURB AND GUTTER	F/L-FLOW FM-FORCE
Ф	EX. WELL CASING	 	BENCHMARK AND/OR SURVEY CONTROL MARKER	——ОНТ——		C/L-CENTERLINE CL-CLASS CMP-CORRUGATED METAL PIPE	FT-FOOT G-GAS GND-GRO
SANITARY SEW	ER	⊕ ^{B-8}	SOIL BORING LOCATION	OFO	EX. OVERHEAD FIBER LINE	CO-CLEANOUT COMM-COMMUNICATIONS	GV-GATE \
ss	- EXISTING SANITARY SEWER		LIMITS OF DISTURBANCE	OFO	OVERHEAD FIBER LINE	CONC-CONCRETE CONN-CONNECTION	HORIZ-HO
SAN	- SANITARY SEWER MAIN		EX. TREE	C	EX. CABLE PEDESTAL	CY-CUBIC YARD DB-DEED BOOK	INV-INVER IP-IRON PI
	EX. SEWER MANHOLE		EX. SHRUB	——ОНС——	EX. OVERHEAD COMMUNICATIONS LINE	DCV-DOUBLE CHECK VALVE DDCV-DOUBLE DECTECTOR CHECK VALVE	
S	SEWER MANHOLE	69	EX. FENCE	——ОНС——	OVERHEAD COMMUNICATIONS LINE	DI-DROP INLET DIP-DUCTILE IRON PIPE	LF-LINEAR LP-LIGHT F
	CLEANOUT		PROPOSED FENCE	UGC	EX. UNDERGROUND COMMUNICATIONS LINE	DR-DRIVEWAY	LS-LIFT ST
	EXISTING CLEANOUT		EX. TOPOGRAPHIC CONTOUR	———UGC———	UNDERGROUND COMMUNICATIONS LINE	Civil Engineer:	,
NATURAL GAS				ОНИ	EX. OVERHEAD UTILITY LINE-MULTIPLE	Civii Liigiileei.	
G	– EX. GAS LINE	FG XXX	PROPOSED TOPOGRAPHIC CONTOUR		UTILITIES	The Curry Engineering Group	թ, PLLC
G	- GAS LINE	6	PROPOSED SPOT ELEVATION	0	BOLLARD	NC License # P-0799 205 S. Fuquay Ave	
	EX. GAS VALVE	0	EX. SIGN	⊚	PROPERTY MARKER/IRON PIPE	Fuquay-Varina, NC 27526	
	EX. GAS METER		SIGN	0	EX. SURVEY MONUMENT	919.552.0849 (o) Contact: Zak Shipman, PE	

CIVIL SERIES DRAWING ABBREVIATIONS: DS-DOWNSPOUT MECH-MECHANICAL R/W-RIGHT OF WAY AC-ACRE EA-EACH MH-MANHOLE REQD-REQUIRED AFG- ABOVE FINISHED GRADE RCP-REINFORCED CONCRETE PIPE **EIP-EXISTING IRON PIPE** MIN-MINIMUM APPR-APPROXIMATE **ELEC-ELECTRICAL** MJ-MECHANICAL JOINT SAN-SANITARY SEWER ASSY-ASSEMBLY E/P-EDGE OF PAVEMENT **NIC-NOT IN CONTRACT** SDWK-SIDEWALK B/C-BOTTOM OF CURB **EX-EXISTING** OHE-OVERHEAD ELECTRIC SF-SQUARE FOOT **BOC-BACK OF CURB** F/C-FACE OF CURB **OHP-OVE** B/L-BASE LINE FDC-FIRE DEPARTMENT CONNECTION OHT-OVE BM-BOOK OF MAPS FFE-FINISHED FLOOR ELEVATION PB-PLAT BMP-BEST MANAGEMENT PRACTICE FG-FINISHED GRADE PC-POINT **BW-BOTTOM OF WALL FH-FIRE HYDRANT** PED-PED **CB-CATCH BASIN** F/L-FLOW LINE **PG-PAGE C&G-CURB AND GUTTER** FM-FORCE MAIN PH-PHAS C/L-CENTERLINE FT-FOOT PI-POINT G-GAS CL-CLASS **PIV-POST** CMP-CORRUGATED METAL PIPE **GND-GROUND PKG-PAR** CO-CLEANOUT **GV-GATE VALVE** P/L-PROP COMM-COMMUNICATIONS HDPE-HIGH DENSITY POLYETHYLENE PS-PUMP CONC-CONCRETE HORIZ-HORIZONTAL PT-POINT CONN-CONNECTION IN-INCHES PP-POWE CY-CUBIC YARD **INV-INVERT** PVC-POL DB-DEED BOOK **IP-IRON PIPE** PVMT-PA DCV-DOUBLE CHECK VALVE **IPS-IRON PIPE SET** PWR-POV DDCV-DOUBLE DECTECTOR CHECK VALV L-LENGTH R-RADIUS DI-DROP INLET LF-LINEAR FOOT **RD-ROOF** LP-LIGHT POLE DIP-DUCTILE IRON PIPE **RJ-REST** DR-DRIVEWAY LS-LIFT STATION RPZ-RED Civil Engineer: Surveyor: Developer:

102 Cinema Drive

mua@bizec.rr.com

910.815.0650

Wilmington, NC 28403

Mike Underwood and Associates

Contact: Mr. Mike Underwood, PLS

ERHEAD POWER	SPT-SPOT GRADE
ERHEAD TELEPHONE	SS-SANITARY SEWER
BOOK	STA-STATION
T OF CURVATURE	STD-STANDARD
ESTRIAN	STM-STORM
	STMH-STORM SEWER MANHOLE
SE .	SWM-STORMWATER MANAGEMENT
OF INTERSECTION	T-TELEPHONE
T INDICATOR VALVE	T/C-TOP OF CURB
RKING	TCM-TELEPHONE MANHOLE
PERTY LINE	TS&V-TAPPING SLEEVE AND VALVE
	UGE-UNDERGROUND ELECTRIC
T OF TANGENCY	UNK-UNKNOWN
ER POLE	UP-UTILITY POLE
	VAR-VARIABLE
	VERT-VERTICAL
WER	W/-WITH
S	WM-WATER METER
F DRAIN	W/O-WITHOUT
	W/L-WATERLINE
OUCED PRESSURE ZONE	WSEL-WATER SERVICE ELEVATION
	WV-WATER VALVE

Hawthorne Residential Partners 806 Green Valley Road, Suite 311 Greensboro, NC 27408 336.275.9511 **Contact: Ms. Beverly Greear** bgreear@hrpliving.com

Architect:

Planworx Architecture, PA 5711 Six Forks Road, Suite 100 Raleigh, NC 27609 919.846.8100 Contact: Mr. Robert Clifford rclifford@planworx.com



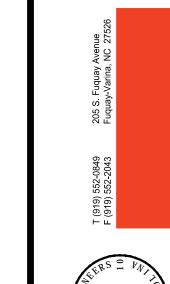
APPROVED DRAINAGE PLAN

SURVEY DATUM INFORMATION:

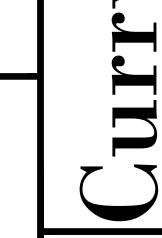
HORIZONTAL DATUM: NAD83

VERTICAL DATUM: NAVD88

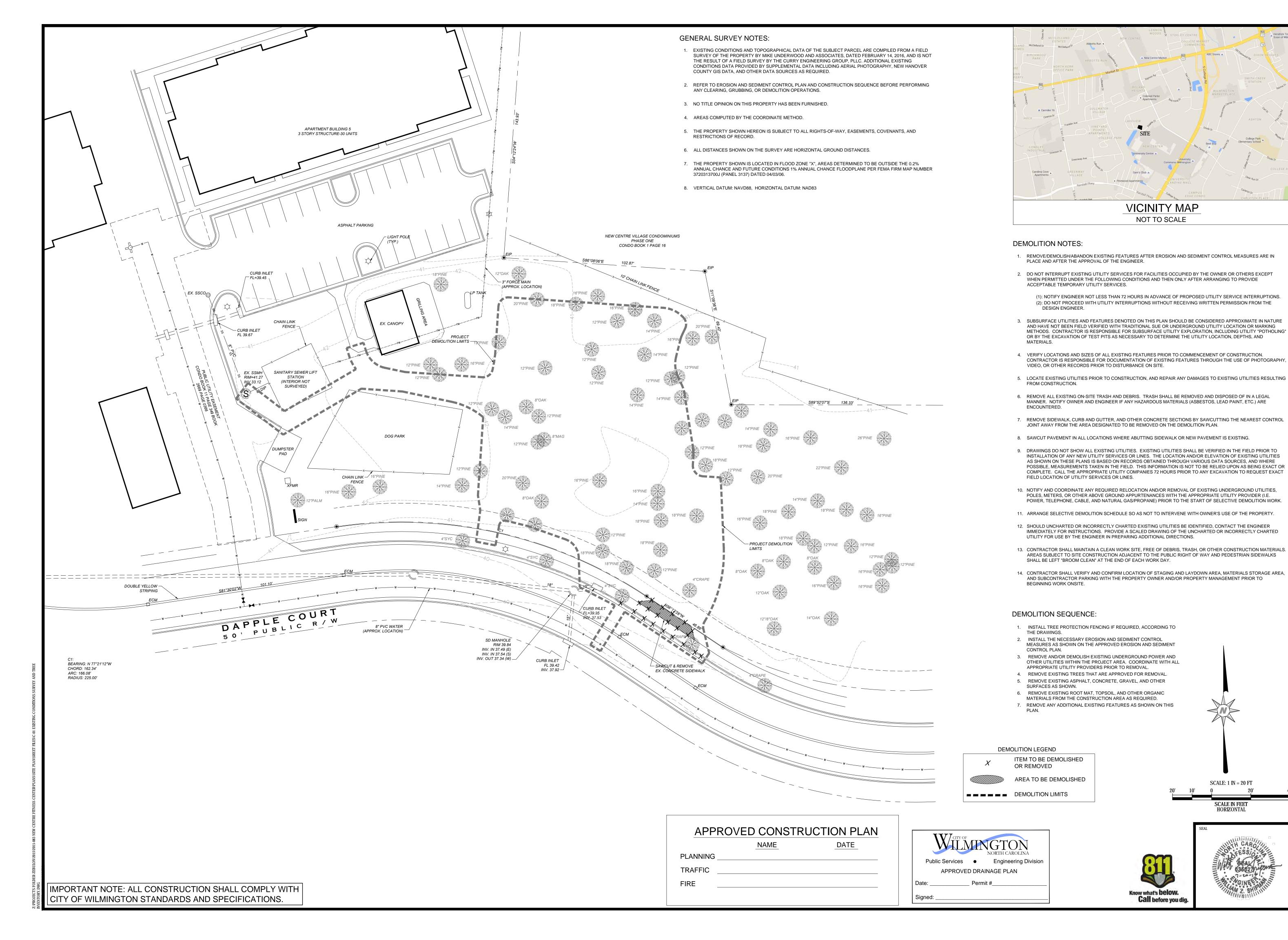








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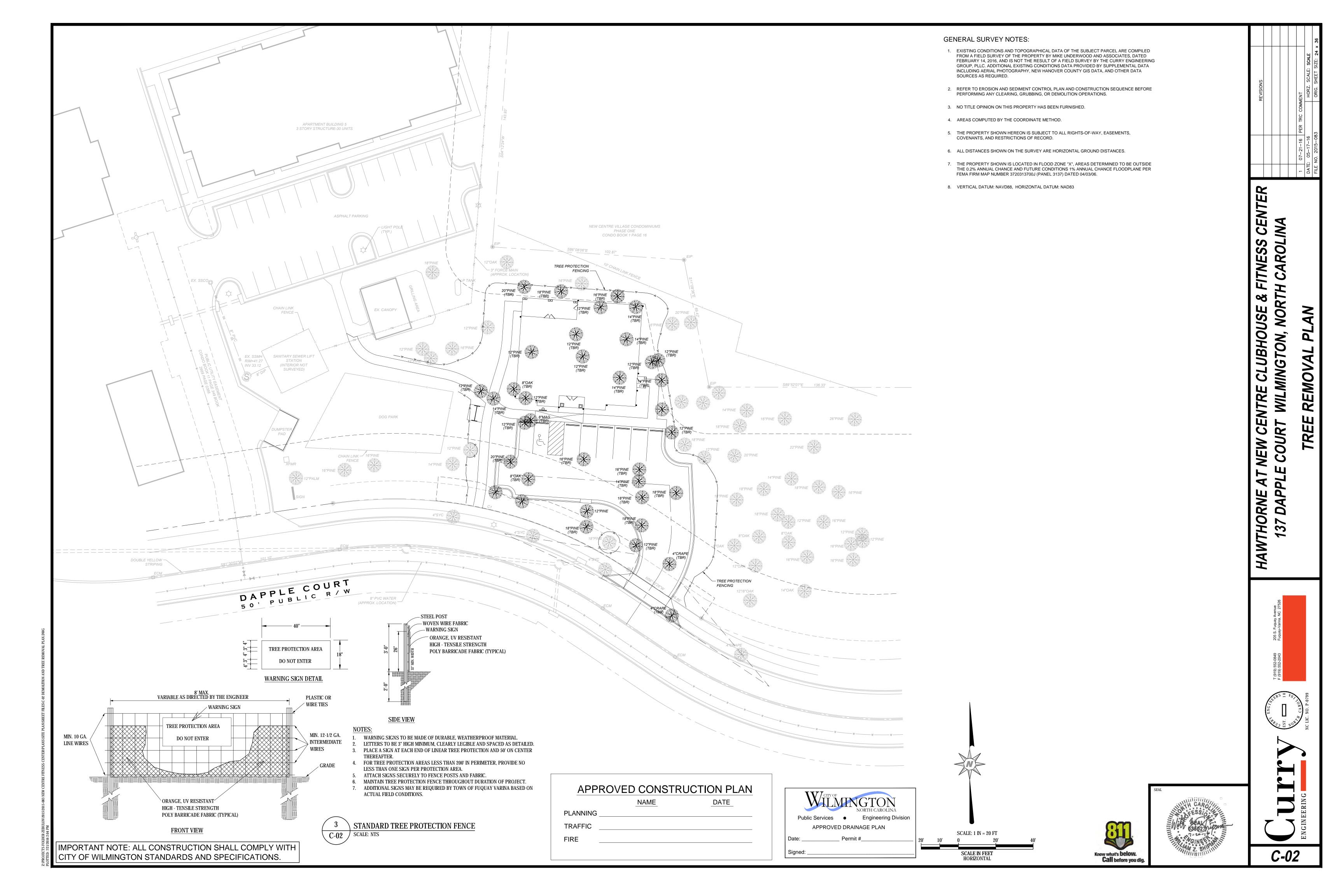
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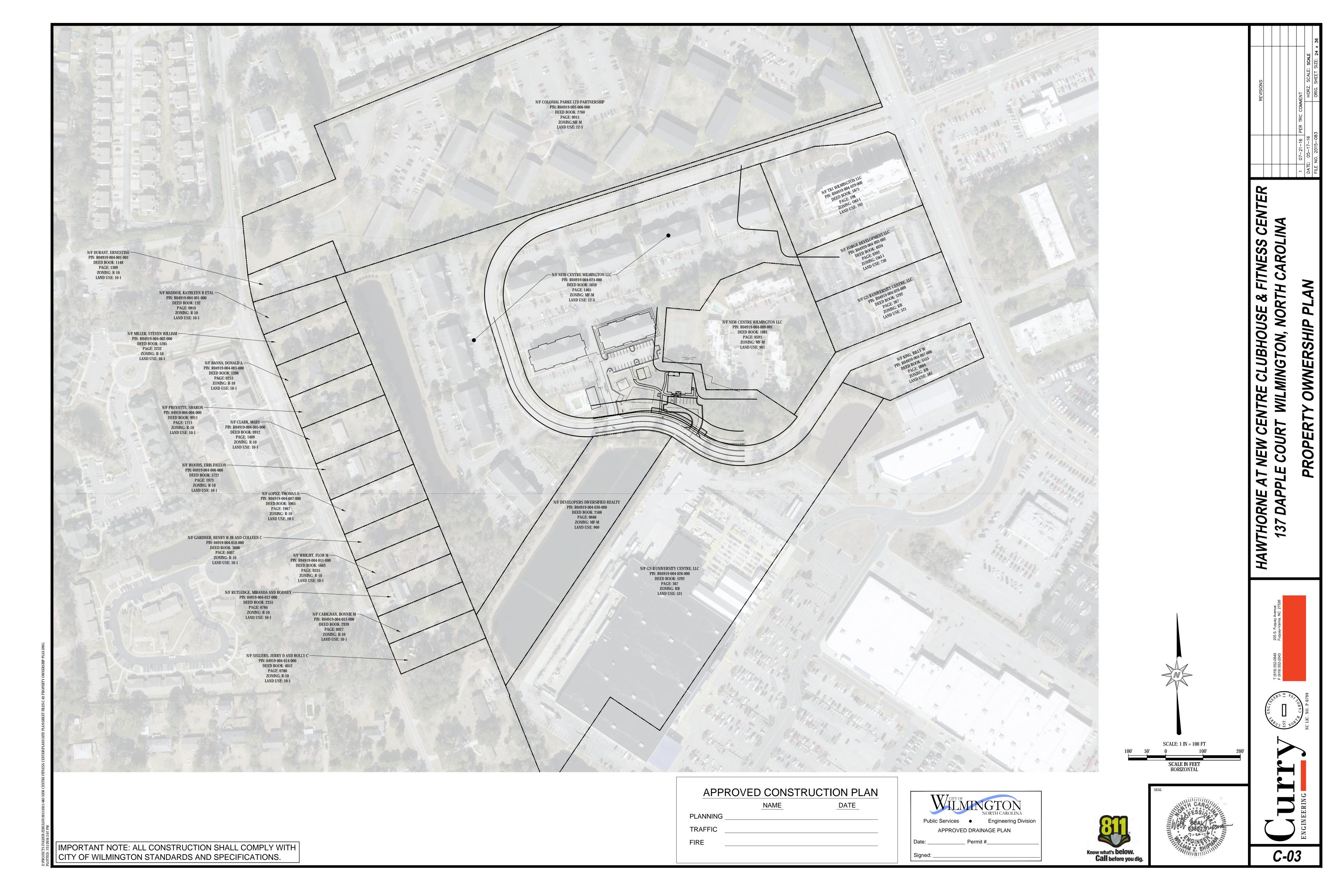
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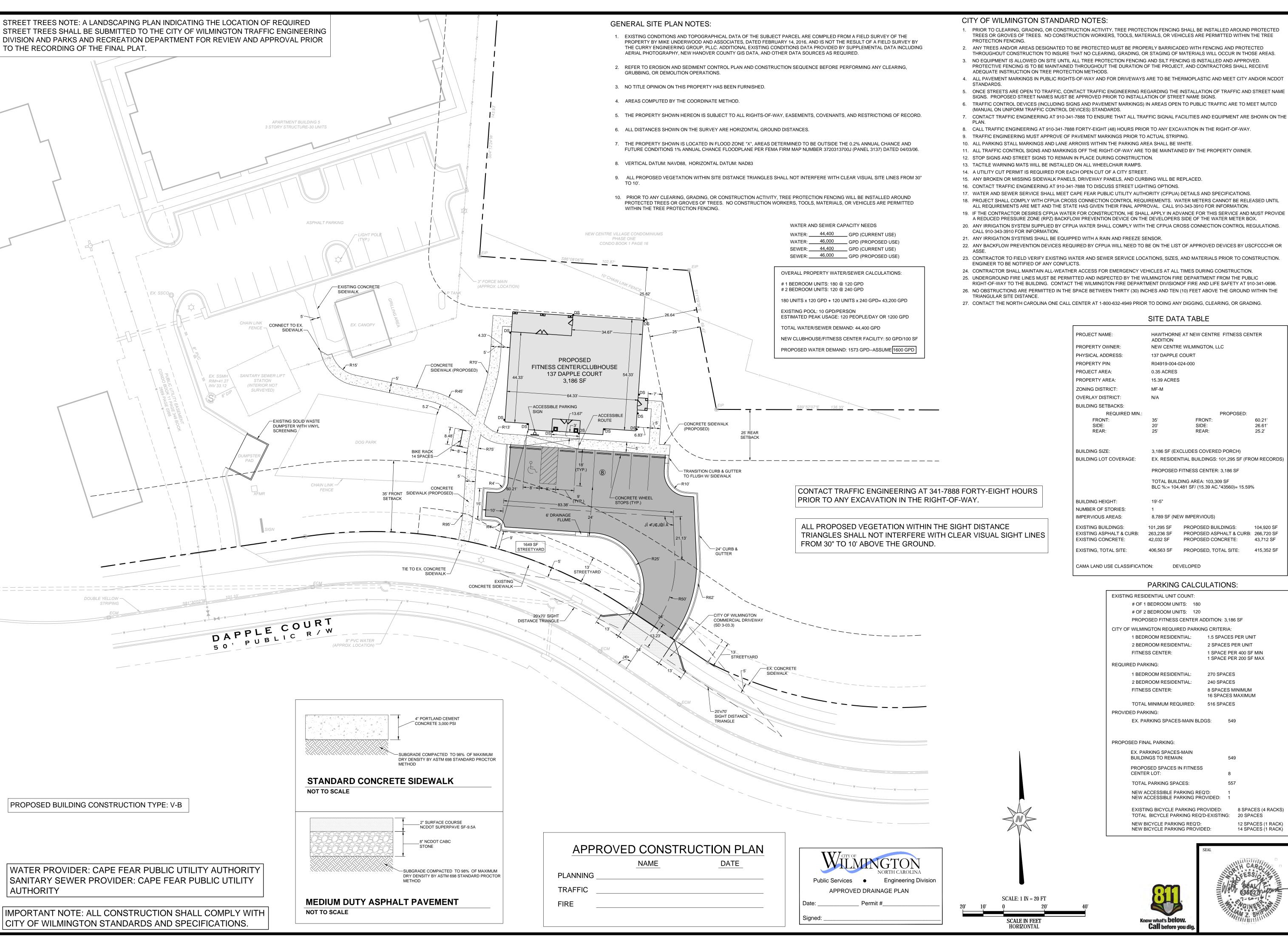
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NO EQUIPMENT IS ALLOWED ON SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING IS INSTALLED AND APPROVED. PROTECTIVE FENCING IS TO BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT, AND CONTRACTORS SHALL RECEIVE

4. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT

6. TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD

7. CONTACT TRAFFIC ENGINEERING AT 910-341-7888 TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES AND EQUIPMENT ARE SHOWN ON THE

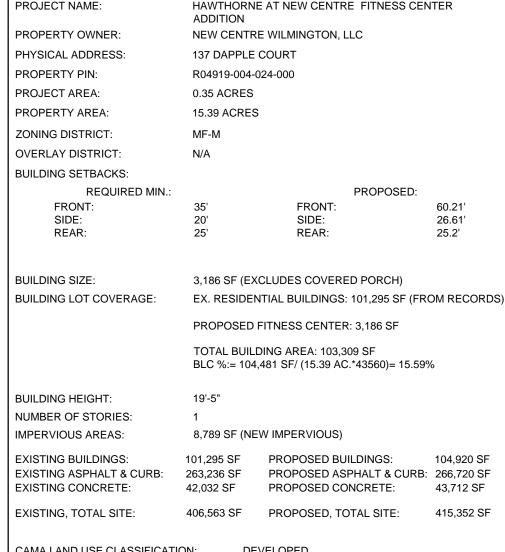
18. PROJECT SHALL COMPLY WITH CFPUA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METERS CANNOT BE RELEASED UNTIL

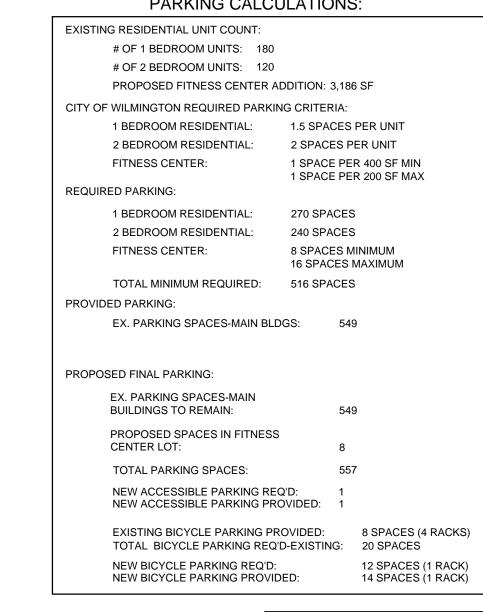
20. ANY IRRIGATION SYSTEM SUPPLIED BY CFPUA WATER SHALL COMPLY WITH THE CFPUA CROSS CONNECTION CONTROL REGULATIONS.

22. ANY BACKFLOW PREVENTION DEVICES REQUIRED BY CFPUA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USCFCCCHR OR

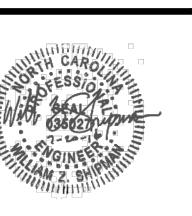
23. CONTRACTOR TO FIELD VERIFY EXISTING WATER AND SEWER SERVICE LOCATIONS, SIZES, AND MATERIALS PRIOR TO CONSTRUCTION.

26. NO OBSTRUCTIONS ARE PERMITTED IN THE SPACE BETWEEN THIRTY (30) INCHES AND TEN (10) FEET ABOVE THE GROUND WITHIN THE











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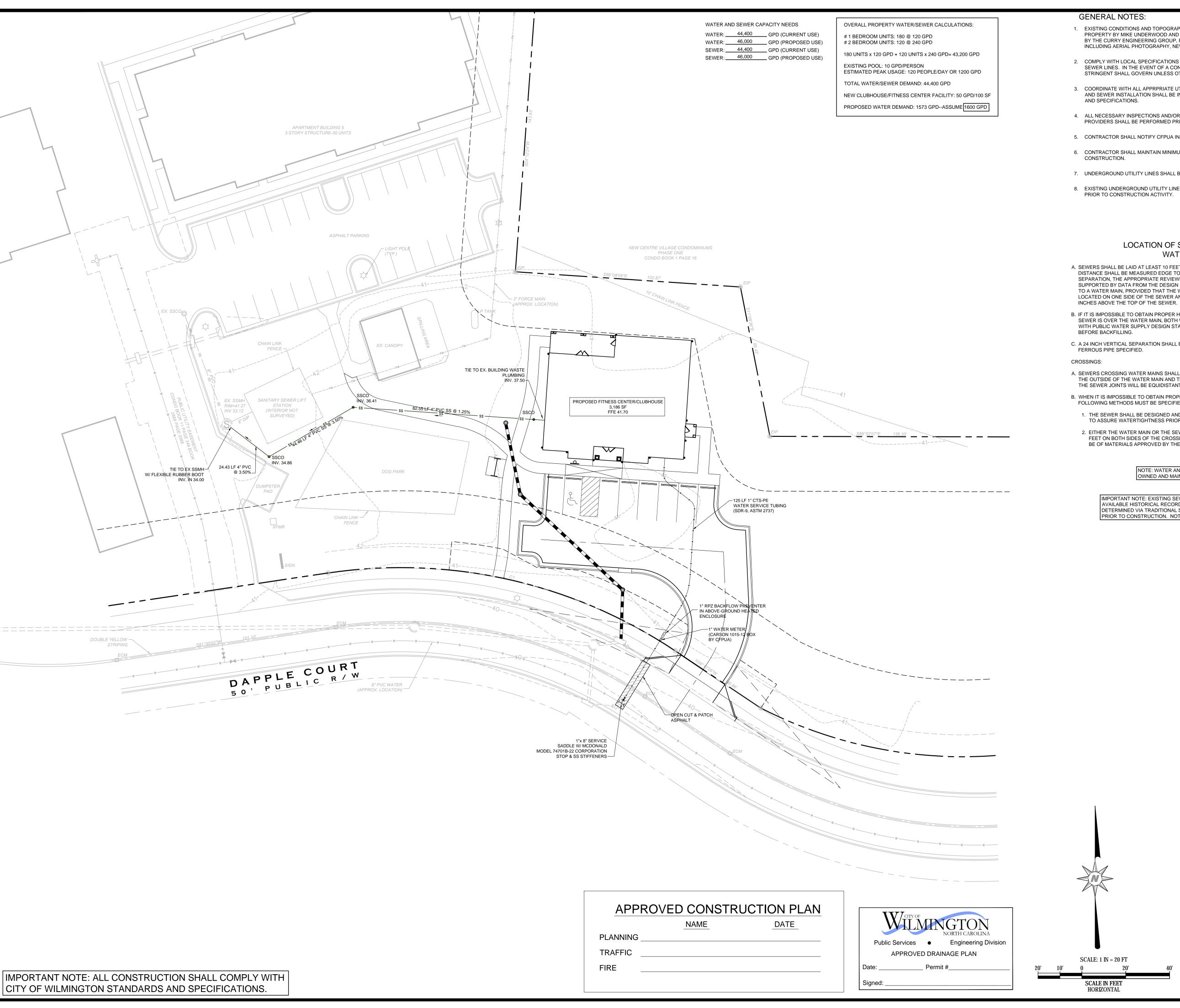
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- 1. EXISTING CONDITIONS AND TOPOGRAPHICAL DATA OF THE SUBJECT PARCEL ARE COMPILED FROM A FIELD SURVEY OF THE PROPERTY BY MIKE UNDERWOOD AND ASSOCIATES, DATED FEBRUARY 14, 2016, AND IS NOT THE RESULT OF A FIELD SURVEY BY THE CURRY ENGINEERING GROUP, PLLC. ADDITIONAL EXISTING CONDITIONS DATA PROVIDED BY SUPPLEMENTAL DATA INCLUDING AERIAL PHOTOGRAPHY, NEW HANOVER COUNTY GIS DATA, AND OTHER DATA SOURCES AS REQUIRED.
- 2. COMPLY WITH LOCAL SPECIFICATIONS WITH REGARDS TO MATERIALS, INSTALLATION, AND TESTING OF THE WATER AND SEWER LINES. IN THE EVENT OF A CONFLICT BETWEEN ANY OF THESE STANDARDS, SPECIFICATIONS, OR PLANS, THE MOST STRINGENT SHALL GOVERN UNLESS OTHERWISE NOTED ON THE PLANS.
- 3. COORDINATE WITH ALL APPRPRIATE UTILITY PROVIDERS FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS. WATER AND SEWER INSTALLATION SHALL BE IN ACCORDANCE WITH CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) STANDARDS
- 4. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS AND/OR TESTING REQUIRED BY CODES OR UTILITY SERVICE PROVIDERS SHALL BE PERFORMED PRIOR TO THE FINAL CONNECTION OF SERVICE.
- 5. CONTRACTOR SHALL NOTIFY CFPUA INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
- 6. CONTRACTOR SHALL MAINTAIN MINIMUM COVER REQUIREMENTS ON ALL WATER AND SEWER LINES AT ALL TIMES DURING
- 7. UNDERGROUND UTILITY LINES SHALL BE INSTALLED, INSPECTED, AND APPROVED PRIOR TO BACKFILLING.
- 8. EXISTING UNDERGROUND UTILITY LINES SHOWN SHOULD BE CONSIDERED APPROXIMATE IN NATURE AND FIELD VERIFIED PRIOR TO CONSTRUCTION ACTIVITY.

LOCATION OF SANITARY SEWERS IN RELATION TO WATER AND STORM SEWERS:

- A. SEWERS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. IN CASES WHERE IT IS NOT PRACTICAL TO MAINTAIN A 10 FOOT SEPARATION, THE APPROPRIATE REVIEWING AGENCY (DEH OR DENR) MAY ALLOW DEVIATION ON A CASE BY CASE BASIS, IF SUPPORTED BY DATA FROM THE DESIGN ENGINEER. SUCH DEVIATION MAY ALLOW INSTALLATION OF THE SEWER CLOSER TO A WATER MAIN, PROVIDED THAT THE WATER MAIN IS IN A SEPERATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER AND AT AN ELEVATION SO THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18
- B. IF IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS DESCRIBED ABOVE OR ANYTIME THE SEWER IS OVER THE WATER MAIN, BOTH WATER MAIN AND SEWER MUST BE CONSTRUCTED OF FERROUS PIPE COMPLYING WITH PUBLIC WATER SUPPLY DESIGN STANDARDS AND BE PRESSURE TESTED TO 150 PSI TO ASSURE WATERTIGHTNESS
- C. A 24 INCH VERTICAL SEPARATION SHALL BE PROVIDED BETWEEN STORM SEWER AND SANITARY SEWER LINES OR
- A. SEWERS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER. THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS.
- B. WHEN IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED ABOVE, ONE OF THE FOLLOWING METHODS MUST BE SPECIFIED
- 1. THE SEWER SHALL BE DESIGNED AND CONSTRUCTED OF FERROUS PIPE AND SHALL BE PRESSURE TESTED AT 150 PSI TO ASSURE WATERTIGHTNESS PRIOR TO BACKFILLING, OR
- 2. EITHER THE WATER MAIN OR THE SEWER LINE MAY BE ENCASED IN A WATERTIGHT CARRIER PIPE WHICH EXTENDS 10 FEET ON BOTH SIDES OF THE CROSSING, MEASURED PERPENDICULAR TO THE WATER MAIN. THE CARRIER PIPE SHALL BE OF MATERIALS APPROVED BY THE REEGULATORY AGENCY OF USE IN WATER MAIN CONSTRUCTION.

NOTE: WATER AND SANITARY SEWER SERVICE LATERALS TO BE PRIVATELY OWNED AND MAINTAINED.

IMPORTANT NOTE: EXISTING SEWER LINES SHOWN ARE LOCATED FROM ABOVE GROUND EVIDENCE AND AVAILABLE HISTORICAL RECORDS. PIPE DIAMETERS, DEPTHS, AND MATERIALS WERE UNABLE TO BE DETERMINED VIA TRADITIONAL SURVEY METHODS AND SHOULD BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF DISCREPANCIES ARE NOTED.

UTILITY LEGEND

— T — T — UTILITY LINE TELEPHONE **← →** FIRE HYDRANT ASSEMBLY (FHA) ■ GATE VALVE (GV) ► THRUST (REACTION) BLOCKING ■ BLOW OFF VALVE ■ WATER METER

BACKFLOW PREVENTER CLEANOUT

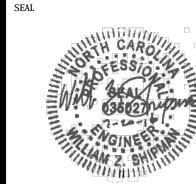
SANITARY MANHOLE

FLARED END SECTION CATCH BASIN YARD INLET

SANITARY SEWER LINE STORM DRAIN LINE



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





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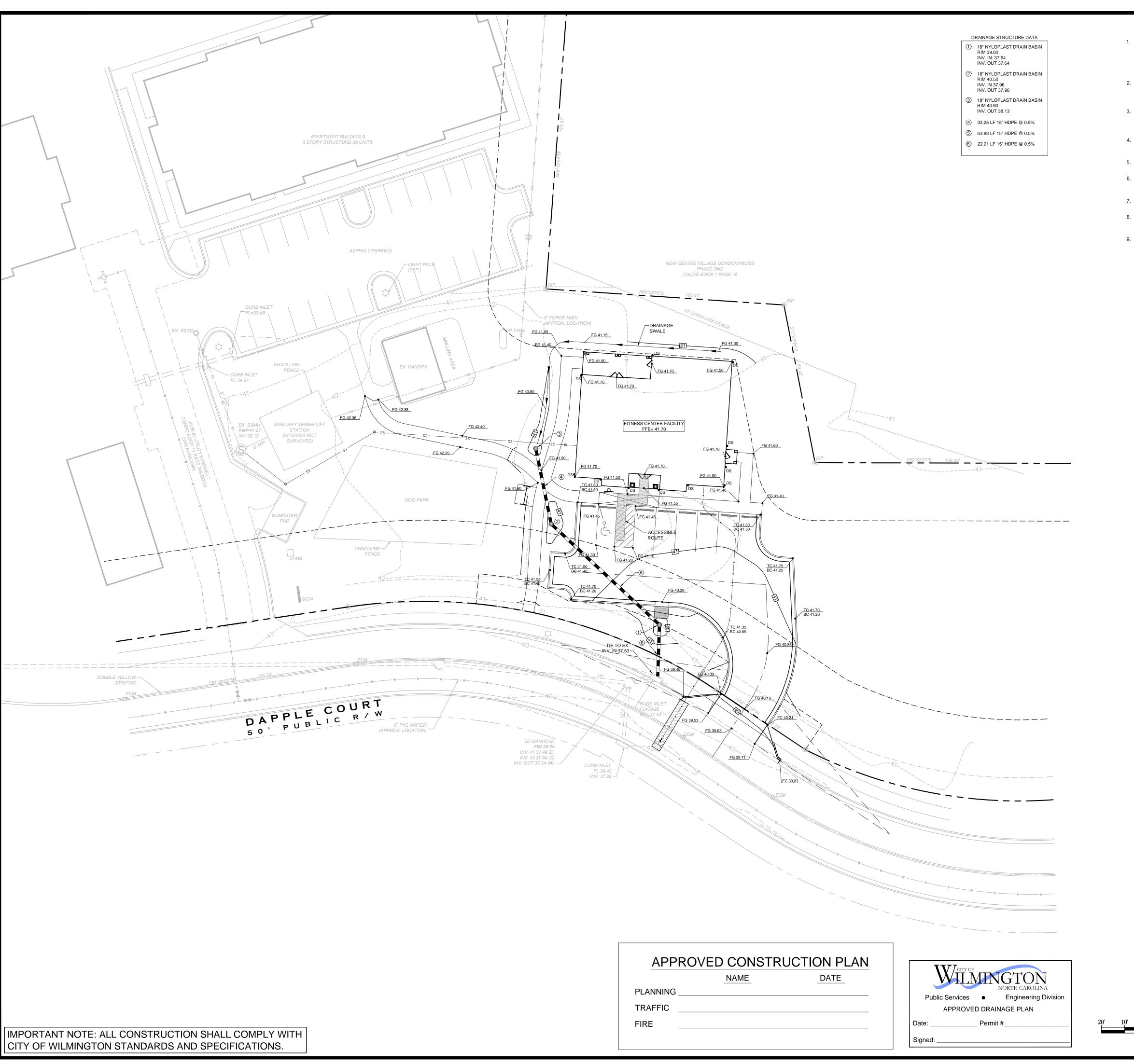
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GENERAL NOTES:

- 1. EXISTING CONDITIONS AND TOPOGRAPHICAL DATA OF THE SUBJECT PARCEL ARE COMPILED FROM A FIELD SURVEY OF THE PROPERTY BY MIKE UNDERWOOD AND ASSOCIATES, DATED FEBRUARY 14, 2016, AND IS NOT THE RESULT OF A FIELD SURVEY BY THE CURRY ENGINEERING GROUP, PLLC. ADDITIONAL EXISTING CONDITIONS DATA PROVIDED BY SUPPLEMENTAL DATA INCLUDING AERIAL PHOTOGRAPHY, NEW HANOVER COUNTY GIS DATA, AND OTHER DATA SOURCES
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- 3. COORDINATE WITH ALL APPROPRIATE UTILITY PROVIDERS FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS. WATER AND SEWER INSTALLATION SHALL BE IN ACCORDANCE WITH CAPE FEAR PUBLIC UTILITY AUTHRORITY (CFPUA) STANDARDS AND SPECIFICATIONS.
- 4. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS AND/OR TESTING REQUIRED BY CODES OR UTILITY SERVICE PROVIDERS SHALL BE PERFORMED PRIOR TO THE FINAL CONNECTION OF SERVICE.
- 5. CONTRACTOR SHALL NOTIFY CFPUA INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
- 6. CONTRACTOR SHALL MAINTAIN MINIMUM COVER REQUIREMENTS ON ALL WATER AND SEWER LINES AT ALL TIMES DURING CONSTRUCTION.
- 7. UNDERGROUND UTILITY LINES SHALL BE INSTALLED, INSPECTED, AND APPROVED PRIOR TO BACKFILLING.
- 8. EXISTING UNDERGROUND UTILITY LINES SHOWN SHOULD BE CONSIDERED APPROXIMATE IN NATURE AND FIELD VERIFIED PRIOR TO CONSTRUCTION ACTIVITY.
- 9. ACCESSIBLE PARKING SPACES SHALL CONFORM WITH ADAAG REGULATIONS AND NC BUILDING CODE. THE MAXIMUM SLOPE IN ANY ACCESSIBLE PARKING AREA IS 2% IN ANY DIRECTION. THE MAXIMUM LONGITUDINAL SLOPE OF ANY ACCESSIBLE ROUTE SHALL BE 5% AND THE MAXIMUM CROSS SLOPE OF ANY ACCESSIBLE ROUTE SHALL BE 2%. CONCRETE FLATWORK AREAS ALONG THE ACCESSIBLE ROUTE WHICH DO NOT COMPLY WITH APPLICABLE ADAAG REGULATIONS SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

UTILITY LEGEND

— T — T — T — UTILITY LINE — u — u — TELEPHONE ✓ FIRE HYDRANT ASSEMBLY (FHA) ■ GATE VALVE (GV)

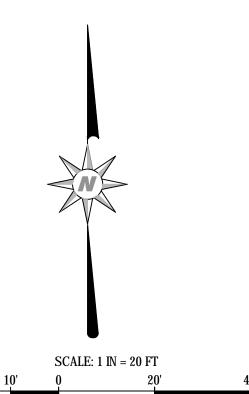
ıTı TEE ► THRUST (REACTION) BLOCKING •

■ BLOW OFF VALVE WATER METER

BACKFLOW PREVENTER © CLEANOUT SANITARY MANHOLE FLARED END SECTION

CATCH BASIN YARD INLET

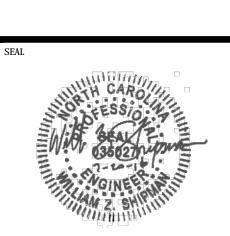
— ss—— sanitary sewer line STORM DRAIN LINE



SCALE IN FEET

HORIZONTAL

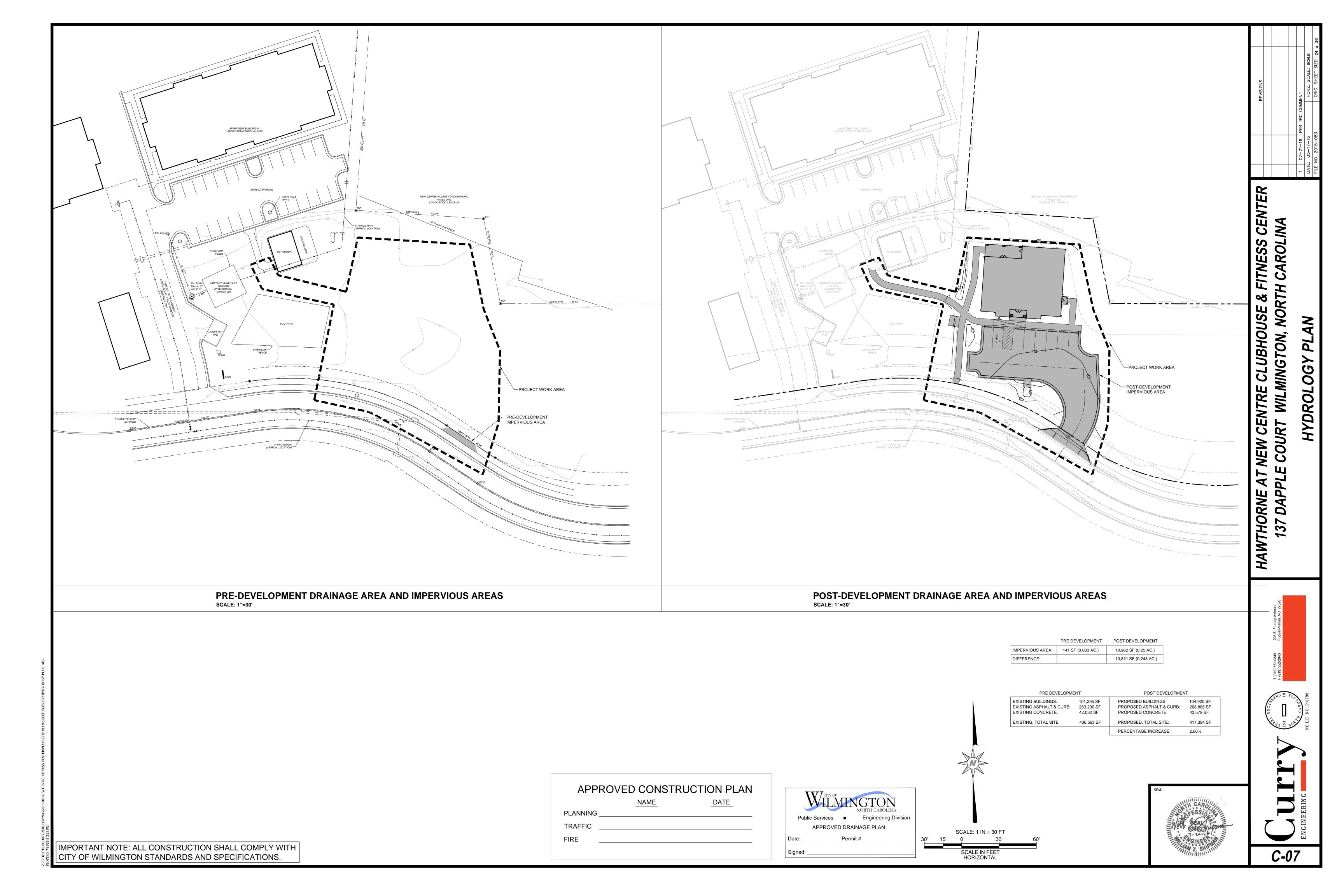


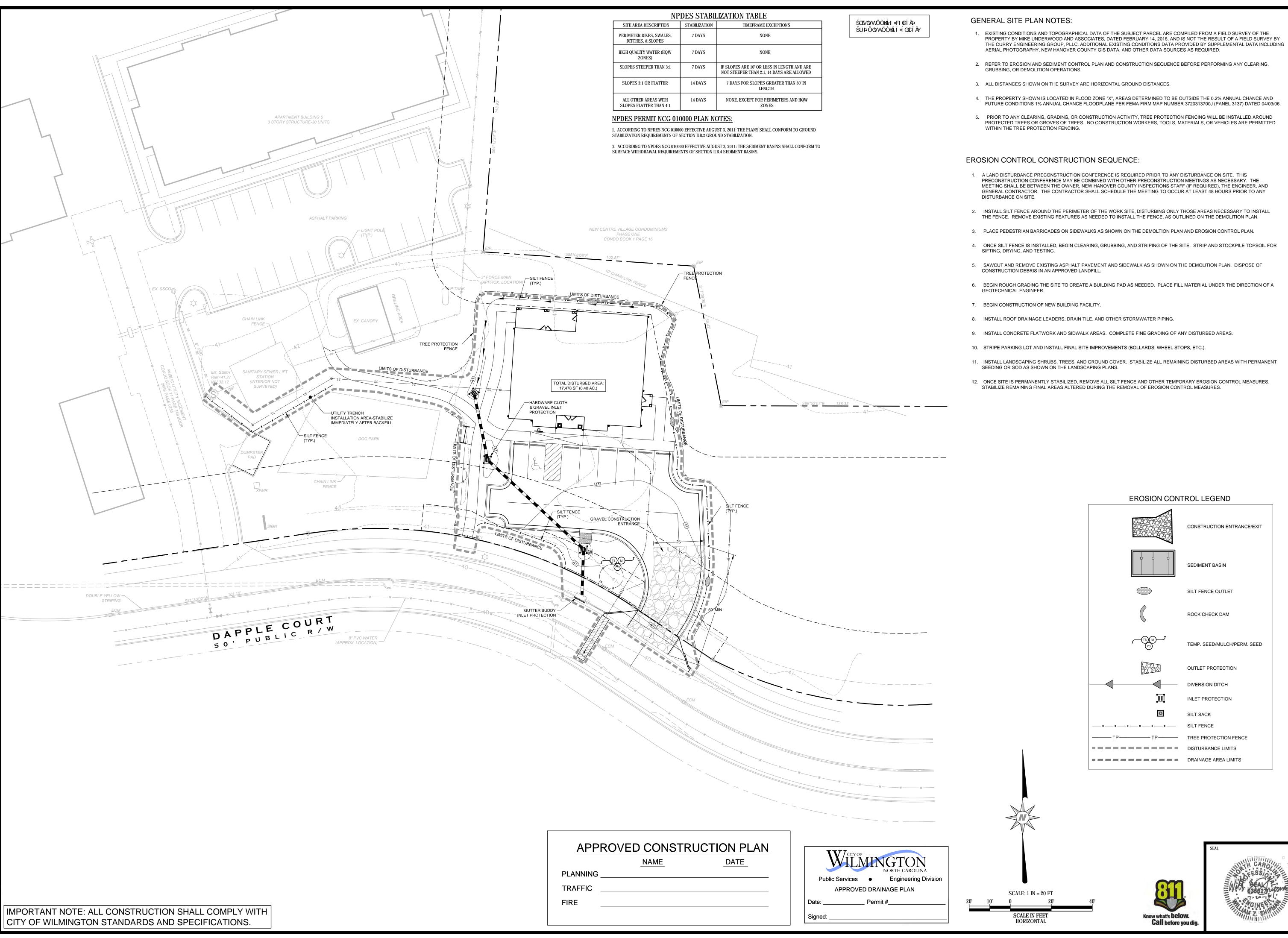


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FITNESS 70 CLUBHOUSE HAWTHORNE A

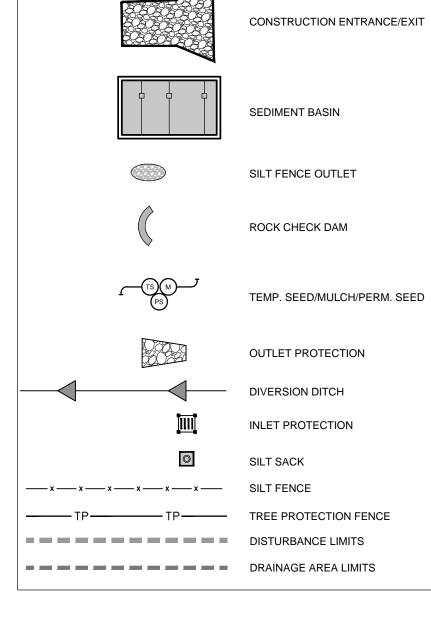
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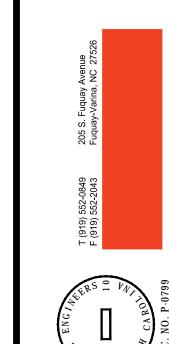




2. REFER TO EROSION AND SEDIMENT CONTROL PLAN AND CONSTRUCTION SEQUENCE BEFORE PERFORMING ANY CLEARING,

- 4. THE PROPERTY SHOWN IS LOCATED IN FLOOD ZONE "X", AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE AND
- 5. 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
- MEETING SHALL BE BETWEEN THE OWNER, NEW HANOVER COUNTY INSPECTIONS STAFF (IF REQUIRED), THE ENGINEER, AND GENERAL CONTRACTOR. THE CONTRACTOR SHALL SCHEDULE THE MEETING TO OCCUR AT LEAST 48 HOURS PRIOR TO ANY
- 2. INSTALL SILT FENCE AROUND THE PERIMETER OF THE WORK SITE, DISTURBING ONLY THOSE AREAS NECESSARY TO INSTALL
- 3. PLACE PEDESTRIAN BARRICADES ON SIDEWALKS AS SHOWN ON THE DEMOLTION PLAN AND EROSION CONTROL PLAN.
- 5. SAWCUT AND REMOVE EXISTING ASPHALT PAVEMENT AND SIDEWALK AS SHOWN ON THE DEMOLITION PLAN. DISPOSE OF
- 6. BEGIN ROUGH GRADING THE SITE TO CREATE A BUILDING PAD AS NEEDED. PLACE FILL MATERIAL UNDER THE DIRECTION OF A
- 11. INSTALL LANDSCAPING SHRUBS, TREES, AND GROUND COVER. STABILIZE ALL REMAINING DISTURBED AREAS WITH PERMANENT





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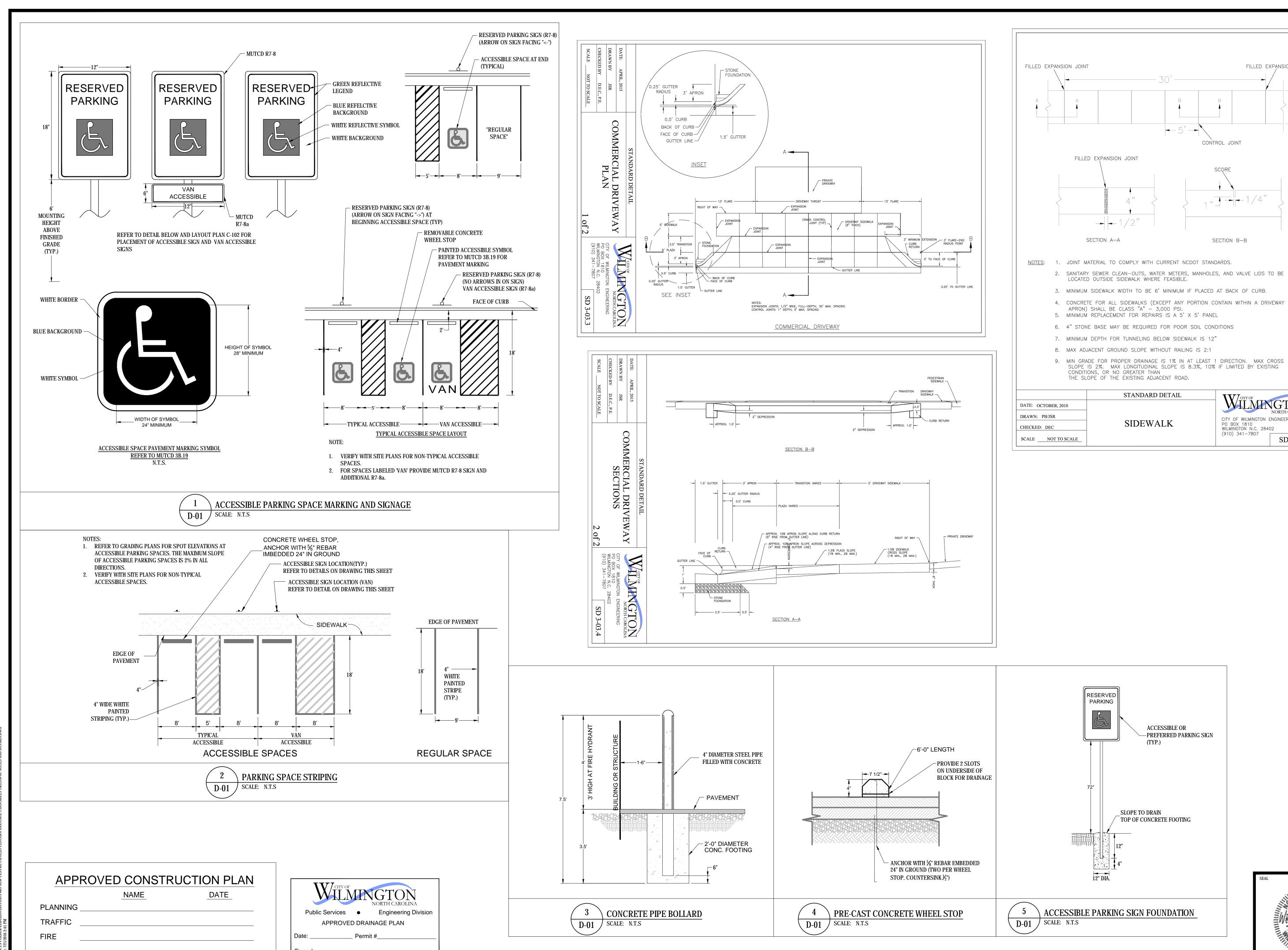
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FILLED EXPANSION JOINT

CONTROL JOINT

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SECTION B-B

WILMINGTON

SD 3-10

CITY OF WILMINGTON ENGINEERING

PO BOX 1810 WILMINGTON N.C. 28402

(910) 341-7807

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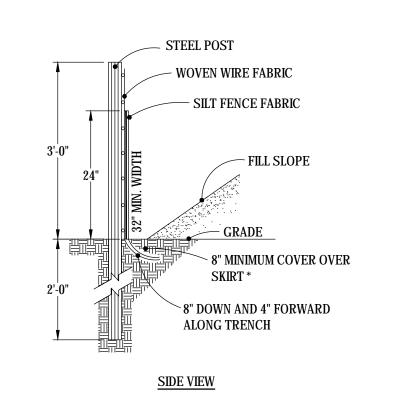
NOTE:
USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW.

INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.

SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.

REMOVE SEDIMENT DEPOSITS WHEN DEPTH OF SEDIMENT REACHES 12" TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT.

REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.



SILT FENCE CONSTRUCTION SPECIFICATIONS:

FACILITATE FASTENING THE FABRIC.

MATERIALS:

1. USE A SYNTHETIC FILTER FABRIC OF AT LEAST 95% BY WEIGHT OF POLYOLEFINS OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS IN ASTM D-6461, WHICH IS SHOWN IN PART IN TABLE 6.62B.

SYNTHETIC FILTER FABRIC SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USEABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF OTO 120° F.

TEMPERATURE RANGE OF OTO 120° F.

2. ENSURE THAT POSTS FOR SEDIMENT FENCES ARE 1.25 LBS/LINEAR FEET MINIMUM STEEL WITH

A MINIMUM LENGTH OF 5 FEET. MAKE SURE THAT STEEL POSTS HAVE PROJECTIONS TO

3. FOR REINFORCEMENT OF STANDARD STRENGTH FILTER FABRIC, USE WIRE FENCE WITH A MINIMUM 14 GAUGE AN DA MAXIMUM MESH SPACING OF 6 INCHES.

CONSTRUCTION:

1. CONSTRUCT THE SEDIMENT BARRIER OF STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS.

2. ENSURE THAT THE HEIGHT OF THE SEDIMENT FENCE DOES NOT EXCEED 24 INCHES ABOVE THE GROUND SURFACE. (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE).

3. CONSTRUCT THE FILTER FABRIC FROM A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS. WHEN JOINTS ARE NECESSARY, SECURELY FASTEN THE FILTER CLOTH ONLY AT A SUPPORT POST WITH 4 FEET MINIMUM OVERLAP TO THE NEXT POST.

4. SUPPORT STANDARD STRENGTH FILTER FABRIC BY WIRE MESH FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS. EXTEND THE WIRE MESH SUPPORT TO THE BOTTOM OF THE TRENCH. FASTEN THE WIRE REINFORCEMENT, THEN FABRIC ON THE UPSLOPE SIDE OF THE FENCE POST. WIRE OR PLASTIC ZIP TIES SHOULD HAVE A MINIMUM 50 POUND TENSILE STRENGTH.

5. WHEN A WIRE MESH SUPPORT FENCE IS USED, SPACE POSTS A MAXIMUM OF 8 FEET APART. SUPPORT POSTS SHOULD BE DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 24 INCHES.

6. EXTRA STRENGTH FILTER FABRIC WITH 6 FEET POST SPACING DOES NOT REQUIRE WIRE MESH SUPPORT FENCE. SECURELY FASTEN THE FILTER FABRIC DIRECTLY TO POSTS. WIRE OR PLASTIC ZIP TIES SHOULD HAVE MINIMUM 50 POUND TENSILE STRENGTH.

Table 6.62b Specifications For Sediment Fence Fabric

Temporary Silt Fence Material Property Requirements								
	Test Material	Units	Supported ¹ Silt Fence	Un-Supported ¹ Silt Fence	Type of Value			
Grab Strength	ASTM D 4632	N (lbs)						
Machine Direction			400	550	MARV			
			(90)	(90)				
X-Machine Direction			400	450	MARV			
			(90)	(90)				
Permittivity ²	ASTM D 4491	sec-1	0.05	0.05	MARV			
Apparent Opening Size ²	ASTM D 4751	mm	0.60	0.60	Max. ARV			
		(US Sieve #)	(30)	(30)				
Ultraviolet Stability	ASTM D 4355	% Retained Strength	70% after 500h of exposure	70% after 500h of exposure	Typical			

Silt Fence support shall consist of 14 gage steel wire with a mesh spacing of 150 mm (6 inches), or prefabricated poylmer mesh of equivalent strength.
 These default values are based on empirical evidence with a variety of sediment. For environmentally sensitive areas, a review of previous experience and/or site or regionally specific geotextile tests in accordance with Test Method D 5141 should be performed

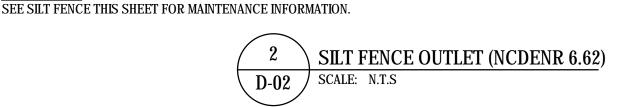
by the agency to confirm suitability of these requirements.

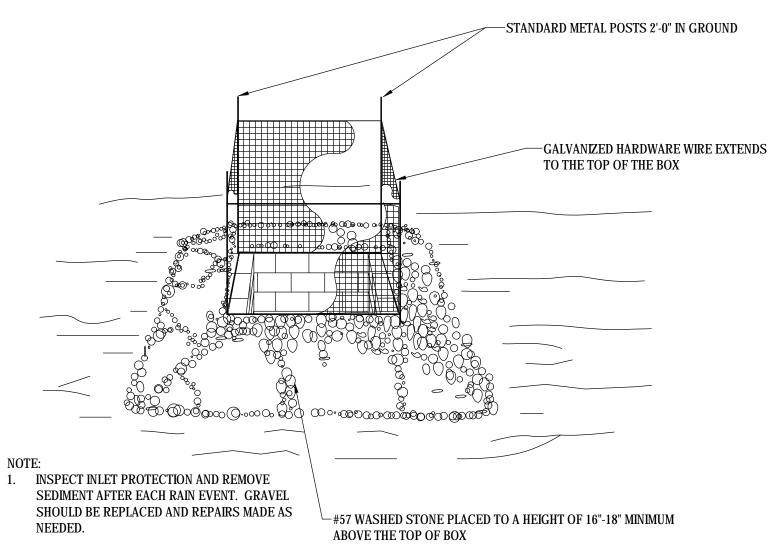
³ As measured in accordance with Test Method D 4632.

1 SILT FENCE DETAIL (NCDENR 6.62)
SCALE: N.T.S

SILT FENCE TOP OF SILT FENCE MUST BE AT LEAST 1 ABOVE THE TOP OF THE WASHED STONE FRONT VIEW STEEL FENCE POST BURY WIRE FENCE, `FILTER FABRIC, WIRE FENCE AND HARDWARE HARDWARE CLOTH \ CLOTH IN TRENCH STEEL FENCE POST SET MAX 2' APART MIN. 18" FILTER OF #57 \ INTO SOLID GROUND WASHED STONE , 3' FILTER FABRIC ON GROUND REMOVE SEDIMENT WHEN HALF OF STONE OUTLET IS COVERED. 2. REPLACE STONE AS NEEDED TO ENSURE DEWATERING. BURY WIRE FENCE AND BURY 6" OF UPPER EDGE OF HARDWARE CLOTH FILTER FABRIC IN TRENCH

SECTION VIEW





4 HARDWARE CLOTH AND GRAVEL INLET PROTECTION

SCALE: N.T.S

TEMPORARY SEEDING

EEDING MIXTURE

"COOL SEASON" SEPTEMBER 1 - FEBRUARY 28

SPECIES RATE (lb/ACR SOFT RED WINTER WHEAT 120

"WARM SEASON" MARCH 1 - AUGUST 31

SPECIES
GERMAN, BROWN TOP, 65

SOIL AMENDMENTS

OR FOX TAIL MILLET

TILL SOIL TO A DEPTH OF 4". APPLY LIME AT A RATE OF 70 LB PER 100 SF, OR 1.5 TONS PER ACRE. APPLY 10-20-20 FERTILIZER AT A RATE OF 20 LBS PER 1000 SF OR 850 LBS PER ACRE. THE FERTILIZER SHOULD BE EITHER SLOW TIME RELEASE OR APPLIED IN TWO APPLICATIONS, HALF AT TIME OF PLANTING AND THE MULT. OF PLANTING AND THE MULT.

APPLY 4,000 b/ACRE STRAW. THE GROUND SHOULD BE COMPLETELY COVERED WITH NO BARE SPOT LARGER THAN A QUARTER, THEN TACKED WITH EMULSIFIED ASPHALT. EMULSIFIED ASPHALT SHALL BE APPLIED AT A RATE HEAVY ENOUGH THAT THE ENTIRE AREA APPEARS BLACK IN COLOR.

REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE, AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

EROSION CONTROL MATTING SHALL BE PROVIDED ON ALL SLOPES 3:1 AND GREATER.

(PS) PERMANENT SEEDIN

PERMANENT SODDING

PROVIDE BERMUDA SOD IN ACCORDANCE WITH LANDSCAPE DRAWINGS REFER TO MAINTENANCE SPECIFICATIONS AND REQUIREMENTS FOR PERMANENT SODDING.

PREPARE SEEDBED BY RIPPING, CHISELING, HARROWING, OR PLOWING TO DEPTH OF SIX INCHES SO AS TO PRODUCE A LOOSE, FRIABLE SURFACE. REMOVE ALL STONES, BOULDERS, STUMPS, OR DEBRIS FROM THE SURFACE WHICH WOULD PROHIBIT GERMINATION OR PLANT GROWTH.

APPLY LIME AND FERTILIZER ACCORDING TO SOIL TEST, OR APPLY 300 LB/ACRE 10-10-10 FERTILIZER.

PERMANENT SEEDINGS:

"COOL SEASON" SEPTEMBER 1- FEBRUARY 28

SPECIES RATE
SOFT RED WINTER WHEAT
COMMON BERMUDA (HULLED) 25
COMMON BERMUDA (UNHULLED) 25

"WARM SEASON" MARCH 1- AUGUST 31

SPECIES
GERMAN, BROWN TOP,
OR FOX TAIL MILLET
COMMON BERMUDA (HULLED)

SPECIES
RATE (LB/ACRE)
50
50

SOIL AMENDMENTS

TILL SOIL TO A DEPTH OF 4". APPLY LIME AT A RATE OF 70 LB PER 100 SF, OR 1.5 TONS PER ACRE. APPLY 10-20-20 FERTILIZER AT A RATE OF 20 LBS PER 1000 SF OR 850 LBS PER ACRE. THE FERTILIZER SHOULD BE EITHER SLOW TIME RELEASE OR APPLIED IN TWO APPLICATIONS, HALF AT TIME OF PLANTING AND THE SECOND HALF AFTER PERMANENT SEED GERMINATES.

MULCH

APPLY 4,000 LB/ACRE STRAW. THE GROUND SHOULD BE COMPLETELY COVERED WITH NO BARE SPOTS LARGER THAN A QUARTER, THEN TACKED WITH EMULSIFIED ASPHALT. EMULSIFIED ASPHALT SHALL BE APPLIED AT A RATE HEAVY ENOUGH THAT THE ENTIRE AREA APPEARS BLACK IN COLOR.

MAINTENANCE

REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE, AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

APPROVED CONSTRUCTION PLAN NAME DATE





1 07–21–16 PER TRC COMMENT
DATE: 05–17–16
FILE NO. 2015–083
ORIG. SHEET SIZE: 24 x

NEW CENTRE CLUBHOUSE & FITNESS COURT WILMINGTON, NORTH CAROLI

Q

T (919) 552-0849 205 S. Fuquay Avenue F (919) 552-2043 Fuquay-Varina, NC 27526

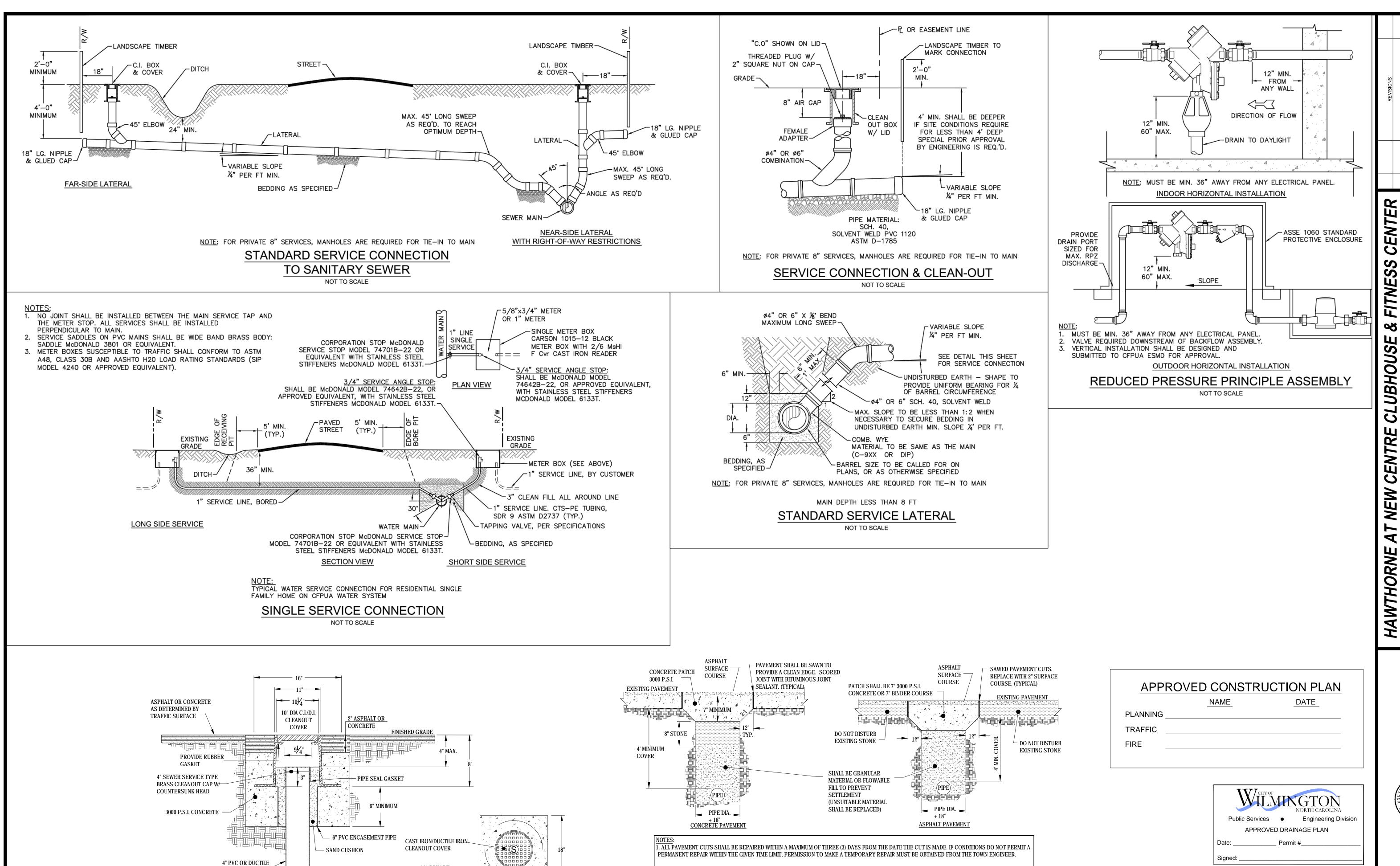
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WTHO 137

HA

ENGINEERING TERMS

D-02



18" SQUARE

SEWER SERVICE CLEANOUT COVER

ASSEMBLY IN TRAFFIC AREAS

ENCASEMENT

PLAN VIEW

IRON PIPE

SECTION VIEW

D-03 / SCALE: N.T.S

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D-03

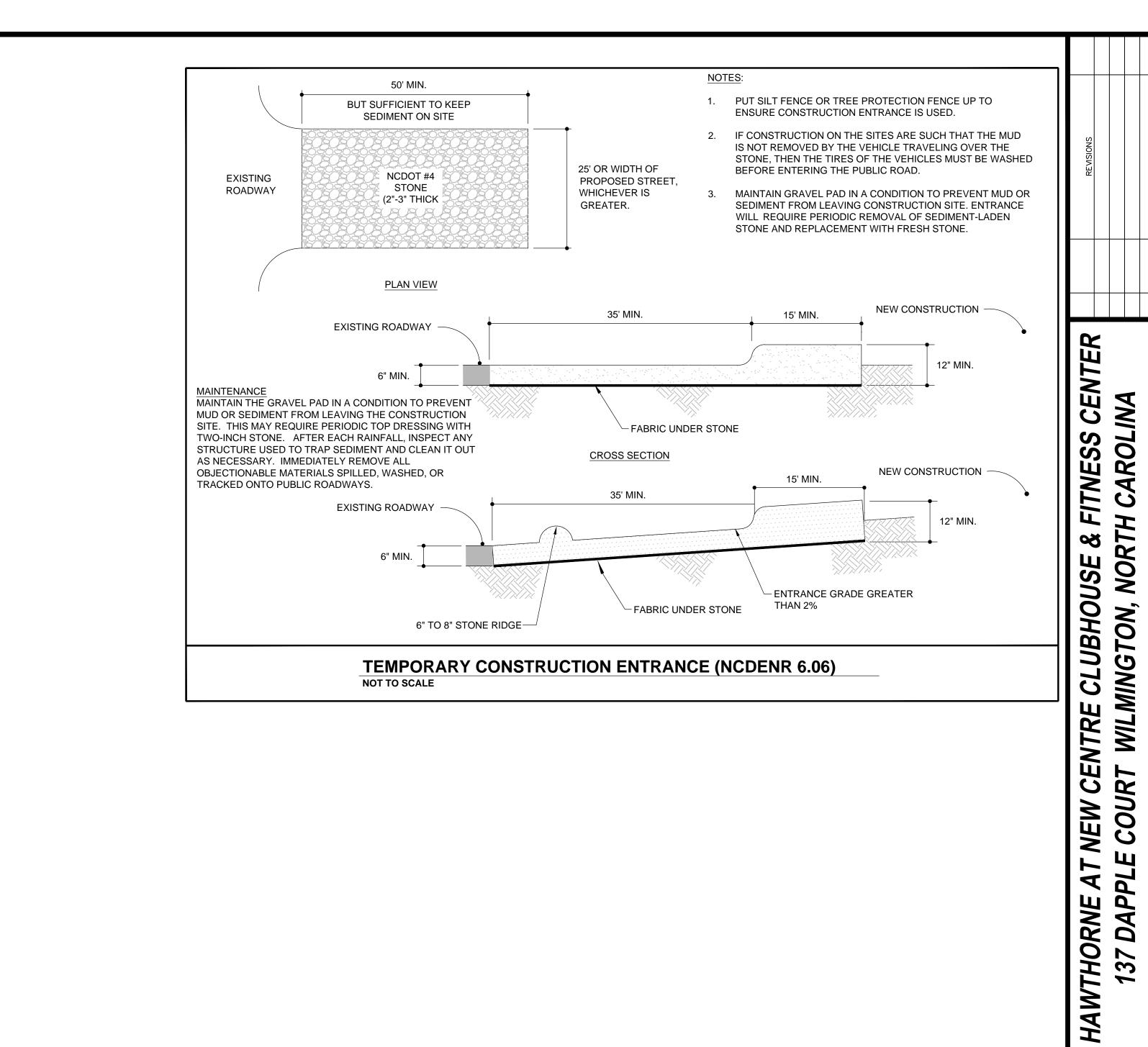
STANDARD TRENCH AND PAVEMENT REPAIRS SECTIONS SCALE: N.T.S

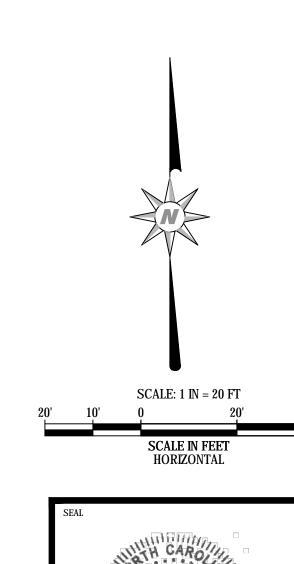
COMPACTION REQUIREMENTS BY SOILS TESTING CERTIFIED BY A LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER.

REQUIREMENTS SHALL BE DEEMED UNSUITABLE AND SHALL BE REPLACED WITH SUITABLE BACKFILL MATERIAL.

5. ALL PAVEMENT PATCHES SHALL PROVIDE A UNIFORM AND SMOOTH DRIVING SURFACE.

BACKFILL WITH A HIGH CLAY CONTENT, HIGH SHRINK-SWELL POTENTIAL, OR HIGH MOISTURE CONTENT THAT CANNOT MEET COMPACTION





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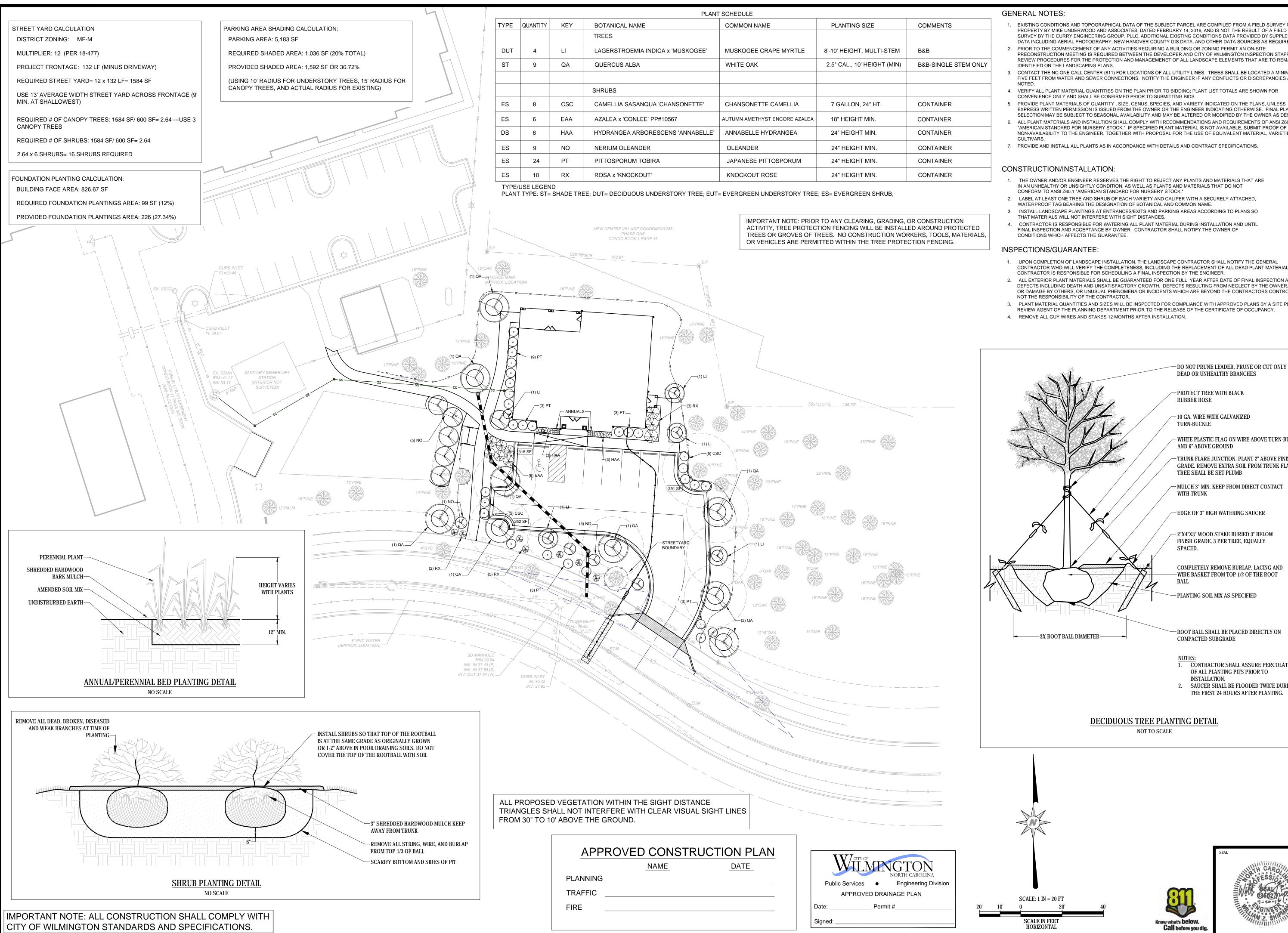
ENGINEERING

DETAIL

AND

NOTES

IMPORTANT NOTE: ALL CONSTRUCTION SHALL COMPLY WITH CITY OF WILMINGTON STANDARDS AND SPECIFICATIONS.



GENERAL NOTES:

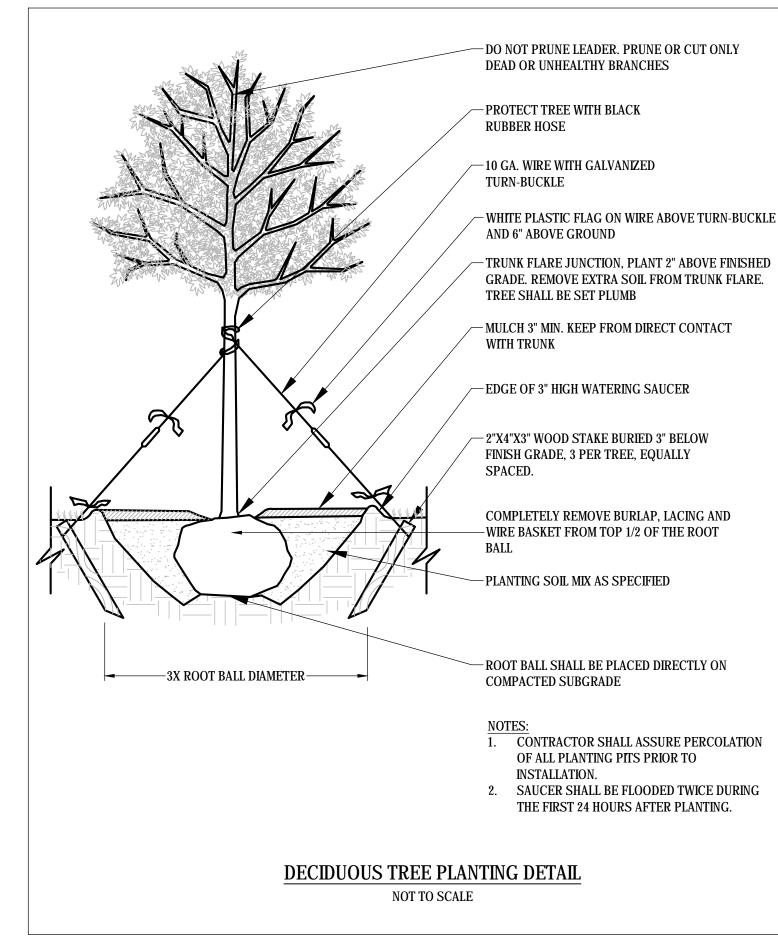
- 1. EXISTING CONDITIONS AND TOPOGRAPHICAL DATA OF THE SUBJECT PARCEL ARE COMPILED FROM A FIELD SURVEY OF THE PROPERTY BY MIKE UNDERWOOD AND ASSOCIATES, DATED FEBRUARY 14, 2016, AND IS NOT THE RESULT OF A FIELD SURVEY BY THE CURRY ENGINEERING GROUP, PLLC. ADDITIONAL EXISTING CONDITIONS DATA PROVIDED BY SUPPLEMENTAL DATA INCLUDING AERIAL PHOTOGRAPHY, NEW HANOVER COUNTY GIS DATA, AND OTHER DATA SOURCES AS REQUIRED.
- 2. PRIOR TO THE COMMENCEMENT OF ANY ACTIVITIES REQUIRING A BUILDING OR ZONING PERMIT AN ON-SITE PRECONSTRUCTION MEETING IS REQUIRED BETWEEN THE DEVELOPER AND CITY OF WILMINGTON INSPECTION STAFF TO REVIEW PROCEDURES FOR THE PROTECTION AND MANAGEMENET OF ALL LANDSCAPE ELEMENTS THAT ARE TO REMAIN AS
- IDENTIFIED ON THE LANDSCAPING PLANS. 3. CONTACT THE NC ONE CALL CENTER (811) FOR LOCATIONS OF ALL UTILITY LINES. TREES SHALL BE LOCATED A MINIMUM OF
- FIVE FEET FROM WATER AND SEWER CONNECTIONS. NOTIFY THE ENGINEER IF ANY CONFLICTS OR DISCREPANCIES ARE
- 4. VERIFY ALL PLANT MATERIAL QUANTITIES ON THE PLAN PRIOR TO BIDDING; PLANT LIST TOTALS ARE SHOWN FOR CONVENIENCE ONLY AND SHALL BE CONFIRMED PRIOR TO SUBMITTING BIDS.
- EXPRESS WRITTEN PERMISSION IS ISSUED FROM THE OWNER OR THE ENGINEER INDICATING OTHERWISE. FINAL PLANT SELECTION MAY BE SUBJECT TO SEASONAL AVAILABILITY AND MAY BE ALTERED OR MODIFIED BY THE OWNER AS DESIRED.
- 6. ALL PLANT MATERIALS AND INSTALLTION SHALL COMPLY WITH RECOMMENDATIONS AND REQUIREMENTS OF ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK." IF SPECIFIED PLANT MATERIAL IS NOT AVAILABLE, SUBMIT PROOF OF NON-AVAILABILITY TO THE ENGINEER, TOGETHER WITH PROPOSAL FOR THE USE OF EQUIVALENT MATERIAL, VARIETIES, OR
- 7. PROVIDE AND INSTALL ALL PLANTS AS IN ACCORDANCE WITH DETAILS AND CONTRACT SPECIFICATIONS.

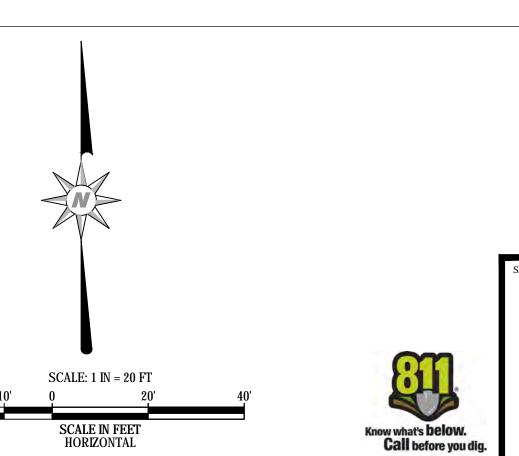
CONSTRUCTION/INSTALLATION:

- THE OWNER AND/OR ENGINEER RESERVES THE RIGHT TO REJECT ANY PLANTS AND MATERIALS THAT ARE IN AN UNHEALTHY OR UNSIGHTLY CONDITION, AS WELL AS PLANTS AND MATERIALS THAT DO NOT
- CONFORM TO ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK." 2. LABEL AT LEAST ONE TREE AND SHRUB OF EACH VARIETY AND CALIPER WITH A SECURELY ATTACHED,
- WATERPROOF TAG BEARING THE DESIGNATION OF BOTANICAL AND COMMON NAME.
- INSTALL LANDSCAPE PLANTINGS AT ENTRANCES/EXITS AND PARKING AREAS ACCORDING TO PLANS SO THAT MATERIALS WILL NOT INTERFERE WITH SIGHT DISTANCES.
- CONTRACTOR IS RESPONSIBLE FOR WATERING ALL PLANT MATERIAL DURING INSTALLATION AND UNTIL FINAL INSPECTION AND ACCEPTANCE BY OWNER. CONTRACTOR SHALL NOTIFY THE OWNER OF CONDITIONS WHICH AFFECTS THE GUARANTEE.

INSPECTIONS/GUARANTEE:

- 1. UPON COMPLETION OF LANDSCAPE INSTALLATION, THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR WHO WILL VERIFY THE COMPLETENESS, INCLUDING THE REPLACEMENT OF ALL DEAD PLANT MATERIAL. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING A FINAL INSPECTION BY THE ENGINEER.
- 2. ALL EXTERIOR PLANT MATERIALS SHALL BE GUARANTEED FOR ONE FULL YEAR AFTER DATE OF FINAL INSPECTION AGAINST DEFECTS INCLUDING DEATH AND UNSATISFACTORY GROWTH. DEFECTS RESULTING FROM NEGLECT BY THE OWNER, ABUSE OR DAMAGE BY OTHERS, OR UNUSUAL PHENOMENA OR INCIDENTS WHICH ARE BEYOND THE CONTRACTORS CONTROL ARE NOT THE RESPONSIBILITY OF THE CONTRACTOR.
- 3. PLANT MATERIAL QUANTITIES AND SIZES WILL BE INSPECTED FOR COMPLIANCE WITH APPROVED PLANS BY A SITE PLAN REVIEW AGENT OF THE PLANNING DEPARTMENT PRIOR TO THE RELEASE OF THE CERTIFICATE OF OCCUPANCY.
- 4. REMOVE ALL GUY WIRES AND STAKES 12 MONTHS AFTER INSTALLATION.









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