MARKET ST. 7-ELEVEN

"SITE & UTILITY PLAN"

CITY OF WILMINGTON

NEW HANOVER COUNTY, NORTH CAROLINA

ZONING SUMMARY

ZONING DISTRICT: RB REGIONAL BUSINESS DISTRICT		
ZONING REGULATION	REQUIRED	PROVIDED
FRONT YARD SETBACK (MAX)	75 FT.	51.81 FT.
SIDE STREET SETBACK (MAX)	20 FT.	20 FT.
SIDE INTERIOR SETBACK (WEST)	0 FT.	190.35 FT.
REAR YARD SETBACK	15 FT.	132.93 FT.
MAX. BUILDING HEIGHT	<45 FT.	24.82 FT.

PARKING SUMMARY

TYPE	DIMENSIONS		SPACES	
	REQUIRED	PROVIDED	MAX ALLOWED	PROVIDED
STANDARD SPACE	9' x 18'	9' x 18'		33
	(9' x 20')	9' x 20'		4
STANDARD ACCESSIBLE SPACE*	(9' x 20')	11' x 20'		1
VAN ACCESSIBLE SPACE	(9' x 20') + 5'	11' x 20' + 5'		1
TOTAL SPACES			39	39

*DENOTES ADA/FEDERAL REQUIREMENTS EXCLUSIVE OF REQUIRED VAN SPACES

PARKING REQUIREMENT CALCULATIONS:				
USE	ORDINANCE REQUIREMENT	VARIABLE	CALCULATION	RESULTS
VEHICLE WASH	2 SPACES PLUS 1 PER EMPLOYEE PER SHIFT	1 EMPLOYEE PER SHIFT	2 + (1/1)	3 SPACES
GENERAL RETAIL	1 SPACE PER EVERY 300 G.F.A.	4,598 G.F.A.	4,598 G.F.A. /300 G.F.A.	16 SPACES
RESTAURANT (INDOOR)	1 SPACE PER EVERY 2.5 SEATS	16 SEATS (192 G.F.A.)	16 SEATS /2.5 SEATS	7 SPACES
RESTAURANT (OUTDOOR)	1 SPACE PER EVERY 2.5 SEATS	24 SEATS	24 SEATS /2.5 SEATS	10 SPACES
			TOTAL REQUIRED:	39 SPACES

ADDITIONAL PARKING REQUIREMENT CALCULATIONS:				
USE	ORDINANCE REQUIREMENT	VARIABLE	CALCULATION	RESULTS
BICYCLE	5 (MIN)	N/A	N/A	5 SPACES
MOTORCYCLE/MOPED	1 SPACE PER EVERY 25 STD SPACES	39 STD SPACES	39 STD SPACES /25 SPACES	2 SPACES
ELECTRIC VEHICLE	4% OF STD SPACES	39 STD SPACES	0.04x39 STD SPACES	2 SPACES
THE SITE PLAN PROVIDES AT LEAST THE MINIMUM NUMBER OF SPACES OF EACH TYPE.				

STORM WATER MANAGEMENT AND WATER QUALITY IMPACTS

THE PROPOSED DEVELOPMENT WILL RESULT IN A TOTAL AREA OF 1.81 ACRES OF IMPERVIOUS SURFACE, INCLUDING THE EXISTING ROAD ON THE NORTH SIDE OF THE SITE. THIS IS LESS THAN WAS ASSUMED IN THE DESIGN OF THE STORM WATER MASTER PLAN. NO ADDITIONAL ON-SITE STORM WATER MITIGATION IS PROPOSED.

SANITARY SEWER DEMANDS

BASED ON THE NORTH CAROLINA AVERAGE WASTEWATER DESIGN FLOW RATES, THE PROPOSED DAILY SANITARY SEWER FLOW RATE FROM THE CONVENIENCE STORE WAS CALCULATED TO BE 2,875 GPD (1.75 GPM). THESE CALCULATIONS ARE AS FOLLOWS:

60GAL/100S.F. = 60 X 4790 / 100 = 2,875 GPD PEAK FLOW
2,875 G.P.D./1440 MIN. = 2.00 GPM PEAK FLOW

THE FLOW RATE FROM THE CAR WASH IS ESTIMATED TO BE 261 GPD (0.18 GPM).

FIRE FLOW DEMAND

PER NC BUILDING CODE THE REQUIRED FIRE FLOW FOR TYPE IIB CONSTRUCTION LESS THAN 5,000 SF IS 1,500 GPM.

TOPOGRAPHICAL SURVEY

EXISTING CONDITIONS INFORMATION SHOWN HEREON FOR AREAS WITHIN THE LIMITS OF DEVELOPMENT WERE PERFORMED BY SURVEY MATTERS IN DEC OF 2021. SURVEY COORDINATES ARE TIED TO THE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM, NAD83 (2011)/ NAVD 88. TOPOGRAPHICAL INFORMATION HEREON FOR AREA OUTSIDE THE LIMITS OF DEVELOPMENT ARE FROM NEW HANOVER COUNTY GIS AND EXISTING RECORD DRAWINGS.

NORTH CAROLINA 811

CALL NORTH CAROLINA, "ONE CALL" AT 811 OR (1-800-632-4949) TWO (2) DAYS PRIOR TO ANY DIGGING.

NOTE:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY FOR CONTACTING BORTH CAROLINA MISS UTILITY PRIOR TO ANY DEMOLITION OR CONSTRUCTION BEGINS.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL UTILITIES, VAULTS, UNDERGROUND STRUCTURES, ETC. BEFORE DEMOLITION OR CONSTRUCTION BEGINS. IT IS ALSO THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR/ REPLACE ANY DAMAGED UTILITIES, STRUCTURES, DURING DEMOLITION AND CONSTRUCTION.

SURVEY DATUM

NORTH AMERICAN DATUM 83 (NAD-83)
NORTH AMERICAN VERTICAL DATUM 88 (NAVD-88)

FLOODPLAIN

THE PROPERTY SHOWN HEREON IS WITHIN ZONE "X" (MINIMAL FLOOD RISK). THE SITE IS SHOWN ON THE FOLLOWING FEMA FLOOD INSURANCE RATE MAP:

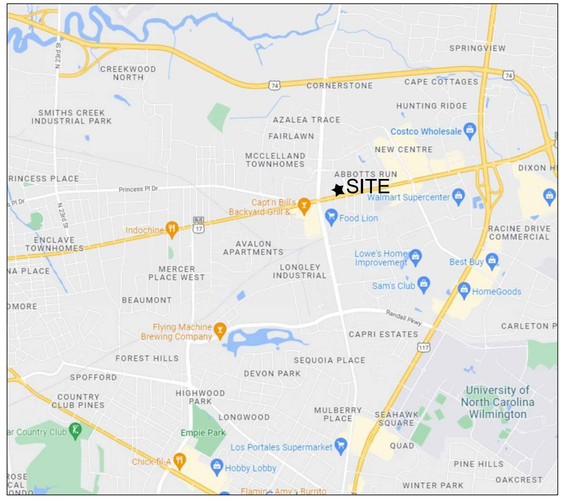
COMMUNITY: NEW HANOVER COUNTY
NUMBER: 370168; PANEL: 3138; SUFFIX: K
MAP NO. 3720313800K (EFFECTIVE 08/28/2013).

WETLAND AND CAMA AREAS OF ENVIRONMENTAL INTEREST

THERE ARE NO WETLANDS BEING IMPACTED ON THIS SITE AND NO CAMA AREAS OF ENVIRONMENTAL INTEREST ON THIS SITE. THE CAMA LAND USE CLASSIFICATION IS URBAN.

SURFACE WATERS

THERE ARE NO SURFACE WATERS ON THIS SITE.



SITE LOCATION MAP ~ SCALE: 1"=2000'

WATER - PUBLIC	
2" C900 PVC WL	26 L.F.
2" GATE VALVE	1 EA.
2" CURB STOP	1 EA.
2" DOMESTIC WATER METER AND BOX	1 EA.
1.5" DOMESTIC WATER METER (REUSE)	1 EA.
5/8" IRRIGATION METER AND BOX	1 EA.
12"x6" FIRE WATER TAPPING SLEEVE	1 EA.
6" FIRE WATER GATE VALVE	2 EA.
6" DI FIRE WL	26 L.F.

WATER - PRIVATE	
2" C900 PVC WL	166 L.F.
2" COMPRESSION TEE	1 EA.
2" DOMESTIC WATER R.P.Z. B.F.P. WITH HOTBOX	1 EA.
1.5" C900 PVC WL	182 L.F.
1.5" DOMESTIC WATER R.P.Z. B.F.P. WITH HOTBOX	1 EA.
5/8" IRRIGATION WATER R.P.Z. B.F.P. WITH HOTBOX	1 EA.
6" DI FIRE WL	180 L.F.
6" REDUCED PRESSURE DETECTOR ASS'Y FIRE HYDRANT WITH GATE VALVE	1 EA. 2 EA.
6"x6" TEE	2 EA.
6" PLUG	1 EA.
6" DI 45° BENDS	4 EA.

SANITARY - PRIVATE	
6" PVC SDR-35	230 L.F.
4" PVC SDR-35	177 L.F.
CLEANOUTS	8 EA.
48" MONITORING MANHOLE	2 EA.
GB-250 GREASE TRAP	1 EA.
750 GAL OIL/WATER INTERCEPTOR	1 EA.
1,500 GAL RECLAIM PIT	2 EA.

SANITARY - PUBLIC	
6" PVC SDR-35	35 L.F.
CLEANOUT	1 EA.

EROSION CONTROL	
CONSTRUCTION ENTRANCE	1 EA.
SILT FENCE	681 L.F.
CULVERT INLET SEDIMENT TRAP	1 EA.
INLET PROTECTION	20 EA.
TREE PROTECTION	13 EA.
SAFETY FENCE	255 L.F.
SEDIMENT SKIMMER BASIN	278 C.Y.
STONE OUTLET	11 C.Y.
TEMPORARY SEEDING	3,250 S.F.
PERMANENT SEEDING	39,639.6 S.F.

APPROXIMATE QUANTITIES LIST

THESE APPROXIMATE QUANTITIES PROVIDED ARE FOR INFORMATIONAL PURPOSES ONLY.
CONTRACTOR SHALL NOT UTILIZE QUANTITIES SHOWN FOR BIDDING PURPOSES.
CONTRACTOR SHALL FIELD VERIFY ALL QUANTITIES SHOWN ON THESE PLANS.

GAS
PIEDMONT NATURAL GAS
420 PIEDMONT ROW DRIVE
CHARLOTTE, NC 28210
877-279-3636

ELECTRIC
DUKE ENERGY, INC.
DUKE ENERGY PROGRESS
410 S. WILMINGTON STREET
RALEIGH, NC 27601
800-636-0581

WATER & SEWER
CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
910-332-6560

DEPT. OF PUBLIC SERVICES
CITY OF WILMINGTON PUBLIC SERVICES
209 COLEMAN DRIVE
WILMINGTON, NC 28412
910-343-4777

TELEPHONE
BELL SOUTH/ AT&T
888-764-2500

DEPT. OF PLANNING
CITY OF WILMINGTON
102 NORTH THIRD STREET
WILMINGTON, NC 28402
CONTACT: BRIAN CHAMBERS
910-342-2782

BUILDING CODE OFFICIAL
NEW HANOVER COUNTY
230 GOVERNMENT CENTER DRIVE
SUITE 170
WILMINGTON, NC 28403
910-798-7308

N.C.D.O.T.
1 SOUTH WILMINGTON STREET
RALEIGH, NC 27601
CONTACT: CHAD KIMES
910-341-2000

ONSITE TABULATIONS					
EXISTING CONDITIONS:			PROPOSED CONDITIONS:		
ITEM:	AREA (SF)	% USE	ITEM:	AREA (SF)	% USE
IMPERVIOUS			IMPERVIOUS		
BUILDINGS	0	0.0%	BUILDINGS	5,847	4.9%
ASPHALT, GRAVEL	28,731	24.3%	ASPHALT	43,543	36.8%
CONCRETE	1,482	1.2%	CONCRETE	22,549	19.1%
SUB-TOTAL	30,213	25.5%	SUB-TOTAL	71,939	60.8%
PERVIOUS			PERVIOUS		
OPEN SPACE	88,127	74.5%	OPEN SPACE	46,401	39.2%
TOTAL	118,340	100.0%	TOTAL	118,340	100.00%

AVERAGE TRIP GENERATION

THE PROJECTED AVERAGE DAILY TRIP GENERATION IS 4,320 VEHICLES PER DAY. MORNING PEAK HOUR IS 341 VEHICLES. AFTERNOON PEAK HOUR IS 384 VEHICLES. NUMBERS FOR LAND USES 945 AND 948. (ITE TRIP GENERATION, 11th EDITION VOL. 5)

SITE DATA

DEVELOPER:	ENCORE - BIRCHWOOD, LLC 1646 W SNOW AVE. #63 TAMPA, FL 33606 CONTACT: PATRICK BUDRONIS PH (813) 495-6536 EMAIL: PBUDRONIS@ENCORE-RE.COM
OWNER :	MARKET & KERR LLC, MARKET ST. VENTURES LLC, PREVATTE PROPERTIES LLC 3013 HALL WATTERS DR WILMINGTON, NC 28405
ENGINEER:	KOONTZ BRYANT JOHNSON WILLIAMS, INC 1703 NORTH PARHAM ROAD, SUITE 202 HENRICO, VIRGINIA 23229 CONTACT: MARK WILLIAMS PH (804) 200-1937 ~ FAX (804) 740-7338
SURVEYOR:	SURVEY MATTERS 107 HILLCREST AVENUE SIMPSONVILLE, SC 29861 CONTACT: NICK MANSFIELD, PLS PH (864) 451-0176
SITE ADDRESS:	4615, 4621, AND 4623 MARKET STREET WILMINGTON, NC 28405
PROPOSED USE:	7-11 CONVENIENCE STORE WITH GAS & CAR WASH
MAP REFERENCE:	PID NUMBER: R04915-001-005-000, R04915-001-001-000, R04914-003-008-000 LATITUDE, LONGITUDE (APPROXIMATE PARCEL CENTER): 34.2436°, -77.8878° HYDROLOGIC UNIT CODE: 030300070808 UNIT NAME: SMITH CREEK RECEIVING WATER BODIES: CAPE FEAR
UTILITIES:	ALL UTILITIES SHALL BE LOCATED UNDERGROUND
DRAINAGE:	CURB & GUTTER
PARCEL ZONING:	RB (REGIONAL BUSINESS)
PARCEL AREA:	±2.72 ACRES
DISTURBED AREA:	±2.43 ACRES
BUILDING SQ. FT.	4,790 SQ. FT. (CONVENIENCE STORE) 1,057 SQ. FT. (CAR WASH)
BUILDING STORIES:	1 STORY
BUILDING HEIGHT:	24'-10"
CONSTRUCTION TYPE:	II-B NOT SPRINKLERED
SOIL TYPE:	ACCORDING TO THE UNITED STATES DEPARTMENT OF AGRICULTURE THE SOIL TYPES ON SITE INCLUDE: Le-LEON SAND, 0 TO 2 PERCENT SLOPES. Se-SEAGATE FINE SAND, 0 TO 2 PERCENT SLOPES. Ur-URBAN LAND.

RECEIVED
By Jeff Walton at 9:12 am, Nov 15, 2022

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1703 N. Parham Rd.
Suite 202
Henrico, Va 23229
(804) 740-9200
FAX (804) 740-7338
www.KBJWgroup.com

DRAFT

REVISIONS

NO.	DATE	DESCRIPTION
1.	09/27/22	ISSUED FOR BIDS
2.	10/10/22	REVISED PER CITY COMMENTS
3.	11/1/22	REVISED PER CITY AND CFPUA COMMENTS
4.		

POST APPROVAL

DESIGNED	DRAWN	CHECKED
RJL	CRT	

MARKET STREET 7-ELEVEN
4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405
CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

COVER

SCALE:
DATE: 07/20/2022
PROJECT: B6229.63

C0.0

PLAN NUMBER #2022036

LEGEND

ROAD AND DRAINAGE

- CULVERT OR STORM SEWER
- EXISTING STORM SEWER
- (##) DROP INLET (WITH STRUCTURE NO.)
- (D) PROPOSED DRAINAGE MANHOLE
- (D) EXISTING DRAINAGE MANHOLE
- PAVED DITCH
- JUTE MESH OR SODDED DITCH
- EARTHEN, GRASSED LINED DITCH
- 105 EXISTING MAJOR CONTOUR
- 102 EXISTING MINOR CONTOUR
- 95 PROPOSED MAJOR CONTOUR
- 94 PROPOSED MINOR CONTOUR
- + 95.25 EXISTING SPOT ELEVATION
- + 96.75 PROPOSED SPOT ELEVATION
- + 96.75 TC PROPOSED TOP OF CURB ELEVATION
- CG-12

SEWER

- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- SANITARY SEWER LATERAL
- N: 1612745.14 E: 1181672934.34 SEWER MANHOLE # WITH STATION & COORDINATE LOCATION
- (S) PROPOSED SEWER MANHOLE
- (S) EXISTING SEWER MANHOLE

WATER

- EXISTING WATERLINE
- PROPOSED WATERLINE
- PROPOSED WATERLINE SERVICE
- PROPOSED GATE VALVE
- FIRE HYDRANT ASSEMBLY
- TEE OR TAPPING SLEEVE
- CROSS
- PLUG
- REDUCER

CURB AND GUTTER

- CURB & GUTTER
- EX. CURB & GUTTER
- STANDARD CG-2
- EX. STANDARD CG-2
- TRANSITION TO DRY CURB
- DRY CURB

ENVIRONMENTAL

- 100 YEAR FLOOD PLAIN ELEVATION
- WATERS OF THE U.S.
- WETLAND
- LIMITS LIMITS OF CLEARING/DISTURBANCE
- EX TREE LINE
- 100 YEAR BACKWATER ELEVATION
- LOD LIMITS OF CONSTRUCTION

MISC:

- POWER POLE
- GUY WIRE
- T TRANSFORMER
- V UTILITY VAULT
- ELECTRICAL BOX
- E ELECTRICAL SWITCH \ PANEL BOX
- ELECTRICAL METER
- HVAC/AC UNIT
- BOLLARD
- CONDUIT
- BUILDING DOWNSPOUT
- POLE LIGHT
- BUILDING LIGHT
- STREET LIGHT
- GAS METER
- GAS VALVE
- TEST PIT MARKER
- (#) TEST PIT TAG
- SATELLITE DISH
- FLAG POLE
- STREET SIGN
- MAIL BOX

- LIMITS OF WETLANDS DISTURBANCE
- GRAVEL PAVEMENT
- HEAVY DUTY PAVEMENT
- LIGHT DUTY PAVEMENT
- WETLANDS
- CONCRETE PADS, SWALK, RAMPS

ABBREVIATIONS

AC.	ACRE
CL OR C/L	CENTERLINE
CONC	CONCRETE
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
F/C	FACE OF CURB
FF	FINISH FLOOR
FH	FIRE HYDRANT
GV	GATE VALVE
MFF	MINIMUM FINISH FLOOR
NBP	NO BUILDING PERMIT
PL	PROPERTY LINE
PRV	PRESSURE REGULATOR VALVE
R/W	RIGHT-OF-WAY
SAN SEW	SANITARY SEWER
TC	TOP OF CURB
TYP	TYPICAL
UTIL	UTILITY
W/L	WATERLINE

WATER AND SANITARY NOTES

1. ALL MATERIALS FOR SEWER AND WATER SYSTEMS SHOWN SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS OF THE LOCAL UTILITY DEPARTMENT.
2. FOR SEWER AND WATER INSTALLATION WITHIN EXISTING N.C.D.O.T. RIGHT OF WAY, UTILITY CONTRACTORS MUST NOTIFY NCDOT WHEN INSTALLATION BEGINS SO THAT DENSITY CAN BE TESTED.
3. ALL WORK SHALL BE SUBJECT TO INSPECTION BY UTILITY DEPARTMENT OFFICIALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF APPROPRIATE COUNTY OFFICIALS 48 HOURS PRIOR TO START OF WORK.
4. THE ENGINEER WILL CERTIFY THAT THE ROADS AND DITCHES ARE WITHIN 6" OF SUBGRADE BEFORE WATER LINE CONSTRUCTION CAN BEGIN.
5. THE CONTRACTOR WILL INSTALL ALL WATER SERVICE CONNECTIONS AND METER BOXES.
6. CONTRACTOR WILL REFER TO CITY OF WILMINGTON STANDARDS, SEE SHEETS C9.1 AND C9.3 FOR ALL DETAILS AND SPECIFICATIONS.
7. BACKFILL FOR ALL UTILITIES WITHIN PROPOSED STREETS SHALL BE PLACED GENERALLY IN ACCORDANCE WITH THE CITY OF WILMINGTON SPECIFICATIONS AND THE FOLLOWING CRITERIA:
   A. NO TRENCH SHALL BE BACKFILLED UNTIL AUTHORIZED BY THE CITY. MATERIALS USED FOR BACKFILL FROM THE BOTTOM OF THE TRENCH TO TWELVE INCHES (12") ABOVE THE PIPE SHALL BE SELECT MATERIAL FREE FROM FROST, LARGE CLOGS, STONES AND DEBRIS, AND SHALL BE THOROUGHLY AND CAREFULLY COMPACTED.
   B. BACKFILL SHALL BE COMPACTED BY MECHANICAL TAMPING THROUGHOUT THE DEPTH OF THE TRENCH TO INSURE A SUITABLE SUBBASE ACCEPTABLE TO THE ROAD ENGINEER. THE MATERIAL TAKEN FROM THE DITCH IS NOT SUITABLE FOR BACKFILLING. IT SHALL BE REMOVED AND AN ACCEPTABLE MATERIAL USED FOR BACKFILLING THE TRENCH.
8. A BACKWATER VALVE IS TO BE USED WHERE THE BUILDING HAS A FINISHED FLOOR ELEVATION THAT IS BELOW THE TOP ELEVATION OF THE NEAREST UPGRADE MANHOLE FROM THE BUILDING CONNECTION.
9. NO STRUCTURES OR PLANTING OF TREES SHALL BE PERMITTED IN UTILITY EASEMENTS.
10. MINIMUM COVER OVER TOP OF WATER PIPE MUST BE 30 INCHES AND A MAXIMUM OF 5 FEET.
11. CONTRACTOR MUST FIELD VERIFY THE INVERTS OF ALL EXISTING MANHOLES, GAS LINES, AND OTHER UTILITY LINES PRIOR TO THE START OF CONSTRUCTION.
12. THE CONTRACTORS SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK.
13. ALL DAMAGE INCURRED TO EXISTING UTILITIES DURING CONSTRUCTION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

FIRE & LIFE SAFETY NOTES

1. LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE FDCs OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL ALWAYS BE MAINTAINED AROUND THE CIRCUMFERENCE OF HYDRANTS AND FDCs.
2. ADDITIONAL FIRE PROTECTION AND/OR ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES REGARDING THE PROJECT.

TRAFFIC ENGINEERING NOTES

1. ANY REQUIRED INSTALLATION OR RELOCATION OF TRAFFIC SIGNS/PAVEMENT MARKINGS IS THE RESPONSIBILITY OF THE PROJECT DEVELOPER. PLEASE COORDINATE WITH CITY TRAFFIC SIGNS AND PAVEMENT MARKINGS MANAGER/SUPERVISOR PRIOR TO INSTALLATION/ RELOCATION OF ANY TRAFFIC SIGNS OR MARKINGS IN EXISTING OR PROPOSED PUBLIC ROW.
2. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
3. ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
4. ALL TRAFFIC CONTROL SIGNALS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
5. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
6. ANY BROKEN OR MISSING SIDEWALK PANELS, CURBING, AND DRIVEWAY PANELS WILL BE REPLACED.
7. CONTACT 811 PRIOR TO CONTACTING CITY OF WILMINGTON, TRAFFIC ENGINEERING REGARDING THE UTILITIES IN ROW.

NCDOT NOTES

1. WORK WITHIN DEPARTMENTAL RIGHTS OF WAY REQUIRING LANE OR SHOULDER CLOSURES OR OTHER AFFECTED AREAS WILL REQUIRE STRICT ADHERENCE TO NCDOT SPECIFICATIONS AND STANDARDS.
2. SIGNS AND VERTICAL MARKERS (MONUMENTS, DISPLAYS, ETC.) SHALL NOT BE PERMITTED WITHIN NCDOT RIGHT-OF-WAY.

CONSTRUCTION NOTES

1. ALL DIMENSIONS ARE TO THE FACE OF CURB, UNLESS OTHERWISE NOTED.
2. ALL DITCHES/SWALES SHALL BE ROUGHED IN AT THE TIME OF ROAD CONSTRUCTION.
3. CONTRACTOR SHALL MAINTAIN AN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.

GENERAL NOTES

1. PRIOR TO BIDDING, THE CONTRACTOR SHALL VISIT THE PROPOSED CONSTRUCTION SITE AND BECOME FAMILIAR WITH ALL EXISTING FEATURES AND UTILITIES AND BASE THE BID PRICE ACCORDINGLY.
2. THE CONTRACTOR SHALL CAREFULLY EXAMINE THE SITE AND MAKE ALL INSPECTIONS NECESSARY IN ORDER TO DETERMINE THE FULL EXTENT OF THE WORK REQUIRED TO MAKE THE PROPOSED WORK CONFORM TO THE DRAWINGS AND SPECIFICATIONS THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE NATURE AND LOCATION OF THE WORK, CONDITIONS, AND CONFIRMATION AND CONDITION OF EXISTING GROUND SURFACE AND THE CHARACTER OF THE EQUIPMENT AND FACILITIES NEEDED PRIOR TO AND DURING EXECUTION OF THE WORK. THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE CHARACTER, QUANTITY AND QUALITY OF SURFACE AND SUBSURFACE MATERIALS OR OBSTACLES TO BE ENCOUNTERED. ANY INACCURACIES OR DISCREPANCIES BETWEEN THE DRAWINGS AND SPECIFICATIONS MUST BE BROUGHT TO THE OWNER'S ATTENTION IN ORDER TO CLARIFY THE EXACT NATURE OF THE WORK TO BE PERFORMED PRIOR TO THE COMMENCEMENT OF ANY WORK.
3. THE CONTRACTOR SHALL FOLLOW ALL LOCAL, STATE, AND, FEDERAL SAFETY REGULATIONS AND PROCEDURES THAT ARE APPLICABLE IN THE CONSTRUCTION OF THE PROPOSED WORK.
4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY LOCAL, STATE, AND FEDERAL PERMITS REQUIRED AT THE CONTRACTOR'S EXPENSE FOR CONSTRUCTION OF THE PROPOSED SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF THE APPROPRIATE CITY OFFICIALS 48 HOURS PRIOR TO START OF WORK ON THIS PROJECT.
6. ALL CONSTRUCTION MATERIALS SHALL CONFORM WITH THE LATEST EDITION OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE STANDARDS AND ROAD & BRIDGE SPECIFICATIONS EXCEPT WHERE LOCAL STANDARDS ARE APPLICABLE.
7. ALL REQUIRED TRAFFIC CONTROL SIGNS SHALL BE FABRICATED AS SHOWN IN "THE NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AND NORTH CAROLINA SUPPLEMENT THERETO.
8. THE LOCATION OF EXISTING UTILITIES, CONDUITS, OR OTHER STRUCTURES ACROSS, UNDERNEATH, OR OTHERWISE ALONG THE LINE OF PROPOSED WORK AREA NOT NECESSARILY SHOWN ON THE PLANS, AND IF SHOWN ARE ONLY APPROXIMATELY CORRECT. THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL STRUCTURES AND UTILITIES (OVERHEAD AND UNDERGROUND) IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT THE ENGINEER IMMEDIATELY IF THE LOCATION OR ELEVATION DIFFERS FROM THAT SHOWN ON THE PLAN AND APPEARS TO BE IN CONFLICT WITH PROPOSED WORK. **THE CONTRACTOR SHALL CONTACT "NC 811" AT 1-800-632-4949 OR 811 PRIOR TO CONSTRUCTION.**
9. DAMAGE TO UTILITIES (ABOVE AND BELOW GROUND) OR PROPERTY OF OTHERS BY CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED TO PRE-CONSTRUCTION CONDITIONS BY CONTRACTOR AT NO COST TO THE OWNER.
10. ALL DRAINAGE STRUCTURES MAY BE EITHER PRECAST OR CAST-IN-PLACE. SHOP DRAWINGS OF ALL PRECAST STRUCTURES MUST BE SUBMITTED FOR APPROVAL BY ENGINEER.
11. THE CONTRACTOR SHALL COORDINATE THE ABANDONMENT / REMOVAL OF EXISTING TELEPHONE SERVICE AND LOCATION OF NEW TELEPHONE SERVICE WITH THE TELEPHONE UTILITY AND THE OWNER.
12. IF NECESSARY, THE CONTRACTOR SHALL COORDINATE THE ABANDONMENT / REMOVAL OF EXISTING POWER SERVICE AND LOCATION OF NEW POWER SERVICE WITH THE POWER UTILITY AND THE OWNER.
13. IF NECESSARY, THE CONTRACTOR SHALL HAVE A SET OF APPROVED PLANS AT THE SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY LOCAL (CITY) INSPECTORS.
14. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL DITCHES, PIPES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN THE WATERWAYS IN OPERABLE CONDITION.
15. THE LOCAL (CITY) ENGINEER MAY REQUIRE ADDITIONAL DRAINAGE AND EROSION CONTROL, IF MEASURES WARRANT.
16. THE APPROVAL OF THIS PLAN SHALL NOT IN ANY WAY GRANT PERMISSION BY THE CITY FOR THE CONTRACTOR TO TRESPASS ON OFF-SITE PROPERTIES.
17. CONSTRUCTION STAKING SHALL BE PERFORMED BY A LAND SURVEYOR LICENSED IN THE STATE OF NORTH CAROLINA.
18. THE PLANS SHOULD BE FOLLOWED AS APPROVED. KOONTZ BRYANT JOHNSON WILLIAMS, INC. WILL NOT ACCEPT RESPONSIBILITY FOR CHANGES MADE BY OTHERS.

KOONTZ BRYANT JOHNSON WILLIAMS
1703 N. Parham Rd.
Suite 202
Henrico, Va 23229
(804) 740-9200
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REVISIONS

NO.	DATE	DESCRIPTION
1.	09/27/22	ISSUED FOR BIDS
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3.	11/11/22	REVISED PER CITY AND CPUA COMMENTS
4.		

POST APPROVAL

DESIGNED	DRAWN	CHECKED
RJL	CRT	

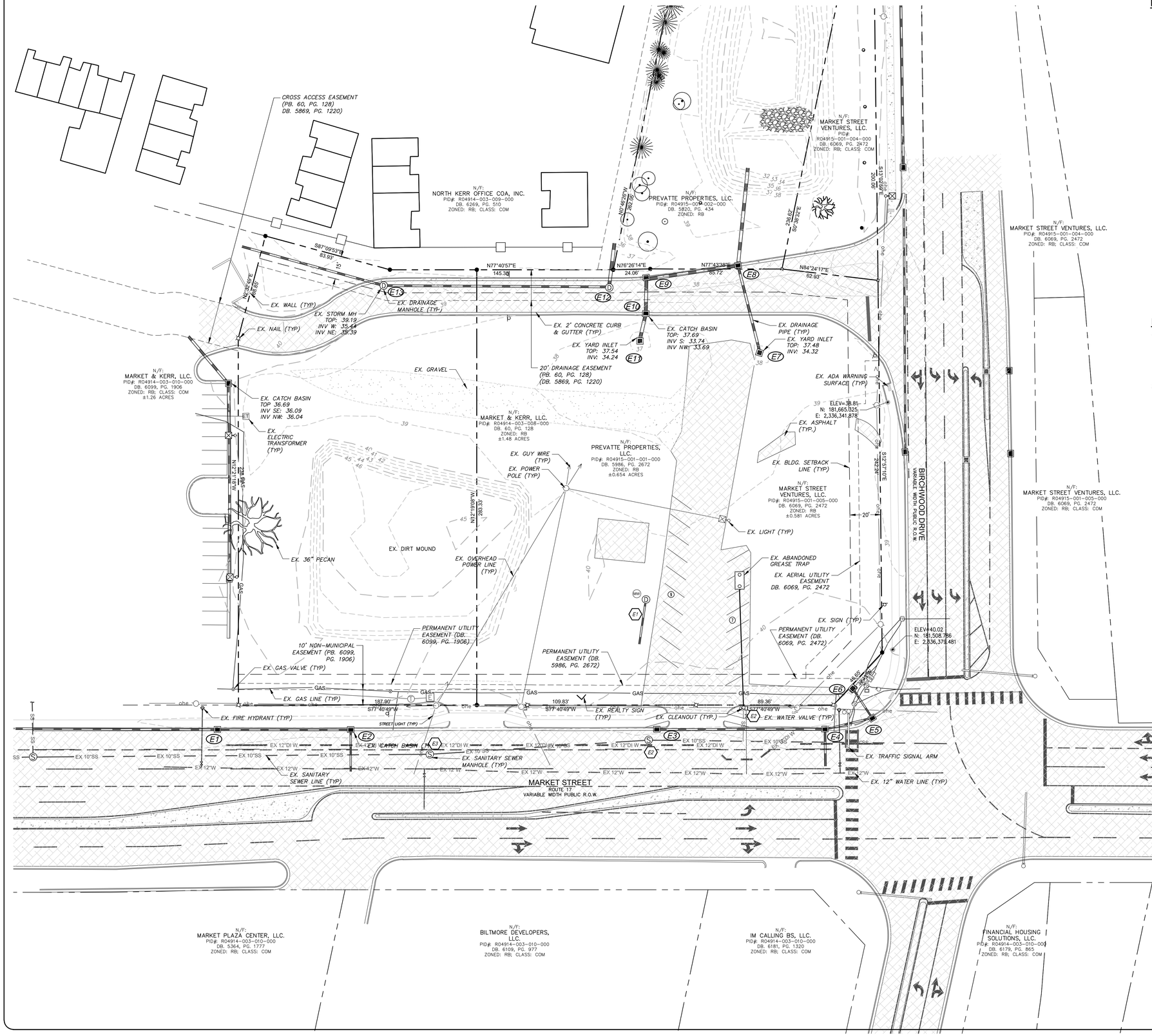
MARKET STREET 7-ELEVEN
4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405
CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

GENERAL NOTES

SCALE: N/A
DATE: 07/20/2022
PROJECT: B6229.63

C1.1

PLAN NUMBER #2022036



EX. CONDITIONS PLAN & SURVEY NOTES:

1. NORTH ARROW, BEARINGS, AND COORDINATES ARE BASED UPON NC GRID NAD 83 ESTABLISHED BY VIRTUAL REFERENCE STATION REAL TIME NETWORK GPS OBSERVATION.
2. ELEVATIONS ARE BASED UPON NAVD 88 ESTABLISHED BY VIRTUAL REFERENCE STATION REAL TIME NETWORK GPS OBSERVATION.
3. REFERENCE IS HEREBY MADE TO THE FOLLOWING MAPS:

   A. PLAT BOOK 60, PAGE 128 RECORDED IN THE NEW HANOVER COUNTY REGISTER OF DEEDS OFFICE.
4. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT.
5. THIS SURVEY MEETS THE REQUIREMENT FOR A CLASS "A" SURVEY (1:10,000) AS DEFINED FOR THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN THE STATE OF NORTH CAROLINA.
6. THE AREA WAS DETERMINED BY DMD METHOD.
7. ALL HORIZONTAL DISTANCES ARE GROUND DISTANCES.
8. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM ONE CALL TICKET #06419 C213473092-00C, FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.
9. THE PROPERTY APPEARS TO BE IN FEMA ZONE "X" (AREA OF MINIMAL FLOOD HAZARD), PER MAP #3720313800K; EFFECTIVE AUGUST 28, 2018.
10. ZONING PROVIDED BY THE CITY OF WILMINGTON TO BE USED FOR INFORMATIONAL PURPOSES ONLY.
11. TOTAL AREA = 118,340 S.F. = 2.717± ACRES
12. NO EVIDENCE OF RECENT EARTH MOVING, BUILDING CONSTRUCTION, STREET OR SIDEWALK CONSTRUCTION WAS OBSERVED ON SITE.
13. THE SITE DOES NOT APPEAR TO HAVE BEEN USED AS A SOLID WASTE DUMP, SUMP, OR SANITARY LANDFILL.
14. NO VISIBLE FLAGGING EVIDENCE OF POTENTIAL WETLANDS WERE OBSERVED ON THE SUBJECT PROPERTY AT THE TIME THE SURVEY WAS CONDUCTED, NOR HAVE WE RECEIVED ANY DOCUMENTATION OF ANY WETLANDS BEING LOCATED ON THE SUBJECT PROPERTY.

NOTES

1. THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UTILITIES, AS SHOWN HEREON, ARE APPROXIMATE ONLY. NO GUARANTEE IS HEREIN MADE OR IMPLIED THAT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN. IT SHALL BE THE CONTRACTOR'S AND\OR OWNER'S RESPONSIBILITY TO CONTACT ALL UTILITY COMPANIES AND TO VERIFY THE TYPE, SIZE, AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO STARTING THE WORK. ANY DISCREPANCIES IN OR FROM THE INFORMATION SHOWN HEREON SHALL BE REPORTED TO KOONTZ BRYANT JOHNSON WILLIAMS, PC, PRIOR TO COMMENCING CONSTRUCTION.
2. ALL E&S CONTROLS MUST BE INSTALLED PRIOR TO BEGINNING DEMOLITION WORK.

LEGEND

- STANDARD DUTY PAVEMENT
- HEAVY DUTY PAVEMENT
- CONCRETE SIDEWALK
- GRAVEL
- BENCHMARK (EL: ____)

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POST APPROVAL

DESIGNED	DRAWN	CHECKED
RJL	CRT	

MARKET STREET 7-ELEVEN

4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405
CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

EXISTING CONDITIONS

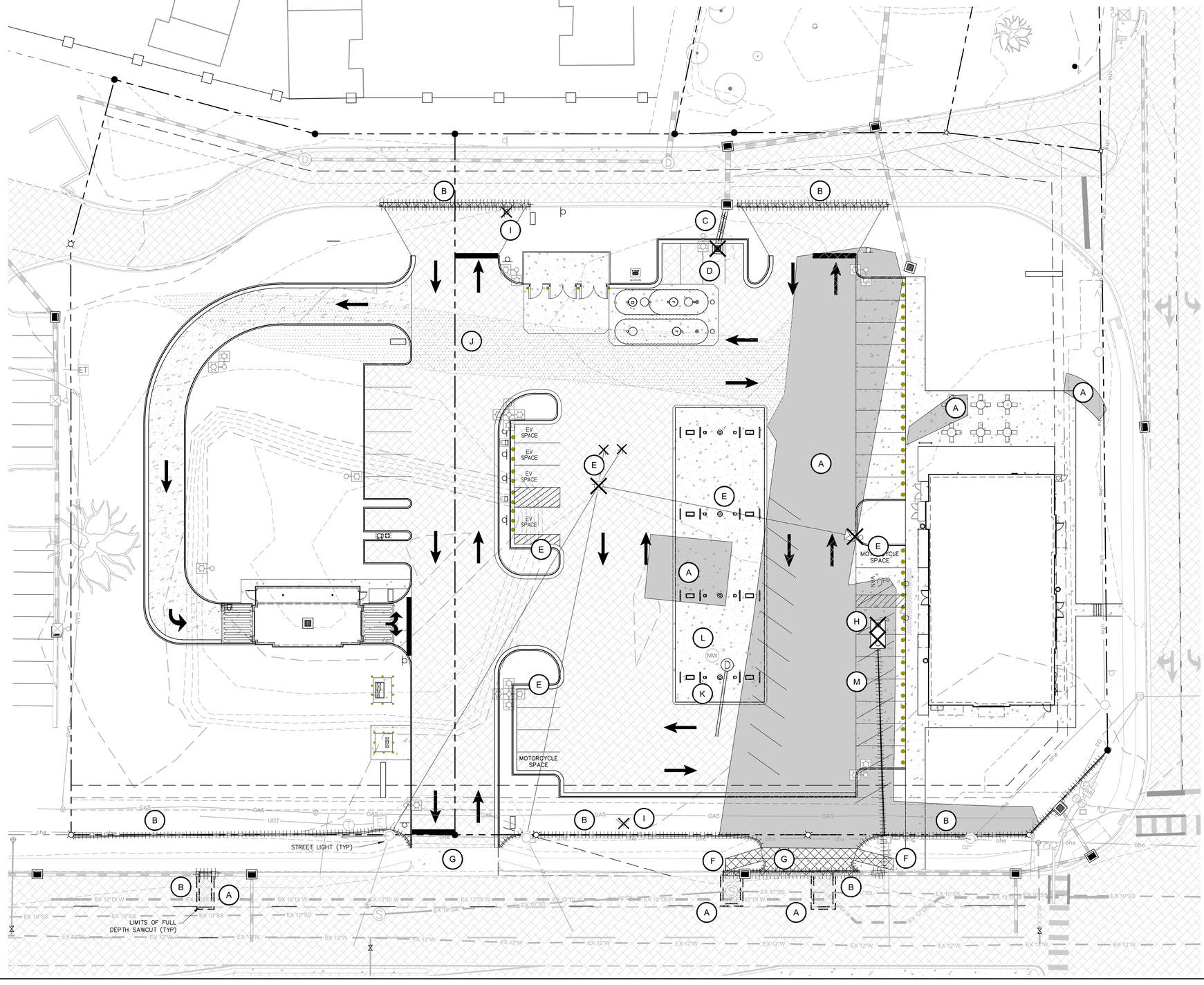
SCALE: 1" = 30 '
DATE: 07/20/2022
PROJECT: B6229.63

C1.2

PLAN NUMBER #2022036

NOTICE TO CONTRACTOR REGARDING EXISTING UTILITIES

1. KOONTZ BRYANT JOHNSON WILLIAMS IS NOT RESPONSIBLE FOR UTILITIES THAT MAY EXIST AND ARE NOT SHOWN OR FOR UTILITIES THAT MAY HAVE BEEN INCORRECTLY LOCATED.
2. PRIOR TO CONSTRUCTION OR EXCAVATION, THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES (PUBLIC OR PRIVATE) THAT MAY EXIST AND CROSS THROUGH THE AREA OF CONSTRUCTION. "NC 811" OF NORTH CAROLINA MUST BE CONTACTED A MINIMUM OF 72 HOURS PRIOR TO EXCAVATING AT "811" OR (1-800-632-4949). THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY EXISTING UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION, AT HIS OWN EXPENSE.
3. THE RELOCATION OF ANY UTILITIES (PUBLIC OR PRIVATE), WILL BE AT THE DEVELOPER'S AND/OR CONTRACTOR'S EXPENSE, AND SHALL BE COMPLETED PRIOR TO THE PLACEMENT OF ANY BASE MATERIAL OR PAVEMENT IN CONJUNCTION WITH THE SITE WORK. ALL NEW UTILITY LINE INSTALLATIONS MUST BE UNDERGROUND (SUCH AS TELEPHONE, GAS, POWER, CABLE TELEVISION, ETC.).
4. SEVERAL PRIVATE ("DRY" TYPE) UTILITIES WILL NEED TO BE TERMINATED AND/OR RELOCATED AND/OR REPLACED WITH THIS PROJECT (SUCH AS TELEPHONE, GAS, POWER, CABLE TELEVISION, FIBER-OPTIC, ETC.). THE LOCATION AND DETAILS FOR THESE MODIFICATIONS AND/OR REPLACEMENTS SHALL BE COORDINATED BY THE CONTRACTOR AND SHALL BE PROVIDED BY THE UTILITY PROVIDER. NO PROVISIONS FOR THE MODIFICATION AND/OR REPLACEMENT OF DRY UTILITIES HAS BEEN MADE WITH THIS PLAN SET.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THE PROPOSED SCOPE OF WORK INDICATED WITHIN THESE PLANS (IN ITS ENTIRETY) PRIOR TO CONSTRUCTION IN AN EFFORT TO BEGIN COORDINATION EFFORTS WITH UTILITY PROVIDERS IMMEDIATELY AFTER BEING AWARDED THE PROJECT.



DEMOLITION NOTES:

1. CONTRACTOR TO NOTIFY CFPUA INSPECTOR OF ABANDONMENT SCHEDULE SO THAT THE WORK CAN BE VERIFIED. ALL EXISTING WATER METERS SHALL BE REMOVED BY CFPUA STAFF. SERVICE CONNECTIONS SHALL BE PROPERLY ABANDONED PRIOR TO DEMOLITION PERMIT APPROVAL. UTILITIES ACCOUNT WILL BE FINALIZED AND BILLING WILL STOP ONLY AFTER PROPER ABANDONMENT OF THE SERVICES HAS BEEN VERIFIED BY CFPUA.
2. ALL EXISTING WATER AND SEWER UTILITIES SHALL BE ABANDONED IN ACCORDANCE WITH CFPUA STANDARDS.
3. CONTRACTOR SHALL FIELD ADJUST TOP ELEVATIONS OF EXISTING AND/OR PROPOSED UTILITY STRUCTURES (AS APPLICABLE) TO MATCH PAVEMENT AND/OR CURB SURFACES
4. ALL E&S CONTROLS MUST BE INSTALLED PRIOR TO BEGINNING DEMOLITION WORK.
5. CONTRACTOR SHALL DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MANMADE SURFACE FEATURES WITHIN THE LIMIT OF WORK INCLUDING BUILDINGS, STRUCTURES, PAVEMENTS, DRIVEWAYS, SLABS, CURBING, FENCES, UTILITY POLES, SIGNS, ETC. UNLESS INDICATED OTHERWISE ON THE DRAWINGS. REMOVE AND DISPOSE OF EXISTING UTILITIES, FOUNDATIONS AND UNSUITABLE MATERIAL BENEATH AND FOR A DISTANCE OF 10 FEET BEYOND THE PROPOSED BUILDING FOOTPRINT INCLUDING EXTERIOR COLUMNS.
6. CONTRACTOR SHALL CONFORM TO CHAPTER 33 OF THE UNIFORM BUILDING CODE (UBC) LATEST EDITION, AND LOCAL ORDINANCES FOR ALL DEMOLITION WORK. REFER TO SECTION 13280 'GENERAL HAZARDOUS MATERIALS ABATEMENT' AND SECTION 13281 'GENERAL REQUIREMENTS – HAZARDOUS MATERIALS ABATEMENT' FOR SPECIAL REQUIREMENTS.
7. CONTRACTOR SHALL APPLY FOR AND OBTAIN ALL NECESSARY PERMITS FROM LOCAL AND STATE AUTHORITIES TO COMPLETE THE WORK.
8. LOCATION OF UNDERGROUND UTILITIES AND PIPELINES SHOWN WITHIN PLANS ARE APPROXIMATE AND SOME UNDERGROUND UTILITIES MAY NOT BE SHOWN ON THIS PLAN. THEREFORE, ACCURATE LOCATING IS REQUIRED. IF ANY ADDITIONAL UTILITIES OR UNDERGROUND FEATURES ARE IDENTIFIED DURING DEMOLITION WORK, CONTRACTOR SHALL IMMEDIATELY NOTIFY KOONTZ BRYANT JOHNSON WILLIAMS AT (804) 740-9200.
9. EXISTING UTILITIES SHALL BE TERMINATED, UNLESS OTHERWISE NOTED, IN CONFORMANCE WITH LOCAL, STATE AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES. ALL INLET GRATES, MANHOLES, VALVES, AND HYDRANTS THAT ARE TO REMAIN SHALL BE PROTECTED FROM DAMAGE BY DEMOLITION ACTIVITIES.
10. CONTRACTOR SHALL MAINTAIN THE STREETS, SIDEWALKS, PARKING LOTS, AND ALL OTHER PUBLIC RIGHT-OF-WAYS IN A CLEAN, SAFE, AND USABLE CONDITION, AND REMOVE DEBRIS AND LITTER ON A DAILY BASIS WHILE DEMOLITION IS IN PROGRESS. PEDESTRIAN AND VEHICLE SAFETY MUST BE MAINTAINED DURING ALL DEMOLITION ACTIVITIES.
11. THE CONTRACTOR SHALL ENSURE THE SITE IS LEFT IN A CLEAN MANNER UPON COMPLETION OF DEMOLITION ACTIVITIES AND PRIOR TO NEW CONSTRUCTION ACTIVITIES. THERE SHALL NOT BE ANY DEBRIS, LITTER, OR OTHER DEMOLITION RELATED WASTE LEFT ON THE PROPERTY.
12. THIS DEMOLITION PLAN IS INTENDED TO AID THE CONTRACTOR DURING THE BIDDING AND CONSTRUCTION PROCESS AND IS NOT INTENDED TO DEPICT EACH AND EVERY ELEMENT OF DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THE DETAILED SCOPE OF DEMOLITION BEFORE SUBMITTING A BID/PROPOSAL TO PERFORM THE WORK AND SHALL MAKE NO CLAIMS AND SEEK NO ADDITIONAL COMPENSATION FOR CHANGED CONDITIONS OR UNFORESEEN OR LATENT SITE CONDITIONS RELATED TO ANY CONDITIONS DISCOVERED DURING EXECUTION OF THE WORK.
13. UNLESS OTHERWISE SPECIFICALLY PROVIDED ON THE PLANS OR IN THE SPECIFICATIONS, THE ENGINEER HAS NOT PREPARED DESIGNS FOR AND SHALL HAVE NO RESPONSIBILITY FOR THE PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF HAZARDOUS MATERIALS, TOXIC WASTES OR POLLUTANTS AT THE PROJECT SITE. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY CLAIMS OF LOSS, DAMAGE, EXPENSE, DELAY, INJURY OR DEATH ARISING FROM THE PRESENCE OF HAZARDOUS MATERIAL AND CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE ENGINEER FROM ANY CLAIMS MADE IN CONNECTION THEREWITH. MOREOVER, THE ENGINEER SHALL HAVE NO ADMINISTRATIVE OBLIGATIONS OF ANY TYPE WITH REGARD TO ANY CONTRACTOR AMENDMENT INVOLVING THE ISSUES OF PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF ASBESTOS OR OTHER HAZARDOUS MATERIALS.
14. ALL EXISTING UTILITIES SHALL BE PROTECTED DURING PROPOSED CLEARING, DEMOLITION AND CONSTRUCTION AND ADEQUATE COVER SHALL BE MAINTAINED OVER ALL SANITARY SEWER MAINS AND WATER MAINS IN ACCORDANCE WITH PWC STANDARDS.

DEMOLITION SUMMARY

- (A) *REMOVE EXISTING ASPHALT PAVING.*
- (B) *REMOVE EXISTING CURB & GUTTER.*
- (C) *REMOVE EXISTING STORM PIPE.*
- (D) *REMOVE EXISTING STORM STRUCTURE.*
- (E) *REMOVE EXISTING GUY WIRES, LIGHT POLE, AND OVERHEAD POWER LINES. *COORDINATE WITH DUKE ENERGY PROGRESS*
- (F) *REMOVE EXISTING SIDEWALK.*
- (G) *REMOVE EXISTING COMMERCIAL DRIVEWAY.*
- (H) *REMOVE ABANDONED EXISTING SANITARY MANHOLES AND GREASE TRAP.*
- (I) *REMOVE EXISTING SIGN.*
- (J) *REMOVE EXISTING GRAVEL DRIVEWAY.*
- (K) *REMOVE EXISTING STORM MANHOLE AND APPROX 90 LF OF EXISTING 12" STORM LINE.*
- (L) *ABANDON ALL MONITORING WELLS ON SITE. COORDINATE WITH UTILITY COMPANY TO LOCATE AND FIELD VERIFY ALL MONITORING WELLS.*
- (M) *ABANDON EXISTING 4" SEWER SERVICE LINE. CUT AND CAP AT CURB..*

LEGEND

- CONCRETE AND/OR SIDEWALK TO BE REMOVED
- ASPHALT PAVEMENT TO BE REMOVED
- GRAVEL TO BE REMOVED
- DEMOLITION AND REMOVAL OF CURB AND GUTTER, WALLS, AND EXISTING UTILITIES
- DEMOLITION AND REMOVAL OF STORM SEWER, AND UTILITIES
- DEMOLITION AND REMOVAL OF STRUCTURES, TREES, LIGHTS, ELEC. BOXES, METERS & METER BOXES, WELLS AND OTHER MISC. SITE ITEMS

NAD 83

GRAPHIC SCALE

20 0 10 20 40

1 inch = 20 feet

PLAN NUMBER #2022036

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POST APPROVAL

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RJL	CRT	

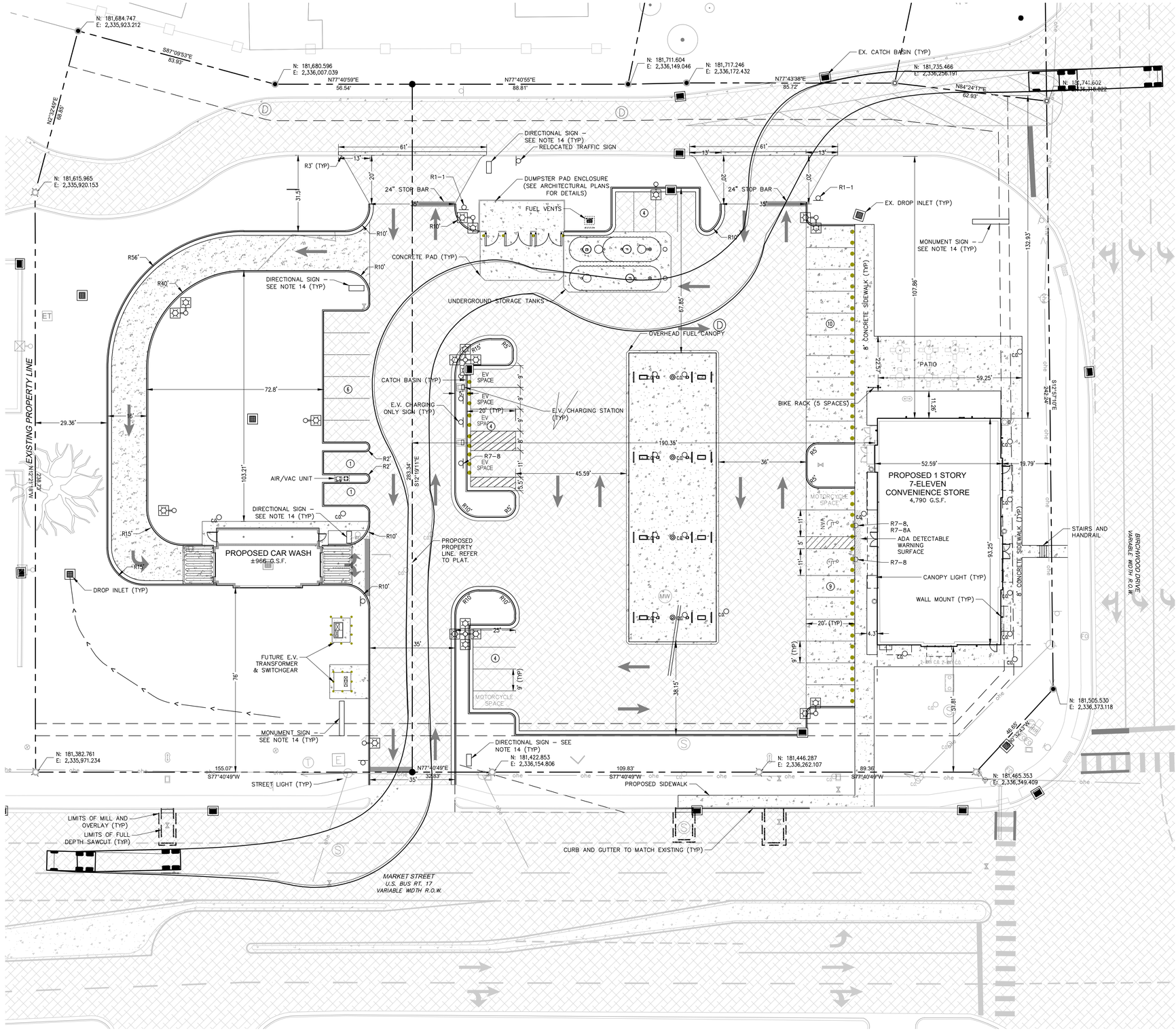
MARKET STREET 7-ELEVEN

4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405
CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

DEMOLITION PLAN

SCALE: 1" = 20 '
DATE: 07/20/2022
PROJECT: B6229.63

C1.3



NOTES

1. ALL SIGNS TO BE FURNISHED & INSTALLED BY THE CONTRACTOR.
2. ALL PROPOSED SIGNS & SIGN POSTS ARE TO BE INSTALLED PER NCDOT STANDARDS.
3. PROPOSED ADDRESS SIGN TYPE, MATERIAL & ADDRESS TO BE DETERMINED, (SUBJECT TO COUNTY APPROVAL).
4. ALL RADII ARE MEASURED FROM FACE OF CURB AND ARE 3' UNLESS OTHERWISE SPECIFIED.
5. ALL CONSTRUCTION STAKEOUT SHALL BE PERFORMED BY A LICENSED SURVEYOR IN THE STATE OF NORTH CAROLINA.
6. ALL CONSTRUCTION MATERIALS AND METHODS SHALL CONFORM TO COUNTY STANDARDS.
7. EXCAVATED MATERIAL SHALL BE DISPOSED OF IN A LAWFUL MANNER.
8. THE CONTRACTOR MUST FIELD VERIFY THE INVERTS OF ALL EXISTING MANHOLES, GAS LINES, AND OTHER UTILITY LINES PRIOR TO THE START OF CONSTRUCTION.
9. THE LOCATION OF EXISTING UTILITIES, CONDUITS OR OTHER STRUCTURES ACROSS, UNDERNEATH, OR OTHERWISE ALONG THE LINE OF PROPOSED WORK AREA NOT NECESSARILY SHOWN ON THE PLANS, AND IF SHOWN ARE ONLY APPROXIMATELY CORRECT. THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL STRUCTURES AND UTILITIES (OVERHEAD AND UNDERGROUND) IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTRACTOR SHALL CALL NORTH CAROLINA 811 TOLL FREE AT 1-800-632-4949 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. CONTACT THE ENGINEER IMMEDIATELY IF THE LOCATION OR ELEVATION DIFFERS FROM THAT SHOWN ON THE PLAN AND APPEARS TO BE IN CONFLICT WITH PROPOSED WORK.
10. SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS & DETAILS CONTIGUOUS TO THE BUILDING, INCLUDING: SIDEWALKS, RAMPS, ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE PADS, LOADING AREA, BOLLARDS, ETC. AND TO THE GAS CANOPY AND FUEL PAD. SEE ARCHITECTURAL DRAWINGS FOR SIGNS LABELED D, D1, D2, I1, I2, J1, J2, H, P, F1, F2, A1, C1, AND E.
11. CONTRACTOR IS RESPONSIBLE FOR ALL PRIVATE UTILITY CONNECTIONS (ELECTRIC, GAS, CABLE, TELEPHONE, ETC.) AS WELL AS PROVIDING ALL INFRASTRUCTURES REQUIRED BY UTILITY COMPANY
12. CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION AND COSTS ASSOCIATED WITH RELOCATING OR TERMINATING EXISTING UNDERGROUND AND/OR OVERHEAD UTILITIES DESIGNATED TO BE RELOCATED OR TERMINATED ON THESE PLANS.
13. ALL HVAC AND OTHER EQUIPTMENT WILL BE LOCATED ON THE ROOF OF THE PROPOSED BUILDING AND SCREENED FROM PUBLIC VIEW.
14. BUSINESS SIGNAGE TO BE REVIEWED UNDER SEPARATE PERMIT.

SIGN SUMMARY

M.U.T.C.D. LABEL	WIDTH	HEIGHT	TYPE
R1-1	30"	30"	STOP
R7-8	12"	18"	RESERVED PARKING PENALTY $100 MIN. $250 MAX. VAN ACCESSIBLE
R7-8A	12"	6"	VAN ACCESSIBLE

LEGEND

7-11 HEAVY DUTY PAVEMENT

CONCRETE SIDEWALK/PADS

CURB & GUTTER LEGEND

24" CURB:

TRANSITION TO DRY 24" CURB:

DRY 24" CURB:

GRAPHIC SCALE

20 0 10 20 40

1 inch = 20 feet

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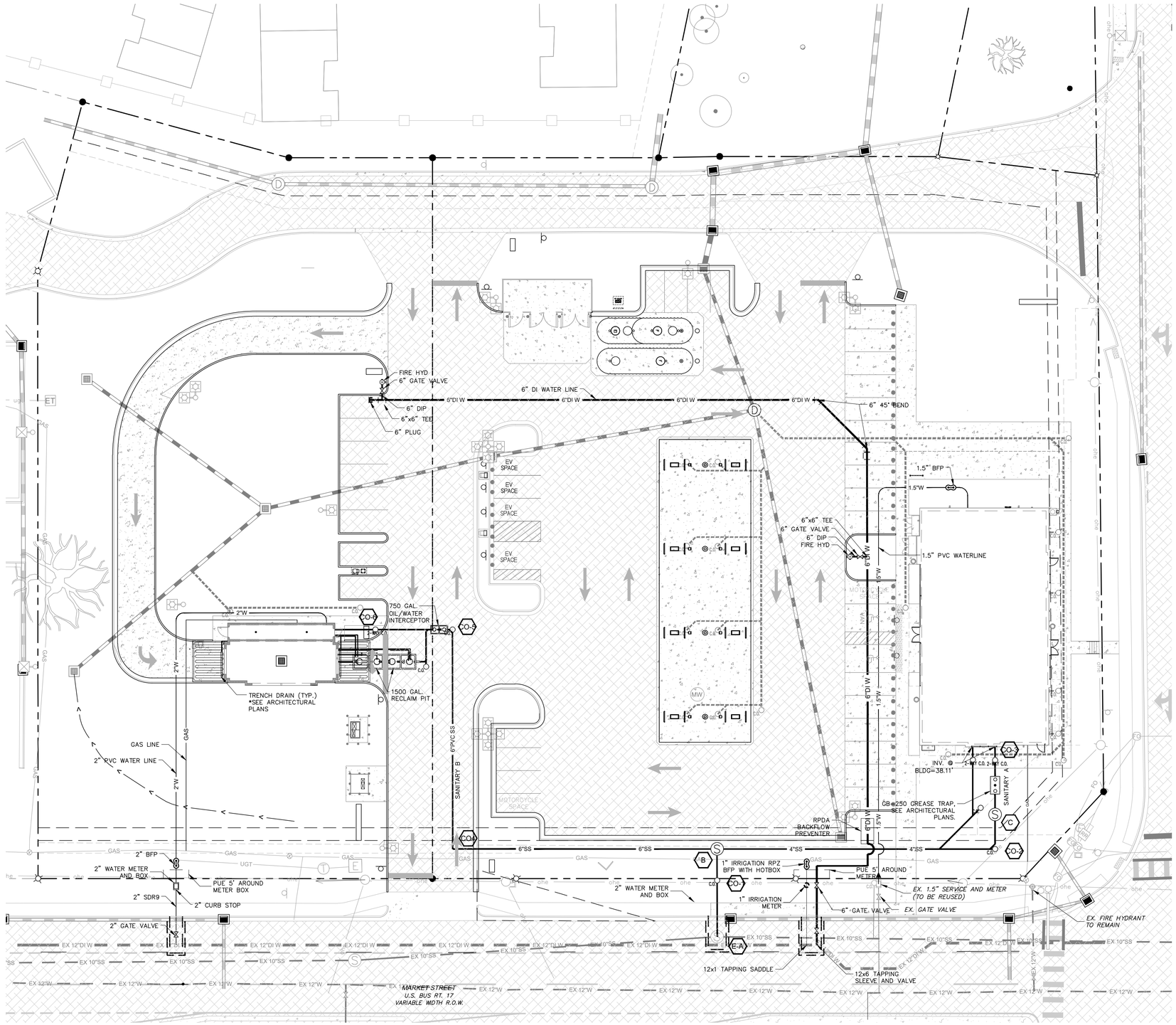
MARKET STREET 7-ELEVEN
4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405
CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

SITE PLAN

SCALE: 1" = 20 '
DATE: 07/20/2022
PROJECT: B6229.63

C2.1

PLAN NUMBER #2022036



SANITARY SEWER DESCRIPTION

NOTE:

1. ALL STRUCTURES WITH A DEPTH OF 4'-0" OR GREATER WILL REQUIRE STEPS, UNLESS OTHERWISE NOTED ON THE PLANS

2. CONTRACTOR IS TO EXERCISE EXTREME CARE IN THE INSTALLATION OF PIPES WITH SHALLOW SLOPES IN ORDER TO PROVIDE POSITIVE GRADE.

E-A — 48" SAN MH H=7.17' — TOP=42.16

E-A to CO-1 — 22.1 L.F. ~ 6.0 inch PVC Pipe @ 1.87% INV.(LOWER)=34.99 INV.(UPPER)=35.41

CO-1 — 6" SAN C.O. H=6.94' — TOP=42.35

CO-1 to B — 12.4 L.F. ~ 6.0 inch PVC Pipe @ 1.35% INV.(LOWER)=35.43 INV.(UPPER)=35.60

B — MONITORING SAN MH H=7.17' — TOP=42.15

B to CO-2 — 109.3 L.F. ~ 4.0 inch PVC Pipe @ 1.95% INV.(LOWER)=35.60 INV.(UPPER)=37.74

CO-2 — 4" SAN C.O. H=4.09' — TOP=41.83

CO-2 to C — 13.6 L.F. ~ 4.0 inch PVC Pipe @ 1.25% INV.(LOWER)=37.74 INV.(UPPER)=37.91

C — 48" SAN MONITORING MANHOLE H=3.72' — TOP=41.63

C to OWS-A — 8.0 L.F. ~ 4.0 inch PVC Pipe @ 0.97% INV.(LOWER)=37.91 INV.(UPPER)=37.99

GT

OWS-B to CO-3 — 6.3 L.F. ~ 4.0 inch PVC Pipe @ 1.00% INV.(LOWER)=37.99 INV.(UPPER)=38.05

CO-3 — 4" 2-WAY SAN C.O. H=3.38' — TOP=41.43

CO-3 to Bldg-A — 6.4 L.F. ~ 4.0 inch PVC Pipe @ 0.94% INV.(LOWER)=38.05 INV.(UPPER)=38.11

B — MONITORING SAN MH H=7.17' — TOP=42.15

CO4 to B — 104.2 L.F. ~ 6.0 inch PVC Pipe @ 0.50% INV.(LOWER)=35.50 INV.(UPPER)=34.98

CO4 — 6" Cleanout H=6.69' — TOP=42.20

CO4 to CO-5 — 86.2 L.F. ~ 6.0 inch PVC Pipe @ 1.00% INV.(LOWER)=36.96 INV.(UPPER)=37.82

CO-5 — 6" SAN C.O. H=3.14' — TOP=40.95

CO-5 to — 1.9 L.F. ~ 6.0 inch PVC Pipe @ 1.08% INV.(LOWER)=37.82 INV.(UPPER)=37.84

NOTES

1. SEE THIS SHEET FOR SANITARY SEWER SCHEDULE.
2. ALL SALVAGEABLE UTILITY ITEMS ARE TO BE RETURNED TO THE CAPE FEAR PUBLIC UTILITY AUTHORITY AS DETERMINED BY THE UTILITIES INSPECTOR.
3. THE CONTRACTOR MUST FIELD VERIFY THE INVERTS OF ALL EXISTING MANHOLES, GAS LINES, AND OTHER UTILITY LINES PRIOR TO THE START OF CONSTRUCTION.
4. THE LOCATION OF EXISTING UTILITIES, CONDUITS OR OTHER STRUCTURES ACROSS, UNDERNEATH, OR OTHERWISE ALONG THE LINE OF PROPOSED WORK AREA NOT NECESSARILY SHOWN ON THE PLANS, AND IF SHOWN ARE ONLY APPROXIMATELY CORRECT. THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL STRUCTURES AND UTILITIES (OVERHEAD AND UNDERGROUND) IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTRACTOR SHALL CALL NC 811 TOLL FREE AT 1-800-632-4949 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. CONTACT THE ENGINEER IMMEDIATELY IF THE LOCATION OR ELEVATION DIFFERS FROM THAT SHOWN ON THE PLAN AND APPEARS TO BE IN CONFLICT WITH PROPOSED WORK.
5. PRIOR TO CONNECTING THE PROPOSED WATER OR SEWER LINES TO THE EXISTING COUNTY SYSTEMS, THE FOLLOWING CRITERIA MUST BE MET;
   - ALL PUBLIC WATER AND/ORE SEWER LINES MUST EITHER BE LOCATED WITHIN RECORDED WATER OR SEWER EASEMENTS OR WITHIN DEDICATED RIGHTS-OF-WAY.
   - ALL WATER AND/OR SEWER LILNE TESTING HAS BEEN COMPLETED AND HAS SUCCESSFULLY PASSED.
   - ROADS MUST BE READY FOR FINAL PAVING, WITH ALL CURB & GUTTER AND THE SUBBASE INSTALLED.
6. SEE ARCHITECTURAL PLANS FOR GREASE TRAP, OIL/WATER INTERCEPTOR, AND RECLAIM PITS.

NAD 83

GRAPHIC SCALE

20 0 10 20 40

1 inch = 20 feet

PLAN NUMBER #2022036

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MARKET STREET 7-ELEVEN

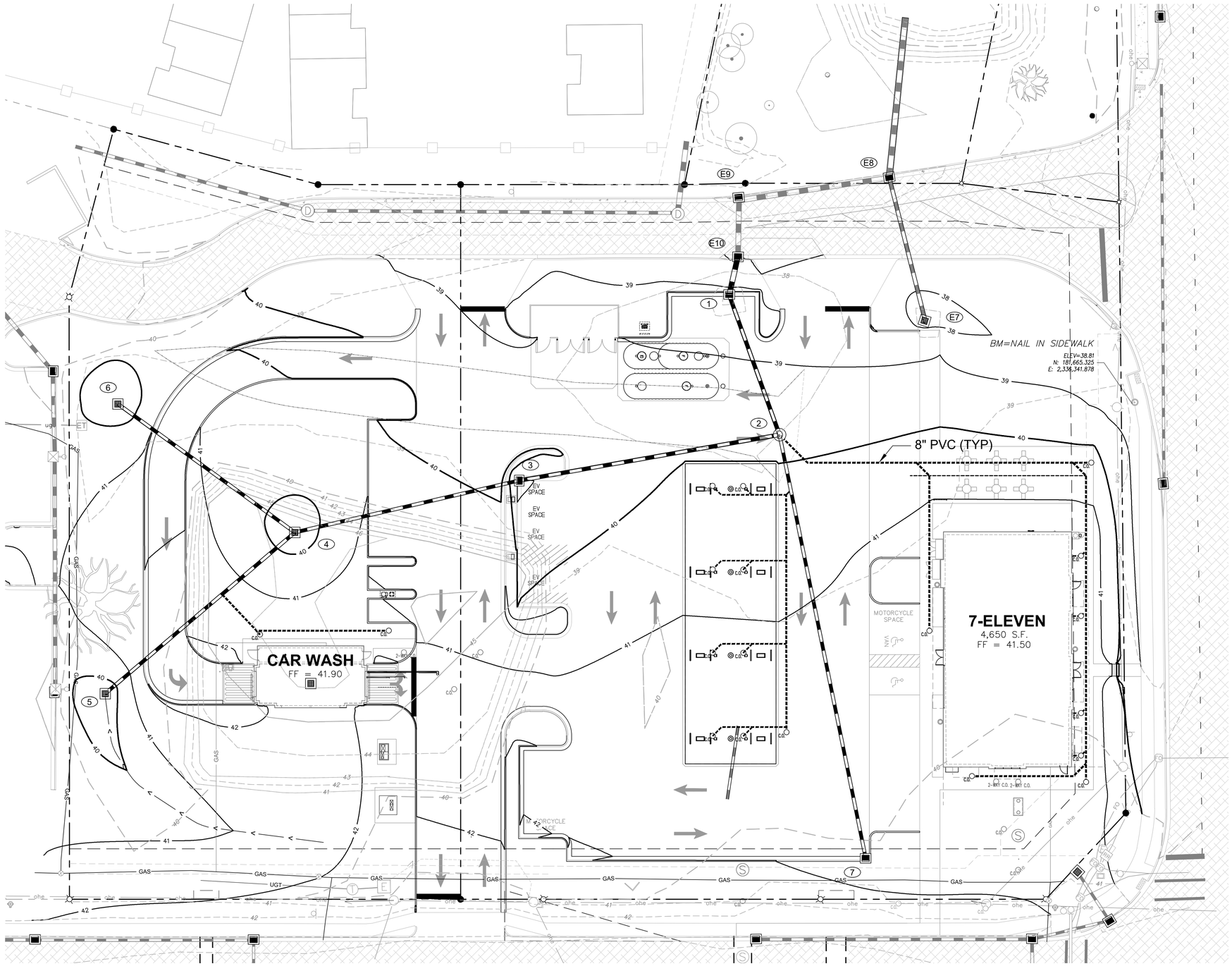
4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405

CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

UTILITY PLAN

SCALE: 1" = 20 '
DATE: 07/20/2022
PROJECT: B6229.63

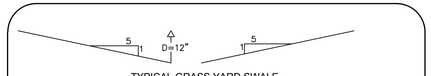
C3.1



DRAINAGE STRUCTURE SUMMARY

VERTICAL DATUM: NAVD 88
(SEE ADDITIONAL BENCHMARKS ON UTILITY PLAN SHEET)

to E8	63.76 L.F. ~ 30" RCP @ 0.35% INV.(LOWER)=32.79	INV.(UPPER)=33.01
(E8)	EX CURB INLET H=4.40'	TOP=37.41
E8 to E9	60.24 L.F. ~ 24" RCP @ 0.75% INV.(LOWER)=33.10	INV.(UPPER)=33.55
(E9)	EX CURB INLET H=4.00'	TOP=37.55
E9 to E10	22.13 L.F. ~ 24" RCP @ 0.63% INV.(LOWER)=33.55	INV.(UPPER)=33.69
(E10)	EX CURB INLET H=4.00'	TOP=37.69
E10 to 1	15.83 L.F. ~ 24" CL-III RCP @ 0.51% INV.(LOWER)=33.79	INV.(UPPER)=33.87
(1)	NCDOT STD. CATCH BASIN H=4.72'	TOP=38.59
1 to 2	58.84 L.F. ~ 18" CL-III RCP @ 0.55% INV.(LOWER)=34.07	INV.(UPPER)=34.39
(2)	STD. MANHOLE H=5.33'	TOP=39.72
2 to 3	105.24 L.F. ~ 18" CL-III RCP @ 0.55% INV.(LOWER)=34.64	INV.(UPPER)=35.22
(3)	NCDOT STD. CATCH BASIN H=3.62'	TOP=38.84
3 to 4	90.87 L.F. ~ 15" CL-III RCP @ 0.55% INV.(LOWER)=35.32	INV.(UPPER)=35.82
(4)	NCDOT STD. DROP INLET H=3.68'	TOP=39.50
4 to 5	98.67 L.F. ~ 15" CL-III RCP @ 0.55% INV.(LOWER)=35.92	INV.(UPPER)=36.46
(5)	NCDOT STD. DROP INLET H=2.92'	TOP=39.38
4 to 6	86.68 L.F. ~ 15" CL-III RCP @ 0.55% INV.(LOWER)=35.92	INV.(UPPER)=36.40
(6)	NCDOT STD. DROP INLET H=2.88'	TOP=39.28
2 to 7	171.11 L.F. ~ 15" CL-III RCP @ 1.89% INV.(LOWER)=34.64	INV.(UPPER)=37.88
(7)	NCDOT STD. CATCH BASIN H=3.32'	TOP=41.20
E8 to E7	59.23 L.F. ~ 18" RCP @ 2.13% INV.(LOWER)=33.06	INV.(UPPER)=34.32
(E7)	EX. DROP INLET H=3.16'	TOP=37.48



TYPICAL GRASS YARD SWALE

NOTE:
1. BEGIN AT GRADE AND FLATTEN SIDE SLOPE BEFORE ENTERING THE RIGHT-OF-WAY OR ALLEY WAY TO DISCHARGE SHEET FLOW OVER CURB AND GUTTER OR EDGE OF PAVEMENT.
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GRAPHIC SCALE

20 0 10 20 40

1 inch = 20 feet

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DRAFT

REVISIONS

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4.		

POST APPROVAL

DESIGNED	DRAWN	CHECKED
RJL	CRT	

MARKET STREET 7-ELEVEN

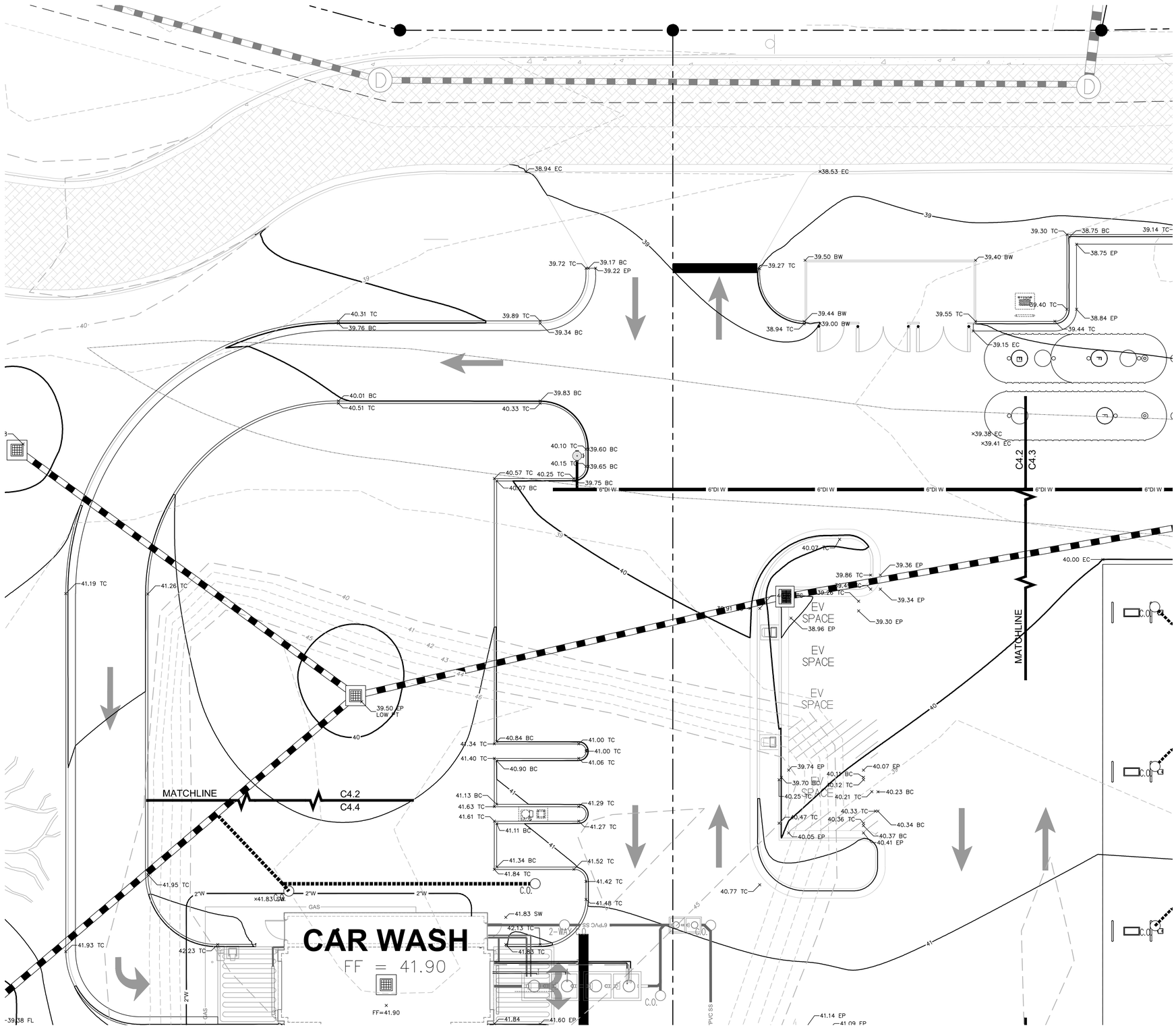
4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405
CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

GRADING AND DRAINAGE PLAN

SCALE: 1" = 20 '
DATE: 07/20/2022
PROJECT: B6229.63

C4.1

PLAN NUMBER #2022036



DRAINAGE STRUCTURE SUMMARY

VERTICAL DATUM: NAVD 88
(SEE ADDITIONAL BENCHMARKS ON UTILITY PLAN SHEET)

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GRADING LEGEND

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	DRAINAGE FLOW ARROW

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LEGEND

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- LIMITS OF WETLANDS/ W.O.U.S TO BE DISTURBED
- WETLANDS
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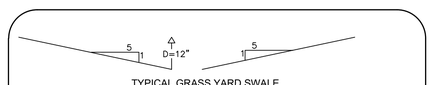

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GRAPHIC SCALE

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1 inch = 10 feet

PLAN NUMBER #2022036

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DESIGNED	DRAWN	CHECKED
RJL	CRT	

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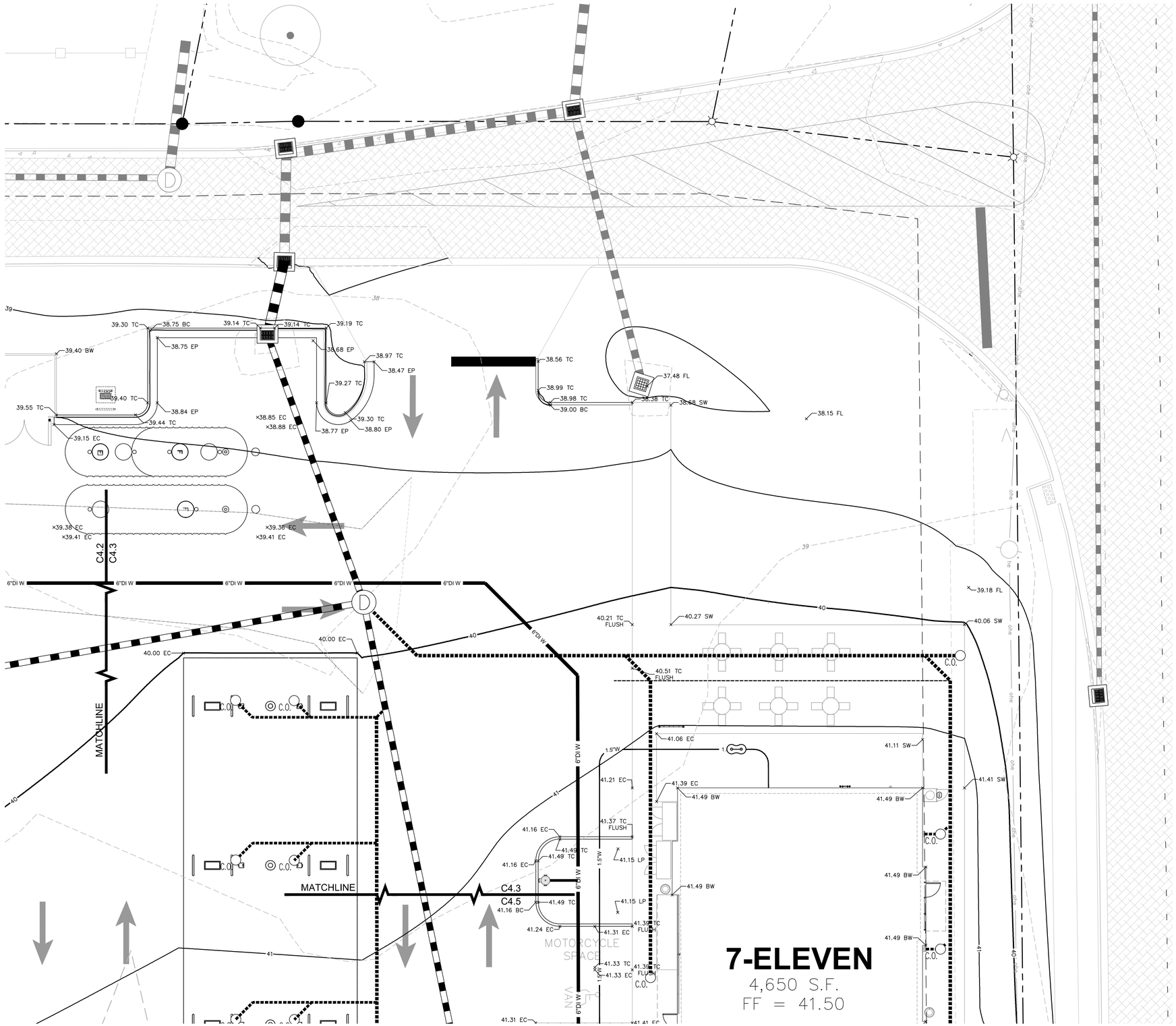
4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405
CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

GRADING DETAILS

SCALE: 1" = 10'
DATE: 07/20/2022
PROJECT: B6229.63

C4.2



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(SEE ADDITIONAL BENCHMARKS ON UTILITY PLAN SHEET)

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LEGEND

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- LIMITS OF WETLANDS/ W.O.U.S TO BE DISTURBED
- WETLANDS
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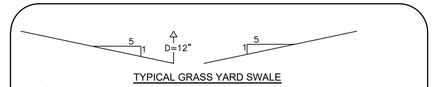

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NAD 83

GRAPHIC SCALE

10 0 5 10 20

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PLAN NUMBER #2022036

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RJL	CRT	

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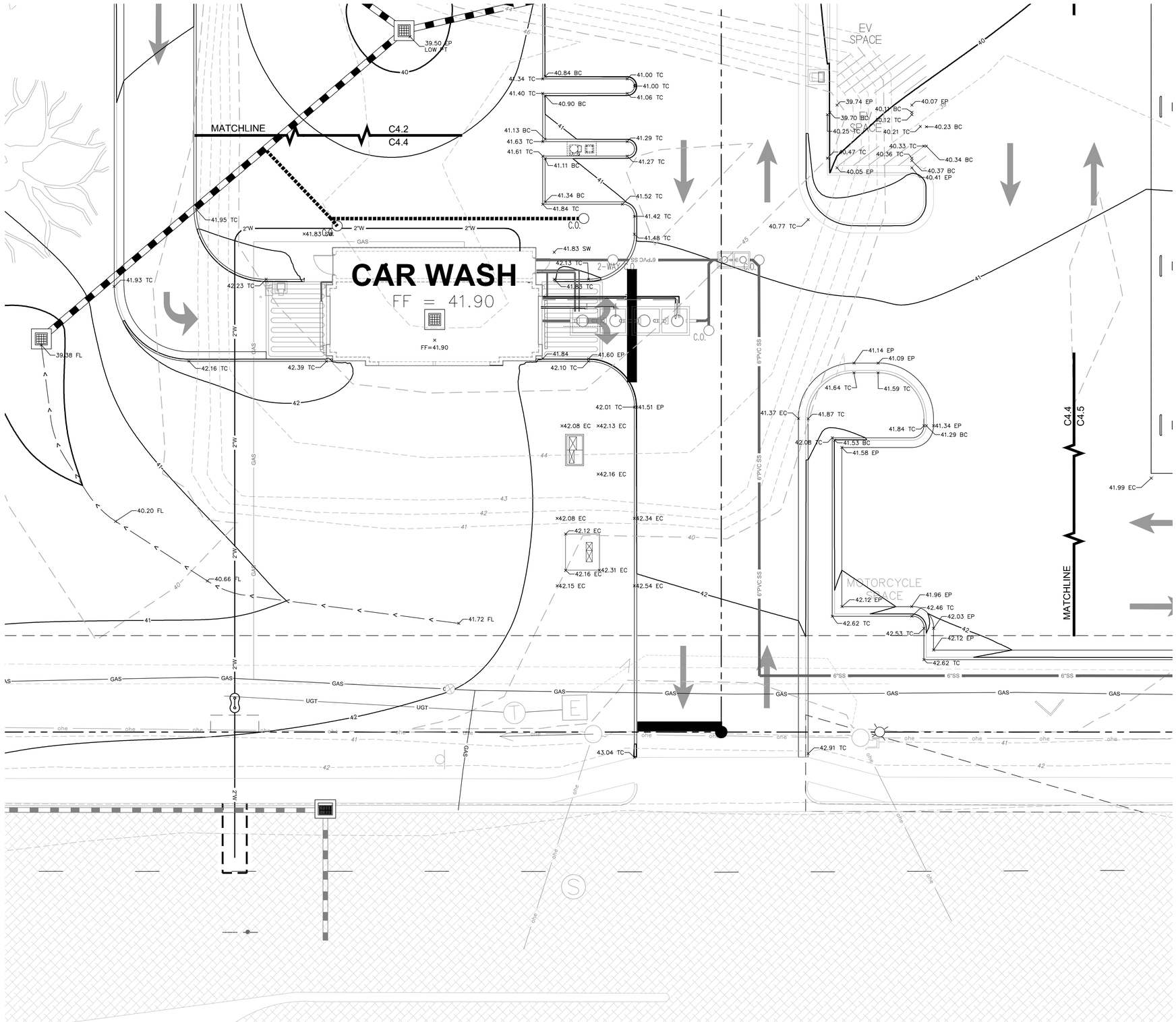
CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

GRADING DETAILS

SCALE: 1" = 10 '
DATE: 07/20/2022
PROJECT: B6229.63

C4.3



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LEGEND

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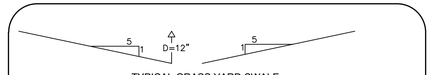
- WETLANDS
- BENCHMARK EL:



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NORTH

GRAPHIC SCALE

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1 inch = 10 feet

PLAN NUMBER #2022036

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GRADING DETAILS

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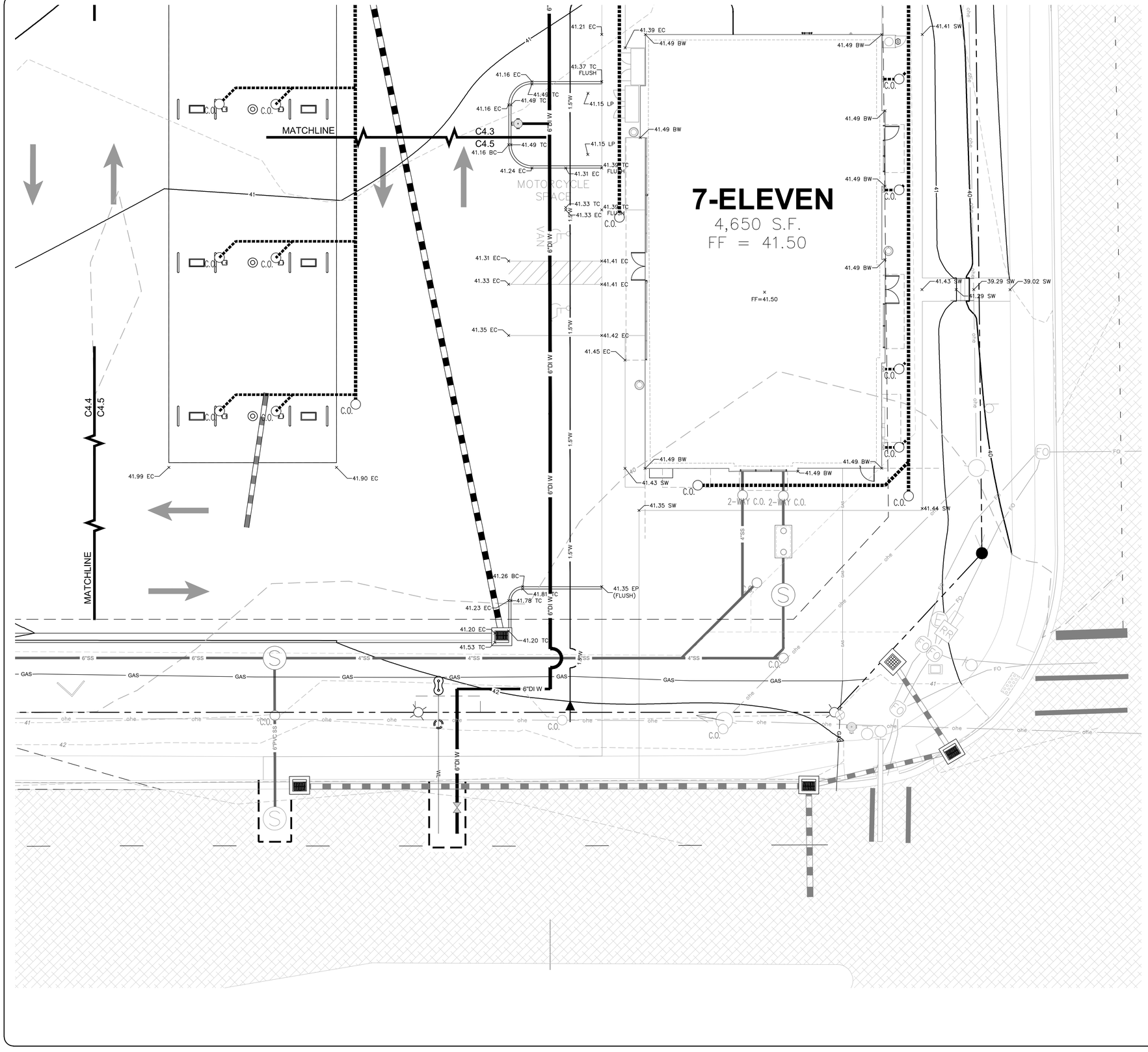
C4.4



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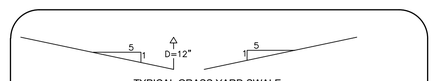

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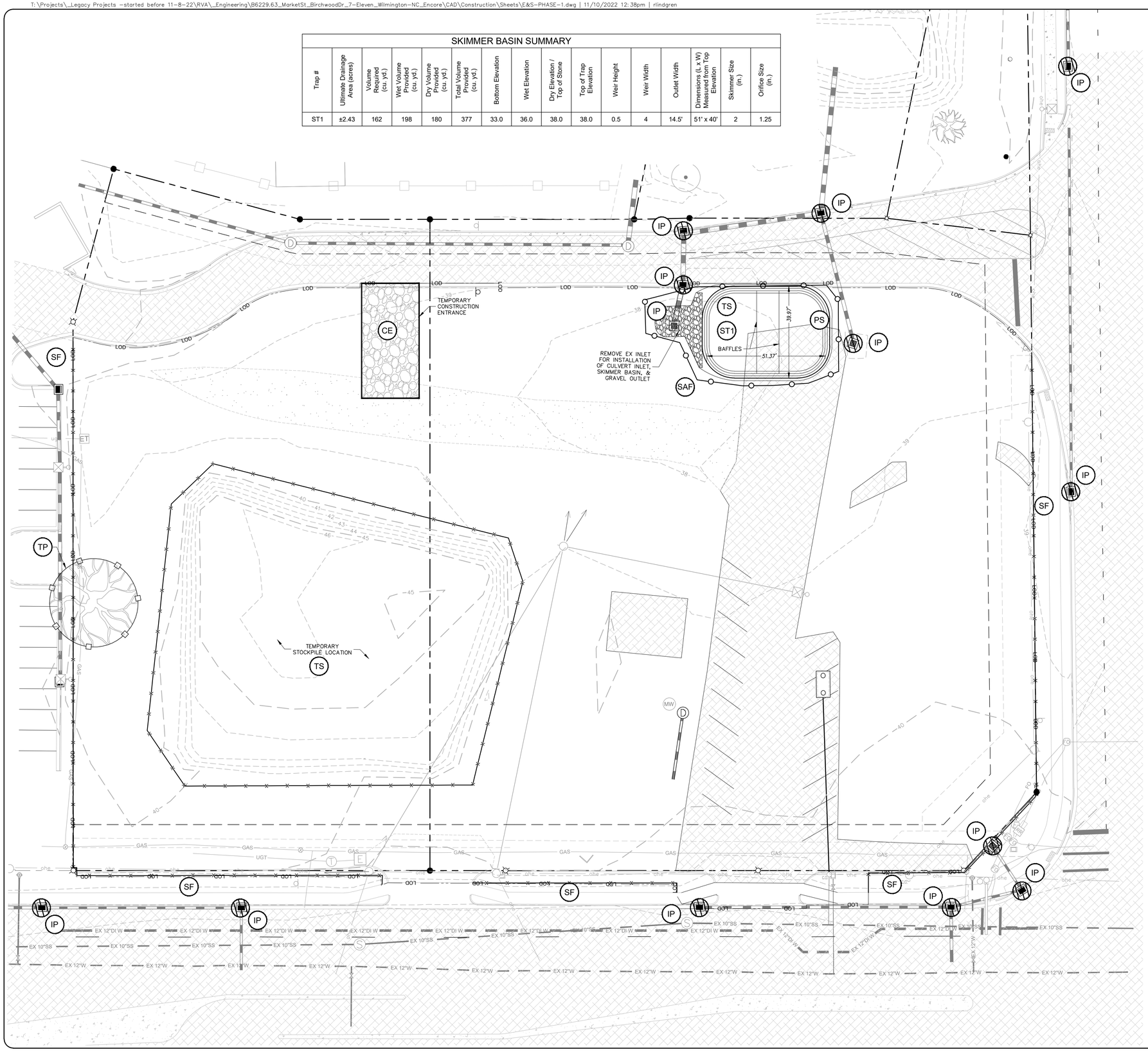
GRADING DETAILS

SCALE: 1" = 10 '
DATE: 07/20/2022
PROJECT: B6229.63

C4.5

SKIMMER BASIN SUMMARY

Trap #	Ultimate Drainage Area (acres)	Volume Required (cu. yd.)	Wet Volume Provided (cu. yd.)	Dry Volume Provided (cu. yd.)	Total Volume Provided (cu. yd.)	Bottom Elevation	Wet Elevation	Dry Elevation / Top of Stone	Top of Trap Elevation	Weir Height	Weir Width	Outlet Width	Dimensions (L x W) Measured from Top Elevation	Skimmer Size (in.)	Orifice Size (in.)
ST1	±2.43	162	198	180	377	33.0	36.0	38.0	38.0	0.5	4	14.5'	51' x 40'	2	1.25



NOTES

1. NO EROSION CONTROL DEVICES SHALL BE REMOVED UNTIL APPROVED BY THE COUNTY ENVIRONMENTAL INSPECTOR.
2. THE LOCATION OF EXISTING UTILITIES, CONDUITS OR OTHER STRUCTURES ACROSS, UNDERNEATH, OR OTHERWISE ALONG THE LINE OF PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS, AND IF SHOWN ARE ONLY APPROXIMATELY CORRECT. THE CONTRACTOR SHALL CALL "ONE CALL" AT 811 OR 800-632-4949 PRIOR TO STARTING WORK. CONTACT THE ENGINEER IMMEDIATELY IF THE LOCATION OR ELEVATION DIFFERS FROM THAT SHOWN ON THE PLAN AND APPEARS TO BE IN CONFLICT WITH PROPOSED WORK. CONTRACTOR TO COORDINATE WITH OWNER ABOUT EXISTING UTILITIES TO BE MAINTAINED DURING CONSTRUCTION.
3. ALL EXISTING UTILITIES SHALL BE PROTECTED DURING PROPOSED CLEARING, DEMOLITION AND/OR CONSTRUCTION AND ADEQUATE COVER SHALL BE MAINTAINED OVER ALL SANITARY SEWER MAINS AND WATER MAINS IN ACCORDANCE WITH PUA STANDARDS. NO UTILITIES SHALL BE INSTALLED, DEMOLISHED AND/OR ABANDONED WITH THIS PHASE OF THE ESC PLAN.
4. ALL CONSTRUCTION TRAFFIC SHALL ENTER AND EXIT THE SITE VIA CONSTRUCTION ENTRANCE ONLY.
5. CONTRACTOR SHALL MAINTAIN AN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
6. REFER TO SHEET C5.3 FOR THE EROSION CONTROL NARRATIVE.
   6.1. CONTRACTOR SHALL MAINTAIN AN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES.
7. A THIRD PARTY INSPECTION AND TESTING FIRM SHALL BE ON-SITE THROUGHOUT CONSTRUCTION TO ADEQUATELY MONITOR AND TEST ALL APPROPRIATE SITE RELATED WORK ON THIS PROJECT. ITEMS TO BE MONITORED SHALL INCLUDE, HOWEVER ARE NOT LIMITED TO AREAS TO BE UNDER-CUT, PLACEMENT OF FILL, PROOF-ROLLING, TRENCHING ACTIVITIES AND THE PLACEMENT OF CONCRETE AND ASPHALT. ITEMS TO BE TESTED SHALL INCLUDE, HOWEVER ARE NOT LIMITED TO, CONCRETE SLUMP TESTS, CONCRETE STRENGTH TESTING, AND SOIL AND ASPHALT COMPACTION TESTING.
8. ALL ESC MEASURES SHOWN ON THIS PHASE OF THE ESC PLAN MUST BE IN PLACE AND FUNCTIONING IN A MANNER ACCEPTABLE TO THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION OF ADDITIONAL ESC MEASURES.
9. ACCORDING TO THE UNITED STATES DEPARTMENT OF AGRICULTURE THE SOIL TYPES ON SITE INCLUDE:
   9.1. Le-LEON SAND, 0 TO 2 PERCENT SLOPES.
   9.2. Se-SEAGATE FINE SAND, 0 TO 2 PERCENT SLOPES.
   9.3. Ur-URBAN LAND.

PHASE 1 LIMITS OF DISTURBANCE
= 2.43 ACRES

PHASE 1 SEQUENCE OF CONSTRUCTION

1. CONDUCT PRE-CONSTRUCTION MEETING WITH THE CITY OF WILMINGTON TO DISCUSS EROSION AND SEDIMENT CONTROLS AND CONSTRUCTION PHASING. CONTACT NCDEQ PRIOR TO THE PRE-CONSTRUCTION MEETING.
2. INSTALL GRAVEL CONSTRUCTION ENTRANCE. ALL CONSTRUCTION TRAFFIC SHALL ENTER AND EXIT THE SITE VIA THE CONSTRUCTION ENTRANCE. DURING WET WEATHER CONDITIONS, DRIVERS OF CONSTRUCTION VEHICLES SHALL BE REQUIRED TO WASH THEIR WHEELS BEFORE ENTERING THE EXISTING ROADWAY.
3. INSTALL CONSTRUCTION FENCES AND TEMPORARY TRAFFIC AND PEDESTRIAN CONTROL DEVICES.
4. PREPARE TEMPORARY PARKING AND STORAGE AREAS.
5. CLEAR ONLY TO THE EXTENT NECESSARY TO INSTALL THE SPECIFIED EROSION CONTROL ITEMS. INSTALL ALL SILT FENCE, TREE PROTECTION, INLET PROTECTION, TEMPORARY CULVERT INLET SKIMMER BASIN, AND SAFETY FENCE AS SHOWN ON THE E&S PHASE 1 PLAN.
   5.1. REMOVE EXISTING INLET AS SHOWN FOR INSTALLATION OF THE SKIMMER SEDIMENT BASIN.
6. THE SKIMMER SEDIMENT BASIN SHALL BE INSTALLED PRIOR TO THE START OF ANY GRUBBING OR GRADING. THE SKIMMER BASIN SHALL BE MADE FUNCTIONAL BEFORE UP SLOPE LAND DISTURBANCE TAKES PLACE, INCLUDING DEMOLITION WORK, EXCEPT AS REQUIRED FOR INSTALLATION OF SKIMMER BASIN.
7. UPON COMPLETION OF THE PHASE 1 EROSION CONTROL PLAN, THE CERTIFIED RESPONSIBLE LAND DISTURBER SHALL NOTIFY AND ACCOMPANY THE INSPECTOR ON A SITE WALK-THRU PRIOR TO PROCEEDING WITH PHASE 2 OF THE EROSION CONTROL PLAN.

EROSION CONTROL:

EROSION CONTROL DEVICES AS PER NORTH CAROLINA ENVIRONMENTAL QUALITY EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL

SAF		SAFETY FENCE
CE		TEMPORARY STONE CONSTRUCTION ENTRANCE
SF		SILT FENCE
IP		STORM DRAIN INLET PROTECTION
ST	ST	SKIMMER SEDIMENT BASIN
OP		STONE OUTLET
TP		TREE PROTECTION TAPE
TS	TS	TEMPORARY SEEDING

NAD 83

GRAPHIC SCALE

20 0 10 20 40

1 inch = 20 feet

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REVISIONS

NO.	DATE	DESCRIPTION
1.	09/27/22	ISSUED FOR BIDS
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4.		

POST APPROVAL

DESIGNED	DRAWN	CHECKED
RJL	CRT	

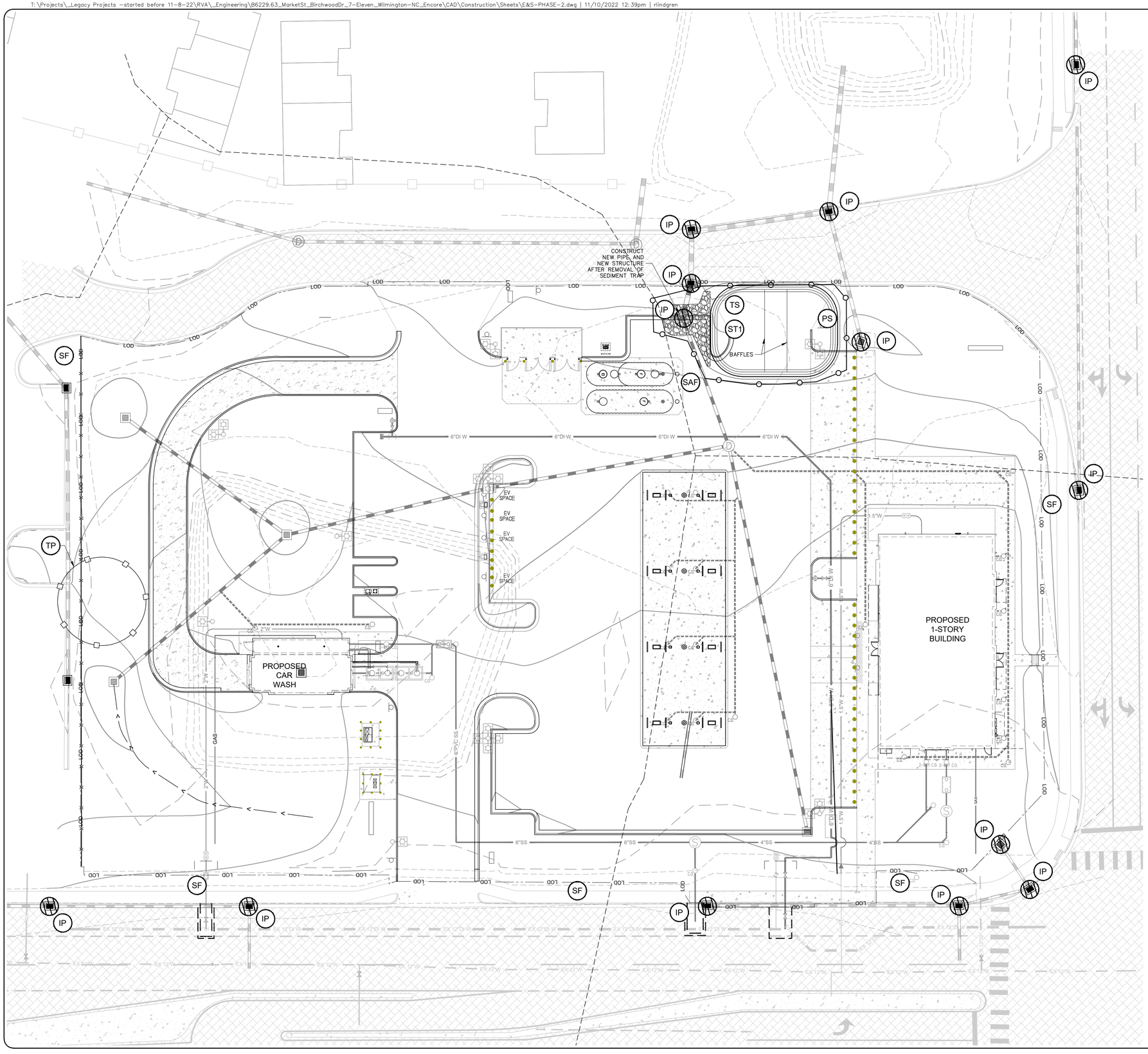
MARKET STREET 7-ELEVEN
4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405
CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

E&S PHASE I

SCALE: 1" = 20 '
DATE: 07/20/2022
PROJECT: B6229.63

C5.1

PLAN NUMBER #2022036



NOTES

1. NO EROSION CONTROL DEVICES SHALL BE REMOVED UNTIL APPROVED BY THE COUNTY ENVIRONMENTAL INSPECTOR.
2. THE LOCATION OF EXISTING UTILITIES, CONDUITS OR OTHER STRUCTURES ACROSS, UNDERNEATH, OR OTHERWISE ALONG THE LINE OF PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS, AND IF SHOWN ARE ONLY APPROXIMATELY CORRECT. THE CONTRACTOR SHALL CALL "MISS UTILITY" AT 811 OR 800-632-4949 PRIOR TO STARTING WORK. CONTACT THE ENGINEER IMMEDIATELY IF THE LOCATION OR ELEVATION DIFFERS FROM THAT SHOWN ON THE PLAN AND APPEARS TO BE IN CONFLICT WITH PROPOSED WORK. CONTRACTOR TO COORDINATE WITH OWNER ABOUT EXISTING UTILITIES TO BE MAINTAINED DURING CONSTRUCTION.
3. ALL EXISTING UTILITIES SHALL BE PROTECTED DURING PROPOSED CLEARING, DEMOLITION AND/OR CONSTRUCTION AND ADEQUATE COVER SHALL BE MAINTAINED OVER ALL SANITARY SEWER MAINS AND WATER MAINS IN ACCORDANCE WITH DPU STANDARDS. NO UTILITIES SHALL BE INSTALLED, DEMOLISHED AND/OR ABANDONED WITH THIS PHASE OF THE ESC PLAN.
4. ALL CONSTRUCTION TRAFFIC SHALL ENTER AND EXIT THE SITE VIA CONSTRUCTION ENTRANCE ONLY.
5. CONTRACTOR SHALL MAINTAIN AN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
6. REFER TO SHEET C5.3 FOR THE EROSION CONTROL NARRATIVE.
   6.1. CONTRACTOR SHALL MAINTAIN AN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
7. A THIRD PARTY INSPECTION AND TESTING FIRM SHALL BE ON-SITE THROUGHOUT CONSTRUCTION TO ADEQUATELY MONITOR AND TEST ALL APPROPRIATE SITE RELATED WORK ON THIS PROJECT. ITEMS TO BE MONITORED SHALL INCLUDE, HOWEVER ARE NOT LIMITED TO AREAS TO BE UNDER-CUT, PLACEMENT OF FILL, PROOF-ROLLING, TRENCHING ACTIVITIES AND THE PLACEMENT OF CONCRETE AND ASPHALT. ITEMS TO BE TESTED SHALL INCLUDE, HOWEVER ARE NOT LIMITED TO, CONCRETE SLUMP TESTS, CONCRETE STRENGTH TESTING, AND SOIL AND ASPHALT COMPACTION TESTING.
8. ALL ESC MEASURES SHOWN ON THIS PHASE OF THE ESC PLAN MUST BE IN PLACE AND FUNCTIONING IN A MANNER ACCEPTABLE TO THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION OF ADDITIONAL ESC MEASURES.

PHASE 2 (ULTIMATE) LIMITS OF DISTURBANCE = 2.43 ACRES

PHASE 2 SEQUENCE OF CONSTRUCTION

1. ALL EROSION CONTROL DEVICES WILL BE INSPECTED AND REPAIRED AFTER ALL RAIN EVENTS.
2. IN NO CASE, AT ANY TIME DURING THIS PROJECT, SHALL ESC MEASURES BE REMOVED WITHOUT APPROVAL OF THE ENVIRONMENTAL INSPECTOR. REPAIRS SHALL BE MADE TO ALL DISTURBED AREAS DUE TO THE REMOVAL OF THE EROSION PRACTICES. TOPSOIL, SEED, AND MULCH WILL BE APPLIED TO THESE AREAS.
3. UPON COMPLETION OF PHASE 1 ESC MEASURES, CONTRACTOR SHALL PROCEED WITH THE REMAINING SITE-WORK ITEMS (STORMWATER AND UTILITY INSTALLATION, FINAL GRADING, PERIMETER CURB AND GUTTER, PARKING LOT BASE, PAVEMENT INSTALLATION, ETC.).
4. INSTALLATION OF THE PROPOSED STORM SEWER SHALL BE A PRIORITY SUCH THAT ALL DENUDED AREAS DRAIN TO THE SKIMMER BASIN. STORM SEWER SHALL BE BUILT PER THE GRADING AND DRAINAGE PLAN. PLACE INLET PROTECTION AS STORM SEWER IS INSTALLED.
   4.1. STORM STRUCTURE STR 1 AND REMAINDER OF THE PIPE BETWEEN STR 1 AND 2 SHALL BE CONSTRUCTED AFTER REMOVAL OF THE SKIMMER BASIN.
5. WHEN THE SKIMMER SEDIMENT BASIN DRAINAGE AREA HAS BEEN SUFFICIENTLY STABILIZED (EITHER THROUGH GRAVEL OR VEGETATION) AND UPON PERMISSION OF THE ENVIRONMENTAL INSPECTOR, THE SKIMMER AND OUTET PIPE SHALL BE REMOVED AND THE SKIMMER SEDIMENT BASIN SHALL BE DRAINED, DEMUCKED, AND GRADED TO THE ELEVATIONS OF THE ULTIMATE GRADING PLAN.
6. ONCE CURB AND GUTTER HAS BEEN POURED, A GRAVEL BASE HAS BEEN PLACED WITHIN ALL PAVEMENT AREAS, ALL UPSTREAM AREAS HAVE BEEN STABILIZED, AND UPON PERMISSION OF THE ENVIRONMENTAL INSPECTOR, REMOVE ALL REMAINING ON-SITE E&S CONTROLS.

EROSION CONTROL:

EROSION CONTROL DEVICES AS PER NORTH CAROLINA ENVIRONMENTAL QUALITY EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL

IP		STORM DRAIN INLET PROTECTION
PS	TS	PERMANENT SEEDING

NAD 83

GRAPHIC SCALE

20 0 10 20 40

1 inch = 20 feet

PLAN NUMBER #2022036

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MARKET STREET 7-ELEVEN
4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405
CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

E&S PHASE II

SCALE: 1" = 20 '
DATE: 07/20/2022
PROJECT: B6229.63

C5.2

EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION:

THE PROPOSED LAND DISTURBANCE (2.43 ACRES) FOR THE PROJECT WILL INCLUDE THE DEMOLITION OF AN EXISTING ASPHALT PARKING LOT, GRAVEL DRIVE, DIRT MOUND, CURBING AND GUTTER, COMMERCIAL DRIVEWAY ENTRANCE, AND SIDEWALK IN PREPARATION FOR THE CONSTRUCTION OF THE PROPOSED NEW 7-ELEVEN WITH GAS, CAR WASH, AND ASPHALT PARKING LOT.

EXISTING SITE CONDITIONS:

THE SITE IS CURRENTLY USED AS A VACANT LOT WITH ASPHALT PARKING LOT, GRAVEL DRIVE, AND DIRT MOUND.

ADJACENT AREAS:

THE IMMEDIATE SURROUNDING AREAS ARE DEVELOPED COMMERCIAL USES.

OFF-SITE AREAS:

PORTIONS OF THE PRIVATE DRIVES WILL BE DISTURBED TO PROVIDE PROPOSED ENTRANCES, UTILITY CONNECTIONS, AND NEW SIDEWALK. EXISTING FILL TO APPROXIMATELY 3' WAS ENCOUNTERED IN TWO BORINGS BELOW EXISTING GROUND SURFACE. SUBGRADE CONSISTED OF VERY LOOSE TO MEDIUM DENSE CLAYEY/SILTY SAND (SC/SW).

CRITICAL AREA:

DUE TO THE EXISTING TOPOGRAPHY OF THE SITE, NO SIGNIFICANT EROSION PROBLEMS ARE ANTICIPATED. DUE TO THE SOILS HAVING MEDIUM TO HIGH MOISTURE CONTENT, CONTRACTOR SHALL USE CAUTION AT THE INGRESS/EGRESS FROM THE SITE. CONTRACTOR SHALL MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING LAND DISTURBANCE.

EROSION AND SEDIMENT CONTROL:

ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE STANDARDS AND SPECIFICATIONS OF THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

A. STRUCTURAL PRACTICES
- TREE PROTECTION – STD. & SPEC. 6.05
- CONSTRUCTION ENTRANCE – STD. & SPEC. 6.06
- INLET PROTECTION – STD. & SPEC. 6.51
- SKIMMER SEDIMENT BASIN – STD. & SPEC. 6.64
- POROUS BAFFLES – STD. & SPEC. 6.65
- SILT FENCE – STD. & SPEC. 6.62
- SAFETY FENCE

B. STRUCTURAL PRACTICES
- TEMPORARY SEEDING – STD. & SPEC. 6.10
- PERMANENT SEEDING – STD. & SPEC. 6.11

PERMANENT STABILIZATION:

THE PARKING LOT WILL BE SECURED WITH ASPHALT PAVING AS SHOWN ON SHEET C2.1. ALL OTHER DISTURBED AREAS ARE TO BE SEEDED OR SODDED IN ACCORDANCE WITH THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

STORMWATER RUNOFF CONSIDERATIONS:

THE STORMWATER RUNOFF SHALL BE COLLECTED ON-SITE AND CONVEYED INTO THE EXISTING STORMWATER CONVEYANCE SYSTEM.

CALCULATIONS:

PROPOSED DRAINAGE CALCULATIONS ARE PROVIDED WITH THIS PROJECT.

MAINTENANCE:

CONTRACTOR SHALL MAINTAIN AT ALL TIMES ALL EROSION AND SEDIMENT CONTROL MEASURES PER STATE OF NORTH CAROLINA REQUIREMENTS SET FORTH IN THE EROSION AND SEDIMENT CONTROL NOTES LISTED ON THIS SHEET.

CONSTRUCTION ENTRANCE:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR THE WASHING AND REWORKING OF EXISTING STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT.
2. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
3. THE USE OF WATER TRUCKS TO REMOVE MATERIALS DROPPED, WASHED, OR TRACKED ONTO ROADWAYS WILL NOT BE PERMITTED UNDER ANY CIRCUMSTANCES.

SILT FENCE:

1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
2. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED SILT FENCE RESULTING FROM END RUNS AND UNDERCUTTING.
3. SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
4. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
5. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.

STORM DRAIN INLET PROTECTION:

1. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
2. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
3. STRUCTURES SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

SKIMMER SEDIMENT BASIN:

1. THE STRUCTURE SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH (½ INCH OR GREATER) RAIN EVENT AND REPAIRS MADE AS NEEDED.
2. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE HALF THE HEIGHT OF THE FIRST BAFFLE. PULL THE SKIMMER TO ONE SIDE SO THE SEDIMENT UNDERNEATH CAN BE EXCAVATED. EXCAVATE THE SEDIMENT FROM THE ENTIRE BASIN.
3. REPAIR THE BAFFLES IF THEY ARE DAMAGED. RE-ANCHOR THE BAFFLES IF WATER IS FLOWING UNDER OR AROUND THEM.
4. CHECK THE FABRIC-LINED SPILLWAY FOR DAMAGE AND MAKE ANY REQUIRED REPAIRS WITH FABRIC THAT SPANS THE FULL WIDTH OF THE SPILLWAY. CHECK THE EMBANKMENT, SPILLWAY, AND OUTLET PERIODICALLY FOR EROSION DAMAGE AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ANY NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE SKIMMER AND POOL AREAS..
5. AFTER ALL SEDIMENT-PRODUCING AREAS HAVE BEEN PERMANENTLY STABILIZED, REMOVE THE STRUCTURE, OUTLET PIPE, AND ALL UNSTABLE SEDIMENT, SMOOTH AREA TO BLEND WITH THE ADJOINING AREAS AND STABILIZE.

PERMANENT SEEDING SPECIFICATIONS

SOIL PREPARATION:

- PREPARATION FOR PRIMARY/PERMANENT STABILIZATION SHALL NOT BEGIN UNTIL ALL CONSTRUCTION AND UTILITY WORK WITHIN THE PREPARATION AREA IS COMPLETE. HOWEVER, IT MAY BE NECESSARY TO PREPARE FOR NURSE CROPS PRIOR TO COMPLETION OF CONSTRUCTION AND INSTALLATION OF UTILITIES.
- A NORTH CAROLINA DEPARTMENT OF AGRICULTURE SOILS TEST (OR EQUAL) SHALL BE OBTAINED FOR ALL AREAS TO BE SEEDED, SPRIGGED, SODDED OR PLANTED. RECOMMENDED FERTILIZER AND PH ADJUSTING PRODUCTS SHALL BE INCORPORATED INTO THE PREPARED AREAS AND BACKFILL MATERIAL PER THE TEST.
- ALL AREAS TO BE SEEDED OR PLANTED SHALL BE TILLED OR RIPPED TO A DEPTH SPECIFIED ON THE APPROVED PLANS, CONSTRUCTION SEQUENCE AND/OR CONSTRUCTION BID LIST. RIPPING CONSISTS OF CREATING FISSURES IN A CRISS-CROSS PATTERN OVER THE ENTIRE SURFACE AREA, UTILIZING AN IMPLEMENT THAT WILL NOT GLAZE THE SIDE WALLS OF THE FISSURES. SITE PREPARATION THAT DOES NOT COMPLY WITH THESE DOCUMENTS SHALL NOT BE ACCEPTABLE. THE DEPTH OF SOIL PREPARATION MAY BE ESTABLISHED AS A RANGE BASED ON THE APPROVAL OF THE REVIEWING STATE OR LOCAL AGENCY. ONCE TILLED OR RIPPED ACCORDING TO THE APPROVED PLAN, ALL AREAS ARE TO BE RETURNED TO THE APPROVED FINAL GRADE. PH MODIFIERS AND/OR OTHER SOIL AMENDMENTS SPECIFIED IN THE SOIL TESTS CAN BE ADDED DURING THE SOIL PREPARATION PROCEDURE OR AS DESCRIBED BELOW.
- ALL STONES LARGER THAN THREE (3) INCHES ON ANY SIDE, STICKS, ROOTS, AND OTHER EXTRANEOUS MATERIALS THAT SURFACE DURING THE BED PREPARATION SHALL BE REMOVED.

AREAS TO BE SEEDED:

- TILL OR DISC THE PREPARED AREAS TO BE SEEDED TO A MINIMUM DEPTH OF FOUR (4) INCHES. REMOVE STONES LARGER THAN THREE (3) INCHES ON ANY SIDE, STICKS, ROOTS AND OTHER EXTRANEOUS MATERIALS THAT SURFACE. IF NOT INCORPORATED DURING THE SOIL PREPARATION PROCESS, ADD PH MODIFIER AND FERTILIZERS AT THE RATE SPECIFIED IN THE SOIL TEST REPORT.
- RE-COMPACT THE AREA UTILIZING A CULTIPACKER ROLLER. THE FINISHED GRADE SHALL BE A SMOOTH EVEN SOIL SURFACE WITH A LOOSE, UNIFORMLY FINE TEXTURE. ALL RIDGES AND DEPRESSIONS SHALL BE REMOVED AND FILLED TO PROVIDE THE APPROVED SURFACE DRAINAGE. SEEDING OF GRADED AREAS IS TO BE DONE IMMEDIATELY AFTER FINISHED GRADES ARE OBTAINED AND SEEDBED PREPARATION IS COMPLETED.

PLANTING:

- SEED – PREPARE THE SEED BED AS DESCRIBED ABOVE IN SOIL PREPARATION. APPLY SEED AT RATES SPECIFIED ON THE PLANS, AND/OR AS RECOMMENDED IN TABLES 6.11A-C OF THE EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, WITH A CYCLONE SEEDER, PROP TYPE SPREADER, DRILL, OR HYDROSEEDER ON AND/OR INTO THE PREPARED BED. INCORPORATE THE SEED INTO THE SEED BED AS SPECIFIED. PROVIDE FINISHED GRADES AS SPECIFIED ON THE APPROVED PLAN AND CAREFULLY CULTI-PACK THE SEEDBED AS TERRAIN ALLOWS. IF TERRAIN DOES NOT ALLOW FOR THE USE OF A CULTIPACKER, THE APPROVED PLANS AND CONSTRUCTION SEQUENCE MUST PROVIDE AN ALTERNATIVE METHOD OF LIGHTLY COMPACTING THE SOIL. MULCH IMMEDIATELY.
- SPRIGS AND SOD – INSTALL ONTO THE PREPARED SEED BED PER THE MOST CURRENT GUIDANCE IN CAROLINA LAWNS, NCSU EXTENSION BULLETIN AG-69, OR PRACTICE 6.12 SODDING.
- WOODY PLANTS (LINERS, CONTAINER, B&B) – THESE MATERIALS ARE TYPICALLY USED TO COMPLEMENT AN HERBACEOUS PROTECTIVE COVER. THEY EVENTUALLY ARE MAJOR COMPONENTS OF LONG-TERM, PERMANENT STABILIZATION AND SHOULD BE CHOSEN AND PLANNED IN CONJUNCTION WITH IMMEDIATE AND LONG-TERM MAINTENANCE. THE PLANTS SHOULD BE SELECTED AND SPECIFIED BY THE DESIGN PROFESSIONAL FOR EACH INDIVIDUAL PROJECT. SEE PRACTICE 6.13 TREES, SHRUBS, VINES, AND GROUND COVERS.

MAINTENANCE REQUIREMENTS

BAFFLES

- INSPECT BAFFLES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.
- BE SURE TO MAINTAIN ACCESS TO BAFFLES. SHOULD THE FABRIC OF A BAFFLE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT IMMEDIATELY.
- REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL, TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE BAFFLES. TAKE CARE TO AVOID DAMAGING THE BAFFLES DURING CLEANOUT, AND REPLACE IF DAMAGED DURING CLEANOUT OPERATIONS. SEDIMENT DEPTH SHOULD NEVER EXCEED HALF THE DESIGNED STORAGE DEPTH.
- AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED, REMOVE ALL BAFFLE MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE, AND STABILIZE IT.

SILT FENCE OUTLET:

- INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (½ INCH OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE R UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED.

PERMANENT SEEDING:
CENTIPEDE GRASS

- MARCH TO MAY – MOW GRASS TO 1 TO 2 INCHES, DO NOT LET GRASS GET TALLER THAN 2 ½ INCHES.SEEDING MIXTURE OF 100LBS/ACRE OF TALL FESCUE, 25LBS/ACRE OF GERMAN MILLET, AND 25 LBS/ACRE OF HULLED BERMUDA. SEEDING SHOULD TAKE PLACE BETWEEN MARCH 15 – SEPTEMBER 15. SEEDING AMENDMENTS INCLUDE APPLYING LIME AND FERTILIZER PER SOIL TEST, OR 4000 LBS/ACRE LIMESTONE AND 1000 LBS/ACRE 10-10-10 FERTILIZER.
- COOL SEASONS – SEEDING MIXTURE OF 100LBS/ACRE OF TALL FESCUE, 30 LBS/ACRE OF WHEAT, 25 LBS/ACRE OF UNHULLED BERMUDA. SEEDING SHOULD TAKE PLACE BETWEEN SEPTEMBER 15TH – MARCH 15.SEEDING AMENDMENTS INCLUDE APPLYING LIME AND FERTILIZER PER SOIL TEST, OR 4000 LBS/ACRE LIMESTONE AND 1000 LBS/ACRE 10-10-10 FERTILIZER.
- MAINTENANCE REQUIREMENTS WILL CHANGE DEPENDING ON TIME OF SEEDING. CONTRACTOR TO FOLLOW GUIDELINES OF GOVERNING AGENCY TO MAINTAIN GROUNDCOVER.

TEMPORARY SEEDING:

- EARLY SUMMER SEASONS, 40LBS/ACRE OF GERMAN MILLET, 80 LBS/ACRE OF TALL FESUE. PLANTED MAY 1 – AUGUST 15 APPLY 4000 LBS/ACRE STRAW OR EQUIVALENT HYDROSEEDING AND REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. SEEDING AMENDMENTS INCLUDE APPLYING LIME AND FERTILIZER PER SOIL TESTS, OR 2000 LBS/ACRE LIMESTONE AND 750 LBS/ACRE 10-10-10 FERTILIZER.
- FALL/WINTER SEASON, 120 LBS/ACRE RYE (GRAIN), 80 LBS/ACRE TALL FESUE. PLANTED OCTOBER 25 – DECEMBER 30. BETWEEN DECEMBER 30 – FEBRUARY 15, ADD 50 LBS/ACRE OF ANNUAL KOBE LESPEDEZA. APPLY 4000 LBS/ACRE STRAW OR EQUIVALENT HYDROSEEDING. SEEDING AMENDMENTS INCLUDE APPLYING LIME AND FERTILIZER PER SOIL TESTS, OR 2000 LBS/ACRE LIMESTONE AND 750 LBS/ACRE 10-10-10 FERTILIZER.
- MAINTENANCE REQUIREMENTS WILL CHANGE DEPENDING ON TIME OF SEEDING. CONTRACTOR TO FOLLOW GUIDELINES OF GOVERNING AGENCY TO MAINTAIN GROUNDCOVER. SEE FOLLOWING SHEETS FOR MAINTENANCE RECOMMENDATIONS.

6.05 **TREE PROTECTION**

Definition Practices to preserve and protect desirable trees from damage during project development.

Purpose To preserve and protect trees that have present or future value for their use in protection from erosion, for their landscape and aesthetic value, or for other environmental benefits.

Figure 6.05a Tree protection zone. A protected zone preserves roots and soil and keeps branches clear of contact with construction equipment and materials.

Conditions Where Practice Applies On development sites containing trees or stands of trees.

Planning Considerations Conserving the right trees can reap rewards for developers, homeowners, and communities. Healthy trees enhance property values and community development by providing shade, wildlife habitat, and beauty. Sickly, stressed trees reduce property values, discourage potential buyers and detract from a community. Post-construction maintenance and removal of trees is difficult and expensive. Replacing trees after construction can also be costly and time consuming.

6.06 **TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT**

Definition A graveled area or pad located at points where vehicles enter and leave a construction site.

Purpose To provide a buffer area where vehicles can drop their mud and sediment to avoid transporting it onto public roads, to control erosion from surface runoff, and to help control dust.

Conditions Where Practice Applies Wherever traffic will be leaving a construction site and moving directly onto a public road or other paved off-site area. Construction plans should limit traffic to properly constructed entrances.

Design Criteria **Aggregate Size**—Use 2-3 inch washed stone.

Dimensions of gravel pad—
Thickness: 6 inches minimum
Width: 12-feet minimum or full width at all points of the vehicular entrance and exit area, whichever is greater
Length: 50-feet minimum

Location—Locate construction entrances and exits to limit sediment from leaving the site and to provide for maximum utility by all construction vehicles (Figure 6.06a). Avoid steep grades, and entrances at curves in public roads.

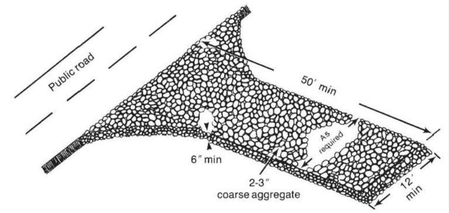

Figure 6.06a Gravel entrance/exit keeps sediment from leaving the construction site (modified from Va SWCC).

6.51 **HARDWARE CLOTH & GRAVEL INLET PROTECTION**

Definition A temporary measure of wire-mesh hardware cloth around steel posts supporting washed stone placed around the opening of a drop inlet.

Purpose To prevent sediment from entering yard inlets, grated storm drains or drop inlets during construction. This practice allows early use of the storm drain system.

Conditions Where Practice Applies To be placed around a catch basin or a drop inlet and where the flow is light to moderate. If heavy flow is anticipated, use the rock doughnut inlet protection method (Practice 6.54, *Rock Doughnut Inlet Protection)*. It is also used where storm drain inlets are to be made operational before permanent stabilization of the disturbed drainage area. This method of inlet protection is effective where the inlet is expected to drain shallow sheet flow. The immediate land area around the inlet should be relatively flat (less than 1 percent) and located so that accumulated sediment can be easily removed.

This practice must not be used near the edge of fill material and must not divert water over cut or fill slopes.

Design Criteria Ensure that drainage areas do not exceed 1 acre per inlet.

For securing the wire mesh hardware cloth barriers, use steel T posts. The posts need to be 1.25 lb/linear ft steel with a minimum length of 5 feet. Make sure the posts have projections to facilitate fastening the hardware cloth. Securely drive each stake into the ground to a minimum depth of 2 feet. The maximum spacing for the posts is 4 feet.

The wire mesh should be at least a 19-gauge hardware cloth with a ½ inch mesh opening. The total height should be a minimum of 2 feet. Providing a flap of hardware cloth on the ground projecting away from the inlet can aid in removal of the stone at the project's completion. The sediment control stone, with a height of 16 inches, should have a outside slope of 2:1.

The top elevation of the structure must be at least 12 inches lower than the ground elevation downslope from the inlet. It is important that all storm flows pass over the structure into the storm drain and not bypass the structure. Temporary dikes below the structure may be necessary to prevent bypass flow. Soil excavated when constructing the sediment pool may be used for this purpose (Figure 6.51a).

6

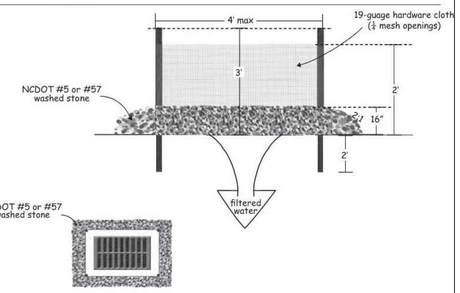

Figure 6.51a Hardware cloth and gravel inlet protection

Construction Specifications
1. Uniformly grade a shallow depression approaching the inlet.
2. Drive 5-foot steel posts 2 feet into the ground surrounding the inlet. Space posts evenly around the perimeter of the inlet, a maximum of 4 feet apart.
3. Surround the posts with wire mesh hardware cloth. Secure the wire mesh to the steel posts at the top, middle, and bottom. Placing a 2-foot flap of the wire mesh under the gravel for anchoring is recommended.
4. Place clean gravel (NC DOT #5 or #57 stone) on a 2:1 slope with a height of 16 inches around the wire, and smooth to an even grade.
5. Once the contributing drainage area has been stabilized, remove accumulated sediment, and establish final grading elevations.
6. Compact the area properly and stabilized it with groundcover.

Maintenance Inspect inlets at least weekly and after each significant (½ inch or greater) rainfall event. Clear the mesh wire of any debris or other objects to provide adequate flow for subsequent rains. Take care not to damage or undercut the wire mesh during sediment removal. Replace stone as needed.

References
Inlet Protection
6.52, Block and Gravel Inlet Protection
6.54, Rock Doughnut Inlet Protection

North Carolina Department of Transportation
Standard Specifications for Roads and Structures

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REVISIONS

NO.	DATE	DESCRIPTION
1.	09/27/22	ISSUED FOR BIDS
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4.		

POST APPROVAL

DESIGNED	DRAWN	CHECKED
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MARKET STREET 7-ELEVEN
4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405
CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

E&S NOTES AND DETAILS & NARRATIVE

SCALE: N/A
DATE: 07/20/2022
PROJECT: B6229.63

C5.3

PLAN NUMBER #2022036

6.64

SKIMMER SEDIMENT BASIN

Definition

An earthen embankment suitably located to capture runoff, with a trapezoidal spillway lined with an impermeable geotextile or laminated plastic membrane, and equipped with a floating skimmer for dewatering.

Purpose

Sediment basins are designed to provide an area for runoff to pool and settle out a portion of the sediment carried down gradient. Past designs used a perforated riser for dewatering, which allowed water to leave the basin from all depths. One way to improve the sediment capture rate is to have an outlet which dewaters the basin from the top of the water column where the water is cleanest. A skimmer is probably the most common method to dewater a sediment basin from the surface. The basic concept is that the skimmer does not dewater the basin as fast as runoff enters it, but instead allows the basin to fill and then slowly drain over hours or days. This process has two effects. First, the sediment in the runoff has more time to settle out prior to discharge. Second, a pool of water forms early in a storm event and this further increases sedimentation rates in the basin. Many of the storms will produce more volume than the typical sediment basin capacity and flow rates in excess of the skimmer capability, resulting in flow over the emergency spillway. This water is also coming from the top of the water column and has thereby been "treated" to remove sediment as much as possible. (Adapted from SoilFacts: Dewatering Sediment Basins Using Surface Outlets. N. C. State University, Soil Science Department.)

Conditions Where Practice Applies

Skimmer sediment basins are needed where drainage areas are too large for temporary sediment traps. Do not locate the skimmer sediment basin in intermittent or perennial streams.

Planning Considerations

Select locations for skimmer basins during initial site evaluation. Install skimmer sediment basins before any site grading takes place within the drainage area.

Select skimmer sediment basin sites to capture sediment from all areas that are not treated adequately by other sediment control measures. Always consider access for cleanout and disposal of the trapped sediment. Locations where a pond can be formed by constructing a low dam across a natural swale are generally preferred to sites that require excavation. Where practical, divert sediment-free runoff away from the basin.

A skimmer is a sedimentation basin dewatering control device that withdraws water from the basin's water surface, thus removing the highest quality water for delivery to the uncontrolled environment. A skimmer is shown in Figure 6.64a. By properly sizing the skimmer's control orifice, the skimmer can be made to dewater a design hydrologic event in a prescribed period. Because the spillway is actually used relatively frequently, it should be carefully stabilized using geotextiles, or rock if necessary, that can withstand the expected flows. The spillway should be placed as far from the inlet of the basin as possible to maximize sedimentation before discharge. The spillway should be located in natural groundcover to the greatest extent possible

The costs of using a skimmer system are similar, or occasionally less, than a conventional rock outlet or perforated riser. However, the basin is more efficient in removing sediment. Another advantage of the skimmer is that it can be reused on future projects. The main disadvantage of the skimmer is that it does require frequent maintenance, primarily in removing debris from the inlet.

A skimmer must dewater the basin from the top of the water surface. The rate of dewatering must be controlled. A dewatering time of 2-5 days is required. **Any skimmer design that dewaters from the surface at a controlled rate is acceptable.**

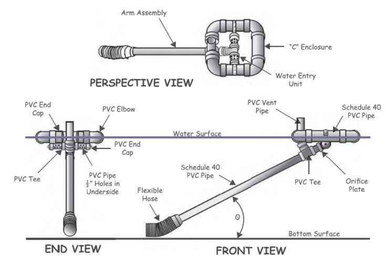

Figure 6.64a Schematic of a skimmer, from Pennsylvania Erosion and Sediment Pollution Control Manual, March, 2000.

Design Criteria

Summary:	**Skimmer Sediment Basin**
Primary Spillway:	Trapezoidal spillway with impermeable membrane
Maximum Drainage Area:	10 acres
Minimum Volume:	1800 cubic feet per acre of disturbed area
Minimum Surface Area:	325 square feet per cfs of Q_{10} peak inflow
Minimum L/W Ratio:	2:1
Maximum L/W Ratio:	6:1
Minimum Depth:	2 feet
Dewatering Mechanism:	Skimmer
Minimum Dewatering Time:	2 days
Baffles Required:	3 baffles* (*Note: Basins less than 20 feet in length may use 2 baffles.)

Drainage areas—Limit drainage areas to 10 acres.

Design basin life—Ensure a design basin life of 3 years or less.

Dam height—Limit dam height to 5 feet.

Basin locations—Select areas that:

- Provide capacity for storage of sediment from as much of the planned disturbed area as practical;
- Exclude runoff from undisturbed areas where practical;
- Provide access for sediment removal throughout the life of the project;
- Interfere minimally with construction activities.

Basin shape—Ensure that the flow length to basin width ratio is at least 2:1 to improve trapping efficiency. Length is measured at the elevation of the principal spillway.

Storage volume—Ensure that the sediment storage volume of the basin, as measured to the elevation of the crest of the principal spillway, is at least 1,800 cubic feet per acre for the disturbed area draining into the basin (1,800 cubic feet is equivalent to half an inch of sediment per acre of basin disturbed area).

Remove sediment from the basin when approximately one-half of the storage volume has been filled.

Spillway capacity—The spillway system must carry the peak runoff from the 10-year storm with a minimum 1 foot of freeboard in the spillway. Base runoff computations on the disturbed soil cover conditions expected during the effective life of the structure.

Sediment cleanout elevation—Determine the elevation at which the invert of the basin would be half-full. This elevation should also be marked in the field with a permanent stake set at this ground elevation (not the top of the stake).

Basin dewatering—The basin should be provided with a surface outlet. A floating skimmer should be attached to a Schedule 40 PVC barrel pipe of the same diameter as the skimmer arm. The orifice in the skimmer will control the rate of dewatering. The skimmer should be sized to dewater the basin in 2-5 days).

Outlet Protection—Discharge velocities must be within allowable limits for the receiving stream (References: *Outlet Protection*).

Basin spillway—Construct the entire flow area of the spillway in undisturbed soil if possible. Make the cross section trapezoidal with side slopes of 3:1 or flatter.

- Capacity—The minimum design capacity of the spillway must be the peak rate of runoff from the 10-year storm. Maximum depth of flow during the peak runoff should be 6 inches. In no case should the freeboard of the spillway be less than 1 foot above the design depth of flow.
- Velocity—Ensure that the velocity of flow discharged from the basin is nonerosive for the existing conditions. When velocities exceed that allowable for the receiving areas, provide outlet protection (References: *Outlet Protection*).

Embankment—Ensure that embankments for skimmer sediment basins do not exceed 5 feet in height (measured at the center line from the original ground surface to the top of the embankment). Keep the crest of the spillway outlet a minimum of 1.5 feet below the top of the embankment. Additional freeboard may be added to the embankment height which allows flow through a designated bypass location. Construct embankments with a minimum top width of 5 feet and side slopes of 2:1 or flatter. Machine compact the embankments.

Excavation—Where sediment pools are formed or enlarged by excavation, keep side slopes at 2:1 or flatter for safety.

Erosion protection—Stabilize all areas disturbed by construction (except the lower half of the sediment pool) by suitable means immediately after completing the basin (References: *Surface Stabilization*).

Trap efficiency—Improve sediment basin trapping efficiency by employing the following considerations in the basin design:

- Surface area—In the design of the settling pond, allow the largest surface area possible.
- Length—Maximize the length-to-width ratio of the basin to prevent short circuiting, and ensure use of the entire design settling area.
- Baffles—Provide a minimum of three porous baffles to evenly distribute flow across the basin and reduce turbulence.
- Inlets—Area between the sediment inlets and the basin should be stabilized by geotextile material, with or without rocks (Figure 6.64c shows the area with rocks). The inlet to basin should be located the greatest distance possible from the principal spillway.

- Dewatering—Allow the maximum reasonable detention period before the basin is completely dewatered (at least 48 hours).
- Inflow rate—Reduce the inflow velocity and divert all sediment-free runoff.

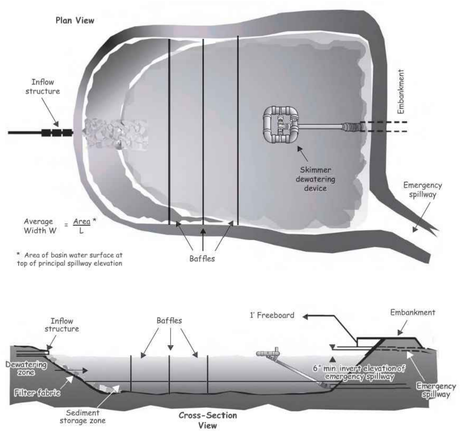

Figure 6.64c Example of a sediment basin with a skimmer outlet and emergency spillway. From Pennsylvania Erosion and Sediment Pollution Control Manual, March, 2000.

Construction Specifications

1. Clear, grub, and strip the area under the embankment of all vegetation and root mat. Remove all surface soil containing high amounts of organic matter and stockpile or dispose of it properly. Haul all objectionable material to the designated disposal area. Place temporary sediment control measures below basin as needed

2. Ensure that fill material for the embankment is free of roots, woody vegetation, organic matter, and other objectionable material. Place the fill in lifts not to exceed 9 inches, and machine compact it. Over fill the embankment 6 inches to allow for settlement.

3. Shape the basin to the specified dimensions. Prevent the skimming device from settling into the mud by excavating a shallow pit under the skimmer or providing a low support under the skimmer of stone or timber.

4. Place the barrel (typically 4-inch Schedule 40 PVC pipe) 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. Place the fill material around the pipe spillway in 4-inch layers and compact it under and around the pipe to at least the same density as the adjacent embankment. Care must be taken not to raise the pipe from the firm contact with its foundation when compacting under the pipe haunches.

Place a minimum depth of 2 feet of compacted backfill over the pipe spillway before crossing it with construction equipment. In no case should the pipe conduit be installed by cutting a trench through the dam after the embankment is complete.

5. Assemble the skimmer following the manufacturers instructions, or as designed.

6. Lay the assembled skimmer on the bottom of the basin with the flexible joint at the inlet of the barrel pipe. Attach the flexible joint to the barrel pipe and position the skimmer over the excavated pit or support. Be sure to attach a rope to the skimmer and anchor it to the side of the basin. This will be used to pull the skimmer to the side for maintenance.

7. Earthen spillways—Install the spillway in undisturbed soil to the greatest extent possible. The achievement of planned elevations, grade, design width, and entrance and exit channel slopes are critical to the successful operation of the spillway. The spillway should be lined with laminated plastic or impermeable geotextile fabric. The fabric must be wide and long enough to cover the bottom and sides and extend onto the top of the dam for anchoring in a trench. The edges may be secured with 8-inch staples or pins. The fabric must be long enough to extend down the slope and exit onto stable ground. The width of the fabric must be one piece, not joined or spliced; otherwise water can get under the fabric. If the length of the fabric is insufficient for the entire length of the spillway, multiple sections, spanning the complete width, may be used. The upper section(s) should overlap the lower section(s) so that water cannot flow under the fabric. Secure the upper edge and sides of the fabric in a trench with staples or pins. (Adapted from "A Manual for Designing, Installing and Maintaining Skimmer Sediment Basins." February, 1999. J. W. Faircloth & Son.).

8. Inlets—Discharge water into the basin in a manner to prevent erosion. Use temporary slope drains or diversions with outlet protection to divert sediment-laden water to the upper end of the pool area to improve basin trap efficiency (References: *Runoff Control Measures and Outlet Protection*).

9. Erosion control—Construct the structure so that the disturbed area is minimized. Divert surface water away from bare areas. Complete the embankment before the area is cleared. Stabilize the emergency spillway embankment and all other disturbed areas above the crest of the principal spillway immediately after construction (References: *Surface Stabilization*).

10. Install porous baffles as specified in Practice 6.65, *Porous Baffles*.

11. After all the sediment-producing areas have been permanently stabilized, remove the structure and all the unstable sediment. Smooth the area to blend with the adjoining areas and stabilize properly (References: *Surface Stabilization*).

Maintenance

Inspect skimmer sediment basins at least weekly and after each significant (one-half inch or greater) rainfall event and repair immediately. Remove sediment and restore the basin to its original dimensions when sediment accumulates to one-half the height of the first baffle. Pull the skimmer to one side so that the sediment underneath it can be excavated. Excavate the sediment from the entire basin, not just around the skimmer or the first cell. Make sure vegetation growing in the bottom of the basin does not hold down the skimmer.

Repair the baffles if they are damaged. Re-anchor the baffles if water is flowing underneath or around them.

If the skimmer is clogged with trash and there is water in the basin, usually jerking on the rope will make the skimmer bob up and down and dislodge the debris and restore flow. If this does not work, pull the skimmer over to the side of the basin and remove the debris. Also check the orifice inside the skimmer to see if it is clogged; if so remove the debris.

If the skimmer arm or barrel pipe is clogged, the orifice can be removed and the obstruction cleared with a plumber's snake or by flushing with water. Be sure and replace the orifice before repositioning the skimmer.

Check the fabric lined spillway for damage and make any required repairs with fabric that spans the full width of the spillway. Check the embankment, spillways, and outlet for erosion damage, and inspect the embankment for piping and settlement. Make all necessary repairs immediately. Remove all trash and other debris from the skimmer and pool areas.

Freezing weather can result in ice forming in the basin. Some special precautions should be taken in the winter to prevent the skimmer from plugging with ice.

Reference

Jarrett, A. R. Proper Sizing of the Control Orifice for the Faircloth Skimmer. Pennsylvania State University Department of Agricultural and Biological Engineering Fact Sheet #252. http://www.age.psu.edu/extension/factsheets/FF252.pdf

Jarrett, A. R. Controlling the Dewatering of Sedimentation Basins. Pennsylvania State University Department of Agricultural and Biological Engineering Fact Sheet #253. http://www.age.psu.edu/extension/factsheets/FF253.pdf

Erosion and Sediment Pollution Control Manual, March, 2000. Commonwealth of Pennsylvania Dept. of Environmental Protection, Office of Water Management, Document #363-2134-008. http://www.co.centre.pa.us/conservation/esmanual.pdf.

McLaughlin, Richard. SoilFacts: Dewatering Sediment Basins Using Surface Outlets. N. C. State University, Soil Science Department.

A Manual for Designing, Installing and Maintaining Skimmer Sediment Basins. February, 1999. J. W. Faircloth & Son.

Surface Stabilization
6.10, Temporary Seeding
6.11, Permanent Seeding
6.12, Sodding
6.13, Trees, Shrubs, Vines, and Ground Covers

Runoff Control Measures
6.20, Temporary Diversions
6.21, Permanent Diversions
6.22, Perimeter Dike

Outlet Protection
6.41, Outlet Stabilization Structure

Sediment Traps and Barriers
6.65, Porous Baffles

Appendices
8.03, Estimating Runoff
8.07, Sediment Basin Design

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REVISIONS

NO.	DATE	DESCRIPTION
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POST APPROVAL

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MARKET STREET 7-ELEVEN
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E&S NOTES AND DETAILS

SCALE: N/A
DATE: 07/20/2022
PROJECT: B6229.63

C5.4

PLAN NUMBER #2022036

Table 6.10a Temporary Seeding Recommendations for Late Winter and Early Spring

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

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

Seeding dates
Mountains—Above 2500 feet: Feb. 15 - May 15
Below 2500 feet: Feb. 1- May 1
Piedmont—Jan. 1 - May 1
Coastal Plain—Dec. 1 - Apr. 15

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

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

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

Table 6.10b Temporary Seeding Recommendations for Summer

Seeding mixture	
Species	**Rate (lb/acre)**
German millet	40

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

Seeding dates
Mountains—May 15 - Aug. 15
Piedmont—May 1 - Aug. 15
Coastal Plain—Apr. 15 - Aug. 15

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

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

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

Table 6.10c Temporary Seeding Recommendations for Fall

Seeding mixture	
Species	**Rate (lb/acre)**
Rye (grain)	120

Seeding dates
Mountains—Aug. 15 - Dec. 15
Coastal Plain and Piedmont—Aug. 15 - Dec. 30

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

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

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

6.65

POROUS BAFFLES

Definition
Porous barriers installed inside a temporary sediment trap, skimmer basin, or sediment basin to reduce the velocity and turbulence of the water flowing through the measure, and to facilitate the settling of sediment from the water before discharge.

Purpose
Sediment traps and basins are designed to temporarily pool runoff water to allow sediment to settle before the water is discharged. Unfortunately, they are usually not very efficient due to high turbulence and "short-circuiting" flows which take runoff quickly to the outlet with little interaction with most of the basin. Porous baffles improve the rate of sediment retention by distributin the flow and reducing turbulence. This process can improve sediment retention.

Conditions Where Practice Applies
This practice should be used in any temporary sediment trap, skimmer basin, or temporary sediment basin.

Planning Considerations
Porous baffles effectively spread the flow across the entire width of a sediment basin or trap. Water flows through the baffle material, but is slowed sufficiently to back up the flow, causing it to spread across the entire width of the baffle (Figure 6.65a).

Spreading the flow in this manner utilizes the full cross section of the basin, which in turn reduces flow rates or velocity as much as possible. In addition, the turbulence is also greatly reduced. This combination increases sediment deposition and retention and also decreases the particle size of sediment captured

The installation should be similar to a sediment fence (Figure 6.65b). The fabri should be 700 g/m^2 coir erosion blanket (Figure 6.65c) or equal. A support wir across the top will help prevent excessive sagging if the material is attached to with appropriate ties.

6.62

SEDIMENT FENCE

Definition
A temporary sediment control measure consisting of fabric buried at the bottom, stretched, and supported by posts.

Purpose
To retain sediment from small disturbed areas by reducing the velocity of sheet flows to allow sediment deposition.

Conditions Where Practice Applies
Below small-disturbed areas that are less then ¼ acre per 100 feet of fence.

Where runoff can be stored behind the sediment fence without damaging the fence or the submerged area behind the fence.

Do not install sediment fences across streams, ditches, or waterways, or other areas of concentrated flow.

Sediment fence should be placed along topographic elevation contours, where it can intercept stormwater runoff that is in dispersed sheet flow. Sediment fence should not be used alone below graded slopes greater than 10 feet in height.

Planning Considerations
A sediment fence is a system to retain sediment on the construction site. The fence retains sediment primarily by retarding flow and promoting deposition. In operation, generally the fence becomes clogged with fine particles, which reduce the flow rate. This causes a pond to develop behind the fence. The designer should anticipate ponding and provide sufficient storage areas and overflow outlets to prevent flows from overtopping the fence. Since sediment fences are not designed to withstand high water levels, locate them so that only shallow pools can form. Tie the ends of a sediment fence into higher ground to prevent flow around the end of the fence before the pool reaches design level. Curling each end of the fence uphill in a "J" pattern may be appropriate to prevent end flow. Provide stabilized outlets to protect the fence system and release storm flows that exceed the design storm.

Deposition occurs as the storage pool forms behind the fence. The designer can direct flows to specified deposition areas through appropriate positioning of the fence or by providing an excavated area behind the fence. Plan deposition areas at accessible points to promote routine cleanout and maintenance. Show deposition areas in the erosion and sedimentation control plan. A sediment fence acts as a diversion if placed slightly off the contour. A maximum slope of 2 percent is recommended. This technique may be used to control shallow, uniform flows from small disturbed areas and to deliver sediment-laden water to deposition areas. The anchoring of the toe of the fence should be reinforced with 12 inches of NC DOT #5 or #57 washed stone when flow will run parallel to the toe of the fence.

Sediment fences serve no function along ridges or near drainage divides where there is little movement of water. Confining or diverting runoff unnecessarily with a sediment fence may create erosion and sedimentation problems that would not otherwise occur.

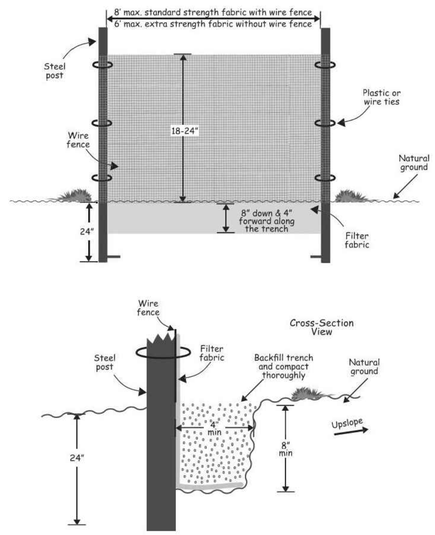

Figure 6.62a Installation detail of a sediment fence.

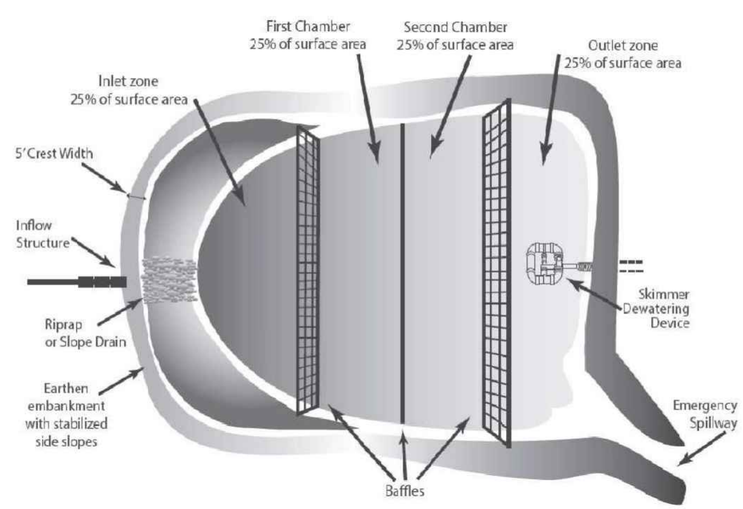

Figure 6.65a Porous baffles in a sediment basin. The flow is distributed evenly across the basin to reduce flow rates and turbulence, resulting in greater sediment retention.

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POST APPROVAL

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MARKET STREET 7-ELEVEN
4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405
CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

E&S NOTES AND DETAILS

SCALE: N/A
DATE: 07/20/2022
PROJECT: B6229.63

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Date:

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

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants.*
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

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

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

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

PAINT AND OTHER LIQUID WASTE

1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. 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.

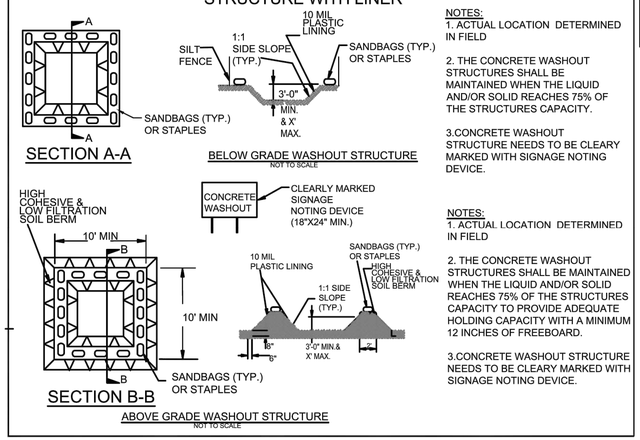
EARTHEN STOCKPILE MANAGEMENT

1. 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.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

HAZARDOUS AND TOXIC WASTE

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

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY.

3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.

3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

CONCRETE WASHOUTS

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

HERBICIDES, PESTICIDES AND RODENTICIDES

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

NORTH CAROLINA Environmental Quality

EFFECTIVE DATE: 11/12/2020

NCG-01 GROUND COVER & MATERIALS HANDLING

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POST APPROVAL

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PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

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

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

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION 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 on holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "Zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours.	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 ≥ 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 corrective actions taken
(4) Perimeter of Site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours.	If visible Sedimentation is found outside site limits, then record of the following shall be made: 1) Actions taken to clean up or stabilize sediment that has left the site limits 2) Description, Evidence and date of corrective actions taken 3) An explanation as to the actions taken to control future releases
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours.	If the stream or wetland has increased visible sedimentation or 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 2) Records of required reports to the appropriate Division Regional Office per Part III, Section C, Item(2)(a) of this permit
(6) Ground Stabilization Measures	After each phase of grading.	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 assurance that they will be provided as soon as possible.

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

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	Document Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures 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 Timeframe (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• 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 caused, 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	• 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)]	• *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)]	• 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)]	• 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.

NORTH CAROLINA Environmental Quality

EFFECTIVE DATE:11/12/2020

NCG-01 SELF INSPECTION

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E&S NOTES AND DETAILS

SCALE: N/A
DATE: 07/20/2022
PROJECT: B6229.63

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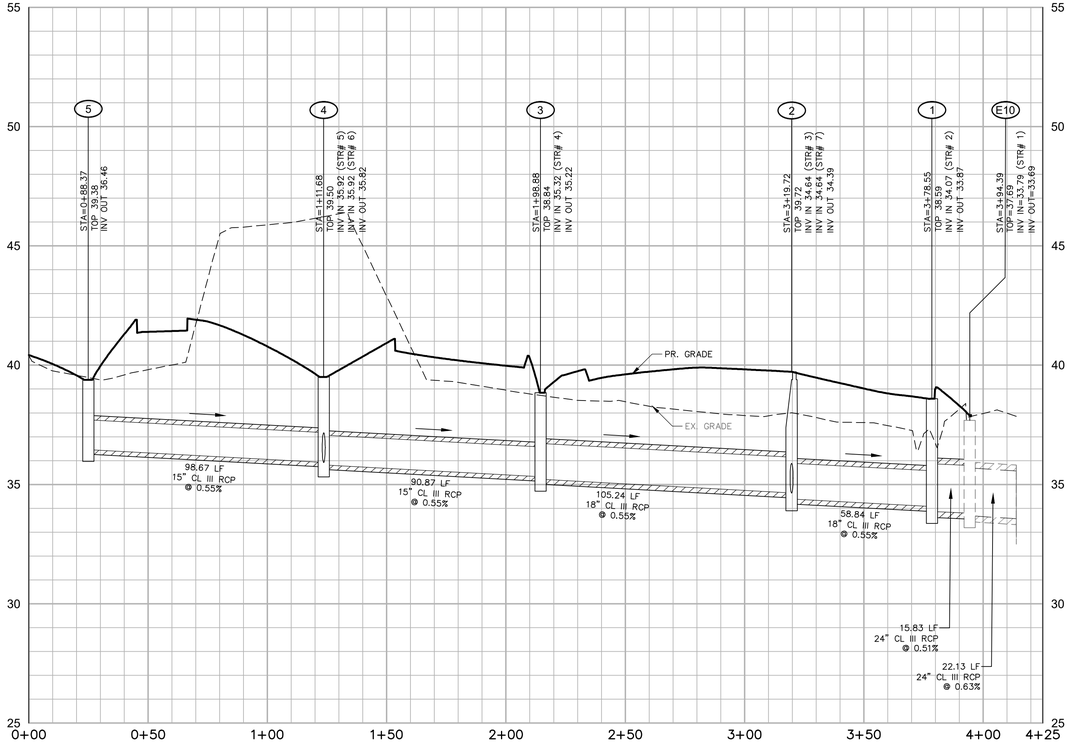
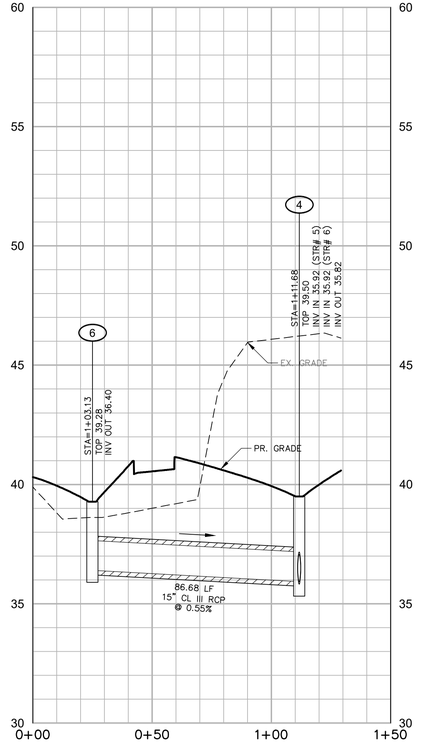
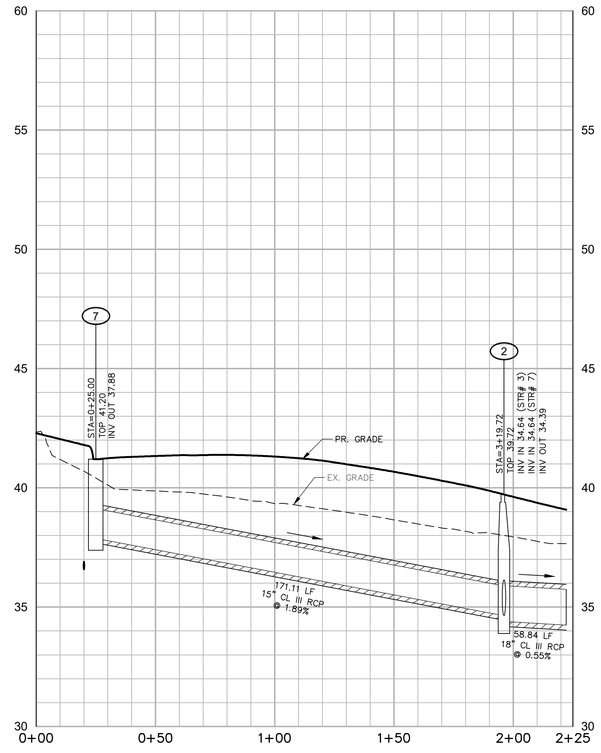
PLAN NUMBER #2022036



STM 5 - E10



STM 6 - 4



LEGEND

- EXISTING GRADE
- PROPOSED GRADE
- EXISTING 25' LEFT
- EXISTING 25' RIGHT
- DUCTILE IRON

NOTES:

4. THE SANITARY SEWER MANHOLES WITHIN THE ROW SHALL BE WATERTIGHT CONSTRUCTION AND BE TESTED IN PLACE BY VACUUM TESTING.

6. ALL WATER SERVICE AND SANITARY SEWER CROSSINGS STORM SEWER SHALL MAINTAIN A MINIMUM VERTICAL SEPARATION DISTANCE OF 1.5 FEET.

VERTICAL

3 0 1.5 3 6

1 inch = 3 feet

HORIZONTAL

30 0 15 30 60

1 inch = 30 feet

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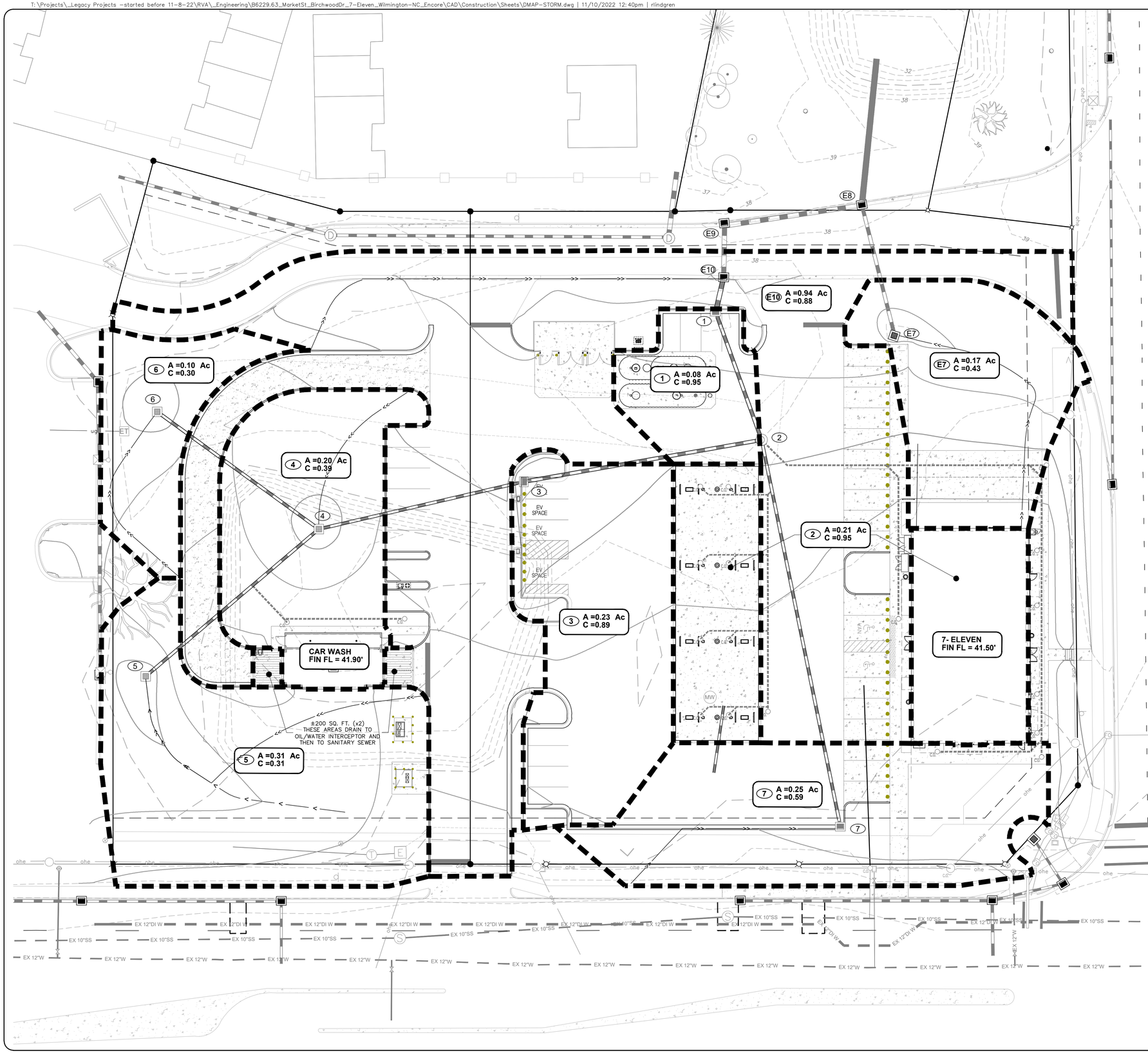
PROFILES - STORM

SCALE: AS SHOWN
DATE: 07/20/2022
PROJECT: B6229.63

C6.1

PLAN NUMBER #2022036



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DMAP-STORM

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PROJECT: B6229.63

C7.1

10 YEAR STORM CALCULATIONS

AASHTO Junction Loss Calculations

Project Name: Market St 7-Eleven

Stormwater Studio 2022 v 3.0.0.29

09-29-2022

Line No	Inlet Id	Outlet WS Elev	Do	Qo	Lo	Sf	Hf	JUNCTION LOSS												Final H	Inlet WS Elev	Rim Elev
								Vo	Ho	Qi	Vi	QiVi	Vi²/2g	Hi	Angle	Hb	Ht	1.3 Ht	0.5 Ht			
		(ft)	(in)	(cfs)	(ft)	(%)	(ft)	(ft/s)	(ft)	(cfs)	(ft/s)		(ft)	(ft)	(deg)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
1	E8	38.09	30	13.12	63.76	0.102	0.07	2.67	0.03	12.07	3.84 f	46.38	0.23	0.08 2	76	0.15 2	0.26	-	-	0.32	38.41	37.41
2	E9	38.30	24	12.07	60.24	0.285	0.17	3.84	0.06	11.50	3.66 f	42.10	0.21	0.07 3	80	0.15 3	0.28	-	-	0.45	38.74	37.55
3	E10	38.77	24	11.50	22.13	0.259	0.06	3.66	0.05	5.77	1.84 f	10.59	0.05	0.02 4	12	0.01 4	0.08	0.10	-	0.16	38.93	37.69
4	1	39.08	24	5.77	15.83	0.065	0.01	1.84	0.01	5.27	2.98 f	15.74	0.14	0.05 5	33	0.06 5	0.12	-	-	0.13	39.21	38.59
5	2	39.13	18	5.27	58.84	0.252	0.15	2.98	0.03	2.90	1.64 f	4.76	0.04	0.01 6	98	0.03 6	0.08	-	-	0.23	39.36	39.75
6	3	39.45	18	2.90	105.11	0.076	0.08	1.64	0.01	1.47	1.20 f	1.76	0.02	0.01 7	0	0.00 7	0.02	0.03	-	0.11	39.56	38.84
7	4	39.58	15	1.47	90.93	0.052	0.05	1.20	0.01	0.70	0.57 f	0.40	0.01	0.00 8	29	0.00 8	0.01	0.01	-	0.06	39.64	39.50
8	6	39.66	15	0.24	86.68	0.001	0.00	0.19	0.00	-	-	-	-	-	-	-	0.00	0.00	-	0.00	39.66	39.28
9	5	39.65	15	0.70	98.67	0.012	0.01	0.57	0.00	-	-	-	-	-	-	-	0.00	0.00	-	0.01	39.67	39.38
10	7	39.48	15	1.17	171.11	0.033	0.06	0.95	0.00	-	-	-	-	-	-	-	0.00	0.01	-	0.06	39.54	41.20
11	E7	38.52	18	0.67	59.23	0.004	0.00	0.38	0.00	-	-	-	-	-	-	-	0.00	0.00	-	0.00	38.53	37.48

Return Period = 10-yrs. , Ho = Ko(Vo²/2g), Hi = 0.35(Vi²/2g), Hb = Kb(Vi²/2g), Ht = Ho + Hi + Hb, Final H = Hf + Ht, c Critical, n Normal, f Full

Project File: Market Street 7-Eleven.sws

LD-204 Report

Project Name: Market St 7-Eleven

Stormwater Studio 2022 v 3.0.0.29

09-29-2022

Inlet ID	Junct Type	Curb Length	Grate Len	Grate Width	Drain Area	Runoff Coeff	Incr CxA	Total C x A	i Inlet	i Syst	Incr Q	Q Carry	Gutter Slope	Cross Sl, Sx	Gutter Width	Cross Sl, Sw	Local Depr	Inlet Eff	Q Capt	Q Bypass	Inlet Depth	Throat Height	Inlet Spread	Inlet Loc
		(ft)	(ft)	(ft)	(ac)	(C)			(in/hr)	(in/hr)	(cfs)	(cfs)	(ft/ft)	(ft/ft)	(ft)	(ft/ft)	(in)	(%)	(cfs)	(cfs)	(ft)	(in)	(ft)	
E8	Comb.	2.98	2.98	1.98	0.090	0.95	0.09	1.90	9.69	6.90	0.83	0.00	Sag	0.0550	1.50	0.0300	2.0	100	0.83	0.00	0.28	6.0	2.14	Sag
E9	Comb.	2.98	2.98	1.98	0.090	0.95	0.09	1.74	9.89	6.93	0.83	0.00	0.017	0.0360	1.50	0.0300	2.0	80	0.66	0.17	0.24	6.0	1.98	On Grd
E10	Comb.	2.98	2.98	1.98	0.940	0.88	0.83	1.66	8.02	6.94	6.64	0.00	Sag	0.0200	1.50	0.0300	2.0	100	6.64	0.00	0.60	6.0	21.66	Sag
1	Comb.	2.98	2.98	1.98	0.080	0.95	0.08	0.83	9.69	6.95	0.74	0.00	Sag	0.0125	1.50	0.0300	2.0	100	0.74	0.00	0.23	6.0	5.26	Sag
2	MH	....	....	....	0.210	0.95	0.20	0.75	9.69	7.00	1.93	....	....	....	....	....	....	....	....	....	....	....	....	....
3	Comb.	2.98	2.98	1.98	0.230	0.89	0.20	0.41	9.69	7.09	1.98	0.00	Sag	0.0260	1.50	0.0300	2.0	100	1.98	0.00	0.35	6.0	6.89	Sag
4	Dp-Grate	....	....	2.00	0.200	0.39	0.08	0.20	7.74	7.20	0.60	0.00	Sag	0.0400	2.50	0.0400	....	100	0.60	0.00	0.09	....	6.79	Sag
6	Dp-Grate	....	....	2.00	0.100	0.30	0.03	0.03	7.96	7.96	0.24	0.00	Sag	0.0350	2.50	0.0350	....	100	0.24	0.00	0.05	....	5.14	Sag
5	Dp-Grate	....	....	2.00	0.310	0.31	0.10	0.10	7.33	7.33	0.70	0.00	Sag	0.0200	2.50	0.0200	....	100	0.70	0.00	0.10	....	12.01	Sag
7	Comb.	2.98	2.98	1.98	0.250	0.58	0.15	0.15	8.05	8.05	1.17	0.00	Sag	0.0125	1.50	0.0300	2.0	100	1.17	0.00	0.27	6.0	8.46	Sag
E7	Dp-Grate	....	....	2.00	0.170	0.44	0.07	0.07	8.99	8.99	0.67	0.00	Sag	0.0200	2.50	0.0200	....	100	0.67	0.00	0.09	....	11.71	Sag

Notes: IDF File = MarketSt.idf, Return Period = 10-yrs.

Project File: Market Street 7-Eleven.sws

LD-229 Report

Project Name: Market St 7-Eleven

Stormwater Studio 2022 v 3.0.0.29

09-29-2022

Inlet ID	Inlet ID DownStr	Drain Area	Runoff Coeff	Incr CxA	Total C x A	Inlet Time	Tc System	i Syst	Total Runoff	Invert Up	Invert Dn	Line Length	Line Slope	Line Size	Capac. Full	Vel Up	Vel Normal	Pipe Travel
		(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(ft)	(ft)	(ft)	(ft/ft)	(in)	(cfs)	(ft/s)	(ft/s)	(min)
E8	....	0.090	0.95	0.09	1.90	5.0	14.2	6.90	13.12	33.01	32.79	63.76	0.0035	30	24.09	2.67	5.01	0.22
E9	E8	0.090	0.95	0.09	1.74	5.0	14.0	6.93	12.07	33.55	33.10	60.24	0.0075	24	19.55	3.84	6.55	0.16
E10	E9	0.940	0.88	0.83	1.66	9.6	13.9	6.94	11.50	33.69	33.55	22.13	0.0063	24	21.66	Sag		
1	E10	0.080	0.95	0.08	0.83	5.0	13.9	6.95	5.77	33.87	33.79	15.83	0.0051	24	16.08	1.84	4.69	0.06
2	1	0.210	0.95	0.20	0.75	5.0	13.7	7.00	5.27	34.39	34.07	58.84	0.0055	18	7.77	2.98	4.72	0.21
3	2	0.230	0.89	0.20	0.41	5.0	13.2	7.09	2.90	35.22	34.64	105.11	0.0055	18	7.80	1.64	4.09	0.44
4	3	0.200	0.39	0.08	0.20	10.6	12.8	7.20	1.47	35.82	35.32	90.93	0.0055	15	4.79	1.20	3.43	0.45
6	4	0.100	0.30	0.03	0.03	9.8	9.8	7.96	0.24	36.40	35.92	86.68	0.0055	15	4.81	0.19	2.03	0.71
5	4	0.310	0.31	0.10	0.10	12.2	12.2	7.33	0.70	36.46	35.92	98.67	0.0055	15	4.78	0.57	2.78	0.59
7	2	0.250	0.58	0.15	0.15	9.5	9.5	8.05	1.17	37.88	34.64	171.11	0.0189	15	8.89	0.95	5.01	0.57
E7	E8	0.170	0.44	0.07	0.07	6.7	6.7	8.99	0.67	34.32	33.06	59.23	0.0213	18	15.32	0.38	4.34	0.23

Notes: IDF File = MarketSt.idf, Return Period = 10-yrs.

Project File: Market Street 7-Eleven.sws

50 YEAR STORM CALCULATIONS

AASHTO Junction Loss Calculations

Project Name: Market St 7-Eleven

Stormwater Studio 2022 v 3.0.0.29

09-29-2022

Line No	Inlet Id	Outlet WS Elev	Do	Qo	Lo	Sf	Hf	JUNCTION LOSS												Final H	Inlet WS Elev	Rim Elev
								Vo	Ho	Qi	Vi	QiVi	Vi²/2g	Hi	Angle	Hb	Ht	1.3 Ht	0.5 Ht			
		(ft)	(in)	(cfs)	(ft)	(%)	(ft)	(ft/s)	(ft)	(cfs)	(ft/s)		(ft)	(ft)	(deg)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
1	E8	38.09	30	16.33	63.76	0.159	0.10	3.33	0.04	15.02	4.78 f	71.80	0.36	0.12 2	76	0.23 2	0.40	-	-	0.50	38.59	37.41
2	E9	38.41	24	15.02	60.24	0.441	0.27	4.78	0.09	14.31	4.55 f	65.15	0.32	0.11 3	80	0.23 3	0.43	-	-	0.69	39.10	37.55
3	E10	39.14	24	14.31	22.13	0.400	0.09	4.55	0.08	7.17	2.28 f	16.38	0.08	0.03 4	12	0.02 4	0.12	0.16	-	0.25	39.39	37.69
4	1	39.63	24	7.17	15.83	0.101	0.02	2.28	0.02	6.55	3.71 f	24.32	0.21	0.07 5	33	0.09 5	0.19	-	-	0.20	39.83	38.59
5	2	39.70	18	6.55	58.84	0.390	0.23	3.71	0.05	3.60	2.04 f	7.34	0.06	0.02 6	98	0.05 6	0.12	-	-	0.35	40.05	39.75
6	3	40.20	18	3.60	105.11	0.118	0.12	2.04	0.02	1.82	1.48 f	2.70	0.03	0.01 7	0	0.00 7	0.03	0.04	-	0.16	40.36	38.84
7	4	40.39	15	1.82	90.93	0.079	0.07	1.48	0.01	0.87	0.71 f	0.62	0.01	0.00 8	29	0.00 8	0.01	0.02	-	0.09	40.48	39.50
8	6	40.51	15	0.29	86.68	0.002	0.00	0.24	0.00	-	-	-	-	-	-	-	0.00	0.00	-	0.00	40.52	39.28
9	5	40.51	15	0.87	98.67	0.018	0.02	0.71	0.00	-	-	-	-	-	-	-	0.00	0.00	-	0.02	40.53	39.38
10	7	40.24	15	1.44	171.11	0.050	0.08	1.17	0.01	-	-	-	-	-	-	-	0.01	0.01	-	0.09	40.33	41.20
11	E7	38.76	18	0.83	59.23	0.006	0.00	0.47	0.00	-	-	-	-	-	-	-	0.00	0.00	-	0.00	38.77	37.48

Return Period = 50-yrs. , Ho = Ko(Vo²/2g), Hi = 0.35(Vi²/2g), Hb = Kb(Vi²/2g), Ht = Ho + Hi + Hb, Final H = Hf + Ht, c Critical, n Normal, f Full

Project File: Market Street 7-Eleven.sws

LD-204 Report

Project Name: Market St 7-Eleven

09-29-2022

Inlet ID	Junct Type	Curb Length	Grate Len	Grate Width	Drain Area	Runoff Coeff	Incr CxA	Total C x A	i Inlet	i Syst	Incr Q	Q Carry	Gutter Slope	Cross Sl, Sx	Gutter Width	Cross Sl, Sw	Local Depr	Inlet Eff	Q Capt	Q Bypass	Inlet Depth	Throat Height	Inlet Spread	Inlet Loc
		(ft)	(ft)	(ft)	(ac)	(C)			(in/hr)	(in/hr)	(cfs)	(cfs)	(ft/ft)	(ft/ft)	(ft)	(ft/ft)	(in)	(%)	(cfs)	(cfs)	(ft)	(in)	(ft)	
E8	Comb.	2.98	2.98	1.98	0.090	0.95	0.09	1.90	11.88	8.58	1.02	0.00	Sag	0.0550	1.50	0.0300	2.0	100	1.02	0.00	0.30	6.0	2.51	Sag
E9	Comb.	2.98	2.98	1.98	0.090	0.95	0.09	1.74	11.88	8.62	1.02	0.00	0.017	0.0360	1.50	0.0300	2.0	77	0.78	0.24	0.26	6.0	2.48	On Grd
E10	Comb.	2.98	2.98	1.98	0.940	0.88	0.83	1.66	9.89	8.64	8.18	0.00	Sag	0.0200	1.50	0.0300	2.0	100	8.18	0.00	0.67	6.0	25.16	Sag
1	Comb.	2.98	2.98	1.98	0.080	0.95	0.08	0.83	11.88	8.65	0.90	0.00	Sag	0.0125	1.50	0.0300	2.0	100	0.90	0.00	0.25	6.0	6.86	Sag
2	MH	....	....	....	0.210	0.95	0.20	0.75	11.88	8.70	2.37	....	....	....	....	....	....	....	....	....	....	....	....	....
3	Comb.	2.98	2.98	1.98	0.230	0.89	0.20	0.41	11.88	8.81	2.43	0.00	Sag	0.0260	1.50	0.0300	2.0	100	2.43	0.00	0.38	6.0	8.04	Sag
4	Dp-Grate	....	....	2.00	0.200	0.39	0.08	0.20	9.55	8.92	0.75	0.00	Sag	0.0400	2.50	0.0400	....	100	0.75	0.00	0.10	....	7.43	Sag
6	Dp-Grate	....	....	2.00	0.100	0.30	0.03	0.03	9.82	9.82	0.29	0.00	Sag	0.0350	2.50	0.0350	....	100	0.29	0.00	0.05	....	5.54	Sag
5	Dp-Grate	....	....	2.00	0.310	0.31	0.10	0.10	9.07	9.07	0.87	0.00	Sag	0.0200	2.50	0.0200	....	100	0.87	0.00	0.11	....	13.46	Sag
7	Comb.	2.98	2.98	1.98	0.250	0.58	0.15	0.15	9.92	9.92	1.44	0.00	Sag	0.0125	1.50	0.0300	2.0	100	1.44	0.00	0.29	6.0	10.06	Sag
E7	Dp-Grate	....	....	2.00	0.170	0.44	0.07	0.07	11.04	11.04	0.83	0.00	Sag	0.0200	2.50	0.0200	....	100	0.83	0.00	0.11	....	13.07	Sag

Notes: IDF File = MarketSt.idf, Return Period = 50-yrs.

Project File: Market Street 7-Eleven.sws

LD-229 Report

Project Name: Market St 7-Eleven

Stormwater Studio 2022 v 3.0.0.29

09-29-2022

Inlet ID	Inlet ID DownStr	Drain Area	Runoff Coeff	Incr CxA	Total C x A	Inlet Time	Tc System	i Syst	Total Runoff	Invert Up	Invert Dn	Line Length	Line Slope	Line Size	Capac. Full	Vel Up	Vel Normal	Pipe Travel
		(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(ft)	(ft)	(ft)	(ft/ft)	(in)	(cfs)	(ft/s)	(ft/s)	(min)
E8	....	0.090	0.95	0.09	1.90	5.0	14.1	8.58	16.33	33.01	32.79	63.76	0.0035	30	24.09	3.33	5.27	0.21
E9	E8	0.090	0.95	0.09	1.74	5.0	13.9	8.62	15.02	33.55	33.10	60.24	0.0075	24	19.55	4.78	6.86	0.15
E10	E9	0.940	0.88	0.83	1.66	9.6	13.8	8.64	14.31	33.69	33.55	22.13	0.0063	24	17.99	4.55	6.35	0.06
1	E10	0.080	0.95	0.08	0.83	5.0	13.8	8.65	7.17	33.87	33.79	15.83	0.0051	24	16.08	2.28	4.97	0.05
2	1	0.210	0.95	0.20	0.75	5.0	13.6	8.70	6.55	34.39	34.07	58.84	0.0055	18	7.77	3.71	4.93	0.20
3	2	0.230	0.89	0.20	0.41	5.0	13.2	8.81	3.60	35.22	34.64	105.11	0.0055	18	7.80	2.04	4.32	0.41
4	3	0.200	0.39	0.08	0.20	10.6	12.8	8.92	1.82	35.82	35.32	90.93	0.0055	15	4.79	1.48	3.63	0.42
6	4	0.100	0.30	0.03	0.03	9.8	9.8	9.82	0.29	36.40	35.92	86.68	0.0055	15	4.81	0.24	2.17	0.67
5	4	0.310	0.31	0.10	0.10	12.2	12.2	9.07	0.87	36.46	35.92	98.67	0.0055	15	4.78	0.71	2.96	0.56
7	2	0.250	0.58	0.15	0.15	9.5	9.5	9.92	1.44	37.88	34.64	171.11	0.0189	15	8.89	1.17	5.32	0.54
E7	E8	0.170	0.44	0.07	0.07	6.7	6.7	11.04	0.83	34.32	33.06	59.23	0.0213	18	15.32	0.47	4.62	0.21

Notes: IDF File = MarketSt.idf, Return Period = 50-yrs.

Project File: Market Street 7-Eleven.sws

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Henrico, Va 23229
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DRAFT

REVISIONS

NO.	DATE	DESCRIPTION
1.	09/27/22	ISSUED FOR BIDS
2.	10/10/22	REVISED PER CITY COMMENTS
3.	11/11/22	REVISED PER CITY AND CPPUA COMMENTS
4.		

POST APPROVAL

DESIGNED	DRAWN	CHECKED
RJL	CRT	

MARKET STREET 7-ELEVEN
4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405
CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

CALCS - STORM SEWER

SCALE:
DATE: 07/20/2022
PROJECT: B6229.63

C8.1

PLAN NUMBER #2022036

GENERAL NOTES

USE 4000 PSI MINIMUM COMPRESSIVE STRENGTH CONCRETE.

USE ASTM A615 GRADE 60 REINFORCING STEEL. USE ASTM A1064 WELDED WIRE FABRIC (WWF).

FABRICATE, ASSEMBLE AND DESIGN PRECAST MANHOLE COMPONENTS ACCORDANCE WITH AASHTO M199.

ASSEMBLE RISER AND GRADE RINGS WITH THE STEPS SPACED 12" FROM THE TOP TO THE BOTTOM OF THE MANHOLE.

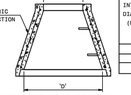
WHERE THE MANHOLE IS EXPOSED TO ROAD TRAFFIC, CONSTRUCT THE TOP OF THE MANHOLE FLUSH WITH THE GROUND AND A MINIMUM OF 9" ABOVE THE GROUND AT OTHER LOCATIONS.

LIMIT DEPTH OF FILL TO 30'-0" FROM FINISH GRADE TO TOP OF BOTTOM SLAB.

THE MIN. SLAB THICKNESS 'T' IS THE DIMENSION OF THE THINNEST PORTION OF THE TOP/BOTTOM SLAB.

* TOP MAT OF REINFORCEMENT MAY BE NEGLECTED IF TOP SLAB HAS A DISTINGUISHABLE TOP AND BOTTOM.

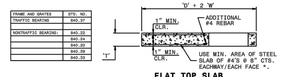
CONCENTRIC CONE SECTION



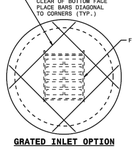
ALTERNATE CONE SECTION

D	W	T	As
INTERNAL DIAMETER (FT.)	MIN. WALL THICKNESS (IN.)	MIN. TOP/BOTTOM SLAB THICKNESS (IN.)	MIN. CIRCUMFERENTIAL AREA OF STEEL PER VERTICAL FT. (SQ. IN.)
4	4	6	0.12
5	5	6	0.15
6	6	6	0.18

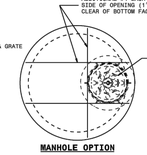
FRAME AND GRATES	STD. NO.
TRAFFIC BEARING	840.37
NONTRAFFIC BEARING	840.32
	840.34
	840.35
	840.36
	840.39



FLAT TOP SLAB



GRATED INLET OPTION



MANHOLE OPTION

TYPICAL MANHOLE SECTION

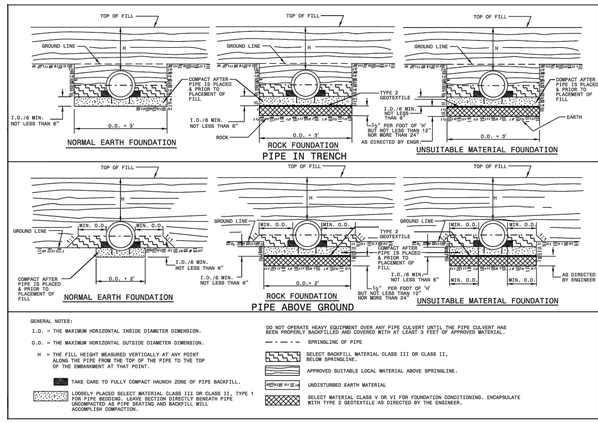
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

I-18

ROADWAY STANDARD DRAWING FOR
PRECAST MANHOLE 4'.5' AND 6' DIAMETER 12" THRU 48" PIPE

SHEET 1 OF 1

840.52



GENERAL NOTES:

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.

O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.

H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 OR TYPE 2 GEOTEXTILE AS NEEDED TO SUPPORT PIPE (UNCOMPACTED AS PIPE SEATING AND BACKFILL BELL ACCOMPLISH COMPACTION.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

SPRINGLINE OF PIPE

SELECT BACKFILL MATERIAL CLASS III OR CLASS II, BELOW SPRINGLINE.

APPROVED SUITABLE LOCAL MATERIAL ABOVE SPRINGLINE.

UNDISTURBED EARTH MATERIAL

SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE 2 GEOTEXTILE AS DIRECTED BY THE ENGINEER.

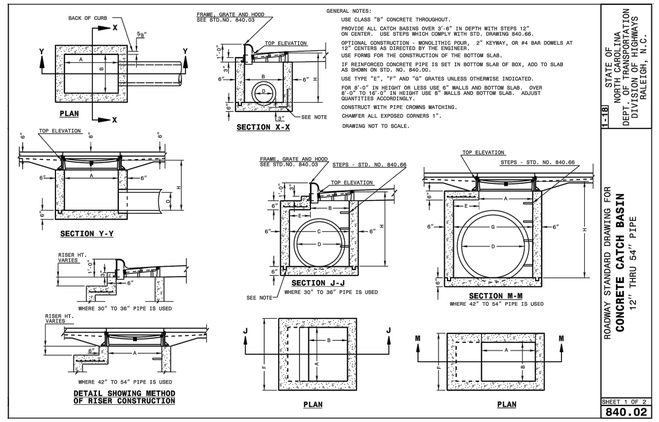
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

I-18

ROADWAY STANDARD DRAWING FOR
METHOD OF PIPE INSTALLATION
RIGID PIPE

SHEET 2 OF 3

300.01



GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL CATCH BASINS OVER 5'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

USE TYPE "E", "Y" AND "G" GRATES UNLESS OTHERWISE INDICATED.

FOR 5'-0" IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB. OVER 5'-0" TO 16'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.

CONSTRUCT WITH PIPE CROWNS MATCHING.

CHAMFER ALL EXPOSED CORNERS ¾".

DRAWING NOT TO SCALE.

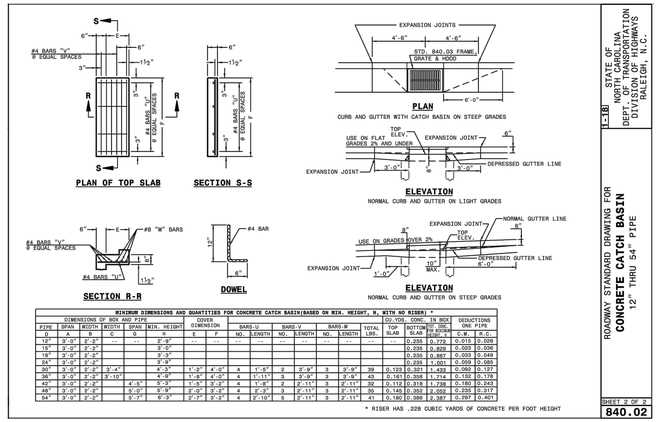
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

I-18

ROADWAY STANDARD DRAWING FOR
CONCRETE CATCH BASIN

SHEET 1 OF 2

840.02



MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN(BASED ON MIN. HEIGHT, H, WITH NO RISER) *

DIMENSIONS OF BOX AND PIPE							COVER DIMENSION	CU.YDS. CONC. IN BOX							DEDUCTIONS ONE PIPE	
PIPE	SPAN	WIDTH	WIDTH	SPAN	MIN. HEIGHT	H	E	F	BARS-U NO.	BARS-U LENGTH	BARS-V NO.	BARS-V LENGTH	BARS-W NO.	BARS-W LENGTH	TOTAL LBS.	TOP SLAB	BOTTOM SLAB	WALL PER FT. HT.	C.M.	R.C.
12"	3'-0"	2'-0"	--	--	2'-9"	--	--	--	--	--	--	--	--	--	--	--	0.235	0.772	0.015	0.026
15"	3'-0"	2'-0"			3'-0"												0.235	0.829	0.020	0.036
18"	3'-0"	2'-0"			3'-3"												0.235	0.887	0.033	0.049
24"	3'-0"	2'-0"			3'-9"												0.235	1.001	0.059	0.065
30"	3'-0"	2'-0"	3'-4"		4'-3"	1'-3"	4'-0"	4	1'-6"	2	3'-9"	3	3'-9"	39	0.123	0.321	1.433	0.092	0.127
36"	3'-0"	2'-0"	3'-10"		4'-9"	1'-6"	4'-0"	4	1'-11"	3	3'-9"	3	3'-9"	43	0.161	0.398	1.714	0.132	0.178
42"	3'-0"	2'-0"		4'-5"	5'-3"	1'-5"	3'-2"	4	1'-8"	2	2'-11"	3	2'-11"	32	0.112	0.318	1.738	0.180	0.243
48"	3'-0"	2'-0"		5'-0"	5'-9"	2'-0"	3'-2"	4	2'-3"	3	2'-11"	30	0.145	0.350	2.052	0.235	0.317
54"	3'-0"	2'-0"		5'-7"	6'-3"	2'-7"	3'-2"	4	2'-10"	5	2'-11"	3	2'-11"	41	0.180	0.388	2.387	0.297	0.401

* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

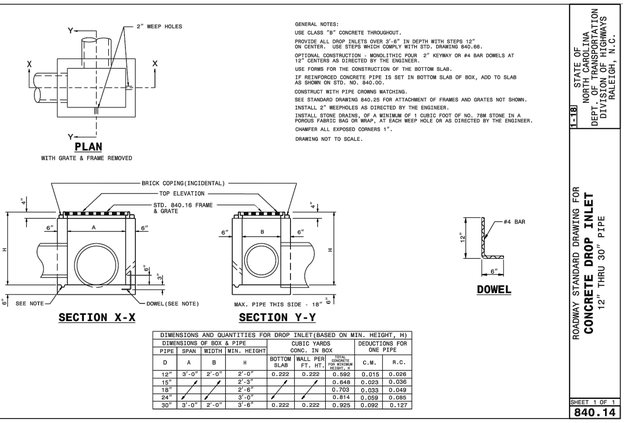
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

I-18

ROADWAY STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE

SHEET 2 OF 2

840.02



GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL DROP INLETS OVER 5'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR 2" KEYWAY OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

CONSTRUCT WITH PIPE CROWNS MATCHING.

SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.

INSTALL 2" WEEPHOLES AS DIRECTED BY THE ENGINEER.

INSTALL STONE DRAINS, OF A MINIMUM OF 1 CUBIC FOOT OF NO. 78M STONE IN A POROUS FABRIC BAG OR WRAP, AT EACH WEEP HOLE OR AS DIRECTED BY THE ENGINEER.

CHAMFER ALL EXPOSED CORNERS ¾".

DRAWING NOT TO SCALE.

DIMENSIONS OF BOX & PIPE				CUBIC YARDS CONC. IN BOX		DEDUCTIONS FOR ONE PIPE	
PIPE	SPAN	WIDTH	MIN. HEIGHT	BOTTOM SLAB	WALL PER FT. HT.	C.M.	R.C.
D	A	B	H				
12"	3'-0"	2'-0"	2'-0"	0.222	0.222	0.592	0.015	0.026
15"			2'-3"			0.648	0.023	0.036
18"			2'-8"			0.703	0.033	0.049
24"			3'-0"			0.814	0.059	0.065
30"	3'-0"	2'-0"	3'-8"	0.222	0.222	0.925	0.092	0.127

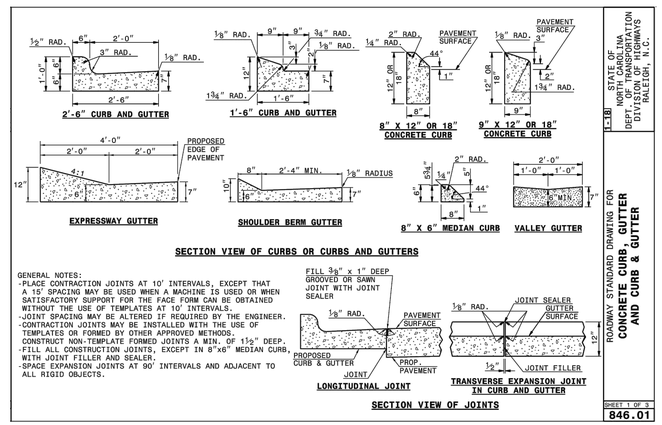
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

I-18

ROADWAY STANDARD DRAWING FOR
CONCRETE DROP INLET
12" THRU 30" PIPE

SHEET 1 OF 1

840.14



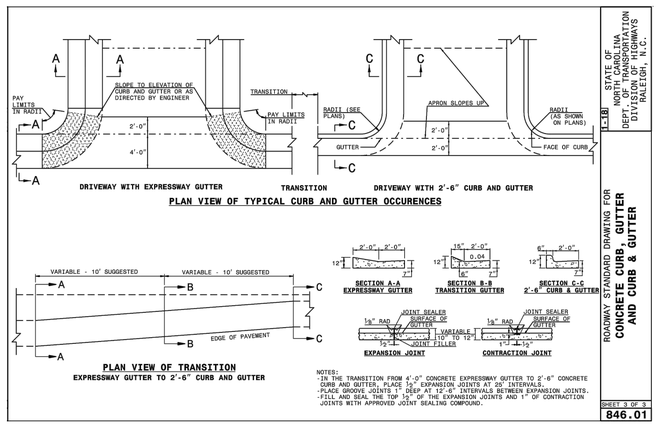
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

I-18

ROADWAY STANDARD DRAWING FOR
CONCRETE CURB, GUTTER AND CURB & GUTTER

SHEET 1 OF 3

846.01



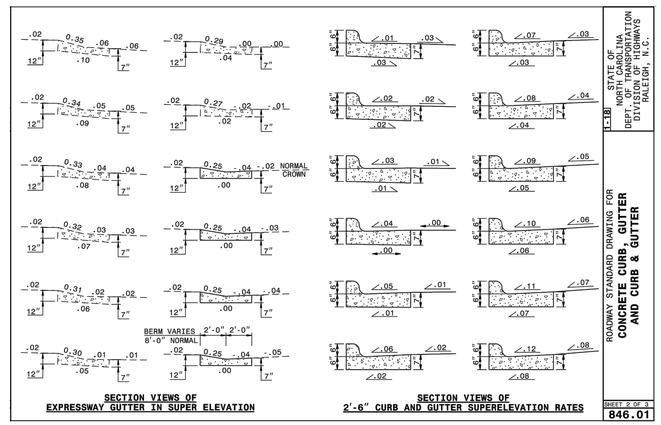
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

I-18

ROADWAY STANDARD DRAWING FOR
CONCRETE CURB, GUTTER AND CURB & GUTTER

SHEET 2 OF 3

846.01



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

I-18

ROADWAY STANDARD DRAWING FOR
CONCRETE CURB, GUTTER AND CURB & GUTTER

SHEET 3 OF 3

846.01

KOONTZ BRYANT JOHNSON WILLIAMS
1703 N. Parham Rd.
Suite 202
Henrico, Va 23229
(804) 740-9200
FAX (804) 740-7338
www.KBJWgroup.com

DRAFT

REVISIONS

NO.	DATE	DESCRIPTION
1.	09/27/22	ISSUED FOR BIDS
2.	10/10/22	REVISED PER CITY COMMENTS
3.	11/11/22	REVISED PER CITY AND CPPJA COMMENTS
4.		

POST APPROVAL

DESIGNED RJL | DRAWN CRT | CHECKED

MARKET STREET 7-ELEVEN

4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405

CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

DETAILS - STORM

SCALE: N/A

DATE: 07/20/2022

PROJECT: B6229.63

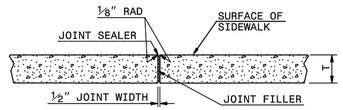
C9.1

NOTES:

CONSTRUCT STANDARD SIDEWALK 5' WIDE AND 4" THICK UNLESS OTHERWISE DENOTED ON PLANS.

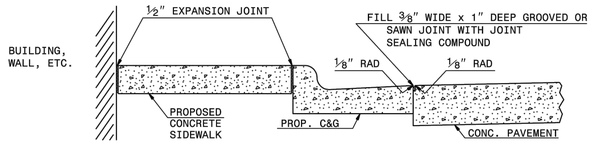
PLACE A GROOVE JOINT 1" DEEP WITH ⅛" RADII IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE ½" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS. A ½" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.

SEE STD. DWG. 848.05 FOR CURB RAMP LOCATION REQUIREMENTS AND CONSTRUCTION GUIDELINES.



T = SIDEWALK THICKNESS

TRANSVERSE EXPANSION JOINT IN SIDEWALK



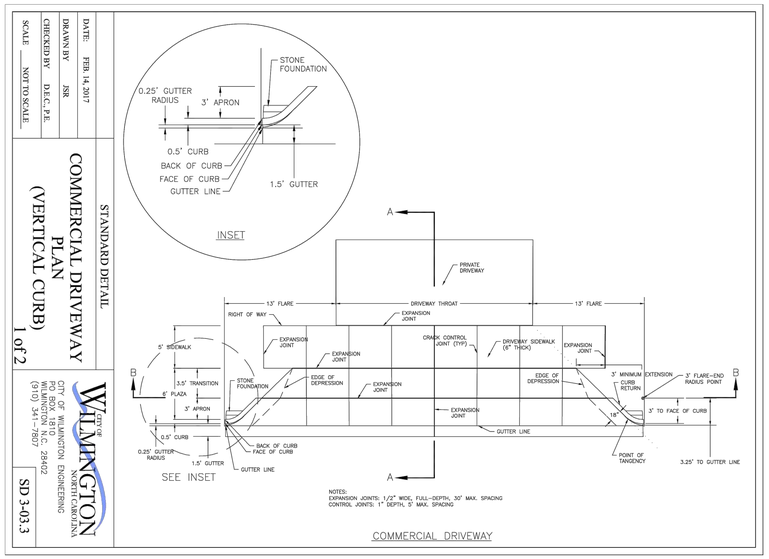
DETAILS SHOWING JOINTS IN CONCRETE SIDEWALK

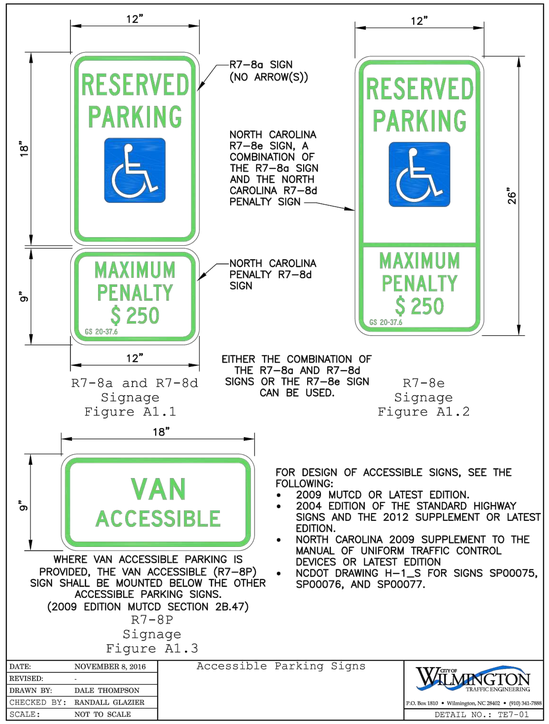
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
CONCRETE SIDEWALK

SHEET 1 OF 1
848.01



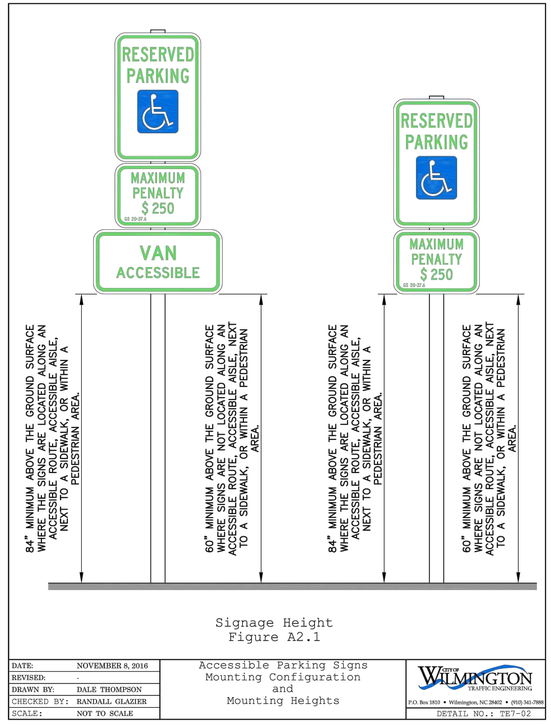


DATE:	NOVEMBER 8, 2016
REVISED:	
DRAWN BY:	DALE THOMPSON
CHECKED BY:	RANDALL GLAZIER
SCALE:	NOT TO SCALE

Accessible Parking Signs

CITY OF WILMINGTON TRAFFIC ENGINEERING
P.O. Box 1810 • Wilmington, NC 28402 • (910) 341-7800

DETAIL NO.: TE7-01

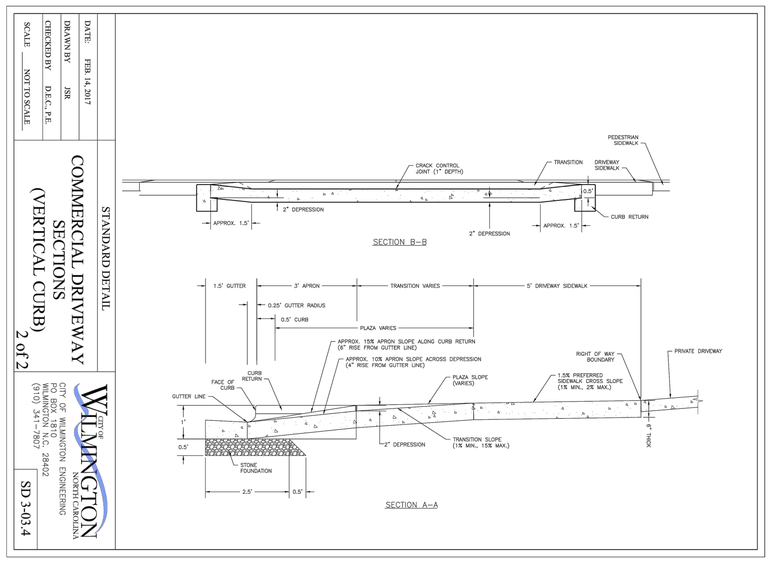


DATE:	NOVEMBER 8, 2016
REVISED:	-
DRAWN BY:	DALE THOMPSON
CHECKED BY:	RANDALL GLAZIER
SCALE:	NOT TO SCALE

Accessible Parking Signs
Mounting Configuration
and
Mounting Heights

CITY OF WILMINGTON TRAFFIC ENGINEERING
P.O. Box 1810 • Wilmington, NC 28402 • (910) 341-7800

DETAIL NO.: TE7-02



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DRAFT

REVISIONS

NO.	DATE	DESCRIPTION
1.	09/27/22	ISSUED FOR BIDS
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4.		

POST APPROVAL

DESIGNED	DRAWN	CHECKED
RJL	CRT	

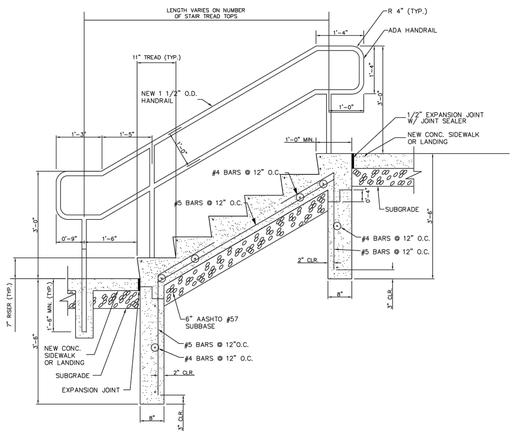
MARKET STREET 7-ELEVEN
4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405
CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

DETAILS - SITE

SCALE: N/A
DATE: 07/20/2022
PROJECT: B6229.63

C9.2

PLAN NUMBER #2022036

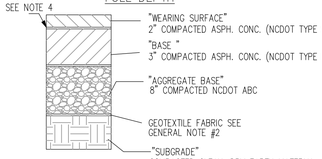


NOTES:

1. EXTERIOR CONCRETE STAIRS SHALL HAVE A MAXIMUM OF 6 STEPS PER SECTION. IF MORE THAN 6 STEPS ARE REQUIRED, ADD A LANDING THEN THE REST OF THE STAIRS. IF THERE IS NOT ENOUGH SPACE FOR A LANDING, CONSULT WITH THE SPEEDWAY CIVIL ENGINEER.
2. ALL STAIRS AND HANDRAILS SHALL CONFORM TO ALL APPLICABLE ADA REQUIREMENTS.
3. ALL RAILING AND HANDRAIL JOINTS SHALL BE WELDED AND GROUND SMOOTH.
4. PROVIDE A MINIMUM 2" OF COVER AROUND #4 NOSING BARS. SUPPORT POSTS MUST BE EPOXY GROUTED INTO PIPE SLEEVE AND FLANGED WITH 4" MIN. ROUND FLANGE
5. RAILS TO BE GALVANIZED SCHEDULE 40 STEEL PIPE. IF PAINT IS REQUIRED BY AHJ, COORDINATE WITH OWNER'S REPRESENTATIVE.

HEAVY-DUTY ASPHALT PAVEMENT DETAIL

HEAVY LOAD TRAFFIC AREAS



OVERLAY DETAIL NOTES:

1. THE OVERLAY SHALL BE PLACED IN ACCORDANCE WITH OWNER'S SPECIFICATIONS.
2. ALL FAILED AREAS SHALL BE REPAIRED WITH PROPER PATCHES BEFORE OVERLAY IS PLACED.
3. IF THE SURFACE IS DISTORTED, THE CONTRACTOR SHALL CONSTRUCT LEVELING COURSES TO RESTORE PROPER LINE AND CROSS SECTION.
4. THE PAVEMENT SHALL BE THOUROUGHLY CLEANED AND A TACK COAT OF ASPHALT SHALL BE APPLIED BEFORE THE OVERLAY IS PLACED.
5. ALL VERTICAL SURFACES COMING IN CONTACT WITH THE OVERLAY SHALL BE SPRAYED OR PAINTED WITH A UNIFORM COATING OF EMULSIFIED ASPHALT IMMEDIATELY PRIOR TO PAVEMENT CONSTRUCTION.
6. CONTRACTOR IS RESPONSIBLE FOR ENSURING PROPER SURFACE DRAINAGE. PONDING OR PUDDLING OF WATER ON THE FINAL SURFACE WILL BE UNACCEPTABLE.
7. REPLACE IN KIND ANY EXISTING TRAFFIC LOOPS AND/OR RELATED SENSOR EQUIPMENT THAT IS REMOVED OR DAMAGED DUE TO PAVEMENT MILLING ACTIVITY

ASPHALT SEALING

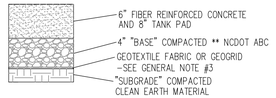
1. SURFACE CLEANING:
   THE SURFACE TO BE SEALED SHALL BE FREE FROM DIRT AND OTHER FOREIGN MATTER. ANY ACCUMULATIONS OF OIL OR GREASE SHALL BE CLEANED OFF THE PAVEMENT WITH DETERGENT SOLUTION, THE RESIDUE OF WHICH SHALL BE THOUROUGHLY WASHED AWAY WITH CLEAN WATER BEFORE SEALANT IS APPLIED.
2. SEALING:
   THE SEAL COATING MATERIAL SHALL BE COMPRISED OF A RUBBERIZED COAL-TAR PITCH EMULSION AND SHALL MEET OR EXCEED FEDERAL SPECIFICATION R-P-355e. SUPPLIED IN CONCENTRATED FORM, IT SHALL BE DILUTED A MINIMUM OF 15% AND A MAXIMUM OF 25% WITH FRESH, CLEAN WATER. THE SEALANT MATERIAL SHALL CONTAIN 5-6 LBS. PER GALLON OF FINE, CLEAN, DRY SILICA SAND MEETING THE FOLLOWING GRADATION:

SIEVE SIZE	% PASSING
#16	100
#30	80-100
#50	10-60
#100	0-5

THE SEALANT SHALL BE APPLIED TO THE PAVEMENT IN TWO COATS AT THE RATE OF 0.08 TO 0.12 GALLONS PER SQUARE YARD. A LATEX ADDITIVE MAY ALSO BE ADDED TO THE SEALANT TO ALLOW FOR QUICKER DRYING TIME IN THOSE AREAS SPECIFIED BY OWNER'S REPRESENTATIVE.

* CONTRACTOR MUST REFER TO THE GEOTECH REPORT FOR PAVEMENT AND FOUNDATION DESIGN AND CONSTRUCTION RECOMMENDATIONS

CONCRETE PAVEMENT DETAIL (PARKING)



PAVING EXECUTION NOTES:

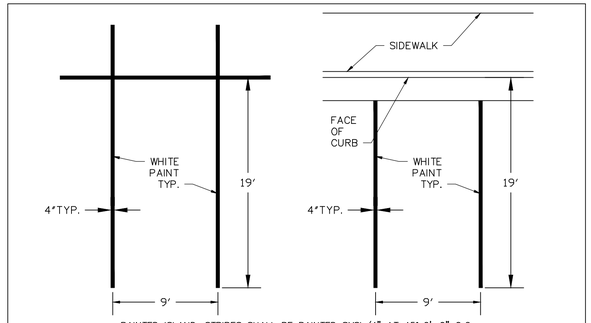
1. LOCATE AND INSTALL CONSTRUCTION, ISOLATION, AND EXPANSION JOINTS AS INDICATED OR REQUIRED.
2. PLACE CONCRETE IN A CONTINUOUS OPERATION WITHIN PLANNED JOINTS OR SECTIONS. DO NOT ADD WATER TO ADJUST SLUMP.
3. FLOAT SURFACES TO TRUE PLANES WITHIN A TOLERANCE OF 1/4INCH IN 10 FEET.
4. TOOL EDGES AND JOINTS TO A RADIUS OF 1/4INCH FOR SIDEWALKS.
5. ALLOW CONCRETE PAVING TO CURE FOR A MINIMUM OF 28 DAYS AND DRY BEFORE STARTING PAVEMENT MARKING.
6. APPLY TRAFFIC PAINT WITH MECHANICAL EQUIPMENT TO A MINIMUM WET FILM THICKNESSOF 15 MILS.
7. PROTECT CONCRETE PAVING FROM DAMAGE. EXCLUDE TRAFFIC FROM PAVING FOR AT LEAST 14 DAYS.

CONCRETE PAVING GENERAL NOTES:

1. SEE FUEL DRAWINGS FOR REQUIREMENTS FOR TANK SLABS.
2. SEE FUEL DRAWINGS FOR REQUIREMENTS FOR DISPENSER ISLAND SLABS.
3. A GEOTEXTILE FABRIC OR GEOGRID IS ONLY NEEDED WHEN THE GEOTECHNICAL REPORT AND/OR A GEOTECH EXPERT REQUIRES IT FOR THE SPECIFIC SITE'S SOIL CONDITIONS.
4. UNDISTURBED SOIL OR COMPACTED BACK FILL NOT LESS THAN 95% OF MODIFIED PROCTOR DENSITY (AASHTO-T-180)

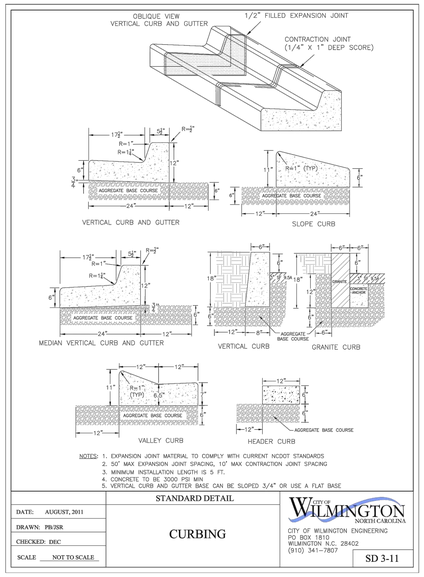
* CONTRACTOR MUST REFER TO THE GEOTECH REPORT FOR PAVEMENT AND FOUNDATION DESIGN AND CONSTRUCTION RECOMMENDATIONS

** COMPACTION IS NOT REQUIRED OVER THE TANK PIT(S)



TYPICAL PARKING SPACE

NOT TO SCALE



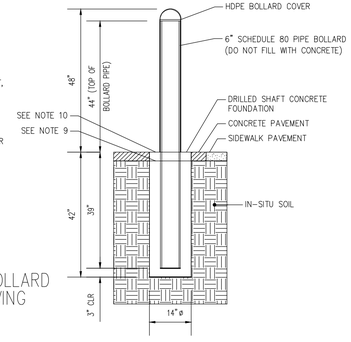
NOTES: 1. EXPANSION JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS
2. 50' MAX EXPANSION JOINT SPACING, 10' MAX CONTRACTION JOINT SPACING
3. MINIMUM INSTALLATION LENGTH IS 5 FT.
4. CONCRETE TO BE 3000 PSI MIN
5. VERTICAL CURB AND GUTTER BASE CAN BE SLOPED 3/4" OR USE A FLAT BASE

STANDARD DETAIL	CURBING	CITY OF WILMINGTON NORTH CAROLINA
DATE: AUGUST, 2011		CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON N.C. 28402 (910) 341-7807
DRAWN: PB/ZSR		
CHECKED: DEC		
SCALE NOT TO SCALE		SD 3-11

GENERAL NOTES:

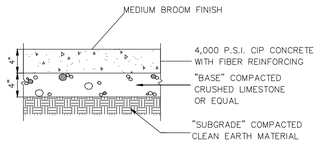
1. MAXIMUM BOLLARD SPACING IS 5' ON CENTER
2. CONCRETE TO BE 4,000 PSI MIN. UNCONFINED COMPRESSIVE STRENGTH.
3. REINFORCING STEEL CONFORMS TO ASTM A615 GRADE 60.
4. BOLLARD PIPE IS ASTM A53, TYPE E, GRADE B OR A500 GRADE B/C.
5. PROVIDE HIGH-DENSITY POLYETHYLENE (HDPE) BOLLARD COVER. COVER TO BE IDEALSHIELD (OR APPROVED EQUAL) 1/8" THICK, BROWN (PQ-440C), 6" PIPE FIT, DOME TOP, 48" TALL.
6. DO NOT FILL BOLLARD PIPE WITH CONCRETE. TEMPORARILY SEAL BOTTOM AS NECESSARY TO PREVENT CONCRETE INTRUSION WHILE POURING.
7. USE SONOTUBE IN SANDY OR OTHER SOILS THAT MIGHT CAVE IN.
8. DIMENSIONS IN PARENTHESIS ARE NOMINAL.
9. COLD JOINT ACCEPTABLE THIS LINE FOR NEW INSTALLATIONS IN MONOLITHIC POUR CONCRETE PAVEMENT.
10. SLOPE TOP OF CONCRETE AWAY FROM BOLLARD 1/4" FROM PIPE TO EDGE OF DRILLED SHAFT OR CAP.
11. INCREASE DEPTH OF CAISSON AND BOLLARD PIPE TO MEET LOCAL JURISDICTION MIN. FROST DEPTH REQUIREMENT.
12. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY NO UTILITY CONFLICTS EXIST WHERE BOLLARDS ARE TO BE INSTALLED, PRIOR TO INSTALLATION.

DESIGN SPECIFICATIONS: ASTM F3016-19 CONDITION DESIGNATION S20

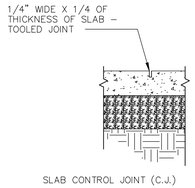


DEEP MOUNT S20 BOLLARD IN CONCRETE PAVING

N.T.S.

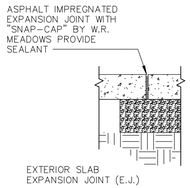


CONCRETE SIDEWALK PAVEMENT



SLAB CONTROL JOINT (C.J.)

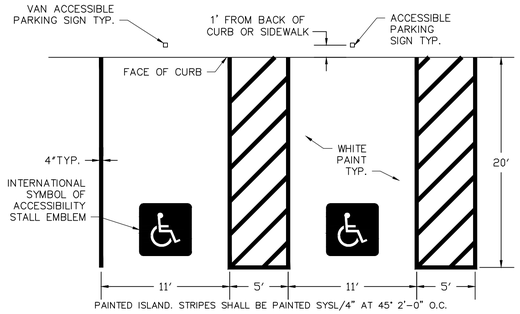
FOR 5' OR 8' WALKS, INSTALL A CONTROL JOINT EVERY 5'. IN 10' WALKS, INSTALL A CONTROL JOINT EVERY 5' AND ONE IN THE CENTER (5' FROM THE BACK OF THE BUILDING FOR EXAMPLE)



EXTERIOR SLAB EXPANSION JOINT (E.J.)

DETAILS ONLY APPLY TO BUILDING SIDEWALK. THEY DO NOT APPLY TO INTERIOR SLAB OR SITE CONCRETE.

SIDEWALK JOINTS



TYPICAL ACCESSIBLE PARKING SPACE

NOT TO SCALE

KOONTZ BRYANT JOHNSON WILLIAMS
1703 N. Parham Rd.
Suite 202
Henrico, Va 23229
(804) 740-9200
FAX (804) 740-7338
www.KBJWgroup.com

DRAFT

REVISIONS

NO.	DATE	DESCRIPTION
1.	09/27/22	ISSUED FOR BIDS
2.	10/10/22	REVISED PER CITY COMMENTS
3.	11/11/22	REVISED PER CITY AND CPPUA COMMENTS
4.		

POST APPROVAL

DESIGNED	DRAWN	CHECKED
RJL	CRT	

MARKET STREET 7-ELEVEN
4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405
CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

DETAILS - SITE

SCALE: N/A
DATE: 07/20/2022
PROJECT: B6229.63

C9.3

NOTES

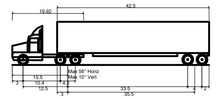
1. NO PARKING SPACES, FENCES, WALLS, POSTS, LIGHTS, SHRUBS, TREES, OR ANY OTHER TYPE OF OBSTRUCTIONS NOT SPECIFICALLY EXEMPTED SHALL NOT BE PERMITTED IN THE SPACE BETWEEN 30 INCHES AND ABOVE GROUND AND 10 FEET ABOVE GROUND LEVEL WITHIN A TRIANGULAR SIGHT DISTANCE
2. AASHTO DEPARTURE SIGHT DISTANCE FOR MARKET ST. DRIVEWAY DETERMINED TO BE 445 FT. BASED ON 40 MPH SPEED.

LEGEND

- 7-ELEVEN HEAVY DUTY PAVEMENT
- CONCRETE SIDEWALK/PADS

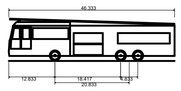
CURB & GUTTER LEGEND

- 24" CURB:
- TRANSITION TO DRY 24" CURB:
- DRY 24" CURB:



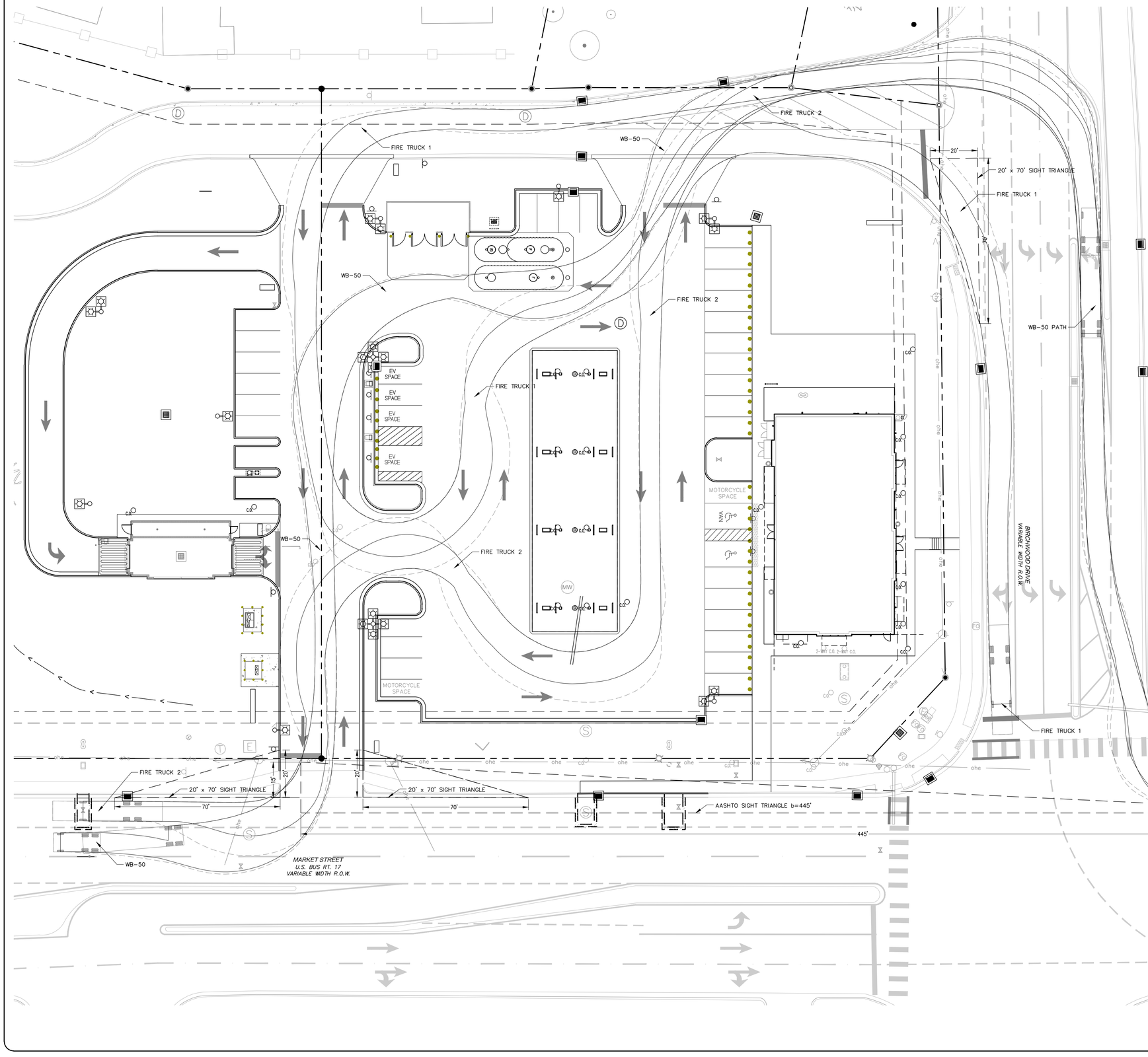
WB-50 - Intermediate Semi-Trailer

Overall Length	55.000ft
Overall Width	8.500ft
Overall Body Height	12.052ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	17.90°



E-ONE Emergency One Ocala FL

Overall Length	46.333ft
Overall Width	8.333ft
Overall Body Height	11.833ft
Min Body Ground Clearance	1.393ft
Track Width	8.333ft
Lock-to-lock time	6.00s
Max Wheel Angle	45.00°



PLAN NUMBER #2022036

KOONTZ BRYANT JOHNSON WILLIAMS
1703 N. Parham Rd.
Suite 202
Henrico, Va 23229
(804) 740-9200
FAX (804) 740-7338
www.KBJWgroup.com

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REVISIONS

NO.	DATE	DESCRIPTION
1.	09/27/22	ISSUED FOR BIDS
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4.		

POST APPROVAL

DESIGNED	DRAWN	CHECKED
RJL	CRT	

MARKET STREET 7-ELEVEN
4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405
CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

SIGHT DISTANCE TRIANGLES

SCALE: 1" = 20 '
DATE: 07/20/2022
PROJECT: B6229.63

C10.1

Luminaire Schedule

Symbol	Qty	Label	Arrangement	LMF	Lum. Lumens	Lum. Watts	Part Number
	24	CPY-FLAT-13L	SINGLE	1.000	12825	91	CPY250-B-DM-F-13L-UL-57K-WH-HZ
	9	CPY-FLAT-C	SINGLE	1.000	4520	31	CPY250-B-DM-F-C-UL-57K-WH-HZ
	4	XSPLG-4ME	SINGLE	1.000	23800	184	XSPLG-D-HT-4ME-24L-57K7-UL-BZ-N
	4	XSPLG-4ME-2	2 @ 90°	1.000	23600	184	XSPLG-D-HT-4ME-24L-57K7-UL-BZ-N
	2	XSPLG-4ME-4	4 @ 90°	1.000	23600	184	XSPLG-D-HT-4ME-24L-57K7-UL-BZ-N
	13	XSPW	WALL MOUNT	1.000	4270	31	XSPW-B-WM-3ME-4L-57K-UL-BZ

Calculation Summary; 1.00 LLF

Label	Units	Avg	Max	Min	Avg/Min
All Calc Points	Fc	4.90	33.5	0.0	N.A.
Gas Canopy	Fc	45.02	55	34	1.32
Paved Parking	Fc	8.76	28.6	1.1	7.96

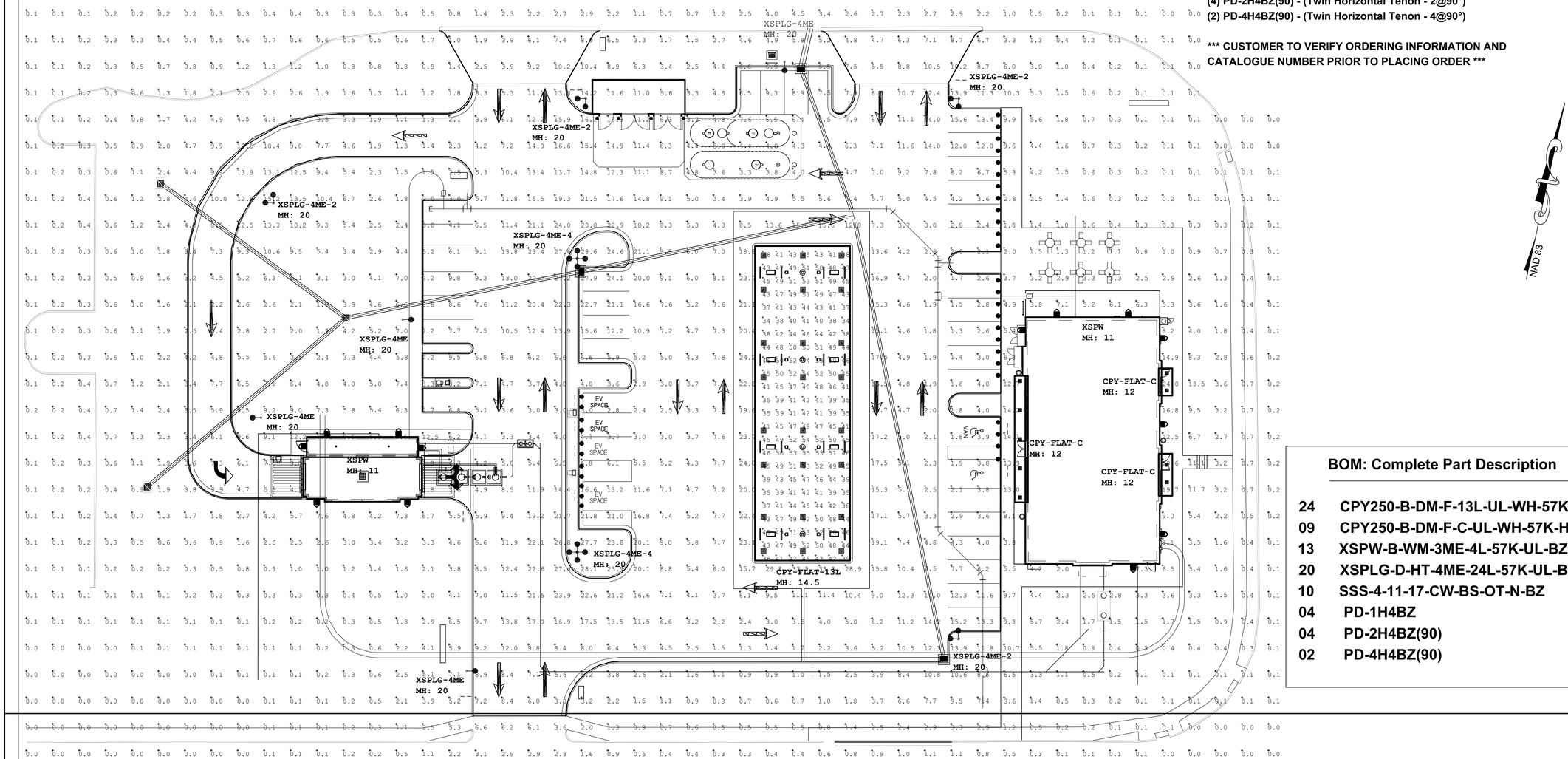
FIxture Mounting Height: 20' AFG (17' Pole + 3.0' Concrete Base)

Pole Schedule
(10) SSS-4-11-17-CW-BS-OT-N-BZ (17' X 4" X 11ga STEEL SQUARE POLE)

Proposed poles meet 120 MPH sustained winds.

Additional Equipment:
(4) PD-1H4BZ - (Single Horizontal Tenon - 1@90°)
(4) PD-2H4BZ(90) - (Twin Horizontal Tenon - 2@90°)
(2) PD-4H4BZ(90) - (Twin Horizontal Tenon - 4@90°)

***** CUSTOMER TO VERIFY ORDERING INFORMATION AND CATALOGUE NUMBER PRIOR TO PLACING ORDER *****



BOM: Complete Part Description

24	CPY250-B-DM-F-13L-UL-WH-57K-HZ
09	CPY250-B-DM-F-C-UL-WH-57K-HZ
13	XSPW-B-WM-3ME-4L-57K-UL-BZ
20	XSPLG-D-HT-4ME-24L-57K-UL-BZ-N
10	SSS-4-11-17-CW-BS-OT-N-BZ
04	PD-1H4BZ
04	PD-2H4BZ(90)
02	PD-4H4BZ(90)

CREE LIGHTING

IDEAL INDUSTRIES, INC.

9201 Washington Ave, Racine, WI 53406 https://creelighting.com - (800) 236-6800

Illumination results shown on this lighting design are based on project parameters provided to Cree Lighting used inconjunction with luminaire test procedures conducted under laboratory conditions. Actual project conditions differing from these design parameters may affect field results. The customer is responsible for verifying dimensional accuracy along with compliance with any applicable electrical, lighting,or energy code.

Project Name: 7-Eleven #42268 4621 Market St. Wilmington, NC - EXT

Case #: 00507635 | Footcandles calculated at grade | Filename: 711-220726WINCCW.AGI

Layout By:
Collin Witherow

Date:7/26/2022

GRAPHIC SCALE

20 0 10 20 40

1 inch = 20 feet

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DRAFT

REVISIONS

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4.		

POST APPROVAL

DESIGNED	DRAWN	CHECKED
RJL	CRT	

MARKET STREET 7-ELEVEN
4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405
CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

LIGHTING PLAN

SCALE:
DATE: 07/20/2022
PROJECT: B6229.63

L1.1

PLAN NUMBER #2022036

PLANT MATERIAL SCHEDULE - 7-ELEVEN - MARKET STREET - WILMINGTON, NC

KEY	BOTANICAL NAME	COMMON NAME	QTY.	MINIMUM SIZE CALIPER	MINIMUM SIZE HEIGHT/SPREAD	ROOT	REMARKS	PROJECTED TREE COVERAGE (Per Wilmington NC, Article 5, Division 1, Sec 18-318) QUAN:	x	SF/TREE	=	TOTAL:
	CANOPY TREES (DECIDUOUS)											
UP	*Ulmus parvifolia* `Emer II '	Allee' Lacebark Elm	20	2" Cal.		B&B	Matched, Well Branched	20		707		14140
	UNDERSTORY TREES (DECIDUOUS)											
AL	*Amelanchier canadensis `Autumn Brilliance'*	Autumn Brilliance Serviceberry	9		8' Ht.	B&B	Matched, Well Branched	9		314		2826
LI	*Lagerstroemia indica* `Whit II'	Dynamite® Crape Myrtle	32		8' Ht.	B&B	Multi-Stem, 3 Stem Min. Well Branched	32		314		10048
								Total Deciduous Tree Canopy				27014
	UNDERSTORY TREES (EVERGREEN)							QUAN:	x	SF/TREE	=	TOTAL:
CJ	*Cryptomeria japonica* 'Radicans'	Radicans Japanese Cedar	8		8' Ht.	B&B or Cont.	Full, Dense, Uniform Shape	8		100		800
IN	*Ilex x 'Conot'*	Patriot® Red Holly	15		8' Ht.	B&B or Cont.	Full, Dense, Uniform Shape	15		60		900
								Total Evergreen Tree Canopy				1700
	SHRUBS							TOTAL TREE CANOPY (SF) =				28714
AZ	*Rhodendron x* `Roblez'	Autumn Fire ® Encore Azalea	30		24" Ht.	5 Gal. Cont.	Full, Dense, Well Branched					
CL	*Chamaecyparis lawsoniana* 'Blue Surprise'	Blue Surprise Port Orford Cedar - The Guardian® Series	3		4' Ht.	B&B or Cont.	Full, Dense, Uniform Shape					
ICB	*Ilex cornuta* `Burfordii Nana'	Compact Burford Holly	71		36"Ht./Spd.	7 Gallon Cont.	Full, Dense, Uniform Shape					
MC	*Myrica cerifera `Little Bull'*	Little Bull Southern Wax Myrtle	3		24" Ht./Spd.	5 Gallon Cont.	Full, Dense, Well Branched					
NDA	*Nandina domestica alba* 'Lemon-Lime' PP24749	Lemon Lime Nandina	6		18" Ht.	3 Gallon Cont.	Full, Dense, Well Branched					
NDM	*Nandina domestica* 'Murasaki' PP21391	Nandina Flirt™	20		15" Spd.	2 Gallon Cont.	Full, Dense, Well Branched					
	PERENNIALS, ORNAMENTAL GRASSES & GROUNDCOVERS											
CA	*Calamagrostis x acutiflora* 'Karl Foerster'	Feather Reed Grass	14		3 Gal.	Container	Full, Dense, 3 Bibs Min.					
HS	*Hemerocallis x* `Happy Returns'	Happy Returns Daylily	48		1 Gal. Cont	Container	Full, Dense, 3 Bibs Min., Space @18" O.C.					
LM	*Liriope muscari* `Royal Purple'	Royal Purple Lilyturf	259		4" Pots	Container	Full, Dense, Space @ 15" O.C.					
MU	*Muhlenbergia capillarus 'White Cloud'*	White Cloud Muhly Grass	4		3 Gal. Cont.	Container	Full, Dense, 3 Bibs Min.					

Date Inserted: 11/11/2022 9:42

STREETSCAPE PLANTING CALCULATIONS

7-Eleven - Market Street Wilmington, NC
Market Street Frontage
Frontage Planting Length = 387.1 LF

Required Streetscape Plantings:

Planting Type	Spacing				x	Buffer Length	=	No. Required
Canopy Trees	1	per	100	Linear Feet	x	387 Linear feet	3.87	4 Each*
Understory Trees	6	per	100	Linear Feet	x	387 Linear feet	23.23	24 Each
Shrubs	9	per	100	Linear Feet	x	387 Linear feet	34.84	35 Each

Provided Streetscape Plantings:

Canopy Trees	0 Each
Understory Trees	32 Each*
Shrubs	55 Each

* Note: Understory trees (2x req.) have been used in lieu of Canopy Trees due to proximity to Overhead Powerlines (50' setback)

Date Inserted: 9/23/2022 16:24

STREETSCAPE PLANTING CALCULATIONS

7-Eleven - Market Street Wilmington, NC
Birchwood Drive Frontage
Frontage Planting Length = 242.2 LF

Required Streetscape Plantings:

Planting Type	Spacing				x	Buffer Length	=	No. Required
Canopy Trees	1	per	100	Linear Feet	x	242 Linear feet	2.42	3 Each*
Understory Trees	6	per	100	Linear Feet	x	242 Linear feet	14.53	15 Each
Shrubs	9	per	100	Linear Feet	x	242 Linear feet	21.80	22 Each

Provided Streetscape Plantings:

Canopy Trees	0 Each
Understory Trees	21 Each*
Shrubs	26 Each

* Note: Understory trees (2x req.) have been used in lieu of Canopy Trees due to proximity to Overhead Powerlines (50' setback)

Date Inserted: 9/23/2022 16:22

FOUNDATION PLANTING CALCULATIONS

7-Eleven - Market Street - Wilmington, NC

Foundation Plantings Required:

Proposed Area of Front Façade of Building:	2,227.3 SF
Required Foundation Planting Bed Area: (12% of Proposed Building Façade Area) =	267 SF

Foundation Plantings Provided:

Proposed Planting Beds		SF
Planting Bed to left of front doors	A	60.4
Planting Bed between front doors	B	66.5
Planting Bed to right of front doors	C	140.2
Totals		267.1
Total Square Footage of Provided Bed Area:	=	267.1 SF

Date Inserted: 9/23/2022 16:11

GENERAL NOTES

1. ALL PROPOSED UTILITIES ARE TO BE INSTALLED UNDERGROUND, INCLUDING ELECTRIC, TELEPHONE, AND CATV (SEE SITE UTILITY PLAN).
2. ANY SIGN IN EXCESS OF EIGHT (8) SQUARE FEET REQUIRES A PERMIT. PERMIT MUST BE OBTAINED THROUGH BUILDING INSPECTIONS DEPARTMENT.
3. NO LANDSCAPING OF ANY TYPE SHALL BE PLACED WITHIN A THREE FOOT RADIUS OF ANY FIRE HYDRANT, FIRE PUMP TEST HEADER, FIRE DEPARTMENT SPRINKLER SYSTEM CONNECTION, FIRE DEPARTMENT STANDPIPE CONNECTION OR FIRE SUPPRESSION CONTROL VALVE. LANDSCAPING IN THE AREA OF FIRE HYDRANTS, FIRE PUMP TEST HEADERS, FIRE DEPARTMENT SPRINKLER SYSTEM CONNECTIONS OR FIRE DEPARTMENT STANDPIPE CONNECTIONS SHALL BE OF THE TYPE THAT WILL NOT ENCROACH ON THE REQUIRED THREE FOOT CLEAR RADIUS ON MATURITY OF THE LANDSCAPING
4. NO TREE SHALL BE PLACED WITHIN A WATER AND SANITARY SEWER EASEMENT OR ANY CLOSER THAN TEN FEET (10') TO ANY PUBLIC SANITARY SEWER OR WATER IMPROVEMENT.
5. ALL TREES IN PARKING AREAS TO BE MAINTAINED WITH A MINIMUM 5' BRANCHING HEIGHT (LIMBED UP TO 5' MINIMUM).
6. ALL JUNCTION AND/OR ACCESS BOXES, WHEN LOCATED ON SITES ALONG DESIGNATED ROADS, SHALL BE SCREENED FROM VIEW WITH LANDSCAPING. SUPPLEMENTAL PLANTINGS SHALL BE PROVIDED AS REQUIRED TO PROVIDE THIS SCREENING PRIOR TO CERTIFICATE OF OCCUPANCY.

MULCH & SOD NOTES:

1. ALL AREAS NOT INCORPORATED IN PLANTING MULCH BED ARE TO BE SODDED. SOD SHALL BE TIFTURF BERMUDA SOD OR EQUAL.
2. ALL PLANT BEDS ARE TO BE MULCHED TO A MINIMUM OF 1.5' BEYOND THE EDGE OF NEW PLANTINGS.
3. IN CASES WHERE SHRUBS ARE PLANTED AS HEDGES ALONG PARKING LOTS, MULCH SHOULD EXTENT FROM EDGE OF NEW PLANTINGS TO THE BACK OF CURB FOR PARKING AREA (NO TURF BETWEEN PLANTING BED AND BACK OF CURB).
4. NO PARKING SPACES, FENCES, WALLS, POSTS, LIGHTS, SHRUBS, TREES, OR OTHER TYPE OF OBSTRUCTIONS NOT SPECIFICALLY EXEMPTED SHALL BE PERMITTED IN THE SPACE BETWEEN THIRTY INCHES (30") AND ABOVE GROUND AND TEN FEET (10') ABOVE GROUND LEVEL WITHIN A TRIANGULAR SIGHT DISTANCE [SEC.18-667 FIGURE 18-667 CITY OF WILMINGTON UPDATED LDC: VISION CLEARANCE].

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

GRAPHIC SCALE

20 0 10 20 40

1 inch = 20 feet

NOTE:
THIS PLAN IS FOR LANDSCAPE PURPOSES ONLY. REFER TO CIVIL ENGINEERING PLANS FOR DETAILED SITE INFORMATION.

KOONTZ BRYANT JOHNSON WILLIAMS
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NORTH CAROLINA LANDSCAPE ARCHITECT No. 6789 11/14/2022 CLARK LEE SCOTTON

REVISIONS

NO.	DATE	DESCRIPTION
1.	09/27/22	ISSUED FOR BIDS
2.	10/10/22	REVISED PER CITY COMMENTS
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4.		

POST APPROVAL

DESIGNED GLS | DRAWN RWM | CHECKED

MARKET STREET 7-ELEVEN

4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405
CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

LANDSCAPE PLAN

SCALE: 1" = 20'
DATE: 07/20/2022
PROJECT: B6229.63

L2.1

PLAN NUMBER #2022036

LANDSCAPE PLANTING NOTES

PLANTING

GENERAL CONDITIONS:

1. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING ALL PLANT MATERIALS SHOWN ON PROJECT PLANS AND ON THE PLANT LIST. PLANT LIST QUANTITIES ARE FOR REFERENCE AND CONVENIENCE ONLY. QUANTITIES REPRESENTED BY ACTUAL PLAN PLANT COUNT SHALL PREVAIL AND SHALL BE QUANTITIES REQUIRED TO BE PLANTED BY THE CONTRACTOR. LANDSCAPE CONTRACTOR SHALL INVESTIGATE SOURCES OF SUPPLY FOR AVAILABILITY OF SPECIFIED PLANTS AND BY SUBMITTING A BID, AGREES THAT SUCH PLANTS WILL BE AVAILABLE FOR INSTALLATION ON THIS PROJECT PER THE CURRENT SCHEDULE. IF PLANT MATERIAL SPECIFIED IS UNAVAILABLE, LANDSCAPE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IN WRITING PRIOR TO BID DATE AND A SUBSTITUTE OR OTHER ACTION WILL BE TAKEN.
2. ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE LANDSCAPE CONTRACTOR FOR A PERIOD OF ONE (1) YEAR, COMMENCING ON THE DATE OF INITIAL ACCEPTANCE. ALL PLANTS SHALL BE ALIVE, HEALTHY AND IN SATISFACTORY GROWTH AT THE END OF THE GUARANTEE PERIOD. ANY PLANT THAT IS 25% OR MORE DEAD SHALL BE CONSIDERED DEAD AND SHALL BE REPLACED AT NO CHARGE TO THE OWNER.
3. AN INSPECTION WILL BE CONDUCTED BY THE LANDSCAPE ARCHITECT AND/OR THE OWNER'S REPRESENTATIVE WITHIN TWO (2) WEEKS UPON RECEIVING WRITTEN NOTICE BY THE LANDSCAPE CONTRACTOR THAT THE WORK UNDER THIS CONTRACT IS COMPLETE. THIS INSPECTION WILL BE DONE TO DETERMINE INITIAL ACCEPTANCE OF THE WORK. IF WORK IS FOUND TO BE INCOMPLETE AND/OR THAT OTHER DEFICIENCIES IN THE WORK EXIST, THE LANDSCAPE CONTRACTOR WILL BE ISSUED A PUNCH LIST FOR ITEMS IN NEED OF CORRECTION. UPON COMPLETION OF ANY PUNCH LIST ITEMS, LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE WILL RE-INSPECT WORK, AND IF ACCEPTABLE, WILL ISSUE TO THE LANDSCAPE CONTRACTOR INITIAL ACCEPTANCE.
4. PRIOR TO INITIAL ACCEPTANCE, LANDSCAPE CONTRACTOR SHALL PROVIDE TO THE LANDSCAPE ARCHITECT AND/OR THE OWNER'S REPRESENTATIVE A TYPEWRITTEN SET OF DETAILED AND COMPREHENSIVE PLANT AND TURF MAINTENANCE INSTRUCTIONS.
5. AT THE CONCLUSION OF THE GUARANTEE PERIOD, AN INSPECTION WILL BE CONDUCTED BY THE LANDSCAPE ARCHITECT AND/OR THE OWNER'S REPRESENTATIVE TO DETERMINE FINAL ACCEPTANCE FOR THIS PROJECT. ANY PLANTS THAT ARE IN AN UNHEALTHY, UNSIGHTLY, AND/OR BADLY IMPAIRED CONDITION AT THIS TIME AS DETERMINED BY THE LANDSCAPE ARCHITECT AND/OR THE OWNER'S REPRESENTATIVE WILL BE REPLACED AT NO CHARGE. WHEN ALL REQUIRED REPLACEMENTS HAVE BEEN COMPLETED, LANDSCAPE CONTRACTOR WILL BE ISSUED FINAL ACCEPTANCE.
6. A SOIL TEST OF EXISTING SOILS (REPRESENTATIVE SAMPLE FOR ENTIRE SITE) SHALL BE MADE BY THE LANDSCAPE CONTRACTOR TO DETERMINE MECHANICAL ANALYSIS; pH; ORGANIC CONTENT; MAGNESIUM, POTASSIUM, PHOSPHORUS & NITROGEN LEVELS; SOLUBLE SALTS/CONDUCTIVITY. SOIL TEST SHALL BE CONDUCTED BY A STATE LABORATORY OR RECOGNIZED COMMERCIAL LABORATORY. RESULTS OF SOILS TEST SHALL BE SUBMITTED TO LANDSCAPE ARCHITECT FOR EVALUATION AND RECOMMENDATIONS FOR SOIL ADJUSTMENTS, IF REQUIRED.
7. ALL PLANTINGS HAVE BEEN LOCATED WITH RESPECT TO EXISTING AND PLANNED UTILITIES AND/OR STRUCTURES. IF CONFLICTS OCCUR IN FIELD, PLANT MATERIAL LOCATIONS WILL BE FIELD ADJUSTED AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PLANTING. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING UTILITIES. CONTRACTOR SHALL CONTACT MISS UTILITY AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
8. ANY AREAS DAMAGED BY THE LANDSCAPE CONTRACTOR WILL BE RESTORED TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL CHARGE TO THE OWNER.

MATERIALS:

1. ALL PLANT MATERIALS WILL CONFORM TO THE CURRENT STANDARDS FOR QUALITY AND SIZE PER THE AMERICAN STANDARD FOR NURSERY STOCK AS PUBLISHED BY THE AMERICAN NURSERYMEN AND LANDSCAPE ASSOCIATION (ANLA).
2. ALL PLANT MATERIAL IS SUBJECT TO INSPECTION AND/OR APPROVAL BY THE LANDSCAPE ARCHITECT AT THEIR PLACE OF GROWTH FOR CONFORMITY TO THE SPECIFICATION REQUIREMENTS AS TO SIZE, QUALITY AND VARIETY. THE LANDSCAPE CONTRACTOR SHALL SELECT PLANTS IN ADVANCE OF INSPECTION VISITS TO PREVENT REJECTION OF MATERIAL DELIVERED TO THE SITE. PLANT MATERIALS DAMAGED IN HANDLING AND/OR TRANSPORTATION MAY BE REJECTED BY THE LANDSCAPE ARCHITECT AND/OR THE OWNER'S REPRESENTATIVE UPON ARRIVAL AT THE SITE.
3. BACKFILL MIX FOR TREES & SHRUBS SHALL BE A THOROUGHLY BLENDED MIXTURE OF 50% EXISTING SOIL, 25% TOPSOIL & 25% ORGANIC MATTER (LEAF COMPOST, COMPOSTED PINE BARK FINES, COMPOSTED COW MANURE AND/OR OTHER ORGANIC MATERIAL APPROVED BY LANDSCAPE ARCHITECT.
4. MULCH FOR TREES, SHRUBS, GROUNDCOVER AND ANNUAL PLANTING BEDS SHALL BE DOUBLE SHREDDED HARDWOOD BARK MULCH AND SHALL BE INSTALLED AT 2"–3" DEPTH.
5. STAKES FOR STAKING & GUYING OF TREES SHALL BE 2"X2" HARDWOOD, REASONABLY FREE OF KNOTS AND/OR OTHER DEFECTS. STAKES FOR GUYING SHALL BE 3' IN LENGTH AND FOR VERTICAL STAKING SHALL BE 8' IN LENGTH.
6. WIRE FOR STAKING & GUYING SHALL BE A MINIMUM OF 12 GAUGE GALVANIZED STEEL OR APPROVED EQUAL. HOSE FOR WIRE CHAFFING GUARDS SHALL BE CORDED RUBBER, 1/2" DIAMETER AND BLACK IN COLOR. TURNBUCKLES (FOR TREES 4" CALIPER AND LARGER) SHALL BE ZINC PLATED OR ALUMINUM WITH A MINIMUM DIAMETER OF 5/16" AND A MINIMUM TAKE-UP DIMENSION OF 4".
7. FERTILIZER FOR ALL PLANTINGS SHALL BE GRANULAR OR PELLET FORM WITH AN ANALYSIS OF 10-6-4, 50% ORGANIC FORM AND SHALL BE APPLIED PER SOIL TEST RECOMMENDATION.

EXECUTION:

1. ALL PLANTINGS TO BE INSTALLED PER DETAILS ON THIS SHEET. IF PLANTINGS CAN NOT BE INSTALLED PER DETAIL, THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED IN WRITING OF SUCH AN INSTANCE AND A CORRECTIVE PLANTING MEASURE WILL BE ISSUED.
2. LANDSCAPE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE IN WRITING IF POOR DRAINAGE AREAS ARE ENCOUNTERED DURING PLANTING OPERATIONS. IF REQUIRED DUE TO THIS POOR DRAINAGE, PLANT MATERIAL LOCATION MAY BE ADJUSTED BY THE LANDSCAPE ARCHITECT, PLANT SELECTION MAY BE MODIFIED AND/OR A MEASURE FOR CORRECTING SAID DRAINAGE PROBLEM WILL BE NEGOTIATED WITH LANDSCAPE CONTRACTOR.
3. ALL BURLAP AND/OR TIES AROUND TOP 1/3 OF TREE ROOT BALLS SHALL BE REMOVED DURING PLANTING OPERATION. ALL PLASTIC POTS AND/OR CONTAINERS AS WELL AS OTHER MISCELLANEOUS DEBRIS FROM PLANTING OPERATIONS, SHALL BE REMOVED FROM PROJECT SITE ON A DAILY BASIS.
4. ALL DECIDUOUS TREES 2" CALIPER OR LARGER AND EVERGREENS 6' HEIGHT AND LARGER SHALL BE GUYED PER DETAIL 1 ON THIS SHEET, (EXCEPT FOR THOSE TREES LOCATED IN PEDESTRIAN AREAS WHICH SHALL BE VERTICALLY STAKED PER DETAIL 2). VERTICAL STAKES SHALL BE LOCATED PARALLEL TO WALKS, STREETS, ETC.
5. ALL PLANTINGS SHALL BE THOROUGHLY WATERED IMMEDIATELY AFTER PLANTING, EVEN IF IT IS RAINING. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING OF ALL PLANTINGS UNTIL INITIAL ACCEPTANCE.
6. REMOVE ALL STAKES & GUYS ON TREES PLANTED AS PART OF THIS PROJECT AT THE END OF THE 1 YEAR PLANT MATERIAL WARRANTY PERIOD. DISPOSE OF DEBRIS & OLD STAKING MATERIALS LEGALLY OFF-SITE.

TURF

GENERAL CONDITIONS:

1. LANDSCAPE CONTRACTOR SHALL FURNISH AND INSTALL ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO COMPLETE THE TURF ESTABLISHMENT.
2. ALL TURF SEED AREAS SHALL BE GUARANTEED TO ACHIEVE A 85% OR GREATER GERMINATION RATE. ANY AREAS NOT RECEIVING THIS RATE SHALL BE RE-SEEDED AT NO ADDITIONAL CHARGE TO THE OWNER.
3. THREE COPIES OF THE CERTIFIED SEED LABEL FOR THE SPECIFIED TURF SEED MIXTURE SHALL BE SUBMITTED TO LANDSCAPE ARCHITECT PRIOR TO SEEDING OPERATIONS.

MATERIALS:

1. TURF (SEED AND SOD) SHALL BE A BLEND OF THREE (3) IMPROVED VARIETIES OF TURF TYPE FALL FESCUE PER THE CURRENT LIST FROM VPI & SU. SEED AND SOD SHALL BE STATE CERTIFIED. SEED FOR SHADE AREAS TO BE CREEPING RED FESCUE AND CHEWINGS FESCUE.
2. STRAW MULCH TO BE CLEAN WHEAT STRAW, FREE OF NOXIOUS WEED SEEDS (I.E. QUACKGRASS, JOHNSON GRASS, THISTLE, ETC.). HAY FOR USE AS MULCH IS UNACCEPTABLE.
3. HYDROMULCH FOR SEEDING OPERATION SHALL BE CELLULOSE FIBER SUCH AS CONWEB OR APPROVED EQUAL.
4. FERTILIZER FOR TURF AREAS SHALL BE GRANULAR OR PELLET FORM, WITH A GUARANTEED ANALYSIS OF 10-10-10.
5. LIME MATERIAL SHALL BE PELLETIZED LIME.

EXECUTION:

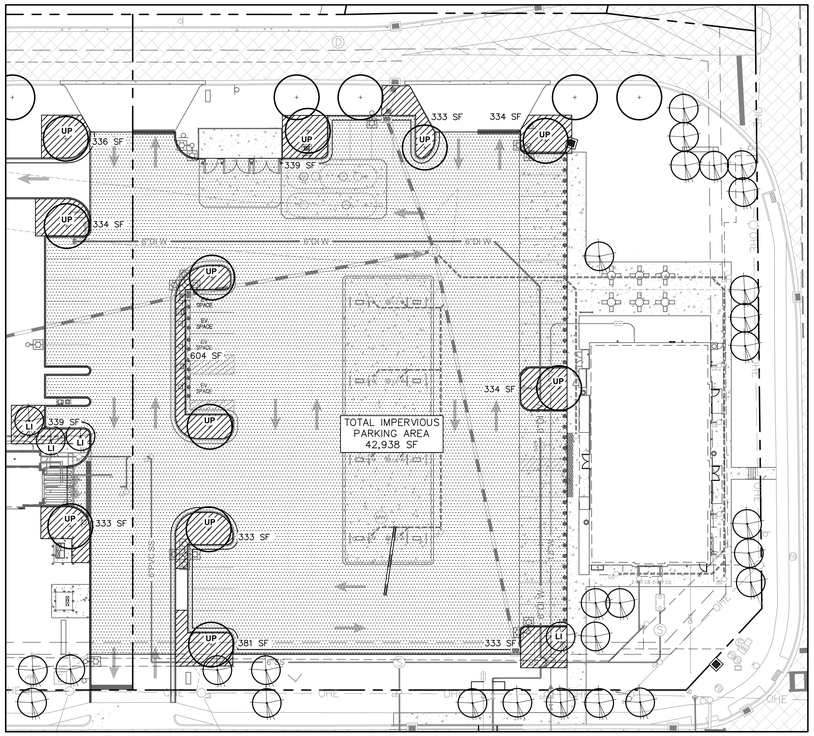
1. PRIOR TO SEED AND/OR SOD INSTALLATION, AREAS SHALL BE FINE GRADED AND CLEANED OF TRASH, ROOTS, DEBRIS AND/OR STONES 1 1/2" IN LENGTH OR DIAMETER.
2. FERTILIZER SHALL BE INSTALLED IN TURF AREAS AT A RATE OF 20 LBS./1000 SQUARE FEET.
3. LIME SHALL BE APPLIED AT A RATE AS DETERMINED BY SOIL TESTS.
4. SOD SHALL BE LAID WITH STAGGERED JOINTS AND PERPENDICULAR TO SLOPE, IF ANY. SOD SHALL BE WATERED THOROUGHLY AFTER BEING LAID AND THEN SHALL BE ROLLED TO PROVIDE GOOD SOD-TO-SOIL CONTACT.
5. TURF SEED SHALL BE INSTALLED BY HYDROSEED METHOD. SEED, FERTILIZER AND/OR LIME SHALL BE ONE SLURRY MIX; HYDROMULCH SHALL BE SECOND SLURRY APPLICATION (TACK COAT) AFTER STRAW MULCH INSTALLATION. SEED SHALL BE SOWED AT A RATE OF 6-8 LBS./1000 SQUARE FEET.
6. WATER AREA THOROUGHLY AFTER MULCHING OPERATION.
7. TURF SHALL BE KEPT MOIST ON A DAILY BASIS UNTIL 2 WEEKS AFTER GERMINATION TO ENSURE PROPER ESTABLISHMENT.
8. CLEAN UP MISCELLANEOUS DEBRIS AND EXCESS STRAW FROM THE TURF AREAS AND *FROM JOB SITE.*

PARKING SHADING CALCULATIONS

7-Eleven - Market Street - Wilmington, NC			
Parking Shading Required			
Total Proposed Parking Area =			**42,938 SF**
Required Shading (Outside 1945 Corporate Limits) (15% of Proposed Parking Area) =			**6,441 SF**
Parking Shading Provided			
Proposed Shade Trees	**Qty**	**SF***	**Canopy**
UP - Allee' Lacebark Elm (Canopy)	11	707	7,777 SF
LI - Dynamite Crape Myrtle (Understory)	4	314	1,256 SF
Totals	**15**		**9,033 SF**
Parking Shade Coverage Provided		=	**9,033 SF**
Number of Deciduous Canopy Trees		=	**11 Each**
Number of Understory Trees		=	**4 Each**
Total Number of Trees Provided		=	**15 Each**

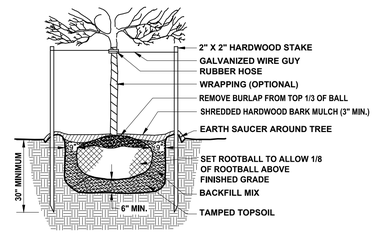
***See Plant Material Schedule, Sht. L2.1**

Date Inserted: 9/23/2022 14:53



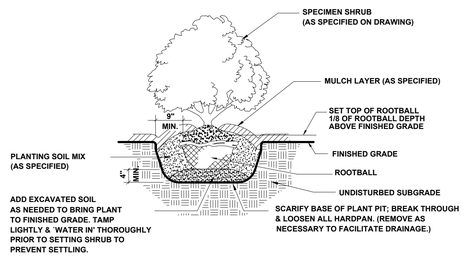
PARKING AREA CANOPY COVERAGE DIAGRAM

SCALE: 1"=30' PLAN



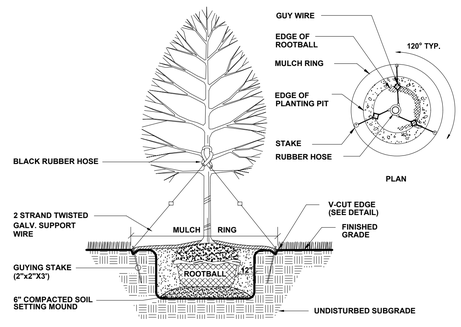
TREE PLANTING DETAIL - UP TO 4" CALIPER

SCALE: N.T.S. SECTION



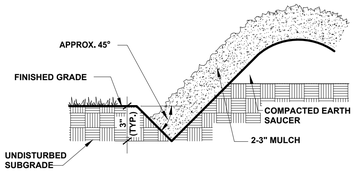
SHRUB PLANTING

SCALE: N.T.S. SECTION



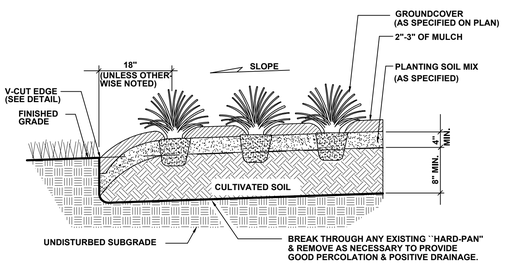
LARGE TREE PLANTING & GUYING

SCALE: N.T.S. SECTION



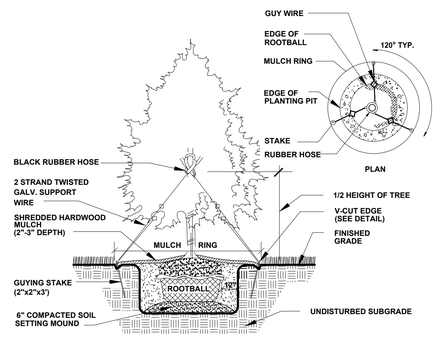
V-CUT BED EDGE

SCALE: N.T.S. SECTION



GROUNDCOVER PLANTING

SCALE: N.T.S. SECTION



EVERGREEN (CONIFER) TREE PLANTING AND GUYING

SCALE: N.T.S. SECTION

GENERAL NOTES

1. ALL PROPOSED UTILITIES ARE TO BE INSTALLED UNDERGROUND, INCLUDING ELECTRIC, TELEPHONE, AND CATV (SEE SITE UTILITY PLAN).
2. ANY SIGN IN EXCESS OF EIGHT (8) SQUARE FEET REQUIRES A PERMIT. PERMIT MUST BE OBTAINED THROUGH BUILDING INSPECTIONS DEPARTMENT.
3. NO LANDSCAPING OF ANY TYPE SHALL BE PLACED WITHIN A THREE FOOT RADIUS OF ANY FIRE HYDRANT, FIRE PUMP TEST HEADER, FIRE DEPARTMENT SPRINKLER SYSTEM CONNECTION, FIRE DEPARTMENT STANDPIPE CONNECTION OR FIRE SUPPRESSION CONTROL VALVE. LANDSCAPING IN THE AREA OF FIRE HYDRANTS, FIRE PUMP TEST HEADERS, FIRE DEPARTMENT SPRINKLER SYSTEM CONNECTIONS OR FIRE DEPARTMENT STANDPIPE CONNECTIONS SHALL BE OF THE TYPE THAT WILL NOT ENCROACH ON THE REQUIRED THREE FOOT CLEAR RADIUS ON MATURITY OF THE LANDSCAPING.
4. NO TREE SHALL BE PLACED WITHIN A WATER AND SANITARY SEWER EASEMENT OR ANY CLOSER THAN TEN FEET (10') TO ANY PUBLIC SANITARY SEWER OR WATER IMPROVEMENT.
5. ALL TREES IN PARKING AREAS TO BE MAINTAINED WITH A MINIMUM 5' BRANCHING HEIGHT (LIMBED UP TO 5' MINIMUM).

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

NOTE:
THIS PLAN IS FOR LANDSCAPE PURPOSES ONLY. REFER TO CIVIL ENGINEERING PLANS FOR DETAILED SITE INFORMATION.

KOONTZ BRYANT JOHNSON WILLIAMS
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Henrico, Va 23229
(804) 740-9200
FAX (804) 740-7338
www.KBJWgroup.com

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT No. 6789 11/14/2022 GARY LEE SCOTTON

REVISIONS

NO.	DATE	DESCRIPTION
1.	09/27/22	ISSUED FOR BIDS
2.	10/10/22	REVISED PER CITY COMMENTS
3.	11/01/22	REVISED PER CITY AND CPPUA COMMENTS
4.		

POST APPROVAL

DESIGNED	DRAWN	CHECKED
GLS	RWM	GLS

MARKET STREET 7-ELEVEN
4615, 4621, AND 4623 MARKET STREET, WILMINGTON, NC 28405
CITY OF WILMINGTON NORTH CAROLINA NEW HANOVER COUNTY, NORTH CAROLINA

LANDSCAPE PLAN

SCALE: NO SCALE
DATE: 07/20/2022
PROJECT: B6229.63

L2.2