

SITE PLANS FOR LAST STEP RECYCLING

0 COLON ROAD
SANFORD, NORTH CAROLINA

MARCH 31, 2020

SITE PLANS FOR:
LAST STEP RECYCLING
WR PROJECT NO.: 02191385.00

SITE DATA	
PARCEL 1:	
OWNER:	LEE IRON & METAL COMPANY
OWNER ADDRESS:	2219 S. HORNER BLVD., SANFORD, NC 27330
OWNER CONTACT:	JOHNATHAN SCOT AND ROBYN CARPENTER PH: (919) 775-7951 EMAIL: LEEIRON@WAVE-NET.NET
SITE ADDRESS:	0 COLON RD., SANFORD, LEE COUNTY, NC
LEE COUNTY PIN:	9654-26-8768-00
DEEDED ACRES:	42.98 AC
PARCEL 2:	
OWNER:	GENERAL SHALE BRICK INC.
OWNER ADDRESS:	P.O. BOX 3547, JOHNSON CITY, TN 37602
OWNER CONTACT:	N/A PH: (423) 282-4661 EMAIL: N/A
SITE ADDRESS:	0 BRICKYARD RD., SANFORD, LEE COUNTY, NC
LEE COUNTY PIN:	9654-26-9737-00
DEEDED ACRES:	3.76 AC
TOTAL SITE AREA:	46.74 AC



VICINITY MAP
1" = 1000'

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C1.1	EXISTING CONDITIONS
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SL1.0	OVERALL LIGHTING PLAN
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A4.01	EXTERIOR ELEVATIONS
A4.02	EXTERIOR ELEVATIONS

GENERAL SITE NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF SANFORD AND NCDOT STANDARD DETAILS AND SPECIFICATIONS, LATEST REVISIONS.
- WORK ON THIS PROJECT SHALL CONFORM TO THESE PLANS, THE LATEST EDITIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) ROAD AND BRIDGE SPECIFICATIONS, THE NCDOT ROAD AND BRIDGE STANDARDS, THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL HANDBOOK, THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL REGULATIONS, AND CITY OF SANFORD STANDARDS AND SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT, AND GENERAL DESIGN STANDARDS. IN THE EVENT OF CONFLICT BETWEEN ANY OF THESE STANDARDS, SPECIFICATIONS, OR PLANS, THE MOST STRINGENT SHALL GOVERN UNLESS OTHERWISE NOTED IN THESE PLANS.
- ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS AND SPECIFICATIONS AND SITE CONDITIONS OR ANY INCONSISTENCIES OR AMBIGUITIES IN DRAWINGS OR SPECIFICATIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER, IN WRITING, WHO SHALL PROMPTLY ADDRESS SUCH INCONSISTENCIES OR AMBIGUITIES. WORK DONE BY THE CONTRACTOR AFTER THE DISCOVERY OF SUCH DISCREPANCIES, INCONSISTENCIES, OR AMBIGUITIES SHALL BE DONE AT THE CONTRACTOR'S RISK.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL JOB-SITE SAFETY, INCLUDING BUT NOT LIMITED TO TRENCH SAFETY, DURING ALL PHASES OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND LOCATING ALL EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHOWN ON PLANS IS BASED ON BEST AVAILABLE INFORMATION BUT CAN BE CONSIDERED ONLY AS APPROXIMATE.
- THE CONTRACTOR SHALL PROTECT ALL SIGNS, MANHOLES, TELEPHONE RISERS, WATER VALVES, ETC. DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL REPAIR, AT THEIR OWN EXPENSE, ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
- TRAFFIC CONTROL ON PUBLIC STREETS IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE IN CONFORMANCE WITH THESE PLANS, THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND AS FURTHER DIRECTED BY THE CITY OF SANFORD AND NCDOT.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING OR OBTAINING ALL REQUIRED PERMITS AND APPROVALS PRIOR TO COMMENCING CONSTRUCTION.
- ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDWQ, USACE, AND/OR FEMA FOR ANY RIPARIAN BUFFER, WETLANDS AND/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO COMMENCING CONSTRUCTION.
- NCDOT ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS AND/OR SERVICE TAPS) OR ROADWAY CONSTRUCTION WITHIN STATE ROW PRIOR TO COMMENCING CONSTRUCTION.

PREPARED BY:



WithersRavenel
Engineers | Planners

137 S Wilmington Street | Suite 200 | Raleigh, NC 27601 | t: 919.469.3340 | license #: C-0832 | www.withersravenel.com

SEAL



ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT CITY OF SANFORD STANDARDS AND SPECIFICATIONS AND NCDOT, IF APPLICABLE



KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.

PERSON TO CONTACT REGARDING STAFF COMMENTS OR QUESTIONS:

RYAN FISHER, PE
WITHERSRAVENEL, INC.
137 S WILMINGTON, RALEIGH, NC 27601
TELEPHONE: (919) 535-5175
rfisher@withersravenel.com

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GREEN MEADOW LLC
PIN: 9654-37-5417-00
DB 1408, PG 1
ZONING: HI

TO COLON RD.

BRICKYARD RD. S.R. 1419

NORFOLK SOUTHERN RAILROAD SPUR

EX TRACK (TBR)

EX CONCRETE (TBR)

EX GRAVEL (TBR)

EX GRAVEL (TBR)

LEE IRON & METAL COMPANY
PIN: 9654-26-6768-00
42.98 AC
1,872,105 SF

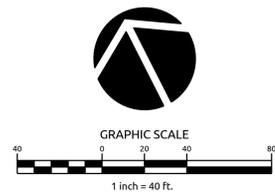
EX BLDG (TBR)

EX GRAVEL

EX CONCRETE (TBR)

EX GRAVEL (TBR)

MATCHLINE - SEE SHEET C1.2

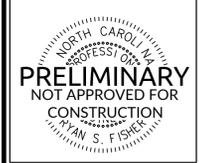


LAST STEP RECYCLING

SANFORD, NORTH CAROLINA

EXISTING CONDITIONS

Job No.	02191385.00	Drawn By	RSF
Date	3/31/2020	Designer	RSF



Revisions

Job No.	02191385.00	Drawn By	RSF
Date	3/31/2020	Designer	RSF



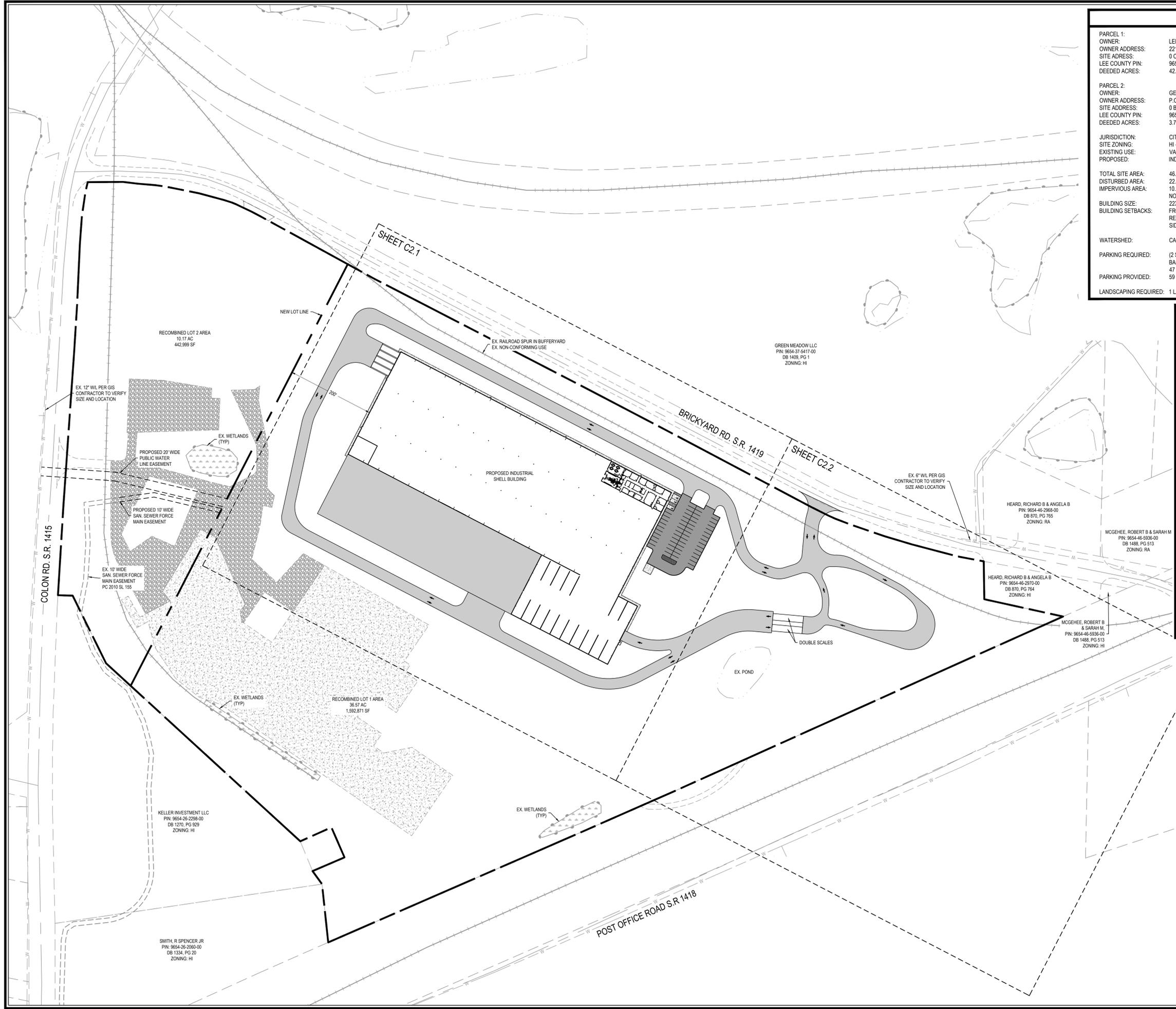
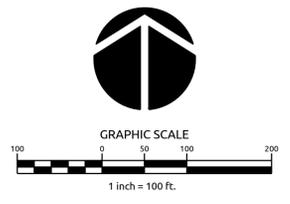
Revisions

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SITE ADDRESS:	9654-36-9737-00
LEE COUNTY PIN:	3.76 AC
DEEDED ACRES:	
JURISDICTION:	CITY OF SANFORD (ANNEXATION PETITION TO BE FILED)
SITE ZONING:	HI - HEAVY INDUSTRIAL
EXISTING USE:	VACANT
PROPOSED:	INDUSTRIAL/RECYCLING FACILITY
TOTAL SITE AREA:	46.74 AC
DISTURBED AREA:	22.91 AC
IMPERVIOUS AREA:	10.24 AC (21.91% OF SITE AREA)
	NO ADDITIONAL IMPERVIOUS IS PROPOSED
BUILDING SIZE:	223,067 SF
BUILDING SETBACKS:	FRONT - 30 FT MIN. REAR - 0 FT MIN. SIDE - 0 FT MIN.
WATERSHED:	CAPE FEAR (SANFORD) WS-IV-P
PARKING REQUIRED:	(2 SPACES / 3 EMPLOYEES AT MAX. SHIFT) X (26 EMPLOYEES PER SHIFT BASED ON LATEST INFORMATION)
PARKING PROVIDED:	47 SPACES 59 TOTAL (3 HC)
LANDSCAPING REQUIRED:	1 LARGE TREE (OR 2 SMALL TREES) & 8 SMALL SHRUBS PER 20 SPACES

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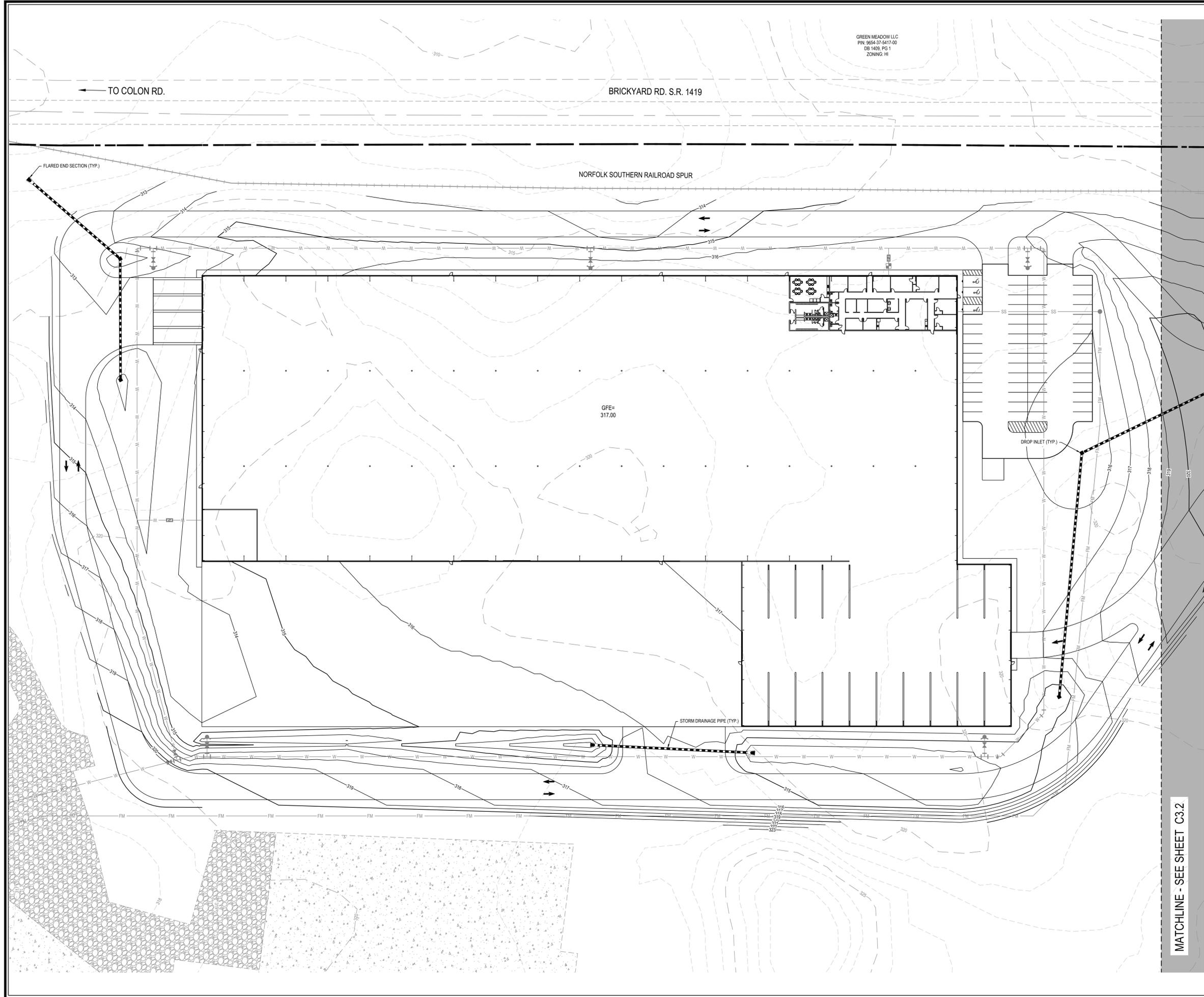
HATCH LEGEND

	GRAVEL
	ASPHALT
	CONCRETE



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GREEN MEADOW LLC
PIN: 9854-37-5417-00
DB 1409, PG 1
ZONING: HI

TO COLON RD.

BRICKYARD RD. S.R. 1419

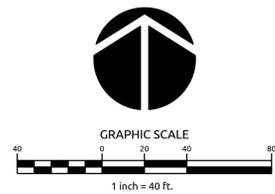
NORFOLK SOUTHERN RAILROAD SPUR

GFE= 317.00

DROP INLET (TYP.)

STORM DRAINAGE PIPE (TYP.)

MATCHLINE - SEE SHEET C3.2



LAST STEP RECYCLING

SANFORD, NORTH CAROLINA

**GRADING & DRAINAGE
PLAN**

Job No. 02191385.00 Drawn By RSF
Date 3/31/2020 Designer RSF

NORTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
NOT APPROVED FOR
CONSTRUCTION
RYAN S. FISHER

Revisions

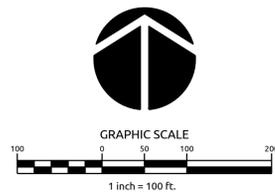
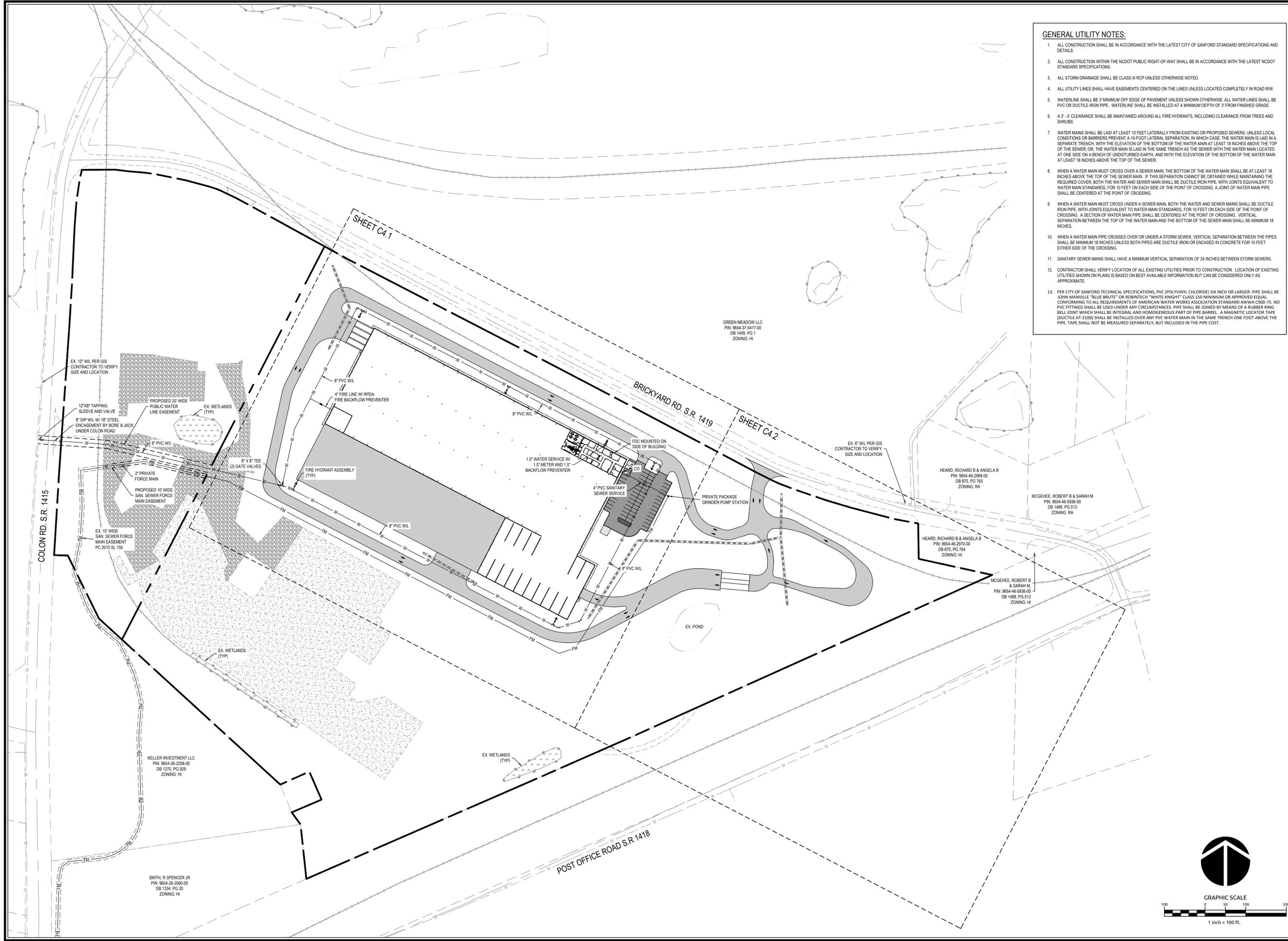
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C3.1

Job No.	02191385.00	Drawn By	RSF
Date	3/31/2020	Designer	RSF



Revisions

- GENERAL UTILITY NOTES:**
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST CITY OF SANFORD STANDARD SPECIFICATIONS AND DETAILS.
 - ALL CONSTRUCTION WITHIN THE NCDOT PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE LATEST NCDOT STANDARD SPECIFICATIONS.
 - ALL STORM DRAINAGE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED.
 - ALL UTILITY LINES SHALL HAVE EASEMENTS CENTERED ON THE LINES UNLESS LOCATED COMPLETELY IN ROAD R/W.
 - WATERLINE SHALL BE 3' MINIMUM OFF EDGE OF PAVEMENT UNLESS SHOWN OTHERWISE. ALL WATER LINES SHALL BE PVC OR DUCTILE IRON PIPE. WATERLINE SHALL BE INSTALLED AT A MINIMUM DEPTH OF 3' FROM FINISHED GRADE.
 - A 3' - 5' CLEARANCE SHALL BE MAINTAINED AROUND ALL FIRE HYDRANTS, INCLUDING CLEARANCE FROM TREES AND SHRUBS.
 - WATER MAINS SHALL BE LAID AT LEAST 10 FEET LATERALLY FROM EXISTING OR PROPOSED SEWERS, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT A 10-FOOT LATERAL SEPARATION, IN WHICH CASE: THE WATER MAIN IS LAID IN A SEPARATE TRENCH WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, OR THE WATER MAIN IS LAID IN THE SAME TRENCH AS THE SEWER WITH THE WATER MAIN LOCATED AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH, AND WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.
 - WHEN A WATER MAIN MUST CROSS OVER A SEWER MAIN, THE BOTTOM OF THE WATER MAIN SHALL BE AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER MAIN. IF THIS SEPARATION CANNOT BE OBTAINED WHILE MAINTAINING THE REQUIRED COVER, BOTH THE WATER AND SEWER MAIN SHALL BE DUCTILE IRON PIPE, WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS, FOR 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A JOINT OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.
 - WHEN A WATER MAIN MUST CROSS UNDER A SEWER MAIN, BOTH THE WATER AND SEWER MAINS SHALL BE DUCTILE IRON PIPE, WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS, FOR 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING. VERTICAL SEPARATION BETWEEN THE TOP OF THE WATER MAIN AND THE BOTTOM OF THE SEWER MAIN SHALL BE MINIMUM 18 INCHES.
 - WHEN A WATER MAIN PIPE CROSSES OVER OR UNDER A STORM SEWER, VERTICAL SEPARATION BETWEEN THE PIPES SHALL BE MINIMUM 18 INCHES UNLESS BOTH PIPES ARE DUCTILE IRON OR ENCASED IN CONCRETE FOR 10 FEET EITHER SIDE OF THE CROSSING.
 - SANITARY SEWER MAINS SHALL HAVE A MINIMUM VERTICAL SEPARATION OF 24 INCHES BETWEEN STORM SEWERS.
 - CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHOWN ON PLANS IS BASED ON BEST AVAILABLE INFORMATION BUT CAN BE CONSIDERED ONLY AS APPROXIMATE.
 - PER CITY OF SANFORD TECHNICAL SPECIFICATIONS, PVC (POLYVINYL CHLORIDE) SIX INCH OR LARGER PIPE SHALL BE JOHN MANVILLE "BLUE BRUTE" OR ROBINTECH "WHITE KNIGHT" CLASS 150 MINIMUM OR APPROVED EQUAL, CONFORMING TO ALL REQUIREMENTS OF AMERICAN WATER WORKS ASSOCIATION STANDARD AWWA C900-75. NO PVC FITTINGS SHALL BE USED UNDER ANY CIRCUMSTANCES. PIPE SHALL BE JOINED BY MEANS OF A RUBBER RING BELL JOINT WHICH SHALL BE INTEGRAL AND HOMOGENEOUS PART OF PIPE BARREL. A MAGNETIC LOCATOR TAPE (DUCTILE AT 2300) SHALL BE INSTALLED OVER ANY PVC WATER MAIN IN THE SAME TRENCH ONE FOOT ABOVE THE PIPE. TAPE SHALL NOT BE MEASURED SEPARATELY, BUT INCLUDED IN THE PIPE COST.



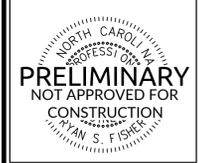
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LAST STEP RECYCLING

SANFORD, NORTH CAROLINA

UTILITY PLAN

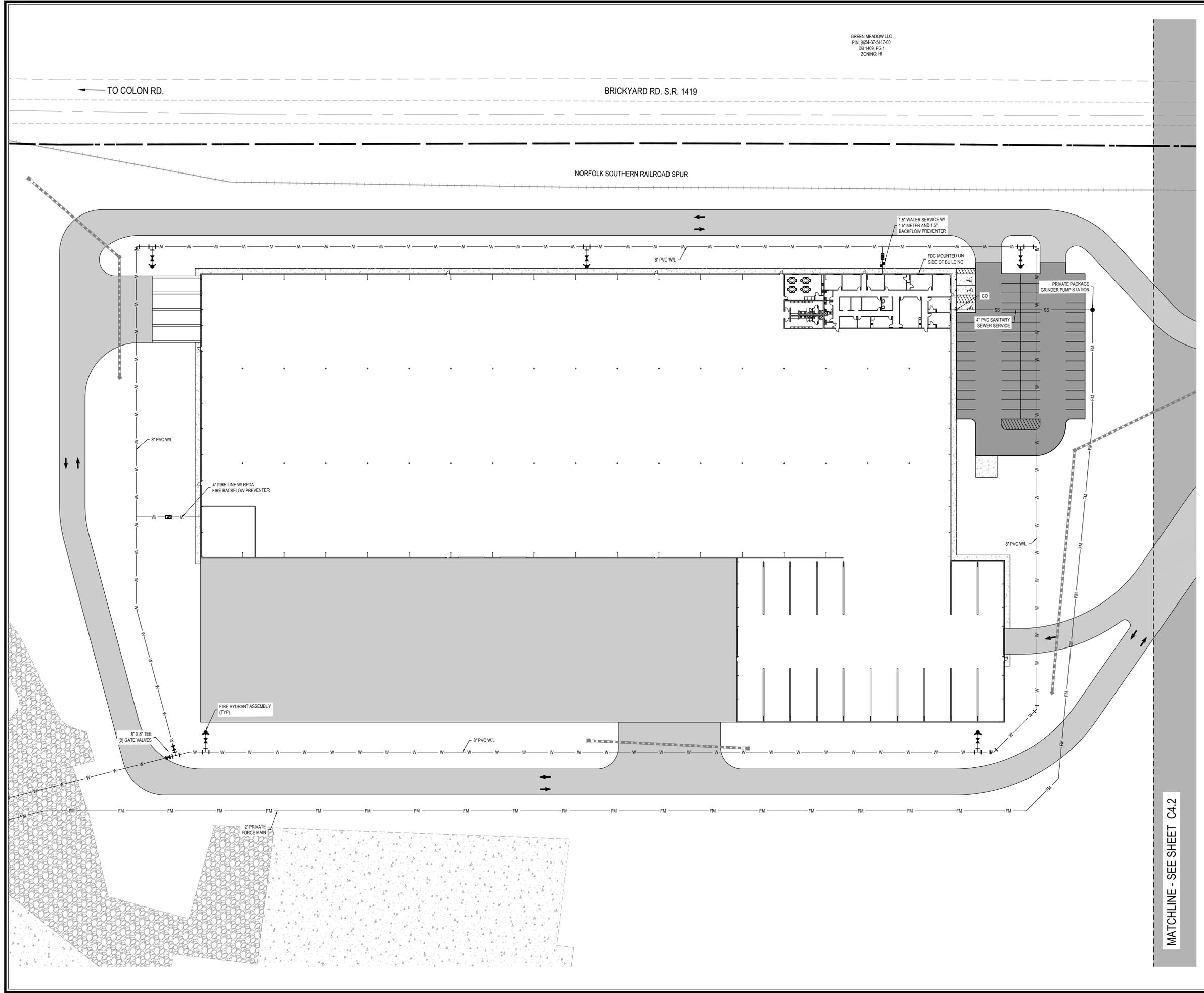
Job No.	02191385.00	Drawn By	RSF
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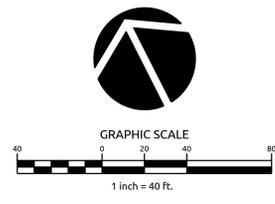
Revisions

Sheet No.
C4.1

GREEN MEADOW LLC
PIN: 9854-37-5417-00
DB 1408, PG 1
ZONING: HI



MATCHLINE - SEE SHEET C4.2



K:\15174-1385-13185-13185-BldgPlan.dwg - Sanford-GDD Drawing Set\Sheet\04.1 UTILITY PLAN.dwg - Tuesday, March 31, 2020 11:02:41 AM - BUCHANAN, DAVE

SKIMMER SEDIMENT BASIN DESIGN TABLE																	
Basin #	Drainage Area (sf)	Drainage Area (ac)	Denuded Area to Basin (ac)	Q10 (cfs)	Storage Volume Req'd (1800 cf/ac)(Denuded Area) (cf)	Surface Area Req'd (Q10)(325sf/cfs) (sf)	Length (ft)	Width (ft)	Depth (ft)	Storage Volume Provided (cf) @ 10yr. Elev.	Surface Area Provided (sf) @ 10yr. Elev.	10 yr. Ponding Elevation	Spillway Elevation	Cleanout Elevation	Baffle Zone Area (25% of SA)	*Spillway Length Req'd (ft)	Spillway Length Provided (ft)
SSB 1	362710	8.33	8.33	32.06	14988	10419	150	75	3.0	19800	11250	313	314.5	311.5	2813	30.2	30
SSB 2	263840	6.06	6.06	23.32	10902	7579	130	65	3.0	14600	8450	316	317.5	314.5	2113	22.0	22
SSB 3	77895	1.79	1.79	6.88	3219	2238	70	35	3.0	3600	2450	316	317.5	314.5	613	6.5	10

Note: Min. 1' of freeboard above the emergency spillway shall be provided.

Q10 flows are based on Tc=5min, I10=7.70 in/hr (per NOAA), C=0.5

Each Basin requires 3 baffles.

*Weir/Spillway length requirement based on Q10 flows

EROSION CONTROL NARRATIVE

- LAST STEP RECYCLING IS LOCATED IN SANFORD, NORTH CAROLINA. THIS PROJECT CONSISTS OF DEMOLITION, CLEARING, GRUBBING, INSTALLATION OF EROSION CONTROL DEVICES AND THE CONSTRUCTION OF AN INDUSTRIAL RECYCLING FACILITY.
- THE FOLLOWING SEDIMENTATION AND EROSION CONTROL DEVICES ARE PROPOSED TO BE INSTALLED ON THIS PROJECT: GRAVEL CONSTRUCTION ENTRANCE, ONE SKIMMER SEDIMENT BASIN, DIVERSION BERMS/DITCHES, CHECK DAMS, TEMPORARY SILT FENCE AND SILT FENCE OUTLETS, CLEAN WATER DIVERSION, SEEDING, MULCHING, AND VEGETATION. OTHER MEASURES MAY BE ADDED AS NEEDED. THE CONTRACTOR AND/OR INSPECTOR HAVE THE AUTHORITY TO ADD EROSION CONTROL MEASURES, IF NECESSARY, TO PREVENT SEDIMENT OR EROSION TO PROTECT ALL PUBLIC AND PRIVATE PROPERTY FROM DAMAGE.

EROSION CONTROL CONSTRUCTION SEQUENCE

- EROSION AND SEDIMENT CONTROL (EASC) PERMIT AND A CERTIFICATE OF COVERAGE (COC) MUST BE OBTAINED BEFORE ANY LAND DISTURBING ACTIVITIES OCCUR. A COPY OF THE EASC PERMIT, THE COC, AND A HARD COPY OF THE PLAN MUST BE KEPT ON SITE, PREFERABLY IN A PERMITS BOX, AND ACCESSIBLE DURING INSPECTION.
- CONTACT THE DEMLR/RALEIGH REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO COMMENCING THE LAND-DISTURBING ACTIVITY. THE CONTACT NUMBER IS (919)791-4200.
- SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE NC DEPARTMENT OF ENVIRONMENTAL QUALITY INSPECTOR.
- INSTALL THE INITIAL PERIMETER MEASURES INCLUDING TREE PROTECTION FENCE, SILT FENCE, AND SILT FENCE OUTLETS.
- INSTALL CONSTRUCTION ENTRANCES.
- INSTALL SILT FENCE IN THE AREAS OF THE SKIMMER BASINS AS SHOWN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES.
- INSTALL ALL SKIMMER BASINS.
- WHEN THE SKIMMER BASINS ARE COMPLETE, INSTALL EASC AS SHOWN ON THIS PLAN (INCLUDING DIVERSION DITCHES (WITH CHANNEL LINING IF REQ'D), CHECK DAMS, SILT FENCE, AND SILT FENCE OUTLETS). CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES.
- EROSION CONTROL CHANNEL LINING/MATTING TO BE INSTALLED ON TEMPORARY DIVERSIONS, AS SHOWN ON THE PLANS, WITHIN 14 DAYS OF ANY INACTIVITY.
- SCHEDULE A SITE INSPECTION OF INSTALLED EROSION CONTROL DEVICES WITH THE NC DEPARTMENT OF ENVIRONMENTAL QUALITY INSPECTOR FOR APPROVAL.
- BEGIN CLEARING AND GRUBBING.
- MAINTAIN TREE PROTECTION AND SILT FENCE UNTIL FINAL INSPECTION.
- SELF-INSPECTIONS FOR EROSION AND SEDIMENTATION CONTROL MEASURES ARE TO BE PERFORMED AT LEAST EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF EVERY RAIN EVENT OF GREATER THAN 1 INCH. ANY NEEDED REPAIRS SHALL BE MADE IMMEDIATELY TO MAINTAIN MEASURES AS DESIGNED. ALL EROSION MEASURES SHALL BE MAINTAINED AS SPECIFIED IN THE CONSTRUCTION DETAILS ON THIS PLAN. A RAIN GAUGE SHALL BE INSTALLED AT THE PROJECT SITE FOR MONITORING.
- THE CONTRACTOR SHALL CONDUCT SELF-INSPECTIONS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES AND COMPLETE THE FOLLOWING COMBINED SELF-INSPECTION FORM FOUND ON THE DEMLR WEBSITE: <https://files.nc.gov/ncdeq/energy%20minerals%20and%20environmental%20services/erosion%20control%20permits%20section%20monitoring%20form%20rev%20april%202019.pdf>. TWELVE MONTHS OF COMPLETE INSPECTION FORMS SHALL BE KEPT ON SITE AND AVAILABLE FOR INSPECTION AT ALL TIMES. IT IS RECOMMENDED A COPY BE KEPT IN A PERMITS BOX.
- CLEAN BASINS WHEN HALF FULL OF SEDIMENT.
- ALL PUBLIC ROADWAY ADJACENT TO THE PROJECT SHALL BE KEPT CLEAN AT ALL TIMES DURING CONSTRUCTION.
- BEGIN MASS GRADING WORK.
- AS THE SITE IS ROUGH GRADED, REVISE DIVERSION DITCHES AS THE SITE IS BROUGHT TO FINISHED GRADE TO MAINTAIN POSITIVE FLOW TO THE SKIMMER BASINS.
- ADJUST SKIMMER BASINS AS NECESSARY TO MAINTAIN OUTLET FLOW.
- STABILIZE AREAS AS THE SITE IS BROUGHT TO DESIGN GRADE WITH SEEDING AND MULCHING. ALL GRADED AND BARE AREAS MUST BE STABILIZED WITHIN 14 CALENDAR DAYS OF TEMPORARILY OR PERMANENTLY SUSPENDING LAND DISTURBING ACTIVITY. PERMANENT GROUND COVER SHALL BE PLACED WITHIN 14 CALENDAR DAYS FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT. SLOPES SHALL BE NO STEEPER THAN 2:1, PREFERABLY FLATTER, FOR VEGETATIVE COVER.
- THE CONTRACTOR SHALL FAITHFULLY MAINTAIN ALL SEDIMENTATION CONTROL DEVICES AND TAKE ANY PRECAUTIONARY MEASURES TO ENSURE THAT SILT DOES NOT ENTER ANY NATURAL STREAM CHANNEL LOCATED WITHIN THE SITE. DRAINAGE CHANNELS MUST BE CLEAN OF SEDIMENT AND STABILIZED BEFORE THE PROJECT IS RELEASED.
- TEMPORARY SILT FENCE MAY BE REQUIRED TO BE INSTALLED IN AREAS WHERE SKIMMER BASINS HAVE BEEN REMOVED, GRADED, AND SEEDED. THE SILT FENCE SHALL REMAIN IN PLACE UNTIL GRASS IS ESTABLISHED.
- THE CONTRACTOR SHALL NOT DISTURB ANY AREA LOCATED WITHIN WETLAND AREA UNLESS SPECIFICALLY SHOWN ON THE PLAN. RECEIVING WATERCOURSE: CAPE FEAR RIVER (WATER SUPPLY WATERSHED).
- THE CONTRACTOR SHALL SUBMIT DOCUMENTATION REQUIRED UNDER THE SITE NPDES STORMWATER PERMIT OF CONSTRUCTION ACTIVITY (NCG010000) TO STORMWATER INSPECTIONS THROUGHOUT THE PROJECT.

GENERAL NOTES - EROSION CONTROL

- ALL LAND DISTURBING ACTIVITIES SHALL BE CONDUCTED IN ACCORDANCE WITH EROSION AND SEDIMENT CONTROL STANDARDS AND PRACTICES PRESCRIBED BY THE NC DEPARTMENT OF ENVIRONMENTAL QUALITY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY SEDIMENTATION AND EROSION CONTROL DEVICES SHOWN ON THE APPROVED PLAN.
- ALL AREAS AND SLOPES DISTURBED DURING CONSTRUCTION AND EXPOSED SHALL BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING WITHIN 14 CALENDAR DAYS OF TEMPORARILY OR PERMANENTLY SUSPENDING LAND DISTURBING ACTIVITY. PERMANENT GROUND COVER SHALL BE PLACED WITHIN 14 CALENDAR DAYS FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT. SLOPES SHALL BE NO STEEPER THAN 2:1, PREFERABLY FLATTER, FOR VEGETATIVE COVER.
- THE CONTRACTOR SHALL FAITHFULLY MAINTAIN ALL SEDIMENTATION CONTROL DEVICES AND TAKE ANY PRECAUTIONARY MEASURES TO ENSURE THAT SILT DOES NOT ENTER ANY NATURAL STREAM CHANNEL LOCATED WITHIN THE SITE. DRAINAGE CHANNELS MUST BE CLEAN OF SEDIMENT AND STABILIZED BEFORE THE PROJECT IS RELEASED.
- TEMPORARY SILT FENCE MAY BE REQUIRED TO BE INSTALLED IN AREAS WHERE SKIMMER BASINS HAVE BEEN REMOVED, GRADED, AND SEEDED. THE SILT FENCE SHALL REMAIN IN PLACE UNTIL GRASS IS ESTABLISHED.
- THE CONTRACTOR SHALL NOT DISTURB ANY AREA LOCATED WITHIN WETLAND AREA UNLESS SPECIFICALLY SHOWN ON THE PLAN. RECEIVING WATERCOURSE: CAPE FEAR RIVER (WATER SUPPLY WATERSHED).
- THE CONTRACTOR SHALL SUBMIT DOCUMENTATION REQUIRED UNDER THE SITE NPDES STORMWATER PERMIT OF CONSTRUCTION ACTIVITY (NCG010000) TO STORMWATER INSPECTIONS THROUGHOUT THE PROJECT.

EROSION CONTROL MAINTENANCE PLAN

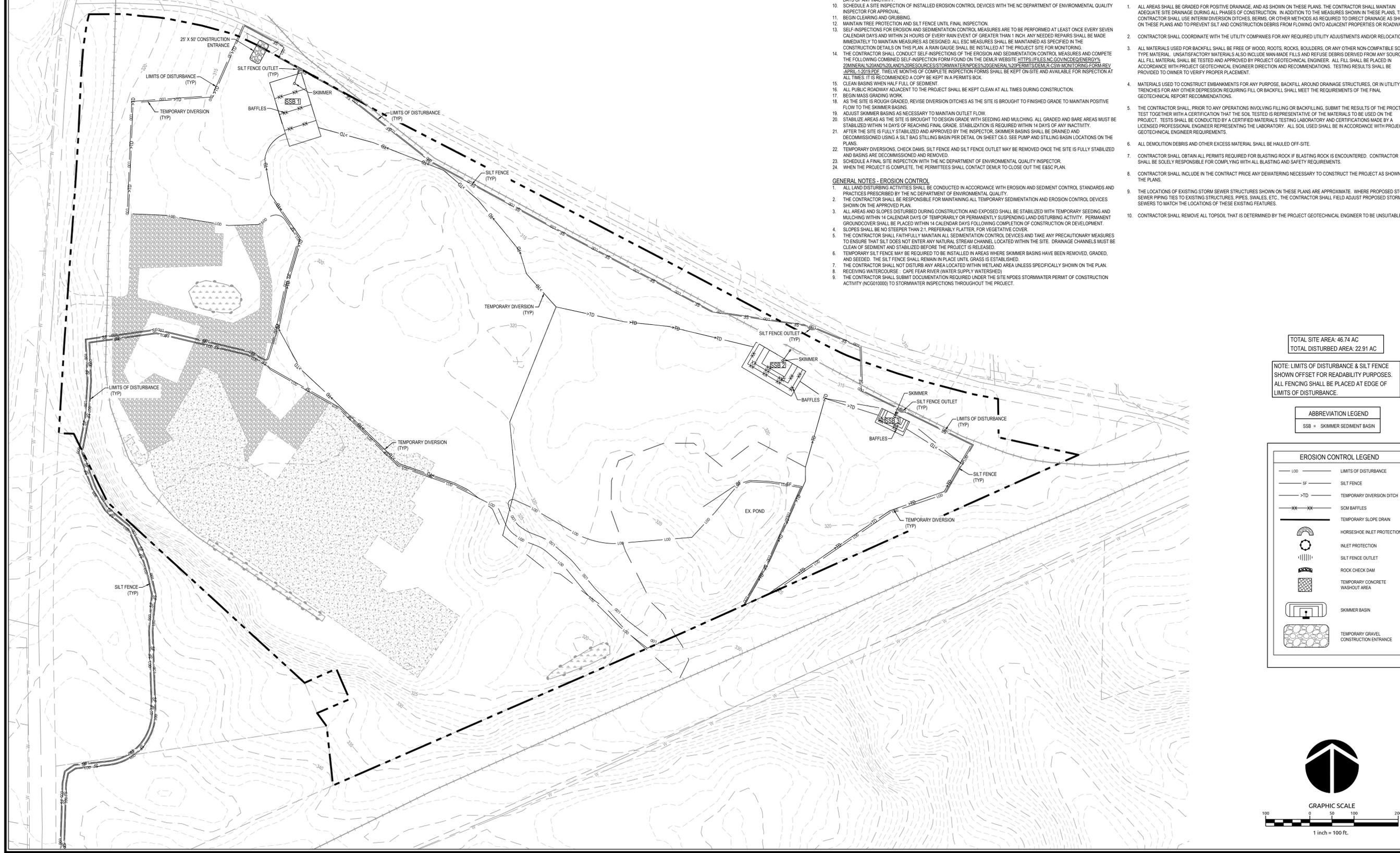
- ALL EROSION AND SEDIMENTATION CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RAINFALL EXCEPT RAINFALL BUT IN NO CASE LESS THAN EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
- SEDIMENT WILL BE REMOVED FROM THE SKIMMER BASINS AND SILT FENCE OUTLETS WHEN STORAGE CAPACITY HAS BEEN APPROXIMATELY 50% FILLED. GRAVEL WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS PROPERLY.
- SEDIMENT WILL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES ABOUT 6-INCHES DEEP AT THE FENCE. THE SILT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.
- ALL SEEDED AREAS WILL BE FERTILIZED, RE-SEED AS NECESSARY, AND MULCHED ACCORDING TO THE SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT THE CONSTRUCTION ENTRANCE PADS ARE PROPERLY MAINTAINED SO THAT MUD IS NOT TRACKED ONTO ADJACENT STREETS.
- SEE DETAILS ON SHEETS C6.0 & C6.1 FOR ADDITIONAL MAINTENANCE REQUIREMENTS AND SPECIFICATIONS.

NC GROUND COVER REQUIREMENT

THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL DEVICES OR STRUCTURES. IN ANY EVENT SLOPES LEFT EXPOSED WILL, WITHIN 7 OR 14 CALENDAR DAYS OF COMPLETION OF ANY PHASE OF GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY GROUND COVER DEVICES OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION. PERMANENT GROUND COVER WILL BE PROVIDED FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR NO MORE THAN 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION.

STORM DRAINAGE/GRADING NOTES

- ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE, AND AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION. IN ADDITION TO THE MEASURES SHOWN IN THESE PLANS, THE CONTRACTOR SHALL USE INTERIM DIVERSION DITCHES, BERMS, OR OTHER METHODS AS REQUIRED TO DIRECT DRAINAGE AS SHOWN ON THESE PLANS AND TO PREVENT SILT AND CONSTRUCTION DEBRIS FROM FLOWING ONTO ADJACENT PROPERTIES OR ROADWAYS.
- CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES FOR ANY REQUIRED UTILITY ADJUSTMENTS AND/OR RELOCATIONS.
- ALL MATERIALS USED FOR BACKFILL SHALL BE FREE OF WOOD, ROOTS, ROCKS, BOULDERS, OR ANY OTHER NON-COMPATIBLE SOIL TYPE MATERIAL. UNSATISFACTORY MATERIALS ALSO INCLUDE MAN-MADE FILLS AND REFUSE DEBRIS DERIVED FROM ANY SOURCE. ALL FILL MATERIAL SHALL BE TESTED AND APPROVED BY PROJECT GEOTECHNICAL ENGINEER. ALL FILL SHALL BE PLACED IN ACCORDANCE WITH PROJECT GEOTECHNICAL ENGINEER'S DIRECTION AND RECOMMENDATIONS. TESTING RESULTS SHALL BE PROVIDED TO OWNER TO VERIFY PROPER PLACEMENT.
- MATERIALS USED TO CONSTRUCT EMBANKMENTS FOR ANY PURPOSE, BACKFILL AROUND DRAINAGE STRUCTURES, OR IN UTILITY TRENCHES FOR ANY OTHER DEPRESSION REQUIRING FILL OR BACKFILL SHALL MEET THE REQUIREMENTS OF THE FINAL GEOTECHNICAL REPORT RECOMMENDATIONS.
- THE CONTRACTOR SHALL, PRIOR TO ANY OPERATIONS INVOLVING FILLING OR BACKFILLING, SUBMIT THE RESULTS OF THE PROCTOR TEST TOGETHER WITH A CERTIFICATION THAT THE SOIL TESTED IS REPRESENTATIVE OF THE MATERIALS TO BE USED ON THE PROJECT. TESTS SHALL BE CONDUCTED BY A CERTIFIED MATERIALS TESTING LABORATORY AND CERTIFICATIONS MADE BY A LICENSED PROFESSIONAL ENGINEER REPRESENTING THE LABORATORY. ALL SOIL USED SHALL BE IN ACCORDANCE WITH PROJECT GEOTECHNICAL ENGINEER RECOMMENDATIONS.
- ALL DEMOLITION DEBRIS AND OTHER EXCESS MATERIAL SHALL BE HAULED OFF-SITE.
- CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED FOR BLASTING ROCK IF BLASTING ROCK IS ENCOUNTERED. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL BLASTING AND SAFETY REQUIREMENTS.
- CONTRACTOR SHALL INCLUDE IN THE CONTRACT PRICE ANY DEWATERING NECESSARY TO CONSTRUCT THE PROJECT AS SHOWN ON THE PLANS.
- THE LOCATIONS OF EXISTING STORM SEWER STRUCTURES SHOWN ON THESE PLANS ARE APPROXIMATE. WHERE PROPOSED STORM SEWER PIPING TIES TO EXISTING STRUCTURES, PIPES, SWALES, ETC., THE CONTRACTOR SHALL FIELD ADJUST PROPOSED STORM SEWERS TO MATCH THE LOCATIONS OF THESE EXISTING FEATURES.
- CONTRACTOR SHALL REMOVE ALL TOPSOIL THAT IS DETERMINED BY THE PROJECT GEOTECHNICAL ENGINEER TO BE UNSUITABLE.



TOTAL SITE AREA: 46.74 AC
TOTAL DISTURBED AREA: 22.91 AC

NOTE: LIMITS OF DISTURBANCE & SILT FENCE SHOWN OFFSET FOR READABILITY PURPOSES. ALL FENCING SHALL BE PLACED AT EDGE OF LIMITS OF DISTURBANCE.

ABBREVIATION LEGEND
SSB = SKIMMER SEDIMENT BASIN

EROSION CONTROL LEGEND	
	LIMITS OF DISTURBANCE
	SILT FENCE
	TEMPORARY DIVERSION DITCH
	SCM BAFFLES
	TEMPORARY SLOPE DRAIN
	HORSESHOE INLET PROTECTION
	INLET PROTECTION
	SILT FENCE OUTLET
	ROCK CHECK DAM
	TEMPORARY CONCRETE WASHOUT AREA
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GRAPHIC SCALE
1 inch = 100 ft.

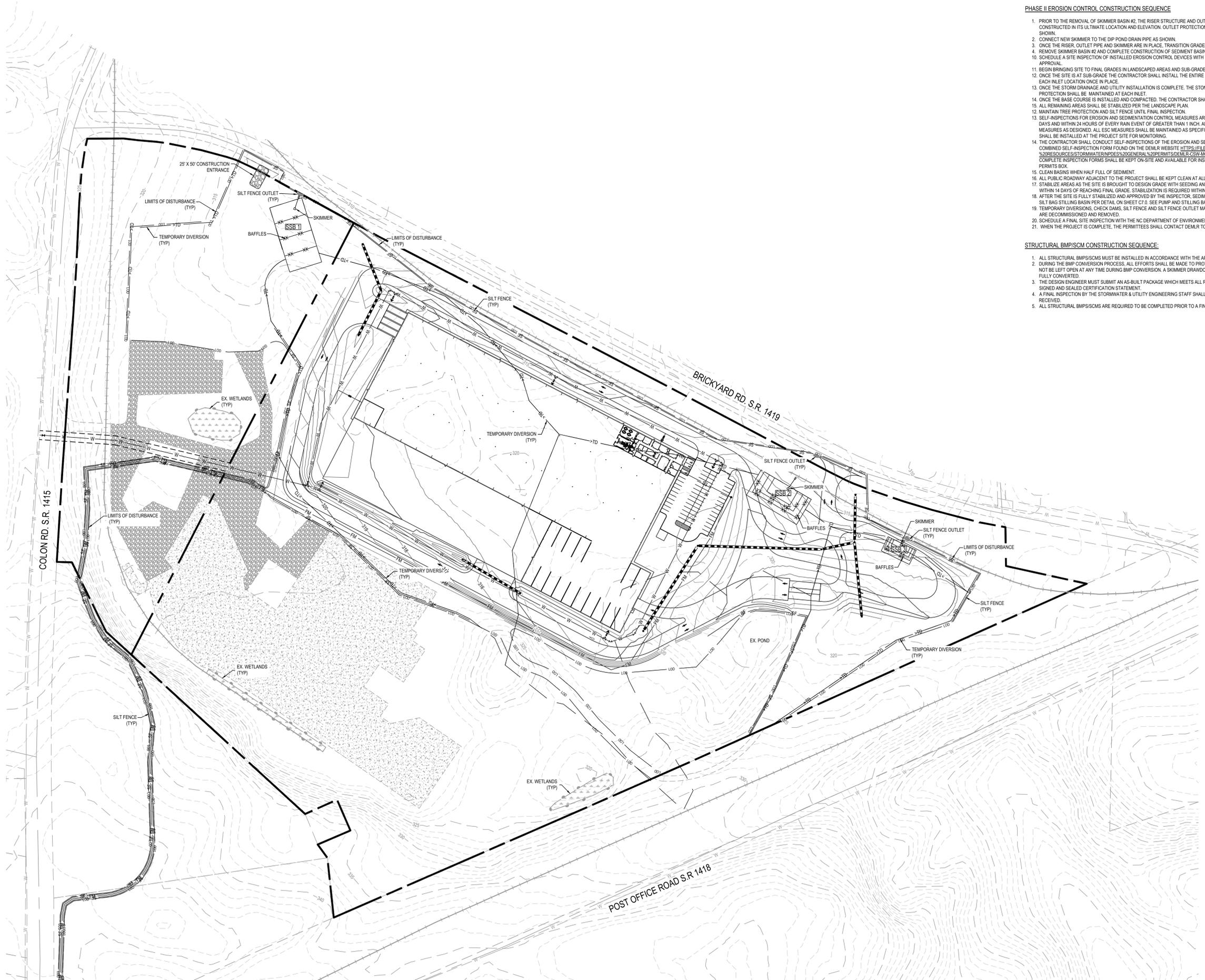
Job No. 02191385.00
Date 3/31/2020
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Designer RSF

NORTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
NOT APPROVED FOR
CONSTRUCTION
RYAN S. FISHER

Revisions

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- PHASE II EROSION CONTROL CONSTRUCTION SEQUENCE**
1. PRIOR TO THE REMOVAL OF SKIMMER BASIN #2, THE RISER STRUCTURE AND OUTLET PIPE FOR PROPOSED WET POND, SCM 1, SHALL BE CONSTRUCTED IN ITS ULTIMATE LOCATION AND ELEVATION. OUTLET PROTECTION AND NEW SILT FENCE OUTLET SHALL ALSO BE CONSTRUCTED AS SHOWN.
 2. CONNECT NEW SKIMMER TO THE DIP POND DRAIN PIPE AS SHOWN.
 3. ONCE THE RISER, OUTLET PIPE AND SKIMMER ARE IN PLACE, TRANSITION GRADES TO THE FINAL SEDIMENT BASIN #1 WET POND GRADES.
 4. REMOVE SKIMMER BASIN #2 AND COMPLETE CONSTRUCTION OF SEDIMENT BASIN #1.
 5. SCHEDULE A SITE INSPECTION OF INSTALLED EROSION CONTROL DEVICES WITH THE NC DEPARTMENT OF ENVIRONMENTAL QUALITY INSPECTOR FOR APPROVAL.
 6. BEGIN BRINGING SITE TO FINAL GRADES IN LANDSCAPED AREAS AND SUB-GRADE BENEATH ROADS AND BUILDING FOUNDATIONS.
 7. ONCE THE SITE IS AT SUB-GRADE THE CONTRACTOR SHALL INSTALL THE ENTIRE STORM DRAINAGE SYSTEM AND INSTALL INLET PROTECTION AT EACH INLET LOCATION ONCE IN PLACE.
 8. ONCE THE STORM DRAINAGE AND UTILITY INSTALLATION IS COMPLETE, THE STONE BASE COURSE SHALL BE INSTALLED. FILTER SOCKS/INLET PROTECTION SHALL BE MAINTAINED AT EACH INLET.
 9. ONCE THE BASE COURSE IS INSTALLED AND COMPACTED, THE CONTRACTOR SHALL INSTALL THE BINDER ASPHALT.
 10. ALL REMAINING AREAS SHALL BE STABILIZED PER THE LANDSCAPE PLAN.
 11. MAINTAIN TREE PROTECTION AND SILT FENCE UNTIL FINAL INSPECTION.
 12. SELF-INSPECTIONS FOR EROSION AND SEDIMENTATION CONTROL MEASURES ARE TO BE PERFORMED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF EVERY RAIN EVENT OF GREATER THAN 1 INCH. ANY NEEDED REPAIRS SHALL BE MADE IMMEDIATELY TO MAINTAIN MEASURES AS DESIGNED. ALL ESC MEASURES SHALL BE MAINTAINED AS SPECIFIED IN THE CONSTRUCTION DETAILS ON THIS PLAN. A RAIN GAUGE SHALL BE INSTALLED AT THE PROJECT SITE FOR MONITORING.
 13. THE CONTRACTOR SHALL CONDUCT SELF-INSPECTIONS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES AND COMPLETE THE FOLLOWING COMBINED SELF-INSPECTION FORM FOUND ON THE DELM.R WEBSITE <https://files.nc.gov/ncdeq/energy%20mineral%20and%20land%20resources/stormwater/pdfs/2009GENERAL%20PERMIT%20DEL.MR%20MONITORINGFORMREV%20APRIL%202019.PDF> TWELVE MONTHS OF COMPLETE INSPECTION FORMS SHALL BE KEPT ON-SITE AND AVAILABLE FOR INSPECTION AT ALL TIMES. IT IS RECOMMENDED A COPY BE KEPT IN A PERMITS BOX.
 14. CLEAN BASINS WHEN HALF FULL OF SEDIMENT.
 15. ALL PUBLIC ROADWAY ADJACENT TO THE PROJECT SHALL BE KEPT CLEAN AT ALL TIMES DURING CONSTRUCTION.
 16. STABILIZE AREAS AS THE SITE IS BROUGHT TO DESIGN GRADE WITH SEEDING AND MULCHING. ALL GRADED AND BARE AREAS MUST BE STABILIZED WITHIN 14 DAYS OF REACHING FINAL GRADE. STABILIZATION IS REQUIRED WITHIN 14 DAYS OF ANY INACTIVITY.
 17. AFTER THE SITE IS FULLY STABILIZED AND APPROVED BY THE INSPECTOR, SEDIMENT BASINS SHALL BE DRAINED AND DECOMMISSIONED USING A SILT BAG STILLING BASIN PER DETAIL ON SHEET C7.3. SEE PUMP AND STILLING BASIN LOCATIONS ON THE PLANS.
 18. TEMPORARY DIVERSIONS, CHECK DAMS, SILT FENCE AND SILT FENCE OUTLET MAY BE REMOVED ONCE THE SITE IS FULLY STABILIZED AND BASINS ARE DECOMMISSIONED AND REMOVED.
 19. SCHEDULE A FINAL SITE INSPECTION WITH THE NC DEPARTMENT OF ENVIRONMENTAL QUALITY INSPECTOR.
 20. WHEN THE PROJECT IS COMPLETE, THE PERMITEES SHALL CONTACT DELM.R TO CLOSE OUT.

- STRUCTURAL BMP/SCM CONSTRUCTION SEQUENCE:**
1. ALL STRUCTURAL BMP/SCMS MUST BE INSTALLED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DRAWINGS.
 2. DURING THE BMP CONVERSION PROCESS, ALL EFFORTS SHALL BE MADE TO PROTECT DOWNSTREAM WATER RESOURCES. THE DRAIN VALVE SHALL NOT BE LEFT OPEN AT ANY TIME DURING BMP CONVERSION. A SKIMMER DRAWDOWN SYSTEM SHALL BE INSTALLED AND UTILIZED UNTIL THE BMP IS FULLY CONVERTED.
 3. THE DESIGN ENGINEER MUST SUBMIT AN AS-BUILT PACKAGE WHICH MEETS ALL REQUIREMENTS PRESENTED IN THE CITY SPEC BOOK INCLUDING A SIGNED AND SEALED CERTIFICATION STATEMENT.
 4. A FINAL INSPECTION BY THE STORMWATER & UTILITY ENGINEERING STAFF SHALL BE CONDUCTED ONCE THE AS-BUILT SUBMITTAL HAS BEEN RECEIVED.
 5. ALL STRUCTURAL BMP/SCMS ARE REQUIRED TO BE COMPLETED PRIOR TO A FINAL CERTIFICATE OF OCCUPANCY FOR A SITE PLAN.

TOTAL SITE AREA: 46.74 AC
TOTAL DISTURBED AREA: 22.91 AC

NOTE: LIMITS OF DISTURBANCE & SILT FENCE SHOWN OFFSET FOR READABILITY PURPOSES. ALL FENCING SHALL BE PLACED AT EDGE OF LIMITS OF DISTURBANCE.

ABBREVIATION LEGEND
SSB = SKIMMER SEDIMENT BASIN

EROSION CONTROL LEGEND

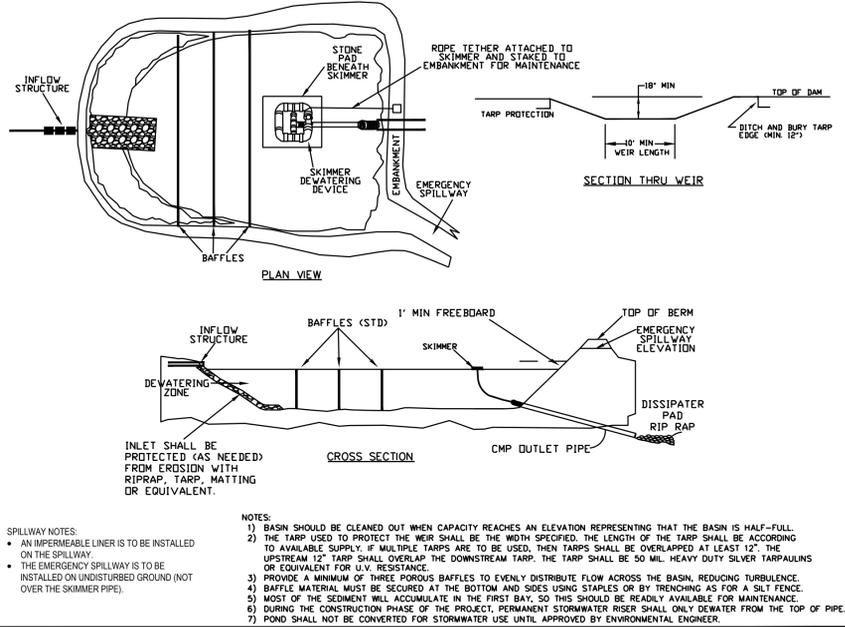
	LIMITS OF DISTURBANCE
	SILT FENCE
	TEMPORARY DIVERSION DITCH
	SCM BAFFLES
	TEMPORARY SLOPE DRAIN
	HORSESHOE INLET PROTECTION
	INLET PROTECTION
	SILT FENCE OUTLET
	ROCK CHECK DAM
	TEMPORARY CONCRETE WASHOUT AREA
	SKIMMER BASIN
	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

GRAPHIC SCALE
1 inch = 100 ft.

Job No. 02191385.00 Drawn By RSF
Date 3/31/2020 Designer RSF

NORTH CAROLINA
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Revisions



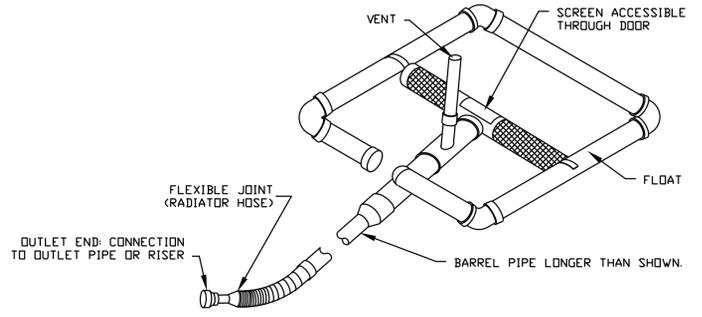
STANDARD SKIMMER BASIN

SPILLWAY NOTES:

- AN IMPERMEABLE LINER IS TO BE INSTALLED ON THE SPILLWAY.
- THE EMERGENCY SPILLWAY IS TO BE INSTALLED ON UNDISTURBED GROUND (NOT OVER THE SKIMMER PIPE).

NOTES:

- BASIN SHOULD BE CLEANED OUT WHEN CAPACITY REACHES AN ELEVATION REPRESENTING THAT THE BASIN IS HALF-FULL.
- THE TARP USED TO PROTECT THE WEIR SHALL BE THE WIDTH SPECIFIED. THE LENGTH OF THE TARP SHALL BE ACCORDING TO AVAILABLE SUPPLY. IF MULTIPLE TARPS ARE TO BE USED, THEN TARPS SHALL BE OVERLAPPED AT LEAST 12". THE UPSTREAM 12" TARP SHALL OVERLAP THE DOWNSTREAM TARP. THE TARP SHALL BE 50 MIL HEAVY DUTY SILVER TARP/POLYESTER OR EQUIVALENT FOR U.V. RESISTANCE.
- PROVIDE A MINIMUM OF THREE POROUS BAFFLES TO EVENLY DISTRIBUTE FLOW ACROSS THE BASIN, REDUCING TURBULENCE.
- BAFFLE MATERIAL MUST BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR A SILT FENCE.
- MOST OF THE SEDIMENT WILL ACCUMULATE IN THE FIRST BAY, SO THIS SHOULD BE READILY AVAILABLE FOR MAINTENANCE.
- DURING THE CONSTRUCTION PHASE OF THE PROJECT, PERMANENT STORMWATER RISER SHALL ONLY DEWATER FROM THE TOP OF PIPE.
- POND SHALL NOT BE CONVERTED FOR STORMWATER USE UNTIL APPROVED BY ENVIRONMENTAL ENGINEER.



STANDARD SKIMMER DETAIL

SKIMMER BASIN CONSTRUCTION SPECIFICATIONS

- 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.
- 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.
- 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.
- 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 installing 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.
- Assemble the skimmer following the manufacturer's instructions, or as designed.
- After 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.

SKIMMER BASIN MAINTENANCE REQUIREMENTS

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.

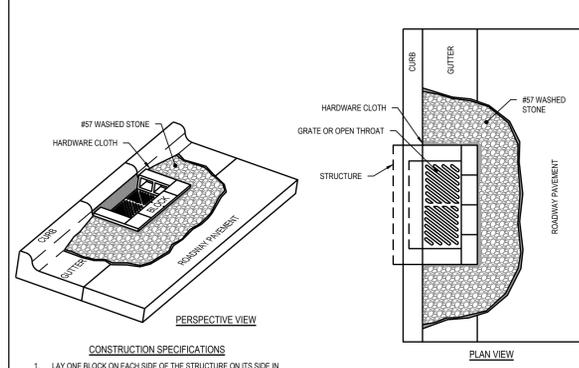
Repair the baffles if they are damaged. Re-anchor the baffles if water is flowing underneath or around them.

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.



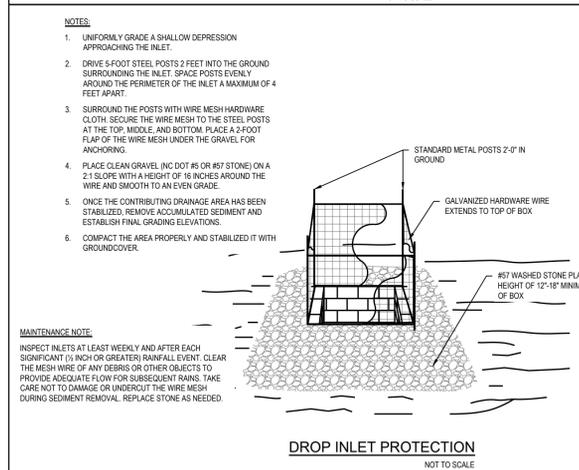
BLOCK AND GRAVEL PROTECTION
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

- LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE IN THE BOTTOM ROW TO ALLOW POOL DRAINAGE. PLACE BOTTOM ROW OF BLOCKS AGAINST THE EDGE OF THE CURB FOR LATERAL SUPPORT AND TO AVOID WASHOUTS WHEN OVERFLOW OCCURS. IF NEEDED, GIVE LATERAL SUPPORT TO THE SUBSEQUENT ROWS OF BLOCKS BY PLACING 2x4 WOOD STUDS THROUGH BLOCK OPENINGS.
- CAREFULLY FIT HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2" OPENINGS OVER ALL BLOCK OPENINGS TO HOLD GRAVEL IN PLACE.
- USE #57 WASHED STONE PLACED 2" BELOW THE TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER AND SMOOTH IT INTO AN EVEN GRADE.

MAINTENANCE NOTE:

INSPECT THE BARRIER AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL AND MAKE REPAIRS AS NEEDED. REMOVE SEDIMENT AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR SUBSEQUENT RAINS. WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN ADEQUATELY STABILIZED, REMOVE ALL MATERIALS AND ANY UNSTABLE SOIL AND EITHER SALVAGE OR DISPOSE OF IT PROPERLY. BRING THE DISTURBED AREA TO PROPER GRADE, THEN SMOOTH AND COMPACT IT. APPROPRIATELY STABILIZE ALL BARE AREAS AROUND THE INLET.



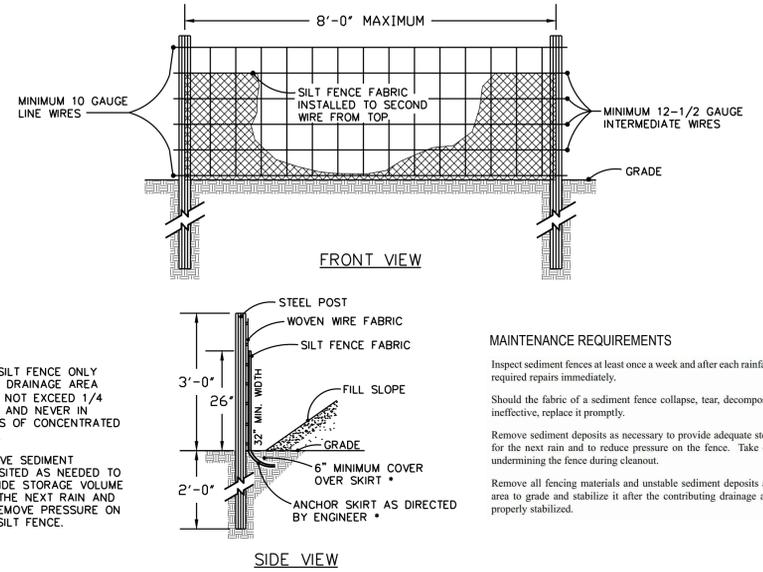
DROP INLET PROTECTION
NOT TO SCALE

NOTES:

- UNIFORMLY GRADE A SHALLOW DEPRESSION APPROXIMATING THE INLET.
- DRIVE 3-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.
- SURROUND THE POSTS WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM. PLACE A 2-FOOT FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING.
- PLACE CLEAN GRAVEL (INC 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.
- ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT AND ESTABLISH FINAL GRADING ELEVATIONS.
- COMPACT THE AREA PROPERLY AND STABILIZE IT WITH GROUND COVER.

MAINTENANCE NOTE:

INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 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.



NOTE:

- USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW.
- REMOVE SEDIMENT DEPOSITED AS NEEDED TO PROVIDE STORAGE VOLUME FOR THE NEXT RAIN AND TO REMOVE PRESSURE ON THE SILT FENCE.

MAINTENANCE REQUIREMENTS

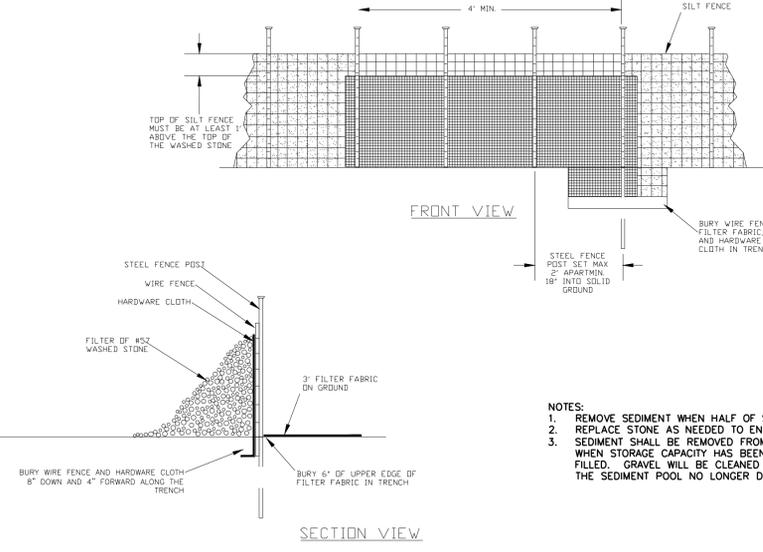
Inspect sediment fences at least once a week and after each rainfall. Make any required repairs immediately.

Should the fabric of a sediment fence collapse, tear, decompose or become ineffective, replace it promptly.

Remove sediment deposits as necessary to provide adequate storage volume for the next rain and to reduce pressure on the fence. Take care to avoid undermining the fence during cleanup.

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

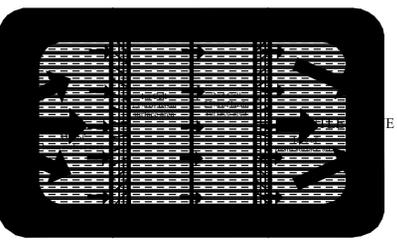
STANDARD TEMPORARY SILT FENCE



STANDARD SILT FENCE OUTLET

NOTES:

- REMOVE SEDIMENT WHEN HALF OF STONE OUTLET IS COVERED.
- REPLACE STONE AS NEEDED TO ENSURE DEWATERING.
- SEDIMENT SHALL BE REMOVED FROM SILT FENCE OUTLETS WHEN STORAGE CAPACITY HAS BEEN APPROXIMATELY 50% FILLED. GRAVEL WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS PROPERLY.



STANDARD BAFFLES DETAIL

NOTES:

- BAFFLE MATERIAL SHOULD BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR SILT FENCE.
- MOST OF THE SEDIMENT WILL ACCUMULATE IN THE 1ST BAY, WHICH SHOULD BE READILY ACCESSIBLE FOR MAINTENANCE.
- PROVIDE 3 BAFFLES (USE TWO IF LESS THAN 20 FEET IN LENGTH), PROVIDE 5 BAFFLES FOR DRAINAGE AREAS GREATER THAN 10 ACRES.
- BAFFLE SHALL BE 700 G/MZ COIR EROSION BLANKET.
- TOPS OF BAFFLES SHOULD BE 2 INCHES LOWER THAN THE TOP OF THE BERMS.
- INSPECT BAFFLES FOR REPAIR ONCE A WEEK AND AFTER EACH RAINFALL.

Job No.	02191385.00	Drawn By	RSF
Date	3/31/2020	Designer	RSF



Revisions

NCGO1-DETAIL GROUND STABILIZATION AND HANDLING PLAN

EFFECTIVE: 04/01/19

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCGO1 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 NCGO1 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

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

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

GROUND STABILIZATION SPECIFICATION

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

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none"> Temporary grass seed covered with straw or other mulches and tackifiers Hydroseeding Roller erosion control products with or without temporary grass seed Appropriately applied straw or other mulch Plastic sheeting 	<ul style="list-style-type: none"> Permanent grass seed covered with straw or other mulches and tackifiers Geotextile fabrics such as permanent soil reinforcement matting Hydroseeding Shrubs or other permanent plantings covered with mulch Uniform and evenly distributed ground cover sufficient to restrain erosion Structural methods such as concrete, asphalt or retaining walls Roller erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

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

EQUIPMENT AND VEHICLE MAINTENANCE

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

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

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

PAINT AND OTHER LIQUID WASTE

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

PORTABLE TOILETS

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

EARTHEN STOCKPILE MANAGEMENT

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

CONCRETE WASHOUTS

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

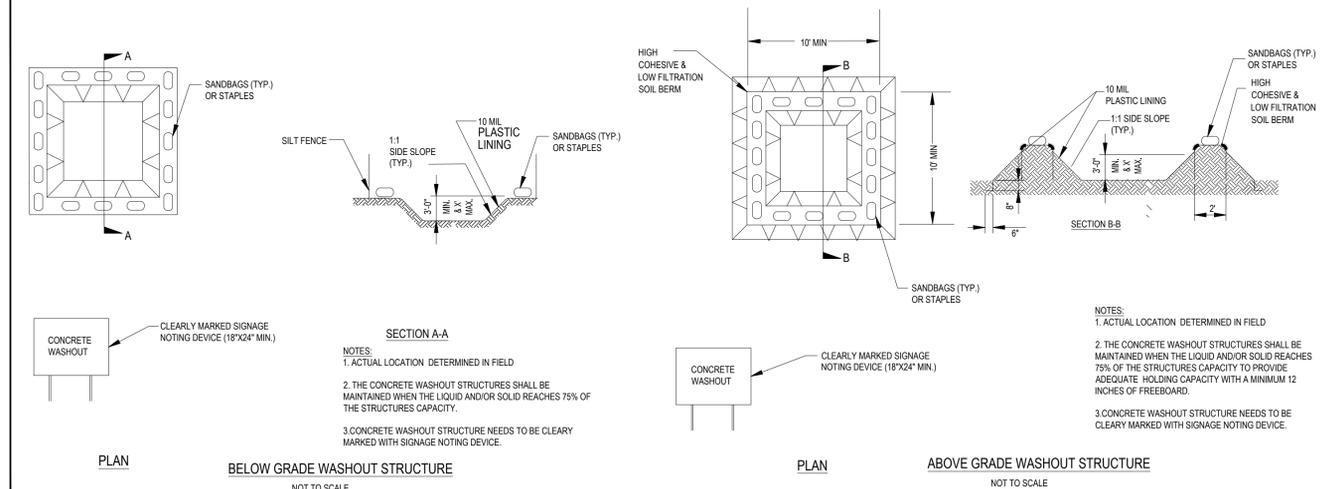
HERBICIDES, PESTICIDES AND RODENTICIDES

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

HAZARDOUS AND TOXIC WASTE

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

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



NCGO1-SELF INSPECTION, RECORDKEEPING & REPORTING

EFFECTIVE: 04/01/19

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

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

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

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

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&S Plan Documentation
 The approved E&S plan as well as any approved deviation shall be kept on the site. The approved E&S plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&S plan shall be documented in the manner described:

Item to Document	Documentation Requirements
(a) Each E&S Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&S Plan.	Initial and date each E&S Measure on a copy of the approved E&S Plan or complete, date and sign an inspection report that lists each E&S Measure shown on the approved E&S Plan. This documentation is required upon the initial installation of the E&S Measures or if the E&S Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&S 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&S Plan.	Initial and date a copy of the approved E&S 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&S Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&S Measures.	Initial and date a copy of the approved E&S Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation

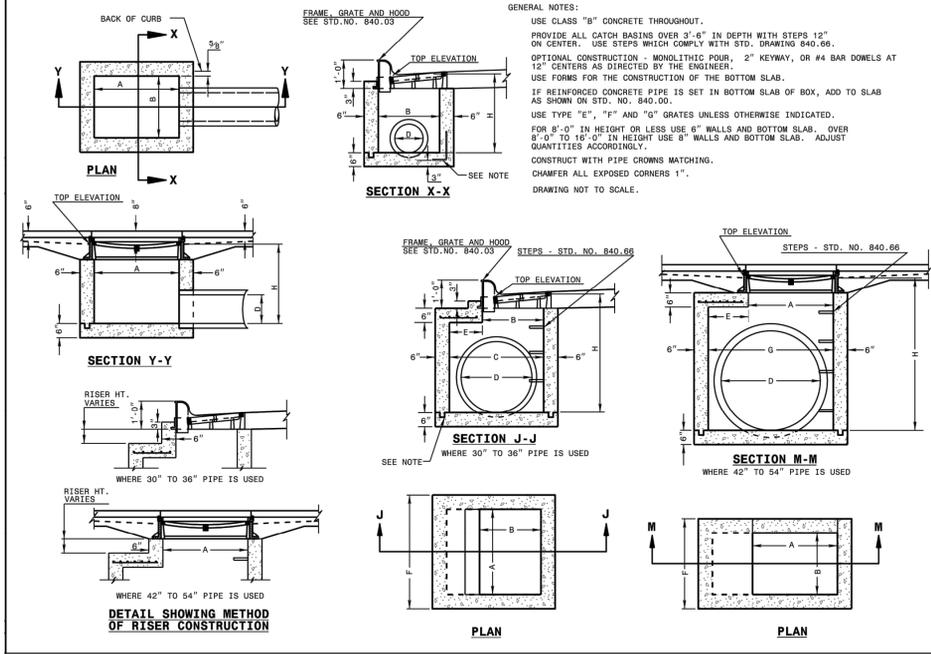
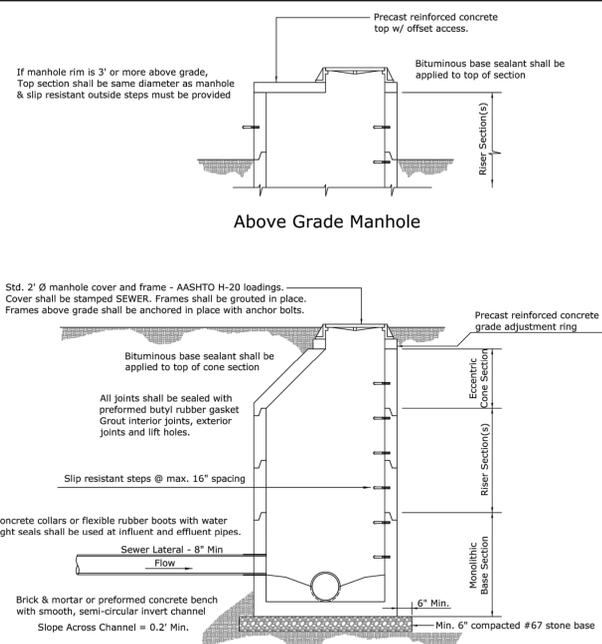
- In addition to the E&S Plan documents above, the following items shall be kept on the site and available for agency inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:
- This general permit as well as the certificate of coverage, after it is received.
 - Records of inspections made during the previous 30 days. 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.
 - All data used to complete the Notice of Intent and older 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 Division's Emergency Response personnel at (800) 662-7956, (800) 858-6368 or (919) 733-3300.

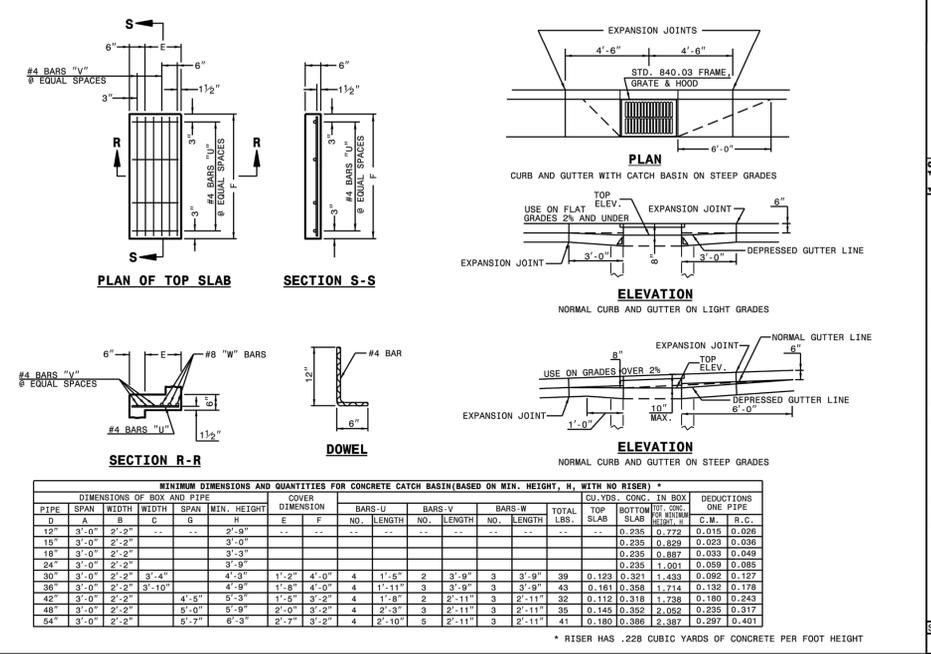
Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)(1) above	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses (40 CFR 122.41(m)(3))	<ul style="list-style-type: none"> A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses (40 CFR 122.41(m)(3))	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment (40 CFR 122.41(l)(7))	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue, and steps taken or planned to reduce, eliminate, and prevent recurrence 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.



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

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

SHEET 1 OF 2
840.02



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

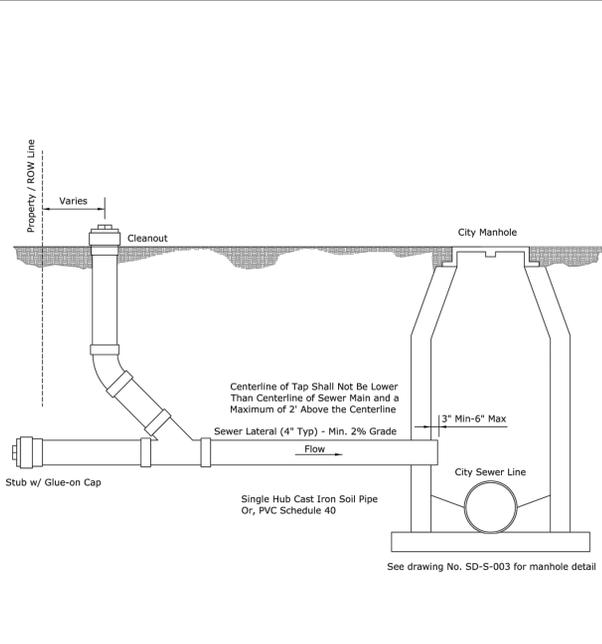
ROADWAY STANDARD DRAWING FOR
 CONCRETE CATCH BASIN
 12" THRU 54" PIPE

SHEET 2 OF 2
840.02

Sanitary Sewer Manhole

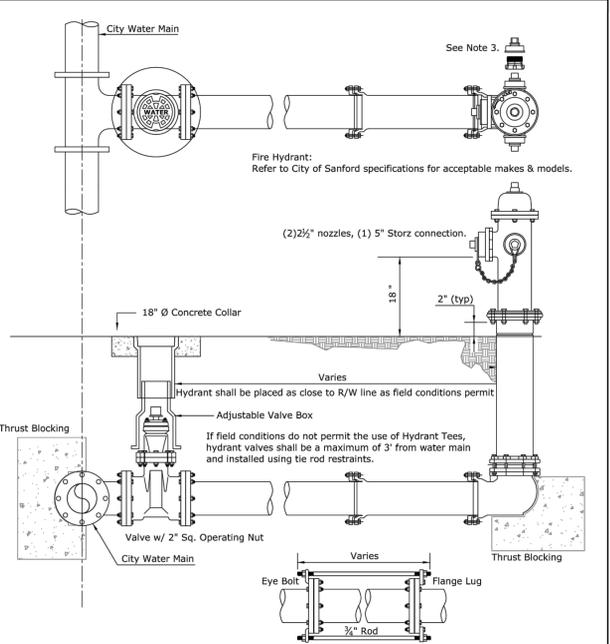
Dwg. No. SD-S-003
 Date: 07/10/14
 Scale: Not To Scale
 Drawn By: Staff

City of Sanford Engineering Dept - P.O. Box 3729 - Sanford, NC 27331



City of Sanford Engineering Dept - P.O. Box 3729 - Sanford, NC 27331

Dwg. No. SD-S-002
 Date: 07/10/14
 Scale: Not To Scale
 Drawn By: Staff



City of Sanford Engineering Dept - P.O. Box 3729 - Sanford, NC 27331

Dwg. No. SD-W-009
 Date: 07/10/14
 Scale: Not To Scale
 Drawn By: Staff

Sewer Tap Into Manhole

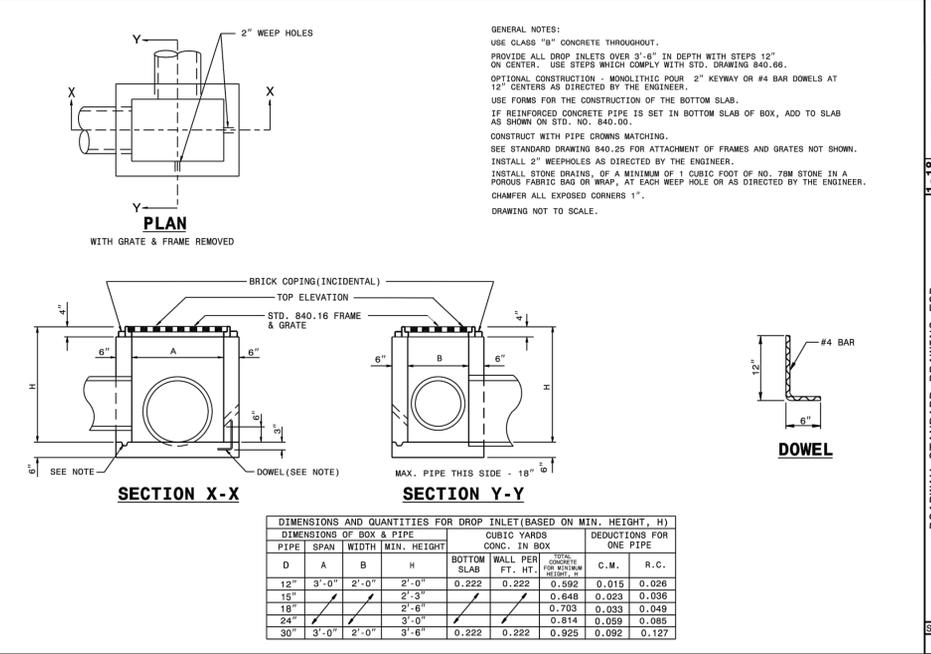
City of Sanford Engineering Dept - P.O. Box 3729 - Sanford, NC 27331

Dwg. No. SD-S-002
 Date: 07/10/14
 Scale: Not To Scale
 Drawn By: Staff

Fire Hydrant Assembly

City of Sanford Engineering Dept - P.O. Box 3729 - Sanford, NC 27331

Dwg. No. SD-W-009
 Date: 07/10/14
 Scale: Not To Scale
 Drawn By: Staff



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

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

SHEET 1 OF 1
840.14



LAST STEP RECYCLING

UTILITY DETAILS

SANFORD, NORTH CAROLINA

PRELIMINARY
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 CONSTRUCTION

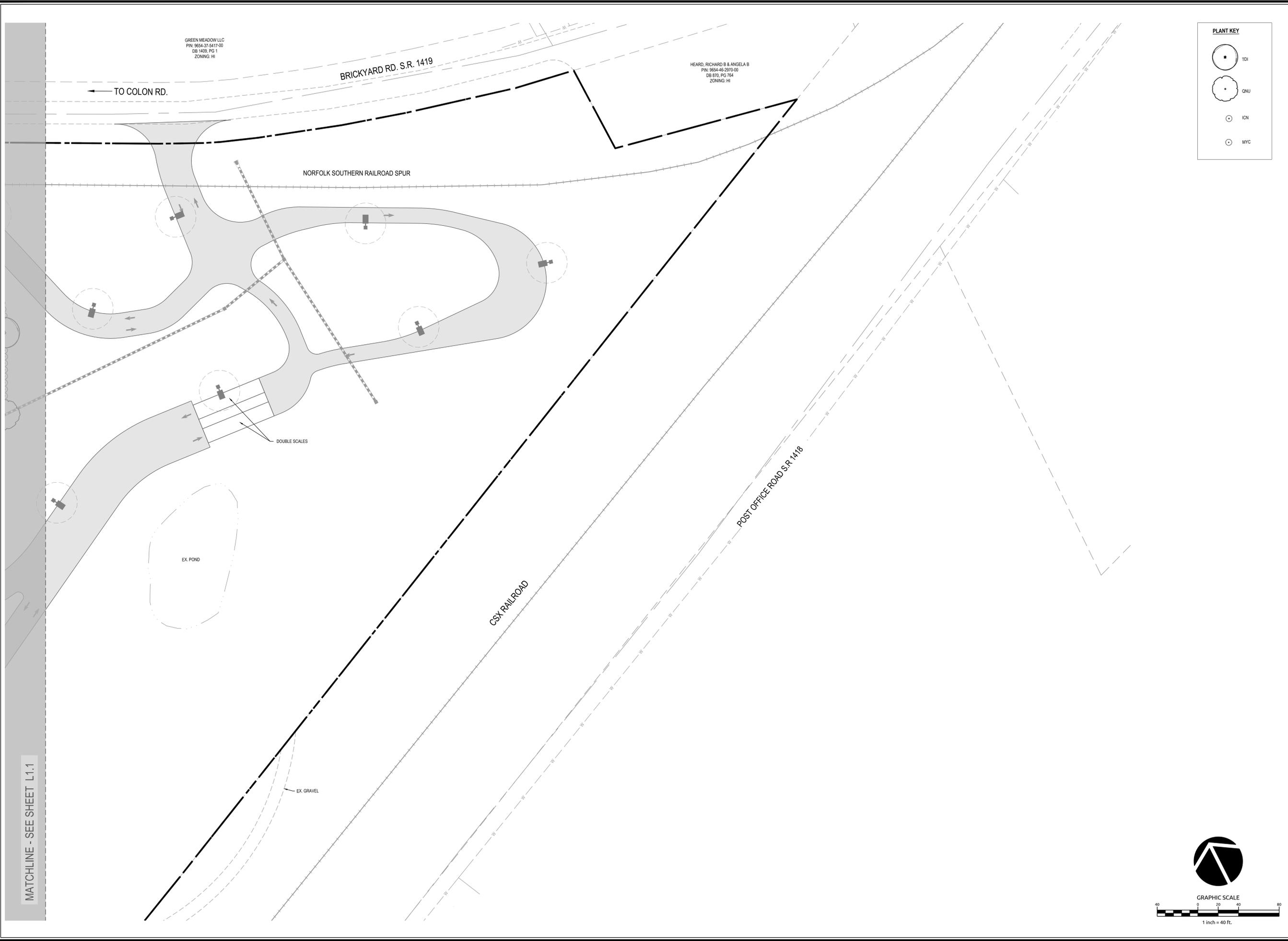
Job No. 02191385.00
 Date 3/31/2020
 Drawn By RSF
 Designer RSF

Revisions

Sheet No.
C6.3

K:\15\15-180\15180-Bldg\Drawings\840.02.dwg: 840.02.dwg: Tuesday, March 31, 2020 11:00:19 AM - BUCHANAN, DAVID

K:\15174-1805\151815\151815-01\Drawings\151815-01\LANDSCAPE PLAN.dwg Thursday, March 31, 2020 11:04:45 AM BUCHANAN, DAVID



GREEN MEADOW LLC
PIN: 9654-37-5417-00
DB 1479, PG 1
ZONING: HI

HEARD, RICHARD B & ANGELA B
PIN: 9654-46-2970-00
DB 670, PG 764
ZONING: HI

PLANT KEY

- TDI
- QNU
- ICN
- MYC

MATCHLINE - SEE SHEET L1.1

GRAPHIC SCALE
1 inch = 40 ft.

WithersRavenel
Engineers | Planners

107 S. Wilmington Street | Suite 200 | Raleigh, NC 27601 | t: 919.469.3940 | license #: C-0632 | www.withersravenel.com

LAST STEP RECYCLING

SANFORD, NORTH CAROLINA

LANDSCAPE PLAN

Job No.	02191385.00	Drawn By	RSF
Date	3/31/2020	Designer	RSF

PRELIMINARY
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CONSTRUCTION
L1EL B - WHAT

Revisions

Sheet No.
L1.2

PREPARATION FOR PLANTED AREAS:

- PERFORM SOIL TESTS FROM EVENLY SPACED SAMPLES IN ORDER TO CALIBRATE FERTILIZER AND LIME NEEDS.
- RIP AND LOOSEN SUBGRADE OF PLANTED AREAS TO A MINIMUM OF DEPTH OF 18". REMOVE STONES AND ANY OTHER DEBRIS OVER 1 1/2" IN ANY DIMENSION. LIMIT PREPARATION TO AREAS WHICH WILL BE PLANTED PROMPTLY AFTER PREPARATION.
 - INCORPORATE 6 INCHES OF 50/50 BLENDED SOIL INTO THE AREAS TO BE PLANTED. PLACE 1/2" DEPTH OF 50/50 SOIL OVER THE AREA AND WORK IT INTO THE TOP OF THE LOOSENED SUBGRADE TO CREATE A TRANSITION LAYER AND THEN PLACE ANOTHER 1/2" DEPTH OF 50/50 SOIL.
- SPREAD AMENDMENTS BASED ON SOIL SAMPLE RESULTS INCLUDING SLOW RELEASE NITROGEN AND TRIPLE SUPERPHOSPHATE FERTILIZER, LIME, AND ORGANIC MATTER.
- IN HEAVY CLAY SOILS WITH LOW CEC PROVIDE HUMIC ACID OR A COMPARABLE PRODUCT TO INCREASE CATION EXCHANGE CAPACITY OF THE SOIL.
- IN HEAVY CLAY SOILS ADD 1 INCH OF STALITE AND INCORPORATE INTO THE TOP 4 INCHES OF SOIL.
- GRADE AREAS TO A SMOOTH AND EVEN SURFACE WITH LOOSE, UNIFORMLY FINE TEXTURE. RAKE, REMOVE RIDGES, AND FILL DEPRESSIONS, AS REQUIRED. LIMIT FINE GRADING TO AREAS THAT CAN BE PLANTED IMMEDIATELY. LIMIT FOOT TRAFFIC.

PREPARATION FOR INSTALLATION OF LAWNS:

- PERFORM SOIL TESTS FROM EVENLY SPACED SAMPLES IN ORDER TO CALIBRATE FERTILIZER AND LIME NEEDS.
- RIP AND LOOSEN SUBGRADE OF LAWN AREAS TO A MINIMUM OF DEPTH OF 6". REMOVE STONES AND ANY OTHER DEBRIS OVER 1 1/2" IN ANY DIMENSION. LIMIT PREPARATION TO AREAS WHICH WILL BE PLANTED PROMPTLY AFTER PREPARATION.
 - PLACE 1/2" DEPTH OF SCREENED TOP SOIL OVER THE LAWN AREA AND WORK IT INTO THE TOP OF THE LOOSENED SUBGRADE TO CREATE A TRANSITION LAYER AND THEN PLACE ANOTHER 1/2" DEPTH OF SCREENED TOP SOIL.
- SPREAD AMENDMENTS BASED ON SOIL SAMPLE RESULTS INCLUDING FERTILIZER, LIME, AND ORGANIC MATTER.
- IN HEAVY CLAY SOILS WITH LOW CEC PROVIDE HUMIC ACID OR A COMPARABLE PRODUCT TO INCREASE CATION EXCHANGE CAPACITY OF THE SOIL.
- ALLOW FOR SOD THICKNESS WHEN FINE GRADING.
- GRADE LAWN AREAS TO A SMOOTH AND EVEN SURFACE WITH LOOSE, UNIFORMLY FINE TEXTURE. ROLL, RAKE, REMOVE RIDGES, AND FILL DEPRESSIONS, AS REQUIRED. LIMIT FINE GRADING TO AREAS THAT CAN BE PLANTED IMMEDIATELY. LIMIT FOOT TRAFFIC.
- MOISTEN PREPARED LAWN AREAS BEFORE PLANTING IF SOIL IS DRY. WATER THOROUGHLY AND ALLOW SURFACE TO DRY BEFORE PLANTING LAWNS. AVOID CREATING MUDDY CONDITIONS.

SEEDING NEW LAWN AREAS AND DAMAGED EXISTING LAWNS:

- PERFORM SOIL TESTS FROM EVENLY SPACED SAMPLES IN ORDER TO CALIBRATE FERTILIZER AND LIME NEEDS.
- RAKE SEED LIGHTLY INTO TOP 1/2" OF SOIL. ROLL LIGHTLY AND WATER WITH FINE SPRAY.
- PROTECT SEEDED AREAS BY LIGHTLY SPREADING WHEAT STRAW MULCH, SPREAD BY HAND, BLOWER OR OTHER SUITABLE EQUIPMENT TO FORM A CONTINUOUS BLANKET IN LOOSE THICKNESS OVER SEEDED AREAS.
- ANCHOR STRAW MULCH BY CRIMPING INTO SOIL WITH SUITABLE MECHANICAL EQUIPMENT.
- ANCHOR STRAW MULCH WITH NETTING FOR SLOPES.
- WATER SOD THOROUGHLY WITH A FINE SPRAY IMMEDIATELY AFTER PLANTING.
- WATER NEWLY SEEDED AREAS AND KEEP MOIST UNTIL NEW GRASS IS ESTABLISHED.

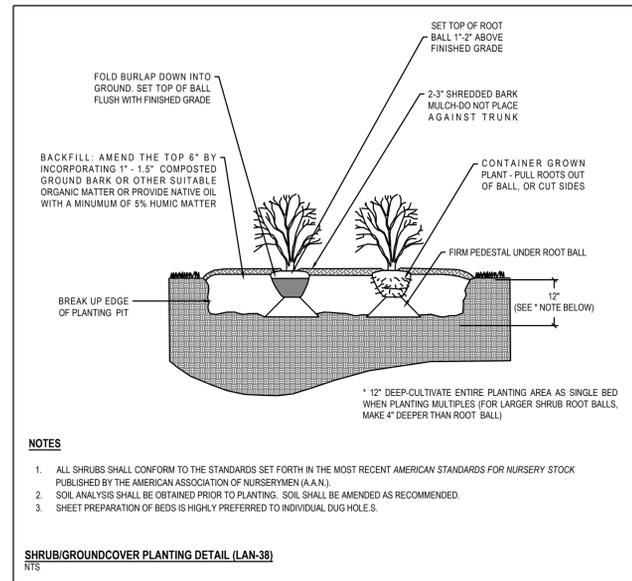
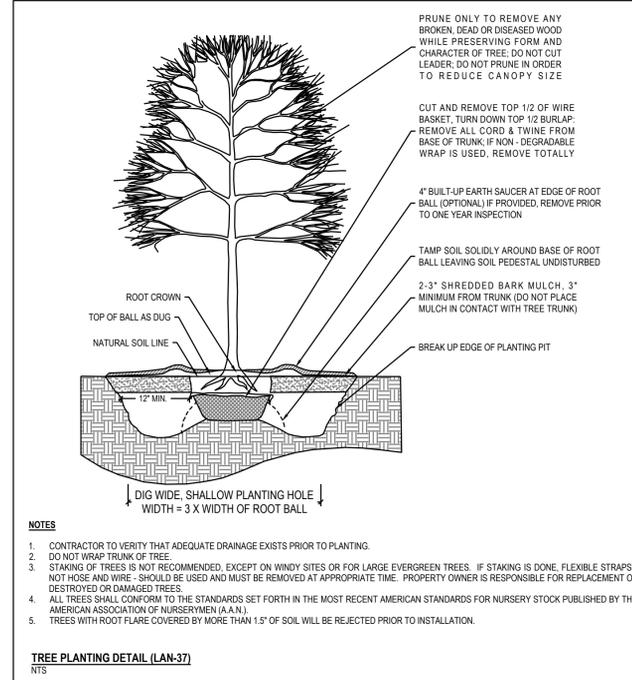
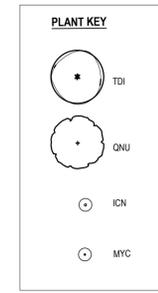
GENERAL MAINTENANCE OF LANDSCAPING AND SITE (UDO):

- 7.8.5.1 THE PROPERTY OWNER, INCLUDING SUBSEQUENT OR SUCCESSOR OWNER, AND THEIR AUTHORIZED AGENTS ARE JOINTLY AND SEVERALLY RESPONSIBLE FOR MAINTENANCE OF LANDSCAPING ON THE PROPERTY ON A CONTINUING BASIS FOR THE LIFE OF THE DEVELOPMENT AS SPECIFIED IN SECTION 7.8.5 OF THE UDO. ALL REQUIRED LANDSCAPING SHALL BE MAINTAINED IN A NEAT AND ORDERLY MANNER AT ALL TIMES. THIS SHALL INCLUDE, BUT IS NOT LIMITED TO, MOWING, EDGING, PRUNING, FERTILIZING, WATERING, WEEDING AND OTHER ACTIVITIES COMMON TO THE MAINTENANCE OF LANDSCAPING.
- 7.8.5.2 LANDSCAPED AREAS SHALL BE KEPT FREE OF TRASH, LITTER, WEEDS AND OTHER MATERIALS OR PLANTS NOT A PART OF THE LANDSCAPING.
- 7.8.5.3 REQUIRED LANDSCAPING SHALL BE MAINTAINED IN PERPETUITY. AFTER INITIAL INSTALLATION, THE OWNER OF THE PROPERTY UPON WHICH THE LANDSCAPING IS INSTALLED SHALL MAINTAIN ALL REQUIRED PLANTINGS IN A HEALTHY, VIGOROUS AND ATTRACTIVE STATE.
- 7.8.5.4 ALL REQUIRED PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY, GROWING CONDITION AS IS APPROPRIATE FOR THE SEASON. PLANT MATERIALS WHICH EXHIBIT EVIDENCE OF INSECT PESTS, DISEASE AND/OR DAMAGE SHALL BE APPROPRIATELY TREATED. DEAD PLANTS SHALL BE PROMPTLY REMOVED AND REPLACED WITHIN THE NEXT PLANTING SEASON AFTER REMOVAL. IF REPLACEMENT IS NECESSARY, ALL PLANTS AND OTHER NON-LIVING LANDSCAPE MATERIALS SHALL BE EQUAL IN SIZE, DENSITY AND APPEARANCE AS ORIGINALLY REQUIRED AT THE TIME OF THE APPROVAL OF THE DEVELOPMENT PERMIT.
- 7.8.5.5 IN THE EVENT THAT REQUIRED LANDSCAPING CANNOT BE INSTALLED AT THE TIME OF REQUESTED CERTIFICATE OF COMPLIANCE, THE APPLICANT MAY REQUEST AN EXTENSION AS SET FORTH IN § 3.2.3.9 OF THIS ORDINANCE.

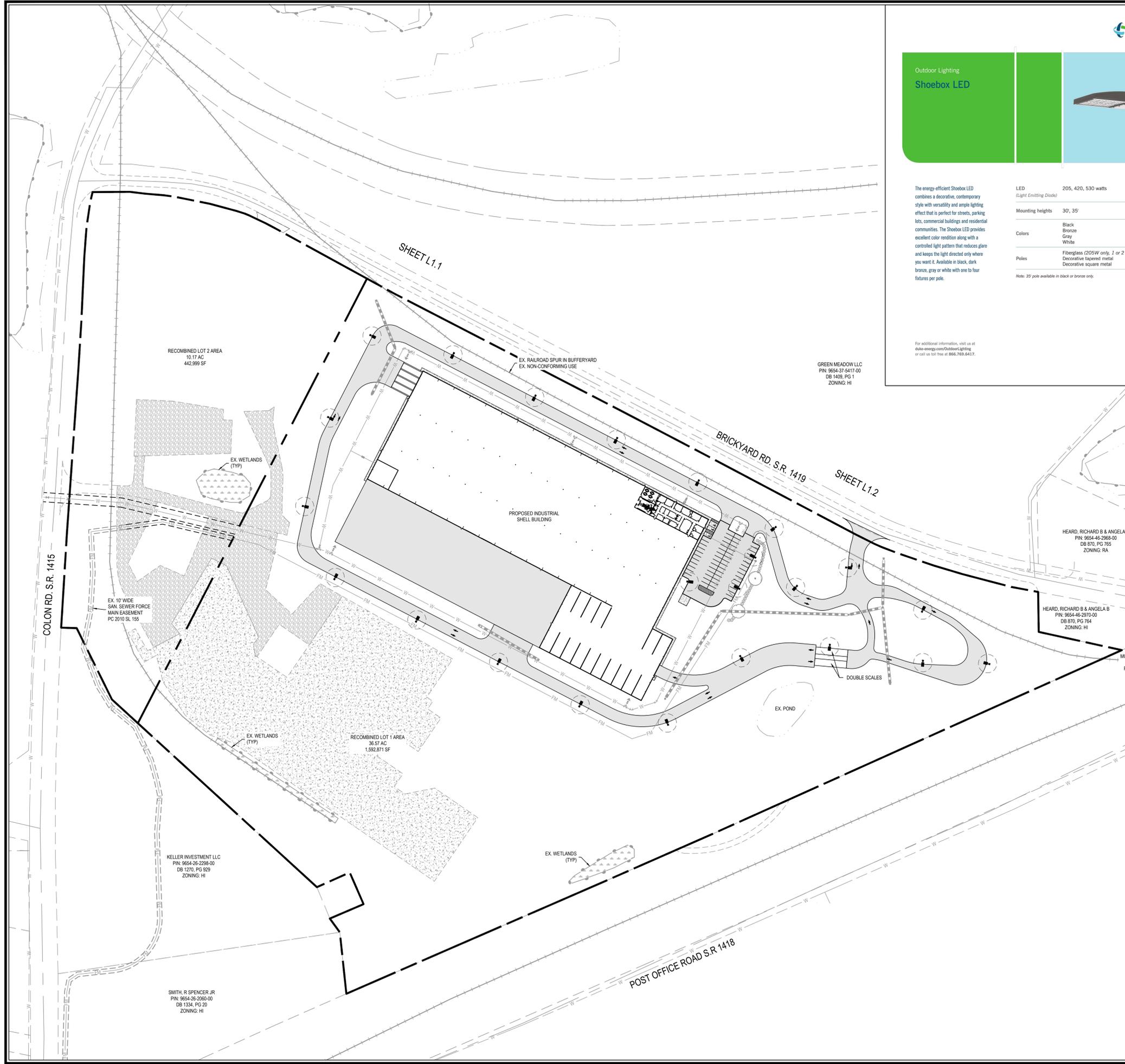
LANDSCAPE NOTES (UDO):

- THE PLANNING AND DEVELOPMENT OFFICER CANNOT ISSUE A CERTIFICATE OF COMPLIANCE UNTIL ALL LANDSCAPING HAS BEEN INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE UDO.
- IN THE EVENT THAT REQUIRED LANDSCAPING CANNOT BE INSTALLED AT THE TIME OF REQUESTED CERTIFICATE OF COMPLIANCE, THE APPLICANT MAY REQUEST AN EXTENSION. THE APPLICANT SHALL MAKE THE FOLLOWING ARRANGEMENTS TO SECURE A TEMPORARY CERTIFICATE OF COMPLIANCE:
 - A SPECIFIC DESCRIPTION OF THE FACTOR(S) HINDERING COMPLETION OR INSTALLATION OF THE REQUIRED IMPROVEMENT(S);
 - A SELF-IMPOSED DEADLINE FOR COMPLETION OF THE INSTALLATION OF THE REQUIRED IMPROVEMENT(S); IN NO EVENT SHALL THE TIMELINE FOR COMPLETION OF SAID IMPROVEMENTS EXTEND FOR MORE THAN ONE (1) YEAR BEYOND THE DATE OF THE REQUEST.
- LANDSCAPING SHALL NOT OBSTRUCT THE VIEWS OF MOTORISTS USING ANY STREET, DRIVEWAY, PARKING AISLES OR THE APPROACH TO ANY STREET INTERSECTION.
- ALL LANDSCAPING INSTALLATIONS MUST COMPLY WITH THE SIGHT TRIANGLE REQUIREMENTS OF THE SANFORD UDO AND PDD.
- PLANT MATERIALS MUST BE HARDY TO ZONE 7B IN ACCORDANCE WITH THE U.S. DEPARTMENT OF AGRICULTURE'S PLANT HARDINESS ZONE MAP.
- PLANT MATERIALS MUST BE ABLE TO SURVIVE ON NATURAL RAINFALL AND ESTABLISH WITH NO LOSS OF HEALTH.
- TREE HEIGHT IS MEASURED FROM THE TOP OF THE ROOT BALL TO THE TIP OF THE MAIN STEM.
- ALL STREET TREES PLANTED TO MEET THE LANDSCAPING REQUIREMENTS MUST BE LOCALLY ADOPTED SPECIES WITH AN EXPECTED MATURE HEIGHT OF 35' OR GREATER UNLESS SUBJECT TO AN OVERHEAD POWER LINE IN WHICH CASE THE MATURE HEIGHT MAY BE LESS.
- ALL LARGE STREET TREES PLANTED TO MEET THE STREET TREE REQUIREMENTS MUST HAVE A MINIMUM CALIPER OF 2.5" AND BE AT LEAST 10' TALL AT TIME OF PLANTING.
- ALL LARGE TREES PLANTED TO MEET THE LANDSCAPING REQUIREMENTS MUST HAVE A MINIMUM CALIPER OF 1.5" TO 2" AND BE AT LEAST 8-10' TALL AT TIME OF PLANTING.
- ALL SMALL TREES PLANTED TO MEET THE LANDSCAPING REQUIREMENTS MUST HAVE A MINIMUM CALIPER OF 1.5" FOR SINGLE-STEM TREES (1" FOR MULTI-STEM TREES), BE AT LEAST 6' TALL AT TIME OF PLANTING, AND REACH AN EXPECTED MATURE HEIGHT OF AT LEAST 10'.
- IN A PARKING AREA, ALL SHRUBS TO MEET THE LANDSCAPING REQUIREMENTS SHALL BE A MINIMUM OF 18 - 24" IN HEIGHT OR SPREAD WHEN PLANTED AND REACH 2 - 5' AT MATURITY.
- IN A PROTECTIVE YARD, ALL SHRUBS PLANTED TO MEET THE LANDSCAPING REQUIREMENTS SHALL BE EVERGREEN AND BE OF A SPECIES THAT UNDER TYPICAL CONDITIONS CAN BE EXPECTED TO REACH A HEIGHT AND SPREAD OF 3' WITHIN THREE YEARS OF PLANTING. ALL SHRUBS SHALL BE A MINIMUM OF 18" TALL WHEN PLANTED.
- BUFFER YARD LANDSCAPE CALCULATIONS SHALL MEET THE POINT VALUE DETERMINED IN SECTION 7.5 OF THE UDO. SHRUBS CANNOT BE PLANTED WITHIN THE CRITICAL ROOT ZONE OF ANY EXISTING TREE.
- EXISTING HEALTHY VEGETATION MAY BE COUNTED TOWARD THE REQUIRED LANDSCAPING, IF IT IS USED AS A YEAR-ROUND SIGHT OBSTRUCTION BUFFER.
- NO REQUIRED LANDSCAPING OR SCREENING SHALL BE PLANTED INSIDE UTILITY AND DRAINAGE EASEMENTS, EXCLUDING OVERHEAD EASEMENTS, WITHOUT THE CONSENT OF THE CITY AND THE EASEMENT HOLDER.
- SIGNIFICANT CHANGES TO THE APPROVED LANDSCAPE PLAN THAT REQUIRE THE REPLACEMENT AND RELOCATION OF MORE THAN 25% OF THE PLANT MATERIALS SHALL REQUIRE A NEW LANDSCAPE PLAN AND APPROVAL THROUGH THE PLAN REVIEW PROCESS.

QTY	KEY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	HEIGHT	NOTES
LARGE TREES							
2	ONU	<i>Quercus nuttallii</i>	Nuttall Oak	B&B	2' CAL. MIN.	8' HT. MIN.	MATCHED
1	TDI	<i>Taxodium distichum</i>	Bald Cypress	B&B	2' CAL. MIN.	8' HT. MIN.	MATCHED
SHRUBS							
16	ICN	<i>Ilex cornuta 'Needpoint'</i>	Needpoint Holly	CONT.	7 GAL. MIN	36" HT. MIN	MATCHED
8	MYC	<i>Myrica cerifera</i>	Southern Wax Myrtle	CONT.	7 GAL. MIN	36" HT. MIN	MATCHED



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Outdoor Lighting Shoebox LED

Light source: LED (white)
 Replacement for* LED Wattage 205 - up to 400-watt metal halide; LED Wattage 420; LED Wattage 530 - 1,000-watt metal halide
 Warm-up and restrike time: Instant on (no warm-up or restrike time)

Wattage	BMG Rating	Light Pattern	Lumens	Color Temp
LED 205	B5-U0-G3	IESNA Type V (circular)	21,803	4,000K
LED 205	B3-U0-G4	IESNA Type IV (forward throw)	20,555	
LED 205	B2-U0-G4	IESNA Type III (oval)	21,164	
LED 420	B5-U0-G5	IESNA Type V (circular)	43,317	
LED 420	B3-U0-G5	IESNA Type IV (forward throw)	39,078	
LED 530	B5-U0-G5	IESNA Type V (circular)	53,498	
LED 530	B3-U0-G5	IESNA Type IV (forward throw)	48,262	

* These are approximate replacement suggestions; actual conditions could be different.

Poles available:

Name	Mounting height	Color
Round tapered decorative metal*	35'	Black Bronze
Decorative square metal*	30'	Black Bronze Gray White
Fiberglass	30'	Black (205W only, 1 or 2 fixtures per pole) Gray (530W only, 1 or 2 fixtures per pole)

Features

- Little or no installation cost
- Design services by lighting professionals included
- Maintenance included
- Electricity included
- Warranty included
- One low monthly cost on your electric bill
- Turnkey operation
- Backed by over 40 years of experience

Benefits

- Frees up capital for other projects
- Meets industry standards and lighting ordinances
- Eliminates high and unexpected repair bills
- Less expensive than related service
- Worry-free
- Convenience and savings for you
- Provides hassle-free installation and service
- A name you can trust today ... and tomorrow

©2017 Duke Energy Corporation 170288 9/17

Outdoor Lighting Shoebox LED

The energy-efficient Shoebox LED combines a decorative, contemporary style with versatility and ample lighting effect that is perfect for streets, parking lots, commercial buildings and residential communities. The Shoebox LED provides excellent color rendition along with a controlled light pattern that reduces glare and keeps the light directed only where you want it. Available in black, dark bronze, gray or white with one to four fixtures per pole.

LED (Light Emitting Diode) 205, 420, 530 watts

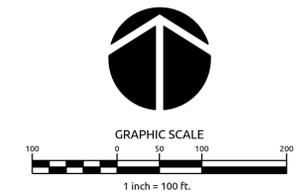
Mounting heights 30', 35'

Colors Black
Bronze
Gray
White

Poles Fiberglass (205W only, 1 or 2 fixtures per pole)
Decorative tapered metal
Decorative square metal

Note: 35' pole available in black or bronze only.

For additional information, visit us at duke-energy.com/OutdoorLighting or call us toll free at 866.769.6417.

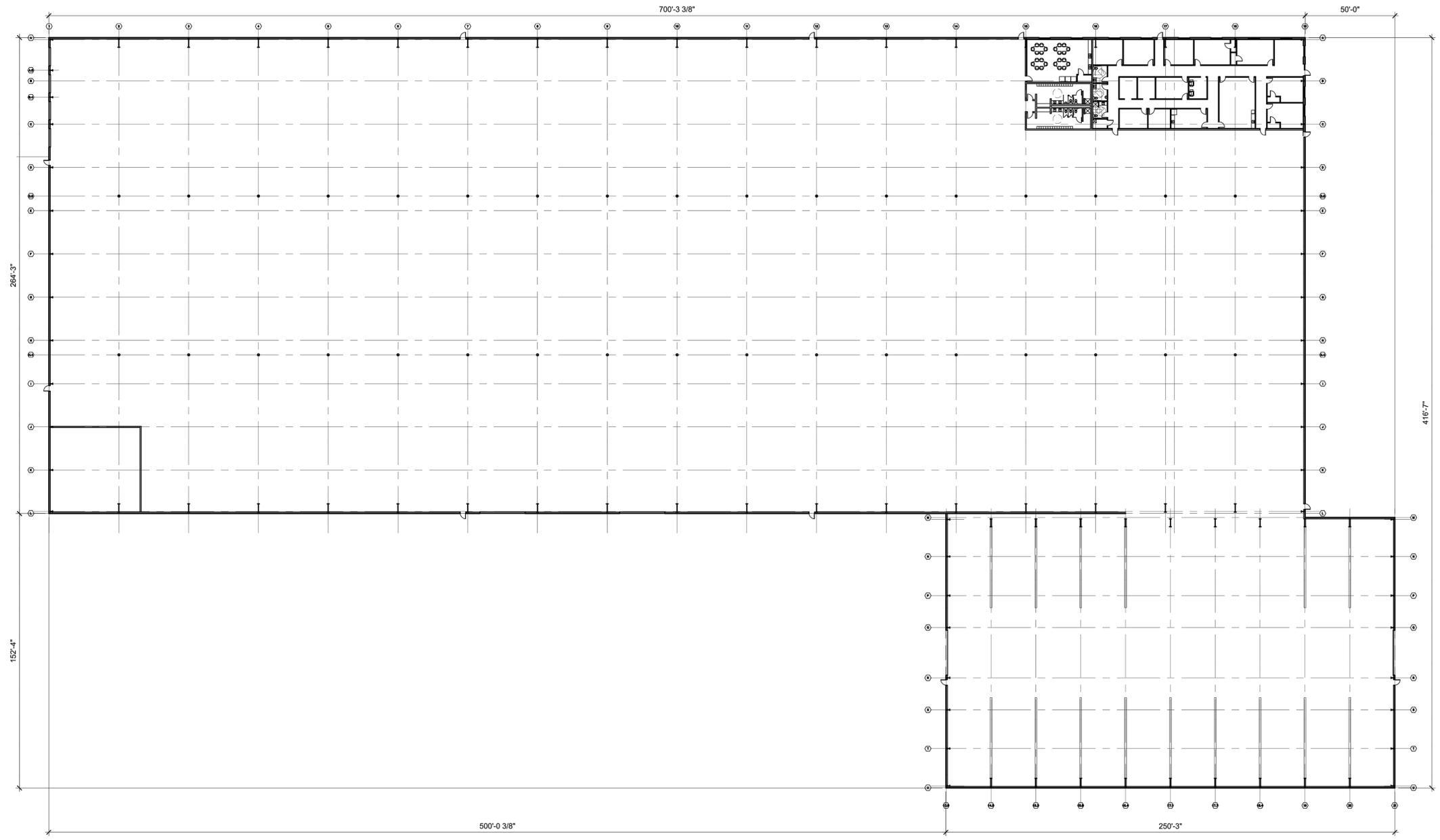


Job No. 02191385.00	Drawn By RSF
Date 3/31/2020	Designer RSF



Revisions

PRELIMINARY
 NOT FOR CONSTRUCTION



LAST STEP RECYCLING

Brickyard Road
 Sanford, NC 27330

PROJECT #	20034	
DATE:	03.31.2020	
DRAWN BY:	WBS	
CHECKED BY:	DBB, WBS	
NO.	REVISION	DATE

First Floor Plan - Overall



TYPICAL MATERIALS

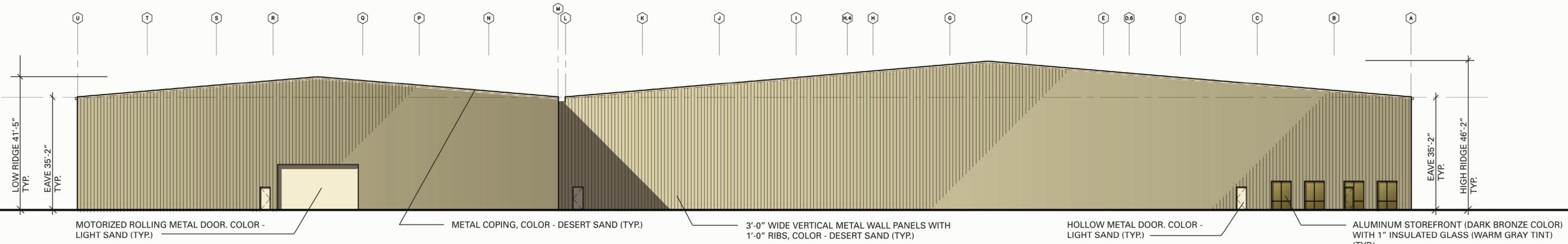
3'-0" WIDE VERTICAL METAL WALL PANELS WITH 1'-0" RIBS, COLOR - DESERT SAND (METAL ROOF SIM.)



ALUMINUM STOREFRONT (DARK BRONZE COLOR) WITH 1" INSULATED GLASS (WARM GRAY TINT)

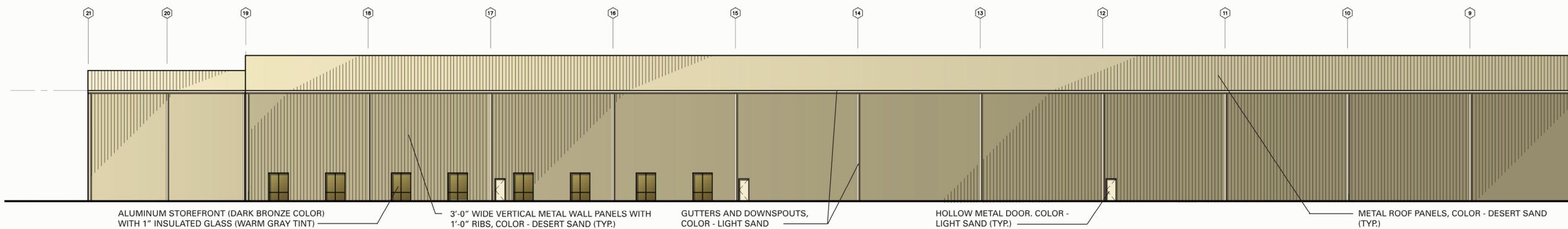


MOTORIZED ROLLING METAL DOOR. COLOR - LIGHT SAND



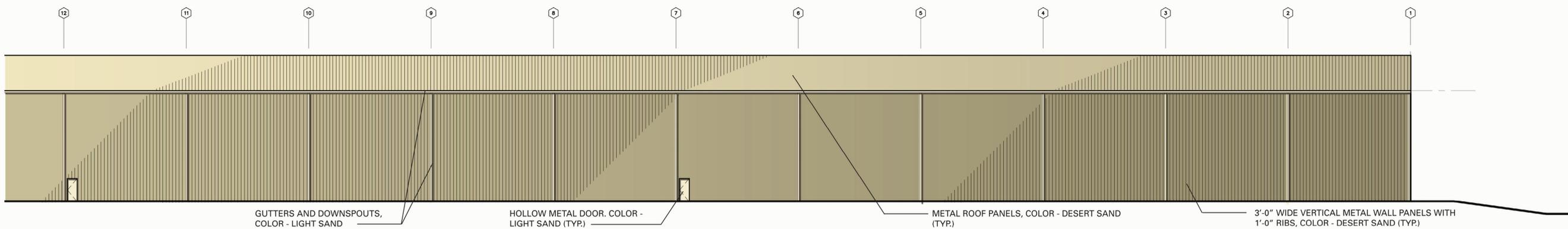
EXTERIOR ELEVATION - EAST 03

Scale: 1/16" = 1'-0"



EXTERIOR ELEVATION - NORTH (EAST END) 02

Scale: 1/16" = 1'-0"



EXTERIOR ELEVATION - NORTH (WEST END) 01

Scale: 1/16" = 1'-0"

PRELIMINARY
NOT FOR CONSTRUCTION

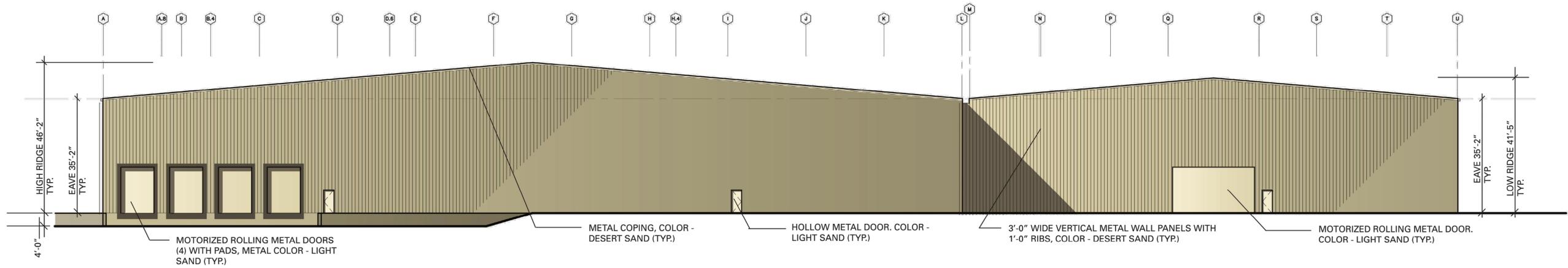
LAST STEP RECYCLING

Brickyard Road
Sanford, NC 27330

PROJECT #	20034	
DATE:	03.31.2020	
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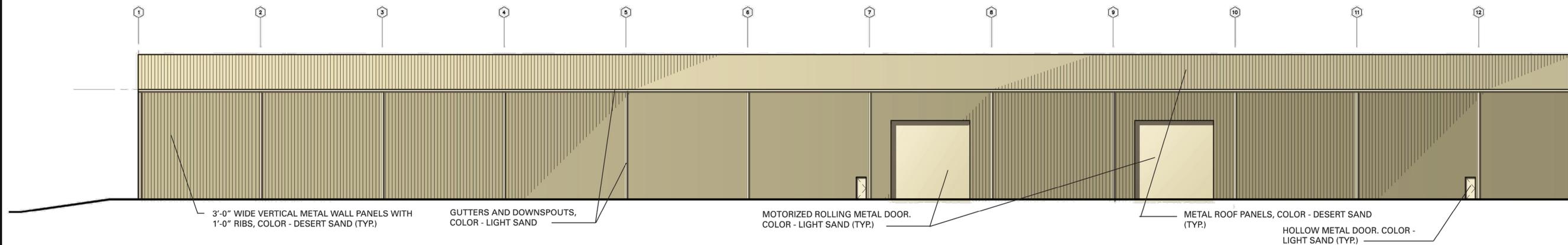
Exterior Elevations
North & East

PRELIMINARY
NOT FOR CONSTRUCTION



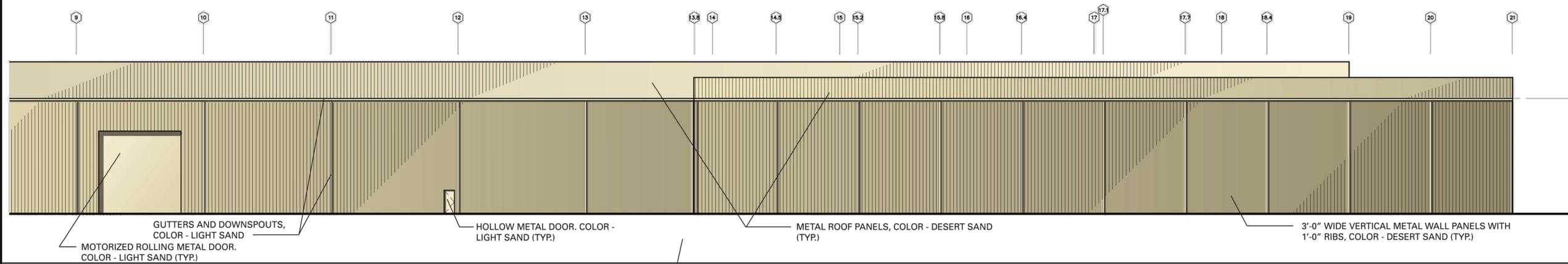
EXTERIOR ELEVATION - WEST 03

Scale: 1/16" = 1'-0"



EXTERIOR ELEVATION - SOUTH (WEST END) 02

Scale: 1/16" = 1'-0"



EXTERIOR ELEVATION - SOUTH (EAST END) 01

Scale: 1/16" = 1'-0"

LAST STEP RECYCLING

Brickyard Road
Sanford, NC 27330

PROJECT #	20034	
DATE:	03.31.2020	
DRAWN BY:	WBS	
CHECKED BY:	DBB, WBS	
NO.	REVISION	DATE

Exterior Elevations
South & West

A4.02