

INDEX

COVER COVER **BOUNDARY SURVEY** SITE PLAN/CONSTRUCTION PLAT STREET "A" PLAN + PROFILE STREET "B" + "C" PLAN + PROFILE UTILITY PLAN GRADING + DRAINAGE PLAN CE-07 EROSION CONTROL PLAN CE-08 LANDSCAPE PLAN LIGHTING PLAN CE-10 STORMWATER DETAIL - SCM#1 STORMWATER DETAIL - SCM#2 STORMWATER DETAIL - SCM#3 D-01 EC NOTES AND DETAILS D-02 EC NOTES AND DETAILS D-03 NPDES NOTES AND DETAILS D-04 NPDES NOTES AND DETAILS D-05 CONSTRUCTION NOTES D-06 SMITHFIELD WATER DETAILS D-07 SMITHFIELD WATER DETAILS D-08 SMITHFIELD SEWER DETAILS D-09 SMITHFIELD SEWER DETAILS D-10 SMITHFIELD SITE NOTES + DETAILS D-11 STREAM + WETLAND IMPACT DETAIL D-12 ENTRANCE SIGN AND OPEN SPACE D-13 OPEN SPACE DETAIL

WHITLEY TOWNES

(68 UNITS)

SMITHFIELD, JOHNSTON COUNTY, NORTH CAROLINA

SMITHFIELD REVIEW SET - MARCH 31, 2022

LOCATION:	SMITHFIELD,
CURRENT OWNER:	JOHNSTON COUNTY, NC
COUNTY:	•
TOWNSHIP:	
PIN:	
PARCEL ID:	
DB/PG	
ZONING:	•
	REQUIRES SS
SETBACKS:	
FRONT YARD35'	
SIDE YARD15'	
REAR YARD25'	
EXISTING USE:	VACANT
PROPOSED USE:	SINGLE FAMILY ATTACHED
WATER:	PUBLIC
SEWER:	PUBLIC
STANDARD PARKING STALL:	9' X 19'
SITE ACREAGE:	10.74 AC.
	0.87 AC. (TO BE ACQUIRED)
TOTAL SITE ACREAGE:	11.61 AC.
LINEAR FOOTAGE OF STREET	1,640 LF
PRIVATE	
PUBLIC	700 LF
OPEN SPACE REQUIRED:	1,640 LF
OPEN SPACE PROVIDED:	1 640 15

BUILT UPON AREA:

STREETS/PARKING:SIDEWALKS: DRIVEWAYS:	
	_70,448 SF (1.62 AC)
SITE ACREAGE: TOTAL BUILT UPON AREA:	_ 11.61 AC. _ 4.34 AC. (37.4%)

- 2. THE CONTRACTOR SHALL NOTIFY AND COOPERATE WITH ALL UTILITY COMPANIES OF FIRMS HAVING FACILITIES ON OR ADJACENT TO THE SITE BEFORE DISTURBING, ALTERING, REMOVING, RELOCATING,
- 4. ALL STRUCTURAL FILL MATERIAL SHALL BE FREE OF ALL STICKS, ROCKS, AND CLUMPS OF MUD.
- 5. UNUSABLE EXCAVATED MATERIALS AND ALL WASTE RESULTING FROM CLEARING AND GRUBBING SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR IN AN APPROVED SOLID WASTE LANDFILL
- 6. PROPOSED ROADWAY CONSTRUCTION WITH WATER AND S.S.. STREETS TO HAVE STANDARD 24" CURB ON PUBLIC STREETS AND ROLL CURB IN PARKING AND ON PRIVATE STREETS
- 8. CONCRETE SUB SHALL BE RESPONSIBLE FOR ALL SCORE JOINTS AND EXPANSION JOINTS. CONTRACTOR TO SUBMIT PROPOSED SCORE JOINT PLAN TO THE ENGINEER PRIOR TO POURING.
- 10. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE AND MUST BE FIELD VERIFIED. CONTACT THE NC ONE CALL CENTER AT LEAST 72 HOURS PRIOR TO DIGGING © 811. TRUE LINE SURVEYING HAS ONLY LOCATED THE UTILITIES THAT ARE ABOVE GROUND AT THE TIME OF FIELD SURVEY. UNDERGROUND LINES SHOWN HEREON ARE APPROXIMATE OR AS REPORTED BY VARIOUS RESPONSIBLE PARTIES. THE SURVEYOR DOES NOT GUARANTEE THAT ANY UNDERGROUND STRUCTURES SUCH AS UTILITIES, TANKS AND PIPES ARE LOCATED HEREON.

- 12. ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES, REGULATIONS, AND/OR LOCAL STANDARDS IMPOSED BY LOCAL UTILITY, NCDOT, JOHNSTON COUNTY, AND FLOWERS PLANTATION.
- 13. ALL CONSTRUCTION AND MATERIALS SHALL MEET SMITHFIELD. JOHNSTON COUNTY, AQUA, AND NCDOT SPECIFICATIONS AND STANDARDS, LATEST EDITION. ALL WORK WITHIN NCDOT RIGHT-OF-WAY SHALL MEET THE SPECIFICATIONS AND STANDARDS OF NCDOT.
- 14. ALL CONCRETE PIPE IS TO BE ASTM C-76, CLASS III WITH RAM-NEK, UNLESS OTHERWISE NOTED.
- 15. THIS PROPERTY IS NOT LOCATED IN A FLOOD HAZARD ZONE.
- 17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ZONE TRAFFIC CONTROL IN OR ADJACENT TO NCDOT RIGHT-OF-WAY. ALL SIGNS, PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROL

- DESIGN/FIELD CONDITIONS QUITE EASILY MAY VARY FROM THAT REPRESENTED IN THE INITIAL SOILS REPORT AND/OR TOPOGRAPHICAL REPORT. ISOLATED AREAS MAY SHOW UP WEAK AND ADVERSE
 SOILS OR GROUNDWATER CONDITIONS MAY BE DISCOVERED THAT WERE NOT REVEALED DURING THE INITIAL SOILS INVESTIGATION. THEREFORE, THE OWNER/CLIENT IS TO BE AWARE THAT STOCKS
 ENGINEERING WILL NOT AND CANNOT BE HELD RESPONSIBLE FOR ANY FAILURES TO EITHER A STREET OR PARKING LOT PAVEMENT DESIGN UNLESS WE CAN BE FULLY AND TOTALLY INVOLVED IN THE
 CONSTRUCTION PROCESS WHICH MAY INCLUDE, BUT MAY NOT NECESSARILY BE LIMITED TO, TESTING SUBGRADE AND BASE DENSITY, ENGAGING THE DESIGN ENGINEER FOR THE EVALUATION OF THE
 SUBGRADE AND FOR THE OBSERVATION OF PROOF ROLLING SUBGRADE AND BASE AT VARIOUS STEPS OF CONSTRUCTION, OPPORTUNITY FOR THE DESIGN ENGINEER TO CALL IN A SOILS ENGINEER
 FOR CONSULTATION AND ADVICE, ETC. STEPS WHICH TAKEN ALTOGETHER WITH THE INITIAL DESIGN SHOWN ON THE PLANS, CONSTITUTE THE COMPLETE DESIGN OF THE ROAD, STREET OF PARKING
 AREA (PRIVATE OR PUBLIC). THE DESIGN ENGINEER MUST BE GIVEN THE FULL LATITUDE AND OPPORTUNITY TO COMPLETE THE DESIGN BY FULLY PRESIDE IS TO HAVE THE DESIGN. FINISHED STRONGESS, PLANS
 DESIGN OF THE OWNERS, COLUMN OF THE DESIGN AND CANNOT BE SERVED FROM THE CONSTRUCTION BROCESS.
- 20. ALL UTILITY SERVICES, (POWER, TELEPHONE, CABLE, ETC.) ARE PROPOSED TO BE UNDERGROUND. DO NOT SOD, SEED OR MULCH DISTURBED AREAS UNTIL ALL UNDERGROUND UTILITIES HAVE BEEN INSTALLED.

- 24. REGULATORY SIGNS, STOPS SIGNS AND ADA SIGNS SHALL BE MANUFACTURED FROM HIGH INTENSITY REFLECTIVE MATERIALS
- 25. ALL EXCESS TOPSOIL AND UNCLASSIFIED EXCAVATION IS TO BE HAULED OFF-SITE, UNLESS OTHERWISE DIRECTED BY THE OWNER.
- 26. ALL SITE CONSTRUCTION MUST BE INSPECTED BY THE PROJECT ENGINEER AT THE FOLLOWING STAGES:
 A. COMPLETION OF GRADING SUBGRADE PRIOR TO PLACING STONE BASE.
 B. COMPLETION OF STONE PLACEMENT PRIOR TO PAVING.
- C. FINAL INSPECTION WHEN ALL WORK IS COMPLETE.
- 27. THE SURVEYOR DID NOT VISIBLY SEE ANY CEMETERIES IN ANY OPEN AREAS UNLESS OTHERWISE NOTED. 28. THIS PROPERTY DOES NOT DEPICT ENCUMBRANCES THAT ARE FOUND DURING A THOROUGH TITLE SEARCH.
- 29. ALL HVAC UNITS FOR THE PROPOSED BUILDING WILL BE SCREENED FROM PUBLIC RIGHT OF WAY.
- 30. ALL CURB AND GUTTER IN PUBLIC ROW SHALL BE 24" STANDARD CURB AND GUTTER. ALL CURB AND GUTTER WITHIN NCDOT R/W SHALL BE VALLEY CURB AND GUTTER.
- 31. ALL CURB AND GUTTER AND SIDEWALK CONCRETE IS TO BE MINIMUM 3,000 PSI AT 28 DAYS, AIR ENTRAINED. 32. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- 33. PROVIDE HANDICAP SIGNS, MARKING AND RAMPS AS SHOWN
- 34. HANDICAP RAMPS ARE TO MEET "ADA ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES" AS DETAILED IN THE FEDERAL REGISTER, VOLUME 56, NUMBER 144 DATED JULY 26, 1991, RULES AND REGULATIONS ACTIVATED JANUARY 26, 1992. FOR ADDITIONAL INFORMATION, REFER TO THE NC STATE BUILDING CODE VOLUME 1-C, "MAKING BUILDINGS AND FACILITIES ACCESSIBLE TO THE USEABLE BY THE PHYSICALLY HANDICAPPED", 1991 EDITION. ALL STREET RETURNS TO HAVE H.C. RAMPS. H.C. RAMPS SHALL MEET NCDOT STANDARDS/SPECIFICATIONS.
- 35. CONTRACTOR SHALL NOT POUR ANY CONCRETE BEFORE FORMS ARE INSPECTED BY THE PROJECT ENGINEER AND/OR OWNER. ANY CONCRETE THAT HAS NOT BEEN APPROVED BY THE ENGINEER

GOVERNING AGENCIES:

PLANNING: SMITHFIELD PLANNING AND ZONING 350 E. MARKET STREET SMITHFIELD, NC 27577

CONTACT:

PUBLIC UTILITIES: SMITHFIELD PUBLIC UTILITIES PO BOX 761 350 E. MARKET STREET SMITHFIELD, NC 27577

EROSION CONTROL: NCDEQ-DEMLR RALEIGH REGIONAL OFFICE 3800 BARRETT DR. RALEIGH, NC 27609 CONTACT:

(919) 791-4200

CONTRACT: (919) 934-2116 (919) 934-2798

UTILITY AGENCIES:

WATER & SEWER: SMITHFIELD PUBLIC UTILITIES PO BOX 761 350 E. MARKET STREET

SMITHFIELD, NC 27577 CONTRACT:

(919) 934-2798

NATURAL GAS UNKNOWN

Owner/Developer:

J&J Flowers Finch, Inc. 4884 NC 42 E. Clayton, NC 27527 Contact: Jordan Finch 919-291-4838 jordan@greyheronconstruction.com

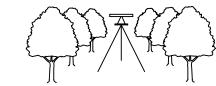
Civil Engineering:



Contact: J. Michael Stocks, PE mstocks@stocksengineering.com License Number: 19843

Surveyor:

TRUE LINE SURVEYING, P.C.

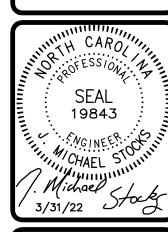


CLAYTON, N.C. 27520 TELEPHONE: (919) 359-0427 FAX: (919) 359-0428 www.truelinesurveying.com

Contact: Curk Lane, PLS curk@truelinesurveying.com License Number: L-3990



BLN=C-1874



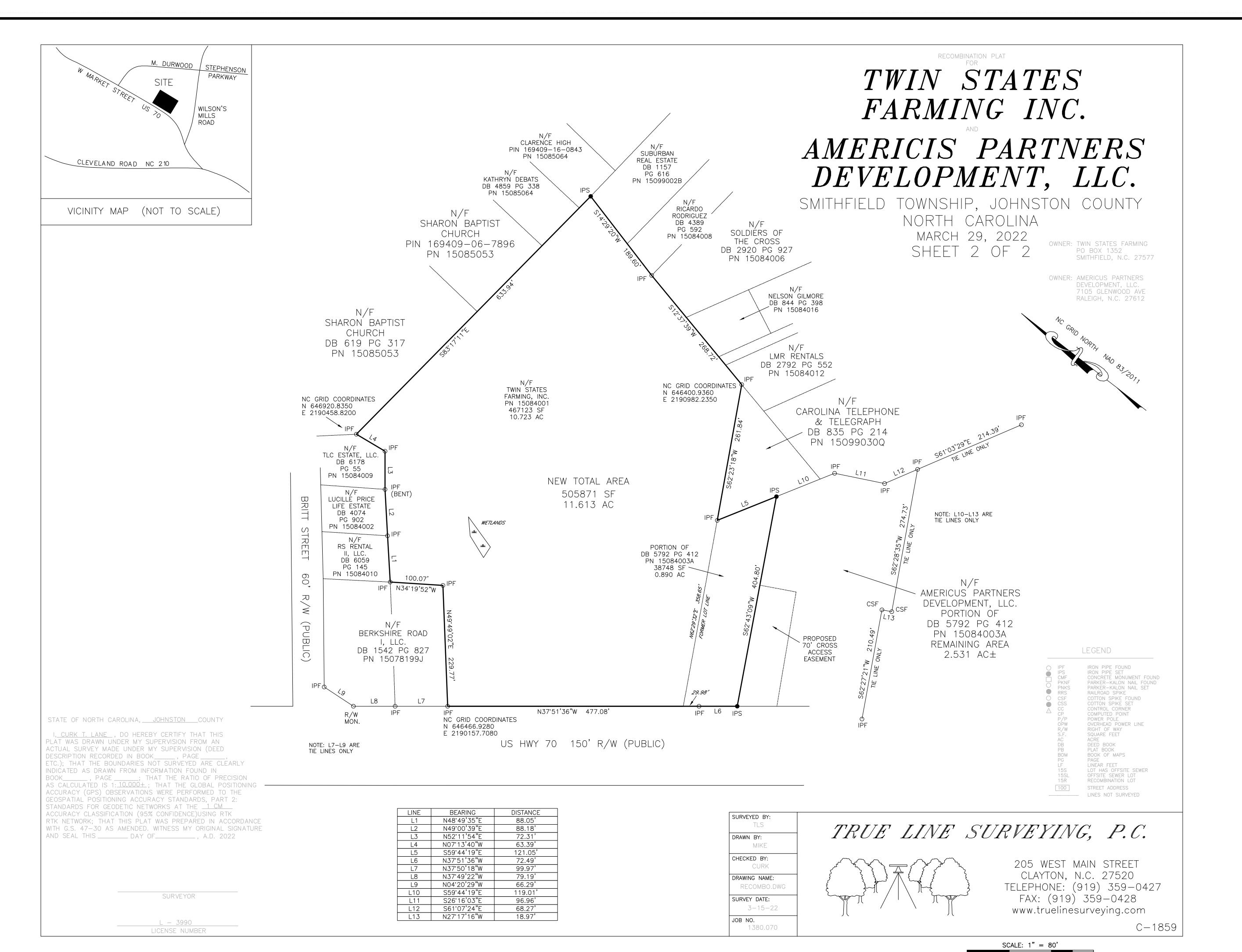
SIMI

COVER SHEET

REVISIONS

FILE NO. 2021-001 1"=50" HORZ. SCALE: VERT. SCALE: NONE

COVER



INGTON STREET

P.O. BOX 1108

27856

WANN STOCKSENGINE FING COM

PHONE: (252) 459–8196

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TLEY TOWNES - 68 TOWNHOME UNITS THFIELD, JOHNSTON COUNTY, NORTH CAL



BOUNDARY SURVEY

REVISIONS

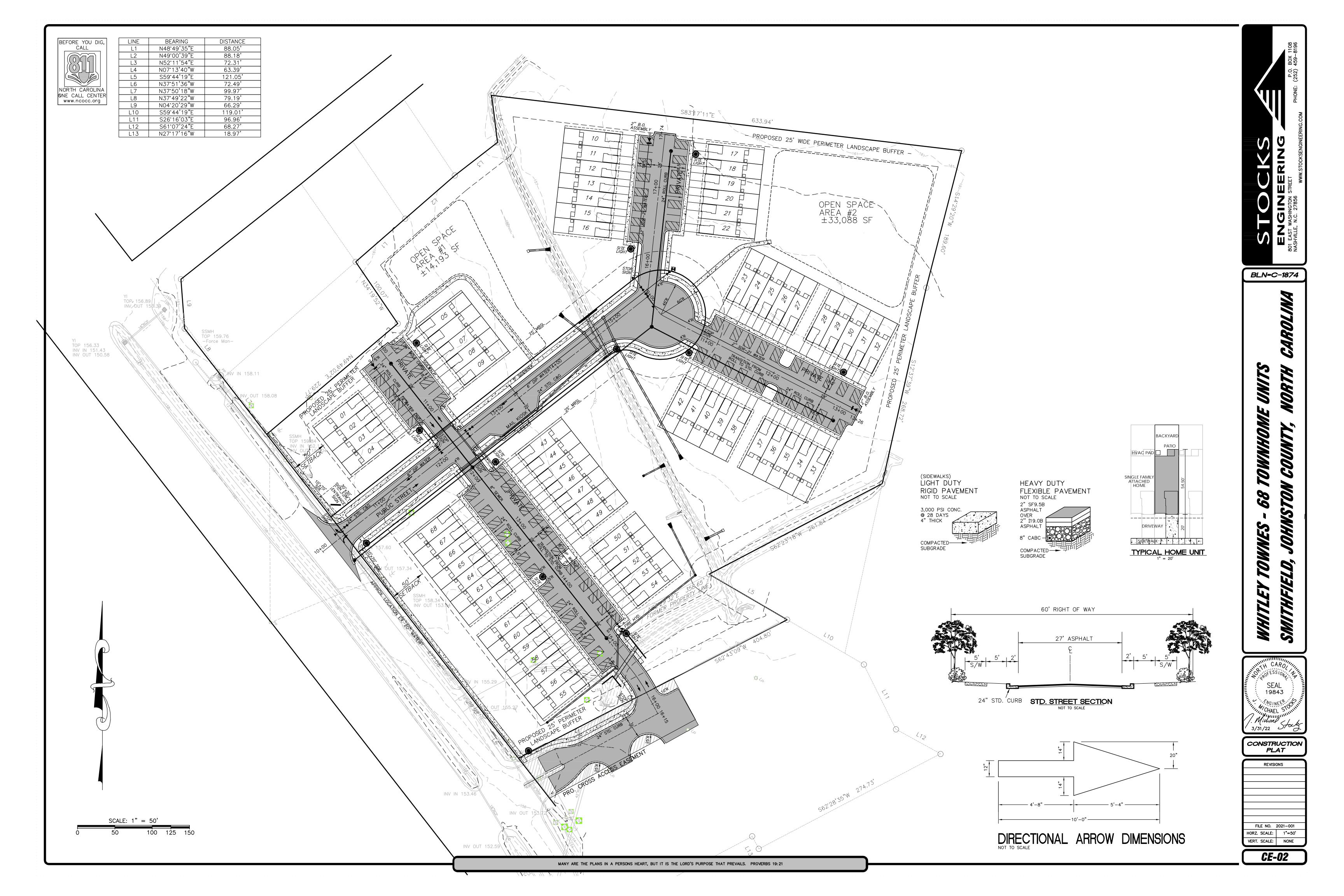
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 1"=50'

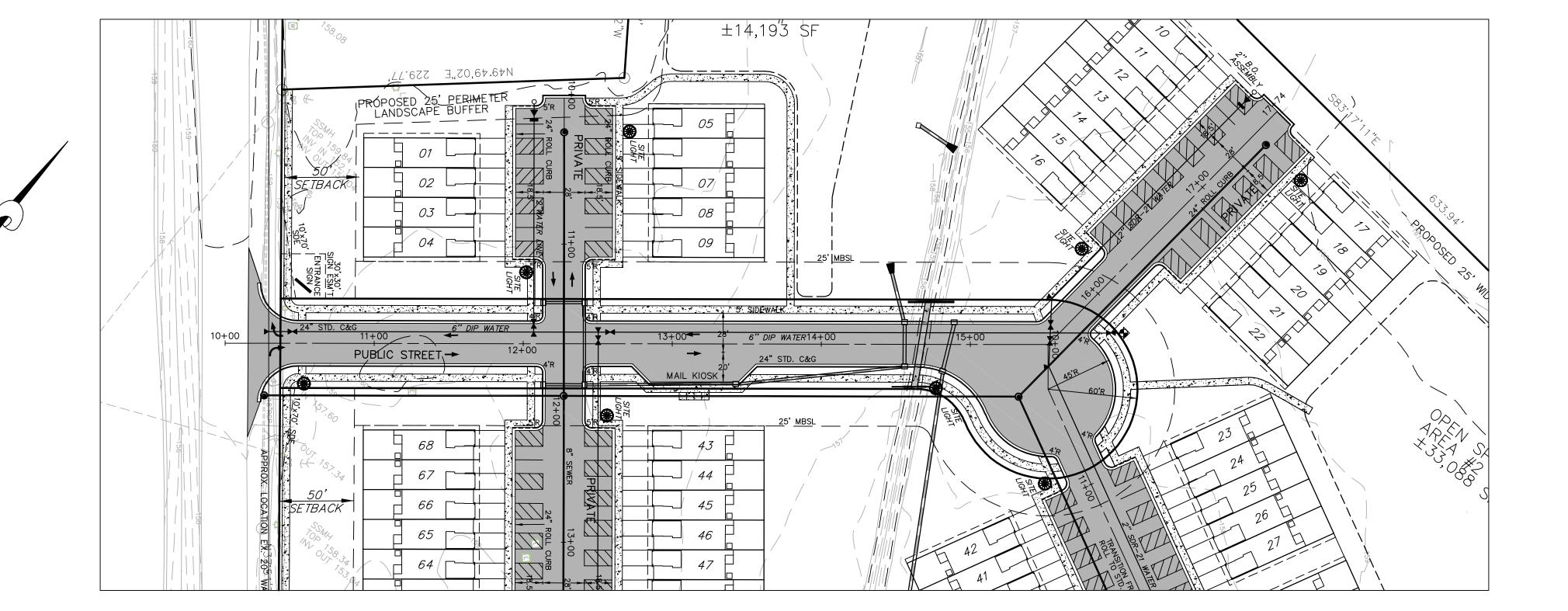
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 SCALE:
 NONE

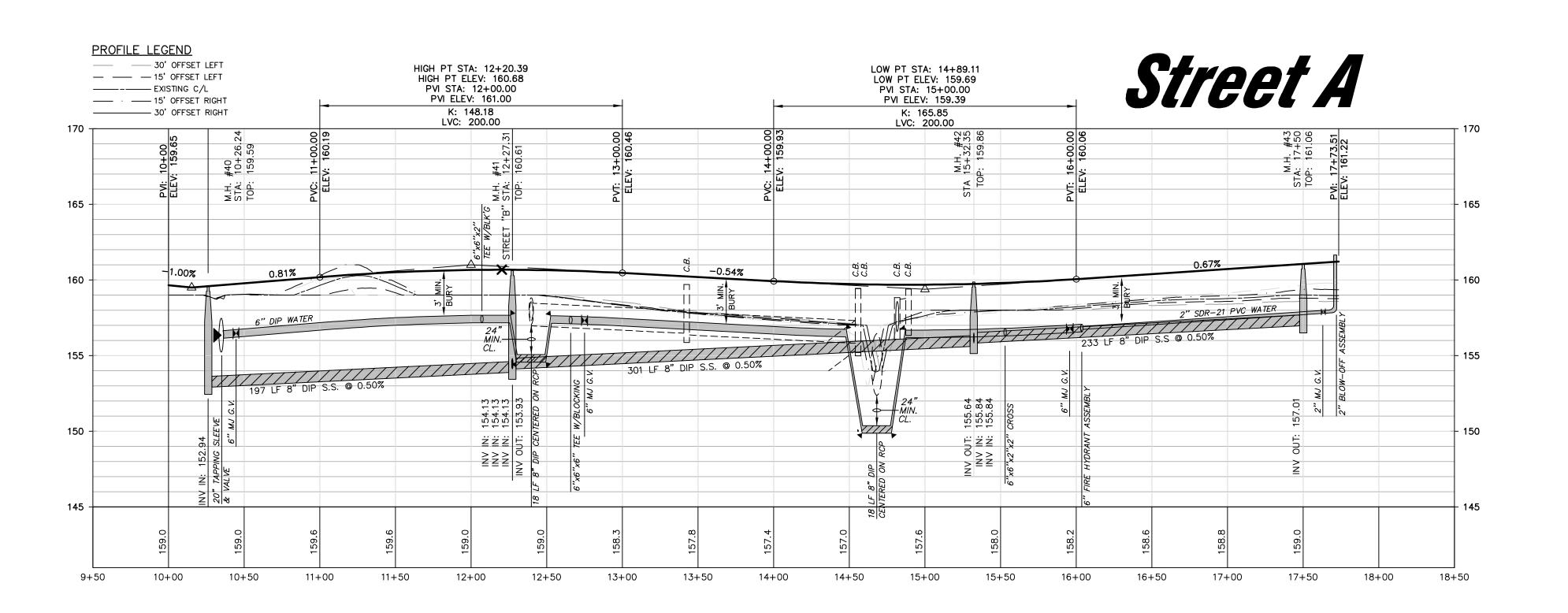
CE-01

160 200 240









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WWW.STOCKSENGINEERING.COM

BLN=C-1874

WHITLEY TOWNES - 68 TOWNHOME UNITS SMITHFIELD, JOHNSTON COUNTY, NORTH CAN

SEAL
19843

NGINEER OF THE STORY

Michael
3/31/22

STREET 'A' PLAN + PROFILE

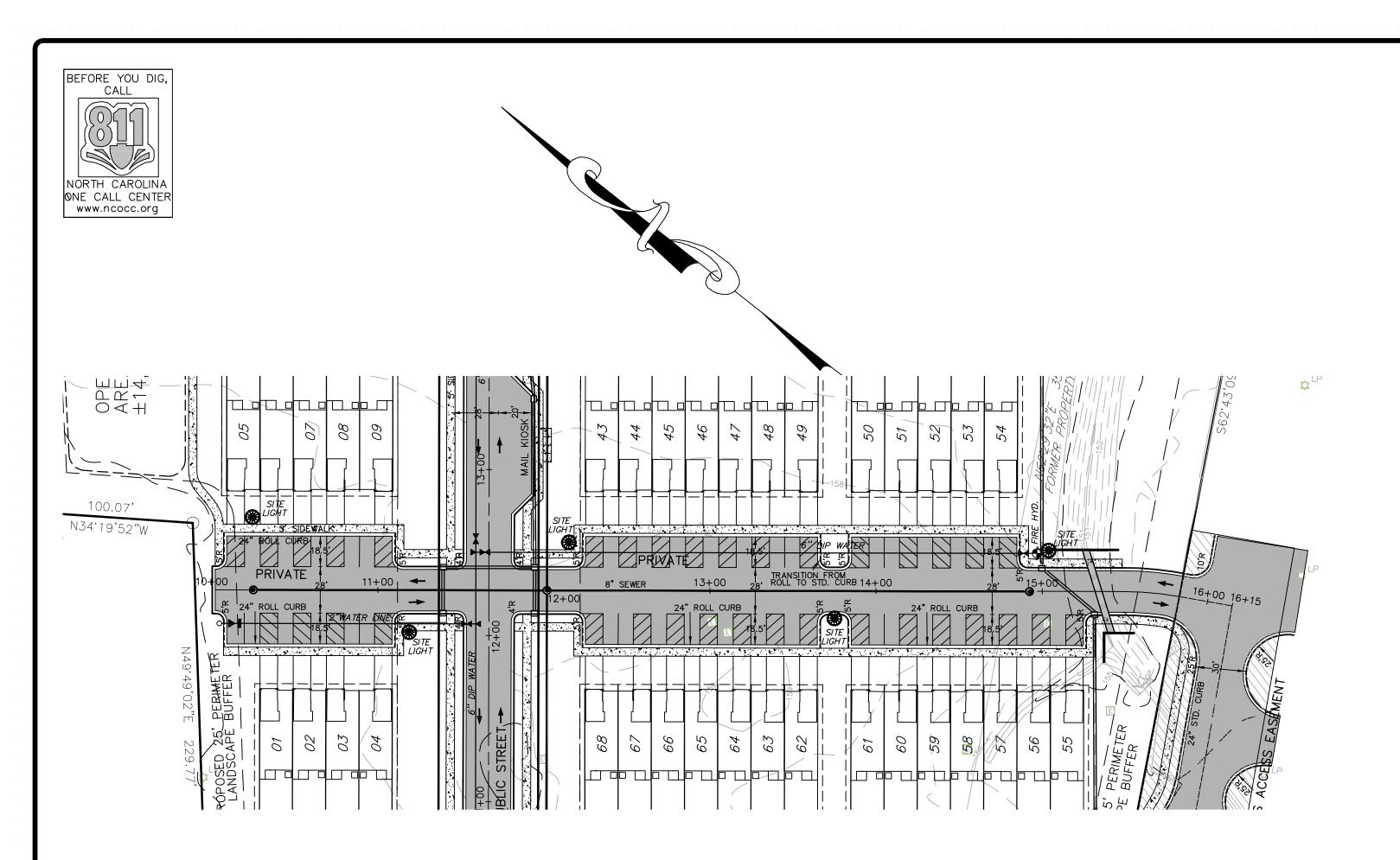
REVISIONS

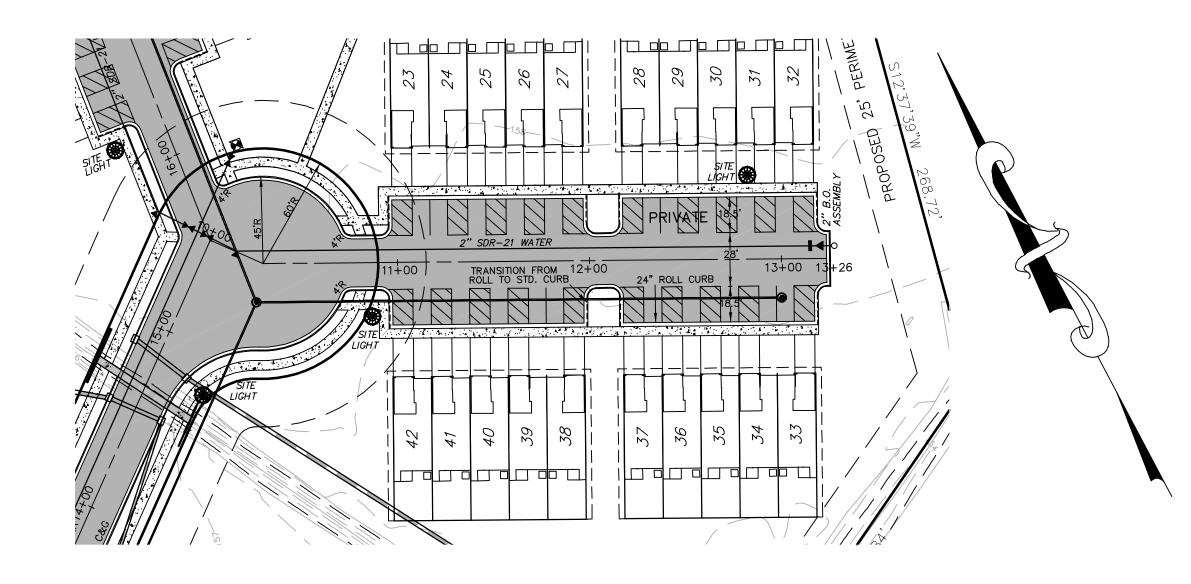
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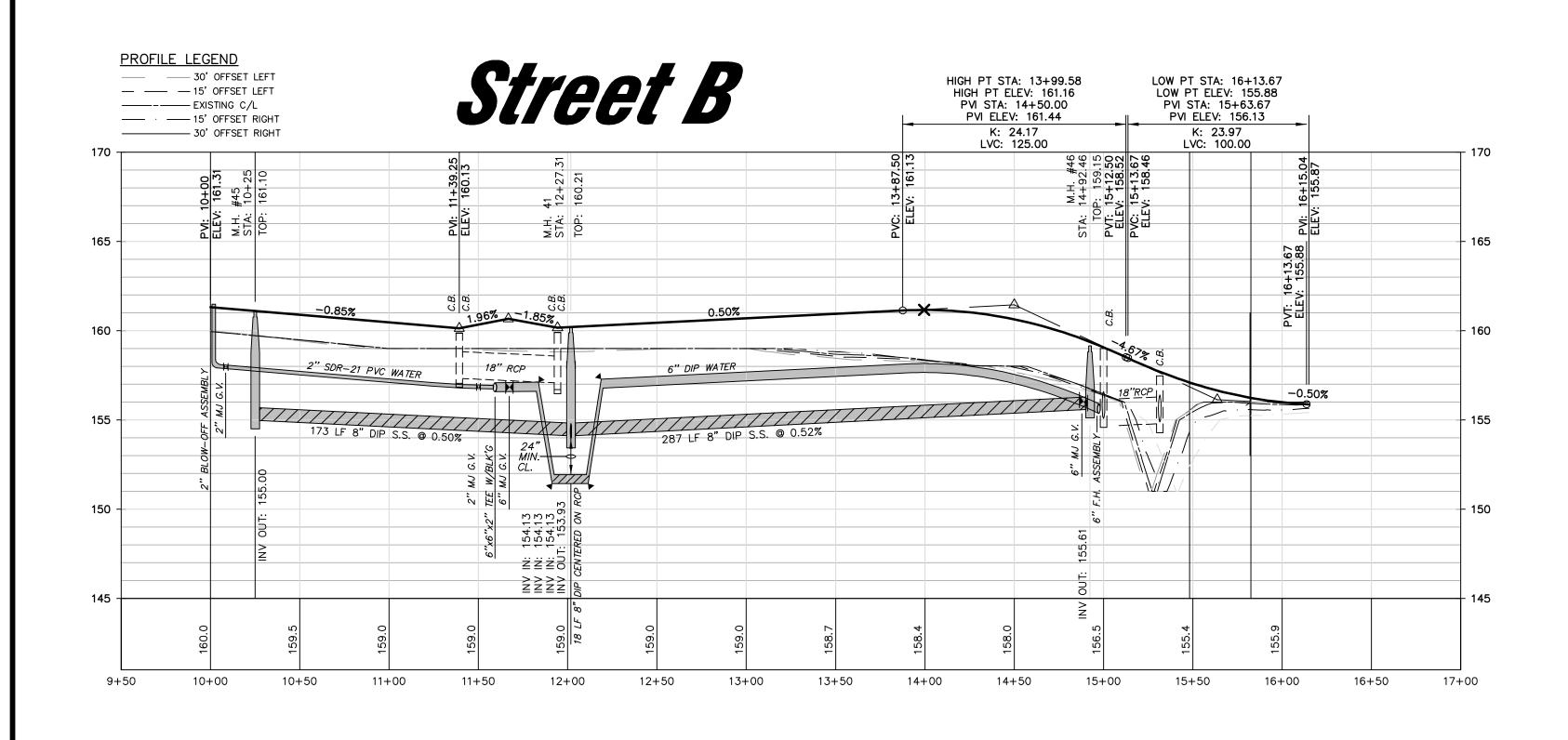
HORZ. SCALE: 1"=50"

VERT. SCALE: 1"=5"

SCALE: 1" = 50' 0 50 100 125 150

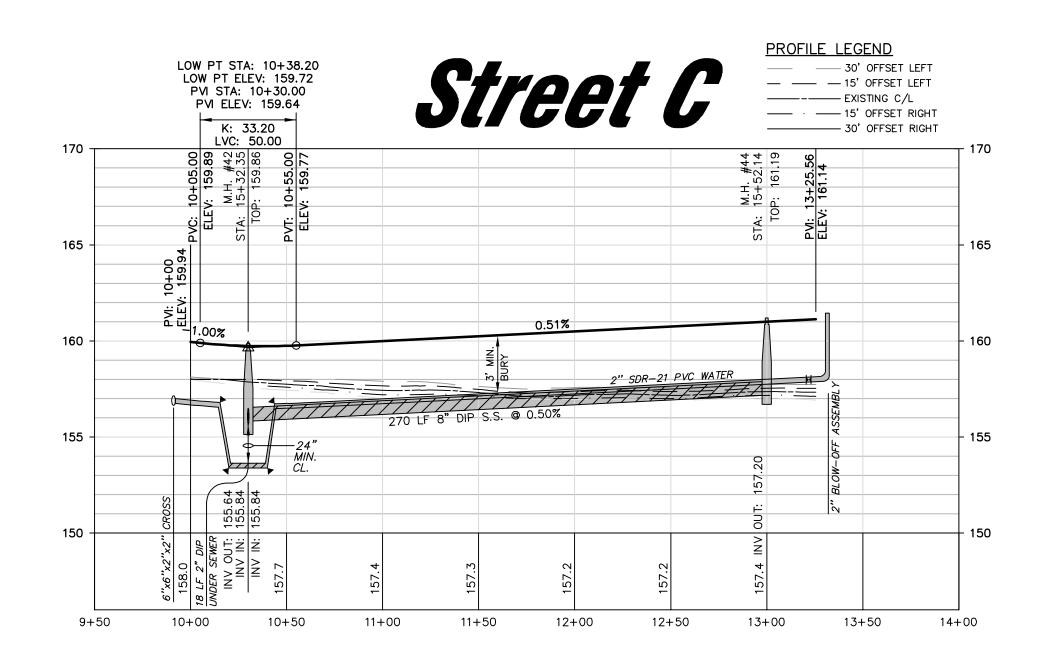


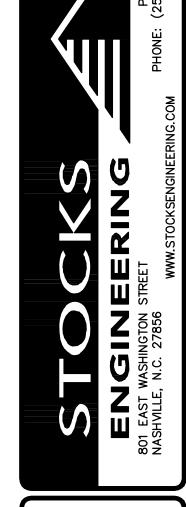




SCALE: 1" = 50'

100 125 150





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WHITLEY TOWNES - 68 TOWNHOME UNITS SMITHFIELD, JOHNSTON COUNTY, NORTH CARO.

SEAL
19843

NGINEER OF LINE
MICHAEL STORING
MICHAEL
3/31/22

STREET 'B + C' PLAN + PROFILE

REVISIONS

FILE NO. 2021-001

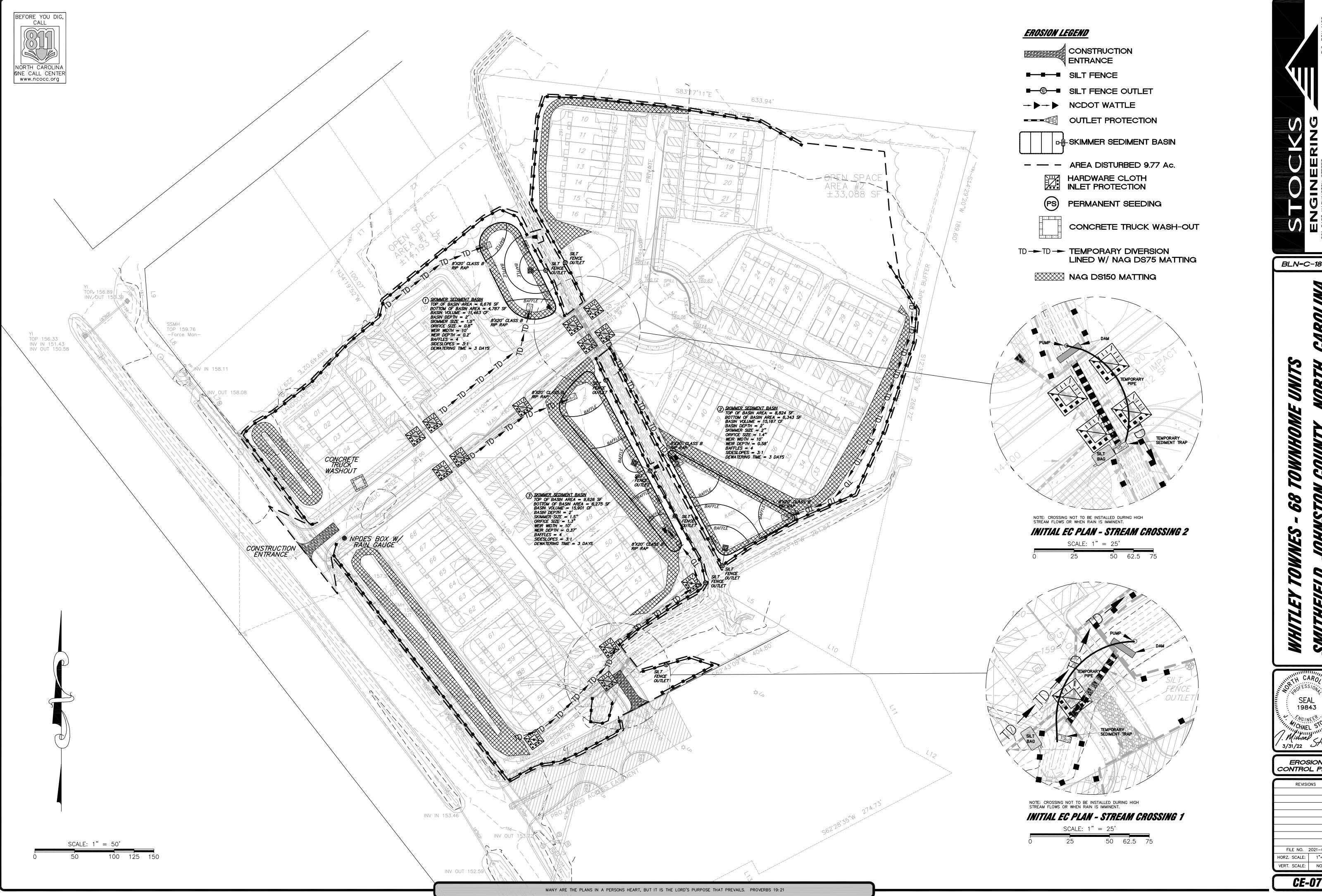
HORZ. SCALE: 1"=50"

VERT. SCALE: 1"=5"

MANY ARE THE PLANS IN A PERSONS HEART, BUT IT IS THE LORD'S PURPOSE THAT PREVAILS. PROVERBS 19:21





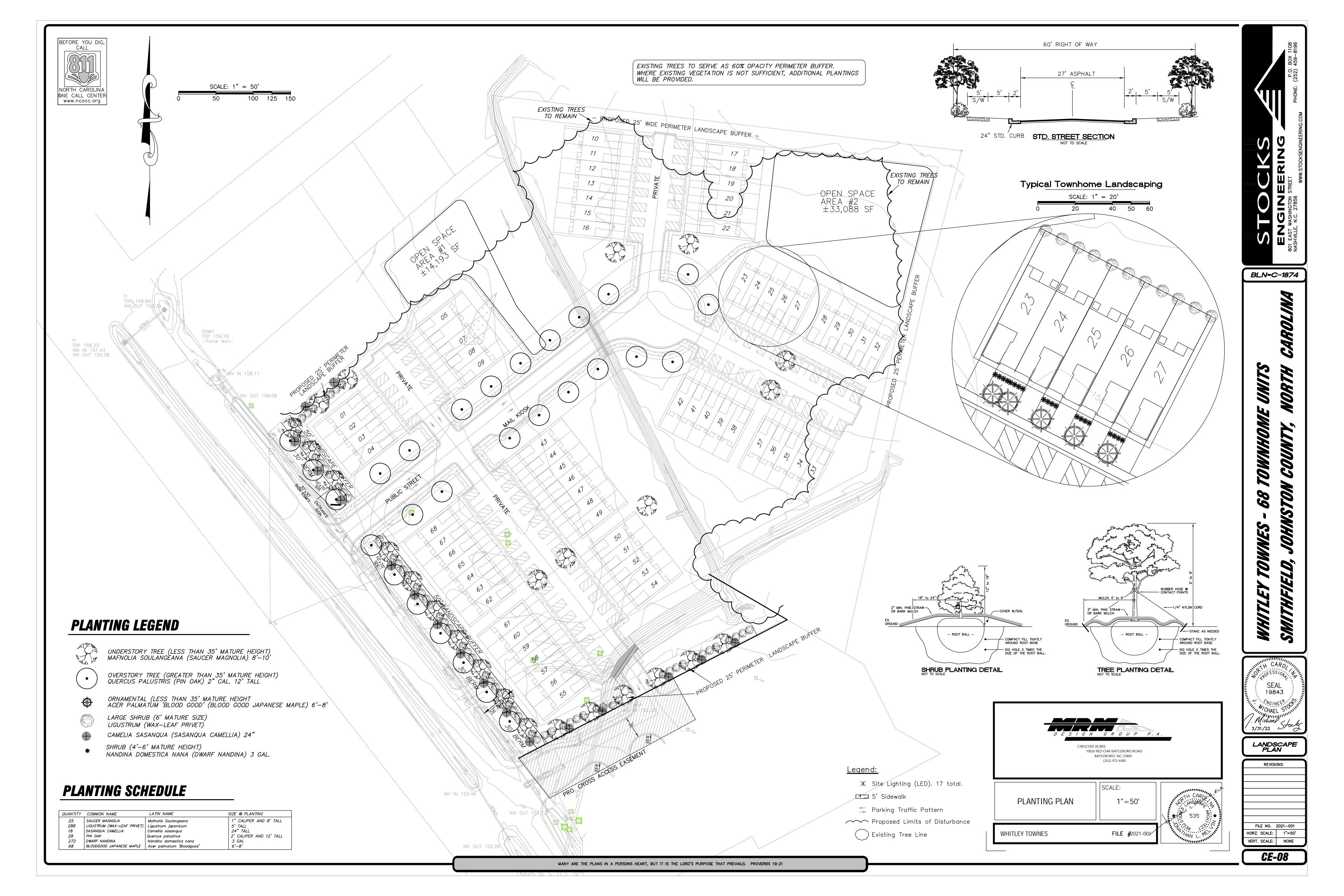


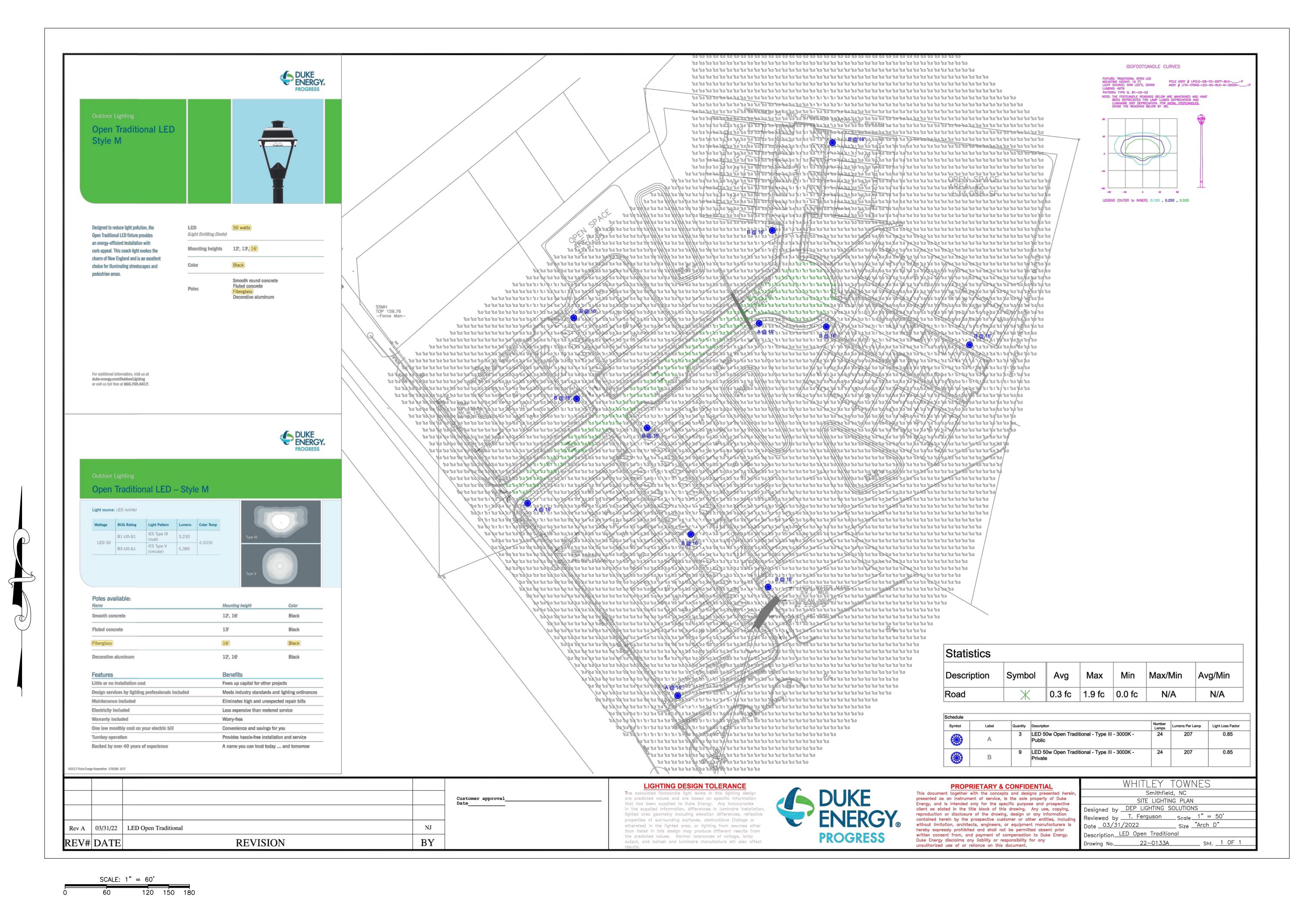


OUNTY,

EROSION CONTROL PLAN

FILE NO. 2021-001 VERT. SCALE: NONE





89

".MICHAEL -Michael , 3/31/22

> LIGHTING PLAN

REVISIONS

FILE NO. 2021-001 HORZ. SCALE: VERT. SCALE: NONE

CE-09

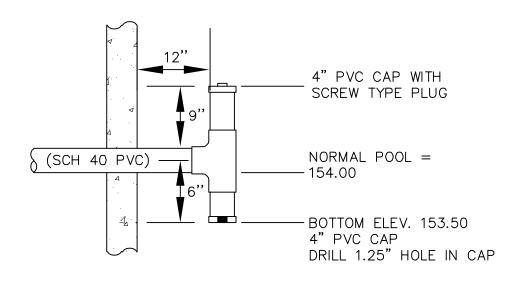
32 LF 24" RCP @ 3.9% W/6' FES SCALE: 1" = 20'40 50 60 70

CONCRETE EMERGENCY SPILLWAY

NOT TO SCALE EXPANSION JOINT EDGE DETAIL

1. CONCRETE SECTION TO BE 6" THICK, 4,000 PSI @ 28 DAYS, W/ 6"X6"6GA WELDED WIRE FABRIC.

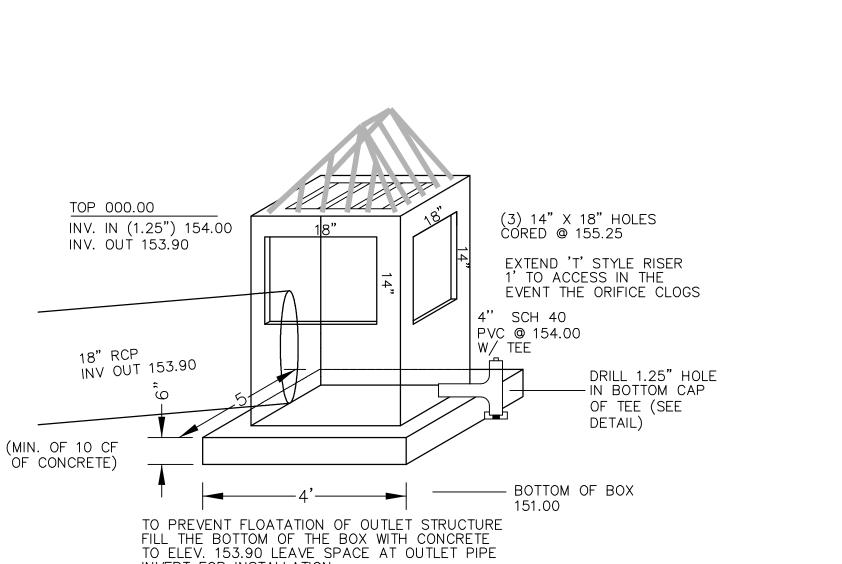
- 2. 18" OF CLASS B RIP RAP OVER GEOTEXTILE FABRIC FOR THE FULL WIDTH OF WEIR FROM THE EDGE OF CONCRETE TO THE TOE OF SLOPE. 3. REFERENCE THE SCM DETAIL SHEET FOR WEIR WIDTH, DEPTH, AND ASSOCIATED ELEVATIONS.
- 4. THICKEN ALL EDGES AND EXPANSION JOINT "THICKNESS +2". MINIMUM EDGE THICKNESS OF 8"



CONTRACTOR TO COMPACT BOTTOM OF POND TO ENSURE INFILTRATION IS LESS THAN 0.01 IN./HR. OR IMPORT IMPERMEABLE CLAY AS NEEDED.

A PORTABLE PUMP SHALL BE USED DURING MAINTENANCE AND EMERGENCIES. THE DRAWDOWN PUMP RATE SHOULD ALLOW FOR THE SCM TO BE DRAWN DOWN OVER A 3 DAY OF LONGER PERIOD TO PREVENT THE COLLAPSE OF THE SATURATED SIDE SLOPES.

WETLAND AREA FOREBAY 583 S.F. (12%) NON-FOREBAY 594 S.F. (12%) SHALLOW WATER 1,849 S.F. (39%) TEMP. INUNDATION ZONE 1,761 S.F. (37%) 4,787 Sq. Ft.



INVERT FOR INSTALLATION.

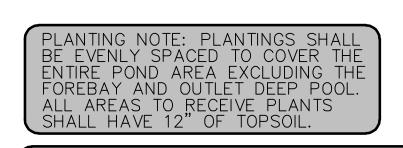
W/ ALUMINUM TRASH RACK

2'x3' RISER STRUCTURE

HINGED PANEL \ LOWER BAND 3/4" THICK x 4' WIDE FORMED TO-3/4" THICK, LONG ROUND FIT IN GROOVE OF C.B. RISER -SMOOTH BARS WELDED TO UPPER AND LOWER BANDS INSTALL HINGES ON ONE SIDE (4" O.C. MAX.) OF TRASH RACK TO ALLOW ACCESS TO STRUCTURE

TRASH GRATE DETAIL TO BE CONSTRUCTED ALUMINUM

N.T.S



The pH, compaction, and other attributes of the first 12—inch depth of the soil shall be adjusted if necessary to promote plant establishment and growth.

VEGETATED SHELF LANDSCAPE PLAN CHOOSE A MINIMUM OF 5 OF THE FOLLOWING SPECIES FOR EACH AREA W/NO MORE THAN 33% OF ANY SPECIES. PLANTS SHALL BE IN 4" CONTAINERS.

SHALLOW WATER (BELOW PERM. POOL) (MIN. 463 PLANTS)

<u>Botanical Name</u> <u>Common Name</u> Blue flag iris Iris virginica Ludwigia spp. Primrose willow Peltandra virginica Arrow arum Pontederia cordata Pickerelweed Duck Potato Sagittaria latifolia Bulltongue Sagittaria lancifolia

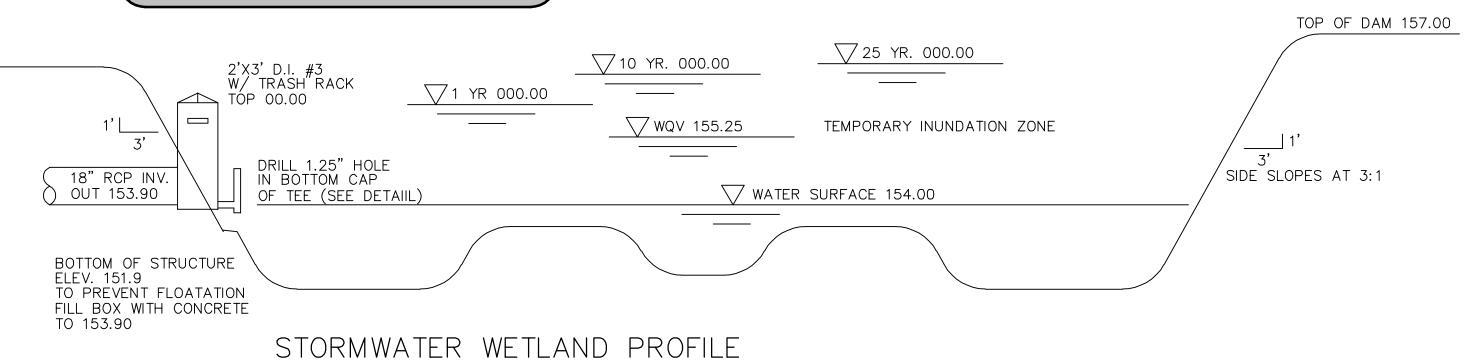
SHALLOW LAND (ABOVE PERM. POOL) (MIN. 441 PLANTS)

<u>Botanical Name</u> Chelone glabra Eupatoriadelphus dubius Kosteletzkya virginica Lobelia cardinalis Lobelia siphilitica Rhynchospora colorata

<u>Common Name</u> White Turtlehead Dwarf Joe Pye Weed Seashore Mallow Cardinal flower Great blue Lobelia Starrush whitetop

STAGE/STORAGE TABLE

STAGE	ELEVATION	CONTOUR AREA (SF)	INCREMENTAL STORAGE (CF)	TOTAL STORAGE (CF)
0	154.00	3,026	0	0
1.25	155.25	4,787	11,782	11,762
2.00	156.00	5,704	12,508	24,270
3.00	157.00	6,677	14,327	38,597



STORMWATER WETLAND PROFILE

MANY ARE THE PLANS IN A PERSONS HEART, BUT IT IS THE LORD'S PURPOSE THAT PREVAILS. PROVERBS 19:21

BEFORE YOU DIG CALL

NORTH CAROLINA ONE CALL CENTE

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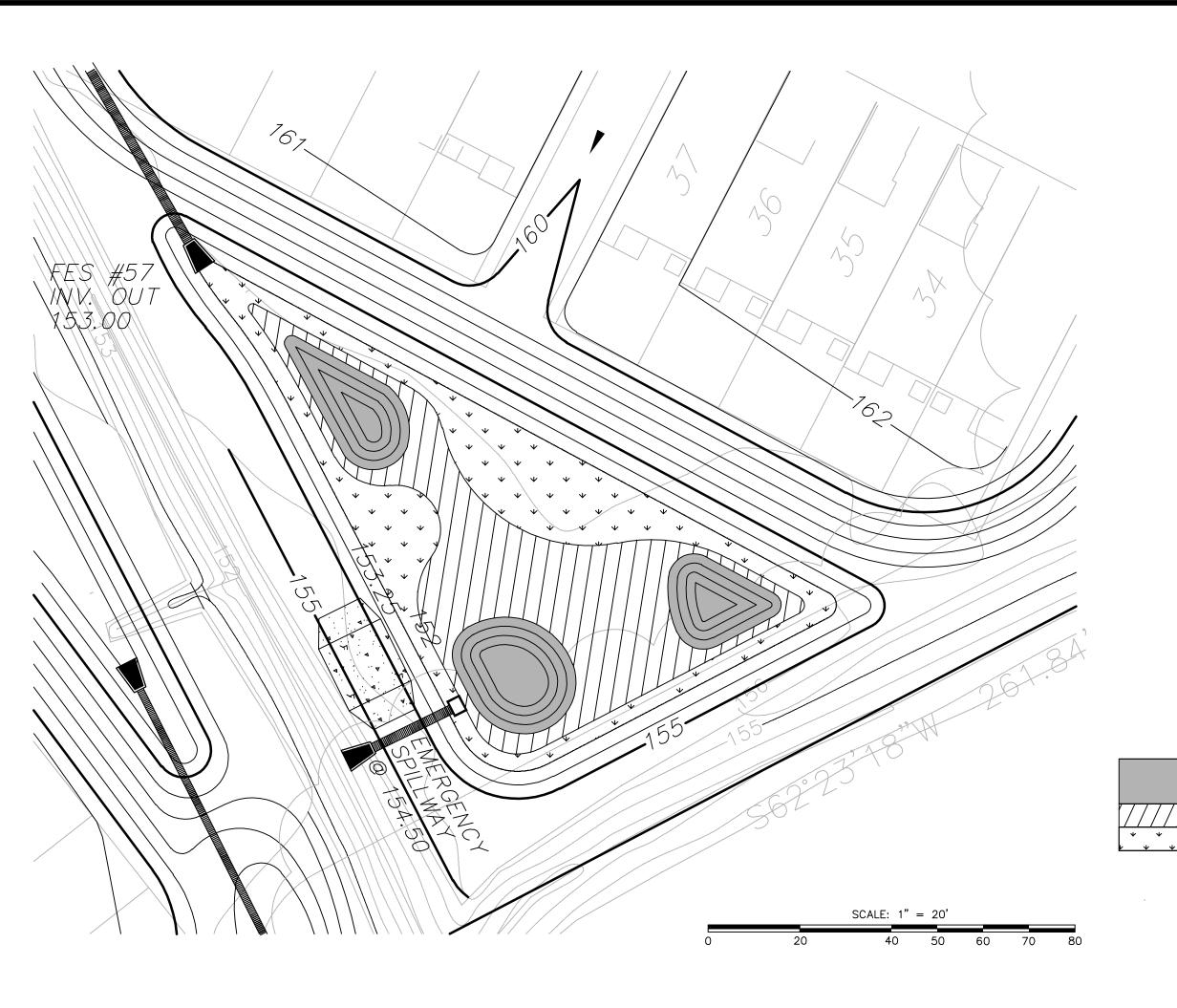
19843 ", MI CHAEL STO 3/31/22 Stock

SCM #1 WETLAND DETAILS

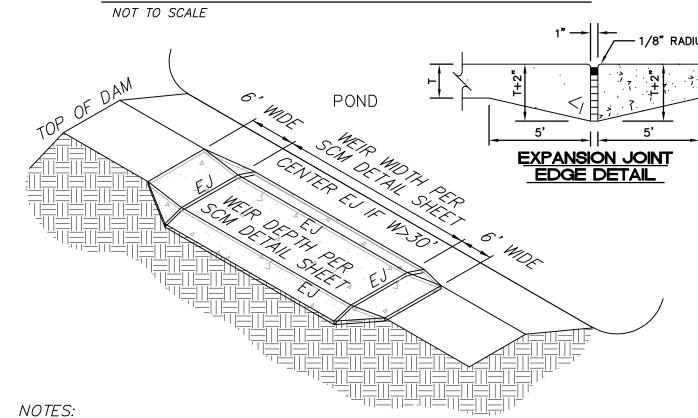
REVISIONS

FILE NO. 2021-001 HORZ. SCALE: VERT. SCALE: NONE

CE-10



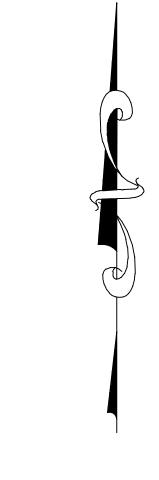
CONCRETE EMERGENCY SPILLWAY



1. CONCRETE SECTION TO BE 6" THICK, 4,000 PSI @ 28 DAYS, W/ 6"X6"6GA WELDED WIRE FABRIC.

DRILL 1.50" HOLE IN CAP

- 2. 18" OF CLASS B RIP RAP OVER GEOTEXTILE FABRIC FOR THE FULL WIDTH OF WEIR FROM THE EDGE OF CONCRETE TO THE TOE OF SLOPE. 3. REFERENCE THE SCM DETAIL SHEET FOR WEIR WIDTH, DEPTH, AND ASSOCIATED ELEVATIONS.
- 4. THICKEN ALL EDGES AND EXPANSION JOINT "THICKNESS +2". MINIMUM EDGE THICKNESS OF 8"



BEFORE YOU DIG CALL

NORTH CAROLINA ONE CALL CENTE

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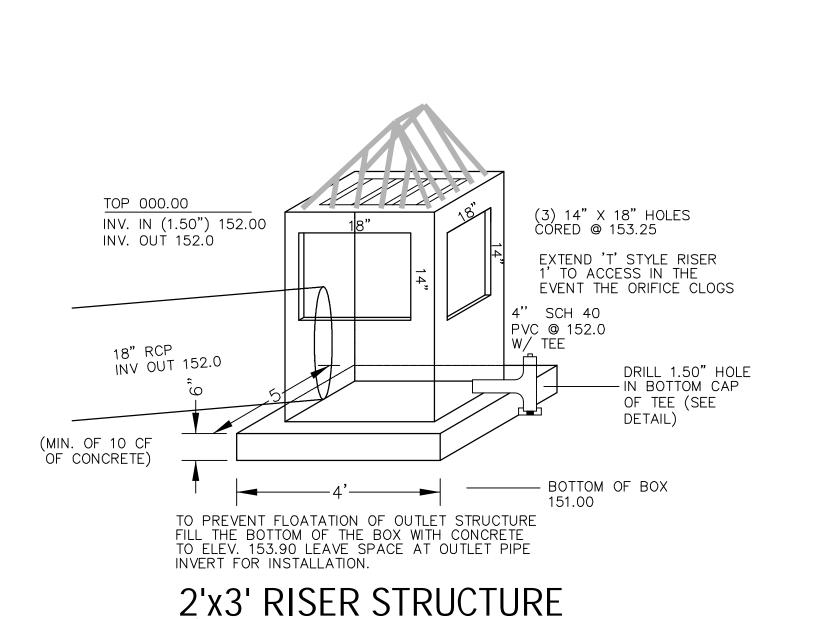
4" PVC CAP WITH SCREW TYPE PLUG NORMAL POOL = - 152.00 (SCH 40 PVC) -BOTTOM ELEV. 151.50 4" PVC CAP

CONTRACTOR TO COMPACT BOTTOM OF POND TO ENSURE INFILTRATION IS LESS THAN 0.01 IN./HR. OR IMPORT IMPERMEABLE CLAY AS NEEDED.

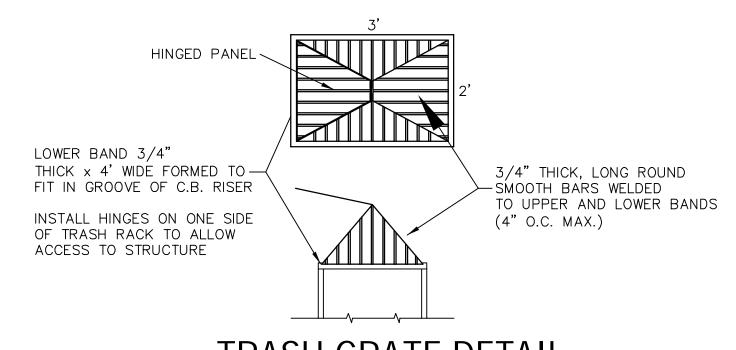
A PORTABLE PUMP SHALL BE USED DURING MAINTENANCE AND EMERGENCIES. THE DRAWDOWN PUMP RATE SHOULD ALLOW FOR THE SCM TO BE DRAWN DOWN OVER A 3 DAY OF LONGER PERIOD TO PREVENT THE COLLAPSE OF THE SATURATED SIDE SLOPES.

WETLAND AREA FOREBAY 744 S.F. (13%)

NON-FOREBAY 520 S.F. (9%) SHALLOW WATER 2,323 S.F. (40%)
TEMP. INUNDATION ZONE 2,221 S.F. (38%) <u>5,808 Sq. Ft.</u>



W/ ALUMINUM TRASH RACK



TRASH GRATE DETAIL TO BE CONSTRUCTED ALUMINUM

N.T.S

PLANTING NOTE: PLANTINGS SHALL BE EVENLY SPACED TO COVER THE ENTIRE POND AREA EXCLUDING THE FOREBAY AND OUTLET DEEP POOL.
ALL AREAS TO RECEIVE PLANTS
SHALL HAVE 12" OF TOPSOIL.

The pH, compaction, and other attributes of the first 12—inch depth of the soil shall be adjusted if necessary to promote plant establishment and growth.

VEGETATED SHELF LANDSCAPE PLAN

CHOOSE A MINIMUM OF 5 OF THE FOLLOWING SPECIES FOR EACH AREA W/NO MORE THAN 33% OF ANY SPECIES. PLANTS SHALL BE IN 4" CONTAINERS.

SHALLOW WATER (BELOW PERM. POOL) (MIN. 581 PLANTS)

<u>Botanical Name</u> Iris virginica Ludwigia spp. Peltandra virginica Pontederia cordata Sagittaria latifolia

Sagittaria lancifolia

<u>Common Name</u> Blue flag iris Primrose willow Arrow arum Pickerelweed Duck Potato Bulltongue

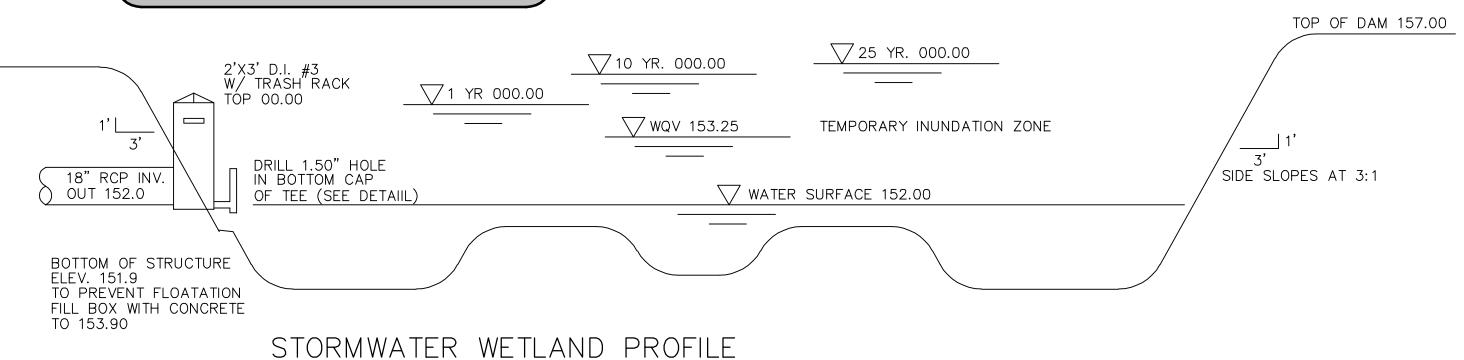
SHALLOW LAND (ABOVE PERM. POOL) (MIN. 556 PLANTS)

<u>Botanical Name</u> Chelone glabra Eupatoriadelphus dubius Kosteletzkya virginica Lobelia cardinalis Lobelia siphilitica Rhynchospora colorata

<u>Common Name</u> White Turtlehead Dwarf Joe Pye Weed Seashore Mallow Cardinal flower Great blue Lobelia Starrush whitetop

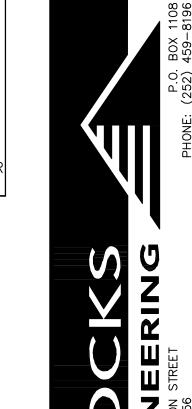
STAGE/STORAGE TABLE

STAGE	ELEVATION	CONTOUR AREA (SF)	INCREMENTAL STORAGE (CF)	TOTAL STORAGE (CF)
0	152.00	3,587	0	0
1.25	153.25	5,808	11,782	11,762
2.00	154.00	7,022	12,508	24,270
3.00	155.00	8,277	14,327	38,597



STORMWATER WETLAND PROFILE

MANY ARE THE PLANS IN A PERSONS HEART, BUT IT IS THE LORD'S PURPOSE THAT PREVAILS. PROVERBS 19:21



BLN=C-1874

19843 ", MI CHAEL STO 3/31/22 Stock

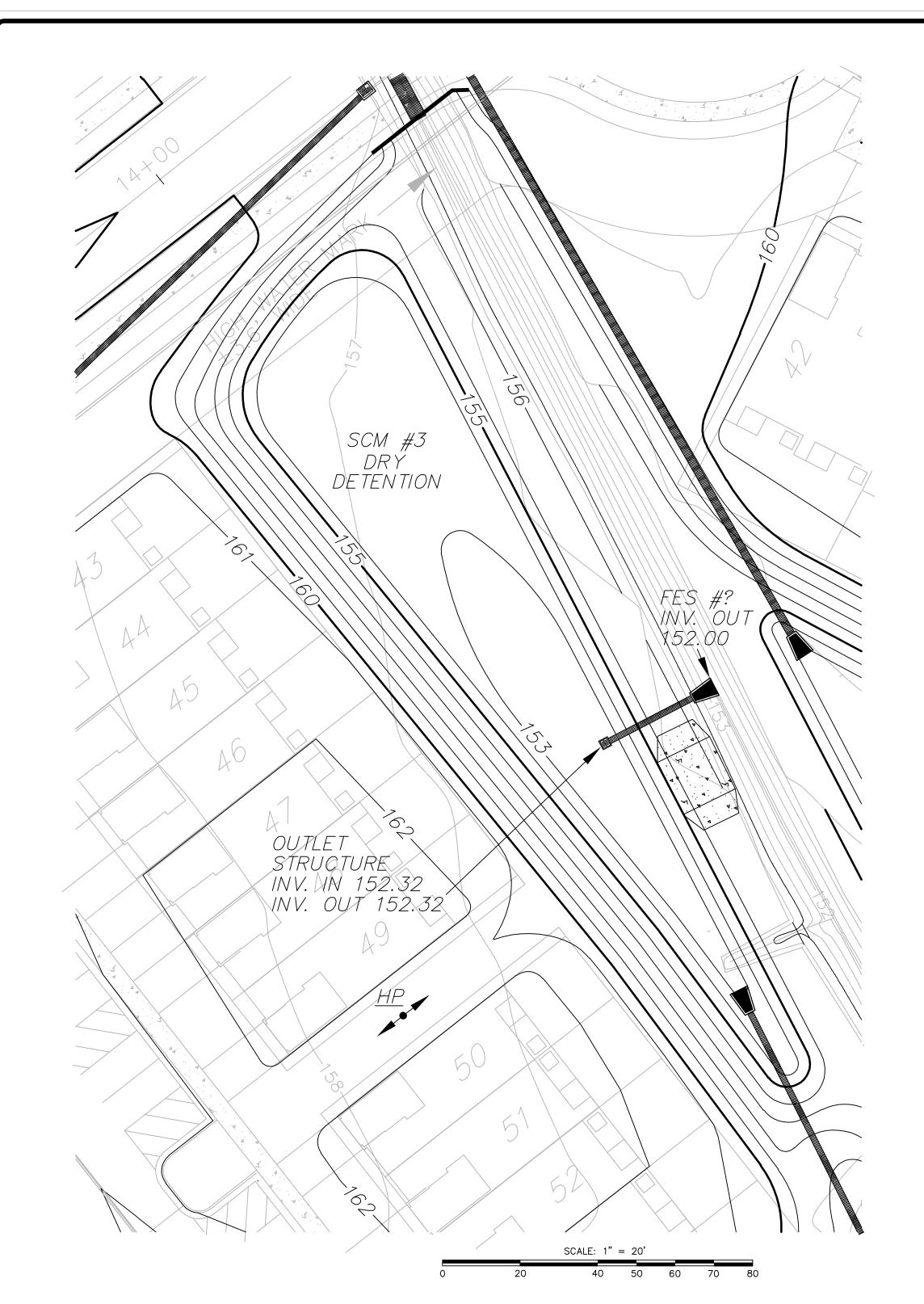
SIMITH

SCM #2 WETLAND DETAILS

REVISIONS

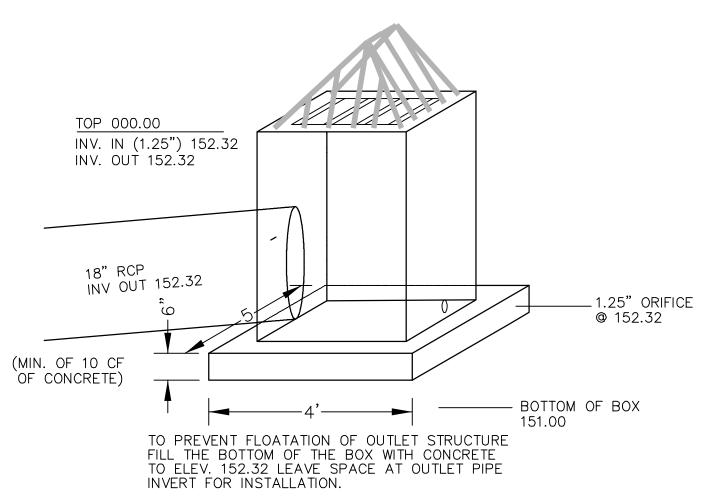
FILE NO. 2021-001 HORZ. SCALE: VERT. SCALE: NONE

CE-11



STAGE/STORAGE TABLE

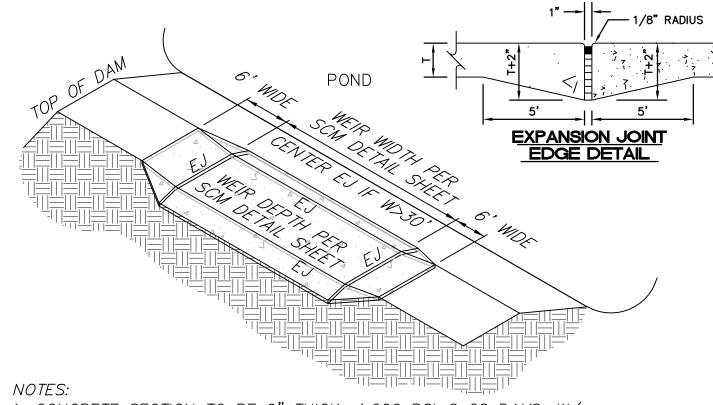
STAGE	ELEVATION	CONTOUR AREA (SF)	INCREMENTAL STORAGE (CF)	TOTAL STORAGE (CF)
0	151.75	7,357	0	0
1.25	153.00	11,627	11,782	11,762
2.25	154.00	13,412	12,508	24,270
3.25	155.00	15,265	14,327	38,597
4.25	156.00	17,179	16,211	54,808



2'x3' RISER STRUCTURE



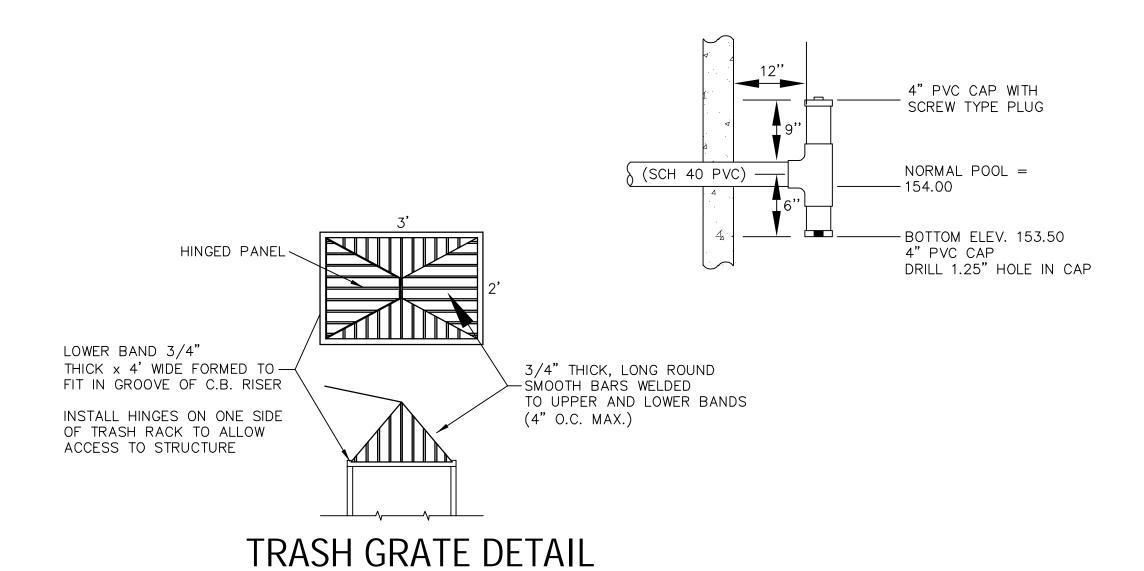
NOT TO SCALE



1. CONCRETE SECTION TO BE 6" THICK, 4,000 PSI @ 28 DAYS, W/6"X6"6GA WELDED WIRE FABRIC.

TO BE CONSTRUCTED ALUMINUM

- 18" OF CLASS B RIP RAP OVER GEOTEXTILE FABRIC FOR THE FULL WIDTH OF WEIR FROM THE EDGE OF CONCRETE TO THE TOE OF SLOPE.
 REFERENCE THE SCM DETAIL SHEET FOR WEIR WIDTH, DEPTH, AND ASSOCIATED ELEVATIONS.
- 4. THICKEN ALL EDGES AND EXPANSION JOINT "THICKNESS +2". MINIMUM EDGE THICKNESS OF 8"



N.T.S

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BLN=C-1874

WES - 68 TOWNHOME UNITS JOHNSTON COUNTY, NORTH CARU

SEAL
19843

NGINEER OF LINE
MICHAEL STOCKER

Michael
3/31/22

SAROL

MICHAEL

Michael

3/31/22

SCM #3 DRY DETENTION

REVISIONS

FILE NO. 2021–001

VERT. SCALE: NONE

CE-12

HORZ. SCALE:

PROJECT DESCRIPTION The purpose of this project is for construction of Whitley Townes residential subdivision. The property is currently owned by J&J Flowers Finch. The site is currently undeveloped and development will include a streets, storm drainage and utilities

Approximately 9.77 acres will be disturbed during construction. The maximum fill will be ±5 feet. The project is scheduled to begin construction in Late 2022 with project completion and final stabilization by Early 2023. The erosion and sediment control program for this project will include the installation of a suitable construction entrance, silt fence, outlet protection, and skimmer basins with temporary seeding of the site.

ADJACENT PROPERTY The adjacent property is mostly undeveloped agriculture land.

SOILS
The soil at this site is a sandy clay.

EROSION AND SEDIMENT CONTROL MEASURES All vegetative and structural erosion and sediment control practices shall be constructed and maintained by the contractor according to these plans and specifications and the minimum standards of the Dept. of Environmental Management, Land Quality Section.

The contractor shall also follow any additional requirements as outlined by the Project

1. Vehicle wheels shall be clean when leaving the site to prevent the tracking of mud on paved oads. 2. Construction Road Stabilization: Construction traffic shall be limited to stabilized areas. At a minimum, a temporary gravel construction entrance shall be provided as shown on this Irawing. 3. Silt Fence: Silt fences shall be provided where shown and as needed on the site plan. These barriers shall be used to contain sediment.
4. Rip Rap/Gravel Filter Sediment Basins: Construct basin to the shape and dimensions shown in the details. The basin is to be placed below the existing ditch flow line by 2' with the berm built

1. Perimeter measures are to be installed prior to grubbing or grading.
2. Tail Ditches shall be stabilized immediately following their construction. As an alternate, rock check dams may be provided at their outlets and/or the terminal downstream end of disturbance until ground cover is implemented. 3. Stockpile and/or waste areas must be maintained within the limits of the areas protected by the proposed measures and otherwise temporarily seeded if to be left stockpiled over 15 calender days.

4. Construction shall be planned so that grading operations can begin and end as quickly as

Silt Fences shall also be installed prior to or as a first step in construction. The Contractor shall be responsible for the installation and maintenance of all erosion and

Vegetative Ground Cover Immediately following grading, all areas shall receive either permanent or temporary seeding, as applicable, as follows:

Site Area Description:	Stabilization Time Frame:	Stabilization Time Frame Exceptions:
Perimeter dikes, swales, ditches & slopes.	7 Days	None
High Quality Water (HQW) Zones.	7 Days	None
Slope steeper than 3:1	7 Days	If slopes are 10' or less in length & are not steeper than 2:1, 14 days are allowed.
Slopes 3:1 or flatter.	14 Days	7 Days for slopes greater than 50 feet in length.
All other areas with slopes flatter than 4:1	14 Days	None (Except for perimeters and HQW Zones)

TEMPORARY SEEDING SPECIFICATIONS SEEDING MIXTURE

RATE (LB/ACRE) WINTER/EARLY SPRING - RYE (GRAIN) KOBE LESPEDEZA SUMMER - GERMAN MILLET

MULCH/TACKING AGENTS APPLY 4,000 LB/ACRE GRAIN STRAW. ANCHOR STRAW BY TAKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

PERMANENT SEEDING SPECIFICATIONS

TALL FESCUE CENTIPEDE

SEEDING MIXTURE

RATE (LB/ACRE)

NURSE PLANTS

BETWEEN APR. 15 AND AUG. 15, ADD 10 LB/ACRE GERMAN MILLET OR 15 LB/ACRE SUDANGRASS. PRIOR TO MAY 1 OR AFTER AUG. 15 ADD 25 LB/ACRE RYE (GRAIN)

SEEDING DATES

EARLY SPRING:

BEST FEB. 15-MAR. 20

SEPT. 1-SEPT. 30

POSSIBLE FEB. 15-APR. 30 SEPT. 1-0CT. 31

SOIL AMENDMENTS APPLY LIME AND FERTILIZER ACCORDING TO SOIL TEST. IF SOIL TEST IS NOT AVAILABLE APPLY 2 TONS/ACRE AGRICULTURAL GRADE LIMESTONE AND 1.000 LBS/ACRE OF 10-10-10 FERTILIZER, OR APPLY 3.000-5.000 LB/ACRE SEDANGRASS. PRIOR TO MAY 1 OR AFTER AUG 15, ADD 25 LB/ACRE RYE (GRAIN).

Maintenance

1. Reseed and mulch bare spots larger than 9 square feet (limited to 5% maximum of site area.) 2. Maintain all seeded areas until uniform stand is acceptable. f growth is not established by final project inspection, continue specified attention until the . Correct and repair all undue settling and erosion within 1 year after final inspection. b. Remove from the site, all erosion control structures after complete stabilization at end of construction period. 5. Remove silt from sediment pits and from behind check dams when silt is within half depth of the pit or spillway. Dispose of in an area where silt cannot re-enter pit / trap.

The practice utilized for the proposed site did require formal calculations. Calculations have been

DEVELOPER

J & J Flowers Finch, INC 4884 NC HWY 42 E.

Clayton, N.C. 27527 EMAIL: jordan@greyheronconstruction.com

CONSTRUCTION SEQUENCE

1. Erosion and Sediment Control (E&SC) permit and a Certificate of Coverage (COC) must be obtained before any land disturbing activities (including timbering and demolition) occur. Retain a copy of the approved erosion control plan and permit onsite in a permit box that is accessible at all times for inspections. Contact DEMLR Raleigh Regional Office 48 hours prior to commencing the

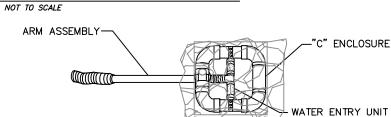
land disturbing activity. The contact number is (919)-791-4200.

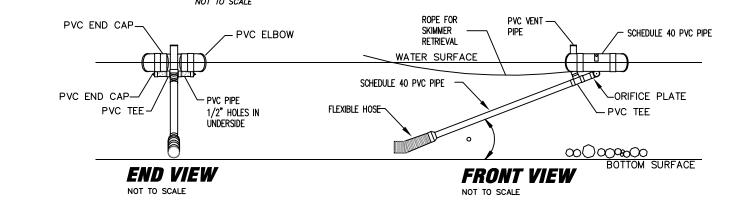
2. A Pre-construction conference is to be scheduled with DEMLR Raleigh Regional Office

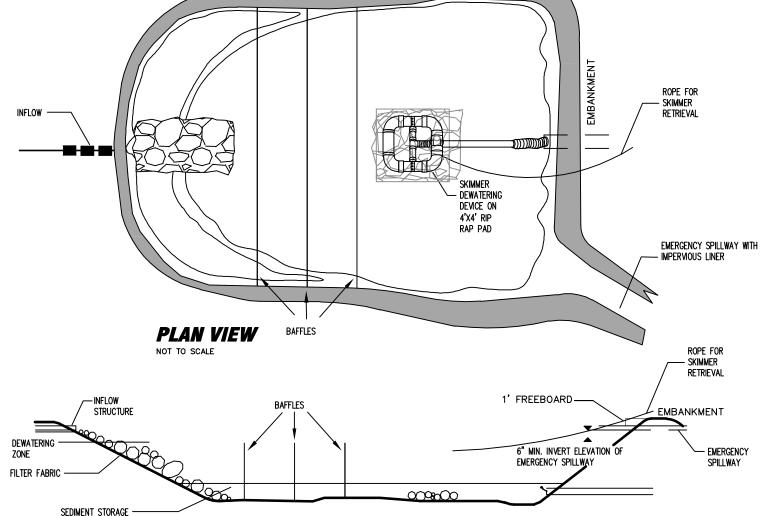
- 919-791-4200, at least one week prior to commencing construction. 3. Construct the construction entrance (stone tire cleaning facility) as shown on the plans. Maintain the construction entrance daily to ensure that mud and silt will not be tracked onto paved surfaces. If mud is tracked onto any paved surface, it is to be removed immediately.
- 4. Construct all perimeter erosion control measures to contain sediment on-site. Construct the silt fence, inlet protection, and concrete truck washout as shown. Permanently seed all areas that will not be disturbed during construction. 5. Begin demolition and stripping of topsoil.
- 6. Seed, straw, and tack all areas that are graded to their final disposition. 7. Continue grading and construction of the project. Permanent ground cover should be installed for all disturbed areas within 15 working days or 90 calendar days (whichever is shorter) following completion of construction or development and that temporary groundcover needs to be installed in 7 or 14 days (per the more stringent
- NPDES Stormwater requirements). 8. Maintain erosion control measures daily and reseed disturbed areas as needed.
- 9. Backfill or grade as necessary to obtain desired grades. 10. Inspect all erosion control devices weekly and after each rainfall event. Repair as
- 11. After the site is completely stabilized and the Project Engineer has certified completion and stabilization, contact DEMLR Raleigh Regional Office @ 919-791-4200 for approval to remove all temporary erosion control devices.
- 12. Permanently Seed/Sod all disturbed areas. 13. When the project is complete, the permittee shall contact DEMLR to close out the E&SC Plan.

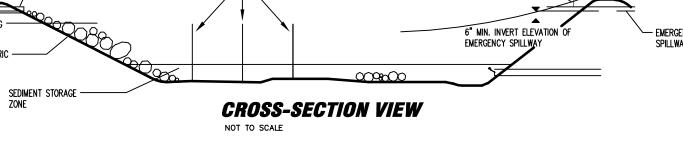
SKIMMER SEDIMENT BASIN

PERSPECTIVE VIEW









CONSTRUCTION SPECIFICATIONS:

. Clear, arub, 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

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 the water cannot flow under the fabric. Secure the upper edge and sides of the fabric in a trench with staples or pins.

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. 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.

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.

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.

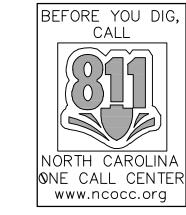
If the skimmer arm or barrel pipe is clogged, the orifice can be removed and the obstruction cleared with a plumber's snake or by flushing with water. Be sure and replace the orifice before repositioning the skimmer. Check the fabric lined spillway for damage and make any required repairs with fabric 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

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.

Maintenance Notes:

- 1. Do not let any area remained exposed for more than 7 or 14 calendar days according to chart without applying temporary seeding.
- 2. Maintain all erosion control measures daily and reseed disturbed areas as needed.
- 3. Inspect all erosion control measures weekly and after each rainfall event. Repair as needed.
- 4. At the end of each day's storm drainage operation, construct a temporary pipe inlet protection device until the next day's operation continues.



GENERAL NOTES:

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.

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. Construct the outlet section in the embankment. Protect the connection between the riprap and the soil from piping by using filter fabric or a keyway cutoff trench between the riprap structure and the soil.

Place the filter fabric between the riprap and soil. Extend the fabric across the spillway foundation and sides to the top of the dam; or Excavate a keyway trench along the centerline of the spillway foundation extending up the sides to the height of the dam. The trench should be at least 2 ft. deep and 2 ft. wide with 1:1 side slopes.

4. Clear the pond area below the elevation of the crest of the spillway to facilitate sediment cleanout. 5. All cut and fill slopes should be 2:1 or flatter.

6. Ensure that the stone (drainage) section of the embankment has a minimum bottom width of 3 ft. and a maximum side slopes of 1:1 that extend to the bottom of the spillway section. 7. Construct the minimum impermeable lined spillway bottom width, as shown on the plans, with 2:1 side slopes extending to the top of the over filled embankment. Keep the thickness of the sides of the

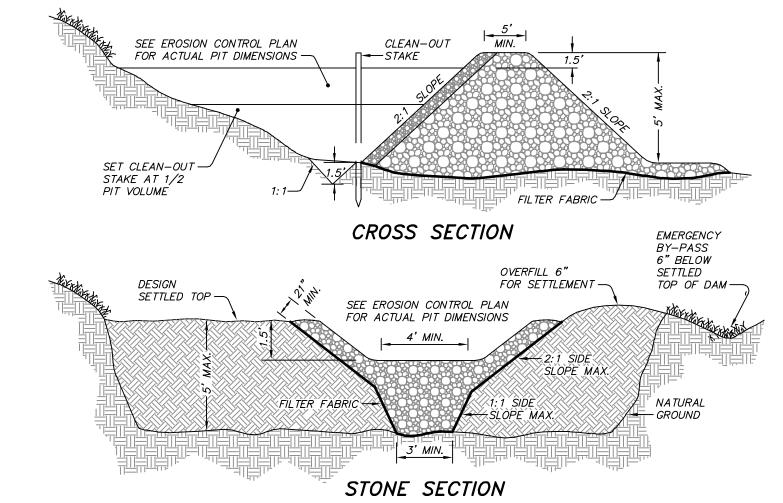
grade to assure design capacity. 8. Ensure that the impermeable spillway outlet section extends downstream past the toe of the embankment until stable conditions are reached and outlet velocity is acceptable for the receiving stream. Keep the edges of the outlet section flush with the surrounding ground and shape the center to

spillway outlet structure at a minimum of 21 inches. The weir must be level and constructed to

confine the outflow stream (References: Outlet Protection). 9. Direct emergency bypass to natural, stable areas. Locate bypass outlets so that flow will not damage the embankment.

10. Stabilize the embankment and all disturbed areas above the sediment pool and downstream from the

trap immediately after construction (References: Surface Stabilization). 11. Show the distance from the top of the spillway to the sediment cleanout level (one-half the design depth) on the plans and mark it in the field.



SEDIMENT BASIN N.T.S. SCALE:

Conversion Procedure — Sediment Basin to Wet Detention Pond

- 1. After the site is completely stabilized, contact Stocks Engineering @ 252-459-8196 for verification of completion and stabilization.
- 2. Contact the DEMLR Raleigh Regional Office for approval to remove
- all temporary erosion control measures.

COIR MESH OR SIMILAR.

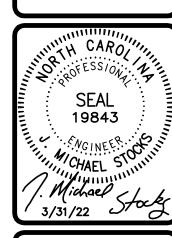
SED BASIN BAFFLES

SCALE: N.T.S.

- 3. Upon approval from the DEMLR Raleigh Regional Office, begin the conversion of the wet pond from a temporary sediment trap to a permanent BMP as follows.
- 4. If standing water is in the basin, contractor shall pump the water out discharging through a silt bag.
- 5. Bring the side slopes surrounding the pond and vegetated shelf to the proposed grade.
- 6. Contractor shall excavate the bottom of the pond to the depth of the proposed basin. 7. Excavated material must be disposed of in an approved off-site location.
- 8. Care must be taken to prevent any sedimentation/re-sedimentation during this process, as sediment deposits in the bottom of the pond may affect the depth.
- If any sedimentation occurs during this process, Contractor shall remove sediment immediately. 9. Contact Stocks Engineering @ 252-459-8196 to inspect excavated pond before continuing construction.
- 10. Upon approval of Stocks Engineering, continue constructing pond per details. Establish appropriate permanent vegetation around pond as soon as possible. 11. Upon completion of pond construction, remove sediment from silt fence and dispose of at an
- approved off—site location. Plant vegetated shelf and seed and mulch side slopes.
- 12. Contact Stocks Engineering @ 252-459-8196 to inspect completed pond before placing pond in service.



BLN=C-1874



EC NOTES AND DETAILS

REVISIONS

HORZ. SCALE: VERT. SCALE: NONE

DIMENSIONS OF TEMPORARY DIVERSION (GRASSED):

SLOPE = 0.50% MIN. (SPECIFIED BY GRADE)

CONSTRUCTION SPECIFICATIONS:

1 REMOVE AND PROPERLY DISPOSE OF ALL TREES, BRUSH, STUMPS, AND OTHER OBJECTIONABLE MATERIAL. 2. ENSURE THAT THE MINIMUM CONSTRUCTED CROSS SECTION MEETS ALL DESIGN

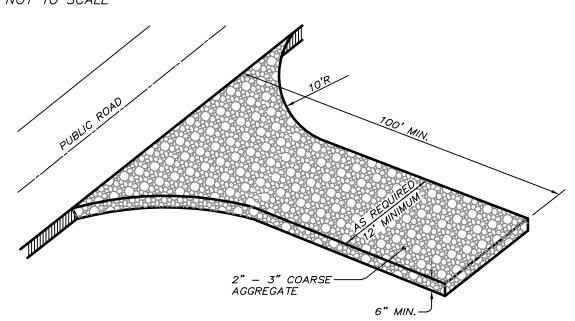
REQUIREMENTS. 3. ENSURE THAT THE TOP OF THE DIKE IS NOT LOWER AT ANY POINT THAN THE DESIGN ELEVATION PLUS THE SPECIFIED SETTLEMENT. 4. PROVIDE SUFFICIENT ROOM AROUND DIVERSIONS TO PERMIT MACHINE REGRADING AND

5. VEGETATE THE RIDGE IMMEDIATELY AFTER CONSTRUCTION, UNLESS IT WILL REMAIN IN PLACE LESS THAN 30 WORKING DAYS.

INSPECT TEMPORARY DIVERSIONS ONCE A WEEK AND AFTER EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE. CAREFULLY CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED. WHEN THE AREA PROTECTED IS PERMANENTLY STABILIZED, REMOVE THE RIDGE AND THE CHANNEL TO BLEND WITH THE NATURAL GROUND LEVEL AND APPROPRIATELY STABILIZE IT.

TEMPORARY DIVERSION

CONSTRUCTION ENTRANCE



CONSTRUCTION SPECIFICATIONS:

1. CLEAR THE ENTRANCE AND EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL AND PROPERLY GRADE IT.

2. PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS, AND SMOOTH IT. 3. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER

4. USE GEOTEXTILE FABRICS BECAUSE THEY IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.

MAINTENANCE:

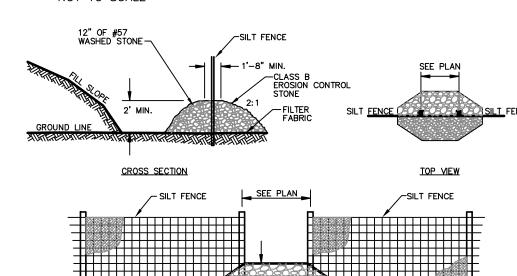
MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH 2-INCH STONE. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.

SILT FENCE OUTLET

FRONT VIEW

EXCELSIOR MATTING

NOT TO SCALE



CONSTRUCTION SPECS:

- 1. CLEAR & GRUB THE AREA AROUND THE SILT FENCE OUTLET AND PROPERLY DISPOSE OF DEBRIS. 2. PLACE GRAVEL TO THE SPECIFIC GRADE AS SHOWN
- PER THE DETAIL. 3. PROPERLY OVERLAP STONE BEYOND EDGES OF SILT FENCE OPENING.

MAINTENANCE:

CONSTRUCTION SPECIFICATIONS:

repaired and stapled.

eroded area protected.

TURNDOWN NETTING

MINIMUM BURY 6"

OVERLAP NETTING MINIMUM OVERLAP 18"

TYPICAL STAPLE USE #6 GAUGE WIRE

1000 S.F. COVER W/EXCELSIOR MATTING.

greater) rain fall event repair immediately.

INSPECT OUTLETS WEEKLY AND AFTER EACH RAIN EVENT. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR AS NEEDED. CAREFULLY CHECK OUTLETS FOR EROSION AND REPAIR IMMEDIATELY. ENSURE THERE IS NO SCOURING APPARENT DOWNSTREAM OF OUTLET. IMMEDIATELY STABILIZE ANY AREAS THAT NEED REPAIR.

1. APPLY SEED, STRAW AND TACK WITH RS OR CRS LIQUID EMULSIFIED ASPHALT AT A RATE EQUAL TO 10 GAL. PER

2. STAPLE EVERY 24" ALONG PERIMETER EDGES AND OVERLAPS. STAPLE EVERY 36" TO 48" RANDOMLY TO SECURE

1.Inspect Rolled Erosion Control Products at least weekly and after each significant (1/2 inch or

Good contact with the ground must be maintained, and erosion must not occur beneath

If erosion occurs due to poorly controlled drainage, the problem shall be fixed and the

Monitor and repair the RECP as necessary until ground cover is established.



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Installation and Use:

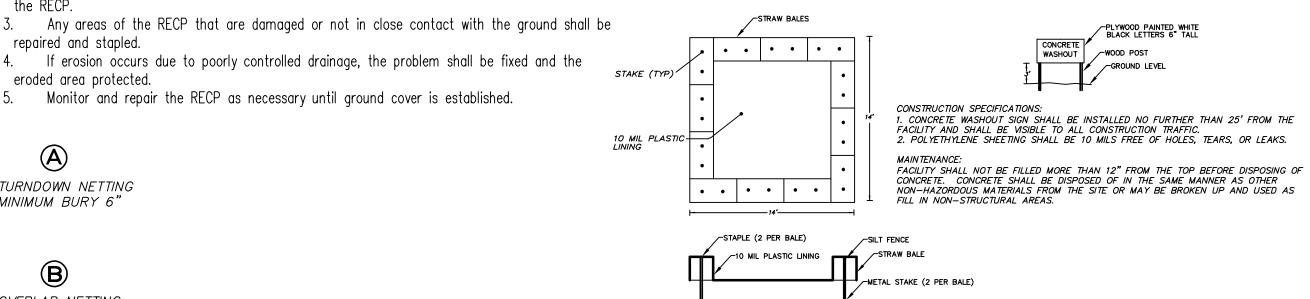
- 1. Place Dewatering Bag on the ground or on a trailer over a relatively level,
- 2. Insert discharge pipe a minimum of 5ft. inside dewatering bag and secure with a rope wrapped 6 times around the snout over a 6 inch width of the
- 3. Replace Dewatering Bag when half full of sediment or when the sediment ha's reduced the flow rate of the pump discharge to an impractical amount.

Maintenance and Disposal:

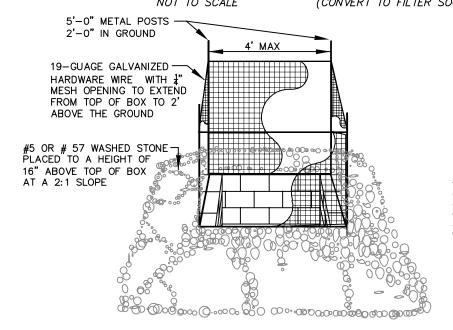
1. Remove and dispose of accumulated sediment away from waterways or environmentally sensitive areas. Slit open Sediment Bag and remove accumulated sediment. Dispose of bag at an appropriate recycling or solid waste facility. OR; as directed by engineer or inspector.

DEWATERING BAG SCALE: N.T.S.

CONCRETE TRUCK WASHOUT



HARDWARE CLOTH & GRAVEL INLET PROTECTION



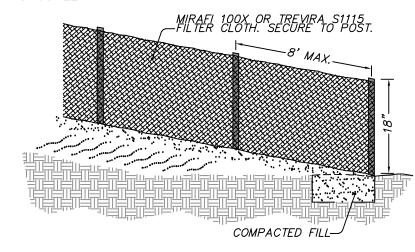
Uniformly grade a shallow depression approaching the inlet. Drive 5—foot steel posts 2 feet into the ground surrounding the inlet. feet apart.
4. Surround the posts with wire mesh hardware cloth. Secure the wire mesh to the steel posts at the top, middle, and bottom. Placing a 2–foot flap of the wire mesh under the gravel for anchoring is recommended.

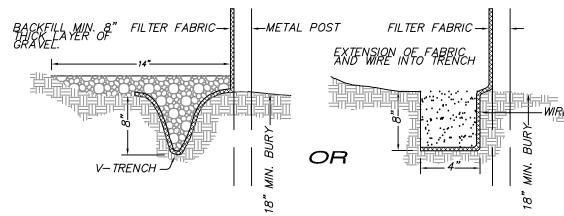
5. Place clean gravel (NC DOT #5 or #57 stone) on a 2:1 slope with a height of 16 inches around the wire, and smooth to an even grade.

6. Once the contributing drainage area has been stabilized, remove accumulated sediment, and establish final grading elevations. Compact the area properly and stabilized it with groundcover

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 wire mesh during sediment removal. Replace stone as needed.

SILT FENCE





CONSTRUCTION SPECIFICATIONS:

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

2. ENSURE THAT THE HEIGHT OF THE SEDIMENT FENCE DOES NOT EXCEED 24 INCHES ABOVE GROUND SURFACE. (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE). 3. CONSTRUCT THE FILTER FABRIC FROM A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS. WHEN JOINTS ARE NECESSARY, SECURELY FASTEN THE FILTER CLOTH ONLY AT A SUPPORT POST WITH 4 FEET MINIMUM OVERLAP TO THE NEXT POST. 4. SUPPORT STANDARD FILTER FABRIC BY WIRE MESH FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS. EXTEND THE WIRE MESH SUPPORT TO THE BOTTOM OF THE TRENCH. FASTEN THE WIRE REINFORCEMENT, THEN FABRIC ON THE UPSLOPE SIDE OF THE FENCE POST. WIRE OR PLASTIC ZIP TIES SHOULD HAVE MINIMUM 50 POUND TENSILE STRENGTH. 5. WHEN A WIRE MESH SUPPORT FENCE IS USED, SPACE POSTS A MAXIMUM OF

GROUND A MINIMUM OF 24 INCHES. 6. EXTRA STRENGTH FILTER FABRIC WITH 6 FEET POST SPACING DOES NOT REQUIRE WIRE MESH SUPPORT FENCE. SECURELY FASTEN THE FILTER FABRIC DIRECTLY TO POSTS. WIRE OR PLASTIC ZIP TIES SHOULD HAVE MINIMUM 50 POUND TENSILE STRENGTH 7. EXCAVATE A TRENCH APPROXIMATELY 4 INCHES WIDE AND 8 INCHES DEEP ALONG THE PROPOSED LINE OF POSTS AND UPSLOPE FROM THE BARRIER. 8. PLACE 12 INCHES OF THE FABRIC ALONG THE BOTTOM AND SIDE OF THE 9. BACKFILL THE TRENCH WITH SOIL PLACED OVER THE FILTER FABRIC AND COMPACT. THOROUGH COMPACTION OF THE BACKFILL IS CRITICAL TO SILT FENCE

10. DO NOT ATTACH FILTER FABRIC TO EXISTING TREES.

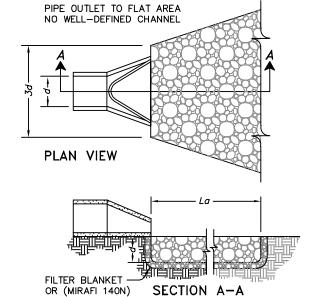
8 FEET APART. SUPPORT POSTS SHOULD BE DRIVEN SECURELY INTO THE

MAINTENANCE:

PERFORMANCE.

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

PIPE OUTLET PROTECTION NOT TO SCALE



PIPE OUTLET TO FLAT AREA NO WELL-DEFINED CHANNEL

PLAN VIEW FILTER BLANKET

OR (MIRAFI 140N) SECTION A-A PIPE OUTLET TO WELL-DEFINED CHANNEL

GENERAL NOTES:

1. La = THE LENGTH OF THE RIP RAP APRON.

2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6". 3. IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TO AN ELEVATION OF 6 ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.

4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIP RAP AND SOIL FOUNDATION.

5. FLARED END SECTION IS OPTIONAL. SEE PLANS FOR REQUIREMENT.

6. SEE PLAN AND PROFILES FOR ACTUAL DIMENSIONS.



BLN=C-1874

WITH CARO, 19843 ",MICHAEL " 3/31/22

EC NOTES AND DETAILS

REVISIONS

HORZ. SCALE: 1"=20' VERT. SCALE: NONE

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

	SECTION E. GROOND STRUILIER THON					
	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
 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.
- 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

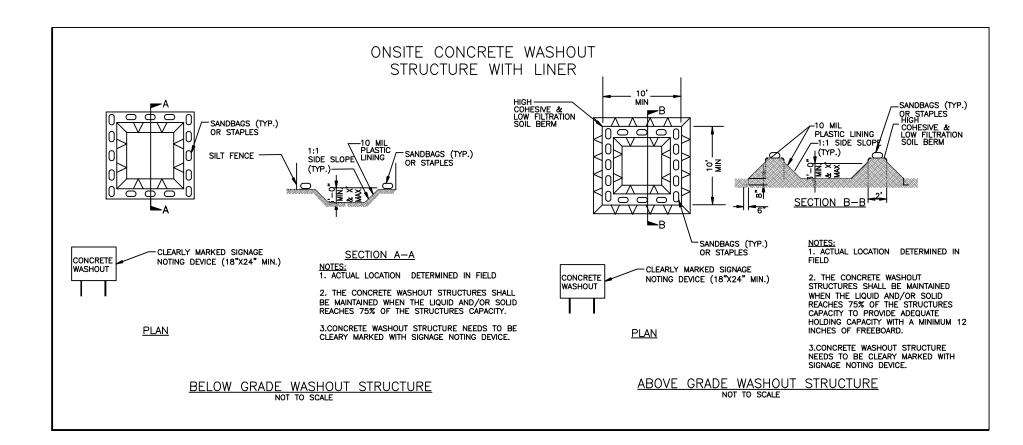
- 1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- 2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- 3. Contain liquid wastes in a controlled area.
- 4. Containment must 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.



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.
- 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

- 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.

HAZARDOUS AND TOXIC WASTE

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

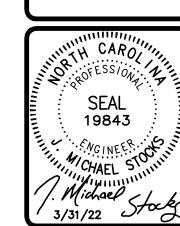
NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19



BLN=C-1874

Y TOWNES - 68 TOWNHOME UNITS HELD, JOHNSTON COUNTY, NORTH CA



NPDES NOTES AND DETAILS

REVISIONS

FILE NO. 2021-001

ORZ. SCALE: 1"=20'

/ERT. SCALE: NONE

PART III

SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

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

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

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

PART III

SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

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

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

2. Additional Documentation to be Kept on Site

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

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

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

PART II, SECTION G, ITEM (4)

DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

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

- 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.

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,

PART III

SELF-INSPECTION, RECORDKEEPING AND REPORTING

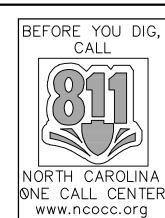
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).
- Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- (d) Anticipated bypasses and unanticipated bypasses.
- (e) Noncompliance with the conditions of this permit that may endanger health or the environment.
- 2. Reporting Timeframes and Other Requirements

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

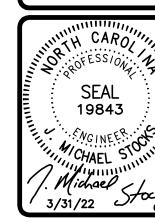
Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment	Within 24 hours, an oral or electronic notification.
deposition in a	Within 7 calendar days, a report that contains a description of the
stream or wetland	sediment and actions taken to address the cause of the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

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING





BLN=C-1874



NPDES NOTES AND DETAILS

HORZ. SCALE: VERT. SCALE: NONE

A. Surface Tolerance

B. Surface Texture

Surface tolerance requirements for smoothness must be checked in the presence of an Inspector using a "Rolling Straightedge" for checking surface tolerance. A variation of more than 1/8" in 10 feet will be considered unacceptable and must be corrected in an acceptable manner which will also meet Item (B and H) below.

Care shall be taken to insure that a smooth dense texture is achieved with no segregation, tearing, cracking, etc. Areas discovered which are not uniform in appearance and texture shall be reheated and rerolled, replaced, or if required, by the Engineer resurfaced at no additional cost to the Owner. Seams shall be straight, true, and

C. Plant Tickets

To verify depth for payment, plant tickets shall be submitted to the Engineer.

D. Payment of Asphalt

No payment for paving will be made until the surface texture and smoothness has been inspected, satisfactorily repaired, if necessary, and approved by the Engineer and the Owner

E. Paving Subcontractors

The General Contractor in charge of the Paving Contractor shall be responsible for assuring that his paving Contractor has read these requirements if paying is to be subcontracted. Failure to inform a Subcontractor does not relieve the Prime Contractor of these requirements.

No paving of asphalt shall take place until the Utility Contractor and the Paving Contractor have mutually agreed that all valve boxes and manholes have been set to finished grade and that it is the Paving Contractor's responsibility to make minor adjustments prior to paving, as applicable.

G.Asphalt Specifications

Asphalt and CABC shall meet the NCDOT "Standard Specifications for Roads and Structures", latest revision. Asphalt mix and placement shall meet Division 6 of the State Specifications. CABC shall meet Section 520 of the State Specifications and graded in accordance with Table 520-1. Placement and compaction shall meet

H.Asphalt Patching

Asphalt Patching WILL NOT BE ALLOWED. In the event that Asphalt is unsatisfactory to Engineer, the contractor shall mill entire section of asphalt and resurface a minimum depth of one and one-half inch and at minimum length of one hundred feet for the entire width of section in question. This area is to be determined by field inspection with the contractor and/or sub contractor and the Engineer present.

2. All asphalt prices in this proposal shall be based on the NCDOT June, 2018 Monthly Terminal F.O.B. Asphalt Binder Price at time of bid. If the asphalt cement price fluctuates from this stated price at any time during the performance of the asphalt scope, the contractor will adjust the asphalt prices in accordance with the newly published NCDOT Monthly Terminal F.O.B. Asphalt Binder Prices. These prices are located at the following

https://connect.ncdot.gov/projects/construction/Lists/Monthly%20Terminal%20Asphalt%20Binder%20%20Fuel%20F0B%20Prices/Allitems.aspx

Concrete Notes

- All construction, placing, pouring and curing concrete is to conform to the latest edition of ACI 318. All reinforcing steel is to be cold cut and bent
- Portland cement concrete shall have a minimum 28 day compressive strength of 3,000 PSI, a nonvibrated slump between 2.5 and 4-inches, a minimum cement content of 545 pounds per cubic yard, an air entrainment of 5-7-percent and a maximum water-cement ratio of 0.545 in accordance with Class B concrete as described in the NCDOT "Standard Specifications for Roads and Structures unless otherwise specified. Do not use chloride in any concrete which has reinforcing steel or wire fabric.
- Reinforcing steel shall meet ASTM A-615, Grade 60. Welded wire fabric shall meet ASTM A-185. Tie wire shall conform to ASTM A-82.
- Lap welded wire fabric a minimum of one mesh. Lap all bars a minimum of 24". Alternate adjacent bar splices a minimum of 48".
- Use only approved chairs with sand plates to support reinforcing on grade. 8. All crossings of reinforcement are to be tied. Supports for reinforcing to hold bars against

normal concrete and 24 hours for high early strength concrete.

9. Concrete shall be only plant-mixed, transit-mixed or ready-mixed concrete. The time elapsing from

movement during pour and finish operation. Supports for reinforcing bars to be a minimum of 48

- mixing to placing the concrete shall not exceed ninety (90) minutes. 10. Concrete shall not be deposited on frozen subgrade and shall not be poured when the air
- temperature for the succeeding 24-hour period is less than 32 degrees F. 11. All concrete when placed in forms shall have a temperature between 50 degrees F and 90 degrees F and shall be maintained at a temperature of not less than 50 degrees for at least 72 hours for
- 12. Do not place fresh concrete during summer on a dry subgrade. Moisten subgrade before placing 13. Subgrade is to be firm, free of water and/or silt and undisturbed or compacted properly. Consult
- Engineer if soft or yielding subgrade is encountered for improvement directions. If ground water is entering subgrade, consult Engineer for instructions.
- 14 Areas of concrete to be removed shall be saw cut before removing. The saw cut shall provide a
- smooth, straight edge approximately two (2) inches deep before breaking away the adjacent 15. Immediately after the forms have been removed and all honeycombed areas are repaired, backfill to
- prevent underwash. 16. Brooming of the concrete surface shall be done transverse to the direction of traffic for all pedestrian
- 17. Joint spacing shall be no less than 8-feet. Where existing sidewalks are being widened, transverse joints shall be located so as to line up with existing joints in the adjacent existing sidewalk. Grooved ioints shall not be sealed
- 18. Concrete Sub shall be responsible for all score joints and expansion joints. A preliminary score joint pattern and expansion joint pattern shall be submitted to the project engineer for review prior to pouring concrete.
- 19. Expansion joints shall be one-half (1/2) inch in width and shall be placed between all rigid objects at a distance of no more than thirty (30) feet apart and shall extend the full depth of the concrete with the top of the filler one-half (1/2) inch below the finished surface. Expansion Joints shall be sealed.
- 20. The edges of the curb/sidewalk shall be finished with an approved edging tool one-half (1/2) inch radius. Joints shall be similarly finished immediately after templates have been removed.
- 21. Saw control joints as soon as fresh concrete will retain coarse aggregate against the sawing action. 22. Contractor SHALL NOT POUR any concrete before forms are inspected by the project engineer and/or the architect. Any concrete that has not been approved by the engineer and/or owner will be
- the responsibility of the contractor. 23. All cracked concrete shall be removed and re-poured. Owner will not accept new cracked concrete.

Testing

Concrete Testing Requirements

The initial test (from first ready-mix truck) is to be taken after the second yard is dispatched

from the mixer and is to consist of the following: 1. One slump test

2. Pull, prepare and store 3 cylinders on-site for 24 hours. 3 Temperature

After the above tests are pulled from the initial truck, every 5th truck thereafter is to be tested in the same manner as noted above.

Asphalt Testing Requirements

Compaction: Testing for asphalt density is to follow NCDOT "Standard Specifications for Roads and Structures", Section 609-9, "Field Compaction Quality Management," latest revision. <u>Thickness</u>: The minimum frequency of coring for thickness testing shall be on the basis of test sections consisting of not more than 1500 linear feet of lay down width, exclusive of intersections and irregular areas or 15,000 S.F. The test sample is to be a 6-inch cored sample. The sample is to be numbered and logged for identification purposes.

- Contractor's Quality Control System: Follow NCDOT "Standard Specifications for Roads and Structures", Section 609-5, "Contractor's Quality Control System," latest revision:
- Mixture and Job Mix Formula Adjustments: Follow NCDOT "Standard Specifications for Roads and Structures". Section 609-4 "Field Verification of Mixture and Job Mix Formula Adjustments", latest revision.
- General: All other applicable sections of Section 609 of the NCDOT "Standard Specifications for Roads and Structures" shall apply relating to Quality Control Plan, mix design, control limits, corrective action, equipment and measurement. Testing Cost:
- Project Owner is responsible for cost of testing.

Drainage Notes

- 1. Boxes may be reinforced masonry, masonry, precast concrete or cast-in-place reinforced
- 2. The maximum height of an un-reinforced masonry drainage structure with 8" walls shall be limited to 8'-0" from invert of the outlet pipe to the top of the casting. Depths greater than 8'-0" shall have walls 12" thick. Basins over 12' in total depth shall be designed by a NC Professional Engineer. Four inch walls are not allowed on drainage structures.
- Steps are to be provided on all basins deeper than 42". 4. Steps are to be PS1-PF as manufactured by M. A. Industries or an approved equal. Locate on non-pipe walls.
- Mortar in masonry boxes is to be type M.
- Clay brick structures are not allowed.

top and bottom thickness.

- Concrete pipe is to be minimum class III.
- 8. Concrete building brick is to meet ASTM C-55, Grade N, Type 1. 9. All iron castings are to be drilled and lagged to the drainage structure. The drainage structure as
- well is to be drilled. 10. All cast-in-place or precast concrete drainage structures located in paved areas accessible to truck loadings to be designed to meet AASHTO HS 20-44 loading. See manufacturers details for wall,
- 11. Coat all frames and Grates w/bituminous paint prior to placement. Coating shall be free of pinholes or voids.

Grading Notes

- 1. Site Contractor to inform Building Contractor to verify finished grade at building before digging footings. Some portions of the building foundation wall may, of necessity, need to retain building pad fill to allow exterior grades to be dropped. In this case, step footings may be necessary to achieve
- the desired grade variations 2. New finished contours shown are top of future paving in areas to receive pavement and top of topsoil in areas to be seeded.
- 3. Areas outside of the parking lot perimeters shown to be seeded shall receive 6 inches of imported topsoil. This topsoil to be placed and leveled by the Contractor.

4. Dimensions on buildings are for grading purposes only and are not to be used to lay-off footings.

- See Architectural Plans. 5. Contractor shall notify and cooperate with all utility companies or firms having facilities on or adjacent to the site before disturbing, altering, removing, relocating, adjusting or connecting to said
- facilities. Contractor shall raise or lower tops of existing manholes, as required, to match finished 6. All catch basin grate and frames are to be Vulcan or approved equal. Verify that dimension heights
- on castings are not exceeded in critical areas before ordering substitute castings! All areas not covered by building or paving to be grassed. 8. Unusable excavated materials and all waste resulting from clearing and grubbing shall be disposed
- of off-site by Contractor 9. All excavation is unclassified and shall include all materials encountered. 10. Before any machine work is done. Contractor shall stake out and mark the items established by the Site Plan. Control points shall be preserved at all times during the course of the project. Lack of
- proper working points and grade stakes may require cessation of operations until such points and grades have been placed to the Owner's satisfaction. 11. Refer to soils report for directions on earthwork and subgrade preparation, if available.

Parking, Street or Building Subgrade Preparation

A. Subgrade on Precompacted Original Soil

- 1. Remove all the topsoil and all questionable organic soil and extend a minimum of four (4) feet beyond the outside edge of the pavement.
- 2. Precompact the exposed grade with a vibratory roller weighing a minimum of ten (10) tons (static load) or equal to stabilize the initial settlement of the top strata of the soil. The stability of the subgrade will be considered adequate when the total settlement after the last four (4) complete passes by the vibratory roller does not exceed 1/8". Any area that settles excessively and fails to stabilize under continued rolling should be further undercut and replaced with properly compacted select granular fill.

B. Subgrade on Certified Compacted Fill

- Prepare the site following the same procedures as outlined in Items 1 and 2 above. 2. Using the same compaction equipment as outlined above, compact new fill soil in +/-8-inch layers to a minimum 98-percent of the maximum dry density at its optimum moisture content in accordance
- with the Standard Proctor Method, ASTM Standard D 698-78 and field controlled in accordance with ASTM Standard D 2167-84, or equal. The top one (1) foot of the prepared fill subgrade should be compacted to 100-percent of the maximum dry density using the Standard Proctor Method. 3. The end of the fill should be terminated at the minimum slope of two (2) horizontal to one (1) vertical measured from three (3) feet beyond the outside edge of the pavement to the toe of the fill. The fill

soil is to be select granular soil weighing a minimum of 110 pcf at its optimum moisture content.

Sewer Notes

- 1. No Sewer line installation shall take place until an approved NCDENR permit has been issued. 2. No work is to begin along any public roadway without an approved copy of the appropriate
- encroachment permit in hand. 3. Unless noted otherwise, manholes are to be precast concrete manholes with eccentric cones, rubber boots and moorbases. Manholes to meet AASHTO M-199.
- Sewer Pipe: a. SDR-35 SMOOTHWALL: Pipe shall conform to ASTM D-3034 Type PSM, SDR-35. b. DIP SEWER PIPE: Ductile Iron Gravity Sewer pipe shall be pressure Class 350 Ductile Iron
- Pipe for all pipe up to and including 12" and shall conform to ASTM A 746 and ANSI/AWWA C151/A21.51.91. Ductile Iron Sewer Pipe interior Lining shall meet ANSI/AWWA C104/A21.4 for Ductile Iron Force Mains, these same standards shall apply. Fittings shall be ductile iron in accordance with the requirements of ANSI/AWWA C153/A21.53, ANSI/AWWA C110/A21.10. Mechanical joints and slip joints shall conform to ANSI/AWWA C111/A21.11 Pipe bedding shall be Class B modified (i.e. stone to top of pipe).
- 6. Any well pointing, dewatering, etc. needed during sewer construction is to be included in the cost of the line laid. Utilize select fill from off-site for trench borrow when needed. If material of a select
- nature is not available, bring in from off-site. 7. The minimum clearances for water, sewer and storm drainage lines shall be as follows:

<u>Between</u>	<u>Horizontal</u>	<u>Vertical</u>
Water and Sewer	10'	18" w/water above sewer
Water and Storm Drainage	-	12" w/water above storm drainage
Sewer and Storm Drainage	-	12" w/storm drainage above
		sewer

8. Maximum allowable infiltration rate at the outlet end of the sewer pipe shall not exceed 100 gallons per day per one inch of pipe nominal diameter per mile of pipe length along the entire system.

test. Manholes to be subjected to a vacuum test.

- 9. Lengths of sewer pipe have been rounded to the nearest foot. Measurements on sewer lines are straight line distances between manholes. 10. The completed system shall be subjected to either an infiltration test or a low pressure air test when pipe has less than 2' of water above top of pipe. Contact Engineer for procedures for low pressure
- 11. The Contractor shall make arrangements with the local utility authority when connecting to existing manholes or mains. 12. Location, size and invert elevations of clean outs shown on "private" services are to be coordinated with the approved Plumbing Plans for the building. All plumbing is to meet the requirements of the
- NC State Building Code, Volume II, Plumbing, latest revision. 13. Contractor shall seed, mulch and tack all disturbed areas within 7 days after backfilling trench. All sedimentation control measures shall be kept in operable condition until a stand of grass is established and the area is capable of resisting erosion by wind and rain. All erosion control measures shall be removed when authorized by the Engineer after the completion of the project.
- 14. All excavated wood and rocks shall be disposed of offsite by the Contractor. Bury will not be 15. Sewer lines crossing existing asphalt pavement shall be installed by the open cut trench method, unless otherwise indicated. Where lines cross gravel driveways, Contractor is to restore driveways
- 16. Contractor shall take proper precautions not to disturb existing property corner markers. All disturbed property corner markers shall be replaced by a Registered Land Surveyor.

17. Manhole Frame and Lid to be coated w/bituminous paint prior to placement.

Water Notes

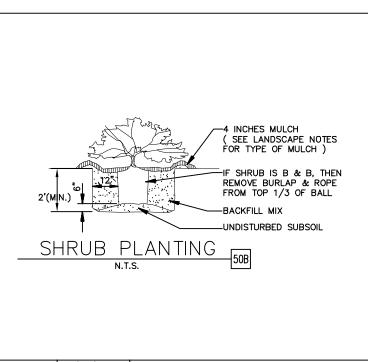
- l. No work is to begin until permit is in hand from the NCDENR approving line placement. 2. No work is to begin along any public roadway without an approved copy of the encroachment permit
- New water lines shall be installed with a minimum cover of 3'-0" or in accordance with the profile shown on the Contract Drawings. Bottom of the trench to be shaped to support the pipe throughout its entire length. Workmanship for trenching and installation of main shall conform essentially to practice outlined in AWWA C600-64
- No existing valves and fire hydrants shall be operated without the explicit permission from the Public Utility Owner. The contractor shall make arrangements with the local utility authority prior to connecting to existing mains.
- 5. Contractor shall seed, mulch, and tack all disturbed areas within 7 days after backfilling trench. All
- sedimentation control measures shall be kept in operable condition until a stand of control measures shall be removed when authorized by the Engineer after the completion of the project. 6. All excavated wood and rocks shall be disposed off-site by the Contractor. Bury will not be
- permitted on-site Water lines crossing existing asphalt pavement shall be installed by the open cut trench method
- unless otherwise indicated. Where lines cross gravel driveways, Contractor is to restore driveways to the original condition. Paved drives shall be repaired within 7-days of open cut.
- 8. Contractor shall take proper precautions not to disturb existing property corner markers. All disturbed property corner markers shall be replaced by a Registered Land Surveyor. 9. The maximum horizontal or vertical deflection of an 18 ft. joint of 4-inch waterline is not to exceed
- 10. All bends 11 1/4 degree or greater and all tees are to be provided with thrust blocking. Dead end
- lines or laterals larger than 2" in diameter shall have thrust collars on the last joint with a valve located at the upstream end of the thrust collar joint. 11. Utility contractor is responsible for notifying local authority of time and date he plans to commence
- 12. Any well pointing, dewatering, etc. needed during construction shall be the responsibility of the contractor. Trench borrow needed during construction shall be included in the cost of the line laid, unless otherwise specified.
- 13. Water Pipe to be PVC C-900 pressure pipe. Comply with ASTM D-2241 with bell and spigot gasketed joints. Pipe to be furnished with transition gaskets for use with mechanical joint ductile iron fittings. Joints to meet ASTM D-3139.
- 14. Valve box to be 3 piece telescopic with concrete collar when not in pavement. 15. Fire Hydrants shall meet AWWA C-502 with minimum of 150-PSI working pressure. Painted to meet City of Rocky Mount Specifications. 16. The contractor shall provide all the material and appurtenances necessary for the complete
- installation of the utilities. All pipe and fittings shall be inspected prior to being covered. 17. Upon completion of sections between main line valves, the line shall be tested for leakage at a static pressure of 150 psi or 1.5 times the working pressure, whichever is greater, for two hours in accordance with the procedures set forth by AWWA C600-77, Section 4 - Hydrostatic Testing.
- 18. Lines shall be flushed thoroughly to remove all dirt and debris. Chlorine shall be applied to all water lines in sufficient concentration to leave an overall residual of 50 ppm. The chlorinated water shall remain in the lines for 24 hours at the end of which time the chlorine residual shall be at least 10 ppm. The lines shall then be flushed until there is normal chlorine residual present and samples shall be collected for bacteriological analysis.

Demolition Notes

- 1. The Engineer does not guarantee the accuracy of the location of above and below ground utilities shown on this plan. It will be the sole responsibility of the contractor to have all utilities located prior to beginning construction activities and to provide any temporary utilities needed to maintain the buildings, sidewalks, parking lots, or other facilities either not being demolished or not being demolished in the particular phase of construction. Any discrepancies between this plan and actual
- field conditions shall be brought to the engineers attention immediately. 2. Contractor is responsible for the removal and/or relocation of all above and below ground utilities within the work area, including but not limited to, gas, sewer, water, fiber optic, storm drain, roof
- drains, telephone, cable, irrigation, oxygen etc. 3. Contractor shall coordinate with the appropriate utility authorities prior to commencement of any demolition activities.
- 4. Building, sidewalks, parking lots, and other facilities not being shown as being demolished in this phase shall remain open and operational. Any temporary utilities needed to maintain these facilities
- shall be the sole responsibility of the contractor. 5. Contractor shall remove all vegetation and landscaping located within the work area and any items
- shown on the demolition plan outside of the work area. 6. Any damage to facilities shown to remain open and operational shall be repaired as directed by the
- architect/engineerimmediately 7. All items shown as dark items on these plans are to be removed and/or relocated. Other items shown lighter in color to remain unless otherwise indicated. Contractor to field verify all items needing to be removed and/or relocated prior to bid. Any item needing to be removed and/or relocated to facilitate the proposed building or to maintain the buildings shown to remain in operation
- are the responsibility of the contractor. 8. The contractor shall coordinate for the quick removal of all demolished debris. Stockpilling for more than 2 days, onsite burning, or burial will not be allowed.
- 9. Contractor shall be responsible for securely fending the work area from pedestrian or vehicular access prior to beginning demolition activities. 10. Contractor to verify and obtain demolition permits from the approving authority as required.
- 11. All demolition debris shall be disposed of in an approved landfill location. 12. All sidewalks and asphalt to be demolished where portions will be left for further use shall be sawcut







construction

The following notes do not represent the belief of any municipality, government organization, or client of Stocks Engineering. The detail is included to show the foundation of Stocks Engineering and its employees. Our prayer is that through the truth outlined below you will clearly see what it means to have a personal relationship with Christ.

to leave a straight edge.

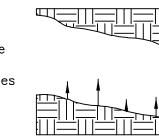
1. GOD'S LOVE

God loves you and he created you to know him personally. He has a wonderful plan for you life. John 3:16 "For God so loved the world that he have his only son, that whoever believes in him shall not perish but have eternal life."

What prevents us from knowing God personally?

2. OUR CONDITION People are sinful and separated from God, so we cannot know him personally and experience his love and plan.

Romans 3:23 "For all have sinned and fall short of the glory of God." Romans 6:23 "For the wages of sin is death" (Spiritual separation from God)

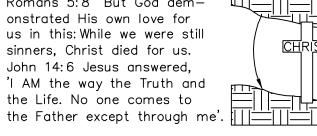


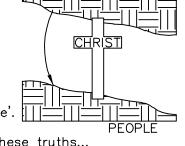
This diagram ilustrates that God is Holy and people are sinful. A great gulf separates the two. The arrows illustrate people continually trying to reach God through our own efforts, but we inevitably fail.

There is only on way to bridge this gulf. 3. GODS RESPONSE

Jesus Christ is God's only provision for sin, Through him alone we can know God personally and experience his love and plan.

Romans 5:8 "But God dem onstrated His own love for us in this: While we were still sinners, Christ died for us. John 14:6 Jesus answered, 'I AM the way the Truth and the Life. No one comes to





This diagram ilustrates that God has bridged the gulf that separates us from Him by sending His son, Jesus Christ, to die on the cross in our place to pay the penalty for our sins.

It is not enough just to know these truths...

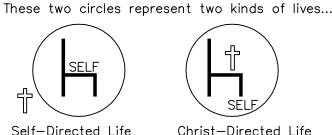
4. OUR RESPONSE We must individually receive Jesus Christ as Savior and Lord; only then can we know God personally and experience His love and Plan.

Ephesians 2:8-9 "For it is by grace you have been saved, through faith — and this is not from yourselves, it is the gift of God — not by works, so no one can

John 1:12 "Yet to all who

received Him, to those who





<u>Christ-Directed Life</u> and on the throne;

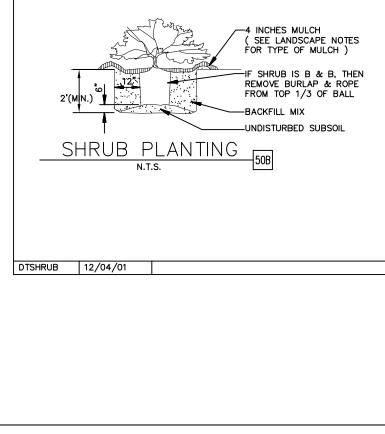
and on the throne; believed in his name, he gave the right to become children of God" Christ is outside. self yeilds to Christ.

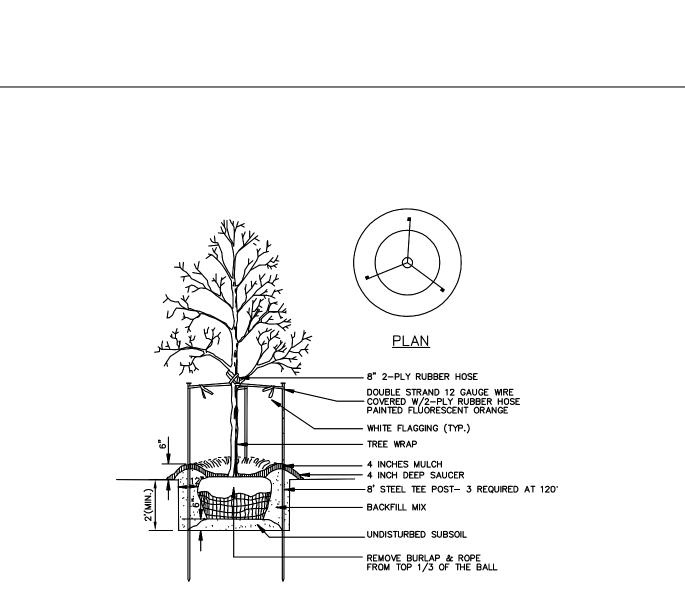
Which circle best represents your life? Which circle would you like to have represent your life? You can receive Christ right now by faith in prayer.

"Lord Jesus, I need you. Thank you for dying on the cross for my sins. I open the door to my life and receive You as my Savior and Lord. Thank you for forgiving my sins and giving me eternal life. Take control of the throne of my life. Make me the kind of person You want me to be." If this prayer expresses the desire of your heart, then you can pray this prayer and Christ will come into your life as he promised.

For more information on what it means to have a relationship with God, or if you have any questions or prayer request please submit them to

stocksengineering@gmail.com, call us at 252.459.8196.





NOTE: SEE LANDSCAPE NOTES FOR THE TYPE OF MULCH MATERIAL TO USE.

TREE PLANTING

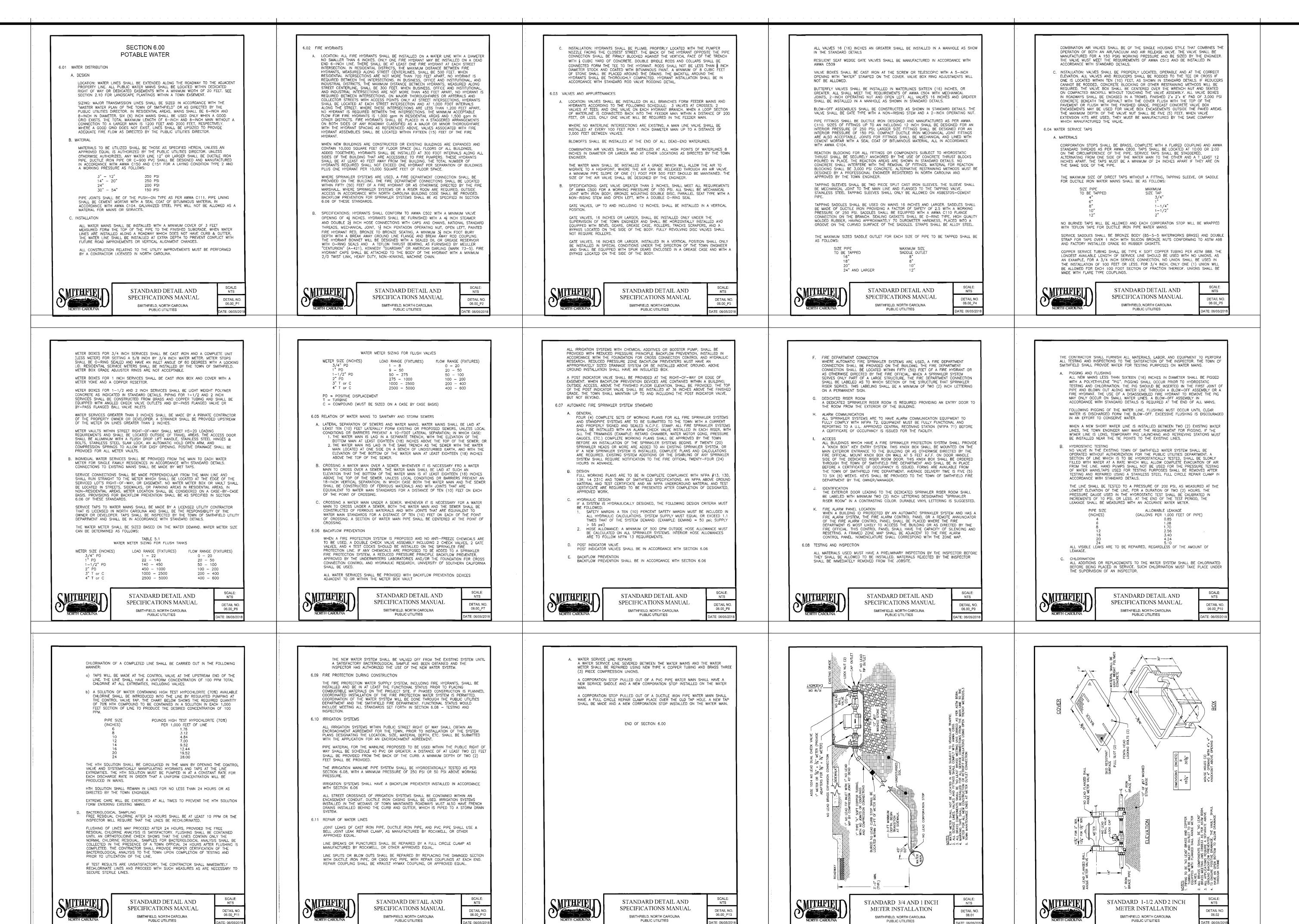
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BLN=C-1874

CONSTRUCTION NOTES REVISIONS

HORZ. SCALE: VERT. SCALE: NONE



RING
PHONE: (252) 459-819

ENGINETA

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ASHVILE, N.C. 27856

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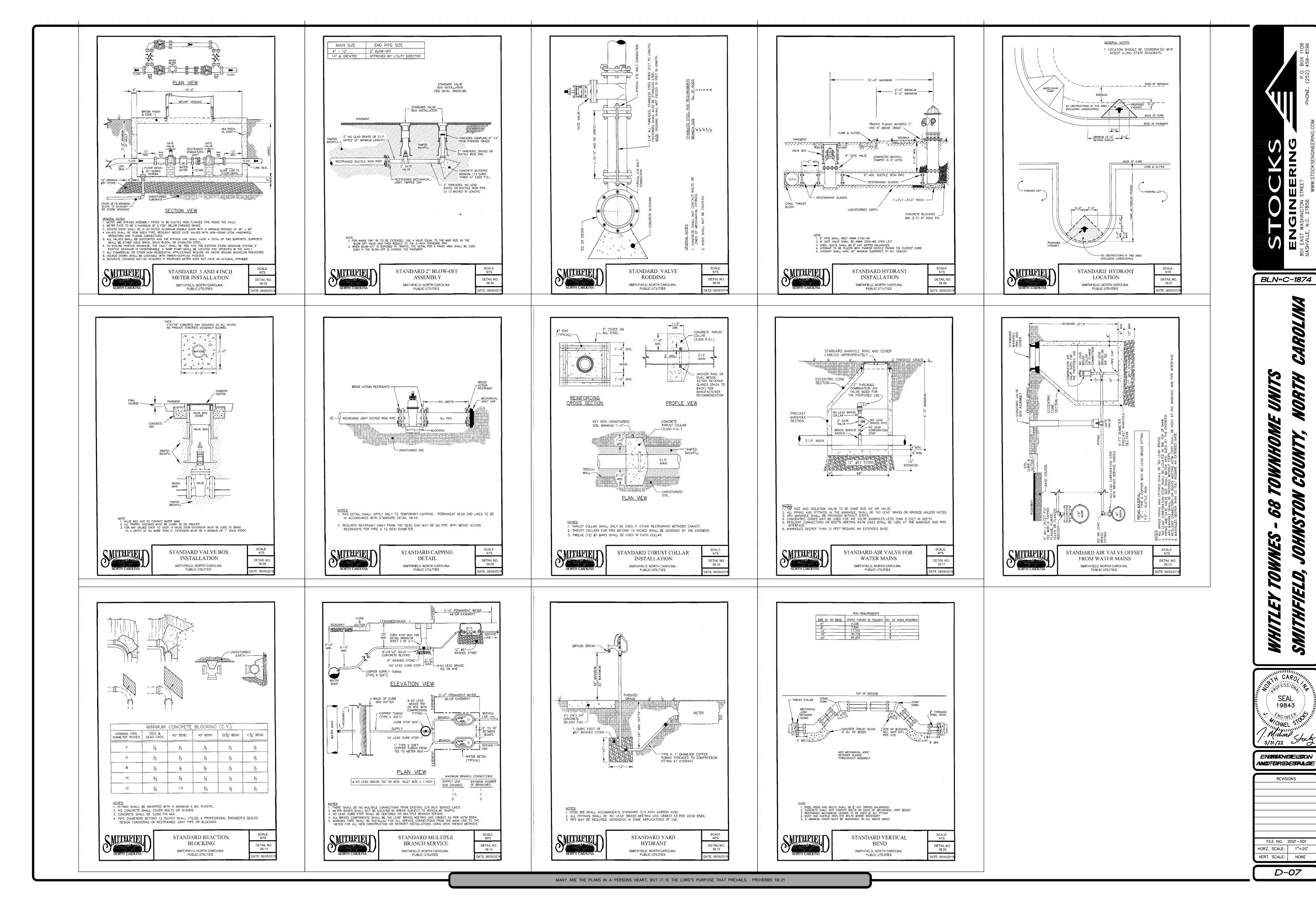
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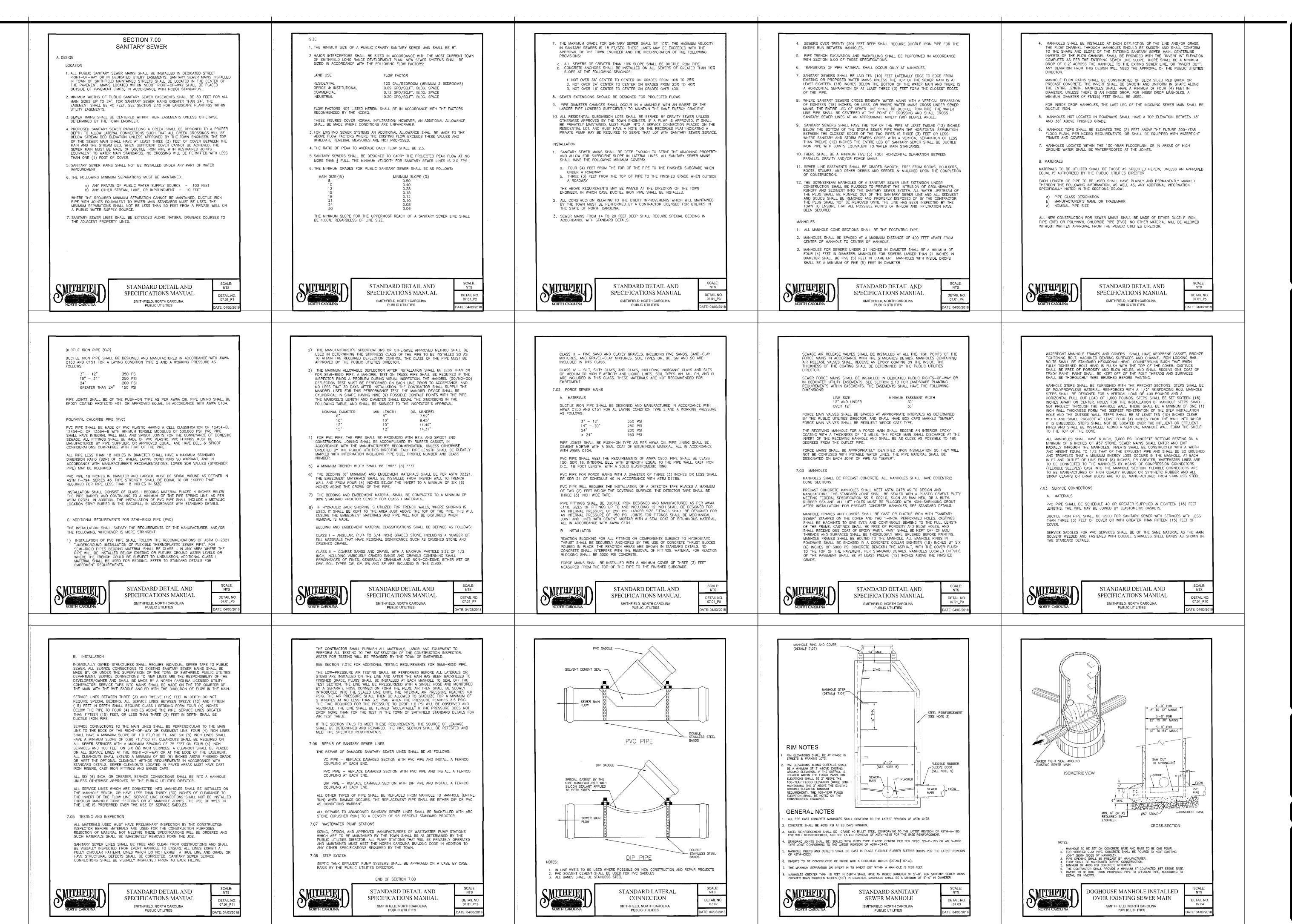
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Michael
3/31/22

SMITHFIELD WATER DETAILS

REVISIONS

FILE NO. 2021-001
HORZ. SCALE: 1"=20'
VERT. SCALE: NONE





VERT. SCALE: NONE

1"=20'

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HORZ. SCALE:

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3/31/22 Stock

SMITHFIELD

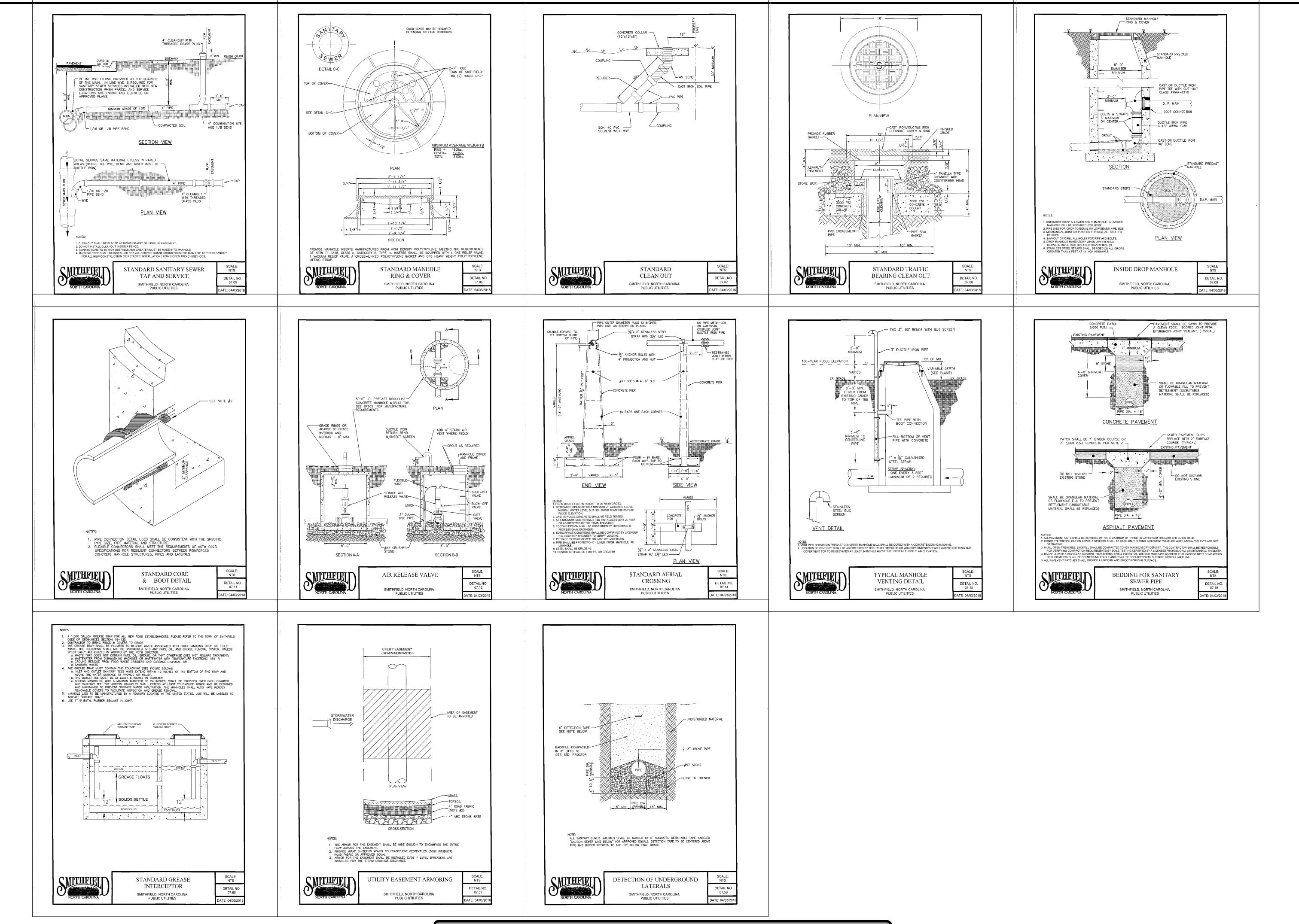
SEWER DETAILS

REVISIONS

"MICHAEL

MANY ARE THE PLANS IN A PERSONS HEART, BUT IT IS THE LORD'S PURPOSE THAT PREVAILS. PROVERBS 19:21

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GINEERING STREET
ASHINGTON STREET
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WHITLEY TOWNES - 68 TOWNHOME UNITS SMITHFIELD, JOHNSTON COUNTY, NORTH CAROLII

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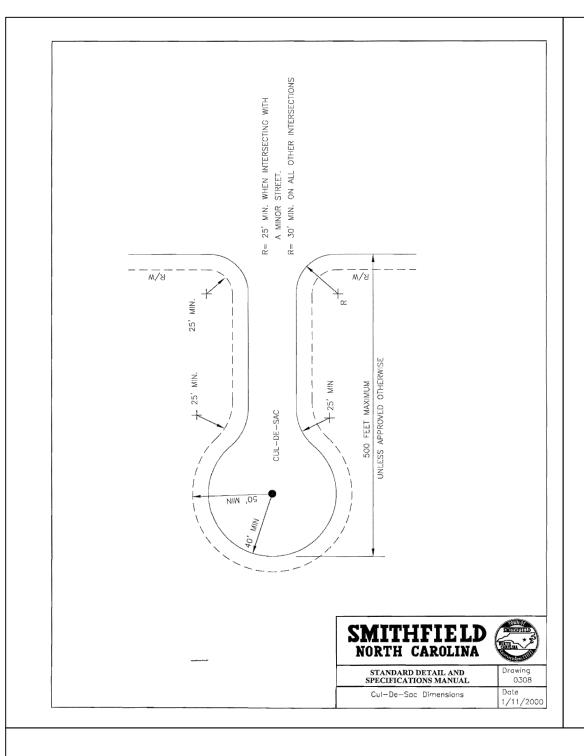
SMITHFIELD SEWER DETAILS

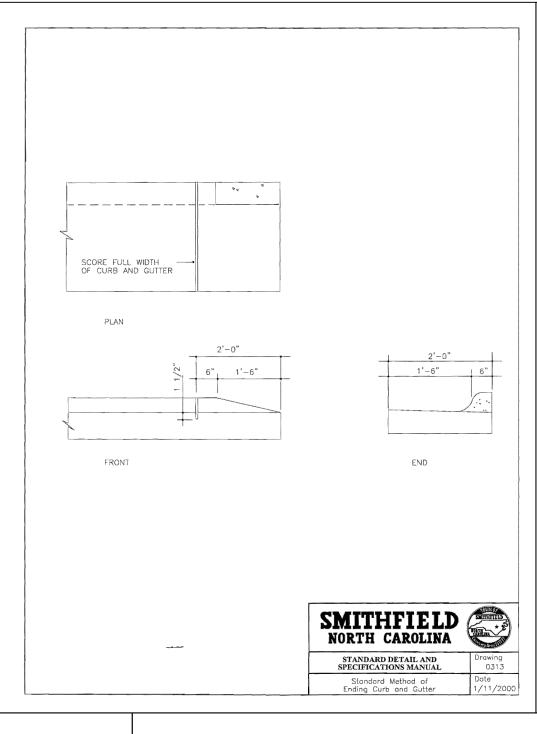
REVISIONS

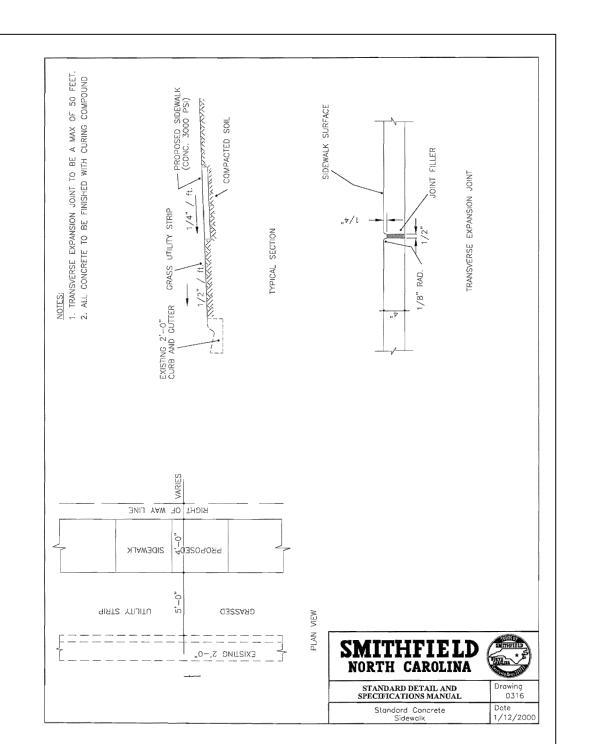
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VERT. SCALE: NONE

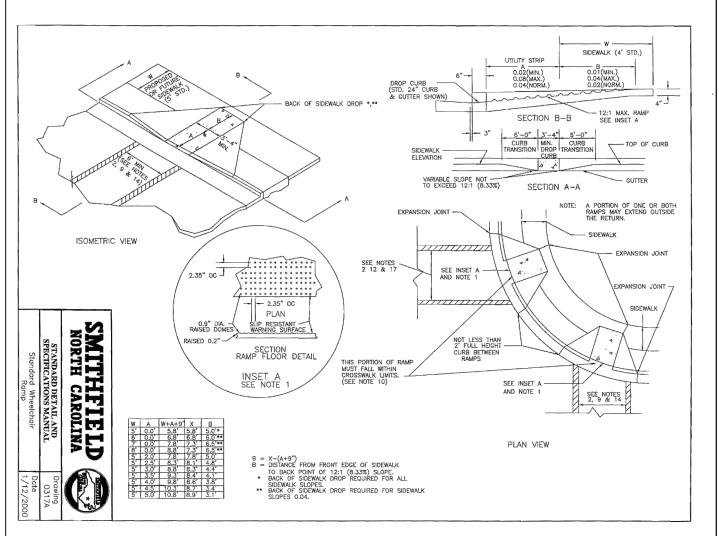
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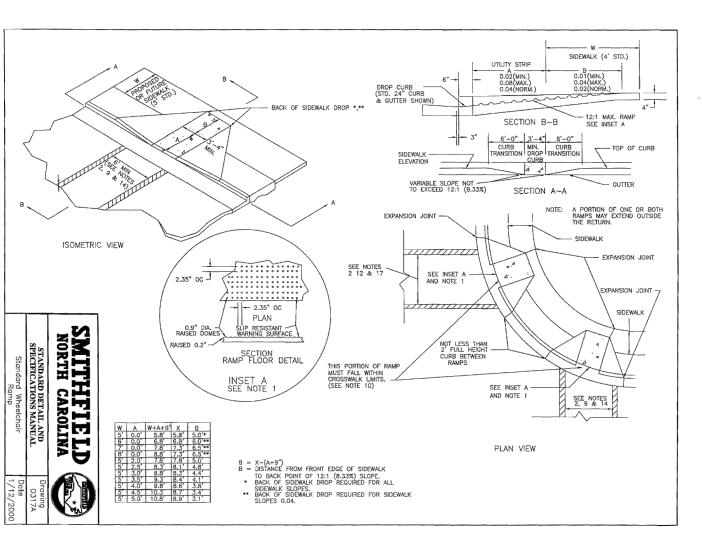
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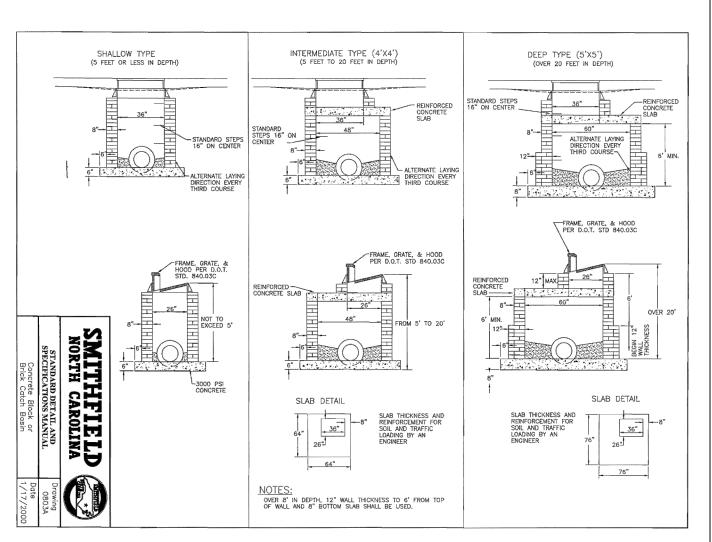


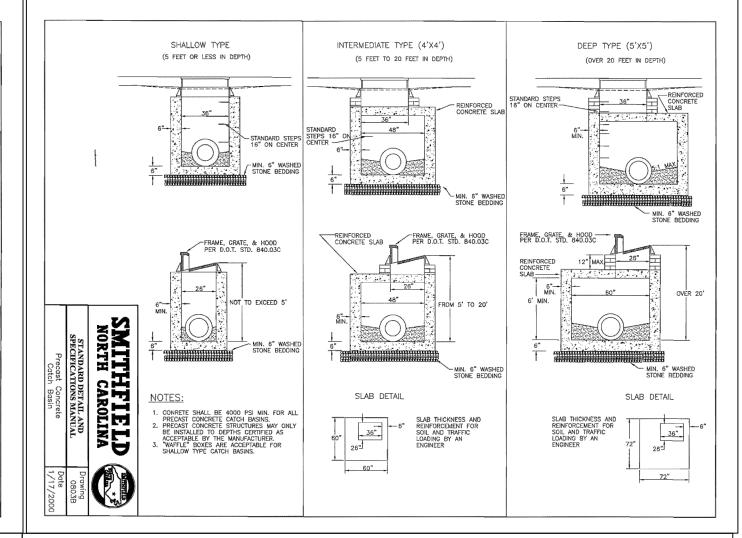


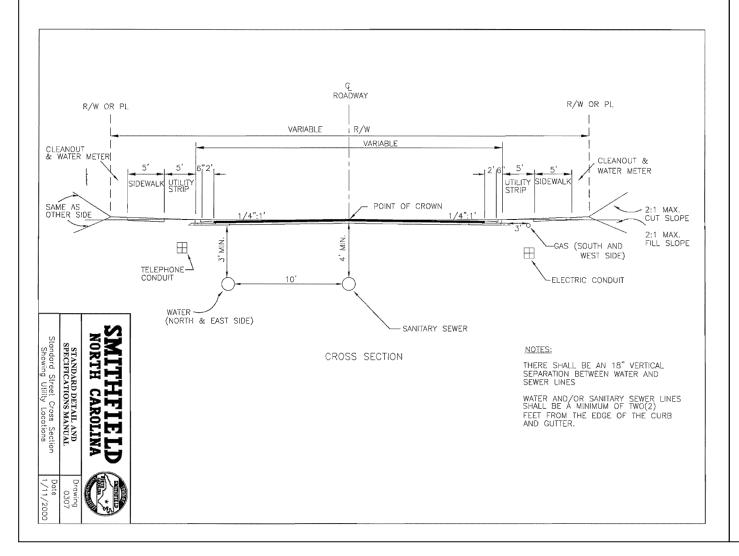


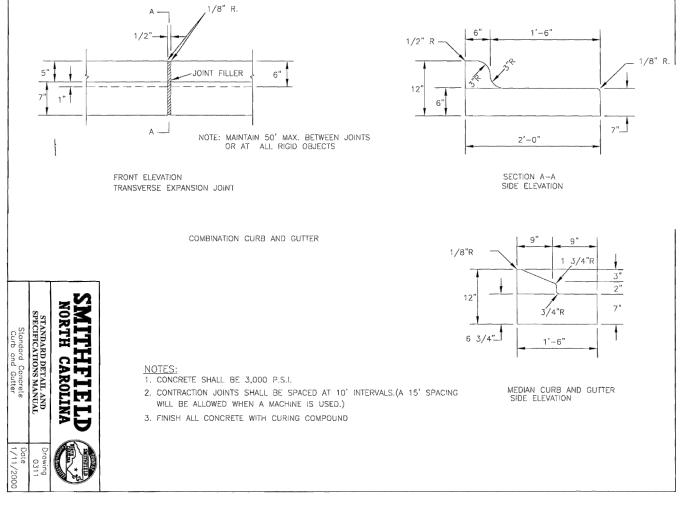


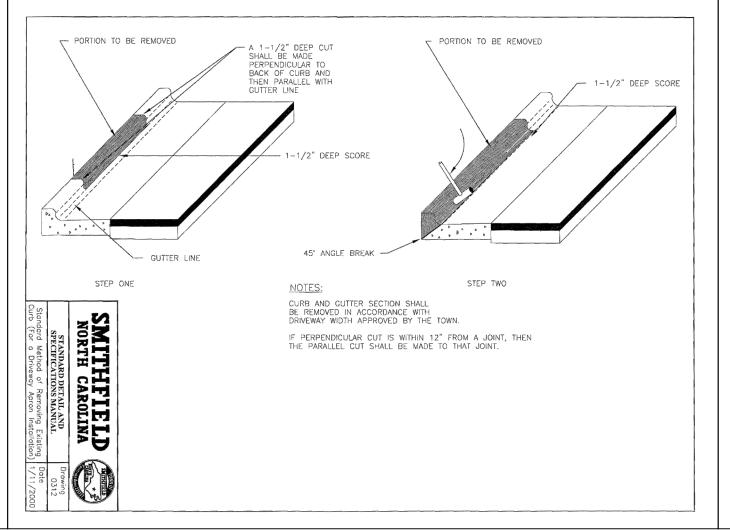


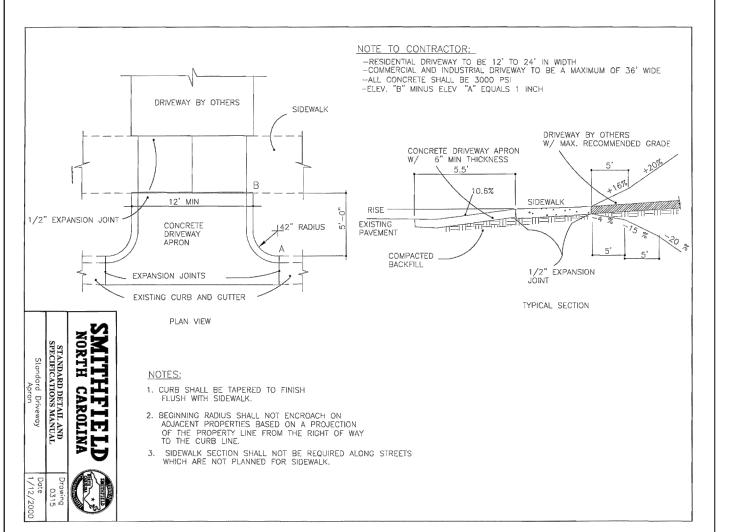














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CAROL PROFESSION SEAL 19843 ", MICHAEL ~ 3/31/22 Stock

SITE DETAILS AND NOTES

REVISIONS

FILE NO. 2021-001 HORZ. SCALE: 1"=20' VERT. SCALE: NONE D-10



ENTRANCE SIGN ELEVATION NOT TO SCALE WHITLEY TOWNES 10" x 24" CONTINUOUS FOOTING STRUCTURAL BY OTHERS ENTRANCE PLAN OR TOP VIEW NOT TO SCALE _16"x16" PIERS 2' x 15' CONTINUOUS FOOTING STRUCTURAL BY OTHERS 1. SCOTTSDALE OVERSIZED BRICK WITH WHITE MORTAR. 2. BLACK SIGN WITH GOLD BORDER AND FONT. 3. SIGN TO BE PLACED ON THE WEST SIDE OF ENTRANCE AND OUTSIDE OF THE ROW AND ALL SITE DISTANCE EASEMENTS.

OPEN SPACE AREA #2 CONCEPT PLAN ±33,088 SF

NOTES:
OPEN SPACE ELEMENTS SHOWN BELOW ARE REPRESENTATIVE IN NATURE
AND MAY DIFFER FROM WHAT IS SHOWN HOWEVER THE CONCEPT BELOW
REPRESENTS THE DEVELOPERS INTENT OF THIS OPEN SPACE AREA.





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COWNHOME UNITS COUNTY, NORTH CAROLII

SEAL 19843

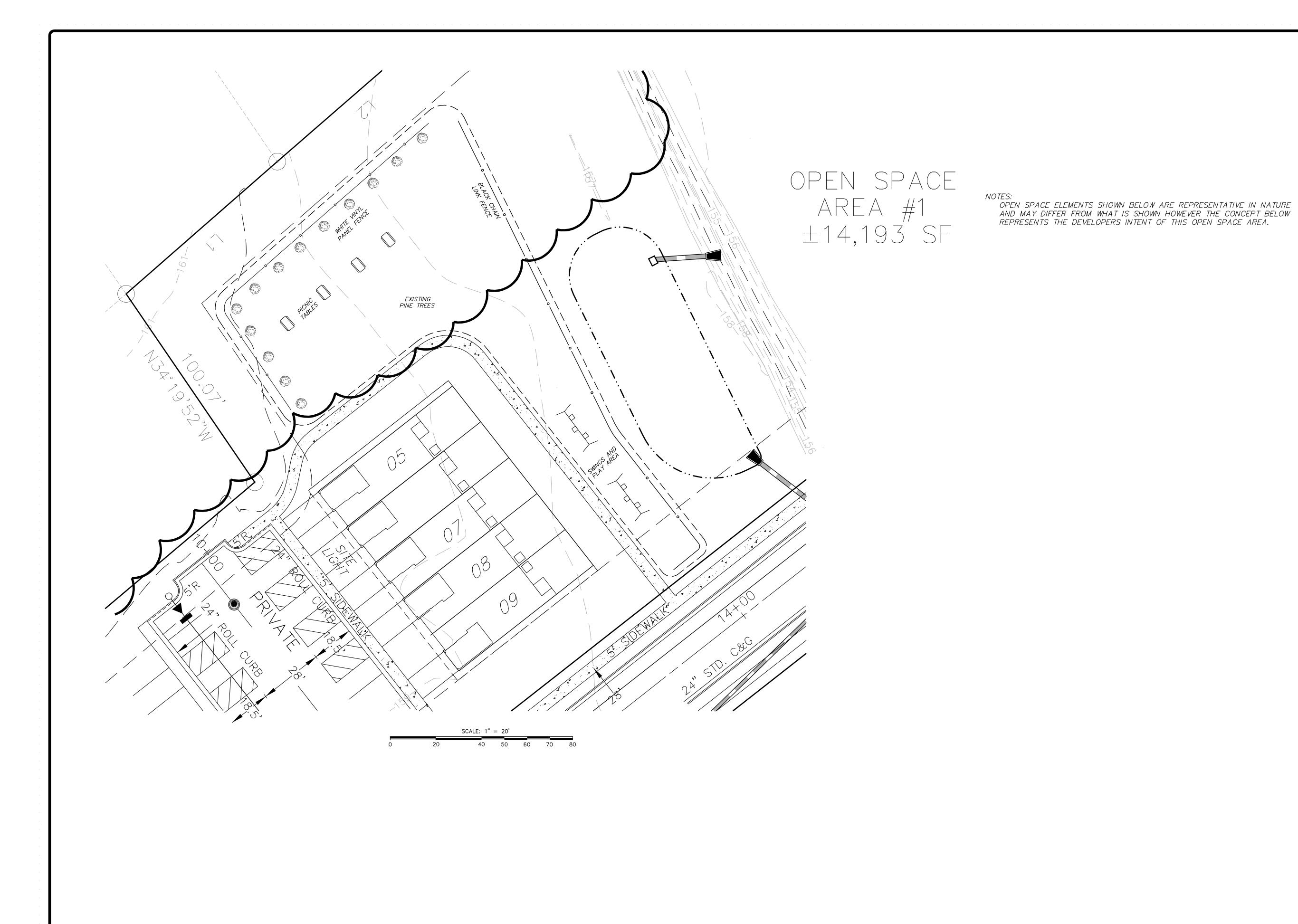
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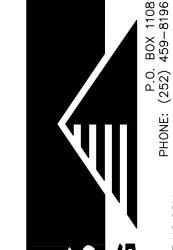
ENTRANCE SIGN AND OPEN SPACE

REVISIONS

HORZ. SCALE: 1"=20
VERT. SCALE: NONE

MANY ARE THE PLANS IN A PERSONS HEART, BUT IT IS THE LORD'S PURPOSE THAT PREVAILS. PROVERBS 19:21





OPEN SPACE DETAIL

REVISIONS

HORZ. SCALE: VERT. SCALE: NONE D-13

FILE NO. 2021-001