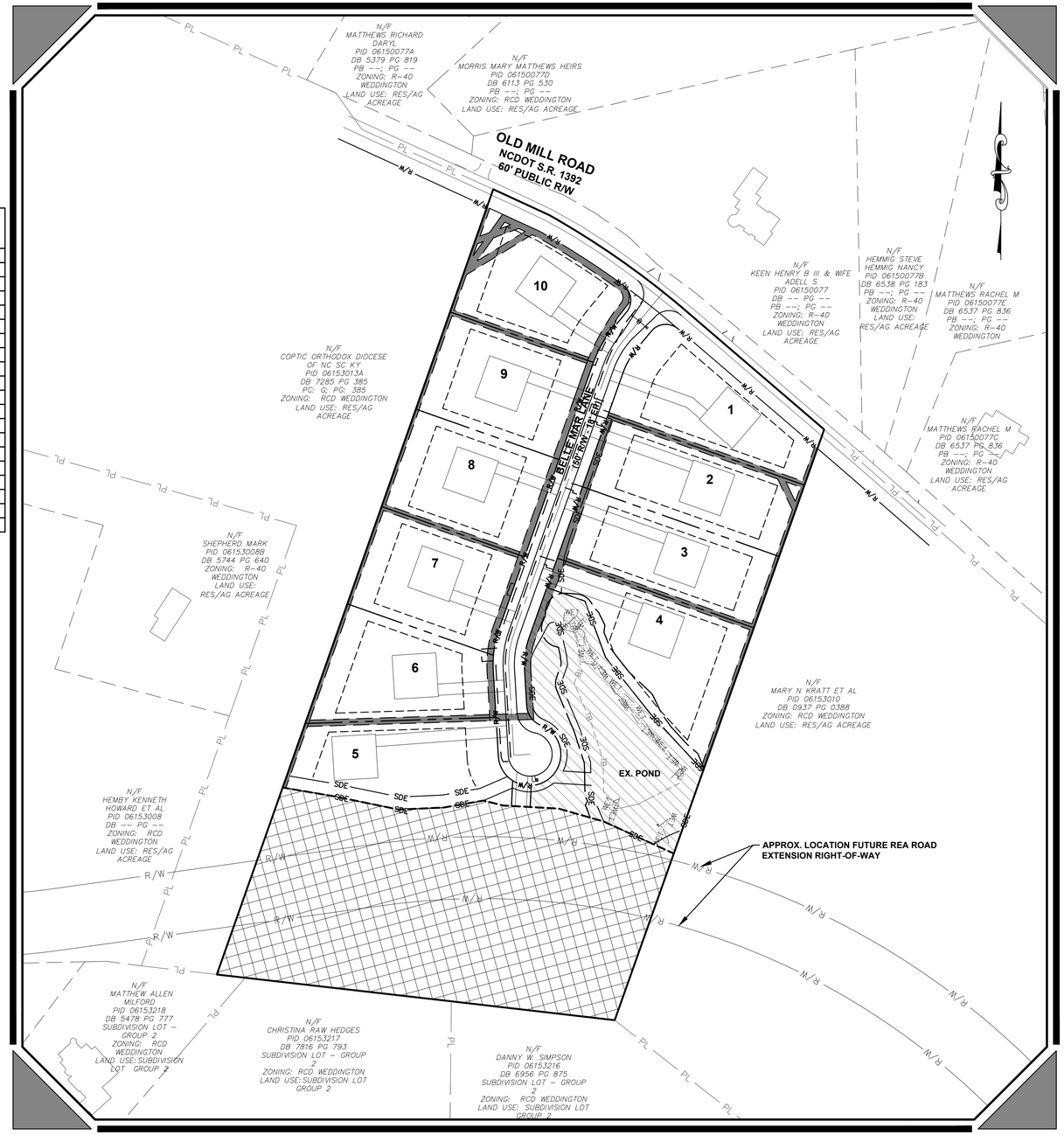
BELLE MAR SINGLE FAMILY RESIDENTIAL

Sheet List Table				
SHEET NO.	SHEET TITLE	ORIGINAL ISSUE DATE	REVISION DATE	REVISION NUMBER
C1.0	COVER SHEET	05/11/2021	01/03/2022	F
C1.1	GENERAL NOTES & LEGENDS	05/11/2021	01/03/2022	F
C1.2	NCDEQ NOTES	05/11/2021	01/03/2022	F
--	SURVEY	07/09/2021		
C2.0	EXISTING CONDITIONS AND DEMOLITION PLAN	05/11/2021	01/03/2022	F
C3.0	SITE PLAN	05/11/2021	01/03/2022	F
C4.0	EROSION CONTROL STAGE 1	05/11/2021	01/03/2022	F
C4.1	EROSION CONTROL STAGE 2	05/11/2021	01/03/2022	F
C5.0	EROSION CONTROL STAGE 3	05/11/2021	01/03/2022	F
C5.1	EROSION CONTROL STAGE 4	05/11/2021	01/03/2022	F
C6.0	GRADING & DRAINAGE PLAN	05/11/2021	01/03/2022	F
C7.0	ROADWAY PLAN & PROFILE FOR BELLE MAR LANE	05/11/2021	01/03/2022	F
C7.1	NCDOT TRAFFIC CONTROL PLAN	05/11/2021	01/03/2022	F
C7.2	SIGHT DISTANCE PLAN & PROFILE BELLE MAR LANE	05/11/2021	01/03/2022	F
C8.0	EROSION CONTROL DETAILS	05/11/2021	01/03/2022	F
C8.1	GENERAL DETAILS	05/11/2021	01/03/2022	F
C8.2	NCDOT DETAILS	05/11/2021	01/03/2022	F
C8.3	BMP DETAILS	05/11/2021	01/03/2022	F
C8.4	GENERAL DETAILS	05/11/2021	01/03/2022	F
C8.5	SEDIMENT BASIN DETAILS	05/11/2021	01/03/2022	F

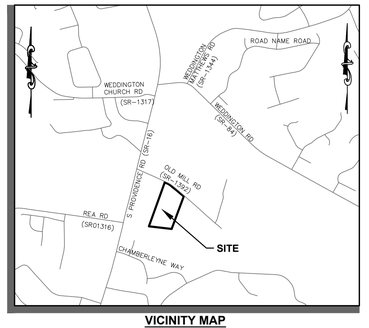


OVERALL SITE

100' 0 100' 200'

SCALE: 1"=100' (Horiz.)

VICINITY MAP N.T.S.



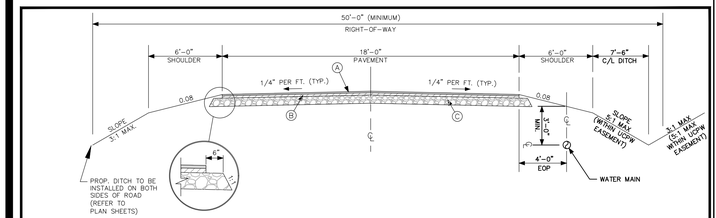
VICINITY MAP
N.T.S.

SITE STATISTICS:

TAX MAP & PARCEL #:	06153009
DEED BOOK/PAGE:	3498/775
TOTAL SITE AREA:	16.996 ACRES
NCDOT R/W (REA RD EXT):	±4.53 ACRES
NCDOT R/W (OLD MILL RD R/W):	0.45 ACRES
RESIDENTIAL SITE:	±12.02 ACRES
ZONING:	R-CD
WATERSHED:	WEST FORK TWELVE MILE CREEK
RIVER BASIN:	CATAWBA
EXISTING LAND USE:	VACANT
PROPOSED LAND USE:	SINGLE FAMILY RESIDENTIAL
LIMITS OF DISTURBANCE:	3.0 AC
OPEN SPACE REQUIRED:	52,359.12 SF (10% OF RES. SITE AREA)
OPEN SPACE PROVIDED:	64,817.91 SF
REQUIRED MIN. LOT SIZE:	40,000 SF
PROVIDED MINIMUM LOT SIZE:	40,000 SF
MIN. LOT WIDTH:	120'
NUMBER OF LOTS:	10
MINIMUM SETBACKS:	
FRONT	50'
SIDE	15'
REAR	40'
TOTAL LENGTH OF ROADS:	822.65 LF (INCL. C/L OFFSET IN CUL-DE-SAC)
TOTAL PRIVATE R/W AREA:	1.03 ACRES
ACCESS EASEMENT AREA:	0.025 ACRES
BMP PARCEL AREA/OPEN SPACE:	1.488 ACRE
TOTAL LOT AREA:	9.477 ACRES

PROJECT SCOPE INCLUDES DEVELOPMENT OF SITE ENTRANCE, ROADWAY, PERMANENT STORM WATER MEASURES, AND INSTALLATION OF WATER LINE (WITH ASSOCIATED APPURTENANCES). INDIVIDUAL LOTS, TO INCLUDE FINAL DRIVEWAY AND BUILDING PAD LOCATIONS, WILL BE DESIGNED, PERMITTED, AND DEVELOPED BY OTHERS.

BELLE MAR LANE WILL BE A GATED PRIVATE ROAD WITH A PUBLIC RIGHT-OF-WAY TO ALLOW FOR UTILITIES AND ACCESS TO PERMANENT STORM WATER MEASURES.



NOTES:

1. SUBGRADE SHALL BE COMPACTED TO A DENSITY OF 100% IN ACCORDANCE WITH AASHTO-T99 AND NCDOT SPECIFICATIONS SECTION 500.
2. AGGREGATE BASE COURSE SHALL BE COMPACTED TO A DENSITY OF 100%.
3. ASPHALT COMPACTION SHALL BE IN ACCORDANCE WITH NCDOT SECTION 610.
4. IF REQUIRED BY THE TOWN, TESTS SHALL BE CONDUCTED BY AN INDEPENDENT TESTING FIRM AT THE DEVELOPERS EXPENSE.
5. FINAL LIFT OF PAVEMENT SHALL NOT BE PLACED UNTIL AFTER 80% OF HOME SITES ARE DEVELOPED. THE FINAL LIFT OF PAVEMENT SHALL NOT BE PLACED FOR STREETS THAT WILL BE USED TO ACCESS FUTURE PHASES UNTIL THOSE PHASES REACH 80% BUILD-OUT.

PAVEMENT STRUCTURE WITHIN NCDOT R/W (FROM OLD MILL RD EOP TO EXISTING R/W)
- (A) 3" - S9.5C (FINAL 1 1/2" NOT TO BE INSTALLED UNTIL 80% BUILDOUT)
- (B) 3" - I19.0C
- (C) 5" - B25.0C

PAVEMENT STRUCTURE OUTSIDE NCDOT R/W (INTERNAL TO DEVELOPMENT)
- (A) 1 1/2" BITUMINOUS CONCRETE SURFACE COURSE, S9.5B
- (B) 1 1/2" BITUMINOUS CONCRETE SURFACE COURSE, S9.5B
- (C) 10" COMPACTED AGGREGATE BASE COURSE OR 5" BITUMINOUS CONCRETE BASE COURSE, B25.0C

TYPICAL SECTION
RESIDENTIAL LOCAL STREET W/ SHOULDER AND DITCH
(FROM TOWN OF WEDDINGTON STD NO. 100 (SEPT 2014))

CERTIFICATION OF APPROVAL OF THE CONSTRUCTION PLAN

ON _____ THE WEDDINGTON TOWN ENGINEER APPROVED THE CONSTRUCTION PLAN OF THE BELLE MAR SUBDIVISION. THIS CONSTRUCTION PLAN AND ITS PRELIMINARY PLAT SHALL BECOME NULL AND VOID IF, AFTER TWO YEARS OF APPROVAL OF THE CONSTRUCTION PLAN, CONSTRUCTION OF THE IMPROVEMENTS TO THE LAND HAVE NOT BEEN COMPLETED, OR IF AN APPROVED PERFORMANCE GUARANTEE HAS NOT BEEN EXTENDED WITH THE CONSENT OF THE TOWN COUNCIL, IN ACCORDANCE WITH SECTION 46-44 OF THE SUBDIVISION ORDINANCE.

_____
WEDDINGTON TOWN ENGINEER

OWNER / DEVELOPER

NAME:	DEVELOPMENT SOLUTIONS GROUP, LLC
ADDRESS:	11121 CARMEL COMMONS BLVD., STE 360 CHARLOTTE, NC 28226
CONTACT:	KENT OLSON
PHONE NUMBER:	704-543-0760
EMAIL:	KENT@OLSONDEVELOPMENT.COM

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

TOWN OF WEDDINGTON, UNION CO., NC
MAY 2021

PRELIMINARY DRAWINGS
NOT FOR CONSTRUCTION
05/11/2021

REV.NO.	DESCRIPTIONS	DATE
F	ADDRESSED COMMENTS FROM UCPW	01/03/2022
E	ADDRESSED COMMENTS FROM UCPW	11/19/2021
D	ADDRESSED COMMENTS FROM UCPW	10/14/2021
C	ADDRESSED COMMENTS FROM NCDEQ POST-CONSTRUCTION STORMWATER	10/11/2021
B	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDEQ	09/10/2021
A	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDOT	08/04/2021

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043852 01-03-22 PATRICK MATTHEW NEEDHAM

CIVIL ENGINEER

McKIM&CREED

8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC License# F-1222
www.mckimcreed.com

BELLE MAR RESIDENTIAL
07780-0013
0 OLD MILL ROAD, WEDDINGTON, NC

DEMOLITION/EXISTING CONDITIONS NOTES:

1. PROJECT SCOPE INCLUDES DEVELOPMENT OF SITE ENTRANCE, ROADWAY, PERMANENT STORM WATER MEASURES, AND WATER LINE (WITH ASSOCIATED APPURTENANCES). THE LIMITS OF DISTURBANCE SHALL BE LIMITED TO WHAT IS NEEDED TO INSTALL THE ABOVE MENTIONED COMPONENTS. INDIVIDUAL LOTS, TO INCLUDE FINAL DRIVEWAY AND BUILDING PAD LOCATIONS, WILL BE DESIGNED, PERMITTED, AND DEVELOPED BY OTHERS.
2. ACQUIRE ALL NECESSARY PERMITS AND HOLD PRE-CONSTRUCTION MEETING PRIOR TO COMMENCEMENT OF DEMOLITION ACTIVITY.
3. CONTRACTOR IS FULLY RESPONSIBLE FOR CONTACTING APPROPRIATE PARTIES AND ASSURING THAT EXISTING UTILITIES ARE LOCATED PRIOR TO BEGINNING CONSTRUCTION.
4. CONTRACTOR IS RESPONSIBLE FOR PLACING BARRICADES, USING FLAG MEN, ETC AS NECESSARY TO ENSURE THE SAFETY OF THE PUBLIC.
5. ALL PAVEMENT CUTS, CONCRETE OR ASPHALT, ARE TO BE PLACED IN ACCORDANCE WITH THE STANDARDS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION AND THE TOWN OF WEDDINGTON.
6. SHORING WILL BE IN ACCORDANCE WITH OSHA TRENCHING STANDARDS PART 1926, SUBPART P OR AS AMENDED.
7. CONTRACTOR SHALL ESTABLISH EROSION CONTROL MEASURES PRIOR TO DEMOLITION OF EXISTING STRUCTURES.
8. CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE AND FEDERAL RULES AND REGULATIONS CONCERNING THE DEMOLITION AND REMOVAL OFFSITE OF ALL CONSTRUCTION DEBRIS.
9. CONTRACTOR SHALL COMPLETE DEMOLITION WORK IN AN EXPEDITIOUS AND TIMELY MANNER.
10. EXISTING STRUCTURES SHALL BE DEMOLISHED UNDER A SEPARATE DEMOLITION PERMIT OBTAINED BY THE CONTRACTOR.
11. ABANDONMENT OR REMOVAL OF EXISTING WELLS, SEPTIC SYSTEMS AND ASSOCIATED APPURTENANCE SHALL BE PERFORMED IN ACCORDANCE WITH REGULATORY GUIDELINES AND PROCEDURES ESTABLISHED BY THE NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES, AND ANY ASSOCIATED REGULATORY AGENCIES.
12. DEMOLITION CONTRACTOR, AND ASSOCIATED SUBCONTRACTORS, ARE RESPONSIBLE FOR CONTACTING AND COORDINATING WITH EACH AFFECTED UTILITY COMPANY PRIOR TO THE REMOVAL OR DISCONNECTION OF ANY EXISTING SERVICES ON SITE.
13. SURVEY WAS PERFORMED PRIOR TO DEMOLITION OF SOME STRUCTURES ON SITE. CONTRACTOR SHALL CONFIRM ITEMS TO BE DEMOLISHED. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A DEMOLITION PERMIT AND ANY ANCILLARY PERMITS FOR DEMOLITION OF REMAINING ITEMS.
14. DEMOLITION CONTRACTOR, AND ASSOCIATED SUBCONTRACTORS, ARE RESPONSIBLE FOR CONTACTING AND COORDINATING WITH ARBORIST OR THE APPROPRIATE PARTY FOR TREE REMOVAL WITHIN SETBACK OR RIGHT OF WAY IF NECESSARY.
15. CONTRACTOR SHALL CONTACT ALL AFFECTED UTILITY COMPANIES PRIOR TO BEGINNING DEMOLITION.
16. CONTRACTOR SHALL REMOVE ALL BUILDING AND BUILDING FOUNDATIONS ON SITE (COORDINATE WITH OWNER PRIOR TO REMOVAL).
17. ALL DEBRIS RESULTING FROM FROM DEMOLITION ACTIVITIES SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF IN A LEGAL MANNER AT THE CONTRACTORS EXPENSE.
18. CONTRACTOR SHALL ENSURE THAT ALL ADJOINING PARCEL UTILITIES REMAIN IN SERVICE AT ALL TIMES.
19. BOUNDARY SURVEY INFORMATION WAS OBTAIN FROM MCKIM & CREED.
20. UTILITY LOCATION & TOPOGRAPHIC SURVEY ALSO PERFORMED BY MCKIM & CREED.
21. SURVEY HORIZONTAL REFERENCE: NAD 83
22. SURVEY VERTICAL REFERENCE: NAVD88

GRADING NOTES:

1. COORDINATE ALL CURB AND STREET GRADES IN INTERSECTION WITH THE INSPECTOR.
2. APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION SHALL BE OBTAINED BY CONTRACTOR FROM THE AFFECTED PROPERTY OWNERS.
2. IN ORDER TO ENSURE PROPER DRAINAGE, CONTRACTOR SHALL MAINTAIN A MINIMUM OF 0.5% SLOPE ON THE CURB.
3. PE SEALED SHOP DRAWINGS FOR RETAINING WALL MUST BE SUBMITTED TO CITY ENGINEERING PRIOR TO CONSTRUCTION. ENSURE TIE BACKS ARE OUTSIDE RIGHT OF WAY OR 8' BELOW GRADE.
4. THE CONTRACTOR SHALL MAINTAIN EACH STREAM, CREEK, OR BACKWASH CHANNEL IN AN UNOBSTRUCTED STATE AND SHALL REMOVE FROM THE CHANNEL AND BANKS OF THE STREAM ALL DEBRIS, LOGS, TIMBER, TRASH, JUNK AND OTHER ACCUMULATIONS IF CAUSED BY DEVELOPMENT.
5. NON-STANDARD ITEMS (IE: PAVERS, STAMPED CONCRETE, IRRIGATION SYSTEMS, ETC.) IN THE RIGHT-OF-WAY REQUIRE A RIGHT-OF-WAY ENCROACHMENT AGREEMENT WITH THE (TOWN OF WEDDINTON/NORTH CAROLINA DEPARTMENT OF TRANSPORTATION) BEFORE INSTALLATION.
6. CONTRACTOR SHALL CONTACT INSPECTOR 48 HOURS BEFORE CONSTRUCTION.
7. THE LOCAL ENGINEERING DEPARTMENT HAS NOT REVIEWED AND DOES NOT ASSUME RESPONSIBILITY FOR THE STRUCTURAL STABILITY OF ANY EXISTING OR PROPOSED RETAINING WALLS ON THE SITE. DESIGN OF ALL RETAINING WALLS IS TO BE PER NC BUILDING CODE SECTION 1610.3. DETAILED RETAINING WALL DESIGN DRAWINGS ARE TO BE SEALED BY A LICENSED ENGINEER. UPON COMPLETION OF WALL, A NC LICENSED ENGINEER WILL SUBMIT A SEALED LETTER TO MCKIM & CREED STATING THAT RETAINING WALLS WERE CONSTRUCTED PER THE ENGINEERING DRAWINGS.
8. CONTRACTOR SHALL NOT GRADE WITHIN THE 100 YR FEMA FLOOD LINE.
9. CONTRACTOR SHALL CONFIRM THAT FILL MATERIAL CONFORMS TO SPECIFICATIONS AND IS COMPACTED PER RECOMMENDATION FROM GEOTECHNICAL ENGINEER.
10. CONTRACTOR SHALL CONFIRM EXISTING SOIL CONDITIONS CONFORMS TO SPECIFICATIONS FROM GEOTECHNICAL ENGINEER.

CONSTRUCTION SEQUENCE:

PRIOR TO CONSTRUCTION
1. OBTAIN GRADING/EROSION CONTROL PLAN APPROVAL FROM THE TOWN OF WEDDINGTON. NO WORK SHALL BE PERFORMED IN ANY WETLAND/STREAMS/PONDS WITHOUT PROPER APPROVAL.
2. CONTACT THE TOWN OF WEDDINGTON PLANNING DEPARTMENT (PHONE # 704-846-2709) TO SCHEDULE THE PRE-CON AND FOR NOTIFICATION OF PROJECT START UP.
3. SELF-INSPECTIONS FOR EROSION AND SEDIMENTATION CONTROL MEASURES ARE TO BE PERFORMED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF EVERY RAIN EVENT OF GREATER THAN 1 INCH. ANY NEEDED REPAIRS SHALL BE MADE IMMEDIATELY TO MAINTAIN MEASURES AS DESIGNED. ALL ESC MEASURES SHALL BE MAINTAINED AS SPECIFIED IN THE CONSTRUCTION DETAILS ON THIS PLAN. A RAIN GAUGE SHALL BE INSTALLED AT THE PROJECT SITE FOR MONITORING.

STAGE 1 EROSION CONTROL
4. INSTALL TEMPORARY CONSTRUCTION ENTRANCE AS SHOWN ON PLANS TO PROVIDE ACCESS TO OLD MILL ROAD. CONSTRUCTION ENTRANCE SHALL BE INSTALLED PRIOR TO ANY CLEARING AND GRUBBING. INSTALL INLET PROTECTION FOR CULVERT BENEATH CONSTRUCTION ENTRANCE.
5. GC SHALL FLAG ENTIRE LIMITS OF DISTURBANCE AT 100' INCREMENTS WITH FLAGGING TAPE.
6. LOCATE All EXISTING UTILITIES WITHIN PROJECT AREA (PUBLIC AND PRIVATE). NOTIFY ENGINEER IMMEDIATELY IF LOCATIONS CAUSE CONFLICTS WITH SITE WORK.
7. INSTALL TEMPORARY SILT FENCE, SILT FENCE OUTLETS, CLEAN WATER DITCHES AND STRAW WATTLES, CLEARING ONLY AS NECESSARY TO INSTALL THESE DEVICES.
8. CALL FOR SITE INSPECTION BY TOWN OF WEDDINGTON INSPECTOR AFTER ALL STAGE 1 EROSION CONTROL MEASURES ARE IN PLACE.

STAGE 2 EROSION CONTROL
9. DEMOLISH EXISTING FACILITIES, CLEAR AND GRADE SITE WITHIN THE STAGE 1-2 LIMITS OF DISTURBANCE WHILE MAINTAINING ALL STAGE 1 EROSION CONTROL MEASURES.
10. INSTALL ADDITIONAL STAGE 2 EROSION CONTROL MEASURES (SUCH AS DITCHES, STRAW WATTLES, CULVERTS, INLET PROTECTION, ETC.) PER THE PLAN AS SOON AS FEASIBLE. CONTRACTOR SHALL MAT ALL SLOPES 3:1 AND GREATER, TO INCLUDE ALL DITCHES, IMMEDIATELY AFTER GRADING PER THE DETAILS.
11. APPLY SEED AND MULCH TO STABILIZE SITE AS AREAS ARE BROUGHT TO FINISHED GRADE.
12. COMPLETE IMPROVEMENTS ON-SITE.
13. STABILIZE THE REMAINDER OF SITE.
14. TOWN OF WEDDINGTON INSPECTOR SHALL BE CONTACTED AFTER SEEDING AND MULCHING IS COMPLETED.

STAGE 3 EROSION CONTROL
15. DEMOLISH EXISTING FACILITIES, CLEAR AND GRADE SITE ACCORDING TO THE STAGE 3 LIMITS OF DISTURBANCE TO PROVIDE ACCESS TO EXISTING POND AND EMBANKMENT.
16. INSTALL TIMBER MATS ON WETLANDS TO BE DISTURBED TEMPORARILY ACCORDING TO APPROVED 401/404 PERMIT. NO IMPACTS TO WETLANDS OUTSIDE THE APPROVED 401/404 PERMIT ARE ALLOWED.
17. DEWATER EXISTING POND THROUGH A SILT BAG. GC SHALL ENSURE THAT THERE IS SHEET FLOW AT SITE DISCHARGE. NO CONCENTRATED FLOW IS PERMITTED. CONTRACTOR SHALL INSTALL COFFERDAM AND PUMP AROUND FOR SUBSURFACE FLOWS AS REQUIRED (SEE DETAILS).
18. ONCE THE POND IS FULLY DEWATERED, CONTRACTOR SHALL INSTALL OUTLET STRUCTURE, SLOPE PROTECTION, INFLOW PIPE, AND RIPRAP APRONS PER THE PLANS WHILE MINIMIZING DISTURBANCE TO THE REST OF THE POND. CONTRACTOR SHALL REPLACE EMBANKMENT TO MATCH PRE-CONSTRUCTION CONDITIONS WHILE ENSURING COMPACTION PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
19. CONTRACTOR SHALL MAT POND EMBANKMENT IMMEDIATELY AFTER CONSTRUCTION AND SHALL EXTEND MATTING 10' INTO VIRGIN SOIL AT EACH END OF THE BERM.
20. CONTRACTOR SHALL MAKE ALL POND MODIFICATIONS AS QUICKLY AS POSSIBLE TO LIMIT DRY TIME.

STAGE 4 EROSION CONTROL
21. ONCE POND MODIFICATIONS HAVE BEEN COMPLETED AND THE POND IS CERTIFIED BY THE GEOTECHNICAL ENGINEER, REMOVE CLEAN WATER DITCHES (CWD #1 AND CWD #2) AND RESEED TO SPECIFICATIONS.
22. CLEAR AND GRADE WITHIN THE STAGE 4 LIMITS OF DISTURBANCE TO INSTALL PERMANENT DITCH PD #10.
23. APPLY SEED AND MULCH TO STABILIZE SITE.
24. TOWN OF WEDDINGTON INSPECTOR SHALL BE CONTACTED AFTER SEEDING AND MULCHING IS COMPLETED FOR POST CONSTRUCTION INSPECTION.
25. AFTER SITE IS STABILIZED, CLEAN SEDIMENT OUT OF PERMANENT DITCHES AND RESEED TO SPECIFICATIONS.
26. REPAIR ANY DAMAGE TO POND OR PERMANENT SWALES. AREAS DISTURBED DURING THIS PROCESS SHALL BE RE-SEEDED WITH PERMANENT SEED AND MULCHED TO MINIMIZE POTENTIAL FOR EROSION.
27. STABILIZE ALL DISTURBED AREAS WITH SEED AND MULCH.
28. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES TO INCLUDE SILT FENCING, WATTLES, TIMBER MATS, ETC. AREAS DISTURBED DURING THIS PROCESS SHALL BE RESEEDED WITH PERMANENT SEED.
29. WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR FINAL SITE INSPECTION BY TOWN OF WEDDINGTON INSPECTOR.
30. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES. FOR STAGED EROSION CONTROL PLANS, CONTRACTOR SHALL MEET WITH EROSION CONTROL INSPECTOR PRIOR TO COMMENCING WITH EACH PHASE OF EROSION CONTROL MEASURES.
31. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE N.C. EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

MATERIAL/STREET/SIDEWALK NOTES:

1. STREET CONSTRUCTION MATERIALS AND CONSTRUCTION STANDARDS SHALL MEET N. C. DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, AND ROADWAY STANDARD DRAWINGS AS REVISED JANUARY 2012 (AND AS SUBSEQUENTLY AMENDED), EXCEPT WHERE TOWN OF WEDDINGTON STANDARDS ARE MORE STRINGENT.
2. ALL ASPHALT CUTS SHALL BE MADE WITH A SAW WHEN PREPARING STREET SURFACES FOR PATCHING OR WIDENING STRIPS.
3. PAPER JOINTS SHALL BE USED TO SEAL THE ENDS OF AN ASPHALT POUR SO THAT FUTURE EXTENSIONS CAN BE MADE WITHOUT CAUSING ROUGH JOINTS.
4. WHEN PLACING ASPHALT AGAINST EXISTING SURFACES, A STRAIGHT EDGE SHALL BE USED TO PREVENT "HUMPING" AT THAT LOCATION.
5. STONE SHALL BE PRIMED IF PAVING IS NOT COMPLETE WITHIN SEVEN DAYS FOLLOWING STONE BASE APPROVAL.
6. SURFACES SHALL BE TACKED WHEN ASPHALT IS BEING PLACED OVER EXISTING ASPHALT STREETS OR ADJOINING CONCRETE, STORM DRAIN AND SANITARY SEWER STRUCTURES.
7. IN ROLLING AND HILLY TERRAINS, SWEEPING OF THE STONE BASE AND/OR APPLICATION OF A TACK COAT MAY BE REQUIRED NEAR INTERSECTIONS. THESE REQUIREMENTS WILL BE ESTABLISHED BY THE INSPECTOR AND BASED ON FIELD CONDITIONS.
8. ALL BACKFILL SHALL BE NON-PLASTIC IN NATURE, FREE FROM ROOTS, VEGETATIVE MATTER, WASTE, CONSTRUCTION MATERIAL OR OTHER OBJECTIONABLE MATERIAL. SAID MATERIAL SHALL BE CAPABLE OF BEING COMPACTED BY MECHANICAL MEANS AND THE MATERIAL SHALL HAVE NO TENDENCY TO FLOW OR BEHAVE IN A PLASTIC MANNER UNDER THE TAMPING BLOWS OR PROOF ROLLING.
9. MATERIALS DEEMED BY THE INSPECTOR AS UNSUITABLE FOR BACKFILL PURPOSES SHALL BE REMOVED AND REPLACED WITH SELECT BACKFILL MATERIAL.
10. ALL TRENCHES IN THE STREET RIGHT-OF-WAY SHALL BE BACKFILLED WITH SUITABLE MATERIAL IMMEDIATELY AFTER THE PIPE IS LAID. THE FILL AROUND ALL PIPE SHALL BE PLACED IN LAYERS NOT TO EXCEED SIX (6) INCHES AND EACH LAYER SHALL BE COMPACTED THOROUGHLY.
11. UNDER NO CIRCUMSTANCES SHALL WATER BE PERMITTED TO RISE IN UNBACKFILLED TRENCHES AFTER THE PIPE HAS BEEN PLACED.
12. COMPACTION REQUIREMENTS SHALL BE ATTAINED BY THE USE OF MECHANICAL COMPACTION METHODS. EACH SIX (6) INCH LAYER OF BACKFILL SHALL BE PLACED LOOSE AND THOROUGHLY COMPACTED INTO PLACE.
13. ALL SUBGRADE SHALL BE COMPACTED TO 100% OF THE MAXIMUM DENSITY OBTAINABLE WITH THE STANDARD PROCTOR TEST TO A DEPTH OF EIGHT (8) INCHES, AND A DENSITY OF 95% STANDARD PROCTOR FOR DEPTHS GREATER THAN EIGHT (8) INCHES. THE DEVELOPER SHALL PERFORM ALL TESTS AT NO COST TO THE CITY/COUNTY.
14. A CANVAS COVER OR OTHER SUITABLE COVER SHALL BE REQUIRED FOR TRANSPORTING PLANT MIX ASPHALT DURING COOL WEATHER WHEN THE FOLLOWING CONDITIONS ARE PRESENT:
    A. AIR TEMPERATURE IS BELOW 60 DEGREES F.
    B. LENGTH OF HAUL FROM PLANT TO JOB IS GREATER THAN FIVE (5) MILES.
    C. OTHER OCCASIONS AT THE INSPECTOR'S DISCRETION WHEN A COMBINATION OF FACTORS INDICATES THAT MATERIAL SHOULD BE COVERED IN ORDER TO ASSURE PROPER PLACEMENT TEMPERATURE.
15. CONCRETE OR ASPHALT SHALL NOT BE PLACED UNTIL THE AIR TEMPERATURE MEASURED AT THE LOCATION OF THE CONCRETING OPERATION IS AT 35 DEGREES F AND RISING BY 10:00 A.M. CONCRETE OR PAVING OPERATIONS SHOULD BE SUSPENDED WHEN THE AIR TEMPERATURE IS 40 DEGREES F AND DESCENDING. THE CONTRACTOR SHALL PROTECT FRESHLY PLACED CONCRETE IN ACCORDANCE WITH SECTION 420 OF THE NCDOT STANDARD SPECIFICATIONS WHEN THE AIR TEMPERATURE IS AT OR BELOW 35 DEGREES F AND THE CONCRETE HAS NOT OBTAINED AN AGE OF 72 HOURS.
16. PROOF ROLLING OF STREET SUBGRADE AND AGGREGATE BASE MATERIAL SHALL BE PERFORMED BY THE CONTRACTOR IN THE PRESENCE OF THE OWNER'S ENGINEER USING AN OVER LOADED (ON-SITE) TRIAXLE DUMP WITH 22-25 TONS OF STONE, THIRD AXLE LIFTED. IF RAIN OCCURS BEFORE PLACING STONE ON SUBGRADE THAT HAS BEEN PROOFROLLED, OR IF RAIN OCCURS PRIOR TO PLACING ASPHALT ON STONE BASE THAT HAS BEEN PROOFROLLED, THE SUBGRADE AND STONE BASE MUST BE PROOFROLLED AGAIN. THE ENGINEER SHALL PROVIDE WRITTEN VERIFICATION TO THE TOWN THAT THE SUBGRADE AND AGGREGATE BASE MATERIAL MEET THE DENSITY REQUIREMENTS AS SPECIFIED. FAILURE TO PROVIDE ENGINEER'S VERIFICATION OF THE SUBGRADE AND STONE BASE COURSE COMPACTION COULD RESULT IN DELAY OF FINAL ACCEPTANCE OF THE DEVELOPMENT BY THE TOWN.
17. THE FINAL LIFT OF ASPHALT PAVEMENT SHALL NOT BE PLACED UNTIL AFTER 80% OF HOME SITES ARE DEVELOPED. THE FINAL LIFT OF PAVEMENT SHALL NOT BE PLACED FOR STREETS THAT WILL BE USED TO ACCESS FUTURE PHASES UNTIL THOSE PHASES REACH 80% BUILD-OUT.
18. FOR ROADS THAT ARE TO BE PRIVATELY MAINTAINED, A REPRESENTATIVE OF THE TOWN MUST BE PRESENT FOR ALL PROOFROLLING AND ASPHALT PAVING OPERATIONS.
19. PRIOR TO FINAL ACCEPTANCE, THE DEVELOPER SHALL BE RESPONSIBLE FOR CORRECTING ALL PROBLEMS ASSOCIATED WITH THE PROJECT, INCLUDING THOSE ITEMS NOT NECESSARILY COVERED BY THE PLANS, TO INSURE THE SATISFACTORY COMPLETION OF THE TOTAL PROJECT.
20. THE CONTRACTOR SHALL MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES WHEN WORKING WITHIN EXISTING STREETS. THE CONTRACTOR SHALL PLACE AND MAINTAIN SIGNS, DANGER LIGHTS, BARRICADES, AND FURNISH WATCHMEN OR FLAGMEN TO DIRECT TRAFFIC IN ACCORDANCE WITH NCDOT STANDARDS
21. THE CONTRACTOR SHALL DO THAT WHICH IS NECESSARY TO CONTROL EROSION AND TO PREVENT SEDIMENTATION DAMAGE TO ALL ADJACENT PROPERTIES AND STREAMS IN ACCORDANCE WITH THE APPROPRIATE CITY/COUNTY SEDIMENT AND EROSION CONTROL ORDINANCE.
22. SIGHT TRIANGLES SHOWN ARE THE MINIMUM REQUIRED.
23. NON-STANDARD ITEMS (IE: PAVERS, STAMPED CONCRETE, IRRIGATION SYSTEMS, ETC.) IN THE RIGHT-OF-WAY REQUIRE APPROVAL FROM THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION BEFORE INSTALLATION.
24. CONSTRUCTION SHALL BE IN STRICT COMPLIANCE WITH SPECIFICATION, CONSTRUCTION DOCUMENTS, TOWN OF WEDDINGTON, NCDEQ STANDARDS, AND NCDOT STANDARDS.
25. RETAINING WALLS OVER 4' IN HEIGHT SHALL BE DESIGNED, SIGNED AND SEALED BY AN ENGINEER AND SUBMITTED TO THE COUNTY FOR APPROVAL PRIOR TO CONSTRUCTION, REVIEW OF THESE PLANS DOES NOT INCLUDE REVIEW OF THE RETAINING WALLS.
26. ALL SIGNAGE LOCATED IN THE R/W IS TO BE INSTALLED PER THE CURRENT ISSUE OF THE MUTCD. GC SHALL VERIFY WITH CITY STAFF PRIOR TO INSTALLATION.

EROSION CONTROL NOTES:

1. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE NCDEQ PERMIT AND MAY BE SUBJECT TO A FINE. <u>LIMITS OF CONSTRUCTION = ±3.0 ACRES</u>. IF ADDITIONAL LAYDOWN AREAS ARE DETERMINED DURING THE CONSTRUCTION PROCESS, THEY WILL BE COORDINATED WITH THE NCDEQ EROSION CONTROL INSPECTOR. THESE LAYDOWN AREAS WILL BE PERMITTED SEPARATELY.
2. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF THE NCDEQ REGULATIONS.
3. A GROUND COVER MUST BE PROVIDED ON EXPOSED SLOPES WITHIN 14 (OR 7) CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING AND/OR AT THE COMPLETION OF CONSTRUCTION OR DEVELOPMENT. SEE "SEEDING STABILIZATION TIMEFRAMES" CHART FOR REQUIREMENTS ON GROUND COVER.
4. PERMANENT GROUND COVER WILL BE PROVIDED FOR ALL DISTURBED AREAS NO MORE THAN 90 CALENDAR DAYS.
5. ADDITIONAL DEVICES MAY BE REQUIRED AS AGREED UPON WITH FIELD INSPECTOR, ENGINEER, AND OWNER.
6. FOLLOWING EVERY RAINFALL EVENT GREATER THAN 1.0 INCHES, CONTRACTOR SHALL INSPECT AND REPAIR, AS NECESSARY, ALL DAMAGED EROSION CONTROL MEASURES. THIS INCLUDES BUT IS NOT LIMITED TO SILT FENCE, CONSTRUCTION ENTRANCES, SILT FENCE OUTLET DEVICES, AND INLET PROTECTION. TYPICAL MAINTENANCE INCLUDES CHECKING FOR STRUCTURAL DEFICIENCIES SUCH AS UNDERMINING AND DEBRIS BUILDUP AROUND SILT FENCE.
7. CONTRACTOR SHALL TAKE ALL PRACTICAL MEASURES TO MINIMIZE DISTURBED AREA AND TO ENSURE THAT THE DISTURBED AREAS ARE STABILIZED WITH VEGETATION AS SOON AS POSSIBLE.
8. CONTRACTOR SHALL TAKE ALL PRACTICAL MEASURES POSSIBLE TO LIMIT THE AMOUNT OF DISTURBANCE CLOSE TO STREAMS AND WETLANDS AND TO REDUCE THE AMOUNT OF SILT ENTERING THE ADJACENT WATER BODIES.
9. ALL EXISTING AND PROPOSED DITCHES SHALL BE STABILIZED USING STRAW WITH NET OR ANOTHER FORM OF SLOPE STABILIZATION APPROVED BY THE ENGINEER IMMEDIATELY FOLLOWING SEEDBED PREPARATION AND SEEDING. SLOPE STABILIZATION SHOULD BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATION.
10. ACTUAL LOCATIONS OF SILT FENCE OUTLET DEVICES SHOULD BE FIELD ADJUSTED TO ALLOW DEVICE TO BE LOCATED AT LOW POINTS.
11. LOCATE AREAS DEDICATED FOR MANAGEMENT OF LAND CLEARING AND DEMOLITION DEBRIS, CONSTRUCTION AND DOMESTIC WASTE, AND HAZARDOUS OR TOXIC WASTE AT LEAST 50 FEET AWAY FROM STORM DRAIN INLETS AND SURFACE WATERS UNLESS IT CAN BE SHOWN THAT NO ALTERNATIVES ARE REASONABLY AVAILABLE.
12. LOCATE EARTHEN-MATERIAL STOCK PILE AREAS AT LEAST 50 FEET AWAY FROM STORM DRAIN INLETS AND SURFACE WATERS UNLESS IT CAN BE SHOWN THAT NO OTHER ALTERNATIVES ARE REASONABLY AVAILABLE.
13. SILT FENCE SHALL BE INSTALLED AT LEAST 5 FEET OFF THE TOE OF ALL FILL SLOPES.
14. SILT FENCE SHALL BE INSTALLED AT LEAST 10 FEET OFF THE TOE OF ALL FILL SLOPES GREATER THAN 10 FEET IN HEIGHT.
15. STOCKPILES SHOULD BE SEEDED AND STRAWED ACCORDING TO THE STABILIZATION TIMEFRAME ON THIS SHEET.
16. TEMPORARY DIVERSION DITCHES ARE TO BE GRADED TO ENSURE FLOWS MATCH CALCULATIONS .
17. TEMPORARY SWALES TO BE INSTALLED AS NEEDED TO DIRECT FLOW TO PROPER BASIN.
18. OFF-SITE BORROW AND WASTE REQUIRED FOR THIS PROJECT MUST COME FROM A SITE WITH AN APPROVED EROSION CONTROL PLAN, A SITE REGULATED UNDER THE MINING ACT OF 1971, OR A LANDFILL REGULATED BY THE DIVISION OF SOLID WASTE MANAGEMENT. TRASH/DEBRIS FROM DEMOLITION ACTIVITIES MUST BE DISPOSED OF AT A FACILITY REGULATED BY THE DIVISION OF SOLID WASTE MANAGEMENT.
19. NCDEQ EROSION AND SEDIMENTATION CONTROL SELF INSPECTION FORM SHALL BE COMPLETED AFTER THE FOLLOWING PHASES OF CONSTRUCTION: INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROL MEASURES, CLEARING AND GRUBBING OF EXISTING GROUND COVER, COMPLETION OF CONSTRUCTION OR DEVELOPMENT, AND ESTABLISHMENT OF PERMANENT GROUND COVER SUFFICIENT TO RESTRAIN EROSION. ALL INSPECTION FORMS AND SUPPORTING DOCUMENTATION SHALL BE AVAILABLE ON SITE. THE COMBINED SELF-INSPECTION FORM CAN BE FOUND AT HTTPS://DEQ.NC.GOV/ABOUT/DIVISIONS/ENERGY-MINERAL-LAND-RESOURCES/ EROSION-SEDIMENT-CONTROL/FORMS.
20. ALL EROSION CONTROL DEVICES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MOST CURRENT NCDENR AND UNION COUNTY STANDARDS.
21. ALL DRAINAGE STRUCTURES AND PIPE SHALL CONFORM TO NCDOT STANDARDS AND SPECIFICATIONS. EROSION CONTROL MEASURES SHALL BE REMOVED AT PROJECT COMPLETION WHEN DEEMED NO LONGER NECESSARY BY THE ENGINEER. ALL GRADED AREAS NOT UNDER PAVEMENT AND WITHIN THE RIGHT-OF-WAY OR EASEMENTS SHALL BE PREPARED, FERTILIZED AND LIMED, SEEDED, AND MULCHED IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
22. IF REQUIRED BY THE TOWN, COMPACTION TESTS SHALL BE MADE BY AN INDEPENDENT TESTING LAB AT OWNER'S EXPENSE.
23. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION. THE CONTRACTOR SHALL SCHEDULE INSPECTIONS WITH THE TOWN OF WEDDINGTON'S INSPECTOR SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.
24. ANY VARIATIONS FROM THE APPROVED EROSION CONTROL PLANS THAT ARE DISCUSSED VERBALLY IN THE FIELD BY STATE/LOCAL INSPECTORS OR DESIGN ENGINEER ARE REQUIRED TO BE APPROVED IN WRITING BY THE INSPECTOR AND DISTRIBUTED TO THE DESIGN ENGINEER BEFORE IMPLEMENTATION OF THE CHANGES. THIS COORDINATION FOR FORMAL APPROVAL IS SOLELY THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
25. EROSION AND SEDIMENT CONTROL (E&SC) PERMIT AND A CERTIFICATE OF COVERAGE (COC) MUST BE OBTAINED BEFORE ANY LAND DISTURBING ACTIVITIES OCCUR. THE COC CAN BE OBTAINED BY FILLING OUT THE ELECTRONIC NOTICE OF INTENT (E-NOI) FORM AT DEQ.NC.GOV/NCG01. PLEASE NOTE, THE E-NOI FORM MAY BE ONLY BE FILLED OUT ONCE THE PLANS HAVE BEEN APPROVED. A COPY OF THE E&SC PERMIT, THE COC, AND A HARD COPY OF THE PLAN MUST BE KEPT ON SITE, PREFERABLY IN A PERMITS BOX, AND ACCESSIBLE DURING INSPECTION.
26. WHEN THE PROJECT IS COMPLETE, THE PERMITTEES SHALL CONTACT DEMLR TO CLOSE OUT THE E&SC PLAN. AFTER DEMLR INFORMS THE PERMITTEE OF THE PROJECT CLOSE OUT, VIA INSPECTION REPORT, THE PERMITTEE SHALL VISIT DEQ.NC.GOV/NCG01 TO SUBMIT AN ELECTRONIC NOTICE OF TERMINATION (E-NOT). A $100 ANNUAL GENERAL PERMIT FEE WILL BE CHARGED UNTIL THE E-NOT HAS BEEN FILLED OUT.
27. ANY CONSTRUCTION ACTIVITIES THAT HAVE AN ES&C PLAN APPROVED ON OR AFTER APRIL 1, 2019 ARE REQUIRED TO FILL OUT AND SUBMIT AN ELECTRONIC NOTICE OF INTENT (E-NOI) FORM. ALL CONSTRUCTION ACTIVITIES ARE REQUIRED TO FOLLOW THE NEW NCGO1 PERMIT REGARDLESS OF WHEN THEY ARE APPROVED.
28. A RAIN GAUGE WILL BE INSTALLED ON SITE & COPIES OF THE PLAN APPROVED BY DEMLR, PLAN APPROVAL LETTER WITH ANY MODIFICATIONS OR PERFORMANCE RESERVATIONS, ANY 401/404 DOCUMENTATION, & A MINIMUM OF THE PAST 30 DAYS OF SELF-INSPECTION REPORTS WILL BE KEPT ON SITE UNTIL PROJECT IS CLOSED OUT BY DEMLR.
29. ALL E&SC MEASURES MUST BE MAINTAINED UNTIL ALL UPGRADE DRAINAGE AREAS HAVE BEEN STABILIZED WITH THE ESTABLISHMENT OF PERMANENT VEGETATION.
30. ANY DEWATERING ON THE PROJECT IS TO BE DONE THROUGH A SILT BAG.
31. ALL GROUND COVER MUST BE APPLIED PER CONDITIONS OF THE NPDES PERMIT OR IN CRITICAL AREAS, AT END OF DAY.
32. STABILIZE ALL SLOPES GREATER THAN 3:1 AND/OR GREATER THAN 10 FT WITH EROSION CONTROL MATTING.

EROSION CONTROL MAINTENANCE PLAN:

1. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED EVERY SEVEN (7) DAYS OR AFTER EACH RAINFALL OCCURRENCE THAT EXCEEDS ONE (1.0) INCH.
2. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
3. SEDIMENT WILL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES ABOUT 0.5 FEET DEEP AT THE FENCE. THE SEDIMENT FENCE WILL BE REPAIRED OR REPLACED AS NECESSARY TO MAINTAIN A BARRIER.
4. ALL AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
5. STONE CONSTRUCTION ENTRANCE TO BE CLEANED WHEN SEDIMENT ACCUMULATIONS ARE VISIBLE OR SEDIMENT IS TRACKED ON TO THE PAVEMENT. THE FIRST 50' OF THE ENTRANCE ADJACENT TO THE ROAD WILL BE PERIODICALLY TOP DRESSED WITH 2 INCHES OF #4 STONE TO MAINTAIN A 6 INCH DEPTH. THE REMAINDER OF THE CONSTRUCTION ENTRANCE WILL BE CLASS A STONE. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.
6. CONTRACTOR SHALL TAKE ADDITIONAL STEP AS NEEDED TO ENSURE REESTABLISHMENT OF VEGETATION IS ACHIEVED IN WETLAND AREAS ON A CASE BY CASE BASIS.

STORM DRAINAGE:

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE LATEST EDITION OF THE NCDOT OR CMLDS STANDARD SPECIFICATIONS UNLESS OTHERWISE SPECIFIED IN THIS MANUAL.
2. ONLY REINFORCED CONCRETE PIPE IS ALLOWED WITH THE STREET PAVEMENT EXCEPT FOR CULVERTS EQUAL TO OR GREATER THAN (60) SIXTY INCHES IN DIAMETER. FOR CULVERTS EQUAL TO OR GREATER THAN (60) SIXTY INCHES, CORRUGATED STEEL OR ALUMINUM PIPE IS ALLOWED IF IT HAS A CONCRETE POURED INVERT. MINIMUM GAUGE FOR METAL PIPE SHALL BE 14 GAUGE.
3. ALL STORM DRAINAGE PIPE OUTSIDE THE STREET PAVEMENT SHALL BE REINFORCED CONCRETE PIPE, NO OTHER TYPE OF PIPE SHALL BE USED WITHOUT PRIOR APPROVAL FROM THE CITY/COUNTY ENGINEER. ALL PIPES SHALL BE LAID WITH THE BELL OR GROOVE UPGRADE AND THE JOINT ENTIRELY INTERLOCKING.
4. ALL CONCRETE SHALL BE 3600 PSI. IN ORDER TO USE PRE-CAST STORM DRAINAGE STRUCTURES IN ANY STREET RIGHTS-OF-WAY, PRIOR APPROVAL SHALL BE OBTAINED FROM THE CITY/COUNTY ENGINEER.
5. ALL HIGH-DENSITY POLYETHYLENE PIPE SHALL BE CORRUGATED EXTERIOR/SMOOTH INTERIOR, CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M294 FOR CORRUGATED POLYETHYLENE PIPE AND SHALL REQUIRE COUPLING BANDS AND FITTINGS.
6. CONCRETE PIPE USED WITHIN THE STREET RIGHT-OF-WAY SHALL BE A MINIMUM OF CLASS III REINFORCED CONCRETE PIPE, WITH A MINIMUM DIAMETER OF FIFTEEN (15) INCHES (EIGHTEEN (18) INCHES MINIMUM ON CROSS DRAIN CULVERTS WITHIN THE COUNTY).
7. THE MINIMUM COVER FOR ALL PIPE IS TWO (2) FEET. SPECIAL APPLICATIONS FOR LESS THAN TWO (2) FEET OF COVER WILL BE REVIEWED INDIVIDUALLY.
8. CONCRETE MORTAR JOINTS SHALL BE USED FOR JOINING ALL CONCRETE PIPES. THE PIPE SHALL BE CLEAN AND MOIST WHEN MORTAR IS APPLIED. THE LOWER PORTIONS OF THE BELL OR GROOVE SHALL BE FILLED WITH MORTAR SUFFICIENT TO BRING THE INNER SURFACE FLUSH AND EVEN WHEN THE NEXT JOINT IS FITTED INTO PLACE. THE REMAINDER OF THE JOINT SHALL THEN BE FILLED WITH MORTAR AND A BEAD OR RING OF MORTAR FORMED AROUND THE OUTSIDE OF THE JOINT. THE APPLICATION OF MORTAR MAY BE DELAYED UNTIL FILL IS COMPLETED WHEN THE PIPE IS LARGER THAN THIRTY (30) INCHES.
9. PREFORMED JOINT SEALER, WHICH CONFORMS TO AASHTO SPECIFICATION M-198 FOR TYPE B FLEXIBLE PLASTIC GASKETS, MAY BE USED IN LIEU OF THE MORTAR JOINING METHOD.
10. COUPLING BANDS AND FITTINGS SHALL BE USED FOR JOINING ALL HDPE PIPE. COUPLING BANDS SHALL COVER AT LEAST ONE FULL CORRUGATION ON EACH SECTION OF PIPE. GASKET COUPLING BANDS ARE REQUIRED BETWEEN ALL PIPE JOINTS. THE GASKET SHALL BE MADE OF CLOSED-CELL SYNTHETIC EXPANDED RUBBER MEETING THE REQUIREMENTS OF ASTM D1056, TYPE 2. THE PIPE MANUFACTURER SHALL INSTALL GASKETS ON THE COUPLING BAND. ALL COUPLING BANDS SHALL MEET OR EXCEED THE SOIL-TIGHTNESS REQUIREMENT OF AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES, SECTION 23, PARAGRAPH 23.1.5.4(E). PIPE FITTINGS SHALL CONFORM TO AASHTO M252 OR AASHTO M294.
11. THE INTERIOR SURFACES OF ALL STORM DRAINAGE STRUCTURES SHALL BE POINTED UP AND SMOOTHED TO AN ACCEPTABLE STANDARD USING MORTAR MIXED TO MANUFACTURER'S SPECIFICATIONS.
12. ALL PIPES IN STORM DRAIN STRUCTURES SHALL BE FLUSH WITH THE INSIDE WALL.
13. ANY STORM DRAIN STRUCTURES OVER THREE (3) FEET AND SIX (6) INCHES IN HEIGHT MUST HAVE STEPS IN ACCORDANCE WITH STANDARD DETAILS SET FORTH IN THIS MANUAL.
14. ALL FRAMES, GRATES, RINGS, COVERS, ETC., MUST CONFORM TO THE STANDARDS SET FORTH IN THE CMLDS MANUAL OR NCDOT STANDARDS.
15. ALL GRADED CREEK BANKS AND SLOPES SHALL BE AT A MAXIMUM OF TWO (2) FEET HORIZONTAL TO ONE (1) FOOT VERTICAL (2:1) AND NOT TO EXCEED 10' WITHOUT TERRACING.
16. ALL BACKFILL SHALL BE NON-PLASTIC IN NATURE, FREE FROM ROOTS, VEGETATIVE MATTER, WASTE, CONSTRUCTION MATERIAL OR OTHER OBJECTIONABLE MATERIAL. SAID MATERIAL SHALL BE CAPABLE OF BEING COMPACTED BY MECHANICAL MEANS AND SHALL HAVE NO TENDENCY TO FLOW OR BEHAVE IN A PLASTIC MANNER UNDER THE TAMPING BLOWS OR PROOF ROLLING.
17. MATERIALS DEEMED BY THE ENGINEER AS UNSUITABLE FOR BACKFILL PURPOSES SHALL BE REMOVED AND REPLACED WITH SELECT BACKFILL MATERIAL.
18. BACKFILLING OF TRENCHES SHALL BE ACCOMPLISHED IMMEDIATELY AFTER THE PIPE IS LAID. THE FILL AROUND THE PIPE SHALL BE PLACED IN LAYERS NOT TO EXCEED EIGHT (8)INCHES, EACH LAYER SHALL BE THOROUGHLY COMPACTED TO 95% OF THE MAXIMUM DENSITY OBTAINABLE WITH THE STANDARD PROCTOR TEST (A DENSITY OF 100% STANDARD PROCTOR IS REQUIRED FOR THE TOP EIGHT (8) INCHES).
19. COMPACTION REQUIREMENTS SHALL BE ATTAINED BY THE USE OF MECHANICAL COMPACTION METHODS. EACH LAYER OF BACKFILL SHALL BE PLACED LOOSE AND THOROUGHLY COMPACTED IN PLACE.
20. UNDER NO CIRCUMSTANCES SHALL WATER BE PERMITTED TO RISE IN UNBACKFILLED TRENCHES AFTER THE PIPE HAS BEEN PLACED.
21. SUBSURFACE DRAINAGE FACILITIES MAY BE REQUIRED IN THE STREET RIGHT OF WAY IF DEEMED NECESSARY BY THE INSPECTOR.
22. THE PURPOSE OF THE STORM DRAINAGE EASEMENT (SDE) IS TO PROVIDE STORM WATER CONVEYANCE AND ANY STRUCTURES AND/OR OBSTRUCTION TO STORM WATER FLOW IS PROHIBITED.
23. HIGH-DENSITY POLYETHYLENE (HDPE) STORM DRAINAGE PIPE INSTALLED WITHIN EXISTING OR PROPOSED PUBLIC STREET RIGHT-OF-WAY MUST BE APPROVED BY THE CITY'S INSPECTOR PRIOR TO ANY BACKFILL BEING PLACED. BACKFILL MATERIAL MUST BE APPROVED BY THE CITY INSPECTOR PRIOR TO PLACEMENT OF THE MATERIAL WITHIN THE PUBLIC STREET RIGHT- OF-WAY.
24. "AS-BUILT" DRAWINGS AND PLANS OF THE STORM DRAINAGE SYSTEM, INCLUDING DESIGNED DITCHES, MUST BE SUBMITTED PRIOR TO FINAL SUBDIVISION INSPECTION TO THE CITY/COUNTY ENGINEERING DEPARTMENT IN ACCORDANCE WITH THE CITY/ COUNTY SUBDIVISION ORDINANCE.
25. THE DEVELOPER SHALL MAINTAIN EACH STREAM, CREEK OR BACKWASH CHANNEL IN AN UNOBSTRUCTED STATE AND SHALL REMOVE FROM THE CHANNEL AND BANKS OF THE STREAM AL DEBRIS, LOGS, TIMBER, JUNK AND OTHER ACCUMULATIONS.

STAKING AND MATERIALS PLAN NOTES:

1. ALL DIMENSIONS ARE AT 90 DEGREES UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL ESTABLISH AND VERIFY POINT OF BEGINNING (P.O.B.) AND STAKE SITE AS INDICATED ON CONSTRUCTION DOCUMENTS PRIOR TO COMMENCEMENT OF CONSTRUCTION. NOTIFY MCKIM & CREED, INC. IMMEDIATELY OF ANY DISCREPANCIES.
3. ALL DIMENSIONS ARE TO EDGE OF PAVEMENT, FACE OF BUILDING, OR CENTERLINE UNLESS OTHERWISE NOTED.
4. ALL DETAILS SHALL BE CONSTRUCTED IN STRICT COMPLIANCE WITH SPECIFICATIONS AND CONSTRUCTION DOCUMENTS.
5. STOP SIGNS SHALL BE R1-1 30"x30".

SYMBOLS LEGEND

FEATURE	EXISTING	PROPOSED
IRON PIPE FOUND (SURVEY)		
IRON ROD FOUND (SURVEY)		
TELEPHONE POLE		
TELEPHONE MANHOLE	T	
FIBER OPTIC MARKER	FO	
TELEPHONE PEDESTAL	T	
FIRE HYDRANT	FH	
WATER METER	WM	
WATER VALVE	WV	GV
SS CLEAN OUT & LATERAL	CO	CO
DROP INLET		
JUNCTION BOX		ST
LIGHT POLE		
ELECTRIC SERVICE	E	
UTILITY POLE		
GUY WIRE		
SIGN		
ELECTRIC TRANSFORMER		
ELECTRIC CABINET		C
ELECTRIC PEDESTAL		P

GENERAL LEGEND

FEATURE	EXISTING	PROPOSED
PARCEL LINE (PROPOSED)		
PROPERTY LINE (EXISTING/ADJOINING)	PL	
PROJECT BOUNDARY (SITE)		
EASEMENT (OTHER)		
EASEMENT (STORM DRAINAGE)	SDE	SDE
EASEMENT (UTILITY)		
EASEMENT (SEWER)		
EASEMENT (TEMP. CONSTRUCTION)		TCE TCE
RIGHT-OF-WAY (ROAD)	R/W	R/W
BUFFER		
BUILDING SETBACK		
POND / WATER FEATURE		
TOP OF BANK	TB	
BOTTOM OF BANK	BB	
MAJOR TOPO CONTOUR	650	650
MINOR TOPO CONTOUR	648	648
FENCE LINE	X	X
GUARDRAIL		
℄ CREEK/STREAM		
℄ DITCH/SWALE		
℄ ROAD		
TREE LINE		
WETLAND BOUNDARY	WET WET	
OVERHEAD UTILITY	OU	
SEWAGE LINE		
SEPTIC AREA		
SEPTIC SERVICE AREA		
STORM	SD SD	
UNDERGROUND FIBER OPTIC	FO	
UNDERGROUND GAS	GAS	
UNDERGROUND TELEPHONE	UT	
UNDERGROUND WATERLINE	W	
PEDESTRIAN RAILS		
SANITARY EASEMENT		
TREE SAVE AREA		
COMMON OPEN SPACE (COS)		
EXISTING FEATURE DEMOLITION		

EROSION CONTROL LEGEND

FEATURE	PROPOSED
SILT FENCE	SF
TREE PROTECTION FENCING	TP
TREE PROTECTION/SILT FENCE	SF TP
LIMITS OF DISTURBANCE	LOD
TEMPORARY DIVERSION DITCH	TD
CLEAN WATER DITCH	CWD
DRAINAGE AREA	
DRAINAGE AREA (CATCH BASIN / PIPE)	
TEMPORARY SILT FENCE OUTLET	
TEMPORARY SILT FENCE OUTLET J-HOOK	
TEMPORARY WATTLE CHECK DAM	
TEMPORARY PIPE SLOPE DRAIN	
ROCK CHECK DAM	
HARDWARE CLOTH & GRAVEL INLET PROTECTION	
GRAVEL AND RIP RAP FILTER BERM BASIN	
GRAVEL RIPRAP APRON	
SPILLWAY	
GRAVEL CONSTRUCTION ENTRANCE	
TREE SAVE AREA	
SOIL DELINEATION	CeA
TIMBER MAT	

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

REV.NO.	DESCRIPTIONS	DATE
F	ADDRESSED COMMENTS FROM UCPW	01/03/2022
E	ADDRESSED COMMENTS FROM UCPW	11/19/2021
D	ADDRESSED COMMENTS FROM UCPW	10/14/2021
C	ADDRESSED COMMENTS FROM NCDEQ POST-CONSTRUCTION STORMWATER	10/11/2021
B	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDEQ	09/10/2021
A	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDOT	08/04/2021

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 043852 ENGINEER PATRICK MATTHEW NEEDHAM 01-03-22

McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC License# F-1222
www.mckimcreed.com

DSG Development Solutions Group

BELLE MAR RESIDENTIAL
0 OLD MILL ROAD
TOWN OF WEDDINGTON, NC

GENERAL NOTES & LEGENDS

DATE:	MAY 2021
MCE PROJ. #	07780-0013
DRAWN	JPM
DESIGNED	JPM
CHECKED	PMN
PROJ. MGR.	PMN

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

C1.1
DRAWING NUMBER
F
REVISION

STATUS: **PRELIMINARY DRAWING NOT FOR CONSTRUCTION**

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 un-attended days (anc this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetlnd 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	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, costs, follow-or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

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

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&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.

3. Documentation to be Retained for Three Years

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

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(d) Anticipated bypasses and unanticipated bypasses.

(e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

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

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

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

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

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

NORTH CAROLINA *Environmental Quality*

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

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

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

GROUND STABILIZATION SPECIFICATION

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

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

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

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

EQUIPMENT AND VEHICLE MAINTENANCE

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

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

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

PAINT AND OTHER LIQUID WASTE

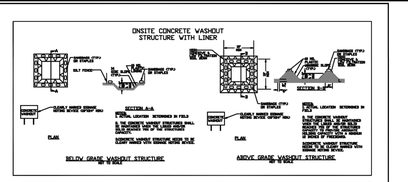
1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled,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

PORTABLE TOILETS

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

EARTHEN STOCKPILE MANAGEMENT

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



CONCRETE WASHOUTS

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

HERBICIDES, PESTICIDES AND RODENTICIDES

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

HAZARDOUS AND TOXIC WASTE

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

NORTH CAROLINA *Environmental Quality*

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

SEEDBED PREPARATION:

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
2. RIP THE ENTIRE AREA TO 6 INCHES DEPTH.
3. APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPER PHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE SEED SCHEDULE). DO NOT USE LIME OR FERTILIZER ON STREAM BANKS OR IN WETLAND AREAS. MULCH DOES NOT NEED TO BE USED IN WETLAND AREAS.
4. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
5. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
6. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
7. CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

PERMANENT SEEDING NOTES:

1. PERMANENT SEEDING, SODDING, OR OTHER MEANS OF STABILIZATION ARE REQUIRED WHEN ALL CONSTRUCTION WORK IS COMPLETED ACCORDING TO THE "SEEDING STABILIZATION TIMEFRAMES" CHART.
2. A NORTH CAROLINA DEPARTMENT OF AGRICULTURE SOILS TEST (OR EQUAL) SHOULD BE OBTAINED FOR ALL AREAS TO BE SEEDED, SPRIGGED, SODDED OR PLANTED. RECOMMENDED FERTILIZER AND pH ADJUSTING PRODUCTS SHOULD BE INCORPORATED TO THE SOIL.
3. USE A SEEDING MIX OF NON-INVASIVE, NATIVE SPECIES THAT WILL EVENTUALLY PROVIDE A PERMANENT GROUNDCOVER.
4. IMMEDIATE VEGETATIVE COVER WILL ALWAYS REQUIRE ADDITIONAL FERTILIZATION, SOIL TESTS, OVERSEEDING AND MAINTENANCE UNTIL PERMANENT VEGETATIVE COVER IS ESTABLISHED.

TEMPORARY SEEDING SPECIFICATION:

TEMPORARY SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING

SEEDING MIXTURE	RATE (LB/AC)
RYE (GRAIN)	120
ANNUAL LESPEDEZA (KOBE IN PIEDMONT AND COASTAL PLAIN, KOREAN IN MOUNTAINS)	50

OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JUNE.

SEEDING DATES:
MOUNTAINS - ABOVE 2500 FEET, FEB. 15 - MAY 15
BELOW 2500 FEET, FEB. 1 - MAY 1
PIEDMONT - JAN. 1 - MAY 1
COASTAL PLAIN - DEC. 1 - APR. 15

SOIL AMENDMENTS:
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY A MINIMUM OF 2 TONS/ACRE (3 TONS/ACRE IN CLAY SOILS) GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

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

MAINTENANCE:
RE-FERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, RE-FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

TEMPORARY SEEDING SPECIFICATION (CONTINUED):

TEMPORARY SEEDING RECOMMENDATIONS FOR SUMMER

SEEDING MIXTURE	RATE (LB/AC)
GERMAN MILLET	40

IN THE PIEDMONT AND MOUNTAINS, A SMALL-STEMMED SUDANGRASS MAY BE SUBSTITUTED AT A RATE OF 50 LB/ACRE.

SEEDING DATES
MOUNTAINS - MAY 15 - AUG. 15
PIEDMONT - MAY 1 - AUG. 15
COASTAL PLAIN - APR. 15 - AUG. 15

SOIL AMENDMENTS:
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY A MINIMUM OF 2 TONS/ACRE (3 TONS/ACRE IN CLAY SOILS) GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

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

MAINTENANCE:
RE-FERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, RE-FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

TEMPORARY SEEDING RECOMMENDATIONS FOR FALL

SEEDING MIXTURE	RATE (LB/AC)
RYE (GRAIN)	120

SEEDING DATES:
MOUNTAINS - AUG. 15 - DEC. 15
COASTAL PLAIN AND PIEDMONT - AUG. 15 - DEC. 30

SOIL AMENDMENTS:
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY A MINIMUM OF 2 TONS/ACRE (3 TONS/ACRE IN CLAY SOILS) GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

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

MAINTENANCE:
REPAIR AND RE-FERTILIZE DAMAGED AREAS IMMEDIATELY. TOPDRESS WITH 50 LB/ACRE OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/ACRE KOBE (PIEDMONT AND COASTAL PLAIN) OR KOREAN (MOUNTAINS) LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

PERMANENT SEEDING SPECIFICATION:

3:1 SLOPES OR FLATTER:

1. APPLY AGRICULTURAL LIME AT THE RATE OF **75 LBS/1000 S.F.
2. APPLY COMMERCIAL FERTILIZER AT THE RATE OF 48 LBS/1000 S.F. FOR 5-10-10 FERTILIZER, 24 LBS/1000 S.F. FOR 10-20-20 FERTILIZER, OR 20 LBS/1000 S.F. FOR 18-24-6 FERTILIZER.
3. SEED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE AND APPLICATION RATES:

DATE:	TYPE:	PLANTING RATE:
AUG. 15 - NOV. 1	TALL FESCUE RYE GRAIN	300 LBS/AC OR 7 LBS/1000 S.F. 120 LBS/AC OR 3 LBS/1000 S.F.
NOV. 1 - MAR. 1*	TALL FESCUE AND ABRUZZI RYE	300 LBS/AC OR 7 LBS/1000 S.F. 25 LBS/AC OR 1/2 LB/1000 S.F.
MAR. 1 - APR. 15	TALL FESCUE	300 LBS/AC OR 7 LBS/1000 S.F.
APR. 15 - JUL. 30	HULLED COMMON BERMUDA GRASS	25 LBS/AC OR 1/2 LB/1000 S.F.
JUL. 1 - AUG. 15	TALL FESCUE AND BROWN TOP MILLET OR SORGHUM SUDAN HYBRIDS	300 LBS/AC OR 7 LBS/1000 S.F. 35 LBS/AC OR 3/4 LB/1000 S.F. 30 LBS/AC OR 3/4 LB/1000 S.F.

4. MULCH WITH STRAW APPLIED AT THE RATE OF 95 LBS/1000 S.F.

* HEAVILY MULCHED DURING JANUARY - MARCH PERIOD.
** CONTRACTOR MAY OBTAIN SOIL TEST TO DETERMINE AMOUNT OF LIME REQUIRED TO OBTAIN A pH RANGE OF 6.5 TO 7.0.
*** SEED TYPE, RATES AND/OR SOIL AMENDMENTS SPECIFIED ABOVE MAY BE MODIFIED AND/OR ELIMINATED IF REQUIRED BY OTHER LOCAL, STATE OR FEDERAL AGENCIES (EG. NRCS, NC COOPERATIVE EXTENSION OFFICE, ETC.). PRIOR TO MODIFICATIONS OR ELIMINATIONS, CONTRACTOR SHALL SUBMIT WRITTEN DOCUMENTATION SUPPORTING THE REQUEST FOR APPROVAL PRIOR TO MAKING MODIFICATION.

SLOPES GREATER THAN 3:1

1. APPLY AGRICULTURAL LIME AT A RATE OF **90 LBS/1000 S.F.
2. APPLY COMMERCIAL FERTILIZER AT THE RATE OF 48 LBS/1000 S.F. FOR 5-10-10 FERTILIZER, 24 LBS/1000 S.F. FOR 10-20-20 FERTILIZER, OR 20 LBS/1000 S.F. FOR 18-24-6 FERTILIZER.
3. SEED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE AND APPLICATION RATES:

DATE:	TYPE:	PLANTING RATE:
MAR. - JUN. 1	SERICEA LESPEDEZA RYE GRAIN (SCARIFIED) AND	50 LBS/AC OR 1 1/2 LBS/1000 S.F. 25 LBS/AC OR 3/4 LBS/1000 S.F.
MAR. - APR. 1 JUN. - SEPT. 1***	ADD TALL FESCUE TALL FESCUE AND BROWN TOP MILLET OR SORGHUM SUDAN HYBRIDS	150 LBS/AC OR 3 1/2 LBS/1000 S.F. 120 LBS/AC OR 2 1/2 LBS/1000 S.F. 35 LBS/AC OR 3/4 LB/1000 S.F. 30 LBS/AC OR 3/4 LBS/1000 S.F.
SEPT. - MAR. 1	SERICEA LESPEDEZA (UNHULLED - UNSCARIFIED) TALL FESCUE MILLET OR SUDAN	70 LBS/AC OR 1 3/4 LBS/1000 S.F. 120 LBS/AC OR 2 1/2 LBS/1000 S.F. 20 LBS/AC OR 1/2 LB/1000 S.F.

4. MULCH APPLIED AT THE RATE OF 95 LBS/1000 S.F. AND ANCHOR WITH ASPHALT EMULSION TACK COAT APPLIED AT THE RATE OF 10-15 GAL/1000 S.F. OR 450 GAL/AC.

* TEMPORARY RESEED SEPT. 1 AT RECOMMENDED RATES.
** CONTRACTOR MAY OBTAIN SOIL TEST TO DETERMINE AMOUNT OF LIME REQUIRED TO OBTAIN A pH RANGE OF 6.5 TO 7.0.
*** SEED TYPE, RATES AND/OR SOIL AMENDMANTS SPECIFIED ABOVE MAY BE MODIFIED AND/OR ELIMINATED IF REQUIRED BY OTHER LOCAL, STATE OR FEDERAL AGENCIES (EG. NRCS, NC COOPERATIVE EXTENSION OFFICE, ETC.). PRIOR TO MODIFICATIONS OR ELIMINATIONS, CONTRACTOR SHALL SUBMIT WRITTEN DOCUMENTATION SUPPORTING THE REQUEST FOR APPROVAL PRIOR TO MAKING MODIFICATION.

WETLAND / RIPARIAN SEEDING SPECIFICATION:

Botanical Name	Common Name	% Mix
Panicum rigidulum	Red-top panicgrass	20
Schizachyrium scoparium	Camper little blue stem	20
Coreopsis lanceolata	Lance-leaved coreopsis	10
Rudbeckia hirta	Black-eyed susan	10
Chamaecrista fasiculata	Partridge pea	5
Panicum ancyps	Beaked panicgrass	5
Chasmanthium latifolium	River oats	3
Dichanthelium clandestinum	Deer tongue	3
Elymus virginicus	Virginia wild rye	3
Helenium autumnale	Common sneezeweed	3
Helianthus angustifolius	Swamp sunflower	3
Parthenium integrifolium	Wild quinine	3
Penstemon laevigatus	Appalachian beardtongue	3
Tridens flavus	Purple top	3
Monarda punctata	Spotted beebalm	2
Vernonia novebocencis	Ironweed	2
Agrostis perennans	Upland bentgrass	1
Bidens aristosa	Tickseed sunflower	1

NOTES:
1. THE LIST SHOWN ABOVE PROVIDES A SEEDING MIX CONTRACTORS CAN USE IF WETLANDS OR RIPARIAN BUFFERS ARE DISTURBED DURING CONSTRUCTION.
2. RESOURCES SHOWN HEREIN REPRESENT THE ENGINEERS BEST EFFORT TO PROVIDE AN ADEQUATE SOLUTION. HOWEVER, CONTRACTOR SHALL REFER TO THE APPROVED 401/404 PERMITS TO ENSURE ALL REQUIREMENTS ARE ADHERED TO DURING CONSTRUCTION.
3. CONTRACTOR SHALL NOT IMPACT ANY WETLANDS OR STREAMS OUTSIDE THE 401/404 PERMIT.

REV.NO.	DESCRIPTIONS	DATE
F	ADDRESSED COMMENTS FROM UCPW	01/03/2022
E	ADDRESSED COMMENTS FROM UCPW	11/19/2021
D	ADDRESSED COMMENTS FROM UCPW	10/14/2021
C	ADDRESSED COMMENTS FROM NCDEQ POST-CONSTRUCTION STORMWATER	10/11/2021
B	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDEQ	09/10/2021
A	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDOT	08/04/2021

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 043852 ENGINEER PATRICK MATTHEW MEDLIN 01-03-22

McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC License# F-1222
www.mckimcreed.com

DSG Development Solutions Group

BELLE MAR RESIDENTIAL
0 OLD MILL ROAD
TOWN OF WEDDINGTON, NC

NCDEQ NOTES

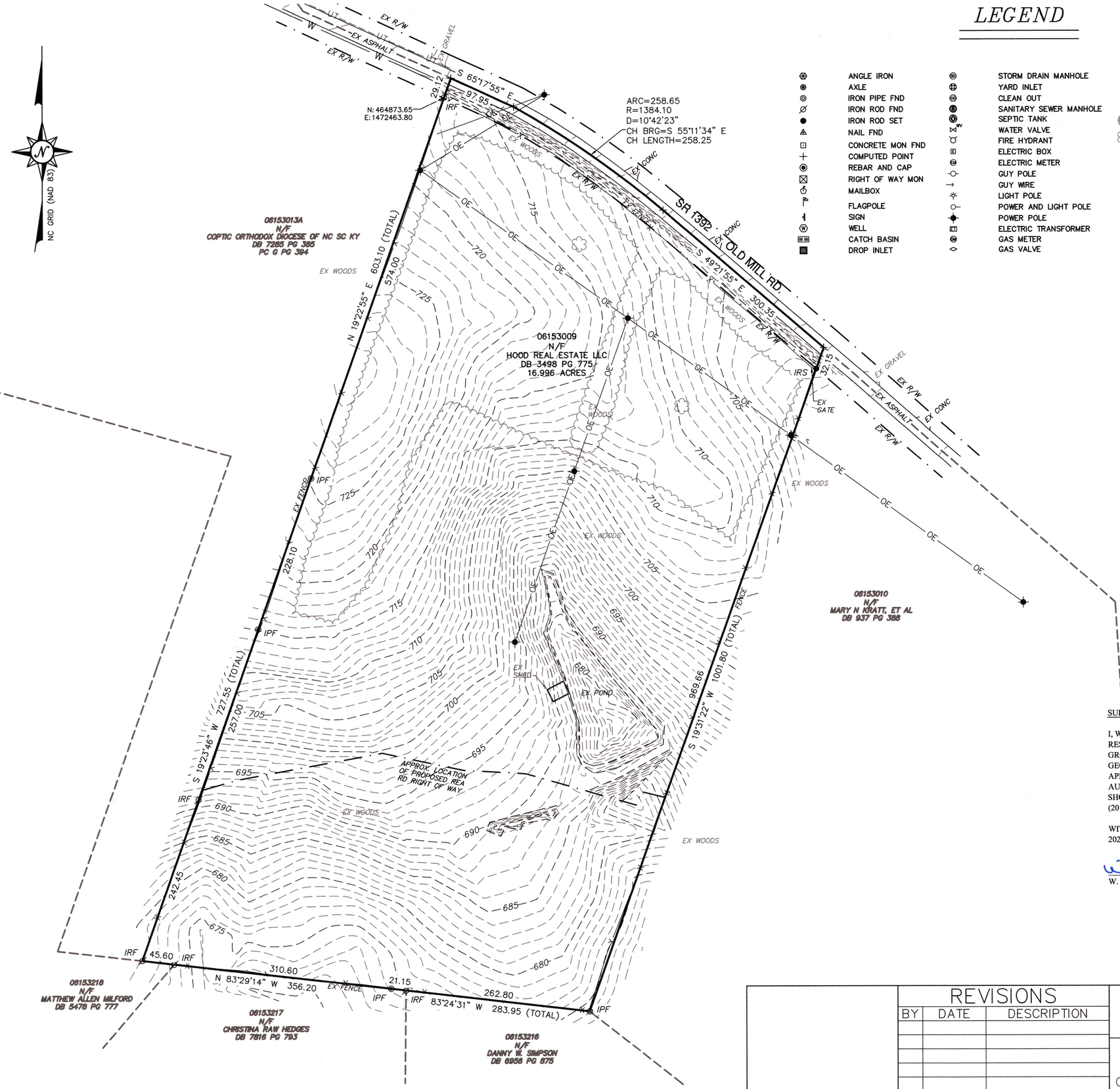
DATE:	MAY 2021
MCE PROJ. #	07780-0013
DRAWN	JPM
DESIGNED	JPM
CHECKED	PMN
PROJ. MGR.	PMN

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

C1.2
DRAWING NUMBER
F
REVISION

STATUS: PRELIMINARY DRAWING NOT FOR CONSTRUCTION

I:\07780\0013\PDNR\80-DWG\86-DESIGN\PLAN SHEETS\C1.1 NOTES.DWG ---- 01/03/2022 15:57:07



1. ALL DISTANCES ARE HORIZONTAL GROUND IN U.S. SURVEY FEET UNLESS OTHERWISE SHOWN.
2. BEARINGS BASED ON NORTH CAROLINA STATE PLANE COORDINATES NAD83 (2011), VERTICAL ELEVATIONS ARE BASED ON NAVD88.
3. SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, OWNERSHIP, TITLE EVIDENCE, OR ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.
4. UNDERGROUND UTILITIES ARE SHOWN ONLY WHERE ABOVEGROUND SERVICES WERE VISIBLE.
5. SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONTAINERS OR FACILITIES THAT MAY AFFECT THE USE OR DEVELOPMENT OF THIS TRACT.
6. THE EXISTENCE OR NONEXISTENCE OF WETLANDS ON SUBJECT PROPERTY HAS NOT BEEN DETERMINED BY THIS SURVEY.
7. SUBJECT TO ALL EASEMENTS, RIGHT OF WAYS, AND OR ENCUMBRANCES THAT MAY EFFECT THIS PROPERTY.

SURVEYORS CERTIFICATE

I, W. ANDREW EADES, CERTIFY THAT THIS PROJECT WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT THIS GROUND SURVEY WAS PERFORMED 95 PERCENT CONFIDENCE LEVEL TO MEET FEDERAL GEOGRAPHIC DATA COMMITTEE ACCURACY OF CLASS A AND VERTICAL ACCURACY WHEN APPLICABLE TO THE CLASS B STANDARD, AND THAT THE ORIGINAL DATA WAS OBTAINED ON AUGUST 8, 2020; THAT THE SURVEY WAS COMPLETED ON SEPTEMBER 9, 2020; THAT CONTOURS SHOWN MAY NOT MEET THE STATED STANDARD: AND ALL COORDINATES ARE BASED ON NAD83 (2011) AND REALIZATION AND ELEVATIONS ARE BASED ON NAVD88.

WITNESS MY ORIGINAL SIGNATURE, REGISTRATION NUMBER AND SEAL THIS 9TH DAY OF JULY, 2021.

W. ANDREW EADES, PLS L-3413 — DATE: 07-09-21

NORTH CAROLINA PROFESSIONAL SEAL L-3413 LAND SURVEYOR W ANDREW EADES

100 0 100 200
GRAPHIC SCALE (IN FEET)
1 inch = 100 ft.

REVISIONS		
BY	DATE	DESCRIPTION

EXISTING CONDITIONS SURVEY

BELLE MAR

CITY OF WEDDINGTON — UNION COUNTY, NC

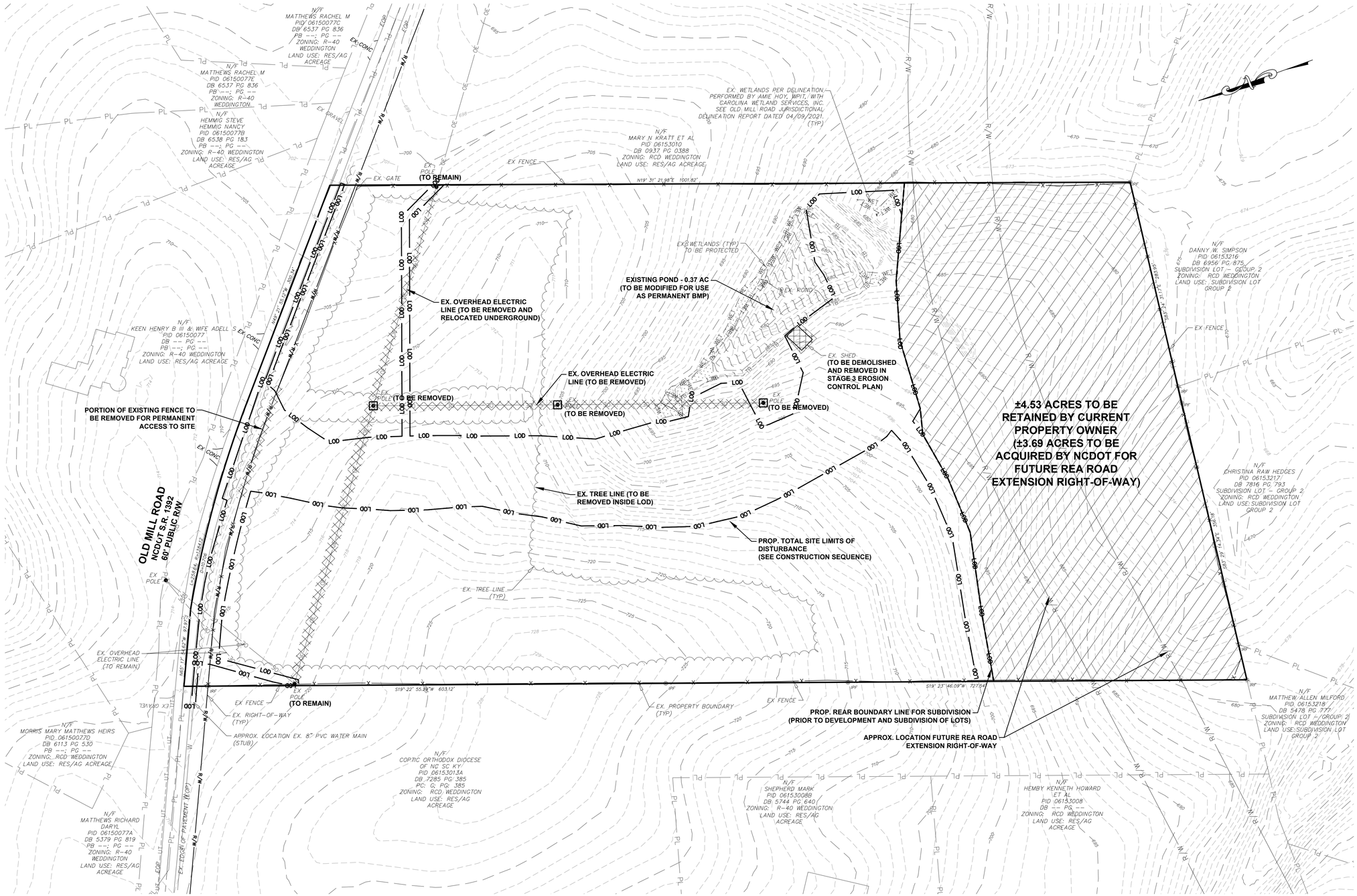
SCALE: 1" = 100' — DATE: JULY 9, 2021

PLS WAE
TECH ACG
CHKED WEH

McKIM&CREED
8020 TOWER POINT DRIVE
CHARLOTTE, NORTH CAROLINA 28227
TELEPHONE: (704) 841-2588
FAX: (704) 841-2567
NORTH CAROLINA FIRM LICENSE NUMBER: F-1222

JOB NO. 077800007

SHEET NO. 1 OF 1



NOTES:

1. PROJECT SCOPE INCLUDES DEVELOPMENT OF SITE ENTRANCE, ROADWAY, PERMANENT STORM WATER MEASURES, AND WATER LINE (WITH ASSOCIATED APPURTENANCES). THE LIMITS OF DISTURBANCE SHALL BE LIMITED TO WHAT IS NEEDED TO INSTALL THE ABOVE MENTIONED COMPONENTS. INDIVIDUAL LOTS, TO INCLUDE FINAL DRIVEWAY AND BUILDING PAD LOCATIONS, WILL BE DESIGNED, PERMITTED, AND DEVELOPED BY OTHERS.
2. CONTRACTOR SHALL COORDINATE WITH UTILITY OWNER FOR ANY IMPACTS INSIDE UTILITY EASEMENTS OR TO UTILITY OWNED INFRASTRUCTURE.
3. CONTRACTOR SHALL ENSURE ADJACENT PARCELS WILL HAVE NO INTERRUPTION TO UTILITY PROVIDED SERVICES AS A RESULT OF THIS PROJECT.
4. CONTRACTOR SHALL MAKE EVERY EFFORT TO PROTECT JURISDICTIONAL FEATURES TO THE GREATEST EXTENT POSSIBLE. NO IMPACTS TO JURISDICTIONAL FEATURES OUTSIDE THE LIMITS OF THE 401/404 PERMIT ARE AUTHORIZED.

REV.NO.	DESCRIPTIONS	DATE
F	ADDRESSED COMMENTS FROM UCPW	01/03/2022
E	ADDRESSED COMMENTS FROM UCPW	11/19/2021
D	ADDRESSED COMMENTS FROM UCPW	10/14/2021
C	ADDRESSED COMMENTS FROM NCDEQ POST-CONSTRUCTION STORMWATER	10/11/2021
B	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDEQ	09/10/2021
A	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDOT	08/04/2021

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 043852 ENGINEER PATRICK MATTHEW MEEHAN 01-03-22

McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC License# F-1222
www.mckimcreed.com

DSG Development Solutions Group

BELLE MAR RESIDENTIAL
0 OLD MILL ROAD
TOWN OF WEDDINGTON, NC

EXISTING CONDITIONS AND DEMOLITION PLAN

60' 30' 0 60' 120'
1"=60'

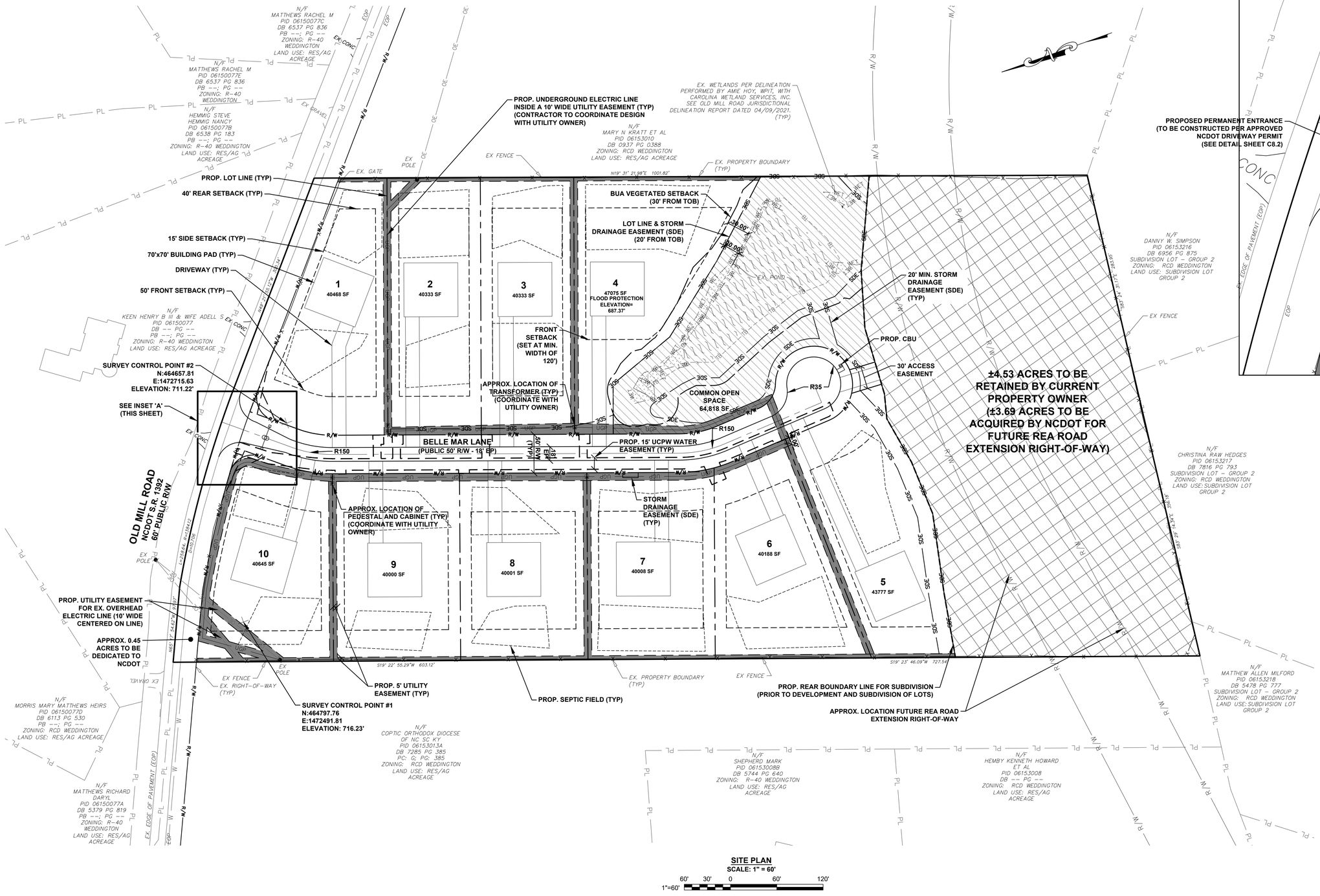
DATE:	MAY 2021
MCE PROJ. #	07780-0013
DRAWN	JPM
DESIGNED	JPM
CHECKED	PMN
PROJ. MGR.	PMN

SCALE
HORIZONTAL: 1" = 60'
VERTICAL: N/A

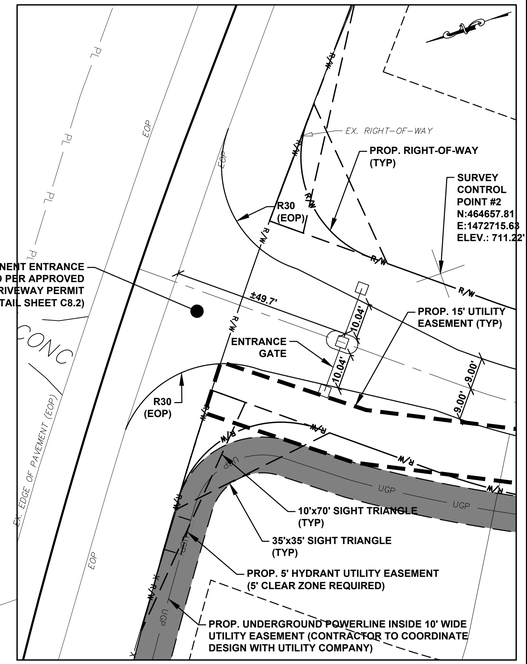
C2.0
DRAWING NUMBER
F
REVISION

STATUS: PRELIMINARY DRAWING NOT FOR CONSTRUCTION

I:\07780\0013\PDNR\80-DWG\86-DESIGN\PLAN SHEETS\C3.0 SITE PLAN.DWG ---- 01/03/2022 15:57:30



SITE PLAN
SCALE: 1" = 60'
60' 30' 0 60' 120'
1"=60'



INSET 'A'
SCALE: 1" = 20'
20' 10' 0 20' 40'
1"=20'

NOTES:

1. PROJECT SCOPE INCLUDES DEVELOPMENT OF SITE ENTRANCE, ROADWAY, PERMANENT STORM WATER MEASURES, AND WATER LINE (WITH ASSOCIATED APPURTENANCES). THE LIMITS OF DISTURBANCE SHALL BE LIMITED TO WHAT IS NEEDED TO INSTALL THE ABOVE MENTIONED COMPONENTS. INDIVIDUAL LOTS, TO INCLUDE FINAL DRIVEWAY AND BUILDING PAD LOCATIONS, WILL BE DESIGNED, PERMITTED, AND DEVELOPED BY OTHERS.
2. BELLE MAR LANE WILL BE A GATED PRIVATE ROAD WITH A PUBLIC RIGHT-OF-WAY TO ALLOW FOR UTILITIES AND ACCESS TO PERMANENT STORM WATER MEASURES.

BUILT-UPON AREA CALCULATIONS:

INSIDE PRIVATE R/W: (STREET/DRIVEWAYS)	23,470 SF (0.54 ACRE)
ON LOTS: (BUILDINGS/DRIVEWAYS/ETC.)	84,450 SF (1.94 ACRES)
LOT #1 MAXIMUM BUA:	7,530 SF
LOT #2 MAXIMUM BUA:	7,660 SF
LOT #3 MAXIMUM BUA:	9,365 SF
LOT #4 MAXIMUM BUA:	9,365 SF
LOT #5 MAXIMUM BUA:	9,365 SF
LOT #6 MAXIMUM BUA:	9,365 SF
LOT #7 MAXIMUM BUA:	9,365 SF
LOT #8 MAXIMUM BUA:	9,365 SF
LOT #9 MAXIMUM BUA:	6,520 SF
LOT #10 MAXIMUM BUA:	6,550 SF
TOTAL SITE BUA:	**107,920 (2.48 ACRES)**

REV.NO.	DESCRIPTIONS	DATE
F	ADDRESSED COMMENTS FROM UCPW	01/03/2022
E	ADDRESSED COMMENTS FROM UCPW	11/19/2021
D	ADDRESSED COMMENTS FROM UCPW	10/14/2021
C	ADDRESSED COMMENTS FROM NCDEQ POST-CONSTRUCTION STORMWATER	10/11/2021
B	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDEQ	09/10/2021
A	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDOT	08/04/2021

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 043852 ENGINEER PATRICK MATTHEW NEEDHAM 01-03-22

McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC License# F-1222
www.mckimcreed.com

DSG Development Solutions Group

BELLE MAR RESIDENTIAL
0 OLD MILL ROAD
TOWN OF WEDDINGTON, NC

SITE PLAN

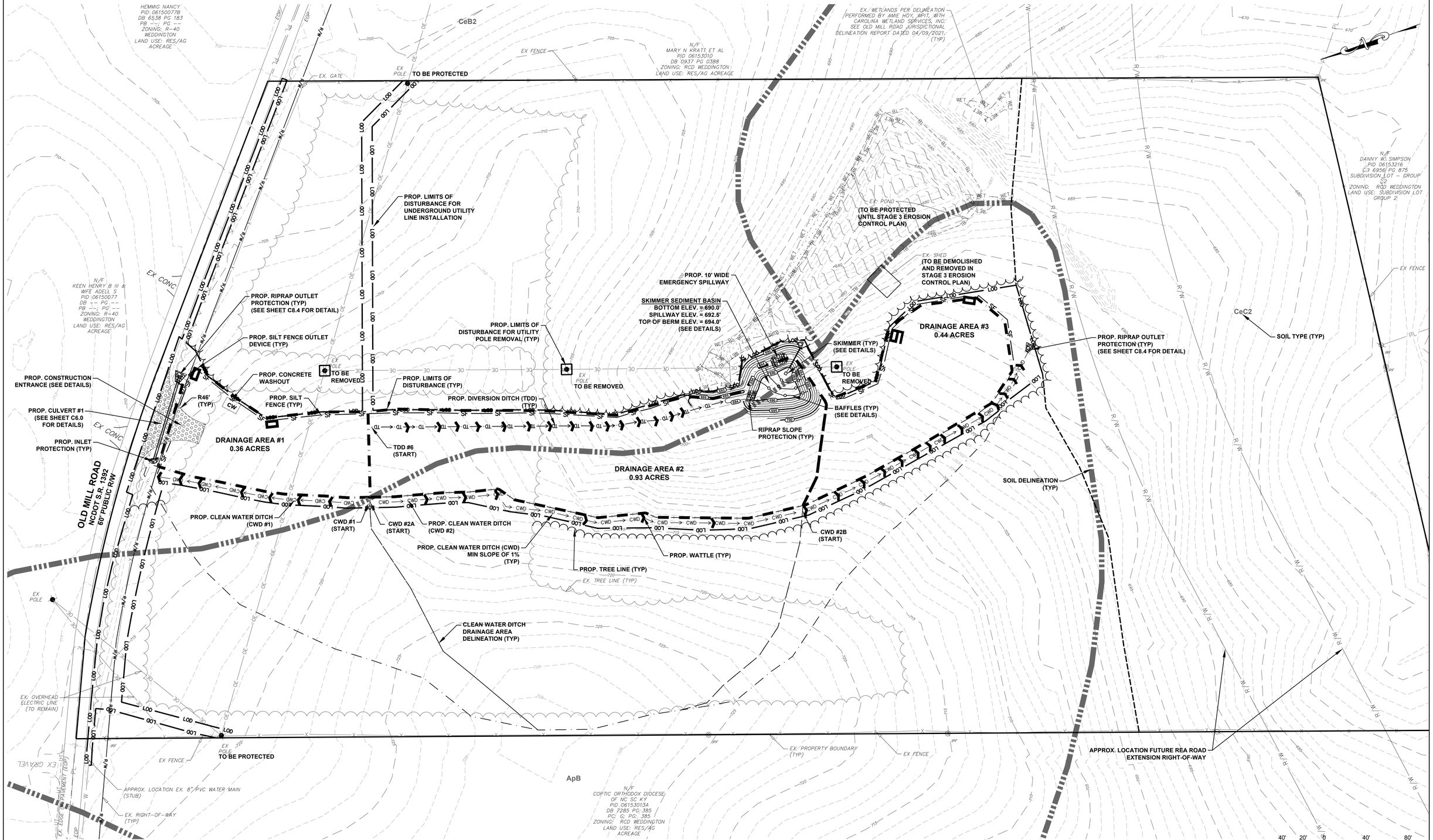
DATE:	MAY 2021
MCE PROJ. #	07780-0013
DRAWN	JPM
DESIGNED	JPM
CHECKED	PMN
PROJ. MGR.	PMN

SCALE
HORIZONTAL: 1" = 60'
VERTICAL: N/A

C3.0 DRAWING NUMBER
F REVISION

STATUS: PRELIMINARY DRAWING NOT FOR CONSTRUCTION

I:\07780\0013\PDNR\80-DWG\86-DESIGN\PLAN SHEETS\C3.0 SITE PLAN.DWG ---- 01/03/2022 15:57:36



REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	
F	ADDRESSED COMMENTS FROM UCPW	01/03/2022
E	ADDRESSED COMMENTS FROM UCPW	11/19/2021
D	ADDRESSED COMMENTS FROM UCPW	10/14/2021
C	ADDRESSED COMMENTS FROM NCDEQ POST-CONSTRUCTION STORMWATER	10/11/2021
B	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDEQ	09/10/2021
A	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDOT	08/04/2021

NORTH CAROLINA PROFESSIONAL SEAL 043852 ENGINEER PATRICK MATTHEW NEEDHAM 01-03-22

McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC License# F-1222
www.mckimcreed.com

DSG Development Solutions Group

BELLE MAR RESIDENTIAL
0 OLD MILL ROAD
TOWN OF WEDDINGTON, NC

EROSION CONTROL
STAGE 1

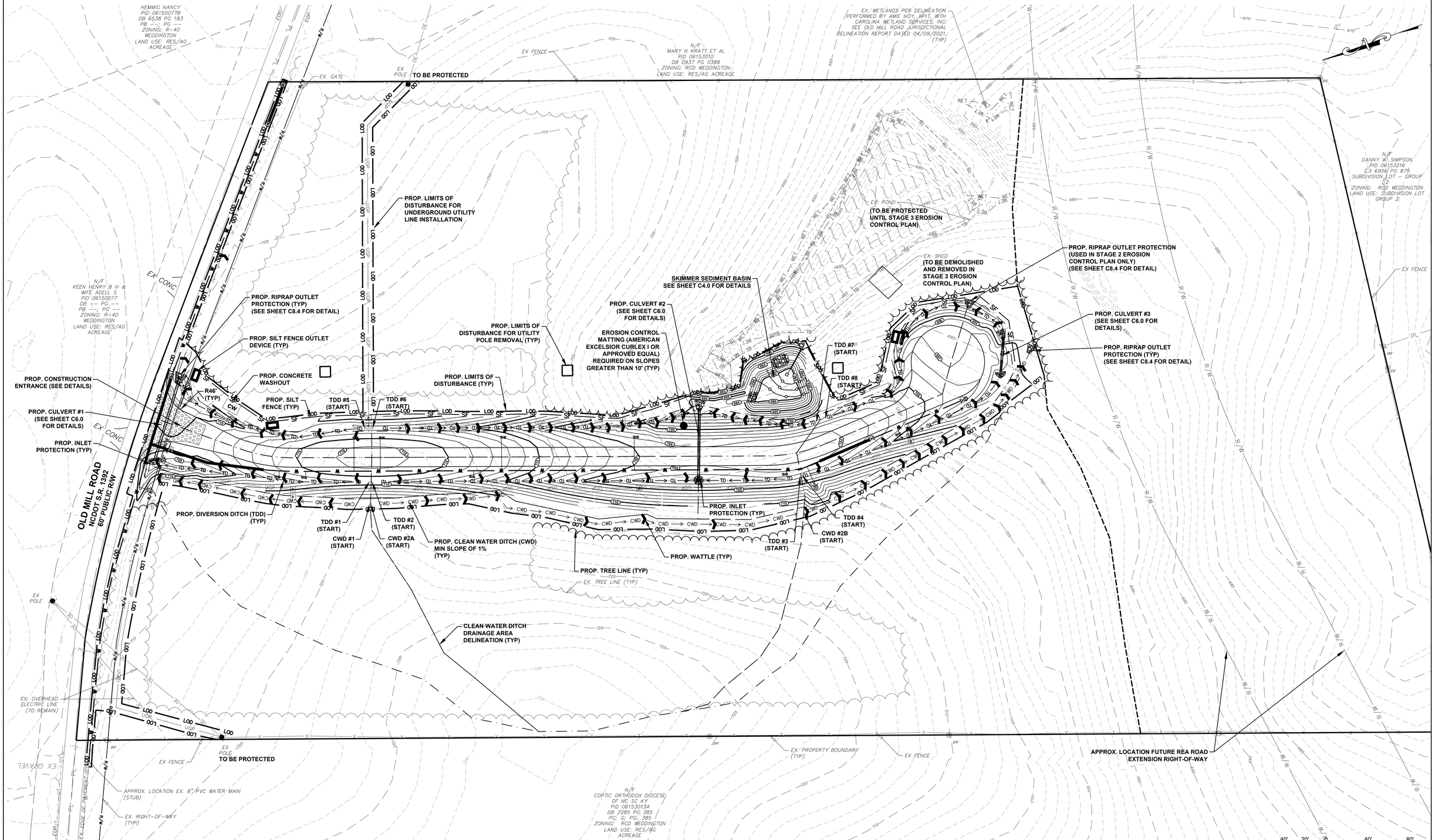
DATE:	MAY 2021
MCE PROJ. #	07780-0013
DRAWN	JPM
DESIGNED	JPM
CHECKED	PMN
PROJ. MGR.	PMN

SCALE
HORIZONTAL: 1" = 40'
VERTICAL: N/A

C4.0
DRAWING NUMBER
F
REVISION

STATUS: PRELIMINARY DRAWING NOT FOR CONSTRUCTION

I:\07780\0013\PDNR\80-DWG\86-DESIGN\PLAN SHEETS\C4.0 EC PH1 PLAN.DWG ---- 01/03/2022 15:57:54



1"=40'

REV.NO.	DESCRIPTIONS	DATE
F	ADDRESSED COMMENTS FROM UCPW	01/03/2022
E	ADDRESSED COMMENTS FROM UCPW	11/19/2021
D	ADDRESSED COMMENTS FROM UCPW	10/14/2021
C	ADDRESSED COMMENTS FROM NCDEQ POST-CONSTRUCTION STORMWATER	10/11/2021
B	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDEQ	09/10/2021
A	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDOT	08/04/2021

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 043852 ENGINEER PATRICK MATTHEW NEECHAM 01-03-22

McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC Licensed# F-1222
www.mckimcreed.com

DSG Development Solutions Group

BELLE MAR RESIDENTIAL
0 OLD MILL ROAD
TOWN OF WEDDINGTON, NC

EROSION CONTROL
STAGE 2

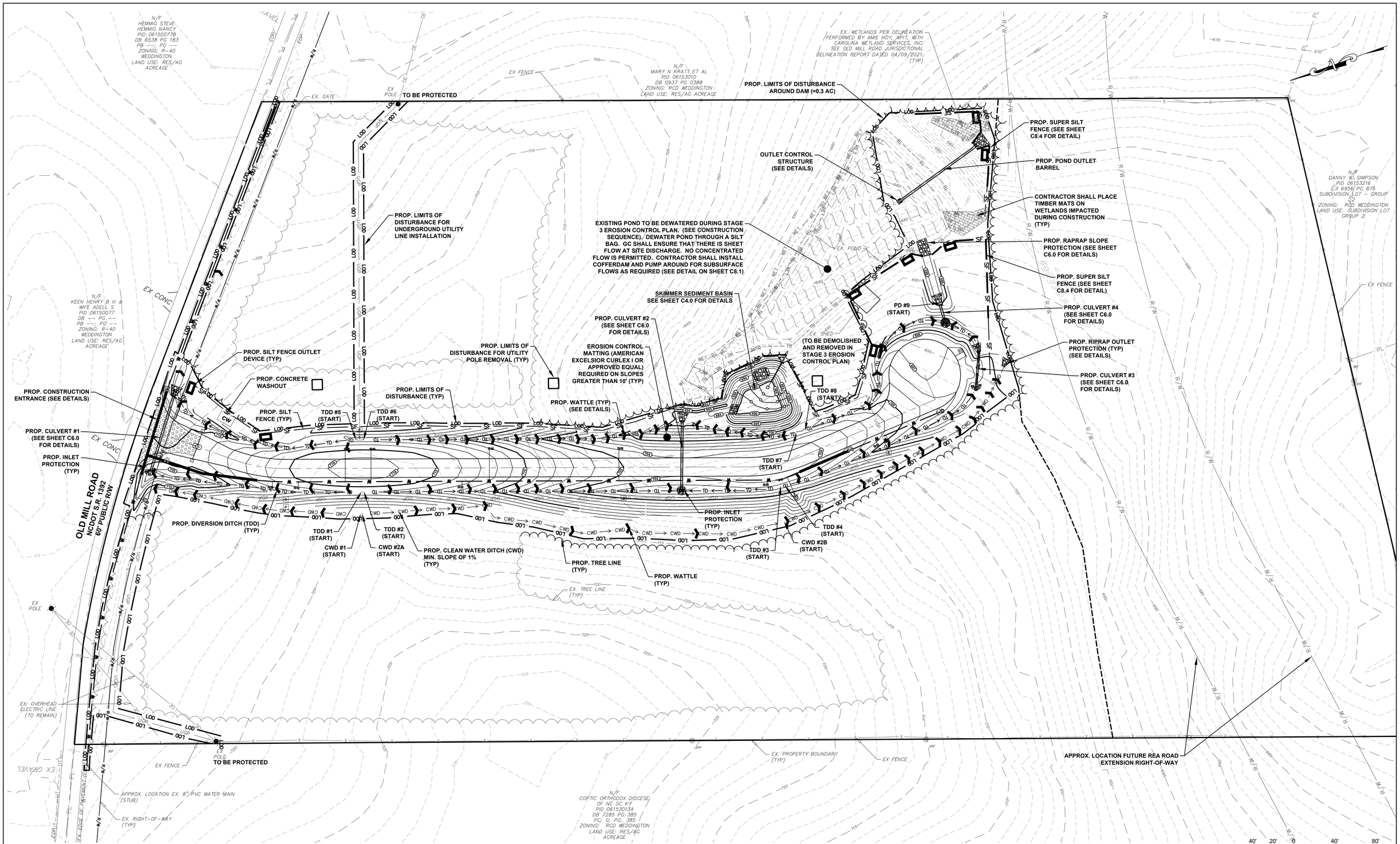
DATE:	MAY 2021
MCE PROJ. #	07780-0013
DRAWN	JPM
DESIGNED	JPM
CHECKED	PMN
PROJ. MGR.	PMN

SCALE
HORIZONTAL: 1" = 40'
VERTICAL: N/A

C4.1
DRAWING NUMBER
F
REVISION

STATUS: PRELIMINARY DRAWING NOT FOR CONSTRUCTION

I:\07780\0013\PDNR\80-DWG\86-DESIGN\PLAN SHEETS\C4.0 EC PH1 PLAN.DWG ---- 01/03/2022 15:57:58



1"=40'

40' 20' 0 40' 80'

REV.NO.	DESCRIPTIONS	DATE
F	ADDRESSED COMMENTS FROM UCPW	01/03/2022
E	ADDRESSED COMMENTS FROM UCPW	11/19/2021
D	ADDRESSED COMMENTS FROM UCPW	10/14/2021
C	ADDRESSED COMMENTS FROM NCDEQ POST-CONSTRUCTION STORMWATER	10/11/2021
B	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDEQ	09/10/2021
A	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDOT	08/04/2021

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 043852 ENGINEER PATRICK MATTHEW NEEDHAM 01-03-22

McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC License# F-1222
www.mckimcreed.com

DSG Development Solutions Group

BELLE MAR RESIDENTIAL
0 OLD MILL ROAD
TOWN OF WEDDINGTON, NC

EROSION CONTROL
STAGE 3

DATE:	MAY 2021
MCE PROJ. #	07780-0013
DRAWN	JPM
DESIGNED	JPM
CHECKED	PMN
PROJ. MGR.	PMN

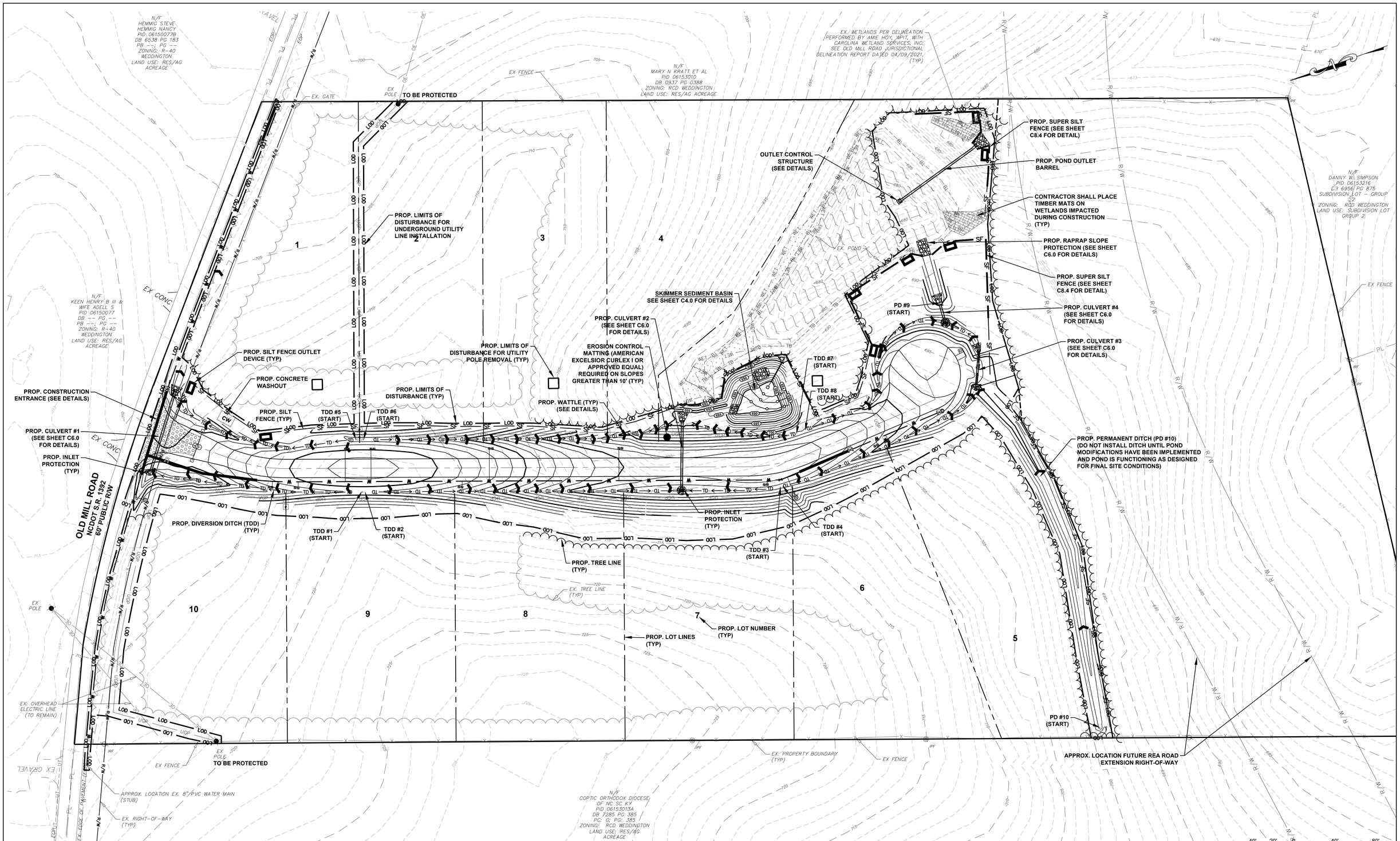
SCALE
HORIZONTAL: 1" = 40'
VERTICAL: N/A

C5.0
DRAWING NUMBER

F
REVISION

STATUS: PRELIMINARY DRAWING NOT FOR CONSTRUCTION

I:\07780\0013\PDNR\80-DWG\86-DESIGN\PLAN SHEETS\C5.0 EC PH2 PLAN.DWG ---- 01/03/2022 15:58:15



REV.NO.	DESCRIPTIONS	DATE
F	ADDRESSED COMMENTS FROM UCPW	01/03/2022
E	ADDRESSED COMMENTS FROM UCPW	11/19/2021
D	ADDRESSED COMMENTS FROM UCPW	10/14/2021
C	ADDRESSED COMMENTS FROM NCDEQ POST-CONSTRUCTION STORMWATER	10/11/2021
B	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDEQ	09/10/2021
A	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDOT	08/04/2021

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 043852 ENGINEER PATRICK MATTHEW NEDHAM 01-03-22

McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC License# F-1222
www.mckimcreed.com

DSG Development Solutions Group

BELLE MAR RESIDENTIAL
0 OLD MILL ROAD
TOWN OF WEDDINGTON, NC

EROSION CONTROL
STAGE 4

DATE:	MAY 2021
MCE PROJ. #	07780-0013
DRAWN	JPM
DESIGNED	JPM
CHECKED	PMN
PROJ. MGR.	PMN

SCALE
HORIZONTAL: 1" = 40'
VERTICAL: N/A

C5.1
DRAWING NUMBER
F
REVISION

STATUS: PRELIMINARY DRAWING NOT FOR CONSTRUCTION

I:\07780\0013\PDNR\80-DWG\86-DESIGN\PLAN SHEETS\C5.0 EC PH2 PLAN.DWG ---- 01/03/2022 15:58:24

N/F
HEMMIG STEVE
HEMMIG NANCY
PID: 06150077B
DB 6538 PG 183
PB --; PG --
ZONING: R-40
WEDDINGTON
LAND USE: RES/AG
ACREAGE

N/F
KEEN HENRY B III &
WFE ADELL S
PID: 06150077
DB -- PG --
PB --; PG --
ZONING: R-40
WEDDINGTON
LAND USE: RES/AG
ACREAGE

N/F
MARY N KRATT ET AL
PID: 06153010
DB 0937 PG 0358
ZONING: RCD WEDDINGTON
LAND USE: RES/AG ACREAGE

N/F
COPTIC ORTHODOX DIOCESE
OF NC SC KY
PID: 06153013A
DB 7285 PG 385
PC: G PG: 385
ZONING: RCD WEDDINGTON
LAND USE: RES/AG
ACREAGE

EX. WETLANDS PER DELINEATION PERFORMED BY AMIE HOY, WPIT, WITH CAROLINA WETLAND SERVICES, INC. SEE OLD MILL ROAD JURISDICTIONAL DELINEATION REPORT DATED 04/09/2021. (TYP)

PROP. UNDERGROUND ELECTRIC LINE INSIDE A 10' WIDE UTILITY EASEMENT (TYP) (CONTRACTOR TO COORDINATE DESIGN WITH UTILITY OWNER)

EX. GATE

EX POLE

EX FENCE

EX CONC.

SITE DRAINAGE AREA DELINEATION LINES (SEE CALCULATIONS)

BYPASS DRAINAGE AREA
4.26 ACRES

POND DRAINAGE AREA
7.86 ACRES

BUA VEGETATED SETBACK (30' FROM TOB)

30.00'

OUTLET CONTROL STRUCTURE (SEE DETAILS)

LOT LINE & STORM DRAINAGE EASEMENT (SDE) (20' FROM TOB)

20.00'

1
40468 SF

2
40333 SF

3
40333 SF

4
47075 SF

EX. POND

EROSION CONTROL MATTING (AMERICAN EXCELSIOR CURLEX I OR APPROVED EQUAL) REQUIRED ON SLOPES GREATER THAN 10' (TYP)

CONC. HEAD WALL PER NCDOT STD #838.01 (TO BE INSTALLED WITH 5' MIN DISTANCE FROM WATERMAIN)

PROP. CULVERT #1
78 LF OF 18" CLASS V RCP
INVERT IN: 706.58'
INVERT OUT: 705.73'
MIN. 1.0' COVER REQUIRED FROM TOP OF PIPE TO BOTTOM OF PAVEMENT STRUCTURE

PROP. CULVERT #2
63 LF OF 18" CLASS III RCP
INVERT IN: 694.82'
INVERT OUT: 694.50'

PROP. DROP INLET
NCDOT 840.18
RIM: 701.98'
INVERT OUT: 694.82'

PROP. DROP INLET
NCDOT 840.18
RIM: 691.73'
INVERT OUT: 687.43'

PROP. CULVERT #3
29 LF OF 15" CLASS III RCP
INVERT IN: 694.00'
INVERT OUT: 693.00'

PROP. CULVERT #4
18 LF OF 18" CLASS III RCP
INVERT IN: 687.43'
INVERT OUT: 687.25'

PROP. CBU

PROP. RIPRAP OUTLET PROTECTION (TYP) (SEE DETAILS)

PROP. POND OUTLET BARREL

PROP. RIPRAP SLOPE PROTECTION (10'W x 16'L, CLASS B STONE)
TOP ELEV=687.00'
BOTTOM ELEV=684.00'
(SEE DETAILS)

20' MIN. STORM DRAINAGE EASEMENT (SDE) (TYP)

PROP. HEAD WALL PER NCDOT STD #838.01

30' ACCESS EASEMENT

PROP. PERMANENT DITCH (PD #10) (DO NOT INSTALL DITCH UNTIL POND MODIFICATIONS HAVE BEEN IMPLEMENTED AND POND IS FUNCTIONING AS DESIGNED FOR FINAL SITE CONDITIONS)

PD #1 (START)
PD #2 (START)
PD #3 (START)
PD #4 (START)
PD #5 (START)
PD #6 (START)
PD #7 (START)
PD #8 (START)
PD #9 (START)
PD #10 (START)

BELLE MAR LANE
(PUBLIC 50' R/W - 18' EP)

OLD MILL ROAD
NCDOT S.R. 1392
60' PUBLIC R/W

CONC. HEAD WALL PER NCDOT STD #838.01 (TO BE INSTALLED WITH 5' MIN DISTANCE FROM WATERMAIN)

5:1 MAX SLOPES WITHIN 15' UCPW WATER EASEMENT

PROP. TREE LINE (TYP)

EX. TREE LINE (TYP)

PROP. LOT NUMBER (TYP)

PROP. PERMANENT DITCH (PD) (TYP)

PROP. LOT LINES (TYP)

PERMANENT DITCH DRAINAGE AREA DELINEATION LINES (SEE CALCULATIONS)

PROP. UTILITY EASEMENT FOR EX. OVERHEAD ELECTRIC LINE (10' WIDE CENTERED ON LINE)

EX. OVERHEAD ELECTRIC LINE (TO REMAIN)

PROP. 5' UTILITY EASEMENT (TYP)

EX. PROPERTY BOUNDARY (TYP)

APPROX. LOCATION FUTURE REA ROAD EXTENSION RIGHT-OF-WAY

APPROX. LOCATION EX. 8" PVC WATER MAIN (STUB)

EX. RIGHT-OF-WAY (TYP)

EX. EDGE OF PAVEMENT (TYP)

10
40645 SF

9
40000 SF

8
40001 SF

7
40008 SF

6
40188 SF

5
43777 SF

NOTES:

1. PROJECT SCOPE INCLUDES DEVELOPMENT OF SITE ENTRANCE, ROADWAY, PERMANENT STORM WATER MEASURES, AND WATER LINE (WITH ASSOCIATED APPURTENANCES). THE LIMITS OF DISTURBANCE SHALL BE LIMITED TO WHAT IS NEEDED TO INSTALL THE ABOVE MENTIONED COMPONENTS. INDIVIDUAL LOTS, TO INCLUDE FINAL DRIVEWAY AND BUILDING PAD LOCATIONS, WILL BE DESIGNED, PERMITTED, AND DEVELOPED BY OTHERS.
2. AFTER POND OUTLET STRUCTURE INSTALLATION, POND EMBANKMENT SHALL BE REPLACED AND COMPACTED ACCORDING TO GEOTECHNICAL ENGINEER'S RECOMMENDATION.

40' 20' 0 40' 80'
1"=40'

REV.NO.	DESCRIPTIONS	DATE
F	ADDRESSED COMMENTS FROM UCPW	01/03/2022
E	ADDRESSED COMMENTS FROM UCPW	11/19/2021
D	ADDRESSED COMMENTS FROM UCPW	10/14/2021
C	ADDRESSED COMMENTS FROM NCDEQ POST-CONSTRUCTION STORMWATER	10/11/2021
B	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDEQ	09/10/2021
A	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDOT	08/04/2021

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 043852 ENGINEER PATRICK MATTHEW NEEDHAM 01-03-22

McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC License# F-1222
www.mckimcreed.com

DSG Development Solutions Group

BELLE MAR RESIDENTIAL
0 OLD MILL ROAD
TOWN OF WEDDINGTON, NC

GRADING & DRAINAGE PLAN

DATE:	MAY 2021
MCE PROJ. #	07780-0013
DRAWN	JPM
DESIGNED	JCB
CHECKED	PMN
PROJ. MGR.	PMN

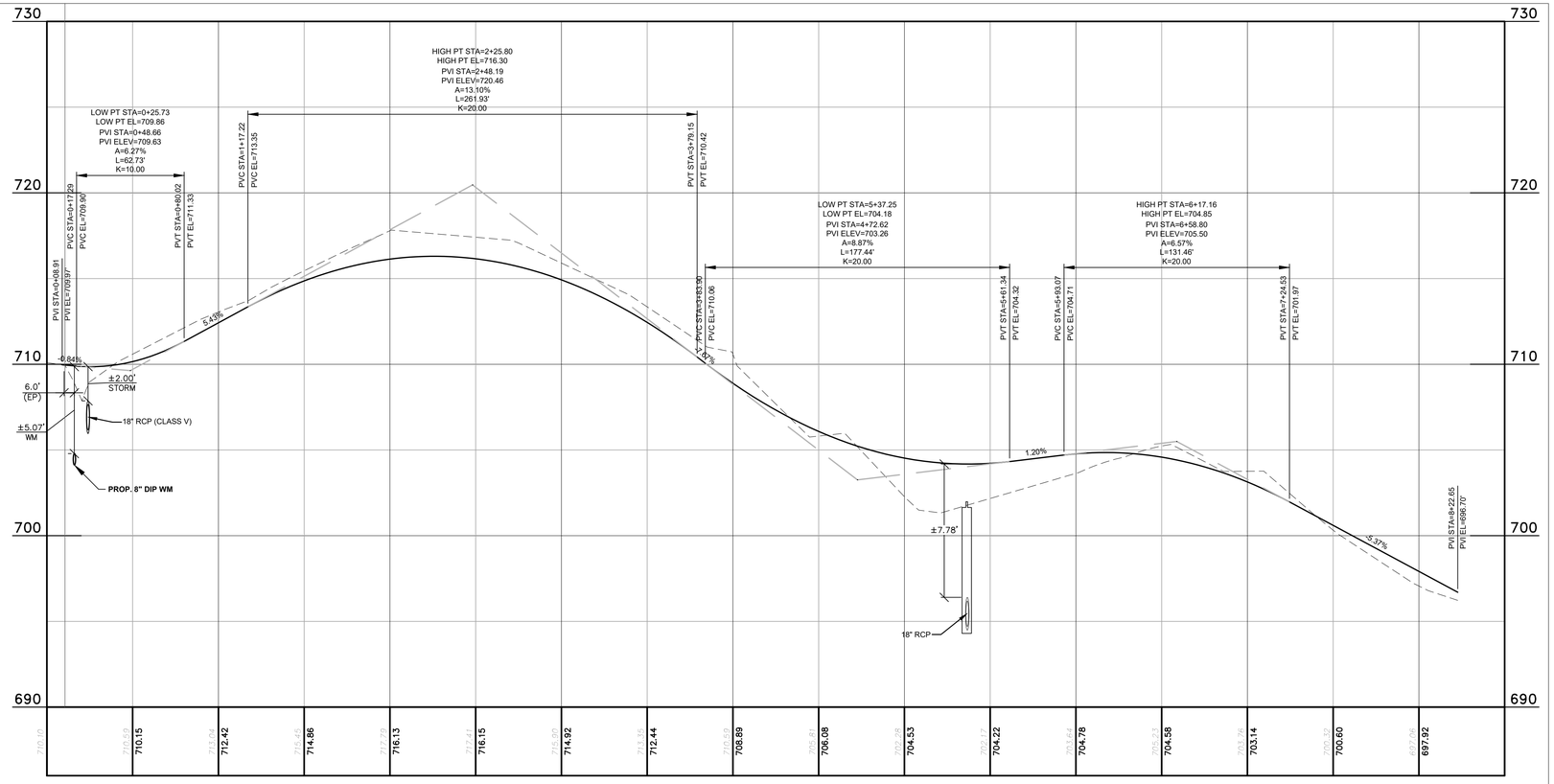
SCALE
HORIZONTAL: 1" = 40'
VERTICAL: N/A

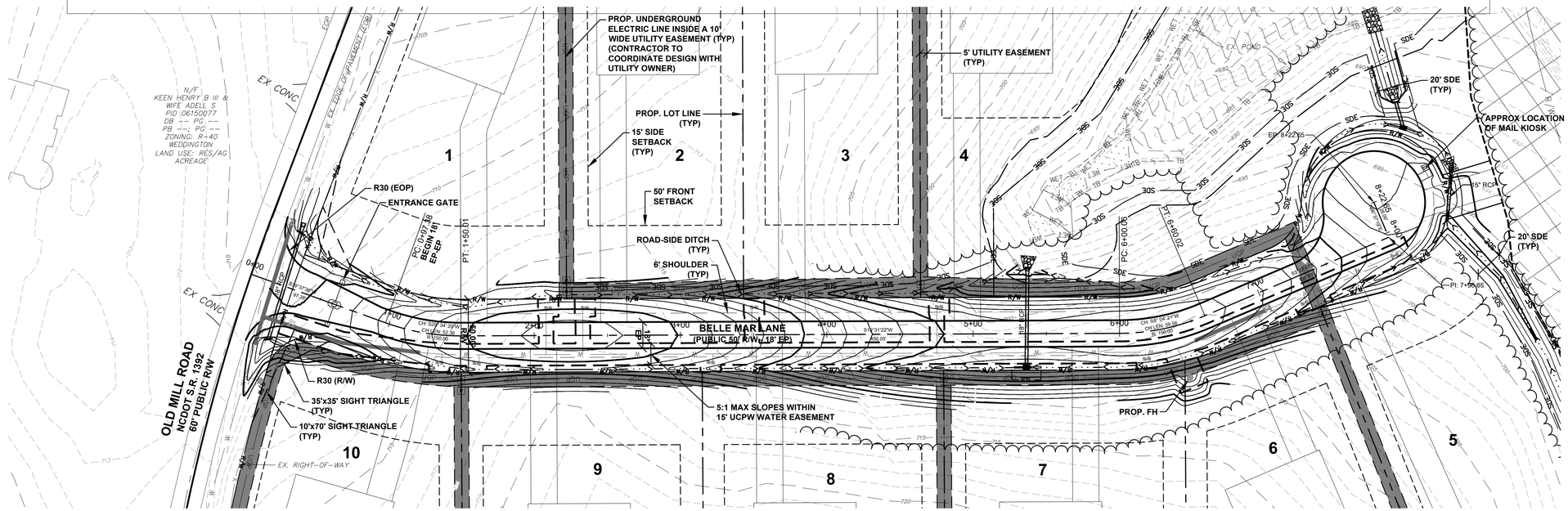
C6.0
DRAWING NUMBER

F
REVISION

STATUS: PRELIMINARY DRAWING NOT FOR CONSTRUCTION

I:\07780\0013\PDNR\80-DWG\86-DESIGN\PLAN SHEETS\C6.0 GRADE PLAN.DWG ---- 01/03/2022 15:58:43





40' 20' 0 40' 80'
1"=40'

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	
F	ADDRESSED COMMENTS FROM UCPW	01/03/2022
E	ADDRESSED COMMENTS FROM UCPW	11/19/2021
D	ADDRESSED COMMENTS FROM UCPW	10/14/2021
C	ADDRESSED COMMENTS FROM NCDEQ POST-CONSTRUCTION STORMWATER	10/11/2021
B	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDEQ	09/10/2021
A	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDOT	08/04/2021

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043852 01-03-22 PATRICK MATTHEW NEEDHAM

McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC License# F-1222
www.mckimcreed.com

DSG Development Solutions Group

BELLE MAR RESIDENTIAL
0 OLD MILL ROAD
TOWN OF WEDDINGTON, NC

ROADWAY PLAN & PROFILE FOR BELLE MAR LANE

DATE:	MAY 2021
MCE PROJ. #	07780-0013
DRAWN	JPM
DESIGNED	JPM
CHECKED	PMN
PROJ. MGR.	PMN

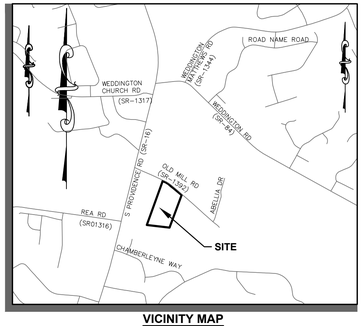
SCALE
HORIZONTAL: 1" = 40'
VERTICAL: 1" = 4'

C7.0
DRAWING NUMBER
F
REVISION

STATUS: PRELIMINARY DRAWING NOT FOR CONSTRUCTION

I:\07780\0013\PDNR\80-DWG\86-DESIGN\PLAN SHEETS\C7.0 ROADWAY PROFILES.DWG ---- 01/03/2022 15:59:04

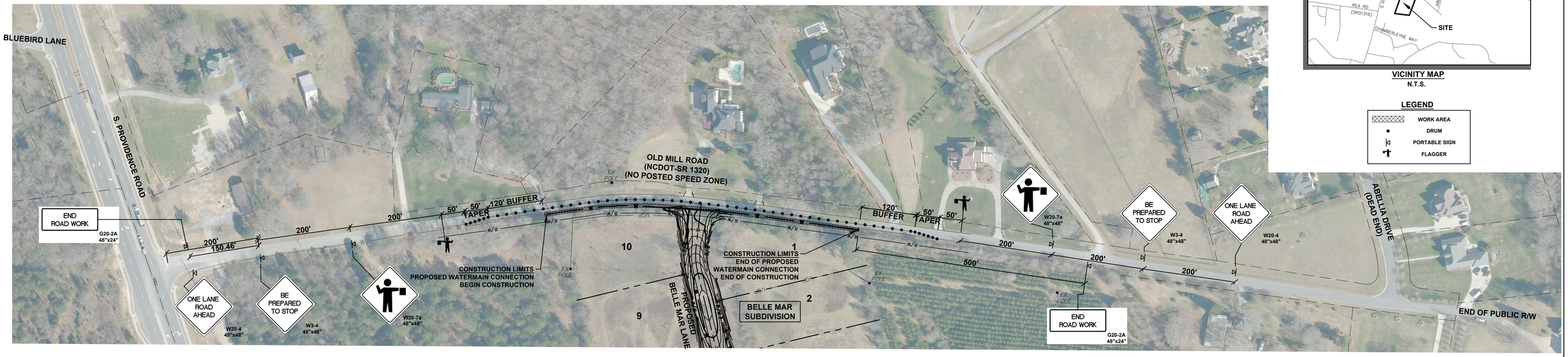
VICINITY MAP N.T.S.



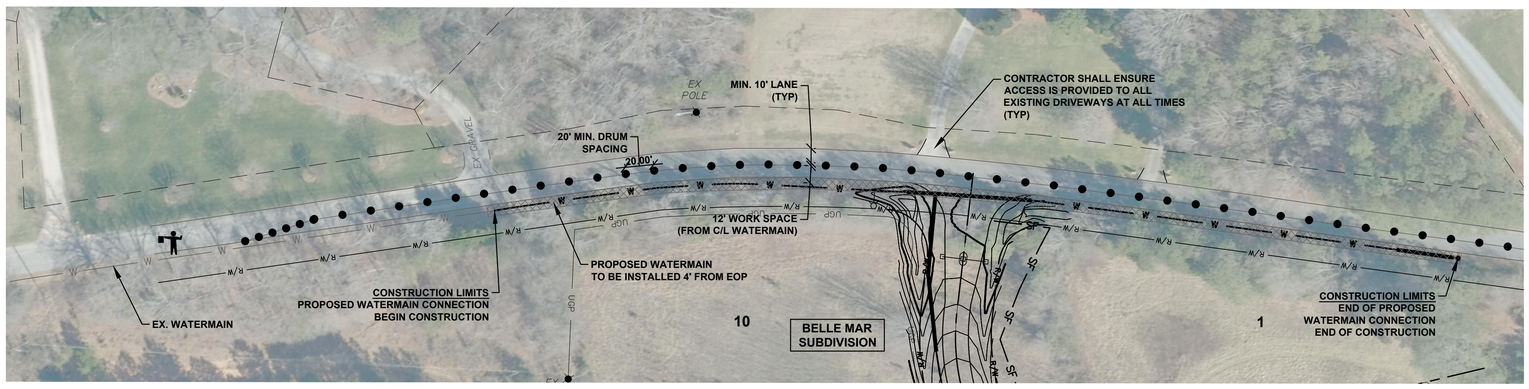
VICINITY MAP
N.T.S.

LEGEND

	WORK AREA
●	DRUM
	PORTABLE SIGN
	FLAGGER



1"=100'



WORK AREA ENLARGEMENT
SCALE: 1" = 50'

1"=50'

TRAFFIC CONTROL GENERAL NOTES:

1. ALL MATERIALS, CONSTRUCTION, AND PLANS ARE TO COMPLY WITH CURRENT NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, POLICIES, PROCEDURES, SPECIAL PROVISIONS, DETAILS, AND ANY OTHER APPLICABLE NCDOT MANUALS.

2. THE PURPOSE OF THIS DRAWING IS TO NOTIFY NCDOT OF THE PROPOSED ENCROACHMENT / TRAFFIC CONTROL PLAN TO INSTALL NEW ROADWAY PAVEMENT AND A WATER LINE EXTENSION ALONG OLD MILL ROAD (SR-1320).

3. CONTRACTOR IS FULLY RESPONSIBLE FOR CONTACTING APPROPRIATE PARTIES AND ASSURING THAT EXISTING UTILITIES ARE LOCATED AND VERIFIED HORIZONTALLY AND VERTICALLY PRIOR TO BEGINNING CONSTRUCTION. DEPTHS SHOWN HAVE NOT BEEN VERIFIED. CONTRACTOR SHALL BE AWARE OF OVERHEAD UTILITY LINES AND COORDINATE WITH RESPECTIVE UTILITY POLE OWNERS TO DETERMINE NEED AND EXTENT OF BRACING.

4. CONTRACTOR IS RESPONSIBLE FOR PLACING BARRICADES, USING FLAG MEN, ETC. AS NECESSARY TO ENSURE THE SAFETY OF THE PUBLIC.

5. ALL PAVEMENT CUTS & REPAIRS, ASPHALT OR CONCRETE, ARE TO BE PLACED ACCORDING TO STANDARDS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION.

6. CONTACT NC811 @ 811 OR 800.632.4949, A MINIMUM OF 72 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION.

7. TYPE III BARRICADE AND/OR ANCHORED STEEL PLATING (OR OTHER NCDOT APPROVED DEVICES) SHALL BE USED OVER ENTIRE OPEN-CUT/TRENCHED AREAS IF WORK ZONE IS LEFT UNATTENDED OVERNIGHT.

8. SHORING WILL BE ACCORDING TO OSHA TRENCHING STANDARDS, PART 1926, SUBPART P, OR AS AMENDED. CONTRACTOR SHALL USE HYDRAULIC SHORING WITH STEEL END PANELS AS INSTRUCTED BY NCDOT. IF SITE CONDITIONS DO NOT WARRANT HYDRAULIC SHORING, CONTRACTOR SHALL COORDINATE WITH NCDOT INSPECTOR. CONTRACTOR SHALL AVOID ENCROACHING THE THEORETICAL 1:1 TRAFFIC LOADING SLOPE FROM THE EOP.

9. TRAFFIC CONTROL STANDARDS ARE TO COMPLY WITH CURRENT NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, PROVISIONS, AND DETAILS. ALL SIGNS AND DEVICES SHALL BE PLACED IN ACCORDANCE WITH THE LASTEST PROVISIONS OF THE NCDOT - DIVISION OF HIGHWAYS STANDARD DRAWINGS MANUAL WITH RESPECT TO ANY APPLICABLE PROVISIONS FROM THE TOWN OF WEDDINGTON.

10. NO EXCAVATION WITHIN THE CLEAR RECOVERY ZONE SHALL BE LEFT OPEN OVERNIGHT.

11. CONTRACTOR/FLAGMEN SHALL ENSURE NO DRIVEWAY IS BLOCKED AND THAT THE TRAFFIC CAN TURN ON TO THE ROAD SAFELY. SIGHT DISTANCE FOR ALL DRIVERS SHALL BE MAINTAINED AND MET ACCORDING TO NCDOT STANDARD DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL PLACE ADDITIONAL FLAGGERS AT DRIVEWAYS TO ENSURE TRAFFIC CONTROL.

12. A TRUCK MOUNTED ATTENUATOR (TMA) WITH FLASHING ARROW BOARD AND A CHANGEABLE MESSAGE SIGN (CMS) SHALL BE INSTALLED PER NCDOT DETAIL 1101.02 WHEN REQUIRED AND/OR OTHER NCDOT APPROVED DETAILS SHALL BE USED TO INSTALL AND OPERATE TRAFFIC CONTROL DEVICES.

13. THE CONTRACTOR SHALL ENSURE NECESSARY EROSION CONTROL MEASURES ARE IMPLEMENTED TO MINIMIZE EROSION AND SEDIMENTATION LEAVING THE SITE OR ENTERING ANY WATERWAYS (STREAMS, DITCHES, LAKES, ETC.). EROSION CONTROL MEASURES SHOWN IN PLANS REPRESENT THE MINIMUM REQUIREMENTS AND SHALL BE ADJUSTED IN THE FIELD BY CONTRACTOR BASED ON SITE CONDITIONS. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED.

14. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE SEDIMENTATION.

15. TRAFFIC CONTROL DEVICES SHOWN ARE A TYPICAL CONFIGURATION TO BE UTILIZED AT EVERY LOCATION WHERE R/W ACCESS IS REQUIRED WITHIN THE EXTENT OF THE R/W ACCESS. THERE SHALL BE 500' MAXIMUM WORK AREA AT ONE TIME. TRAFFIC CONTROL DEVICES SHALL BE MOVED ACCORDINGLY BEFORE THE NEXT WORK AREA BEGINS.

16. ACCESS TO RESIDENTIAL AND COMMERCIAL DRIVEWAYS TO BE MAINTAINED AT ALL TIMES.

17. BUFFER SPACE MAY BE MODIFIED TO FIT FIELD CONDITIONS.

18. SIGN SPACING MAY BE ADJUSTED TO FIT FIELD CONDITIONS.

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	
F	ADDRESSED COMMENTS FROM UCPW	01/03/2022
E	ADDRESSED COMMENTS FROM UCPW	11/19/2021
D	ADDRESSED COMMENTS FROM UCPW	10/14/2021
C	ADDRESSED COMMENTS FROM NCDEQ POST-CONSTRUCTION STORMWATER	10/11/2021
B	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDEQ	09/10/2021
A	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDOT	08/04/2021

NORTH CAROLINA PROFESSIONAL SEAL 043852 ENGINEER PATRICK MATTHEW MEDHIN 01-03-22

McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC License# F-1222
www.mckimcreed.com

DSG Development Solutions Group

BELLE MAR RESIDENTIAL
0 OLD MILL ROAD
TOWN OF WEDDINGTON, NC

NCDOT TRAFFIC CONTROL PLAN

DATE:	MAY 2021
MCE PROJ. #	07780-0013
DRAWN	JPM
DESIGNED	JPM
CHECKED	PMN
PROJ. MGR.	PMN

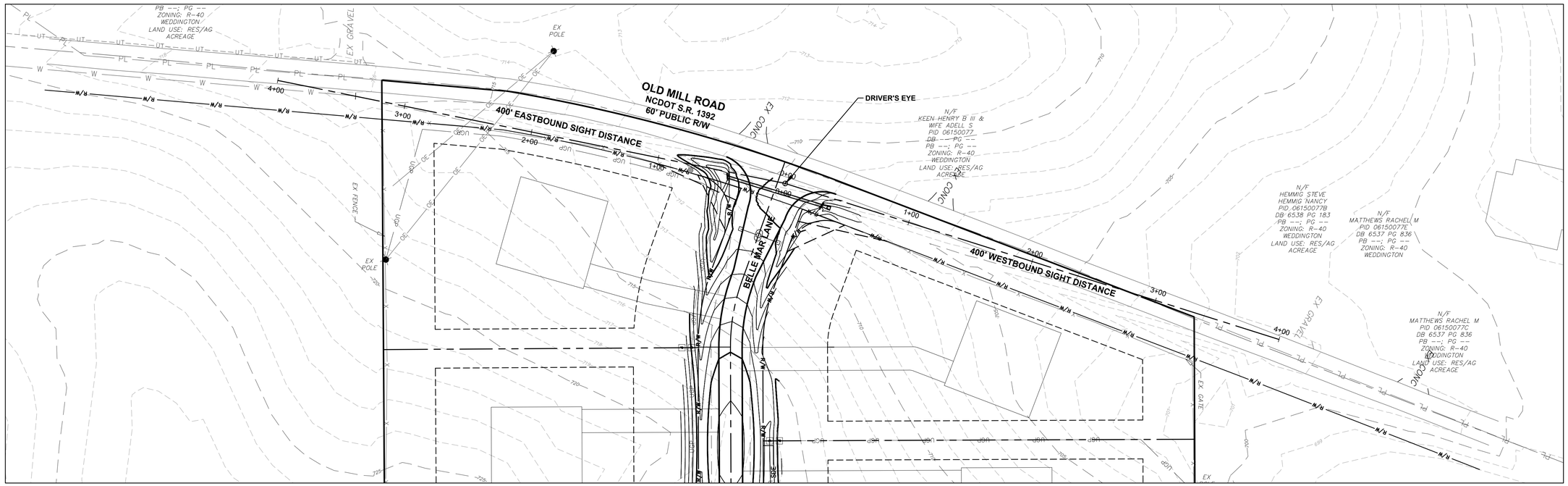
SCALE
HORIZONTAL: AS SHOWN
VERTICAL: N/A

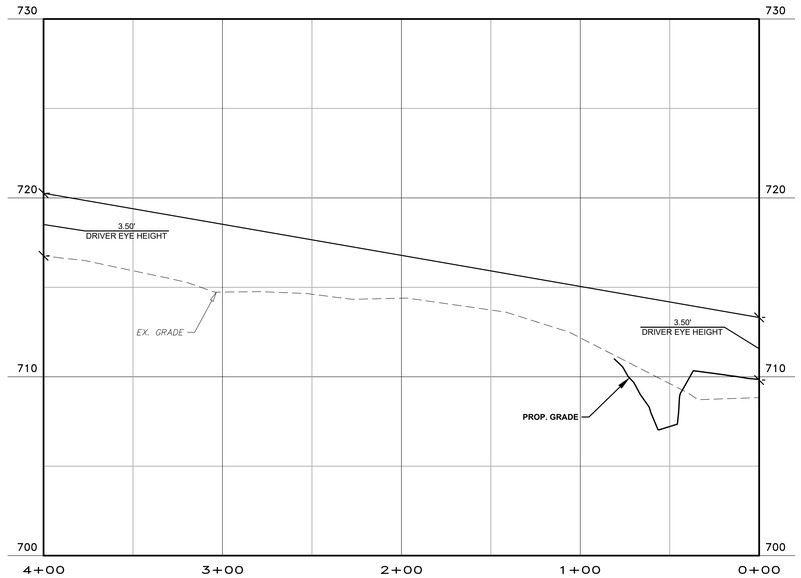
C7.1 DRAWING NUMBER

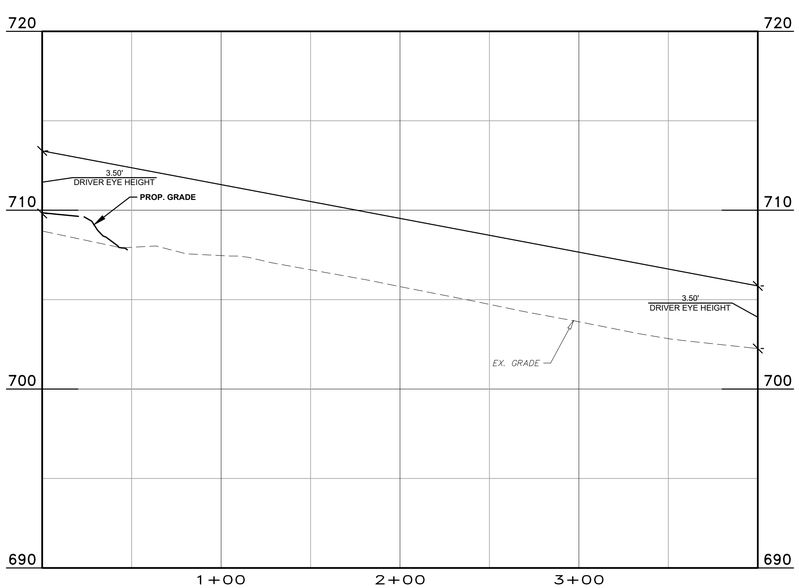
F REVISION

STATUS: **PRELIMINARY DRAWING NOT FOR CONSTRUCTION**

I:\07780\0013\PDNR\80-DWG\86-DESIGN\PLAN SHEETS\C7.1 OLD MILL TRAFFIC CNTL.DWG ---- 01/03/2022 15:59:45







NOTE:
OWNER IS RESPONSIBLE TO REMOVE EXISTING TREES / OBSTRUCTIONS LOCATED WITHIN SIGHT LINE. PERMISSION FROM ADJACENT PROPERTY OWNER IS REQUIRED PRIOR TO TREE / OBSTRUCTIONS REMOVAL FROM ADJACENT PROPERTY. IF TREES ARE ONLY TRIMMED AND NOT FULLY REMOVED AN EASEMENT WILL BE REQUIRED IN ORDER TO MAINTAIN CLEAR SIGHT DISTANCE.

LEFT HAND SIGHT DISTANCE
(OLD MILL ROAD EASTBOUND LANE)
(NO POSTED SPEED LIMIT, ASSUME 35 MPH FOR INSIDE TOWN LIMITS)
HORIZONTAL SIGHT DISTANCE
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

RIGHT HAND SIGHT DISTANCE
(OLD MILL ROAD WESTBOUND LANE)
(NO POSTED SPEED LIMIT, ASSUME 35 MPH FOR INSIDE TOWN LIMITS)
HORIZONTAL SIGHT DISTANCE
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	
F	ADDRESSED COMMENTS FROM UCPW	01/03/2022
E	ADDRESSED COMMENTS FROM UCPW	11/19/2021
D	ADDRESSED COMMENTS FROM UCPW	10/14/2021
C	ADDRESSED COMMENTS FROM NCDEQ POST-CONSTRUCTION STORMWATER	10/11/2021
B	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDEQ	09/10/2021
A	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDOT	08/04/2021

NORTH CAROLINA PROFESSIONAL SEAL 043852 ENGINEER PATRICK MATTHEW NEEDHAM 01-03-22

McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC License# F-1222
www.mckimcreed.com

DSG Development Solutions Group

BELLE MAR RESIDENTIAL
0 OLD MILL ROAD
TOWN OF WEDDINGTON, NC

SIGHT DISTANCE PLAN & PROFILE BELLE MAR LANE

1"=40' (40' 20' 0 40' 80')

DATE:	MAY 2021
MCE PROJ. #	07780-0013
DRAWN	JPM
DESIGNED	JPM
CHECKED	PMN
PROJ. MGR.	PMN

SCALE
HORIZONTAL: 1" = 40'
VERTICAL: 1" = 4'

C7.2
DRAWING NUMBER
F
REVISION

STATUS: **PRELIMINARY DRAWING NOT FOR CONSTRUCTION**

Installation Specifications

1. The base of both end posts should be at least one foot higher than the middle of the fence. Check with a level if necessary.
2. Install posts 4 feet apart in critical areas and 6 feet apart on standard applications.
3. Install posts 2 feet deep on the downstream side of the silt fence, and as close as possible to the fabric, enabling posts to support the fabric from upstream water pressure.
4. Install posts with the nipples facing away from the silt fabric.
5. Attach the fabric to each post with three ties, all spaced within the top 8 inches of the fabric. Attach each tie diagonally 45 degrees through the fabric, with each puncture at least 1 inch vertically apart. Also, each tie should be positioned to hang on a post nipple when tightened to prevent sagging.
6. Wrap approximately 6 inches of fabric around the end posts and secure with 3 ties.
7. No more than 24 inches of a 36 inch fabric is allowed above ground level.
8. The installation should be checked and corrected for any deviations before compaction.
9. Compaction is vitally important for effective results. Compact the soil immediately next to the silt fence fabric with the front wheel of the tractor, skid steer, or roller exerting at least 60 pounds per square inch. Compact the upstream side first, and then each side twice for a total of 4 trips.
10. Install wattles as shown on approved plans with 2' overlap from edge of silt fence to edge of wattle.

Maintenance

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

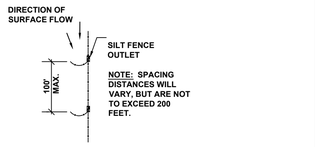
Should the fabric of a sediment fence collapse, tear, decompose or become ineffective, replace it promptly.

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.

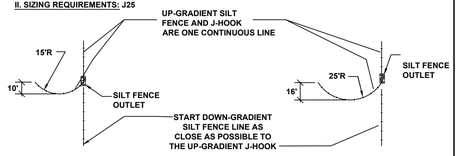
Remove all fencing materials and unstable sediment deposits and bring the area to grade and stabilize it after the contributing drainage area has been properly stabilized.

SILT FENCE OUTLET J-HOOK SPECIFICATIONS AND MAINTENANCE

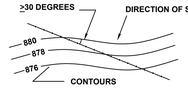
I. SPACING REQUIREMENTS



II. SIZING REQUIREMENTS: J25



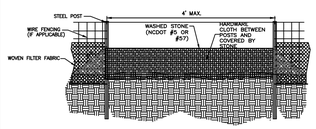
J25 - FOR CATCHMENT AREA ≥0.25 ACRES

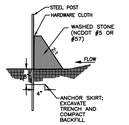


NOTE:
J-HOOKS SHALL BE USED WHEN THE SILT FENCE IS INSTALLED AT AN ANGLE OF 30 DEGREES OR GREATER FROM PARALLEL TO THE CONTOURS.

MAINTENANCE: CLEAN OUT AT 50% CAPACITY
LIFE OF FENCING: 6-9 MONTHS

SILT FENCE OUTLET WITH J-HOOK
NOT TO SCALE





GENERAL NOTES:

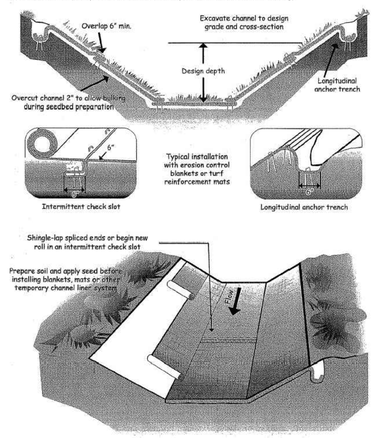
1. SEDIMENT FILTER OUTLET AND HARDWARE CLOTH SHALL BE 16 INCHES HIGH BUT NO TALLER THAN 18 INCHES.
2. HARDWARE CLOTH SHALL BE ANCHORED TO THE STEEL POSTS SECURELY USING APPROPRIATE ANCHORS. HARDWARE CLOTH SHALL BE KEYED IN A MINIMUM OF 12 INCHES IN LENGTH AND BACKFILLED PROPERLY AS SHOWN IN ABOVE DETAIL. HARDWARE CLOTH TO BE SAME AS STD. #30.09 (19 GAUGE, 1/4" SPACING).
3. POSTS SHALL BE NO MORE THAN 4 FEET APART.
4. SITE OUTLETS AT ANY POINT SMALL CONCENTRATED FLOWS ARE ANTICIPATED AND AT THE DIRECTION OF THE INSPECTOR.

MAINTENANCE NOTES:

1. FILTER OUTLETS SHALL BE INSPECTED BY THE FINANCIALLY RESPONSIBLE PARTY OR HIS AGENT IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS NEEDED SHALL BE MADE IMMEDIATELY.
2. THE STONE SHALL BE REPLACED PROMPTLY AFTER ANY EVENT THAT HAS CLOGGED OR REMOVED IT.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH HALF THE HEIGHT OF THE BARRIER. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OUTLET IS REMOVED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

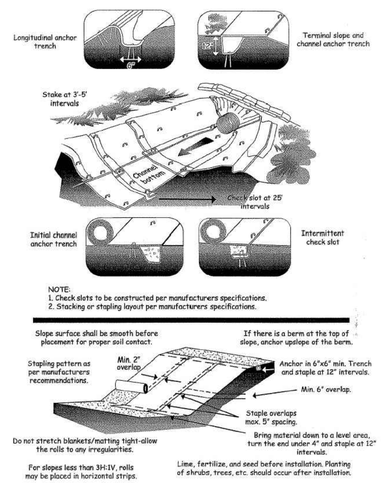
SILT FENCE OUTLET
NOT TO SCALE

Figure 6.17d Temporary Channel Liners; Washington State Department of Ecology



NOTES:
1. Design velocities exceeding 2 ft/sec require temporary blankets, mats or similar liners to protect seed and soil until vegetation becomes established.
2. Grass-lined channels with design velocities exceeding 6 ft/sec should include turf reinforcement mats

Figure 6.17e Channel Installation and Slope Installation; Washington State Ecology Department



TEMPORARY CHANNEL LINERS AND EROSION CONTROL MATTING SPECIFICATION:

1. **SEE DIVERSION DITCH CHART FOR LINER TYPE.**
2. **MIN. SHEAR STRENGTH: STRAW WITH NET (OR APPROVED EQUAL) - 1.45 LBS/FT²**
   CURLEX I (OR APPROVED EQUAL) - 1.75 LBS/FT²
   CURLEX II (OR APPROVED EQUAL) - 2.25 LBS/FT²
   PSRM (PERMANENT SOIL REINFORCED MAT) - 3.0 LBS/FT²

*** ALL RATINGS ABOVE ARE MINIMUM SHEAR STRENGTH REQUIREMENTS FOR THE MATTING BASED ON UNVEGETATED CONDITIONS.**
**** RIPRAP IN CHANNELS AS REQUIRED PER THE ERODES SPREADSHEET MAY BE REPLACED WITH A COIR MATTING OR SYNTHETIC MATTING AS LONG AS THE MATTING MEETS THE MINIMUM SHEAR STRESS AND VELOCITY REQUIREMENTS OF EACH INDIVIDUAL DITCH. SHEAR STRESS REQUIREMENTS AND VELOCITY REQUIREMENTS FOR EACH DITCH ARE OUTLINED IN THE DITCH SCHEDULES.**

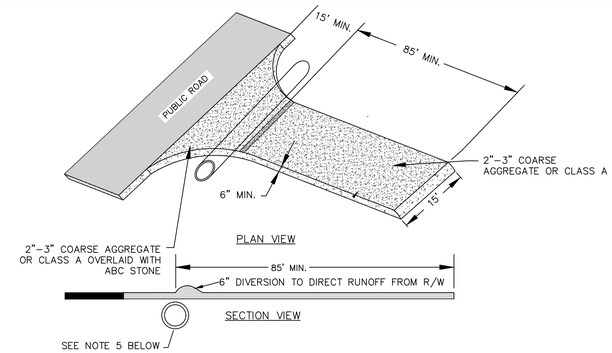
CONSTRUCTION SPECIFICATION

1. **GRADE THE SURFACE OF INSTALLATION AREAS SO THAT THE GROUND IS SMOOTH AND LOOSE.**
2. **WHEN SEEDING PRIOR TO INSTALLATION, FOLLOW THE STEPS FOR SEED BED PREPARATION, SOIL AMENDMENTS, AND SEEDING AS NOTED IN "SURFACE STABILIZATION 6.1" (GENERAL NOTES) AND AS PER NCDENR STANDARDS.**
3. **SPREAD SEED BEFORE EROSION CONTROL MATTING IS INSTALLED.**
4. **MATTING SHALL BE INSTALLED FROM TOP OF BANK TO TOP OF BANK ALONG DITCHES WITHIN DENUDED LIMITS. MATTING SHALL BE INSTALLED IN ALL DITCHES INDICATED ON PLANS AFTER SOIL IS DISTURBED BY CONSTRUCTION ACTIVITY.**

MAINTENANCE

1. **ALL EROSION CONTROL MATTING SHALL BE INSPECTED EVERY SEVEN (7) DAYS OR AFTER EACH RAINFALL OCCURRENCE THAT EXCEEDS ONE-HALF (0.5) INCH.**
2. **GOOD CONTACT WITH THE GROUND MUST BE MAINTAINED AND EROSION MUST NOT OCCUR BENEATH THE EROSION CONTROL MATTING.**
3. **ANY AREAS OF THE EROSION CONTROL MATTING THAT ARE DAMAGED OR NOT IN CLOSE CONTACT WITH THE GROUND SHALL BE REPAIRED AND STAPLED.**
4. **IF EROSION OCCURS DUE TO POORLY CONTROLLED DRAINAGE, THE PROBLEM SHALL BE FIXED AND THE ERODED AREA PROTECTED.**
5. **MONITOR AND REPAIR THE EROSION CONTROL MATTING AS NECESSARY UNTIL GROUND COVER IS ESTABLISHED.**
6. **SEE SHEET 2 FOR ADDITIONAL EROSION CONTROL MAINTENANCE NOTES.**

EROSION CONTROL MATTING
NOT TO SCALE



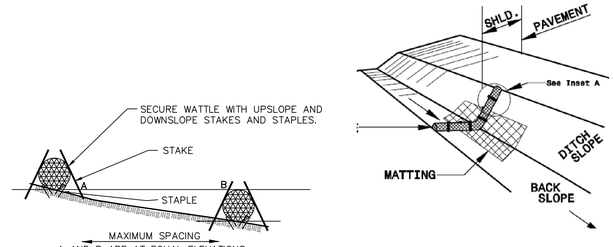
CONSTRUCTION SPECIFICATIONS:

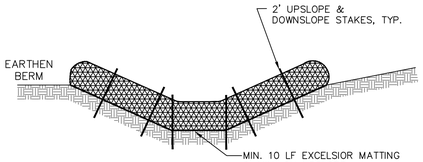
1. **CONTRACTOR SHALL REFERENCE NCDOT DRIVEWAY PERMITS FOR ADDITIONAL TEMPORARY CONSTRUCTION ENTRANCE INSTALLATION REQUIREMENTS**
1. **CLEAR THE ENTRANCE AND EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL AND PROPERLY GRADE IT.**
2. **PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS, AND SMOOTH IT OUT.**
3. **PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET.**
4. **USE GEOTEXTILE FABRICS BECAUSE THEY IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE**
5. **CONTRACTOR SHALL INSTALL TEMPORARY CULVERTS WHERE REQUIRED PER NCDOT DRIVEWAY PERMITS IN ORDER TO MAINTAIN POSITIVE DRAINAGE.**

MAINTENANCE:

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

CONSTRUCTION ENTRANCE
NOT TO SCALE



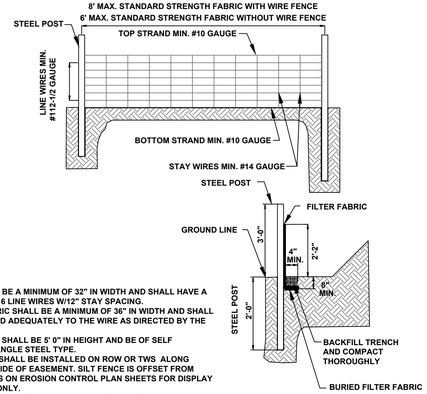


NOTES:
1. USE MINIMUM 18" DIA. STRAW WATTLE. 20" WATTLES ARE ALSO SPECIFIED.
2. USE 2"x2" WOODEN STAKES 2-FT IN LENGTH ON THE UPSLOPE AND DOWNSLOPE AT AN ANGLE TO WEDGE THE WATTLE TO THE BOTTOM OF THE SWALE.
3. STAPLE ON BOTH SIDES OF THE WATTLE TO SECURE IT TO THE BOTTOM OF THE SWALE.
4. ENSURE THAT MAXIMUM SPACING BETWEEN WATTLES PLACES THE TOP OF THE UPSTREAM WATTLE AT THE SAME ELEVATION AS THE DOWNSTREAM WATTLE (SEE DIAGRAM ABOVE).

MAINTENANCE NOTES:
INSPECT WATTLES AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT. REPAIR ALL DAMAGE IMMEDIATELY.

STRAW WATTLES
NOT TO SCALE

8' MAX. STANDARD STRENGTH FABRIC WITH WIRE FENCE
6' MAX. STANDARD STRENGTH FABRIC WITHOUT WIRE FENCE



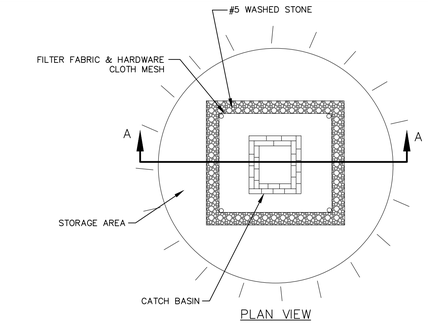
NOTES:

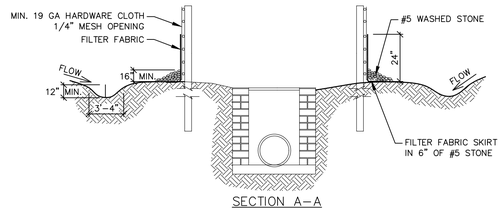
1. **WIRE SHALL BE A MINIMUM OF 32" IN WIDTH AND SHALL HAVE A MINIMUM OF 6 LINE WIRES W/12" STAY SPACING.**
2. **FILTER FABRIC SHALL BE A MINIMUM OF 36" IN WIDTH AND SHALL BE FASTENED ADEQUATELY TO THE WIRE AS DIRECTED BY THE ENGINEER.**
3. **STEEL POST SHALL BE 5' 0" IN HEIGHT AND BE OF SELF FASTENER ANGLE STEEL TYPE.**
4. **SILT FENCE SHALL BE INSTALLED ON ROW OR TWS ALONG DOWNHILL SIDE OF EASEMENT. SILT FENCE IS OFFSET FROM ROW OR TWS ON EROSION CONTROL PLAN SHEETS FOR DISPLAY PURPOSES ONLY.**
5. **SYNTHETIC FILTER FABRIC OF AT LEAST 95% WEIGHT OF POLYOLEFINS OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS IN ASTM D 6461.**

MAINTENANCE NOTES:

1. **INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.**
2. **SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.**
3. **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.**
4. **ENSURE THAT THE IMPOUNDED WATER DOES NOT EXCEED 1.5 FT AT ANY POINT ALONG THE SILT FENCE.**
5. **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.**

GUIDELINES FOR TEMPORARY SILT FENCE DETAIL
NOT TO SCALE





GENERAL NOTES:

1. **SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP.**
2. **REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.**
3. **THE STRUCTURE SHALL BE INSPECTED AFTER EACH STORM EVENT BY THE CONTRACTOR OR HIS AGENT AND REPAIRS MADE AS NECESSARY.**
4. **CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE MINIMIZED.**
5. **THE SEDIMENT TRAP SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE BASIN HAS BEEN PROPERLY STABILIZED.**
6. **SILT FENCE INSTALLATION SHALL BE IN ACCORDANCE WITH TEMPORARY SILT FENCE DETAIL.**

TEMPORARY INLET PROTECTION CLOTH AND GRAVEL
NOT TO SCALE

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	
F	ADDRESSED COMMENTS FROM UCPW	01/03/2022
E	ADDRESSED COMMENTS FROM UCPW	11/19/2021
D	ADDRESSED COMMENTS FROM UCPW	10/14/2021
C	ADDRESSED COMMENTS FROM NCDEQ POST-CONSTRUCTION STORMWATER	10/11/2021
B	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDEQ	09/10/2021
A	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDOT	08/04/2021

NORTH CAROLINA PROFESSIONAL SEAL 043852 ENGINEER PATRICK MATTHEW MEECHAM 01-03-22

McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC Licensed# F-1222
www.mckimcreed.com

DSG Development Solutions Group

BELLE MAR RESIDENTIAL
0 OLD MILL ROAD
TOWN OF WEDDINGTON, NC

EROSION CONTROL DETAILS

DATE:	MAY 2021
MCE PROJ. #	07780-0013
DRAWN	JPM
DESIGNED	JPM
CHECKED	PMN
PROJ. MGR.	PMN

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

C8.0
DRAWING NUMBER

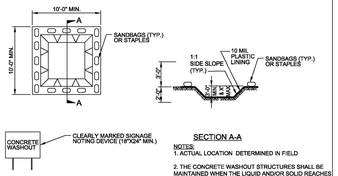
F
REVISION

STATUS: **PRELIMINARY DRAWING NOT FOR CONSTRUCTION**

I:\07780\0013\PDNR\80-DWG\86-DESIGN\PLAN SHEETS\C8.0 DETAILS.DWG --- 01/03/2022 16:00:20

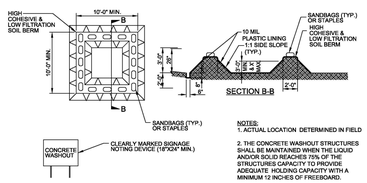
WITH LINER, NO GRAVEL APPROACH

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY.
3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

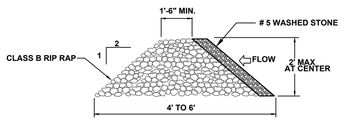


NOTE:
1. ACTUAL LOCATION DETERMINED IN FIELD
2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

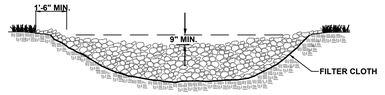
ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

CONCRETE WASHOUT DETAIL
NOT TO SCALE

A AND B ARE AT EQUAL ELEVATIONS



CROSS SECTION



PLAN

GENERAL NOTES:

1. **RIPRAP SIZE TO BE DESIGNED BY ENGINEER.**
2. **CHECK DAMS MAY BE USED IN SLOPING DITCHES OR CHANNELS TO SLOW VELOCITY OR TO CREATE SEDIMENT TRAPS.**
3. **ENSURE THAT MAXIMUM SPACING BETWEEN DAMS PLACES THE TOE OF THE UPSTREAM DAM AT THE SAME ELEVATION AS THE DOWNSTREAM DAM (SEE DIAGRAM ABOVE).**

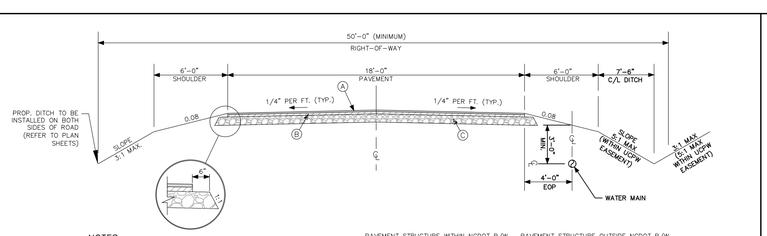
Maintenance

Inspect check dams and channels at least weekly and after each significant (1/2 inch or greater) rainfall event and repair immediately. Clean out sediment, straw, limbs, or other debris that could clog the channel when needed.

Anticipate subsequence and deposition above the check dam and erosion from high flows around the edges of the dam. Correct all damage immediately. If significant erosion occurs between dams, additional measures can be taken such as, installing a protective riprap liner in that portion of the channel (Practice 6.31, *Riprap-lined and Paved Channels*).

Remove sediment accumulated behind the dams as needed to prevent damage to channel vegetation, allow the channel to drain through the stone check dam, and prevent large flows from carrying sediment over the dam. Add stones to dams as needed to maintain design height and cross section.

TEMPORARY ROCK CHECK DAM
NOT TO SCALE



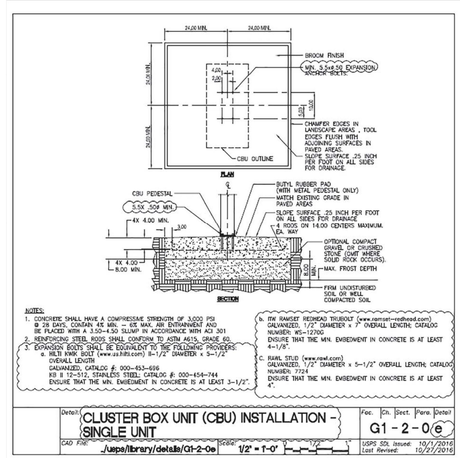
NOTES:

1. SUBGRADE SHALL BE COMPACTED TO A DENSITY OF 100% IN ACCORDANCE WITH AASHTO-T99 AND NCDOT SPECIFICATIONS SECTION 500.
2. AGGREGATE BASE COURSE SHALL BE COMPACTED TO A DENSITY OF 100%.
3. ASPHALT COMPACTION SHALL BE IN ACCORDANCE WITH NCDOT SECTION 610.
4. IF REQUIRED BY THE TOWN, TESTS SHALL BE CONDUCTED BY AN INDEPENDENT TESTING FIRM AT THE DEVELOPERS EXPENSE.
5. FINAL LIFT OF PAVEMENT SHALL NOT BE PLACED UNTIL AFTER 80% OF HOME SITES ARE DEVELOPED. THE FINAL LIFT OF PAVEMENT SHALL NOT BE PLACED FOR STREETS THAT WILL BE USED TO ACCESS FUTURE PHASES UNTIL THOSE PHASES REACH 80% BUILD-OUT.

PAVEMENT STRUCTURE WITHIN NCDOT R/W (FROM OLD MILL RD EOP TO EXISTING R/W)
- (A) 3" – S9.5C (FINAL 1 1/2" NOT TO BE INSTALLED UNTIL 80% BUILDOUT)
- (B) 3" – 119.0C
- (C) 5" – B25.0C

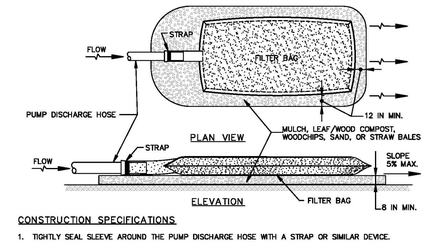
PAVEMENT STRUCTURE OUTSIDE NCDOT R/W (INTERNAL TO DEVELOPMENT)
- (A) 1 1/2" BITUMINOUS CONCRETE SURFACE COURSE, S9.5B
- (B) 1 1/2" BITUMINOUS CONCRETE SURFACE COURSE, S9.5B
- (C) 10" COMPACTED AGGREGATE BASE COURSE OR 5" BITUMINOUS CONCRETE BASE COURSE, B25.0C

TYPICAL SECTION
RESIDENTIAL LOCAL STREET W/ SHOULDER AND DITCH
(FROM TOWN OF WEDDINGTON STD NO. 100 (SEPT 2014))



NOTES:
1. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3,000 PSI @ 28 DAYS, CONTAIN 4% MIN. – 6% MAX. AIR ENTRAINMENT AND BE PLACED WITH A 3.50–4.50 SLUMP IN ACCORDANCE WITH ACI 301
2. REINFORCING STEEL RODS SHALL CONFORM TO ASTM A615, GRADE 60.
3. DOWNSPOUT BOOTS SHALL BE EQUIVALENT TO THE FOLLOWING PRODUCTS:
   a. RILTI KWIK BOLT (www.us.hilti.com) 8–1/2" DIAMETER x 5–1/2" OVERALL LENGTH
   GALVANIZED, CATALOG #: 000–453–696
   KB II 12–512, STAINLESS STEEL, CATALOG #: 000–458–744
   ENSURE THAT THE MIN. EMBEDMENT IN CONCRETE IS AT LEAST 3–1/2".
   b. ITW RAMSET REDHEAD TROBOLT (www.ramset-redhead.com) GALVANIZED, 1/2" DIAMETER x 7" OVERALL LENGTH; CATALOG NUMBER: WS–1270G
   ENSURE THAT THE MIN. EMBEDMENT IN CONCRETE IS AT LEAST 4–1/8".
   c. RAWL STUD (www.rawl.com)
   GALVANIZED, 1/2" DIAMETER x 5–1/2" OVERALL LENGTH; CATALOG NUMBER: 7724
   ENSURE THAT THE MIN. EMBEDMENT IN CONCRETE IS AT LEAST 4".

Detail: CLUSTER BOX UNIT (CBU) INSTALLATION – SINGLE UNIT	Fac.	Ch.	Sect.	Para.	Detail
CAD File: ./uspa/library/details/G1-2-0e	Scale: 1/2" = 1'-0"				G1 - 2 - 0/e
			USPS SDL Issued: 10/1/2016 Last Revised: 10/27/2016		



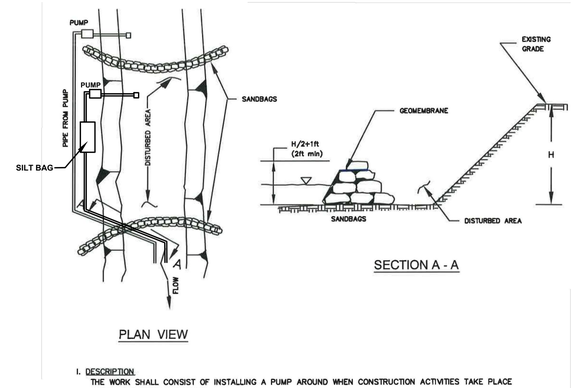
CONSTRUCTION SPECIFICATIONS

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D–4632
PUNCTURE	150 LB	ASTM D–4833
FLOW RATE	70 GAL/MIN/FT²	ASTM D–4491
PERMITTIVITY (SEC⁻¹)	1.2 SEC⁻¹	ASTM D–4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D–4355
APPARENT OPENING SIZE (AOS)	0.15–0.18 MM	ASTM D–4751
SEAM STRENGTH	90%	ASTM D–4632

6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

FILTER BAG DETAIL
NOT TO SCALE



I. DESCRIPTION
THE WORK SHALL CONSIST OF INSTALLING A PUMP AROUND WHEN CONSTRUCTION ACTIVITIES TAKE PLACE WITHIN THE STREAM CHANNEL.

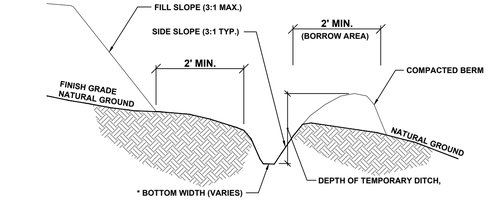
II. MATERIAL SPECIFICATIONS
SANDBAGS: SANDBAGS SHALL CONSIST OF MATERIALS WHICH ARE RESISTANT TO ULTRAVIOLET RADIATION, TEARING AND PUNCTURE, AND WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL (i.e., SAND, FINE GRAVEL ETC.).

III. CONSTRUCTION REQUIREMENTS
1. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF WORK.
2. THE HEIGHT OF THE SANDBAGS SHALL BE AS INDICATED IN SECTION A–A. THE SANDBAGS SHALL BE PLACED ON A SMOOTH PREPARED SURFACE.
3. ALL EXCAVATED MATERIALS SHALL BE DISPOSED OFF OUTSIDE THE 100 YEAR FLOOD PLAIN UNLESS APPROVED ON THE PLANS BY THE WRA.
4. ALL DEWATERING OF THE CONSTRUCTION AREA SHALL BE PUMPED TO A WRA APPROVED DEVICE.
5. THE PUMP SHALL BE OF SUFFICIENT SIZE TO CONVEY NORMAL STREAM FLOW.
6. SEDIMENT CONTROL DEVICES ARE TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED AND THE INSPECTING AUTHORITY APPROVES THEIR REMOVAL.

STREAM CROSSING CONSTRUCTION SEQUENCE:

1. **CONTRACTOR SHALL SELECT A PROPOSED SIZE AND LOCATION FOR THE SILT BAG AND SEEK APPROVAL FROM NCDEQ INSPECTOR PRIOR TO INSTALLATION.**
2. **INSTALL SILT BAG AS APPROVED BY NCDEQ INSPECTOR.**
3. **INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE TO OUTLET DOWNSTREAM OF PROPOSED STREAM WORK BUT WITHIN THE LIMITS OF DISTURBANCE.**
4. **PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.**
5. **PLACE DOWNSTREAM IMPERVIOUS DIKE AND INSTALL PUMPING APPARATUS TO DEWATER THE ENTRAPPED AREA.**
6. **INSTALL THE PROPOSED PERMANENT CULVERTS IN ACCORDANCE WITH THE PLANS WHILE MAINTAINING THE PUMP AROUND OPERATION. CONTRACTOR SHALL ENSURE THAT IN-STREAM WORK IS CONDUCTED IN THE DRY AREA.**
7. **THE PUMP AROUND AREA IS TO BE STABILIZED WITH MATTING AT THE END OF EACH WORK DAY.**
8. **AFTER INSTALLATION OF THE CULVERTS IS COMPLETE, ENSURE SITE IS STABLE AND EXCAVATE ANY ACCUMULATED SILT BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSE. (DOWNSTREAM IMPERVIOUS DIKE FIRST).**
9. **DIVERT STREAM FLOW THROUGH THE CONSTRUCTED CULVERT.**
10. **REMOVE SILT BAG AND PROPERLY DISPOSE OF CAPTURED SEDIMENT AND SILT BAG. STABILIZE DISTURBED AREAS WITH SEED AND MULCH.**
11. **BEGIN FILL OF ROADWAY BED.**
12. **CONTRACTOR TO ENSURE ALL WORK AND DISTURBANCE FALLS WITH THE LIMITS OF DISTURBANCE.**

STREAM PUMP AROUND
NOT TO SCALE



NOTE:

1. **DITCH SHOULD HAVE MINIMUM LONGITUDINAL SLOPE OF 0.5%.**
2. **SILT FENCE MAY BE REQUIRED BEHIND BERM.**
3. **STABILIZE, SEED, AND MULCH IMMEDIATELY AFTER INSTALLATION.**
4. **LINERS SELECTED SHALL MEET OR EXCEED REQUIRED SHEAR STRESS SHOWN IN TABLE BELOW.**

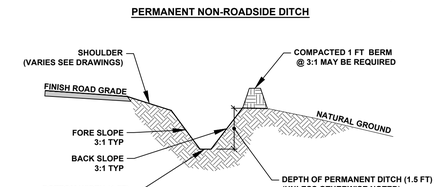
TEMPORARY DITCH MAINTENANCE NOTE:

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.

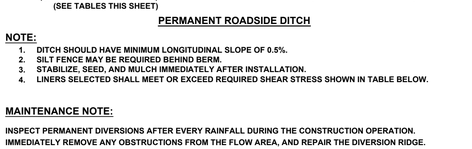
	DEPTH (FT)	TOP WIDTH (FT)	*BOTTOM WIDTH (FT)	SIDE SLOPE (H:V)	CHANNEL LINING TYPE	SHEAR STRESS (PSF)	SLOPE (FT/FT)	AREA (ACRES)	LENGTH (FT)
CWD #1	1.50	10.00	1.00	3	STRAW W/ NET	1.17	0.045	0.70	218
CWD #2A	1.50	10.00	1.00	3	SYNTHETIC MAT	0.68	0.020	1.51	420
CWD #2B	1.50	10.00	1.00	3	SYNTHETIC MAT	1.98	0.070	1.88	270
TDD #1	1.50	10.00	1.00	3	STRAW W/ NET	0.90	0.050	0.20	210
TDD #2	1.50	10.00	1.00	3	SYNTHETIC MAT	1.12	0.071	0.33	311
TDD #3	1.50	10.00	1.00	3	STRAW W/ NET	0.23	0.011	0.13	98
TDD #4	1.50	10.00	1.00	3	SYNTHETIC MAT	0.63	0.038	0.27	296
TDD #5	1.50	10.00	1.00	3	STRAW W/ NET	0.81	0.055	0.14	202
TDD #6	1.50	10.00	1.00	3	SYNTHETIC MAT	1.23	0.111	0.21	341
TDD #7	1.50	10.00	1.00	3	STRAW W/ NET	0.87	0.083	0.09	112
TDD #8	1.50	10.00	1.00	3	STRAW W/ NET	0.89	0.055	0.17	201

*SYNTHETIC MAT SHALL BE AMERICAN EXCELSIOR CURLEX II MAT OR APPROVED EQUAL

TEMPORARY DIVERSION DITCH (TDD) / CLEAN WATER DITCH (CWD)
NOT TO SCALE



PERMANENT NON-ROADSIDE DITCH



PERMANENT ROADSIDE DITCH

NOTE:

1. **DITCH SHOULD HAVE MINIMUM LONGITUDINAL SLOPE OF 0.5%.**
2. **SILT FENCE MAY BE REQUIRED BEHIND BERM.**
3. **STABILIZE, SEED, AND MULCH IMMEDIATELY AFTER INSTALLATION.**
4. **LINERS SELECTED SHALL MEET OR EXCEED REQUIRED SHEAR STRESS SHOWN IN TABLE BELOW.**

MAINTENANCE NOTE:

INSPECT PERMANENT DIVERSIONS AFTER EVERY RAINFALL DURING THE CONSTRUCTION OPERATION. IMMEDIATELY REMOVE ANY OBSTRUCTIONS FROM THE FLOW AREA, AND REPAIR THE DIVERSION RIDGE. CHECK OUTLETS, AND MAKE TIMELY REPAIRS AS NEEDED. MAINTAIN THE VEGETATION IN A VIGOROUS, HEALTHY CONDITION AT ALL TIMES.

	DEPTH (FT)	TOP WIDTH (FT)	*BOTTOM WIDTH (FT)	SIDE SLOPE (H:V)	CHANNEL LINING TYPE	SHEAR STRESS (PSF)	SLOPE (FT/FT)	AREA (ACRES)	LENGTH (FT)
PD #1	1.50	10.00	1.0	3	STRAW W/ NET	1.17	0.050	0.91	210
PD #2	1.50	10.00	1.0	3	SYNTHETIC MAT*	1.96	0.071	1.40	311
PD #3	1.50	10.00	1.0	3	STRAW W/ NET	0.41	0.011	0.58	98
PD #4	1.50	10.00	1.0	3	SYNTHETIC MAT*	1.28	0.038	2.27	296
PD #5	1.50	10.00	1.0	3	STRAW W/ NET	0.81	0.055	0.14	202
PD #6	1.50	10.00	1.0	3	SYNTHETIC MAT*	1.23	0.111	0.21	314
PD #7	1.50	10.00	1.0	3	STRAW W/ NET	0.87	0.083	0.09	112
PD #8	1.50	10.00	1.0	3	STRAW W/ NET	0.89	0.055	0.17	201
PD #9	1.50	10.00	1.0	3	STRAW W/NET	0.46	0.006	4.11	40
PD #10	1.50	10.00	1.0	3	STRAW W/ NET	0.45	0.010	1.64	363

*SYNTHETIC MAT SHALL BE AMERICAN EXCELSIOR CURLEX II MAT OR APPROVED EQUAL

PERMANENT DITCH (PD)
NOT TO SCALE

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	
F	ADDRESSED COMMENTS FROM UCPW	01/03/2022
E	ADDRESSED COMMENTS FROM UCPW	11/19/2021
D	ADDRESSED COMMENTS FROM UCPW	10/14/2021
C	ADDRESSED COMMENTS FROM NCDEQ POST-CONSTRUCTION STORMWATER	10/11/2021
B	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDEQ	09/10/2021
A	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDOT	08/04/2021

NORTH CAROLINA PROFESSIONAL SEAL 043852 01-03-22 ENGINEER MATTHEW NEELEY

McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC License# F-1222
www.mckimcreed.com

DSG Development Solutions Group

BELLE MAR RESIDENTIAL
0 OLD MILL ROAD
TOWN OF WEDDINGTON, NC

GENERAL DETAILS

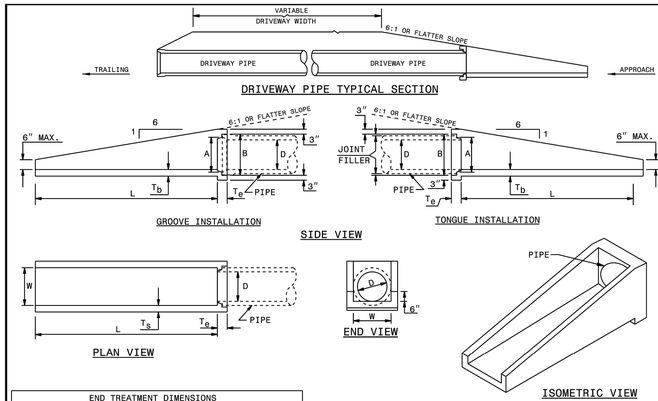
DATE:	MAY 2021
MCE PROJ. #	07780-0013
DRAWN	JPM
DESIGNED	JPM
CHECKED	PMN
PROJ. MGR.	PMN

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

C8.1
DRAWING NUMBER

F
REVISION

STATUS: PRELIMINARY DRAWING NOT FOR CONSTRUCTION



DRIVEWAY PIPE TYPICAL SECTION

END TREATMENT DIMENSIONS							
D	L	W	T_S	T_b	T_e	A	B
15"	7'-6"	19"	4"	4"	6"	17¾"	20⅞"
18"	9'-0"	23"	4"	4"	6"	21¼"	25"
24"	12'-6"	30"	4"	4"	6"	27⅞"	32"

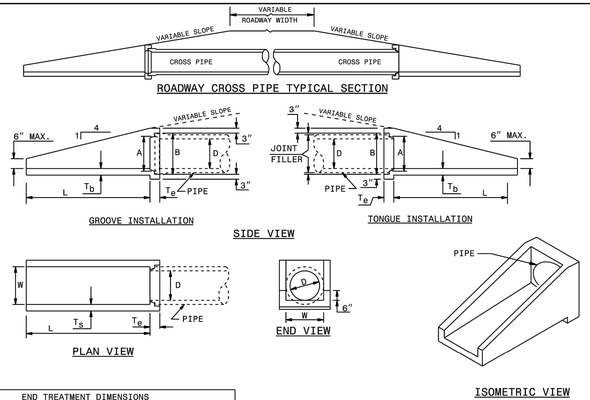
NOTES:
1. CONSTRUCT PIPE END SECTION USING #4 REBAR SPACED 9" EACH WAY AND MEET ALL REQUIREMENTS OF STD. SPEC. 310.
2. CHAMFER ALL EXPOSED CORNERS ¾".

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

1-18

ROADWAY STANDARD DRAWING FOR
PARALLEL PIPE END SECTION
PRECAST CONCRETE SECTION FOR 15" TO 24" PIPE

SHEET 1 OF 1
310.02



ROADWAY CROSS PIPE TYPICAL SECTION

END TREATMENT DIMENSIONS							
D	L	W	T_S	T_b	T_e	A	B
18"	6'-0"	23"	4"	4"	6"	21¼"	25"
24"	8'-2"	30"	4"	4"	6"	27⅞"	32"
30"	10'-4"	37"	4"	4"	6"	33⅝"	39"

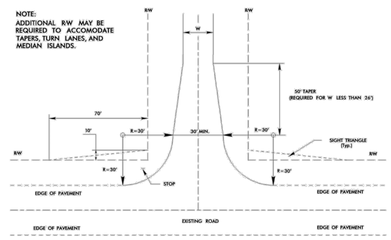
NOTES:
1. CONSTRUCT PIPE END SECTION USING #4 REBAR SPACED 9" EACH WAY AND MEET ALL REQUIREMENTS OF STD. SPEC. 310.
2. CHAMFER ALL EXPOSED CORNERS ¾".

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

1-18

ROADWAY STANDARD DRAWING FOR
CROSS PIPE END SECTION
PRECAST CONCRETE SECTION FOR 18" TO 30" PIPE

SHEET 1 OF 1
310.03



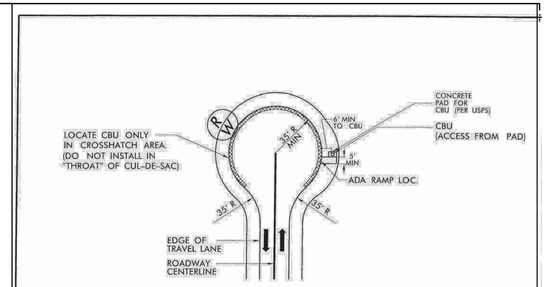
NOTE: Drainage easements may be required to accomodate drainage beyond the right-of-way.

FIGURE 4

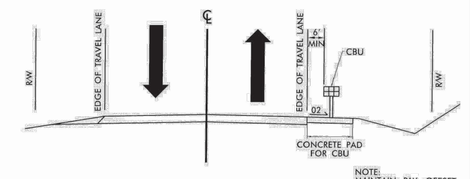
RECOMMENDED ROAD CONNECTION

NEW RESIDENTIAL LOCAL ROAD OR RESIDENTIAL COLLECTOR ROAD AND EXISTING STATE MAINTAINED ROAD

STOP CONDITION



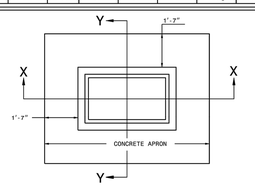
SEE FIGURE 8 PAGE 46, "NCDOT SUBDIVISION ROADS MINIMUM CONSTRUCTION STANDARDS JANUARY 2010" FOR LOCAL AND COLLECTOR ROAD DIMENSIONS.



NOTE: MAINTAIN R/W OFFSET AROUND CBU PAD.

FIGURE 4

CBU PLACEMENT FOR SHOULDER SECTION RESIDENTIAL SUBDIVISION STREETS CUL-DE-SAC



PLAN

GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL GRATED DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

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

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

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

CONSTRUCT WITH PIPE CROWNS MATCHING.

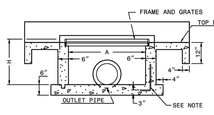
MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12 FEET.

USE STANDARD FRAMES AND GRATES 840.22 (SHOWN), 840.24(SHOWN), 840.20, 840.29, AND 840.33.

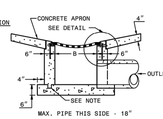
SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.

CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.

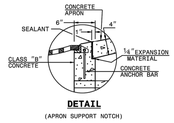


SECTION X-X



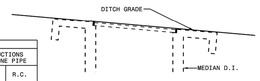
MAX. PIPE THIS SIDE - 18"

SECTION Y-Y



DETAIL

(APRON SUPPORT NOTCH)



DOWEL "A"

MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE GRATED DROP INLET									
PIPE	SPAN	WIDTH	HEIGHT	CUBIC YARDS OF CONCRETE IN BOX				DEDUCTIONS FOR ONE PIPE	
D	A	B	H	BOTTOM SLAB	H PER FT. HT.	H MIN. TOTAL	TOTAL	C.S.	R.C.
12"	3'-8"	2'-0"	2'-6"	0.362	0.247	0.597	0.958	0.020	0.032
15"	3'-8"	2'-0"	2'-9"	0.362	0.247	0.659	1.021	0.023	0.036
18"	3'-8"	2'-0"	3'-0"	0.362	0.247	0.720	1.082	0.033	0.049
24"	3'-8"	2'-0"	3'-6"	0.362	0.247	0.865	1.227	0.059	0.085
30"	3'-8"	2'-0"	4'-0"	0.362	0.247	0.988	1.350	0.092	0.127
36"	3'-8"	2'-0"	4'-6"	0.362	0.247	1.112	1.474	0.132	0.178

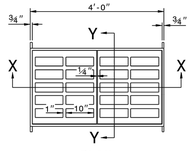
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

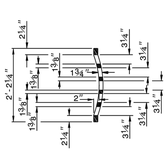
ROADWAY STANDARD DRAWING FOR
GRATED DROP INLET TYPE 'B'
12" THRU 36" PIPE

CONCRETE GRATED DROP INLET

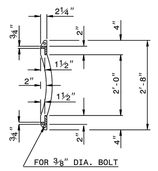
SHEET 1 OF 1
840.18



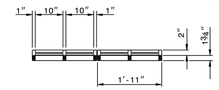
PLAN



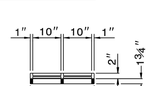
GRATE SECTION Y-Y



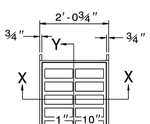
FRAME SECTION Y-Y



GRATE SECTION X-X

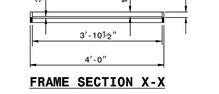


GRATE SECTION X-X

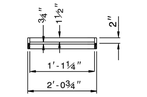


PLAN

NOTE:
SEE STD. DWG. 840.25 FOR FRAME ANCHORAGE.



FRAME SECTION X-X



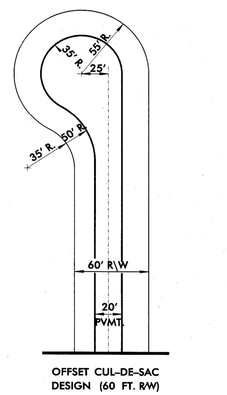
FRAME SECTION X-X

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

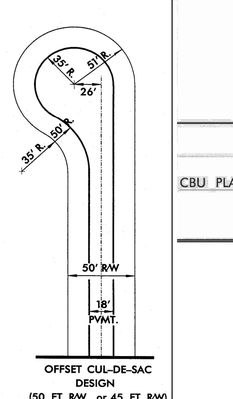
1-18

ROADWAY STANDARD DRAWING FOR
FRAMES AND WIDE SLOT SAG GRATES

SHEET 1 OF 1
840.22



OFFSET CUL-DE-SAC DESIGN (60 FT. R/W)

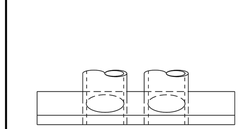


OFFSET CUL-DE-SAC DESIGN (50 FT. R/W or 45 FT. R/W)

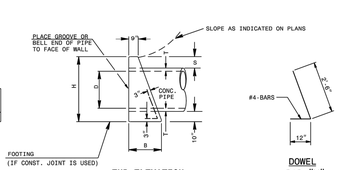
FIGURE 11

OFFSET CUL-DE-SAC DESIGN

NOTE: THESE TYPICALS MAY BE LEFT OR RIGHT AND MAY BE BUILT WITH 45' RIGHT OF WAY.

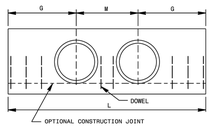


PLAN



END ELEVATION

DOWEL BAR-"X"



ELEVATION

DOWELS IN ENDWALL WITH REINFORCED CONCRETE PIPE																	
LOC.	PIPE	SINGLE PIPE							DOUBLE PIPE								
	DIA.	15"	18"	24"	30"	36"	42"	48"	15"	18"	24"	30"	36"	42"	48"		
	BARS	"X"	"X"	"X"	"X"	"X"	"X"	Y*	"X"	Y*	"X"	"X"	"X"	"X"	"X"	Y*	Y*
G	QTY.	2	2	3	3	4	4		5		2	2	3	3	4	4	5
M	QTY.	-	-	-	-	-	-	2	-	2	1	1	2	2	2	2	3
G	QTY.	2	2	3	3	4	4		5		2	2	3	3	4	4	5
TOTAL LBS.		9	9	14	14	19	55	65	12	12	19	19	23	77	92		

DIMENSIONS AND CONCRETE QUANTITIES												
USING CONCRETE PIPE												
	COMMON DIMENSIONS					SINGLE PIPE		DOUBLE PIPE				
D	H	B	G	T	S	L	YD^3	M	L		YD^3	
15"	3'-3"	1'-8"	2'-9"	2¼"	9½"	5'-6"	0.7	2'-2"	7'-8"		1.0	
18"	3'-7"	1'-10"	3'-2"	2½"	10"	6'-4"	1.0	2'-7"	8'-11"		1.3	
24"	4'-2"	2'-1"	4'-0"	3"	10"	8'-0"	1.5	3'-5"	11'-5"		2.0	
30"	5'-0"	2'-6"	4'-7"	4¼"	11½"	9'-2"	2.3	4'-3"	13'-5"		3.1	
36"	5'-8"	2'-8"	5'-6"	4⅝"	11½"	11'-0"	3.4	5'-0"	16'-0"		4.5	
42"	6'-2"	3'-1"	6'-4"	5¼"	11½"	12'-8"	4.5	5'-10"	18'-6"		6.0	
48"	6'-9"	3'-5"	7'-2"	5⅞"	11½"	14'-4"	6.0	6'-8"	21'-0"		8.0	

*SEE SHEET 3

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

1-18

ROADWAY STANDARD DRAWING FOR
CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS
15" THRU 48" PIPE 90° SKEW

SHEET 1 OF 3
838.01

GENERAL NOTES:

CHAMFER ALL CORNERS 1" OR HAVE A RADIUS OF 1".

PLACE 2 #6 "Y" BARS IN THE TOP OF ALL ENDWALL FOR PIPE CULVERTS 42" AND OVER WITH A MINIMUM OF 3" COVER AND A LENGTH OF 6" LESS THAN ENDWALL LENGTH.

CONSTRUCT BOTTOM SLAB WITH FORMS.

DO NOT INTERPRET WALL THICKNESS (T) SHOWN FOR THE THICKNESS ACCEPTABLE, BUT IS USED IN COMPUTING ENDWALL QUANTITIES.

WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE, PLACE BAR "X" DOWELS IN THE BASE AS SHOWN ON PLANS. SPACE BARS APPROXIMATELY ON 12" CENTERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE AND POUR THE BASE SEPARATELY LEAVE THE POUR ROUGH.

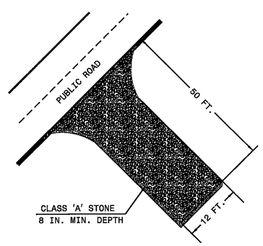
USE CLASS "B" CONCRETE.

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

1-18

ROADWAY STANDARD DRAWING FOR
CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS
15" THRU 48" PIPE 90° SKEW

SHEET 3 OF 3
838.01



NOTE: PLACE GEOTEXTILE FOR DRAINAGE BENEATH STONE

NOTES

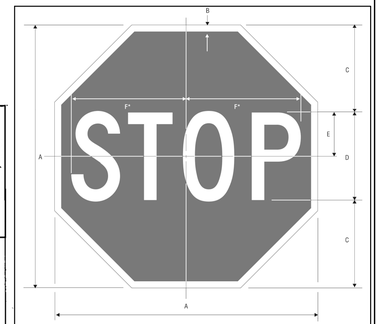
1. PROVIDE TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS.
2. LOCATE ENTRANCES TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY.
4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
5. LOCATE GRAVEL CONSTRUCTION ENTRANCE AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. PROVIDE FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE.
6. NUMBER AND LOCATION OF CONSTRUCTION ENTRANCES TO BE DETERMINED BY THE ENGINEER.
7. USE CLASS 'A' STONE OR OTHER COARSE AGGREGATE APPROVED BY THE ENGINEER.
8. INSTALL CONSTRUCTION ENTRANCES IN A WAY TO PREVENT VEHICLES FROM BYPASSING CONSTRUCTION ENTRANCE LEAVING PROJECT SITE.

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

1-18

ROADWAY STANDARD DRAWING FOR
GRAVEL CONSTRUCTION ENTRANCE

SHEET 1 OF 1
1607.01



R1-1
STOP

*Reduce spacing 40%

	A	B	C	D	E	F
	24	6	8	8	4	10
	30	7.5	10	10	5	12.5
C	36	9	12	12	6	15
	48	12	16	16	8	20

COLORS: LEGEND – WHITE (RETROREFLECTIVE)
BACKGROUND – RED (RETROREFLECTIVE)

1-1
STOP SIGN
NOT TO SCALE

REV.NO.	DESCRIPTIONS	DATE
F	ADDRESSED COMMENTS FROM UCPW	01/03/2022
E	ADDRESSED COMMENTS FROM UCPW	11/19/2021
D	ADDRESSED COMMENTS FROM UCPW	10/14/2021
C	ADDRESSED COMMENTS FROM NCDEQ POST-CONSTRUCTION STORMWATER	10/11/2021
B	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDEQ	09/10/2021
A	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDOT	08/04/2021

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 043852 ENGINEER PATRICK MATTHEW MEEHAN 01-03-22

McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC License# F-1222
www.mckimcreed.com

DSG Development Solutions Group

BELLE MAR RESIDENTIAL
0 OLD MILL ROAD
TOWN OF WEDDINGTON, NC

NCDOT DETAILS

DATE:	MAY 2021
MCE PROJ. #	07780-0013
DRAWN	JPM
DESIGNED	JPM
CHECKED	PMN
PROJ. MGR.	PMN

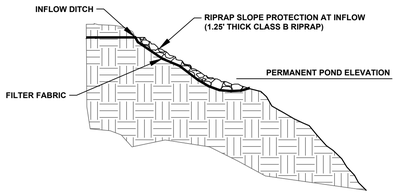
SCALE
HORIZONTAL: N/A
VERTICAL: N/A

C8.2
DRAWING NUMBER

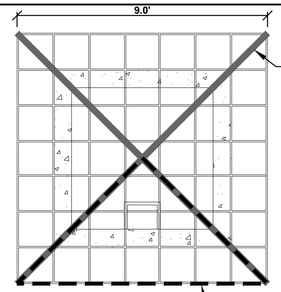
F
REVISION

STATUS: **PRELIMINARY DRAWING NOT FOR CONSTRUCTION**

I:\07780\0013\PDNR\80-DWG\86-DESIGN\PLAN SHEETS\C8.0 DETAILS.DWG ---- 01/03/2022 16:00:32

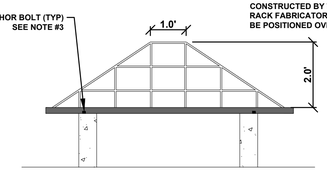


RIPRAP SLOPE PROTECTION AT BASIN INFLOW
NTS



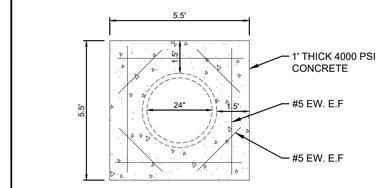
TRASH RACK DETAIL
TOP VIEW
N.T.S.

DASHED LINE REPRESENTS ACCESS HATCH TO BE CONSTRUCTED BY TRASH RACK FABRICATOR. HATCH SHALL BE POSITIONED OVER STEPS



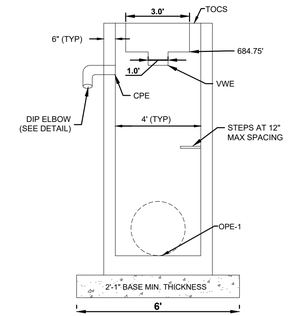
TRASH RACK DETAIL
SIDE VIEW
N.T.S.

NOTES:
1. ALL REBAR TO BE #4 REBAR.
2. ALL REBAR AND ANGLE IRON TO BE HOT-DIPPED GALVANIZED AND COATED WITH EPOXY.
3. CONTRACTOR SHALL ANCHOR TRASH RACK TO STRUCTURE WALL WITH FOUR (4) 4"x1/4" CONCRETE ANCHOR BOLTS THROUGH ANGLE IRON.
4. ACCESS HATCH SHALL ALIGN WITH STEPS IN STRUCTURE.

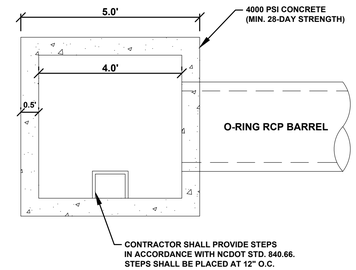


NOTE: COLLAR MUST PROJECT 1.5' MIN. FROM BARREL

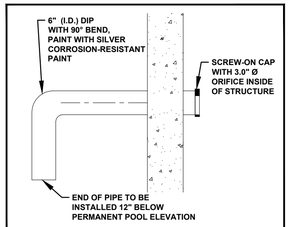
ANTI-SEEP COLLAR DETAIL
N.T.S.



OUTLET CONTROL STRUCTURE - FRONT VIEW
N.T.S.



OUTLET CONTROL STRUCTURE DETAIL
TOP VIEW
N.T.S.

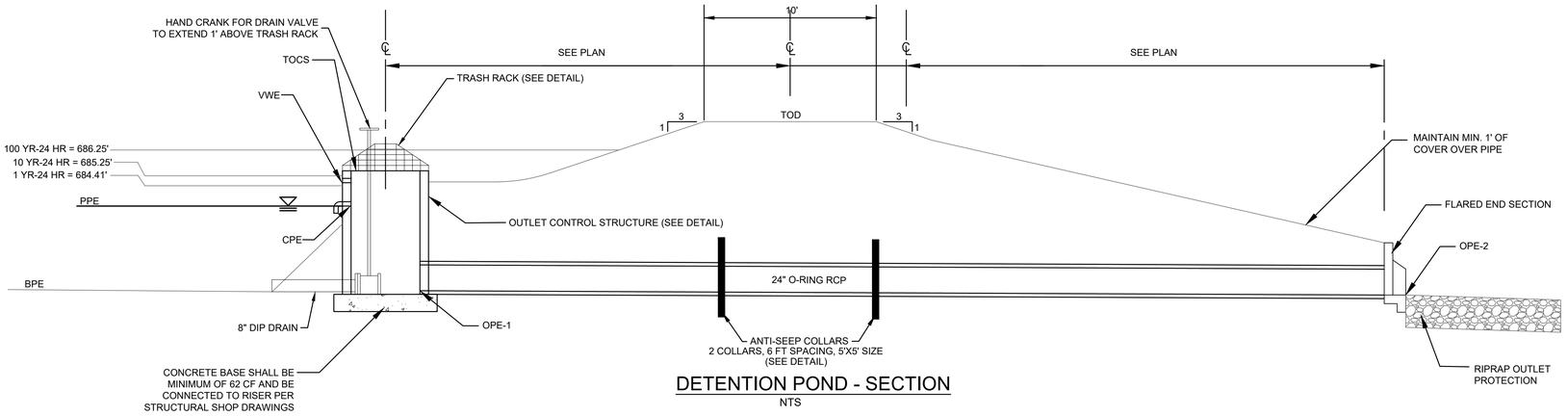


CHANNEL PROTECTION ORIFICE DETAIL
N.T.S.

NOTES:
1. EXISTING POND TO BE DE-WATERED PRIOR TO CONVERSION TO DETENTION POND. REFER TO CONSTRUCTION SEQUENCE ON DRAWING C1.1 FOR FURTHER DETAIL.
2. DAM MATERIAL AND COMPACTION REQUIREMENTS ARE TO BE FIELD DETERMINED BY GEOTECHNICAL ENGINEER. ALL WORK REGARDING THE DAM EMBANKMENT MUST BE MONITORED AND APPROVED BY GEOTECHNICAL ENGINEER.
3. AN AS-BUILT SURVEY AND ENGINEER'S CERTIFICATION WILL BE REQUIRED STATING THAT THE POND IMPROVEMENTS MEET THE REQUIREMENTS OF THE TOWN'S STORMWATER/DETENTION ORDINANCE.
4. A GEOTECHNICAL REPORT FOR DAM IMPROVEMENTS AND ENGINEER'S CERTIFICATION FOR SATISFACTORY COMPLETION OF CONSTRUCTION IS REQUIRED PRIOR TO PROJECT CLOSEOUT.

DETENTION POND ELEVATION INFORMATION

PERMANENT POND ELEVATION	PPE	684.00'
BOTTOM OF POND ELEVATION	BPE	677.00'
TOP OF DAM ELEVATION	TOD	688.00'
OUTLET PIPE UPSTREAM INVERT ELEVATION	OPE-1	677.00'
OUTLET PIPE DOWNSTREAM INVERT ELEVATION	OPE-2	676.55'
VOLUME WEIR INVERT ELEVATION	VWE	684.25'
CHANNEL PROTECTION ORIFICE DIAMETER	CPD	3.0"
CHANNEL PROTECTION ORIFICE INVERT ELEVATION	CPE	684.00'
TOP OF OUTLET CONTROL STRUCTURE ELEVATION	TOCS	686.50'



DETENTION POND - SECTION
NTS

REV.NO.	DESCRIPTIONS	DATE
F	ADDRESSED COMMENTS FROM UCPW	01/03/2022
E	ADDRESSED COMMENTS FROM UCPW	11/19/2021
D	ADDRESSED COMMENTS FROM UCPW	10/14/2021
C	ADDRESSED COMMENTS FROM NCDEQ POST-CONSTRUCTION STORMWATER	10/11/2021
B	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDEQ	09/10/2021
A	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDOT	08/04/2021

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 043852 ENGINEER NICK MATTHEW NEEDHAM 01-03-22

McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC License# F-1222
www.mckimcreed.com

DSG Development Solutions Group

BELLE MAR RESIDENTIAL
0 OLD MILL ROAD
TOWN OF WEDDINGTON, NC

BMP DETAILS

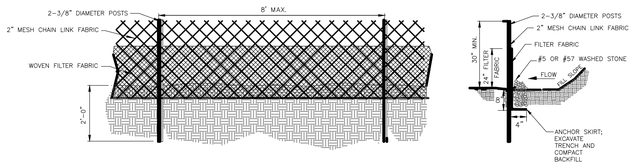
DATE:	MAY 2021
MCE PROJ. #	07780-0013
DRAWN	JPM
DESIGNED	JPM
CHECKED	PMN
PROJ. MGR.	PMN

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

C8.3
DRAWING NUMBER
F
REVISION

STATUS: **PRELIMINARY DRAWING NOT FOR CONSTRUCTION**

I:\07780\0013\PDNR\80-DWG\86-DESIGN\PLAN SHEETS\C8.0 DETAILS.DWG ---- 01/03/2022 16:00:41



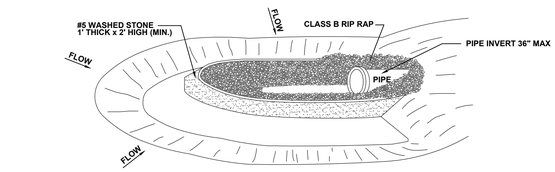
GENERAL NOTES:

1. WOVEN FILTER FABRIC BE USED WHERE SILT FENCE IS TO REMAIN FOR A PERIOD OF MORE THAN 30 DAYS.
2. STEEL POSTS SHALL BE 2-3/8" DIAMETER AND 5'-0" IN HEIGHT.
3. WIRE FENCING SHALL BE 2" MESH CHAIN LINK FABRIC.
4. TURN SILT FENCE UP SLOPE AT ENDS.
5. WIRE AND WASHED STONE IS REQUIRED TO BE SHOWN ON PLANS AT THE TOE OF SLOPES GREATER THAN 10 FEET VERTICAL (2:1 SLOPE)
6. ORANGE SAFETY FENCE IS REQUIRED AT BACK OF SILT FENCE WHEN GRADING IS ADJACENT TO SWIM BUFFERS, STREAMS OR WETLANDS (REFER TO SWIM BUFFER GUIDELINES). THE COLOR ORANGE IS RESERVED FOR VISUAL IDENTIFICATION OF ENVIRONMENTALLY SENSITIVE AREAS.
7. DRAINAGE AREA CAN NOT BE GREATER THAN 1/4 ACRE PER 100 FT OF FENCE.
8. DO NOT INSTALL SEDIMENT FENCE ACROSS STREAMS, DITCHES, WATERWAYS OR OTHER AREAS OF CONCENTRATED FLOW.

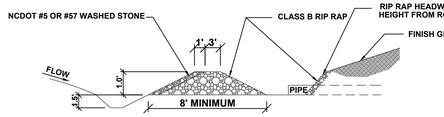
MAINTENANCE NOTES:

1. FILTER BARRIERS SHALL BE INSPECTED BY THE FINANCIALLY RESPONSIBLE PARTY OR HIS AGENT IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS NEEDED SHALL BE MADE IMMEDIATELY.
2. SHOULD THE FABRIC DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH HALF THE HEIGHT OF THE BARRIER. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS REMOVED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

REINFORCED SILT FENCE (SUPER SILT FENCE) INSTALLATION SPECIFICATIONS AND MAINTENANCE



PERSPECTIVE VIEW



SECTION

GENERAL NOTES:

1. GRAVEL AND RIP RAP FILTER BERM BASIN SHOULD BE USED TO PROTECT PIPE INVERTS THAT DRAIN 10 ACRES OR LESS.
2. DIMENSIONS SHOWN ARE THE MINIMUM ACCEPTED UNLESS OTHERWISE NOTED.
3. IN LIEU OF RING FILTER, THE OUTLET PIPE MAY BE COVERED WITH HARDWARE CLOTH, RIP RAP AND WASHED STONE WHERE A SPILLWAY IS NOT REQUIRED.

MAINTENANCE NOTES:

INSPECT ROCK PIPE INLET PROTECTION AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE SEDIMENT STORAGE AREA TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE TRAP. PLACE THE SEDIMENT THAT IS REMOVED IN THE DESIGNATED DISPOSAL AREA AND REPLACE THE CONTAMINATED PART OF THE GRAVEL FACING.

CHECK THE STRUCTURE FOR DAMAGE. ANY RIPRAP DISPLACED FROM THE STONE HORSESHOE MUST BE REPLACED IMMEDIATELY.

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 PROVIDE PERMANENT GROUND COVER.

ROCK PIPE INLET PROTECTION
NOT TO SCALE

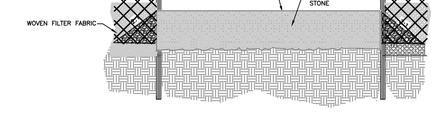
Construction Specifications

1. Ensure that the subgrade for the filter and riprap follows the required lines and grades shown in the plan. Compact any fill required in the subgrade to the density of the surrounding undisturbed material. Low areas in the subgrade on undisturbed soil may also be filled by increasing the riprap thickness.
2. The riprap and gravel filter must conform to the specified grading limits shown on the plans.
3. Filter cloth, when used, must meet design requirements and be properly protected from punching or tearing during installation. Repair any damage by removing the riprap and placing another piece of filter cloth over the damaged area. All connecting joints should overlap so the top layer is above the downstream layer a minimum of 1 foot. If the damage is extensive, replace the entire filter cloth.
4. Riprap may be placed by equipment, but take care to avoid damaging the filter.
5. The minimum thickness of the riprap should be 1.5 times the maximum stone diameter.
6. Riprap may be field stone or rough quarry stone. It should be hard, angular, highly weather-resistant and well graded.
7. Construct the apron on zero grade with no overfill at the end. Make the top of the riprap at the downstream end level with the receiving area or slightly below it.
8. Ensure that the apron is properly aligned with the receiving stream and preferably straight throughout its length. If a curve is needed to fit site conditions, place it in the upper section of the apron.
9. Immediately after construction, stabilize all disturbed areas with vegetation (Practices 6.10, *Temporary Seeding*, and 6.11, *Permanent Seeding*).

Maintenance

Inspect riprap outlet structures weekly and after significant (1/2 inch or greater) rainfall events to see if any erosion around or below the riprap has taken place, or if stones have been dislodged. Immediately make all needed repairs to prevent further damage.

OUTLET STABILIZATION STRUCTURE SPECIFICATIONS AND MAINTENANCE



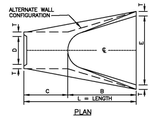
GENERAL NOTES:

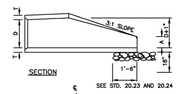
1. SEDIMENT FILTER OUTLET AND HARDWARE CLOTH SHALL BE 16 INCHES HIGH BUT NO TALLER THAN 18 INCHES.
2. HARDWARE CLOTH SHALL BE ANCHORED TO THE POSTS SECURELY USING APPROPRIATE ANCHORS. HARDWARE CLOTH SHALL BE KEYED IN A MINIMUM OF 12 INCHES IN LENGTH AND BACKFILLED PROPERLY AS SHOWN IN ABOVE DETAIL. HARDWARE CLOTH TO BE 19 GAUGE, 1/4" SPACING.
3. POSTS SHALL BE NO MORE THAN 4 FEET APART.
4. SITE OUTLETS AT ANY POINT SMALL CONCENTRATED FLOWS ARE ANTICIPATED AND AT THE DIRECTION OF THE INSPECTOR.
5. ONE ACRE MAXIMUM DRAINAGE AREA PER OUTLET.

MAINTENANCE NOTES:

1. FILTER OUTLETS SHALL BE INSPECTED BY THE FINANCIALLY RESPONSIBLE PARTY OR HIS AGENT IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS NEEDED SHALL BE MADE IMMEDIATELY.
2. THE STONE SHALL BE REPLACED PROMPTLY AFTER ANY EVENT THAT HAS CLOGGED OR REMOVED IT.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH HALF THE HEIGHT OF THE BARRIER. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OUTLET IS REMOVED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

REINFORCED SILT FENCE (SUPER SILT FENCE) OUTLET DEVICE INSTALLATION SPECIFICATIONS AND MAINTENANCE





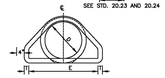


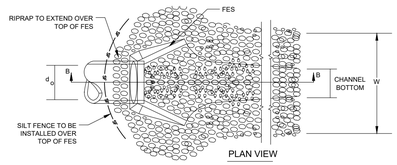
TABLE OF DIMENSIONS						
D	T	A	B	C	E	L	WT.
12"	2-1/4"	4"	2'-0"	4'-1"	2'-0"	6'-1"	720
15"	2-1/4"	6"	2'-3"	3'-10"	2'-0"	6'-1"	720
18"	2-1/4"	6"	2'-3"	3'-10"	2'-0"	6'-1"	1190
24"	3"	10"	2'-8"	3'-8"	4'-0"	6'-3"	1770
30"	3-1/2"	1'-0"	4'-0"	1'-8"	5'-0"	6'-3"	3380
36"	4"	1'-3"	5'-3"	2'-11"	6'-0"	6'-3"	5200
42"	4-1/2"	1'-6"	5'-3"	2'-11"	6'-0"	6'-3"	7600
48"	5"	2'-0"	6'-0"	3'-3"	7'-0"	6'-3"	7470
54"	5-1/2"	2'-3"	5'-9"	2'-10"	7'-8"	6'-4"	8810
60"	6"	2'-6"	5'-0"	3'-3"	8'-0"	6'-3"	11180
66"	6-1/2"	3'-0"	6'-0"	3'-3"	8'-6"	6'-3"	13530
72"	7"	3'-0"	6'-6"	1'-9"	9'-0"	6'-3"	13980

GENERAL NOTES:

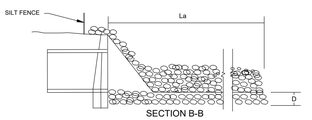
1. SEE FORMER NCDOT STANDARD 310.01 FOR DETAILS.
2. REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF REINFORCED CONCRETE PIPE OF LIKE DIAMETER PER AASHTO M170, TABLE 2, WALL B.
3. ALL CONCRETE TO BE 3500 P.S.I COMPRESSIVE STRENGTH.
4. PROVIDE TONGUE OR SPIGOT JOINT AT INLET END SECTION.
5. PROVIDE GROOVE OR BELL JOINT AT OUTLET END SECTION.
6. THE DIMENSIONS FOR END SECTIONS SHALL SUBSTANTIALLY AGREE WITH THE TABLE. MINOR VARIATIONS WILL BE PERMITTED BASED ON THE MANUFACTURER'S STANDARD FORMS AND TEMPLATES.
7. NOT TO BE USED IN NCDOT MAINTAINED RIGHT OF WAY.

NOT TO SCALE

FLARED END SECTION DETAIL
NOT TO SCALE



PLAN VIEW



SECTION B-B

OUTLET NO.	Do (FT.)	La (FT.)	W (FT.)	DEPTH (IN.)	LINING CLASSIFICATION
CWD #2	1.0	8	9	6.0	CLASS A
TDD #4 & #8 (EC 3)	1.0	8	9	6.0	CLASS A
CULVERT #1	1.50	10	12	9.6	CLASS A
CULVERT #2	1.50	9	11	9.6	CLASS A
CULVERT #3	1.25	8	9	6.0	CLASS A
CULVERT #4	1.50	9	11	9.6	CLASS A
POND OUTLET	2.00	13	15	10.8	CLASS A

STONE CLASSIFICATIONS OF CLASS A REQUIRE A SUBLAYER OF FILTER FABRIC OR FS-2 FILTER STONE WITH A BEDDING THICKNESS OF 6".

RIPRAP OUTLET PROTECTION DETAIL
NOT TO SCALE

REV.NO.	DESCRIPTIONS	DATE
F	ADDRESSED COMMENTS FROM UCPW	01/03/2022
E	ADDRESSED COMMENTS FROM UCPW	11/19/2021
D	ADDRESSED COMMENTS FROM UCPW	10/14/2021
C	ADDRESSED COMMENTS FROM NCDEQ POST-CONSTRUCTION STORMWATER	10/11/2021
B	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDEQ	09/10/2021
A	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDOT	08/04/2021

REVISIONS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043852 01-03-22 PATRICK MATTHEW MEEKINS

McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC License# F-1222
www.mckimcreed.com

DSG Development Solutions Group

BELLE MAR RESIDENTIAL
0 OLD MILL ROAD
TOWN OF WEDDINGTON, NC

GENERAL DETAILS

DATE:	MAY 2021
MCE PROJ. #	07780-0013
DRAWN	JPM
DESIGNED	JPM
CHECKED	PMN
PROJ. MGR.	PMN

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

C8.4
DRAWING NUMBER

F
REVISION

STATUS: PRELIMINARY DRAWING NOT FOR CONSTRUCTION

I:\07780\0013\PDNR\80-DWG\86-DESIGN\PLAN SHEETS\C8.0 DETAILS.DWG ---- 01/03/2022 16:00:46

Construction Specifications

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

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

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

4. Place the barrel (typically 4-inch Schedule 40 PVC pipe) on a firm, smooth foundation of impervious soil. Do not use pervious material such as sand, gravel, or crushed stone as backfill around the pipe. Place the fill material around the pipe spillway in 4-inch layers and compact it under and around the pipe to at least the same density as the adjacent embankment. Care must be taken not to raise the pipe from the firm contact with its foundation when compacting under the pipe haunches.

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

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

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

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

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

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

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

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

Maintenance

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

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

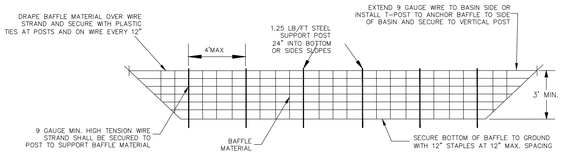
If the skimmer is clogged with trash and there is water in the basin, usually jerking on the rope will make the skimmer bob up and down and dislodge the debris and restore flow. If this does not work, pull the skimmer over to the side of the basin and remove the debris. Also check the orifice inside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

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

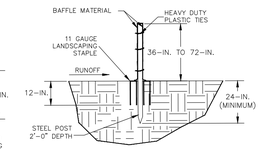
Check the fabric lined spillway for damage and make any required repairs with fabric that spans the full width of the spillway. Check the embankment, spillways, and outlet for erosion damage, and inspect the embankment for piping and settlement. Make all necessary repairs immediately. Remove all trash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

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

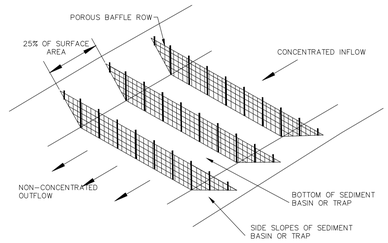
SEDIMENT BASINS SPECIFICATIONS AND MAINTENANCE



CROSS SECTION VIEW



FLAT-BOTTOM TRENCH DETAIL



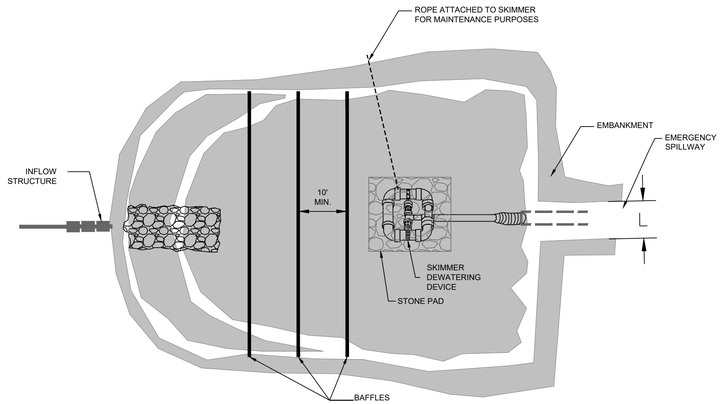
PERSPECTIVE VIEW

BAFFLES - INSPECTION & MAINTENANCE

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

POROUS BAFFLE DETAIL

N.T.S.



PLAN VIEW

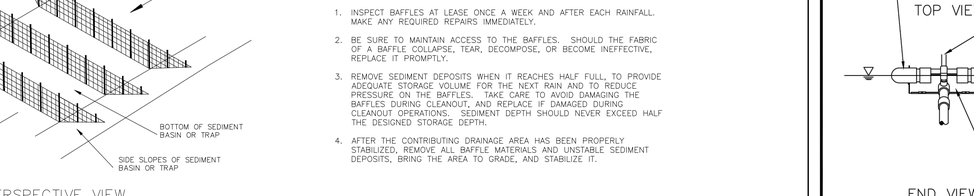
NOTES:

1. REFER TO NCESCPDM SECTION #6.64 FOR ADDITIONAL DESIGN SPECIFICATIONS REGARDING SKIMMER SEDIMENT BASINS.
2. REFER TO BAFFLE DETAIL FOR SPACING AND INSTALLATION OF BAFFLES.
3. ALL SKIMMER BASIN DEWATERING TIMES ARE 3 DAYS.
4. STABILIZE, SEED, AND MULCH BASIN SLOPES IMMEDIATELY AFTER CONSTRUCTION
5. SYNTHETIC MAT WILL BE REQUIRED ON ALL FILL BERMS AT SEDIMENT BASINS AND SHALL EXTEND 10' INTO VIRGIN SOIL AT EACH END OF THE BERM.
6. THE LOCATION OF THE EMERGENCY SPILLWAY IS SHOWN BELOW FOR REFERENCE ONLY. SEE PLAN FOR ACTUAL LOCATION IN POND.

$$\text{AVERAGE WIDTH } W = \frac{\text{AREA*}}{L}$$

* AREA OF BASIN WATER SURFACE AT TOP OF PRINCIPAL SPILLWAY

SKIMMER SEDIMENT BASIN DESIGN CRITERIA	
DRAINAGE AREA (ACRES)	< 10 AC.
MIN. LENGTH TO WIDTH RATIO	2:1
MAX. LENGTH TO WIDTH RATIO	6:1
MIN. VOLUME REQUIRED	1800 (CU. FT. PER AC. DISTURBED)
SURFACE AREA REQUIRED	325 (SQ. FT. PER CFS Q10)



CROSS-SECTION VIEW

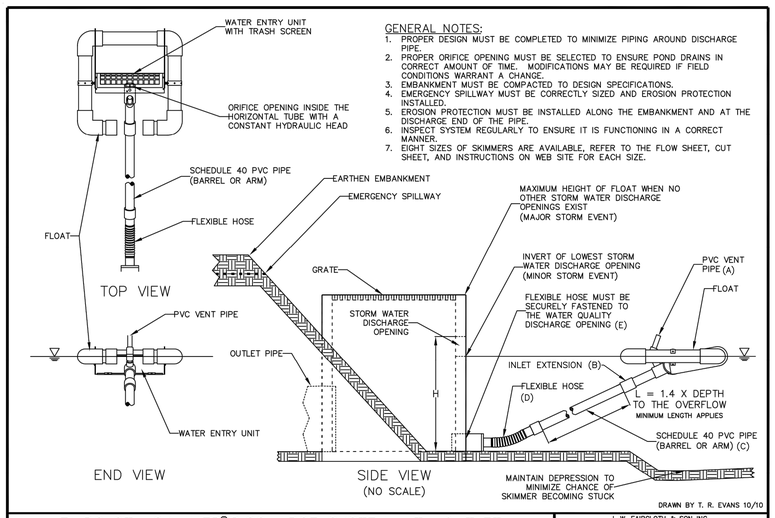
SEE EC REPORT FOR BASIN INFORMATION

EROSION CONTROL PHASE I

BASIN	DRAINAGE AREA (ACRES)	DENUDED AREA (ACRES)	Q_{10} (CFS)	BASIN VOLUME		BASIN SURFACE AREA		CLEANOUT DEPTH (FT.) H/2	H (FEET)	Z (FEET)	L (FEET)	T (FEET)	W (FEET)	SKIMMER PIPE DIAMETER	SKIMMER ORIFICE DIAMETER	SKIMMER INVERT (MSL)	BOTTOM ELEVATION (MSL)	DEWATERING TIME (DAYS)
				REQUIRED (CUBIC FT.)	PROVIDED (CUBIC FT.)	REQUIRED (SQ FT.)	PROVIDED (SQ FT.)											
1	0.93	0.93	4.21	1,674	2,313	1,369	1,430	1.0	2.0	4.0	10	1.5	5	1.5 INCH	1.00 INCH	690.00	689.50	2.87

SKIMMER SEDIMENT BASIN

N.T.S.



DRAWN BY T. R. EVANS 10/10

GENERAL NOTES:

1. PROPER DESIGN MUST BE COMPLETED TO MINIMIZE PIPING AROUND DISCHARGE PIPE.
2. PROPER ORIFICE OPENING MUST BE SELECTED TO ENSURE POND DRAINS IN CORRECT AMOUNT OF TIME. MODIFICATIONS MAY BE REQUIRED IF FIELD CONDITIONS WARRANT A CHANGE.
3. EMBANKMENT MUST BE COMPACTED TO DESIGN SPECIFICATIONS.
4. EMERGENCY SPILLWAY MUST BE CORRECTLY SIZED AND EROSION PROTECTION INSTALLED.
5. EROSION PROTECTION MUST BE INSTALLED ALONG THE EMBANKMENT AND AT THE DISCHARGE END OF THE PIPE.
6. INSPECT SYSTEM REGULARLY TO ENSURE IT IS FUNCTIONING IN A CORRECT MANNER.
7. EIGHT SIZES OF SKIMMERS ARE AVAILABLE, REFER TO THE FLOW SHEET, CUT SHEET, AND INSTRUCTIONS ON WEB SITE FOR EACH SIZE.

FAIRCLOTH SKIMMER® DISCHARGE SYSTEM WITH OUTLET STRUCTURE

J. W. FAIRCLOTH & SON INC.
WWW.FAIRCLOTHSKIMMER.COM
TELEPHONE: (910) 732-1244
FAX: (910) 732-1266
EMAIL: WARREN@FAIRCLOTHSKIMMER.COM

MAINTENANCE NOTES:

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

ENSURE THE SKIMMER DOES NOT BECOME CLOGGED WITH DEBRIS OR SEDIMENT. IF SKIMMER BECOMES CLOGGED, PULL THE SKIMMER OVER TO THE SIDE OF THE BASIN AND REMOVE THE DEBRIS. IF THE SKIMMER ARM OR BARREL PIPE IS CLOGGED, THE ORIFICE CAN BE REMOVED AND THE OBSTRUCTION CLEARED WITH A PLUMBERS SNAKE OR BY FLUSHING WITH WATER.

SKIMMER
NOT TO SCALE

SKIMMER SIZE	VENT TIP COLOR (A)	INLET EXT. (B)	PVC BARREL (C)	HOSE (D)	OUTLET (E)
1.5	RED	N/A	1.5"	1.5"	4"
2	YELLOW	2"	1.5"	1.5"	4"
2.5	GREEN	2.5"	1.5"	1.5"	4"
3	BLUE	3"	2"	2"	4"
4	ORANGE	4"	3"	3"	4"
5	SILVER/BLACK	5"	4"	4"	N/A
6	WHITE	6"	5"	5"	N/A
8	N/A	8"	6"	6"	N/A

REV.NO.	DESCRIPTIONS	DATE
F	ADDRESSED COMMENTS FROM UCPW	01/03/2022
E	ADDRESSED COMMENTS FROM UCPW	11/19/2021
D	ADDRESSED COMMENTS FROM UCPW	10/14/2021
C	ADDRESSED COMMENTS FROM NCDEQ POST-CONSTRUCTION STORMWATER	10/11/2021
B	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDEQ	09/10/2021
A	ADDRESSED COMMENTS FROM TOWN OF WEDDINGTON AND NCDOT	08/04/2021

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 043852 ENGINEER PATRICK MATTHEW NEEDHAM 01-03-22

McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC License# F-1222
www.mckimcreed.com

DSG Development Solutions Group

BELLE MAR RESIDENTIAL
0 OLD MILL ROAD
TOWN OF WEDDINGTON, NC

SEDIMENT BASIN DETAILS

DATE:	MAY 2021
MCE PROJ. #	07780-0013
DRAWN	JPM
DESIGNED	JPM
CHECKED	PMN
PROJ. MGR.	PMN

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

C8.5
DRAWING NUMBER

F
REVISION

STATUS: PRELIMINARY DRAWING NOT FOR CONSTRUCTION

I:\07780\0013\PDNR\80-DWG\86-DESIGN\PLAN SHEETS\C8.0 DETAILS.DWG ---- 01/03/2022 16:00:51