

SCALE : NONE

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1. CONTROLLED FILL, AS SPECIFIED BY THE GEOTECHNICAL ENGINEER, IN THE DAM EMBANKMENT SHALL BE PLACED IN 6-INCH LOOSE LAYERS (3-INCH LOOSE LAYERS WITHIN 3-FEET OF EITHER SIDE OF THE DAM) TO A MINIMUM DENSITY OF 95% OF THE STANDARD PROCTOR MAXIMUM DENSITY AT A MOISTURE CONTENT OF +0.5% TO -2.0% OF THE OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR DAM CONSTRUCTION.
2. ALL VISIBLE ORGANIC DEBRIS SUCH AS ROOTS AND LIMBS SHALL BE REMOVED FROM THE FILL MATERIAL PRIOR TO COMPACTION TO THE REQUIRED DENSITY. SOILS WITH ORGANIC MATTER CONTENT GREATER THAN 10% SHALL BE REMOVED FROM THE FILL. MATERIAL WITH A MOISTURE CONTENT GREATER THAN 3-INCH (IN ANY DIRECTION) SHALL BE REMOVED FROM THE FILL PRIOR TO COMPACTION.
3. FILL MATERIAL PLACED AT DENSITIES LOWER THAN SPECIFIED MINIMUM DENSITIES OR AT MOISTURE CONTENTS OUTSIDE THE SPECIFIED RANGES OR OTHERWISE NOT CONFORMING TO SPECIFIED REQUIREMENTS SHALL BE REMOVED AND REPLACED WITH FILL MEETING THE SPECIFIED REQUIREMENTS.
4. ANY FILL LAYER THAT IS SMOOTH DRAIN ROLLED TO REDUCE MOISTURE PENETRATION DURING A STORM EVENT SHALL BE PROPERLY SCARIFIED PRIOR TO THE PLACEMENT OF THE NEXT SOIL LIFT.
5. THE FILL AND FILL FLOW SHALL BE CONTINUOUSLY CONTROLLED THROUGHOUT THE CONSTRUCTION AND THE PLACEMENT OF CONTROLLED FILL.
6. FOUNDATION AREAS MAY REQUIRE UNDERCUTTING OF COMPRESSIBLE AND/OR UNSUITABLE SOILS IN ORDER TO OBTAIN THE REQUIRED DENSITY OF THE FILL. UNDERCUTTING SHALL BE PERFORMED AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER AND SHALL BE MONITORED AND DOCUMENTED. IN NO CASE SHALL THERE BE AN ATTEMPT TO STABILIZE ANY PORTIONS OF THE FOUNDATION SOILS WITH CRUSHED STONE.
7. THE EROSION AREAS, SUBGRADE PREPARATION, FOUNDATION DEWATERING AND ROCK FOUNDATION PREPARATION (I.E., TREATMENT WITH SLUSH GROUTING, DENTAL CONCRETE, ETC.) MAY BE REQUIRED AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER. ALL SUCH ACTIVITIES SHALL BE MONITORED AND DOCUMENTED.
8. FILL ADJACENT TO THE RISER AND PRINCIPAL SPILLWAY PIPE SHALL BE PLACED SO THAT LIFTS ARE AT THE SAME LEVEL ON BOTH SIDES OF THE STRUCTURES.
9. HEAVY EQUIPMENT COMPACTING OF THE FILL STRUCTURES SHALL BE ACCOMPANIED BY MEANS OF HAND TAMPERS, MANUALLY DRIVEN POWER TRAMPS OR PLATE COMPACTORS OR MINIATURE SELF-PROPELLED ROLLERS.
10. COMPACTION BY MEANS OF DROP WEIGHTS FROM A CRANE OR HOIST SHALL NOT BE PERMITTED.
11. HEAVY EQUIPMENT SHALL NOT BE ALLOWED TO PASS OVER OAST-PILE STRUCTURES UNTIL ADEQUATE CURING TIME HAS ELAPSED.
12. TO RE-STABILIZE VEGETATION AFTER CONSTRUCTION, A 2- TO 3-INCH LAYER OF TOPSOIL SHALL BE PLACED OVER THE DISTURBED EMBANKMENT SURFACE AND THE AREA SEEDED AND MULCHED OR HYDROSEDED.

NOTES:

CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR OUTLET STRUCTURE AND TRASH RACK FOR APPROVAL.
DAM EMBANKMENT IS TO BE SEEDDED IMMEDIATELY AFTER DAM CONSTRUCTION IS COMPLETE.
STORMWATER MANAGEMENT STRUCTURE IS TO BE UTILIZED AS A TEMPORARY EROSION CONTROL DEVICE UNTIL: ONCE CONSTRUCTION IS COMPLETED AND UPSTREAM SURFACES HAVE BEEN PERMANENTLY STABILIZED. COPIES OF THE PROPOSED RESUBMIT DRAWINGS TO BE SUBMITTED TO THE AGENT W/IN 15 DAYS. THIS INCLUDES INSTALLING THE PROPOSED PLANTINGS ALONG THE LITTORAL SHORELINE.
DRAWDOWN PIPE IS NOT TO BE INSTALLED UNTIL ALL UPSTREAM SURFACES HAVE BEEN PERMANENTLY STABILIZED.

PLANTING NOTES:

LANDSCAPE CONTRACTOR SHALL PROVIDE PLANT MATERIAL FROM LOCAL SOURCE TO ENSURE SURVIVABILITY. CONTRACTOR TO PROVIDE SOURCE OF PLANT MATERIAL AND LOCATION FOR APPROVAL PRIOR TO INSTALLATION OF MATERIAL.

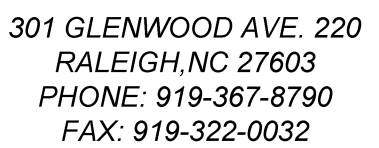
LOCAL WETLAND NURSERY
MELLOW MARSH FARM NURSERY - SILER CITY, NC

A MINIMUM TWO-YEAR WARRANTY PERIOD SHALL BE PROVIDED FOR PLANT SURVIVAL AND REPLACEMENT. AT THE END OF THE FIRST YEAR AND AGAIN AT THE END OF THE 2ND YEAR ALL PLANTS THAT DO NOT SURVIVE MUST BE REPLACED.

SYM.	QUAN.	BOTANICAL NAME	COMMON NAME	HT.	ROOT	REMARKS
		WETLAND PLANTINGS				
SA	71	HIBISCUS COCCINEUS 'ALBA'	WHITE ROSE MALLOW	-	4" cont.	3' O.C. Shallow Land
CF	38	LOBELIA CARDINALIS	CARDINAL FLOWER	-	4" cont.	3' O.C. Shallow Land
NP	39	SACCHARUM BALDWINII	NARROW PLUMEGRASS	-	4" cont.	3' O.C. Shallow Land
DP	92	SAGITTARIA LATIFOLIA	DUCK POTATO	-	4" cont.	3' O.C. Shallow Water
LT	101	SAURURUS CERNUUS	LIZARD TAIL	-	4" cont.	3' O.C. Shallow Water
PW	90	PONTEDERICA CORDATA	SPICKERELWEED	-	4" cont.	3' O.C. Shallow Water

STORMWATER MANAGEMENT CERTIFICATION

I, Mark Ashness, certify that the stormwater management facilities and practices will control and treat the runoff from the 1 year 1-hour storm event for the total drainage area of the structure, that the designs and plans are sufficient to comply with the applicable standards and policies found in the NC DENR Stormwater BMP Design Manual, and that the designs and plans ensure compliance with the County's Stormwater Ordinance.

[illegible]

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CONSTRUCTION PLANS

FOR

SEAFORTH LANDING

WWQ POND #1 PLAN & DETAILS

CHATHAM COUNTY, NORTH CAROLINA

Date: OCTOBER, 2015

Scale: 1" = 20'

Drawn: JPI

Checked: MF

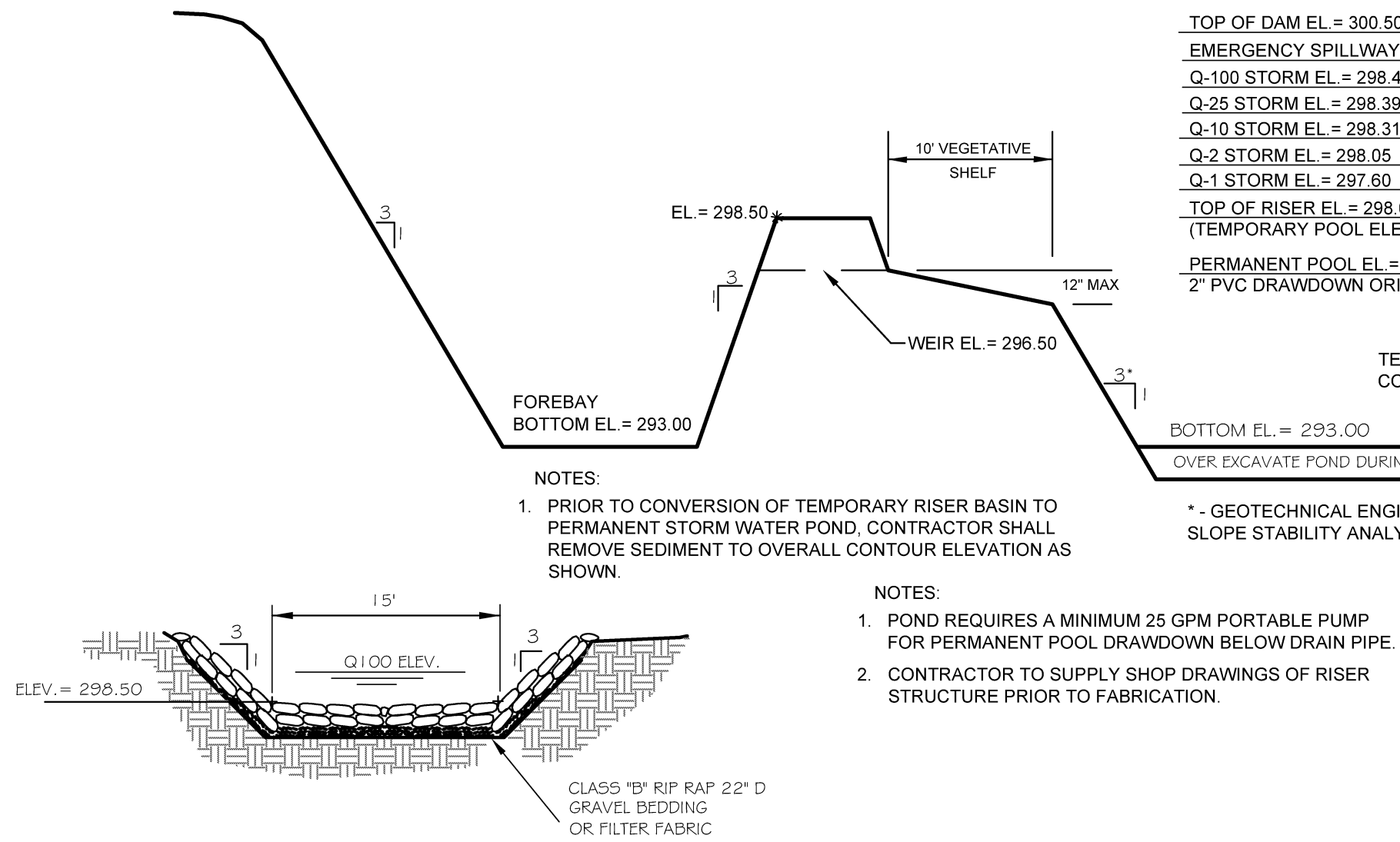
120

Computer Dwg. Name
20-23 19 - 20 Storm Ponds

Sheet No.

19

Of _____



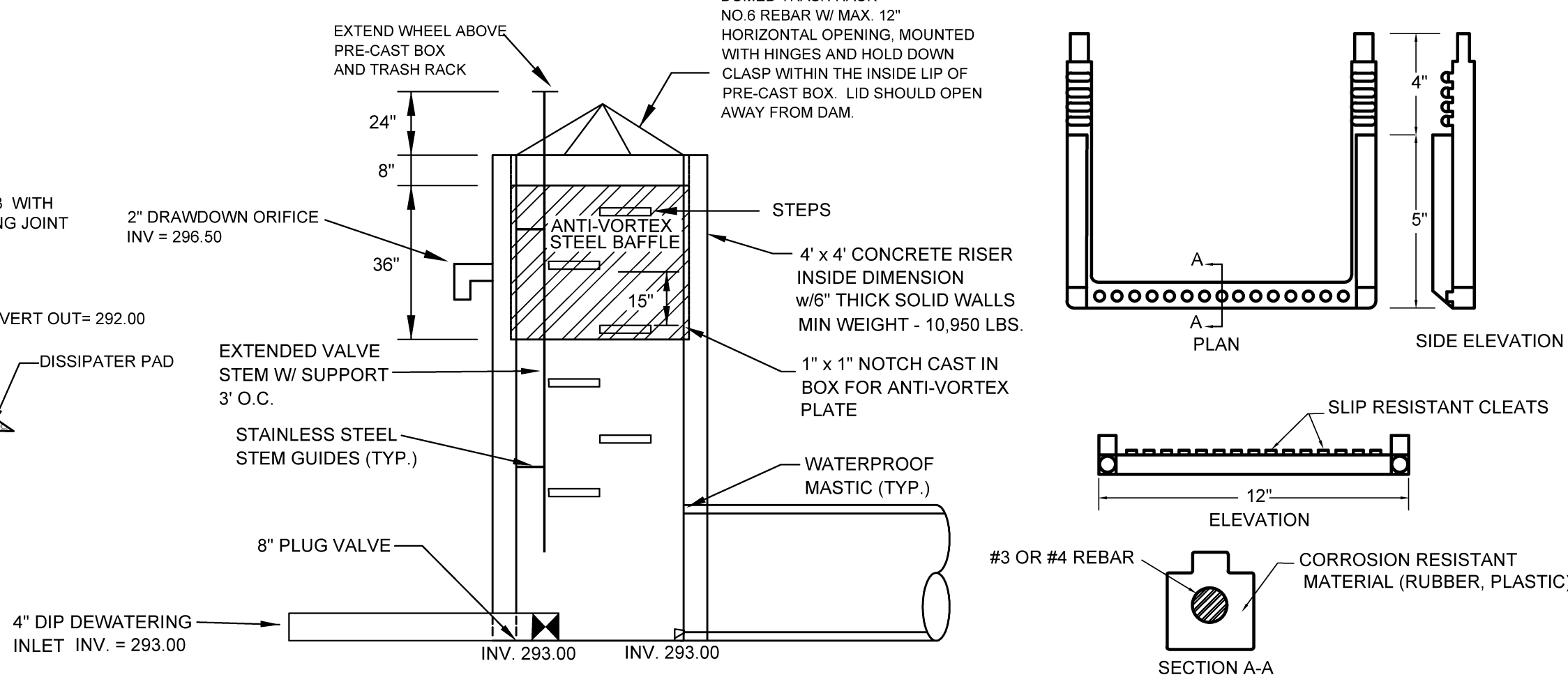
EMERGENCY SPILLWAY PLANT LIST

SYM.	QUAN.	BOTANICAL NAME	COMMON NAME	HT.	ROOT	REMARKS
WETLAND PLANTINGS						
SA	25	HIBISCUS COCCINEUS 'ALBA'	WHITE ROSE MALLOW	-	4" cont.	3' O.C. Shallow Land
CF	19	LOBELIA CARDINALIS	CARDINAL FLOWER	-	4" cont.	3' O.C. Shallow Land
NP	29	SACCHARUM BALDWINII	NARROW PLUMEGRASS	-	4" cont.	3' O.C. Shallow Land
DP	49	SAGITTARIA LATIFOLIA	DUCK POTATO	-	4" cont.	3' O.C. Shallow Water
LT	41	SAURURUS CERNUUS	LIZARD TAIL	-	4" cont.	3' O.C. Shallow Water
PW	45	PONTEDERIA CORDATA	PICKERELWEED	-	4" cont.	3' O.C. Shallow Water

WET POND PROFILE

PLANTING NOTES:
LANDSCAPE CONTRACTOR SHALL PROVIDE PLANT MATERIAL FROM LOCAL SOURCE TO ENSURE SURVIVABILITY. CONTRACTOR TO PROVIDE SOURCE OF PLANT MATERIAL AND LOCATION FOR APPROVAL PRIOR TO INSTALLATION OF MATERIAL.
LOCAL WETLAND NURSERY
MELLOW MARSH FARM NURSERY - SILER CITY, NC

A MINIMUM TWO-YEAR WARRANTY PERIOD SHALL BE PROVIDED FOR PLANT SURVIVAL AND REPLACEMENT. AT THE END OF THE FIRST YEAR AND AGAIN AT THE END OF THE 2ND YEAR ALL PLANTS THAT DO NOT SURVIVE MUST BE REPLACED.



STANDARD SLIP RESISTANT MANHOLE STEP DETAIL

RISER DETAIL

SCALE : NONE

DAM EMBANKMENT CONSTRUCTION NOTES

- CONTROLLED FILL, AS SPECIFIED BY THE GEOTECHNICAL ENGINEER, IN THE DAM EMBANKMENT SHALL BE PLACED IN 6-INCH LAYERS (3-INCH LOOSE LAYERS WITHIN 3-FEET OF EITHER SIDE OF THE PRINCIPAL SPILLWAY PIPE TO A DEPTH OF 2-FEET OVER THE PIPE) AND SHALL BE COMPACTED TO A DENSITY OF NO LESS THAN 95% OF THE STANDARD PROCTOR MAXIMUM DENSITY AT A MOISTURE CONTENT OF + OR - TWO PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D698.
- ALL VISIBLE ORGANIC DEBRIS SUCH AS ROOTS AND LIMBS SHALL BE REMOVED FROM THE FILL MATERIAL PRIOR TO COMPACTION TO THE REQUIRED DENSITY. SOILS WITH ORGANIC MATTER CONTENT EXCEEDING 5% BY WEIGHT SHALL NOT BE USED. STONES GREATER THAN 3-INCH (IN ANY DIRECTION) SHALL BE REMOVED FROM THE FILL PRIOR TO COMPACTION.
- FILL MATERIAL PLACED AT DENSITIES LOWER THAN SPECIFIED MINIMUM DENSITIES OR AT MOISTURE CONTENTS OUTSIDE THE SPECIFIED RANGES OR OTHERWISE NOT CONFORMING TO SPECIFIED REQUIREMENTS SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE MATERIALS.
- ANY FILL LAYER THAT IS SMOOTH DRUM ROLLED TO REDUCE MOISTURE PENETRATION DURING A STORM EVENT SHALL BE PROPERLY SCARIFIED PRIOR TO THE PLACEMENT OF THE NEXT SOIL LIFT.
- SURFACE WATER AND STREAM FLOW SHALL BE CONTINUOUSLY CONTROLLED THROUGHOUT CONSTRUCTION AND THE PLACEMENT OF CONTROLLED FILL.
- FOUNDATION AREAS MAY REQUIRE UNDERCUTTING OF COMPRESSIBLE AND/OR UNSUITABLE SOILS IN ADDITION TO THAT INDICATED ON THE PLANS. ALL SUCH UNDERCUTTING SHALL BE PERFORMED AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER AND SHALL BE MONITORED AND DOCUMENTED. IN NO CASE SHALL THERE BE AN ATTEMPT TO STABILIZE ANY PORTIONS OF THE FOUNDATION SOILS WITH CRUSHED STONE.
- TREATMENT OF SEEPAGE AREAS, SUBGRADE PREPARATION, FOUNDATION DEWATERING AND ROCK FOUNDATION PREPARATION (I.E. TREATMENT WITH SLUSH GROUTING, DENTAL CONCRETE, ETC.) MAY BE REQUIRED AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER. ALL SUCH ACTIVITIES SHALL BE CLOSELY MONITORED AND DOCUMENTED BY THE GEOTECHNICAL ENGINEER.
- FILL ADJACENT TO THE RISER AND PRINCIPAL SPILLWAY PIPE SHALL BE PLACED SO THAT LIFTS ARE AT THE SAME LEVEL ON BOTH SIDES OF THE STRUCTURES.
- EARTHWORK COMPACTION WITHIN 3-FEET OF ANY STRUCTURES SHALL BE ACCOMPLISHED BY MEANS OF HAND TAMPERS, MANUALLY DIRECTED POWER TAMPERS OR PLATE COMPACTORS OR MINIATURE SELF-PROPELLED ROLLERS.
- COMPACTION BY MEANS OF DROP WEIGHTS FROM A CRANE OR HOIST SHALL NOT BE PERMITTED.
- HEAVY EQUIPMENT SHALL NOT BE ALLOWED TO PASS OVER CAST-IN-PLACE STRUCTURES UNTIL ADEQUATE CURING TIME HAS ELAPSED.
- TO RE-ESTABLISH VEGETATION AFTER CONSTRUCTION, A 2- TO 3-INCH LAYER OF TOPSOIL SHALL BE PLACED ON THE DISTURBED EMBANKMENT SURFACE AND THE AREA SEEDED AND MULCHED OR HYDROSEEDING.

NOTES:

CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR OUTLET STRUCTURE AND TRASH RACK FOR APPROVAL.
DAM EMBANKMENT IS TO BE SEEDED IMMEDIATELY AFTER DAM CONSTRUCTION IS COMPLETE.

STORMWATER MANAGEMENT STRUCTURE IS TO BE UTILIZED AS A TEMPORARY EROSION CONTROL DEVICE INITIALLY. ONCE CONSTRUCTION IS COMPLETED AND UPSTREAM SURFACES HAVE BEEN PERMANENTLY STABILIZED, CONTRACTOR IS TO REMOVE ALL SEDIMENT FROM BASIN AND CONVERT TO PERMANENT WATER QUALITY STRUCTURE. THIS INCLUDES INSTALLING THE PROPOSED PLANTINGS ALONG THE LITTORAL SHELF.

DRAWDOWN PIPE IS NOT TO BE INSTALLED UNTIL ALL UPSTREAM SURFACES HAVE BEEN PERMANENTLY STABILIZED.

STORMWATER MANAGEMENT CERTIFICATION

I Mark Ashness certify that the stormwater management facilities and practices will control and treat the runoff from the 1 year 1-hour storm event for the total drainage area of the structure, that the designs and plans are sufficient to comply with the applicable standards and policies found in the NC DENR Stormwater BMP Design Manual, and that the designs and plans ensure compliance with the County's Stormwater Ordinance.

WATER COURSE INFORMATION

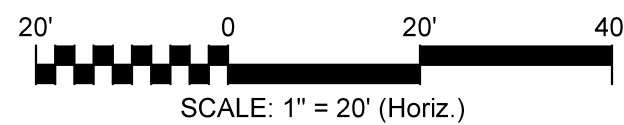
UNNAMED TRIBUTARY TO HAW RIVER
WS-IV,B,NSW,CA
PROTECTED AREA
WATERBODY STREAM INDEX - 16-(37.5)

LAT = 35.709588053
LONG= 79.070803887

IMPERVIOUS LIMITATION PER LOT= 7,500 S.F.
TOTAL IMPERVIOUS AREA= 99,394 S.F. (2.08%)

GENERAL CONSTRUCTION NOTES

- EXISTING UNDERGROUND STRUCTURES AND UTILITIES SHOWN ARE BASED ON FIELD SURVEYS AND BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY CONDITIONS, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES, PRIOR TO STARTING CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- THE CONTRACTOR SHALL CONTACT NORTH CAROLINA ONE CALL AT 1-800-632-4949. THE CONTRACTOR SHALL CALL AT LEAST 48 HOURS PRIOR TO ANY DIGGING.
- THE SUBJECT PROPERTY IS NOT LOCATED IN A FLOOD HAZARD AREA PER FEMA FIRM PANEL 9771, MAP NUMBER 3710977100J, DATED 02/02/07, AND FEMA FIRM PANEL 9780, MAP NUMBER 3710978000J, DATED 02/02/07.
- TOPOGRAPHIC INFORMATION PROVIDED BY CE GROUP, INC. RALEIGH, NC. PROFILE DATA FROM FIELD SURVEY. BACKGROUND TOPOGRAPHY FROM AERIAL MAPPING.
- FOR TYPICAL STREET SECTIONS, SEE SHEET 21.
- ALL STREETS ARE PUBLIC.



STOP!
BEFORE YOU DIG CALL
THE NC ONE CALL CENTER
1-800-632-4949
IT'S THE LAW!

FINAL DESIGN
RELEASED
FOR CONSTRUCTION

NO.	REVISIONS	DATE
1	REVISED PER CHATHAM COUNTY & NC DOT COMMENTS	02/01/16
2	REVISED PER STORM WATER COMMENTS	02/17/16
3	RELEASED FOR CONSTRUCTION	02/22/16



301 GLENWOOD AVE. 220
RALEIGH NC 27603
PHONE: 919-367-8790
FAX: 919-322-0032

www.cegroupinc.com

License # C-1739



CONSTRUCTION PLANS
FOR
SEAFORTH LANDING
STORMWATER POND PLAN & DETAILS
CHATHAM COUNTY, NORTH CAROLINA

Date: OCTOBER, 2015

Scale: 1" = 20'

Drawn: JPD

Checked: MPA

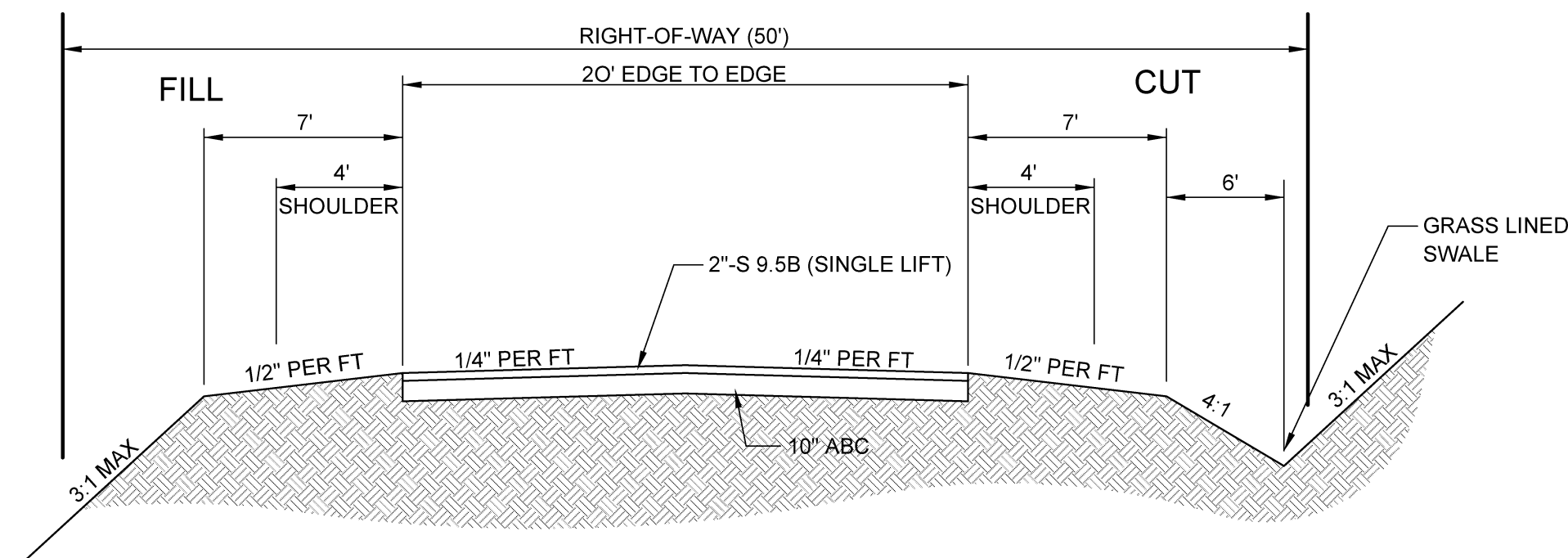
Project No: 120-23

Computer Desig. Name: 120-23 19 - 20 Storm Ponds

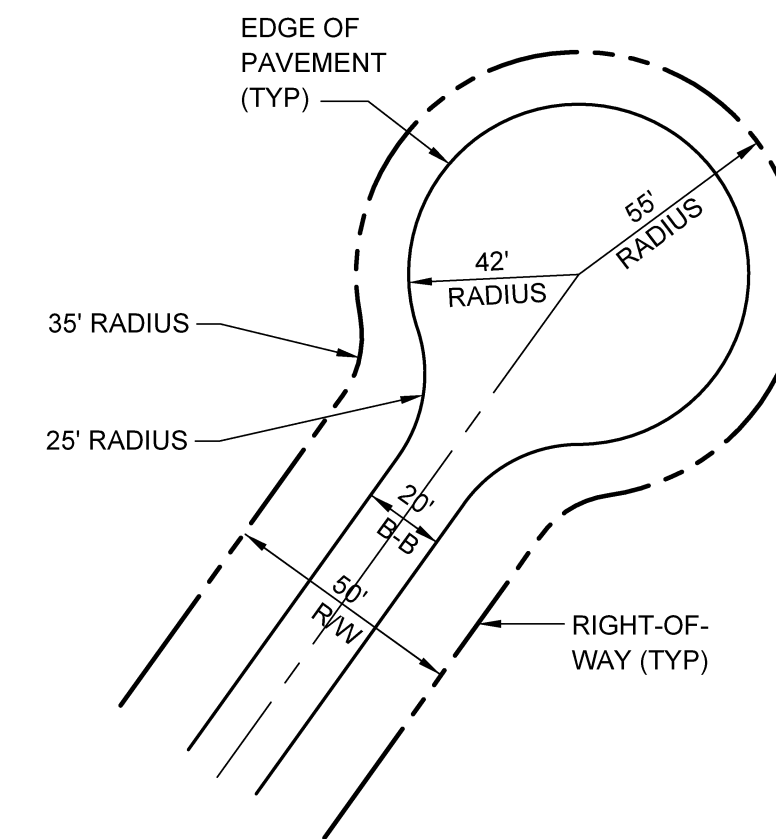
Sheet No:

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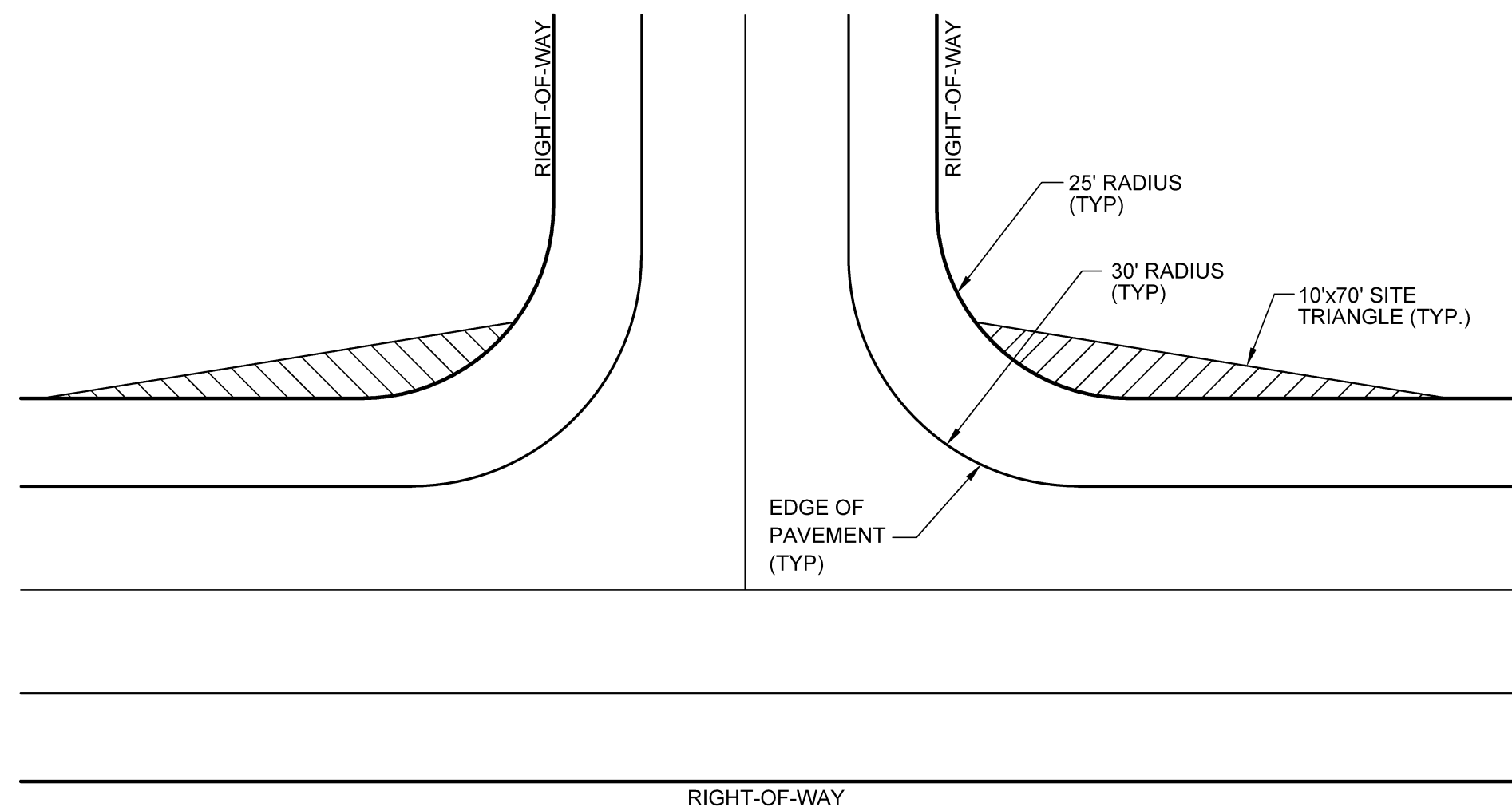
Of -



(50' RIGHT-OF-WAY)
TYPICAL 20' ROADWAY WITH DRAINAGE SWALE SECTION
 NOT TO SCALE



(STANDARD)
CUL-DE-SAC DETAIL
 NOT TO SCALE



TYPICAL INTERSECTION DETAIL
 NOT TO SCALE



STOP!
 BEFORE YOU DIG CALL
 THE NC ONE CALL CENTER
 1-800-632-4949
 IT'S THE LAW!

FINAL DESIGN
 RELEASED
 FOR CONSTRUCTION


NO.	REVISIONS	DATE
1	REVISED PER CHATHAM COUNTY & NCDOT COMMENTS	02/01/16
2	RELEASED FOR CONSTRUCTION	02/22/16

CE GROUP
 301 GLENWOOD AVE. 220
 RALEIGH NC 27603
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 FAX: 919-322-0032
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CONSTRUCTION PLANS
 FOR
SEAFORTH LANDING
ROADWAY DETAILS
 CHATHAM COUNTY, NORTH CAROLINA

Date:	OCTOBER , 2015
Scale:	N/A
Drawn:	JPD
Checked:	MPA
Project No.	120-23
Computer Diag. Name	120-23 21 Roadway Details

[illegible][illegible][illegible]

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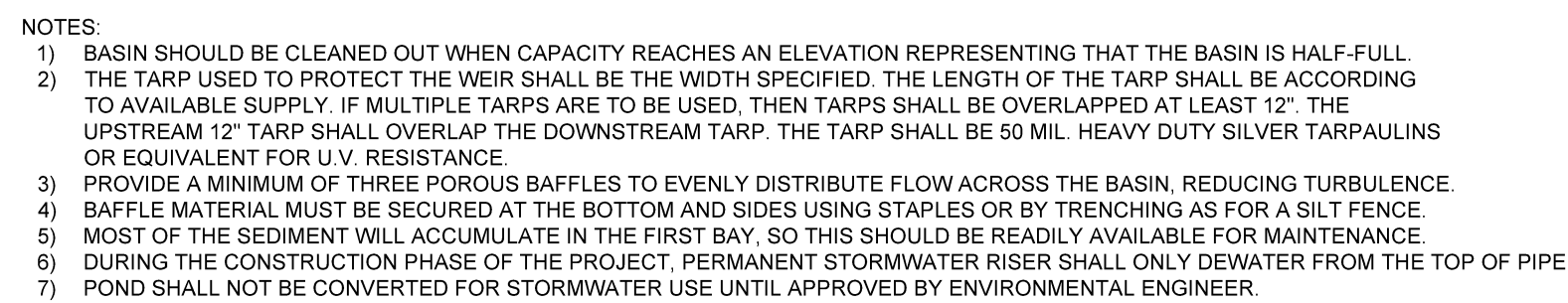
License # C-1739

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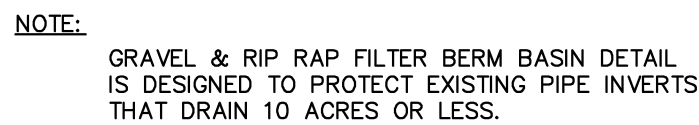
CONSTRUCTION PLANS
FOR
SEAFORTH LANDING
STORM DRAINAGE DETAILS
CHATHAM COUNTY, NORTH CAROLINA

Date:	OCTOBER , 2015
Scale:	N/A
Drawn:	JPD
Checked:	MPA
Project No:	120-23
Computer Dwg. Name	120-23 23 Storm Details

Sheet No:	<div>22</div> <div>Of ____</div>
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NOT TO SCALE



NO SCALE

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS:

1. THE TOP OF THE EARTH DIKE OVER THE INLET PIPE AND THOSE DIKES CARRYING WATER TO THE PIPE SHALL BE AT LEAST 1 FOOT HIGHER AT ALL POINTS THAN THE TOP OF THE INLET PIPE.
2. THE PIPE SHALL BE FLEXIBLE WITH WATER TIGHT CONNECTING BANDS. FLEXIBLE PIPE SHOULD BE STAKED ON EITHER SIDE.
3. A RIP RAP APRON SHALL BE PROVIDED AT THE OUTLET, IF EMPTYING INTO A DISTURBED AREA.
4. THE SOIL AROUND AND UNDER THE INLET PIPE AND ENTRANCE SECTION SHALL BE HAND TAMPED IN 4" LIFTS TO THE TOP OF THE EARTH DIKE.
5. FOLLOW-UP INSPECTION AND ANY NEEDED MAINTENANCE SHALL BE PERFORMED AFTER EACH STORM.

NOT TO SCALE



NTS



NOT TO SCALE



NOT TO SCALE



FINAL DESIGN
RELEASED
FOR CONSTRUCTION

RELEASED FOR CONSTRUCTION
SHER CHATHAM COUNTY & NCDOT C



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License # C-1739



CONSTRUCTION PLANS FOR SEAFORTH LANDING EROSION CONTROL DETAILS CHATHAM COUNTY, NORTH CAROLINA

Date:	OCTOBER , 2015
Scale:	N/A
Drawn:	JPD
Checked:	MPA
Project No.	I 20-23
Computer Dwg. Name	20-23 24 EC Details

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Of