

**EROSION CONTROL NOTES**

- PERFORM CONSTRUCTION ACTIVITIES IN COMPLIANCE WITH THE SEDIMENTATION POLLUTION CONTROL ACT OF 1973.
- PLAN AND CONDUCT LAND DISTURBING ACTIVITIES TO LIMIT EXPOSURE OF BARE EARTH FOR THE SHORTEST POSSIBLE TIME.
- CONTRACTOR SHALL COORDINATE WITH OWNER AND CONTRACTORS GEOTECHNICAL REPRESENTATIVE TO COORDINATE REMOVAL OF ANY UNSUITABLE SOILS.
- CLEARED, GRUBBED, STRIPPED OR OTHER WASTE MATERIALS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A PROPERLY PERMITTED FACILITY.
- THE CONTRACTOR SHALL FURNISH ANY REQUIRED BORROW MATERIALS FROM A PROPERLY PERMITTED OFF-SITE FACILITY.
- STABILIZE DISTURBED AREAS BY THE PLANTING AND ESTABLISHMENT OF PERMANENT AND UNIFORM GROUND COVER.
- PROVIDE SEDIMENT AND EROSION CONTROL MEASURES AT TEMPORARY CONSTRUCTION STAGING AREAS TO PREVENT OFF SITE SEDIMENTATION. TEMPORARY CONSTRUCTION STAGING AREAS TO BRING THE SITE BACK TO ITS NATURAL STATE UPON COMPLETION OF THE PROJECT.
- INSPECT SEDIMENT AND EROSION CONTROL MEASURES AFTER EACH 1/2" RAINFALL AND WEEKLY TO INSURE THEY ARE FUNCTIONAL AND IN GOOD WORKING CONDITION. REMOVE SEDIMENT DEPOSITION ACCUMULATION PERIODICALLY TO MAINTAIN UNIT EFFECTIVENESS. COMPLETE AND MAINTAIN THE SELF INSPECTION AND MONITORING REPORTS ON SITE AT ALL TIMES.
- OVER THE DURATION OF THE PROJECT, DENR SHALL MAKE PERIODIC AND UNSCHEDULED INSPECTIONS TO EVALUATE THE EFFECTIVENESS OF ALL EROSION CONTROL MEASURES. IF EROSION OCCURS, DENR AND THE OWNER SHALL NOTIFY THE CONTRACTOR TO TAKE ADEQUATE STEPS TO REMEDY THE SITUATION.
- REPLACE OR REPAIR CULVERTS, DITCH-LINES, OR RIP-RAP DISTURBED BY THIS CONSTRUCTION TO AN EQUAL OR BETTER CONDITION TO THAT PRIOR TO DISTURBANCE.
- ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF THE STATE ENGINEERING DEPARTMENT, INSPECTOR, OWNER, OR ENGINEER.
- SLOPES SHALL BE GRADED NO STEEPER THAN 3:1.
- ADDITIONAL DEVICES MAY BE REQUIRED AS AGREED UPON BY THE FIELD INSPECTOR, ENGINEER, AND OWNER.
- IF ACTIVE CONSTRUCTION CEASES IN ANY AREA FOR MORE THAN 15 CALENDAR DAYS, ALL DISTURBED AREAS MUST BE SEEDED, MULCHED, AND TACKED UNLESS WRITTEN APPROVAL IS GRANTED BY THE EROSION CONTROL OFFICER.
- STABILIZATION

SOIL STABILIZATION SHALL BE ACHIEVED ON ANY AREA OF A SITE WHERE LAND-DISTURBING ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED ACCORDING TO THE FOLLOWING SCHEDULE:

ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 7 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.

ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 14 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.

CONDITIONS - IN MEETING THE STABILIZATION REQUIREMENTS ABOVE, THE FOLLOWING CONDITIONS OR EXEMPTIONS SHALL APPLY:

EXTENSIONS OF TIME MAY BE APPROVED BY THE PERMITTING AUTHORITY BASED ON WEATHER OR OTHER SITE SPECIFIC CONDITIONS THAT MAKE COMPLIANCE IMPRACTICABLE.

ALL SLOPES 50' IN LENGTH OR GREATER SHALL APPLY THE GROUND COVER WITHIN 7 DAYS EXCEPT WHEN THE SLOPE ARE STEEPER THAN 3:1, THE 7 DAY REQUIREMENT APPLIES.

ANY SLOPED AREA FLATTER THAN 4:1 SHALL BE EXEMPT FROM THE 7 DAY GROUND COVER REQUIREMENT.

SLOPES 10' OR LESS IN LENGTH SHALL BE EXEMPT FROM THE 7 DAY GROUND COVER REQUIREMENT.

ALTHOUGH STABILIZATION IS USUALLY SPECIFIED AS GROUND COVER, OTHER METHODS, SUCH AS CHEMICAL STABILIZATION, MAY BE ALLOWED ON A CASE BY CASE BASIS.

**16. SOIL TYPES FOR THIS SITE ARE:**

Ur: URBAN LAND

- THIS PROJECT IS WITHIN THE CAPE FEAR RIVER BASIN, THE RECEIVING WATERS IS THE CAPE FEAR RIVER, CLASSIFICATION IS SC.
- THE TOTAL LIMITS OF DISTURBANCE AREA IS 5 ACRES.
- PROVIDE GROUNDCOVER IN ACCORDANCE WITH NPDES CONSTRUCTION STORMWATER GENERAL PERMIT NCGO10000 AND PERMANENT GROUNDCOVER FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
- SWALE IS TO BE LINED WITH A ROLLED TEMPORARY EROSION CONTROL MATTING OF EXCELSION, WOVEN STRAW BLANKETS OR COIR BLANKETS. INSTALL MATTING IN ACCORDANCE WITH THE MANUFACTURES SPECIFICATIONS AND INSTALLATION RECOMMENDATIONS.

**CONSTRUCTION SEQUENCE**

- OBTAIN ALL NECESSARY PERMIT APPROVALS PRIOR TO ANY LAND DISTURBING ACTIVITY.
- HOLD A PRE-CONSTRUCTION MEETING WITH NCDENR EROSION CONTROL INSPECTOR.
- INSTALL GRAVEL CONSTRUCTION ENTRANCE, INLET PROTECTION AND SILT FENCE, COMMENCE DEMOLITION, CLEARING AND ROUGH GRADING.
- ROUGH GRADE SITE AND DRAINAGE SWALE, INSTALL CHECK DAMS IN SWALE.
- BEGIN CONSTRUCTION OF UNDERGROUND UTILITIES AND SWALE ALONG EASTERN PORTION OF THE SITE.
- CONSTRUCT BUILDING FOUNDATION, WALLS, AND ROOF PRIOR TO FILLING OPERATIONS FOR BUILDING FINISHED FLOOR ELEVATION. BUILDING SHALL BE WEATHERPROOF PRIOR TO IMPORTING BACKFILL MATERIAL.
- ALL WEEP HOLES ALONG PERIMETER STEM WALLS SHALL BE PROTECTED WITH 1 CF OF #57 STONE.
- IMPORT BACKFILL MATERIAL TO REQUIRED SUBGRADE ELEVATIONS.
- ALL DEWATERING ACTIVITIES SHALL PASS THROUGH A FILTER BAG BEFORE DISCHARGING IN SWALE B'S CHECK DAM.
- INSTALL REMAINING UTILITIES.
- CONSTRUCT REMAINING PORTIONS OF PAVED SURFACES.
- PROVIDE TEMPORARY PROTECTION MEASURES AND DEVICES AS REQUIRED UNTIL UNDERGROUND UTILITIES AND PAVEMENT ARE COMPLETE AND FINAL GRADES ARE STABILIZED WITH PAVEMENT OR TEMPORARY VEGETATIVE COVER.
- STABILIZE (FERTILIZE, SEED, AND MULCH) ALL UNPAVED DISTURBED AREAS AS SOON AS FINAL GRADES ARE ESTABLISHED.
- ONCE CONSTRUCTION IS COMPLETE AND ALL DISTURBED AREAS ARE STABILIZED, OBTAIN NCDENR'S APPROVAL TO REMOVE TEMPORARY EROSION CONTROL MEASURES.

**GRADING NOTES**

- ALL EXCAVATION, GRADING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH COMMON PRACTICES, GEOTECHNICAL REPORT AND THE GOVERNING ENTITY'S TECHNICAL STANDARDS.
- INITIATE EROSION CONTROL SEQUENCE BEFORE BEGINNING ANY CLEARING, GRUBBING AND GRADING OPERATIONS.
- CLEAR AREAS TO BE GRADED OF ALL VEGETATION. PROTECT VEGETATION BEYOND GRADING LIMITS.
- STRIP TOPSOIL TO FULL DEPTH IN AREAS TO BE GRADED AND STOCKPILE.
- COMPACT ALL FILL AREAS TO 95% OF ASTM D1557 MAXIMUM DENSITY. THE MINIMUM COMPACTION OF ABC STONE SHALL BE 100% OF ASTM D1557.
- ALL BANKS AND SWALE SIDE SLOPES SHALL BE GRADED WITH NO GREATER THAN 3:1 SLOPES UNLESS OTHERWISE NOTED.
- ALL AREAS ARE TO BE GRADED SO THAT NO AREAS OF STANDING WATER OCCUR.
- PROPOSED SPOT ELEVATIONS ARE SHOWN AT FINISHED GRADE.
- OPERATOR SHALL FIELD VERIFY EXISTING TOPOGRAPHY IN RELATION TO THE PROPOSED GRADES TO ENSURE DRAINAGE IN THE DIRECTIONS INDICATED ON THE PLAN.
- IMPORT FILL FOR BUILDING GRDES AND ADJACENT TO ANY STRUCTURE SHALL BE CLASSIFIED AS SOIL GROUP SP, SM, SC OR SW OR A COMBINATION OF THE FOUR. LIFTS SHALL NOT EXCEED 8" AND SHALL BE COMPACTED TO 95% OF ASTM D 1557. COMPACTION TESTING SHALL BE PERFORMED FOR EVERY 2500 SQUARE FEET OF FILL AREA.
- AREAS FOR NEW PAVING SHALL BE PROOFROLLED WITH A HEAVY SMOOTH DRUM ROLLER OR A LOADED TANDEM AXLE DUMP TRUCK TO IDENTIFY REGIONS OF YIELDING SOIL. NOTIFY ENGINEER OF ANY AND ALL UNSUITABLE SOIL AND FOR DIRECTION ON REPAIR TO THE UNSUITABLE SOIL AREA.

**SEED SCHEDULE**

- FOLLOW RECOMMENDATIONS OF SOIL TEST OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LBS/ACRE 10-10-10 FERTILIZER.
- APPLY 4,000 LBS/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.
- RE-FERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, RE-FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.
- RESEED AND MULCH AREAS WHERE SEEDING EMERGENCE IS POOR, OR WHEN EROSION OCCURS, AS SOON AS POSSIBLE. DO NOT MOW. PROTECT FROM TRAFFIC AS MUCH AS POSSIBLE.

**TEMPORARY SEEDING**

GRASS TYPE	AMOUNT/ 1000 S.F.	TIME OF SEEDING	INITIAL
RYE GRAIN	1-2 LBS.	AUG 15 - DEC 31	25 LBS. 10-10-10
GERMAN MILLET	1-2 LBS.	MAY 1 - AUG 14	25 LBS. 10-10-10
RYE GRAIN AND ANNUAL LESPEDEZA	2-3 LBS. 1-1.5 LBS	JAN 1 - APR 30	25 LBS. 10-10-10

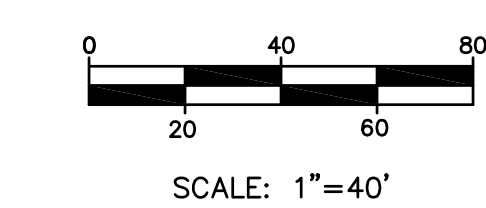
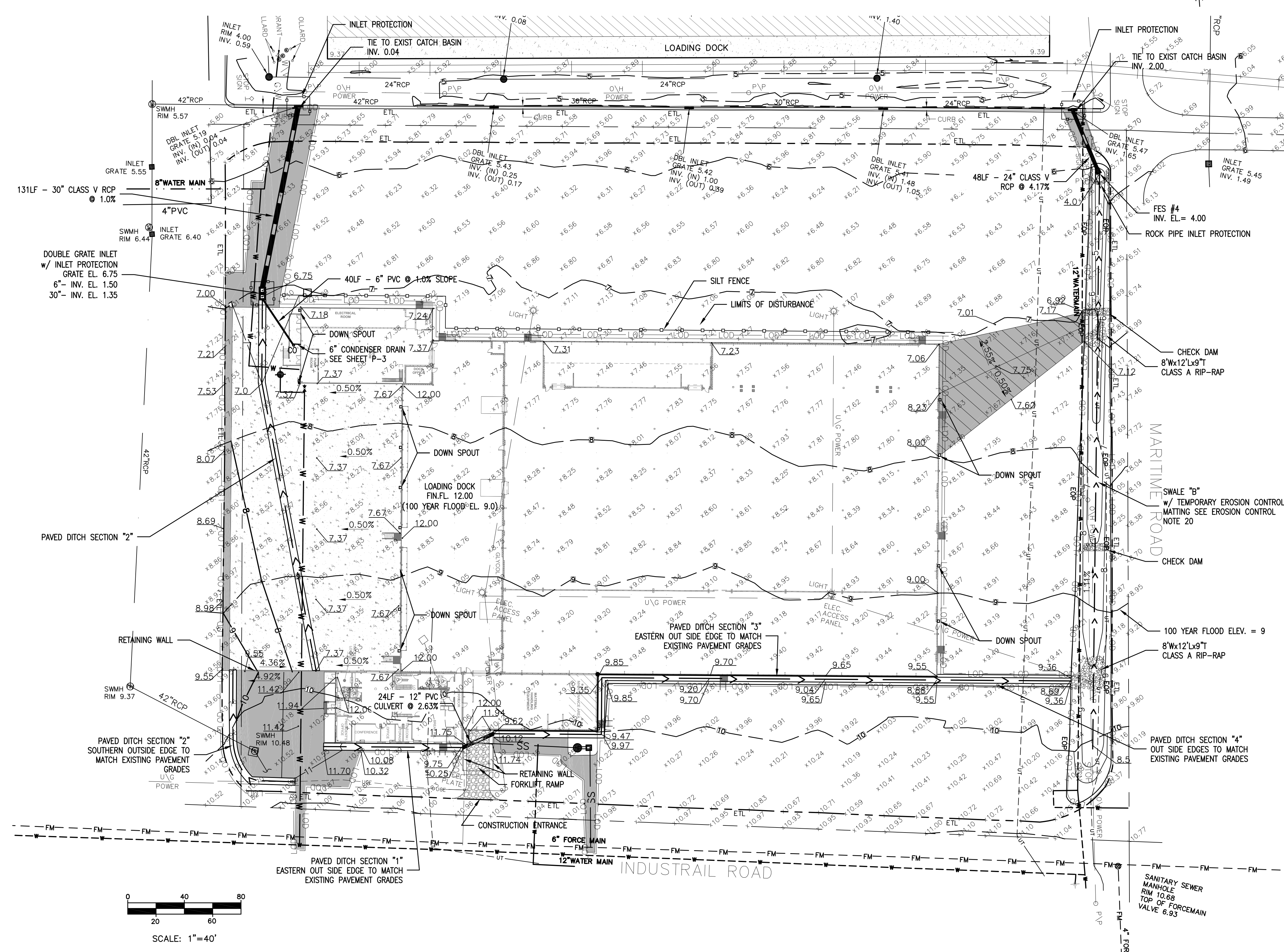
**PERMANENT SEEDING**

GRASS TYPE	AMOUNT/ 1000 S.F.	TIME OF SEEDING	INITIAL
BERMUDA, COMMON	1-2 LBS.	APRIL THRU JUNE	25 LBS. 10-10-10
FESCUE, TALL (KENTUCKY 31)	5-7 LBS.	JUNE THRU AUG. FEB. THRU OCT.	25 LBS. 10-10-10
SERICAIA LESPEDEZA (SLOPES)	1-2 LBS.	MARCH THRU APRIL	25 LBS. 10-10-10

STABILIZATION TIMEFRAMES (Effective Aug. 3, 2011)		
SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
Perimeter dikes, swales, ditches, slopes	7 days	None
High Quality Water (HQW) Zones	7 days	None
Slopes steeper than 3:1	7 days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed.
Slopes 3:1 or flatter	14 days	7 days for slopes greater than 50' in length.
All other areas with slopes flatter than 4:1	14 days	None, except for perimeters and HQW Zones.

**CITY OF WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

Approved Construction Plan  
Name \_\_\_\_\_ Date \_\_\_\_\_  
Planning \_\_\_\_\_  
Traffic \_\_\_\_\_  
Fire \_\_\_\_\_



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WILMINGTON, NORTH CAROLINA

Print Record


Revision Record

1	5/29/15	STATE PERMIT SUBMISSION #2
2	7/27/15	STATE PERMIT SUBMISSION #3
3	8/19/15	TRC SUBMISSION #2

ISSUE DATE  
01 JULY 2014

CATLIN JOB #: 213053  
**JOB A285**

**GRADING, DRAINAGE & EC PLAN**

**C-102**