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FORESITE
group

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LL # 1, DISTRICT 2, ZONE R-100
PARCEL #R2001 158

PROJECT:

SEAL:



4/08/19

GEORGIA LEVEL II CERTIFIED
PROFESSIONAL # 000058923
EXPIRATION DATED: 08/21/2021

REVISIONS: DATE

GWINNETT CO. RESUBMITTAL 03/20/2019

PROJECT MANAGER: AWP

DRAWING BY: SSH

JURISDICTION: GWINNETT COUNTY

DATE: 08/10/2018

SCALE: AS SHOWN

TITLE: _____

ESPC DETAILS

SHEET NUMBER:

C-4.8

COMMENTS: RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: 223.082

NOTE: SEE PLAN SHEETS FOR CHANNEL DIMENSIONS.

CHANNEL STABILITY:

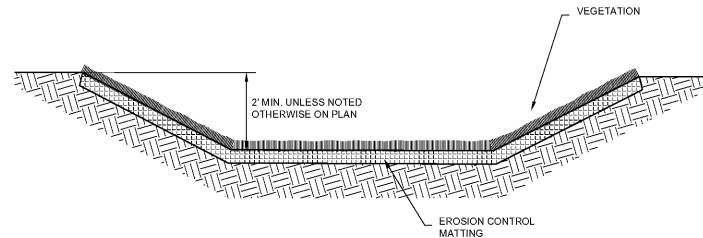
ALL CHANNEL CONSTRUCTION, IMPROVEMENT AND MODIFICATION SHALL BE IN ACCORDANCE WITH AN EXPECTED RESULT IN HAVING A STABLE CHANNEL THAT CAN BE MAINTAINED.

CHARACTERISTICS OF A STABLE CHANNEL:

1. AGGRADATION OR DEGRADATION DOES NOT INTERFERE WITH THE FUNCTION OF THE CHANNEL OR AFFECT ADJACENT AREAS.
2. THE CHANNEL BANKS DO NOT ERODE TO THE EXTENT THAT THE CHANNEL CROSS-SECTION IS CHANGED APPRECIABLY.
3. EXCESSIVE SEDIMENT BARS DO NOT DEVELOP.
4. EXCESSIVE EROSION DOES NOT OCCUR AROUND CULVERTS, BRIDGES OR ELSEWHERE.
5. GULLIES DO NOT FORM OR ENLARGE DUE TO THE ENTR OF UNCONTROLLED SURFACE FLOW TO THE CHANNEL.
6. THE DETERMINATION OF CHANNEL STABILITY CONSIDERS THE FLOW BANKFULL FLOW IS DEFINED AS FLOW IN THE CHANNEL THAT CREATES WATER SURFACE THAT IS AT OR NEAR NORMAL GROUND ELEVATION FOR A SIGNIFICANT LENGTH OF A CHANNEL REACH. EXCESSIVE CHANNEL DRAINAGE CREATING CUTTING THROUGH HIGH GROUND SHOULD BE CONSIDERED IN DETERMINATIONS OF BANKFULL FLOW.

CONSTRUCTION SPECIFICATION:

1. CHANNEL LININGS SHALL BE ESTABLISHED OR INSTALLED IMMEDIATELY AFTER CONSTRUCTION OR AS SOON AS PRACTICABLE UNDER CONDITIONS PERMIT. THE LINING SHALL NOT PROMISE THE STABILITY OF THE CHANNEL AND SHALL BE OVER EXPANDED SO THAT THE LINING WILL BE FLUSH WITH THE SLOPE SURFACE. THE GEOTEXTILE SHALL BE PLACED ON A SMOOTH GRADED SURFACE. THE GEOTEXTILE SHALL BE PLACED IN SUCH A MANNER THAT IT WILL NOT TEND TO STRETCH OR TEAR UPON PLACEMENT OF THE OVERLYING MATERIAL. CARE SHOULD BE TAKEN TO PLACE THE GEOTEXTILE IN INTIMATE CONTACT WITH THE SOIL SUCH THAT NO VOID SPACES EXIST BETWEEN THE UNDERLYING SOIL AND GEOTEXTILE. VEGETATION SHALL BE ESTABLISHED ON ALL DISTURBED AREA IMMEDIATELY AFTER CONSTRUCTION. IF WEATHER CONDITIONS CAUSE DELAY IN ESTABLISHING VEGETATION, THE AREA SHALL BE MULCHED IN ACCORDANCE WITH THE STANDARD FOR MULCHING. REFER TO SPECIFICATION DSI-DISTURBED AREA STABILIZATION (WITH MULCHING ONLY), SEEDING, FERTILIZING AND MULCHING SHALL CONFORM TO THE STANDARD FOR PERMANENT VEGETATIVE COVER. REFER TO SPECIFICATION DSI-DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION).



VEGETATED LINING CHANNEL SECTION

CHANNEL LININGS AND STRUCTURAL MEASURES:

WHERE CHANNEL VELOCITIES EXCEED SAFE VELOCITIES FOR VEGETATED LINING DUE TO INCREASED GRADE OR CHANGE IN CHANNEL CROSS-SECTION OR WHERE DURABILITY OF VEGETATIVE LINING IS ADVERSELY AFFECTED BY SEASONAL CHANGES, CHANNEL LININGS OF ROCK, CONCRETE OR OTHER DURABLE MATERIAL MAY BE NEEDED. GRADE STABILIZATION STRUCTURES MAY ALSO BE NEEDED. SEE GR - GRADE STABILIZATION STRUCTURE.

VEGETATED LINING:

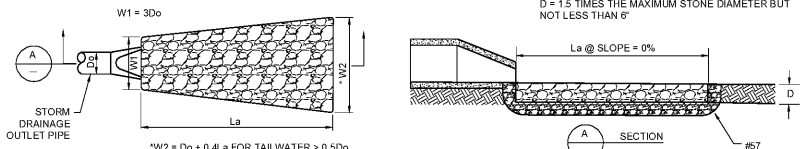
VEGETATED LINING SHALL RESIST EROSION WHEN THE CHANNEL IS FLOWING AT BANKFULL DISCHARGE OR 25-YEAR FREQUENCY DISCHARGE, WHICHEVER IS THE LESSER. TEMPORARY EROSION CONTROL BLANKETS OR SOD SHALL BE USED ON ALL CHANNELS AND CONCENTRATED FLOW AREAS TO AID IN THE ESTABLISHMENT OF THE VEGETATED LINING. IF A VEGETATED LINING IS DESIRED IN A CHANNEL WITH VELOCITIES BETWEEN 2 FT./SEC. PERMANENT SOIL REINFORCEMENT MATTING SHALL REFER TO SPECIFICATION DSI-DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION). DISTURBED AREA STABILIZATION (WITH SODDING), AND Ss - SLOPE STABILIZATION. HYDRAULIC EROSION CONTROL PRODUCTS (HECPs) ARE NOT INTENDED TO BE APPLIED IN CHANNELS, SWALES OR OTHER AREAS WHERE CONCENTRATED FLOW IS ANTICIPATED. USE IN CONJUNCTION WITH ROLLED EROSION CONTROL PRODUCTS (RECPs).

SPECIFICATIONS:

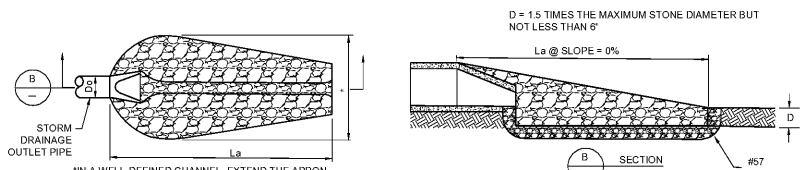
1. ENSURE THAT THE SUBGRADE FOR THE FILTER AND RIPRAP FOLLOWS THE REQUIRED LINES AND GRADES SHOWN IN THE PLAN. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO THE DENSITY OF THE SURROUNDING UNDISTURBED MATERIAL. LOW AREAS IN THE SUBGRADE ON UNDISTURBED SOIL MAY ALSO BE FILLED BY INCREASING THE RIPRAP THICKNESS.
2. THE RIPRAP AND GRAVEL FILTER MUST CONFORM TO THE SPECIFIED GRADING LIMITS SHOWN ON THE PLANS.
3. GEOTEXTILE 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 FABRIC OVER THE DAMAGED AREA. ALL CONNECTING JOINTS SHOULD OVERLAP A MINIMUM OF 1 FT. IF THE DAMAGE IS EXTENSIVE, REPLACE THE ENTIRE FILTER FABRIC.
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. CONSTRUCT THE APRON ON ZERO GRADE WITH NO OVERFALL AT THE END. MAKE THE TOP OF THE RIPRAP AT THE DOWNSTREAM END LEVEL WITH THE RECEIVING AREA OR SLIGHTLY BELOW IT.
7. 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.
8. IMMEDIATELY AFTER CONSTRUCTION, STABILIZE ALL DISTURBED AREAS WITH VEGETATION.
9. STONE QUALITY - SELECT STONE FOR RIPRAP FROM FIELD STONE OR QUARRY STONE. THE STONE SHOULD BE HARD, ANGULAR, AND HIGHLY WEATHER-RESISTANT. THE SPECIFIC GRAVITY OF THE INDIVIDUAL STONES SHOULD BE AT LEAST 2.5.
10. FILTER - INSTALL A FILTER TO PREVENT SOIL MOVEMENT THROUGH THE OPENINGS IN THE RIPRAP. THE FILTER SHOULD CONSIST OF A GRADED LAYER OR A SYNTHETIC FILTER CLOTH.

MAINTENANCE REQUIREMENTS:

INSPECT RIPRAP OUTLET STRUCTURE AFTER HEAVY RAINS 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.



PIPE OUTLET TO FLAT AREA - NO WELL-DEFINED CHANNEL



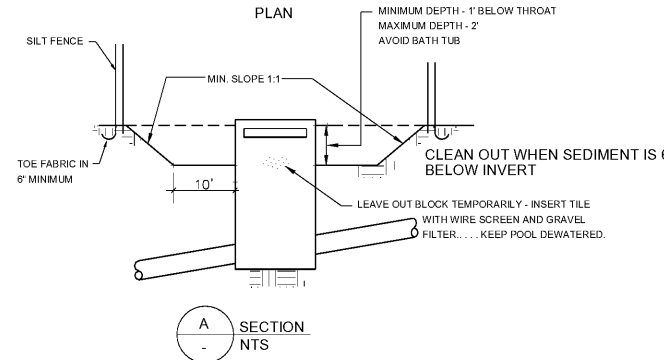
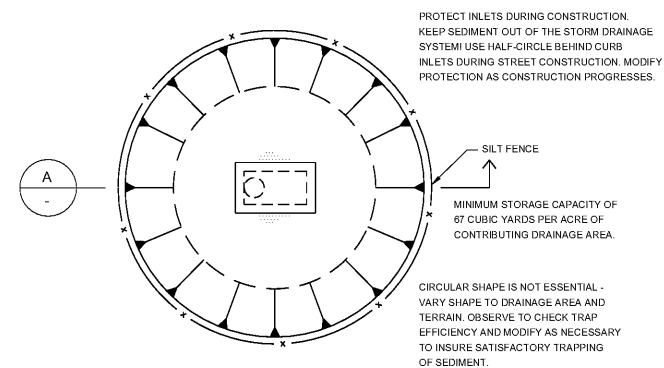
PIPE OUTLET TO WELL-DEFINED CHANNEL

St STORM DRAIN OUTLET PROTECTION DETAIL
NOT TO SCALE

DESIGN IS BASED ON THE 25 YEAR, 24 HOUR FREQUENCY STORM

STORM STRUCTURE	Do (in)	Q (cfs)	V (fps)	Tw (ft)	La (ft)	W1 (ft)	W2 (ft)	D (ft)	φ50 (ft)
ST1 (LINE F)	24"	0.80	3.0	Tw < .5Do	11.0	6.0	17.0	0.5	1.0
ST2 (LINE H)	15"	0.47	2.85	Tw < .5Do	9.0	3.75	12.75	0.5	1.0
ST3 (LINE B)	15"	0.25	2.93	Tw < .5Do	9.0	3.75	12.75	0.5	1.0
ST4 (LINE C)	18"	2.56	4.35	Tw < .5Do	10.0	4.5	14.5	0.5	1.0

Ch-1 CHANNEL STABILIZATION CATEGORY 1
NOT TO SCALE



Sd2-E EXCAVATED INLET PROTECTION
NOT TO SCALE

NOTE:

1. THE MAXIMUM DRAINAGE AREA ALLOWED TO FLOW TO ANY ONE INLET SEDIMENT TRAP IS 1.0 ACRE.

GWINNETT COUNTY STAMP AREA (4" X 4")
PROJECT # CDP2019-00035

Order Plans @