

CTI Engineers, Inc.
1899 Cleveland Highway
Dalton, GA 30721
Phone 706.278.8110
Fax 706.278.8112
www.ctiengr.com

July 15, 2011

Five Brothers Automotive, LLC
1280 Alpharetta Street
Roswell, GA

Attention: Rob Mitchell

Subject: Installation, Maintenance and Erosion Control of Stream Buffer Mitigation

Dear Rob:

In the reestablishment of the riparian buffer within the property at 1280 Alpharetta Street, it is necessary to remember that these buffers are there to stabilize stream banks and filter pollutants from stormwater. A term that is often used in reference to construction is that even on small projects as this, you must use "best management practices." A common sense approach would be to minimize all installation impacts. Within the 13,100 SF buffer zone, it appears that only 1,650 SF is non-vegetated graveled areas. I would request to the City of Roswell to give you a variance for this area and only install native ground cover in this area. This modification would change your number of ground cover plants from 5,466 to 688 native ground cover plants.

It is better to plant native trees and shrubs within the established vegetative area, even though the ground cover in this area consists of non-native plants, to minimize the disturbance adjacent to the creek. Native ground cover would be placed only in those graveled areas where no ground cover currently exists. As the tree canopy develops, fescue and other non-shade tolerant cultivars would disappear and the adjacent planted native shade tolerant species would encroach into the space vacated by the cultivars.

In those areas of limited space where your fence and asphalt are very near the top of the creek bank, I would also request a variance in tree size and type. Again in these areas, I would not remove the existing ground cover and instead of planting trees that are 2.5-inches diameter breast height, I would propose to use younger trees with around 1-inch diameter breast height. These size trees, have a smaller root ball, require a smaller hole for their installation, and have a much greater viability rate than the 2.5-inch trees required in the City's guidelines. In these limited areas near the creek, I would also propose that you use only a row of small trees and bushes and avoid the *every fourth tree as a large tree*. These overstory trees require large root zones and a usually the trees that you see fallen across the creek after large storm events.

I have not shown type c silt fence on your drawings, but best management practices require that you install two rows of type "c" silt fence between areas that have been disturbed adjacent to waters of the State. I have attached a typical silt fence detail with this letter. You must install silt fence prior to any disturbance adjacent to the creek and maintain it until that site has been completely stabilized. The only exception to this would be in those limited space areas mentioned in the paragraph above. In narrow areas near the creek, I would propose staking a silt sock in place between your plantings and the creek (detail also attached). You do not have

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to bench in a silt sock as a silt fence must be installed and you thereby lessen the possibility of destabilizing the adjacent creek bank.

Use clean mulch as specified immediately around trees and bushes to reduce erosion and help to maintain ground moisture adjacent to your plantings. You will lose some plantings due to stress, incorrect ph or fertilization, insects and disease. If you intend to do these installations yourself instead of hiring a professional, you must invest in pH and nutrient test equipment. Every plant that you choose to install has a pH range and nutrient level that it prefers. Make sure that you develop your planting areas to meet those requirements, choose good plant stock, provide adequate water during the first year's establishment, and you will have a high rate of success.

Please do not hesitate to call if you need additional information or if the City requires additional details or modifications.

Sincerely,

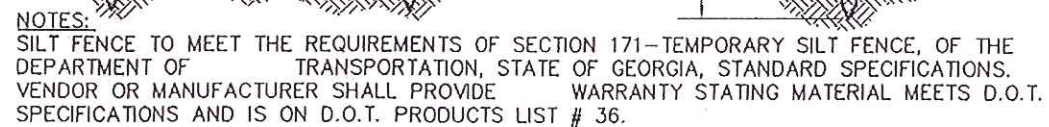


Al Pierce, PE
Sr. Project Manager

Attachments

Cc; Jean Rearick, PE, CFM, M. ASCE, LEED® AP
City Engineer
City of Roswell



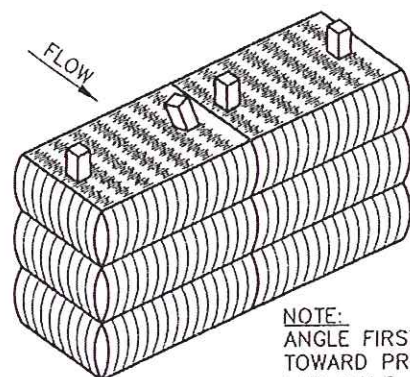


MAINTENANCE:

1. SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE BARRIER. FILTER FABRIC SHALL BE REPLACED WHENEVER IT HAS DETERIORATED TO SUCH AN EXTENT THAT THE EFFECTIVENESS OF THE FABRIC IS REDUCED (APPROXIMATELY SIX MONTHS).
2. TEMPORARY SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. ALL SEDIMENT ACCUMULATED AT THE BARRIER SHALL BE REMOVED AND PROPERLY DISPOSED OF BEFORE THE BARRIER IS REMOVED.

Sd1-C

N.T.S.



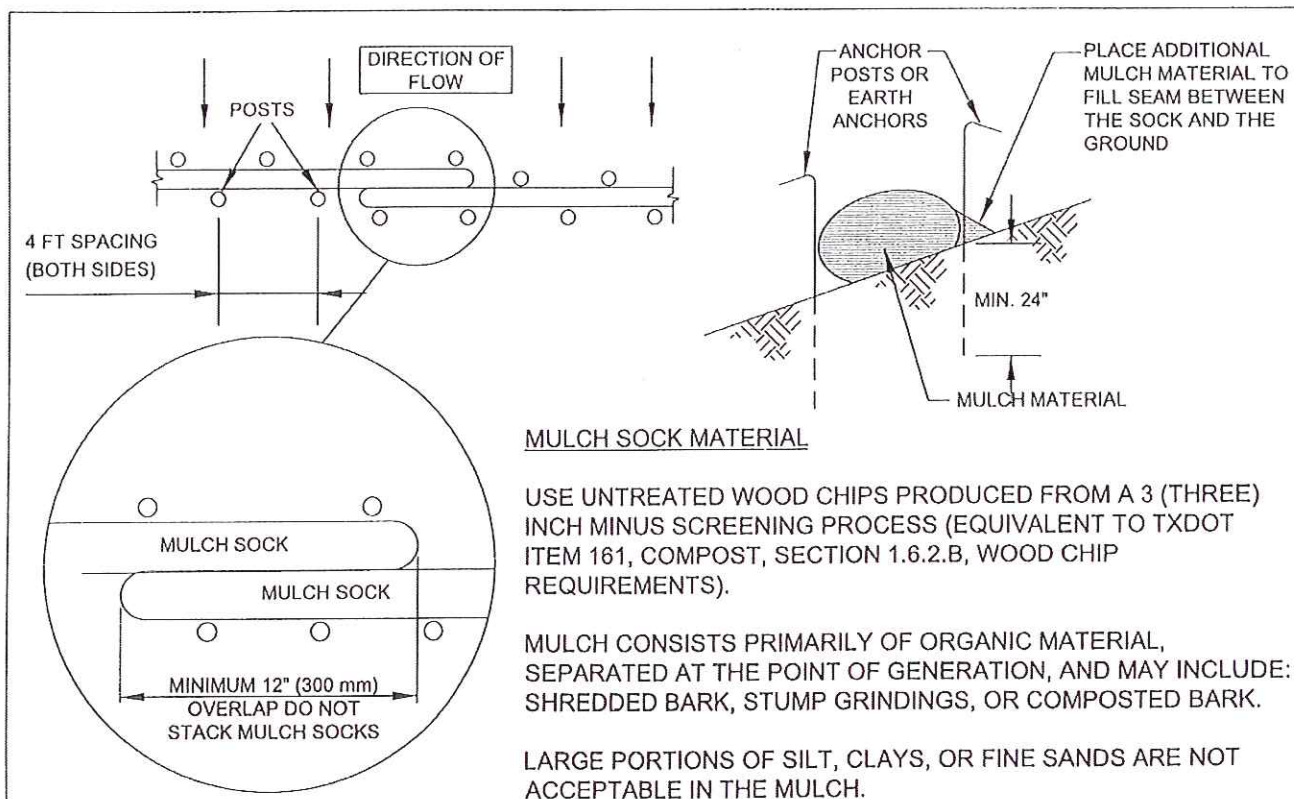
NOTE:
ANGLE FIRST STAKE
TOWARD PREVIOUSLY
LAID BALE.

MAINTENANCE:

- MAINTENANCE:
1. SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO ONE-THIRD THE ORIGINAL HEIGHT OF THE BARRIER.
 2. A GIVEN HAY BALE SHALL BE REPLACED WHENEVER IT HAS DETERIORATED TO SUCH AN EXTENT THAT THE EFFECTIVENESS OF THE BALE IS REDUCED (APPROXIMATELY SIX MONTHS).
 3. TEMPORARY SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
 4. ALL SEDIMENT ACCUMULATED AT THE BARRIER SHALL BE REMOVED AND PROPERLY DISPOSED OF BEFORE THE BARRIER IS REMOVED.

Sd1-Hb

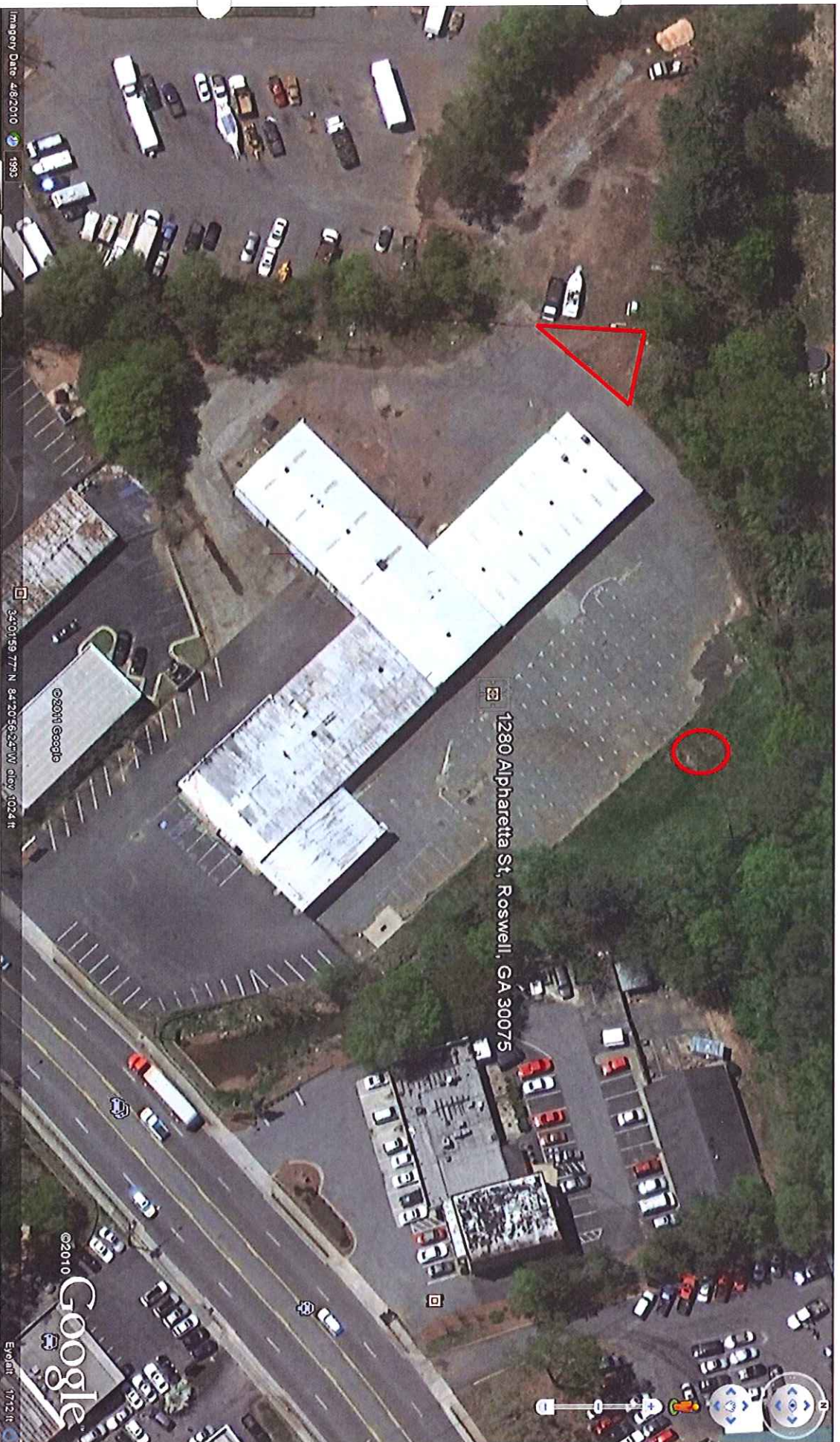




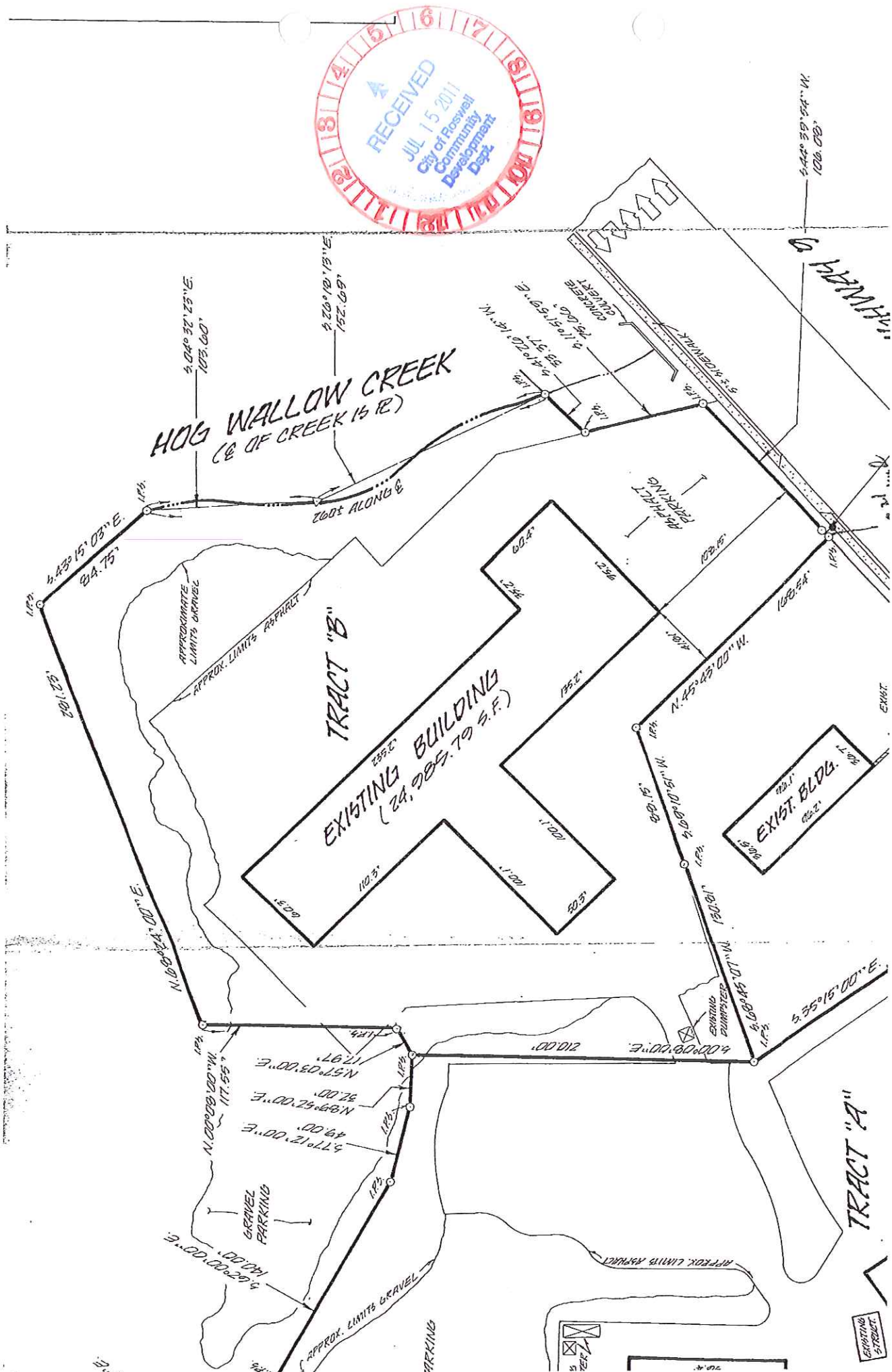
NOTES:

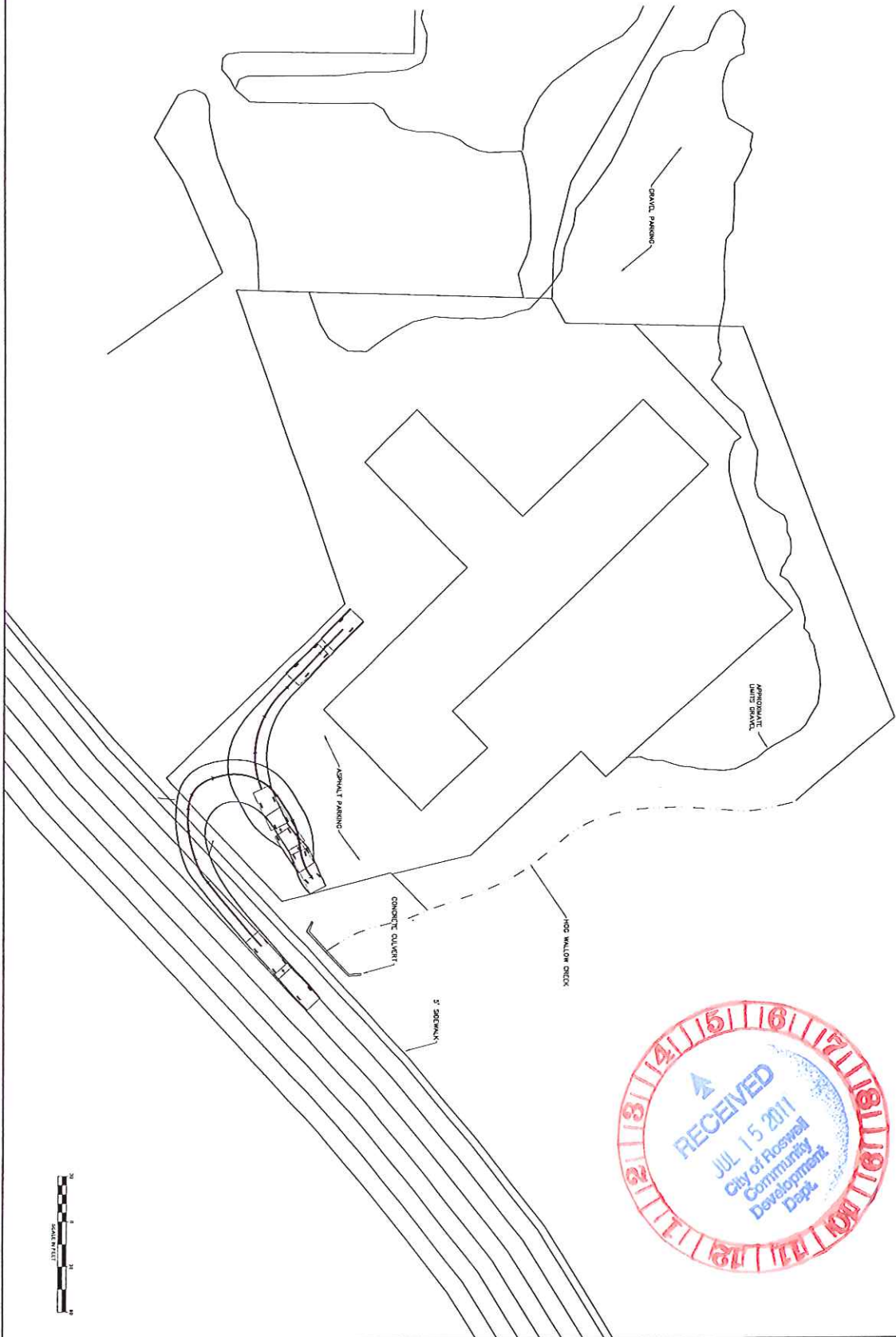
1. STEEL OR WOOD POSTS WHICH SUPPORT THE MULCH SOCK SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 600mm (24 inches). IF WOOD POSTS CANNOT ACHIEVE 600mm (24 inches) DEPTH, USE STEEL POSTS. EARTH ANCHORS ARE ALSO ACCEPTABLE.
2. THE TOE OF THE MULCH SOCK SHALL BE PLACED SO THAT THE MULCH SOCK IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. IN ORDER TO PREVENT WATER FROM FLOWING BETWEEN THE JOINTS OF ADJACENT ENDS OF MULCH SOCKS, LAP THE ENDS OF ADJACENT MULCH SOCKS A MINIMUM OF 300mm (12 inches).
3. MULCH MATERIAL MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH; IT IS NOT ACCEPTABLE FOR THE MULCH MATERIAL TO CONTAIN GROUND CONSTRUCTION DEBRIS, BIOSOLIDS, OR MANURE.
4. SOCK MATERIAL WILL BE 100% BIODEGRADABLE, PHOTODEGRADABLE, OR RECYCLABLE SUCH AS BURLAP, TWINE, UV PHOTOBIODEGRADABLE PLASTIC, POLYESTER, OR ANY OTHER ACCEPTABLE MATERIAL.
5. MULCH SOCKS SHOULD BE USED AT THE BASE OF SLOPES NO STEEPER THAN 2:1
6. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.






These two areas, the one on the west is approximately 1,050 SF and the northeast oval is around 570 SF or a total of 1,650 feet of graveled area. Picture was taken April, 8, 2010.





 10000 WILLOW CREEK DRIVE, SUITE 200 ROSWELL, GA 30076 404.582.1111	TITLE OF DRAWING		REVISIONS				<small>THIS DRAWING IS AN INSTRUMENT OF SERVICE OWNED BY CONSULTANT ENGINEERS, INC. (CIE) WHICH SHALL BE DEEMED THE PROPERTY OF CIE AND SHALL REMAIN THE PROPERTY OF CIE. THIS DRAWING SHALL NOT BE REPRODUCED, COPIED, OR EXTRACTED IN ANY FORM OR BY ANY MEANS FOR ANY OTHER PURPOSE OR PROJECT WITHOUT THE WRITTEN CONSENT OF CIE. CIE IS NOT RESPONSIBLE FOR CONSEQUENCES RESULTING TO ANY THIRD PARTY USE OR REUSE OF THIS DRAWING OR FOR ANY INACCURACIES.</small>
	DESIGN DSN	NO.	DESCRIPTION	DATE	BY	APP'D	
	DRAWN DMH						
	CHECKED CHK						
	APPROVED APR						

Map of 1280 Alpharetta St, Roswell, GA 30075-3702 **YAHOO!**



When using any driving directions or map, it's a good idea to do a reality check and make sure the road still exists, watch out for construction, and follow all traffic safety precautions. This is only to be used as an aid in planning.



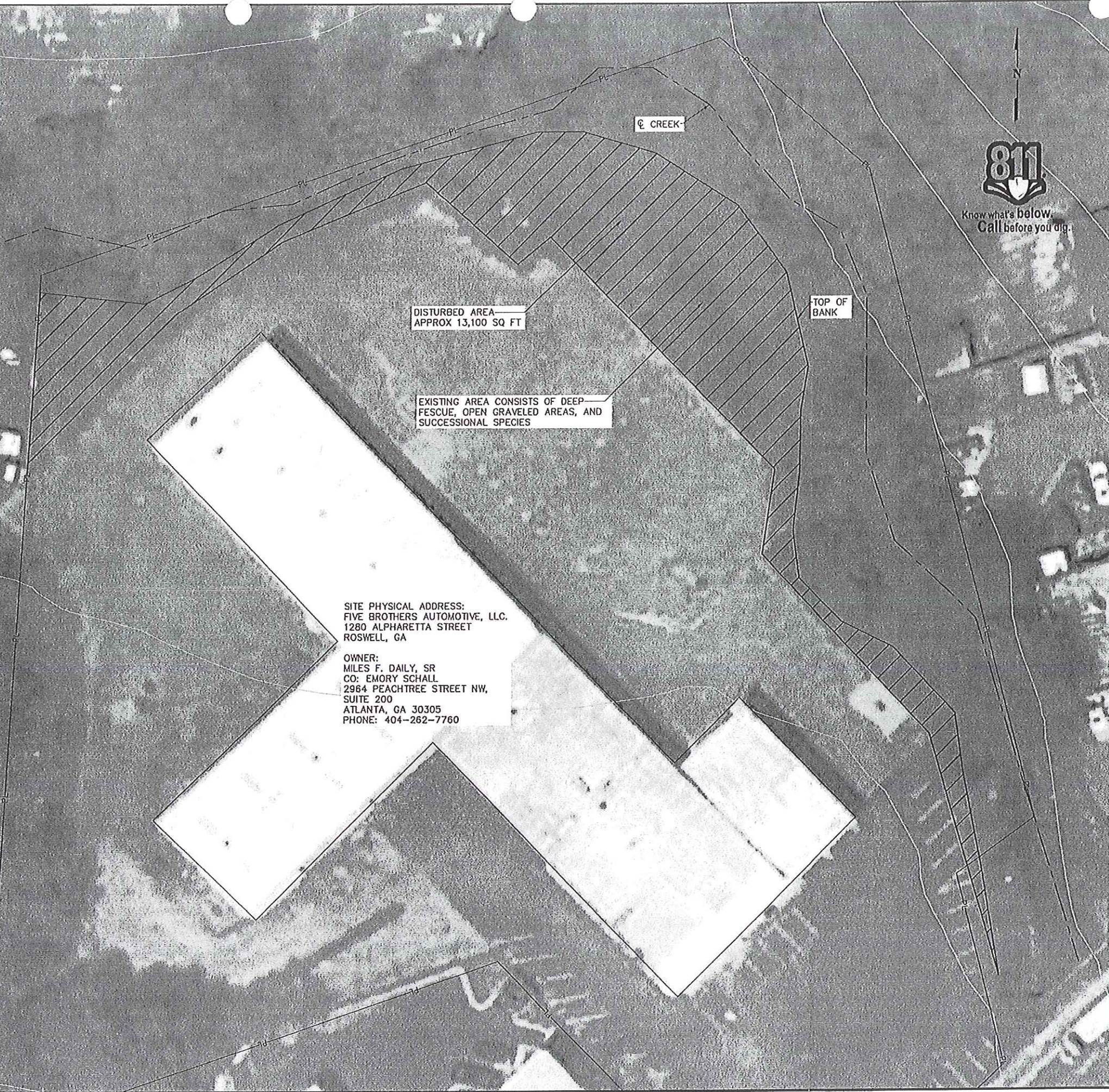
Map of 1280 Alpharetta St, Roswell, GA 30075-3702 **YAHOO!**



When using any driving directions or map, it's a good idea to do a reality check and make sure the road still exists, watch out for construction, and follow all traffic safety precautions. This is only to be used as an aid in planning.



DATE OF PRINT: 7/14/2011 6:01 PM
CTI PROJECT: G11003 Five Brothers Vegetation Rehabilitation, DRAWING: FIVE BASE (202458v17/14/11 6:01PM), LAYOUT: CT



Proposed Riparian Buffer Planting Outline					
Total Disturbed area = 13,118 SF					
Genus	Species *1	Common Name	Minimum Planting Density #/Acre	Proposed Number of Plants	Maximum Cn-Center Distance
Canopy-Overstory (Large Trees)			108	33	20 ft. *2
1 Quercus	alba	White Oak			
2 Acer	rubra	Red Maple			
3 Liquidambar	styraciflua	Tulip Poplar			
4 Platanus	occidentalis	Sycamore			
Understory (Medium & Small Trees)			327	99	10 ft. *2
1 Ilex	opaca	American Holly			
2 Aesculus	pavia	Red Buckeye			
3 Cercis	canadensis	Redbud			
4 Celtis	occidentalis	Hackberry			
Shrubs			774	234	7.5 ft.*3
1 Ilex	variegata	Yaupon Holly			
2 Calycanthus	floridus	Sweetshrub			
3 Morella (Myrica)	cerifera	Wax Myrtle			
4 Vaccinium	pallidum	Lowbush Blueberry			
Vines and Ground Cover			18,153	5,466	1.5 ft.
1 Bignonia	cappadocata	Crossvine			
2 Phlox	stolonifera	Woodland Phlox (for shade)			
3 Aquilegia	canadensis	Red Columbine (for shade)			
4 Lobelia	cardinalis	Cardinal Flower (for shade)			
5 Heuchera	americana	Alum Root (for shade)			
6 Sanguinaria	canadensis	Blood Root (for shade)			
7 Arisaema	erectum	Blue Star (for sun)			
8 Asclepias	spp.	Butterfly Weed (for sun)			
9 Rudbeckia	spp.	Black-eyed Susan (for sun)			
10 Echinacea	spp.	Coneflower (for sun)			
11 Phlox	paniculata	Phlox (for sun)			
12 Baptisia	spp.	False Indigo (for sun)			
13 Muhlenbergia	capillaris	Hairgrass			
14 Luzula	acuminata	Wood Rush			
15 Elymus	virginicus	Virginia Wild-rye grass			

1. SUBSTITUTIONS MAY BE MADE BASED UPON AVAILABILITY. GEORGIA NATIVE SPECIES ARE REQUIRED FOR ALL PLANTINGS. PREFERENCE SHOULD BE GIVEN TO DRAUGHT RESISTANT SPECIES (MESIC TO SUB-XERIC). REFER TO SELECTION TABLE IN "LANDSCAPING WITH NATIVE PLANTS IN THE GEORGIA PIEDMONT" PUBLISHED BY THE GEORGIA NATIVE PLANT SOCIETY.
2. TREES MUST BE PLANTED AT 10 FEET ON CENTER. ONE IN EVERY FOUR TREES MUST BE A CANOPY - OVERSTORY TREE.
3. SHRUB PLANTING DENSITY SHALL BE INCREASED ALONG OUTSIDE REACHES OF RIPARIAN ZONE TO 5 FT. O.C.
- SOIL PREPARATION**
1. REMOVE GRAVEL FROM ALL AREAS OUTSIDE OF ASPHALT PAVING.
2. TO AMEND THE COMPACTED SOIL BETWEEN PAVING AND STREAM BANKS, ADD APPROXIMATELY A 3-INCH LAYER OF QUALITY TOP SOIL, OR COMPOST AND TILL INTO THE TOP 10 INCHES OF SOIL.
3. SOIL PREPARATION AND PLANTING SHALL NOT BEGIN BEFORE LATE FALL. ANNUAL RYE GRASS SHALL BE SOWN TO MINIMIZE EROSION BEFORE PROPOSED NATIVE ARE ESTABLISHED.

TEMPORARY SEEDING REQUIREMENTS TABLE					
Area	Sowing Season	Species	Seed	Fertilizer*	Limestone*
All Areas	8/16 to 4/14	Annual Ryegrass (Lolium temulentum)	1 lb.	10 lbs.	100 lbs.
				10/20/202	0

*Apply limestone on highly acidic soils (pH 5.5 and lower).



DESIGN: LAP, DRAWN: AMF, CHECKED: PRS, APPROVED: LAP

REVISIONS: NO., DESCRIPTIONS, DATE, BY, APP'D

Five Brothers Automotive LLC
Five Brothers Vegetation Rehabilitation

BUFFER REVEGETATION PLAN & SCHEDULE
SHEET 1 OF 2

ENGINEERS, INC.
1801 CLEVELAND HIGHWAY
DUBLIN, GA 31024
770-274-8510

GEORGIA
PROFESSIONAL
LANDSCAPE ARCHITECT
JASON NELSON PIERCE

JOB NO. G11003
ISSUE DATE 07/14/2011
SCALE 1" = 40'
DRAWING NO. 1.0

OWNER:
MILES F. DAILY, SR
CO: EMORY SCHALL
2964 PEACHTREE STREET NW,
SUITE 200
ATLANTA, GA 30305
PHONE: 404-262-7760



Know what's below.
Call before you dig.

THE FOLLOWING APPLICATION RATES:

- A. WOOD FIBER - 1,400 LBS/ACRE
- B. STRAW - 4,000 LBS/ACRE
- C. STALKS - 4,000 LBS/ACRE

DRAWING NO.
20

