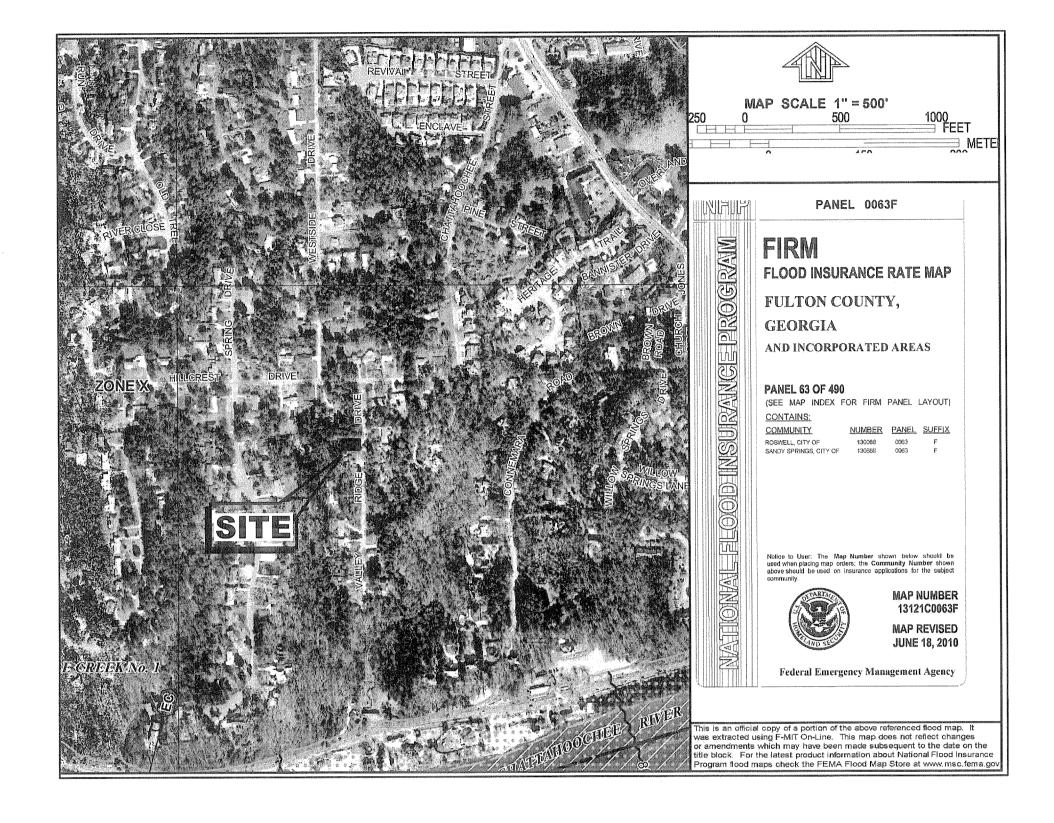
KIMBALL RESIDENCE

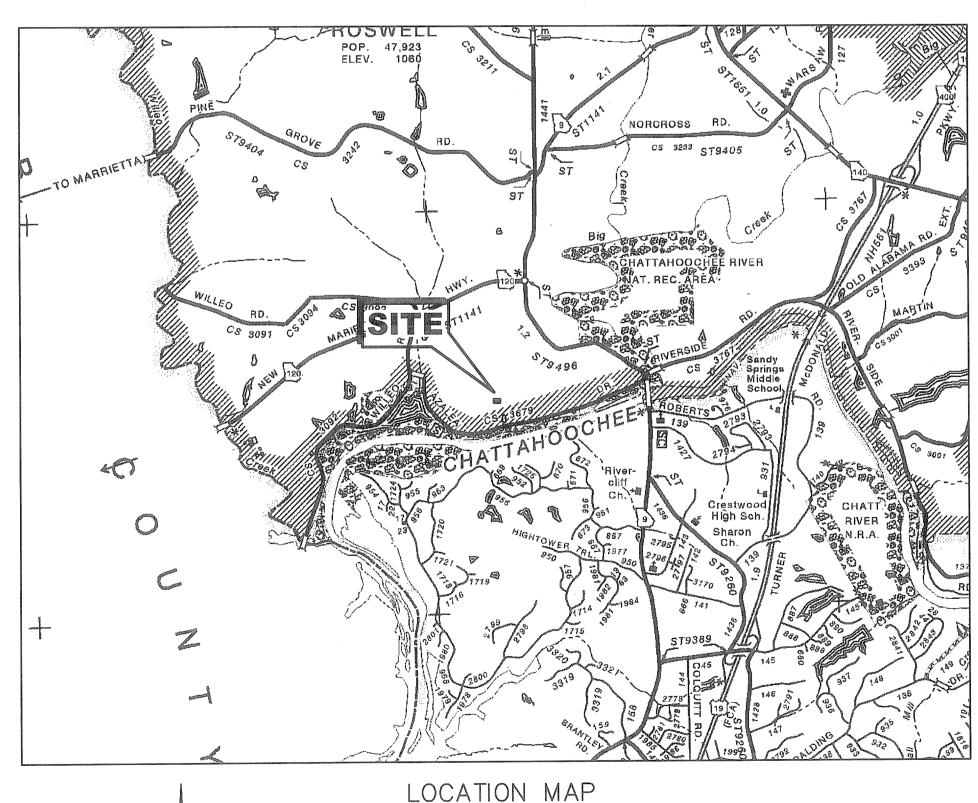
264 VALLEY RIDGE ROAD

LL 381, DISTRICT 2, SECTION 2 ROSWELL, FULTON COUNTY, GEORGIA 30075



SEPTEMBER 3, 2013
REVISION 1: 10-21-13





SCALE: 1" = 3,000' SOURCE: GDOT COUNTY MAP



PROPERTY OWNER

ADAM & JANELLE KIMBALL 274 VALLEY RIDGE DRIVE ROSWELL, GA 30075 TEL 678-352-9779

DEVELOPER

SDS ATLANTA
3581 HABERSHAM AT NORTHLAKE
TUCKER, GA 30084
CONTACT: JAKE GALLENBERGER
TEL: 678–469–6899

ENGINEER

ALEXANDER ENGINEERING, P.C.

1275 OAKDALE ROAD

ATLANTA, GA 30307-1052

CONTACT: GEORGE H. ALEXANDER, P.E.

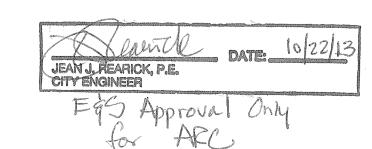
TEL: 404-371-9190

THE PERSON RESPONSIBLE FOR EROSION & SEDIMENT CONTROLS (24-HOUR CONTACT) IS:

JAKE GA;;EMBERGER

TEL: 678-469-6899

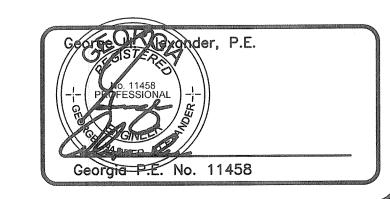
	INDEX OF DRAWINGS
1	EXISTING CONDITIONS
_ 2	SITE PLAN, EROSION & SEDIMENT CONTROL PLAN
3	DETAILS
3A	DETAILS
- 3B	DETAILS
4	TREE PROTECTION, REMOVAL, REPLACEMENT PLAN
WE SELECTION TO SELECTION OF THE SELECTI	
ALIEN PROPERTY OF THE PROPERTY	
	- 2 3 - 3A - 3B

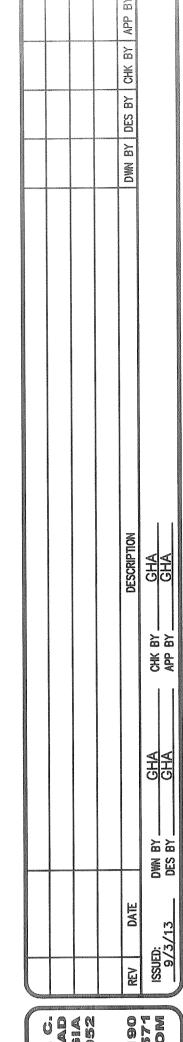


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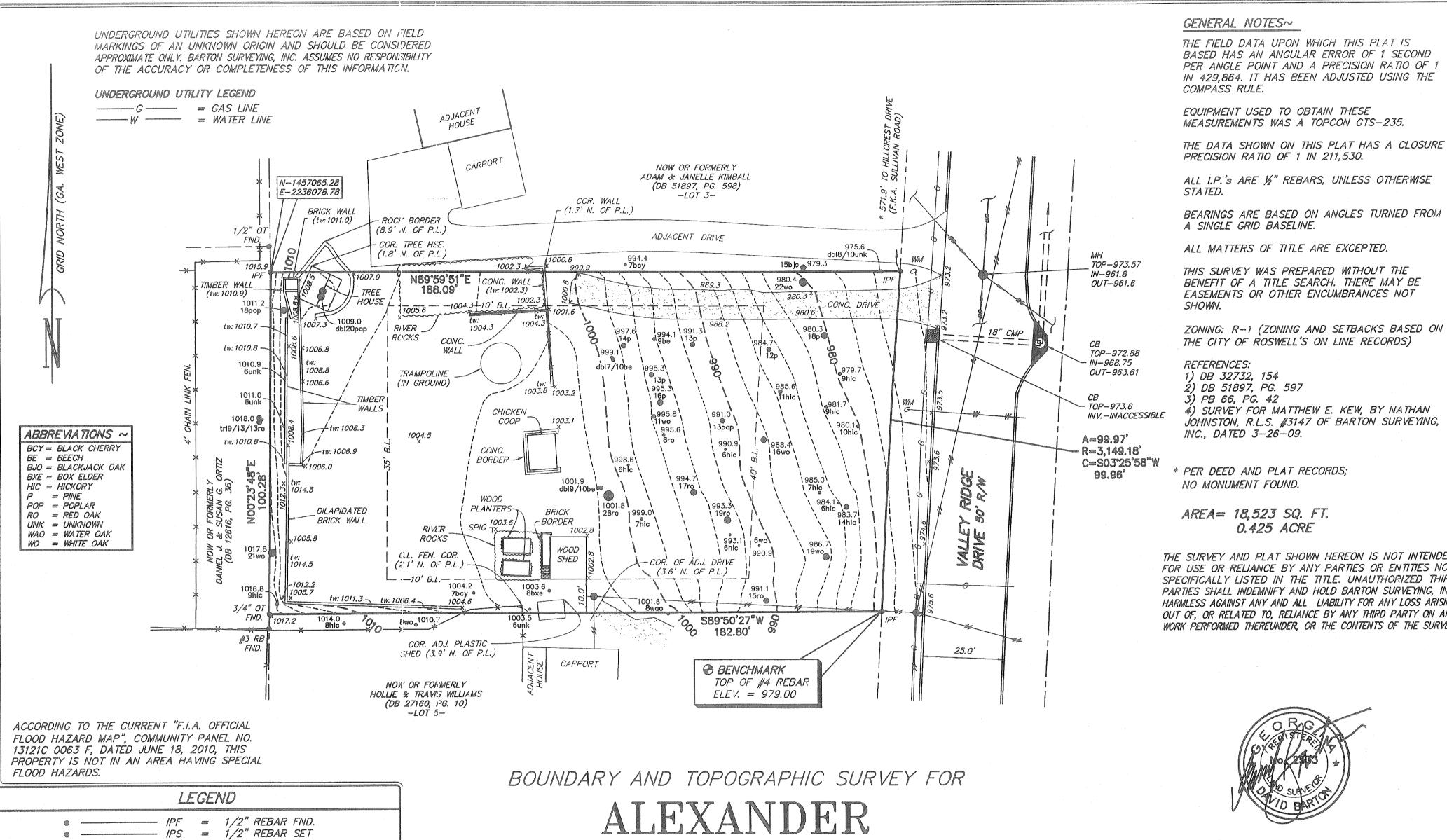
UNAUTHORIZED CHANGES, USES, AND TIME EFFECTS: These drawings are prepared specifically for the Client and project designated hereon.

ALEXANDER ENGINEERING will not be responsible or liable for unauthorized changes to or uses of these drawings. Any change to these drawings must be documented in writing and requires approval of ALEXANDER ENGINEERING. These drawings reflect the regulatory requirements in effect at the time of their issuance.









ALEXANDER ENGINEERING, P.C.

-- R.W. = RIGHT OF WAY

_____ L.L.L. = LAND LOT LINE

--- DE = DRAINAGE EASEMENT

- CT = CRIMP TOP PIPE

- OT = OPEN TOP PIPE

= DROP INLET

- SSE = SANITARY SEWER EASEMENT

- CMP = CORRUGATED METAL PIPE RCP = REINFORCED CONCRETE PIPE

JUNCTION BOX

CATCH BASIN

CMF = CONCRETE MONUMENT FND.

----- O.H. = OVERHEAD ELEC. SERVICE LINE

= FIRE HYDRANT

- E.P. = EDGE OF PAVEMENT

— ——— B.L. = BUILDING LINE

-----P------ U.G. = UNDERGROUND POWER LINE

TX = TRANSFORMER

(BEING LOT 4, BLOCK "A" OF CHEROKEE HILLS SUBDIVISION) LOCATED IN LAND LOT 381 1st DISTRICT, 2nd SECTION CITY OF ROSWELL FULTON COUNTY, GEORGIA 1"=20' JULY 22, 2013

SCALE IN FEET VERTICAL DATUM IS NAVD 88. CONTOUR INTERVAL = 2 FT.

EASEMENTS OR OTHER ENCUMBRANCES NOT ZONING: R-1 (ZONING AND SETBACKS BASED ON THE CITY OF ROSWELL'S ON LINE RECORDS)

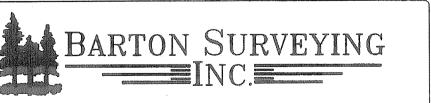
4) SURVEY FOR MATTHEW E. KEW, BY NATHAN JOHNSTON, R.L.S. #3147 OF BARTON SURVEYING,

THE SURVEY AND PLAT SHOWN HEREON IS NOT INTENDED FOR USE OR RELIANCE BY ANY PARTIES OR ENTITIES NOT SPECIFICALLY LISTED IN THE TITLE. UNAUTHORIZED THIRD PARTIES SHALL INDEMNIFY AND HOLD BARTON SURVEYING, INC. HARMLESS AGAINST ANY AND ALL LIABILITY FOR ANY LOSS ARISING OUT OF, OR RELATED TO, RELIANCE BY ANY THIRD PARTY ON ANY WORK PERFORMED THEREUNDER, OR THE CONTENTS OF THE SURVEY.

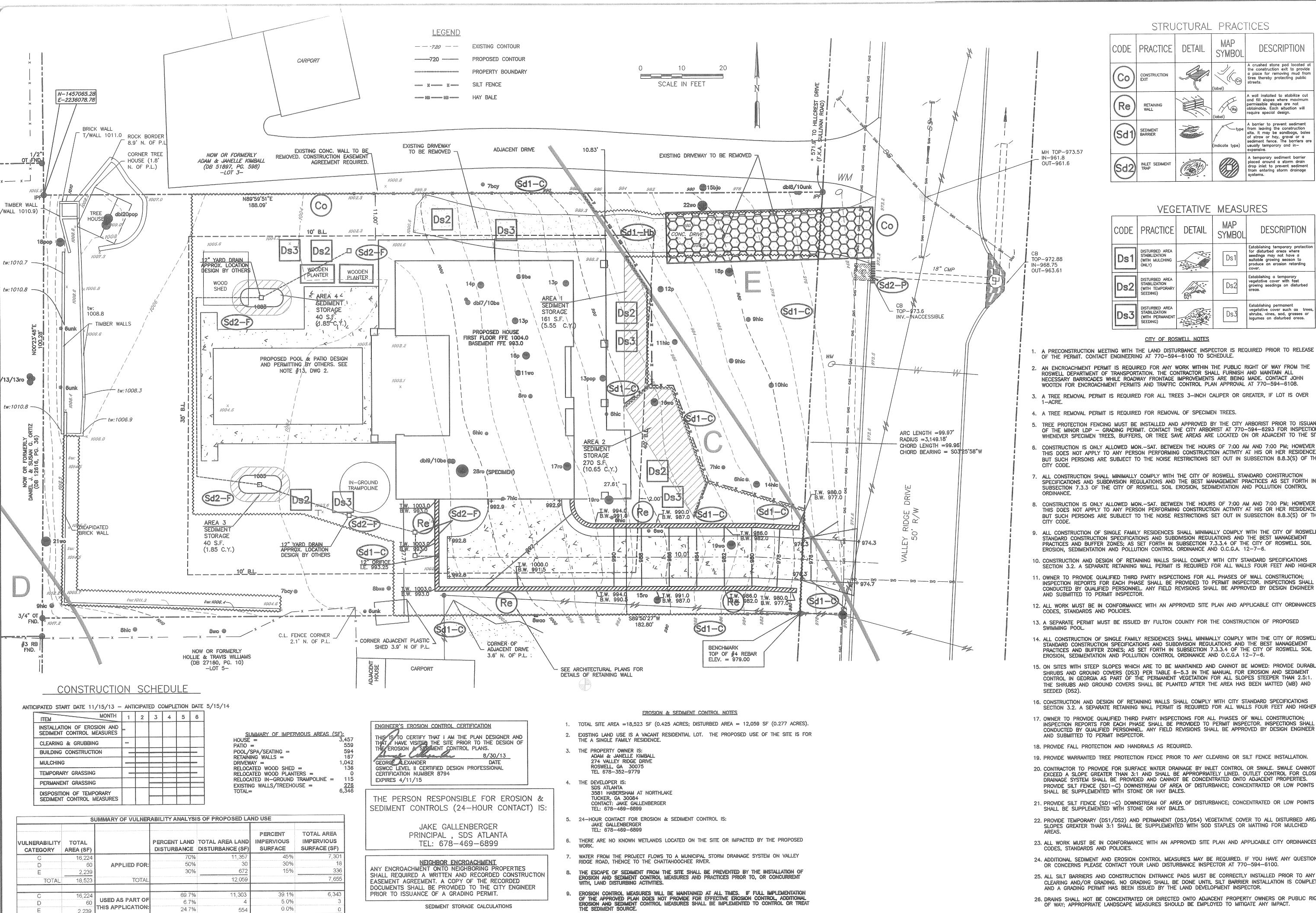
I HEREBY CERTIFY THAT THIS SURVEY WAS PREPARED IN CONFORMITY WITH THE TECHNICAL STANDARDS FOR PROPERTY SURVEYS IN GEORGIA AS SET FORTH IN CHAPTER 180-7 OF THE RULES OF THE GEORGIA BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS AND AS SET FORTH IN THE GEORGIA PLAT ACT O.C.G.A. 15-6-67.

DAVID BARTON, GA. R.L.S. No. 2533

JOB # 13-074 DRAWN BY: NJ CHECKED BY: DB FIELD DATE: 7-22-13 PLAT PREPARED: 7-26-13



1500 PALM STREET CANTON, GEORGIA 30115 (770) 345-2810



PRIOR TO ISSUANCE OF A GRADING PERMIT.

18.55 CY STORAGE REQ'D = 501 CF STORAGE REQ'D.

SEDIMENT STORAGE REQ'D:

SEDIMENT STORAGE CALCULATIONS

(67 CY/DISTURBED ACRE)(0.277 PROPOSED DISTURBED ACRES) =

SEDIMENT STORAGE PROVIDED: PROPOSED SEDIMENT STORAGE IS PROVIDED BY USE OF TYPE C SILT

FENCE. TOTAL SURFACE AREA = 431 S.F. @ 1.25' DEPTH = 539

C.F. = 19.9 C.Y. OF STORAGE. SEE STORAGE AREAS ABOVE.

10. ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED. IF YOU HAVE ANY QUESTIONS OR CONCERNS, PLEASE CONTACT YOUR LAND DISTURBANCE INSPECTOR AT

11. ALL SILT BARRIERS AND CONSTRUCTION ENTRANCE PADS MUST BE CORRECTLY INSTALLED PRIOR

TO ANY CLEARING AND/OR GRADING. NO GRADING SHALL BE DONE UNTIL SILT BARRIER

INSTALLATION IS COMPLETE AND A GRADING PERMIT HAS BEEN ISSUED BY THE LAND

DEVELOPMENT INSPECTOR.

6.343

6.346

1,309

0.0%

25.0%

15.0%

-11,303

11,861

6.7%

24.7%

43.3%

5.3%

USED AS PART OF

THIS APPLICATION

REMAINING FOR

FUTURE USE

TOTAL

TOTAL

TOTAL

18 523

18 523

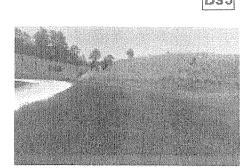
STRUCTURAL PRACTICES **SYMBO**I crushed stone pad located at the construction exit to provide a place for removing mud from tires thereby protecting public A wall installed to stabilize cut and fill slopes where maximu permissible slopes are not require special design. type from leaving the construction site. It may be sandbags, bales of straw or hay, gravel or a sediment fence. The barriers are usually temporary and in-A temporary sediment barrier placed around a storm drain drop inlet to prevent sediment

VEGETATIVE MEASURES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)		Ds1	Establishing temporary protection for disturbed areas where seedings may not have a suitable growing season to produce an erosion retarding cover.
Ds2	DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)		Ds2	Establishing a temporary vegetative cover with fast growing seedings on disturbed areas.
Ds3	DISTURBED AREA STABILIZATION (WITH PERMANENT SEEDING)		Ds3	Establishing permanent vegetative cover such as trees, shrubs, vines, sod, grasses or legumes on disturbed areas.

CITY OF ROSWELL NOTES

- 1. A PRECONSTRUCTION MEETING WITH THE LAND DISTURBANCE INSPECTOR IS REQUIRED PRIOR TO RELEASE OF THE PERMIT. CONTACT ENGINEERING AT 770-594-6100 TO SCHEDULE.
- AN ENCROACHMENT PERMIT IS REQUIRED FOR ANY WORK WITHIN THE PUBLIC RIGHT OF WAY FROM THE ROSWELL DEPARTMENT OF TRANSPORTATION. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES WHILE ROADWAY FRONTAGE IMPROVEMENTS ARE BEING MADE. CONTACT JOHN WOOTEN FOR ENCROACHMENT PERMITS AND TRAFFIC CONTROL PLAN APPROVAL AT 770-594-6108.
- 3. A TREE REMOVAL PERMIT IS REQUIRED FOR ALL TREES 3-INCH CALIPER OR GREATER, IF LOT IS OVER
- 4. A TREE REMOVAL PERMIT IS REQUIRED FOR REMOVAL OF SPECIMEN TREES.
- TREE PROTECTION FENCING MUST BE INSTALLED AND APPROVED BY THE CITY ARBORIST PRIOR TO ISSUANCE OF THE MINOR LDP - GRADING PERMIT. CONTACT THE CITY ARBORIST AT 770-594-6293 FOR INSPECTION WHENEVER SPECIMEN TREES, BUFFERS, OR TREE SAVE AREAS ARE LOCATED ON OR ADJACENT TO THE SITE.
- 6. CONSTRUCTION IS ONLY ALLOWED MON.-SAT. BETWEEN THE HOURS OF 7:00 AM AND 7:00 PM; HOWEVER THIS DOES NOT APPLY TO ANY PERSON PERFORMING CONSTRUCTION ACTIVITY AT HIS OR HER RESIDENCE, BUT SUCH PERSONS ARE SUBJECT TO THE NOISE RESTRICTIONS SET OUT IN SUBSECTION 8.8.3(S) OF THE
- ALL CONSTRUCTION SHALL MINIMALLY COMPLY WITH THE CITY OF ROSWELL STANDARD CONSTRUCTION SPECIFICATIONS AND SUBDIVISION REGULATIONS AND THE BEST MANAGEMENT PRACTICES AS SET FORTH IN SUBSECTION 7.3.3 OF THE CITY OF ROSWELL SOIL EROSION, SEDIMENTATION AND POLLUTION CONTROL
- THIS DOES NOT APPLY TO ANY PERSON PERFORMING CONSTRUCTION ACTIVITY AT HIS OR HER RESIDENCE, BUT SUCH PERSONS ARE SUBJECT TO THE NOISE RESTRICTIONS SET OUT IN SUBSECTION 8.8.3(S) OF THE CITY CODE. 9. ALL CONSTRUCTION OF SINGLE FAMILY RESIDENCES SHALL MINIMALLY COMPLY WITH THE CITY OF ROSWELL
- STANDARD CONSTRUCTION SPECIFICATIONS AND SUBDIVISION REGULATIONS AND THE BEST MANAGEMENT PRACTICES AND BUFFER ZONES; AS SET FORTH IN SUBSECTION 7.3.3.4 OF THE CITY OF ROSWELL SOIL EROSION, SEDIMENTATION AND POLLUTION CONTROL ORDINANCE AND O.C.G.A. 12-7-6.
- 10. CONSTRUCTION AND DESIGN OF RETAINING WALLS SHALL COMPLY WITH CITY STANDARD SPECIFICATIONS SECTION 3.2. A SEPARATE RETAINING WALL PERMIT IS REQUIRED FOR ALL WALLS FOUR FEET AND HIGHER.
- 11. OWNER TO PROVIDE QUALIFIED THIRD PARTY INSPECTIONS FOR ALL PHASES OF WALL CONSTRUCTION; INSPECTION REPORTS FOR EACH PHASE SHALL BE PROVIDED TO PERMIT INSPECTOR. INSPECTIONS SHALL BE CONDUCTED BY QUALIFIED PERSONNEL. ANY FIELD REVISIONS SHALL BE APPROVED BY DESIGN ENGINEER AND SUBMITTED TO PERMIT INSPECTOR.
- 12. ALL WORK MUST BE IN CONFORMANCE WITH AN APPROVED SITE PLAN AND APPLICABLE CITY ORDINANCES, CODES, STANDARDS AND POLICIES.
- 13. A SEPARATE PERMIT MUST BE ISSUED BY FULTON COUNTY FOR THE CONSTRUCTION OF PROPOSED
- 14. ALL CONSTRUCTION OF SINGLE FAMILY RESIDENCES SHALL MINIMALLY COMPLY WITH THE CITY OF ROSWELL STANDARD CONSTRUCTION SPECIFICATIONS AND SUBDIVISION REGULATIONS AND THE BEST MANAGEMENT PRACTICES AND BUFFER ZONES; AS SET FORTH IN SUBSECTION 7.3.3.4 OF THE CITY OF ROSWELL SOIL EROSION, SEDIMENTATION AND POLLUTION CONTROL ORDINANCE AND O.C.G.A 12-7-6.
- 15. ON SITES WITH STEEP SLOPES WHICH ARE TO BE MAINTAINED AND CANNOT BE MOWED: PROVIDE DURABLE SHRUBS AND GROUND COVERS (DS3) PER TABLE 6-5.3 IN THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA AS PART OF THE PERMANENT VEGETATION FOR ALL SLOPES STEEPER THAN 2.5:1. THE SHRUBS AND GROUND COVERS SHALL BE PLANTED AFTER THE AREA HAS BEEN MATTED (MB) AND
- 16. CONSTRUCTION AND DESIGN OF RETAINING WALLS SHALL COMPLY WITH CITY STANDARD SPECIFICATIONS SECTION 3.2. A SEPARATE RETAINING WALL PERMIT IS REQUIRED FOR ALL WALLS FOUR FEET AND HIGHER.
- 17. OWNER TO PROVIDE QUALIFIED THIRD PARTY INSPECTIONS FOR ALL PHASES OF WALL CONSTRUCTION; INSPECTION REPORTS FOR EACH PHASE SHALL BE PROVIDED TO PERMIT INSPECTOR. INSPECTIONS SHALL BE CONDUCTED BY QUALIFIED PERSONNEL. ANY FIELD REVISIONS SHALL BE APPROVED BY DESIGN ENGINEER AND SUBMITTED TO PERMIT INSPECTOR.
- 18. PROVIDE FALL PROTECTION AND HANDRAILS AS REQUIRED.
- 19. PROVIDE WARRANTED TREE PROTECTION FENCE PRIOR TO ANY CLEARING OR SILT FENCE INSTALLATION.
- 20. CONTRACTOR TO PROVIDE FOR SURFACE WATER DRAINAGE BY INLET CONTROL OR SWALE. SWALE CANNOT EXCEED A SLOPE GREATER THAN 3:1 AND SHALL BE APPROPRIATELY LINED. OUTLET CONTROL FOR CLOSED DRAINAGE SYSTEM SHALL BE PROVIDED AND CANNOT BE CONCENTRATED ONTO ADJACENT PROPERTIES. PROVIDE SILT FENCE (SD1-C) DOWNSTREAM OF AREA OF DISTURBANCE; CONCENTRATED OR LOW POINTS SHALL BE SUPPLEMENTED WITH STONE OR HAY BALES.
- 21. PROVIDE SILT FENCE (SD1-C) DOWNSTREAM OF AREA OF DISTURBANCE; CONCENTRATED OR LOW POINTS SHALL BE SUPPLEMENTED WITH STONE OR HAY BALES.
- 22. PROVIDE TEMPORARY (DS1/DS2) AND PERMANENT (DS3/DS4) VEGETATIVE COVER TO ALL DISTURBED AREAS. SLOPES GREATER THAN 3:1 SHALL BE SUPPLEMENTED WITH SOD STAPLES OR MATTING FOR MULCHED
- 23. ALL WORK MUST BE IN CONFORMANCE WITH AN APPROVED SITE PLAN AND APPLICABLE CITY ORDINANCES, CODES, STANDARDS AND POLICIES.
- 24. ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED. IF YOU HAVE ANY QUESTIONS OR CONCERNS PLEASE CONTACT YOUR LAND DISTURBANCE INSPECTOR AT 770-594-6100.
- 25. ALL SILT BARRIERS AND CONSTRUCTION ENTRANCE PADS MUST BE CORRECTLY INSTALLED PRIOR TO ANY CLEARING AND/OR GRADING. NO GRADING SHALL BE DONE UNTIL SILT BARRIER INSTALLATION IS COMPLETE. AND A GRADING PERMIT HAS BEEN ISSUED BY THE LAND DEVELOPMENT INSPECTOR.
- 26. DRAINS SHALL NOT BE CONCENTRATED OR DIRECTED ONTO ADJACENT PROPERTY OWNERS OR PUBLIC RIGHT OF WAY; APPROPRIATE LANDSCAPE MEASURES SHOULD BE EMPLOYED TO MITIGATE ANY IMPACT.
- 27. PROVIDE INLET SEDIMENT TRAP FOR YARD INLETS (SD2); PROTECT ANY ROADWAY INLETS AS WARRANTED.
- 28. CONTRACTOR MUST NOTIFY LAND DEVELOPMENT INSPECTOR (770-594-6100) TWENTY-FOUR (24) HOURS PRIOR TO BEGINNING CONSTRUCTION AND AT THE BEGINNING OF EACH NEW PHASE OR STARTING BACK UP AFTER A LULL IN ACTIVITY OF MORE THAN 14 DAYS.
- 29. PROVIDE CONSTRUCTION EXIT (CO) ALONG WITH AN APPROPRIATE ROUTE FOR RUNOFF.



DEFINITION

The planting of perennial vegetation such as trees, shrubs, vines, grasses, or legumes on exposed areas for final permanent stabilization. Permanent perennial vegetation shall be used to achieve final stabilization.

- To protect the soil surface from erosion

- To reduce damage from sediment and runoff to down-stream areas

- To improve wildlife habitat and visual resources

- To improve aesthetics REQUIREMENT FOR REGULATORY COMPLIANCE

This practice shall be applied immediately to rough graded areas that will be undisturbed for longer than six months. This practice or sodding shall be applied immediately to all areas at final grade Final Stabilization means that all soil disturbing activities at the site have been completed, and that for unpaved areas and areas not covered by permanent structures, at least 70% of the soil surface is uniformly covered in permanent vegetation or equivalent permanent stabilization measures (such as the use of rip rap, gabions, permanent mulches or geotextiles) have been employed. Permanent vegetation shall consist of planted trees, shrubs, perennial vines; a crop of perennial vegetation appropriate for the region, such that within the growing season a 70% coverage by perennial vegetation shall be achieved. Final stabilization applies to each phase of construction. For linear construction projects on land used for agricultural or silvicultural purposes, final sta-

4. Block sod provides immediate cover. It is especially effective in controlling erosion adjacent to concrete flumes and other structures. Refer to Specification Ds4-Disturbed Area Stabilization (With Sodding)

of rye is an excellent procedure.

bilization may be accomplished by stabilizing the dis-

turbed land for its agricultural or silvicultural use. Until

this standard is satisfied and permanent control mea-

sures and facilities are operational, interim stabilization

measures and temporary erosion and sedimentation

Permanent perennial vegetation is used to provide a

protective cover for exposed areas including cuts, fills,

1. Use conventional planting methods where pos-

When mixed plantings are done during mar-

3. No-till planting is effective when planting is done

following a summer or winter annual cover crop

Sericea lespedeza planted no-till into stands

ginal planting periods, companion crops shall

control measures shall not be removed.

dams, and other denuded areas.

PLANNING CONSIDERATIONS

CONDITIONS

5. Irrigation should be used when the soil is dry or when summer plantings are done. Low maintenance plants, as well as natives,

should be used to ensure long-lasting erosion 7. Mowing should not be performed during the

quall nesting season (May to September). 8. Wildlife plantings should be included in critical area plantings

Wildlife Plantings Commercially available plants beneficial to wildlife

species include the following: Beech, Black Cherry, Blackgum, Chestnut, Chinkapin, Hackberry, Hickory, Honey Locust, Native

Oak, Persimmon, Sawtooth Oak and Sweetgum. All trees that produce nuts or fruits are favored by many game species. Hickory provides nuts used mainly

6-41

Shrubs and Small Trees Bayberry, Bicolor Lespedeza, Crabapple, Dogwood,

seeds used by quail and songbirds.

Native grapes.

Grading and Shaping

tenance of the vegetation.

ment of Agriculture.

6-42

Huckleberry or Native Blueberry, Mountain Laurel, Native Holly, Red Cedar, Red Mulberry, Sumac, Wax Myrtle, Wild Plum and Blackberry. Plant in patches without tall trees to develop stable shrub communities. All produce fruits used by many

kinds of wildlife, except for lespedeza which produces

Partridge Pea, Annual Lespedeza, Orchardgrass (for

Provides herbaceous cover in clearings for a game

bird brood-rearing habitat. Appropriate legumes such

Grading and shaping may not be required where hy-

draulic seeding and fertilizing equipment is to be used.

Vertical banks shall be sloped to enable plant estab-

done, grade and shape where feasible and practical, so

that equipment can be used safely and efficiently dur-

ing seedbed preparation, seeding, mulching and main-

Concentrations of water that will cause excessive soil

erosion shall be diverted to a safe outlet. Diversions

and other treatment practices shall conform with the

Agricultural lime is required at the rate of one to two

Graded areas require lime application. If lime is applied

tons per acre unless soil tests indicate otherwise.

within six months of planting permanent perennial veg

shall be within the specifications of the Georgia Depart

etation, additional lime is not required. Agricultural lime

Lime spread by conventional equipment shall be

ground limestone." Ground limestone is calcitic or do-

Iomitic limestone ground so that 90 percent of the ma-

appropriate standards and specifications.

Lime and Fertilizer Rates and Analysis

When conventional seeding and fertilizing are to be

as vetches, clovers, and lespedezas may be mixed with

grass, but they may die out after a few years.

CONSTRUCTION SPECIFICATIONS

Grasses, Legumes, Vines and Temporary Cover

It is desirable to use dolomitic limestone in the Sand Hills, Southern Coastal Plain and Atlantic Coast Flatwoods MLRAs. (See Figure 6-4.1) Bahiagrass, Bermudagrass, Grass-Legume mixtures

Lime and Fertilizer Application

through a 100-mesh sieve.

Agricultural lime is generally not required where only mountains), Browntop Millet (for temporary cover), and

terial will pass through a 10-mesh sieve, not less than

mesh sieve and not less than 70 percent will pass

trees are planted.

Initial fertilization, nitrogen, topdressing, and maintenance fertilizer requirements for each species or combination of species are listed in Table 6-5.1.

When hydraulic seeding equipment is used, the initial fertilizer shall be mixed with seed, innoculant (if needed), and wood cellulose or wood pulp fiber mulch and applied in a slurry. The innoculant, if needed, shall be mixed with the seed prior to being placed into the hydraulic seeder. The slurry mixture will be agitated during application to keep the ingredients thoroughly mixed. The mixture will be spread uniformly over the area within one hour after being placed in the

Finely ground limestone will be mixed with water and applied immediately after mulching is completed or in combination with the top dressing.

When conventional planting is to be done, time and

fertilizer shall be applied uniformly in one of the follow

. Apply before land preparation so that it will be mixed with the soil during seedbed prepara-

2. Mix with the soil used to fill the holes, distribute in furrows. 3. Broadcast after steep surfaces are scarified,

pitted or trenched.

4. A fertilizer pellet shall be placed at root depth in the closing hole beside each pine tree seed-

GaSWCC (Amended - 2000)

The percent of PLS helps you determine the amount of seed you need. If the seeding rate is 10 pounds PLS and the bulk seed is 56 % PLS, the bulk seeding rate is:

50 percent will pass through a 50-mesh sieve and not Refer to Tables 6-4.1, 6-5.2, 6-5.3 and 6-5.4 for apless than 25 percent will pass through a 100-mesh sieve. proved species. Species not listed shall be approved by the State Resource Conservationist of the Natural Re-10 lbs. PLS/acre = 17.9 lbs/acre Agricultural lime spread by hydraulic seeding equipsources Conservation Service before they are used. ment shall be "finely ground limestone." Finely ground limestone is calcitic or dolomitic limestone ground so Plants shall be selected on the basis of species char-You would need to plant 17.9 lbs/acre to provide 10 that 98 percent of the material will pass through a 20acteristics, site and soil conditions, planned use and

maintenance of the area; time of year of planting, method

of planting; and the needs and desires of the land user. Some perennial species are easily established and can be planted alone. Examples of these are Common Bermuda, Tall Fescue, and Weeping Lovegrass. Other perennials, such as Bahia Grass and Sericea preparation will be done as follows: Lespedeza, are slow to become established and should be planted with another perennial species. The addi-

Seedbed preparation may not be required where hydraulic seeding and fertilizing equipment is to be used. When conventional seeding is to be used, seedbed tional species will provide quick cover and ample soil protection until the target perennial species become Tillage at a minimum, shall adequately loosen established. For example, Common seeding combinathe soil to a depth of 4 to 6 inches; alleviate

Individual Plants

4. On slopes too steep for the safe operation of

tillage equipment, the soil surface shall be pit-

ted or trenched across the slope with appro-

. Where individual plants are to be set, the soil

shall be prepared by excavating holes, open-

For nursery stock plants, holes shall be large.

enough to accommodate roots without crowd-

3. Where pine seedlings are to be planted, sub-

soil under the row 36 inches deep on the con-

Subsoiling should be done when the soil is dry,

tour four to six months prior to planting.

preferably in August or September.

ing furrows, or dibble planting.

lbs/acre of pure live seed.

tions are 1) Weeping Lovegrass with Sericea Lespecompaction; incorporate lime and fertilizer; deza (scarified) and 2) Tall Fescue with Sericea Lespesmooth and firm the soil; allow for the proper deza (unscarified). placement of seed, sprigs, or plants; and allow for the anchoring of straw or hay mulch if a disk Plant selection may also include annual companion crops. Annual companion crops should be used only when the perennial species are not planted during their 2. Tillage may be done with any suitable equipoptimum planting period. A common mixture is Brown Top Millet with Common Bermuda in mid-summer. Care should be taken in selecting companion crop species 3. Tillage should be done on the contour where and seeding rates because annual crops will compete

space. A high seeding rate of the companion crop may prevent the establishment of perennial species. Ryegrass shall not be used in any seeding mixtures containing perennial species due to its ability to out-compete desired species chosen for perma-

with perennial species for water, nutrients, and growing

Seed Quality The term "pure live seed" is used to express the quality of seed and is not shown on the label. Pure live seed, PLS, is expressed as a percentage of the seeds that are pure and will germinate. Information on percent ger mination and purity can be found on seed tags. PLS is determined by multiplying the percent of pure seed with the percent of germination; i.e.,

(PLS = % germination x % purity) EXAMPLE:

70% germination, 80% purity

PLS = 70% germination x 80% purity PLS = 56%

Common bermuda seed

GaSWCC (Amended - 2000)

All legume seed shall be inoculated with appropriate nitrogen-fixing bacteria. The innoculant shall be a pure culture prepared specifically for the seed species and

placed in the bottom of the hole, two inches of soil shall be added and the plant shall be set in the hole. used within the dates on the container. A mixing medium recommended by the manufacturer shall be used to bond the innoculant to the seed. For conventional seeding, use twice the amount of innoculant recommended by the manufacturer. For hycations. Mulch applied to seeded areas shall achieve 75% soil cover. Select the mulching material from the draulic seeding, four times the amount of innoculant

recommended by the manufacturer shall be used. All inoculated seed shall be protected from the sun and high temperatures and shall be planted the same day inoculated. No inoculated seed shall remain in the hydroseeder longer than one hour.

Mix the seed (innoculated if needed), fertilizer, and wood cellulose or wood pulp fiber mulch with water and apply in a slurry uniformly over the area to be treated. Apply within one hour after the mixture is made. Conventional Seeding

Seeding will be done on a freshly prepared and firmed seedbed. For broadcast planting, use a culti-packerseeder, drill, rotary seeder, other mechanical seeder, or hand seeding to distribute the seed uniformly over the area to be treated. Cover the seed lightly with 1/8 to 1/4 inch of soil for small seed and 1/2 to 1 inch for large

priate hand tools to provide two places 6 to 8 No-Till Seeding inches apart in which seed may lodge and germinate. Hydraulic seeding may also be used.

No-till seeding is permissible into annual cover crops when planting is done following maturity of the cover crop or if the temporary cover stand is sparse enough to allow adequate growth of the permanent (perennial) species. No-till seeding shall be done with appropriate no-till seeding equipment. The seed must be uniformly distributed and planted at the proper depth.

seed when using a cultipacker or other suitable equip-

Shrubs, vines and sprigs may be planted with appropriate planters or hand tools. Pine trees shall be planted manually in the subsoil furrow. Each plant shall be set in a manner that will avoid crowding the roots. Nursery stock plants shall be planted at the same

depth or slightly deeper than they grew at the nursery.

GaSWCC (Amended - 2000)

The tips of vines and sprigs must be at or slightly above

Where individual holes are dug, fertilizer shall be

Mulch is required for all permanent vegetation appli-

1. Dry straw or dry hay of good quality and free

of weed seeds can be used. Dry straw shall be

applied at the rate of 2 tons per acre. Dry hay

shall be applied at a rate of 2 1/2 tons per acre.

be used with hydraulic seeding, It shall be ap-

plied at the rate of 500 pounds per acre. Dry

straw or dry hay shall be applied (at the rate

wood pulp fiber, which includes a tackifier, shall

be used with hydraulic seeding on slopes

. Sericea lespedeza hay containing mature seed

shall be applied at a rate of three tons per acre.

. Pine straw or pine bark shall be applied at a

thickness of 3 inches for bedding purposes.

Other suitable materials in sufficient quantity

may be used where ornamentals or other

ground covers are planted. This is not appro-

. When using temporary erosion control blankets

Bituminous treated roving may be applied on

planted areas on slopes, in ditches or dry wa-

terways to prevent erosion. Bituminous treated

roving shall be applied within 24 hours after an

area has been planted. Application rates and

Wood cellulose and wood pulp fibers shall not con-

tain germination or growth inhibiting factors. They shall

be evenly dispersed when agitated in water. The fibers

shall contain a dye to allow visual metering and aid in

uniform application during seeding.

materials must meet Georgia Department of

or block sod, mulch is not required.

priate for seeded areas.

2. Wood cellulose mulch or wood pulp fiber shall

indicated above) after hydraulic seeding.

3. One thousand pounds of wood cellulose or

the ground surface.

following and apply as indicated:

Applying Mulch

Straw or hay mulch will be spread uniformly within 24 hours after seeding and/or planting. The mulch may be spread by blower-type spreading equipment, other spreading equipment or by hand. Mulch shall be applied to cover 75% of the soil surface.

Wood cellulose or wood fiber mulch shall be applied uniformly with hydraulic seeding equipment.

Anchoring Mulch

Anchor straw or hav mulch immediately after application by one of the following methods:

1. Emulsified asphalt can be (a) sprayed uniformly onto the mulch as it is ejected from the blower machine or (b) sprayed on the mulch immediately following mulch application when straw

or hav is spread by methods other than spe-

cial blower equipment. The combination of asphalt emulsion and water shall consist of a homogeneous mixture satisfactory for spraying. The mixture shall consist of 100 gallons of grade SS-1h or CSS-1h emulsified asphalt and 100 gallons of water per ton of mulch.

Care shall be taken at all times to protect state waters, the public, adjacent property, pavements, curbs, sidewalks, and all other structures from asphalt discoloration.

2. Hay and straw mulch shall be pressed into the soil immediately after the mulch is spread. A special "packer disk" or disk harrow with the disks set straight may be used. The disks may be smooth or serrated and should be 20 inches or more in diameter and 8 to 12 inches apart. The edges of the disks shall be dull enough to press the mulch into the ground without cutting it, leaving much of it in an erect position. Mulch shall not be plowed into the soil.

3. Synthetic tackifiers or binders approved by GDOT shall be applied in conjunction with or immediately after the mulch is spread. Synthetic tackifiers shall be mixed and applied according to manufacturer's specifications. Refer to Th - Tackifiers and Binders. 4. Rye or wheat can be included with Fall and

half bushel per acre.

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5. Plastic mesh or netting with mesh no larger than one inch by one inch may be needed to anchor straw or hay mulch on unstable soils and concentrated flow areas. These materials shall be installed and anchored according to

Mulch is used as a bedding material to conserve

manufacturer's specifications. Bedding Material

moisture and control weeds in nurseries, ornamental beds, around shrubs, and on bare areas on lawns. Material Grain straw

are listed in Table 6-5.1.

Grass Hay Pine needles 3" to 5" Wood waste 4" to 6"

Irrigation will be applied at a rate that will not cause

Topdressing will be applied on all temporary and permanent (perennial) species planted alone or in mixtures with other species. Recommended rates of application

Second Year and Maintenance Fertilization Second year fertilizer rates and maintenance fertil-

izer rates are listed in Table 6-5.1. Lime Maintenance Application

Apply one ton of agricultural lime every 4 to 6 years or as indicated by soil tests. Soil tests can be conducted to determine more accurate requirements if desired.

Use and Management Mow Sericea lespedeza only after frost to ensure that the seeds are mature. Mow between November and

Bermudagrass, Bahiagrass and Tall Fescue may be mowed as desired. Maintain at least 6 inches of top growth under any use and management. Moderate use

Exclude traffic until the plants are well established. Winter plantings to stabilize the mulch. They Because of the quail nesting season, moving should not take place between May and September. shall be applied at a rate of one-quarter to one-

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of top growth is beneficial after establishment.

Table 6-5.1. Fertilizer Requirements

TYPE OF SPECIES	YEAR	ANALYSIS OR EQUIVALENT N-P-K	RATE	N TOP DRESSING RATE
Cool season grasses	First Second Maintenance	6-12-12 6-12-12 10-10-10	1500 lbs./ac. 1000 lbs./ac. 400 lbs./ac.	50-100 lbs./ac. 1
Cool season grasses and legumes	First Second Maintenance	6-12-12 0-10-10 0-10-10	1500 lbs./ac. 1000 lbs./ac. 400 lbs./ac.	0-50 lbs./ac. 1/
3. Ground covers	First Second Maintenance	10-10-10 10-10-10 10-10-10	1300 lbs./ac. 3/ 1300 lbs./ac. 3/ 1100 lbs./ac.	
4. Pine seedlings	First	20-10-5	one 21-gram pellet per seedling placed in the closing hole	
5. Shrub Lespedeza	First Maintenance	0-10-10 0-10-10	700 lbs./ac. 700 lbs./ac. 4/	Mathematical
Temporary cover crops seeded alone	First	10-10-10	500 lbs./ac.	30 lbs./ac. 5/
7. Warm season grasses	First Second Maintenance	6-12-12 6-12-12 10-10-10	1500 lbs./ac. 800 lbs./ac. 400 lbs./ac.	50-100 lbs./ac. 2 50-100 lbs./ac. 2 30 lbs./ac.
Warm season grasses and legumes	First Second Maintenance	6-12-12 0-10-10 0-10-10	1500 lbs./ac. 1000 lbs./ac. 400 lbs./ac.	50 lbs./ac./6/

1/ Apply in spring following seeding. 2/ Apply in split applications when high rates are used.

Apply in 3 split applications. 4/ Apply when plants are pruned.

5/ Apply to grass species only. 6/ Apply when plants grow to a height of 2 to 4 inches. Table 6-5.2 - Permanent Cover

Species		dcast 1/ - PLS 2/ Per 1000 sq. ft.	Resource Area 3/	(S	iolid otted	ng D line Hine largi	s ind	<u>l</u> dicat dica	Plan e op te pe	ting timu	Dat um c	<u>es</u> date				<u>Remarks</u>
				J	F	М	А	М	J	J	Α	S	0	N	D	
BAHIA, PENSACOLA (Paspalum notatum)			P C	.,												166,000 seed per pund. Low growing. Sod forming. Slow to establish. Plant with a
alone or with temporary cover	60 lbs.	1.4 lb.														companion crop. Will spread into bermuda pastures and lawns. Mix with Sericea
with other perennials	30 lbs.	0.7 lb.		J	F	М	Α	М	J	J	Α	s	0	N	D	lespedeza or weeping lovegra
BAHIA, WILMINGTON (Paspalum notatum)			M-L P													
alone or with temporary cover	60 lbs.	1.4 lb.														Same as above.
with other perennials	30 lbs.	0.7 lb.		J	F	M	А	М	J	J	А	S	0	N	D	
BERMUDA, COMMON (Cynodon dactylon) Hulled seed			P C													1,787,000 seed per pound. Quick cover. Low growing
alone	10 lbs.	0.2 lb.														and sod forming. Full sun. Good for athletic fields.
with other perennials	6 lbs.	0.1 lb.										-				GOOD OF BUINDING HOLDS.

	PLANT		e 6-5.2 - Perman ATES, AND PLAN							MAN	IEN	T C	DVI	ER	man - Milandan	
<u>Species</u>		dcast 1/ - PLS 2/ Per 1000 sq.ft.	Resource Planting Dates by Resource Areas Area 3/ Planting Dates (Solid lines indicate optimum dates, dotted lines indicate permissible but marginal dates.)							<u>Remarks</u>						
Al-				J	F	М	Α	М	J	J	А	S	0	Ν	D	
BERMUDA, COMMON (Cynodon dactylon) Unhulled seed			P C													
with temporary cover	10 lbs.	0.2 lb.														Plant with winter annuals.
with other perennials	6 lbs.	0.1 lb.		j	F	М	А	М	J	j	А	S	0	N	D	Plant with tall fescue.
BERMUDA SPRIGS (Cynodon dactylon) Coastal, Common, Midland, or Tift 44	40 cu. ft. a sod plug		M-L	- The second of												A cubic foot contains approximately 650 sprigs. A bushel contains 1.25 cubic feet or approximately 800 sprigs.
Coastal, Common,			Р				_			,						Same as above.
or Tift 44			С	ļ												
Tift 78			С] J	F		Α	М	 J	 J	Α	S	0	 N	D	Southern Coastal Plain only.
CENTIPEDE (Eremochloa ophiuroides)	Block so	od only	P C													Drought tolerant. Full sun or partial shade. Effective adjacent to concrete and in concentrated flow areas. Irrigation is needed until fully established. Do not plant near pastures. Winterhardy as far north as Athens and Atlanta.

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GaSWCC (Amended - 2000)		dcast 1/ - PLS 2/ Per 1000 sq.ft.	Resource <u>Area 3/</u>	(S	olid ottec	ng C line d line nargi	s inc	E dicat dica	Plan e op te pe	ting timu	<u>Dat</u> ım c	<u>es</u> late				<u>Remarks</u>
				J	F	М	А	М	J	J	Α	S	0	Ν	D	
CROWNVETECH (Coronilla varia) with winter annuals or cool season grasses	15 lbs.	0.3 lb.	M-L P	C	F	M	А	M	· · · · ·	J	Α	S	0	Z	D	100,000 seed per pound. Den growth. Drought tolerant and fire resistant. Attractive rose, pink, and white blossoms sprit to late fall. Mix with 30 pounds of Tall fescue or 15 pounds of rye. Inoculate seed with M inoculant. Use from North Atlanta and Northward.
FESCUE, TALL (Festuca arundinacea)																227,000 seed per pound. Use alone only on better sites. Not for droughty soils. Mix with
alone	50 lbs.	1.1 lbs.	M-L P				\vdash									perennial lespedezas or crownvetch. Apply topdressing
with other perennials	30 lbs.	0.7 lb.		-	F	М	A	M	J	J	A	s	0	N	D	in spring following fall plantings. Not for heavy use areas or athletic fields.
KUDZU (Pueraria thumbergiana)																Rapid and vigorous growth.
plants or crowns	3' - 7'	apart	ALL			 										Excellent in gully erosion control. Will climb. Good livestock forage.

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<u>Species</u>		dcast 1/ - PLS 2/ Per 1000 sq.ft.	Resource <u>Area 3/</u>	(Sa	olid tted	ng Da lines line: argir	inc s inc	E licate dicat	Plan e op te p	ting otimu	Dat um i	t <u>es</u> date				Remarks
LESPEDEZA, SERICEA				J	F	М	Α	М	J	J	А	S	0	N	D	
(Lespedeza cuneata) scarițied	60 lbs.	1.4 lbs.	M-L P C													350,000 seed per pound. Widely adapted. Low maintenance. Mix with weeping lovegrass, common bermuda, bahia, or tall fescul Takes 2 to 3 years to become fully established. Excellent or roadbanks. Inoculate seed w EL inoculant.
unscarified	75 lbs.	1.7 lb.	M-L P C													Mix with Tall fescue or winter annuals.
seed-bearing hay	3 tons	138lb.	M-L P C													Cut when seed is mature, bu before it shatters. Add Tall fescue or winter annuals.

	PLANT	,	e 6-5.2 - Perman ATES, AND PLAN							MAN	IEN	ТC	OVI	ΞR		
<u>Species</u>		dcast 1/- PLS 2/ Per 1000 sq. ft.	Resource <u>Area 3</u> /	(S	Solid otted	line Lline	ates s ind s ind nal c	E licati dicat	Plani e op e pe	ting timu	Date im c ssib	es late le	S,	N	D	Remarks
LESPEDEZA Ambro virgata (Lespedeza virgata DC) or Appalow (Lespedeza cuneata Dumont] G. Don) scarified	60 lbs.	1.4 lb.	M-L P													300,000 seed per pound. Height of growth is 18 to 24 inches. Advantageous in urban areas. Spreading-type growth has bronze coloration. Mix with Weeping lovegrass, Common bermuda, bahia, tall fescue or winter annuals. Do not mix with Sericea lespedaza. Slow to
unscarified	75 lbs.	1.7 lb.	M-L P C	J	F	М	A	M	J	J	 A	S	0	N	D	develop solid stands. Inoculate seed with EL inoculate.
ESPEDEZA, SHRUB Lespedeza bicolor) Lespedeza thumbergii) plants	3'x	31	M-L P C											Anna		Provide wildlife food and cover.
LOVEGRASS, WEEPING (Eragrostis curvula)	4 lbs.	0.1 lb.	M-L P	J	F	M	A	M	J	J	А	S	0	N	D	1,500,000 seed per pound. Quick cover. Drought tolerant. Grows well with Sericea
with other perennials	2 lbs.	0.05 lb.	С			-										lespedeza on roadbanks.

Species		idcast 1/- PLS 2/ Per 1000 sq.ft.	Resource <u>Area 3/</u>	Solid	line Lline	s inc	s by F dicat dica date	Plan e op te pe	ting timu	Date ım d	e <u>s</u> ates				Remarks	
				J	F	М	Α	М	J	J	А	S	0	Ν	D	
MAIDENCANE (Panicum hemitomon) sprigs	2' x 3' s	pacing	ALL	J	F	М	 A	M	J	J	A	s	0	N	D	For very wet sites. May clog channels. Dig sprigs from local sources. Use along river banks and shorelines.
PANICGRASS, ATLANTIC COASTAL (Panicum amarum var. amarulum)	20 lbs.	0.5 lb.	P C	j	F	М	A	M	J	<u></u>	А	S	0	N	D	Grows well on coastal sand dunes, borrow areas, and gravel pits. Provides winter cover for wildlife. Mix with Sericea lespedeza except on sand dunes.
REED CANARY GRASS (Phalaris arundinacea)																
alone	50 lbs.	1.1 lb.	M-L P			-						1				Grows similar to tall fescue.
with other perennials	30 lbs.	0.7 lb.		J	F	М	A	М	J	J	Α	S	0	Ν	D	
SUNFLOWER, 'AZTEC' MAXIMILLIAM (Helianthus maximiliani)	10 lbs.	0.2 lb	M-L P C													227,000 seed per pound. Mix with weeping lovegrass or other low-growing grasses or legumes.

C represents the Southern Coastal Plain; Sand Hills; Black Lands; and Atlantic Coast Flatwoods MLRAs.

exposed soil surfaces. CONDITIONS METHOD AND MATERIALS

A. TEMPORARY METHODS

manufacturer's recommendations. Venetative Cover. See standard Ds2 - Disturbed

Spray-on Adhesives. These are used on mineral

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Dust Control on

Disturbed Areas

DEFINITION

Controlling surface and air movement of duston construction sites, roads, and demolition sites. - To prevent surface and air movement of dust from

- To reduce the presence of airborne substances which may be harmful or injurious to human health, welfare, or safety, or to arimals or plant life.

This practice is applicable to areas subject to sur face and air movement of dust where on and off-site damage may occur without treatment.

Mulches. See standard Ds1 - Disturbed Area Stabilization (With Mulching Only). Synthetic resins may be used instead of asphalt to bind mulch material. Refer to standard Tb-Tackiffers and Binders. Resins such as Curasol or Terratack should be used according to

Area Stabilization (With Temporary Seeding)

soils (not effective on muck soils). Keep traffic off these areas. Refer to standard Tb-Tackifiers and Binders.

Titlage. This practice is designed to roughen and bring clods to the surface. It is an emergency measure which should be used before wind erosion starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart, spring toothed harrows, and similar plows are examples of equipment which may produce the desired effect.

Irrigation. This is generally done as an emergency treatment. Site is sprinkled with water until the surface is wet. Repeat as needed.

Barriers, Solid board fences, snowfences, burlap fences, crate walls, bales of hav and similar material. can be used to control air currents and soil blowing. Barriers placed at right angles to prevailing currents a intervals of about 15 times their height are effective in

controlling wind ercsion. Calcium Chloride. Apply at rate that will keep surface moist. May need retreatment.

Permanent Vegetation. See standard Ds3 -Disturbed Area Stabilization (With Permanent Vegeta

gravel See standard Cr-Construction Road Stabili-

B. PERMANENT METHODS

tion). Existing trees and large shrubs may afford valuable protection if left in place. Topsoiling. This entails covering the surface with less erosive soil material. See standard Tp - Topsoiling. Stone. Cover surface with crushed stone or coarse

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DEFINITION

The establishment of temporary vegetative cover with fast growing seedings for seasonal protection on disturbed or denuded areas.

PURPOSE

- To reduce runoff and sediment damage of down

- To protect the soil surface from erosion - To improve wildlife habitat

- To improve aesthetics - To improve tilth, infiltration and aeration as well as

organic matter for permanent plantings. REQUIREMENT FOR REGULATORY COM-PLIANCE

Mulch or temporary grassing shall be applied to all exposed areas within 14 days of disturbance. Temporary grassing, instead of mulch, can be applied to rough graded areas that will be exposed for less than six months. If an area is expected to be undisturbed for longer than six months, permanent perennial vegetation shall be used. If optimum planting conditions for temporary grassing is lacking, mulch can be used as a singular erosion control device for up to six months but it shall be applied at the appropriate depth, anchored, and have a continuous 90% cover or greater of the soil surface. Refer to specification Ds1-Disturbed Area Stabilization (With Temporary Seeding)

Grading and Shaping

CONDITIONS

Temporary vegetative measures should be coordi-

nated with permanent measures to assure economical

and effective stabilization. Most types of temporary veg-

etation are ideal to use as companion crops until the permanent vegetation is established. Note: Some spe-

cles of temporary vegetation are not appropriate for

companion crop plantings because of their potential to

out-compete the desired species (e.g. annual ryegrass).

Contact NRCS or the local SWCD for more informa-

Excessive water run-off shall be reduced by properly designed and installed erosion control practices

ment barriers and others. No shaping or grading is required if slopes can be stabilized by hand-seeded vegetation or if hydraulic seeding equipment is to be used.

such as closed drains, ditches, dikes, diversions, sedi-

Seedbed Preparation

When a hydraulic seeder is used, seedbed preparation is not required. When using conventional or hand-seeding, seedbed preparation is not required if the soil material is loose and not sealed by rainfall.

When soil has been sealed by rainfall or consists of smooth cut slopes, the soil shall be pitted, trenched or otherwise scarified to provide a place for seed to lodge and germinate.

Select a grass or grass-legume mixture suitable to

the area and season of the year. Seed shall be applied

uniformly by hand, cyclone seeder, drill, culti-packer-

A gricultural lime is required unless soil tests indicate otherwise. Apply agricultural lime at a rate of one ton per acre. Graded areas require lime application. Soils can be tested to determine if fertilizer is needed. On reasonably fertile soils or soil material, fertilizer is not required. For soils with very low fertility, 500 to 700 pounds of 10-10-10 fertilizer or the equivalent per acre (12-16 lbs/1,000 sq. ft.) shall be applied. Fertilizer should be applied before land preparation and incorporated with

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SPECIFICATIONS

During times of drought, water shall be applied at a rate not causing runoff and erosion. The soil shall be thoroughly wetted to a depth that will insure germination of the seed. Subsequent applications should be

Temporary vegetation can, in most cases, be estab-

lished without the use of mulch. Mulch without seeding

should be considered for short term protection. Refer to Ds1 - Disturbed Area Stabilization (With Mulching

seeder, or hydraulic seeder (slurry including seed and

fertilizer). Drill or cultipacker seeders should normally Table 6-4.1 - Temporary Cover or Companion Crops 1/ place seed one-quarter to one-half inch deep. Appro-PLANT, PLANTING RATES, AND PLANTING DATED FOR TEMPORARY COVER OR COMPANION CROPS 1/ priate depth of planting is ten times the seed diameter. Soil should be "raked" lightly to cover seed with soil if

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(Amended - 2000)		adcast s 2/ - PLS 3/ Per 1000	Resource Area 4/	(8 d	Solic otte	line d line	Date es in	dica dica	Plar te o _l ite p	ting otim	Dat um (les date				Remarks
		sq.ft.		t t	-,		inal		1	Ι	Т.	10	T ==	I A C	Lo	1
BARLEY (Horduem vulgare)		C	M-L P	J	F	M	A	M	J	J	A	S	0	N 	D	14,000 seed per pound.
alone in mixture	3 txu. (144 lbs.) 1/2 bu. (24 lbs.)	3.3 lb, 0.6 lb,		***************************************			***************************************									Winterhardy, Use on productive soils.
			***************************************	J	F	М	A	М	J	J	Α	s	0	Ν	D	
LESPEDEZA, ANNUAL (Lespedeza striata)			M-L P C				-									
alone	40 lbs.	0.9 lb.														200,000 seed per pound. May volunteer for several years. Use inoculant Et
in mixtures	10 lbs.	0.2 lb.		J	F	М	A	М	J	J	A	s	0	N	D	Ose industrit EE.
LOVEGRASS, WEEPING (Eragrostis curvula)			M-L P	T												
alone	4 lbs.	0.1 lb.	С													1,500,000 seed per pound. May last for several years. Mix with Sericea lespedeza.
in mixtures	2 lbs.	0.05 lb.		J	F	М	Α	М	J	J	A	S	0	N	D	with certoed teapedeza.
MILLET, BROWNTOP (Panicum fasciculatum)			M-L P						ļ							137,000 seed per pound.
alone	40 lbs.	C 0.9 lb.						-								Quick dense cover, Will provide too much competition in mixtures if seeded at high
in mixtures	10 lbs.	0.2 lb.														rates.

Table 6-4.1 - Temporary Cover or Companion Crops 1/ - continued

PLANT, PLANTING RATES, AND PLANTING DATED FOR TEMPORARY COVER OR COMPANION CROPS 1/

Resource Planting Dates by Resource Areas Species Rates 2/ - PLS 3/ Planting Dates (Solid lines indicate optimum dates, <u>Acre</u> 1000 dotted fines indicate permissible <u>sq. ft.</u> but marginal dates.) MILLET, PEARL 88,000 seed per pound. Quick dense cover. May reach 5 feet in height. Not recommended 50 lbs. 1.1 lb. aione or mixtures. (Avena sativa) 13,000 seed per pound. Use on productive soils. Not as alone 2.9 lb. winterhardy as rye or barley. 4 bu. in mixtures 0.7 lb. (Secale cereale) 18,000 seed per pound. Quick cover. Drought tolerant and alone 0.6 lb. in mixture 1/2 bu. RYEGRASS, ANNUAL (Lolium temulentum) 227,000 seed per pound. Dense cover. Very competitive alone 40 lbs. 0.9 lb. and is <u>not</u> to be used in mixtures. SUDANGRASS ষ্ট্ৰ (Sorghum Sudanese) on droughty sites. Not recommended for mixtures. alone 60 lbs.

Table 6-4.1 - Temporary Cover or Companion Crops 1/ - continued PLANT, PLANTING RATES, AND PLANTING DATED FOR TEMPORARY COVER OR COMPANION CROPS 1/

Species	Broad Rates Per Acre	dcast 2/ - PLS 3/ Per 1000 sq.ft	Resource <u>Area 4/</u>	(S	Solid ottec	line Hine	s inc	licat dica	Res Plan te op te pe	ting otimu	Dat um (<u>es</u> date				<u>Remarks</u>
_				J	F	М	Α	М	J	J	Α	S	0	N	D	
TRITICALE (X-Triticosecale) alone in mixtures	3 bu. (144 lbs.) 1/2 bu. (24 lbs.)	3.3 lb. 0.6 lb.	С	J	F	M	А	М	J	7	А	S	0	2	۵	Use on lower part of Southerr Coastal Plain and in Atlantic Coastal Flatwoods only.
MHEAT Triticum Aestivum) alone in mixtures	3 bu. (180 lbs.) 1/2 bu.	4.1 lb. 0.7 lb.	M-L P C													15,000 seed per pound.

1/ Temporary cover crops are very competitive and will crown out perennials if seeded too heavily. 2/ Reduce seeding rates by 50% when drilled.

3/ PLS is an abbreviation for Pure Live Seed. 4/ M-L represents the Mountain; Blue Ridge; and Ridges and Valleys MLRAs

(See Figure 6-4.1, p. 6-40).

P represents the Southern Piedmont MLRA C represents Southern Coastal Plain; Sand Hills; Black Lands; and Atlantic Coast Flatwoods MLRAs

Disturbed Area Stabilization (With Mulching Only) Ds1



Applying plant residues or other suitable materials,

DEFINITION

produced on the site if possible, to the soil surface.

PURPOSE

- To reduce runoff and erosion

- To conserve moisture - To prevent surface compaction or crusting

fo control undesirable vegetation

- To modify soil temperature - To increase biological activity in the soil

REQUIREMENT FOR REGULATORY COMPLIANCE

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Mulch or temporary grassing shall be applied to all exposed areas within 14 days of disturbance. Mulch can be used as a singular erosion control device for up to six months, but it shall be applied at the appropriate depth, depending on the material used, anchored, and have a continuous 90% cover or greater of the soil surface. Maintenance shall be required to maintain appropriate depth and 90% cover. Temporary vegetation may be employed instead of mulch if the area will remain undisturbed for ess than six months. If an area will remain undisturbed for greater than so months, permanent vegetative techniques shall be employed. Refer to Ds2 -Disturbed Area Stabilization (With Temporary Seeding), Ds3 - Disturbed Area Stabilization (With Permanent Seeding), and Ds4 - Disturbed Area Stabilization (With Sodding).

SPECIFICATIONS

MULCHING WITHOUT SEEDING

This standard applies to grades or cleared areas where seedings may not have a suitable growing season to produce an erosion retardant cover, but can be

Site Preparation 1. Grade to permit the use of equipment for go-

plying and anchoring much. 2. Install needed erosion control measures as required such as dikes, diversions, berms, ter-

races and sediment barriers. 3. Loosen compact soil to a minimum depth of 3

Mulching Materials Select one of the following materials and apply at the

 Dry straw or hay shall be applied at a depth of 2 to 4 inches providing complete soil coverage.

3. Cutback asphalt (slow curing) shall be applied

1. Dry straw or hay mulch and wood chips shall be applied uniformly by hand or by mechanical equipment.

2. If the area will eventually be covered with perennial vegetation, 20-30 pounds of nitrogen per acre in addition to the normal amount shall be applied to offset the uptake of nitrogen

Cutback asphalt shall be applied uniformly.

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manufacturer's specifications.

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or stockpiled soil material for temporary protection. This material can be salvaged and re-

When mulch is used without seeding, mulch shall be applied to provide full coverage of the exposed area.

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One advantage of this material is easy appli-

applied at a depth of 2 to 3 inches. Organic mater at from the clearing stage of development should remain on site, be chipped, and applied as mulch. This method of mulching can greatly reduce erosion control costs.

at 1200 gallons per acre (or 1/4 gallon per sq. 4. Polyethylene film shall be secured over banks

caused by the decomposition of the organic

Care should be taken in areas of pedestrian traffic due to problems of 'tracking in" or damage to shoes, clothing, etc.

Apply polyethylene film on exposed areas. Anchoring Mulch

1. Straw or hay mulch can be pressed into the soil with a disk harrow with the disk set straight or with a special "packer disk." Disks may be smooth or serrated and should be 20 inches or more in diameter and 8 to 12 inches apart. The edges of the disk should be dull enough not to cut the mulch but to press it into the soil leaving much of it in an erect position. Straw or hay mulch shall be anchored immediately after application.

Straw or hay mulch spread with special blower-type equipment may be anchored with emulsified asphalt (Grade AE-5 or SS-1). The asphalt emulsion shall be sprayed onto the 100 gallons of emulsified asphalt and 100 gallons of water per ton of mulch. Tackifers and binders can be substituted for emulsified asphalt. Please refer to specification Tb -Tackifers and Binders. Plastic mesh or netting with mesh no larger than one inch by one inch shall be installed according to

2. Netting of the appropriate size shall be used to anchor wood waste. Openings of the netting shall not be larger than the average size of the

3. Polyethylene film shall be anchor trenched at the top as well as incrementally as necessary.

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DEFINITION

Sediment barriers are temporary structures typically constructed of silt fence supported by steel or wood posts. Other types of barriers may include sandbags, strawbales, brush piles or other filtering material.

PURP OSE To prevent sediment carried by sheet flow from leaving the site and entering natural drainage ways or storm drainage system by slowing storm water runoff and causing the deposition of sediment at the structure.

CONDITIONS Barriers should be installed where runoff can be

or the submerged area behind the fence. Silt fence shall not be installed across streams, ditches, waterways, or other concentrated flow

stored behind the barrier without damaging the fence

DESIGN CRITERIA HAY OR STRAW BALES

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Hay or strawbales retain sediment load transported by sheet flow from disturbed areas. The bales' comparatively low flow rate should be considered when choosing the appropriate sediment barrier. Ponding above the bale can occur rapidly. The stope lengths contributing runoff to a bale barrier cannot exceed those listed in Table 6-20.1. Strawand hay bales shall not be used if the project duration is expected to exceed three months.

Table 6-20.1. Criteria For Straw or Hay Bale

Land Slope	Maximum Slope Length Above Bale
Percent	Feet
<2	75
2 to 5	50
5 to 10	35
10 to 20	20
>20	10

SILT FENCE

Like hay or strawbales, silt tence is designed to retain sediment transported by sheet flow from disturbed areas. Silt fence performs the same function as hay or straw bales, allows a higher flow rate, and is usually faster and cheaper to install. Approved silt fence fabrics are listed in the Georgia Department of Transportation Qualified Products List #36 (QPL-36). See Table 6-20.5 for current Georgia DOT silt fence specifications.

Where all runoff is to be stored behind the fence (where no stormwater disposal system is present), maximum slope length behind a silt fence shall not exceed those shown in Table 6-20.2. The drainage area shall not exceed 1 /4 acre for every 1 00 feet of silt fence.

Table 6-20.2. Criteria For Silt Fence Placement Maximum Slope Length Above Fence

ł		
Γ	Percent	Feet
	<2	100
- 1	2 to 5	75
	5 to 10	50
	10 to 20	25
	>20*	15
	*In areas where the s	lope is greater than 20%,

flat area length of 10 feet between the toe of the slope to the fence should be provided.

Type A Silt Fence (Sd1-A) This 36-inch wide filter fabric shall be used on developments where the life of the project is greater than or

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Type B Silt Fence Sd1-B

the same flow rate as Type A silt fence. Type B silt fence shall be limited to use on minor projects, such as residential home sites or small commercial developments where permanent stabilization will be achieved in less than six months.

Type C Silt Fence Sd1-C

Type C fence is 36-inches wide with wire reinforcement. The wire reinforcement is necessary because this fabric allows almost three times the flow rate as Type A silt fence. Type C silt fence shall be used where runoff flows or velocities are particularly high or where slopes exceed a vertical height of 10 feet.

Though only 22-inches wide, this filter fabric allows

Provide a riprap splash pad or other outlet protection device for any point where flow may top the sediment fence. Ensure that the maximum height of the fence at a protected, reinforced outlet does not exceed 1 ft. and that support post spacing does not exceed 4 ft.

CONSTRUCTION SPECIFICATIONS

(if approved by local issuing authority)

Should be installed so that flow under or between bags is minimal. Anchoring with steel rods may be required if structure height exceeds two bags.

Hay or Straw Bales Sd1-Hb (if approved by local issuing authority)

Bales will be placed in a single row, lengthwise, on the contour and embedded in the soil to a depth of 4 inches. Bales must be securely anchored in place by stakes or bars driven through the bales or by other acceptable means to prevent displacement. See Figures 6-20.1 and 6-20.2 for installation requirements.

(Sd1-Bb) Brush Barrier (only during timber clearing operations) Brush obtained from clearing and grubbing operations may be piled in a row along the perimeter of disturbance at the time of clearing and grubbing. Brush

tions where aesthetics are a concern.

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Brush should be wind-rowed on the contour as nearly as possible and may require compaction. Construction equipment may be utilized to satisfy this requirement.

barriers should not be used in developed areas or loca-

The minimum base width of the brush barrier shall be 5 feet and should be no wider than 10 feet. The height of the brush barrier should be between 3 and 5 feet.

If a greater filtering capacity is required, a commercially available filter fabric may be placed on the side of the brush barrier receiving the sediment-laden runoff. The lower edge of the fabric must be buried in a 6-inch deep trench immediately uphill from the barrier. The upper edge must be stapled, tied or otherwise fastened to the brush barrier. Edges of adjacent fabric pieces must overlap each other. See Figure

The manufacturer shall have either an approved color mark yarn in the fabric or label the fabricated silt fence with both the manufacturer and fabric name every 100

The temporary silt fence shall be installed according to this specification, as shown on the plans or as di-

rected by the engineer. For installation of the fabric, see

Figures 6-20.4, 6-20.5, and 6-20.6 respectively. Post installation shall start at the center of the lowpoint (if applicable) with remaining posts spaced 6 feet apart for Type A and B silt fences and 4 feet apart for Type C silt fence. While Type A and B silt fences can be used with both wood and steel posts, only steel posts shall be used with Type C silt fence. For post size re-

Along stream buffers and other sensitive areas, two rows of Type C silt fence or one row of Type C silt fence backed by haybales shall be used.

quirements, see Table 6-20.3. Fasteners for wood posts

MAINTENANCE

are listed in Table 6-20.4.

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). 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 be-

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Table 6-20.3. Post Size

	Minimum Length	Type of Post	Size of Post	
ре А	4'	Soft wood Oak Steel	3" dia. or 2x4 1.5" x 1.5" 1.3lb./ft. min.	
oe B	3,	Soft wood Oak Steel	2" dia. or 2x2 1" x 1" .75lb./ft. min.	
oe C	4'	Steel	1.3lb./ft. min.	
		.,		

Table 6-20.4. Fasteners For Wood Posts

	Gauge	Crown	Legs	Staples/Post
Wire Staples	17 min.	3/4" wide	1/2" long	5 min.
	Gauge	Length	Button Heads	Nail/Post
Nails	14 min.	1"	3/4"	4 min.

Note: Filter fabric may also be attached to the post by wire, cord, and pockets.

4' max o.c. Woven Wire Fence Backing FRONT VIEW Use 36" D.O.T. approved fabric. Use steel posts.- only SILT FENCE - TYPE C

Figure 6-20.6

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Table 6-20.5 TYPE FENCE Warp - 120 Warp - 120 Warp - 260 Tensile Strength (Lbs. Min.) (1) Fill - 100 Fill - 100 Fill - 180 (ASTM D-4632) Elongation (% Max.) 40 40 (ASTM D-4632) AOS (Apparent Opening Size) (Max. Sieve Size) (ASTM D-4751) #30 #30 #30 Flow Rate (Gal/Min/Sq. Ft.) 70 25 (GDT-87) Ultraviolet Stability (2) (ASTM D-4632 after 300 hours weathering in accordance with ASTM D-4355) Bursting Strength (PSI Min.) (ASTM D-3786 Diaphragm Bursting 175 175 175 Strength Tester) 36 22 Minimum Fabric Width (Inches)

(1) Minimum roll average of five specimens.

(2) Percent of required initial minimum tensile strength.

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Points A should be higher than point B PROPER PLACEMENT OF STRAW BALE BARRIER IN DRAINAGE WAY

Note: Embed hay bales a minimum of 4 inches. CROSS-SECTION OF A PROPERLY INSTALLED STRAW BALE

Figure 6-20.1

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Construction Exit

Binding Wi or Twine

If the action of the vehicle traveling over the gravel

EMBEDDING DETAIL ANCHORING DETAIL - Repair or replacement must be made promptly as needed STAKED HAYBALE BARRIERS Figure 6-20.2

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pad does not sufficiently remove the mud, the tires hould be washed prior to entrance onto public rightsof-way. When washing is required, it shall be done on an area stabilized with crushed stone and provisions that intercept the sediment-laden runoff and direct it into an approved sediment trap or sediment basin.

The exit shall be located or protected to prevent sediment from leaving the site.

The geotextile underliner must be placed the full

to 3 or shear strength greater than 90 kPa,

geotextile must meet requirements of section

AASHTO M288-96 Section 7.3, Separation Re-

strength between 30 and 90 kPa, geotextile must

meet requirements of section AASHTO M288-96 Section 7.4, Stabilization Requirements.

For subgrades with a CBR between 1 and 3 or sheer

The exit shall be maintained in a condition which will prevent tracking or flow of mud onto public rights-of-

way. This may require periodic top dressing with 1.5-3.5

inch stone, as conditions demand, and repair and/or cleanout of any structures to trap sediment. All materials spilled, dropped, washed, or tracked from vehicles or site onto roadways or into storm drains must be re-

length and width of the entrance. Geotextile selection

shall be based on AASHTO M288-98 specification: For subgrades with a CBR greater than or equal

CONSTRUCTION SPECIFICATIONS

It is recommended that the entrance area be excavated to a depth of 3 inches and be cleared of all veg-A stone stabilized pad located at any point where

traffic will be leaving a construction site to a public rightof-way, street, alley, sidewalk or parking area or any other area where there is a transition from bare soil to a paved On sites where the grade toward the paved area is greater than 2%, a diversion ridge 6 to 8 inches high with 3.1 side slopes shall be constructed across the foundation approximately 15 feet above the road.

MAINTENANCE

moved immediately.

vehicles or by runoff. CONDITIONS

DEFINITION

PURPOSE

This practice is applied at appropriate points of construction egress. Geotextile underliners are required to

To reduce or eliminate the transport of mud from the construction area onto public rights-of-way by motor

DESIGN CRITERIA Formal design is not required. The following standards

Pad Thickness

shall be used: Aggregate Size Stone will be in accordance with National Stone Association R-2 (1.5 to 3.5 inch stone).

stabilize and support the pad aggregates.

The gravel pad shall have a minimum thickness of 8

At a minimum, the width should equal full width of all

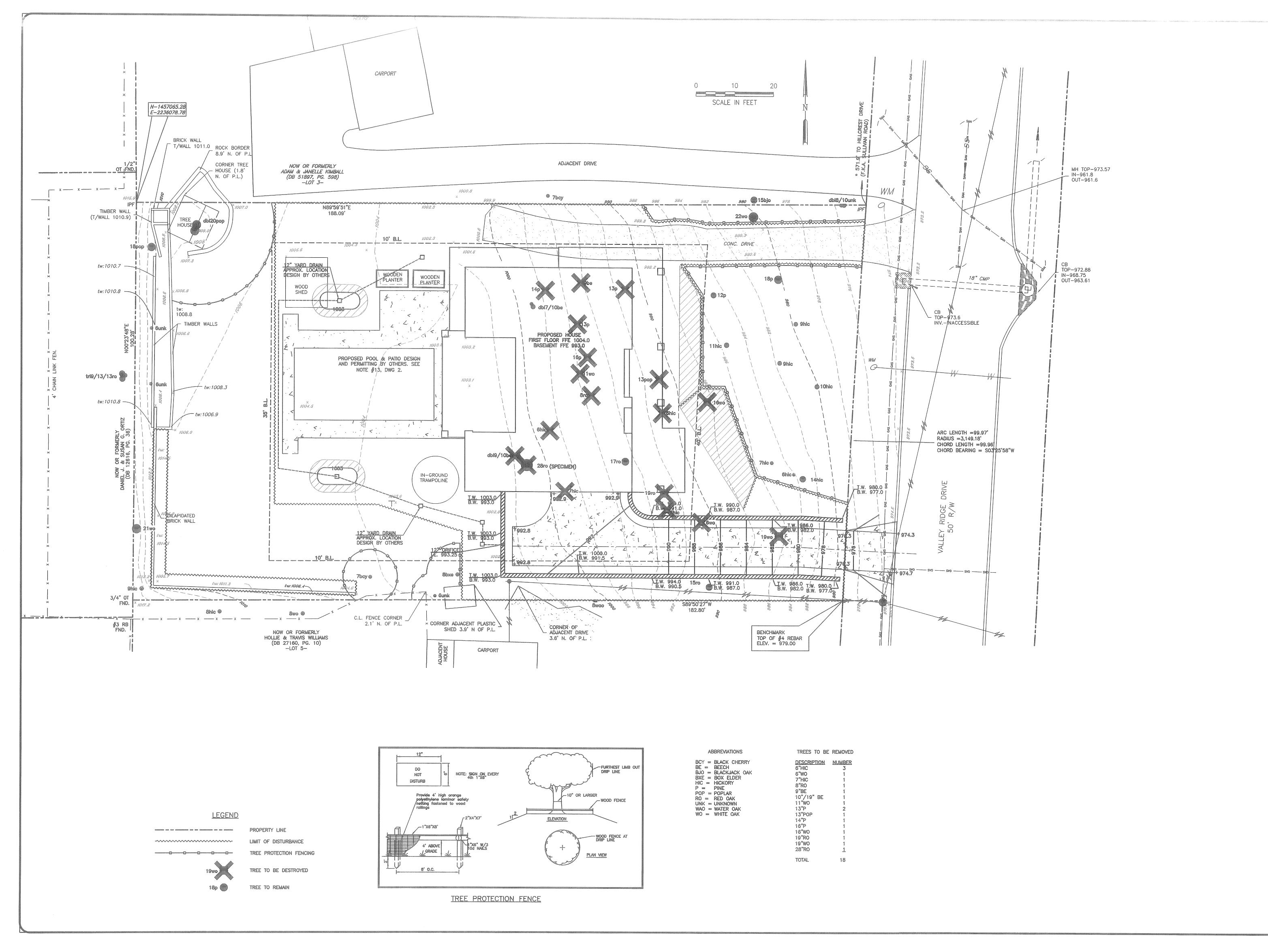
points of vehicular egress, but not less than 20 feet wide. Ga SWCC (Amended - 2000)

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N.S.A. R-2 (1.5"-3.5") Coarse Aggregate **CRUSHED STONE CONSTRUCTION EXIT** Figure 6-11.1

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