SPECIAL EXCEPTION PLAT

PARCELS 1, 2, & 3 - SECTION THREE

SHERWOOD HALL

AUGUST 21, 2000

REVISED FEBRUARY 9, 2004

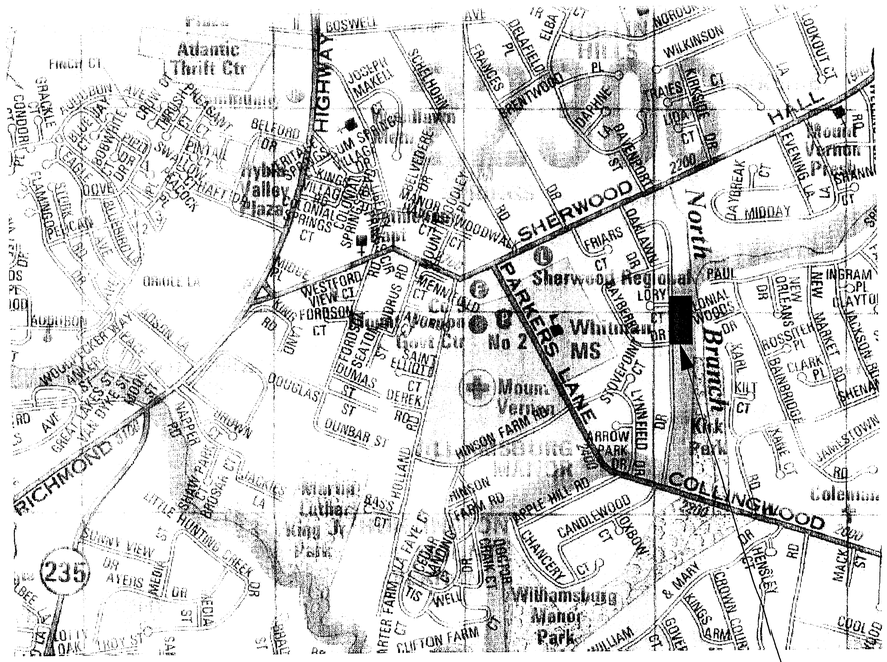
REVISED JUNE 22, 2004

PLANNER/ENGINEER:

GREENHORNE & O'MARA, INC.
3635 CONCORDE PARKWAY, SUITE 300
CHANTILLY, VIRGINIA 20151
PH. 703.263.1220 FAX 703.263.1221

ATTORNEY:

WALSH, COLUCCI, STACKHOUSE, EMRICH AND LUBELEY P.C.
2200 CLARENDON BOULEVARD, 13th FLOOR
ARLINGTON, VIRGINIA, 22201
PH. 703.528.4700



VICINITY MAP

SCALE 1" = 500'

VA STATE GRID NORTH

SHEET INDEX

SHEET 1	*COVER SHEET*
SHEET 2	*SPECIAL EXCEPTION PLAT*
SHEET 3	*EXISTING VEGETATION MAP*
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SHEET 6	*EROSION & SEDIMENT CONTROL PLAN*
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SHEET 9	*STREAM IMPROVEMENT DESIGN*
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SHEET 11	*CONSTRUCTION SPECIFICATIONS*

Graphic Scale
(in feet)

100 0 500 1000 2000

GENERAL NOTES

1. THE APPLICATION PROPERTY DELINEATED BY THIS SPECIAL EXCEPTION PLAN CONTAINS APPROXIMATELY 37,501 S.F. AND IS LOCATED ON FAIRFAX COUNTY ASSESSMENT MAP 102-1-((21)) LOTS 1, 2, 3. CURRENT ZONING IS R-3.
2. THE TITLE OWNERS ARE WILLIAM A. KINDER AND LEAH R. KINDER, AS RECORDED IN DEED BOOK 10161 PAGE 1364, (LOT #1), DEED BOOK 09775 PAGE 1144 (LOT #2), DEED BOOK 05375 PAGE 0464 (LOT #3) AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA.
3. THE OWNER/APPLICANT WILLIAM KINDER IS REQUESTING THIS SPECIAL EXCEPTION FOR USE IN A FLOODPLAIN CONSISTING OF CONSTRUCTION OF RETAINING WALLS AND ADDITIONAL FILL WITHIN THE EXISTING 100-YEAR FLOODPLAIN OF NORTH BRANCH, LITTLE HUNTING CREEK.
4. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN HEREON IS TAKEN FROM ALEXANDRIA SURVEYS INC., DATED MARCH 2, 2000 AND REVISED APRIL 25, 2000. CONTOUR INTERVALS ARE TWO (2) FEET. GREENHORNE & O'MARA, INC. IS UTILIZING THIS INFORMATION IN THE PREPARATION OF THIS PLAN.
5. TO THE BEST OF OUR KNOWLEDGE AND BELIEF, THE PROPOSED DEVELOPMENT IS IN CONFORMANCE WITH APPLICABLE FAIRFAX COUNTY ORDINANCES, REGULATIONS, AND ADOPTED STANDARDS WITH THE FOLLOWING EXCEPTION: CONSTRUCTION OF RETAINING WALLS AND FILL WITHIN A FLOODPLAIN WITHOUT A BUILDING PERMIT OR SPECIAL EXCEPTION..
6. DEVELOPMENT OF THIS PROJECT SHALL NOT CONTINUE UNTIL SUCH TIME AS PROPER PERMITS ARE APPROVED.
7. THIS SITE IS SERVED BY PUBLIC WATER AND SEWER.
8. THE EXISTING RESIDENTIAL USE SATISFIES FAIRFAX COUNTY PARKING REQUIREMENTS OF ARTICLE 11 OF THE ZONING ORDINANCE.
9. TO THE BEST OF OUR KNOWLEDGE AND BELIEF, THERE IS NO EVIDENCE OR RECORDS OF ANY GRAVE, OBJECT OR STRUCTURE MARKING A PLACE OF BURIAL ON THE APPLICATION PROPERTY.
10. THE SITE LAYOUT SHOWN ON THIS SPECIAL EXCEPTION PLAN DEPICTS THE EXTENT OF CONSTRUCTION OF EXISTING RETAINING WALLS WITHIN THE FLOOD PLAIN.
11. THE DEVELOPMENT COMPLIES WITH THE FAIRFAX COUNTY TREE COVER AND LANDSCAPING PROVISIONS.
12. IN ACCORDANCE WITH THE FAIRFAX COUNTY COMPREHENSIVE PLAN, THERE ARE NO SIDEWALKS REQUIRED ALONG CANDLEWOOD DRIVE.
13. LOCATION OF FLOODPLAIN AND RPA AREAS ARE TAKEN FROM INFORMATION PROVIDED BY ALEXANDRIA SURVEYS, INC. GREENHORNE & O'MARA, INC. IS UTILIZING THIS INFORMATION IN THE PREPARATION OF THIS PLAN.
14. TO THE BEST OF OUR KNOWLEDGE, THERE WILL BE NO HAZARDOUS OR TOXIC SUBSTANCES GENERATED, UTILIZED, STORED, TREATED, AND/OR DISPOSED OF ON SITE. ALSO, TO THE BEST OR OUR KNOWLEDGE, THERE ARE NO EXISTING STORAGE TANKS OR CONTAINERS ON SITE.
15. THERE ARE NO MAJOR UTILITY EASEMENTS ON THE PROPERTY.
16. BASED UPON A COMPARISON OF FAIRFAX COUNTY TOPOGRAPHIC MAPS DATED MARCH 1984 AND THE AS BUILT TOPOGRAPHIC SURVEY DATED APRIL 25, 2000 (REVISED), IT IS ESTIMATED THAT APPROXIMATELY 415 C.Y. OF FILL HAS BEEN PLACED IN THE FLOODPLAIN. THE FILL IS COMPOSED OF A COMPACTED POROUS SAND AND GRAVEL MIX.
17. SHEETS 6 THOUGH 11 INCORPORATE THE COMPENSATORY MITIGATION PLAN FOR THE AFOREMENTIONED DEVELOPMENT.
18. THE APPLICANT RESERVES THE RIGHT TO REVISE THE MITIGATION PLAN AS REQUIRED OR AS NECESSARY IN RESPONSE TO COMMENTS RECEIVED IDURING FAIRFAX COUNTY PLAN REVIEW.

SE 01-V-005
Application No. _____ Staff L. Johnson
APPROVED (SE) SP PLAN
SEE DEV CONDS DATED 7/15/04
Date of (BOS) (BZA) approval 7/26/04
Sheet 1 of 11

RECEIVED
Department of Planning & Zoning
JUN 24 2004
Zoning Evaluation Division

COMMONWEALTH OF VIRGINIA
William B. Burton
No. 9509
June 23, 2004
PROFESSIONAL ENGINEER

No.	REVISION	DATE	BY

G&O 50 YEARS
© LATEST DATE HEREON

PLANNING · SITE ENGINEERING · TRANSPORTATION · ENVIRONMENTAL · SURVEYING/MAPPING

Greenhorne & O'Mara, Inc.
11211 WAPLES MILL ROAD
FAIRFAX, VIRGINIA 22030
(703)385-9800

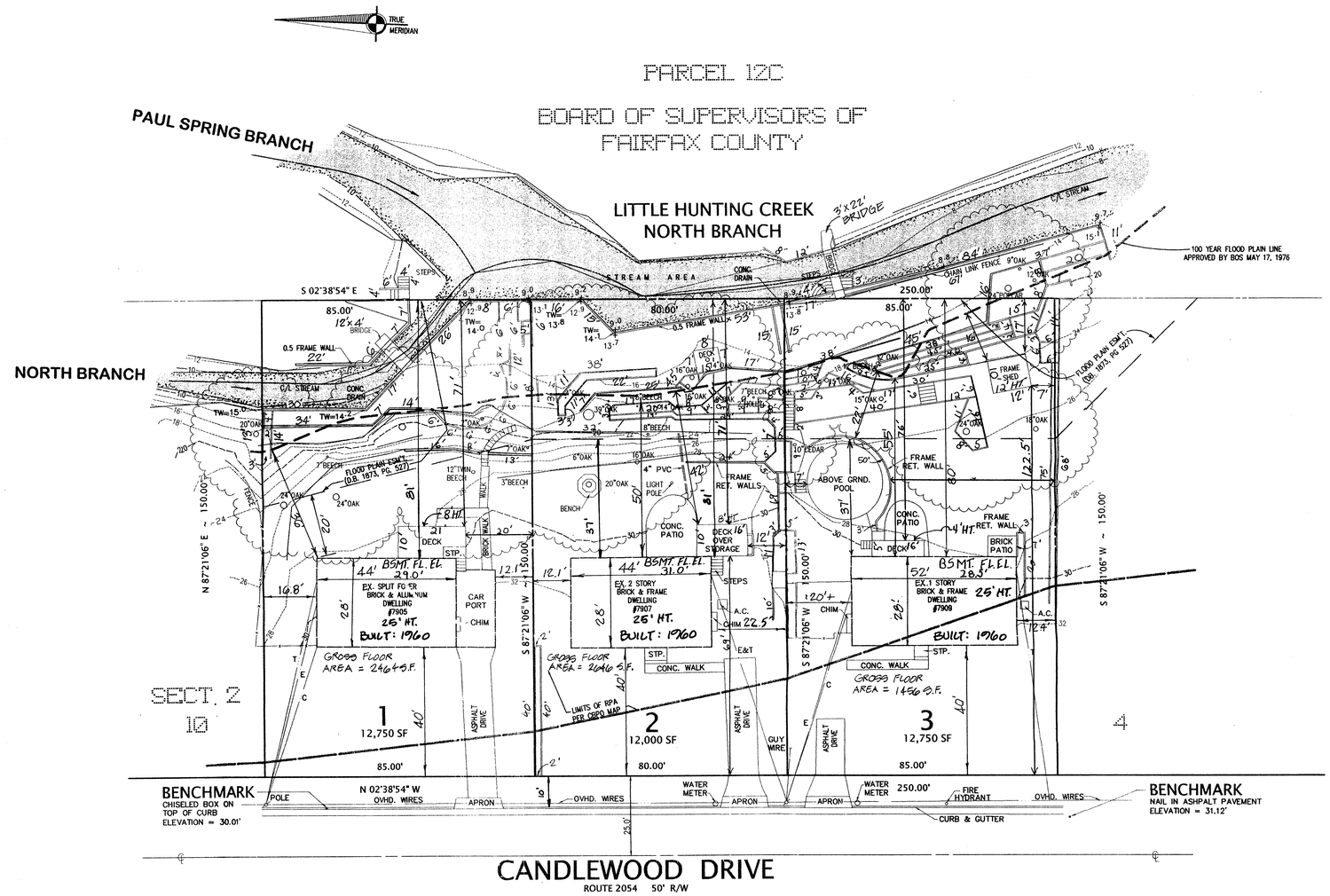
ANNAPOLIS, MD • ATLANTA, GA • FAIRFAX, VA • FREDERICKSBURG, VA • GREENBELT, MD
MECHANICSBURG, PA • RALEIGH, NC • ROCKVILLE, MD • TAMPA, FL • WEST PALM BEACH, FL

SPECIAL EXCEPTION PLAT
LOTS 1, 2, & 3 - SECTION THREE

SHERWOOD HALL

MOUNT VERNON DISTRICT
FAIRFAX COUNTY, VIRGINIA

JJG DESIGN	SCALE	AS SHOWN	
VB/RM DRAWN	1 OF 11		
CHECKED	SHEET		
02/2004 DATE	0466 PROJ No.	M-1331 FILE No.	



NOTES:

1. THE PROPERTY DELINEATED HEREON IS SHOWN ON THE FAIRFAX COUNTY TAX ASSESSMENT MAP AS PARCELS 102-1-0021-1, 2 & 3 AND IS ZONED R-3.
2. ELEVATIONS ARE BASED ON U.S.G.S DATUM.
3. PLAT SUBJECT TO RESTRICTIONS OF RECORD.
4. TITLE REPORT NOT FURNISHED.
5. OWNER: WILLIAM A. KINDER
   LEAH R. KINDER
   7905 CANDLEWOOD DRIVE
   ALEXANDRIA, VIRGINIA 22306
6. TOTAL PROPERTY AREA IS 37, 500 S.F.
7. SITE TOPOGRAPHY IS FROM FIELD SURVEY DONE BY ALEXANDRIA SURVEYS, INC.
8. FRAME SHED BUILT IN 1995.
9. ANGLE OF BULK PLANE IS NOT APPLICABLE.
10. TRANSITIONAL YARDS NOT APPLICABLE.
11. REQUIRED MINUM YARDS (R-3 ZONE)

    FRONT 30'

    SIDE 12'

    REAR 25'
12. THE LOWEST FLOOR ELEVATION OF THE EXISTING HOUSES ARE ABOVE THE FLOOD-PLAIN ELEVATION, THEREFORE FLOODPROOFING REQUIREMENTS DO NOT APPLY.
13. FEDERAL AND/OR STATE PERMITS ARE NOT REQUIRED AS PER THE CORPS OF ENGINEERS NATIONWIDE 29 PROGRAM WHICH ALLOWS UP TO 300 LINEAR FEET OF STREAM DISTURBANCE WITHOUT A PERMIT.
14. NO FLOODPROOFING IS PROPOSED BECAUSE THE USE WOULD NOT BE AFFECTED BY FLOODING.

ALL WALLS ARE 0.3 FRAME UNLESS NOTED

SE 01-V-005
Application No. _____ Staff L.J.
APPROVED (SE) / SP PLAN
SEE DEV CONDS DATED 7/15/04
Date of (BOS) (BZA) approval 7/26/04
Sheet 2 of 11

LEGEND

A.C.	=	AIR CONDITIONER
BW	=	BOTTOM OF WALL
TW	=	TOP OF WALL
C/L	=	CENTERLINE
	=	DENOTES STREAM

No.	REVISION	DATE	BY
1	ADD NOTES AND YARD SETBACKS	01-10-01	VTB

COMMONWEALTH OF VIRGINIA
JOHN J. GATTUSO
No. 00139
CERTIFIED LANDSCAPE ARCHITECT
11-28-00
1-10-01
2-9-04

SPECIAL EXCEPTION PLAT BY:
Greenhorne & O'Mara, Inc.
11211 WAPLES MILL ROAD
FAIRFAX, VIRGINIA 22030
(703)385-9800

8/2000 DATE
2 OF 5 SHEET
M-1331 FILE No.

SPECIAL EXCEPTION PLAT

LOTS 1, 2 AND 3, SECTION 3

SHERWOOD HALL

MOUNT VERNON DISTRICT

FAIRFAX COUNTY, VIRGINIA

SCALE: 1" = 20' ~~MARCH 2, 2000~~
C.I. = 2' ~~APRIL 25, 2000 (REVISED)~~

COMMONWEALTH OF VIRGINIA
KENNETH W. WHITE
LICENSE NO. 1277 B
LAND SURVEYOR
KENNETH W. WHITE . . . . . L.S.

ALEXANDRIA SURVEYS, INC.
6343 SOUTH KINGS HIGHWAY
ALEXANDRIA, VIRGINIA 22306
TEL.NO. (703) 660-6615 FAX NO. (703) 768-7764

SHEET 1 OF 1

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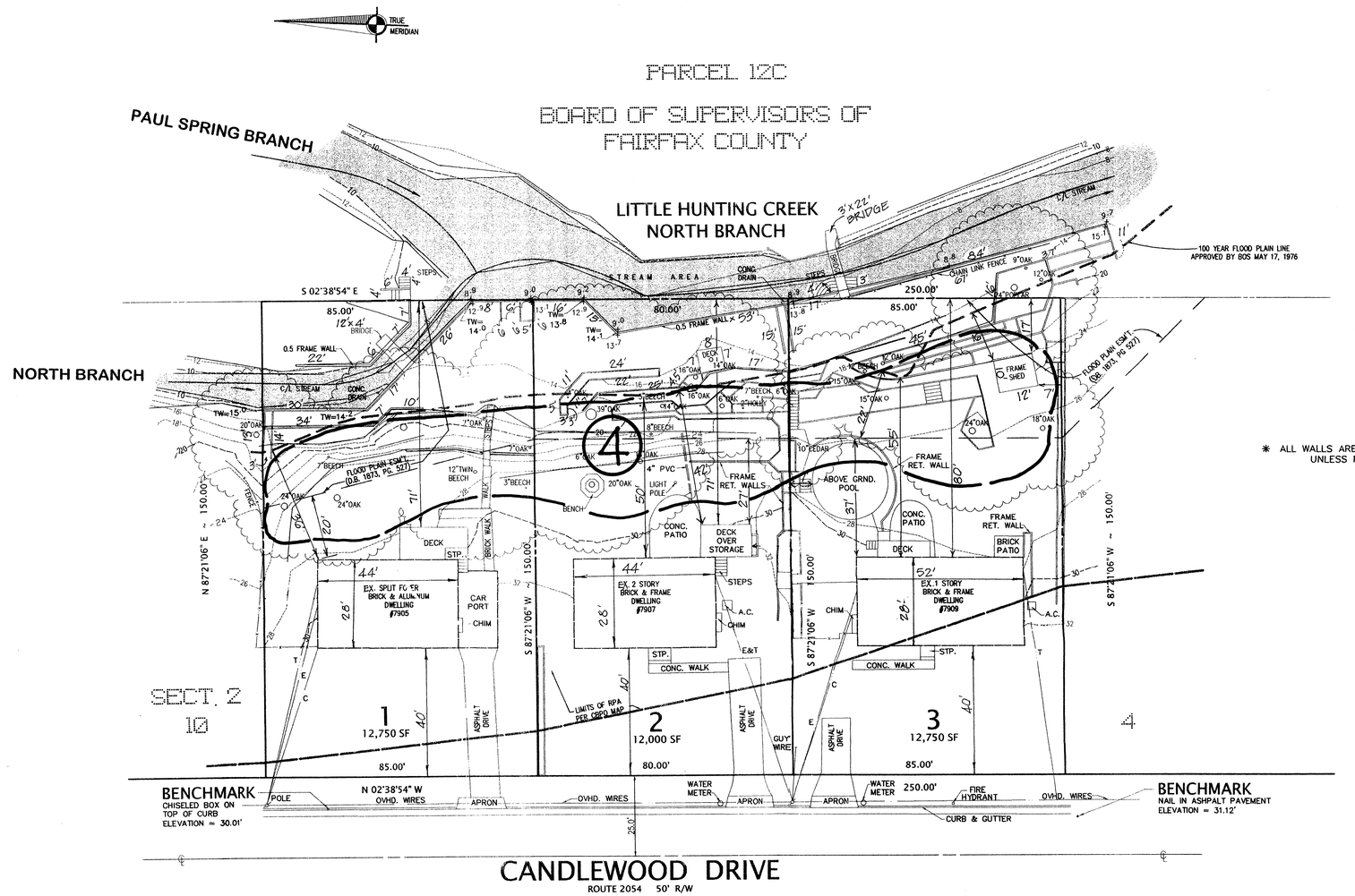

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LEAH R. KINDER
7905 CANDLEWOOD DRIVE
ALEXANDRIA, VIRGINIA 22306

* ALL WALLS ARE 0.3 FRAME UNLESS NOTED

SE 01-V-005
Application No. _____ Staff L.J.
APPROVED SE / SP PLAN
SEE DEV CONDS DATED 7/15/04
Date of (BOS) (BZA) approval 7/26/04
Sheet 3 of 11

* SEE SHEET #2 FOR SIDE SETBACK DIMENSIONS

LEGEND

A.C.	=	AIR CONDITIONER
BW	=	BOTTOM OF WALL
TW	=	TOP OF WALL
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	=	DENOTES STREAM

EXISTING VEGETATION MAIP DESCRIPTION

Prepared by John J. Gattuso, ASLA
August, 2000

	Forest Cover Type	Dominant Species	Co-Dominant Species	Successional Stage	Condition	Acreage
4	Developed	Red Oak Tulip Poplar	Beech	N.A.	Good to Fair	0.25

Conditions/Descriptions

Forest Cover Type 4: The mature deciduous trees in this cover type were generally in good condition with no apparent insect or disease problems. The existing North Branch of Little Hunting Creek has been severely eroding this portion of the site over time. Trees in this cover type are located at the center of the property and are being protected and saved wherever possible by the construction of wooden retaining walls and planters.

COMMONWEALTH OF VIRGINIA
JOHN J. GATTUSO
No. 00139
11-28-00
2-9-04
CERTIFIED LANDSCAPE ARCHITECT

J:\0-66kind\docs\existing vegetation map description

SPECIAL EXCEPTION PLAT BY:
Greenhorne & O'Mara, Inc.
11211 WAPLES MILL ROAD
FAIRFAX, VIRGINIA 22030
(703)385-9800

DATE 8/2000
SHEET 3 OF 5
FILE No. M-1331

EXISTING VEGETATION MAP

LOTS 1, 2 AND 3, SECTION 3

SHERWOOD HALL

MOUNT VERNON DISTRICT
FAIRFAX COUNTY, VIRGINIA
SCALE: 1" = 20'
~~MARCH 2, 2000~~
~~APRIL 25, 2000~~ (REVISED)

COMMONWEALTH OF VIRGINIA
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LAND SURVEYOR

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~~SHEET 1 OF 1~~

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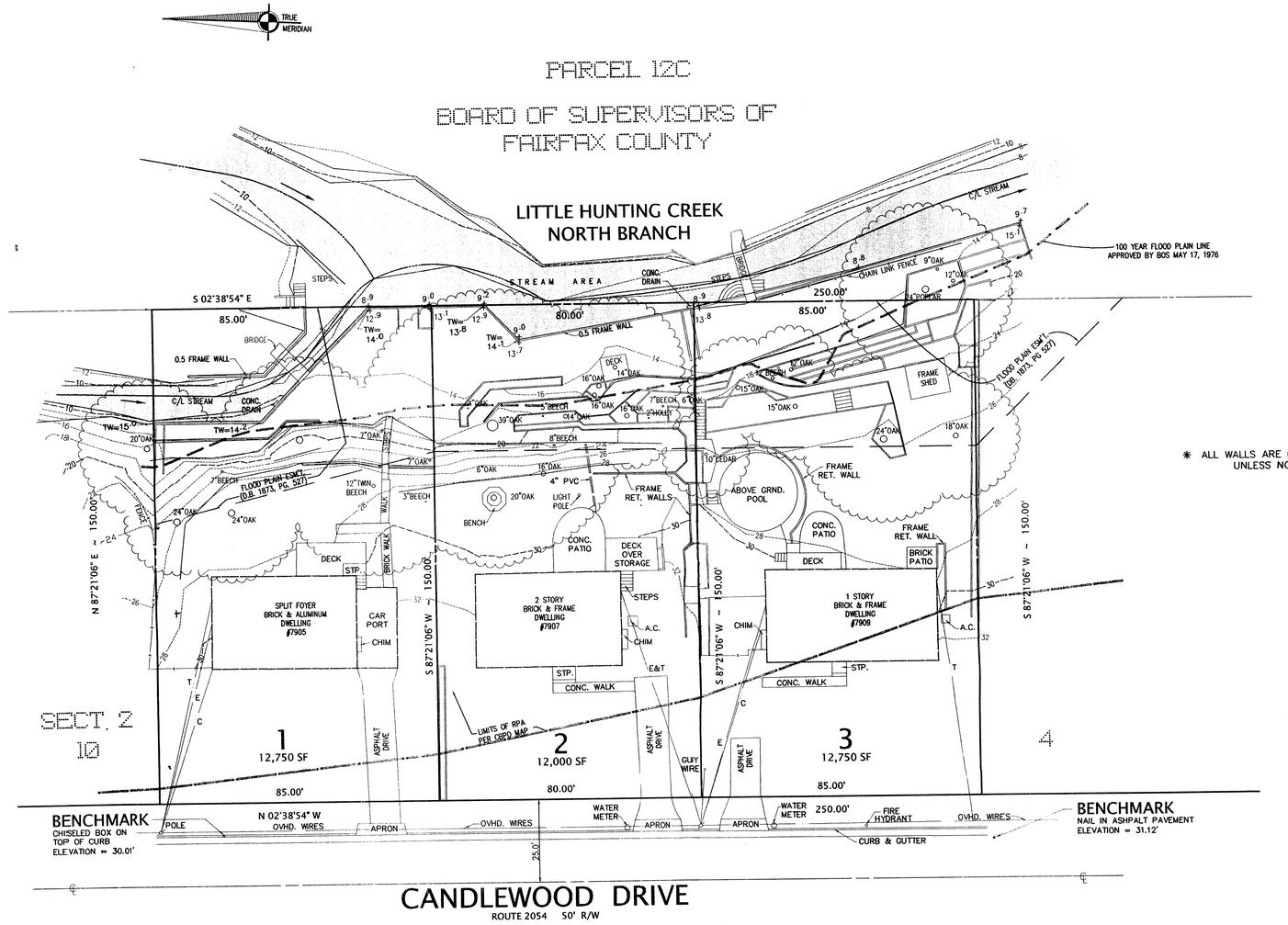

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✱ ALL WALLS ARE 0.3 FRAME UNLESS NOTED

SE01-V-005
Application No. _____ Staff LQ.
APPROVED (SE) / SP PLAN
SEE DEV CONDS DATED 7/15/04
Date of (BOS) (BZA) approval 7/26/04
Sheet 4 of 11

✱ SEE SHEET #2 FOR SIDE SETBACK DIMENSIONS

LEGEND

A.C.	=	AIR CONDITIONER
BW	=	BOTTOM OF WALL
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	=	DENOTES STREAM

FOR REFERENCE INFORMATION ONLY!

COMMONWEALTH OF VIRGINIA
JOHN J. GATTUSO
No. 00139
11-28-00
2-9-04
CERTIFIED LANDSCAPE ARCHITECT

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DATE	8/2000
SHEET	4 OF 5
FILE No.	M-1331

SITE SURVEY
TOPOGRAPHIC SURVEY
ON A PORTION OF
LOTS 1, 2 AND 3, SECTION 3
SHERWOOD HALL
MOUNT VERNON DISTRICT
FAIRFAX COUNTY, VIRGINIA
SCALE: 1" = 20'
MARCH 2, 2000
APRIL 25, 2000 (REVISED)

COMMONWEALTH OF VIRGINIA
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SHEET 1 OF 1

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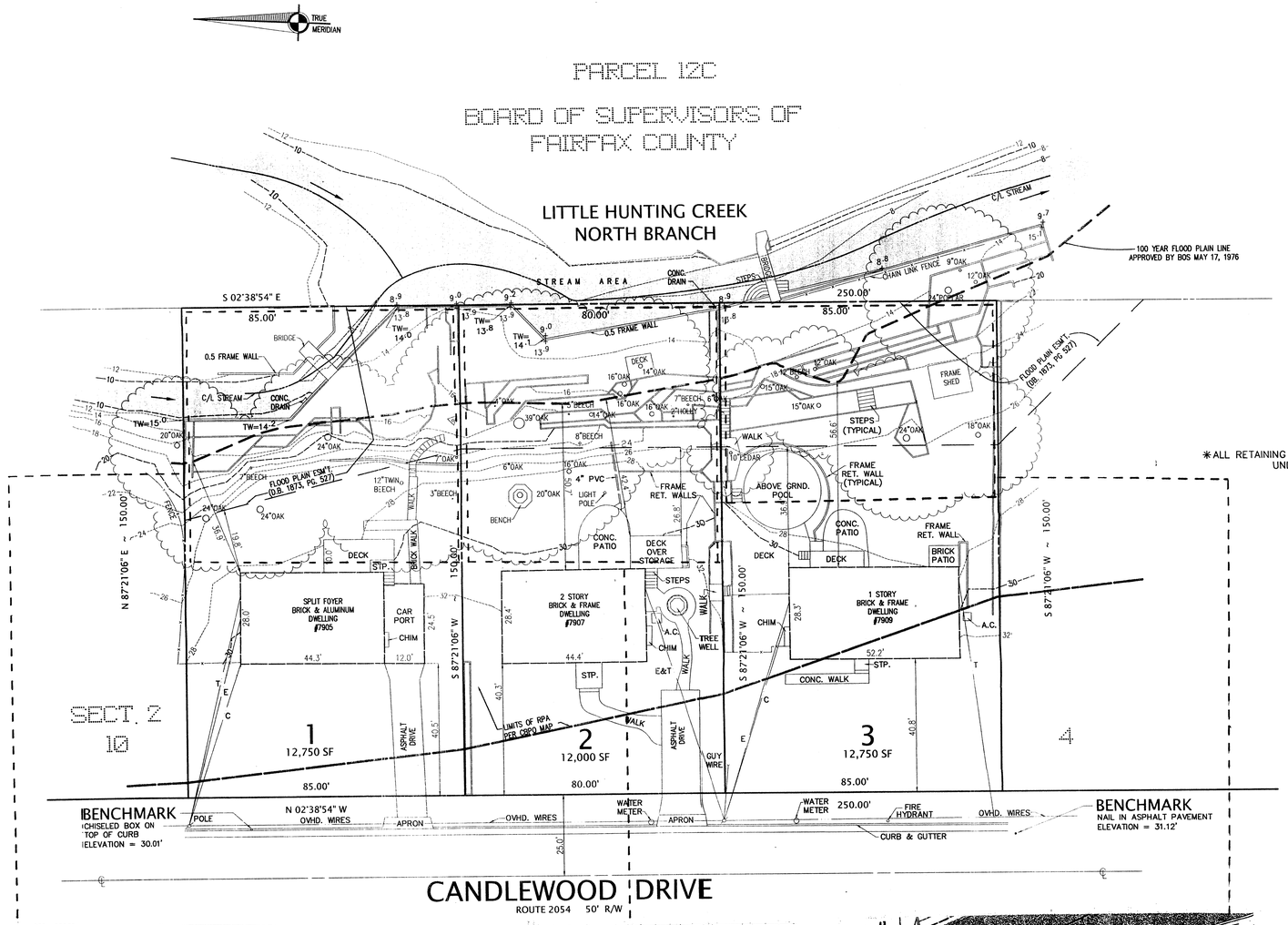

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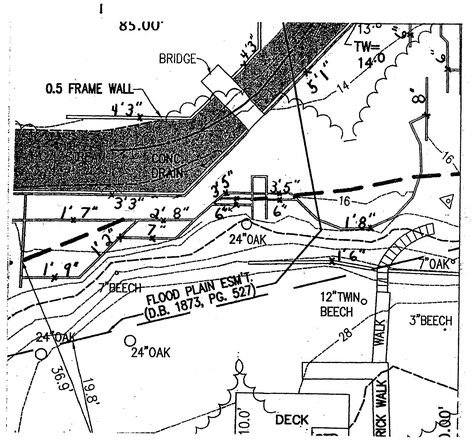
SE 01-V-005
Application No. _____ Staff A.G.
APPROVED (SE) SP PLAN
SEE DEV CONDS DATED 7/15/04
Date of (BOS) (BZA) approval 7/26/04
Sheet 5 of 11

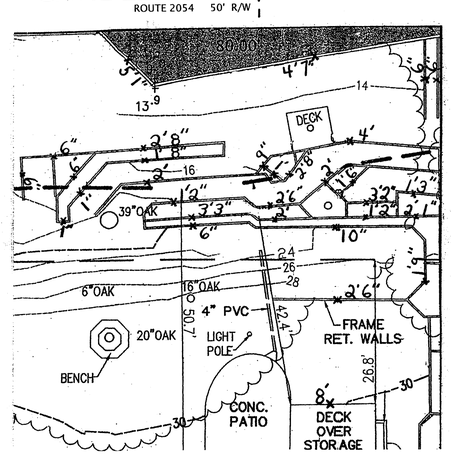
✱ALL RETAINING WALLS ARE 0.3 FRAME UNLESS NOTED

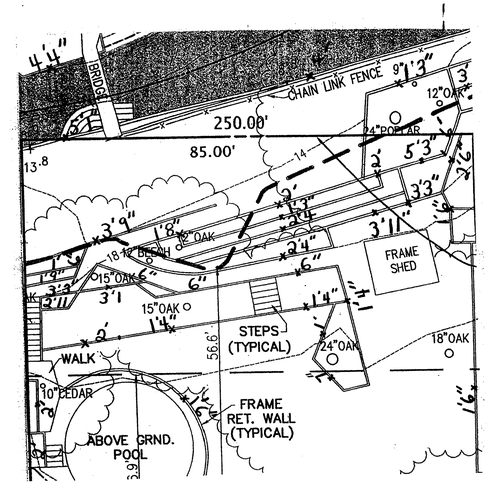
✱ SEE SHEET #2 FOR SIDE SETBACK DIMENSIONS

✱ HEIGHTS OF CREEK WALLS RANGE FROM 3 FT. 3 INCHES, TO 5 FT. 1 INCH AVERAGE HEIGHT 4 FT. 4 ¾ INCHES

✱ HEIGHTS OF TIERED WALLS RANGE FROM 1 INCH TO 6 FT. AVERAGE WALL HEIGHT IS 2 FT.







COMMONWEALTH OF VIRGINIA
JOHN L. GATTUSO
No. 00139
11-28-00
12-9-04
REGISTERED LANDSCAPE ARCHITECT

G&O 50 YEARS
SPECIAL EXCEPTION PLAT BY:
Greenhorne & O'Mara, Inc.
11211 WAPLES MILL ROAD
FAIRFAX, VIRGINIA 22030
(703)385-9800

DATE	8/2000
SHEET	5 OF 5
FILE No.	M-1331

HEIGHTS OF WALLS
LOTS 1, 2, AND 3, SECTION 3
SHERWOOD HALL
MOUNT VERNON DISTRICT
FAIRFAX COUNTY, VIRGINIA
SCALE: 1" = 20'
MARCH 2, 2000
APRIL 25, 2000 (REVISED)
SEPTEMBER 14, 2000 (REVISED)

COMMONWEALTH OF VIRGINIA
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~~SHEET 1 OF 1~~
87-00

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EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION

THE STREAM IMPROVEMENT AREA IS LOCATED IN SHERWOOD HALL, SECTION 3 (LOTS 1, 2 AND 3) ALONG CANDLEWOOD DRIVE, WHICH IS LOCATED JUST SOUTH OF SHERWOOD HALL LANE OFF OF ROUTE 1 IN FAIRFAX COUNTY, VIRGINIA. THE PURPOSE OF THIS IMPROVEMENT IS TO COMPENSATE FOR CONSTRUCTION IN THE RESOURCE PROTECTION AREA ON THE OPPOSITE SIDE OF NORTH BRANCH. A MINIMAL AMOUNT OF GRADING WILL BE REQUIRED ON ROUGHLY 0.26 ACRES OF THE SITE IN ORDER TO STABILIZE THE EXISTING STREAM BANKS.

EXISTING CONDITIONS

THE AREA SURROUNDING THE RESTORATION SITE IS GENTLY SLOPED, WITH STEEP INCISED STREAM BANKS. THE EASTERN BANK IS HEAVILY VEGETATED, AND IS BORDERED BY AN EXISTING SEWER LINE. THE WESTERN BANK IS BORDERED BY THREE PRIVATE RESIDENCES.

CRITICAL EROSION AREAS

THE CONTRACTOR IS TO ENSURE THAT SEDIMENT DOES NOT WASH INTO NORTH BRANCH, THE PERENNIAL STREAM THAT IS BEING IMPROVED. ALL 2:1 SLOPES TO BE TEMPORARILY SEEDED AND MULCHED WHEN BROUGHT TO GRADE.

EROSION AND SEDIMENT CONTROL MEASURES

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, THIRD EDITION, 1992.

NO DISTURBED AREA SHALL BE DENUDED FOR MORE THAN FOURTEEN (14) DAYS, EXCEPT FOR THAT PORTION OF THE SITE IN WHICH WORK WILL BE CONTINUOUS BEYOND FOURTEEN (14) DAYS.

ALL TEMPORARY DIVERSIONS AND SILT TRAPPING STRUCTURES SHALL BE SEEDED AND MULCHED, SILT FENCE BARRIERS AND OTHER PERIMETER CONTROL MEASURES, AS INDICATED ON THE PLANS, SHALL BE PLACED IN CONJUNCTION WITH CLEARING AND PRIOR TO ROUGH GRADING. (INITIAL CLEARING SHALL BE LIMITED TO THAT NECESSARY TO INSTALL THE E&S CONTROLS).

NO CONSTRUCTION OR FILL MATERIAL IS TO BE PLACED WITHIN THE STREAMBEDS. ANY STOCKPILED MATERIAL WHICH WILL REMAIN IN PLACE LONGER THAN FOURTEEN (14) DAYS SHALL BE SEEDED AND MULCHED FOR TEMPORARY VEGETATION. WHEN NECESSARY TO DE-WATER, THE PUMP DISCHARGE HOSE SHALL OUTFALL INTO A SEDIMENT TRAPPING/DEWATERING STRUCTURE, WHICH SHALL BE APPROVED BY THE COUNTY INSPECTOR.

NO DISTURBANCE, REMOVAL OF TREES, DAMAGE TO TREES, PARKING OF EQUIPMENT, OR STORING OF MATERIALS SHALL OCCUR OUTSIDE OF THE FENCE ON THE FAIRFAX COUNTY BOARD OF SUPERVISORS PROPERTY.

EXCESS EXCAVATED MATERIAL SHALL BE HAULED OFF-SITE AND DISPOSED OF AT A SITE WITH AN ACTIVE APPROVED EROSION AND SEDIMENT CONTROL PLAN.

STRUCTURAL PRACTICES

CONSTRUCTION ENTRANCE: STD & SPEC 3.02 - A GRAVEL PAD, LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON A CONSTRUCTION SITE, TO REDUCE THE MUD TRANSPORTED ONTO PUBLIC ROADS AND OTHER PAVED AREAS. OPTIONAL WASH RACK TO RINSE VEHICLES BEFORE EXITING THE SITE.

SILT FENCE & SUPER SILT FENCE: STD & SPEC 3.05 - A TEMPORARY SEDIMENT BARRIER CONSTRUCTED OF POSTS PLACED ACROSS OR AT THE TOE OF A SLOPE OR IN A MINOR DRAINAGEWAY TO INTERCEPT AND DETAIN SEDIMENT AND DECREASE FLOW VELOCITIES FROM DRAINAGE AREAS OF LIMITED SIZE; APPLICABLE WHERE SHEET AND RILL EROSION OR SMALL CONCENTRATED FLOWS MAY BE A PROBLEM. MAXIMUM EFFECTIVE LIFE IS 6 MONTHS.

ROCK CHECK DAM: STD & SPEC 3.20 - SMALL TEMPORARY STONE DAMS CONSTRUCTED ACROSS A SWALE OR DRAINAGE DITCH.

SANDBAG/STONE DIVERSION: DETAIL THIS SHEET - THE WORK SHALL CONSIST OF INSTALLING FLOW DIVERSION FOR THE PURPOSE OF EROSION CONTROL WHEN CONSTRUCTION ACTIVITIES TAKE PLACE WITHIN THE STREAM CHANNEL SUCH AS BANK STABILIZATION OR BRIDGE ABUTMENT CONSTRUCTION.

VEGETATIVE PRACTICES

TEMPORARY SEEDING: IF PERMANENT SEEDING CANNOT BE PERFORMED WITHIN SEVEN (7) DAYS OF FINAL GRADING, THEN CONTRACTOR WILL ESTABLISH TEMPORARY VEGETATIVE COVER ON DISTURBED AREAS BY SEEDING AND MULCHING WITH FAST GERMINATING NON-SOD FORMING TEMPORARY VEGETATION.

PERMANENT SEEDING: PER PLANTING PLAN AND SPECS INCLUDED IN PLAN SET ON SHEETS 6 AND 8.

CONSTRUCTION SEQUENCING

PHASE 1 - CLEARING AND ROUGH GRADING

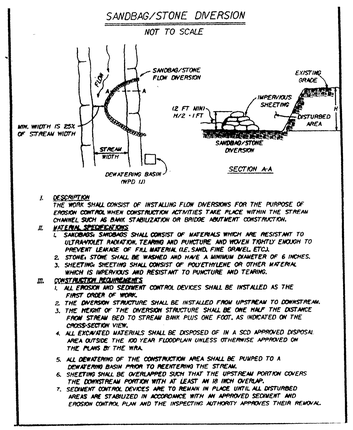
1. INSTALL THE WASH RACK AND THE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE. WATER FOR WASH RACK SHALL BE PROVIDED BY THE CONTRACTOR.
2. INSTALL E&S MEASURES (CLEARING ONLY AS REQUIRED) AS SHOWN WITH THE E&S PLANS AND PROVIDE TEMPORARY SEEDING AND MULCHING ON ALL EARTHEN PERIMETER CONTROLS IMMEDIATELY FOLLOWING INSTALLATION.
3. ONCE A SEGMENT OF THE BANK IMPROVEMENT IS CONSTRUCTED, PLACE SILT FENCE ON THE UPSLOPE SIDE OF UPPER MOST COIR ROLL.
4. STREAM CHANNEL STABILIZATION DURING CONSTRUCTION (USE OPTION A OR B):
   A) BUILDING SAND BAG DIVERSION DOWN THE MIDDLE OF THE STREAM. TIE IN SAND BAGS TO BANK, AND DIVERT FLOW AWAY FROM CONSTRUCTION AREA. THIS CAN BE DONE AT THE START FOR THE FULL LENGTH OR IN STAGES, JUST PROTECTING EACH DAYS CONSTRUCTION. WHEN EAST BANK CONSTRUCTION IS COMPLETE, THEN MOVE SAND BAGS TO PROTECT WEST BANK (SEE DETAIL THIS SHEET).
   B) ONLY WORK ON DRY DAYS WHEN NO RAIN IS FORECAST. ONLY DISTURB THE PORTION OF THE STREAM BANK THAT WILL BE CONSTRUCTED AND STABILIZED EACH DAY.
5. CLEAR REMAINDER OF SITE AND BEGIN ROUGH GRADING. CLEAR ONLY THE PORTION OF THE SITE NECESSARY TO FACILITATE THE CONSTRUCTION OF STREAM RESTORATION MEASURES.
6. START RE-VEGETATION AS AREAS ARE BROUGHT TO GRADE OR STAND IDLE FOR MORE THAN SEVEN (7) DAYS.

PHASE 2 - FINAL GRADING

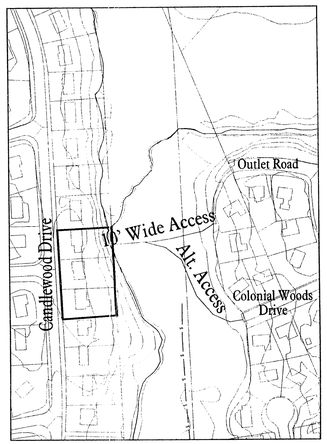
1. AS SITE AREA IS BROUGHT TO FINAL GRADE, TRANSITION FROM PHASE 1 CONTROLS TO PHASE 2 CONTROLS.
2. STABILIZE THE REMAINDER OF DISTURBED AREA WITH PERMANENT SEEDING PER PLANTING PLAN AND SPECS PROVIDED ON SHEETS 6 AND 8.
3. WHEN SITE IS ESTABLISHED AND WITH COUNTY INSPECTOR APPROVAL, REMOVE ALL STRUCTURAL PRACTICES, AND APPLY PERMANENT SEEDING TO ALL DISTURBED AREAS. E&S MEASURES SHALL NOT BE REMOVED WITHOUT APPROVAL FROM THE COUNTY INSPECTOR.

PERMANENT STABILIZATION

PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADING IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN FOURTEEN (14) DAYS, EXCEPT FOR THAT PORTION OF THE SITE ON WHICH WORK WILL BE CONTINUOUS BEYOND FOURTEEN (14) DAYS. PERMANENT SOIL STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN SIX (6) MONTHS. FOR WINTER STABILIZATION, ANY AREA DENUDED FOR MORE THAN FOURTEEN (14) DAYS AFTER NOVEMBER 1 AND BEFORE MARCH 1 SHALL BE MULCHED AND SEEDED APPROPRIATE TO THE SEASON AND SITE CONDITIONS.



Access Detail (NTS)



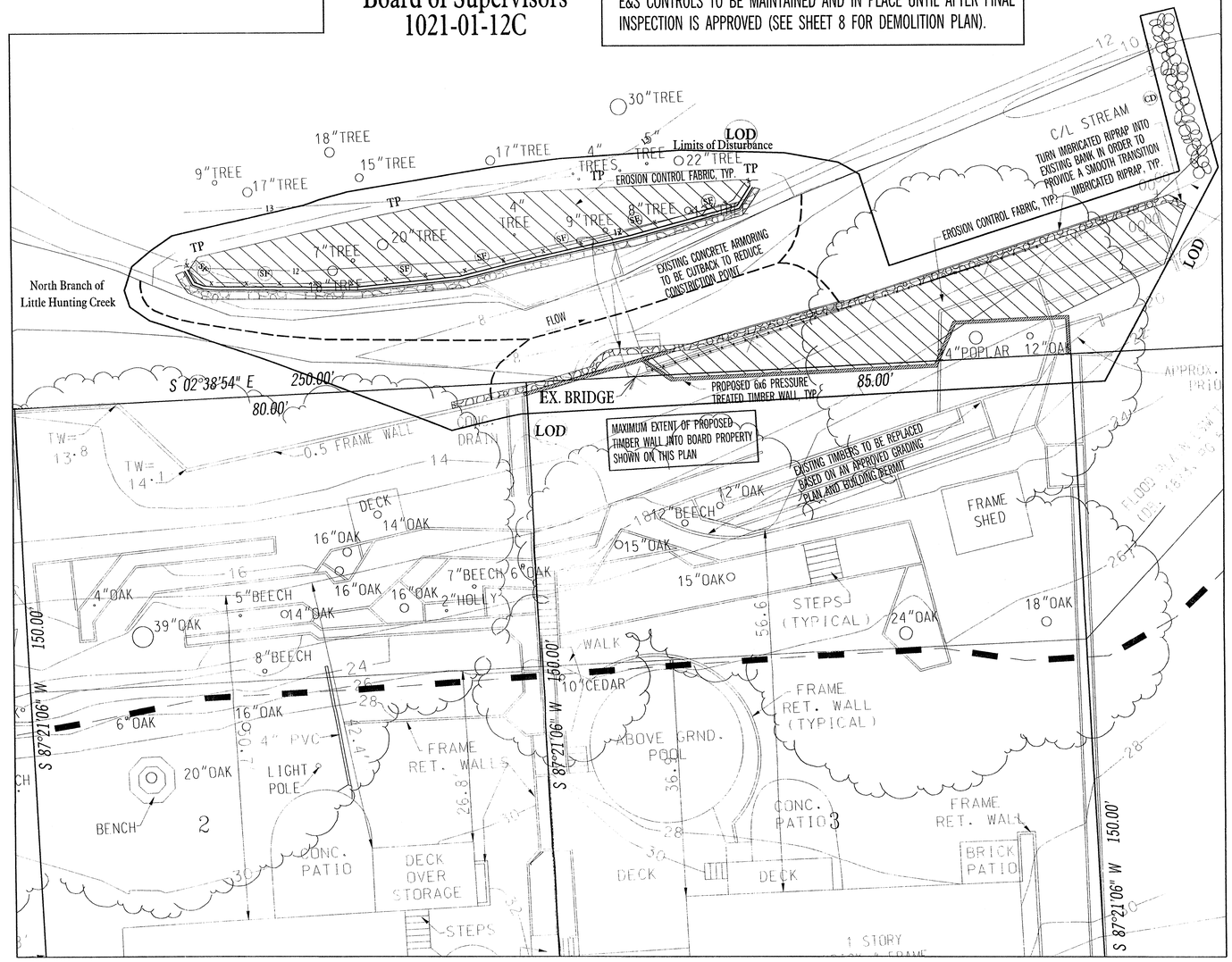
NOTE: Location of Access & Staging Areas shall be field determined to minimize impact to existing vegetation. All staging/access areas should be returned to initial conditions upon completion of construction.

VA STATE GRID NORTH
NAD 1983

SCALE: 1"=10'

Fairfax County Board of Supervisors 1021-01-12C

E&S CONTROLS WILL BE INSTALLED PRIOR TO START OF DEMOLITION. E&S CONTROLS TO BE MAINTAINED AND IN PLACE UNTIL AFTER FINAL INSPECTION IS APPROVED (SEE SHEET 8 FOR DEMOLITION PLAN).



LEGEND

	Existing Contours (CI = 2')	TP	Safety Fence/Tree Protection
	Proposed Contours	SF	Silt Fence (SF)
LOD	Limits of Disturbance		Rock Check Dam (CD)
	Treelines		Erosion Control Fabric
	County-mapped Floodplain		Natural Fiber Rolls
	Streams		Imbricated Rip-Rap
	Sandbag Diversion		12" Rip-Rap

SE 01-V-005
Application No. _____ Staff A.O.
APPROVED (SE) / SP PLAN
SEE DEV CONDS DATED 7/15/04
Date of (BOS) / (BZA) approval 7/26/04
Sheet 6 of 11

This Sheet for Erosion & Sediment Control Purposes Only!!

COMMONWEALTH OF VIRGINIA
William B. Burton
No. 9509
June 23 2004
PROFESSIONAL ENGINEER

Erosion & Sediment Control Plan
Lots 1, 2 and 3, Section 3
Sherwood Hall Stream Improvement
Fairfax County, Virginia
Prepared for Mr. William A. Kinder

PLANNING · SITE ENGINEERING · TRANSPORTATION · ENVIRONMENTAL · SURVEYING/MAPPING
Greenhorne & O'Mara, Inc.
11211 WAPLES MILL ROAD,
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No.	REVISION	DATE	BY
1	PER COUNTY COMMENTS	6/22/04	WOR

RLP	AMG	BAE
DESIGN	DRAWN	CHECKED
1"=10'	02/2004	
SCALE	DATE	
PROJ. No.	ENV0466	FILE No.

SHEET 6 OF 11

STREAM RESTORATION SITE PREPARATION AND GRADING SPECIFICATIONS

SITE PREPARATION

GENERAL:

1.0 MOWING:
PRIOR TO GRADING ACTIVITIES IN THE IMPROVEMENT AREAS, EXISTING VEGETATION IN THE IMPROVEMENT AREAS WILL BE CLEARED AND GRUBBED TO A STUBBLE HEIGHT OF NO MORE THAN 1.5 INCHES, AS THE CASE MAY BE. SHOULD CONSTRUCTION WORK OCCUR DURING THE ACTIVE GROWING SEASON, EXCAVATION AND/OR GRADING WORK WILL BE CONDUCTED ONLY IN AREAS WHERE THE AVERAGE STUBBLE HEIGHT DURING THOSE ACTIVITIES IS 2.0 INCHES OR LESS. SHOULD PREVAILING VEGETATION HEIGHT BE 6.0 INCHES OR MORE WHEN THE INITIAL MOWING OCCURS, THE RESIDUE SHALL BE REMOVED BY MECHANICAL RAKING PRIOR TO COMMENCING WITH CONSTRUCTION WORK. RESIDUE SHALL BE DISPOSED OF IN LOCATIONS APPROVED BY THE OWNER.

2.0 EROSION AND SEDIMENT CONTROL:
ALL REQUIRED EROSION AND SEDIMENT CONTROL FEATURES SPECIFIED IN THE PLANS SHALL BE INSTALLED PRIOR TO EXCAVATION WORK AND SHALL BE MAINTAINED IN GOOD WORKING ORDER THROUGHOUT THE LIFE OF THE CONSTRUCTION ACTIVITY.

3.0 CONSTRUCTION STAKING:
PRIOR TO GRADING ACTIVITY IN IMPROVEMENT AREAS, CONTRACTOR SHALL INSTALL GRADE STAKES AT INTERVALS OF NO GREATER THAN 50 FEET. STAKES SHALL SHOW THE EXISTING ELEVATION, AND FINISHED ELEVATIONS FOR EACH POINT. STAKE ELEVATIONS WILL BE TO THE NEAREST 0.1 FEET (BOTH EXISTING AND PROPOSED GRADE).

4.0 PREPARATION:
INITIAL ACTIVITY WILL BE THE "SCALPING" OF REMAINING VEGETATION WHICH WILL CONSIST OF THE REMOVAL OF THE VEGETATION ABOVE THE SURFACE AND THE RELATED ROOT DEBRIS. BY EITHER SCREENING OR MECHANICAL RAKING, CONTRACTOR SHALL REMOVE THE VEGETATIVE MATERIAL FROM THE SCALPED TOP SOIL. VEGETATIVE SCREENINGS WILL BE DISPOSED OF IN LOCATIONS SELECTED BY THE OWNER.

5.0 GRADING IN IMPROVEMENT AREA:

5.1 STOCKPILING TOP SOIL:
THE TOP 0.5 FEET OF MATERIAL SHALL BE REMOVED AND STOCKPILED IN LOCATIONS APPROVED BY THE ENGINEER OR OWNER.

5.2 SUB-EXCAVATION:
EXCAVATION SHALL BE CONDUCTED TO AN ELEVATION 0.5 FEET BELOW THE FINISHED ELEVATIONS SHOWN ON THE CROSS SECTIONS ON SHEET 5 OF THE PLANS.

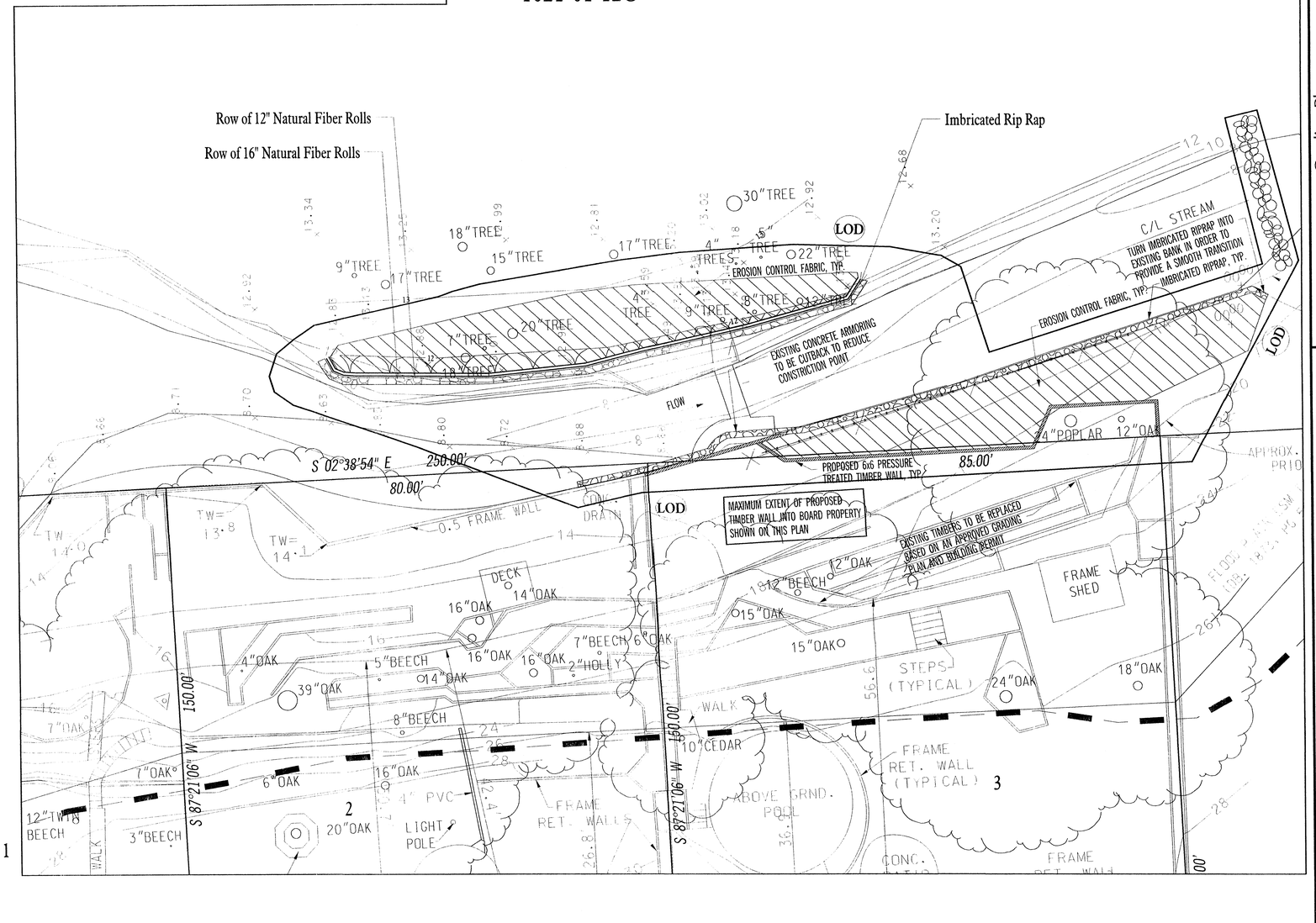
5.3 FINISHED GRADING:
USING THE STOCKPILED MATERIAL LISTED ABOVE IN 5.1 CONTRACTOR SHALL BRING GRADES TO WITHIN 0.1 FEET OF THE PROPOSED GRADE ELEVATIONS SHOWN ON THE GRADING PLANS AND CROSS SECTIONS. CARE SHALL BE TAKEN THROUGH TIMING OF THE FINAL PLACEMENT RELATED TO SOIL MOISTURE TO AVOID COMPACTION OF THE PLACED MATERIAL.

6.0 STABILIZATION:
PERMANENT SEEDING SHOULD BE CONDUCTED PER PLANTING PLAN (SHEET 6) AND SPECS (SHEET 8). IF PERMANENT SEEDING CANNOT BE CONDUCTED WITHIN SEVEN (7) DAYS OF FINAL GRADING, THE CONTRACTOR WILL ESTABLISH TEMPORARY VEGETATED COVER ON DISTURBED AREAS BY SEEDING AND MULCHING WITH FAST GERMINATING, NON-SOD FORMING, TEMPORARY VEGETATION.

VA STATE GRID NORTH
NAD 1983

SCALE: 1"=20'

Fairfax County
Board of Supervisors
1021-01-12C



LEGEND

	Existing Contours (CI = 2')	TP	Safety Fence
	Proposed Contours	SF	Silt Fence
LOD	Limits of Disturbance		Rock Check Dam
	Treelines		Erosion Control Fabric
	County-mapped Floodplain		Natural Fiber Rolls
	Streams		Imbricated Rip-Rap
	Sandbag Diversion		12" Rip-Rap

PROPOSED GRADING TO BE DETERMINED BASED ON COMPLETED AND APPROVED RETAINING WALL PLAN.

Application No. SE 01-V-005 Staff
APPROVED SE/ SP PLAN
SEE DEV CONDS DATED 7/15/04
Date of (BOS) (BZA) approval 7/26/04
Sheet 7 of 11

Grading Plan
Lots 1, 2 and 3, Section 3
Sherwood Hall Stream Improvement
Fairfax County, Virginia
Prepared for Mr. William A. Kinder

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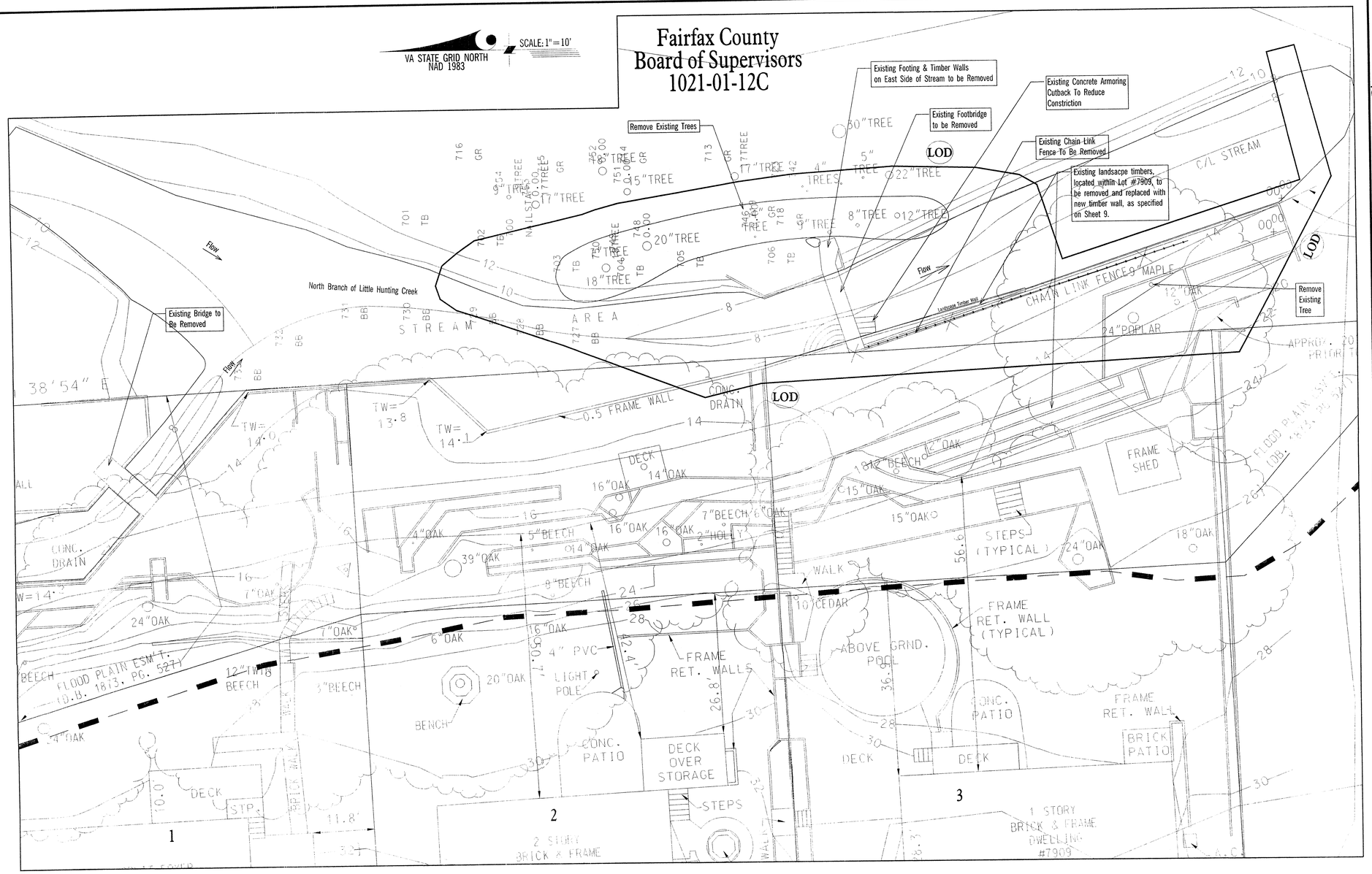
1	PER COUNTY COMMENTS	6/22/04	WOR

RLP	AMG	BAE
DESIGN	DRAWN	CHECKED
1"=10'	02/2004	
SCALE	DATE	
PROJ. No.	ENV0466	
	FILE No.	

SHEET 7 OF 11

COMMONWEALTH OF VIRGINIA
William B. Burton
No. 9509
June 23, 2004
PROFESSIONAL ENGINEER

Fairfax County
Board of Supervisors
1021-01-12C



LEGEND

Existing Contours (CI = 2')	Safety Fence
Proposed Contours	Silt Fence
Limits of Disturbance	Rock Check Dam
Treelines	Erosion Control Fabric
County-mapped Floodplain	Natural Fiber Rolls
Streams	Imbricated Rip-Rap
Sandbag Diversion	12" Rip-Rap

Demolition Notes

1. Based on the structural engineer's evaluation, the older retaining wall, built prior to 1993 and therefore not subject to the requirements of the CBPO, will be removed and replaced with new timbers treated for water contact. This improvement will include the upgrading of this portion of the retaining wall system along the stream, as well as the protection of the land within Lot #7909.
2. Based on the results of the floodplain studies, the constructed bridges do not contribute to a significant change in water surface elevations during a 100-year storm event, nor do they adversely affect the 100-year floodplain. It is proposed that the downstream foot bridge and the associated bridge footer located on the eastern side of the stream be removed, while the upstream foot bridge remains in place. Removal of the downstream foot bridge will eliminate the risk associated with this less secure bridge washing downstream and damaging other property during high flow events. Preservation of the upstream bridge will provide the Owner access to the northeastern portion of Lot #7905.
3. All trees, structures, and excavated material shall be removed to a location outside of the 100-year floodplain.

SE 01-V-005
Application No. _____ Staff _____
APPROVED SE / SP PLAN
SEE DEV CONDS DATED 7/15/04
Date of (BOS) (BZA) approval 7/26/04
Sheet 8 of 11

COMMONWEALTH OF VIRGINIA
William B. Burton
No. 9500
June 23, 2004
PROFESSIONAL ENGINEER

Demolition of Existing Features Plan
Lots 1, 2 and 3, Section 3
Sherwood Hall Stream Improvement
Fairfax County, Virginia
Prepared for Mr. William A. Kinder

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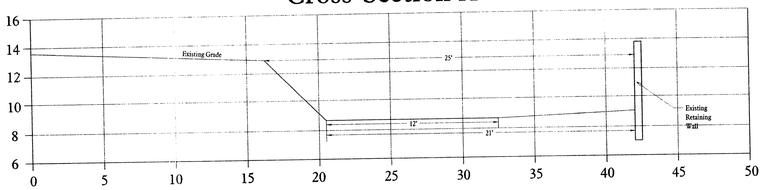
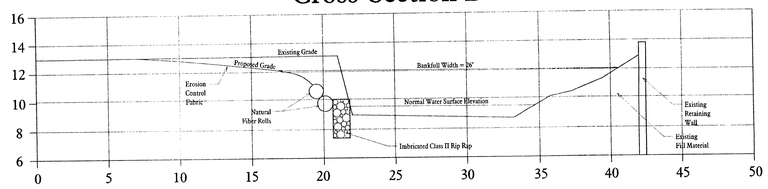
1	PER COUNTY COMMENTS	6/22/04	W.R.

RLP DESIGN	AMG DRAWN	BAE CHECKED
1"=10' SCALE	02/2004 DATE	
PROJ. No.	ENV0466 FILE No.	
8 SHEET	OF 11	

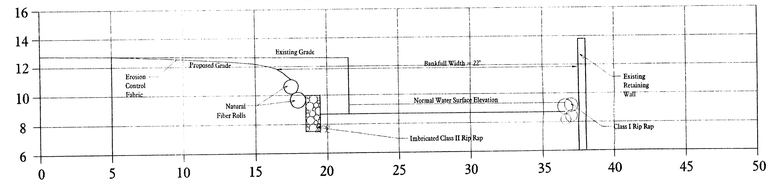
Cross-Section A



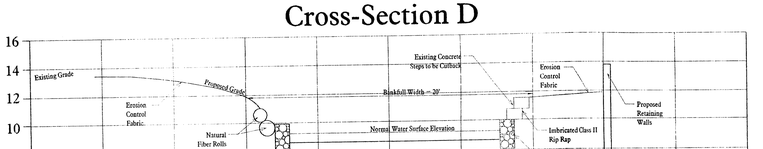
Cross-Section B



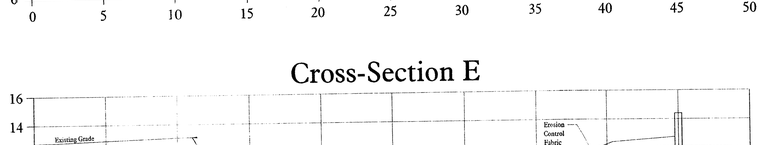
Cross-Section C



Cross-Section D



Cross-Section E



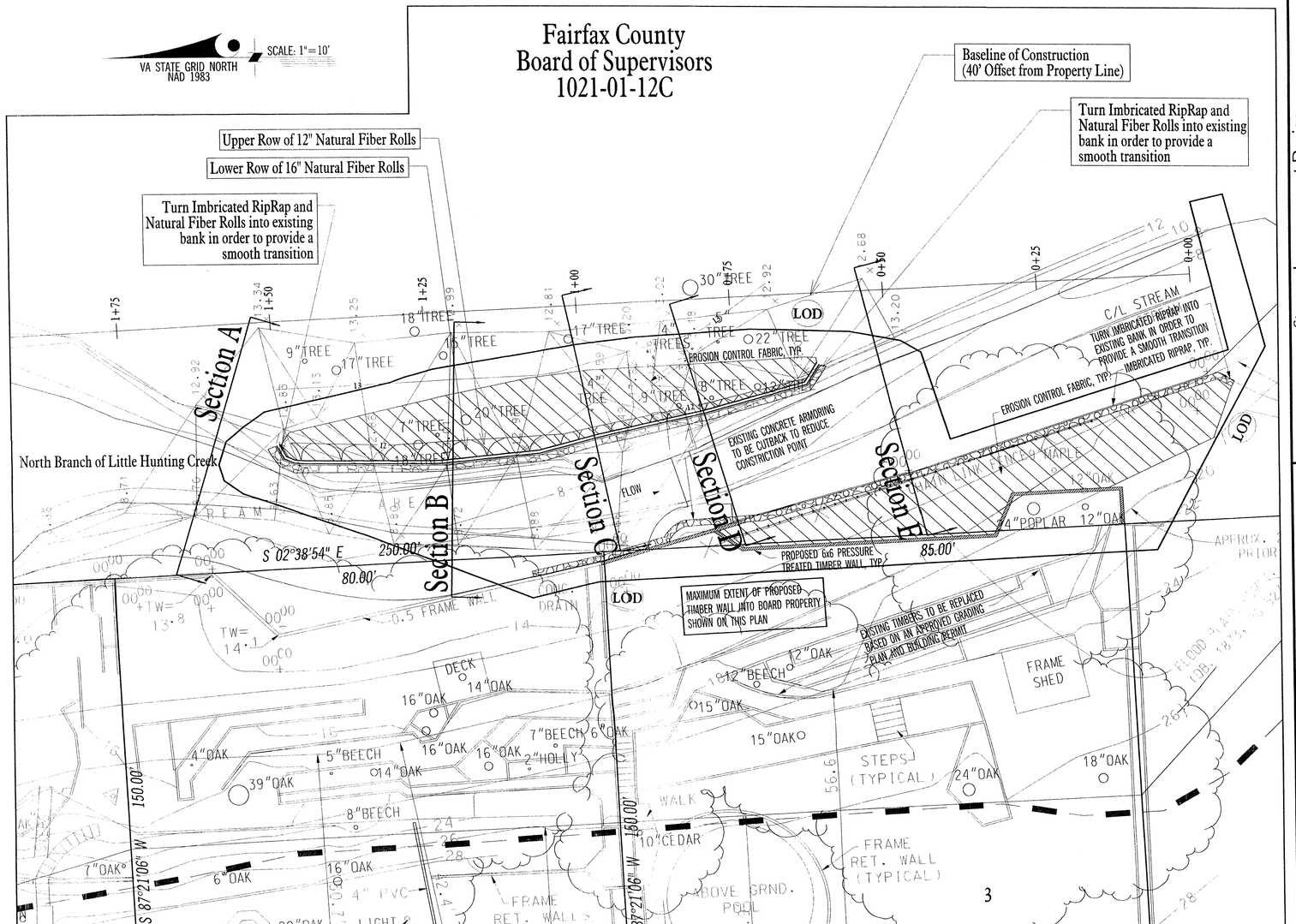
LEGEND

- Existing Contours (CI = 2')
- Proposed Contours
- LOD — Limits of Disturbance
- Treelines
- County-mapped Floodplain
- Streams
- Sandbag Diversion
- TP — Safety Fence
- SF — Silt Fence
- Rock Check Dam
- Erosion Control Fabric
- Natural Fiber Rolls
- Imbricated Rip-Rap
- 12" Rip-Rap

VA STATE GRID NORTH
NAD 1983

SCALE: 1"=10'

Fairfax County
Board of Supervisors
1021-01-12C



Baseline of Construction Location Table

Station	Northing	Easting
0+00	23,572.8	160,790.3
0+25	23,547.8	160,789.0
0+50	23,522.9	160,787.8
0+75	23,497.9	160,786.6
1+00	23,472.9	160,785.3
1+25	23,448.0	160,784.1
1+50	23,423.0	160,782.8
1+75	23,398.0	160,781.6
2+00	23,373.1	160,780.3

See Sheet 8 for Natural Fiber Roll/Imbricated Rip Rap Installation Guidelines and Details.

Major Construction Features Location Table

Station	Offset Left	Description
0+53	30'	Imbricated RipRap (West Bank)
0+62	36'	Imbricated RipRap (West Bank)
0+62	17'	Imbricated RipRap (East Bank)
0+62	10-11'	Erosion Conrol Fabric (East Bank)
0+75	35'	Imbricated RipRap (West Bank)
0+75	18'	Imbricated RipRap (East Bank)
0+75	10-16'	Erosion Control Fabric (East Bank)
0+98	40'	Imbricated RipRap (West Bank)
0+98	23'	Imbricated RipRap (East Bank)
0+98	10-20'	Erosion Control Fabric (East Bank)
1+00	23'	Imbricated RipRap (East Bank)
1+00	10-21'	Erosion Control Fabric (East Bank)
1+25	25'	Imbricated RipRap (East Bank)
1+25	14-22'	Erosion Control Fabric (East Bank)
1+50	24'	Imbricated RipRap (East Bank)
1+50	20'	Erosion Control Fabric (East Bank)

NOTE: Offset indicates the distance to the streamside face for Imbricated RipRap

SE01-V-005
Application No. _____ Staff A.G.
APPROVED SE / SP PLAN
SEE DEV CONDS DATED 7/15/04
Date of (BOS) / (BZA) approval 7/26/04
Sheet 9 of 11

COMMONWEALTH OF VIRGINIA
William B. Burton
No. 9509
June 23, 2004
PROFESSIONAL ENGINEER

Stream Improvement Design

Lots 1, 2 and 3, Section 3

Sherwood Hall Stream Improvement

Fairfax County, Virginia
Prepared for Mr. William A. Kinder

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1	PER COUNTY COMMENTS	6/22/04	WOR

RLP	AMG	BAE
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9 OF 11
SHEET

Plant Schedule: Natural Fiber Rolls

Quantity	Scientific Name	Common Name	Unit	Size	Spacing
Live Stakes					
45	Cornus amomum	Silky dogwood	1-2" Dia. Live Stake	3'	2-3'
45	Cornus sericea	Red Osier dogwood	1-2" Dia. Live Stake	3'	2-3'
45	Viburnum dentatum	Arrowwood viburnum	1-2" Dia. Live Stake	3'	2-3'
45	Salix purpurea	Streamco	1-2" Dia. Live Stake	3'	2-3'
Herbaceous Plugs: Lower Coir Roll					
14	Scirpus pungens	Common three square	2" pea pot		1" off center
14	Carex intumescens	Bladder sedge	2" pea pot		1" off center
14	Lobelia cardinalis	Cardinal flower	2" pea pot		1" off center
14	Mimulus ringens	Monkey flower	2" pea pot		1" off center
14	Chelone glabra	Turtlehead	2" pea pot		1" off center
Herbaceous Plugs: Upper Coir Roll					
17	Carex intumescens	Bladder sedge	2" pea pot		1" off center
17	Carex shortinana	Short's sedge	2" pea pot		1" off center
17	Scirpus pungens	Common three square	2" pea pot		1" off center
17	Lovelia cardinalis	Cardinal flower	2" pea pot		1" off center

See Details & Installation Guidelines This Sheet

Plant Schedule: Stabilization Planting

Seed Mix/Permanant Stabilization	
Percentage	Composition
25%	Showing Northeast Native Wildflower Mix (ERNST Seed Mix 153 or Equivalent)
15%	Foxtail Millet (Seteria italica) & Annual Rye (Lolium multiflorum)
20%	Perennial Ryegrass (Lolium perenne)
40%	Hard Fescue (Fextuca ovihaduriuscula)

See Details & Installation Guidelines This Sheet

Plant Schedule: Planting Area - East Bank

Quantity	Key	Scientific Name	Common Name	Unit	Size	Spacing/Location
2	PO	Plantanus occidentalis	Sycamore	B&B	3-5'	As Shown
2	CC	Carpinus caroliana	Ironwood	B&B	2-3'	As Shown
2	LT	Liriodendron tulipifera	Tulip poplar	B&B	3-5'	As Shown
2	BN	Betula nigra	River birch	B&B	3-5'	As Shown

See Details & Installation Notes Sheet 8

Plant Schedule: Planting Area - West Bank

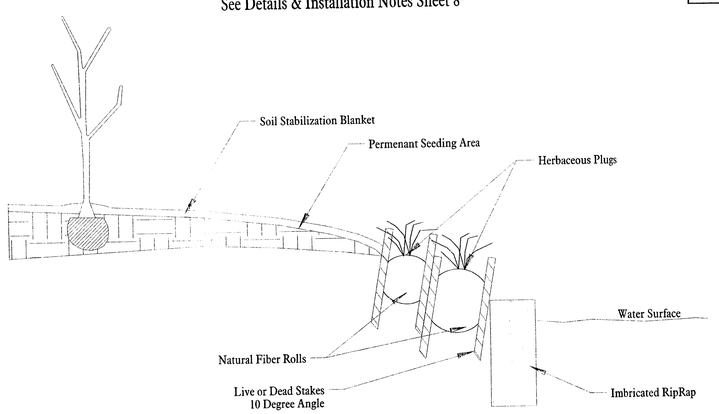
Quantity	Key	Scientific Name	Common Name	Unit	Size	Spacing/Location
3	CC	Carpinus caroliana	Ironwood	B&B	2-3'	As Shown

See Details & Installation Notes Sheet 8

Planting Schedule: Planting Area - Lower Terrace

Quantity	Scientific Name	Common Name	Unit	Size	Spacing/Location
1	Plantanus occidentalis	Sycamore	B&B	3-5'	At Discretion of Owner
1	Liriodendron tulipifera	Tulip poplar	B&B	3-5'	At Discretion of Owner
6	Lindera benzoin	Spicebush	B&B	2-3'	Att Discretion of Owner
6	Viburnum dentatum	Arrowwood	B&B	2-3'	Att Discretion of Owner
6	Carpinus caroliana	Ironwood	B&B	2-3'	Att Discretion of Owner

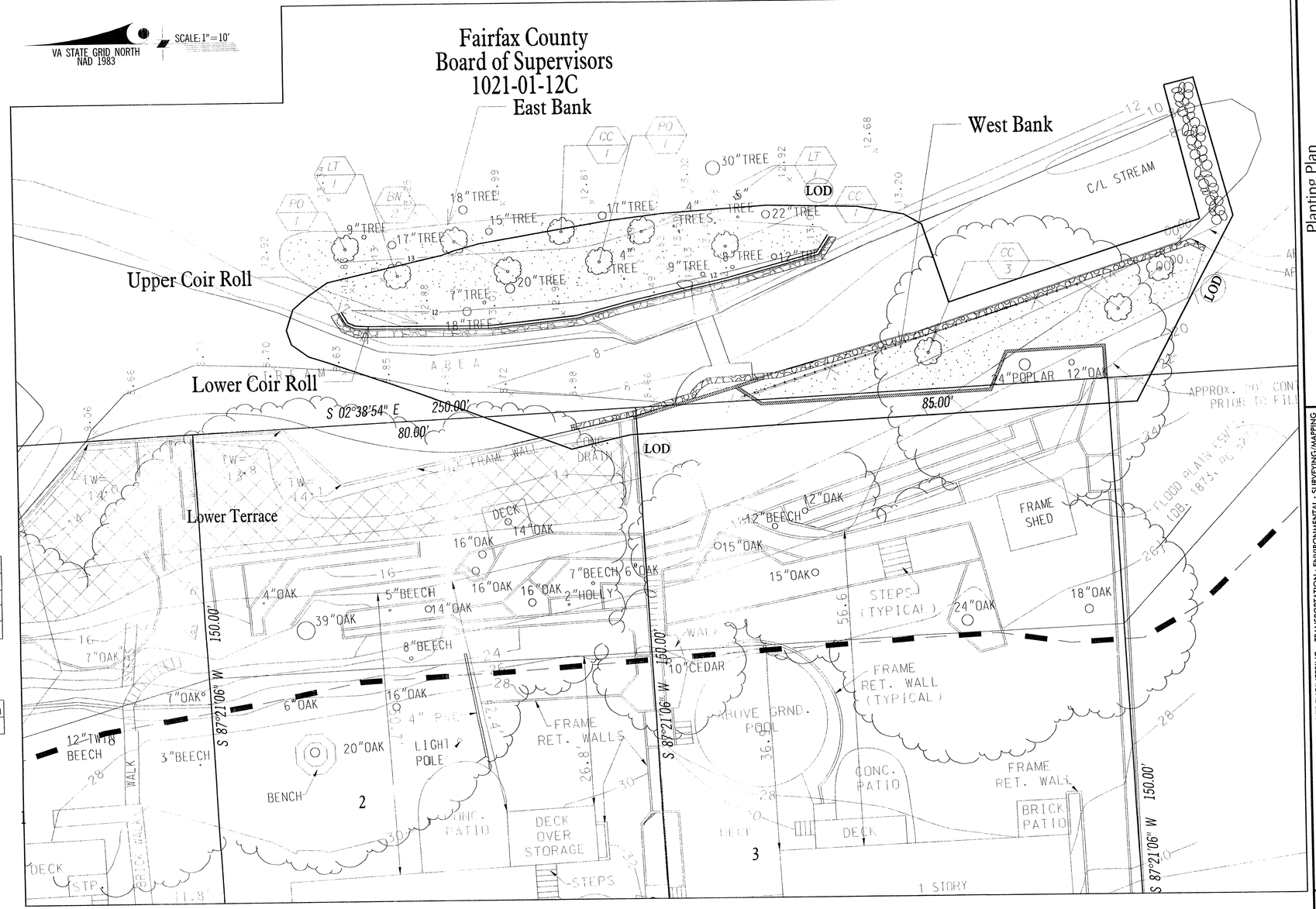
See Details & Installation Notes Sheet 8



Typical Planting Section (NTS)

VA STATE GRID NORTH
NAD 1983

SCALE: 1"=10'



LIVE STAKES: INSTALLATION GUIDELINES

LIVE STAKES WILL BE USED TO ANCHOR THE COIR ROLLS. REFER ALSO TO SHEET 8 FOR ADDITIONAL INSTALLATION DETAILS. LIVE STAKE INSTALLATION SHOULD PROCEED AS FOLLOWS (REFER TO DETAIL THIS SHEET):

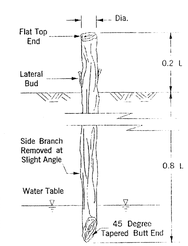
1. LIVE STAKE ROOTING AREAS SHOULD BE SOAKED IN BARRELS OF WATER FOR 24 TO 48 HOURS JUST PRIOR TO INSTALLATION.
2. WHILE KEEPING THE BARK OF THE LIVE STAKES INTACT, THE SIDE BRANCHES SHOULD BE CLEANLY REMOVED, THE BASAL ENDS ANGLED FOR EASY INSERTION, AND THE TOPS CUT SQUARE.
3. THE CUTTINGS SHOULD BE IMPLANTED WITH THE ANGLED BASAL END DOWN AND BUDS ORIENTED UP AT A MINIMUM ANGLE OF 10 DEGREES TO THE HORIZONTAL SO THAT ROOTING WILL NOT BE RESTRICTED. ALL STAKES SHOULD BE POSITIONED ABOVE THE NORMAL BASEFLOW LEVEL. PROJECT PLANNERS MAY NEED TO STUDY AN APTLY CHOSEN VEGETATED REFERENCE REACH FOR FURTHER GUIDANCE WHEN INSTALLING LIVE STAKES.
   - IN SOFT SOILS, THE STAKES CAN BE INSERTED PERPENDICULARLY INTO THE SLOPE USING A DEAD BLOW HAMMER; IN HARD SOILS, HOWEVER, A STEEL ROD SHOULD BE EMPLOYED TO CREATE A PILOT HOLE BEFORE THE STAKES ARE PLANTED.
   - TWENTY PERCENT OF THE LIVE STAKE, AND A MINIMUM OF TWO LATERAL BUDS, SHOULD BE EXPOSED ABOUT THE SLOPE SO GREEN, LEAFY SHOOTS WILL READILY GROW.
   - SPLIT OR OTHERWISE DAMAGED STAKES SHOULD BE DISCARDED.
4. AFTER THE STAKES HAVE BEEN INSERTED INTO THE GROUND, SOIL SHOULD BE TAMPED FIRMLY AROUND THEIR BASES TO ENCOURAGE ROOT GROWTH.
5. SUCCESSIVE STAKES SHOULD BE ARRANGED IN A TRIANGULAR CONFIGURATION AND SPACE A DISTANCE OF 2 TO 3 FEET (0.6 TO 0.9 METERS) APART, ALLOWING FOR A TYPICAL DENSITY OF 2 TO 4 CUTTINGS PER SQUARE YARD (0.8 SQUARE METERS). WILLOW POSTS REQUIRE ADDITIONAL ROOM FOR GROWTH AND PROPAGATION AND SHOULD BE PLANTED AT A 3 TO 5-FOOT (1 TO 5-METER) INTERVAL. WHEN INSERTED IN ARRAYS, THE STAKES SHOULD BE SPACED 12 TO 18 INCHES (30 TO 46 CENTIMETERS) APART TO FORM CHEVRON-LIKE ROWS THAT POINT DOWNSTREAM.
6. UNSTABLE SLOPE TOES SHOULD BE REINFORCED AGAINST SCOURING AND UNDERCUTTING USING LIVE FASCINES OR ROCK FILL TO GIVE THE ILIVE STAKES THE BEST OPPORTUNITY TO GROW.

HERBACEOUS PLUGS

PLANT SHOULD BE PLUGGED IN AN ALTERNATING OR 'ZIGZAG' PATTERN ALONG THE TOP OF THE FIBER ROLL IN GAPS BETWEEN THE COIR FIBER. PLANTS SHOULD NOT BE PLUGGED AT THE ROLL ANCHOR POINTS. PLANTS SHOULD BE INSTALLED AT LEAST AN INCH DEEPER INTO ROLL THAN THE DEPTH OF THE PLANT PLUG. SPACING AT PLUGS SHOULD BE EVERY 12 INCHES. SINCE IT IS IMPORTANT THAT THE PLANTS HAVE AN ADEQUATE AMOUNT OF MOISTURE WICKING UP THROUGH THE COIR ROLL, IT IS ACCEPTABLE TO INSTALL PLANTS IN SIDE OF FIBER ROLL, IF SITE CONDITIONS WARRANT.

PERMANENT SEEDING

THE SPECIFIED SEED MIX SHOULD BE APPLIED TO ALL DENUDED AREAS PRIOR TO INSTALLATION OF SOIL STABILIZATION BLANKETS. SEE DETAILS AND NOTES SHEET 8.



SE 01-V-005
Application No. Staff LQ
APPROVED SE / SP PLAN
SEE DEV CONDS DATED 7/15/04
Date of (BOS) (BZA) approval 7/24/04
Sheet 10 of 11

LEGEND

- Existing Contours (CI = 2')
- Proposed Contours
- LOD — Limits of Disturbance
- Treelines
- County-mapped Floodplain
- Streams
- Sandbag Diversion
- TP — Safety Fence
- SF — Silt Fence
- Rock Check Dam
- Erosion Control Fabric
- Natural Fiber Rolls
- Imbricated Rip-Rap
- 12" Rip-Rap

COMMONWEALTH OF VIRGINIA
William B. Burton
No. 9509
June 23, 2004
PROFESSIONAL ENGINEER

THIS SHEET FOR PLANTING PURPOSES ONLY!!!

Planting Plan
Lots 1, 2 and 3, Section 3
Sherwood Hall Stream Improvement
Fairfax County, Virginia
Prepared for Mr. William A. Kinder

PLANNING • SITE ENGINEERING • TRANSPORTATION • ENVIRONMENTAL • SURVEYING/MAPPING

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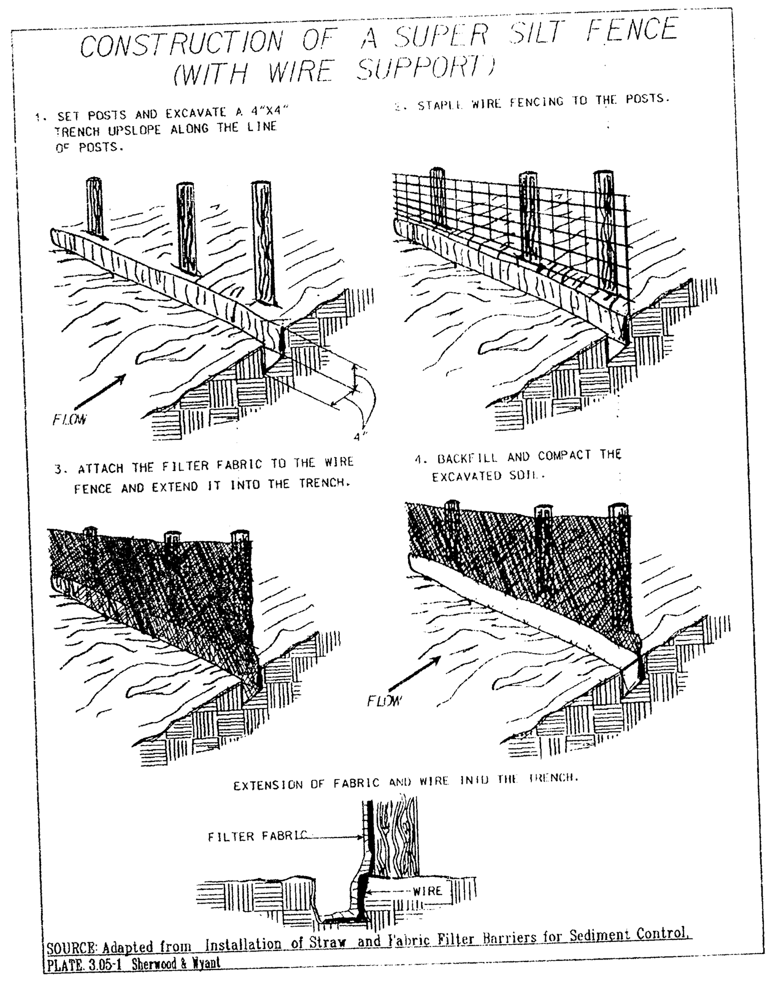
No.	REVISION	DATE	BY
1	PER COUNTY COMMENTS	6/22/04	WOR

BAE	AMG	BAE
DESIGN	DRAWN	CHECKED
1"=10'	02/2004	
SCALE	DATE	
PROJ No.	ENV0466	
FILE No.		

SHEET 10 OF 11

E&S CONTROLS SPECS

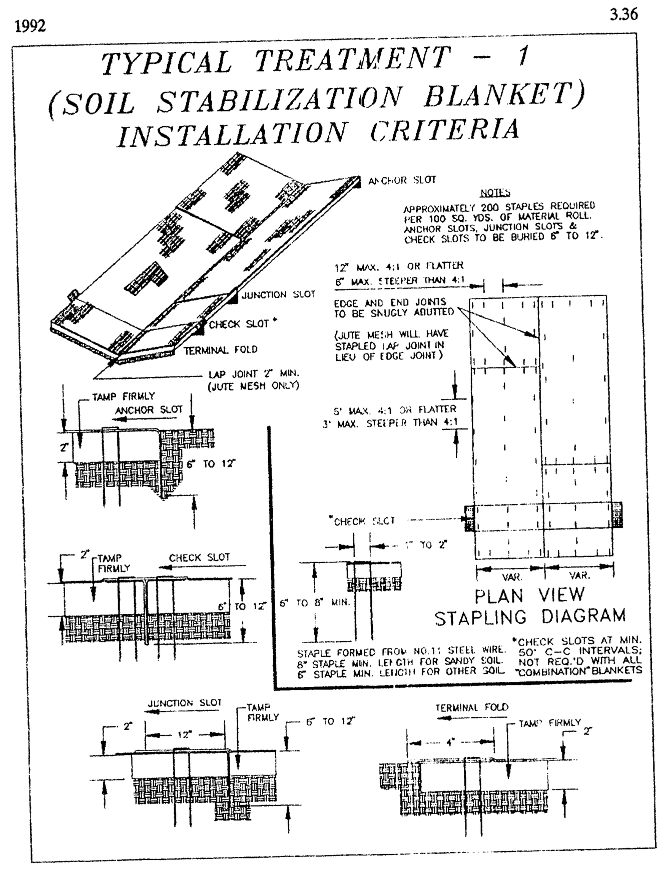


SOURCE: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood & Wyant

PLATE 3.05-1

CONSTRUCTION SPECS

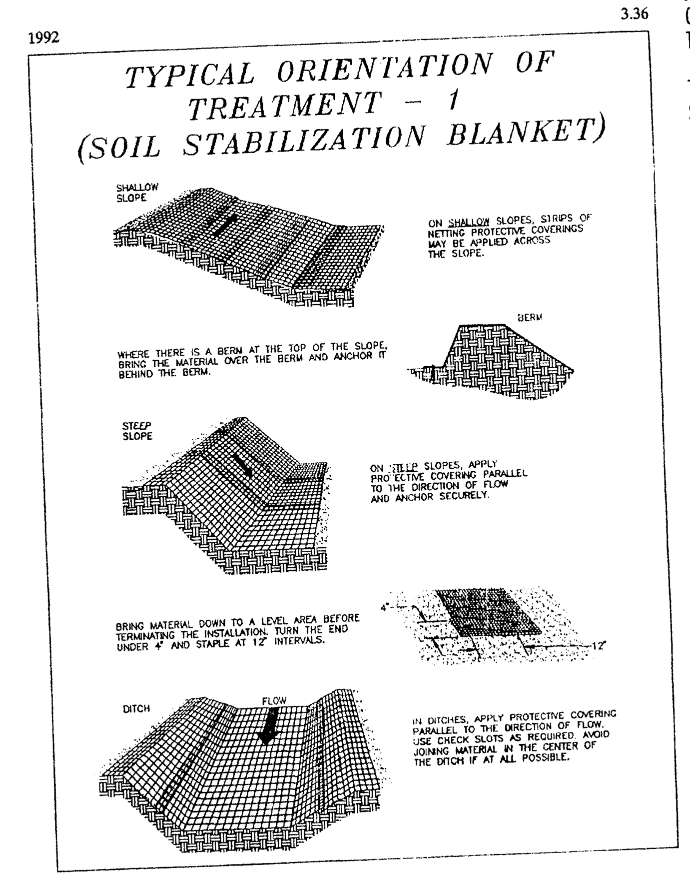
1992 3.36



Source: VDOT Road and Bridge Standards

Plate 3.36-2

1992 3.36



Source: Adapted from Ludlow Products Brochure

Plate 3.36-1

3.36 SOIL STABILIZATION BLANKETING: INSTALLATION GUIDELINES

THE SOIL STABILIZATION BLANKET TO BE USED FOR THIS PROJECT IS A C2 OR EC2 EQUIVALENT (100% COIR WITH PHOTODEGRADABLE NETTING ON BOTH SIDES). THE BLANKETS SHOULD BE INSTALLED AND ANCHORED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS. BLANKETS ARE TO BE INSTALLED IN ALL DENUDED AREAS AS SPECIFIED ON SHEET 5.

SITE PREPARATION: AFTER SITE HAS BEEN SHAPED AND GRADED TO APPROVED DESIGN, PREPARED A FRIABLE SEEDBED RELATIVELY FREE FROM CLODS AND ROCKS MORE THAN 1½INCHES IN DIAMETER AND ANY FOREIGN MATERIAL THAT WILL PREVENT UNIFORM CONTACT OF THE PROTECTIVE COVERING WITH THE SOIL SURFACE.

PLANTING: LIME, FERTILIZE, AND SEED IN ACCORDANCE WITH SEEDING OR OTHER TYPE OF PLANTING PLAN. WHEN USING JUTE MESH ON A SEEDED AREA, APPLY APPROXIMATELY ONE-HALF THE SEED AFTER LAYING THE MAT. THE PROTECTIVE COVERING CAN BE LAID OVER SPRIGGED AREAS WHERE SMALL GRASS PLANTS HAVE BEEN INSERTED INTO THE SOIL. WHERE GROUND COVERS ARE TO BE PLANTED, LAY THE PROTECTIVE COVERING FIRST AND THEN PLANT THROUGH THE MATERIAL AS PER PLANTING DESIGN. WHEN OPEN-WEAVE NETS ARE USED, LIME, FERTILIZER, SEED AND MULCH SHOULD BE APPLIED BEFORE LAYING THE NET. WHEN A COMBINATION BLANKET (SUCH AS AN "EXCELSIOR" BLANKET) IS USED, SEED AND SOIL AMENDMENTS MUST ALSO BE APPLIED BEFORE THE BLANKET IS LAID.

ORIENTATION: SEE PLATE 3.36-1 FOR ORIENTATION OF STABILIZATION BLANKETING FOR DIFFERENT TOPOGRAPHIC CONDITIONS.

LAYING AND STAPLING (SEE PLATE 3.36-2): IF INSTRUCTIONS HAVE BEEN FOLLOWED, ALL NEEDED CHECK SLOTS WILL HAVE BEEN INSTALLED, AND THE PROTECTIVE COVERING WILL BE LAID ON A *FRIABLE* SEEDBED FREE FROM CLODS, ROCKS, ROOTS, ETC. THAT MIGHT IMPEDE GOOD CONTACT.

1. START LAYING THE PROTECTIVE COVERING FROM THE TOP OF THE CHANNEL OR TOP OF SLOPE AND UNROLL DOWN-GRADE.
2. ALLOW TO LAY LOOSELY ON SOIL - DO NOT STRETCH.
3. UPSLOPE ENDS OF THE PROTECTIVE COVERING SHOULD BE BURIED IN AN ANCHOR SLOT NO LESS THAN 6-INCHES DEEP. TAMP EARTH FIRMLY OVER THE MATERIAL. STAPLE THE MATERIAL AT A MINIMUM OF EVERY 12 INCHES ACROSS THE TOP END.
4. EDGES OF THE MATERIAL SHALL BE STAPLED EVERY 3 FEET. WHERE MULTIPLE WIDTHS ARE LAID SIDE BY SIDE, THE ADJACENT EDGES SHALL BE OVERLAPPED A MINIMUM OF 2 INCHES AND STAPLED TOGETHER.
5. STAPLES SHALL BE PLACED DOWN THE CENTER, STAGGERED WITH THE EDGES AT 3 FOOT INTERVALS.

CHECK SLOTS: ON HIGHLY ERODIBLE SOILS AND ON SLOPES STEEPER THAN 4:1, EROSION CHECK SLOTS SHOULD BE MADE EVERY 50 FEET (SEE PLATE 3.36-2). INSERT A FOLD OF THE MATERIAL (SEPARATE PIECE) INTO A 6-INCH TRENCH AND TAMP FIRMLY. STAPLE FOLD TO 'MAIN' BLANKET AT MINIMUM 12-INCH INTERVALS ACROSS THE UPSTREAM AND DOWNSTREAM PORTION OF THE BLANKET.

NOTE: MANY COMBINATION BLANKETS ARE DESIGNED AND MANUFACTURED TO RESIST MOVEMENT AND UPLIFT TO A POINT WHICH CHECK SLOTS MAY NOT BE REQUIRED. PLAN DESIGNERS AND REVIEW AUTHORITIES ARE URGED TO STUDY MANUFACTURERS' RECOMMENDATIONS AND SITE CONDITIONS.

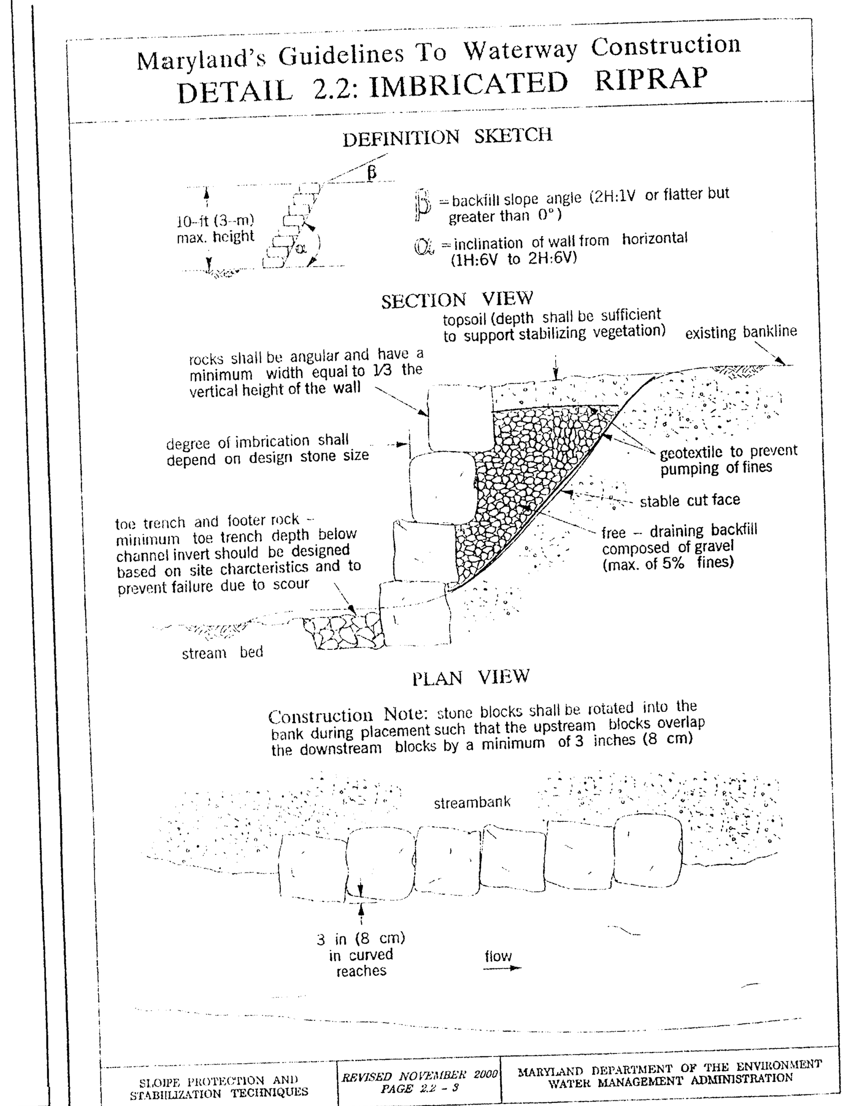
JOINING PROTECTIVE COVERINGS: INSERT A NEW ROLL OF MATERIAL INTO AN ANCHOR SLOT, AS WITH UPSLOPE ENDS. OVERLAP THE END OF THE PREVIOUS ROLL A MINIMUM OF 12 INCHES, AND STAPLE ACROSS THE END OF THE ROLL JUST BELOW THE ANCHOR SLOT AND ACROSS THE MATERIAL EVERY 12 INCHES.

TERMINAL END: AT THE POINT AT WHICH THE MATERIAL IS DISCONTINUED, OR AT WHICH TIME THE PROTECTIVE COVERING MEETS A STRUCTURE OF SOME TYPE, FOLD 4 INCHES OF THE MATERIAL UNDERNEATH AND STAPLE EVERY 12 INCHES (MINIMUM).

AT BOTTOM OF SLOPES: LEAD NET OUT INTO A LEVEL AREA BEFORE ANCHORING. TURN ENDS UNDER 4 INCHES, AND STAPLE ACROSS END EVERY 12 INCHES.

FINAL CHECK: THESE INSTALLATION TECHNIQUES MUST BE ADHERED TO:
1. PROTECTIVE BLANKET IS IN UNIFORM CONTACT WITH THE SOIL.
2. ALL LAP JOINTS ARE SECURE.
3. ALL STAPLES ARE DRIVEN FLUSH WITH THE GROUND.
4. ALL DISTURBED AREAS HAVE BEEN SEEDED.

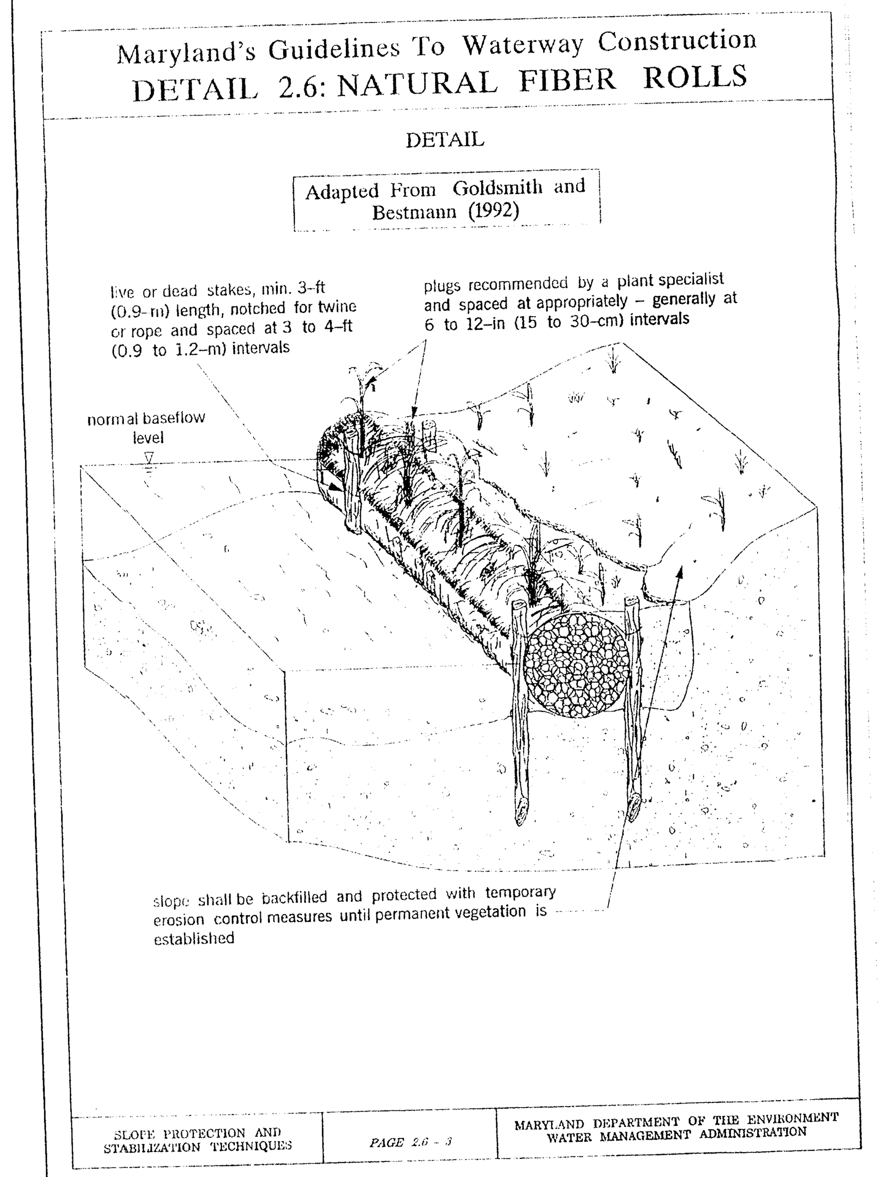
CONSTRUCTION SPECS cont'd



2.2 IMBRICATED RIP-RAP: INSTALLATION GUIDELINES

ALL EROSION AND SEDIMENT CONTROL DEVICES, INCLUDING DEWATERING BASINS, SHOULD BE IMPLEMENTED AS THE FIRST ORDER OF BUSINESS ACCORDING TO A PLAN APPROVED BY FAIRFAX COUNTY. THE RECOMMENDED CONSTRUCTION PROCEDURE FOR IMBRICATED RIP-RAP IS AS FOLLOWS (REFER TO DETAIL 2.2):

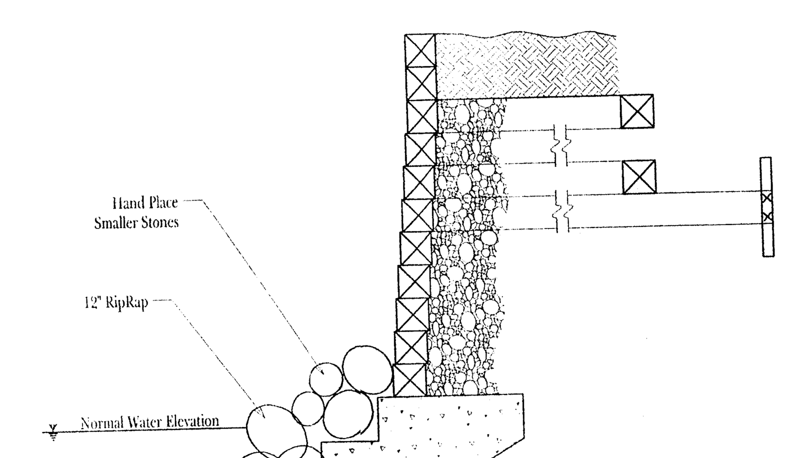
1. THE STREAM SHOULD BE DIVERTED ACCORDING TO FC RECOMMENDED PROCEDURE (SEE SECTION J TEMPORARY IN-STREAM CONSTRUCTION MEASURES, MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION), AND THE CONSTRUCTION AREA SHOULD BE DEWATERED.
2. ALL EXCAVATION SHOULD BE MADE IN REASONABLY CLOSE CONFORMITY WITH THE EXISTING STREAM SLOPE AND BED. THE SLOPE OF THE CUT FACE SHOULD BE IN THE RANGE OF 1H:6V TO 2H:6V. LOOSE MATERIAL AT THE TOE OF THE EMBANKMENT SHOULD BE EXCAVATED UNTIL A STABLE FOUNDATION IS REACHED, USUALLY WITHIN 2 TO 3 FEET (0.6 TO 0.9 METERS) OF THE SURFACE. THE SUBGRADE SHOULD BE SMOOTH, FIRM, AND FREE FROM PROTRUDING OBJECTS OR VOIDS THAT WOULD EFFECT THE PROPER POSITIONING OF THE FIRST LAYER OF STONES.
3. A GRADED GRANULAR FILTER OR FILTER FABRIC SHOULD BE PLACED ON THE FACE OF THE CUT SLOPE TO PREVENT THE MIGRATION OF FINE MATERIALS THROUGH THE REVETMENT. IF FILTER FABRIC IS USED, IT SHOULD BE CAREFULLY AND LOOSELY PLACED ON THE PREPARED SLOPE AND SECURED. ADJACENT STRIPS SHOULD OVERLAP A MINIMUM OF 8 INCHES (0.20 METERS). IF THE FILTER FABRIC IS TORN OR DAMAGED, IT SHOULD BE REPAIRED OR REPLACED.
4. THE ROCK LAYERS SHOULD BE NEARLY STACKED WITH STAGGERED JOINTS SO THAT EACH STONE RESTS FIRMLY ON TWO STONES IN THE TIER BELOW. ADDITIONALLY, SMALLER STONES SHOULD BE USED TO FILL VOIDS SO THAT EACH ROCK RESTS SOLIDLY ON THE PREVIOUS ROCK LAYER WITH MINIMAL OPPORTUNITY FOR MOVEMENT. UPON COMPLETION OF THE FIRST LAYER OF STONE, THE TOE TRENCH SHOULD BE FILLED WITH CLASS III RIPRAP SIZED ACCORDING TO MGWC 2.1: RIP-RAP OR ADDITIONAL IMBRICATED STONE. TWO FOOTER STONES SHOULD BE USED WHERE HIGH POTENTIAL FOR CHANNEL INCISION EXISTS. THE HIGHER OF THE IMBRICATED REVETMENT IS DICTATED BY THE SIZE OF THE STONE USED, AND THE HIGHER SHOULD NOT EXCEED 3 TIMES THE LENGTH OF THE LONGEST AXIS AND SHOULD NOT BE GREATER THAN 10 FEET (3 METERS).
5. THE ROCK LAYERS SHOULD EXTEND A MINIMUM OF 6" ABOVE NORMAL WATER ELEVATION.
6. PLACEMENT OF THE GRANULAR BACKFILL SHOULD OCCUR CONCURRENTLY WITH THE STONE PLACEMENT. THE BACKFILL SLOPE ANGLE SHOULD BE 2H:1V OR FLATTER BUT SHOULD BE GREATER THAN 0 DEGREES TO FACILITATE DRAINAGE. ONCE ALL OF THE BACKFILL IS IN PLACE, IT SHOULD BE COVERED WITH A FILTER LAYER AND A LAYER OF TOPSOIL SUFFICIENT TO SUPPORT A NATIVE VEGETATIVE COVER.
7. THE DISTURBED SECTIONS OF THE CHANNEL, INCLUDING THE SLOPES AND STREAM BED, SHOULD BE STABILIZED WITH METHODS APPROVED BY FC.



2.6 NATURAL FIBER ROLLS: INSTALLATION GUIDELINES

ALL EROSION AND SEDIMENT CONTROL DEVICES, INCLUDING DEWATERING BASINS, SHOULD BE IMPLEMENTED AS THE FIRST ORDER OF BUSINESS ACCORDING TO A PLAN APPROVED BY THE WMA OR LOCAL AUTHORITY. REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. THE RECOMMENDED CONSTRUCTION PROCEDURE FOR NATURAL FIBER LOGS SHOULD PROCEED AS FOLLOWS (REFER TO DETAIL 2.6):

1. NATURAL FIBER ROLLS SHOULD BE INSTALLED SO THAT THEY REST AGAINST THE BOTTOM OF THE WATERWAY IN PONDS AND LAKES. IN STREAMS AND RIVERS, THE FIRST ROW OF FIBER LOGS SHOULD BE PLACED ABOVE ANY NECESSARY TOE STABILIZATION MEASURES. NATURAL FIBER LOGS SHOULD NOT BE USED AS THE PRIIMARY TOE STABILIZATION MEASURE IN STREAMS OR RIVERS.
2. PLANTS SHOULD BE PLUGGED IN AN ALTERNATING PATTERN ALONG THE TOP OF THE FIBER LOG GAPS BETWEEN THE COIR FIBER NETTING. APPROPRIATE SPECIES AND A SPACING RANGING FROM 6 TO 12 INCHES (0.15 TO 0.3 METER SHOULD BE SELECTED BY A PLANT SPECIALIST ACCORDING TO SITE CHARACTERISTICS SUCH AS SOIL PROPERTIES, ANTICIPATED POST-CONSTRUCTION BANK SLOPE, WATER CHEMISTRY, AMOUNT OF AVAILABLE SUNLIGHT, AND EXPECTED DURATION OF INUNDATION DURING HIGH STREAM FLOWS. IF WATER LEVELS ARE TOO LOW FOR THE FIBER LOGS TO BE SUBMERGED ½TO 2/3 OF THEIR DIAMETER, PLANTS SHOULD BE PLUGGED INSIDE THE SOIL/LOG INTERFACE WHERE THEY WILL RECEIVE ADEQUATE MOISTURE.
3. LIVE OR DEAD STAKES SHOULD BE USED TO ANCHOR THE FIBER LOGS IN PLACE. STAKES SHOULD BE NOTCHED APPROXIMATELY 5 INCHES (13 CENTIMETERS) FROM THEIR TOPS AND POUNDED PARTIALLY INTO THE GROUND ON EITHER SIDE OF THE BUNDLE AT A SPACING OF 3 TO 4 FEET (0.9 TO 1.2 METERS). TWINE SHOULD BE TIED FROM THE NOTCH IN ONE STAKE TO THE NOTCH IN THE STAKE DIRECTLY OPPOSITE. THE STAKES SHOULD THEN BE DRIVEN SO THAT THE TWINE IS SECURED AGAINST THE TOP OF THE ROLL. IDEALLY, THE TOP OF THE STAKE SHOULD BE FLUSH WITH THE TOP OF THE ROLL.
4. THE ENDS OF ADJACENT LOGS SHOULD BE LACED TOGETHER WITH TWINE BY MAKING A NUMBER OF PASSED IN THE END NETTING BETWEEN THE LOGS AND PULLING THE TWINE TAUT. WHERE A FIBER ROLL DOES NOT ABUT ANOTHER FIBER ROLL, THE END SHOULD BE BENT INWARD AND BURIED IN THE BANK TO PREVENT WATER FROM INTRUDING BEHIND THE ROLL AND DISLODGING IT.
5. SUCCESSIVE ROWS OF FIBER ROLLS SHOULD BE OFFSET 3 TO 8 INCHES (8 TO 20 CENTIMETERS). ADDITIONALLY, TO ENSURE THAT ROOTS EXTEND INTO THE SOIL, PLANTS SHOULD BE PLUGGED INTO THE SIDES OF THE FIBER LOG NEAR THE SOIL. THE NEED TO BACKFILL/CONTOUR THE SOIL BEHIND THE FIBER LOGS AND BETWEEN SUCCESSIVE LIFTS WILL DEPEND ON THE SPECIFIC AESTHETIC AND PHYSICAL REQUIREMENTS OF THE PROJECT. THE RE-CONTOURED SOIL SHOULD BE SEEDED AND/OR PLUGGED WITH APPROPRIATE VEGETATIVE SPECIES AND COVERED WITH AN EROSION CONTROL BLANKET TO PREVENT SLOPE EROSION.



Existing Retaining Wall & Proposed Footing Stabilization Detail (NTS)

PLANTING SPECS

GENERAL & BALL/BURLAP SPECIFICATIONS

A. MATERIALS

THE MATERIALS AND METHODS SHALL COMPLY WITH ALL REQUIREMENTS OF THE CURRENT EDITION OF THE "LANDSCAPE SPECIFICATION GUIDELINES" PREPARED BY THE LANDSCAPE CONTRACTORS ASSOCIATION (LCA) AND AS MODIFIED HEREIN. PLANT MATERIAL SIZE SHALL CONFORM TO AMERICAN STANDARD FOR NURSERY STOCK - AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS. ALL PLANT MATERIALS FURNISHED AND INSTALLED BY CONTRACTOR WILL ALSO MEET THE FOLLOWING REQUIREMENTS:

1.0 PLANT SOURCE SHALL BE FROM NO FURTHER THAN 250 MILES FROM THE SITE AND FROM HARDNESS ZONES 6 AND/OR 7.
2.0 ALL MATERIAL TO BE PLANTED SHALL BE IN EXCELLENT PHYSIOLOGICAL CONDITION, FREE FROM OBSERVABLE INSECT INFESTATION AND DISEASE, AND REPRESENTATIVE OF THE SPECIES RELATED TO FORM, INCLUDING ROOT TO CROWN RATIO AND ROOT DENSITY.
3.0 CONTAINER GROWN PLANTS SHALL BE FROM CONTAINERS OF THE APPROPRIATE SIZE AND SHALL HAVE BEEN IN THOSE CONTAINERS SUFFICIENTLY LONG TO DEMONSTRATE THAT THE ROOT SYSTEM IS ADEQUATELY DEVELOPED TO MAINTAIN THE CONTAINER SHAPE AND RETAIN ESSENTIALLY ALL OF THE GROWING MEDIUM UPON REMOVAL OF THE PLANT FROM THE CONTAINER.
4.0 CONTAINER & BALLED AND BURLAP (B&B) PLANTS SHALL BE HEIGHT SPECIFIED ON PLANT SCHEDULE.
5.0 THE GROWING MEDIUM FOR CONTAINER AND B&B PLANTS SHALL BE MAINTAINED IN A MOIST CONDITION CONTINUOUSLY FROM PICK-UP AT THE SUPPLIER UNTIL THEY ARE PLANTED.

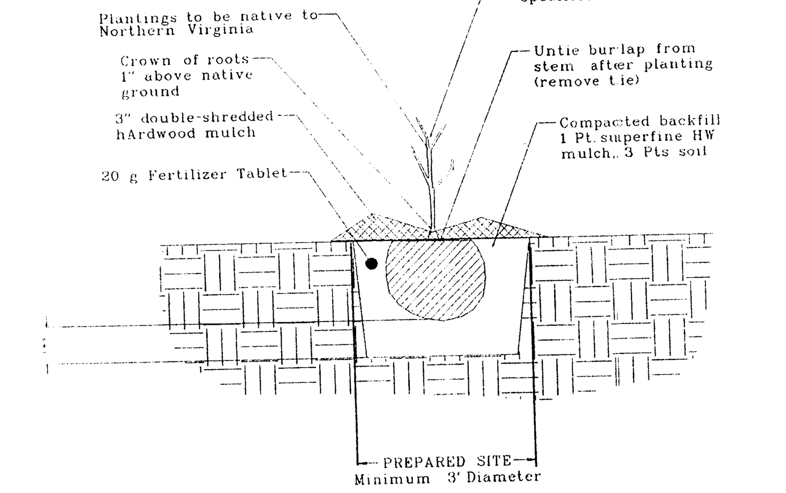
B. METHODS

SITE PREPARATION AND PLANTING WILL BE CONDUCTED IN THE MANNER SPECIFIED BELOW:

1.0 PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN THREE DAYS AFTER DELIVERY, AND MUST BE PROTECTED FROM DIRECT SUNLIGHT AND DRYING WINDS.
2.0 PLANTING SHALL BE CONDUCTED DURING FALL 2003.
3.0 LIVE FORBS AND GRASSES SHALL BE REMOVED FROM A THREE-FOOT PLANTING CIRCLE, PRIOR TO EXCAVATION FOR PLANTING.
4.0 SPACING BETWEEN PLANTS SHALL AVERAGE 10 FEET, WITH A MINIMUM SPACING OF 4 FEET AND MAXIMUM SPACING OF 12 FEET.
5.0 FIFTY PERCENT OF THE TREES AND SHRUBS OF EACH SPECIES SHOULD BE PLANTED IN CLUSTERS CONSISTING OF 3 TO 7 PLANTS OF A SINGLE SPECIES AT THE RECOMMENDED SPACING. THE REMAINING TREES AND SHRUBS SHALL BE PLANTED RANDOMLY AT THE RECOMMENDED SPACING.
6.0 HOLES FOR CONTAINER AND B&B STOCK SHALL BE ONE FOOT DEEPER THAN THE DEPTH OF THE CONTAINER. THE HOLE SHALL BE THREE TIMES THE DIAMETER OF THE CONTAINER. (SEE BALL & BURLAP STOCK DETAIL THIS SHEET)
7.0 SOIL FROM THE HOLE CREATED FOR CONTAINER AND B&B STOCK SHALL BE MODIFIED BY THOROUGHLY MIXING ONE PART SUPERFINE HARDWOOD MULCH TO THREE PARTS SOIL PRIOR TO PLANTING THE STOCK. THE MODIFIED SOIL SHALL BE PLACED SO THAT THE ROOT COLLAR IS AT AN ELEVATION 1" TO 2" ABOVE THE ELEVATION OF THE ADJACENT UNDISTURBED GROUND. THE GROWING MEDIUM SHALL BE FIRMLY COMPACTED WITHIN THE COMPLETED HOLE.
8.0 EACH CONTAINER AND B&B PLANT SHALL HAVE A 20-GRAM CONTROLLED RELEASE FERTILIZER TABLET INSTALLED APPROXIMATELY 2" BELOW THE FINISHED GROUND SURFACE. THE FERTILIZER TABLET SHOULD NOT BE IN CONTACT WITH THE ROOTS OF THE PLANT.
9.0 UPON PLANTING, EACH PLANT SHALL BE WATERED TO THE POINT WHERE THE SOIL IS SATURATED.
10.0 UPON COMPLETION OF WATERING, EACH PLANT SHALL BE MULCHED WITH 2" TO 3" OF DOUBLE-SHREDDED HARDWOOD MULCH. THE MULCH RING SHALL BE NO LESS THAN 2' IN DIAMETER AND SHALL BE CENTERED AROUND THE MAIN STEM OF THE PLANT.
11.0 UPON COMPLETION OF WATERING, AND WITHIN 48 HOURS OF PLANTING, EACH BARE CONTAINER GROWN AND B&B PLANT SHALL BE EQUIPPED WITH A STAKED PLASTIC TUBE EQUIPPED WITH A CAP OF NETTING. (SEE TREE TUBE PLANTING DETAIL SHEET 9)

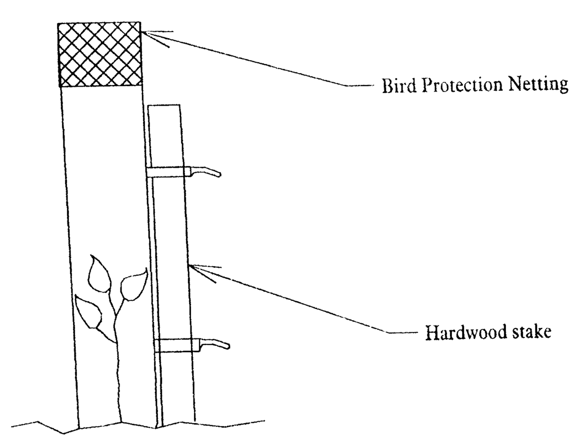
C. MAINTENANCE

1.0 PLANT MATERIALS SHALL BE WARRANTED AND MAINTAINED BY THE CONTRACTOR FOR ONE YEAR BEGINNING AFTER INITIAL PLANT INSTALLATION IS COMPLETED. THE CONTRACTOR SHALL PERFORM AT LEAST MONTHLY INSPECTIONS OF THE PLANTINGS, AND REMOVE AND REPLACE DEAD OR DISEASED VEGETATION SUCH THAT A 85% LEVEL OF VIABILITY FOR PLANTED TREES AND SHRUBS IS ESTABLISHED BY THE END OF THE ONE YEAR WARRANTY PERIOD.
2.0 TREE AND SHRUB REPLACEMENTS SHALL BE MADE IN ACCORDANCE WITH THE ORIGINAL PLANTING PERIODS SPECIFIED ABOVE. THE CONTRACTOR SHALL NOTIFY THE CLIENT TO ARRANGE A SITE MEETING TO DETERMINE REPLACEMENT REQUIREMENTS.
3.0 THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL TRASH AND DEBRIS GENERATED DURING THE PLANTING OF TREES AND SHRUBS.



BALLED/BURLAP (B&B) PLANTING DETAIL

(NOT TO SCALE)



TREE TUBE PLANTING DETAIL

(NOT TO SCALE)

Application No. SE 01-V-005 Staff LG.
APPROVED (SE) / SP PLAN
SEE DEV CONDS DATED 7/15/04
Date of (BOS) (BZA) approval 7/26/04
Sheet 11 of 11

COMMONWEALTH OF VIRGINIA
William B. Burton
No. 9509
June 23, 2004
PROFESSIONAL ENGINEER

Construction Specifications
Lots 1, 2 and 3, Section 3
Sherwood Hall Stream Improvement
Fairfax County, Virginia
Prepared for Mr. William A. Kinder

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No.	REVISION	DATE	BY

RLP DESIGN | AMG DRAWN
NTS SCALE | 02/2 DATE
PROJ No. | ENV FILE No.
SHEET 11 OF