

Legend

- WETLAND
- WETLAND BUFFER
- WETLAND SYMBOL
- HEAD OF STREAM
- STREAM
- STREAM BUFFER
- 100 YEAR FLOOD PLAN
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EX. FOREST EDGE
- PROPOSED WOODS EDGE (RETENTION)
- M1C2
- SOIL LABEL
- SOIL BOUNDARY
- FOREST PROTECTION FENCE
- PERMANENT FOREST PROTECTION SIGNAGE
- REFORESTATION ZONE I
- REFORESTATION ZONE II
- REFORESTATION ZONE III
- SCRUB/SHRUB/HEDGEROW OR TREE GROUP
- FOREST CONSERVATION EASEMENT
- LIMIT OF DISTURBANCE

FOREST CONSERVATION EASEMENT "E"
 (F-01-137)
 0.15± ACRES TOTAL
 0.13± ACRES RETAINED
 0.02± ACRES REFORESTATION
 0.00± ACRES FLOODPLAIN

FOREST CONSERVATION EASEMENT "T-1"
 0.86± ACRES TOTAL
 0.28± ACRES RETAINED
 0.58± ACRES REFORESTATION
 0.00± ACRES FLOODPLAIN

FOREST CONSERVATION EASEMENT "U-1"
 1.74± ACRES TOTAL
 1.14± ACRES RETAINED
 0.03± ACRES UNREFORESTED
 0.48± ACRES REFORESTATION
 0.17± ACRES FLOODPLAIN (INCLUDES 0.08 ACRES REFORESTATION)

5.48± ACRES TO BE CLEARED
 (ENTIRE SITE, INCLUDES 0.31± ACRES FUTURE CLEARING)

OPEN SPACE
 LOT 121
 16.1± AC

DEDICATED TO
 HOWARD COUNTY
 DEPARTMENT OF
 RECREATION AND PARKS

0.03± ACRES UNREFORESTED

MATCH LINE - SEE SHEET 3 OF 4

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS	
N/A	DATE
CHIEF, BUREAU OF HIGHWAYS	
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING	
<i>West...</i>	6/2/04
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>...</i>	6/7/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE

Date No. Revision Description

EMERSON SECTION 2
 (KEY PROPERTY)
PHASE 4
 OPEN SPACE LOT 121

OWNER / DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
 THE HOUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 PHONE: (410) 952-6884

6-3-04
 Date

STATE OF MARYLAND
 THOMAS H. RESER
 REGISTERED LANDSCAPE ARCHITECT

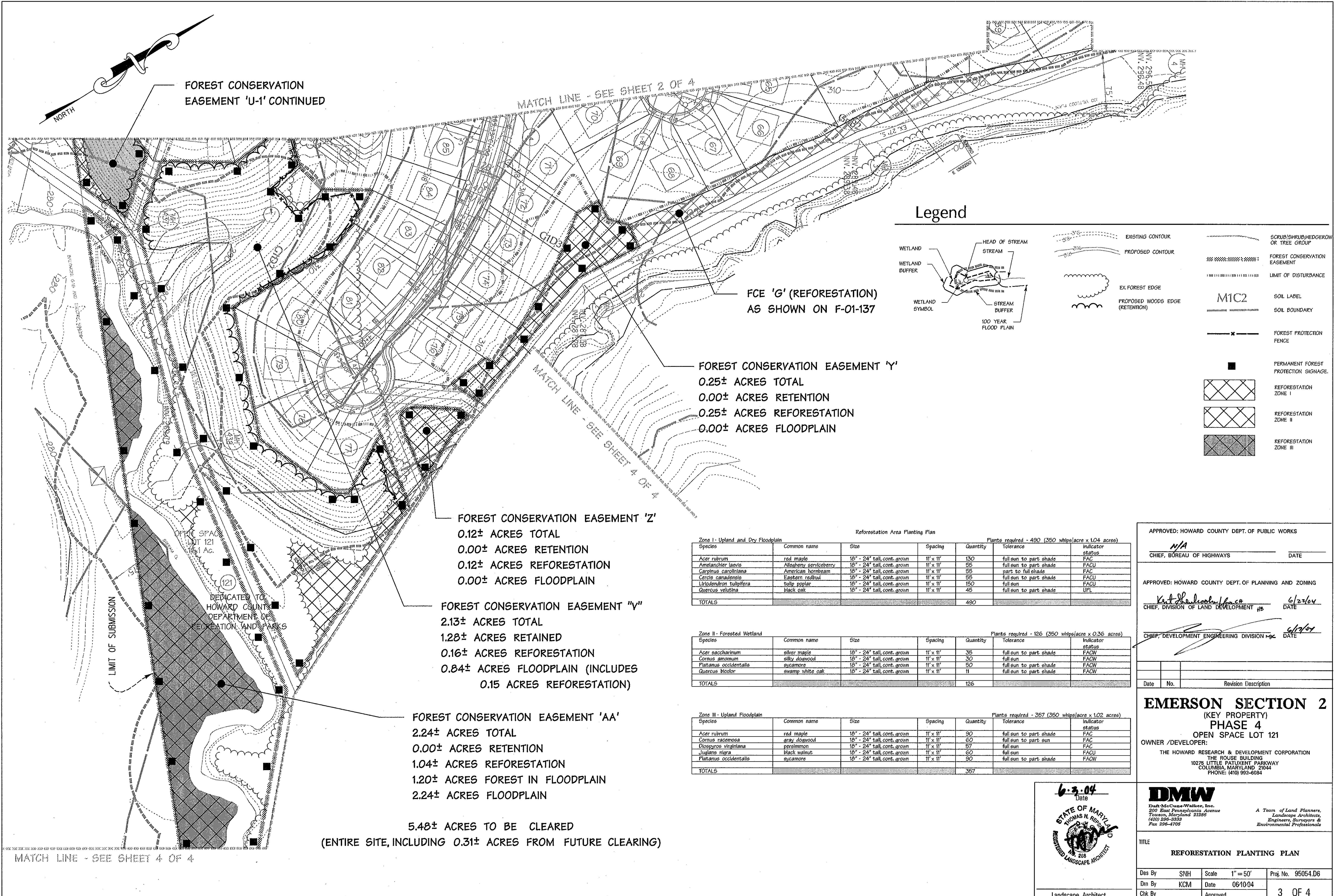
Landscape Architect

DMW
 Daft McCune-Walker, Inc.
 300 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 896-3338
 Fax 296-4706

A Team of Land Planners,
 Landscape Architects,
 Engineers, Surveyors &
 Environmental Professionals

TITLE
REFORESTATION PLANTING PLAN

Des By	SNH	Scale	1" = 50'	Proj. No.	95054.D6
Dwn By	KCM	Date	06/10/04		
Chk By		Approved			2 OF 4



FOREST CONSERVATION EASEMENT 'U-1' CONTINUED

MATCH LINE - SEE SHEET 2 OF 4

FCE 'G' (REFORESTATION) AS SHOWN ON F-01-137

FOREST CONSERVATION EASEMENT 'Y'
 0.25± ACRES TOTAL
 0.00± ACRES RETENTION
 0.25± ACRES REFORESTATION
 0.00± ACRES FLOODPLAIN

FOREST CONSERVATION EASEMENT 'Z'
 0.12± ACRES TOTAL
 0.00± ACRES RETENTION
 0.12± ACRES REFORESTATION
 0.00± ACRES FLOODPLAIN

FOREST CONSERVATION EASEMENT 'V'
 2.13± ACRES TOTAL
 1.28± ACRES RETAINED
 0.16± ACRES REFORESTATION
 0.84± ACRES FLOODPLAIN (INCLUDES 0.15 ACRES REFORESTATION)

FOREST CONSERVATION EASEMENT 'AA'
 2.24± ACRES TOTAL
 0.00± ACRES RETENTION
 1.04± ACRES REFORESTATION
 1.20± ACRES FOREST IN FLOODPLAIN
 2.24± ACRES FLOODPLAIN

5.48± ACRES TO BE CLEARED
 (ENTIRE SITE, INCLUDING 0.31± ACRES FROM FUTURE CLEARING)

Legend

WETLAND BUFFER, WETLAND SYMBOL, HEAD OF STREAM, STREAM, 100 YEAR FLOOD PLAN, EXISTING CONTOUR, PROPOSED CONTOUR, EX FOREST EDGE, PROPOSED WOODS EDGE (RETENTION), SCRUB/SHRUB/HEDGEROW OR TREE GROUP, FOREST CONSERVATION EASEMENT, LIMIT OF DISTURBANCE, SOIL LABEL M1C2, SOIL BOUNDARY, FOREST PROTECTION FENCE, PERMANENT FOREST PROTECTION SIGNAGE, REFORESTATION ZONE I, REFORESTATION ZONE II, REFORESTATION ZONE III

Reforestation Area Planting Plan

Zone I - Upland and Dry Floodplain

Species	Common name	Size	Spacing	Quantity	Tolerance	Indicator status
<i>Acer rubrum</i>	red maple	18" - 24" tall, cont. grow	11' x 11'	130	full sun to part shade	FAC
<i>Amelanchier laevis</i>	Allegheny serviceberry	18" - 24" tall, cont. grow	11' x 11'	95	full sun to part shade	FACU
<i>Carpinus caroliniana</i>	American hornbeam	18" - 24" tall, cont. grow	11' x 11'	95	part to full shade	FAC
<i>Cercis canadensis</i>	Eastern redbud	18" - 24" tall, cont. grow	11' x 11'	95	full sun to part shade	FACU
<i>Liriodendron tulipifera</i>	tulip poplar	18" - 24" tall, cont. grow	11' x 11'	150	full sun	FACU
<i>Quercus velutina</i>	black oak	18" - 24" tall, cont. grow	11' x 11'	45	full sun to part shade	UPL
TOTALS				490		

Zone II - Forested Wetland

Species	Common name	Size	Spacing	Quantity	Tolerance	Indicator status
<i>Acer saccharinum</i>	silver maple	18" - 24" tall, cont. grow	11' x 11'	35	full sun to part shade	FACW
<i>Cornus amomum</i>	silly dogwood	18" - 24" tall, cont. grow	11' x 11'	30	full sun	FACW
<i>Platanus occidentalis</i>	sycamore	18" - 24" tall, cont. grow	11' x 11'	50	full sun to part shade	FACW
<i>Quercus bicolor</i>	swamp white oak	18" - 24" tall, cont. grow	11' x 11'	11	full sun to part shade	FACW
TOTALS				126		

Zone III - Upland Floodplain

Species	Common name	Size	Spacing	Quantity	Tolerance	Indicator status
<i>Acer rubrum</i>	red maple	18" - 24" tall, cont. grow	11' x 11'	90	full sun to part shade	FAC
<i>Cornus racemosa</i>	gray dogwood	18" - 24" tall, cont. grow	11' x 11'	60	full sun to part sun	FAC
<i>Diospyros virginiana</i>	persimmon	18" - 24" tall, cont. grow	11' x 11'	57	full sun	FAC
<i>Juglans nigra</i>	black walnut	18" - 24" tall, cont. grow	11' x 11'	30	full sun	FACU
<i>Platanus occidentalis</i>	sycamore	18" - 24" tall, cont. grow	11' x 11'	30	full sun to part shade	FACW
TOTALS				357		

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
 N/A
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 K. J. Shallock, Inc.
 CHIEF, DIVISION OF LAND DEVELOPMENT #18 6/22/04 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION #18 6/17/04 DATE

Date	No.	Revision Description

EMERSON SECTION 2
 (KEY PROPERTY)
PHASE 4
 OPEN SPACE LOT 121
 OWNER /DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 PHONE: (410) 992-6084



DMW
 Darr McConne Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3333
 Fax 296-4708
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

TITLE: REFORESTATION PLANTING PLAN

Des By	SNH	Scale	1" = 50'	Proj. No.	95054.D6
Drn By	KCM	Date	06/10/04		
Chk By	Approved				3 OF 4

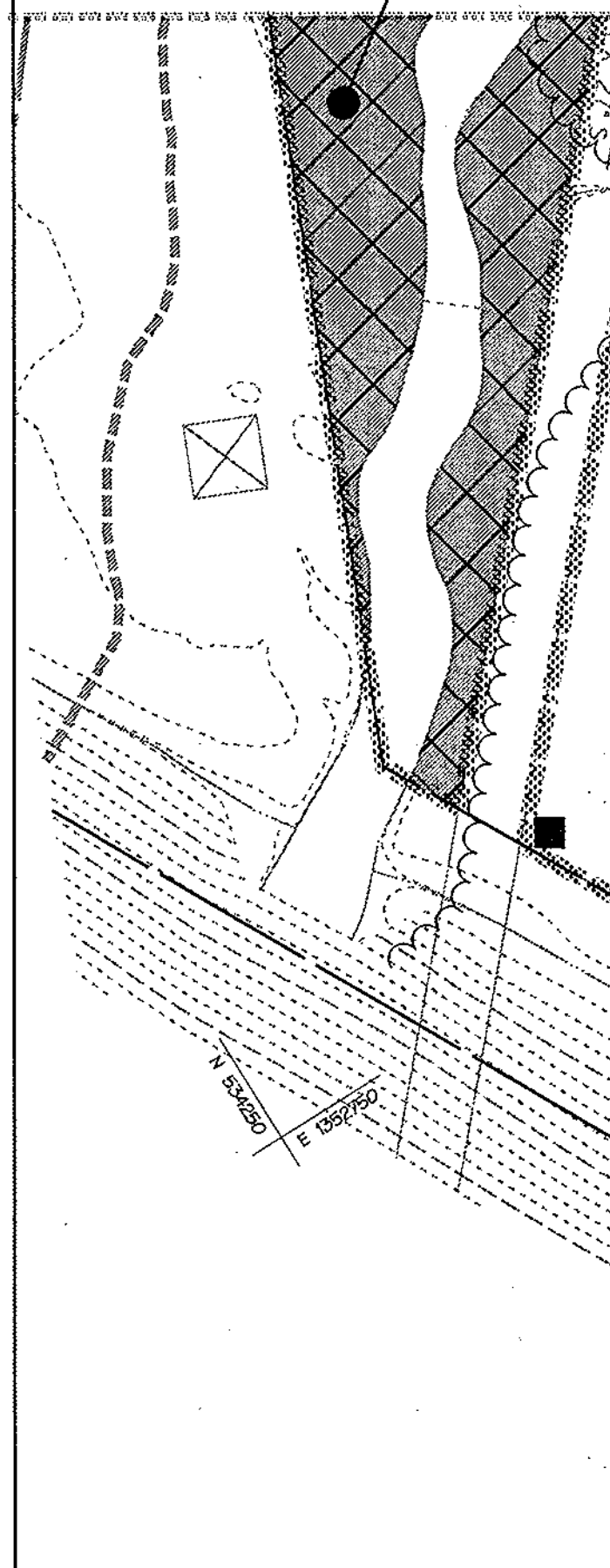
FOREST CONSERVATION EASEMENT "X"
 0.35 +/- ACRES TOTAL
 0.25 +/- ACRES RETAINED
 0.10 +/- ACRES FLOODPLAIN

FOREST CONSERVATION EASEMENT "W"
 4.03 +/- ACRES TOTAL
 2.12 +/- ACRES RETAINED
 0.13 +/- ACRES REFORESTATION
 1.91 +/- ACRES FLOODPLAIN (INCLUDES
 0.13 ACRES REFORESTATION)

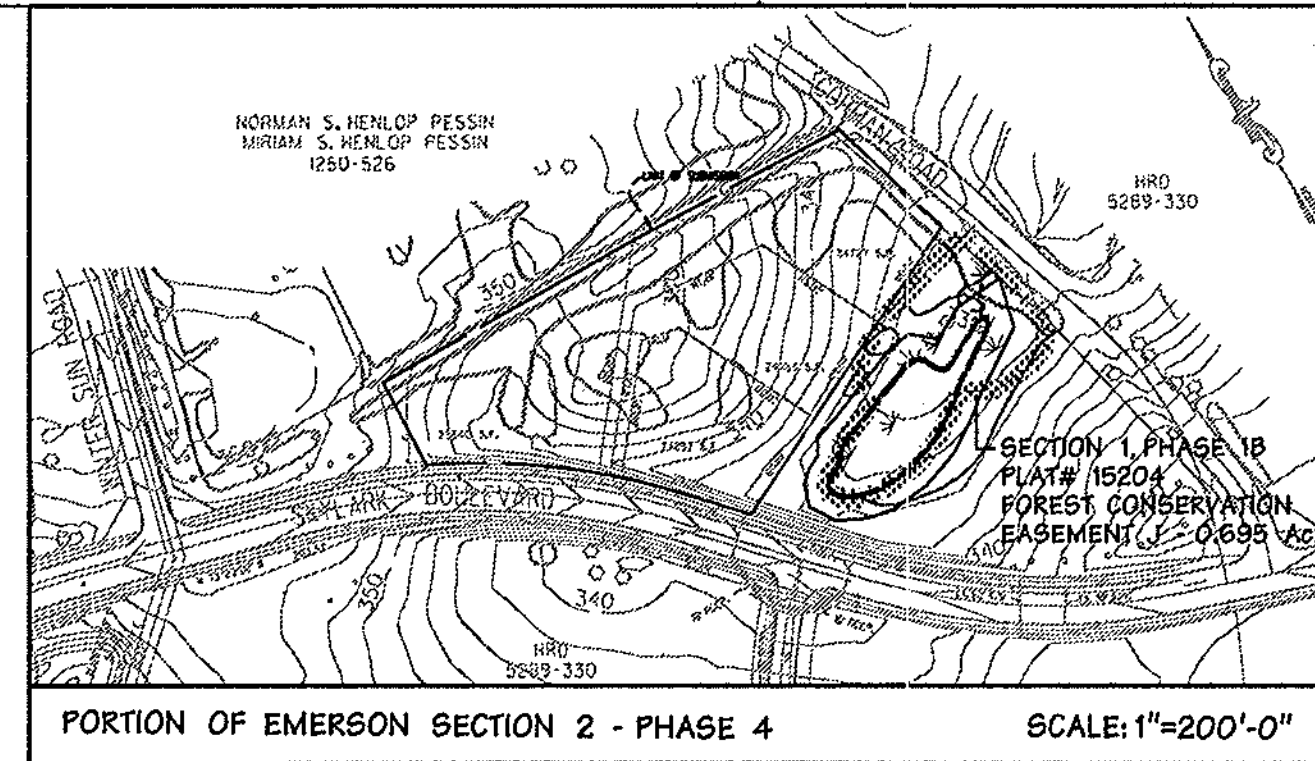
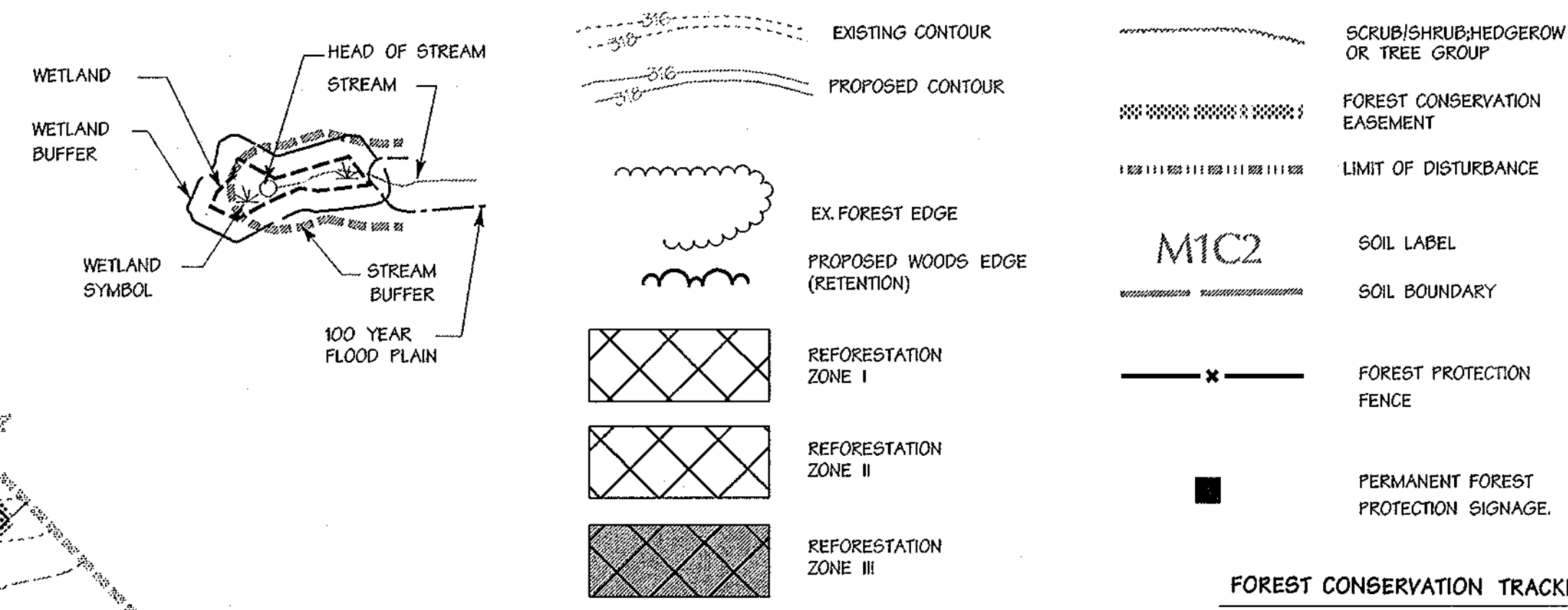
5.48 +/- ACRES TO BE
 CLEARED (ENTIRE SITE,
 INCLUDING 0.31 +/- ACRES
 FUTURE CLEARING)

FOREST
 CONSERVATION
 EASEMENT 'AA'
 CONTINUED

MATCH LINE
 SEE SHEET 3 OF 4



Legend



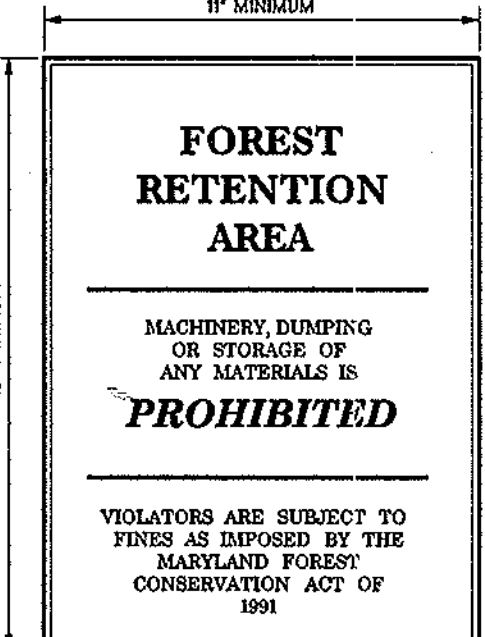
EASEMENT TABULATION CHART

Forest Conservation Easement	Gross Area	Non-credit Area and Floodplain	Retention	Reforestation
S	0.15 Ac.	0.00 Ac.	0.13 Ac.	0.02 Ac.
T-1	0.86 Ac.	0.00 Ac.	0.28 Ac.	0.58 Ac.
U-1	1.74 Ac.	0.12 Ac.	1.14 Ac.	0.48 Ac.
V	2.13 Ac.	0.69 Ac.	1.28 Ac.	0.16 Ac.
W	4.03 Ac.	1.78 Ac.	2.12 Ac.	0.13 Ac.
X	0.35 Ac.	0.10 Ac.	0.25 Ac.	0.0 Ac.
Y	0.25 Ac.	0.00 Ac.	0.00 Ac.	0.25 Ac.
Z	0.12 Ac.	0.00 Ac.	0.00 Ac.	0.12 Ac.
AA	2.24 Ac.	1.20 Ac.	0.00 Ac.	1.04 Ac.
TOTALS	11.87 Ac.	3.89 Ac.	5.20 Ac.	2.78 Ac.

FOREST CONSERVATION TRACKING CHART

Section/Phase Number	Gross Area	Floodplain	Net Tract Area	Ex. Forest Area	Forest Cleared	Forest Retained	Reforest./Affor. Required	Reforest./Affor. Provided	Excess Reforest./Affor.	Future Forest Clearing	Future Reforest./Affor.	Comments
2 1A/1B	106.20	3.50	102.70	24.70	7.93	16.77	0.61	5.03	4.42	4.48	3.41	
2/2	119.90	3.50	116.40	24.80	8.03	16.77	2.95	5.03	2.08	3.28	3.41	See Note A
2/3	137.35	4.00	133.35	34.40	12.53	21.87	1.27	5.03	3.76	2.18	3.91	See Note B
3/1	206.85	2.19	195.66	85.30	38.47	45.83	0.00	5.03	5.03	2.18	3.91	See Note C
3/2	220.27	2.127	199.00	87.50	41.67	45.83	0.00	5.03	5.03	2.18	3.91	See Note C
2 1A	264.81	26.57	238.24	98.18	47.15	51.03	0.00	5.03	5.03	2.49	5.24	
2/8C	267.84	27.40	240.44	98.62	47.59	51.03	0.00	5.77	5.77	2.49	5.24	
2/6A	277.66	27.40	250.26	98.62	47.59	51.03	0.00	5.77	5.77	2.49	5.24	See Note D
2/4	277.66	27.40	250.26	98.62	47.59	51.03	0.00	8.55	8.55	2.49	3.91	See Note E

A. 120+/- ACRES OF FUTURE FOREST CLEARING SHOWN ON F-04-137 WAS CLEARED FOR 5MM ON OPEN SPACE LOT 174.
 B. 110+/- ACRES OF FUTURE FOREST CLEARING SHOWN ON F-04-137 WAS CLEARED FOR 5MM ON OPEN SPACE LOT 175.
 C. GROSS AREA INCLUDES 107+/- ACRES FOR SANITARY SEWER EXTENSION AND CONTAINS 026+/- ACRES OF FLOODPLAIN.
 D. GROSS AREA EXCLUDES 038 ACRES FOR THE SANITARY SEWER SHOWN ON F-02-77A. GROSS AREA ALSO EXCLUDES 037 ACRES FOR AREA PREVIOUSLY ACCOUNTED FOR UNDER F-03-16.
 E. THIS LINE ITEM ACCOUNTS FOR REFORESTATION PROVIDED RETROSPECTIVELY ON A PHASE THAT PREVIOUSLY ADDRESSED FOREST CONSERVATION APPROXIMATELY 133 ACRES OF FUTURE REFORESTATION AREA WILL BE USED UNDER THIS REFORESTATION PLAN.



SIGNS TO BE PLACED ON METAL POSTS 5' ABOVE FINISH GRADE PRIOR TO PLANTING. PLACE SIGNS EVERY 100' AROUND PERIMETER OF FOREST CONSERVATION AREA.

A SURETY IN THE AMOUNT OF \$60,548.40 IS REQUIRED FOR 2.78 ACRES OF REFORESTATION. A RETENTION SURETY HAS ALREADY BEEN PROVIDED FOR FOREST RETENTION AT EMERSON SECTION 2, PHASE 4 (F-03-13).

FOREST CONSERVATION CALCULATIONS

BASIC SITE DATA	ACRES (11/10)
GROSS SITE AREA	277.66
AREA WITHIN 100 YEAR FLOODPLAIN AND EXISTING SEWER EASEMENT	27.40
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE)	0.0
NET TRACT AREA	250.26
LAND USE CATEGORY	COMMERCIAL/INDUSTRIAL/OFFICE

INFORMATION FOR CALCULATIONS	
A. NET TRACT AREA	250.26
B. REFORESTATION THRESHOLD (15% x A)	37.54
C. AFFORESTATION MINIMUM (15% x A)	37.54
D. EXISTING FOREST ON NET TRACT AREA	98.62
E. FOREST AREAS TO BE CLEARED	47.59
F. FOREST AREAS TO BE RETAINED	51.03

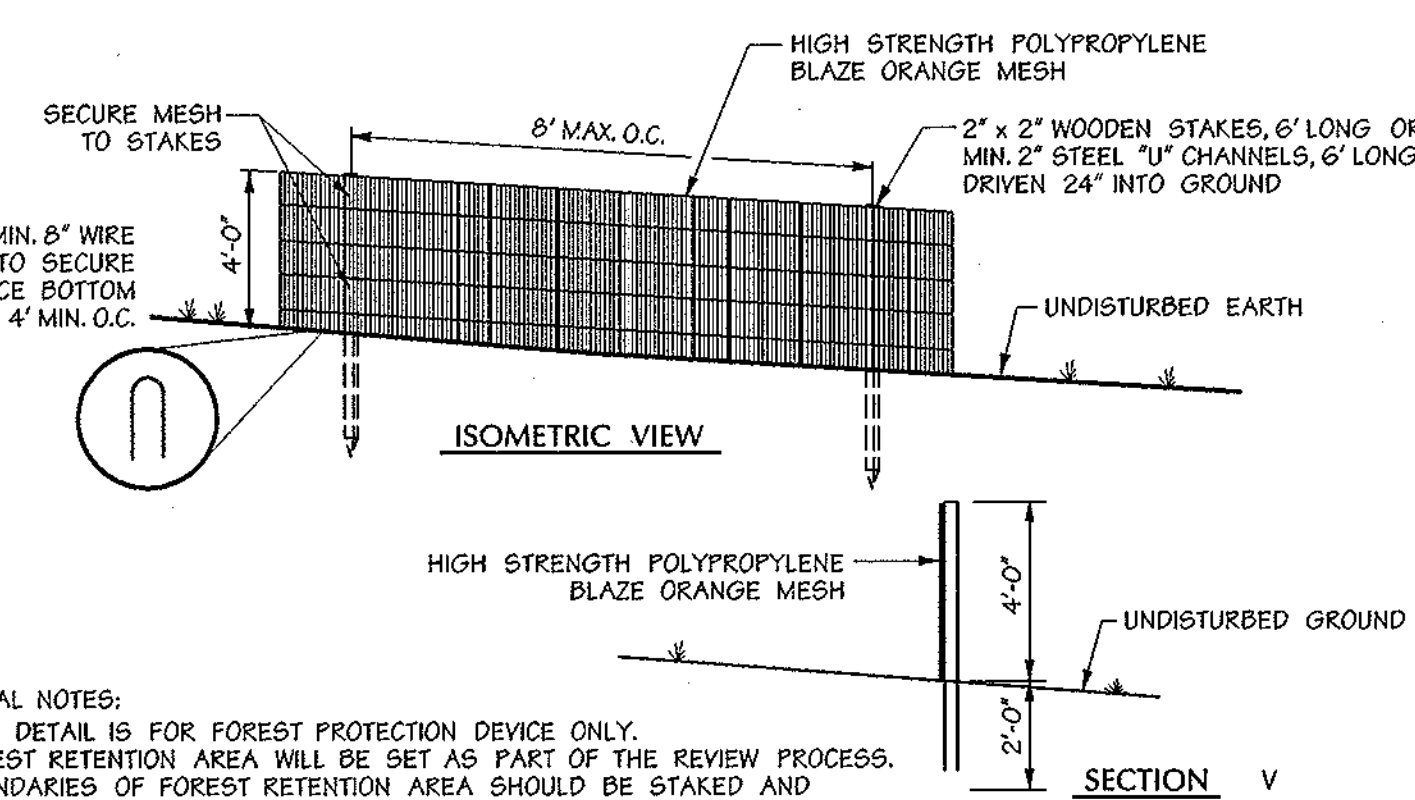
REFORESTATION CALCULATIONS	
A. NET TRACT AREA	250.26
B. REFORESTATION THRESHOLD (15% x A)	37.54
C. EXISTING FOREST ON NET TRACT AREA	98.62
D. FOREST AREAS TO BE CLEARED	47.59
E. FOREST AREAS TO BE RETAINED	51.03
F. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD	47.59
G. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD	0.00
H. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD	13.49

CLEARING ABOVE THE THRESHOLD ONLY
 IF FOREST AREAS TO BE RETAINED ARE GREATER THAN THE REFORESTATION THRESHOLD (IF E IS GREATER THAN B), THE FOLLOWING CALCULATIONS APPLY:

REFORESTATION FOR CLEARING ABOVE THRESHOLD FxH	11.90
REFORESTATION FOR CLEARING BELOW THRESHOLD Gx2	0.00
TOTAL REFORESTATION REQUIRED (F+H) + (Gx2)	11.90
CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD	13.49
REFORESTATION REQUIRED	0.00 ACRES
REFORESTATION PROVIDED	8.55 ACRES
TOTAL	8.55 ACRES

GOALS AND OBJECTIVES

The goals and objectives of this plan are to identify reforestation areas to offset forest conservation obligations for the cumulative Emerson development. Details concerning tree installation and long-term protection measures have been specified, and three planting zones have been identified, with plant species chosen to tolerate the different moisture regimes in each. Species have been selected to complement existing communities in the vicinity, and proposed reforestation areas will enhance existing forests as well as establish new riparian forest habitat along Hammond Branch.



GENERAL NOTES:
 1. THIS DETAIL IS FOR FOREST PROTECTION DEVICE ONLY.
 2. FOREST RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
 3. BOUNDARIES OF FOREST RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING THE DEVICE.
 4. ROOT DAMAGE SHALL BE AVOIDED.
 5. PROTECTION SIGNAGE MAY ALSO BE USED.
 6. FOREST PROTECTION FENCE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
 7. INSTALLATION OF FOREST PROTECTION FENCE MUST BE APPROVED BY BALTIMORE COUNTY EIR (410-887-3980) PRIOR TO ISSUANCE OF BUILDING OR GRADING PERMITS.

FOREST PROTECTION FENCE TO BE INSTALLED ALONG LIMIT OF DISTURBANCE WHERE ADJACENT TO FOREST RETENTION AREAS.

Forest Protection Fence

Not To Scale

Forest Retention Area Signage

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
 N/A
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 K. J. Sheehan / J. R. C. H.
 CHIEF, DIVISION OF LAND DEVELOPMENT #8 DATE 6/22/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION #14 DATE 6/17/04

Date	No.	Revision Description

EMERSON SECTION 2
 (KEY PROPERTY)
 PHASE 4
 OPEN SPACE LOT 121
 OWNER / DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 PHONE: (410) 992-8084

6.9.04
 Date
 STATE OF MARYLAND
 THOMAS M. WALKER, INC.
 REGISTERED LANDSCAPE ARCHITECT

DMW
 Dawn M. Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 286-3333
 Fax 286-4705
 A Team of Land Planners,
 Landscape Architects,
 Engineers, Surveyors &
 Environmental Professionals

TITLE
REFORESTATION PLANTING PLAN

Des By	SNH	Scale	1" = 50'	Proj. No.	95054.D6
Drn By	WDE	Date	06/10/04		
Chk By	Approved				4 OF 4