

F-02-181

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#### FOREST PROTECTION

1. ALL FOREST RETENTION AREAS SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED BLAZE ORANGE PLASTIC MESH FENCING AND SIGNAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY PRIOR TO ANY LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES. THE FOREST PROTECTION DEVICES SHALL BE INSTALLED SUCH THAT THE CRITICAL ROOT ZONES OF ALL TREES WITHIN THE RETENTION AREA NOT OTHERWISE PROTECTED WILL BE WITHIN FOREST PROTECTION DEVICES. ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING SILT FENCE BEING USED AS PROTECTIVE

FENCING. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY. 4. ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN THESE PROTECTED AREAS. INSTALLATION AND MAINTENANCE OF PROTECTIVE FENCING AND SIGNAGE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL TAKE THE UTMOST CARE TO PROTECT TREE ROOT SYSTEMS DURING ALL CONSTRUCTION ACTIVITIES. TREE ROOT SYSTEMS

SHALL BE PROTECTED FROM SMOTHERING, FLOODING, EXCESSIVE WETTING

FROM DE-WATERING OPERATIONS, OFF-SITE RUN OFF, SPILLAGE AND DRAINING OF MATERIALS THAT MAY BE HARMFUL TO TREES. THE GENERAL CONTRACTOR SHALL PREVENT PARKING OF CONSTRUCTION VEHICLES AND EQUIPMENT, AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF EARTH WITHIN FOREST CONSERVATION EASEMENTS. REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED.

THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS.
ROOT PRUNING SHALL BE USED AT THE LIMIT OF DISTURBANCE OR LIMIT OF
GRADING WITHIN AND ADJACENT TO ALL PRESERVATION AREAS, AS NECESSARY.

#### PRE-CONSTRUCTION MEETING

1. AFTER THE BOUNDARIES OF THE FOREST RETENTION AREAS HAVE BEEN FIELD LOCATED AND MARKED, AND AFTER THE FOREST PROTECTION DEVICES HAVE BEEN INSTALLED, BUT BEFORE ANY OTHER DISTURBANCE HAS TAKEN PLACE ON SITE, A PRE-CONSTRUCTION MEETING SHALL TAKE PLACE ON SITE. THE DEVELOPER, CONTRACTOR OR PROJECT MANAGER, AND HOWARD COUNTY INSPECTORS SHALL ATTEND. THE PURPOSE OF THIS MEETING WILL BE:

TO IDENTIFY THE LOCATIONS OF THE FOREST RETENTION AREAS, SPECIMEN TREES WITHIN 50 FEET OF THE LIMIT OF DISTURBANCE, LIMITS OF CONSTRUCTION, EMPLOYEE PARKING AREAS AND EQUIPMENT STAGING AREAS; INSPECT ALL FLAGGED BOUNDARIES AND PROTECTION DEVICES; MAKE ALL NECESSARY ADJUSTMENTS: ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS

#### CONSTRUCTION MONITORING

PENALTIES.

1. THE SITE SHALL BE INSPECTED PERIODICALLY DURING THE CONSTRUCTION PHASE OF THE PROJECT. A QUALIFIED PROFESSIONAL SHALL BE RESPONSIBLE FOR IDENTIFYING DAMAGE TO PROTECTED FOREST AREAS OR INDIVIDUAL TREES WHICH MAY HAVE BEEN CAUSED BY CONSTRUCTION ACTIVITIES, SUCH AS SOIL COMPACTION, ROOT INJURY, TRUNK WOUNDS, LIMB INJURY, OR STRESS CAUSED BY FLOODING OR TRUST CONDITIONS. ANY SUCH DAMAGE THAT MAY OCCUR SHALL BE REMEDIED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL ARBORIST.

THE CONSTRUCTION PROCEDURE SHALL NOT DAMAGE AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE AS DESIGNATED ON THE PLANS. ANY DAMAGE SHALL BE RESTORED BY THE CONTRACTOR AT HIS EXPENSE AND TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENTS EXCEPT AS PERMITTED BY THE HOWARD COUNTY

THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION. SOIL COMPACTION, OR EXCAVATION, INTRODUCTION OF TOXIC CHEMICALS OR OTHER DISTURBANCES DETRIMENTAL TO THE LIVE SPECIMEN TREES OR CRITICAL ROOT ZONES FOR THESE TREES EXCEPT AS PERMITTED BY THE HOWARD COUNTY FOREST CONSERVATION

## REFORESTATION PLANT LIST

ALTERNAT	IVE 1 (1" CALIPER TRE	ES)				
QTY.	SPECIES	SHADE TOL.	MOIST. REGIME	WET. STATUS	MIN.O.C. SPACING	SIZE & REMARKS
⊛ 32	Acer rubrum Red Maple	VT	D-W	FAC	15'	CONT/B & B 1" CALIPER
□ 5	Lindera benzoin Spicebush	Т	М	FACW-	15'	CONT/B & B 3'-5' HEIGHT
6	Liquidambar styraciflua American Sweet Gum	I	M-W	FAC	15'	CONT/B & B 1" CALIPER
① 16	Liriodendron tulipifera Tuliptree	MT	D-M	FAC	15'	CONT/B & B 1" CALIPER
16	Nyssa sylvatica Black Gum	T	M-W	FAC	15'	CONT/B & B 1" CALIPER

15' CONT/B & B

3'-5' HEIGHT

Wild Black Cherry

Prunus serotina

# ALTERNATIVE 2 (WHIPS WITH TREE SHELTERS)

	ALIE	KNATIVE Z IMBIES MILI	LIXEE	SUEFFE	7-57		
~	QTY.	SPECIES	SHADE TOL.	MOIST. REGIME	WET. STATUS	MIN.O.C. SPACING	SIZE & REMARKS
<b>(A)</b>	50	Acer rubrum Red Maple	VT	D-W	FAC	117	SEEDLING/WHIP WITH TREE SHELTER
	11	Lindera benzoin Spicebush	Т	М	FACW-	11'	SEEDLING/WHIP . WITH TREE SHELTER
*	12	Liquidambar styraciflua American Sweet Gum		M-W	FAC	11'	SEEDLING/WHIP WITH TREE SHELTER
<b>Q</b>	28	Lirîodendron tulipifera Tuliptree	MT	D-M	FAC	11'	SEEDLING/WHIP WITH TREE SHELTER
$\bigcirc$	28	Nyssa sylvatica Black Gum	Ŧ	M-W	FAC	11*	SEEDLING/WHIP WITH TREE SHELTER
$\odot$	11	Prunus serotina Wild Black Cherry	ş	М	FACU	11'	SEEDLING/WHIP WITH TREE SHELTER

140 WHIPS WITH TREE SHELTERS

#### PLANTING SPECIFICATIONS AND NOTES

6. FOR TREES PLANTED IN THE AFFORESTATION AREA, CONTRACTOR SHALL

7. AVOID PLANTING IN A STRAIGHT GRID PATTERN. TREES SHALL BE

1. DO NOT FERTILIZE NEWLY PLANTED TREES WITHIN THE FIRST GROWING

GROWTH WHICH THE ROOTS CANNOT SUPPORT AND ADDITIONAL.

NOTHING SHOULD BE ADDED TO THE SOIL WITHOUT TESTING IT FIRST

PREFERRED TO SYNTHETIC FERTILIZERS. BONE MEAL OR SEAWEED

THE PLANT AS NEEDED WHILE MINIMIZING THE RISK (IF EXCESS

NUTRIENTS ENTERING THE FOREST SYSTEM AND WATER SUPPLY.

BE EXPECTED. DO NOT DISCOURAGE THIS EFFORT UNLESS IT IS NEGATIVELY EFFECTING THE PLANTED STOCK.

AGGRESSIVE, NOXIOUS, INVASIVE SPÉCIES AND ALL HERBACEOUS

VEGETATION WITHIN A 3-FOOT RADIUS SURROUNDING THE PLANTED

5. REMOVE AND DISPOSE OF MAN-MADE TRASH, INCLUDING ITEMS CONTAINED

WITHIN ENTIRE PLANTING AREA. DO NOT REMOVE DOWN AND DEAD

MATERIAL NATURALLY OCCURRING OR ACCUMULATING, UNLESS IT IS

6. A 75 PERCENT SURVIVAL OF PLANTED STOCK MUST BE ACHIEVED AT THE

END OF THE 24 MONTH MANAGEMENT PERIOD. IF N')T, ADDITIONAL

SUPERVISION

DIRECT SUPERVISION OF SOMEONE FROM THE DESIGN TEAM OR OTHER

\_\_\_\_\_ lie ii' -----

FOREST

CONSERVATION AREA

AFFOR ESTATION

TREES FOR YOUR

FL TURE

PRCJECT

"QUALIFIED PROFESSIONAL" AS DETERMINED BY THE FEQUIREMENTS OF COMAR 08.19.06.01 AND THE MARYLAND DEPARTMENT OF NATURAL

ALL FOREST CONSERVATION ACTIVITIES SHALL BY DONE UNDER THE

4. REMOVE THROUGH MANUAL MEANS (GRUBBING, PULLING, CUTTING)

PLANTINGS MAY BE REQUIRED TO ACHIEVE THIS GOAL.

RESOURCES, PUBLIC LANDS AND FORESTRY DIVISION.

BASED PRODUCTS ARE AVAILABLE COMMERCIALLY AND ARE RECOMMENDED. THEY HAVE THE ABILITY TO SUPPLY NUTRIENTS TO

MAINTENANCE SCHEDULE

ANNUAL MAINTENANCE DURING THE GROWING SEASON, FOR A THREE YEAR PERIOD.

ASSESS TREE MORTALITY OF PLANTING STOCK, REMOVE AND REPLACE ANY

VOLUNTEER SEEDING OF NATIVE, LOCAL AND ENDEMIC VEGETATION IS TO

TO DETERMINE ITS NEEDS.

3. IF AND WHEN IT IS TIME TO FERTILIZE, ORGANIC FER ILIZERS ARE

SEASON AFTER PLANTING. DOING SO MAY CAUSE A 3PURT OF CANOPY

PROPER SPACING INDICATED ON PLANT LIST.

COMPENSATE FOR RECENT RAINFALL PATTERNS.

OBTAIN A MORE NATURAL APPEARANCE.

SHOCK TO THE ALREADY DISTURBED PLANT.

DEAD OR DISEASED PLANTINGS.

WOODY NURSERY STOCK.

SMOTHERING PLANTING STOCK.

FOREST

RETENTION

AREA

MACHINERY, DUMPING

OR STORAGE OF

ANY MATERIALS IS

PROHIBITED

MOLATORS ARE SUBJECT TO

FINES AS IMPOSED BY THE

MARYLAND FOREST CONSERVATION ACT OF

EVENLY DISPERSE SPECIES IN GROUPS OF TWO (2) TO FIVE (5), PER

SPECIES, OVER THE ENTIRE DESIGNATED AREA TO BE PLANTED WHILE

MAINTAINING AN AVERAGE RANDOM SPACING OF INDVIDUAL TREES AT

PLANTED ON AN AVERAGE SPACING AS INDICATED ON PLANT LISTS TO

FOR THE ENTIRE GROWING SEASON, DUE TO THE VIRY DEEP, WELL DRAINED NATURE OF THE NATIVE SOILS FOUND ON THIS SITE COMBINED

WITH THE LOOSENESS OF THE BACKFILLED AREA WITHIN THE PLANTING FIELD. THE NEXT TWO YEARS MAY REQUIRE WATERING ONLY A FEW TIMES A YEAR

DURING SUMMER AND DRY MONTHS. AFTER THAT PERIOD, TREES SHOULD ONLY NEED WATER IN SEVERE DROUGHTS. ANY WITERING PLAN SHOULD

8. NEWLY PLANTED TREES MAY NEED WATERING AS MUCH AS ONCE A WEEK

SITE PREPARATION AND SOILS PROTECTION FENCING IS TO BE INSTALLED AS A FIRST ORDER OF BUSINESS. SEE PLAN FOR LOCATIONS. 2. DISTURBANCE OF SOILS SHOULD BE LIMITED TO THE PLANTING FIELD FOR EACH PLANT. AS SHOWN ON THE DETAIL VIEW, A PLANTING FIELD OF RADIUS = 5 X DIAMETER OF THE ROOT BALL OR CONTAINER

IS RECOMMENDED. 3. SOIL MIX FOR ALL PLANTS EXCEPT ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME OF COMPOSTED SLUDGE. 4. SOIL MIX FOR ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD

LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME PEAT MOSS. 5. ALL MIXING IN 3 AND 4 SHALL BE LIMITED TO CONTAINER GROWN OR BALL AND BURLAP STOCK ONLY AND CONFINED TO THE PLANTING FIELD AND IMMEDIATE ADJACENT SOIL SURFACE AREA AND SHALL BE DONE TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

PLANT STORAGE AND INSPECTION 1. FOR CONTAINER GROWN NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN 2 WEEKS AFTER DELIVERY TO THE SITE. FOR BALL AND BURLAP NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN THREE DAYS AFTER DELIVERY TO THE SITE.

NOT CONFORMING TO STANDARD NURSERYMAN SPECIFICATIONS FOR SIZE, FORM, VIGOR, ROOTS, TRUNK WOUNDS, INSECTS AND DISEASE SHOULD BE REPLACED. 4. UNTIL PLANTED, ALL PLANT STOCK SHALL BE KEPT IN A SHADED, COOL, AND MOISTENED ENVIRONMENT.

3. PLANTING STOCK SHOULD BE INSPECTED PRIOR TO PLANTING. PLANTS

PLANT INSTALLATION 1. THE PLANTING FIELD SHOULD BE PREPARED AS SPECIFIED (SEE DETAIL). NATIVE STOCKPILED SOILS SHOULD BE USED FOR SOIL MIX AND BACKFILL FOR PLANTING FIELD. AFTER PLANT INSTALLATION, RAKE SOILS EVENLY OVER THE PLANTING FIELD AND COVER WITH AT LEAST 4 INCHES OF MULCH. WATER, GENEROUSLY, TO SETTLE SOIL

BACKFILLED AROUND TREES. 2. PLANTING FIELD DIAMETERS SHOULD BE REDUCED OR PLANTING FIELD MOVED IF IT APPEARS THAT EXCESSIVE EXISTING ROOT DAMAGE MAY OCCUR DURING DIGGING OPERATION NEAR EXISTING FOREST. 3. CARE SHALL BE TAKEN WHEN DIGGING PLANTING FIELDS NOT TO CHOP

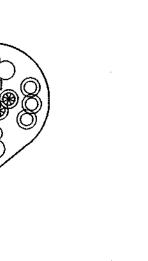
THROUGH LARGER EXISTING ROOTS FROM EXISTING MATURE TREES. IF

ROOTS GREATER THAN 1/2 INCH ARE ENCOUNTERED PLEASE TRY TO DIG AROUND THEM AS MUCH AS POSSIBLE TO MINIMIZE IMPACT TO EXISTING TREES. THEY WERE HERE FIRST. 4. CONTAINER GROWN STOCK SHOULD BE REMOVED FROM THE CONTAINER AND ROOTS GENTLY LOOSENED FROM THE SOIL. IF THE ROOTS ENCIRCLE THE ROOT BALL, SUBSTITUTION IS STRONGLY RECOMMENDED. J-SHAPED OR KINKED ROOT SYSTEMS SHOULD ALSO BE NOTED. ROOTS MAY NOT BE TRIMMED ON SITE, DUE TO THE INCREASED CHANCES OF

SOIL BORNE DISEASES. 5. FOR BALL AND BURLAP STOCK, PLACE TREE IN PREPARED PLANTING FIELD AND REMOVE WIRE AND/OR STRING FROM ROOT BALL. THEN PEEL BACK BURLAP TO BASE OF ROOT BALL AND COVER ENTIRE ROOT BALL WITH TOPSOIL MIXTURE INDICATED ABOVE AND WATER GENEROUSLY.

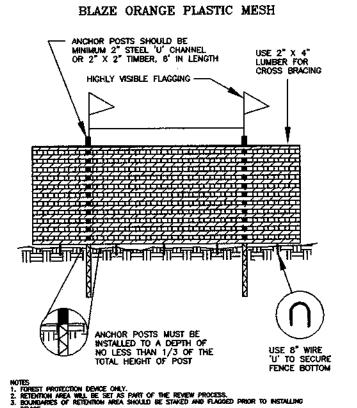
### FOREST CONSERVATION DATA

l.	BASIC SITE DATA	ACRES
	GROSS SITE AREA AREA WITHIN 100 YEAR FLOODPLAIN AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL NET TRACT AREA LAND USE CATEGORY <u>RESIDENTIAL-SUBURBAN</u>	2.94 0.00 0.00 2.94
11.	FOREST CONSERVATION WORKSHEET DATA SUMMARY	
	B. REFORESTATION THRESHOLD (20%) C. AFFORESTATION MINIMUM (15%) D. EXISTING FOREST ON NET TRACT AREA E. FOREST AREAS TO BE CLEARED F. FOREST AREAS TO BE RETAINED	0.59 0.44 0.28 0.00 0.28
V.	AFFORESTATION CALCULATIONS	
	AFFORESTATION REQUIRED CREDIT FOR FOREST AREA RETAINED TOTAL AFFORESTATION REQUIRED	0.44 0.28 0.16
	TOTAL AFFORESTATION PROVIDED	0.16



- SEE GENERAL NOTES 6 & 7 UNDER "PLANT INSTALLATION"
- GROUND PLANE TO BE MULCHED AFTER INSTALLATION OF PLANT MATERIAL.

# PROTECTIVE FENCE DETAIL



4. ROOT DIMMOS SHOULD BE MADDED.
5. PROTECTIVE SIGNAGE MAY ALSO SE USED.
6. DEMOS SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

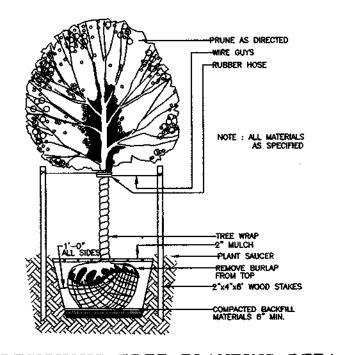
0.5' HIGH STONE CHECK DAM AT 12.5' HORZ. SPACING (AASHTO NO. 2 STONE) GRASS SHOULDER-USE-IN-COMMON DRIVEWAY PAVING GRASS SHOULDER-

GRASS CHANNEL DETAIL USE-IN-COMMON DRIVEWAY STATION 0+00 TO 2+60± HORZ. SCALE: 1"=10' VERT. SCALE: 1"=1'

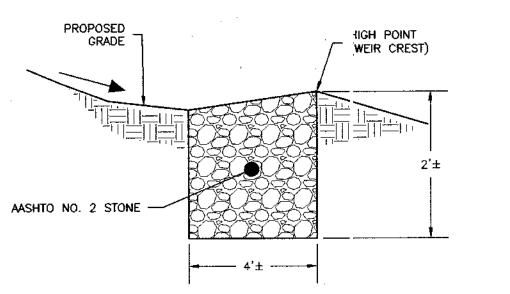
#### SCHEDULE A: PERIMETER LANDSCAPED EDGE

CATEGORY	ADJACENT TO ROADWAYS ADJACENT TO PERIMETER PROP			erties
LANDSCAPE TYPE	N/A (PERIMETER 1)	A (PERIMETER 2)	A (PERIMETER 3)	A (PERIMETER 4)
LINEAR FEET OF PERIMETER	25.00 LF	371.43 LF	47.00 LF	197.29 LF
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	6 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	1 SHADE TREE 0 EVERGREEN TREES 0 SHRUBS	3 SHADE TREES 0 EVERGREEN TREE 0 SHRUBS
CREDIT FOR EXISTING VEGETATION SHADE TREES EVERGREEN TREES (SUBSTITUTIONS)	N/A	6 SHADE TREES <sup>™</sup>	47 LF OF EX. TREES	197.29 LF OF EX. TRE
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION)				
CATEGORY	ADJACENT TO PER	TOTAL		
LANDSCAPE TYPE	A (PERIMETER 5)	A (PERIMETER 6)	A (PERIMETER 7)	
LINEAR FEET OF PERIMETER	268.50 LF	270.32 LF	150.19 LF	
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	4 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	5 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	3 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	22 SHADE TREES 0 EVERGREEN TRE 0 SHRUBS
CREDIT FOR EXISTING VEGETATION SHADE TREES EVERGREEN TREES (SUBSTITUTIONS)		N/A	N/A	366.29 LF OF EX. TR 6 SHADE TREES 0 EVERGREEN TRE
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION)				

\* PERIMETER 2 CREDIT FOR EXISTING TREES: TWO (2) 10" MAPLES, ONE (1) 15" MAPLE, ONE (1) 9" MAPLE, AND TWO (2) 30" MAPLE. \*\* PERIMETER 7: THREE (3) PROPOSED SHADE TREES HAVE BEEN RELOCATED TO PERIMETER 6, DUE TO THE LOCATION OF AN EXISTING PUBLIC SEWER & UTILITY EASEMENT ALONG THIS PERIMETER.



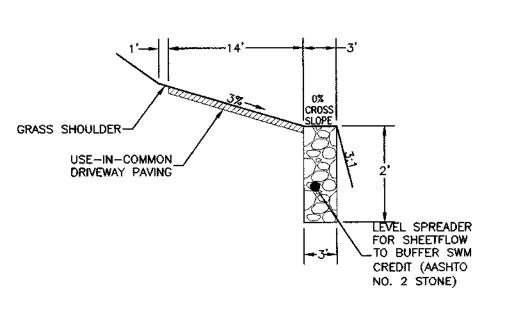
TYPICAL DECIDUOUS TREE PLANTING DETAIL NOT TO SCALE



<u>SIGNAGE DETAILS</u>

NOT TO SCALE NOTE: SIGNS TO BE POSTED EVERY 50' TO 100.

LEVEL SPREADER ALONG LOT 4 EAST PROPERTY LINE



LEVEL SPREADER ALONG USE-IN-COMMON DRIVEWAY DRIVEWAY STATION 2+60 TO 5+80± HORZ. SCALE: 1"=10'



F-02-181

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- BLOCK 19
HOWARD COUNSERVATION

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