GENERAL NOTES

THE SUBJECT PROPERTY IS ZONED R-12 PER THE 2-2-2004 COMPREHENSIVE ZONING PLAN AND THE COMP LITE ZONING AMENDMENTS EFFECTIVE

2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/ BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410)313-1880 AT LEAST FIVE(5) WORKING DAYS PRIOR TO THE START OF WORK

3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.

6. EXISTING UTILITIES SHOWN ARE SHOWN FROM APPROVED CONTRACT DRAWINGS AND FIELD RUN LOCATIONS. IF NECESSARY, CONTRACTOR SHALL ADJUST ANY OR ALL STRUCTURE TOP ELEVATIONS TO MATCH SDP GRADES.

7. THERE ARE NO STREAMS, STREAM BUFFERS, WETLANDS, WETLANDS BUFFERS, 100-YR FLOODPLAIN OR STEEP SLOPES LOCATED ON THIS SITE.

8. IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS; BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS; PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.

9. THERE ARE NO BURIAL GROUNDS, CEMETERY SITES OR HISTORICAL STRUCTURES ON THIS PROPERTY.

10. PREVIOUS HOWARD COUNTY FILE NUMBERS: PLAT LJH060 F.115, ZB-1089M, ECP-11-017.

11. THE STAKING OF FOUNDATIONS PRIOR TO CONSTRUCTION TO ENSURE COMPLIANCE WITH REGULATORY BUILDING RESTRICTION LINES IS RECOMMENDED.

12. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE BUILDERS EXPENSE

13. BRL INDICATES BUILDING RESTRICTION LINE.

14. FOR DRIVEWAY ENTRANCE DETAIL REFER TO HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD DETAIL R-6.05.

15. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS::

2. SURFACE - 6" OF COMPACTED CRUSHER RUN BASE W/TAR AND CHIP COATING (1-1/2" MIN.); 3. GEOMETRY - MAX. 15% GRADE, MAX. 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS.

4. STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING);

5. DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE; 5. MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.

16. THIS PLAN CONFORMS WITH THE AMENDED 5th EDITION OF THE HOWARD COUNTY SUBDIMISION AND LAND DEVELOPMENT REGULATIONS. THE BUILDER SHALL APPLY FOR BUILDING PERMIT AS SHOWN ON THIS SITE DEVELOPMENT PLAN WITHIN ONE YEAR OF SIGNATURE APPROVAL OF THIS PLAN.

18. STORMWATER MANAGEMENT SHALL BE PROVIDED FOR THIS PROJECT BASED ON GUIDELINES ESTABLISHED BY THE 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUMES I & II, AS AMENDED BY THE STORMWATER MANAGEMENT ACT OF 2007. THE ENVIRONMENTAL SITE DESIGN PRACTICES TO BE USED ARE INFILTRATION BERMS AND ROOFTOP DISCONNECT, TO BE OWNED AND MAINTAINED BY THE PROPERTY OWNER. A SUPPLEMENTAL STORMWATER MANAGEMENT REPORT HAS BEEN PROVIDED WITH THIS SUBMISSION. A DECLARATION OF COVENANTS HAS BEEN PREPARED FOR ALL ON-LOT

19. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.

20. FINANCIAL SURETY OF \$3,300.00 FOR THE LANDSCAPING OBLIGATION WILL BE COMPLETED WITH THE BUILDER'S GRADING PERMIT. 21. THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT. WATER AND SEWER SERVICE SHALL BE PUBLIC, CONNECTING TO EXISTING CONTRACTS NO.

22. WATER SERVICE WILL BE 1 1/2" WITH A 1" OUTSIDE WATER METER.

23. MARYLAND AVIATION ADMINISTRATION (MAA) HAS CONFIRMED THAT THIS PROJECT DOES NOT POSE A HAZARD TO THE AIR SPACE SURROUNDING BALTIMORE/WASHINGTON INTERNATIONAL THURGOOD MARSHAL (BWI) AIRPORT NOISE ZONE AND THEREFORE AIRPORT ZONING PERMIT #08-003 WAS

24. AASCD/MAA VEGETATIVE ESTABLISHMENT DETAILS AND SPECIFICATIONS FOR PROJECTS WITHIN 4 MILES OF THE BWI AIRPORT ARE LISTED ON SHEET 2

25. DRIVEWAY SLOPES SHOWN ARE AVERAGE. THE SLOPE AT THE OUTSIDE EDGES COULD BE FLATTER OR STEEPER DEPENDING ON GRADE OF ROADWAY.

26. AN A.P.F.O. TRAFFIC STUDY IS NOT REQUIRED FOR THIS PROJECT

27. A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.

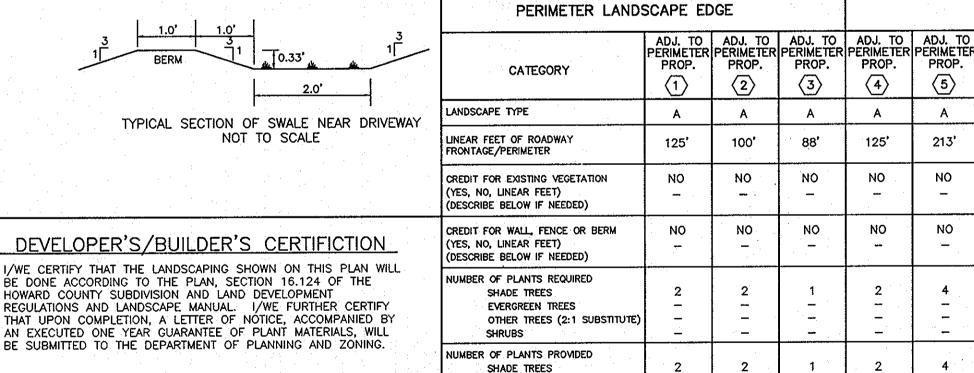
28. THERE ARE NO PROPOSED PUBLIC IMPROVEMENTS INCLUDED ON THESE PLANS.

29. SHC ELEVATIONS SHOWN ARE LOCATED AT THE PROPERTY LINE.

30. CONTRACTOR SHALL REFER TO FLOW ARROWS AND GRADE SITE TO ENSURE THAT THE APPROPRIATE AREAS DRAIN TOWARD THE STORMWATER

31. ZONING BOARD CASE NO. 1089M WAS APPROVED SEPTEMBER 10, 2010, AND CONCLUDED THAT THE APPROPRIATE ZONING CATEGORY FOR THE SUBJECT PROPERTY IS R-12, AS THE PROPERTY WAS ORIGINALLY ZONED RESIDENTIAL, HAS BEEN HISTORICALLY USED AS RESIDENTIAL AND WOULD

32. SECTION 128.A.10 OF THE HOWARD COUNTY ZONING REGULATIONS PROVIDES THAT SETBACKS FROM INTERNAL LOT LINES NEED NOT BE APPLIED WHEN TWO OR MORE CONTIGUOUS LOTS OR PARCELS ARE TREATED AS A SINGLE PARCEL FOR DEVELOPMENT PURPOSES IF: A) A SKETCH PLAN OR SITE DEVELOPMENT PLAN IS APPROVED FOR THE DEVELOPMENT SHOWING AN INTEGRATED DESIGN FOR THE CONTIGUOUS LOTS, B) THE LOTS ARE DEVELOPED AND MAINTAINED AS AN INTEGRATED DEVELOPMENT, C) ALL OF THE LOTS ARE INTEGRAL AND NECESSARY TO THE PROJECT; AND D) IMPROVEMENTS ARE PLANNED AND CONSTRUCTED WITHOUT REGARD TO THE INTERNAL LOT LINES. IN ALL INSTANCES, PERIMETER SETBACKS TO ADJOINING PARCELS SHALL BE MAINTAINED. THIS PROJECT MEETS THESE REQUIREMENTS.



SCHEDULE A

THAT UPON COMPLETION, A LETTER OF NOTICE, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS. WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING. EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTE

SITE ANALYSIS DATA CHART

A.) TOTAL PROJECT AREA	0.32 AC.
B.) AREA OF THIS PLAN SUBMISSION	0.32 AC.
C.) APPROXIMATE LIMIT OF DISTURBANCE	0.30 AC.
D.) PRESENT ZONING:	R-12
E.) PROPOSED USE OF SITE:	RESIDENTIAL SINGLE FAMILY DETAC
F.) TOTAL NUMBER OF UNITS ALLOWED AS SHOWN ON FINAL PLAT(S)	1
G.) TOTAL NUMBER OF UNITS PROPOSED	4

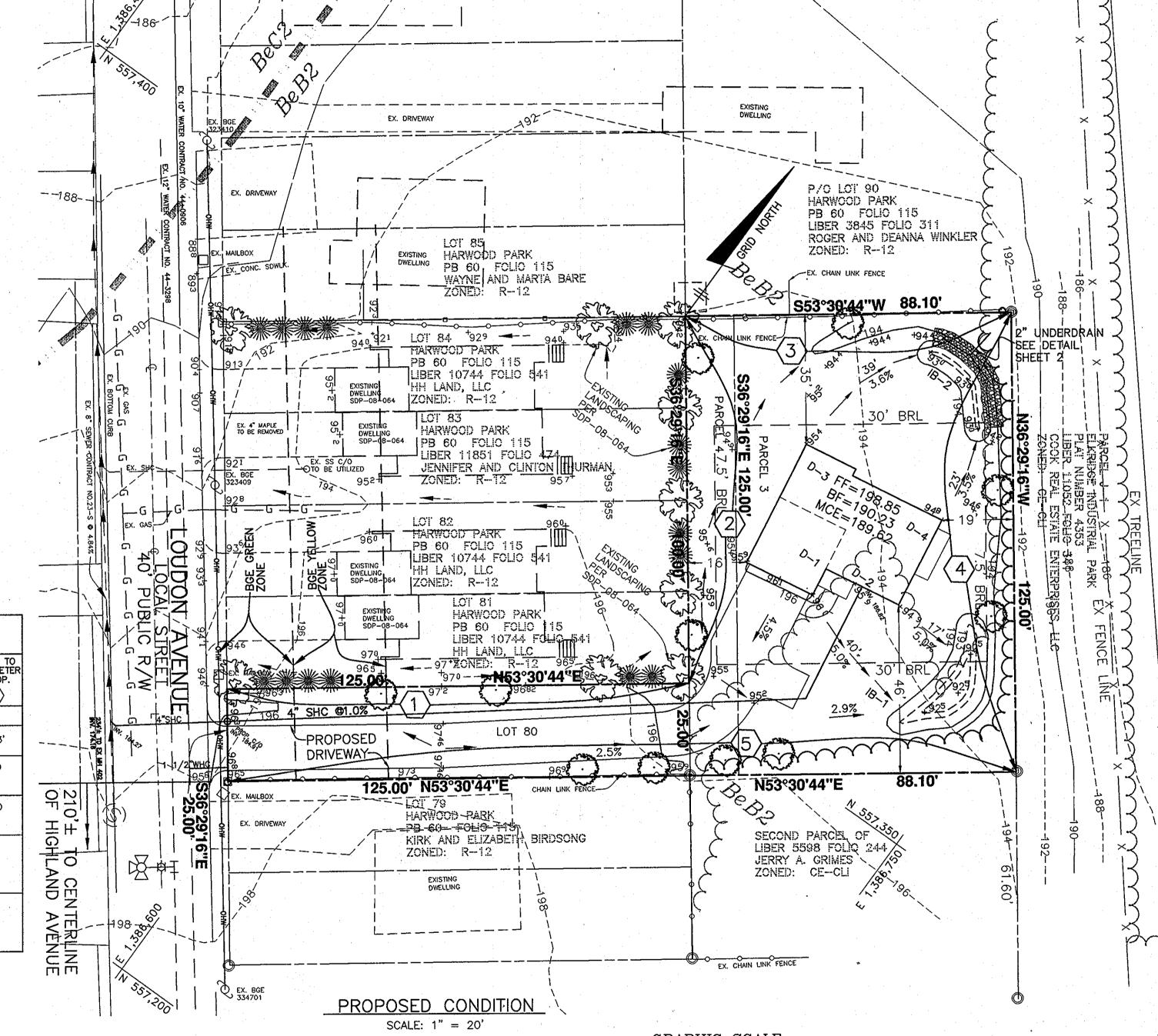
H.) OPEN SPACE ON-SITE . 0.00 AC. PERCENTAGE OF GROSS AREA.

PLAT L.JH060 F.115, ECP-11-017 1.) APPLICABLE DPZ FILE REFERENCES: J.) PROPOSED WATER AND SEWER SYSTEMS: X PUBLIC PRIVATE

APPROVED: DEPARTMENT OF PLANNING AND	ZONING
Kert Sherlevale	11-02-11
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE JW
Carol Canondo	10.26.11
CHIEF, DEVELOPMENT ENGINEERING DIVISION AW	DATE
momso &. Butter	11/2/11
7-	D.4.77*

SITE DEVELOPMENT PLAN HARWOOD PARK

1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND



- WRAP TRUNK AND LARGE

BRANCHES WITH WATERPROOF TREE WRAP. TIE AT 24"

CONSTRUCT 3" SAUCER RIM

NO.

FLOOD WITH WATER

INTERVALS (EXCEPT EVERGREENS)

LANDSCAPE NOTES

1. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. 2. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATIONS.

3. THE OWNER, TENANTS AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE ALL LANDSCAPING PLANT TYPES SHOWN ON THESE PLANS ARE RECOMMENDATIONS AND MAY BE SUBSTITUTED WITH APPROVED EQUIVALENTS FROM THE HOWARD COUNTY LANDSCAPE MANUAL.

5. FINANCIAL SURETY FOR THE REQUIRED 11 SHADE TREES IN THE AMOUNT OF \$3,300 IS PART OF THE BUILDER'S

DOUBLE 12 GALVANIZED

2 PIECES OF REINFORCED RUBBER HOSE

TOP SOIL MIXTURE -

TREE PLANTING DETAIL

2-2"x2" OAK STAKES, NOTCH

LANDSCAPE PLANTING LIST DESCRIPTION SYMBOL QUANTITY REMARKS SHADE TREES ALONG SITE PERIMETER
1-1/2" TO 2" CAL TO BE PROVIDED BY BUILDER CARPINUS CAROLINIANA AMERICAN HORNBEAM

GRAPHIC SCALE (IN FEET 1 inch = 20 ft.

DESCRIPTION

COVER SHEET, SITE DEVELOPMENT AND LANDSCAPE PLAN

STORMWATER MANAGEMENT, SEDIMENT AND

ROSION CONTROL PLAN, NOTES AND DETAILS

NOTE:
UTILITY INVERT ELEVATIONS PROVIDED ON THIS PLAN SHALL
BE FIELD VERIFIED PRIOR TO BEGINNING CONSTRUCTION. STORMWATER MANAGEMENT PRACTICES INFILTRATION BERMS M-4 LOT NUMBER ADDRESS (NUMBER) (NUMBER) (NUMBER) LOT 80 6353 - C LOUDON AVE.

LOT 80 6353 C LOUDON AVENUE SUBDIVISION NAME: SHEET INDEX

PERMIT INFORMATION CHART SECTION/AREA: PARCEL 873 N/A HARWOOD PARK CENSUS GRID No. ZONE TAX MAP 6012.00

LOT NO. INV. @ MAIN INV. @ R/W

184.2 184.9

CONTRACTOR TO CHECK SEWER HOUSE CONNECTION ELEVATION

ADDRESS CHART

STREET ADDRESS

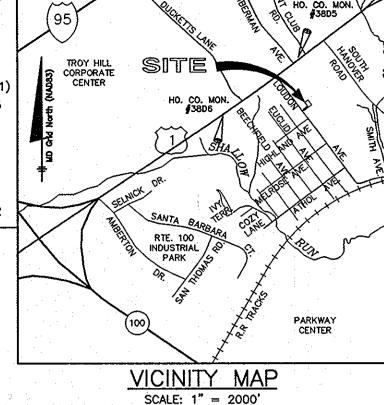
AT PROPERTY/EASEMENT LINE PRIOR TO CONSTRUCTION OF HOUSE TO ENSURE PROPER SHC SLOPES CAN BE MAINTAINED

BENCH MARKS NAD 83 HO. CO. #38D5 (NAD '83) ELEV. 193.71 STAMPED DISC ON CONCRETE MONUMENT BEING 38.8 SOUTHEAST OF A FIRE HYDRANT, 5.6' NORTH OF THE EXISTING CONCRETE CURB ALONG NORTH SIDE OF WASHINGTON BLVD (RT.1

HO. CO. #38D6 (NAD '83) ELEV. 175.23 STAMPED DISC ON CONCRETE MONUMENT BEING 44' SOUTHWEST OF A LIGHT POLE & 148' NORTH OF THE GATE AT ATLANTIC SUPPLY CO.

N 557,155.459

E 1,386,524.195 E 1,384,992.262



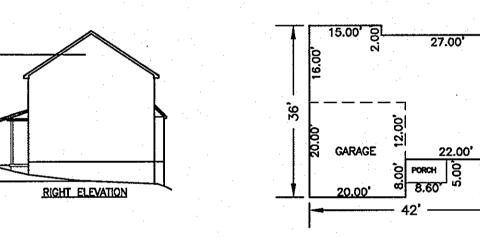
ADC MAP 4937, GRID B9

LEGEND

-----999 -----**EXISTING CONTOURS** PROPOSED CONTOURS MAMM EXISTING TREE LINE \dots PROPOSED TREE LINE

EXISTING STRUCTURE

PROPOSED STRUCTURE



HOUSE DETAILS SCALE: 1" = 20'

SOILS LEGEND MAP SYMBOL SOIL GROUP SOIL TYPE BELTSVILLE SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED * INDICATES HYDRIC SOILS TAKEN FROM SOILS SURVEY, ISSUED JULY 1968, MAP NO. 26

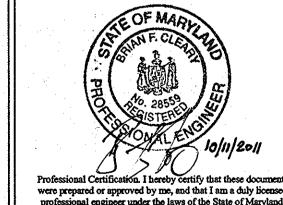
> NOTE: CONTRACTORS SHALL TAKE EXTREME CARE WHEN WORKING WITHIN THE AREA OF THE OVERHEAD POWER LINES AND WILL BRACE EXISTING UTILITY POLES AS NEEDED

NO. DATE REVISION

> BENCHMARK ENGINEERS A LAND SURVEYORS A PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE A SUITE 418 A ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644

> > 60 THOMAS JOHNSON DRIVE & FREDERICK, MARYLAND 21702 (P) 301-371-3505 (F) 301-371-3506

WWW.BEI-CIVILENGINEERING.COM



HH LAND, LLC 16272 COMPROMISE COURT MOUNT AIRY, MARYLAND 21771 410-781-7533

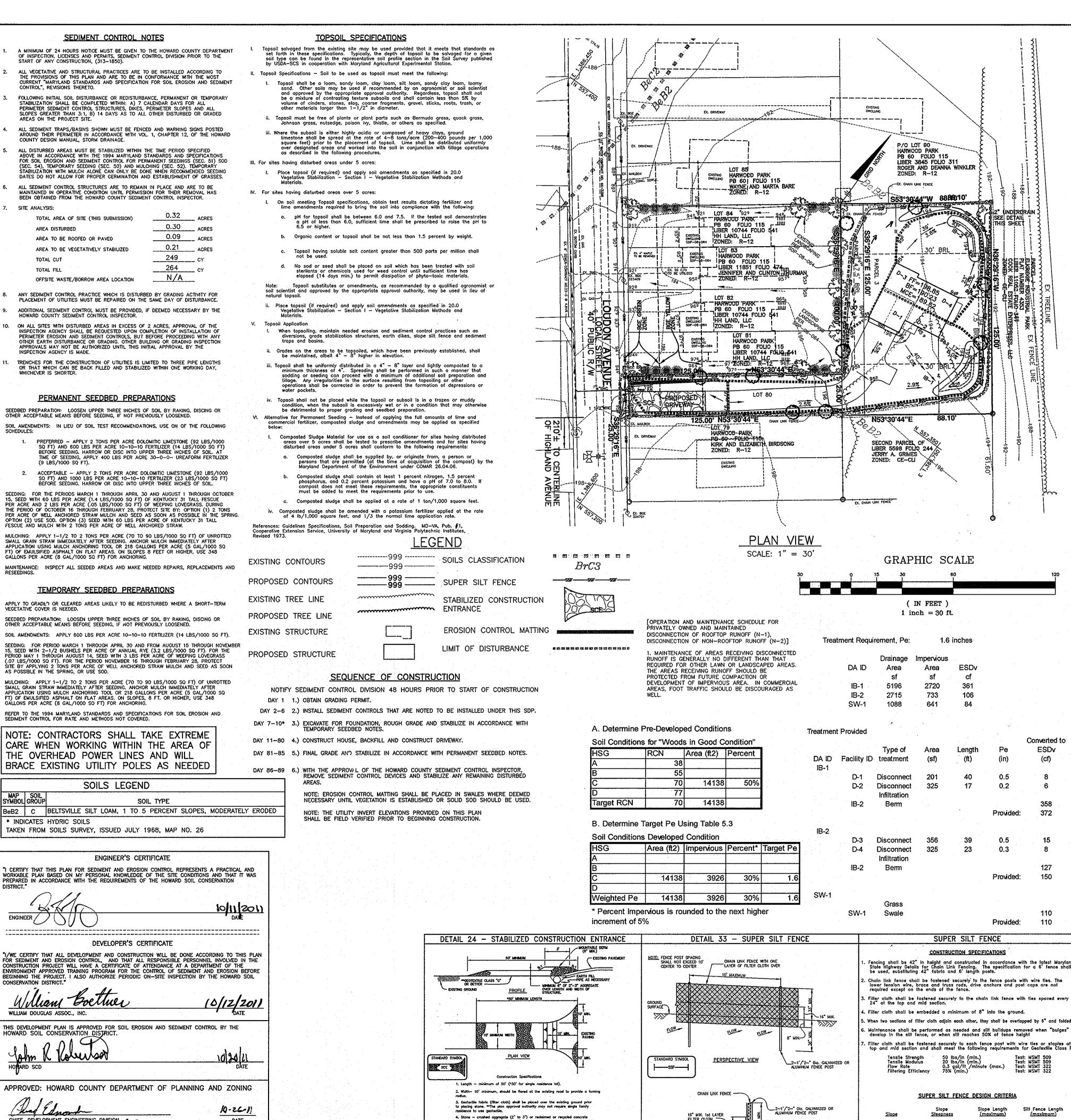
WILLIAM DOUGLAS ASSOC., INC 16272 COMPROMISE COURT

MOUNT AIRY, MARYLAND 21771 410-781-7533 DESIGN: AAM | Draft: AAM | Check: BFC | SCALE:

HARWOOD PARK LOT 80. PARCELS THREE AND FOUR OF LIBER 10744, FOLIO 541 TAX MAP No. 38, GRID No. 13.

PARCEL No. 873 1st ELECTION DISTRICT HOWARD COUNTY, ELKRIDGE, MARYLAND 21075 COVER SHEET, SITE DEVELOPMENT AND LANDSCAPE PLAN PROJECT NO. 2054

DRAWING $\frac{1}{}$ OF $\frac{2}{}$



has no drainage to convey a pipe will not be necessary. Pipe should be sized ' according to the amount of runoff to be conveyed. A 6° minimum will be required

rhere construction traffic enters or leaves a construction site. Vehicles leaving he site must travel over the entire length of the stabilized construction entrance

U.S. DEPARTMENT OF AGRICULTURE PAGE MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE F - 17 - 3 WATER MANAGEMENT ADMINISTRATION

6. Location - A stabilized construction entrance shall be located at every point

TAILS AND SPECIFICATIONS FOR PROJECTS ITHIN 4 MILES OF THE BW AIRPORT References to ITEM #s noted below are found in Maryland Aviation Administration's manual ntitled Specifications for Performing Landscaping Activities for the Marylan

. Following initial soil disturbances or re—disturbance, permanent or temporary stabilization shall be completed within seve calendar days for the surface of all perimeter controls, dikes, swales, ditches perimeter slopes, and all slopes greater than days for all other disturbed or graded areas

the project site. 2. Occurrence of acid sulfate sails (aravist black color) will require covering with a minimum of 12 inches of clean soil with 6 inches minimum capping of top soil. No soil tests should be done before and after a week incubation period to allow exidation i. The minimum soil conditions required for permanent vegetative establishment are: Soil pH shall be between 6.0 and 7.0. b. Soluble salts shall be less than 500 parts per million (ppm). c. The soil shall contain less than 40% clay

but enough fine grained material (> 30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. d. Soil shall contain 1.5% minimum organic matter by weight.
e. Soil must contain sufficient pore space t permit adequate root penetration.

f. If these conditions cannot be met by soils on site, adding topsoil is required in accordance ITEM 901 or amendments made as recommended by a certified agronomis ITEM 903 SEEDING

DESCRIPTION 903-1.1 GENERAL. This item provides designated on plans or as directed by the methods of application provided in this item attractiveness of airport arounds to wildlife rates of application provided in this item activities associated with seeding including and maintenance shall also conform to these

903-2.1 SEED. All seed shall comply with the Maryland Seed Law (Agricultural Article of the Annotated Code of Maryland). Only MAA-approved species, mixtures, and rates of application provided in this item may be used to establish vegetation. Seed will be sampled and tested by an inspector from the of Agriculture (MDA), Annapolis, Maryland, All free from the following state-listed restricted com cockle (Agrostemma githago bentarass (Agrostis spp.)1. redtop (Agrostis algantea) 1 wild onion (Allium canadense wild garlic (Allium vineale), bindweed (Calstegia spp.). dodder (Cuscuta spp.). Bermuda grass (Cynodon dactylon orchardgrass (Dactylis glomerata) tall fescue (Festuca arundinacea) meadow fescue (Festuca pratensis) 1. velvetgrass (Holcus lanatus), annual bluegrass (Poa annua), rough bluegrass (Poa trivialis)1

timothy (Phleum pratense), and Johnson grass (Sorgum halepense). exceed 0.5 percent by weight of any seed Maryland shall be free from the following (1 These species may be included as a labeled component of a mixture when each is present in excess of five percent of the mixture by weight.)

noxious weeds: balloonvine (Cardiospermum halloacabum Sorghum spp.), Canada thistle (Cirsium arvense), plumeless thistle Carduus spp.—includes musk thistle and curled thistle), and serrated tussock (Nassella trichotoma). 903-2.1.1 APPROVED SPECIES. The following table contains species

MAA SEED MIXTURES			
All Control	Puritya Not Less Thon %	Minimum % Germinationb	Pure Live Seed Factor
Certified Turf-Type			•
Tall Fescue (Festuca arundinacea)	98	90	1.13
Certified Kentucky			
Bluegrass	90	80	1.39
(Poa pratensis) Hard Fescue			
(Festuca longifolia)	98	90	1.13
Chewings Red Fescue			
(Festuca rubra commutata)	98	90	1.13
Annual Ryegrass (Lolium multiflorum)	95	85	1.24
Perennial Ryegrass	90	80	1.39
(Lolium perenne) Fowl Meadow Grass			
(Poa palustris)	90	. 80	1.39
Little Bluestern (Andropogon scoparius)	62	94	1.71

a The percentage weight of pure seed present shall be free of any agriculture seeds, inert matter, and other seeds distinguishable by The percentage of germination shall be actual sprouts and shall

Converted to

ESDv

(cf)

358

372

127

150

110

1,500 feet

1,000 fee!

500 feet

250 feet

200 feet

100 feet

100 feet

0 - 10:1

10:1 - 5:1

10 - 20%

50% +

FLOW

SECTION

903-2.1.2 PURITY. All seed shall be free of all state-designated noxious weeds listed in Paragraph 2.1.1 and conform to MAA specifications. To ensure compliance, MAA requires sampling and testing of seed by the Turf and Seed Section, Maryland Department designated for seeding shall be properly prepared in advance of seed application. area shall be tilled and graded prior to application of lime and fertilizer, and the of Agriculture (MDA). The Contractor shall furnish the MAA Engineer with duplicate signed copies of a statement by the Turf and Seed Section certifying that each lot of seed has been faboratory tested within six months of date of delivery. This statement shall include surface area shall be cleared of any stones larger than 1 inch in diameter, sticks, stumps, the following information:

— name and address of laboratory,

— date of test, sowing of seed, growth of grasses, or subsequent maintenance of grass-covered fot number,
 the results of tests as to name, percentages of purity and of areas. Damage caused by erosion or other

germination,

percentage of weed content for the seed furnished,

and, in the case of a mixture, the proportions of each kind o Seed shall be furnished in standard containers with the seed name, lot number, net weight, percentages of purity, germination rate and hard seed, and percentage of maximum weed seed content clearly marked. All seed containers shall be tagged with a MDA supervised mix program seed tag. 903-2.1.3 MIXTURES AND APPLICATION RATES. Only seed mixtures and application rates described in this item may be used unless otherwise approved by the MAA Engineer. See mixtures shall meet criteria detailed in Paragrap 903-2.1.2. Seed mixtures have been formulate to minimize the attractiveness of areas to wildlife of common landscape scenarios. The appropriate seed mixture for application will be lesignated based on environmental conditions and may vary from site to site. All planting rates listed are in pounds of Pure Live Se

(PLS) per acre. Seed mixtures, application scenarios, and rates for permanent cool-season grasses are as a. Seed Mixture No. 1 - relatively flat areas (grade less than 4:1) subject to normal conditions and regular mowing (Application rate = 234 lbs PLS/acre); b. Seed Mixture No. 2 - sloped areas (grad greater than 4:1) not subject to regular mowing (Application rate = 115 lbs PLS/acre); c. Seed Mixture No. 3 - wetlands and their associated buffer zones (Application rate = 131 lbs PLS/acre). Seed Mixture No. 1: Relatively flat areas regularly mowed and exposed to normal conditions (Application rate = 234 lbs PLS/acre) Rate of

Seed (lbs. of LS/acre) 85% Certified Turf-Type Tall Fescue 192 10% Certified Kentucky Bluegrass 28 5% Perennial Ryegrass 14 Supplemental Seed Annual Ryegrass 25

(Paragraphs 903-3.3.1 and 903-3.3.2) approved by MAA. The seeding mixture shall be applied within 48 hours after Seed Mixture No. 2: Sloped areas not subject to regular mowing (Application rate = 115 lbs Rate of Application Seed (lbs of PLS/acre) 75% Hard Fescue 85

application of lime and fertilizer. To

occur immediately after seeding. 903–3.3 METHODS OF APPLICATION.

applied by either the dry or wet

pproved by MAA and are detailed

903-3.3.1 DRY APPLICATION METHOD

that lime is needed, the following

advance preparation of the seedbed

prepared as described in paragraph 903-3.2. The time shall be uniformly

spread and worked into the top 2

shall be properly graded again.

inches of soil, after which the seedbe

preparations (and liming if necessary)

the specified rate to provide no less

han the minimum quantity stated i

immediately after fertilization of the

d. Rolling. After the seed has been

immediately compacted using a

03-3.3.2 WET APPLICATION

properly covered, the seedbed shall be

a. General. The Contractor may elect to

Paragraphs c and d of this section in

spraying over the previously prepared seedbed using methods and equipment approved by MAA. The rates of

application shall be as specified in

equipment shall have a container of

Paragraphs 903-2.1 through 903-2.3

water tank equipped with a liquid level

of the tank copacity. The liquid level

gauge shall be mounted so as to be visible to the nozzle operator at all

be equipped with a mechanical

times. The container or tank shall also

complete suspension at all times until

The spraying equipment shall also

include a pressure pump capable o

delivering 100 gallons per minute at a

gauge capable of reading increments of

gallons or less over the entire range

Paragraph 903-2.3. c. Seeding. Seed mixtures shall be sown

eedbed. The fertilizer and seed shall

e lightly raked to a depth of 1 inch

application of any fertilizer or seed an

firm the seeded areas, cultipacking sho

20% Chewings Fescue 2 % Kentucky Bluegrass Supplemental Seed Redtop 3 Seed Mixture No. 3 — Wetland areas and their associated buffer zones (Application rate = 131 lbs PLS/acre) Rate of Application Seed (lbs of PLS/acre)

60% Fowl Meadow Grass 83

30% Chewings Fescue 34

10% Perennial Ryegrass 1 Supplemental Seed 903-2.1.4 SEEDING SEASONS. Application of seed and seed mixtures shall occur within a specified seeding season unless otherwise approved by the MAA Engineer. No seed of seed mixtures are to be applied on frazer ground or when the temperature is at or pelow 35 degrees Fahrenheit (7.2 degrees Centigrade). Under these conditions, a layer of mulch should be applied in accordance with Item 905, Mulching, to stabilize the site, and permanent seeding should occur in the subsequent seeding season. Seed application may occur during the seeding season dates listed below. Seeding performed after October 20 should be a temporary cover of annual ryegrass and followed by overseeding of the

seeding season. SEEDING SEASONS Permanent Cool-Season Grasses March 1 to April 20 and August 1 to Octo inclusive Temporary Cover of Appual Rye/Redton March 1 to April 30 and August 1 to November 30, inclusive Temporary Cover of Warm-Season Grasse (Little Bluestem only) application should be 13.6 lbs. PLS per ac eeding seasons are based on typical years

appropriate seed mixture during the spring

and can be subject to variation, which may be modified by the MAA Engineer based on If the time required to complete any of the operations necessary under this item, within the specified planting season or any authorized extensions thereof, extends beyond power-driven agitator capable of keeping all the solids in the mixture in the Contract period, then such time will be charged against the Contract time, and liquidated damages will be enforced with respect to this portion of work. 903-2.2 LIME. Lime shall consist of around imestone and contain at least 85 percent total carbonates. Lime shall be ground to a

pressure of 100 pounds per square inch. fineness so that at least 90 percent will pass hepressure pump assemblage shall be hrough a No. 20 mesh sieve and 50 percent configured to allow the mixture to flow will pass through a No. 100 mesh sieve. Dolomitic lime or a high magnesium lime shall sprayed from the nozzle. All pun contain at least 10 percent magnesium oxide. passages and pipelines shall be capable Lime shall be applied by approved methods of providing clearance for 5/8-inch detailed in Section 903-3.3 of this item. The solids. The power unit for the pump rate of application will be based on results of and gaitator shall have controls mounted so as to be accessible to the 903-2.3 FERTILIZER. Fertilizer shall be nozzle operator. A pressure gauge shall standard commercial fertilizer (supplied separately or in mixtures) and meet the mmediately behind the nozzle. requirements of applicable state and federal The nozzle pipe shall be mounted on an elevated supporting stand in such a aws (0-F-241) as well as standards of the Association of Official Agricultural Chemists. 360 degrees horizontally and inclined Nitrogen—Phosphorus—Potassium (N—P—K) concentrations shall be determined from below to at least 60 degrees above the analysis of soil samples.(Approved fertilize rate: 21 pounds of 10-10-10 per 1,000 quick-acting, three-way control valve square feet.) Methods of fertilizer application shall conform to standards described in nozzle pipe and mounted so that the Section 903-3.3 of this item. Fertilizer shall regulate the amount of flow of mixture to be supplied so that mixtures may be be furnished in standard containers that are clearly labeled with name, weight, and properly sprayed over a distance varying from 20 feet to 100 feet. One shall be guaranteed analysis of the contents (percentage of total nitrogen, available a close-range ribbon nozzle, one a phosphoric acid, and water—soluble potash). dixed fertilizers shall not contain any hydrated

as set forth in the ?Plant Nutrient Recommendations Based on Soil Tests for

furf Maintenance? and the ?Plant Nutrient

he fertilizer shall be in a manner that is

CONSTRUCTION MÉTHODS AND EQUIPMENT

cludes standards for seedbed preparation

903-3.1 GENERAL. This section provides

conditions as described in Paragraph

903-3.2 ADVANCE PREPARATION, Areas

forces that occur after the completion of

irregularities, and repairing other incidental

damage before beginning the application (

If an area to be seeded is sparsely sodded

weedy, barren and unworked, or packed and hard, all grass and weeds shall first be cut

r otherwise satisfactorily disposed of, and

the soil then scarified or otherwise loosened

(75 mm) of soil shall be worked into a

satisfactory seedbed (without requiring

additional treatment) if it has recently been

not less than 5 inches: the top 3 inches of

soil is loose, friable, and is reasonably free

undesirable matter; appropriate amounts of fertilizer and lime have been added; and, if

steeper than 3:1 (three horizontal to one

vertical), the subsoil shall be loose to a dept

After completion of tilling and grading, lime and fertilizer shall be applied within 48 hours

according to the specified rate (Paragraphs

903-2.2 and 2.3) and methods

has been shaped to the required grade

grading shall be repaired prior to the

polication of fertilizer and lime. The Contractor will repair such damage, which

may include filling gullies, smoothing

long-ronge jet nozzle. For ease of failing to meet the specified analysis may be be connected to the nozzle pipe by approved by the MAA Engineer, providing means of quick-release couplings. I order to reach areas inaccessible to sufficient materials are applied to conform with the specified nutrients per unit of the regular equipment, an extension hose at least 50 feet in length shall be isure without additional cost to MAA. The fertilizers may be supplied in the following a. A dry, free-flowing fertilizer suitable for c. Mixtures. Lime shall be applied application by a common fertilizer spreader; separately in the quantity specified prior to the fertilizing and seeding suitable for application by power sprayers; or c. A granular or pellet form suitable for operations. Lime should be added to and mixed with water at a application by blower equipment. results of soil tests performed by the University of Maryland Soil Testing Laboratory. By law, persons applying fertilizer to State—owned land shall follow the

concentration not to exceed 220 pounds of lime for every 100 gallons of water. After lime has been applied, the tank should be emptied and rinsed wit mixed together in the relative proportions specified, but the resulting ecommendations of the University of Maryland concentration should not exceed 220 water and should be applied within 3 minutes to prevent fertilizer burn of t Recommendations Based on Soil Tests for Soc Production? (see Appendix B). Application of All water used shall be obtained from fresh water sources and shall be free consistent with the recommendations of the from injurious chemicals and other University of Maryland Cooperative Extension toxic substances harmful to plant life Brackish water shall not be used at any time. The Contractor shall identify approved methods for the application of and agineer at least two weeks prior to methods of application, and equipment to be used during the process. Lime and fertilizer shall be applied to seeded areas before the the water at the source or from the ank at any time and have a laborator; test the somples for chemical and seed is spread. The mixture of seed will be

saline content. The Contractor shall not use any water from any source that is disapproved by the Engineer following All mixtures shall be constantly agitated from the time they are mixed until they are finally applied to the seedbed.
All such mixtures shall be used within minutes from the time they were mixed or they shall be wasted and disposed of at a location acceptable d. Spraying. Lime shall be sprayed upon previously prepared seedbeds on which

the lime, if required, shall have been worked in already. The mixtures

Lime: 100 pounds of dolomitic limestone r 1,000 square feet ertilizer: 15 pounds of 10-10-10 per 1,000 seed: Per ITEM 903 Mulch: Mulch shall be applied as per ITEM

shall be applied using a high-pressur

nixtures will fall to the around in a

uniform spray. Nozzles or sprays shall

never be directed toward the around in

erosion or runoff. Particular care shall

application is made uniformly, at the

Predetermined quantities of the mixture

sections of known areas. To checks the

nisses and overlapped areas

shall be used in accordance with

applicator will observe the degree o

vetting of the ground or distribute

the MAA Engineer, seed and fertilize

area at intervols and observe the

test sheets of paper or pans over the

wantity of moterial deposited thereor

In surfaces that are to be mulched as

opplied by the spray method need not

be raked into the soil or rolled. Howeve

used, the raking and rolling operations

3-3.4 MAINTENANCE OF SEEDED

AREAS. The contractor shall protect

by warning signs or barricades, as

approved by the Engineer. Surfaces

and reseeding as directed. The

guillied or otherwise damaged following

and otherwise maintain seeded areas in

inspection and acceptance of the work

method outlined above is used for work

contract has been otherwise completed

determination of the color, density, and

payment for the unaccepted portions of

the areas seeded out of season will be

performed out of season, the Contro will be required to establish a good

stand of grass of uniform color and

density to the satisfaction of the

uniformity of such stand of grass

Mulch shall be applied to all seeded

the time periods when seeding is not

immediately after grading.

Mulch shall be applied as per ITEM 905.

permitted, mulch shall be applied

requirements have been met.

Engineer. If at the time when the

is not possible to make an adequat

on surfaces on which mulch is not to be

seeded areas against traffic or other use

spray which shall always be directed

upward into the air so that the

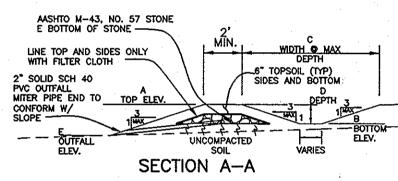
fills may be placed on frozen ground. A fill to be placed in approximately horizontal layers, each layer having a loos

thickness of not more than 8 inches. All fill in roadways and parking areas is to be classified Type 2 as per Anne Arundel and compacted to 90% density; compaction to be determined by ASTM D-1557-66T (Modified Proctor). Any fill within the building area is to be compacted to a minimum of 95% density as determined b methods previously mentioned. Fills for pond embankments shall be compacted as per MD-378 Construction Specifications. All other fills shall be compacted sufficiently so as to be stable and prevent erosion and

Installation of sod should follow permanent seeding dates. Seedbed preparation for sod shall be as noted above. Lime and fertilizer per permanent seeding specifications and lightly irrigate soil prior contour with all ends tightly abutting. Joints are to be staggered between ro Water and roll or tamp sod to insure slopes steeper than 3:1, as shown, are to be permanently sodded or protected with an approved erosion control netting. Additional watering for establishment ma be required. Sod is not to be installed on frozen ground. Sod shall not be transplanted when moisture content (dry or wet) and/or extreme temperature may adversely affect its survival. In the absence of adequate rainfall, irrigation should be performed to ensure establishment of sod. install sod as per ITEM 904. MINING OPERATIONS

ediment control plans for mining operations must include the following seeding dates and mixtures: For seeding dates of: February 1 through April 30 and August 15 through October , use seed mixture of tall fescue at the rate of 2 pounds per 1,000 square feet and red top at the minimum rate of 0.5 pounds per 1,000 square feet. NOTE: Use of this information does not preclude meeting all of the requirement of the current Maryland Standards and Sediment Control.

2" PERFORATED UNDERDRAIN INFILTRATION BERM SUMMAR' IB# A B C D E 1 | 194.0 | 193.0 | 14 | 1.5 | N/A* 2 | 194.0 | 192.5 | 7 | 1 | 192.4 NOTE: NO UNDERDRAIN PROVIDED FOR IB-1 PLAN VIEW



INFILTRATION BERM TYPICAL DETAIL NOT TO SCALE

INFILTRATION BERM CONSTRUCTION SPECIFICATIONS

SOILS WITHIN THE STORAGE AREAS SHALL NOT BE COMPACTED. BERMS SHALL BE CONSTRUCTED WITH A GRAVEL CORE COMPRISED OF AASHTO M-43, EXTENDING TO A DEPTH EQUAL TO THE BOTTOM ELEVATION OF THE STORAGE AREA. THE SIDES AND TOPS OF THE BERMS SHALL BE COVERED WITH A 6" LAYER OF TOPSOIL. AND PERMANENTLY STABILIZED WITH GRASS, AS PER SHEET 3. TOPS OF BERMS SHALL BE LEVEL, AT THE PRESCRIBED ELEVATIONS, AND THE CREST

SHALL BE A MINIMUM OF 2' WIDE. SIDES OF THE BERM SHALL BE A MAXIMUM OF 3:1 SLOPES.

ALL CHANGES IN GRADING SHALL BE SMOOTHED AND ROUNDED, TO ENSURE EASE OF FUTURE MOMNG INFILTRATION BERMS SHOULD BE PROTECTED FROM SILT USING SILT FENCE UNTIL

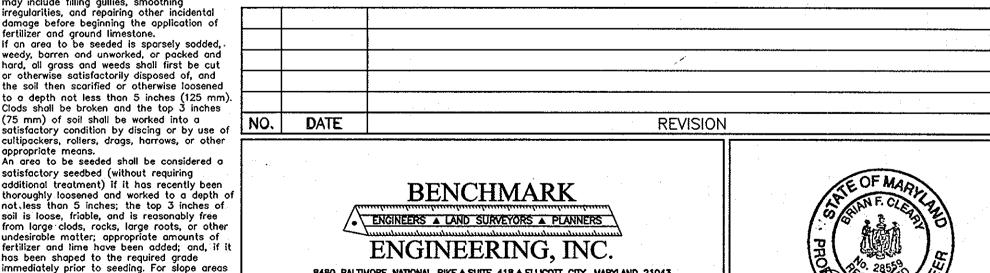
CONTRIBUTING DRAINAGE AREA IS FU'LLY STABILIZED. A 2" PVC UNDERDRAIN SYSTEM WILL BE INSTALLED IN THE GRAVEL CORE WHERE OUTFALL PERMITS. SEE DETAIL ABOVE.

OPERATION AND MAINTENANCE SCHEDULE FOR HOMEOWNER MAINTAINED INFILTRATION BERMS

FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS TO ENSURE THA PONDING WATER DOES NOT CREATE NUISANCE CONDITIONS.

SIGNS OF CONCENTRATED FLOW AND OTHER SURFACE EROSION SHOULD BE REPAIRED TO PROMOTE SHEETFLOW.

A DENSE MAT OF VEGETATION SHOULD BE PRESENT AT ALL TIMES. VEGETATION SHOULD BE REPLACED AS NEEDED.



8480 BALTIMORE NATIONAL PIKE A SUITE 418 A ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 30 THOMAS JOHNSON DRIVE A FREDERICK, MARYLAND 21702 (P) 301-371-3505 (F) 301-371-3506

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were prepared or approved by me, and that I am a duly license professional engineer under the laws of the State of Maryland

OWNER: HH LAND, LLC 16272 COMPROMISE COURT MOUNT AIRY, MARYLAND 21771 410-781-7533

WILLIAM DOUGLAS ASSOC., INC. 16272 COMPROMISE COURT MOUNT AIRY, MARYLAND 21771 410-781-7533

Draft:

DESIGN: AAM

HARWOOD PARK LOT 80, PARCELS THREE AND FOUR OF LIBER 10744, FOLIO 541

TAX MAP No. 38, GRID No. 13, PARCEL No. 873 LOCATION: 1st ELECTION DISTRICT HOWARD COUNTY. ELKRIDGE, MARYLAND 21075 STORMWATER MANAGEMENT SEDIMENT AND EROSION CONTROL PLAN, NOTES AND DETAILS DECEMBER, 2010 DATE: PROJECT NO. 2054 OCTOBER, 201 DRAWING 2 OF 2SCALE:

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED. SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ON OF THE FOLLOWING

SEEDING: FOR THE PERIODS MARCH 1 THROUGH APRIL 30 AND AUGUST 1 THROUGH OCTOBE 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ FT) OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (.05 LBS/1000 SQ FT) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS PER ACRE OF KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE OF WELL ANCHORED STRAW.

15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT). FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT). FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: APPLY 1-1/2 10 2 10NS PER ACRE (70 10 90 LBS/1000 SQ F1) OF UNROTTES

SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER

APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ

FT) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 348

GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

NOTE: CONTRACTORS SHALL TAKE EXTREME CARE WHEN WORKING WITHIN THE AREA OF THE OVERHEAD POWER LINES AND WILL

MAP SOIL SYMBOL GROUP INDICATES HYDRIC SOILS

"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSEGURITION.

CONSERVATION DISTRICT. THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE

HOWARD SOIL CONSERVATION DISTRICT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 11-02-11 DATE

11/2/11