

GENERAL NOTES

- 1) THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- 2) BOUNDARY IS BASED ON A FIELD RUN MONUMENTED SUBURBAN BOUNDARY SURVEY PERFORMED BY JOHN A. HILDEBRAND IN MARCH, 2006.
- 3) THE EXISTING TOPOGRAPHY SHOWN ON SITE IS BASED ON AN AERIAL TOPOGRAPHIC SURVEY PERFORMED BY WING AERIAL MAPPING CO., INC. FLOWN ON OR ABOUT JANUARY, 2006 AND AS SHOWN ON F-06-080.
- 4) THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 16E1 AND 0012 WERE USED FOR THIS PROJECT.
- 5) WATER IS PUBLIC. THE CONTRACT NUMBER IS 24-4522-D. THE DRAINAGE AREA IS LITTLE PATUXENT.
- 6) SEWER IS PUBLIC. THE CONTRACT NUMBER IS 24-4522-D. THE DRAINAGE AREA IS LITTLE PATUXENT.
- 7) STORMWATER MANAGEMENT QUALITY AND QUANTITY CONTROL WAS PROVIDED WITHIN THE 2 EXTENDED DETENTION FACILITIES WITH MICROPOOLS AND 2 OFFLINE RECHARGE CHAMBERS CONSTRUCTED UNDER F-08-060 AND F-10-026. THE PONDS ARE PRIVATELY OWNED AND JOINTLY MAINTAINED. THE RECHARGE CHAMBERS ARE PRIVATELY OWNED AND PRIVATELY MAINTAINED.
- 8) EXISTING UTILITIES SHOWN ARE BASED ON CONTRACT DRAWINGS, AERIAL AND FIELD SURVEYED LOCATIONS.
- 9) THERE IS NO 100-YEAR FLOODPLAIN LOCATED WITHIN THE LIMITS OF THIS PHASE (PHASE 1) OF THE VILLAGES AT TURF VALLEY.
- 10) WETLANDS LOCATIONS SHOWN ARE BASED ON APPROVED STUDIES AS SHOWN ON COMPREHENSIVE SKETCH PLAN OF TURF VALLEY. WETLANDS ARE BASED ON A STUDY CONDUCTED BY EXPLORATION RESEARCH FOR S-86-13 AND VERIFIED BY ECO-SCIENCE PROFESSIONALS, INC. IN JUNE 2002 AND APRIL 2004 (FOR DEVELOPMENT IN AND AROUND POOLS 1, K, L, M, N, O, P, Q, & S).
- 11) A NOISE STUDY IS NOT REQUIRED FOR THIS PHASE (PHASE 1) OF THE VILLAGES AT TURF VALLEY.
- 12) THE GEOTECHNICAL REPORT WAS PREPARED BY HILLIS CARNES ENGINEERING ASSOCIATES, INC. IN MARCH, 2006 AND SUPPLEMENTED IN AUGUST, 2007 AND APPROVED UNDER F-08-060.
- 13) THE SUBJECT PROPERTY IS ZONED PGCC PER THE 2-2-2004 COMPREHENSIVE ZONING PLAN AND THE "COMP LIFE" ZONING AMENDMENTS EFFECTIVE 7-28-2006.
- 14) TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO BURIAL GROUNDS, CEMETERIES OR HISTORIC STRUCTURES LOCATED ON THIS SITE.
- 15) THERE ARE NO WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, 100-YEAR FLOODPLAIN OR 25% OR GREATER STEEP SLOPES THAT ARE AT LEAST 20,000 S.F. OF CONTIGUOUS AREA LOCATED ON THESE LOTS.

RESIDENTIAL SITE DEVELOPMENT PLAN

VILLAGES AT TURF VALLEY

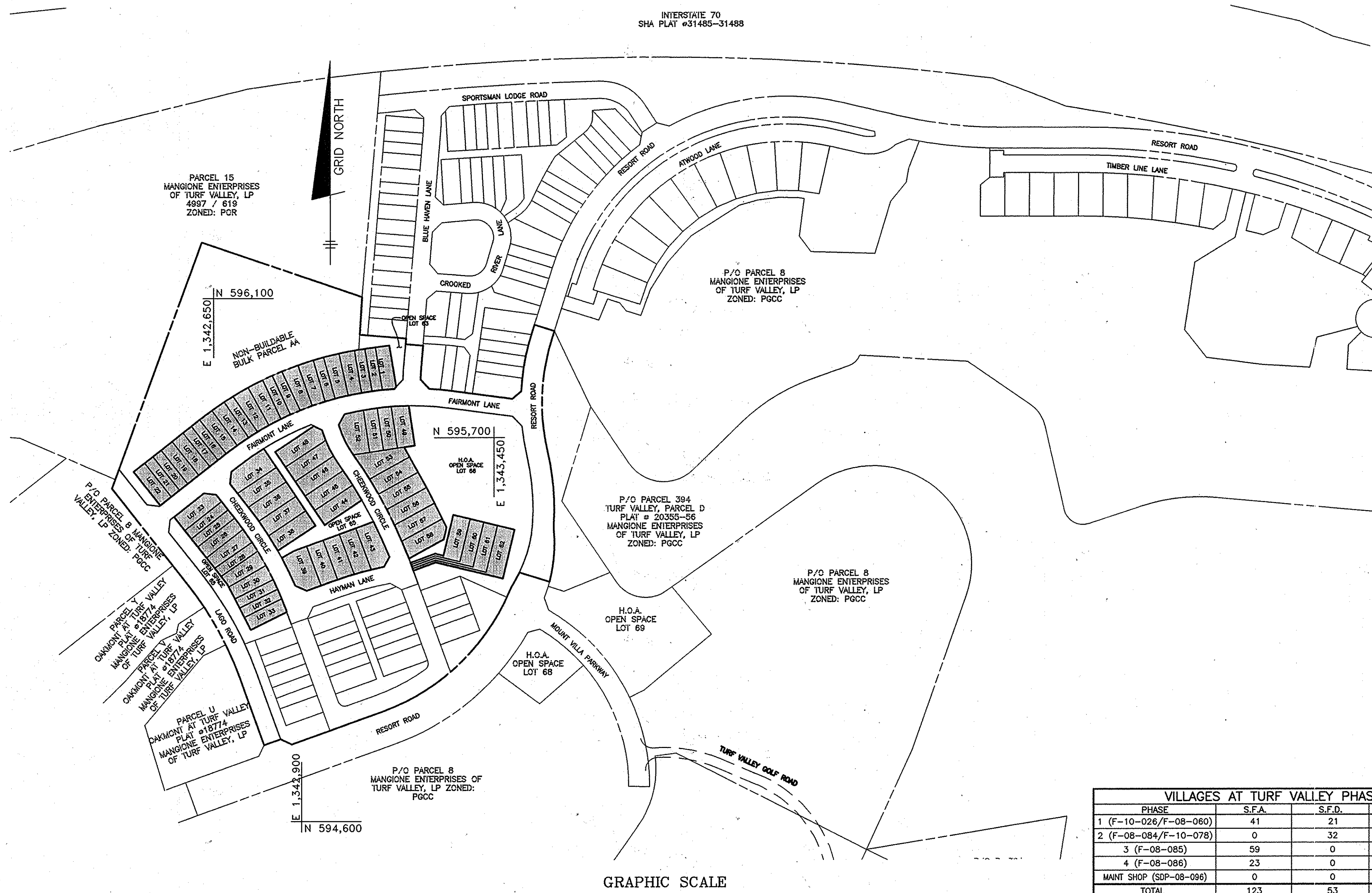
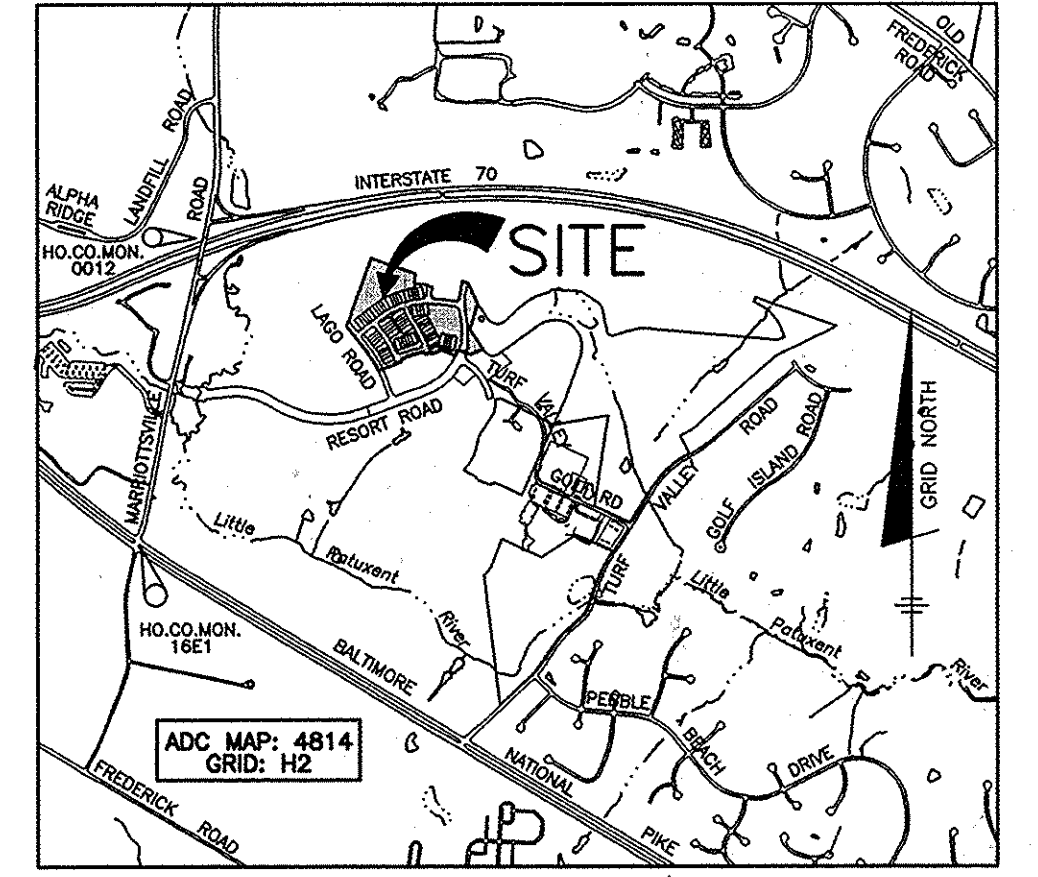
PHASE 1, SECTION 2

LOTS 1 thru 62

BENCHMARKS NAD'83 HORIZONTAL

HO. CO. #16E1 (AKA: 3438001)
STAMPED BRASS DISK SET ON TOP OF A 3" DEEP COLUMN OF CONCRETE.
N 593250.960' E 1340192.70'
ELEVATION: 463.981'

HO. CO. #0012 (AKA: 3439001)
STAMPED BRASS DISK SET ON TOP OF A 3" DEEP COLUMN OF CONCRETE.
N 596502.760' E 1340864.37'
ELEVATION: 486.298'

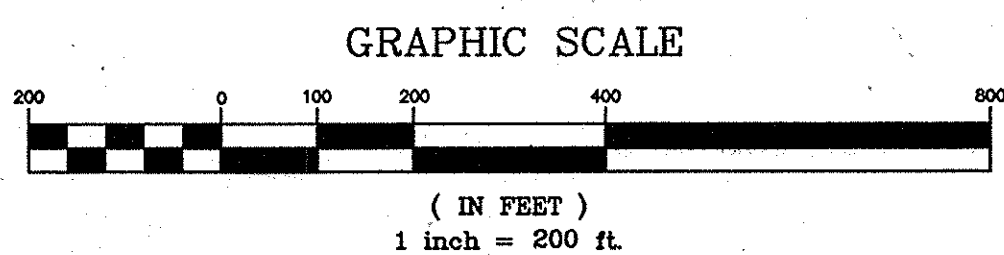


ADDRESS CHART

LOT	STREET ADDRESS
1	10502 FAIRMONT LANE
2	10504 FAIRMONT LANE
3	10506 FAIRMONT LANE
4	10508 FAIRMONT LANE
5	10512 FAIRMONT LANE
6	10514 FAIRMONT LANE
7	10516 FAIRMONT LANE
8	10520 FAIRMONT LANE
9	10522 FAIRMONT LANE
10	10524 FAIRMONT LANE
11	10526 FAIRMONT LANE
12	10530 FAIRMONT LANE
13	10532 FAIRMONT LANE
14	10534 FAIRMONT LANE
15	10538 FAIRMONT LANE
16	10540 FAIRMONT LANE
17	10542 FAIRMONT LANE
18	10544 FAIRMONT LANE
19	10548 FAIRMONT LANE
20	10550 FAIRMONT LANE
21	10552 FAIRMONT LANE
22	10554 FAIRMONT LANE
23	2702 CHEEKWOOD CIRCLE
24	2704 CHEEKWOOD CIRCLE
25	2706 CHEEKWOOD CIRCLE
26	2708 CHEEKWOOD CIRCLE
27	2712 CHEEKWOOD CIRCLE
28	2714 CHEEKWOOD CIRCLE
29	2716 CHEEKWOOD CIRCLE
30	2720 CHEEKWOOD CIRCLE
31	2722 CHEEKWOOD CIRCLE
32	2724 CHEEKWOOD CIRCLE
33	2726 CHEEKWOOD CIRCLE
34	2701 CHEEKWOOD CIRCLE
35	2705 CHEEKWOOD CIRCLE
36	2709 CHEEKWOOD CIRCLE
37	2713 CHEEKWOOD CIRCLE
38	2717 CHEEKWOOD CIRCLE
39	10912 HAYMAN LANE
40	10910 HAYMAN LANE
41	10906 HAYMAN LANE
42	10902 HAYMAN LANE
43	10900 HAYMAN LANE
44	2797 CHEEKWOOD CIRCLE
45	2801 CHEEKWOOD CIRCLE
46	2805 CHEEKWOOD CIRCLE
47	2809 CHEEKWOOD CIRCLE
48	2813 CHEEKWOOD CIRCLE
49	10901 FAIRMONT LANE
50	10905 FAIRMONT LANE
51	10909 FAIRMONT LANE
52	10913 FAIRMONT LANE
53	2800 CHEEKWOOD CIRCLE
54	2796 CHEEKWOOD CIRCLE
55	2792 CHEEKWOOD CIRCLE
56	2788 CHEEKWOOD CIRCLE
57	2784 CHEEKWOOD CIRCLE
58	2780 CHEEKWOOD CIRCLE
59	2776 CHEEKWOOD CIRCLE
60	2772 CHEEKWOOD CIRCLE
61	2770 CHEEKWOOD CIRCLE
62	2766 CHEEKWOOD CIRCLE

VILLAGES AT TURF VALLEY PHASING CHART

PHASE	S.F.A.	S.F.D.	CONDOMINIUM	TOTAL
1 (F-10-026/F-08-060)	41	21	0	62
2 (F-08-084/F-10-078)	0	32	43	75
3 (F-08-085)	59	0	0	59
4 (F-08-086)	23	0	0	23
MAINT SHOP (SDP-08-096)	0	0	1 (Access. Apt.)	1
TOTAL	123	53	44	220



BULK REGULATIONS :

- PERMITTED USES : ALL USES AS PER TURF VALLEY PGCC DISTRICT, MULTI-USE SUBDISTRICT FINAL DEVELOPMENT PLAN, THIRD AMENDMENT, PLATS 21029-21033 (49 USES OUTLINED FROM RESIDENTIAL USES TO SPECIALTY STORES)
- PROPOSED USE : SINGLE FAMILY ATTACHED & DETACHED
- PERMITTED HEIGHT : SINGLE-FAMILY ATTACHED - 34 FEET
APARTMENT BUILDINGS - 80 FEET
OTHER - 34 FEET
ACCESSORY STRUCTURES - 15 FEET
- MAXIMUM DENSITY FOR TOTAL PGCC DISTRICT IS 2.0 DWELLING UNITS PER ACRE.
- MAXIMUM UNITS PER STRUCTURE:
1. SINGLE FAMILY ATTACHED 8 UNITS PER STRUCTURE
2. APARTMENTS LESS THAN 40 FEET IN HEIGHT 24 UNITS PER STRUCTURE
3. APARTMENTS 40 FEET OR GREATER IN HEIGHT 120 UNITS PER STRUCTURE
- MINIMUM LOT SIZE REQUIREMENTS:
SINGLE FAMILY DETACHED 6,000 SQ.FT.
EXCEPT ZERO LOT LINE DWELLINGS 4,000 SQ.FT.
SINGLE FAMILY SEMI-DETACHED 4,000 SQ.FT.
- MINIMUM LOT WIDTH AT BUILDING RESTRICTION LINE:
SINGLE FAMILY DETACHED 50 FEET
EXCEPT ZERO LOT LINE DWELLINGS 40 FEET
SINGLE FAMILY SEMI-DETACHED 40 FEET
- MAXIMUM BUILDING LENGTH FOR RESIDENTIAL STRUCTURE = 120 FEET, UNLESS APPROVED BY PLANNING BOARD TO A MAXIMUM OF 300 FEET.
- PERMITTED SETBACKS:
FROM ARTERIAL ROADS:
RESIDENTIAL STRUCTURES 50 FEET
ACCESSORY USES 30 FEET
PARKING 25 FEET
- FROM COLLECTORS AND LOCAL STREETS:
RESIDENTIAL AND NON-RESIDENTIAL STRUCTURES 30 FEET FROM A 60 FT. ROW
ZERO LOT LINE AND ALL OTHER USES 20 FEET FROM A 50 FT. ROW
- ACCESSORY USES:
FROM NON-PGCC ADJACENT PROPERTIES:
FROM RESIDENTIAL DISTRICTS 75 FEET
FROM ALL OTHER DISTRICTS 30 FEET
FROM LOT LINES WITHIN PGCC MULTI-USE SUBDISTRICT:
SINGLE FAMILY DETACHED - SIDE 7.5 FEET
ZERO LOT LINE AND ALL OTHER USES - SIDE 0 FEET
A MINIMUM OF 10 FEET MUST BE PROVIDED BETWEEN STRUCTURES
RESIDENTIAL 20 FEET
BETWEEN ATTACHED DWELLING UNITS AND APARTMENT BUILDINGS:
FACE TO FACE 30 FEET
FACE TO SIDE/REAR TO SIDE 30 FEET
SIDE TO SIDE 15 FEET
REAR TO REAR 60 FEET
REAR TO FACE 100 FEET
- THERE IS A 60% MAXIMUM LOT COVERAGE REQUIREMENT FOR SFA LOTS AND NO SPECIFIED COVERAGE REQUIREMENT FOR APARTMENTS.

SITE ANALYSIS DATA CHART

- A) TOTAL PROJECT AREA 27.75 AC. (ALL OF PHASE 1 SEC 2)
- B) AREA OF PLAN SUBMISSION 7.89 AC. (BUILDABLE LOTS)
- C) LIMIT OF DISTURBED AREA 9.3 AC.
- D) PRESENT ZONING PGCC (MULTI-USE SUBDISTRICT)
- E) PROPOSED USE OF SITE RESIDENTIAL SFD & SFA
- F) FLOOR SPACE ON EACH LEVEL OF BLDG PER USE N/A
- G) TOTAL NUMBER OF UNITS ALLOWED AS SHOWN ON FINAL PLAT(S) 62
- H) TOTAL NUMBER OF UNITS PROPOSED 62
- I) MAXIMUM NUMBER OF EMPLOYEES, TENANTS ON SITE PER USE N/A
- J) NUMBER OF PARKING SPACES REQUIRED BY HO. CO. ZONING REGS. AND/OR DEP. CRITERIA
41 SFA LOTS X 2.5 = 95
21 SFD LOTS X 2.5 = 53
140 TOTAL
- K) NUMBER OF PARKING SPACES PROVIDED ON SITE (2 SPACES FOR EACH DRIVEWAY)
41 SFA LOTS X 4 = 164
21 SFD LOTS X 4 = 84
OFF-STREET SPACES 254 TOTAL
- L) OPEN SPACE ON-SITE (REQUIRED F-08-060) 254 TOTAL
- M) AREA OF RECREATIONAL OPEN SPACE REQUIRED N/A
AREA OF RECREATIONAL OPEN SPACE PROVIDED N/A
- N) BUILDING COVERAGE FOR SFA LOT Lot 32 (3,004 sq ft) 55.4% (49.7% MAXIMUM)
- O) APPLICABLE DPZ FILE REFERENCES:
S-03-01, WP-05-074, WP-08-009
S-86-13, P-06-13, R24-4522
F-08-060, WP-08-004, WP-08-211
F-10-026, WP-10-159, WP-11-168
WP-12-125
- * LOT 32 HAS THE HIGHEST BLDG COVERAGE FOR THIS PROJECT.

SHEET INDEX

SHEET	TITLE
1	TITLE SHEET
2	SITE DEVELOPMENT & GRADING PLAN
3	SITE DEVELOPMENT & GRADING PLAN
4	SEDIMENT AND EROSION CONTROL PLAN
5	SEDIMENT AND EROSION CONTROL PLAN
6	SEDIMENT AND EROSION CONTROL NOTES & DETAILS
7	LANDSCAPE PLAN
8	LANDSCAPE PLAN

PERMIT INFORMATION CHART

SUBDIVISION NAME:	SECTION/AREA:	LOT/PARCEL #
VILLAGES AT TURF VALLEY	PHASE 1 SECTION 2	LOTS 1 thru 62
PLAT No. 22289-22295	GRID No. 11	ZONE PGCC
TAX MAP NO. 16	ELECTION DISTRICT 3rd	CENSUS TRACT 6030.00

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 3/15/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 3/20/13
CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 3/22/13
DIRECTOR

APPROVED
PLANNING BOARD OF HOWARD COUNTY

DATE 4/15/10

12-9-14 REVISE ADDRESS CHART FOR LOTS 60-62

BENCHMARK ENGINEERS, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS
6450 BALTIMORE NATIONAL PIKE & SUITE 418 A ELICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6444
60 THOMAS JOHNSON DRIVE & FREDERICK, MARYLAND 21702
(P) 301-371-3505 (F) 301-371-3506
WWW.BEI-CIVILENGINEERING.COM

OWNER: MANGIONE ENTERPRISES OF TURF VALLEY LIMITED PARTNERSHIP
1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

BUILDER: JAMES KEELY AND COMPANY, INC.
61 EAST PADONIA ROAD TINIUMUN, MARYLAND 21093 410-252-8600

VILLAGES AT TURF VALLEY
PHASE 1, SECTION 2
LOTS 1 thru 62
(SINGLE FAMILY ATTACHED AND DETACHED)

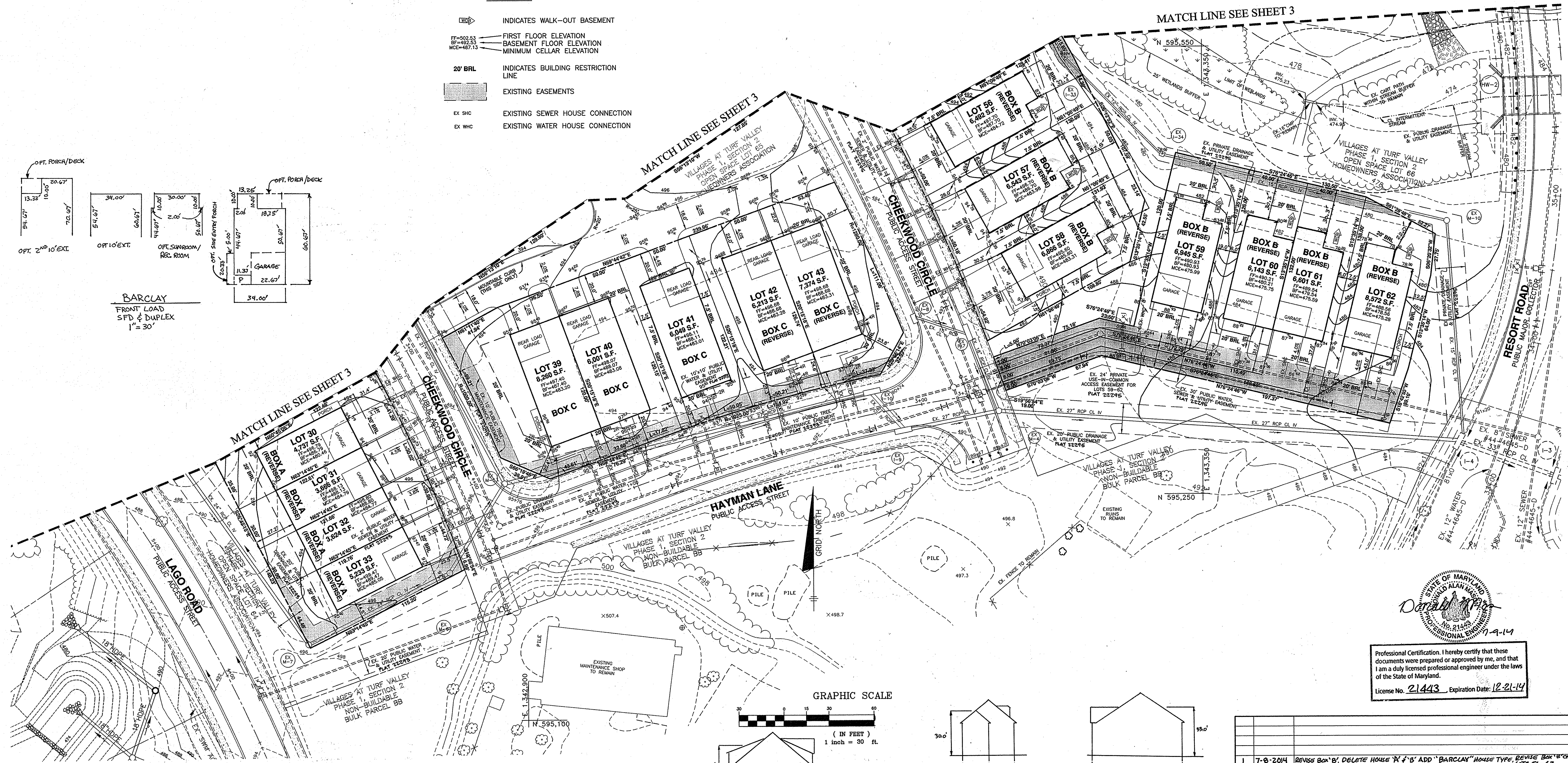
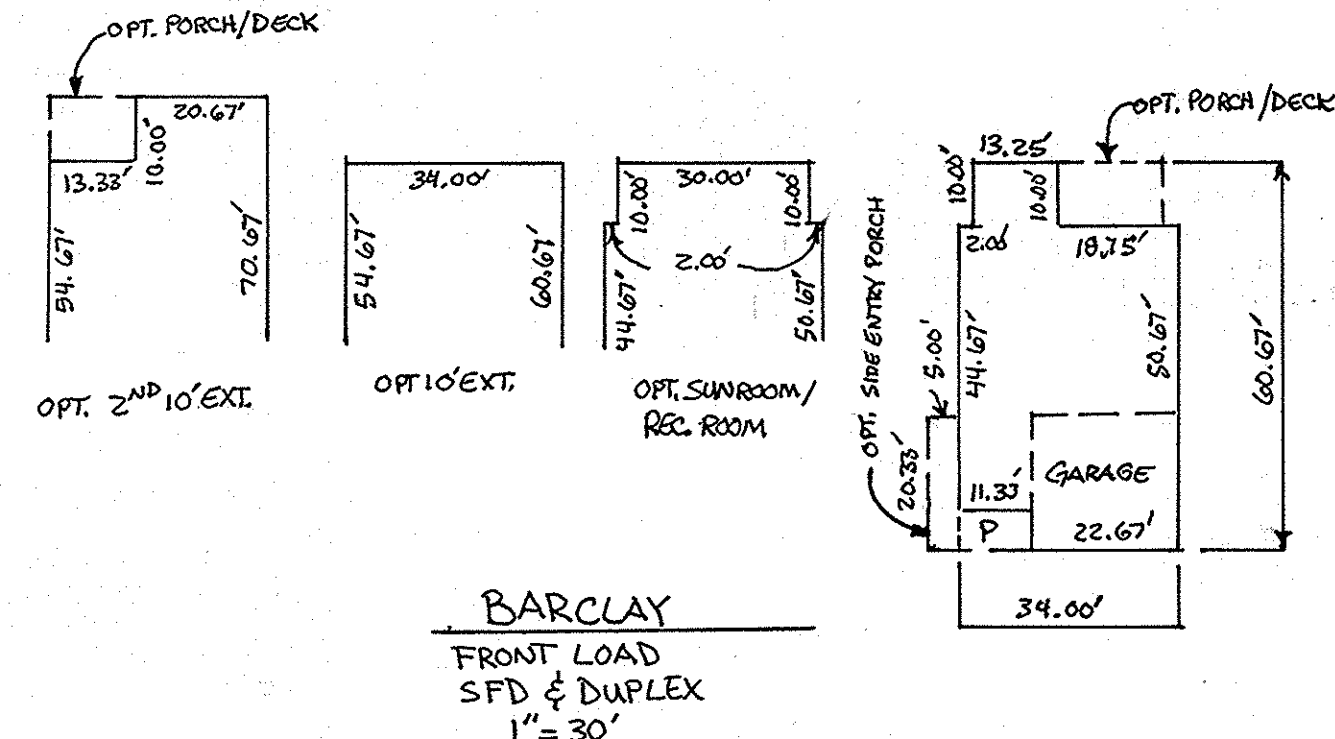
TAX MAP: 16 GRID: 1 PARCEL: P/O 8 ZONED: PGCC
ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

TITLE SHEET

DATE: FEBRUARY, 2013 BEI PROJECT NO: 2086
SCALE: AS SHOWN SHEET 1 OF 8

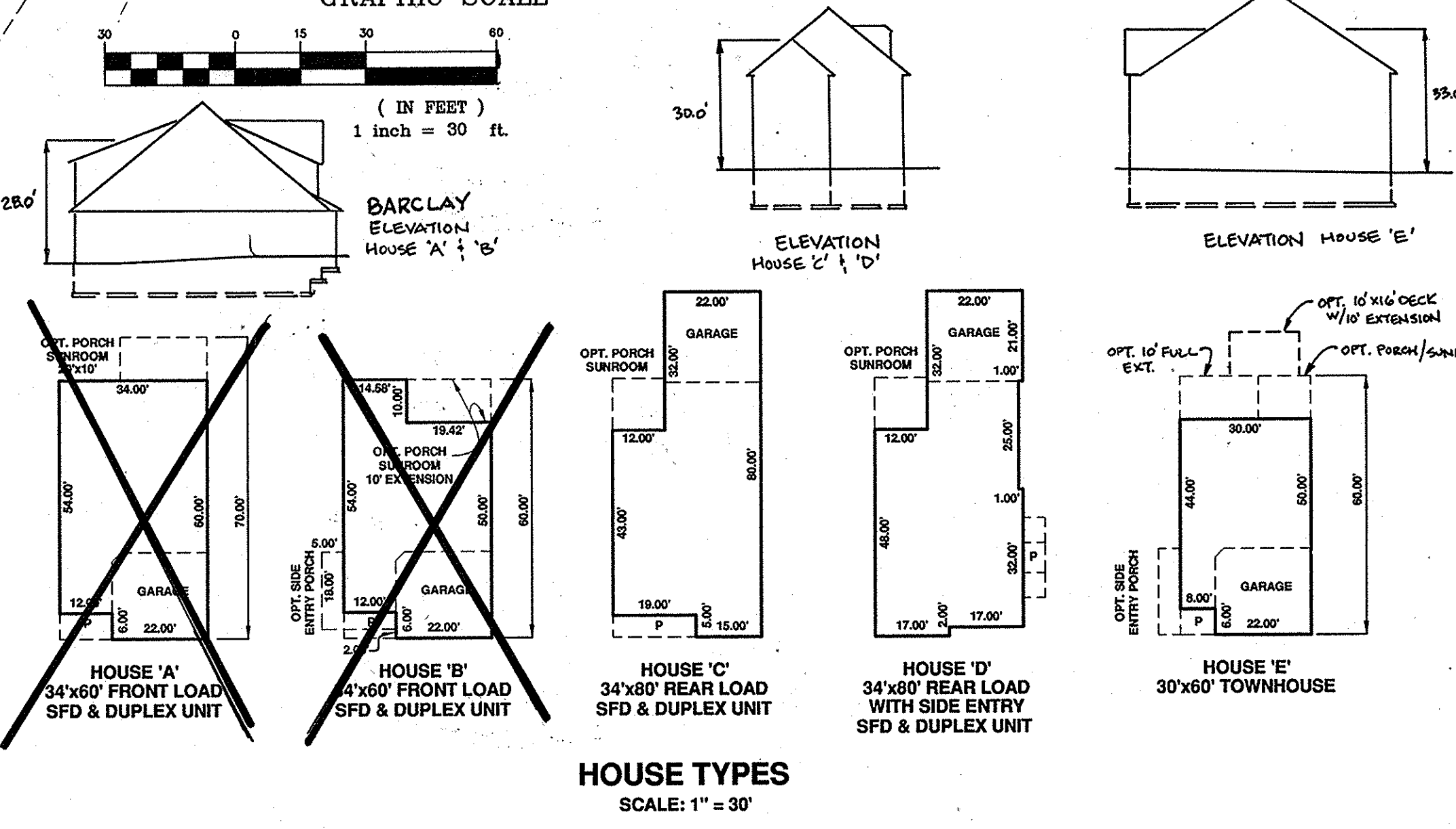
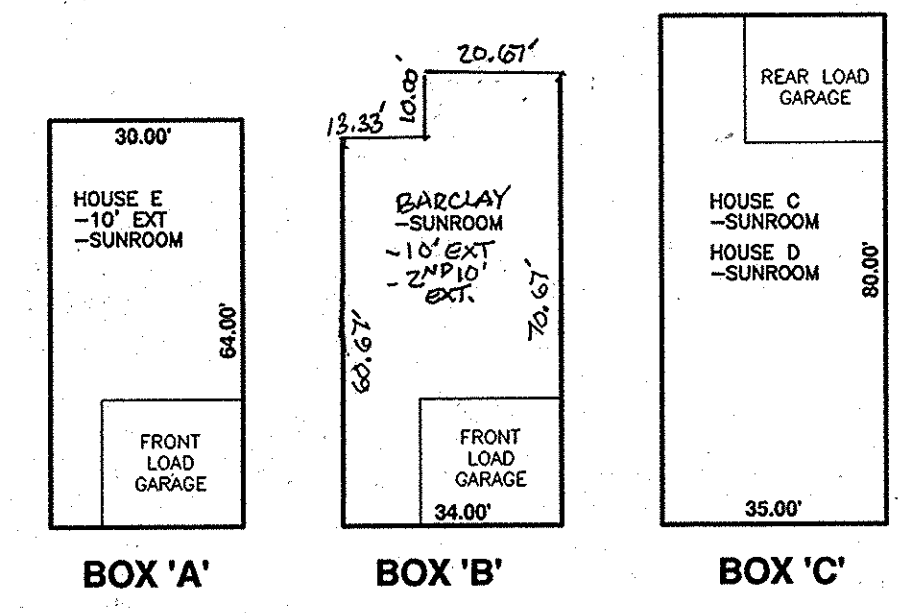
LEGEND

- INDICATES WALK-OUT BASEMENT
- FIRST FLOOR ELEVATION
- BASEMENT FLOOR ELEVATION
- MINIMUM CELLAR ELEVATION
- 20' BRL INDICATES BUILDING RESTRICTION LINE
- EXISTING EASEMENTS
- EX SHC EXISTING SEWER HOUSE CONNECTION
- EX WHC EXISTING WATER HOUSE CONNECTION



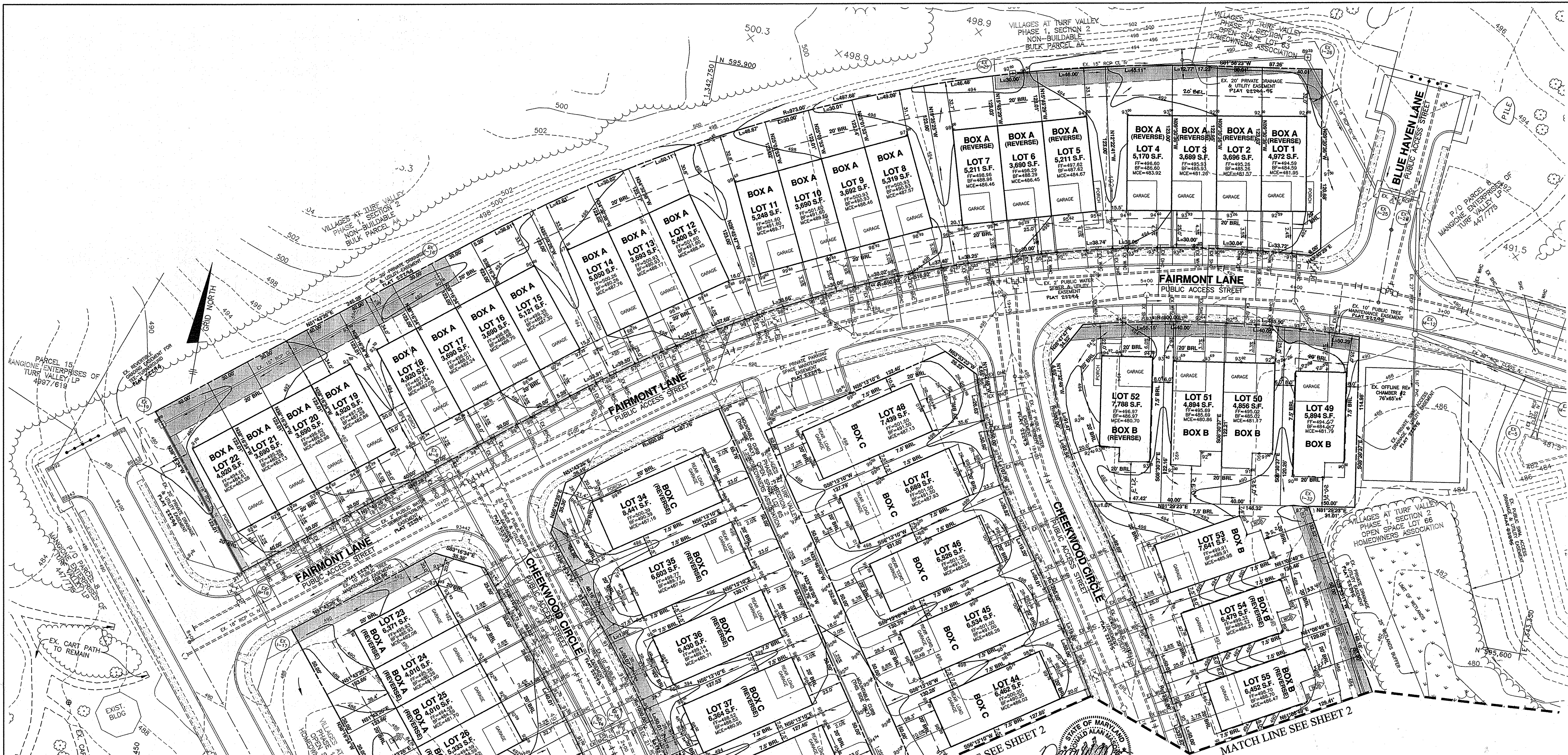
APPROVED
PLANNING BOARD OF HOWARD COUNTY
DATE 4/15/10
[Signature]

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division 3/5/13 DATE
 Chief, Division of Land Development 3/20/13 DATE
 Director 7/2/10 DATE



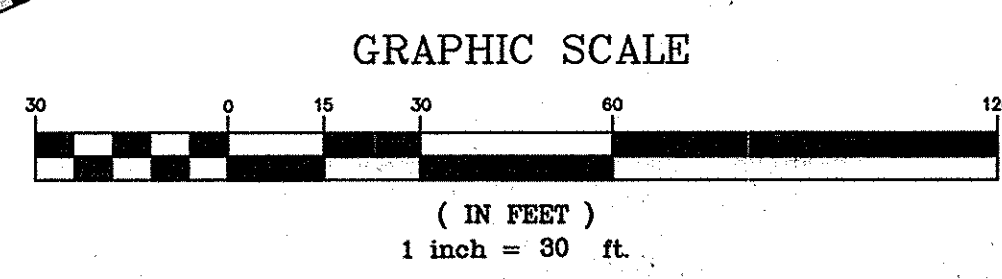
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 21443 Expiration Date: 12-21-14

7-8-2014		REVISE BOX 'B', DELETE HOUSE 'A' & 'B' ADD 'BARCLAY' HOUSE TYPE, REVISE BOX 'C' & 'D'	NO.	DATE	REVISION
BENCHMARK ENGINEERING, INC.					
8480 BALTIMORE NATIONAL PIKE SUITE 418 & ELICOTT CITY, MARYLAND 21043 (P) 410-465-8108 (F) 410-465-6644 60 THOMAS JOHNSON DRIVE & FREDERICK, MARYLAND 21702 (P) 301-371-3505 (F) 301-371-3508 WWW.BEI-CIVLENGINEERING.COM					
OWNER: MANGIONE ENTERPRISES OF TURF VALLEY LIMITED PARTNERSHIP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400			VILLAGES AT TURF VALLEY PHASE 1, SECTION 2 LOTS 1 thru 62 (SINGLE FAMILY ATTACHED AND DETACHED)		
BUILDER: JAMES KEELY AND COMPANY, INC. 61 EAST PADONIA ROAD TIMONIUM, MARYLAND 21093 410-252-8600			TAX MAP: 16 GRID: 1 PARCEL: P/O 8 ZONED: PGCC ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND		
SITE DEVELOPMENT & GRADING PLAN					
DATE: FEBRUARY, 2013		BEI PROJECT NO: 2086			
DESIGN: DBT		DRAWN: DBT		SCALE: AS SHOWN SHEET 2 OF 8	



APPROVED
PLANNING BOARD OF HOWARD COUNTY
DATE 4/15/10
[Signature]

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division: *[Signature]* 3/15/13
 Chief, Division of Land Development: *[Signature]* 3/20/13
 Director: *[Signature]* 3/23/12



STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 19-14

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 21443 Expiration Date: 12-21-14

- LEGEND
- INDICATES WALK-OUT BASEMENT
 - FIRST FLOOR ELEVATION
 - BASEMENT FLOOR ELEVATION
 - MINIMUM CELLAR ELEVATION
 - 20' BRL INDICATES BUILDING RESTRICTION LINE
 - EXISTING EASEMENTS
 - EX SHC EXISTING SEWER HOUSE CONNECTION
 - EX WHC EXISTING WATER HOUSE CONNECTION

NO. DATE REVISION		1 7-8-2014 REVISE BOX 'B' ON LOTS 49-55 RAISE HOUSE ON LOT 49 BY 0.5 FEET
BENCHMARK ENGINEERS, A LAND SURVEYORS & PLANNERS		
8480 BALTIMORE NATIONAL PIKE & SUITE 418 & ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6100 (F) 410-465-6644 60 THOMAS JOHNSON DRIVE & FREDERICK, MARYLAND 21702 (P) 301-371-3500 (F) 301-371-3506 WWW.BE-CIVLENGINEERING.COM		
OWNER:	VILLAGES AT TURF VALLEY PHASE 1, SECTION 2 LOTS 1 thru 62 (SINGLE FAMILY ATTACHED AND DETACHED)	
BUILDER:	JAMES KEELY AND COMPANY, INC. 61 EAST PADONIA ROAD TIMONUM, MARYLAND 21093 410-252-9600	
DATE:	FEBRUARY, 2013	BEI PROJECT NO: 2086
DESIGN:	DBT	DRAWN: DBT
SCALE:	AS SHOWN	SHEET 3 OF 8

SEDIMENT CONTROL NOTES

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION, (313-1850).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL", REVISIONS THEREOF.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERMETER SLOPES AND ALL SLOPES GREATER THAN 3:1; B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOU (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52), TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:

TOTAL AREA OF SITE	7.89	ACRES
AREA DISTURBED	9.3	ACRES
AREA TO BE ROOFED OR PAVED	4.5	ACRES
AREA TO BE VEGETATIVELY STABILIZED	4.8	ACRES
TOTAL CUT	35,583	CY
TOTAL FILL	12,443	CY

 OFFSITE WASTE AREA LOCATION: A SITE WITH AN APPROVED SDP AND ACTIVE GRADING PERMIT
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

TOPSOIL SPECIFICATIONS

- Topsoil salvaged from the existing site may be used provided that it meets that standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.
- Topsoil Specifications – Soil to be used as topsoil must meet the following:
 - Topsoil shall be a loam, sandy loam, clay loam, silty loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting texture subsols and shall contain less than 5% by volume of chert fragments, clay, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1-1/2" in diameter.
 - Topsoil must be free of plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nutgrass, poison ivy, thistle, or others as specified.
 - Where the subsol is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
- For sites having disturbed areas under 5 acres:
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization – Section I – Vegetative Stabilization Methods and Materials.
- For sites having disturbed areas over 5 acres:
 - On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - Organic content or topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
 Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization – Section I – Vegetative Stabilization Methods and Materials.
- Topsoil Application
 - When topsoiling, maintain needed erosion and sediment control practices such as diversions, grade stabilization structures, earth dikes, slope silt fence and sediment traps and basins.
 - Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" – 8" higher in elevation.
 - Topsoil shall be uniformly distributed in a 4" – 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that the sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
 - Topsoil shall not be placed while the topsoil or subsol is in a frozen or muddy condition, when the subsol is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeded preparation.
- Alternative for Permanent Seeding – Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
 - Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
 - Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
 - Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
 - Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
 - Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

B-4-4 STANDARDS AND SPECIFICATIONS

FOR TEMPORARY STABILIZATION

Definition
To stabilize disturbed soils with vegetation for up to 6 months.

Purpose
To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies
Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

- Select one or more of the species or seed mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below, along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.3 plus fertilizer and lime rates must be put on the plan.
- For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
- When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3A.1.b and maintain until the next seeding season.

B-4-5 STANDARDS AND SPECIFICATIONS

FOR PERMANENT STABILIZATION

Definition
To stabilize disturbed soils with permanent vegetation.

Purpose
To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies
Exposed soils where ground cover is needed for 6 months or more.

Criteria

- General Use
 - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected materials, application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 – Critical Area Planting.
 - For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency.
 - For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/4 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
- Turfgrass Mixtures
 - Areas where turfgrasses may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
 - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected materials, application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
 - Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management, including golf courses and the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 25 percent of the total mixture by weight.
 - Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and where turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Tall Fescue and/or 70 to 100 percent. Seeding Rate: 1.5 to 3 pounds per 1000 square feet. One or more cultivars may be blended.
 - Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf areas. Mixture includes Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and/or 70 to 100 percent. Seeding Rate: 1.5 to 3 pounds per 1000 square feet.
 - Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #71, "Turfgrass Cultural Recommendations for Maryland".
 - Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.
- Ideal Times of Seeding for Turf Grass Mixtures
 - Winter: March 15 to June 1, August 1 to October 1 (Hardness Zone: 5b, 6)
 - Central: March 1 to May 15, August 15 to October 15 (Hardness Zone: 6)
 - Summer: March 15 to May 15, August 15 to October 15 (Hardness Zone: 7a, 7b)
- Turf areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, till and rake the area to prepare a proper seedbed. Remove stones and debris over 1 1/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.
- If soil moisture is deficient, supply new seedlings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is not especially true when seedlings are made late in the planting season, in abnormal dry or hot seasons, or on adverse sites.
- Sod to provide quick cover on disturbed areas (2 1/2 grade or flatter).
 - During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the sod immediately prior to laying the sod.
 - Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
 - Whenever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, pegs or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact between sod roots and the underlying soil surface.
 - Water the sod immediately following rolling and tamping until the underside of the new sod and soil surface below the sod are thoroughly wet. Complete the operations of tamping, rolling and irrigating for any piece of sod within eight hours.
- Sod Maintenance
 - In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.
 - After the first week, sod watering is required as necessary to maintain adequate moisture content.
 - Do not mow until the sods are firmly rooted. No more than 1/2 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

B-4-3 STANDARDS AND SPECIFICATIONS

FOR SEEDING AND MULCHING

Definition
The application of seed and mulch to establish vegetative cover.

Purpose
To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies
To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Criteria

- Seeding
 - Specifications
 - All seed must meet the requirements of the Maryland Seed Law. All seed must be subject to testing by a recognized seed testing laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
 - Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
 - Inoculants for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculants as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
 - Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
 - Application
 - Day Seeding: This includes use of conventional spot or broadcast spreaders.
 - Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site specific seeding summaries.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.
 - Ditch or Outcrop Seeding: Mechanized seeders that apply and cover seed with soil.
 - Culminating seeders are required to bury the seed in such a fashion as to provide at least 1/2 inch of soil covering. Seedbed must be firm after planting.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
 - Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
 - If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P₂O₅ (phosphorus), 200 pounds per acre; K₂O (potassium), 200 pounds per acre.
 - Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
 - Mix seed and fertilizer on soil and seed immediately and with hydroseeding.
 - When hydroseeding do not incorporate seed into the soil.
- Mulching
 - Match Materials (in order of preference)
 - Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, or dusty. Note: Use sterile straw mulch in areas where one species of grass is desired.
 - Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - WCFM is to be dried green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformity spreading.
 - WCFM, including dyes, must contain no germination or growth inhibiting factors.
 - WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material should provide a slotted-hole ground cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
 - WCFM material must not contain nitrates or compounds at concentration levels that will be phytotoxic.
 - WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.5 percent maximum and water holding capacity of 50 percent minimum.
- Application
 - Apply mulch to all seeded areas immediately after seeding.
 - When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
 - Wood cellulose fiber used as mulch must be applied at a dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 60 pounds of wood cellulose fiber per 100 gallons of water.
- Anchoring
 - Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (Listed by preference), depending upon the size of the area and erosion hazard.
 - A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
 - Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 - Synthetic binders such as Acrylic CLR (Aqua-Tack), DCA-70, Petrosat, Terra Tax II, Terra Tack AF or other approved equivalent may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
 - Lightweight plastic netting may be stapled over mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

30.0 DUST CONTROL

Definition
Controlling dust blowing and movement on construction sites and roads.

Purpose
To prevent blowing and movement of dust from exposed soil surfaces, reduce on and off-site damage, health hazards, and improve traffic safety.

Conditions Where Practice Applies
This practice is applicable to areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

Specifications

Temporary Methods

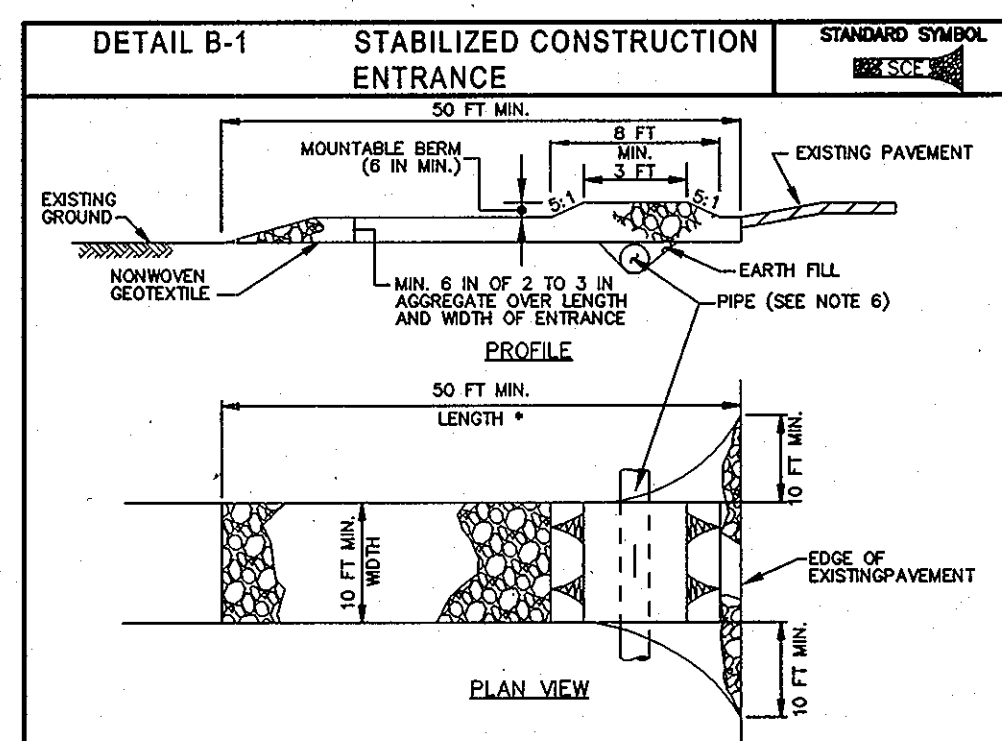
- Mulches – See standards for vegetative stabilization with mulches only. Mulch should be crimped or tracked to prevent blowing.
- Vegetative Cover – See standards for temporary vegetative cover.
- Tillage – To roughen surface and bring clods to the surface. This is an emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12' apart, spring-toothed harrows, and similar plows are examples of equipment which may produce the desired effect.
- Irrigation – This is generally done as an emergency treatment. Site is sprinkled with water until the surface is moist. Repeat as needed. At no time should the site be irrigated to the point that runoff begins to flow.
- Barriers – Solid board fences, silt fences, burlap fences, straw bales, and similar material can be used to control air currents and soil blowing. Barriers placed at right angles to prevailing currents at intervals of about 10 times their height are effective in controlling soil blowing.
- Calcium Chloride – Apply at rates that will keep surface moist. May need retreatment.

Permanent Methods

- Permanent Vegetation – See standards for permanent vegetative cover, and permanent stabilization with sod. Existing trees or large shrubs may afford valuable protection if left in place.
- Topsoiling – Covering with less erosive soil materials. See standards for topsoiling.
- Stone – Cover surface with crushed-stone or coarse gravel.

References

- Agriculture Handbook 346. Wind Erosion Forces in the United States and Their Use in Predicting Soil Loss.
- Agriculture Information Bulletin 354. How to Control Wind Erosion, USDA-ARS.

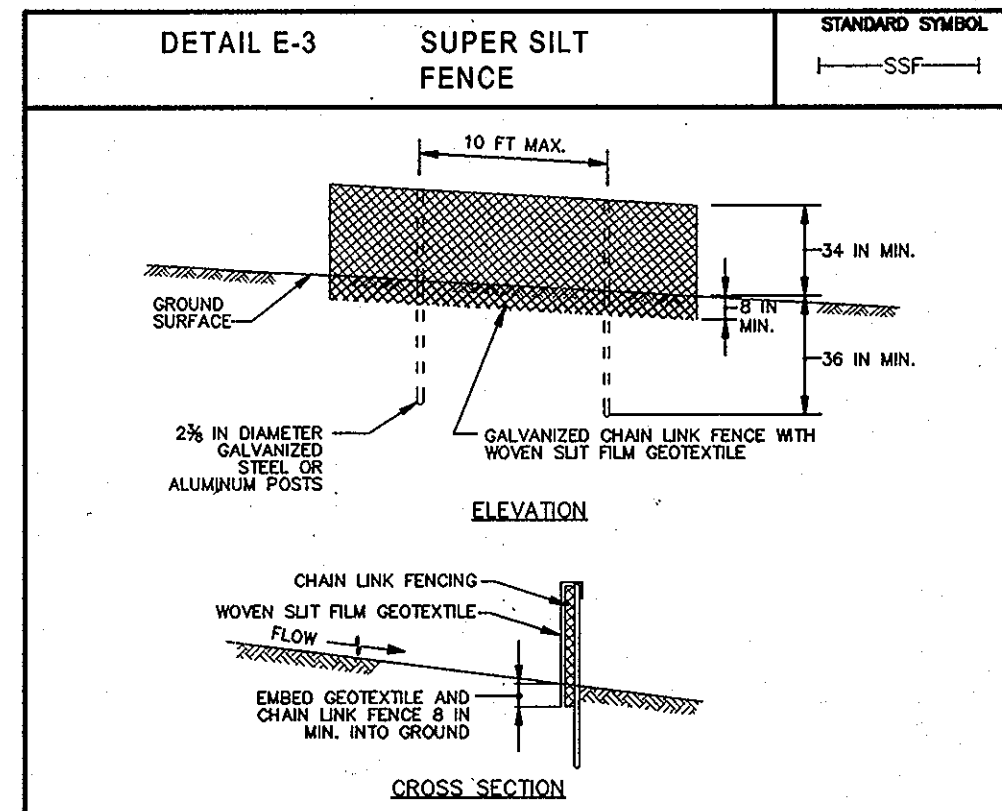


CONSTRUCTION SPECIFICATIONS

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SOLE. USE MINIMUM LENGTH OF 50 FEET (30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SOLE TO FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING PAD.
- PIPE ALL SURFACE WATER FLOW TO OR INVERTED TOWARD THE SOLE UNDER THE ENTRANCE. MAINTAIN POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SOLE WITH A MOUNTABLE BERM WITH 1 1/2 INCHES OF 2 INCHES DIAMETER STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SOLE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SOLE IS NOT LOCATED AT A HIGH SPOT.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SOLE.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE. MOUNTABLE BERM, AND SLOPED DIMENSIONS, IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ON ADJACENT ROADWAY BY WASHING, SCOURING, AND/OR SHEEPING. WASHING ROADWAY TO REMOVE MUD, TRACKED ON PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

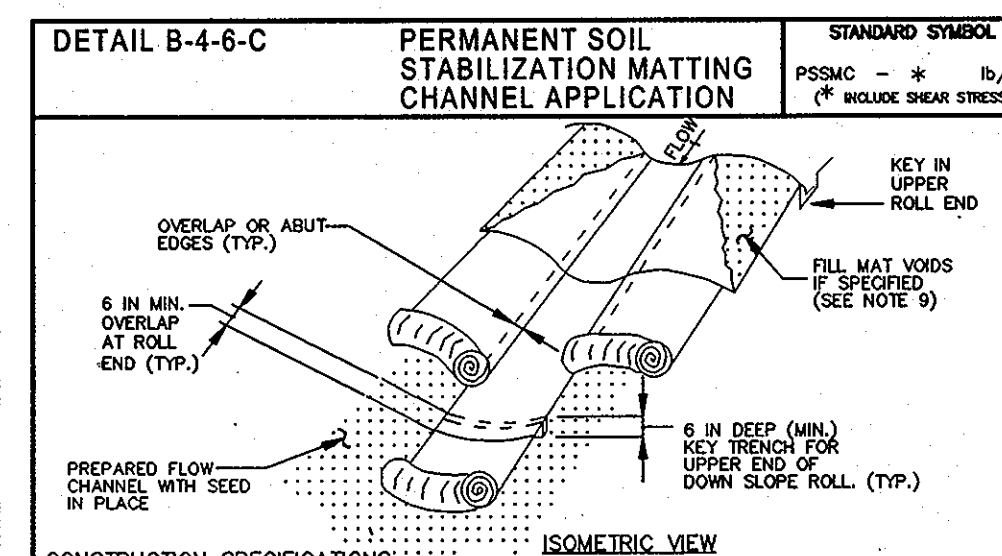


CONSTRUCTION SPECIFICATIONS

- INSTALL 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 1/2 INCH MAXIMUM OPENING) 42 INCHES HIGH SECURELY TO THE FENCE POSTS WITH WIRE OR RING HUGS.
- FASTEN WOVEN SUE FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SOLE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 6 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 20% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDRAINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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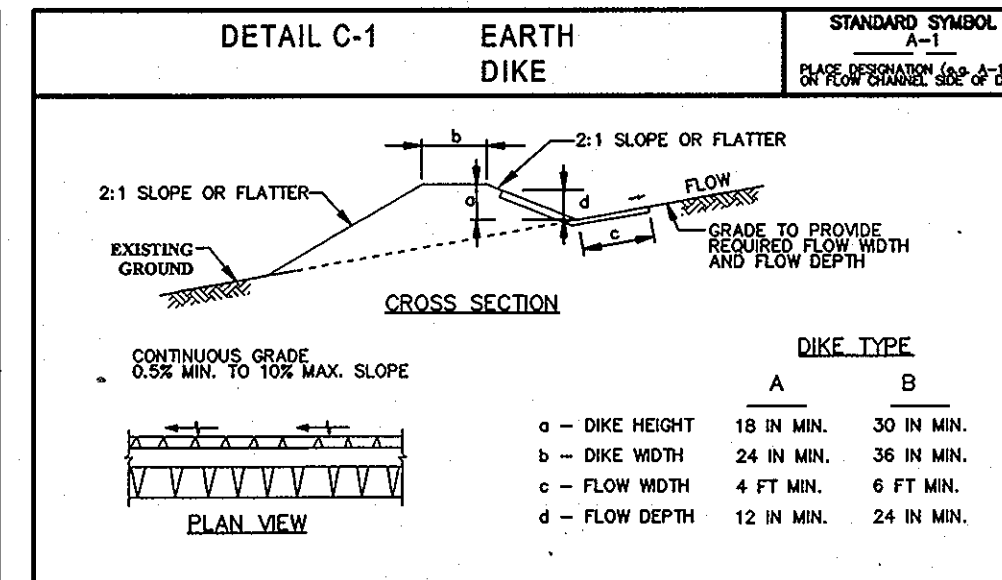


CONSTRUCTION SPECIFICATIONS:

- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DEMAND ON APPROVED PLANS.
- USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SOIL GERMINATION AND NON-HARMFUL TO THE SOIL. IF PRESENT, MATTING MUST BE EXTENDED PAST WITH A MAXIMUM MESH OPENING OF 2.2 INCHES AND SUFFICIENTLY BOUNDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MASSES.
- SCORE MATTING USING STEEL STAPLES OR WOOD STAPLES. STAPLES MUST BE 7/8" OR 1" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "D" SHAPED STAPLES MUST AVERAGE 1.8 TO 1.9 INCHES WIDE AND 4 TO 4.5 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAX. LEG. A MINIMUM 1/8 INCH SECONDARY LEG. AND MINIMUM 4 INCH HEAD. WOOD STAPLES MUST BE PINE-SHANK HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1/4 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDING PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS. UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- UNROLL MATTING IN DIRECTION OF WATER FLOW, CONTROLLING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDING MEDIA, AND STRETCHING TO MAINTAIN CONTACT WITHOUT CRUSHING MAT.
- OVERLAP OR ABUT ENDS OF MATTING ROLLS BY MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
- KEY IN THE TOP OF SLOPE END OF MAT IN KEYHOLE (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MINIMUM) CENTERS THROUGHOUT AND 2 FOOT (MINIMUM) CENTERS ALONG SEAMS. NOTIFY THE ENDS OF MAT BEING INSTALLED.
- IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, UNDO THE MATTING TO REVEAL AND STAPLED IN PLACE. LAY THE MAT WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY CONTACT OR ROLL TO MAXIMIZE SPERMATOPHYTES CONTACT WITHOUT CRUSHING MAT.
- ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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CONSTRUCTION SPECIFICATIONS

- REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBSTRUCTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE.
- EXCAVATE OR SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
- COMPACT FILL.
- CONSTRUCT FLOW CHANNEL ON AN UNDISTURBED, CONTINUOUS GRADE, ADJUSTING THE LOCATION TO FIT FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
- PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
- STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
- MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP EARTH DIKE AND POINT OF DISCHARGE FREE OF OBSTRUCTION AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
- UPON REMOVAL OF EARTH DIKE, GRADE AREA FLOUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TROPICAL SEED, MULCH, OR AS SPECIFIED ON APPROVED PLAN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEQUENCE OF CONSTRUCTION

- NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF WORK
- HOUSE CONSTRUCTION FOR TOWNHOUSE UNITS**
- Obtain building/grading permit. (day 1)
 - Install super silt fences around lot stick. (day 2)
 - Excavate for foundation, rough grade and stabilize in accordance with the temporary seeded notes. (day 3-6)
 - Construct houses, backfill and construct driveways. (day 7-90)
 - Final grade lot stick and stabilize in accordance with the PERMANENT seeded notes. (day 91-95)
 - Upon approval from the Howard County Sediment Control Inspector, remove sediment control devices and stabilize any remaining disturbed areas. (day 96-100)
- *House construction shall be performed for an entire stick at one time.
- HOUSE CONSTRUCTION FOR SINGLE FAMILY DETACHED UNITS**
- Obtain building/grading permit. (day 1)
 - Install super silt fences. (day 2)
 - Install stabilized construction entrance. (day 3)
 - Excavate for foundation, rough grade and stabilize in accordance with the temporary seeded notes (day 4-10)
 - Construct house, backfill and construct driveway. (day 11-80)
 - Final grade and stabilize in accordance with the permanent seeded notes. Flush storm drain system (day 81-85)
 - Upon approval from the Howard County sediment control inspector, remove sediment control devices and stabilize any remaining disturbed areas (day 86-89)

APPROVED
PLANNING BOARD OF HOWARD COUNTY
DATE: 4/15/13
[Signature]

ENGINEER'S CERTIFICATE

"I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A SOUND 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 CONSERVATION DISTRICT."

ENGINEER: BRIAN F. CLEARLEY, P.E. # 28559 DATE: 2/6/2013

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONS INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING COURSE IN THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

JAMES KEELY AND COMPANY, INC. DATE: 2/6/13

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

[Signature] 3/12/13 DATE
HOWARD SCD

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 3/15/13 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 3/20/13 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 4/2/13 DATE
DIRECTOR

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
410-465-6105 (F) 410-465-6844
60 THOMAS JOHNSON DRIVE A FREDRICK, MARYLAND 21702 (P) 301-371-3508 (F) 301-371-3506
WWW.BE-ENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer in the State of Maryland, License No. 122-0213.

OWNER: MANGIONE ENTERPRISES OF TURF VALLEY LIMITED PARTNERSHIP
1205 YORK ROAD, FENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

BUILDER: JAMES KEELY AND COMPANY, INC.
61 EAST PADONIA ROAD
TIMONUM, MARYLAND 21093 410-252-8600

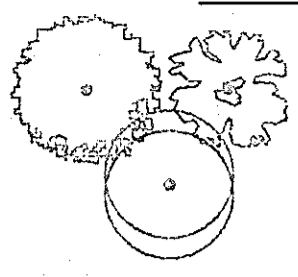
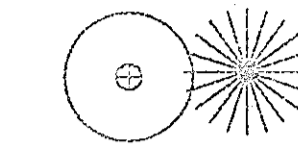

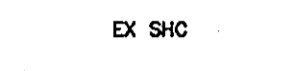
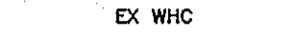
VILLAGES AT TURF VALLEY
PHASE 1, SECTION 2
LOTS 1 thru 62
(SINGLE FAMILY ATTACHED AND DETACHED)

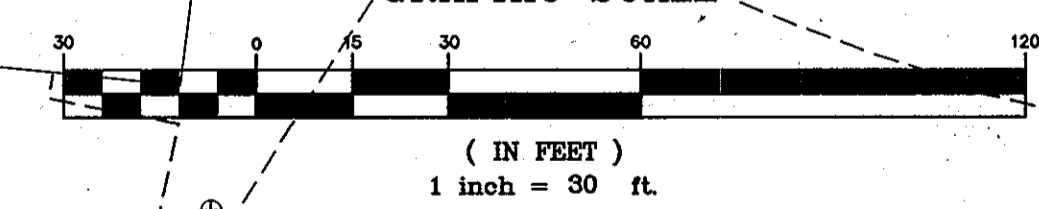
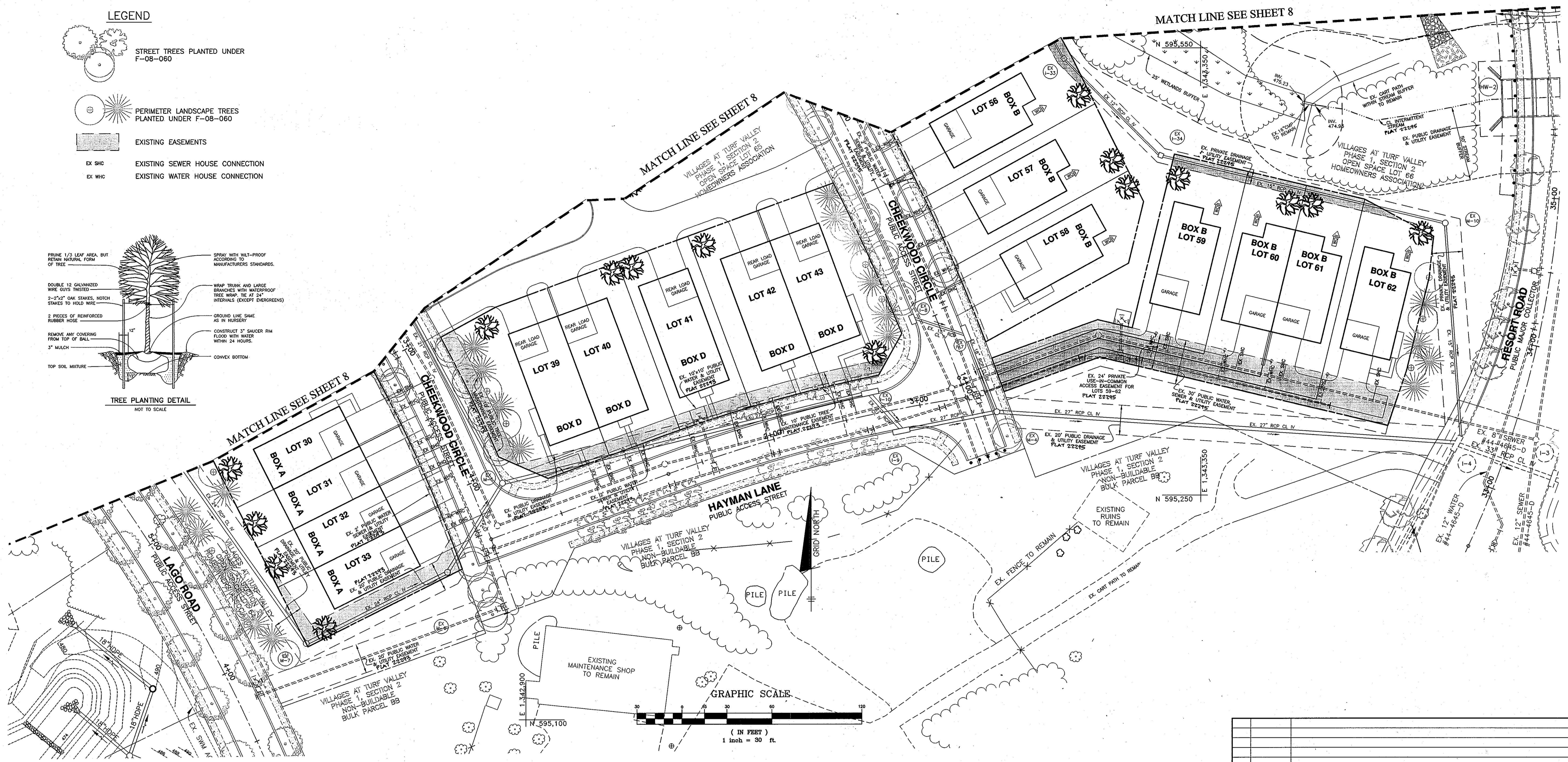
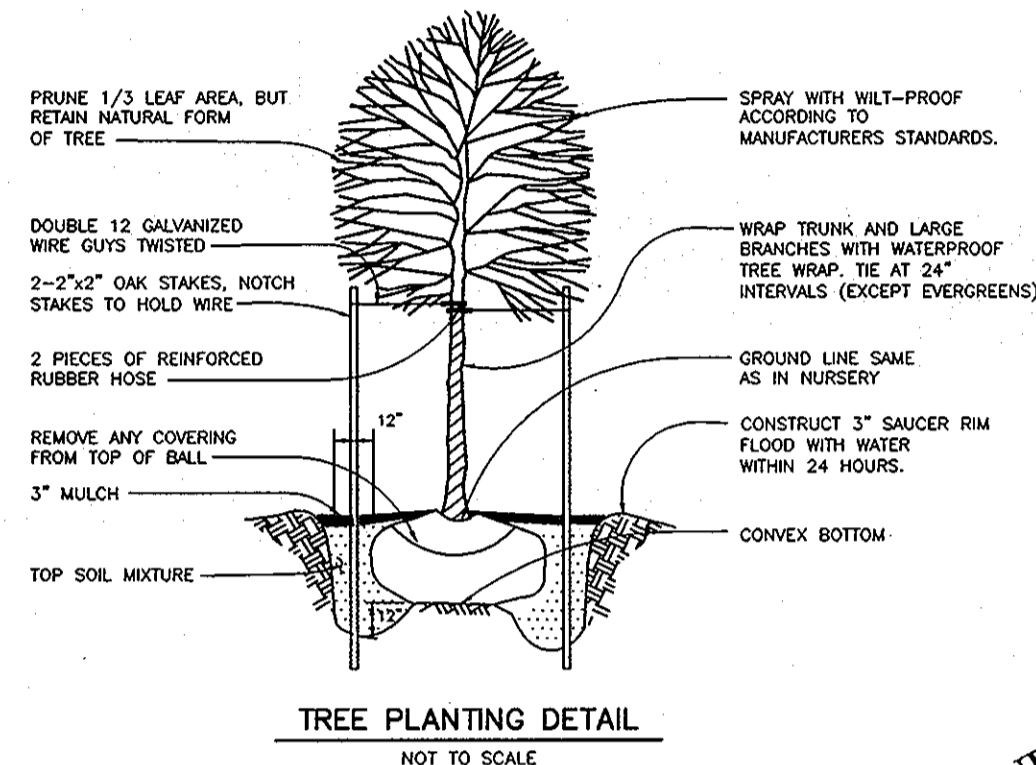
TAX MAP: 16 GRID: 1 PARCEL: P/O B ZONED: PGCC
ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

SEDIMENT & EROSION CONTROL NOTES AND DETAILS

DATE: FEBRUARY, 2013 BEI PROJECT NO: 2086
SCALE: AS SHOWN SHEET 6 OF 8

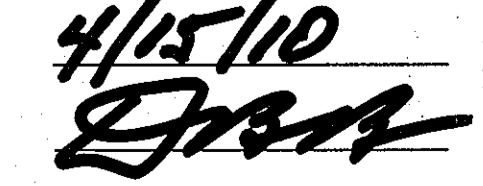
LEGEND

-  STREET TREES PLANTED UNDER F-08-060
-  PERIMETER LANDSCAPE TREES PLANTED UNDER F-08-060
-  EXISTING EASEMENTS
-  EX SHC EXISTING SEWER HOUSE CONNECTION
-  EX WHC EXISTING WATER HOUSE CONNECTION



DEVELOPER'S/BUILDER'S CERTIFICATE
 I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
 JAMES KEELY AND COMPANY, INC. 2/6/13 DATE


APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 2/15/13 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT 3/20/13 DATE
 DIRECTOR 5/22/12 DATE

APPROVED
 PLANNING BOARD OF HOWARD COUNTY
 DATE 4/15/10


ALL PLANTINGS SHALL BE THE SPECIFIED HEIGHT AND OR CALIPER AT THE TIME OF INSTALLATION.

PLANTING NOTES:

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- TREES MUST BE PLANTED A MINIMUM OF 4 FEET FROM THE EDGE OF PAVING, 10' FROM A DRIVEWAY AND MUST BE A MINIMUM OF 5 FEET FROM ANY STORM DRAIN.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING SHALL BE POSTED AS PART OF THE BUILDER'S GRADING PERMIT FOR 62 SHADE TREES IN THE AMOUNT OF \$18,600.
- AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE APPLICABLE PLANS.
- 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 PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.

LANDSCAPE PLANTING LIST			
SYMBOL	QUANTITY	NAME	REMARKS
	62	ACER RUBRUM / RED SUNSET / RED SUNSET / RED MAPLE	2 1/2" - 3" MIN. CAL.

SCHEDULE C RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING	
NUMBER OF DWELLING UNITS	62
NUMBER OF TREES REQUIRED (1:DU SFA: 1:3 DU APTS)	62
NUMBER OF TREES PROVIDED	62
SHADE TREES	0
* OTHER TREES (2:1 SUBSTITUTE)	0

* - EVERGREEN TREES

NO.	DATE	REVISION

BENCHMARK ENGINEERS & PLANNERS, INC.
 8480 BALTIMORE NATIONAL PIKE SUITE 418 A ELIJAH CITY, MARYLAND 21043
 (P) 410-465-8108 (F) 410-465-8644
 60 THOMAS JOHNSON DRIVE A FREDERICK, MARYLAND 21702
 (P) 301-371-3505 (F) 301-371-3506
 WWW.BEI-CIVILENGINEERING.COM

Professional Certification, I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 20026, State of Maryland.

VILLAGES AT TURF VALLEY
 PHASE 1, SECTION 2
 LOTS 1 thru 62
 (SINGLE FAMILY ATTACHED AND DETACHED)

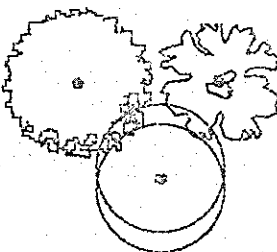
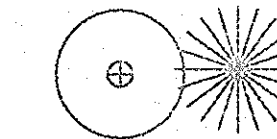

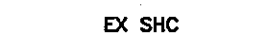
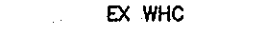
OWNER: MANGIONE ENTERPRISES OF TURF VALLEY LIMITED PARTNERSHIP
 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093
 410-825-8400

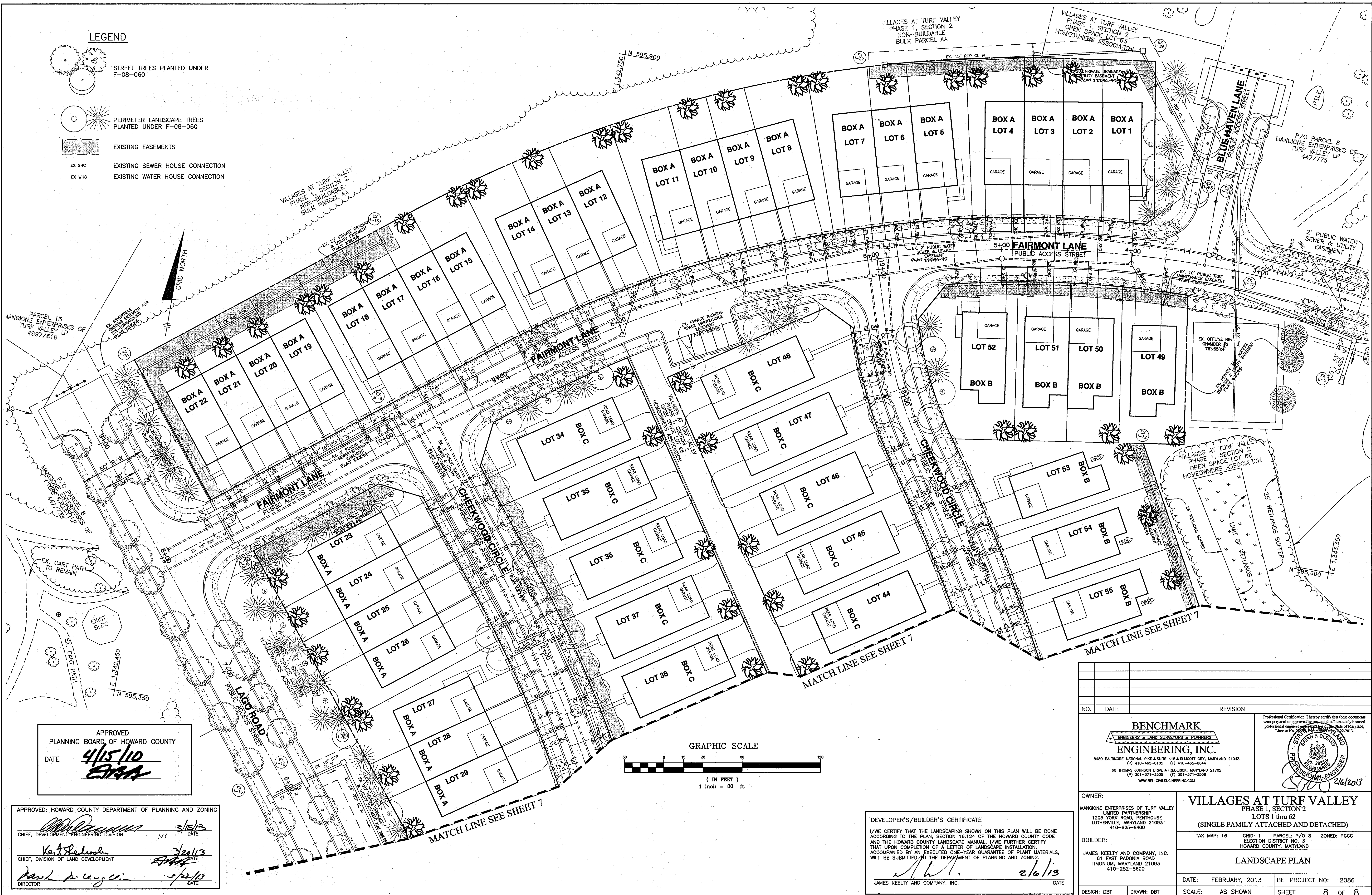
BUILDER: JAMES KEELY AND COMPANY, INC.
 61 EAST PADONIA ROAD, TIMONIUM, MARYLAND 21093
 410-252-8800

LANDSCAPE PLAN, NOTES AND DETAILS

DATE: FEBRUARY, 2013 BEI PROJECT NO: 2086
 SCALE: AS SHOWN SHEET 7 OF 8

LEGEND

-  STREET TREES PLANTED UNDER F-08-060
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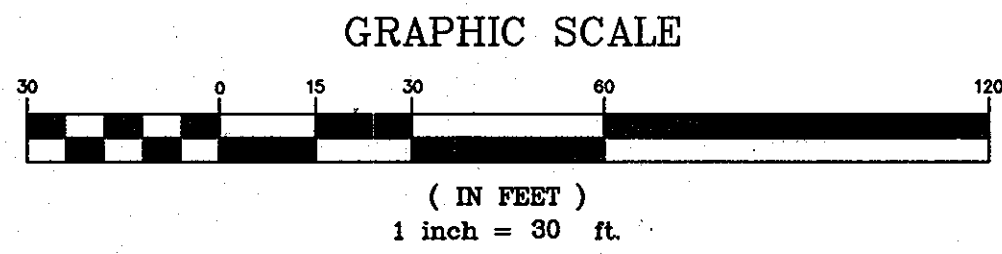
APPROVED
PLANNING BOARD OF HOWARD COUNTY
DATE 4/15/10
[Signature]

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 3/15/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 7/20/13
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 2/22/13
DIRECTOR DATE



DEVELOPER'S/BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

[Signature] 2/16/13
JAMES KEELY AND COMPANY, INC. DATE

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS
8480 BALTIMORE NATIONAL PIKE SUITE 418 BELLCOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6444
60 THOMAS JOHNSON DRIVE & FREDERICK, MARYLAND 21702
(P) 301-371-3505 (F) 301-371-3506
WWW.BE-CVALLIENGINEERING.COM

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013.

[Signature] 2/16/2013
PROFESSIONAL ENGINEER

OWNER: MANGIONE ENTERPRISES OF TURF VALLEY LIMITED PARTNERSHIP
1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

BUILDER: JAMES KEELY AND COMPANY, INC.
61 EAST PADONIA ROAD TIMONIUM, MARYLAND 21093 410-252-8600

VILLAGES AT TURF VALLEY
PHASE 1, SECTION 2
LOTS 1 thru 62
(SINGLE FAMILY ATTACHED AND DETACHED)

TAX MAP: 16 GRID: 1 PARCEL: P/O 8 ZONED: PGCC
ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

LANDSCAPE PLAN

DATE: FEBRUARY, 2013 BEI PROJECT NO: 2086
SCALE: AS SHOWN SHEET 8 OF 8

DESIGN: DBT DRAWN: DBT