

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

*Howard County Seal*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 1/21/11 DATE

*Katzele Seal*  
 CHIEF, DIVISION OF LAND DEVELOPMENT 1/24/11 DATE

*Morgan & Justice Seal*  
 DIRECTOR 1/24/11 DATE

Date	No.	Revision Description
1-03-2011	1	SEWER PRIVATE TO PUBLIC, ADDED LOT LINES, UTIL. ESM. EXPANSION

REVISED SITE DEVELOPMENT PLAN  
**EMERSON SECTION 2 AREA 7 PARCEL A**  
 UNITS 1 THRU 40  
 TOWNHOMES

OWNER(S) / DEVELOPER:  
 COLUMBIA BUILDERS INC.  
 10715 LITTLE PATUXENT PARKWAY  
 SUITE 152  
 COLUMBIA, MD 21044

**DMW**  
 Duff McCune-Walker, Inc.  
 200 West Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3338  
 Fax 296-4705

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

AREA	TAX MAP 47	PARCEL 837
	6th ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND	
TITLE	<b>SITE PLAN</b>	
Des. By	MJP	Scale 1" = 30'
Dm. By		Date 2/26/07
Chk. By	Approved	Proj. No. 95054Q
		<b>2 of 12</b>

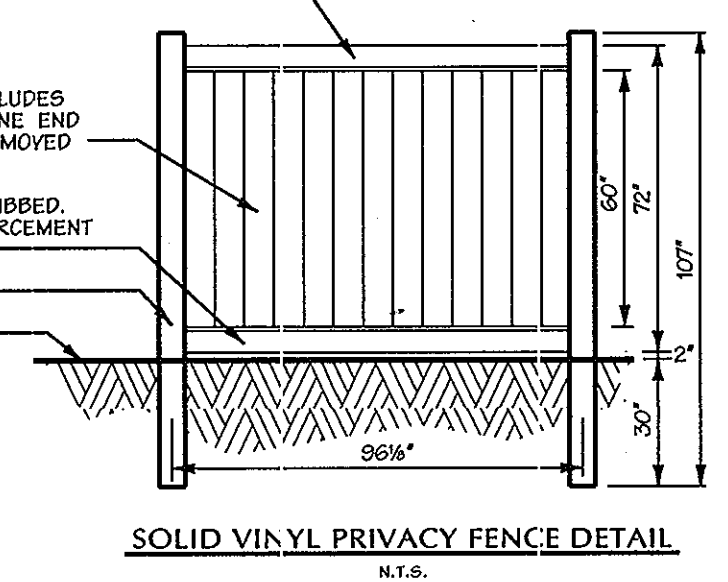
Purpose Statement:  
 The purpose of this revision #1 is to convert units 1-14 and 24-40 from condominium townhouses to in-fe townhouses, and to convert the private sanitary sewer system from private to public. The existing public utility easement was expanded to cover both the water and sewer systems, and new easement(s) were created to allow for access, etc. Units 15-25 will remain condominium.

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. 82061, EXPIRATION DATE: 8-26-11

1-25-11  
 Date

*Professional Engineer Seal*  
 PROFESSIONAL ENGINEER

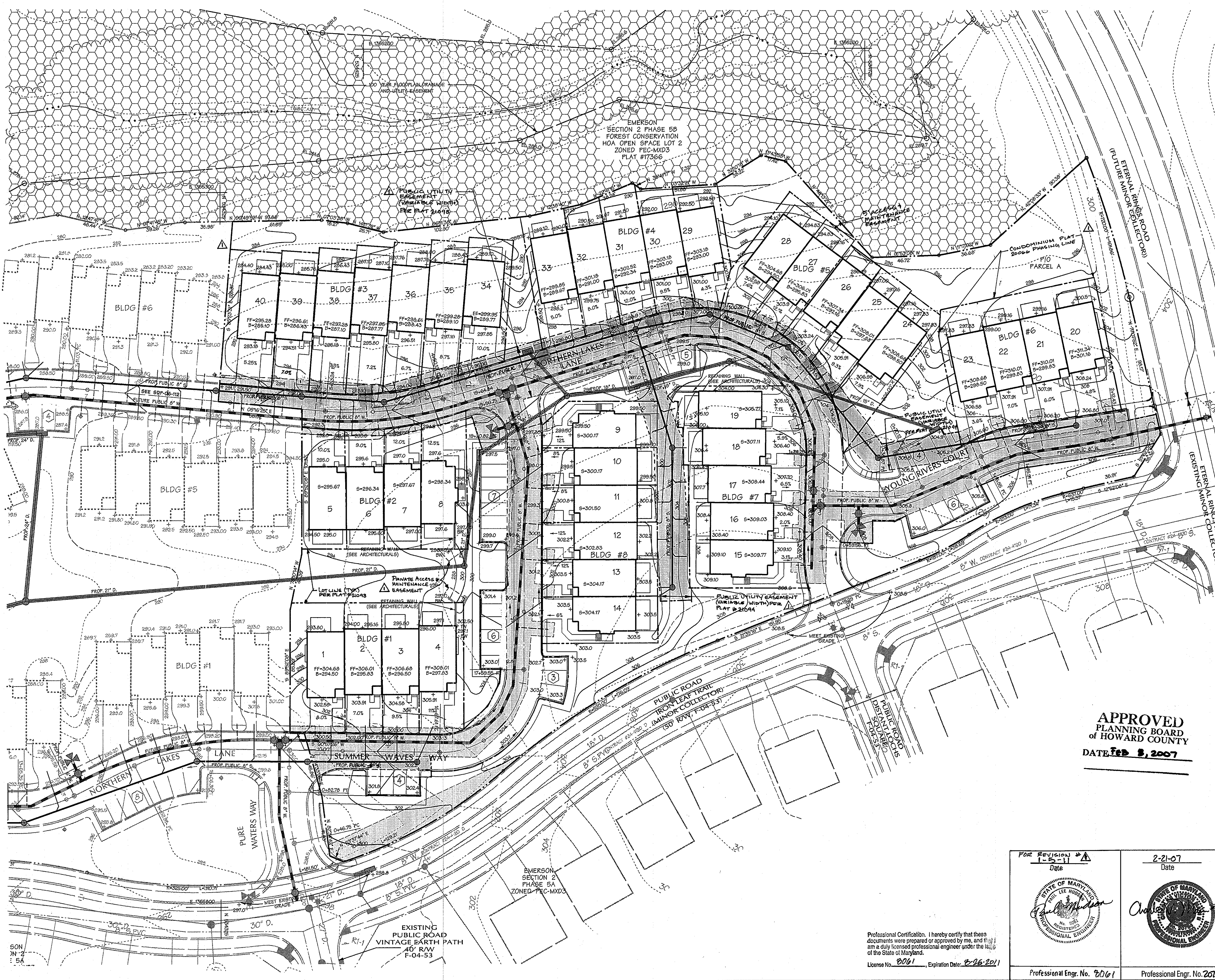
Professional Engr. No. 82061



SCALE OF FEET 1"=30'

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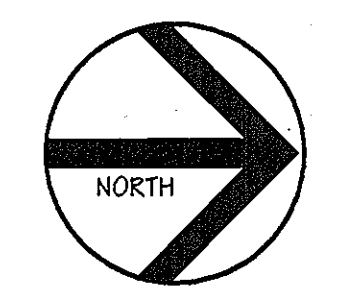




**LEGEND**

- 340 --- EXISTING CONTOUR
- EXISTING TREELINE
- PROPOSED TREELINE
- 15' D --- PROPOSED STORM DRAIN
- EX 12" WATER --- EXISTING WATER
- 18" RCP --- EXISTING STORM DRAIN
- EX 8" SEWER --- EXISTING SEWER
- 24" --- PROPOSED MAJOR CONTOUR
- 300 --- PROPOSED MINOR CONTOUR
- 8" S --- PROPOSED SEWER
- 8" W --- PROPOSED WATER
- 15' D --- PROPOSED STORM DRAIN
- EXISTING FOREST CONSERVATION EASEMENT
- REVERSE CURB & GUTTER

PARCEL 837  
324512514  
52891330  
ZONED PEC-MXD3



APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

[Signature] DATE 5/2/07  
 CHIEF DEVELOPMENT ENGINEERING DIVISION  
 [Signature] DATE 5/9/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature] DATE 5/11/07  
 DIRECTOR

Date	No.	Revision Description
1-03-2011	1	SEWER PRIVATE TO PUBLIC, ADDED LOT LINES, UTILITY EASEMENT EXPANSION

**APPROVED**  
PLANNING BOARD  
OF HOWARD COUNTY  
DATE FEB 8, 2007

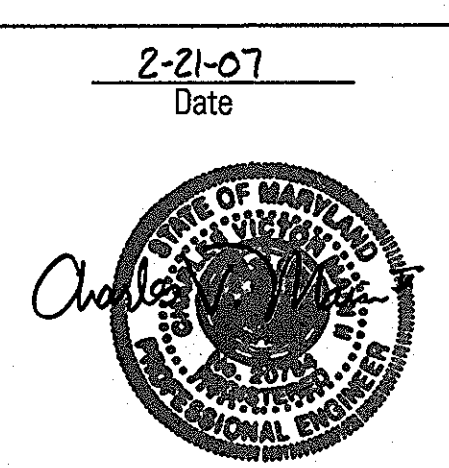
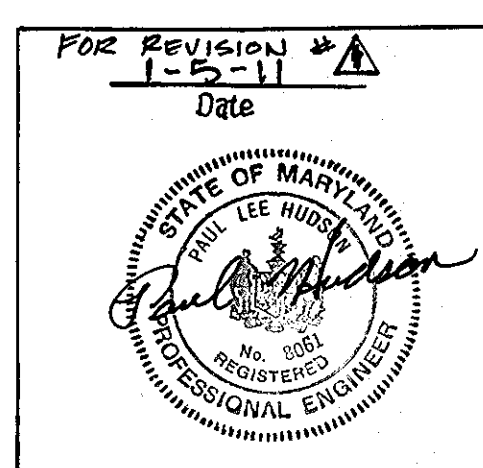
REVISED SITE DEVELOPMENT PLAN  
EMERSON SECTION 2 AREA 7 PARCEL A  
UNITS 1 THRU 40  
TOWNHOMES

OWNER(S) / DEVELOPER:  
COLUMBIA BUILDERS, INC.  
10715 LITTLE PATIENT PARKWAY  
SUITE 150  
COLUMBIA, MD 21044

**DMW**  
Duff, McCune, Walker, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax 296-4705

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

AREA	TAX MAP 47	PARCEL 837
TITLE	6th ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND	
<b>GRADING PLAN</b>		
Des. By	MJP	Scale 1" = 30'
Dm. By		Date 2/26/07
Chk. By	KAD	Approved
Proj. No.	95054Q	3 of 12

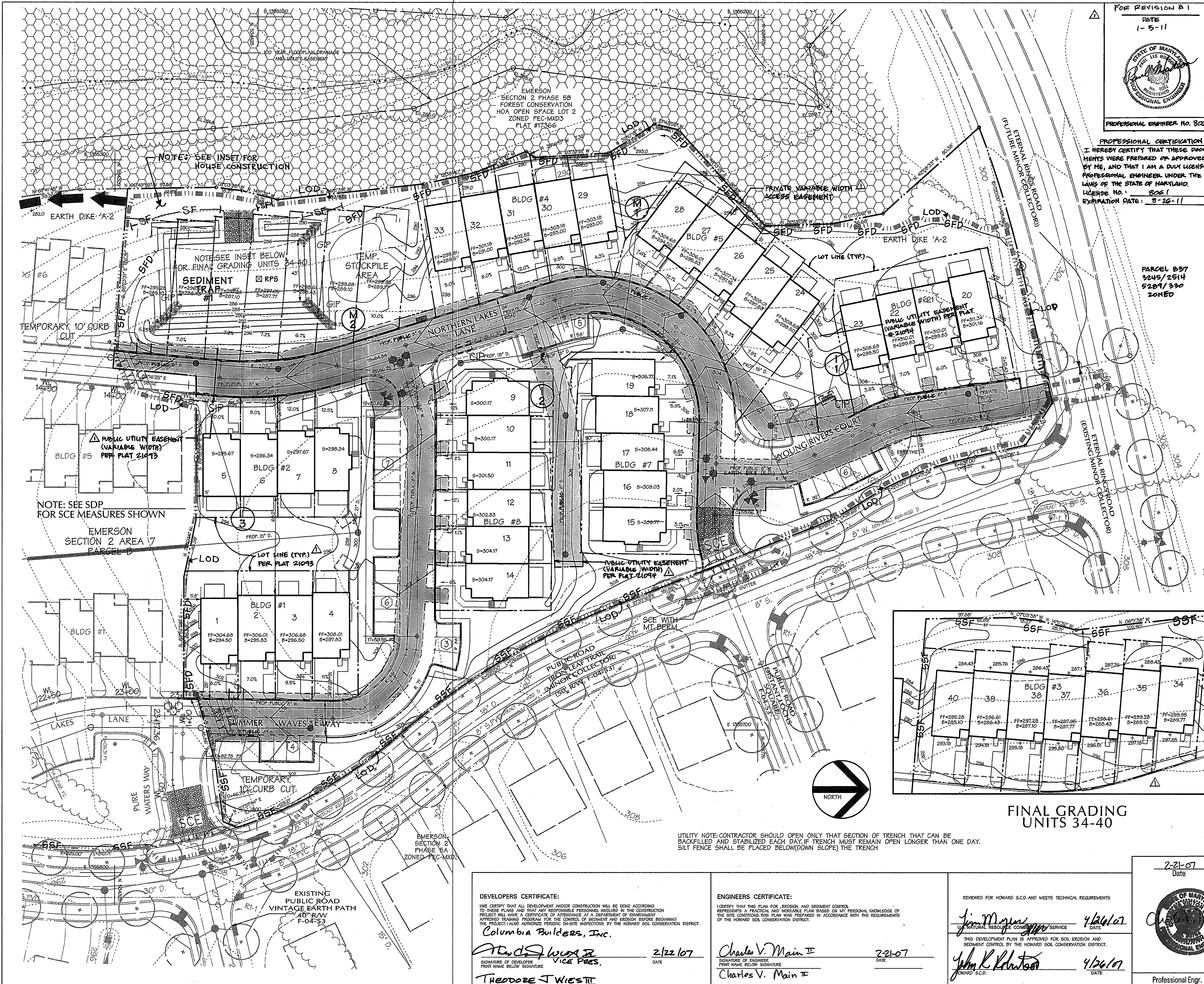


Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 8061, Expiration Date: 8-26-2011

Professional Engr. No. 8061 Professional Engr. No. 26784

SDP-06-113





FOR REVISION & 1  
DATE 1-5-11  
PROFESSIONAL ENGINEER No. 8261

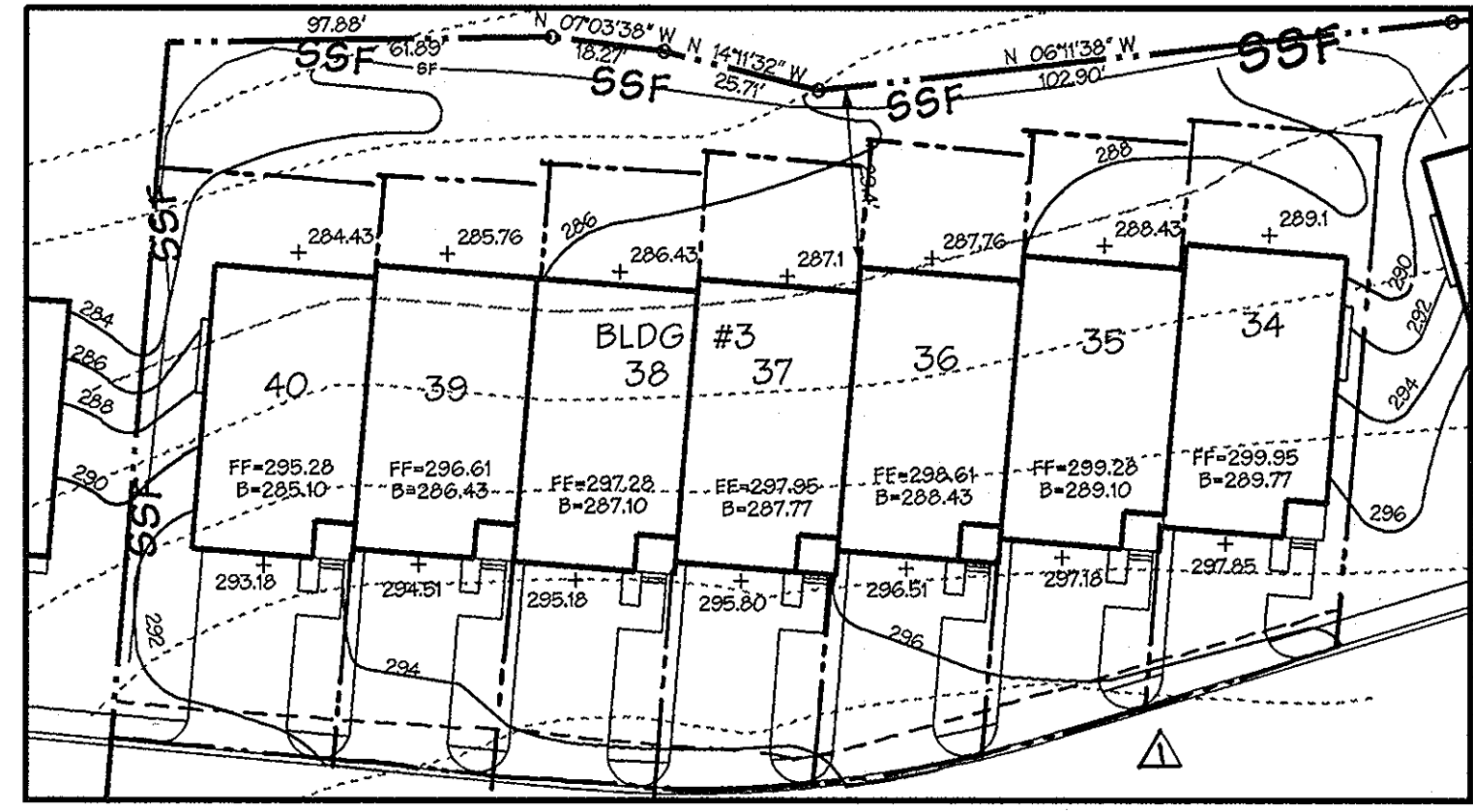
PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THESE DRAWINGS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 8261 EXPIRATION DATE: 8-26-11

PARCEL 837  
3245/2514  
5289/330  
ZONED

TRAP TABLE		
TRAP NUMBER	1	
TRAP TYPE	ST-II	
EXISTING DRAINAGE AREA: ACRES	4.00	
INTERIM DRAINAGE AREA: ACRES	N/A	
PROPOSED DRAINAGE AREA: ACRES	4.00	
STORAGE REQUIRED: CUBIC FEET	WET	7,200
	DRY	7,200
	TOTAL	14,400
STORAGE PROVIDED: CUBIC FEET	WET	8,304
	DRY	11,872
	TOTAL	20,176
EXISTING GROUND ELEVATION	287.00	
TOP EMBANKMENT ELEVATION	290.00	
WEIR CREST ELEVATION	289.00	
WET STORAGE / OUTLET ELEVATION	286.0	
CLEANOUT ELEVATION	287.0	
BOTTOM ELEVATION	286.0	
DEPTH OF CHANNEL (a)	N/A	
OUTLET WIDTH (b)	20'	
BOTTOM DIMENSION	40' X 93'	
TRAP SIDESLOPES	WET	2:1
	DRY	2:0
TRAP DEPTH	WET	2.0
	DRY	2.0
TOTAL	4.0'	
BARREL DIAMETER	N/A	
RISER DIAMETER	N/A	
WET STORAGE ZONE ELEVATION	286.00 - 288.00	
DRY STORAGE ZONE ELEVATION	288.00 - 290.00	

LEGEND	
--- 340 ---	EXISTING CONTOUR
8" W	EXISTING WATER
18" D	EXISTING STORM DRAIN
8" S	EXISTING SEWER
--- SFD ---	SILT FENCE DIVERSION
ED (A-2)	EARTH DIKE (ED)
SCS	STABILIZED CONSTRUCTION ENTRANCE (SCS)
TS, AS	TEMPORARY SWALE (TS)
SPF	SUPER SILT FENCE
GIP	GIBSON MATRESS INFLOW PROTECTION
MB	MOUNTABLE BEAM
RPS	REMOVABLE PUMPING STATION
---	NON-WOODY VEGETATION ZONE
---	LIMIT OF DISTURBANCE (L.O.D.)
---	BASE OF EMBANKMENT
M2	SOIL TYPE DELINEATION LINE

APPROVED  
PLANNING BOARD  
of HOWARD COUNTY  
DATE Feb 8, 2007



APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
 Chief, Development Engineering Division: 5/3/07  
 Chief, Division of Land Development: 5/9/07  
 Director: 5/11/07

REVISED SITE DEVELOPMENT PLAN	
EMERSON SECTION 2 AREA 7 PARCEL A	
UNITS 1 THRU 40 TOWNHOMES	
OWNER(S) / DEVELOPER: COLUMBIA BUILDERS, INC. 10715 LITTLE PATENT PARKWAY SUITE 150 COLUMBIA, MD 21044	
<b>DMW</b> Duff-McCune-Walker, Inc. 200 East Pennsylvania Avenue Towson, Maryland 21286 (410) 296-3333 Fax: 296-4705 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals	
AREA	TAX MAP 47 PARCEL 837 6th ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND
TITLE <b>SEDIMENT &amp; EROSION CONTROL PLAN</b>	
Des. By: MJP	Scale: 1"=30'
Drn. By: GMD	Date: 2/26/07
Proj. No. 95054Q	4 of 12

**DEVELOPERS CERTIFICATE:**  
I WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Charles V. Main II*  
Columbia Builders, Inc.  
2/22/07

**ENGINEERS CERTIFICATE:**  
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Charles V. Main II*  
2-21-07

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

*Jim Magnus* 4/26/07  
NATURAL RESOURCE CONSERVATION SERVICE

*John K. Redwood* 4/26/07  
HOWARD S.C.D.

2-21-07  
Date

Professional Engr. No. 26784

UTILITY NOTE: CONTRACTOR SHOULD OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWN SLOPE) THE TRENCH.







**STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION**

**SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS**

- A. SITE PREPARATION**
- Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
  - Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
  - Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.
- B. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)**
- Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analysis.
  - Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warranties of the producer.
  - Lime materials shall be ground limestones (hydrated or burnt lime may be substituted) which contains at least 50% total oxide (calcium oxide plus magnesium oxide). Limestones shall be ground to such fineness that at least 80% will pass through a #100 mesh sieve and 98 - 100% will pass through a #20 mesh sieve.
  - Incorporate lime and fertilizer into the top 3 - 5 inches of soil by disking or other suitable means.

- WCFCM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
  - WCFCM, including dye shall contain no germination or growth inhibiting factors.
  - WCFCM materials shall 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 shall form a slotted-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
  - WCFCM material shall contain no elements or compounds at concentration levels that will be phytotoxic.
  - WCFCM must conform to the following physical requirements: Fiber length to approximately 10 mm, diameter approximately 1mm, pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.
- Note: Only sterile straw mulch should be used in areas where one species of grass is desired.
- G. MULCHING SEEDED AREAS** - Mulch shall be applied to all seeded areas where one species of grass is desired.
- If grading is completed outside of the seeding season, mulch alone shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
  - When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons per acre. Mulch shall be applied in a uniform loose depth of between 1/2 and 2 inches. Mulch applied shall achieve a uniform distribution and depth so that the surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons per acre.
  - Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 pounds per acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

- C. SEEDBED PREPARATION**
- I. TEMPORARY SEEDING**
- Seedbed preparation shall consist of loosening soil to a depth of 3 inches to 5 inches by means of suitable agricultural or construction equipment, such as a disc harrow or chisel plow or ripper mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth but left in the roughened condition. Slopes greater than 3:1 should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
  - Apply fertilizer and lime as prescribed on the plans.
  - Incorporate lime and fertilizer into the top 3 - 5 inches of soil by disking or other suitable means.
- II. PERMANENT SEEDING**
- Minimum soil conditions required for permanent vegetative establishment:
    - Soil pH shall be between 6.0 and 7.0.
    - Soluble salts shall be less than 500 parts per million (PPM).
    - 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. An exception is if Lovegrass or Garcia Lespedeza is to be planted. Then a sandy soil (< 30% silt plus clay) would be acceptable.
    - Soil shall contain 1.5% minimum organic matter by weight.
    - Soil must contain sufficient pore space to permit adequate root penetration.
    - If these conditions cannot be met by the soils on site, adding topsoil is required in accordance with Section 21 - Standard and Specification for Topsoil.
  - Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3 - 5 inches to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
  - Apply soil amendments as per soil test or as included on the plans.
  - Mix soil amendments into the top 3 - 5 inches of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a chain leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1 - 3 inches of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.

- H. SECURING STRAW MULCH** - Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. 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 be used on the contour if dependent upon size of area and erosion hazard:
- A mulch anchoring tool is a tractor drawn implement design to punch and anchor mulch into the soil surface a minimum of two (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 be used on the contour if dependent upon size of area and erosion hazard:
  - Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds per acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
  - Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys or on crest of banks. The remainder of area should appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Ego-Tack), DCA-70, Petroest, Terra Tax II, Terra Tack AR, or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
  - Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

- D. SEED SPECIFICATIONS**
- All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.
  - Seed tags shall be made available to the inspector to verify type and rate of seed used.
  - Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75-80 F can weaken bacteria and make the inoculant less effective.

**SECTION II - TEMPORARY SEEDING**

VEGETATION - Annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, permanent seeding is required.

Seed Mixture (Hardiness Zone 6B)					Fertilizer Rate (10-10-10)	Lime Rate
No.	Species	Application Rate (Lb./Ac.)	Seeding Dates	Seeding Depth		
1	Annual Ryegrass	50	3/15-6/1	1/4" - 1/2"	600 Lbs./Ac. (15 Lbs./1000 SF)	2 Tons/Ac. (100 Lbs./1000 SF)
2	Weeping Lovegrass	4	3/15-6/1	1/4" - 1/2"		

- E. METHODS OF SEEDING**
- Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeder, or outpacker seeder.
    - If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following:
      - Nitrogen: maximum of 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 limestones, (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.
    - Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
  - Dry Seeding: This includes use of conventional drop or broadcast spreaders.
    - Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the temporary or permanent seeding summaries or tables 25 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed contact.
    - Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
  - Drill or outpacker seeding: Mechanized seeders that apply and cover seed with soil.
    - Outpacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
    - Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

**SECTION III - PERMANENT SEEDING**

Seeding grass and legumes to establish ground cover for a minimum of one year on disturbed areas generally receiving low maintenance.

Seed Mixture No. 3 (Hardiness Zone 6B)				Fertilizer Rate (10-20-20)			Lime Rate
%	Species	Application Rate (Lb./Ac.)	Seeding Dates	Seeding Depth	N	P2O5	K2O
85	Rebel II Tall Fescue	125			90 Lb./Ac. (2 Lb./Sq.Ft.)	175 Lb./Ac. (4 Lb./Sq.Ft.)	175 Lb./Ac. (4 Lb./Sq.Ft.)
10	Pennine Perennial Ryegrass	15	3/15-6/1	1/4" - 1/2"	1000 Sq.Ft.	1000 Sq.Ft.	1000 Sq.Ft.
5	Kentucky Bluegrass	10					

\* For 5-16 through 8-14 add two (2) pounds of Weeping Lovegrass per acre or ten (10) pounds of Millet per acre to seed mixture (i.e. Mix #3 above).

\*\* At time of fine grading, fertilizer and lime rates will be based on soil test results; (see section 1.B.1). Copy of recommended rates to be supplied to the Sediment Control Inspector.

- F. MULCH SPECIFICATIONS (IN ORDER OF PREFERENCE)**
- Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonably bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weeds seeds as specified in the Maryland Seed Law.
  - Wood cellulose fiber mulch (WCFCM)
    - WCFCM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE G - 20 - 1A

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Vegetative Stabilization

**SECTION IV - SOD**

To provide quick cover on disturbed areas (2:1 grade or flatter)

- A. GENERAL SPECIFICATIONS**
- Class of turfgrass sod shall be Maryland or Virginia State certified or approved. Sod labels shall be made available to the job foreman and inspector.
  - Sod shall be machine cut at a uniform soil thickness of 1/4", plus or minus 1/8", at the time of cutting. Measurement for thickness shall exclude top growth and thatch. Individual pieces of sod shall be cut to the supplier width length. Maximum allowable deviation from standard widths and lengths shall be 5 percent. Broken pads and torn or uneven ends will not be acceptable.
  - Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
  - Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
  - Sod shall be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this time period shall be approved by an agronomist or soil scientist prior to its installation.
- B. SOD INSTALLATION**
- During periods of excessively high temperature or in areas having dry subsoil, the subsoil shall be lightly irrigated immediately prior to laying the sod.
  - The first row of sod shall be laid in a straight line with subsequent rows placed parallel to and tightly wedged against each other. Lateral joints shall be staggered 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 air drying of the roots.
  - Wherever possible, sod shall be laid with the long edges parallel to the contour and with staggering joints. Sod shall be rolled and tamped, pegged or otherwise secured to prevent slippage on slopes and to ensure solid contact between sod roots and the underlying soil surface.
  - Where possible, sod shall be laid with the long edges parallel to the contour and with staggering joints. Sod shall be rolled and tamped, pegged or otherwise secured to prevent slippage on slopes and to ensure solid contact between sod roots and the underlying soil surface.
  - Sod shall be watered immediately following rolling or tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. The operations laying, tamping and irrigating for any piece of sod shall be completed within eight hours.
- C. SOD MAINTENANCE**
- In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week and in sufficient quantities to maintain moist soil to a depth of 4 inches. Watering should be done during the heat of the day to prevent wilting.
  - After the first week, sod watering required as necessary to maintain adequate moisture content.
  - The first mowing of sod should not be attempted until the sod is firmly rooted. No more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Grass height shall be maintained between 2 inches and 3 inches unless otherwise specified.

- D. SOD MAINTENANCE**
- In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week and in sufficient quantities to maintain moist soil to a depth of 4 inches. Watering should be done during the heat of the day to prevent wilting.
  - After the first week, sod watering required as necessary to maintain adequate moisture content.
  - The first mowing of sod should not be attempted until the sod is firmly rooted. No more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Grass height shall be maintained between 2 inches and 3 inches unless otherwise specified.
- SECTION V - TURFGRASS ESTABLISHMENT**
- Areas where turfgrass may be desired may include lawns, parks, playgrounds, and commercial sites which will receive a medium high level of maintenance. Areas to receive seed shall be tilled by disking or other approved methods to a depth of 2 to 4 inches, leveled and raked to prepare a proper seedbed. Stones and debris over 1/2 inches in diameter shall be removed. The resulting seedbed shall be in such condition that future mowing of grasses will pose no difficulty.
- Note: 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.
- A. TURFGRASS MIXTURES**
- Kentucky Bluegrass - Full sun mixture - For use in areas that receive intensive management. Irrigation required in 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. A minimum of three Bluegrass cultivars should be chosen ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.
  - Kentucky Bluegrass/Perennial Rye - Full sun mixture - For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass cultivars/certified Kentucky Bluegrass seeding rate: 2 pounds mixture per 1000 square feet. A minimum of 3 Kentucky Bluegrass cultivars must be chosen, with each cultivar ranging from 10% to 35% of the 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 mixture includes: certified Tall Fescue cultivars 95-100%, certified Kentucky Bluegrass cultivars 0 - 5%, seeding rate: 5 to 8 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 area. Mixture includes: certified Kentucky Bluegrass cultivars 30-40% and certified Fine Fescue and 60-70%. Seeding rate: 1.5 - 3 pounds per 1000 square feet. A minimum of 3 Kentucky Bluegrass cultivars must be chosen. With each cultivar ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.
- Note: Turfgrass varieties should be selected from those listed in the most current University of Maryland publication, "Agronomy miscro number 77, 'Turfgrass Cultivar Recommendations for Maryland'."
- B. IDEAL TIMES OF SEEDING**
- Western Maryland: March 15 - June 1, August 1 - October 1 (hardiness zones - 5B, 6A).  
Central Maryland: March 1 - May 15, August 15 - October 15 (hardiness zone - 6B).  
Southern Maryland, Eastern Shore: March 1 - May 15, August 15 - October 15 (hardiness zones - 7A - 7B).
- C. IRRIGATION**
- If soil moisture is different, supply new seedlings with adequate water for plant growth (1/2" - 1" every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedlings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.
- D. REPAIRS AND MAINTENANCE**
- Inspect all seeded areas for failures and make necessary repairs, replacements, and reseeds within the planting season.
- Once the vegetation is established, the site shall have 95% groundcover to be considered adequately established.
  - If the stand provides less than 40% ground coverage, re-establish following original lime, fertilizer, seedbed preparation and seeding recommendations.
  - If the stand provides between 40% and 94% ground coverage, overseeding and fertilizing using half of the rates originally applied may be necessary.
  - Maintenance fertilizer rates for permanent seedings are shown in Table 24, for lawns and other medium high maintenance turfgrass areas, refer to the University of Maryland publication "Lawn Care in Maryland" bulletin number 171.

**21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL**

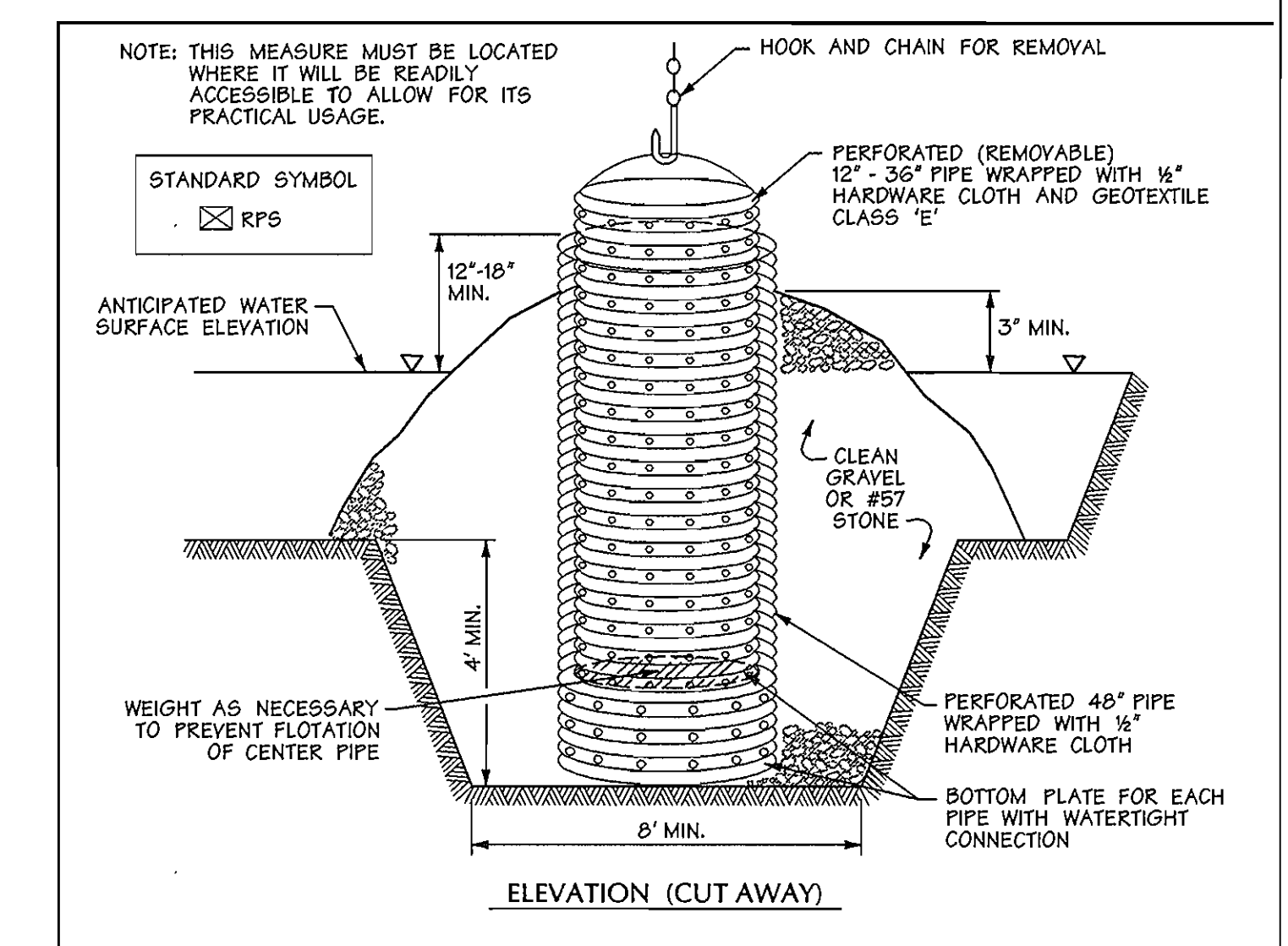
- DEFINITION**
- Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.
- PURPOSE**
- To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
- CONDITIONS WHERE PRACTICE APPLIES**
- This practice is limited to areas having 2:1 or flatter slopes where:
    - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
    - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
    - The original soil to be vegetated contains material toxic to plant growth.
    - The soil is so acidic that treatment with limestone is not feasible.
  - For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization work on the slope.

- CONSTRUCTION AND MATERIAL SPECIFICATIONS**
- Topsoil salvages from the existing site may be used provided that it meets the 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 Experiment Station.
  - Topsoil Specifications - Soil to be used as topsoil must meet the following:
    - Topsoil shall be a loam, sandy loam, clay loam, silt 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 textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1/2" in diameter.
    - Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutgrass, poison ivy, thistle, or others as specified.
    - Where the subsoil 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 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 of 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 (45 days min) to permit dissipation of phytotoxic materials.
    - Place topsoil (if required) and apply soil amendments as specified in 21.0 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, about 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 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 subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed 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 a rate of 4 lb./1,000 square feet, and 1/2 the normal lime application rate.

Sequence of Construction-Parcel A

1. Obtain Grading Permit. Notify Maryland Department of Environmental and Natural Resources and Waterways Inspections and Compliance sections at 410-631-2501 at least five days in advance of beginning any work in streams, 100-year floodplains, nontidal and wetland buffers.	1 Day
2. Notify HCD Department of Inspections 410-313-1855 at least 48 hours prior to beginning any work.	
3. Orange high visibility fence shall be manually installed along the limit of disturbance where the limit is within 50 feet of forest conservation easement, 100-year floodplain, wetland buffer or stream buffer. This shall be completed by an inspector at the pre-construction meeting.	1 Day
4. With permission from the sediment control inspector, clear and grub for and install the Stabilized Construction Entrance, Grade Sediment Trap #1 and install Super Silt Fence, Silt Fence Diversion and Earth Dikes. Notify HCD Inspector to gain permission to proceed.	1 Day
5. With the permission of the Sediment Control Inspector clear and grade remainder of the site.	1 Day
6. Install utilities, block inlets with inlet protection, install mountable curbs and construct mountable berms, as roadway construction proceeds to maintain drainage to sediment trap. Begin building construction. (Building Units 34-40 will be delayed until Sediment Control Inspector allows the removal of Sediment Trap #1. At that time Super Silt Fence will be replaced below units 34-40 as shown on plan inset.)	1 Day
7. Pave Road.	7 Days
8. Upon stabilization of the site with established vegetation and with the permission of the Sediment Control Inspector, flush the storm drain system.	2 Days
9. With the permission of the Sediment Control Inspector, remove sediment control measures and stabilize any areas disturbed by their removal.	2 Days
10. Construct Units 34-40 Stabilize remaining area.	21 Days
11. With the permission of the Sediment Control Inspector, remove super silt fence and stabilize any areas disturbed by its removal.	7 Days

\*\*Note: Road and Utility Construction for Parcels A and B will be occurring simultaneously.\*\*



- CONSTRUCTION SPECIFICATIONS**
- THE OUTER PIPE SHOULD BE 48" DIAMETER OR SHALL, IN ANY CASE, BE AT LEAST 4" GREATER IN DIAMETER THAN THE CENTER PIPE. THE OUTER PIPE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH TO PREVENT BACKFILL MATERIAL FROM ENTERING THE PERFORATIONS.
  - AFTER INSTALLING THE OUTER PIPE, BACKFILL AROUND OUTER PIPE WITH 2" AGGREGATE OR CLEAN GRAVEL.
  - THE INSIDE STAND PIPE (CENTER PIPE) SHOULD BE CONSTRUCTED BY PERFORATING A CORRUGATED OR PVC PIPE BETWEEN 12" AND 36" IN DIAMETER. THE PERFORATIONS SHALL BE 1/2" x 6" SLITS OR 1" DIAMETER HOLES 6" ON CENTER. THE CENTER PIPE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH FIRST, THEN WRAPPED AGAIN WITH GEOTEXTILE CLASS E.
  - THE CENTER PIPE SHOULD EXTEND 12" TO 18" ABOVE THE ANTICIPATED WATER SURFACE ELEVATION OR RISER CREST ELEVATION WHEN DETWATERING A BASIN.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE D - 12 - 5 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**Removable Pumping Station** NOT TO SCALE

APPROVED PLANNING BOARD OF HOWARD COUNTY  
DATE: FEB 8, 2007

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DIRECTOR

5/3/07 DATE  
5/9/07 DATE  
5/14/07 DATE

DATE: 2-21-07

REVISION DESCRIPTION

Date	No.	Revision Description

**SITE DEVELOPMENT PLAN**

**EMERSON SECTION 2 AREA 7 PARCEL A**

**UNITS 1 THRU 40**

**TOWNHOMES**

OWNER(S) / DEVELOPER:  
COLUMBIA BUILDERS INC.  
WORTHVILLE PATRIOT PARKWAY  
SUITE 150  
COLUMBIA, MD 21044

**DMW**  
Dan McCune-Walker, Inc.  
300 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax 296-4705

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

AREA: TAX MAP 47 PARCEL 837  
6th ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE: **SEDIMENT & EROSION CONTROL DETAILS**

Des. By: JLS	Scale: 1"=30'	Proj. No. 95054Q
Drn. By: GMD	Date: 2/26/07	
Chk. By: [Signature]	Approved:	6 of 13

Professional Engr. No. 20718

SDP-06-113

**DEVELOPERS CERTIFICATE:**

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Theodore J. Wies III*  
SIGNATURE OF DEVELOPER  
VICE PRES  
DATE: 2/22/07

**ENGINEERS CERTIFICATE:**

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

*Charles V. Main*  
SIGNATURE OF ENGINEER  
DATE: 2-21-07

*Jim R. [Signature]*  
HOWARD S.C.D. DATE: 4/26/07

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

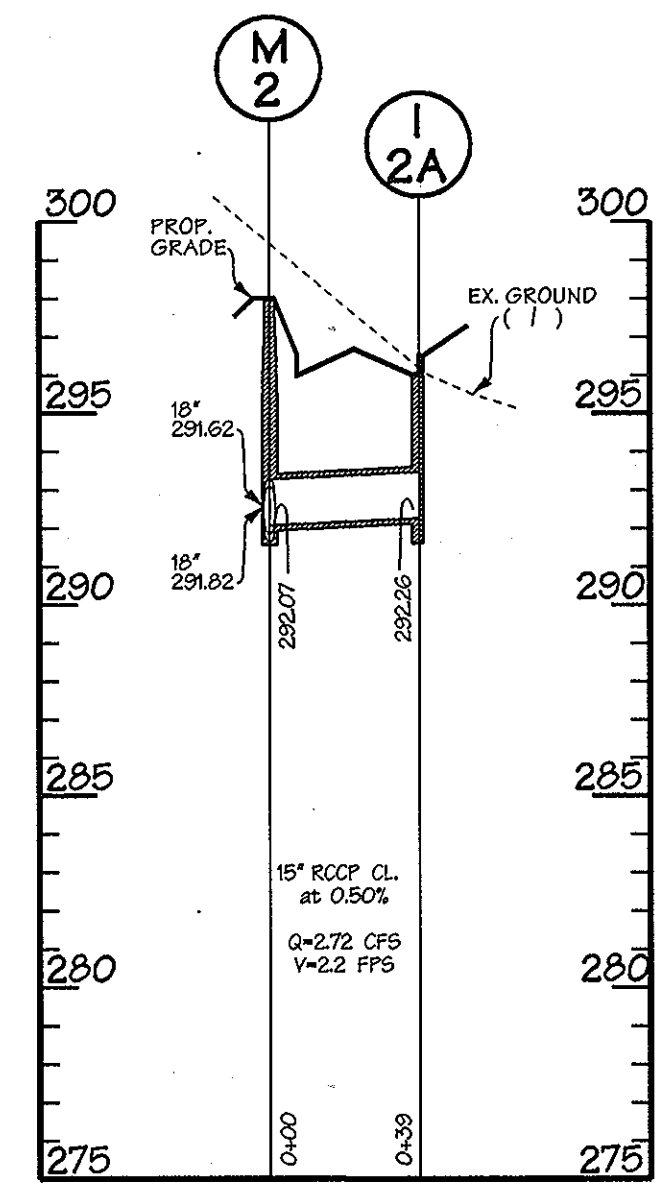
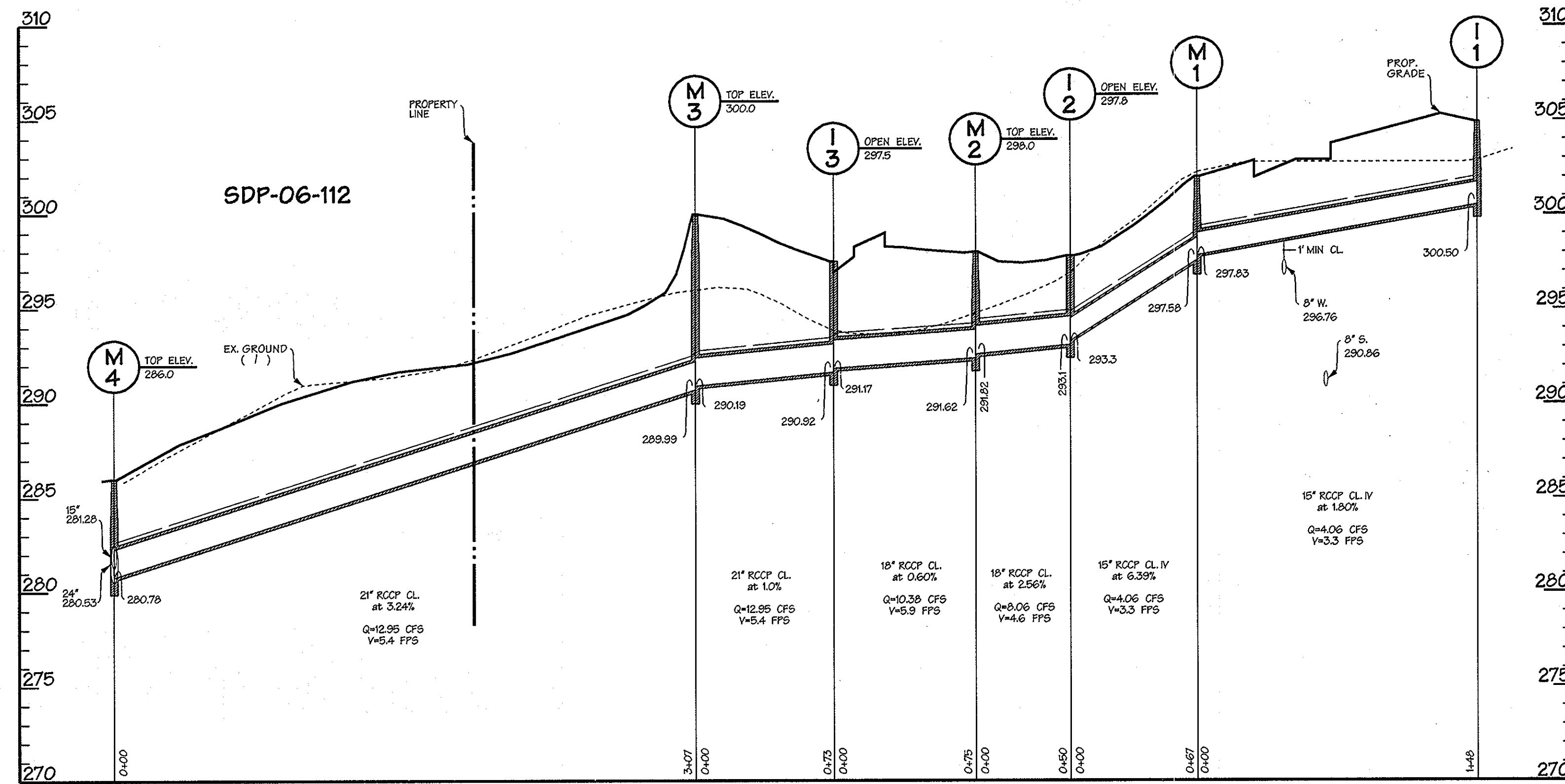
*Jim [Signature]* 4/26/07 DATE

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









**INLET SCHEDULE (TOTAL)**

NO.	TYPE	INV. OUT	TOP ELEV. (TC)
1	'A-10' INLET W=2'-6\"/>		
2	'A-10' INLET W=2'-6\"/>		
2A	'A-10' INLET W=2'-6\"/>		
3	'A-10' INLET W=3'-0\"/>		
EX. 23	'A-10' INLET TO BE RELOCATED	SET IN FIELD	

**MANHOLE SCHEDULE (TOTAL)**

NO.	TYPE	SIZE	INV. OUT	TOP ELEV.
1	STD. G5.12	48"	297.56	302.00
2	STD. G5.12	48"	292.40	298.00
3	STD. G5.12	48"	290.72	300.00

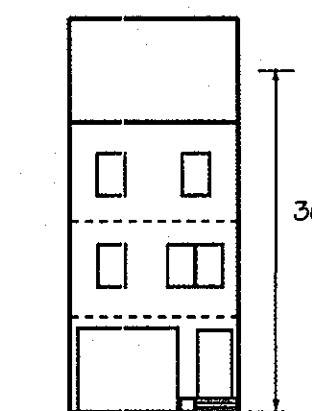
**PIPE SCHEDULE (TOTAL)**

NO.	TYPE & CLASS	LENGTH
15"	RCCP CL.IV	254'
18"	RCCP CL.IV	125'
21"	RCCP CL.IV	380'

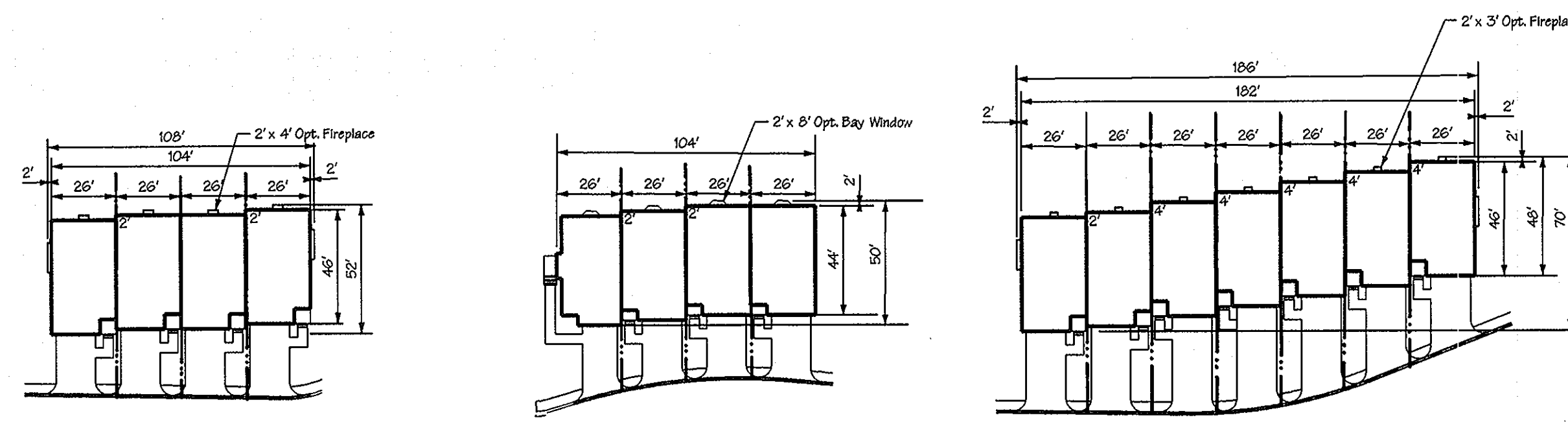
\*ALL PIPE AT ROAD CROSSINGS OR WITHIN PUBLIC RIGHT OF WAYS TO BE CLASS IV

**STORM DRAIN PROFILES**

SCALE: 1"=50' HORIZ  
1"=5' VERT.



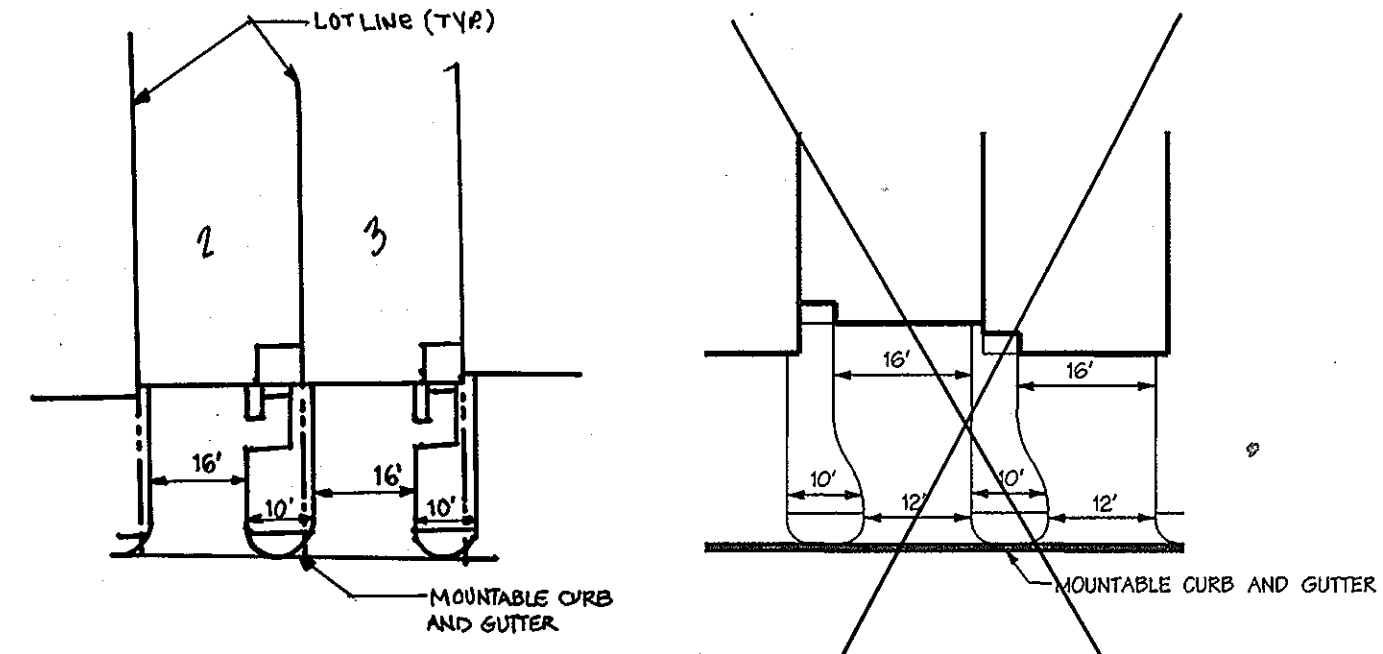
TYPICAL BUILDING ELEVATION  
No Scale



BUILDINGS #1 & #6  
NOTE: NO LOT LINES FOR BUILDING #6

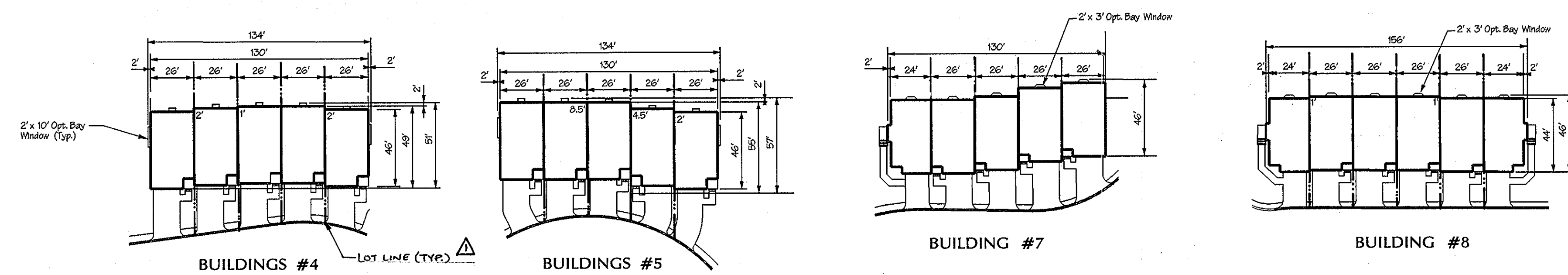
BUILDINGS #2

BUILDING #3



TYPICAL DRIVEWAY DETAIL  
NO SCALE

TYPICAL DRIVEWAY DETAIL  
NO SCALE



BUILDINGS #4

BUILDINGS #5

BUILDING #7

BUILDING #8

**APPROVED**  
PLANNING BOARD  
of HOWARD COUNTY  
DATE Feb 8, 2007

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Chief, Development Engineering Division	DATE 5/3/07
Chief, Division of Land Development	DATE 5/9/07
Director	DATE 01/10/07

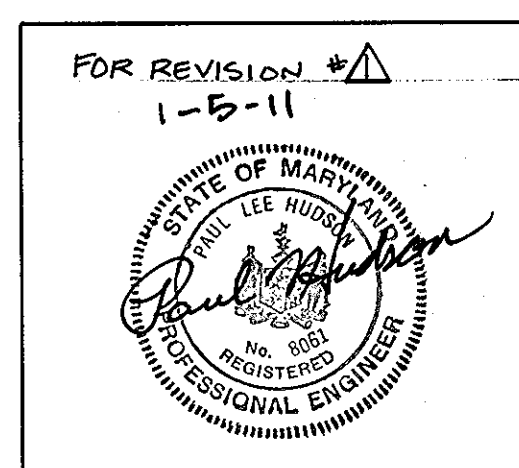
Date	No.	Revision Description
1-03-2011	1	SEWER PRIVATE TO PUBLIC, ADDED LOT LINES, UTILITY EASEMENT EXTENSION

REVISED SITE DEVELOPMENT PLAN  
**EMERSON SECTION 2 AREA 7 PARCEL A**  
UNITS 1 THRU 40  
TOWNHOMES  
OWNER(S) / DEVELOPER:  
COLUMBIA BUILDERS INC.  
10775 LITTLE PATENT PARKWAY  
SUITE 150  
COLUMBIA, MD 21044

**DMW**  
Duff McCune Walker, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax 296-4706  
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA	TAX MAP 47	PARCEL 837
TITLE	8th ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND	
Des. By	MJP	Scale 1"=50'
Dm. By	GMO	Date 2/26/07
Chk. By	YAT	Approved
Professional Engr. No. 8061	Professional Engr. No. 20784	Proj. No. 95054Q
		8 of 12

**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. 8061, EXPIRATION DATE: 3-26-2011







**LEGEND**

- HEAD OF STREAM
- STREAM CENTERLINE
- 75' STREAM BUFFER
- WETLAND
- 25' WETLAND BUFFER
- EX. TREE LINE
- EX. 5' CONTOUR
- EX. 25' CONTOUR
- EX. STRUCTURE
- PROP. TREE LINE
- PROPERTY BOUNDARY
- RIGHT OF WAY LINE
- ROADWAY CENTERLINE
- PROP. LOT NUMBER
- ADJACENT LOT LINE
- PROP. LOT LINE
- BUILDING SETBACK LINE
- DRAINAGE AREA LIMITS
- STRUCTURE NUMBER
- DRAINAGE AREA

**APPROVED**  
**PLANNING BOARD**  
**of HOWARD COUNTY**  
 DATE **Feb 8, 2007**

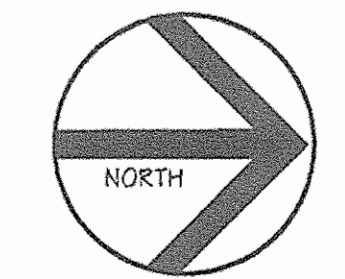
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

*[Signature]* 5/2/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

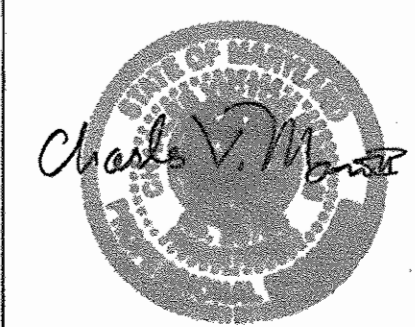
*[Signature]* 5/16/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 5/16/07  
 DIRECTOR DATE

Date	No.	Revision Description
		SITE DEVELOPMENT PLAN
		EMERSON SECTION 2 AREA 7 PARCEL A
		UNITS 1 THRU 40
		TOWNHOMES
OWNER(S) / DEVELOPER: COLUMBIA BUILDERS INC. 1075 LITTLE PATUXENT PARKWAY SUITE 150 COLUMBIA, MD 21044		



2-21-07  
 Date



**DMW**  
 Durb, McCann-Walker, Inc.  
 200 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3325  
 Fax 296-4705

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

AREA	TAX MAP 47	PARCEL 837
	6th ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND	
TITLE	SWM CREDITS DRAINAGE AREA MAP	
Des. By	JLS	Scale 1"=50'
Dim. By	GMO	Date 2/26/07
Chk. By	VAT	Approved
Proj. No.	95054Q	9 of 13

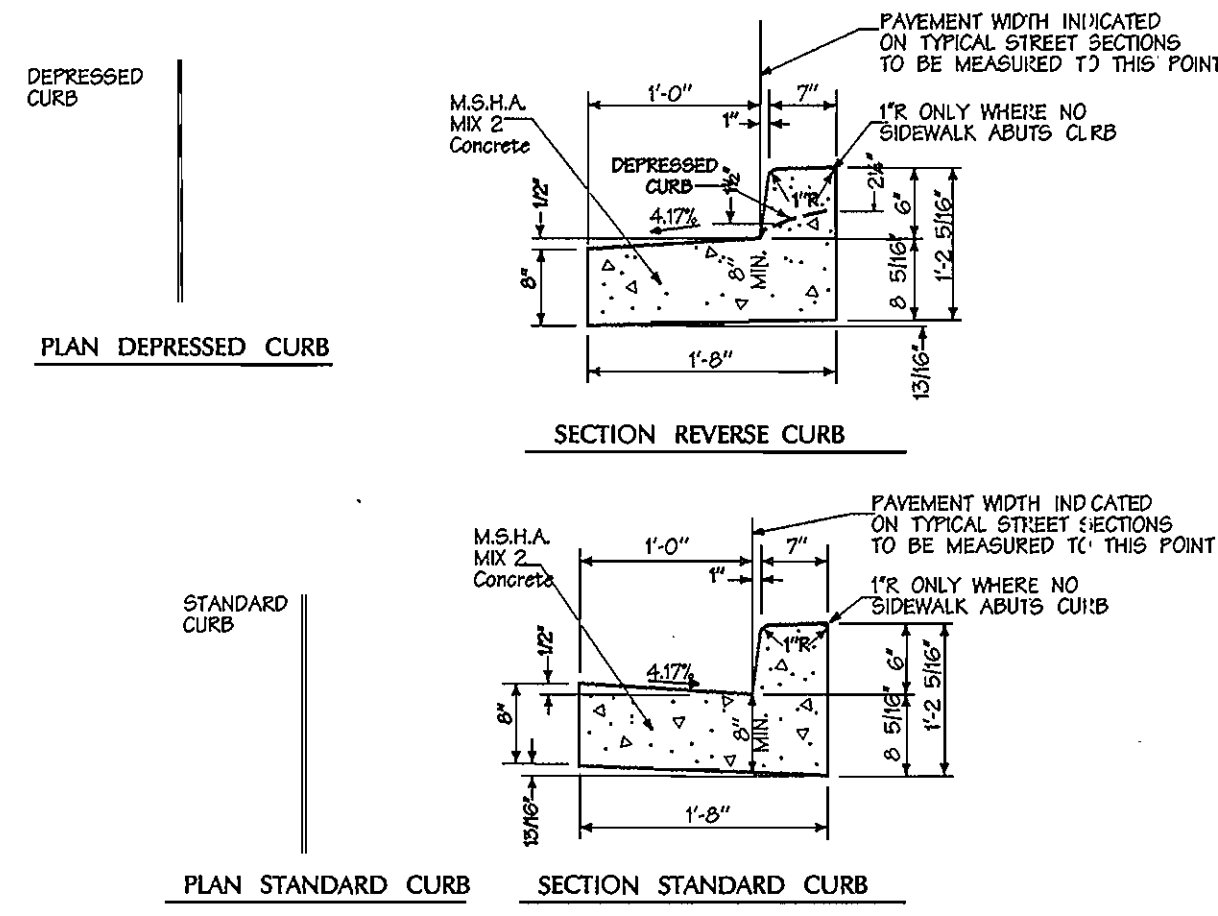
Professional Engr. No. 20784



**GENERAL NOTES:**

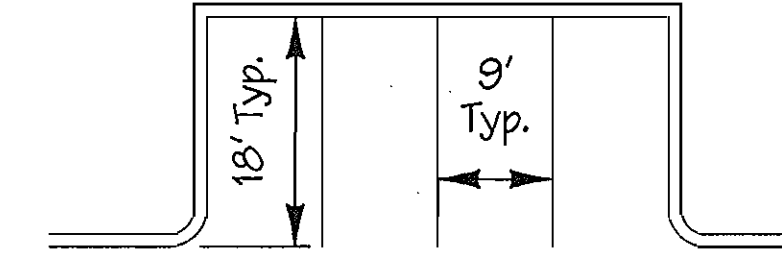
- The Contractor shall be governed by the standards and requirements of the following publications:
  - Manual on Uniform Traffic Control Devices (MUTCD), 1988 Edition and subsequent revisions.
  - AASHTO - Specifications for the Design and Construction of Structural Supports for Highway Signs, April 1975 Edition.
  - AASHTO - Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, April 1985 Edition.
- Standard sign panel layouts shall be based on the MUTCD.
- Signs shall be located as shown on the plans. Any required changes in the locations of signs necessary due to field conditions shall have the prior approval of the Engineer.
- It shall be the responsibility of the Contractor to locate and protect all existing facilities that may be affected by this work.
- All new signs shown on this plan shall have Non-Reflective (Black Copy) or High Intensity Reflective Sheeting (All Other Colors) background and copy. Reflective Sheeting shall be Type III-A Encapsulated Lens Reflective Element Material.
- All new sheet aluminum signs shall have Non-Demountable Copy.
- The following minimum thicknesses shall be used for the appropriate size of Sheet aluminum sign blanks:
 

Longest Dimension (inches) - Minimum Thickness	
Up to 18"	0.040"
18" to 24"	0.050"
24" to 36"	0.060"
36" to 48"	0.075"
Over 48"	0.125"
- All traffic control signs shall be mounted on Howard County standard posts.
  - Sign posts shall be provided for signs with an area of 3.0 square feet or less. For signs with an area of greater than 3.0 square feet two (2) posts shall be provided. Sign posts shall be installed in the ground to a minimum depth of 3.0 feet and the sign post shall extend to the top of the sign panel.
  - Signs shall be mounted such that the clearance to the bottom edge of the sign panel is a minimum of six (6) feet above finished grade.



**6" Combination Curb & Gutter**

Not To Scale



**Parking Detail**

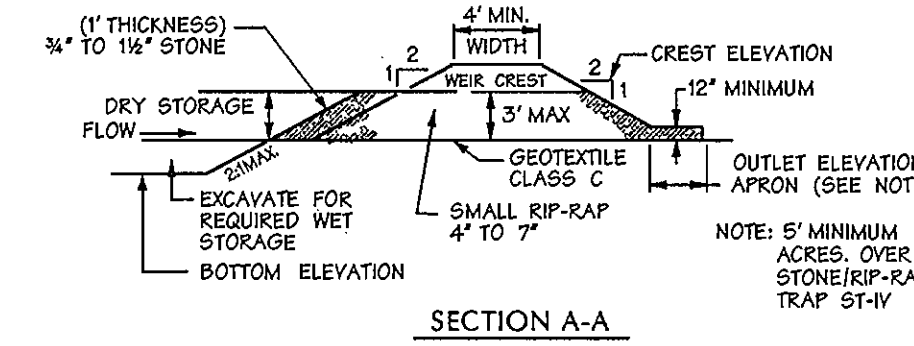
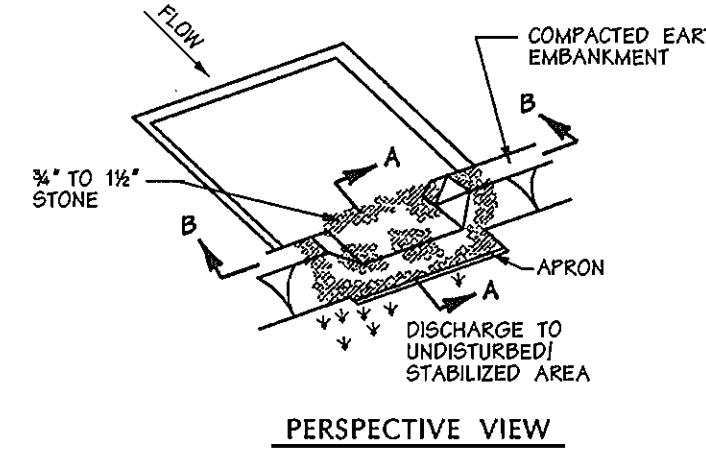
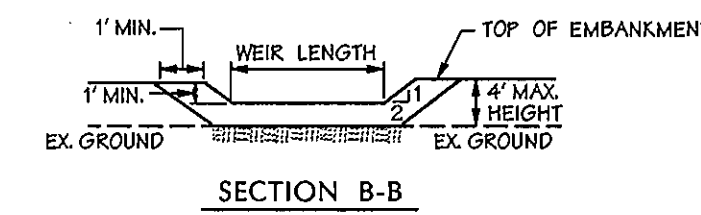
Not To Scale

**CONSTRUCTION SPECIFICATIONS**

- AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
- THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS AND OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVELING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
- ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
- THE STONE USED IN THE OUTLET SHALL BE SMALL RIP-RAP 4" TO 7" IN SIZE WITH A 1" THICK LAYER OF 3/4" TO 1 1/2" WASHED AGGREGATE PLACED ON THE UPSTREAM FACE OF THE OUTLET. STONE FACING SHALL BE WASHED AS NECESSARY TO PREVENT CLOGGING. GEOTEXTILE CLASS C MAY BE SUBSTITUTED FOR THE STONE FACING BY PLACING IT ON THE INSIDE FACE OF THE STONE OUTLET.
- SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE HALF OF THE WET STORAGE DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
- THE STRUCTURE SHALL BE INSPECTED PERIODICALLY AND AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
- CONSTRUCTION OF TRAPS SHALL BE CARRIED OUT IN SUCH A MANNER THAT SEDIMENT POLLUTION IS ABATED. ONCE CONSTRUCTED, THE TOP AND OUTSIDE FACE OF THE EMBANKMENT SHALL BE STABILIZED WITH SEED AND MULCH. POINTS OF CONCENTRATION INFLOW SHALL BE PROTECTED IN ACCORDANCE WITH GRADE STABILIZATION STRUCTURE CRITERIA. THE REMAINDER OF THE INTERIOR SLOPES SHOULD BE STABILIZED (ONE TIME) WITH SEED AND MULCH UPON TRAP COMPLETION AND MONITORED AND MAINTAINED EROSION FREE DURING THE LIFE OF THE TRAP.
- THE STRUCTURE SHALL BE DEWATERED BY APPROVED METHODS, REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
- REFER TO SECTION D FOR SPECIFICATIONS CONCERNING TRAP DEWATERING.
- MINIMUM TRAP DEPTH SHALL BE MEASURED FROM THE WEIR ELEVATION.
- THE ELEVATION OF THE TOP OF ANY DIKE DIRECTING WATER INTO THE TRAP MUST EQUAL OR EXCEED THE ELEVATION OF THE TRAP EMBANKMENT.
- GEOTEXTILE CLASS C SHALL BE PLACED OVER THE BOTTOM AND SIDES OF THE OUTLET CHANNEL PRIOR TO THE PLACEMENT OF STONE. SECTIONS OF FILTER CLOTH MUST OVERLAP AT LEAST 1' WITH THE SECTION NEAREST THE ENTRANCE PLACED ON TOP. THE FILTER CLOTH SHALL BE EMBEDDED AT LEAST 6" INTO EXISTING GROUND AT THE ENTRANCE OF THE OUTLET CHANNEL.
- OUTLET - AN OUTLET SHALL BE PROVIDED INCLUDING A MEANS OF CONVEYING THE DISCHARGE IN AN EROSION FREE MANNER TO AN EXISTING STABLE CHANNEL.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE C-9-10A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**Stone Outlet Sediment Trap - ST II**

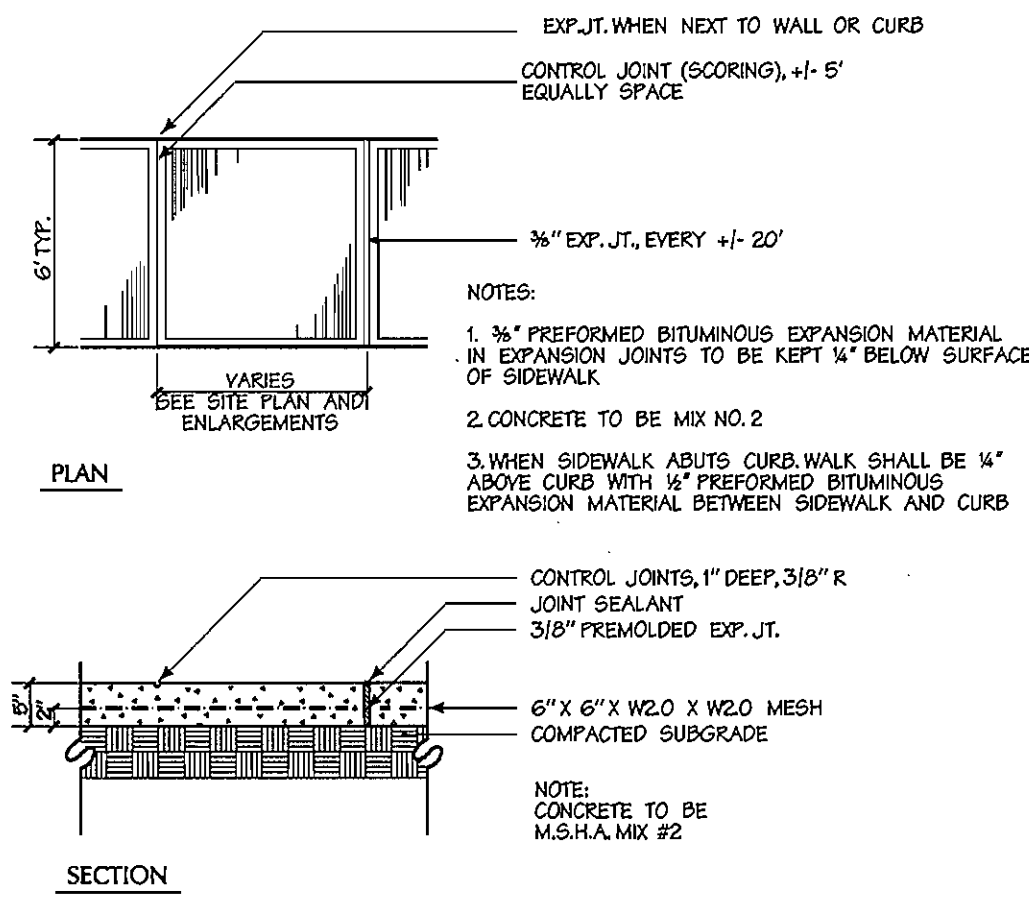


U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE C-9-10 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**Stone Outlet Sediment Trap - ST II**

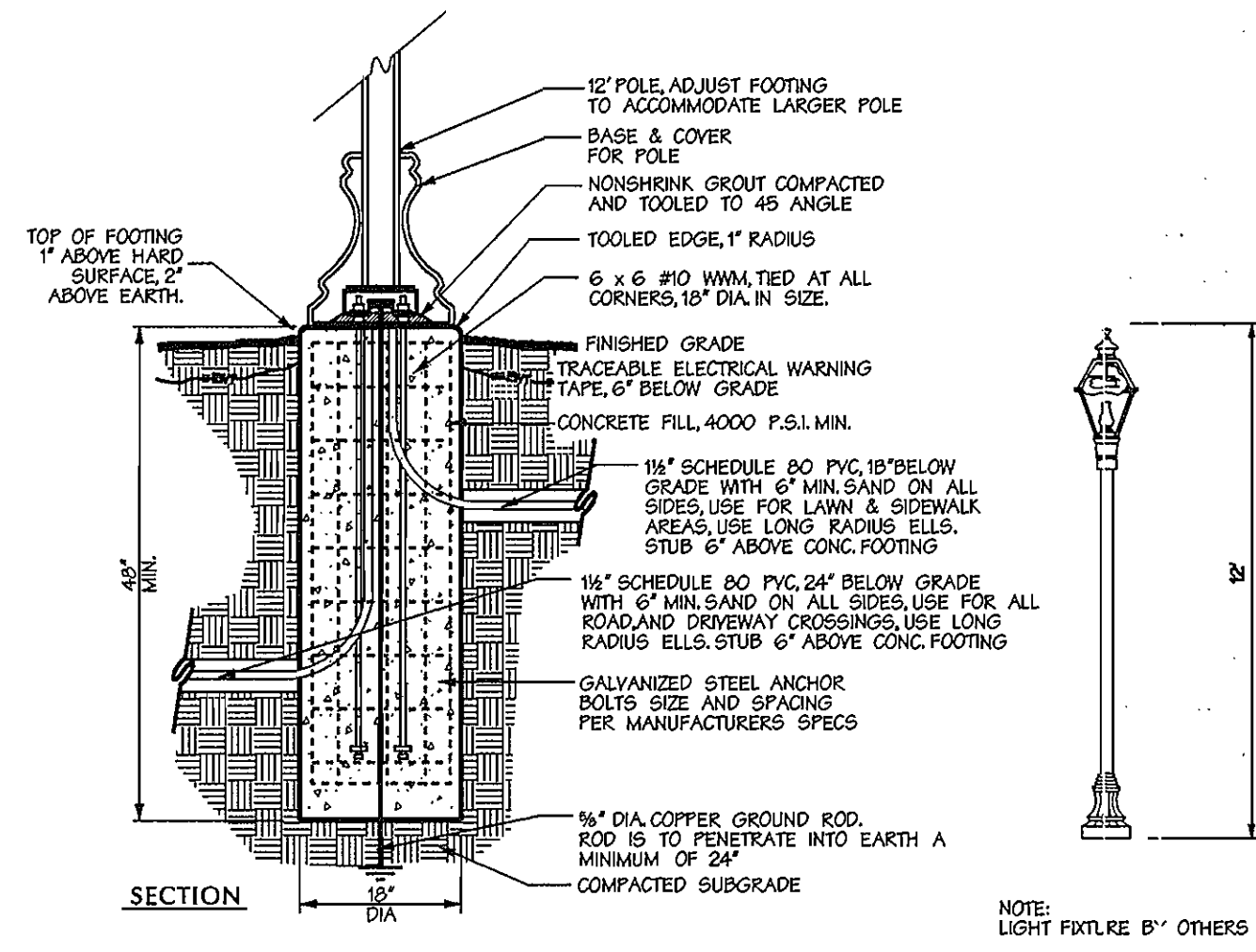
Not To Scale

**APPROVED PLANNING BOARD OF HOWARD COUNTY**  
DATE: FEB 8, 2007



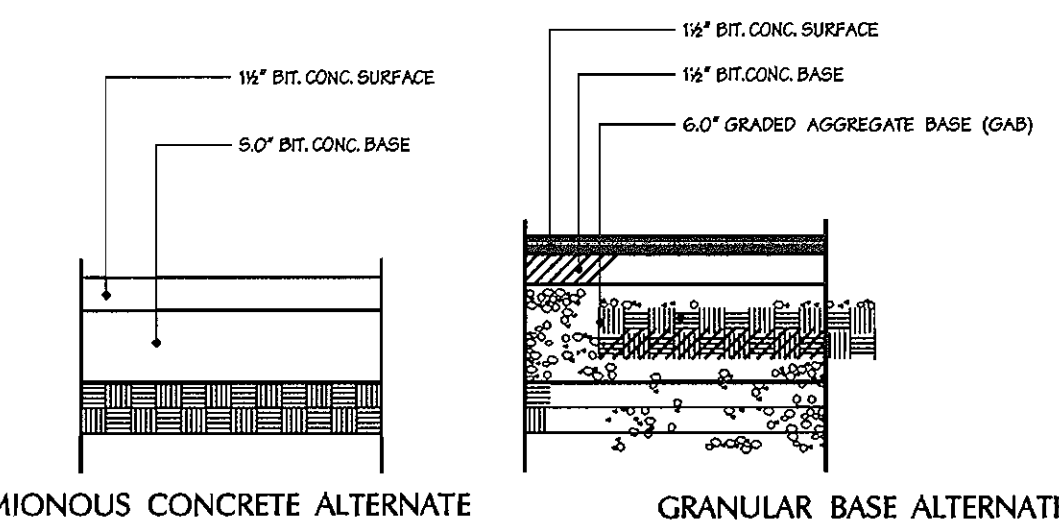
**Concrete Walk**

Not To Scale



**Light Pole Footing Detail**

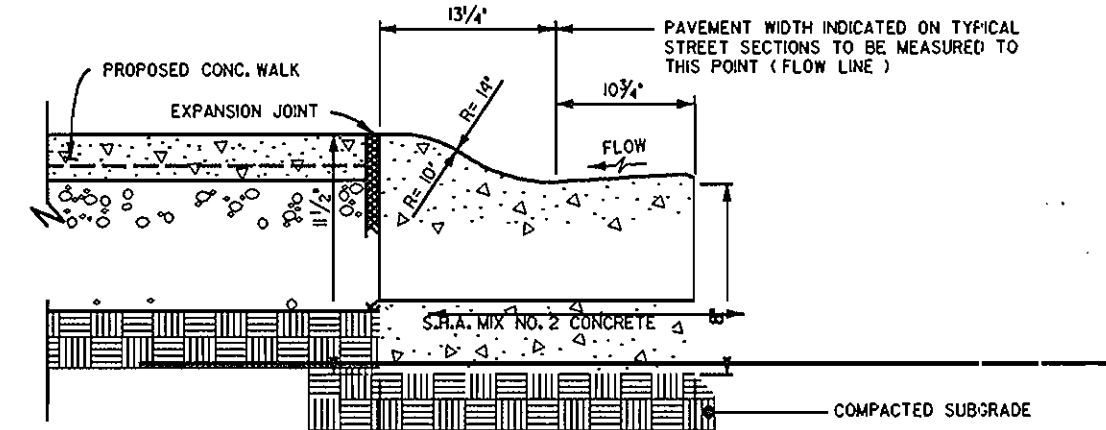
Not To Scale



**P-2 Paving Detail**

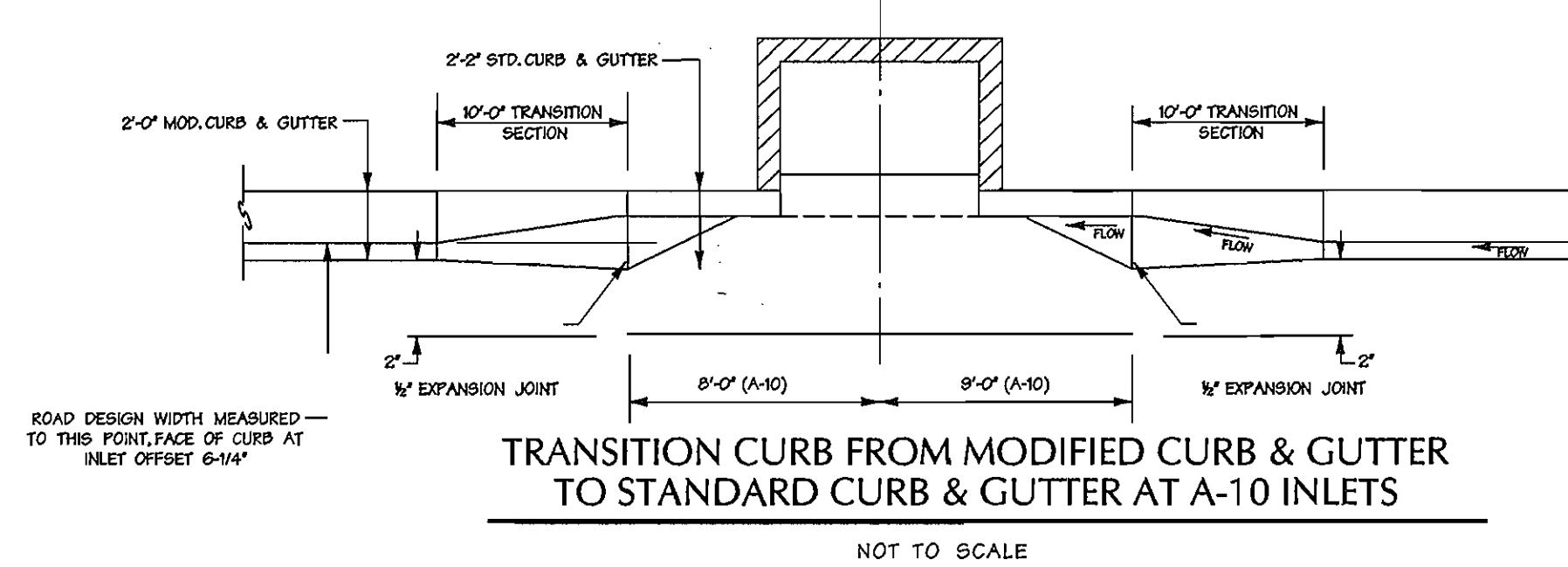
Not To Scale

Note: Paving section to be approved by geotechnical engineer.



**Rollled Curb Detail**

Not To Scale



**TRANSITION CURB FROM MODIFIED CURB & GUTTER TO STANDARD CURB & GUTTER AT A-10 INLETS**

NOT TO SCALE

**DEVELOPERS CERTIFICATE:**  
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Theodore J. Wies III*  
SIGNATURE OF DEVELOPER  
THEODORE J. WIES III  
VICE PRES  
DATE: 2/22/07

**ENGINEERS CERTIFICATE:**  
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE. CONSTRUCTION OF THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Charles V. Main II*  
SIGNATURE OF ENGINEER  
CHARLES V. MAIN II  
DATE: 2-21-07

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

*Jim Muen* 4/26/07  
U.S. NATURAL RESOURCE CONSERVATION SERVICE DATE

*John R. Robertson* 4/26/07  
HOWARD S.C.D. DATE

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

2-21-07  
Date

**SEAL OF THE STATE OF MARYLAND**

AREA: TAX MAP 47 PARCEL 837  
6th ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE: **SITE AND SEDIMENT CONTROL DETAILS**

Des. By	JLS	Scale	AS SHOWN	Proj. No.	95054Q
Dim. By		Date	2/26/07		
Chk. By	KAD	Approved			10 of 13

Professional Engr. No. 20784

SDP-06-113

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

*[Signature]* 5/3/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 5/9/07  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 5/16/07  
DIRECTOR DATE

DATE: No. Revision Description

SITE DEVELOPMENT PLAN  
EMERSON SECTION 2 AREA 7 PARCEL A  
UNITS 1 THRU 40  
TOWNHOMES

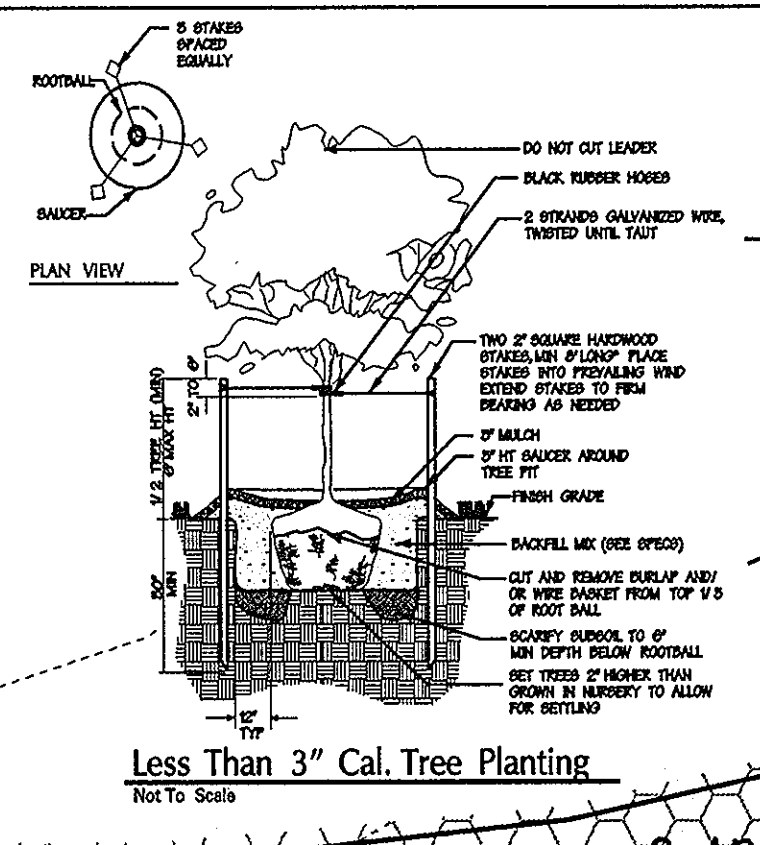
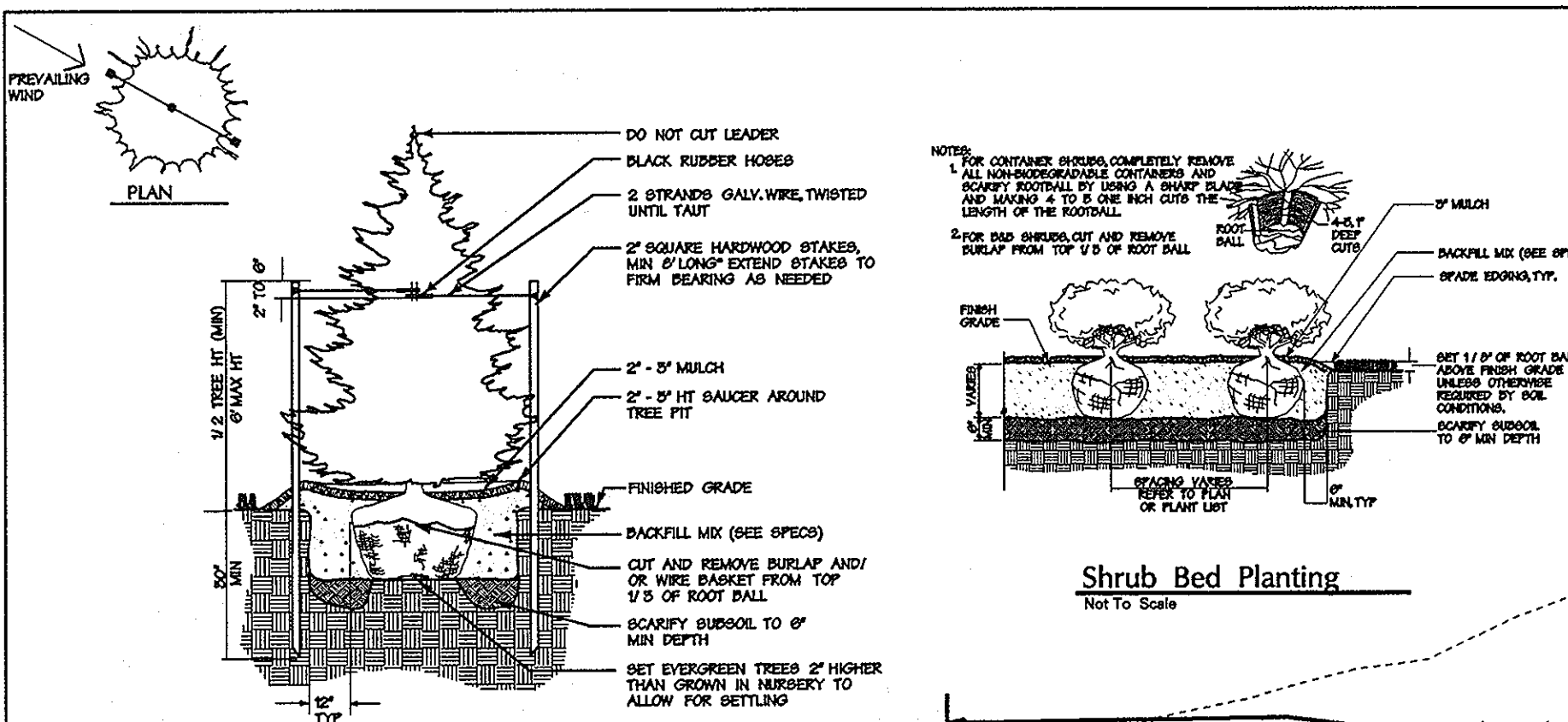
OWNER(S) / DEVELOPER:  
COLUMBIA BUILDERS INC.  
8075 LITTLE PATUXENT PARKWAY  
SUITE 150  
COLUMBIA, MD 21044

**DMW**  
Dan McCune-Walker, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax 296-4706

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

MDSC64-06064-05054-007  
Map No. 21 132561 2007



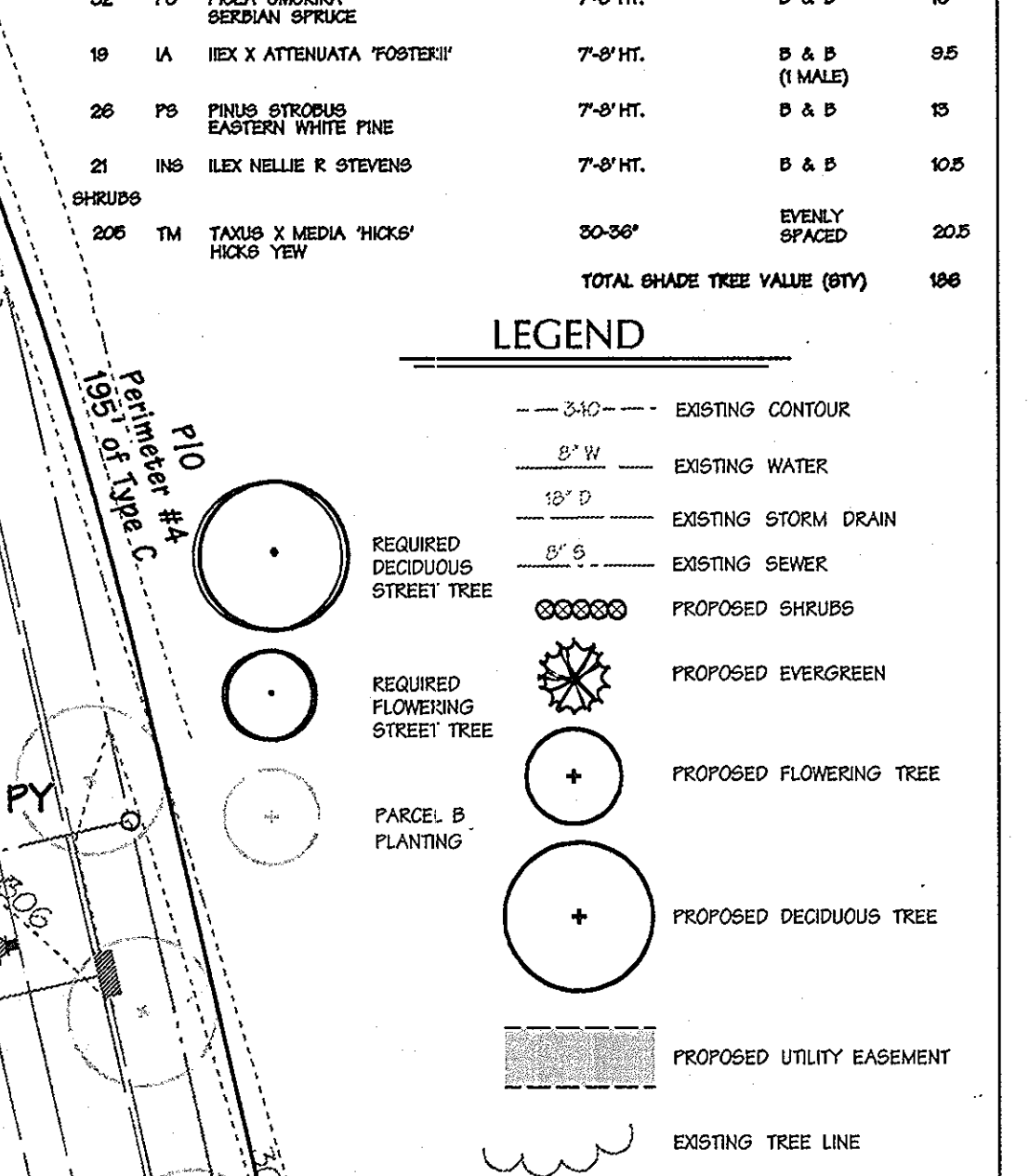
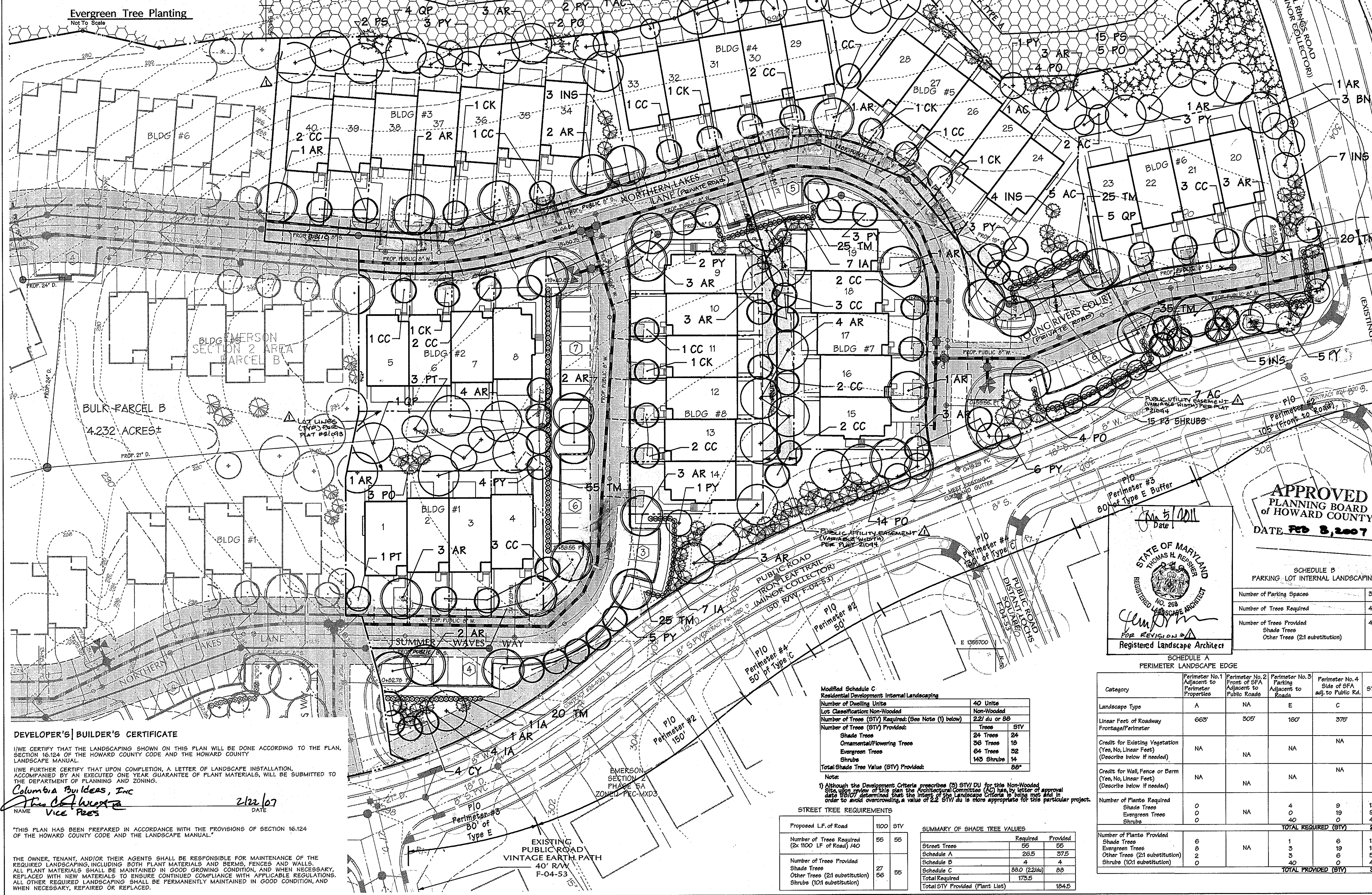
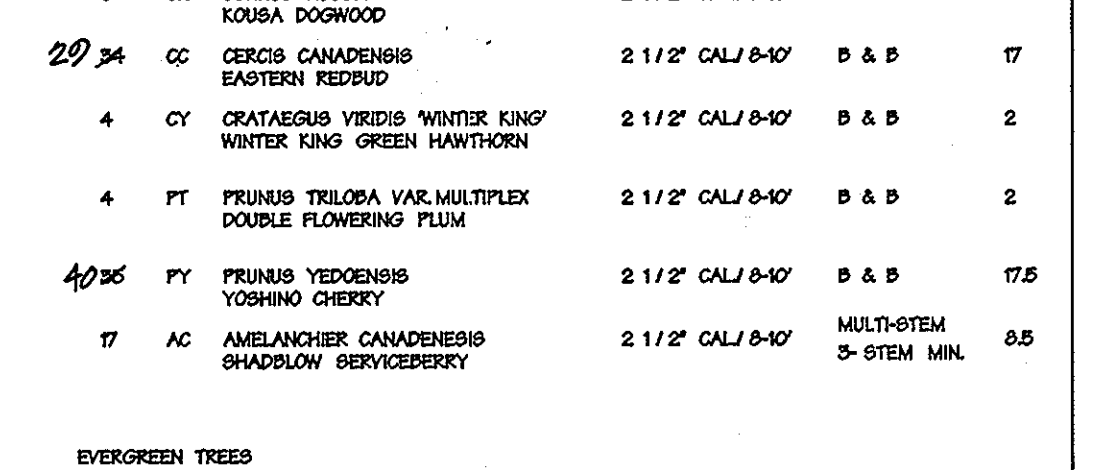


**NOTES:**

- At the time of plant installation, all shrubs and trees listed and approved on the Landscape Plan, shall comply with the proper height requirements 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.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.024 OF THE HOWARD COUNTY CODE AND THE EMERSON LANDSCAPE DESIGN CRITERIA, FINANCIAL LANDSCAPE SURETY, IN THE AMOUNT OF \$82,050, IS BASED ON THE REQUIRED TREES PER SCHEDULES "A", "B", AND "C" AND THE REQUIRED STREET TREE CHART, IN ACCORDANCE WITH THE LANDSCAPE MANUAL. THE SURETY MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT (160 SHADE, 19 EVERGREENS, 40 SHRUBS).

**PLANT LIST**

QTY	SYM	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS	STY
51	AR	ACER RUBRUM 'RED SUNSET'	2 1/2" CAL. 10-12' HT.	D & B FULL HEAD	51
14	QP	QUERCUS PHELLOS WILLOW OAK	2 1/2" CAL. 10-12' HT.	D & B FULL HEAD	14
<b>UNDERSTORY TREES</b>					
3	BN	BETULA NIGRA RIVER BIRCH	8'-10' HT.	D & B MULTI-STEM 3-STEM MIN.	15
6	CK	CORNUS KOUSA KOUSSA DOGWOOD	2 1/2" CAL. 8'-10'	D & B	5
29	CC	CERCIS CANADENSIS EASTERN REDBUD	2 1/2" CAL. 8'-10'	D & B	17
4	CY	CRATAEGUS VIGDIS 'WINTER KING' WINTER KING GREEN HAWTHORN	2 1/2" CAL. 8'-10'	D & B	2
4	FT	FRAXINUS TETLOBA VAR. MULTIFLORA DOUBLE FLOWERING FLUM	2 1/2" CAL. 8'-10'	D & B	2
40	PS	FRAXINUS YEDONENSIS YOSHINO CHERRY	2 1/2" CAL. 8'-10'	D & B	17.5
17	AC	AMELANCHIER CANADENSIS SHADBLOW BERRYBERRY	2 1/2" CAL. 8'-10'	MULTI-STEM 3-STEM MIN.	8.5
<b>EVERGREEN TREES</b>					
32	PO	PICEA CANADICA SEPTENTRIONAL SPRUCE	7'-8' HT.	D & B	16
19	IA	ILEX X ATTENUATA 'FOSTERI'	7'-8' HT.	D & B (1 MALE)	8.5
26	PS	PIRUS SYRIACUS EASTERN WHITE PINE	7'-8' HT.	D & B	13
21	INS	ILEX NELLIE K STEVENS	7'-8' HT.	D & B	10.5
<b>SHRUBS</b>					
206	TM	TAXUS X MEDIA 'HICKS' HICKS TRE	50-56"	EVENLY SPACED	206
<b>TOTAL SHADE TREE VALUE (\$TY)</b>					\$82,050



2/21/07  
Date  
STATE OF MARYLAND  
LANDSCAPE ARCHITECT  
Registered Landscape Architect

**APPROVED**  
PLANNING BOARD  
OF HOWARD COUNTY  
DATE: FEB 8, 2007

**SCHEDULE B**  
PARKING LOT INTERNAL LANDSCAPING

Number of Parking Spaces	STY
35	35
Number of Trees Required	4 4
Number of Trees Provided	4 4
Shade Trees	4 4
Other Trees (21 substitution)	4 4

STATE OF MARYLAND  
THOMAS H. REPPOLD  
REGISTERED LANDSCAPE ARCHITECT  
FOR REVISION

**SCHEDULE A**  
PERIMETER LANDSCAPE EDGE

Category	Perimeter No. 1 Adjacent to Perimeter Properties	Perimeter No. 2 Front of SPA Adjacent to Public Roads	Perimeter No. 3 Parking Adjacent to Roads	Perimeter No. 4 Side of SPA adj. to Public Rd.	STY
Landscape Type	A	NA	E	C	
Linear Feet of Roadway Frontage/Perimeter	665'	305'	160'	375'	
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)	NA	NA	NA	NA	
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)	NA	NA	NA	NA	
Number of Plants Required	0	4	9	13	
Shade Trees	0	0	0	9.5	
Evergreen Trees	0	NA	0	4	
Shrubs	0	40	0	0	
<b>TOTAL REQUIRED (STY)</b>					26.5
Number of Plants Provided	6	1	6	13	
Shade Trees	5	1	6	13	
Evergreen Trees	2	0	0	5.5	
Other Trees (21 substitution)	0	0	0	0	
Shrubs (101 substitution)	0	0	0	0	
<b>TOTAL PROVIDED (STY)</b>					37.5

**Modified Schedule C**  
Residential Development Internal Landscaping

Number of Dwelling Units	40 Units
Lot Classification: Non-Wooded	Non-Wooded
Number of Trees (STY) Required (See Note 1) below	222 du or 80
Number of Trees (STY) Provided:	
Shade Trees	24 Trees 24
Ornamental/Flowering Trees	56 Trees 19
Evergreen Trees	64 Trees 52
Shrubs	143 Shrubs 14
Total Shade Tree Value (STY) Provided:	88*

**STREET TREE REQUIREMENTS**

Proposed LF. of Road	1100' STY	1100' STY
Number of Trees Required (2x 1100' LF of Road) (AO)	55	55
Number of Trees Provided		
Shade Trees	27	55
Other Trees (21 substitution)	27	0
Shrubs (101 substitution)	0	0
Total STY Provided (Plant List)	54	55

**DEVELOPER'S/BUILDER'S CERTIFICATE**

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.024 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL.

I/WE FURTHER CERTIFY THAT UPON COMPLETION, 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.

Columbia Builders, Inc  
Vice Pres  
2/22/07 DATE

\*THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.024 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.\*

THE OWNER, TENANT, 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.

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION 5/3/07 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 5/9/07 DATE

DIRECTOR 5/11/07 DATE

REVISED SITE DEVELOPMENT PLAN  
EMERSON SECTION 2 AREA 7 PARCEL A  
UNITS 1 THRU 40  
TOWNHOMES

OWNER(S) / DEVELOPER:  
COLUMBIA BUILDERS INC.  
10715 LITTLE PATUXENT PARKWAY  
SUITE 150  
COLUMBIA, MD 21044

**DMW**  
Dunn-McCauley-Walton Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 286-3338  
Fax 286-4705

A Team of Land Planners,  
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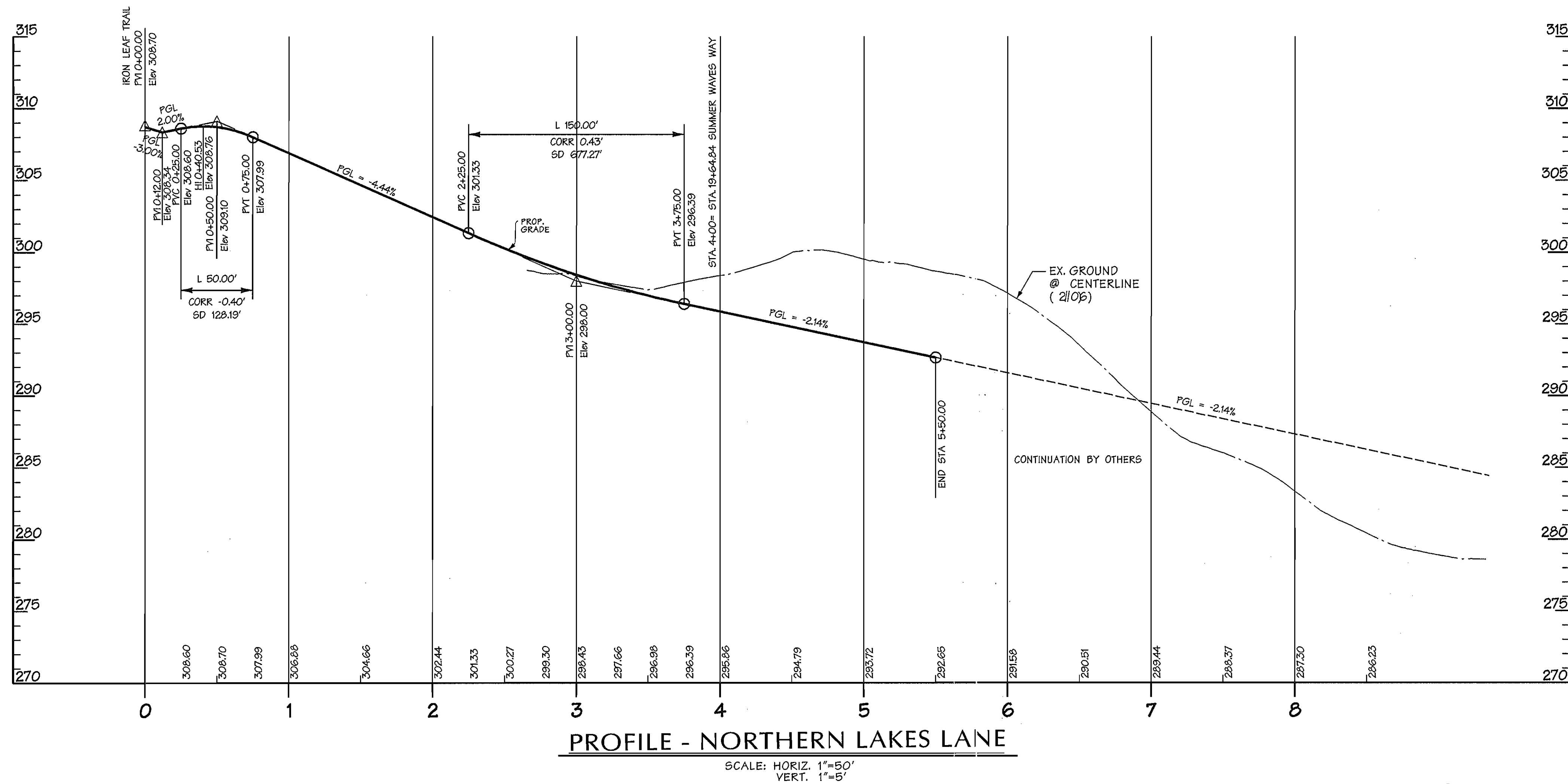
AREA  
TAX MAP 47 PARCEL 837  
8th ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE  
**LANDSCAPE PLAN**

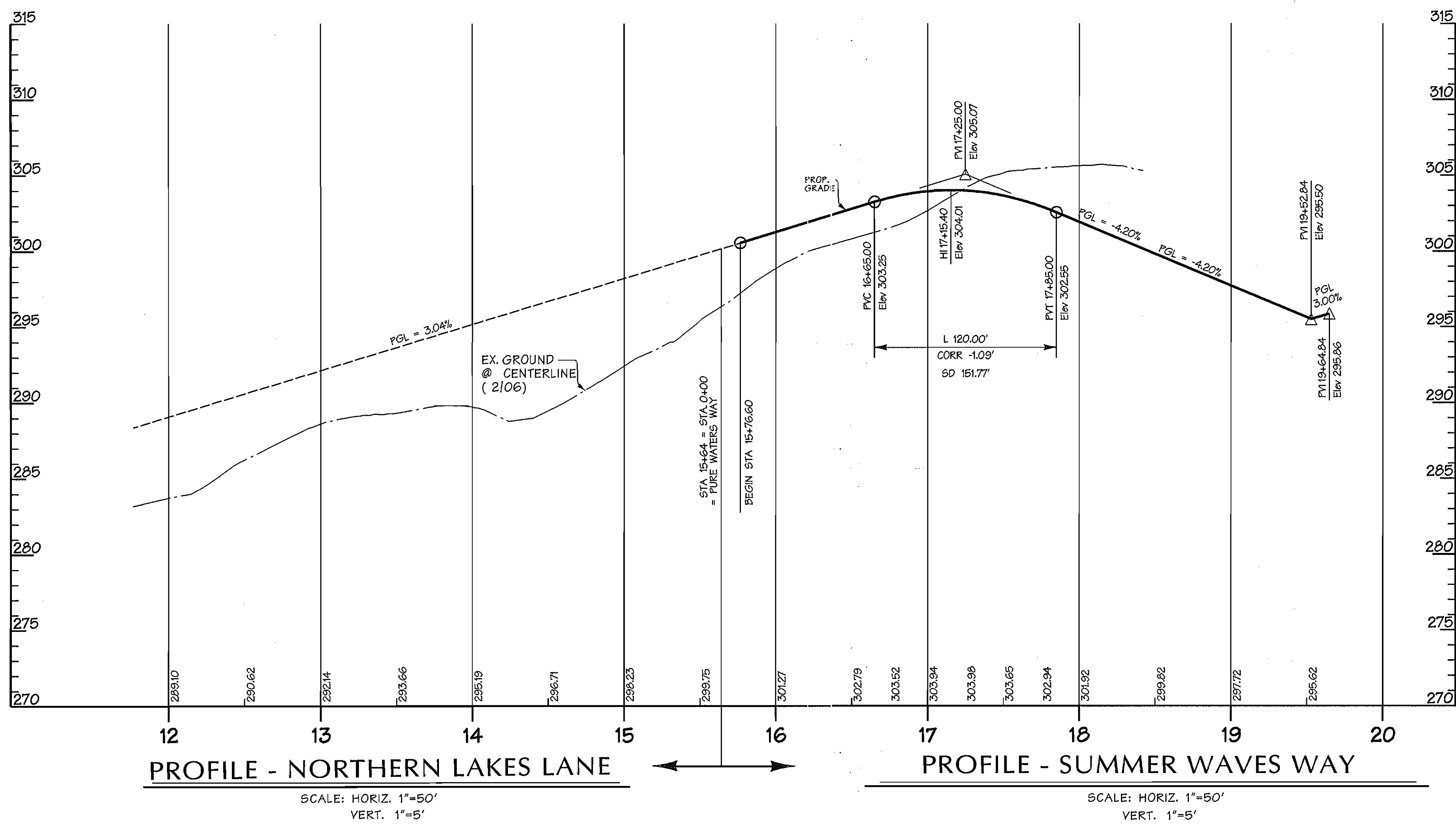
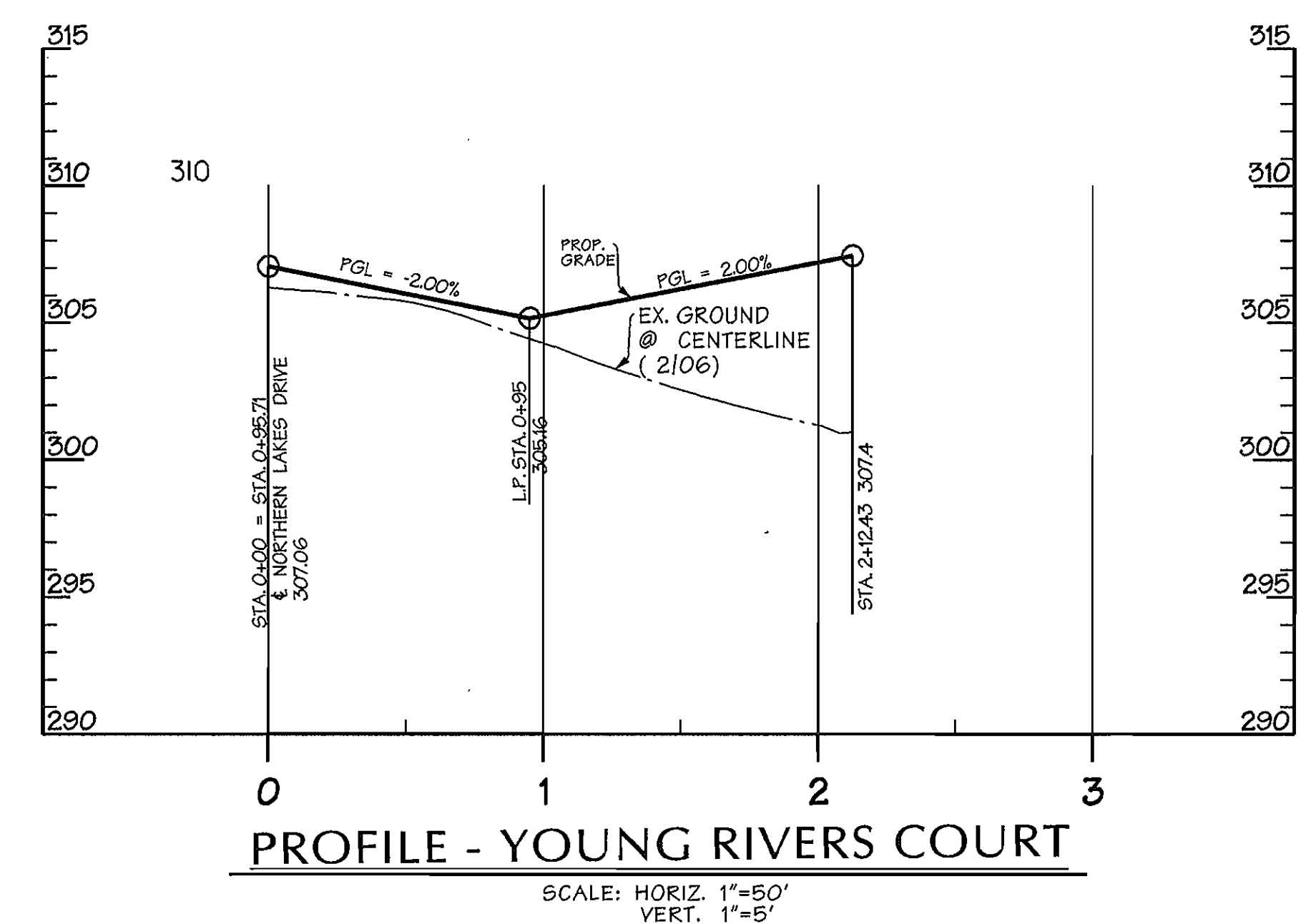
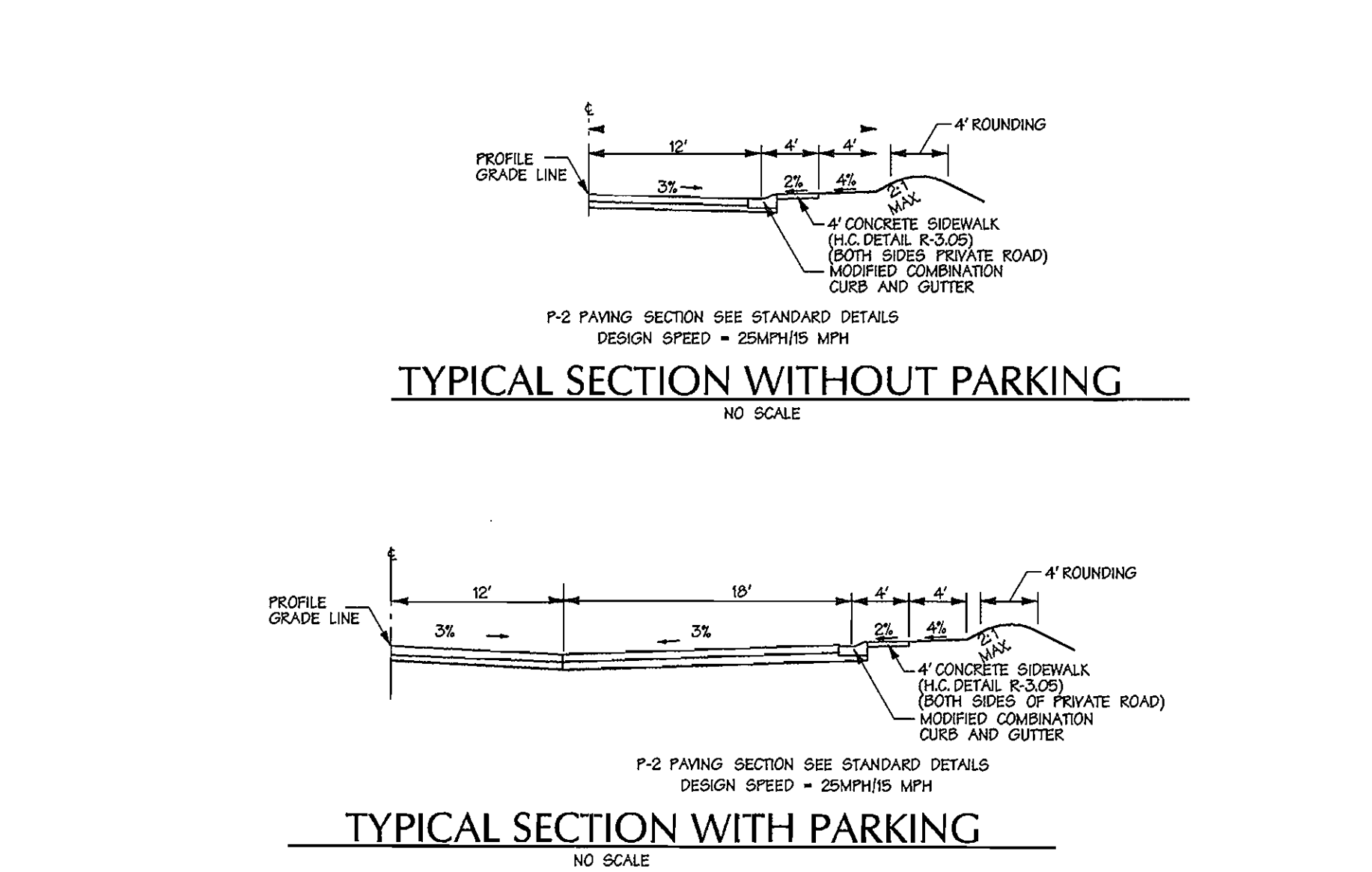
Des. By: MJP Scale: 1"=30' Proj. No.: 95054Q  
Dwn. By: Date: 2/26/07  
Chk. By: Approved 11 of 12

EMR 0227104634 SDP-06-113





FILL COMPACTION NOTE: ALL FILLS ARE TO BE COMPACTED TO 95% PER AASHTO T-180



**APPROVED**  
 PLANNING BOARD  
 of HOWARD COUNTY  
 DATE Feb 8, 2007

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 5/3/07

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 5/9/07

DIRECTOR: *[Signature]* DATE: 5/16/07

Date	No.	Revision Description

SITE DEVELOPMENT PLAN  
 EMERSON SECTION 2 AREA 7 PARCEL A  
 UNITS 1 THRU 40

OWNER(S) / DEVELOPER:  
 U.S. HOME CORPORATION  
 1020 WINDYBROOK CIRCLE  
 SUITE 100  
 COLUMBIA, MD. 21044

**DMW**  
 Daft-McCune-Walker, Inc.  
 200 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3333  
 Fax 296-4706

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

AREA: TAX MAP 47 PARCEL B  
 6th ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE: ROAD PROFILES

Des. By: KAD/CYS Scale: 1"=50' Proj. No. 95054.Q  
 Dm. By: WDE Date: 2/26/07  
 Chk. By: *[Signature]* Approved: *[Signature]*

Professional Engr. No. 20784

