

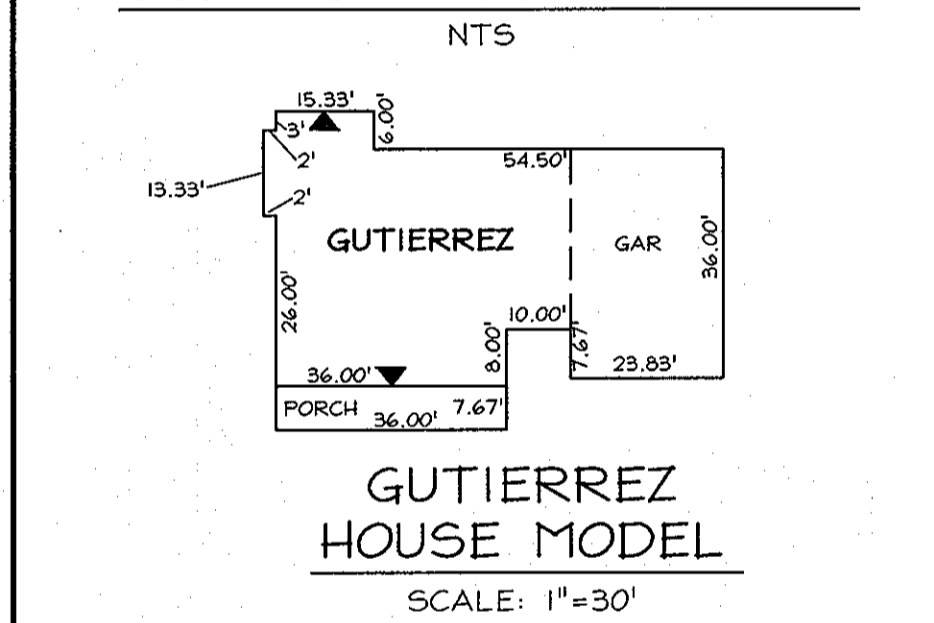
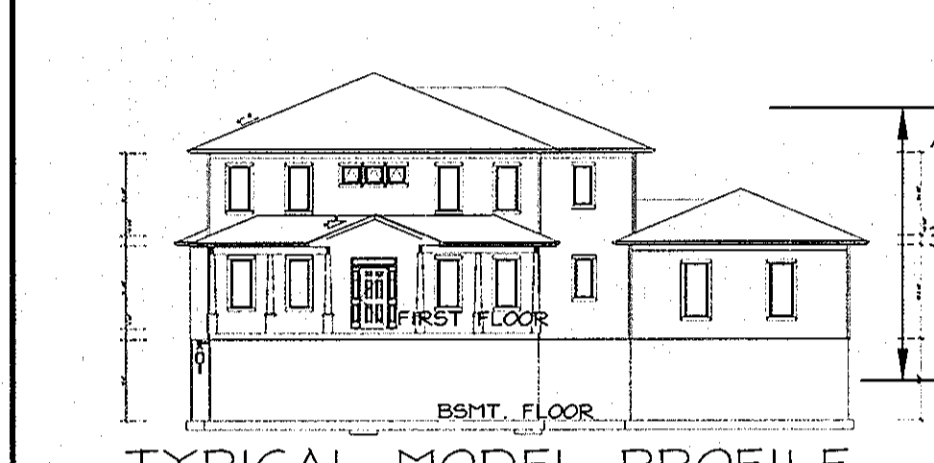
| INDEX OF SHEETS |  |
|-----------------|--|
| 1               | SITE DEVELOPMENT PLAN                              |
| 2               | GRADING, SOIL EROSION & SEDIMENT CONTROL PLAN      |
| 3               | GRADING, SOIL EROSION & SEDIMENT CONTROL - DETAILS |
| 4               | STORMWATER MANAGEMENT & LANDSCAPE NOTES & DETAILS  |

**BENCHMARKS:**  
**Control Station 37BA: Elev. 399.935**  
 Brass or aluminum disc set on top of concrete column (3' deep) Usually 1" - 2" below surface. Located on South side of Montgomery Road 59.4 feet north of BGE pole # 146106, approx. 64 feet west of entrance to # 6028 Montgomery Road and 9.7 feet from edge of road.

**Control Station 37BB: Elev. 373.014**  
 Brass or aluminum disc set on top of concrete column (3' deep) Usually 1" - 2" below surface. Located on North side of Montgomery Road between concrete walk & guardrail, 16.3 feet from "X" cut in guardrail bolt and 12.6 feet from "X" cut in guardrail post.

| SOILS LEGEND          |            |  |         |
|-----------------------|------------|--|---------|
| HYDROLOGIC SOIL GROUP | MAP SYMBOL | MAPPING UNIT   | REMARKS |
| D                     | UdS        | Urbantland - Sassafras-DePotville complex, 0% - 5% slopes  |         |
| D                     | UdD        | Urbantland - Sassafras-DePotville complex, 5% - 15% slopes |         |

**NOTE:**  
 REFER TO SOILS MAP NUMBER 25. There exists no hydric soils, soils with hydric inclusions or soils with slopes > 15% having significant erosion potential onsite.



**LEGEND**

- 340--- EXISTING 10' CONTOUR
- 342--- EXISTING 2' CONTOUR
- 340--- PROPOSED 10' CONTOUR
- 342--- PROPOSED 2' CONTOUR
- EXISTING TREELINE
- PROPOSED TREELINE
- PROPOSED PAVING
- EXISTING PAVING
- EXISTING TREES
- EXISTING SEWER
- EXISTING WATER
- SOILS DIVIDE
- DRAINAGE FLOW ARROW

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 10/7/10 DATE  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* 10/12/10 DATE  
 CHIEF, DIVISION OF LAND DEVELOPMENT

*[Signature]* 10/12/10 DATE  
 DIRECTOR

**DEVELOPER'S / BUILDER'S CERTIFICATION**  
 I certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County Subdivision and Land Development Regulations and the Landscape Manual. I further certify that upon completion, a letter of notice, accompanied by an executed one year guarantee of plant materials, and a copy of this plan will be submitted to the Department of Planning and Zoning.

*[Signature]* 9-22-10 DATE  
 SIGNATURE OF DEVELOPER / BUILDER

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. 19184, EXPIRES 6/30/11.

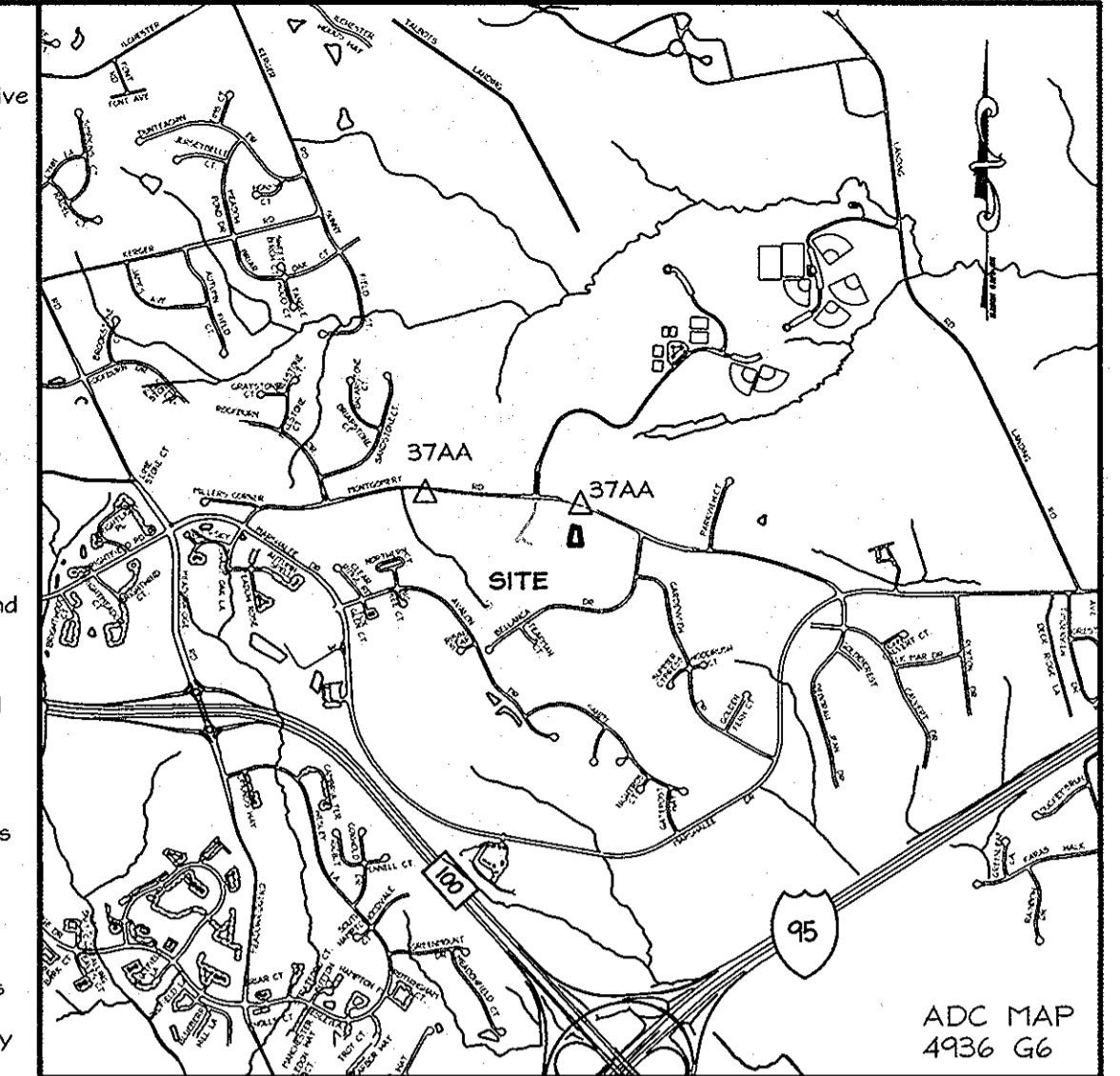
SIGNED *[Signature]* DATE 9/23/10  
 BRUCE D. BURTON

**REVISIONS**

| No. | Date   | By  | Description                  |
|-----|--------|-----|------------------------------|
| 1   | 7/2010 | LDE | Address Project Dwg Comments |

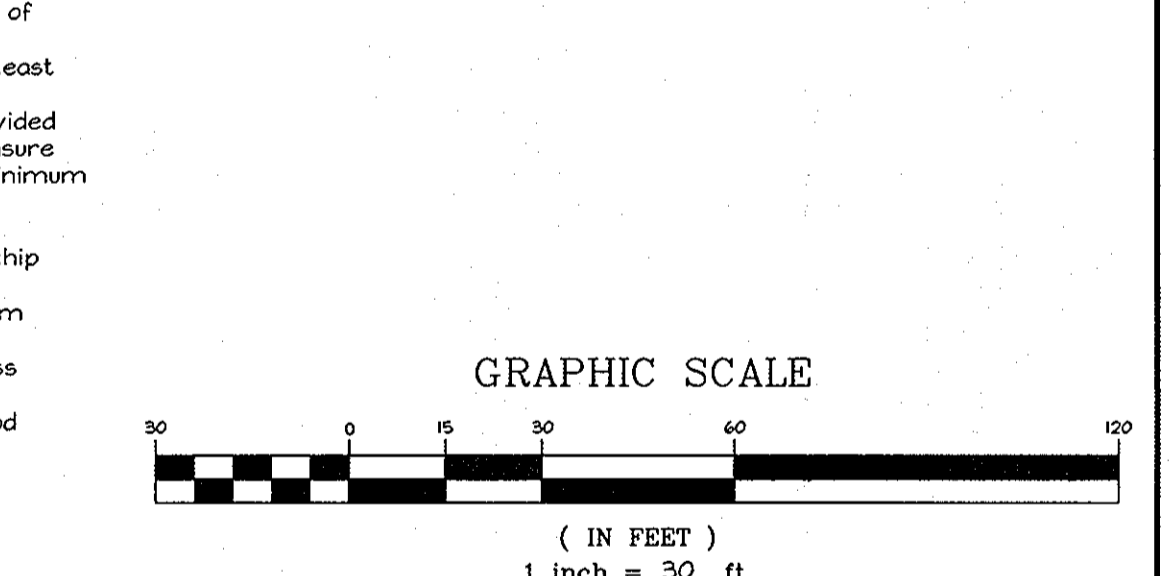
**GENERAL NOTES:**

- The subject property is zoned R-20 per the 2/2/04 Comprehensive Zoning Plan and per Comp-Lite Zoning Regulations dated 7/28/06.
- All construction shall be in accordance with the latest Standards and Specifications of Howard County Design Manual Vol. IV and current MSHA Standards & Specifications.
- Subdivision Name: Lunn Property - Lots 3 & 4  
 Tax Map: Map 37 / Grid 16  
 Section / Area: N/A  
 Lot / Tax Map Parcels: 4 / P/O 210  
 Zoning: R-20  
 ZB / BA Reference: N/A  
 Election District: 1st  
 Final Plan Approval Date: N/A  
 DPZ Reference Number: F98-091, WP 98-11, F92-145, WP 92-06  
 Number of Proposed Lots: 1  
 Max. Lot Coverage Permitted: N/A  
 Submission Area: 0.459 Ac / 20,000 SF  
 Improvement to Property: Single Family Detached Dwelling  
 Current Deed Reference: LOT 4 L. 4611 F. 630
- The boundary shown hereon is based on recorded Plat # 13041 and field boundary evidence recovery by LDE, Inc. dated January, 2010.
- The existing topography is taken from field run survey with maximum two foot contour intervals prepared by LDE, Inc. dated January 2010.
- The coordinates shown hereon are based upon the Howard County Geodetic Control which is based upon the Maryland State Plane Coordinate System - Howard County Meridian Nos. 37BA and 37BB were used in this project. Horizontal and Vertical Datums are related to the Maryland State Plane Coordinate System (NAD 83/NAVD83).
- Any damage caused by the contractor to existing public right-of-way, existing paving, existing curb and gutter, existing utilities, etc. shall be corrected at the contractor's expense.
- The existing utilities shown hereon are located from field surveys and construction drawings of record. The contractor shall locate existing utilities to his own satisfaction and in advance of any construction activities. Additionally, the contractor shall take all necessary precautions to protect all existing utilities and maintain uninterrupted service. Any damage incurred to utilities or existing features due to contractor's operation shall be repaired immediately at the contractor's expense.
- There may be additional utilities not shown on these plans. The engineer assumes no responsibility for utility locations not shown and it shall be the responsibility of the contractor to verify the locations of all existing utilities within the limits of construction and notify the engineer of any discrepancies, prior to the start of construction.
- Site Analysis Data:
  - Total Project Area: 0.459 Acres (20,000 SF)
  - Area of Plan Submission: 0.343 Acres +/-
  - Limit of Disturbed Area: R-20
  - Present Zoning Designation: R-20
  - Proposed Site and Structure Use: 1 SFD home
  - Total Number of Units: 1
  - Building coverage of site: 2,844 SF (0.065 Ac), 14% of site area
- Applicable DPZ File References: F98-091, WP 98-11, F92-145, WP 92-06
- There are no wetlands on this site.
- In accordance with Section 128 of the Howard County Zoning Regulations, bay windows, chimneys or exterior stairways not more than 16 feet in width may project not more than 4 feet into any setbacks, porches or decks, open or enclosed may project not more than 10 feet into the front or rear yard setbacks.
- The existing 30' Private Ingress & Egress Use-in-Common with others by court order dated October 15, 1968 and recorded in Howard County Maryland October 16, 1968 driveway provides vehicular access to Lots 2, 3 and 4 and is property of 100 Investment Limited Partnership L. 2022 / F. 605.
- For flag or pipestem lots, refuse collection, snow removal and road maintenance are provided to the junction of the flag or pipestem and road right-of-way line (Montgomery Road) and not onto the lot driveway. Refuse collection and recycling collection for all lots shall be at Montgomery Road within 5' of the paved roadway.
- See Architectural Plans for building dimensions and design details. Prior to stakout for construction, it shall be the Architect's/Builder's responsibility to provide LDE, Inc. with the most recent set of house plans.
- This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and the Landscaping Manual.
- Financial Surety for Landscaping of \$ 3,900.00 will be posted with the Grading Permit for this lot.
- No grading, removal of vegetative cover or trees, paving and new structures shall be permitted within the required wetlands, streams or their buffers, Forest Conservation Easement areas and 100 Year Floodplain. No wetlands, streams or their buffers Forest Conservation Easement areas or 100 Year Floodplain exist on Lot 4.
- The Contractor or Developer shall notify the Department of Public Works/Bureau of Engineering / Construction Inspection Division at (410) 313-1801 at least five (5) working days prior to the start of work.
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least forty-eight (48) hours prior to any excavation work being done.
- The existing common driveway for Lots 2, 3 and 4 shall be provided prior to residential occupancy permit for any new dwellings to insure safe access for fire and emergency vehicles per the following minimum requirements:
  - Width - 12' (16' serving more than one residence);
  - Surface - 6" of compacted crusher run base with tar and chip coating (1-1/2" min.);
  - Geometry - Max. 15% grade, max. 10% grade change minimum 45 ft. radius;
  - Structures (culverts/bridges) - capable of supporting 25 gross tons (H25 loading);
  - Drainage Elements - capable of safely passing 100 year flood with no more than 1 ft. depth over driveway surface;
  - Maintenance - sufficient to insure all weather use.
- Public water connection is provided for this lot via Water Contract No. 34-14. Public sewer connection will be provided for this lot via Sewer Contract No. 10-1602. The sewer house connection and water house connection within the existing 30' Public Utility Easement shall be installed by the Developers Contractor under the Advanced Deposit Order (ADO) process. The water and sewer connections from the edge of the public easement to the proposed dwelling will be installed under separate permit by the builder's plumber.
- Stormwater Management for the proposed improvements is provided by Non-Structural Practice Disconnection of Non-Roofed Surface, Alternative Surface - Permeable Pavements and the use of a Micro-Scale Practice - Dry Well.
- Any damage to Public "Right-of-Ways" or paved public roads shall be repaired immediately at the contractors expense in accordance with the Howard County Standards and Specifications.
- All fill shall be rolled to a minimum degree of compaction of 98% of the dry unit weight as determined by AASHTO T-180.
- No Note 25.



1" = 2000'

- Earthwork quantities shown on this plan are estimated and should not be used for bid purposes. Contractors should perform independent earthwork analysis for bid purposes.
- Deviations from these plans and specifications without prior written consent of the civil engineer (LDE, Inc.) may cause the work to be unacceptable.
- The dimensioned distances shall govern if scaled and dimensioned distances on this plan are found to be in disagreement.
- See Sheet 4 for Landscaping Schedule 'A', Planting Detail, Landscape Notes and Landscape Perimeter Summary.
- This Project is exempt from the requirements of Section 16.1200 of the Howard County Code for Forest Conservation for development on a single lot less than 40,000 square feet. There is no forest resource onsite.
- This subdivision plan is subject to the amended Fifth Edition of the Subdivision and Land Development Regulations per Council Bill No. 45-2003 effective October 2nd, 2003. Development or construction of this Parcel must comply with setback and buffer regulations in effect at the time of submission of the site development plan, waiver petition application, or building permit application.
- There is no 100 Year Floodplain located on Lot 4.
- There are no on-site and off-site contiguous areas of steep slopes located on this project which comprise an area of 20,000 sq ft or greater.
- This plan is subject to WP 92-06 which granted approval on August 19, 1991 to waive Section 16.115(f)(1) to require all single family residential lots have a minimum frontage on an approved public street right-of-way.
- This plan is subject to WP 99-11 which granted approval on August 26, 1999 to waive Section 16.200(c)(2)(i) to allow single family detached dwellings to have no frontage on a public right-of-way.
- In accordance with Plat # 13041, since access to Montgomery Road is limited to one point of access, which was established by court order dated October 15, 1968, a Sight Distance Analysis was not prepared.
- The minimum sewer service elevation 365.4 is shown on Contract 10-1602; contractor shall verify elevations.
- Minimum gradient shall be 2-1/2" per foot (21%) for a minimum of 4 feet away from all building walls, except where restricted by property lines.
- Minimum gradient for concrete or other impervious surfaces shall be 1/4" per foot (2%). Minimum gradient for pervious surfaces shall be 1/4" per foot (2%).
- The public water connection shall be 3/4" with a public water meter located outside the proposed house.



**ADDRESS CHART**

| Lot/Parcel# | Street Address       |
|-------------|----------------------|
| 4 / P/O 210 | 6166 Montgomery Road |

**PERMIT INFORMATION CHART**

| Subdivision Name:          |          | Section/Area | Lot/Parcel No. |                   |              |
|----------------------------|----------|--------------|----------------|-------------------|--------------|
| LUNN PROPERTY - Lots 3 & 4 |          | N/A          | 4 / P/O 210    |                   |              |
| Plat# or L/F               | Grid No. | Zoning       | Tax Map No.    | Election District | Census Tract |
| 4611/630                   | 4        | R-20         | 37             | 1st               | 6011.01      |
| Water Code                 | xx       | Sewer Code   | xxx            |                   |              |

**LDE Inc.**  
 Engineers, Surveyors, Planners  
 9250 Ramsay Road, Suite 106 Columbia, Maryland - 21045  
 (410)715-1070 - (301)596-3424 - FAX (410)715-9540

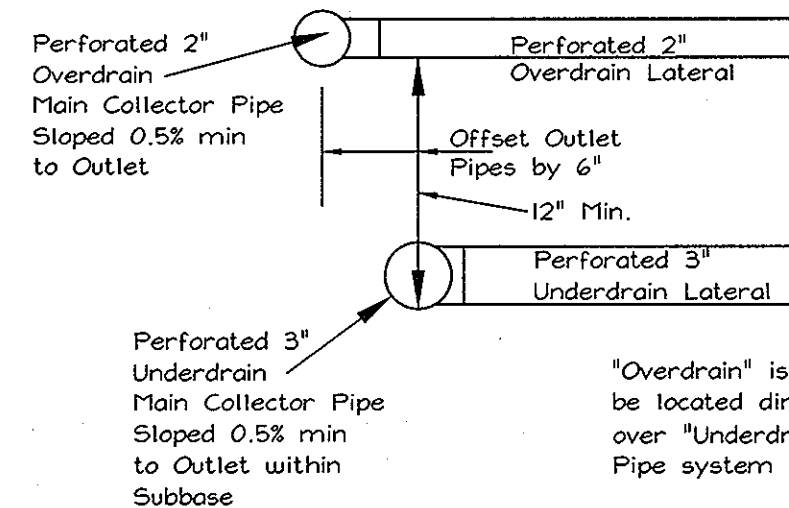
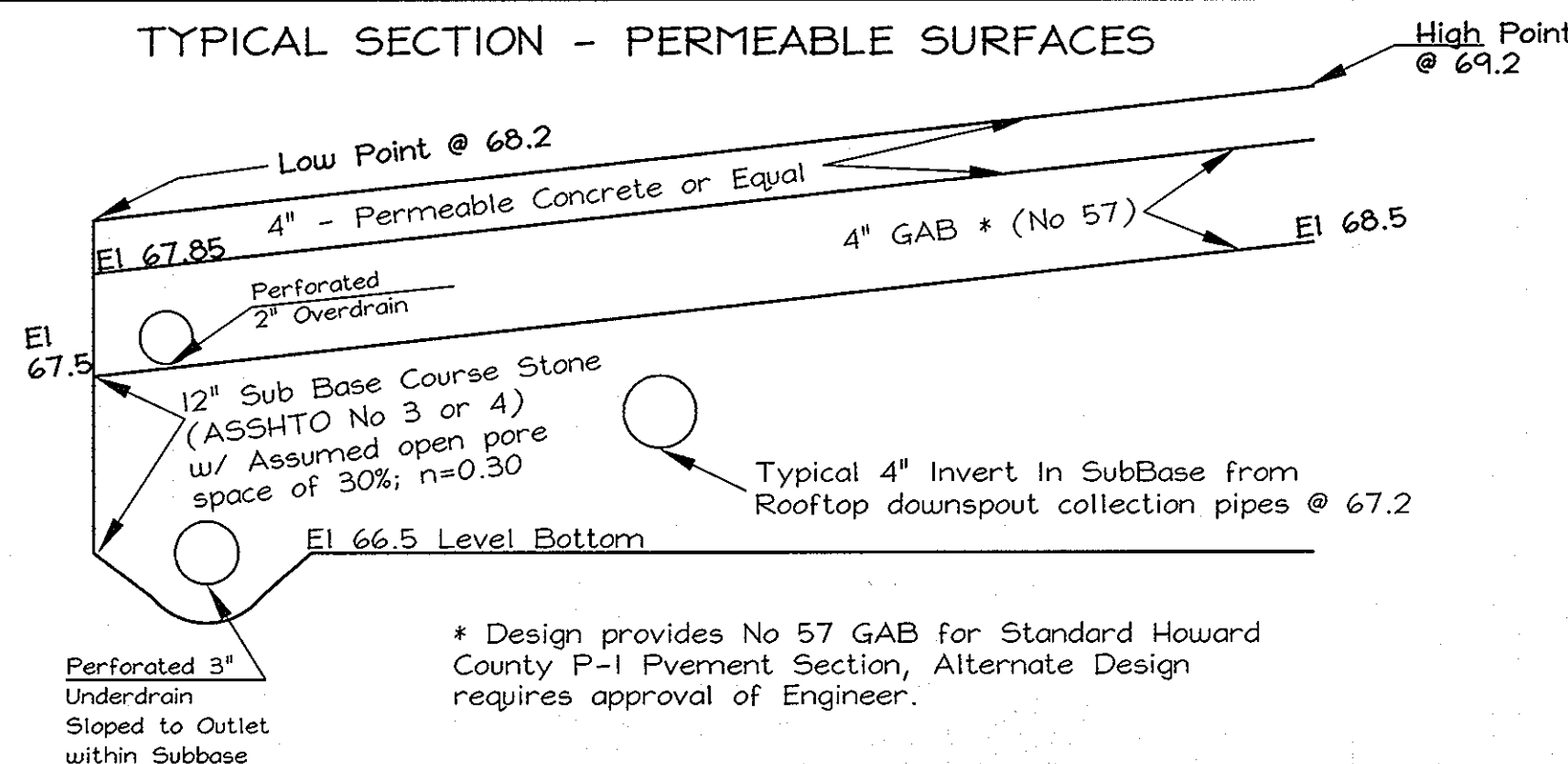
| DESIGNED  | EDS                        | SCALE                       |
|---|----------------------------|-----------------------------|
| SITE DEVELOPMENT PLAN                                     |                            | 1"=30'                      |
| DRAWN   | LDE                        | DRAWING                     |
| GUTIERREZ RESIDENCE                                       |                            | 1 OF 4                      |
| LUNN PROPERTY   |                            | JOB NO.                     |
| LOT 4 - PLAT # 13041                                      |                            | 10-001                      |
| FOR SINGLE FAMILY DWELLING                                |                            | FILE NO.                    |
| TAX MAP 37 GRID 4 PARCEL 210                              |                            | SDP                         |
| 1st ELECTION DISTRICT HOWARD COUNTY MD                    |                            | 10-099                      |
| Previous Submittals: F98-091, WP 98-11, F92-145, WP 92-06 |                            |                             |
| ECP 10-010  |                            |                             |
| DATE  | OWNER:                     | BUILDER/DEVELOPER:          |
| 6/2010  | Martin & Cynthia Gutierrez | 6166 Montgomery Road        |
|   | Elkridge, MD 20775-5911    | 7520 Main Street, Suite 204 |
|   | 410-379-1369               | Sykesville, MD 21784        |
|   |                            | 410-781-4844                |



**TYPICAL SECTION - PERMEABLE SURFACES**

**TYPICAL SECTION OVERDRAIN / UNDERDRAIN LOCATIONS**

**SEQUENCE OF CONSTRUCTION**



**INSPECTION CHART FOR PERMEABLE SURFACES**

| STAGE   | Engineer's Approval |
|---|---------------------|
|   | Initials Date       |
| 1. During excavation to subgrade. Bottom shall be level / 0%.                             |                     |
| 2. During placement and backfill of any drainage or distribution system(s) (Appendix B.4) |                     |
| 3. During placement of the crushed stone subbase material (Appendix B.4)                  |                     |
| 4. During placement and backfill of overdrain distribution system                         |                     |
| 5. During placement of the surface material (See Appendix B.4)                            |                     |
| 6. Upon completion of final grading and establishment of permanent stabilization.         |                     |

**MAINTENANCE CRITERIA FOR PERMEABLE SURFACES**

Engineer's Name: LDE, Inc.  
 Phone Number: 410-715-1070

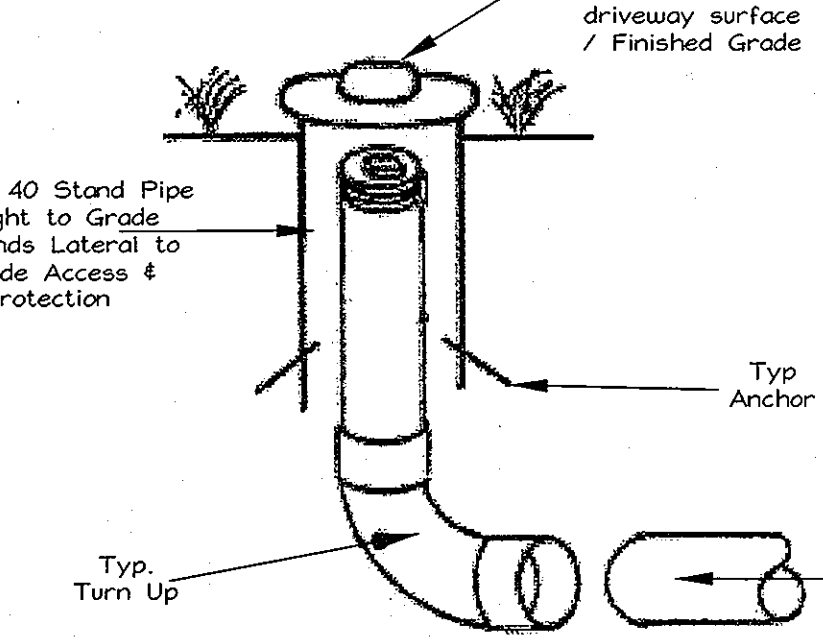
**CONSTRUCTION CRITERIA FOR PERMEABLE SURFACES**

- Final grading for installation should not take place until surrounding site is stabilized. If this can not be accomplished, runoff from disturbed areas shall be diverted around proposed pavement location.
- Sub soils shall not be compacted. Construction should be performed with lightweight, wide tracked equipment to minimize compaction. Excavated materials should be placed in a contained area.
- Distribution Pipes - N/A.
- Subbase aggregate shall be clean and free of fines. The subbase shall be placed in lifts and lightly rolled according to the specifications (Appendix B.4).

**MAINTENANCE CRITERIA FOR PERMEABLE SURFACES**

- Pavements should be used only where regular maintenance can be performed.
- Pavement surfaces should be swept and vacuumed to reduce sediment accumulation and ensure continued surface porosity. Sweeping should occur twice annually with commercial cleaning unit. Washing system or compressed air should not be used to perform surface cleaning.
- Trucks and other heavy vehicles can grind dirt and grit into the porous surfaces, leading to clogging and permeability failure. These vehicles should be prevented from tracking and spilling material onto the pavement.
- Deicers should be used in moderation. When used, deicers should be non-toxic and organic and can be applied either as calcium magnesium acetate or as pretreated salt. Snow plowing should be done carefully with blades set one-inch higher than normal. Plowed snow and slush should not be directed to permeable pavements.

**TYPICAL CLEANOUT 2" OVERDRAIN LATERAL**  
SCALE: N.T.S.



**B.4.B Specifications for Permeable Surfaces**

These specifications include information on acceptable materials for typical applications and are not exclusive or limiting.

**1. Pervious Concrete Specifications**

Design Thickness - Pervious concrete applications shall be designed so that the thickness of the concrete slab shall support the traffic and vehicle types that will be carried. Applications may be designed using either standard pavement procedures (e.g., AASHTO, ACI 325.9R, ACI 330R) or using structural values derived from flexible pavement design procedures.

Mix & Installation - Traditional Portland cements (ASTM C 150, C 1157) may be used in pervious concrete applications. Phosphorus admixtures may also be used. Materials should be tested (e.g., trial batching) prior to construction so that critical properties (e.g., setting time, rate of strength development, porosity, permeability) can be determined.

Aggregate - Pervious concrete contains a limited fine aggregate content. Commonly used gradations include ASTM C 33 No. 67 (3/4 in. to No. 4), No. 8 (3/8 in. to No. 16) and No. 89 (3/8 in. to No. 50) sieves. Single-sized aggregate (up to 1 inch) may be used.

Water Content - Water-to-cement ratios between 0.27 and 0.30 are used routinely with proper inclusion of chemical admixtures. Water quality should meet ACI 30a. As a general rule, potable water should be used although recycled concrete production water meeting ASTM C 34 or AASHTO M 157 may also be used.

Admixtures - Chemical admixtures (e.g., retarders or hydration-stabilizers) are used to obtain special properties in pervious concrete. Use of admixtures should meet ASTM C 494 (chemical admixtures) and ASTM C 260 (air entraining admixtures) and closely follow manufacturer's recommendations.

Base Course - The base course shall be AASHTO No. 3 or 4 course aggregate with an assumed open pore space of 30% (a = 0.30).

**2. Permeable Interlocking Concrete Pavements (PICP)**

Paver Blocks - Blocks should be either 3 in. or 4 in. thick, and meet ASTM C 936 or CSA A231.2 requirements. Applications should have 20% or more (40% preferred) of the surface area open. Installation should follow manufacturers instructions, except that infill and base course materials and dimensions specified in this Appendix shall be followed.

Infill Materials and Leveling Course - Openings shall be filled with ASTM C-33 graded sand or sandy loam. PICP blocks shall be placed on a one-inch thick leveling course of ASTM C-33 sand.

Base Course - The base course shall be AASHTO No. 3 or 4 course aggregate with an assumed open pore space of 30% (n = 0.30).

**Overdrain / Underdrain**

Drains should meet the following criteria:

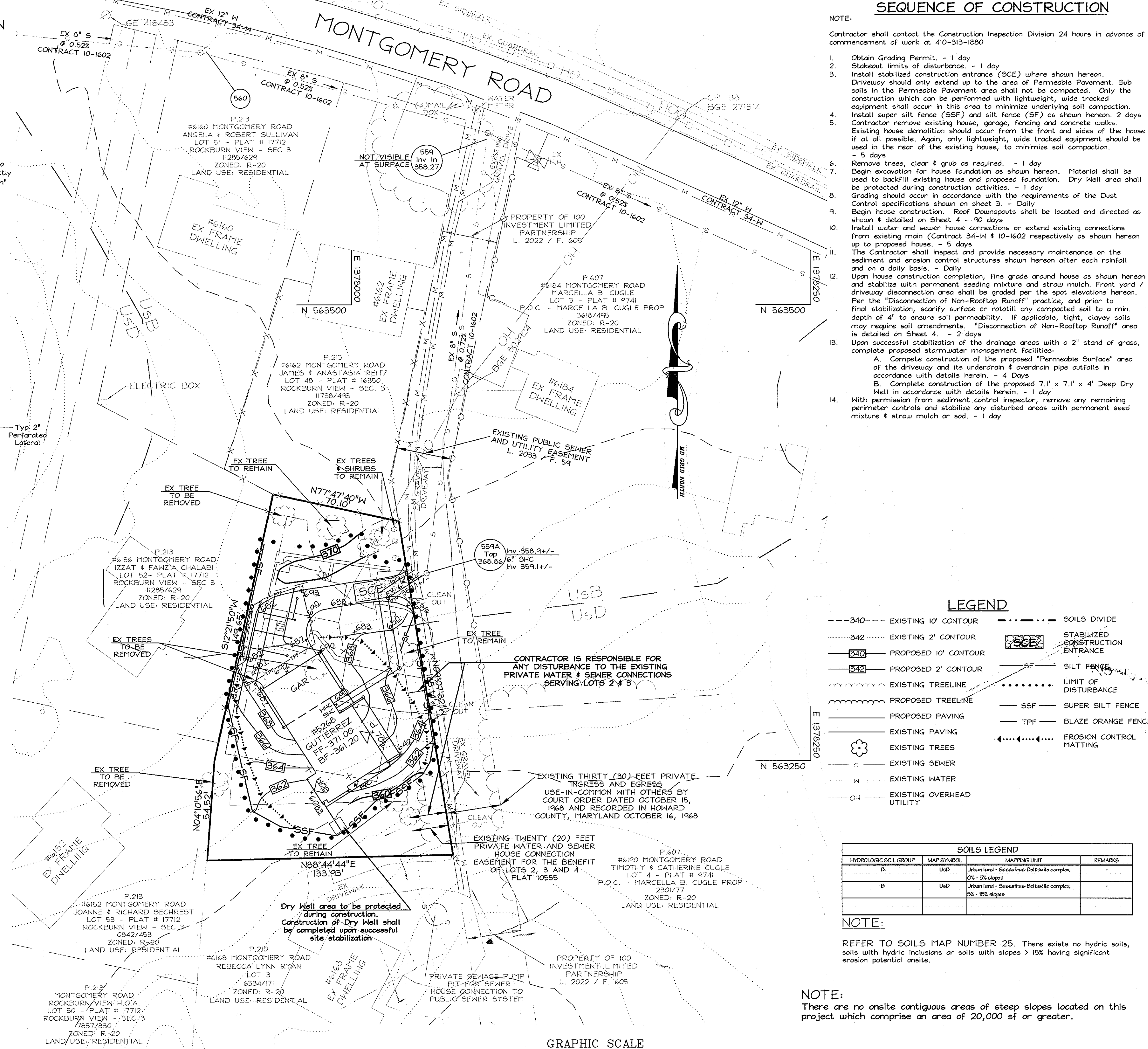
- Pipe - Should be 2" & 3" diameter, perforated rigid plastic pipe (ASTM F 758, Type PS 28, or AASHTO-M1-278) in a gravel layer. The preferred material is rigid pipe (e.g., PVC, HDPE or SDR35).
- Perforations - perforations should be 3/8" diameter located 6" on center with a minimum of four holes per row for 3" pipe & minimum of three holes per row for 2" pipe. Pipe shall be wrapped with a 1/2" (No. 40-4x4) galvanized hardware cloth.
- Gravel - The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the underdrain.
- The main collector pipe shall be at a minimum 0.5% slope.
- Rigid, non-perforated observation wells must be provided (one per every 1,000 square feet) to provide a clean-out port and monitor performance.

**Miscellaneous**

These practices may not be constructed until all contributing drainage area has been stabilized

**NOTE:**

LDE, Inc. provides that listed in Appendix B.4. of the 2000 Maryland Stormwater Design Manual Volume 2 as guidelines to contractor and guidance in the shown overdrain & underdrain system. The contractor shall provide verification that the materials used meet the specifications shown within Appendix B.4.



**LEGEND**

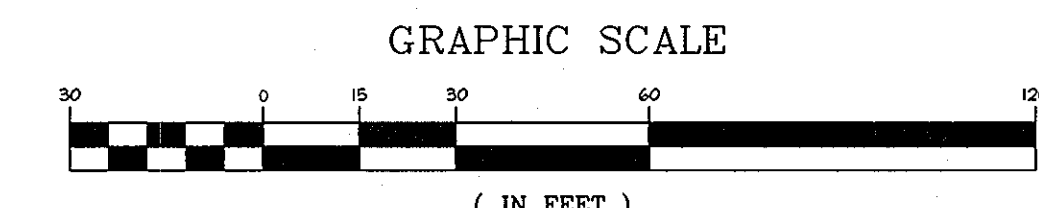
- 340--- EXISTING 10' CONTOUR
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- 342--- PROPOSED 2' CONTOUR
- --- EXISTING TREELINE
- --- PROPOSED TREELINE
- --- EXISTING PAVING
- --- EXISTING TREES
- --- EXISTING SEWER
- --- EXISTING WATER
- --- EXISTING OVERHEAD UTILITY
- --- SOILS DIVIDE
- --- STABILIZED CONSTRUCTION ENTRANCE
- --- SILT FENCE
- --- LIMIT OF DISTURBANCE
- --- SUPER SILT FENCE
- --- BLAZE ORANGE FENCE
- --- EROSION CONTROL MATTING

**SOILS LEGEND**

| HYDROLOGIC SOIL GROUP | MAP SYMBOL | MAPPING UNIT  | REMARKS |
|-----------------------|------------|---|---------|
| B                     | UsB        | Urban land - Sassafras-Beltsville complex, 0% - 15% slope |         |
| B                     | Ud         | Urban land - Sassafras-Beltsville complex, 0% - 15% slope |         |

**NOTE:** REFER TO SOILS MAP NUMBER 25. There exists no hydric soils, soils with hydric inclusions or soils with slopes > 15% having significant erosion potential onsite.

**NOTE:** There are no onsite contiguous areas of steep slopes located on this project which comprise an area of 20,000 sf or greater.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 10/7/10  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* 10/12/10  
 CHIEF, DIVISION OF LAND DEVELOPMENT

*[Signature]* 10/12/10  
 DIRECTOR

**DEVELOPER'S / BUILDER'S CERTIFICATION**

I CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE LANDSCAPE MANUAL. I FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF NOTICE, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, AND A COPY OF THIS PLAN WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 9-22-10  
 SIGNATURE OF DEVELOPER / BUILDER

*[Signature]* 9/23/10  
 SIGNATURE OF DEVELOPER / BUILDER

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

*[Signature]* 9/23/10  
 HOWARD SOIL CONSERVATION DISTRICT

**ENGINEER'S 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 AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 9/23/10  
 SIGNATURE OF ENGINEER

**DEVELOPER'S CERTIFICATE**

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE 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.

*[Signature]* 9-22-10  
 SIGNATURE OF DEVELOPER

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. 19184, EXPIRATION DATE, 6/30/11.

*[Signature]* 9/23/10  
 SIGNATURE OF ENGINEER

*[Seal]*  
 BRUCE D. BURTON  
 PROFESSIONAL ENGINEER

**REVISIONS**

| No. | Date   | By  | Description                  |
|-----|--------|-----|------------------------------|
| 1   | 7/2010 | LDE | Address Project Dcx Comments |

**LDE Inc.**  
 Engineers, Surveyors, Planners  
 9250 Ramsey Road, Suite 106 Columbia, Maryland - 21045  
 (410)715-1070 - (800)596-3424 - FAX (410)715-9240

DESIGNED: GRADING, SOIL EROSION & SEDIMENT CONTROL PLAN

DRAWN: **GUTIERREZ RESIDENCE**  
 L.4611 / F.630

CHECKED: **LUNN PROPERTY**  
 LOT 4 - PLAT # 13041  
 FOR SINGLE FAMILY DWELLING

DATE: 6/2010

OWNER: Martin & Cynthia Gutierrez  
 6166 Montgomery Road  
 Elkridge, MD 21075-5911  
 410-379-1869

BUILDER/DEVELOPER: BASLOW HOMES  
 7520 Main Street, Suite 204  
 Sykesville, MD 21784  
 410-781-4844

SCALE: 1"=30'

DRAWING: 2 OF 4

JOB NO.: 10-001

FILE NO.: SDP 10-099



**HOWARD SOIL CONSERVATION DISTRICT  
STANDARD SEDIMENT CONTROL NOTES**

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction, (318-1855).
- 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 SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", and revisions thereto.
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter 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 7, 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 (Section G) for permanent seeding, sod, temporary seeding, and mulching. 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.

7. Site Analysis:

|                                    |                             |
|------------------------------------|-----------------------------|
| Total Area of Site                 | 0.459 Acres or 20,000 sq ft |
| Area Disturbed                     | 0.343 Acres or 14,950 sq ft |
| Area to be roofed or paved         | 0.116 Acres                 |
| Area to be vegetatively stabilized | 0.227 Acres                 |
| Total Cut                          | 600 Cu. Yds. ±              |
| Total Fill                         | 500 Cu. Yds. ±              |

\* Contractor shall complete their own earthquake analysis  
Offsite waste/borrow area location N/A

**HOWARD SOIL CONSERVATION DISTRICT  
PERMANENT SEEDING NOTES**

- Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
- SEEDBED PREPARATION:** Loosen upper three inches of soil by raking, disking, or other acceptable means before seeding, if not previously loosened.
- SOIL AMENDMENTS:** In lieu of soil test recommendations, use one of the following schedules:
- PREFERRED** Apply 2 tons per acre dolomitic limestone (42 lbs/1000sq.ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil, at time of seeding, apply 400 lbs per acre 30-0-0 ureiform fertilizer (9 lbs/1000sq.ft.).
  - ACCEPTABLE** Apply 2 tons per acre dolomitic limestone (42 lbs/1000sq.ft.) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.
- SEEDING** For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs per acre (1.4 lbs/1000sq. ft.) of Kentucky 31 Tall Fescue and 2 lbs. per acre (.05 lbs/1000sq. ft.) of weeping lovegrass. During the period of October 16 thru February 28, protect site by Option (1) - 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) - Use sod. Option (3) - Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch 2 tons / acre well anchored straw.
- MULCHING** Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000sq. ft.) of unrattled small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000sq. ft.) for anchoring.
- MAINTENANCE** Inspect all seeding areas and make needed repairs, replacements and reseeds.

**HOWARD SOIL CONSERVATION DISTRICT  
TEMPORARY SEEDING NOTES**

- Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.
- SEEDBED PREPARATION:** Loosen upper three inches of soil by raking, disking, or other acceptable means before seeding, if not previously loosened.
- SOIL AMENDMENTS:** Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000sq. ft.).
- SEEDING** For periods March 1 thru April 30, and from August 15 thru October 15 seed with 2-12 bushels per acre of annual ryegrass (3.2 lbs/1000sq. ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (.07 lbs/1000sq. ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.
- MULCHING** Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000sq. ft.) of unrattled weed free small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000sq. ft.) for anchoring.
- Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

**21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL**

**Definition:** Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

**Excavate:** 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 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 shown on the plans.

**Construction and Material Specifications:**

- Topsoil salvaged from the existing site may be used provided that it meets the standards 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:
  - Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 2' fence shall be used, substituting 42" fabric and 6" length posts.
  - Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
  - Filter cloth shall be fastened to the chain link fence with ties spaced every 24" at the top and mid section.
  - Filter cloth shall be embedded a minimum of 6" into the ground.
  - When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
  - Maintenance shall be performed as needed and silt bulges removed when bulges develop in the silt fence, or when 1/2 of fence height silt reaches 50'.
  - Filter cloth shall be fastened securely to each fence post, with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:
 

|                      |                           |                |
|----------------------|---------------------------|----------------|
| Tensile Strength     | 50 lbs/in (min.)          | Test: FHST 509 |
| Tensile Modulus      | 20 lbs/in (min.)          | Test: FHST 509 |
| Flow Rate            | 0.3 gal ft./minute (max.) | Test: FHST 322 |
| Filtering Efficiency | 75% (min.)                | Test: FHST 322 |
- 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:
  - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
  - On all 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 (14 days min.) to permit dissipation of phytotoxic materials, 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 1 - 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 compact 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 seed 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 composted sludge is used, the requirements for 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.

**References:** Guidelines Specifications, Soil Preparation and Sodding, MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institute, Revised 1978.

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| U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE | PAGE G-21 thru 3 | MARYLAND DEPARTMENT OF ENVIRONMENT - WATER MANAGEMENT ADMINISTRATION |
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**DETAIL 33 - SUPER SILT FENCE**

**Construction Specifications:**

- Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 2' fence shall be used, substituting 42" fabric and 6" length posts.
- Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
- Filter cloth shall be fastened to the chain link fence with ties spaced every 24" at the top and mid section.
- Filter cloth shall be embedded a minimum of 6" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and silt bulges removed when bulges develop in the silt fence, or when 1/2 of fence height silt reaches 50'.
- Filter cloth shall be fastened securely to each fence post, with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:
 

|                      |                           |                |
|----------------------|---------------------------|----------------|
| Tensile Strength     | 50 lbs/in (min.)          | Test: FHST 509 |
| Tensile Modulus      | 20 lbs/in (min.)          | Test: FHST 509 |
| Flow Rate            | 0.3 gal ft./minute (max.) | Test: FHST 322 |
| Filtering Efficiency | 75% (min.)                | Test: FHST 322 |

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| U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE | PAGE H-26-3 | MARYLAND DEPARTMENT OF ENVIRONMENT - WATER MANAGEMENT ADMINISTRATION |
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**DETAIL 22 - SILT FENCE**

**Construction Specifications:**

- Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1/2" x 1/2" square (minimum) cut, or 1 1/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighing not less than 120 pound per linear foot.
- Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:
 

|                      |                           |                |
|----------------------|---------------------------|----------------|
| Tensile Strength     | 50 lbs/in (min.)          | Test: FHST 509 |
| Tensile Modulus      | 20 lbs/in (min.)          | Test: FHST 509 |
| Flow Rate            | 0.3 gal ft./minute (max.) | Test: FHST 322 |
| Filtering Efficiency | 75% (min.)                | Test: FHST 322 |
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment by-pass.
- Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

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| U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE | PAGE E-15-3 | MARYLAND DEPARTMENT OF ENVIRONMENT - WATER MANAGEMENT ADMINISTRATION |
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**DETAIL 30 - EROSION CONTROL MATTING**

**Construction Specifications:**

- Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".
- Staple the 4" overlap in the channel center using an 18" spacing between staples.
- Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
- Staples shall be placed 2' apart with 4' rows for each strip, 2' outer rows, and 2' alternating rows down the center.
- Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", shingle fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
- The discharge end of the matting line should be similarly secured with 2 double rows of staples.

Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

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| U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE | PAGE G-22-2 | MARYLAND DEPARTMENT OF ENVIRONMENT - WATER MANAGEMENT ADMINISTRATION |
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**EROSION CONTROL MATTING**

**Construction Specifications:**

- Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".
- Staple the 4" overlap in the channel center using an 18" spacing between staples.
- Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
- Staples shall be placed 2' apart with 4' rows for each strip, 2' outer rows, and 2' alternating rows down the center.
- Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", shingle fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
- The discharge end of the matting line should be similarly secured with 2 double rows of staples.

Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

|  |              |  |
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| U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE | PAGE G-22-2A | MARYLAND DEPARTMENT OF ENVIRONMENT - WATER MANAGEMENT ADMINISTRATION |
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**DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE**

**Construction Specification:**

- Length - minimum of 50' (+30' for single residence lot).
- Width - 10' minimum, should be flared at the existing road to provide a turning radius.
- Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. If the geotextile fabric is not required, single family residences to use geotextile.
- Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
- Surface Water - all surface water flowing to an diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with soil slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 4" minimum will be required.
- Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

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| U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE | PAGE F-17-3 | MARYLAND DEPARTMENT OF ENVIRONMENT - WATER MANAGEMENT ADMINISTRATION |
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**SECTION 30.0 - DUST CONTROL**

**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:**

- Mulches- See standards for vegetative stabilization with mulches only. Mulch should be crimped or tacked 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, snow 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.

**Temporary Methods:**

**Permanent Methods:**

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

**References:**

- Agriculture Handbook, 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.

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| U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE | PAGE H-30-1 | MARYLAND DEPARTMENT OF ENVIRONMENT - WATER MANAGEMENT ADMINISTRATION |
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**NOTE:**

Quantities are provided for informational purposes only and are based upon comparison of existing ground to proposed grades shown herein. Contractor to make his own analysis prior to placing a bid on grading work / earthwork.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

10/7/10 DATE

10/12/10 DATE

10/12/10 DATE

DIRECTOR

**DEVELOPER'S / BUILDER'S CERTIFICATION**

I CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE LANDSCAPE MANUAL. I FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF NOTICE, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, AND A COPY OF THIS PLAN WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

SIGNATURE OF DEVELOPER / BUILDER

9-22-10 DATE

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

SIGNATURE OF DEVELOPER

9/22/10 DATE

HOWARD SOIL CONSERVATION DISTRICT

**ENGINEER'S 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 AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF ENGINEER

9/22/10 DATE

**DEVELOPER'S CERTIFICATE**

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL REASONABLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE 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.

SIGNATURE OF DEVELOPER

9-22-10 DATE

HOWARD SASLOW

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. 19184, EXPIRATION DATE 12/31/10.

SIGNED

BRUCE D. BURTON

DATE 9/22/10

**REVISIONS**

| No. | Date   | By  | Description                  |
|-----|--------|-----|------------------------------|
| 1   | 7/2010 | LDE | Address Project Dwg Comments |

**LDE Inc.**

Engineers, Surveyors, Planners

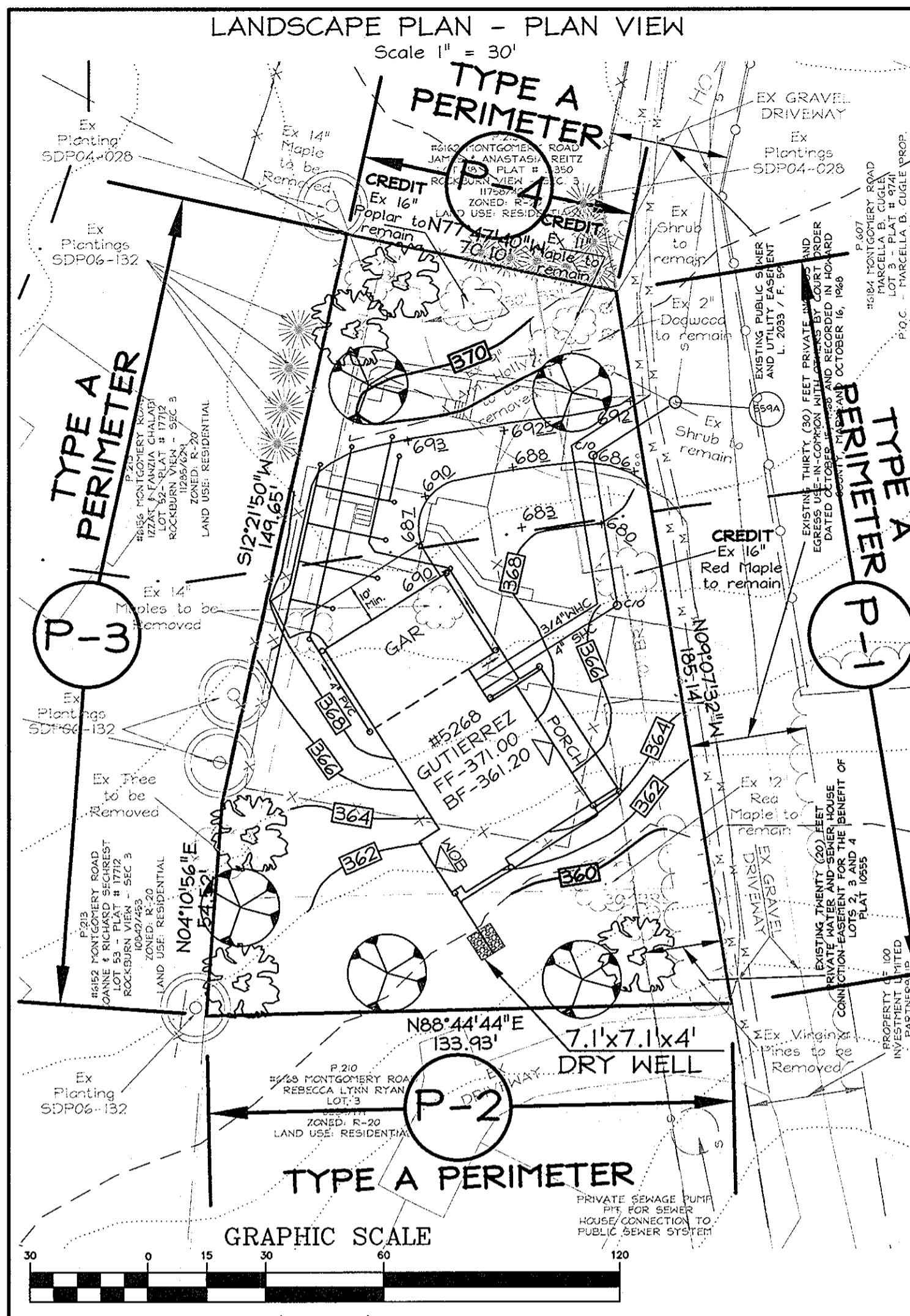
9250 Runney Road, Suite 106 Columbia, Maryland - 21045

(410)715-1070 - (201)596-3424 - FAX(410)715-9240

|          |   |                             |          |
|----------|---|-----------------------------|----------|
| DESIGNED | GRADING, SOIL EROSION & SEDIMENT CONTROL PLAN - DETAILS | SCALE                       | As Shown |
| EDS      |   | DRAWING                     |          |
| DRAWN    |   |                             |          |
| LDE      |   |                             |          |
| CHECKED  | TAX MAP 37 GRID 4 PARCEL 210                            | JOB NO.                     | 10-001   |
| BDB      | 1st ELECTION DISTRICT HOWARD COUNTY MD                  | FILE NO.                    | SDP      |
| DATE     | 6/2010  | OWNER:                      | 6/2010   |
|          |   | BUILDER/DEVELOPER:          | 6/2010   |
|          |   | Martin & Cynthia Gutierrez  | 6/2010   |
|          |   | 1616 Montgomerie Rd         | 6/2010   |
|          |   | Elkridge, MD 21075-5911     | 6/2010   |
|          |   | 410-378-1969                | 6/2010   |
|          |   | 7520 Main Street, Suite 204 | 6/2010   |
|          |   | Sykesville, MD 21784        | 6/2010   |
|          |   | 410-781-4844                | 6/2010   |

SDP-10-099



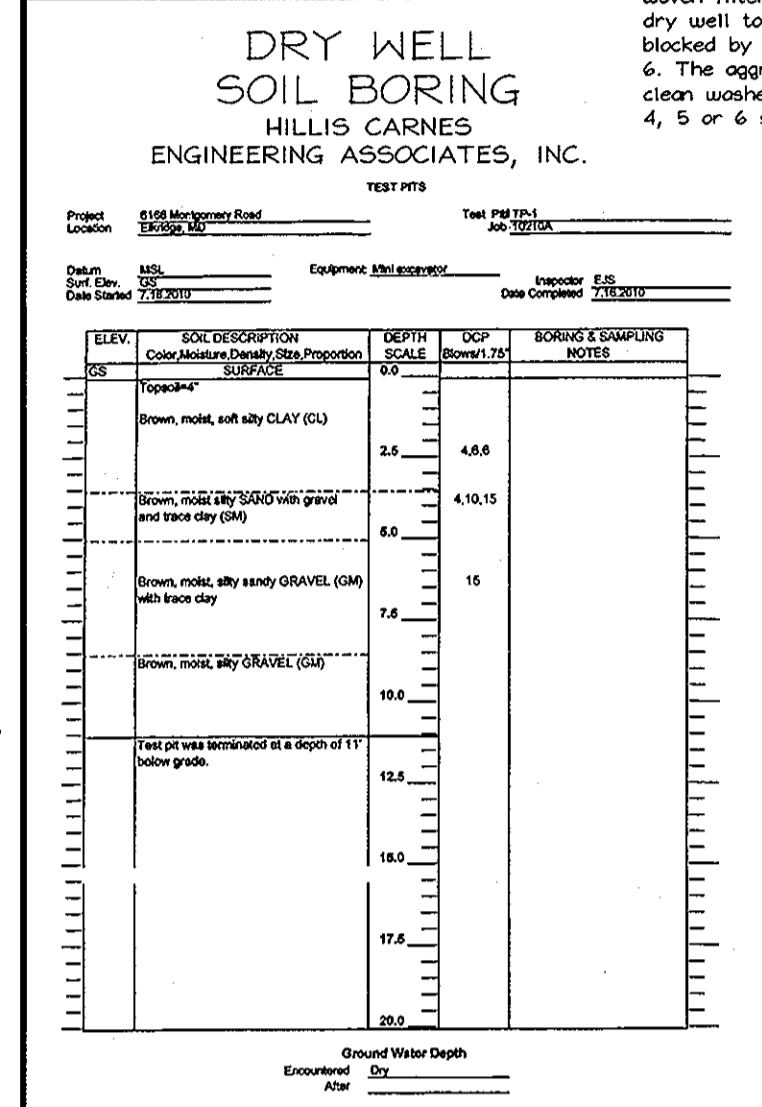


**GENERAL NOTES**

- This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and Landscape Manual.
- The Owner/Developer is responsible for the planting of all plant material required to meet the standards established by the Howard County Landscape Manual.
- The Landscape surety of \$ 3,900.00 will be posted with the Grading Permit for this lot.
- Should any tree designated for preservation for which landscaping credit is given, die prior to release of bonds, the owner will be required to replace the tree with the equivalent species or with a tree which will obtain the same height, spread and growth characteristics. The replacement tree must be a minimum of 3 inches in caliper and installed as required in the Howard County 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 material shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition and when necessary repaired and replaced.
- At the time of installation, all shrubs and other plantings herewith listed and approved for this site, shall be of the proper height requirements in accordance with the Howard County Landscaping Manual. In addition, no substitutions or relocation of required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviation from this approved from the Department of Planning and Zoning in the release of landscape surety until such time as all required materials are planted and/or revision made to applicable plans and certificates.

**TREE PLANTING NOTES**

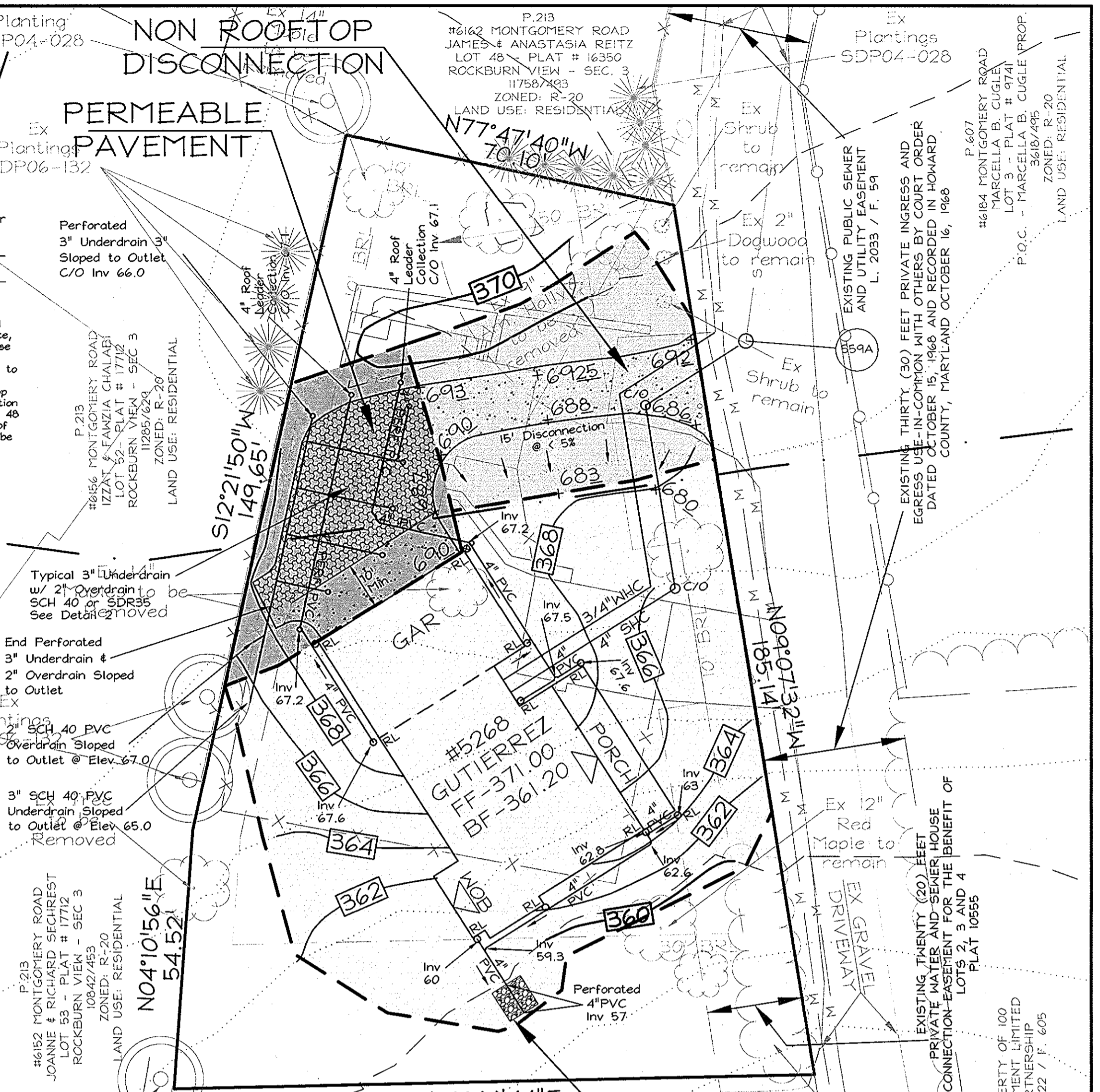
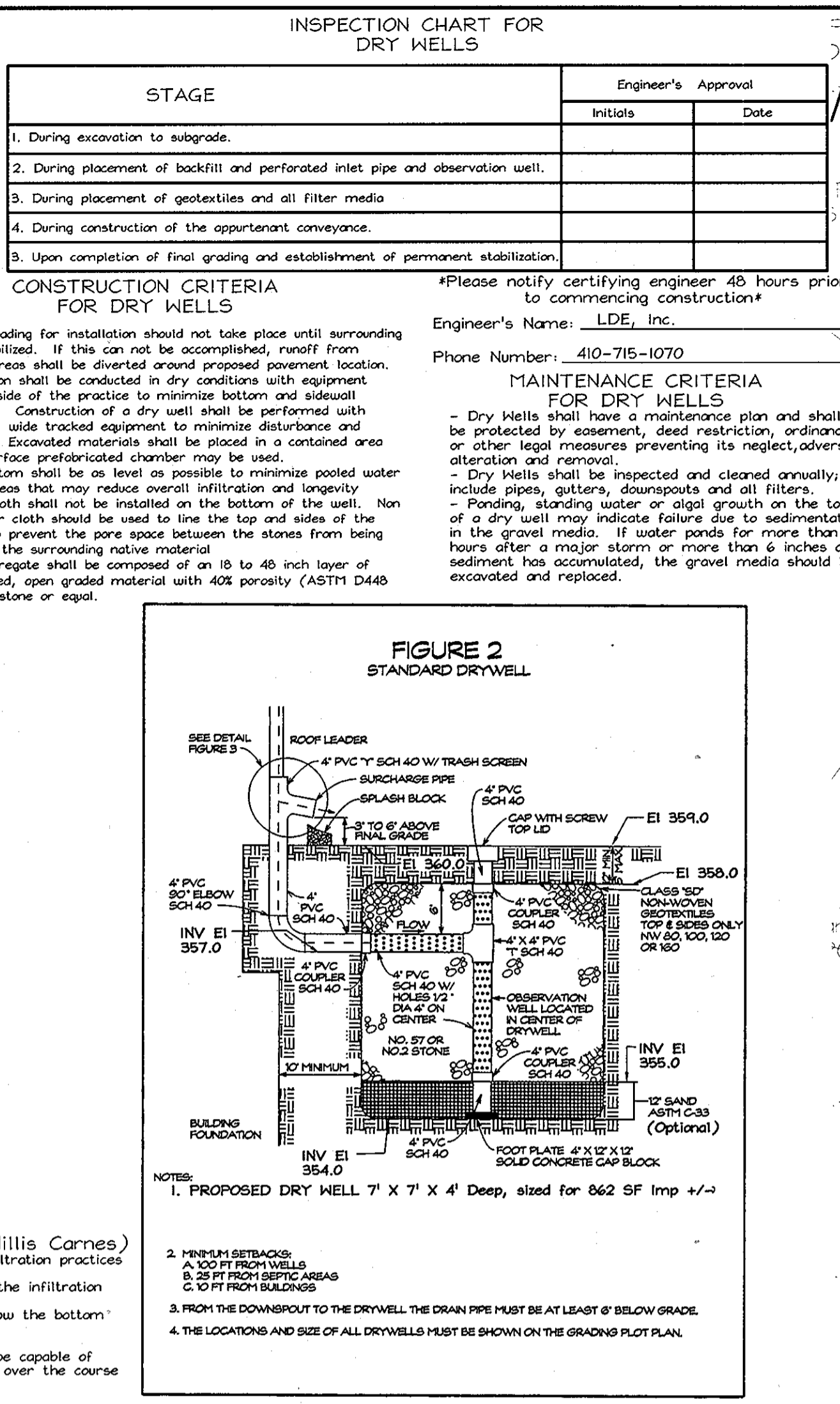
- Notify "Miss Utility" 72 hours prior to installation of all plant material.
- Plant installation must conform to the minimum standards cited in the latest edition of Landscape Specification Guidelines, published by the Landscape Contractors Association.
- Plants to be located in the field by the owner or owner's representative. Notify owner 72 hours in advance of planting.
- A Certification of Landscape Installation is required as per the Howard County Landscape Ordinance.
- The number, size, location, plant shall not be changed without the approval of the Landscape Architect. Substitutions must be included in the recommended plant list in the Howard County Landscape Ordinance.
- Trees may not be planted within 5 feet of drain inlets, 5 feet of an open space access strip and 10 feet of a driveway.
- Balled and burlapped plant material shall not be accepted if ball is cracked or broken before or during planting. Protect all plants from drying by either sun or wind.
- Tree pits shall be backfilled with 50% topsoil, 25% peat 25% sand with one pound of 10-10-10 fertilizer per pit.
- Top soil shall be sandy loam soil free from noxious weeds or grasses, roots, clay clumps, stones, sticks, etc. Peat moss shall be commercial with pH 4.5 to 5.5, free of woody material or harmful minerals.
- All plants shall be watered at planting with weekly watering thereafter for the first 80 days. Watering shall continue bimonthly or as necessary to maintain plants in a healthy condition during the quarantine period.
- Maintain the site in an orderly manner. Streets and sidewalks shall be swept clean. All rejected or dead materials shall be immediately removed from the site.
- Plant material to be alive and healthy at the time of the guarantee period (one year), as specified in the Howard County Landscape Ordinance.
- Maintenance shall begin immediately after planting and continue to the end of guaranteed period.
- Maintenance consists of pruning, watering, weeding, re-mulching, resetting plants to proper grades as needed and repairing guys and stakes as needed.



**CONCLUSIONS AND RECOMMENDATIONS (Hills Carnes)**

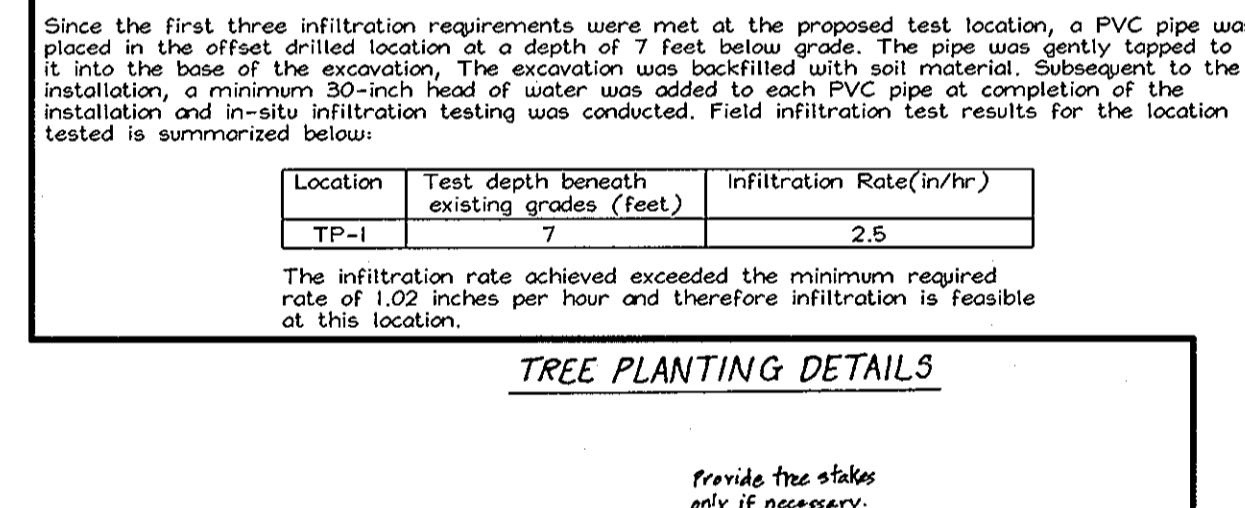
The primary criteria for a site to be deemed suitable for infiltration practices are:

- Typical groundwater levels must be deeper than 4 feet below the bottom of the infiltration facility.
- Infiltration must take place in natural ground.
- The natural soils below the placed infiltration media must be capable of sustaining a minimum infiltration rate of 1.02 inches per hour over the course of a four-hour field infiltration test.



**PERIMETER PLANTING SCHEDULE**

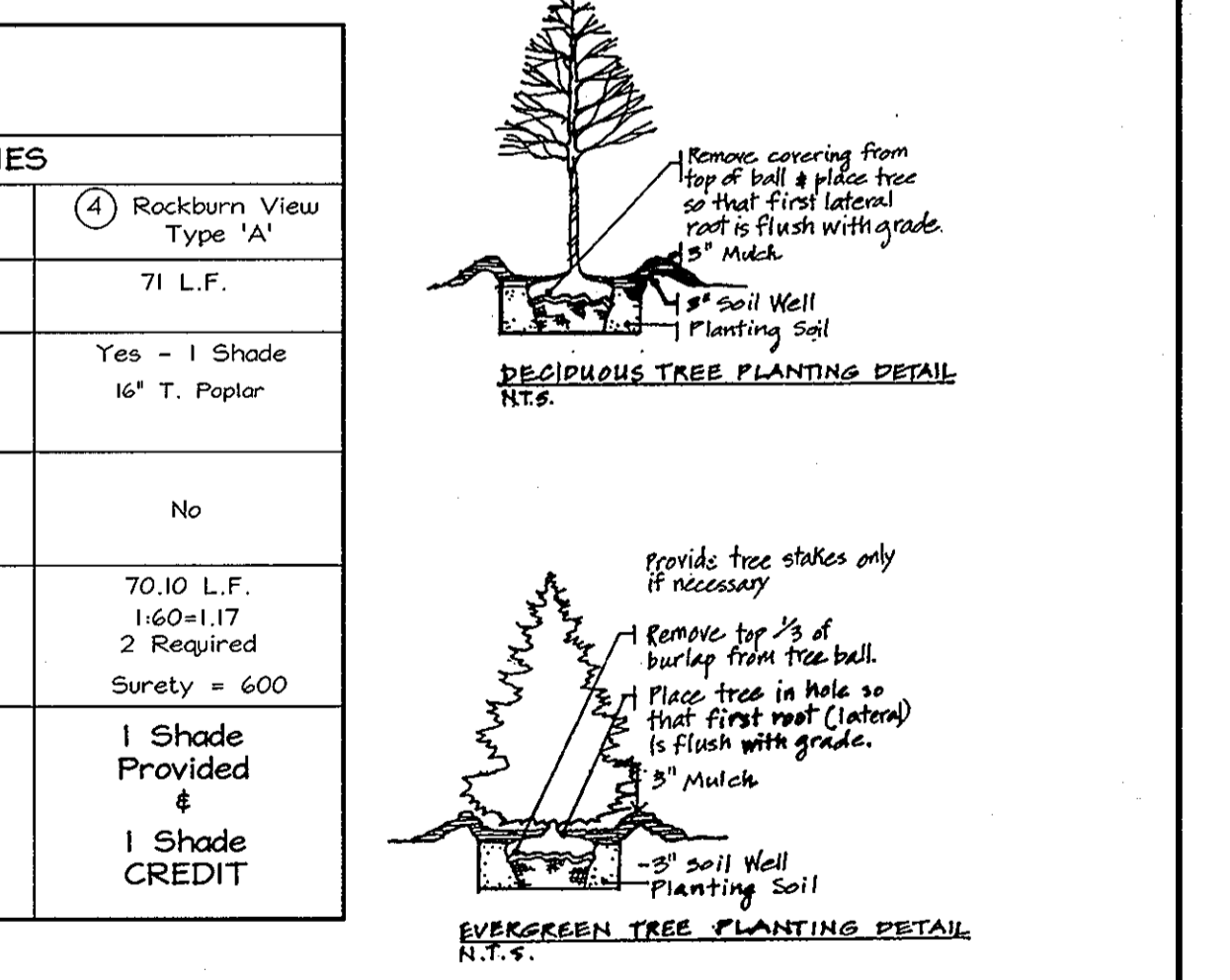
| NO                 | KEY | BOTANICAL/COMMON NAME                                  | SIZE           | COMMENT |
|--------------------|-----|--|----------------|---------|
| <b>SHADE TREES</b> |     |  |                |         |
| 5                  |     | Quercus Rubra<br>Northern Red Oak                      | 2-3" - 3" cal. | B4B     |
| 5                  |     | Acer rubrum 'October Glory'<br>October Glory Red Maple | 2-3" - 3" cal. | B4B     |



**SCHEDULE A PERIMETER LANDSCAPE EDGE**

| CATEGORY   | ADJACENT TO PERIMETER PROPERTIES          |                                  |                                  |                                   |
|--|---|----------------------------------|----------------------------------|-----------------------------------|
| Landscape Type   | 1 Existing Driveway - Type 'A'            | 2 Lunn Property Lot 3 - Type 'A' | 3 Rockburn View Type 'A'         | 4 Rockburn View Type 'A'          |
| Linear Feet of Roadway Frontage/Perimeter  | 186 L.F.                                  | 134 L.F.                         | 205 L.F.                         | 71 L.F.                           |
| Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed) | Yes - 2 Shade 16' R. Maple & 11' R. Maple | No                               | No                               | Yes - 1 Shade 16' T. Poplar       |
| Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed) | No  | No                               | No                               | No                                |
| Number of Plants Required  | 185,14 L.F. 1:60=3.09 4 Required          | 133,93 L.F. 1:60=2.23 3 Required | 204,17 L.F. 1:60=3.40 4 Required | 70,10 L.F. 1:60=3.40 2 Required   |
| Number of Plants Provided  | 2 Shade Provided & 2 Shade CREDIT         | 3 Shade Provided                 | 4 Shade Provided                 | 1 Shade Provided & 1 Shade CREDIT |

Total Surety = \$ 3,900



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 10/7/10 DATE

*[Signature]* 10/13/10 DATE

*[Signature]* 10/16/10 DATE

**DEVELOPER'S / BUILDER'S CERTIFICATION**

I CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN AND SPECIFICATIONS OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE LANDSCAPE MANUAL. I FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF NOTICE, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, AND A COPY OF THIS PLAN WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 9-22-10 DATE

*[Signature]* 9-22-10 DATE

**ENGINEER'S 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 AND THAT IT HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 9/23/10 DATE

**DEVELOPER'S CERTIFICATE**

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE 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 COUNTY DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 9-22-10 DATE

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. 19184, EXPIRATION DATE: 6/30/11.

*[Signature]* 9/23/10 DATE

**REVISIONS**

| No. | Date   | By  | Description                  |
|-----|--------|-----|------------------------------|
| 1   | 7/2010 | LDE | Address Project Dwg Comments |

**LDE Inc.**  
Engineers, Surveyors, Planners  
9250 Ramsey Road, Suite 106 Columbia, Maryland - 21045  
(410)715-1070 - (201)596-3424 - FAX (410)715-9340

| DESIGNED  | EDS    | SCALE         |
|---|--------|---------------|
| STORMWATER MANAGEMENT, LANDSCAPE, NOTES & DETAILS   |        | As Shown      |
| DRAWN   | LDE    | DRAWING       |
| GUTIERREZ RESIDENCE<br>L 4611 / F 630<br>LUNN PROPERTY<br>LOT A - PLAT # 13041<br>FOR SINGLE FAMILY DWELLING                                      |        | 4 OF 4        |
| CHECKED   | BDB    | JOB NO.       |
| TAX MAP 37 GRID 4 PARCEL 210<br>1st ELECTION DISTRICT HOWARD COUNTY MD<br>Previous Submittals: F98-091, WP 98-11, F92-145, WP 92-06<br>ECP 10-010 |        | 10-001        |
| DATE  | 6/2010 | FILE NO.      |
| OWNER:<br>Martin & Cynthia Gutierrez<br>6166 Montgomery Road<br>Elkridge, MD 20755-5911<br>410-379-1969   |        | SDP<br>10-099 |
| BUILDER/DEVELOPER:<br>SASLOW HOMES<br>7520 Main Street, Suite 204<br>Sykesville, MD 21784<br>410-781-4844   |        |               |