

**SHEET INDEX**

1	TITLE SHEET
2	EXISTING CONDITIONS & DEMO PLAN
3	SITE DEVELOPMENT PLAN
4	GRADING & SEDIMENT CONTROL PLAN
5	PROFILE & DETAIL PLAN
6	DETAILS & NOTES
7	LANDSCAPE PLAN
8	RETAINING WALL PROFILES & DETAILS
9	RETAINING WALL PROFILES & DETAILS

**GENERAL NOTES**

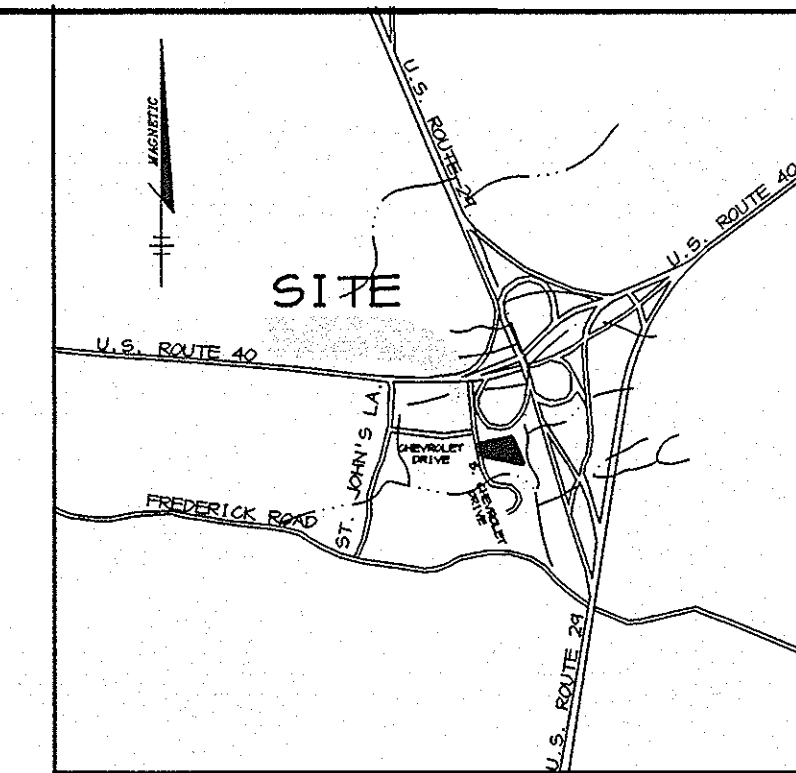
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MEHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY RIEMER MUEGGE & ASSOC. DATED (AUG. 1998).
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 24B3 AND 24B5 WERE USED FOR THIS PROJECT.
- WATER IS PUBLIC. CONTRACT NO. 24B-M
- SEWER IS PUBLIC. CONTRACT NO. 32-5
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- A 100- YEAR FLOODPLAIN STUDY IS NOT REQUIRED FOR THIS PROJECT.
- A WETLANDS DELINEATION FOR THIS PROJECT IS NOT REQUIRED.
- A TRAFFIC STUDY FOR THIS PROJECT IS NOT REQUIRED.
- A NOISE STUDY FOR THIS PROJECT IS NOT REQUIRED.
- A GEOTECHNICAL STUDY FOR THIS PROJECT IS NOT REQUIRED.
- ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S. F-85-70
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL STORM DRAIN PIPE BEDDINGS SHALL BE CLASS 'C' AS SHOWN IN FIG. 11.4, VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- PROFILES STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF ASPHALT T180.
- ZB 996M REVISED THIS SITE'S ZONING FROM B-2 TO M-1 ON SEPTEMBER 3, 1998
- BA 98-48V CASE APPROVED A VARIANCE PETITION. THE VARIANCE IS TO REDUCE THE MINIMUM STRUCTURE AND USE SETBACK FROM A PUBLIC STREET RIGHT-OF-WAY FROM 50' TO 30' FOR CONCRETE RETAINING WALLS AND TO 15' FOR A DUMPSTER, AND TO REDUCE THE MINIMUM STRUCTURE AND USE SETBACK FROM A RESIDENTIAL DISTRICT FROM (100' TO 15' FOR A PARKING AND CIRCULATION AREA AND TO 45' FOR A PROPOSED BUILDING IN A U-1 (MANUFACTURING LIGHT) ZONING DISTRICT AND IS SUBJECT TO THE FOLLOWING CONDITIONS:
  - THE GRANTED VARIANCES SHALL APPLY ONLY TO THE PROPOSED STORAGE BUILDING, CONCRETE RETAINING WALLS, DUMPSTER AND VEHICLE PARKING AND CIRCULATION AREA, AS DESCRIBED IN THE VARIANCE PLAN RECEIVED BY DPZ ON NOVEMBER 19, 1998, AND NOT TO ANY OTHER STRUCTURES, ADDITIONS, OR USES. THIS VARIANCE WAS APPROVED ON FEBRUARY 25, 1999.
  - THE PETITIONER SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND COUNTY LAWS AND REGULATIONS.

# E-Z STORAGE ELLICOTT CITY SITE DEVELOPMENT PLAN 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**BENCHMARKS**

HO. CO. SURVEY CONTROL  
STATION: 24B3  
N 586661 E 1354226

HO. CO. SURVEY CONTROL  
STATION: 24B5  
N 586956 E 1356571



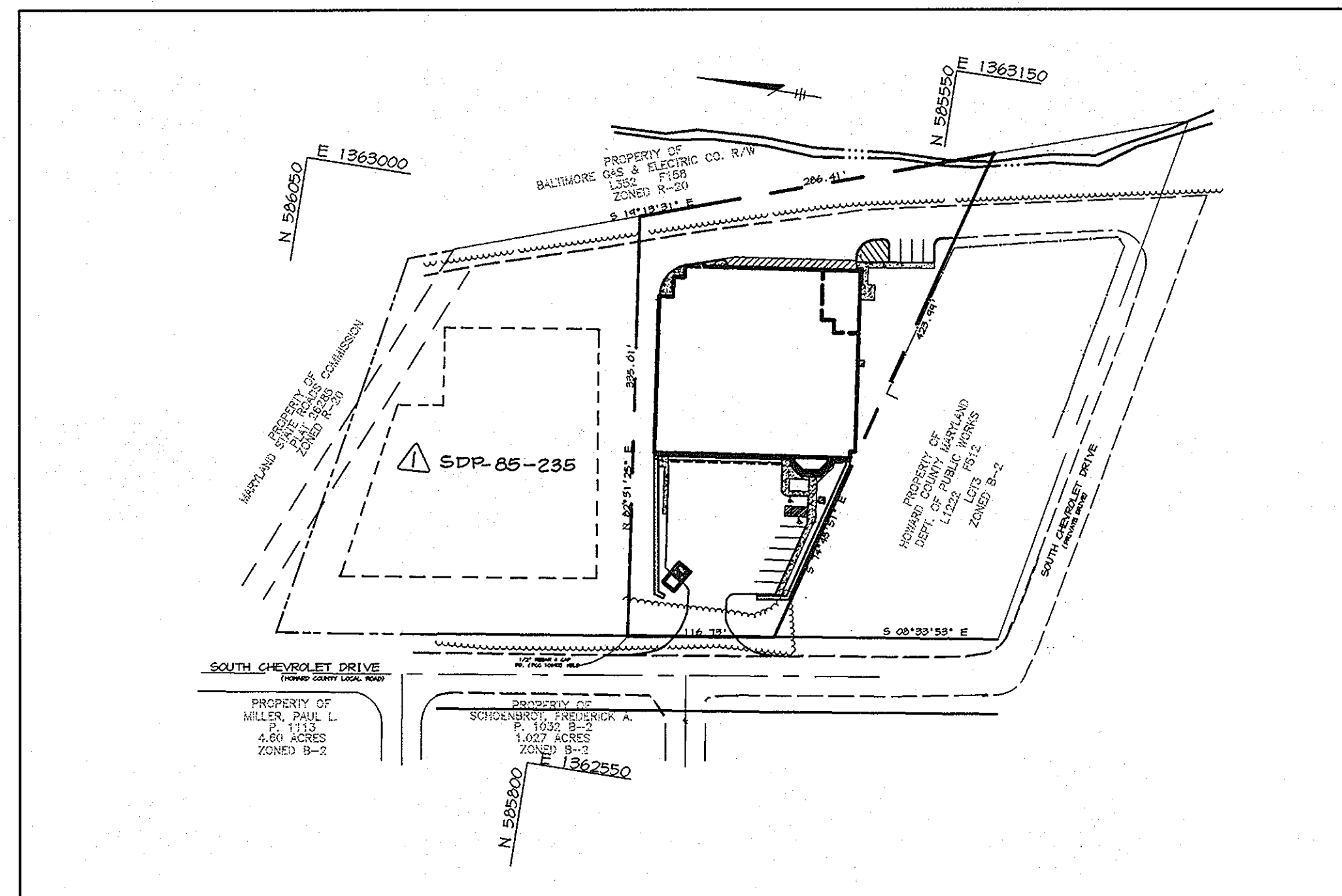
**VICINITY MAP**  
SCALE: 1"=2000'

**SITE TABULATION**

TOTAL AREA	1.60 AC. (69,696 SF)
CURRENT ZONING	M-1
EXISTING USE	COMMERCIAL WAREHOUSE
PROPOSED USE	SELF-STORAGE FACILITY
BUILDING COVERAGE	24,250 SQ. FT.
REQUIRED PARKING	750 SF OFFICE @ 4/1000 = 3 SPACES ON SITE RESIDENCE = 2 SPACES TOTAL REQUIRED = 5 SPACES 12 SPACES (INCLUDES 2 HC SPACES)

▲ \* PROPOSED PARKING

▲ \* NOTE: PARKING FOR DEVELOPMENT UNDER SDP-85-235 (SELF-STORAGE) IS PROVIDED ON THIS SITE.



**PLAN**  
SCALE: 1"=100'

95.00	
84.33	FLOOR 5
73.67	FLOOR 4
61.00	FLOOR 3
50.33	FLOOR 2
	FLOOR 1
39.67	

BUILDING HEIGHT =  $(95 - 61) + (95 - 39.67) = 44.67'$   
2

**SIDE VIEW:**  
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>James Butler</i> DIRECTOR	3/3/99 DATE
<i>Chris Dammon</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	3/1/99 DATE
<i>Chris Hamstra</i> CHIEF, DIVISION OF LAND DEVELOPMENT	2/3/99 DATE

6-27-02	▲	ADDED EX. DEVELOPMENT UNDER SDP-85-235 AND NOTE TO SITE TABULATION.
DATE	NO.	REVISION

OWNER/DEVELOPER:  
SIENA DEVELOPMENT CORP.  
12011 GUILFORD RD. STE 101  
ANNAPOLIS JUNCTION, MD 20701  
(410) 742-8345

PROJECT  
**E-Z STORAGE  
ELLICOTT CITY**

AREA  
PARCEL 1011  
TAX MAP 24, BLOCK 5, PARCEL C-2  
2nd ELECTION DISTRICT ZONED M-1  
HOWARD COUNTY, MARYLAND

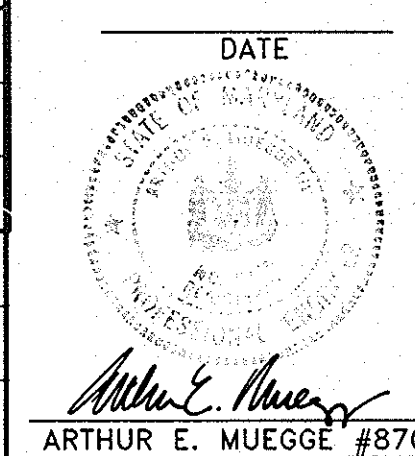
TITLE  
**TITLE SHEET**

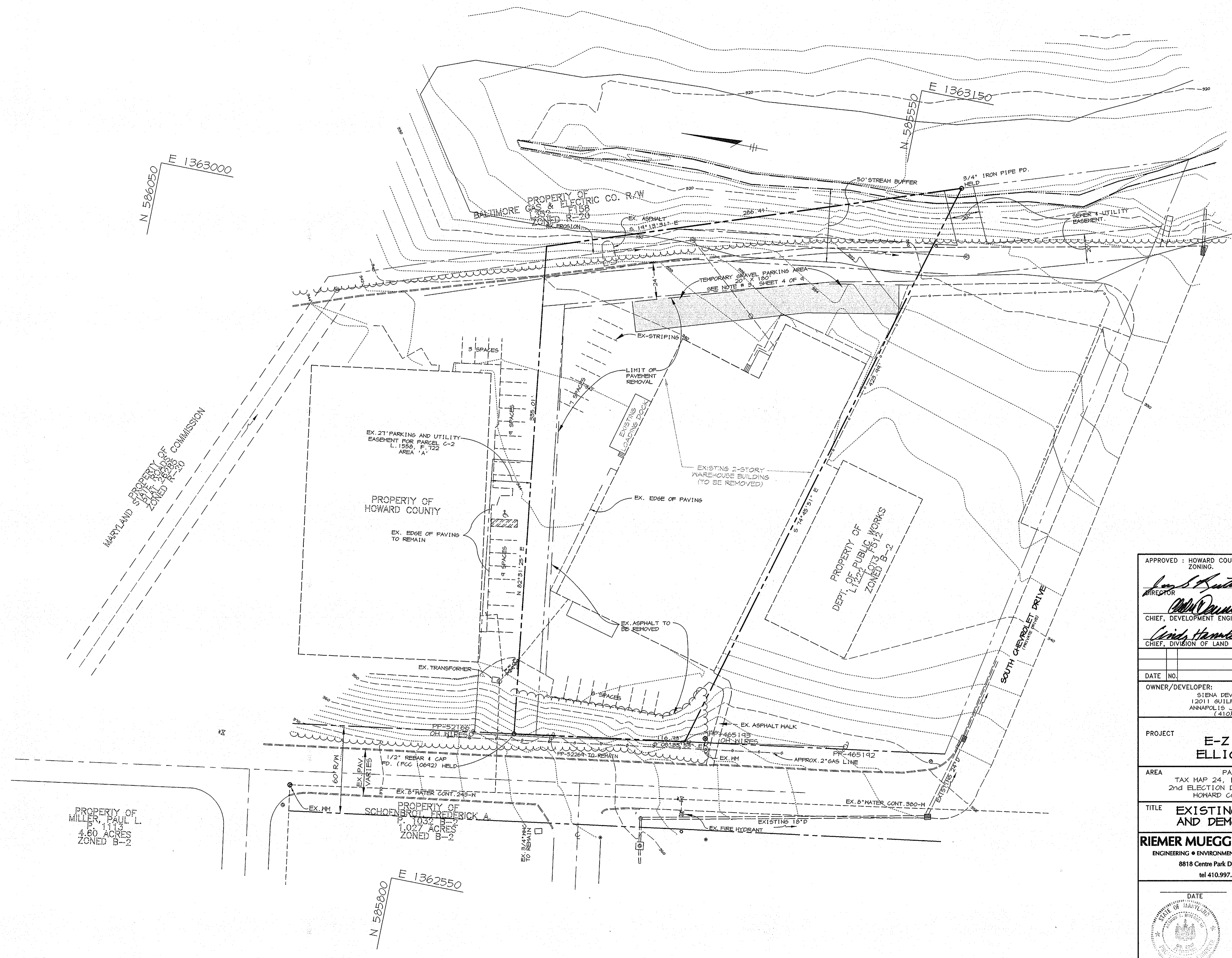
**RIEMER MUEGGE & ASSOCIATES, INC.**  
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING  
8818 Centre Park Drive, Columbia, Maryland 21045  
tel 410.997.8900 fax 410.997.9282

DATE	DESIGNED BY: C.J.R.
	DRAWN BY: D.R.D.
	CHECKED BY: C.J.R.
	PROJECT NO: 98293 SDP1.DWG
	DATE: FEBRUARY 16, 1999
	SCALE: AS SHOWN
	DRAWING NO. 1 OF 9

ADDRESS CHART	
PARCEL	STREET ADDRESS
C-2	3487 S. CHEVROLET DRIVE

SUBDIVISION NAME: MILLER LAND CO.	SECT./AREA: -	PARCEL: 1011
PLAT #: 13564	BLOCK #: 15	ZONE: M-1
TAX MAP NO. 24	ELECT. DIST. 2ND	GENUS TRACT: 6023.01
WATER CODE: F-07	SEWER CODE: 1403200	





APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*James B. Smith* 3/3/99  
DIRECTOR DATE

*John D. ...* 3/1/99  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Linda Hamilton* 2/2/99  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE NO. REVISION

OWNER/DEVELOPER:  
SIENA DEVELOPMENT CORP.  
12011 GUILFORD RD. STE 101  
ANNAPOLIS JUNCTION, MD 20701  
(410) 742-8945

PROJECT  
**E-Z STORAGE  
ELICOTT CITY**

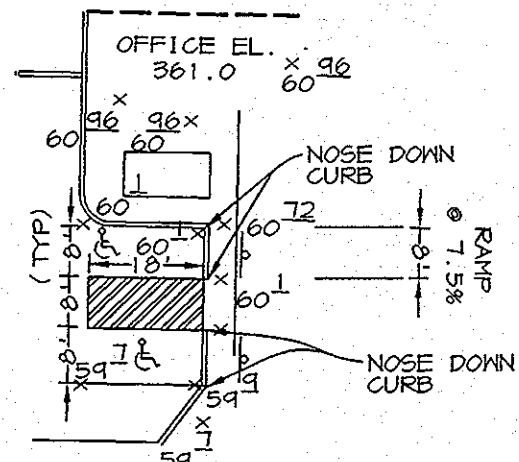
AREA  
PARCEL 1011  
TAX MAP 24, BLOCK 5, PARCEL C-2  
2nd ELECTION DISTRICT ZONED M-1  
HOWARD COUNTY, MARYLAND

TITLE  
**EXISTING CONDITIONS  
AND DEMOLITION PLAN**

**RIEMER MUEGGE & ASSOCIATES, INC.**  
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING  
8818 Centre Park Drive, Columbia, Maryland 21045  
tel 410.997.8900 fax 410.997.9282

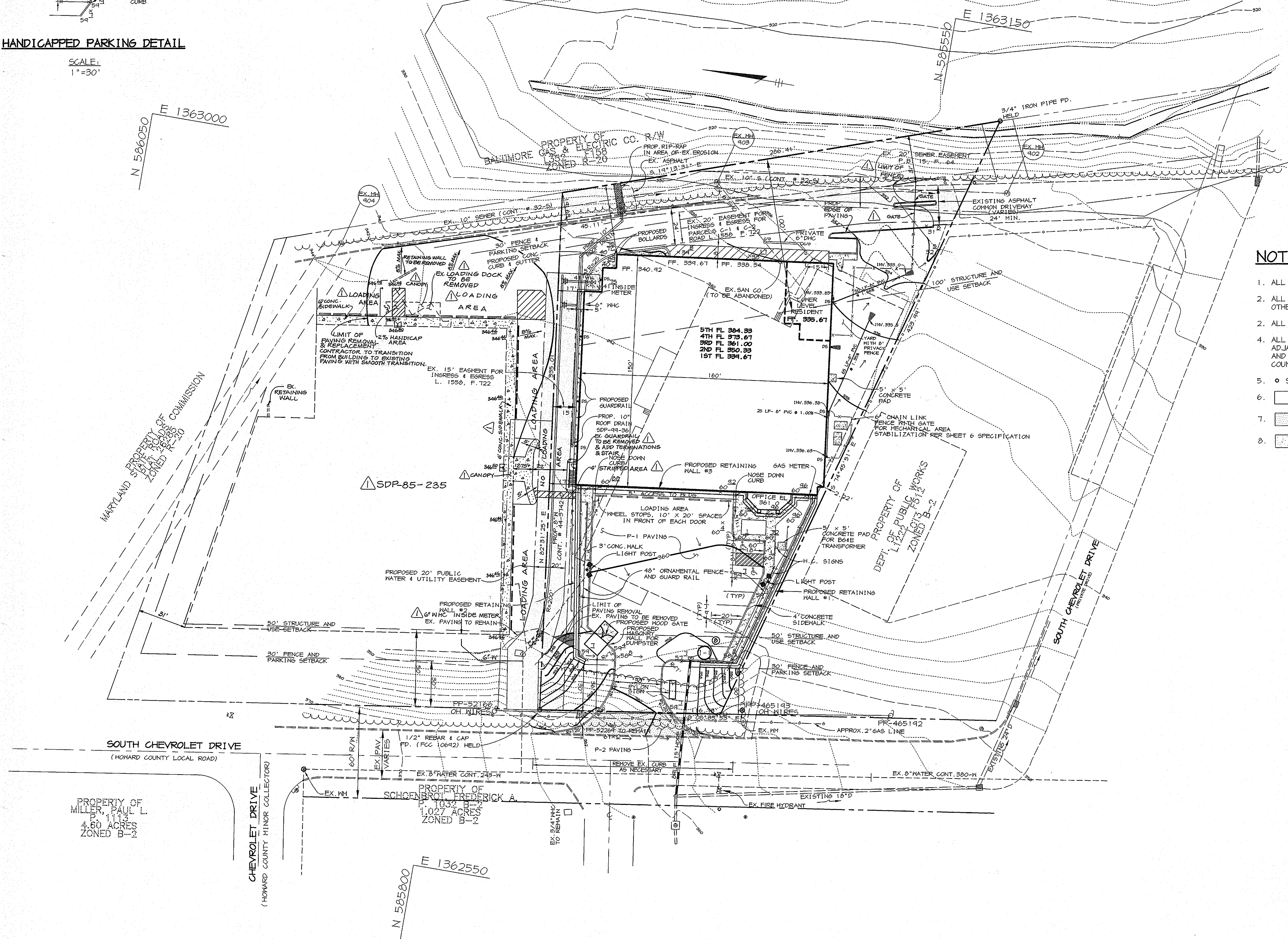
DESIGNED BY : C.J.R.  
DRAWN BY : D.R.D.  
CHECKED BY : C.J.R.  
PROJECT NO : 98293  
SDP2.DWG  
DATE : FEBRUARY 16, 1999  
SCALE : 1" = 30'  
DRAWING NO. 2 OF 9

DATE  
STATE OF MARYLAND  
ARTHUR E. MUEGGE #8707



**HANDICAPPED PARKING DETAIL**

SCALE:  
1"=30'



**NOTES:**

1. ALL RADII ARE 5' UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS ARE TO FACE OF CURB OR BUILDING UNLESS OTHERWISE NOTED.
2. ALL ON-SITE ROADS ARE PRIVATE.
4. ALL LIGHTING IS TO BE DIRECTED/REFLECTED AWAY FROM ADJACENT PUBLIC ROADS AND RESIDENTIALLY ZONED PROPERTIES, AND BE IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
5. ○ STD/REV - STANDARD TO REVERSE CURB TRANSITION.
6. P-1 PAVING - ALL ON-SITE PAVING
7. P-2 PAVING - ALL OFF-SITE PAVING
8. CONCRETE

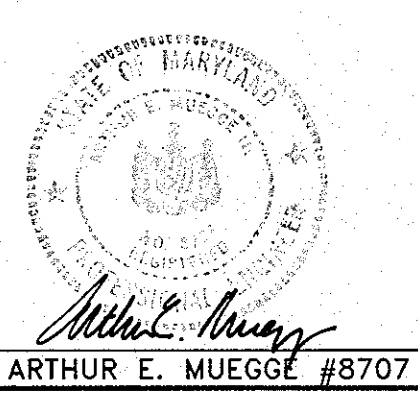
APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>James S. Rutter</i> DIRECTOR	3/3/99 DATE
<i>John D. ...</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	3/1/99 DATE
<i>Chris Hamstra</i> CHIEF, DIVISION OF LAND DEVELOPMENT	7/3/99 DATE

6-27-02	ADDED GATE & STORAGE, MODIFIED ADJACENT PROPERTY LAYOUT.
DATE (NO)	REVISION
OWNER/DEVELOPER: SIENA DEVELOPMENT CORP. 12011 GUILFORD RD., STE 101 ANNAPOLIS JUNCTION, MD 20701 (410) 742-8348	

PROJECT	E-Z STORAGE ELLICOTT CITY
AREA	PARCEL 1011 TAX MAP 24, BLOCK 5, PARCEL C-2 2nd ELECTION DISTRICT ZONED M-1 HOWARD COUNTY, MARYLAND
TITLE	SITE DEVELOPMENT PLAN

**RIEMER MUEGGE & ASSOCIATES, INC.**  
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING  
8818 Centre Park Drive, Columbia, Maryland 21045  
tel 410.997.8900 fax 410.997.9282

DATE	DESIGNED BY : C.J.R.
	DRAWN BY : D.R.D.
	CHECKED BY : C.J.R.
	PROJECT NO : 98293 SDF3.DWG
	DATE : FEBRUARY 16, 1999
	SCALE : 1"=30'
	DRAWING NO. 3 OF 9



M:\PROJECT\98293\SDP3 Tue Feb 16 13:59:11 1999 RIEMER MUEGGE & ASSOCIATES, INC.

**SEQUENCE OF CONSTRUCTION**

1. OBTAIN DEMOLITION AND GRADING PERMITS.
2. INSTALL SCE AND SUPER SILT FENCE AS SHOWN ON THIS PLAN. (1 DAY)
3. REMOVE EXISTING BUILDINGS AND PAVING AS NECESSARY, INSTALL TEMPORARY GRAVEL PARKING AREA FOR COUNTY PERSONNEL (2 WEEKS).
4. BEGIN NEW BUILDING CONSTRUCTION, STOCKPILING EARTH IN AREA OF FRONT PARKING LOT.
5. UPON COMPLETION OF BUILDING WALLS, BEGIN KEYSTONE RETAINING WALL CONSTRUCTION, BACKFILLING FRONT PARKING LOT AS WALLS PROCEED. INSTALL SCE #2 AS NECESSARY. (1 MONTH)
6. AS SUBGRADE ELEVATIONS ARE REACHED INSTALL UTILITIES (2 WEEKS).
7. INSTALL CURB AND GUTTER, THEN PAVE (1 WEEK).
8. INSTALL GUARD RAIL, FENCING, SIDEWALK AND LANDSCAPING (5 DAYS).
9. STABILIZED ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES (1 DAY).
10. COMPLETE BUILDING CONSTRUCTION (3 MONTHS).
11. UPON APPROVAL OF HO. CO. DILP SEDIMENT CONTROL INSPECTOR REMOVE REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY 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. ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 2-16-99  
DEVELOPER DATE

BY THE ENGINEER :

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]* 2-16-99  
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

*[Signature]* 2/23/99  
CHERYL SIMMONS / as  
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*[Signature]* 2/23/99  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 3/3/99  
DIRECTOR DATE

*[Signature]* 3/1/99  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 3/3/99  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

6-27-02 [Symbol] ADDED GATE & STORAGE, MODIFIED ADJACENT PROPERTY LAYOUT.

DATE NO. REVISION

OWNER/DEVELOPER:  
SIENA DEVELOPMENT CORP.  
12011 GUILDFORD RD. STE 101  
ANNAPOLIS JUNCTION, MD 20701  
(410) 742-8943

PROJECT  
**E-Z STORAGE  
ELLICOTT CITY**

AREA  
PARCEL 1011  
TAX MAP 24, BLOCK 5, PARCEL C-2  
2nd ELECTION DISTRICT ZONED M-1  
HOWARD COUNTY, MARYLAND

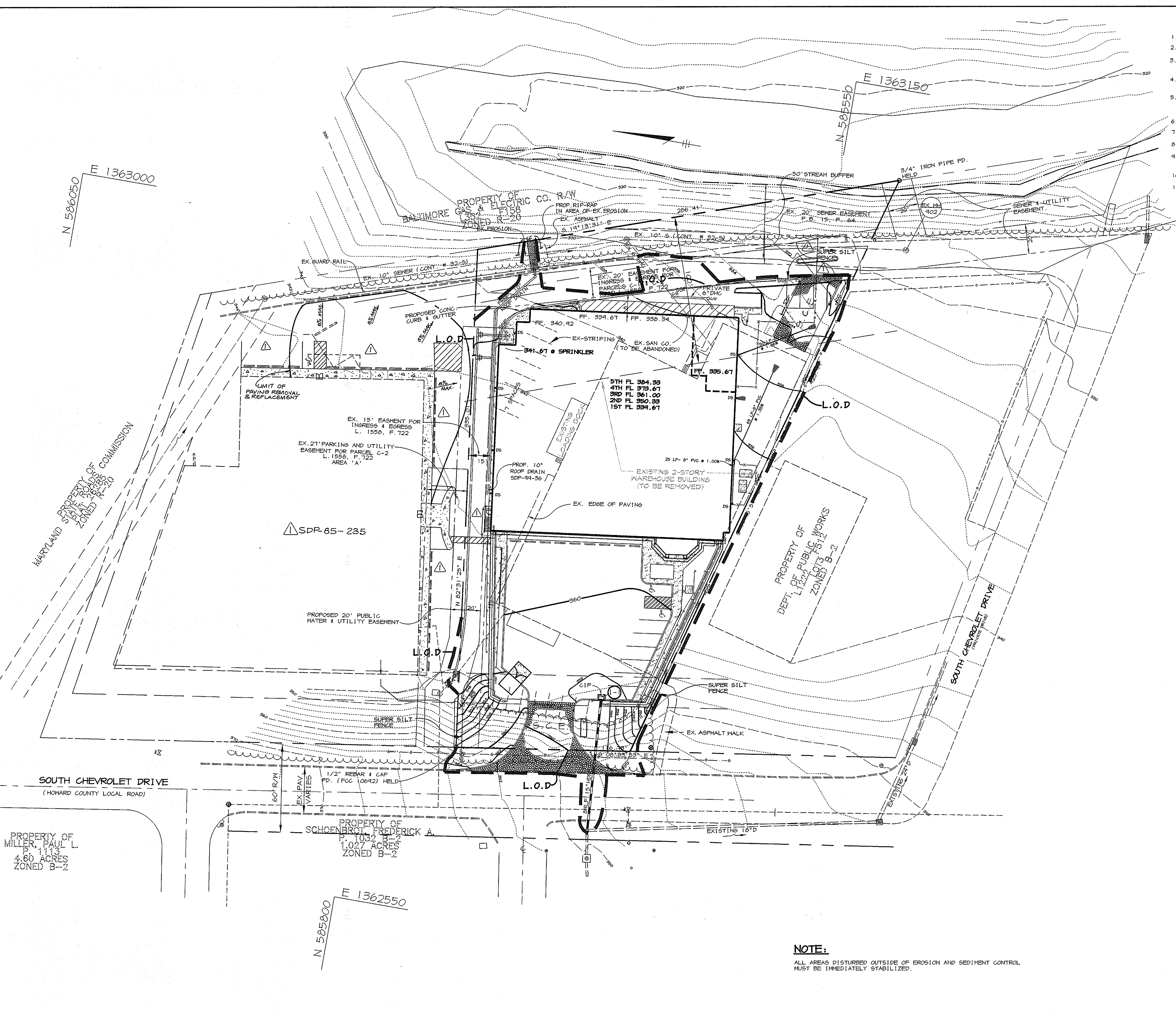
TITLE  
**GRADING AND SEDIMENT  
CONTROL PLAN**

**RIEMER MUEGGE & ASSOCIATES, INC.**  
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING  
8818 Centre Park Drive, Columbia, Maryland 21045  
tel 410.997.8900 fax 410.997.9282

DATE	DESIGNED BY : C.J.R.
	DRAWN BY : D.R.D.
	CHECKED BY : C.J.R.
	PROJECT NO : 98293 SDP4.DWG
	DATE : FEBRUARY 16, 1999
	SCALE : 1" = 30'
	DRAWING NO. 4 OF 9

*[Signature]*  
ARTHUR E. MUEGGE #8707

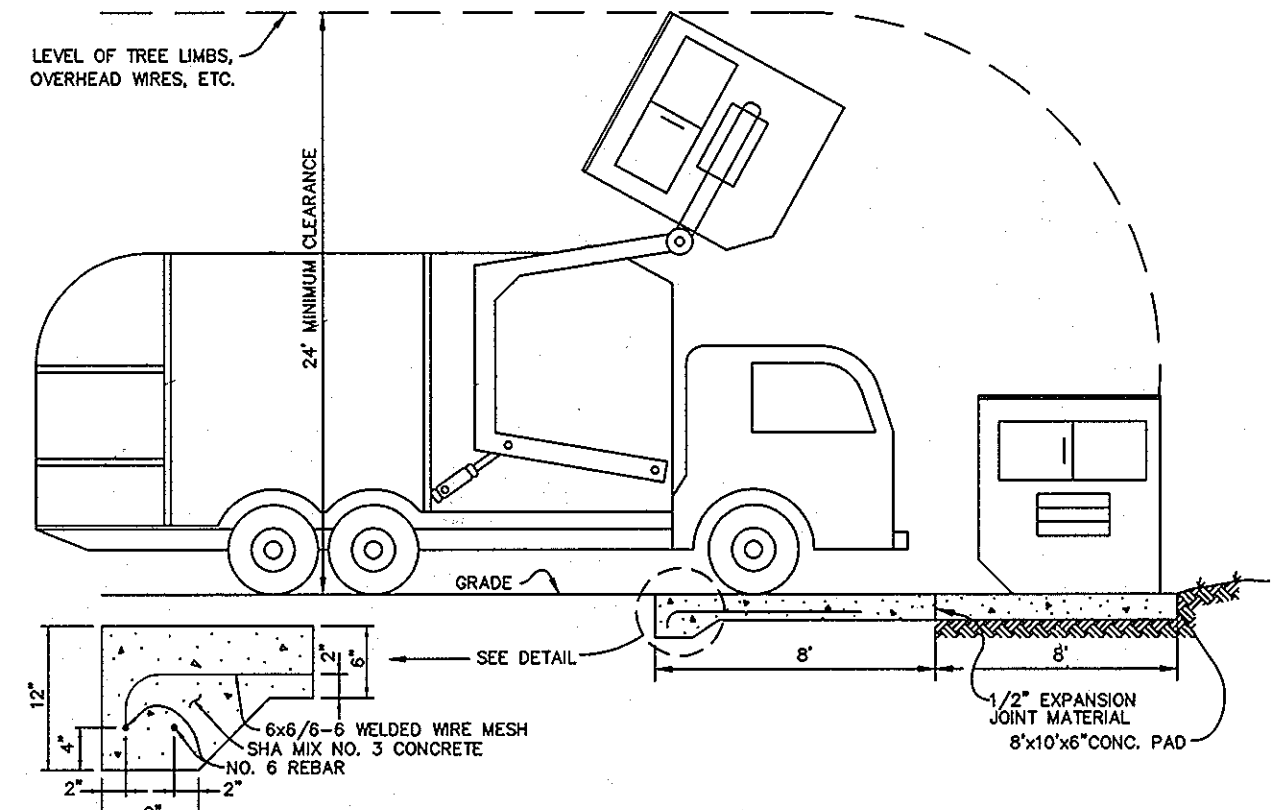
**NOTE:**  
ALL AREAS DISTURBED OUTSIDE OF EROSION AND SEDIMENT CONTROL MUST BE IMMEDIATELY STABILIZED.



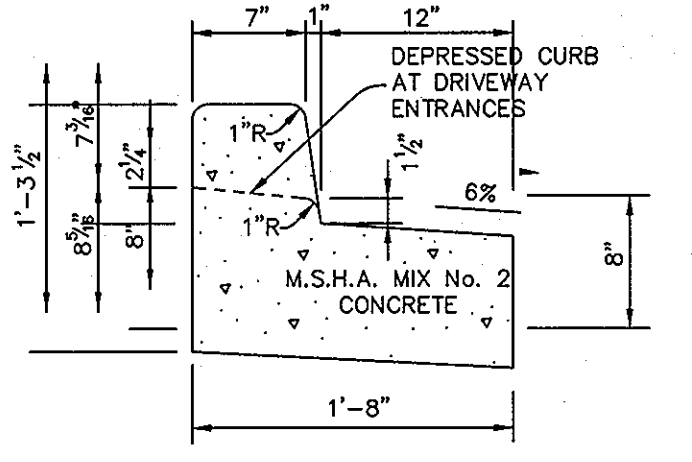
**STRUCTURE SCHEDULE**

STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
I-1	TYPE B CURB	N 585,646.73 E 1,362,712.77	-	354.45	356.30	HOCO SD 4.32

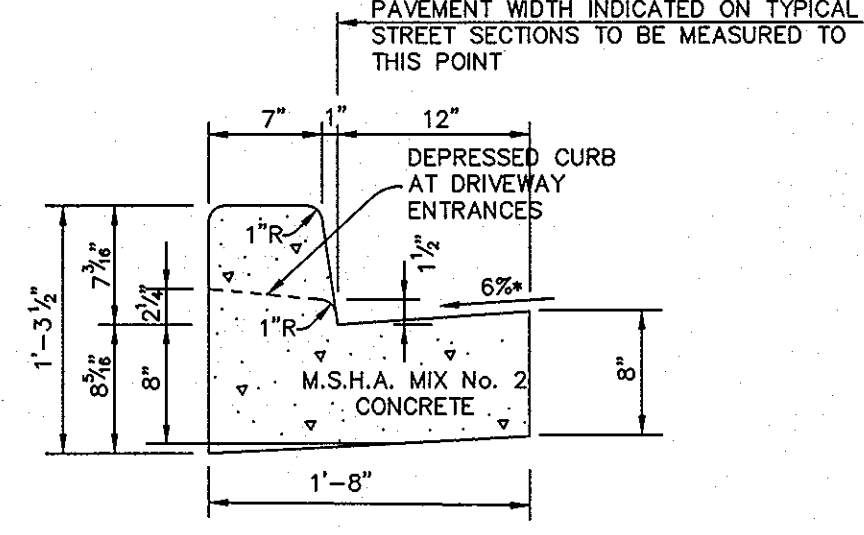
NOTES: LOCATION IS AT CENTER OF THROAT OPENING AT FACE OF CURB FOR CURB INLETS. TOP ELEVATION IS TOP OF CURB/GRATE/RIM.



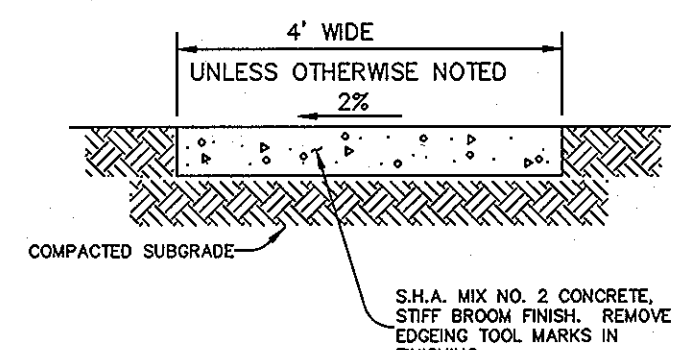
**DUMPSTER PAD**  
NO SCALE



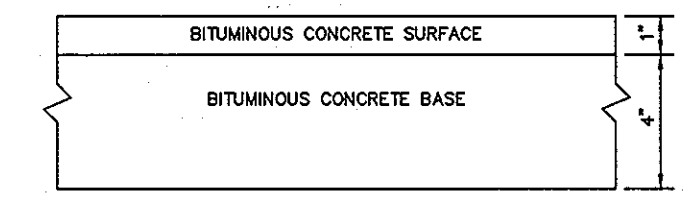
**REVERSE 7\"/>**



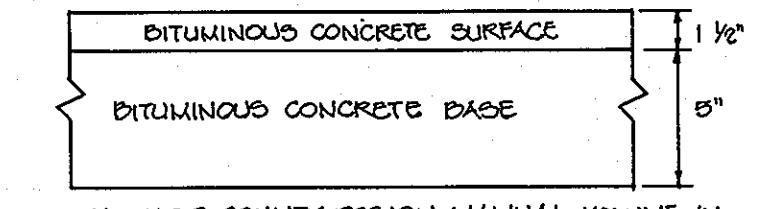
**STANDARD 7\"/>**



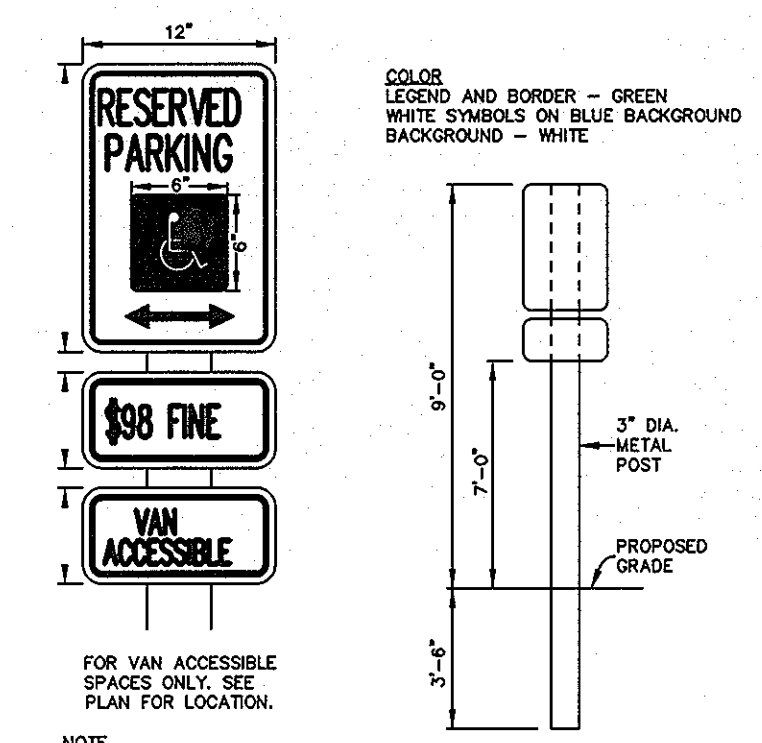
**SIDEWALK DETAIL**  
NO SCALE



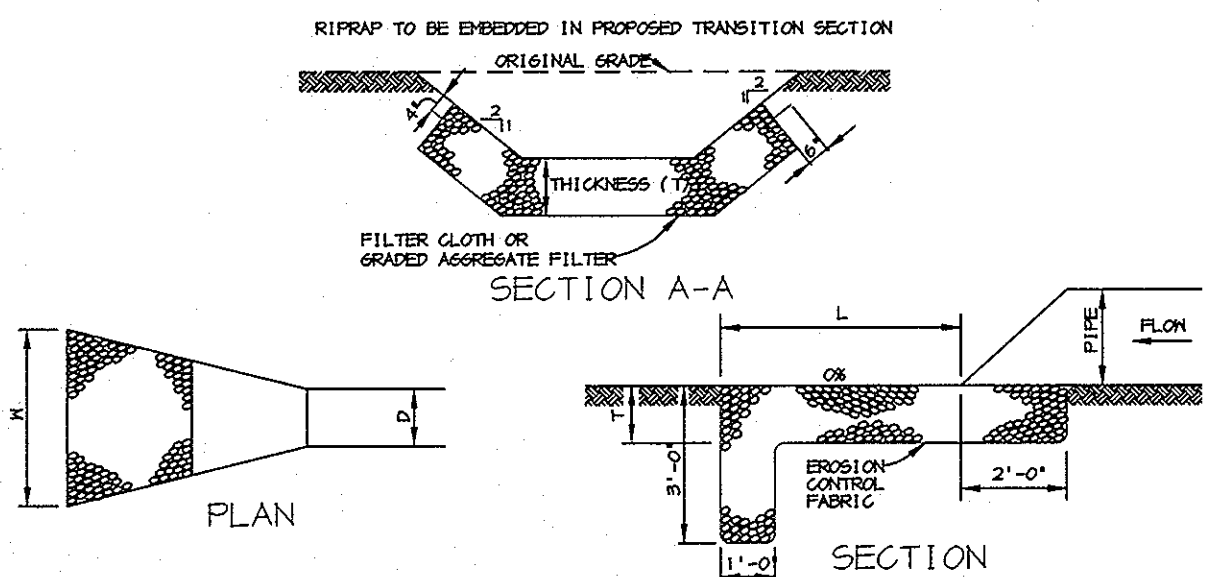
**P-1 PAVING**  
NO SCALE



**P-2 PAVING**  
NO SCALE

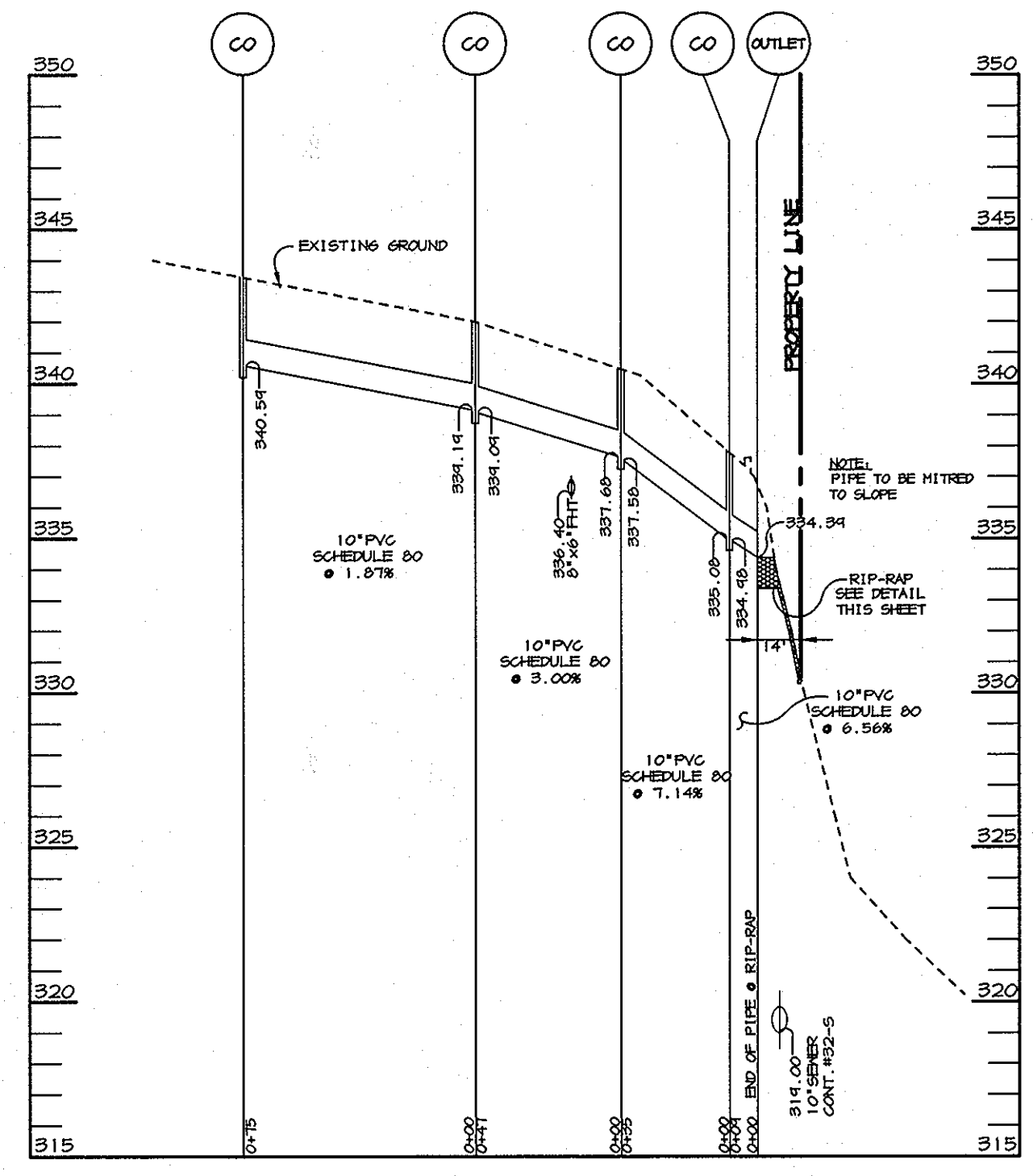


**HANDICAP SIGN DETAIL**  
NO SCALE

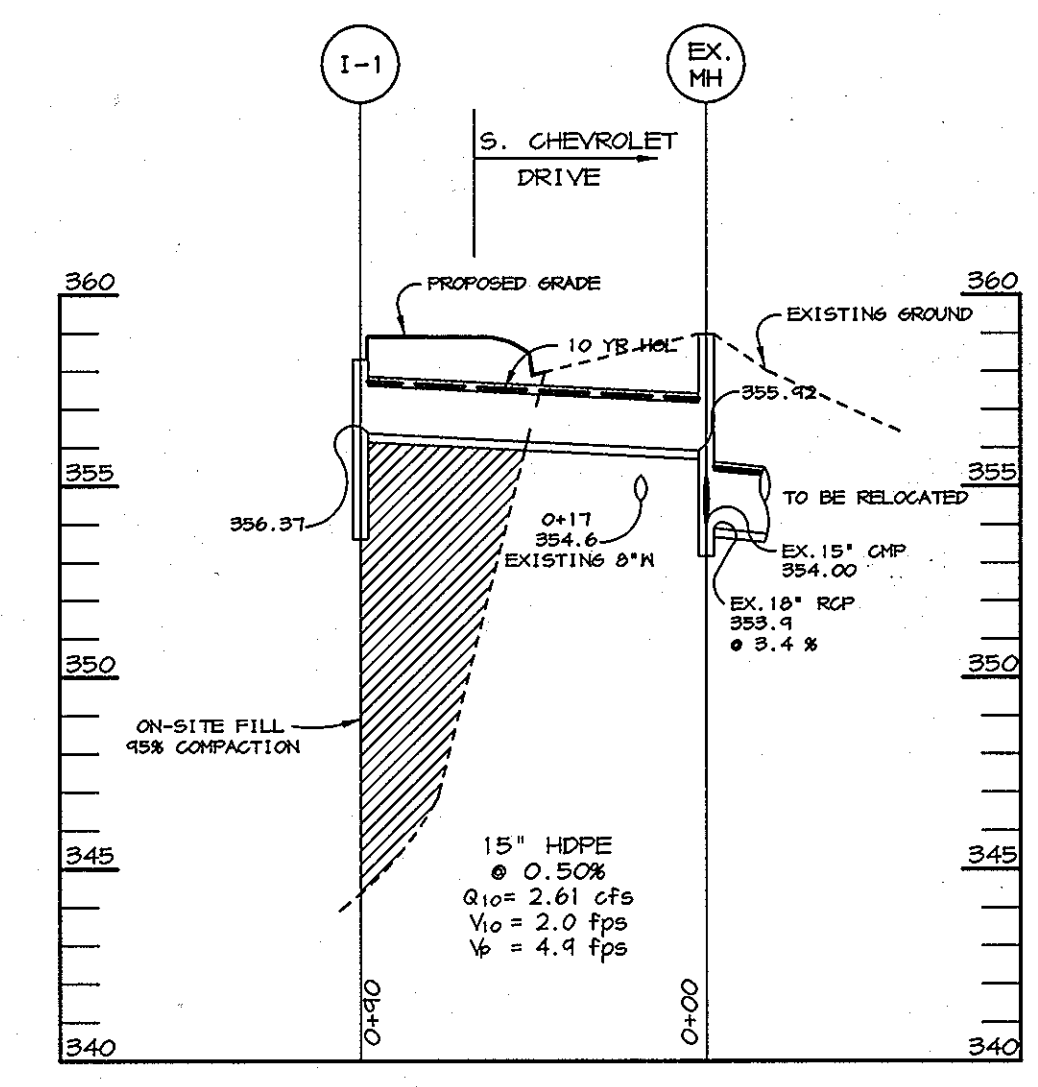


STRUCTURE	MEDIAN STONE DIA.	LENGTH (L)	WIDTH (W)	THICKNESS (T)	$Q_{10}$	V	DEPTH
OUTLET	4.5"	14'	5'	1'	-	-	-

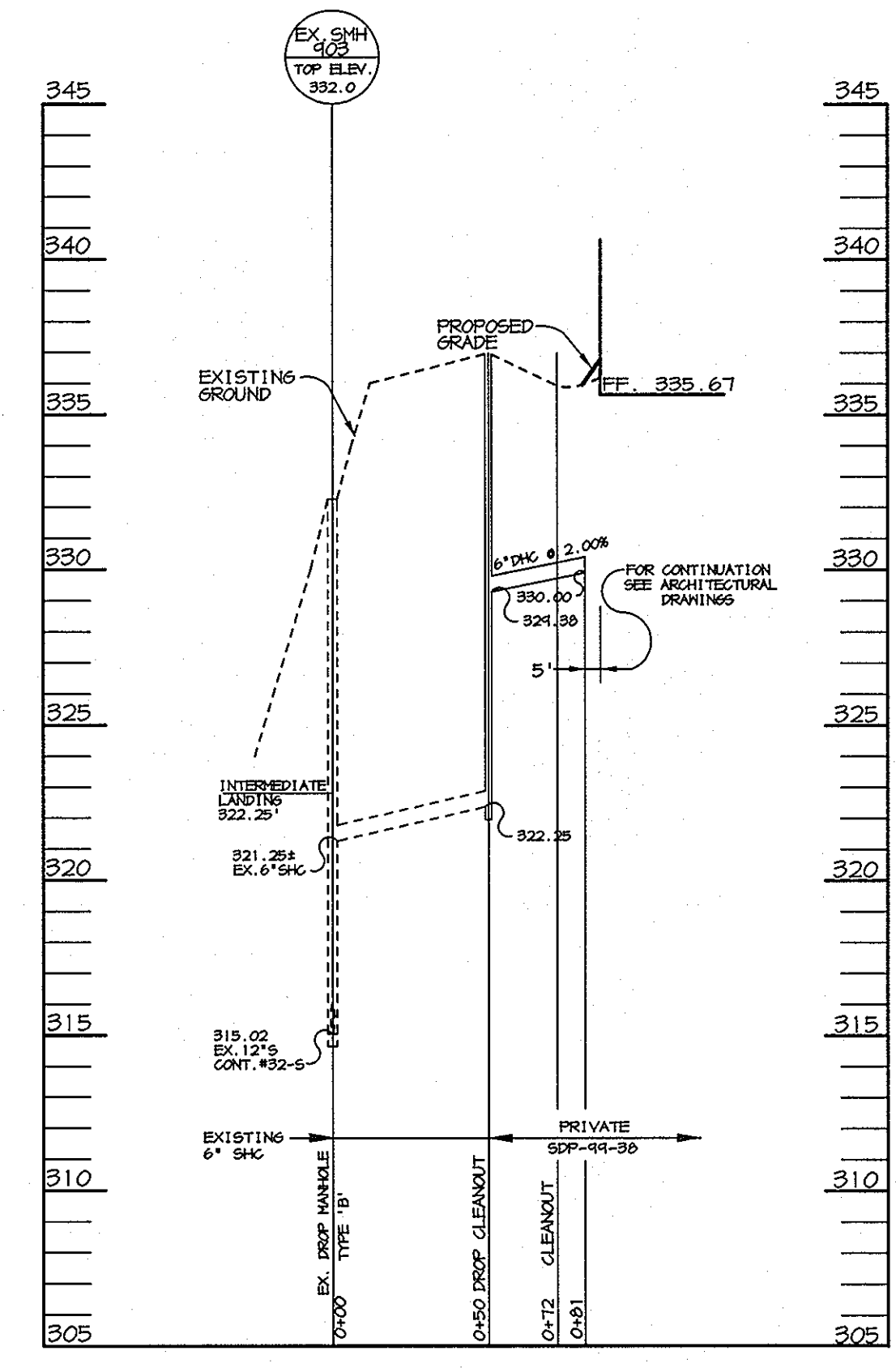
**RIPRAP OUTLET PROTECTION DETAIL**  
NO SCALE



**ROOF DRAIN PROFILE**  
SCALE: HOR. - 1"=50', VERT. - 1"=5'



**STORM DRAIN PROFILE**  
SCALE: HOR. - 1"=50', VERT. - 1"=5'



**SEWER PROFILE**  
SCALE: HOR. - 1"=50', VERT. - 1"=5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 3/3/99  
DIRECTOR DATE

*[Signature]* 3/1/99  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 3/2/99  
CHIEF, DIVISION OF LAND DEVELOPMENT MB DATE

DATE NO. REVISION

OWNER/DEVELOPER:  
SIENA DEVELOPMENT CORP.  
12011 GUILFORD RD. STE 101  
ANNAPOLIS JUNCTION, MD 20701  
(410) 792-8345

PROJECT  
**E-Z STORAGE  
ELLCOTT CITY**

AREA  
PARCEL 1011  
TAX MAP 24, BLOCK 5, PARCEL C-2  
2nd ELECTION DISTRICT ZONED M-1  
HOWARD COUNTY, MARYLAND

TITLE  
**PROFILE & DETAIL SHEET**

**RIEMER MUEGGE & ASSOCIATES, INC.**  
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING  
8818 Centre Park Drive, Columbia, Maryland 21045  
tel 410.997.8900 fax 410.997.9282

DATE DESIGNED BY: C.J.R.  
DRAWN BY: D.R.D.  
CHECKED BY: C.J.R.  
PROJECT NO: 98293  
SDPS.DWG  
DATE: FEBRUARY 16, 1999  
SCALE: AS SHOWN  
DRAWING NO. 5 OF 9

*[Signature]*  
ARTHUR E. MUEGGE #8707

SDP-99-36

**SEDIMENT CONTROL NOTES**

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (919-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE HARTLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL, AND REVISIONS THERE TO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL FOR PERMANENT SEEDINGS (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:
 

TOTAL AREA OF SITE	1.60 ACRES
AREA DISTURBED	1.60 ACRES
AREA TO BE ROOFED OR PAVED	1.20 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.40 ACRES
TOTAL CUT	3000 CU.YDS.
TOTAL FILL	7500 CU.YDS.
- BORROW OF 4500 CU.YDS. TO BE TAKEN FROM A SITE WITH AN OPEN GRADING PERMIT.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
- SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.
- CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL, NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 AC., APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

**TEMPORARY SEEDING NOTES**

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

**Seeded Preparation:** Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

**Soil Amendments:** Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq. ft.).

**Seeding:** For periods March 1 thru April 30 and from August 15 thru October 15, seed with 2-1/2 bushels per acre of annual ryegrass (5.2 lbs. per 1000 sq. ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of creeping lovegrass (0.07 lbs. per 1000 sq. 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. per 1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 2lb gal. per acre (5 gal. per 1000 sq. ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq. ft.) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

**PERMANENT SEEDING NOTES**

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

**Seeded Preparation:** Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

**Soil Amendments:** In lieu of soil test recommendations, use one of the following schedules:

- Preferred - Apply 2 tons per acre dolomitic limestone (42 lbs. per 1000 sq. ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq. ft.) before seeding. Harrow or disc into upper three inches of soil. At time of application use mulch anchoring tool or 2lb gal. per acre 30-0-0 ureaform fertilizer (4 lbs. per 1000 sq. ft.).
- Acceptable - Apply 2 tons per acre dolomitic limestone (42 lbs. per 1000 sq. ft.) and 1000 lbs. per acre 10-10-10 fertilizer (28 lbs. per 1000 sq. ft.) before seeding. Harrow or disc into upper three inches of soil.

**Seeding:** For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (0.05 lbs. per 1000 sq. ft.) of creeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options:

- 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.
- Use sod.
- Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.

**Mulching:** Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 2lb gal. per acre (5 gal. per 1000 sq. ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq. ft.) for anchoring.

**Maintenance:** Inspect all seeded areas and make needed repairs, replacements and reseedings.

**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 shown on the plans.

**Construction and Material Specifications:**

- Topsoil salvaged 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 Experimentation 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 clinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
  - Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutgrass, poison ivy, thistle, or others as specified.
  - Where 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 under 5 acres:
  - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
- For sites having disturbed areas over 5 acres:
  - On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
    - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
    - Organic content 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 seed or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.

Note: Topsoil substitutes to amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority may be used in lieu of natural topsoil.

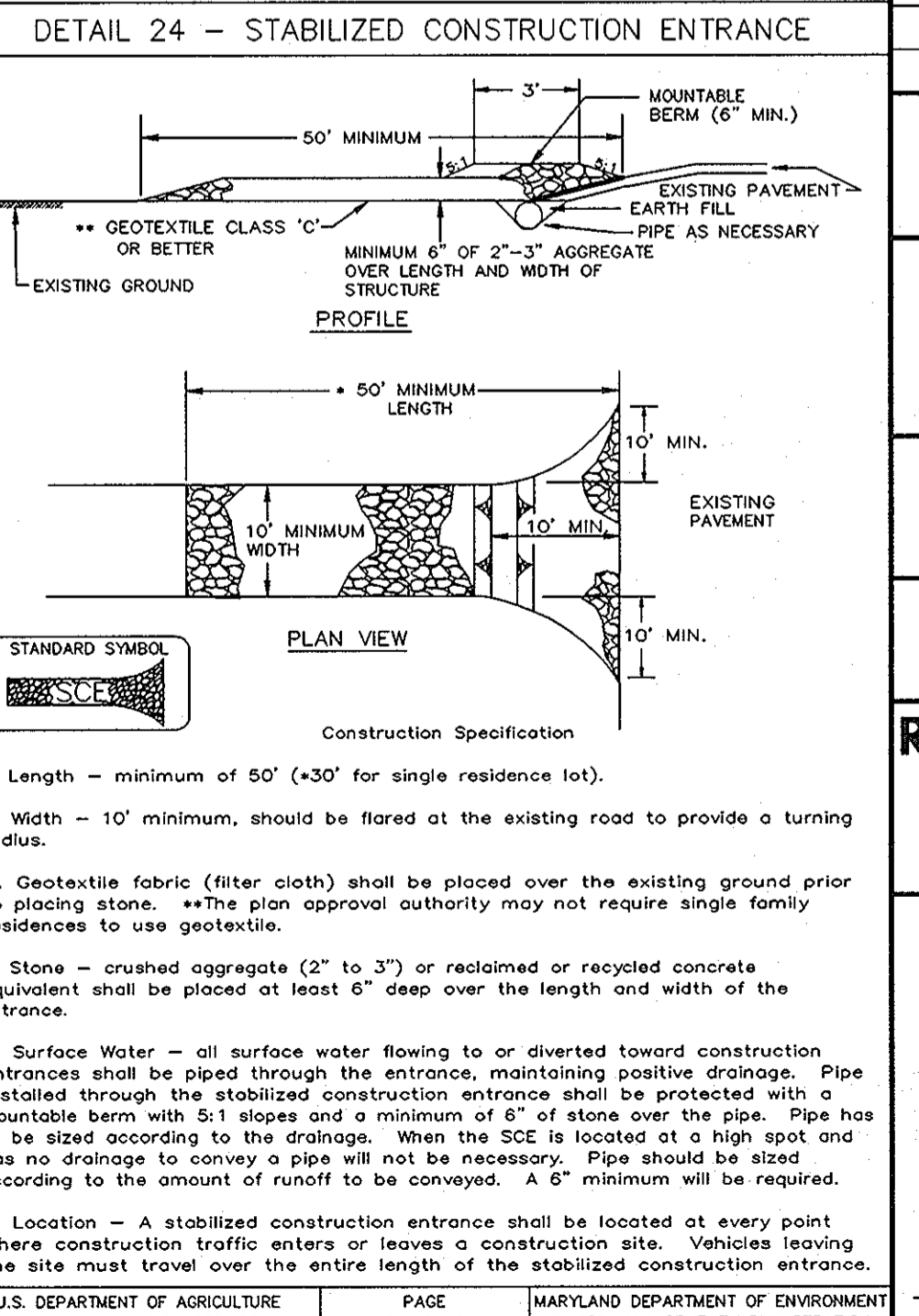
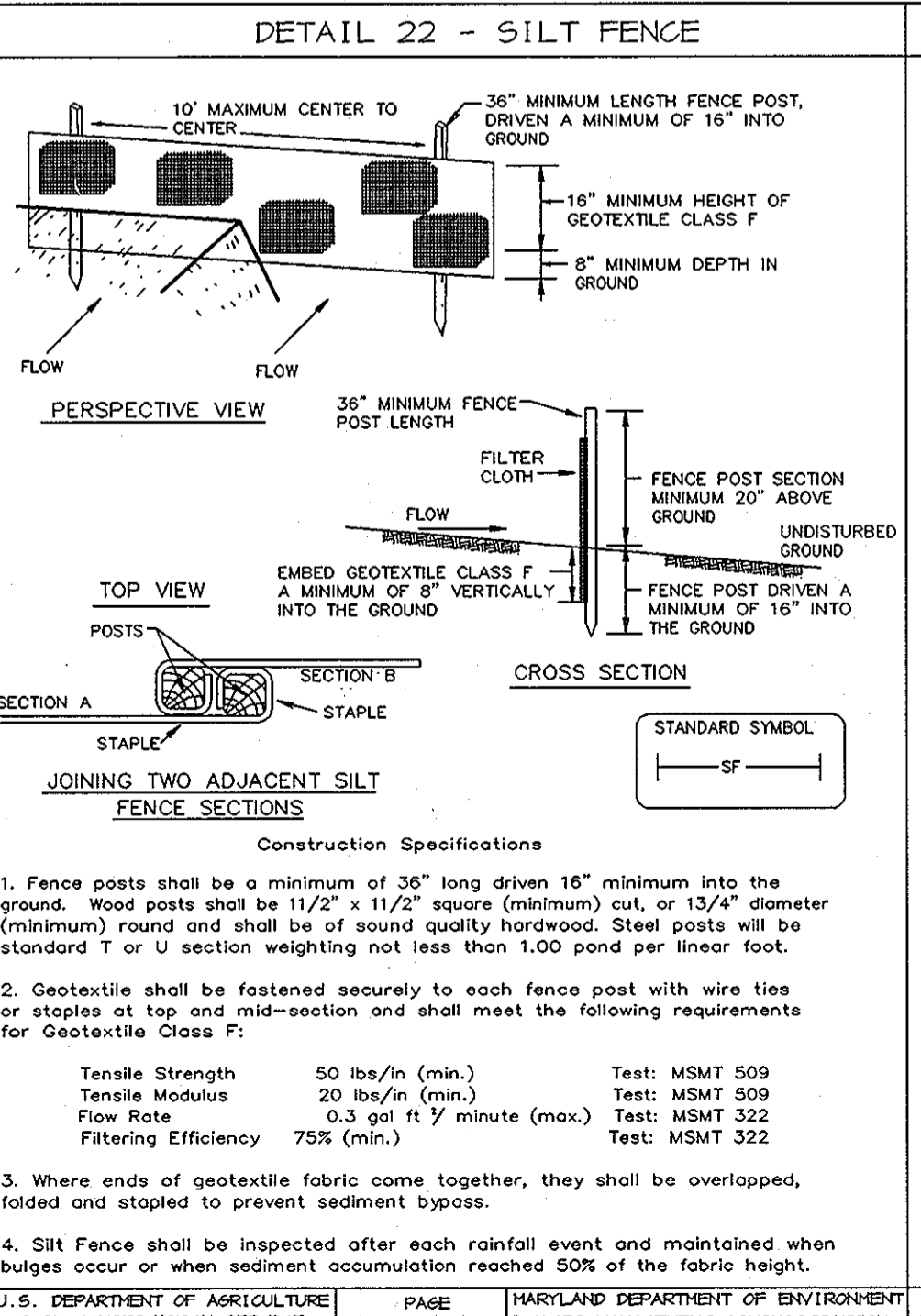
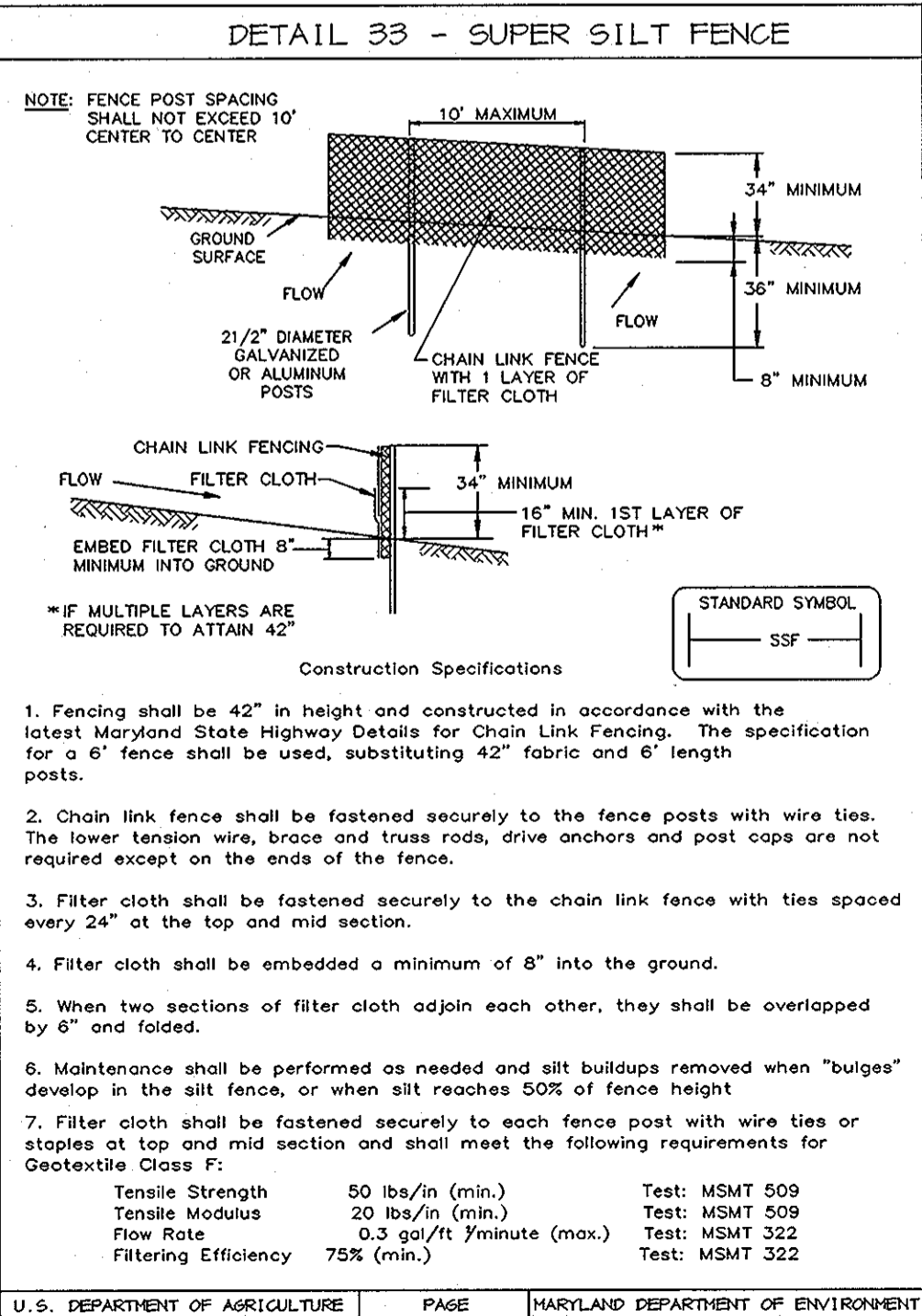
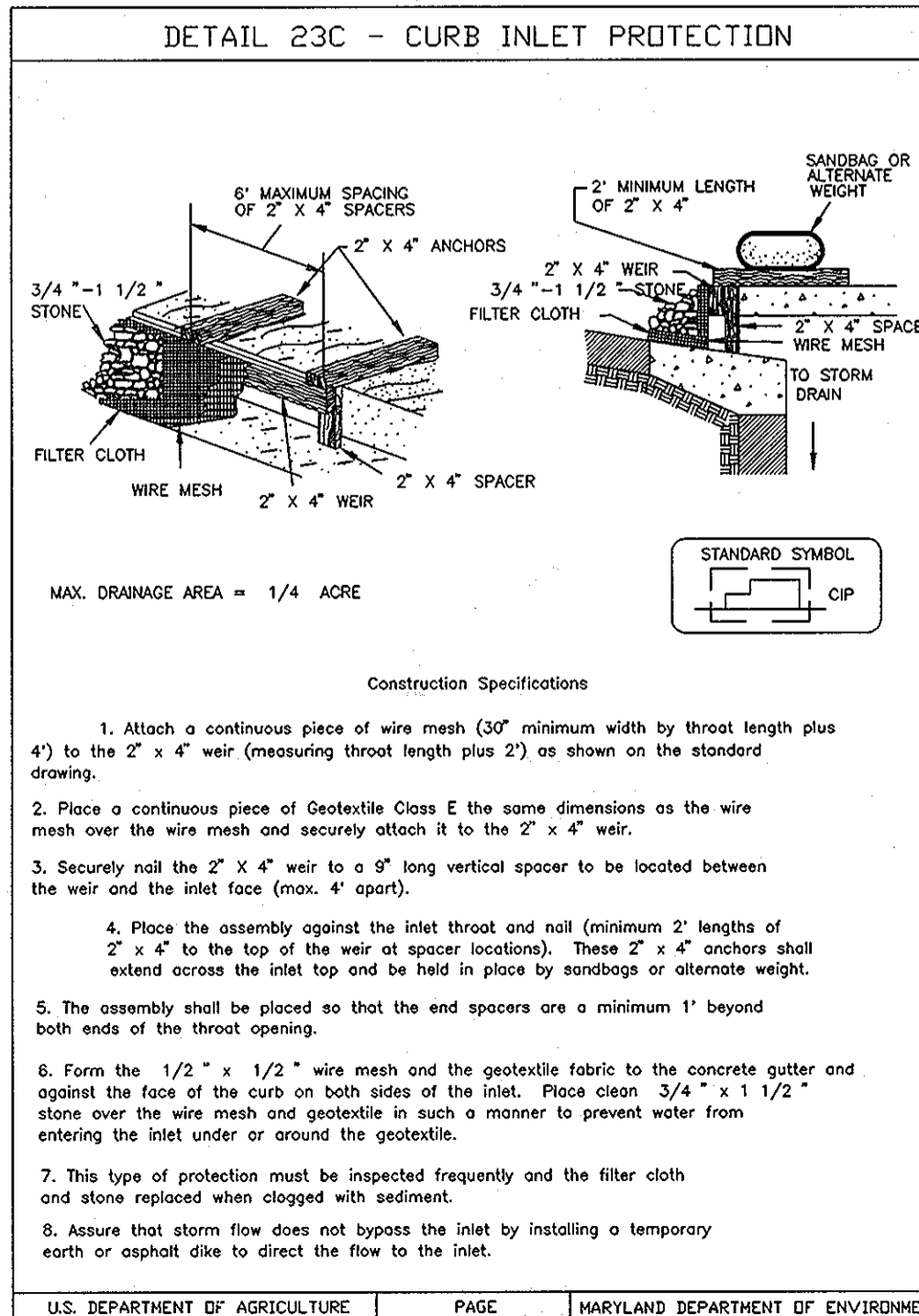
**VI. Topsoil Application**

- When topsoiling, maintain needed erosion and sediment control practices such as diversions, grade stabilization structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
- Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
- Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that 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 seeded preparation.

References: Guideline Specifications, Soil Preparation and Sodding, HD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes, Revised 1978.

**MECHANICAL PAD STABILIZATION SPECIFICATIONS**

- STERILIZE GROUND WITH PRAMITOL 25E, USE PRE-EMERGE AS NECESSARY. TYPE WILL DEPEND IF THERE ARE ANY PLANTS OR TREES IN THE IMMEDIATE AREA.
- BLACK CLOTH 6 OZ. NON-NOVEN - FABRICO BRAND.
- GENSTAR - SPECIFY TEXAS QUARRY PRODUCT ID A1000010 - SPECIFY WHITE STONE ASTM # 3 - L62 - MSHA # 2



BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY 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.

*Arthur E. Muegge* 2-16-99  
DEVELOPER DATE

BY THE ENGINEER:

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.

*Arthur E. Muegge* 2-16-99  
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

*Cheryl Simms* 2/23/99  
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*John W. Allen* 2/23/99  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*John S. Banta* 3/3/99  
DIRECTOR DATE

*William D. Williams* 3/1/99  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Cindy Hemmett* 2/2/99  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE NO. REVISION

OWNER/DEVELOPER:  
SIENA DEVELOPMENT CORP.  
12011 GULLFORD RD., STE 101  
ANNAPOLIS JUNCTION, MD 20701  
(410) 442-8345

PROJECT  
**E-Z STORAGE  
ELLCOTT CITY**

AREA  
PARCEL 1011  
TAX MAP 24, BLOCK 5, PARCEL G-2  
2nd ELECTION DISTRICT ZONED M-1  
HOWARD COUNTY, MARYLAND

TITLE  
**DETAILS AND NOTES**

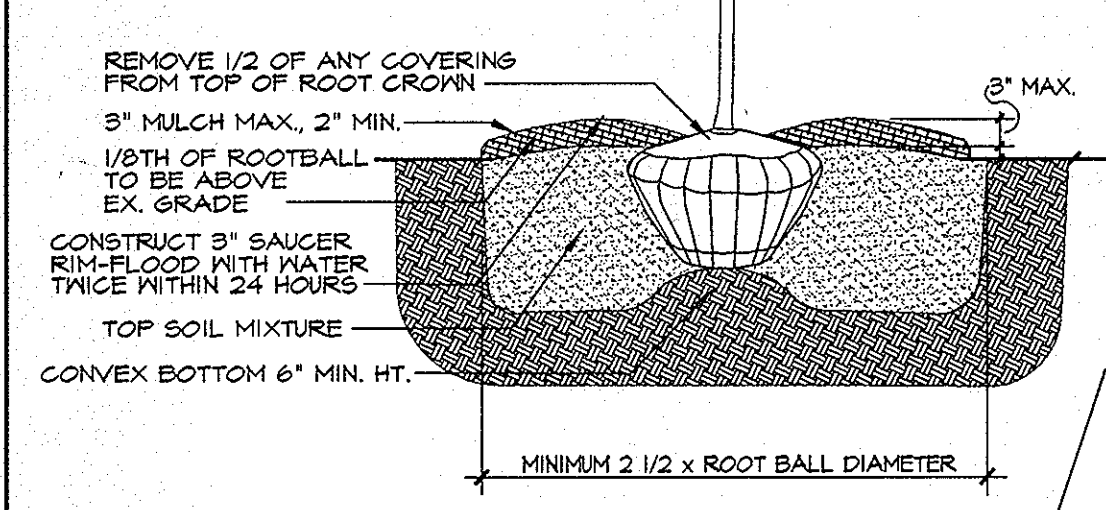
**RIEMER MUEGGE & ASSOCIATES, INC.**  
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING  
8818 Centre Park Drive, Columbia, Maryland 21045  
tel 410.997.8900 fax 410.997.9282

DESIGNED BY: C.J.R.  
DRAWN BY: D.R.D.  
CHECKED BY: C.J.R.  
PROJECT NO: 98293  
SDP6-DWG  
DATE: FEBRUARY 16, 1999  
SCALE: AS SHOWN  
DRAWING NO. 6 OF 9  
SDP-99-36

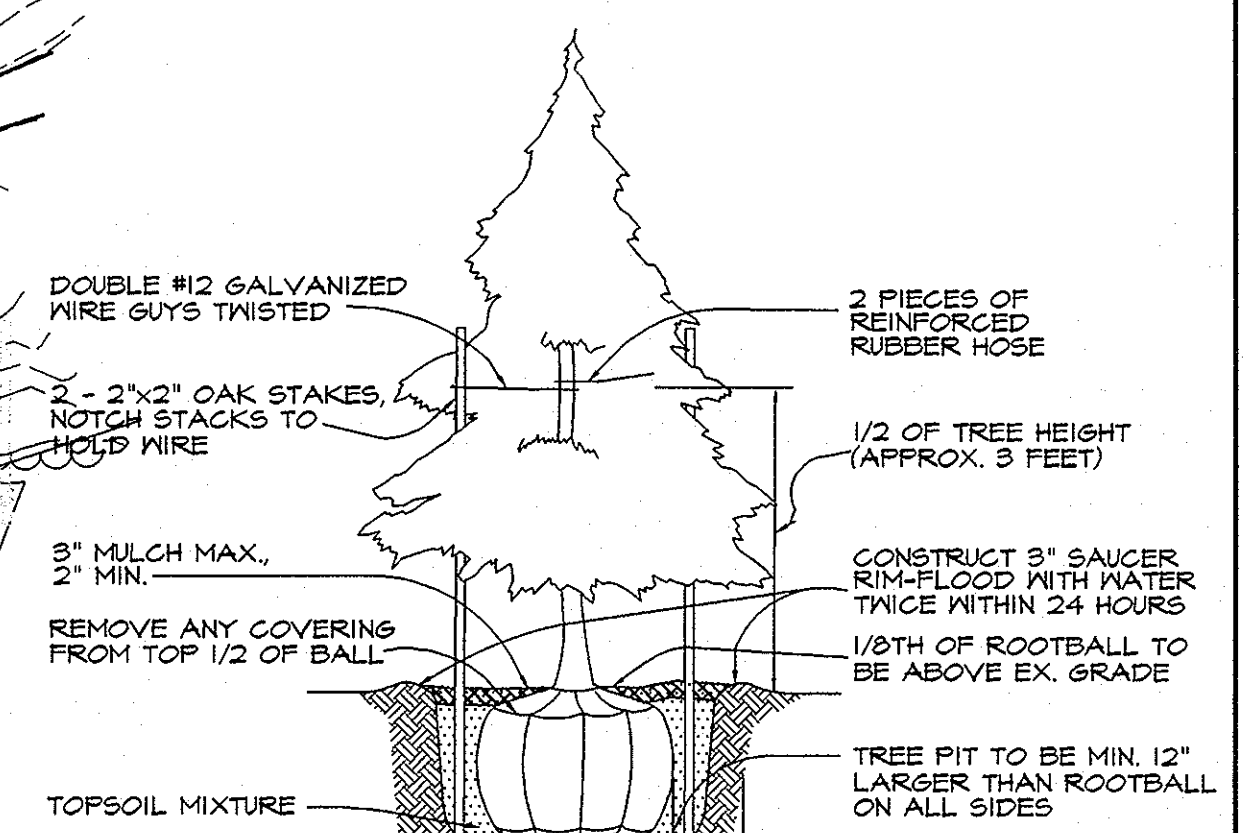
NOTE: CONTRACTOR TO REGRADE SOD OR HYDROSEED AND STRAW MULCH ALL AREAS DISTURBED AS A RESULT OF THEIR WORK.

SPRAY WITH MILT-PROOF ACCORDING TO MANUFACTURER'S STANDARD

PRUNE ONLY TO CORRECT OR IMPROVE FORM OR TO REMOVE DEAD, CONFLICTING OR DAMAGED BRANCHES.



**TREE PLANTING DETAIL**  
NOT TO SCALE



**EVERGREEN PLANTING DETAIL**  
NOT TO SCALE

- NOTES:**
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE OF THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
  - FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$4250.
  - THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
  - CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

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

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

NAME: *David T. Dows* DATE: 2-16-99

**SITE INFORMATION:**

AREA: 1.60 AC (69,696 SQ. FT.)

CURRENT ZONING: M-1

EXISTING AND PROPOSED USE: WAREHOUSE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
DIRECTOR: <i>John S. Smith</i>	3/1/99 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION: <i>William D. ...</i>	3/1/99 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT: <i>Chris ...</i>	3/1/99 DATE

6-27-02	ADDED GATE & STORAGE, MODIFIED ADJACENT PROPERTY LAYOUT.
DATE NO.	REVISION
OWNER/DEVELOPER: SIENA DEVELOPMENT CORP. 12011 GUILFORD RD. STE 101 ANNAPOLIS JUNCTION, MD 20701 (410) 742-8345	

PROJECT: **E-Z STORAGE ELLICOTT CITY**

AREA: PARCEL 1011 TAX MAP 24, BLOCK 5, PARCEL C-2 2nd ELECTION DISTRICT ZONED M-1 HOWARD COUNTY, MARYLAND

**LANDSCAPE PLAN**

**RIEMER MUEGGE & ASSOCIATES, INC.**  
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING  
8818 Centre Park Drive, Columbia, Maryland 21045  
tel 410.997.8900 fax 410.997.9282

DATE: 2-16-99	DESIGNED BY: D.T.D.
DRAWN BY: A.J.L.	CHECKED BY: D.T.D.
PROJECT NO: 98243/LSCP	DATE: FEBRUARY 16, 1999
SCALE: 1" = 30'	DRAWING NO. 7 OF 9

PARKING LOT INTERNAL LANDSCAPING	
PARKING LOT	1
NUMBER OF PARKING SPACES	12
NUMBER OF SHADE TREES/ISLANDS* REQUIRED (1/20 SPACES)	1
NUMBER OF TREES PROVIDED	1
SHADE TREES	1
OTHER TREES (2:1 SUBSTITUTION)	1
NUMBER OF ISLANDS REQUIRED	1
NUMBER OF ISLANDS PROVIDED	1

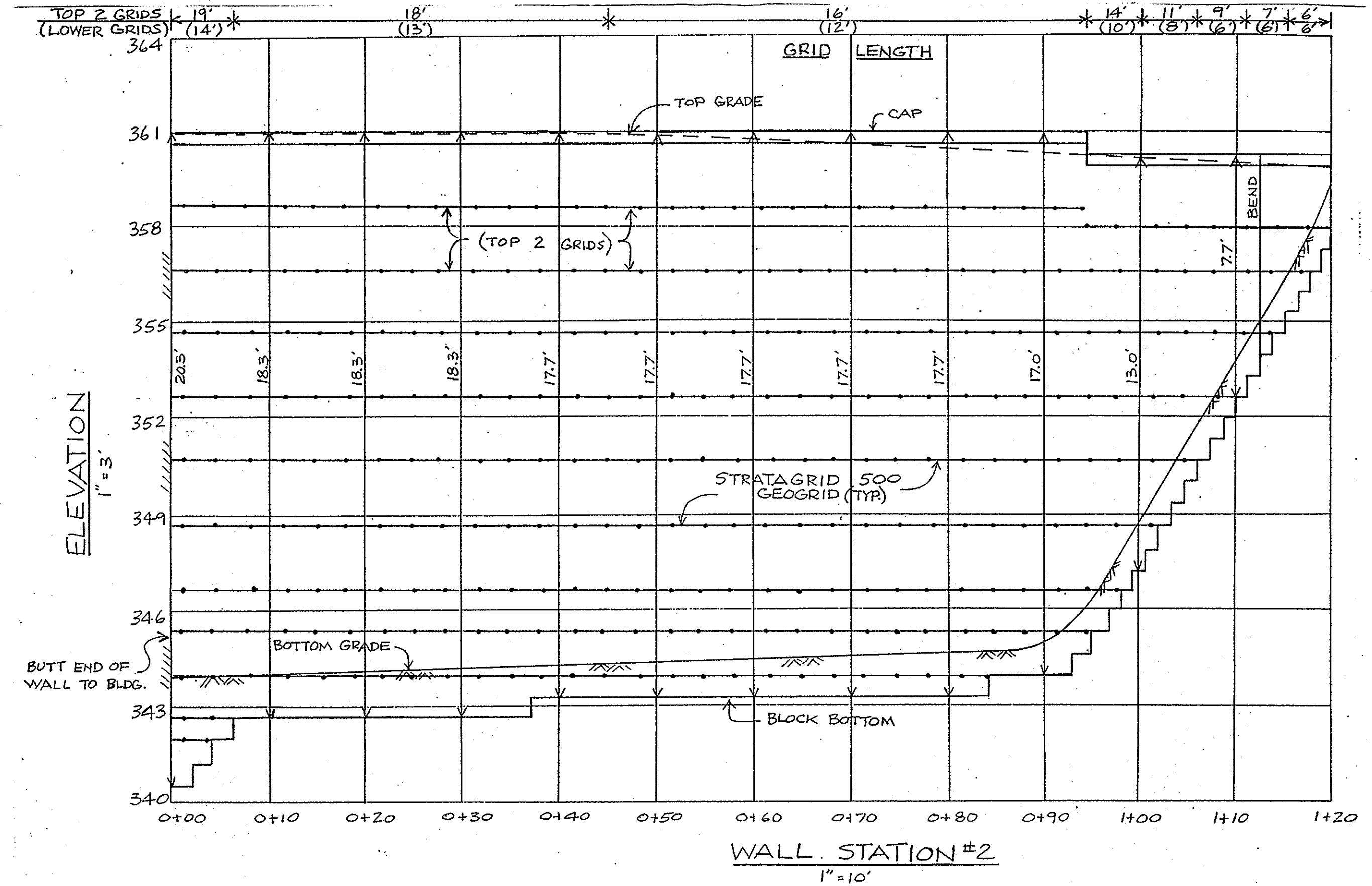
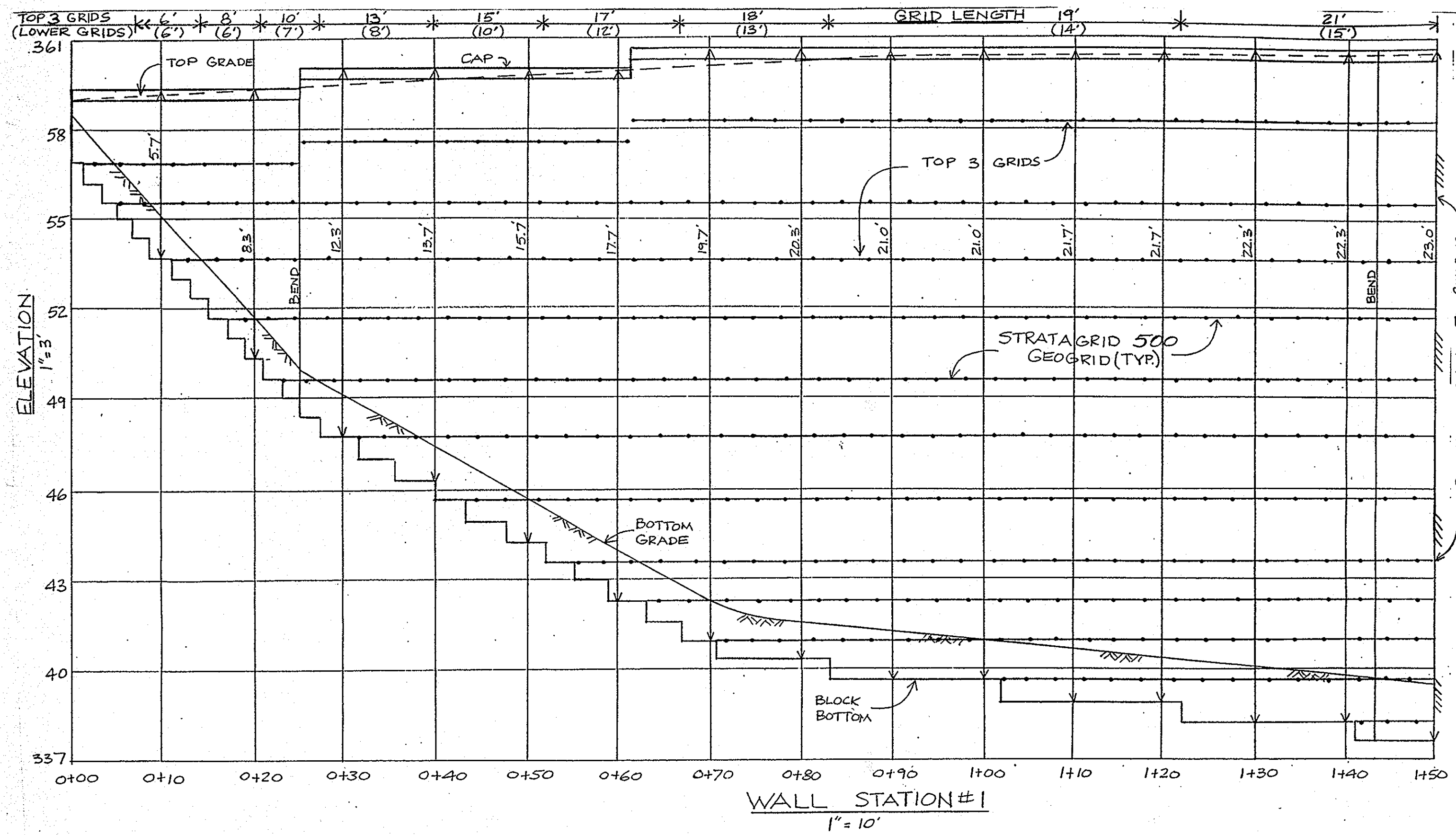
\* 200 SF PLANTING AREA / ISLAND

PERIMETER LANDSCAPE EDGE					
PERIMETER	ADJACENT TO PERIMETER PROPERTIES			ADJACENT TO ROADWAYS	DUMPSTER ADJACENT TO ROADWAYS
	1	2	4	3	5
LANDSCAPE TYPE	C	A	A	E	D
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	±286'	N/A **	N/A **	±60'	±20'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	YES TO L.F.	N/A	N/A	NO	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	N/A	N/A	NO	YES
NUMBER OF PLANTS REQUIRED					
SHADE TREES	5	-	-	2	-
EVERGREEN TREES	11	-	-	15	-
SHRUBS	-	-	-	-	-
NUMBER OF PLANTS PROVIDED					
SHADE TREES	1	-	-	1	-
EVERGREEN TREES	19	-	-	4	2
SMALL FLOWERING TREES	-	-	-	-	-
SHRUBS	-	-	-	-	-

\*\* ACCORDING TO PAGE 17 OF THE HOWARD COUNTY LANDSCAPE MANUAL, "THE REGULATIONS DO NOT REQUIRE LANDSCAPE EDGES, BUFFERING OR SCREENING BETWEEN INTERNAL LOTS OR PARCELS WITHIN THE SAME DEVELOPMENT."

PLANT LIST A - COUNTY LANDSCAPE REQUIREMENTS					
SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
AR	1	ACER RUBRUM / RED MAPLE	2 1/2" - 3"	B & B	FULL ROUND CROWN
PS	19	PINUS STROBUS / WHITE PINE	8' - 10'	B & B	STRAIGHT STEM
PT	6	PINUS THUNBERGIANA / JAPANESE BLACK PINE	6' - 8'	B & B	NONE
QP	1	QUERCUS PALUSTRIS / PIN OAK	2 1/2" - 3"	B & B	STRAIGHT LEADER

PLANT LIST B - AMENITY PLANT MATERIAL					
SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
AR	1	ACER RUBRUM / RED MAPLE	2 1/2" - 3"	B & B	FULL ROUND CROWN
PS	12	PINUS STROBUS / WHITE PINE	8' - 10'	B & B	PLANT 9' O.C.
IC	22	ILEX CRENATA / COMPACT JAPANESE HOLLY	18" - 24"	CONT.	PLANT 3' O.C.
BT	16	BERBERIS THUNBERGII 'C.P.' / CRIMSON PIGMY BARBERRY	15" - 18"	CONT.	PLANT AS SHOWN
SM	3	SYRINGA 'MISS KIM' / MISS KIM LILAC	24" - 30"	CONT.	PLANT 4'-5' O.C.
LM	24	LIRIOPE MUSCART 'BIG BLUE' / BIG BLUE LIRIOPE	1 GAL.	CONT.	18' O.C.
SA	10	SEDUM AUTUMN JOY / AUTUMN JOY STONECROP	1 GAL.	CONT.	PLANT 2 1/2' O.C.
PH	24	FENNICETUM 'HAMELIN' / HAMELIN FOUNTAIN GRASS	2 GAL.	CONT.	PLANT 3' O.C.
MS	27	MISCANTHUS SIN. 'AUTROPURPUREA' / PURPLE MAIDENHAIR GRASS	2 GAL.	CONT.	PLANT 3 1/2' O.C.



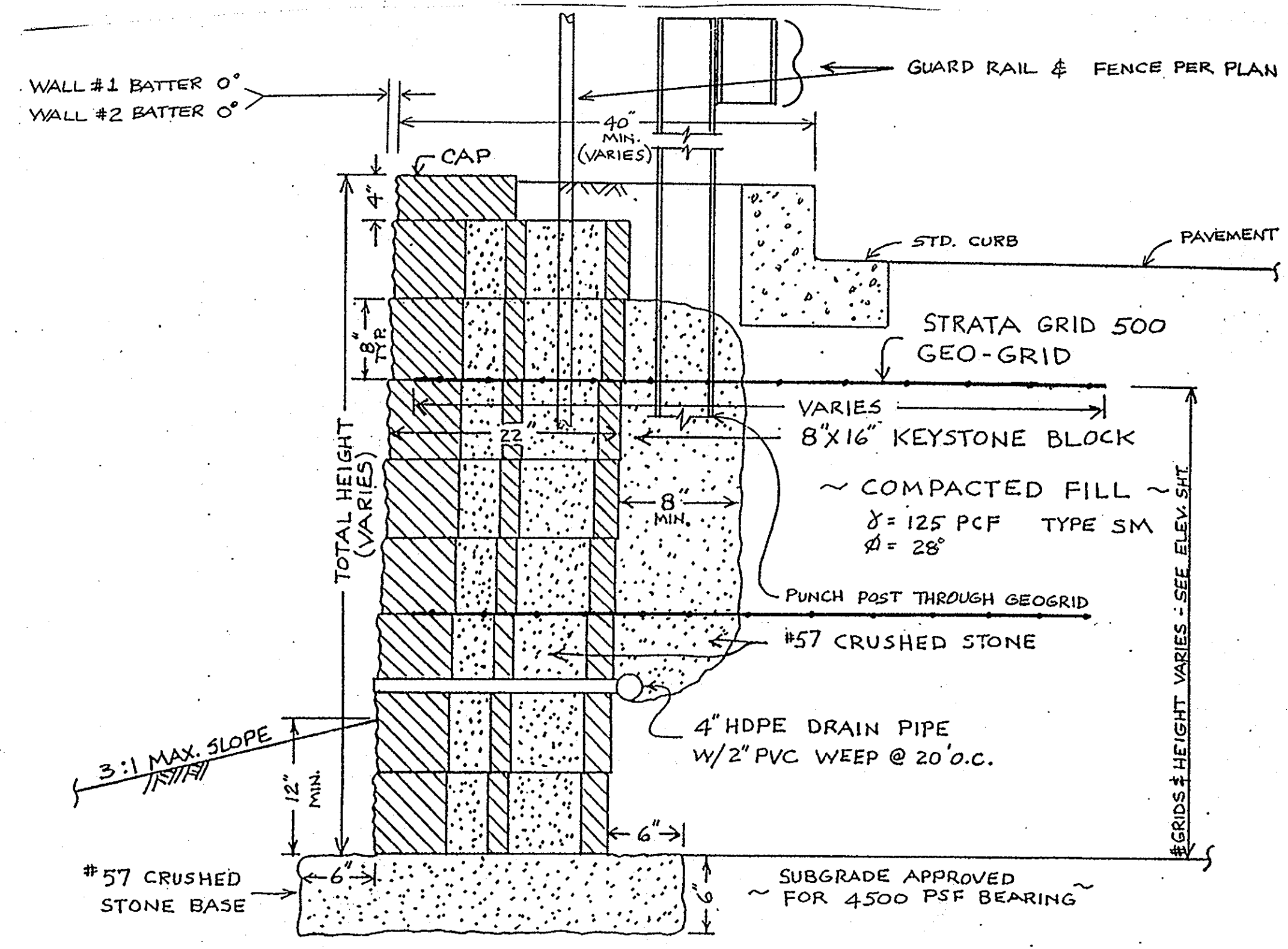
- NOTES**
- CONSTRUCTION SHALL BE PERFORMED UNDER THE OBSERVATION OF A LANDSCAPE PROFESSIONAL ENGINEER.
  - DATE OF WALL ELEVATIONS WILL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION.

**SPECIFICATION GUIDELINES**  
**KEYSTONE CONCRETE MODULAR RETAINING WALL**

- PART 1: GENERAL**
- 1.01 DESCRIPTION**
- Work includes furnishing and installing modular block retaining wall units to the lines and grades designated on the construction drawings and as specified herein.
  - Work includes preparing foundation soil, furnishing and installing leveling pad, unit fill and backfill to the lines and grades designated on the construction drawings.
  - Furnishing and installing all appurtenant materials required for construction of the retaining wall as shown on the construction drawings.
- 1.02 RELATED WORK**
- Section 02275 - Geogrid Soil Reinforcement.
- 1.03 REFERENCE STANDARDS**
- ASTM C90 - 85 Hollow Load Bearing Masonry Units.
  - ASTM C140 - 75 Sampling and Testing Concrete Masonry Units.
  - ASTM C145 - 85 Solid Load Bearing Concrete Masonry Units.
- 1.04 DELIVERY, STORAGE AND HANDLING**
- Contractor shall check the materials upon delivery to assure that proper material has been received.
  - Contractor shall prevent excessive mud, wet cement, epoxy, and like materials which may affix themselves, from coming in contact with the materials.
  - Contractor shall protect the materials from damage. Damaged material shall not be incorporated into the retaining wall structure.
- 1.05 SUBMITTALS**
- Samples of all products used in the work of this section.
  - Latest edition of manufacturers specifications for proposed materials, method of installation and list of material proposed for use.
- 1.08 QUALITY ASSURANCE**
- Soil testing and inspection services for quality control testing during earthwork operations will be supplied by the owner.
- PART 2: PRODUCTS**
- 2.01 CONCRETE UNITS**
- Masonry units shall be Keystone® Retaining Wall Units as manufactured by:
  - Concrete wall units shall have a minimum net 28 day compressive strength of 3000 psi. The concrete shall have a maximum moisture absorption of 8 to 8 1/2%.
  - Exterior dimensions may vary in accordance with ASTM C90 - 85. Standard and Compact units shall have a minimum of 1 square foot face area each. Mini units shall have a minimum 1/2 square foot face area each.
  - Keystone Standard units shall provide a minimum of 150 psf of wall face area. Fill which is contained within the dimensions of the units may be considered as 80% effective weight.
- 2.02 FIBERGLASS CONNECTING PINS**
- Connecting pins shall be 1/2 inch diameter threaded fiberglass reinforcement rods.
  - Pins shall have a minimum flexural strength of 120,000 psi and short beam shear of 6400 psi.
- 2.03 BASE LEVELING PAD MATERIAL**
- Material shall consist of compacted sand, gravel, crushed rock or leveling concrete (non-reinforced) as shown on construction drawing. The compacted leveling pad shall be a minimum 6 inches thick. When using a non-reinforced leveling concrete option, 1" to 3" thick, maintain the total leveling pad thickness.
- 2.04 UNIT FILL**
- Fill for units shall be free draining crushed stone, 3/8" to 3/4", or coarse gravel (no more than 5% shall pass the No. 200 sieve with a maximum size of 3/4"). Gradation of the fill shall be approved by the Engineer.
  - Place recommended fill behind the retaining wall units.
- 2.05 BACKFILL**
- Material shall be Insitu soils when approved by the engineer unless otherwise specified in the drawings. Unsuitable soils for backfill (heavy clays or organic soils) shall not be used in the backfill or in the reinforced soil mass.
  - Where additional fill is required contractor shall submit sample and specifications to the engineer to determine if acceptable.
- PART 3: EXECUTION**
- 3.01 EXCAVATION**
- Contractor shall excavate to the lines and grades shown on the construction drawings. Over excavation shall not be paid for and replacement with compacted fill and/or wall system components will be required at contractor expense. Contractor shall be careful not to disturb embankment materials beyond lines shown.
- 3.02 FOUNDATION SOIL PREPARATION**
- Foundation soil shall be excavated as required for footing dimensions shown on the construction drawings, or as directed by the Engineer.
- 3.03 BASE LEVELING PAD**
- Leveling pad materials shall be placed as shown on the construction drawings, upon undisturbed insitu soils, to a minimum thickness of 6 inches.
  - Material shall be compacted so as to provide a level hard surface on which to place the first course of units. Compaction shall be to 95% of standard proctor for sand or gravel type materials. For crushed rock, material shall be densely compacted.
  - Leveling pad shall be prepared to insure complete contact of retaining wall unit with base.
  - Leveling pad materials shall be to the depths and widths shown. Contractor may opt for using reduced depth of sands, gravel or crushed rock using a concrete topping. Concrete shall be unreinforced and a maximum of 1" to 3" thick.
- 3.04 UNIT INSTALLATION**
- First course of concrete wall units shall be placed on the base leveling pad. The units shall be checked for level and alignment. The first course is the most important to insure accurate and acceptable results.
  - Insure that units are in full contact with base.
  - Units are placed side by side for full length of wall alignment. Alignment may be done by means of a string line or offset from base line.
  - Install fiberglass connecting pins and fill all voids at units with unit fill material. Tamp fill.
  - Sweep all excess material from top of units and install next course. Insure each course is completely unit filled, backfilled and compacted prior to proceeding to next course.
  - Lay up each course insuring that pins protrude into adjoining courses above a minimum of one inch. Two pins are required per unit. Pull each unit forward, away from the embankment, against pins in the previous course and backfill as the course is completed. Repeat procedure to the extent of wall height.
  - As appropriate where the wall changes elevation, units can be stepped with grade or turned into the embankment with a convex return end. Provide appropriate buried units on compacted leveling pad in area of convex return end.
- 3.05 CAP INSTALLATION**
- Place Keystone Cap units over projecting pins from units below. Pull forward to set back position. Back fill and compact to finished grade.
  - As required, provide permanent mechanical connection to wall units with construction adhesive or epoxy. Apply adhesive or epoxy to bottom surface of cap units and top of units below.
- 3.06 GEOGRID INSTALLATION**
- Follow the requirements of Section 02275, GEOGRID SOIL REINFORCEMENT.

**GEOGRID SOIL REINFORCEMENT**

- PART 1: GENERAL**
- 1.01 DESCRIPTION**
- Work includes furnishing and installing geogrid reinforcement, wall fill and backfill to the lines and grades designated on the construction drawings.
  - Work includes furnishing and installing all appurtenant materials required for construction of the geogrid reinforced soil retaining wall as shown on the construction drawings.
- 1.02 RELATED WORK**
- Section 02275 - KEYSTONE CONCRETE MODULAR RETAINING WALL.
- 1.03 REFERENCE STANDARDS**
- See specific geogrid manufacturers reference standards.
- 1.04 DELIVERY, STORAGE AND HANDLING**
- Contractor shall check the geogrid upon delivery to assure that the proper material has been received.
  - Geogrids shall be stored above -20°F.
  - Contractor shall prevent excessive mud, wet cement, epoxy and like materials which may affix themselves to the geogrid, from coming in contact with the geogrid material.
  - Rolls of geogrid material may be laid flat or stood on end for storage.
- 1.05 SUBMITTALS**
- Samples of all products used in the work of this section.
  - Latest edition of manufacturers specifications for proposed materials, method of installation and list of material proposed for use.
- 1.08 QUALITY ASSURANCE**
- Soil testing and inspection services for quality control testing during earthwork operation will be supplied by the owner.
- PART 2: PRODUCTS**
- 2.01 DEFINITIONS**
- Geogrid products shall be high density polyethylene expanded sheet or polyester woven fiber materials, specifically fabricated for use as soil reinforcement.
  - Concrete retaining wall units are as detailed on the drawings and are specified under Section 02275 - KEYSTONE CONCRETE MODULAR RETAINING WALL.
  - Wall fill is a free draining granular material used within the concrete units.
  - Backfill is the soil which is used as fill for the reinforced soil mass.
  - Foundation soil is the insitu soil.
- 2.02 GEOGRID**
- Geogrid shall be the type as shown on the drawings having the property requirements as described within the manufacturers specifications.
- 2.03 ACCEPTABLE MANUFACTURERS**
- A manufacturer's product shall be approved by the Engineer prior to bid opening.



TYPICAL WALL PROFILE #1 & #2  
N.T.S.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Director: *[Signature]* 3/9/99 DATE

Chief, Development Engineering Division: *[Signature]* 3/4/99 DATE

Chief, Division of Land Development: *[Signature]* 3/3/99 DATE

DATE	NO.	REVISION

OWNER/DEVELOPER: SIENA DEVELOPMENT CORP. 12011 GUILFORD RD. STE 101 ANNAPOLIS JUNCTION, MD 20701 (410) 742-8345

PROJECT: E-Z STORAGE ELLICOTT CITY

AREA: PARCEL 1011 TAX MAP 24, BLOCK 5, PARCEL G-2 2nd ELECTION DISTRICT ZONED M-1 HOWARD COUNTY, MARYLAND

TITLE: RETAINING WALL PROFILES & DETAIL PLAN

HILLIS - CARNES 12011 GUILFORD ROAD, SUITE 106 P.O. BOX 241 ANNAPOLIS JUNCTION, MD 20701

DATE: 12/10/98

DESIGNED BY: C.J.R.

DRAWN BY: D.R.D.

CHECKED BY: C.J.R.

PROJECT NO: 98293

DATE: FEB 3, 1999

SCALE: AS SHOWN

DRAWING NO. 3 OF 9

RICHARD W. STURTEVANT



