

GENERAL NOTES

- Subject property zoned "M-2" per 2/02/04 Comprehensive Zoning Plan.
- Gross area of property = 33.142 ac ±
- Property is within the Metropolitan District.
- Public water and sewer will be used within this site.
- Number of parking spaces required for Proposed Building: 10
Number of parking spaces provided: 12
- The Contractor shall notify the following utility companies or agencies at least five (5) working days before starting work shown on these plans:
State Highway Administration 410.531.5533
BGE(Contractor Services) 410.950.4620
BGE(Underground Damage Control) 410.787.9068
Miss Utility 1.800.257.7777
Colonial Pipeline Company 410.795.1390
Howard County, Dept. of Public Works, Bureau of Utilities 410.315.4900
Howard County Health Department 410.315.2640
AT&T 1.800.252.1133
Verizon 1.800.743.0033/410.224.9210
- The contractor shall notify Miss Utility at 1-800-257-7777 at least 48 hours prior to any excavation work being done.
- 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 the start of work.
- The lots shown hereon comply with the minimum ownership, width and lot area as required by the Maryland State Department of the Environment.
- The project is in conformance with the latest Howard County Standards unless waivers have been approved.
- All curb and gutter to be Howard County Standard R-3.01 Curb and Gutter unless otherwise noted. See Detail Sheet 2.
- Boundary is based on deed liber 384 folio 437. Topography for the area subject to development is based on a field run topographic survey prepared by FSH Associates on or about February 2005. Five foot contours for the remainder of this site is based on Howard County 1998 Aerial Survey.
- There are no floodplains, steep slopes, historic structures or cemeteries on-site.
- Previous Howard County file numbers: SDP-79-36; SDP-95-126; 24-3462-D.
- The coordinates shown hereon are based upon the Howard County Geodetic Control which is based on the Maryland State Plane Coordinate system. Howard County monument numbers 43HA and 48AA were used for this project.
- No clearing, grading or construction is permitted within wetlands, streams or their required buffers.
- This plan has been prepared in accordance of Section 16.124 of Howard County code and Landscape Manual 2. Financial Surety for the required landscaping shall be posted as part of the Grading Permit in the amount of \$300.00 (1 shade tree @ 300.00 each).
- All paving to be P-2 unless otherwise noted, see sheet 2 for details.
- All proposed spot elevations along curb and gutter are to the flowline unless otherwise noted.
- This project is exempt from the requirements of Section 16.1200 of the Howard County Code for Forest Conservation since the proposed disturbed area is within the original limit of disturbance shown on SDP-79-36, per Subdivision Section 16.1202(b)(1)(iii).
- All construction shall be in accordance with the latest standards and specifications of Howard County in addition to MSHA standards and specifications if applicable.
- Contractor is responsible to construct all handicap ramps and handicap access in accordance with current ADA requirements. See sheet 2 for Handicap Parking Signs.
- Any damage to public right-of ways, paving or existing utilities will be corrected at the contractor's expense.
- Existing utilities are located by the use of any or all of the following: Road Construction Plans, Field Surveys, Public Water and Sewer Plans and other available record drawings. Approximate location of the existing utilities are shown for the contractors information. Contractor shall locate existing utilities well in advance of construction activities and take all necessary precautions to protect the existing utilities and to maintain uninterrupted service. Any damage incurred due to the contractor's operation shall be repaired immediately at the contractor's expense.
- All reinforced concrete for storm drain structures shall have a minimum of twenty-eight (28) days strength at 3,500 psi. Any RCP Storm Drain pipe bedding shall be Class 'C'.
- Soil compaction specifications, requirements, methods and materials are to be in accordance with the recommendations of the project Geotechnical Engineer. Geotechnical Engineer to confirm acceptability of proposed paving section, based on soil test, prior to construction.
- All traffic control devices, markings and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
- Estimates of Earthwork quantities are provided solely for the purpose of calculating fees.
- All exterior light fixtures shall be oriented to direct light inwards and downwards on-site away from all adjoining residential properties and public roads and comply with the Requirements of Zoning Section 134. Proposed outdoor lights are wall mounted. See architectural plans.
- Contractor to match proposed grade with tops of existing watermain & water valve within proposed paving.
- Stormwater Management for this site for Cpv, Wly and Rev is provided by reduction of impervious area by at least 20% in accordance with the redevelopment guidelines in the Maryland 2000 Stormwater Management Design Manual.
Proposed Building: 3,456 sq ft
Proposed Sidewalk: 1,049 sq ft
Proposed Paving: 7,148 sq ft
Total: 11,653 sq ft
20% of the Total Proposed Impervious Area: 2,330.6 sq ft
Total Existing Impervious area to be removed: 5,668 sq ft
- In accordance with the MSHA Comments of 11/07/05 for this plan, the existing Vehicular Access Point(s) onto MD Route 175 must be removed from this site.
- A Knox box shall be provided to the right of the main entrance to the building at a range of 4-5 feet in height and not more than 6 feet laterally from the door. A Knox box shall be installed at the entry gate.

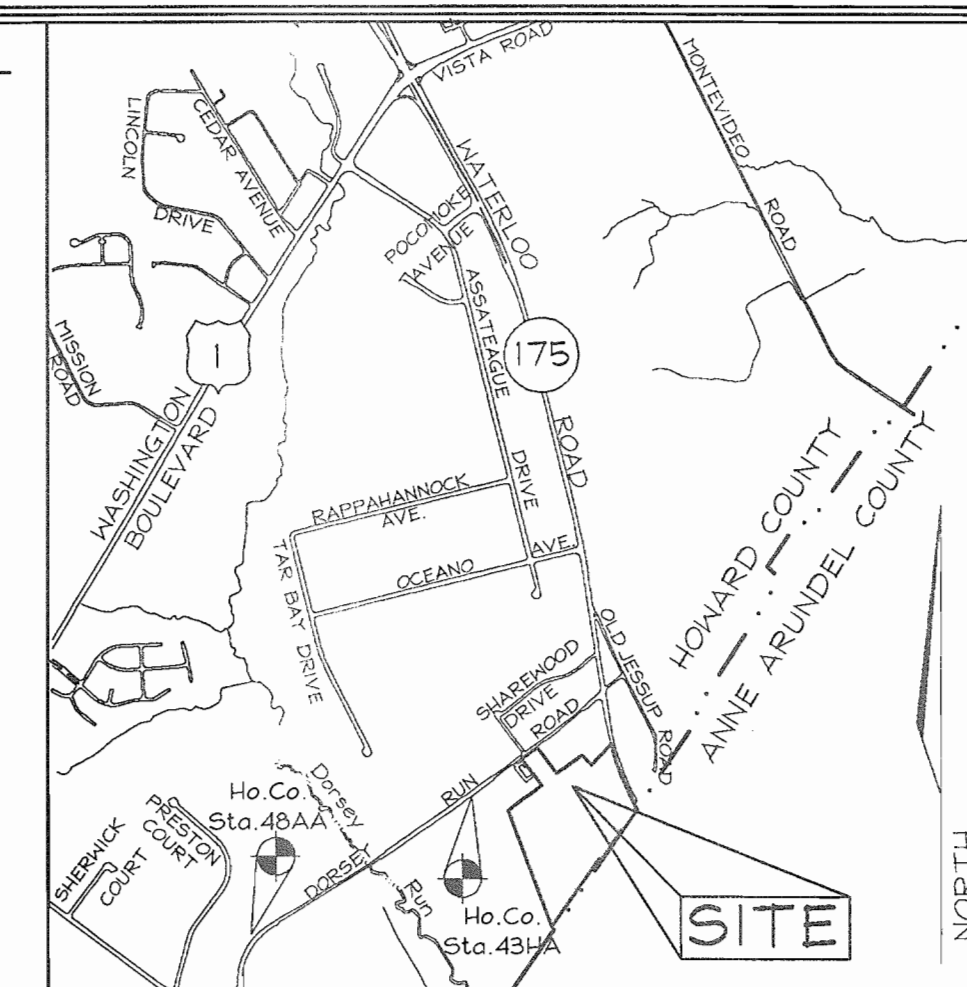
SITE DEVELOPMENT PLANS

HANSON PIPE & PRODUCTS, INC.

HOWARD COUNTY, MARYLAND

LEGEND

- Existing Contour
- Proposed Contour
- Spot Elevation
- Direction of Flow
- Existing Trees to Remain
- Stabilized Construction Entrance
- Silt Fence
- Super Silt Fence
- Limit of Disturbance
- Soil Boundary
- Fence Line
- At Grate Inlet Protection
- Landscape Trees
- Proposed Drainage Divide
- Existing BGE High Voltage Direct-Burial Cable
- Proposed Paving
- Existing Cemetery



BENCHMARKS

Sta. 43HA	N 164,824.5009	E 418,746.4664	El.: 60.5518 (meters)
	N 540,761.716	E 1,373,937.365	El.: 224.907 (feet)
Sta. 48AA	N 164,983.5104	E 418,045.9999	El.: 73.3988 (meters)
	N 539,314.900	E 1,371,539.251	El.: 400.656 (feet)

SHEET INDEX

DESCRIPTION	SHEET No.
Cover Sheet	1 of 4
Site Development, Landscaping, Sediment and Erosion Control Plan	2 of 4
Site Development, Sediment and Erosion Control Plan, Details, Sewer Profile and Parking	3 of 4
Sediment and Erosion Control Details and Sidewalk Details	4 of 4

ADDRESS CHART

Lot	Street
Existing	7970 Waterloo Road

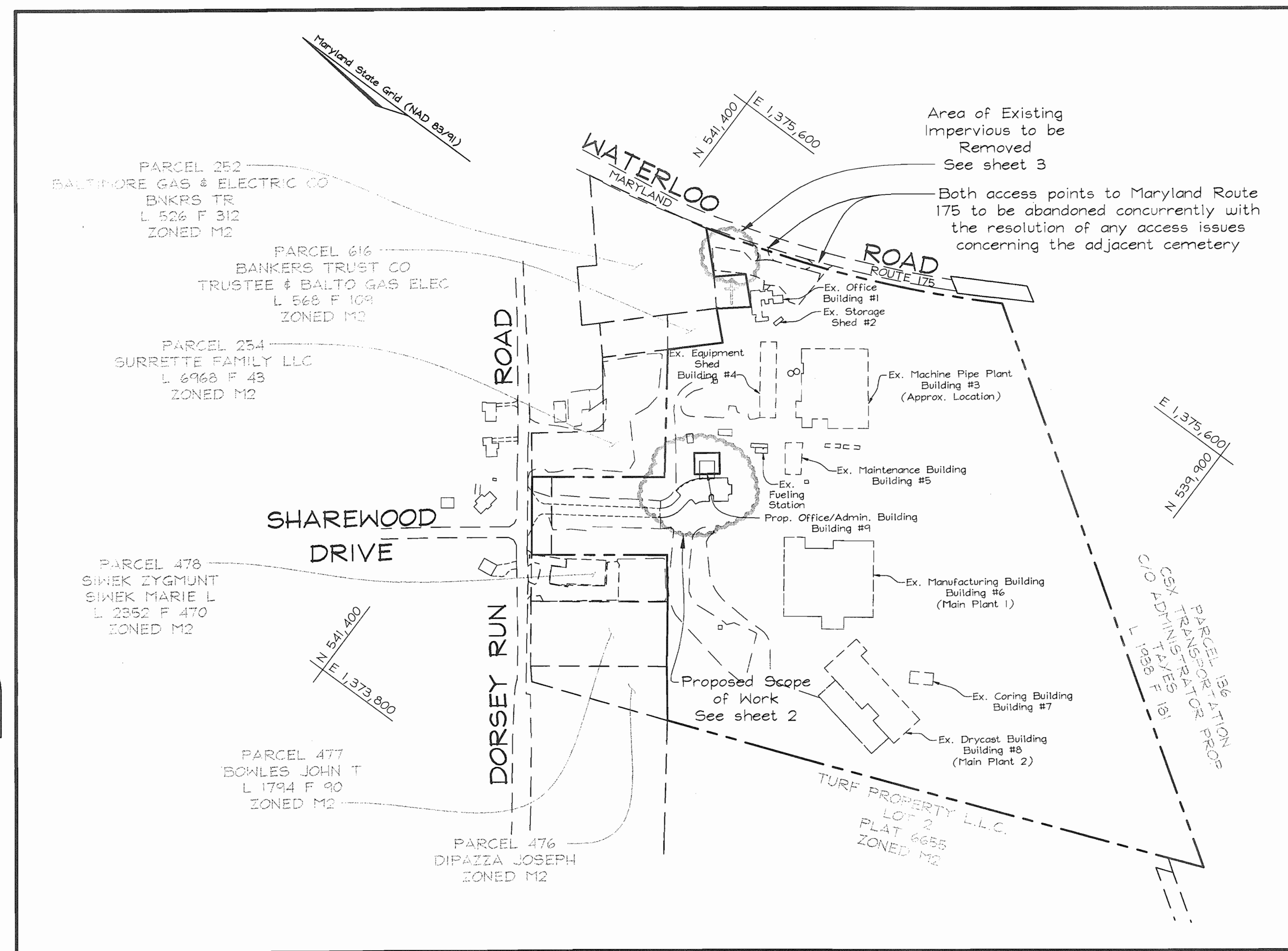
EXISTING BUILDING IDENTIFICATION / USES AND PARKING SPACE REQUIREMENT CHART

BUILDING No.	BUILDING AREA S.F.	BUILDING NAME / USE	PARKING SPACES (REQUIRED)
1	2,892	Office / Administration (To be removed)	0
2	476	Storage Shed	0
3	34,340	Machine Pipe Plant / Manufacturing	1.0 Space per Employee on the Major Shift = 85
4	9,500	Equipment Shed / Equipment Storage	0
5	2,880	Maintenance Building / Equipment Maintenance	0
6	42,550	Manufacturing Building / Manufacturing	0
7	1,920	Coring Building / Manufacturing	0
8	36,472	Drycast Building / Manufacturing	0
9	3,456	Proposed Office / Administration	* 3.3 per 1,000 SF = 12

* Included in the total of 85 employees on the major shift.

SITE ANALYSIS DATA CHART

- Total project area: 33.124 Acres
- Area of plan submission: 33.124 Acres
- Limit of disturbed area: 1.264 Acres
- Present zoning: "M-2" per 02/02/04 Comprehensive Zoning Plan.
- Proposed uses for site & structures: See above chart
- Floor space on each level of building(s) per use: One Level; 3456 s.f. per Level; 3456 s.f. Total
- DPZ file references: SDP-79-36, SDP-95-126, 24-3462-D
- Number of parking spaces required: 85 spaces
Machine Pipe Plant/Manufacturing: 1.0 Space per Employee on Major Shift = 85 spaces
Total number of parking spaces provided: 107 spaces
Total required Handicap parking spaces: 5 spaces; including
1 van accessible space
5 spaces; including
1 van accessible space

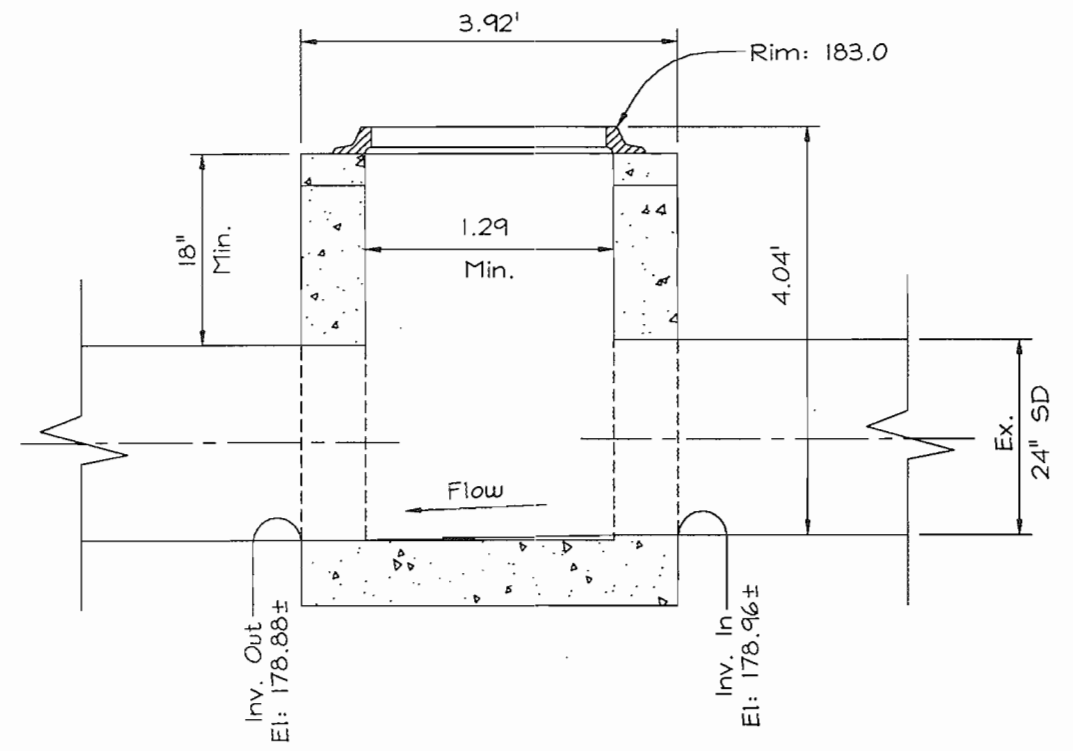


LOCATION MAP
SCALE: 1"=200'

STRUCTURE SCHEDULE

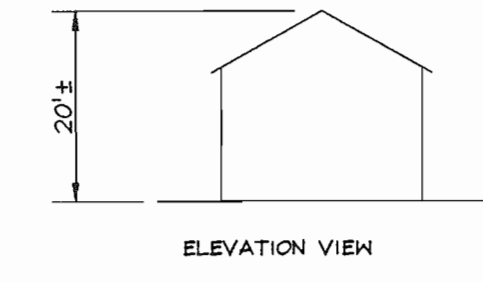
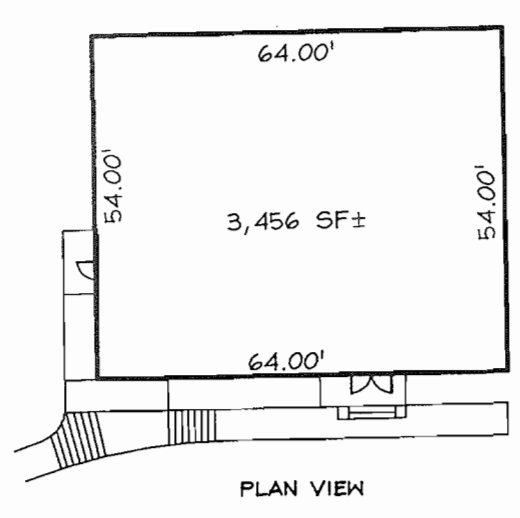
NO.	TYPE	LOCATION	TOP ELEV.	INV. IN	INV. OUT	REMARKS
1-1	Type 'S' Inlet	N 540,958.1904 E 1,374,683.2591	183.00	178.96	178.88	*

NOTES: 1. Top elevations for Type 'S' Inlets in grass areas are to the center top of grate.
* See detail this sheet.



Note: For additional information see Howard County Standard Detail SD4.22

INLET 1-1
Not to scale



BUILDING TEMPLATE
SCALE: 1"=30'

PERMIT INFORMATION CHART

Subdivision Name:	Section/Area:	Lot/Parcel No.:
N/A	N/A	6
DEED	Grid	Zoning
L.384 F.437	3	M-2
Water Code	Tax Map No.	Elect. District
B 02	48	6th
	Census Tract	
	6069.01	
	Sewer Code	
	3020000	

COVER SHEET

HANSON PIPE & PRODUCTS, INC.
TAX MAP 48 GRID 3 6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
PARCEL 6

FSH Associates
Engineers Planners Surveyors
8318 Forest Street, Elkton City, MD 21043
Tel: 410-750-2251 Fax: 410-750-7350
E-mail: info@fsh.biz

DESIGN BY: PS
DRAWN BY: AY/HK
CHECKED BY: ZYF
SCALE: As Shown
DATE: April 27, 2006
I.O. No.: 3191
SHEET No.: 1 OF 4

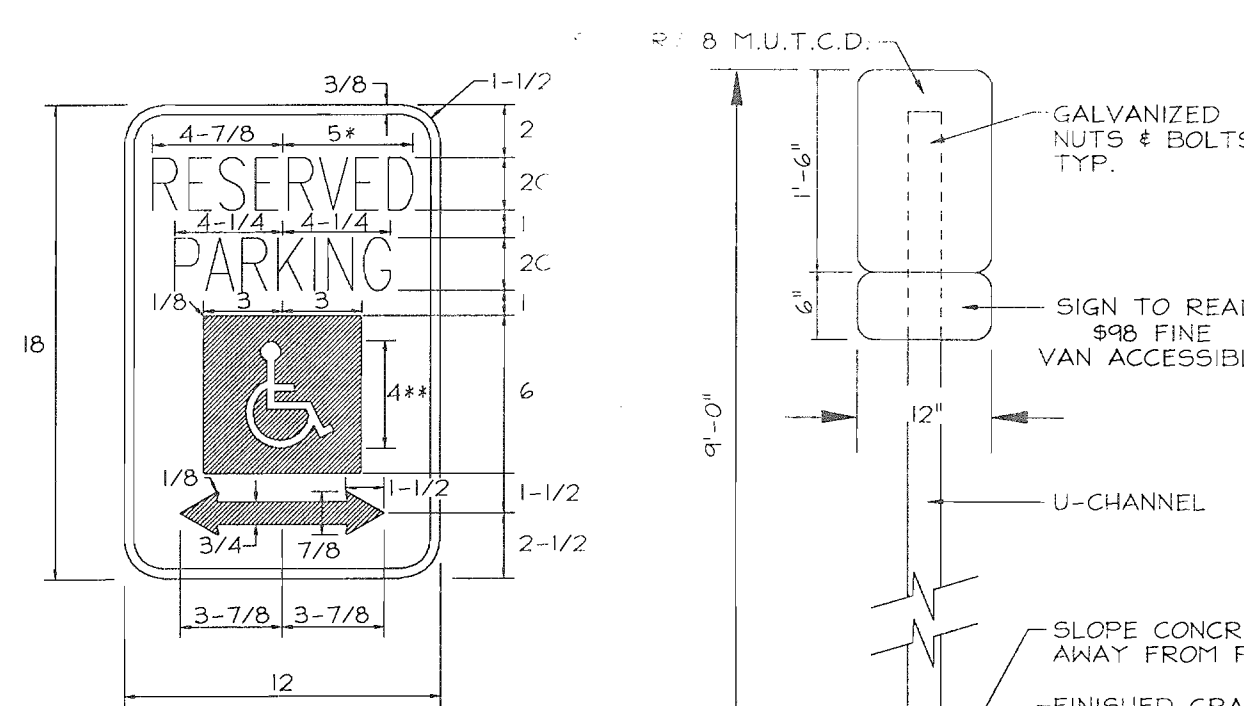
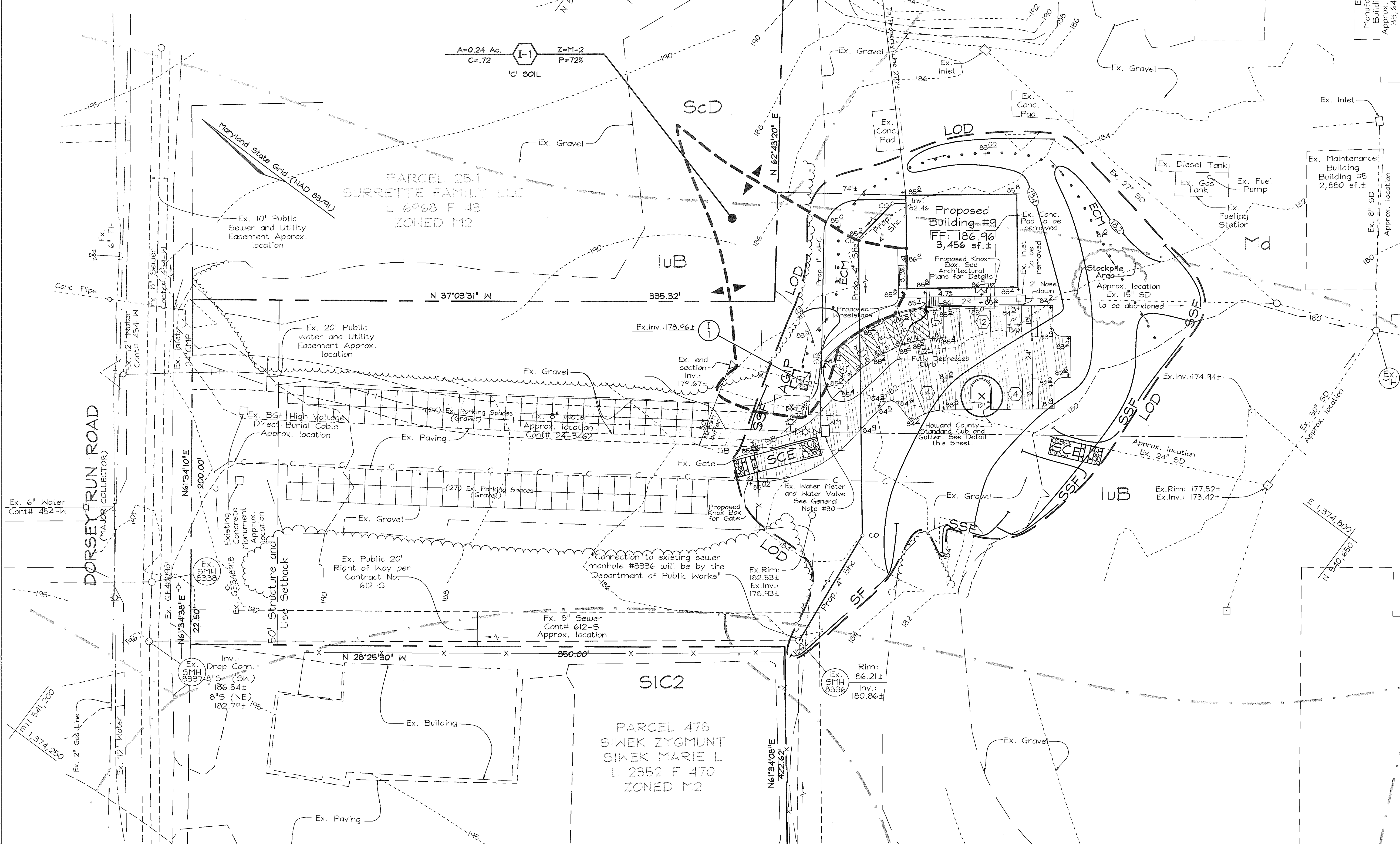
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 5/3/06

 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 6/5/06

 DIRECTOR
 DATE: 6/5/06

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
BeB2	Beltville silt loam, 1 to 5 percent slopes, moderately eroded	C
lvB	luka loam, local alluvium, 1 to 5 percent slopes	C
tl	tlade land	C
tl	Mixed alluvial land	C
ScD	Sandy and clayey land, moderately sloping	C
SfB2	Sassafras gravelly sandy loam, 1 to 5 percent slopes, moderately eroded	B
SfC2	Sassafras gravelly sandy loam, 5 to 10 percent slopes, moderately eroded	B
SfB2	Sassafras loam, 1 to 5 percent slopes, moderately eroded	B
SfC2	Sassafras loam, 5 to 10 percent slopes, moderately eroded	B
SfB2	Sassafras loam, 10 to 15 percent slopes, moderately eroded	B



NOTES:
 All van accessible parking space aisle shall have a "No Parking in Access Aisle" Sign.
 * Reduce spacing 50%
 ** See symbol 1850 for symbol design (all dimensions for signs in inches)

COLORS:
 LEGEND AND BORDER - GREEN
 WHITE SYMBOL ON BLUE BACKGROUND
 BACKGROUND - WHITE

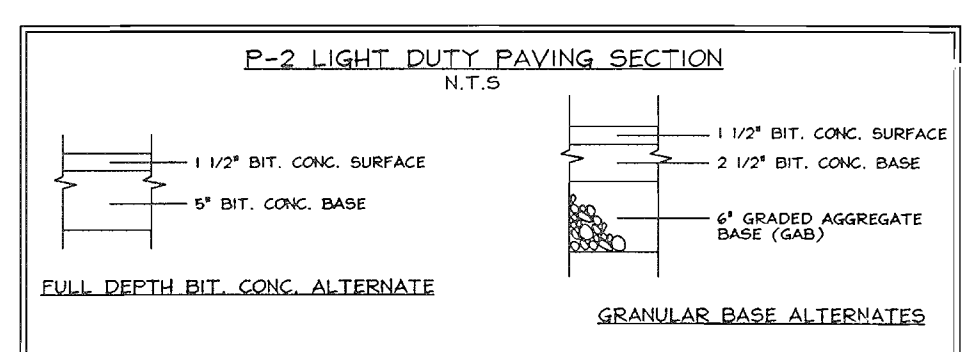
REFERENCE: STATE OF MARYLAND HIGHWAY SIGNS BOOKLET, MARYLAND DEPARTMENT OF TRANSPORTATION.

HANDICAP PARKING SIGN
 NOT TO SCALE

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
Number of Parking Spaces	12
Number of Trees Required	1
Number of Trees Provided	1
Shade Trees	1
Other Trees (2:1 Substitution)	1

LANDSCAPE SCHEDULE			
KEY	QUAN.	BOTANICAL NAME	NOTE
(*)	1	Quercus rubra	2 1/2"-3" Cal. B & B
(*)	1	Red Oak	

- LANDSCAPE NOTES**
- 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 Landscape Plan may result in denial or delay in the release of landscape surety until such time as all required materials are planted and/or revisions are made to applicable plans and certificates.
 - The owner, tenant, and/or their agents shall be responsible for maintenance of the required landscaping, including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced.
 - Financial surety for the required landscaping will be posted as part of the Grading Permit in the amount of \$300.00 (1 shade trees @ \$300.00 each).



Notes:
 Paving sections shown relates to a CBR value of 7. Actual CBR test results may cause modification of these paving sections.

OWNER/DEVELOPER
 Hanson Pipe & Products, Inc.
 John Blankenship
 2900 Terminal Avenue
 Richmond, VA 23234
 804-233-5471 (Ph)
 804-233-5542 (Fax)

SITE DEVELOPMENT, LANDSCAPING, SEDIMENT AND EROSION CONTROL PLAN
HANSON PIPE & PRODUCTS, INC.

TAX MAP 46 GRID 3 PARCEL 6
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DESIGN BY: **PS**
 DRAWN BY: **AY/HK/MA**
 CHECKED BY: **ZYF**
 SCALE: **As Shown**
 DATE: **April 27, 2006**
 I.O. No.: **3191**
 SHEET No.: **2 OF 4**

FSH Associates
 Engineers Planners Surveyors
 8318 Forest Street, Ellicott City, MD 21043
 Tel: 410-750-2251 Fax: 410-750-7350
 E-mail: info@fsha.biz

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 LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE(1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

John M. Blankenship 4/27/06
 SIGNATURE OF DEVELOPER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

John M. Blankenship 5/3/06
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Andy Hantz 6/5/06
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mark A. Wyle 6/5/06
 DIRECTOR DATE

PLAN VIEW
 Scale: 1"=30'

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

Jim Meyer 5/18/06
 USED NATURAL RESOURCES CONSERVATION SERVICE DATE

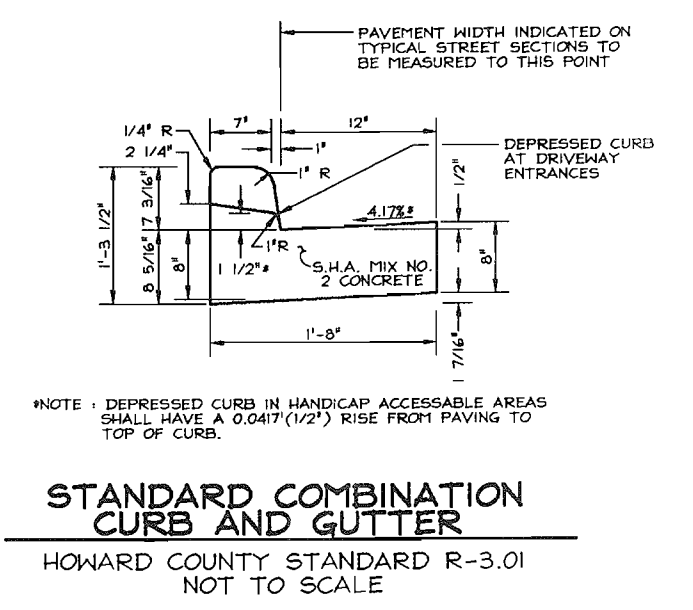
John R. Robinson 5/18/06
 HOWARD SCD DATE

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

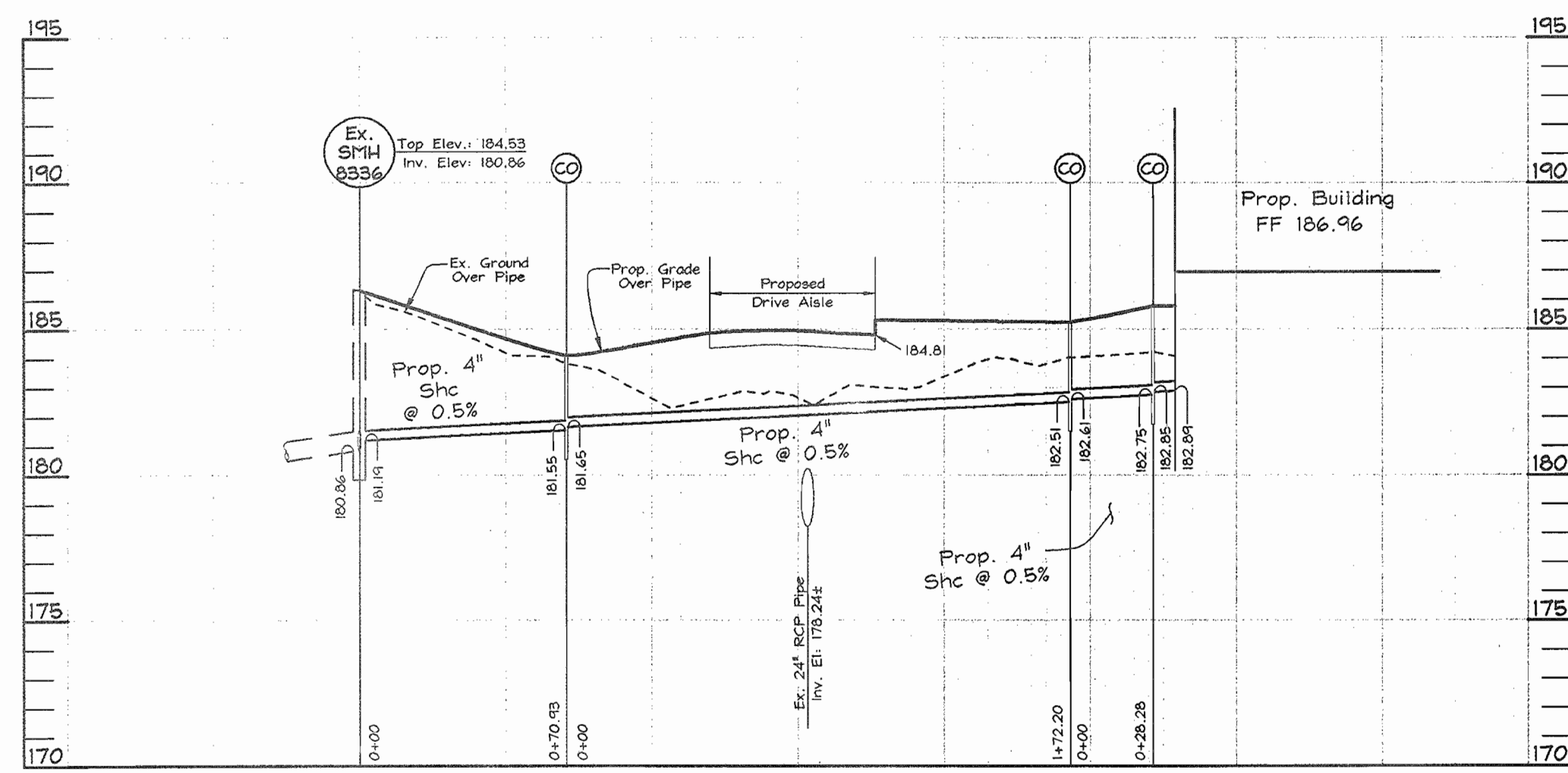
Zacharia Y. Fisch 5/9/06
 SIGNATURE OF ENGINEER DATE
 ZACHARIA Y. FISCH

DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND 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 INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

John M. Blankenship 4/27/06
 SIGNATURE OF DEVELOPER DATE

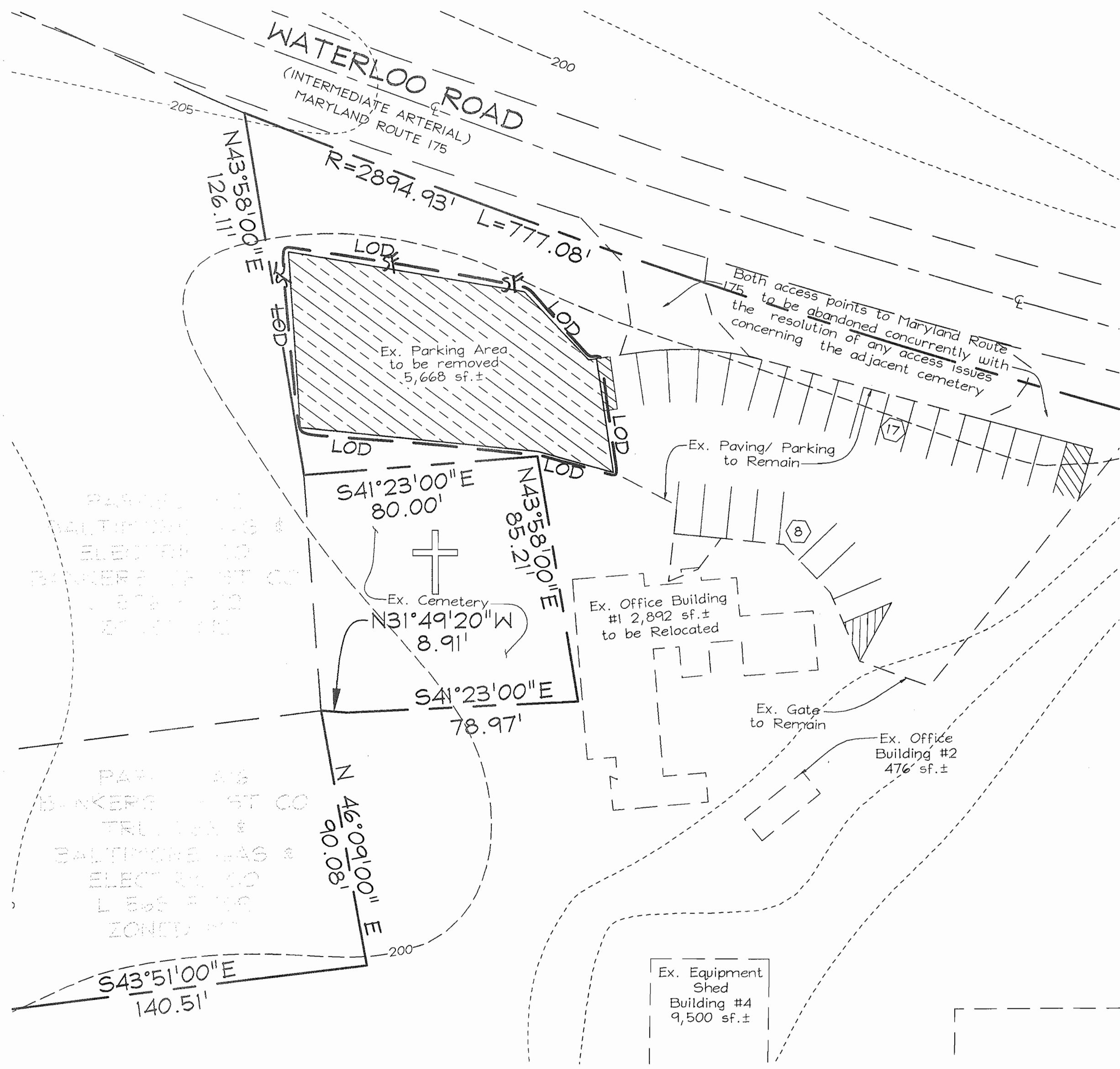


STANDARD COMBINATION CURB AND GUTTER
 HOWARD COUNTY STANDARD R-3.01
 NOT TO SCALE



SEWER HOUSE CONNECTION PROFILE

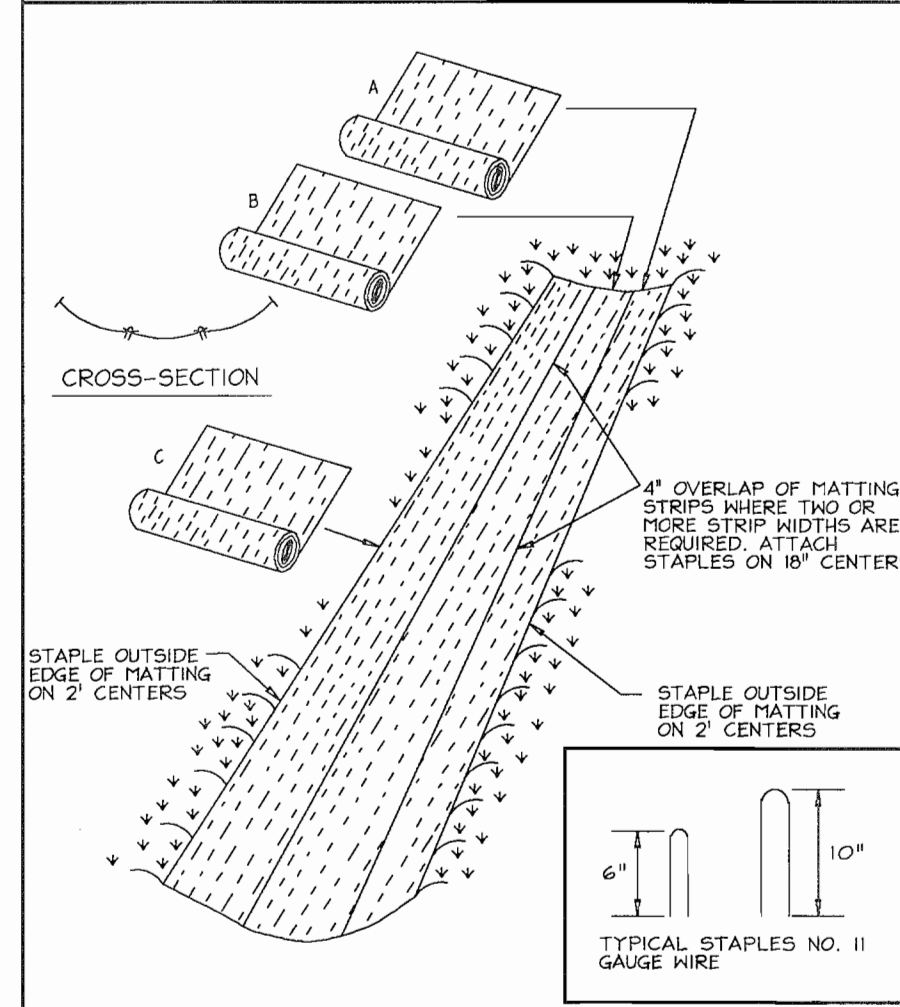
SCALE: Hor.: 1"=50'
Vert.: 1"=5'



DETAIL OF EXISTING IMPERVIOUS AREA TO BE REMOVED

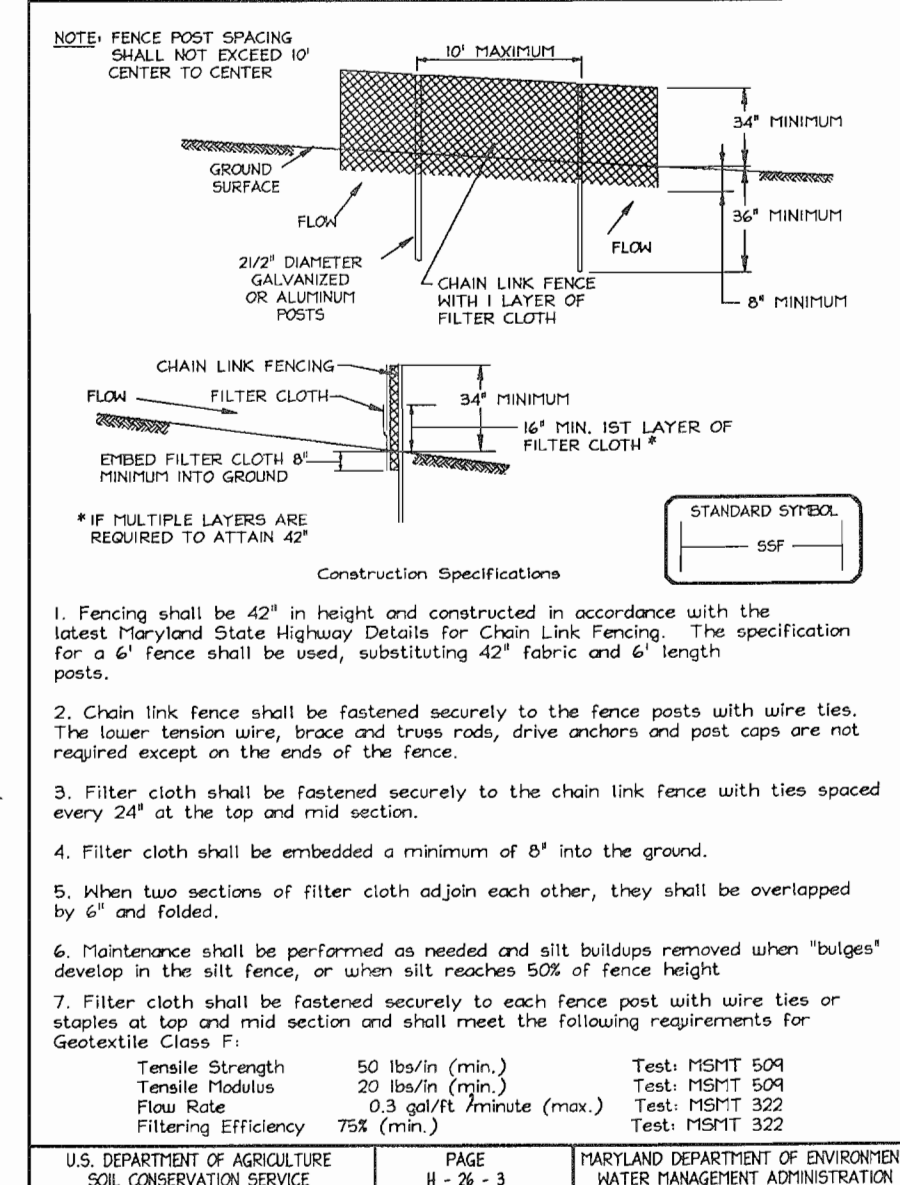
SCALE: 1"=30'

DETAIL 30 - EROSION CONTROL MATTING



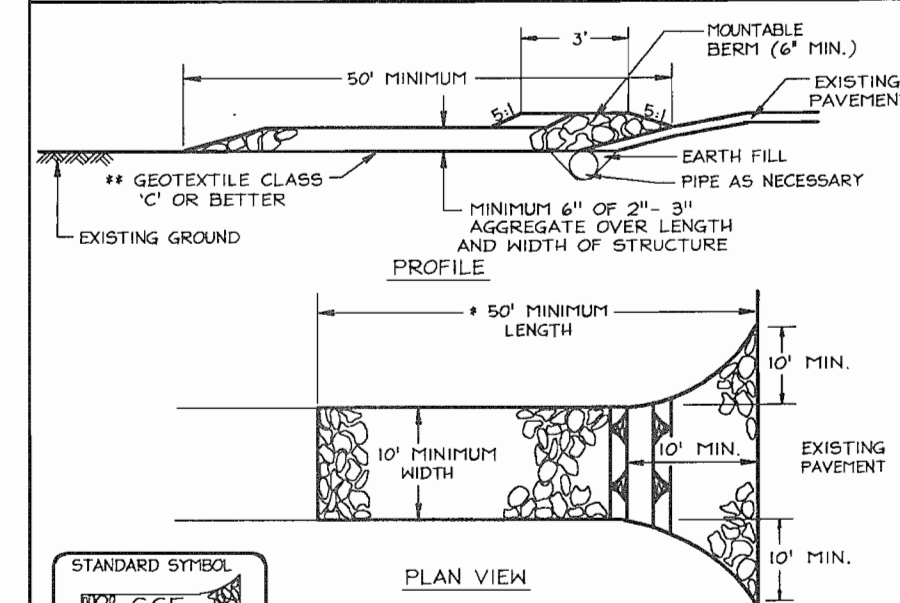
- Construction Specifications**
- Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".
 - 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", shiplap 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 liner 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.
- | | | |
|---|--------------------|---|
| U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE | PAGE
G - 22 - 2 | MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION |
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DETAIL 33 - SUPER SILT FENCE



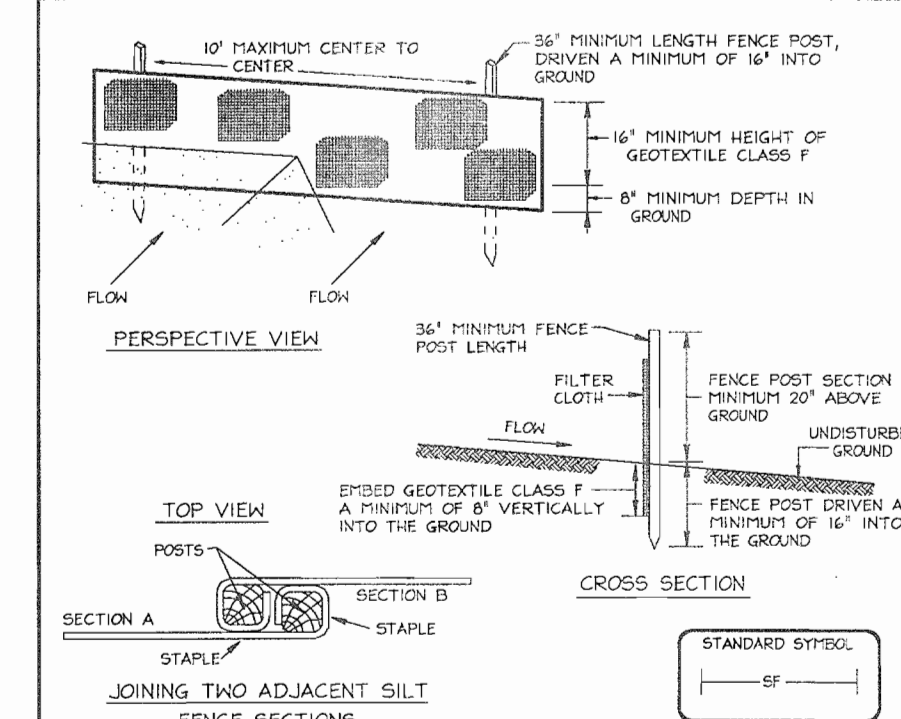
- Construction Specifications**
- Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
 - Chain link fence shall be fastened securely 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 securely 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 all buildup removed when "blow" develops in the silt fence, or when silt reaches 50% of fence height.
 - 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: MSHT 504 |
| Tensile Modulus | 20 lbs/in (min.) | Test: MSHT 504 |
| Flow Rate | 0.3 gal/in ² /minute (max.) | Test: MSHT 322 |
| Filtering Efficiency | 75% (min.) | Test: MSHT 322 |
- | | | |
|---|--------------------|---|
| U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE | PAGE
H - 26 - 3 | MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION |
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DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



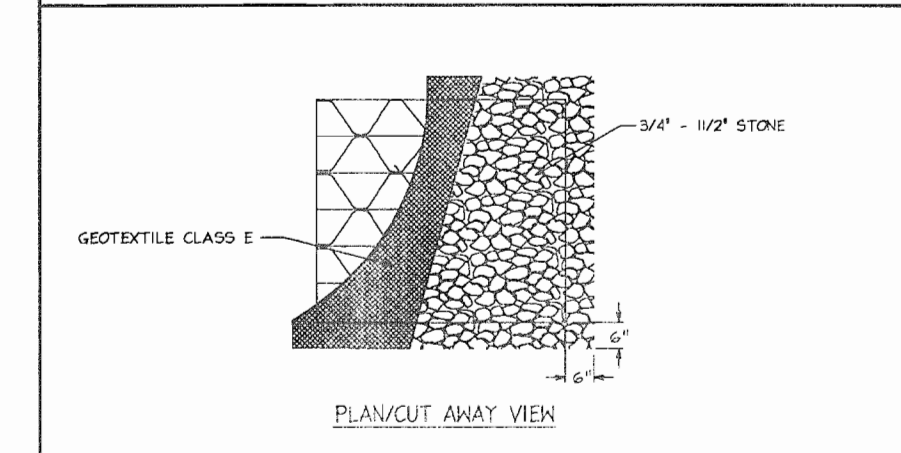
- Construction Specifications**
- Length - minimum of 50' (+ 30' for a single residence lot).
 - Width - 10' minimum, should be flared at the existing road to provide a turning radius.
 - Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. The plan approval authority may not require 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 or 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 5% 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 6" 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 |
|---|--------------------|---|

DETAIL 22 - SILT FENCE



- Construction Specifications**
- Fence posts shall be a minimum of 36" long, driven 16" minimum into the ground. Posts shall be 1 1/2" x 1 1/2" square (minimum) gal. or 3/4" diameter (minimum) round and shall be of sound quality. Heavily sanded posts will be standard T or U section weighing not less than 1.00 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: MSHT 504 |
| Tensile Modulus | 20 lbs/in (min.) | Test: MSHT 504 |
| Flow Rate | 0.3 gal/in ² /minute (max.) | Test: MSHT 322 |
| Filtering Efficiency | 75% (min.) | Test: MSHT 322 |
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
 - Silt fence shall be inspected after each rainfall event and maintained when bludge occur or when sediment accumulation reaches 50% of the fabric height.
- | | | |
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| U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE | PAGE
E - 9 - 3 | MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION |
|---|-------------------|---|

DETAIL 23B - AT GRADE INLET PROTECTION



- Construction Specifications**
- Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
 - Place 3/4" to 1 1/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.
- | | | |
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| U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE | PAGE
E - 9 - 3A | MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION |
|---|--------------------|---|

OWNER/DEVELOPER

Hanson Pipe & Products, Inc.
John Blankenship
2900 Terminal Avenue
Richmond, VA 23234
804-233-5471 (Ph)
804-233-5542 (Fax)

SITE DEVELOPMENT, SEDIMENT AND EROSION CONTROL PLAN, DETAILS, SEWER PROFILE AND PARKING HANSON PIPE & PRODUCTS, INC.

TAX MAP 48 GRID 3 PARCEL 6
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

	FSH Associates Engineers Planners Surveyors 8318 Forest Street, Ellicott City, MD 21043 Tel: 410-750-2251 Fax: 410-750-7350 E-mail: info@fsh.biz	DESIGN BY: PS DRAWN BY: AY/HK CHECKED BY: ZYF SCALE: As Shown DATE: April 27, 2006 W.O. No.: 3191 SHEET No.: 3 OF 4
	APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
	REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS	
	ENGINEERS CERTIFICATE	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING CHIEF, DEVELOPMENT ENGINEERING DIVISION CHIEF, DIVISION OF LAND DEVELOPMENT DIRECTOR	DATE: 4/15/06 DATE: 4/15/06 DATE: 4/15/06
REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS JIM MEYER DATE: 5/15/06 JOHN R. ROBERTSON DATE: 5/14/06	U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE DATE: 5/15/06

ENGINEERS CERTIFICATE I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. ZACHARIA Y. FISCH SIGNATURE OF ENGINEER ZACHARIA Y. FISCH DATE: 5/9/06	DEVELOPER'S CERTIFICATE I/WE CERTIFY THAT ALL DEVELOPMENT AND 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 INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT. JOHN M. BLANKENSHIP SIGNATURE OF DEVELOPER JOHN M. BLANKENSHIP DATE: 4/27/06
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21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Placement of topsoil over prepared subsoil prior to establishment of permanent vegetation.

Purpose

To provide a suitable soil medium for vegetable growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil granulation.

Conditions Where Practice Applies

- I. This practice is limited to areas having 2:1 or flatter slopes where:
 - a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - b. 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.
 - c. The original soil to be vegetated contains material toxic to plant growth.
 - d. The soil is so acidic that treatment with limestone is not feasible.

Construction and Material Specifications

- I. 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 Experimental Station.
- II. Topsoil Specifications - Soil to be used as topsoil must meet the following:
 - i. 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 a soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 and 1/2" in diameter.
 - ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.
 - iii. 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 procedure.
- III. For sites having disturbed areas under 5 acres:
 - i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

- iii. For sites having disturbed areas over 5 acres:
 - i. On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - a. 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.
 - b. Organic content of topsoil shall be not less than 1.5 percent by weight.
 - c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - d. No soil or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
 - NOTE: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
 - ii. Place topsoil (if required) and apply soil amendments specified in 20.0 Vegetative Stabilization-Section I-Vegetative Stabilization Methods and Materials.

- V. Topsoil Application
 - i. 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.
 - ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
 - iii. 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 seeding 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.
 - iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

SEDIMENT CONTROL NOTES

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspection, License and Permits Sediment Control Division prior to the start of any construction (313-1855).
 2. All vegetation and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
 3. 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.
 4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. I, Chapter 7, HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
 5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding, sod, temporary seeding, and mulching (Sec. G). Temporary stabilization with mulch alone shall be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
 6. 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	33,124 Acres
Area Disturbed	1,267 Acres
Area to be roofed or paved	0.3064 Acres
Area to be vegetatively stabilized	0.3066 Acres
Total Cut	224 CY
Total Fill	43,062 CY
Offsite waste/borrow area location	**
 8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
 9. Additional sediment controls must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
 10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
 11. Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized within one working day, whichever is shorter.
- * Earthwork quantities are solely for the purpose of calculating fees. Contractor to verify all quantities prior to the start of construction.
- ** To be determined by contractor, with pre-approval of the Sediment Control Inspector with an approved and active grading permit.

SEQUENCE OF CONSTRUCTION

1. Obtain grading permit.
2. Notify Howard County Department of Inspections, License and Permits at (410) 313-1880 at least 24 hours before starting any work.
3. Install Stabilized Construction Entrance, Silt fence and Super Silt Fence. (1 week)
4. Rough grade site, construct storm drain inlet, install at grade inlet protection and begin building construction. (1 week)
5. Construct drive aisles, parking areas and finish building construction. (2 weeks)
6. Fine grade site. (2 weeks)
7. Remove existing paved area (see sheet 3) and topsoil - stabilize with permanent stabilization measures (2 days)
8. Upon stabilization of all disturbed areas and with the permission of the Sediment Control Inspector, remove all sediment control measures and stabilize any remaining disturbed area. (1 week)

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, discing or other acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: In lieu of soil test recommendations, use the following schedule: Apply 2 tons per acre dolomitic limestone (92 lbs./1000 s.f.) And 600 lbs. / acre (15 lbs./1000s.f.) of 10-10-10 before seeding. Harrow or disc into upper 3 in. of soil.

SEEDING: Apply a mixture of Turf Type Tall Fescue (87%) and Hard Fescue (20%) in accordance with seeding dates and rates shown in the Permanent Seeding Summary shown on this sheet. For stabilization outside of the seeding dates, apply straw mulch at rates and methods specified below and apply permanent seeding within proper seeding dates.

MULCHING: Immediately following seeding, apply a uniform 1-2 in. Deep layer of un-rotted small grain straw at a rate of 2 tons/acre. (Apply 2 1/2 tons/acre if a mulch anchoring tool is used). Straw may be anchored with wood cellulose fiber at a rate of 750 lbs. / acre mixed at a rate of 50 lbs. of wood fibre/ 100 gal. of water. Synthetic liquid binders such as Terra Tax II, Acrylic DLR (Agra-Tack), DCA-70, Petroset and other approved equals may be used at rates recommended by the manufacturers.

Permanent Seeding Summary

No.	Species	Seed Mixture (Hardness Zone 7a and 6b) From Table 25		Seeding Dates	Seeding Depth	Fertilizer Rate (10-20-20)			Lime Rate
		Application Rate (lb/acre)	Seeding Rate (lb/1000sf)			N	P2O5	K2O	
10	Tall Fescue (80%) Hard Fescue (20%)	120 30	3/1-5/15 8/15-11/15	0.5 in.	90 lb/acre (2.0lb/1000sf)	175 lb/acre (4lb/1000sf)	175 lb/acre (4lb/1000sf)	2 tons/acre (100lb/1000sf)	

TEMPORARY SEEDING NOTES

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

SOIL AMENDMENTS: In lieu of soil test recommendations, use the following schedule: Apply 2 tons per acre dolomitic limestone (92 lbs./1000 s.f.) And 600 lbs. / acre (15 lbs./1000s.f.) of 10-10-10 before seeding. Harrow or disc into upper 3 in. of soil.

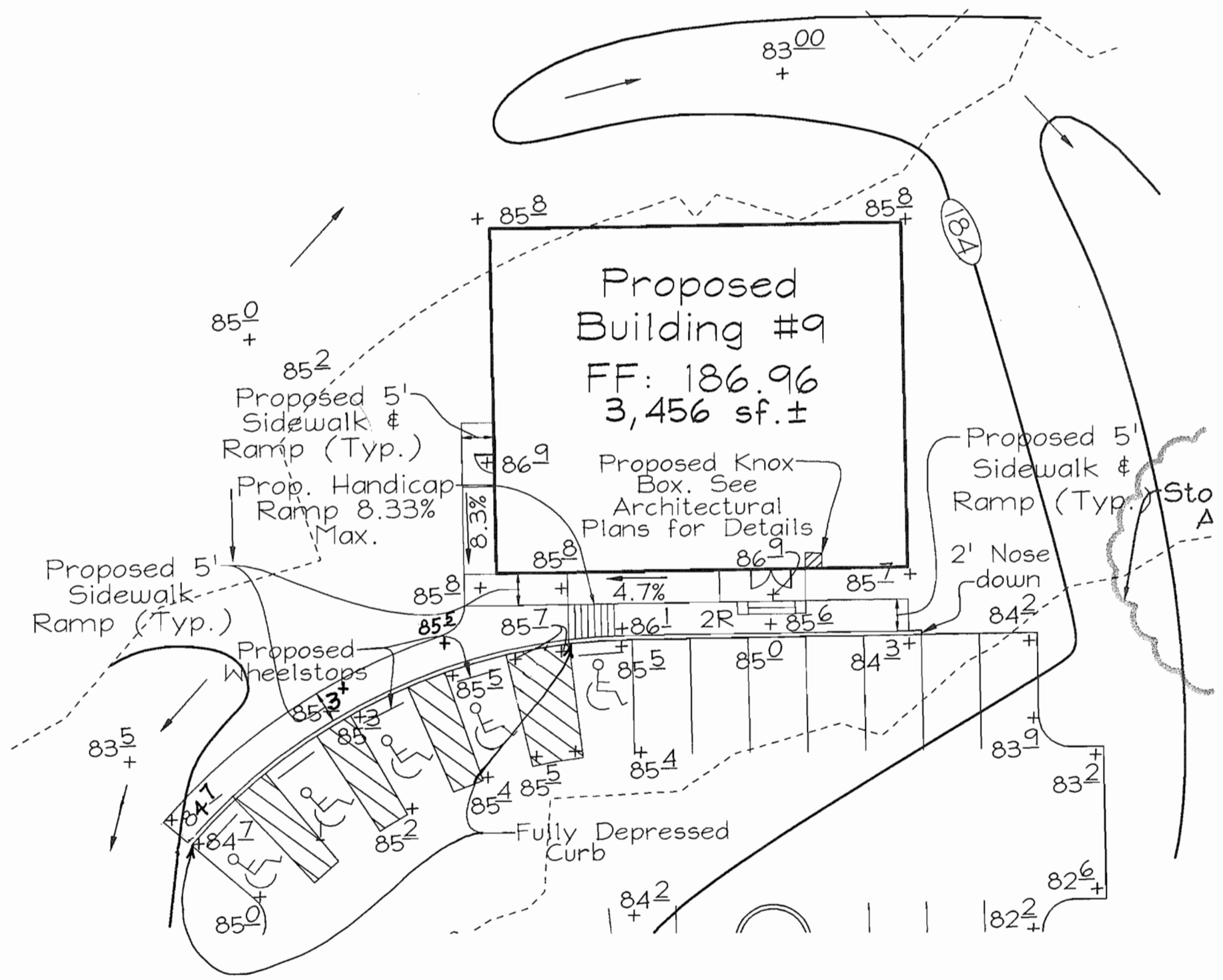
SEEDING: Apply the Maryland State Highway approved seed mixture of Barley or Rye plus Foxtail Millet in accordance with seeding dates and rates shown in the Temporary Seeding Summary shown on this sheet. For stabilization outside of the seeding dates, apply straw mulch at rates and methods specified below.

MULCHING: Immediately following seeding, apply a uniform 1-2 in. Deep layer of un-rotted small grain straw at a rate of 2 tons/acre. (Apply 2.5 tons/acre if a mulch anchoring tool is used). Straw may be anchored with wood cellulose fiber at a rate of 750 lbs. / acre mixed at a rate of 50 lbs. of wood fibre/ 100 gal. of water. Synthetic liquid binders such as Terra Tax II, Acrylic DLR (Agra-Tack), DCA-70, Petroset and other approved equals may be used at rates recommended by the manufacturers.

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

Temporary Seeding Summary

No.	Species	Seed Mixture (Hardness Zone 6a and 7a) From Table 26		Seeding Dates	Seeding Depth	Fertilizer Rate (10-10-10)			Lime Rate
		Application Rate (lb/acre)	Seeding Rate (lb/1000sf)			N	P2O5	K2O	
2	Barley or Rye plus Foxtail Millet	150 lbs (3.5lbs/1000sf)	2/1-11/30 (7a) 3/15-10/31 (6a)	1/4 in - 1/2 in	600 lb/acre (15lb/1000sf)			2 tons/acre (100lb/1000sf)	

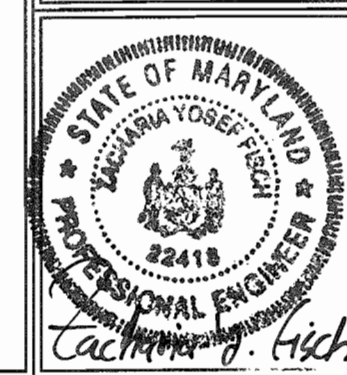


DETAIL OF PROPOSED SIDEWALK
SCALE: 1"=20'

OWNER/DEVELOPER
Hanson Pipe & Products, Inc.
John Blankenship
2900 Terminal Avenue
Richmond, VA 23234
804-233-5471 (Ph)
804-233-5542 (Fax)

SEDIMENT AND EROSION CONTROL DETAILS AND SIDEWALK DETAILS
HANSON PIPE & PRODUCTS, INC.

TAX MAP 48 GRID 3
6TH ELECTION DISTRICT
PARCEL 6
HOWARD COUNTY, MARYLAND



FSH Associates
Engineers, Planners, Surveyors
8318 Forest Street, Suite 1043
Tel: 410-750-2251 Fax: 410-750-2252
E-mail: info@fsh.net

DESIGN BY: PS
DRAWN BY: AY/HKS
CHECKED BY: ZYF
SCALE: As Shown
DATE: April 27, 2006
N.O. No.: 3191
SHEET No.: 4 OF 4

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 5/16/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE

[Signature] 6/5/06
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE

[Signature] 6/5/06
DIRECTOR
DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

[Signature] 5/16/06
USDA-NATURAL RESOURCES CONSERVATION SERVICE
DATE

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

[Signature] 5/19/06
HOWARD SCD
DATE

ENGINEER'S CERTIFICATE

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

[Signature] 5/19/06
SIGNATURE OF ENGINEER
ZACHARIA Y. FISCH
DATE

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND 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 INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

[Signature] 4/27/06
SIGNATURE OF DEVELOPER
DATE