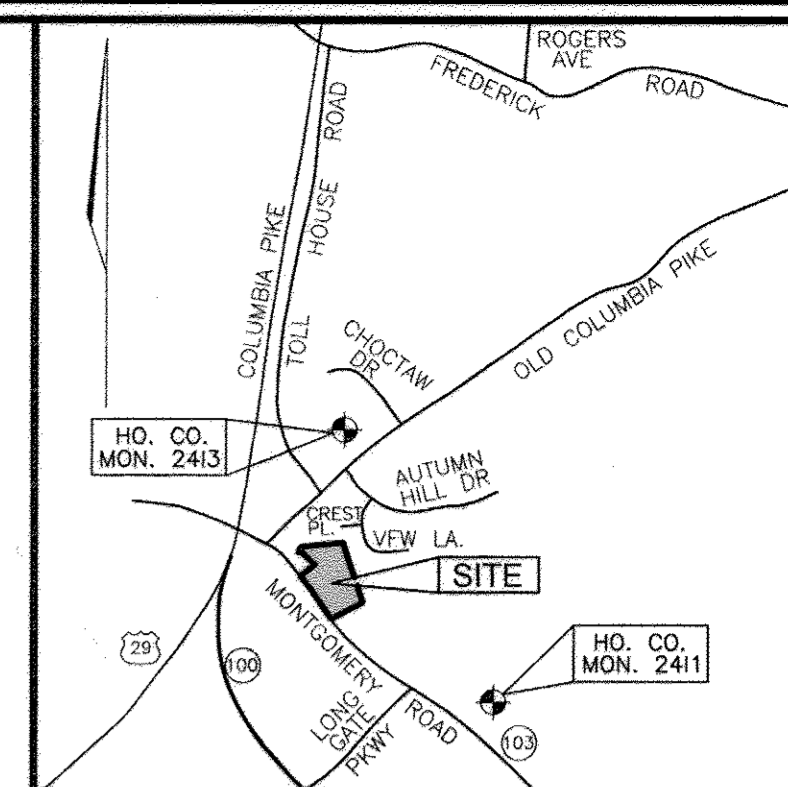


- ### GENERAL NOTES
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
 - THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS:
 - MISS UTILITY: 1-800-257-7777
 - BELL ATLANTIC TELEPHONE CO.: 725-9976
 - HOWARD COUNTY BUREAU OF UTILITIES: 313-2386
 - VERIZON CABLE LOCATION DIVISION: 393-3553
 - B.G.A.E. CO. CONTRACTOR SERVICES: 850-4620
 - B.G.A.E. CO. UNDERGROUND DAMAGE CONTROL: 787-4620
 - STATE HIGHWAY ADMINISTRATION: 531-5533
 - 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 START OF WORK.
 - ANY DAMAGE TO PUBLIC RIGHTS-OF-WAY, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
 - EXISTING UTILITIES LOCATED FROM ROAD CONSTRUCTION PLANS AND AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTOR'S 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.
 - 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.
 - IN ACCORDANCE WITH SECTION 129 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 SETBACK.
 - THE SUBJECT PROPERTY IS ZONED R-SI PER THE FEBRUARY 2, 2004 COMPREHENSIVE ZONING PLAN.
 - COORDINATES AND ELEVATIONS ARE BASED ON HOWARD COUNTY MONUMENT NO'S. 2411 AND 2413.
 - THIS PROPERTY IS SUBJECT TO THE AMENDED 5TH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE APRIL 2004 ZONING REGULATIONS.
 - THE PROPERTY LINES SHOWN HEREON ARE BASED ON A BOUNDARY SURVEY PERFORMED BY ROBERT H. VOGEL ENGINEERING, INC., DATED DECEMBER 2004.
 - TOPOGRAPHY SHOWN HEREON IS BASED ON AN AERIAL TOPOGRAPHICAL SURVEY PERFORMED BY POTOMAC AERIAL SURVEYS, INC. DATED MAY 2001.
 - A GEOTECHNICAL STUDY WAS PERFORMED BY GEO-TECHNOLOGY ASSOCIATES, INC. DATED MAY 2005.
 - SIGHT DISTANCE ANALYSIS WAS PERFORMED BY ROBERT H. VOGEL ENGINEERING, INC. AND APPROVED UNDER S-05-04.
 - WETLAND DELINEATION WAS PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC., DATED JULY 2004 AND APPROVED UNDER S-05-04.
 - APFO TRAFFIC STUDY WAS PREPARED BY THE TRAFFIC GROUP, DATED JUNE 17, 2004 AND APPROVED UNDER S-05-04.
 - THE FOREST STAND DELINEATION WAS PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC., DATED JULY 2004 AND APPROVED UNDER S-05-04.
 - A NOISE STUDY WAS APPROVED FOR THIS SITE.
 - NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE REQUIRED WETLANDS OR THEIR BUFFERS.
 - THERE ARE NO STEEP SLOPES LOCATED ONSITE.
 - THERE ARE NO WETLANDS LOCATED ONSITE.
 - THERE ARE NO FLOODPLAINS ON THIS SITE.
 - NO BURIAL GROUNDS OR CEMETERIES ARE LOCATED ON THIS PROPERTY.
 - THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT.
 - FOREST CONSERVATION REQUIREMENT: FOR THIS PROJECT HAS BEEN FULFILLED BY THE PAYMENT OF \$15,740.00 FOR 1.13 AC OF RESTRICTED ADULT HOUSING.
 - PERIMETER LANDSCAPING SHALL BE IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL 3. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$68,400.00 FOR 210 SHADE TREES AND 36 EVERGREEN TREES.
 - STORMWATER MANAGEMENT (SWM) WILL BE PROVIDED BY AN UNDERGROUND EXTENDED DETENTION PIPE STORAGE SYSTEM. SWM AND RECYCLE WILL BE PROVIDED BY SURFACE SAND FILTER, BIORETENTION FACILITY, UNDERGROUND SANDFILTER AND GRASS CHANNELS. THE FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION.
 - COMMUNITY CENTER REQUIREMENTS WILL BE MET BY PROVIDING A 1,350 SF COMMUNITY BUILDING.
 - THIS PROJECT COMPLIES WITH MODERATE INCOME HOUSING UNIT AGREEMENTS AND COVENANTS AS DESCRIBED IN SECTION 13.402 OF THE COUNTY CODE.
 - EACH BUILDING WILL PROVIDE 26 FIRST FLOOR GARAGED SPACES WITH ONE HANDICAP ACCESSIBLE GARAGE UNITS IN EACH BUILDING EXCEPT 'A' AND 'E' WHICH WILL HAVE 24 SPACES. DETACHED GARAGES WITH 5 SPACES EACH WILL PROVIDE ADDITIONAL GARAGED SPACES. PARKING IN FRONT OF THE GARAGED SPACES IS NOT BEING TAKEN AS CREDITED PARKING SPACES.
 - NO BUILDING SHALL BE TALLER THAN 4 STORIES.
 - PARCEL 318, LOT 1 IS SERVED BY PUBLIC WATER AND SEWER. PARCEL 318 LOT 2, PARCEL 319 AND PARCEL 320 HAVE ABANDONED WELL AND SEPTIC SYSTEMS AND ARE CURRENTLY SERVED BY PUBLIC WATER AND SEWER. PARCEL 731 HAS AN ACTIVE WELL AND SEPTIC SYSTEM. ALL WELLS AND SEPTIC SYSTEMS WILL BE PROPERLY SEALED AND ABANDONED BY A LICENSED PROFESSIONAL.
 - WATER SERVICE WILL BE PUBLIC AND BE PROVIDED BY CONTRACT NUMBER #12-W.
 - SEWER SERVICE WILL BE PUBLIC AND BE PROVIDED BY CONTRACT NUMBER #20-1081.
 - ALL UNITS WILL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
 - ALL WATER METERS WILL BE LOCATED INSIDE PROPOSED BUILDINGS.
 - ALL TRASH COLLECTION TO BE PRIVATE.
 - ALL PAVING TO BE P-2 PAVING, HOWARD COUNTY STANDARD DETAIL R-2.01. THE PAVING SECTION WILL BE CONFIRMED OR MODIFIED BY THE PROJECT GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION BASED ON ACTUAL TESTING.
 - FOUNDATION SOILS MUST BE EXAMINED BY THE SOILS ENGINEER TO ASSURE THE ACTUAL FOUNDATION SOIL STRENGTH MEETS OR EXCEEDS ASSUMED DESIGN STRENGTHS.
 - THIS PROJECT IS REQUIRED TO COMPLY WITH THE "UNIVERSAL DESIGN STANDARDS FOR AGE RESTRICTED ADULT HOUSING IN HOWARD COUNTY".
 - THE REQUIRED AGE RESTRICTED ADULT HOUSING (ARAH) DOCUMENTS AND COVENANTS HAVE BEEN RECORDED IN LIBER 0609 FOLIO 200 AMONG THE LAND RECORDS OF HOWARD COUNTY.
 - WP-05-103 WAS APPROVED ON MAY 10, 2005, SUBJECT TO THE FOLLOWING CONDITIONS:
 - COMPLY WITH ALL REQUIREMENTS OF THE PRELIMINARY STAGE EITHER WITH THE FINAL PLAN/PLAT OR THE SITE DEVELOPMENT PLAN STAGE, AS APPROPRIATE.
 - COMPLY WITH THE ATTACHED HEALTH DEPARTMENT ISSUES CONCERNING ABANDONMENT OF WELL AND SEPTIC SYSTEMS.
 - SUBMIT A SINGLE (NOT PHASED) FINAL PLAN/PLAT BETWEEN JULY 1, 2005 AND AUGUST 25, 2005. THE FINAL PLANS ARE FOR WATER AND SEWER, THE FINAL PLATS ARE FOR PARCEL CONSOLIDATION, MD ROUTE 103 ROAD DEDICATION AND EASEMENTS.
 - ONCE THE FINAL PLAT IS RECORDED, THE MILESTONE DATE WILL BE ESTABLISHED FOR SUBMISSION OF A SINGLE SITE DEVELOPMENT PLAN FOR THE BULK PARCEL CREATED BY THE RECORDED FINAL PLAN/PLAT.
 - WP-06-033 WAS APPROVED ON NOVEMBER 1, 2005, SUBJECT TO THE FOLLOWING CONDITIONS:
 - THE FINAL PLAT SUBMISSION FOR THE ENTIRE SITE SHALL BE SUBMITTED WITHIN 180 DAYS FROM THE DATE OF THIS LETTER (BY APRIL 30, 2006), OR S-05-04 AND WP-05-103 SHALL BECOME NULL AND VOID IN ACCORDANCE WITH SUBDIVISION SECTION 16.144.
 - TENTATIVE HOUSING UNIT ALLOCATIONS FOR THIS PROJECT ARE HEREBY GRANTED AS FOLLOWS:
 - A. 75 FOR PHASE I FOR THE YEAR 2008 IN THE ELICOTT CITY PLANNING AREA.
 - B. 55 FOR PHASE II FOR THE YEAR 2009 IN THE SENIOR EAST PLANNING AREA.
 - C. ADDITIONAL UNITS ARE ACCOUNTED FOR BASED ON EXISTING RESIDENTIAL DWELLINGS.
 - SDP-06-05 SHALL BE REVISED TO ONLY REPRESENT PHASE I IN 'SOLID' LINES AND FUTURE PHASE II IN 'DASHED'.
 - THE PHASE I UNIT ALLOCATIONS WILL BECOME PERMANENT AT THE TIME THE SDP-06-05 PLAN ORIGINALLY RECEIVES SIGNATURE APPROVAL.
 - THE RED-LINE REVISION TO SDP-06-05 TO ADD THE PHASE II DATA AND SHOW PHASE II IN SOLID LINES SHALL BE SUBMITTED WITHIN THE PHASE II MILESTONE PERIOD OF JULY 11, 2006 TO JANUARY 1, 2007. OR THE PHASE II UNIT ALLOCATIONS SHALL BE LOST AND S-05-04 AND WP-05-103 SHALL BECOME NULL AND VOID IN ACCORDANCE WITH SUBDIVISION SECTION 16.144.
 - THE CONTRACTOR SHALL PROVIDE A 1-1/2" ASPHALT OVERLAY OF MD 103 WITHIN THE LIMITS OF THE LANE MARKING REVISIONS.
 - CONTRACTOR WILL OBTAIN SHA INSPECTION APPROVAL PRIOR TO POURING CURB AND PAVING. CONTRACTOR TO FOLLOW SHA ACCESS PERMIT CONDITIONS.
 - CURB AND GUTTER ADJACENT TO SIDES AND FRONT OF BUILDING TO BE HOWARD COUNTY MOUNTABLE CURB.
- AT 7:00 PM F. 06.135
40. THE MIHU AGREEMENT WAS RECORDED IN L.10711 F.04-76 AND THE MIHU COVENANTS AND RESTRICTIONS WERE RECORDED IN L.10711 F. 97-104.

SITE DEVELOPMENT PLAN

THE GATHERINGS AT JEFFERSON PLACE

ADULT HOUSING COMMUNITY



BENCHMARKS				
NO.	NORTHING	EASTING	ELEVATION	TYPE
2411	577298.654	1366075.133	437.80	CONC. MONUMENT
2413	580648.904	1364974.471	404.81	CONC. MONUMENT

SHEET INDEX	
DESCRIPTION	SHEET NO.
COVER SHEET	1
SITE LAYOUT PLAN	2
SITE LAYOUT PLAN	3
GRADING AND SEDIMENT EROSION CONTROL PLAN	4
GRADING AND SEDIMENT EROSION CONTROL PLAN	5
LANDSCAPING AND FOREST CONSERVATION PLAN	6
STORM DRAIN PROFILES	7
SEWER PROFILES	8
SEDIMENT EROSION CONTROL DETAILS	9
STORMWATER MANAGEMENT DETAILS	10
STORMWATER MANAGEMENT DETAILS	11
RETAINING WALL DETAILS	12
STORMWATER MANAGEMENT DETAILS	12A

ADDRESS CHART	
BUILDING	STREET ADDRESS
A	8801 BOSLEY ROAD
B	8800 BOSLEY ROAD
C	8901 BRAUERTON ROAD
D	8900 BRAUERTON ROAD
E	4315 ERICSON ROAD
COMMUNITY	4325 ERICSON ROAD
GARAGE 1	4303 ERICSON ROAD
GARAGE 2	4307 ERICSON ROAD
GARAGE 3	4241 SCOTTSMAN ROAD
GARAGE 4	4321 ERICSON ROAD

SITE ANALYSIS DATA CHART			
TOTAL PROJECT AREA	RIGHT-OF-WAY DEDICATION	NET PROJECT AREA	AREA OF DISTURBANCE
304,963 SF (7.00 AC)	0.00 AC	304,963 SF (7.00 AC)	7.21 AC

PRESIDENT ZONING	PROPOSED USE	TYPE OF UNIT	TOTAL UNITS ALLOWED	TOTAL UNITS PROPOSED
R-SI	RESIDENTIAL	ARAH APARTMENT	175	135

PARKING SPACES REQUIRED	PARKING SPACES PROVIDED	HANDICAP SPACES REQUIRED	HANDICAP SPACES PROVIDED
178	227	3	15

OPEN SPACE REQUIRED	OPEN SPACE PROVIDED	RECREATION OPEN SPACE REQUIRED	RECREATION OPEN SPACE PROVIDED
1.75 AC	1.75 AC	1,350 SF	1,350 SF

DPZ FILE REFERENCE: 5-05-04, WP-05-103, F-89-197, WP-06-033, F-06-135
DEED REFERENCE: 2137/323, 1328/228, 3859/458, 2082/730

OPEN SPACE TABULATION CHART	
OPEN SPACE REQUIRED	NON-CREDITED OPEN SPACE PROVIDED
1.75 AC (25%)	0.82 AC
CREDITED OPEN SPACE PROVIDED	TOTAL OPEN SPACE PROVIDED
1.76 AC (25%)	2.37 AC

RECREATION OPEN SPACE TABULATION CHART	
RECREATION OPEN SPACE REQUIRED (CONSTRUCTED AMENITY)	RECREATION OPEN SPACE PROVIDED (CONSTRUCTED AMENITY)
400 SF PER UNIT = 54,000 SF	10 SF PER UNIT = 1,350 SF
RECREATION OPEN SPACE PROVIDED (REGULAR)	RECREATION OPEN SPACE PROVIDED (CONSTRUCTED AMENITY)
0 SF	1,350 SF

DENSITY TABULATION CHART			
GROSS AREA OF SITE	AREA OF FLOODPLAIN	TOTAL AREA OF STEEP SLOPES	STEEP SLOPES OUTSIDE FLOODPLAIN
318,031 SF (7.30 AC)	NA	NA	NA

RIGHT-OF-WAY DEDICATION	NET AREA OF SITE	TOTAL UNITS ALLOWED	TOTAL UNITS PROPOSED
NA	304,963 SF (7.00 AC)	175 (25 X 7.00 AC)	135

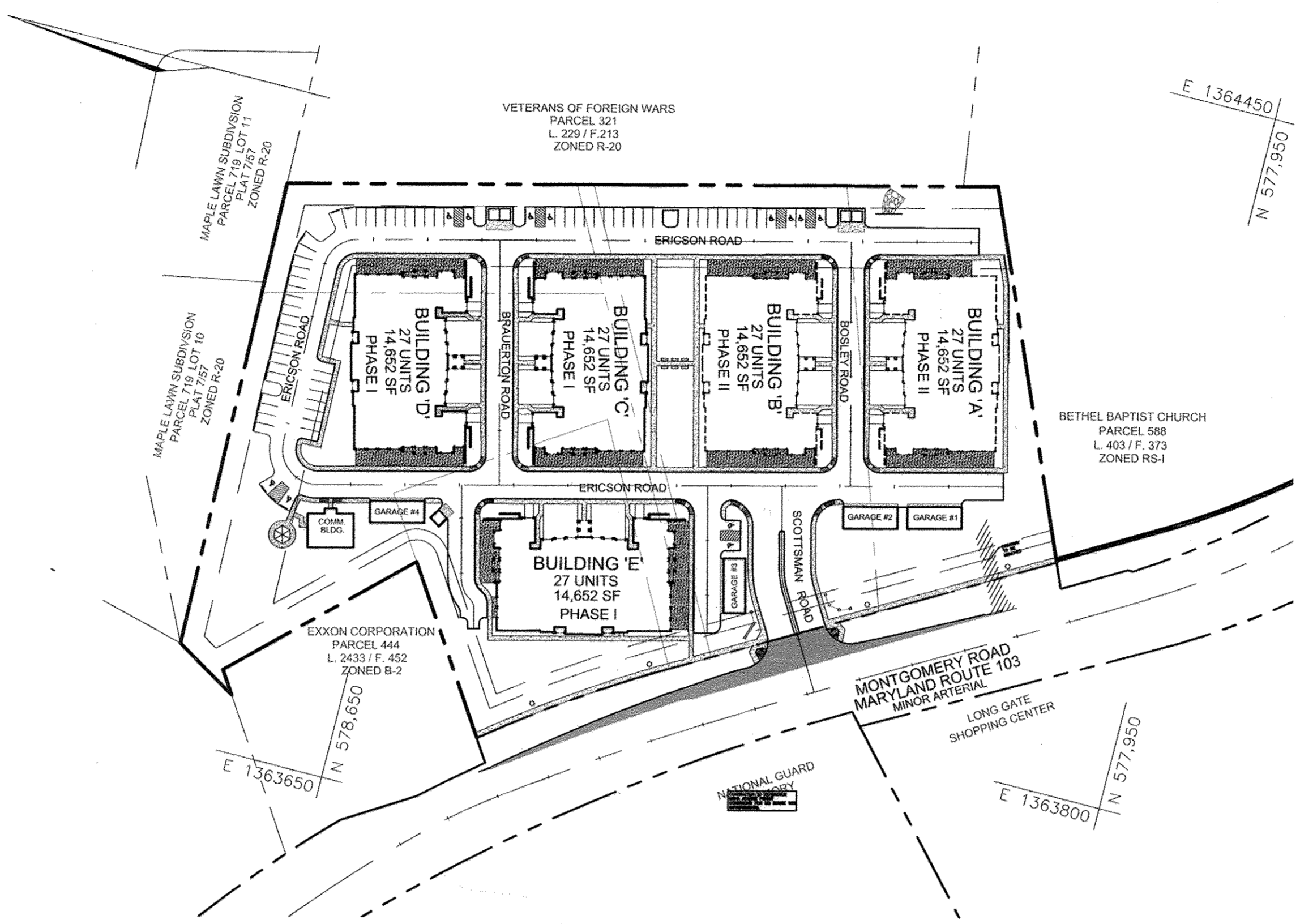
PERMIT INFORMATION CHART				
SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NO.	TAX MAP	GRID
MONTEGOMERY ROAD	NA	318, 319, 320, 731	16072-73	24
PLAT REF.	TAX MAP	GRID NO.	ZONE	ELECT. DIST.
16072-73	24	24	R-SI	2ND
WATER CODE:	F09	SEWER CODE:	5750615	

MODERATE INCOME HOUSING UNITS TABULATION	
PHASE I MODERATE HOUSING UNITS REQUIRED	PHASE II MODERATE HOUSING UNITS REQUIRED
80 UNITS x 10% = 8 UNITS	55 UNITS x 10% = 6 UNITS
PHASE I MODERATE HOUSING UNITS PROVIDED	PHASE II MODERATE HOUSING UNITS PROVIDED
8 UNITS	6 UNITS
PHASE I MODERATE HOUSING UNITS LOCATION	PHASE II MODERATE HOUSING UNITS LOCATION
BUILDING C - 3 UNITS BUILDING D - 2 UNITS BUILDING E - 3 UNITS	BUILDING A - 3 UNITS BUILDING B - 3 UNITS

PARKING TABULATION CHART		
TOTAL SPACES REQUIRED*	SPACES WITHIN APT. BLDGS.	TOTAL SPACES PROVIDED
176 SPACES (1.3 SPACES PER UNIT)	26 OR 24 SPACES EACH (1 HANDICAP) = 126	217 SPACES

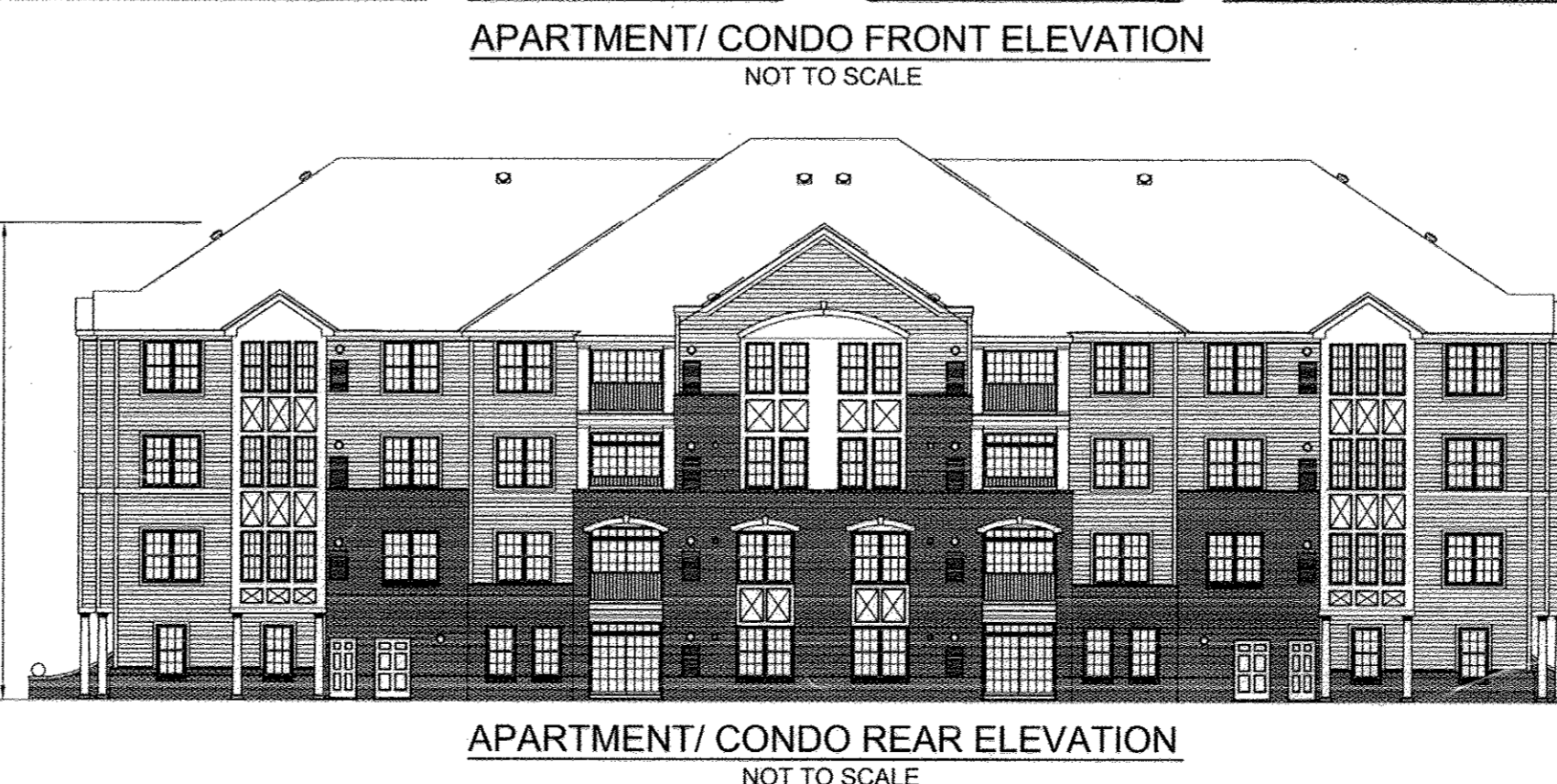
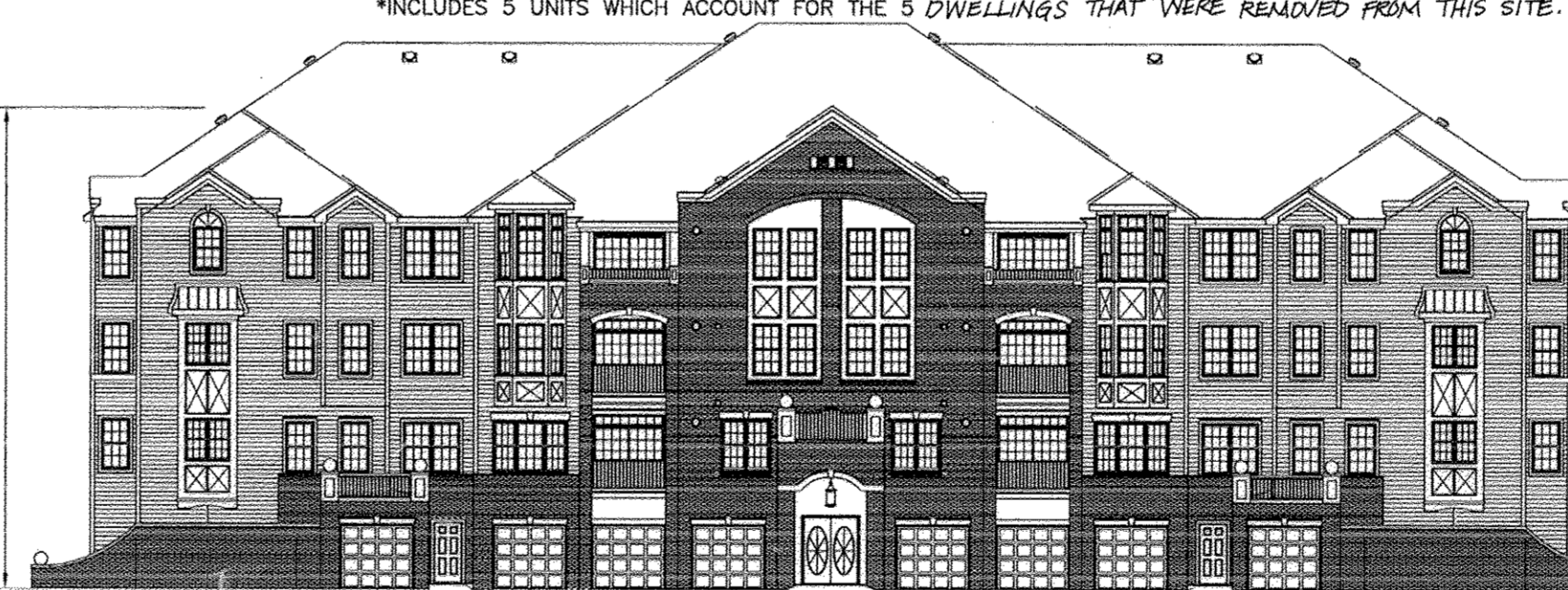
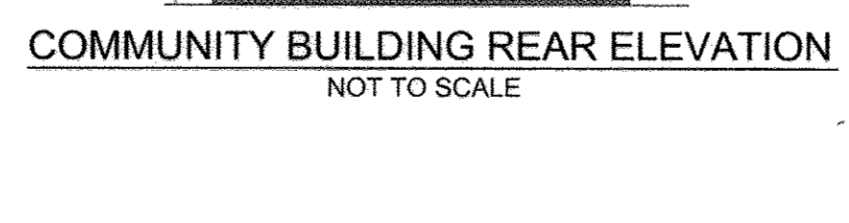
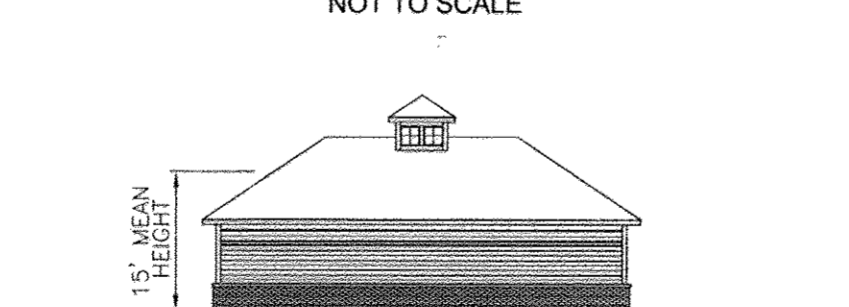
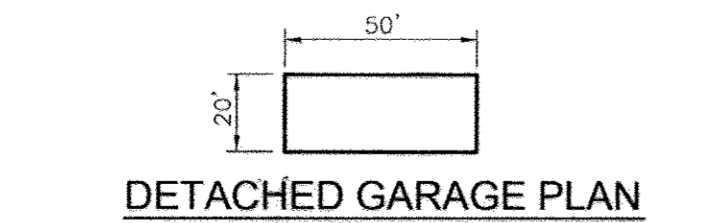
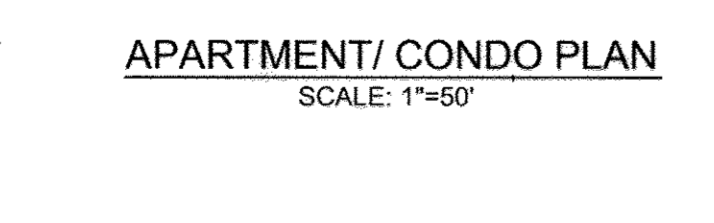
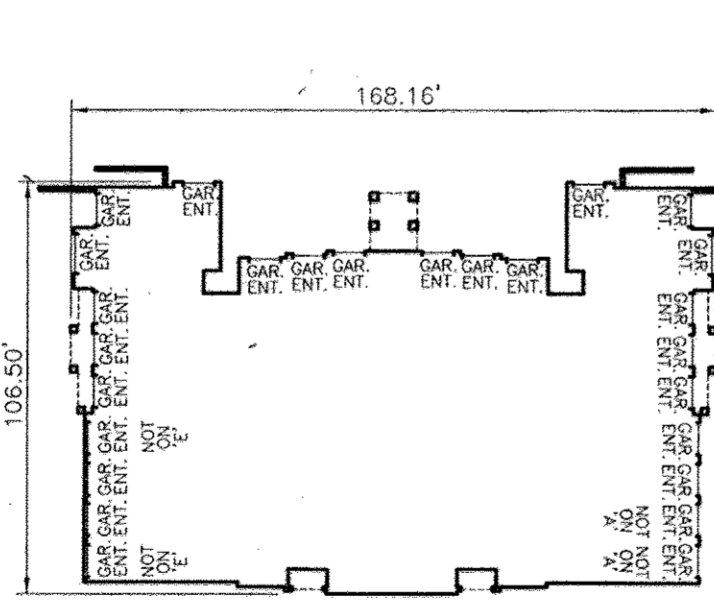
*1 SPACE PER UNIT IS REQUIRED BY THE ZONING REGULATIONS AND 0.3 SPACES PER UNIT IS REQUIRED BY THE DESIGN MANUAL.

NO.	REVISION	DATE
1	REPLACE SANDFILTERS 1-5 WITH A STORM FILTER, REVISE STORM DRAIN	3/16/09



PHASING CHART			
PHASE	UNITS	YEAR	BUILDINGS
PHASE I	*80 UNITS	2008	BUILDINGS "E", "C" AND "D"
PHASE II	55 UNITS	2009	BUILDINGS "B" AND "A"

NOTE: BUILDING "C" WILL HAVE 26 LIVABLE UNITS AND 1 STORAGE UNIT IN PHASE I. THE STORAGE UNIT WILL BE CONVERTED TO LIVABLE AT PHASE II.
*INCLUDES 5 UNITS WHICH ACCOUNT FOR THE 5 DWELLINGS THAT WERE REMOVED FROM THIS SITE.



UNIVERSAL DESIGN REQUIREMENTS FOR AGE-RESTRICTED ADULT HOUSING IN HOWARD COUNTY

- FOR MULTI-FAMILY APARTMENT OR CONDO DEVELOPMENTS, AN ACCESSIBLE PATH BETWEEN PARKING, DWELLING UNITS, AND COMMON AREAS THAT MEETS ADA STANDARDS.
- FOR SINGLE FAMILY DETACHED AND ATTACHED DEVELOPMENTS, A "NO-STEP" ACCESS TO THE FRONT ENTRANCE TO THE COMMUNITY BUILDING AND ALL DWELLING (A NO-STEP ENTRANCE IS DESIRABLE, BUT NOT REQUIRED TO OTHER ENTRANCES).
- 36" WIDE FRONT DOOR WITH EXTERIOR LIGHTING OF ENTRANCE.
- ALL INTERIOR DOORWAYS AT LEAST 32" WIDE (36" IS PREFERABLE).
- HALLWAYS AT LEAST 36" WIDE, (40-42" IS PREFERABLE).
- COMPLETE LIVING AREA INCLUDING MASTER BEDROOM AND BATH ON FIRST FLOOR (OR ELEVATOR ACCESS IF MULTI-STORY RENTAL/CONDO APARTMENTS)
- LEVER HANDLES ON INTERIOR AND EXTERIOR DOORS.
- BLOCKING FOR GRAB BARS IN WALLS IN BATHROOM WALLS NEAR TOILET AND SHOWER.

AS-BUILT CERTIFICATION
I hereby certify that the facility shown on this plan was constructed as shown on the "as-built" plans and meets the approved plans and specifications.

Signature: [Signature]
Date: 10/13/08
PE # 16193
6/11/13

STATE OF MARYLAND PROFESSIONAL ENGINEER

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: [Signature] 11/3/07
Chief, Division of Land Development: [Signature] 4/18/09
Director: [Signature] 4/18/07

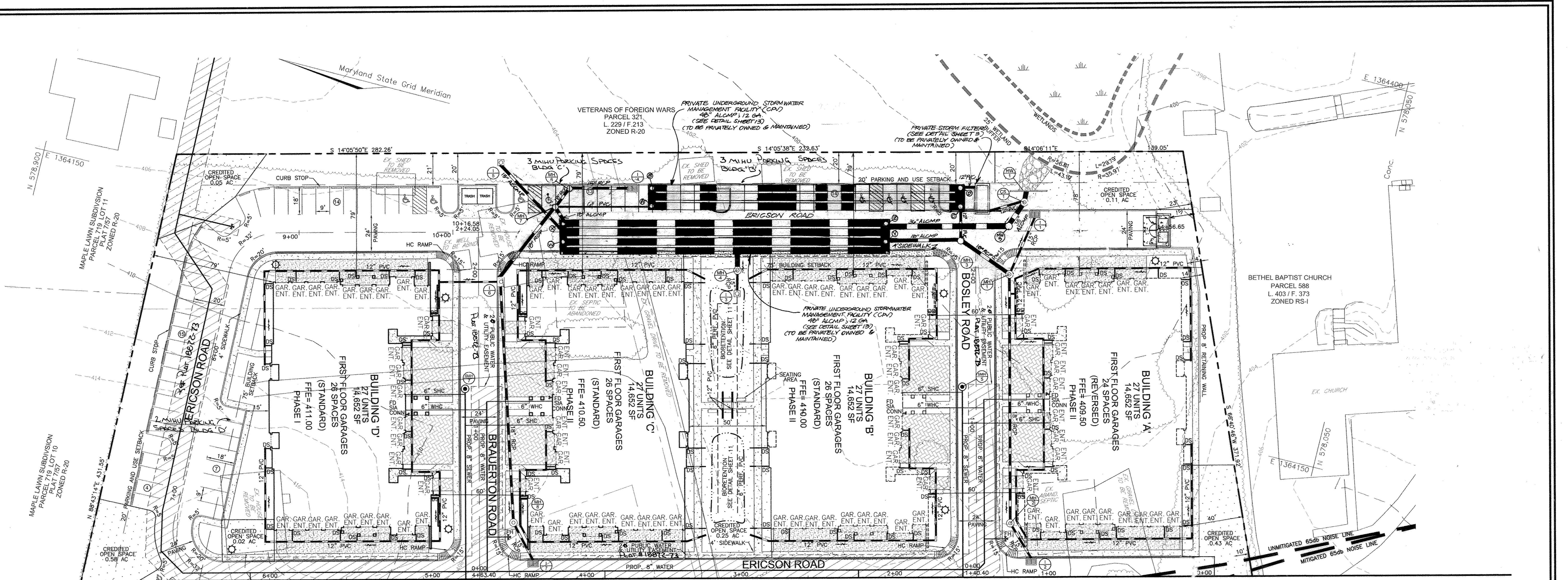
OWNER / DEVELOPER
BEAZER HOMES CORPORATION
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
(301) 621-8151

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET, ELICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

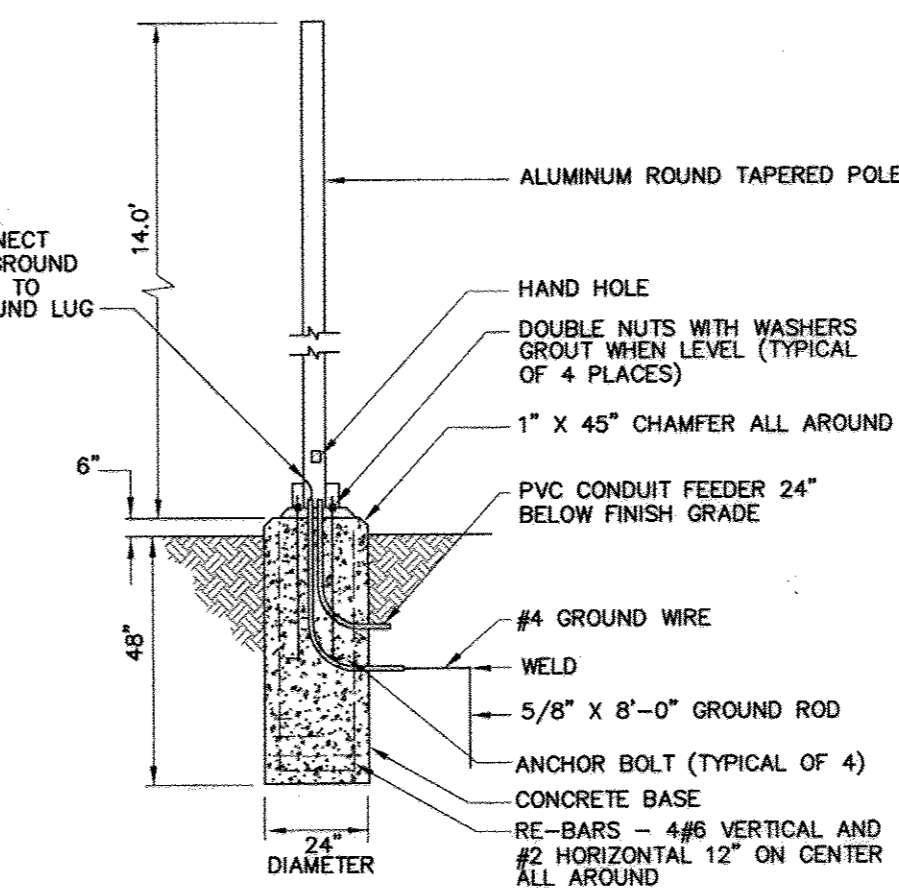
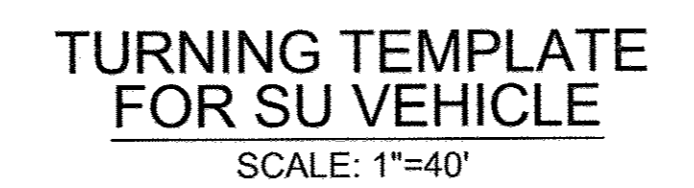
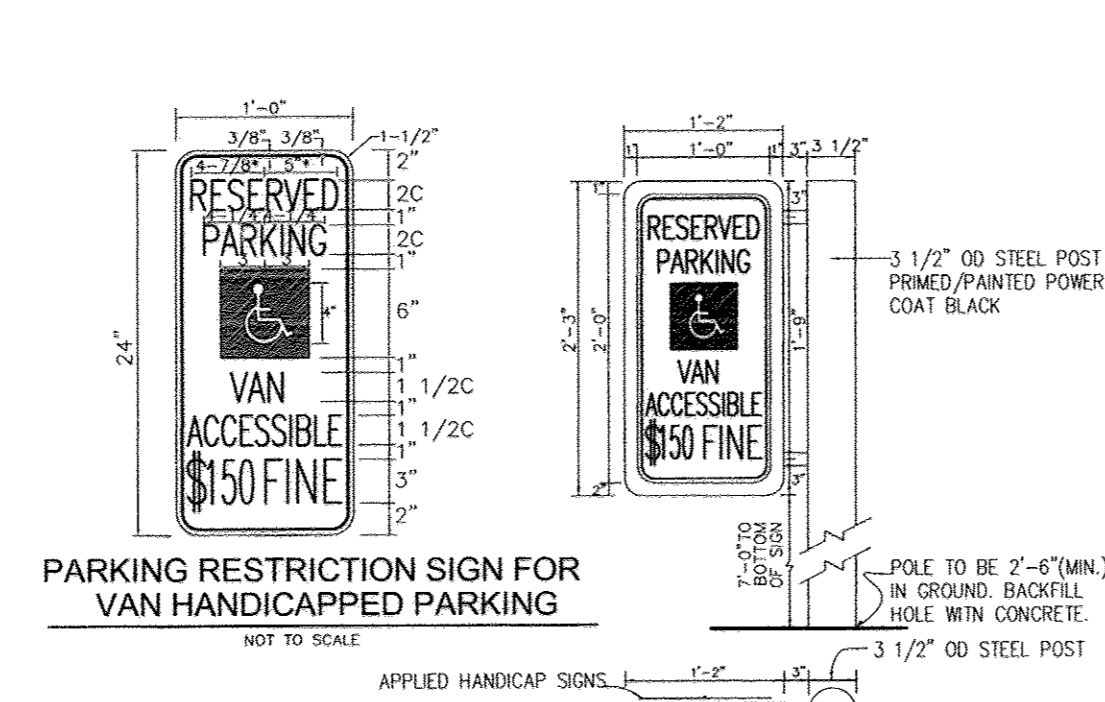
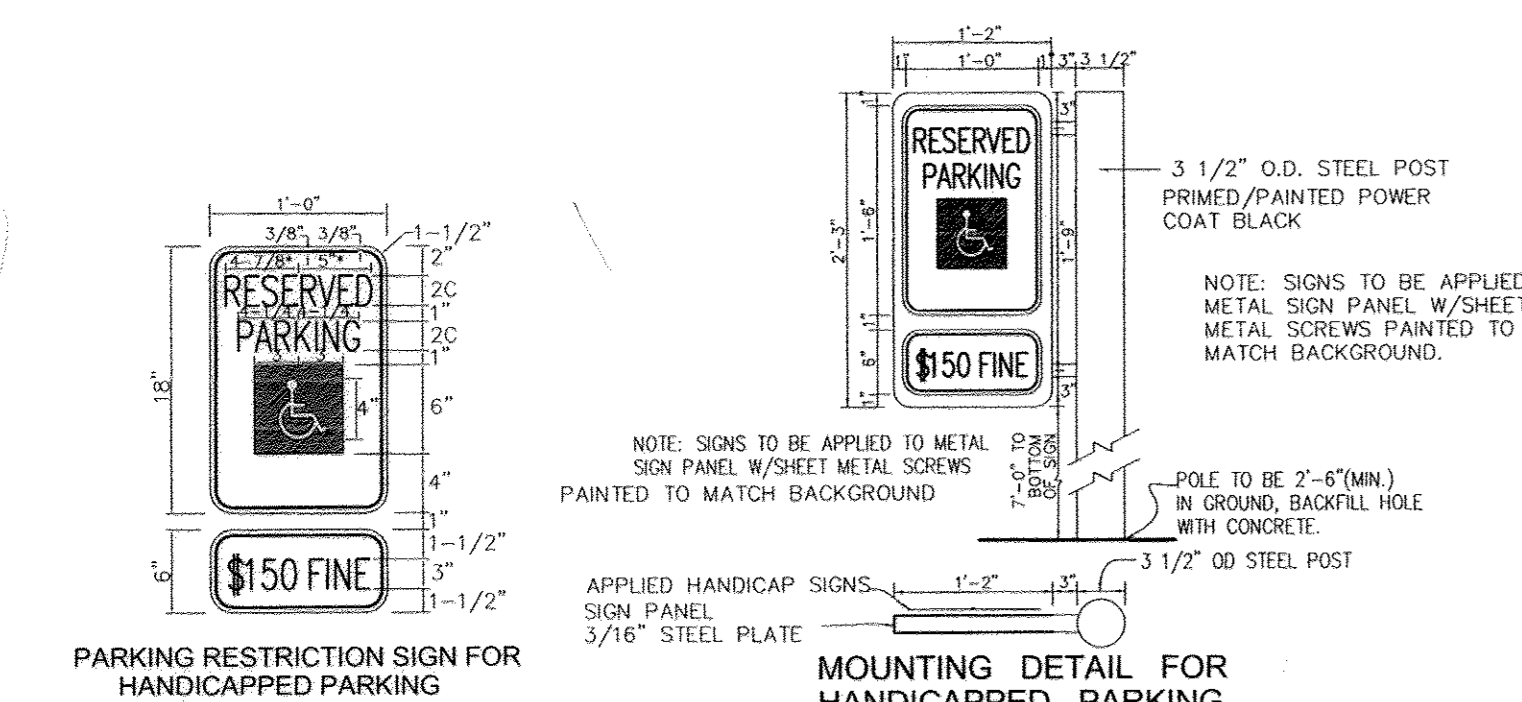
DESIGN BY: RHH/LJ/LJCO
DRAWN BY: LJ/LJCO
CHECKED BY: RHH
DATE: MAY 2006
SCALE: AS NOTED
W.O. NO.: 05-01.00

1 SHEET OF 12A

SDP-06-005



MATCHLINE - SEE SHEET 3 OF 12
 PLAN
 SCALE 1"=30"



NOTES:
 1. LIGHTING DETAIL FOR INFORMATIONAL PURPOSES ONLY. SEE ELECTRICAL AND ARCHITECTURAL PLANS FOR ACTUAL LIGHTING DETAILS AND SPECIFICATIONS.
 2. LIGHTING SHALL BE DIRECTED DOWN AND AWAY FROM ADJOINING PROPERTIES AND STREETS.

LEGEND

- 202--- EXISTING 2 FT CONTOUR
- 200--- EXISTING 10 FT CONTOUR
- SOIL TYPE DIVISION LINE
- EXISTING TREELINE
- WETLANDS
- BRICK PAVERS
- MACADAM PAVING
- PUBLIC WATER & UTILITY EASEMENT EASEMENT
- CREDITED OPEN SPACE
- STREET LIGHT

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP
MIB2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
KsB2	KELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	D
NsB2	NESHAMNY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B

AS-BUILT CERTIFICATION

I hereby certify that the facility shown on this plan was constructed as shown on the "as-built" plans and meets the approved plans and specifications.

Signature: *[Signature]*
 PE NO. 16193
 Date: 6/10/13

STATE OF MARYLAND PROFESSIONAL ENGINEER

NO.	REVISION	DATE
1	REPLACE SAND FILTERS 1-5 WITH A STORM FILTER AND REVISE ASSOCIATED STORM DRAIN	11-20-08

SITE DEVELOPMENT PLAN
SITE LAYOUT PLAN

THE GATHERINGS AT JEFFERSON PLACE
PARCEL A - PHASE I & II
 AGE RESTRICTED ADULT HOUSING

TAX MAP 24 GRID 24 PARCELS 318, 319, 320 & 731
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET SUITE 290 COLUMBIA, MD 21046
 TEL: 410.461.7666 FAX: 410.461.8961

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 1/3/07 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 6/15/10 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 6/16/07 DATE
 DIRECTOR

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

HOWARD SCD DATE

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.

[Signature] 12/21/06 DATE
 ROBERT H. VOGEL, PE #16193

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] 12/21/06 DATE
 BEAZER HOMES

OWNER / DEVELOPER

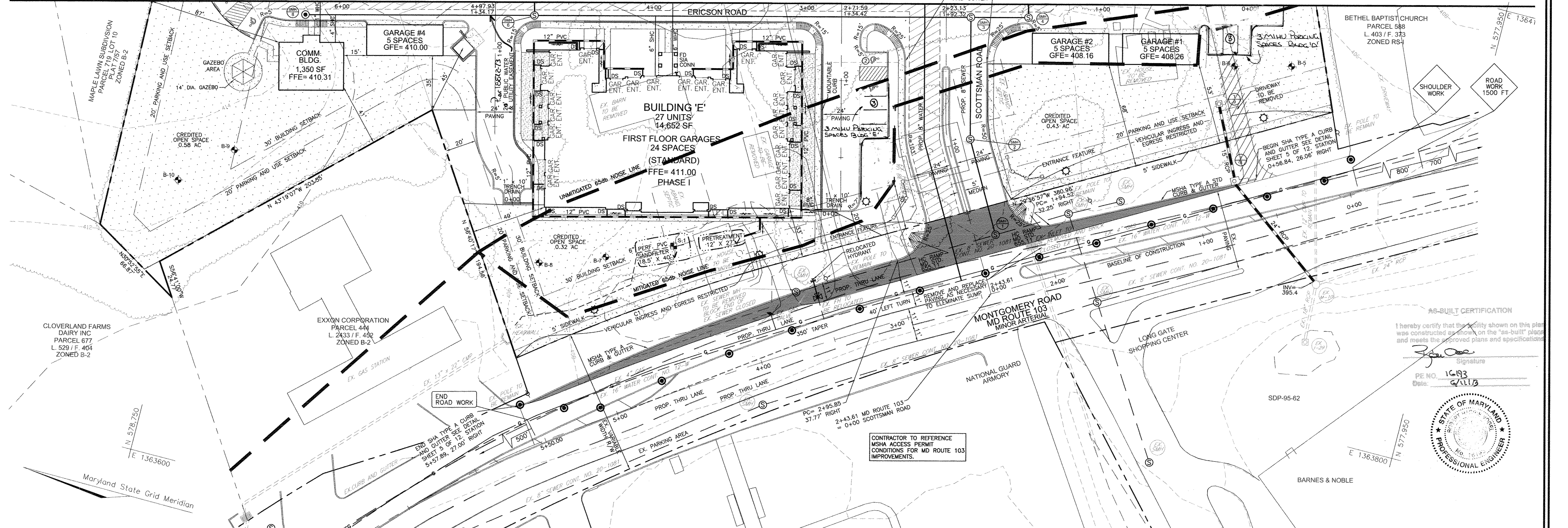
BEAZER HOMES CORPORATION
 8965 GUILFORD ROAD SUITE 290 COLUMBIA, MD 21046
 (301) 621-8151

DESIGN BY: RHV/LTJ/CO
 DRAWN BY: LTJ/CO
 CHECKED BY: RHV
 DATE: MAY 2008
 SCALE: 1"=30'
 W.O. NO.: 05-01-00

2 SHEET OF 12A

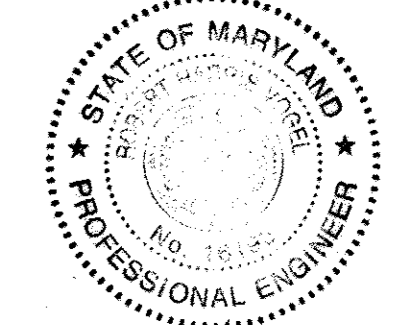
SDP-06-005

MATCHLINE - SEE SHEET 2 OF 12



AS-BUILT CERTIFICATION
I hereby certify that the utility shown on this plan was constructed as shown on the "as-built" plans and meets the approved plans and specifications.

Signature
PE NO. 16193
Date: 6/11/06



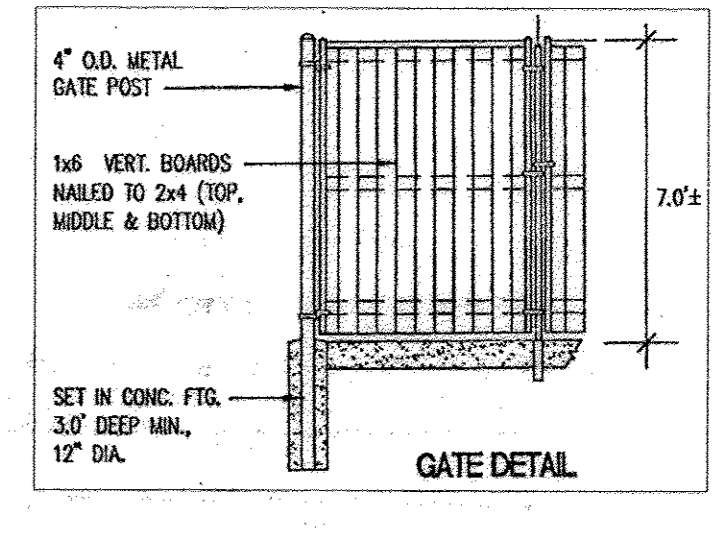
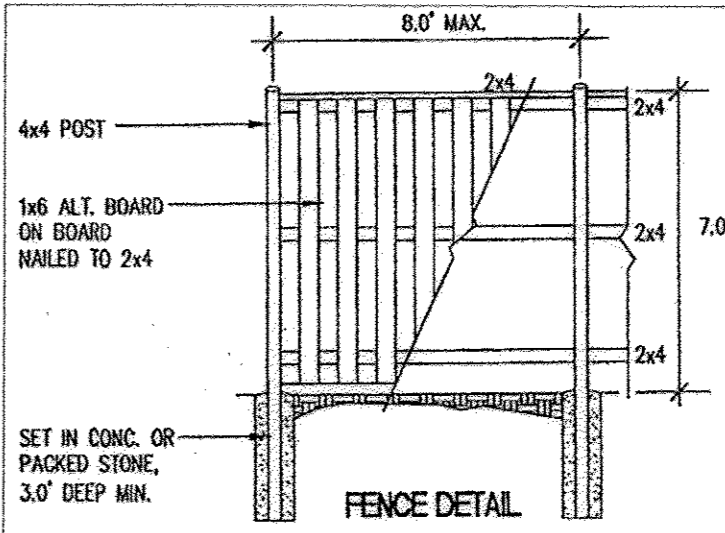
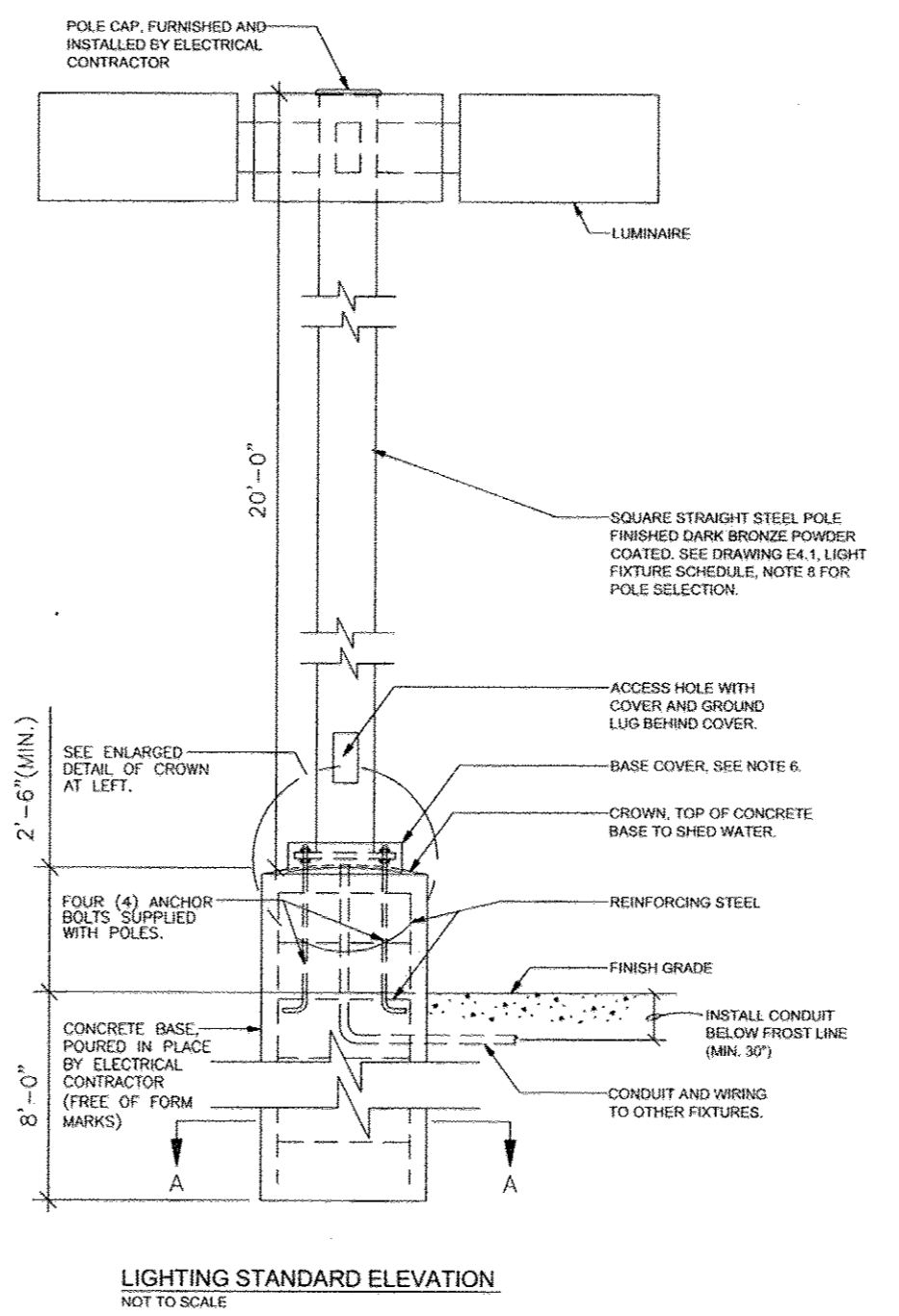
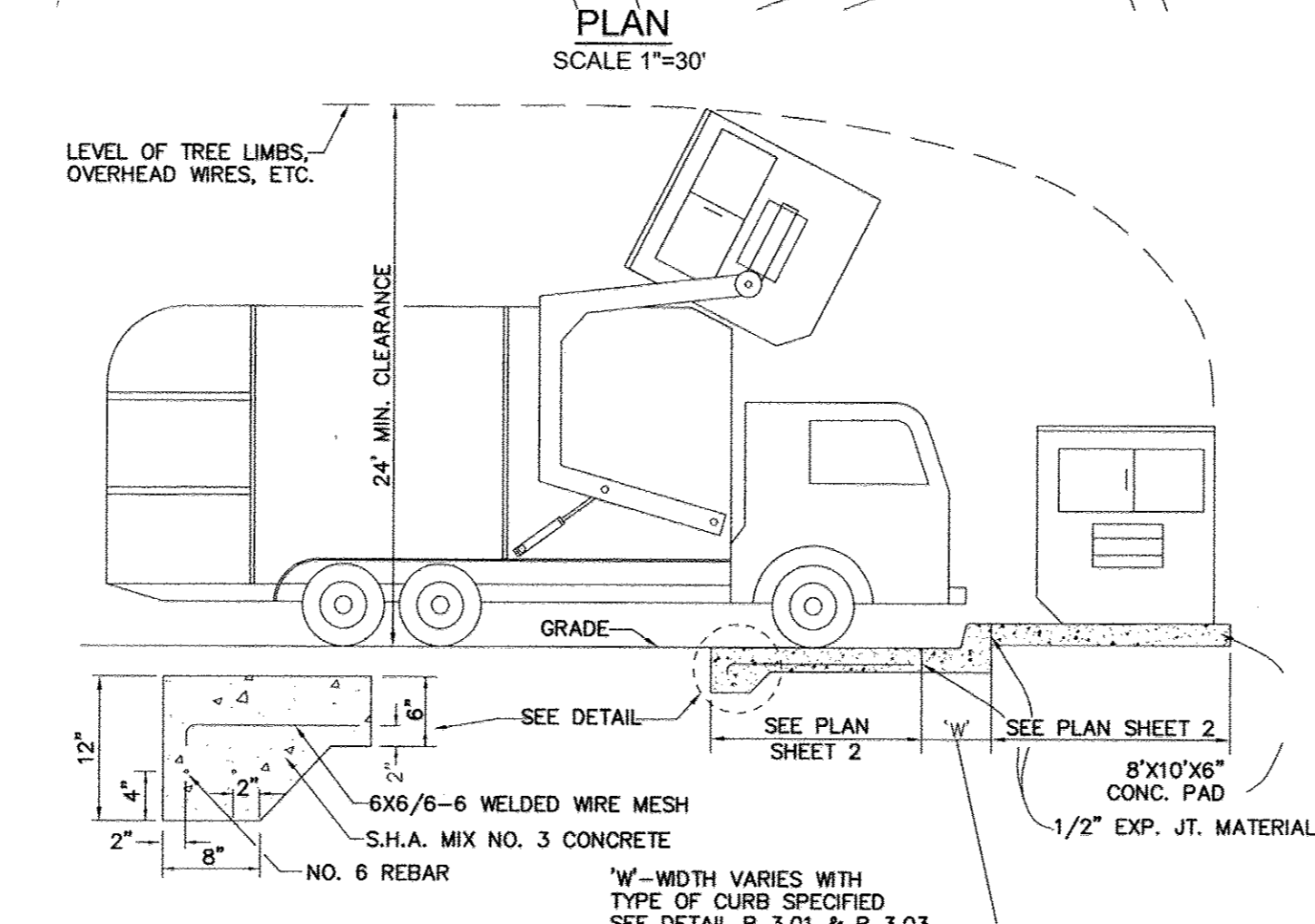
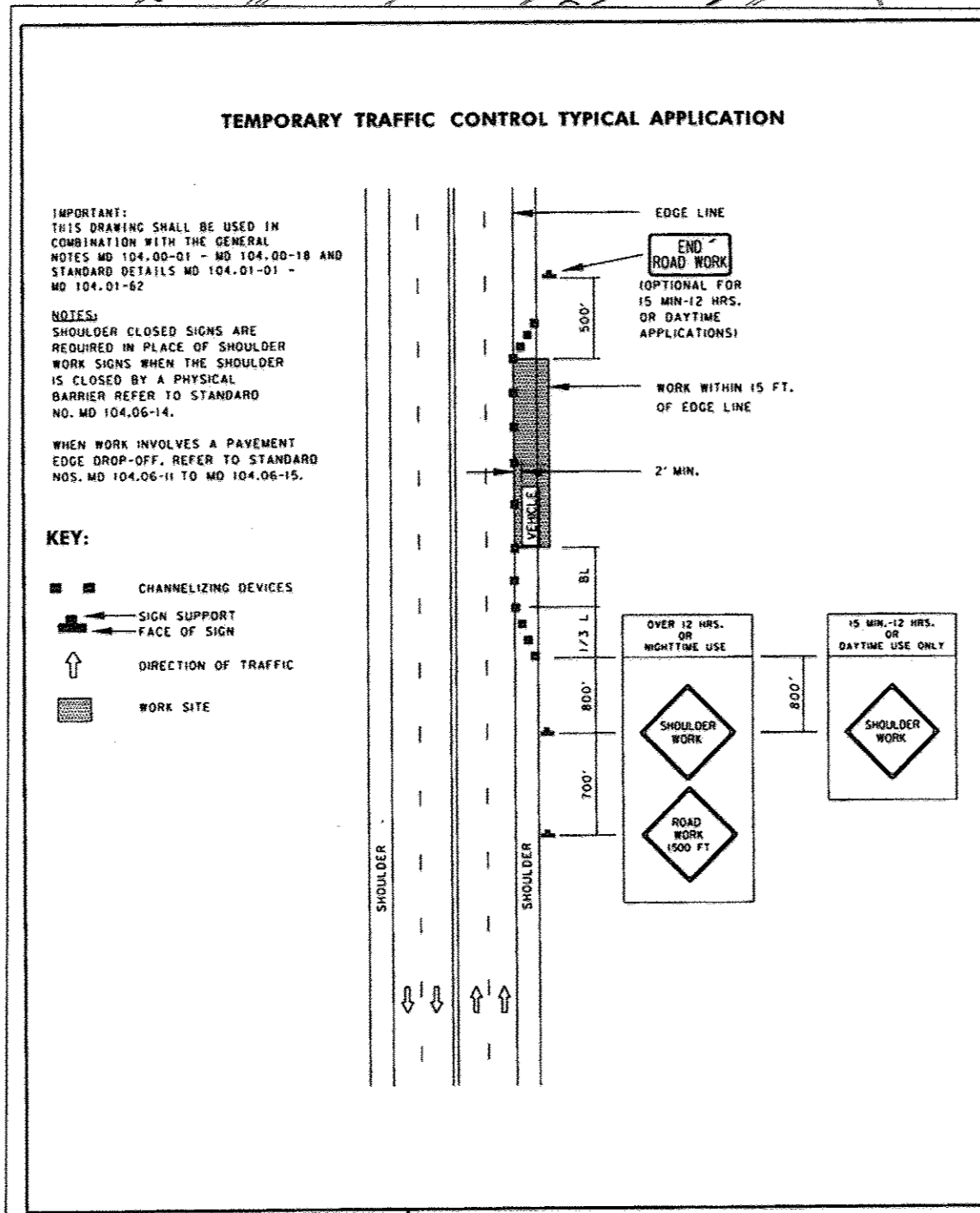
CONTRACTOR TO REFERENCE MSHA ACCESS PERMIT CONDITIONS FOR MD ROUTE 103 IMPROVEMENTS.

LEGEND

- 202--- EXISTING 2 FT CONTOUR
- 200--- EXISTING 10 FT CONTOUR
- SOIL TYPE DIVISION LINE
- EXISTING TREELINE
- WETLANDS
- BRICK PAVERS
- MACADAM PAVING
- PUBLIC WATER & UTILITY EASEMENT
- CREDITED OPEN SPACE
- SHA ROAD WIDENING SEE DETAIL
- STREET LIGHT

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP
MB2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
K6B2	KELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	D
N6B2	NESHAMINY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B



TRASH ENCLOSURE DETAIL
NOT TO SCALE

Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
SHOULDER WORK/MULTILANE UNDIV. EQ/LESS THAN 40 MPH
STANDARD NO. MD 104.03-02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
6/16/06

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
USDA-NATURAL RESOURCES CONSERVATION SERVICE
6/16/06

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.
ROBERT H. VOGEL, PE #16193 6/16/06

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.
BEAZER HOMES 6/16/06

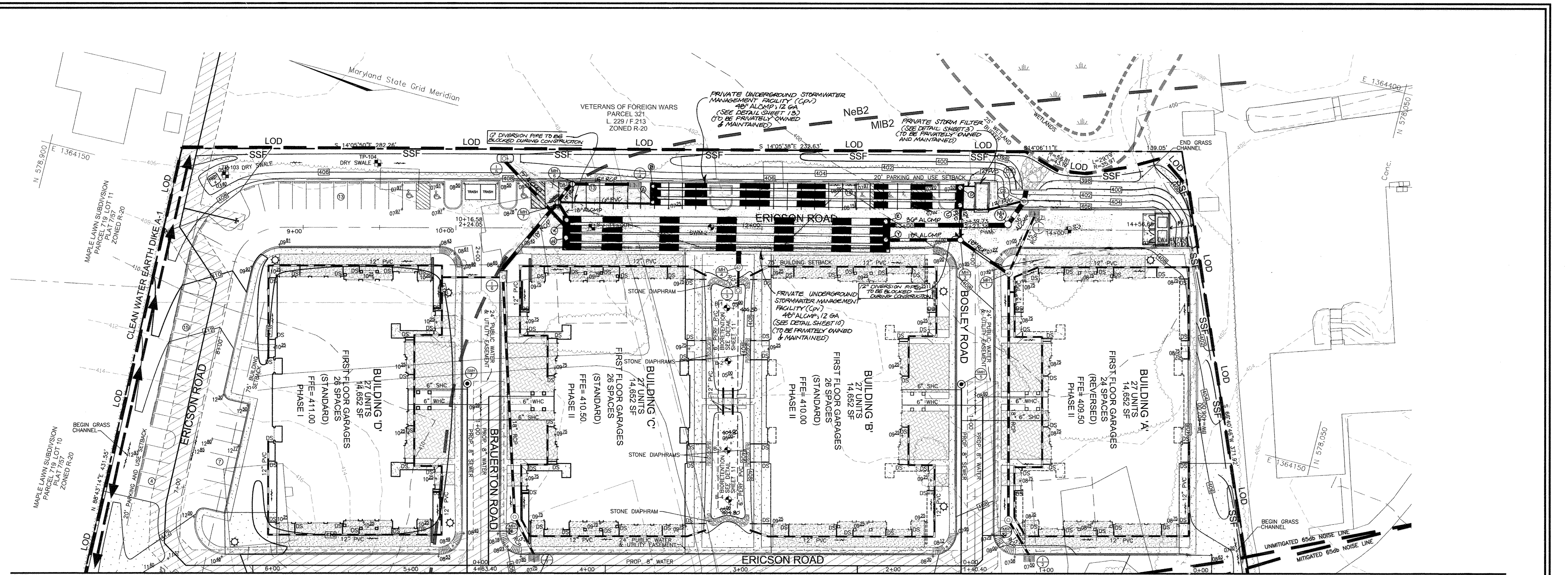
OWNER / DEVELOPER
BEAZER HOMES CORPORATION
8965 GULFORD ROAD
SUITE 290
COLUMBIA, MD 21046
(301) 621-8151

NO.	REVISION	DATE

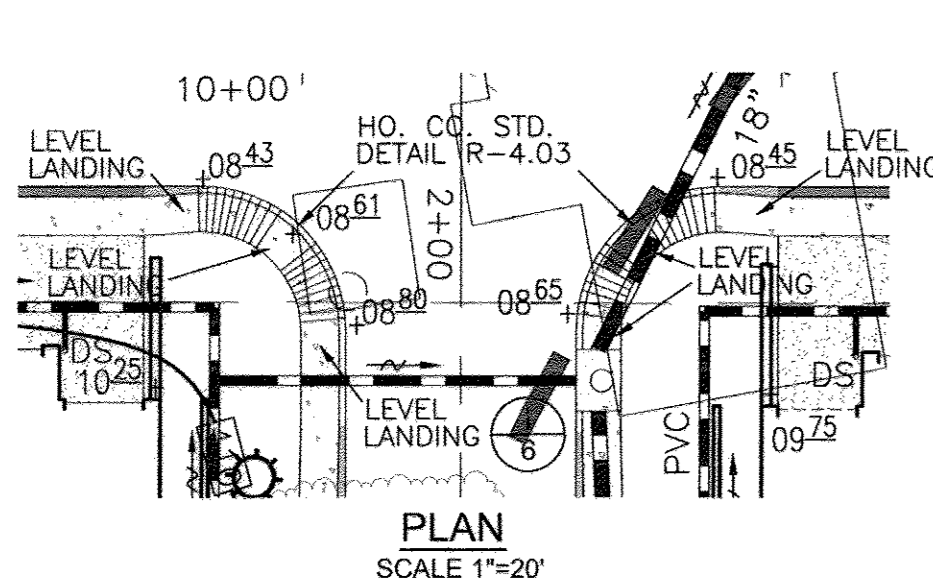
SITE DEVELOPMENT PLAN
SITE LAYOUT PLAN
THE GATHERINGS AT JEFFERSON PLACE
PARCEL A - PHASE I & II
AGE RESTRICTED ADULT HOUSING
TAX MAP 24 GRID 24 PARCELS 318, 319, 320 & 731
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

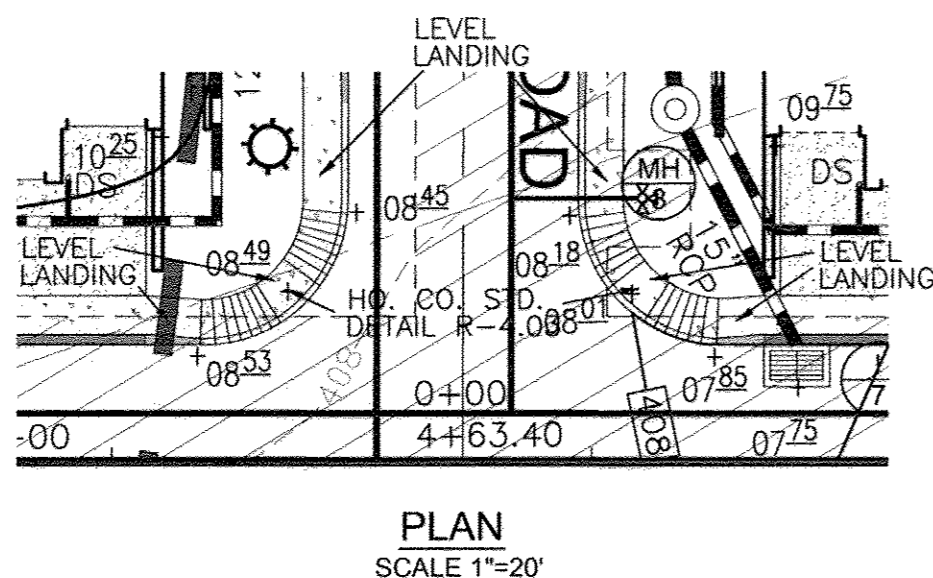
DESIGN BY: RHV/LJT/UCO
DRAWN BY: LJT/UCO
CHECKED BY: RHV
DATE: MAY 2006
SCALE: 1"=30'
W.O. NO.: 05-01.00



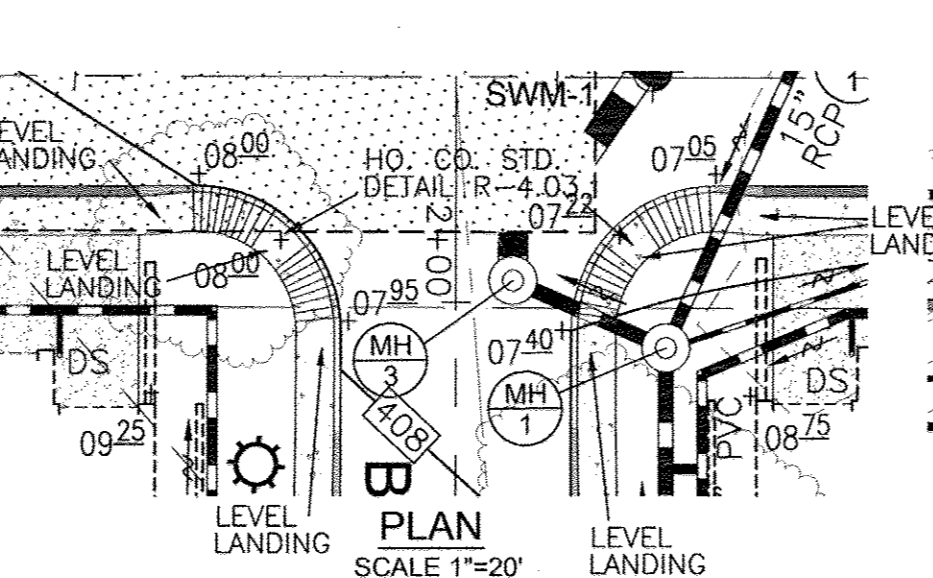
MATCHLINE - SEE SHEET 5 OF 12
 PLAN
 SCALE 1"=30'



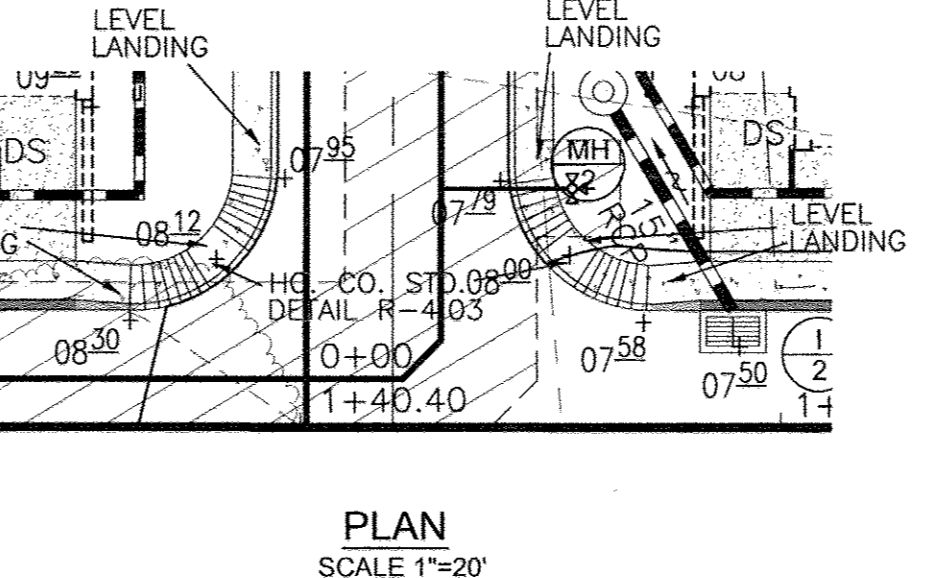
PLAN
 SCALE 1"=20'



PLAN
 SCALE 1"=20'



PLAN
 SCALE 1"=20'



PLAN
 SCALE 1"=20'

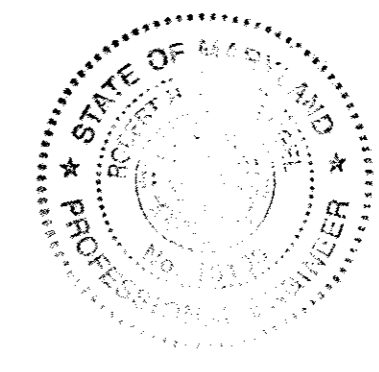
LEGEND

- 200--- EXISTING 2 FT CONTOUR
- 200--- EXISTING 10 FT CONTOUR
- 200--- PROPOSED 2 FT CONTOUR
- 200--- PROPOSED 10 FT CONTOUR
- --- SOIL TYPE DIVISION LINE
- --- EXISTING TREELINE
- WETLANDS
- BRICK PAVERS
- MACADAM PAVING
- PUBLIC WATER & UTILITY EASEMENT
- CREDITED OPEN SPACE
- STREET LIGHT

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP
MIB2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
K6B2	KELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	D
NeB2	NESHAMNY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B

NOTE: DEBRIS IS TO BE KEPT OUT OF STORMWATER MANAGEMENT FACILITIES DURING AND AFTER CONSTRUCTION.



AS-BUILT CERTIFICATION
 I hereby certify that the facility shown on this plan was constructed as shown on the "as-built" plans and meets the approved plans and specifications.
 Signature: [Signature]
 PE NO. 1C-193
 Date: 6/11/13

NO.	REVISION	DATE
1	REPLACE SANDFILTERS 1-9 WITH A STORM FILTER AND REVISE ASSOCIATED STORM DRAIN	11-20-09

SITE DEVELOPMENT PLAN
GRADING AND SEDIMENT EROSION CONTROL PLAN
THE GATHERINGS AT JEFFERSON PLACE
PARCEL A - PHASE I & II
 AGE RESTRICTED ADULT HOUSING
 TAX MAP 24 GRID 24 PARCELS 318, 319, 320 & 731
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET ELLICOTT CITY, MD 21043
 TEL: 410.461.7666 FAX: 410.461.8961

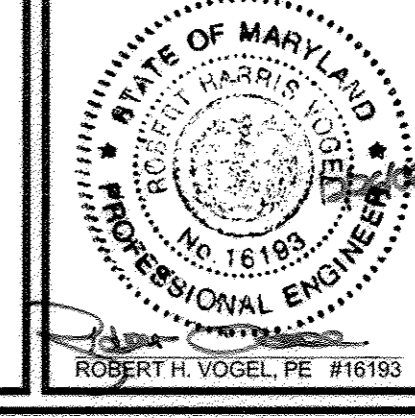
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 1/26/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 6/18/13
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] 6/18/13
 DIRECTOR

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
 [Signature] 12/29/10
 USA-NATURAL RESOURCES CONSERVATION SERVICE
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
 [Signature] 12/29/10
 HOWARD SCD

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 [Signature] 12/29/10
 ROBERT H. VOGEL, PE #16193

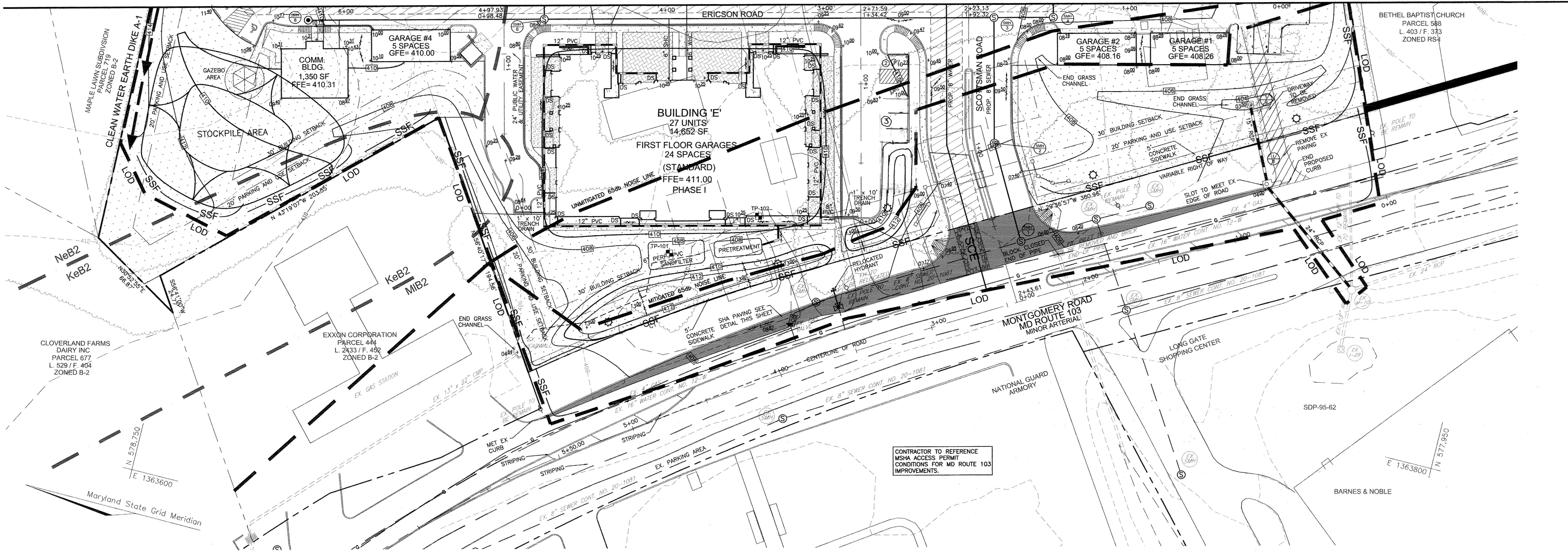
DEVELOPER'S CERTIFICATE
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 [Signature] 12/21/06
 BEAZER HOMES

OWNER / DEVELOPER
 BEAZER HOMES CORPORATION
 8965 GUILFORD ROAD SUITE 290
 COLUMBIA, MD 21046
 (301) 621-8151



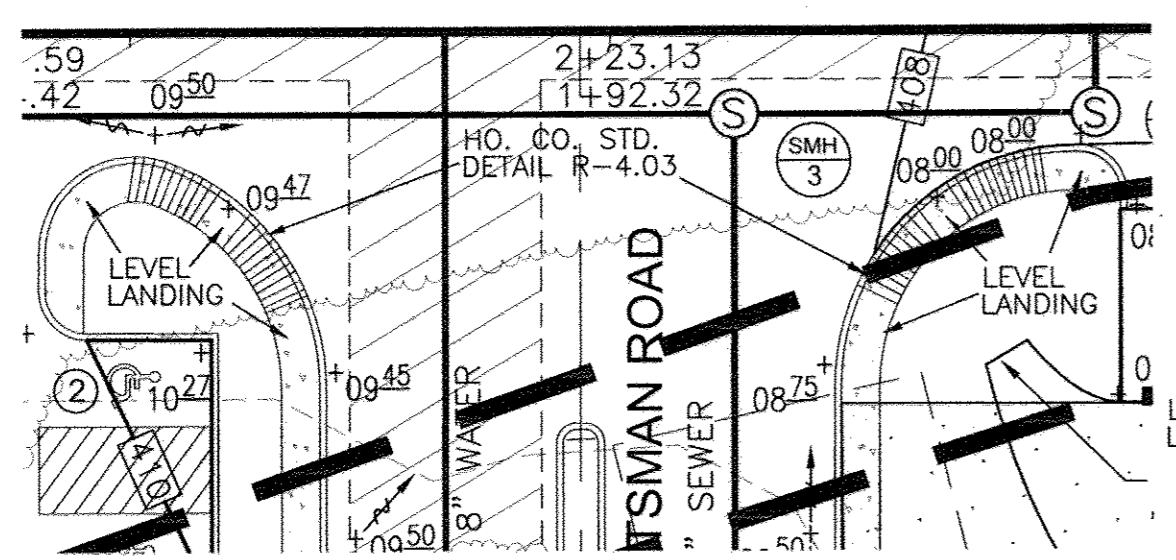
DESIGN BY: RHL/JTJ/CO
 DRAWN BY: LUTJCO
 CHECKED BY: RHY
 DATE: MAY 2006
 SCALE: 1"=30'
 W.O. NO.: 05-01-00
 4 SHEET OF 12A

MATCHLINE - SEE SHEET 4 OF 12

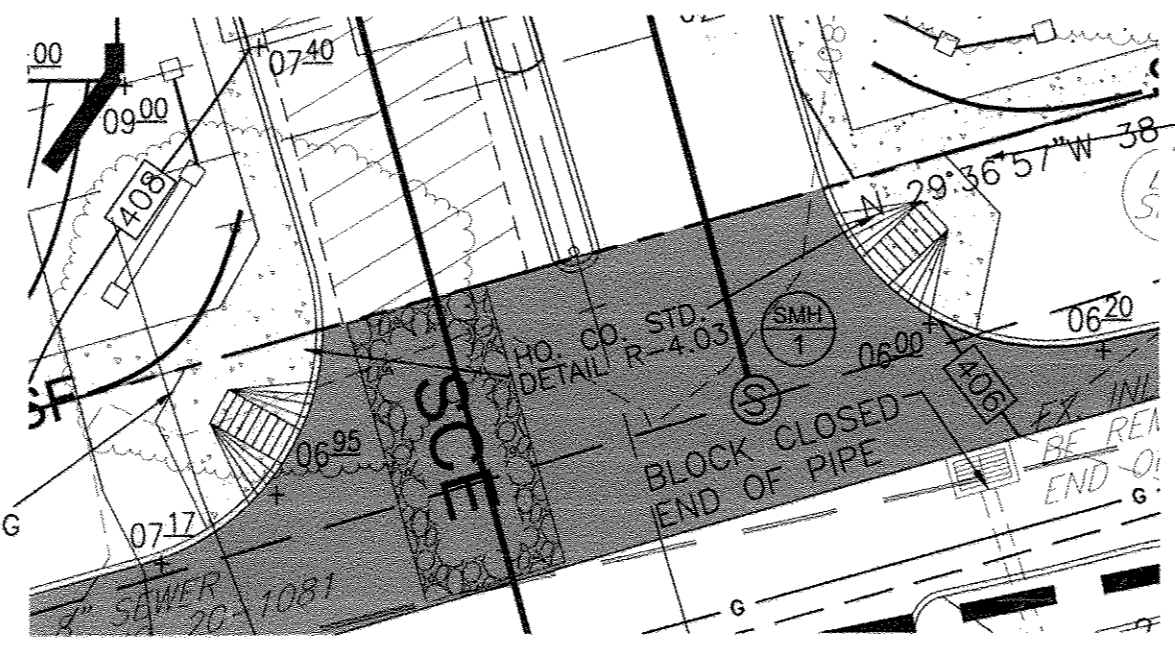


CONTRACTOR TO REFERENCE MSHA ACCESS PERMIT CONDITIONS FOR MD ROUTE 103 IMPROVEMENTS.

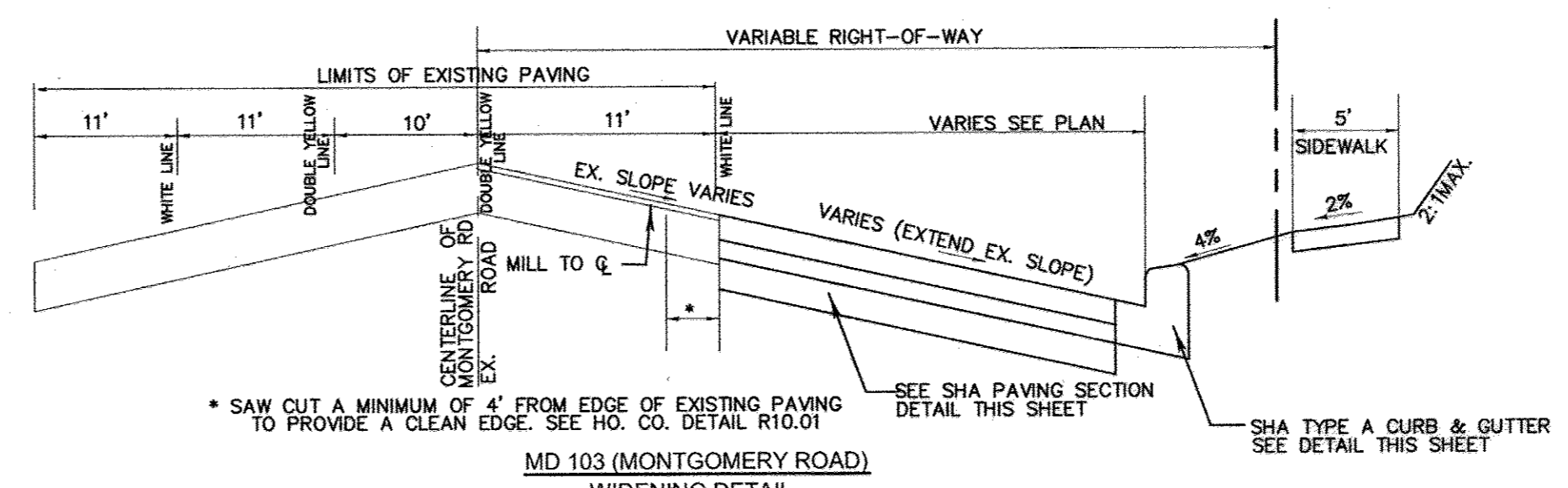
PLAN SCALE 1"=30'



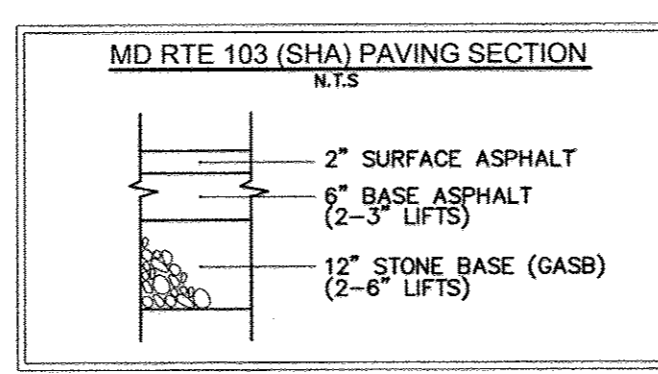
PLAN SCALE 1"=20'



PLAN SCALE 1"=20'

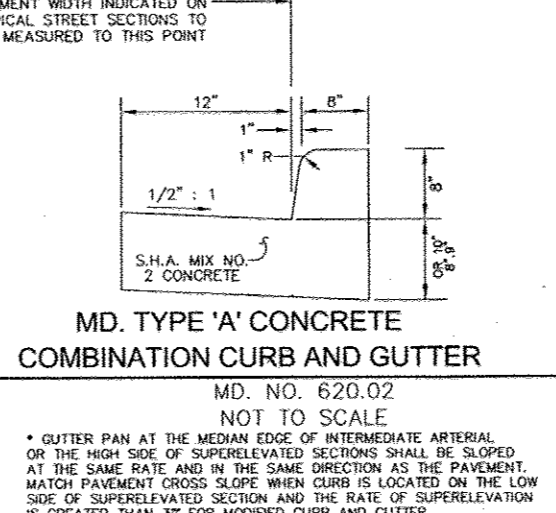


MD 103 (MONTGOMERY ROAD) WIDENING DETAIL NOT TO SCALE



MD RTE 103 (SHA) PAVING SECTION NOT TO SCALE

NOTE: THE ELEVATIONS FOR PROPOSED SHA CURB ALONG MD ROUTE 103 IS TO BE ESTABLISHED BY THE EXISTING EDGE OF ROAD, WHICH SUPERSEDES THE ELEVATIONS CONTRACTOR TO OBTAIN SHA INSPECTOR APPROVAL PRIOR TO CONSTRUCTING CURB. CONTRACTOR TO CONFORM TO ALL ACCESS PERMITS.

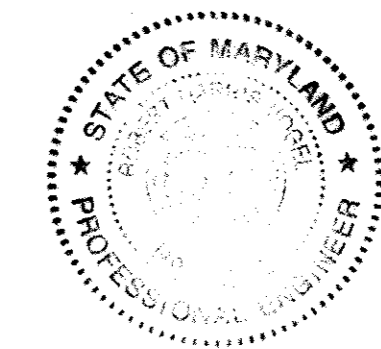


MD, TYPE 'A' CONCRETE COMBINATION CURB AND GUTTER NOT TO SCALE

AS-BUILT CERTIFICATION

I hereby certify that the facility shown on this plan was constructed as shown on the "as-built" plans and meets the approved plans and specifications.

Signature: [Signature]
PE NO. 1C193
Date: 6/1/23



NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
GRADING AND SEDIMENT EROSION CONTROL PLAN
THE GATHERINGS AT JEFFERSON PLACE
PARCEL A - PHASE I&II
AGE RESTRICTED ADULT HOUSING
TAX MAP 24 GRID 24 PARCELS 318, 319, 320 & 731
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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8407 MAIN STREET SUITE 290
ELICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: RHW/LJT/CO
DRAWN BY: LJT/CO
CHECKED BY: RHW
DATE: MAY 2006
SCALE: 1"=30'
W.O. NO.: 05-01.00
5 SHEET OF **12A**

LEGEND

- 202--- EXISTING 2 FT CONTOUR
- 200--- EXISTING 10 FT CONTOUR
- 202--- PROPOSED 2 FT CONTOUR
- 200--- PROPOSED 10 FT CONTOUR
- 200--- SOIL TYPE DIVISION LINE
- 200--- EXISTING TREELINE
- WETLANDS
- BRICK PAVERS
- MACADAM PAVING
- PUBLIC WATER & UTILITY EASEMENT
- CREDITED OPEN SPACE
- SHA ROAD WIDENING
- STREET LIGHT

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP
MB2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
KeB2	KELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	D
NsB2	NESHAMNY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 1/3/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 6/15/12
CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 6/16/13
DIRECTOR

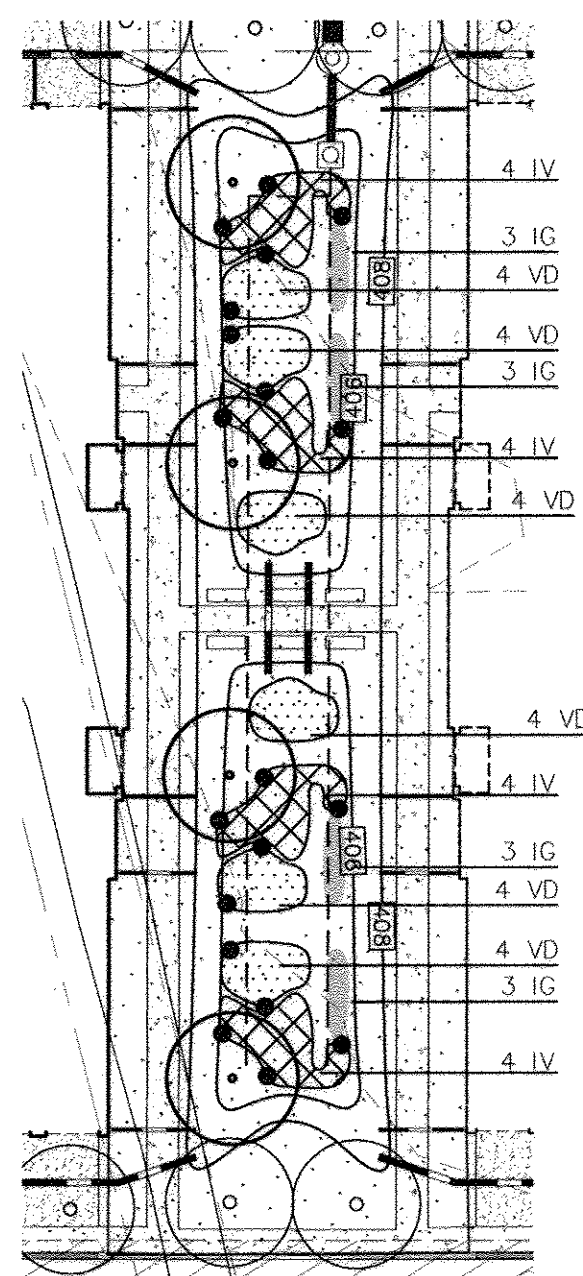
REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
[Signature] 12/29/10
USDA - NATURAL RESOURCES CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
[Signature] 12/29/10
HOWARD SCD

ENGINEERS CERTIFICATE
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[Signature] 12/29/10
ROBERT H. VOGEL, PE #16193

DEVELOPER'S CERTIFICATE
"I, THE DEVELOPER, 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] 12/21/06
BEAZER HOMES

OWNER / DEVELOPER
BEAZER HOMES CORPORATION
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
(301) 621-8151



BIORETENTION PLAN
SCALE 1"=30'

BIORETENTION AREA SOIL SPECIFICATIONS

A. PLANTING SOIL

THE BIORETENTION AREAS SHALL CONSIST OF A PLANTING SOIL HAVING A COMPOSITION OF AT LEAST 10 TO 25 PERCENT CLAY AND SHALL BE OF A SANDY LOAM OR LOAMY SAND TEXTURE. LOAMY SOILS MAY BE UTILIZED FOR THE PLANTING SOIL BUT MUST CONSIST OF 35% SAND. IN ADDITION, THE FURNISHED PLANTING SOIL SHALL BE OF UNIFORM COMPOSITION, FREE OF STONES, STUMPS, ROOTS OR SIMILAR OBJECTS LARGER THAN ONE INCH, BRUSH, OR ANY OTHER MATERIAL OR SUBSTANCE WHICH MAY BE HARMFUL TO PLANT GROWTH, OR A HINDERANCE TO PLANTING OR MAINTENANCE OPERATIONS.

THE PLANTING SOIL SHALL BE FREE OF PLANTS OR PLANT PARTS OF BERMOUDA GRASS, QUACK GRASS, JOHNSON GRASS, MUGWORT, NUTSEDGE, POISON IVY, CANADIAN THISTLE OR OTHERS AS SPECIFIED.

IT SHALL NOT CONTAIN TOXIC SUBSTANCES HARMFUL TO PLANT GROWTH.

THE PLANTING SOIL SHALL MEET THE FOLLOWING CRITERIA:

PH RANGE	5.5 - 6.5
ORGANIC MATTER	1.5 - 3.0%
MAGNESIUM - Mg	35 lbs / ACRE
PHOSPHORUS - P205	100 lbs / ACRE
POTASSIUM - K2O	85 lbs / ACRE
SOLUBLE SALTS	NOT TO EXCEED 500 ppm

B. MULCH LAYER SPECIFICATIONS (3" THICK)

A MULCH LAYER SHALL BE PROVIDED ON TOP OF THE PLANTING SOIL. AN ACCEPTABLE MULCH LAYER SHALL INCLUDE SHREDDED HARDWOOD OR SHREDDED WOOD CHIPS OR OTHER SIMILAR PRODUCT.

ALL MULCH PRODUCTS MUST BE WELL AGED, UNIFORM IN COLOR, AND FREE OF FOREIGN MATERIAL INCLUDING PLANT MATERIAL. WELL AGED MULCH IS DEFINED AS MULCH THAT HAS BEEN STOCKPILED OR STORED FOR AT LEAST TWELVE (12) MONTHS.

C. SAND SPECIFICATIONS (1' MIN.)

THE SAND SHALL BE FREE OF DELETERIOUS MATERIAL AND ROCKS GREATER THAN 1 INCH IN DIAMETER.

D. COMPACTION

SOIL SHALL BE PLACED IN LIFTS LESS THAN 18 INCHES AND LIGHTLY COMPACTED (MINIMAL COMPACTIVE EFFORT) BY TAMPING WITH A BUCKET FROM A DOZER OR A BACKHOE.

OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS

- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DEFICIENT STAKES AND WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

LEGEND

	EXISTING 2 FT CONTOUR
	EXISTING 10 FT CONTOUR
	PROPOSED 2 FT CONTOUR
	PROPOSED 10 FT CONTOUR
	SOIL TYPE DIVISION LINE
	EXISTING TREELINE
	WETLANDS
	BRICK PAVERS
	MACADAM PAVING
	PUBLIC WATER & UTILITY EASEMENT
	CREDITED OPEN SPACE
	STREET LIGHT

FOREST CONSERVATION WORKSHEET

NET TRACT AREA:
A. TOTAL TRACT AREA 7.00 AC
B. AREA WITHIN 100 YR FLOODPLAIN 0.00 AC
C. NET TRACT AREA 7.00 AC

LAND USE CATEGORY (FROM TABLE 3.2.1, PAGE 40, MANUAL)
INPUT THE NUMBER "1" UNDER THE APPROPRIATE LAND USE ZONING, AND LIMIT TO ONLY ONE ENTRY.
ARA MDR IDA HDR MPD CIA
0 0 1 0 0

D. AFFORESTATION THRESHOLD 15% XD = 1.05 AC
E. CONSERVATION THRESHOLD 20% XD = 1.40 AC

EXISTING FOREST COVER:
F. EXISTING FOREST COVER 0.00 AC
G. AREA OF FOREST ABOVE CONSERVATION THRESHOLD 0.00 AC

BREAK EVEN POINT:
H. BREAK EVEN POINT 0.00 AC
I. FOREST CLEARING PERMITTED WITHOUT MITIGATION 0.00 AC

PROPOSED FOREST CLEARING:
J. TOTAL AREA OF FOREST TO BE CLEARED 0.00 AC
K. TOTAL AREA OF FOREST TO BE RETAINED 0.00 AC

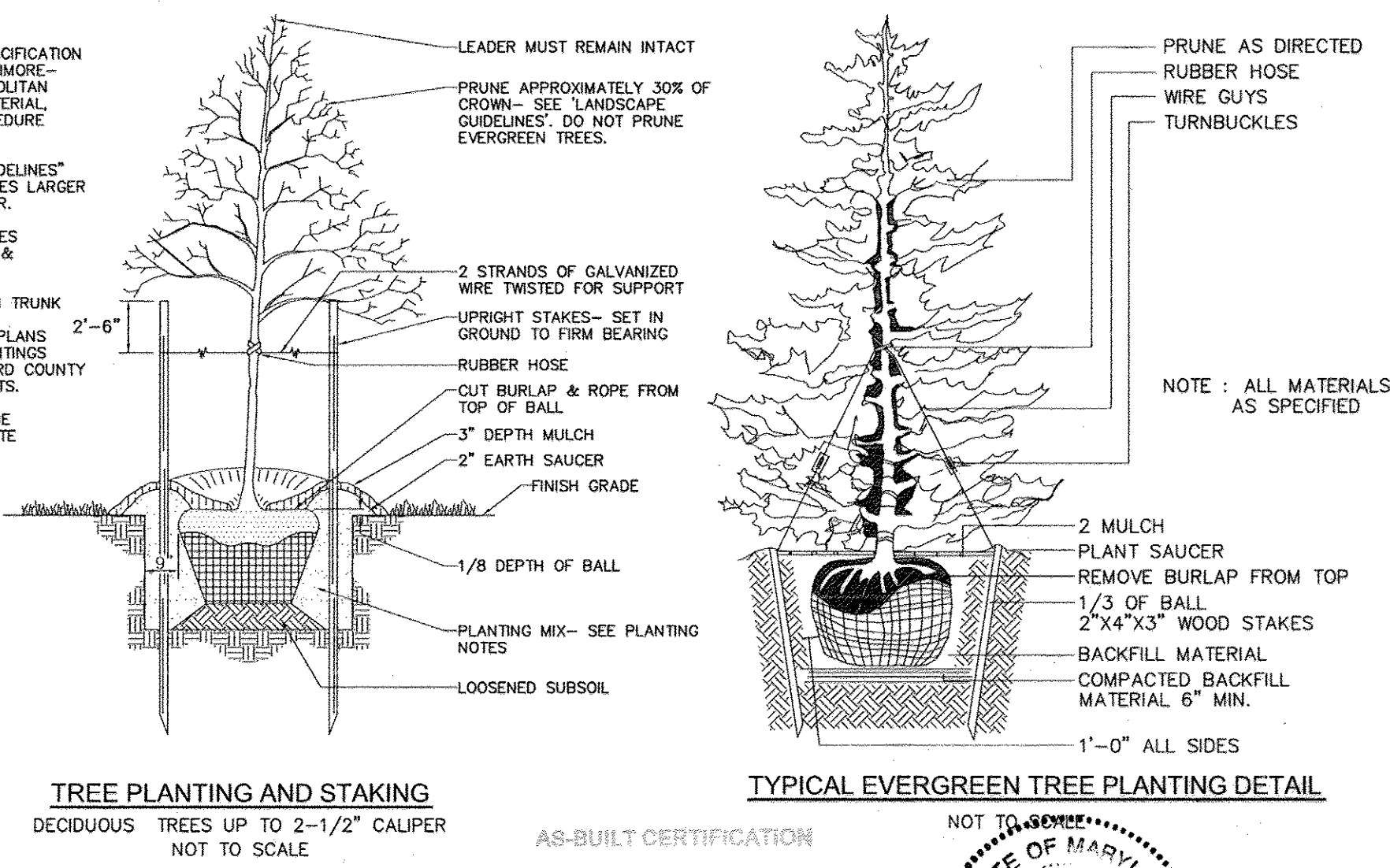
PLANTING REQUIREMENTS:
L. REFORESTATION FOR CLEARING ABOVE THE CONSERVATION THRESHOLD 0.00 AC
M. REFORESTATION FOR CLEARING BELOW THE CONSERVATION THRESHOLD 0.00 AC
N. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD 0.00 AC
P. TOTAL REFORESTATION REQUIRED 0.00 AC
Q. TOTAL AFFORESTATION REQUIRED 1.05 AC
R. TOTAL PLANTING REQUIRED 1.05 AC

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP
MB2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
K6B2	KELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	D
N6B2	NESHAMNY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B

NOTES

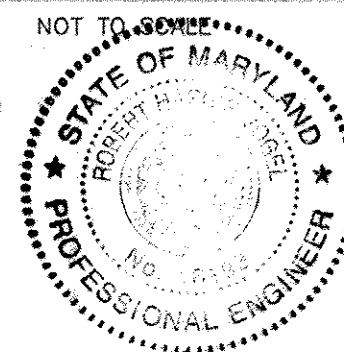
- SEE "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE WASHINGTON METROPOLITAN AREAS" FOR ALL MATERIAL PRODUCT, AND PROCEDURE SPECIFICATIONS.
- SEE "LANDSCAPE GUIDELINES" FOR SUPPORTING TREES LARGER THAN 2-1/2" CALIPER.
- PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
- KEEP MULCH 1" FROM TRUNK.
- SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTINGS WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
- TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWAGE EASEMENT.



TREE PLANTING AND STAKING
DECIDUOUS TREES UP TO 2-1/2" CALIPER
NOT TO SCALE

TYPICAL EVERGREEN TREE PLANTING DETAIL

I hereby certify that the facility shown on this plan was constructed as shown on the "as-built" plans and meets the approved plans and specifications.



OWNER / DEVELOPER

BEAZER HOMES CORPORATION
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
(301) 621-8151

Signature: [Signature]
PE NO. 1C193
Date: 6/11/13
LARRY J. THOMPSON
DNR QUALIFIED PROFESSIONAL

LANDSCAPE SCHEDULE

KEY	QUAN.	BOTANICAL NAME	SIZE	REM.
LS	52	LIQUIDAMBAR STYRACIFLUA AMERICAN SWEETGUM	2 1/2"-3" Cal.	B & B
QR	29	QUERCUS ROBUR 'FASTIGIATA' COLUMNAR ENGLISH OAK	2 1/2"-3" Cal.	B & B
ZS	23	ZELKOVA SERRATA 'VILLAGE GREEN' VILLAGE GREEN ZELKOVA	2 1/2"-3" Cal.	B & B
CO	14	CYPRESS OCYPARIS LEYLANDI LEYLAND CYPRESS	5' - 6' HL.	B & B
PO	22	PICEA OMORIKA SERPIAN SPRUCE	6' - 8' HL.	B & B

1. ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AM SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH LCAMW PLANTING SPECIFICATIONS.
2. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
3. FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
4. CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.

**SCHEDULE A
PERIMETER LANDSCAPE EDGE**

CATEGORY	ADJACENT TO ROADWAYS		ADJACENT TO PERIMETER PROPERTIES			
	B	A	A	C	A	A
Perimeter/Frontage Designation Landscape Type	B	2	3	4	3	6
Linear Feet of Roadway Frontage/Perimeter	558'	348'	654'	432'	67'	396'
Credit for Existing Vegetation (Yes, No, Linear Feet Describe below if needed)	No	No	No	No	No	No
Credit for Wall, Fence or Berm (Yes, No, Linear Feet Describe below if needed)	No	No	No	No	No	No
Number of Plants Required	1:50 12 1:40 14	1:60 6	1:60 11 1:20 22	1:40 11 1:20 22	1:60 2	1:60 7
Number of Plants Provided	Shade Trees Evergreen Trees	12 14	6 11	11 22	2	7
Other Trees (2:1 Substitution) Shrubs (10:1 Substitution) Describe Plant Substitution Credits Below if needed)	-	-	-	-	-	-

**SCHEDULE B
PARKING LOT INTERNAL LANDSCAPING**

NUMBER OF PARKING SPACES	80
NUMBER OF TREES AND ISLANDS REQUIRED	8
NUMBER OF TREES AND ISLANDS PROVIDED	8
SHADE TREES	-
OTHER TREES (2:1 SUBSTITUTION)	-

**SCHEDULE C
RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING**

NUMBER OF DWELLING UNITS	135
NUMBER OF TREES REQUIRED (1: DU SFA; 1:3 DU APTS)	45
NUMBER OF TREES PROVIDED	45
SHADE TREES	-
OTHER TREES (2:1 SUBSTITUTION)	-
SHRUBS (10:1 SUBSTITUTION)	-

STREET TREE SCHEDULE

KEY	QUAN.	BOTANICAL NAME	SIZE	REM.
106	106	ACER RUBRUM 'OCTOBER GLORY' OCTOBER GLORY RED MAPLE	2 1/2"-3" CAL.	B & B

NOTES

- FOREST CONSERVATION REQUIREMENT FOR THIS PROJECT HAS BEEN FULFILLED BY THE PURCHASE OF \$23,740.00 FOR THE 105 ACRES OF AFFORESTATION.
- PERIMETER LANDSCAPING SHALL BE IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL 3. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$68,400.00 FOR 210 SHADE TREES AND 36 EVERGREEN TREES.
- NO LANDSCAPING IS PERMITTED WITHIN 7-1/2' OF FIRE DEPARTMENT CONNECTIONS.

NO.	REVISION	DATE
1	REPLACE SAND FILTERS 1-5 WITH A STORM FILTER AND REVISE ASSOCIATED STORM DRAIN	11-20-00

**SITE DEVELOPMENT PLAN
LANDSCAPING AND FOREST CONSERVATION PLAN**
**THE GATHERINGS AT JEFFERSON PLACE
PARCEL A - PHASE I & II**
AGE RESTRICTED ADULT HOUSING
TAX MAP 24 GRID 24 PARCELS 318, 319, 320 & 731
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET ELICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: RHW/LTJ/CO
DRAWN BY: LTJ/UCO
CHECKED BY: RHW
DATE: MAY 2006
SCALE: 1"=50'
W.O. NO.: 05-01-00

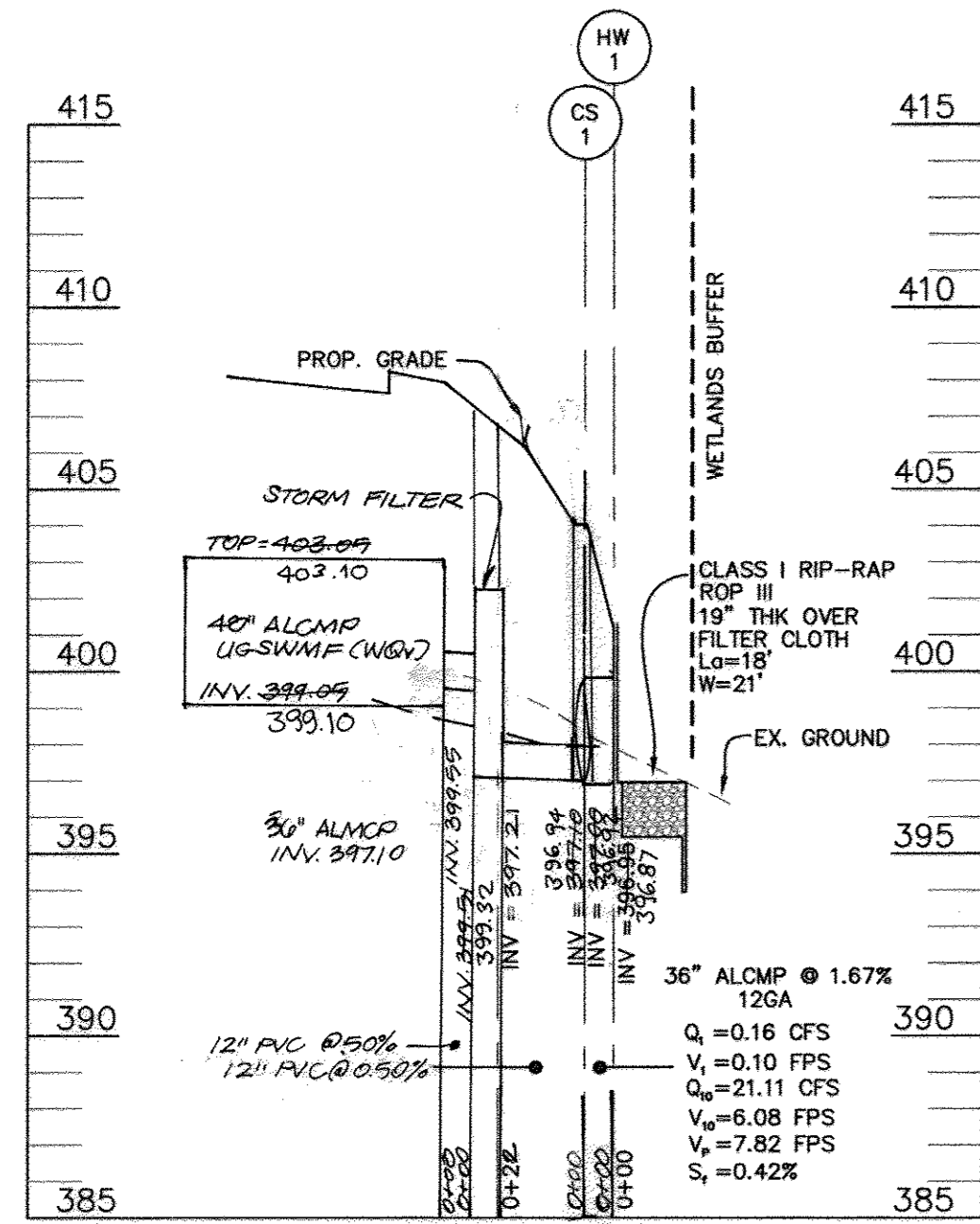
6 SHEET OF 12A

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 1/3/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION
[Signature] 6/18/07
CHIEF, DIVISION OF LAND DEVELOPMENT
[Signature] 6/18/07
DIRECTOR

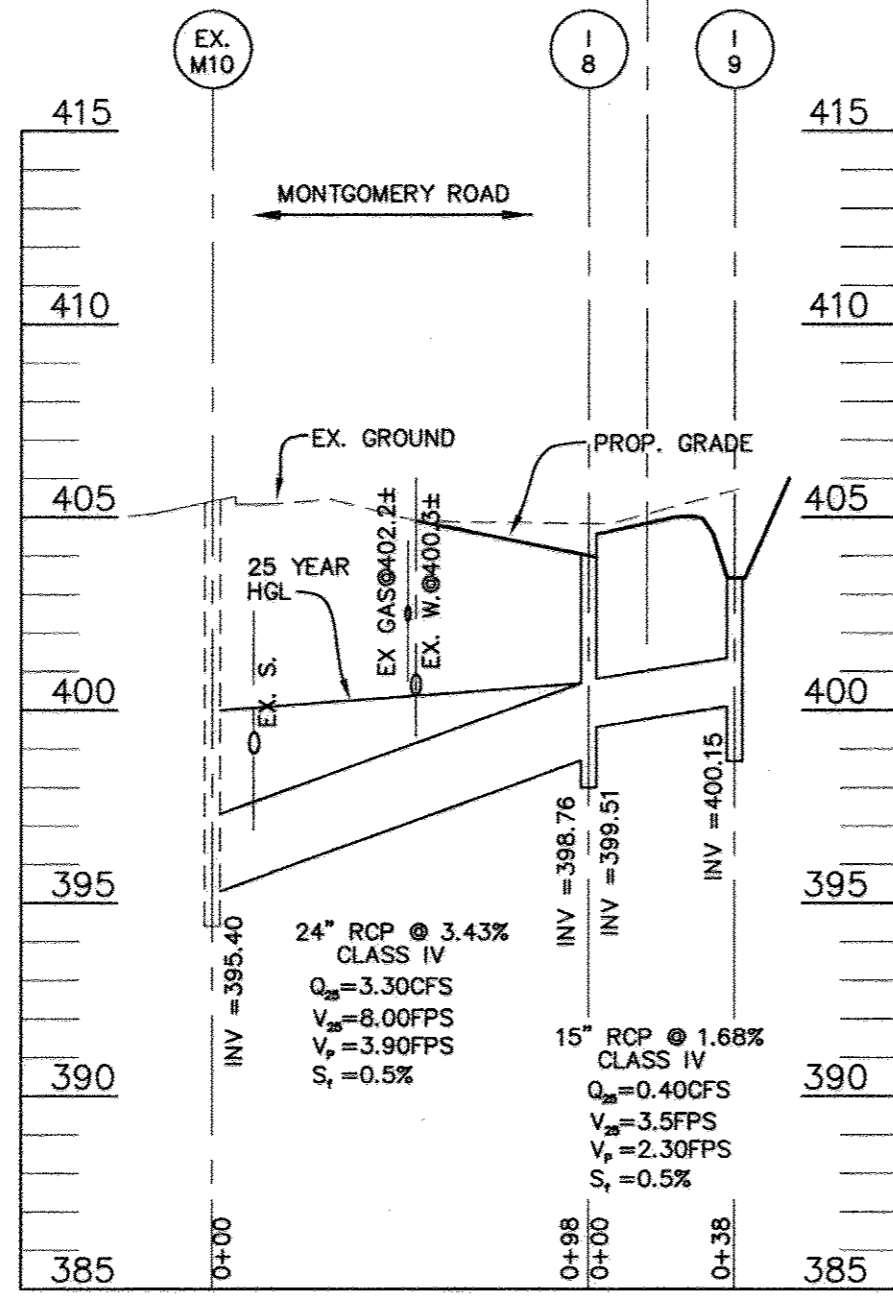
REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
USDA-NATURAL RESOURCES CONSERVATION SERVICE
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
HOWARD SCD

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."
ROBERT H. VOGEL, PE #16193
DATE: 12/20/06

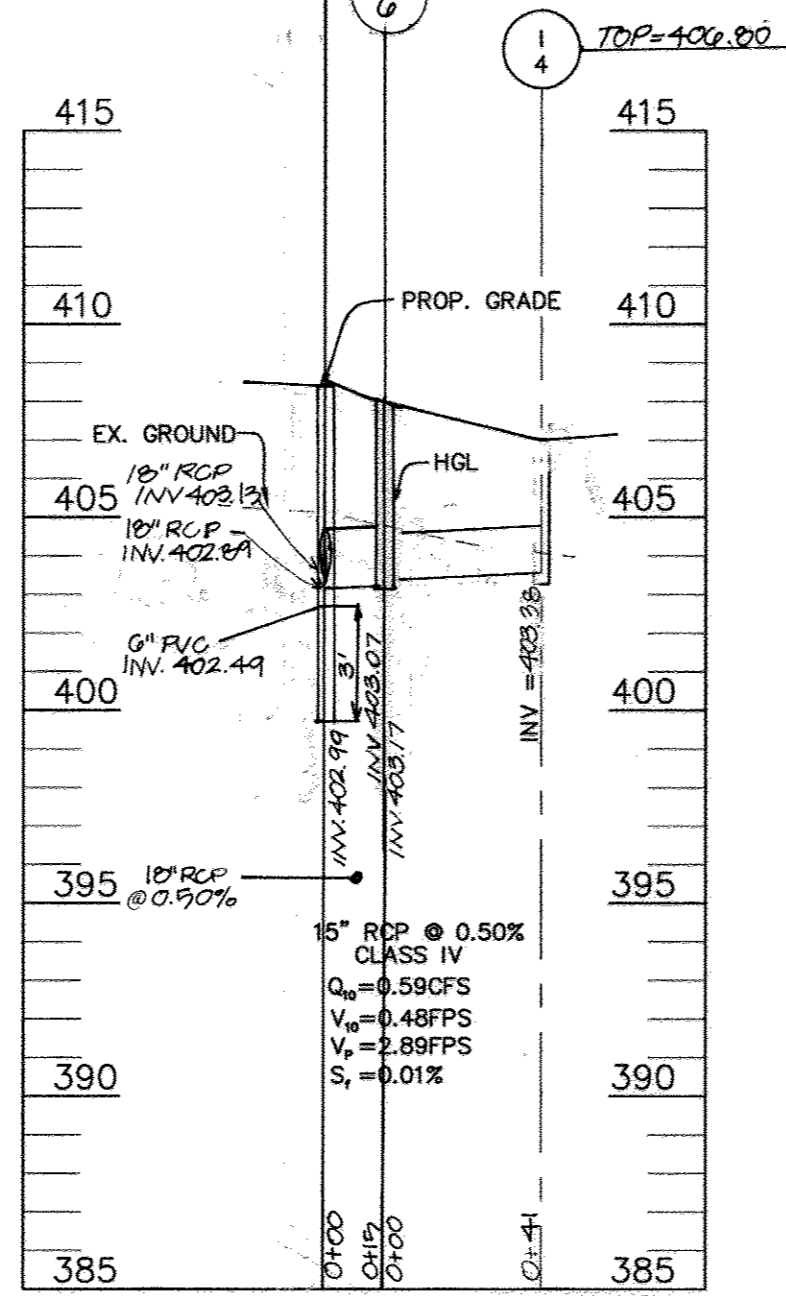
DEVELOPER'S CERTIFICATE
"I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING 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."
LARRY J. THOMPSON
DATE: 12/20/06



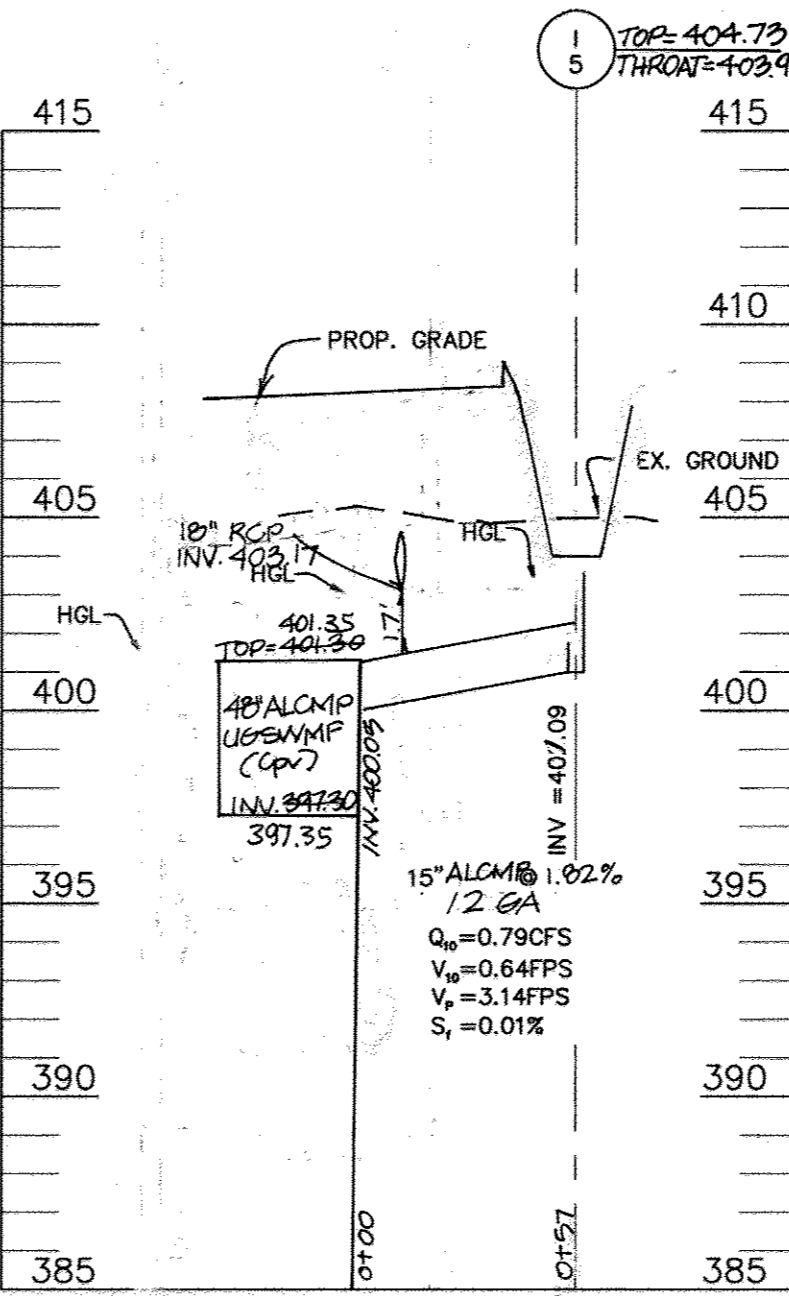
STORM DRAIN PROFILE
SCALE: HORIZ: 1"=50'
VERT: 1"=5'



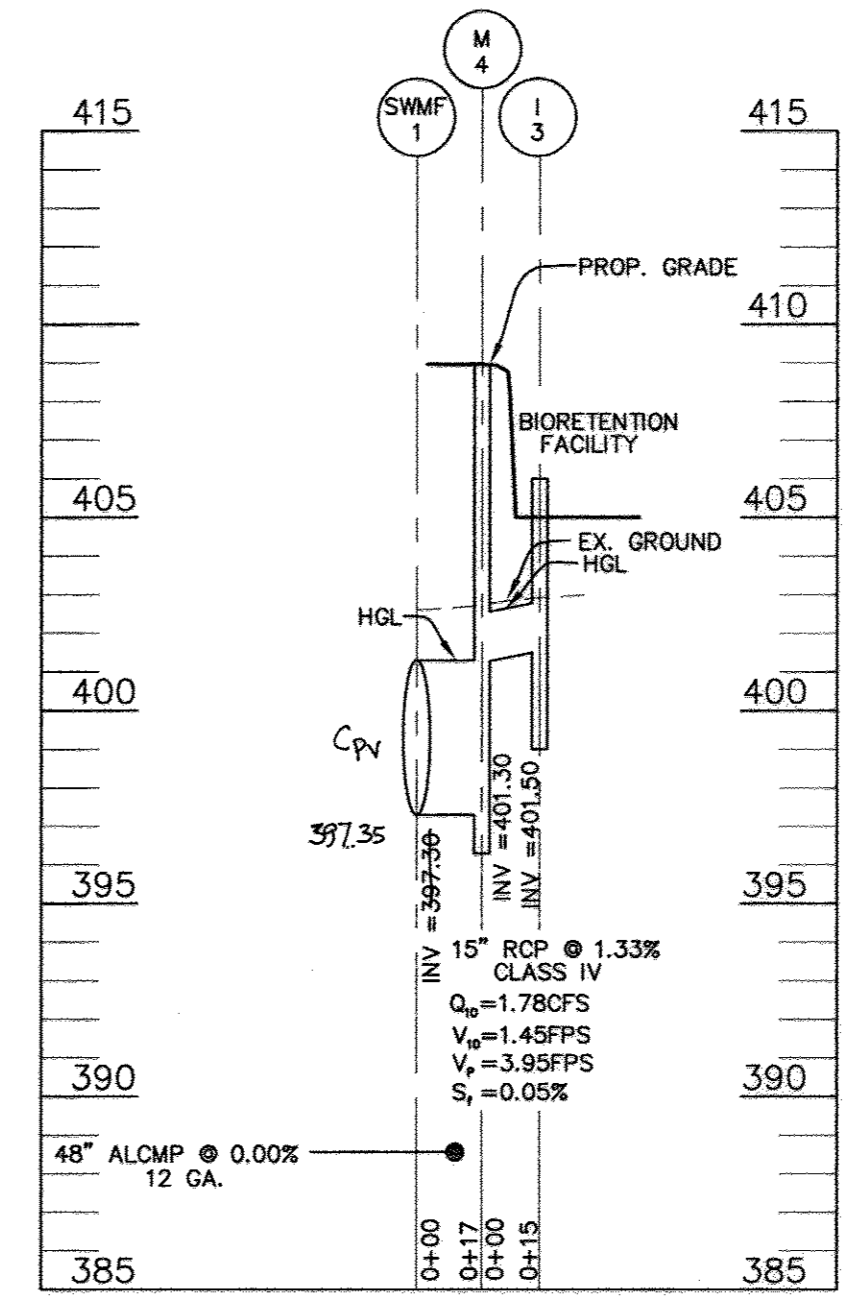
STORM DRAIN PROFILE
SCALE: HORIZ: 1"=50'
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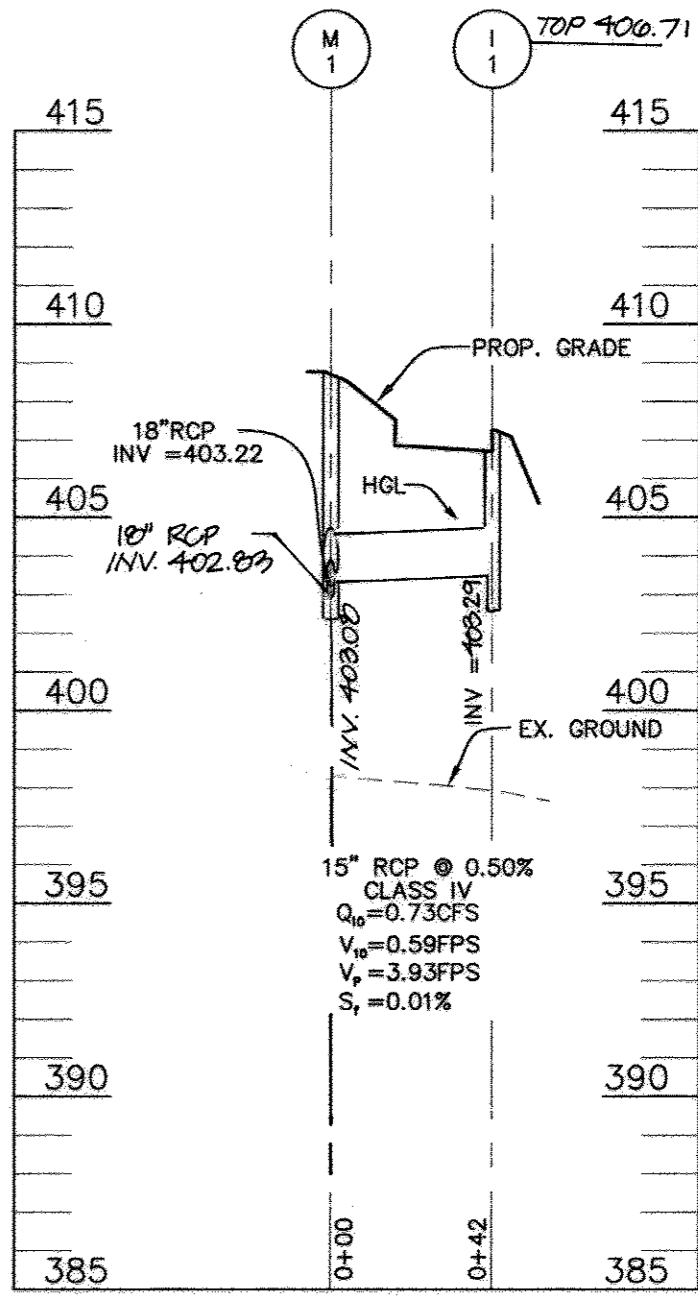
STORM DRAIN PROFILE
SCALE: HORIZ: 1"=50'
VERT: 1"=5'



STORM DRAIN PROFILE
SCALE: HORIZ: 1"=50'
VERT: 1"=5'



STORM DRAIN PROFILE
SCALE: HORIZ: 1"=50'
VERT: 1"=5'



STORM DRAIN PROFILE
SCALE: HORIZ: 1"=50'
VERT: 1"=5'

NOTE: INLETS I-1, I-2, AND I-7 ARE DESIGNED TO MINIMUM DEPTHS.
CONTRACTOR IS RESPONSIBLE TO CONTRACT SUPPLIER TO VERIFY
SPECIAL DESIGN REQUIREMENTS.

INLET SCHEDULE

NO.	TYPE	LOCATION		TOP ELEV.*	INV. IN	INV. OUT	REMARKS
		NORTHING	EASTING				
I-1	STANDARD DOUBLE TYPE 'S'	578,265	1,364,264	406.71	-	403.29	SD-4.23
I-2	STANDARD DOUBLE TYPE 'S'	578,213	1,364,047	407.50	-	404.22	SD-4.23
I-3	STANDARD PRECAST TYPE 'D'	578,440	1,364,169	406.00	-	401.50	SD-4.39
I-4	STANDARD DOUBLE TYPE 'S'	578,523	1,364,218	406.80	-	403.20	SD-4.23
I-5	STANDARD PRECAST TYPE 'D'	578,610	1,364,214	403.90	-	400.94	SD-4.39
I-6	STANDARD PRECAST TYPE 'A-S'	578,591	1,364,139	409.33	403.53	403.43	SD-4.40
I-7	STANDARD DOUBLE TYPE 'S'	578,527	1,363,967	407.75	-	404.36	SD-4.23
I-8	CURB ON GRADE (COS-10)	578,097	1,363,960	**404.60	399.51	398.76	MD-374.31
I-9	STANDARD PRECAST TYPE 'D'	578,117	1,363,994	403.50	-	400.15	SD-4.39

TOP ELEV.=TOP OF CURB FOR TYPE 'A' AND 'COS' INLETS
TOP ELEV.=SLOT OPENING ELEVATION FOR TYPE 'D' INLETS
TOP ELEV.=GRATE ELEVATION FOR TYPE 'S' INLETS
**SET I-8 SO THAT SLOT MEETS EXISTING EDGE OF ROAD.

STORM DRAIN MANHOLE SCHEDULE

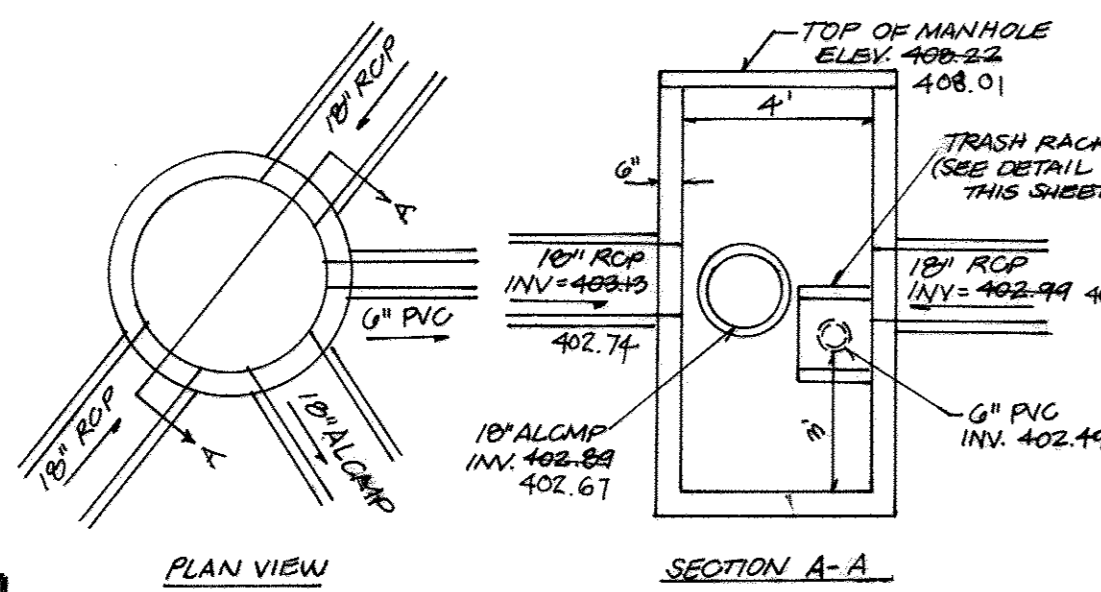
NO.	TYPE	LOCATION		TOP ELEV.	INV. IN	INV. OUT	REMARKS
		NORTHING	EASTING				
M-1	STANDARD 4' PRECAST MANHOLE	578,272	1,364,223	408.60	403.22	402.88	G-5.12
M-2	STANDARD 4' PRECAST MANHOLE	578,232	1,364,068	408.60	404.11	403.86	G-5.12
M-3	STANDARD 4' PRECAST MANHOLE	578,300	1,364,297	407.90	402.63	402.21	G-5.12
M-4	STANDARD 6' PRECAST MANHOLE	578,443	1,364,183	409.00	401.30	397.30	MD-384.09
M-5	STANDARD 5' PRECAST MANHOLE	578,200	1,364,254	407.00	397.90	397.30	G-5.13
M-6	STANDARD 4' PRECAST MANHOLE	578,502	1,364,200	407.00	403.17	402.67	G-5.12
M-7	STANDARD 4' PRECAST MANHOLE	578,504	1,364,144	408.22	403.28	402.78	G-5.12
M-8	STANDARD 4' PRECAST MANHOLE	578,546	1,363,990	409.60	404.25	404.15	G-5.12

STRUCTURE SCHEDULE

NO.	TYPE	LOCATION		TOP ELEV.	INV. IN	INV. OUT	REMARKS
		NORTHING	EASTING				
HW-1	36" TYPE 'C' HEADWALL	578,273	1,364,278	401.45	-	398.93	SD-5.21
CS-1	CONTROL STRUCTURE	578,274	1,364,271	404.00	397.08	396.98	MODIFIED MD 384.09

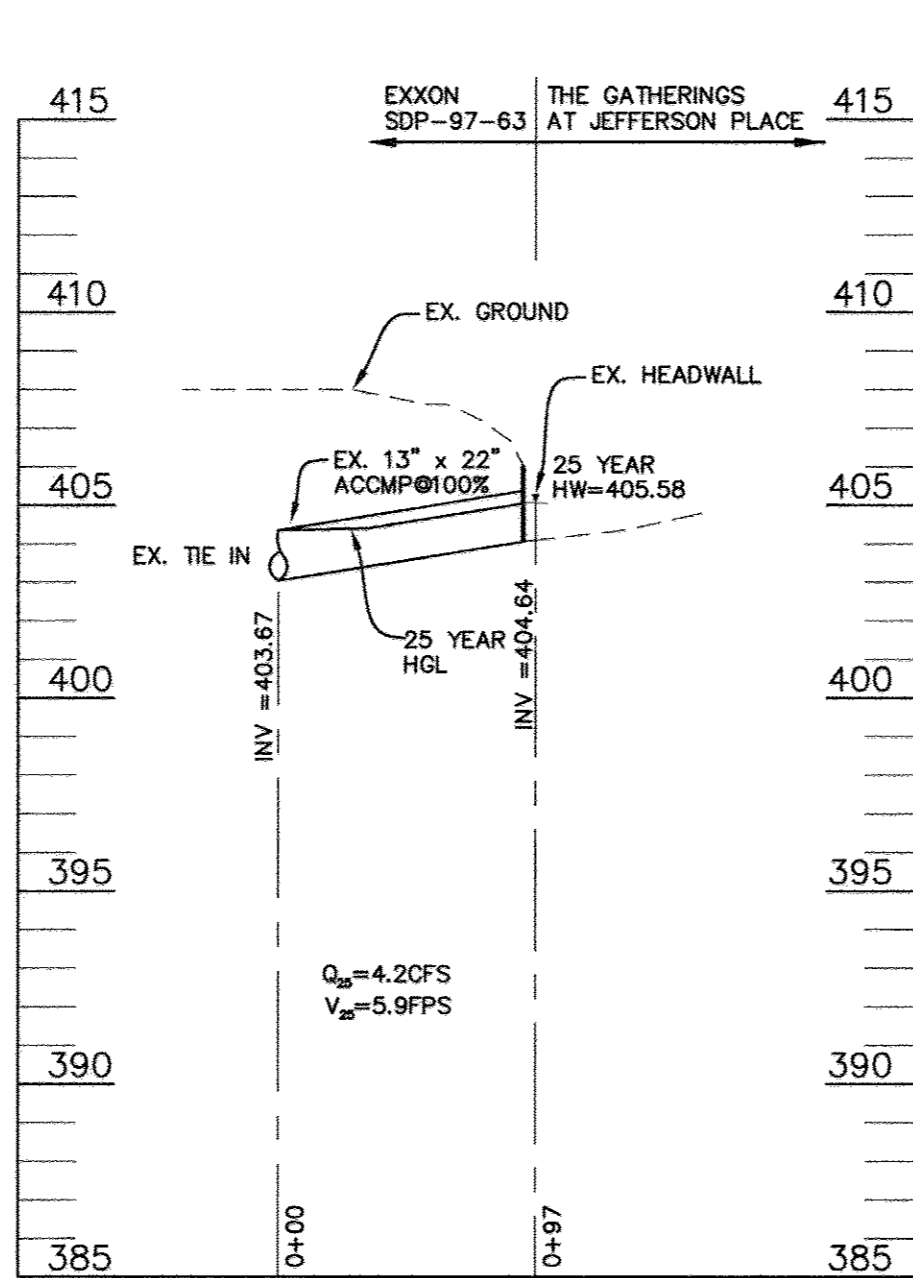
PIPE SCHEDULE

PIPE SIZE	TYPE	TOTAL LENGTH
15"	RCP	191
18"	RCP	420
48"	ALCMP	1903
36"	ALCMP	98
19"	ALCMP	97
18"	ALCMP	50
24"	RCP	89
6"	PVC	423
8"	PVC	23
12"	PVC	2720

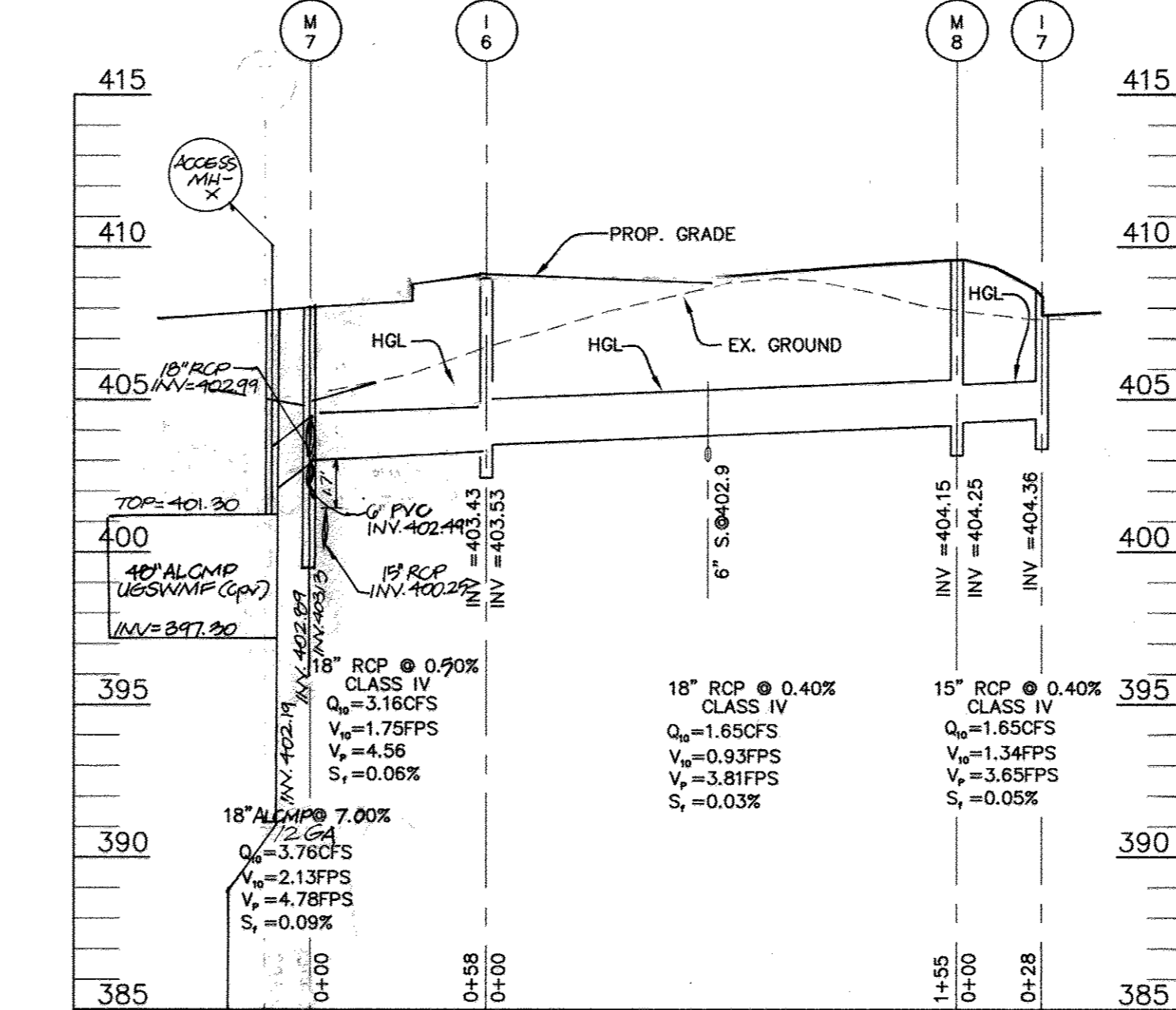


PLAN VIEW
SECTION A-A
MH-7 (4'-00" STD PRECAST MANHOLE)
SCALE: 1"=4'

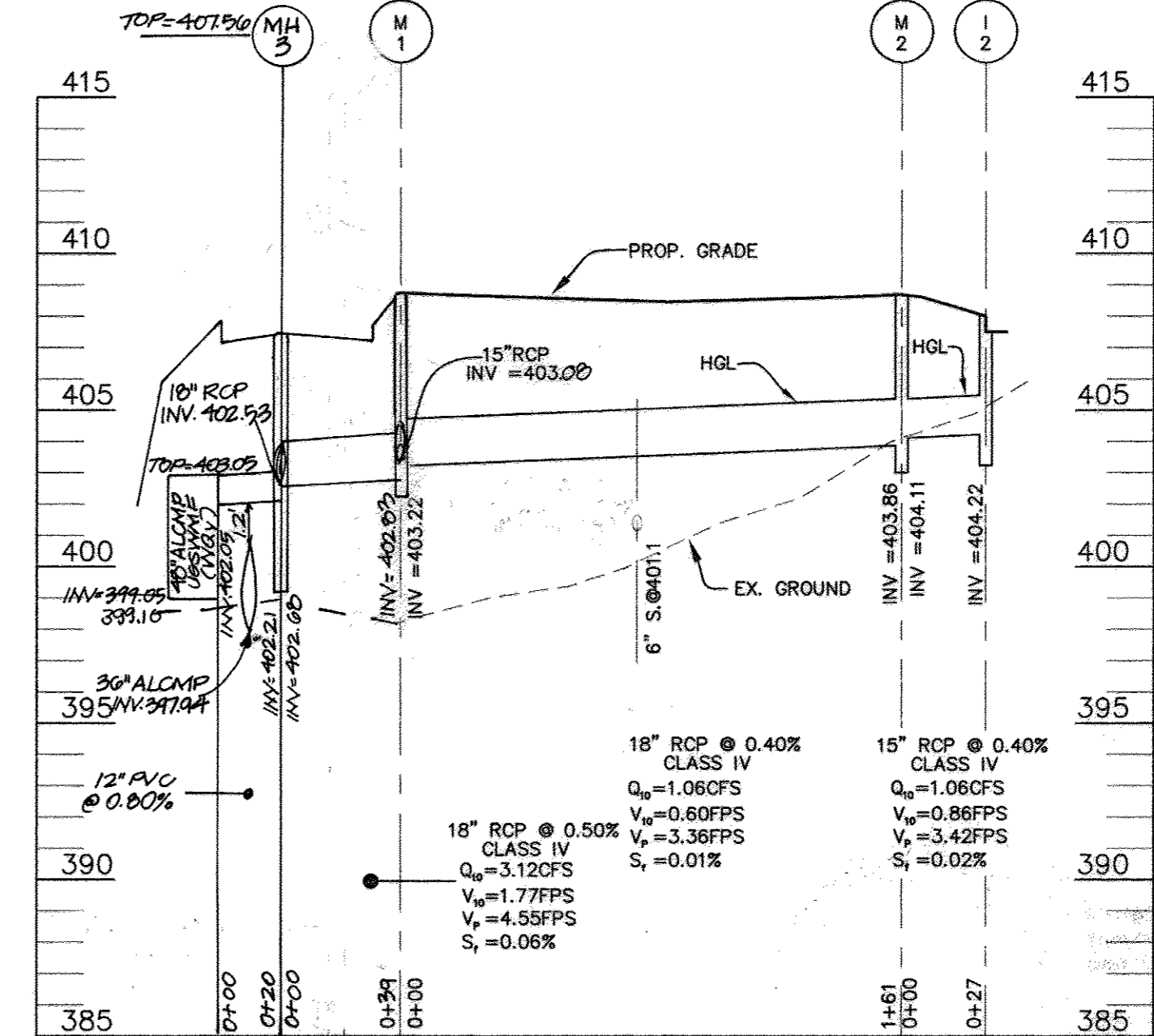
NOTE: DEBRIS IS TO BE KEPT OUT OF STORMWATER MANAGEMENT FACILITIES DURING AND AFTER CONSTRUCTION.



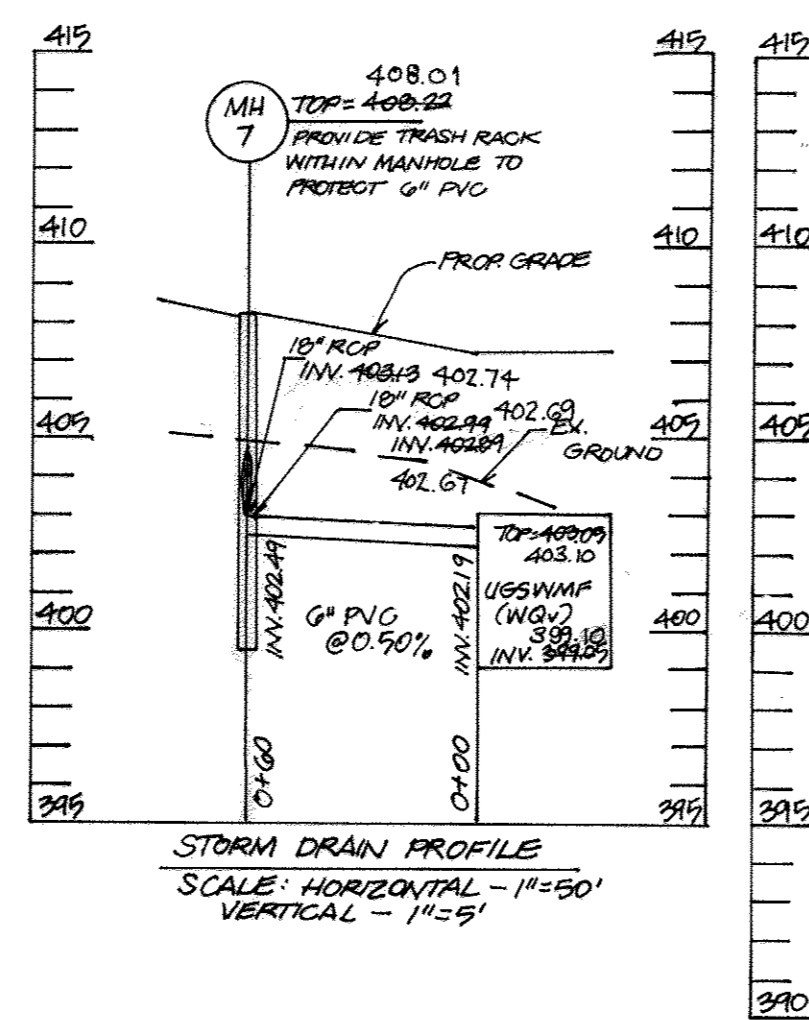
STORM DRAIN PROFILE
SCALE: HORIZ: 1"=50'
VERT: 1"=5'



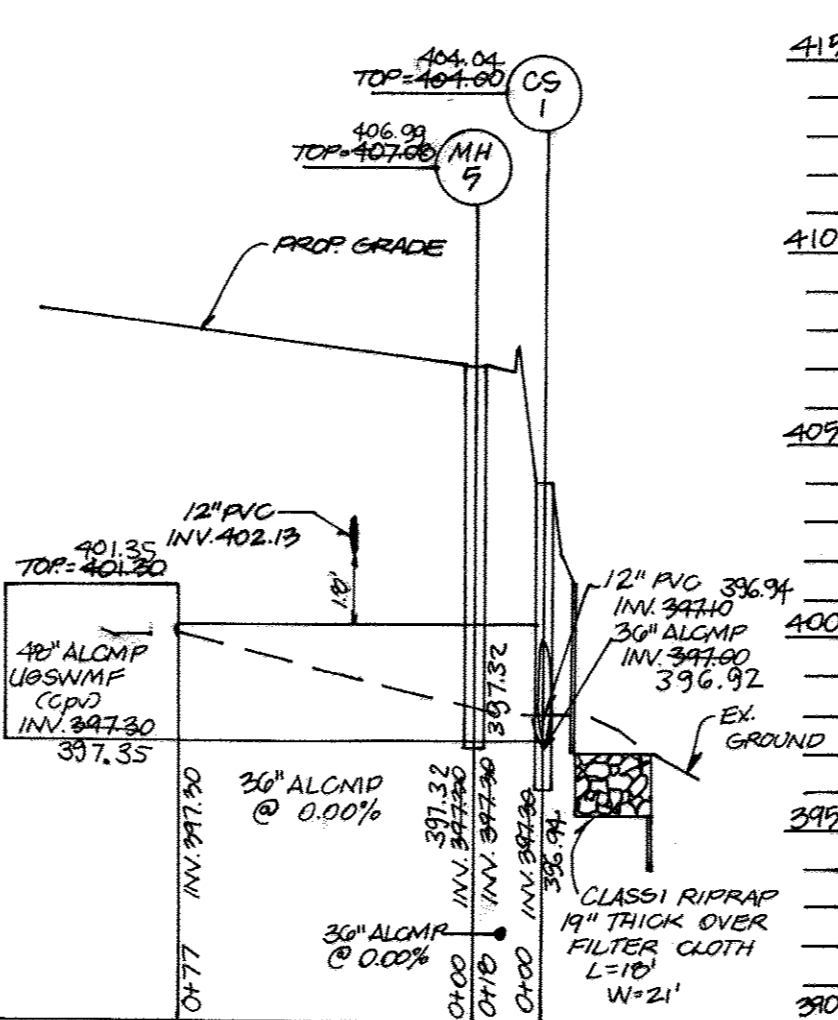
STORM DRAIN PROFILE
SCALE: HORIZ: 1"=50'
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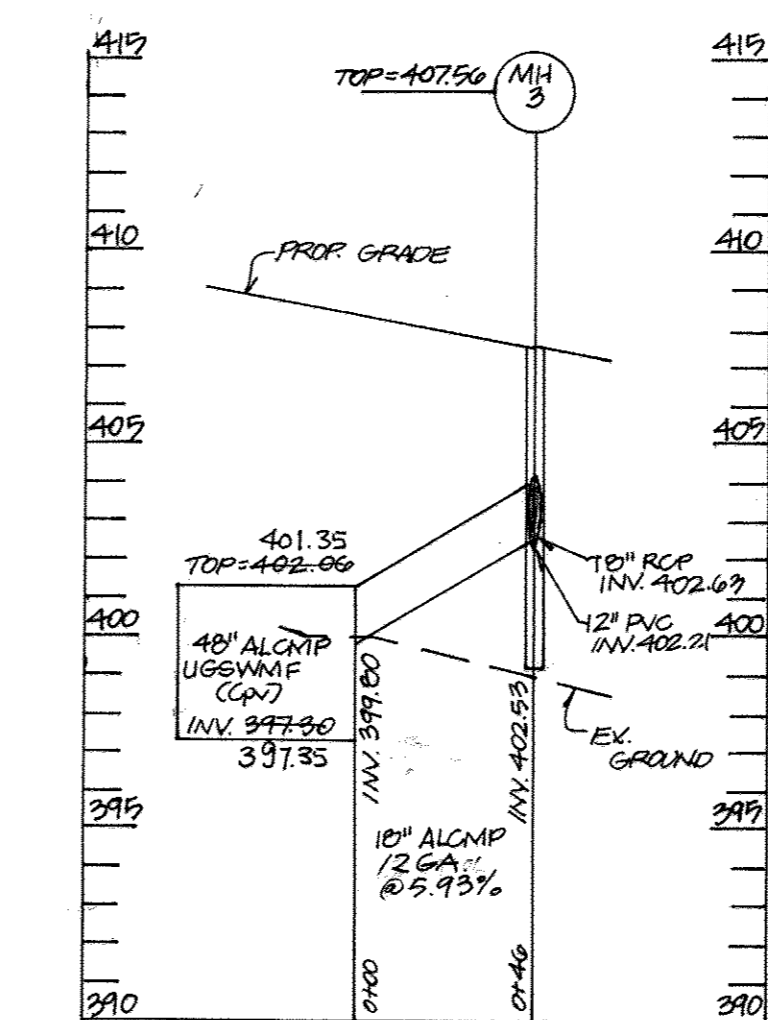
STORM DRAIN PROFILE
SCALE: HORIZ: 1"=50'
VERT: 1"=5'



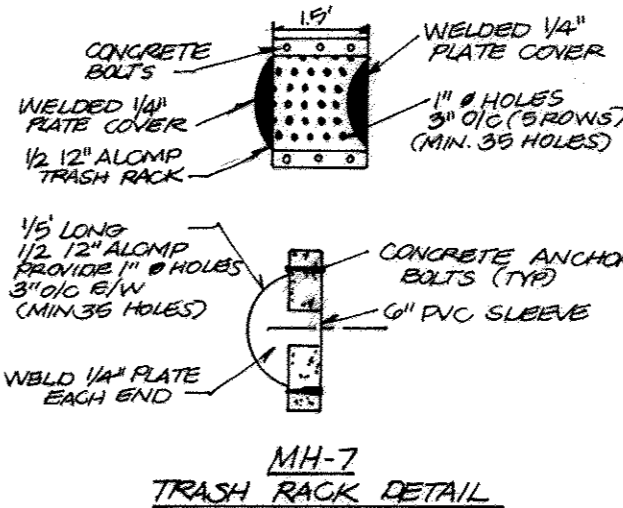
STORM DRAIN PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



STORM DRAIN PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



STORM DRAIN PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



MH-7 TRASH RACK DETAIL
SCALE: 1"=3'

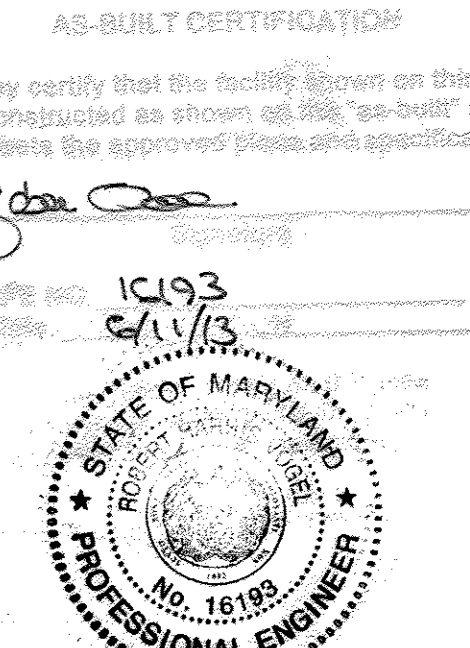
NO.	REVISION	DATE
1	REPLACE SAND FILTERS 1-5 WITH A STORM FILTER AND REVISE ASSOCIATED STORM DRAIN	11-20-09

SITE DEVELOPMENT PLAN
STORM DRAIN PROFILES
THE GATHERINGS AT JEFFERSON PLACE
PARCEL A - PHASE I & II
AGE RESTRICTED ADULT HOUSING
TAX MAP 24 GRID 24 PARCELS 318, 319, 320 & 731
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

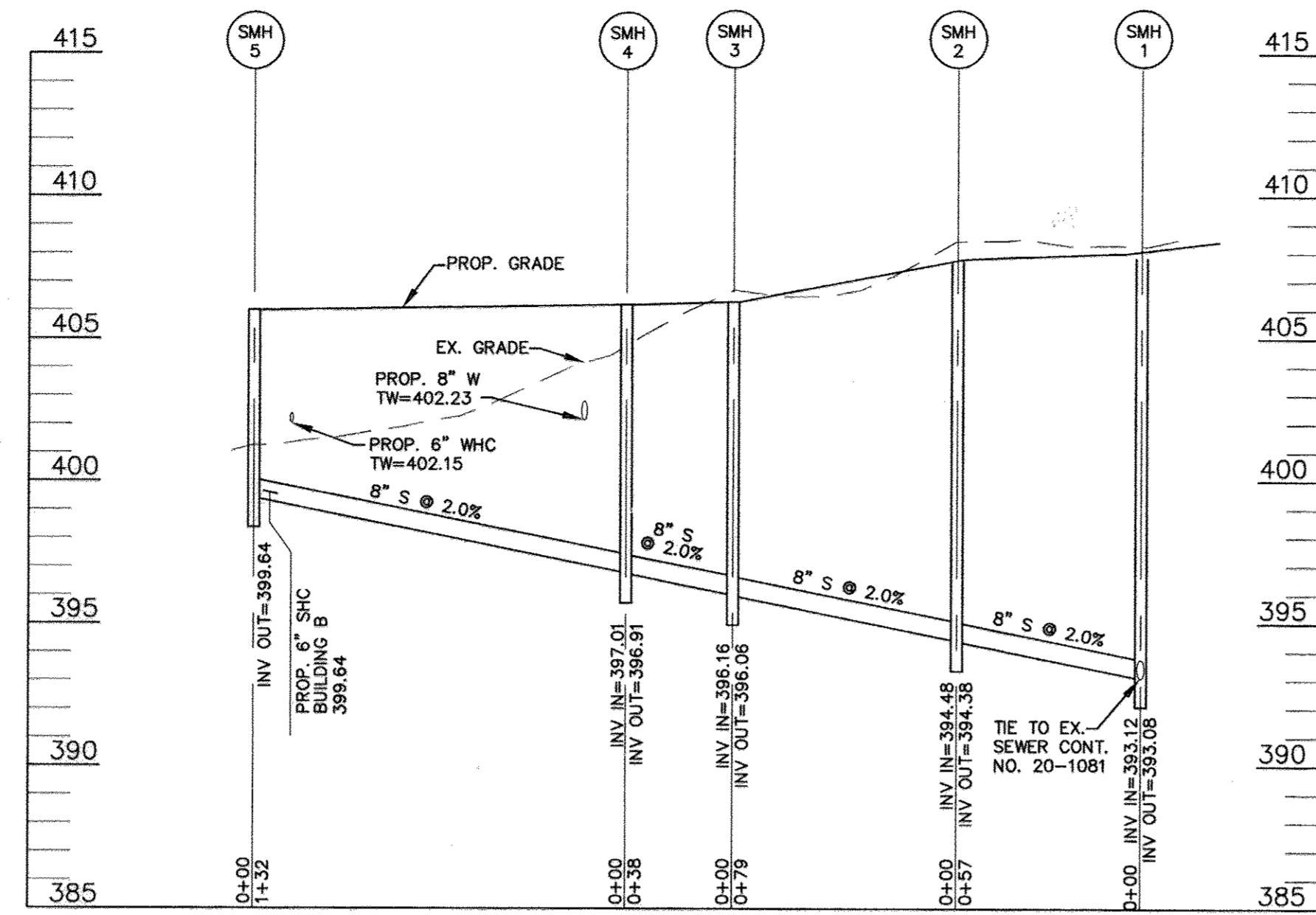
ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET ELLICOTT CITY, MD 21043
TEL: 410.461.7666 FAX: 410.461.8961

OWNER / DEVELOPER
BEAZER HOMES CORPORATION
8965 GUILFORD ROAD SUITE 290
COLUMBIA, MD 21046
(301) 621-8151

DESIGN BY: RHL/LJT/CO
DRAWN BY: LJT/CO
CHECKED BY: RHL
DATE: MAY 2008
SCALE: AS NOTED
W.O. NO.: 05-01-00

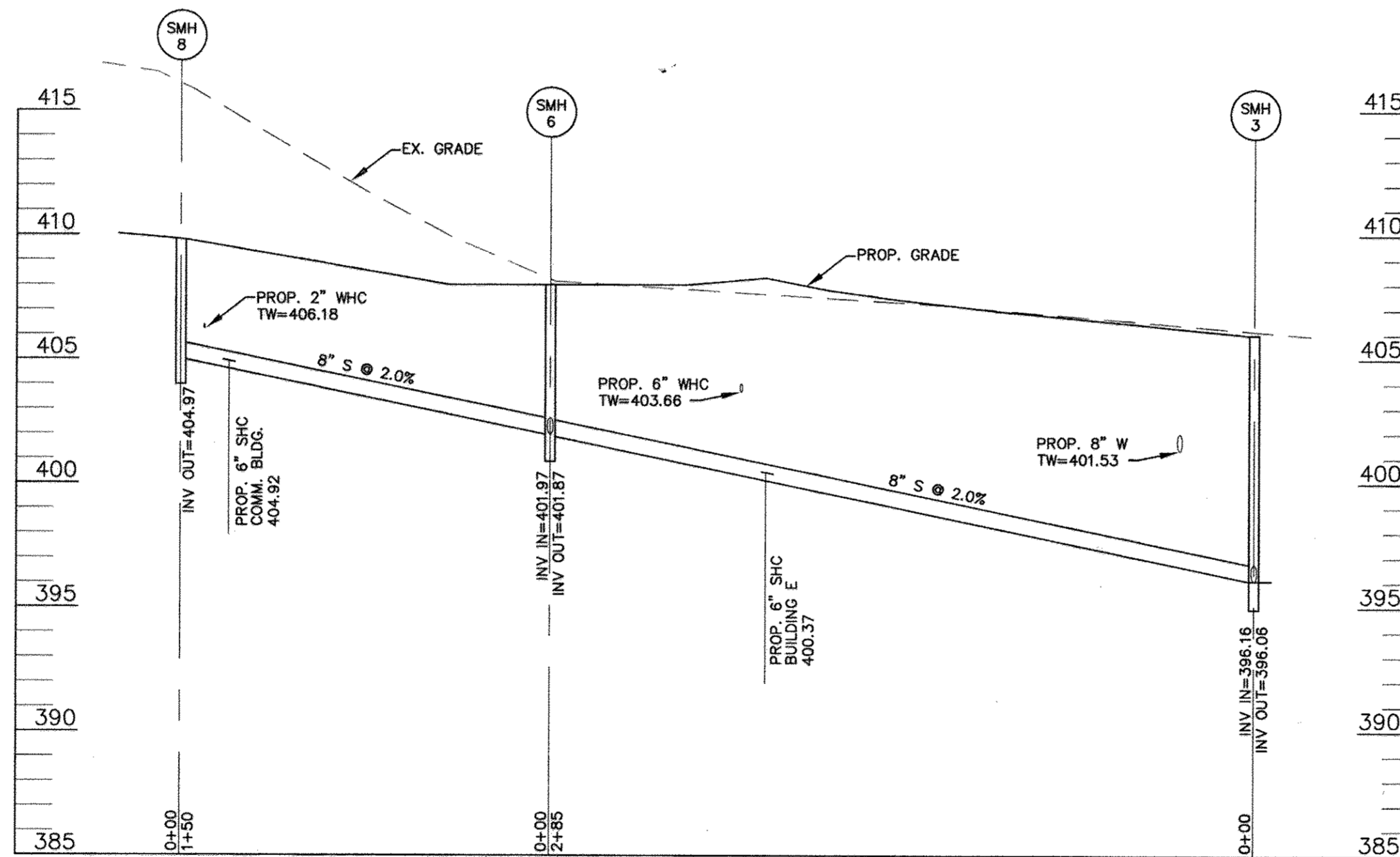


APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 11/2/07
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 6/15/10
DIRECTOR
DATE: 6/16/10

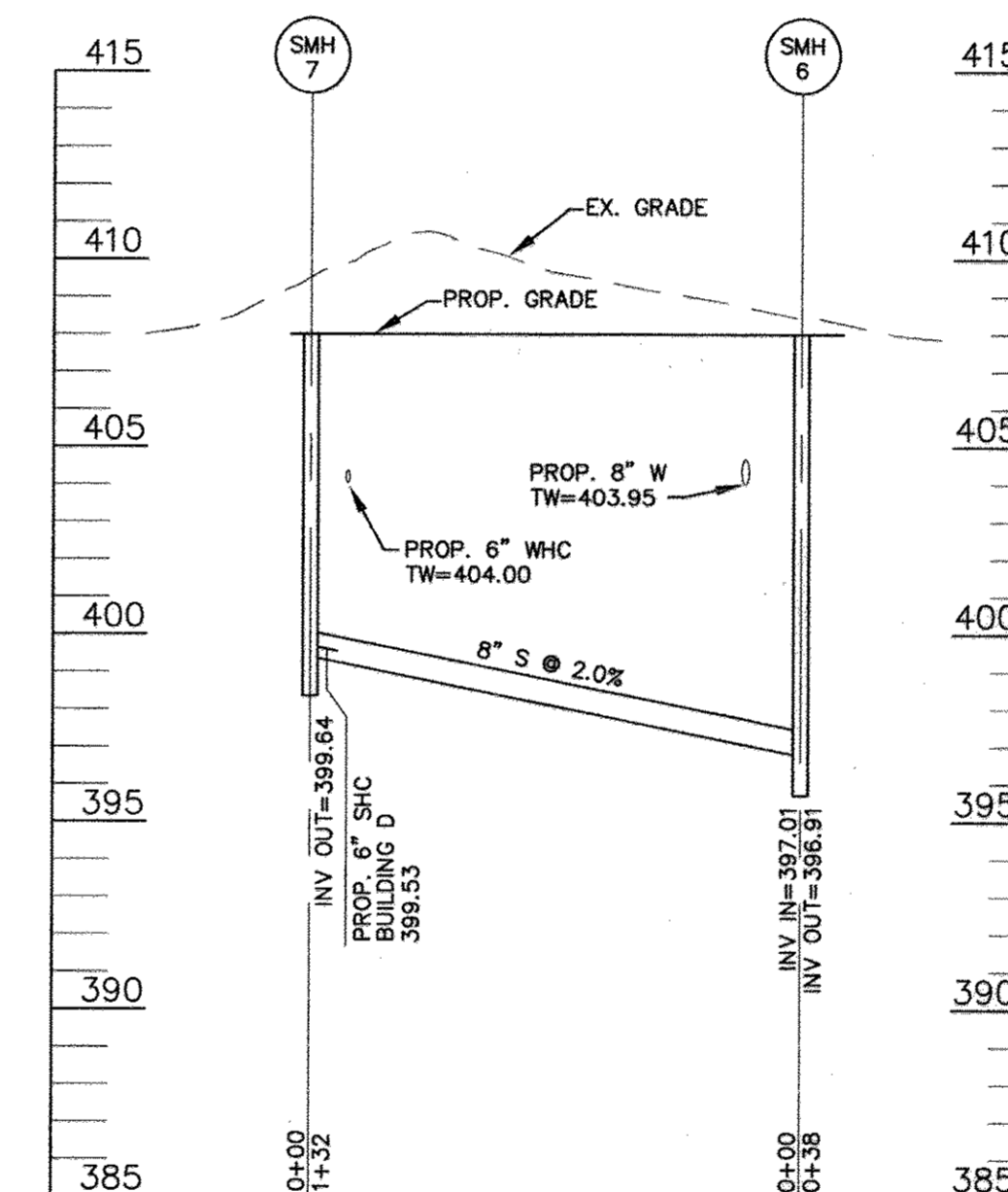


SEWER PROFILE
SCALE: HORIZ: 1"=50'
VERT: 1"=5'

SEWER MANHOLE SCHEDULE							
NO.	TYPE	LOCATION		TOP ELEV.	INV. IN	INV. OUT	REMARKS
		NORTHING	EASTING				
M-1	STANDARD 4' PRECAST MANHOLE	578,241	1,363,883	406.63	393.12	393.08	S-1.31
M-2	STANDARD 4' PRECAST MANHOLE	578,269	1,363,932	408.00	394.48	394.38	S-1.31
M-3	STANDARD 4' PRECAST MANHOLE	578,288	1,364,009	408.17	396.16	396.06	S-1.31
M-4	STANDARD 4' PRECAST MANHOLE	578,252	1,364,018	408.00	397.01	396.91	S-1.31
M-5	STANDARD 4' PRECAST MANHOLE	578,284	1,364,145	408.53	-	399.64	S-1.31
M-6	STANDARD 4' PRECAST MANHOLE	578,565	1,363,939	408.30	401.97	401.87	S-1.31
M-7	STANDARD 4' PRECAST MANHOLE	578,597	1,364,066	409.48	-	399.64	S-1.31
M-8	STANDARD 4' PRECAST MANHOLE	578,710	1,363,902	410.15	-	404.97	S-1.31



SEWER PROFILE
SCALE: HORIZ: 1"=50'
VERT: 1"=5'



SEWER PROFILE
SCALE: HORIZ: 1"=50'
VERT: 1"=5'



AS-BUILT CERTIFICATION
I hereby certify that the facility shown on this plan was constructed as shown on the "as-built" plans and meets the approved plans and specifications.
Signature: _____
Date: 6/11/07
PE NO. 16193

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 _____ 1/3/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
 _____ 6/15/07
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
 _____ 6/15/07
 DIRECTOR DATE

OWNER / DEVELOPER
 BEAZER HOMES CORPORATION
 8965 GUILFORD ROAD
 SUITE 290
 COLUMBIA, MD 21046
 (301) 621-8151

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
SEWER PROFILES
THE GATHERINGS AT JEFFERSON PLACE
PARCEL A - PHASE I & II
 AGE RESTRICTED ADULT HOUSING
 TAX MAP 24 GRID 24 PARCELS 318, 319, 320 & 731
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

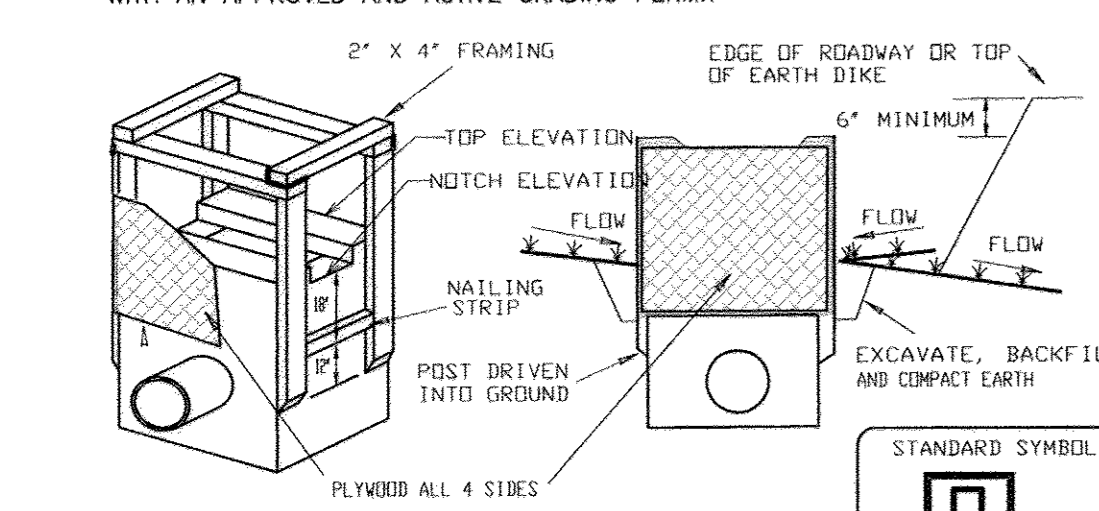
ROBERT H. VOGEL
ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET TEL: 410.461.7666
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961

DESIGN BY: RHV/LIT/CO
 DRAWN BY: LIT/CO
 CHECKED BY: RHV
 DATE: MAY 2006
 SCALE: AS SHOWN
 W.O. NO.: 05-01.00

8 SHEET OF 12A

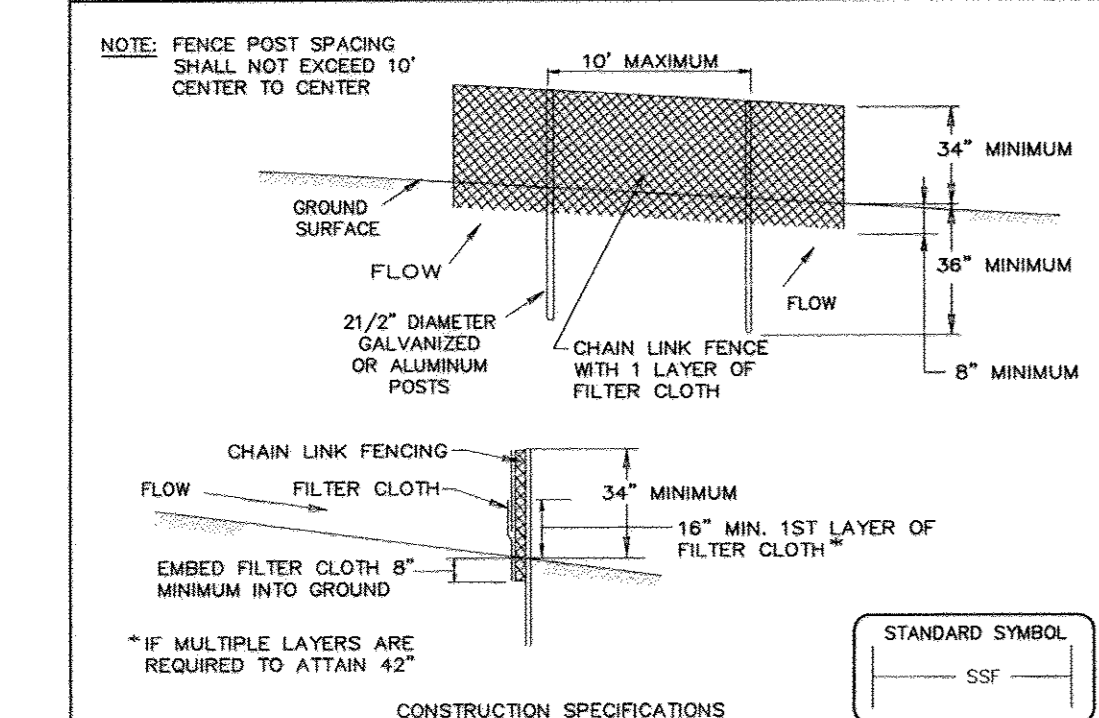
SEDIMENT CONTROL NOTES

- 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).
- 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.
- 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 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, HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT 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.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATING PERMITS. THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.



NTS
INLET BLOCKING DETAIL

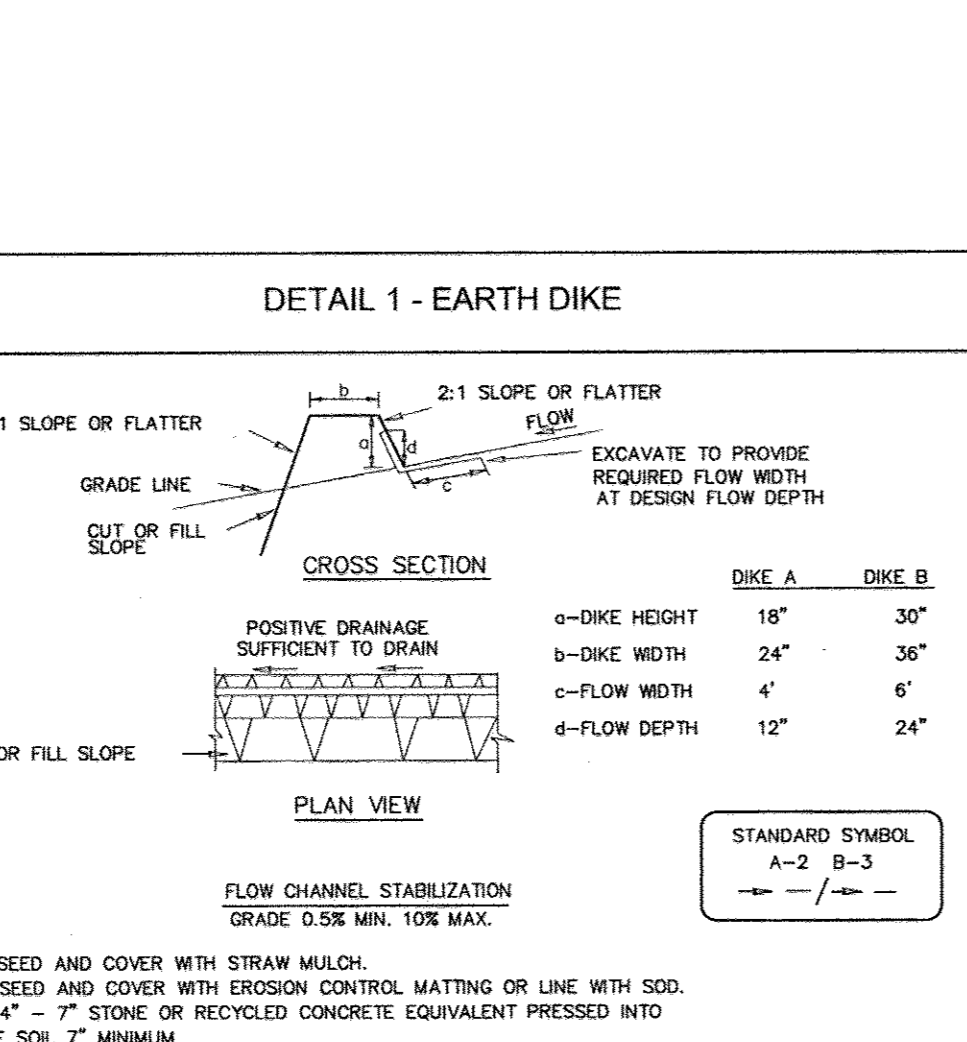
DETAIL 33 - SUPER SILT FENCE



- 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 8' 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 8" 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 BUILDUPS REMOVED WHEN "BULGES" DEVELOP 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: MSMT 509 |
| TENSILE MODULUS
20 LBS./IN. (MIN.) | TEST: MSMT 509 |
| FLOW RATE
0.3 GAL./FT./MINUTE (MAX.) | TEST: MSMT 322 |
| FILTERING EFFICIENCY
75% (MIN.) | TEST: MSMT 322 |
- U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE PAGE H - 26 - 3 MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

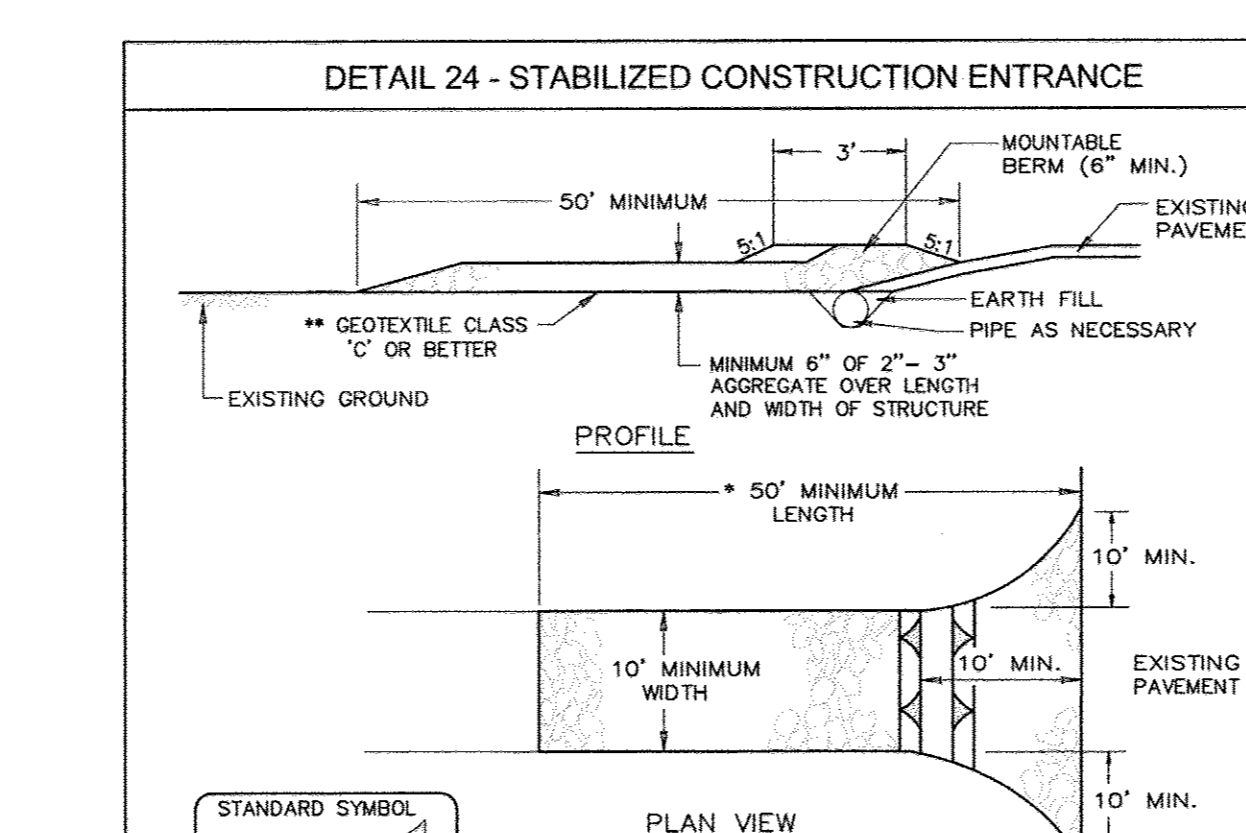
21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

- DEFINITION**
PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.
- SUBPOUSE**
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 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 EXPERIMENTAL 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 A SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE 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 AND 1/2" IN DIAMETER.
 - TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISLE, OR OTHERS AS SPECIFIED.
 - WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
 - FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
 - PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS.



- CONSTRUCTION SPECIFICATIONS**
- ALL TEMPORARY EARTH DIKES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET. SPOT ELEVATIONS MAY BE NECESSARY FOR GRADES LESS THAN 1%. DIKE A
 - 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 BUILDUPS REMOVED WHEN "BULGES" DEVELOP 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: MSMT 509 |
| TENSILE MODULUS
20 LBS./IN. (MIN.) | TEST: MSMT 509 |
| FLOW RATE
0.3 GAL./FT./MINUTE (MAX.) | TEST: MSMT 322 |
| FILTERING EFFICIENCY
75% (MIN.) | TEST: MSMT 322 |
- U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE PAGE A - 1 - 6 MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



- 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 SLOPES AND A MINIMUM OF 6" OF STONE OVER THE PIPE. PIPE HAS TO BE SIZED ACCORDING TO THE DRAINAGE. WHEN THE SEE 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.
- U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE PAGE F - 17 - 3 MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

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, DISING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENE.
- SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:
- PREFERRED-APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL AT THE TIME OF SEEDING. APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ.FT.)
 - ACCEPTABLE-APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND APPLY 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC 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./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 (05 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.
- MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1000 SQ.FT.) FOR ANCHORING.
- MAINTENANCE: INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

- SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENE.
- SOIL AMENDMENTS: APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.)
- SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2 1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (.07 LBS./1000 SQ.FT.). FOR THE PERIOD NOVEMBER 1 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./1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1000 SQ.FT.) FOR ANCHORING.
- REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

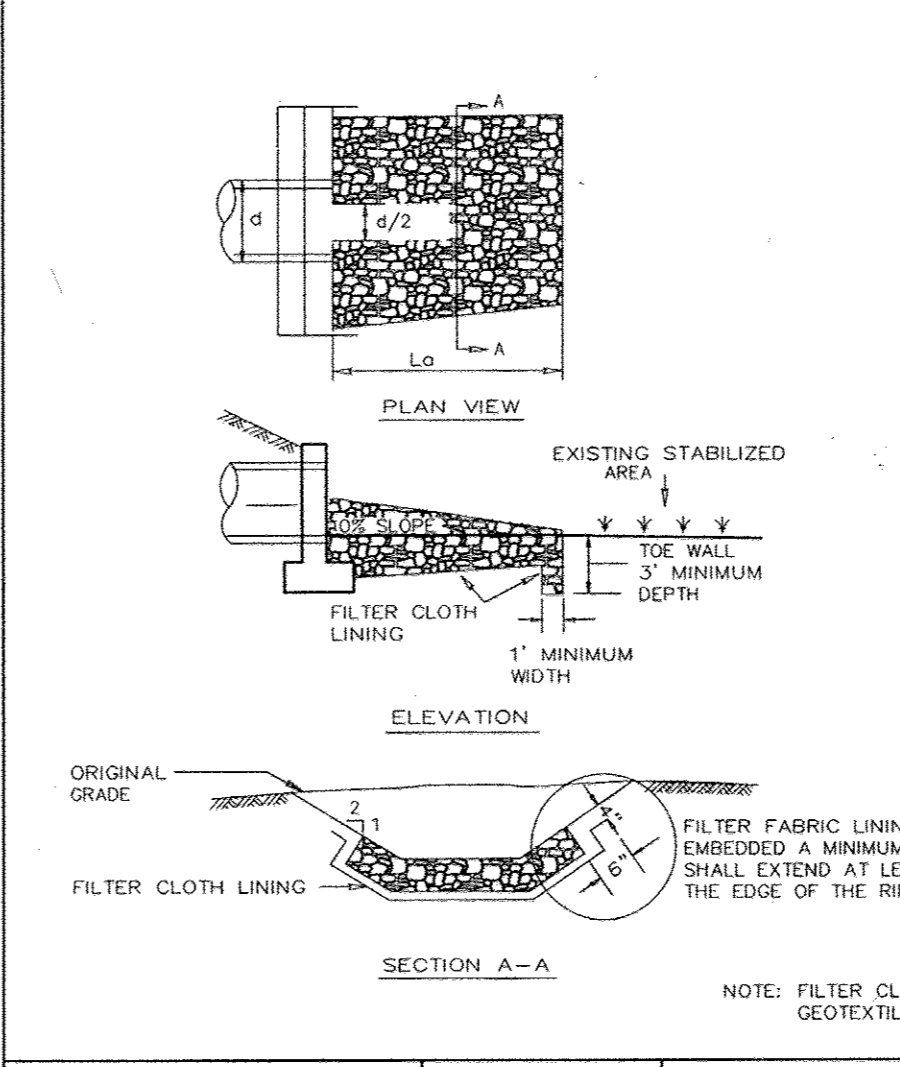
SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT.
 - NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (410.313.1880) AT LEAST 24 HOURS BEFORE STARTING ANY WORK.
 - CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE AND PERIMETER CONTROLS. (3 DAYS)
 - AFTER OBTAINING PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED, ROUGH GRADE SITE. (2 WEEKS)
 - INSTALL WATER, SEWER AND STORM DRAIN SYSTEMS (BLOCK INLETS). (2 WEEKS)
 - CONSTRUCT UNDERGROUND SWMF, BIOTRETMENT FACILITY AND INSTALL STORM FILTER (BLOCK OVERFLOW PIPES TO HIGH FACILITY (OVERBANKS))
 - BEGIN BUILDING CONSTRUCTION AND GRADE ROADS. (6 MONTHS)
 - AS BUILDING CONSTRUCTION CONTINUES, INSTALL CURB AND GUTTER, SIDEWALK AND PAVE ROAD. (1 MONTH)
 - WITH ROAD PAVED AND SIDEWALK COMPLETE, FINE GRADE REMAINING SITE. (2 WEEKS)
 - STABILIZE DISTURBED AREAS AND INSTALL PERIMETER LANDSCAPING AND STREET TREES. (3 DAYS)
 - UPON STABILIZATION OF ALL DISTURBED AREAS AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND REMOVE STORM DRAIN BLOCKING.
- NOTES**
- DURING GRADING AND AFTER EACH RAINFALL, THE CONTRACTOR SHALL INSPECT AND PROVIDE THE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROL MEASURES SHOWN HEREON.
 - FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLIED WITH.

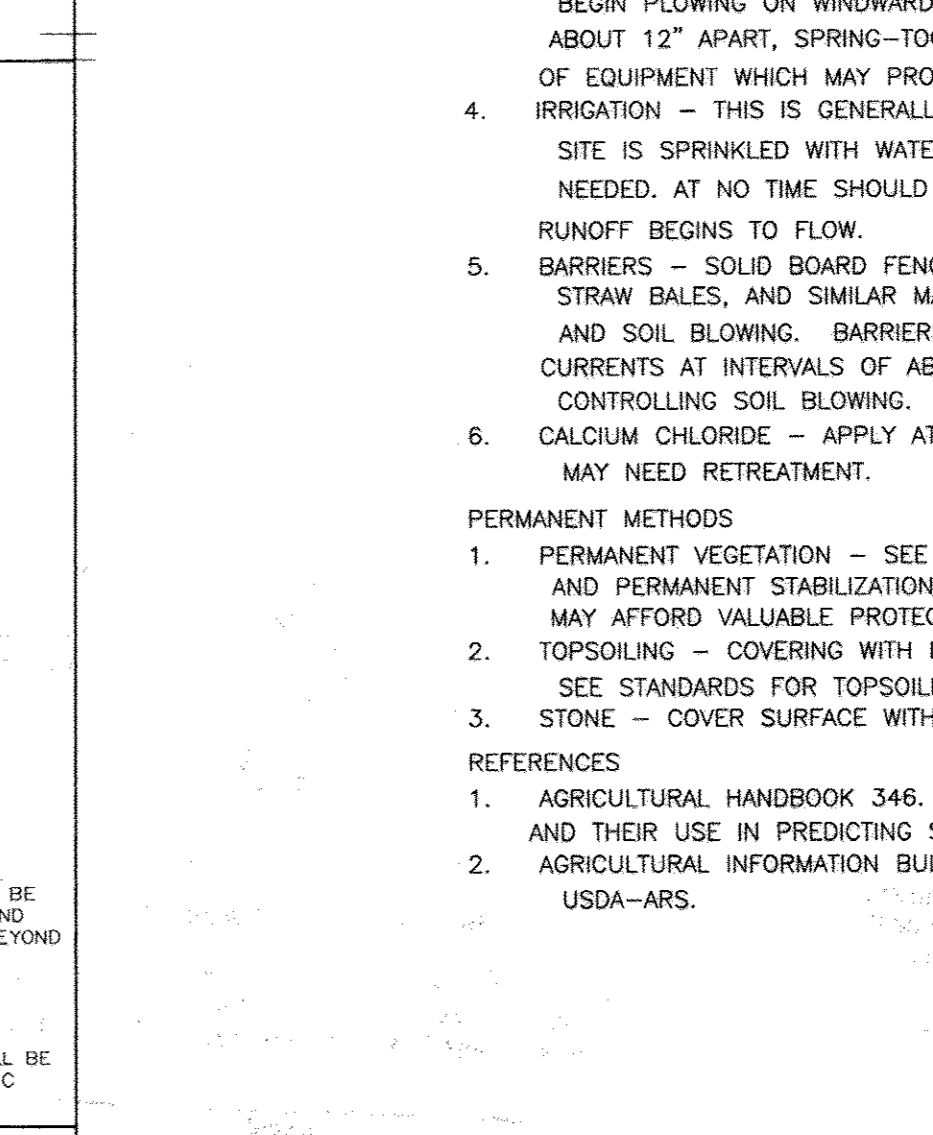
30.0 DUST CONTROL

- 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 - SOILD 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.
- PERMANENT METHODS**
- PERMANENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER, AND PERMANENT STABILIZATION WITH SOD. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
 - TOPSOILING - COVERING WITH LESS EROSION SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.
 - STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.
- REFERENCES**
- AGRICULTURAL HANDBOOK 346. WIND EROSION FORCES IN THE UNITED STATES AND THEIR USE IN PREDICTING SOIL LOSS.
 - AGRICULTURAL INFORMATION BULLETIN 354. HOW TO CONTROL WIND EROSION. USDA-ARS.

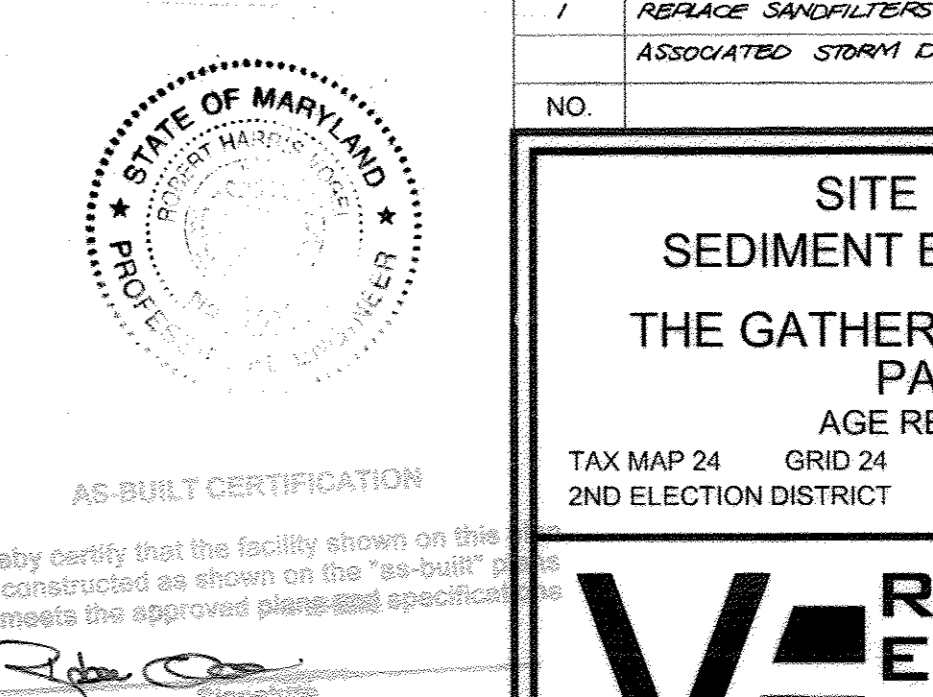
DETAIL 27 - ROCK OUTLET PROTECTION III



- ROCK OUTLET PROTECTION**
- CONSTRUCTION SPECIFICATIONS**
- THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
 - THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
 - GEOTEXTILE SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. ALL OVERLAPS WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE SHALL BE A MINIMUM OF ONE FOOT.
 - STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
 - THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.
- U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE PAGE F - 18 - 8 MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION



- ROCK OUTLET PROTECTION**
- CONSTRUCTION SPECIFICATIONS**
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- U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE PAGE F - 18 - 8 MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION



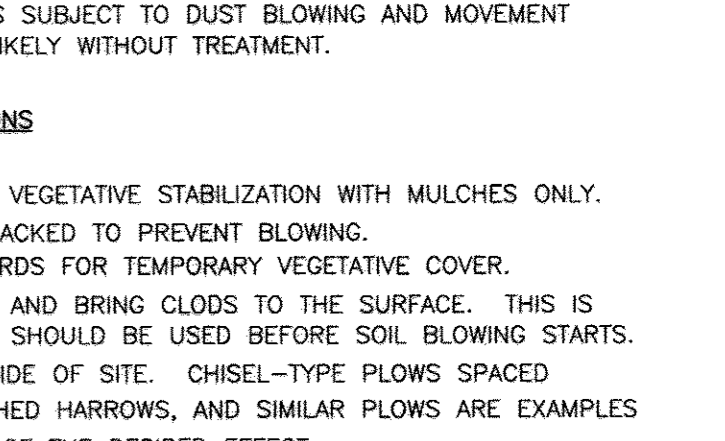
REVISIONS

NO.	REVISION	DATE
1	REPLACE SAND FILTERS 1-6 WITH A STORM FILTER AND REVISE ASSOCIATED STORM DRAIN	11-20-00

SITE DEVELOPMENT PLAN SEDIMENT EROSION CONTROL DETAILS

**THE GATHERINGS AT JEFFERSON PLACE
PARCEL A - PHASE I & II**
AGE RESTRICTED ADULT HOUSING

TAX MAP 24 GRID 24 PARCELS 318, 319, 320 & 731
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND



OWNER / DEVELOPER
BEAZER HOMES CORPORATION
8965 GULFORD ROAD
SUITE 290
COLUMBIA, MD 21046
(301) 621-8151

DESIGN BY: RHLVJTJUCO
DRAWN BY: LJTUJO
CHECKED BY: RHY
DATE: MAY 2006
SCALE: AS SHOWN
W.O. NO.: 05-01.00

9 SHEET OF 12A

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 1/3/07
DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
[Signature] 11/29/06
DATE

USDA-NATURAL RESOURCES CONSERVATION SERVICE

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

[Signature] 11/29/06
DATE

HOWARD SCD

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.

[Signature] 11/29/06
DATE

ROBERT H. VOGEL, PE #16193

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 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] 11/29/06
DATE

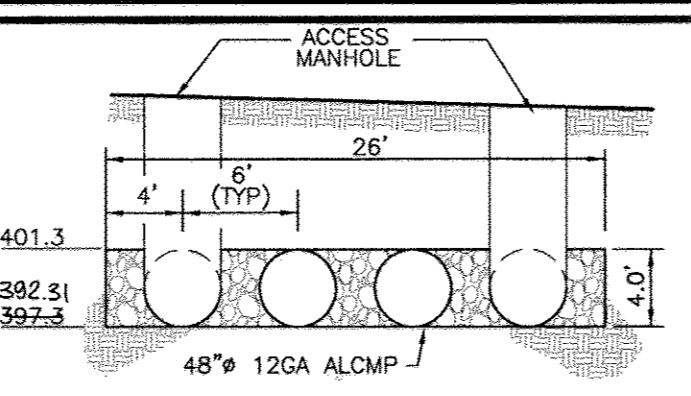
BEAZER HOMES

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED UNDERGROUND STORMWATER FILTRATION SYSTEM

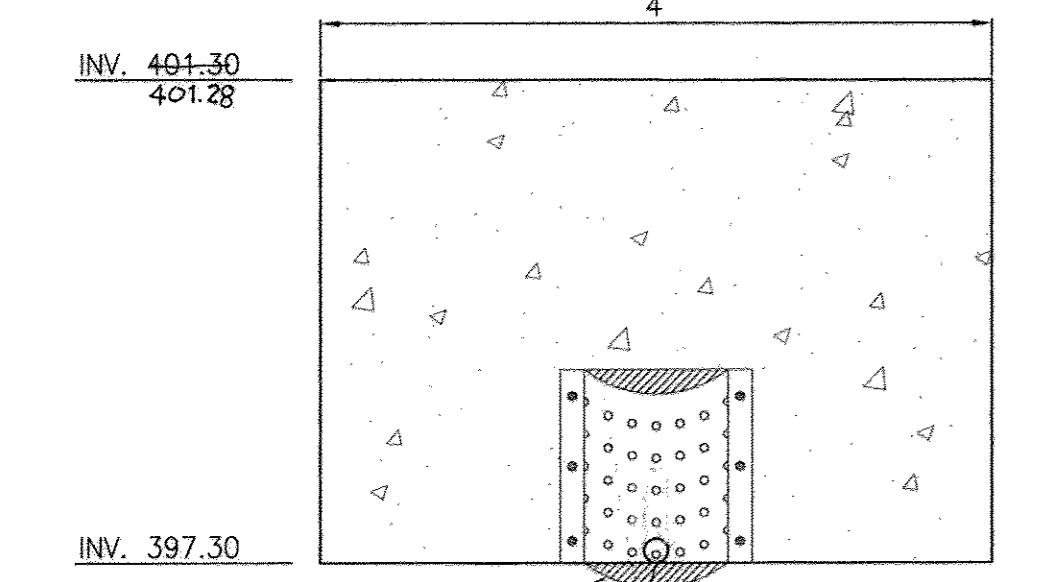
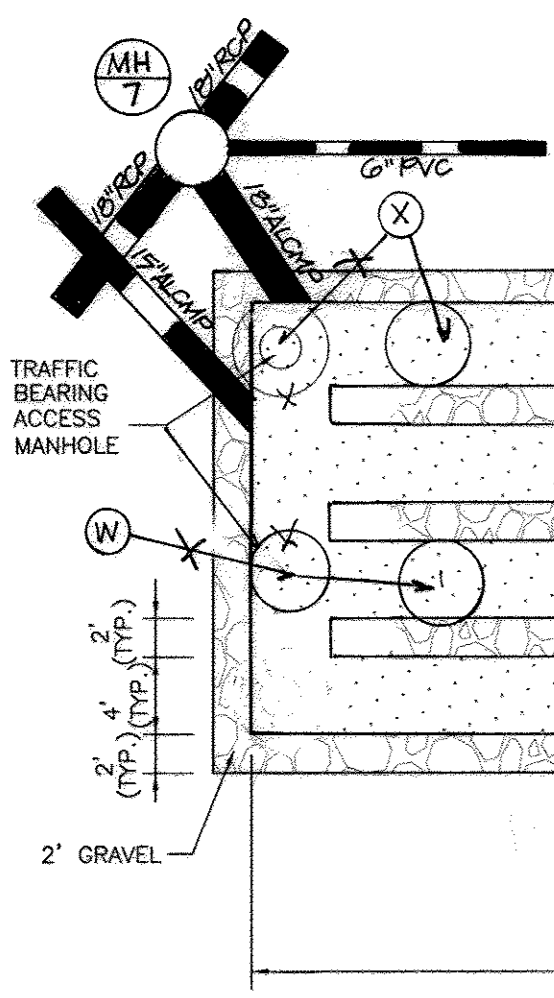
1. THE STORMWATER MANHOLE COVER SHALL BE CLEANED AND/OR REPAIRED WHEN THE JOINT SEALS WITHIN THE COVER EXCEED 1/8" POLLS.
2. DEBRIS AND LITTER SHALL BE REMOVED AS NECESSARY TO MAINTAIN PROPER OPERATION OF THE SYSTEM.
3. SEEDING SHALL BE PERFORMED OUT OF THE STORMWATER MANHOLE WHEN IT ACCUMULATES TO A DEPTH OF 6 INCHES. LEGUMINOUS WITHIN THE SEDIMENT CHAMBER SHALL BE USED TO A DEPTH OF 18 INCHES.
4. WHEN WATER PONDING ON THE SURFACE OF THE FILTER BED FOR MORE THAN 72 HOURS, THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REPLACED WITH FRESH MATERIAL. THE CLEANING AND DISPOSAL OF THE REMOVED MATERIALS AND LIQUID MUST BE FOLLOWED BY THE OWNER.
5. A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
6. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATIONS AND MAINTENANCE CRITERIA.
7. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION SYSTEM HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED UNDERGROUND FACILITIES

- A. THE UNDERGROUND STORMWATER MANAGEMENT FACILITY IS PRIVATELY OWNED AND IT SHALL BE THE RESPONSIBILITY OF THE OWNER TO OPERATE AND FUNCTION.
- B. THE UNDERGROUND STORMWATER MANAGEMENT FACILITY SHALL BE INSPECTED YEARLY AT A MINIMUM AND AFTER ESPECIALLY SEVERE STORM EVENTS.
- C. WHEN SIGNIFICANT ACCUMULATION OF MORE THAN 2" IS OBSERVED OR ANY OTHER THAT MOST OBSTRUCT THE OUTFALL IS OBSERVED, THE FACILITY SHALL BE CLEANED.
- D. THE FACILITY SHALL BE CLEANED IMMEDIATELY AFTER PETROLEUM SPILLS. THE SPILLS AND DEBRIS SHALL BE REMOVED FROM THE UNDERGROUND STORMWATER MANAGEMENT FACILITY AS SOON AS POSSIBLE.
- E. THE INLET AND OUTLET PIPES SHALL BE CHECKED FOR ANY OBSTRUCTIONS AT LEAST ONCE EVERY 90 DAYS. IF OBSTRUCTIONS ARE FOUND, THE OWNER SHALL HAVE THEM REMOVED AND PROPERLY DISPOSED.
- F. THE INLET AND OUTLET PIPES SHALL BE CHECKED FOR ANY OBSTRUCTIONS AT LEAST ONCE EVERY 90 DAYS. IF OBSTRUCTIONS ARE FOUND, THE OWNER SHALL HAVE THEM REMOVED AND PROPERLY DISPOSED.



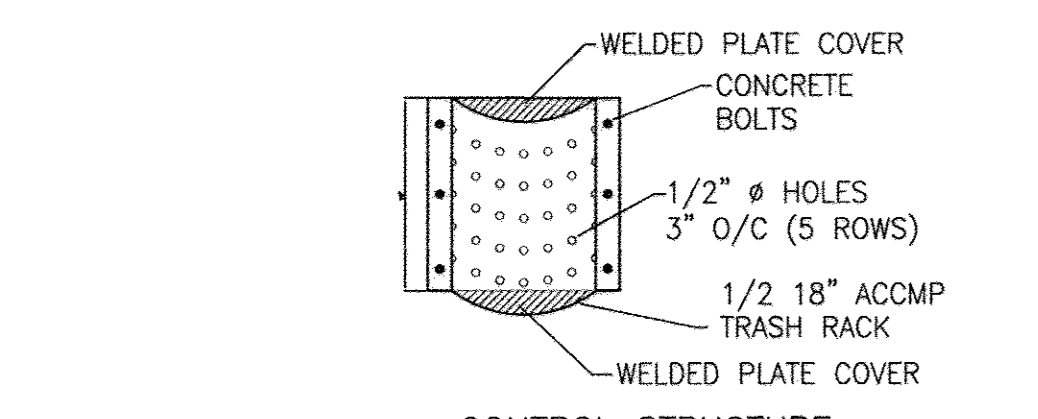
TYPICAL ACCESS MANHOLE DETAIL FOR UNDERGROUND SWM FACILITY
SCALE: 1"=1'-0"



CONTROL STRUCTURE NO. 1 CONCRETE WALL DETAIL
SCALE: NTS

CONCRETE WALL DETAIL NOTES

1. CONCRETE SHALL BE 4000 PSI (40 MPa).
2. WALL REINFORCEMENT SHALL BE DEVELOPED WITH 12" MIN. EMBEDMENT INTO SLAB.
3. ALL JOINTS SHALL BE REINFORCED WITH 2" MIN. EMBEDMENT INTO ADJACENT WALL.
4. WALL SHALL BE FINISHED TO BE FACTORY FABRICATED WELLS AND FINISH.
5. WALL SHALL BE FINISHED TO BE FACTORY FABRICATED WELLS AND FINISH.
6. WALL SHALL BE FINISHED TO BE FACTORY FABRICATED WELLS AND FINISH.
7. WALL SHALL BE FINISHED TO BE FACTORY FABRICATED WELLS AND FINISH.
8. WALL SHALL BE FINISHED TO BE FACTORY FABRICATED WELLS AND FINISH.
9. WALL SHALL BE FINISHED TO BE FACTORY FABRICATED WELLS AND FINISH.
10. WALL SHALL BE FINISHED TO BE FACTORY FABRICATED WELLS AND FINISH.



CONTROL STRUCTURE TRASH RACK DETAIL
SCALE: NTS

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED SURFACE STORMWATER FILTRATION SYSTEMS (F-1, F-4, AND F-5)

1. THE STORMWATER WETLAND FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.
2. THE TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF ONCE PER YEAR, WHEN VEGETATION REACHES 18" IN HEIGHT OR AS NEEDED.
3. FILTERS THAT HAVE A GRASS COVER SHALL BE MOWED A MINIMUM OF THREE (3) TIMES PER GROWING SEASON TO MAINTAIN A MAXIMUM GRASS HEIGHT OF LESS THAN 12 INCHES.
4. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
5. VISIBLE SIGNS OF EROSION IN THE FACILITY SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
6. REMOVE SILT WHEN IT EXCEEDS FOUR (4) INCHES DEEP IN THE FOREBAY.
7. WHEN WATER PONDING ON THE SURFACE OF THE FILTER BED FOR MORE THAN 72 HOURS, THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REPLACED WITH FRESH MATERIAL. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS AND LIQUID MUST BE FOLLOWED BY THE OWNER.
8. A LOGBOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
9. THE MAINTENANCE LOGBOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATIONS AND MAINTENANCE CRITERIA.
10. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION SYSTEM HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 1/3/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 6/18/07
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 1/16/07
DIRECTOR DATE

STORMWATER MANAGEMENT REQUIREMENTS - AREA 'A-1'

AREA	REQUIREMENT	VOLUME REQUIREMENT WITHOUT CREDITS	CREDITS	VOLUME REQUIREMENT WITH CREDITS	NOTES
1.03 AC.					
1	WATER QUALITY VOLUME (WQv)	0.0638 AC. FT.	---	0.0638 AC. FT.	BIORETENTION
2	RECHARGE VOLUME (REV)	0.0166 AC. FT. 0.2062 AC.	---	0.0166 AC. FT. 0.2062 AC.	GRAVEL UNDER BIORETENTION
3	CHANNEL PROTECTION VOLUME (CPv)	0.3295 AC. FT.	---	0.3295 AC. FT.	UNDERGROUND PIPE STORAGE
4	OVERHEAD FLOOD PROTECTION (Q _o P)	---	---	---	---
5	EXTREME FLOOD VOLUME (Q ₁₀₀ P)	---	---	---	---

STORMWATER MANAGEMENT REQUIREMENTS - AREA 'B-1'

AREA	REQUIREMENT	VOLUME REQUIREMENT WITHOUT CREDITS	CREDITS	VOLUME REQUIREMENT WITH CREDITS	NOTES
0.51 AC.					
1	WATER QUALITY VOLUME (WQv)	0.0327 AC. FT.	---	0.0327 AC. FT.	SURFACE SAND FILTER
2	RECHARGE VOLUME (REV)	0.0077 AC. FT. 0.0754 AC.	---	0.0077 AC. FT. 0.0754 AC.	GRAVEL UNDER SAND FILTERS
3	CHANNEL PROTECTION VOLUME (CPv)	Q ₁ dev = 1.94 CFS	---	---	Q ₁ ex = 0.31 CFS Q ₁ dev ≤ 2.00 CFS
4	OVERHEAD FLOOD PROTECTION (Q _o P)	---	---	---	---
5	EXTREME FLOOD VOLUME (Q ₁₀₀ P)	---	---	---	---

STORMWATER MANAGEMENT REQUIREMENTS - AREA 'A-2'

AREA	REQUIREMENT	VOLUME REQUIREMENT WITHOUT CREDITS	CREDITS	VOLUME REQUIREMENT WITH CREDITS	NOTES
1.36 AC.					
1	WATER QUALITY VOLUME (WQv)	0.1015 AC. FT.	---	0.1015 AC. FT.	SANDFILTERS
2	RECHARGE VOLUME (REV)	0.0264 AC. FT. 0.3324 AC.	---	0.0264 AC. FT. 0.3324 AC.	GRAVEL UNDER SANDFILTERS
3	CHANNEL PROTECTION VOLUME (CPv)	0.3295 AC. FT.	---	0.3295 AC. FT.	UNDERGROUND PIPE STORAGE
4	OVERHEAD FLOOD PROTECTION (Q _o P)	---	---	---	---
5	EXTREME FLOOD VOLUME (Q ₁₀₀ P)	---	---	---	---

STORMWATER MANAGEMENT REQUIREMENTS - AREA 'B-2'

AREA	REQUIREMENT	VOLUME REQUIREMENT WITHOUT CREDITS	CREDITS	VOLUME REQUIREMENT WITH CREDITS	NOTES
0.84 AC.					
1	WATER QUALITY VOLUME (WQv)	0.0392 AC. FT.	0.84 AC GRASS CHANNEL	0 AC. FT.	GRASS CHANNEL CREDIT
2	RECHARGE VOLUME (REV)	0.0102 AC. FT. 0.0754 AC.	0.03 AC IMP. GRASS CHANNEL	0 AC. FT.	GRASS CHANNEL CREDIT
3	CHANNEL PROTECTION VOLUME (CPv)	Q ₁ dev = 0.81 CFS	---	---	Q ₁ ex = 0.31 CFS Q ₁ dev ≤ 2.00 CFS
4	OVERHEAD FLOOD PROTECTION (Q _o P)	---	---	---	---
5	EXTREME FLOOD VOLUME (Q ₁₀₀ P)	---	---	---	---

STORMWATER MANAGEMENT REQUIREMENTS - AREA 'A-3'

AREA	REQUIREMENT	VOLUME REQUIREMENT WITHOUT CREDITS	CREDITS	VOLUME REQUIREMENT WITH CREDITS	NOTES
1.93 AC.					
1	WATER QUALITY VOLUME (WQv)	0.1383 AC. FT.	0.84 AC GRASS CHANNEL	0.0271 AC. FT.	SANDFILTERS
2	RECHARGE VOLUME (REV)	0.0360 AC. FT. 0.4516 AC.	0.03 AC GRASS CHANNEL	0.0154 AC. FT. 0.1895 AC.	GRAVEL UNDER SANDFILTERS
3	CHANNEL PROTECTION VOLUME (CPv)	0.3295 AC. FT.	---	0.3295 AC. FT.	UNDERGROUND PIPE STORAGE
4	OVERHEAD FLOOD PROTECTION (Q _o P)	---	---	---	---
5	EXTREME FLOOD VOLUME (Q ₁₀₀ P)	---	---	---	---

STORMWATER MANAGEMENT REQUIREMENTS - AREA 'C'

AREA	REQUIREMENT	VOLUME REQUIREMENT WITHOUT CREDITS	CREDITS	VOLUME REQUIREMENT WITH CREDITS	NOTES
0.40 AC.					
1	WATER QUALITY VOLUME (WQv)	0.0212 AC. FT.	0.40 AC GRASS CHANNEL	0 AC. FT.	GRASS CHANNEL CREDIT
2	RECHARGE VOLUME (REV)	0.0055 AC. FT. 0.0576 AC.	0.0569 AC GRASS CHANNEL	0.0107 AC. FT.	GRASS CHANNEL CREDIT
3	CHANNEL PROTECTION VOLUME (CPv)	Q ₁ dev = 1.94 CFS	---	---	Q ₁ ex = CFS Q ₁ dev ≤ 2.00 CFS
4	OVERHEAD FLOOD PROTECTION (Q _o P)	---	---	---	---
5	EXTREME FLOOD VOLUME (Q ₁₀₀ P)	---	---	---	---

STORMWATER MANAGEMENT REQUIREMENTS - AREA 'A-4'

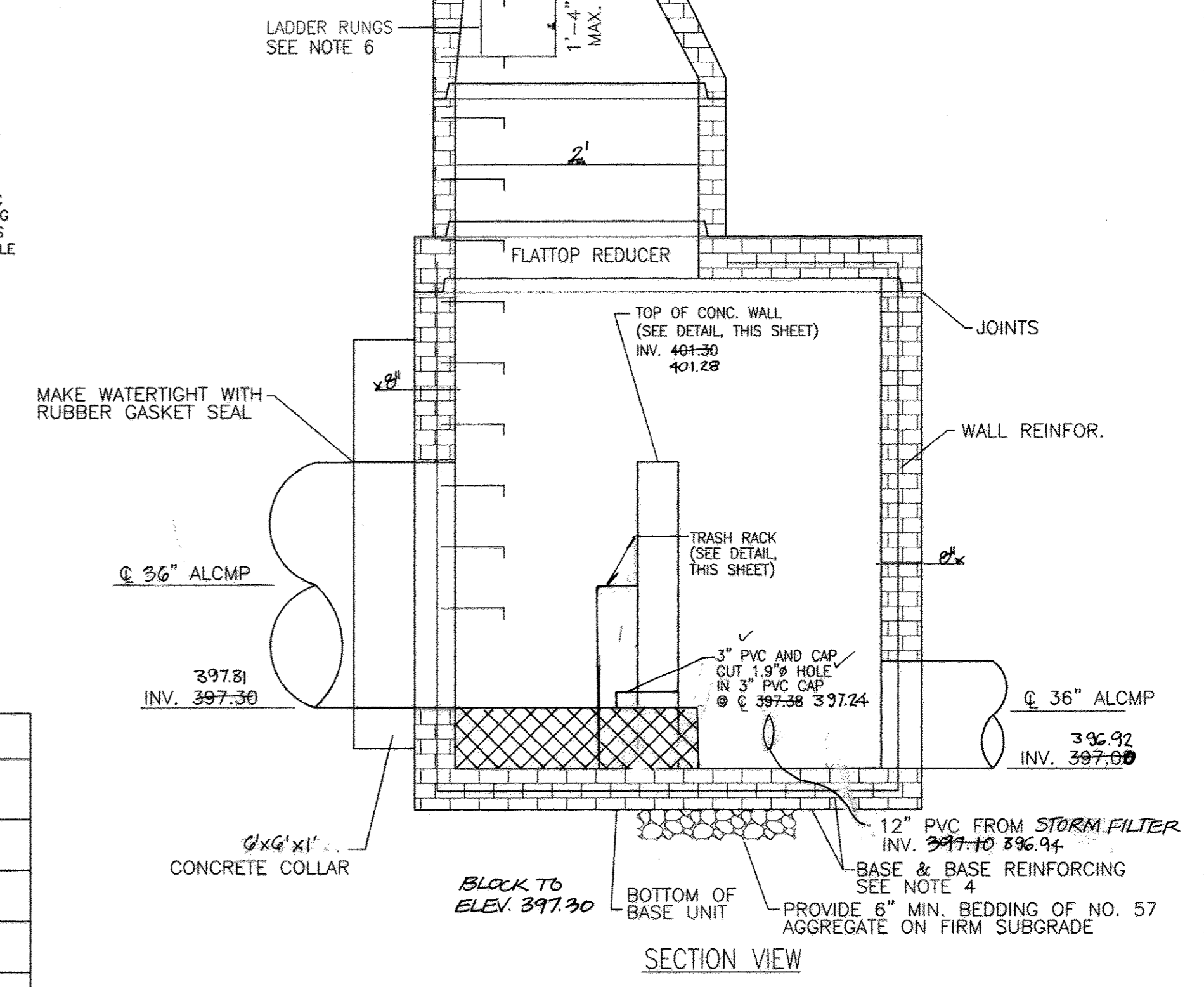
AREA	REQUIREMENT	VOLUME REQUIREMENT WITHOUT CREDITS	CREDITS	VOLUME REQUIREMENT WITH CREDITS	NOTES
0.42 AC.					
1	WATER QUALITY VOLUME (WQv)	0.0220 AC. FT.	---	0.0220 AC. FT.	DRY SWALE
2	RECHARGE VOLUME (REV)	0.0058 AC. FT. 0.0710 AC.	---	0.0058 AC. FT. 0.0710 AC.	DRY SWALE
3	CHANNEL PROTECTION VOLUME (CPv)	0.3295 AC. FT.	---	0.3295 AC. FT.	UNDERGROUND PIPE STORAGE
4	OVERHEAD FLOOD PROTECTION (Q _o P)	---	---	---	---
5	EXTREME FLOOD VOLUME (Q ₁₀₀ P)	---	---	---	---

STORMWATER MANAGEMENT REQUIREMENTS - AREA 'D'

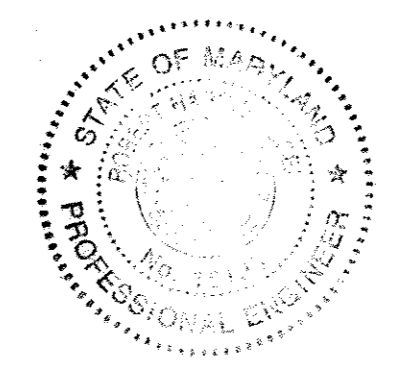
AREA	REQUIREMENT	VOLUME REQUIREMENT WITHOUT CREDITS	CREDITS	VOLUME REQUIREMENT WITH CREDITS	NOTES
0.44 AC.					
1	WATER QUALITY VOLUME (WQv)	0.0233 AC. FT.	0.11 AC GRASS CHANNEL	**0.0175 AC. FT.	GRASS CHANNEL CREDIT REMAINING GRASS/LANDSCAPE STRIP CANNOT BE TREATED
2	RECHARGE VOLUME (REV)	0.0061 AC. FT. 0.0744 AC.	**0.0165 AC GRASS CHANNEL	0.0579 AC. FT.	GRASS CHANNEL CREDIT ALL IMPERVIOUS TREATED BY GRASS CHANNEL
3	CHANNEL PROTECTION VOLUME (CPv)	Q ₁ dev = 0.81 CFS	---	---	Q ₁ ex = CFS Q ₁ dev ≤ 2.00 CFS
4	OVERHEAD FLOOD PROTECTION (Q _o P)	---	---	---	---
5	EXTREME FLOOD VOLUME (Q ₁₀₀ P)	---	---	---	---

*ALL IMPERVIOUS IN DRAINAGE AREA
**GRASS AREA AROUND PERIMETER NOT ABLE TO CAPTURE

NOTE: DEBRIS IS TO BE KEPT OUT OF STORMWATER MANAGEMENT FACILITIES DURING AND AFTER CONSTRUCTION.



SECTION VIEW CONTROL STRUCTURE NO. 1 MODIFIED HC STD. DETAIL MD-384.05
SCALE: NTS



AS-BUILT CERTIFICATION

I hereby certify that the facility shown on this plan was constructed as shown on the "as-built" plans and meets the approved plans and specifications.

[Signature]
Signature
PE NO. C-11/13
DATE: 6/16/03

NO.	REVISION	DATE
1	REPLACE SANDFILTERS 1-5 WITH A STORM FILTER AND REVISE ASSOCIATED STORM DRAIN	11/20/08

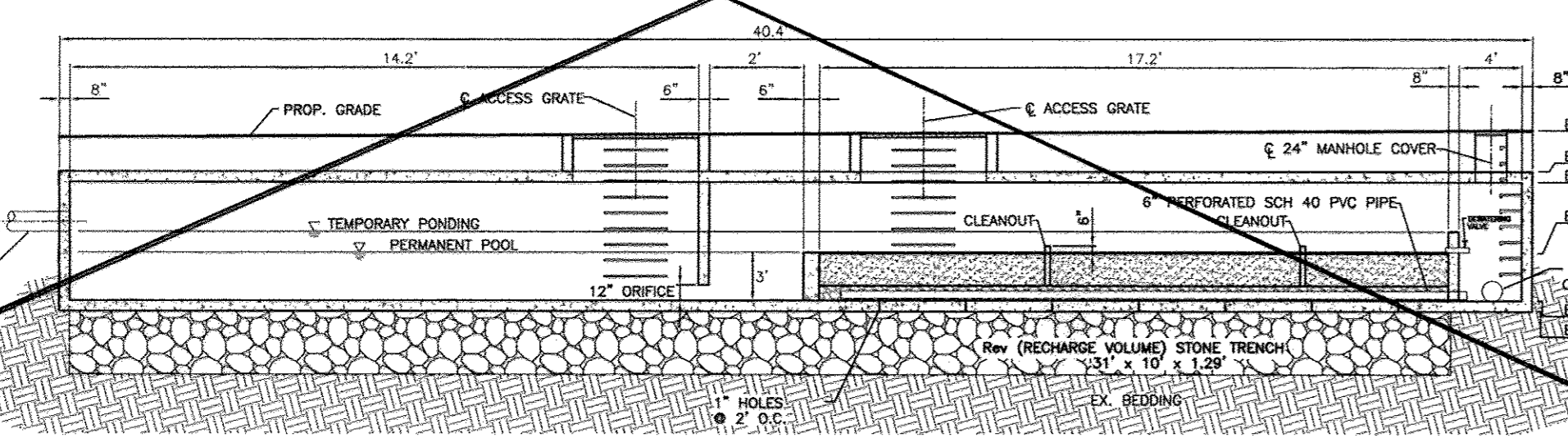
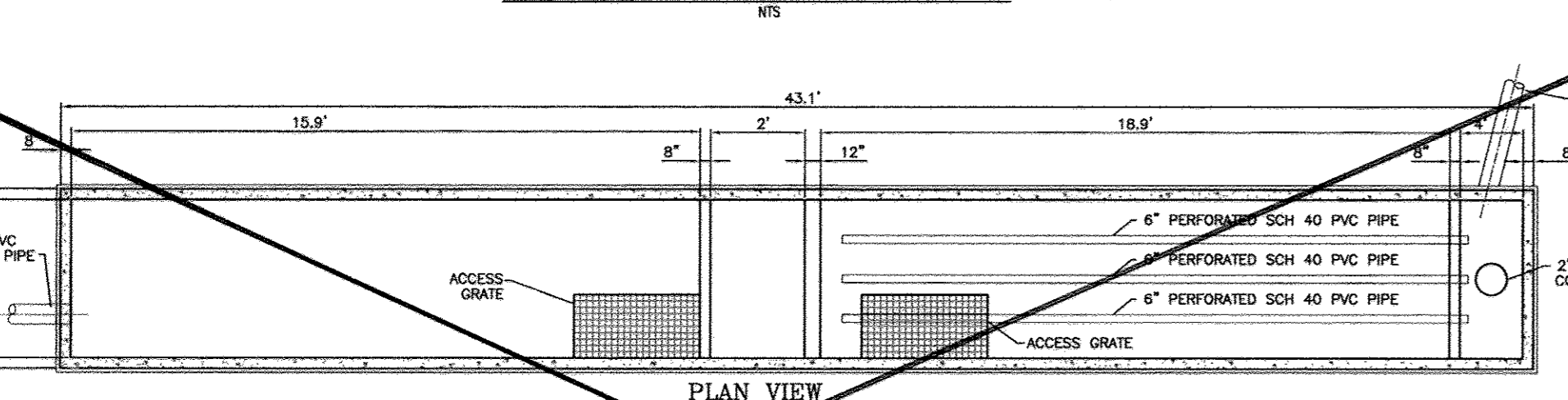
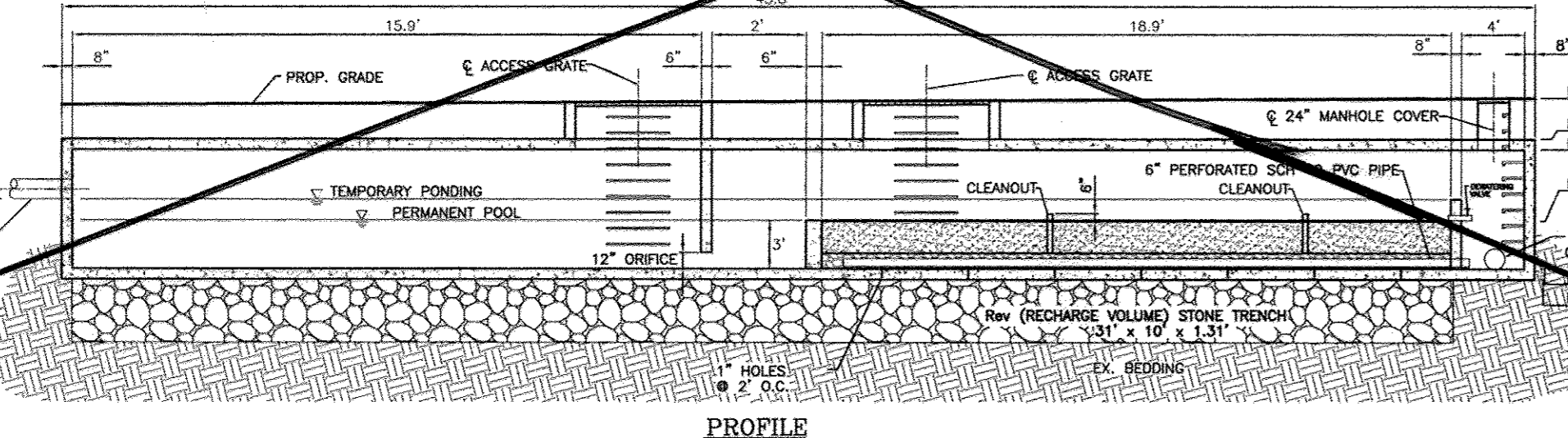
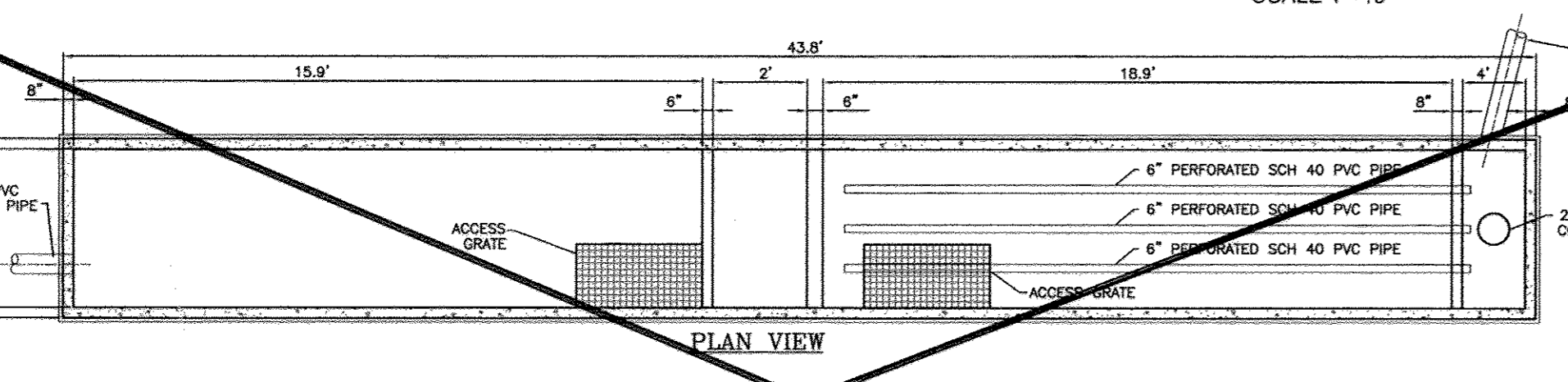
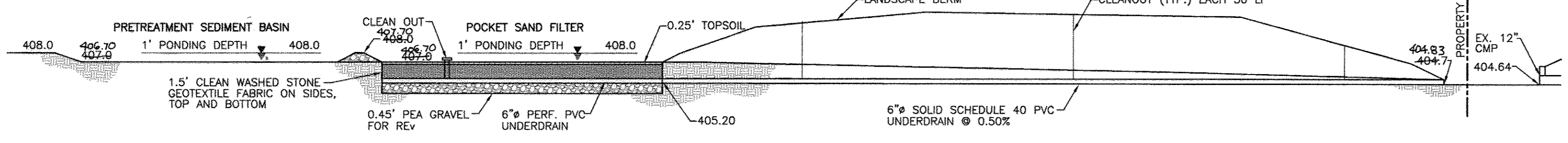
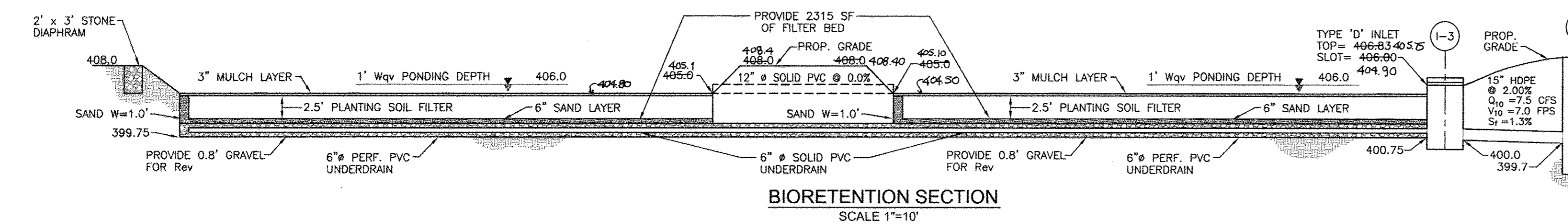
SITE DEVELOPMENT PLAN
STORMWATER MANAGEMENT DETAILS
THE GATHERINGS AT JEFFERSON PLACE
PARCEL A - PHASE I & II
AGE RESTRICTED ADULT HOUSING
TAX MAP 24 GRID 24 PARCELS 318, 319, 320 & 731
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET ELLICOTT CITY, MD 21043
TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: RHL/LJT/CO
DRAWN BY: LJT/CO
CHECKED BY: RHV
DATE: MAY 2008
SCALE: AS SHOWN
W.O. NO.: 05-01.00

10 SHEET OF 12A

OWNER / DEVELOPER
BEAZER HOMES CORPORATION
8965 GUILFORD ROAD SUITE 290
COLUMBIA, MD 21046
(301) 621-8151



UNDERGROUND SAND FILTER CONSTRUCTION SPECIFICATIONS

1. PROVIDE MANHOLE AND/OR GRATES TO ALL UNDERGROUND AND BELOW GRADE STRUCTURES. MANHOLES SHALL BE IN COMPLIANCE WITH STANDARD SPECIFICATIONS FOR EACH COUNTY, BUT DIAMETERS SHOULD BE 30" MINIMUM TO COMPLY WITH OSHA CONFINED SPACE REQUIREMENTS. ALUMINUM AND STEEL COVERED DOORS ARE ALSO ACCEPTABLE. TEN (10) MIN. WIDE (MINIMUM) MANHOLE STEPS (12" O.C.) SHALL BE CAST IN PLACE OR DRILLED AND INSTALLED INTO THE WALL BELOW EACH MANHOLE. A 5' MINIMUM HEIGHT CLEARANCE FROM THE TOP OF THE SAND LAYER TO THE BOTTOM OF THE UPPER SURFACE SLAB IS REQUIRED FOR ALL PERMANENT UNDERGROUND STRUCTURES. LIFT RINGS ARE TO BE INSTALLED TO REMOVE/REPLACE TOP SLABS ON PRE-FABRICATED STRUCTURES. MANHOLE COVERS SHOULD ALLOW FOR PROPER VENTILATION.
2. UNDERGROUND SANDFILTERS SHOULD BE CONSTRUCTED WITH A GATE VALVE LOCATED JUST ABOVE THE TOP OF THE FILTER BED FOR DEMANDING IN THE EVENT THAT CLOGGING OCCURS.
3. UNDERGROUND SAND FILTERS SHALL BE PROTECTED FROM TRASH ACCUMULATION BY A WIDE MESH GEOTEXTILE SCREEN TO BE PLACED ON THE SURFACE OF THE BED. SCREEN IS TO BE ROLLED UP, REMOVED, CLEANED AND RE-INSTALLED DURING MAINTENANCE OPERATIONS.

APPENDIX B.3 CONSTRUCTION SPECIFICATIONS FOR SAND FILTERS, BIORETENTION AND OPEN CHANNELS

SPECIFICATIONS FOR BIORETENTION

1. MATERIAL SPECIFICATIONS
2. PLANTING SOIL
3. COMPACTION
4. PLANT MATERIAL
5. PLANT INSTALLATION
6. UNDERDRAINS
7. MISCELLANEOUS

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE HAND OPERATED EQUIPMENT TO MINIMIZE COMPACTION. THE USE OF EQUIPMENT WITH NARROW TRACKS OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION, RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGHOUT THE 12" MIN. COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS ARE TYPICAL TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

ROTOTILL 3 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE REQUIRED SAND LAYER. PUMP AWAY PONDING WATER BEFORE PREPARING (ROTOTILLING) BASE.

WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 1 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A HOMOGENEOUS MEDIUM. REPEAT THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 16" DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A SCOPED LOADER WITH MARCH TRACKS.

4. PLANT MATERIAL

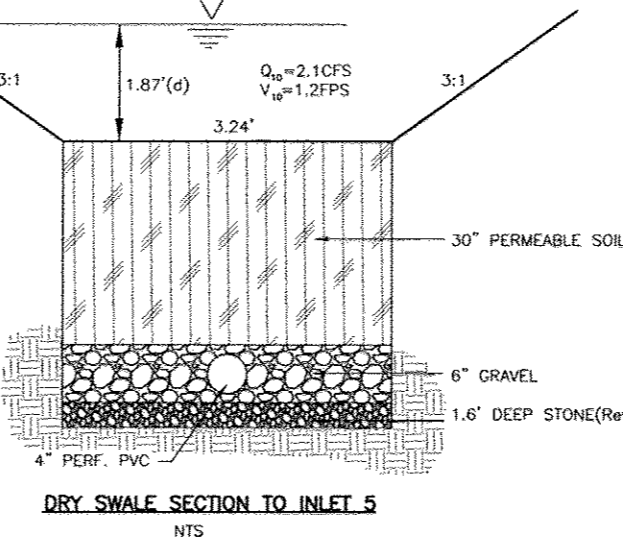
RECOMMENDED PLANT MATERIAL FOR BIORETENTION AREAS CAN BE FOUND IN APPENDIX A, SECTION A.2.3. OF THE 2000 MARYLAND LANDSCAPE DESIGN MANUAL.

5. PLANT INSTALLATION

MULCH SHOULD BE PLACED TO A UNIFORM THICKNESS OF 2" TO 1" SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTABLE MULCH. FINE MULCH AND WOOD CHIPS WILL LOCK AND MOVE. THE MULCH SHOULD BE PLACED TO A MINIMUM OF 12" FROM THE PLANT. MULCH SHOULD BE PLACED TO A MINIMUM OF 12" FROM THE PLANT. MULCH SHOULD BE PLACED TO A MINIMUM OF 12" FROM THE PLANT.

OPERATION AND MAINTENANCE SCHEDULE FOR BIORETENTION AREAS

1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYERS AND SOIL LAYERS IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO REMOVAL OF MULCH AND SOIL FROM THE BIORETENTION AREA. MULCH SHOULD BE REPLACED IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED PLANTS AND REPAIR OF PLANT MATERIAL. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYERS BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED WITH A MINIMUM OF ONE PER MONTH AND AFTER HEAVY STORM EVENTS.



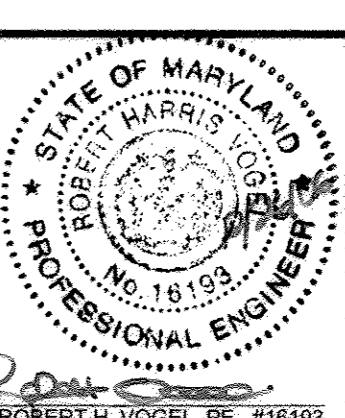
LOG OF BORING NO. B-43 DESCRIPTION: 1. 0.5' - 1.0' - SAND; 1.0' - 1.5' - SAND; 1.5' - 2.0' - SAND; 2.0' - 2.5' - SAND; 2.5' - 3.0' - SAND; 3.0' - 3.5' - SAND; 3.5' - 4.0' - SAND; 4.0' - 4.5' - SAND; 4.5' - 5.0' - SAND; 5.0' - 5.5' - SAND; 5.5' - 6.0' - SAND; 6.0' - 6.5' - SAND; 6.5' - 7.0' - SAND; 7.0' - 7.5' - SAND; 7.5' - 8.0' - SAND; 8.0' - 8.5' - SAND; 8.5' - 9.0' - SAND; 9.0' - 9.5' - SAND; 9.5' - 10.0' - SAND.	LOG OF BORING NO. B-44 DESCRIPTION: 1. 0.5' - 1.0' - SAND; 1.0' - 1.5' - SAND; 1.5' - 2.0' - SAND; 2.0' - 2.5' - SAND; 2.5' - 3.0' - SAND; 3.0' - 3.5' - SAND; 3.5' - 4.0' - SAND; 4.0' - 4.5' - SAND; 4.5' - 5.0' - SAND; 5.0' - 5.5' - SAND; 5.5' - 6.0' - SAND; 6.0' - 6.5' - SAND; 6.5' - 7.0' - SAND; 7.0' - 7.5' - SAND; 7.5' - 8.0' - SAND; 8.0' - 8.5' - SAND; 8.5' - 9.0' - SAND; 9.0' - 9.5' - SAND; 9.5' - 10.0' - SAND.	LOG OF BORING NO. B-45 DESCRIPTION: 1. 0.5' - 1.0' - SAND; 1.0' - 1.5' - SAND; 1.5' - 2.0' - SAND; 2.0' - 2.5' - SAND; 2.5' - 3.0' - SAND; 3.0' - 3.5' - SAND; 3.5' - 4.0' - SAND; 4.0' - 4.5' - SAND; 4.5' - 5.0' - SAND; 5.0' - 5.5' - SAND; 5.5' - 6.0' - SAND; 6.0' - 6.5' - SAND; 6.5' - 7.0' - SAND; 7.0' - 7.5' - SAND; 7.5' - 8.0' - SAND; 8.0' - 8.5' - SAND; 8.5' - 9.0' - SAND; 9.0' - 9.5' - SAND; 9.5' - 10.0' - SAND.	LOG OF BORING NO. B-46 DESCRIPTION: 1. 0.5' - 1.0' - SAND; 1.0' - 1.5' - SAND; 1.5' - 2.0' - SAND; 2.0' - 2.5' - SAND; 2.5' - 3.0' - SAND; 3.0' - 3.5' - SAND; 3.5' - 4.0' - SAND; 4.0' - 4.5' - SAND; 4.5' - 5.0' - SAND; 5.0' - 5.5' - SAND; 5.5' - 6.0' - SAND; 6.0' - 6.5' - SAND; 6.5' - 7.0' - SAND; 7.0' - 7.5' - SAND; 7.5' - 8.0' - SAND; 8.0' - 8.5' - SAND; 8.5' - 9.0' - SAND; 9.0' - 9.5' - SAND; 9.5' - 10.0' - SAND.
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LOG OF BORING NO. B-14 DESCRIPTION: 1. 0.5' - 1.0' - SAND; 1.0' - 1.5' - SAND; 1.5' - 2.0' - SAND; 2.0' - 2.5' - SAND; 2.5' - 3.0' - SAND; 3.0' - 3.5' - SAND; 3.5' - 4.0' - SAND; 4.0' - 4.5' - SAND; 4.5' - 5.0' - SAND; 5.0' - 5.5' - SAND; 5.5' - 6.0' - SAND; 6.0' - 6.5' - SAND; 6.5' - 7.0' - SAND; 7.0' - 7.5' - SAND; 7.5' - 8.0' - SAND; 8.0' - 8.5' - SAND; 8.5' - 9.0' - SAND; 9.0' - 9.5' - SAND; 9.5' - 10.0' - SAND.	LOG OF BORING NO. B-15 DESCRIPTION: 1. 0.5' - 1.0' - SAND; 1.0' - 1.5' - SAND; 1.5' - 2.0' - SAND; 2.0' - 2.5' - SAND; 2.5' - 3.0' - SAND; 3.0' - 3.5' - SAND; 3.5' - 4.0' - SAND; 4.0' - 4.5' - SAND; 4.5' - 5.0' - SAND; 5.0' - 5.5' - SAND; 5.5' - 6.0' - SAND; 6.0' - 6.5' - SAND; 6.5' - 7.0' - SAND; 7.0' - 7.5' - SAND; 7.5' - 8.0' - SAND; 8.0' - 8.5' - SAND; 8.5' - 9.0' - SAND; 9.0' - 9.5' - SAND; 9.5' - 10.0' - SAND.	LOG OF BORING NO. SWM-01 DESCRIPTION: 1. 0.5' - 1.0' - SAND; 1.0' - 1.5' - SAND; 1.5' - 2.0' - SAND; 2.0' - 2.5' - SAND; 2.5' - 3.0' - SAND; 3.0' - 3.5' - SAND; 3.5' - 4.0' - SAND; 4.0' - 4.5' - SAND; 4.5' - 5.0' - SAND; 5.0' - 5.5' - SAND; 5.5' - 6.0' - SAND; 6.0' - 6.5' - SAND; 6.5' - 7.0' - SAND; 7.0' - 7.5' - SAND; 7.5' - 8.0' - SAND; 8.0' - 8.5' - SAND; 8.5' - 9.0' - SAND; 9.0' - 9.5' - SAND; 9.5' - 10.0' - SAND.
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1	REPLACE SANDFILTER 1-5 WITH A STORM FILTER AND REVISE ASSOCIATED STORM DRAIN	11-20-08
NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
STORMWATER MANAGEMENT DETAILS
THE GATHERINGS AT JEFFERSON PLACE
PARCEL A - PHASE I & II
AGE RESTRICTED ADULT HOUSING
TAX MAP 24 GRID 24 PARCELS 318, 319, 320 & 731
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

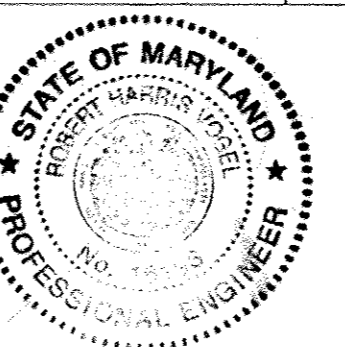
ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET, ELLICOTT CITY, MD 21043
TEL 410.461.7666 FAX 410.461.8961



DESIGN BY: RHN/LJL/UCO
DRAWN BY: LJL/UCO
CHECKED BY: RHN
DATE: MAY 2006
SCALE: AS SHOWN
W.O. NO.: 05-01-00
11 SHEET OF 12A

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
1/3/02
DATE
1/3/02
DATE
1/3/02
DATE

AS-BUILT CERTIFICATION
I hereby certify that the facility shown on this plan was constructed as shown on the "as-built" plans and meets the approved plans and specifications.
PE NO. 12193
DATE: 6/11/03



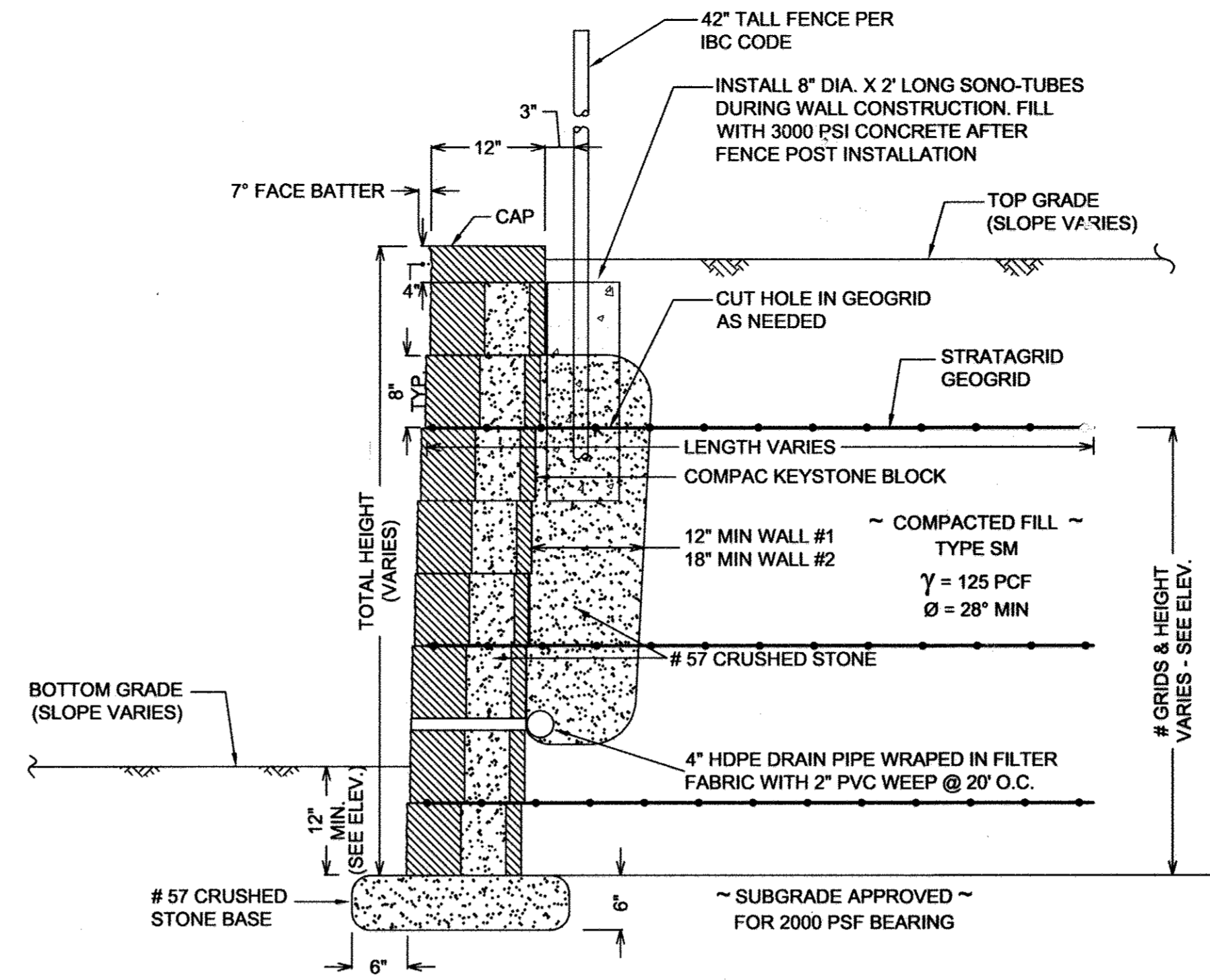
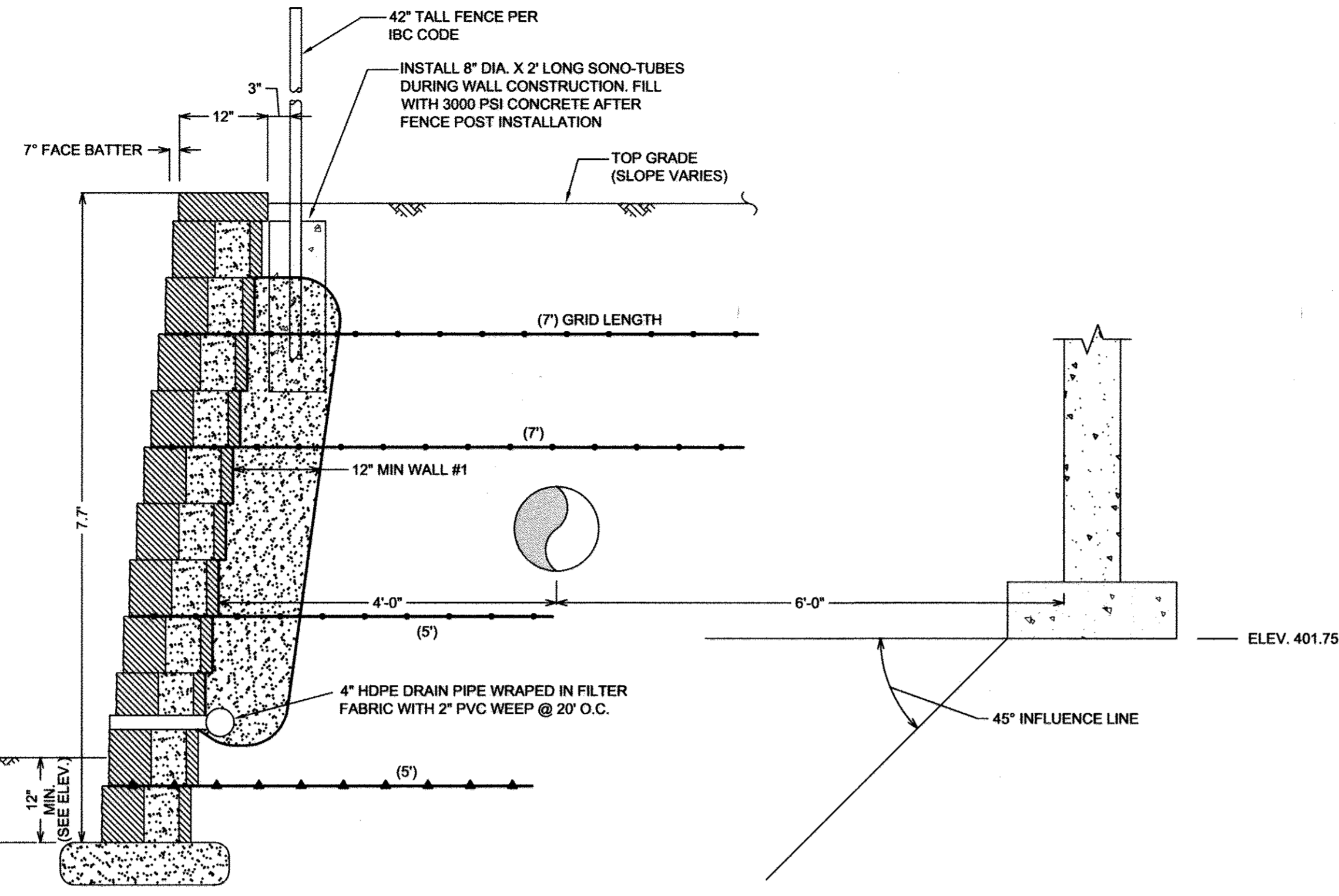
OWNER / DEVELOPER
BEAZER HOMES CORPORATION
8965 GUILDFORD ROAD SUITE 290
COLUMBIA, MD 21046
(301) 621-8151

SPECIFICATIONS
KEYSTONE MODULAR CONCRETE BLOCK RETAINING WALL

- PART 1: GENERAL**
- 1.01 Description**
A. Work shall consist of furnishing and construction of a KEYSTONE Retaining Wall System in accordance with these specifications and in reasonably close conformity with the lines, grades, design, and dimensions shown on the plans.
B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit drainage fill and backfill to the lines and grades shown on the construction drawings.
C. Work includes furnishing and installing geogrid soil reinforcement of the type, size, location, and length designated on the construction drawings.
- 1.02 Delivery, Storage and Handling**
A. Contractor shall check all materials upon delivery to assure that the proper type, grade, color, and certification has been received.
B. Contractor shall protect all materials from damage due to job site conditions and in accordance with manufacturer's recommendations. Damaged materials shall not be incorporated into the work.
- PART 2: PRODUCTS**
- 2.01 Modular Concrete Retaining Wall Units**
A. Modular concrete units shall conform to the following architectural requirements:
face color - concrete gray - standard manufacturer's color may be specified by the Owner.
face finish - sculptured rock face in angular tri-planer configuration. Other face finishes will not be allowed without written approval of Owner.
bond configuration - running with bonds normally located at midpoint vertically adjacent units, in both straight and curved alignments.
exposed surfaces of units shall be free of chips, cracks or other imperfections when viewed from a distance of 10 feet under diffused lighting.
B. Modular concrete materials shall conform to the requirements of ASTM C1372 - Standard Specifications for Segmental Retaining Wall Units.
C. Modular concrete units shall conform to the following structural and geometric requirements measured in accordance with appropriate references:
compressive strength = 3000 psi minimum;
absorption = 8% maximum (6% in northern states) for standard weight aggregates;
dimensional tolerances = ± 1/8" from nominal unit dimensions - not including rough split face; ± 1/16" unit height - top and bottom planes;
unit size - 8" (H) x 18" (W) x 12" (D) minimum;
unit weight - 75 lbs/unit minimum for standard weight
- 2.02 Shear Connectors**
A. Shear connectors shall be 1/2 inch diameter thermoset isophthalic polyester resin-protected fiberglass reinforcement rods or equivalent to provide connection between vertically and horizontally adjacent units.
Strength of shear connectors between vertical adjacent units shall be applicable over a design temperature of 10 degrees F to + 100 degrees F.
B. Shear connectors shall be capable of holding the geogrid in the proper design position during grid pre-tensioning and backfilling.
- 2.03 Base Leveling Pad Material**
A. Material shall consist of a compacted #57 crushed stone base as shown on the construction drawings.
- 2.04 Unit Drainage Fill**
A. Unit drainage fill shall consist of #57 crushed stone
- 2.05 Reinforced Backfill**
A. Reinforced backfill shall type SM, be free of debris and meet the following gradation tested in accordance with ASTM D-422 and meet other properties shown on the plan:

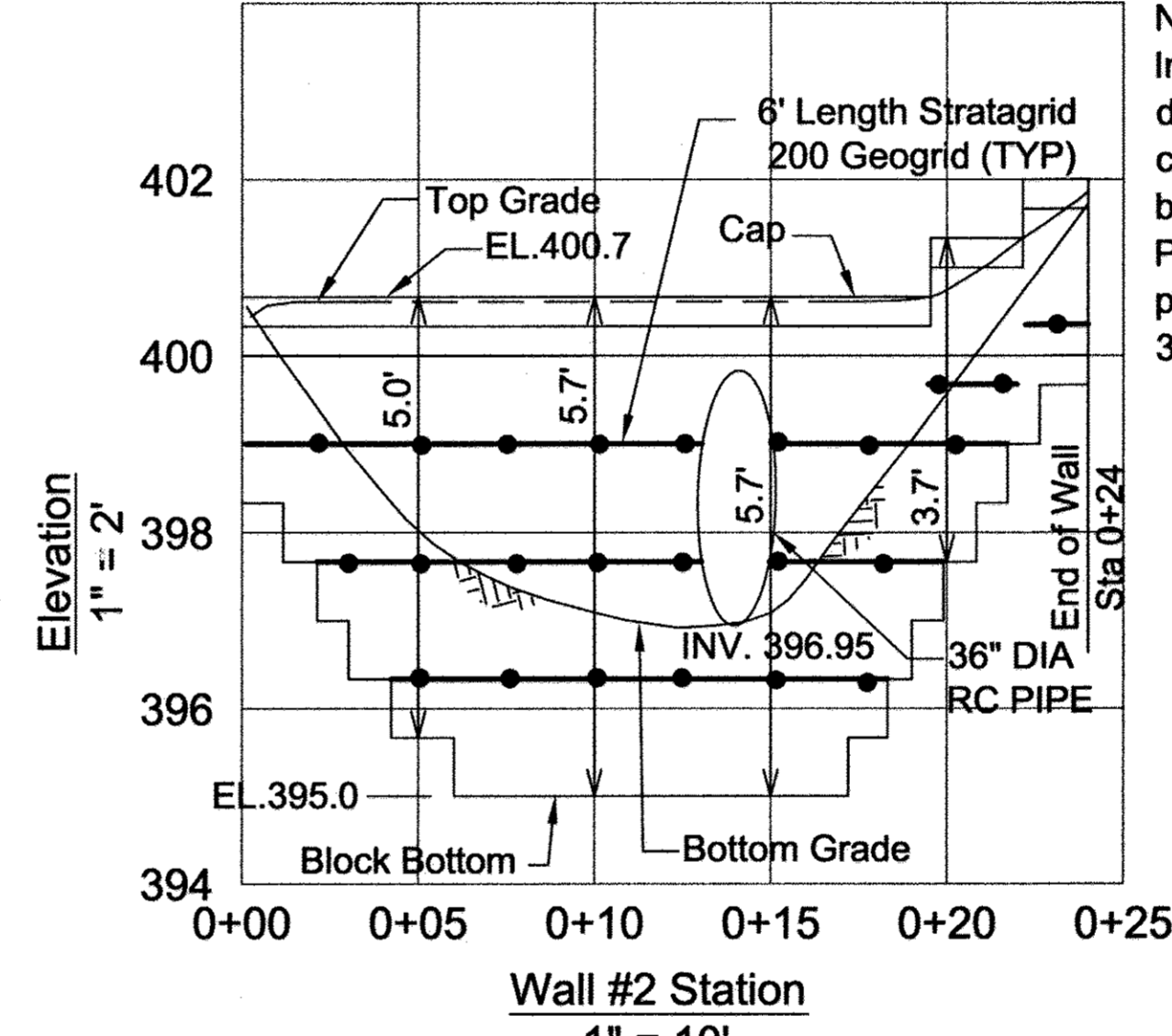
Sieve Size	Percent Passing
2 inch	100-75
3/4 inch	100-75
No. 40	0-50
No. 200	0-50

Plasticity Index (PI) < 15 and Liquid Limit < 40 per ASTM D-4318.
B. Material can be site excavated soils where the above requirements can be met. Unsuitable soils for backfill (high plastic clays or organic soils) shall not be used in the reinforced soil mass.
- 2.06 Geogrid Soil Reinforcement**
A. Geogrid reinforcement shall consist of geogrids manufactured specifically for soil reinforcement applications and shall be manufactured from high tenacity polyester yarn.
- 2.07 Drainage Pipe**
A. The drainage pipe shall be perforated corrugated HDPE pipe manufactured in accordance with ASTM D-1248.
- PART 3 EXECUTION**
- 3.01 Excavation**
A. Contractor shall excavate to the lines and grades shown on the construction drawings. Owner's representative shall be responsible for inspecting and approving the excavation prior to placement of leveling material or fill soils.
- 3.02 Base Leveling Pad**
A. Leveling pad material shall be placed to the lines and grades shown on the construction drawings, to a minimum thickness of 6 inches and extend laterally a minimum of 6' in front and behind the modular wall unit.
B. Leveling pad shall be prepared to insure full contact to the base surface of the concrete units.
- 3.03 Modular Unit Installation**
A. First course of units shall be placed on the leveling pad at the appropriate line and grade. Alignment and level shall be checked in all directions and ensure that all units are in full contact with the base and properly seated.
B. Place the front of units side-by-side. Do not leave gaps between adjacent units. Layout of corners and curves shall be in accordance with manufacturer's recommendations.
C. Install shearconnecting devices per manufacturer's recommendations.
D. Place and compact drainage fill within and behind wall units. Place and compact backfill soil behind drainage fill. Follow wall erection and drainage fill closely with structure backfill.
E. Maximum stacked vertical height of wall units, prior to unit drainage fill and backfill placement and compaction, shall not exceed three courses.
- 3.04 Structural Geogrid Installation**
A. Geogrid shall be oriented with the highest strength axis perpendicular to the wall alignment.
B. Geogrid reinforcement shall be placed at the strengths, lengths, and elevations shown on the construction design drawings or as directed by the Engineer.
C. The geogrid shall be laid horizontally on compacted backfill and attached to the modular wall units. Place the next course of modular concrete units over the geogrid. The geogrid shall be pulled taut, and anchored prior to
- 3.05 Reinforced Backfill Placement**
A. Reinforced backfill shall be placed, spread, and compacted in such a manner that minimizes the development of slack in the geogrid and installation damage.
B. Reinforced backfill shall be placed and compacted in lifts not to exceed 6 inches where hand compaction is used, or 8 - 10 inches where heavy compaction equipment is used. Lift thickness shall be decreased to achieve the required density as required.
C. Reinforced backfill shall be compacted to 95% of the maximum density as determined by ASTM D688. The moisture content of the backfill material prior to and during compaction shall be uniformly distributed throughout each layer and shall be + 3% to - 3% of optimum.
D. Only lightweight hand-operated equipment shall be allowed within 3 feet from the tail of the modular concrete unit.
E. Tracked construction equipment shall not be operated directly upon the geogrid reinforcement. A minimum fill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Tracked vehicle turning should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.
F. Rubber lined equipment may pass over geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and sharp turning shall be avoided.
G. At the end of each day's operation, the Contractor shall slope the tail fill of reinforced backfill away from the wall units to direct runoff away from wall face. The Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.
- 3.06 Cap Installation**
A. Cap units shall be glued to underlying units with an all-weather adhesive recommended by the manufacturer.
- 3.07 Field Quality Control**
A. The Owner shall engage inspection and testing services, including independent laboratories, to provide quality assurance and testing services during construction.
B. As a minimum, quality assurance testing should include foundation soil inspection, soil and backfill testing, verification of design parameters, and observation of construction for general compliance with design drawings and specifications.



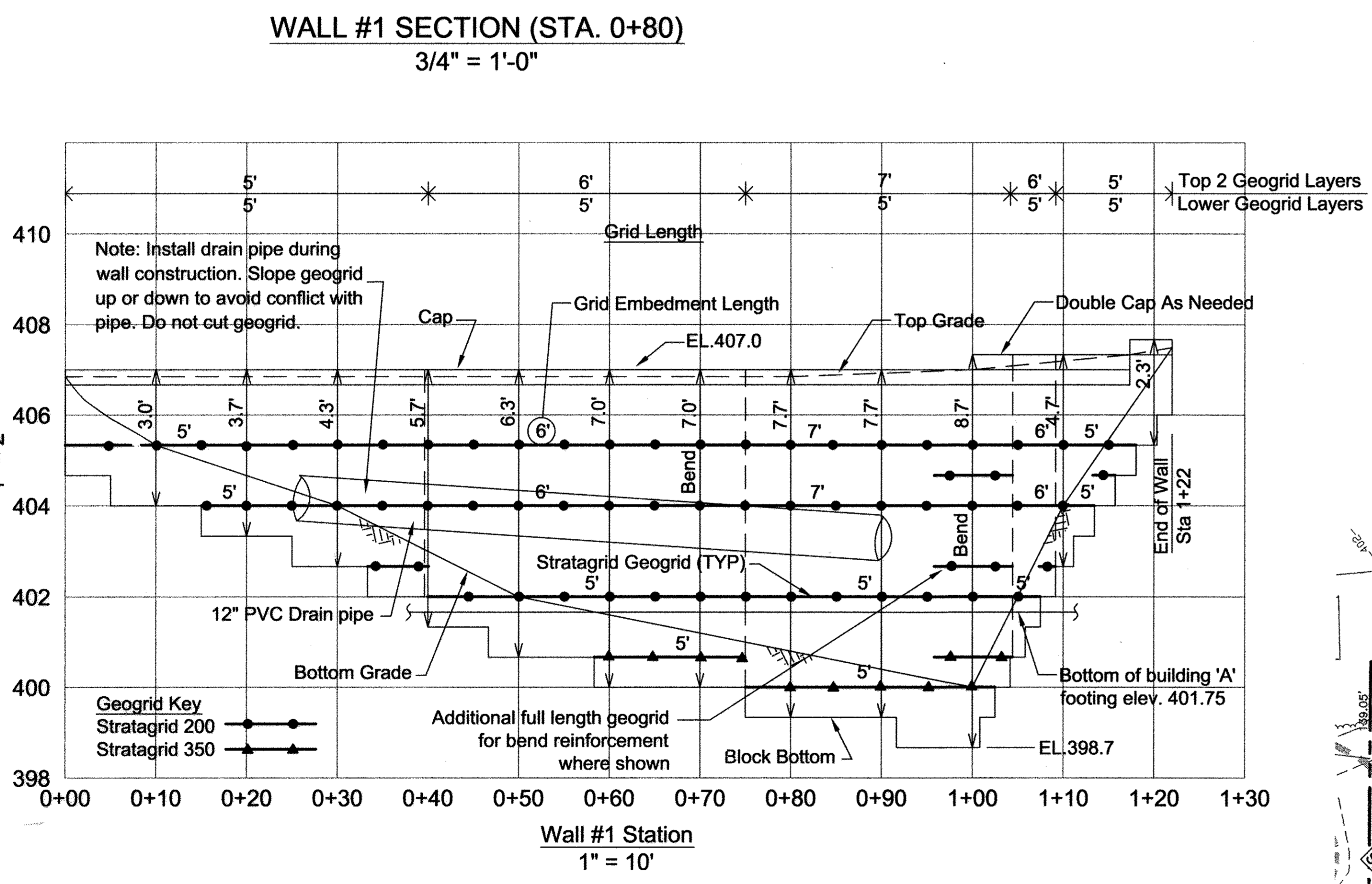
TYPICAL WALL SECTION
N.T.S.

Note:
Install drain pipe during wall construction. Trim block within 1" of pipe. Pack voids around pipe 3" deep with 3000 psi mortar



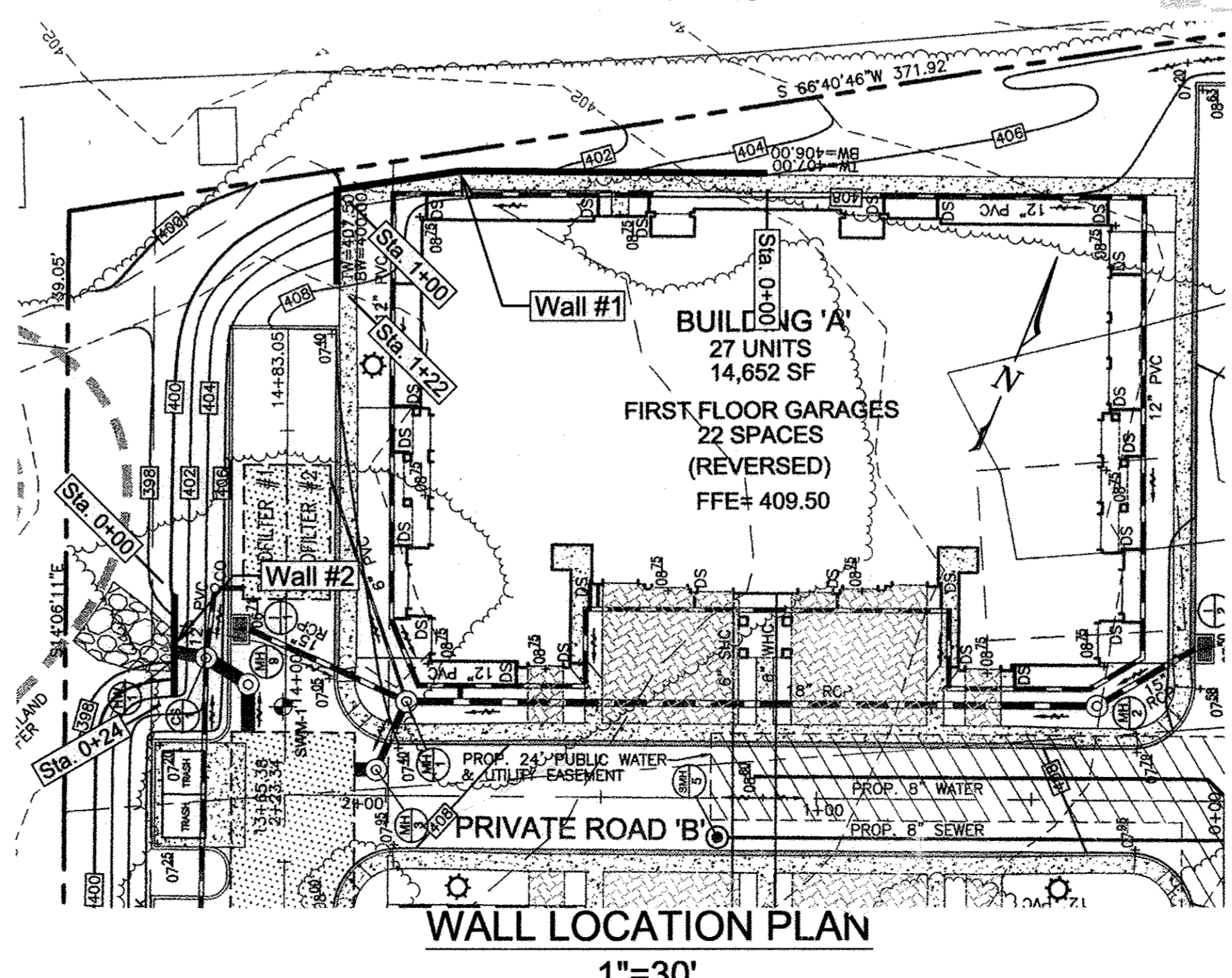
AS-BUILT CERTIFICATION
I hereby certify that the facility shown on this plan was constructed as shown on the "as-built" plans and meets the approved plans and specifications.

Signature: _____
Date: 12/13/15



- NOTES:**
- No trees shall be planted within 10 feet of the top of the retaining wall.
 - Retaining walls shall only be constructed under the observation of a registered professional engineer and a (NICET, WACEL, or equiv.) certified soils technician.
 - The required bearing pressure beneath the wall system shall be verified in the field by a certified soils technician. Testing documentation must be provided to the Howard County Inspector prior to start of construction. The required bearing test shall be the Dynamic Cone Penetrometer test ASTM STP-399.
 - The suitability of fill material shall be confirmed by the on-site soils technician. Each 8" lift must be compacted to a minimum 95% standard proctor density and the testing report shall be made available to the Howard County Inspector upon completion of construction.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
1/2/07
DATE
12/10/15
DATE



STATE OF MARYLAND
Professional Engineer
Signature: _____
Date: 12/13/15

OWNER / DEVELOPER
BEAZER HOMES CORPORATION
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
(301) 621-8151

NO.	REVISION	DATE

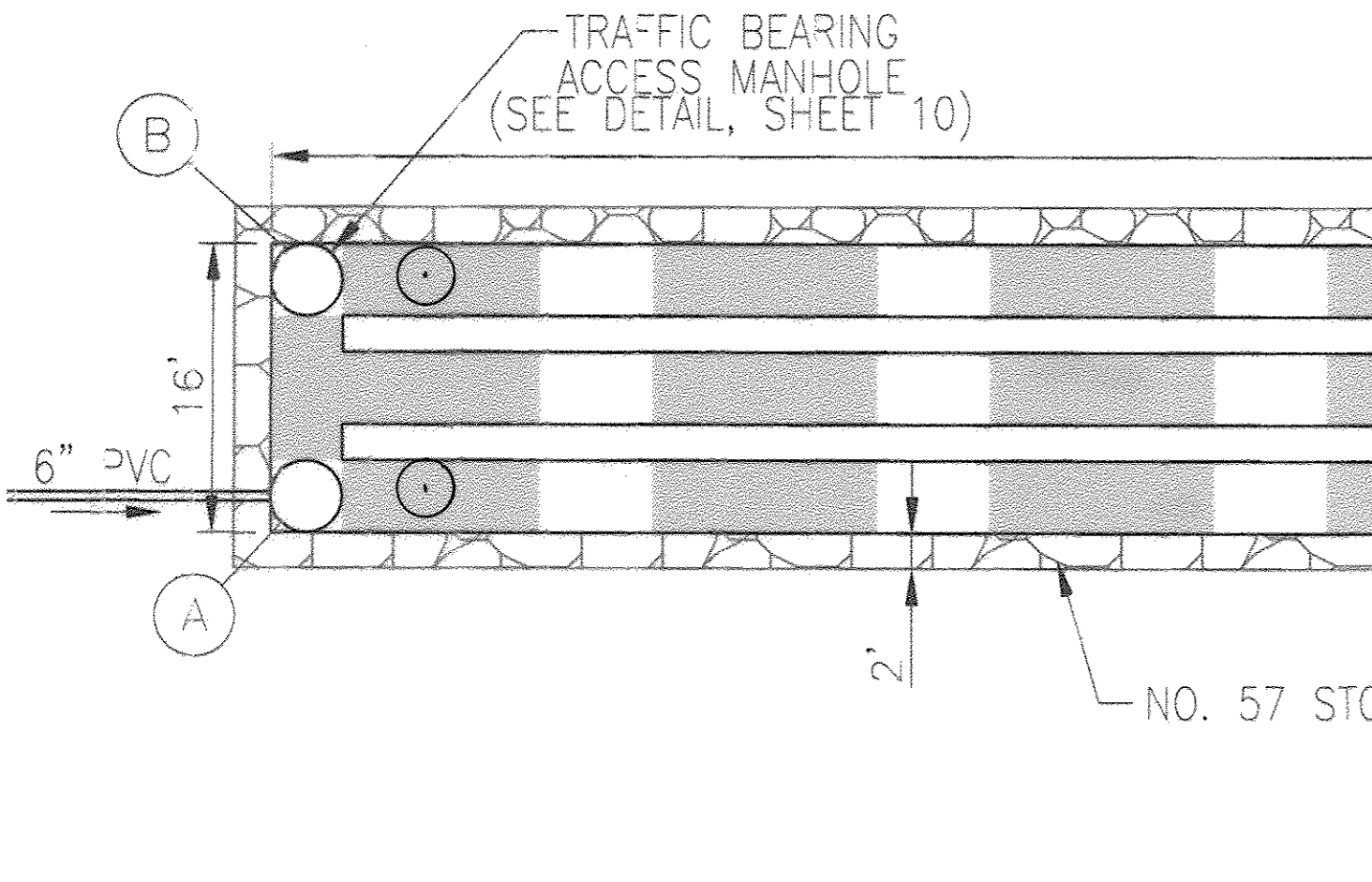
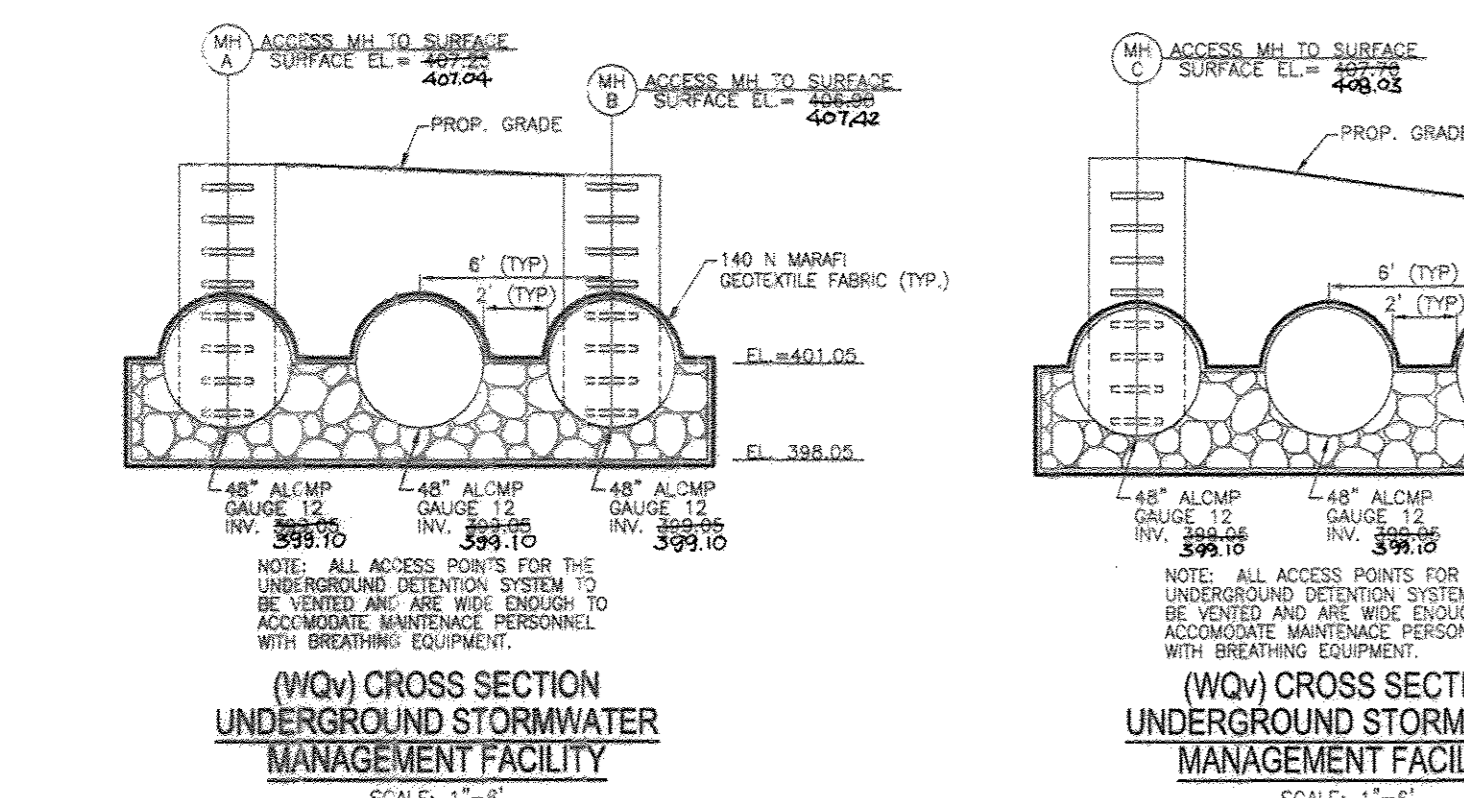
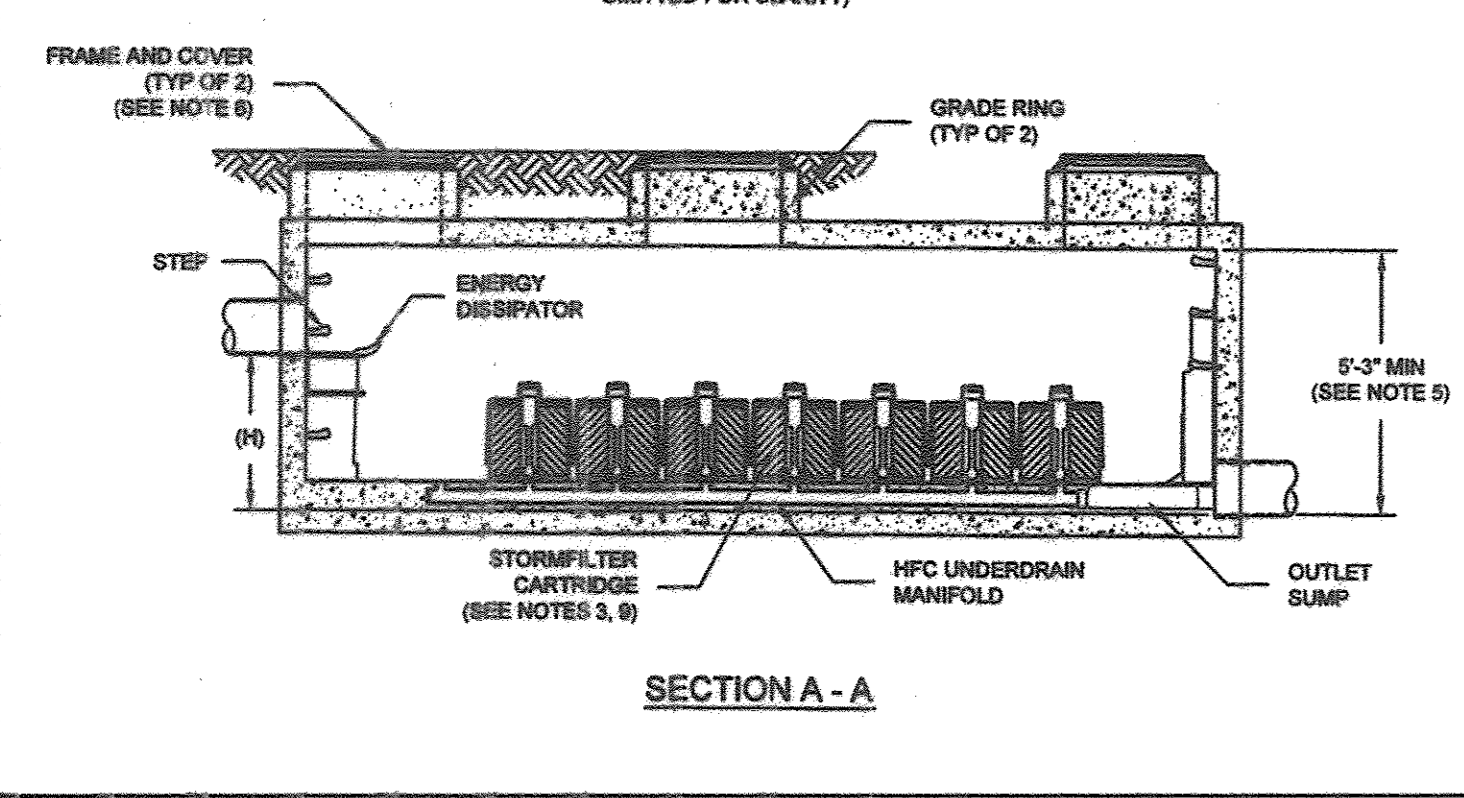
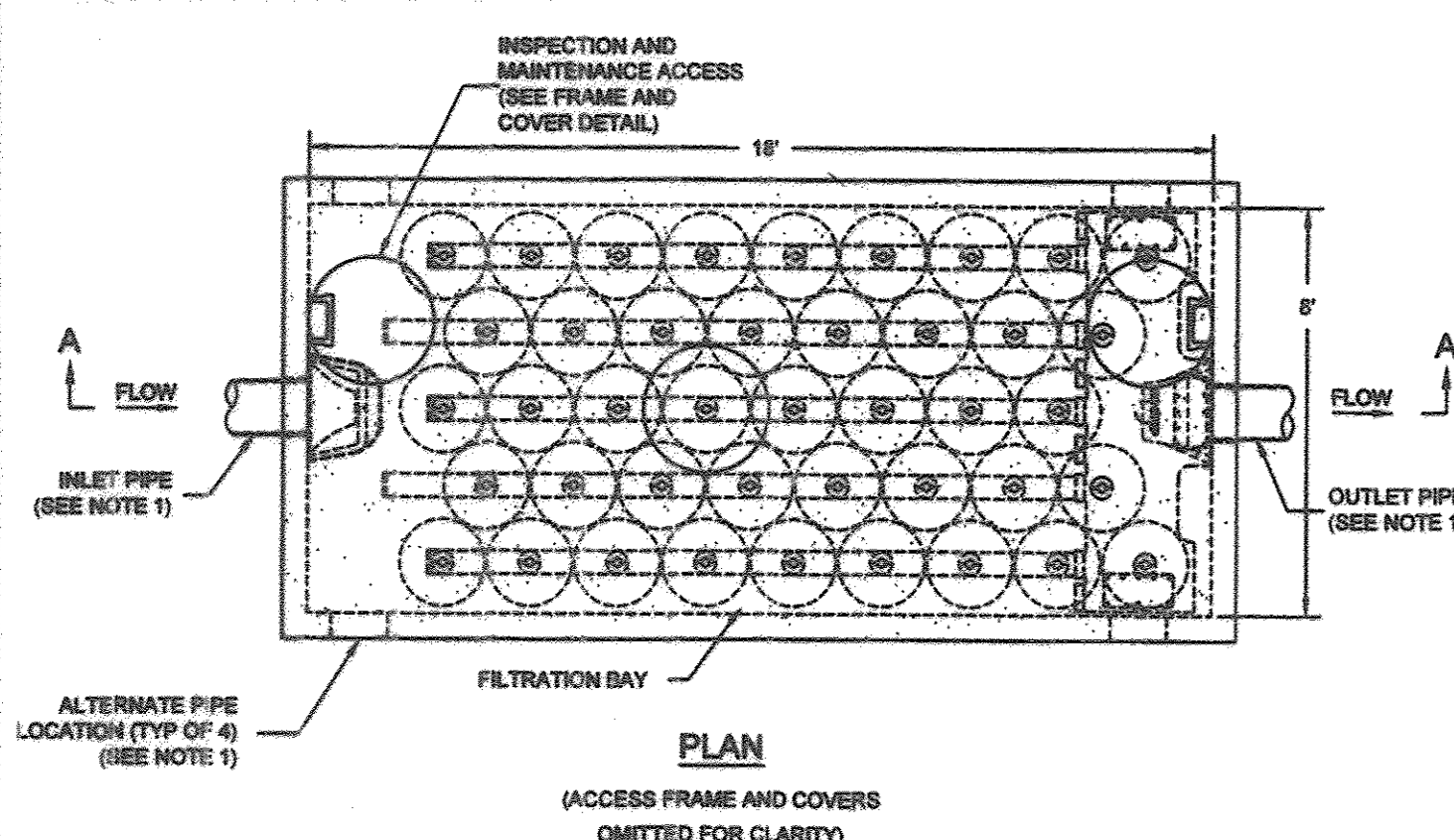
RETAINING WALL DETAILS
THE GATHERINGS AT JEFFERSON PLACE
PARCEL A - PHASE I & II
AGE RESTRICTED ADULT HOUSING
TAX MAP 24 GRID 24 PARCELS 318, 319, 320 & 731
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

HILLIS-CARNES
ENGINEERING ASSOCIATES
10975 Guilford Road, Suite A
(410) 880-4788

DESIGN BY: CX
DRAWN BY: CX
CHECKED BY: RWS
DATE: OCTOBER 2005
SCALE: AS SHOWN
JOB NO.: 0406SD

12 SHEET OF 12A

STORMFILTER DESIGN TABLE	
CARTRIDGE HEIGHT	18"
SYSTEM HYDRAULIC DROP (MIN)	2.3"
TREATMENT BY MEDIA SURFACE AREA	2 gpm/ft ² 2.3"
CARTRIDGE FLOW RATE (GPM)	15 7.5



- ### GENERAL NOTES
- INLET AND OUTLET PIPING SHALL BE SPECIFIED BY SITE CIVIL ENGINEER (SEE PLANS) AND PROVIDED BY CONTRACTOR. STORMFILTER IS PROVIDED WITH OPENINGS AT INLET AND OUTLET LOCATIONS.
 - IF THE PEAK FLOW RATE, AS DETERMINED BY THE SITE CIVIL ENGINEER, EXCEEDS THE PEAK HYDRAULIC CAPACITY OF THE PRODUCT, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED. PLEASE CONTACT CONTECH STORMWATER SOLUTIONS FOR OPTIONS.
 - THE FILTER CARTRIDGE(S) ARE SIPHON-ACTUATED AND SELF-CLEANING. THE STANDARD DETAIL DRAWING SHOWS THE MAXIMUM NUMBER OF CARTRIDGES. THE ACTUAL NUMBER SHALL BE SPECIFIED BY THE SITE CIVIL ENGINEER ON SITE PLANS OR IN DATA TABLE BELOW. PRECAST STRUCTURE TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C887 AND C888.
 - SEE STORMFILTER DESIGN TABLE FOR REQUIRED HYDRAULIC DROP. FOR SHALLOW, LOW DROP OR SPECIAL DESIGN CONSTRAINTS, CONTACT CONTECH STORMWATER SOLUTIONS FOR DESIGN OPTIONS.
 - ALL WATER QUALITY PRODUCTS REQUIRE PERIODIC MAINTENANCE AS OUTLINED IN THE O&M GUIDELINES. PROVIDE MINIMUM CLEARANCE FOR MAINTENANCE ACCESS.
 - STRUCTURE AND ACCESS COVERS TO MEET ASHTO H-20 LOAD RATING.
 - THE STRUCTURE THICKNESSES SHOWN ARE FOR REPRESENTATIONAL PURPOSES AND VARY REGIONALLY.
 - ANY BACKFILL DEPTH, SUB-BASE, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY SITE CIVIL ENGINEER.
 - STANDARD CARTRIDGE HEIGHT IS 18" (SHOWN). CARTRIDGE HEIGHT AND ASSOCIATED DESIGN PARAMETERS PER STORMFILTER DESIGN TABLE.
 - STORMFILTER BY CONTECH STORMWATER SOLUTIONS. (800) 925-5240.

SITE SPECIFIC DATA REQUIREMENTS

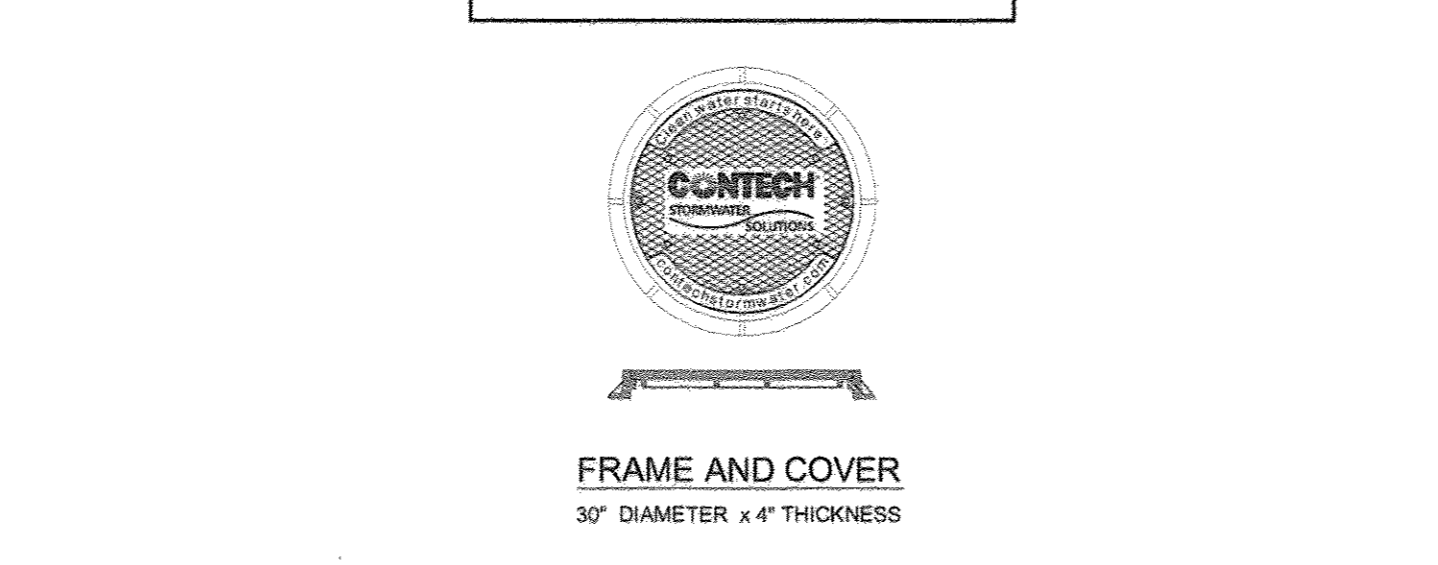
STRUCTURE ID	SF-1
WATER QUALITY VOLUME (cu. ft.)	10,448
PEAK FLOW RATE (cfs)	-
RETURN PERIOD OF PEAK FLOW (yrs)	-
# OF CARTRIDGES REQUIRED	42
CARTRIDGE FLOW RATE	7.5
MEDIA TYPE (SIF, PERLITE, ZPG)	CSP

PIPE DATA	1E	MATERIAL	DIAMETER
INLET PIPE #1	389.37	PVC	12"
INLET PIPE #2	-	-	-
OUTLET PIPE	387.21	PVC	12"

UPSTREAM RIM ELEVATION	406.36	406.23
CENTER RIM ELEVATION	407.05	-
DOWNSTREAM RIM ELEVATION	407.74	406.98

ANTI-FLOTATION BALLAST WIDTH HEIGHT

NOTES-SPECIAL REQUIREMENTS:
* PER SITE CIVIL ENGINEER



THE STORMWATER MANAGEMENT STORMFILTER®
8' x 18' STORMFILTER - STANDARD DETAIL
The Gatherings at Jefferson Place

This drawing and/or electronic file shall not be modified without the approval of CONTECH Stormwater Solutions. This product may be protected by one or more of the following US patents: 5,322,629; 5,624,976; 5,707,527; 5,985,157; 6,027,639; 6,449,048; related foreign patents, or other patents pending.

STORM FILTER Maintenance Guidelines

The primary purpose of the Stormwater Management StormFilter® is to filter out and prevent pollutants from entering our waterways. Like any effective filtration system, periodically these pollutants must be removed to restore the StormFilter to full efficiency and effectiveness.

Maintenance activities and frequency are dependent on the pollutant load characteristics of each site. Maintenance activities may be required in the event of a chemical spill or due to excessive sediment loading from site erosion or extreme storms. It is a good practice to inspect the system after major storm events.

Maintenance Frequency

The primary factor controlling timing of maintenance of the StormFilter is sediment loading.

A properly functioning system will remove solids from water by trapping particulates in the porous structure of the filter media inside the cartridges. The flow through the system will naturally decrease as more and more particulates are trapped. Eventually the flow through the cartridges will be low enough to require replacement. It may be possible to extend the usable span of the cartridges by removing sediment from upstream trapping devices on a routine as-needed basis in order to prevent material from being suspended and discharged to the StormFilter treatment system.

Site conditions greatly influence maintenance requirements. StormFilter units located in areas with erosion or active construction may need to be inspected and maintained more often than those with fully established surface conditions.

The maintenance frequency may be adjusted as additional monitoring information becomes available during the inspection program. Areas that develop known problems should be inspected more frequently than areas that demonstrate no problems, particularly after major storms. Ultimately, inspection and maintenance activities should be scheduled based on the historic records and characteristics of an individual StormFilter system or site. It is recommended that the site owner develop a database to properly manage StormFilter inspection and maintenance programs.

Inspection and Maintenance Timing

At least one scheduled inspection should take place per year with maintenance following as warranted.

First, an inspection should be done before the winter season. During the inspection the need for maintenance should be determined and, if disposal during maintenance will be required, samples of the accumulated sediments and media should be obtained.

Second, if warranted, a maintenance (replacement of the filter cartridge and removal of accumulated sediment) should be performed during period of dry weather.

Inspection Procedures

The primary goal of an inspection is to assess the condition of the cartridges relative to the level of visual sediment loading as it relates to decreased treatment capacity. It may be desirable to conduct this inspection during a storm to observe the relative flow through the filter cartridges. If the submerged cartridges are severely plugged, then typically large amounts of sediments will be present and very little flow will be discharged from the drainage pipes. If this is the case, then maintenance is warranted and the cartridges need to be replaced.

Warning: In the case of a spill, the worker should abort inspection activities until the proper guidance is obtained. Notify the local hazard control agency and CONTECH Stormwater Solutions immediately.

Inspection Procedures

1. If applicable, set up safety equipment to protect and notify surrounding vehicles and pedestrian traffic.

2. Visually inspect the external condition of the unit and take notes concerning defects/problems.

Maintenance Decision Tree

The need for maintenance is typically based on results of the inspection. The following Maintenance Decision Tree should be used as a general guide. (Other factors, such as Regulatory Requirements, may need to be considered)

- Sediment loading on the vault floor.
 - If >4" of accumulated sediment, maintenance is required.
- Sediment loading on top of the cartridge.
 - If >1/4" of accumulation, maintenance is required.
- Submerged cartridges.
 - If >4" of static water in the cartridge bay for more than 24 hours after end of rain event, maintenance is required.
- Plugged media.
 - If pore space between media granules is absent, maintenance is required.
- Bypass condition.
 - If inspection is conducted during an average rain fall event and StormFilter remains in bypass condition (water over the internal outlet baffle wall or submerged cartridges), maintenance is required.
- Hazardous material release.
 - If hazardous material release (automotive fluids or other) is reported, maintenance is required.
- Pronounced sump line.
 - If pronounced sump line (say > 1/4" thick) is present above top cap, maintenance is required.
- Calendar Lifecycle.
 - If system has not been maintained for 3 years maintenance is required.

Maintenance Procedures

Although there are many effective maintenance options, we believe the following procedure is efficient and can be implemented using common equipment and existing maintenance protocols. A two step procedure is recommended as follows:

- Inspection
- Maintenance

Inspection

Inspector of the vault interior to determine the need for maintenance.

Cartridge replacement

Sediment removal

Inspection and Maintenance Timing

At least one scheduled inspection should take place per year with maintenance following as warranted.

Inspection

One time per year

After major storms

Maintenance

As needed, based on results of inspection (The average maintenance lifecycle is approximately 1-3 years)

Per Regulatory requirement

In the event of a chemical spill

Frequencies should be updated as required. The recommended initial frequency for inspection is one time per year. StormFilter units should be inspected after major storms.

Inspection

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- Remove safety equipment.
- If appropriate, make notes about the local drainage area relative to ongoing construction, erosion problems, or high loading of other materials to the system.
- Discuss conditions that suggest maintenance and make decision as to whether or not maintenance is needed.

Maintenance Frequency

The primary factor controlling timing of maintenance of the StormFilter is sediment loading.

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Related Maintenance Activities - Performed on an as-needed basis

Stormfilter units are often just one of many structures in a more comprehensive stormwater drainage and treatment system.

In order for maintenance of the StormFilter to be successful, it is imperative that all other components be properly maintained. The maintenance/repair of upstream facilities should be carried out prior to StormFilter maintenance activities.

In addition to considering upstream facilities, it is also important to correct any problems identified in the drainage area. Drainage area concerns may include: erosion problems, heavy oil loading, and discharge of inappropriate materials.

Maintenance

Depending on the configuration of the particular system, maintenance personnel will be required to enter the vault to perform the maintenance.

Important: If vault entry is required, OSHA rules for confined space entry must be followed.

Filter cartridge replacement should occur during dry weather. It may be necessary to plug the filter inlet pipe if base flows is occurring.

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NO.	REVISION	DATE
1	REPLACE SANDFILTERS 1-5 WITH A STORM FILTER	3/10/09

SITE DEVELOPMENT PLAN
STORMWATER MANAGEMENT DETAILS
THE GATHERINGS AT JEFFERSON PLACE
PARCEL A - PHASE I
AGE RESTRICTED ADULT HOUSING
TAX MAP 24 GRID 24 PARCELS 318, 319, 320 & 731
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET, SUITE 21043 COLUMBIA, MD 21046
TEL: 410-461-7966 FAX: 410-461-8966

DESIGN BY: RHL/JUCO
DRAWN BY: LJT/JUCO
CHECKED BY: RRV
DATE: MAY 2006
SCALE: AS SHOWN
W.O. NO.: 05-01-00

12A SHEET OF 12A

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chief, Development Engineering Division
Chief, Division of Land Development
Director, DEP.

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
USDA-NATURAL RESOURCES CONSERVATION SERVICE
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

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.

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.

OWNER / DEVELOPER
BEAZER HOMES CORPORATION
8965 GULFORD ROAD
SUITE 290
COLUMBIA, MD 21046
(301) 621-8151

