

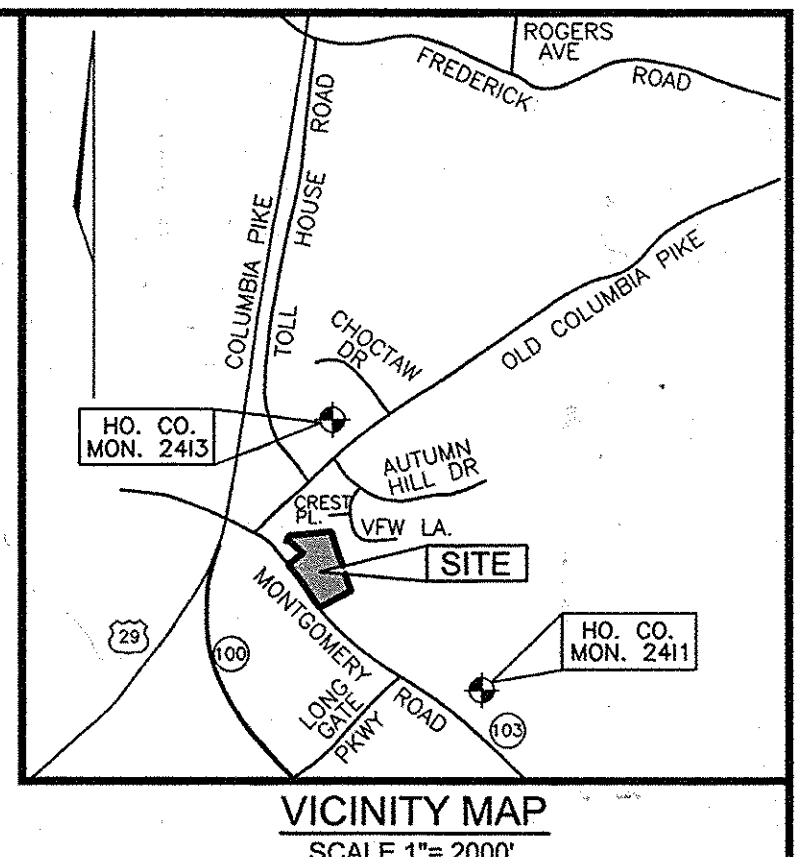
GENERAL NOTES

- 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: 313-2666
 VERIZON CABLE LOCATION SERVICES: 393-3553
 B.G. & E. CO. CONTRACTOR DIVISION: 850-4620
 B.G. & 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 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS, OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS, PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD 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 ECO-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.
- APPO 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 REQUIREMENTS FOR THIS PROJECT HAS BEEN FULFILLED BY THE PAYMENT OF \$23,740.20 FOR THE 1.05 AC OF REFORESTATION.
- 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. WQV AND REV 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 321 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 10660 FOLIO 220 AMONG THE LAND RECORDS OF HOWARD COUNTY.
- WP-05-103 WAS APPROVED ON MAY 10, 2005, SUBJECT TO THE FOLLOWING CONDITIONS:
 1. COMPLY WITH ALL REQUIREMENTS OF THE PRELIMINARY STAGE EITHER WITH THE FINAL PLAN/PLAT OR THIS SITE DEVELOPMENT PLAN STAGE, AS APPROPRIATE.
 2. COMPLY WITH THE ATTACHED HEALTH DEPARTMENT ISSUES CONCERNING ABANDONMENT OF WELL AND SEPTIC SYSTEMS.
 3. SUBMIT A SINGLE (NOT PHASED) FINAL PLAN/PLAT BETWEEN JULY 1, 2005 AND AUGUST 28, 2005. THE FINAL PLANS ARE FOR WATER AND SEWER. THE FINAL PLATS ARE FOR ROAD CONSOLIDATION, MD ROUTE 103 ROAD DEDICATION AND EASEMENTS.
 4. ONCE THE FINAL PLAT IS RECORDED, THE MILESTONE DATE WILL BE ESTABLISHED FOR SUBMISSION OF SINGLE SITE DEVELOPMENT PLAN FOR THE BULK PARCEL CREATED BY THE RECORD PLAT.
- WP-06-033 WAS APPROVED ON NOVEMBER 1, 2005, SUBJECT TO THE FOLLOWING CONDITIONS:
 1. 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.
 2. TENTATIVE HOUSING UNIT ALLOCATIONS FOR THIS PROJECT ARE HEREBY GRANTED AS FOLLOWS:
 A. 75 FOR PHASE I FOR THE YEAR 2008 IN THE ELLICOTT CITY PLANNING AREA
 B. 55 FOR PHASE II FOR THE YEAR 2009 IN THE SENIOR EAST PLANNING AREA
 5 ADDITIONAL UNITS ARE ACCOUNTED FOR BASED ON EXISTING RESIDENTIAL DWELLINGS.
 3. SDP-06-05 SHALL BE REVISED TO ONLY REPRESENT PHASE I IN "SOLID" LINES AND FUTURE PHASE II IN "DASHED".
 4. THE PHASE I UNIT ALLOCATIONS WILL BECOME PERMANENT AT THE TIME THE SDP-06-05 PLAN ORIGINALS RECEIVE SIGNATURE APPROVAL.
 5. 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 REGIONS.
- 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.
- RE: PAR F-06-135
- THE MIHU AGREEMENT WAS RECORDED IN L.10711 F.94-16 AND THE MIHU COVENANTS AND RESTRICTIONS WERE RECORDED IN L.10711 F.97-101.
- REFERENCE AS-CASE 2005-02 APPROVED UNDER S-05-04 TO REDUCE 75' STRUCTURE SETBACK TO A RESIDENTIAL LOT IN THE R-20 ZONE TO 50'.

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

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	
PRESENT ZONING	PROPOSED USE	TYPE OF UNIT	TOTAL UNITS ALLOWED	TOTAL UNITS PROPOSED
R-SI	RESIDENTIAL	ARAH APARTMENT	135	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	DEED REFERENCE			
S-05-04, WP-05-103, F-89-197, WP-06-033, F-06-135	2137/323, 1328/228, 3859/458, 2082/730			

OPEN SPACE TABULATION CHART	
OPEN SPACE REQUIRED	NON-CREDITED OPEN SPACE PROVIDED
1.75 AC (25%)	0.62 AC
CREDITED OPEN SPACE PROVIDED	TOTAL OPEN SPACE PROVIDED
1.76 AC (25%)	2.37 AC

RECREATION OPEN SPACE TABULATION CHART	
COMMUNITY CENTER SPACE REQUIRED	COMMUNITY CENTER SPACE PROVIDED
20 SF/UNIT x 99 UNITS = 1980 SF 10 SF/UNIT x 36 UNITS = 360 SF 2340 SF REQUIRED	2,440 SF

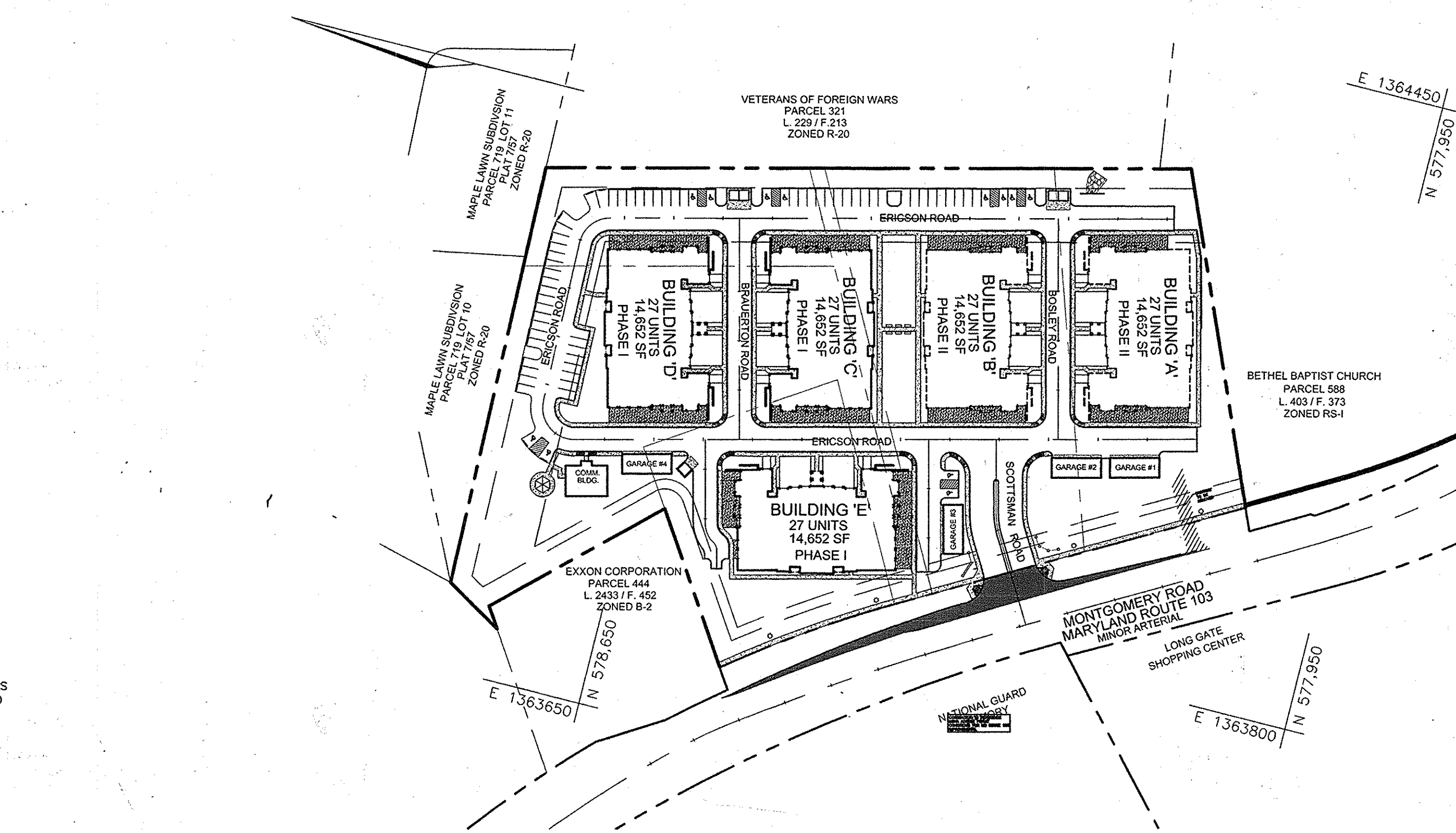
DENSITY TABULATION CHART			
GROSS AREA OF SITE	AREA OF FLOODPLAIN	TOTAL AREA OF STEEP SLOPES	STEEP SLOPES OUTSIDE FLOODPLAIN
318,031 SF (7.30 AC)	NA	NA	NA
RIGHT-OF-WAY DEDICATION	NET AREA OF SITE	TOTAL UNITS ALLOWED	TOTAL UNITS PROPOSED
NA	304,963 SF (7.00 AC)	175 (25 X 7.00 AC)	135

PERMIT INFORMATION CHART					
SUBDIVISION NAME	SECTION/AREA	LOT / PARCEL NO.	TAX MAP	GRID NO.	ZONE
MONTGOMERY ROAD	NA	318, 319, 320, 731	24	24	R-SI
PLAT REF.	TAX MAP	GRID NO.	ZONE	ELECT. DIST.	CENSUS TR.
10872-73	24	24	R-SI	2ND	6028.01
WATER CODE:	SEWER CODE:				
F09	5750615				

MODERATE INCOME HOUSING UNITS TABULATION			
PHASE I MODERATE HOUSING UNITS REQUIRED	PHASE II MODERATE HOUSING UNITS REQUIRED	PHASE I MODERATE HOUSING UNITS PROVIDED	PHASE II MODERATE HOUSING UNITS PROVIDED
80 UNITS x 1.0% = 8 UNITS	55 UNITS x 1.0% = 6 UNITS	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		

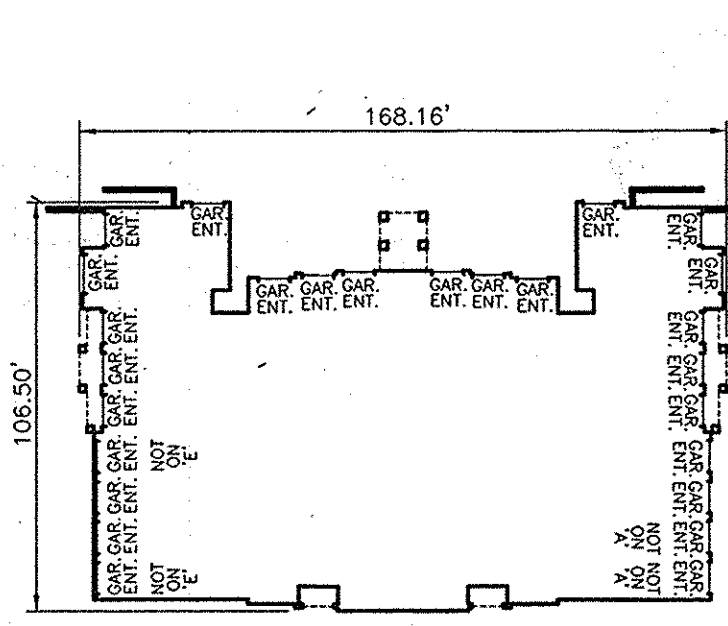
PARKING TABULATION CHART		
TOTAL SPACES REQUIRED*	SPACES WITHIN APT. BLDGS.	
176 SPACES (1.3 SPACES PER UNIT)	26 OR 24 SPACES EACH (1 HANDICAP) = 126	
SPACES IN DETACHED GARAGES	COMMON PARKING AREA SPACES	TOTAL SPACES PROVIDED
15 SPACES	15 SPACES	217 SPACES
*1 SPACE PER UNIT (REQUIRED BY THE ZONING REGULATIONS) AND 0.3 SPACES PER UNIT IS REQUIRED BY THE DESIGN MANUAL.		

NO.	REVISION	DATE
2	REVISE PLAN TO ADD 44' X 22' THREE SEASON ROOMS	7/22/15
1	REPLACE SAND FILTERS 1-5 WITH A STORM FILTER, REVISE STORM DRAIN	3/10/09



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'

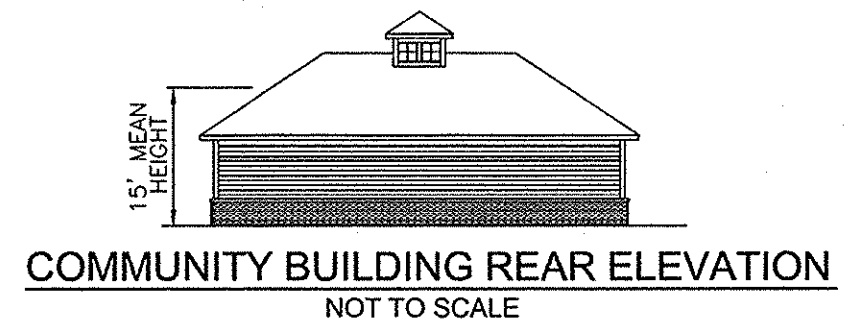
NOTE: BUILDING 'C' WILL HAVE 26 LIVABLE UNITS AND 1 STORAGE UNIT IN PHASE I. THE STORAGE UNIT WILL BE CONVERTED TO LIVABLE AT PHASE II.
 *INCLUDES 5 UNITS WHICH ACCOUNT FOR THE 5 DWELLINGS THAT WERE REMOVED FROM THIS SITE.



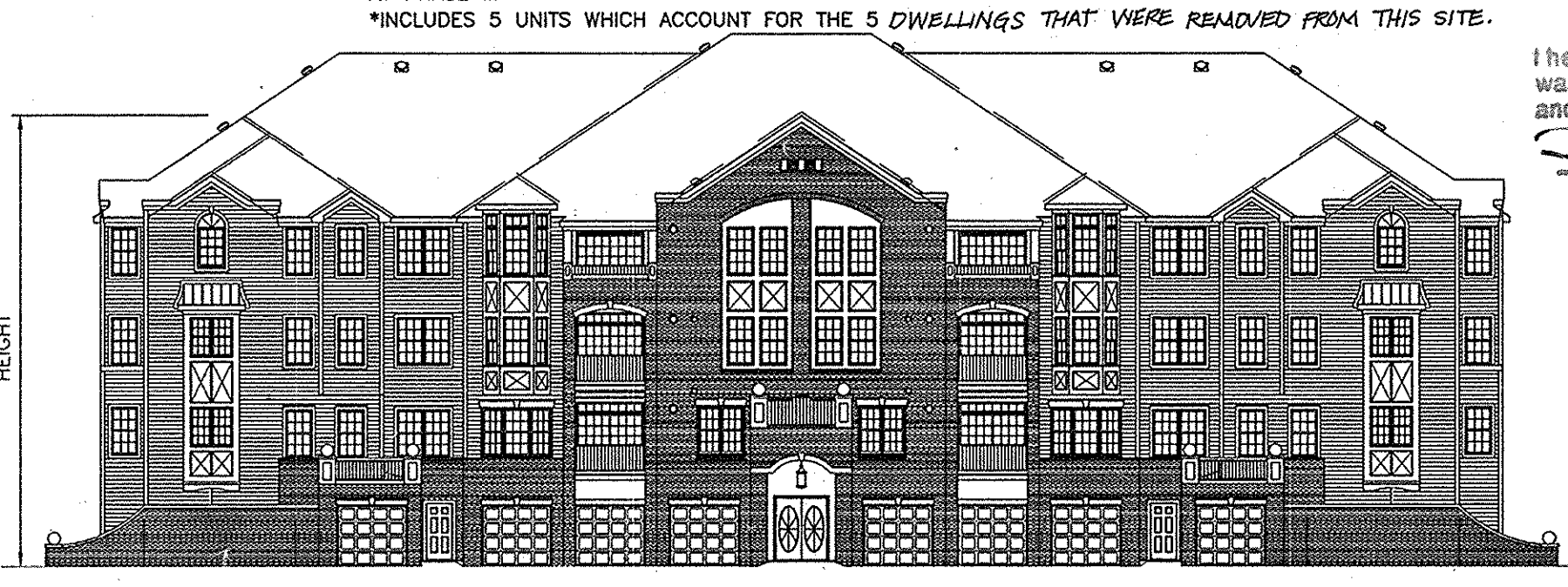
APARTMENT/CONDO PLAN SCALE: 1"=50'



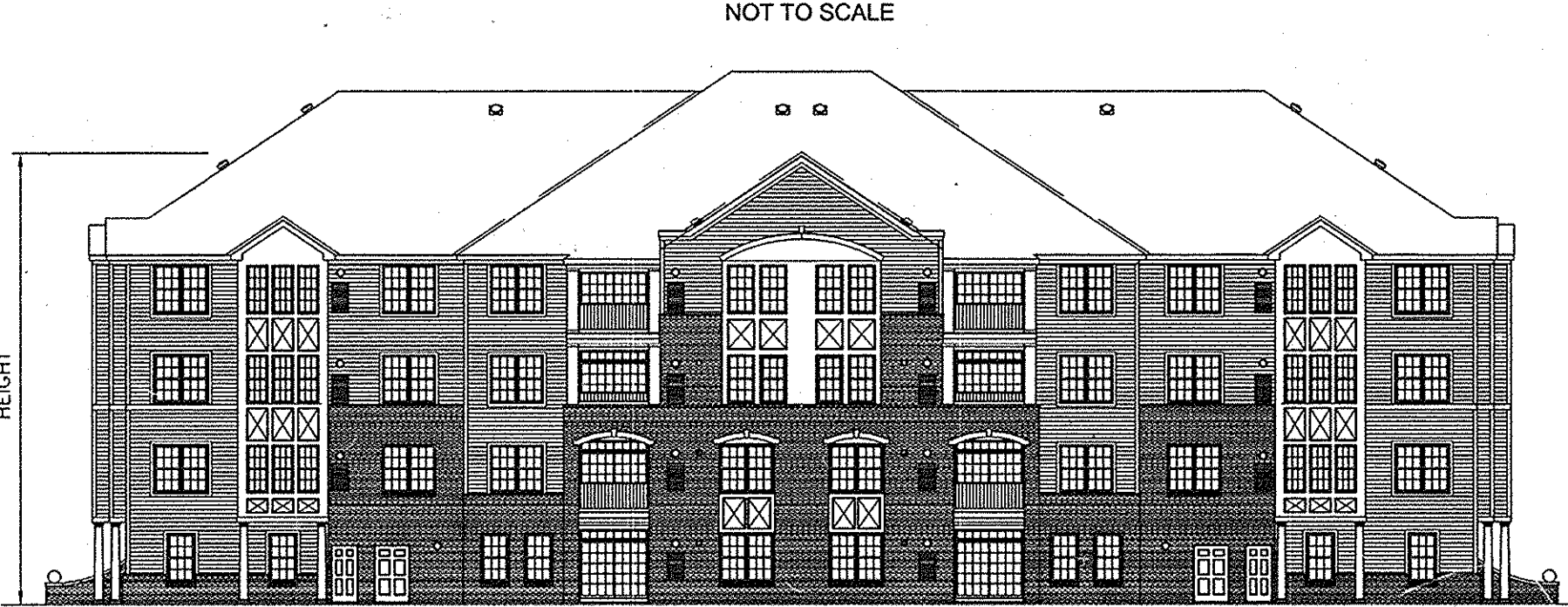
COMMUNITY BUILDING FRONT ELEVATION NOT TO SCALE



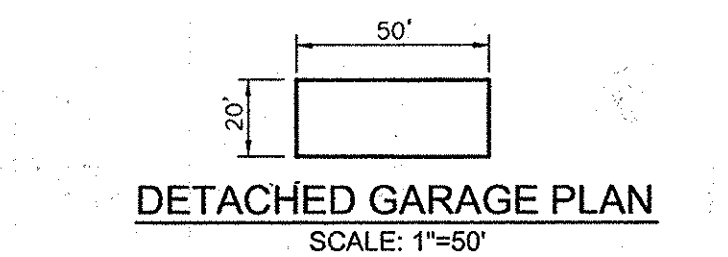
COMMUNITY BUILDING REAR ELEVATION NOT TO SCALE



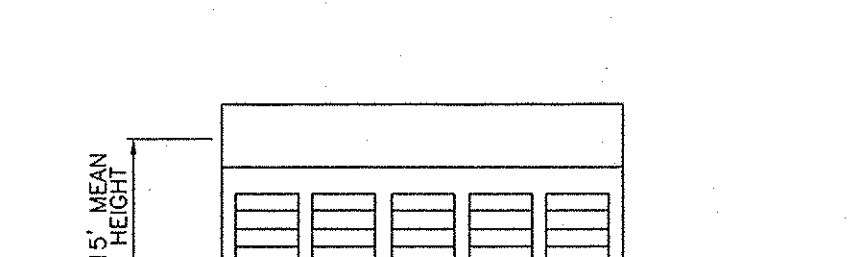
APARTMENT/CONDO FRONT ELEVATION NOT TO SCALE



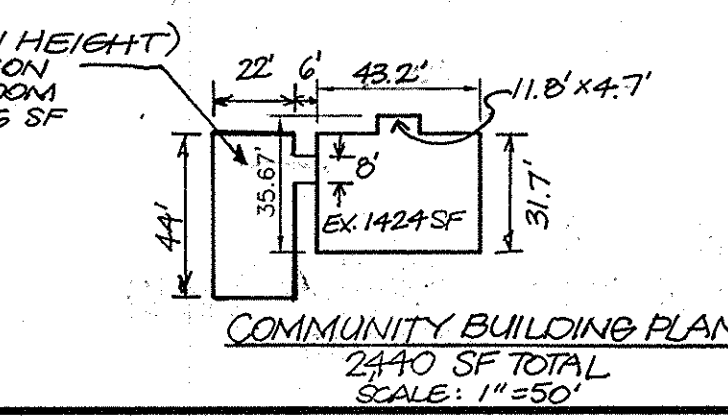
APARTMENT/CONDO REAR ELEVATION NOT TO SCALE



DETACHED GARAGE PLAN SCALE: 1"=50'



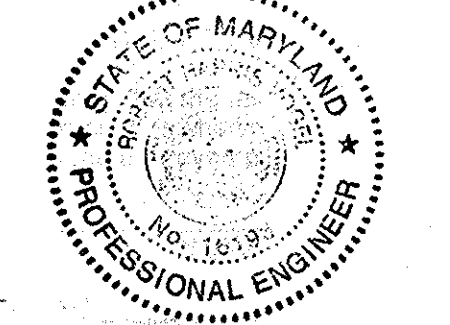
DETACHED GARAGE FRONT ELEVATION NOT TO SCALE



COMMUNITY BUILDING PLAN 2410 SF TOTAL SCALE: 1"=50'

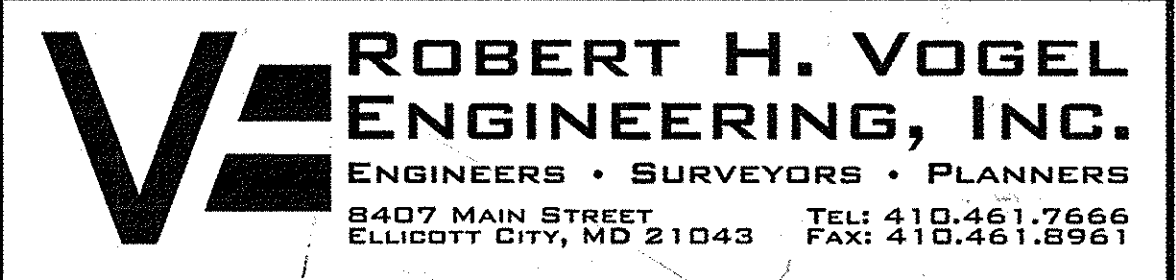
AS-BUILT CERTIFICATION
 I hereby certify that the facility shown on this plan was constructed as shown on the "as-built" plans and meets the approved plans and specifications.

Signature: [Signature]
 PE NO. 16193
 Date: 6/11/15



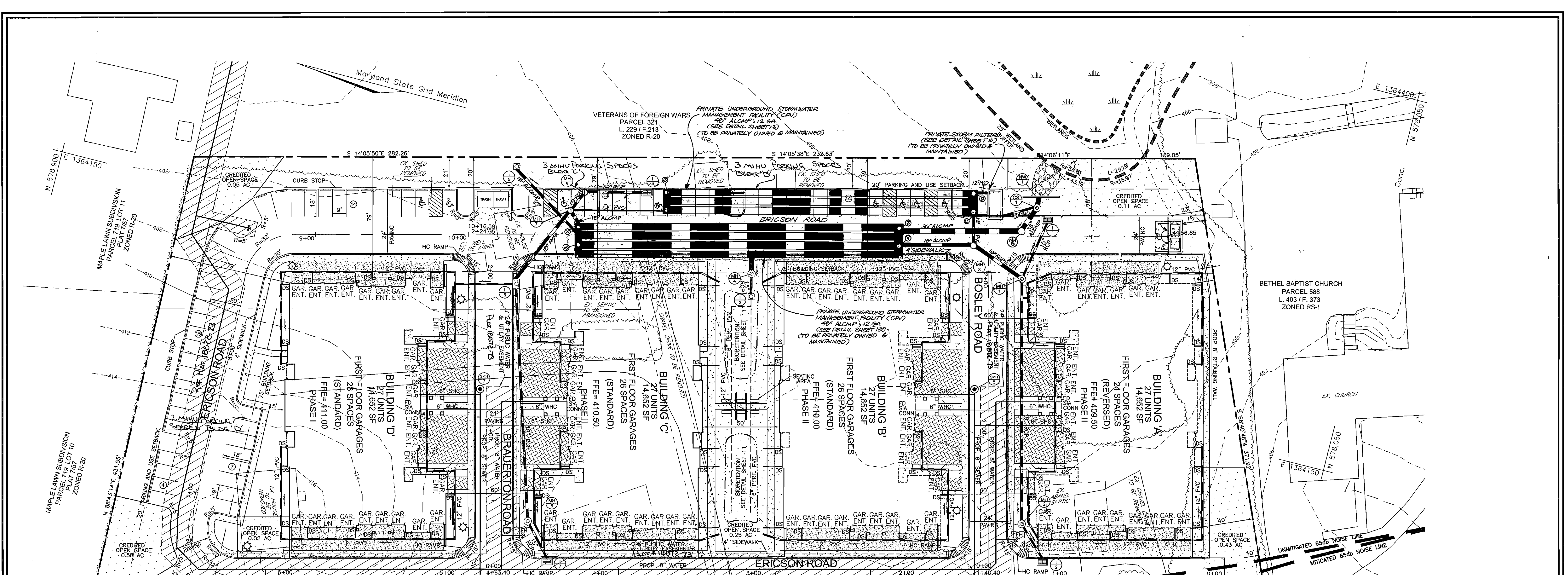
OWNER / DEVELOPER
 BEAZER HOMES CORPORATION
 8965 GULFORD ROAD
 SUITE 290
 COLUMBIA, MD 21046
 (301) 621-8151

SITE DEVELOPMENT PLAN
COVER SHEET
 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



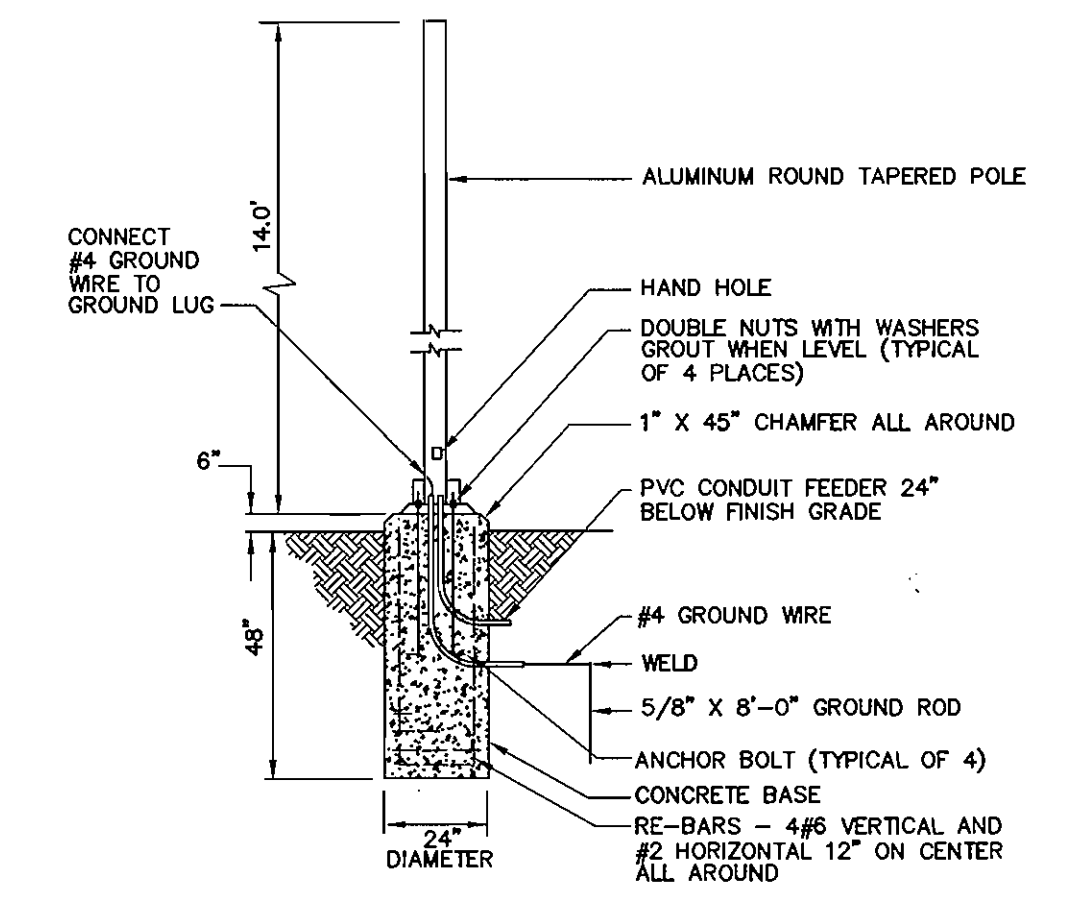
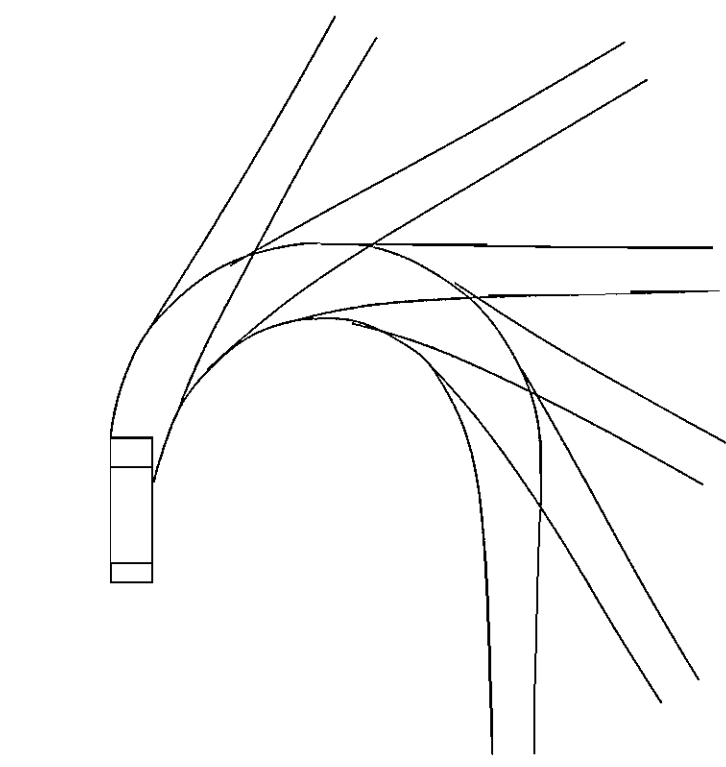
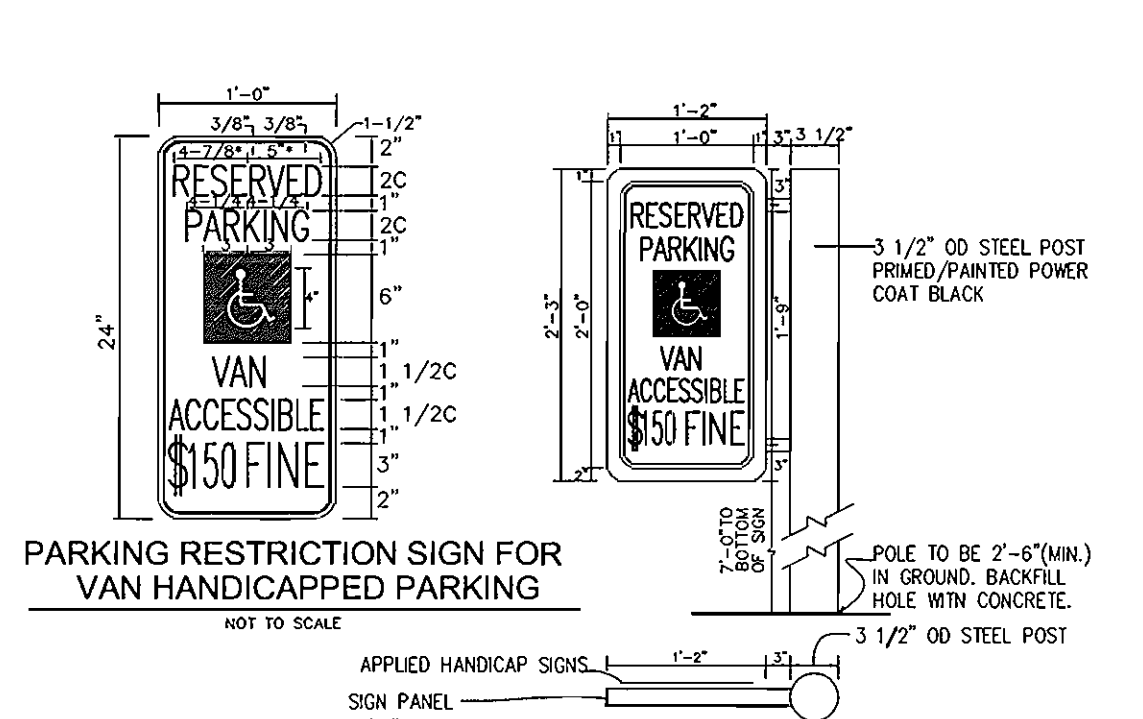
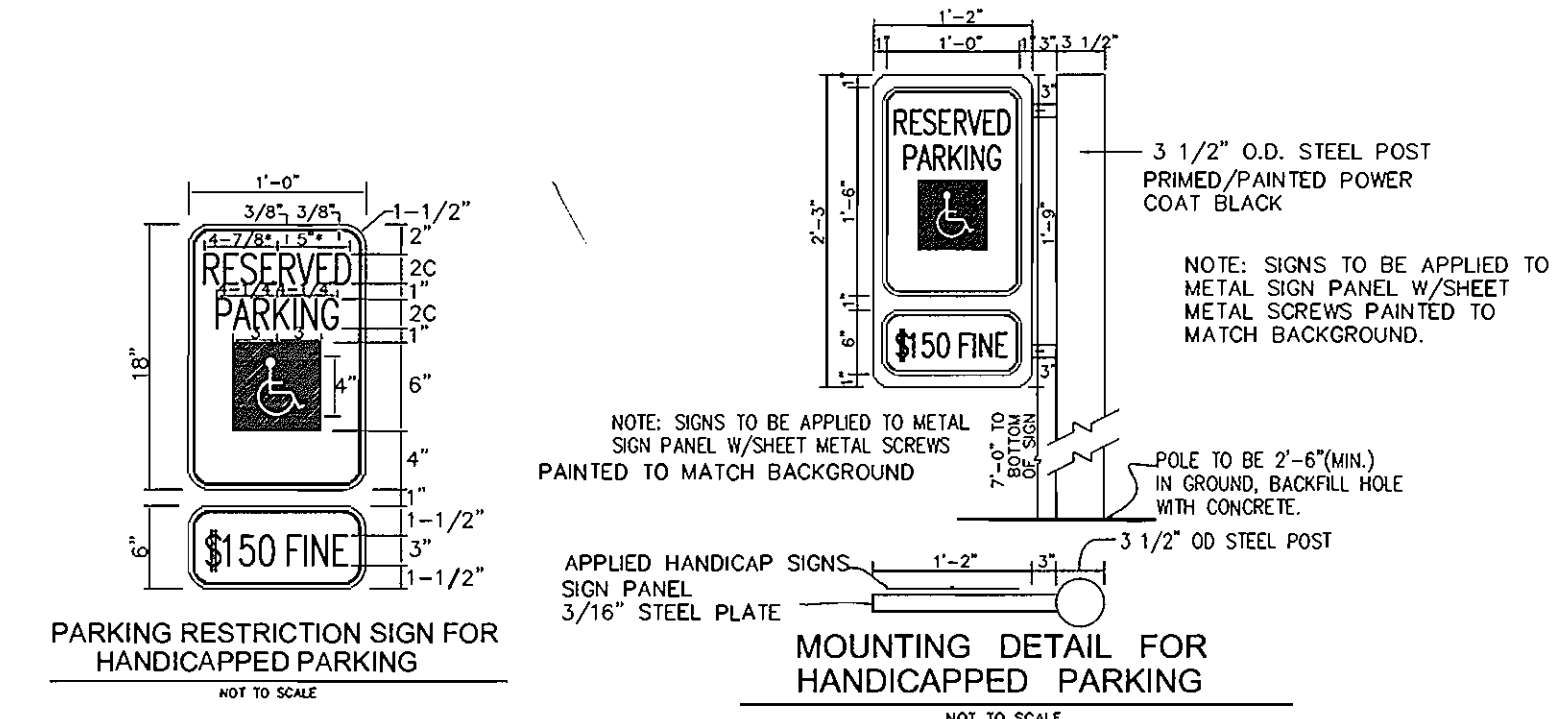
DESIGN BY: RHV/LIT/CO	
DRAWN BY: LIT/CO	
CHECKED BY: RHV	
DATE: MAY 2006	
SCALE: AS NOTED	
W.O. NO.: 05-01.00	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 11/3/08
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 4/18/10
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] 6/16/09
 DIRECTOR



MATCHLINE - SEE SHEET 3 OF 12

PLAN SCALE 1"=30'



POLE BASE DETAIL NO SCALE

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

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
- STREET LIGHT

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP
Mb2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
KsB2	KELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	D
NsB2	NESHAMINY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B

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 ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8951

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] 6/14/07 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

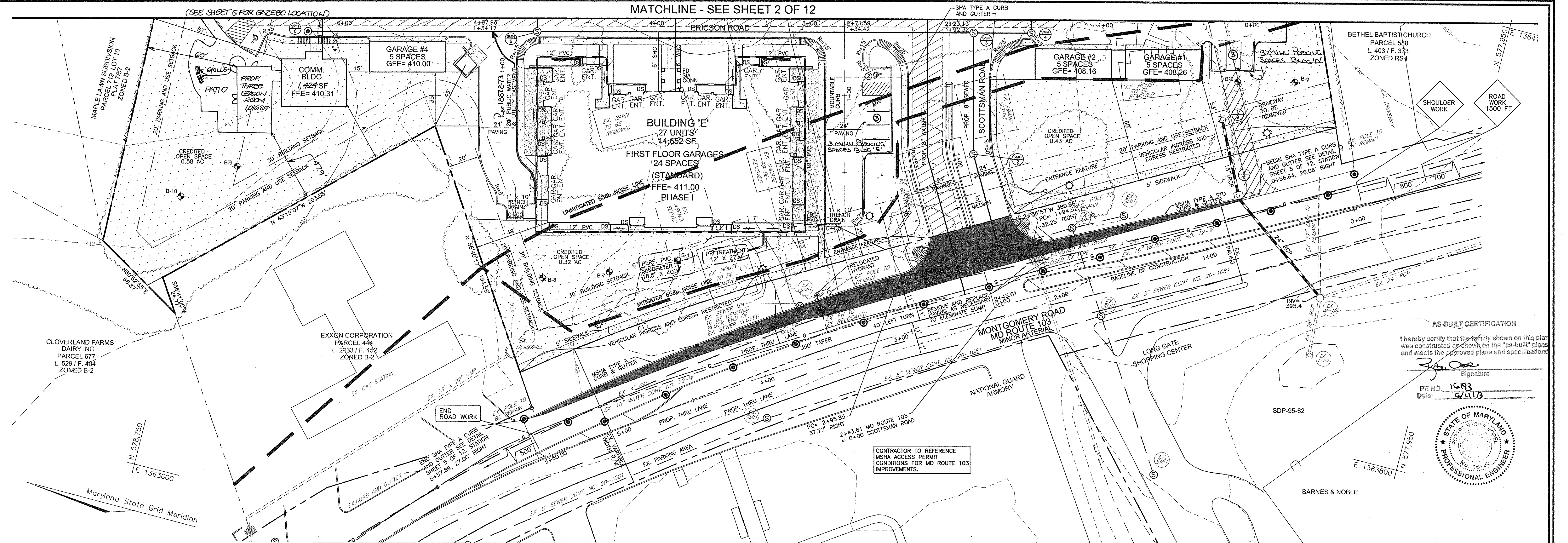
BEAZER HOMES CORPORATION
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
(301) 621-8151

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

2 SHEET OF 12A

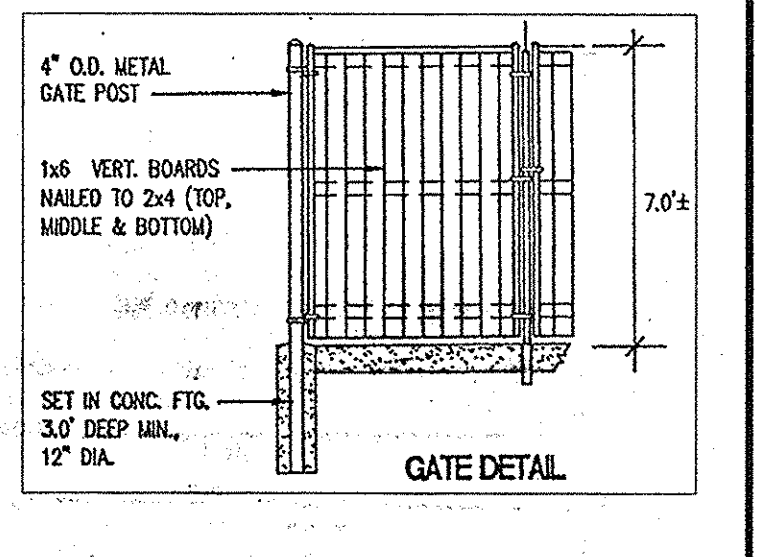
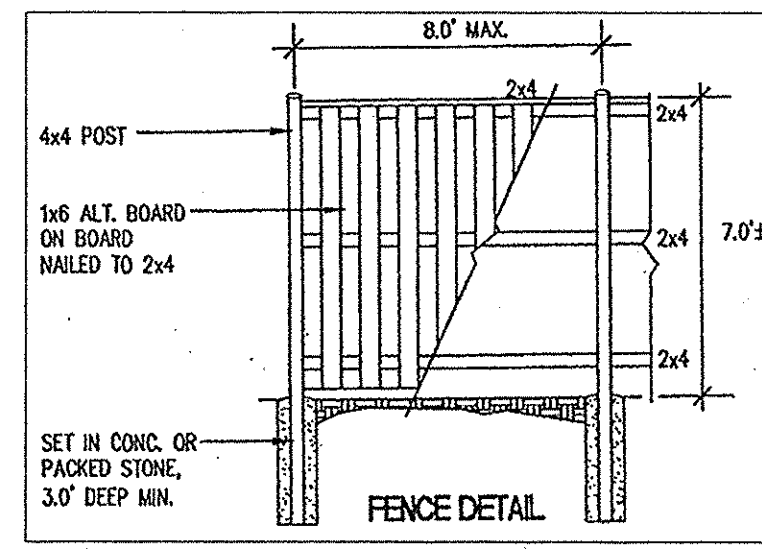
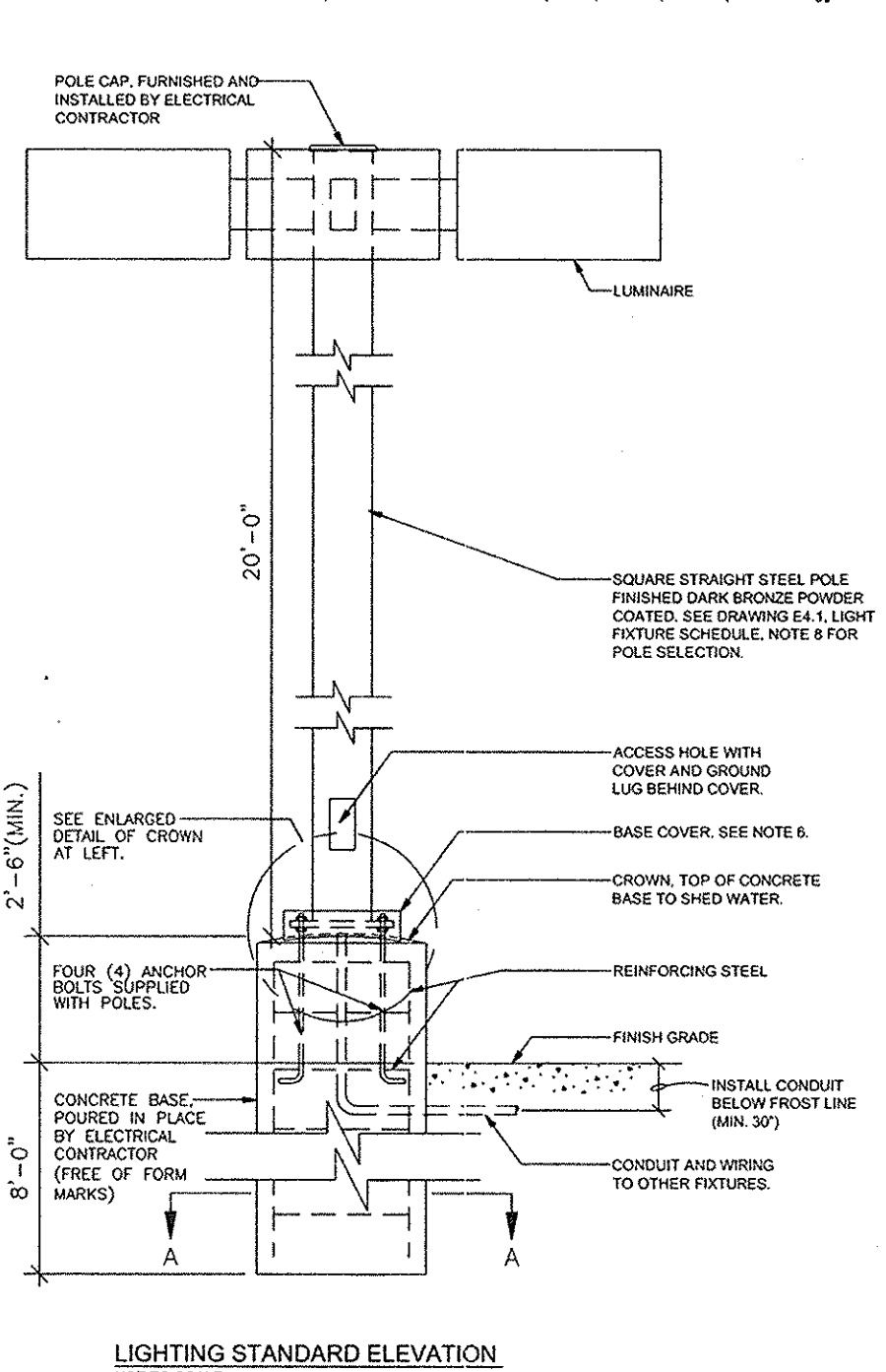
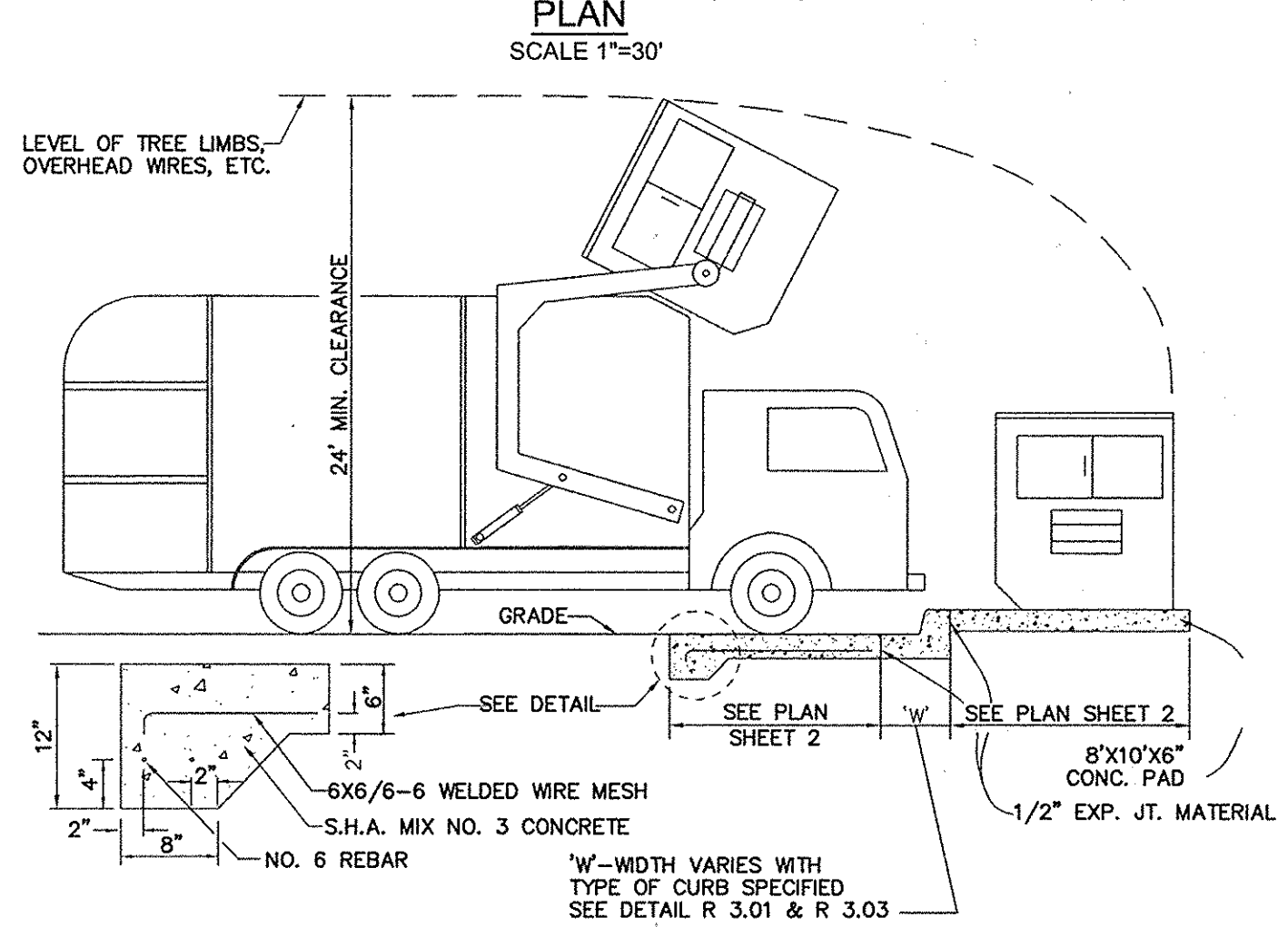
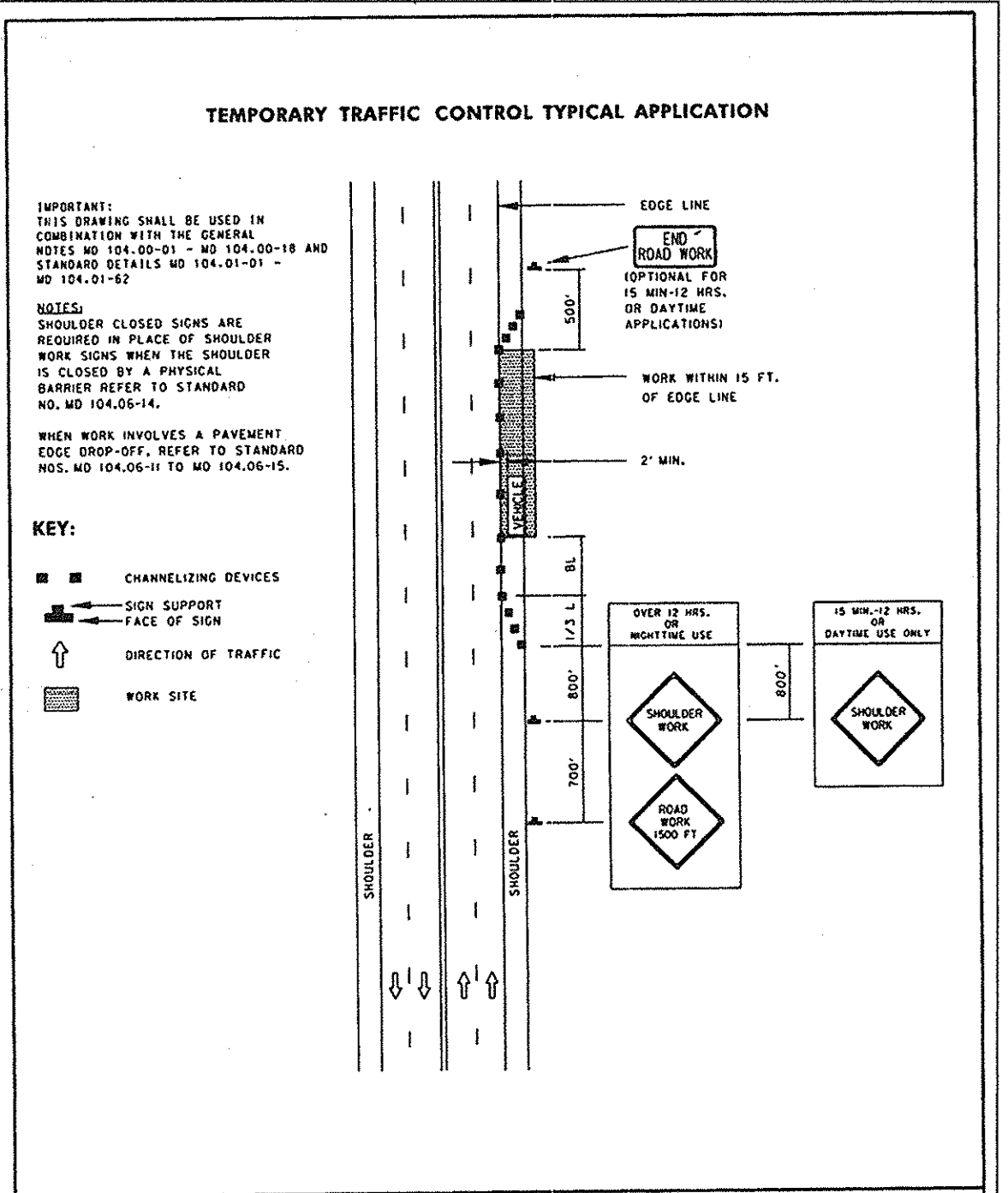
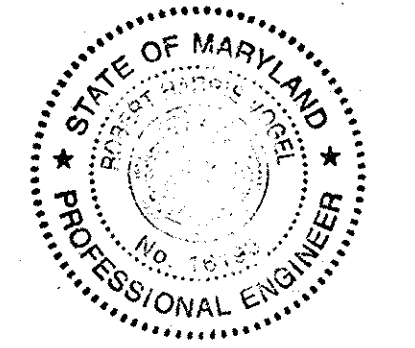
STATE OF MARYLAND PROFESSIONAL ENGINEER ROBERT H. VOGEL, PE #16193

MATCHLINE - SEE SHEET 2 OF 12



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: 6/11/15



TRASH ENCLOSURE DETAIL
NOT TO SCALE

NO.	REVISION	DATE
2	REVISE TO ADD 44'x22' THREE SEASON ROOM & PATIO	7/22/15

LEGEND

- 202--- EXISTING 2 FT CONTOUR
- 200--- EXISTING 10 FT CONTOUR
- --- SOIL TYPE DIVISION LINE
- --- EXISTING TRELISE
- WETLANDS
- BRICK PAVERS
- MACADAM PAVING
- PUBLIC WATER & UTILITY EASEMENT 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
KeB2	KELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	D
NeB2	NESHAMINY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

USDA-NATURAL RESOURCES CONSERVATION SERVICE

HOWARD SCD

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

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

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 AUTHORIZED PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

BEAZER HOMES

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, 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

HOWARD SCD

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

USDA-NATURAL RESOURCES CONSERVATION SERVICE

HOWARD SCD

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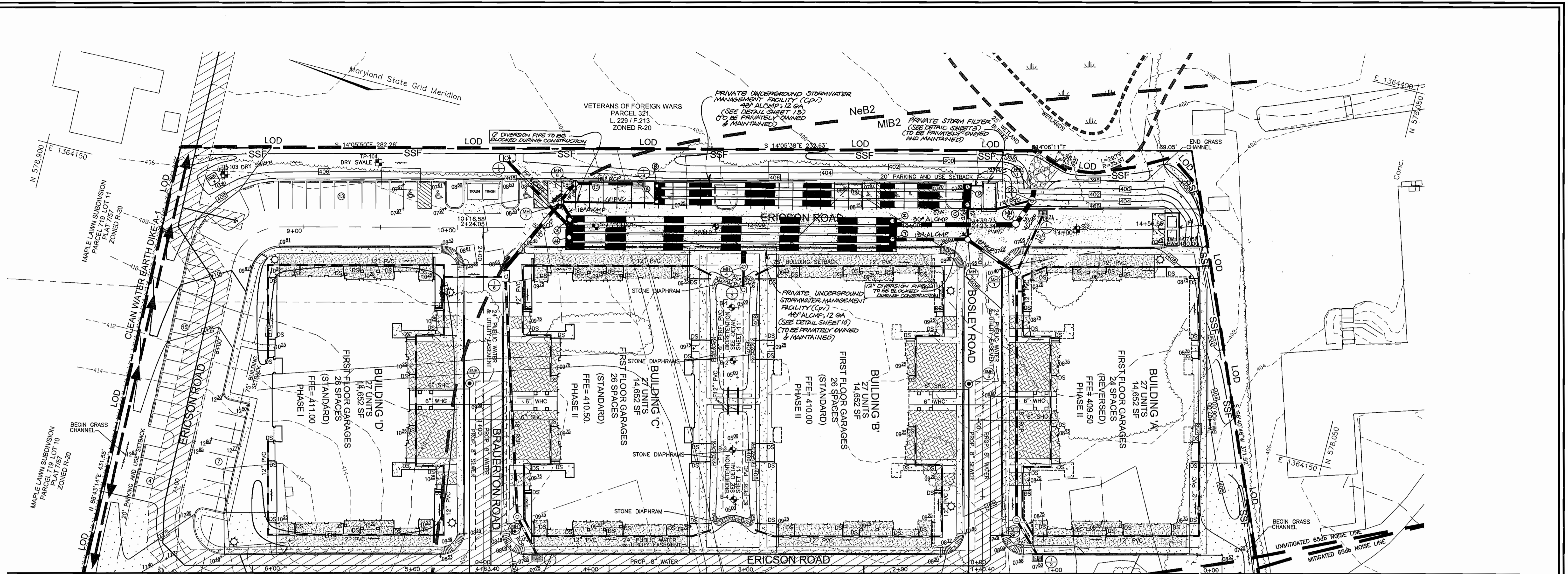
BEAZER HOMES

OWNER / DEVELOPER

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

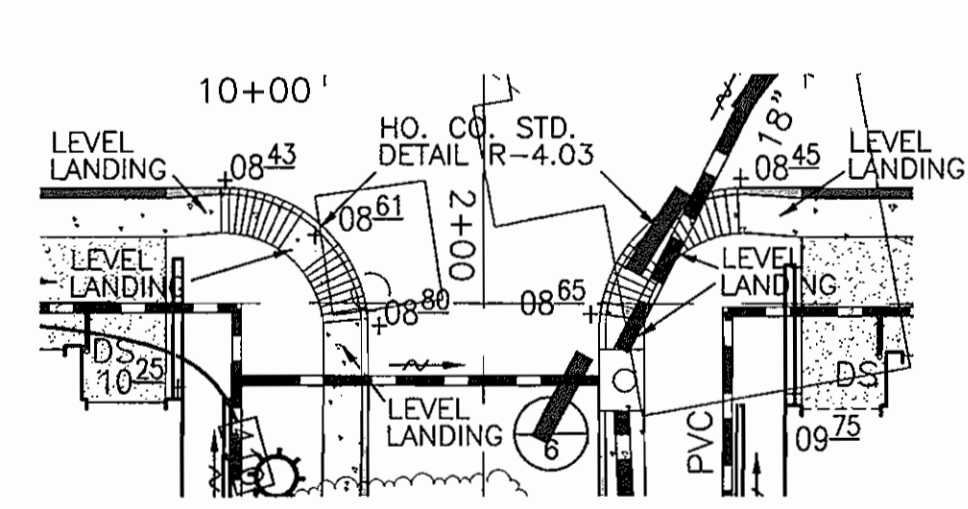
DESIGN BY: RHW/LTU/CO
DRAWN BY: LITU/CO
CHECKED BY: RHW
DATE: MAY 2006
SCALE: 1"=30'
W.O. NO.: 06-01-00

3 SHEET OF 12A

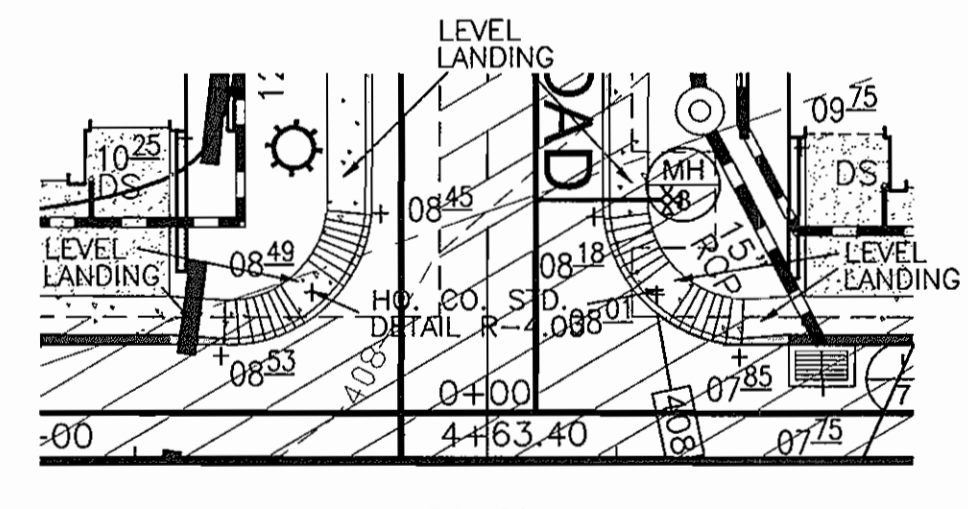


MATCHLINE - SEE SHEET 5 OF 12

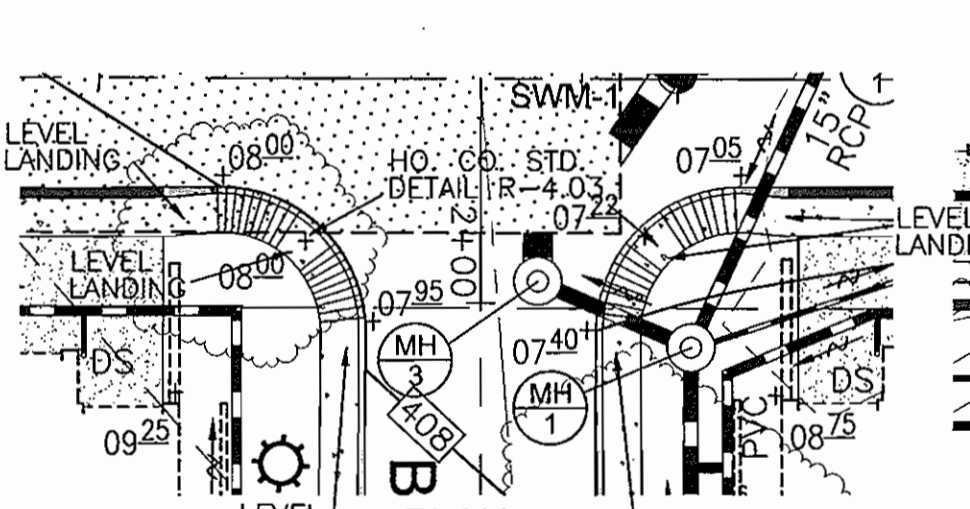
PLAN
SCALE 1"=30'



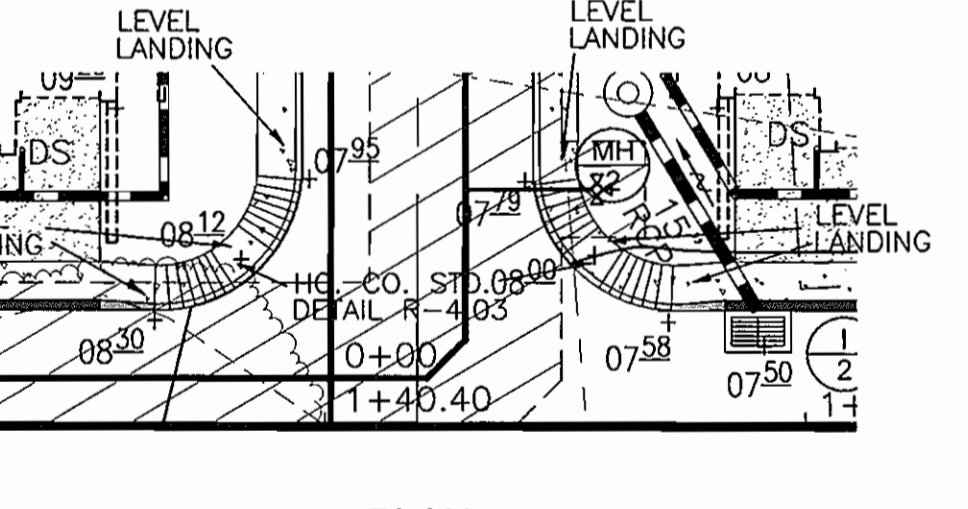
PLAN
SCALE 1"=20'



PLAN
SCALE 1"=20'



PLAN
SCALE 1"=20'



PLAN
SCALE 1"=20'

LEGEND

- 202--- EXISTING 2 FT CONTOUR
- 200--- EXISTING 10 FT CONTOUR
- 202--- 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
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SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP
MIB2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
KeB2	KELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	D
NeB2	NESHAMINY 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.

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] 1/2/07 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 6/18/07 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] 6/19/07 DATE
 DIRECTOR

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
 [Signature] 12/29/06 DATE
 USA - NATURAL RESOURCES CONSERVATION SERVICE
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
 [Signature] 12/29/06 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] 12/29/06 DATE
 ROBERT H. VOGEL, PE #16193

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

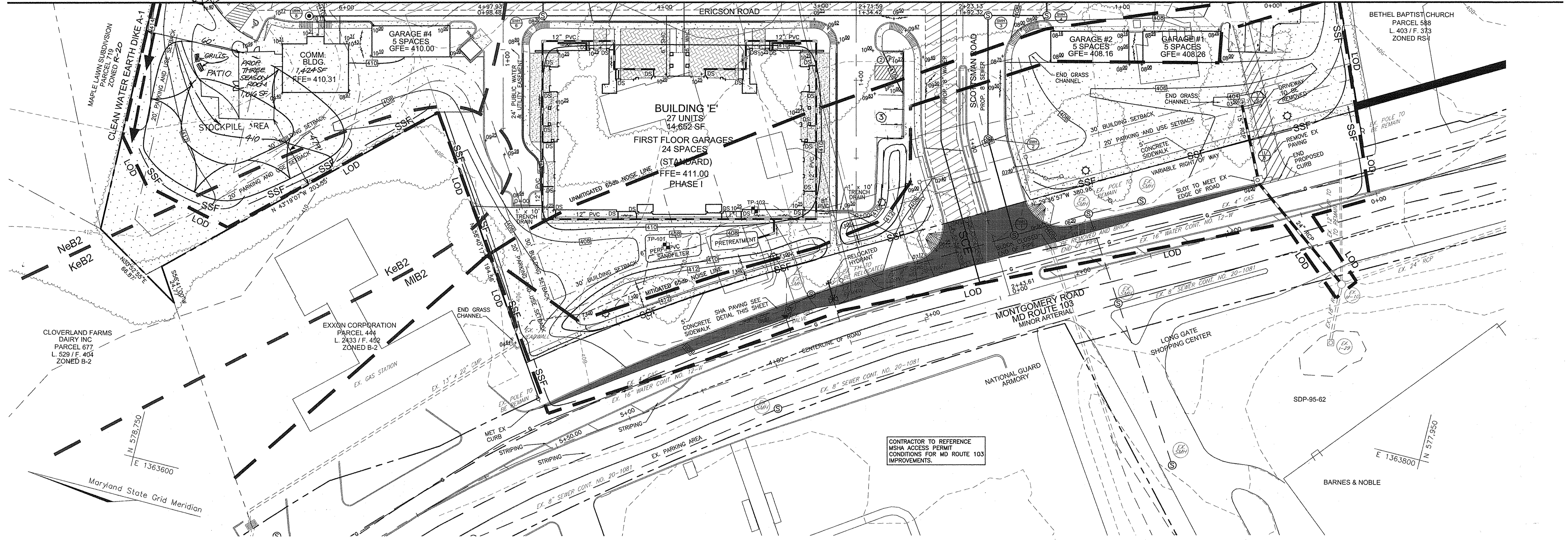
OWNER / DEVELOPER
 BEAZER HOMES CORPORATION
 8965 GUILFORD ROAD SUITE 290
 COLUMBIA, MD 21046
 (301) 621-8151

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

4 SHEET OF 12A

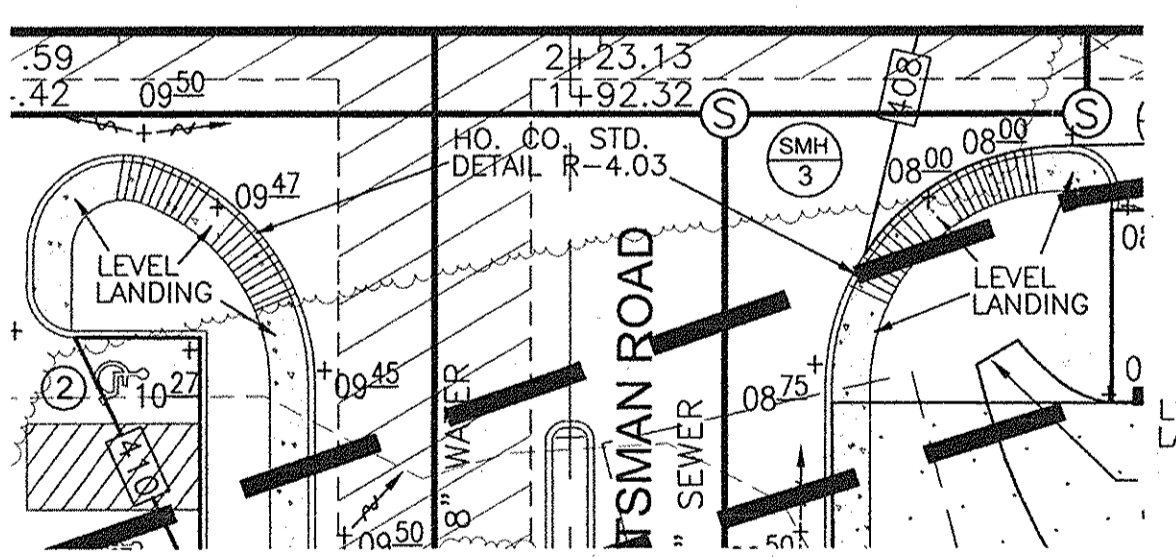
ROBERT H. VOGEL, PE #16193

MATCHLINE - SEE SHEET 4 OF 12



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

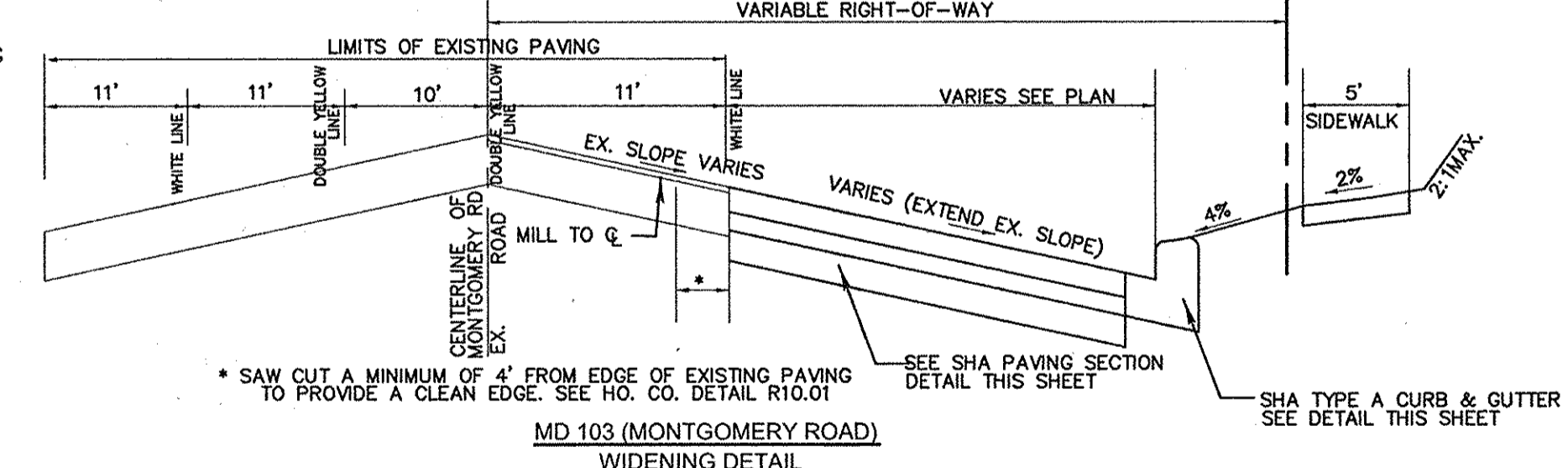
PLAN SCALE 1"=30'



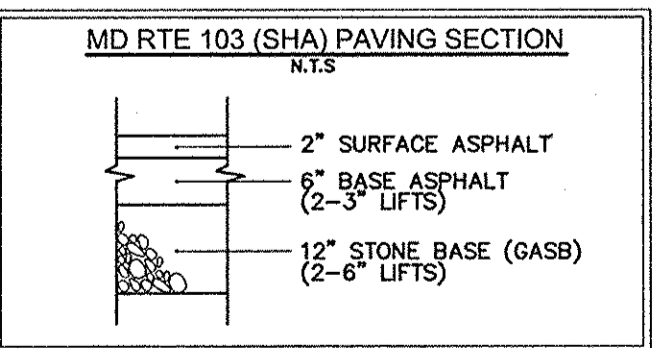
PLAN SCALE 1"=20'



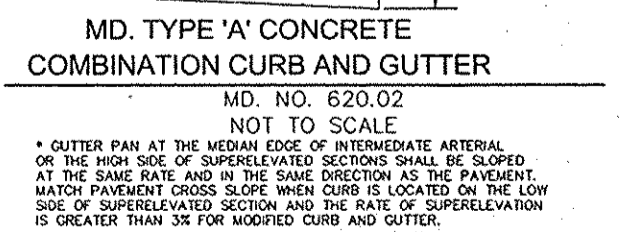
PLAN SCALE 1"=20'



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 RTE 103 (SHA) PAVING SECTION



MD. TYPE 'A' CONCRETE COMBINATION CURB AND GUTTER

LEGEND

- 202--- EXISTING 2 FT CONTOUR
- 200--- EXISTING 10 FT CONTOUR
- 200--- PROPOSED 2 FT CONTOUR
- 200--- PROPOSED 10 FT CONTOUR
- 200--- SOIL TYPE DIVISION LINE
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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.

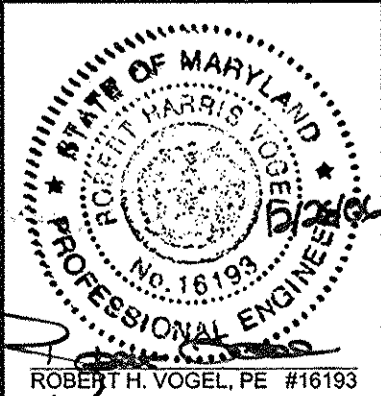
Signature: _____
 PE NO. 16193
 Date: 5/1/13



NO.	REVISION	DATE
2	REVISE TO ADD 44' x 22' THREE SEASON ROOM RATIO 7/22/15	

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.
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 8407 MAIN STREET TEL: 410.461.7666
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DESIGN BY: RHW/LJT/JCO
 DRAWN BY: LJT/JCO
 CHECKED BY: RHW
 DATE: MAY 2006
 SCALE: 1"=30'
 W.O. NO.: 05-01.00

5 SHEET OF 12A

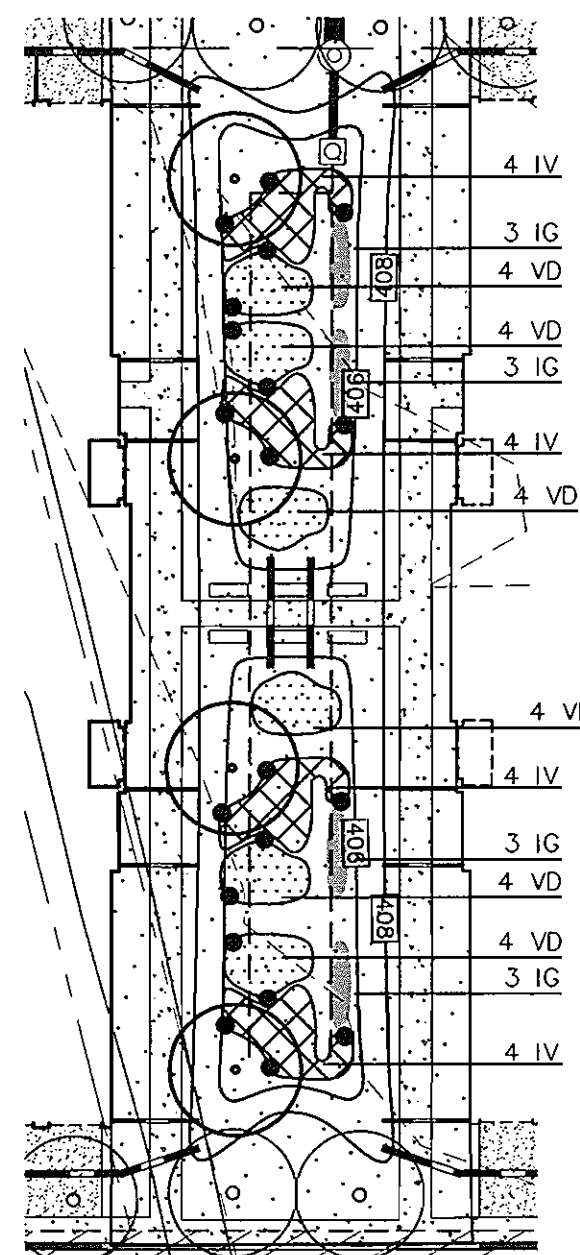
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division: _____ 1/3/07
 Chief, Division of Land Development: _____ 6/18/12
 Director: _____ 6/16/13

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

ENGINEERS CERTIFICATE
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 Robert H. Vogel, PE #16193: _____ 12/29/10

DEVELOPER'S CERTIFICATE
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 Beazer Homes: _____ 12/21/06

OWNER / DEVELOPER
 BEAZER HOMES CORPORATION
 8965 GUILFORD ROAD
 SUITE 230
 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 BERMUDA 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 1/4 INCH IN DIAMETER.

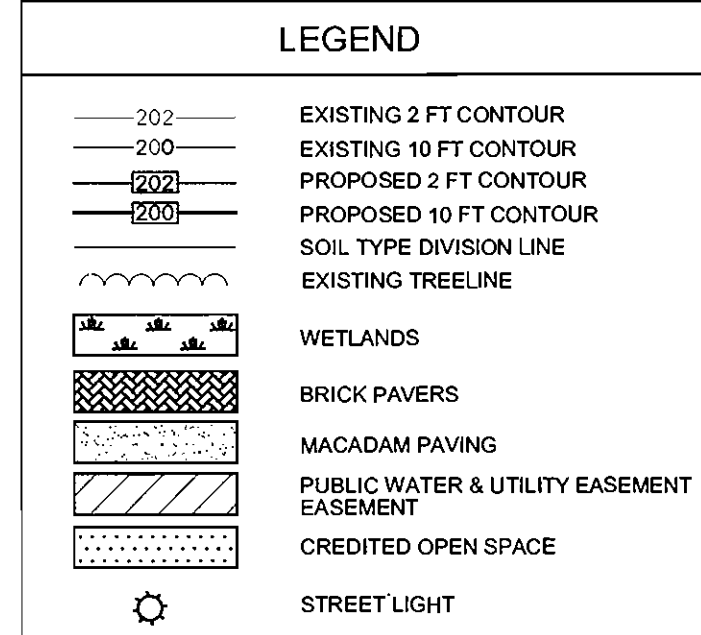
D. COMPACTION

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.

KEY	QTY	BOTANICAL NAME/ COMMON NAME	SIZE	ROOT
+	4	ACER RUBRUM RED MAPLE	1 1/2"-2" CAL	B & B
IV	16	ILEX VERTICILLATA WINTERBERRY	2'-3" HEIGHT	B & B OR CONT
VD	24	VIBURNUM DENTATUM ARROW WOOD	3'-4" HEIGHT	B & B OR CONT
IG	12	ILEX GLABRA INKBERRY	8"-24" HEIGHT	B & B OR CONT
●	400	LIRIOPE SPICATA CREEPING LILY TURF	2" POT	18" O/C



FOREST CONSERVATION WORKSHEET

NET TRACT AREA:
A. TOTAL TRACT AREA 7.00 AC
B. AREA WITHIN 100 YEAR 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

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

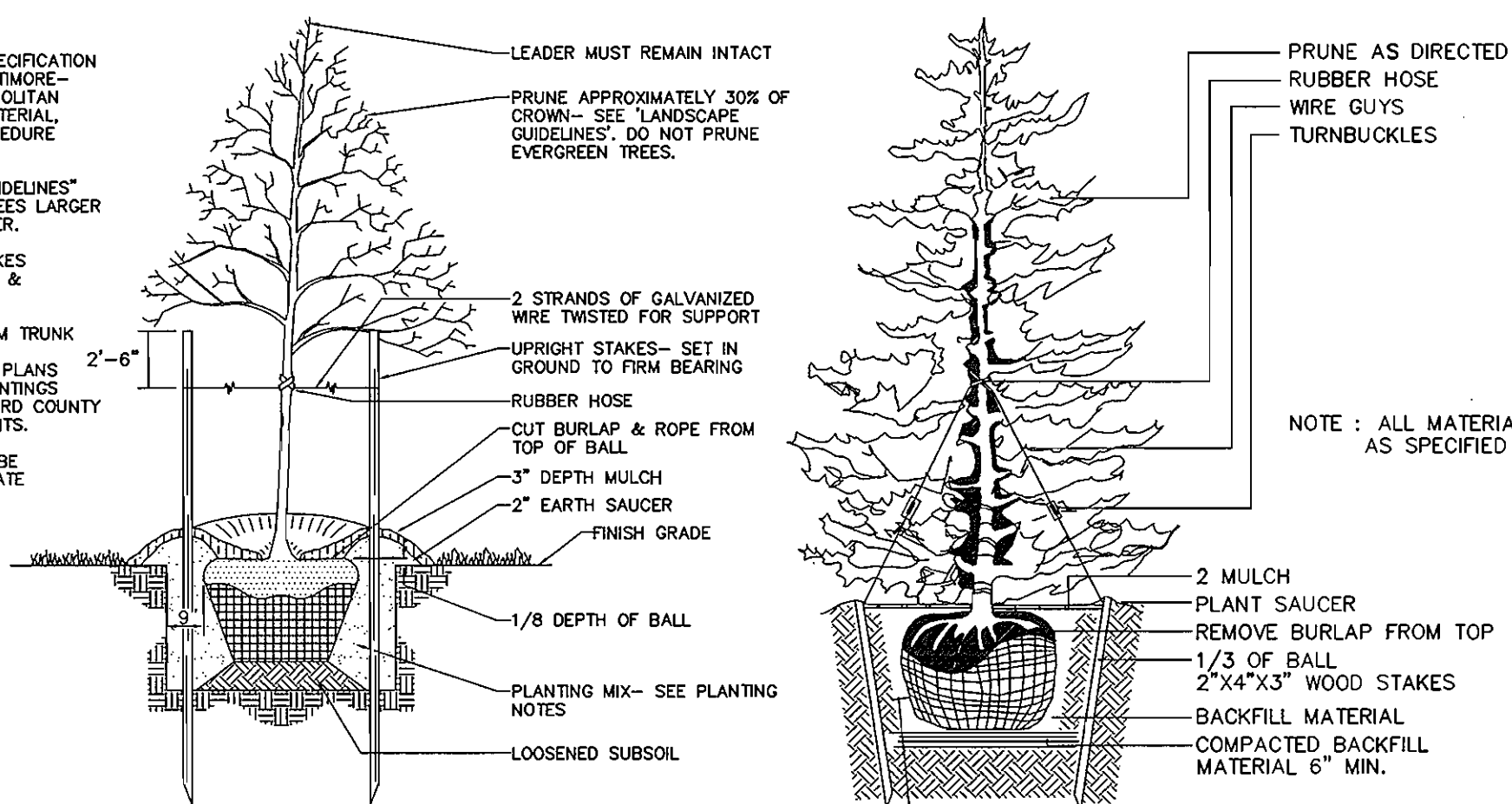
PROPOSED FOREST CLEARING:
J. TOTAL AREA OF FOREST TO BE CLEARED 0.00 AC
K. TOTAL AREA OF FOREST TO BE RETAINED 0.00 AC

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

SYMBOL	NAME / DESCRIPTION	GROUP
MIB2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
KeB2	KELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	D
NbB2	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
NOT TO SCALE

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

1. ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH LAWMY PLANTING SPECIFICATIONS.
2. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
3. FINAL LOCATION OF PLANT MATERIAL MAY VARY TO MEET FINAL FIELD CONDITIONS.
4. CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.

CATEGORY	ADJACENT TO ROADWAYS		ADJACENT TO PERIMETER PROPERTIES			
	1	2	3	4	5	6
Perimeter/Frontage Designation	B	A	A	C	A	A
Linear Feet of Roadway	558'	348'	654'	432'	67'	399'
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	1:40 11 1:20 22	1:60 2	1:60 7
Number of Plants Provided	Shade Trees Evergreen Trees	12 6	11 6	11 22	2 7	7 7
Other Trees (2:1 Substitution)	-	-	-	-	-	-
Shrubs (10:1 Substitution)	-	-	-	-	-	-
Describe Plant Substitution Credits Below if needed						

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

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

KEY	QUAN.	BOTANICAL NAME	SIZE	REM.
○	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 PAYMENT OF \$23,740.20 FOR PFC-10-1115 OF 105 ACRES OF AFFORESTATION.
- PERIMETER LANDSCAPING SHALL BE IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL 3. FINANCIAL SECURITY 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.

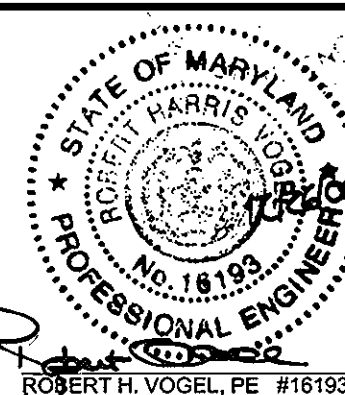
NO.	REVISION	DATE
1	REPLACE SAND FILTERS 1-5 WITH A STORM FILTER AND REVISE ASSOCIATED STORM DRAIN	11-20-06

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 SUITE 290 COLUMBIA, MD 21046
TEL: 410.461.7666 FAX: 410.461.8951



DESIGN BY: RHL/LJT/CO
DRAWN BY: LJT/CO
CHECKED BY: RHL
DATE: MAY 2006
SCALE: 1"=50'
W.O. NO.: 05-01.00

6 SHEET OF 12A

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division
Chief, Division of Land Development
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

ENGINEER'S CERTIFICATE

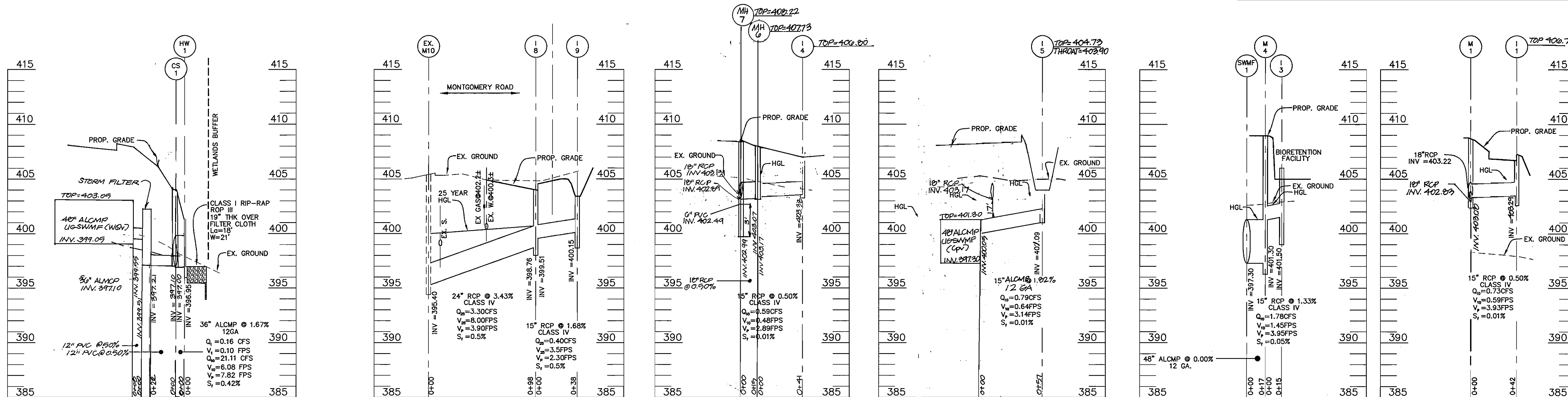
"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
ROBERT H. VOGEL, PE #16193

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 L. THOMPSON
DNR QUALIFIED PROFESSIONAL

OWNER / DEVELOPER

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



STORM DRAIN PROFILE

SCALE: HORZ: 1"=50'
VERT: 1"=5'

STORM DRAIN PROFILE

SCALE: HORZ: 1"=50'
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STORM DRAIN PROFILE

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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	-	403.30	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-5'	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	1,363,934	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.=GRADE ELEVATION FOR TYPE 'S' INLETS
**SET I-8 SO THAT SLOT MEETS EXISTING EDGE OF ROAD.

STORM DRAIN MANHOLE SCHEDULE

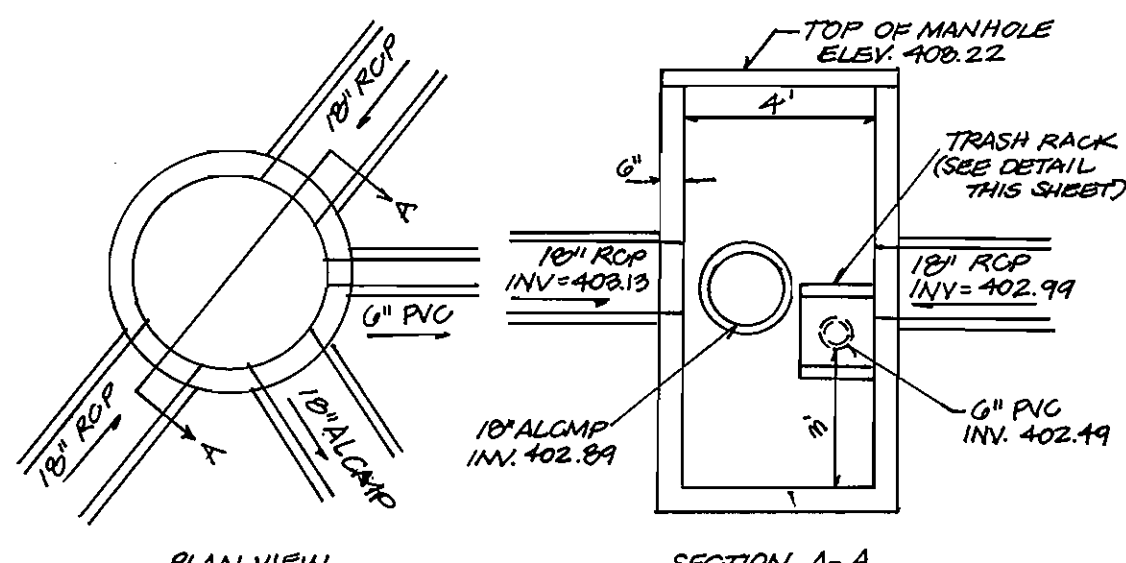
NO.	TYPE	LOCATION		TOP ELEV.	INV. IN	INV. OUT	REMARKS
		NORTHING	EASTING				
M-1	STANDARD 4' PRECAST MANHOLE	578,272	1,364,223	408.60	403.22	402.89	G-5.12
M-2	STANDARD 4' PRECAST MANHOLE	578,232	1,364,068	408.60	404.11	403.86	G-5.12
M-3	STANDARD 4' PRECAST MANHOLE	578,300	1,364,237	407.86	402.63	402.21	G-5.12
M-4	STANDARD 6' PRECAST MANHOLE	578,443	1,364,183	409.00	401.30	397.30	MD-384.05
M-5	STANDARD 5' PRECAST MANHOLE	578,200	1,364,254	407.00	397.30	397.30	G-5.13
M-6	STANDARD 4' PRECAST MANHOLE	578,502	1,364,200	407.40	403.17	403.07	G-5.12
M-7	STANDARD 4' PRECAST MANHOLE	578,509	1,364,194	408.22	402.73	402.84	G-5.12
M-8	STANDARD 4' PRECAST MANHOLE	578,546	1,363,990	409.80	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	-	396.95	SD-5.21
CS-1	CONTROL STRUCTURE	578,274	1,364,271	404.00	397.08	396.98	MODIFIED MD 384.09

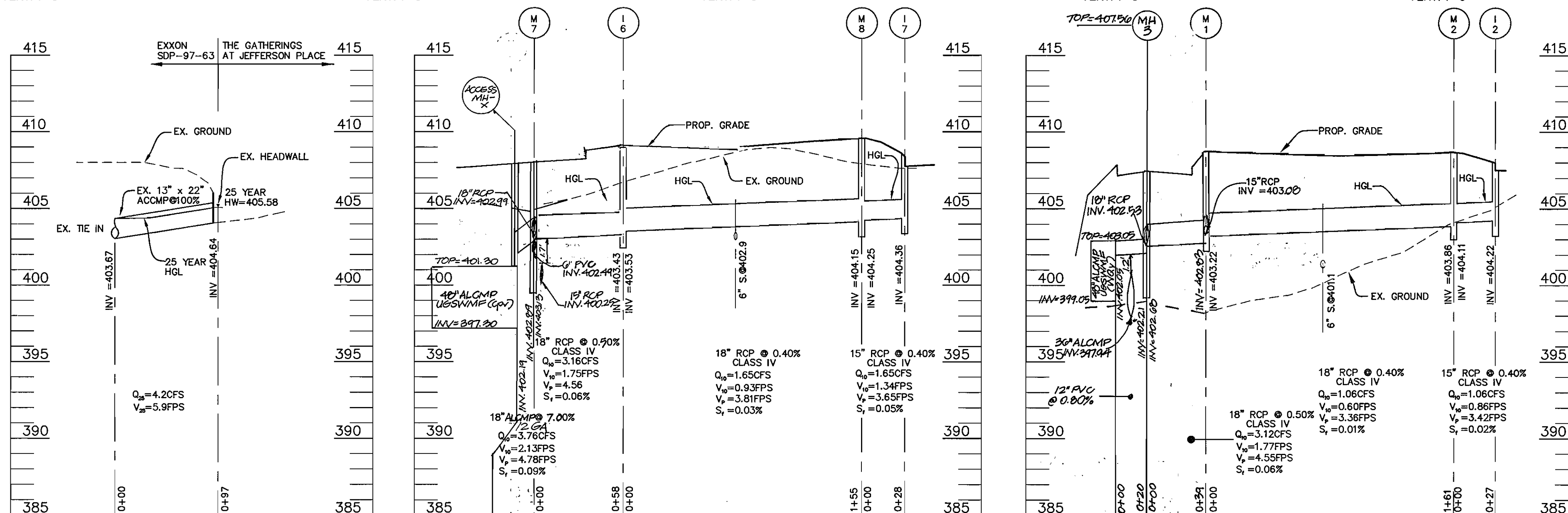
PIPE SCHEDULE

PIPE SIZE	TYPE	TOTAL LENGTH
15"	RCP	191
18"	RCP	420
48"	ALCMP	1903
36"	ALCMP	90
19"	ALCMP	57
18"	ALCMP	56
24"	RCP	89
6"	FIBER PVC	123
6"	PVC	60
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: HORZ: 1"=50'
VERT: 1"=5'

STORM DRAIN PROFILE

SCALE: HORZ: 1"=50'
VERT: 1"=5'

STORM DRAIN PROFILE

SCALE: HORZ: 1"=50'
VERT: 1"=5'

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
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DESIGN BY: RHL/LIT/CO
DRAWN BY: LIT/CO
CHECKED BY: RHL
DATE: MAY 2006
SCALE: AS NOTED
W.O. NO.: 06-01.00

7 SHEET OF 12A

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

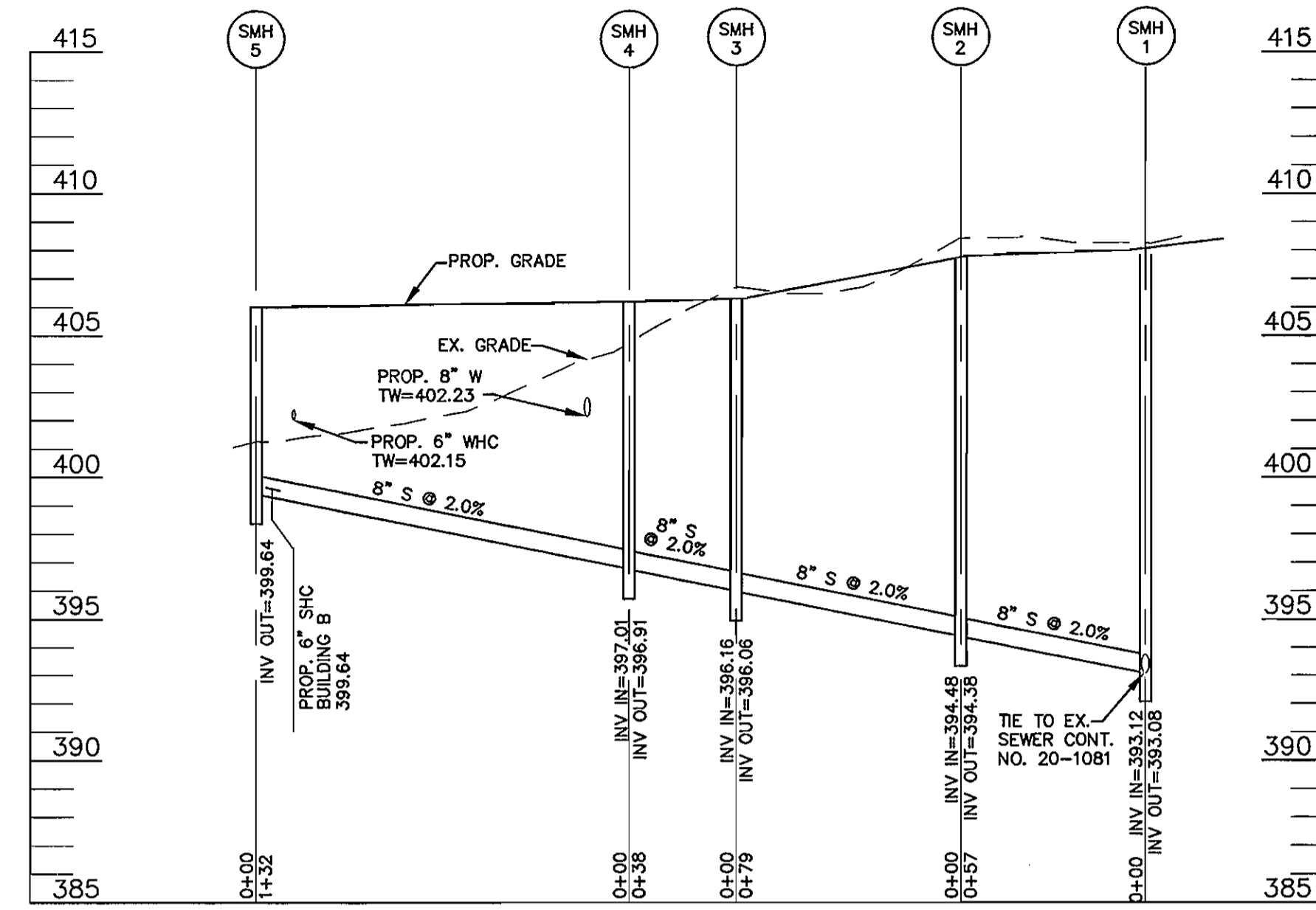
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 1/3/07

 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 6/15/07

 DIRECTOR
 DATE: 6/14/07

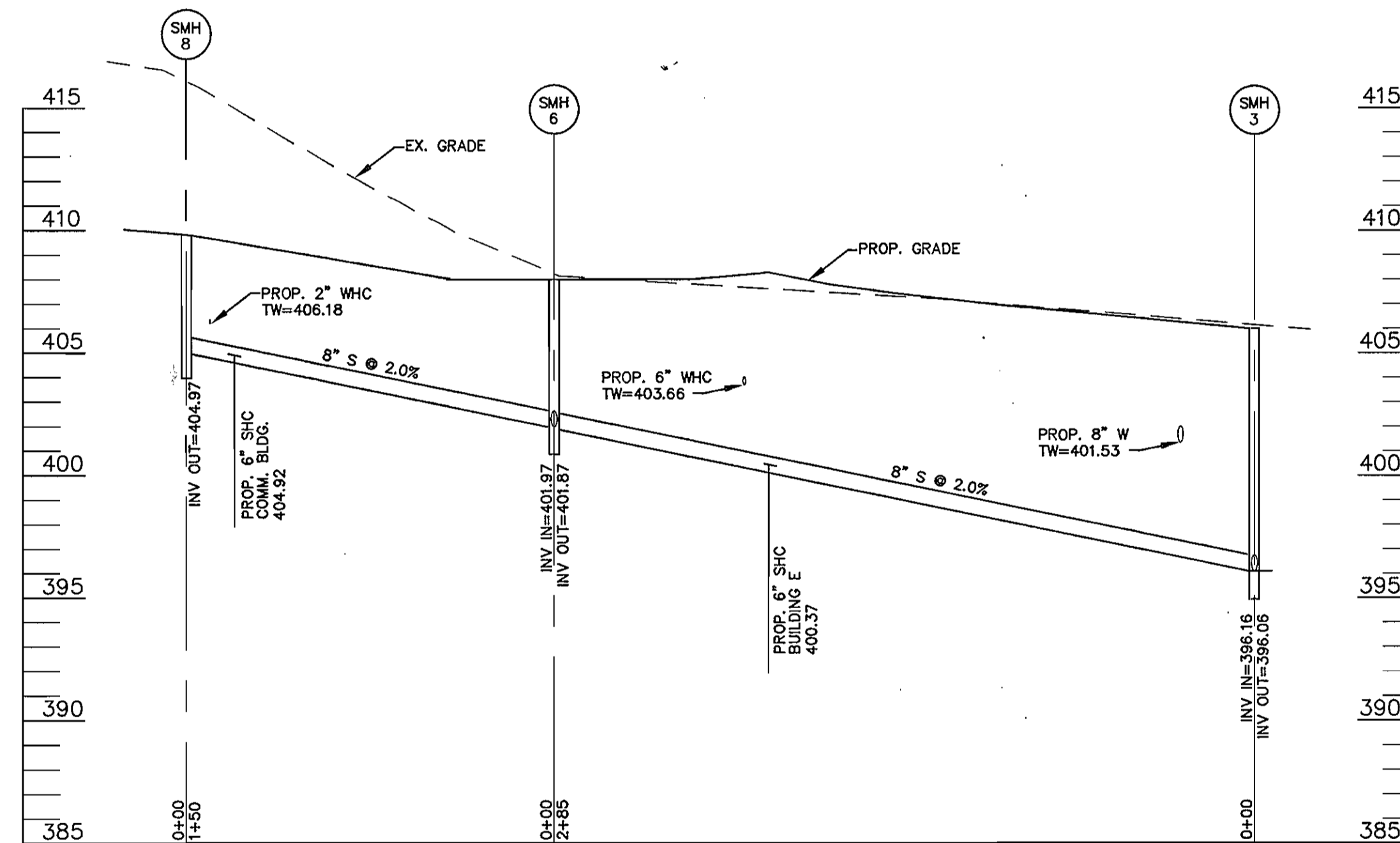
OWNER / DEVELOPER

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

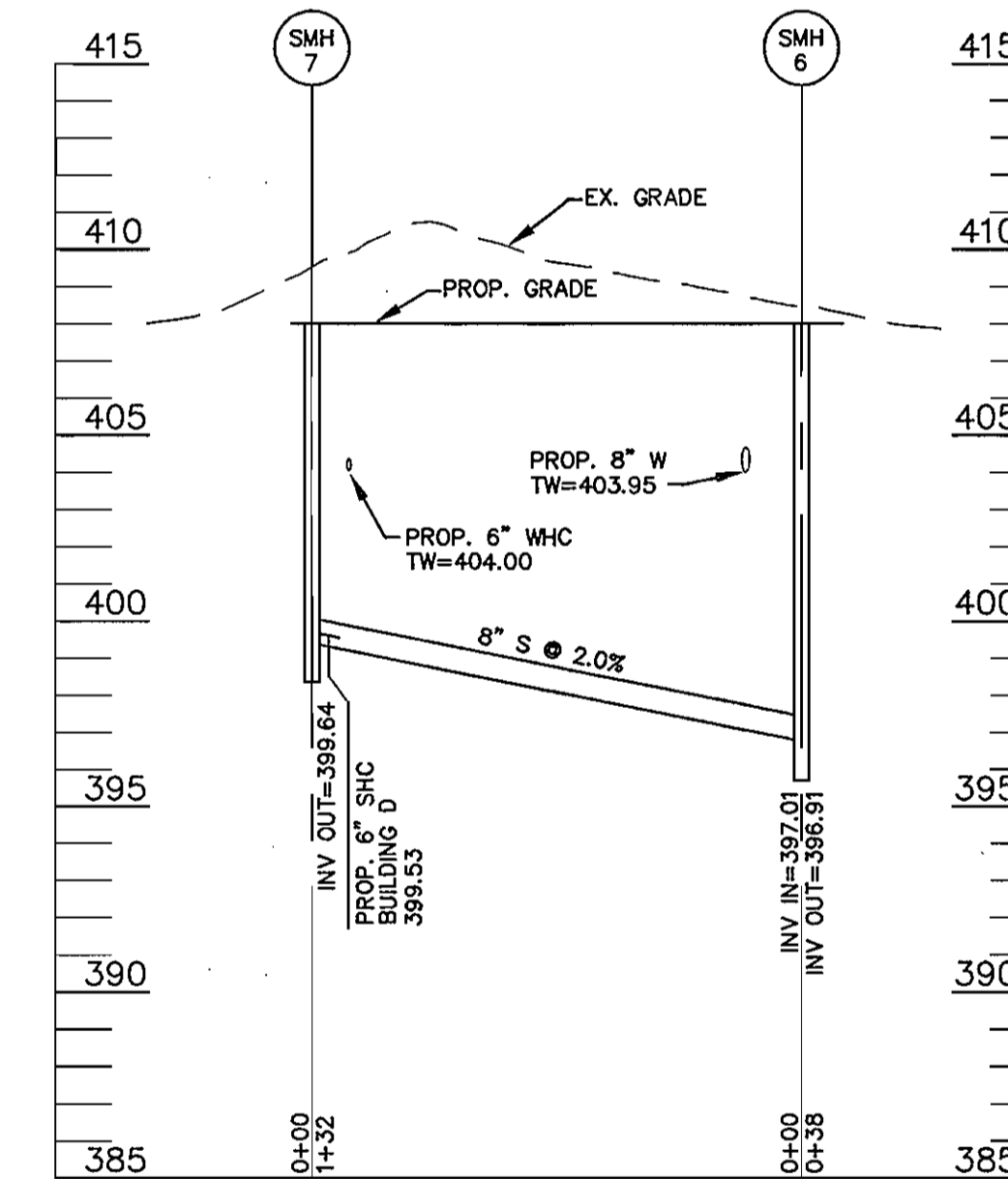


SEWER PROFILE
SCALE: HORIZ: 1"=50'
VERT: 1"=5'

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'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

John Pennington 1/3/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Steinhilber 6/18/07
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mark A. Vogel 6/18/07
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

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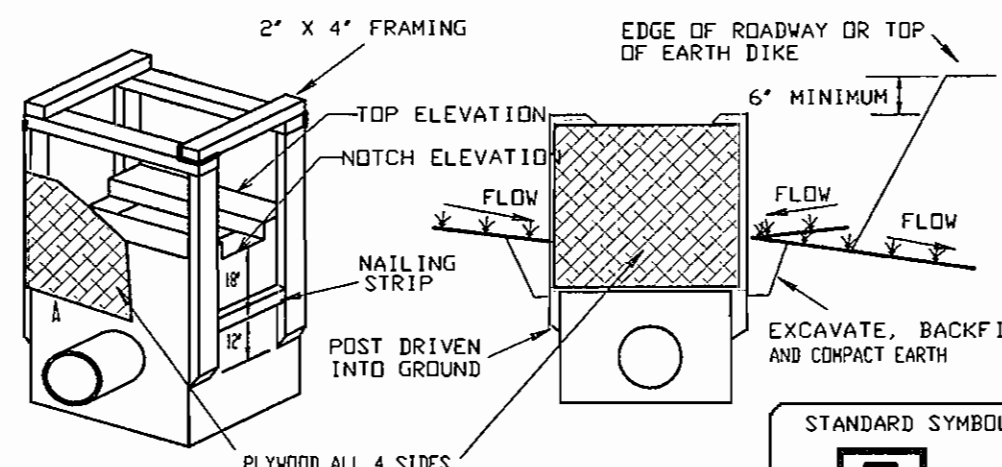
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DESIGN BY: RHV/LJT/JCO
DRAWN BY: LJT/JCO
CHECKED BY: RHV
DATE: MAY 2006
SCALE: AS SHOWN
W.O. NO.: 05-01.00

8 SHEET OF 12

SEDIMENT CONTROL NOTES

- 1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION...
2. ALL VEGETATION AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN...
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: (A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES...



INLET BLOCKING DETAIL

NTS

DETAIL 33 - SUPER SILT FENCE

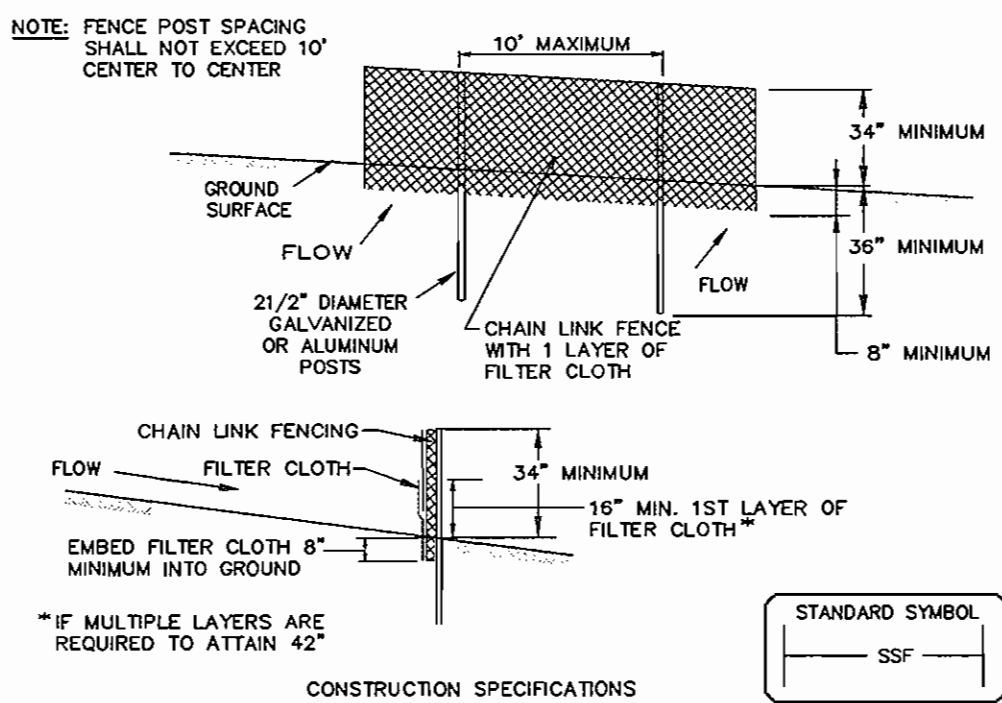


Table with 3 columns: TENSILE STRENGTH, TENSILE MODULUS, FLOW RATE, FILTERING EFFICIENCY. Values include 50 LBS/IN (MIN.), 20 LBS/IN (MIN.), 0.3 GAL/FT^2/MINUTE (MAX.), and 75% (MIN.). Includes a reference table for soil conservation services.

21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

DEFINITION
PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.
PURPOSE
TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETABLE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

- I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS...
II. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
A. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND...

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE...
SEEDING: FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (14 LBS./1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE...
MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING.

TEMPORARY SEEDING NOTES

SEEDING PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING...
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...
MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING.

SEQUENCE OF CONSTRUCTION

- 1. OBTAIN GRADING PERMIT.
2. NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (410.313.1880) AT LEAST 24 HOURS BEFORE STARTING ANY WORK.
3. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE AND PERIMETER CONTROLS. (3 DAYS)
4. AFTER OBTAINING PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED, ROUGH GRADE SITE. (2 WEEKS)
5. INSTALL WATER, SEWER AND STORMDRAIN SYSTEMS(BLOCK INLETS). (2 WEEKS)
6. CONSTRUCT UNDERGROUND SHMIF, BIORETENTION FACILITY AND INSTALL STORM FILTER.(BLACK DIVISION PIPES TO KING FACILITY)(2 WEEKS)
7. BEGIN BUILDING CONSTRUCTION AND GRADE ROADS. (6 MONTHS)
8. AS BUILDING CONSTRUCTION CONTINUES, INSTALL CURB AND GUTTER, SIDEWALK AND PAV. ROAD. (1 MONTH)
9. WITH ROAD PAVED AND SIDEWALK COMPLETE, FINE GRADE REMAINING SITE. (2 WEEKS)
10. STABILIZE DISTURBED AREAS AND INSTALL PERIMETER LANDSCAPING AND STREET TREES. (3 DAYS)
11. 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.

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.

DETAIL 27 - ROCK OUTLET PROTECTION III

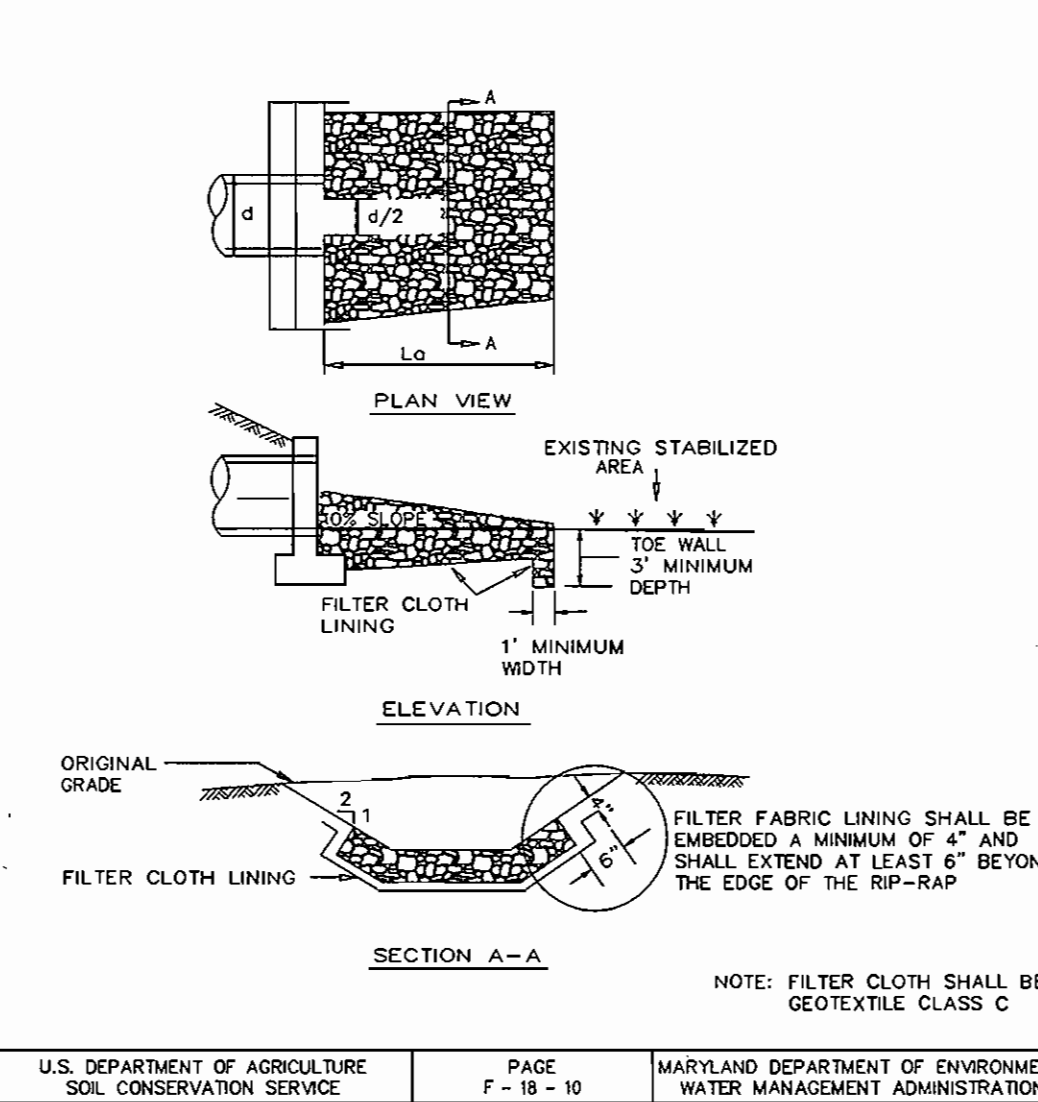


Table with 3 columns: NO., REVISION, DATE. Includes a table of specifications for rock outlet protection and a table of references for dust control.

SITE DEVELOPMENT PLAN
SEDIMENT EROSION CONTROL DETAILS
THE GATHERINGS AT JEFFERSON PLACE
PARCEL A - PHASE I & II
AGE RESTRICTED ADULT HOUSING

Logo for Robert H. Vogel Engineering, Inc. with address, phone number, and a seal of the State of Maryland Professional Engineer.

Approval section with signatures and dates for Chief of Development Engineering Division, Chief of Land Development, and Director.

Reviewed for Howard SCD and Meets Technical Requirements section with signature of Jim Munson and date 12/29/06.

Engineers Certificate and Developer's Certificate sections with signatures and dates for Robert H. Vogel and Beazer Homes.

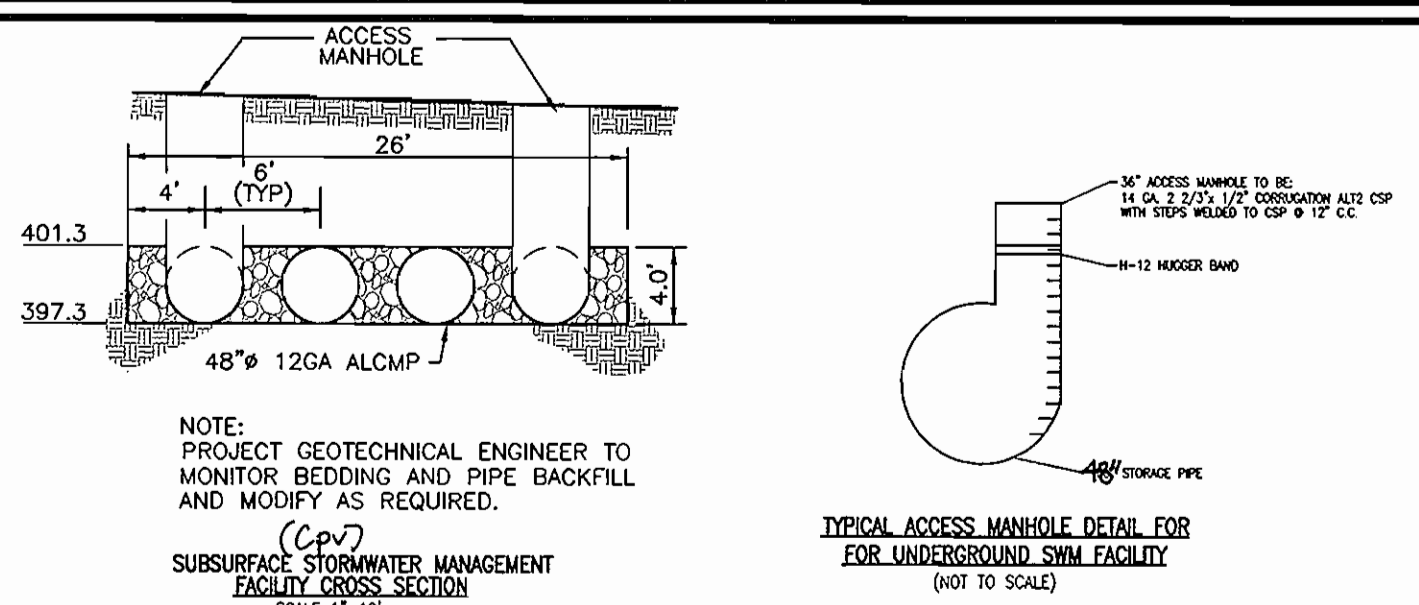
Owner/Developer section with signature for Beazer Homes Corporation and address in Columbia, MD.

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

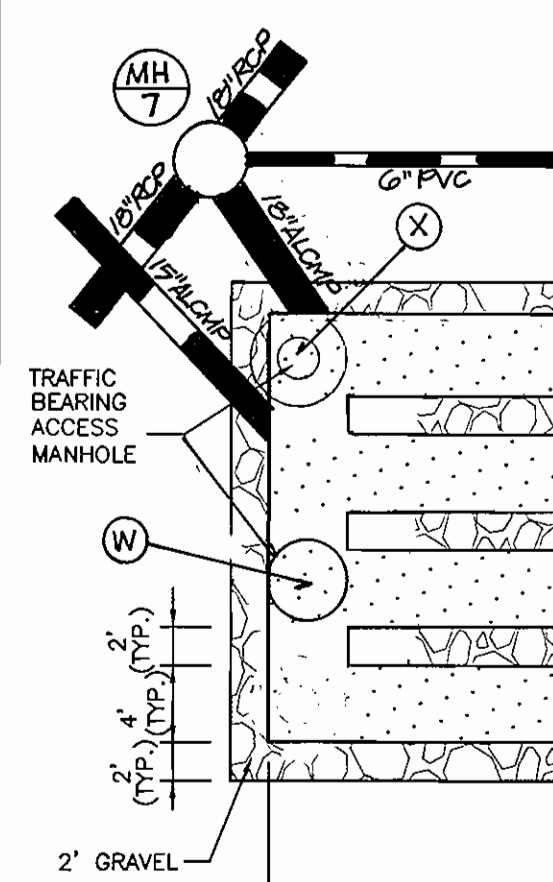
1. THE SEDIMENT TRAP, OUTLET DEVICES SHALL BE CLEANED AND/OR REPAIRED WHEN DOWN TAKES WITHIN THE CHAMBER EXCEEDS 18 INCHES.
2. DEBRIS AND LITTER SHALL BE REMOVED AS NECESSARY TO ENSURE PROPER OPERATION OF THE SYSTEM.
3. SEDIMENT SHALL BE CLEANED OUT OF THE SEDIMENTATION CHAMBER WHEN IT ACCUMULATES TO A DEPTH OF 6 INCHES. TESTING WHEN THE SEDIMENT CHAMBER SHALL BE LIMITED TO A HEIGHT OF 18 INCHES.
4. WHEN WATER POND ON THE SURFACE OF 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.
5. A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
6. THE MAINTENANCE LOGBOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
7. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION SYSTEM HAVE BEEN VERIFIED, THE MAINTENANCE 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

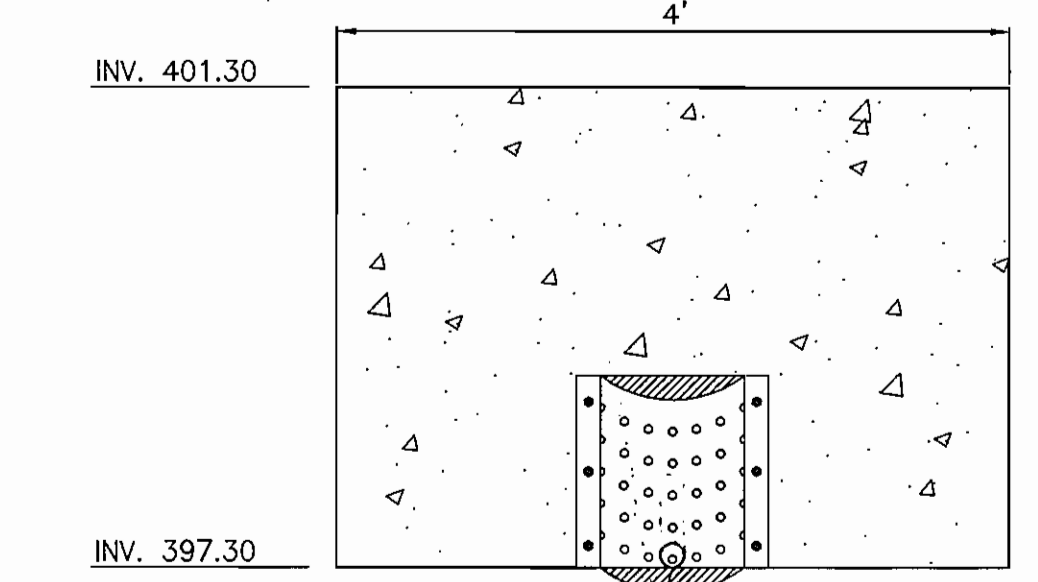
- A. THE UNDERGROUND STORMWATER MANAGEMENT FACILITY IS PRIVATELY OWNED AND IT SHALL BE THE RESPONSIBILITY OF THE OWNER TO PERIODICALLY INSPECT AND CLEAN THE FACILITY TO MAINTAIN ITS OPERATION AND FUNCTION.
- B. THE UNDERGROUND STORMWATER MANAGEMENT FACILITY SHALL BE INSPECTED YEARLY AT A MINIMUM AND AFTER ESPECIALLY SEVERE STORM EVENTS.
- C. WHEN SEDIMENT ACCUMULATION OF MORE THAN 2" IS OBSERVED OR ANY OTHER FACTORS INDICATE THE FACILITY IS IMPAIRING THE FACILITY SHALL BE CLEANED.
- D. THE OWNER SHALL CONTACT THE APPLICABLE REGULATORY AGENCIES NOTIFYING THEM OF THE FALL AND CLEANUP OPERATION.
- E. THE SEDIMENT AND OTHER SHALL BE REMOVED IMMEDIATELY AFTER PETROLEUM SPILLS INDICATING THAT THE SPILL AND CLEANUP OPERATION.
- F. THE INFILTRATION AND OUTLET PIPES SHALL BE CHECKED FOR ANY OBSTRUCTIONS AT LEAST ONCE EVERY SIX (6) MONTHS. ANY OBSTRUCTIONS OR LOGS, THE OWNER SHALL HAVE THEM REMOVED AND PROPERLY DISPOSED OF.



TYPICAL ACCESS MANHOLE DETAIL FOR UNDERGROUND SWM FACILITY (NOT TO SCALE)



TRAFFIC BEARING ACCESS MANHOLE

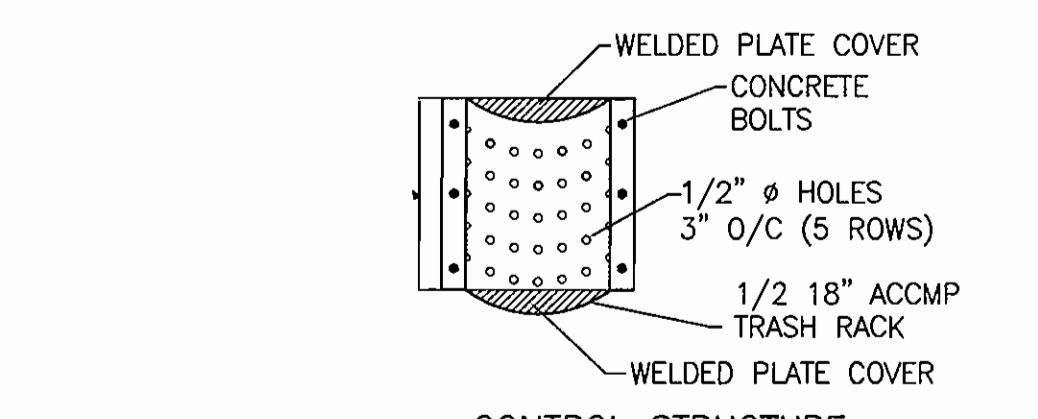


SCHEMATIC DETAIL OF SUBSURFACE STORMWATER MANAGEMENT FACILITY SCALE 1"=10'

CONTROL STRUCTURE NO. 1 CONCRETE WALL DETAIL

CONCRETE WALL DETAIL NOTES:

1. ALL PIPE CONNECTIONS AT STRUCTURE SHALL BE MADE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
2. ALL REINFORCING SHALL BE EPOXY BONDED TO CONCRETE.
3. ALL REINFORCING SHALL BE EPOXY BONDED TO CONCRETE.
4. ALL REINFORCING SHALL BE EPOXY BONDED TO CONCRETE.
5. ALL REINFORCING SHALL BE EPOXY BONDED TO CONCRETE.
6. ALL REINFORCING SHALL BE EPOXY BONDED TO CONCRETE.



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 PONDS 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 OPERATION AND MAINTENANCE CRITERIA.
10. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION SYSTEM HAVE BEEN VERIFIED, THE MAINTENANCE 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 DATE

[Signature] 6/15/07 DATE

[Signature] 6/15/07 DATE

DIRECTOR

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)	0.0186 AC. FT. 0.2062 AC.	---	0.0186 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 ₁₀ 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 ₁₀ 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)	0.0284 AC. FT. 0.3324 AC.	---	0.0284 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 ₁₀ 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. 0.1251 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 ₁₀ 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 ₁₀ P)	---	---	---	---
5	EXTREME FLOOD VOLUME (Q ₁₀₀ P)	---	---	---	---

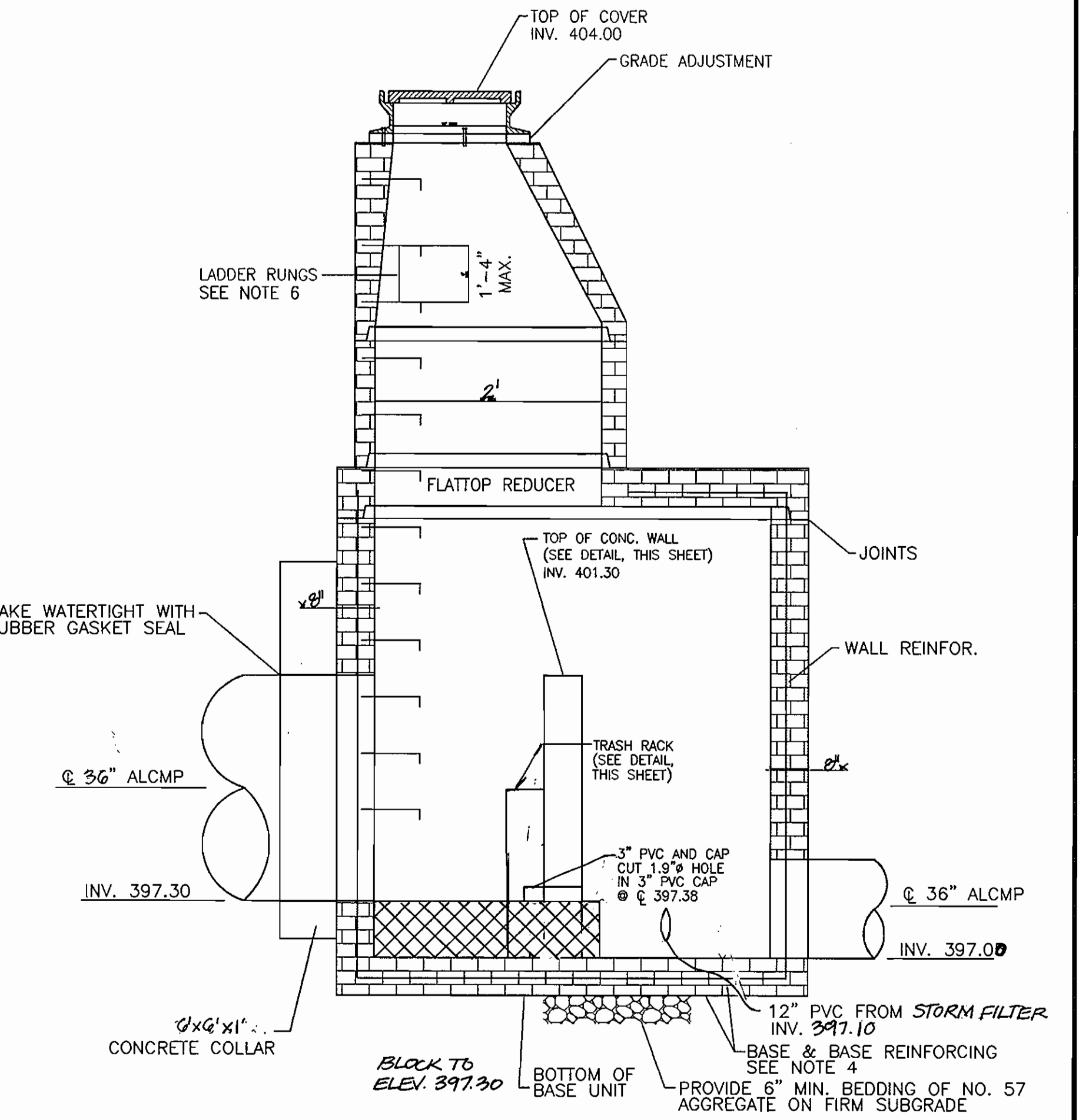
STORMWATER MANAGEMENT REQUIREMENTS - AREA 'C'					
AREA	REQUIREMENT	VOLUME REQUIREMENT WITHOUT CREDITS	CREDITS	VOLUME REQUIREMENT WITH CREDITS	NOTES
0.40 AC.					
1	WATER QUALITY VOLUME (WQV)	0.0212 AC. FT.	0.40 AC GRASS CHANNEL	0 AC. FT.	GRASS CHANNEL CREDIT
2	RECHARGE VOLUME (REV)	0.0055 AC. FT. 0.0676 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 ₁₀ 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 ₁₀ P)	---	---	---	---
5	EXTREME FLOOD VOLUME (Q ₁₀₀ P)	---	---	---	---

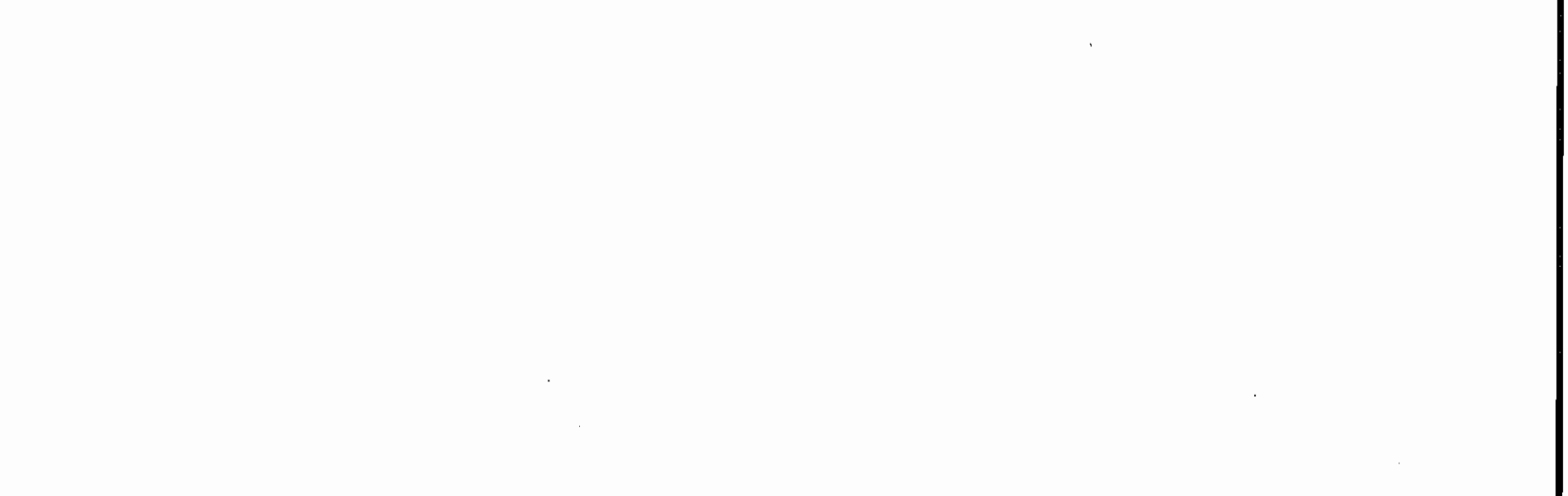
STORMWATER MANAGEMENT REQUIREMENTS - AREA 'D'					
AREA	REQUIREMENT	VOLUME REQUIREMENT WITHOUT CREDITS	CREDITS	VOLUME REQUIREMENT WITH CREDITS	NOTES
0.44 AC.					
1	WATER QUALITY VOLUME (WQV)	0.0233 AC. FT.	0.11 AC GRASS CHANNEL	**0.0175 AC. FT.	GRASS CHANNEL CREDIT REMAINING GRASS/LANDSCAPE STRIP CANNOT 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 ₁₀ 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 NTS



GRASS CHANNEL DETAIL NOT TO SCALE

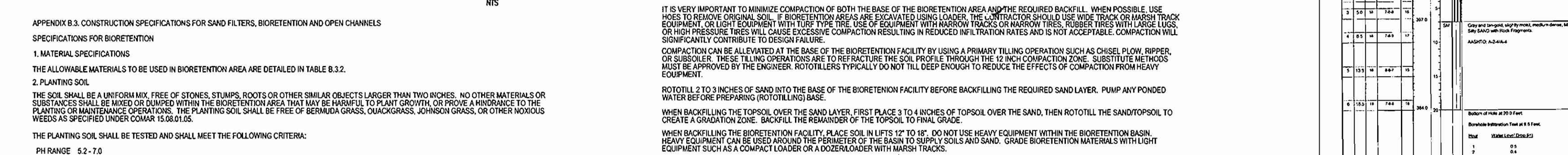
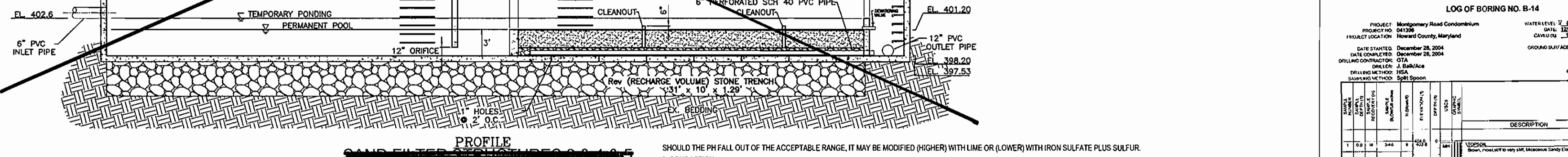
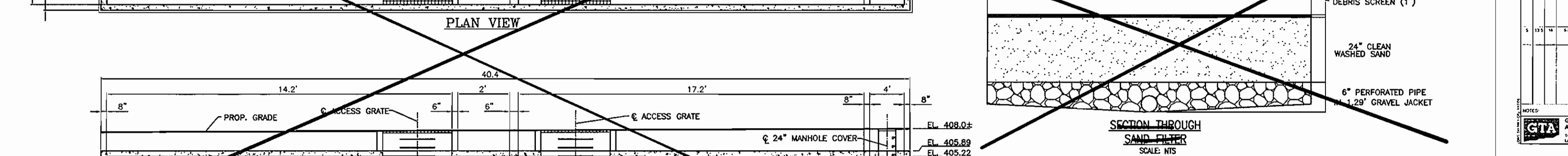
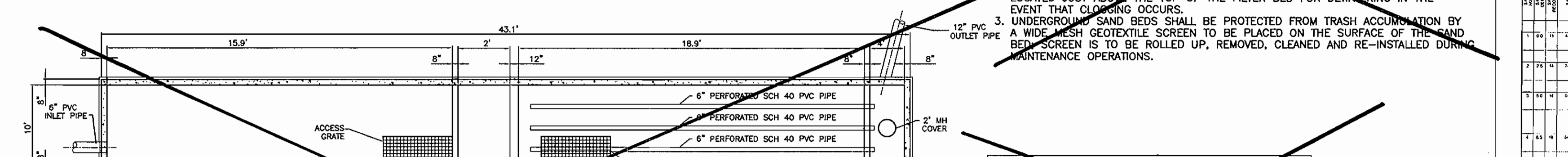
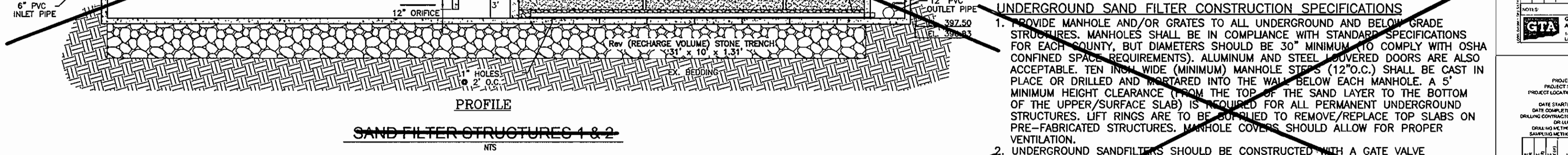
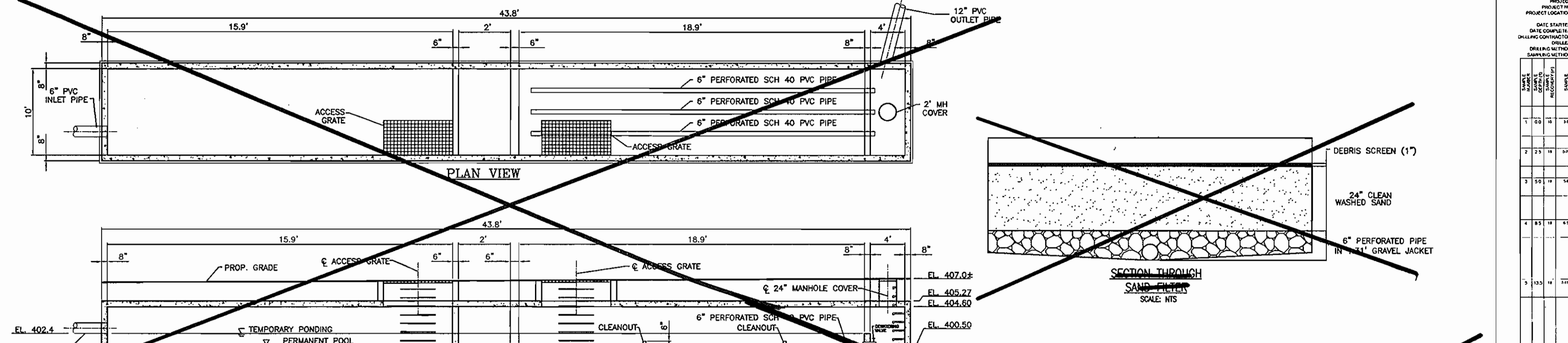
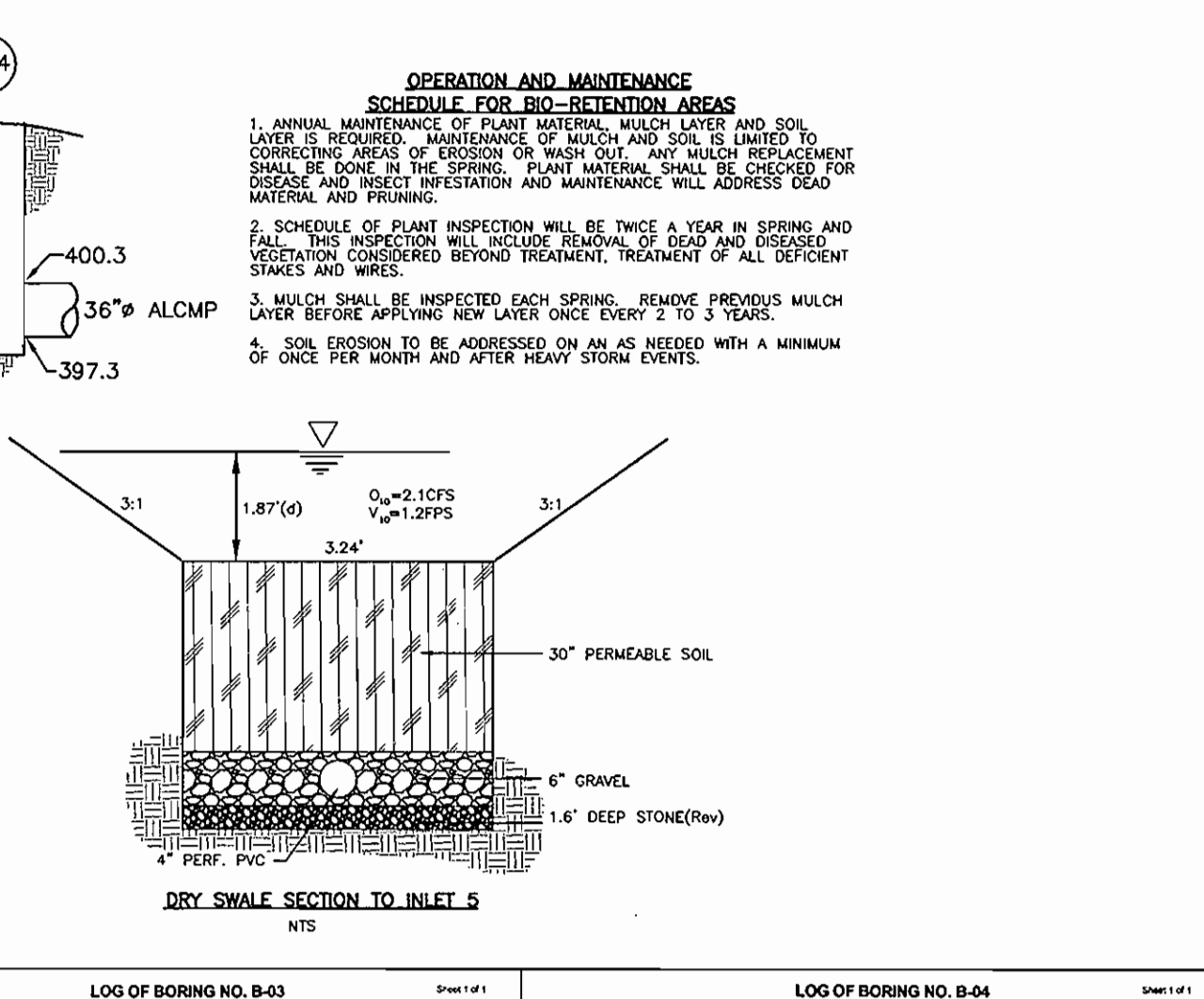
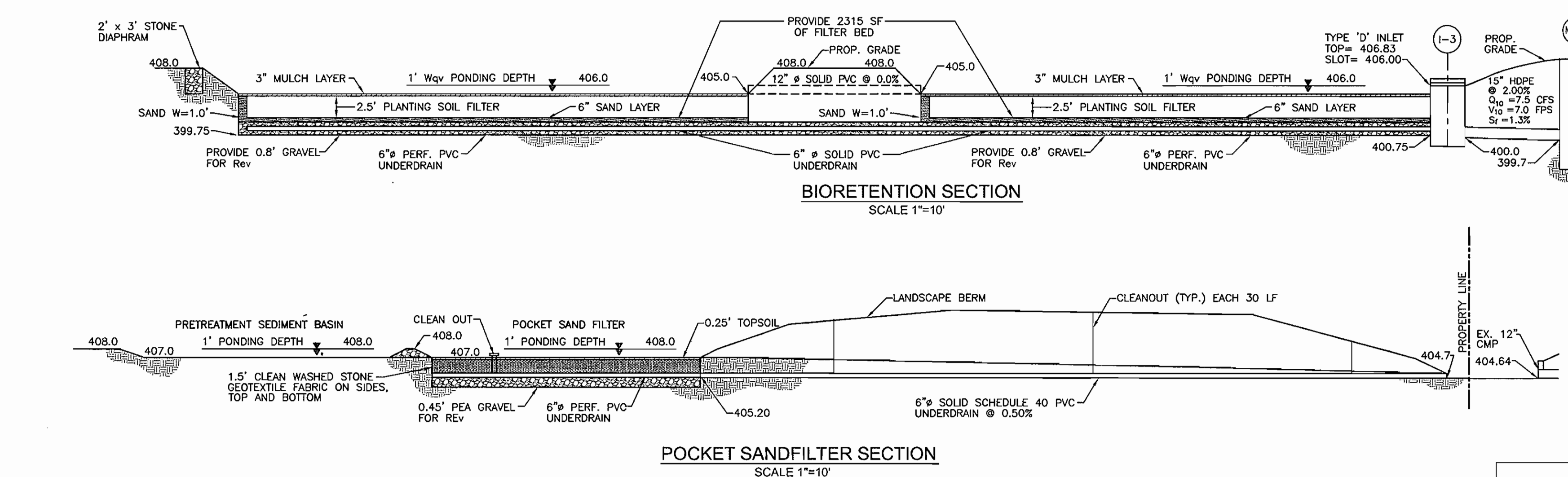
NO.	REVISION	DATE
1	REPLACE SANDFILTERS 1-3 WITH A STORM FILTER AND REVISE ASSOCIATED STORM DRAIN	11/20/05

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 TEL: 410.461.7666
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961

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

10 SHEET OF 12A



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

SPECIFICATIONS FOR BIORETENTION

- MATERIAL SPECIFICATIONS**
- PLANTING SOIL**
- PLANT INSTALLATION**
- UNDERDRAINS**
- MISCELLANEOUS**

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 1/3/02 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 6/10/04 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 6/10/05 DATE
 DIRECTOR

OPERATION AND MAINTENANCE SCHEDULE FOR BIORETENTION AREAS

- ANNUAL MAINTENANCE OF PLANT MATERIALS, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EXPOSURE OR MULCH DEPLETION. REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS ROAD MATERIALS AND PRUNING.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED PLANTS CONSIDERED BEYOND TREATMENT. TREATMENT OF ALL DEFICIENT STAGES AND WIRTS.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PROVIDER'S MULCH LAYER BEFORE APPLYING NEW LAYER. MULCH SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS ROAD MATERIALS AND PRUNING.
- SOIL EXPOSURE TO BE ADDRESSED ON AN AS NEEDED WITH A MINIMUM OF ONE PER MONTH AND AFTER HEAVY STORM EVENTS.

DEPTH (FEET)	DESCRIPTION	REMARKS
0.0	Surface	406.0
1.0	6\"/>	

DEPTH (FEET)	DESCRIPTION	REMARKS
0.0	Surface	406.0
1.0	6\"/>	

DEPTH (FEET)	DESCRIPTION	REMARKS
0.0	Surface	406.0
1.0	6\"/>	

DEPTH (FEET)	DESCRIPTION	REMARKS
0.0	Surface	406.0
1.0	6\"/>	

DEPTH (FEET)	DESCRIPTION	REMARKS
0.0	Surface	406.0
1.0	6\"/>	

DEPTH (FEET)	DESCRIPTION	REMARKS
0.0	Surface	406.0
1.0	6\"/>	

DEPTH (FEET)	DESCRIPTION	REMARKS
0.0	Surface	406.0
1.0	6\"/>	

OWNER / DEVELOPER

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

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

11 SHEET OF 12A

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 lengths 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

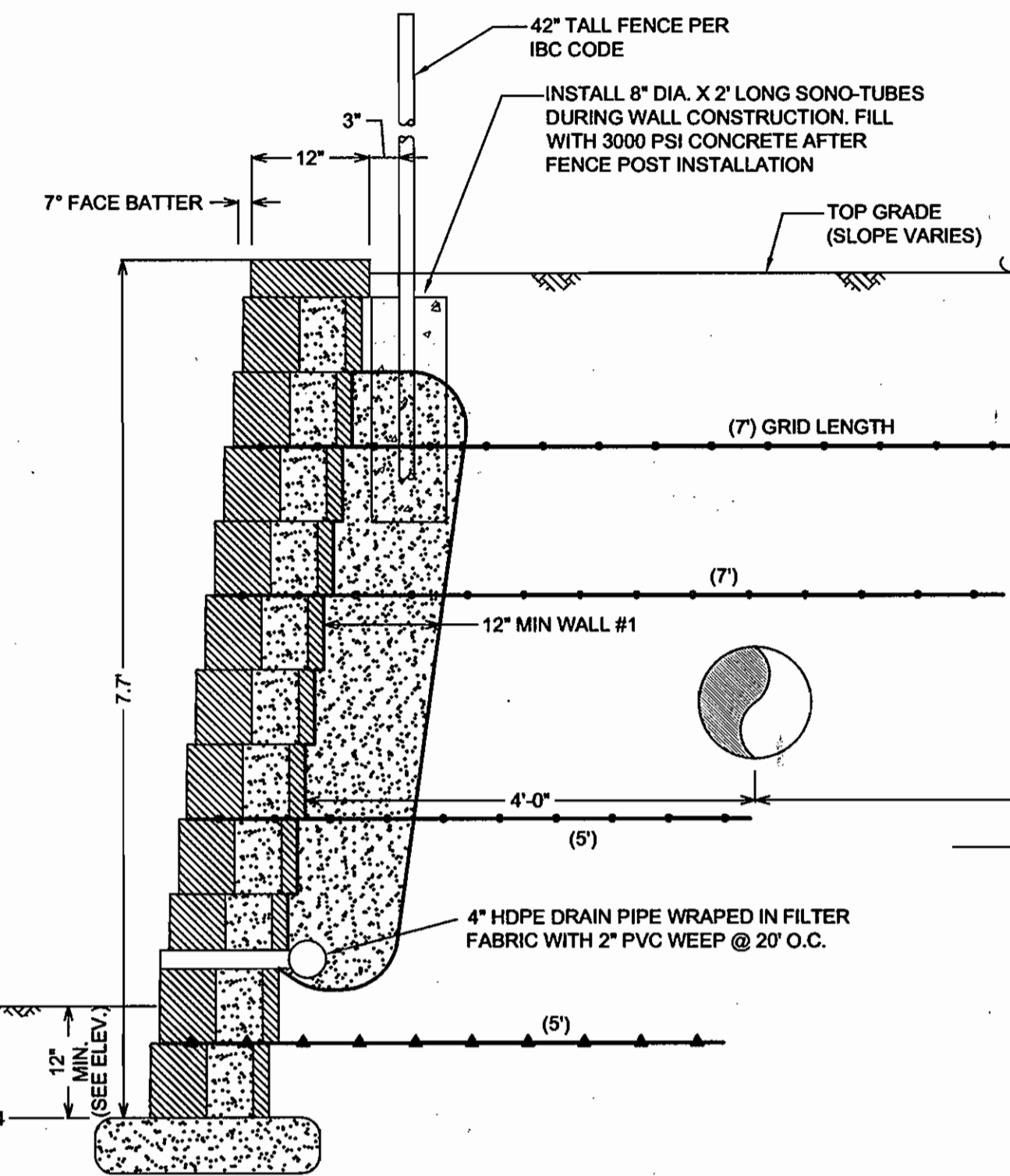
- 2.01 Modular Concrete Retaining Wall Units**
 A. Modular concrete units shall conform to the following architectural requirements:
 face color - concrete gray - standard manufacturer's color may be specified by the Owner
 face finish - sculptured rock face in angular tri-planer configuration. Other face finishes will not be allowed without written approval of Owner.
 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 = 5000 psi minimum;
 absorption = 8% maximum (8% in northern states) for standard weight aggregates;
 dimensional tolerance = ± 1/8" from nominal unit dimensions not including rough split face, ± 1/16" unit height - top and bottom planes;
 unit size - 8" (H) x 16" (W) x 12" (D) minimum;
 unit weight - 75 lbs/minimum for standard weight aggregates;
 inter-unit shear strength - 1000 pcf minimum at 2 psi normal pressure;
 geogrid/unit peak connection strength - 1000 pcf minimum at 2 psi normal force.
- 2.02 Shear Connectors**
 A. Shear connectors shall be 1/2 inch diameter mostepositropic polyester resin-primed 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:
- | Screen Size | Percent Passing |
|-------------|-----------------|
| 2 inch | 100-75 |
| 3/4 inch | 100-75 |
| No. 40 | 0-60 |
| 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

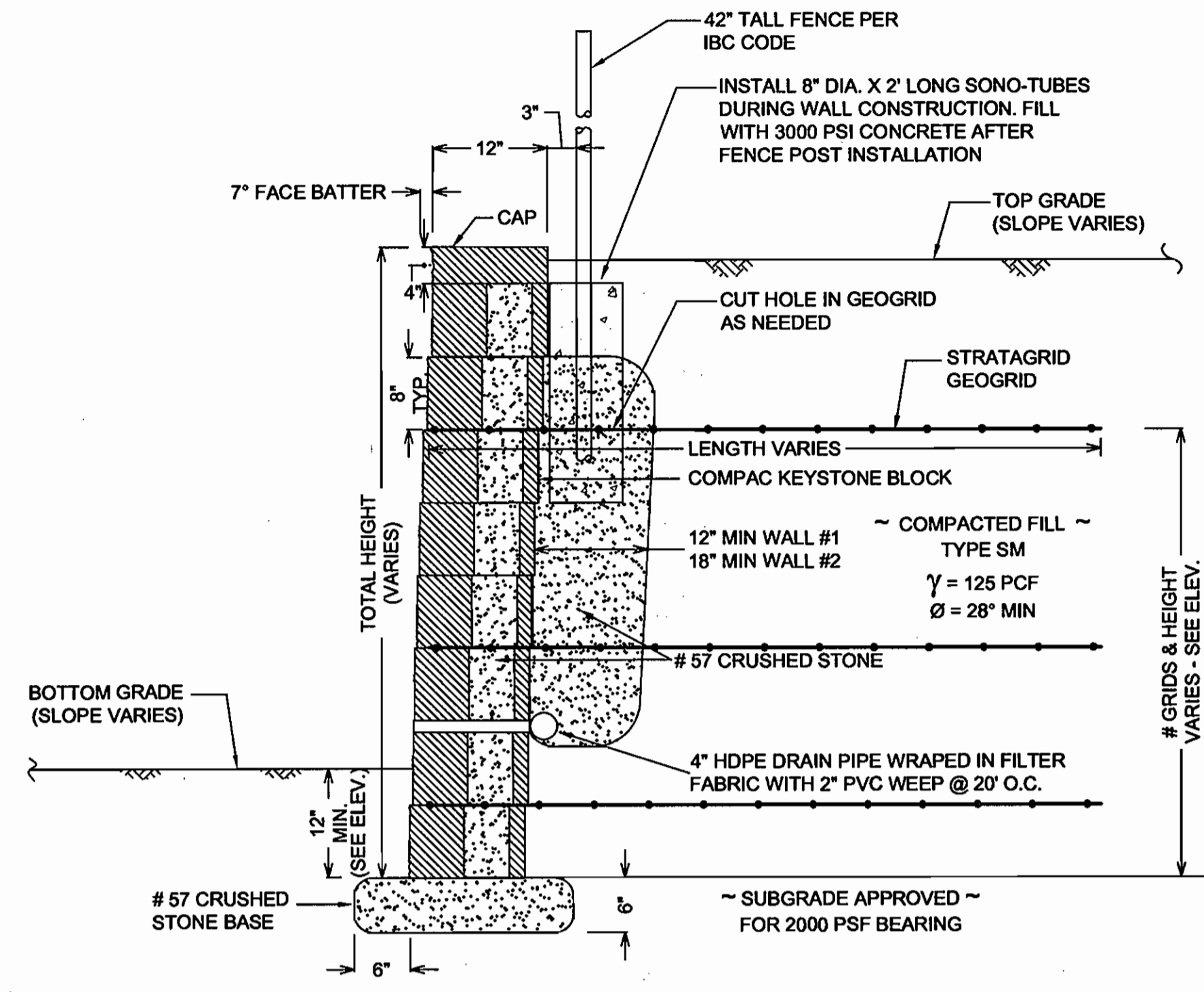
- A. Geosynthetic reinforcement shall consist of geogrids manufactured specifically for soil reinforcement applications and shall be manufactured from high tenacity polyester yarn.
- 2.07 Drainage Pipe**
 A. The drainage pipe shall be perforated HDPE pipe manufactured in accordance with ASTM D-1248.

PART 3: EXECUTION

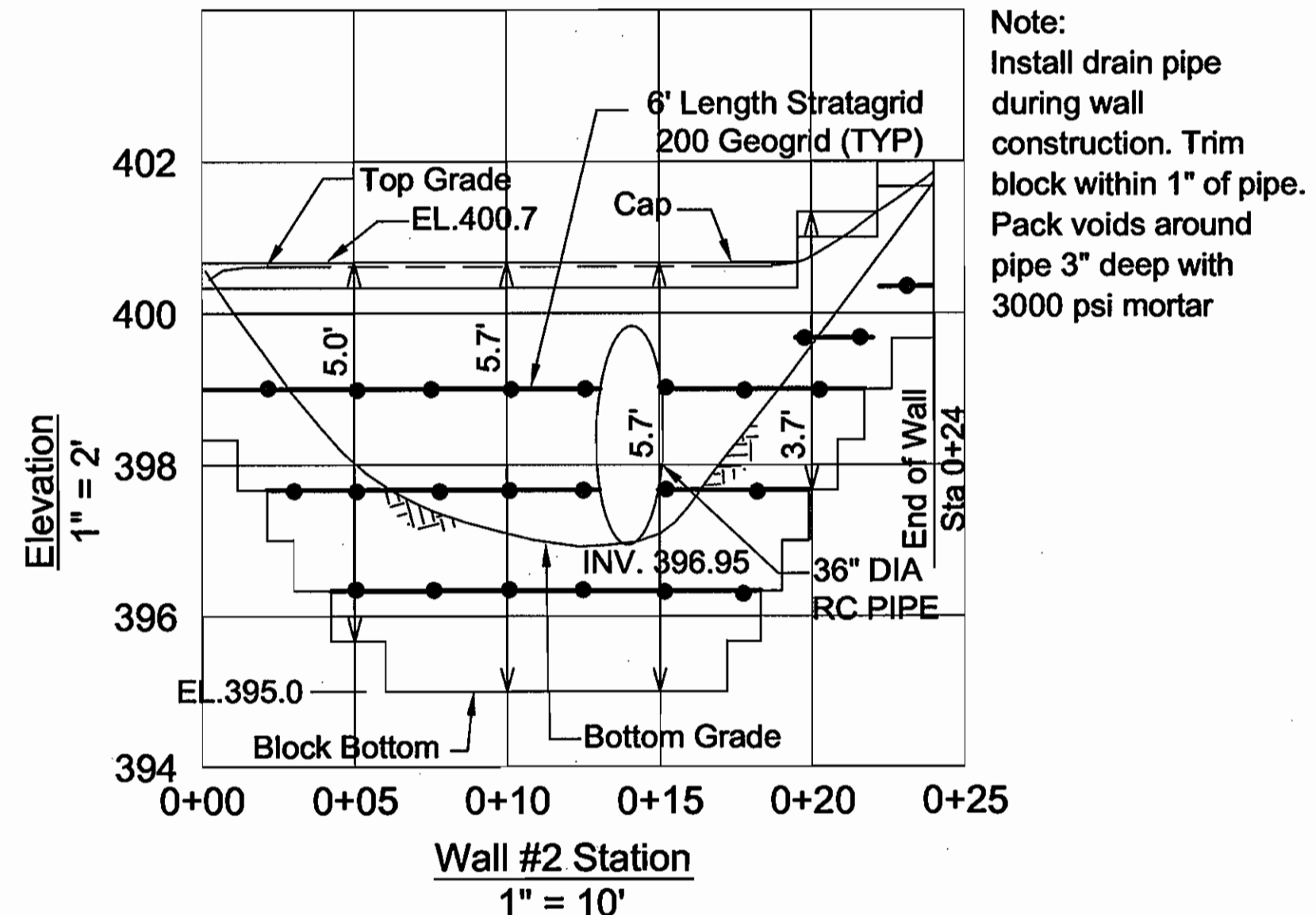
- 3.01 Excavation**
 A. Contractor shall excavate to the lines and grades shown on the construction drawings. Owner's representative shall be responsible for inspecting and approving the excavation prior to placement of leveling material or fill soils.
- 3.02 Base Leveling Pad**
 A. Leveling pad material 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 insure 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 backfill placement on the geogrid.
- 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 D998. The moisture content of the backfill material prior to and during compaction shall be uniformly distributed throughout each layer and shall be a 3% to 5% 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 tired 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 last lift 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.



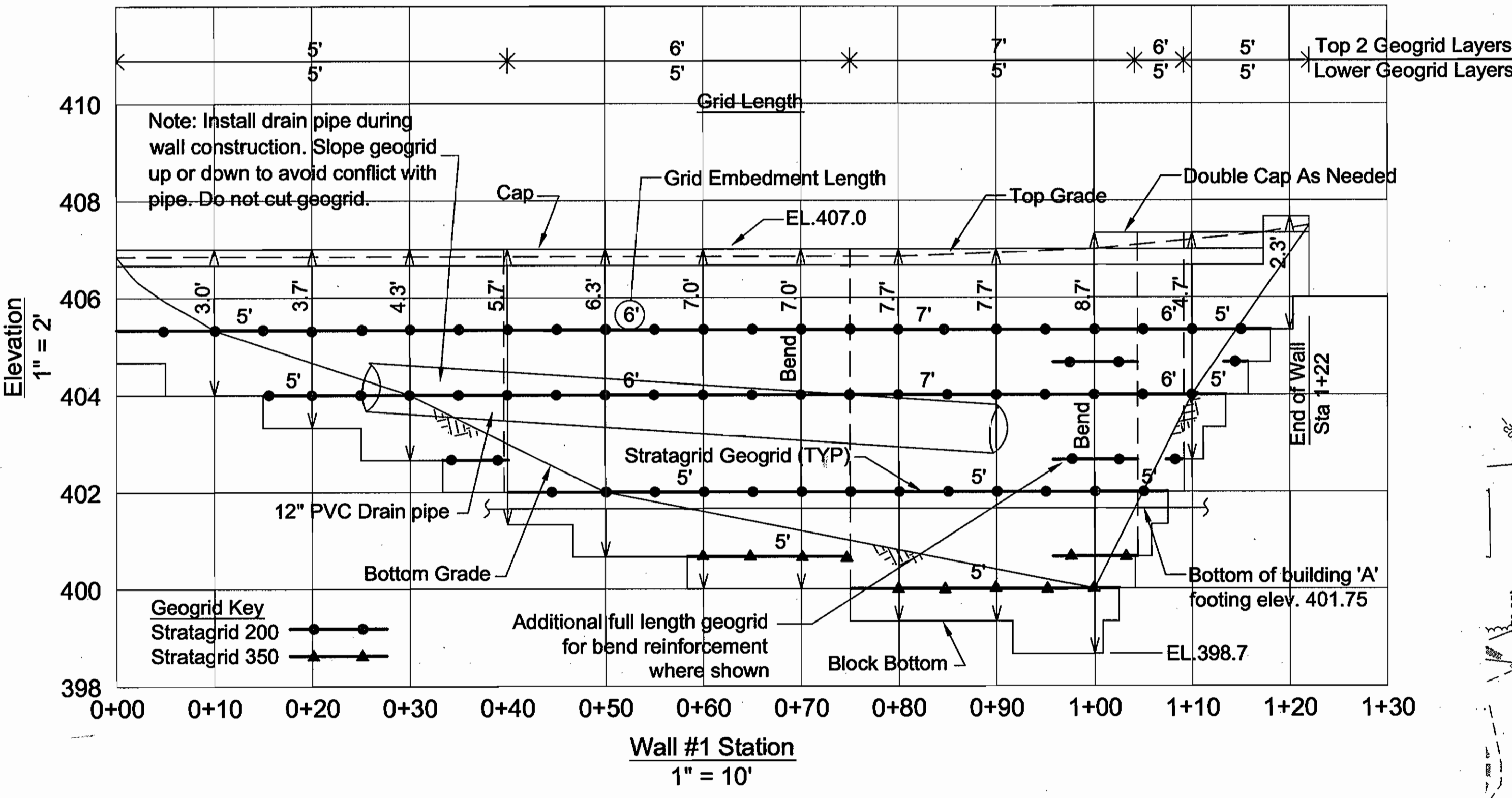
WALL #1 SECTION (STA. 0+80)
 3/4" = 1'-0"



TYPICAL WALL SECTION
 N.T.S.

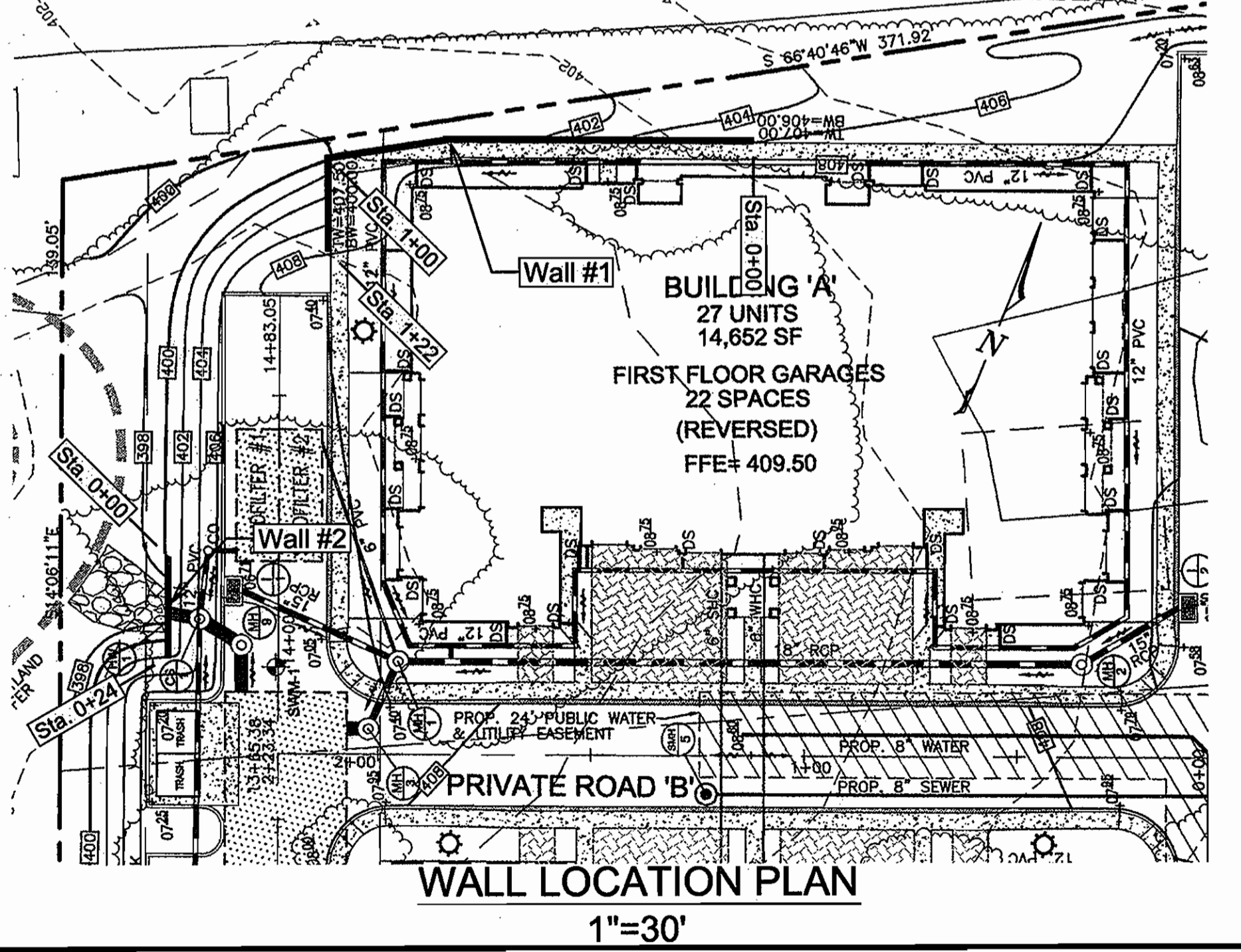


Note:
 Install drain pipe during wall construction. Trim block within 1" of pipe. Pack voids around pipe 3" deep with 3000 psi mortar



- 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
 [Signature] 1/3/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 6/15/10
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] 6/14/10
 DIRECTOR



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 Annapolis Junction, Maryland
 (410) 880-4788 Fax: (410) 880-4098

DESIGN BY: CX
 DRAWN BY: CX
 CHECKED BY: RWS
 DATE: OCTOBER 2005
 SCALE: AS SHOWN
 JOB NO.: 04065D

12 SHEET OF 12

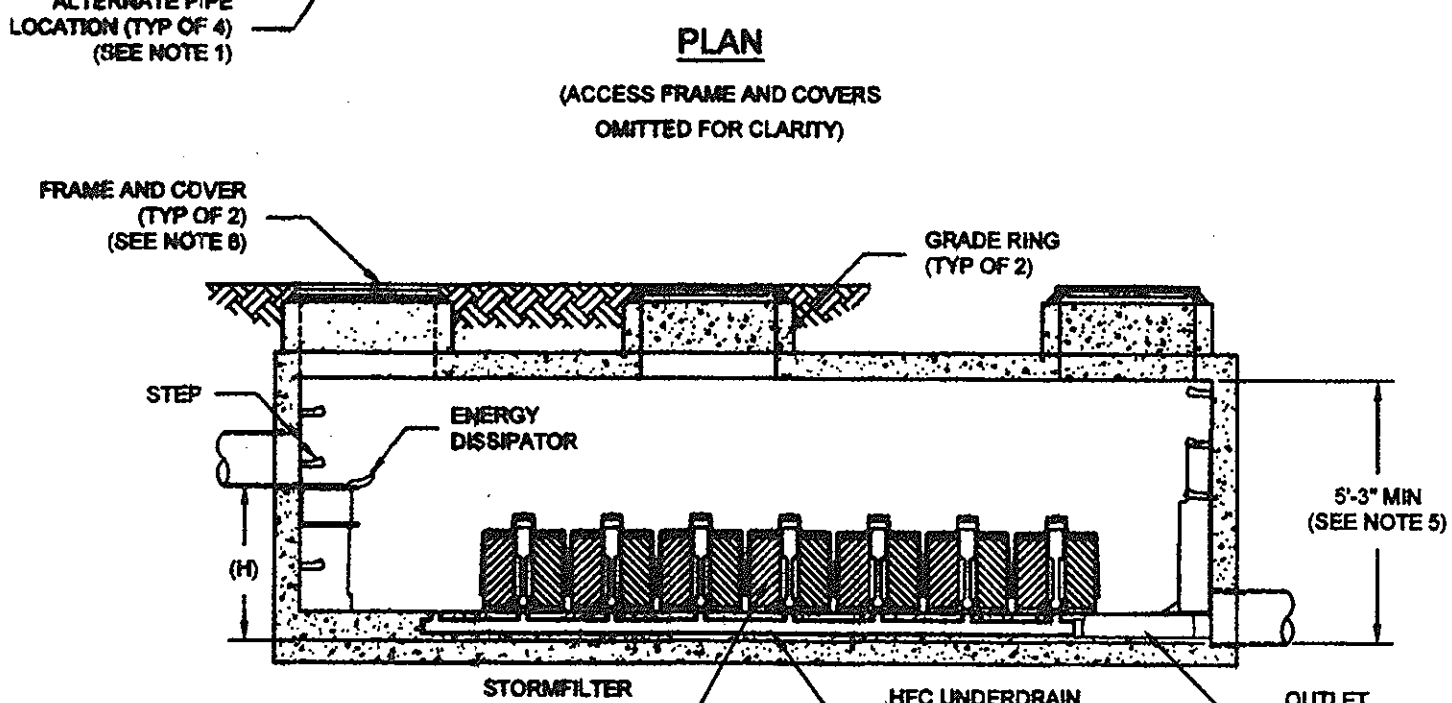
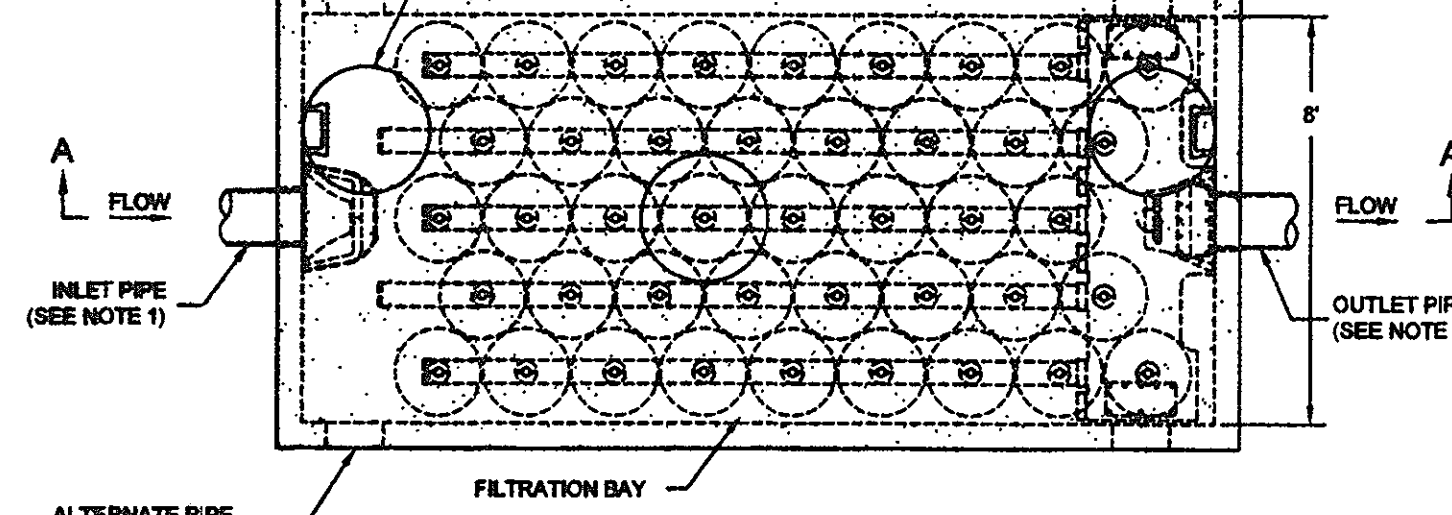
STORMFILTER DESIGN TABLE		
CARTRIDGE HEIGHT	18"	
SYSTEM HYDRAULIC DROP (MIN)	2.3'	1.8'
TREATMENT BY MEDIA SURFACE AREA	2 gpm/ft ²	1 gpm/ft ²
CARTRIDGE FLOW RATE (gpm)	15	7.5

CONTECH STORMWATER SOLUTIONS

THE 8'X18' STORMFILTER TREATMENT CAPACITY VARIES BY NUMBER OF FILTER CARTRIDGES INSTALLED AND BY REGION SPECIFIC INTERNAL FLOW CONTROLS. CONVEYANCE CAPACITY IS RATED AT 1.8 CFS.

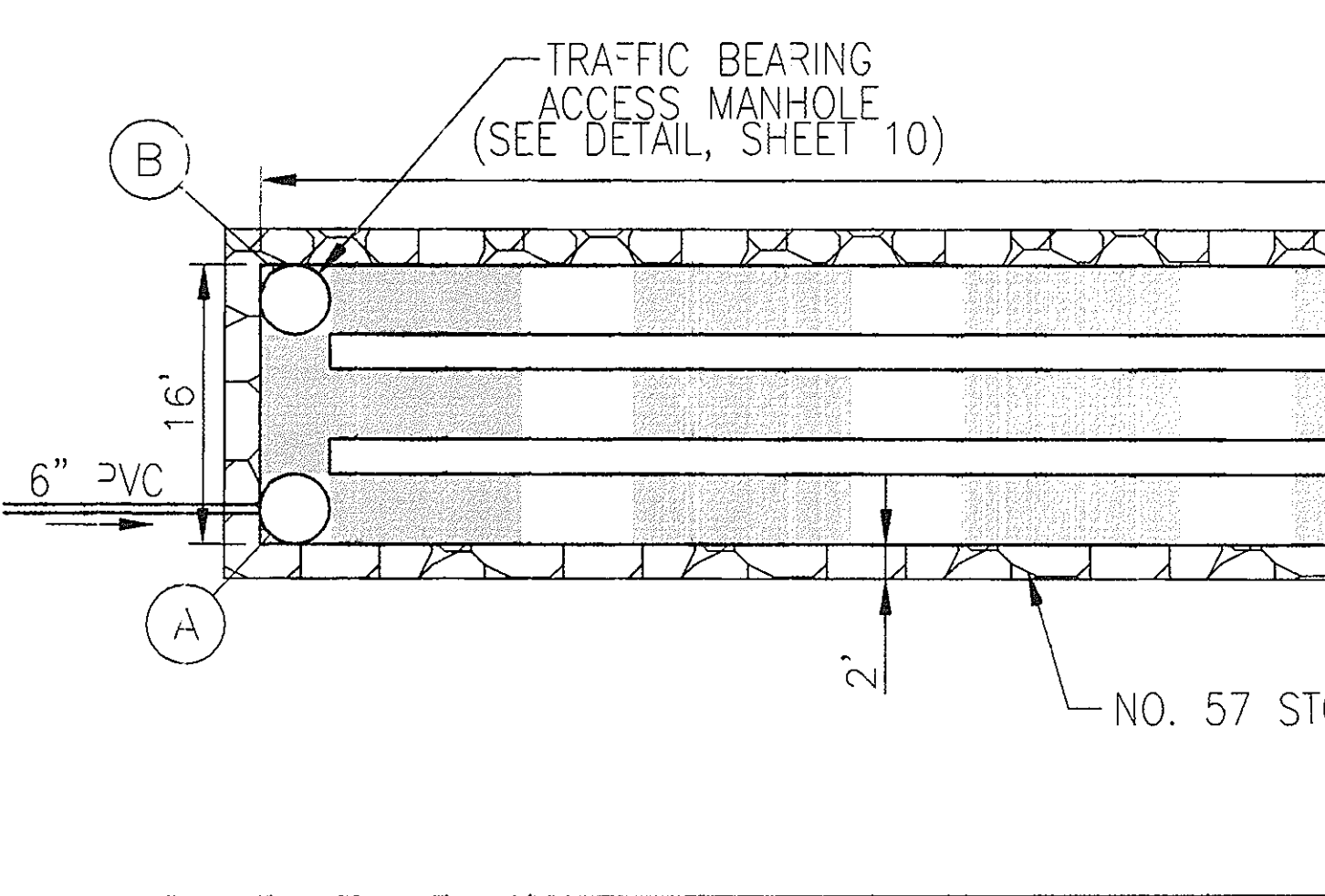
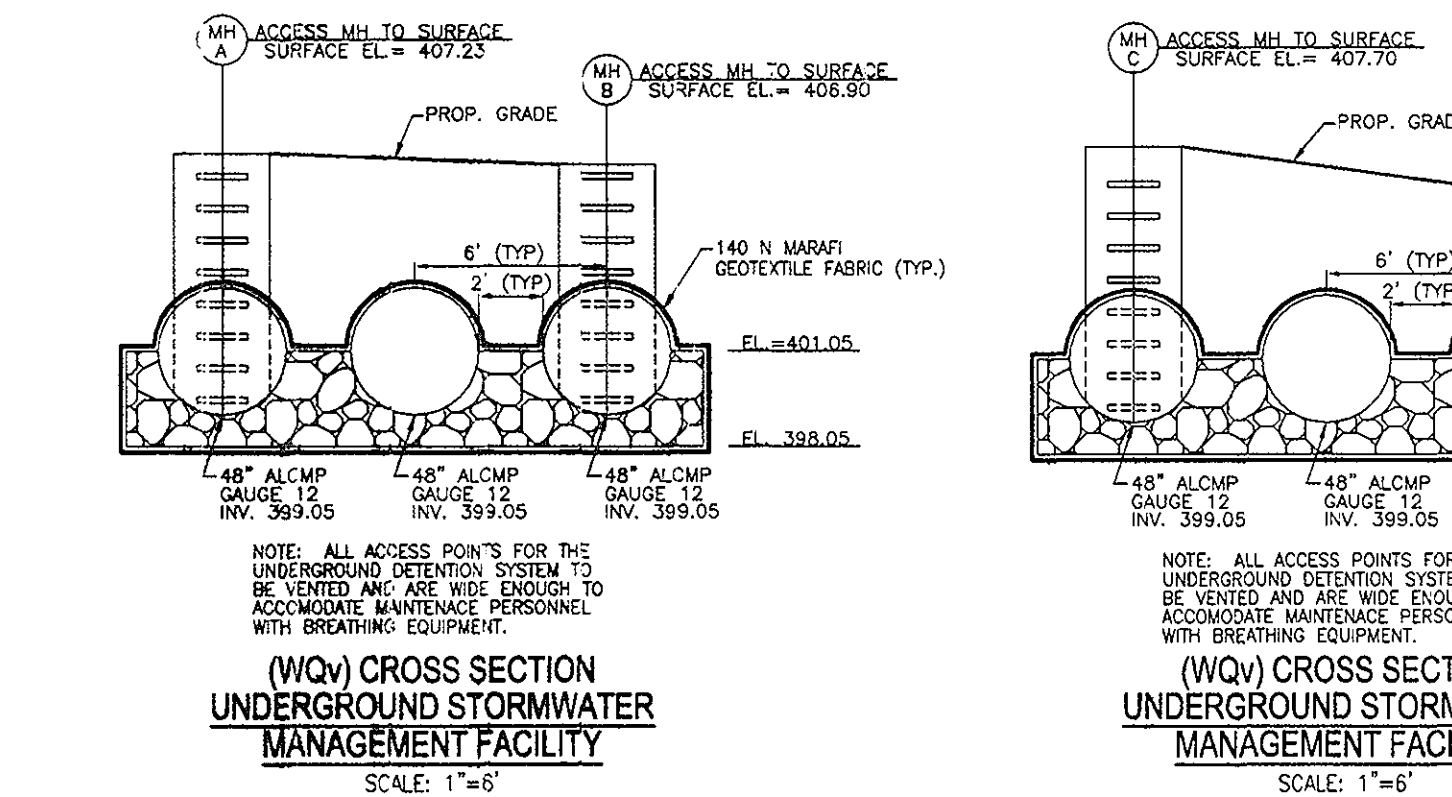
THE STANDARD CONFIGURATION IS SHOWN. ACTUAL CONFIGURATION OF THE SPECIFIED STRUCTURE(S) PER CIVIL ENGINEER WILL BE SHOWN ON SUBMITTAL DRAWINGS.

ALL PARTS PROVIDED AND INTERNAL ASSEMBLY BY CONTECH STORMWATER SOLUTIONS UNLESS OTHERWISE NOTED.



PLAN (ACCESS FRAME AND COVERS OMITTED FOR CLARITY)

SECTION A-A



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

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.

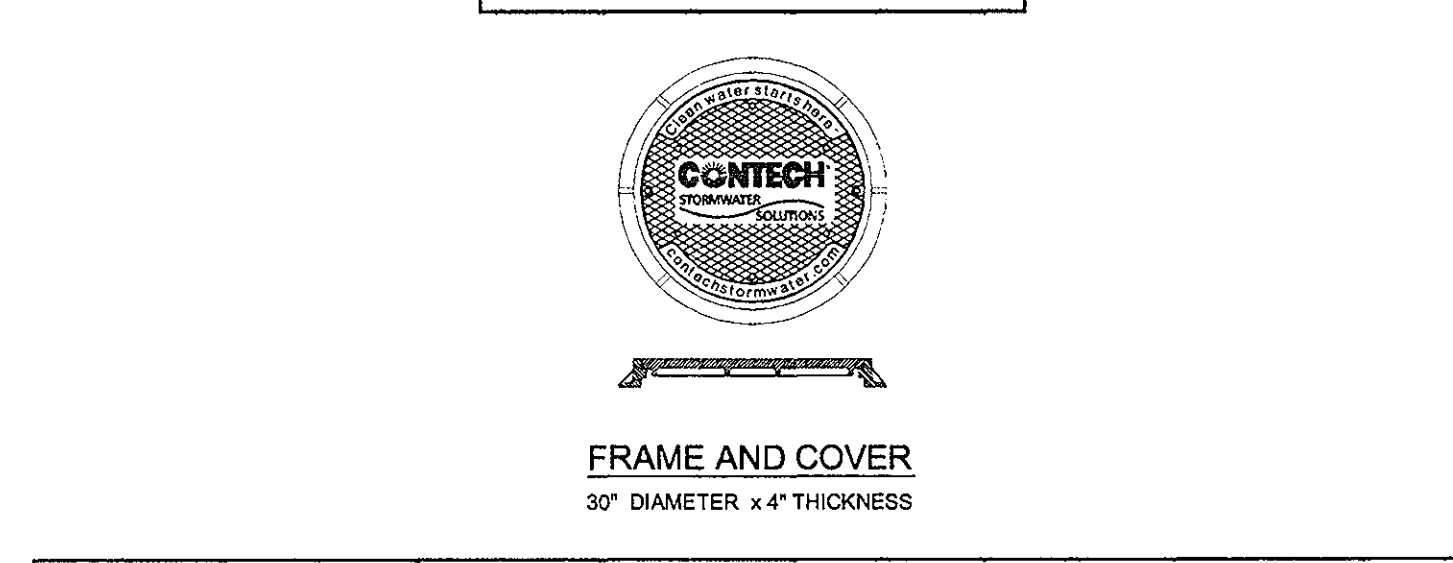
DEVELOPER'S CERTIFICATE

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.

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 C857 AND C858.
- 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 AASHTO 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 (CSF, PERLITE, ZPG)	CSF	
PIPE DATA		
I.E.	MATERIAL	DIAMETER
INLET PIPE #1	399.51	PVC 12"
INLET PIPE #2		
OUTLET PIPE	397.21	PVC 12"
UPSTREAM RIM ELEVATION		
	406.36'	
CENTER RIM ELEVATION		
	407.05'	
DOWNSTREAM RIM ELEVATION		
	407.15'	
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: 5,322,620; 5,624,576; 5,707,527; 5,985,157; 6,227,639; 6,649,048; 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 its full efficiency and effectiveness.

Maintenance requirements 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 Procedures

Although there are likely 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
- Cartridge replacement

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 cartridges and removal of accumulated sediments) should be performed during periods of dry weather.

Inspection

One time per year

After major storms

Maintenance

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

Per Regulatory requirement in the event of a chemical spill

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

Sediment removal and cartridge replacement on an as needed basis is recommended unless site conditions warrant.

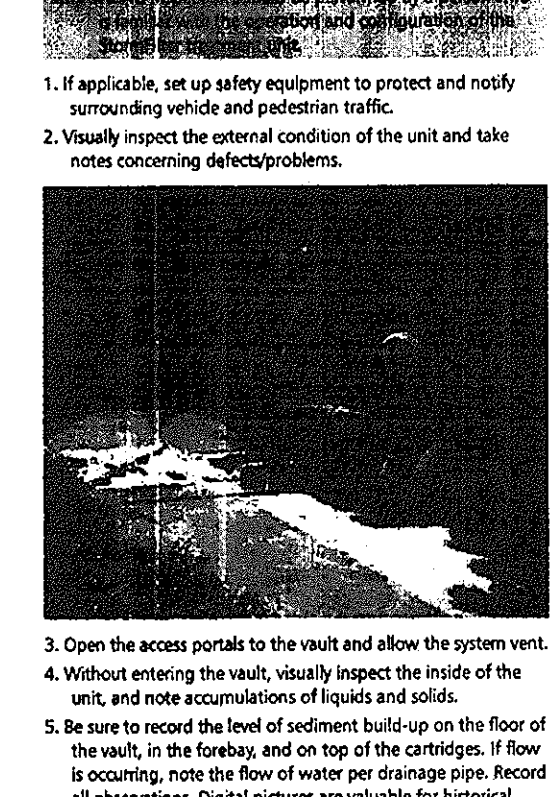
Once an understanding of the characteristics has been established, maintenance may not be needed for one to three years, but inspection is warranted and recommended annually.

Inspection is warranted and recommended annually.

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.



In addition to these two activities, it is important to check the condition of the Stormfilter unit after major storms for potential damage caused by high flows and for high sediment accumulation that may be caused by localized erosion in the drainage area. It may be necessary to adjust the inspection/maintenance schedule depending on the actual operating conditions encountered by the system. In general, inspection activities can be conducted at any time, and maintenance should occur, if warranted, in late summer to early fall when flows into the system are not likely to be present.

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 re-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 stabilized surface conditions.

The inspection frequency may be adjusted as an 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 on site. It is recommended that the site owner develop a database to properly manage Stormfilter inspection and maintenance programs.

Prior to the development of the maintenance database, the following maintenance frequencies should be followed:

Inspection

One time per year

After major storms

Maintenance

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

Per Regulatory requirement in the event of a chemical spill

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

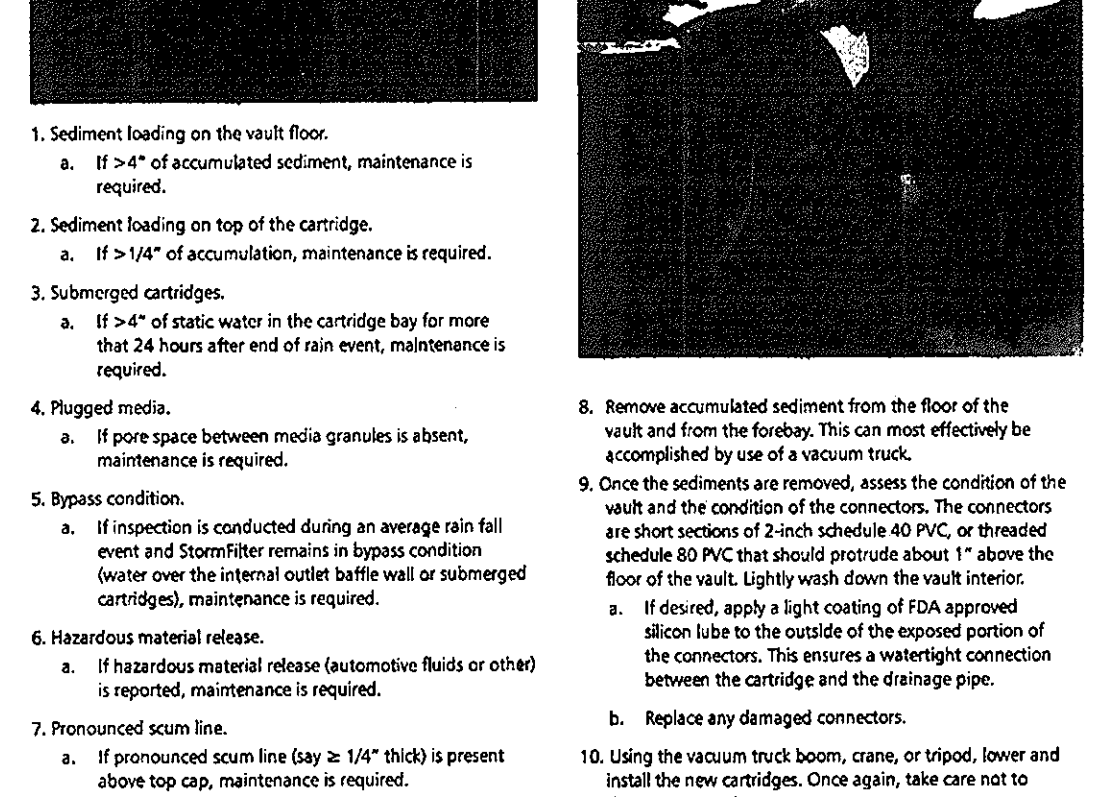
7. Remove safety equipment.

8. If appropriate, make notes about the local drainage area relative to ongoing construction, erosion problems, or high flow of other materials to the system.

9. Discuss conditions that suggest maintenance and make decision as to whether or not maintenance is needed.

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.



Assumptions

- No rainfall for 24 hours or more
- No upstream detention (at least not draining into Stormfilter)
- Structure is on level
- Outlet pipe is clear of obstruction
- Construction bypass is plugged

Maintenance

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

Important! 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.

Replacement cartridges can be delivered to the site or customers facility. Information concerning how to obtain the replacement cartridges is available from CONTECH Stormwater Solutions.

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

To conduct cartridge replacement and sediment removal maintenance:

- If applicable, set up safety equipment to protect maintenance personnel and pedestrians from site hazards.
- Visually inspect the external condition of the unit and take notes concerning defects/problems.
- Open the doors (access ports) to the vault and allow the system to vent.
- Without entering the vault, give the inside of the unit, including components, a general condition inspection.
- Make notes about the external and internal condition of the vault. Give particular attention to recording the level of sediment build-up on the floor of the vault, in the forebay, and on top of the internal components.
- Using appropriate equipment offload the replacement cartridges (up to 150 lbs. each) and set aside.
- Remove used cartridges from the vault using one of the following methods:

Method 1:

- This activity will require that maintenance personnel enter the vault to remove the cartridges from the under drain manifold and place them under the vault opening for lifting (removal). Unscrew (counterclockwise rotations) each filter cartridge from the underdrain connector. Roll the loose cartridge, on edge, to a convenient spot beneath the vault access.
- Using appropriate hoisting equipment, attach a cable from the boom, crane, or tripod to the loose cartridge. Contact CONTECH Stormwater Solutions for suggested attachment devices.

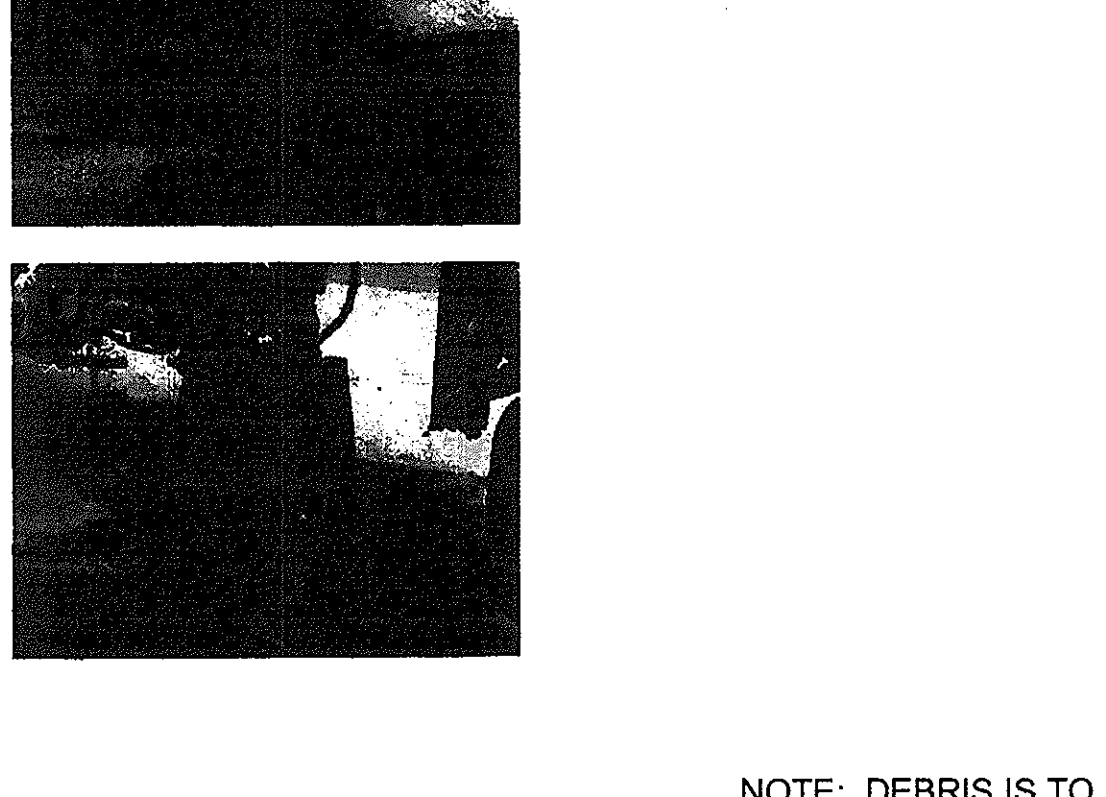
Method 2:

- Enter the vault using appropriate confined space protocols.
- Unscrew the cartridge cap.
- Remove the cartridge hood screw (S) hood and float.
- At location under structure access, tip the cartridge on its side.

11. Close and fasten the door.

12. Remove safety equipment.

13. Finally, dispose of the accumulated materials in accordance with applicable regulations. Make arrangements to return the used empty cartridges to CONTECH Stormwater Solutions.



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

NO.	REVISION	DATE
1	REPLACE SANDFILTERS 1-S 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 TEL: 410.461.7666

ELLCOTT CITY, MD 21043 FAX: 410.461.8961

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 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 discharges of inappropriate materials.

Material Disposal

The accumulated sediment found in stormwater treatment and conveyance systems must be handled and disposed of in accordance with regulatory protocols. It is possible for sediments to contain measurable concentrations of heavy metals and organic chemicals (such as pesticides and petroleum products). Areas with the greatest potential for high pollutant loading include industrial areas and heavily traveled roads.

Sediments and water must be disposed of in accordance with all applicable waste disposal regulations. When scheduling maintenance, consideration must be made for the disposal of solid and liquid wastes. This typically requires coordination with a local landfill for solid waste disposal. For liquid waste disposal a number of options are available including a municipal vacuum truck decant facility, local water treatment plant or on-site treatment and discharge.

