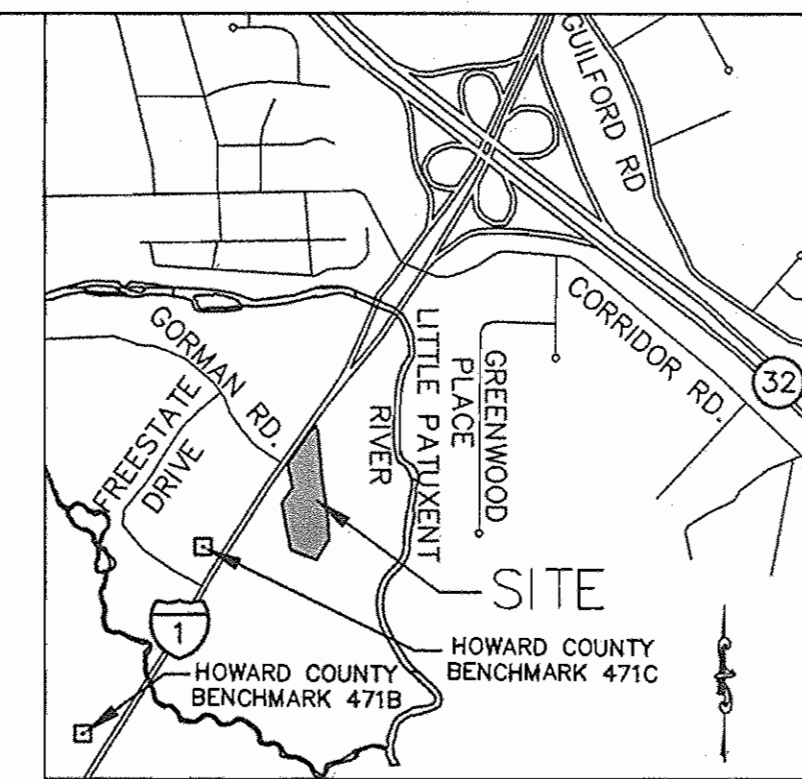


SHEET INDEX	
1	TITLE SHEET
2-3	SITE DEVELOPMENT PLAN
4	SITE DEVELOPMENT PLAN & DETAILS
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8	SWM DETAILS
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10	EXISTING DRAINAGE AREA MAP
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12	STORM DRAIN STUDY
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15	GRADING, EROSION, AND SEDIMENT CONTROL PLAN - PHASE 2
16-18	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
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# SITE DEVELOPMENT PLAN STORAGE USA FACILITY (PARCEL 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND



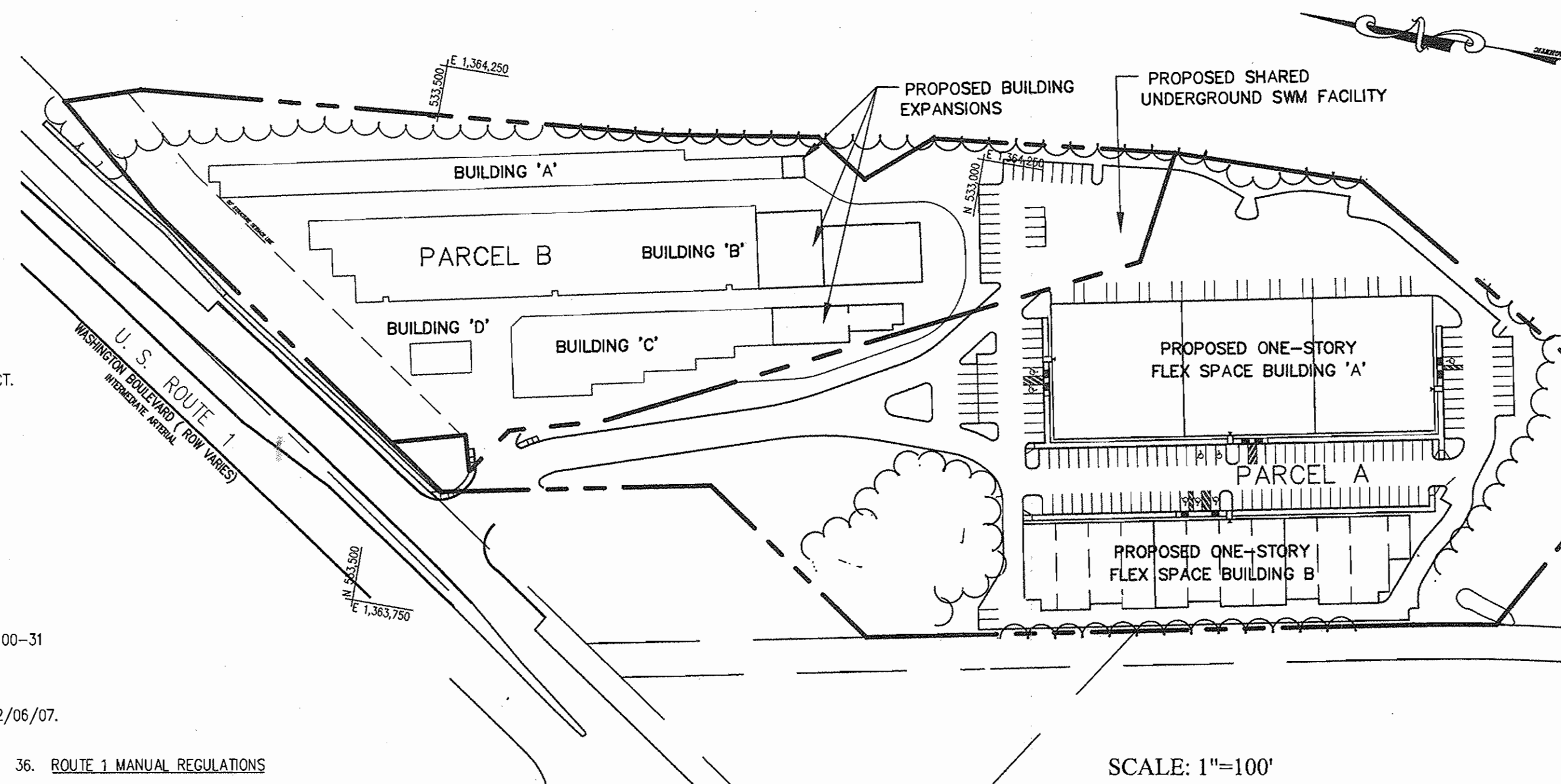
**VICINITY MAP**  
SCALE: 1" = 200'

**BENCHMARKS**  
HOWARD COUNTY GEODETIC CONTROL # 471 B  
ELEVATION 180.71  
3/4 INCH REBAR WITH ALUMINUM CAP LOCATED 16.7 FEET NORTH OF AN EXISTING FIRE HYDRANT, 2.4 FEET OFF THE EDGE OF THE U.S. ROUTE 1 PAVING ON THE SOUTHWEST QUADRANT OF THE U.S. ROUTE 1/ MAIER ROAD INTERSECTION.

HOWARD COUNTY GEODETIC CONTROL # 471 C  
ELEVATION 189.05  
STANDARD HOWARD COUNTY ALUMINUM DISC ON CONCRETE MONUMENT, FLUSH WITH THE GROUND. LOCATED 84.7 FEET SOUTH OF THE EDGE OF AN EXISTING STORM DRAIN INLET ON THE NORTHWEST QUADRANT OF THE FREESTATE DRIVE/ U.S. ROUTE 1 INTERSECTION.

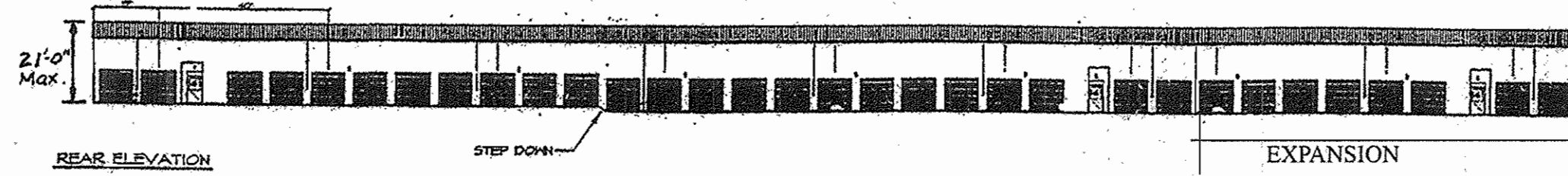
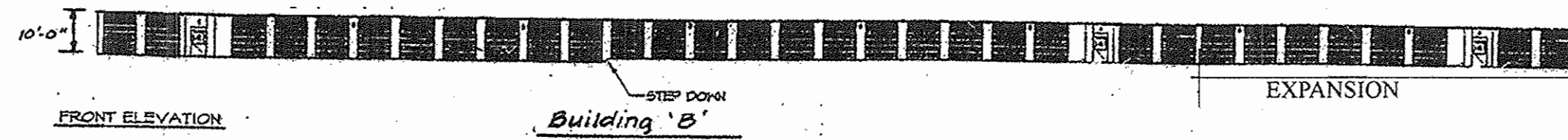
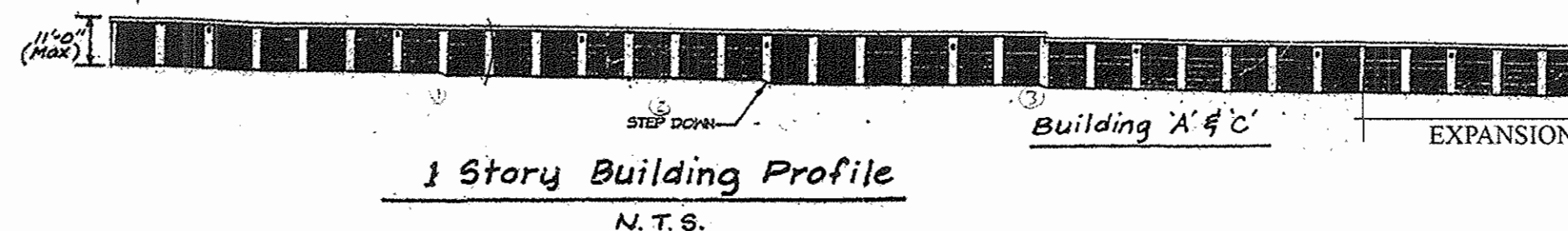
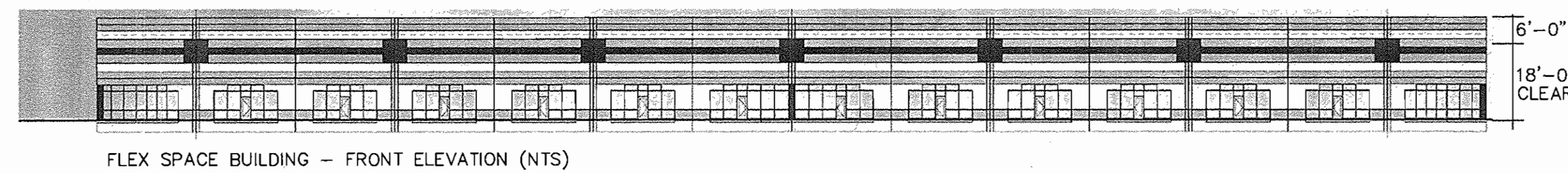
**GENERAL NOTES**

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATION IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION. AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB AND FACE OF BUILDING UNLESS OTHERWISE NOTED.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM 1) A FIELD RUN SURVEY, WITH 2 FOOT CONTOUR INTERVALS PREPARED BY CLARK, FINEFROCK & SACKETT, INC. DATED 1/07/07, 2) SDP-01-25 BY LDE, INC. FOR AREAS WITHIN THE ROUTE 1 ROW IMPROVED BY LANDSCAPING & SIDEWALKS, 3) BUILDINGS OF PARCEL 'B' ARE LOCATED BY a) CFS SURVEY DATED 1/1/07 AND b) CFS SURVEY DATED 6/09/05.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 471B AND 471C WERE USED FOR THIS PROJECT.
- WATER IS PUBLIC. CONTRACT NO. 24-4433-0.
- SEWER IS PRIVATE ONSITE, CONNECTING TO PUBLIC SEWER SYSTEM OFF-SITE.
- THE STORMWATER MANAGEMENT QUANTITY AND WATER QUALITY PROPOSED FOR THIS SITE WILL BE ACHIEVED BY STORMTECH FACILITY AND WILL BE PRIVATELY OWNED & MAINTAINED. EXISTING SWM FACILITY WAS BUILT UNDER SDP-01-025.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICES. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- A 100-YEAR FLOODPLAIN STUDY HAS BEEN PREPARED BY CLARK, FINEFROCK & SACKETT, INC. FILED UNDER SDP-01-25 AND F-00-31
- A WETLAND EVALUATION REPORT HAS BEEN PREPARED BY MCCARTHY & ASSOCIATES, INC. DATED NOVEMBER 1998. FILED UNDER SDP-01-25 AND F-00-31.
- A TRAFFIC IMPACT ANALYSIS HAS BEEN PREPARED BY STREET TRAFFIC STUDIES, LTD. DATED OCTOBER, 2006 & APPROVED ON 02/06/07.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- A GEOTECHNICAL STUDY HAS BEEN PREPARED BY KONDNER ENGINEERING AND TECHNICAL SERVICES, DATED 3/28/05.
- THE BOUNDARY SURVEY FOR THIS PROJECT HAS BEEN PREPARED BY CLARK, FINEFROCK & SACKETT, INC. DATED 4/07/02.
- SUBJECT PROPERTY ZONED CE-CL1 PER 2/02/04 COMPREHENSIVE ZONING PLAN AND THE COMP LITE ZONING REGULATION AMENDMENTS EFFECTIVE ON 7/28/06
- SEE DEPARTMENT OF PLANNING AND ZONING FILE NOS. F-00-31, F-02-20, SDP-01-25, F-98-139, WP-98-109, SP-99-07 & F-07-94.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS 'C' AS SHOWN IN FIG. 11.4, VOLUME 1 OF HOWARD COUNTRY DESIGN MANUAL UNLESS OTHERWISE NOTED.
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T98.
- THE PAVEMENT DETAILS SHOWN FOR THIS SITE REFLECT THE HOWARD COUNTY STANDARD PAVEMENT SECTIONS AND ARE NOT BASED ON SITE SPECIFIC CONDITIONS. PRIOR TO PAVING THE FINAL PAVEMENT SECTIONS SHALL BE DETERMINED BY A QUALIFIED GEOTECHNICAL ENGINEER BASED ON IN-SITU TESTING OF THE FINISHED SUBGRADE.
- THIS PROPERTY ADDRESSED THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL UNDER F-00-31, PLAT NOS. 14746 THRU 48 WITH THE RETENTION OF 2.99 ACRES OF EXISTING ON-SITE FOREST IN EASEMENTS LOCATED ON PARCEL A AND OPEN SPACE LOT 2. UNDER THIS SDP AND F-07-94, AN ADDITIONAL 0.28 ACRES OF TREE CLEARING AND ABANDONMENT IS TO OCCUR WITHIN EXISTING FOREST CONSERVATION EASEMENT AREA WHICH RESULTS IN 2.71 ACRES OF REMAINING RETENTION EASEMENT, A 0.28 ACRE ABANDONMENT OBLIGATION AT \$1.25 PER SQ. FT. AND 0.05 ACRES REFORESTATION OBLIGATION AT \$0.75 PER SQ. FT. TO BE PROVIDED BY A FEE-IN-LIEU PAYMENT OF \$16,879.50 WHICH HAS BEEN PAID TO THE FOREST CONSERVATION FUND.
- LANDSCAPING IN ACCORDANCE WITH SECTION 16.124 OF THE LANDSCAPE MANUAL SHALL BE PROVIDED AS SHOWN ON THIS SITE PLAN. SURETY IN THE AMOUNT OF \$14,970 SHALL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT.
- ALL LIGHTING IS TO BE DIRECTED/REFLECTED AWAY FROM ADJACENT PUBLIC ROADS AND RESIDENTIALLY ZONED PROPERTIES, AND BE IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY REGULATIONS.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING OR NEW STRUCTURE SHALL BE PERMITTED WITHIN THE WETLANDS AND STREAMS OR REQUIRED BUFFERS, 100 YEAR FLOOD PLAIN EASEMENT AND FOREST CONSERVATION EASEMENTS.
- THIS SITE PLAN IS SUBJECT TO COMPLIANCE WITH THE ROUTE 1 MANUAL.
- THERE ARE NO CEMETERIES OR HISTORIC STRUCTURES LOCATED ON THE SUBJECT PROPERTY
- THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL NO. 45-2003 AND THE ZONING REGULATIONS AS AMENDED BY CB-75-2003. DEVELOPMENT OR CONSTRUCTION ON THIS PROPERTY MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION OR BUILDING/GRADING PERMIT APPLICATIONS.
- THE PROPOSED CONSTRUCTION OF THE RETAINING WALL SHALL BE PERFORMED UNDER THE OBSERVATION OF A MARYLAND REGISTERED PROFESSIONAL ENGINEER.
- MOE PERMIT #200066709 IS ISSUED FOR GRADING AND CONSTRUCTION WITHIN THE 100 YEAR FLOODPLAIN.
- A KNOX BOX IS TO BE PLACED NO FURTHER THAN 6 FEET AWAY FROM THE MAIN ENTRANCE AND WIRED TO FIRE ALARM PANEL.



**ROUTE 1 MANUAL REGULATIONS**

- PERMITTED USE - THIS PROJECT COMPLIES WITH THE NEW PERMITTED USE FOR FLEX-SPACE
- STREETScape DESIGN - THIS PROJECT COMPLIES BY PROVIDING NEW STREET TREES AND A 5' WIDE SIDEWALK ALONG ROUTE 1.
- SITE DESIGN - THIS PROJECT COMPLIES BY PROVIDING A MINIMUM 5% AMENITY AREA OF APPROXIMATELY 13,880 SQUARE FEET. THE PROPOSED PARKING AND LOADING ZONES ARE LOCATED AWAY FROM ROUTE 1 AND TO THE SIDE AND REAR OF THE FLEX SPACE BUILDINGS.



**SITE DATA**

TOTAL AREA	10.74 Ac.
PARCEL 'A'	6.20 Ac.
PARCEL 'B'	4.54 Ac.

**PARCEL 'A'**

AREA OF PARCEL	6.20 Ac.
PROPOSED USE	VACANT- (ABANDONED CONCRETE PLANT)
PRESENT ZONING	CE-CL1
PROPOSED USE	FLEX SPACE (OFFICE, RESEARCH AND DEVELOPMENT, LIGHT MANUFACTURING, ASSEMBLY, STORAGE AND SALES)
BUILDING COVERAGE	71,100 SF (26% OF PARCEL AREA)
# OF PARKING SPACES REQUIRED	71,100 SF @ 2.5 SP/1,000 SF = 178 SPACES
# OF PARKING SPACES PROVIDED	= 178 SPACES (INCLUDING 8 HC)
AMENITY AREA REQUIRED	= 5%
AMENITY AREA PROVIDED	= 13,880 SF (OR 5.14%)
DPZ FILE REFERENCES	SDP-01-25, SDP-99-08, WP-98-109, F-00-31, F-98-139, F-07-94, F-02-20

**PARCEL 'B'**

AREA OF PARCEL	4.54 Ac.
PRESENT USE	SELF STORAGE FACILITY
PRESENT ZONING	CE-CL1
PROPOSED USE	SELF STORAGE EXPANSION
BUILDING FLOOR SPACE PER USE:	1.) CURRENT STORAGE USAGE: BUILDING EXPANSION: a.) BUILDING 'A', 1 STORY, 15,150 s.f. a.) BUILDING 'A', (+400 s.f.) b.) BUILDING 'B', 2 STORY, 59,250 s.f. b.) BUILDING 'B', (+18,600 s.f.) c.) BUILDING 'C', 1 STORY, 13,990 s.f. c.) BUILDING 'C', (+3540 s.f.) TOTAL EXISTING STORAGE SPACE = 88,390 s.f. TOTAL ADDITION = 22,540 s.f. TOTAL EXISTING & PROPOSED STORAGE SPACE = 110,930 s.f.
	2.) EXISTING OFFICE USE: PROPOSED OFFICE USE: 0 s.f. a.) BUILDING 'D', 1 STORY, 1,500 s.f.
	3.) EXISTING APARTMENT: PROPOSED APARTMENT: 0 s.f. a.) BUILDING 'D', 2nd STORY, 1,500 s.f. TOTAL EXISTING & PROPOSED OFFICE & APARTMENT = 3,000 s.f. TOTAL EXISTING FLOOR AREA: 91,390 s.f. TOTAL EXISTING & PROPOSED FLOOR AREA: 113,930 s.f. (OFFICE, APARTMENT & WAREHOUSE)
BUILDING COVERAGE (EXISTING & PROPOSED)	73,505 SF (37% OF PARCEL AREA)
MAXIMUM NUMBER OF EMPLOYEES:	2
PARKING REQUIRED:	4 SPACES/1000 s.f. OF OFFICE AREA = 6 SPACES 2 SPACES/ONSITE RESIDENCE = 2 SPACES TOTAL PARKING REQUIRED = 8 SPACES
PARKING PROVIDED:	1 VAN ACCESSIBLE HANDICAP SPACE + 4 REGULAR SPACES IN PARKING LOT ADJACENT TO OFFICE. ONE (1) SPACE INSIDE BUILDING 'C' AND TWO (2) PARALLEL SPACES BEHIND BLDG D. TOTAL PARKING PROVIDED = 8 SPACES (EXISTING)

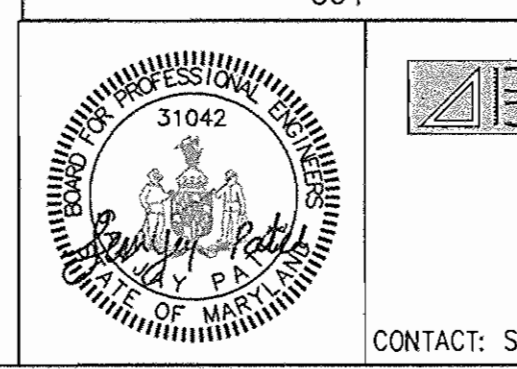
**PAR 'B' - PROP. NEW SF/ EX. SF = % EXPANSION**

% BLDG EXPANSION	22,540 sf/91,390 SF = 24.7%
% DRIVEWAY EXPANSION	7,560 SF/51,695 SF = 14.6%
% INFRASTRUCTURE EXPANSION	= 0%
% LAND GRADED EXPANSION	= 0%
TOTAL PERCENTAGE OF EXPANSION	= 0.69 ACRES OR 15%
PERCENTAGE OF SITE BROUGHT INTO COMPLIANCE	= 15%

**ADDRESS CHART**

LOT NUMBER	STREET ADDRESS
PAR A	9205 WASHINGTON BLVD
PAR B	9155 WASHINGTON BLVD

SUBDIVISION NAME:		SECT./AREA:	PARCEL:
A. H. SMITH SUBDIVISION		N/A	144, PAR A & B
PLAT #:	BLOCK #:	ZONE:	TAX MAP NO. :
14746, 14747, 14748	18	CE-CL1	47
14987, 14988, F-07-94			6 TH
WATER CODE:		SEWER CODE:	
C04		4250000	



**AB CONSULTANTS, INC.**  
9450 ANNAPOLIS ROAD  
LANHAM, MARYLAND 20706  
PHONE: (301) 306-3091  
FAX: (301) 306-3092

CONTACT: SANJAY PATEL PHONE: 301-306-3091 x121

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Mark L. Ceyll* 2/6/08  
DIRECTOR DATE

*Chris Chamberlain* 2/6/08  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Chris Chamberlain* 2/6/08  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

OWNER (PAR. A)  
LITTLE PATUXENT REAL ESTATE LLC  
28949 MILES RIVER ROAD  
EASTON, MARYLAND 21601

OWNER (PAR. B)  
ROUTE 1 SELF STORAGE LLC  
PO BOX 15080  
CHEVY CHASE, MARYLAND 20825

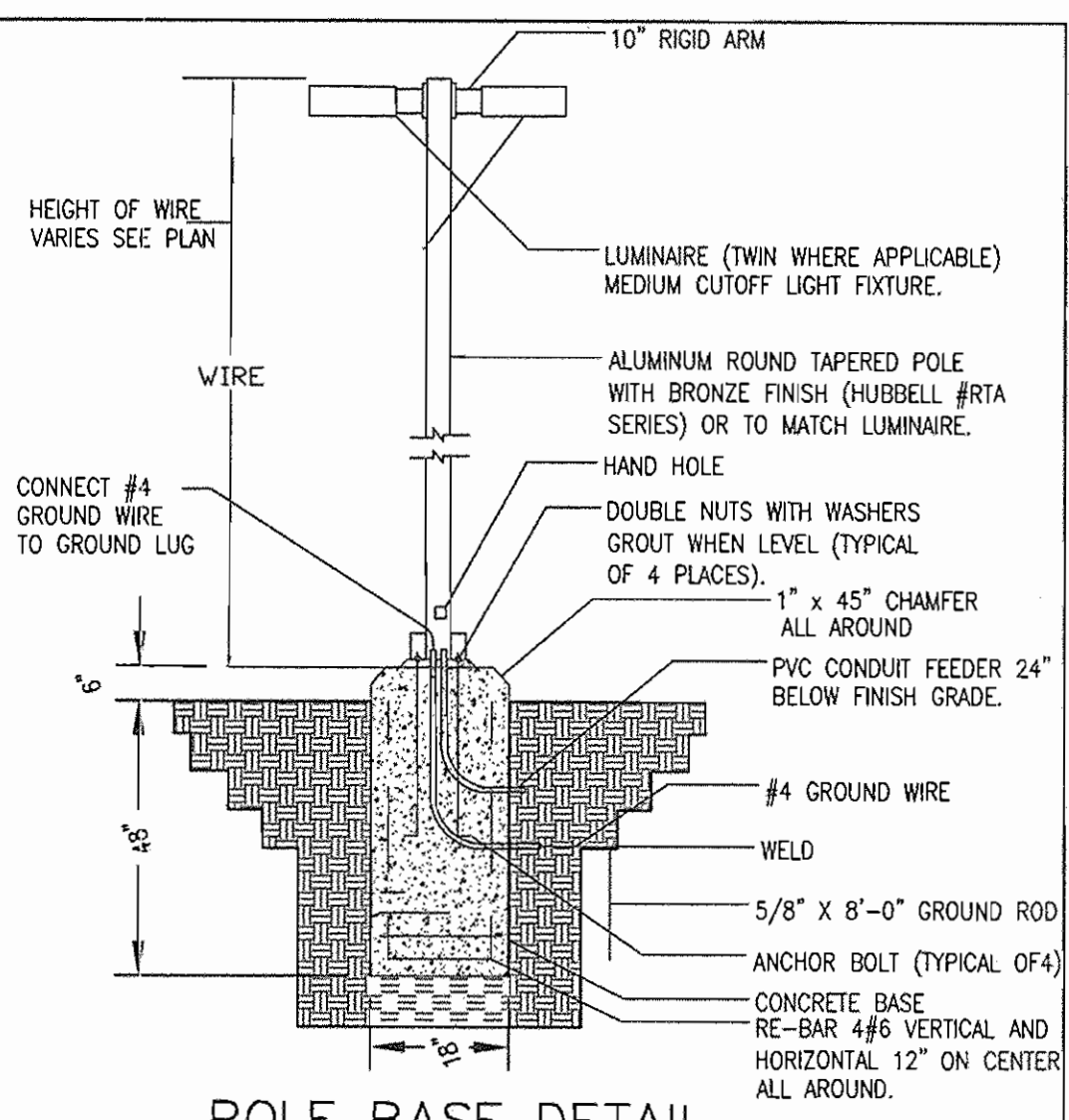
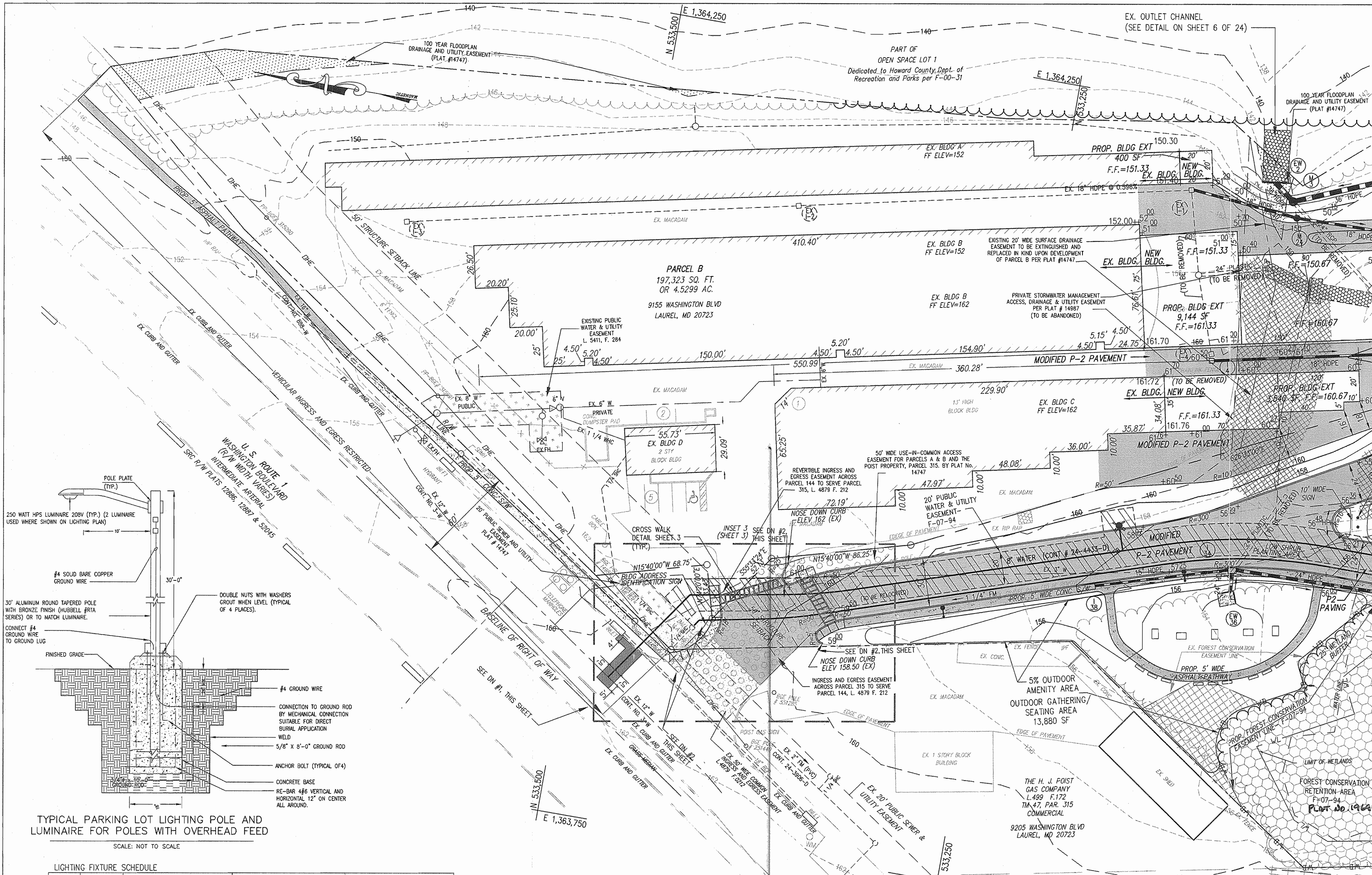
DEVELOPER:  
DOUG CHAMBERLAIN  
CHAMBERLAIN CONSTRUCTION INC  
3138 ROGERS AVENUE  
ELLICOTT CITY, MARYLAND 21043  
TELEPHONE: 410-203-2460

PROJECT STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING

**TITLE SHEET**

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144

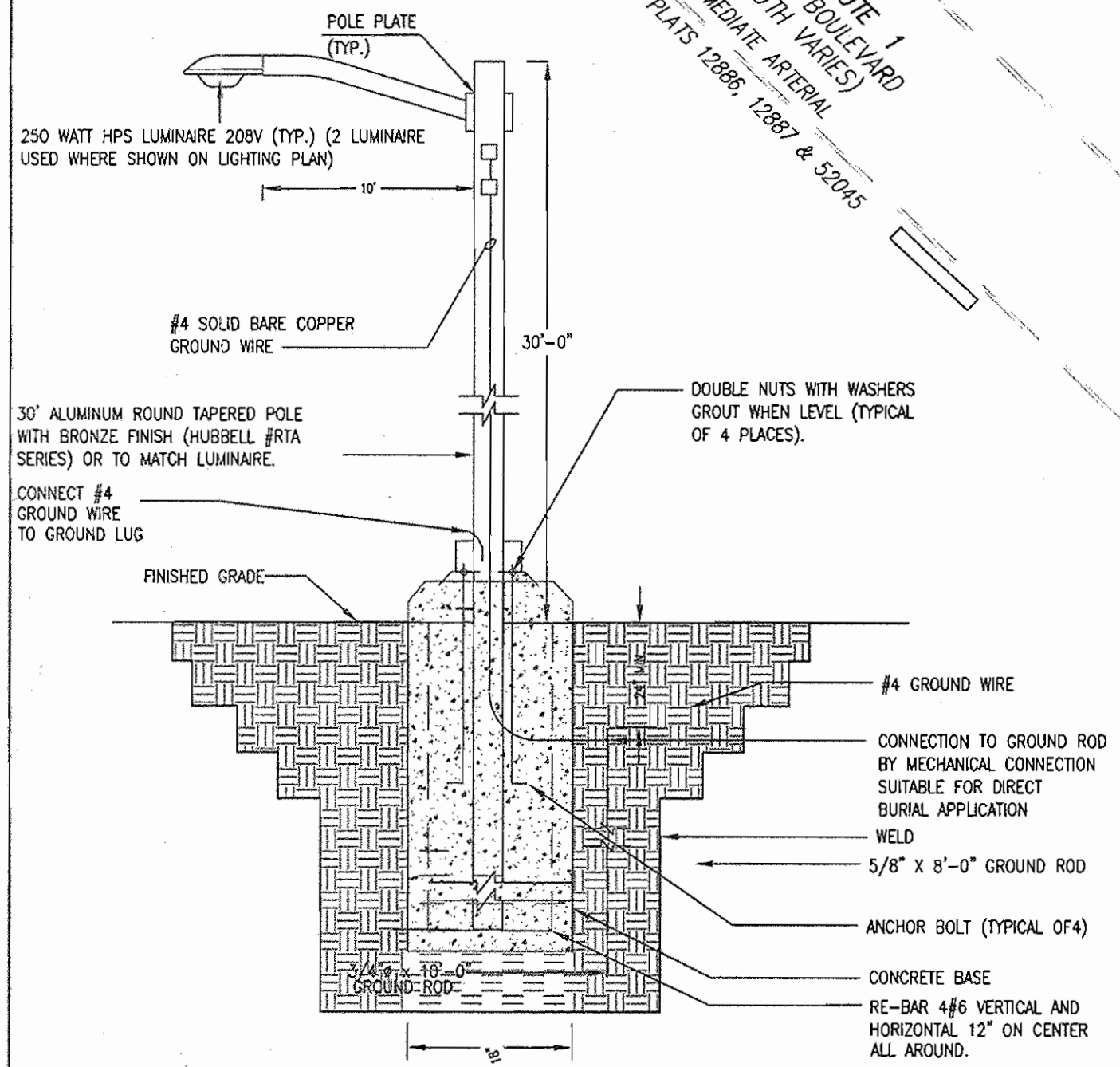
PROJECT NO. 04-210  
SCALE: AS SHOWN  
DATE: 01/23/08  
DRAWN BY: --  
CHECKED BY: --  
SHEET: 1 OF 25



**NOTE:**  
 1. LIGHT TO BE KIM ENTABLATURE RECTILINEAR FIXTURE PER LIGHTING FIXTURE SCHEDULE.  
 2. LIGHTING DETAIL FOR INFORMATIONAL PURPOSES ONLY. SEE ELECTRICAL AND ARCHITECTURAL PLANS FOR ACTUAL LIGHTING DETAILS AND SPECIFICATIONS.

**LEGEND:**

---	330	EXISTING 10' CONTOURS
---	332	EXISTING 2' CONTOURS
---	320	PROPOSED 10' CONTOURS
---	322	PROPOSED 2' CONTOURS
---	ML	LIMIT OF WETLAND
---	WB	WETLAND BUFFER LINE
---		EXISTING CURB & GUTTER
---		EXISTING WATERLINE
---		EXISTING SENEERLINE
---		STANDARD CURB & GUTTER (HO. CO. STD. #R-3.01 SEE DETAIL ON SHEET 4)
---		PROPOSED STORM DRAIN
---		EXISTING TREELINE
---		PROPOSED TREELINE
---		MODIFIED P-2 PAVING (HO. CO. DETAIL R-2.01, SEE DETAIL ON SHEET 4)
---		CONCRETE SIDEWALK (HO. CO. DETAIL R-3.05, SEE DETAIL SHEET 4)
---		15% TO 25% SLOPE
---		25% OR GREATER SLOPE
---		FOREST CONSERVATION EASEMENT TO BE RETAINED
---		FOREST CONSERVATION EASEMENT TO BE ABANDONED
---		EXISTING ON-SITE 100 YEAR FLOODPLAIN
---		20' PUBLIC SEWER & UTILITY EASEMENT L. 5769 F. 025 PLAT # 14747
---		EXISTING 50' WIDE COMMON INGRESS & EGRESS EASEMENT L. 4879 F. 0212
---		50' WIDE USE-IN-COMMON ACCESS EASEMENT FOR PARCELS A & B & THE POST PROPERTY, PARCEL 315 BY PLAT NO. 14747
---		PUBLIC WATER EASEMENT
---		10' STREET TREE EASEMENT
---		EXISTING SPOT ELEVATION EXAMPLE
---		PROPOSED SPOT ELEVATION EXAMPLE
---		ENTRANCEWAY (TO BE UTILIZED BY HANDICAPPED PERSONS)



TYPICAL PARKING LOT LIGHTING POLE AND LUMINAIRE FOR POLES WITH OVERHEAD FEED  
 SCALE: NOT TO SCALE

**LIGHTING FIXTURE SCHEDULE**

TYPE	MOUNTING	DESCRIPTION	LUMINAIRE	CATALOG NO.
—	30' ROUND STRAIGHT ALUMINUM POLE	TYPE 3 FULL CUT OFF PARKING LUMINAIRE (DARK BRONZE FINISH) WITH MATCHING POLE TO BE PRIVATELY OWNED AND MAINTAINED. UL LISTED FOR WET LOCATION. ALUMINUM HOUSING WITH DIE CAST ENDS AND OUTDOOR, POLYESTER POWDER PAINT FINISH, ENGAGED SEALED AND GASKETED HOUSING, HFF BALLAST, AND EXTERNAL LIGHT SHIELD.	175W MH METAL HALIDE LAMP, 120V, INTENSITY 13,500 LUMENS, BULB - ED-17, BASE MEDIUM, PARTIALLY SHIELDED.	ELS-DMA-17-M-1-H-2-L-MC3-DB-1-J MANUFACTURER - G.E. LIGHTING SVCS. INC.
—	30' BRONZE FIBERGLASS POLE	VAPOR PENDANT FIXTURE, 12' ARM STREET LIGHT TO BE INSTALLED BY OTHERS		250W HPS 250 V

**EXTERIOR LIGHTING FIXTURE SCHEDULE**

MARK	ILLUM	FIXTURE DESCRIPTION	REMARKS	VOLT	MOUNTING	QTY	LAMP TYPE	MANUFACTURER
X1	HID	WALLIGHT	BRONZE	ARCHITECTURAL STYLE	120	SURFACE	6	100 WATT M.H. MCPHERLEN # 101 LINE SERIES
X2	INCAN.	WALLIGHT	BRONZE		120	SURFACE	14	100 WATT A-19, 130V, PROGRESS #P5764-71
X3	COMPACT FLUOR.	DOWNLIGHT	CLEAR ALZAK		120	SURFACE	2	18 WATT CF, OMEGA #0M6 SERIES

- GENERAL NOTES**
- INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF ALL MAINS BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF TRENCHING. IF ANY CLEARANCE IS LESS THAN SHOWN ON THIS PLAN OR TWELVE (12) INCHES, WHICHEVER IS LESS, CONTACT THE DESIGN ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION. THE OWNER SHALL BE NOTIFIED IMMEDIATELY OF ANY UTILITY FINDING WHICH DEVIATE FROM THE CONDITIONS SHOWN.
  - CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK WITH OTHER CONTRACTORS.
  - THE MAIN WATER LINE AND WATER HOUSE CONNECTIONS (WHC) MUST HAVE A MINIMUM OF 42" COVER.
  - PIPE LENGTHS AND LOCATION ARE TO BE DETERMINED IN THE FIELD BEFORE ORDERING.
  - THE SIZE OF WATER HOUSE CONNECTION SHALL BE 6".
  - THE SIZE OF SEWER HOUSE CONNECTION SHALL BE 4".
  - THE FRONTAGE IMPROVEMENTS SHALL BE PER HOWARD COUNTY STD. DETAIL R 10.01.
  - THE SIZE OF SEWER MAIN SHALL BE 2" (FORCE MAIN).

- NOTES**
- ALL CURB RADII ARE 5' UNLESS OTHERWISE NOTED.
  - ALL DIMENSIONS ARE TO FACE OF CURB OR BUILDING UNLESS OTHERWISE NOTED.
  - ALL ON-SITE ROADS ARE PRIVATE.
  - SITE LIGHTS TO BE 175 AND 250 WATT METAL HALIDE VERTICAL LAMPS ON SHOEBOXES ON 1"-6" BASE WITH 30' ROUND TAPERED POLE FINISHED IN DARK BRONZE.
  - ALL LIGHTING IS TO BE DIRECTED/REFLECTED AWAY FROM ADJACENT PUBLIC ROADS AND RESIDENTIALLY ZONED PROPERTIES. AND BE IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY REGULATIONS.
  - SWM FACILITY AND ALL STORM DRAIN SYSTEM ARE PRIVATELY OWNED & MAINTAINED.
  - FOR DETAIL OF STRUCTURE # 1/6, CS/1 AND MH/7 REFER TO SHEET 5.
  - CONTRACTOR TO PROVIDE PRIVATELY OWNED INSIDE WATER METER
  - REFER TO SHEET 4 FOR WALL MOUNTED LITHONIA LIGHTING DETAILS.

**DRAWING NOTES (DN)**  
 DN #1. ROAD EXCAVATION, BACKFILL AND INSTALLATION AS PER MDSHA STD. # 578.01.  
 DN #2. SIDEWALK RAMP AS PER HOWARD CO. STD NO R-4.03

**AB CONSULTANTS, INC.**  
 9450 ANNAPOLIS ROAD  
 LANHAM, MARYLAND 20706  
 PHONE: (301) 306-3091  
 FAX: (301) 306-3092

CONTACT: SANJAY PATEL PHONE: 301-306-3091 x121

**SITE DEVELOPMENT PLAN**

PROJECT STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING

6TH ELECTION DISTRICT TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144

HOWARD COUNTY, MARYLAND

OWNER (PAR. A)  
 LITTLE PATUXENT REAL ESTATE LLC  
 26949 MILES RIVER ROAD  
 EASTON, MARYLAND 21601

OWNER (PAR. B)  
 ROUTE 1 SELF STORAGE LLC  
 PO BOX 15080  
 CHEVY CHASE, MARYLAND 20825

DEVELOPER:  
 DOUG CHAMBERLAIN  
 CHAMBERLAIN CONSTRUCTION INC  
 3138 ROGERS AVENUE  
 ELLICOTT CITY, MARYLAND 21043  
 TELEPHONE: 410-203-2460

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
 Director: [Signature] DATE: 2/7/08  
 Chief, Development Engineering Division: [Signature] DATE: 2/1/08  
 Chief, Division of Land Development: [Signature] DATE: 2/6/08

DATE NO. REVISION

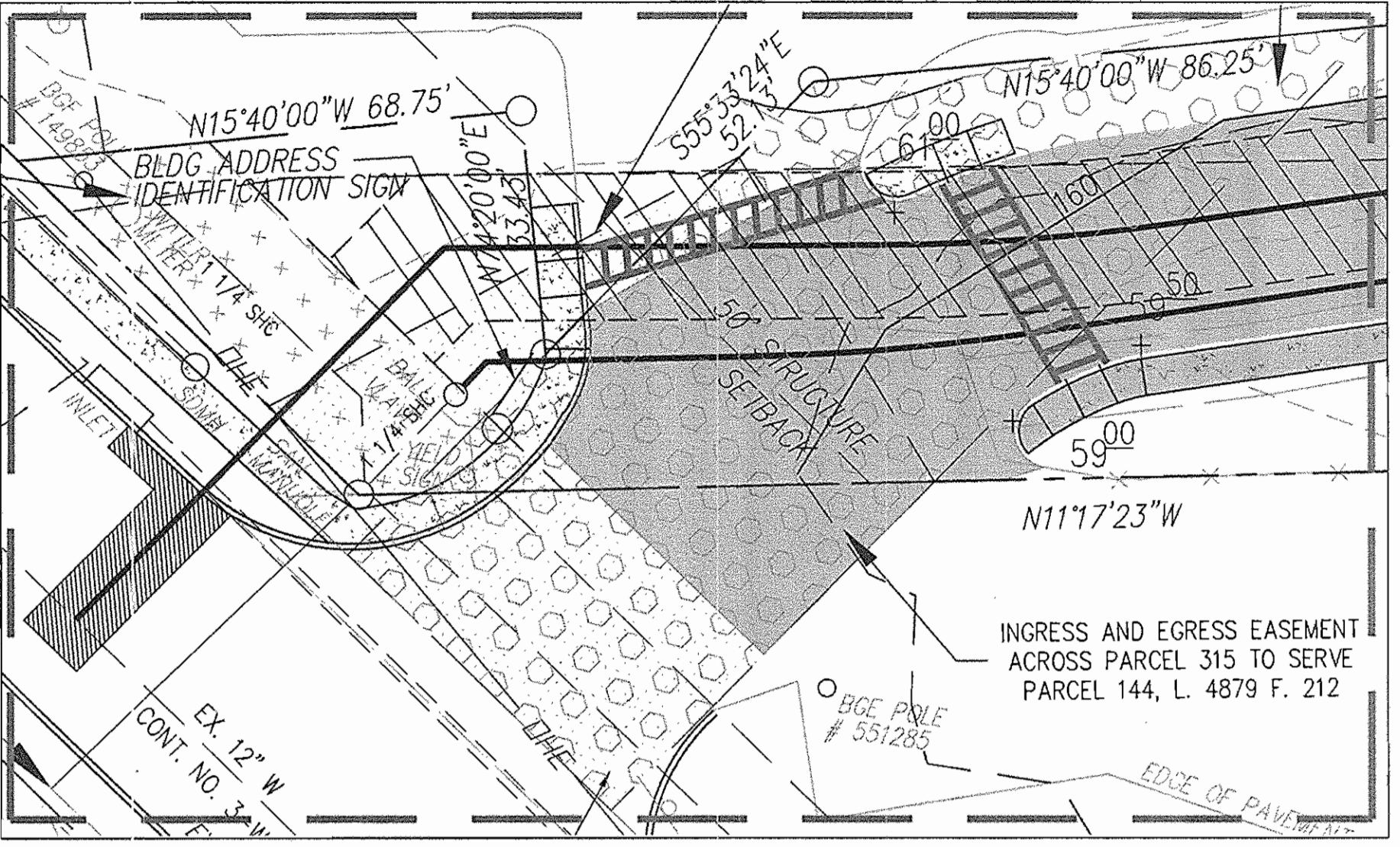
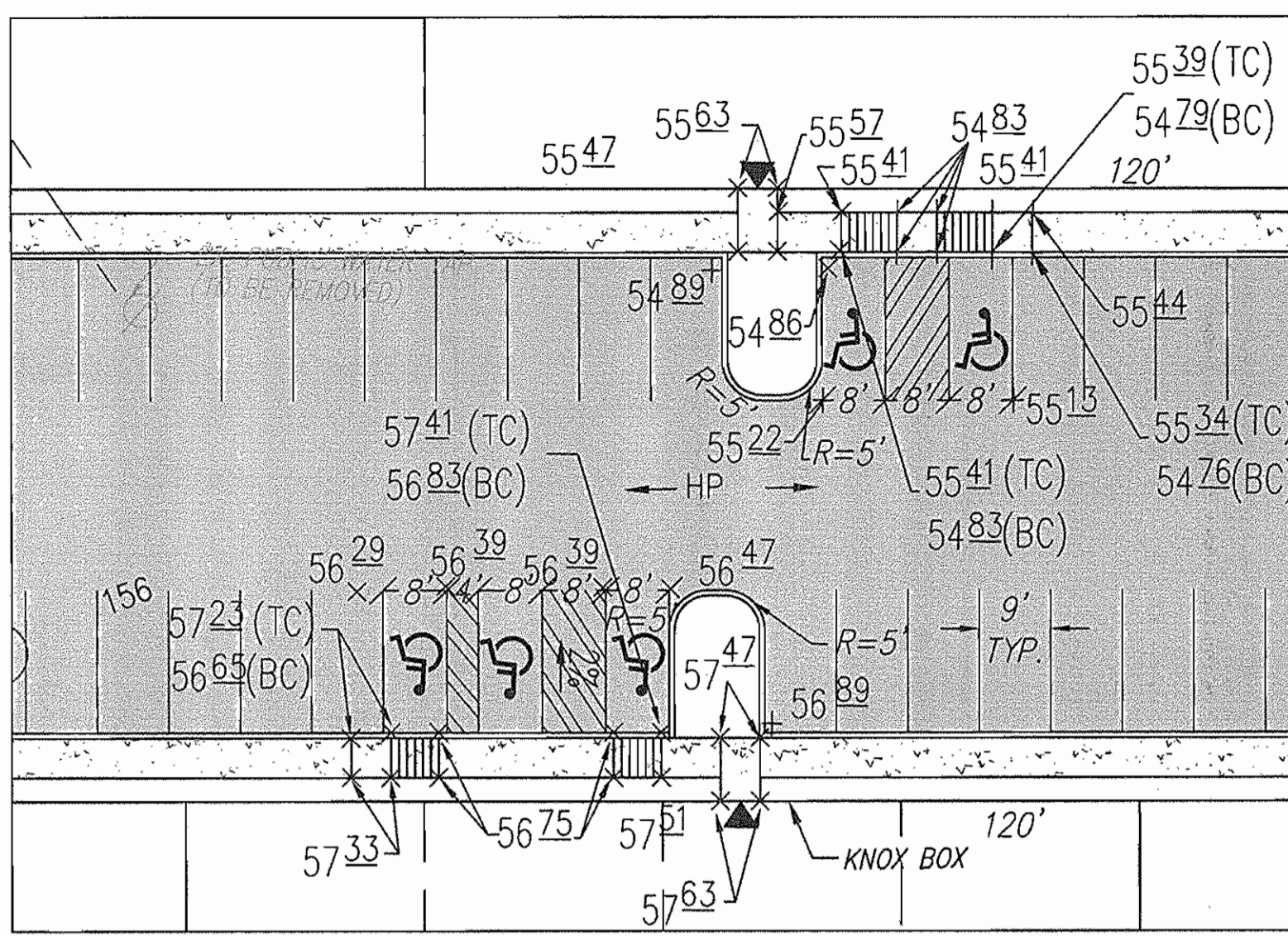
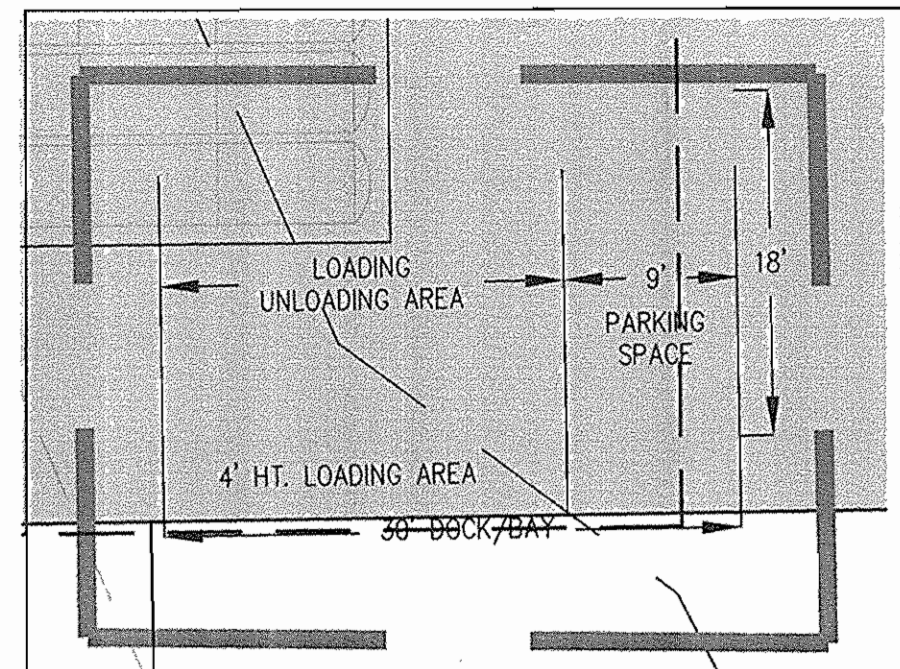
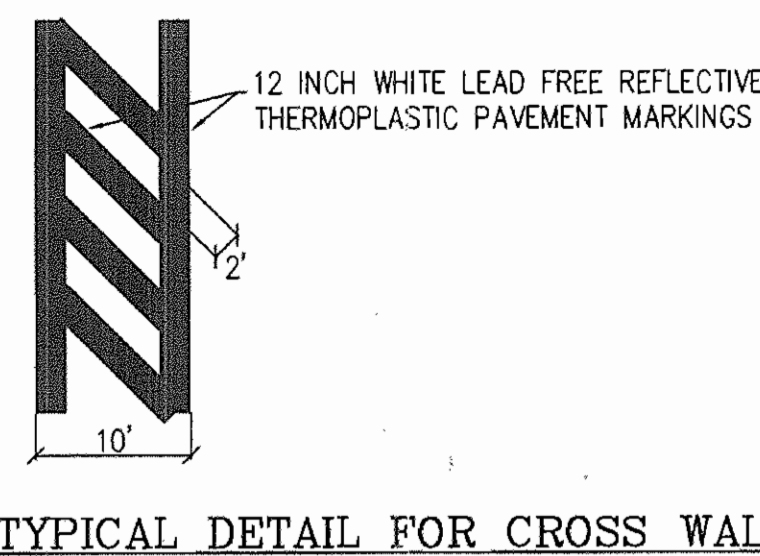
OWNER (PAR. A)  
 LITTLE PATUXENT REAL ESTATE LLC  
 26949 MILES RIVER ROAD  
 EASTON, MARYLAND 21601

OWNER (PAR. B)  
 ROUTE 1 SELF STORAGE LLC  
 PO BOX 15080  
 CHEVY CHASE, MARYLAND 20825

DEVELOPER:  
 DOUG CHAMBERLAIN  
 CHAMBERLAIN CONSTRUCTION INC  
 3138 ROGERS AVENUE  
 ELLICOTT CITY, MARYLAND 21043  
 TELEPHONE: 410-203-2460

PROJECT NO. 04-210  
 SCALE: 1" = 30'  
 DATE: 01/23/08  
 DRAWN BY: HRP  
 CHECKED BY: SBP  
 SHEET: 2 OF 25

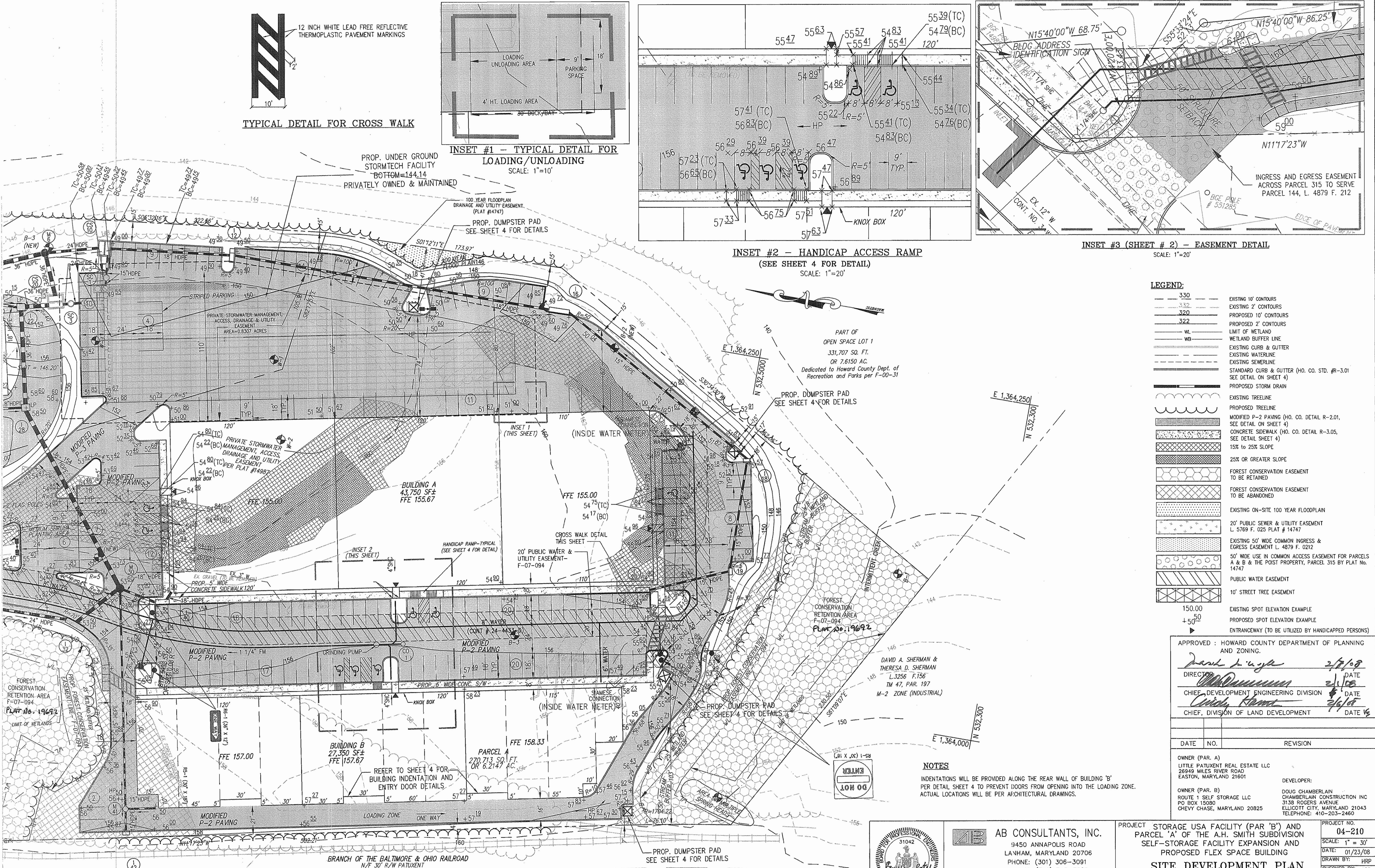
MATCH LINE - SEE SHEET 3 OF 25



**LEGEND:**

	EXISTING 10' CONTOURS
	EXISTING 2' CONTOURS
	PROPOSED 10' CONTOURS
	PROPOSED 2' CONTOURS
	WETLAND BUFFER LINE
	EXISTING CURB & GUTTER
	EXISTING WATERLINE
	EXISTING SEWERLINE
	STANDARD CURB & GUTTER (HO. CO. STD. #R-3.01)
	PROPOSED STORM DRAIN
	EXISTING TREELINE
	PROPOSED TREELINE
	MODIFIED P-2 PAVING (HO. CO. DETAIL R-2.01, SEE DETAIL ON SHEET 4)
	CONCRETE SIDEWALK (HO. CO. DETAIL R-3.05, SEE DETAIL SHEET 4)
	15% TO 25% SLOPE
	25% OR GREATER SLOPE
	FOREST CONSERVATION EASEMENT TO BE RETAINED
	FOREST CONSERVATION EASEMENT TO BE ABANDONED
	EXISTING ON-SITE 100 YEAR FLOODPLAIN
	20' PUBLIC SEWER & UTILITY EASEMENT L. 5769 F. 025 PLAT # 14747
	EXISTING 50' WIDE COMMON INGRESS & EGRESS EASEMENT L. 4879 F. 0212
	50' WIDE USE IN COMMON ACCESS EASEMENT FOR PARCELS A & B & THE POIST PROPERTY, PARCEL 315 BY PLAT NO. 14747
	PUBLIC WATER EASEMENT
	10' STREET TREE EASEMENT
	EXISTING SPOT ELEVATION EXAMPLE
	PROPOSED SPOT ELEVATION EXAMPLE
	ENTRANCEWAY (TO BE UTILIZED BY HANDICAPPED PERSONS)

MATCH LINE - SEE SHEET 2 OF 25



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

<i>David A. Sherman</i>	2/7/08
DIRECTOR	DATE
<i>Cheryl R. Jones</i>	2/1/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Cheryl R. Jones</i>	2/6/08
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE

DATE	NO.	REVISION

OWNER (PAR. A)  
LITTLE PATUXENT REAL ESTATE LLC  
26949 MILES RIVER ROAD  
EASTON, MARYLAND 21601

OWNER (PAR. B)  
ROUTE 1 SELF STORAGE LLC  
PO BOX 15080  
CHEVY CHASE, MARYLAND 20825

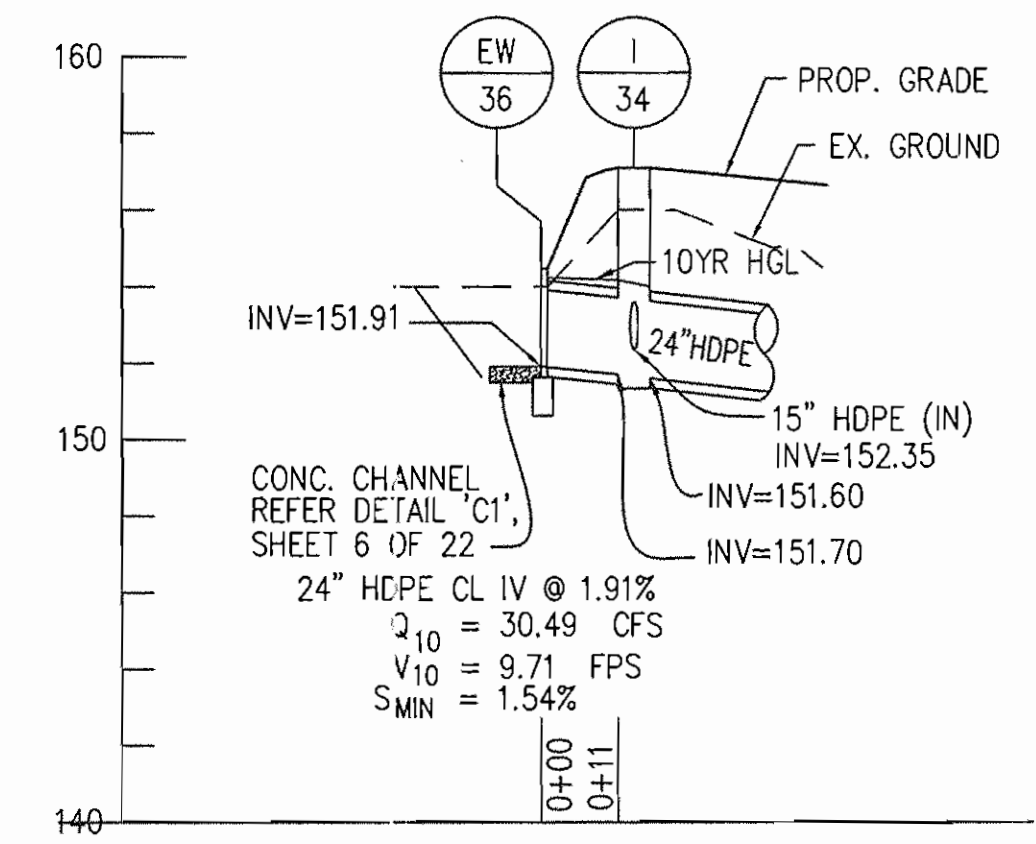
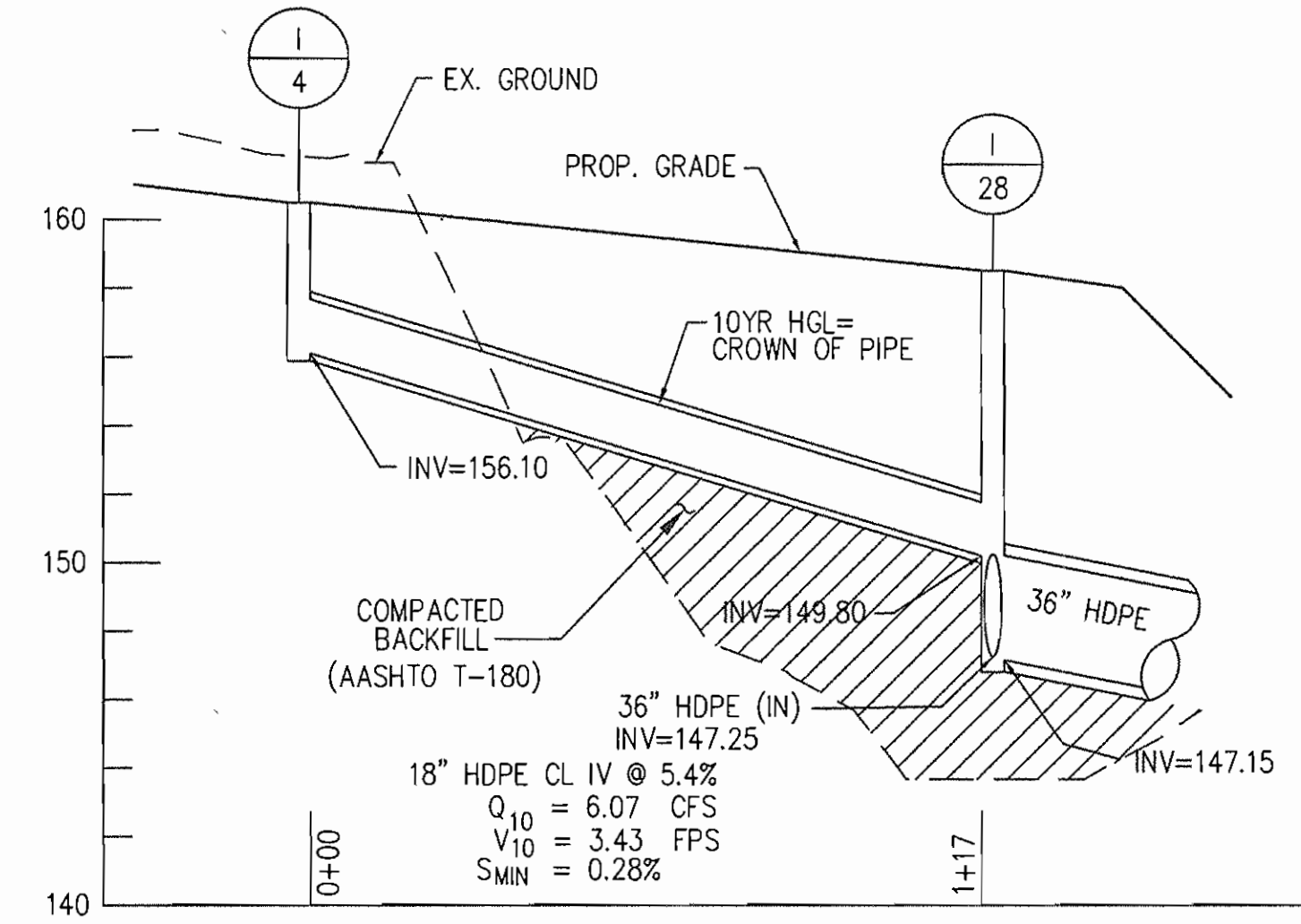
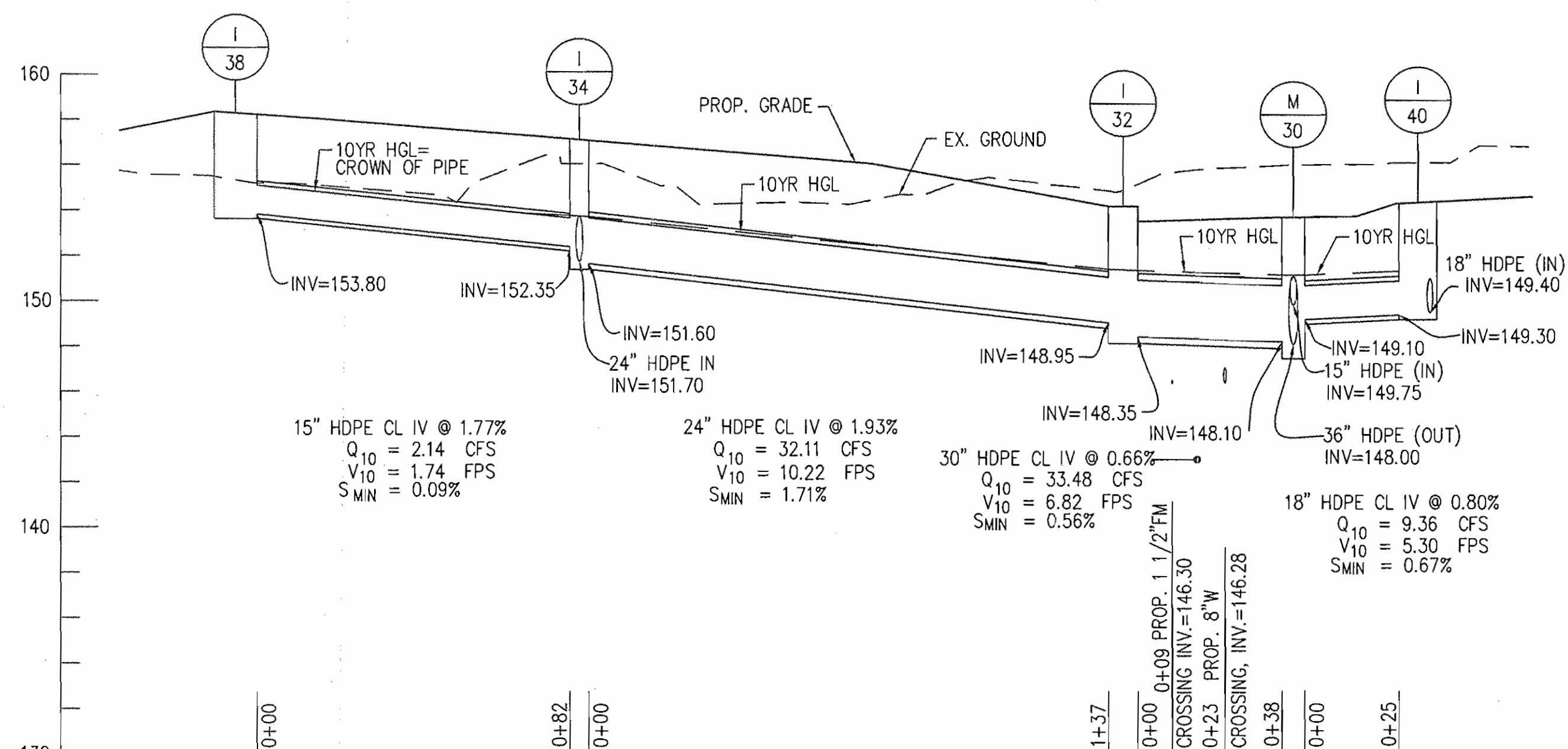
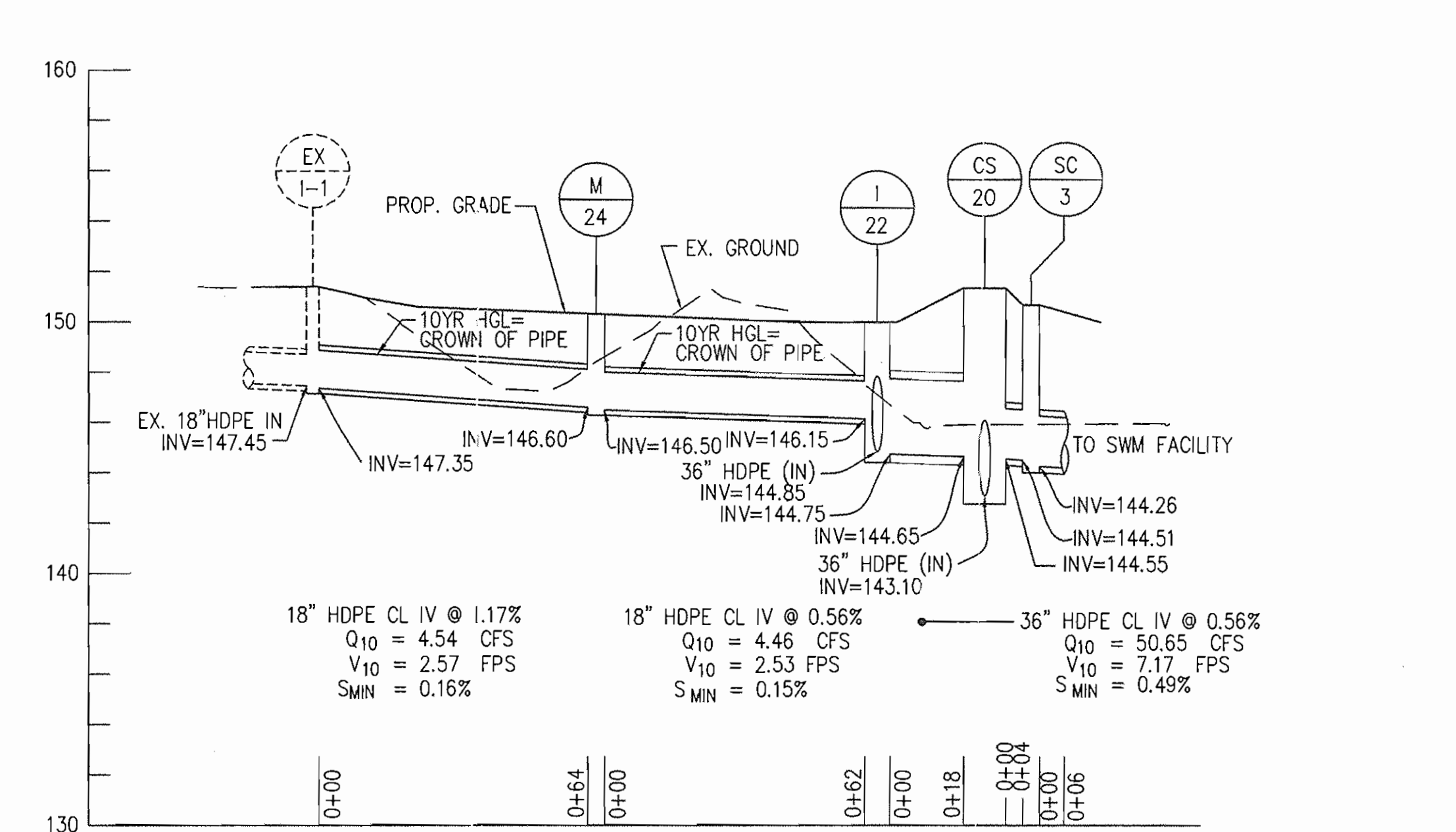
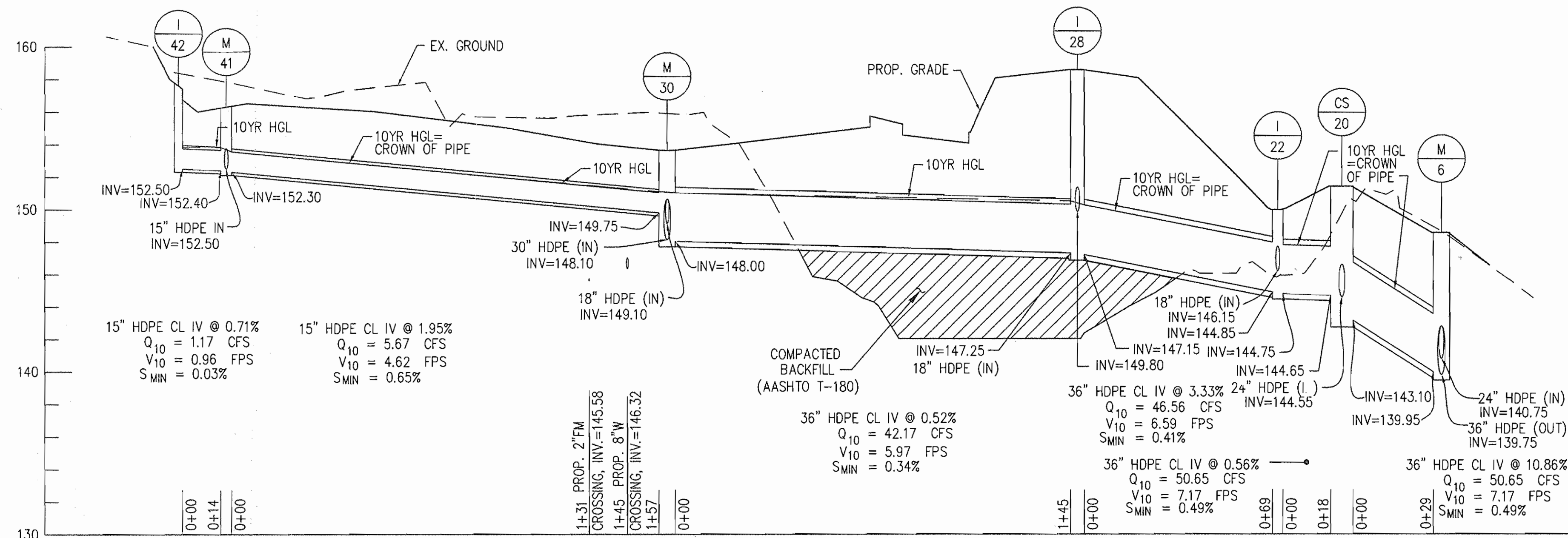
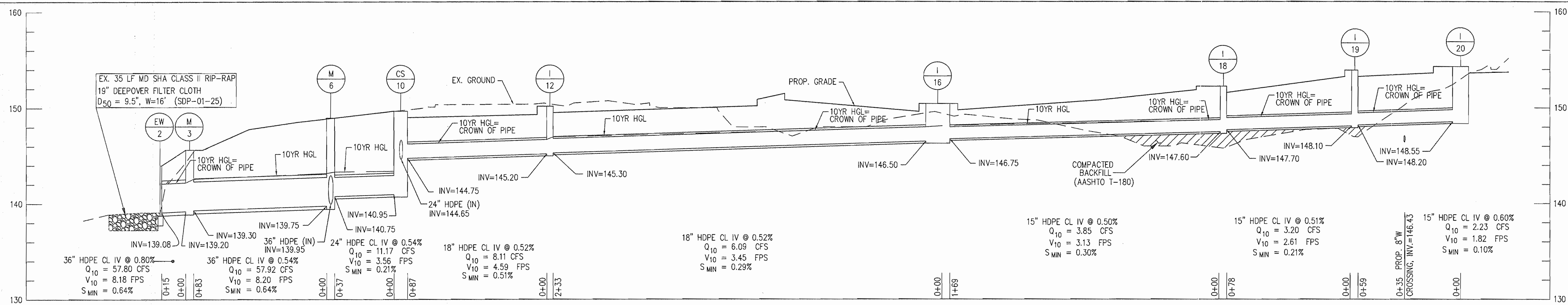
DEVELOPER:  
DOUG CHAMBERLAIN  
CHAMBERLAIN CONSTRUCTION INC  
3138 ROGERS AVENUE  
ELLCOTT CITY, MARYLAND 21043  
TELEPHONE: 410-203-2460

**NOTES**

INDENTATIONS WILL BE PROVIDED ALONG THE REAR WALL OF BUILDING 'B' PER DETAIL SHEET 4 TO PREVENT DOORS FROM OPENING INTO THE LOADING ZONE. ACTUAL LOCATIONS WILL BE PER ARCHITECTURAL DRAWINGS.

	<b>AB CONSULTANTS, INC.</b> 9450 ANNAPOLIS ROAD LANHAM, MARYLAND 20706 PHONE: (301) 306-3091 FAX: (301) 306-3092	PROJECT STORAGE AS FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING <b>SITE DEVELOPMENT PLAN</b> 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144	PROJECT NO. <b>04-210</b> SCALE: 1" = 30' DATE: 01/23/08 DRAWN BY: HRP CHECKED BY: SPB SHEET: 3 OF 25 <b>SDP-06-100</b>
	CONTACT: SANJAY PATEL    PHONE: 301-306-3091 x121		





APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Paul L. Angle* 2/1/08  
DIRECTOR DATE

*Chad Chamberlain* 2/1/08  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Chad Chamberlain* 2/1/08  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

OWNER (PAR. A)  
LITTLE PATUXENT REAL ESTATE LLC  
28949 MILES RIVER ROAD  
EASTON, MARYLAND 21601

OWNER (PAR. B)  
CHAMBERLAIN CONSTRUCTION INC  
3138 ROGERS AVENUE  
ELICOTT CITY, MARYLAND 21043  
TELEPHONE: 410-203-2460

DEVELOPER:  
DOUG CHAMBERLAIN  
CHAMBERLAIN CONSTRUCTION INC  
3138 ROGERS AVENUE  
ELICOTT CITY, MARYLAND 21043  
TELEPHONE: 410-203-2460



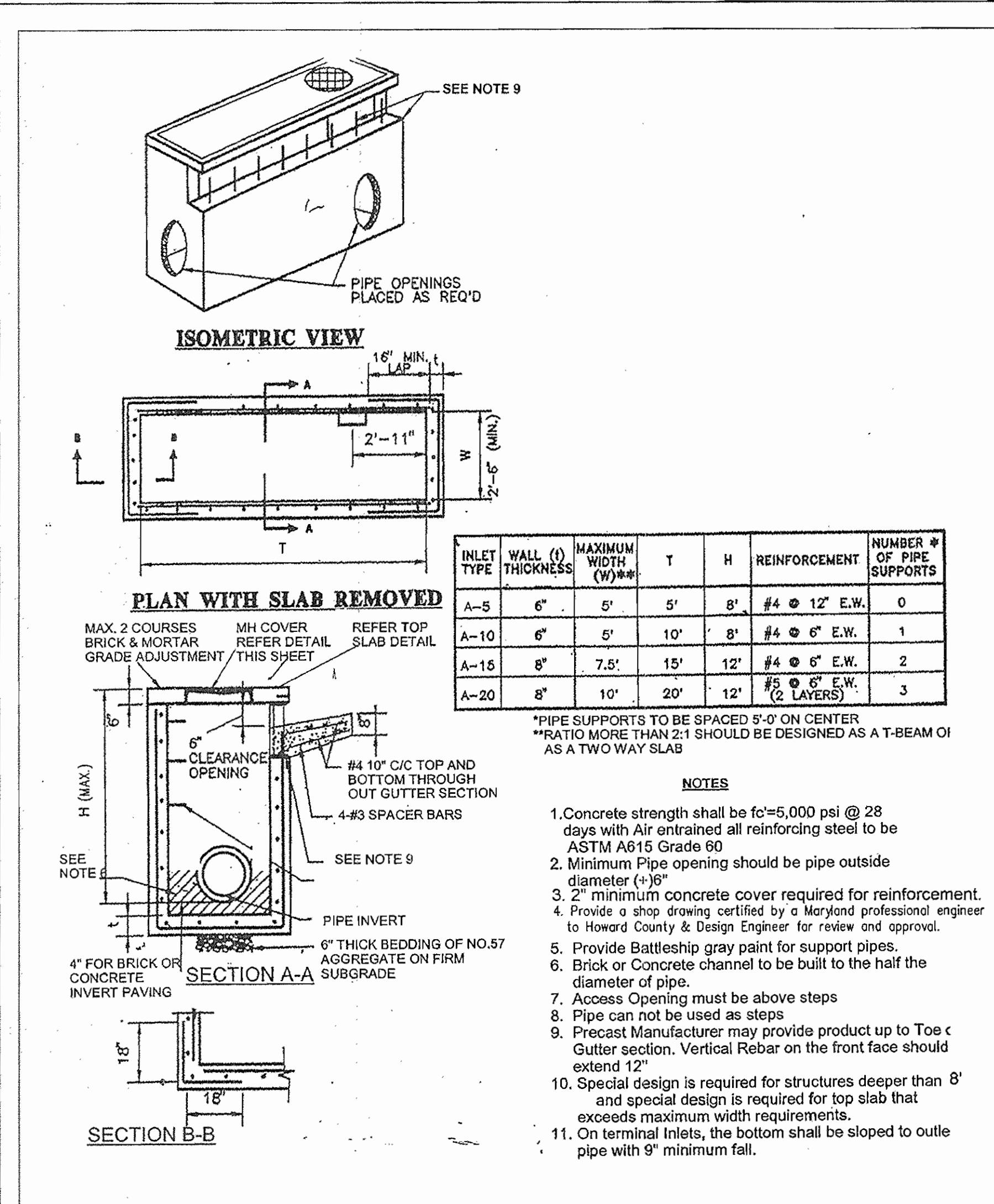
**AB CONSULTANTS, INC.**  
9450 ANNAPOLIS ROAD  
LANHAM, MARYLAND 20706  
PHONE: (301) 306-3091  
FAX: (301) 306-3092

CONTACT: SANJAY PATEL PHONE: 301-306-3091 x121

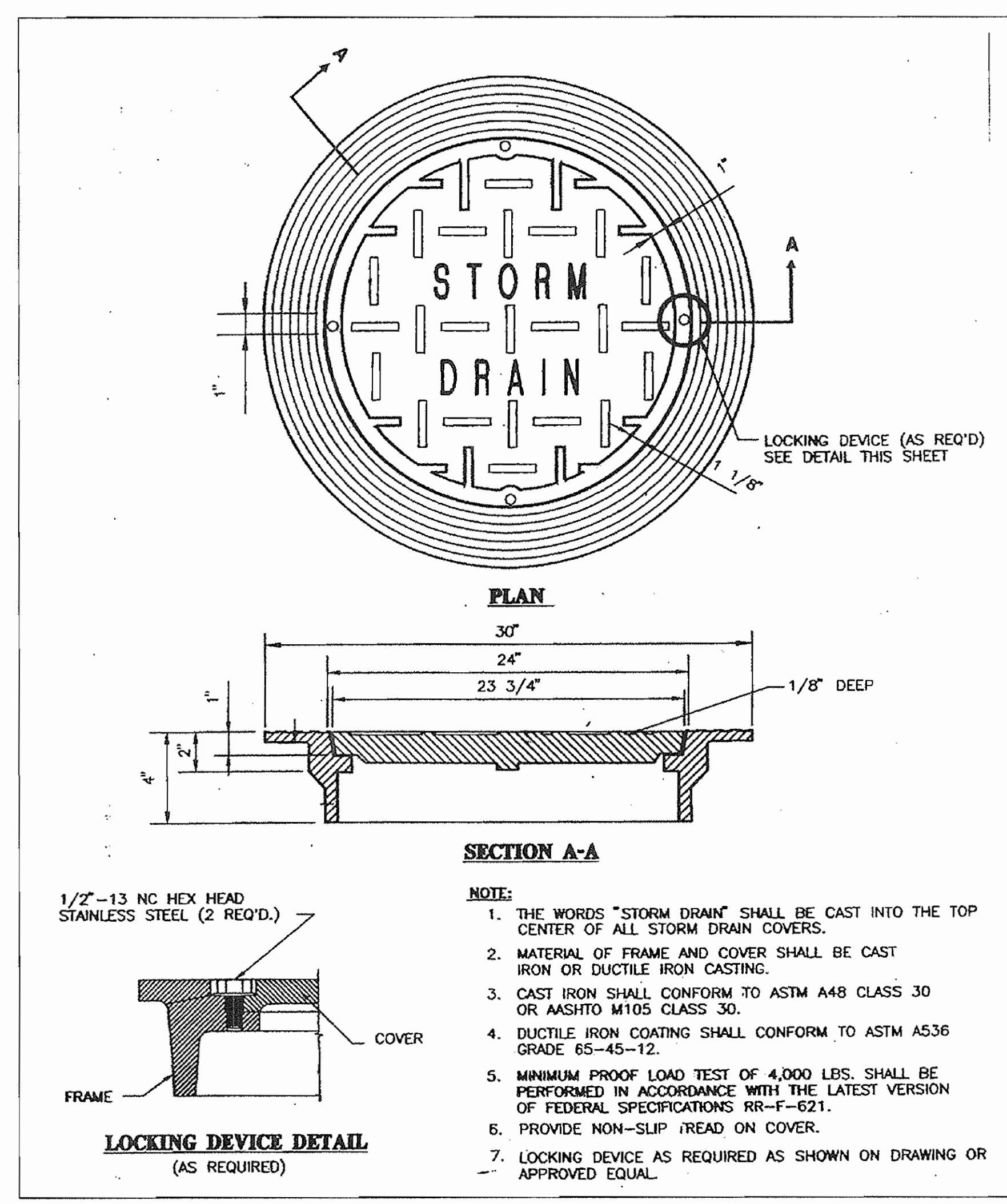
PROJECT STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION  
SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING  
**STORMDRAIN PROFILE**

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144

PROJECT NO. 04-210  
SCALE: 1"=30' (HOR.)  
DATE: 01/23/08  
DRAWN BY: HRP  
CHECKED BY: SBP  
SHEET: 5 OF 25  
SDP-06-100



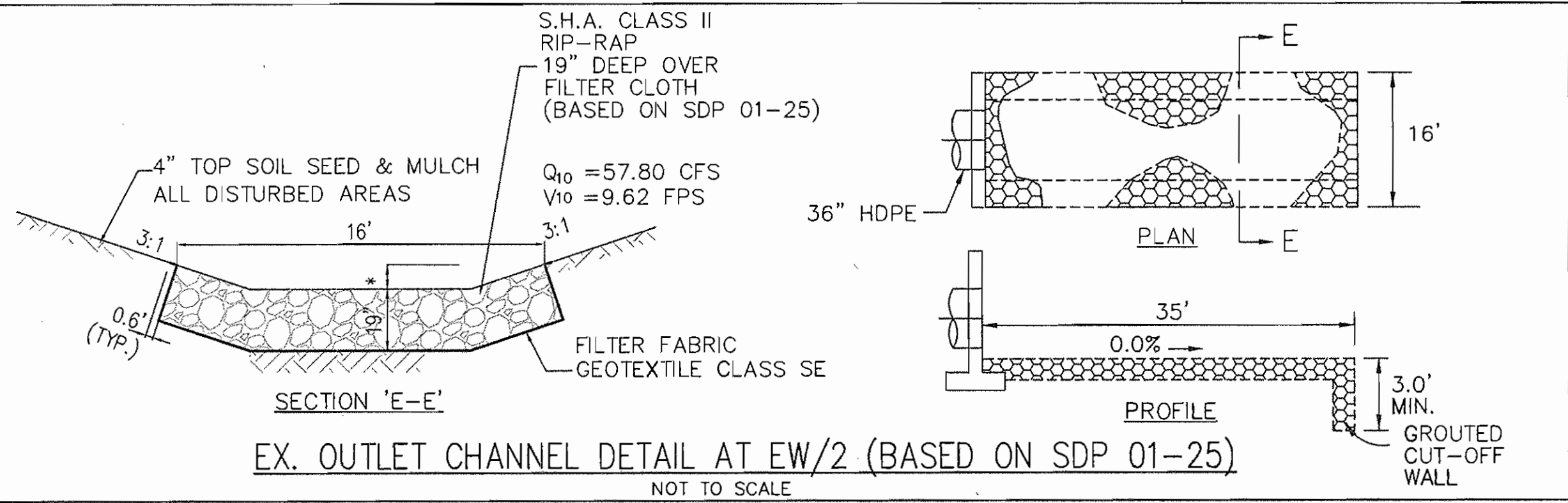
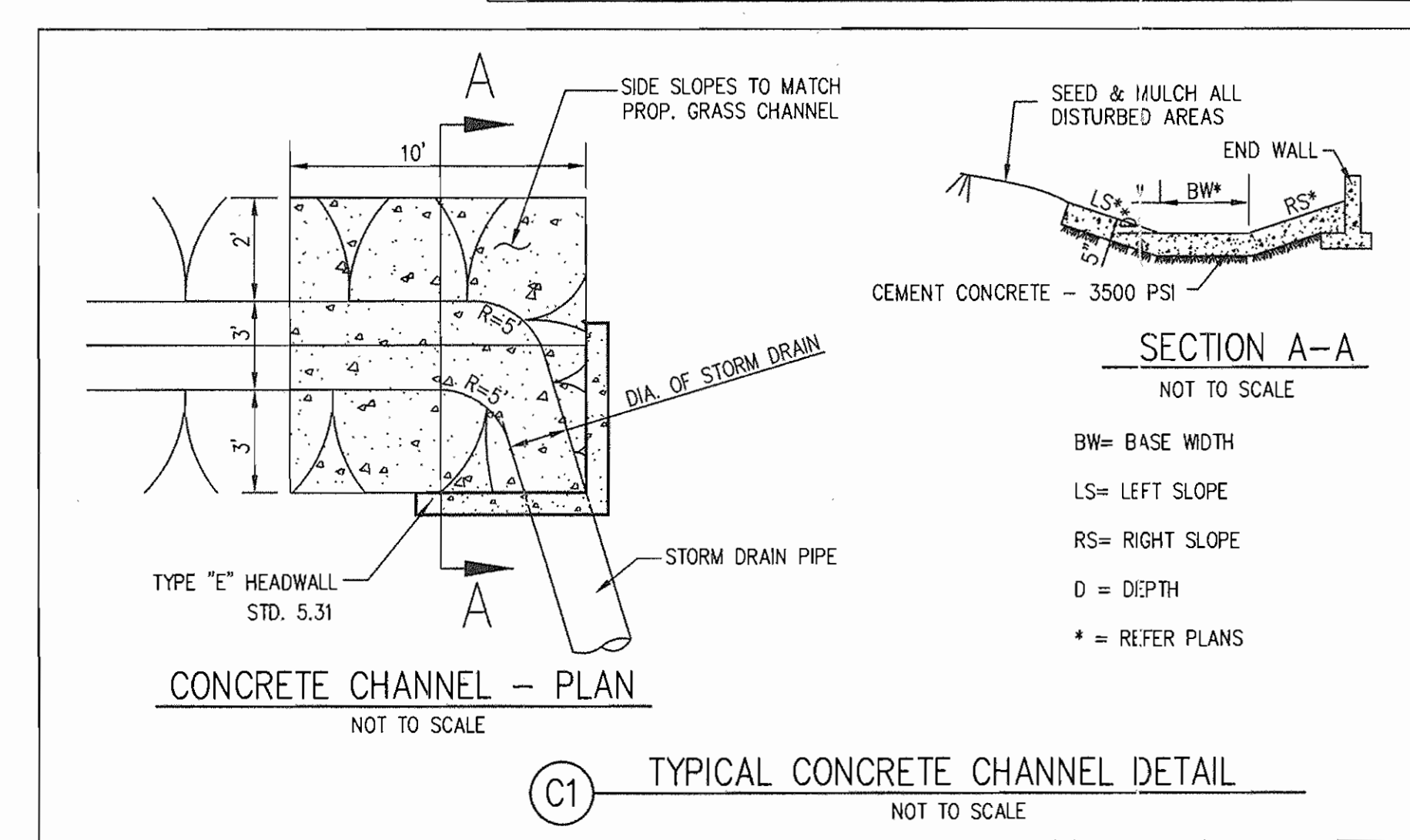
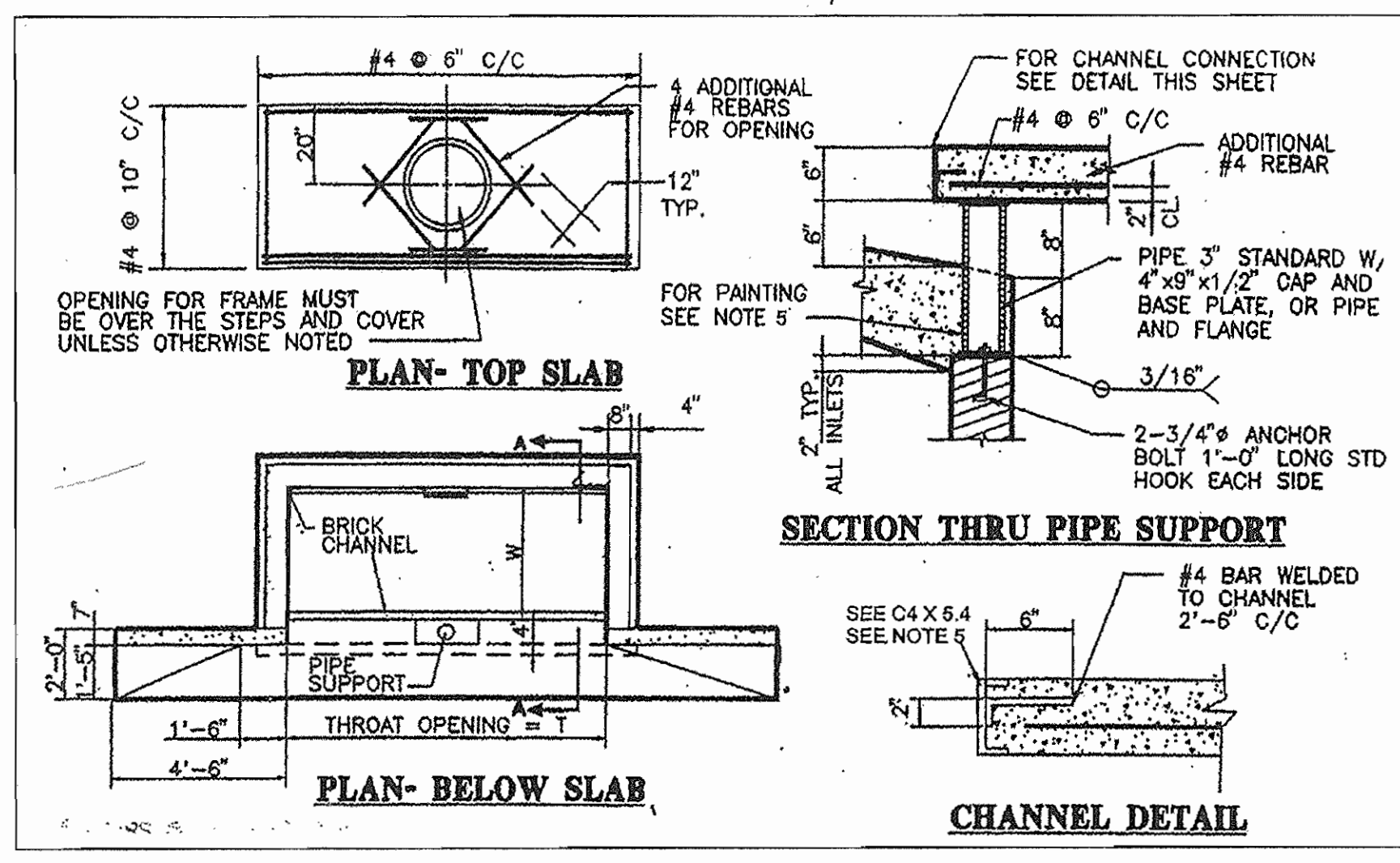
TYPICAL BOX INLET DETAIL  
NTS



MANHOLE FRAME AND COVER  
NTS  
EW/33

STRUCTURE NO.	TOP ELEVATION	INV. IN	INV. OUT	NORTHING	EASTING	STD. NO.	REMARKS/STRUCTURE TYPE
EX-1	151.40	147.45	147.35	533171.9910	1364198.6000	-	
EW-2	-	-	139.03	533120.7450	1364212.3008	SD-5.21	TYPE 'C' ENDWALL, FOR 36" CIRCULAR PIPE
M-3	145.65	139.30	139.23	533108.1557	1364202.5147	G 5.13	5'-0" STANDARD AND SHALLOW PRECAST MANHOLE FOR USE WITH 27" TO 36" PIPES
M-6	148.50	140.75/139.95	139.75	533027.2011	1364236.9560	G 5.13	5'-0" STANDARD AND SHALLOW PRECAST MANHOLE FOR USE WITH 27" TO 36" PIPES
CS-10	149.67	144.75/144.65	140.95	532984.7552	1364247.7102	A-10/SD-4.02	MODIFIED A-10 INLET (CONTROL STRUCTURE) REFER SHEET 8 OF 22
I-12	150.17	145.30	145.20	532892.1116	1364258.3273	SD-4.02	TYPE 'A-10' INLET
I-16	150.43	146.75	146.50	532650.1881	1364258.5584	A-15	TYPICAL BOX INLET REFER SHEET 6 OF 22
I-18	152.24	147.70	147.60	532496.3022	1364174.0797	SD-4.01	TYPE 'A-5' INLET
I-19	153.92	148.20	145.20	532892.1116	1364091.9043	SD-4.01	TYPE 'A-5' INLET
I-20	154.30	-	148.55	532554.8348	1364067.4277	SD-4.02	TYPE 'A-10' INLET
CS-20	151.35	144.65	143.10/144.55	533013.2711	1364203.0664	-	CONTROL STRUCTURE REFER SHEET 8 OF 22
I-22	150.00	144.85/146.15	144.75	533037.5073	1364194.8132	SD-4.14	MODIFIED YARD INLET L=6.0', W=5.0'
M-24	150.32	146.60	146.50	533104.0979	1364192.9577	G 5.12	4'-0" STANDARD & SHALLOW PRECAST MANHOLE FOR USE WITH 24" & SMALLER PIPES
I-4	160.50	-	156.10	533140.1825	1364096.6207	SD-4.22	TYPE 'S' INLET
I-28	158.50	149.80/147.25	147.15	533020.7563	1364129.8133	SD-4.14	MODIFIED YARD INLET L=6.0', W=5.0'
M-30	153.60	148.10/149010/148.95	148.00	532930.7374	1364003.5205	G 5.13	5'-0" STANDARD AND SHALLOW PRECAST MANHOLE FOR USE WITH 27" TO 36" PIPES
I-32	154.10	148.95	148.35	532958.4777	1363971.8209	A-15	TYPICAL BOX INLET REFER SHEET 6 OF 22
EW-36	-	-	151.91 (EX.)	533101.9653	1363958.7659	SD-5.31	TYPE 'E' HEADWALL FOR 24" CIRCULAR PIPE
I-34	157.06	152.35/151.70	151.60	533104.9867	1363971.3109	SD-4.01	TYPE 'A-5' INLET
M-41	155.80	152.50/152.40	152.30	532899.1031	1363845.0576	G 5.12	4'-0" STANDARD & SHALLOW PRECAST MANHOLE FOR USE WITH 24" & SMALLER PIPES
I-38	158.27	-	153.60	533191.7319	1363945.1723	SD-4.02	TYPE 'A-10' INLET
I-40	154.25	-	149.30	532898.5896	1363998.8031	SD-4.02	TYPE 'A-10' INLET
I-42	157.59	-	152.50	532895.6771	1363827.8963	SD-4.01	TYPE 'A-5' INLET
SC-3	151.35	144.51	144.26	533002.0551	1364203.5183	-	REFER SHEET 8 OF 22
SC-1	149.55	144.50	144.25	532979.9166	1364226.6564	-	REFER SHEET 8 OF 22

STRUCTURE	SKETCH	STAKEOUT DATA	
		HORIZONTAL	VERTICAL (TOP)
STANDARD COS INLET		CENTER OF BOX AT FACE OF CURB	TOP OF CURB AT CENTER OF BOX
CURB BOX INLET		CENTER OF BOX AT FACE OF CURB	ON GRADE: TOP OF CURB AT ENDS OF BOX ON SUMP: TOP OF CURB AT CENTER OF BOX
YARD INLET		CENTER OF STRUCTURE	CENTER OF STRUCTURE
MANHOLES/SQUARE/CIRCULAR		CENTER OF STRUCTURE	CENTER OF STRUCTURE
END WALLS		MID POINT OF ENDWALLS AT END OF PIPE	N/A



**NOTE**  
CONTRACTOR TO SUBMIT SHOP DRAWINGS SIGN AND SEALED BY MARYLAND REGISTERED PROFESSIONAL ENGINEER AND OBTAIN APPROVAL FROM HOWARD COUNTY DEPARTMENT OF PUBLIC WORK & DESIGN ENGINEER PRIOR TO ORDERING AND INSTALLING THE STRUCTURE

PIPE SIZE (IN.)	CLASS/TYPE	TOTAL LENGTH (FT.)	REMARKS
15	HDPE CLASS IV	601	
18	HDPE CLASS IV	588	
24	HDPE CLASS IV	195	
30	HDPE CLASS IV	38	
36	HDPE CLASS IV	360	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
 Director: *[Signature]* DATE: 2/1/08  
 Chief, Development Engineering Division: *[Signature]* DATE: 2/1/08  
 Chief, Division of Land Development: *[Signature]* DATE: 2/6/08

DATE	NO.	REVISION

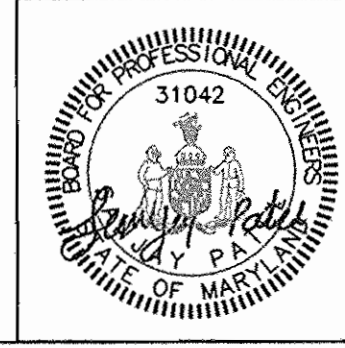
OWNER (PAR. A)  
LITTLE PATIENT REAL ESTATE LLC  
28949 MILES RIVER ROAD  
EASTON, MARYLAND 21601

OWNER (PAR. B)  
ROUTE 1 SELF STORAGE LLC  
PC BOX 15080  
CHEVY CHASE, MARYLAND 20825

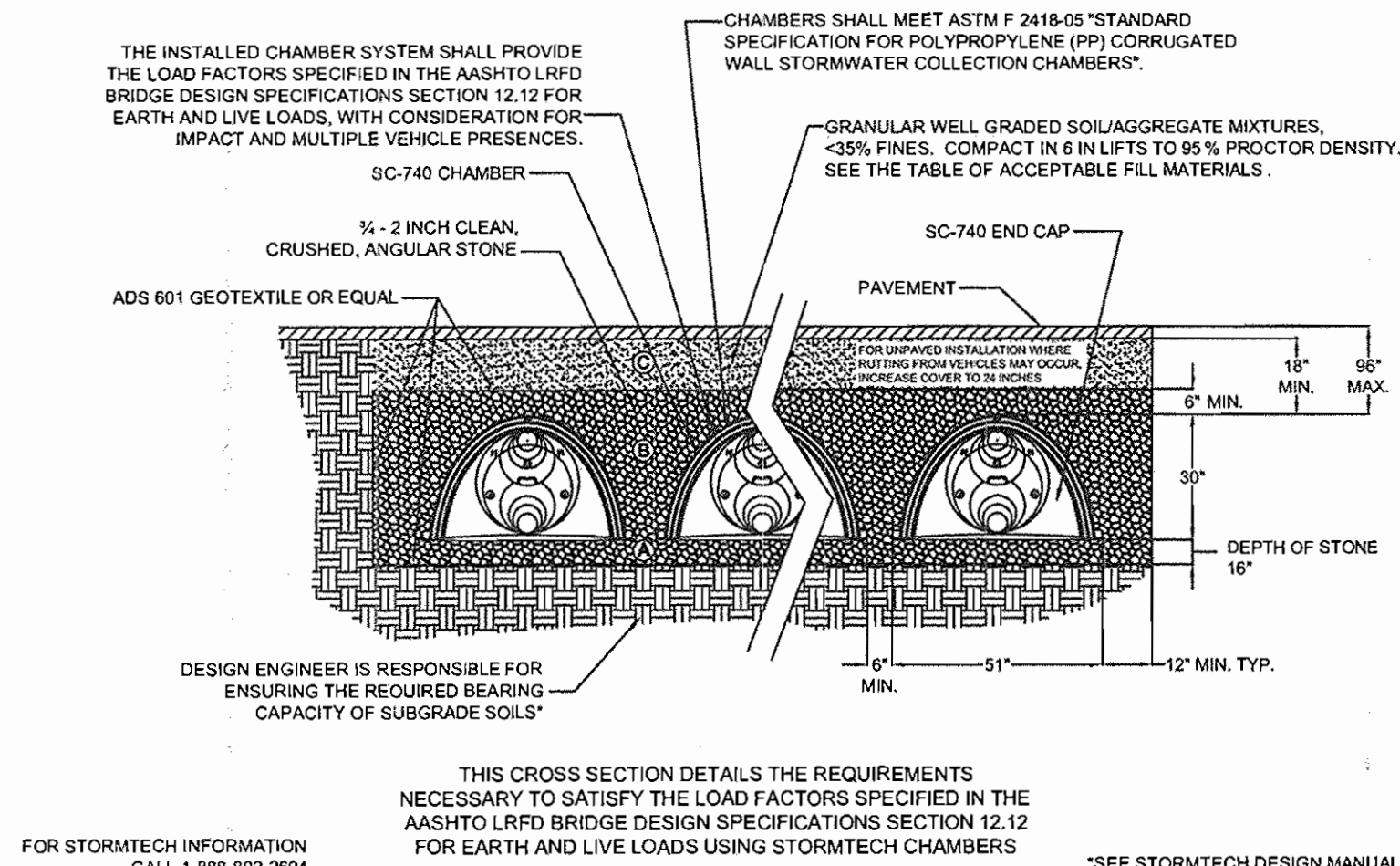
DEVELOPER:  
DOUG CHAMBERLAIN  
CHAMBERLAIN CONSTRUCTION INC  
3138 ROGERS AVENUE  
ELICOTT CITY, MARYLAND 21043  
TELEPHONE: 410-203-2460

PROJECT: STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION  
SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING  
**STORMDRAIN AND MISCELLANEOUS DETAILS**  
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144

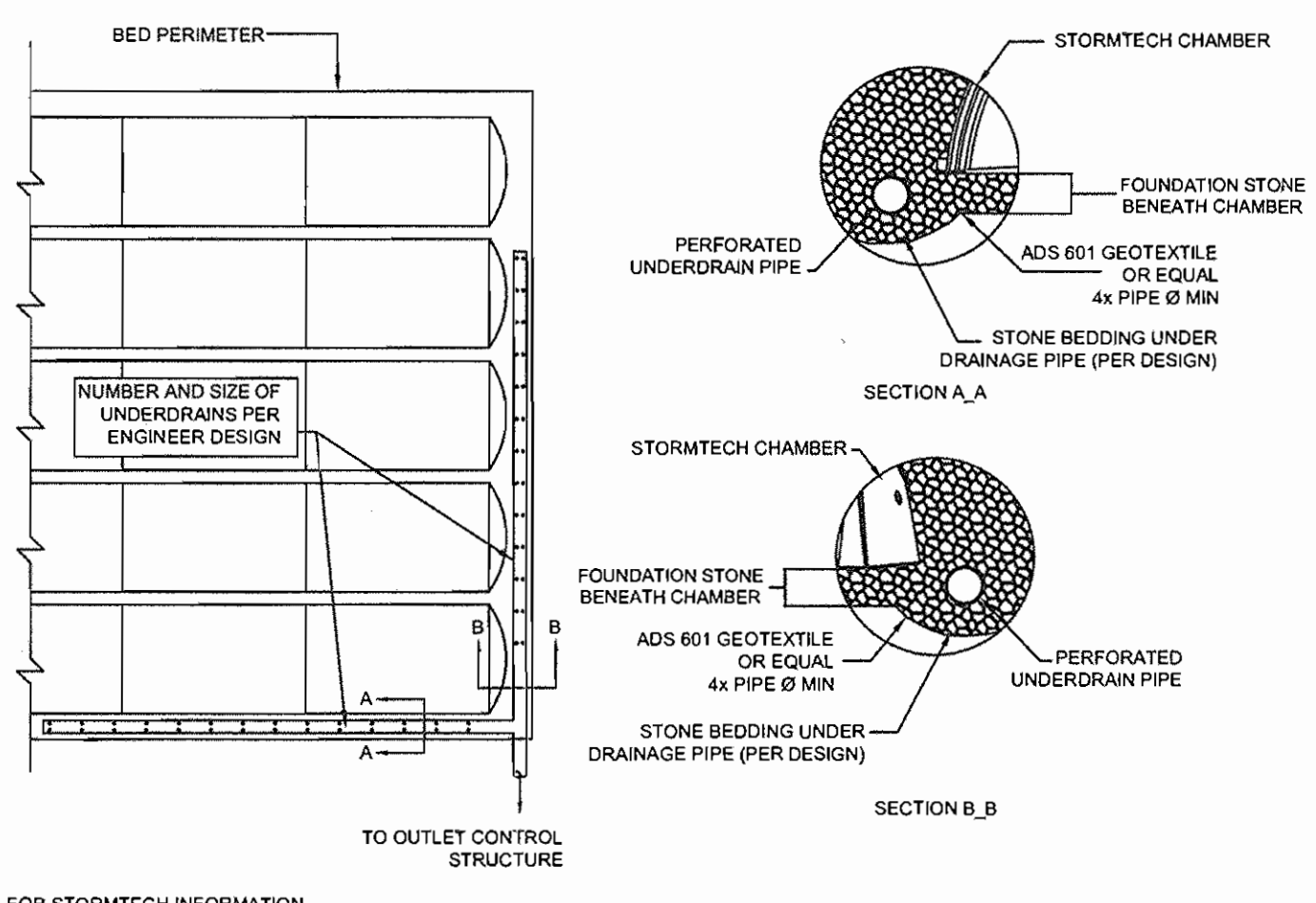
PROJECT NO. 04-210  
SCALE: 1"=30'  
DATE: 01/23/08  
DRAWN BY: HRP  
CHECKED BY: SBP  
SHEET: 6 OF 25  
SDP-06-100



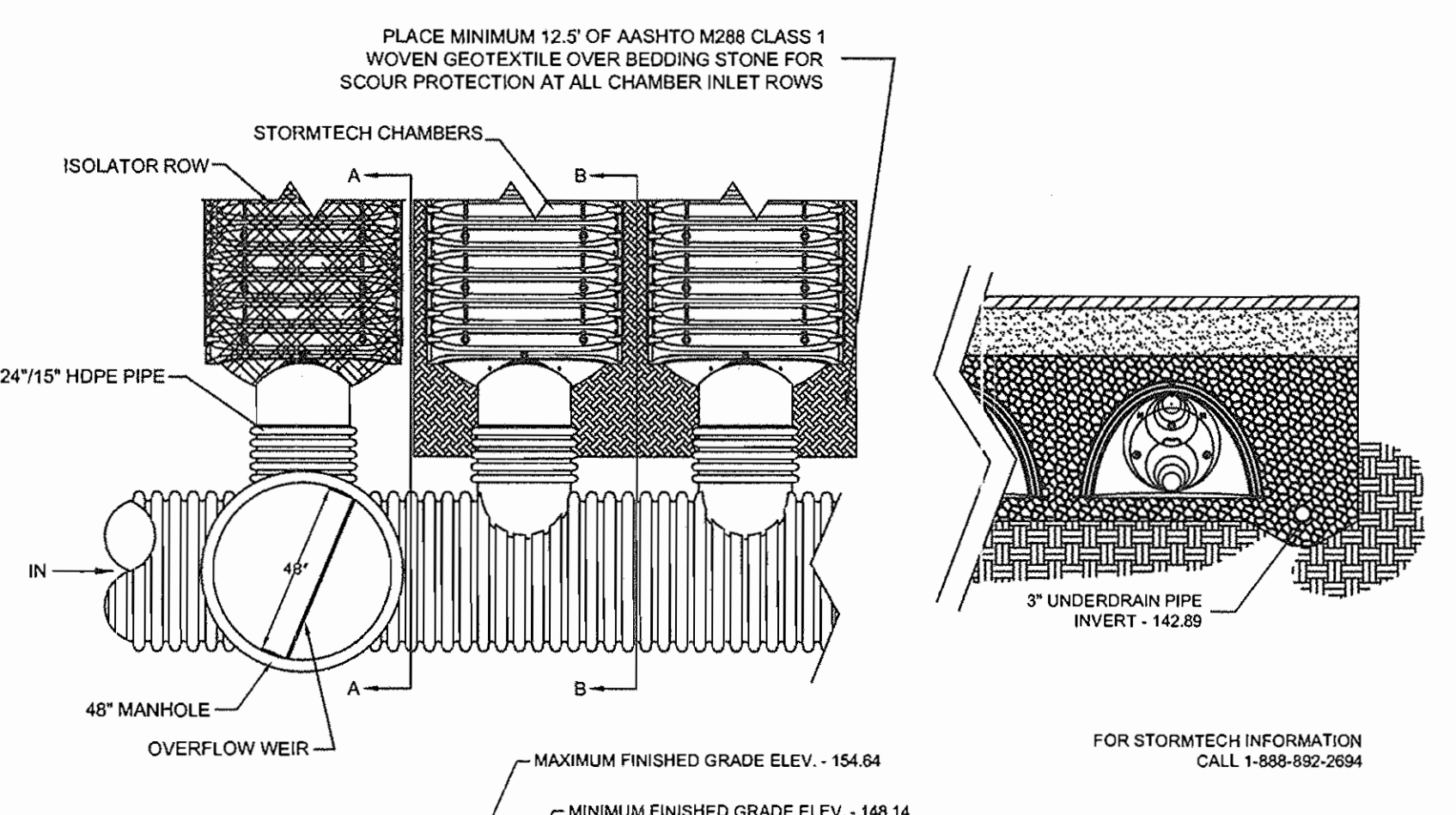
**AB CONSULTANTS, INC.**  
9450 ANNAPOLIS ROAD  
LANHAM, MARYLAND 20706  
PHONE: (301) 306-3091  
FAX: (301) 306-3092  
CONTACT: SANJAY PATEL PHONE: 301-306-3091 x121



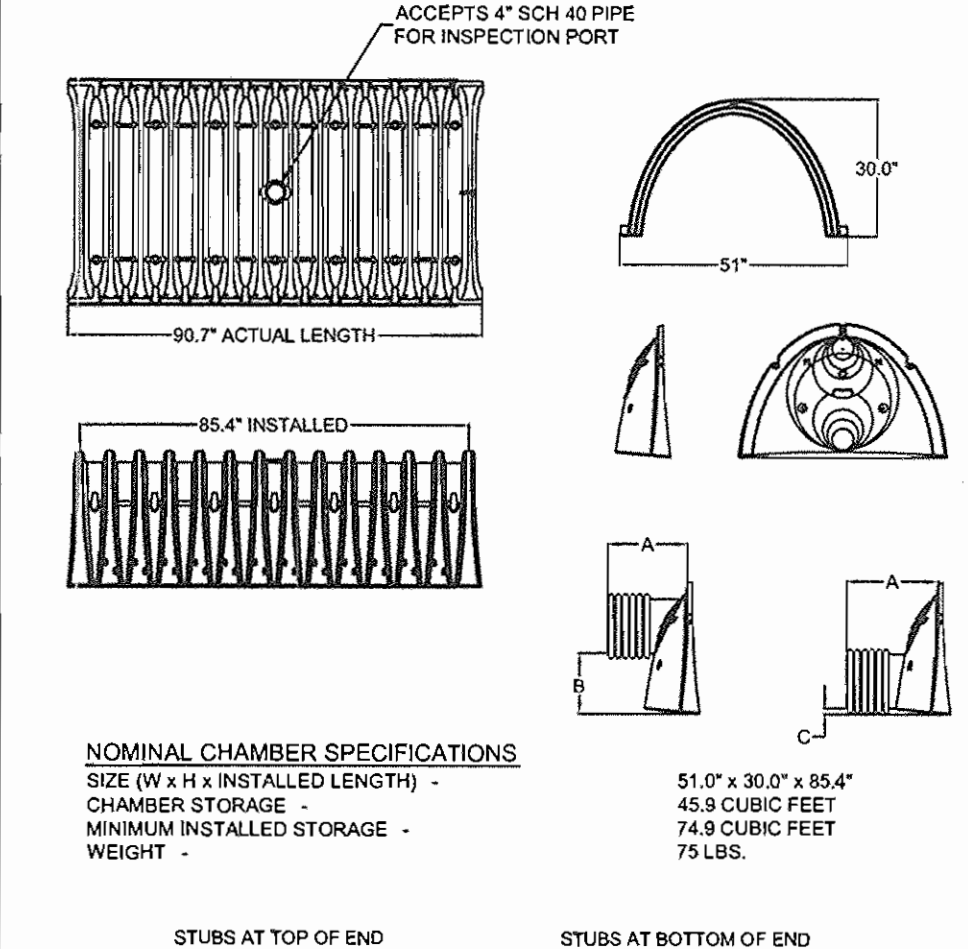
**SC-740 TYPICAL CROSS SECTION**



**STORMTECH UNDERDRAIN DETAIL**



**STORMTECH ELEVATIONS**



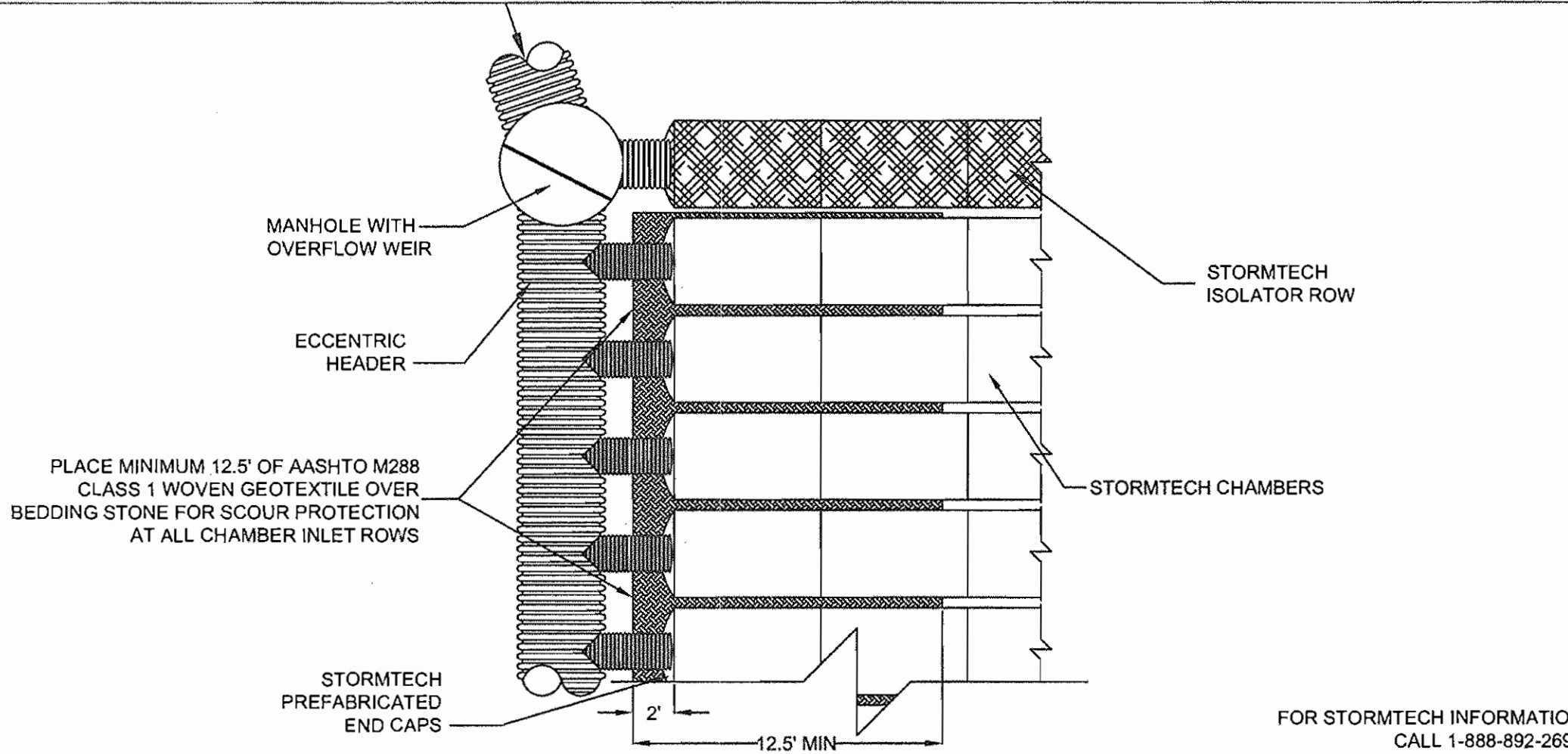
**TECHNICAL DETAILS**

**ACCEPTABLE FILL MATERIALS  
STORMTECH SC-740 CHAMBER SYSTEMS**

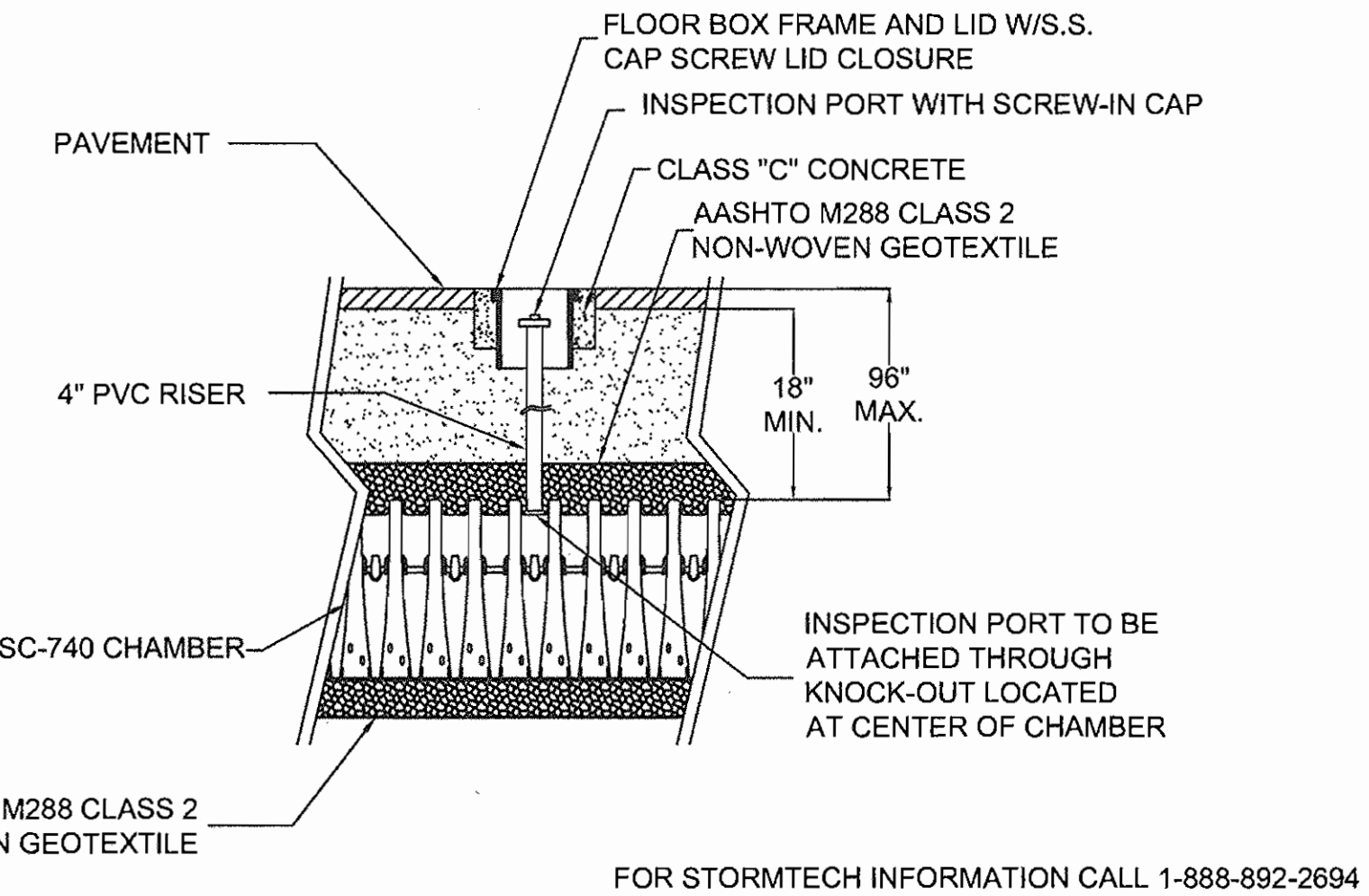
MATERIAL LOCATION	DESCRIPTION	AASHTO M43 DESIGNATION	AASHTO M145 DESIGNATION	COMPACTION/DENSITY REQUIREMENT
FILL MATERIAL FROM 18" TO GRADE ABOVE CHAMBERS	ANY SOIL/ROCK MATERIALS, NATIVE SOILS OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	N/A	PREPARE PER ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
FILL MATERIAL FOR 6" TO 18" ELEVATION ABOVE CHAMBERS (24" FOR UNPAVED INSTALLATIONS)	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	A-1, A-2, A-3	COMPACT IN 6" LIFTS TO A MINIMUM 95% STANDARD PROCTOR DENSITY. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 LBS. DYNAMIC FORCE NOT TO EXCEED 20,000 LBS.
EMBEDMENT STONE SURROUNDING AND TO A 6" ELEVATION ABOVE CHAMBERS	CLEAN ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN 3/4" - 2 INCH	3, 357, 4, 467, 5, 56, 57	N/A	NO COMPACTION REQUIRED
FOUNDATION STONE BELOW CHAMBERS	CLEAN ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN 3/4" - 2 INCH	3, 357, 4, 467, 5, 56, 57	N/A	PLATE COMPACT OR ROLL TO ACHIEVE A 95% STANDARD PROCTOR DENSITY

PLEASE NOTE: THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN CRUSHED ANGULAR. FOR EXAMPLE, THE STONE MUST BE SPECIFIED AS CLEAN, CRUSHED, ANGULAR NO. 4 STONE.

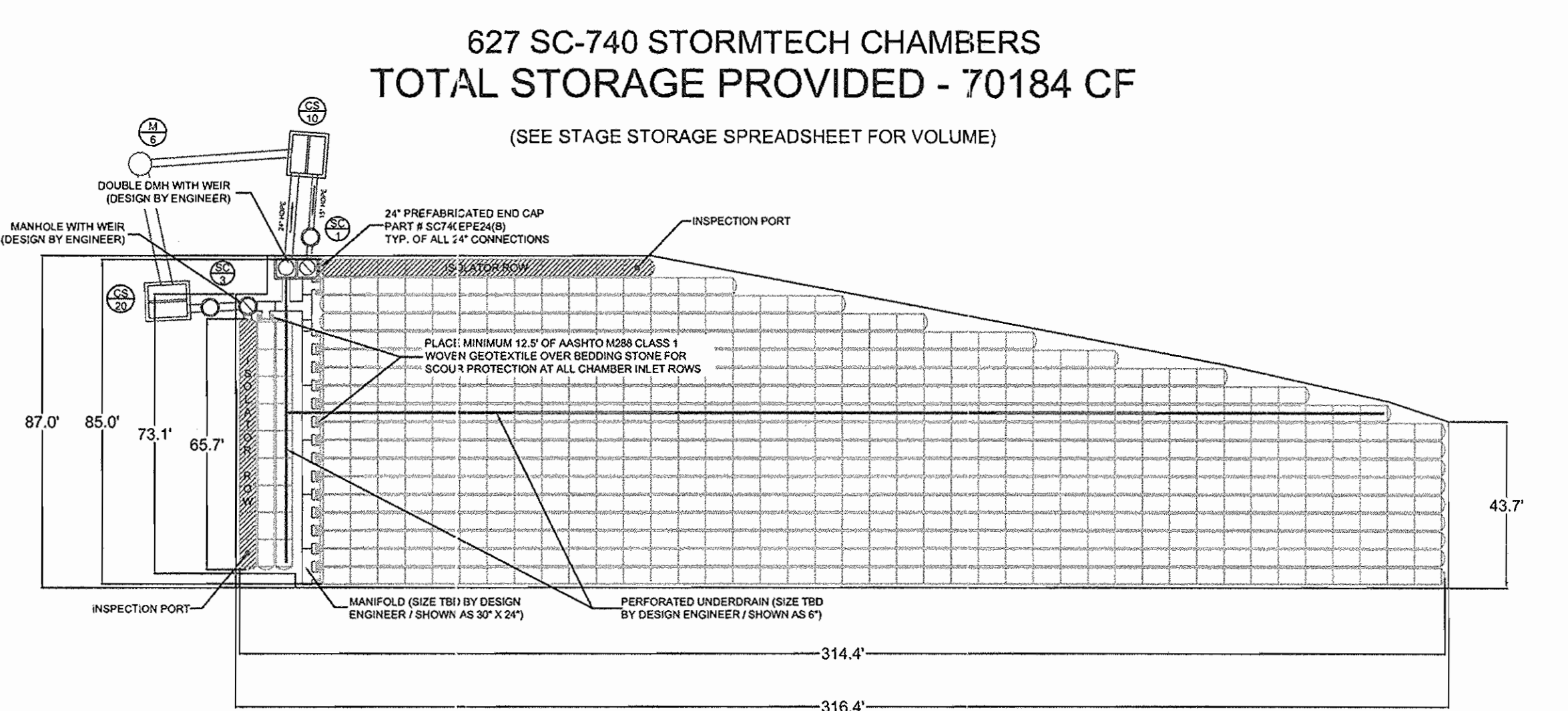
**STORMTECH ACCEPTABLE FILL MATERIALS**



**STORMTECH ISOLATOR™ ROW MANIFOLD DETAIL**



**STORMTECH INSPECTION PORT DETAIL**



**STORMTECH SC-740 CHAMBER LAYOUT**

CHAMBERS SHALL MEET THE DESIGN REQUIREMENTS AND LOAD FACTORS SPECIFIED IN SECTION 12.12 OF THE LATEST EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS LOADS SHALL BE CALCULATED IN ACCORDANCE WITH SECTION 3 AND SHALL INCLUDE H20 DESIGN TRUCK, IMPACT FACTOR, MULTIPLE PRESENCE, AND LANE LOAD.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
 DIRECTOR: [Signature] DATE: 2/2/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] DATE: 2/1/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] DATE: 2/1/07

DATE	NO.	REVISION

OWNER (PAR. A)  
 LITTLE PATUXENT REAL ESTATE LLC  
 28949 MILES RIVER ROAD  
 EASTON, MARYLAND 21601

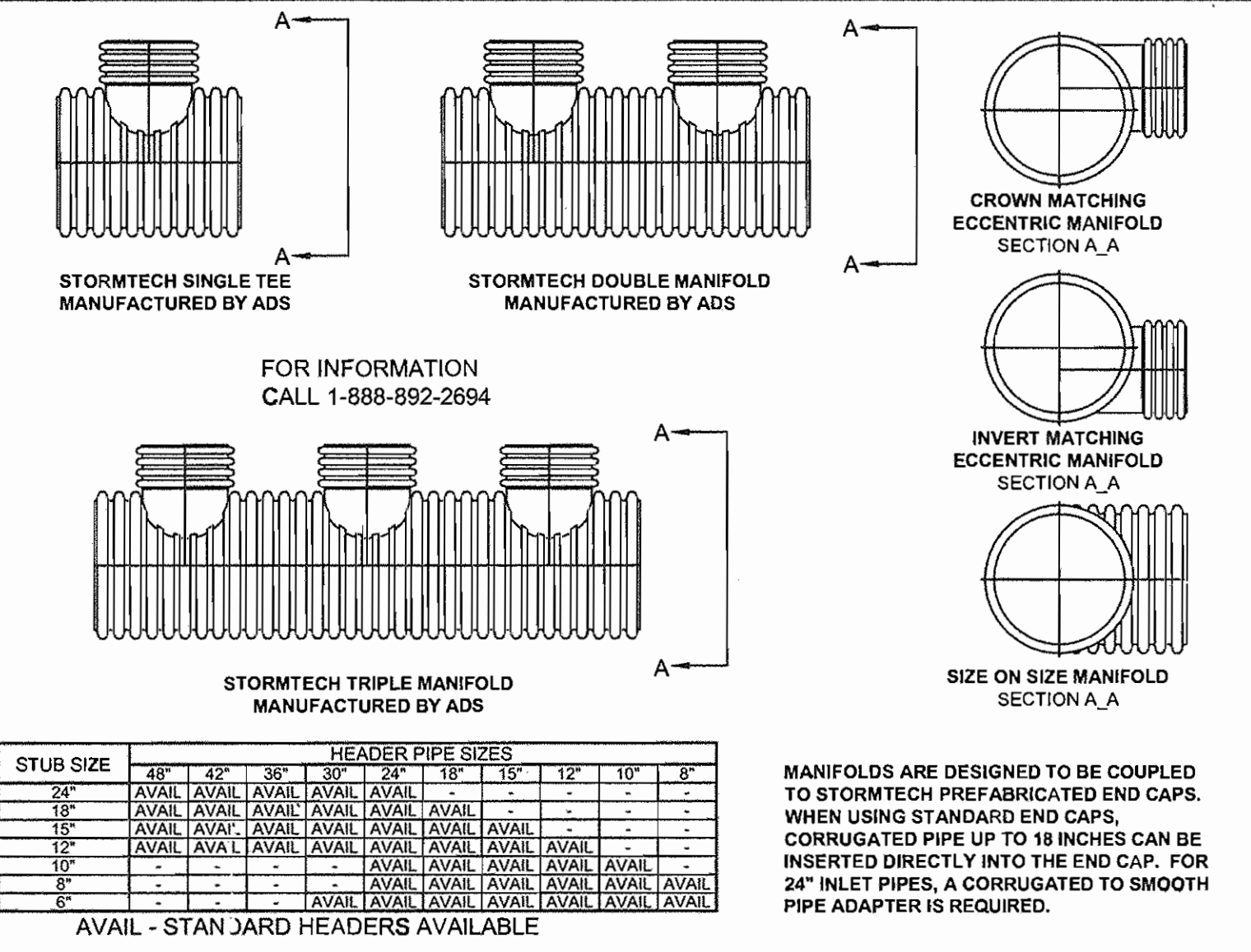
OWNER (PAR. B)  
 ROUTE 1 SELF STORAGE LLC  
 PO BOX 15080  
 CHEVY CHASE, MARYLAND 20825

DEVELOPER:  
 DOUG CHAMBERLAIN  
 CHAMBERLAIN CONSTRUCTION INC  
 3138 ROGERS AVENUE  
 ELLICOTT CITY, MARYLAND 21043  
 TELEPHONE: 410-203-2460

PROJECT NO. 04-210  
 SCALE: AS SHOWN  
 DATE: 01/23/08  
 DRAWN BY: [Signature]  
 CHECKED BY: [Signature]

**SWM FACILITY**

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144



**ADS MANIFOLD DETAILS**

**STORMTECH ISOLATOR™ ROW DETAIL**

ST 6.0

ST 7.0

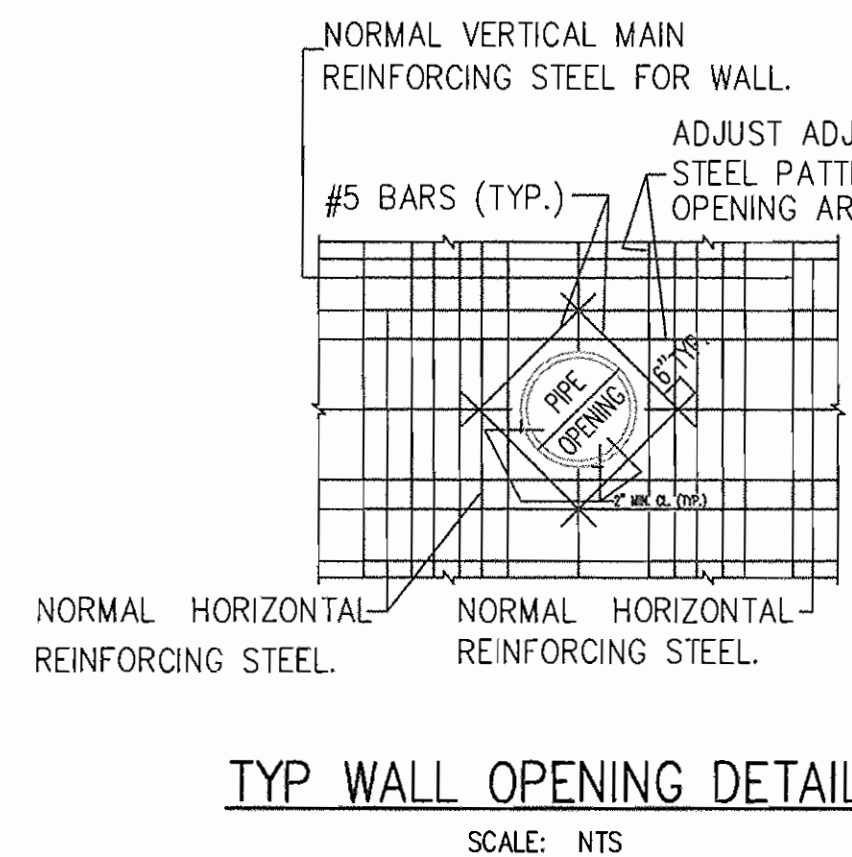
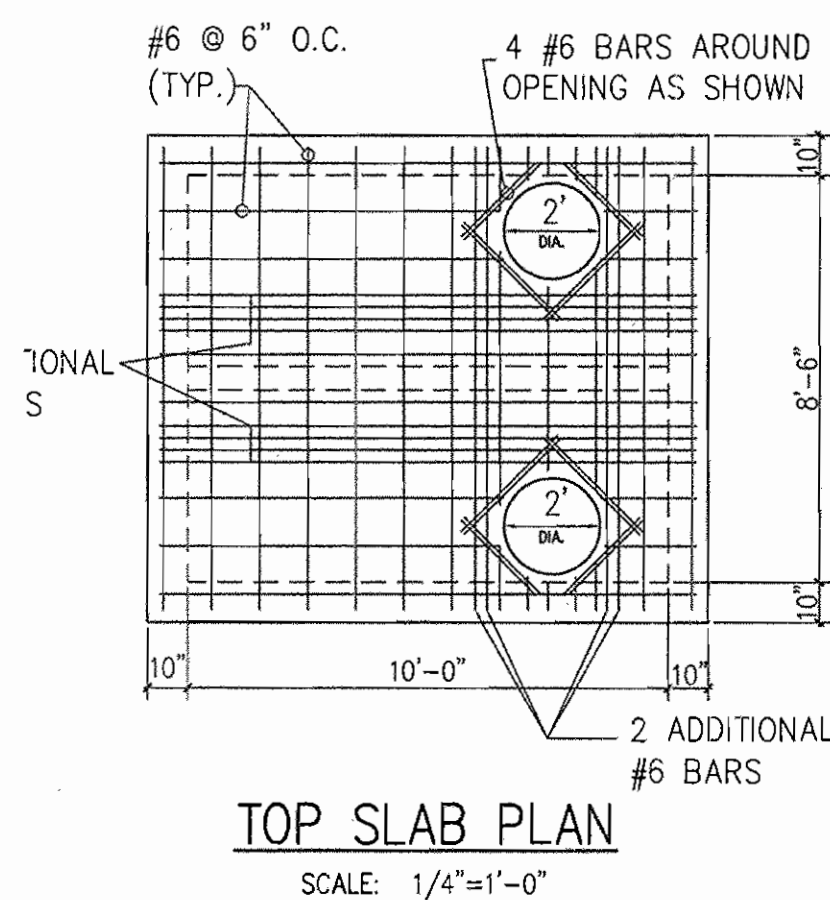
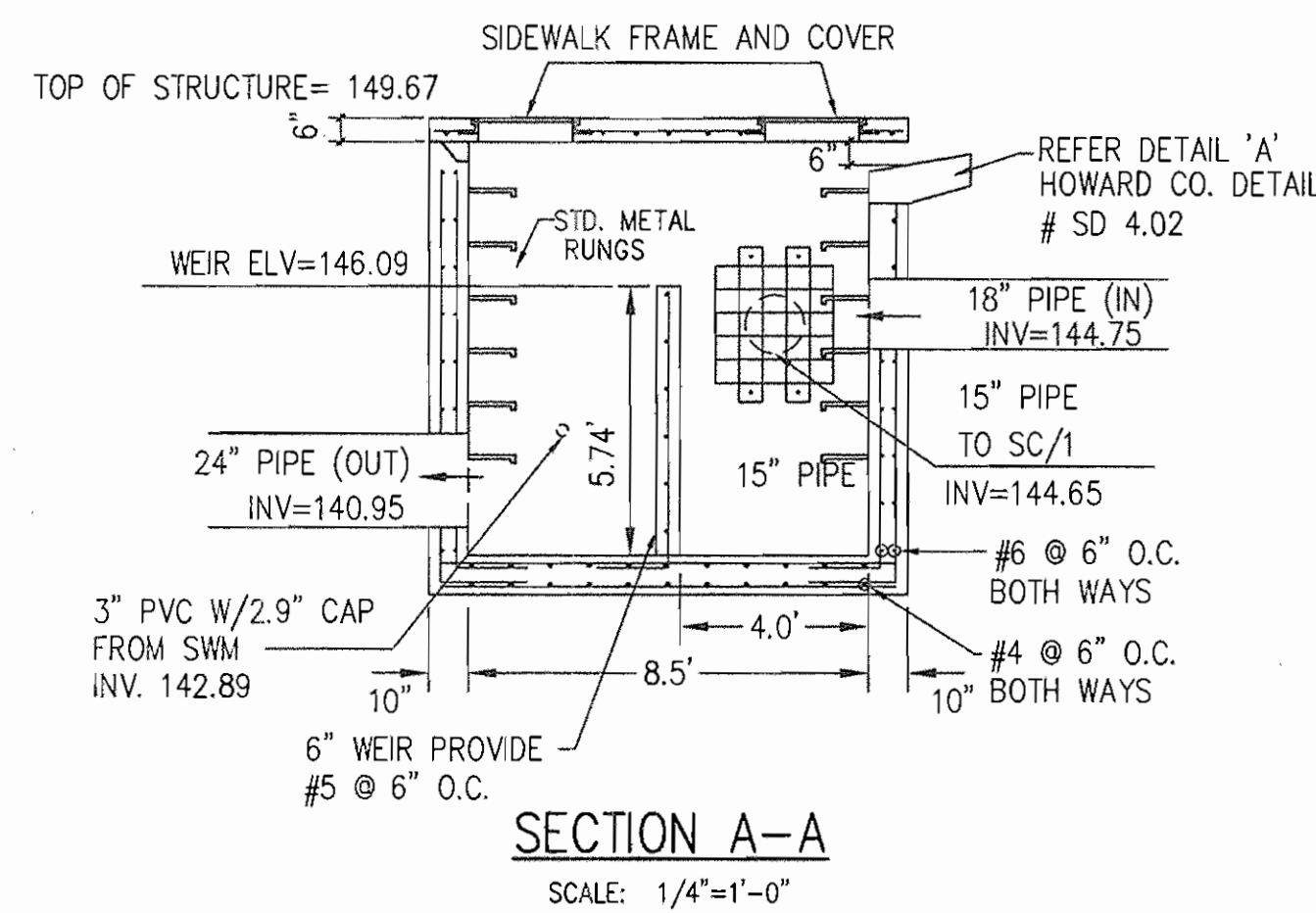
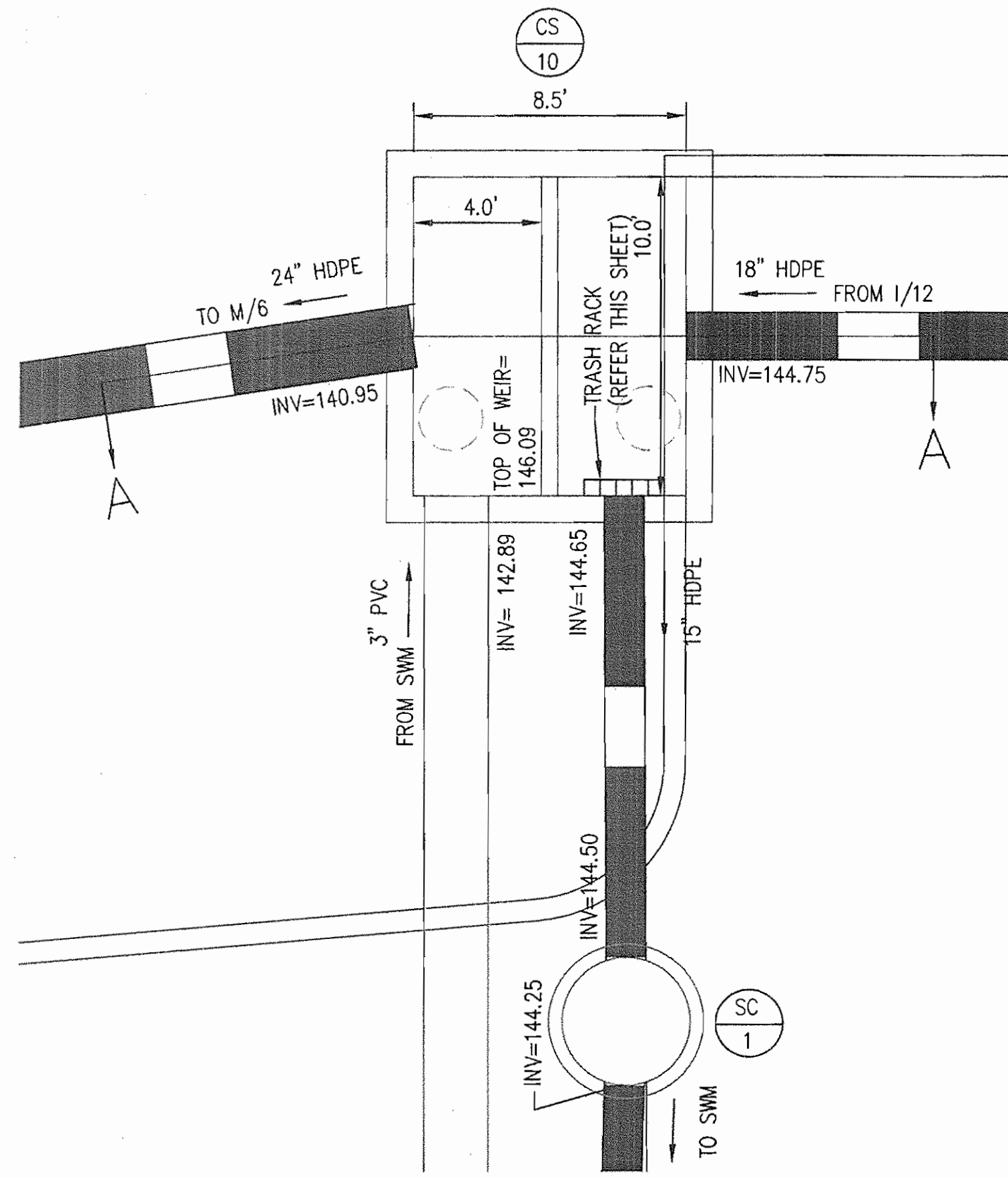


**AB CONSULTANTS, INC.**  
 3450 ANNAPOLIS ROAD  
 LANHAM, MARYLAND 20706  
 PHONE: (301) 306-3091  
 FAX: (301) 306-3092

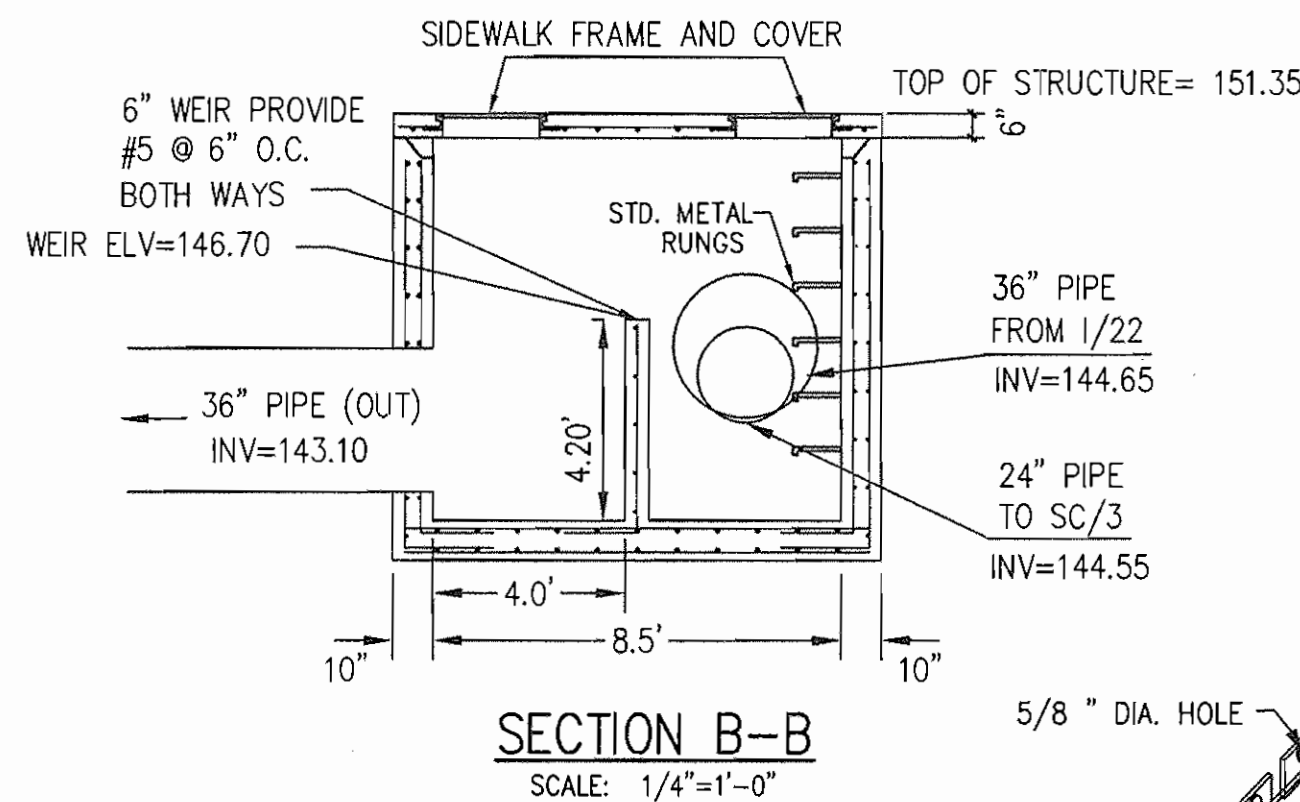
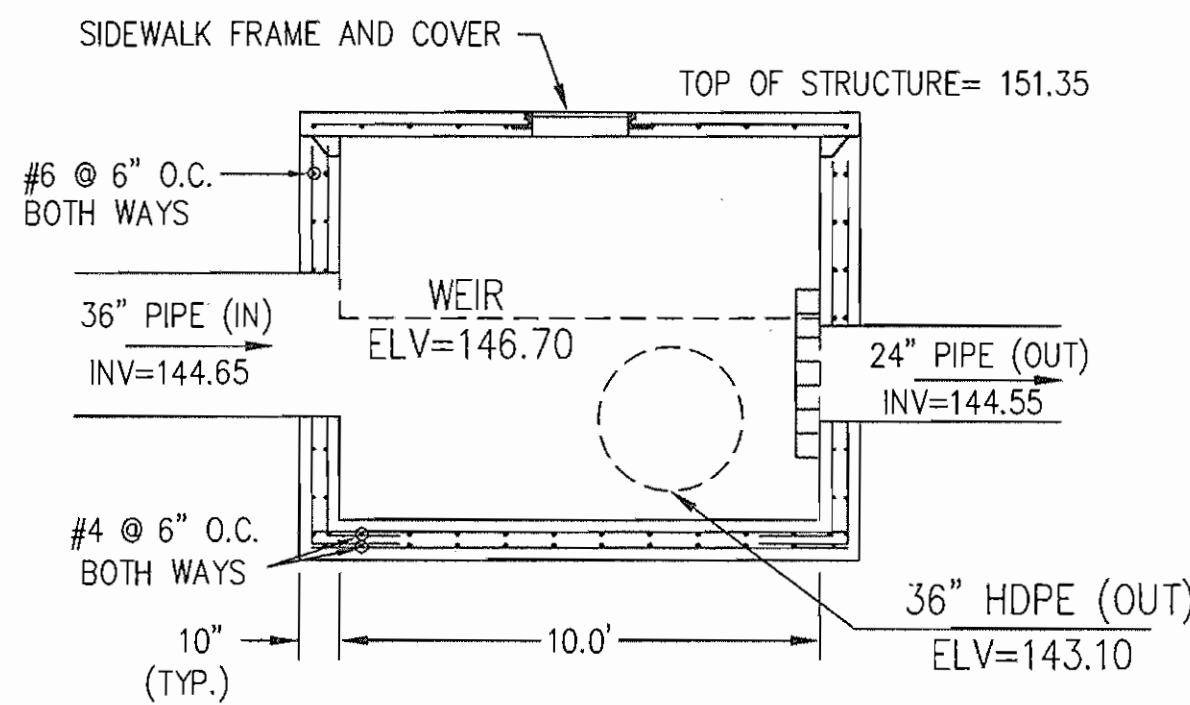
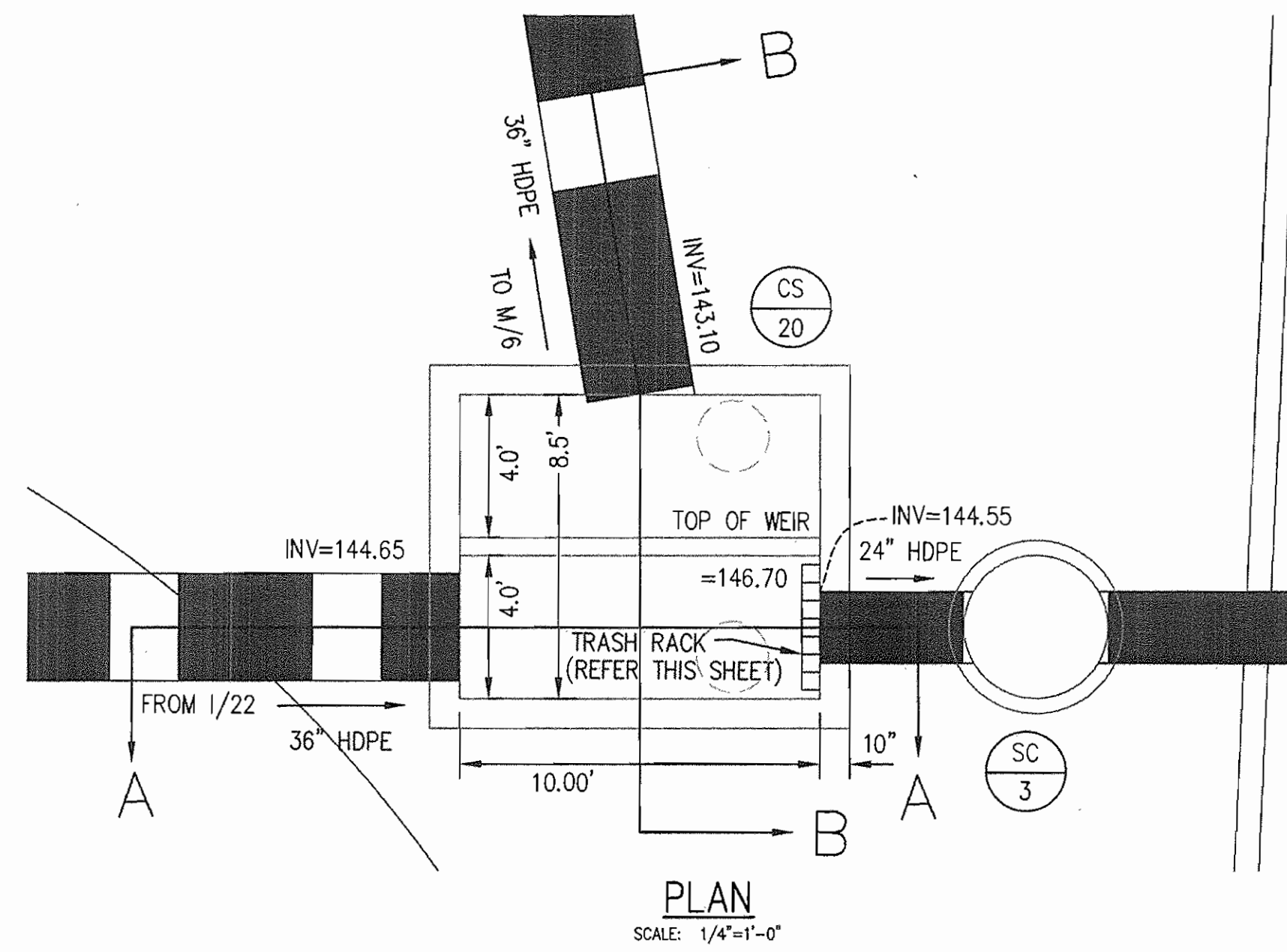
CONTACT: SANJAY PATEL PHONE: 301-306-3091 x121

PROJECT STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION  
 SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING

CS/10  
MODIFIED HOWARD COUNTY DETAIL # SD 4.02

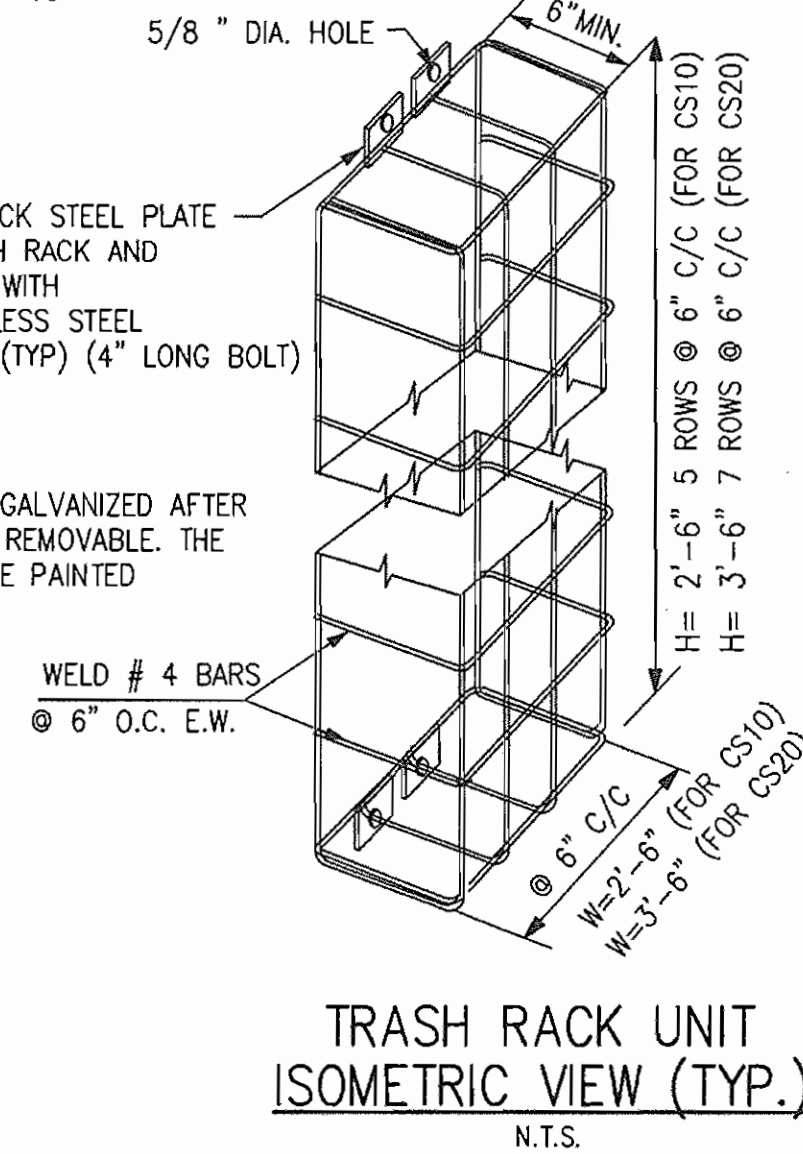


CS/20  
OFF-SITE BYPASS

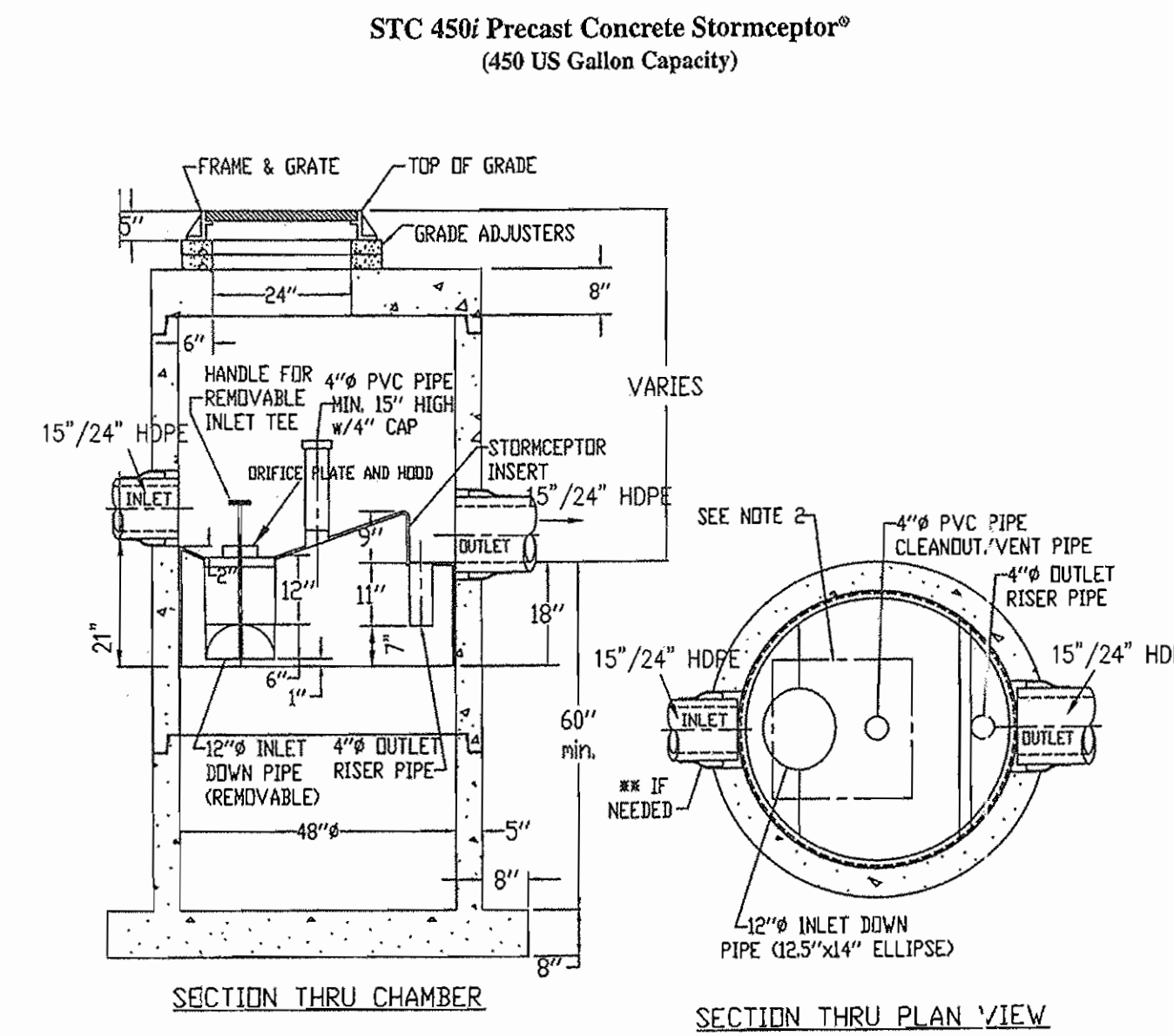


4"x4"x 1/4" THICK STEEL PLATE WELDED TO TRASH RACK AND BOLTED TO WALL WITH 1/2" DIA. STAINLESS STEEL EXPANSION BOLT (TYP) (4" LONG BOLT)

NOTE:  
TRASH SHALL BE GALVANIZED AFTER FABRICATION AND REMOVABLE. THE #4 BARS SHALL BE PAINTED BATTLESHIP GREY.



FOR SC-1, SC-3



- NOTE:
- THE USE OF FLEXIBLE CONNECTIONS IS RECOMMENDED AT THE OUTLET WHERE APPLICABLE.
  - THE COVER SHOULD BE POSITIONED OVER THE 4" PVC CLEANOUT/VENT PIPE.
  - THE STORMCEPTOR SYSTEM IS PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: #4985148, #5498331, #5725760, #5733315, #5849181
  - CONTRACTOR TO PROVIDE CRANE TO SET UNIT (HEAVIEST SECTION WEIGHS 500) LB)

Precast Concrete Stormceptor® Order Request Form

CONTRACTOR INFORMATION  
Name \_\_\_\_\_ Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Contact \_\_\_\_\_ Phone \_\_\_\_\_ Fax \_\_\_\_\_

GENERAL/PRIME CONTRACTOR  
Name \_\_\_\_\_ Phone \_\_\_\_\_ Fax \_\_\_\_\_

OWNER INFORMATION  
Name: Doug Chamberlain  
Phone: 410-203-2460  
Fax: \_\_\_\_\_

Stormceptor® Model  
450i  2400  7200   
900  3600  11000   
1200  4800  13000   
1800  6000  19000

Manhole Number: SC/3  
Top Elevation (ft): 151.35  
Inlet Pipe Invert (ft): 144.51  
Outlet Pipe Invert (ft): 144.26  
Pipe Type: 24" HDPE  
Inlet Pipe Inside Diameter (ID): 24"  
Inlet Pipe Outside Diameter (OD): 24"  
Outlet Pipe Inside Diameter (ID): 24"  
Outlet Pipe Outside Diameter (OD): 14"

Project Name: A. H. SMITH SUBDIVISION  
Bonded? \_\_\_\_\_ Bonding Company \_\_\_\_\_ Telephone \_\_\_\_\_ Bond # \_\_\_\_\_  
Tax Exempt? \_\_\_\_\_ Approximate time frame of delivery (months) \_\_\_\_\_  
Delivery Address Street (For Permits) \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Designer Company: AB CONSULTANTS, INC.  
Designer Contact: SANJAY B. PATEL Phone (301) 306-3091 Fax (301) 306-3092

\* These fields must be filled out for processing.

PLEASE FILL OUT COMPLETELY AND FAX TO:  
ATTN: BRIAN GINGRICH FAX: (301)698-5351, PHONE: (800)414-7960 EXT. 240

Precast Concrete Stormceptor® Order Request Form

CONTRACTOR INFORMATION  
Name \_\_\_\_\_ Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Contact \_\_\_\_\_ Phone \_\_\_\_\_ Fax \_\_\_\_\_

GENERAL/PRIME CONTRACTOR  
Name \_\_\_\_\_ Phone \_\_\_\_\_ Fax \_\_\_\_\_

OWNER INFORMATION  
Name: Doug Chamberlain  
Phone: 410-203-2460  
Fax: \_\_\_\_\_

Stormceptor® Model  
450i  2400  7200   
900  3600  11000   
1200  4800  13000   
1800  6000  19000

Manhole Number: SC/1  
Top Elevation (ft): 149.55  
Inlet Pipe Invert (ft): 144.50  
Outlet Pipe Invert (ft): 144.25  
Pipe Type: 15" HDPE  
Inlet Pipe Inside Diameter (ID): 15"  
Inlet Pipe Outside Diameter (OD): 15"  
Outlet Pipe Inside Diameter (ID): 15"  
Outlet Pipe Outside Diameter (OD): 15"

Project Name: A. H. SMITH SUBDIVISION  
Bonded? \_\_\_\_\_ Bonding Company \_\_\_\_\_ Telephone \_\_\_\_\_ Bond # \_\_\_\_\_  
Tax Exempt? \_\_\_\_\_ Approximate time frame of delivery (months) \_\_\_\_\_  
Delivery Address Street (For Permits) \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Designer Company: AB CONSULTANTS, INC.  
Designer Contact: SANJAY B. PATEL Phone (301) 306-3091 Fax (301) 306-3092

\* These fields must be filled out for processing.

PLEASE FILL OUT COMPLETELY AND FAX TO:  
ATTN: BRIAN GINGRICH FAX: (301)698-5351, PHONE: (800)414-7960 EXT. 240

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMCEPTOR WATER QUALITY DEVICE

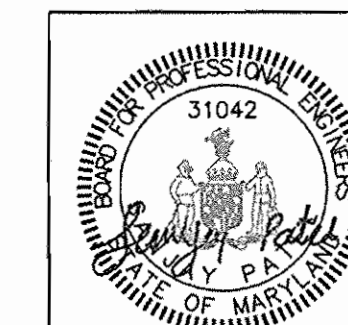
- THE STORMCEPTOR WATER QUALITY STRUCTURE SHALL BE PERIODICALLY INSPECTED AND CLEANED TO MAINTAIN OPERATION AND FUNCTION. THE OWNER SHALL INSPECT THE STORMCEPTOR UNIT YEARLY AT A MINIMUM, UTILIZING THE STORMCEPTOR INSPECTION/MONITORING FORM. INSPECTIONS SHALL BE DONE BY USING A CLEAR PLEXIGLAS TUBE ("SLUDGE JUDGE") TO EXTRACT A WATER COLUMN SAMPLE. WHEN THE SEDIMENT DEPTHS EXCEED THE LEVEL SPECIFIED IN TABLE 6 OF THE STORMCEPTOR TECHNICAL MANUAL, THE UNIT MUST BE CLEANED.
- THE STORMCEPTOR WATER QUALITY STRUCTURE SHALL BE CHECKED AND CLEANED IMMEDIATELY AFTER PETROLEUM SPILLS. THE OWNER SHALL CONTACT THE APPROPRIATE REGULATORY AGENCIES.
- THE MAINTENANCE OF THE STORMCEPTOR UNIT SHALL BE DONE USING A VACUUM TRUCK WHICH WILL REMOVE THE WATER, SEDIMENT, DEBRIS, FLOATING HYDROCARBONS AND OTHER MATERIALS IN THE UNIT. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS AND LIQUID MUST BE FOLLOWED BY THE OWNER.
- THE INLET AND OUTLET PIPES SHALL BE CHECKED FOR ANY OBSTRUCTIONS AT LEAST ONCE EVERY SIX MONTHS. IF OBSTRUCTIONS ARE FOUND THE OWNER SHALL HAVE THEM REMOVED. STRUCTURAL PARTS OF THE STORMCEPTOR UNIT SHALL BE REPAIRED AS NEEDED.
- THE OWNER SHALL RETAIN AND MAKE THE STORMCEPTOR INSPECTION/MONITORING FORMS AVAILABLE TO THE HOWARD COUNTY OFFICIALS UPON THEIR REQUEST.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
Director: \_\_\_\_\_ DATE: 2/1/08  
Chief, Development Engineering Division: \_\_\_\_\_ DATE: 2/1/08  
Chief, Division of Land Development: \_\_\_\_\_ DATE: 2/6/08

OWNER (PAR. A)  
LITTLE PATUXENT REAL ESTATE LLC  
28949 MILES RIVER ROAD  
EASTON, MARYLAND 21601

OWNER (PAR. B)  
ROUTE 1 SELF STORAGE LLC  
PO BOX 15080  
CHEVY CHASE, MARYLAND 20825

DEVELOPER:  
DOUG CHAMBERLAIN  
CHAMBERLAIN CONSTRUCTION INC  
3138 ROGERS AVENUE  
ELLICOTT CITY, MARYLAND 21043  
TELEPHONE: 410-203-2460



AB CONSULTANTS, INC.  
9450 ANNAPOLIS ROAD  
LANHAM, MARYLAND 20706  
PHONE: (301) 306-3091  
FAX: (301) 306-3092

CONTACT: SANJAY PATEL PHONE: 301-306-3091 x121

PROJECT: STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING

SWM DETAILS  
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144

PROJECT NO. 04-210  
SCALE: \_\_\_\_\_  
DATE: 01/23/08  
DRAWN BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
SHEET: 8 OF 25



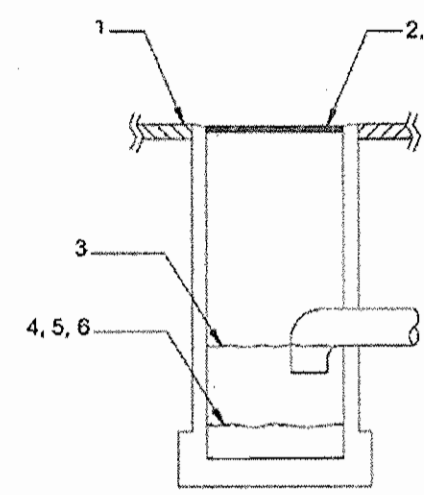
# 13.0 Inspection and Maintenance



## 13.1 TREATMENT TRAIN INSPECTION AND MAINTENANCE

The StormTech recommended treatment train inlet system has three tiers of treatment upstream of the StormTech chambers. It is recommended that inspection and maintenance (I&M) be initiated at the furthest upstream treatment tier and continue downstream as necessary. The following I&M procedures follow this approach providing I&M information in the following order: Tier 1 - Pretreatment (BMP); Tier 2 - StormTech Isolator Row, and; Tier 3 - Eccentric Pipe Header System.

Figure 17 - Catchbasin/Manhole I&M Steps



## 13.2 CATCHBASIN/MANHOLE I&M

Typically a stormwater system will have catchbasins and manholes upstream of the detention/retention system. In some cases these may be the only pre-treatment devices. Regular I&M of catchbasins and manholes should be scheduled and performed as part of a site's routine maintenance plan.

### Catchbasin/Manhole - Step-by-Step Maintenance Procedures

- 1) Inspect catch basins and manholes upstream of StormTech chambers for sediment
- 2) Remove grate or cover
- 3) Skim off oils and floatables
- 4) Using a stadia rod, measure the depth of sediment
- 5) If sediment is at a depth greater than 6" proceed to step 6. If not proceed to step 7.
- 6) Vacuum or manually remove sediment
- 7) Replace grate
- 8) Record depth & date and schedule next inspection

## 13.3 PRE-TREATMENT DEVICE I&M

Manufacturer's I&M procedures should be followed for proprietary pretreatment devices such as baffle boxes, swirl concentrators, oil-water separators, and filtration units. Table 10 provides some general guidelines but is not a substitute for a manufacturer's specific instructions.

TABLE 10 - Pretreatment Inspection and Maintenance Guidelines

SEDIMENT CONTROL INSPECTION	INSPECTION*	MAINTENANCE**
StormTech Isolator™ Row	Bi-Annually	JetVac - Culvert Cleaning Nozzle Preferred
Sediment Basin	Quarterly or after large storm event	Excavate sediment
Catch Basin Sump	Quarterly	Excavate, pump, or vacuum
Sedimentation Structure	Quarterly	Excavate, pump, or vacuum
Catch Basin Filter Bags	After all storm events	Clean and/or replace filter bags
Porous Pavement	Quarterly	Sweep Pavement
Pipe Header Design	Quarterly	Excavate, pump, or vacuum
Water Quality Inlet	Quarterly	Excavate, pump, or vacuum
Sand Filters	Quarterly or after storm event	Remove & replace sand filter

\* This schedule does not account for regional or site variables. Local municipal guidelines should be followed for inspection when available.  
 \*\* The methods stated are minimum guidelines for removal and cleaning of system. Other methods may apply.

## 13.4 ISOLATOR™ ROW INSPECTION

Regular inspection and maintenance are essential to assure a properly functioning stormwater system. Inspection is easily accomplished through the manhole or optional inspection ports of an Isolator Row. Please follow local and OSHA rules for a confined space entry.

Inspection ports can allow inspection to be accomplished completely from the surface without the need for a confined space entry. Inspection ports provide visual access to the system with the use of a flashlight. A stadia rod may be inserted to determine the depth of sediment. If upon visual inspection it is found that sediment has accumulated to an average depth exceeding 3 inches, cleanout is required.

A StormTech Isolator Row should initially be inspected immediately after completion of the site's construction. While every effort should be made to prevent sediment from entering the system during construction, it is during this time that excess amounts of sediments are most likely to enter any stormwater system. Inspection and maintenance, if necessary, should be performed prior to passing responsibility over to the site's owner. Once in normal service, a StormTech Isolator Row should be inspected bi-annually until an understanding of the sites characteristics is developed. The site's maintenance manager can then revise the inspection schedule based on experience or local requirements.

## 13.5 ISOLATOR ROW MAINTENANCE

JetVac maintenance is required if sediment has been collected to an average depth of 3 inches or more inside the Isolator Row. The JetVac process utilizes a high pressure water nozzle to propel itself down the Isolator Row while scouring and suspending sediments. As the nozzle is retrieved, a wave of suspended sediments is flushed back into the manhole for vacuuming. Most sewer and pipe maintenance companies have vacuum/JetVac combination vehicles. Fixed nozzles designed for culverts or large diameter pipe cleaning are preferable. Rear facing jets with an effective spread of at least 45° are best. Most JetVac reels have a minimum of 400 feet of hose allowing maintenance of an Isolator Row up to 50 chambers long. The JetVac process shall only be performed on StormTech Rows that have AASHTO class 1 woven geotextile over their angular base stone.

### Additional Notes

1. Inspect every 6 months during the first year of operation. Adjust the inspection interval based on previous observations of sediment accumulation and high water elevations.
2. Conduct jetting and vacuuming only when inspection show that maintenance is necessary.

## 13.6 ECCENTRIC PIPE HEADER INSPECTION

These guidelines do not supersede a pipe manufacturer's recommended I&M procedures. Consult with the manufacturer of the pipe header system for specific I&M procedures. Inspection of the header system should be carried out quarterly. On sites which generate higher levels of sediment more frequent inspections may be necessary. Headers may be accessed through risers, access ports or manholes. Measurement of sediment may be taken with a stadia rod or similar device. Cleanout of sediment should occur when the sediment volume has reduced the storage area by 25% or the depth of sediment has reached approximately 25% of the diameter of the structure.

## 13.7 ECCENTRIC PIPE HEADER MAINTENANCE

Cleanout of accumulated material should be accomplished by vacuum pumping the material from the header. Cleanout should be accomplished during dry weather. Care should be taken to avoid flushing sediments out through the outlet pipes and into the chamber rows.

### Eccentric Header Step-by-Step Maintenance Procedures

1. Locate manholes, access ports or risers connected to the header system
2. Remove grates or covers
3. Using a stadia rod, measure the depth of sediment
4. If sediment is at a depth of about 25% pipe volume or 25% pipe diameter proceed to step 5. If not proceed to step 6
5. Vacuum pump the sediment. Do not flush sediment out inlet pipes.
6. Replace grates and covers
7. Record depth & date and schedule next inspection

### STORMTECH ISOLATOR™ ROW - STEP-BY-STEP MAINTENANCE PROCEDURES

#### Step 1) Inspect Isolator Row for sediment

- A) Inspection ports (if present)
- i. Remove lid from floor box frame
  - ii. Remove cap from inspection riser
  - iii. Using a flashlight and stadia rod, measure depth of sediment
  - iv. If sediment is at, or above, 3 inch depth proceed to Step 2. If not proceed to step 3.
- B) All Isolator Rows

- i. Remove cover from manhole at upstream end of Isolator Row
- ii. Using a flashlight, inspect down Isolator Row through outlet pipe
  1. Mirrors on poles or cameras may be used to avoid a confined space entry
  2. Follow OSHA regulations for confined space entry if entering manhole
- iii. If sediment is at or above the lower row of sidewall holes (approximately 3 inches) proceed to Step 2. If not proceed to Step 3.

#### Step 2) Clean out Isolator Row using the JetVac process

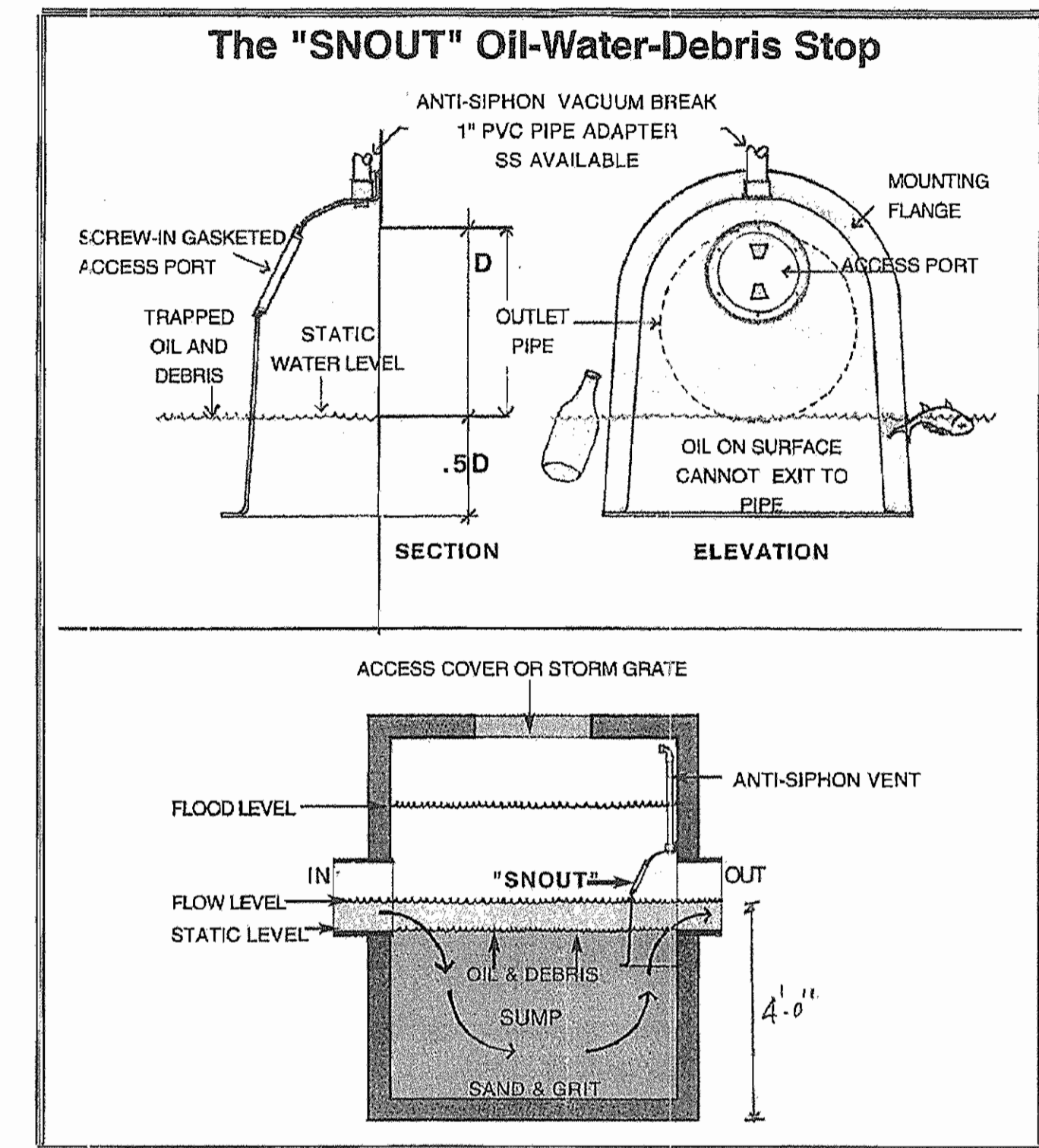
- A) A fixed culvert cleaning nozzle with rear facing nozzle spread of 45 inches or more is preferable  
 B) Apply multiple passes of JetVac until backflush water is clean  
 C) Vacuum manhole sump as required

#### Step 3) Replace all caps, lids and covers

#### Step 4) Inspect & clean catch basins and manholes upstream of the StormTech system following the procedures for Classic Manifold Inlet System

# Best Management Products, Inc.

www.bestmp.com

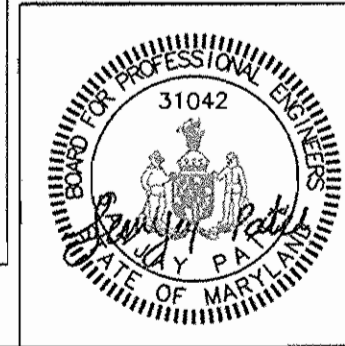
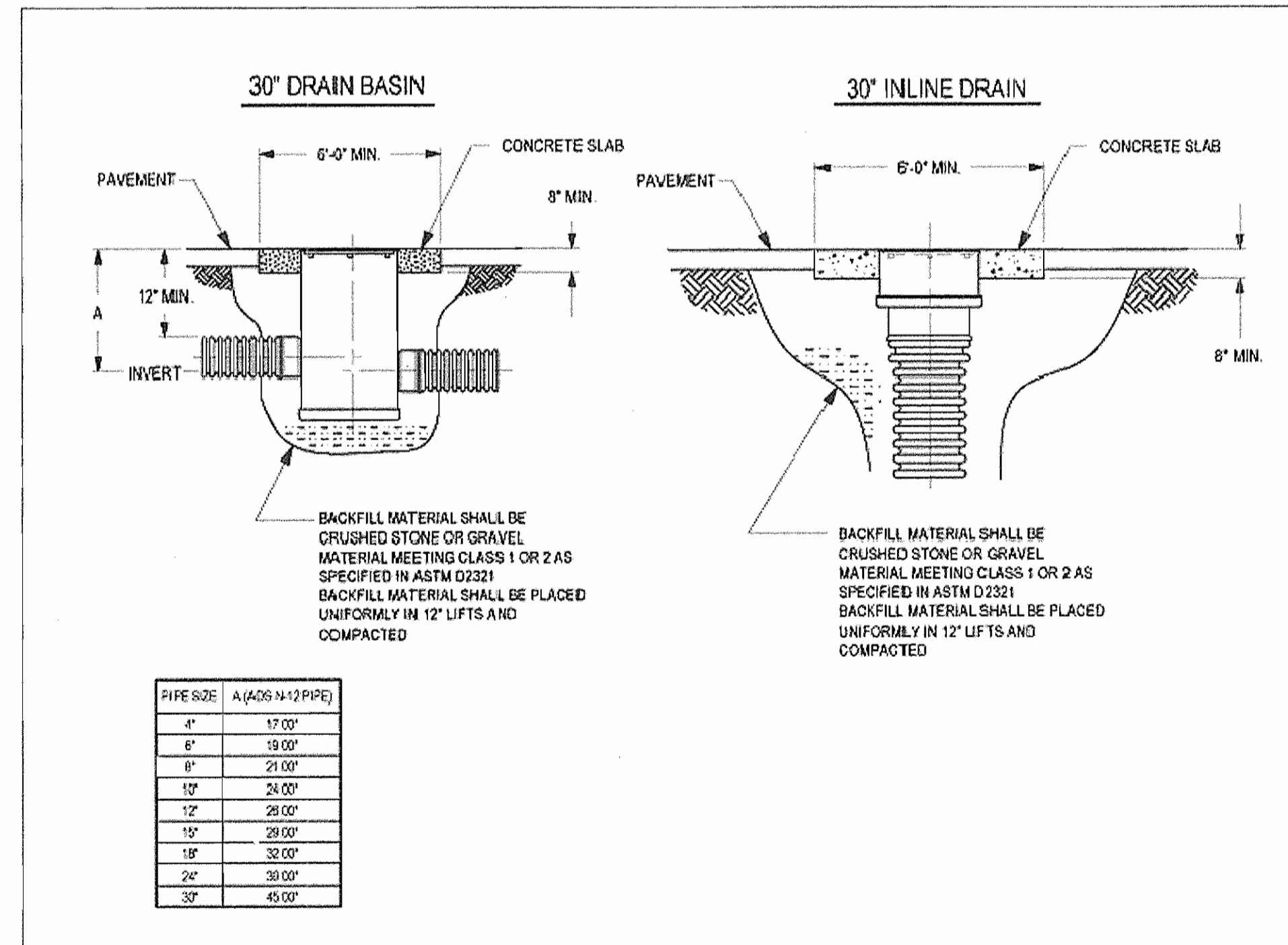
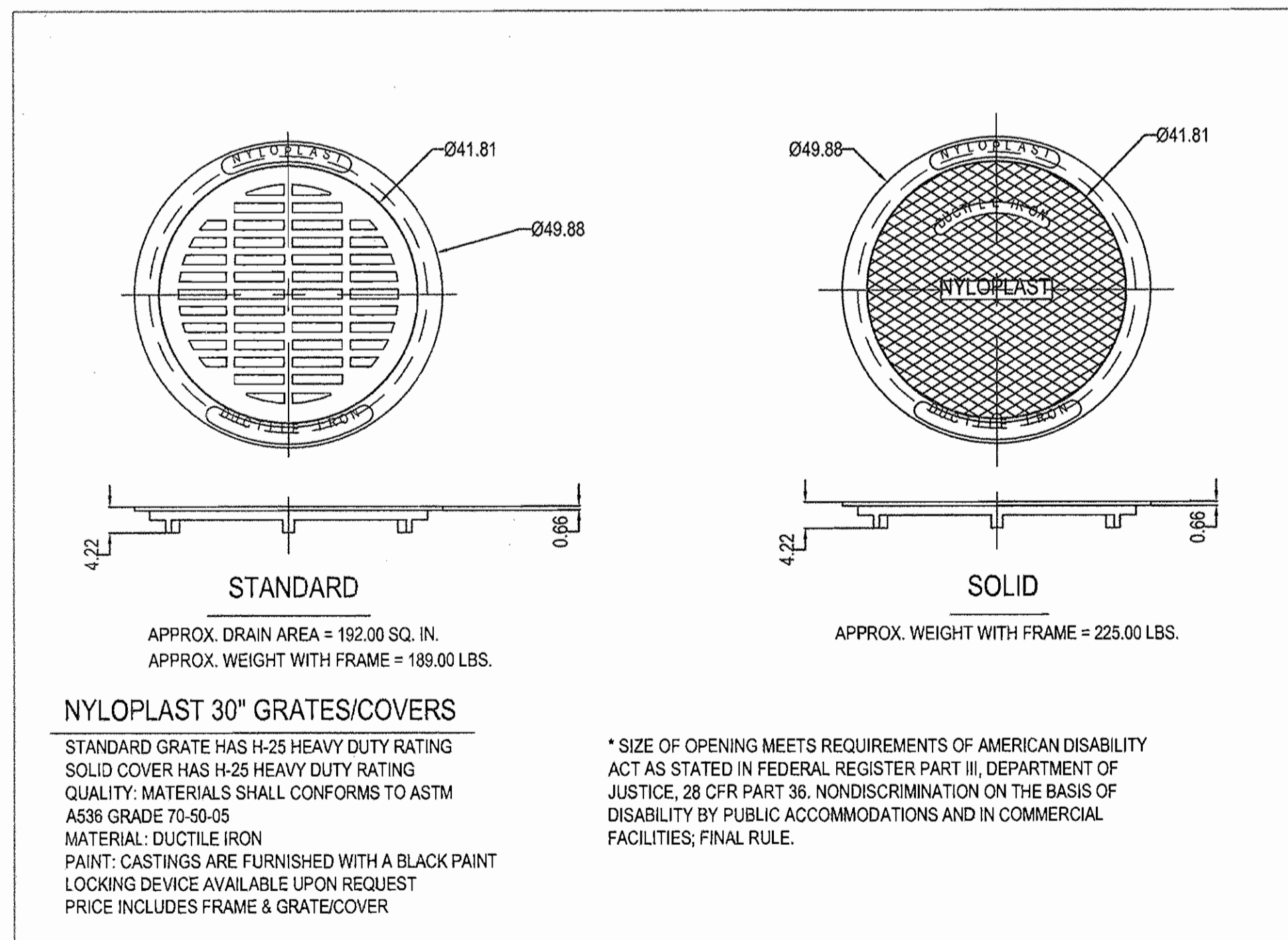


For additional information visit our web-site at: [www.bestmp.com](http://www.bestmp.com)  
 or contact: T.J. Mullen 888-354-7585, 215-884-6195 fax, [tjm@bestmp.com](mailto:tjm@bestmp.com)

Best Management Products, Inc. • 53 Mt Archer Rd. • Lyme CT • 800-504-8008 • 860-434-3195 fax



# INSPECTION & MAINTENANCE



**AB CONSULTANTS, INC.**  
 9450 ANNAPOLIS ROAD  
 LANHAM, MARYLAND 20706  
 PHONE: (301) 306-3091  
 FAX: (301) 306-3092  
 CONTACT: SANJAY PATEL PHONE: 301-306-3091 x121

PROJECT STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION  
 SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING  
**STORMTECH SC-740 CHAMBER DETAILS**  
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
 Director: *James H. Coyle* 2/7/08 DATE  
 Chief, Development Engineering Division: *Chris Williams* 2/11/08 DATE  
 Chief, Division of Land Development: *Andy R. Hunt* 2/6/08 DATE

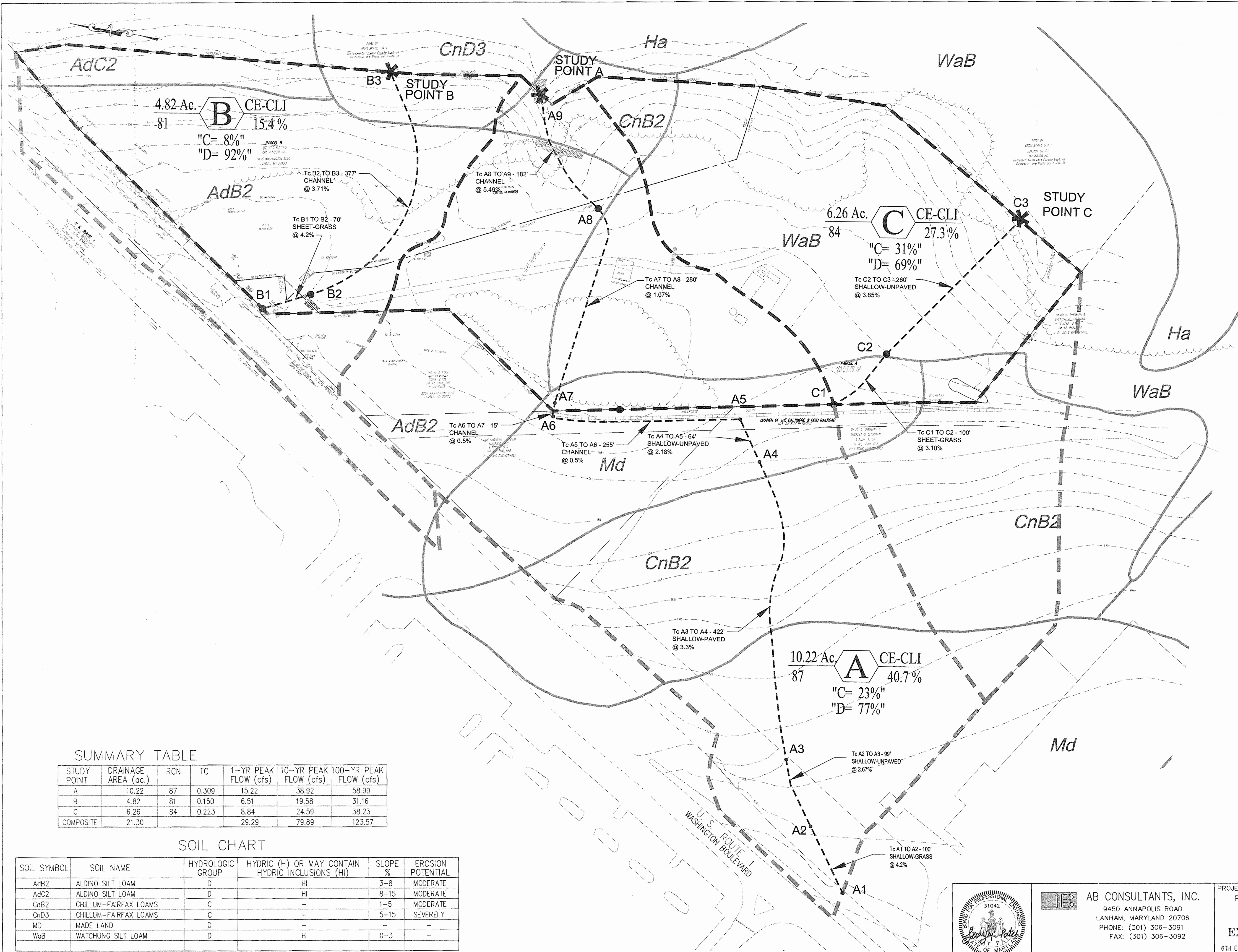
DATE	NO.	REVISION

OWNER (PAR. A)  
 LITTLE PATUXENT REAL ESTATE LLC  
 26949 MILES RIVER ROAD  
 EASTON, MARYLAND 21601

OWNER (PAR. B)  
 ROUTE 1 SELF STORAGE LLC  
 PO BOX 15080  
 CHEVY CHASE, MARYLAND 20825

DEVELOPER:  
 DOUG CHAMBERLAIN  
 CHAMBERLAIN CONSTRUCTION INC  
 3138 ROGERS AVENUE  
 ELLICOTT CITY, MARYLAND 21043  
 TELEPHONE: 410-203-2460

PROJECT NO. 04-210  
 SCALE: AS SHOWN  
 DATE: 01/23/08  
 DRAWN BY: JRP  
 CHECKED BY: SBP  
 SHEET: 9 OF 25  
 SDP-06-100



4.82 Ac. **B** CE-CLI  
81 15.4%  
"C= 8%"  
"D= 92%"

6.26 Ac. **C** CE-CLI  
84 27.3%  
"C= 31%"  
"D= 69%"

10.22 Ac. **A** CE-CLI  
87 40.7%  
"C= 23%"  
"D= 77%"

SUMMARY TABLE

STUDY POINT	DRAINAGE AREA (ac.)	RCN	TC	1-YR PEAK FLOW (cfs)	10-YR PEAK FLOW (cfs)	100-YR PEAK FLOW (cfs)
A	10.22	87	0.309	15.22	38.92	58.99
B	4.82	81	0.150	6.51	19.58	31.16
C	6.26	84	0.223	8.84	24.59	38.23
COMPOSITE	21.30			29.29	79.89	123.57

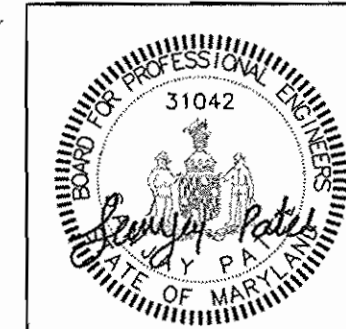
SOIL CHART

SOIL SYMBOL	SOIL NAME	HYDROLOGIC GROUP	HYDRIC (H) OR MAY CONTAIN HYDRIC INCLUSIONS (HI)	SLOPE %	EROSION POTENTIAL
AdB2	ALDINO SILT LOAM	D	HI	3-8	MODERATE
AdC2	ALDINO SILT LOAM	D	HI	8-15	MODERATE
CnB2	CHILLUM-FAIRFAX LOAMS	C	-	1-5	MODERATE
CnD3	CHILLUM-FAIRFAX LOAMS	C	-	5-15	SEVERELY
Md	MADE LAND	D	-	-	-
WaB	WATCHUNG SILT LOAM	D	H	0-3	-

LEGEND

- EX. DRAINAGE DIVIDE (OFF-SITE AREA)
- EX. DRAINAGE DIVIDE (ON-SITE AREA)
- Tc PATH
- SOIL BOUNDARY

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
  
 Chief, Development Engineering Division Date: 2/1/08  
  
 Chief, Division of Land Development Date: 2/6/08  
  
 Director Date: 2/7/08

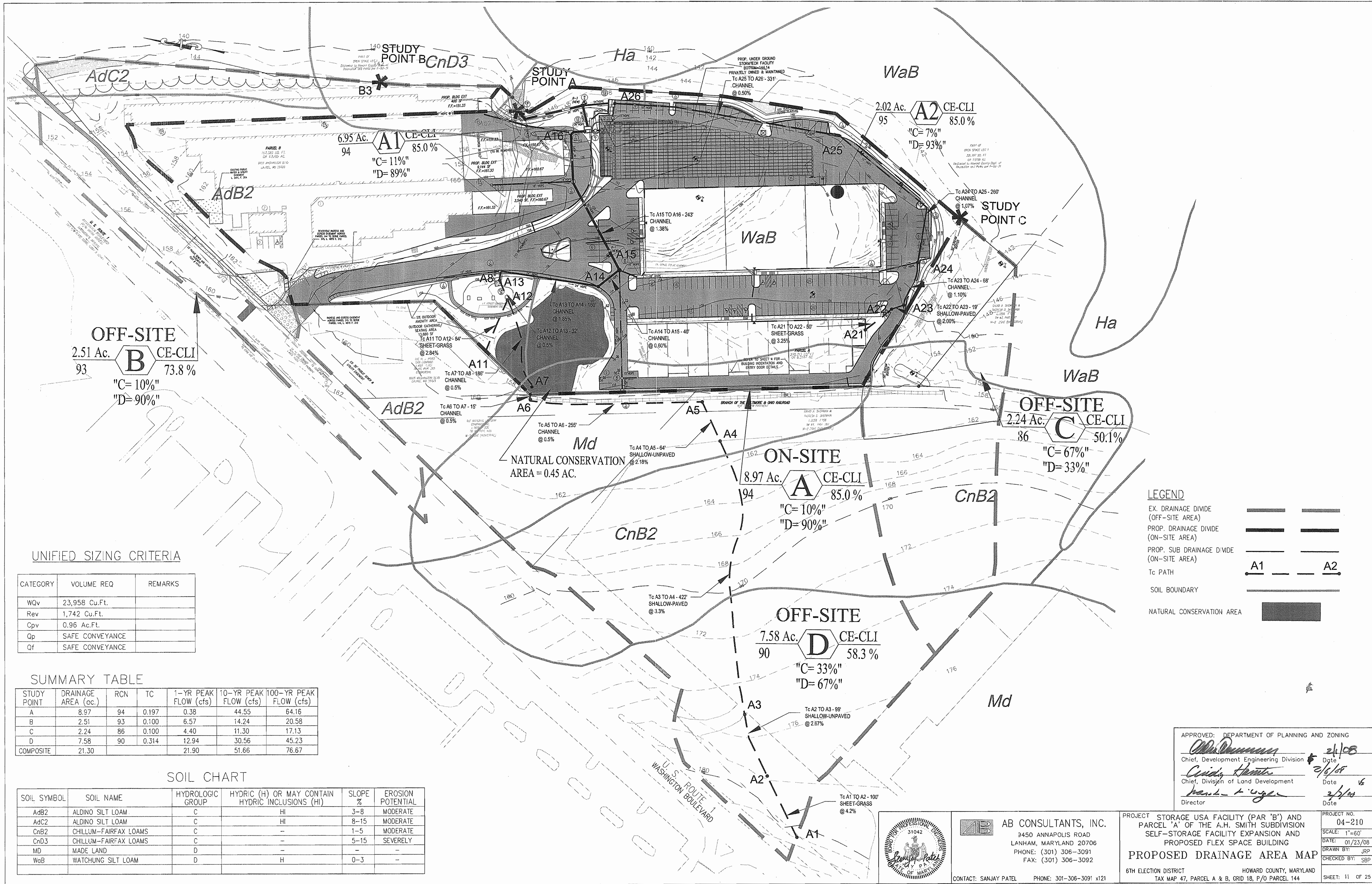


**AB CONSULTANTS, INC.**  
 9450 ANNAPOLIS ROAD  
 LANHAM, MARYLAND 20706  
 PHONE: (301) 306-3091  
 FAX: (301) 306-3092

PROJECT STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION  
 SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING  
**EXISTING DRAINAGE AREA MAP**  
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144

PROJECT NO. 04-210  
 SCALE: 1"=60'  
 DATE: 01/23/08  
 DRAWN BY: JRP  
 CHECKED BY: SBP  
 SHEET: 10 OF 25  
 SDP-06-100

CONTACT: SANJAY PATEL PHONE: 301-306-3091 x121



OFF-SITE  
2.51 Ac. **B** CE-CLI  
93  
"C=10%"  
"D=90%"

6.95 Ac. **A1** CE-CLI  
94  
"C=11%"  
"D=89%"

ON-SITE  
8.97 Ac. **A** CE-CLI  
94  
"C=10%"  
"D=90%"

OFF-SITE  
2.24 Ac. **C** CE-CLI  
86  
"C=67%"  
"D=33%"

OFF-SITE  
7.58 Ac. **D** CE-CLI  
90  
"C=33%"  
"D=67%"

UNIFIED SIZING CRITERIA

CATEGORY	VOLUME REQ	REMARKS
WQv	23,958 Cu.Ft.	
Rev	1,742 Cu.Ft.	
Cpv	0.96 Ac.Ft.	
Qp	SAFE CONVEYANCE	
Qf	SAFE CONVEYANCE	

SUMMARY TABLE

STUDY POINT	DRAINAGE AREA (ac.)	RCN	TC	1-YR PEAK FLOW (cfs)	10-YR PEAK FLOW (cfs)	100-YR PEAK FLOW (cfs)
A	8.97	94	0.197	0.38	44.55	64.16
B	2.51	93	0.100	6.57	14.24	20.58
C	2.24	86	0.100	4.40	11.30	17.13
D	7.58	90	0.314	12.94	30.56	45.23
COMPOSITE	21.30			21.90	51.66	76.67

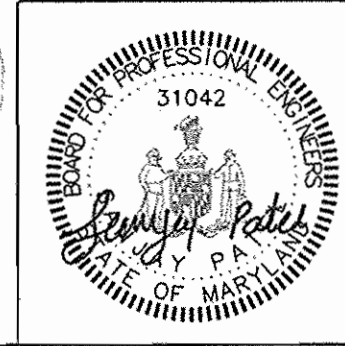
SOIL CHART

SOIL SYMBOL	SOIL NAME	HYDROLOGIC GROUP	HYDRIC (H) OR MAY CONTAIN HYDRIC INCLUSIONS (HI)	SLOPE %	EROSION POTENTIAL
AdB2	ALDINO SILT LOAM	C	HI	3-8	MODERATE
AdC2	ALDINO SILT LOAM	C	HI	8-15	MODERATE
CnB2	CHILLUM-FAIRFAX LOAMS	C	-	1-5	MODERATE
CnD3	CHILLUM-FAIRFAX LOAMS	C	-	5-15	SEVERELY
MD	MADE LAND	D	-	-	-
WaB	WATCHUNG SILT LOAM	D	H	0-3	-

LEGEND

- EX. DRAINAGE DIVIDE (OFF-SITE AREA)
- PROP. DRAINAGE DIVIDE (ON-SITE AREA)
- PROP. SUB DRAINAGE DIVIDE (ON-SITE AREA)
- Tc PATH
- SOIL BOUNDARY
- NATURAL CONSERVATION AREA

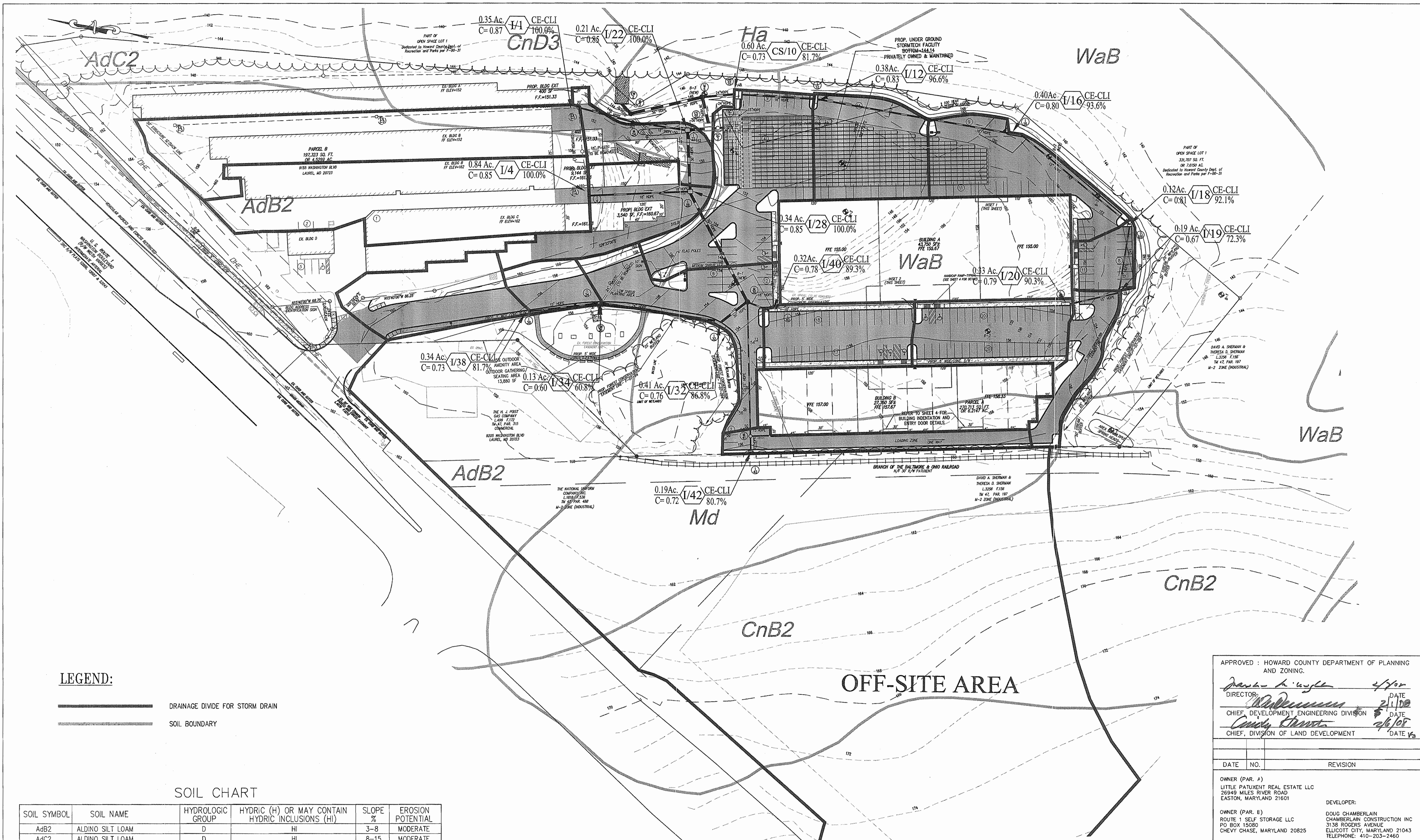
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 2/1/08  
 Chief, Development Engineering Division  
*[Signature]* 2/6/08  
 Chief, Division of Land Development  
*[Signature]* 2/2/08  
 Director



**AB CONSULTANTS, INC.**  
 3450 ANNAPOLIS ROAD  
 LANHAM, MARYLAND 20706  
 PHONE: (301) 306-3091  
 FAX: (301) 306-3092  
 CONTACT: SANJAY PATEL PHONE: 301-306-3091 x121

PROJECT STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING  
**PROPOSED DRAINAGE AREA MAP**  
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144

PROJECT NO. 04-210  
 SCALE: 1"=60'  
 DATE: 01/23/08  
 DRAWN BY: JRP  
 CHECKED BY: SBP  
 SHEET: 11 OF 25  
 SDP-06-100



**LEGEND:**

- DRAINAGE DIVIDE FOR STORM DRAIN
- SOIL BOUNDARY

**SOIL CHART**

SOIL SYMBOL	SOIL NAME	HYDROLOGIC GROUP	HYDRIC (H) OR MAY CONTAIN HYDRIC INCLUSIONS (HI)	SLOPE %	EROSION POTENTIAL
AdB2	ALDINO SILT LOAM	D	HI	3-8	MODERATE
AdC2	ALDINO SILT LOAM	D	HI	8-15	MODERATE
CnB2	CHILLUM-FAIRFAX LOAMS	C	-	1-5	MODERATE
CnD3	CHILLUM-FAIRFAX LOAMS	C	-	5-15	SEVERELY
MD	MADE LAND	D	-	-	-
WaB	WATCHUNG SILT LOAM	D	H	0-3	-

**OFF-SITE AREA**

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Janet H. Wright* 4/10/08  
DIRECTOR DATE

*W. Williams* 2/1/08  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

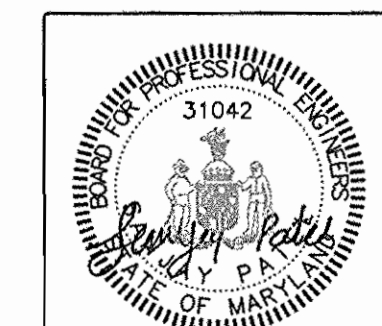
*Candy Kharita* 2/6/08  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

OWNER (PAR. A)  
LITTLE PATUXENT REAL ESTATE LLC  
25949 MILES RIVER ROAD  
EASTON, MARYLAND 21601

DEVELOPER:  
OWNER (PAR. E)  
ROUTE 1 SELF STORAGE LLC  
PO BOX 15080  
CHEVY CHASE, MARYLAND 20825

DOUG CHAMBERLAIN  
CHAMBERLAIN CONSTRUCTION INC  
3138 ROGERS AVENUE  
ELICOTT CITY, MARYLAND 21043  
TELEPHONE: 410-203-2460



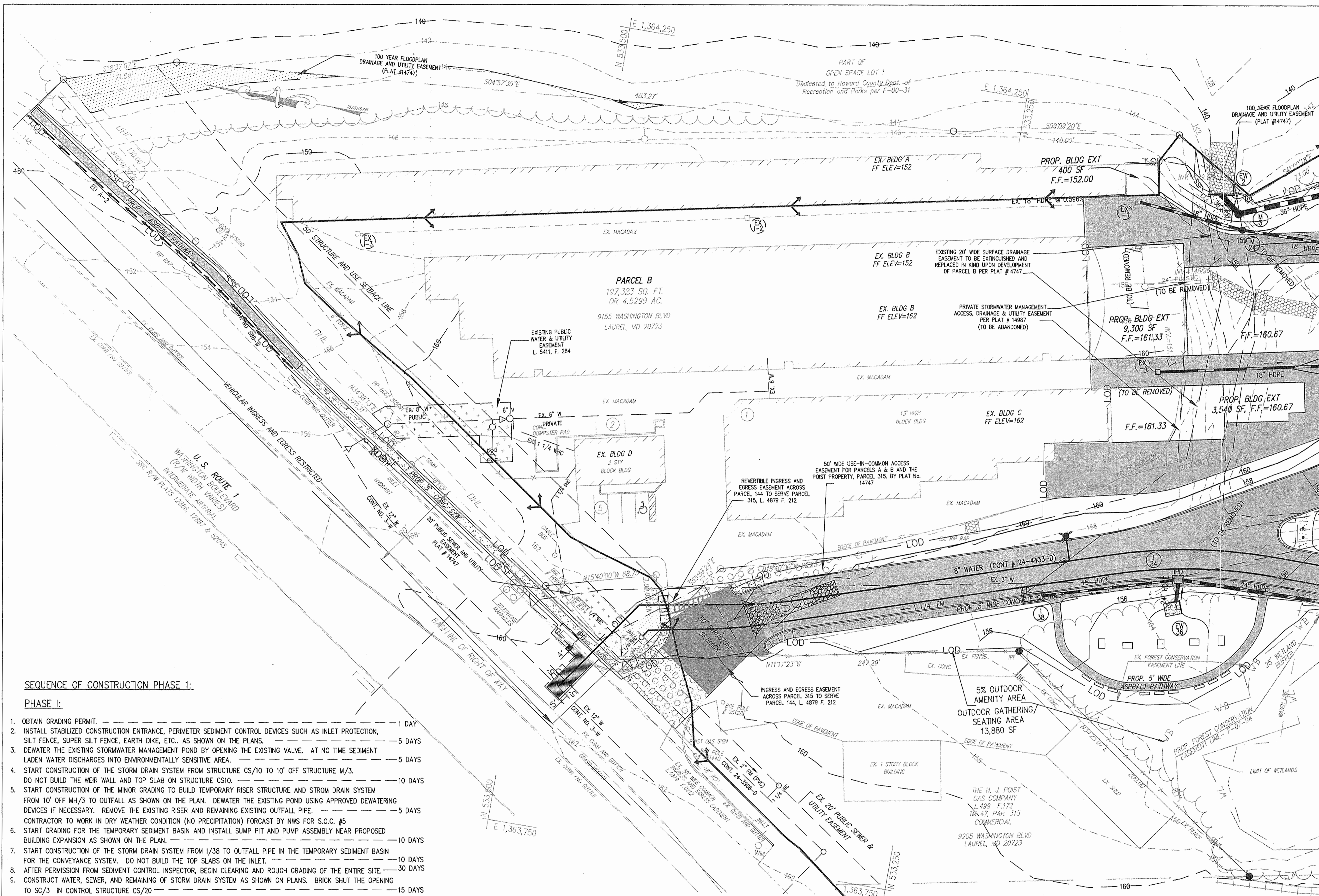
**AB CONSULTANTS, INC.**  
9450 ANNAPOLIS ROAD  
LANHAM, MARYLAND 20706  
PHONE: (301) 306-3091  
FAX: (301) 306-3092

PROJECT STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION  
SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING  
**STORMDRAIN STUDY**

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144

PROJECT NO. 04-210  
SCALE: 1" = 50'  
DATE: 01/23/08  
DRAWN BY: -  
CHECKED BY: -  
SHEET: 12 OF 25  
SDP-06-100

CONTACT: SANJAY PATEL PHONE: 301-306-3091 x121



- LEGEND:**
- LOD — LIMIT OF DISTURBANCE
  - SSF — SUPERSILT FENCE
  - ▨ STABILIZED CONSTRUCTION ENTRANCE
  - DRAINAGE DIVIDE
  - IPD INLET PROTECTION DEVICE
  - EARTH DIKE

BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 1/25/08  
DEVELOPER DATE

BY THE ENGINEER:

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

*[Signature]* 1/24/08  
ENGINEER DATE

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

*[Signature]* 1/24/08  
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*[Signature]* 1/24/08  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 2/2/08  
DIRECTOR DATE

*[Signature]* 2/1/08  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 2/1/08  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

OWNER (PAR. A)  
LITTLE PATUXENT REAL ESTATE LLC  
26949 MILES RIVER ROAD  
EASTON, MARYLAND 21601

OWNER (PAR. B)  
ROUTE 1 SELF STORAGE LLC  
PO BOX 15080  
CHEVY CHASE, MARYLAND 20825

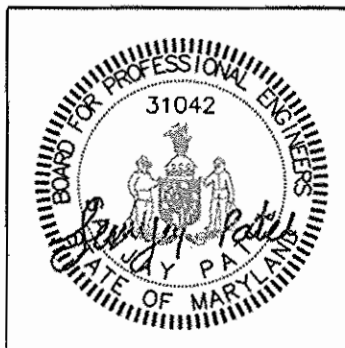
DEVELOPER:  
DOUG CHAMBERLAIN  
CHAMBERLAIN CONSTRUCTION INC  
3138 ROGERS AVENUE  
ELLCOTT CITY, MARYLAND 21043  
TELEPHONE: 410-203-2460

**SEQUENCE OF CONSTRUCTION PHASE I:**

- PHASE I:**
1. OBTAIN GRADING PERMIT. — 1 DAY
  2. INSTALL STABILIZED CONSTRUCTION ENTRANCE, PERIMETER SEDIMENT CONTROL DEVICES SUCH AS INLET PROTECTION, SILT FENCE, SUPER SILT FENCE, EARTH DIKE, ETC., AS SHOWN ON THE PLANS. — 5 DAYS
  3. DEWATER THE EXISTING STORMWATER MANAGEMENT POND BY OPENING THE EXISTING VALVE. AT NO TIME SEDIMENT LADEN WATER DISCHARGES INTO ENVIRONMENTALLY SENSITIVE AREA. — 5 DAYS
  4. START CONSTRUCTION OF THE STORM DRAIN SYSTEM FROM STRUCTURE CS/10 TO 10' OFF STRUCTURE M/3. DO NOT BUILD THE WEIR WALL AND TOP SLAB ON STRUCTURE CS/10. — 10 DAYS
  5. START CONSTRUCTION OF THE MINOR GRADING TO BUILD TEMPORARY RISER STRUCTURE AND STROM DRAIN SYSTEM FROM 10' OFF M/3 TO OUTFALL AS SHOWN ON THE PLAN. DEWATER THE EXISTING POND USING APPROVED DEWATERING DEVICES IF NECESSARY. REMOVE THE EXISTING RISER AND REMAINING EXISTING OUTFALL PIPE. — 5 DAYS
  6. START GRADING FOR THE TEMPORARY SEDIMENT BASIN AND INSTALL SUMP PIT AND PUMP ASSEMBLY NEAR PROPOSED BUILDING EXPANSION AS SHOWN ON THE PLAN. — 10 DAYS
  7. START CONSTRUCTION OF THE STORM DRAIN SYSTEM FROM 1/38 TO OUTFALL PIPE IN THE TEMPORARY SEDIMENT BASIN FOR THE CONVEYANCE SYSTEM. DO NOT BUILD THE TOP SLABS ON THE INLET. — 10 DAYS
  8. AFTER PERMISSION FROM SEDIMENT CONTROL INSPECTOR, BEGIN CLEARING AND ROUGH GRADING OF THE ENTIRE SITE. — 30 DAYS
  9. CONSTRUCT WATER, SEWER, AND REMAINING OF STORM DRAIN SYSTEM AS SHOWN ON PLANS. BRICK SHUT THE OPENING TO SC/3 IN CONTROL STRUCTURE CS/20 — 15 DAYS
  10. CONTRACTOR TO PROVIDE THE STUB OUT FROM STORM DRAIN STRUCTURE 1/28 AS SHOWN ON THE PLAN AND BRICK SHUT THE OPENING. — 20 DAYS
  11. CONSTRUCT BUILDING FOUNDATION AND SLAB ON GRADE. — 5 DAYS
  12. GRADE ROADWAY UP TO SUBGRADE ELEVATION. — 5 DAYS
  13. CONSTRUCT GRADED AGGREGATE BASE COURSE — 3 DAYS
  14. CONSTRUCT THE ASPHALT TRAIL AS SHOWN ON PLAN. — 5 DAYS
  15. CONSTRUCT CURB AND GUTTER, SIDEWALK, AND TOP SLAB ON INLETS. — 15 DAYS
  16. CONSTRUCT 5' ASPHALT PATH ALONG RT. 1 — 5 DAYS
  17. STABILIZED SIDE SLOPES AND SUBGRADE AREAS WITH SEED AND MULCH. — 2 DAYS
- PHASE II:**
- NOTE: CONSTRUCTION OF PHASE II SHALL NOT START PRIOR TO FINISHING TO PHASE I CONSTRUCTION.
18. START CONSTRUCTION OF WATER, SEWER, AND REMAINING OF STORM DRAIN SYSTEM AS SHOWN ON PLANS. PROVIDE INLET PROTECTION ON THE NEWLY CONSTRUCTED INLET IMMEDIATELY AFTER CONSTRUCTION. — 20 DAYS
  19. CONSTRUCT BUILDING FOUNDATION AND SLAB ON GRADE FOR BUILDING B. — 20 DAYS
  20. GRADE ROADWAY UP TO SUBGRADE ELEVATION EXCEPT THE BASIN AREA. — 10 DAYS
  21. CONSTRUCT GRADED AGGREGATE BASE COURSE — 3 DAYS

22. DEWATER THE TEMPORARY BASIN. BACKFILL SEDIMENT BASIN AS REQUIRED TO CONSTRUCT REMAINING PORTION OF STORM DRAIN PIPE FROM M/30 TO 1/28. ALSO CONSTRUCT BUILDING FOUNDATION AND SLAB ON GRADE FOR BUILDING A. — 20 DAYS
23. DEWATER THE TEMPORARY BASIN. REMOVE RISER ASSEMBLY, BRICK SHUT OPENING TO SC/1. — 3 DAYS
- NOTE: TASK #22 SHALL BE DONE WITH A 5-DAY CLEAR WEATHER (NO PRECIPITATION) FORECAST FROM THE NWS, AND PERMISSION FROM THE INSPECTOR BEFORE PROCEEDING.
24. START CONSTRUCTION OF THE UNDERGROUND STORMWATER MANAGEMENT FACILITY INCLUDING UNDER DRAIN PIPE CONNECTION AND WEIR IN CONTROL STRUCTURE CS/10. — 20 DAYS
- BRICK SHUT THE UNDERDRAIN PIPE @ CS/10, UNTIL UNDERGROUND SWM STRUCTURE IS COMPLETED. CONTRACTOR TO PROTECT UNDERGROUND SWM FACILITY DURING CONSTRUCTION OF BUILDING A.
25. GRADE PARKING AREA UP TO THE SUBGRADE ELEVATION. — 5 DAYS
26. CONSTRUCT GRADED AGGREGATE BASE COURSE — 3 DAYS
27. CONSTRUCT REMAINING CURB AND GUTTER AND SIDEWALK. — 10 DAYS
28. REMOVE BRICK SHUT OPENING FROM CONTROL STRUCTURE CS/20. — 5 DAYS
29. CONSTRUCT BITUMINOUS CONCRETE PAVING FOR THE ENTIRE SITE. — 5 DAYS
30. UPON APPROVAL FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE REMAINING DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. — 5 DAYS

MATCH LINE - SEE SHEET 14 OF 25



**AB CONSULTANTS, INC.**  
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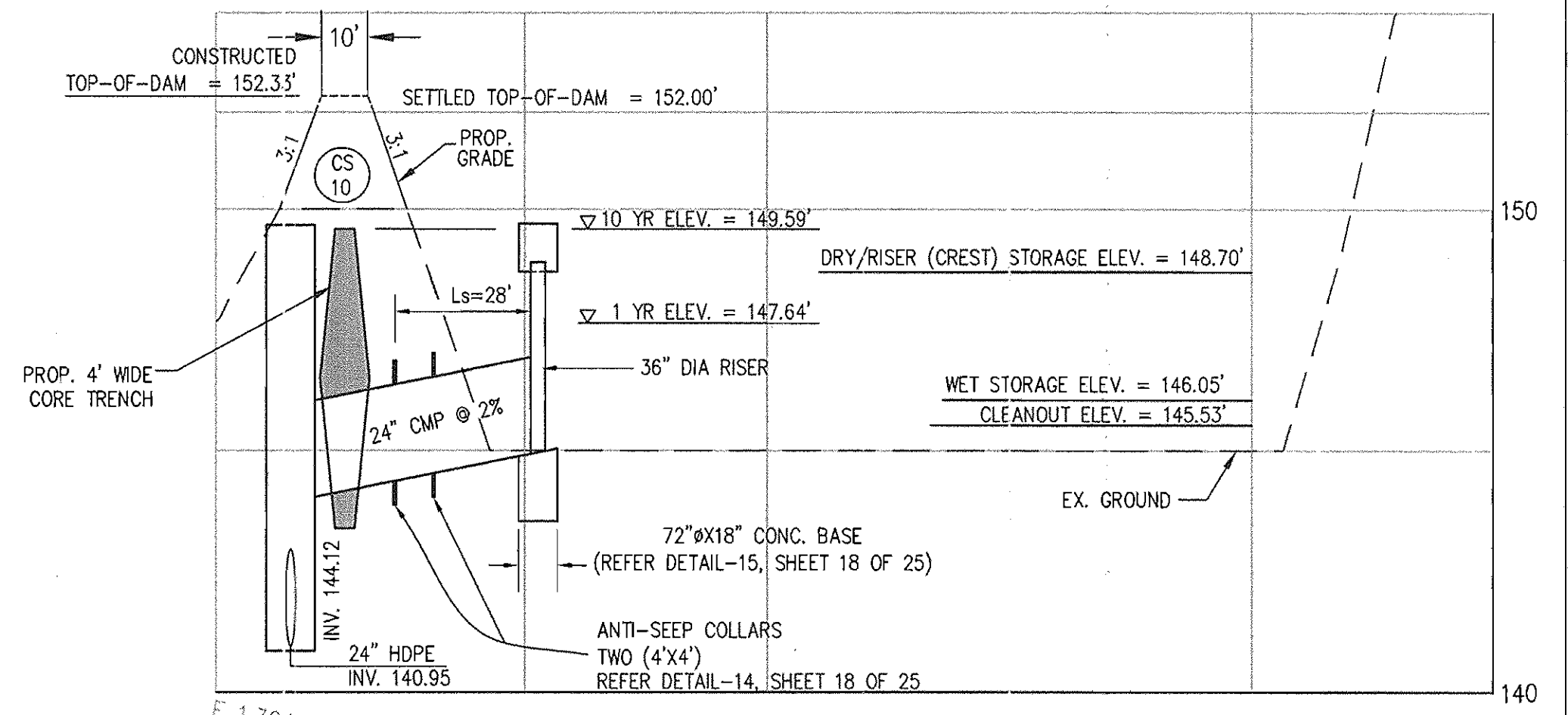
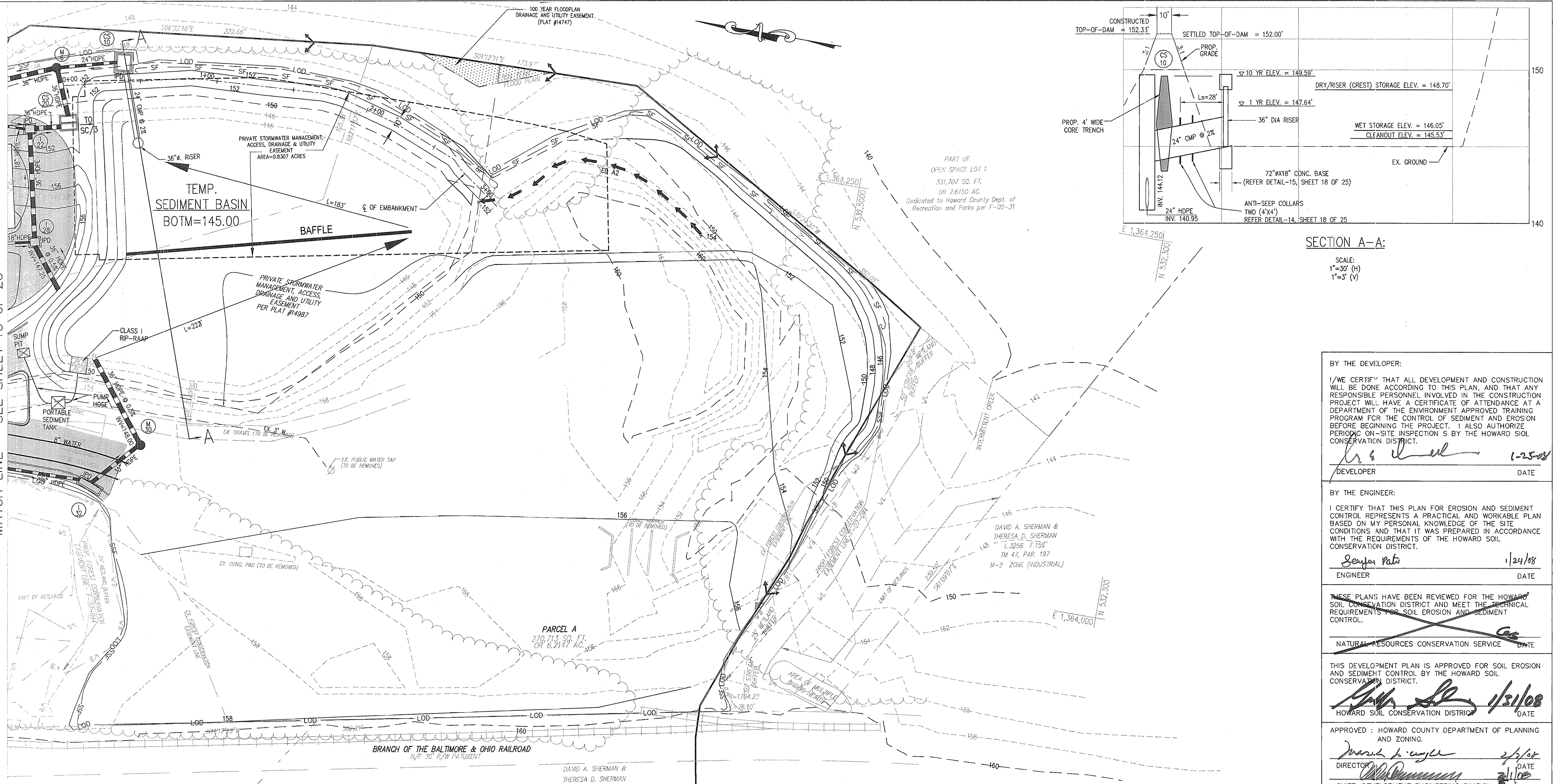
PROJECT STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING GRADING, EROSION AND SEDIMENT CONTROL PLAN - PHASE I

6TH ELECTION DISTRICT TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144

HOWARD COUNTY, MARYLAND

PROJECT NO. 04-210  
SCALE: 1" = 30'  
DATE: 01/23/08  
DRAWN BY: HRP  
CHECKED BY: SBP  
SHEET: 13 OF 25  
SDP-06-100

MATCH LINE - SEE SHEET 13 OF 25



SECTION A-A:

SCALE:  
1"=30' (H)  
1"=3' (V)

BY THE DEVELOPER:  
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 1-25-08  
DEVELOPER DATE

BY THE ENGINEER:  
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*[Signature]* 1/24/08  
ENGINEER DATE

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

*[Signature]*  
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*[Signature]* 1/31/08  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 2/3/08  
DIRECTOR DATE

*[Signature]* 2/1/08  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 2/6/08  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

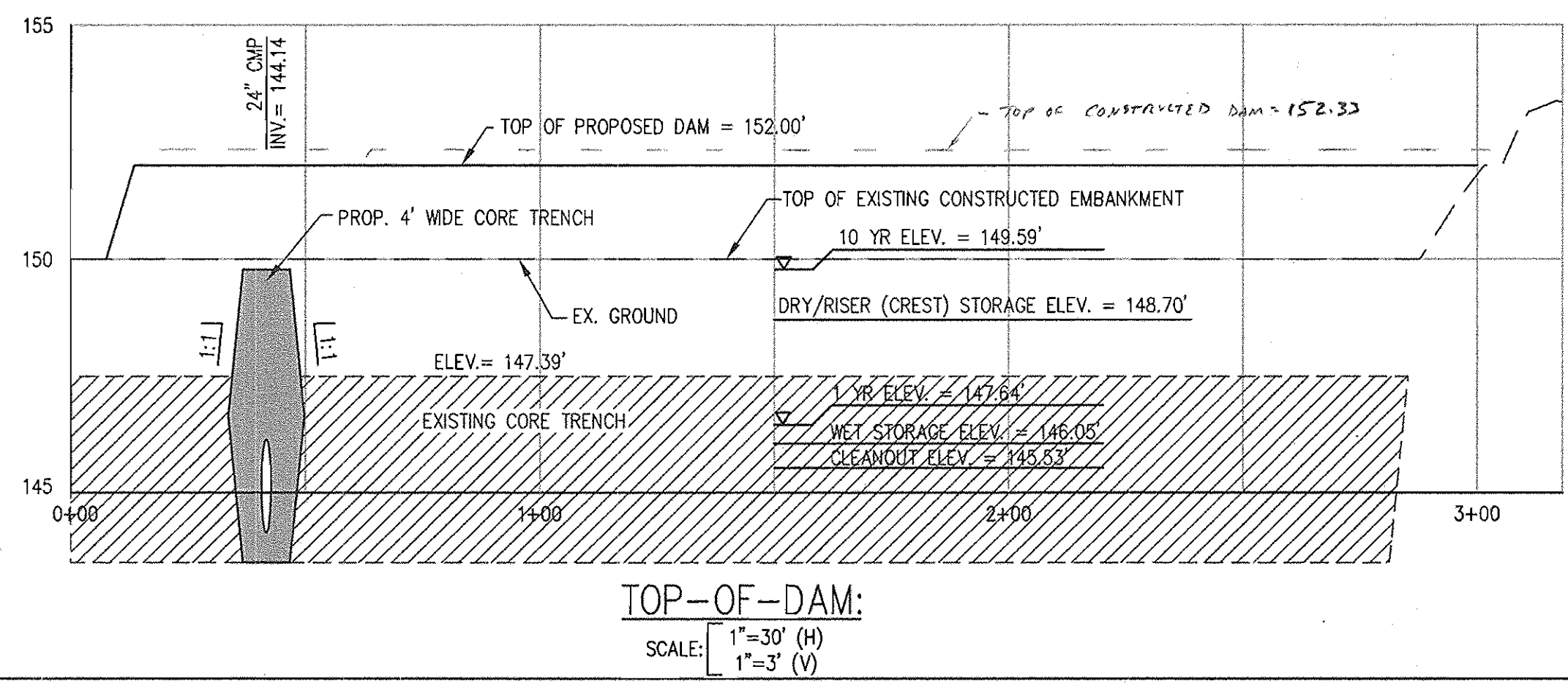
DATE	NO.	REVISION

OWNER (PAR. A)  
LITTLE PATUXENT REAL ESTATE LLC  
26949 MILES RIVER ROAD  
EASTON, MARYLAND 21601

OWNER (PAR. B)  
ROUTE 1 SELF STORAGE LLC  
PO BOX 15080  
CHEVY CHASE, MARYLAND 20825

DEVELOPER:  
DOUG CHAMBERLAIN  
CHAMBERLAIN CONSTRUCTION INC  
3138 ROGERS AVENUE  
ELLCOTT CITY, MARYLAND 21043  
TELEPHONE: 410-203-2460

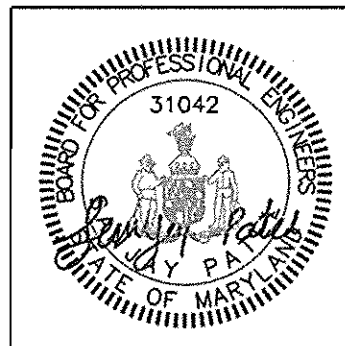
PROJECT NO. 04-210  
SCALE: 1" = 30'  
DATE: 01/23/08  
DRAWN BY: HRP  
CHECKED BY: SBP



SEDIMENT BASIN #1 SCHEDULE	
DRAINAGE AREA	18.55 AC.
STORAGE REQUIRED	100,210 CF.
STORAGE PROVIDED	237,211 CF.
DEPTH	7.00 FT.
DRY (CREST) STORAGE ELEVATION	148.70 FT.
WET STORAGE ELEVATION	146.05 FT.
EMBANKMENT ELEVATION	152.00 FT.
BOTTOM ELEVATION	145.00 FT.
BOTTOM AREA	26,785 SF.
SIDE SLOPE	
CUT	3:1
FILL	3:1
STORAGE @ CREST ELEVATION	113,131 CF.
BARREL DIAMETER	24 IN.
RISER DIAMETER	36 IN.
TRASH RACK DIAMETER	54 IN.
Q1 PRE-DEVELOPMENT	29.29 CFS.
Q1 DURING DEVELOPMENT AT STUDY POINT "A"	1.11 CFS.
Q1 POST-DEVELOPMENT	23.41 CFS.

NOTE:  
ALL PUMPING OF BASIN MUST BE PUMPED THROUGH THE PORTABLE SEDIMENT TANK. UNDER NO CIRCUMSTANCE SHALL WATER BE PUMPED DIRECTLY ONTO FLOODPLAIN OR STREAM.

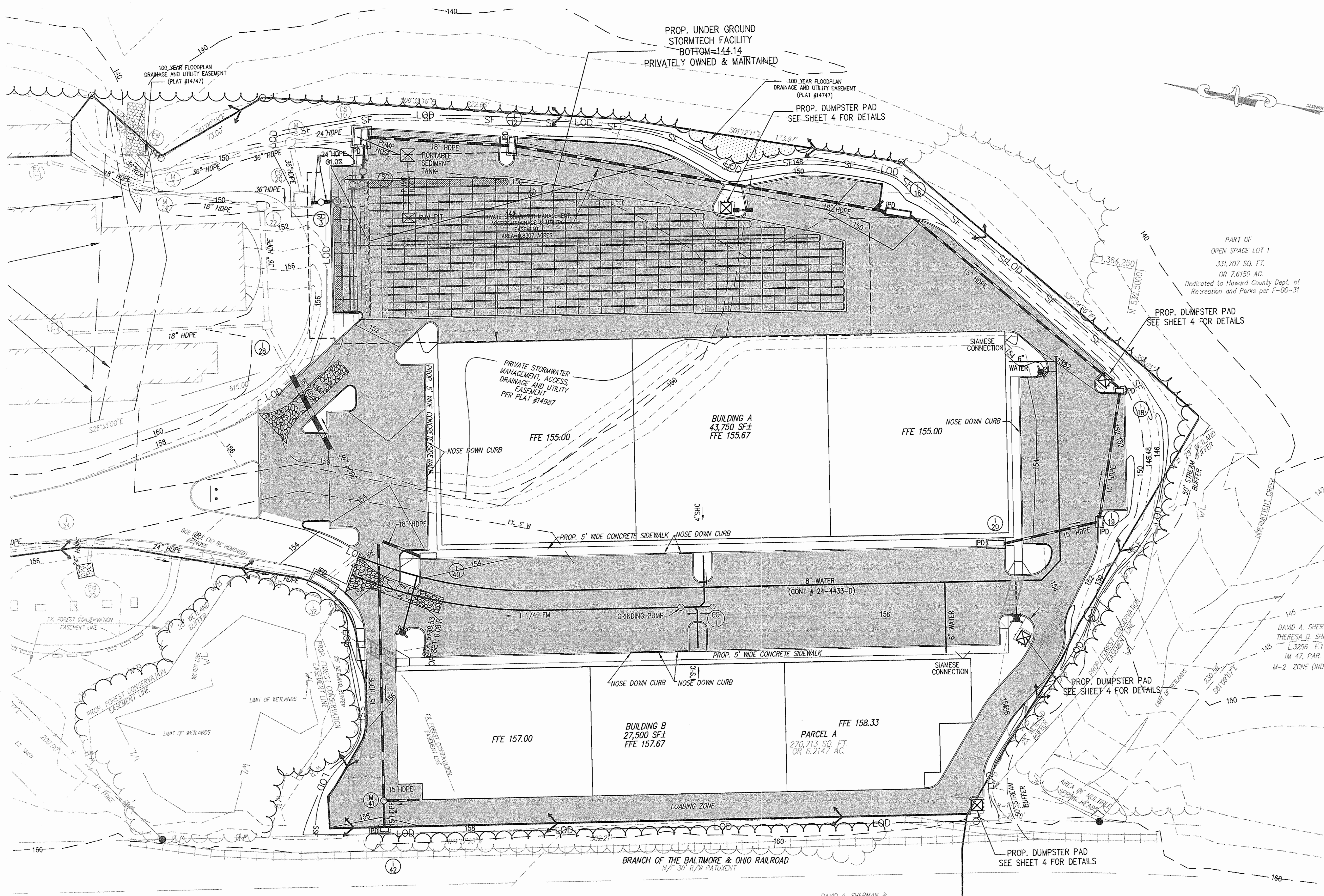
- LEGEND:
- LOD — LIMIT OF DISTURBANCE
  - SSF — SUPERSILT FENCE
  - ▨ STABILIZED CONSTRUCTION ENTRANCE
  - ↔ DRAINAGE DIVIDE



**AB CONSULTANTS, INC.**  
6450 ANNAPOLIS ROAD  
LANHAM, MARYLAND 20706  
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FAX: (301) 306-3092

CONTACT: SANJAY PATEL PHONE: 301-306-3091 x121

PROJECT STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING GRADING, EROSION AND SEDIMENT CONTROL PLAN - PHASE 1  
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144



PROP. UNDER GROUND  
STORMTECH FACILITY  
BOTTOM=144.14  
PRIVATELY OWNED & MAINTAINED

100 YEAR FLOODPLAN  
DRAINAGE AND UTILITY EASEMENT  
(PLAT #14747)  
PROP. DUMPSTER PAD  
SEE SHEET 4 FOR DETAILS

PART OF  
OPEN SPACE LOT 1  
331,707 SQ. FT.  
OR 7.6150 AC.  
Dedicated to Howard County Dept. of  
Recreation and Parks per F-00-31

PROP. DUMPSTER PAD  
SEE SHEET 4 FOR DETAILS

PRIVATE STORMWATER  
MANAGEMENT, ACCESS,  
DRAINAGE AND UTILITY  
EASEMENT  
PER PLAT #14987

BUILDING A  
43,750 SF±  
FFE 155.67

FFE 155.00

FFE 157.00

BUILDING B  
27,500 SF±  
FFE 157.67

PARCEL A  
270,713.39 FT.  
OR 6.2147 AC.

FFE 158.33

BRANCH OF THE BALTIMORE & OHIO RAILROAD  
W/P 30' R/W PATUXENT

DAVID A. SHERMAN &

- LEGEND:**
- LOD — LIMIT OF DISTURBANCE
  - SSF — SUPERSILT FENCE
  - SCE — STABILIZED CONSTRUCTION ENTRANCE
  - D — DRAINAGE DIVIDE

BY THE DEVELOPER:  
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 1-25-08  
DEVELOPER DATE

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*[Signature]* 1/24/08  
ENGINEER DATE

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*[Signature]*  
NATURAL RESOURCES CONSERVATION SERVICE DATE

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*[Signature]* 1/31/08  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 2/3/08  
DIRECTOR DATE

*[Signature]* 2/11/08  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 2/1/08  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

OWNER (PAR. A):  
LITTLE PATUXENT REAL ESTATE LLC  
26949 MILES RIVER ROAD  
EASTON, MARYLAND 21601

DEVELOPER:  
OWNER (PAR. B):  
ROUTE 1 SELF STORAGE LLC  
CHAMBERLAIN CONSTRUCTION INC  
PO BOX 15080  
CHEVY CHASE, MARYLAND 20825

DOUG CHAMBERLAIN  
3138 ROGERS AVENUE  
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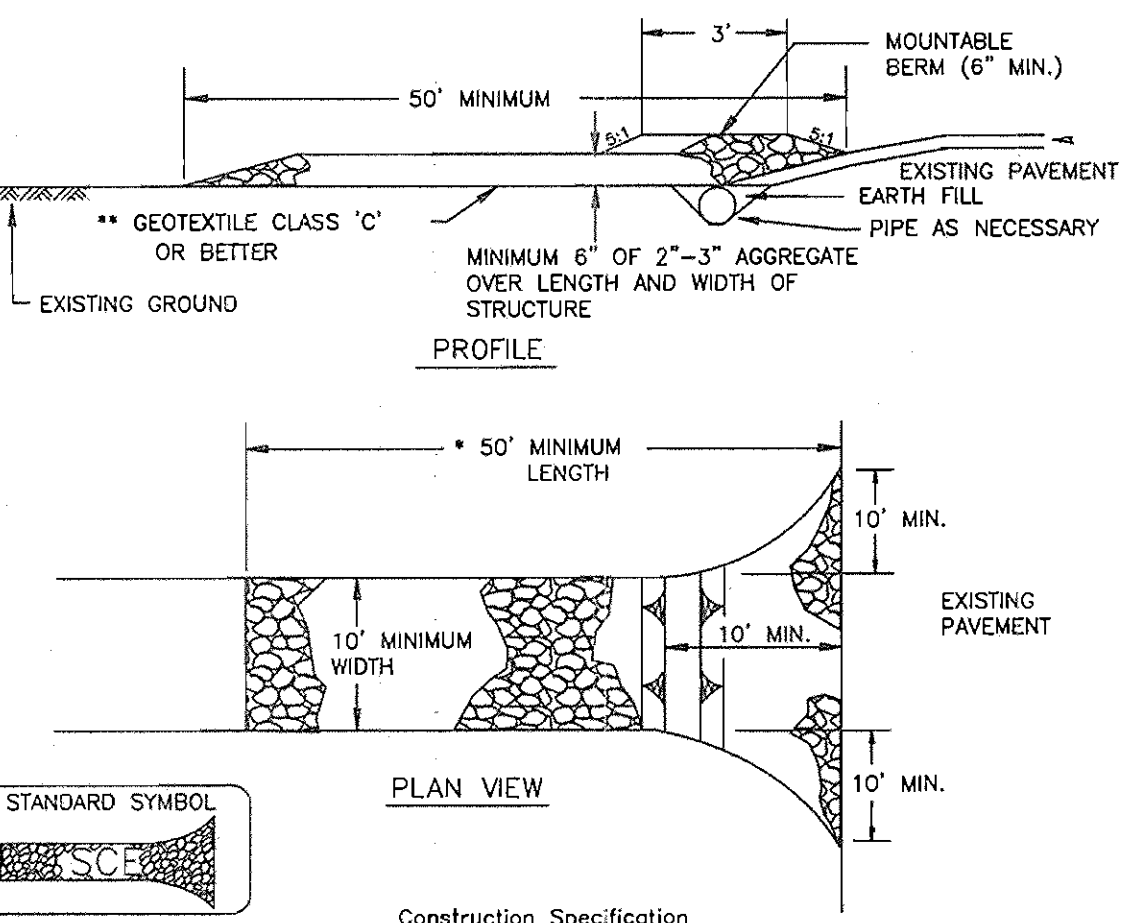
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PROJECT STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION  
SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING  
GRADING, EROSION AND SEDIMENT CONTROL PLAN - PHASE 2  
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144

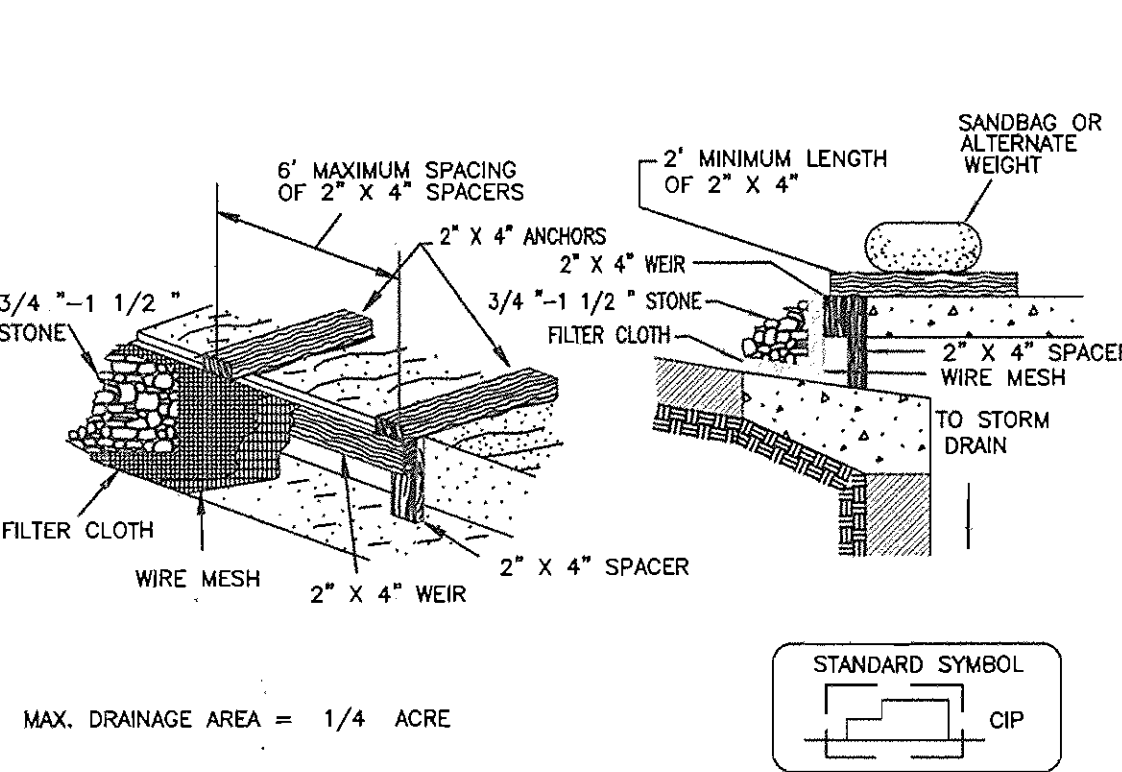
PROJECT NO. 04-210  
SCALE: 1" = 30'  
DATE: 01/23/08  
DRAWN BY: HRP  
CHECKED BY: SBP  
SHEET: 15 OF 25  
SDP-06-100

**DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE**



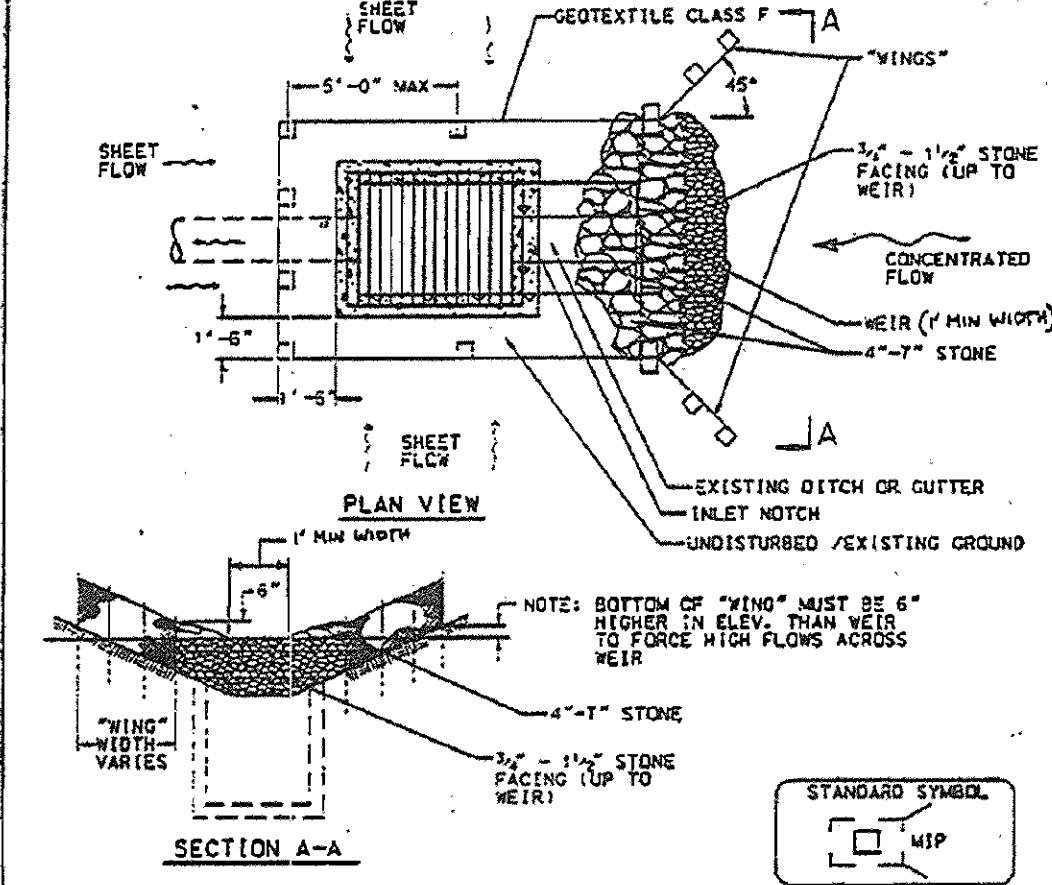
- Construction Specification**
- Length - minimum of 50' (\*30' for single residence lot).
  - Width - 10' minimum, should be flared at the existing road to provide a turning radius.
  - Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. \*\*The plan approval authority may not require single family residences to use geotextile.
  - Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
  - Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mounded berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
  - Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

**DETAIL 23C - CURB INLET PROTECTION (COG OR COS INLETS)**



- Construction Specifications**
- Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
  - Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the curb and securely attach it to the 2" x 4" weir.
  - Securely nail the 2" x 4" weir to a 8" long vertical spacer to be located between the weir and the inlet face (max. 4" apart).
  - Place the assembly against the inlet throat and nail (minimum 2" lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
  - The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
  - Form the 1/2" x 1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4" x 1 1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
  - This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
  - Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

**DETAIL 23D - MEDIAN INLET PROTECTION**



- Construction Specifications**
- Fence posts shall be 36" (min.) long, driven 16" into the ground and spaced 5' (max.) apart. Wood posts shall be 1 1/2" x 1 1/2" (min.) square cut or 1 1/2" (min.) diameter round and shall be of sound quality hardwood. Steel posts shall be standard T or U section weighing not less than 1.00 lb/linear foot.
  - Geotextile Class F shall be fastened securely to each post with wire ties or staples at top and mid-section.
  - Where ends of geotextile fabric come together they shall be overlapped, folded and stapled.
  - Median Inlet Protection shall be inspected after each rain and maintained when bulges occur in the fabric or when the stone gets clogged.
  - Stone used to construct the weir shall be 4" - 7" with a 1" thick layer of 1/2" - 1/2" stone on the upstream face.

**Temporary Seeding**

Vegetation - annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

**A. Seed Mixtures - Temporary Seeding**

- Select one or more of the species or mixtures listed in Table 26 for the appropriate Plant Hardness Zone (from Figure 5) and enter them in the Temporary Seeding Summary below, along with application rates, seeding dates and seeding depths. If this summary is not put on the plans and completed, then Table 26 must be put on the plans.
- For sites having soil test performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

SEED MIXTURE (HARDINESS ZONE 6B) FROM TABLE 26				FERTILIZER RATE (10-10-10)	LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATE	SEEDING DEPTH	
1	BARLEY	122	2/1-4/30	1"-2"	600 LBS/AC (15 LB/1000SF)
2	WEEPING LOVEGRASS	4	5/1-8/14	1/4"-1/2"	2 TONS/AC (100LB/1000SF)
3	RYE	140	8/15-11/15	1"-2"	

**Permanent Seeding**

Seeding grass and legumes to establish ground cover for a minimum period of one year on disturbed areas generally receiving low maintenance.

**A. Seed Mixtures - Permanent Seeding**

- Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Technical Field Office guide, Section 342 - Critical Area Planting. For special low maintenance areas, see Sections IV Soil and V Turfgrass.
- For sites having disturbed area over 5 acres, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.
- For areas receiving low maintenance, apply ureaform fertilizer (46-0-0) at 3 1/2 lbs/1000 sq.ft. (150 lbs/ac), in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

SEED MIXTURE (HARDINESS ZONE 6B) FROM TABLE 25				FERTILIZER RATE (10-20-20)			LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATE	SEEDING DEPTH	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
1	TALL FESCUE (85%)	125	3/1-5/15	1/4"-1/2"	(2 LB/1000 SF)	(4 LB/1000 SF)	(4 LB/1000 SF)
2	PERENNIAL RYEGRASS (10%)	15	8/15-10/15	1/4"-1/2"	(2 LB/1000 SF)	(4 LB/1000 SF)	(4 LB/1000 SF)
3	KENTUCKY BLUEGRASS (5%)	10	8/15-10/15	1/4"-1/2"	(2 LB/1000 SF)	(4 LB/1000 SF)	(4 LB/1000 SF)

**21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL**

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

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

**Conditions Where Practice Applies**

- This practice is limited to areas having 2:1 or flatter slopes where:
  - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
  - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
  - The original soil to be vegetated contains material toxic to plant growth.
  - The soil is so acidic that treatment with limestone is not feasible.
- For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

**Construction and Material Specifications**

- Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experiment Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
  - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
  - Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutgrass, poison ivy, thistle, or others as specified.
  - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
- For sites having disturbed areas under 5 acres:
  - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization Section I - Vegetative Stabilization Methods and Materials.
- For sites having disturbed areas over 5 acres:
  - On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
    - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher. Organic content of topsoil shall be not less than 1.5 percent by weight.
    - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
    - No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.

- Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
- Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
  - Topsoil Application
    - When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
    - Grade on the areas to be topsoiled, which have been previously established, shall be maintained, about 4" - 8" higher in elevation.
    - Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
    - Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.
  - Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
    - Composted Sledge Material use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas over 5 acres shall conform to the following requirements:
      - Composted sledge shall be supplied by, or originate from, a person or persons that permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
      - Composted sledge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a Ph of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
      - Composted sledge shall be applied at a rate of 1 ton/1,000 square feet.
      - Composted sledge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.
- References: Guideline Specifications, Soil Preparation and Sadding, Md-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes.

BY THE DEVELOPER:  
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION S BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 1-15-08  
DEVELOPER DATE

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

*[Signature]* 1/24/08  
ENGINEER DATE

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

*[Signature]*  
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*[Signature]* 1/21/08  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 2/3/08  
DIRECTOR DATE

*[Signature]* 3/1/08  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 2/6/08  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

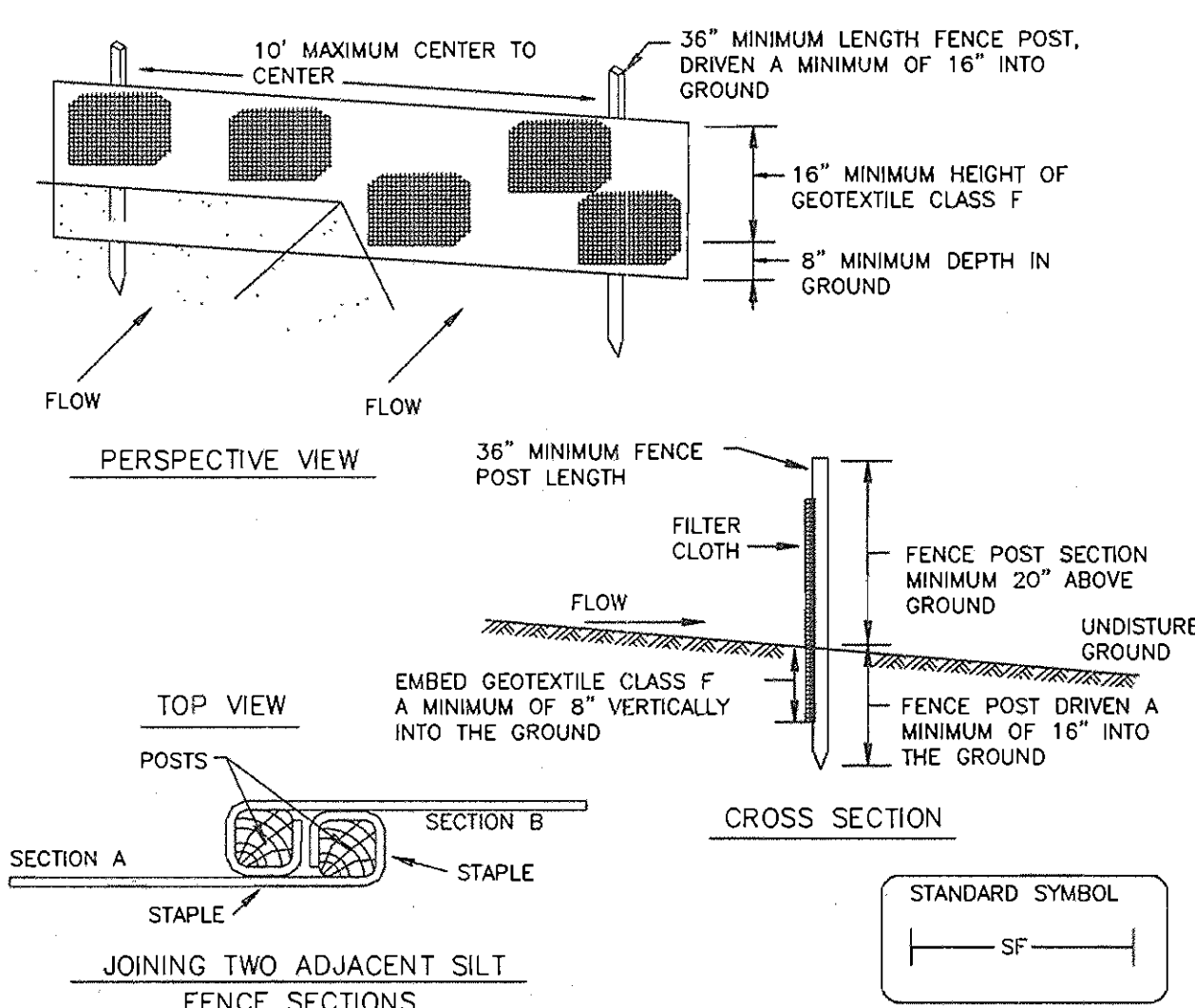
DATE	NO.	REVISION

OWNER (PAR. A)  
LITTLE PATUNY REAL ESTATE LLC  
26849 MILES RIVER ROAD  
EASTON, MARYLAND 21601

OWNER (PAR. B)  
ROUTE 1 SELF STORAGE LLC  
PO BOX 15080  
CHEVY CHASE, MARYLAND 20825

DEVELOPER:  
DOUG CHAMBERLAIN  
CHAMBERLAIN CONSTRUCTION INC  
3138 ROGERS AVENUE  
ELICOTT CITY, MARYLAND 21043  
TELEPHONE: 410-203-2460

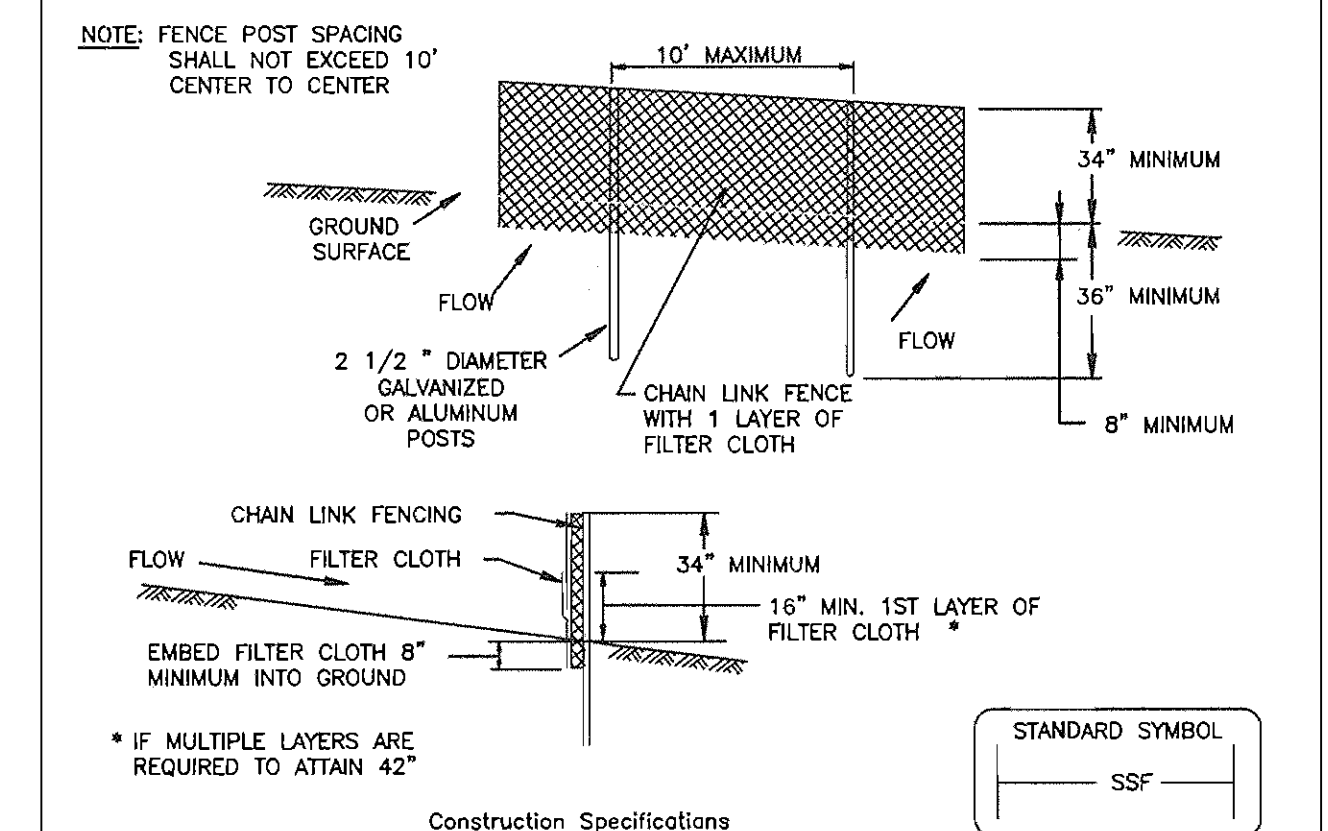
**DETAIL 22 - SILT FENCE**



- Construction Specifications**
- Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighing not less than 1.00 pound per linear foot.
  - Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:
 

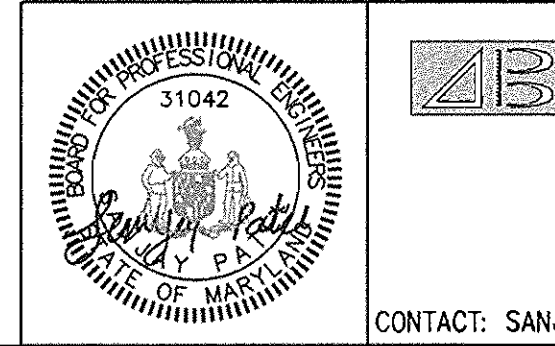
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft / minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322
  - Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent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

**DETAIL 33 - SUPER SILT FENCE**



- Construction Specifications**
- Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
  - Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
  - Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
  - Filter cloth shall be embedded a minimum of 8" into the ground.
  - When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
  - Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.
  - Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:
 

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



**AB CONSULTANTS, INC.**  
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PROJECT STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING EROSION & SEDIMENT CONTROL NOTES AND DETAILS  
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144



10.6 STANDARD AND SPECIFICATIONS

FOR SEDIMENT BASINS

Definition

A temporary barrier or dam constructed across a drainage way or at other suitable locations to intercept sediment laden runoff. This barrier may be combined with excavation to achieve the required storage.

Purpose

Sediment basins protect downstream properties and drainageways by trapping sediment and controlling the release of stormwater runoff.

Wet and Dry Storage

The minimum storage volume requirement for sediment basins is 3600 cubic feet per acre of contributory drainage area. The basin storage volume of 3600 cubic feet per acre shall be divided equally into "dry" or dewatering storage and "wet" or retention storage. Basins shall be dewatered to the wet pool elevation corresponding to 1800 cubic feet of storage per acre of drainage area.

Conditions Where Practice Applies

A sediment basin is required to control runoff and sediment from large areas where sediment traps are not appropriate. Stormwater management ponds may be used as sediment basins provided that they meet the requirements of this section and that the construction sequence addresses converting the sediment basin to the permanent stormwater management pond.

Conditions of Use

This standard applies to the installation of temporary sediment basins on sites where: (a) failure of the structure would result in loss of life, damage to homes or buildings, or interruption of use or service of public roads or utilities; (b) the maximum embankment height does not exceed 15 feet measured from the natural ground to the embankment top along the centerline of embankment; and (c) the basin is to be removed within 36 months after the beginning of construction of the basin. Where these criteria cannot be met, the structure shall be designed to conform with the Natural Resources Article, Title 8, Subtitle 8, Annotated Code of Maryland or Maryland SCS Standards and Specifications No. 378 for Ponds. The total volume of permanent sediment basins shall equal or exceed the capacity requirements for temporary basins contained herein.

C-10-1

1994

Design Criteria

Design and construction shall comply with state and local laws, ordinances, rules and regulations.

1. Location The sediment basin should be located to obtain the maximum storage benefit from the terrain and for ease of cleanout of the trapped sediment. It should be located to minimize interference with construction activities and construction of utilities. Whenever possible, sediment basins should be located so that storm drains may overflow or be diverted into the basin.

2. Volume of the Basin The volume of the sediment basin, as measured from the bottom of the basin to the elevation of the principal spillway crest shall be at least 3600 cubic feet per acre of total drainage area (134 cubic yards). This 3600 cubic feet of storage is approximately equal to 1 inch of runoff per acre of drainage area. The sediment basin storage volume of 3600 cubic feet minimum per acre shall be divided equally into "dry" or dewatering storage and "wet" or retention storage. See Basin Draw-Down for dewatering criteria.

Sediment basins shall be cleaned out when the basin is filled with sediment to 90% of total drainage area. Cleanout shall be performed to restore the original design volume to the basin. The elevation corresponding to the maximum allowable sediment level shall be determined and shall be stated in the design data at a distance below the top of the riser. The distance between the top of the riser and the cleanout elevation shall be clearly shown on the riser, above the pool elevation.

3. Surface Area Basins shall be designed so that the ratio of acres of surface area to cubic feet/second of discharge (from a 10 year storm) is greater than or equal to 0.0035. The surface area shall be measured at the design high water elevation.

4. Shape of the Basin It is recommended that the designer of a sediment basin strive to incorporate the following features:

- a. Length to width ratio greater than 2:1, where length is the distance between the inlet and outlet.
b. A wedge shape with the inlet located at the narrow end.
c. In situations where the above conditions cannot be met, baffles designed to maximize detention time may be required.
d. The dimensions necessary to obtain the required basin volume and surface area shall be clearly shown on the plans to facilitate plan review, construction and inspection.

5. Inflow Protection Whenever the inflow to the basin is not stabilized refer to the inflow protection specifications. Inflow protection provides safe conveyance of concentrated runoff into temporary sediment basins to prevent erosion. Inflow protection shall meet or exceed the practices found in Section B of these Standards and Specifications. Points of runoff entry should be located as far away from the riser as possible, to maximize travel time in conjunction with dikes, swales or other water control devices as warranted by site conditions.

C-10-2

6. Embankment The embankment plans shall include elevations at the top of earth fill at constructed and settled height.

7. Side Slopes The combined upstream and downstream side slopes of the settled embankment shall not be less than five horizontal to one vertical (5:1) with neither slope steeper than 2:1. Slopes must be designed to be stable in all cases.

8. Top Width For dam embankments up to ten (10) feet, the top will be level and a minimum of eight (8) feet in width. For embankments between ten (10) feet and fifteen (15) feet, the top width will be ten (10) feet.

9. Spillway Design Runoff shall be computed by the method outlined in Chapter 2, Estimating Runoff, "Engineering Field Manual for Conservation Practices" available in the Soil Conservation Service offices, or by TR-55, Urban Hydrology. Runoff computations shall be based upon the worst soil-cover conditions expected to prevail in the contributing drainage area during the anticipated effective life of the structure. The combined capacities of the principal and emergency spillways shall be sufficient to pass the "routed" peak rate of runoff from a 10-year frequency storm.

10. Principal Spillway A spillway shall be provided which consists of a vertical pipe or box type riser joined (watertight connection) to a pipe (barrel) which shall extend through the embankment and outlet below the downstream toe of the fill. The storage volume required shall be measured from the riser crest elevation to the bottom of the basin. The minimum size of the barrel shall be what is required to pass 10% of the 10 year storm or 8 inches in diameter whichever is larger.

a. Crest Elevation The crest elevation of the riser shall be a minimum of one foot below the elevation of the control section of the emergency spillway.

b. Watertight Riser and Barrel Assembly The riser and all pipe connections shall be completely watertight except for the inlet opening at the top or dewatering openings and shall not have any other holes, leaks, rips or perforations.

c. Basin Draw-down The water in the basin from the riser crest to the permanent pool shall be drawn down over a 10 hour period through an internal orifice in a draw-down device. A draw-down device shall be included in the sediment basin plans submitted for approval and shall be installed during construction of the basin. Design of a draw-down device shall be required if an orifice size other than those provided in Table 11 is to be used. Design of perforations in the horizontal or vertical dewatering device is required. Draw-down shall be done in such a manner as to remove the clean water without removing sediment that has settled out or floating debris. This shall be done by constructing a perforated horizontal or vertical draw-down device with an internal orifice to control discharge. If perforating the riser is desired as a draw-down device, the minimum detention time shall be 10 hours, however, the riser must be wrapped with 1/2" hardware cloth and Geotextile Class E or C7. Other methods may be used as long as detailed drawings are provided on the approved sediment control plans.

C-10-3

Refer to Table 27.

NOTE: If the basin is to be converted to a stormwater management pond the riser should not be performed. If PVC pipe is used for the principle spillway then the concrete pipe chart will be used for hydraulic design. Use manufacturer's specification for loading.

d. Anti-vortex Device and Trash Rack An anti-vortex device and trash rack shall be securely installed on top of the riser and shall be the co-located type meeting these specifications for corrugated metal pipe risers and shall meet MDD 378 for all others.

e. Base The riser shall have a base attached with a watertight connection and shall have sufficient weight to prevent flotation of the riser. Steel base plates of at least 1/4" thickness shall be twice the diameter of the riser and shall have at least 2" of compacted earth, stone or gravel placed over it to prevent flotation. Concrete riser bases shall be twice the diameter of the riser, a minimum of 18" thick, cast-in-place concrete as shown in Detail 15, and shall have the riser embedded 9" minimum. Risers over 10 feet in height require that anti-flotation calculations be performed and shall be based on the following:

- 1. The riser shall be analyzed for flotation assuming all orifices and pipes are plugged.
2. The factor of safety against flotation shall be 1.2 or greater.

f. Anti-seep Collars Anti-seep collars shall be installed around all conduits through earth fills of impoundment structures according to the following criteria:

- 1. Collars shall be placed to increase the seepage length along the conduit by a minimum of 15 percent of the pipe length located within the saturation zone.
2. Collar spacing shall be between 5 and 14 times the vertical projection of each collar.
3. Collars should be placed within the saturation zone. In cases where spacing limit will not allow this, at least one collar shall be placed in the saturation zone.

4. All anti-seep collars and their connections shall be watertight.

5. Anti-seep collars shall be placed a minimum of two feet from pipe joints.

6. Anti-seep collars must have 2" minimum projection.

g. Outlet - An outlet shall be provided, including a means of conveying the discharge in an erosion free manner to an existing stable channel. Where discharge occurs at the property line, drainage easements will be obtained in accordance with local ordinances. Adequate notes and references concerning the easements will be shown on the erosion and sediment control plans. Protection against scour at the discharge end of the pipe spillway shall be provided. See Section 15.0 Standard and Specifications for Rock Outlet Protection.

C-10-4

11. Emergency Spillways The entire flow area of the emergency spillway shall be constructed in undisturbed ground (not fill). The emergency spillway cross-section shall be trapezoidal with a minimum bottom width of eight feet. This spillway channel shall have a straight, level control section of at least 25 feet in length. The exit channel section shall have sufficient slope such that the discharge capacity of the spillway is not hindered in any way and allows the discharge to be released at a non-erosive velocity.

a. Capacity - The minimum capacity of the emergency spillway shall be that required to pass the peak rate of runoff from the 10-year 24-hour duration storm, less any reduction due to flow in the principal spillway. Emergency spillway dimensions may be determined by using the method in Detail 12 and Table 14.

b. Velocities - The velocity of flow in the exit channel shall not exceed 5 feet per second for vegetated channels. For channels with erosion protection other than vegetation, velocities may be within the non-erosive range for the type of protection used.

c. Freeboard - Freeboard is the difference between the design high water elevation in the emergency spillway and the top of the settled embankment. Freeboard shall be at least one foot.

12. Sediment Disposal The sediment basin plans shall indicate the method(s) of disposing of the sediment removed from the basin. The sediment shall be placed in such a manner that it will not erode from the site. The sediment shall not be deposited downstream from the basin or adjacent to a stream or floodplain. Disposal sites must be considered in an approved sediment control plan. The sediment basin plans shall show the method of disposal of the sediment basin after the drainage area is stabilized, and shall include the stabilization of the sediment basin site. Sediment shall not be allowed to flush into a stream or drainage way. For dewatering methods see Section D.

BASIN #1 ELEVATION - STORAGE TABLE

Table with 6 columns: ELEVATION IN FT., SUR AREA IN SQ.FT., DIFFERENCE IN ELEV., STORAGE IN CU.FT., CUM.STORAGE IN CU.FT., CUM.STORAGE IN AC.FT. Rows show data for elevations from 145.00 to 152.00.

BY THE DEVELOPER: I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: [Handwritten] DATE: 1-25-08

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

Signature: [Handwritten] DATE: 1/24/08

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

Signature: [Handwritten] DATE: [Handwritten]

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

Signature: [Handwritten] DATE: 1/31/08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Signature: [Handwritten] DATE: 2/3/08

Signature: [Handwritten] DATE: 2/21/08

Signature: [Handwritten] DATE: 2/6/08

DATE NO. REVISION

OWNER (PAR. A) LITTLE PATUXENT REAL ESTATE LLC 26949 MILES RIVER ROAD EASTON, MARYLAND 21601

OWNER (PAR. B) ROUTE 1 SELF STORAGE LLC PO BOX 15080 CHEVY CHASE, MARYLAND 20825

DEVELOPER: DOUG CHAMBERLAIN CHAMBERLAIN CONSTRUCTION INC 3138 ROGERS AVENUE ELLICOTT CITY, MARYLAND 21043 TELEPHONE: 410-203-2460

PROJECT STORAGE USE FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING

EROSION & SEDIMENT CONTROL NOTES AND DETAILS 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND TAX MAP 47, PARCEL A & E, GRID 18, P/O PARCEL 144

PROJECT NO. 04-210 SCALE: NTS DATE: 01/23/08 DRAWN BY: CHECKED BY: SHEET: 17 OF 25 SDP-06-100

Basin Volume design

- Note 1 Also see Surface Area Design #30, this form
2 To convert ft^3 to yd^3, divide ft^3 by 27. To convert ft^3 to yd^3, divide ft^3 by 9

Table with 4 columns: Item, Value, Unit, Description. Rows include: 1 Min. required vol., 2 Actual Volume of basin, 3 Excavate, 4 Vol. at dewatering elev., 5 Vol. of basin at cleanout, 6 Elevation corresponding to min. required volume of basin, 7 Permanent pool elevation, 8 Distance from riser crest elevation to permanent pool elevation, 9 Basin cleanout elevation, 10 Distance from riser crest elevation to cleanout elevation.

Spillway Design

11 Q10 = 78.82 cfs (peak discharge from 10-yr, 24-hr storm event, attach computations)

Principal Spillway (Ops) (See Detail 11)

Table with 4 columns: Item, Value, Unit, Description. Rows include: 12 Design Principal Spillway (Barrel) discharge, Design Qp, 13 H, 14 Barrel Diam., 15 QP, 16 Riser Diameter, 17 Riser Head (h), 18 Trash Rack Diam., 19 Trash Rack Height.

NOTE: A table showing design data shall be included on the plan for each basin.

BASIN #1 1-YR., 24 HR. EXTENDED DETENTION DESIGN

POST DEVELOPMENT CONDITION

Table with 4 columns: Parameter, Value, Unit, Description. Rows include: Drainage Area, A, RCN, Tc, 1-yr. rainfall depth, P, From TR 55 Manual, Eqn. 2.3, S=1000/RCN - 10, Runoff depth, qa, Initial abstraction, Ia, Ia / P.

From TR 55 Manual, Eqn. 2.3, S=1000/RCN - 10 = 0.63 Inches

Runoff depth, qa = [(P-0.2S)^2] / (P+0.8S) = 1.97 Inches

Initial abstraction, Ia = 200/RCN - 2 = 0.13 Inches

Ia / P = 0.05

From Tc & P, find unit peak discharge, qu = 850.00 csm/in

Peak Discharge, qi = qu.A.qa = 23.52 CFS

qu & extended detention time T, qo/qi = 0.022

Fig D 11.2-MDE T=24 hours

Peak Outflow discharge, qo=(qo/qi)xiqi = 0.52 CFS

Vs/Vr = 0.683-1.43(qo/qi)+1.64(qo/qi)^2-0.804(qo/qi)^3 = 0.65

Extended Detention Storage Volume, Vs = (Vs/Vr)qxqaxA/12 = 0.96 Ac.Ft.

Emergency Spillway (Qes)

(No emergency spillway)

Table with 4 columns: Item, Value, Unit, Description. Rows include: 17 Emergency spillway cap., 18 Width, 19 Entrance channel slope, 20 Exit channel slope.

Anti-Seep Collar Design (if Required)

Table with 4 columns: Item, Value, Unit, Description. Rows include: 21 y, 22 projection, 23 Riser Crest, 24 Design High Water, 25 Emergency Spillway Crest, 26 Min. settled top of dam, 27 Permanent pool, 28 Bottom of basin, 29 Draw-down orifice invert.

Design Elevations

Table with 4 columns: Item, Value, Unit, Description. Rows include: 23 Riser Crest, 24 Design High Water, 25 Emergency Spillway Crest, 26 Min. settled top of dam, 27 Permanent pool, 28 Bottom of basin, 29 Draw-down orifice invert.

Surface Area Design

30 Min. basin surface area: SA > 0.0035 x Q10 = 0.0035 x cfs <= ac

Draw-down Device

Table with 4 columns: Item, Value, Unit, Description. Rows include: 31 Draw-down device orifice diameter, 32 A1, A2, Ao, Draw down pipe length.

BASIN #1 10-YR., 24 HR. EXTENDED DETENTION DESIGN

POST DEVELOPMENT CONDITION

Table with 4 columns: Parameter, Value, Unit, Description. Rows include: Drainage Area, A, RCN, Tc, 10-yr. rainfall depth, P.

From TR 55 Manual, Eqn. 2.3, S=1000/RCN - 10 = 0.82 Inches

Runoff depth, qa = [(P-0.2S)^2] / (P+0.8S) = 4.23 Inches

Initial abstraction, Ia = 200/RCN - 2 = 0.16 Inches

Ia / P = 0.03

From Tc & P, find unit peak discharge, qu = 720.00 csm/in

Peak Discharge, qi = qu.A.qa = 78.82 CFS

SEDIMENT BASIN HORIZONTAL DRAW-DOWN DEVICE

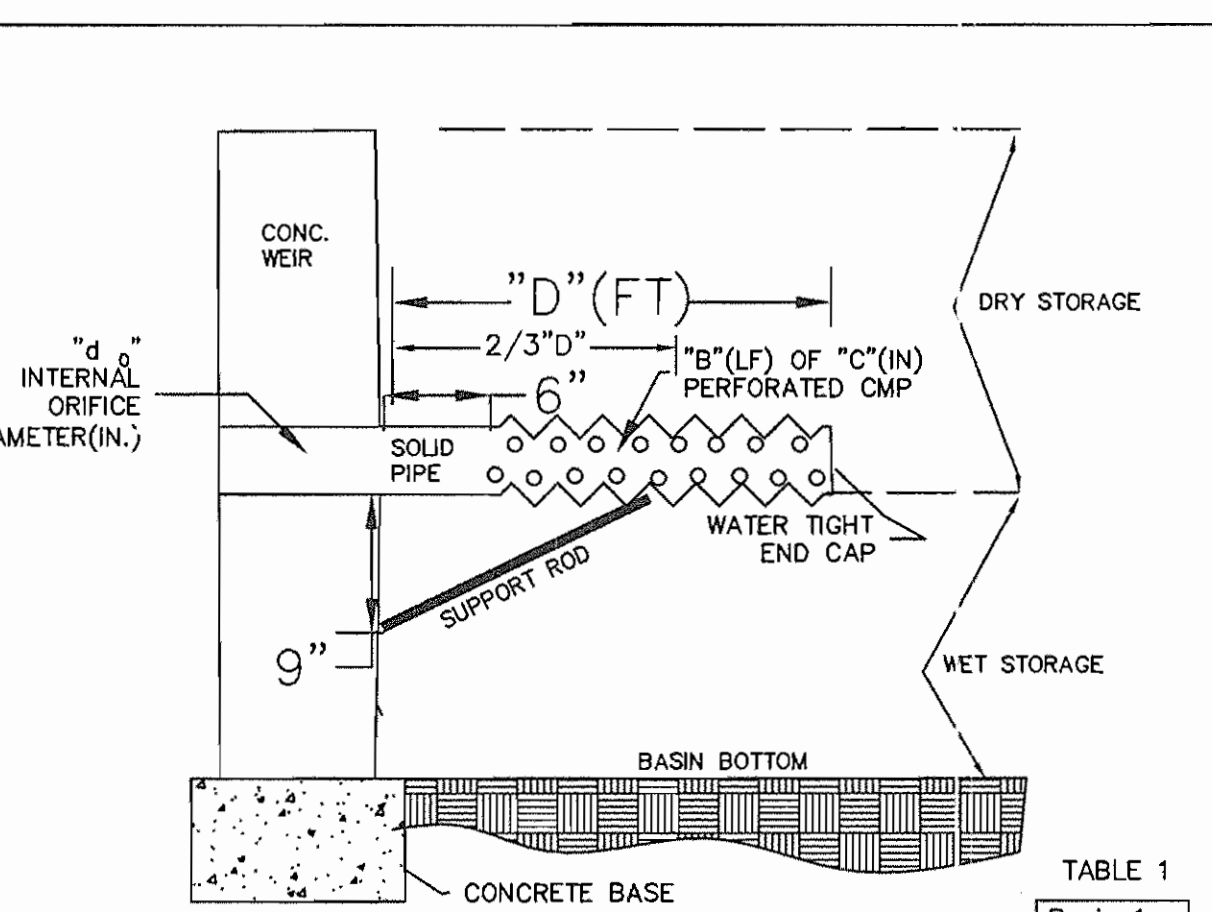
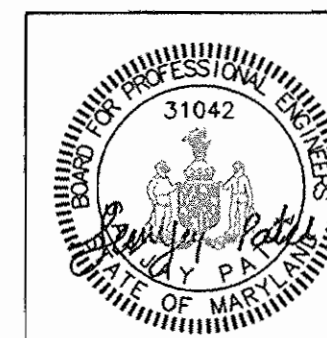


Table 1 Basin 1 with columns: d0, B, C, D, ROWS, NO. Values: 6 IN, 3.5 LF, 1 IN, 4 FT, 2 NO.

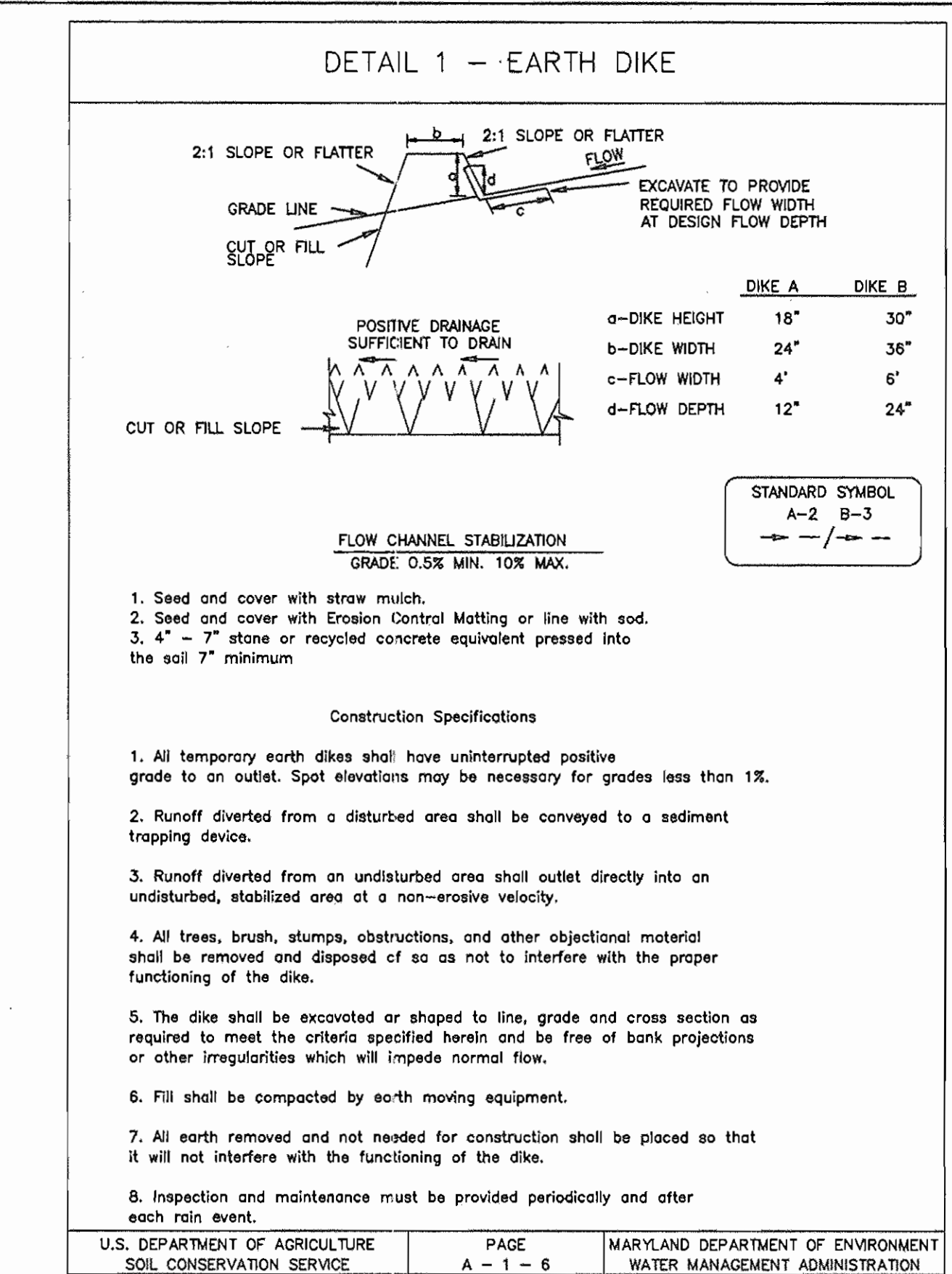
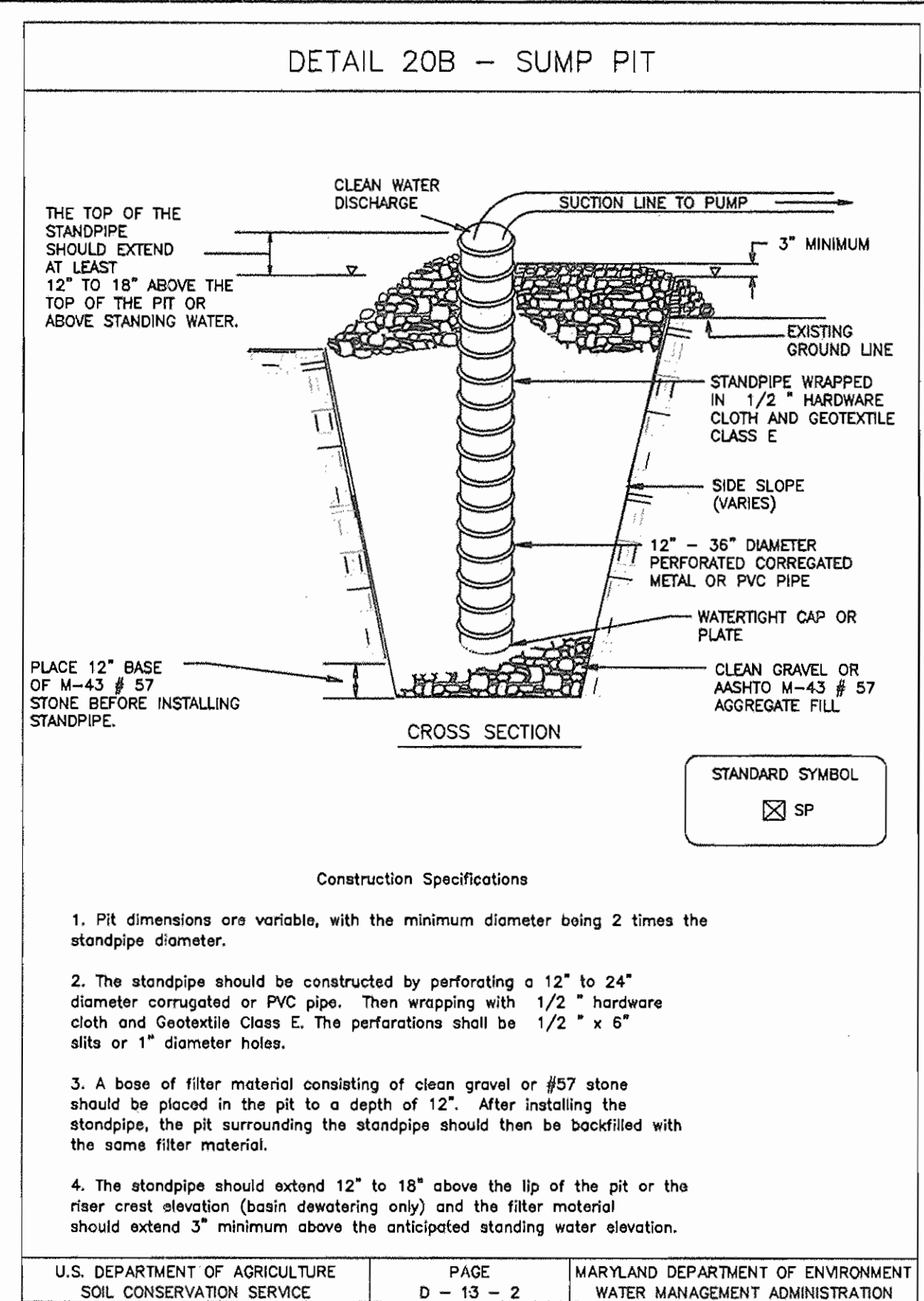
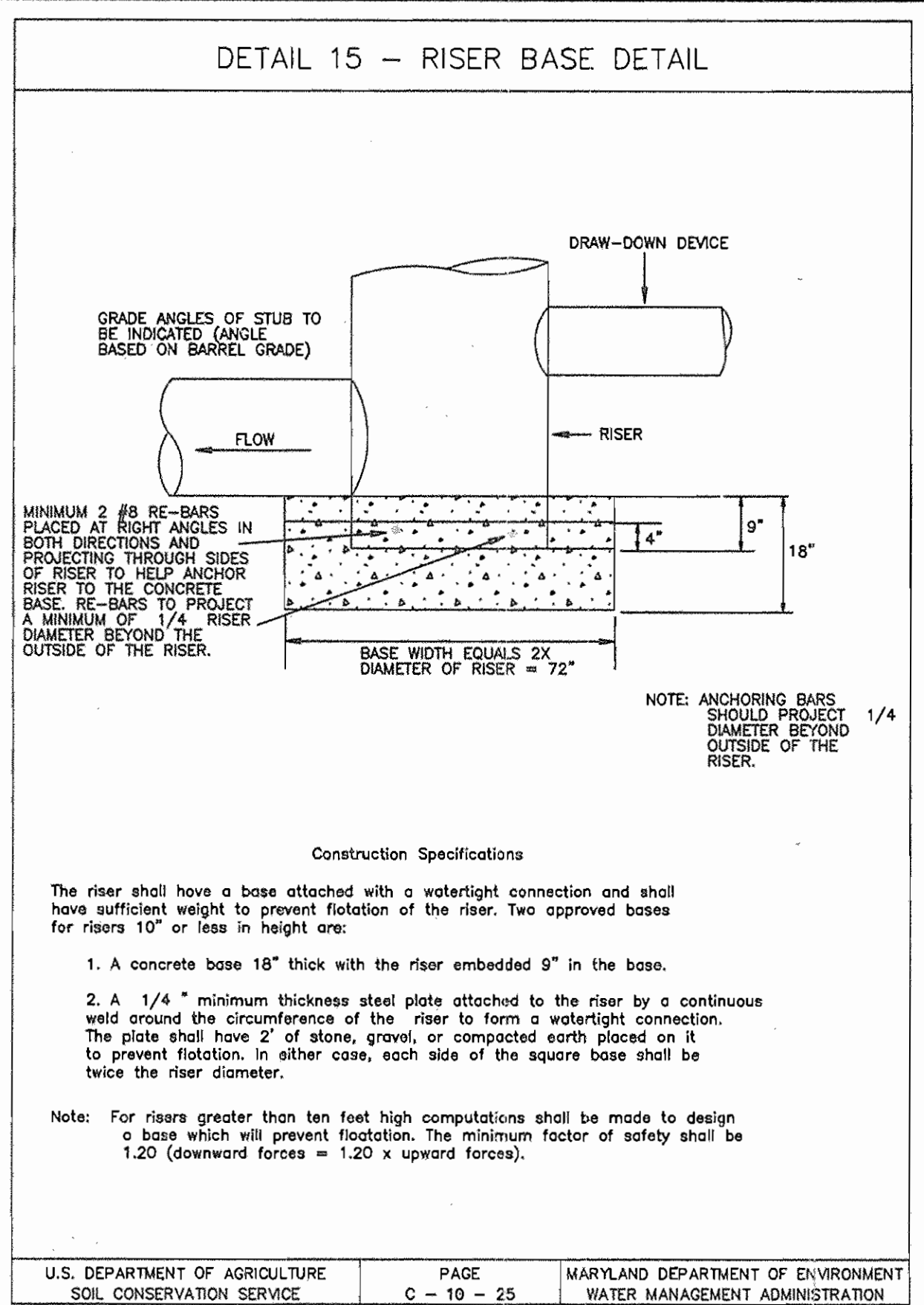
CONSTRUCTION SPECIFICATIONS

- 1. The perforations shall be 1" in diameter spaced 3" on center. Allow no perforations within 6" of weir connection. Provide internal orifice plate if do is smaller than C, see table 1.
2. Securely attach 1/2" hardware cloth then Geotextile Class E fabric around entire perforated portion of draw-down pipe. Include a watertight end cap.
3. Draw-down pipe shall not exceed 7 1/2' in total length and shall be placed at the wet storage elevation. If necessary provide multiple draw-down pipes.
4. Provide support of draw-down pipe > Use a minimum of 3 support rods (#6 rebar) welded to riser and pipe, both sides and bottom of draw-down pipe.
5. An alternative method is to stake both sides of draw-down device with 1" steel angle, or 1" by 4" square or 2" round wooden posts set 3" minimum into the ground and securely attached to the pipe with 12 gauge minimum wire.



AB CONSULTANTS, INC. 94-50 ANNAPOLIS ROAD LANHAM, MARYLAND 20706 PHONE: (301) 306-3091 FAX: (301) 306-3092 CONTACT: SANJAY PATEL PHONE: 301-306-3091 x121

PROJECT STORAGE USE FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING EROSION & SEDIMENT CONTROL NOTES AND DETAILS 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND TAX MAP 47, PARCEL A & E, GRID 18, P/O PARCEL 144

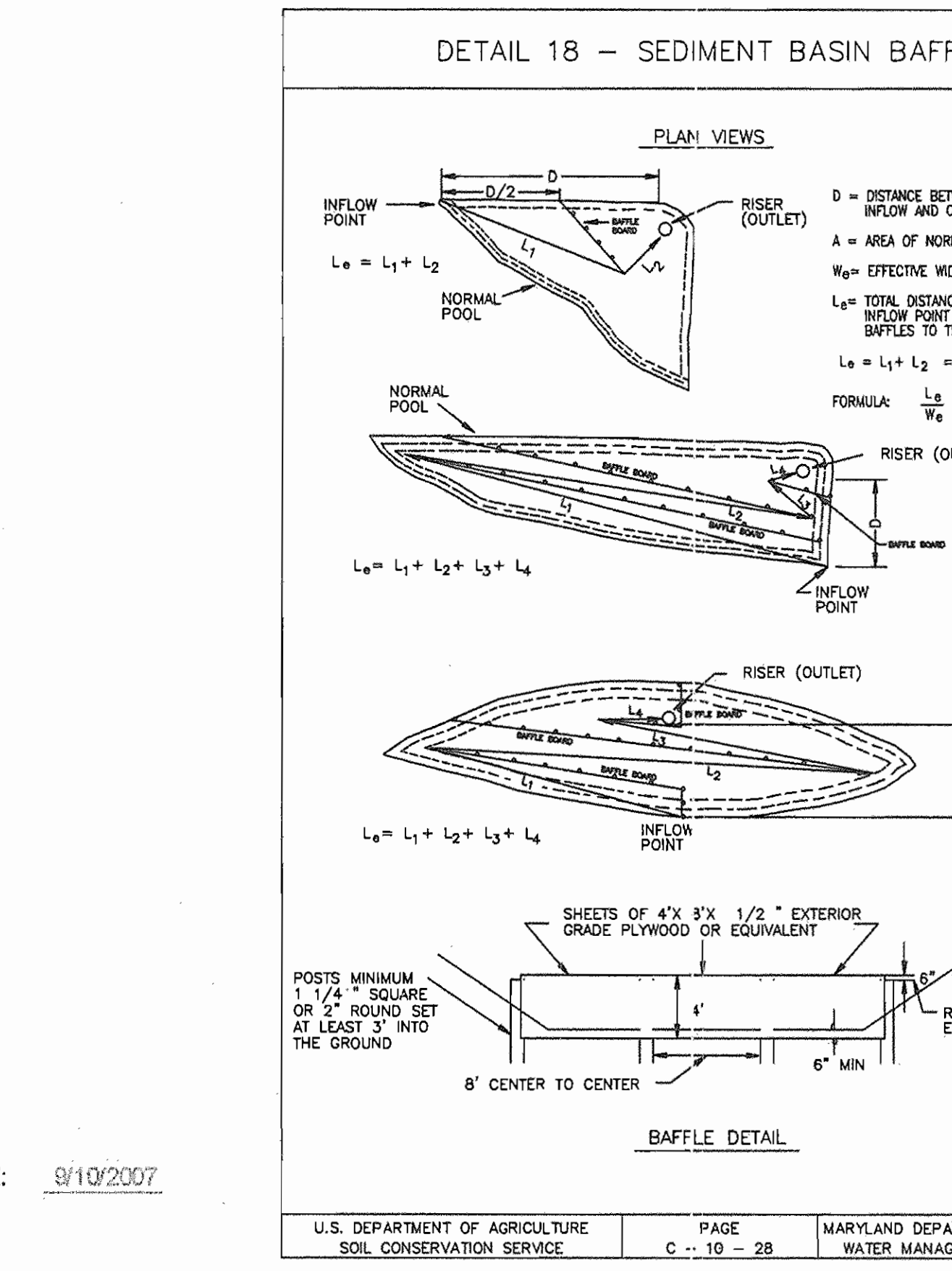
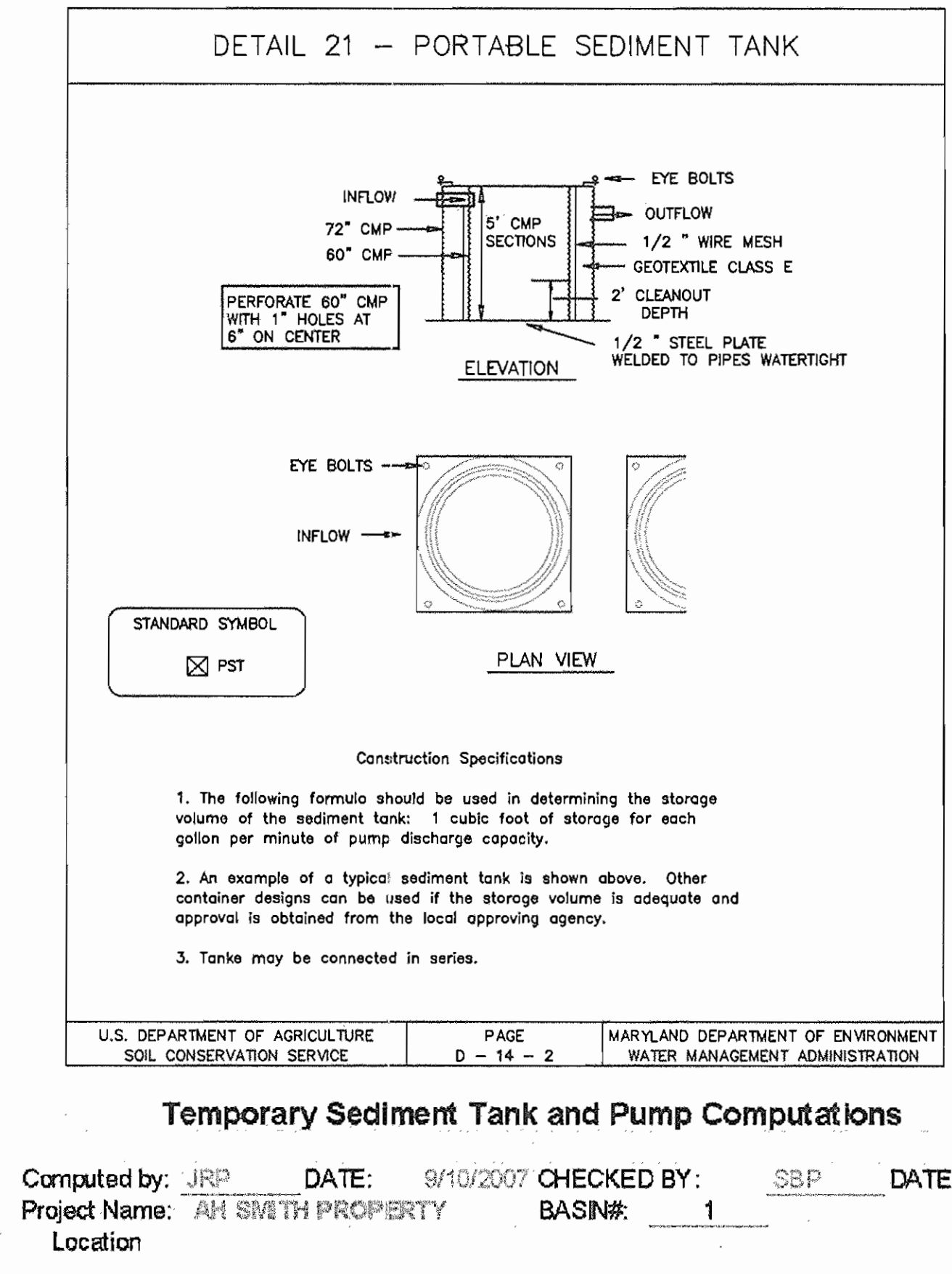
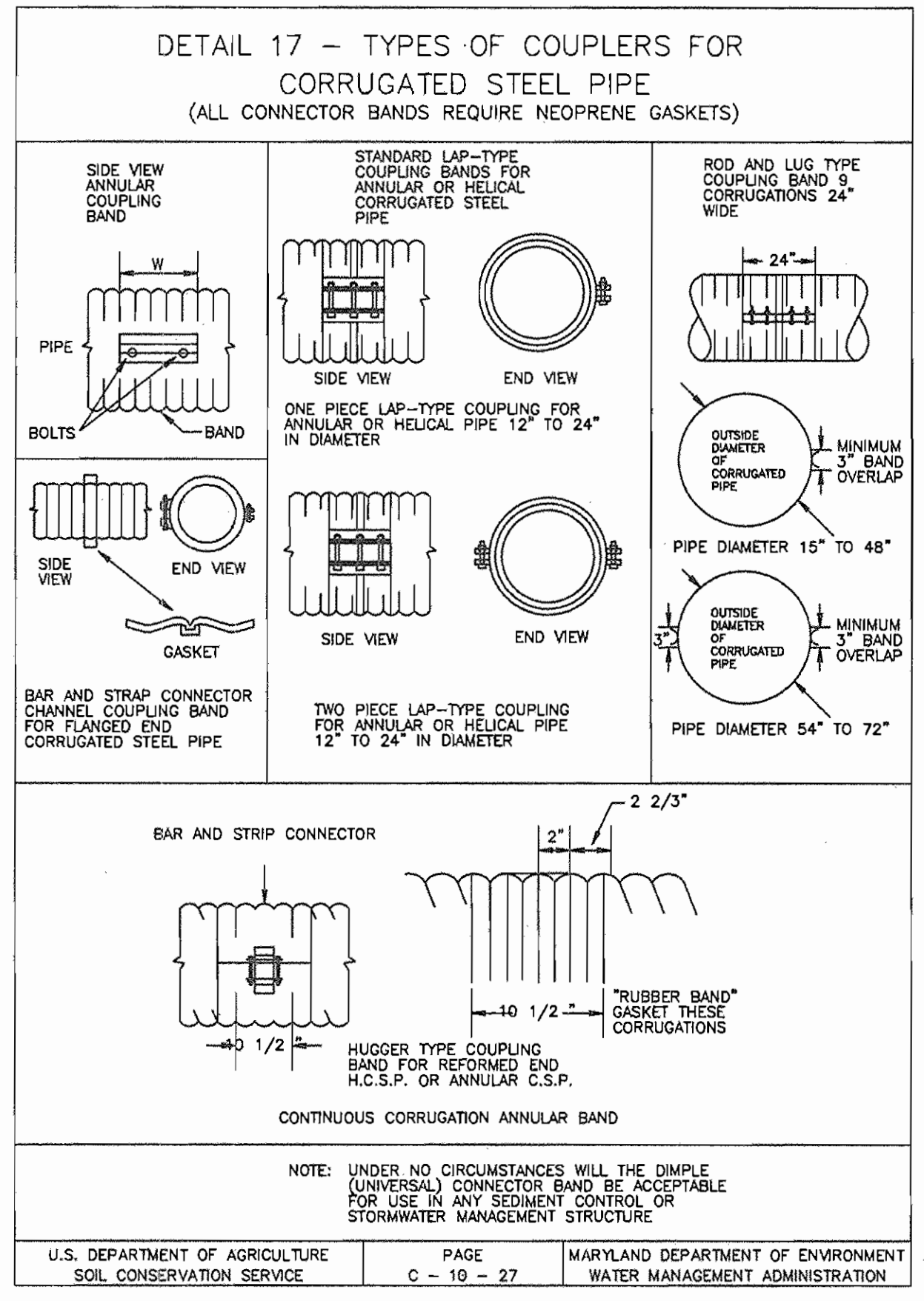
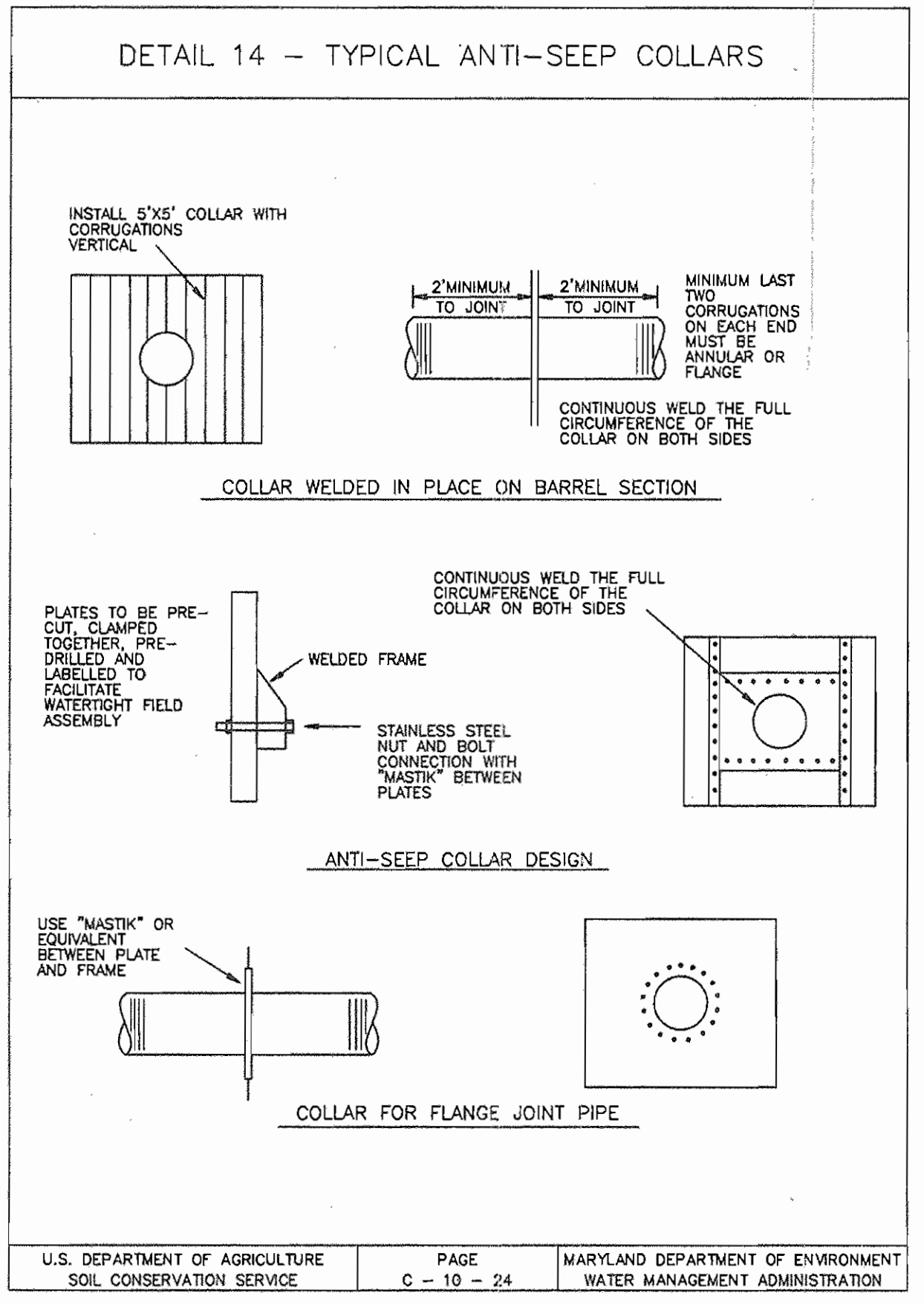
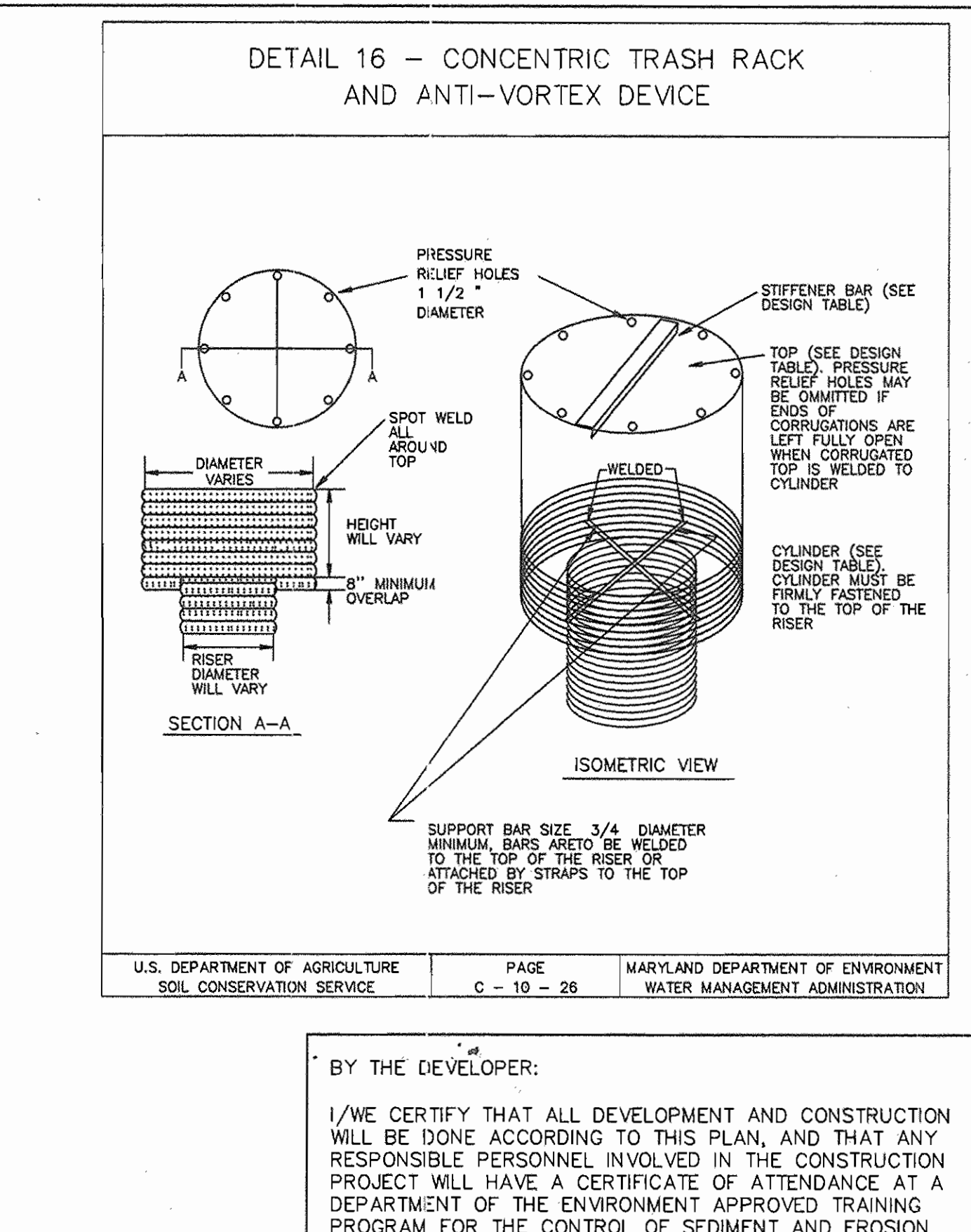


### DETAIL 16 CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE (continued)

Riser Diam. in.	Trash Rack Cylinder Diam. in. gage	H. in.	Minimum Size Support Bar	Minimum Top Thickness Stiffener
12	18	6	#6 Rebar	16 ga.
15	21	7	"	"
18	27	8	"	"
21	30	11	"	"
24	36	13	"	14 ga.
27	42	16	"	14 ga.
36	54	14	#8 Rebar	12 ga.
42	60	14	"	"
48	72	12	1-1/4" pipe or 1-1/4" x 1-1/4" angle	10 ga.
54	78	12	"	"
60	90	12	1-1/2" pipe or 1-1/2" x 1-1/2" angle	8 ga.
66	96	10	2" pipe or 2x2x3/16 angle	8 ga. w/stiffener
72	102	10	"	"
78	114	10	2-1/2" pipe or 2x2x 1/4 angle	"
84	120	10	2-1/2" pipe or 2-1/2x2-1/2x1/4 angle	2-1/2" x 2-1/2" 5/16 angle

Note: The above trash rack and anti-vortex device information is only for corrugated metal pipe. Concrete risers must meet the requirements of MD 378.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE C - 10 - 26A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



BY THE DEVELOPER:

I/CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Sanjay Patel* 1-25-08  
 DEVELOPER DATE

BY THE ENGINEER:

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

*Sanjay Patel* 1/24/08  
 ENGINEER DATE

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

NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*Sanjay Patel* 1/31/08  
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Sanjay Patel* 2/3/08  
 DIRECTOR DATE

*Sanjay Patel* 2/1/08  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Sanjay Patel* 2/1/08  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

OWNER (PAR. A)  
 LITTLE PATUXENT REAL ESTATE LLC  
 26949 MILES RIVER ROAD  
 EASTON, MARYLAND 21601

OWNER (PAR. B)  
 ROUTE 1 SELF STORAGE LLC  
 PO BOX 15380  
 CHEVY CHASE, MARYLAND 20825

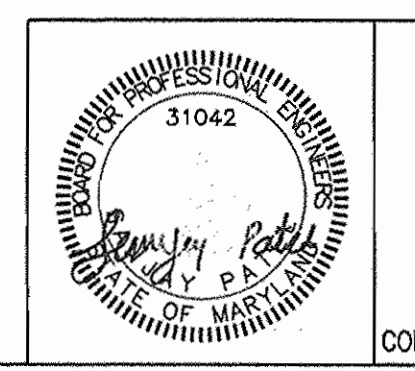
DEVELOPER:  
 DOUG CHAMBERLAIN  
 CHAMBERLAIN CONSTRUCTION INC  
 3138 ROGERS AVENUE  
 ELLICOTT CITY, MARYLAND 21043  
 TELEPHONE: 410-203-2460

PROJECT STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING

EROSION & SEDIMENT CONTROL DETAILS

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144

PROJECT NO. 04-210  
 SCALE: N/A  
 DATE: 01/23/08  
 DRAWN BY: KJ  
 CHECKED BY: SP  
 SHEET: 18 OF 25  
 SDP-06-100



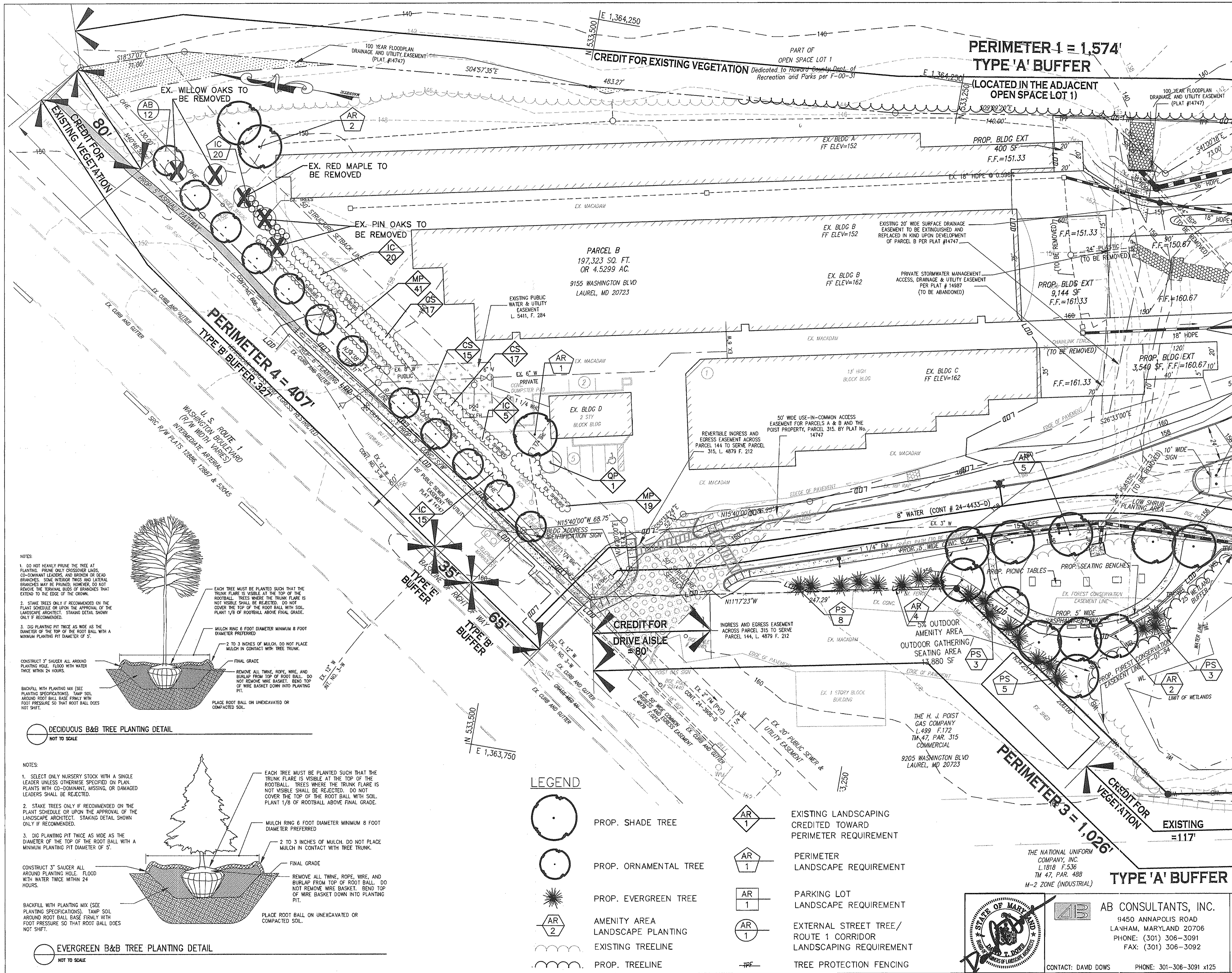
**AB CONSULTANTS, INC.**  
 9450 ANNAPOLIS ROAD  
 LANHAM, MARYLAND 20706  
 PHONE: (301) 306-3091  
 FAX: (301) 306-3092

CONTACT: SANJAY PATEL PHONE: 301-306-3091 x121

PROJECT STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING

EROSION & SEDIMENT CONTROL DETAILS

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144



- ### GENERAL NOTES
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
  - THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
  - CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
  - ALL MATERIAL SELECTED SHALL BE EQUAL TO OR BETTER THAN THE REQUIREMENTS OF THE "USA STANDARD FOR NURSERY STOCK", LATEST EDITION, AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
  - ALL MATERIAL SHALL BE PLANTED IN ACCORDANCE WITH THE MINIMUM STANDARDS CITED IN THE LATEST EDITION OF "LANDSCAPE SPECIFICATION GUIDELINES" PUBLISHED BY THE LANDSCAPE CONTRACTORS ASSOCIATION.
  - AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS SHALL BE OF THE PROPER HEIGHT AND/OR SPREAD REQUIREMENTS IN ACCORDANCE WITH THIS PLAN.
  - NO SUBSTITUTIONS OR RELOCATION OF PLANTS MAY BE MADE WITHOUT PRIOR APPROVAL FROM THE LANDSCAPE ARCHITECT.
  - AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF THE PLANNING AND ZONING. ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE APPLICABLE PLANS.
  - THE OWNER, TENANTS AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
  - FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$14,970.  
 44 SHADE TREES @ \$300 = \$13,200  
 10 EVERGREEN TREES @ \$150 = \$1,500  
 9 SHRUBS @ \$30 = \$270

### EXTERNAL STREET TREE REQUIREMENTS

LENGTH OF EXISTING STATE ROAD (PERIMETER 4) - 440 LF*	360 LF
NUMBER OF SHADE TREES REQUIRED (1 PER 30 LF**)	12
NUMBER OF TREES PROVIDED	12
SHADE TREES	
OTHER TREES (2:1 SUBSTITUTION)	

\* 80 LF OF EXISTING COUNTY ROAD IS CREDITED BY EXISTING VEGETATION.  
 \*\* SMALLER 2-1/2" CAL TREES @ 30' SPACING PER ROUTE 1 MANUAL LANDSCAPING REQUIREMENT

### DEVELOPER'S/BUILDER'S CERTIFICATE:

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

*[Signature]* 1-25-08  
 SIGNATURE DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*[Signature]* 2/1/08 DATE  
 DIRECTOR  
*[Signature]* 2/1/08 DATE  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*[Signature]* 2/1/08 DATE  
 CHIEF, DIVISION OF LAND DEVELOPMENT

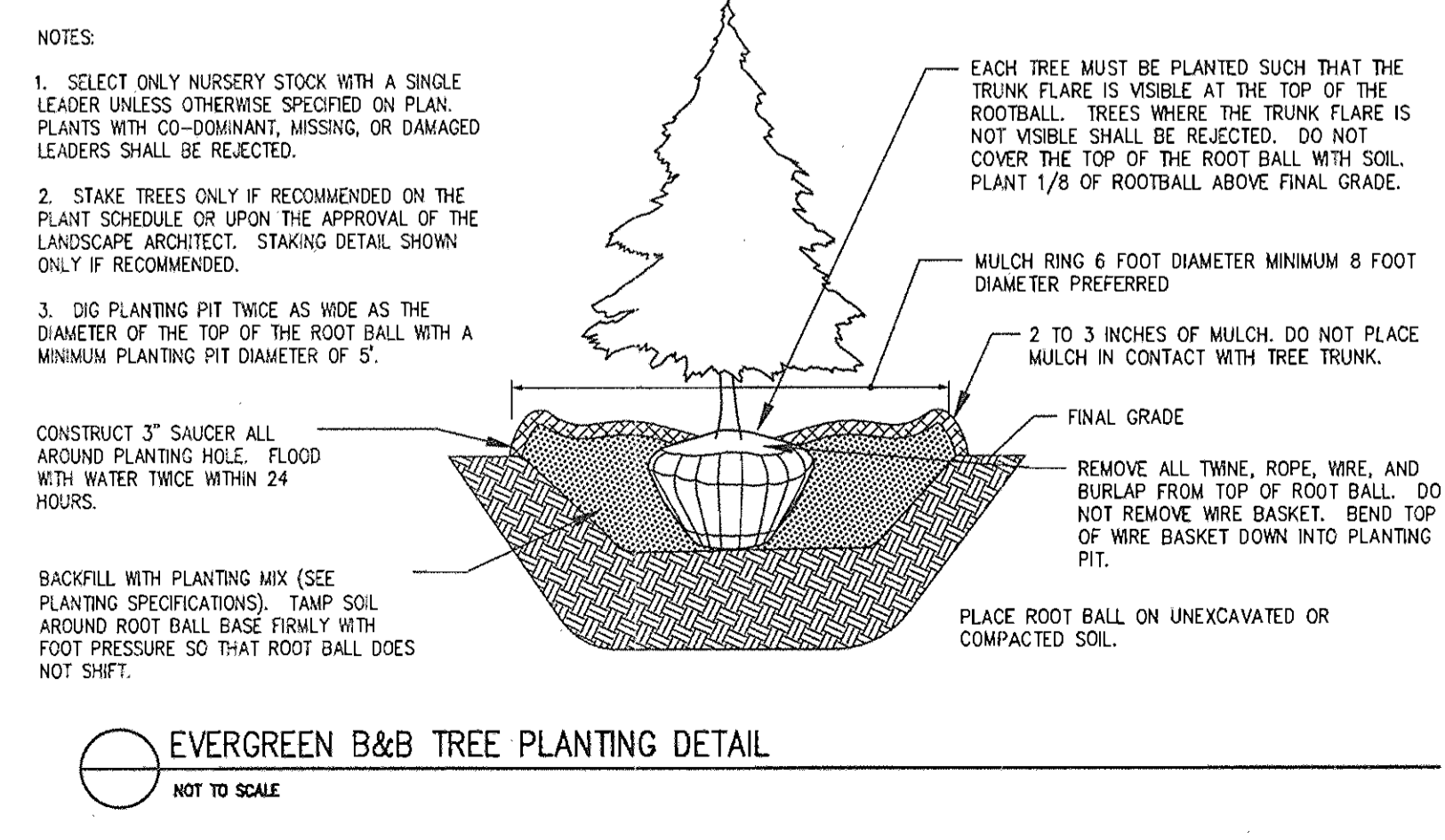
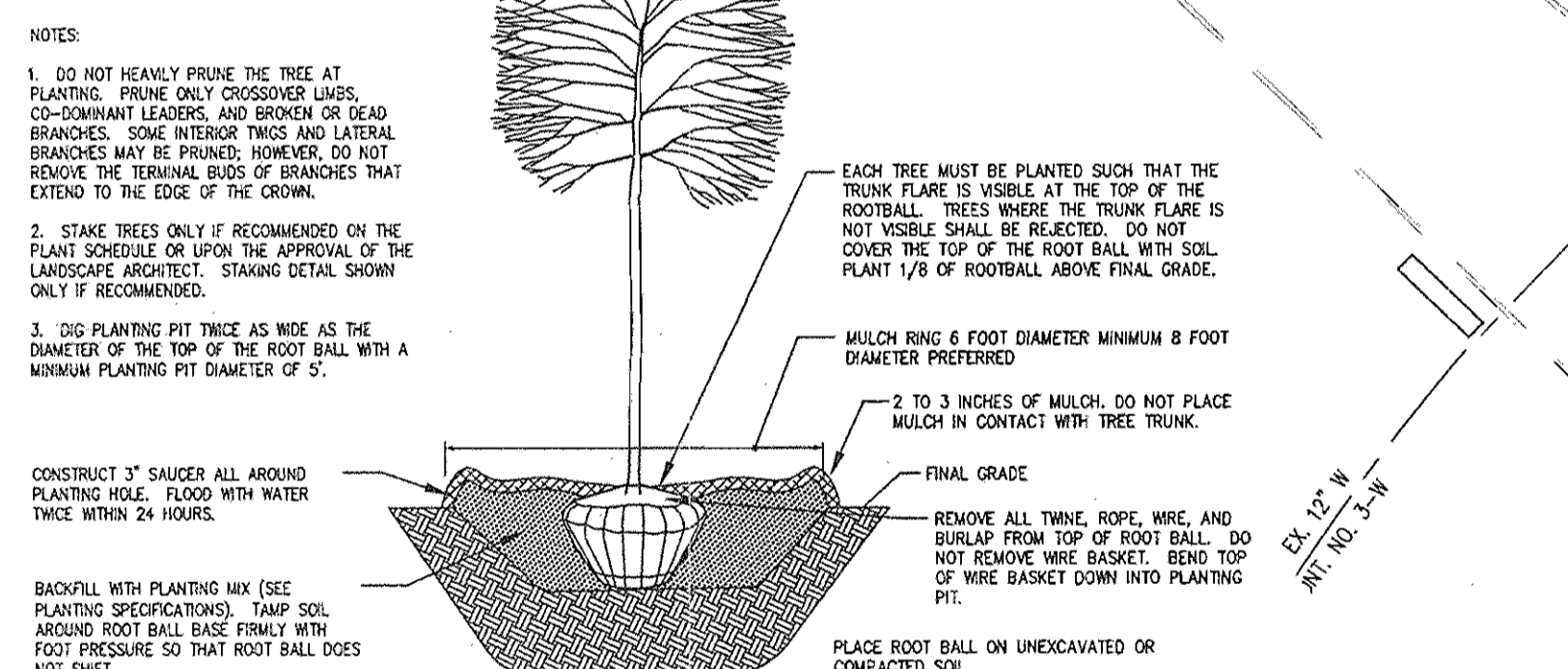
DATE	NO.	REVISION

OWNER (PAR. A)  
 LITTLE PATUXENT REAL ESTATE LLC  
 28849 MILES RIVER ROAD  
 EASTON, MARYLAND 21601

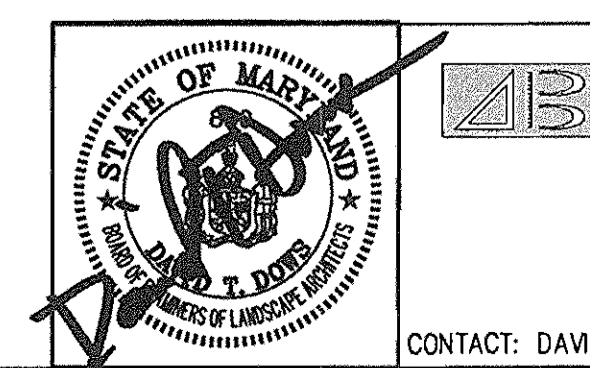
OWNER (PAR. B)  
 ROUTE 1 SELF STORAGE LLC  
 PO BOX 15080  
 CHEVY CHASE, MARYLAND 20825

DEVELOPER:  
 DOUG CHAMBERLAIN  
 CHAMBERLAIN CONSTRUCTION INC  
 3138 ROGERS AVENUE  
 ELLICOTT CITY, MARYLAND 21043  
 TELEPHONE: 410-203-2460

PROJECT STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING LANDSCAPE PLAN, NOTES & DETAILS  
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144



- ### LEGEND
- PROF. SHADE TREE
  - PROF. ORNAMENTAL TREE
  - PROF. EVERGREEN TREE
  - AMENITY AREA LANDSCAPE PLANTING
  - EXISTING TREELINE
  - PROF. TREELINE
  - EXISTING LANDSCAPING CREDITED TOWARD PERIMETER REQUIREMENT
  - PERIMETER LANDSCAPE REQUIREMENT
  - PARKING LOT LANDSCAPE REQUIREMENT
  - EXTERNAL STREET TREE/ROUTE 1 CORRIDOR LANDSCAPING REQUIREMENT
  - TREE PROTECTION FENCING



AB CONSULTANTS, INC.  
 9450 ANNAPOLIS ROAD  
 LANHAM, MARYLAND 20706  
 PHONE: (301) 306-3091  
 FAX: (301) 306-3092

PROJECT NO. 04-210  
 SCALE: 1" = 30'  
 DATE: 06/25/07  
 DRAWN BY: XZ  
 CHECKED BY: DD  
 SHEET: 19 OF 25

MATCH LINE - SEE SHEET 20 OF 25



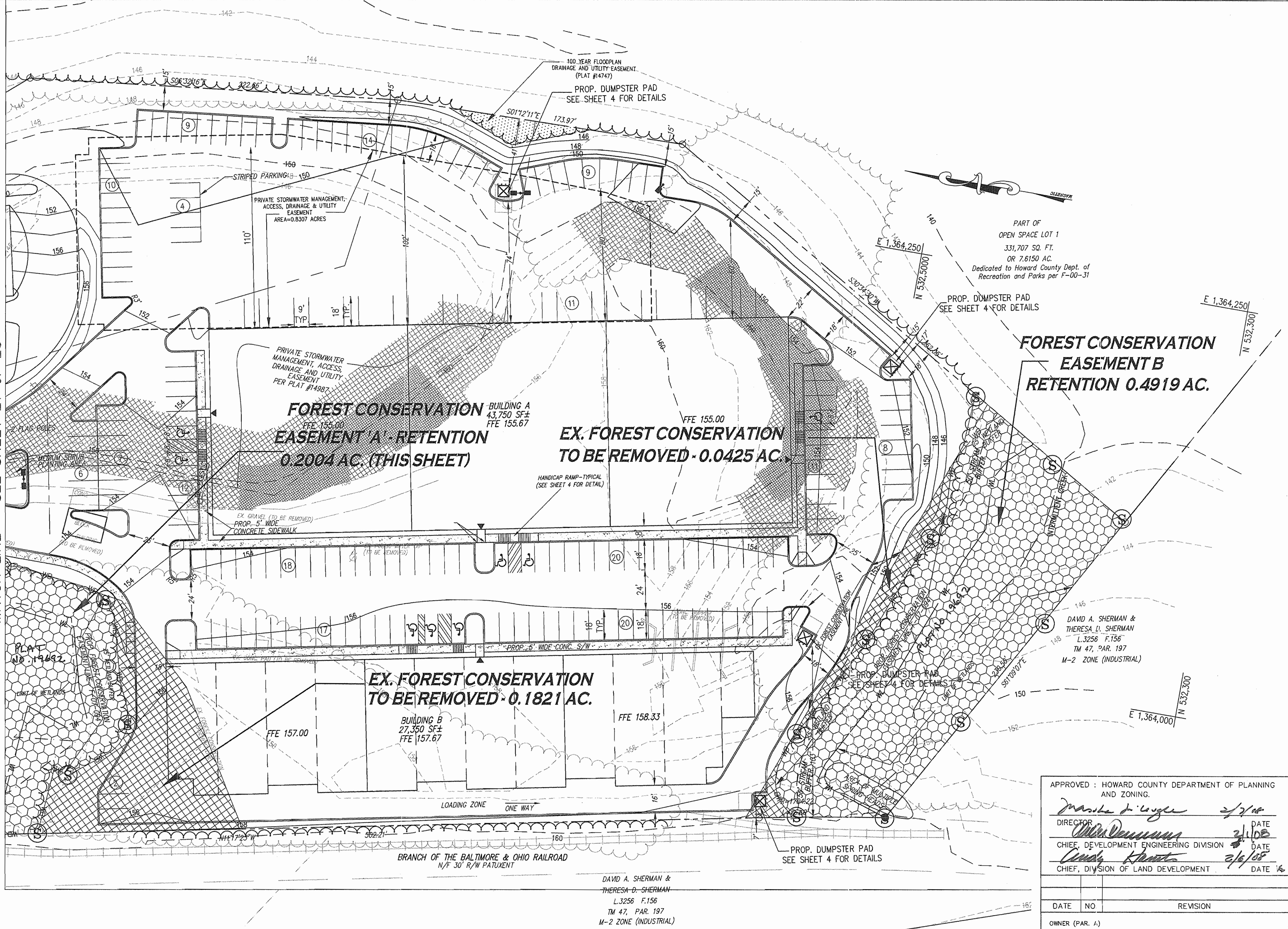


FOREST CONSERVATION WORKSHEET AS SUBMITTED ON 11-16-99  
AND APPROVED ON 06-01-00. (F-00-31)

**Howard County Forest Conservation Worksheet**

Project Name: A.H. SMITH	
State File #: _____	
Date: November 16, 1999	
<b>Net Tract Area</b>	
A. Total Tract Area	A = 33.57
B. Other Deductions	B = 21.02
C. Net Tract Area (A-B-C)	C = 12.55
<b>Land Use Category: Residential - Suburban</b>	
D. Afforestation Threshold (Net Tract Area X 15%)	D = 1.88
E. Conservation Threshold (Net Tract Area X 15%)	E = 1.88
<b>Existing Forest Cover</b>	
F. Existing Forest Cover within the Net Tract Area	F = 7.35
G. Area of Forest Above Conservation Threshold	G = 5.47
If the Existing Forest Cover (F) is greater than Conservation Threshold (G), then G = Existing Forest Cover (F) - Conservation Threshold (E); Otherwise G = 0	
<b>Break Even Point</b>	
H. Break Even (Amount of forest that must be retained so that no mitigation is required)	H = 2.98
(1) If the area of forest above the Conservation Threshold (G) is greater than zero, then H = (0.2 X the area of forest above Conservation Threshold (G)) + the Conservation Threshold (E)	
(2) If the area of forest above the Conservation Threshold (G) is equal to zero, then H = Existing Forest Cover (F)	
I. Forest Clearing Permitted Without Mitigation	I = 4.37
I = Existing Forest Cover (F) - Break Even Point (H)	
<b>Proposed Forest Clearing</b>	
J. Total Area of Forest to be Cleared	J = 4.38
K. Total Area of Forest to be Retained	K = 2.99
K = Existing Forest Cover (F) - forest to be cleared (J)	
<b>Planting Requirements</b>	
If the Total Area of Forest to be Cleared (K) is at or above the Break Even Point (H), no planting is required and no further calculations are necessary (L=0, M=0, N=0, P=0); if not, calculate the planting requirement below:	
L. Reforestation for Clearing Above the Conservation Threshold	L = 0.00
(1) If the total area of forest to be retained (K) is greater than the Conservation Threshold (E), then L = the area of forest to be cleared (J) X 0.25; or (2) If the forest to be retained (K) is less than or equal to the Conservation Threshold (E), then L = area of forest above Conservation Threshold (G) X 0.25	
M. Reforestation for Clearing Below the Conservation Threshold	M = 0.00
(1) If Existing Forest Cover (F) is greater than Conservation Threshold (E) and the forest to be retained (K) is less than or equal to the Conservation Threshold (E), then M = 2.0 X (the Conservation Threshold (E) - the forest to be retained (K)) (2) If Existing Forest (F) is less than or equal to the Conservation Threshold (E), then M = 2.0 X Forest to be cleared (J)	
N. Credit for Retention Above the Conservation Threshold	N = 1.11
If the area of forest to be retained (K) is greater than the Conservation Threshold (E), then N = K - E	
P. Total Reforestation Required P = L + M - N	P = 0.00
Q. Total Afforestation Required	Q = 0.00
(1) If Existing Forest Cover (F) is less than the Afforestation Threshold (D) then Q = the Afforestation Threshold (D) - the Existing Forest Cover (F)	
R. Total Planting Requirement R = P + Q	R = 0.00

MATCH LINE - SEE SHEET 21 OF 25



**UPDATED FOREST CONSERVATION WORKSHEET SHOWING ADDITIONAL CLEARINGS WITHIN THE PREVIOUS FOREST CONSERVATION AREA.**  
**Howard County Forest Conservation Worksheet**

Project Name: A.H. SMITH	
State File #: _____	
Date: January 16, 2006	
<b>Net Tract Area</b>	
A. Total Tract Area	A = 33.57
B. Other Deductions	B = 21.02
C. Net Tract Area (A-B-C)	C = 12.55
<b>Land Use Category: Residential - Suburban</b>	
D. Afforestation Threshold (Net Tract Area X 15%)	D = 1.88
E. Conservation Threshold (Net Tract Area X 15%)	E = 1.88
<b>Existing Forest Cover</b>	
F. Existing Forest Cover within the Net Tract Area	F = 7.35
G. Area of Forest Above Conservation Threshold	G = 5.47
If the Existing Forest Cover (F) is greater than Conservation Threshold (G), then G = Existing Forest Cover (F) - Conservation Threshold (E); Otherwise G = 0	
<b>Break Even Point</b>	
H. Break Even (Amount of forest that must be retained so that no mitigation is required)	H = 2.98
(1) If the area of forest above the Conservation Threshold (G) is greater than zero, then H = (0.2 X the area of forest above Conservation Threshold (G)) + the Conservation Threshold (E)	
(2) If the area of forest above the Conservation Threshold (G) is equal to zero, then H = Existing Forest Cover (F)	
I. Forest Clearing Permitted Without Mitigation	I = 4.37
I = Existing Forest Cover (F) - Break Even Point (H)	
<b>Proposed Forest Clearing</b>	
J. Total Area of Forest to be Cleared	J = 4.64
K. Total Area of Forest to be Retained	K = 2.71
K = Existing Forest Cover (F) - forest to be cleared (J)	
<b>Planting Requirements</b>	
If the Total Area of Forest to be Cleared (K) is at or above the Break Even Point (H), no planting is required and no further calculations are necessary (L=0, M=0, N=0, P=0); if not, calculate the planting requirement below:	
L. Reforestation for Clearing Above the Conservation Threshold	L = 1.16
(1) If the total area of forest to be retained (K) is greater than the Conservation Threshold (E), then L = the area of forest to be cleared (J) X 0.25; or (2) If the forest to be retained (K) is less than or equal to the Conservation Threshold (E), then L = area of forest above Conservation Threshold (G) X 0.25	
M. Reforestation for Clearing Below the Conservation Threshold	M = 0.00
(1) If Existing Forest Cover (F) is greater than Conservation Threshold (E) and the forest to be retained (K) is less than or equal to the Conservation Threshold (E), then M = 2.0 X (the Conservation Threshold (E) - the forest to be retained (K)) (2) If Existing Forest (F) is less than or equal to the Conservation Threshold (E), then M = 2.0 X Forest to be cleared (J)	
N. Credit for Retention Above the Conservation Threshold	N = 0.83
If the area of forest to be retained (K) is greater than the Conservation Threshold (E), then N = K - E	
P. Total Reforestation Required P = L + M - N	P = 0.33
Q. Total Afforestation Required	Q = 0.00
(1) If Existing Forest Cover (F) is less than the Afforestation Threshold (D) then Q = the Afforestation Threshold (D) - the Existing Forest Cover (F)	
R. Total Planting Requirement R = P + Q	R = 0.33

**LEGEND**

	REVISED FOREST CONSERVATION EASEMENT
	EX. FOREST CONSERVATION TO BE REMOVED
	15% TO 25% SLOPE
	25% OR GREATER SLOPE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Mark A. Luger* 2/7/06 DATE  
DIRECTOR

*Chris D. ...* 2/1/06 DATE  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Chris ...* 2/6/06 DATE  
CHIEF, DIVISION OF LAND DEVELOPMENT

DATE	NO	REVISION

OWNER (PAR. A)  
LITTLE PATUXENT REAL ESTATE LLC  
28949 MILES FIVER ROAD  
EASTON, MARYLAND 21601

OWNER (PAR. E)  
ROUTE 1 SELF STORAGE LLC  
PO BOX 15080  
CHEVY CHASE, MARYLAND 20825

DEVELOPER:  
DOUG CHAMBERLAIN  
CHAMBERLAIN CONSTRUCTION INC  
5138 ROGERS AVENUE  
ELICOTT CITY, MARYLAND 21043  
TELEPHONE: 410-203-2460

**AB CONSULTANTS, INC.**  
9450 ANNAPOLIS ROAD  
LAINHAM, MARYLAND 20706  
PHONE: (301) 306-3091  
FAX: (301) 306-3092  
CONTACT: DAVID DOWS PHONE: 301-306-3091 x125

**PROJECT STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING SUPPLEMENTARY FOREST CONSERVATION PLAN & DETAILS**  
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144

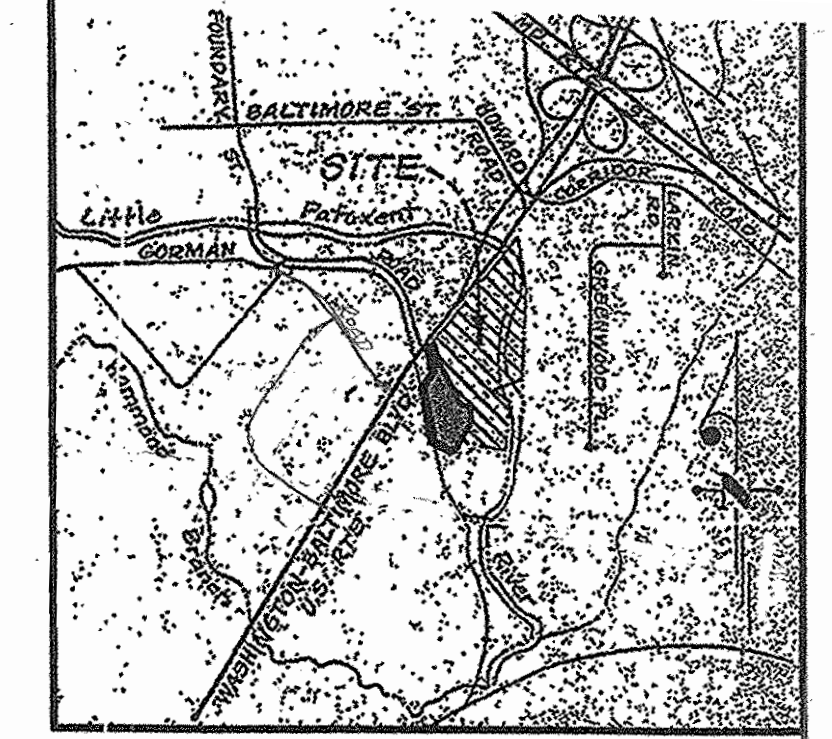
PROJECT NO. 04-210  
SCALE: 1" = 30'  
DATE: 06/25/07  
DRAWN BY: XZ  
CHECKED BY: DD  
SHEET: 22 OF 25

CURVE DATA						
CURVE	RADIUS	DELTA	LENGTH	TANGENT	BEARING	CHORD
①	421.30'	27°48'47"	204.51'	104.31'	S87°39'54"W	202.50'

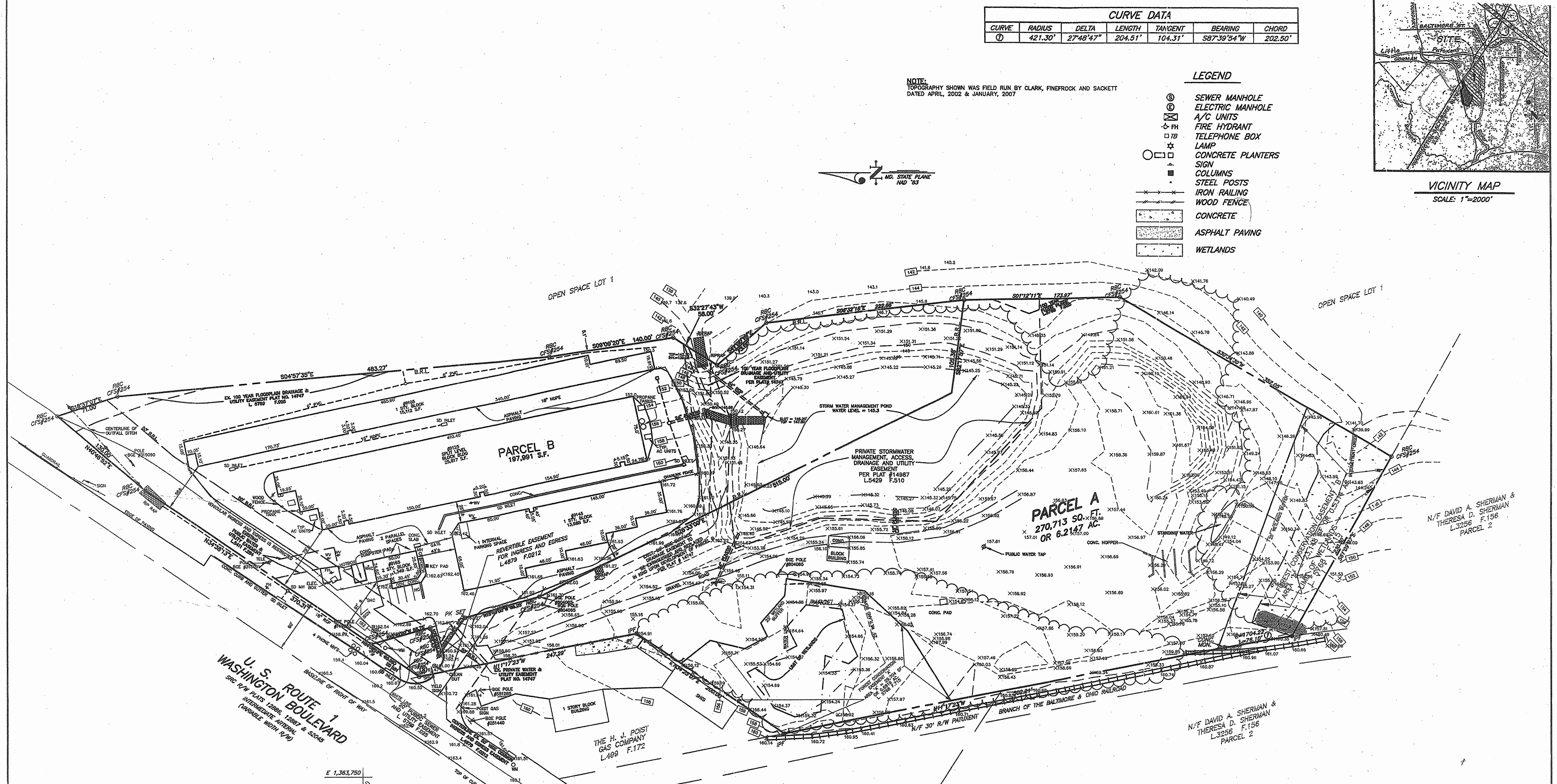
NOTE:  
TOPOGRAPHY SHOWN WAS FIELD RUN BY CLARK, FINEFROCK AND SACKETT  
DATED APRIL, 2002 & JANUARY, 2007

**LEGEND**

- ⊙ SEWER MANHOLE
- ⊕ ELECTRIC MANHOLE
- ⊖ A/C UNITS
- ⊕ FH FIRE HYDRANT
- ⊕ TB TELEPHONE BOX
- ⊕ LAMP
- ⊕ CONCRETE PLANTERS
- ⊕ SIGN
- ⊕ COLUMNS
- ⊕ STEEL POSTS
- ⊕ IRON RAILING
- ⊕ WOOD FENCE
- ▭ CONCRETE
- ▨ ASPHALT PAVING
- ▨ WETLANDS



VICINITY MAP  
SCALE: 1"=2000'

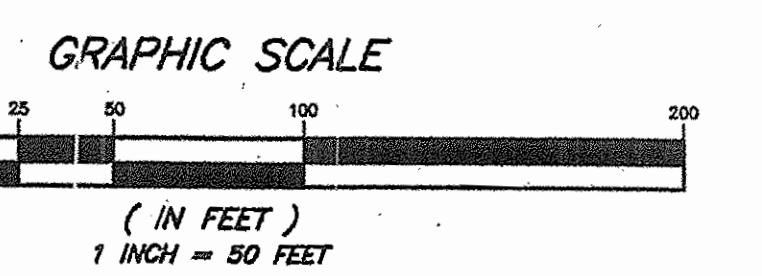


**U.S. ROUTE 1**  
**WASHINGTON BOULEVARD**  
SIC RUN PLATS 1289, 1287 & 3245  
(VARIOUS WIDTH R/W)

THE H. J. POIST  
GAS COMPANY  
L.498 F.172

N/F THE NATIONAL UNIFORM  
COMPANY, INC.  
L.1818 F.536

N/F DAVID A. SHERMAN &  
THERESA D. SHERMAN  
L.3256 F.156  
PARCEL 2

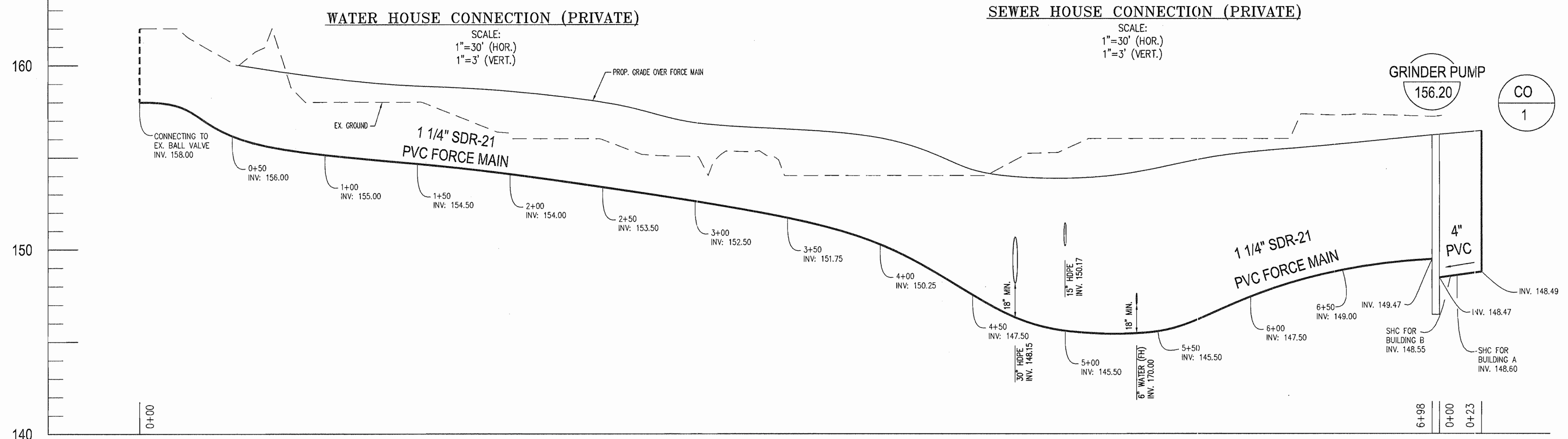
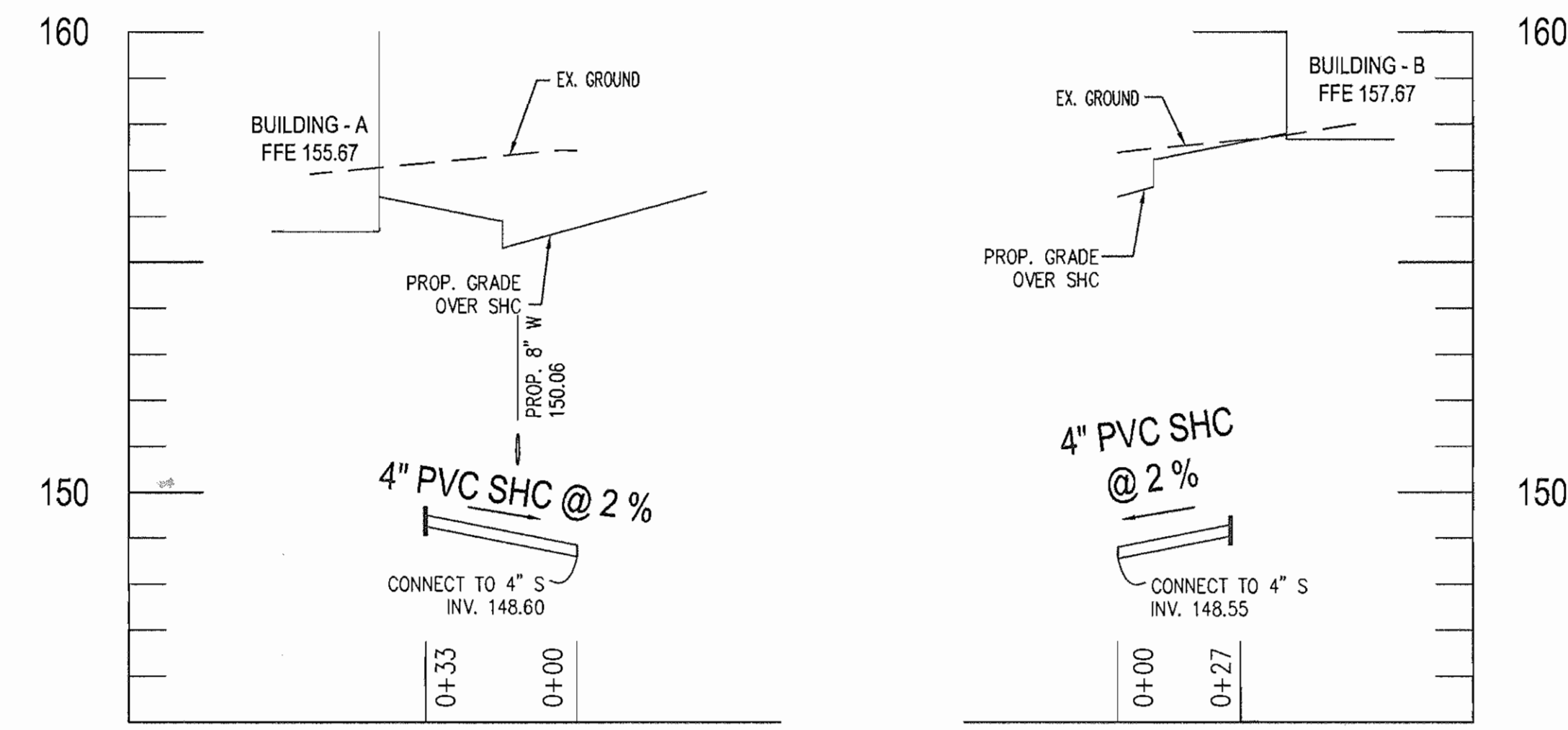
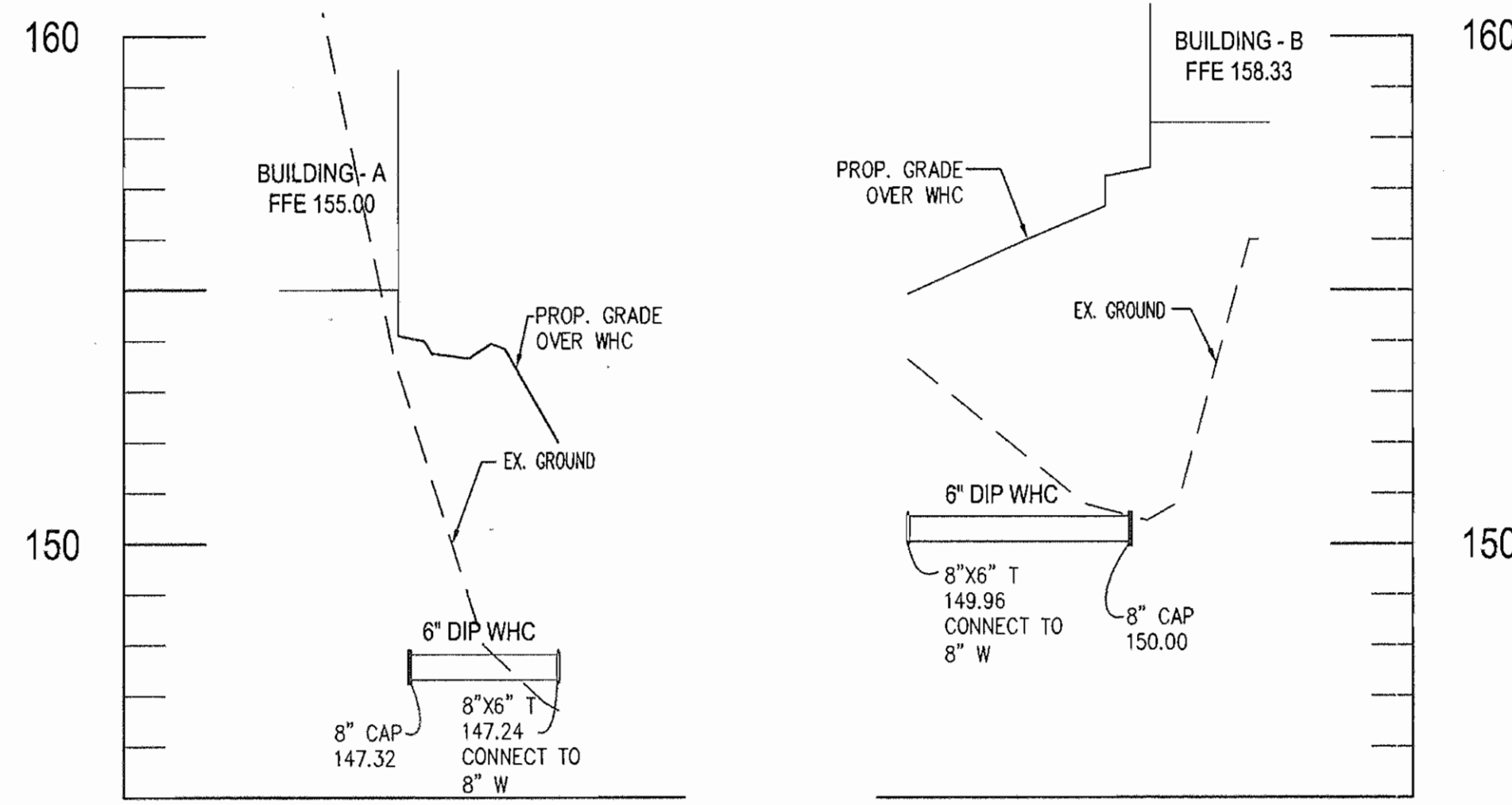


**LEGAL DESCRIPTION**  
PARCEL A AS SHOWN ON A  
PLAT OF REVISION TITLED  
"A.H. SMITH PROPERTY  
PARCELS A AND B  
SHEET 1 OF 2 IN THE  
6TH ELECTION DISTRICT RECORDED AMONG THE  
LAND RECORDS OF HOWARD COUNTY, MD  
PLAT NO. 14987

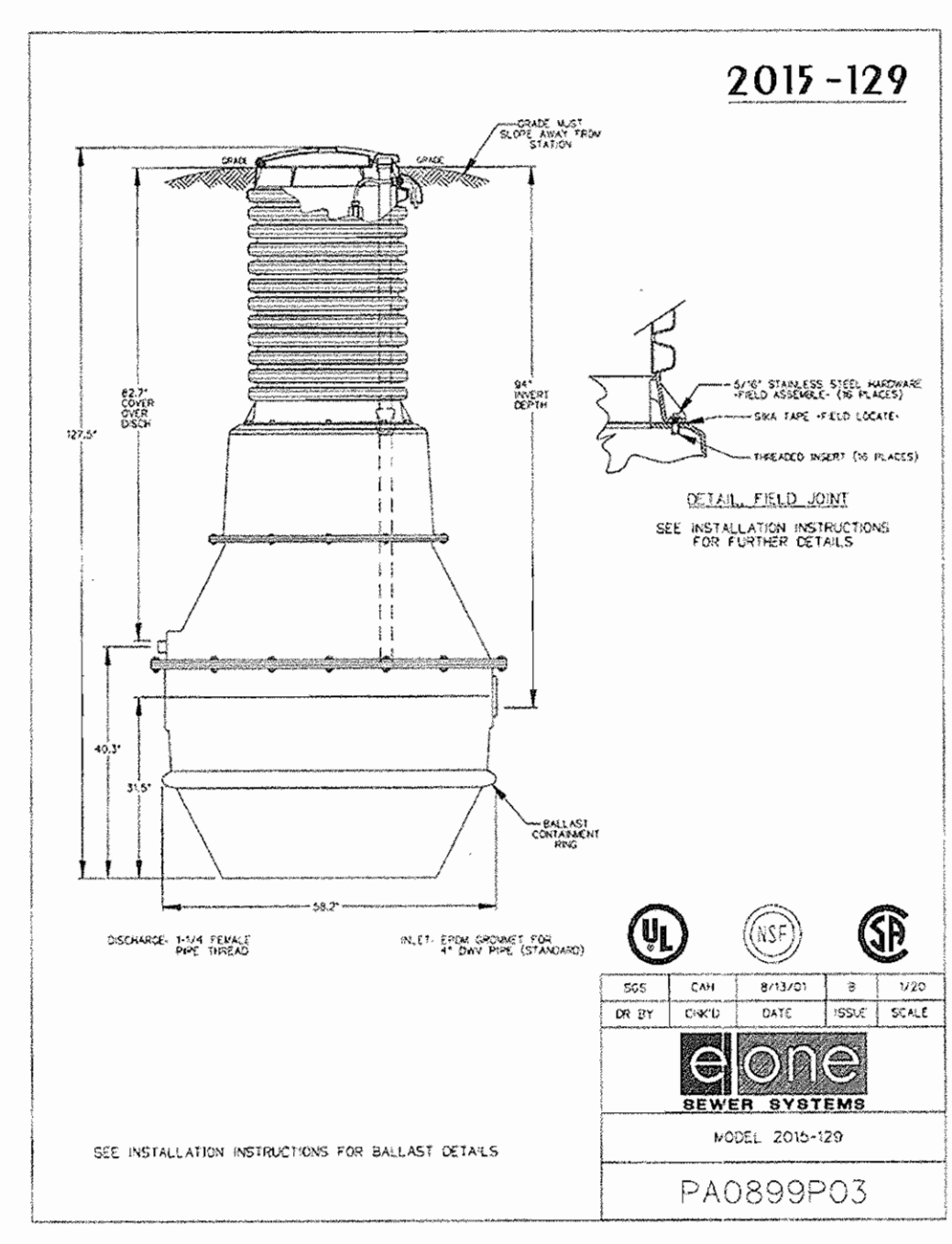
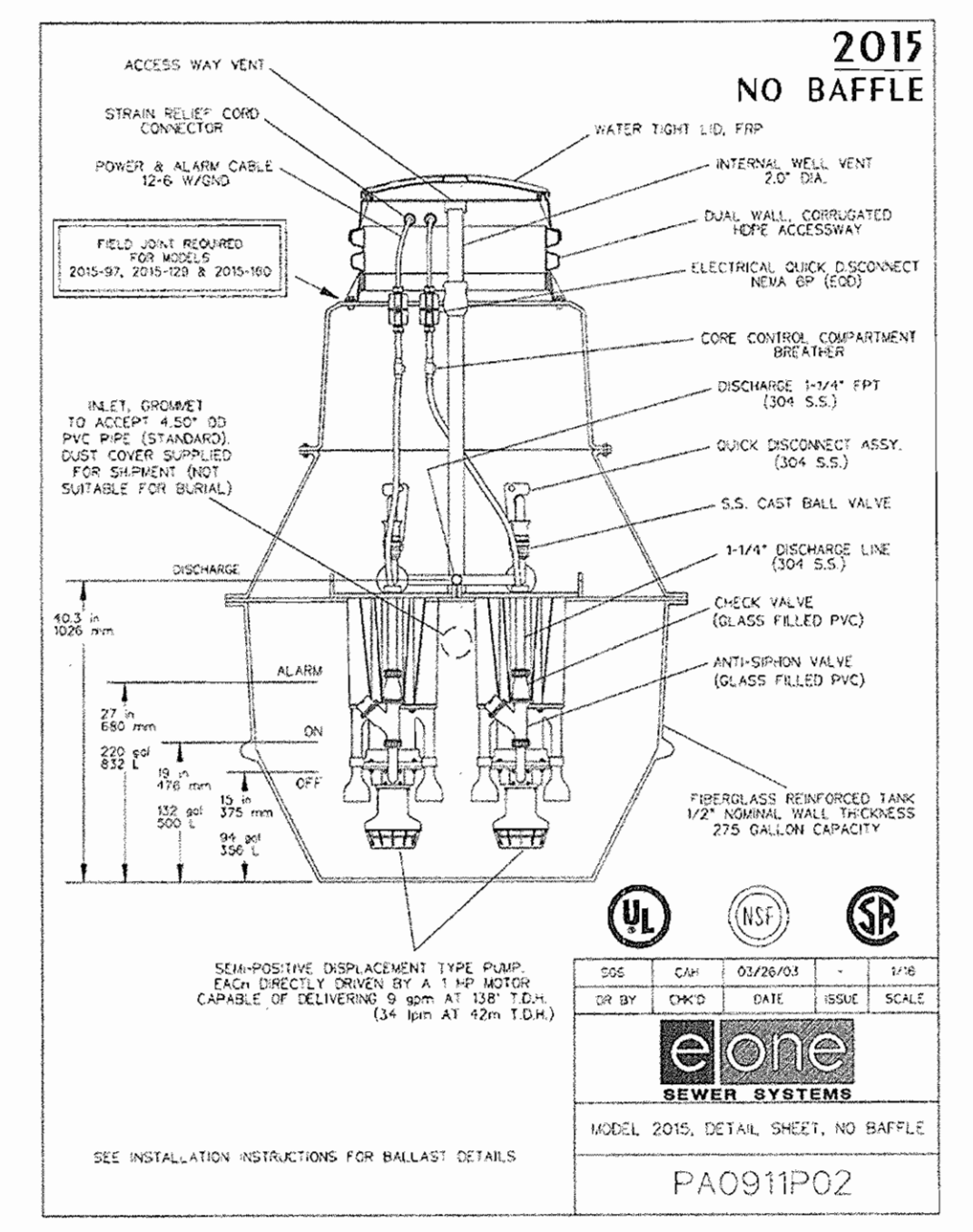
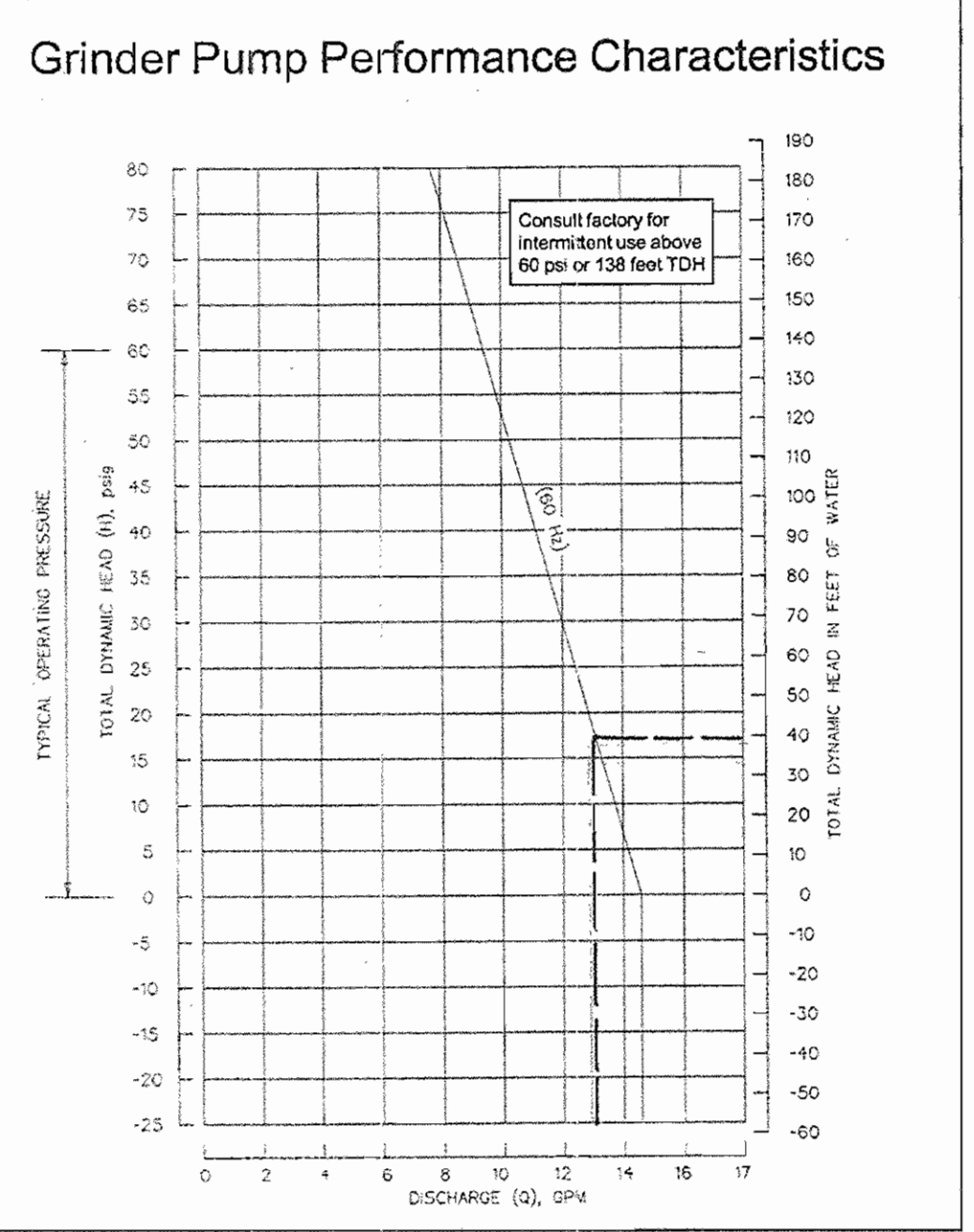
Ex. Public Water and Utility Easement L.5411 F.289 Rev. 4/11/07  
[C:\FS\SERVER\J\SURVEY\DWGS\2005\15018\DWG\A&B-ALTA.DWG (LD05)]

APPROVED: DEPARTMENT OF PLANNING & ZONING	DATE
<i>William J. Sackett</i>	3/1/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Charles Brown</i>	2/1/08
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>Harsh D. Wajda</i>	2/1/08
DIRECTOR	DATE

<b>CLARK · FINEFROCK &amp; SACKETT, INC.</b> ENGINEERS · PLANNERS · SURVEYORS 7135 MINSTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 BALT. • (301) 621-8100 WASH.		
DESIGNED	ALTA/ACSM LAND TITLE SURVEY	SCALE 1" = 50'
DRAWN	PARCEL A AND B	DRAWING 1 OF 1
CHECKED	A. H. SMITH PROPERTY	JOB NO. 05-018
DATE	FILE NO. SDP-06-100 TAX MAP 47 PLAT NO. 14987 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	FILE NO. 05-018-0
1-7-07		



**FORCE MAIN PROFILE (PRIVATE)**  
 SCALE:  
 1"=30' (HOR.)  
 1"=3' (VERT.)



**DESIGN DATA**

**LOW PRESSURE SEWER - PIPE SIZING AND BRANCH ANALYSIS**  
 AH Smith Property

Prepared By: Mark Wehland (Freemire) May 11, 2007

Zone	Pumps to Zone	Number of Cores in Zone	Accum Cores per Zone	Gal/Day per Core	Max Flow per Core	Max Sim Ops	Max Flow (GPM)	Pipe Size (Inches)	Max Velocity (FPS)	Length of Main this Zone	Friction Loss Factor (f/100ft)	Friction Loss this Zone	Accumulate d Friction Loss (Feet)	Max Main Elevation	Minimum Pump Elevation	Static Head (Feet)	Total Dynamic Head (ft)
1	2	1	1.00	2140	13	1.00	13.00	1.25	2.37	698.00	1.81	12.66	20.78	160.00	147.50	12.50	33.28
2	2	2	3.00	300	14	2.00	27.00	2.00	2.39	672.00	1.21	8.12	8.12	160.00	151.50	8.50	16.62

spreadsheet was calculated using pipe diameters for: SDR21PVC loss calculations were based on a constant for inside roughness of "C" = 140

**LOW PRESSURE SEWER - ACCUMULATED RETENTION TIME (HR)**

Prepared By: Mark Wehland (Freemire) May 11, 2007

Zone Number	Pumps to Zone	Accumulate d Total of Cores this Zone	Existing Pipe Size	Gallons per 100 Lineal Feet	Length of Zone	Capacity of Zone	Average Daily Flow	Average Fluid Changes per Day	Average Retention Time (Hr)	Accumulate d Retention Time (Hr)
1	2	1.00	1.25	9.14	698.00	63.82	2,140.00	33.53	0.72	1.82
2	2	3.00	2.00	18.84	672.00	126.62	2,740.00	21.64	1.11	1.11

This spreadsheet was calculated using pipe diameters for: SDR21PVC

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Mark Wehland* 2/1/08  
 DIRECTOR DATE

*Conrad Roberts* 2/1/08  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Conrad Roberts* 2/1/08  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

OWNER (PAR. A)  
 LITTLE PATUXENT REAL ESTATE LLC  
 28949 MILES RIVER ROAD  
 EASTON, MARYLAND 21601

OWNER (PAR. B)  
 ROUTE 1 SELF STORAGE LLC  
 PO BOX 15080  
 CHEVY CHASE, MARYLAND 20825

DEVELOPER:  
 DOUG CHAMBERLAIN  
 CHAMBERLAIN CONSTRUCTION INC  
 3138 ROGERS AVENUE  
 ELLICOTT CITY, MARYLAND 21043  
 TELEPHONE: 410-203-2460

**AB CONSULTANTS, INC.**  
 9450 ANNAPOLIS ROAD  
 LANHAM, MARYLAND 20706  
 PHONE: (301) 306-3091  
 FAX: (301) 306-3092

CONTACT: SANJAY PATEL PHONE: 301-306-3091 x121

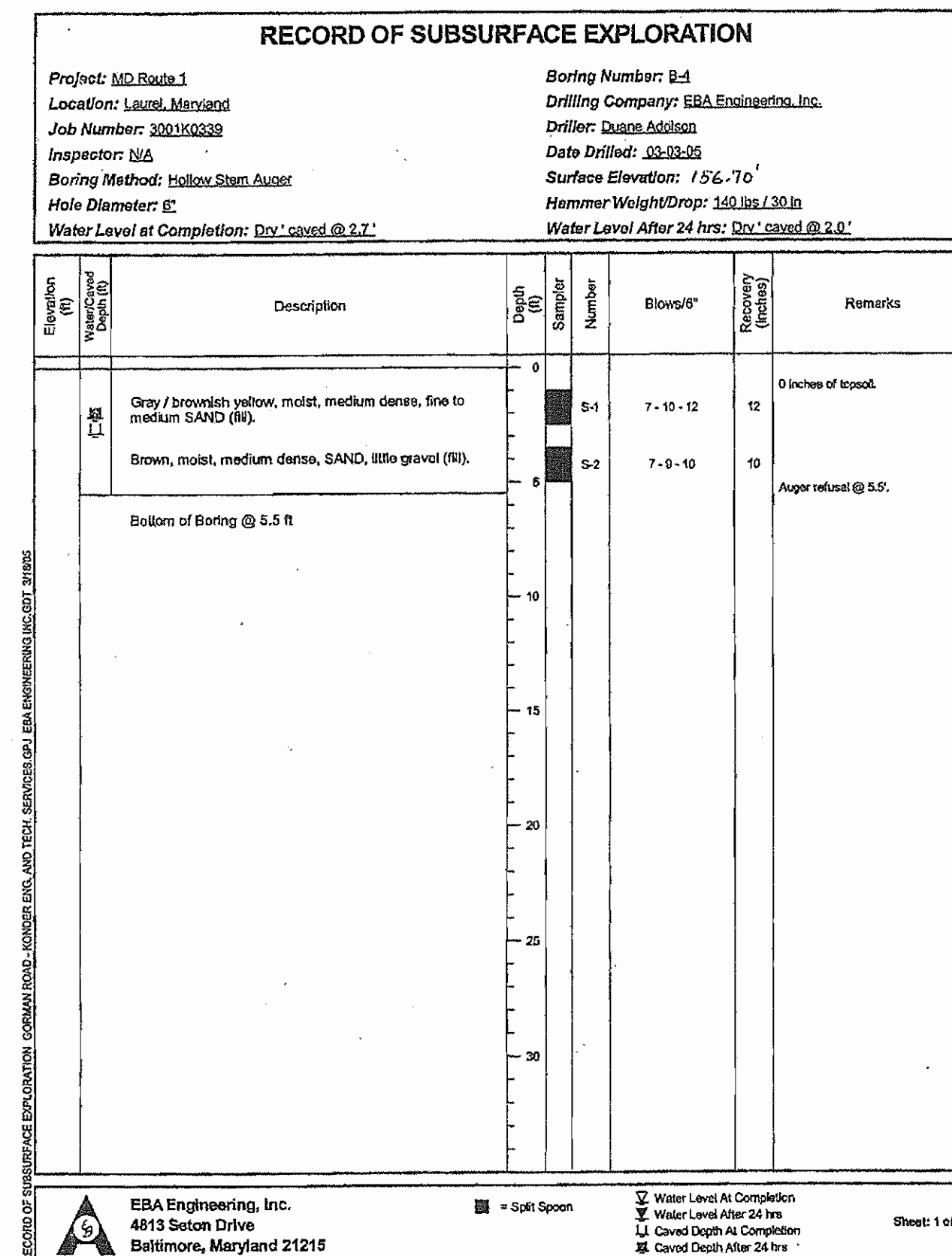
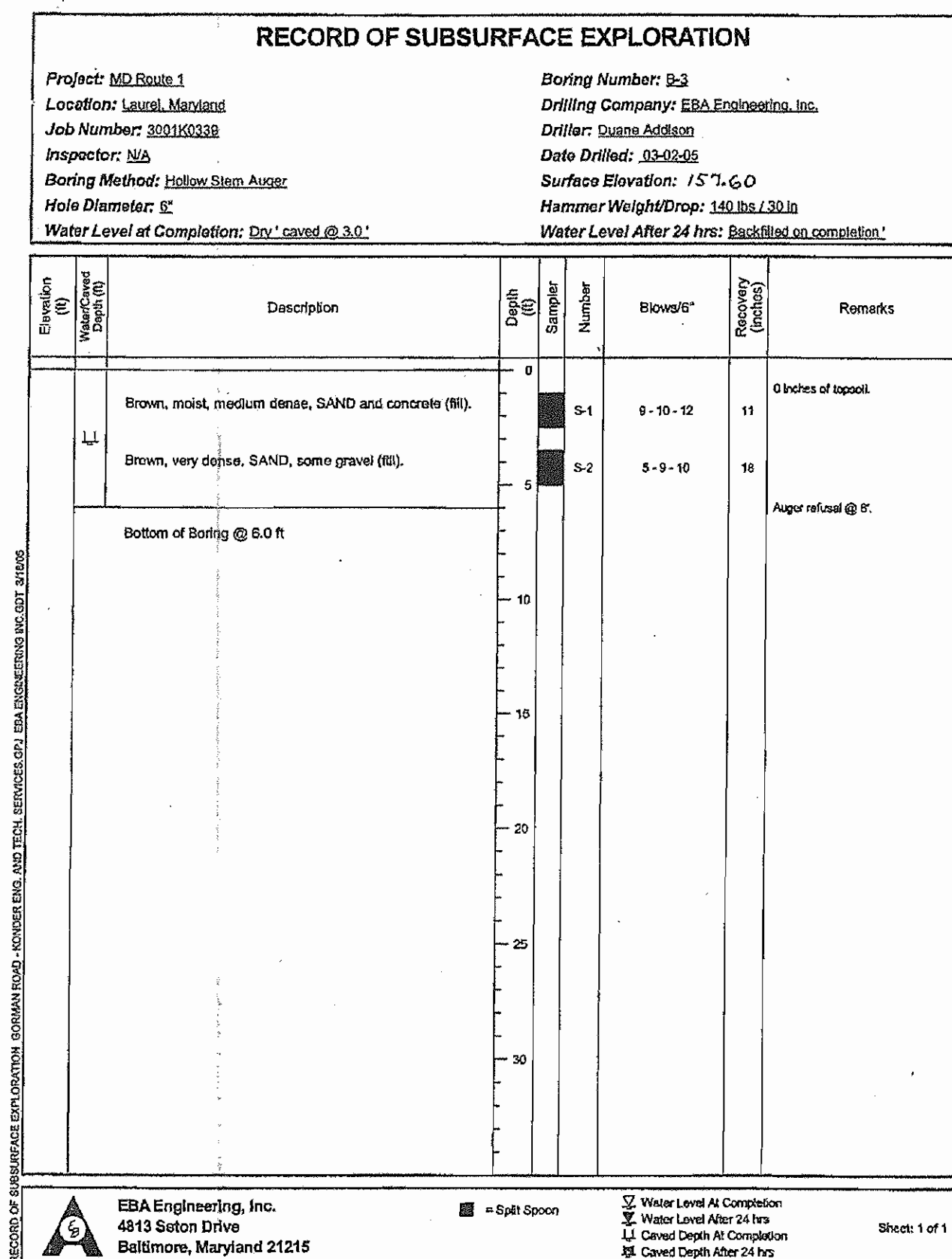
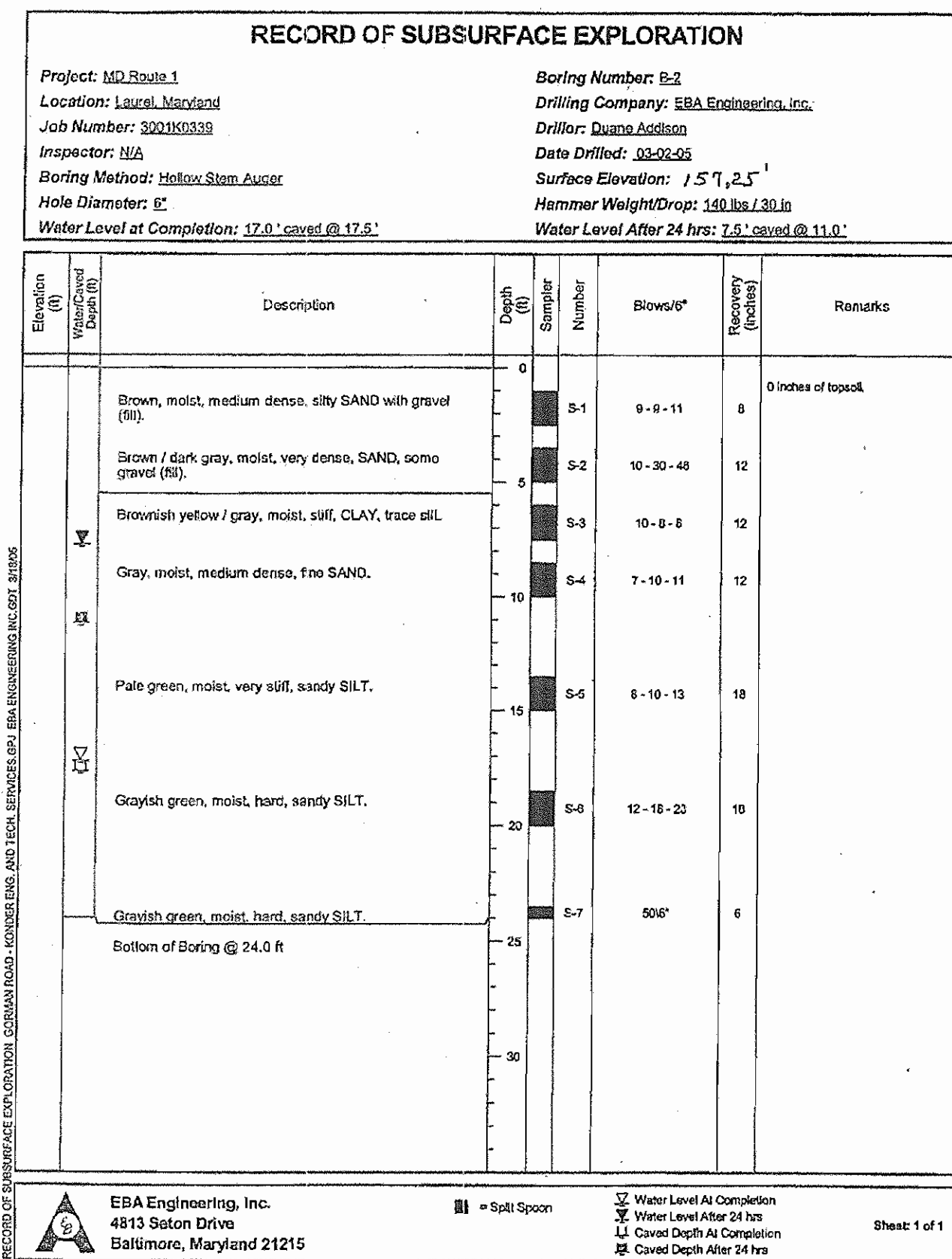
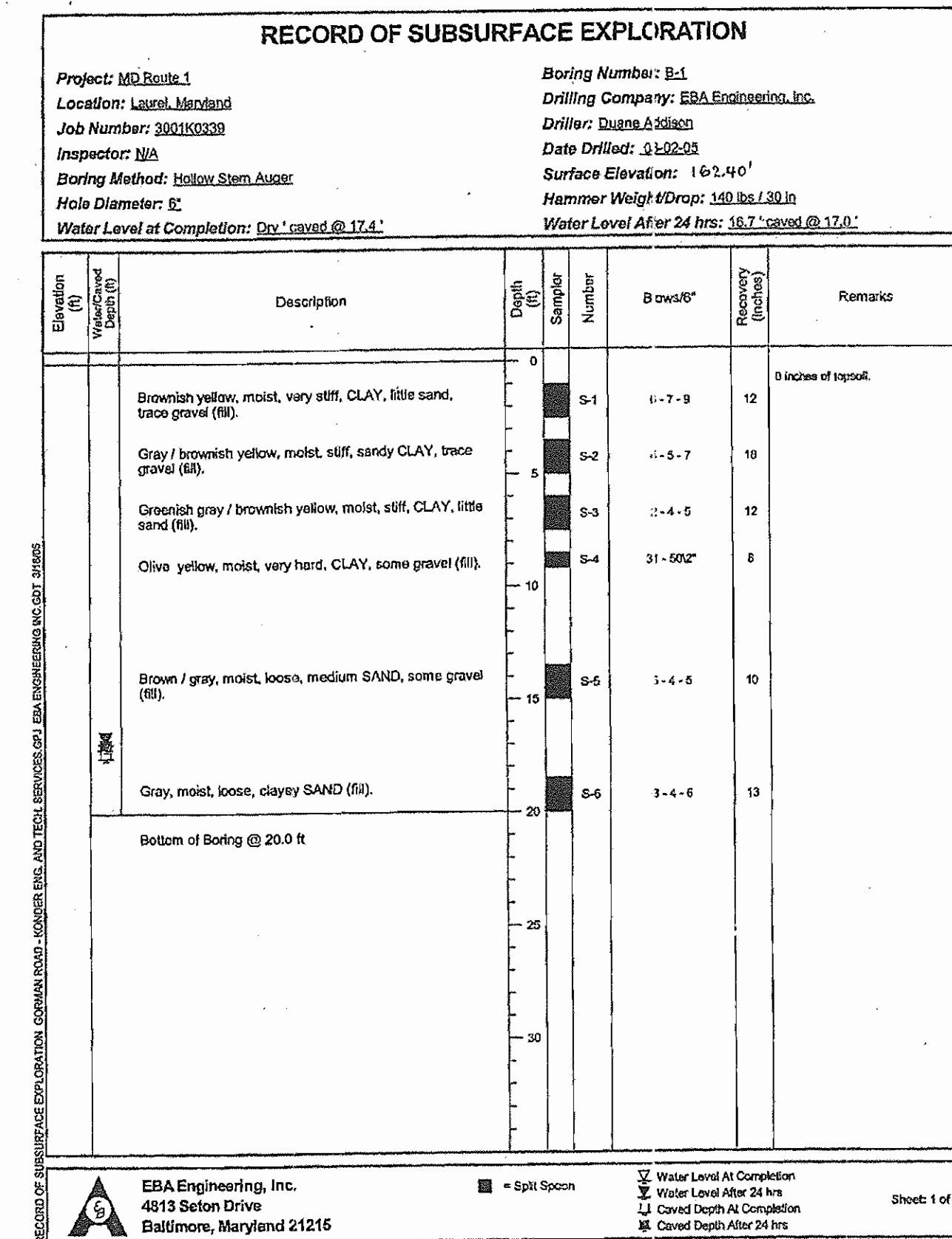
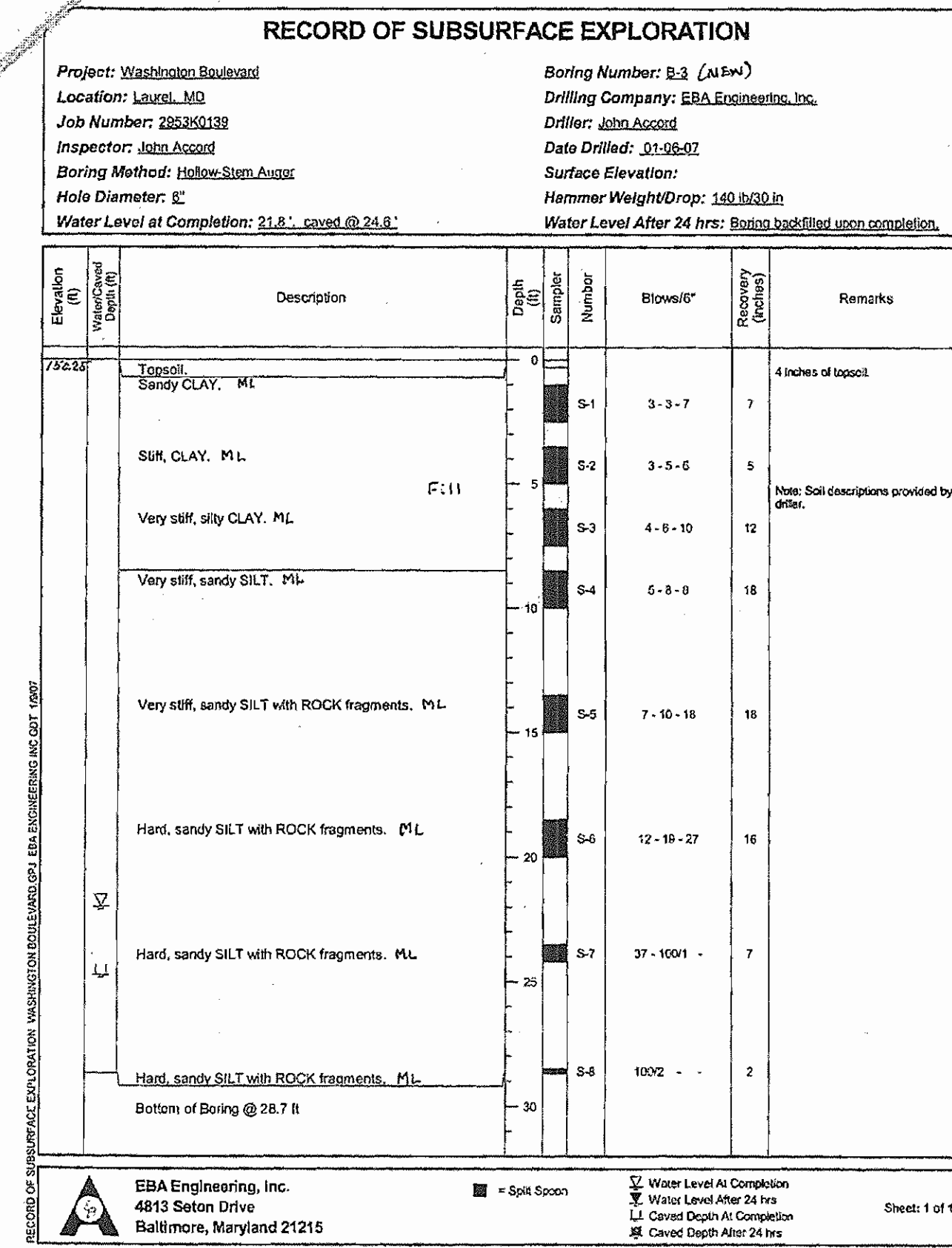
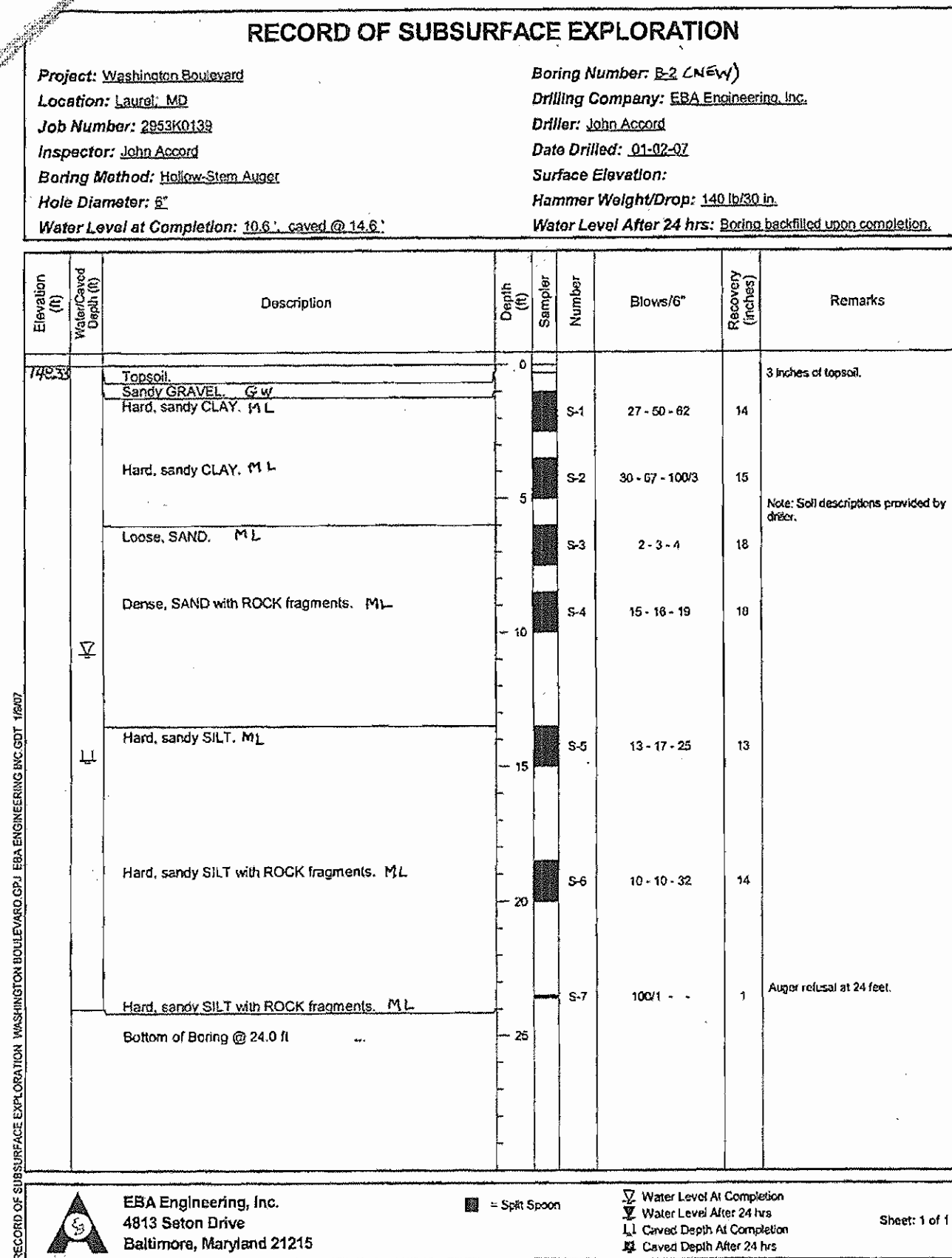
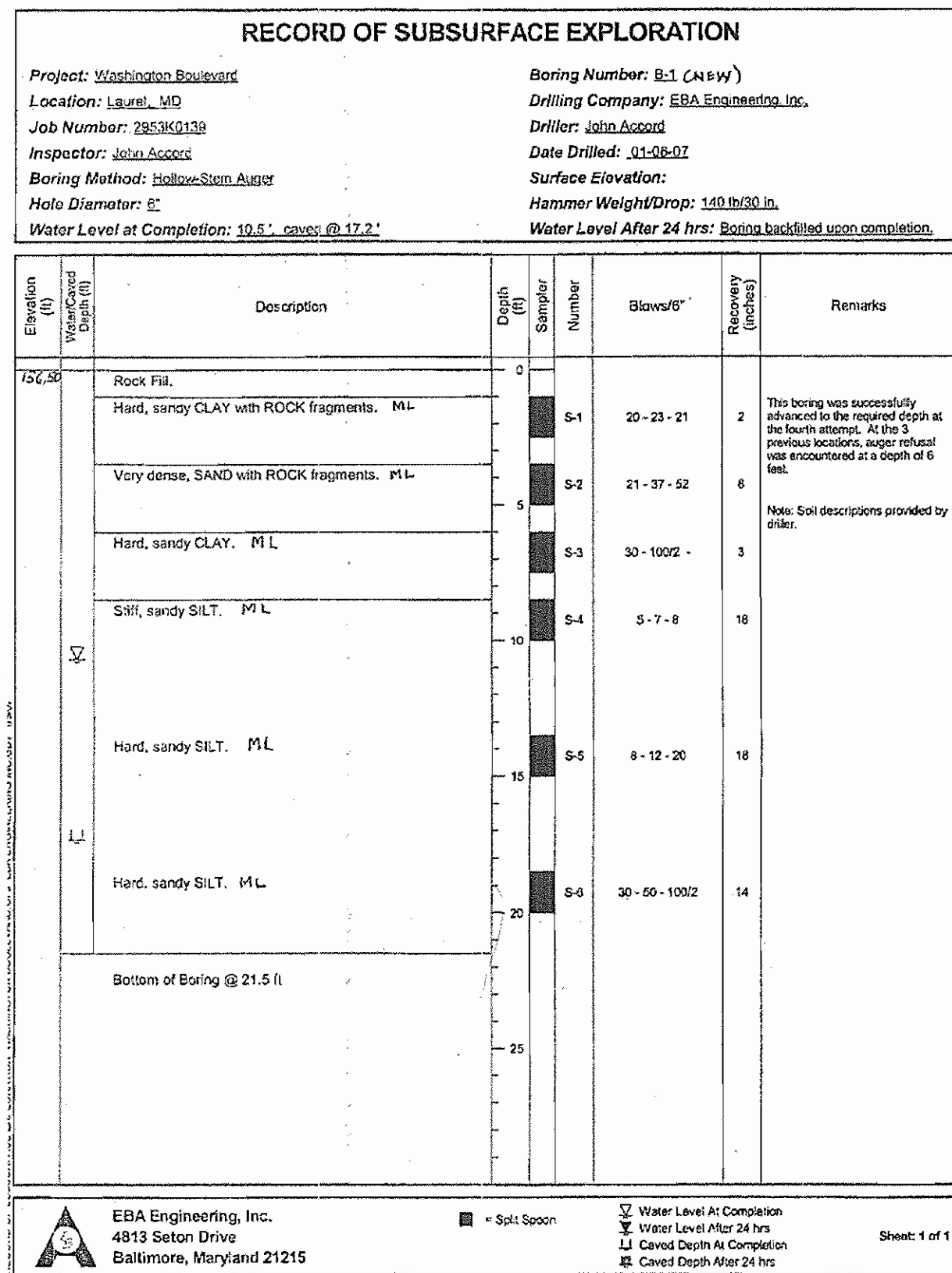
**PROJECT STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING SEWER PROFILE**

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144

PROJECT NO. 04-210  
 SCALE: 1"=30'  
 DATE: 01/23/08  
 DRAWN BY: HRP  
 CHECKED BY: SBP

SHEET: 24 OF 25  
 SDP-06-100





APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Howard H. G. G. G.* 2/1/08  
 DIRECTOR DATE

*W. D. D. D. D.* 2/1/08  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

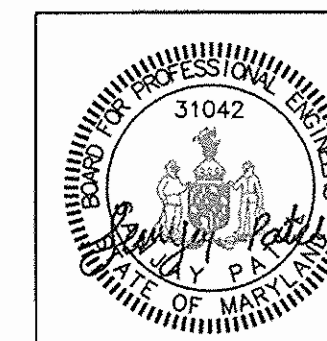
*W. D. D. D. D.* 2/1/08  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

OWNER (PAR. A)  
 LITTLE PATUENT REAL ESTATE LLC  
 26949 MILES RIVER ROAD  
 EASTON, MARYLAND 21601

OWNER (PAR. B)  
 ROUTE 1 SELF STORAGE LLC  
 PO BOX 15080  
 CHEVY CHASE, MARYLAND 20825

DEVELOPER:  
 DOUG CHAMBERLAIN  
 CHAMBERLAIN CONSTRUCTION INC  
 3138 ROGERS AVENUE  
 ELLICOTT CITY, MARYLAND 21043  
 TELEPHONE: 410-203-2460



**AB CONSULTANTS, INC.**  
 9450 ANNAPOLIS ROAD  
 LANHAM, MARYLAND 20706  
 PHONE: (301) 306-3091  
 FAX: (301) 306-3092

PROJECT: STORAGE USA FACILITY (PAR 'B') AND PARCEL 'A' OF THE A.H. SMITH SUBDIVISION SELF-STORAGE FACILITY EXPANSION AND PROPOSED FLEX SPACE BUILDING

**SOIL BORING LOG**

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 TAX MAP 47, PARCEL A & B, GRID 18, P/O PARCEL 144

PROJECT NO. 04-210  
 SCALE: NTS  
 DATE: 01/23/08  
 DRAWN BY: -  
 CHECKED BY: -  
 SHEET: 25 OF 25  
 SDP-06-100

CONTACT: SANJAY PATEL PHONE: 301-306-3091 x121