

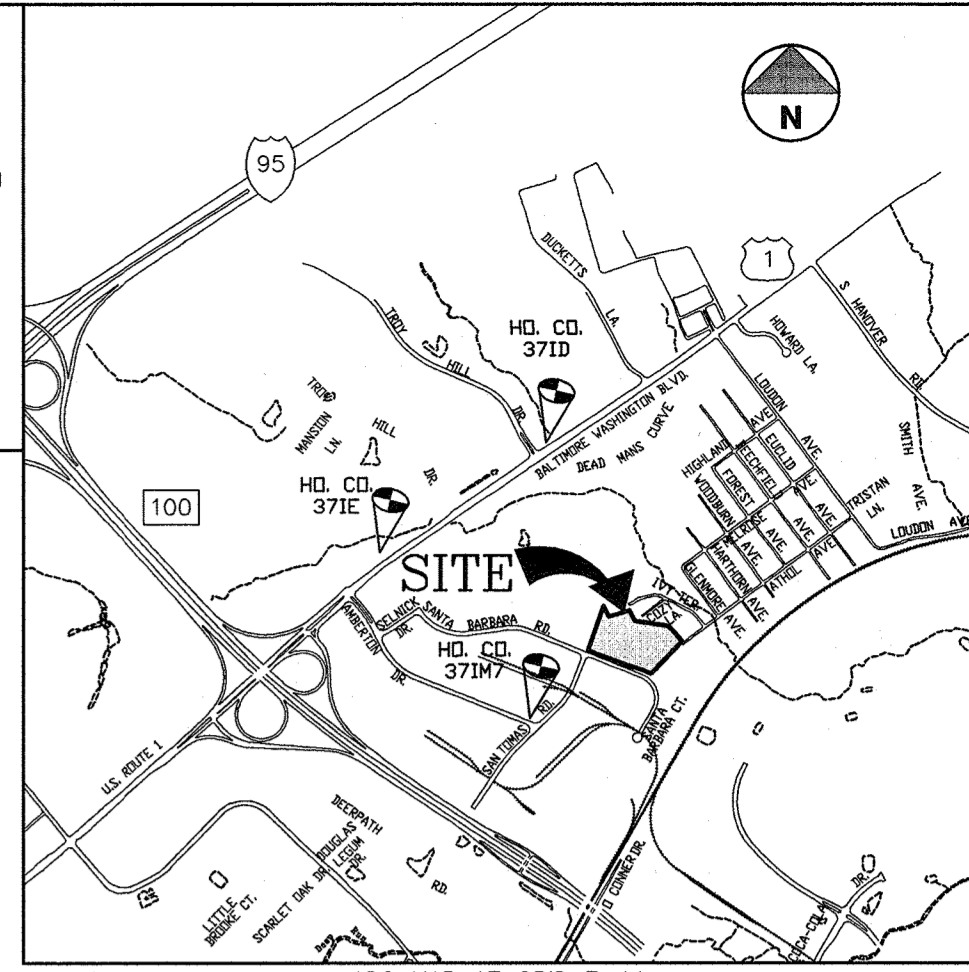
**GENERAL NOTES**

- THE SUBJECT PROPERTY IS ZONED M-2 PER THE 2-2-04 COMPREHENSIVE ZONING PLAN AND THE COMP LITE ZONING AMENDMENT EFFECTIVE 7-28-06.
- 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.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY BY BENCHMARK ENGINEERING, INC. DATED APRIL 2009 AND AVAILABLE HOWARD COUNTY GIS TO ESTABLISH 2' CONTOUR INTERVALS.
- 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. 371D, 371E AND 371M7 WERE USED FOR THIS PROJECT.
- THE BOUNDARY SHOWN IS BASED ON PLAT P.B.29/F.99
- THERE ARE EXISTING STRUCTURES LOCATED ON-SITE, NO NEW BUILDINGS, EXTENSIONS OR ADDITIONS TO THE EXISTING STRUCTURES ARE TO BE CONSTRUCTED AT A DISTANCE LESS THAN THE ZONING REGULATIONS REQUIRE.
- TO THE BEST OF OUR KNOWLEDGE THERE ARE NO CEMETERY LOCATIONS ON-SITE.
- THERE ARE NO EXISTING WETLANDS, WETLANDS BUFFERS, STREAMS, STREAM BUFFERS OR 100-YEAR FLOODPLAIN LOCATED ON-SITE AS PER SDP-74-125 & F-73-053.
- EXISTING UTILITIES SHOWN HEREON ARE BASED ON FIELD LOCATIONS, HOWARD COUNTY MASTER PLANS AND RECORD DRAWINGS. IF NECESSARY, THE CONTRACTOR SHALL ADJUST ANY OR ALL STRUCTURE TOP ELEVATIONS TO MATCH SDP GRADES.
- THIS PROJECT IS WITHIN THE METROPOLITAN DISTRICT. WATER AND SEWER FOR THIS PROJECT IS PUBLIC, PER CONTRACT No. 532-D. DRAINAGE AREA IS WITHIN THE PATAPSCO WATERSHED.
- STORMWATER MANAGEMENT SHALL BE PROVIDED FOR THIS PROJECT BASED ON GUIDELINES ESTABLISHED BY THE 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUMES I & II. ALL THE PROPOSED IMPROVEMENTS ARE CONSIDERED RE-DEVELOPMENT AND THEREFORE EXEMPT FROM PROVIDING CHANNEL PROTECTION (CP), ADDITIONALLY, THE COMBINED RUNOFF FROM DRAINAGE AREAS 3 & 4 IS LESS THAN 2 CFS FOR THE 1-YR STORM EVENT. QUALITY CONTROL SHALL BE PROVIDED BY USE OF FILTERING UNITS AND STORMCEPTORS PROVIDED WITH THE SWMF CONSTRUCTED AS PART OF SDP-74-125. QUANTITY CONTROL IS NOT REQUIRED AS THIS PROJECT IS CONSIDERED RE-DEVELOPMENT.
- THE FILTERRA UNITS AND STORMCEPTORS SHALL BE PRIVATELY OWNED AND MAINTAINED.
- THIS PROJECT IS EXEMPT FROM THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL BECAUSE THERE IS NO CLEARING PROPOSED.
- ALL LANDSCAPING REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL AND SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
- PERIMETER LANDSCAPING SHALL BE PROVIDED AS SHOWN ON THIS CERTIFIED LANDSCAPE PLAN IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL SURETY IN THE AMOUNT OF \$2,400.00 SHALL BE POSTED AS PART OF THE DEVELOPERS AGREEMENT FOR THIS SITE DEVELOPMENT PLAN SDP-10-016 INCLUDING:
  - \$2,400.00 FOR THE REQUIRED 80 SHRUBS
- ALL PROPOSED EXTERIOR LIGHTING SHALL BE DIRECTED/REFLECTED AWAY FROM ALL ADJACENT PUBLIC ROADS AND RESIDENTIAL ZONING DISTRICTS IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
- A TRAFFIC STUDY HAS NOT BEEN PROVIDED FOR THIS SITE DEVELOPMENT PLAN; THERE ARE NO PROPOSED IMPROVEMENTS OR CHANGES TO THE BUILDING AND ITS USE.
- TRAFFIC CONTROL DEVICES, MARKING AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY OWNED RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL PERFORATED, SQUARE TUBE POST (14 ga.) INSERTED INTO A 2-1/2" GALVANIZED STEEL PERFORATED, SQUARE TUBE POST (12 ga.) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY, PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE BUILDER'S AND/OR DEVELOPER'S EXPENSE.
- UNLESS NOTED AS "PRIVATE", ALL EASEMENTS ARE PUBLIC.
- BRL INDICATES BUILDING RESTRICTION LINE.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- PREVIOUS APPLICABLE HO. CO. DPZ FILE REFERENCES FOR THIS PROJECT INCLUDE:
  - AA-09-001, SDP-74-125, F-74-110, F-73-053, CONTR. #532-D, WP-11-203.
- AA-CASE NO. 09-001 DECISION AND ORDER DATED MARCH 11, 2009 ORDERED THAT THE PETITION OF J2J, LLC BE APPROVED FOR AN ADMINISTRATIVE ADJUSTMENT FROM SECTION 123.D.2(g) OF THE HOWARD COUNTY ZONING REGULATIONS TO REDUCE THE 30 FOOT PARKING AND USE FROM A PUBLIC ROAD RIGHT-OF-WAY TO 24 FEET TO RECONFIGURE AND ADD PARKING.
- VARIANCE (10-019V) WAS APPROVED ON OCTOBER 5, 2010, REDUCING THE REAR SETBACK FROM 150 TO 42.9 FEET PROVIDED THAT 1. THE VARIANCE SHALL APPLY ONLY TO THE SETBACK REDUCTION AS DESCRIBED IN THE PETITION VARIANCE, AND NOT TO ANY NEW STRUCTURES, USES, OR CHANGE IN USES ON THE SUBJECT PROPERTY TO ANY ADDITIONS THERETO; 2. THE EXISTING LANDSCAPE BUFFER SHALL BE RETAINED TO THE MAXIMUM EXTENT POSSIBLE, OR REPLANTED WHERE NECESSARY.
- WP-11-203 APPROVED ON AUGUST 3, 2011 ESTABLISHED A NEW DEADLINE OF DECEMBER 13, 2010 FOR EXECUTION OF THE DEVELOPER AGREEMENT AND SUBMISSION OF THE SDP ORIGINALS BY DECEMBER 13, 2011.

# ROUTE ONE HUNDRED BUSINESS PARK BLOCK "D", PARCEL "E-1" 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND SITE DEVELOPMENT PLAN

**BENCH MARKS NAD '83**

HO. CO. 371D	ELEV. 157.343
STAMPED DISC ON CONCRETE MONUMENT, RT. 1 AND TROY HILL, WEST SIDE OF RT. 1	
N 556907.4059	E 1.384481.0151
HO. CO. 371E	ELEV. 143.616'
STAMPED DISC ON CONCRETE MONUMENT, RT. 1 TROY HILL, JUST NORTH OF PIPELINE RIGHT-OF-WAY, WEST SIDE OF RT. 1.	
N 555617.7903	E 1.138286.1700
HO. CO. 371M7	ELEV. 146.705
3/4" REBAR - NORTHEAST CORNER OF AMBERTON RD. AND ST. THOMAS RD.	



**Drainage Area Summary Table**

STUDY POINTS (DRAINAGE AREAS)	EXISTING DISCHARGE (CFS)		DEVELOPED DISCHARGE (CFS) WITHOUT CN CREDIT	
	1YR	10YR	1YR	10YR
#1	0.73	2.48	4.08	1.17
#2	0.17	0.59	0.98	0.43
#3	0.41	1.76	3.07	1.34
#4				
<b>Total</b>				

**Water Quality and Ground Water Recharge Summary Table**

STUDY POINTS (DRAINAGE AREAS)	Water Quality (WQv)		Ground Water Recharge (Gv)	
	Req'd (c.f.)	Provided (c.f.)	Req'd (c.f.)	Provided (c.f.)
#1	986	1775*	283	546**
#2	432	0*	166	0**
#3	276	276	36	0**
#4	483	483	61	0**
<b>Total</b>	2177	2534	546	546

\* DA #3 - This drainage area is the only area that was evaluated for Gv because a small portion of the area is outside of the original LOP and therefore considered "further" development. Analysis of this area determined that the run-off is less than 2 c.f.s. and therefore Gv is not required and not provided.

\*\* The ground water recharge requirement for DA #2, #3 and #4 is addressed within the stone chamber located in DA #1. The reason for this method is explained in further detail in the following sections.

**Summary of General Storage Requirement Drainage Area #1**

Requirement	Volume Required (ac-ft)	Notes
Water Quality Volume (WQv)	0.0226	Water Quality treatment will be provided using a Stormceptor® Unit
Recharge Volume (Rv)	0.081 ac-ft	Provided in offline stone chamber in DA #1
Channel Protection Volume (Cp)	N/A	EXEMPT - Redevelopment
Overflow Flood Protection Volume (Op)	N/A	Not required
Extreme Flood Volume (Ov)	N/A	Not required

**Summary of General Storage Requirement Drainage Area #2**

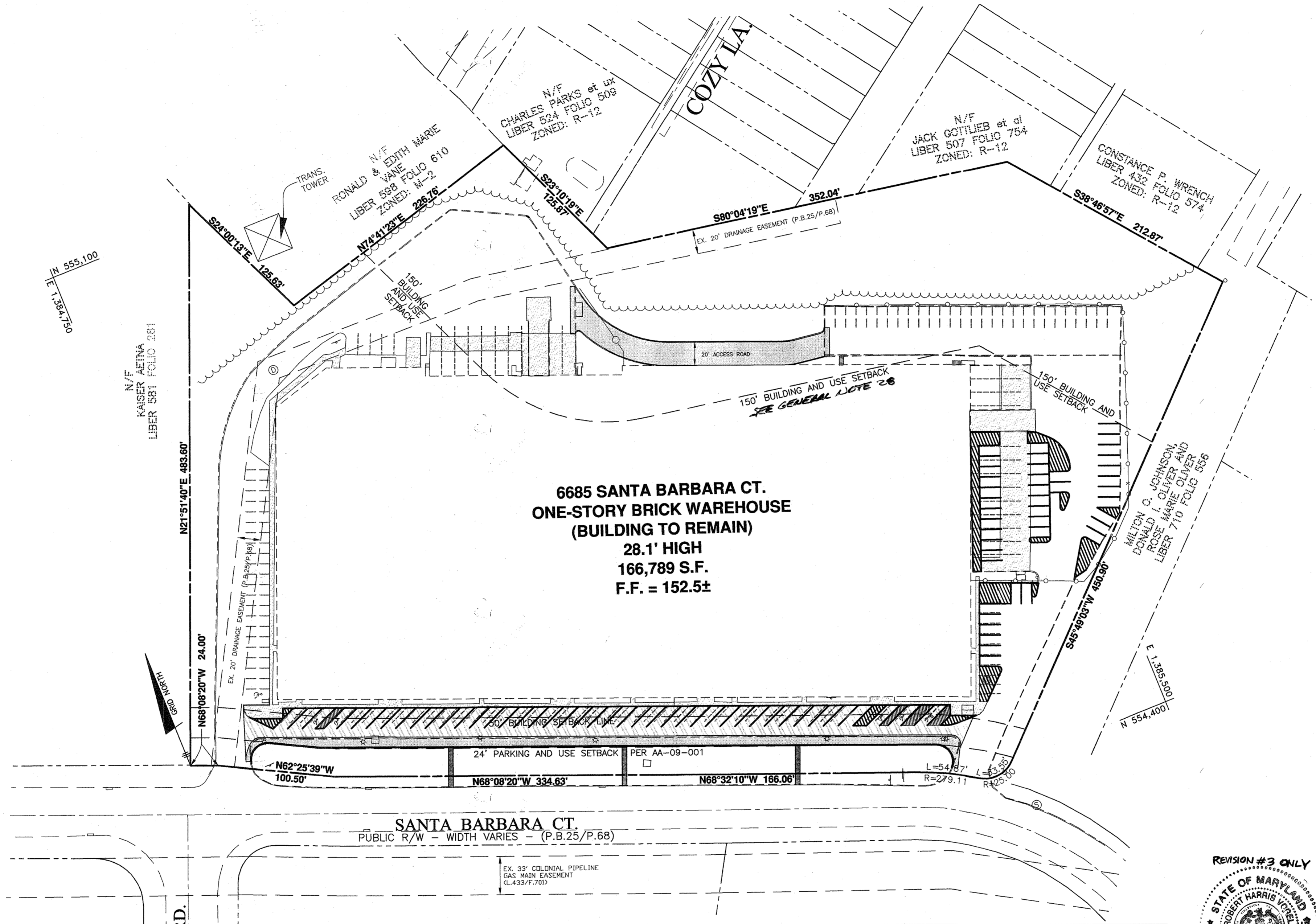
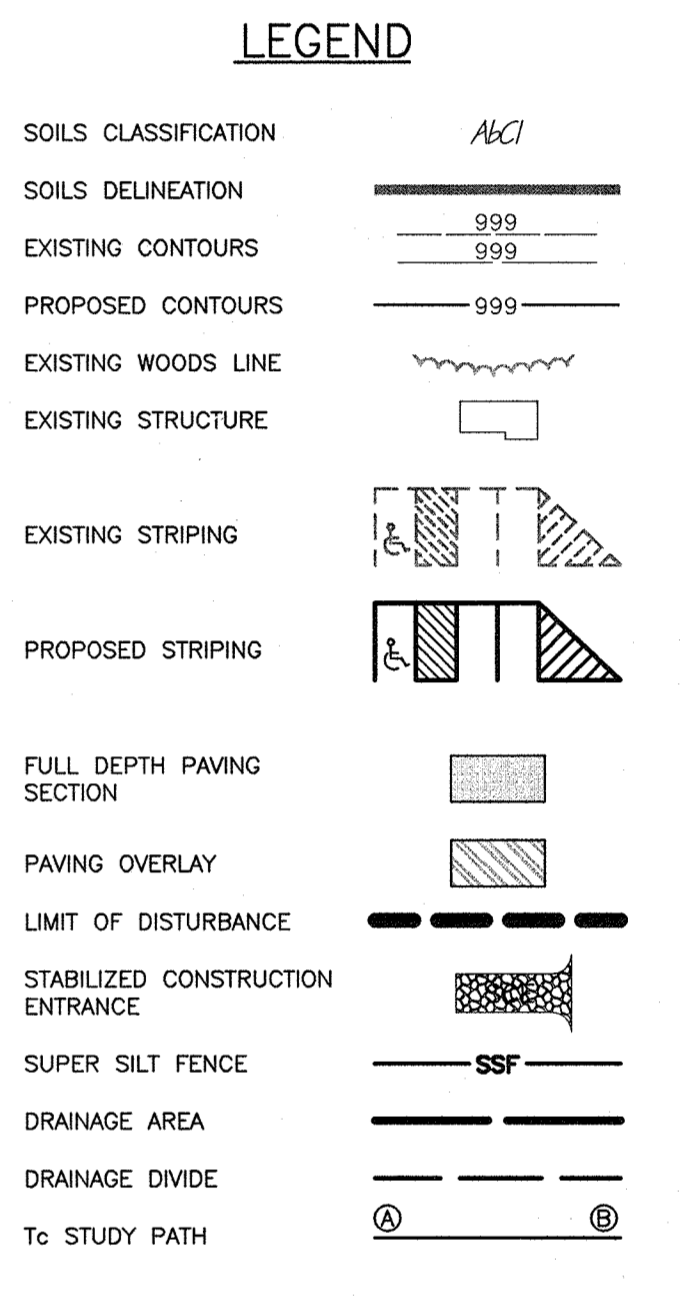
Requirement	Volume Required (ac-ft)	Notes
Water Quality Volume (WQv)	0.0099	Water Quality treatment will be provided using a Stormceptor® Unit in DA #1
Recharge Volume (Rv)	0.0098 (166 c.f.)	Provided in offline stone chamber in DA #1
Channel Protection Volume (Cp)	N/A	EXEMPT - Redevelopment
Overflow Flood Protection Volume (Op)	N/A	Not required
Extreme Flood Volume (Ov)	N/A	Not required

**Summary of General Storage Requirement Drainage Area #3**

Requirement	Volume Required (ac-ft)	Notes
Water Quality Volume (WQv)	0.0093	Water Quality treatment will be provided using a Stormceptor® Unit
Recharge Volume (Rv)	0.0098 (166 c.f.)	Provided in offline stone chamber in DA #1
Channel Protection Volume (Cp)	N/A	EXEMPT - Redevelopment
Overflow Flood Protection Volume (Op)	N/A	1-year flow less than 2 c.f.s.
Extreme Flood Volume (Ov)	N/A	Not required

**Summary of General Storage Requirement Drainage Area #4**

Requirement	Volume Required (ac-ft)	Notes
Water Quality Volume (WQv)	0.0111	Water Quality treatment will be provided using a Stormceptor® Unit
Recharge Volume (Rv)	0.0114 (c.f.)	Provided in infiltration trench
Channel Protection Volume (Cp)	N/A	EXEMPT - Redevelopment
Overflow Flood Protection Volume (Op)	N/A	1-year flow less than 2 c.f.s.
Extreme Flood Volume (Ov)	N/A	Not required



**SITE ANALYSIS DATA/TABULATION**

**GENERAL SITE DATA**

- PRESENT ZONING: B-2
- LOCATION: TAX MAP-38 GRID-19 PARCEL 857
- APPLICABLE DPZ FILE REFERENCES: AA-09-001, SDP-74-125, F-74-110, F-73-053, CONTR. #532-D, WP-11-203
- DEED REFERENCE: L.9779/F.207 (P.B.29/F.99)
- PROPOSED USE OF SITE: WAREHOUSE/OFFICE
- PROPOSED WATER AND SEWER SYSTEMS: PUBLIC

**AREA TABULATION**

- TOTAL AREA OF SITE: 8.89 AC.
- AREA OF 100 YR. FLOODPLAIN: N/A
- NET AREA OF SITE: 8.89 AC.
- AREA OF THIS PLAN SUBMISSION: 8.89 AC.
- APPROXIMATE LIMIT OF DISTURBANCE: 1.20 AC.
- BUILDING COVERAGE OF SITE (PERMITTED): N/A
- BUILDING COVERAGE OF SITE (PROPOSED): N/A

**OPEN SPACE DATA**

- OPEN SPACE ON SITE(0.0%): N/A
- AREA OF RECREATION OPEN SPACE REQUIRED BY SUBDIVISION & LAND DEVELOPMENT REGULATIONS: N/A
- ACRES REQUIRED: N/A
- ACRES PROVIDED: N/A

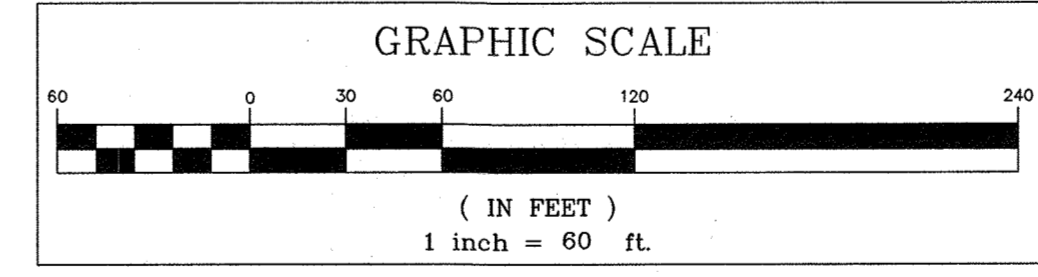
**PARKING SPACE DATA**

- FLOOR SPACE ON EACH LEVEL PER BUILDING(S) PER USE: 166,789 S.F.
- NUMBER OF PARKING SPACES REQUIRED BY ZONING REGULATIONS AND/OR FDP CRITERIA:
  - OFFICE SPACE=13,000SF X 3.3 SPACES/1,000SF..... 43
  - WAREHOUSE/DIST.=153,789SF X 0.5 SPACES/1,000SF. 77
  - TOTAL NUMBER OF SPACES REQUIRED.....120
- TOTAL NUMBER OF EXISTING PARKING SPACES ON-SITE: 148 (INCL. 1 HC & 21 TRUCK)
- TOTAL NUMBER OF EXISTING PARKING SPACES REMOVED PER SDP: 31 (INCL. 10 TRUCK)
- TOTAL NUMBER OF PARKING SPACES ADDED ON-SITE PER SDP: 34 (INCL. 5 HC)
- TOTAL NUMBER OF PARKING SPACES ON-SITE PER SDP: 151 (INCL. 5 HC w/2 VAN ACCESS & 11 TRUCK)

**SHEET INDEX**

NO.	DESCRIPTION
1	TITLE SHEET, NOTES AND DETAILS
2	SITE DEVELOPMENT PLAN, NOTES AND DETAILS
3	SITE DEVELOPMENT PLAN, PROFILES, NOTES AND DETAILS
4	SEDIMENT & EROSION CONTROL PLAN, NOTES AND DETAILS
5	SEDIMENT & EROSION CONTROL NOTES AND DETAILS
6	STORM DRAINAGE AREA MAP
7	STORM DRAIN PROFILES, NOTES AND DETAILS
8	STORM DRAIN PROFILES, NOTES AND DETAILS
9	PRIVATE STORMWATER MANAGEMENT PROFILES, NOTES AND DETAILS
10	LANDSCAPE PLAN, NOTES AND DETAILS

**PLAN VIEW**  
SCALE: 1" = 60'



**ADDRESS CHART**

LOT	STREET ADDRESS
E-1	6685 SANTA BARBARA COURT

**PERMIT INFORMATION CHART**

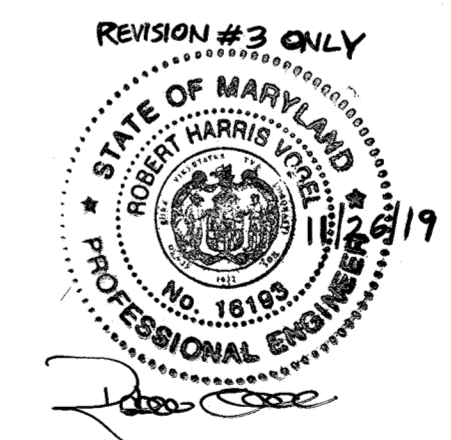
SUBDIVISION NAME:		SECTION/AREA:	LOT/PARCEL #		
6685 SANTA BARBARA COURT		N/A	E-1		
PLAT No.	GRID No.	ZONE	TAX MAP	ELECTION DISTRICT	CENSUS TRACT
N/A	19	M-2	38	1	601202
WATER CODE	SEWER CODE				
N/A	N/A				

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 9/21/11  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* 9/21/11  
CHIEF, DIVISION OF LAND DEVELOPMENT

*[Signature]* 9/21/11  
DIRECTOR



NO.	DATE	REVISION
3	11-26-19	TO ADD ROOFTOP SOLAR PANELS

**BENCHMARK ENGINEERING, INC.**

8480 BALTIMORE NATIONAL PIKE SUITE 418  
ELLICOTT CITY, MARYLAND 21043  
PHONE: 410-465-6105 FAX: 410-465-6644  
www.bei-civilengineering.com

Professional Certification I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28539, Expiration Date: 7-22-2013

OWNER/DEVELOPER: J2J, LLC.  
6685 SANTA BARBARA COURT  
ELKRIDGE, MARYLAND 21075  
443-459-5080

PROJECT: **ROUTE ONE HUNDRED BUSINESS PARK BLOCK "D" PARCEL "E-1"**

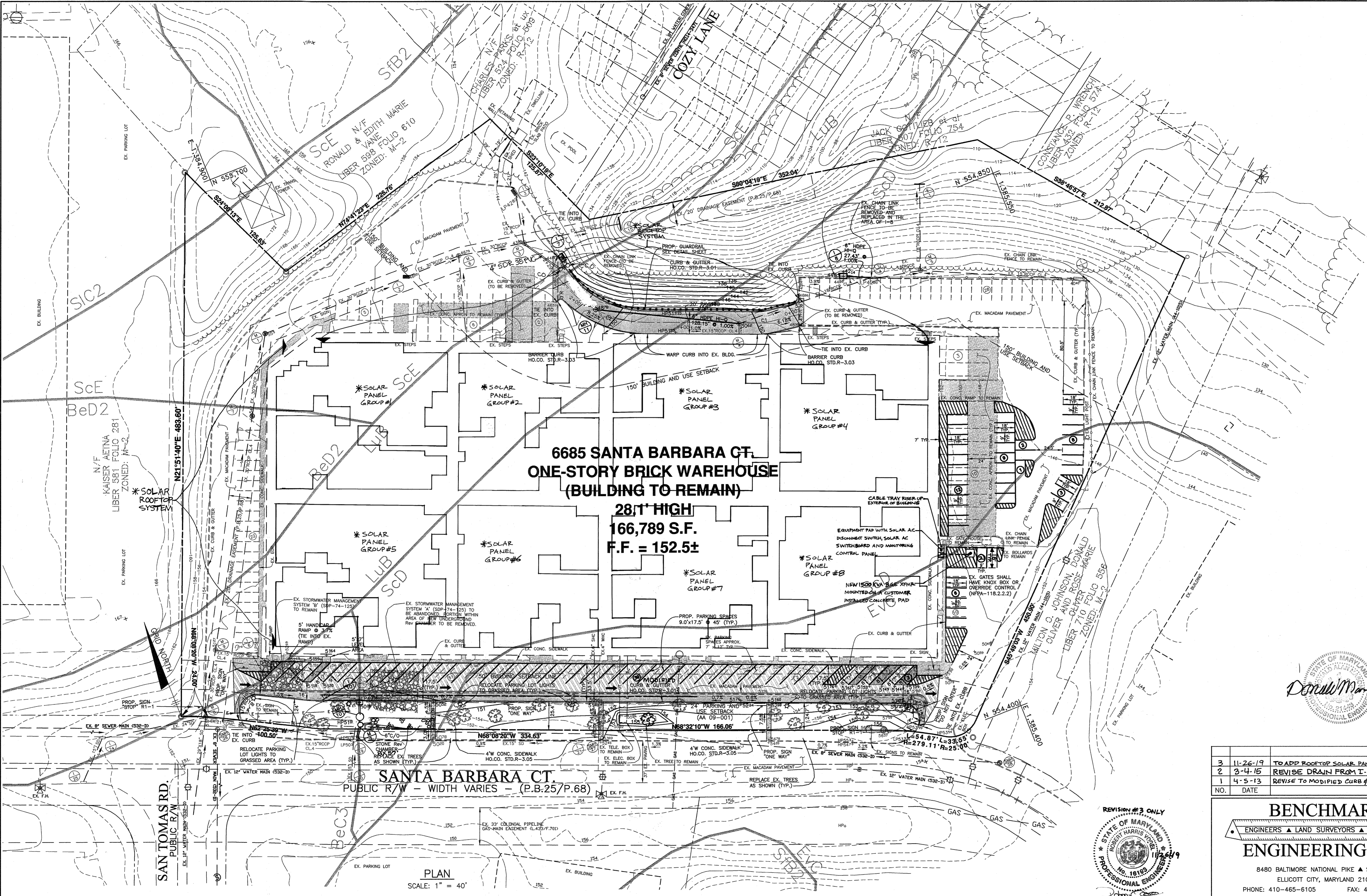
LOCATION: TAX MAP-38 GRID-19 PARCEL 857  
1st ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: TITLE SHEET NOTES AND DETAILS

DATE: AUGUST 25, 2009  
AUGUST, 2011

PROJECT NO. 2168

SCALE: AS SHOWN SHEET 1 OF 10

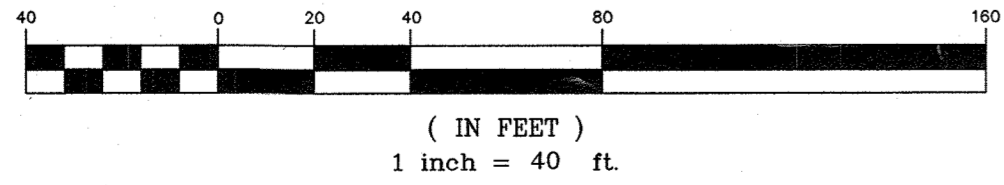


**6685 SANTA BARBARA CT.  
ONE-STORY BRICK WAREHOUSE  
(BUILDING TO REMAIN)**

**28' HIGH  
166,789 S.F.  
F.F. = 152.5±**

**SANTA BARBARA CT.  
PUBLIC R/W - WIDTH VARIES - (P.B.25/P.68)**

PLAN  
SCALE: 1" = 40'



**\*NOTE:**  
THE MAXIMUM HEIGHT OF THE SOLAR PANELS FROM THE GROUND IS 29'±  
(28.1' FROM THE GROUND TO THE TOP OF THE BUILDING + 11.25' OF THE SOLAR PANELS  
FULLY EXTENDED AT A 10° TILT).

**LEGEND**

- SOILS CLASSIFICATION *ACI*
- SOILS DELINEATION
- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING WOODS LINE
- EXISTING STRUCTURE
- EXISTING STRIPING
- PROPOSED STRIPING
- FULL DEPTH PAVING SECTION
- PAVING OVERLAY
- LIMIT OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- SUPER SILT FENCE
- DRAINAGE AREA
- DRAINAGE DIVIDE
- TO STUDY PATH

**AS-BUILT CERTIFICATION**  
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.  
Donald Mason, P.E. No. 21448 Date 3-4-15

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 21443 Expiration Date: 12-21-16

NO.	DATE	REVISION
3	11-26-19	TO ADD ROOFTOP SOLAR PANELS
2	3-4-15	REVISE DRAIN FROM I-7 TO M-3 & STONE Rev CHAMBER CONFIGURATION
1	4-5-13	REVISE TO MODIFIED CURB & GUTTER FOR FRONTAGE

**BENCHMARK ENGINEERING, INC.**  
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS  
8480 BALTIMORE NATIONAL PIKE ▲ SUITE 418  
ELLCRIDGE CITY, MARYLAND 21043  
PHONE: 410-465-6105 FAX: 410-465-6644  
www.bei-civilengineering.com

STATE OF MARYLAND PROFESSIONAL ENGINEER ROBERT HARRIS VONDERHEID No. 18193

OWNER/DEVELOPER:	PROJECT:
J J J LLC 6685 SANTA BARBARA COURT ELKBRIDGE, MARYLAND 21075 443-459-5080	<b>ROUTE ONE HUNDRED BUSINESS PARK BLOCK "D" PARCEL "E-1"</b>
LOCATION:	TAX MAP-38 GRID-19 PARCEL 857 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE:	SITE DEVELOPMENT & LANDSCAPE PLAN, NOTES AND DETAILS
DATE:	AUGUST 25, 2009 PROJECT NO. 2168 AUGUST, 2011
DESIGN: BC/MR	DRAFT: BC/MR/HP CHECK: BC
SCALE: AS SHOWN	SHEET 2 OF 10

MAP SYMBOL	SOIL GROUP	SOIL TYPE
BeC3	C	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED
BeD2	C	BELTSVILLE SILT LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED
Evc	A	EVESBORO LOAMY SAND, 5 TO 15 PERCENT SLOPES
IuB	C	IUKA LOAM, LOCAL ALLUVIUM, 1 TO 5 PERCENT SLOPES
ScD	C	SANDY AND CLAYEY LAND, MODERATELY ERODED
ScE	C	SANDY AND CLAYEY LAND, MODERATELY STEEP
SIC2	D	SASSAFRAS LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED

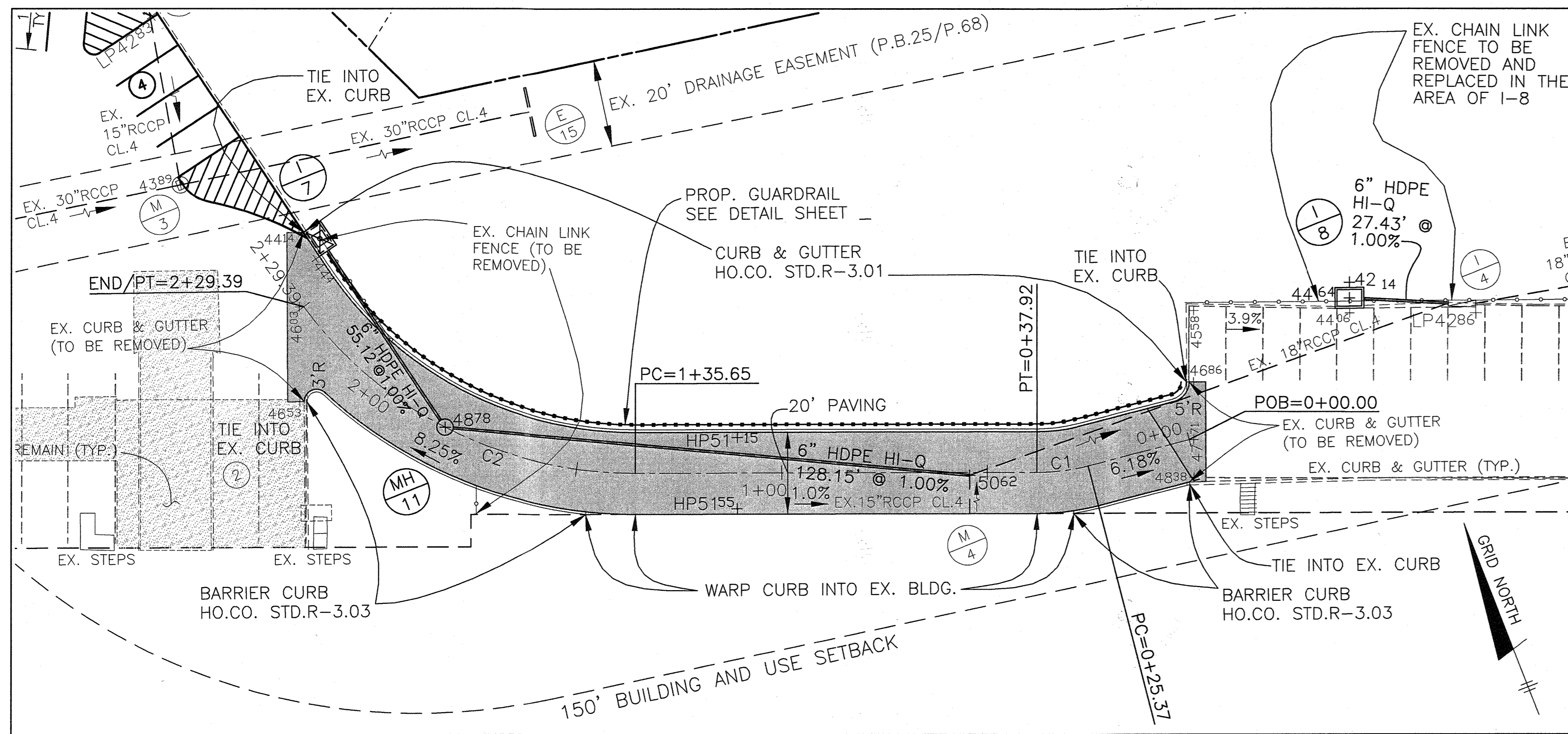
\* INDICATES HYDRIC SOILS  
TAKEN FROM SOILS SURVEY, ISSUED JULY 1968, MAP NOS. 26 & 31

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

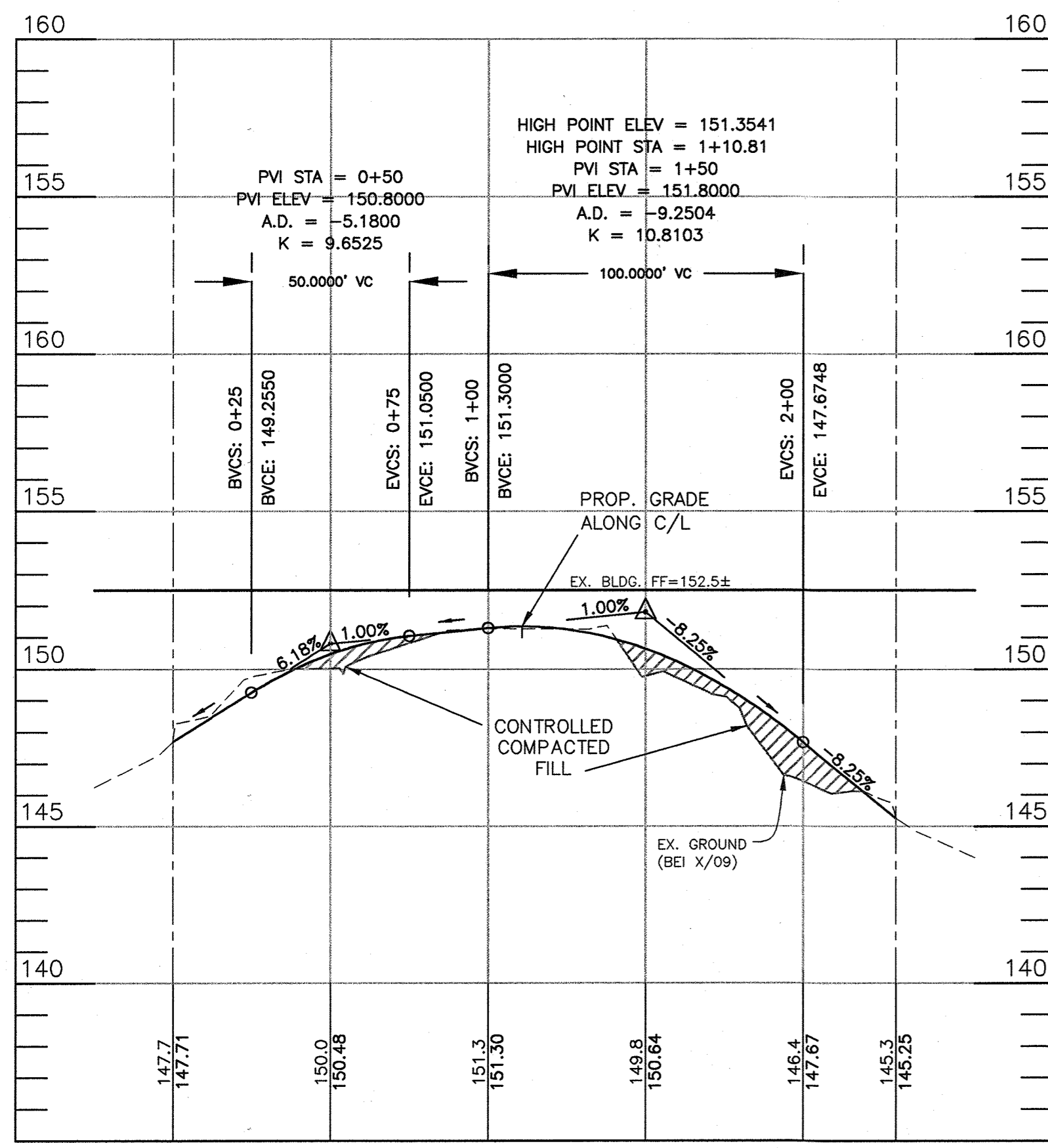
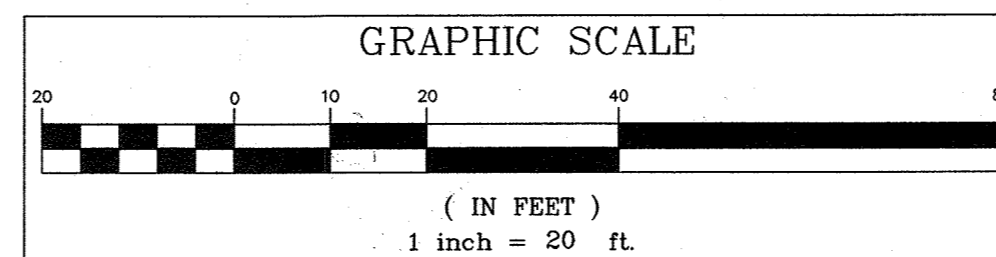
Chief, Development Engineering Division 9/23/11 DATE

Chief, Division of Land Development 9/26/11 DATE

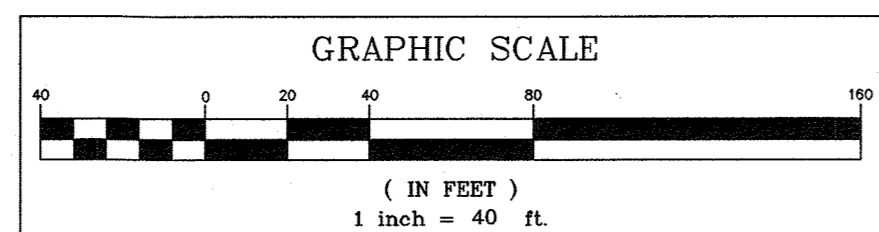
Director 9/23/11 DATE



PLAN VIEW - ACCESS ROAD  
SCALE: 1" = 20'

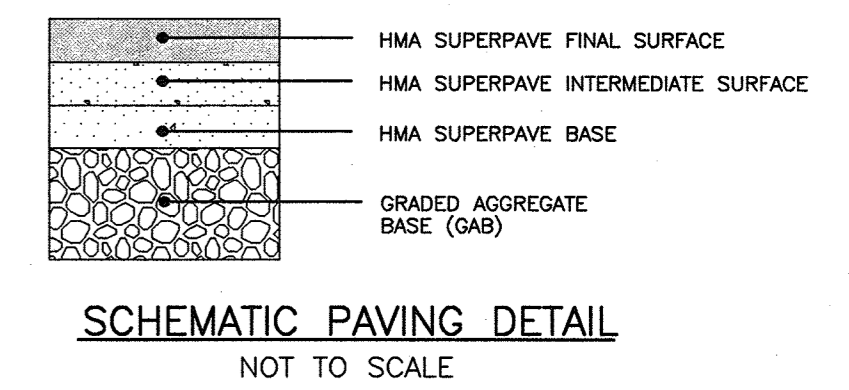


PROFILE - ACCESS ROAD  
HORIZONTAL SCALE: 1" = 40'  
VERTICAL SCALE: 1" = 4'

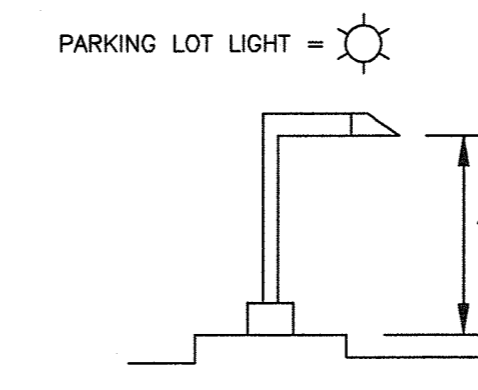


SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)						
		3 to <5	5 to <7	>7	3 to <5	5 to <7	>7	
P-2	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SAC: NON-RESIDENTIAL	PAVEMENT MATERIAL (INCHES)						
		HMA SUPERPAVE FINAL SURFACE 9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)	1.0	1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE BASE 9.0 MM PG 64-22, LEVEL 1 (LOW ESAL)	2.0	2.0	2.0	3.5	2.0	2.0
		GRADED AGGREGATE BASE (GAB)	8.0	4.0	3.0	4.0	4.0	4.0
P-3	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SAC: NON-RESIDENTIAL MINOR COLLECTORS: RESIDENTIAL	PAVEMENT MATERIAL (INCHES)						
		HMA SUPERPAVE FINAL SURFACE 9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)	1.0	1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE BASE 9.0 MM PG 64-22, LEVEL 1 (LOW ESAL)	3.0	3.0	3.0	4.5	3.0	2.0
		GRADED AGGREGATE BASE (GAB)	10.0	6.0	3.0	6.0	6.0	5.0

PAVING SPECIFICATIONS (HO.CO. STD R-2.01)



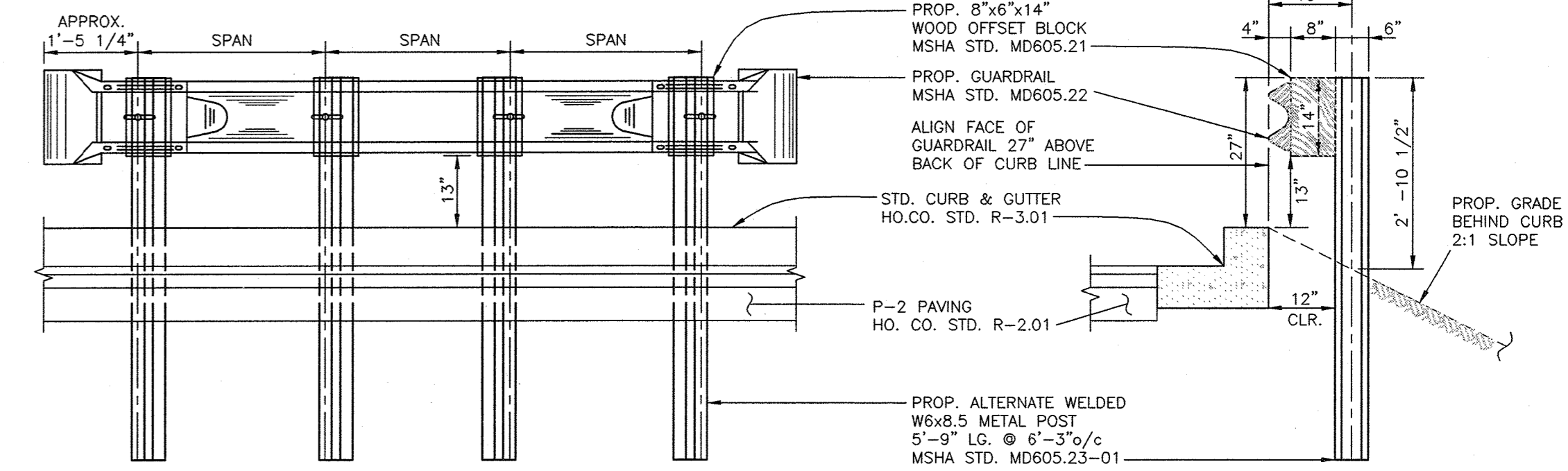
PARKING LOT LIGHTS:  
THE LIGHTS IN THE PARKING AREA ARE TO BE AS SHOWN IN THE SUPPLEMENTAL LIGHTING PLAN SUBMITTED WITH THE ARCHITECTURAL PLANS ANY LIGHTS IN THE PARKING AREAS ARE TO BE INSTALLED ON CONCRETE CYLINDERS (SEE SHEET 13 OF 14 FOR FOUNDATION DETAILS) ALL OUTDOOR LIGHTING SHALL COMPLY WITH THE REQUIREMENTS OF ZONING SECTION 134.



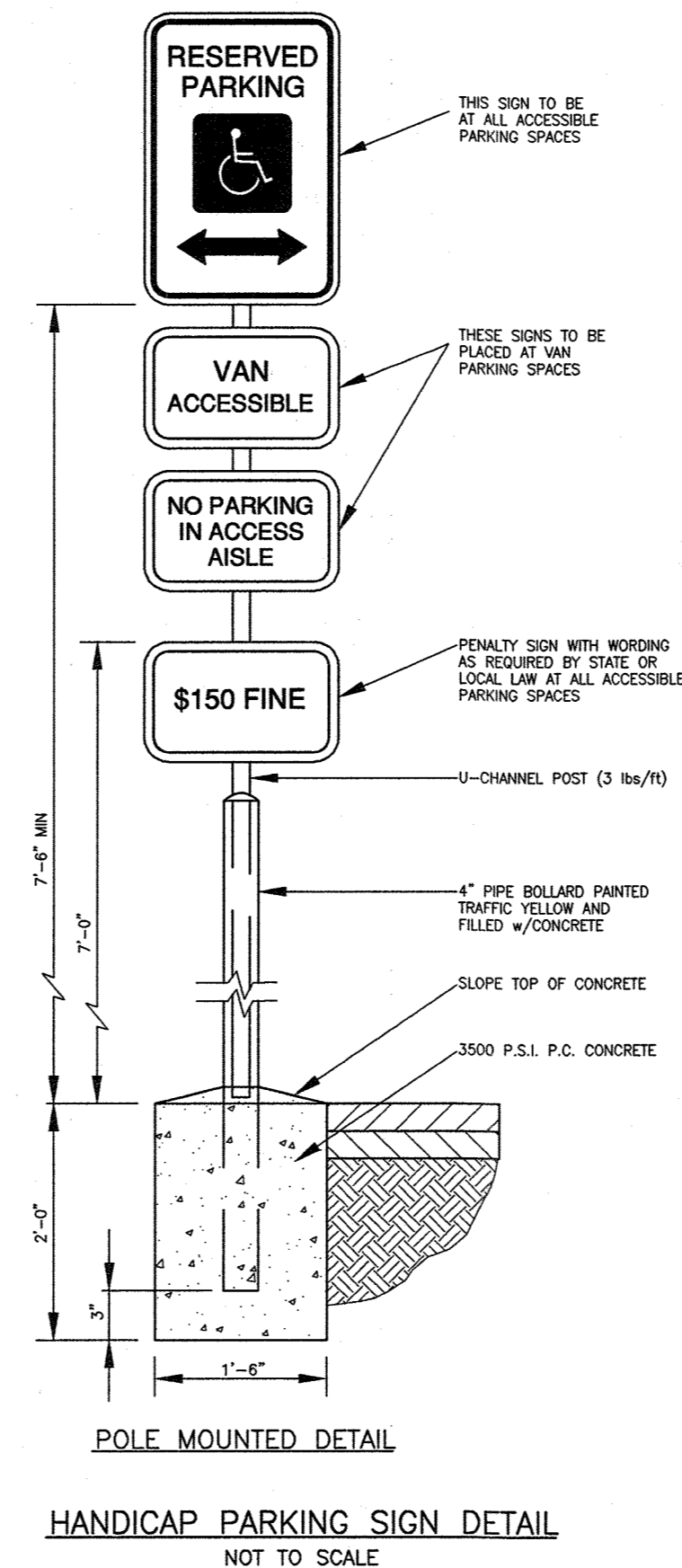
CENTERLINE CONTROL DATA - BEARINGS			
DESCRIPTION	STATIONS	BEARING	DISTANCE
POB - PC 50.0' HC	0+00.00 - 0+25.37	N82°28'38"W	25.37'
PT 50.0' HC - PC 100.0' HC	0+37.92 - 1+35.65	N68°05'44"W	97.73'

CENTERLINE CONTROL DATA - COORDINATES			
DESCRIPTION	STATION	NORTH	EAST
POB = EX. PARKING AREA	0+00.00	554,795.8838	1,385,343.7117
PC 50.0' HC	0+25.37	554,799.2053	1,385,318.5604
PT 50.0' HC	0+37.92	554,802.3945	1,385,306.4536
PC 100.0' HC	1+35.65	554,838.8434	1,385,215.7789
PT 100.0' HC = END	2+29.39	554,906.7788	1,385,156.2203

CENTERLINE CURVE DATA						
CURVE	STATION	RADIUS	ARC	DELTA	TANGENT	CHORD
C1	PC=0+25.37 PT=0+37.92	50.00'	12.55'	14°22'53"	6.31'	S75°17'11"E 12.52'
C1	PC=1+35.65 PT=2+29.39	100.00'	93.74'	53°42'35"	50.63'	S41°14'27"E 90.35'



FRONT VIEW  
GUARDRAIL DETAIL  
NOT TO SCALE



HANDICAP PARKING SIGN DETAIL  
NOT TO SCALE

NO.	DATE	REVISION

**BENCHMARK**  
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS  
**ENGINEERING, INC.**

8480 BALTIMORE NATIONAL PIKE ▲ SUITE 418  
ELLCOTT CITY, MARYLAND 21043  
PHONE: 410-465-6105 FAX: 410-465-6644  
www.bei-civilengineering.com

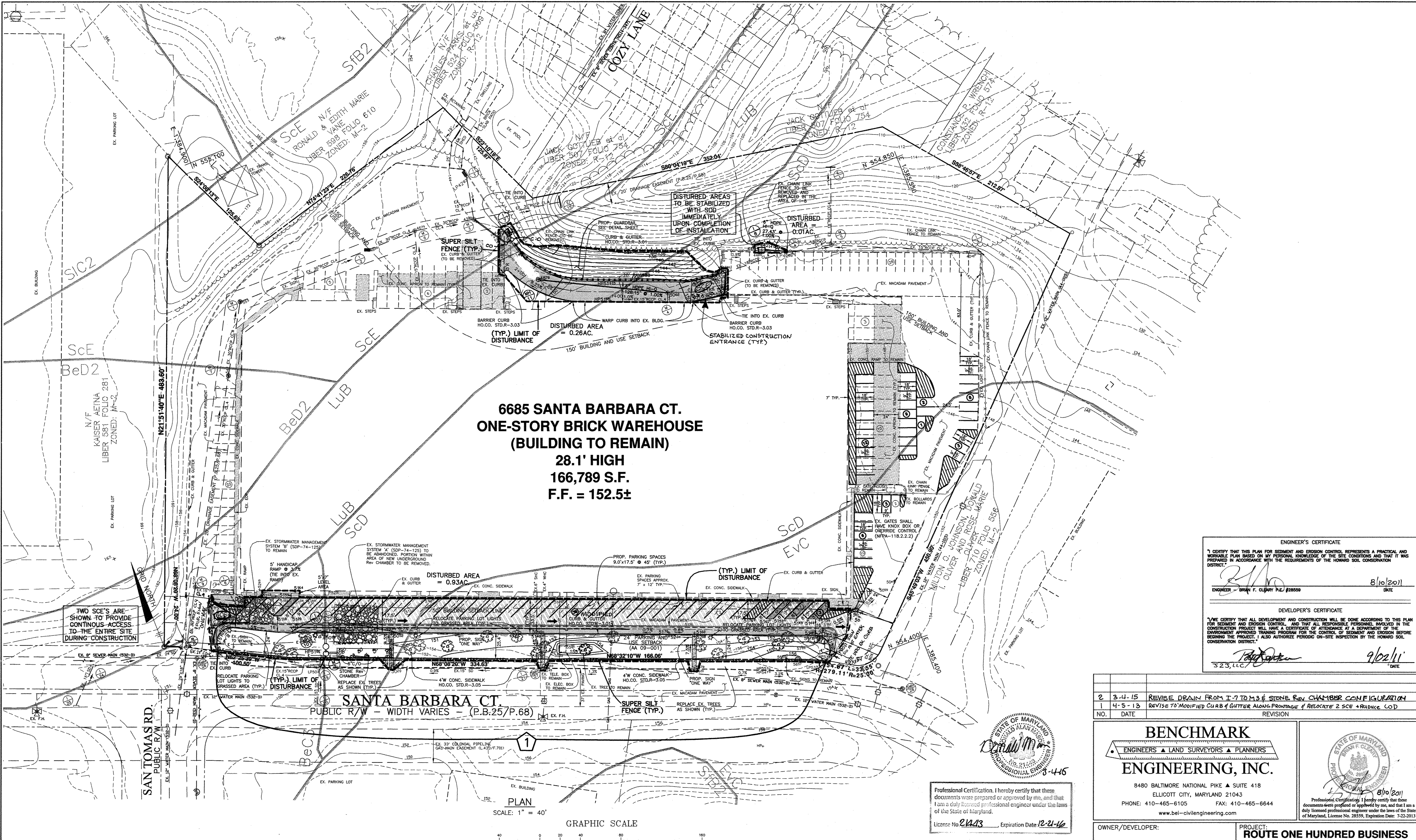
OWNER/DEVELOPER: <b>J 2 J LLC</b> 6685 SANTA BARBARA COURT ELKRIDGE, MARYLAND 21075 443-459-5080	PROJECT: <b>ROUTE ONE HUNDRED BUSINESS PARK BLOCK "D" PARCEL "E-1"</b>
LOCATION: TAX MAP-38 GRID-19 PARCEL 857 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: <b>SITE DEVELOPMENT PLAN, PROFILES, NOTES, AND DETAILS</b>
DATE: AUGUST 25, 2009 AUGUST, 2011	PROJECT NO. 2168
DESIGN: BC/MR DRAFT: BC/MR/HP CHECK: BC	SCALE: AS SHOWN SHEET 3 OF 10

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 8/23/11  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 8/23/11  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 9/27/11  
DIRECTOR DATE



**6685 SANTA BARBARA CT.  
ONE-STORY BRICK WAREHOUSE  
(BUILDING TO REMAIN)  
28.1' HIGH  
166,789 S.F.  
F.F. = 152.5±**

**ENGINEER'S CERTIFICATE**  
I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
*[Signature]* 8/10/2011  
ENGINEER - BRIAN F. CLARY P.E. #28550 DATE

**DEVELOPER'S CERTIFICATE**  
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*[Signature]* 9/21/11  
DATE

NO.	DATE	REVISION
2	3-4-15	REVISE DRAIN FROM T-7 TO M3 & STONE ROW CHAMBER CONFIGURATION
1	4-5-13	REVISE TO MODIFIED CURB & GUTTER ALONG FRONTAGE & RELOCATE 2 SCE + REDUCE LOD

**BENCHMARK ENGINEERING, INC.**  
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8480 BALTIMORE NATIONAL PIKE • SUITE 418  
ELLCOTT CITY, MARYLAND 21043  
PHONE: 410-465-6105 FAX: 410-465-6644  
www.bei-civilengineering.com

*[Professional Seal]* 8-4-16  
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 21443 Expiration Date: 12-21-16

**J2J, LLC**  
6685 SANTA BARBARA COURT  
ELKRIDGE, MARYLAND 21075  
443-459-5080

**OWNER/DEVELOPER:** J2J, LLC

**PROJECT:** ROUTE ONE HUNDRED BUSINESS PARK BLOCK "D" PARCEL "E-1"

**TITLE:** GRADING AND SEDIMENT & EROSION CONTROL PLAN

**LOCATION:** TAX MAP-38 GRID-19 PARCEL 857 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**DATE:** AUGUST 25, 2009 PROJECT NO. 2168  
AUGUST, 2011

**DESIGN:** BC/MR **DRAFT:** BC/MR/HP **CHECK:** BC **SCALE:** AS SHOWN **SHEET 4 OF 10**

**SOILS LEGEND**

MAP SYMBOL	SOIL GROUP	SOIL TYPE
BcC3	C	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED
BeD2	C	BELTSVILLE SILT LOAM, 10 TO 15 PRECUT SLOPES, MODERATELY ERODED
Evc	A	EVESBORO LOAMY SAND, 5 TO 15 PERCENT SLOPES
IuB	C	IUKA LOAM, LOCAL ALLUVIUM, 1 TO 5 PERCENT SLOPES
ScD	C	SANDY AND CLAYEY LAND, MODERATELY ERODED
ScE	C	SANDY AND CLAYEY LAND, MODERATELY STEEP
Sic2	D	SASSAFRAS LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED

\* INDICATES HYDRIC SOILS  
TAKEN FROM SOILS SURVEY, ISSUED JULY 1968, MAP NOS. 26 & 31

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 9/21/11  
DATE

*[Signature]* 9/21/11  
DATE

*[Signature]* 9/21/11  
DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*[Signature]* 9/21/11  
DATE

SEDIMENT CONTROL NOTES

- 1. A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION...
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL...
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

Table with 2 columns: Description and Value. Includes: TOTAL AREA OF SITE (THIS SUBMISSION) 8.89 ACRES, AREA DISTURBED 1.15 ACRES, AREA TO BE ROOFED OR PAVED 0.86 ACRES, AREA TO BE VEGETATIVELY STABILIZED 0.34 ACRES, TOTAL CUT 966 CY, TOTAL FILL - CY, OFFSITE WASTE/BORROW AREA LOCATION \*

TOPSOIL SPECIFICATIONS

- I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SSC in cooperation with Maryland Agricultural Experiment Station.
II. Topsoil Specifications - Soil to be used as topsoil must meet the following:
1. 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.
2. Topsoil must be free of plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nutcase, poison ivy, thistle, or others as specified.

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.

- V. Topsoil Application
I. When topsoiling, maintain needed erosion and sediment control practices such as diversions, grade stabilization structures, earth dikes, slope silt fence and sediment traps and basins.
ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, about 4" - 8" higher in elevation.

PERMANENT SEEDBED PREPARATIONS

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.
SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:
1. PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT) BEFORE SEEDING.
2. ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT) BEFORE SEEDING.

30.0 DUST CONTROL

Definition: Controlling dust blowing and movement on construction sites and roads.
Purpose: To prevent blowing and movement of dust from exposed soil surfaces, reduce on and off-site damage, health hazards, and improve traffic safety.
Conditions Where Practice Applies: This practice is applicable to areas subject to dust blowing and movement where on and off-site damage is likely without treatment.
Temporary Methods:
1. Mulches - See standards for vegetative stabilization with mulches only.
2. Vegetative Cover - See standards for temporary vegetative cover.
3. Tillage - To roughen surface and bring clods to the surface.
4. Irrigation - This is generally done as an emergency treatment.
5. Barriers - Solid board fences, silt fences, snow fences, barlog fences, straw bales, and similar material can be used to control air currents and soil blowing.
6. Calcium Chloride - Apply at rates that will keep surface moist. May need retreatment.

BORING LOG

BORING LOG table with columns: Elevation, Depth, Description of Materials (classification), Sample Blows, Sample Depth (feet), Moisture Content, and Remarks. Includes soil descriptions like 'Sod with organic root matter and organic soil' and 'Red with gray CLAY with trace fine sand, moist, stiff (CL) (USDA: SILTY CLAY LOAM)'.

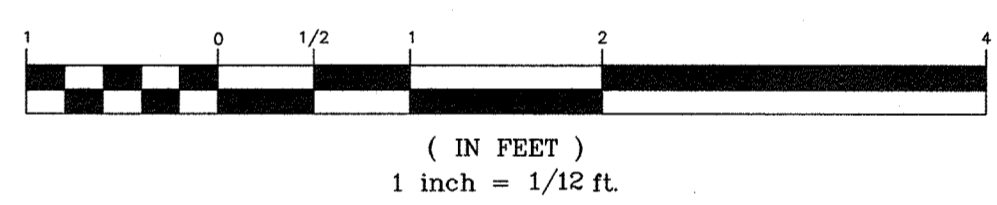
GEOLAB, INC

Field Infiltration Test Results

The infiltration (supplemental) hole was, after 24 hours, initially restored to a level of 2.0 feet of water at the start of this testing procedure. The water level was thereafter maintained for a period of 4 hours and checked hourly for fall. At the completion, the average hourly infiltration/percolation rate was calculated based on the recorded data. The average infiltration rate was as follows:

Table with 3 columns: Boring No., Infiltration Rate (inches per hour), and Depth of Pipe (feet). Row 1: B-1, 0.28, 12.0

GRAPHIC SCALE

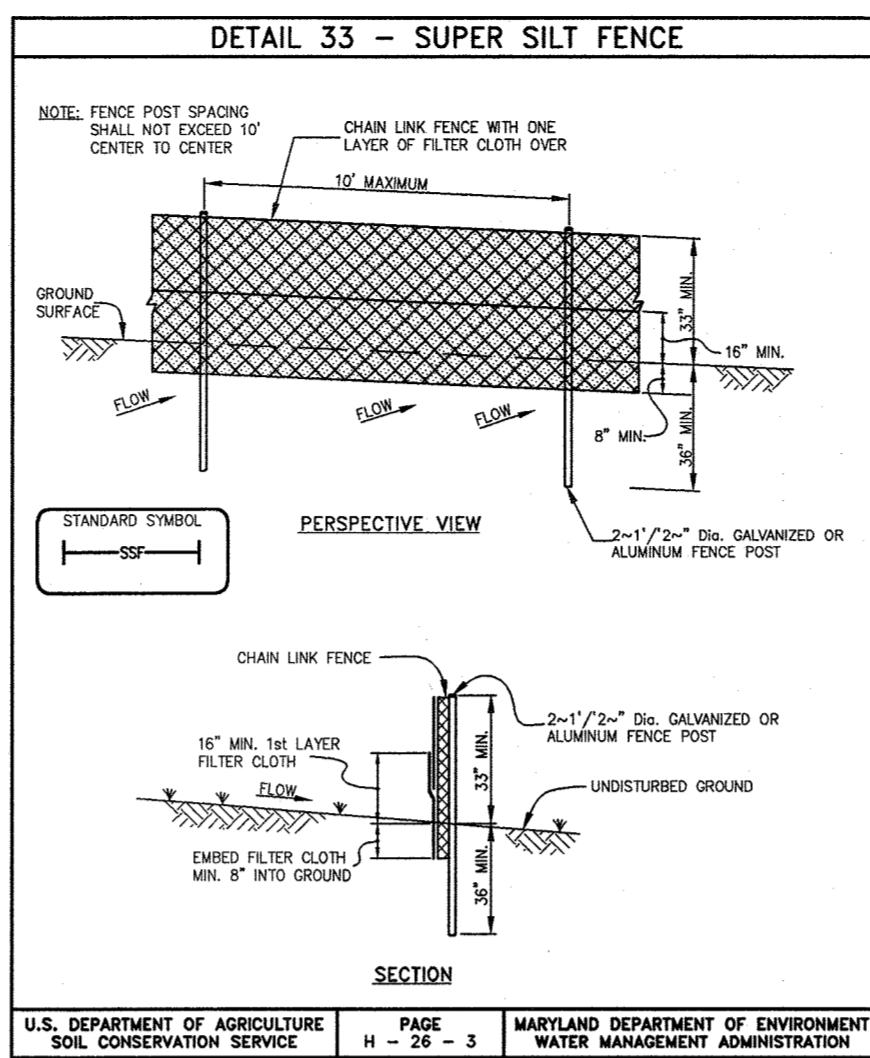


ENGINEER'S CERTIFICATE and DEVELOPER'S CERTIFICATE sections with signatures and dates.

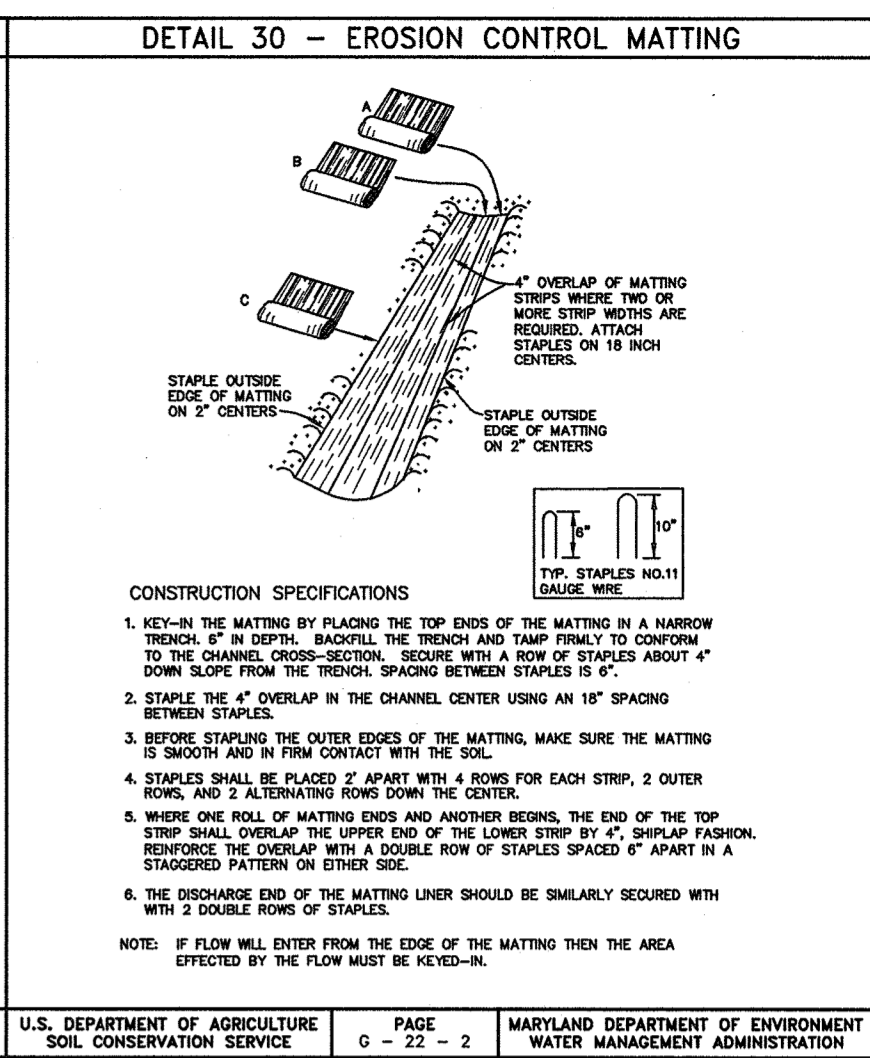
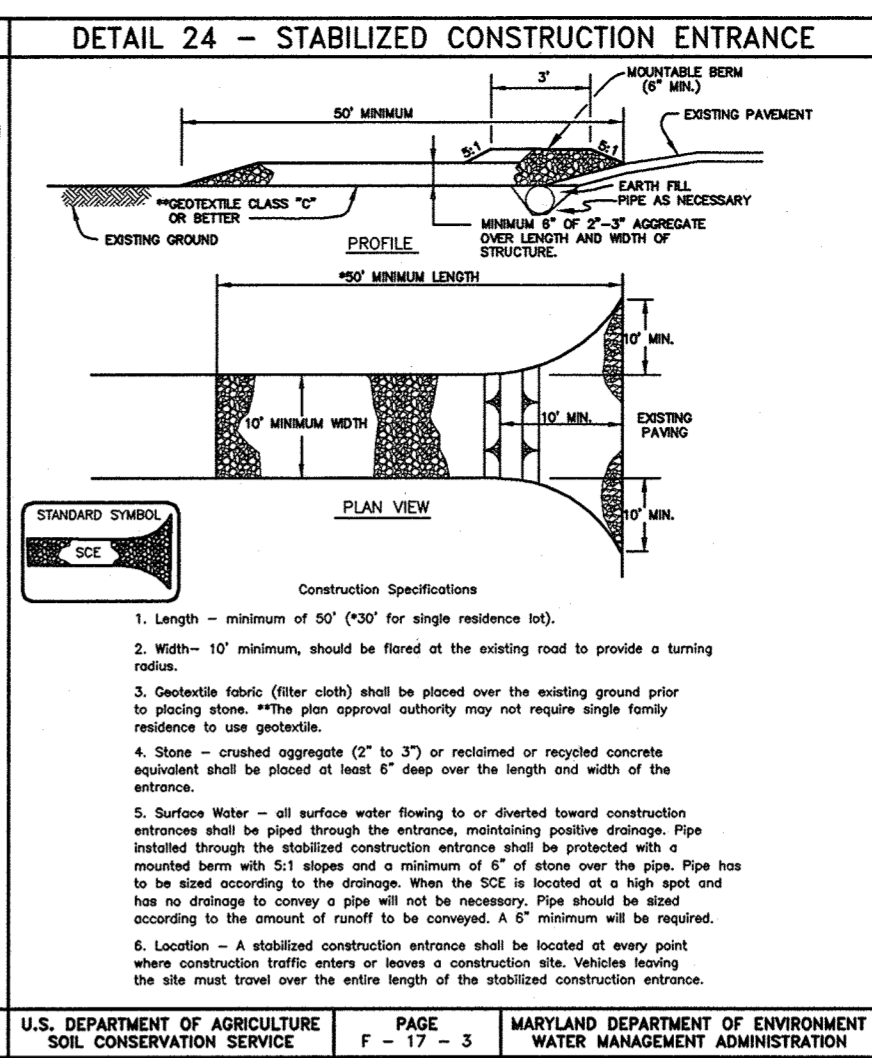
SEQUENCE OF CONSTRUCTION

- DAY 1 OBTAIN GRADING PERMIT
DAY 2-5 INSTALL SEDIMENT CONTROLS THAT ARE NOTED TO BE INSTALLED UNDER THIS SDP.
DAY 6 TEST PIT AREA OF EXISTING UTILITY CONNECTIONS TO DETERMINE EXACT LOCATIONS AND ELEVATIONS.
DAY 7-32 EXCAVATE FOR AND CONSTRUCT THE PROPOSED ACCESS ROAD STABILIZE, AND INSTALL FILTERRA UNIT INLETS & PIPING.
DAY 33-38 UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, CLEAR & GRUB AREA AT FRONT OF BUILDING.
DAY 39-60 EXCAVATE AND REMOVE EXISTING PAVING AT FRONT OF BUILDING STABILIZE, AND INSTALL FILTERRA UNIT INLETS & PIPING.
DAY 61-66 BRING DRIVEWAY TO SUBGRADE AND INSTALL BASE COURSE PAVING.
DAY 67-73 UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, COMPLETE REMAINING PAVING AND UTILITY INSTALLATION ACTIVITIES.
DAY 74-80 RE-INSTALL LANDSCAPING AS SPECIFIED ON THESE PLANS.
DAY 81-92 UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE REMAINING SEDIMENT CONTROL DEVICES AND PERMANENTLY STABILIZE ANY REMAINING DISTURBED AREAS.

Inlet 101 to be protected with inlet protection at the direction of the inspector.



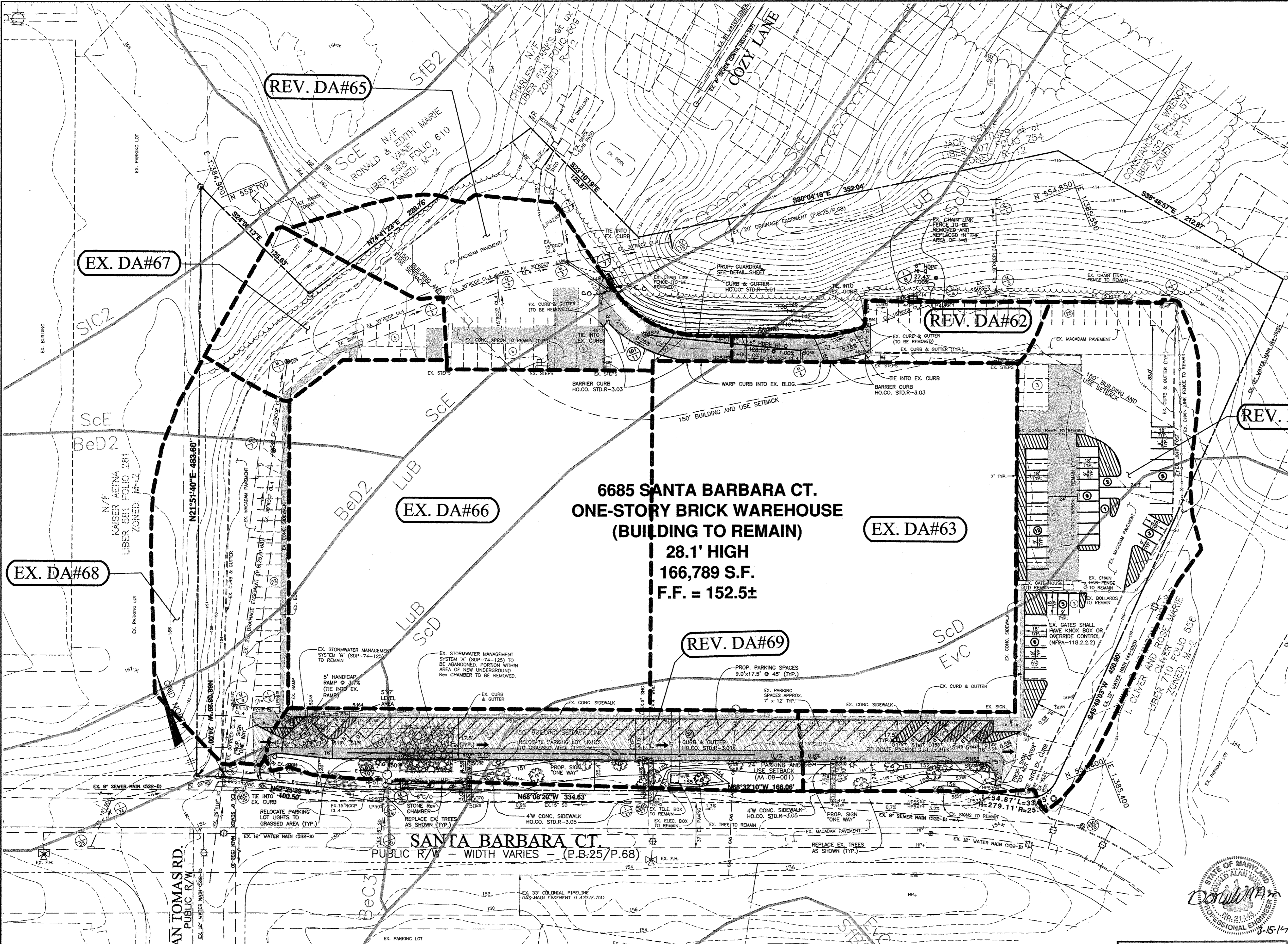
CONSTRUCTION SPECIFICATIONS for SUPER SILT FENCE. Includes list of 7 specifications and SUPER SILT FENCE DESIGN CRITERIA table.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. Includes signatures and dates of approval.

SOILS LEGEND table with columns: MAP SYMBOL, SOIL GROUP, SOIL TYPE, and SOIL DESCRIPTION. Includes entries for BeC3, BeD2, EvC, IuB, ScD, ScE, and SIC2.

BENCHMARK ENGINEERING, INC. logo and contact information. Includes address: 6885 SANTA BARBARA COURT, ELKBRIDGE, MARYLAND 21075. Also includes OWNER/DEVELOPER and PROJECT information for ROUTE ONE HUNDRED BUSINESS PARK BLOCK "D" PARCEL "E-1".



**6685 SANTA BARBARA CT.  
ONE-STORY BRICK WAREHOUSE  
(BUILDING TO REMAIN)**  
28.1' HIGH  
166,789 S.F.  
F.F. = 152.5±

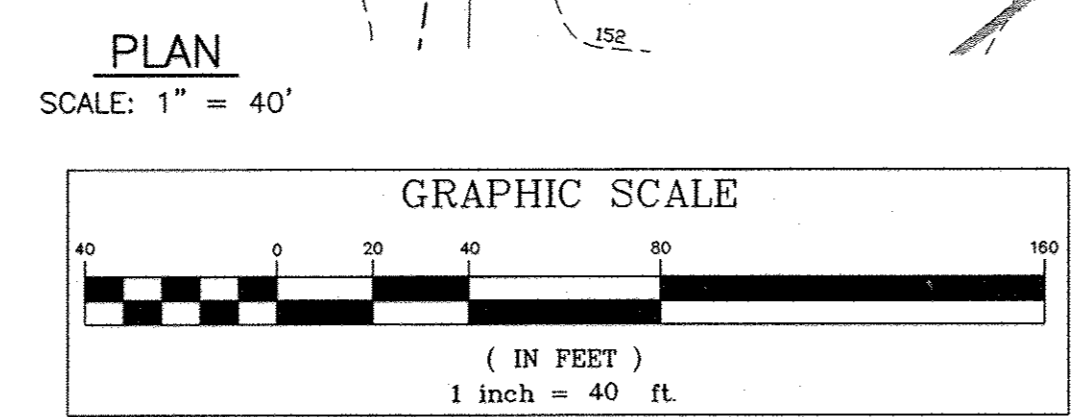
**STORM DRAINAGE AREA TABLE**

REV. DA#62	AC=0.21 C=0.69	REV. DA#62	72% IMP Zone= M-2
EX. DA#63	AC=1.97 C=0.69	EX. DA#63	100% IMP Zone= M-2
REV. DA#64	AC=1.37 C=0.68	REV. DA#64	72% IMP Zone= M-2
REV. DA#65	AC=0.63 C=0.69	REV. DA#65	72% IMP Zone= M-2
EX. DA#66	AC=1.91 C=0.69	EX. DA#66	100% IMP Zone= M-2
EX. DA#67	AC=0.36 C=0.69	EX. DA#67	72% IMP Zone= M-2
EX. DA#68	AC=0.73 C=0.69	EX. DA#68	72% IMP Zone= M-2
REV. DA#69	AC=0.60 C=0.68	REV. DA#69	72% IMP Zone= M-2

**SOILS LEGEND**

MAP SYMBOL	SOIL GROUP	SOIL TYPE
BeC3	C	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED
BeD2	C	BELTSVILLE SILT LOAM, 10 TO 15 PRECUT SLOPES, MODERATELY ERODED
EVC	A	EVESBORO LOAMY SAND, 5 TO 15 PERCENT SLOPES
LuB	C	IUKA LOAM, LOCAL ALLUVIUM, 1 TO 5 PERCENT SLOPES
ScD	C	SANDY AND CLAYEY LAND, MODERATELY ERODED
ScE	C	SANDY AND CLAYEY LAND, MODERATELY STEEP
SIC2	D	SASSAFRAS LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED

\* INDICATES HYDRIC SOILS  
TAKEN FROM SOILS SURVEY, ISSUED JULY 1968, MAP NOS. 26 & 31



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 21443 Expiration Date: 12-21-16

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* J.P. 9/23/16  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* 9/26/16  
CHIEF, DIVISION OF LAND DEVELOPMENT

*[Signature]* 9/23/16  
DIRECTOR

NO.	DATE	REVISION
1	3-4-15	REVISE DRAIN FROM I-7 TO EX M-3 & STONE. Rev CHAMBER CONFIGURATION

**BENCHMARK ENGINEERING, INC.**  
ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE • SUITE 418  
ELLCOTT CITY, MARYLAND 21043  
PHONE: 410-465-6105 FAX: 410-465-6644  
www.bei-civilengineering.com

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28559, Expiration Date: 7-22-2013.

OWNER/DEVELOPER: J 2 J, LLC  
6685 SANTA BARBARA COURT  
ELKBRIDGE, MARYLAND 21075  
443-459-5080

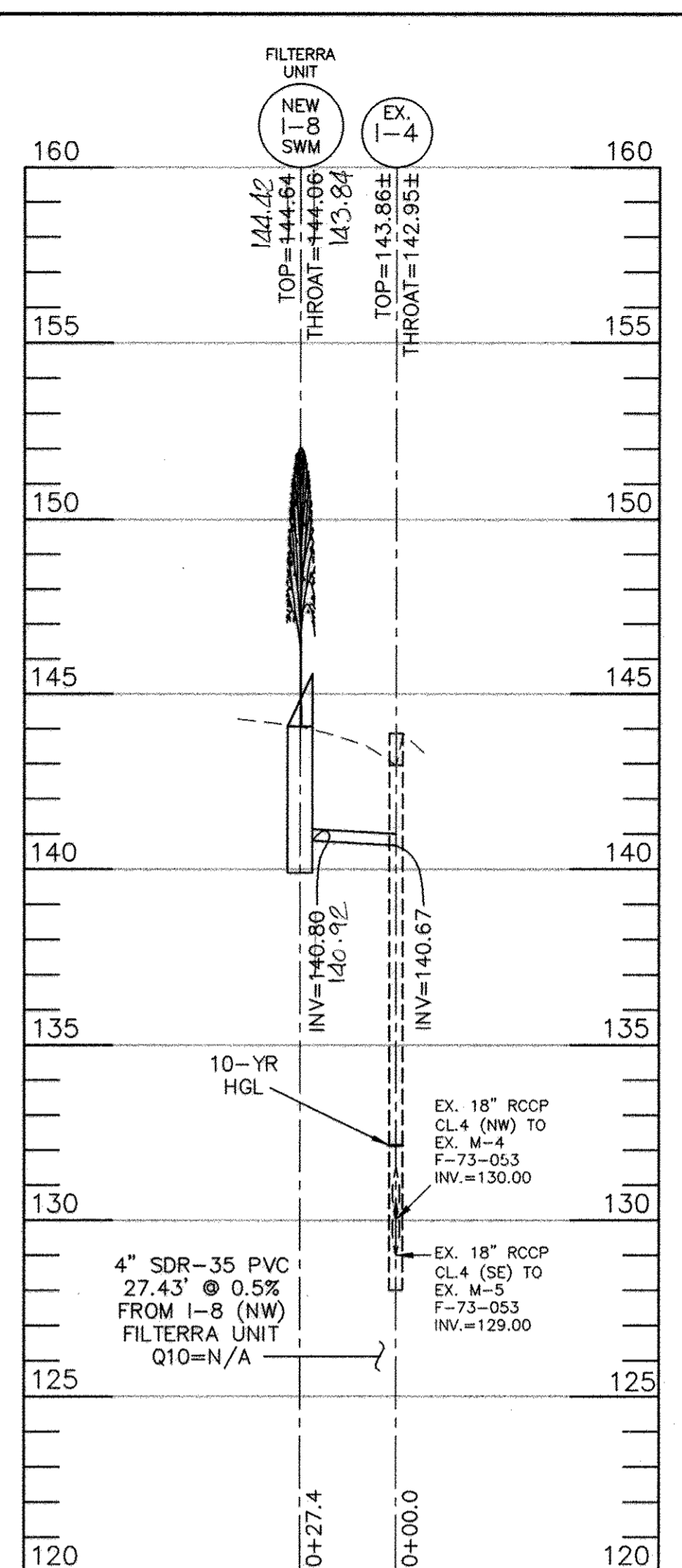
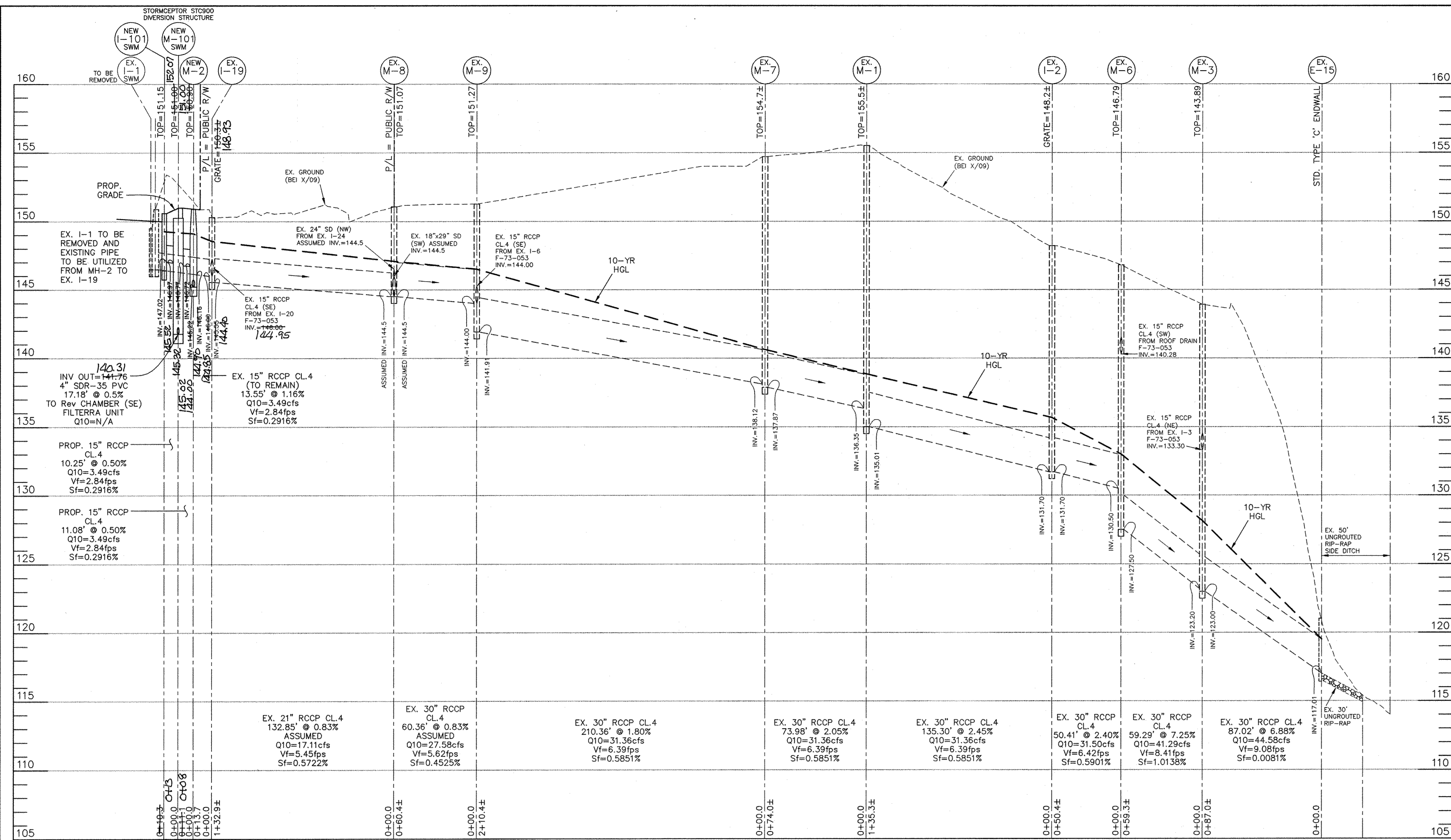
PROJECT: ROUTE ONE HUNDRED BUSINESS PARK BLOCK "D" PARCEL "E-1"

LOCATION: TAX MAP-38 GRID-19 PARCEL 857  
1st ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

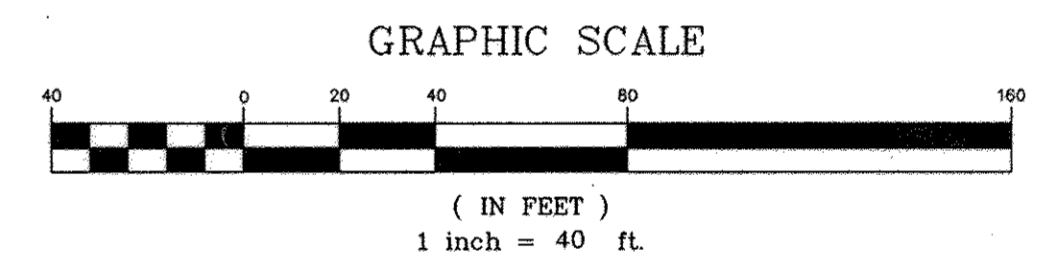
TITLE: STORM DRAIN DRAINAGE AREA MAP

DATE: AUGUST 25, 2009 PROJECT NO. 2168  
AUGUST, 2011

DESIGN: BC/MR DRAFT: BC/MR/HP CHECK: BC SCALE: AS SHOWN SHEET 6 OF 10



**STORM DRAIN PROFILE**  
VERTICAL SCALE: 1" = 4"  
HORIZONTAL SCALE: 1" = 40'



**AS-BUILT CERTIFICATION**  
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.  
Donald Mason, P.E. No. 21443 Date 3-4-15



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 21443, Expiration Date: 12-21-16

**STRUCTURE SCHEDULE**

NO.	COND.	TYPE	LOCATION	INVERT IN	INVERT IN	INVERT	INVERT OUT	TOP ELEV.	THROAT EL.	HO. CO.	STD.	REMARKS	INTERIOR DIMS.	MAINT.
I-2	EXIST.	TYPE "S"	N 554,955.8405 E 1,385,030.7796	131.70	-	-	131.70	148.2	GRATE	-	-	"DOGHOUSE" OVER EX. PIPE SDP-74-125	-	PRIVATE
I-3	EXIST.	DBLE. "S" COMB.	N 554,990.6118 E 1,385,147.5108	-	-	-	136.00	143.63	LP142.83	-	-	SDP-74-125	-	PRIVATE
I-4	EXIST.	TYPE "A" 5'	N 554,801.9828 E 1,385,417.4485	130.00	-	-	129.00	143.78	LP142.86	-	-	SDP-74-125	-	PRIVATE
I-5	EXIST.	TYPE "A" 10'	N 554,733.9248 E 1,385,587.6099	-	-	-	136.46	141.55	140.40	-	-	SDP-74-125	-	PRIVATE
I-6	EXIST.	DBLE. "S" COMB.	N 554,692.5128 E 1,384,782.3000 (INLET)	-	-	-	145.28	151.10	GRATE	-	-	DBLE. SWM STRUCTURE PER SDP-74-125	-	PRIVATE
I-7	PROP.	PRE-CAST WQV	N 554,920.5901 E 1,385,166.0244	-	-	-	140.00	-	-	-	-	WQV/SWM - FILTERRA UNIT	SEE SPEC'S.	PRIVATE
I-8	PROP.	PRE-CAST WQV	N 554,822.5265 E 1,385,373.5648	-	-	-	-	-	-	-	-	WQV/SWM - FILTERRA UNIT	SEE SPEC'S.	PRIVATE
I-19	EXIST.	TYPE "S"	N 554,589 E 1,384,836	148.00	148.00	-	145.55	150.3	-	-	-	PUBLIC R/W	-	PUBLIC R/W
I-101	PROP.	PRE-CAST A-5	N 554,618.9616 E 1,384,853.9305	-	-	-	-	151.15	-	-	D-4.01	REPLACES EXISTING I-1 PER SDP-74-125	5'-0" x 2'-6"	PRIVATE
M-1	EXIST.	TYPE "A"	N 554,954 E 1,384,895	136.35	-	-	135.01	155.5	-	-	-	SDP-74-125	±4.0' DIA.	PRIVATE
M-2	PROP.	PRE-CAST WQV	N 554,602.1366 E 1,384,843.8816	146.72	145.02	144.00	144.70	146.00	151.00	-	-	DIVERSION STRUCTURE	4.0' DIA.	PRIVATE
M-3	EXIST.	TYPE "A"	N 554,945.4171 E 1,385,139.4972	123.20	133.30	-	123.00	143.89	-	-	-	"DOGHOUSE" OVER EX. PIPE SDP-74-125	±4.0' DIA.	PRIVATE
M-4	EXIST.	TYPE "A"	N 554,807.8632 E 1,385,291.0111	136.85	138.00(6" PVC)	-	135.00	PROP. 150.62	-	-	-	SDP-74-125	±4.0' DIA.	PRIVATE
M-5	EXIST.	TYPE "A"	N 554,792.7948 E 1,385,458.3269	127.36	132.20	-	122.20	142.6	-	-	-	SDP-74-125	±4.0' DIA.	PRIVATE
M-6	EXIST.	TYPE "A"	N 554,956.1575 E 1,385,081.1873	130.50	140.28	-	127.50	146.79	-	-	-	TOP LOWERED PER SDP-74-125	±4.0' DIA.	PRIVATE
M-7	EXIST.	TYPE "A"	N 554,891 E 1,384,858	138.12	-	-	137.87	154.7	-	-	-	TOP RAISED PER SDP-74-125	±4.0' DIA.	PRIVATE
M-8	EXIST.	TYPE "A"	N 554,656.6422 E 1,384,721.8332	144.5	144.5	144.5 IN	144.5	151.07	-	-	-	ASSUMED INVERT INFORMATION	±4.0' DIA.	PRIVATE
M-9	EXIST.	TYPE "A"	N 554,709.0808 E 1,384,751.7201	144.00	144.00	-	141.91	151.27	-	-	-	"DOGHOUSE" OVER EX. PIPE SDP-74-125	±4.0' DIA.	PRIVATE
M-11	PROP.	STD. 4.0' PRE-CAST	N 554,866.5972 E 1,385,177.1144	139.48	-	-	139.28	148.78	-	-	G-5.11	WQV/SWM CONVEYANCE	4.0' DIA.	PRIVATE
M-101	PROP.	PRE-CAST WQV	N 554,611.6801 E 1,384,849.5108	146.97	145.32	145.02	145.77	151.00	152.07	-	-	DIVERSION STRUCTURE	8.0' DIA.	PRIVATE
E-1	EXIST.	TYPE "C"	N 554,864 E 1,385,486	-	-	-	117.01	121.01	-	-	-	21" CONC. END SEC.	21" CONC. END SEC.	PRIVATE
E-15	EXIST.	TYPE "C"	N 554,930 E 1,385,225	-	-	-	110.2	114.5	-	-	-	18" CONC. END SEC.	18" CONC. END SEC.	PRIVATE

**PRIVATE PIPE SCHEDULE**

SIZE	LENGTH	TYPE & CLASS
6"	210.7	PVC SCH. 40
15"	21.4	RCCP CL. IV

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Donald Mason*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION J.P. 9/26/11 DATE

*Neil Shindler*  
CHIEF, DIVISION OF LAND DEVELOPMENT 9/26/11 DATE

*Thomas J. Suttles*  
DIRECTOR 9/26/11 DATE

**BENCHMARK ENGINEERING, INC.**  
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PHONE: 410-465-6105 FAX: 410-465-6644  
www.benchmark-engineering.com

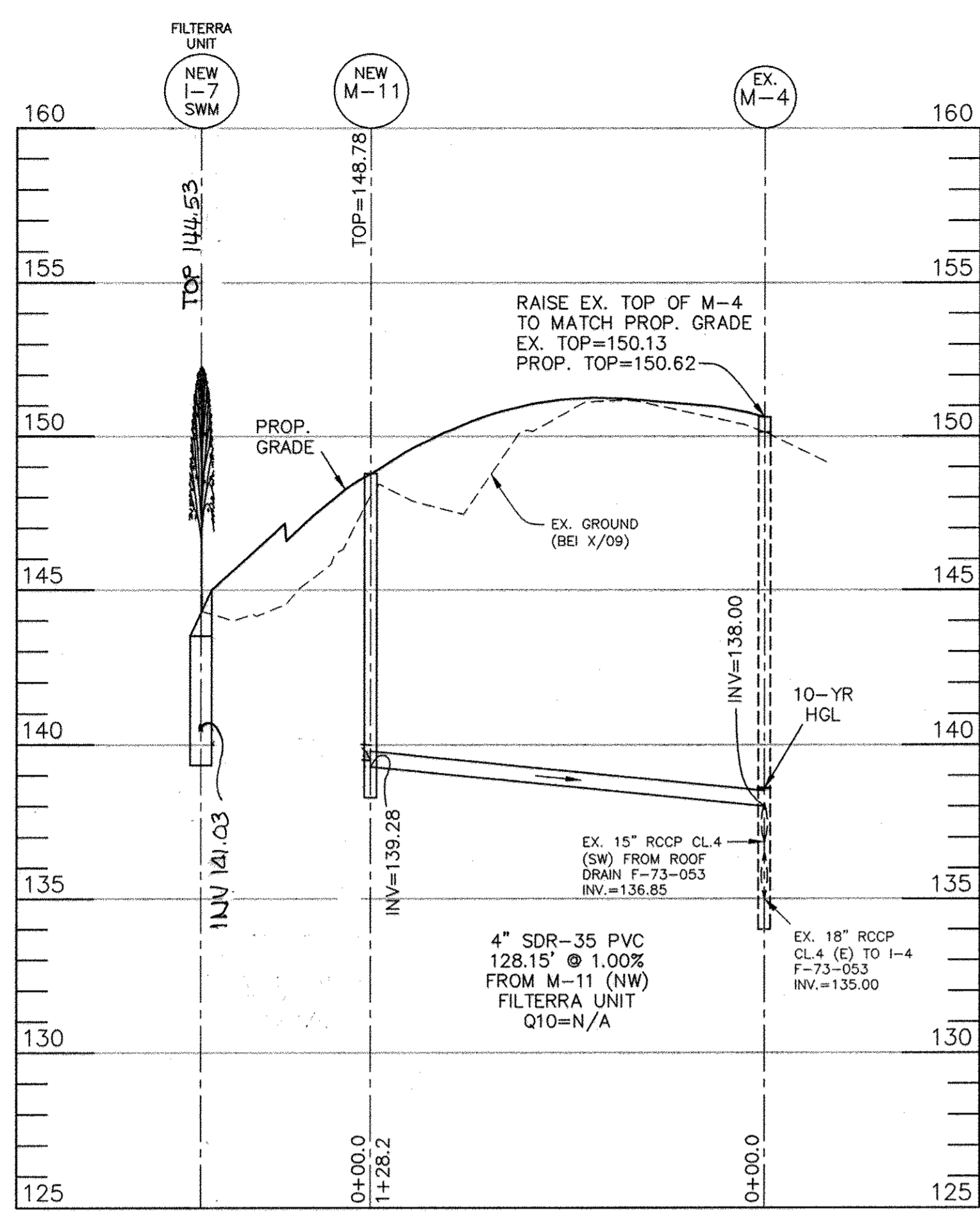
OWNER/DEVELOPER: PROJECT: **ROUTE ONE HUNDRED BUSINESS PARK BLOCK "D" PARCEL "E-1"**

LOCATION: TAX MAP-38 GRID-19 PARCEL 857 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND

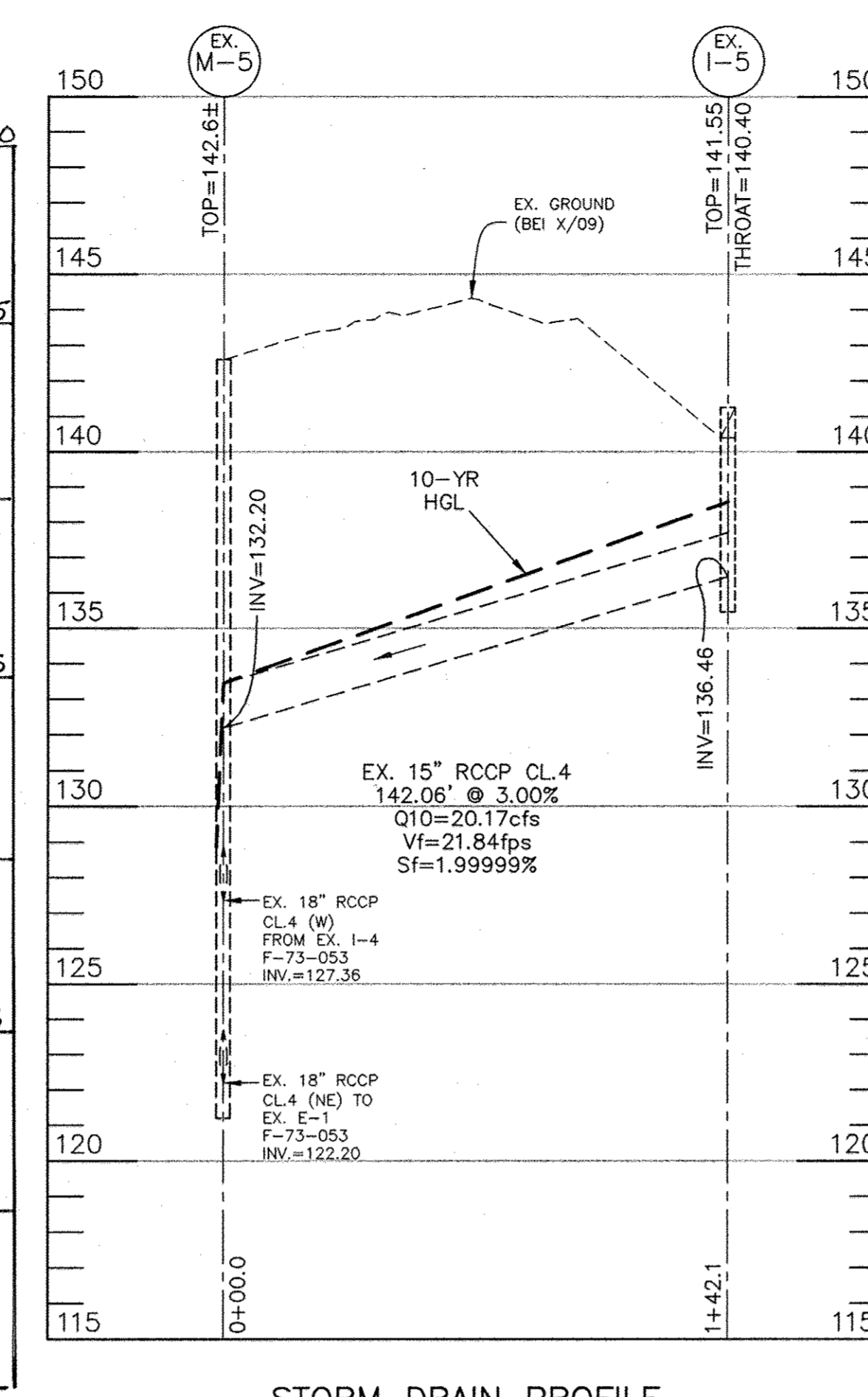
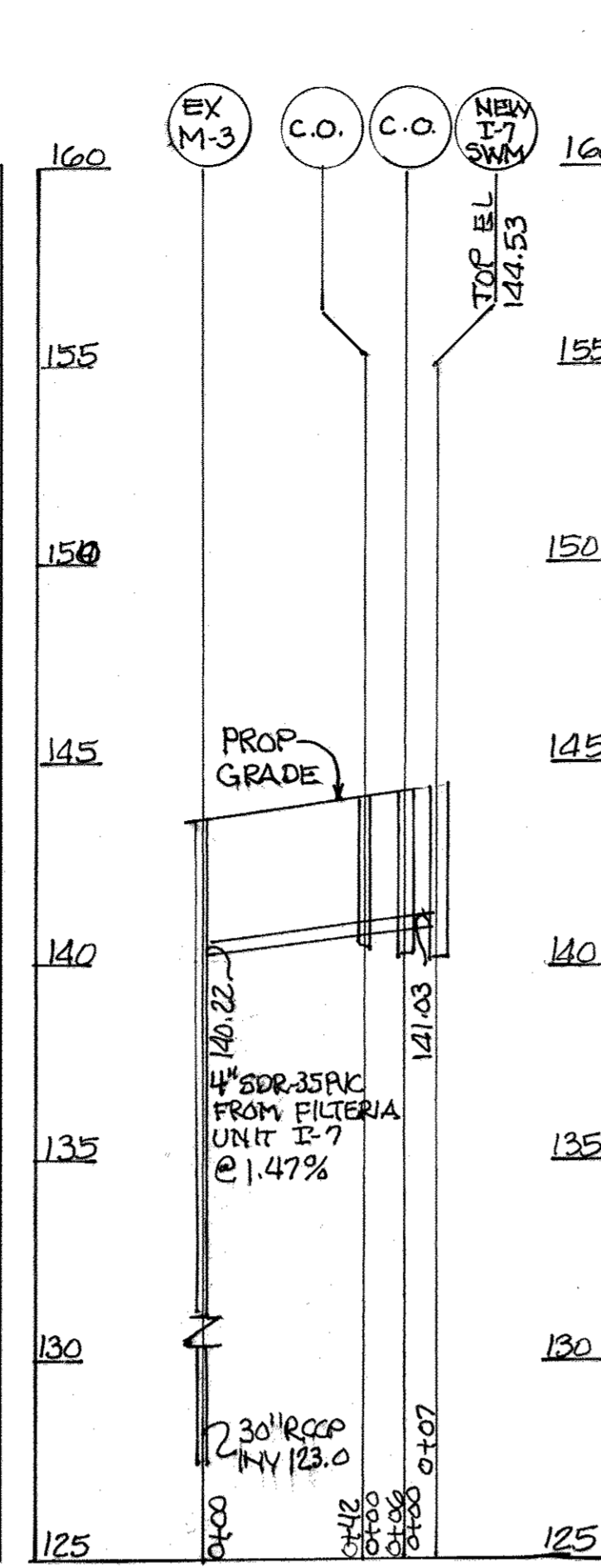
TITLE: **STORM DRAIN PROFILES NOTES AND DETAILS**

DATE: AUGUST 25, 2009 PROJECT NO. 2168  
AUGUST, 2011

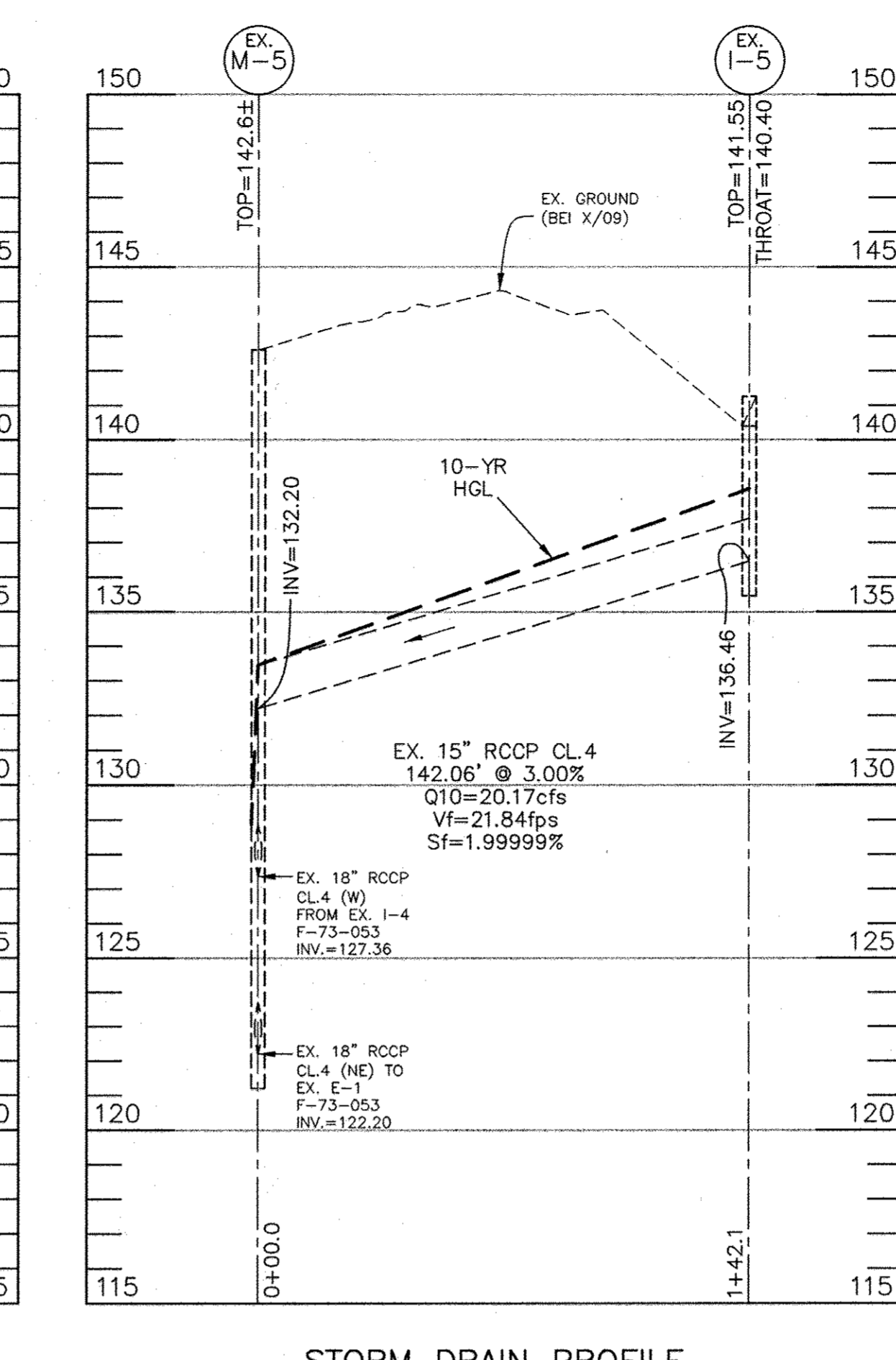
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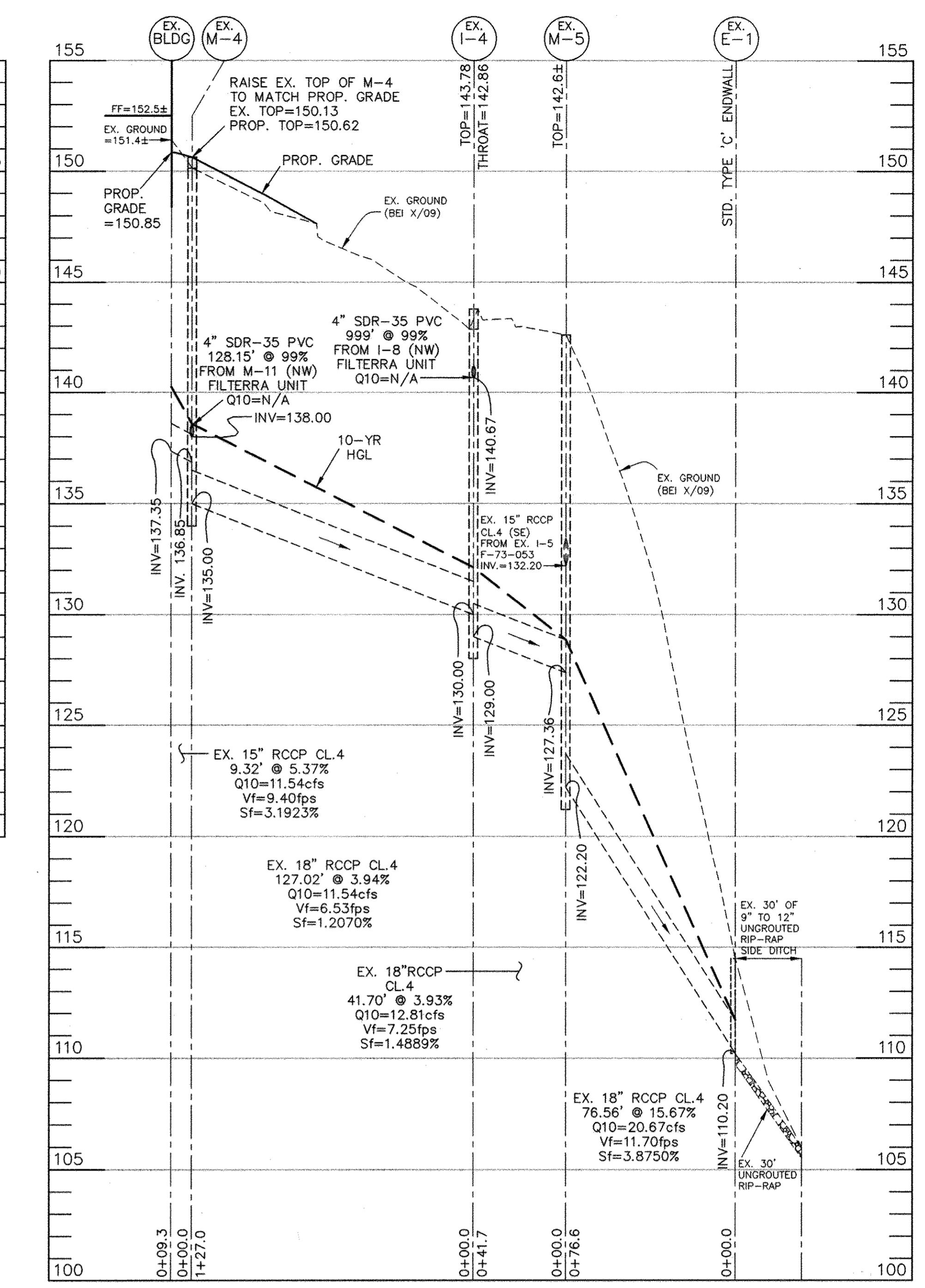
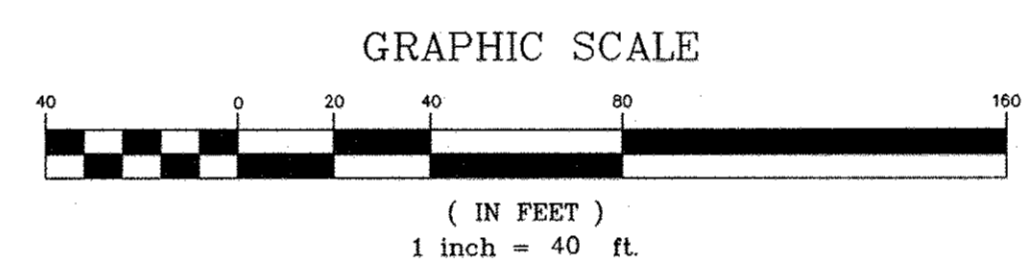
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VERTICAL SCALE: 1" = 4'  
HORIZONTAL SCALE: 1" = 40'



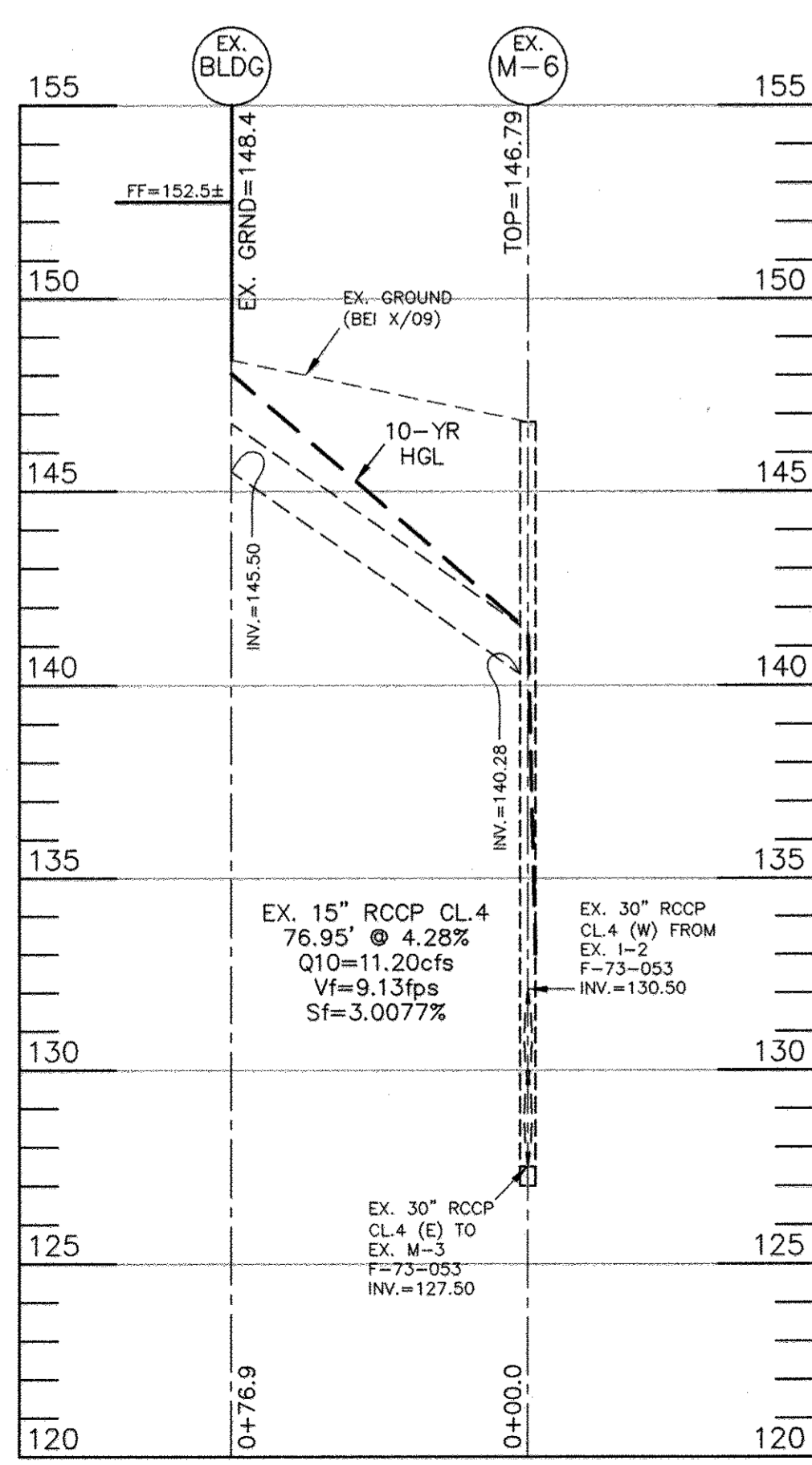
**STORM DRAIN PROFILE**  
VERTICAL SCALE: 1" = 4'  
HORIZONTAL SCALE: 1" = 40'



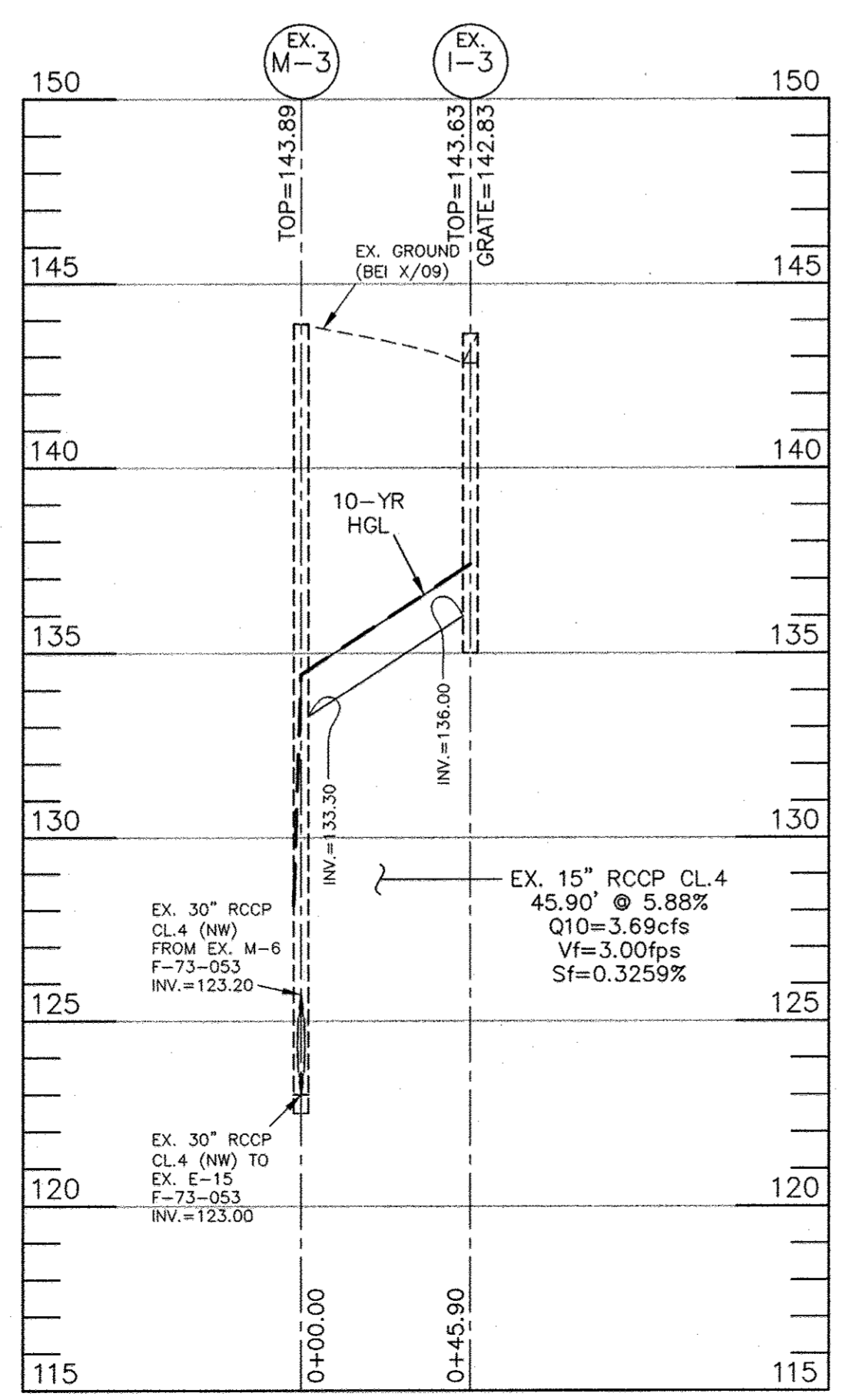
**STORM DRAIN PROFILE**  
VERTICAL SCALE: 1" = 4'  
HORIZONTAL SCALE: 1" = 40'



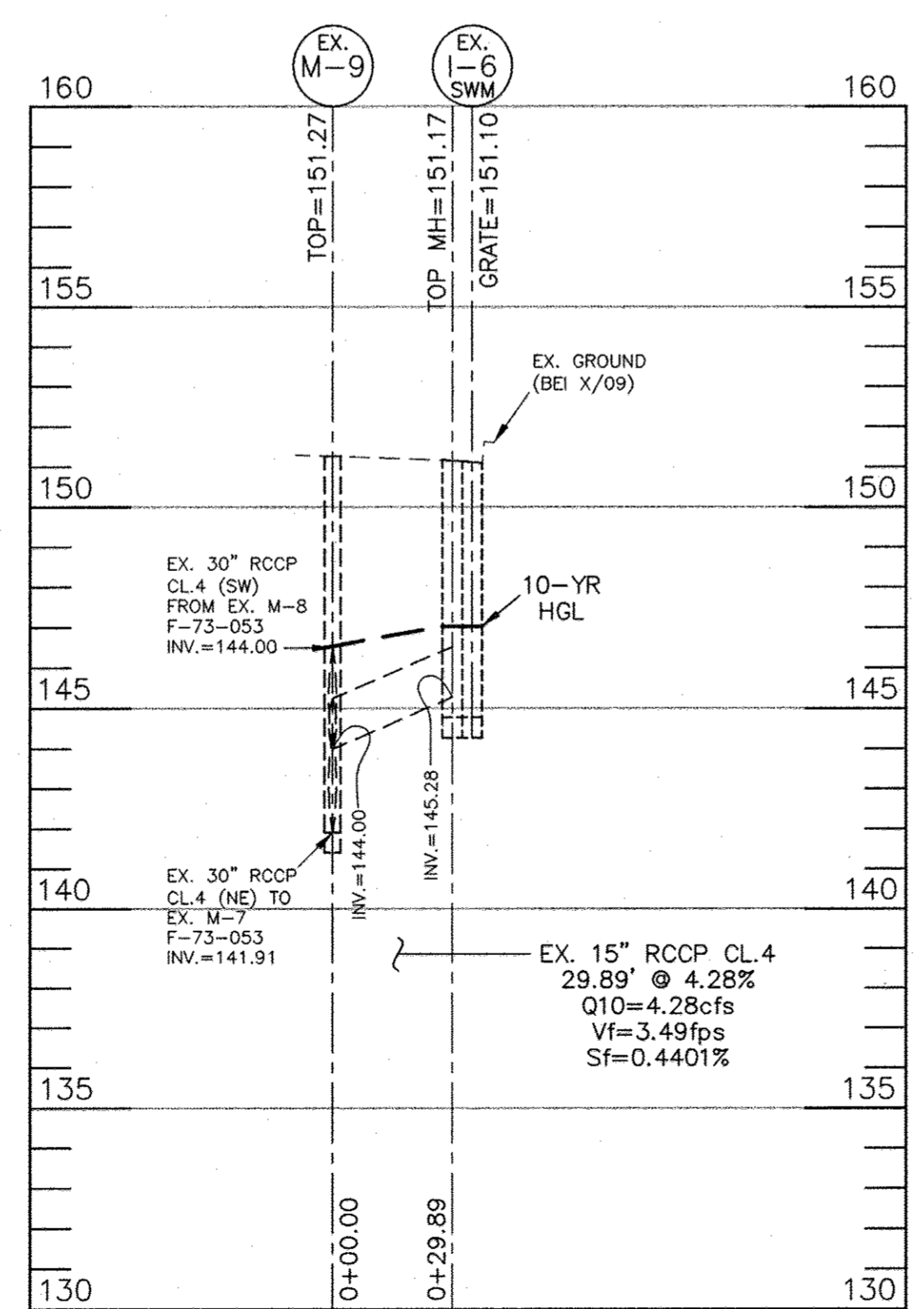
**STORM DRAIN PROFILE**  
VERTICAL SCALE: 1" = 4'  
HORIZONTAL SCALE: 1" = 40'



**STORM DRAIN PROFILE**  
VERTICAL SCALE: 1" = 4'  
HORIZONTAL SCALE: 1" = 40'



**STORM DRAIN PROFILE**  
VERTICAL SCALE: 1" = 4'  
HORIZONTAL SCALE: 1" = 40'



**STORM DRAIN PROFILE**  
VERTICAL SCALE: 1" = 4'  
HORIZONTAL SCALE: 1" = 40'

**AS-BUILT CERTIFICATION**  
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.  
Donald Mason, P.E. No. 21443 Date 3-4-15



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 21443 Expiration Date: 12-21-16

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 9/25/11  
DATE

*[Signature]* 9/26/14  
DATE

*[Signature]* 9/27/12  
DATE

1 3-4-15 ADD PROFILE FOR I-7 TO EX M3	
NO.	REVISION
<b>BENCHMARK ENGINEERING, INC.</b>	
8480 BALTIMORE NATIONAL PIKE SUITE 418 ELLCOTT CITY, MARYLAND 21043 PHONE: 410-465-6105 FAX: 410-465-6644 www.bei-engineering.com	
OWNER/DEVELOPER:	PROJECT:
J 2 J, LLC 6685 SANTA BARBARA COURT ELKRIDGE, MARYLAND 21075 443-459-5080	<b>ROUTE ONE HUNDRED BUSINESS PARK BLOCK "D" PARCEL "E-1"</b>
TITLE:	LOCATION:
STORM DRAIN PROFILES NOTES AND DETAILS	TAX MAP-38 GRID-19 PARCEL 857 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE:	PROJECT NO.:
AUGUST 25, 2009 AUGUST, 2011	2168
DESIGN: BC/MR DRAFT: BC/MR/HP CHECK: BC	SCALE: AS SHOWN SHEET 8 OF 10





Activation

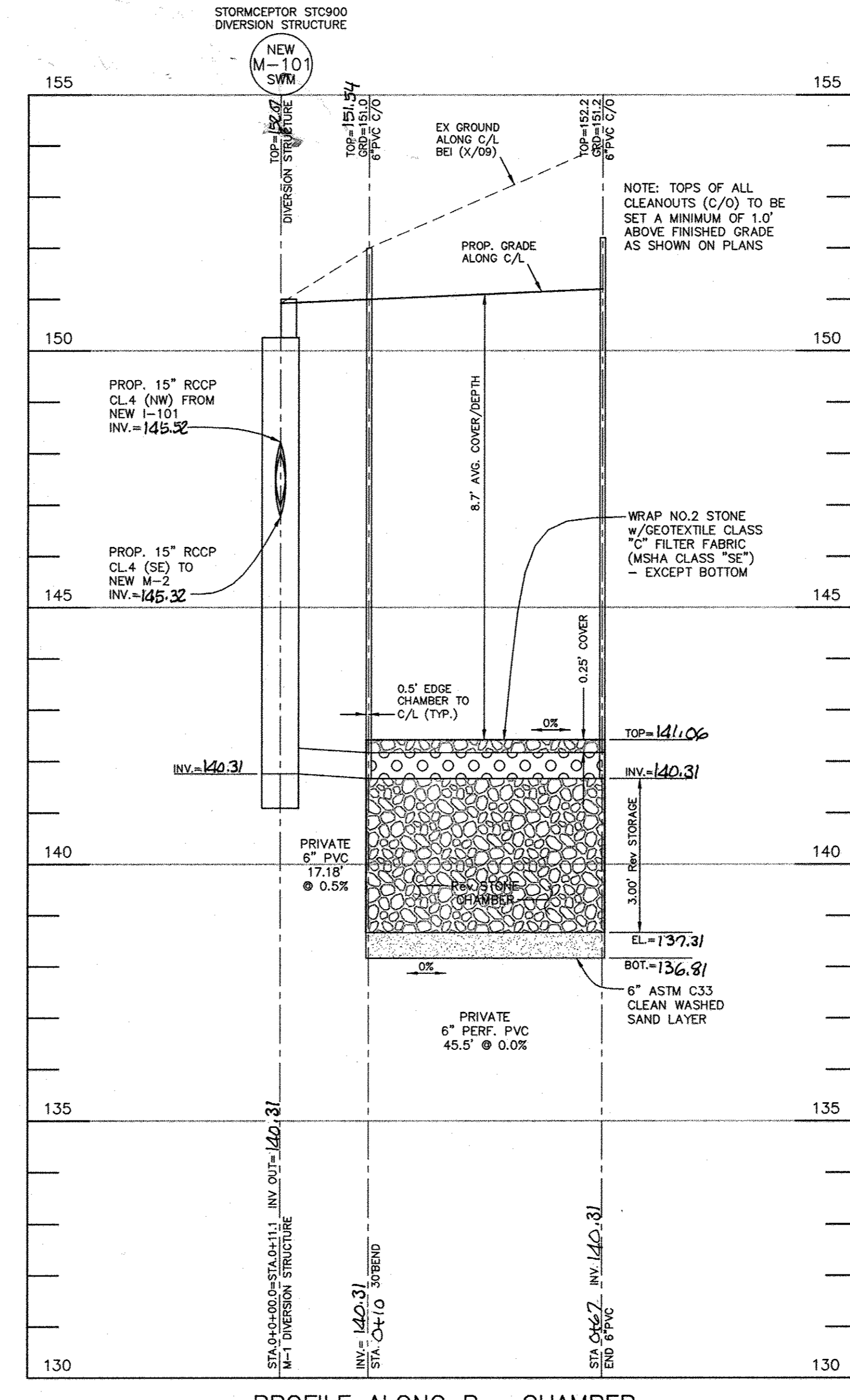
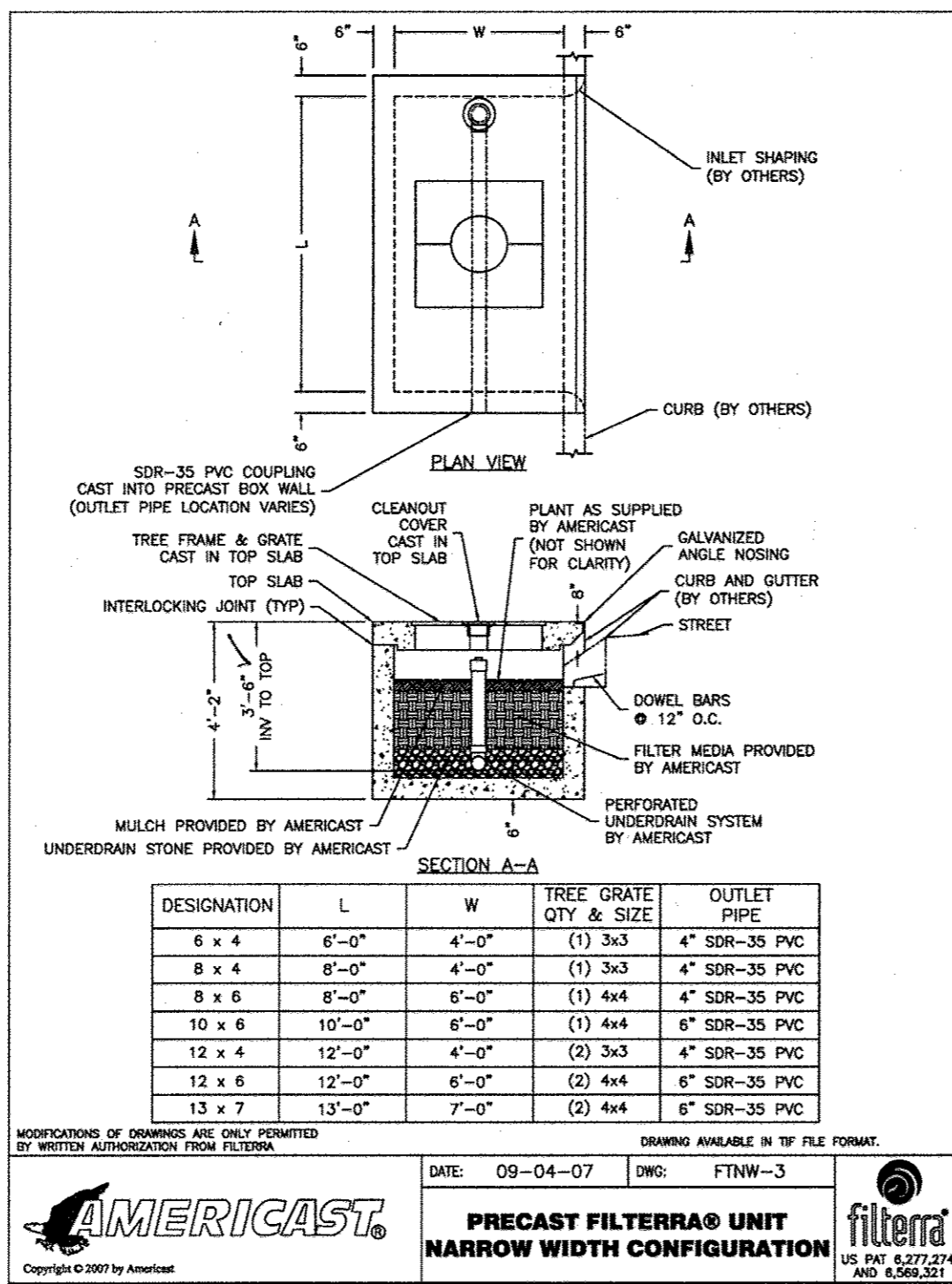


### Filterra Standard Plan Notes

#### Construction & Installation

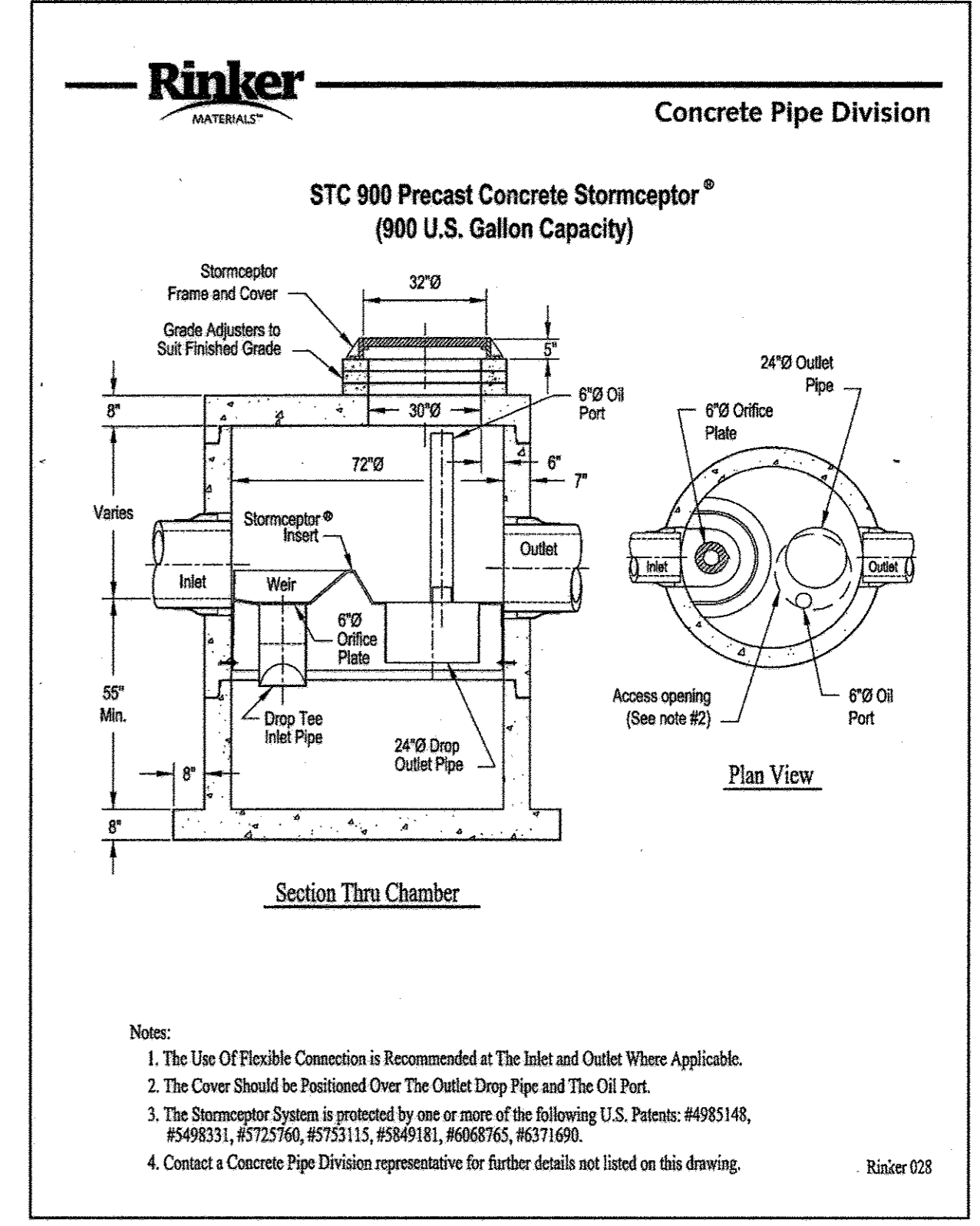
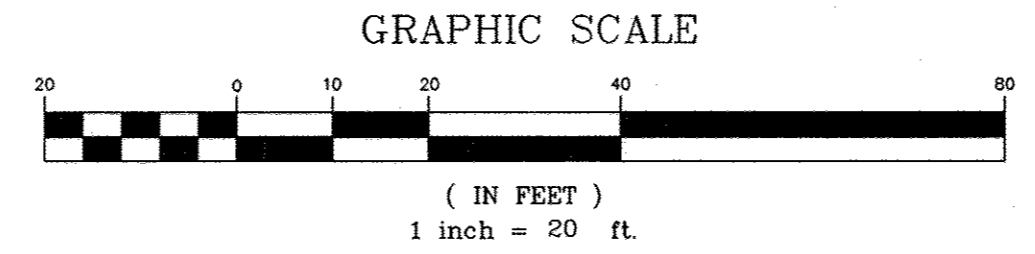
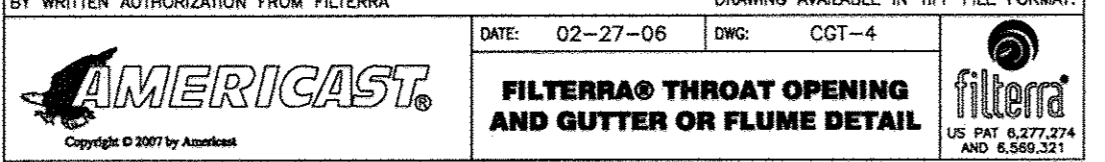
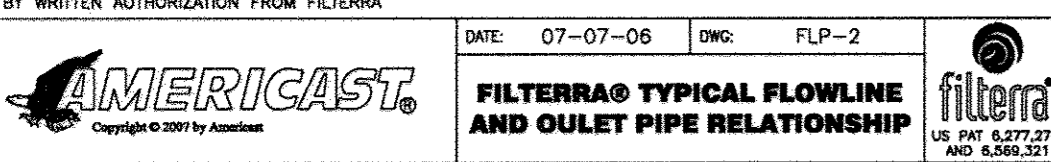
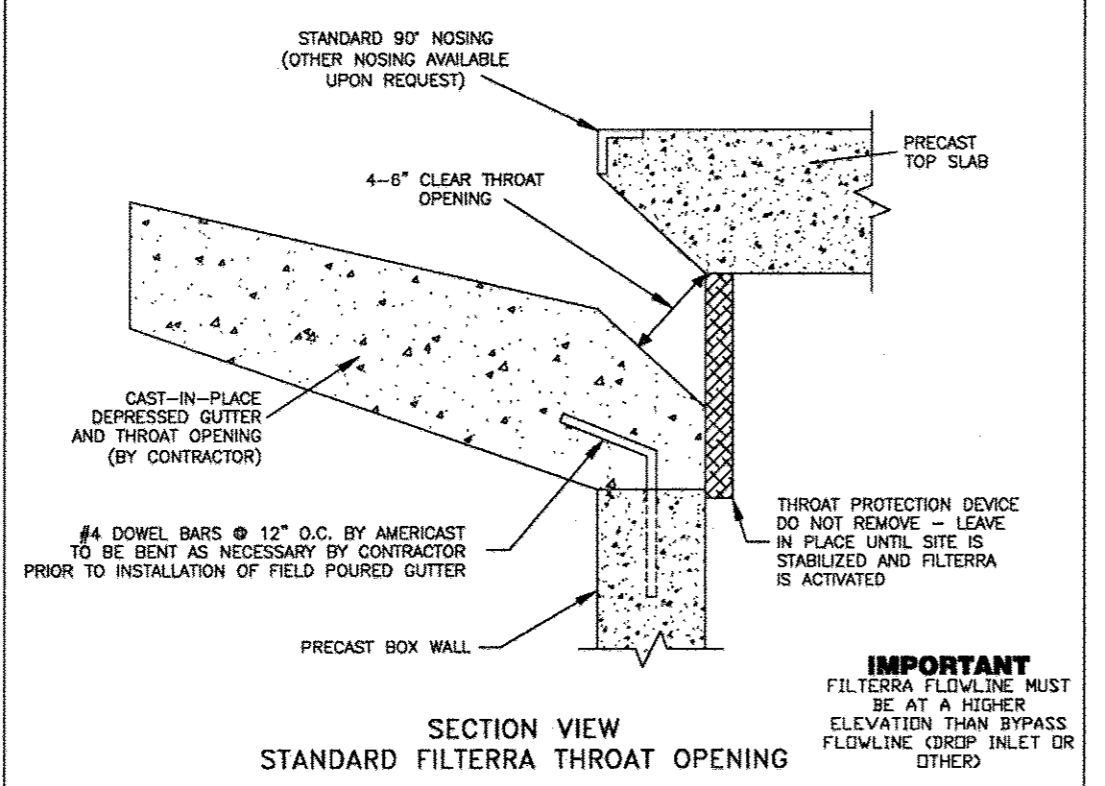
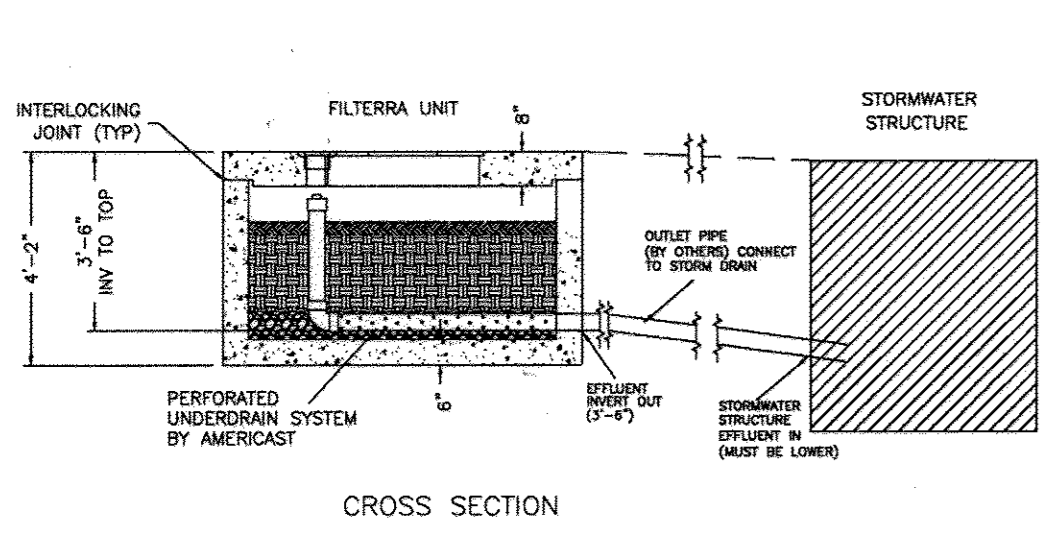
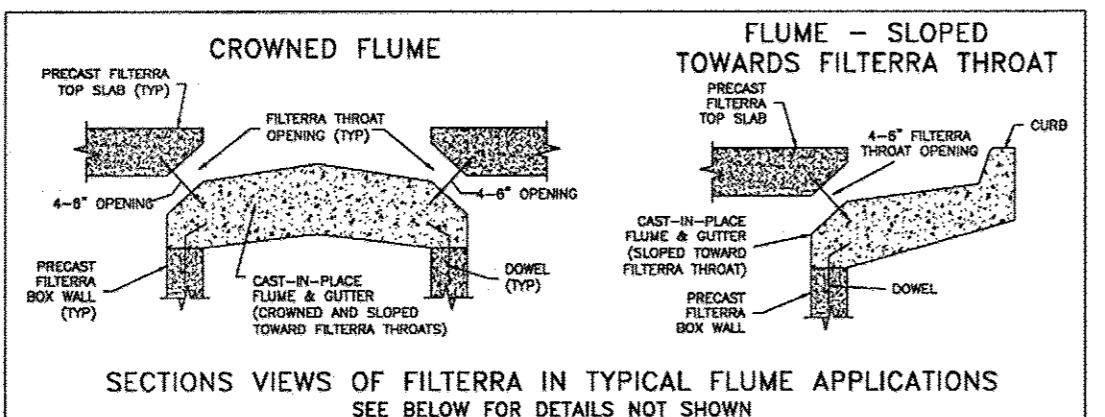
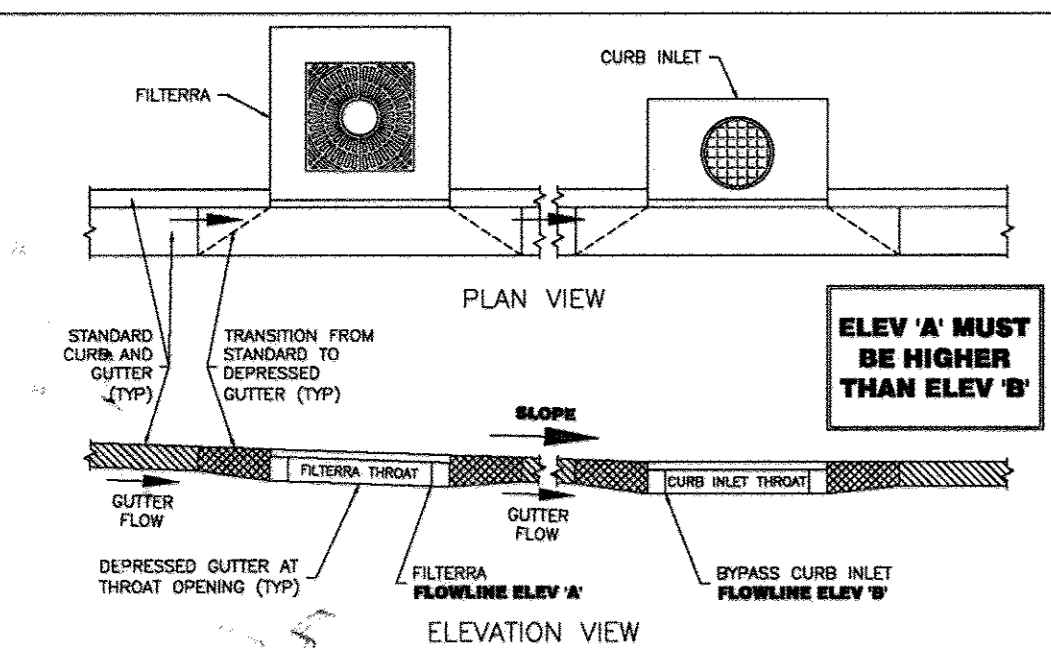
A. Each unit shall be constructed at the locations and elevations according to the sizes shown on the approved drawings. Any modifications to the elevation or location shall be at the direction of and approved by the Engineer.

A. Activation of the Filterra® unit is performed ONLY by the Supplier. Purchaser is responsible for Filterra® inlet protection and subsequent clean out cost. This process cannot commence until the project site is fully stabilized and cleaned (fill)



### OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED UNDERGROUND STORMWATER FILTRATION SYSTEMS

- The Manufactured water quality structure shall be periodically inspected and cleaned to maintain operation and function. The owner shall inspect the unit yearly at a minimum, utilizing the Manufacturer Inspection/Monitoring Form. Inspections shall be done by using a Grade Stick or similar device. When the sediment depths exceeds recommended depths, the unit must be cleaned.
- The Manufactured water quality structure shall be checked and cleaned immediately after petroleum spills. The owner shall contact the appropriate regulatory agencies.
- The maintenance of the Manufactured 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 Manufactured unit shall be repaired as needed.
- The owner shall retain and make the Manufacturers Inspection/Monitoring Forms available to the Howard County officials upon their request.



**AS-BUILT CERTIFICATION**  
I hereby certify, by my seal, that the facilities shown on this plan were constructed in accordance with the AS-BUILT plan.  
Donald Wilson, P.E. No. 21443 Date: 3/4/15

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 21443, Expiration Date: 12-21-16

**Drainage Area Summary Table**

STUDY POINTS (DRAINAGE AREAS)	EXISTING DISCHARGE (CFS)			DEVELOPED DISCHARGE (CFS) WITHOUT CN CREDIT		
	1YR	10YR	100YR	1YR	10YR	100YR
#1	0.73	2.48	4.08	1.17	3.06	4.66
#2	0.17	0.59	0.98	0.42	1.27	2.01
#3* (Developed 3A & 3B)	0.41	1.76	3.07	1.34	3.02	4.41

\* DA #3 - This drainage area is the only area that was evaluated for Cpv because a small portion of the area is outside of the original LOD and therefore considered "further" development. Analysis of this area determined that the run-off is less than 2 c.f.s. and therefore Cpv is not required and not provided.

**Water Quality and Ground Water Recharge Summary Table**

STUDY POINTS (DRAINAGE AREAS)	Water Quality (WQv)		Ground Water Recharge (Rcv)	
	Req'd (c.f.)	Provided (c.f.)	Req'd (c.f.)	Provided (c.f.)
#1	986	1775*	283	546**
#2	432	0*	166	0**
#3	276	276	36	0**
#4	483	483	61	0**
Total	2177	2534	546	546

\* The Water quality provided in DA #1 is sized to provide sufficient Water Quality treatment to exceed the requirements for both DA #1 and #2 (providing 125% of the required treatment)  
\*\* The ground water recharge requirement for DA #2, #3 and #4 is addressed within the stone chamber located in DA #1. The reason for this method is explained in further detail in the following sections.

**Summary of General Storage Requirement Drainage Area #1**

Requirement	Volume Required (cc-ft)	Notes
Water Quality Volume (WQv)	0.0225 (0.96 c.f.)	Water Quality treatment will be provided using a Stormceptor® Unit.
Recharge Volume (Rcv)	0.0065 (0.26 c.f.)	Provided in offline stone chamber #1
Channel Protection Volume (Cpv)	N/A	EXEMPT - Redevelopment
Overbank Flood Protection Volume (Ovp)	N/A	Not required
Extreme Flood Volume (Qf)	N/A	Not required

**Summary of General Storage Requirement Drainage Area #3**

Requirement	Volume Required (cc-ft)	Notes
Water Quality Volume (WQv)	0.0085 (0.34 c.f.)	Water Quality treatment will be provided using Filterra® system
Recharge Volume (Rcv)	0.0008 (0.03 c.f.)	Provided in offline stone chamber in DA #1
Channel Protection Volume (Cpv)	N/A	EXEMPT - 1-year flows less than 2 cfs.
Overbank Flood Protection Volume (Ovp)	N/A	Not required
Extreme Flood Volume (Qf)	N/A	Not required

**Summary of General Storage Requirement Drainage Area #2**

Requirement	Volume Required (cc-ft)	Notes
Water Quality Volume (WQv)	0.0099 (0.42 c.f.)	Water Quality treatment will be provided within the Stormceptor® Unit in DA #1
Recharge Volume (Rcv)	0.0038 (0.16 c.f.)	Provided in offline stone chamber in DA #1
Channel Protection Volume (Cpv)	N/A	EXEMPT - Redevelopment
Overbank Flood Protection Volume (Ovp)	N/A	Not required
Extreme Flood Volume (Qf)	N/A	Not required

**Summary of General Storage Requirement Drainage Area #4**

Requirement	Volume Required (cc-ft)	Notes
Water Quality Volume (WQv)	0.0111 (0.45 c.f.)	Water Quality treatment will be provided using Filterra® system
Recharge Volume (Rcv)	0.0014 (0.1 c.f.)	Provided in infiltration trench #1
Channel Protection Volume (Cpv)	N/A	EXEMPT - 1-year flows less than 2 cfs.
Overbank Flood Protection Volume (Ovp)	N/A	Not required
Extreme Flood Volume (Qf)	N/A	Not required

**SOILS LEGEND**

MAP SYMBOL	SOIL GROUP	SOIL TYPE
BaC3	C	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED
BaD2	C	BELTSVILLE SILT LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED
EvC	A	EVESBORO LOAMY SAND, 5 TO 15 PERCENT SLOPES
IuB	C	IUKA LOAM, LOCAL ALLUVIUM, 1 TO 5 PERCENT SLOPES
ScD	C	SANDY AND CLAYEY LAND, MODERATELY ERODED
ScE	C	SANDY AND CLAYEY LAND, MODERATELY STEEP
SIC2	D	SASSAFRAS LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED

\* INDICATES HYDRIC SOILS  
TAKEN FROM SOILS SURVEY, ISSUED JULY 1968, MAP NOS. 26 & 31

**BENCHMARK ENGINEERING, INC.**  
ENGINEERS • LAND SURVEYORS • PLANNERS  
8480 BALTIMORE NATIONAL PIKE • SUITE 418  
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PHONE: 410-465-6105 FAX: 410-465-6644  
www.bei-civilengineering.com

**OWNER/DEVELOPER:**  
J 2 J, LLC  
6685 SANTA BARBARA COURT  
ELKRIDGE, MARYLAND 21075  
443-459-5080

**PROJECT:**  
ROUTE ONE HUNDRED BUSINESS PARK BLOCK "D" PARCEL "E-1"

**LOCATION:**  
TAX MAP-38 GRID-19 PARCEL 857  
1st ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

**TITLE:**  
PRIVATE STORMWATER MANAGEMENT PLAN, NOTES AND DETAILS

**DATE:** AUGUST 25, 2009  
AUGUST 2011

**PROJECT NO.:** 2168

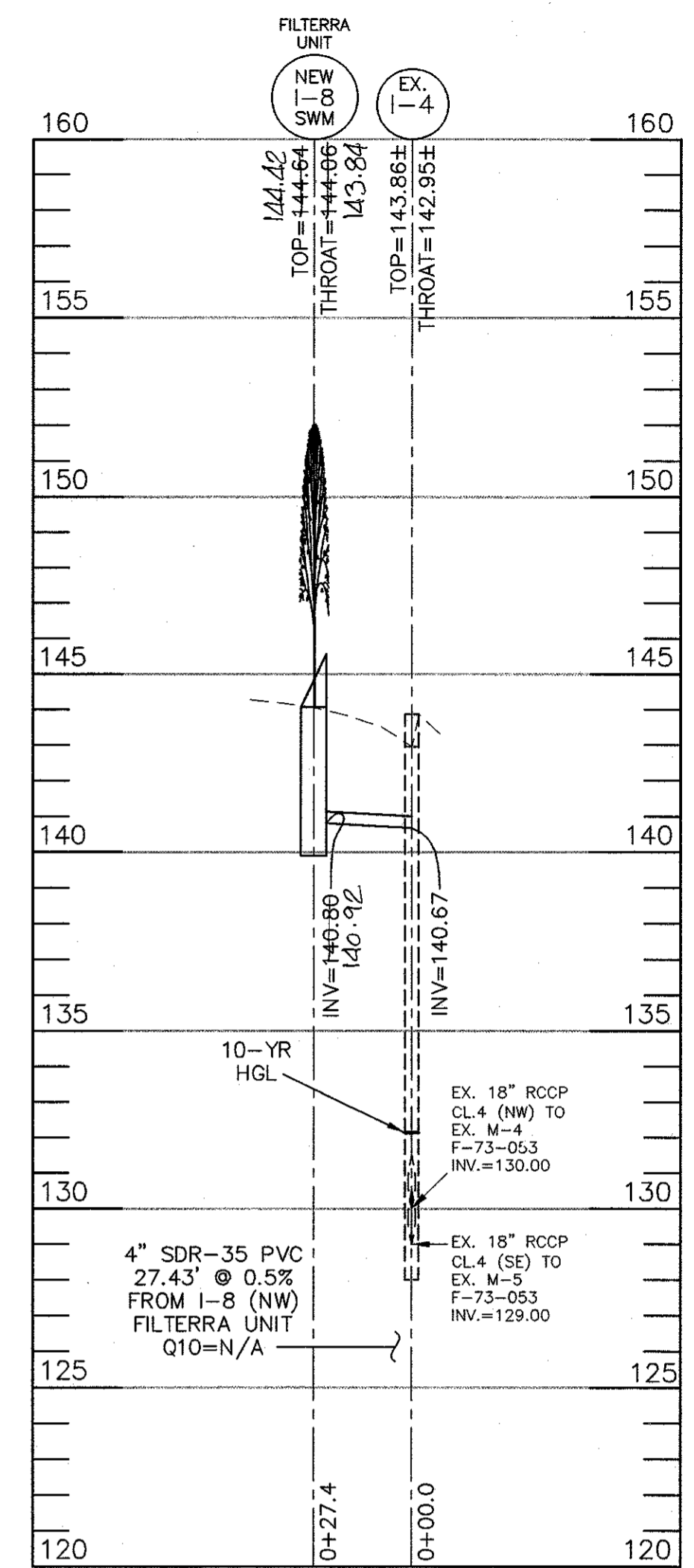
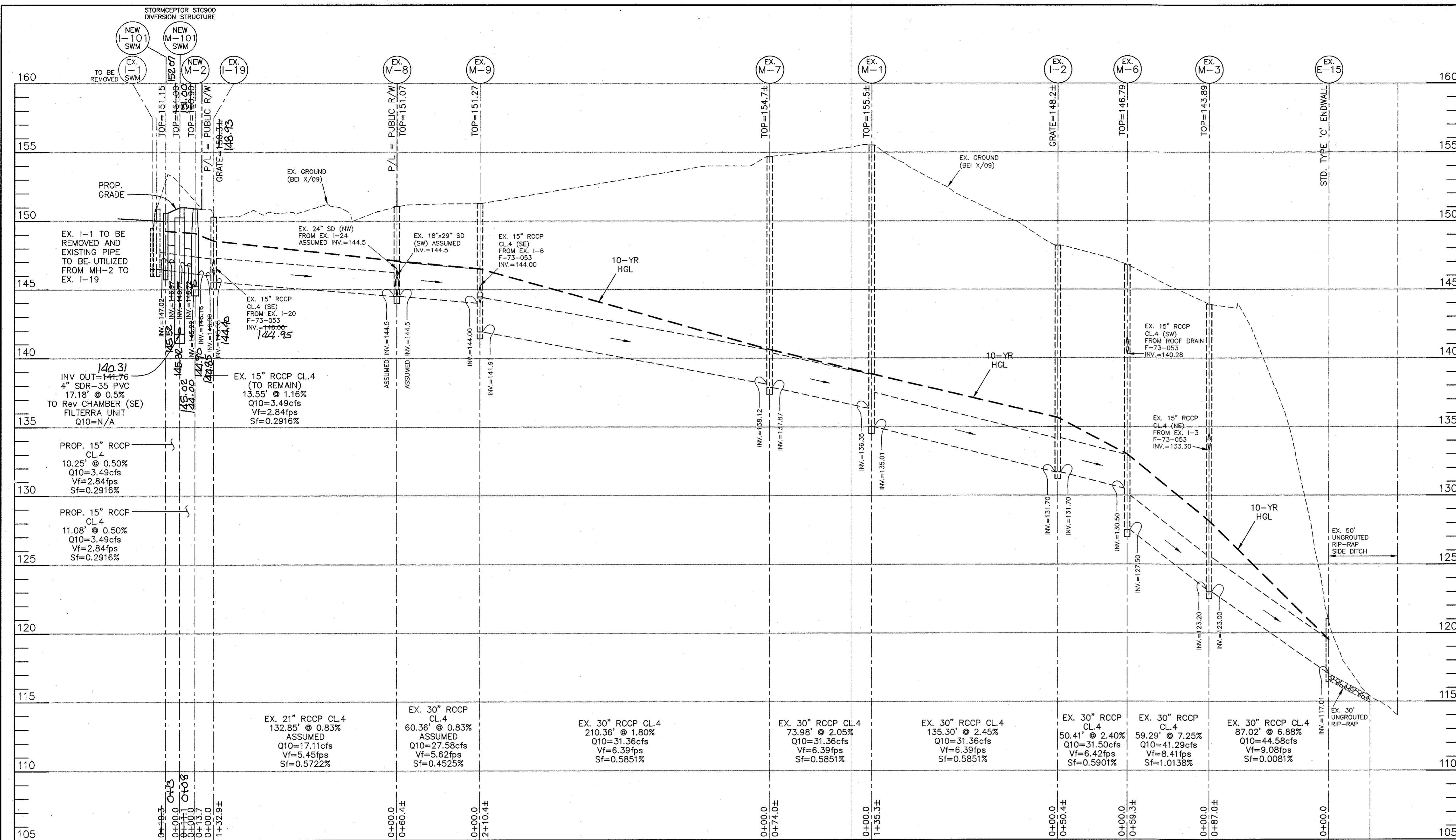
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**SHEET 9 OF 10**

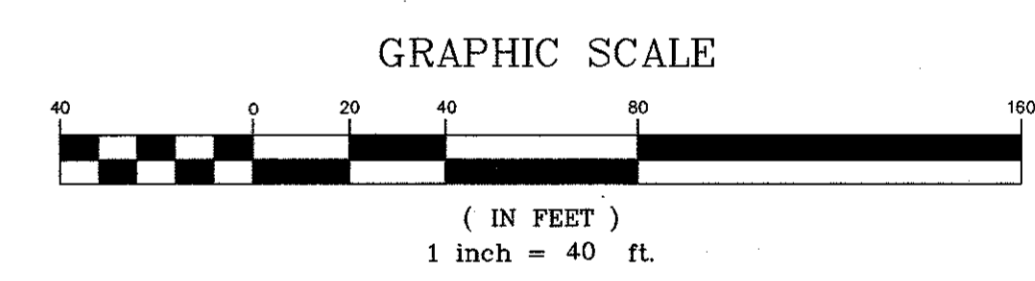
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 [Signature]  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 [Signature]  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature]  
 DIRECTOR

DATE: 9/26/11  
DATE: 9/27/11  
DATE: 9/27/11

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS  
 [Signature]  
 USA - NATURAL RESOURCES CONSERVATION SERVICE  
 DATE: \_\_\_\_\_  
 THIS DEVELOPMENT PLAN IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 [Signature]  
 HOWARD SCD  
 DATE: \_\_\_\_\_



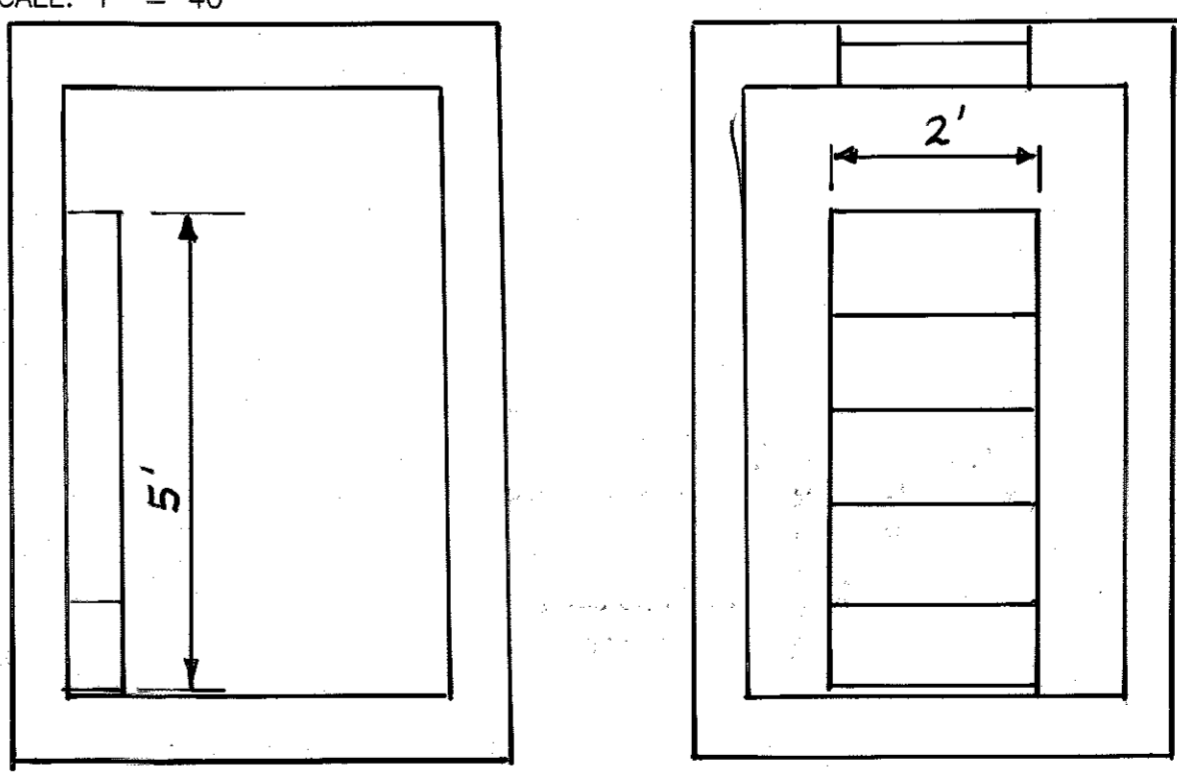
**STORM DRAIN PROFILE**  
 VERTICAL SCALE: 1" = 4"  
 HORIZONTAL SCALE: 1" = 40'



NO.	COND.	TYPE	LOCATION	INVERT IN	INVERT IN	INVERT	INVERT OUT	TOP ELEV.	THROAT EL.	HO. CO. STD.	REMARKS	INTERIOR DIMS.	MAINT.
I-2	EXIST.	TYPE "S"	N 554,855.8405 E 1,385,030.7796	131.70	-	-	131.70	148.2	GRATE	-	"DOGHOUSE" OVER EX. PIPE SDP-74-125	-	PRIVATE
I-3	EXIST.	DBLE. "S" COMB.	N 554,990.8118 E 1,385,147.5108	-	-	-	136.00	143.83	LP142.83	-	SDP-74-125	-	PRIVATE
I-4	EXIST.	TYPE "A" 5'	N 554,801.9828 E 1,385,417.4485	130.00	140.67(6" PVC)	-	129.00	143.78	LP142.86	-	SDP-74-125	-	PRIVATE
I-5	EXIST.	TYPE "A" 10'	N 554,733.9246 E 1,385,587.6099	-	-	-	136.46	141.55	140.40	-	SDP-74-125	-	PRIVATE
I-6	EXIST.	DBLE. "S" COMB.	N 554,692.5128 E 1,384,782.3000 (INLET)	-	-	-	145.28	141.10	GRATE	-	DBLE. SWM STRUCTURE PER SDP-74-125	-	PRIVATE
I-7	PROP.	PRE-CAST WQV	N 554,920.5901 E 1,385,166.0244	-	-	-	140.00	-	-	-	WQV/SWM - FILTERRA UNIT	SEE SPEC'S.	PRIVATE
I-8	PROP.	PRE-CAST WQV	N 554,822.5265 E 1,385,373.5848	-	-	-	-	-	-	-	WQV/SWM - FILTERRA UNIT	SEE SPEC'S.	PRIVATE
I-19	EXIST.	TYPE "S"	N 554,589 E 1,384,836	146.00	146.00	-	145.55	150.3	-	-	REPLACES EXISTING I-1 PER SDP-74-125	5'-0" x 2'-6"	PUBLIC R/W
I-101	PROP.	PRE-CAST A-5	N 554,818.9816 E 1,384,853.9305	-	-	-	-	151.15	-	D-4.01	REPLACES EXISTING I-1 PER SDP-74-125	5'-0" x 2'-6"	PRIVATE
M-1	EXIST.	TYPE "A"	N 554,954 E 1,384,895	136.35	-	-	135.01	155.5	-	-	SDP-74-125	±4.0' DIA.	PRIVATE
M-2	PROP.	PRE-CAST WQV	N 554,602.1366 E 1,384,843.8816	146.72	145.02	145.00	144.90	160.00	151.00	-	DIVERSION STRUCTURE	4.0' DIA.	PRIVATE
M-3	EXIST.	TYPE "A"	N 554,945.4171 E 1,385,139.4972	123.20	133.30	-	123.00	143.89	-	-	"DOGHOUSE" OVER EX. PIPE SDP-74-125	±4.0' DIA.	PRIVATE
M-4	EXIST.	TYPE "A"	N 554,807.8632 E 1,385,291.0111	136.85	138.00(6" PVC)	-	135.00	PROP. 150.62	-	-	SDP-74-125	±4.0' DIA.	PRIVATE
M-5	EXIST.	TYPE "A"	N 554,792.7948 E 1,385,458.3269	127.36	132.20	-	122.20	142.6	-	-	SDP-74-125	±4.0' DIA.	PRIVATE
M-6	EXIST.	TYPE "A"	N 554,956.1575 E 1,385,081.1873	130.50	140.28	-	127.50	146.79	-	-	TOP LOWERED PER SDP-74-125	±4.0' DIA.	PRIVATE
M-7	EXIST.	TYPE "A"	N 554,581 E 1,384,858	138.12	-	-	137.87	154.7	-	-	TOP RAISED PER SDP-74-125	±4.0' DIA.	PRIVATE
M-8	EXIST.	TYPE "A"	N 554,656.6422 E 1,384,721.8332	144.5	144.5	144.5 IN	144.5	151.07	-	-	ASSUMED INVERT INFORMATION	±4.0' DIA.	PRIVATE
M-9	EXIST.	TYPE "A"	N 554,709.0808 E 1,384,751.7201	144.00	144.00	-	141.91	151.27	-	-	"DOGHOUSE" OVER EX. PIPE SDP-74-125	±4.0' DIA.	PRIVATE
M-11	PROP.	STD. 4.0' PRE-CAST	N 554,868.5972 E 1,385,177.1144	139.48	-	-	139.28	148.78	-	G-5.11	WQV/SWM CONVEYANCE	4.0' DIA.	PRIVATE
M-101	PROP.	PRE-CAST WQV	N 554,811.6801 E 1,384,849.5108	146.97	145.32	-	145.72	164.00	152.07	-	DIVERSION STRUCTURE	8.0' DIA.	PRIVATE
E-1	EXIST.	TYPE "C"	N 554,864 E 1,385,486	-	-	-	117.01	121.01	-	-	21" CONC. END SEC.	21" CONC. END SEC.	PRIVATE
E-15	EXIST.	TYPE "C"	N 554,930 E 1,385,225	-	-	-	110.2	114.5	-	-	18" CONC. END SEC.	18" CONC. END SEC.	PRIVATE

**STORM DRAIN PROFILE**  
 VERTICAL SCALE: 1" = 4"  
 HORIZONTAL SCALE: 1" = 40'

300 lbs. rated capacity. Meet OSHA requirements. Ladders have four 19" Lx1/2" x 1" dia. smooth runs at the top for comfortable hand grips. Rungs are 19" Lx1/2" x 2 1/2" dia. and serrated for slip resistance. Ladders are offset 7/16" for toe clearance and mount to the wall with four weld-on brackets that have one 3/8" dia. mounting hole. Fasteners not included. Color is Gray enamel.



**MANHOLE M-2 WALL-MOUNT LADDER DETAIL**

SIZE	LENGTH	TYPE & CLASS
6"	210.7	PVC SCH. 40
15"	21.4	RCCP CL. IV

**PRIVATE PIPE SCHEDULE**

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 [Signatures and Dates]

**AS-BUILT CERTIFICATION**  
 I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.  
 Donald Mason, P.E. No. 21443 Date 3-4-16



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 21443, Expiration Date: 12-21-16

NO.	DATE	REVISION
1	8-15-16	ADD MANHOLE M-2 WALL MOUNT LADDER DETAIL

**BENCHMARK ENGINEERING, INC.**  
 ENGINEERS • LAND SURVEYORS • PLANNERS  
 8480 BALTIMORE NATIONAL PIKE • SUITE 418  
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OWNER/DEVELOPER: J 2 J LLC  
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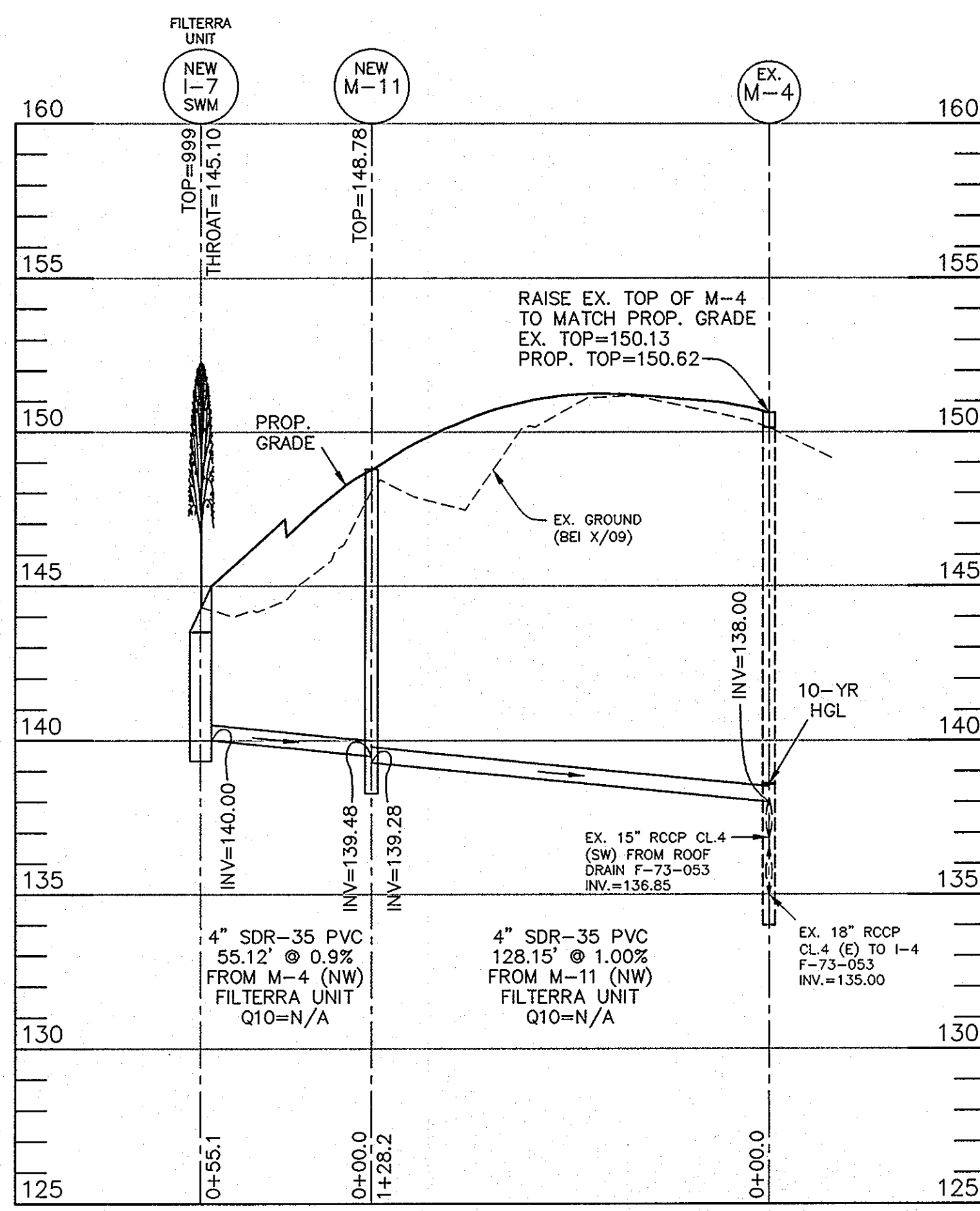
PROJECT: ROUTE ONE HUNDRED BUSINESS PARK BLOCK "D" PARCEL "E-1"

LOCATION: TAX MAP-38 GRID-19 PARCEL 857  
 1st ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

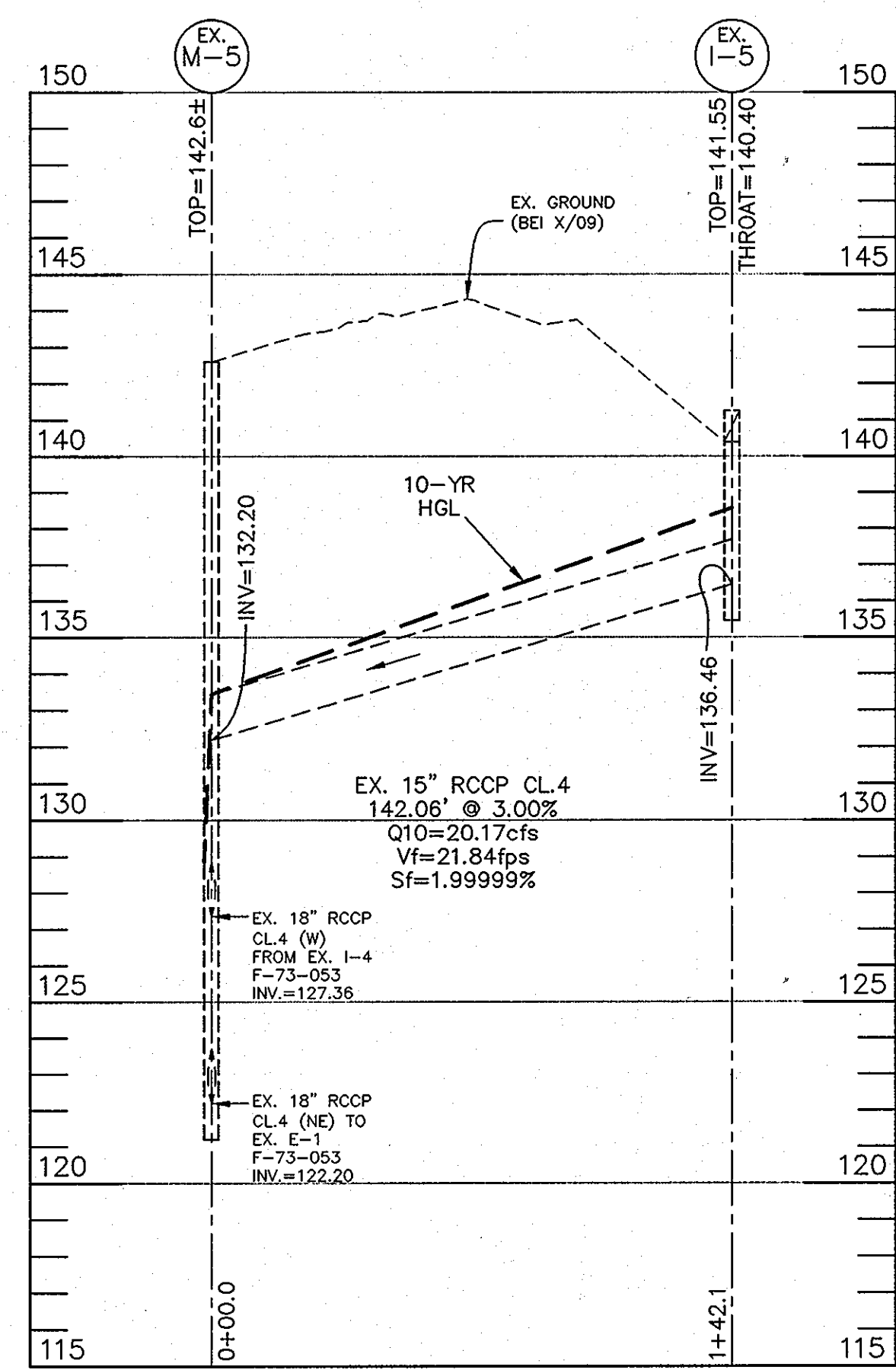
TITLE: STORM DRAIN PROFILES NOTES AND DETAILS

DATE: AUGUST 25, 2009 PROJECT NO. 2168  
 AUGUST, 2011

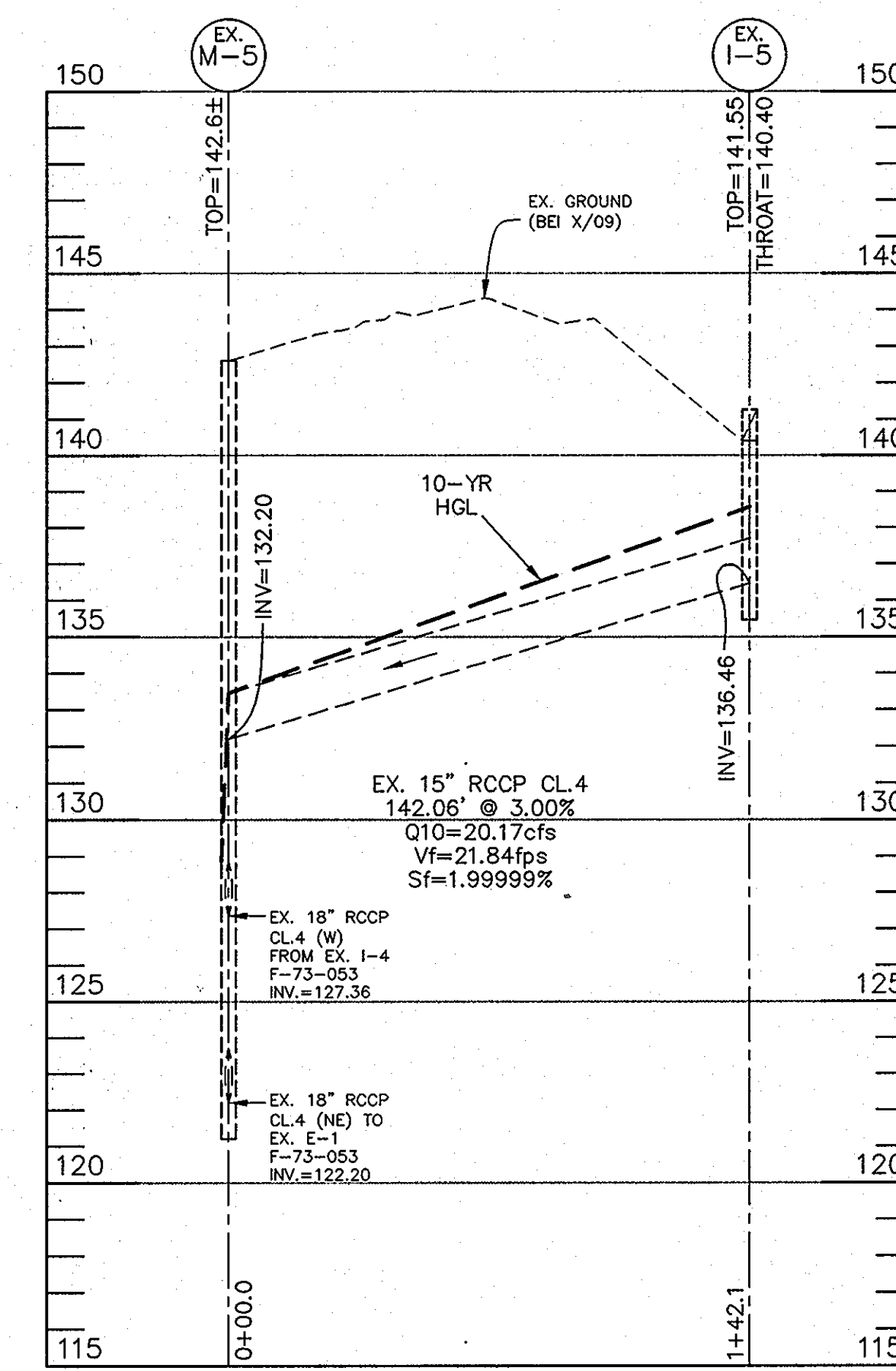
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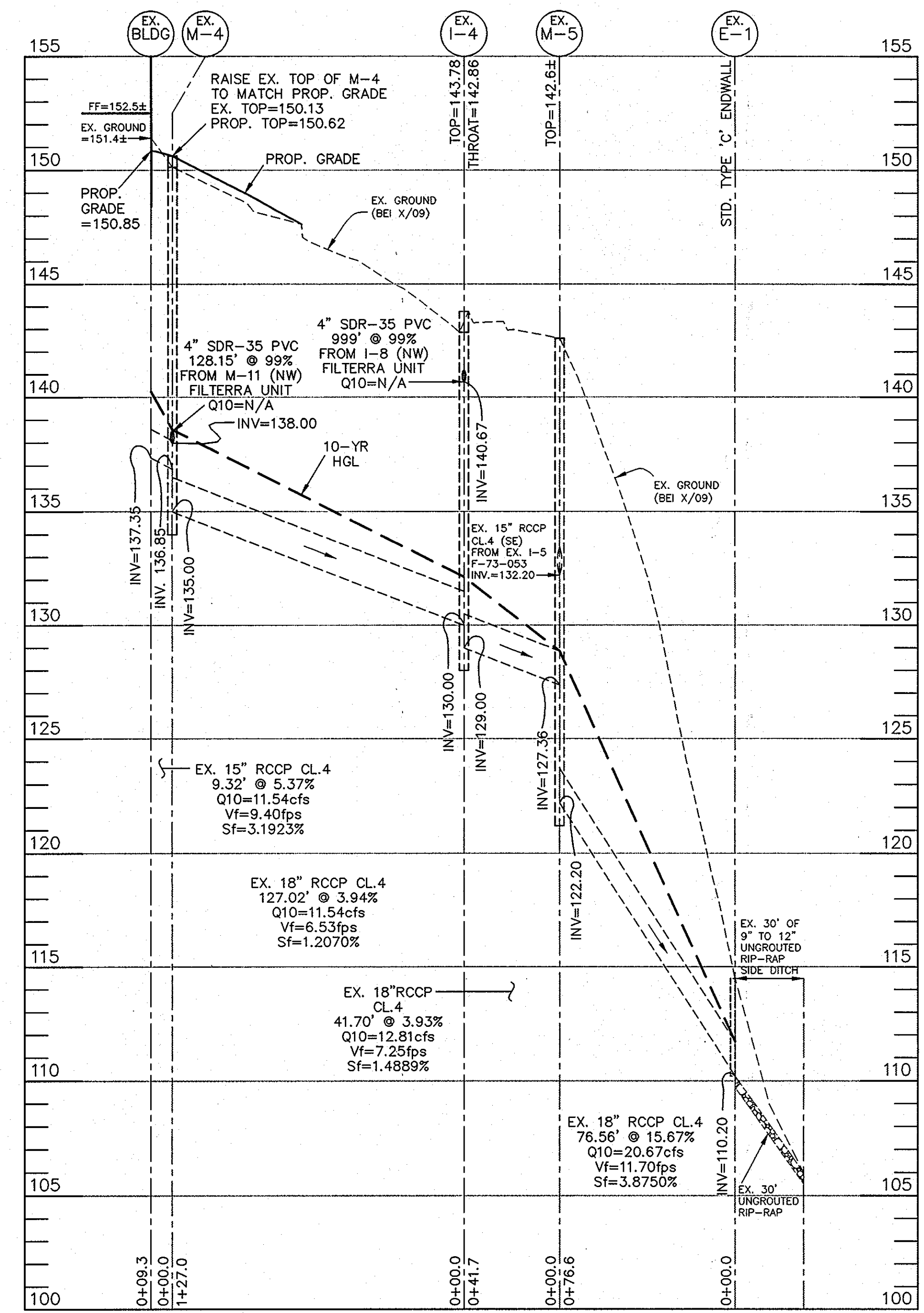
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 HORIZONTAL SCALE: 1" = 40'



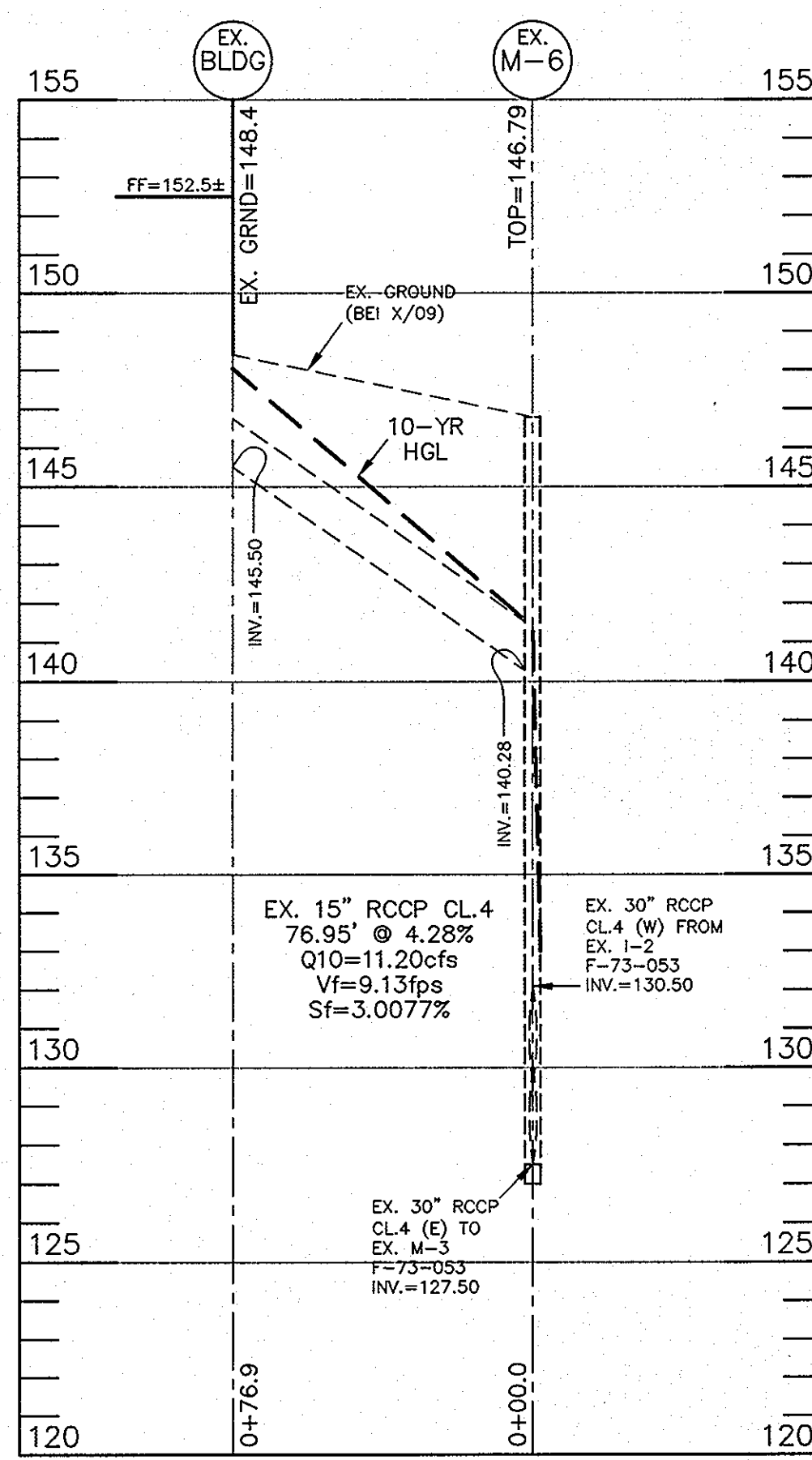
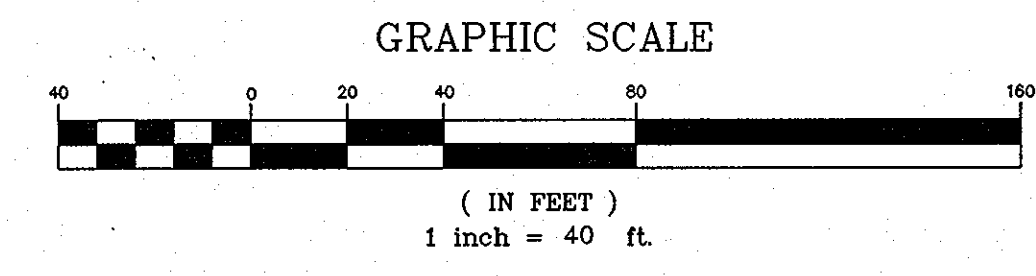
**STORM DRAIN PROFILE**  
 VERTICAL SCALE: 1" = 4'  
 HORIZONTAL SCALE: 1" = 40'



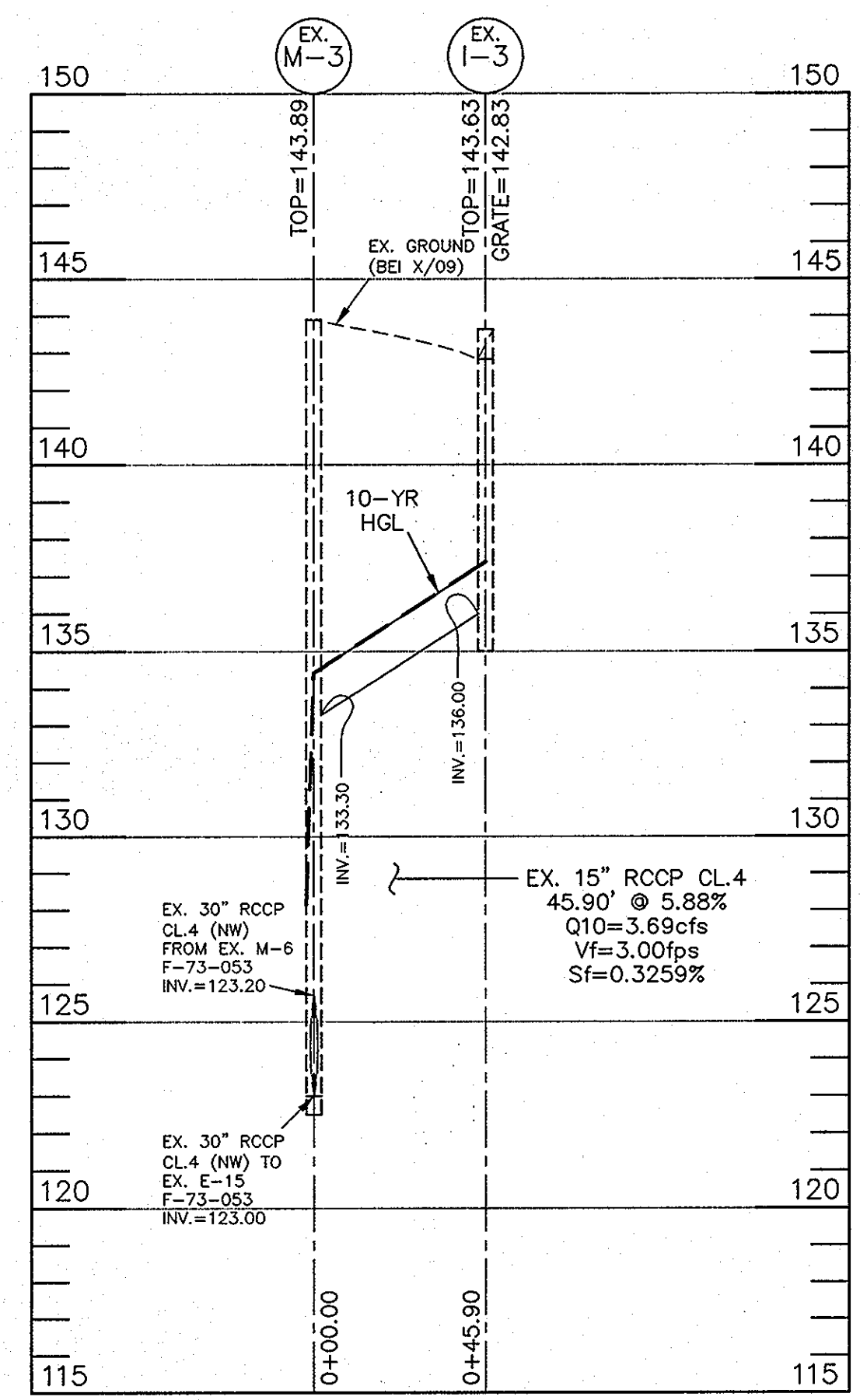
**STORM DRAIN PROFILE**  
 VERTICAL SCALE: 1" = 4'  
 HORIZONTAL SCALE: 1" = 40'



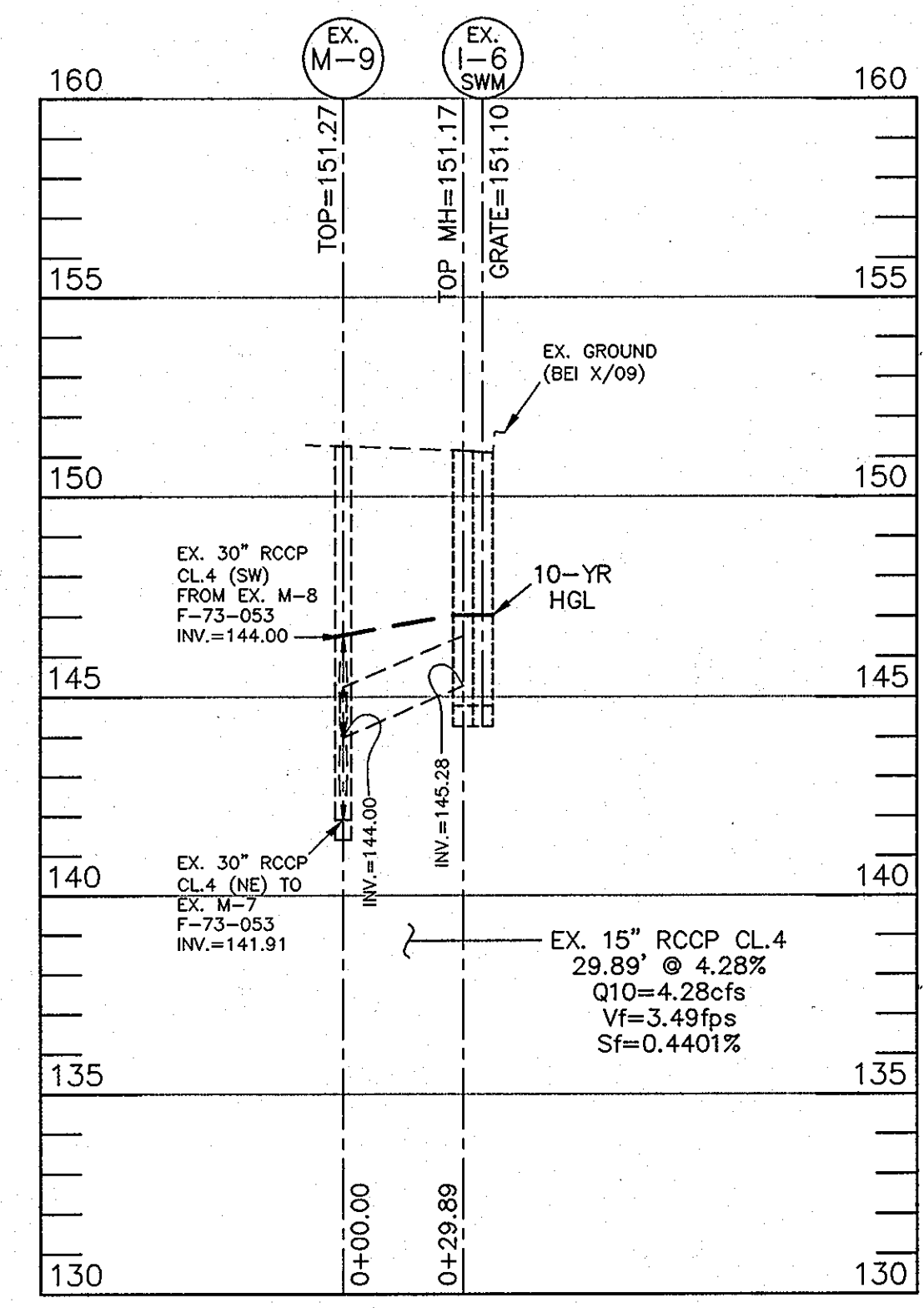
**STORM DRAIN PROFILE**  
 VERTICAL SCALE: 1" = 4'  
 HORIZONTAL SCALE: 1" = 40'



**STORM DRAIN PROFILE**  
 VERTICAL SCALE: 1" = 4'  
 HORIZONTAL SCALE: 1" = 40'



**STORM DRAIN PROFILE**  
 VERTICAL SCALE: 1" = 4'  
 HORIZONTAL SCALE: 1" = 40'



**STORM DRAIN PROFILE**  
 VERTICAL SCALE: 1" = 4'  
 HORIZONTAL SCALE: 1" = 40'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 [Signatures and Dates: 9/23/11, 9/26/11, 9/26/11, 9/26/11]

NO.		DATE		REVISION	
<b>BENCHMARK</b> <b>ENGINEERS • LAND SURVEYORS • PLANNERS</b> <b>ENGINEERING, INC.</b> 8480 BALTIMORE NATIONAL PIKE • SUITE 418 ELLICOTT CITY, MARYLAND 21043 PHONE: 410-465-6105 FAX: 410-465-6644 www.bei-civilengineering.com					
OWNER/DEVELOPER:			PROJECT:		
J2J, LLC 6685 SANTA BARBARA COURT ELK RIDGE, MARYLAND 21075 443-459-5080			ROUTE ONE HUNDRED BUSINESS PARK BLOCK "D" PARCEL "E-1"		
LOCATION:			TAX MAP-38 GRID-19 PARCEL 857 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE:			STORM DRAIN PROFILES NOTES AND DETAILS		
DATE:		AUGUST 25, 2009		PROJECT NO. 2168	
DATE:		AUGUST, 2011		SHEET 8 OF 10	
DESIGN: BC/MR		DRAFT: BC/MR/HP		CHECK: BC	



Filterra Standard Plan Notes

Construction & Installation

A. Each unit shall be constructed at the locations and elevations according to the sizes shown on the approved drawings. Any modifications to the elevation or location shall be at the direction of and approved by the Engineer.

A. Activation of the Filterra unit is performed ONLY by the Supplier. Purchaser is responsible for Filterra inlet protection and subsequent clean out work. This process cannot commence until the project site is fully stabilized and cleaned (fill)

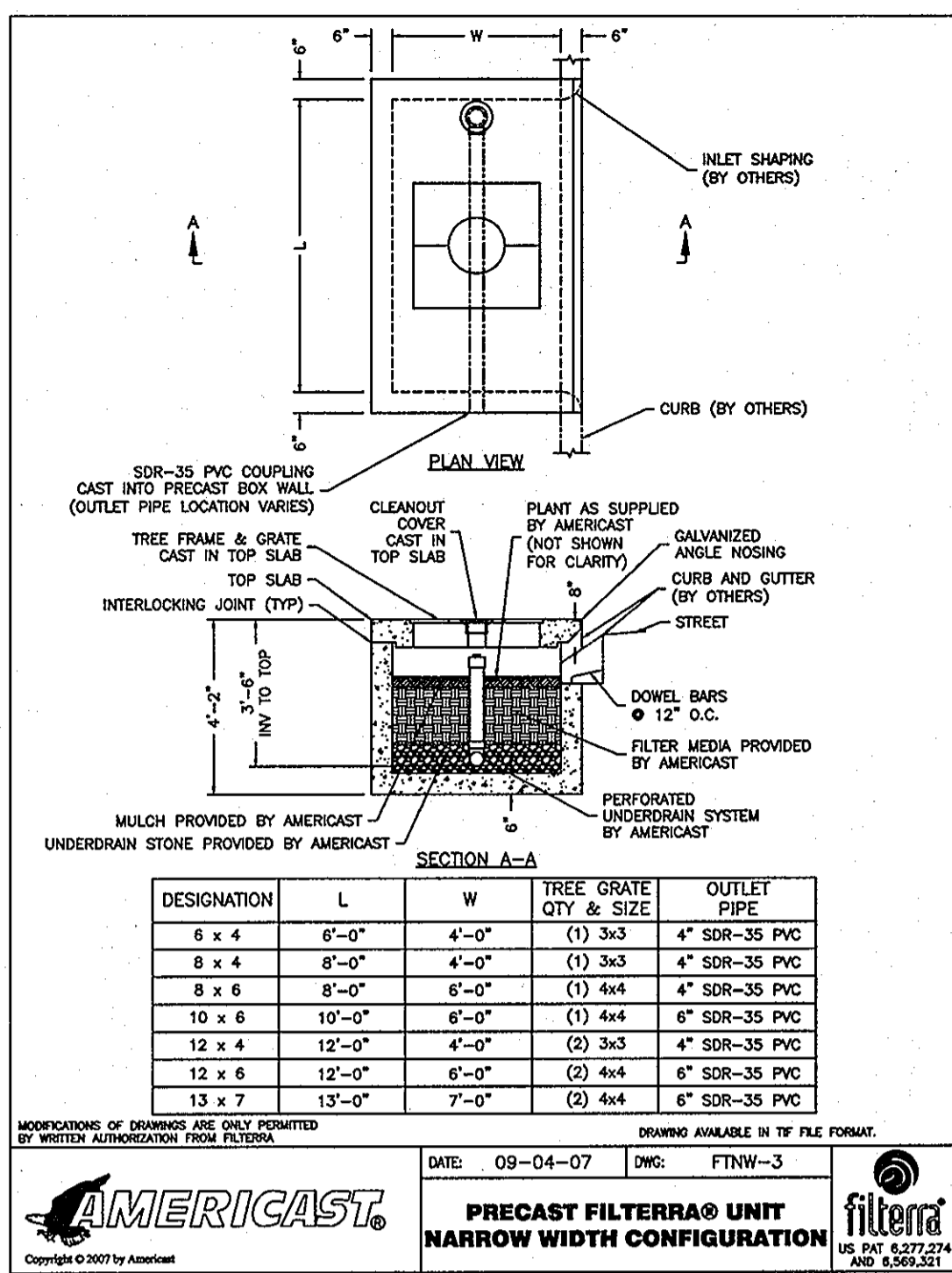
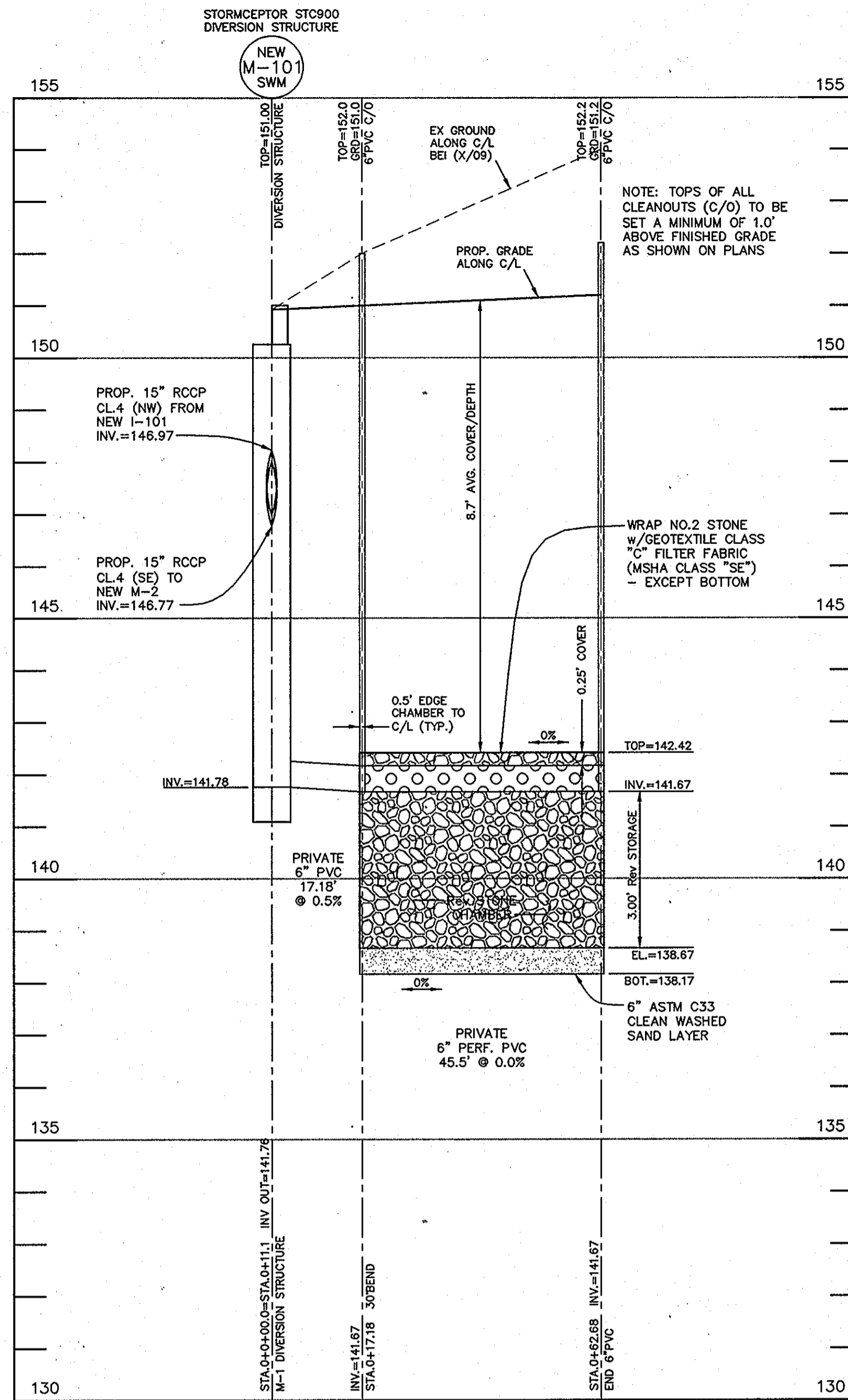
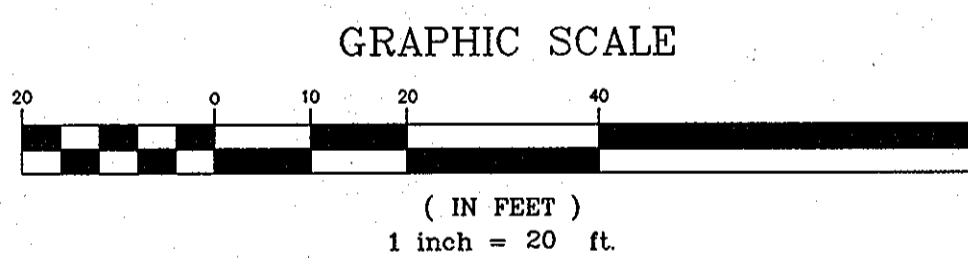


Table with columns: DESIGNATION, L, W, TREE GRATE QTY & SIZE, OUTLET PIPE. Lists various unit sizes and their specifications.

AMERICAST PRECAST FILTERRA UNIT NARROW WIDTH CONFIGURATION. Includes date 09-04-07 and drawing number FTNW-3.

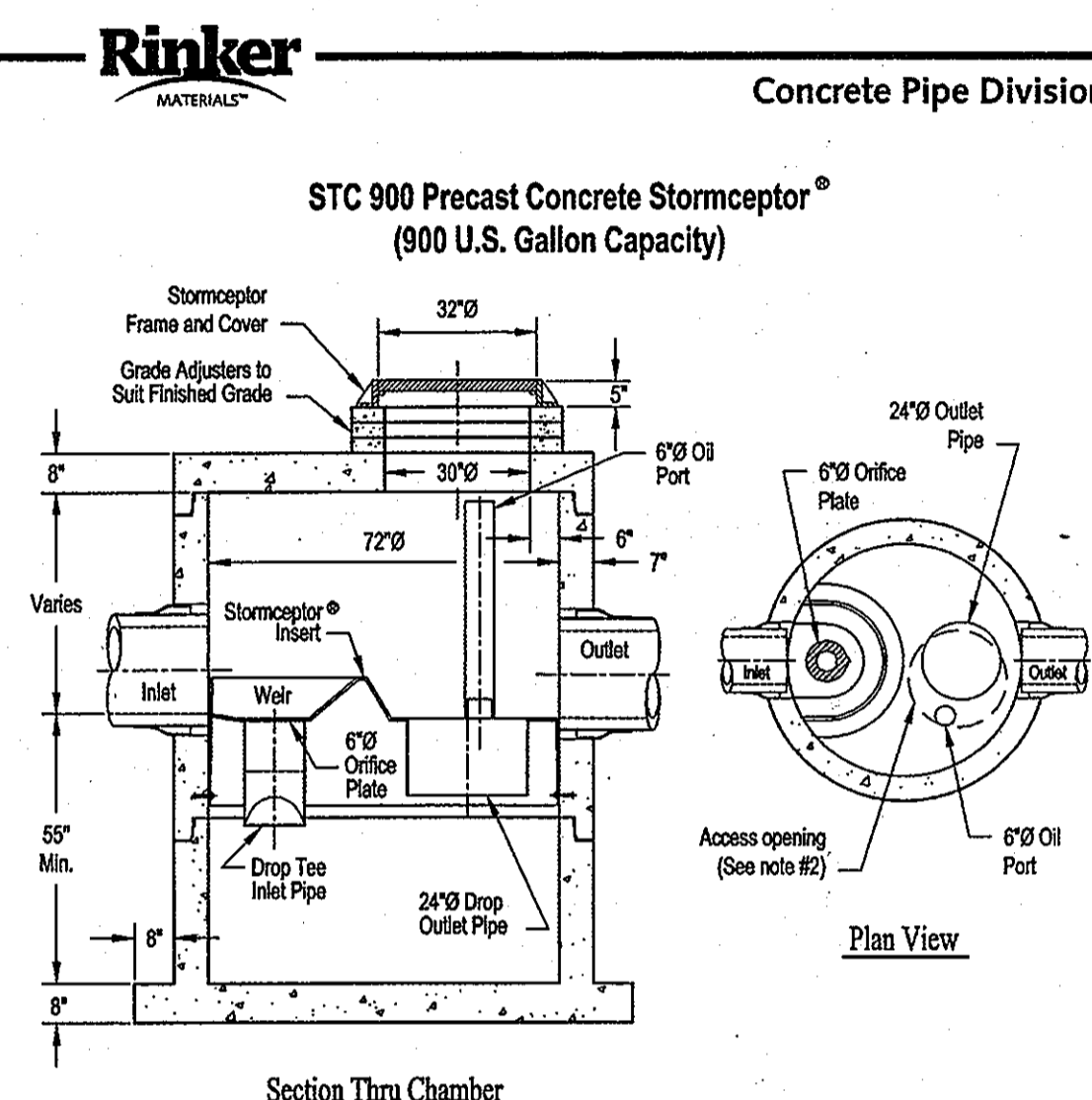


PROFILE ALONG REV CHAMBER. VERTICAL SCALE: 1" = 2'. HORIZONTAL SCALE: 1" = 20'.

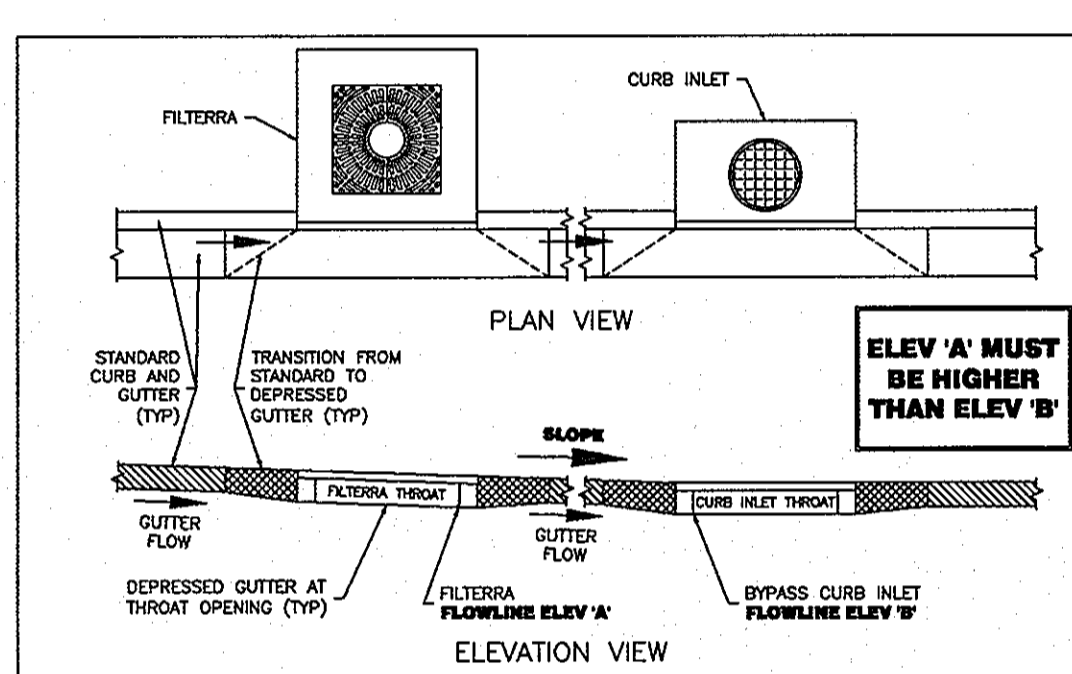


OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED UNDERGROUND STORMWATER FILTRATION SYSTEMS

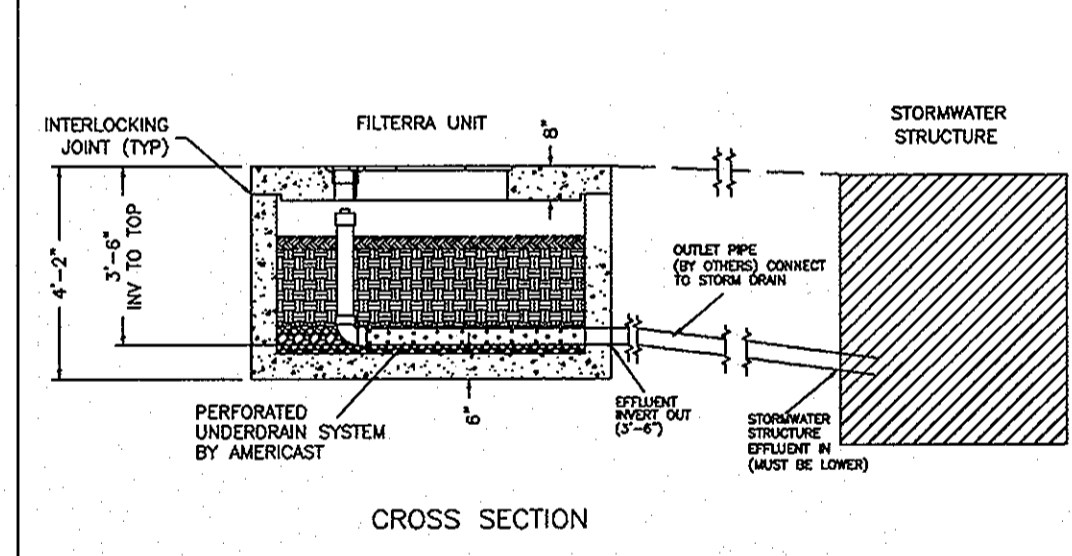
- 1. The Manufactured water quality structure shall be periodically inspected and cleaned to maintain operation and function. The owner shall inspect the unit yearly at a minimum, utilizing the Manufacturer Inspection/Monitoring Form. Inspections shall be done by using a Grade Stick or similar device. When the sediment depths exceeds recommended depths, the unit must be cleaned.
2. The Manufactured water quality structure shall be checked and cleaned immediately after petroleum spills. The owner shall contact the appropriate regulatory agencies.
3. The maintenance of the Manufactured 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.
4. 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 Manufactured unit shall be repaired as needed.
5. The owner shall retain and make the Manufacturers Inspection/Monitoring Forms available to the Howard County officials upon their request.



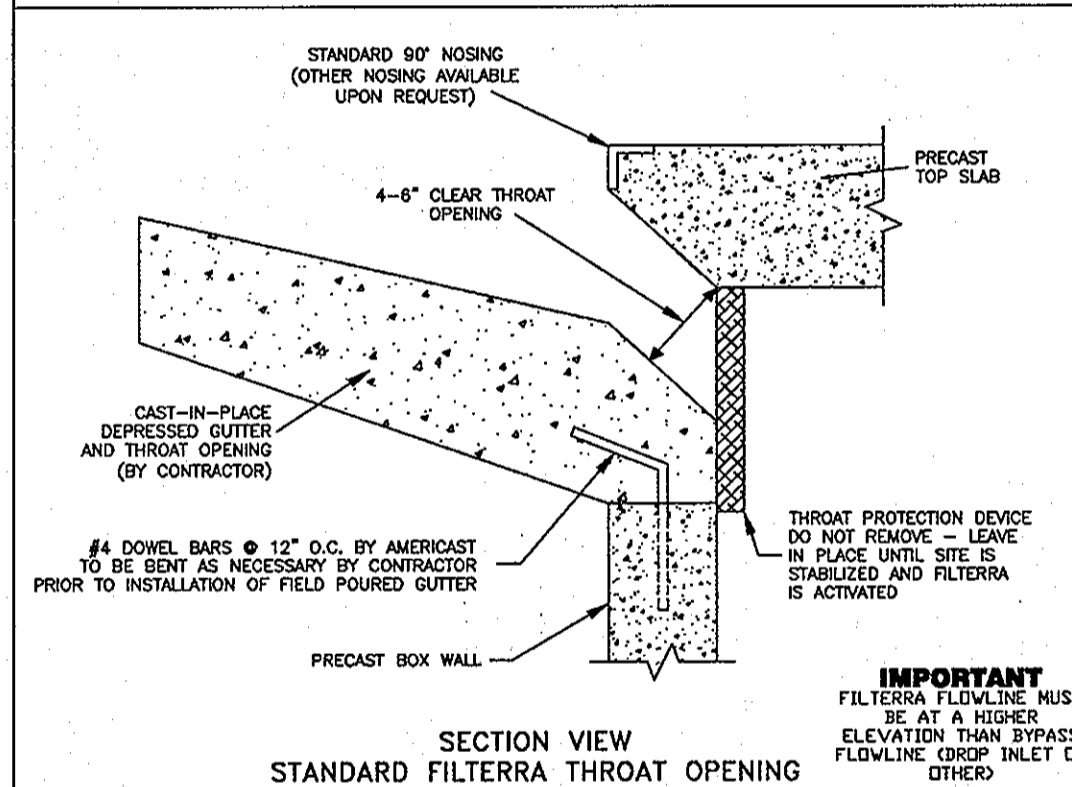
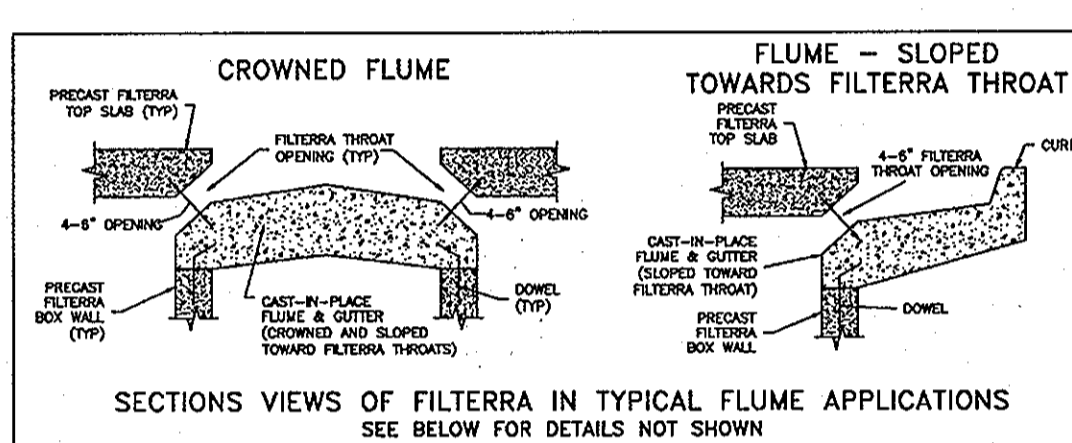
- Notes:
1. The Use Of Flexible Connection is Recommended at The Inlet and Outlet Where Applicable.
2. The Cover Should be Positioned Over The Outlet Drop Pipe and The Oil Port.
3. The Stormceptor System is protected by one or more of the following U.S. Patents: #4985148, #5498331, #5725760, #5753115, #5949181, #6088765, #6371690.
4. Contact a Concrete Pipe Division representative for further details not listed on this drawing.



ELEV 'A' MUST BE HIGHER THAN ELEV 'B'



FILTERRA TYPICAL FLOWLINE AND OUTLET PIPE RELATIONSHIP. DATE: 07-07-06, DWG: FLP-2.



FILTERRA THROAT OPENING AND GUTTER OR FLUME DETAIL. DATE: 02-27-06, DWG: CGT-4.

Drainage Area Summary Table

Table with columns: STUDY POINTS (DRAINAGE AREAS), EXISTING DISCHARGE (CFS), DEVELOPED DISCHARGE (CFS), W/TROFIT CN CREDIT. Lists data for areas #1, #2, #3, and #4.

Water Quality and Ground Water Recharge Summary Table

Table with columns: STUDY POINTS (DRAINAGE AREAS), Water Quality (WQv), Ground Water Recharge (Rev). Lists data for areas #1, #2, #3, #4, and Total.

\* The Water quality provided in DA #1 is sized to provide sufficient Water Quality treatment to exceed the requirements for both DA #1 and #2 (providing 125% of the required treatment)
\*\* The ground water recharge requirement for DA #2, #3 and #4 is addressed within the stone chamber located in DA #1. The reason for this method is explained in further detail in the following sections.

Summary of General Storage Requirement Drainage Area #1

Table with columns: Requirement, Volume Required (cc-ft), Notes. Lists requirements for Water Quality Volume, Recharge Volume, Channel Protection Volume, etc.

Summary of General Storage Requirement Drainage Area #2

Table with columns: Requirement, Volume Required (cc-ft), Notes. Lists requirements for Water Quality Volume, Recharge Volume, Channel Protection Volume, etc.

Summary of General Storage Requirement Drainage Area #3

Table with columns: Requirement, Volume Required (cc-ft), Notes. Lists requirements for Water Quality Volume, Recharge Volume, Channel Protection Volume, etc.

Summary of General Storage Requirement Drainage Area #4

Table with columns: Requirement, Volume Required (cc-ft), Notes. Lists requirements for Water Quality Volume, Recharge Volume, Channel Protection Volume, etc.

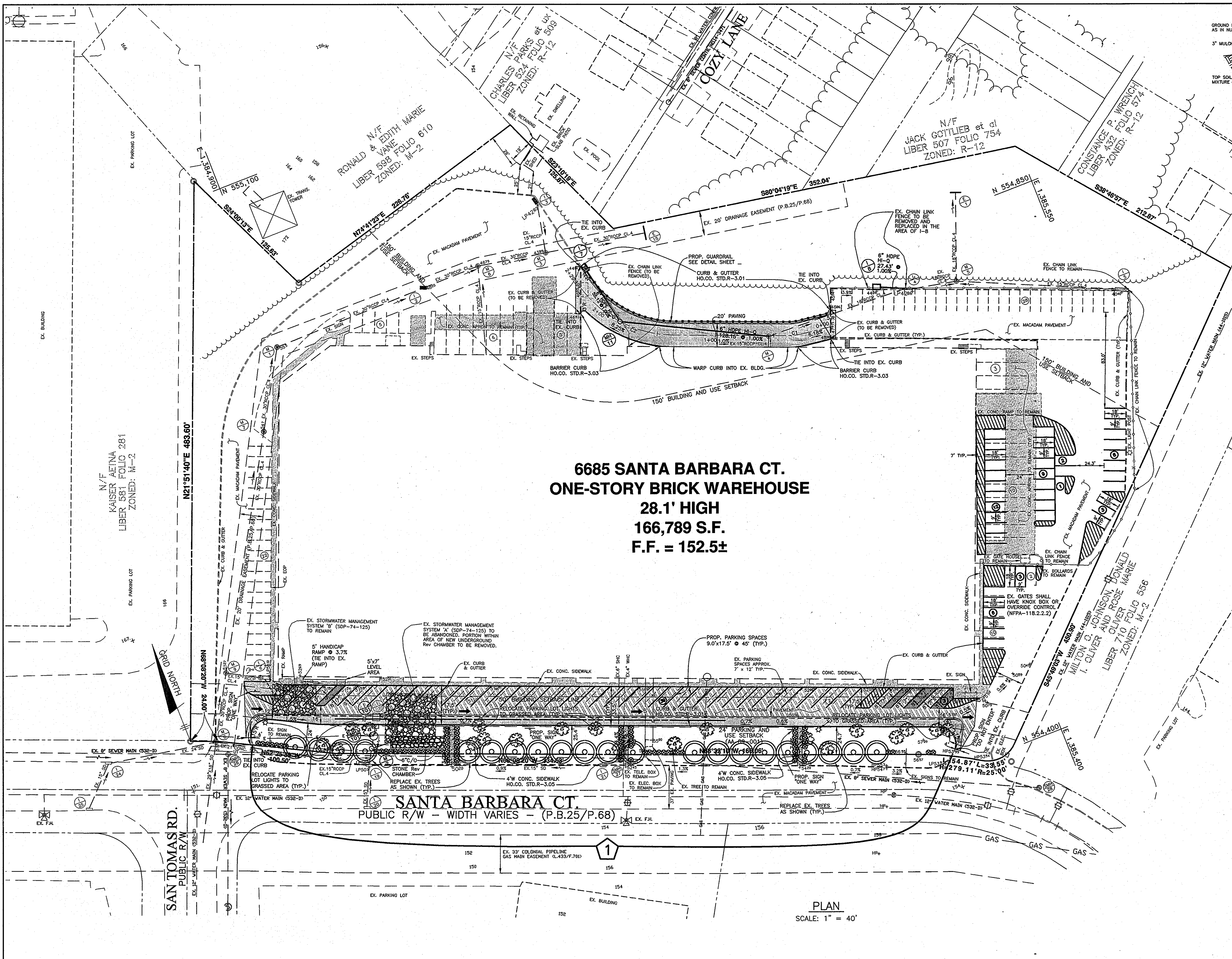
SOILS LEGEND table with columns: MAP SYMBOL, SOIL GROUP, SOIL TYPE. Lists soil types like BELTSVILLE SILT LOAM, EVESBORO LOAMY SAND, etc.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. Includes signatures of Chief Development Engineering Division and Chief of Land Development.

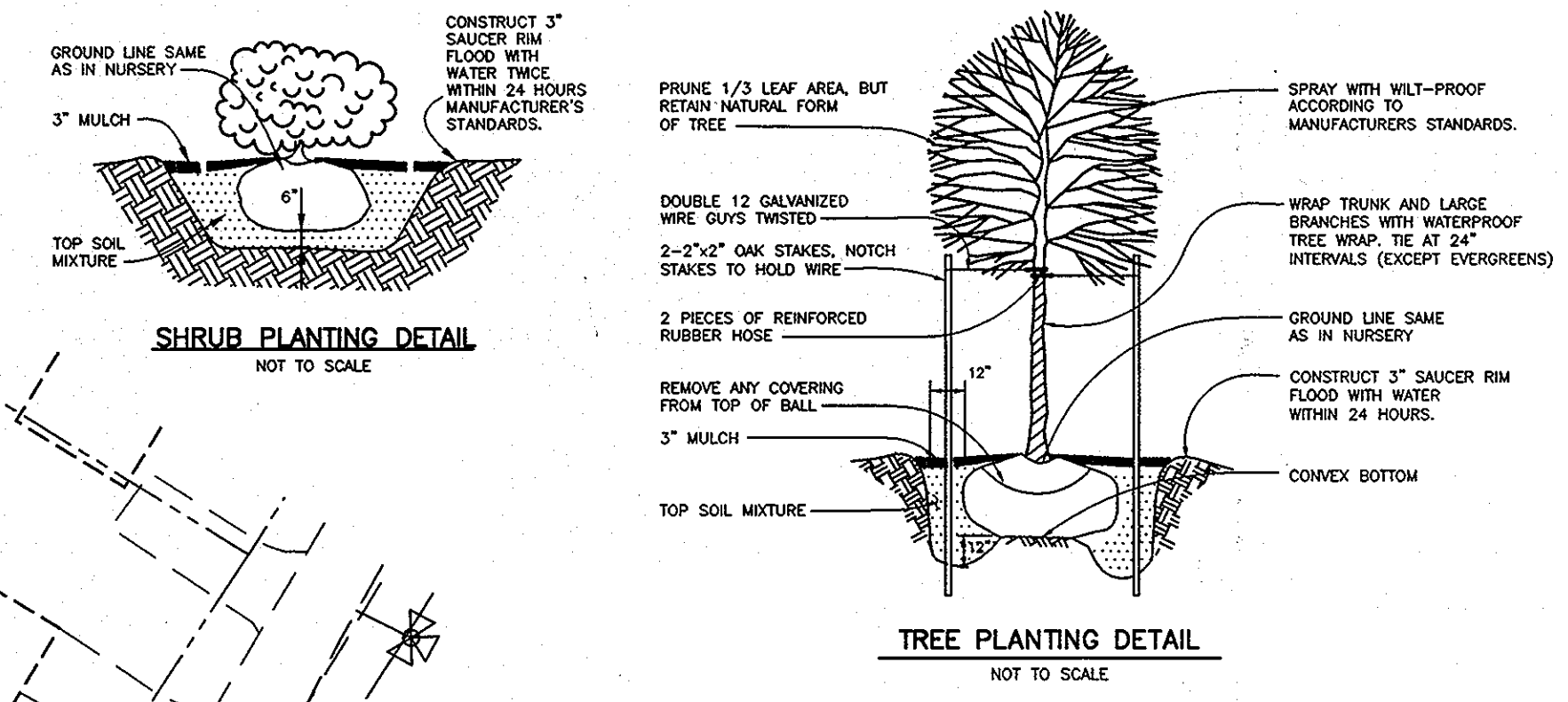
REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS. Includes signature of USDA - Natural Resources Conservation Service and Howard SCD.

BENCHMARK ENGINEERING, INC. logo and contact information: 8480 BALTIMORE NATIONAL PIKE & SUITE 418, ELLICOTT CITY, MARYLAND 21043. Phone: 410-465-6105, Fax: 410-465-6644.

OWNER/DEVELOPER: J2J, LLC, 6685 SANTA BARBARA COURT, ELK RIDGE, MARYLAND 21075, 443-459-5080. PROJECT: ROUTE ONE HUNDRED BUSINESS PARK BLOCK "D" PARCEL "E-1".



**6685 SANTA BARBARA CT.**  
**ONE-STORY BRICK WAREHOUSE**  
**28.1' HIGH**  
**166,789 S.F.**  
**F.F. = 152.5±**



**SCHEDULE A PERIMETER LANDSCAPE EDGE**

CATEGORY	ADJACENT TO ROADWAY	ADJACENT TO PERIMETER PROPERTIES	YES	NO
PERIMETER NO. / LANDSCAPE TYPE			1	E
LINEAR FEET OF ROADWAY/PROPERTY (FRONTAGE/PERIMETER)			600.2	(0.0)
CREDIT FOR EXISTING VEGETATION: NO OR YES (w/LINEAR FEET) (DESCRIBE BELOW IF NEEDED)			*	**
CREDIT FOR WALL, FENCE OR BERM: NO OR YES (w/LINEAR FEET) (DESCRIBE BELOW IF NEEDED)			NO	-
NUMBER OF PLANTS REQUIRED: SHADE TREES			15	-
EVERGREEN TREES			-	-
OTHER TREES (2:1 SUBSTITUTE) SHRUBS			150	-
NUMBER OF PLANTS PROVIDED: SHADE TREES			22*	-
EVERGREEN TREES			-	-
OTHER TREES (2:1 SUBSTITUTE) SHRUBS (10:1 SUBSTITUTE) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)			80**	-

\* 22 TOTAL = 21 EX. TREES RE-LOCATED WITHIN THIS PERIMETER AND 1 EX. TREE TO REMAIN  
 \*\* 7 EX. SHADE TREES SUBSTITUTE 70 SHRUBS

**PERIMETER PLANTING LIST**

SYMBOL	QUANTITY	NAME	REMARKS
⊙	21	EXISTING SHADE TREES	TO BE RE-LOCATED
⊗	1	EXISTING SHADE TREE	TO REMAIN
⊗	80	ILEX CORNUTA "CHINESE HOLLY"	2.5'-3.0' MIN. HT.

- LANDSCAPING NOTES**
- THE PROPOSED LANDSCAPING SHALL BE PROVIDED BY THE PLANTINGS AS SHOWN ON THESE PLANS.
  - THE DEVELOPER SHALL BE RESPONSIBLE FOR ALL INTERNAL PLANTINGS; THE PRESERVATION OF THE EXISTING PERIMETER VEGETATION AND FOR THE PERIMETER PLANTINGS AS SHOWN ON THESE PLANS; BONDING FOR THE PROPOSED PLANTINGS IS THE OBLIGATION OF THE DEVELOPER AS PART OF THE DEVELOPERS AGREEMENT.
  - TREES MUST BE A MINIMUM OF FOUR(4) FEET FROM THE CURB OR SIDEWALK AND MUST BE A MINIMUM OF FIVE(5) FEET FROM ANY STORM DRAIN.
  - A MINIMUM DISTANCE OF TWENTY(20) FEET MUST BE MAINTAINED BETWEEN ANY TREES LOCATED ALONG THE CURB LINE AND FROM STREET LIGHTS.
  - TREES MUST BE PLANTED A MINIMUM OF FIVE(5) FEET FROM AN OPEN SPACE ACCESS STRIP AND TEN(10) FEET FROM A DRIVEWAY.
  - THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SEC.-16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
  - PERIMETER LANDSCAPING SHALL BE PROVIDED AS SHOWN ON THIS CERTIFIED LANDSCAPE PLAN IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL SURETY IN THE AMOUNT OF \$2,400.00 SHALL BE POSTED AS PART OF THE DEVELOPERS AGREEMENT FOR THIS SITE DEVELOPMENT PLAN SDP-10-016 INCLUDING: - \$2,400.00 FOR THE REQUIRED 80 SHRUBS

**BENCHMARK ENGINEERS, LAND SURVEYORS & PLANNERS ENGINEERING, INC.**

8480 BALTIMORE NATIONAL PIKE SUITE 418  
 ELLICOTT CITY, MARYLAND 21043  
 PHONE: 410-465-6105 FAX: 410-465-6644  
 www.bei-civilengineering.com

STATE OF MARYLAND  
 BRUCE F. CLERRY  
 PROFESSIONAL ENGINEER  
 No. 28559  
 REGISTERED  
 8/10/2011

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

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.

DATE: 9/23/11  
 DATE: 9/26/11  
 DATE: 9/26/11

NOTE: TREES LABELED TO BE RE-LOCATED SHALL BE REMOVED AND STORED PRIOR TO CONSTRUCTION AND THEN REPLANTED OR REPLACED AS NECESSARY AFTER CONSTRUCTION IS COMPLETED.

AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.

OWNER/DEVELOPER: **J2J, LLC**  
 6685 SANTA BARBARA COURT  
 ELKBRIDGE, MARYLAND 21075  
 443-459-5080

PROJECT: **ROUTE ONE HUNDRED BUSINESS PARK BLOCK "D" PARCEL "E-1"**

LOCATION: TAX MAP-38 GRID-19 PARCEL 857  
 1st ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: **LANDSCAPE PLAN NOTES AND DETAILS**

DATE: AUGUST 25, 2009  
 AUGUST, 2011

PROJECT NO. 2168

DESIGN: BC/MR DRAFT: BC/MR/HP CHECK: BC SCALE: AS SHOWN SHEET 10 OF 10