

PATAPSCO VALLEY BUSINESS CENTER

SITE DEVELOPMENT PLAN

PARCEL I

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS:
 - MISS UTILITY:
 - VERIZON TELEPHONE COMPANY: 1-800-257-7777
 - HOWARD COUNTY BUREAU OF UTILITIES: 1-410-954-6281
 - AT&T CABLE LOCATION DIVISION: 315-2366
 - B.G.&E. CO. CONTRACTOR SERVICES: 393-3553
 - B.G.&E. CO. UNDERGROUND DAMAGE CONTROL: 850-4630
 - STATE HIGHWAY ADMINISTRATION: 787-4620
 - 531-5533
- SITE ANALYSIS:
 - AREA OF PARCEL: 64,277 AC.
 - PRESENT ZONING: M-2
 - USE OF STRUCTURE: WAREHOUSE
 - BUILDING 1 COVERAGE: 456,240 SF. (INCLUDES 6000 SF. MEZZANINE)
 - BUILDING 2 COVERAGE: 14,900 SF.
 - BUILDING 3 COVERAGE: 50,690 SF.
 - TOTAL BUILDING COVERAGE: 721,830 SF.
 - BUILDING 1 COVERAGE ON SITE (INCLUDING ROOF): 10,474 AC. OR 16.30% OF GROSS AREA
 - BUILDING 2 COVERAGE ON SITE (INCLUDING ROOF): 4,933 AC. OR 7.67% OF GROSS AREA
 - BUILDING 3 COVERAGE ON SITE (INCLUDING ROOF): 1,164 AC. OR 1.81% OF GROSS AREA
 - TOTAL BUILDING COVERAGE ON SITE (INCLUDING ROOF): 16,571 AC. OR 25.78% OF GROSS AREA
 - PAVED PARKING LOT/AREA ON SITE: 19,777 AC. OR 30.76% OF GROSS AREA
 - AREA OF LANDSCAPE ISLAND: 1.90 AC. OR 2.96% OF GROSS AREA
 - LIMIT OF DISTURBED AREA: 44.82 AC. OR 69.73% OF GROSS AREA
 - CUT: 37,575 CY FILL: 37,575 CY
- PROJECT BACKGROUND:
 - LOCATION: COLUMBIA, MD.; TAX MAP 38, BLOCK 18, PARCEL 284 & 285
 - ZONING: M-2
 - SUBDIVISION: PATAPSCO VALLEY BUSINESS CENTER
 - SECTION/AREA: N/A
 - SITE AREA: 64,277 AC.
 - DZ REFERENCE: S-91-19, P-91-14, F-94-24, F-02-164, PLAT NO. 15493-15500, AA-05-015, F-05-149, F-06-230
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START OF WORK.
- ANY DAMAGE TO PUBLIC RIGHT-OF-WAYS, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- EXISTING UTILITIES LOCATED FROM ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND AND SEWER EXTENSION PLANS AND AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- ALL REINFORCED CONCRETE FOR STORM DRAIN STRUCTURES SHALL HAVE A MINIMUM OF 28 DAYS STRENGTH OF 3,500 P.S.I.
- 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.
- ESTIMATES OF EARTHWORK QUANTITIES ARE PROVIDED SOLELY FOR THE PURPOSE OF CALCULATING FEES.
- SOIL COMPACTION SPECIFICATIONS, REQUIREMENTS, METHODS AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER. GEOTECHNICAL ENGINEER TO CONFIRM ACCEPTABILITY OF PROPOSED PAVING SECTION, BASED ON SOIL TEST PRIOR TO CONSTRUCTION.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM AN AERIAL SURVEY PREPARED BY POTOMAC AERIAL SURVEYS, INC., DATED OCTOBER 1, 2005.
- THE BOUNDARY SHOWN ON THIS PLAN IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT JULY 10, 1990 BY FISHER, COLLINS AND CARTER, INC.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- ALL PAVING TO BE MINIMUM HOWARD COUNTY STANDARD DETAIL P-3 UNLESS OTHERWISE NOTED. (SEE DETAILS, SHEET 4) THE GEOTECHNICAL ENGINEER TO CONFIRM PAVING SECTION PRIOR TO CONSTRUCTION.
- ALL CURB AND GUTTER TO BE HOWARD COUNTY STANDARD DETAIL 3.01 UNLESS OTHERWISE NOTED. (SEE DETAIL, SHEET 4)
- CONTRACTOR RESPONSIBLE TO CONSTRUCT ALL HANDICAP RAMPS AND HANDICAP ACCESS IN ACCORDANCE WITH CURRENT ADA REQUIREMENTS.
- WHERE DRAINAGE FLOWS AWAY FROM CURB, CONTRACTOR TO REVERSE THE GUTTER PAN.
- ALL ELEVATIONS ARE TO FLOWLINE/BOTTOM OF CURB UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- PUBLIC WATER AVAILABLE THROUGH CONTRACT 14-3342-D.
- PUBLIC SEWER AVAILABLE THROUGH CONTRACT 181-S. THIS PROPERTY IS LOCATED IN THE PATAPSCO DRAINAGE AREA.
- STORMWATER MANAGEMENT FOR THE ENTIRE SUBDIVISION WAS PROVIDED UNDER F84-24. DETENTION FACILITIES WERE SIZED TO MANAGE ULTIMATE SITE CONDITIONS AND ARE PRIVATELY OWNED AND MAINTAINED.
- ALL EXTERIOR LIGHTING TO CONFORM TO SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS. (DETAIL ON SHEET 7)
- GEOTECHNICAL REPORT PREPARED BY ENGINEERING CONSULTING SERVICES, LTD., DATED DECEMBER 20, 2004
- ANY EXISTING STREET TREES DAMAGED OR DESTROYED DURING CONSTRUCTION WILL BE REPLACED BY THE CONTRACTOR.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$44,130.00 FOR THE REQUIRED 119 SHADE TREES, 31 EVERGREEN TREES AND 126 SHRUBS.
- THE FOREST CONSERVATION OBLIGATION FOR THIS PLAN HAS BEEN MET BY THE CREATION OF AN ONSITE 0.72 ACRE RETENTION FOREST CONSERVATION EASEMENT AND BY A PAYMENT OF \$18,295.20 THAT WAS MADE TO HOCD FOREST CONSERVATION FUND FOR THE REMAINING OBLIGATION OF 0.84 ACRES OF REFORESTATION (0.84 ACRE = 36,590.40 SQ.F.T. X \$0.50 = \$18,295.20). SURETY IN THE AMOUNT OF \$6,272.64 HAS BEEN POSTED AS A PART OF THE DEVELOPER'S AGREEMENT FOR THE ONSITE 0.72 ACRE RETENTION FOREST CONSERVATION EASEMENT (0.72 ACRE = 31,363.20 SQ.F.T. X \$0.20 = \$6,272.64).
- TRAFFIC STUDY PREPARED BY THE TRAFFIC GROUP DATED JULY 25, 2003.
- ALL STORMDRAIN PIPE BEDDING IS TO BE CLASS 'C'.
- BUILDING TO HAVE INSIDE WATER METER SETTING.
- THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
- NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE WETLANDS, STREAMS OR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS, EXCEPT AS SHOWN ON THIS PLAN.
- SUBJECT PROPERTY IS ZONED M-2 PER 2/2/04 COMPREHENSIVE ZONING PLAN.
- REF. WP-91-98, DATED MARCH 15, 1991, WHICH APPROVED THE FOLLOWING FOR F-94-24:
 - SECTION 16.116.C.4 - TO PERMIT REMOVAL OF VEGETATIVE COVER AND/OR GRADING ON SPECIFIC STEEP SLOPES ADJACENT TO A FLOODPLAIN OR WETLAND, AND WITHIN SPECIFIC WETLANDS.
 - SECTION 16.116.C.6 - TO PERMIT REMOVAL OF VEGETATIVE COVER AND/OR GRADING WITHIN THE REQUIRED 25 FOOT WETLAND BUFFERS FOR ROAD CROSSING, STORMWATER MANAGEMENT AND SPECIFIC FUTURE DEVELOPMENT AREAS.
- IMPACT TO NONTIDAL WETLANDS & WATERWAYS WAS APPROVED ON JANUARY 13, 1994 BY MARYLAND DEPARTMENT OF NATURAL RESOURCES WATER RESOURCES ADMINISTRATION TRACKING NO. 199101199 DIVISION NO. 93-WT-0858.
- THE FLOODPLAIN STUDY AND WETLANDS DELINEATION WAS APPROVED UNDER P-91-14 ON OCTOBER 1, 1992.
- THE EROSION & SEDIMENT CONTROL MEASURES SHOWN ON F-94-24 ARE TO UTILIZED TO THE EXTENT POSSIBLE DURING CONSTRUCTION.
- REF. AA-05-015, AN ADMINISTRATIVE ADJUSTMENT FROM SECTION 123.D.2.C. OF THE ZONING REGULATIONS TO REDUCE THE 150 FOOT STRIKEBACK FROM A RESIDENTIAL DISTRICT TO 120 FEET FOR CAR PARKING, TRAILER STORAGE, DRIVEWAY, AND RETAINING WALLS, AS AUTHORIZED UNDER THE ADMINISTRATIVE ADJUSTMENT PROCEDURE, SECTION 100F.1.; GRANTED MAY 23, 2005, SUBJECT TO THE FOLLOWING CONDITIONS:
 - THE PETITIONER SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND COUNTY LAWS AND REGULATIONS.
 - THE GRANTED ADMINISTRATIVE ADJUSTMENT SHALL APPLY SOLELY TO THE PROPOSED CAR PARKING, TRAILER STORAGE, DRIVEWAY, AND RETAINING WALLS AS DEPICTED ON THE ADMINISTRATIVE ADJUSTMENT PLAN SUBMITTED BY THE PETITIONER AND NOT TO ANY OTHER STRUCTURE, ADDITION, BUILDING OR USE.
 - A BUILDING PERMIT FOR THE DISTRIBUTION CENTER DEVELOPMENT SHALL BE OBTAINED WITHIN TWO YEARS FROM THE DATE OF THIS ORDER AND SUBSTANTIAL CONSTRUCTION SHALL BE COMPLETED WITHIN THREE YEARS. THE PETITIONER SHALL SUBMIT A COPY OF THIS DECISION AND ORDER WITH THE BUILDING PERMIT APPLICATION.
 - THIS DECISION AND ORDER SHALL BE MAINTAINED IN THE OWNERS' PROPERTY RECORDS AND SHALL BE TRANSFERRED TO ANY SUCCEEDING OWNER OF THE PROPERTY.
- THIS PLAN IS SUBJECT TO MDE APPLICATION TRACKING NO. 200564908.

LEGEND

EXISTING CONTOUR _____

PROPOSED CONTOUR _____

EXISTING SPOT ELEVATION _____

PROPOSED SPOT ELEVATION _____

DIRECTION OF FLOW _____

EXISTING TREES TO REMAIN _____

LIGHT POLES ○-○ SINGLE OVERHEAD ○-○-○ DOUBLE OVERHEAD

CONCRETE _____

BENCHMARKS

COORDINATES BASED ON NAD '83, MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS 38DA, 38GA.

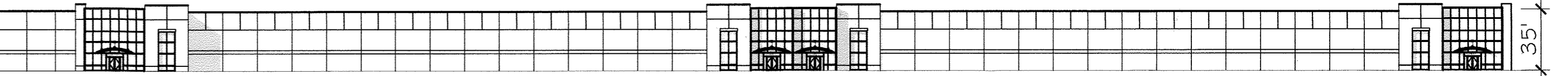
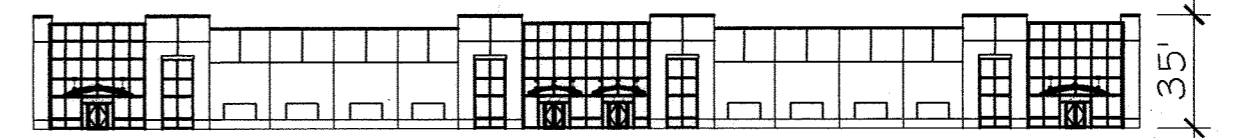
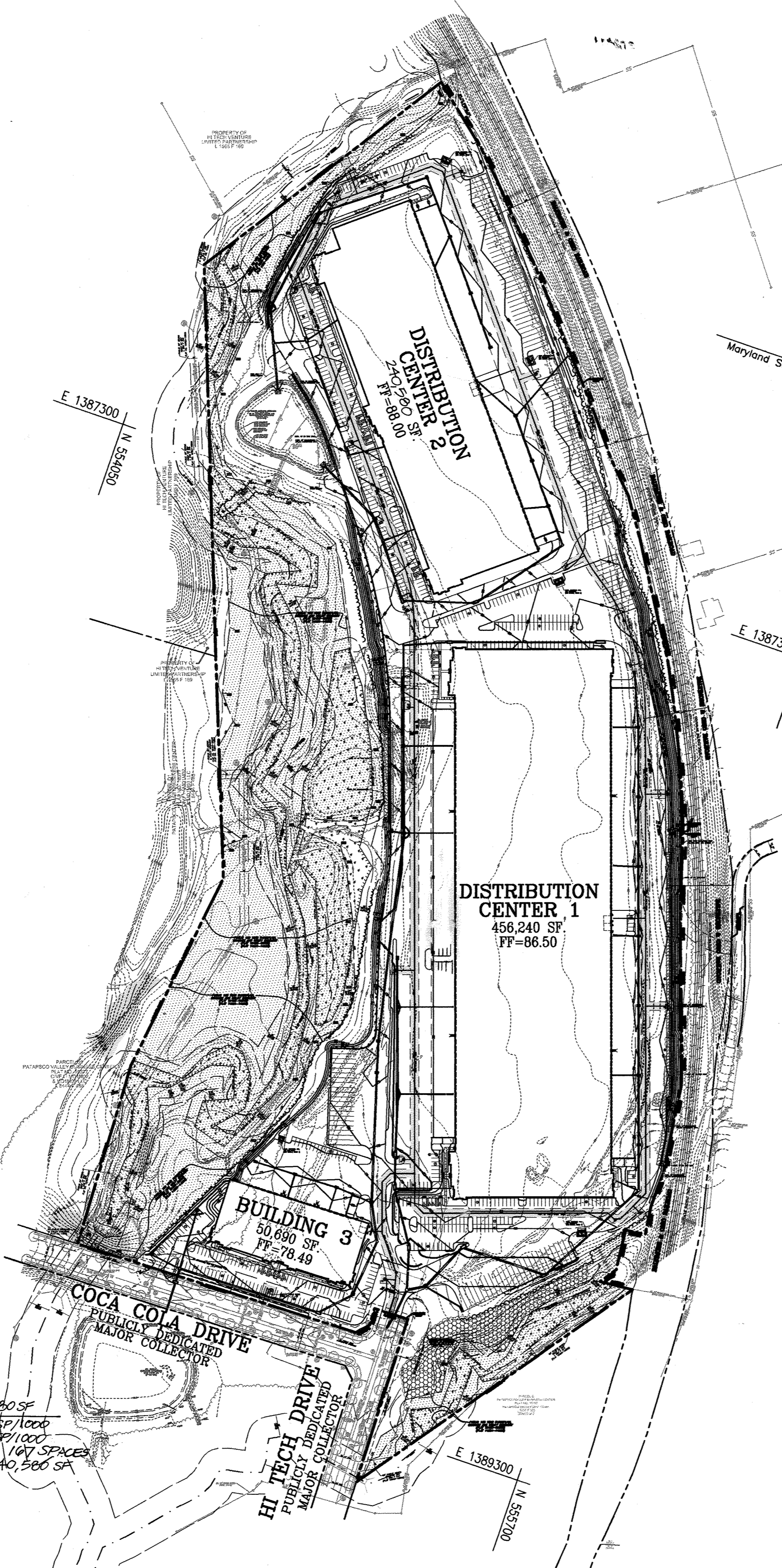
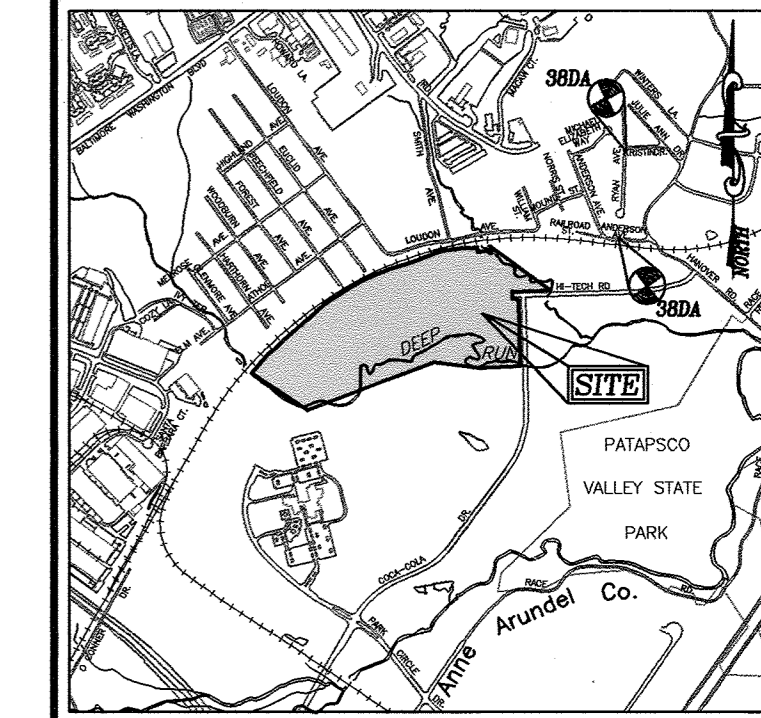
38DA N 556796.2929 E 1390221.4861

38GA N 555,8973157 E 1390132.1323

BENCH MARK ELEVATIONS BASED ON TWO EXISTING PUBLIC SEWER MANHOLE RIM ELEVATIONS (CONT. 14-3342-D).

SMH-191 N 555317 E 1389268 RIM ELEV. 70.19

SMH-192 N 555311 E 1389048 RIM ELEV. 74.08



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Basin/SWM 6 & 7A	

FOR REV. 7 ONLY & REV. B 10/30/14

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. 16597 Expiration Date 01/5/13

11/7/13

8	REVISION TO ADD REVISION GENERATOR PLAN AND OUTDOOR STAIRS TO BUILDING DISTRIBUTION CENTER	6-8-21
8	PRECAST DRIVE-IN, FENCED AREA AND PARKING SPACES	10/30/14

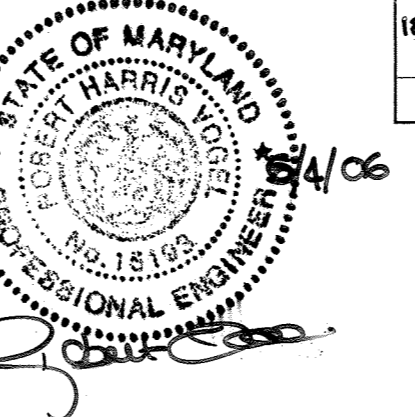
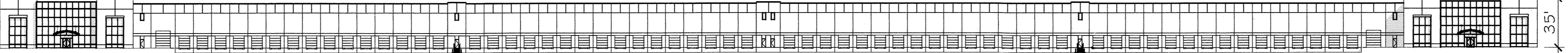
OWNER/PETITIONER
CROSSROADS VENTURE, LLC.
C/O J. PAUL PRICE
101 CONSTITUTION AVENUE, NW, SUITE 600E
WASHINGTON, DC 20001

7	ADDITION OF H.C. RAMPS ON BUILDING 1	01-05-12
6	ADD RAMP TO BUILDING 3	9/24/09
5	MODIFY ENTRANCE TO BUILDING 1	4/24/09
4	ADD DOOR TO BUILDING 2, ADD CONCRETE SLAB FOR FUTURE OIL TANK AND CONDENSER ADJACENT TO BLDG 2	1/28/09
3	ADD MEZZANINE TO BUILDING #2	10/2/08
1	SHEETS 2, 5, 6, 8, 11, 12, 16, 21, 23	7/28-06
NO.	REVISION	DATE

PARKING TABULATION

REQUIREMENT DESCRIPTION	REQUIRED
BUILDING #1 (WAREHOUSE/DISTRIBUTION)	228 SPACES
BUILDING #1 (MEZZANINE)	15 SPACES
BUILDING #2 (WAREHOUSE/DISTRIBUTION)	107 SPACES
BUILDING #3 (HYBRID INDUSTRIAL/OFFICE SPACE)	127 SPACES
TOTAL SPACES: REQUIRED	537 SPACES**
TOTAL SPACES: PROVIDED	500 SPACES** (INCLUDING 22 HANDICAP)

** THERE ARE 150 TRAILER STORAGE SPACES LOCATED ON-SITE FOR VEHICLES OWNED/USED BY THE COMPANY WHICH ARE EXCLUDED FROM THE TOTAL NUMBER OF SPACES PROVIDED.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 7/6/06

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 7/6/06

DIRECTOR: *[Signature]* DATE: 7/6/06

SITE DEVELOPMENT PLAN
COVER SHEET

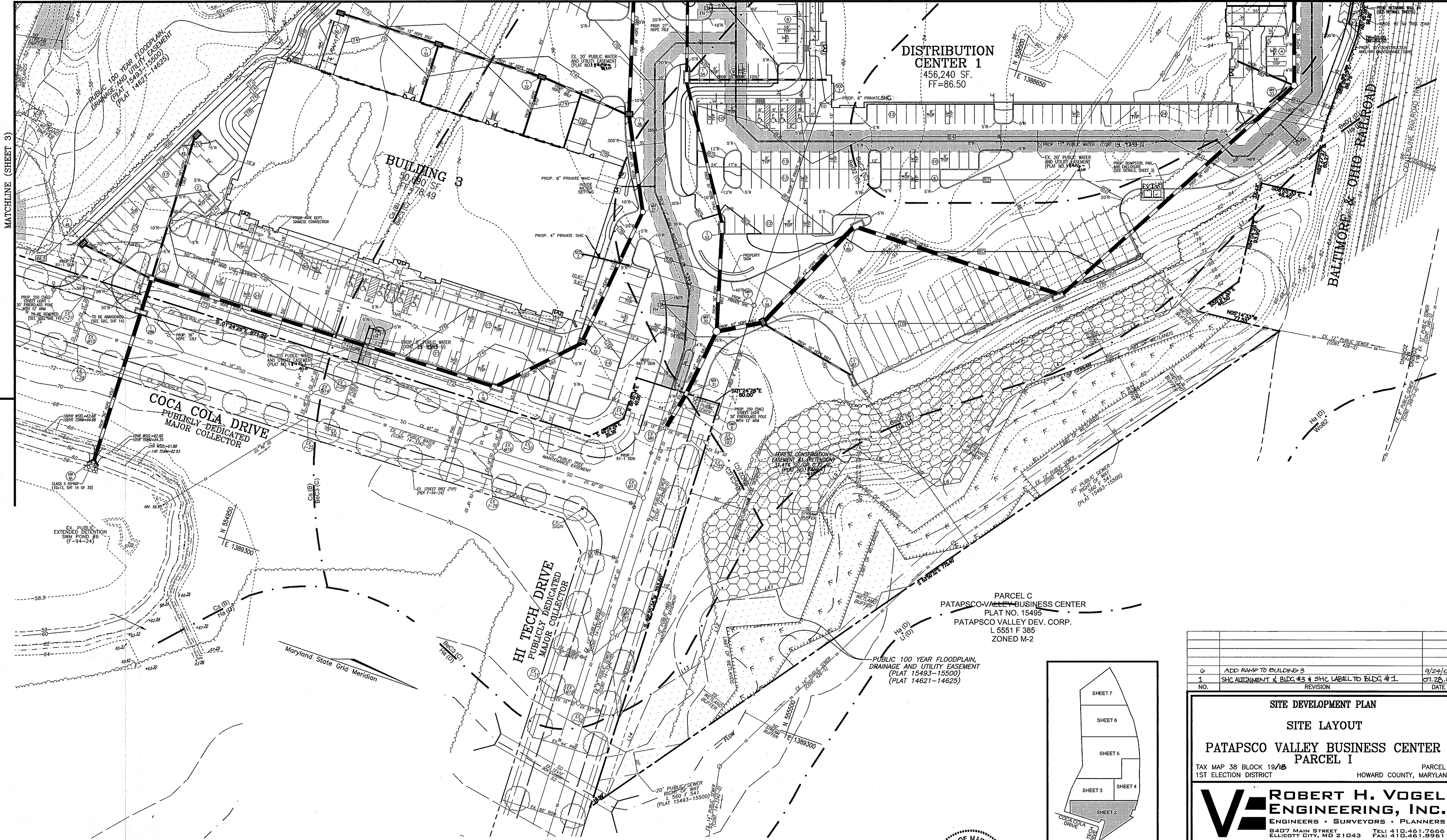
PATAPSCO VALLEY BUSINESS CENTER
PARCEL I

TAX MAP 38 BLOCK 18/18 PARCEL 1
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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

DESIGN BY: WGZ/DZ
DRAWN BY: DV
CHECKED BY: RHV
DATE: JUNE 1, 2006
SCALE: 1"=200'
W.O. NO.: 04-121

1 SHEET OF 30

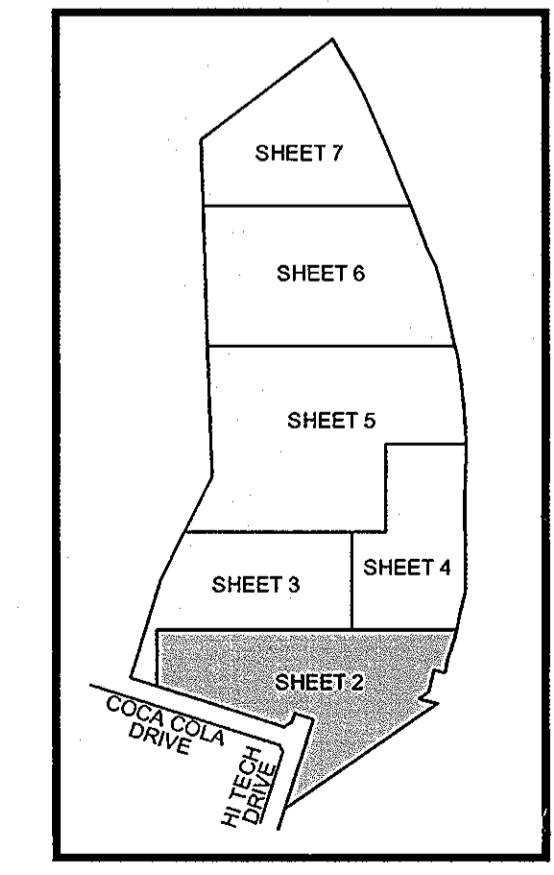
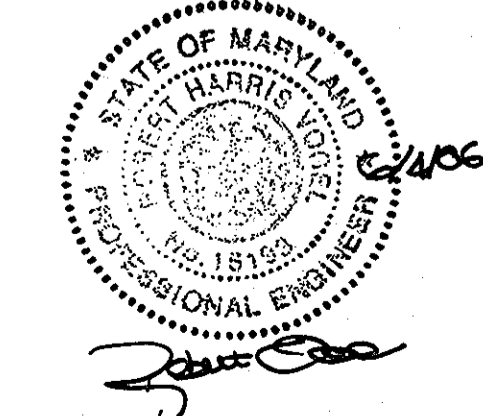


APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 7/6/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 7/6/06
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 7/6/06
DIRECTOR DATE



NO.	REVISION	DATE
0	ADD RAMP TO BUILDING 3	9/24/09
1	SHC ALIGNMENT & BLDG #3 & SHC LABEL TO BLDG #1	07.28.06

SITE DEVELOPMENT PLAN
SITE LAYOUT
PATAPSCO VALLEY BUSINESS CENTER
PARCEL I

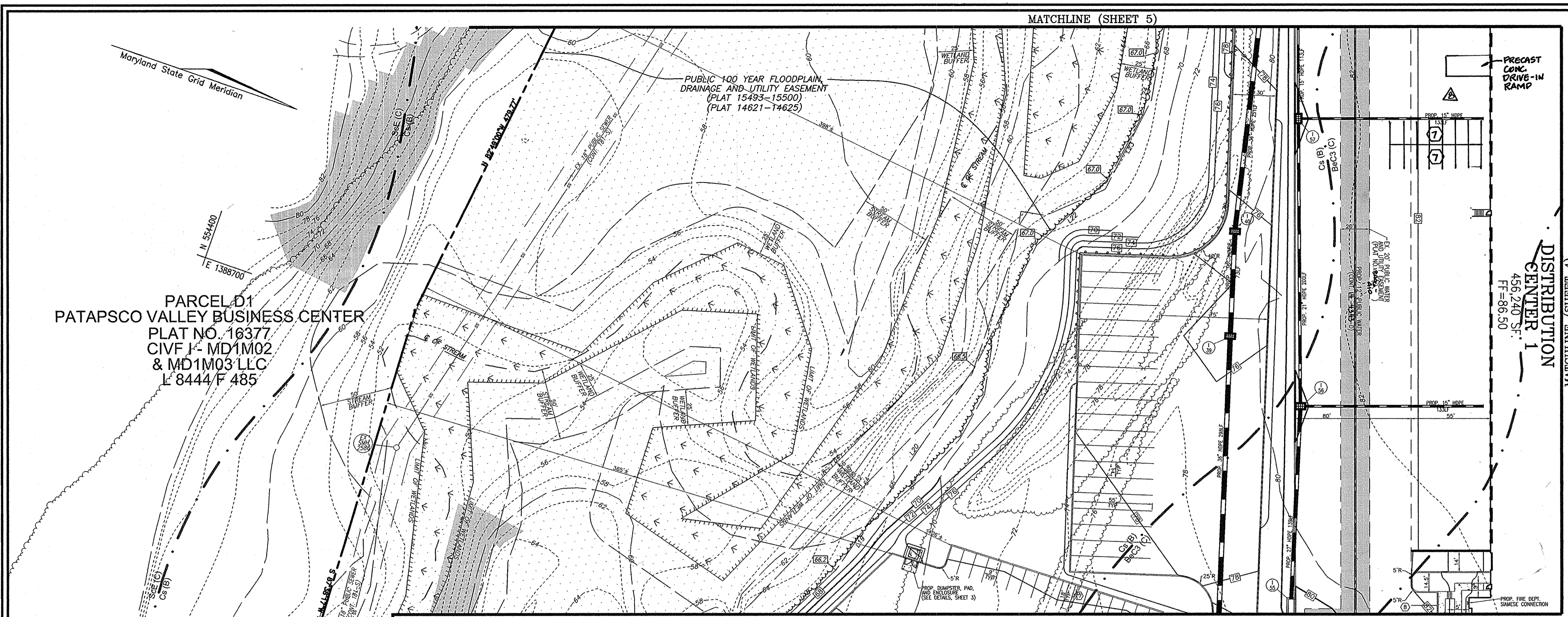
TAX MAP 38 BLOCK 19/1B PARCEL I
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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

DESIGN BY: WJZ/DZ
DRAWN BY: DZ
CHECKED BY: RHV
DATE: JUNE 1, 2006
SCALE: 1"=40'
W.O. NO.: 04-121

2 SHEET OF 30

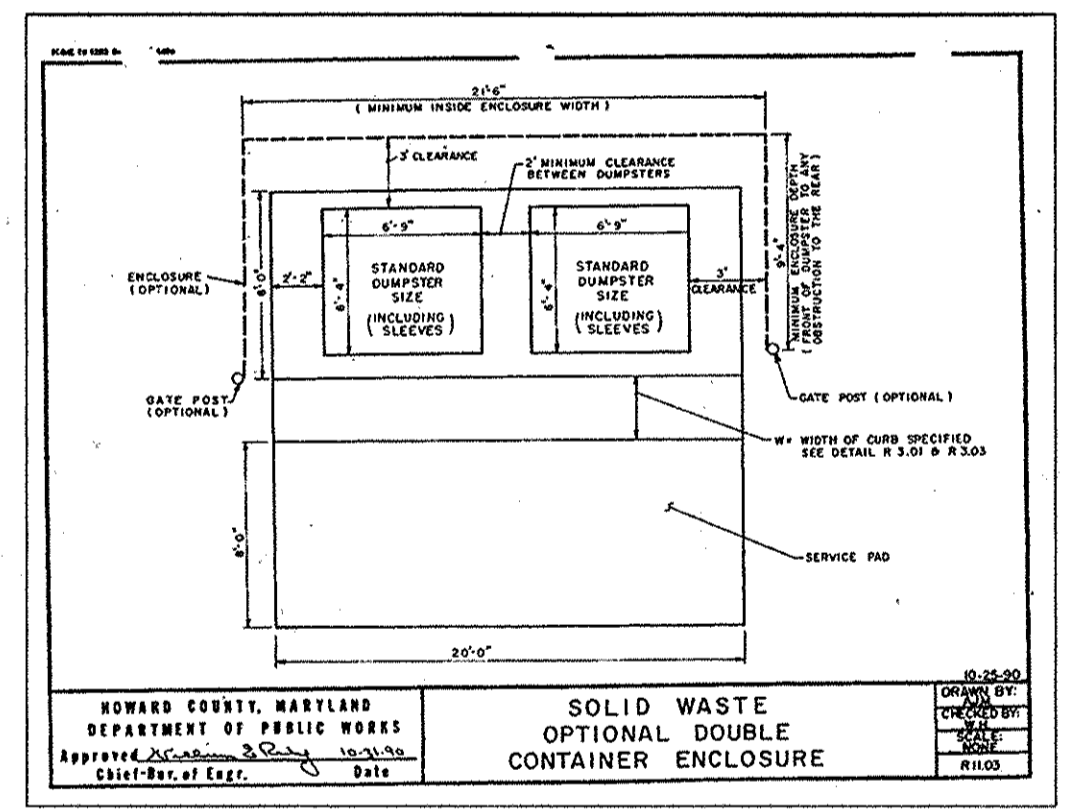
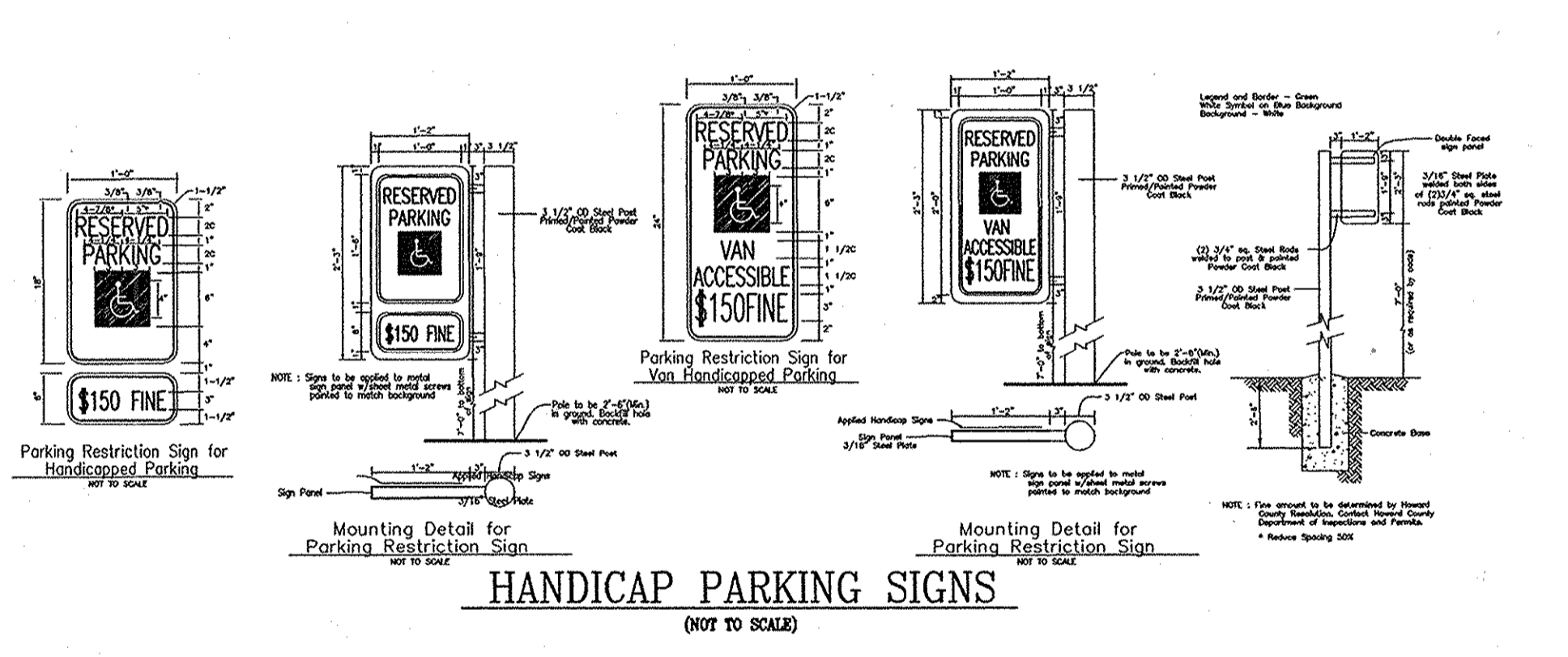
ROBERT H. VOGEL, PE NO.16193



PARCEL D1
 PATAPSCO VALLEY BUSINESS CENTER
 PLAT NO. 16377
 CIVF J- MD1M02
 & MD1M03 LLC
 L 8444/F 485

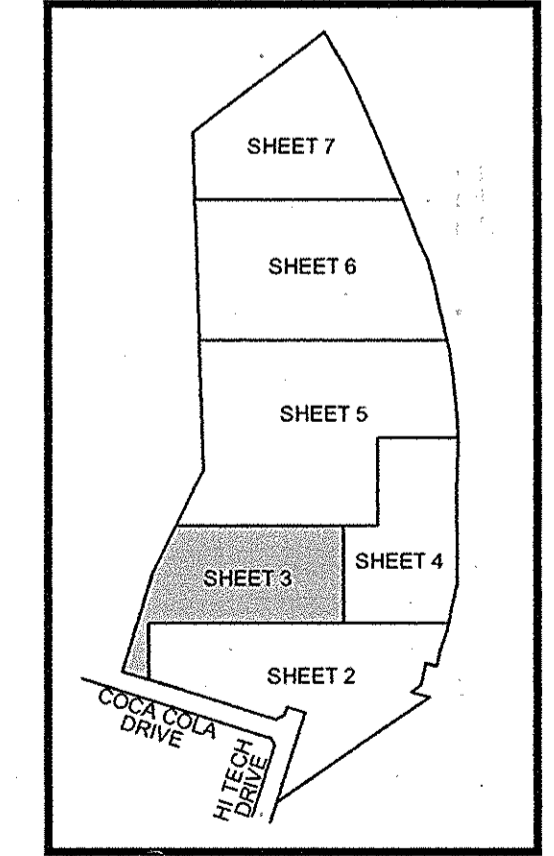
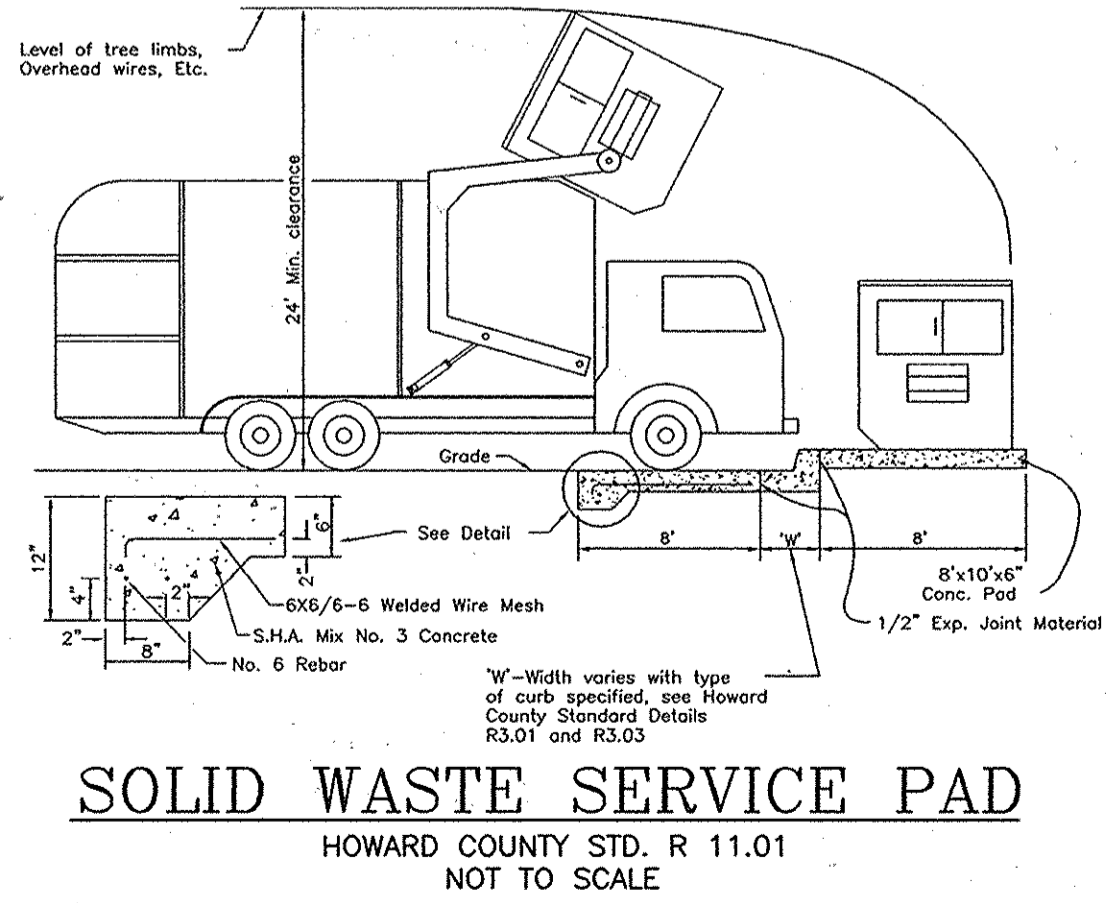
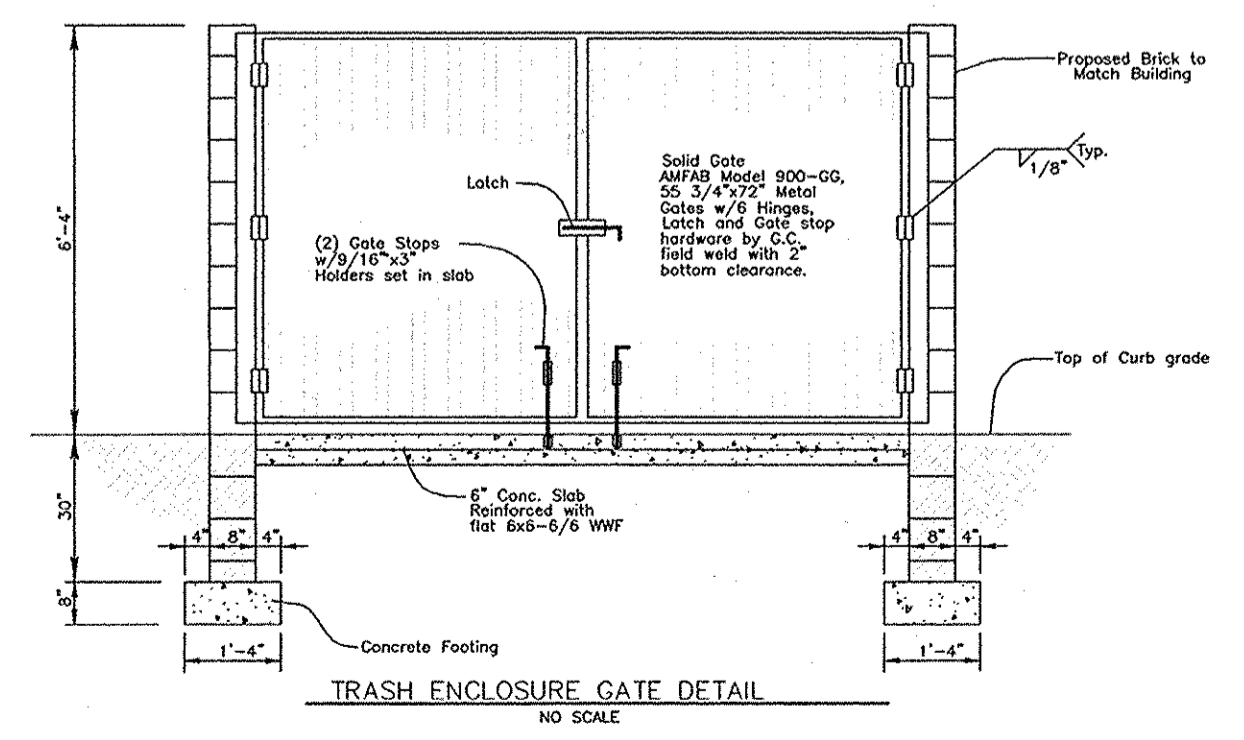
- LEGEND:**
- - - - - EXISTING CONTOUR
 - - - - - PROPOSED CONTOUR
 - + 40288 PROPOSED SPOT ELEVATION
 - + 40288 EXISTING SPOT ELEVATION
 - ==== EXISTING CURB AND GUTTER
 - ==== PROPOSED CURB AND GUTTER
 - ⊕ EXISTING UTILITY POLE
 - ⊕ EXISTING LIGHT POLE
 - ⊕ EXISTING MAILBOX
 - ⊕ EXISTING SIGN
 - ⊕ EXISTING SANITARY MANHOLE
 - S EXISTING SANITARY LINE
 - ⊕ EXISTING CLEANOUT
 - ⊕ EXISTING FIRE HYDRANT
 - ⊕ EXISTING WATER LINE
 - ==== PROPOSED STORM DRAIN
 - ==== PROPOSED STORM DRAIN INLET
 - ⊕ EXISTING TREES (FIELD LOCATED)
 - ⊕ EXISTING TREELINE (FIELD LOCATED)
 - ⊕ EXISTING VEGETATION (APPROXIMATE LOCATION)
 - ⊕ EXISTING STREET TREES (F-04-)
 - EXISTING FENCE
 - PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - SOILS BOUNDARY
 - ==== PROPOSED SIDEWALK
 - ==== MODERATE SLOPES (1:5 - 24:24)
 - ==== STEEP SLOPE (>25%)
 - ==== PUBLIC 100 YR FLOODPLAIN
 - ==== FOREST CONSERVATION EASEMENT (RETENTION)

MATCHLINE (SHEET 2)



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.

Professional Engineer
 License No. 16597, Expiration Date: 2/15/15



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE 7/6/06

CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE 7/6/06

DIRECTOR
 DATE 7/6/06

NO.	REVISION	DATE
2	PRECAST DRIVE-IN RAMP, FENCED AREA AND PARKING SPACES	10/20/14

SITE DEVELOPMENT PLAN
SITE LAYOUT
 PATAPSCO VALLEY BUSINESS CENTER
 PARCEL I

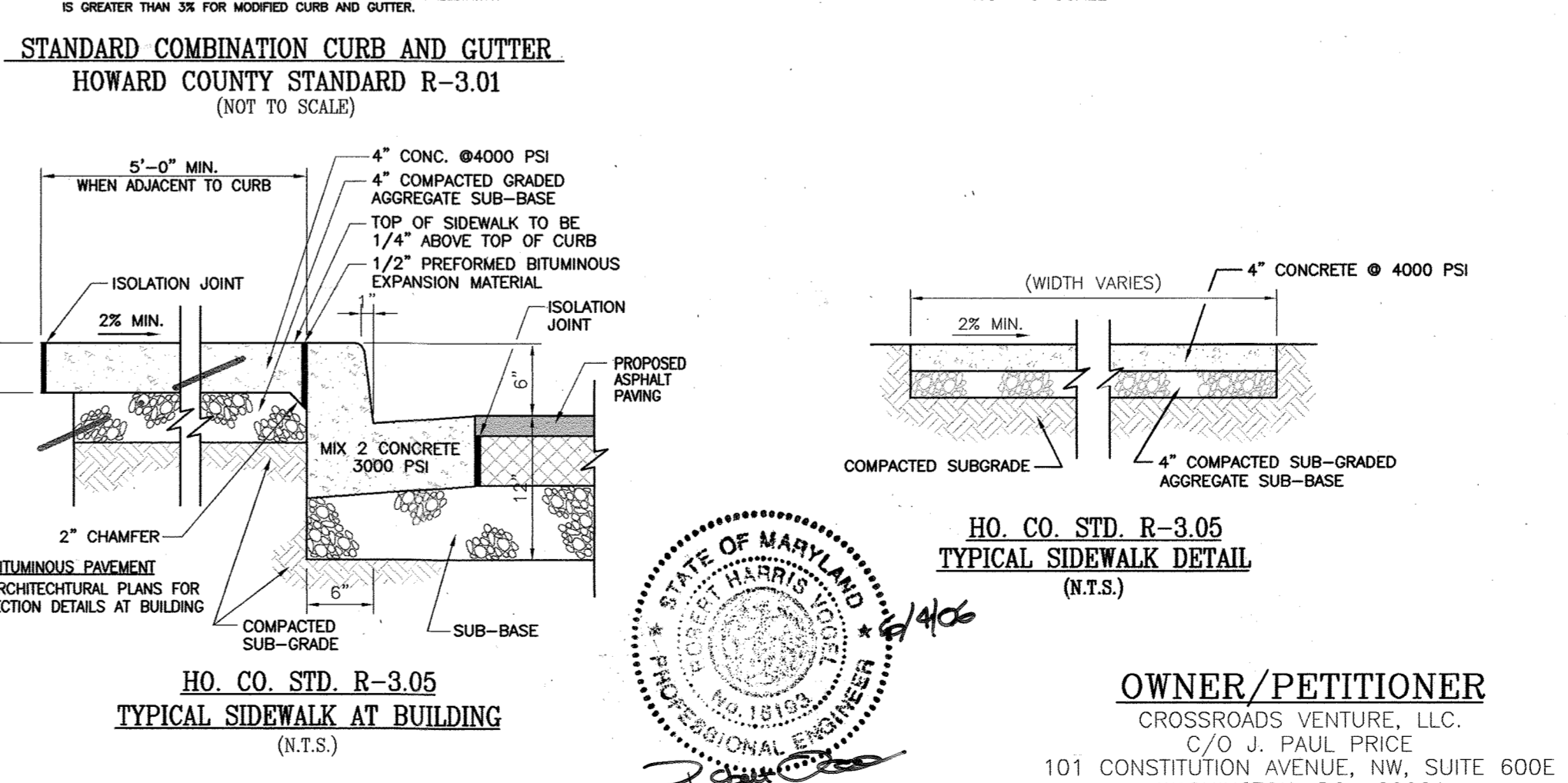
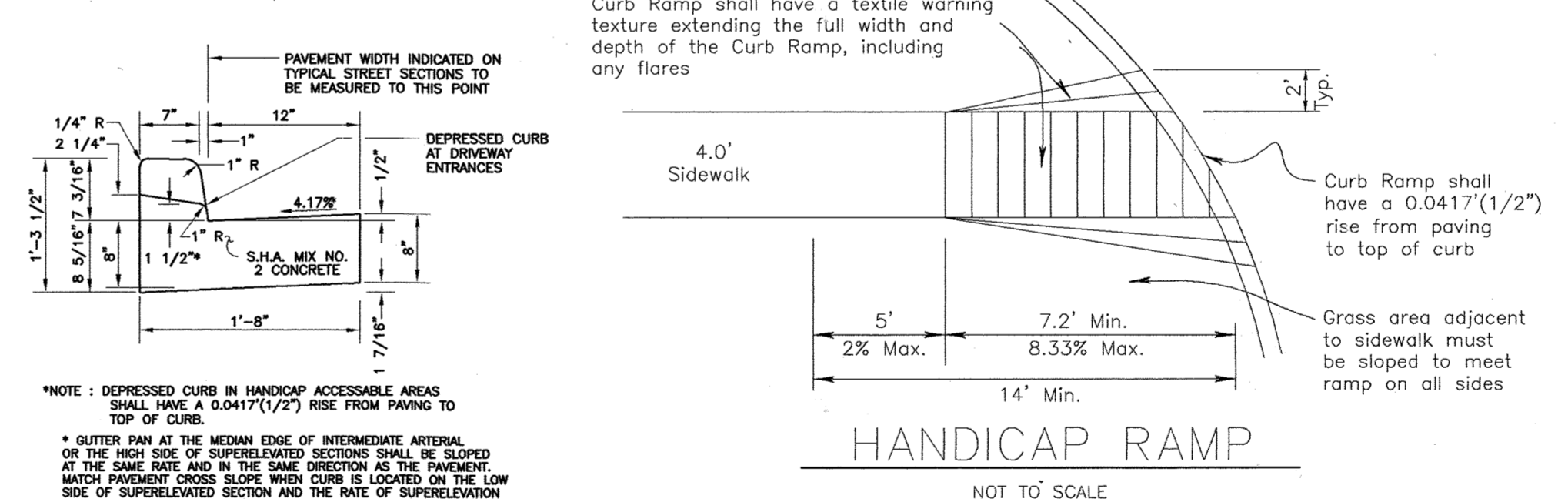
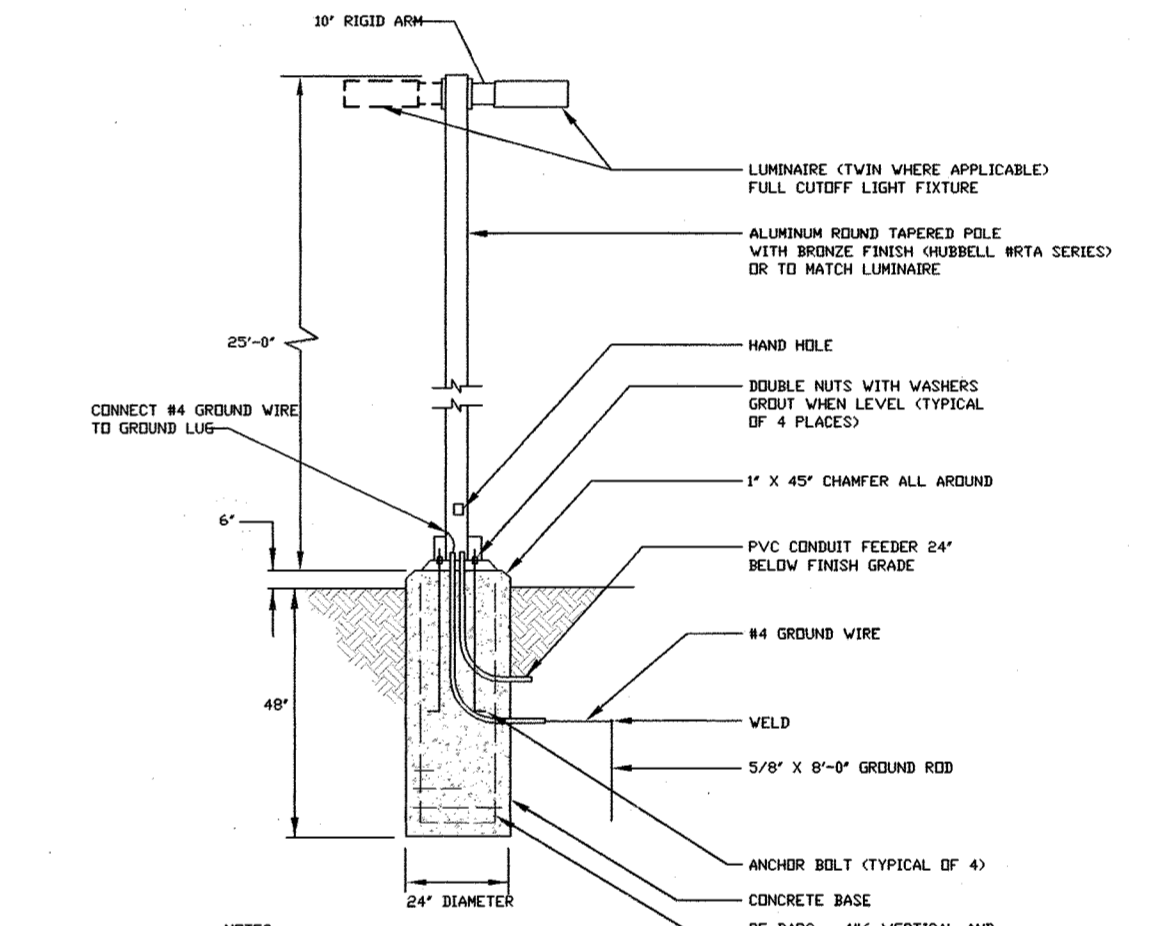
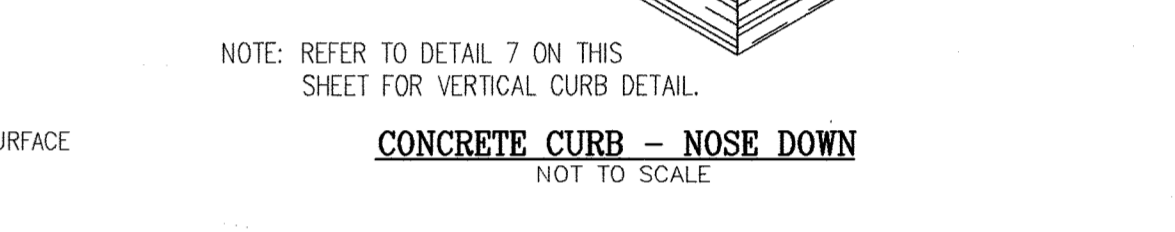
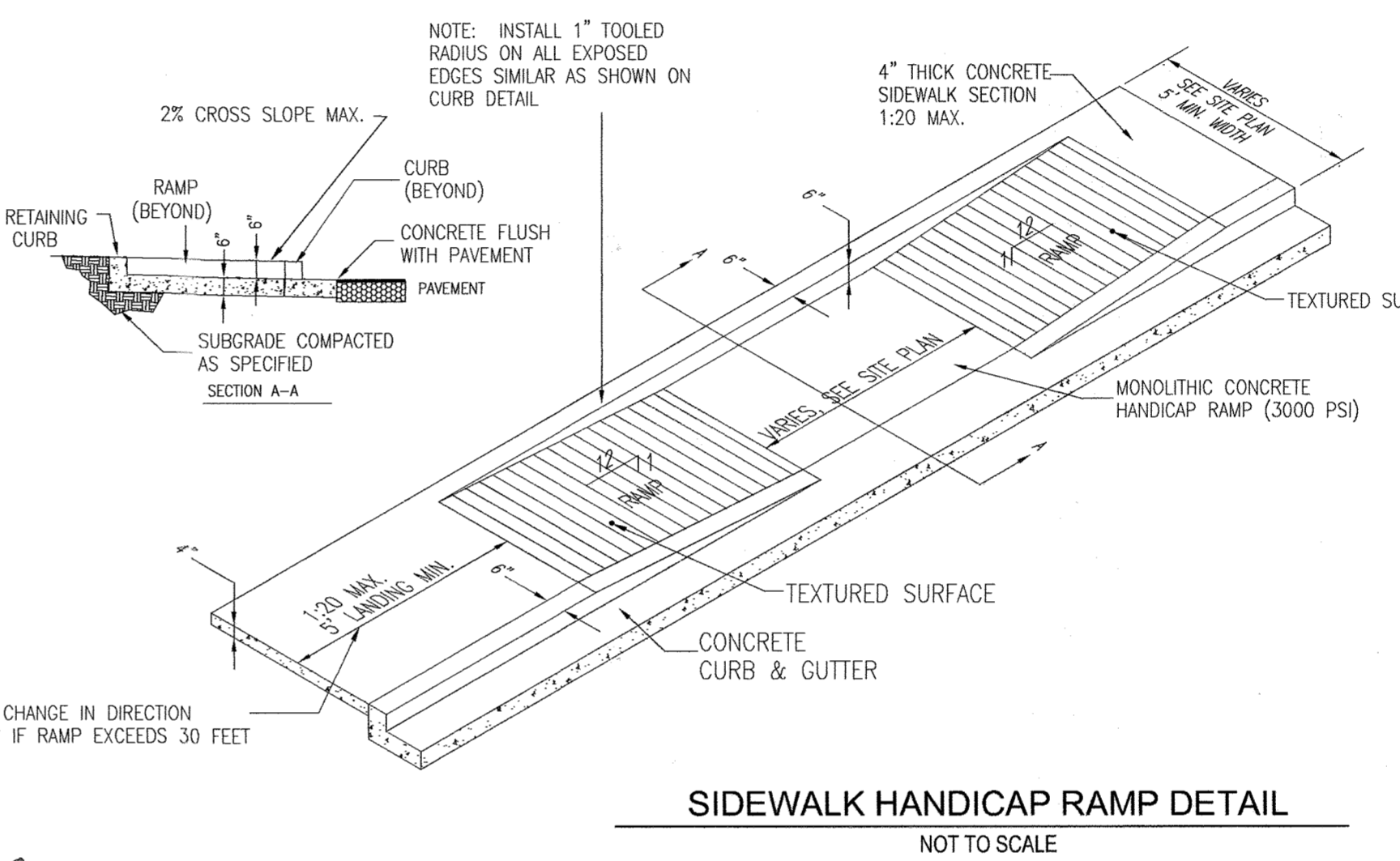
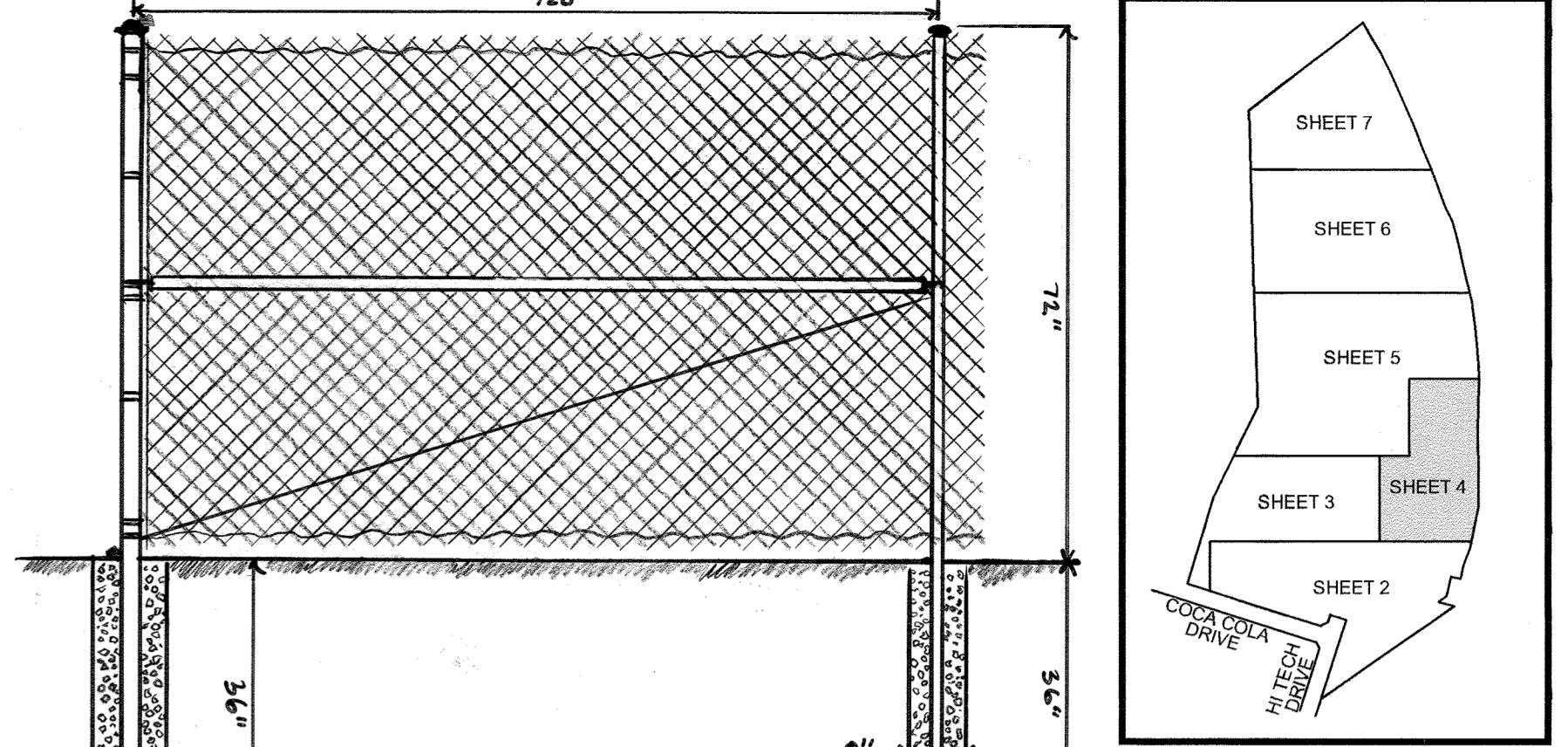
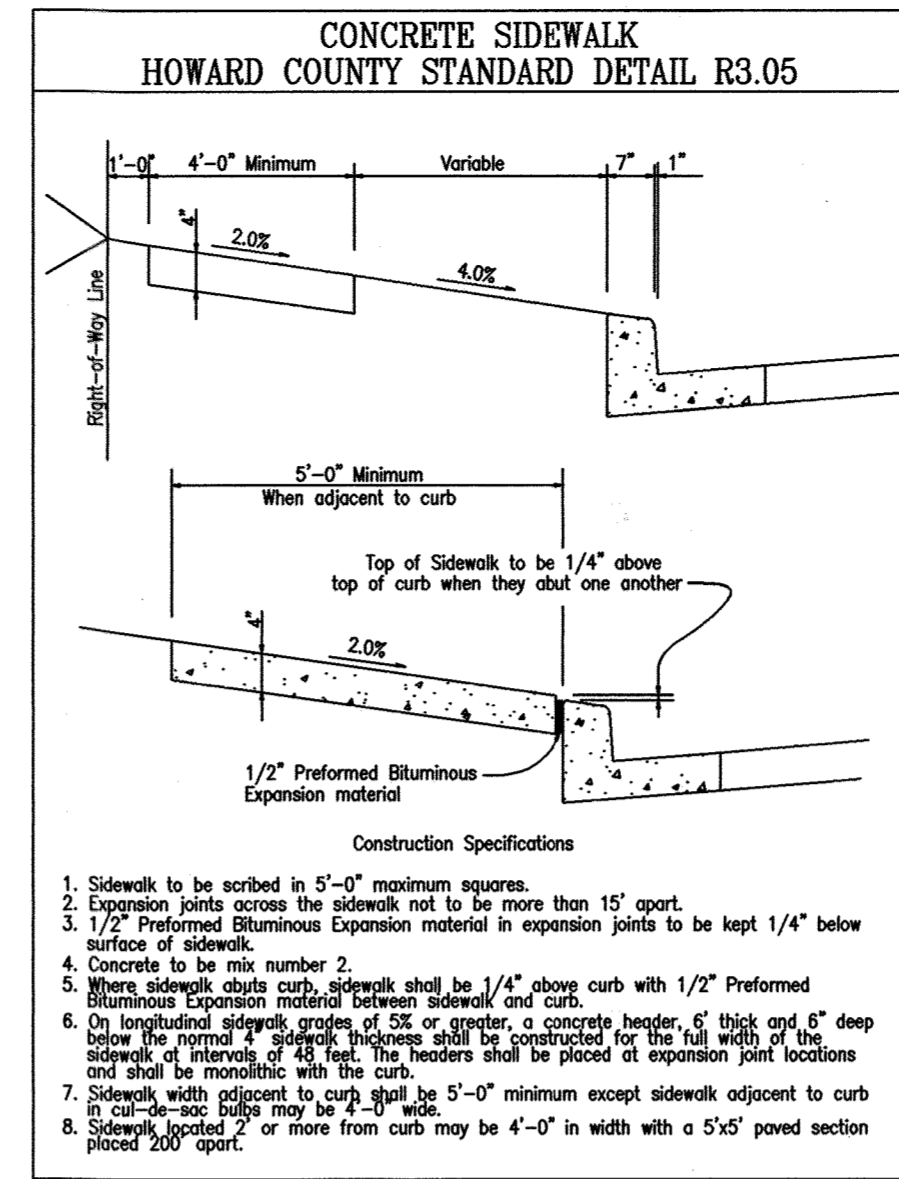
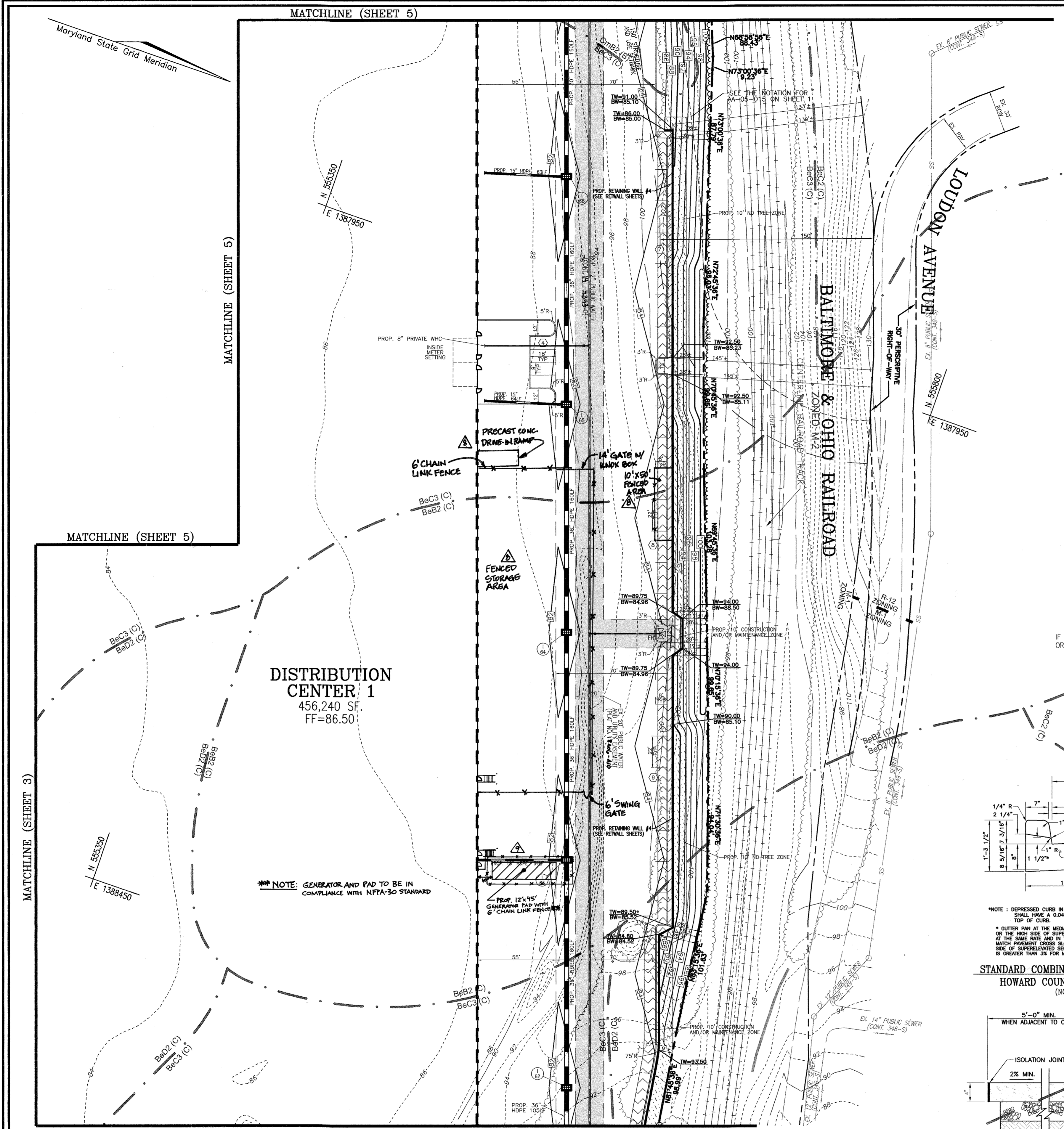
TAX MAP 38 BLOCK 1918 PARCEL 1
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
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DESIGN BY: WGW/DZ
 DRAWN BY: DZ
 CHECKED BY: RHV
 DATE: JUNE 1, 2006
 SCALE: 1"=40'
 W.O. NO.: 04-121

OWNER/PETITIONER
 CROSSROADS VENTURE, LLC.
 C/O J. PAUL PRICE
 101 CONSTITUTION AVENUE, NW, SUITE 600E
 WASHINGTON, DC 20001

3 SHEET OF 30



DISTRIBUTION CENTER 1
456,240 SF.
FF=86.50'

NOTE: GENERATOR AND PAD TO BE IN COMPLIANCE WITH NFPA-30 STANDARD

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

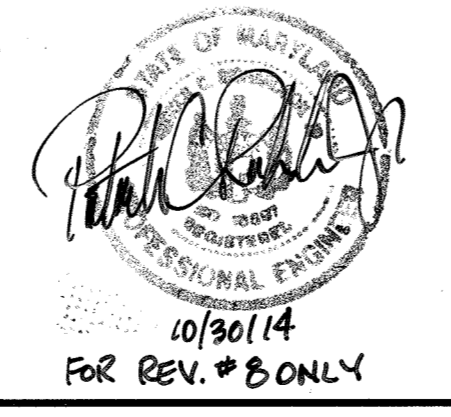
[Signature] 7/6/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 7/6/06
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 7/6/06
DIRECTOR DATE

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. 16947, Expiration Date: 8/15/15



OWNER/PETITIONER
CROSSROADS VENTURE, LLC.
C/O J. PAUL PRICE
101 CONSTITUTION AVENUE, NW, SUITE 600E
WASHINGTON, DC 20001

NO.	REVISION	DATE
6	PRECAST CURB-IN RAMP, FENCED AREA AND PARKING SPACES	10/30/14

SITE DEVELOPMENT PLAN
SITE LAYOUT
PATAPSCO VALLEY BUSINESS CENTER
PARCEL I
TAX MAP 38 BLOCK 19/18 PARCEL 1
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

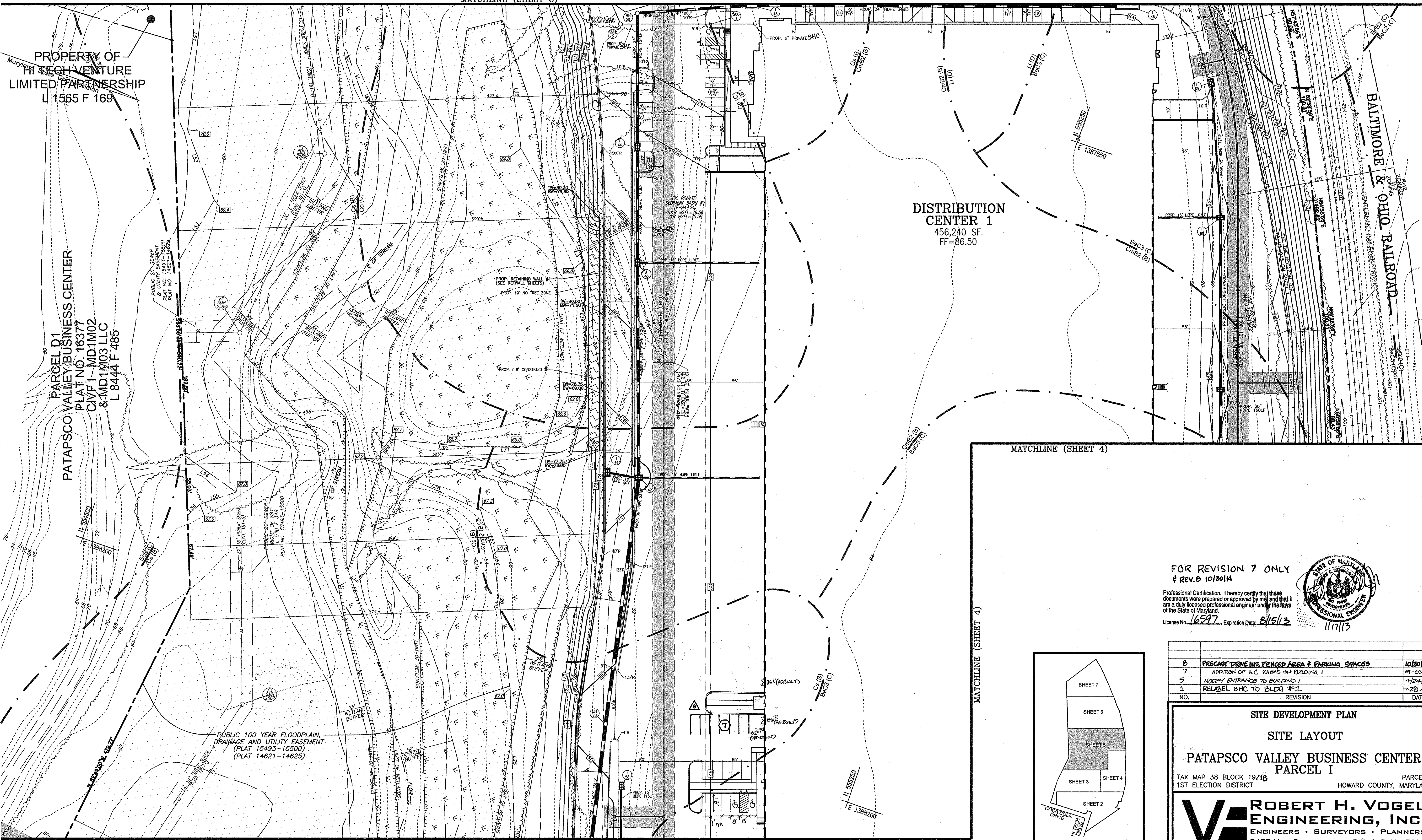
ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET ELLICOTT CITY, MD 21043
TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: WGZ/DZ
DRAWN BY: RHV
CHECKED BY: RHV
DATE: JUNE 1, 2006
SCALE: 1"=40'
W.O. NO.: 04-121

MATCHLINE (SHEET 6)

PROPERTY OF
CROSSROADS VENTURE
LIMITED PARTNERSHIP
L 1565 F 169

PARCEL D1
PATAPSCO VALLEY BUSINESS CENTER
PLAT NO. 16377
C/W/F 1 - MD1M02
& MD1M03 LLC
L 8444 F 485



DISTRIBUTION CENTER 1
456,240 SF.
FF=86.50

BALTIMORE & OHIO RAILROAD

MATCHLINE (SHEET 4)

MATCHLINE (SHEET 4)

MATCHLINE (SHEET 3)

MATCHLINE (SHEET 4)

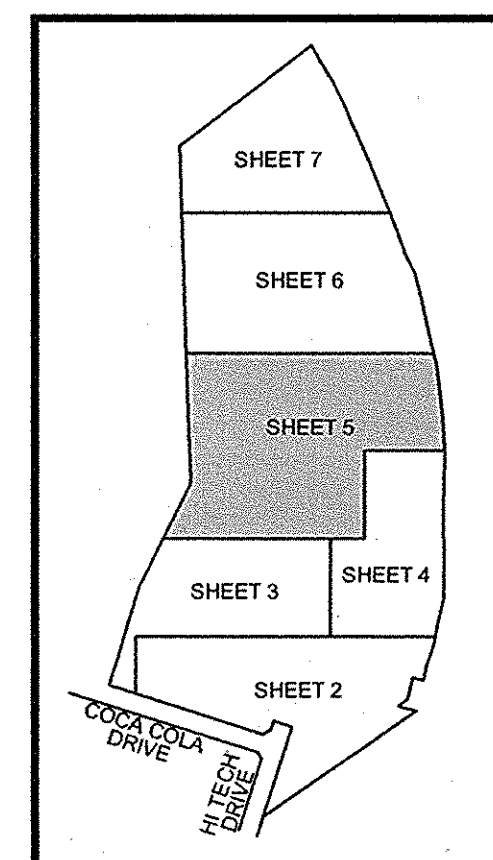
FOR REVISION 7 ONLY
& REV. 10/30/14

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. 16597, Expiration Date: 8/15/13



NO.	REVISION	DATE
8	PRECAST DRIVE IN'S, FENCED AREA & PARKING SPACES	10/30/14
7	ADDITION OF H.C. RAINTS ON BUILDING 1	09-25-12
5	MODIFY ENTRANCE TO BUILDING 1	4/24/09
1	RELABEL SHC TO BLDG #1	7-28-06



KEY MAP
NOT TO SCALE

SITE DEVELOPMENT PLAN

SITE LAYOUT

PATAPSCO VALLEY BUSINESS CENTER
PARCEL 1

TAX MAP 38 BLOCK 19/18 PARCEL 1
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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



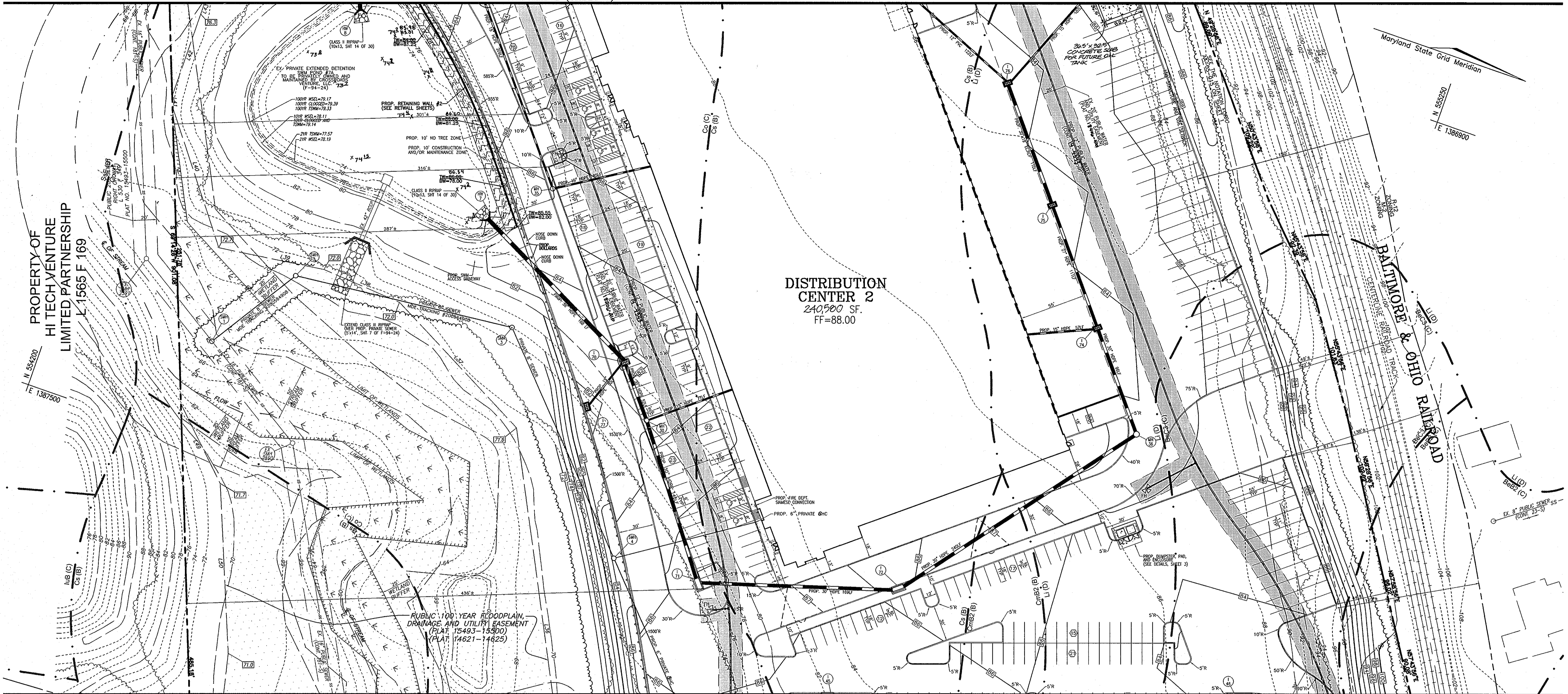
DESIGN BY: WGT/DZ
DRAWN BY: DZ
CHECKED BY: RHY
DATE: JUNE 1, 2006
SCALE: 1"=40'
W.D. NO.: 04-121

5 SHEET OF 30

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 7/6/06
CHIEF, DIVISION OF LAND DEVELOPMENT DATE 7/6/06
DIRECTOR DATE 7/6/10

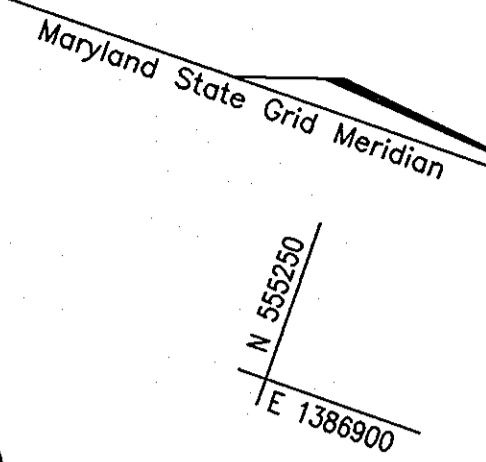
MATCHLINE (SHEET 7)



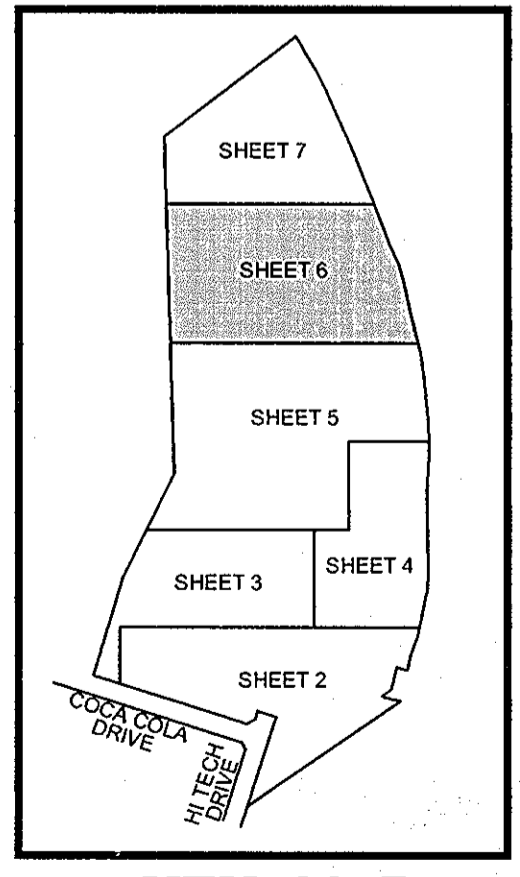
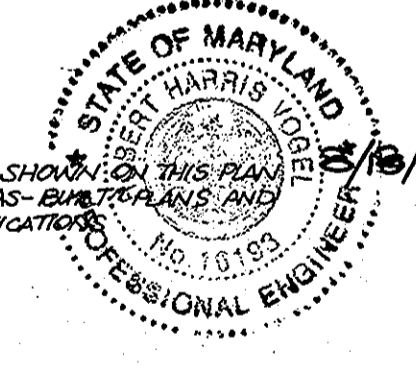
MATCHLINE (SHEET 5)

PROPERTY OF
 HI TECH VENTURE
 LIMITED PARTNERSHIP
 L 1565 F 169

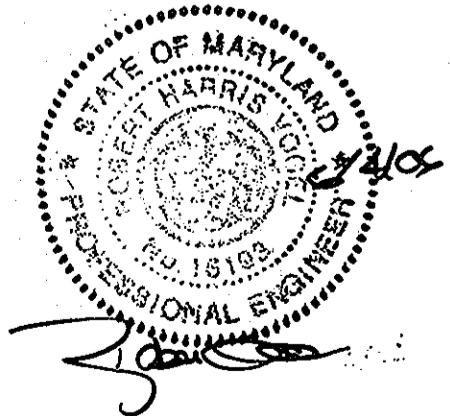
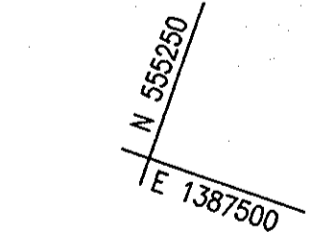
DISTRIBUTION
 CENTER 2
 240,500 SF.
 FF=88.00



AS-BUILT CERTIFICATION
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS
 ROBERT H. VOGEL, PE No. 16193
 2/18/09



KEY MAP
 NOT TO SCALE



OWNER/PETITIONER
 CROSSROADS VENTURE, LLC.
 C/O J. PAUL PRICE
 101 CONSTITUTION AVENUE, NW, SUITE 600E
 WASHINGTON, DC 20001

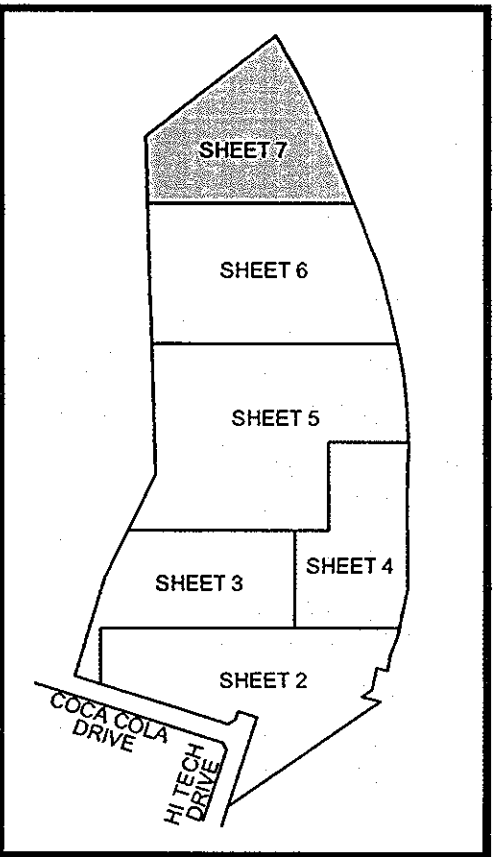
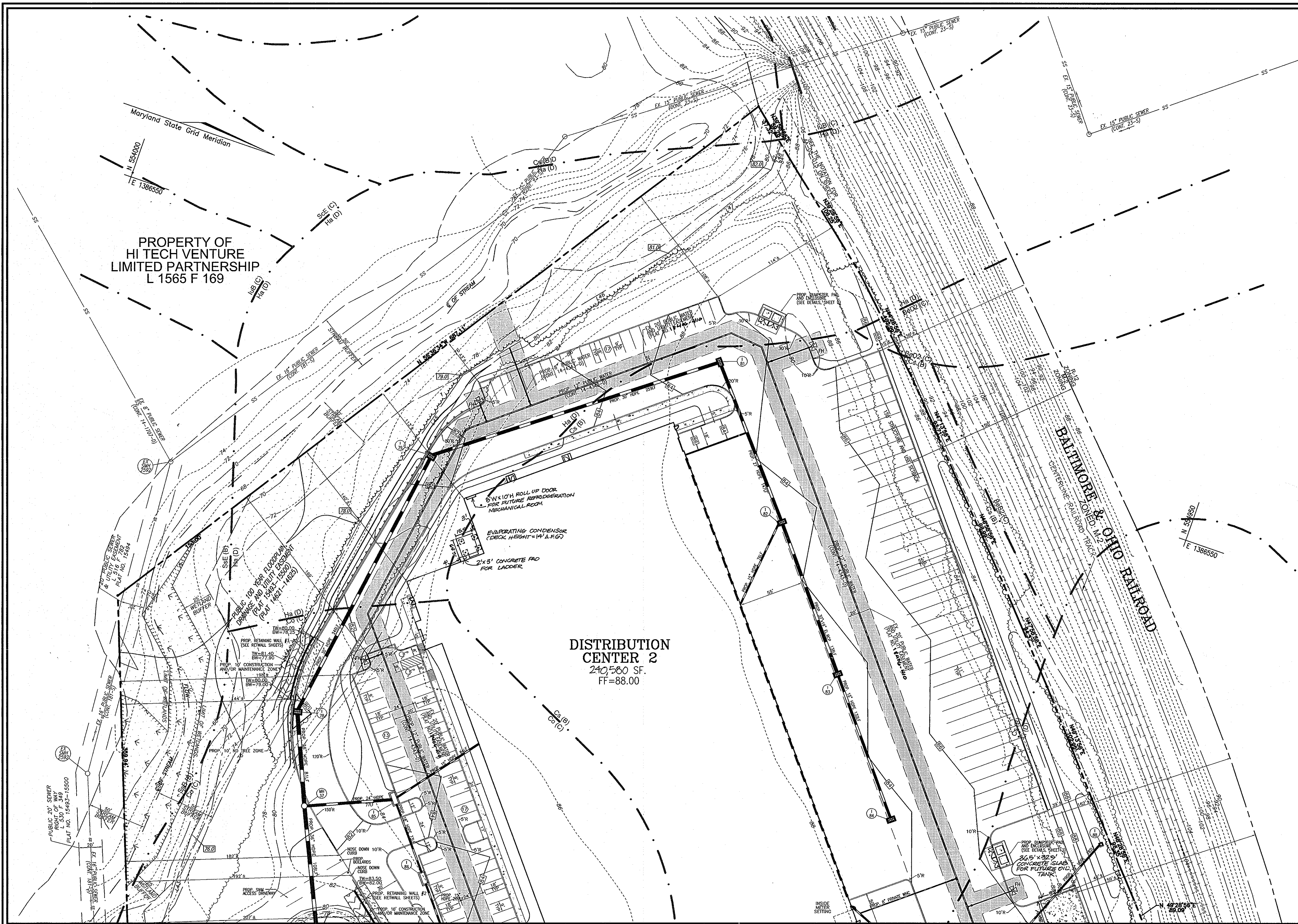
NO.	REVISION	DATE
4	ADD DOOR TO BUILDING 2, ADD CONCRETE SLAB FOR FUTURE OIL TANK AND CONDENSER ADJACENT TO BUILDING 2	1/28/09
2	ADD MEZZANINE TO BUILDING #2	10/2/08

SITE DEVELOPMENT PLAN
 SITE LAYOUT
 PATAPSCO VALLEY BUSINESS CENTER
 PARCEL I
 TAX MAP 38 BLOCK 19/1B PARCEL 1
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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

DESIGN BY: WGZ/DZ
 DRAWN BY: DZ
 CHECKED BY: RHV
 DATE: JUNE 1, 2008
 SCALE: 1"=40'
 W.O. NO.: 04-121

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



KEY MAP
NOT TO SCALE

PROPERTY OF
HI TECH VENTURE
LIMITED PARTNERSHIP
L 1565 F 169

DISTRIBUTION CENTER 2
240,580 SF.
FF=88.00

MATCHLINE (SHEET 6)

4	ADD DOOR TO BUILDING-2, ADD CONCRETE SLAB FOR FUTURE OIL TANK AND CONDENSER ADJACENT TO BUILDING-2	1/26/09
2	ADD MEZZANINE TO BUILDING #2	10/2/08
NO.	REVISION	DATE

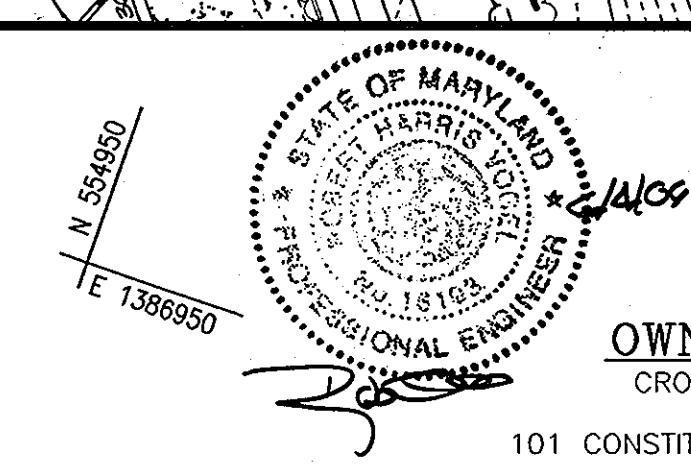
SITE DEVELOPMENT PLAN
SITE LAYOUT
PATAPSCO VALLEY BUSINESS CENTER
PARCEL I
TAX MAP 38 BLOCK 19/16 PARCEL I
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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

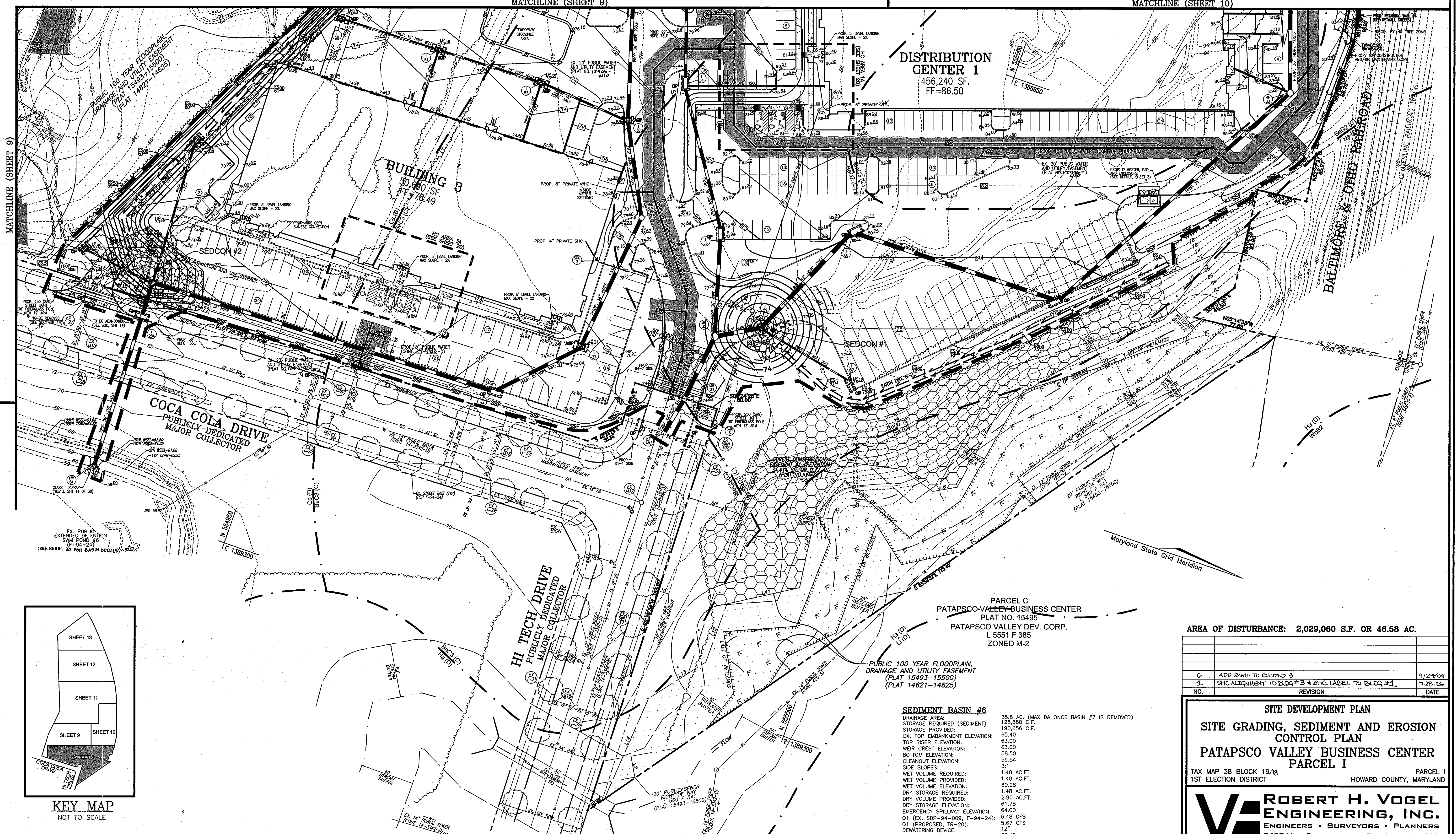
DESIGN BY: WGZ/DZ
DRAWN BY: DZ
CHECKED BY: RHY
DATE: JUNE 1, 2006
SCALE: 1"=40'
W.O. NO.: 04-121

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

DATE: 7/6/06
DATE: 7/6/06
DATE: 7/4/06



OWNER/PETITIONER
CROSSROADS VENTURE, LLC.
C/O J. PAUL PRICE
101 CONSTITUTION AVENUE, NW, SUITE 600E
WASHINGTON, DC 20001



DISTRIBUTION CENTER 1
 456,240 SF.
 FF=86.50

BUILDING 3
 30,650 SF.
 FF=78.49

COCA COLA DRIVE
 PUBLICLY DEDICATED
 MAJOR COLLECTOR

HI TECH DRIVE
 PUBLICLY DEDICATED
 MAJOR COLLECTOR

PARCEL C
 PATAPSCO-VALLEY BUSINESS CENTER
 PLAT NO. 15495
 PATAPSCO VALLEY DEV. CORP.
 L 5551 F 385
 ZONED M-2

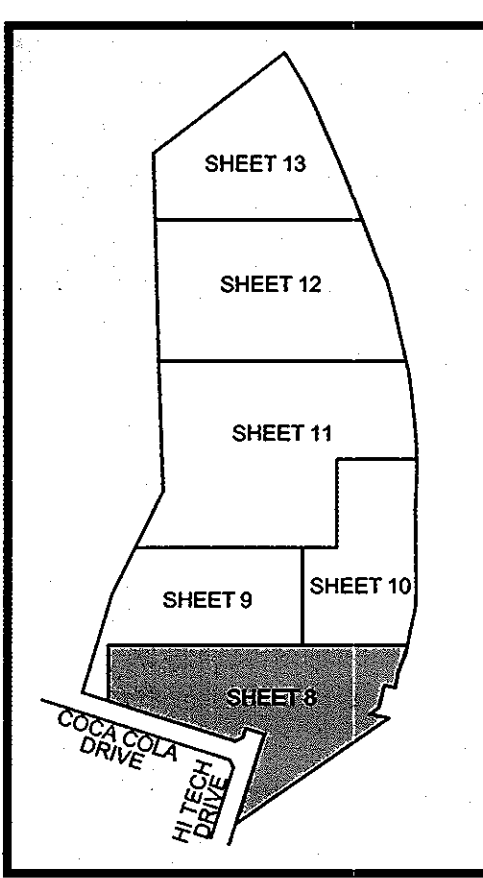
**PUBLIC 100 YEAR FLOODPLAIN,
 DRAINAGE AND UTILITY EASEMENT**
 (PLAT 15493-15500)
 (PLAT 14621-14625)

SEDIMENT BASIN #6

DRAINAGE AREA:	35.8 AC. (MAX DA ONCE BASIN #7 IS REMOVED)
STORAGE REQUIRED (SEDIMENT):	128,880 C.F.
STORAGE PROVIDED:	190,656 C.F.
EX. TOP EMBANKMENT ELEVATION:	65.40
TOP RISER ELEVATION:	63.00
WEIR CREST ELEVATION:	63.00
BOTTOM ELEVATION:	58.50
CLEANOUT ELEVATION:	59.54
SIDE SLOPES:	3:1
WET VOLUME REQUIRED:	1.48 AC.FT.
WET VOLUME PROVIDED:	1.48 AC.FT.
WET STORAGE REQUIRED:	60.28
DRY STORAGE REQUIRED:	1.48 AC.FT.
DRY STORAGE PROVIDED:	2.90 AC.FT.
BOTTOM ELEVATION:	61.78
EMERGENCY SPILLWAY ELEVATION:	64.00
Q1 (EX. SDP-94-009, F-94-24):	6.48 CFS
Q1 (PROPOSED, TR-20):	5.67 CFS
DEWATERING DEVICE:	12"
DEWATERING DEVICE ELEV.:	60.40

AREA OF DISTURBANCE: 2,029,060 S.F. OR 46.58 AC.

NO.	REVISION	DATE
0	ADD RAMP TO BUILDING 3	9/24/09
1	SHC ALIGNMENT TO BLDG #3 & SHC LABEL TO BLDG #1	1.28.06



KEY MAP
 NOT TO SCALE

SITE DEVELOPMENT PLAN
SITE GRADING, SEDIMENT AND EROSION CONTROL PLAN
PATAPSCO VALLEY BUSINESS CENTER
PARCEL I
 TAX MAP 38 BLOCK 19/18 PARCEL I
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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

DESIGN BY: WGZ/DZ
 DRAWN BY: DZ
 CHECKED BY: RHV
 DATE: FEB. 27, 2006
 SCALE: 1"=30'
 W.O. NO.: 04-121

8 SHEET OF 30

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 7/6/06
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
[Signature] 7/6/06
 CHIEF, DIVISION OF LAND DEVELOPMENT
[Signature] 7/6/06
 DIRECTOR

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.
[Signature] 2/20/06
 N.S.A. - NATURAL RESOURCE CONSERVATION SERVICE
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] 2/20/06
 HOWARD S.C.D.

BY THE DEVELOPER:
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."
[Signature] 3/10/06
 SIGNATURE OF 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] 3/10/06
 SIGNATURE OF ENGINEER DATE

OWNER/PETITIONER
 CROSSROADS VENTURE, LLC.
 C/O J. PAUL PRICE
 101 CONSTITUTION AVENUE, NW, SUITE 600E
 WASHINGTON, DC 20001



LEGEND:

	EXISTING CONTOUR
	PROPOSED CONTOUR
	EXISTING SPOT ELEVATION
	PROPOSED SPOT ELEVATION
	EXISTING CURB AND GUTTER
	PROPOSED CURB AND GUTTER
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING MAILBOX
	EXISTING SIGN
	EXISTING SANITARY MANHOLE
	EXISTING SANITARY LINE
	EXISTING CLEANOUT
	EXISTING FIRE HYDRANT
	EXISTING WATER LINE
	PROPOSED STORM DRAIN
	PROPOSED STORM DRAIN INLET
	EXISTING TREES (FIELD LOCATED)
	EXISTING TREE LINE (FIELD LOCATED)
	EXISTING VEGETATION (APPROXIMATE LOCATION)
	EXISTING STREET TREES (F-04-...)
	EXISTING FENCE
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	M1B2 SOILS BOUNDARY
	M1D3 SOILS BOUNDARY
	PROPOSED SIDEWALK
	MODERATE SLOPES (15% - 24.99%)
	STEEP SLOPE (>25%)
	PUBLIC 100 YR FLOODPLAIN
	FOREST CONSERVATION EASEMENT (RETENTION)
	SILT FENCE
	SUPER SILT FENCE
	LIMIT OF DISTURBANCE
	EARTH DIKE
	ENGINEERED SWALE
	CURB INLET PROTECTION (CIP)
	AT GRADE INLET PROTECTION (AGIP)
	STABILIZED CONSTRUCTION ENTRANCE

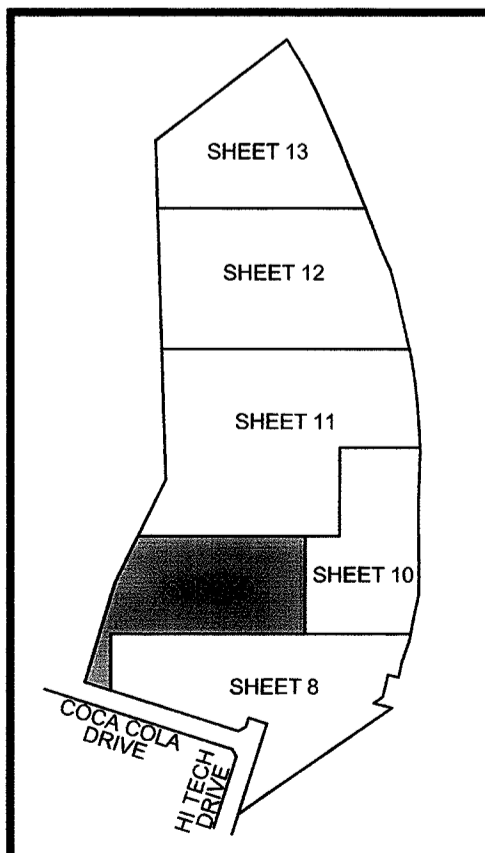
NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
SITE GRADING, SEDIMENT AND EROSION CONTROL PLAN
PATAPSCO VALLEY BUSINESS CENTER
PARCEL I
 TAX MAP 38 BLOCK 19/46 PARCEL I
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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

DESIGN BY: WGZ/DZ
 DRAWN BY: DZ
 CHECKED BY: RHV
 DATE: FEB. 27, 2006
 SCALE: 1"=40'
 W.O. NO.: 04-121

9 OF 30



KEY MAP
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

 CHIEF, DEVELOPMENT ENGINEERING DIVISION gm
 DATE: 7/6/06
 CHIEF, DIVISION OF LAND DEVELOPMENT

 DIRECTOR DATE: 7/6/06

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

 J. Morales 2/28/06
 ASU-NATURAL RESOURCES CONSERVATION SERVICE
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

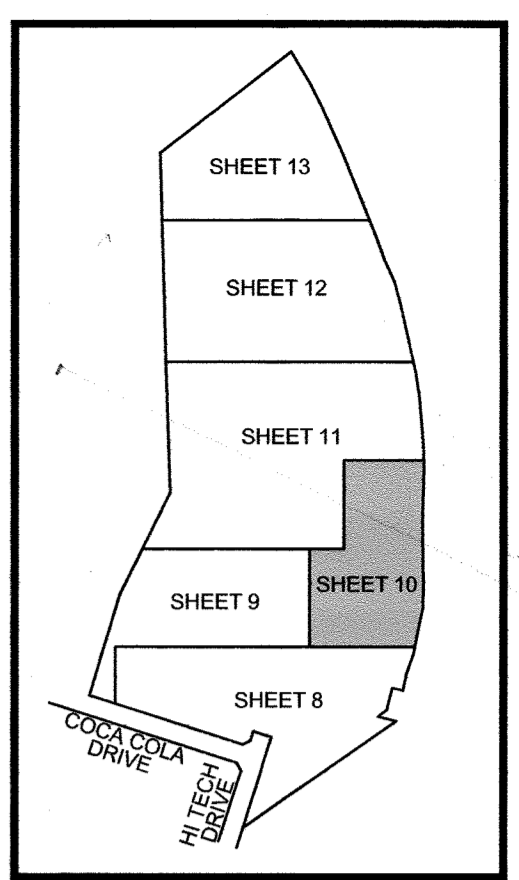
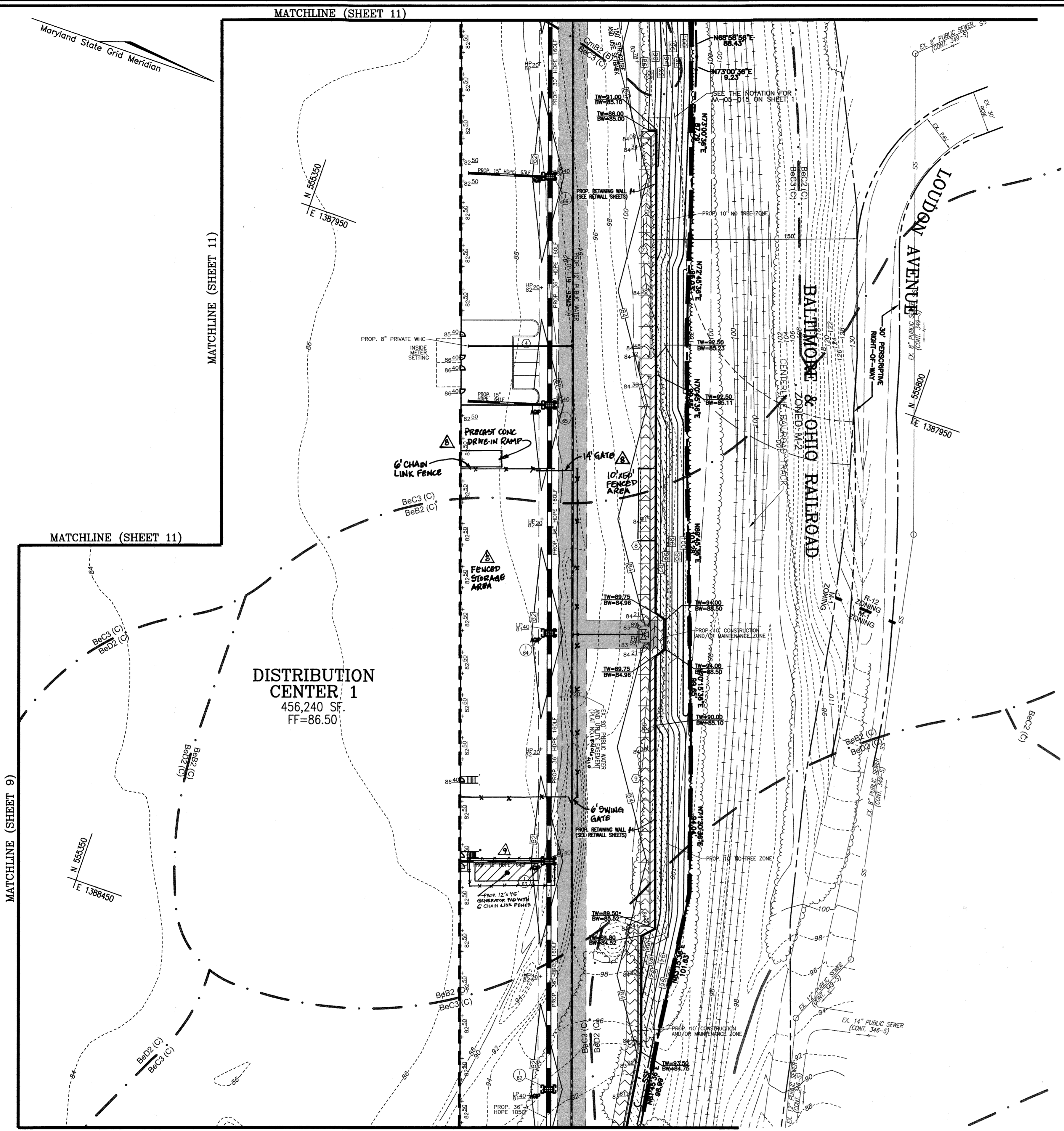
 HOWARD S.C.D. DATE: 2/28/06

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

 DON BOWLERS 3/10/06
 SIGNATURE OF 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 OF ENGINEER DATE: 3/1/06



KEY MAP
NOT TO SCALE

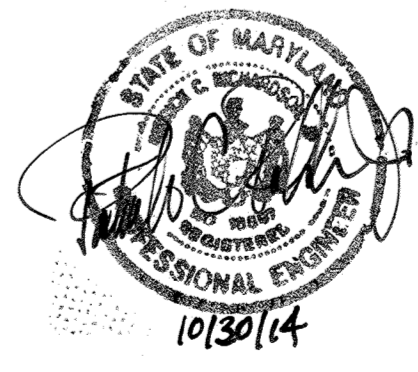
DISTRIBUTION CENTER 1
456,240 SF.
FF=86.50

BALTIMORE & OHIO RAILROAD

LODDAN AVENUE

NO.	REVISION	DATE
8	PRECAST DRIVE-IN RAMPS, FENCED AREA AND PARKING STRIPS	10/30/14

SITE DEVELOPMENT PLAN
SITE GRADING, SEDIMENT AND EROSION CONTROL PLAN
PATAPSCO VALLEY BUSINESS CENTER
PARCEL I
TAX MAP 38 BLOCK 19/18 PARCEL I
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND



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. 16597, Expiration Date 01/31/14
FOR REV. # B ONLY

OWNER/PETITIONER
CROSSROADS VENTURE, LLC.
C/O J. PAUL PRICE
101 CONSTITUTION AVENUE, NW, SUITE 600E
WASHINGTON, DC 20001

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

DESIGN BY: WGZ/DZ	10	SHEET	30
DRAWN BY: DZ	OF		
CHECKED BY: RHV			
DATE: FEB. 27, 2006			
SCALE: 1"=40'			
W.O. NO.: 04-121			

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 2/6/06

 CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 2/6/06
 DIRECTOR DATE: 2/6/06

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

 DATE: 2/26/06
 USDA-NATURAL RESOURCES CONSERVATION SERVICE
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

 DATE: 2/26/06
 HOWARD S.C.D.

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

 DATE: 2/10/06
 SIGNATURE OF 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.

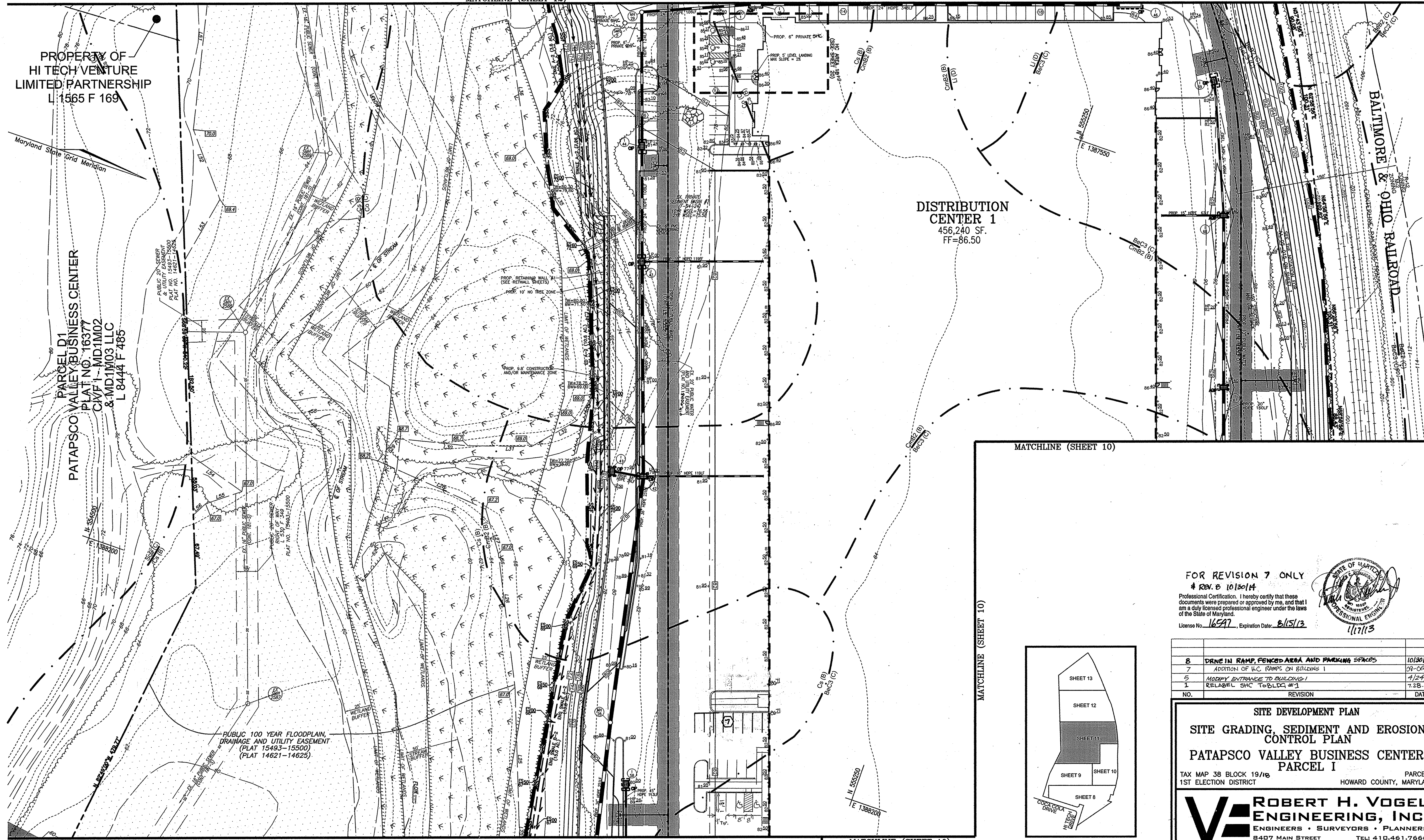
 DATE: 2/10/06
 SIGNATURE OF ENGINEER DATE

PROPERTY OF
HI TECH VENTURE
LIMITED PARTNERSHIP
L 1565 F 169

PARCEL D1
PATAPSCO VALLEY BUSINESS CENTER
PLAT NO. 16377
C/W F 1 - MD1M02
& MD1M03 LLC
L 8444 F 485

DISTRIBUTION CENTER 1
456,240 SF.
FF=86.50

BALTIMORE & OHIO RAILROAD



MATCHLINE (SHEET 10)

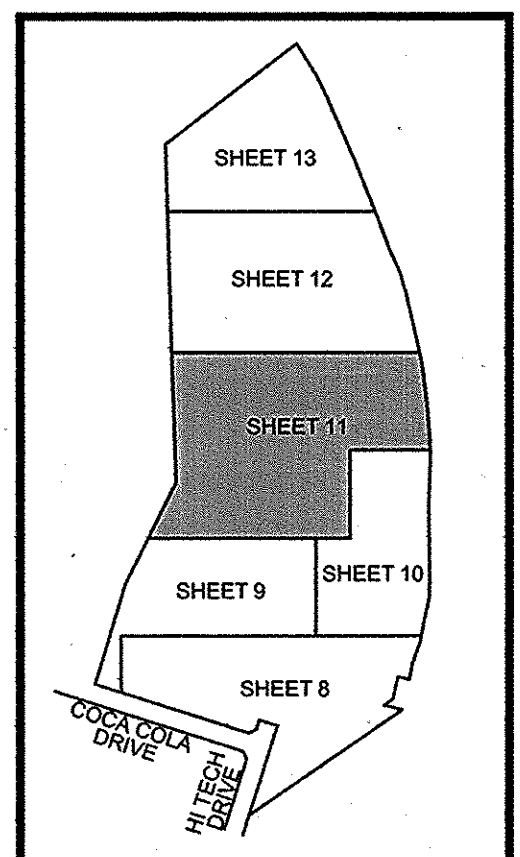
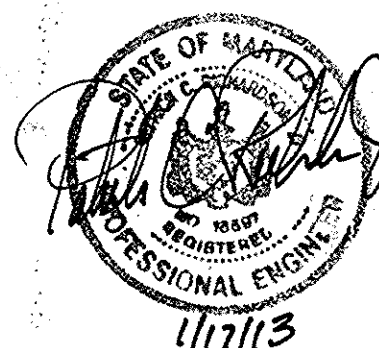
MATCHLINE (SHEET 10)

MATCHLINE (SHEET 9)

MATCHLINE (SHEET 10)

FOR REVISION 7 ONLY
REV. B 10/30/14

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. 16547, Expiration Date: 8/15/13

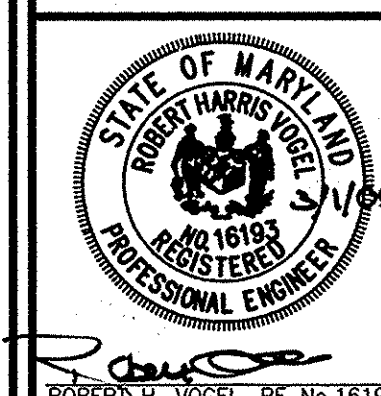


KEY MAP
NOT TO SCALE

NO.	REVISION	DATE
8	DRIVE IN RAMP, FENCED AREA AND PARKING SPACES	10/30/14
7	ADDITION OF I.C. RAMPS ON BUILDING 1	09-06-12
5	MODIFY ENTRANCE TO BUILDING 1	4/24/09
1	RELABEL SHC TO BLDG #1	7.28.00

SITE DEVELOPMENT PLAN
SITE GRADING, SEDIMENT AND EROSION CONTROL PLAN
PATAPSCO VALLEY BUSINESS CENTER
PARCEL I
TAX MAP 38 BLOCK 19/16 PARCEL I
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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



DESIGN BY: WGZ/DZ
DRAWN BY: RHV
CHECKED BY: RHV
DATE: FEB. 27, 2008
SCALE: 1"=40'
W.O. NO.: 04-121

11 SHEET OF 30

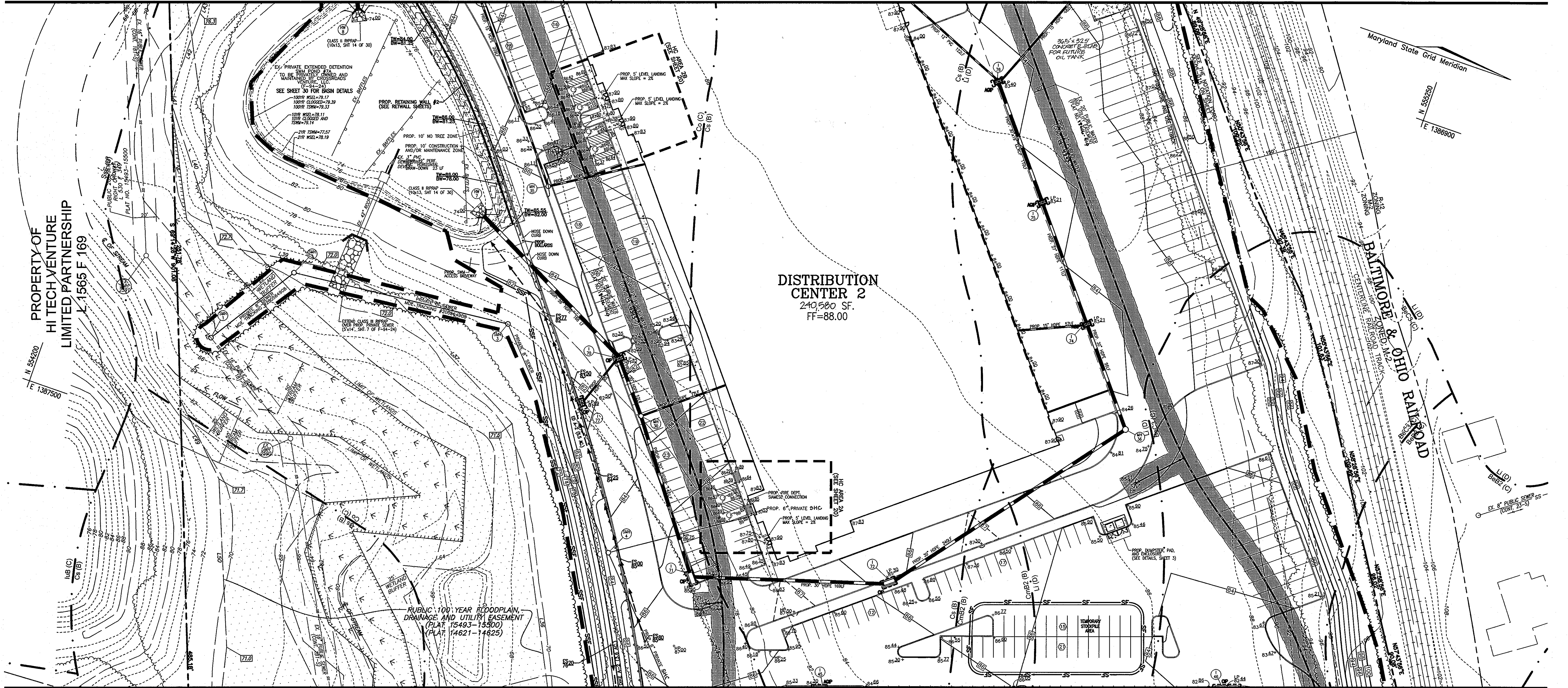
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 7/6/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION
[Signature] 7/6/06
CHIEF, DIVISION OF LAND DEVELOPMENT
[Signature] 7/6/06
DIRECTOR

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.
[Signature] 2/28/06
USDA-NATURAL RESOURCES CONSERVATION SERVICE
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] 2/28/06
HOWARD S.C.D.

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] 3/10/08
SIGNATURE OF DEVELOPER

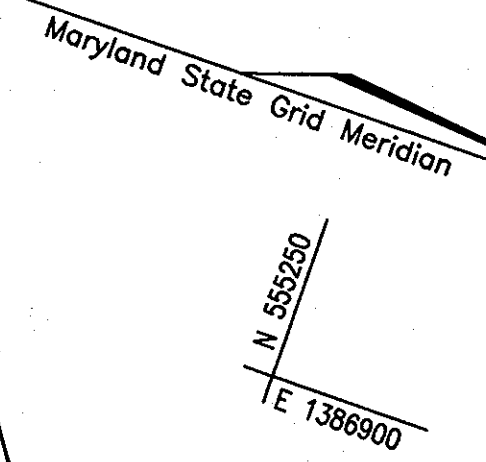
BY THE ENGINEER:
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] 3/10/08
SIGNATURE OF ENGINEER

OWNER/PETITIONER
CROSSROADS VENTURE, LLC.
C/O J. PAUL PRICE
101 CONSTITUTION AVENUE, NW, SUITE 600E
WASHINGTON, DC 20001



PROPERTY OF
HI TECH VENTURE
LIMITED PARTNERSHIP
L-1565 F-169

DISTRIBUTION
CENTER 2
240,500 SF.
FF=88.00



BALTIMORE & OHIO RAILROAD
CENTRAL TRACKS
ZONING DISTRICT: J-2
ZONING: R-100

SEDIMENT BASIN #7

DRAINAGE AREA: 5.5 AC.
STORAGE REQUIRED (SEDIMENT): 19,800 C.F.
STORAGE PROVIDED: 65,932 C.F.
TOP EMBANKMENT ELEVATION: 78.10
TOP RISER ELEVATION: 75.90
WEIR CREST ELEVATION: 72.00
BOTTOM ELEVATION: 72.35
CLEANOUT ELEVATION: 72.35
SIDE SLOPES: 3:1
WET VOLUME REQUIRED: 0.23 AC.FT.
WET VOLUME PROVIDED: 0.23 AC.FT.
WET VOLUME ELEVATION: 72.35
DRY STORAGE REQUIRED: 0.23 AC.FT.
DRY STORAGE PROVIDED: 0.23 AC.FT.
DRY STORAGE ELEVATION: 73.35

SEDIMENT BASIN #7A

DRAINAGE AREA: 16.1 AC. (MAX DA ONCE BASIN #7 IS REMOVED)
STORAGE REQUIRED (SEDIMENT): 57,960 C.F.
STORAGE PROVIDED: 87,532 C.F.
TOP EMBANKMENT ELEVATION: 82.38
TOP RISER ELEVATION: 78.80
WEIR CREST ELEVATION: 78.20
BOTTOM ELEVATION: 74.00
CLEANOUT ELEVATION: 74.73
SIDE SLOPES: 3:1
WET VOLUME REQUIRED: 0.66 AC.FT.
WET VOLUME PROVIDED: 0.66 AC.FT.
WET VOLUME ELEVATION: 75.46
DRY STORAGE REQUIRED: 0.66 AC.FT.
DRY STORAGE PROVIDED: 1.35 AC.FT.
DRY STORAGE ELEVATION: 76.73
O2 (PREVIOUS DESIGN): 4.2 CFS
O2 (PROPOSED, TR-20): 4.0 CFS
DEWATERING DEVICE: 12"
DEWATERING DEVICE ELEV.: 75.50

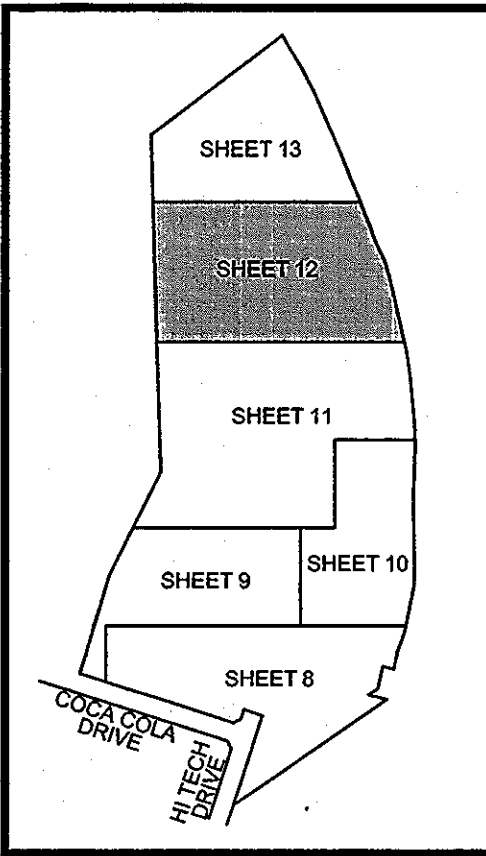
NOTE: THIS PLAN IS SUBJECT TO MDE APPLICATION TRACKING NO. 200564908.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 7/6/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION
[Signature] 7/6/06
CHIEF, DIVISION OF LAND DEVELOPMENT
[Signature] 7/6/06
DIRECTOR

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.
[Signature] 2/28/06
USDA-NATURAL RESOURCES CONSERVATION SERVICE
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] 2/28/06
HOWARD S.C.D.

BY THE DEVELOPER:
"I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT 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] 3/1/06
SIGNATURE OF DEVELOPER

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[Signature] 3/1/06
SIGNATURE OF ENGINEER



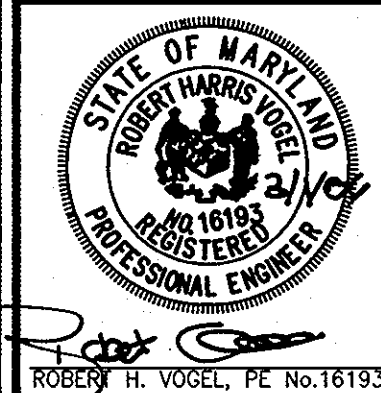
KEY MAP
NOT TO SCALE

OWNER/PETITIONER
CROSSROADS VENTURE, LLC.
C/O J. PAUL PRICE
101 CONSTITUTION AVENUE, NW, SUITE 600E
WASHINGTON, DC 20001

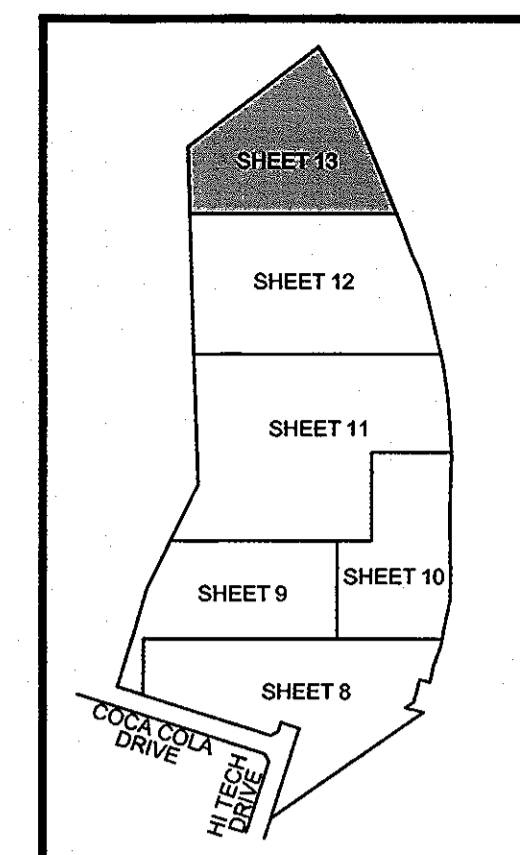
NO.	REVISION	DATE
4	ADD DOOR TO BUILDING-2, ADD CONCRETE SLAB FOR FUTURE OIL TANK AND CONDENSER ADJACENT TO BUILDING 2.	1/28/07
1	RELABEL SHC TO BLDG #1 & #2.	7.28.06

SITE DEVELOPMENT PLAN
SITE GRADING, SEDIMENT AND EROSION CONTROL PLAN
PATAPSCO VALLEY BUSINESS CENTER PARCEL I
TAX MAP 38 BLOCK 19/18 PARCEL 1
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

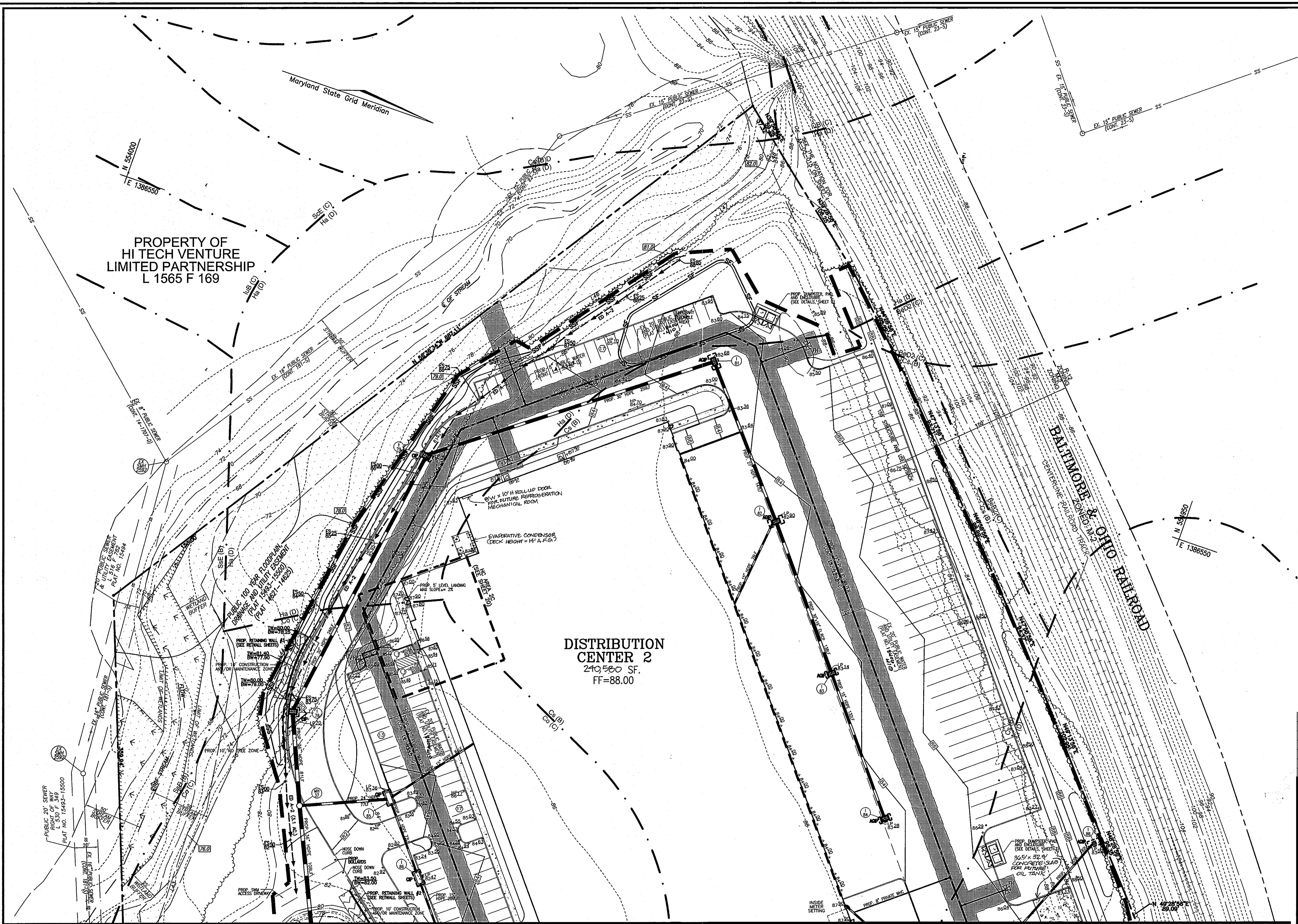
ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET ELLICOTT CITY, MD 21043
TEL: 410.461.7666 FAX: 410.461.8961



DESIGN BY: WCG/DZ
DRAWN BY: DZ
CHECKED BY: RHV
DATE: FEB. 27, 2006
SCALE: 1"=40'
W.D. NO.: 04-121



KEY MAP
NOT TO SCALE



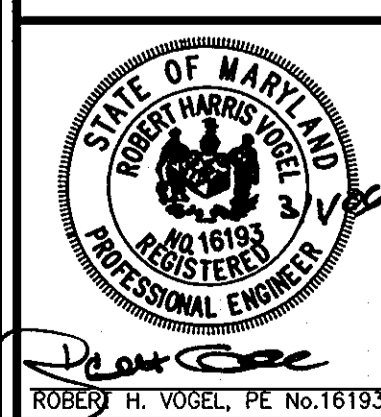
PROPERTY OF
HI TECH VENTURE
LIMITED PARTNERSHIP
L 1565 F 169

DISTRIBUTION CENTER 2
210,560 SF.
FF=88.00

NO.	REVISION	DATE
4	ADD DOOR TO BUILDING 2, ADD CONCRETE SLAB FOR FUTURE OIL TANK 1/28/09 AND CONDENSER ADJACENT TO BUILDING 2	

SITE DEVELOPMENT PLAN
SITE GRADING, SEDIMENT AND EROSION CONTROL PLAN
PATAPSCO VALLEY BUSINESS CENTER
PARCEL I
TAX MAP 38 BLOCK 1918 PARCEL 1
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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



DESIGN BY: WGZ/DZ
DRAWN BY: DZ
CHECKED BY: RHV
DATE: FEB. 27, 2006
SCALE: 1"=40'
W.D. NO.: 04-121

13 SHEET OF 30

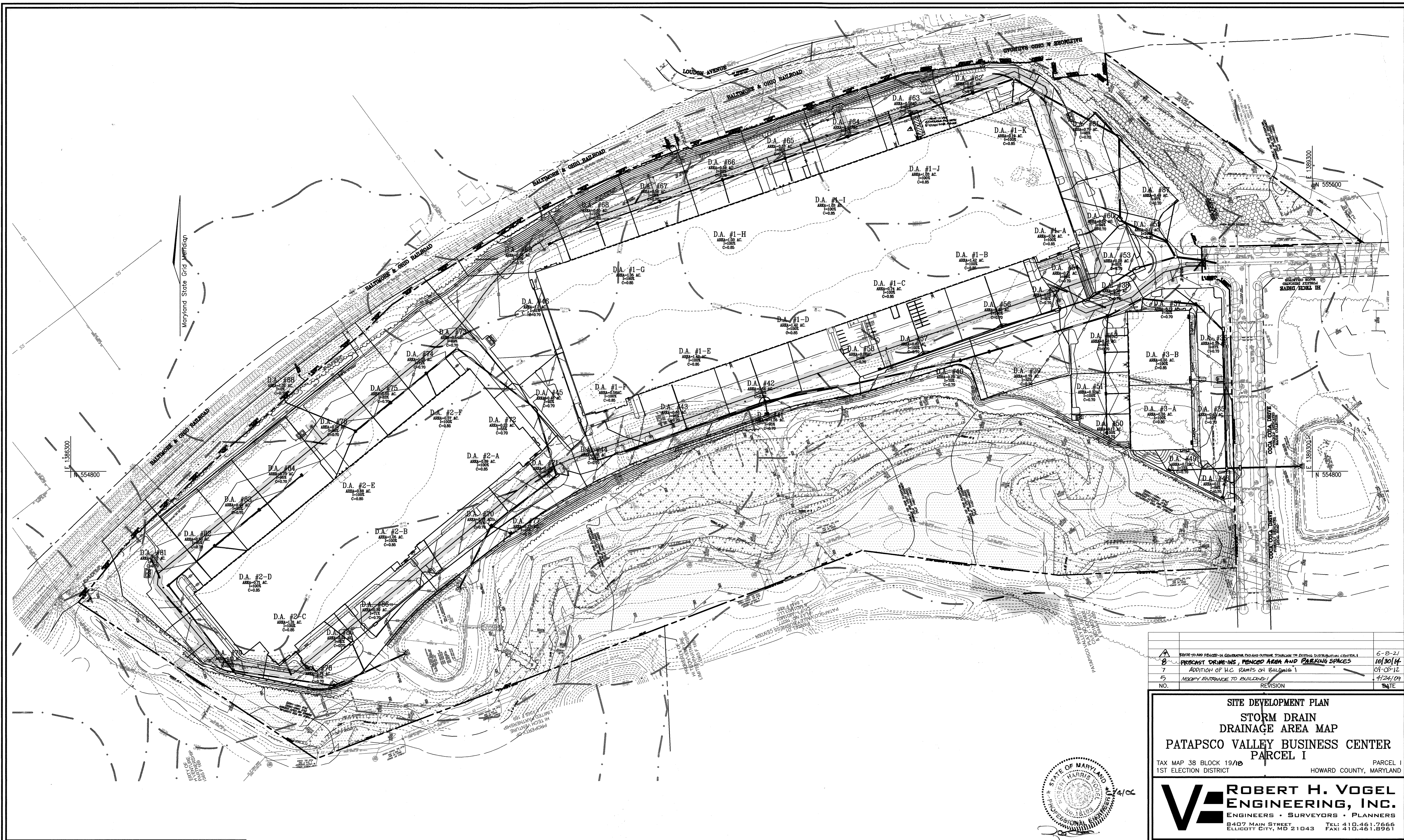
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 7/6/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION 90
[Signature] 7/6/06
CHIEF, DIVISION OF LAND DEVELOPMENT
[Signature] 7/6/06
DIRECTOR

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.
[Signature] 2/28/06
USDA-NATURAL RESOURCES CONSERVATION SERVICE
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[Signature] 2/28/06
HOWARD S.C.D.

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I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] 3/10/06
SIGNATURE OF 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] 2/1/06
SIGNATURE OF ENGINEER DATE

OWNER/PETITIONER
CROSSROADS VENTURE, LLC.
C/O J. PAUL PRICE
101 CONSTITUTION AVENUE, NW, SUITE 600E
WASHINGTON, DC 20001



6-B-21	REVISION TO PRECAST DRAINS IN GARAGE, PAD AND OTHER STRUCTURE TO EXISTING DISTRIBUTION CENTER	10/30/14
7	ADDITION OF H.C. RAMPS ON BUILDING 1	09-08-12
5	MODIFY ENTRANCE TO BUILDING 1	4/24/09
NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN
STORM DRAIN
DRAINAGE AREA MAP
PATAPSCO VALLEY BUSINESS CENTER
PARCEL I**

TAX MAP 38 BLOCK 19/18 PARCEL 1
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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

DESIGN BY:	WGZ/DZ
DRAWN BY:	DZ
CHECKED BY:	RHV
DATE:	JUNE 1, 2006
SCALE:	1"=100'
W.O. NO.:	04-121

15 SHEET OF 30

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 7/6/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION (DATE)

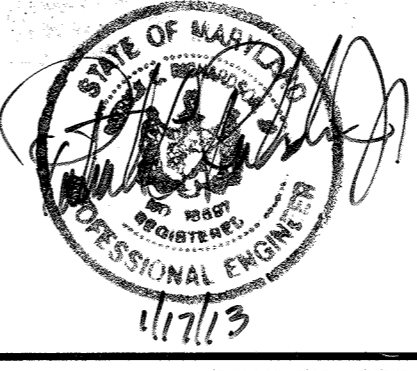
[Signature] 7/6/06
CHIEF, DIVISION OF LAND DEVELOPMENT (DATE)

[Signature] 7/6/06
DIRECTOR (DATE)

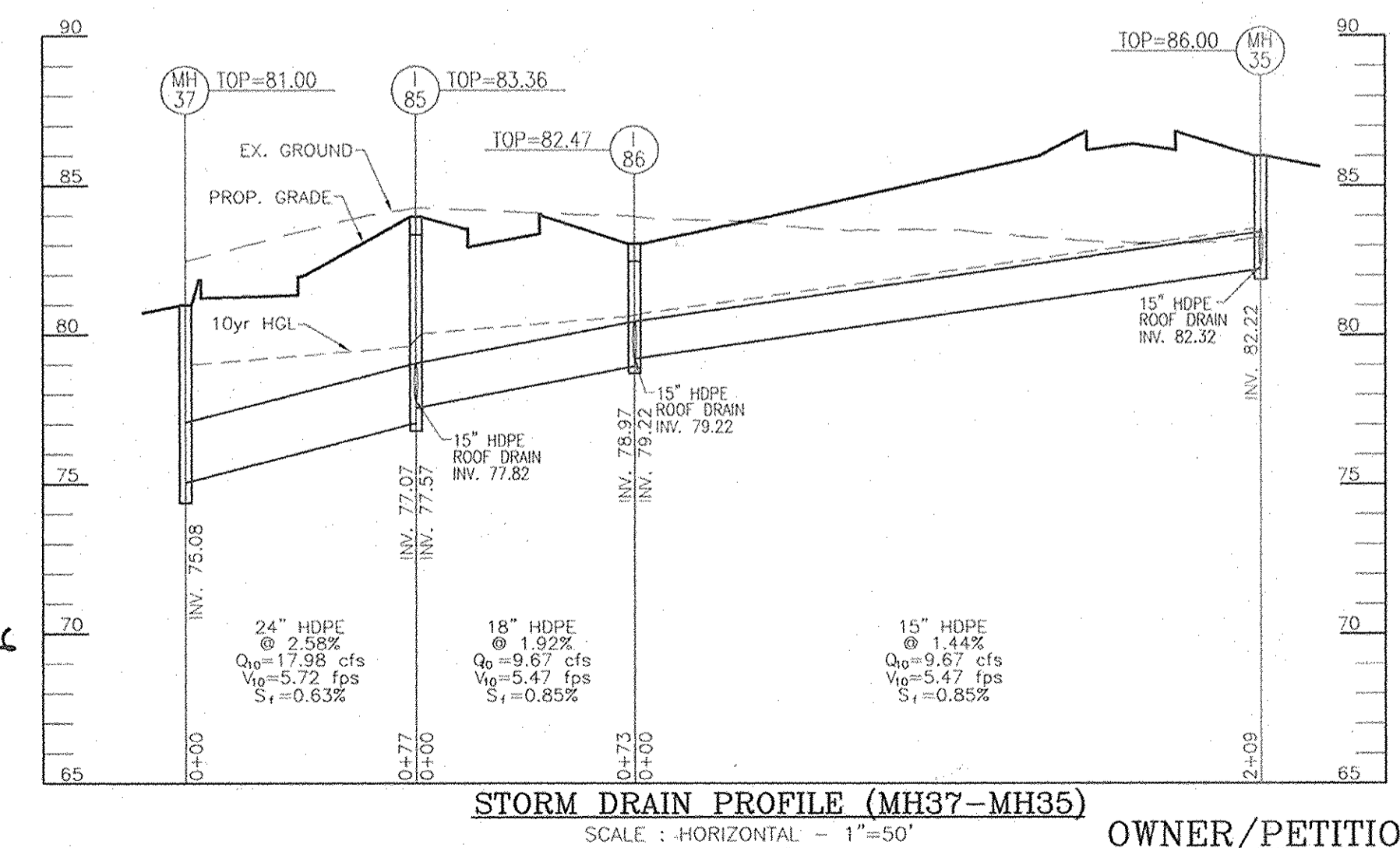
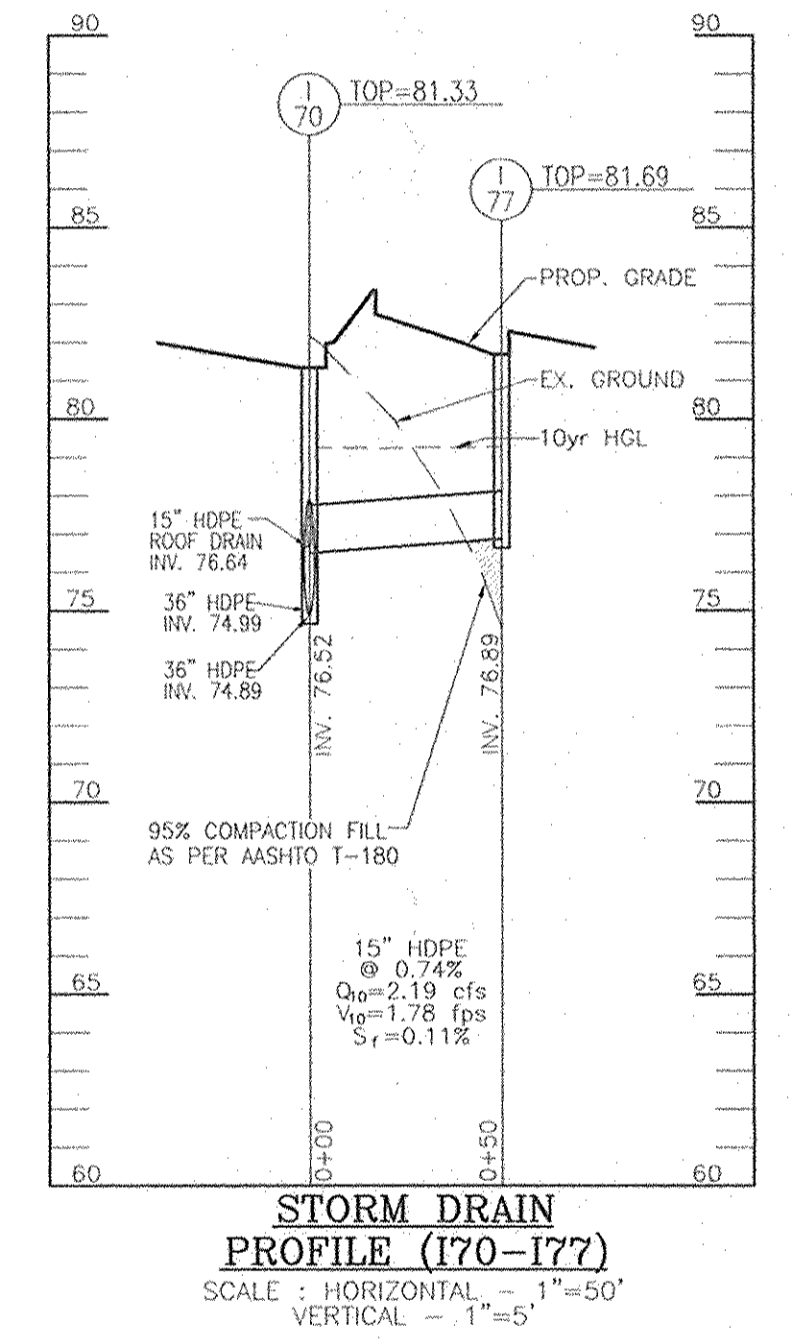
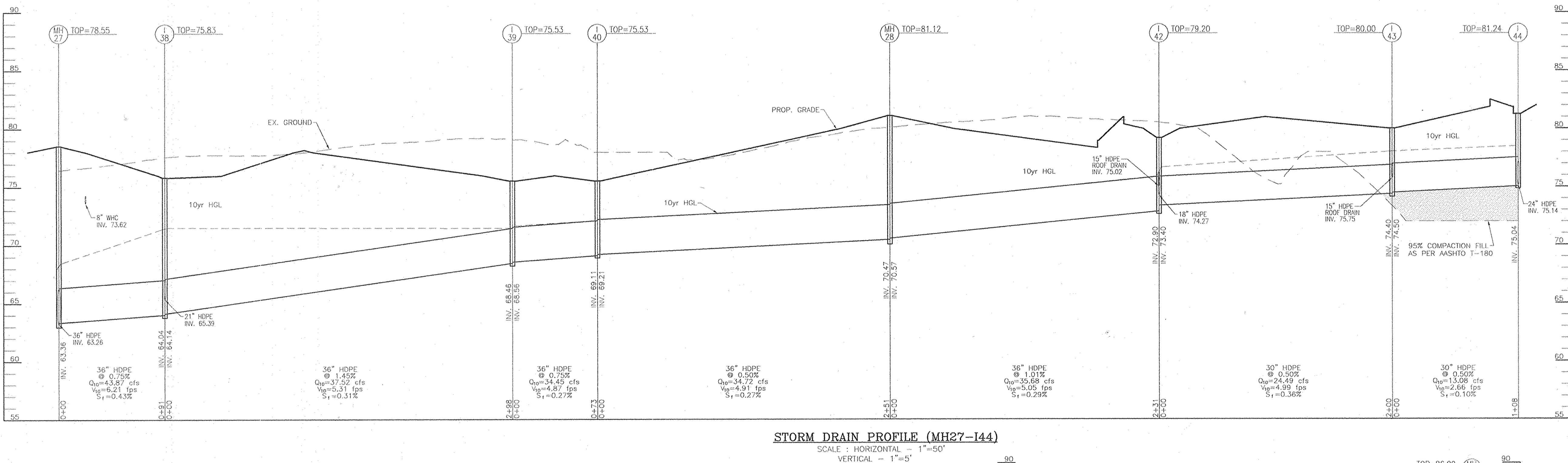
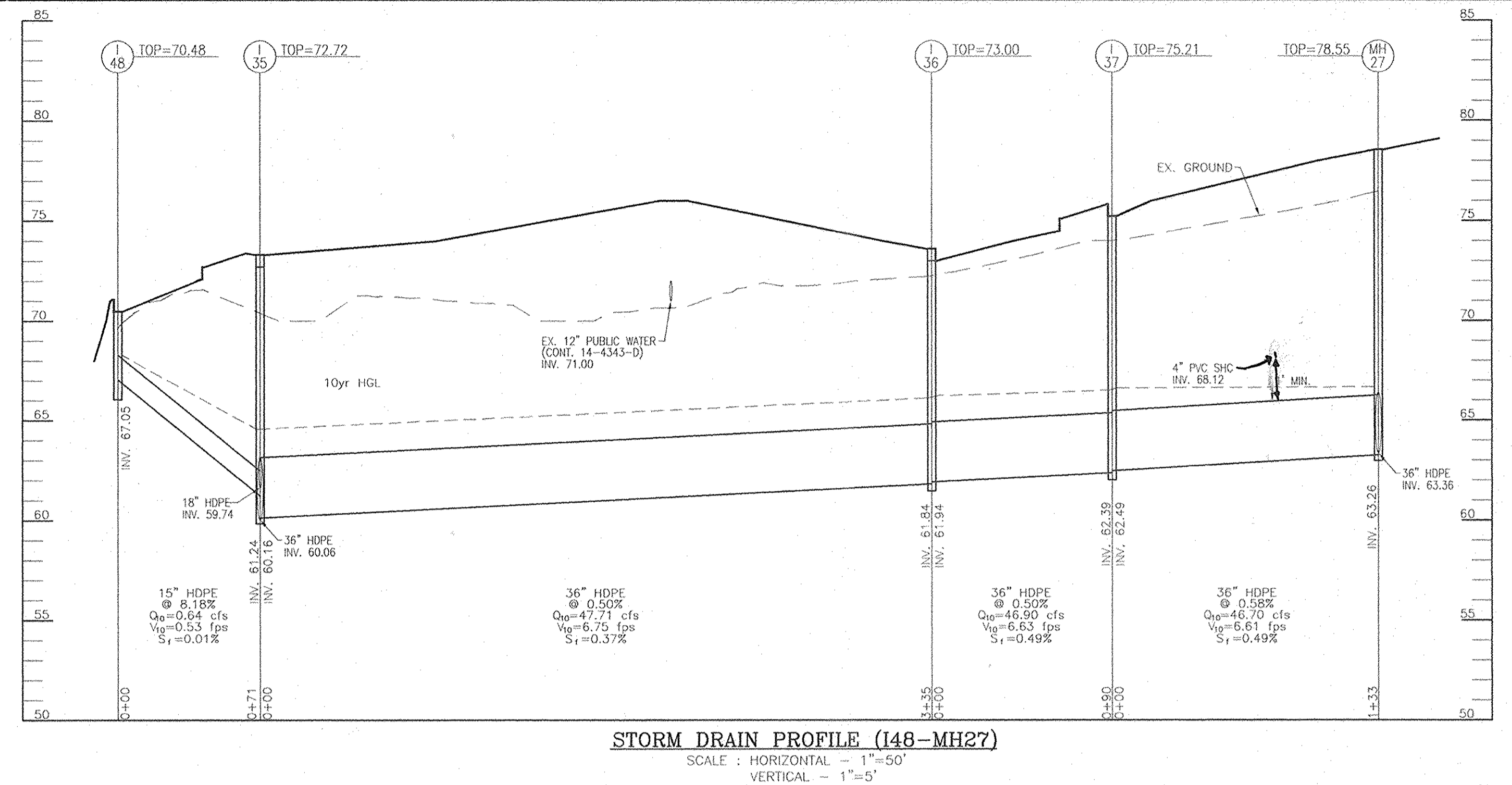
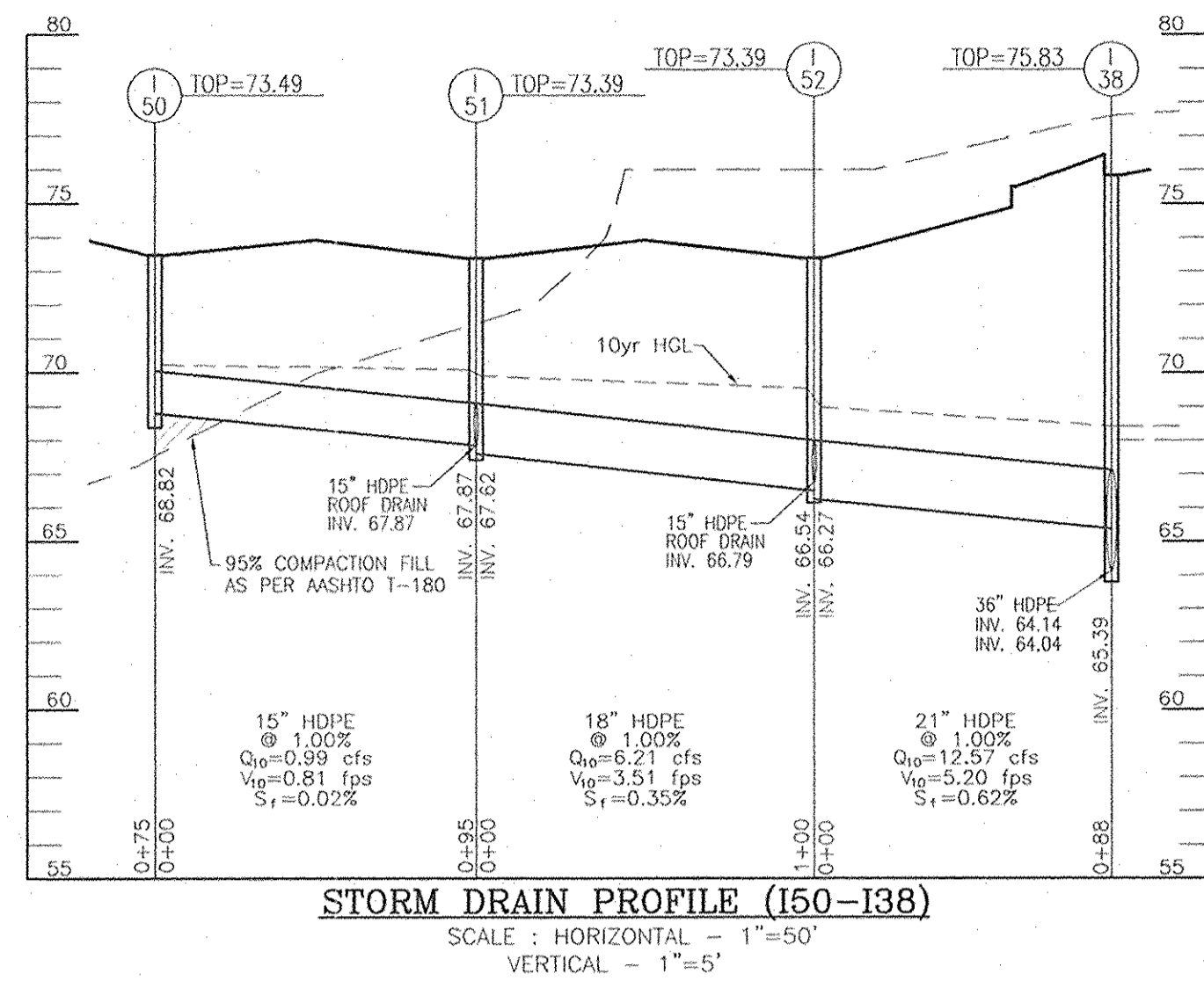
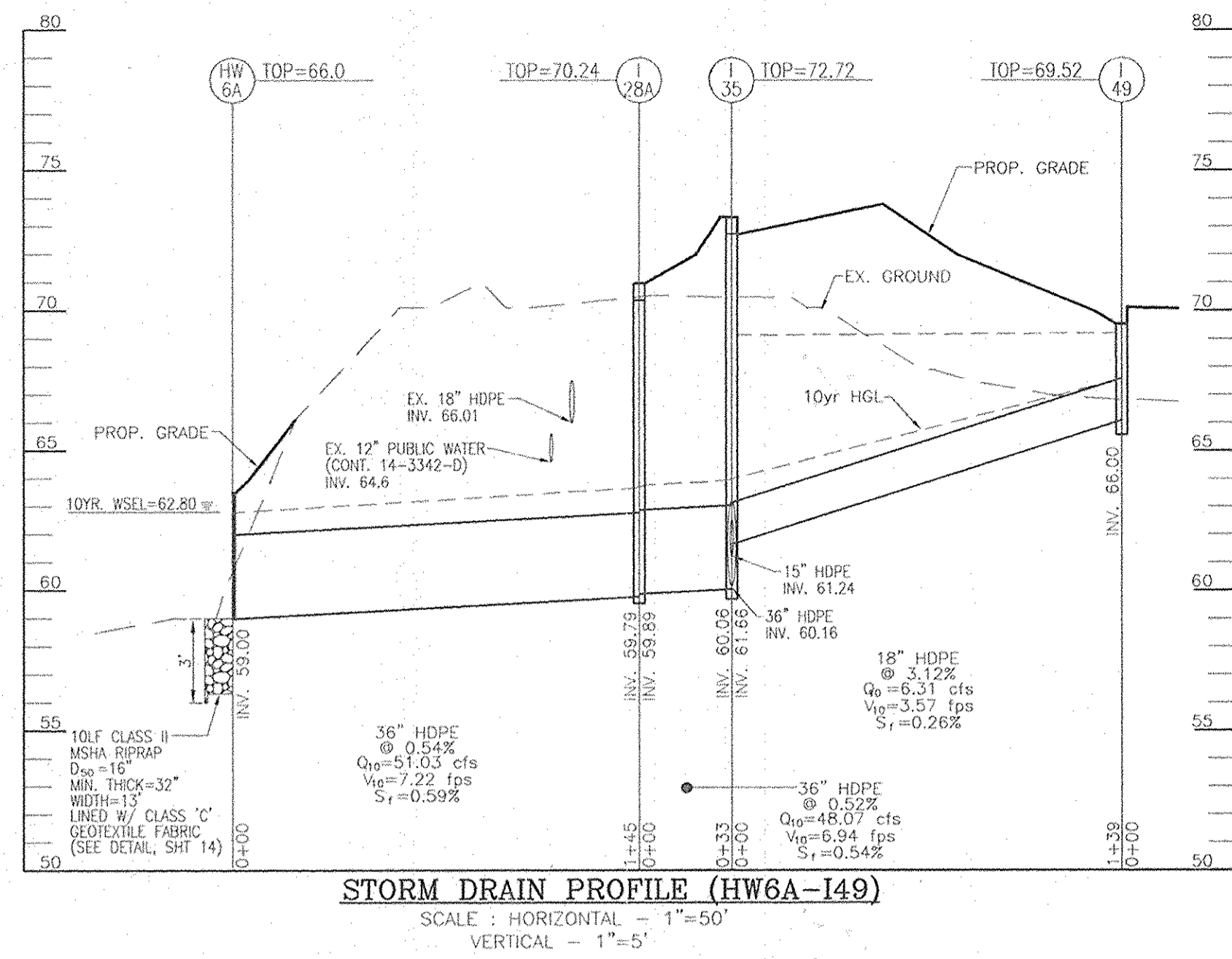
**FOR REVISION 7 ONLY
& REV # 8 10/30/14**

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. 16597, Expiration Date: 8/15/13

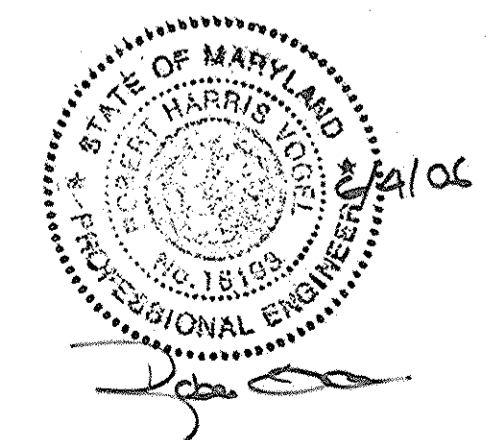


OWNER/PETITIONER
CROSSROADS VENTURE, LLC.
C/O J. PAUL PRICE
101 CONSTITUTION AVENUE, NW, SUITE 600E
WASHINGTON, DC 20001



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 7/6/06
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
 [Signature] 7/6/06
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
 [Signature] 7/6/06
 DIRECTOR DATE



NO.	REVISION	DATE
1	REVISE SANITARY SEWER CROSSING BETWEEN I37.4 M27	7.28.06

SITE DEVELOPMENT PLAN
STORM DRAIN PROFILES
PATAPSCO VALLEY BUSINESS CENTER
PARCEL I

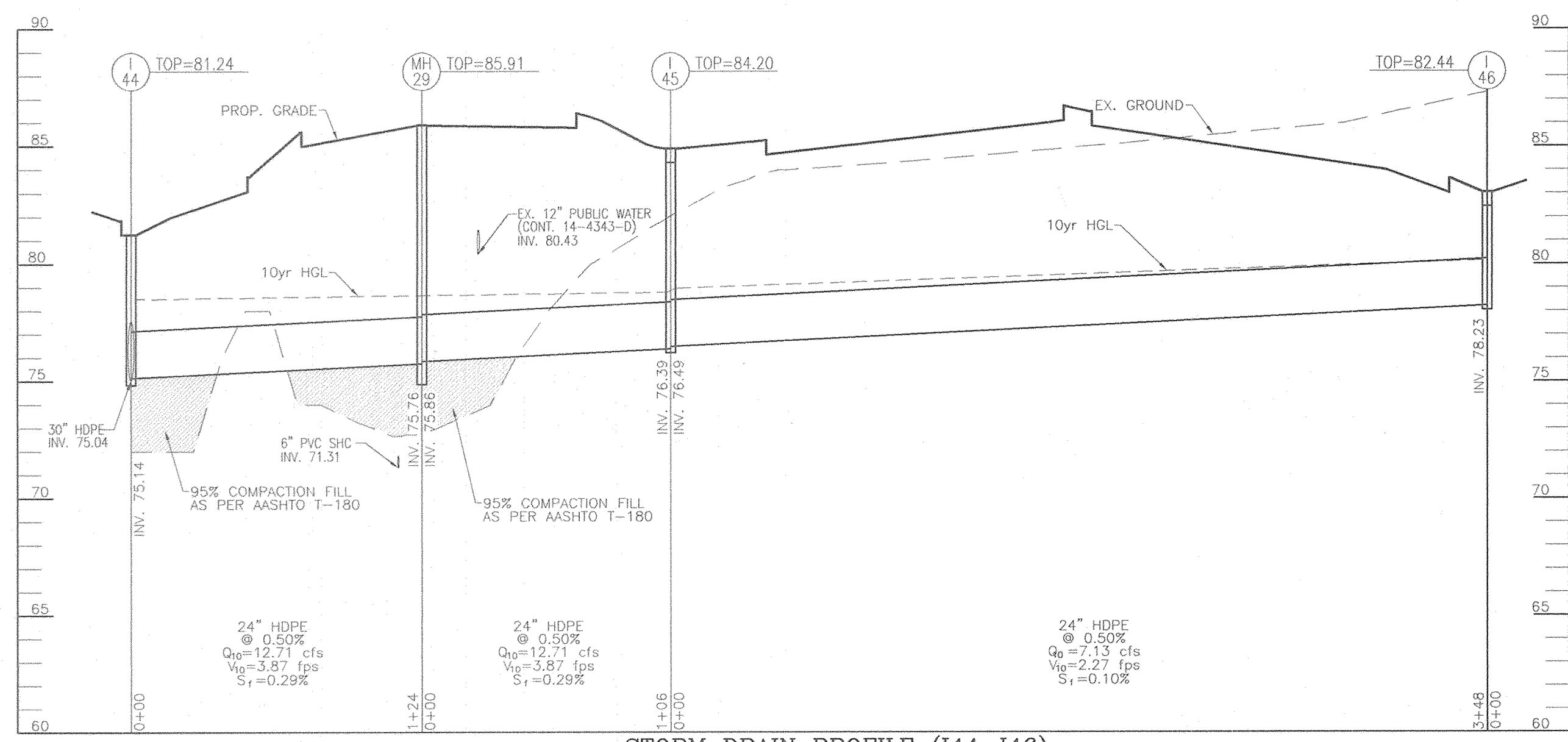
TAX MAP 38 BLOCK 19/18 PARCEL I
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET ELICOTT CITY, MD 21043 TEL: 410-461-7666 FAX: 410-461-8961

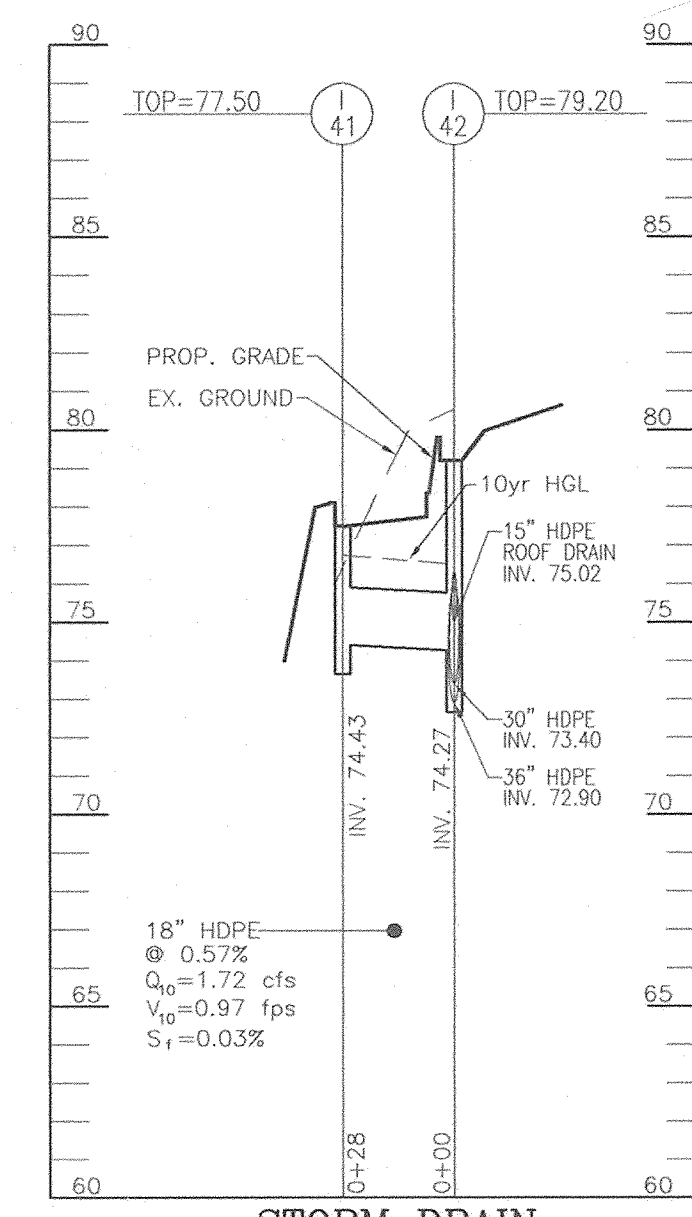
DESIGN BY: WJZ/DZ
DRAWN BY: DZ
CHECKED BY: RHV
DATE: JUNE 1, 2006
SCALE: 1"=50'
W.O. NO.: 04-121

16 SHEET OF 30

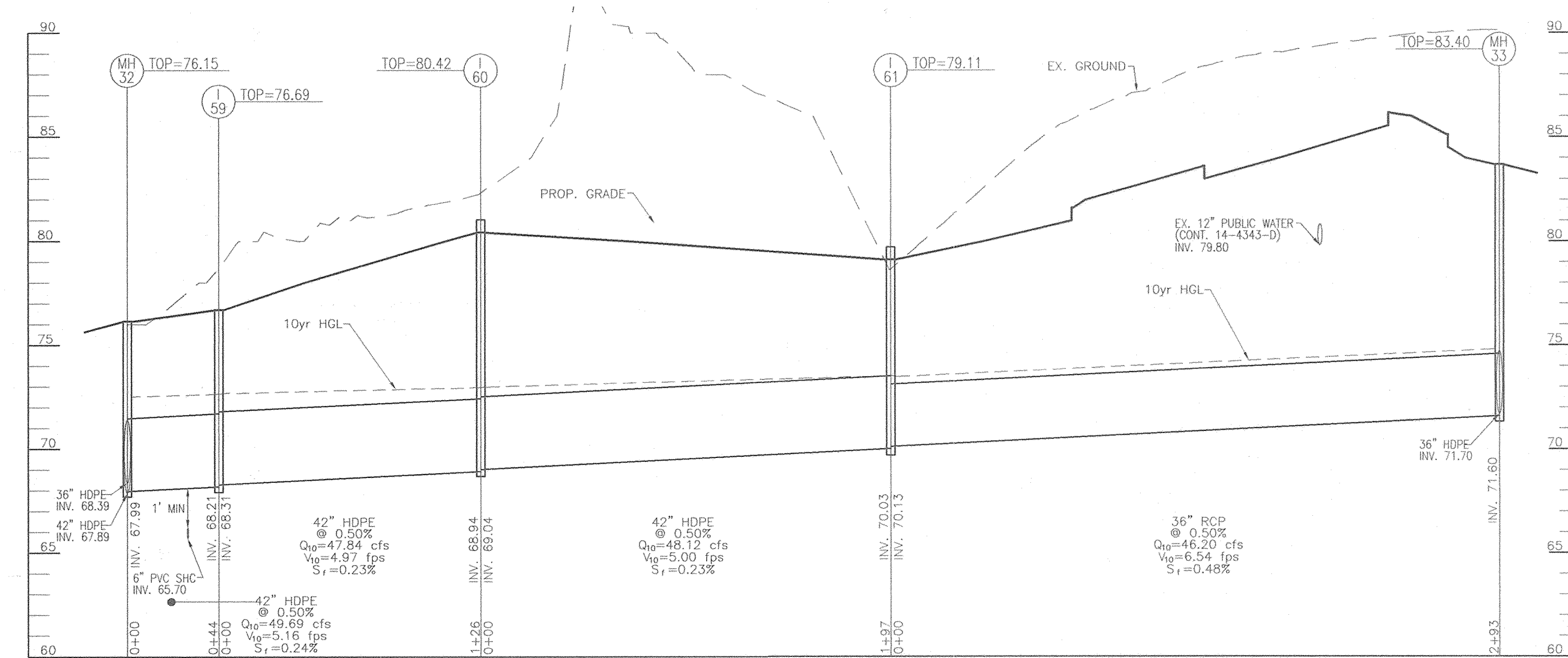
OWNER/PETITIONER
CROSSROADS VENTURE, LLC.
C/O J. PAUL PRICE
101 CONSTITUTION AVENUE, NW, SUITE 600E
WASHINGTON, DC 20001



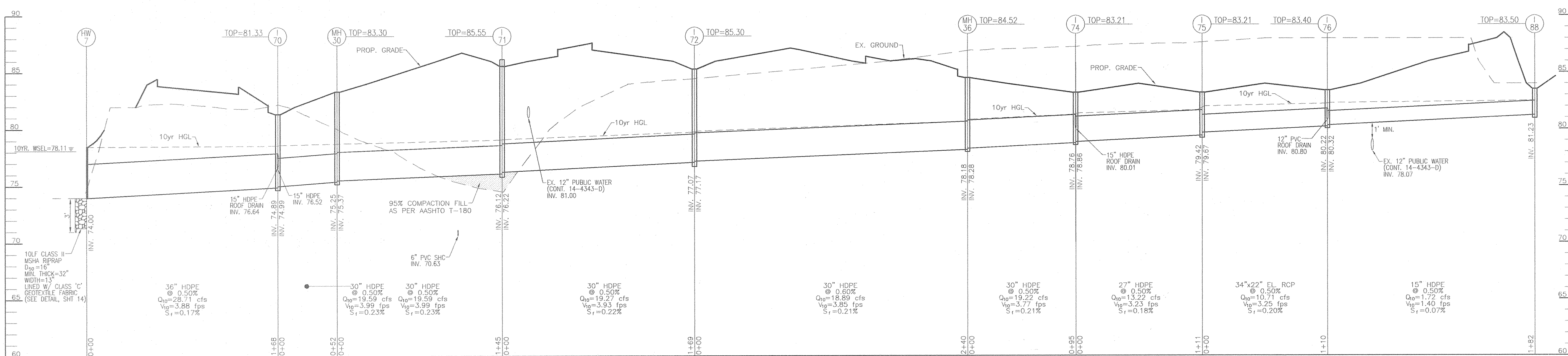
STORM DRAIN PROFILE (I44-I46)
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



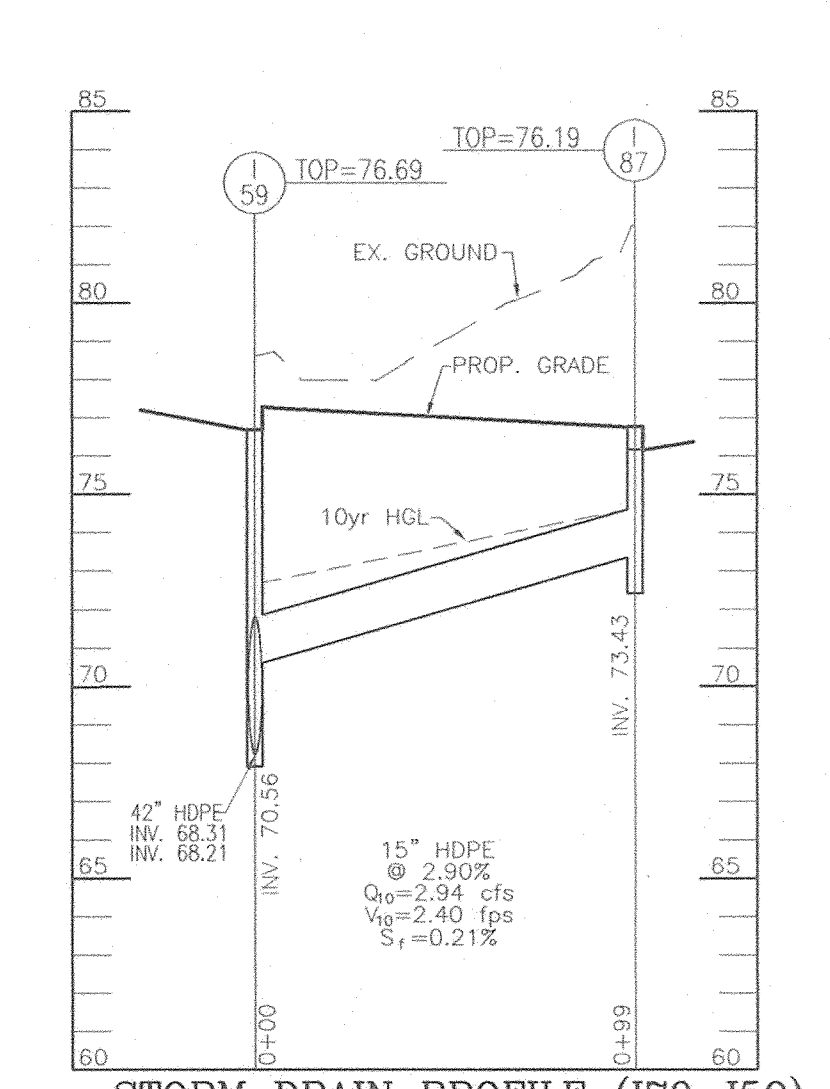
STORM DRAIN PROFILE (I42-I41)
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



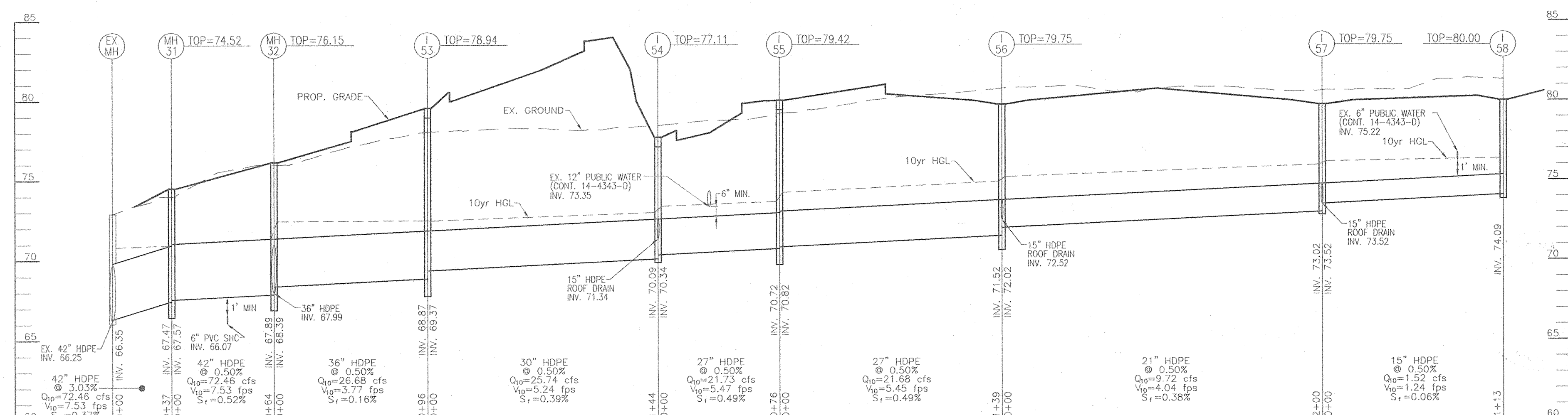
STORM DRAIN PROFILE (MH32-MH33)
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



STORM DRAIN PROFILE (HW7-I76)
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

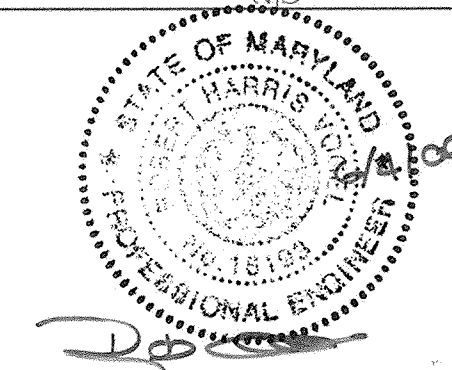


STORM DRAIN PROFILE (I70-I59)
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



STORM DRAIN PROFILE (MH31-I58)
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* 7/6/06
 CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* 7/6/06
 DIRECTOR *[Signature]* 7/6/06



OWNER/PETITIONER
 CROSSROADS VENTURE, LLC.
 C/O J. PAUL PRICE
 101 CONSTITUTION AVENUE, NW, SUITE 600E
 WASHINGTON, DC 20001

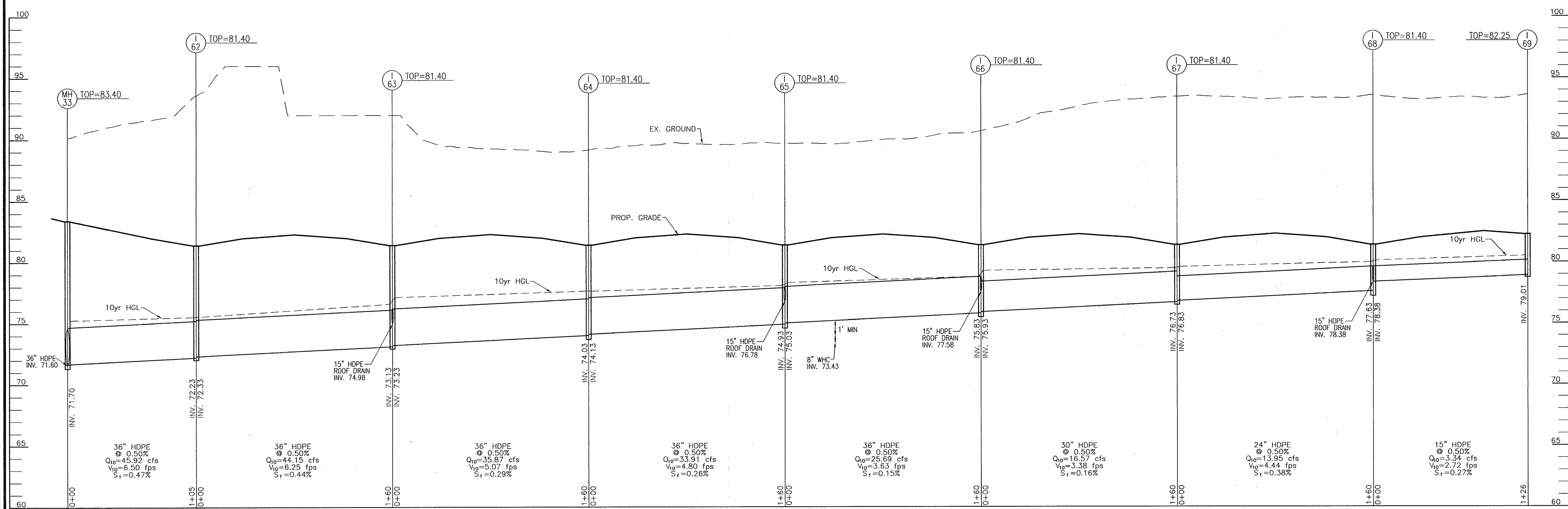
NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
STORM DRAIN PROFILES
PATAPSCO VALLEY BUSINESS CENTER
PARCEL I
 TAX MAP 38 BLOCK 19/10 PARCEL I
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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

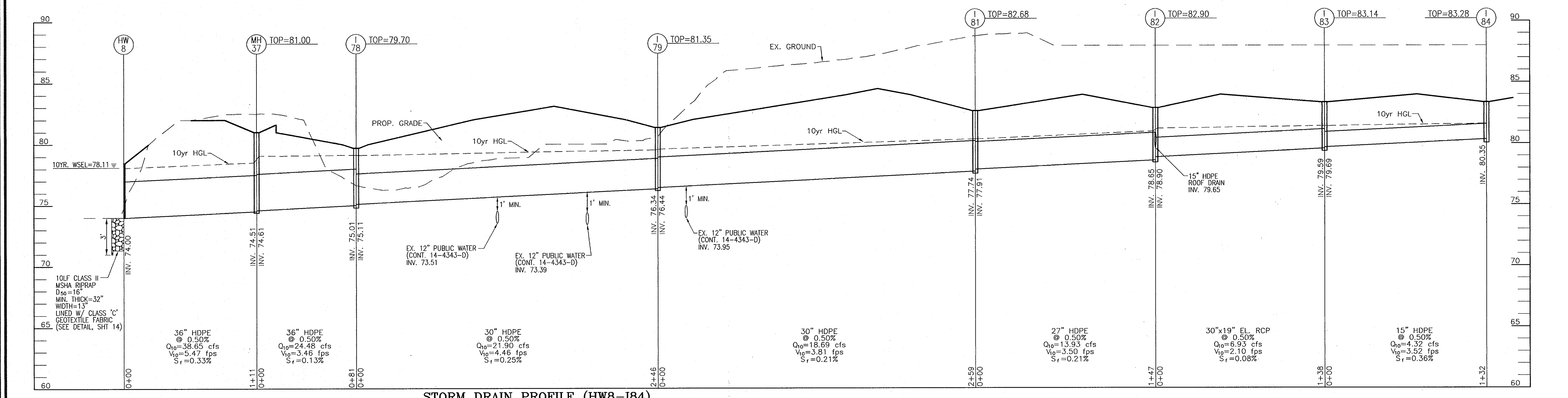
DESIGN BY: WGZ/DZ
 DRAWN BY: DZ
 CHECKED BY: RHV
 DATE: JUNE 1, 2006
 SCALE: 1"=50'
 W.O. NO.: 04-121

17 SHEET OF 30



STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	TOP ELEV.	INV. IN	INV. OUT	COMMENTS
I-28A	TYPE 'A-10' INLET		70.24	59.89	59.79	HO. CO. STD SD-4.02
I-35	TYPE 'A-5' INLET		72.72	60.60	60.06	HO. CO. STD SD-4.01
I-36	TYPE 'A-10' INLET		73.00	61.94	61.84	HO. CO. STD SD-4.01
I-37	DOUBLE TYPE 'S' COMB. INLET (NORMAL)		75.21	62.49	62.39	HO. CO. STD SD-4.33
I-38	DOUBLE TYPE 'S' COMB. INLET (NORMAL)		75.83	65.39	64.04	HO. CO. STD SD-4.33
I-39	DOUBLE TYPE 'S' INLET		75.53	68.56	68.46	HO. CO. STD SD-4.23
I-40	DOUBLE TYPE 'S' INLET		75.53	69.21	69.11	HO. CO. STD SD-4.23
I-41	DOUBLE TYPE 'S' COMB. INLET (PARALLEL)		77.50	74.43	74.43	HO. CO. STD SD-4.34
I-42	DOUBLE TYPE 'S' COMB. INLET (NORMAL)		79.20	74.72	74.70	HO. CO. STD SD-4.33
I-43	DOUBLE TYPE 'S' COMB. INLET (PARALLEL)		80.00	76.75	74.40	HO. CO. STD SD-4.34
I-44	DOUBLE TYPE 'S' COMB. INLET (PARALLEL)		81.24	75.14	75.04	HO. CO. STD SD-4.34
I-45	TYPE 'A-10' INLET		84.20	76.49	76.39	HO. CO. STD SD-4.02
I-46	COS-20		82.44	---	78.23	MD. 374.61
I-48	DOUBLE TYPE 'S' COMB. INLET (PARALLEL)		70.48	---	67.05	HO. CO. STD SD-4.34
I-49	DOUBLE TYPE 'S' COMB. INLET (PARALLEL)		69.52	---	66.00	HO. CO. STD SD-4.34
I-50	DOUBLE TYPE 'S' INLET		73.49	---	68.82	HO. CO. STD SD-4.23
I-51	DOUBLE TYPE 'S' INLET		73.39	---	67.62	HO. CO. STD SD-4.23
I-52	DOUBLE TYPE 'S' INLET		73.39	---	66.27	HO. CO. STD SD-4.23
I-53	TYPE 'A-10' INLET		78.94	69.37	68.87	HO. CO. STD SD-4.02
I-54	TYPE 'A-10' INLET		77.11	71.34	70.09	HO. CO. STD SD-4.02
I-55	TYPE 'A-10' INLET		79.42	70.82	70.72	HO. CO. STD SD-4.02
I-56	DOUBLE TYPE 'S' COMB. INLET (NORMAL)		79.75	72.02	71.52	HO. CO. STD SD-4.33
I-57	DOUBLE TYPE 'S' COMB. INLET (PARALLEL)		79.75	73.52	73.02	HO. CO. STD SD-4.34
I-58	DOUBLE TYPE 'S' COMB. INLET (PARALLEL)		80.00	---	74.09	HO. CO. STD SD-4.34
I-59	DOUBLE TYPE 'S' COMB. INLET (NORMAL)		76.69	68.31	68.21	HO. CO. STD SD-4.33
I-60	TYPE 'A-10' INLET		80.42	69.04	68.94	HO. CO. STD SD-4.02
I-61	TYPE 'A-10' INLET		79.11	70.13	70.03	HO. CO. STD SD-4.02
I-62	DOUBLE TYPE 'S' INLET		81.40	72.33	72.23	HO. CO. STD SD-4.23
I-63	DOUBLE TYPE 'S' INLET		81.40	74.88	73.13	HO. CO. STD SD-4.23
I-64	DOUBLE TYPE 'S' INLET		81.40	74.13	74.03	HO. CO. STD SD-4.23
I-65	DOUBLE TYPE 'S' INLET		81.40	76.78	74.93	HO. CO. STD SD-4.23
I-66	DOUBLE TYPE 'S' INLET		81.40	75.93	75.83	HO. CO. STD SD-4.23
I-67	DOUBLE TYPE 'S' INLET		81.40	76.83	76.73	HO. CO. STD SD-4.23
I-68	DOUBLE TYPE 'S' INLET		81.40	78.77	77.63	HO. CO. STD SD-4.23
I-69	DOUBLE TYPE 'S' COMB. INLET (PARALLEL)		82.25	---	79.01	HO. CO. STD SD-4.34
I-70	DOUBLE TYPE 'S' COMB. INLET (NORMAL)		81.33	74.99	74.89	HO. CO. STD SD-4.33
I-71	TYPE 'A-10' INLET		85.55	76.22	76.12	HO. CO. STD SD-4.02
I-72	TYPE 'A-10' INLET		85.30	77.17	77.07	HO. CO. STD SD-4.02
I-74	DOUBLE TYPE 'S' INLET		83.21	78.96	78.76	HO. CO. STD SD-4.23
I-75	DOUBLE TYPE 'S' INLET		83.21	79.67	79.42	HO. CO. STD SD-4.23
I-76	DOUBLE TYPE 'S' INLET		83.40	80.38	80.22	HO. CO. STD SD-4.23
I-77	DOUBLE TYPE 'S' COMB. INLET (PARALLEL)		81.69	---	76.89	HO. CO. STD SD-4.34
I-78	DOUBLE TYPE 'S' COMB. INLET (NORMAL)		79.70	75.11	75.01	HO. CO. STD SD-4.33
I-79	DOUBLE TYPE 'S' COMB. INLET (NORMAL)		81.35	76.44	76.34	HO. CO. STD SD-4.33
I-81	DOUBLE TYPE 'S' INLET		82.68	77.91	77.74	HO. CO. STD SD-4.23
I-82	DOUBLE TYPE 'S' INLET		82.90	78.90	78.65	HO. CO. STD SD-4.23
I-83	DOUBLE TYPE 'S' INLET		83.14	79.69	79.59	HO. CO. STD SD-4.23
I-84	DOUBLE TYPE 'S' INLET		83.28	---	80.35	HO. CO. STD SD-4.23
I-85	TYPE 'A-10' INLET		83.36	77.57	77.07	HO. CO. STD SD-4.02
I-86	TYPE 'A-10' INLET		82.47	78.22	78.97	HO. CO. STD SD-4.02
I-87	TYPE 'A-10' INLET		76.19	---	73.43	HO. CO. STD SD-4.02
I-88	TYPE 'D' INLET		83.50	---	81.23	HO. CO. STD SD-4.39
M-27	5'-0" STANDARD PRECAST MANHOLE		78.55	63.36	63.26	HO. CO. STD G-5.13
M-28	4'-0" STANDARD PRECAST MANHOLE		81.12	70.57	70.47	HO. CO. STD G-5.12
M-29	4'-0" STANDARD PRECAST MANHOLE		85.91	75.86	75.76	HO. CO. STD G-5.12
M-30	4'-0" STANDARD PRECAST MANHOLE		83.30	74.99	74.89	HO. CO. STD G-5.12
M-31	5'-0" STANDARD PRECAST MANHOLE		74.52	67.57	67.47	HO. CO. STD G-5.13
M-32	84" DIAM. PRECAST MANHOLE		76.15	67.99	67.89	MD. 384.07
M-33	72" DIAM. PRECAST MANHOLE		83.40	71.70	71.60	MD. 384.05
M-35	4'-0" STANDARD PRECAST MANHOLE		86.00	82.32	82.22	HO. CO. STD G-5.12
M-36	5'-0" STANDARD PRECAST MANHOLE		84.52	78.28	78.18	HO. CO. STD G-5.13
M-37	5'-0" STANDARD PRECAST MANHOLE		81.00	75.98	74.51	HO. CO. STD G-5.13
HW-6A	TYPE 'A' HEADWALL		---	---	59.00	HO. CO. STD SD-5.11
HW-7	TYPE 'A' HEADWALL		---	---	74.00	HO. CO. STD SD-5.11
HW-8	TYPE 'A' HEADWALL		---	---	74.00	HO. CO. STD SD-5.11
SMH-1	4'-0" STANDARD PRECAST DROP MANHOLE		66.04	58.74	58.74	HO. CO. STD G-5.12
SMH-2	4'-0" STANDARD PRECAST MANHOLE		70.42	64.35	64.25	HO. CO. STD G-5.12
SMH-3	4'-0" STANDARD PRECAST MANHOLE		76.00	67.88	67.78	HO. CO. STD G-5.12
SMH-4	4'-0" STANDARD PRECAST MANHOLE		84.25	69.26	69.16	HO. CO. STD G-5.12
SMH-5	4'-0" STANDARD PRECAST MANHOLE		85.68	71.12	71.02	HO. CO. STD G-5.12
SMH-6	4'-0" STANDARD PRECAST MANHOLE		74.32	65.25	65.15	HO. CO. STD G-5.12
SMH-7	4'-0" STANDARD PRECAST MANHOLE		76.45	65.90	65.80	HO. CO. STD G-5.12

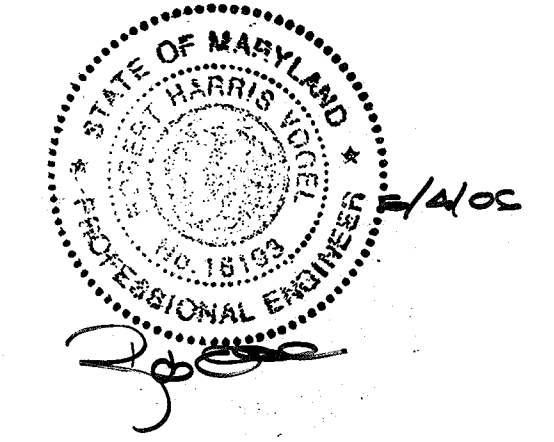
NOTES: 1. FOR TYPE 'A-5, A-10', SINGLE AND DOUBLE TYPE 'S' COMB. INLETS, TOP ELEVATIONS ARE AT FLOWLINE. TOP ELEVATIONS FOR SINGLE AND DOUBLE TYPE 'S' INLETS ARE AT CENTER TOP OF GRADE AND TOP OF MANHOLE COVERS FOR PRECAST MANHOLES. TOP ELEVATION FOR TYPE 'D' INLETS ARE AT WEIR.
2. FOR TOP SLAB SLOPES SEE GRADING PLAN.
3. SEE ARCHITECTURAL PLANS FOR ROOF DRAIN DETAILS.



PIPE SCHEDULE		
SIZE	TYPE	LENGTH
15"	HDPE (INCL. ROOF DRAINS)	2545
18"	HDPE	340
24"	HDPE	815
27"	HDPE	473
30"	HDPE	1616
36"	HDPE	3187
42"	HDPE	468
3"	PVC	15
12"	PVC	137
15"	HDPE	1330
30"x19"	HORZ. ELLIPT. RCP CLIV HE	138
34"x22"	HORZ. ELLIPT. RCP CLIV HE	110

All concrete pipe to be Class IV.
All pipe bedding to meet the minimum Howard County Specifications.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* DATE: 7/6/06
 CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* DATE: 7/6/06
 DIRECTOR *[Signature]* DATE: 7/6/06



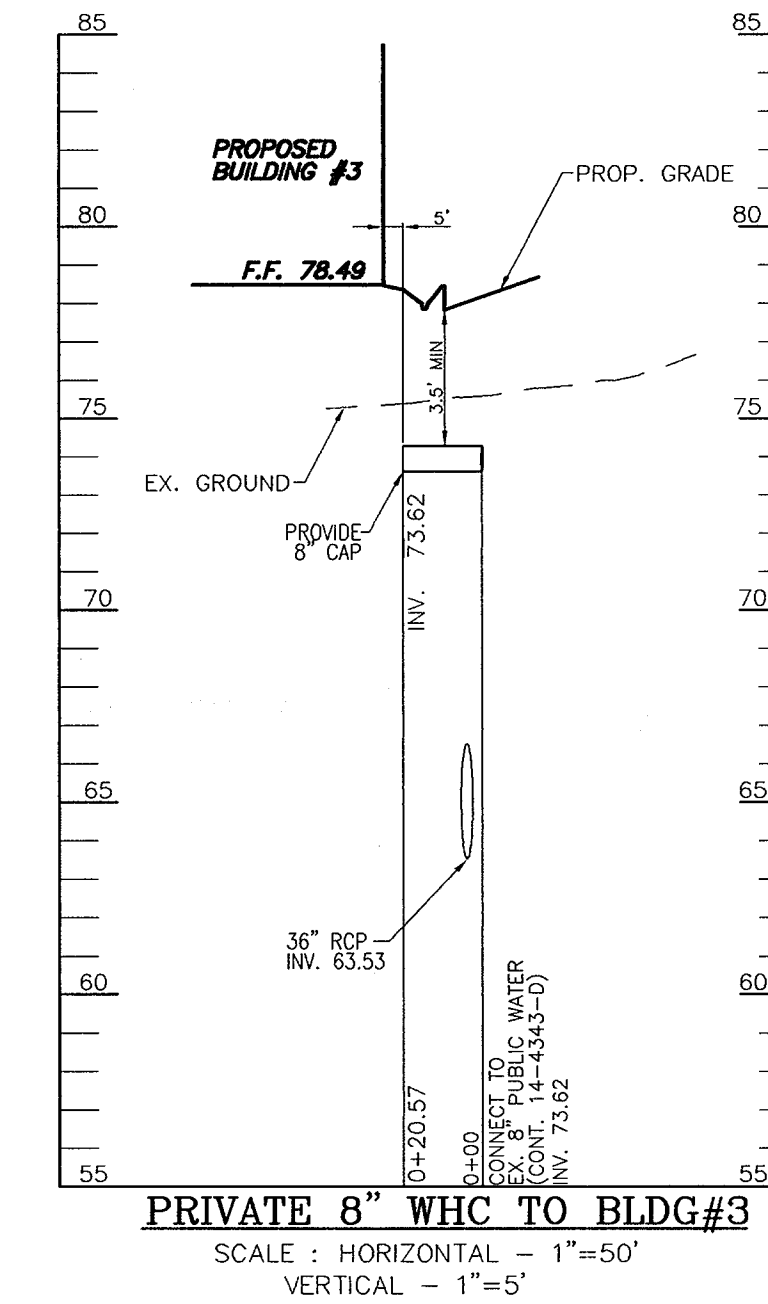
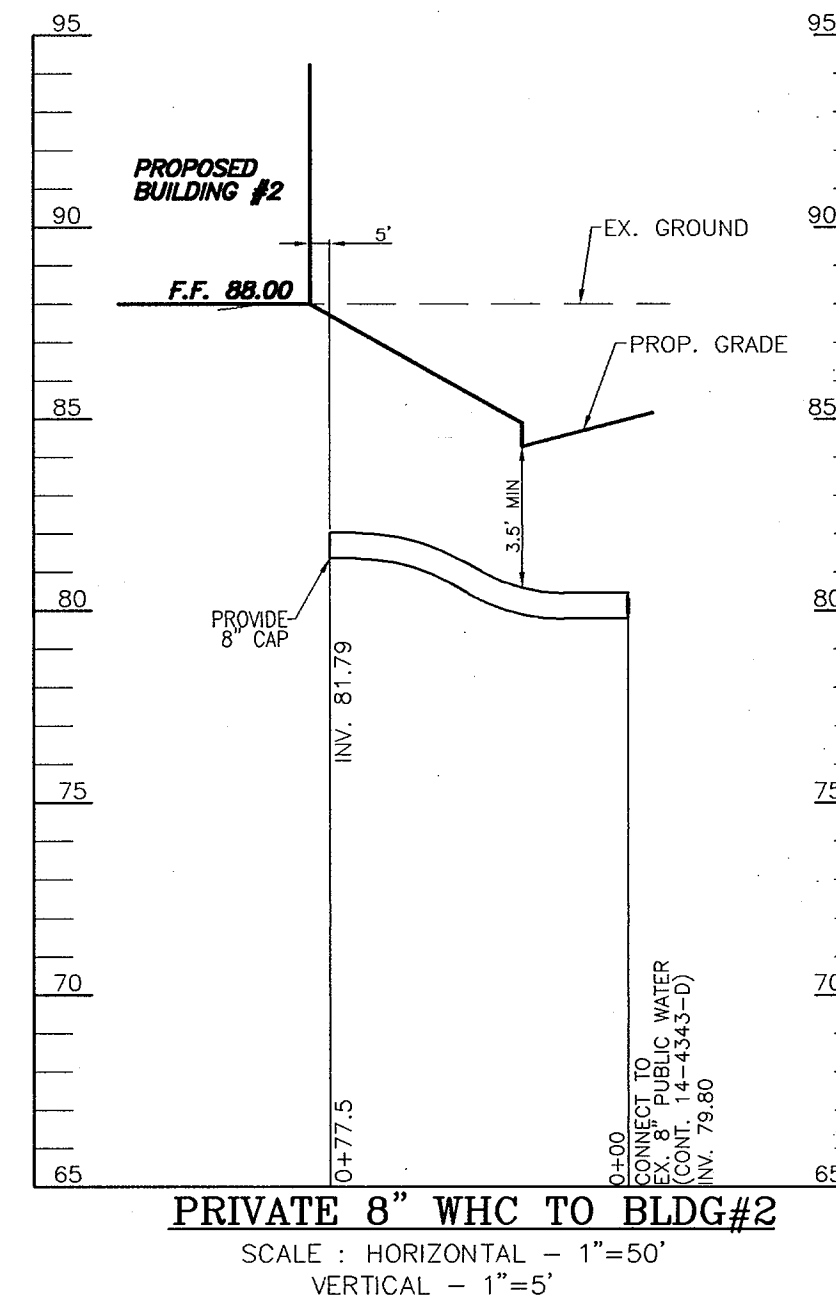
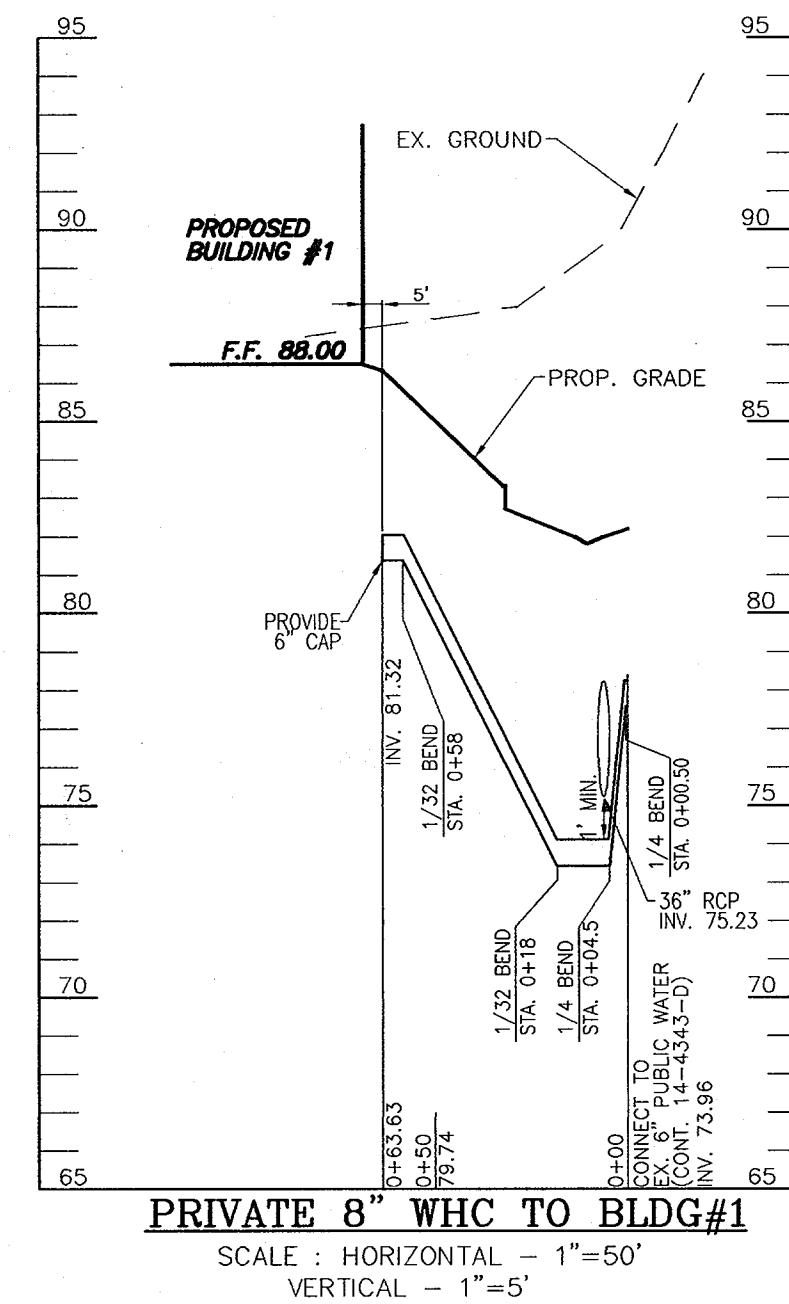
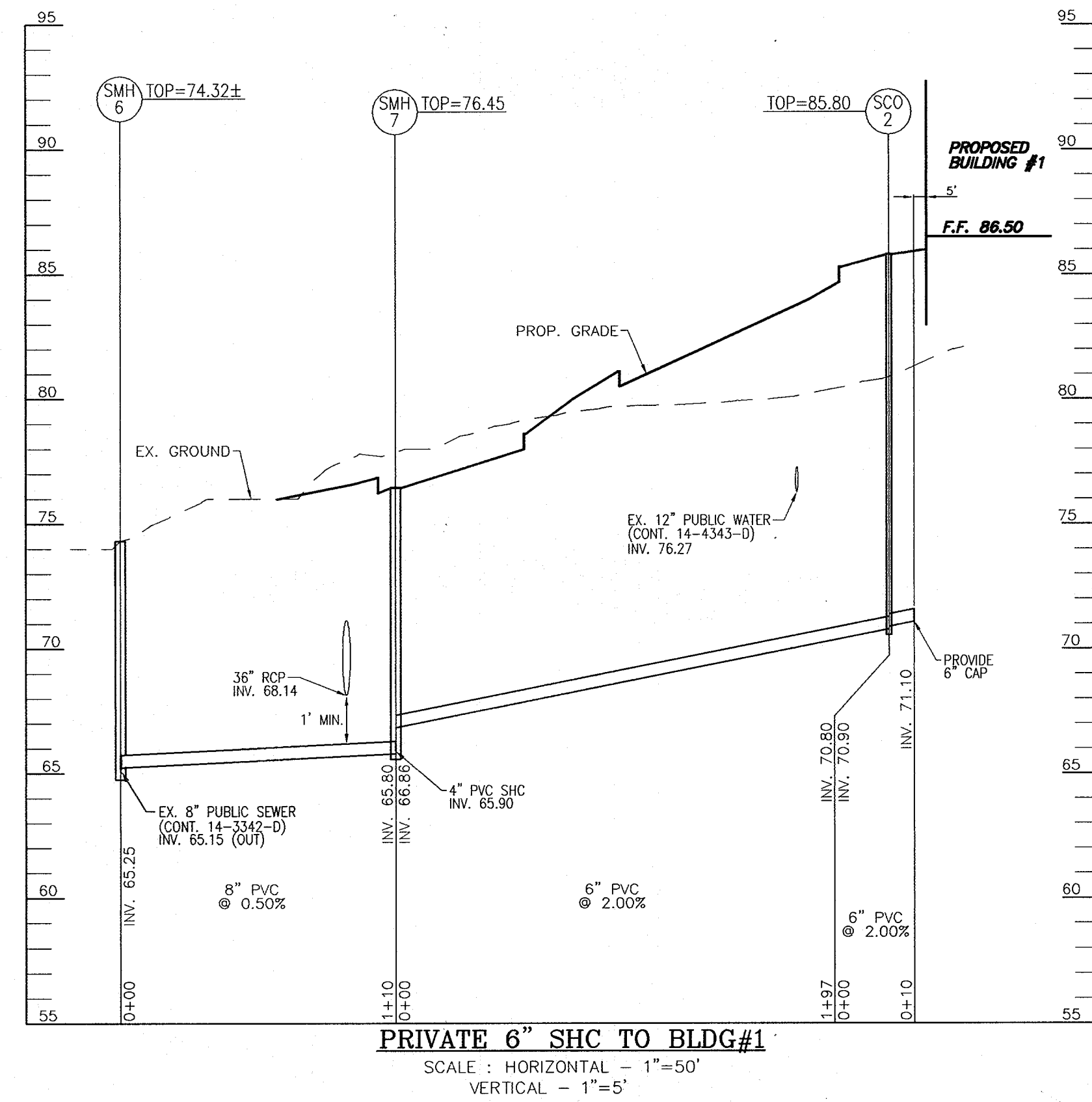
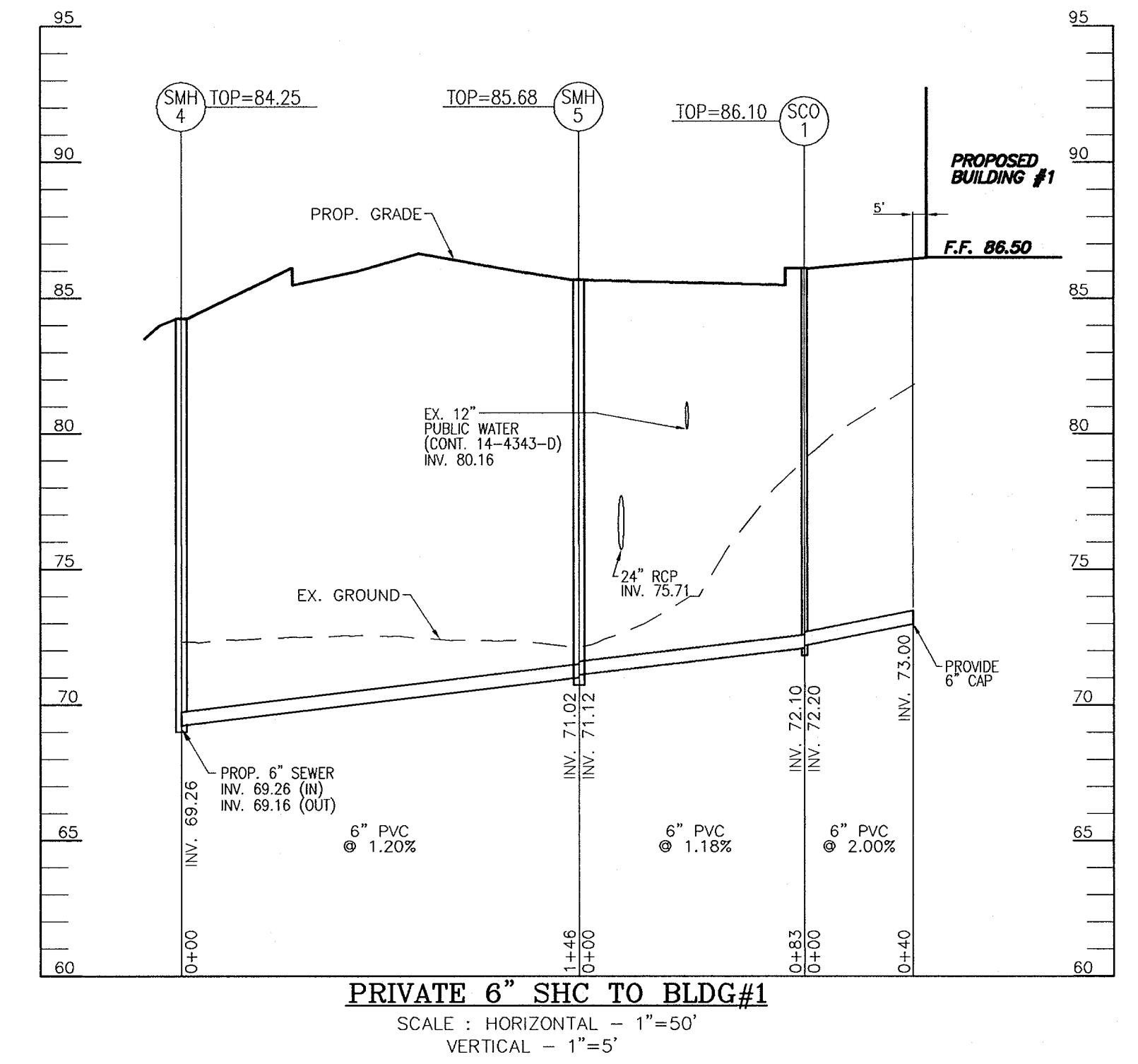
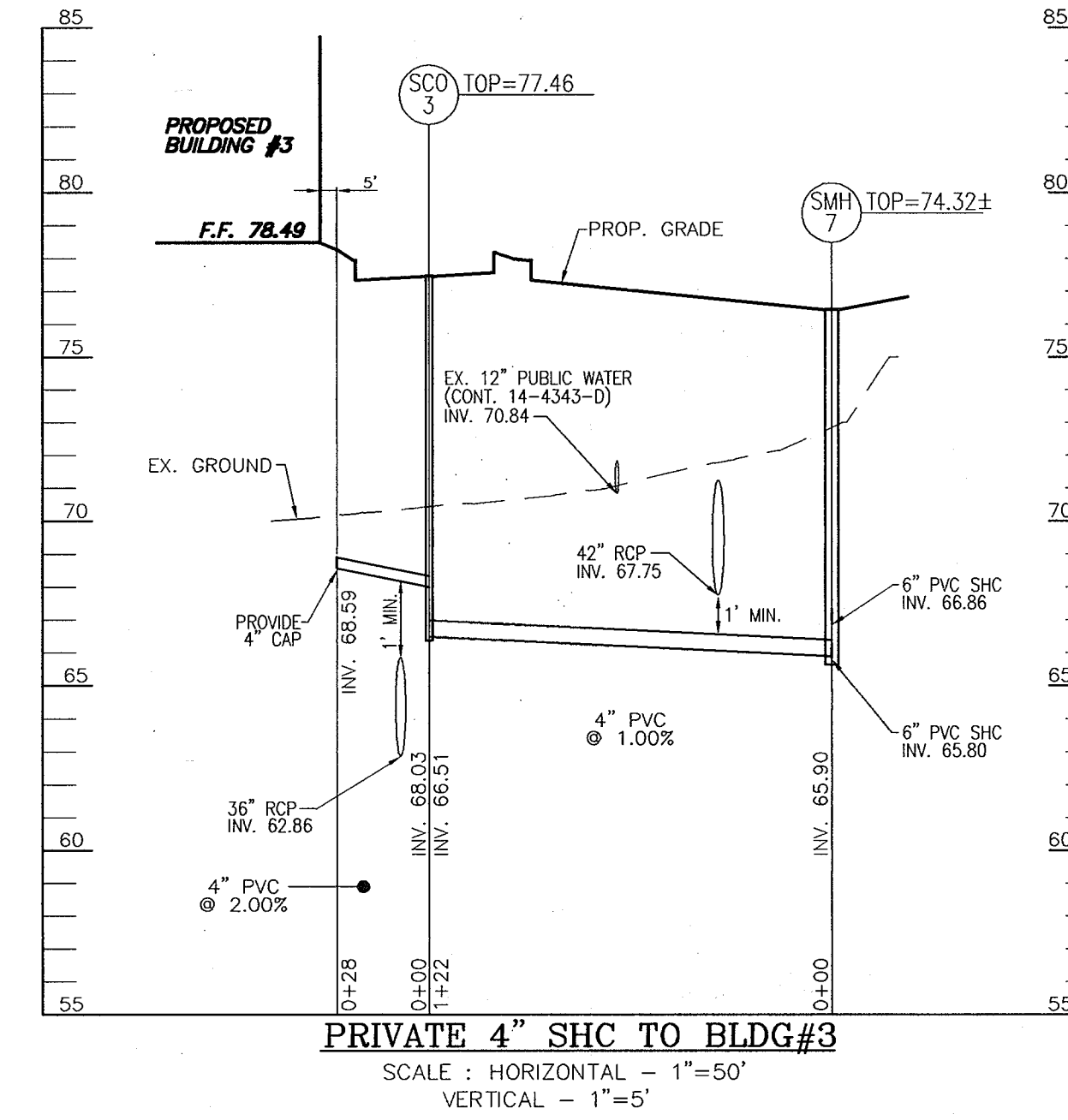
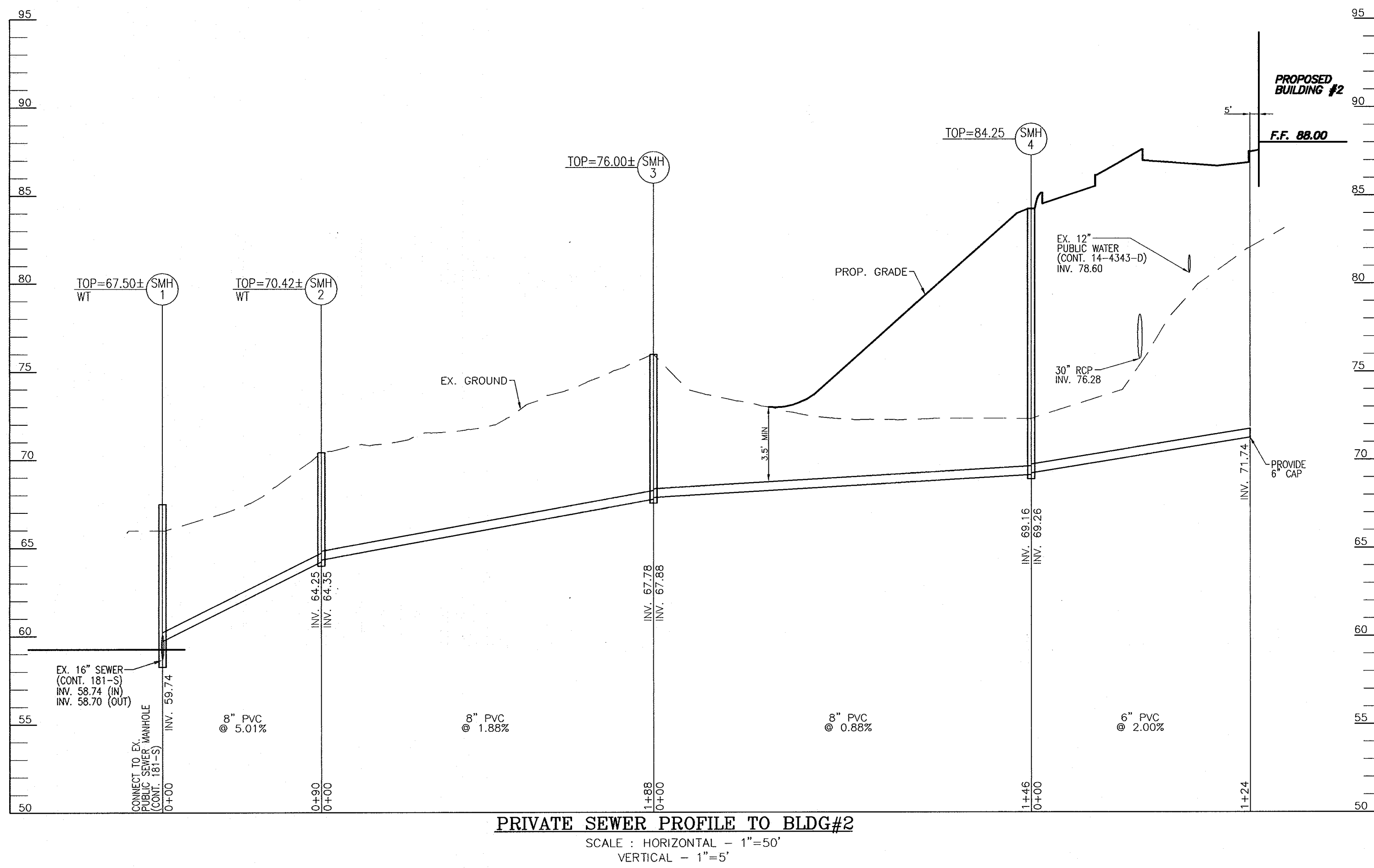
OWNER/PETITIONER
 CROSSROADS VENTURE, LLC.
 C/O J. PAUL PRICE
 101 CONSTITUTION AVENUE, NW, SUITE 600E
 WASHINGTON, DC 20001

SITE DEVELOPMENT PLAN
STORM DRAIN PROFILES, STRUCTURE SCHEDULE, AND PIPE SCHEDULE
PATAPSCO VALLEY BUSINESS CENTER
PARCEL I
 TAX MAP 38 BLOCK 19/18 PARCEL I
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

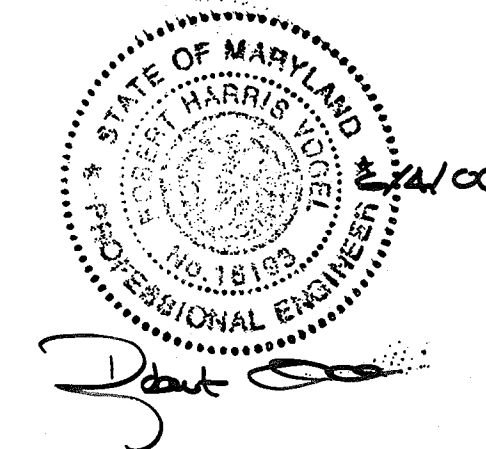
ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: WCG/DZ
 DRAWN BY: RLV
 CHECKED BY: RLV
 DATE: JUNE 1, 2006
 SCALE: 1"=50'
 W.O. NO.: 04-121

18 SHEET OF 30
 SDP-05-153



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* 7/6/06 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* 7/6/06 DATE
 DIRECTOR *[Signature]* 7/6/06 DATE



OWNER/PETITIONER
 CROSSROADS VENTURE, LLC.
 C/O J. PAUL PRICE
 101 CONSTITUTION AVENUE, NW, SUITE 600E
 WASHINGTON, DC 20001

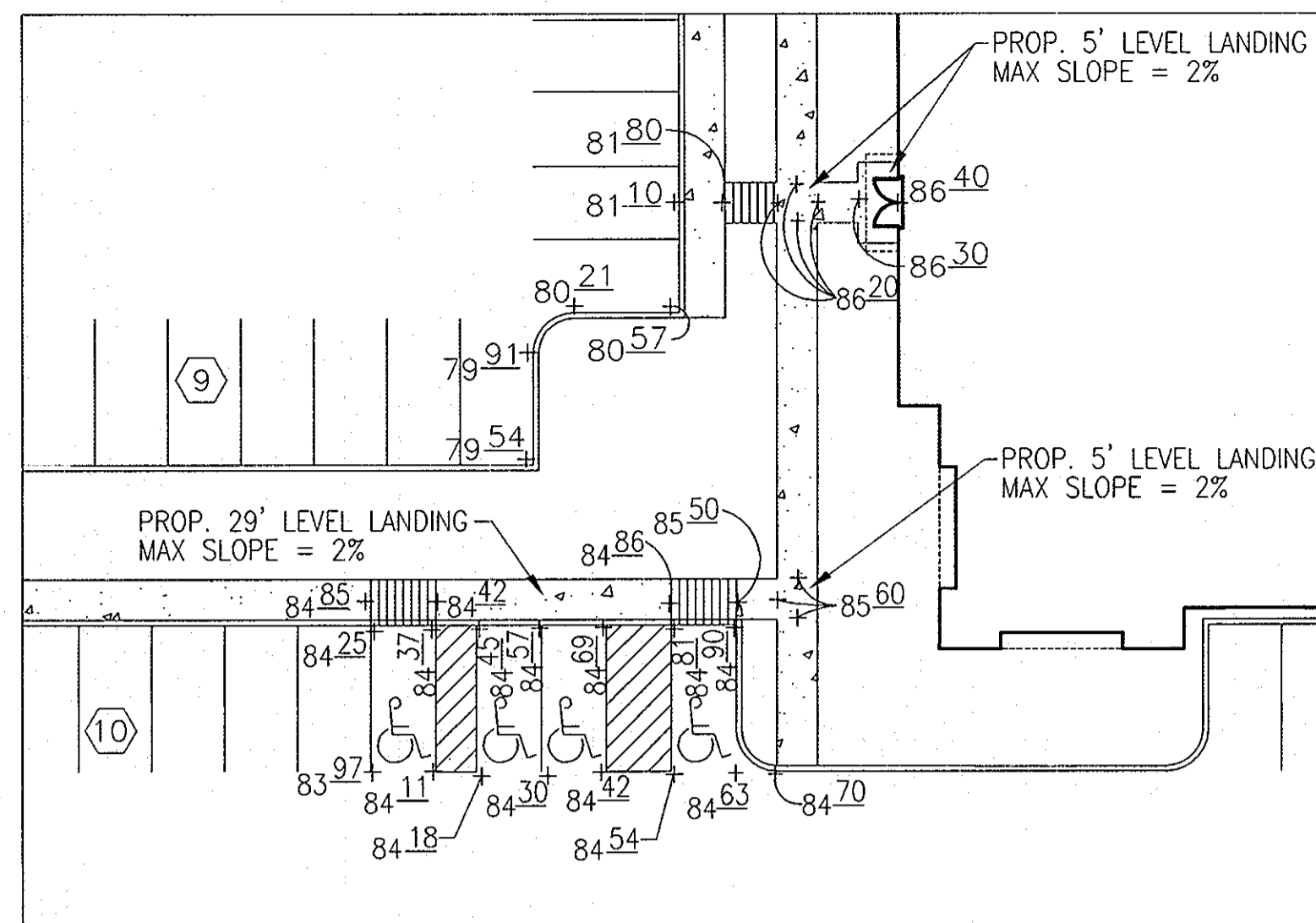
NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
WATER AND SEWER PROFILES
PATAPSCO VALLEY BUSINESS CENTER
PARCEL I
 TAX MAP 38 BLOCK 19/18 PARCEL I
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

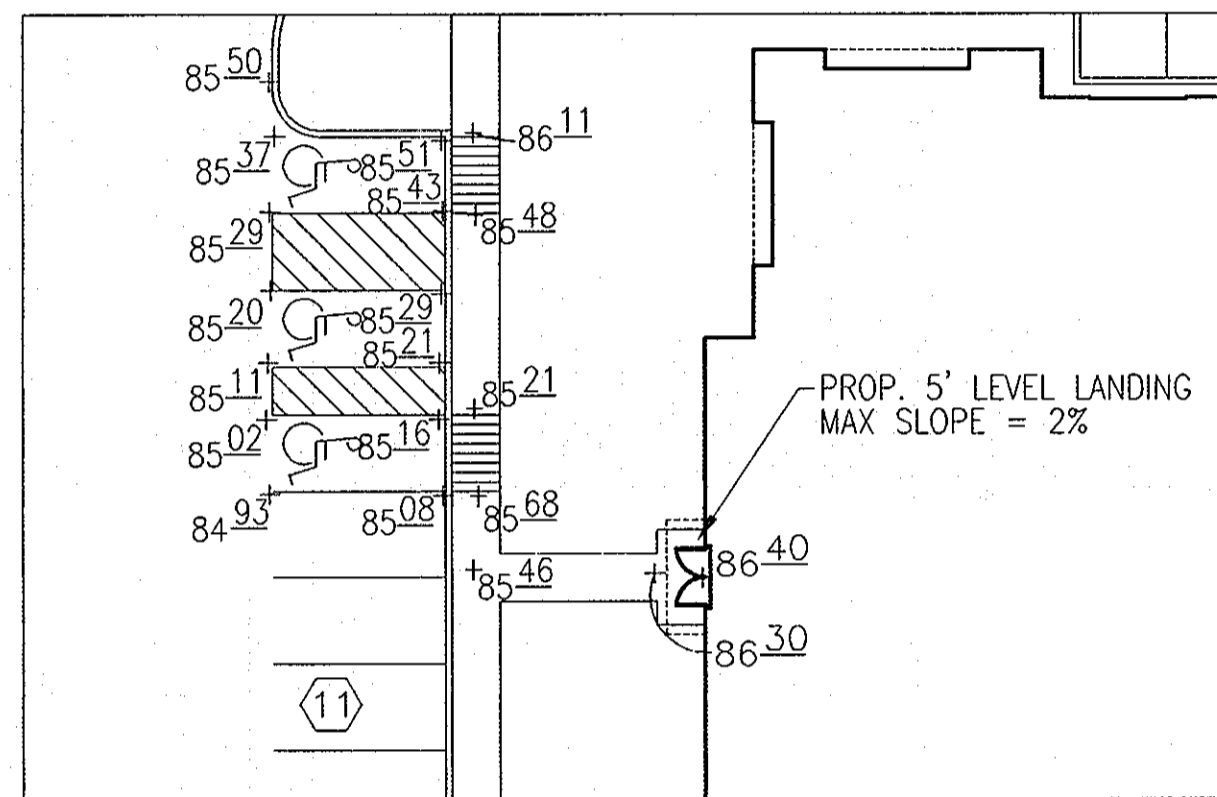
ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET TEL: 410.461.7666
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961

DESIGN BY: WGZ/DZ
 DRAWN BY: DZ
 CHECKED BY: RHV
 DATE: JUNE 1, 2006
 SCALE: 1"=50'
 W.O. NO.: 04-121

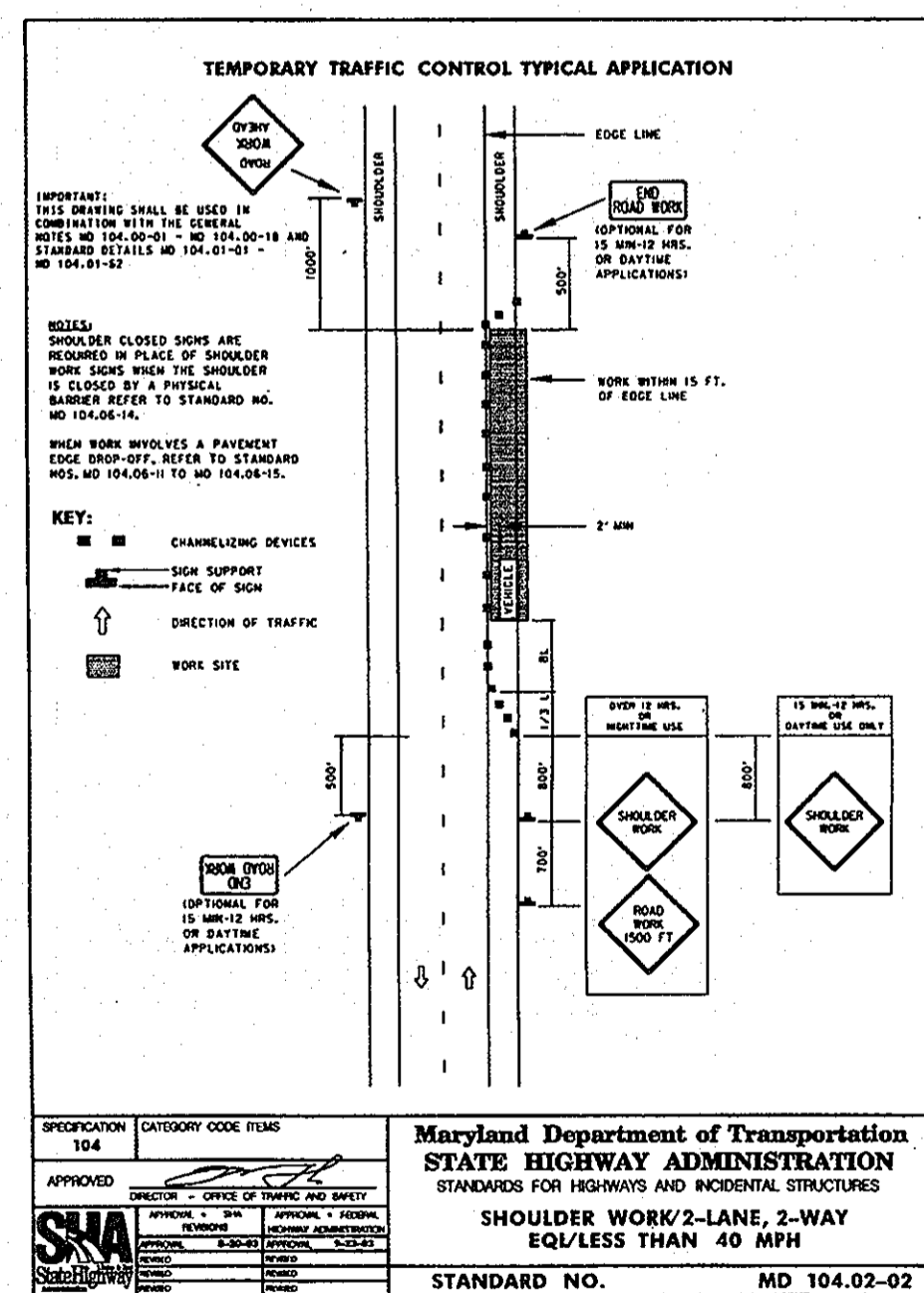
19 SHEET OF 30



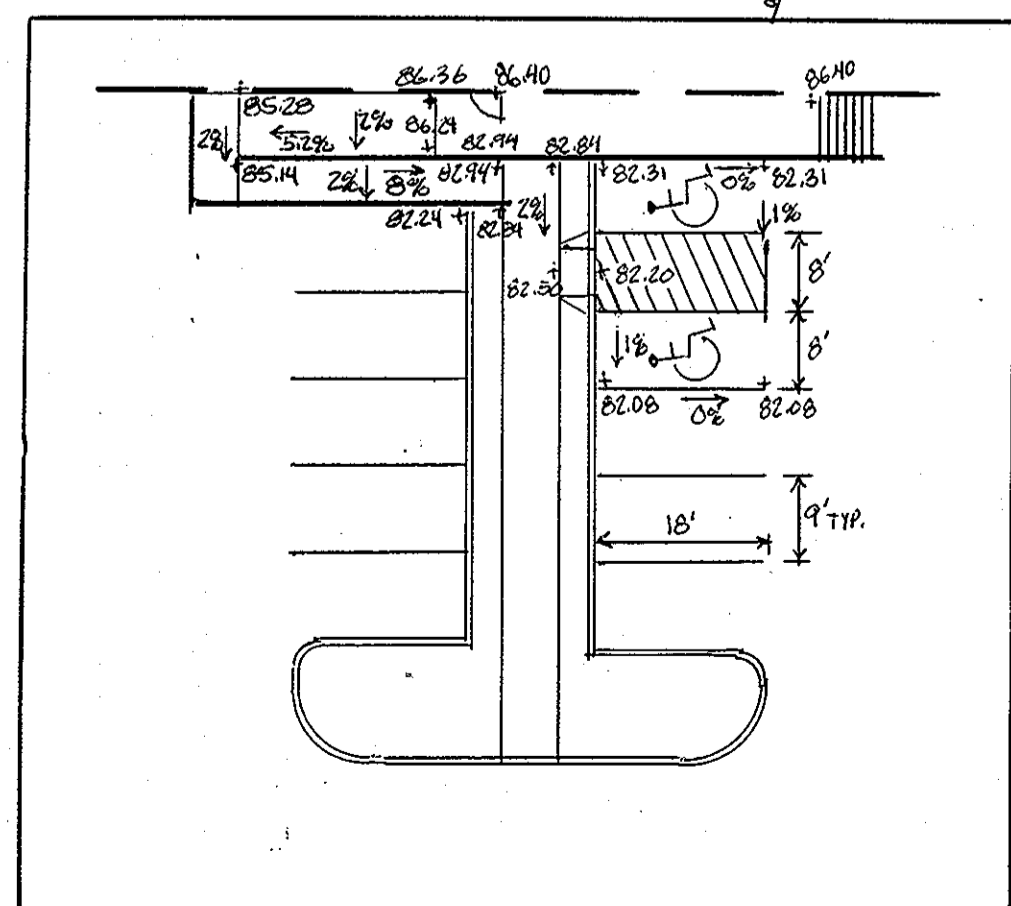
HC AREA 1A
SCALE: 1"=20'



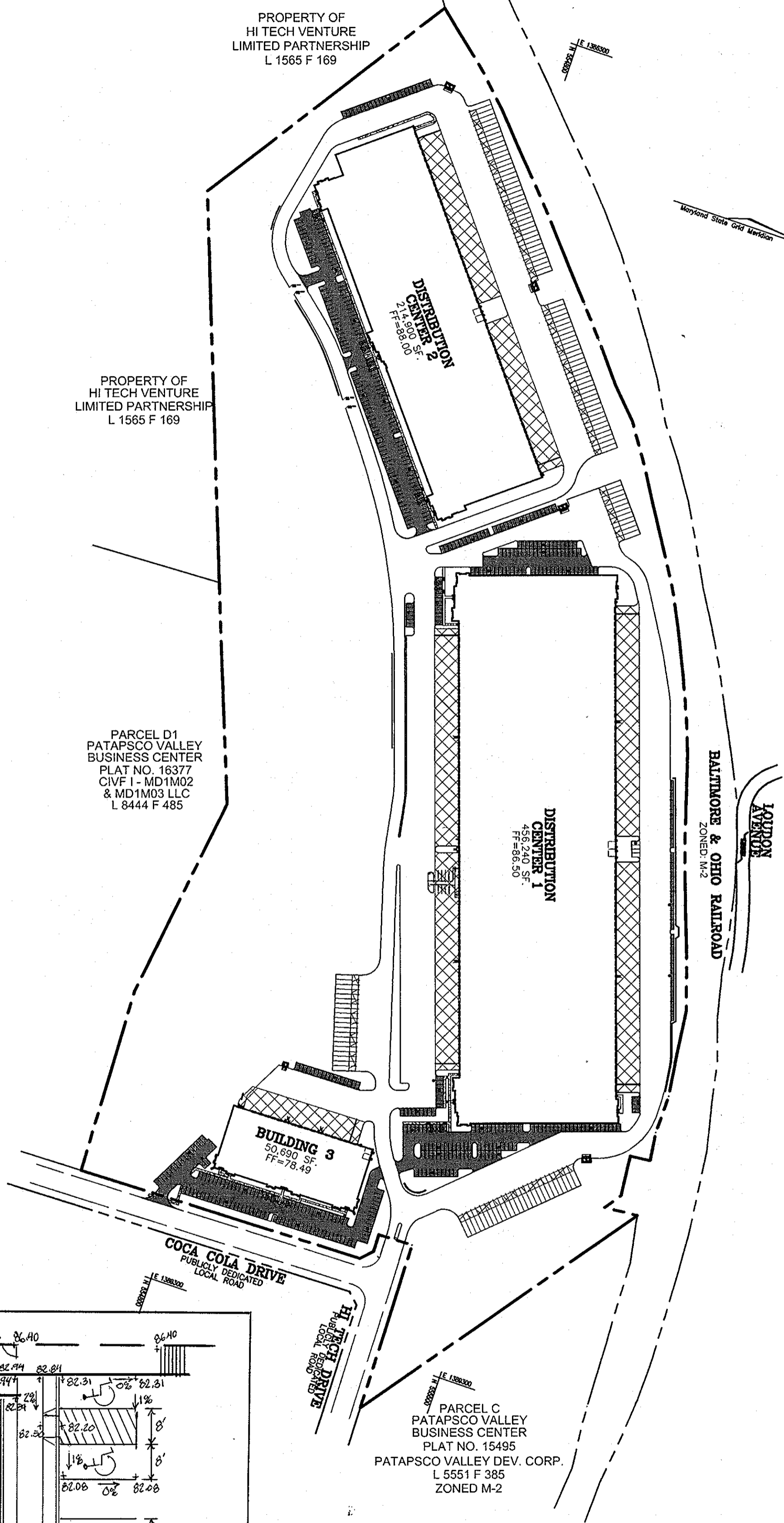
HC AREA 1B
SCALE: 1"=20'



Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
SHOULDER WORK/2-LANE, 2-WAY
EQUALS THAN 40 MPH
STANDARD NO. MD 104.02-02



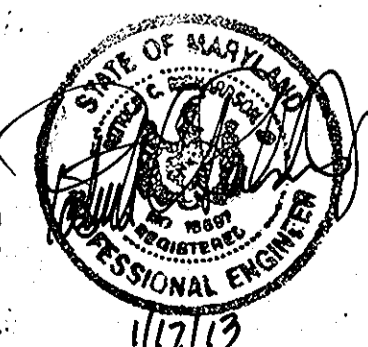
HC AREA 1C
SCALE: 1"=20'



PAVING DELINEATION
SCALE: 1"=200'

FOR REVISION 7 ONLY

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. 46597, Expiration Date: 8/15/13



PAVEMENT SECTIONS

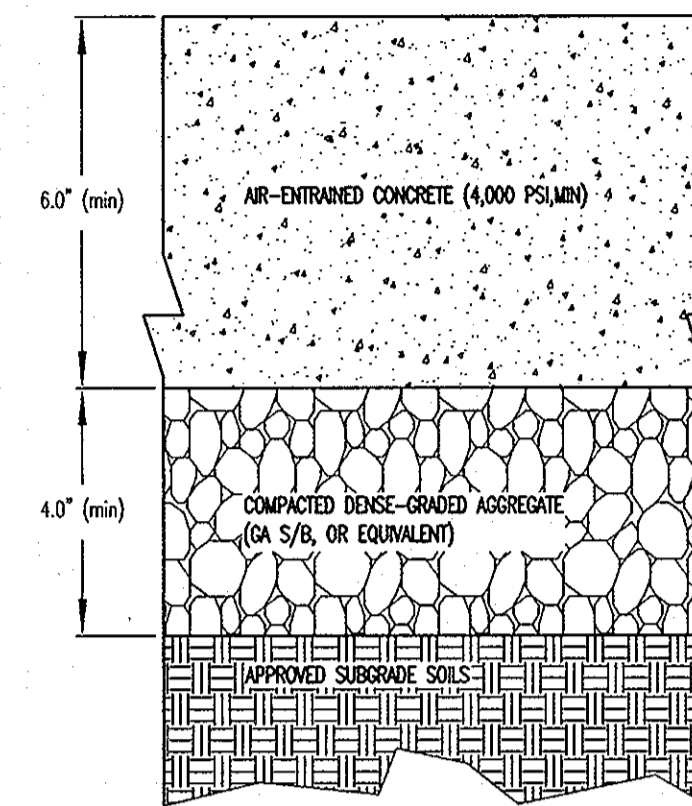
	STANDARD DUTY	HEAVY DUTY
SURFACE COURSE ASPHALT HMA Superpave - 9.5mm**	1.5"	1.5"
BASE COURSE ASPHALT HMA Superpave - 12.5mm** HMA Superpave - 19.0mm**	2.0"	4.0"
GRADED AGGREGATE BASE GAB	4.0"	4.0"
TOTAL PAVEMENT THICKNESS	7.5"	9.5"

*Compaction: Level 1 (50 gyrations)
**Binder Type: PG64-22

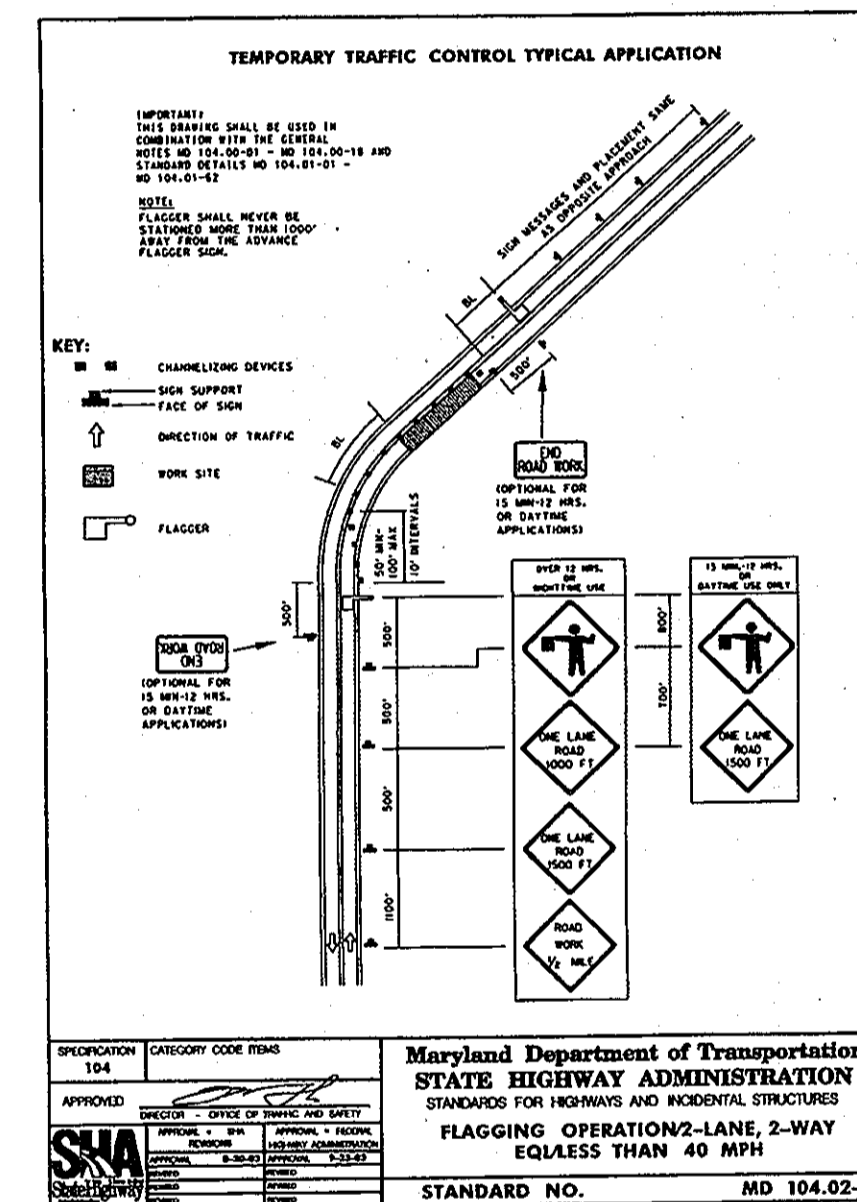
PAVING LEGEND

- STANDARD DUTY PAVING SECTION
- CONCRETE PAVING SECTION
- HEAVY DUTY PAVING SECTION

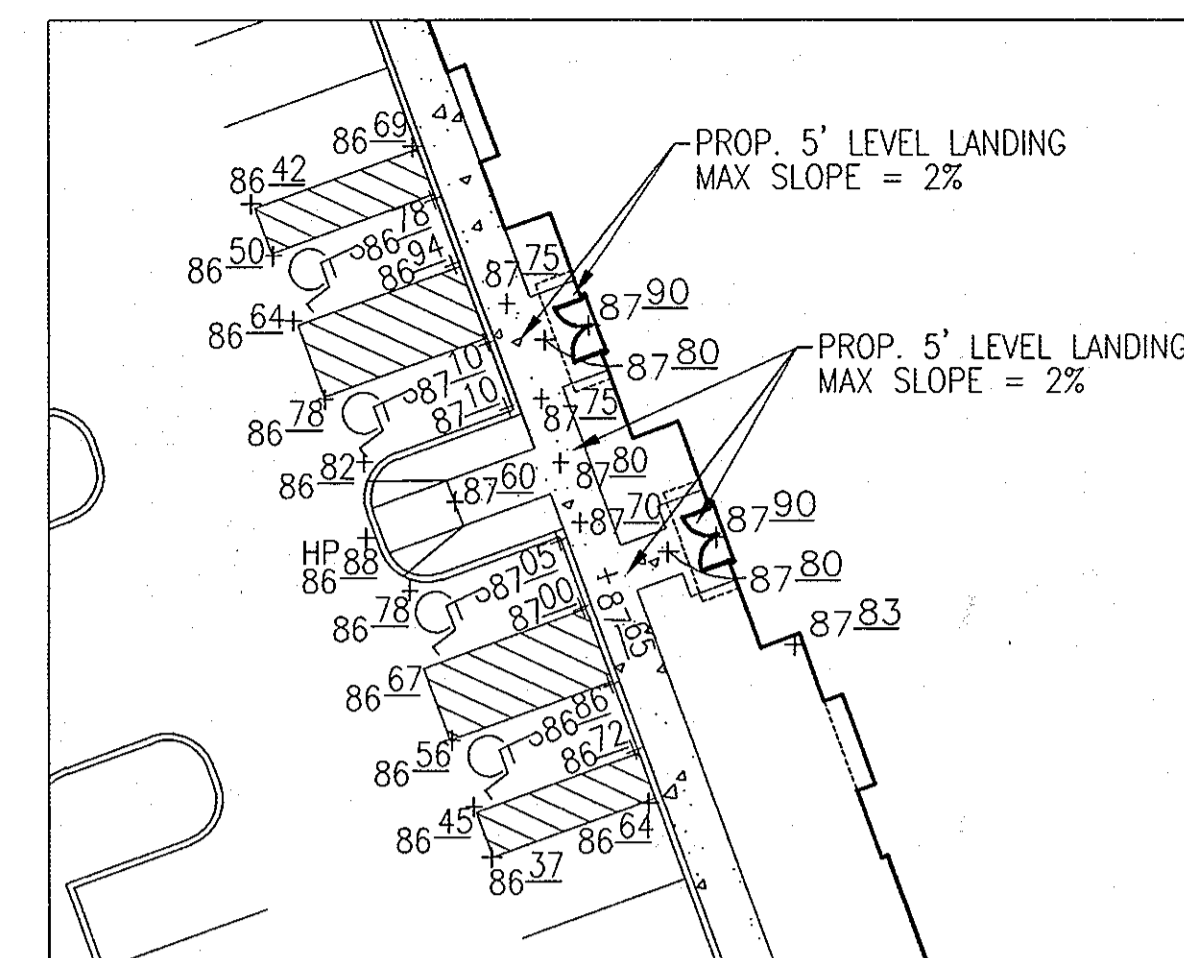
NOTE: CONCRETE PAVING SECTION AT TRAILER STORAGE AREAS IS 15-FOOT WIDE, CENTERED 45-FOOT FROM FACE OF CURB. LOADING DOCK CONCRETE PAVING SECTION, AT LOADING DOCKS, ARE 55-FOOT WIDE, MEASURED FROM FACE OF BUILDING.



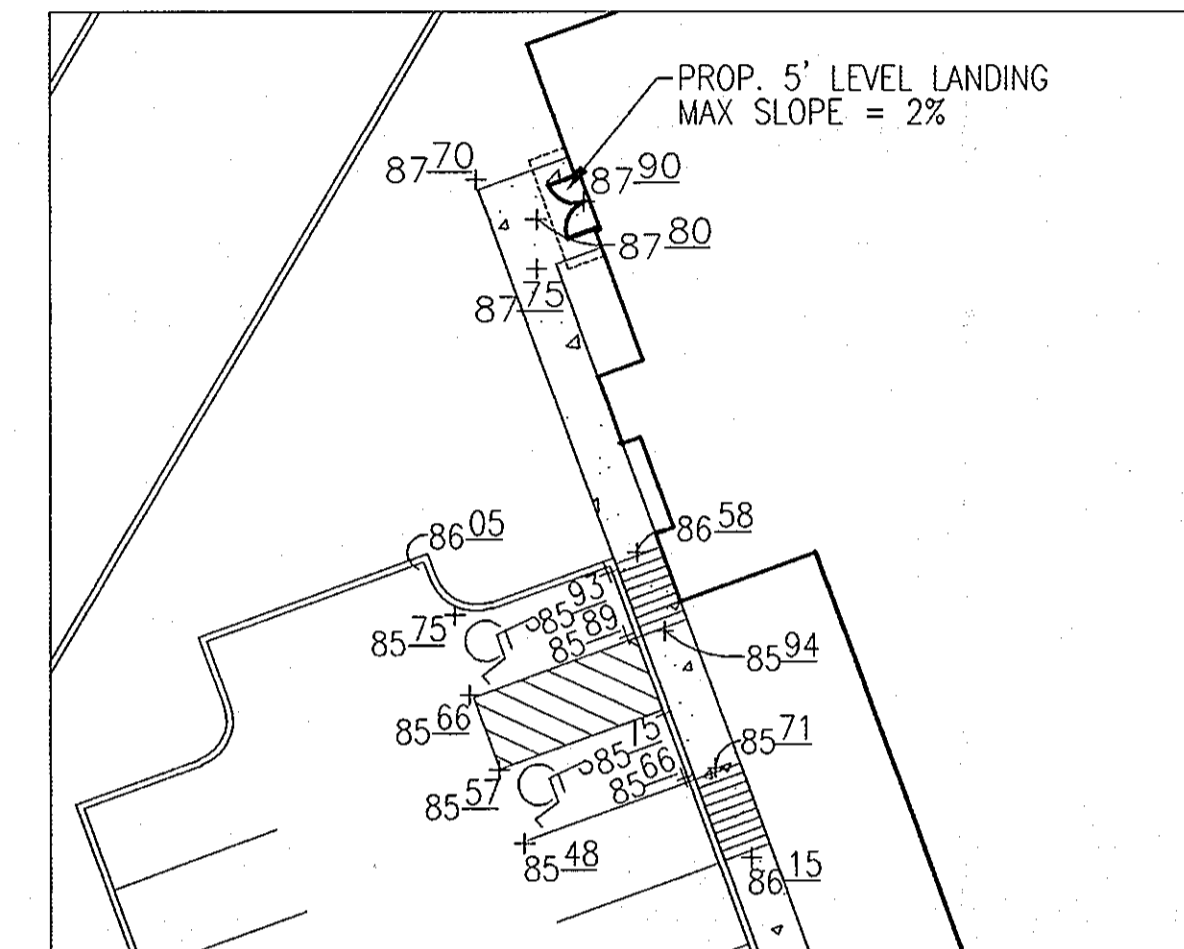
CONCRETE PAVING SECTION
NOT TO SCALE



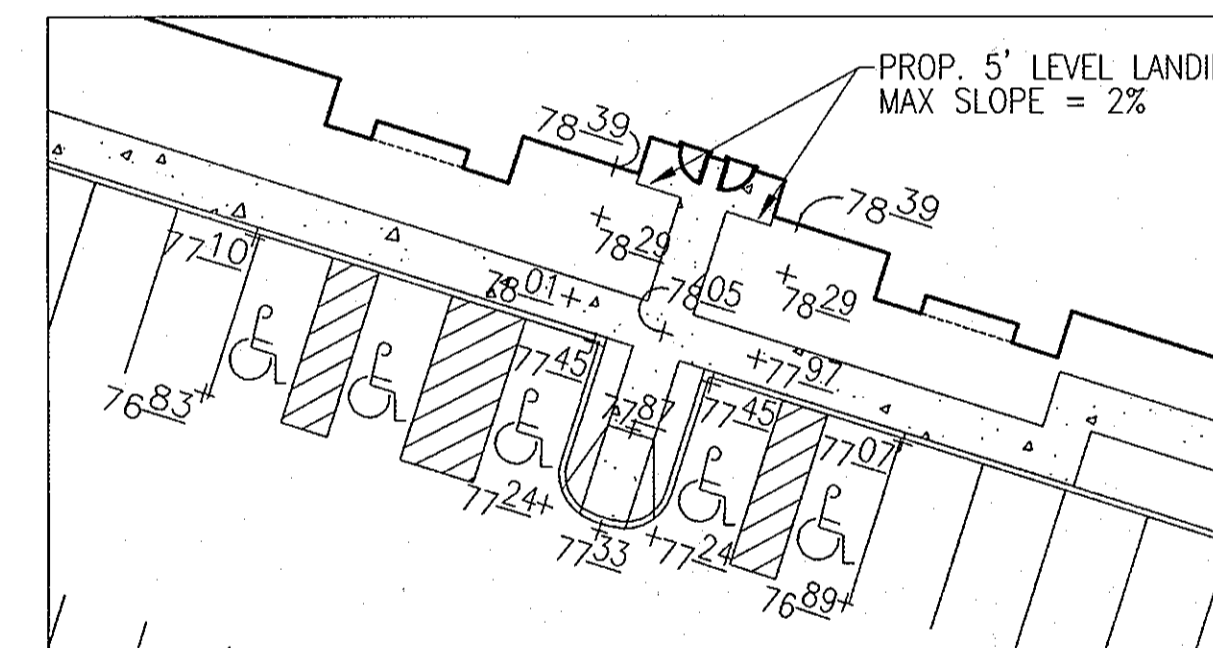
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
FLAGGING OPERATIONS/2-LANE, 2-WAY
EQUALS THAN 40 MPH
STANDARD NO. MD 104.02-10



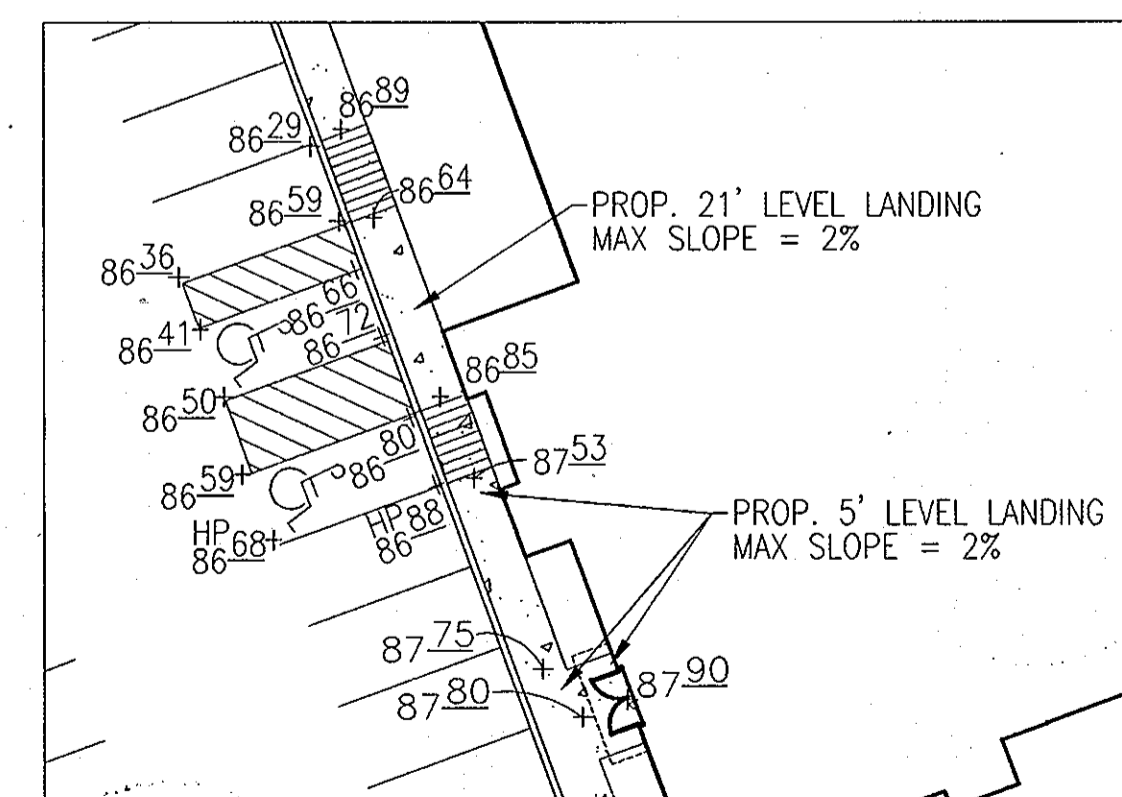
HC AREA 2B
SCALE: 1"=20'



HC AREA 2C
SCALE: 1"=20'



HC AREA 3A
SCALE: 1"=20'



HC AREA 2A
SCALE: 1"=20'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

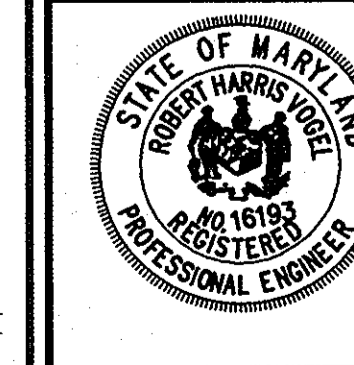
CHIEF, DEVELOPMENT ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT
DIRECTOR

OWNER/PETITIONER
CROSSROADS VENTURE, LLC.
C/O J. PAUL PRICE
101 CONSTITUTION AVENUE, NW, SUITE 600E
WASHINGTON, DC 20001

NO.	REVISION	DATE
7	ADDITION OF U.C. RAMP ON BUILDING 1	09-08-12
5	MODIFY ENTRANCE TO BUILDING 1	4/24/09

SITE DEVELOPMENT PLAN
PAVING DELINEATION, HANDICAPPED
PARKING INSETS, AND MOT PLAN
PATAPSCO VALLEY BUSINESS CENTER
PARCEL I
TAX MAP 38 BLOCK 19/18 PARCEL I
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

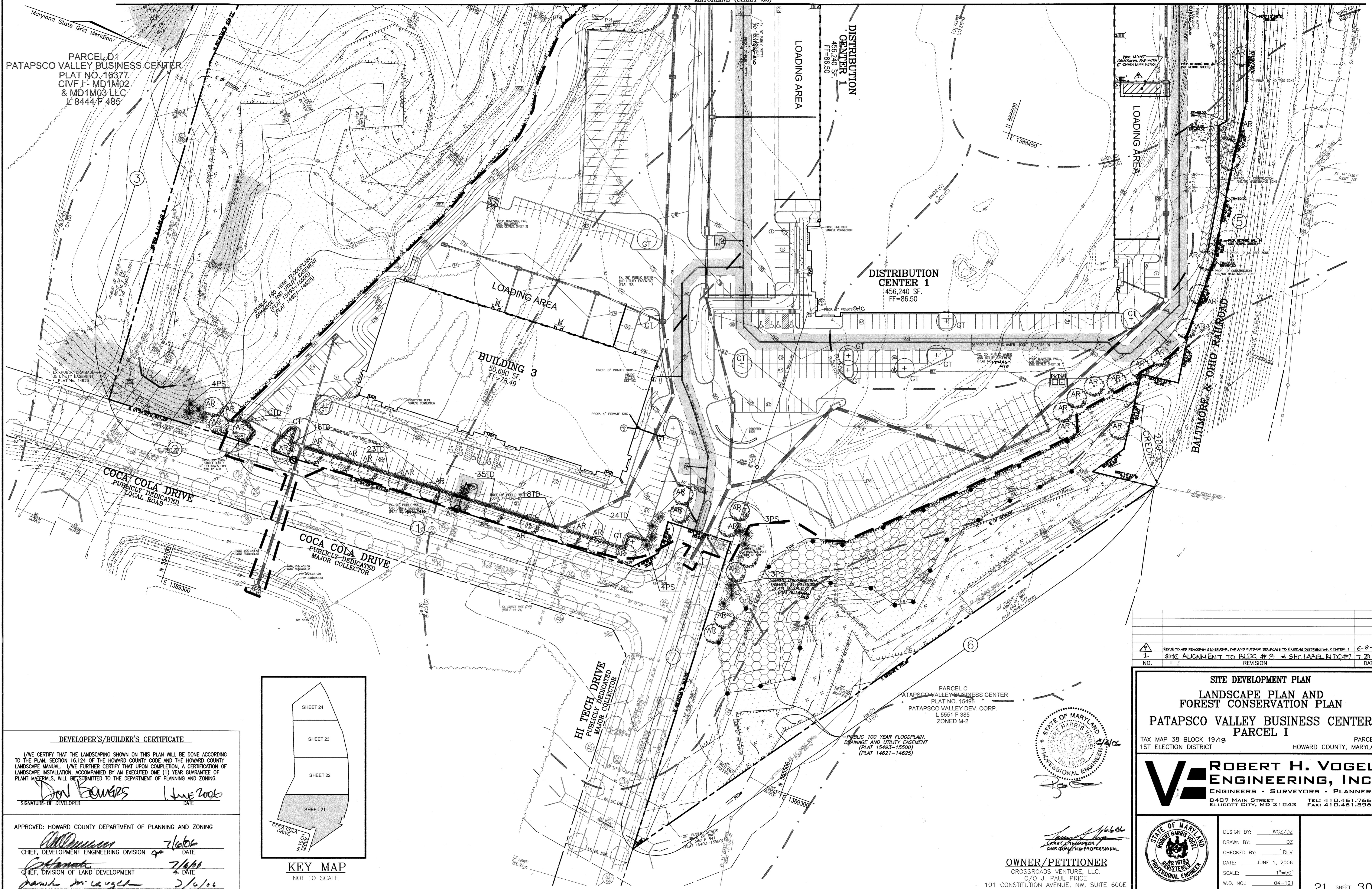
ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961



DESIGN BY: WGZ/DZ
DRAWN BY: RZ
CHECKED BY: RHY
DATE: JUNE 1, 2006
SCALE: 1"=100'
W.O. NO.: 04-121

20 SHEET OF 30

PARCEL D1
PATAPSCO VALLEY BUSINESS CENTER
PLAT NO. 10377
CIVF J - MD1M02
& MD1M03 LLC
L 8444 F 485



NO.	REVISION	DATE
1	REVISED TO ADD FENCE LINE GENERATOR, FAD AND OUTSIDE STAIRCASE TO EXISTING DISTRIBUTION CENTER 1	6-8-21
	SHC ALIGNMENT TO BLDG # 1 + SHC LABEL BLDG#1 7.28.00	

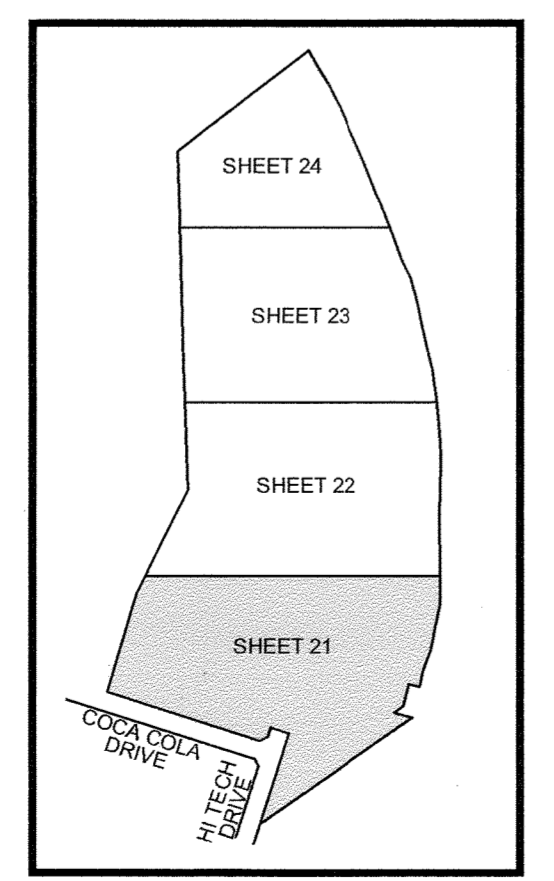
SITE DEVELOPMENT PLAN
LANDSCAPE PLAN AND
FOREST CONSERVATION PLAN
PATAPSCO VALLEY BUSINESS CENTER
PARCEL I
 TAX MAP 38 BLOCK 19/18 PARCEL I
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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

DESIGN BY: _____	WGZ/DZ
DRAWN BY: _____	DZ
CHECKED BY: _____	RHV
DATE: _____	JUNE 1, 2006
SCALE: _____	1"=50'
W.O. NO.: _____	04-121

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 CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
 Signature: *Don Edwards* DATE: *June 2006*
 SIGNATURE OF DEVELOPER DATE

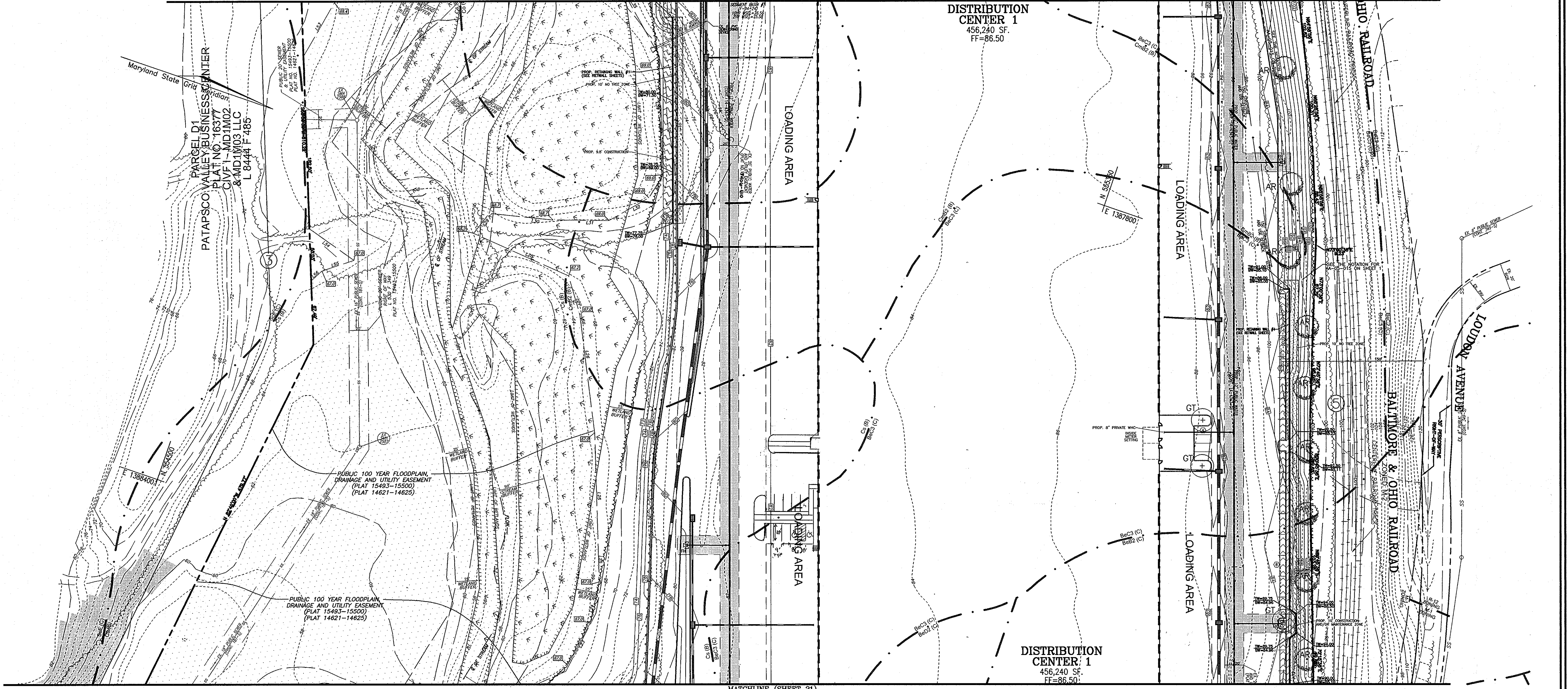
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division: *[Signature]* DATE: *7/6/06*
 Chief, Division of Land Development: *[Signature]* DATE: *7/6/06*
 Director: *[Signature]* DATE: *7/6/06*



KEY MAP
NOT TO SCALE

MATCHLINE (SHEET 23)

DISTRIBUTION CENTER 1
456,240 SF.
FF=86.50



MATCHLINE (SHEET 21)

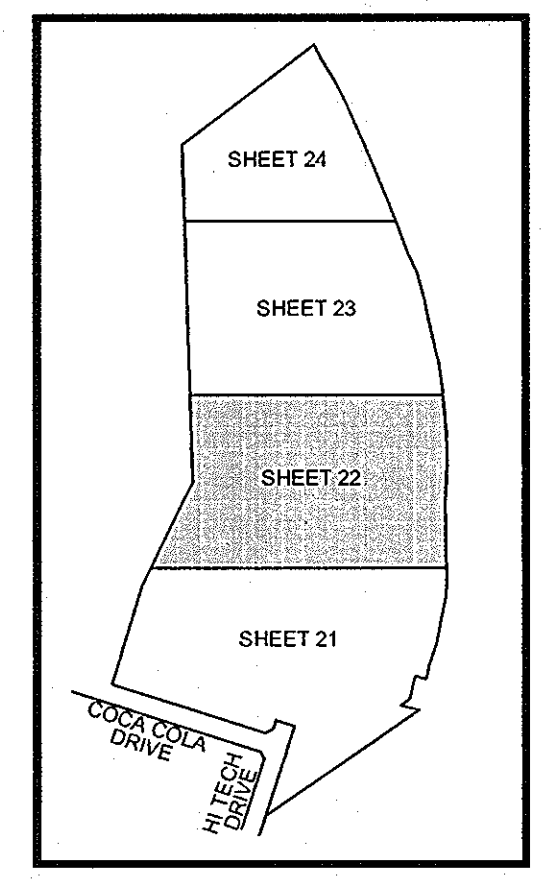
DISTRIBUTION CENTER 1
456,240 SF.
FF=86.50

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

Paul Banters 1 June 2006
SIGNATURE OF DEVELOPER DATE

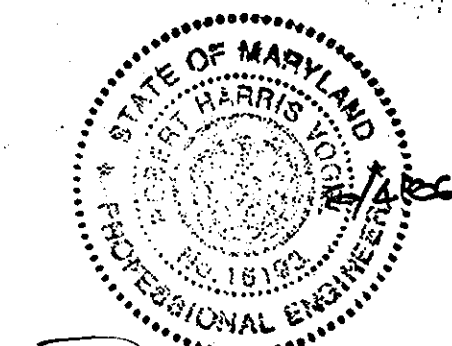
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION 7/6/06 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT 7/6/06 DATE
DIRECTOR 7/6/06 DATE



KEY MAP
NOT TO SCALE

FOR REVISION 7 ONLY

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. 16597, Expiration Date: 8/15/13



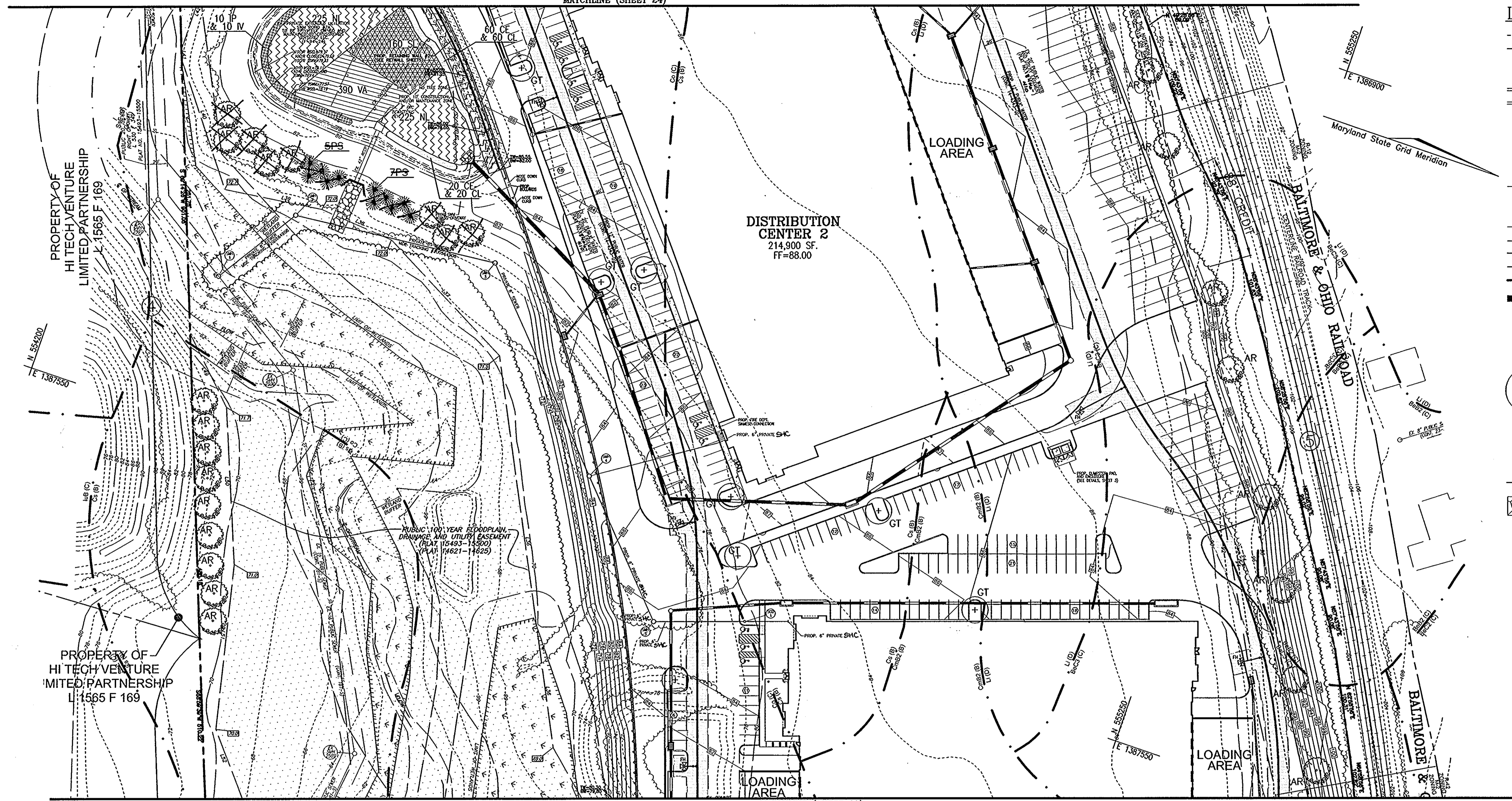
OWNER/PETITIONER
CROSSROADS VENTURE, LLC.
C/O J. PAUL PRICE
101 CONSTITUTION AVENUE, NW, SUITE 600E
WASHINGTON, DC 20001

7	ADDITION OF H.C. RAMPS ON BUILDING 1	09-05-12
9	MODIFY ENTRANCE TO BUILDING 1	4/24/09
NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
LANDSCAPE PLAN AND
FOREST CONSERVATION PLAN
PATAPSCO VALLEY BUSINESS CENTER
PARCEL I
TAX MAP 38 BLOCK 19/18 PARCEL I
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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

DESIGN BY: WGZ/DZ
DRAWN BY: DZ
CHECKED BY: RHV
DATE: JUNE 1, 2006
SCALE: 1"=50'
W.O. NO.: 04-121



LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- + 40.25 PROPOSED SPOT ELEVATION
- + 42.88 EXISTING SPOT ELEVATION
- ==== EXISTING CURB AND GUTTER
- ==== PROPOSED CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN INLET
- PROPOSED SIDEWALK
- PROPOSED LIGHT POLE
- PROPOSED SHADE TREE
- PROPOSED EVERGREEN TREE
- PROPOSED SHRUBS
- LANDSCAPE PERIMETER
- FOREST CONSERVATION EASEMENT (RETENTION)

Maryland State Grid Meridian

Baltimore & Ohio Railroad

DISTRIBUTION CENTER 2
214,900 SF.
FF=88.00

LOADING AREA

LOADING AREA

PROPERTY OF HI TECH VENTURE LIMITED PARTNERSHIP L-1565 F-169

PROPERTY OF HI TECH VENTURE LIMITED PARTNERSHIP L-1565 F-169

MATCHLINE (SHEET 22)

KEY MAP
NOT TO SCALE

2' DEEP STORMWATER POND HERBACEOUS LANDSCAPE SCHEDULE

KEY	QUAN.	BOTANICAL NAME	SIZE	REMARKS
IP	26	IRIS PSEUDOCORIS YELLOW WATER IRIS	PLUG	1.5' OC
IV	26	IRIS VERSICOLOR BLUE FLAG (WEAR GLOVES)	PLUG	1.5' OC
CE	80	CYPERUS ESCULENTHUS YELLOW NUT SEDGE	PLUG	2' OC
CL	80	CAREX LACUSTRIS LAME SEDGE	PLUG	2' OC
SL	160	SAGITTARIA LATIFOLIA DUCK POTATO (DO NOT PLANT TUBERS)	PLUG	4' OC
VA	390	VALISNERIA AMERICANA WILD CELERY	PLUG	2' OC
NL	450	NUPHAR LUTEUM SPATTERDOCK	PLUG	1.5' OC

PRIOR TO INSTALLATION OF PLANT MATERIALS, ADD THREE INCHES OF TOPSOIL TO PLANTING AREA. STABILIZE WITH 40 POUNDS PER ACRE OF A HYDROSEED MIX (WET MIX AND MEADOW MIX) FROM SYLVIA NATIVE NURSERY OR EQUAL.
ALL PLANT MATERIALS TO CONFORM TO THE MOST CURRENT AAS SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH LCAMV SPECIFICATIONS.

NO.	REVISION	DATE
2	REMOVE LANDSCAPE TREES ON ROAD TA EMBANKMENT	7-9-09
1	SHC LABEL FOR PLUG #1 & #2	7-28-09

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

Dev Bowers
SIGNATURE OF DEVELOPER

1 June 2009
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Williams
CHIEF, DEVELOPMENT ENGINEERING DIVISION

7/6/09
DATE

W. Hamilton
CHIEF, DIVISION OF LAND DEVELOPMENT

7/6/09
DATE

Mark A. Layton
DIRECTOR

7/6/09
DATE

OWNER/PETITIONER
CROSSROADS VENTURE, LLC.
C/O J. PAUL PRICE
101 CONSTITUTION AVENUE, NW, SUITE 600E
WASHINGTON, DC 20001

STATE OF MARYLAND
PROFESSIONAL ENGINEER

Robert H. Vogel
ROBERT H. VOGEL, PE NO. 16193

DESIGN BY: WGZ/DZ
DRAWN BY: DZ
CHECKED BY: RHM
DATE: JUNE 1, 2009
SCALE: 1"=50'
W.O. NO.: 04-121

23 SHEET OF 30

**SITE DEVELOPMENT PLAN
LANDSCAPE PLAN AND
FOREST CONSERVATION PLAN**

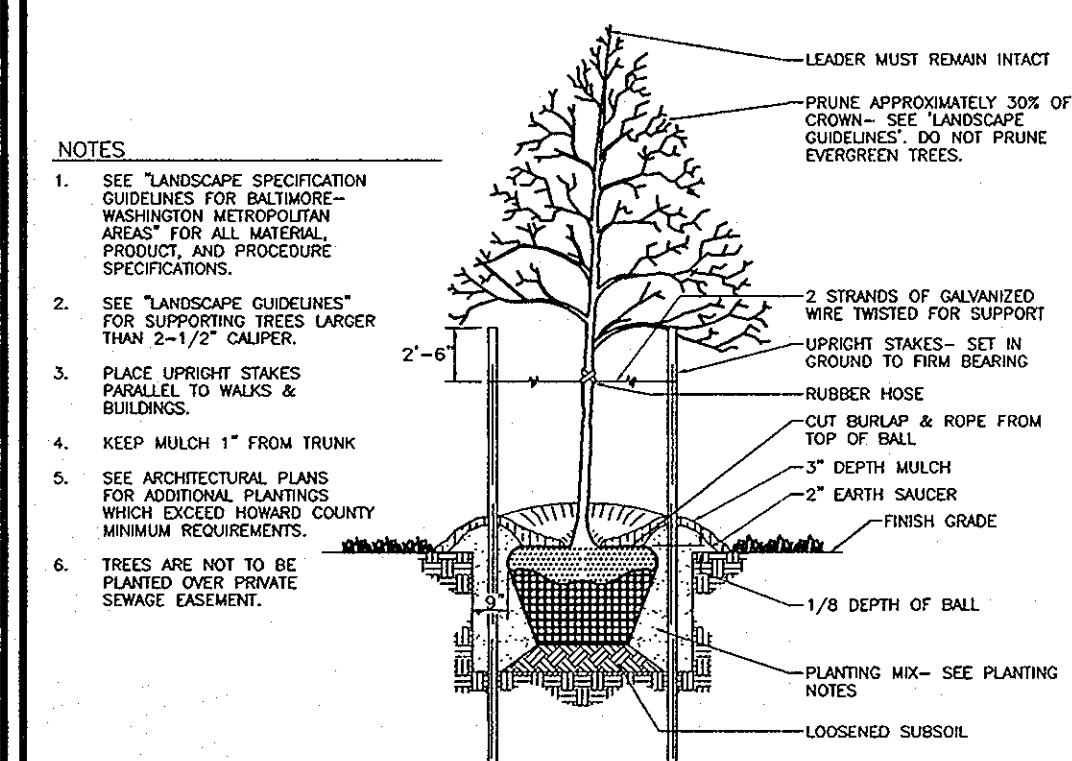
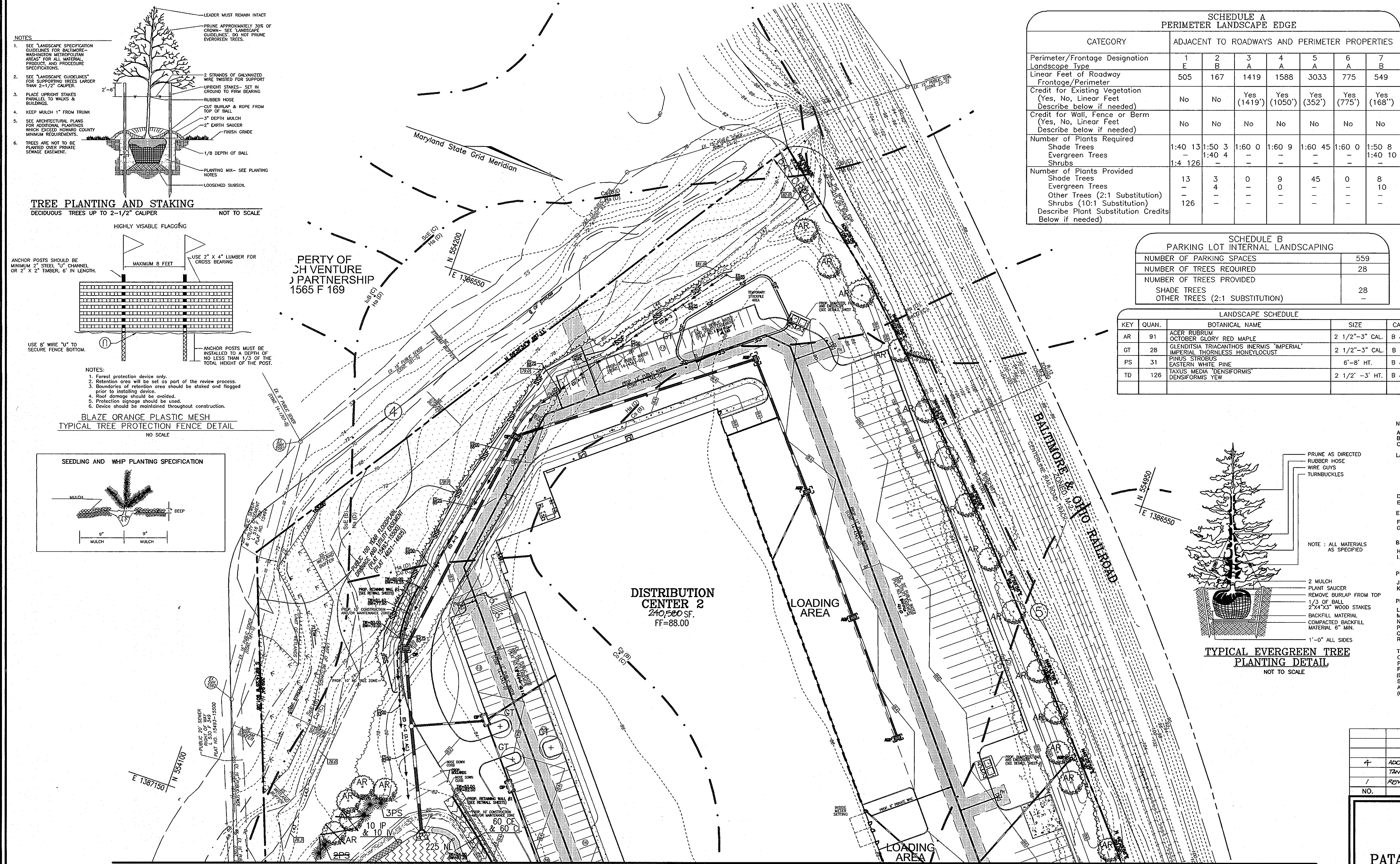
**PATAPSCO VALLEY BUSINESS CENTER
PARCEL I**

TAX MAP 38 BLOCK 19/18 PARCEL 1
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

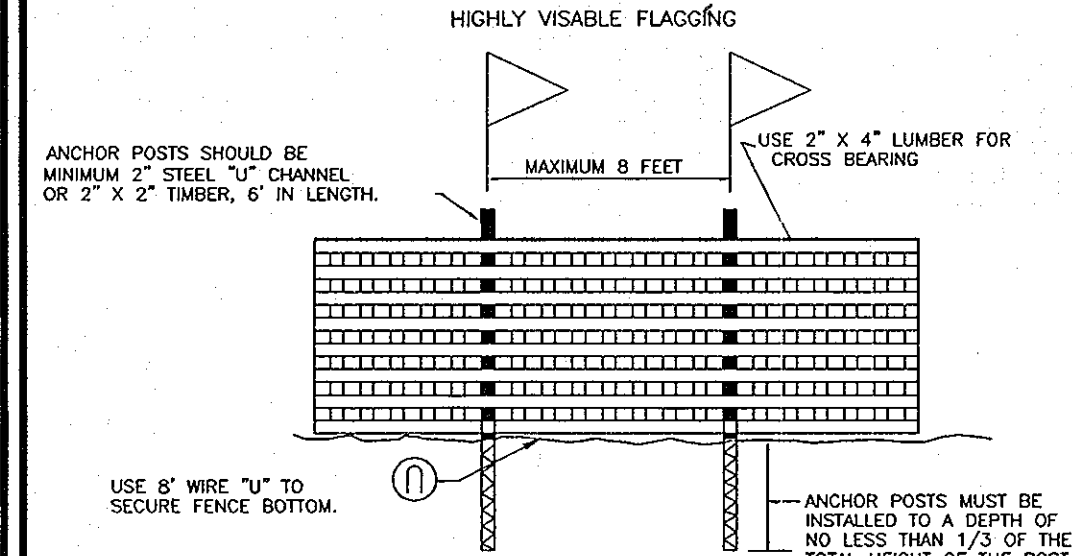
**ROBERT H. VOGEL
ENGINEERS • SURVEYORS • PLANNERS**

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

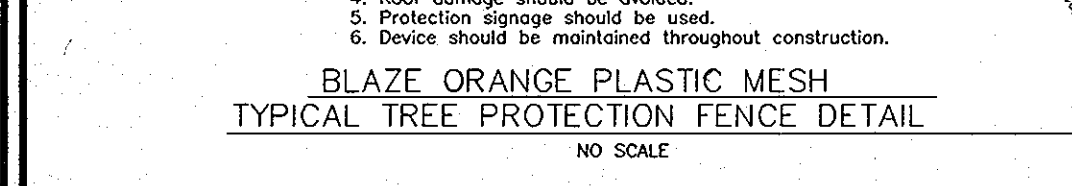
STATE OF MARYLAND
PROFESSIONAL ENGINEER



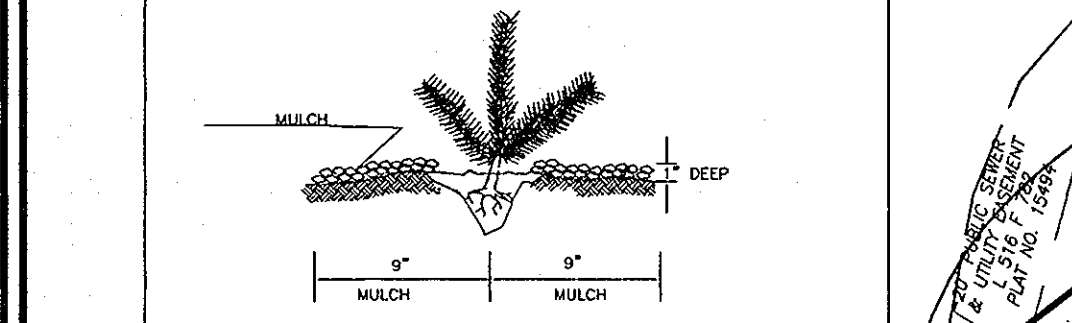
TREE PLANTING AND STAKING
DECIDUOUS TREES UP TO 2-1/2" CALIPER
NOT TO SCALE



TYPICAL TREE PROTECTION FENCE DETAIL
NO SCALE



TYPICAL EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE



SEEDLING AND WHIP PLANTING SPECIFICATION

SCHEDULE A PERIMETER LANDSCAPE EDGE

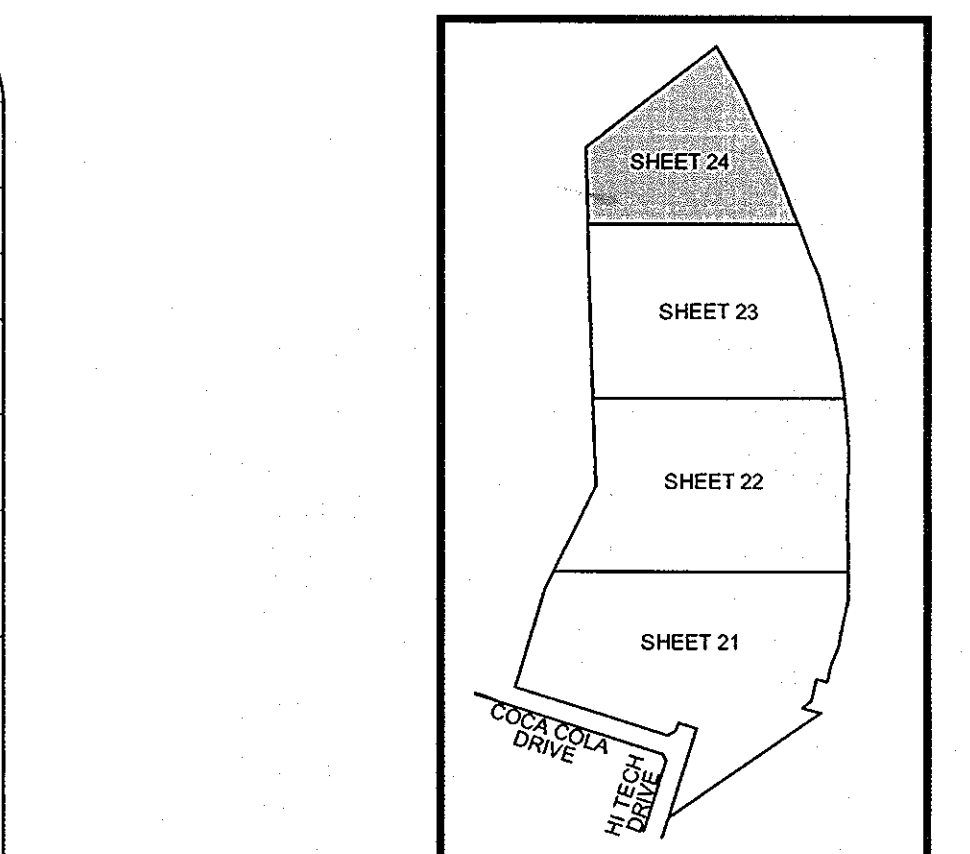
CATEGORY	ADJACENT TO ROADWAYS AND PERIMETER PROPERTIES						
	1	2	3	4	5	6	7
Perimeter/Frontage Designation	F	B	A	A	A	A	B
Linear Feet of Roadway Frontage/Perimeter	505	167	1419	1588	3033	775	549
Credit for Existing Vegetation (Yes, No, Linear Feet Describe below if needed)	No	No	(Yes (1419'))	(Yes (1050'))	(Yes (352'))	(Yes (775'))	(Yes (168'))
Credit for Wall, Fence or Berm (Yes, No, Linear Feet Describe below if needed)	No	No	No	No	No	No	No
Number of Plants Required	1:40	13:50	3:160	0:160	9:160	45:160	8:150
Number of Plants Provided	126	126	126	126	126	126	126

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING

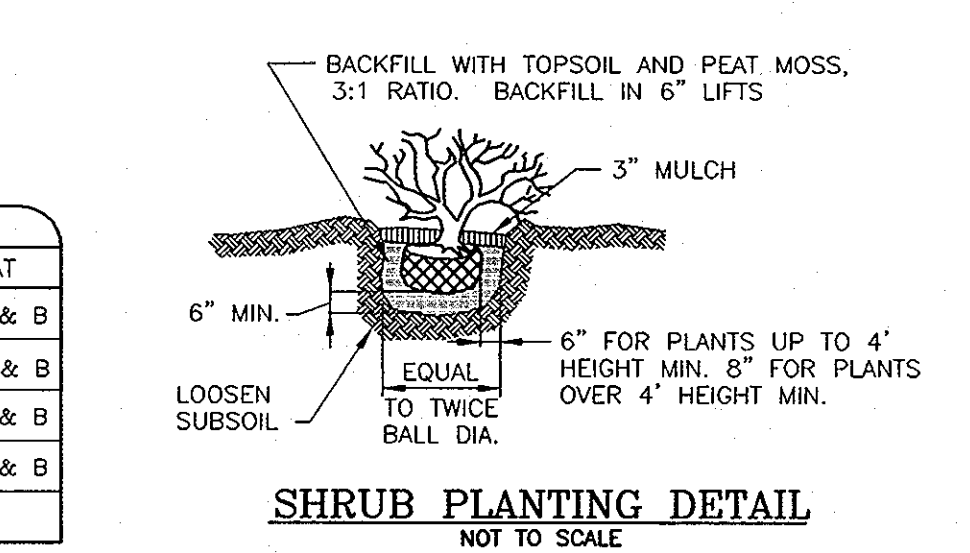
NUMBER OF PARKING SPACES	559
NUMBER OF TREES REQUIRED	28
NUMBER OF TREES PROVIDED	28
SHADE TREES	28
OTHER TREES (2:1 SUBSTITUTION)	-

LANDSCAPE SCHEDULE

KEY	QUAN.	BOTANICAL NAME	SIZE	CAT
AR	91	ACER RUBRUM	2 1/2"-3" CAL.	B & B
GT	28	GLENDISIA TRIACANTHOS INERMIS 'IMPERIAL'	2 1/2"-3" CAL.	B & B
PS	31	PRUNUS SIBIROUS	6'-8" HT.	B & B
TD	126	TAXUS MEDIA 'DENSIFORMIS'	2 1/2"-3" HT.	B & B



KEY MAP
NOT TO SCALE



SHRUB PLANTING DETAIL
NOT TO SCALE

FOREST CONSERVATION WORKSHEET

NET TRACT AREA:
 A. TOTAL TRACT AREA = 64.28 AC
 B. DEDUCTIONS (15.55 AC FLOODPLAIN, 41.87 AC F-94-24 APPROVED CLEARING) = 57.42 AC
 C. NET TRACT AREA = 6.86 AC

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

D. AFFOREST THRESHOLD = 15% X D = 1.03 AC
 E. CONSERVATION THRESHOLD = 15% X D = 1.03 AC

EXISTING FOREST COVER:
 F. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN AND F-94-24 CLEARING) = 1.93 AC
 G. AREA OF FOREST ABOVE CONSERVATION THRESHOLD = 0.90 AC

BREAK EVEN POINT:
 H. BREAK EVEN POINT = 1.21 AC
 I. FOREST CLEARING PERMITTED WITHOUT MITIGATION = 0.72 AC

PROPOSED FOREST CLEARING:
 J. TOTAL AREA OF FOREST TO BE CLEARED = 1.21 AC
 K. TOTAL AREA OF FOREST TO BE RETAINED = 0.72 AC

PLANTING REQUIREMENTS:
 L. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD = 0.23 AC
 M. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD = 0.82 AC
 N. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD = 0.00 AC
 P. TOTAL REFORESTATION REQUIRED = 0.84 AC
 Q. TOTAL AFFORESTATION REQUIRED = 0.00 AC
 R. TOTAL REFORESTATION AND AFFORESTATION REQUIRED = 0.84 AC

THE FOREST CONSERVATION OBLIGATION FOR THIS PLAN HAS BEEN MET BY THE CREATION OF AN ON-SITE 0.72 ACRE RETENTION FOREST CONSERVATION EASEMENT AND BY A PAYMENT OF \$18,295.20 THAT WAS MADE TO THE HO. CO. FOREST CONSERVATION FUND FOR THE REMAINING OBLIGATION OF 0.84 ACRE OF REFORESTATION (0.84 ACRE = 36,590.40 SQ.FT. X \$0.50 = \$18,295.20). SURETY IN THE AMOUNT OF \$6,272.64 HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR THE ON-SITE 0.72 ACRE RETENTION FOREST CONSERVATION EASEMENT (0.72 ACRE = 31,363.20 SQ.FT. X \$0.20 = \$6,272.64).

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

Don Bonares 1 June 2006
SIGNATURE OF DEVELOPER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 7/6/06
 CHIEF, DIVISION OF LAND DEVELOPMENT 7/6/06
 DIRECTOR DATE

FOREST CONSERVATION AREA
DO NOT DISTURB
MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED

SPECIMEN TREE
DO NOT REMOVE
MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED

VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE MARYLAND FOREST CONSERVATION ACT OF 1991

Note:
 1. Bottom of signs to be higher than top of tree protection fence.
 2. Signs to be placed approximately 50'-100' feet apart. Conditions on site affecting visibility may warrant placing signs closer or farther apart.
 3. Attachment of signs to trees is prohibited.

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING

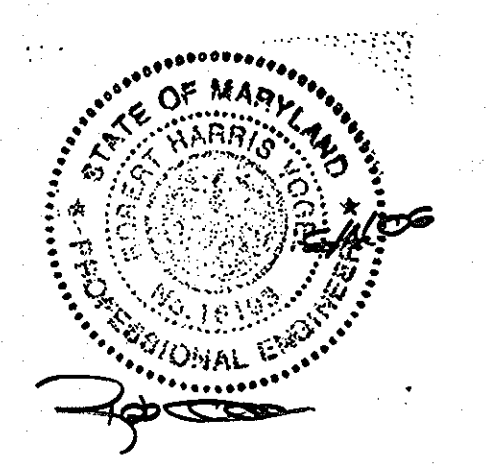
PERIMETER TYPE	B
LINEAR FEET OF PERIMETER	662 LF
CREDIT FOR EX VEGETATION (NO, YES AND LINEAR FEET)	Yes 542
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO
NUMBER OF TREES REQUIRED	3
SHADE TREES	3
EVERGREEN TREES	3
NUMBER OF TREES PROVIDED	3
SHADE TREES	3
EVERGREEN TREES	3
OTHER TREES (2:1 SUB.)	-

LANDSCAPE SCHEDULE NOTE:

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

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. THE REQUIRED PARKING AND PERIMETER LANDSCAPING WILL BE BONDED PER THIS SUBMISSION.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$44,130.00 FOR THE REQUIRED 119 SHADE TREES, 31 EVERGREEN TREES AND 126 SHRUBS.
- SWM LANDSCAPING IS NOT REQUIRED FOR THIS SITE SINCE THE SWM FACILITY IS NOT VISIBLE FROM A PUBLIC ROAD.



OWNER/PETITIONER
 CROSSROADS VENTURE, LLC.
 C/O J. PAUL PRICE
 101 CONSTITUTION AVENUE, NW, SUITE 600E
 WASHINGTON, DC 20001

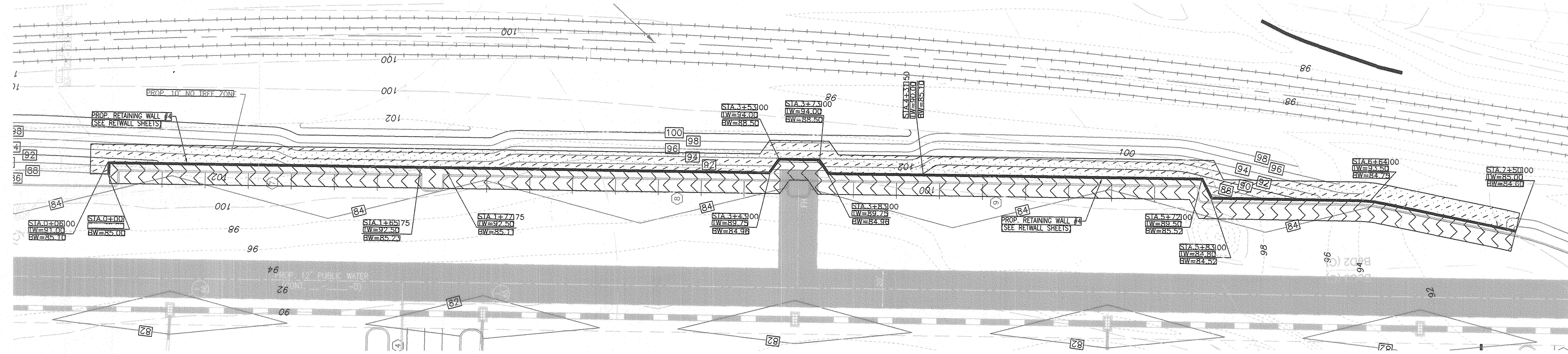
NO.	REVISION	DATE
4	ADD DOOR TO BUILDING 2, ADD CONCRETE SLAB FOR FUTURE OIL TANK AND CONDENSER ADJACENT TO BUILDING 2.	11/20/09
1	REMOVE LANDSCAPE TREE ON POND 7A EMBANKMENT	7-9-06

**SITE DEVELOPMENT PLAN
 LANDSCAPE PLAN AND
 FOREST CONSERVATION PLAN**
**PATAPSCO VALLEY BUSINESS CENTER
 PARCEL 1**
 TAX MAP 38 BLOCK 19/16 PARCEL 1
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

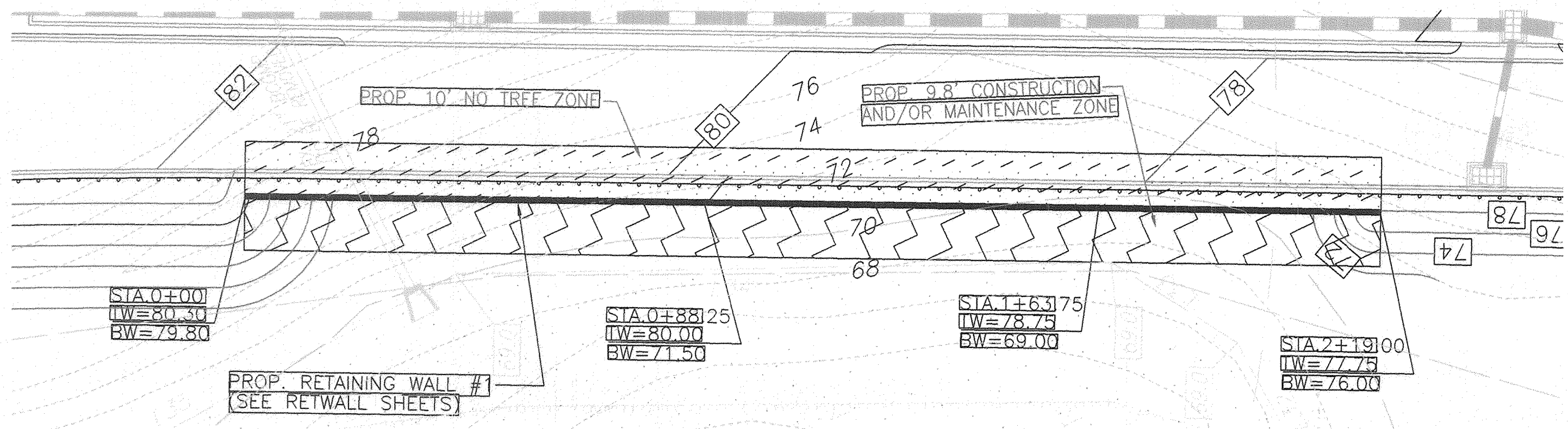
ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

DESIGN BY: WGT/DZ
 DRAWN BY: DZ
 CHECKED BY: RHY
 DATE: JUNE 1, 2006
 SCALE: 1"=50'
 W.O. NO.: 04-121

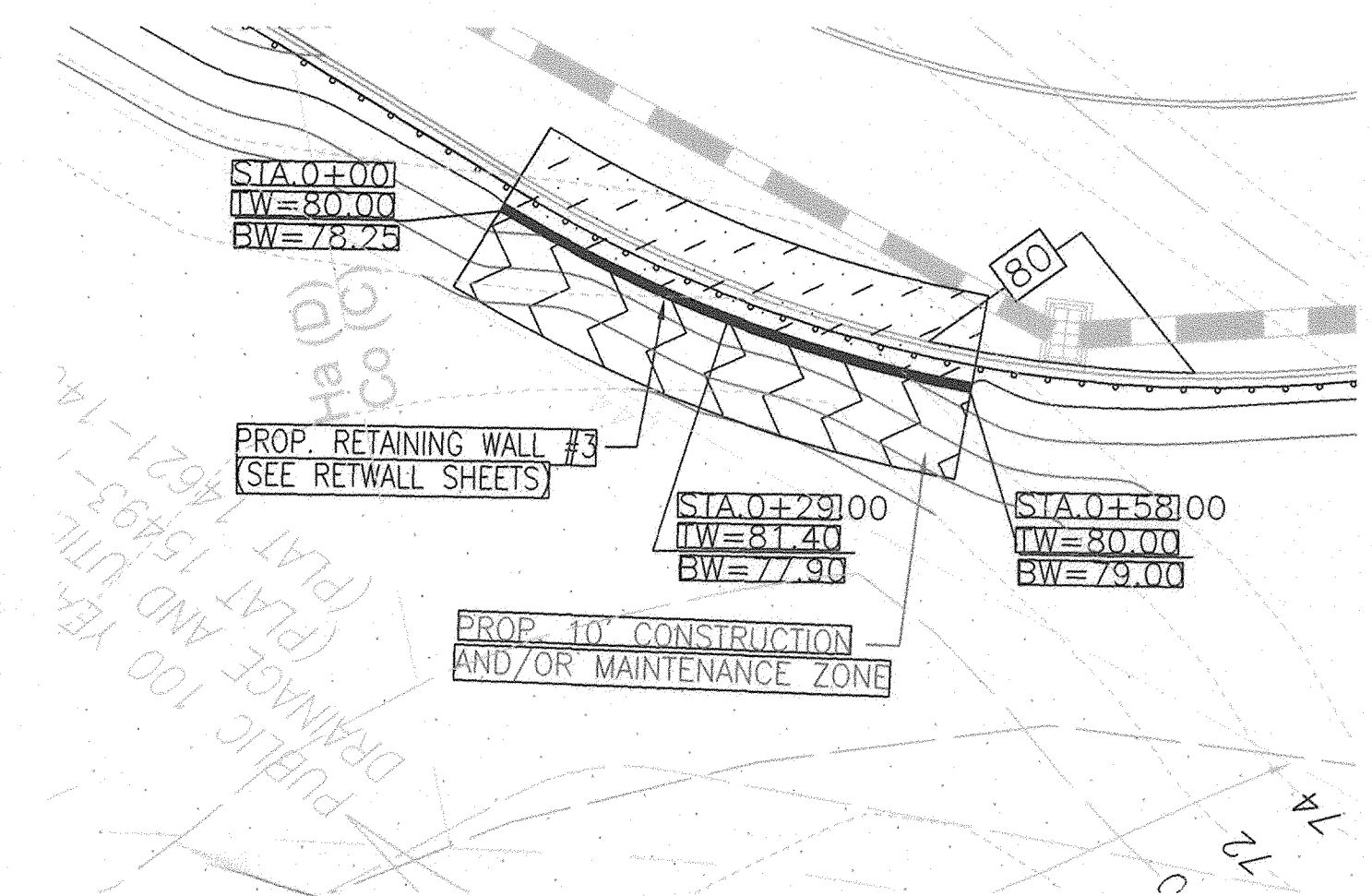
24 SHEET OF 30



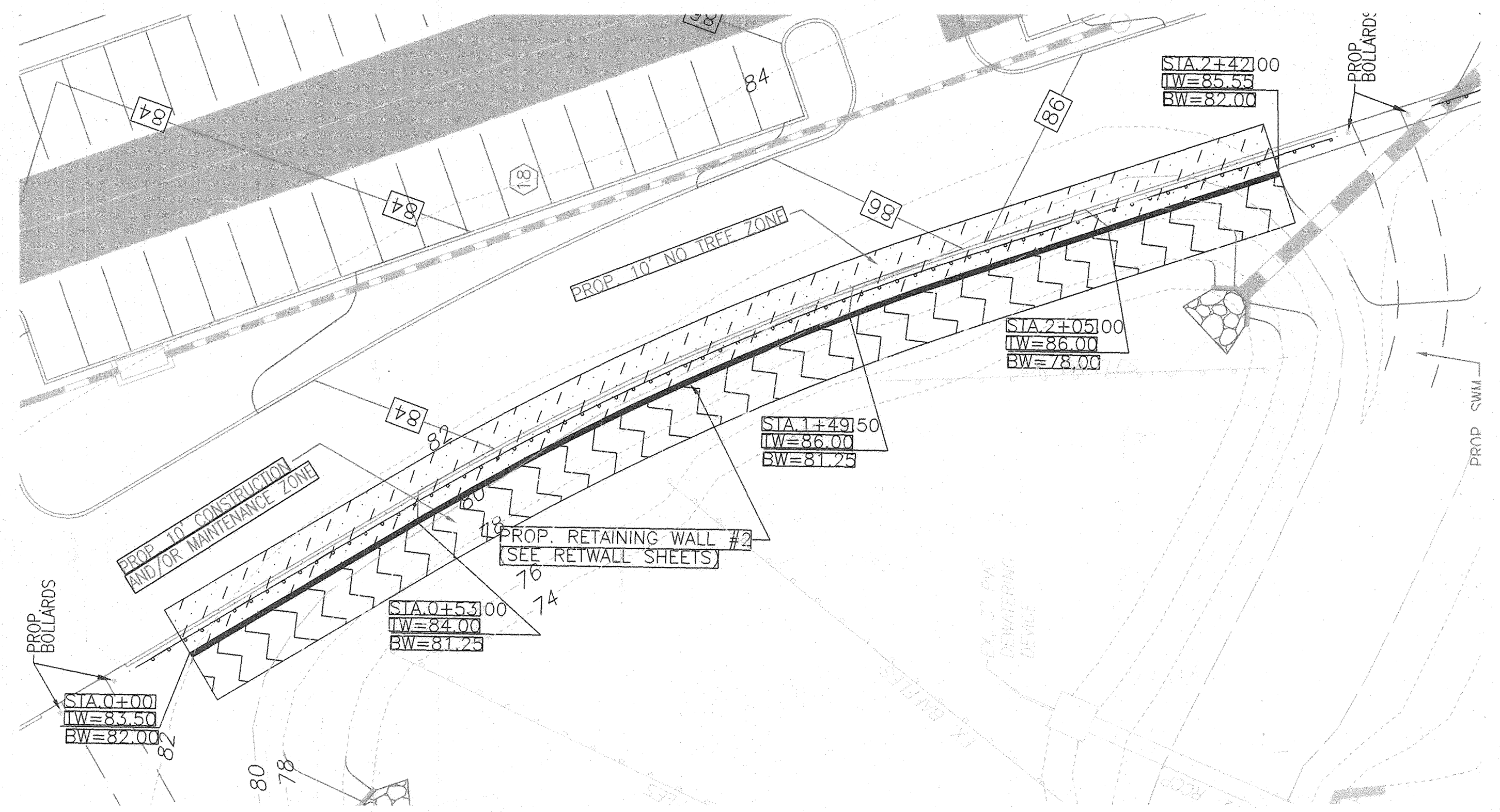
WALL #4 PLAN VIEW
SCALE: 1"=30'



WALL #1 PLAN VIEW
SCALE: 1"=20'



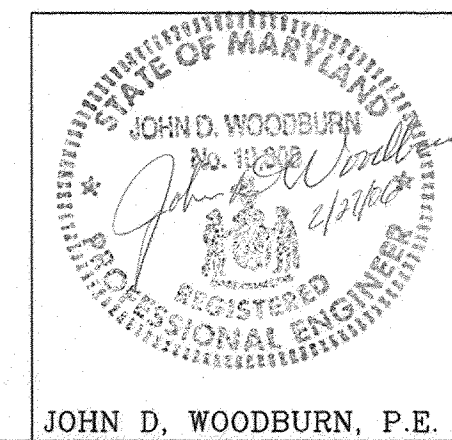
WALL #3 PLAN VIEW
SCALE: 1"=20'



WALL #2 PLAN VIEW
SCALE: 1"=20'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 7/6/05
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
[Signature] 7/6/05
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
[Signature] 7/6/05
 DIRECTOR DATE

OWNER/PETITIONER
 CROSSROADS VENTURE, LLC.
 C/O J. PAUL PRICE
 101 CONSTITUTION AVENUE, NW, SUITE 600E
 WASHINGTON, DC 20001



No.	REVISIONS	DATE
SITE DEVELOPMENT PLAN Retaining Wall Plan Views Patapsco Valley Business Park TAX MAP 26 BLOCK 19/18 Parcel I HOWARD COUNTY, MARYLAND 19 TH ELECTION DISTRICT		
Crossroads Venture, LLC		
DSH	KRM	June 2005
NTS	2734-E1	25 of 30

ECS MID-ATLANTIC, LLC
 1340 CHARWOOD ROAD, SUITE P
 HANOVER, MARYLAND 21076
 (410) 859-4300 FAX(410) 859-4324
 "Setting The Standard For Service"



RETAINING WALL SPECIFICATION GUIDELINES

PART 1: GENERAL

- 1.01 Description
 A. Retaining walls must be constructed under the supervision of a Maryland Registered Professional Engineer.
 B. Work includes furnishing and installing concrete modular block retaining wall units to the lines and grades shown on the construction drawings and as specified herein.
 C. Work includes preparing foundation soil, furnishing and installing leveling pad, unit fill and reinforced backfill to the lines and grades shown on the construction drawings.
 D. Work includes furnishing and installing all related materials required for construction of the retaining wall as shown on the construction drawings.
- 1.02 Reference Standards
 A. ASTM C 90 Load Bearing Concrete Masonry Units.
 B. ASTM C 140 Sampling and Testing Concrete Masonry Units.
 C. ASTM D 448 Sizes of Aggregate for Road and Bridge Construction.
 D. ASTM D 698 Laboratory Compaction Characteristics using Standard Effort.
- 1.03 Delivery, Storage and Handling
 A. Contractor shall check the materials upon delivery to assure that proper materials have been received.
 B. Contractor shall prevent excessive mud, wet cement, epoxy, and similar materials (which may affix themselves) from coming in contact with the materials.
 C. Contractor shall protect the materials from damage and exposure to sunlight. Damaged materials shall not be incorporated into the retaining wall structure and backfill.
- 1.04 Quality Assurance
 A. Owner will be responsible for soil testing and construction observations for quality control during earthwork and retaining wall construction operations.

PART 2: MATERIALS

- 2.01 Definitions
 A. Modular Wall Units - KEYSTONE or equivalent modular concrete facing and corner units, machine made from portland cement, water, and mineral aggregate.
 B. Structural Geogrid - a structural geogrid formed by a regular network of integrity connected tensile elements with apertures of sufficient size to allow interlocking with surrounding soil, rock, or earth and function primarily as reinforcement.
 C. Unit Fill/Drainage Aggregate - drainage aggregate, such as No. 57 Stone, which is placed within the cells of the modular concrete units and immediately behind the units to a width of at least 12 inches.
 D. Reinforced Backfill - Compacted soil which is within the reinforced soil volume as shown on the plans.
 E. Excavation Face - The interface between the reinforced backfill and the retained fill. During construction, measures shall be taken to avoid developing a shear plane at this interface.
 F. Retained Backfill - On-site material located behind the reinforced zone of soil.
- 2.02 Concrete Units
 A. Concrete segmental units shall conform to the requirements of NCMA TEK 2-4 and have a minimum 28-day compression strength of 4,000 psi. The units shall also pass 150 freeze thaw cycles in water with less than 1% weight loss for samples tested in accordance with ASTM C-1262.
 B. Wall Face Units for general wall construction shall be KEYSTONE Standard II Units or equivalent. Sculptured face or straight (flat) face may be used.
 C. Top of Wall Cap Units shall be KEYSTONE Cap Units or equivalent with fiberglass connecting pins.
- 2.03 Fiberglass Connecting Pins
 A. Connecting pins shall be 1/2" diameter thermoset isophthalic polyester resin-pultruded fiberglass reinforcement rods supplied by the unit manufacturer.
- 2.04 Construction Adhesive
 A. Construction adhesive for top of wall cap blocks shall be KEYSTONE KapSealTM or an approved equivalent construction adhesive. Material shall conform to ASTM 2339 and shall be supplied by the block unit supplier.
- 2.05 Soil Fill Materials
 A. Base Leveling and Pad Material
 1. Material shall consist of crushed stone (GA S/B) as shown on the construction drawing. The leveling pad shall be, at a minimum, 6-inches thick. MSHA No. 57 Stone or pea gravel is not permitted.
 B. Unit Fill/Drainage Aggregate
 1. Fill for units shall be free draining crushed stone or gravel, with a maximum aggregate size of 1/2" to 3/4" and no more than 5% passing the No. 50 sieve and conforming to ASTM D 448. Gradation of the unit fill shall be approved by the Geotechnical Engineer. Pea gravel shall not be used.
 C. Reinforced Backfill
 1. Material shall consist of soil classified as SM, SC, or more granular soils per USCS with minimum soil parameters as indicated under design parameters. The backfill material shall contain no particles greater than 2.5 inches in diameter. Other backfill materials may be approved by the Geotechnical Engineer.
 D. Impervious Soil
 1. Material may be imported or site excavated soils exhibiting a USCS designation of a lean clay (CL) or clayey sand (SC). The material shall contain no less than 40 percent by weight passing the US Standard No. 200 sieve and exhibit a plasticity index no less than 4 and no greater than 20. Other materials may be approved by the Geotechnical Engineer.
 E. Sample Submittal
 1. The contractor shall submit samples and material specifications of the proposed backfill soils (unit fill, pad material, reinforced backfill) to the Geotechnical Engineer for approval.
 2. Soil must meet or exceed the friction angle specified in design parameters.
 3. Direct shear testing is required for all soil samples used for Reinforced Backfill.

2.06 Structural Geogrid

- A. The geogrid identified for the retaining wall consists of the following:
 Tensor UXK110047.
 Tensor UXK140065.
- B. Other geogrid may be utilized provided the materials meet or exceed the minimum strength with similar or better strain characteristics of the Tensor geogrid and are approved by the Geotechnical Engineer for use with soil backfill. The material shall be protected from sunlight and weather while stored on site in accordance with the manufacturer's recommendation.

2.07 Geotextile

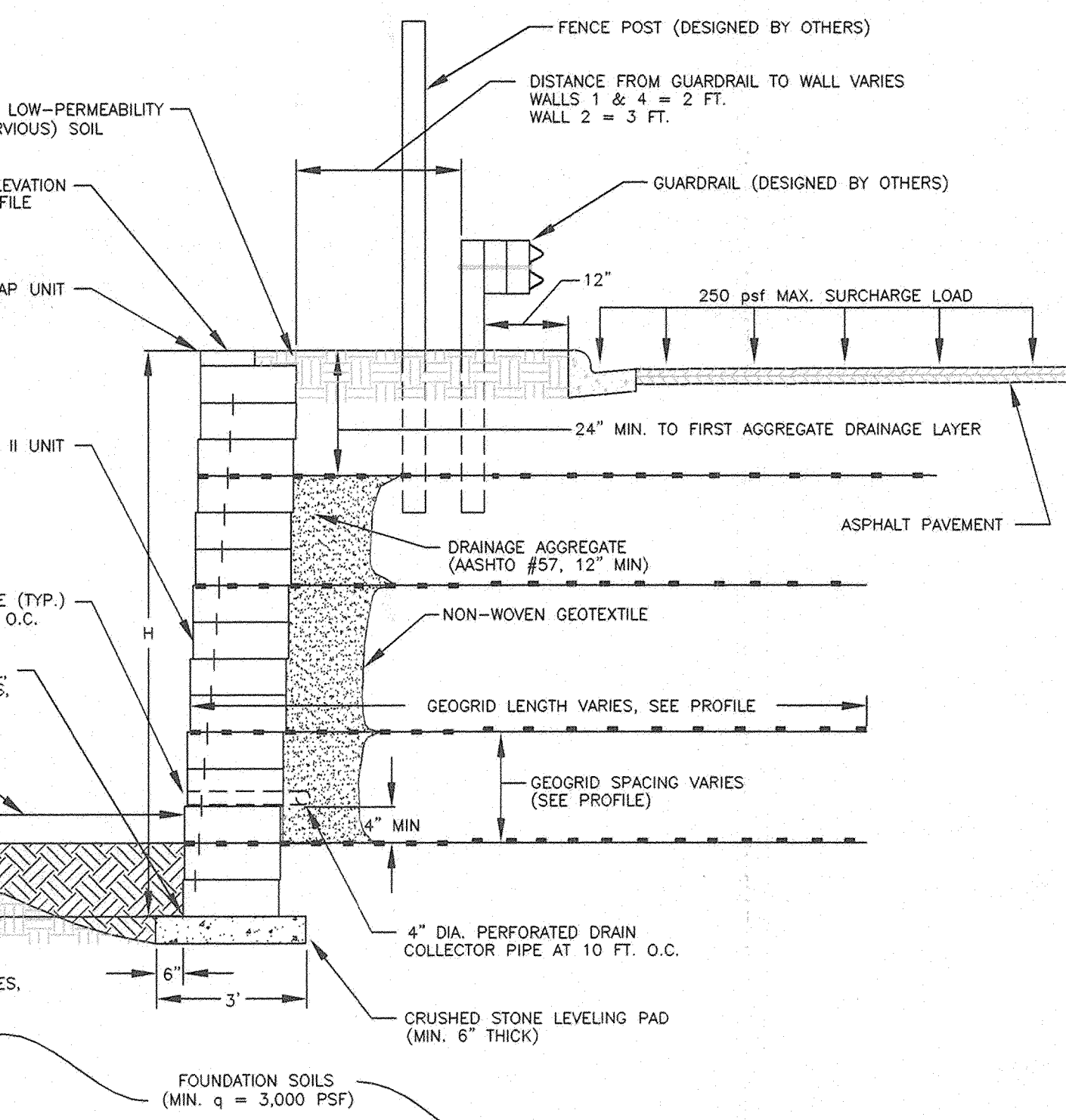
- A. A non-woven geotextile shall be utilized as shown on the plans to provide a filter between the unit fill/drainage aggregate and the reinforced backfill. The geotextile shall consist of a Mirafi 140N, or an approved equivalent.
 B. Where geogrids are located, the geotextile shall be placed as illustrated on the plans. At junctions and ends, the geotextile shall be overlapped at least 12 inches. The geotextile shall be placed so that intimate contact is made between the geotextile and the backfill material.
 C. The material shall be protected from sunlight and weather while stored on site in accordance with the manufacturer's recommendation. Ripped or otherwise damaged material shall not be used.

PART 3: INSTALLATION

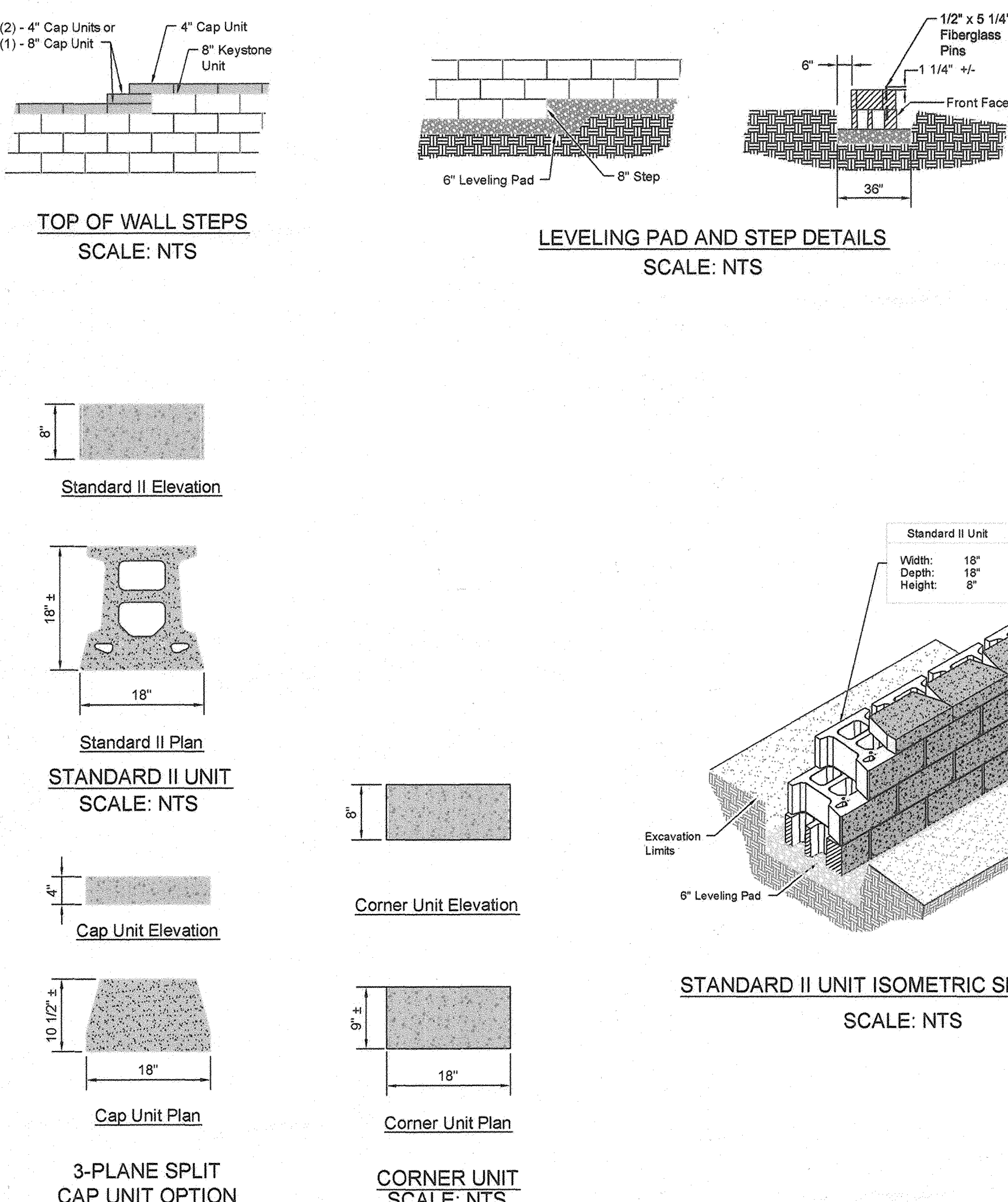
- 3.01 Excavation
 A. Contractor shall excavate to the lines and grades shown on the construction drawings. Contractor shall be careful not to disturb embankment and foundation materials beyond lines shown.
 B. All existing topsoil, rock and other soft or unsuitable materials shall, at a minimum, be removed from the footprint of the retained soil mass.
 C. If groundwater is encountered during the excavation of the backslope, a backslope drainage system shall be utilized. The system shall tie into the internal wall drainage system to provide adequate release of any water which accumulates behind the reinforced zone.
- 3.02 Foundation Preparation
 A. Foundation shall be excavated as required for leveling pad dimensions shown on the construction drawings, or as directed by the Geotechnical Engineer.
 B. The required bearing pressure beneath the footing of the wall must be verified in the field by a Geotechnical Engineer.
 C. Unsuitable soils shall be removed and replaced with approved material.
 D. Over-excavated areas shall be backfilled with approved, compacted backfill material or as approved by the Geotechnical Engineer.
- 3.03 Base Leveling Pad
 A. Leveling pad materials shall be placed upon an approved foundation as shown on the construction drawings to a minimum thickness of 6 inches.
 B. Aggregate material shall be compacted to provide a dense, level surface on which to place the first course of modular units. Compaction shall be to at least 95% of the maximum dry density as determined by the Standard Proctor Compaction Test (ASTM D 698). Leveling pad shall be prepared and leveled to ensure complete contact of retaining wall unit with base.
- 3.04 Unit Installation
 A. The first course of concrete modular units shall be carefully placed on the base leveling pad. Each unit shall be checked for level (in both directions) and alignment.
 B. Install fiberglass connecting pins and fill all voids in and around the modular units with unit fill material. Tamp or rod unit fill to ensure that all voids are completely filled.
 C. Sweep excess material from top of units and install the next course. Ensure that the units of each course are completely filled, backfilled and compacted prior to proceeding to next course.
 D. Place each subsequent course, ensuring that pins protrude into adjoining courses a minimum of 1 inch. Two pins are required per unit - pull each unit forward to obtain the desired offset (as noted on the plans), away from the fill zone, locking against the pins in the previous course and backfill as the course is completed.
 E. Repeat procedure to the extent of wall height. Wall construction shall not exceed 2 courses in height before reinforced backfill is placed.
 F. Follow wall erection and unit placement closely with any other backfilling required. Compaction of all soils shall be to 95% of the maximum dry density as determined in accordance with ASTM D 698.
 G. As appropriate where the wall changes elevation, units can be stepped with the grade or turned into the embankment with a convex return end. Provide appropriate buried units on compacted leveling pad in area of convex return end.
- 3.05 Geogrid Installation
 A. The geogrid type and length (direction perpendicular to the wall face) shall conform to those indicated on the construction drawings. Geogrid shall be laid continuously at the proper elevations and orientation as shown on the construction drawings or as directed by the Geotechnical Engineer.
 B. Correct orientation (roll direction) of the geogrid shall be verified by the Contractor.
 C. The geogrid shall be connected to the modular wall units by placing the geogrid over fiberglass pins and laying the grid back to the fill side.
 D. A filtering, non-woven geotextile shall be located between the drainage aggregate/unit fill and the reinforced backfill. The geotextile shall be folded back parallel, above and below the geogrid as necessary to ensure continuous grid placement.
 E. The geogrid shall be pulled taut to set the geogrid against the fiberglass pins and to eliminate loose folds in the material. The fill surface shall be level. To tension the geogrid, backfill shall be placed over the geogrid from immediately behind the wall to the back end of the geogrid.
 F. No geogrid overlaps will be allowed in any length of geogrid perpendicular to the wall face except at corners or angled locations. The geogrid shall overlap rather than provide no coverage. A minimum of 4 inches of soil cover is required between overlapping layers of geogrid.
 G. The suitability of the fill material must be confirmed by a Geotechnical Engineer.
 H. The upper 8 inches of wall backfill shall consist of impervious soil, compacted to at least 95% of the maximum dry density as determined by ASTM D 698. The in-place moisture content shall be in the range of at the optimum moisture content to 2 percentage points higher than the optimum moisture content, as determined in accordance with ASTM D 698.
- 3.06 Fill Placement
 A. Backfill material shall be placed in 8 inch loose lifts and compacted to at least 95% of the maximum dry density as determined by ASTM D 698. The in-place moisture content shall be in the range of at the optimum moisture content to 2 percentage points higher than the optimum moisture content, as determined in accordance with ASTM D 698.
 B. Backfill shall be placed, spread and compacted in such a manner that minimizes the development of slack or loss of pretension of the geogrid. Backfill shall be placed in horizontal layers. Where applicable, the excavation face shall be benched into the natural, on-site soils to provide compaction of backfill on a level surface and to increase the interlock between the retained soils and the reinforced backfill. Bench heights shall not exceed 24 inches.
 C. Only hand-operated compaction equipment shall be allowed within 5 feet of the back surface of the KEYSTONE or equivalent units.
 D. Backfill shall be placed from immediately behind the wall towards the excavation face/retained soils and compacted to the specifications presented herein with appropriate compaction equipment.
 E. Tracked construction equipment shall not be operated directly on the geogrid. A minimum backfill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Turning of tracked vehicles shall not be permitted overtop the geogrid.
 F. Rubber-tired equipment may pass over the geogrid reinforcement at slow speeds (less than 10 mph). Avoid sudden braking and sharp turning.
 G. The suitability of the fill material must be confirmed by a Geotechnical Engineer.
 H. The upper 8 inches of wall backfill shall consist of impervious soil, compacted to at least 95% of the maximum dry density as determined by ASTM D 698. The in-place moisture content shall be in the range of at the optimum moisture content to 2 percentage points higher than the optimum moisture content, as determined in accordance with ASTM D 698.
- 3.07 Cop Installation
 A. Provide permanent mechanical connection to wall units with KEYSTONE KapSealTM or equivalent construction adhesive. Apply adhesive to top surface of lower unit and place cap unit on adhesive.
 B. Place Cap Units over projecting pins from the units below. Pull forward to setback position.
 C. Backfill and compact to finished grade.

DESIGN PARAMETERS

Configuration:	Minimum Exposed Wall Height:	Soil Parameters:	
		Soil Type	Minimum Friction Angle / Minimum Unit Weight (pcf)
Battered face wall (4.4% or 8.8%) Wall #1 = 10'-0" Wall #2 = 8'-0" Wall #3 = 3'-7" Wall #4 = 17'-10"	Varies (2H:1V maximum)	Reinforced fill (No. 57 or more granular)	28 / 125
		Walls 1, 2, & 3	32 / 130
		Wall 4	27 / 120
		Retained soils	27 / 120
Surcharge:		Foundation soils	27 / 120
All Walls			

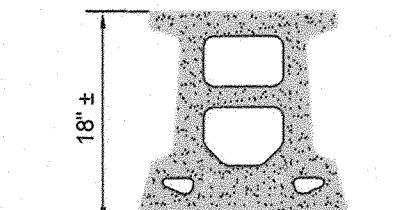
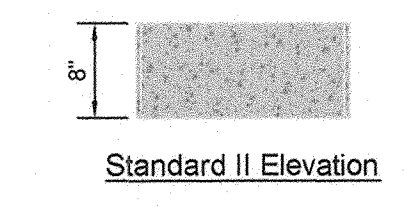


TYPICAL RETAINING WALL DETAIL FOR WALLS 1 & 3
 SCALE: NTS

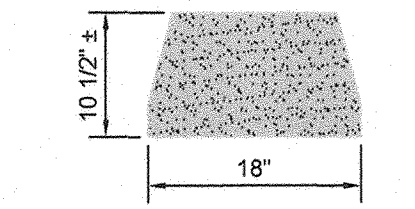
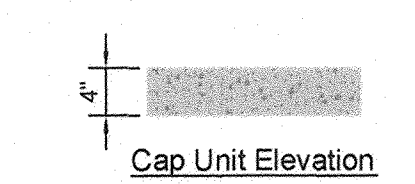


TOP OF WALL STEPS
 SCALE: NTS

LEVELING PAD AND STEP DETAILS
 SCALE: NTS



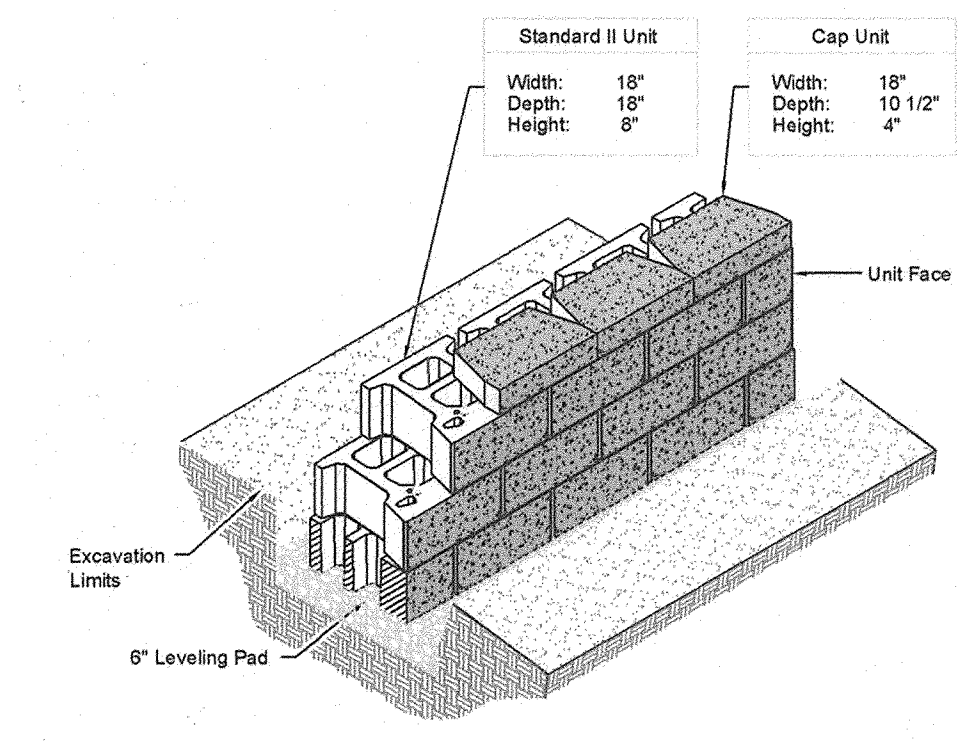
STANDARD II UNIT
 SCALE: NTS



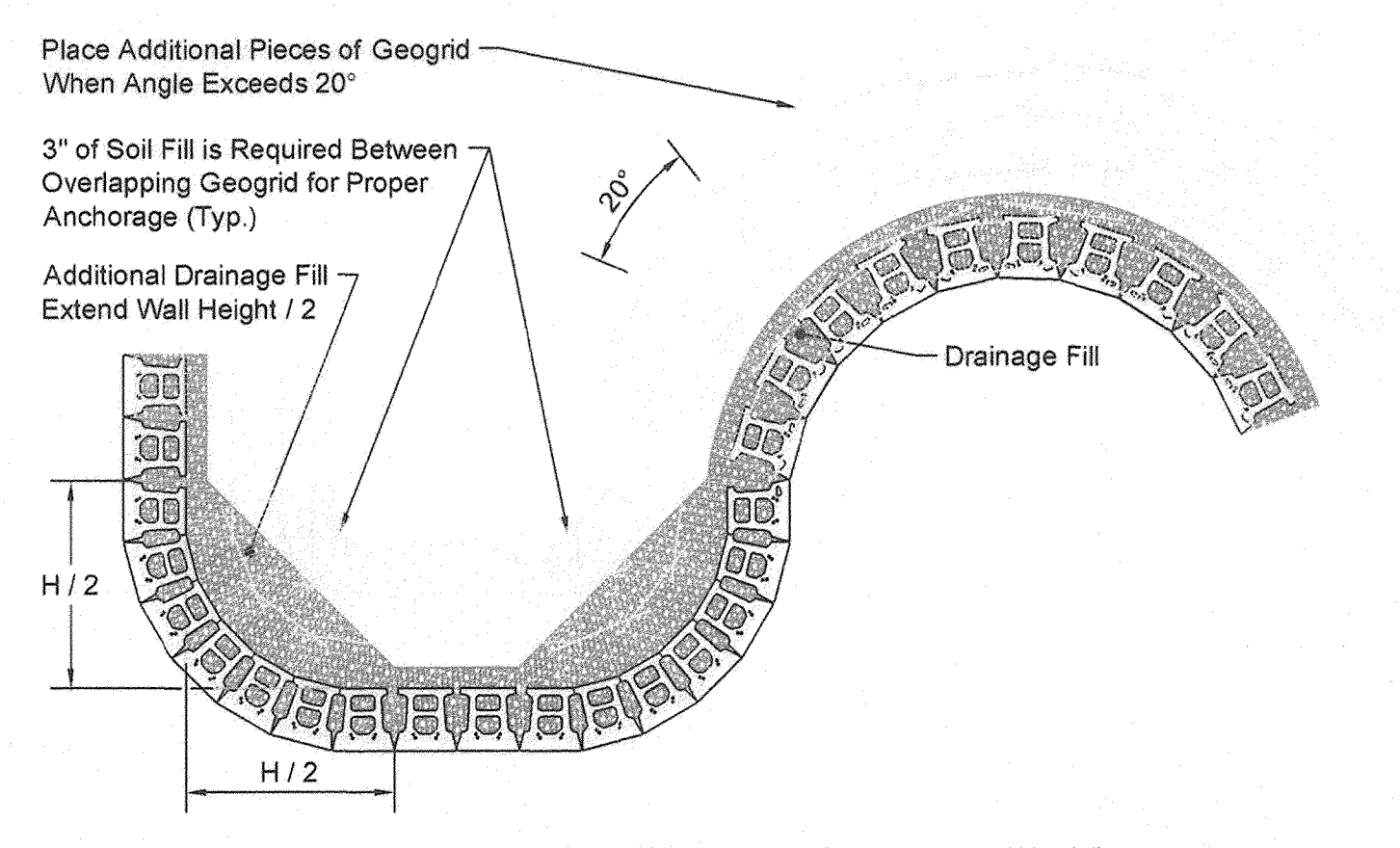
3-PLANE SPLIT CAP UNIT OPTION
 SCALE: NTS



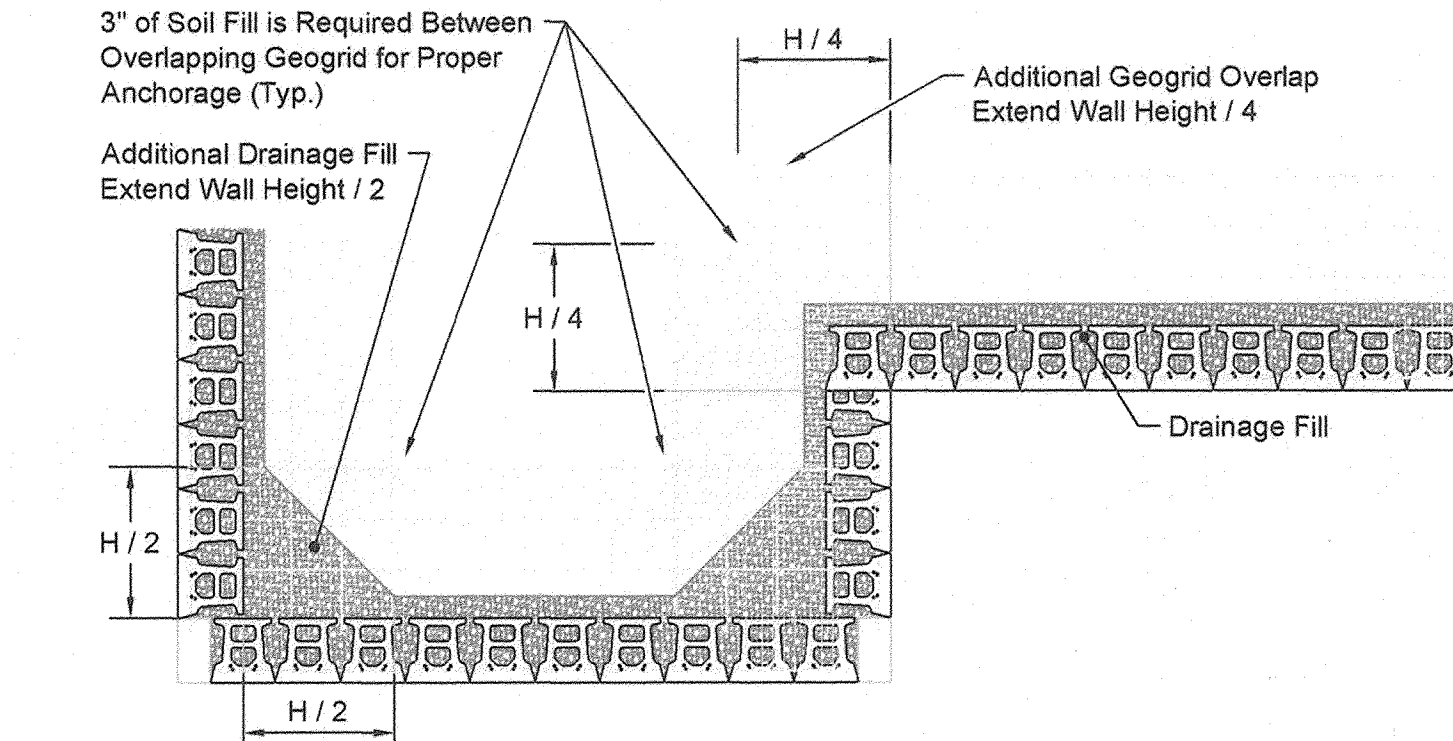
CORNER UNIT
 SCALE: NTS



STANDARD II UNIT ISOMETRIC SECTION VIEW
 SCALE: NTS

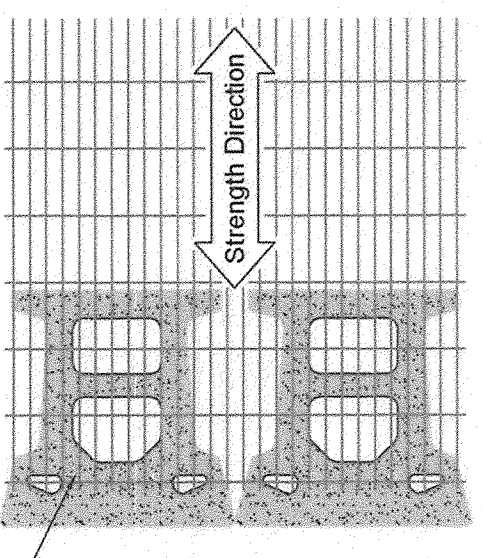


GEOGRID INSTALLATION ON CURVES
 SCALE: NTS

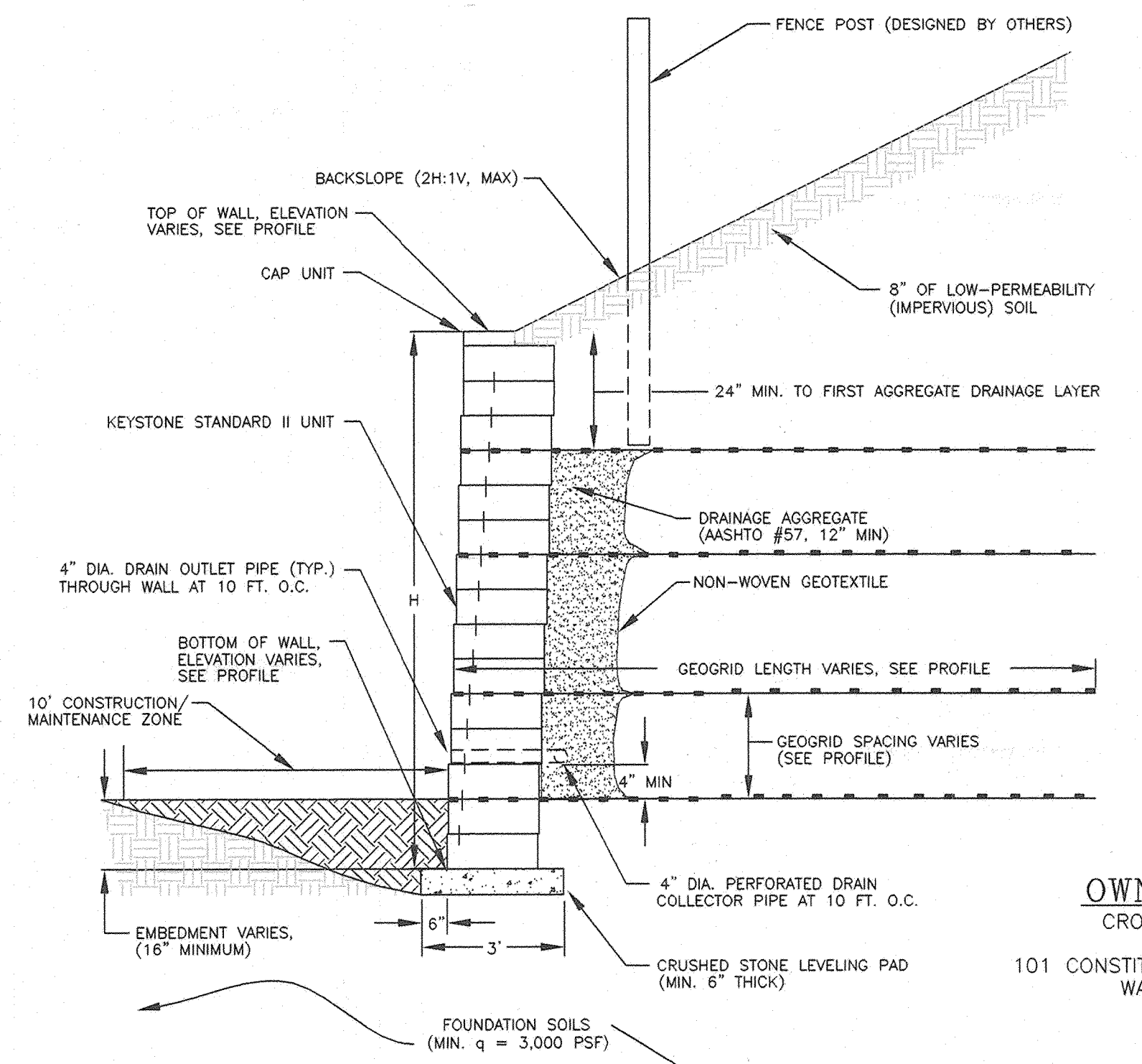


GEOGRID INSTALLATION AT CORNERS
 SCALE: NTS

GRID & PIN CONNECTION
 SCALE: NTS



Geogrid is to be Placed on Level Backfill and Extended Over the Fiberglass Pins. Place Next Unit. Pull Grid Taut and Backfill. Stake as required.

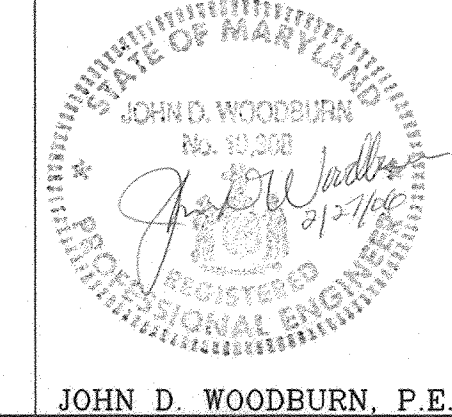


TYPICAL RETAINING WALL DETAIL FOR WALL 4
 SCALE: NTS

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

7/6/06
 7/6/06
 7/6/06

OWNER/PETITIONER
 CROSSROADS VENTURE, LLC
 C/O J. PAUL PRICE
 101 CONSTITUTION AVENUE, NW, SUITE 600E
 WASHINGTON, DC 20001



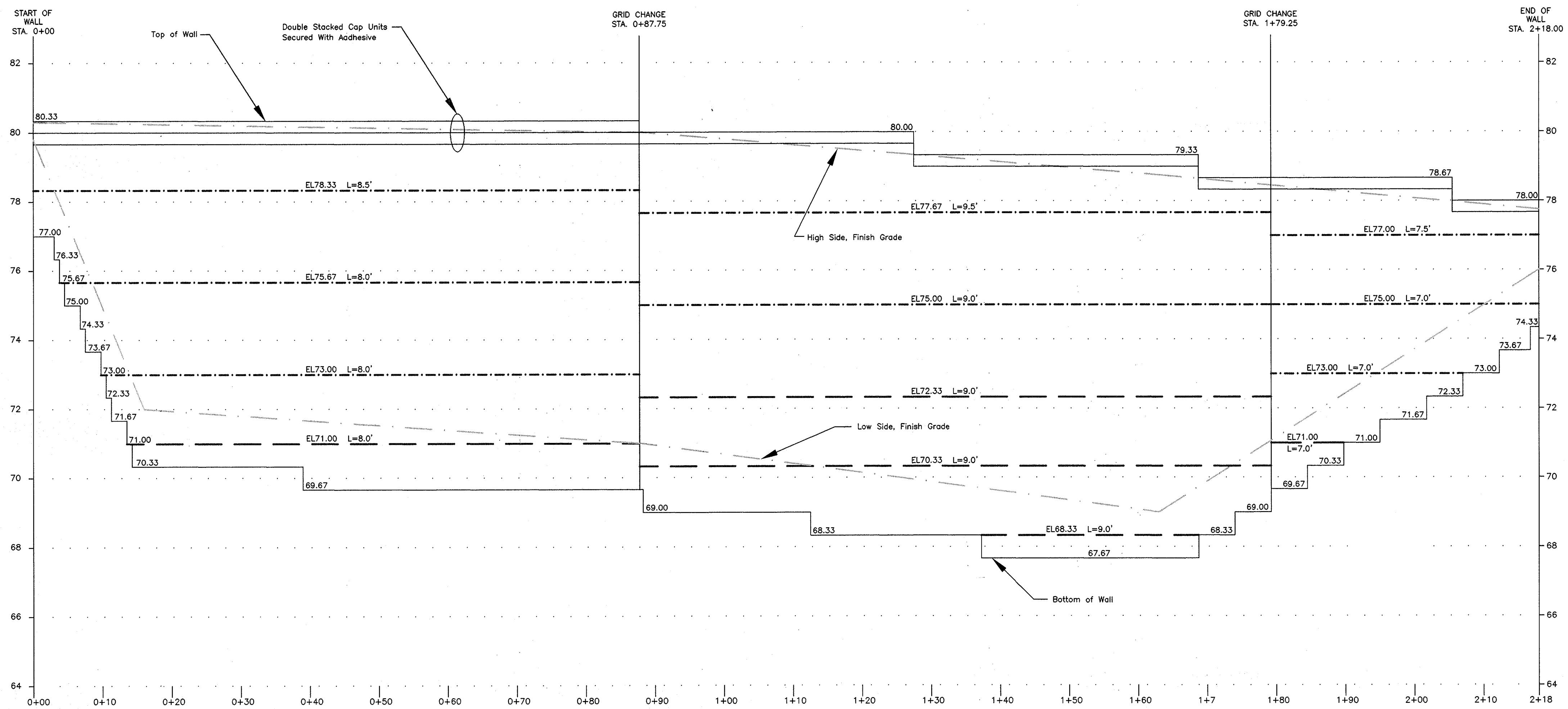
No.	REVISIONS	DATE

SITE DEVELOPMENT PLAN
Retaining Wall Notes & Details
 Patapsco Valley Business Park
 Parcel I
 TAX MAP 28, BLOCK 19/19
 1ST ELECTION DISTRICT
 PARCEL 1
 HOWARD COUNTY, MARYLAND

Crossroads Venture, LLC

DSH	KRM	June 2005	NTS	2734-E1	26 of 30
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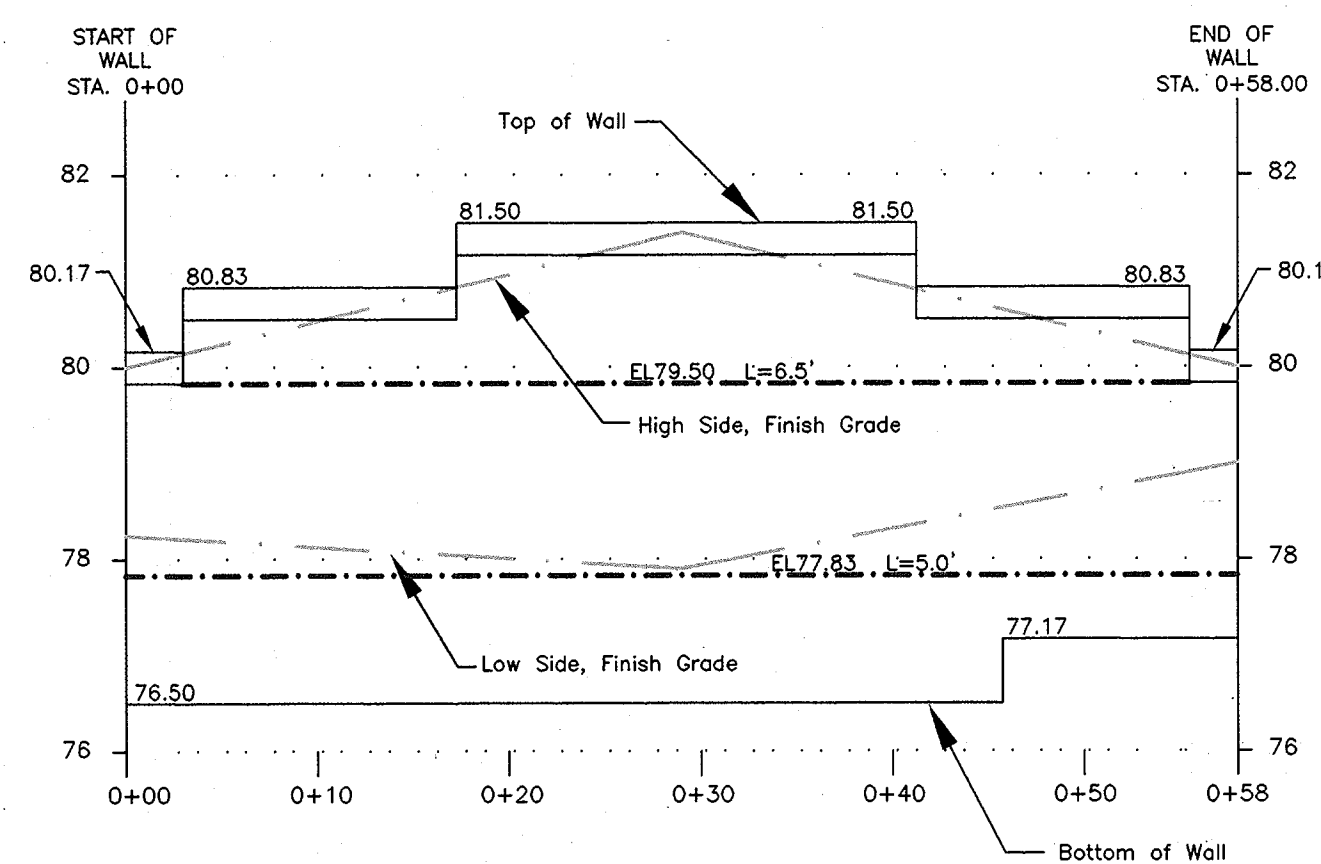
ECS MID-ATLANTIC, LLC
 1340 CHARWOOD ROAD, SUITE P
 HANOVER, MARYLAND 21076
 (410) 859-4300 FAX(410) 859-4324
 "Setting The Standard For Service"



WALL #1 PROFILE

SCALE
VERTICAL SCALE 1"=2'
HORIZONTAL SCALE 1"=10'

--- TENSAR UXK110047 GEOGRID
--- TENSAR UXK140065 GEOGRID



WALL #3 PROFILE

SCALE
VERTICAL SCALE 1"=2'
HORIZONTAL SCALE 1"=10'

--- TENSAR UXK110047 GEOGRID

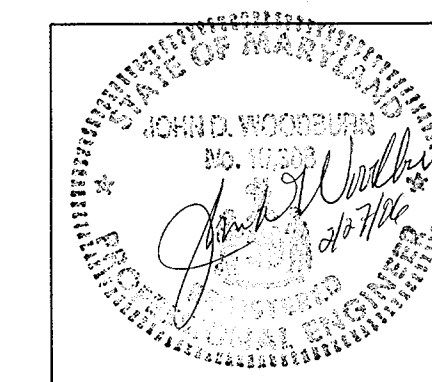
Note: For Clarity, Guardrails And Fences Are Not Shown On Wall Profiles. Please See Wall Details And Specifications For Guardrails And Fences.

No.	REVISIONS	DATE
SITE DEVELOPMENT PLAN Retaining Wall Profile View Patapsco Valley Business Park TAX MAP 32, BLOCK 19/1B Parcel I HOWARD COUNTY, MARYLAND 1ST ELECTION DISTRICT		
Crossroads Venture, LLC		
DSH	KRM	June 2005
NTS	2734-E1	27 of 30

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 7/6/06
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 7/6/06
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] 7/6/06
 DIRECTOR

OWNER/PETITIONER
 CROSSROADS VENTURE, LLC.
 C/O J. PAUL PRICE
 101 CONSTITUTION AVENUE, NW, SUITE 600E
 WASHINGTON, DC 20001



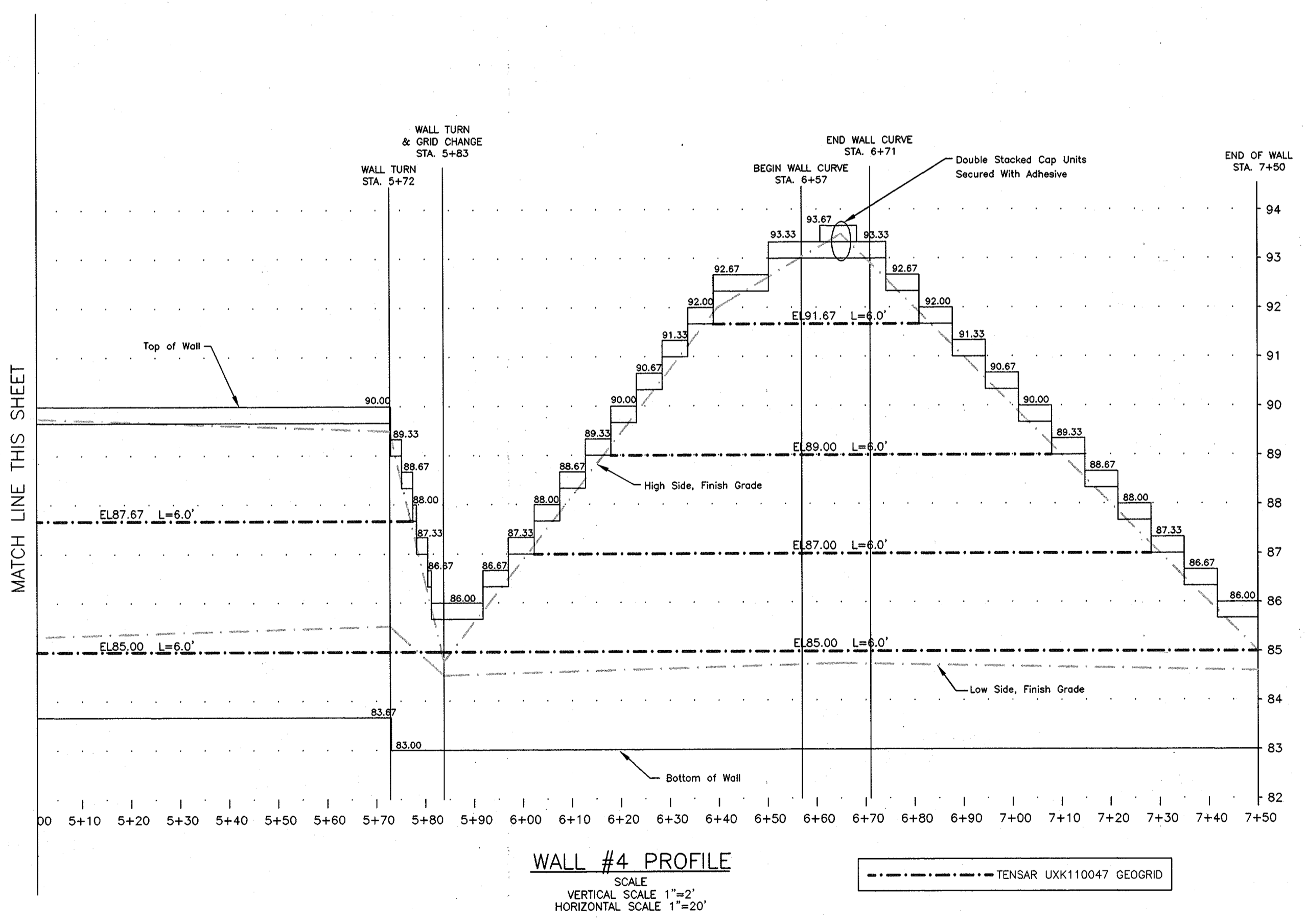
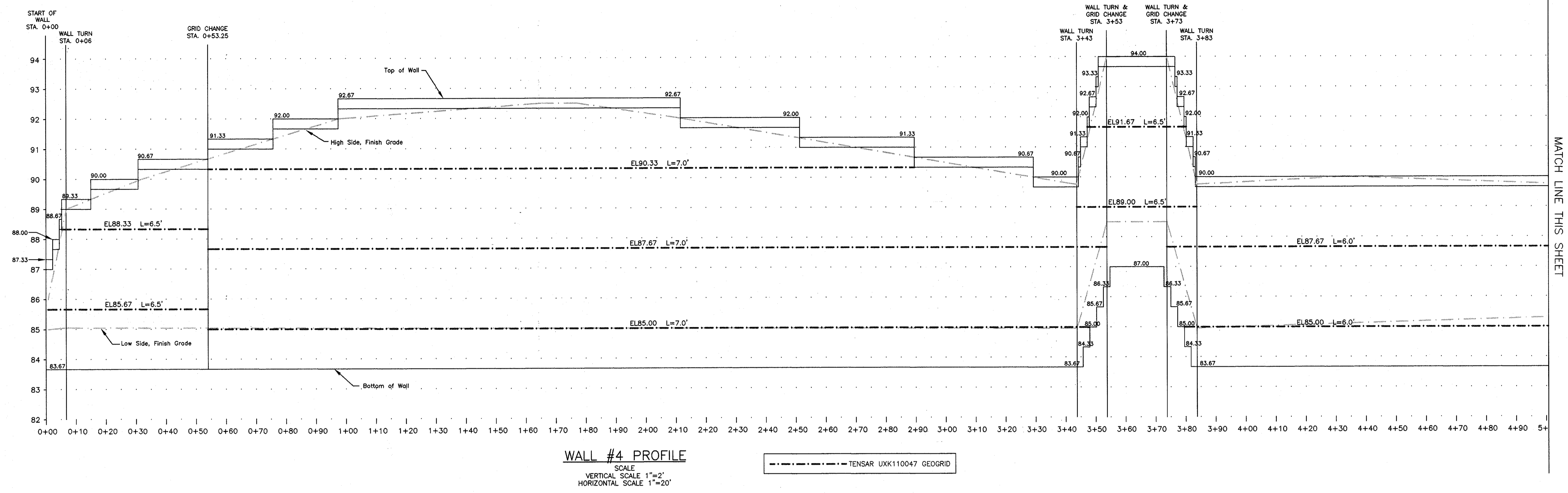
JOHN D. WOODBURN, P.E.

ECS MID-ATLANTIC, LLC

1340 CHARWOOD ROAD, SUITE P
 HANOVER, MARYLAND 21076
 (410) 859-4300 FAX(410) 859-4324

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Note: For Clarity, Guardrails And Fences Are Not Shown On Wall Profiles. Please See Wall Details And Specifications For Guardrails And Fences.

No.	REVISIONS	DATE

SITE DEVELOPMENT PLAN
Retaining Wall Profiles
 Patapsco Valley Business Park

TAX MAP 28, BLOCK 19/18 Parcel I HOWARD COUNTY, MARYLAND PARCEL 1
 1ST ELECTION DISTRICT

Crossroads Venture, LLC

DSH	KRM	June 2005	NTS	2734-E1	28 of 30
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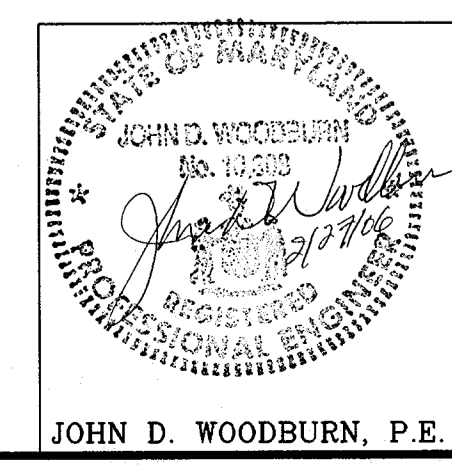
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 7/6/06
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 7/6/06
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 7/6/16
 DIRECTOR DATE

OWNER/PETITIONER
 CROSSROADS VENTURE, LLC.
 C/O J. PAUL PRICE
 101 CONSTITUTION AVENUE, NW, SUITE 600E
 WASHINGTON, DC 20001



ECS MID-ATLANTIC, LLC
 1340 CHARWOOD ROAD, SUITE P
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Retaining Wall Specifications and Guidelines

Part 1: General

- 1.01 Description
 - A. Retaining walls must be constructed under the supervision of a Maryland Registered Professional Engineer.
 - B. Work includes preparation of foundation soils, furnishing all materials, and installing all materials to the lines and grades shown on the construction drawings.
- 1.02 Codes and Standards
 - A. "International Building Code - 2003", International Code Council, Inc.
 - B. "ACI Manual of Concrete Practice - Parts 1 Through 5 - 2001"
 - C. "Manual of Standard Practice" - Concrete Steel Reinforcing Institute
 - D. "American Society for Testing and Materials"
- 1.03 Damage, Storage, and Handling
 - A. The Contractor shall check the materials upon delivery to assure that the proper materials have been received.
 - B. The Contractor shall properly handle and store the materials to prevent damage to the materials. Damaged materials shall not be incorporated into the wall.
- 1.04 Quality Assurance
 - A. The Owner shall engage a qualified testing agency to provide observation and testing services as described below.
 - B. Concrete Placement
 - 1. The agency shall inspect the formwork and reinforcing steel placement for compliance with the contract documents. Reinforcing steel should be inspected for correct size, quantity, and spacing.
 - 2. Fresh concrete shall be sampled in accordance with ASTM C 172, and tested for slump, air entrainment, and temperature.
 - 3. Test cylinders shall be molded in accordance with ASTM C 31. Four test cylinders shall be molded for each day's pour, or for every 100 cubic yards of concrete placed, whichever is greater.
 - C. Fill Placement
 - 1. All soil fills shall be tested in accordance with ASTM D 2922.
 - 2. A minimum of one compaction test per lift should be made per 2,500 square feet of fill lift area, but not fewer than two tests per lift should be made.
 - 3. The elevations and locations of the field density tests should be clearly identified at the time of fill placement and compaction.

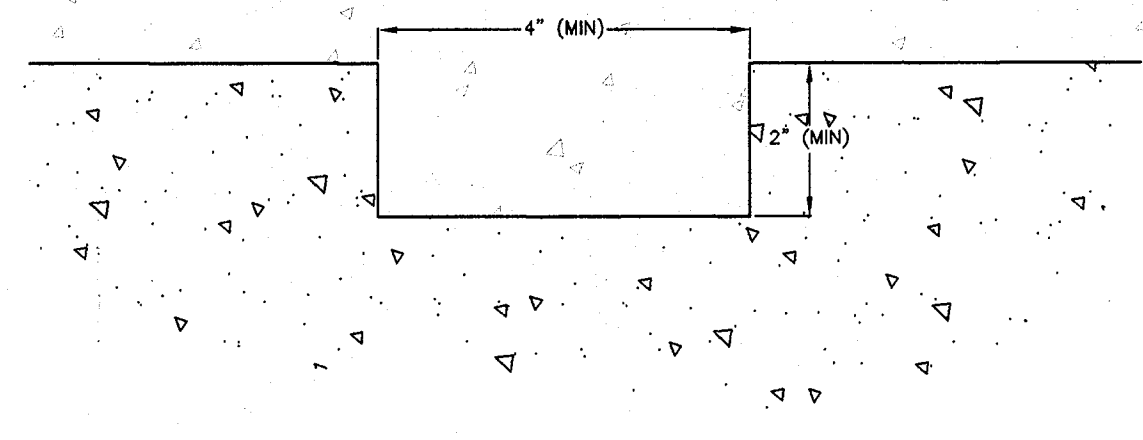
Part 2: Materials

- 2.01 Concrete
 - A. Concrete shall conform to Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414
 - B. Concrete shall have a minimum 28-day compressive strength of 3,000 psi
 - C. Concrete shall have a maximum slump of 5 inches and shall be air entrained to 6% (+/- 1%) by volume. Concrete for foundations does not require air entrainment.
 - D. Concrete shall have a minimum density of 145 pcf and a maximum water-to-cement ratio of 0.50
- 2.02 Steel Reinforcement
 - A. Steel reinforcing shall conform to ASTM A-615, Grade 60.
 - B. Submit shop drawings at least 15 business days before date reviewed submittals will be needed. Shop drawings shall bear the contractor's stamp of approval which shall constitute that he has verified all field measurements, construction criteria, materials, and similar data, and has checked each drawing for completeness, coordination, and compliance with contract documents.
- 2.03 Soil Backfill
 - A. Material should consist of soil classified as SM, SC, or more granular, in accordance with ASTM D 2497.
 - B. Material should have no particle larger than 2.5 inches and shall contain at least 30 percent, by weight, retained on the U.S. No. 200 sieve.
 - C. Materials should have a Liquid Limit less than 45, and a Plasticity Index less than 20.
 - D. Material should have a minimum friction angle of 28 degrees and a minimum dry unit weight of 120 pcf.
 - E. The Contractor should submit samples of the proposed backfill soils to the Geotechnical Engineer of Record for approval prior to their use.

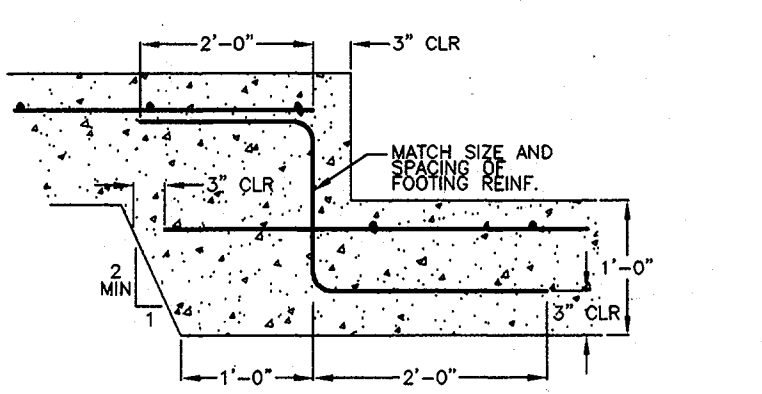
Part 3: Construction

- 3.01 General
 - A. All existing underground utilities shall be properly marked, and relocated if necessary, prior to construction.
 - B. All proposed underground utilities or structures in the general wall area shall be completely installed prior to the construction of the wall.
 - C. Protect all existing and/or new structures from damage by construction equipment. Immediately repair any damage that may occur.
- 3.02 Foundation
 - A. The wall foundation shall be excavated to the grades and lines as shown on the construction drawings. Contractor shall not disturb foundation soils beyond the lines and grades shown.
 - B. All footings and keys shall be placed directly against and on undisturbed natural soils or approved compacted structural fill. Formwork shall not be used unless approved by the Engineer.
 - C. The foundation shall bear at a minimum depth of 39 inches below the final exterior grade at the front side of the retaining wall.
 - D. The foundation subgrade soils shall be tested by a qualified representative of the Geotechnical Engineer to verify the availability of the design bearing pressure of 2,500 psf.
 - E. If unsuitable soils are identified, the unsuitable soils shall be removed and the over-excavated areas shall be replaced with compacted structural fill or lean concrete.
 - F. A minimum of 12 inches of compacted structural fill soils shall be placed between the wall footing and the approved subgrade soils.
 - G. Keyways shall be provided between the stem and the footing. The keyway should measure 2" deep by 4" wide (minimum) and can be formed with conventional 2x4 lumber prior to concrete placement.
- 3.03 Steel Reinforcement
 - A. All steel reinforcing shall have a minimum clear cover of 3 inches unless otherwise noted on the contract documents.
 - B. Where applicable, splices for reinforcing steel shall be made by contact tension lap splices.
 - C. Welding and field-bending of reinforcing steel is not permitted.
 - D. Furnish all accessories, chairs, space bars, supports, etc. necessary to secure reinforcing.
- 3.04 Cast-in-Place Concrete
 - A. Footing Concrete
 - 1. The vertical faces of the footing and key excavations may be used as forms for placement of foundation concrete.
 - 2. Foundation concrete, or protective mud mats, should be placed the same day that the foundation subgrade is approved.
 - 3. Provide concrete protection against freezing during placement and for 5 days thereafter.
 - B. Wall Concrete
 - 1. Furnish and erect concrete forms to the lines and grades shown on the construction drawings.
 - 2. Locate construction joints as to not impair the strength of the structure, but not more than 60 feet in any direction. Provide continuous bentonite strip waterstrip at all construction joints.
 - 3. Make stops in concrete pours using vertical bulkheads.
 - 4. All reinforcing shall be continuous through joints and bulkheads.
 - 5. Chamfer exposed concrete corners 3/4" by 3/4" minimum.
 - 6. Provide 4" diameter weep holes every 8 feet along the bottom of the wall. The weep holes should be formed in place prior to concrete placement by using PVC pipe. Weep hole locations must not interfere with steel reinforcing.
- 3.05 Backfilling
 - A. All soil backfill shall conform to the material requirements of section 2.03.
 - B. Where applicable, backfill shall be benched into natural soils with bench heights not exceeding 2 feet.
 - C. Backfill shall be moisture conditioned to within 2 percentage points of the optimum moisture content, as determined in accordance with ASTM D-698.
 - D. Backfill shall be placed in loose lifts, not exceeding 8 inches in thickness, and then compacted to at least 95 percent of the maximum dry density, as determined in accordance with ASTM D-698.
 - E. Backfilling shall not occur against the wall until the wall concrete has attained at least 75 percent of the 28-day design strength.
 - F. Drainage boards, consisting of a Miradrain 9900, or an approved equivalent, shall be continuously placed against the backside of the wall, from the weep hole level to within 12 inches of the top of the wall.
 - G. Where feasible, maintain equal grades on each side of the wall during backfilling to prevent overturning and lateral movements. When the grade differential from the backside to the frontside of the wall exceeds 12 inches, only hand-operated compaction equipment shall be allowed.
- 3.06 Finish
 - A. Refer to Architectural drawings and specifications for detailed information regarding wall finish and wall cap (if any).
 - B. Final grades at the wall shall be established by the Contractor in accordance with the most recent site grading plans.
 - C. Final grades shall be stabilized and seeded per the approved civil plans unless noted otherwise on the site grading plans.

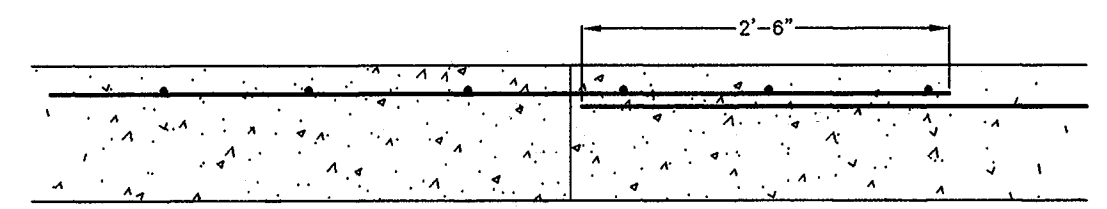
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2	#4 @ 12" O.C.
3	#7 @ 12" O.C.
4	#5 @ 12" O.C.
5	#4 @ 12" O.C.
6	#6 @ 12" O.C.
7	#6 @ 12" O.C.
8	#6 @ 12" O.C.
9	#6 @ 12" O.C.
10	#4 @ 12" O.C.
11	#5 @ 12" O.C.



TYPICAL KEYWAY AT FOOTING/STEM INTERFACE
NTS

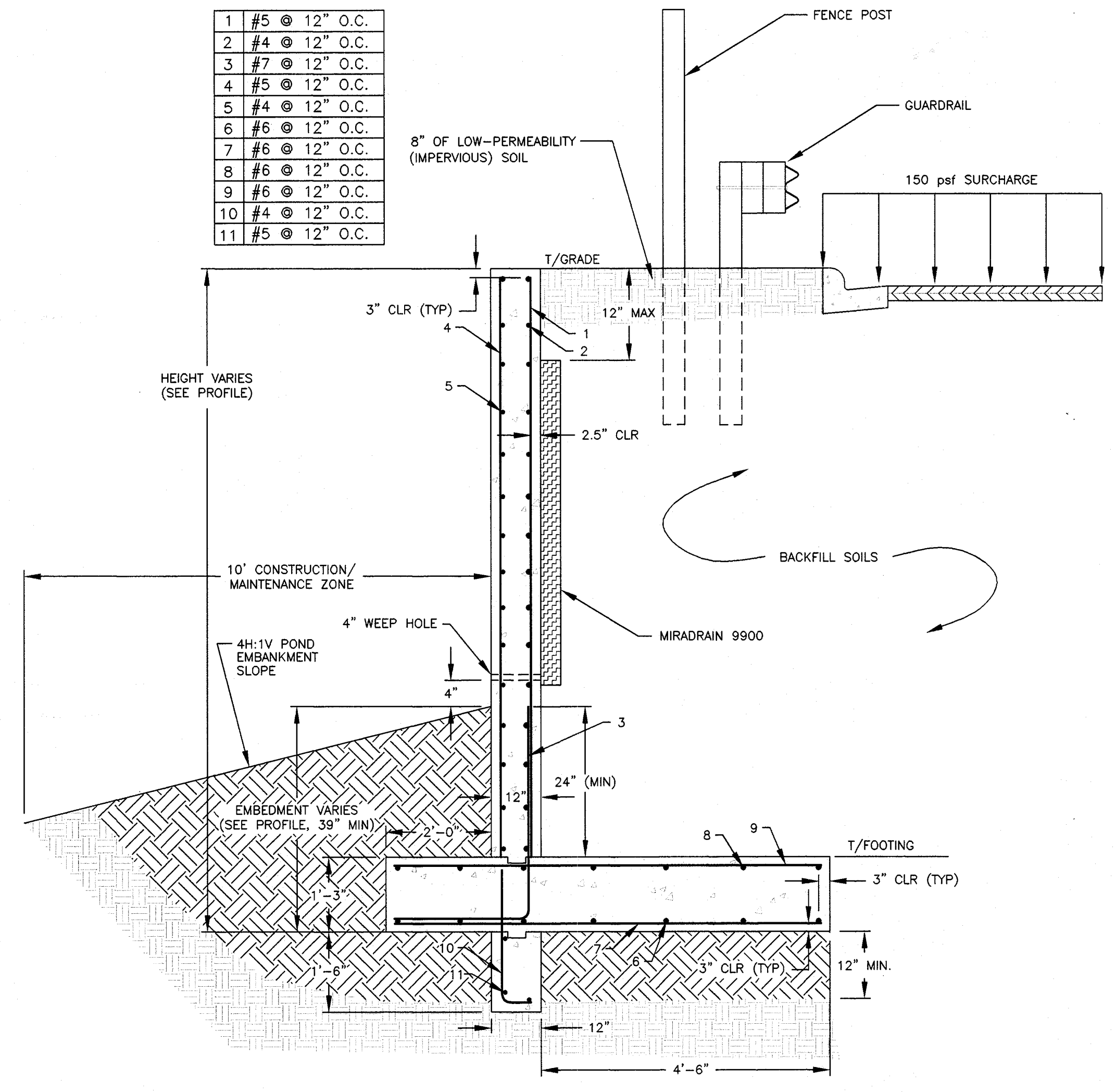


FOOTING STEP
NTS

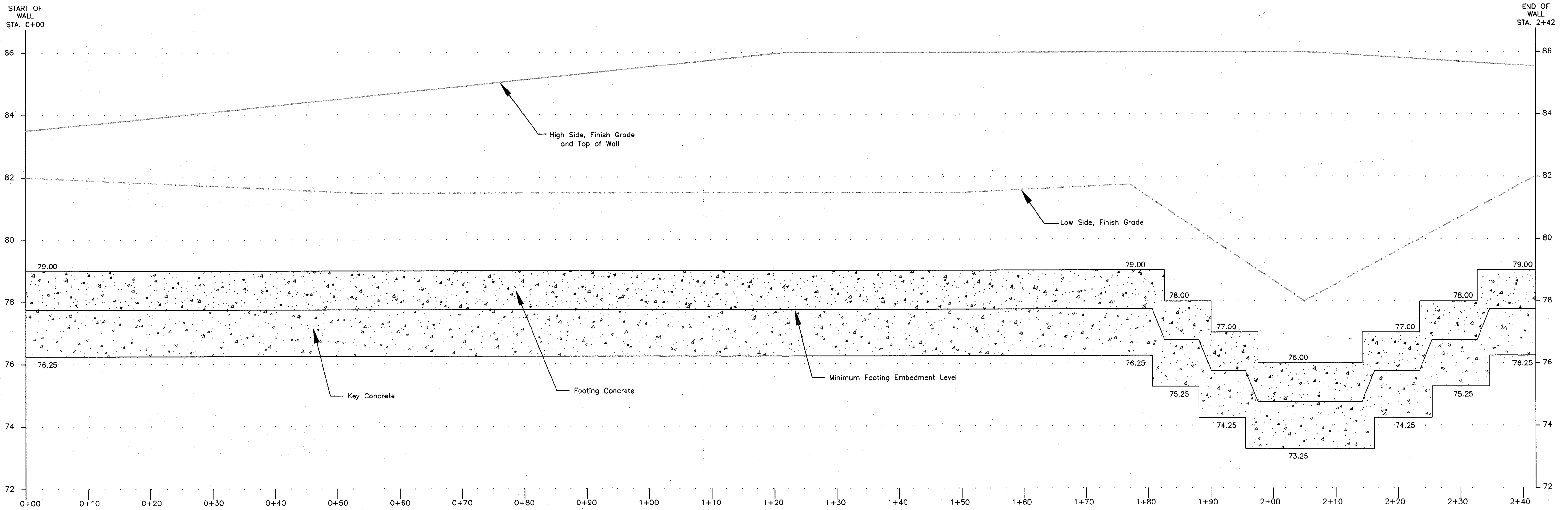


CONSTRUCTION JOINT
NTS

Note: For Clarity, Guardrails And Fences Are Not Shown On Wall Profiles. Please See Wall Details And Specifications For Guardrails And Fences.



APPROVED SUBGRADE SOILS
(MIN. q = 3,000 PSF)
WALL #2 TYPICAL SECTION
NTS



WALL #2 PROFILE
SCALE
VERTICAL SCALE 1"=2'
HORIZONTAL SCALE 1"=10'

No.	REVISIONS	DATE

SITE DEVELOPMENT PLAN
Retaining Wall Profiles
Patapsco Valley Business Park
TAX MAP 3B, BLOCK 19/18 Parcel I HOWARD COUNTY, MARYLAND
Crossroads Venture, LLC

DSH	KRM	June 2005	NTS	2734-E1	29 of 30
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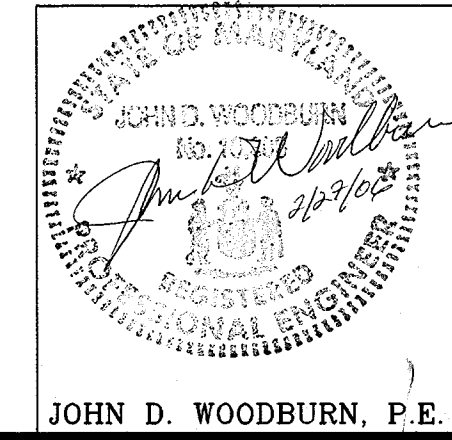
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 7/6/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE

[Signature] 7/6/06
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE

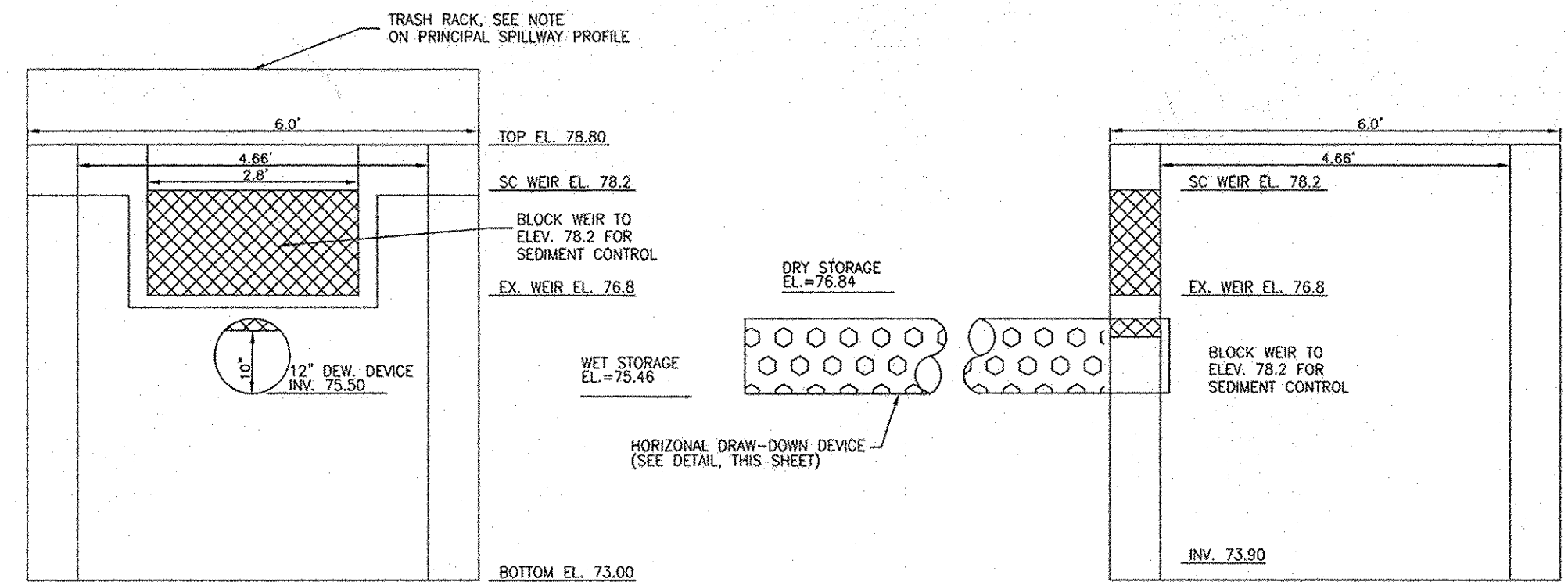
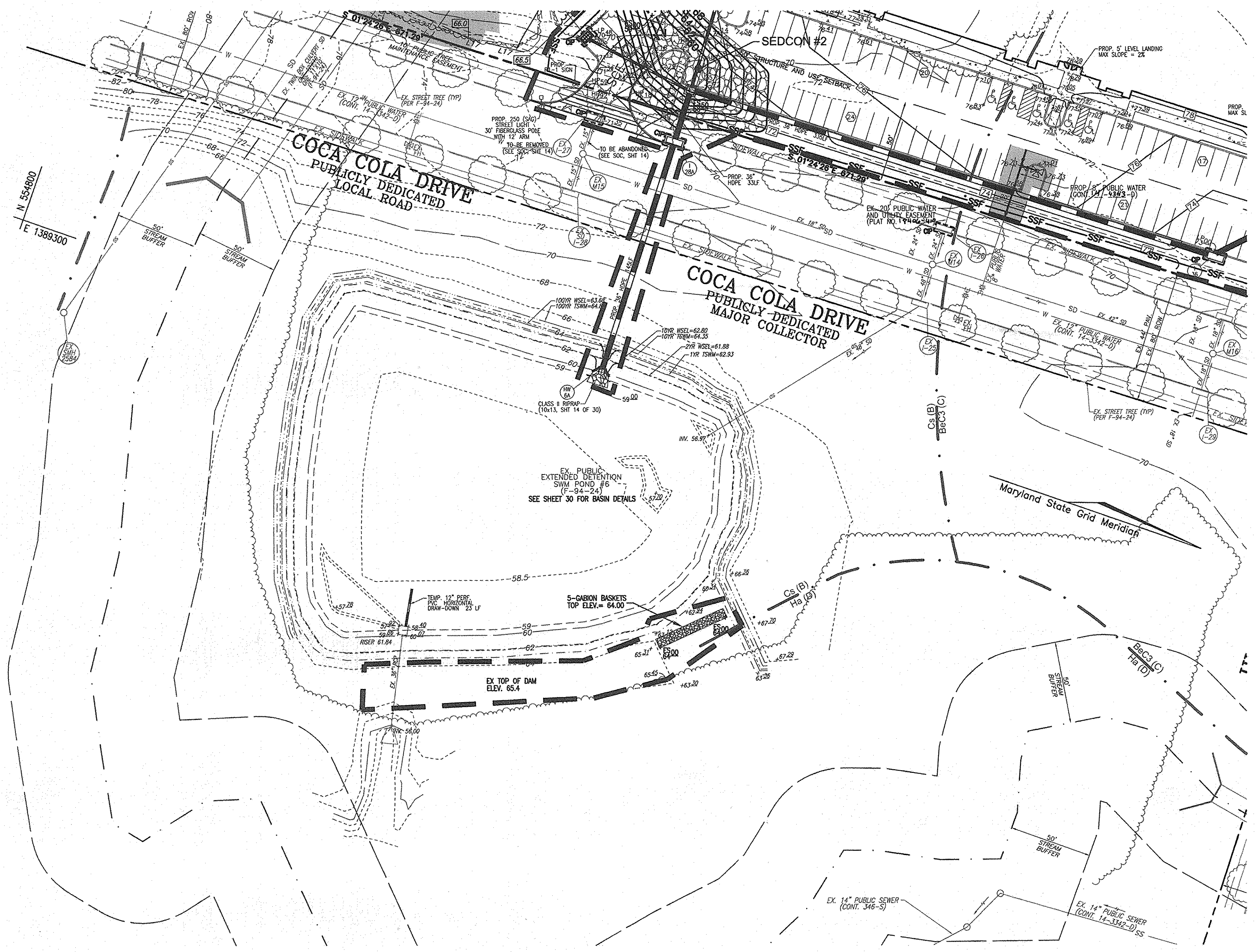
[Signature] 7/6/06
DIRECTOR
DATE

OWNER/PETITIONER
CROSSROADS VENTURE, LLC.
C/O J. PAUL PRICE
101 CONSTITUTION AVENUE, NW, SUITE 600E
WASHINGTON, DC 20001



ECS MID-ATLANTIC, LLC
1340 CHARWOOD ROAD, SUITE P
HANOVER, MARYLAND 21076
(410) 859-4300 FAX(410) 859-4324
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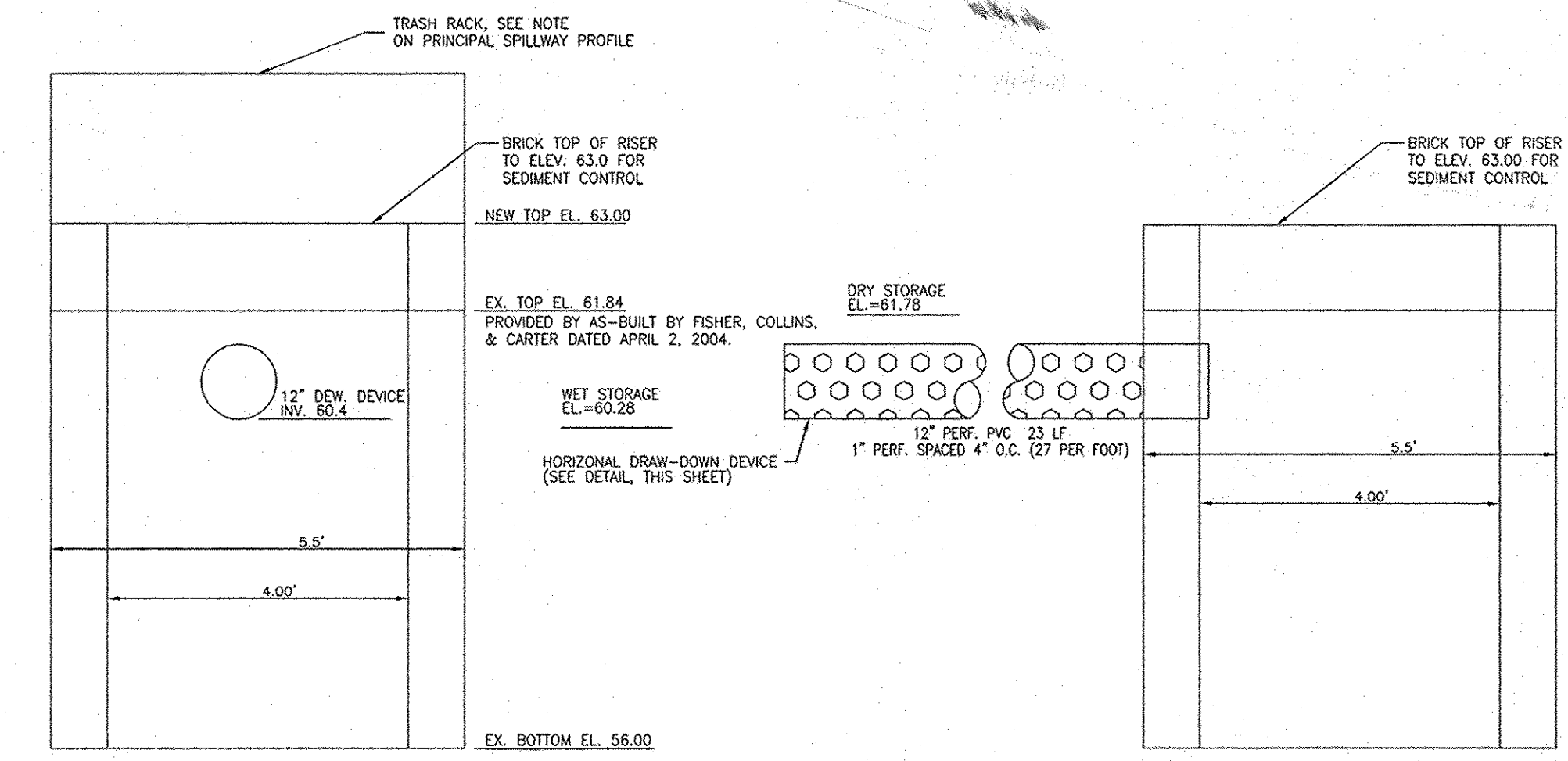




BASIN #7A CONC. RISER DETAIL WITH REVISED SEDIMENT CONTROL OPENINGS

(SEE F-94-24, SHEET 33 OF 35 FOR PREVIOUS RISER SPECS, OTHER PERTINENT DETAILS, AND SWM SPECIFICATIONS)
SCALE: 1/2"=1'

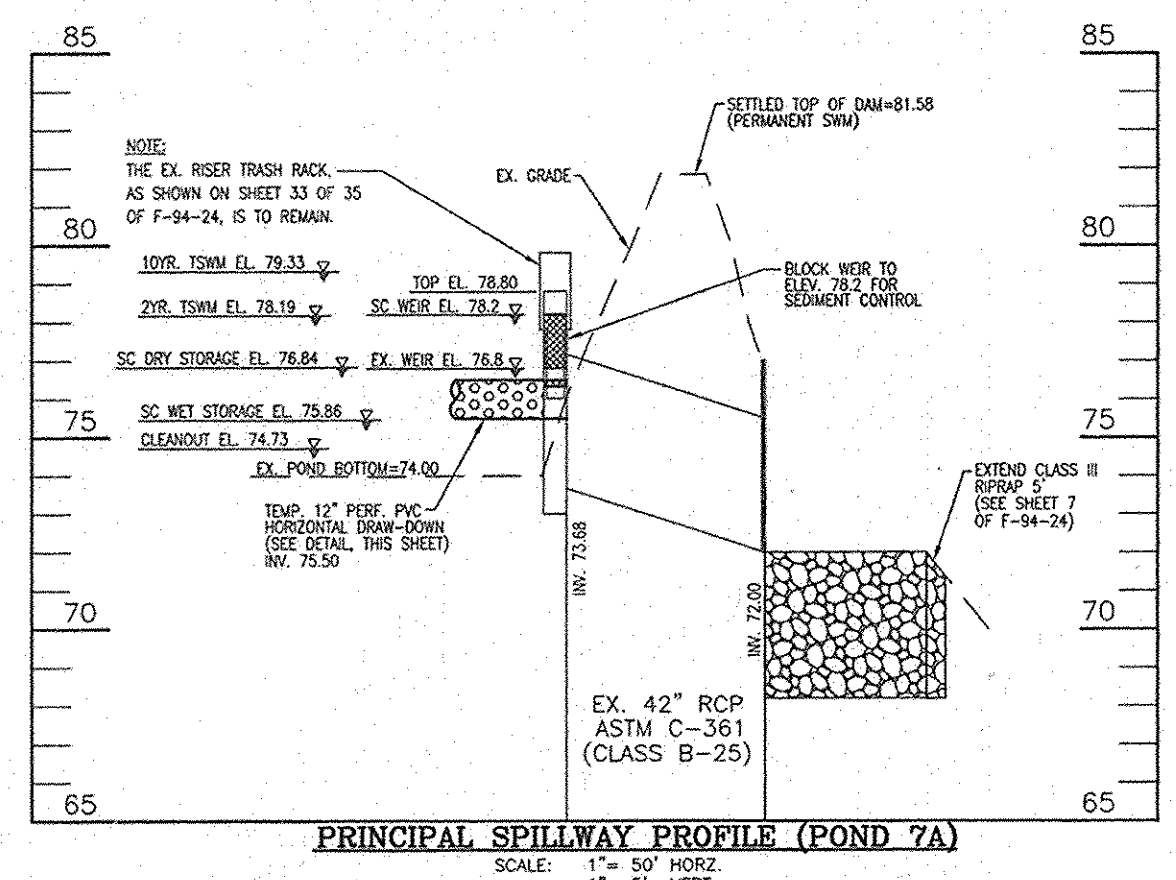
- NOTES:
- BRICK UP EXISTING WEIR TO ELEV. = 78.0 FOR SEDIMENT CONTROL.
 - BLOCK EX. 3" SWM ORIFICE.
 - INSTALL 12" PERF. PVC HORIZONTAL DRAW-DOWN DEVICE (23 L.F.) @ ELEV. 75.50 FOR BASIN OPERATION. 27 PERF. PER FOOT, SPACES 4" O.C.
 - EXISTING TRASH RACK, AS SHOWN ON SHEET 33 OF 35 OF F-94-24, IS TO REMAIN.



BASIN #6 CONC. RISER DETAIL WITH REVISED SEDIMENT CONTROL OPENINGS

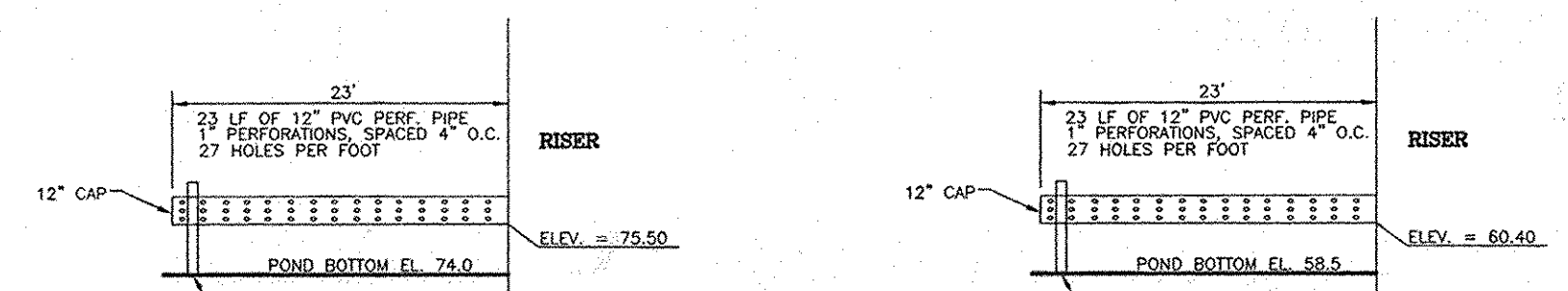
(SEE F-94-24, SHEET 33 OF 35 FOR PREVIOUS RISER SPECS, OTHER PERTINENT DETAILS, AND SWM SPECIFICATIONS)
SCALE: 1/2"=1'

- NOTES:
- REMOVE EXISTING TRASH RACK @ RISER TOP AND RELOCATE TO NEW RISER TOP ELEV. = 63.00.
 - BLOCK EX. 3" SWM ORIFICE.
 - INSTALL 12" PERF. PVC HORIZONTAL DRAW-DOWN DEVICE (23 L.F.) @ ELEV. 60.40 FOR BASIN OPERATION. 27 PERF. PER FOOT, SPACES 4" O.C.
 - RELOCATE EXISTING TRASH RACK TO CORRESPOND WITH NEW TOP ELEVATION FOR SEDIMENT CONTROL. FASTENING DETAIL SHOWN ON SHEET 28 OF F-94-24.



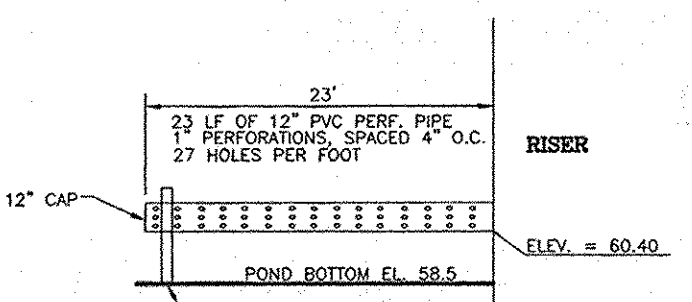
PRINCIPAL SPILLWAY PROFILE (POND 7A)

SCALE: 1" = 50' HORIZ.
1" = 5' VERT.



TEMP. SEDIMENT BASIN #7A HORIZONTAL DRAW-DOWN DEVICE

NOT TO SCALE
REF.: 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
PAGE C-10-29

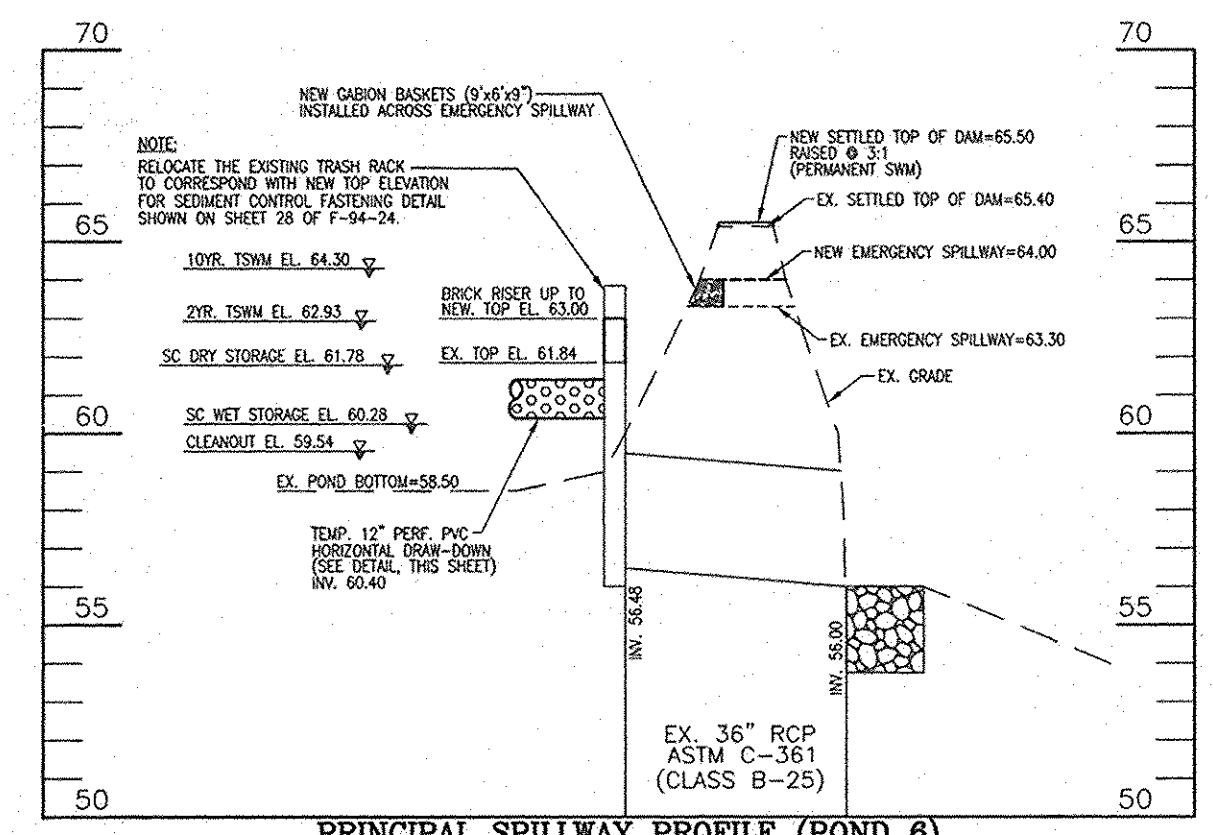


TEMP. SEDIMENT BASIN #6 HORIZONTAL DRAW-DOWN DEVICE

NOT TO SCALE
REF.: 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
PAGE C-10-29

CONSTRUCTION SPECIFICATIONS

- THE TOTAL AREA OF THE PERFORATIONS MUST BE GREATER THAN 4 TIMES THE AREA OF THE INTERNAL ORIFICE.
- THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE FABRIC. THE GEOTEXTILE FABRIC SHALL MEET THE SPECIFICATIONS FOR GEOTEXTILE CLASS E.
- PROVIDE SUPPORT OF DRAW-DOWN DEVICE TO PREVENT SAGGING AND FLOATATION. AN ACCEPTABLE PREVENTATIVE MEASURE IS TO STAKE BOTH SIDES OF DRAW-DOWN DEVICE WITH 1" STEEL ANGLE, OR 1" x 4" SQUARE OR 2" ROUND WOODEN POSTS SET 3" MINIMUM INTO THE GROUND THEN JOINING THEM TO THE DEVICE BY WRAPPING WITH 12 GAUGE MINIMUM WIRE.



PRINCIPAL SPILLWAY PROFILE (POND 6)

SCALE: 1" = 50' HORIZ.
1" = 5' VERT.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 7/6/06

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL CONSERVATION DISTRICT SOIL EROSION AND SEDIMENT CONTROL.
DATE: 2/28/06

BY THE DEVELOPER:
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE TO THESE PLANS, 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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
DATE: 3/10/06

BY THE ENGINEER:
I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
DATE: 3/1/06

OWNER/PETITIONER
CROSSROADS VENTURE, LLC.
C/O J. PAUL PRICE
101 CONSTITUTION AVENUE, NW, SUITE 600E
WASHINGTON, DC 20001

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
BASIN 6 PLAN VIEW AND RISER DETAIL, AND POND 7A RISER DETAIL
PATAPSCO VALLEY BUSINESS CENTER
PARCEL I

TAX MAP 38 BLOCK 19/16 PARCEL I
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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

DESIGN BY: WJZ/DZ
DRAWN BY: DZ
CHECKED BY: RHY
DATE: FEB. 27, 2006
SCALE: 1"=40'
W.O. NO.: 04-121

30 SHEET OF 30