

GENERAL NOTES

- SUBJECT PROPERTY IS ZONED B-2 PER 1006/2013 COMPREHENSIVE ZONING PLAN.
- TOTAL AREA OF PROPERTY 2.00 AC±.
- PUBLIC WATER AND PUBLIC SEWER WILL BE USED WITHIN THIS SITE. PUBLIC WATER AND SEWER WILL BE PROVIDED BY CONTRACT NUMBER 14-3715-D.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

STATE HIGHWAY ADMINISTRATION	410.531.5533
BGE(CONTRACTOR SERVICES)	410.850.4620
BGE(UNDERGROUND DAMAGE CONTROL)	410.787.9068
MISS UTILITY	800.257.7777
COLONIAL PIPELINE COMPANY	410.795.1390
HOWARD COUNTY DEPT. OF PUBLIC WORKS, BUREAU OF UTILITIES	410.313.4900
HOWARD COUNTY HEALTH DEPARTMENT	410.313.2640
AT&T	800.252.1133
VERIZON	800.743.0033/410.224.9210
- BOUNDARY SHOWN HEREON IS BASED ON HOWARD COUNTY RECORD PLAT NO. 16141, DATED AUGUST 2003. TOPOGRAPHY IS BASED ON A FIELD RUN TOPOGRAPHICAL SURVEY PERFORMED BY SILL, ADCOCK & ASSOCIATES, LLC, DATED JULY 2007. THE EXISTING TOPOGRAPHY SHOWN OUTSIDE THE SITE IS BASED ON HOWARD COUNTY AERIAL TOPOGRAPHY FLOWN IN 2004.
- THIS PROJECT IS SUBJECT TO THE FOLLOWING DPZ FILES: S-90-05, P-90-23, WP-91-89, F-91-24, F-96-136, F-98-189, F-01-077, F-03-103, SDP-03-115, PLAT #16141, ECP-15-054.
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- ANY DAMAGE TO PUBLIC RIGHT-OF-WAYS, PAVING OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING CONSTRUCTION INSPECTION DIVISION AT (410) 313-1800 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY IN ADDITION TO MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- THE SOILS SHOWN HAVE BEEN TAKEN FROM THE US DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, WEB SOIL SURVEY WEBSITE. HOWARD COUNTY SOILS MAP, GRID 19, SUB-GRID 12.
- THERE ARE NO FLOODPLAINS, HISTORIC STRUCTURES OR CEMETERIES LOCATED ONSITE.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REPAIRS (22 SHADE TREES, 5 EVERGREEN TREES, AND 295 SHRUBS) WILL BE POSTED AS PART OF THE DEVELOPERS AGREEMENT IN THE AMOUNT OF \$16,200.00.
- THIS PROJECT IS EXEMPT FROM THE FOREST CONSERVATION REQUIREMENTS IN ACCORDANCE WITH SECTION 16.1202(d)(1)(v) OF THE HOWARD COUNTY CODE FOR A PLANNED BUSINESS PARK OF AT LEAST 75 ACRES THAT RECEIVED PRELIMINARY PLAN APPROVAL PRIOR TO DECEMBER 31, 1992.
- AN ENVIRONMENTAL DELINEATION WAS PERFORMED BY SILL, ADCOCK & ASSOCIATES, LLC, DATED SEPTEMBER 2007 AND UPDATED BY SILL ENGINEERING GROUP, LLC IN JANUARY 2015. NO WETLANDS, STREAMS OR THEIR BUFFERS OR SPECIMEN TREES ARE LOCATED ONSITE.
- EXISTING UTILITIES ARE LOCATED BY THE USE OF ANY OR ALL OF THE FOLLOWING: ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND SEWER PLANS AND OTHER AVAILABLE DRAWINGS. APPROXIMATE LOCATION OF THE EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTOR'S INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- A GEOTECHNICAL STUDY WAS PERFORMED BY HERBSTENSON & ASSOCIATES, DATED AUGUST 2007.
- SOIL COMPACTION SPECIFICATIONS, REQUIREMENTS, METHODS AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER. PAVING TO BE HOWARD COUNTY STANDARD P-2 OR P-3 PAVING SECTION (SEE DETAILS ON SHEET 2). GEOTECHNICAL ENGINEER TO CONFIRM ACCEPTABILITY OF PROPOSED PAVING SECTION, BASED ON SOIL TEST, PRIOR TO CONSTRUCTION.
- ESTIMATES OF EARTHWORK QUANTITIES ARE PROVIDED SOLELY FOR THE PURPOSE OF CALCULATING FEES.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT 37D AND BENCHMARK 37IE WERE USED FOR THIS PROJECT.
- ALL PROPOSED SPOT ELEVATIONS ALONG CURB AND GUTTER ARE SHOWN TO THE FLOW LINE UNLESS OTHERWISE NOTED.
- A FREE FLOW SPEED DETERMINATION WAS PERFORMED BY MARS GROUP, DATED JUNE 2007.
- AN INTERSECTION SAFETY ANALYSIS WAS PERFORMED BY MARS GROUP, DATED JUNE 2007.
- AN ADEQUATE ROAD FACILITIES TEST EVALUATION WAS PERFORMED BY MARS GROUP, DATED JUNE 2007.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS, UNLESS WAIVERS HAVE BEEN APPROVED OR ACTIVITIES HAVE BEEN DETERMINED ESSENTIAL BY THE DEPARTMENT OF PLANNING AND ZONING.
- ALL SWALES TO HAVE EROSION CONTROL MATTING.
- THE STORMWATER MANAGEMENT OBLIGATIONS FOR THIS SITE WILL BE MET BY TWO MICRO-BIORETENTION FACILITIES (M-6) AND A FILTERRA UNIT. ADDITIONAL STORMWATER MANAGEMENT TREATMENT FOR CPV, WQV, AND REV HAS BEEN PROVIDED UNDER F-96-136 AND SDP-03-115, AND THESE FACILITIES ARE FULLY CONSTRUCTED.
- THIS PROJECT COMPLIES WITH THE ROUTE 1 MANUAL REQUIREMENTS FOR THE B-2 ZONE.
- THE ENTRANCE LOCATED ON THE SERVICE ROAD SHALL BE PER HOWARD COUNTY DESIGN MANUAL VOLUME IV, DETAIL R-6.09. THE CONTRACTOR SHALL MATCH EXISTING PAVING AND CURB ELEVATIONS AT ENTRANCE FILLETS.
- ALL EXTERIOR LIGHT FIXTURES SHALL BE ORIENTED TO DIRECT LIGHT INWARDS AND DOWNWARDS ON-SITE AWAY FROM ALL ADJOINING PUBLIC ROADS IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
- A KNOX BOX (FIRE DEPARTMENT ACCESS BOX) IS REQUIRED TO BE PLACED ON THE FRONT OF THE BUILDING. THE BOX SHALL BE ELECTRONICALLY SUPERVISED TO NOTIFY THE OWNER THAT IT IS BEING ACCESSED (INTERGRADED WITH THE FIRE ALARM SYSTEM).
- SIGNAGE SHALL BE PLACED ON THE BUILDING IDENTIFYING THE BUILDING ADDRESS AND IDENTIFYING EACH SEPARATE SUITE BY A LETTER.
- ANY EXISTING TREES REMOVED ON ADJACENT PARCEL A-19 WHILE GRADING SHALL BE REPLACED ONCE GRADING HAS BEEN COMPLETED AND THE AREA STABILIZED.
- HEALTH DEPARTMENT APPROVAL OF THIS SITE DEVELOPMENT PLAN (SDP) DOES NOT ENSURE APPROVAL OF THE BUILDING PERMIT APPLICATIONS ASSOCIATED WITH THIS PLAN. PERMIT PLANS FOR CERTAIN FACILITIES TO BE CONSTRUCTED WITHIN THE LIMITS DESCRIBED BY THE SDP WILL REQUIRE REVIEW AND APPROVAL BY THE HEALTH DEPARTMENT. SUCH FACILITIES MAY INCLUDE, BUT ARE NOT LIMITED TO, THOSE WHICH HAVE SWIMMING POOLS, OR THAT SELL PREPARED OR PACKAGED FOODS, OR THAT MAY HAVE EQUIPMENT THAT EMITS RADIATION.
- THE R-1-1 ("STOP") SIGN AND THE STREET NAME SIGN (SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED.
- THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
- ALL TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD).
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL, SUCH AS STOP SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED ("QUICK PUNCH"), SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3" LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO "QUICK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.

SITE DEVELOPMENT PLAN

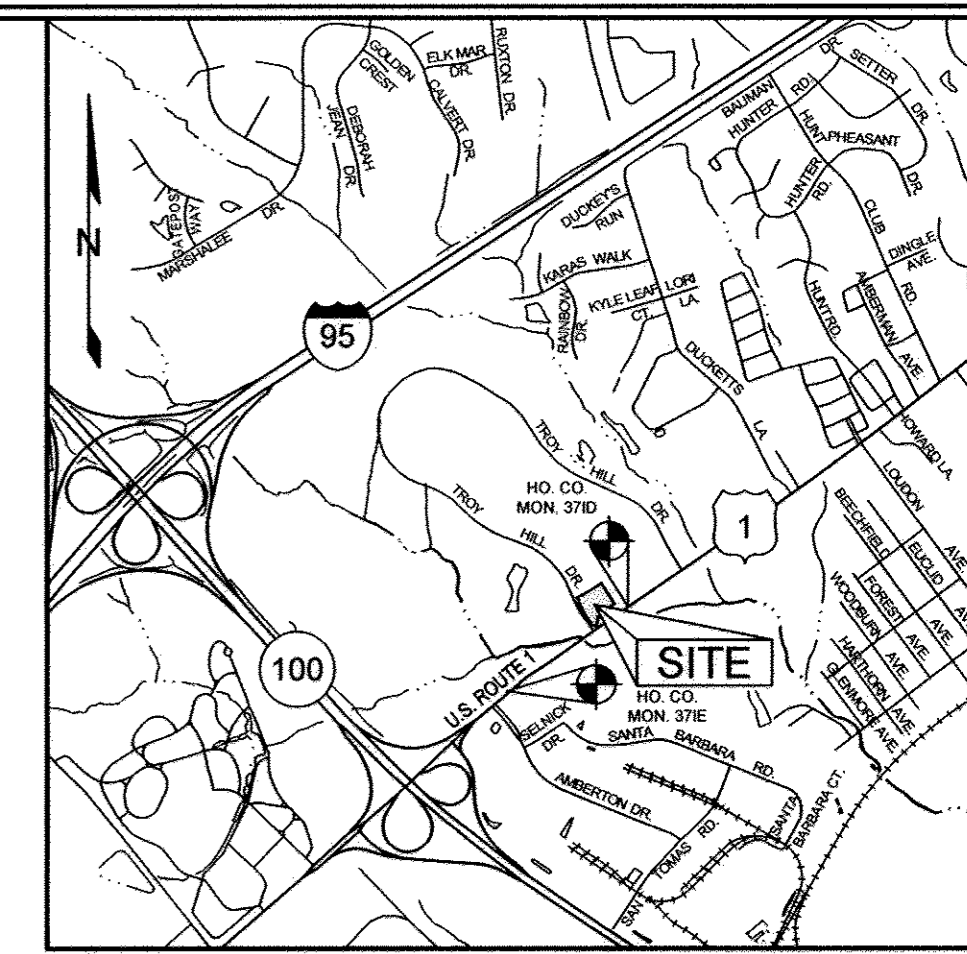
TROY HILL CORPORATE CENTER

PARCEL A-30

ELKRIDGE, HOWARD COUNTY, MARYLAND

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING LIGHT POLES
- PROPOSED LIGHT POLES
- PROPOSED DUMPSTER AND ENCLOSURE - SEE SHEET SIX FOR DETAILS
- PROPOSED HANDICAP PARKING SPACE
- PROPOSED TRANSFORMER PAD



HOWARD COUNTY, MARYLAND ADC MAP 35, GRID B4
VICINITY MAP
SCALE: 1"=2000'

BENCHMARKS				
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
37ID	496,158.4	872,042.8	158.086'	49.3' NORTH OF CONCRETE INLET 2.5' WEST OF U.S. 1 PAVING
37IE	555,617.8	1,382,686.2	143.616'	6.9' NORTH WEST OF U.S. 1 PAVING 63.2' EAST OF BILLBOARD

ADDRESS CHART	
LOT	STREET ADDRESS
A-30	7190 TROY HILL DRIVE, ELKRIDGE, MD 21075

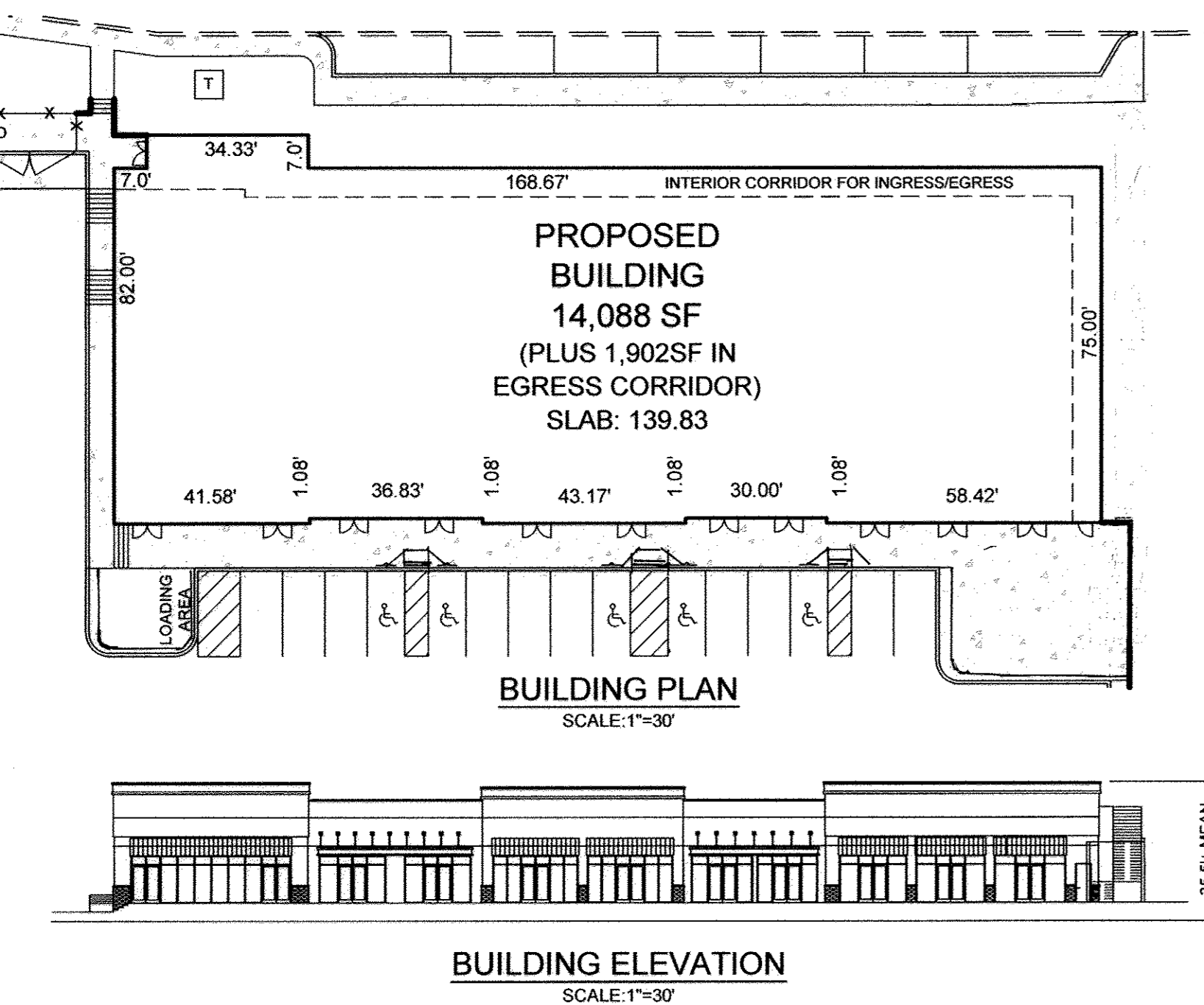
SHEET INDEX	
SHEET NO.	DESCRIPTION
1	REVISED COVER SHEET
2	REVISED SITE DEVELOPMENT PLAN
3	REVISED GRADING, SEDIMENT AND EROSION CONTROL PLAN AND DETAILS
4	SEDIMENT AND EROSION CONTROL, NOTES AND DETAILS AND BORING PROFILES
5	REVISED STORM DRAIN DRAINAGE AREA MAP AND ENTRANCE DETAIL
6	REVISED STORMDRAIN PROFILES, WATER AND SEWER PROFILE, AND DETAILS
7	REVISED STORMWATER MANAGEMENT PLAN AND DETAILS
8	REVISED LANDSCAPING PLAN
9	REVISED PAVEMENT STRIPING AND SIGNAGE PLAN AND DETAILS
10	RETAINING WALL COVER SHEET & GENERAL NOTES
11	RETAINING WALL ELEVATIONS & DETAILS
12	RETAINING WALL TYPICAL SECTIONS & DETAILS
13	RETAINING WALL TYPICAL DETAILS
14	RETAINING WALL TYPICAL DETAILS
15	CONCRETE WALL AND STAIRS PLAN AND DETAILS

PARKING TABULATION CHART				
USE	AREA	PARKING RATIO	REQUIRED	PROVIDED
*SHOPPING CENTER	**18,285 SF	6 SPACES / 1000 SF	*18 SPACES	112 SPACES

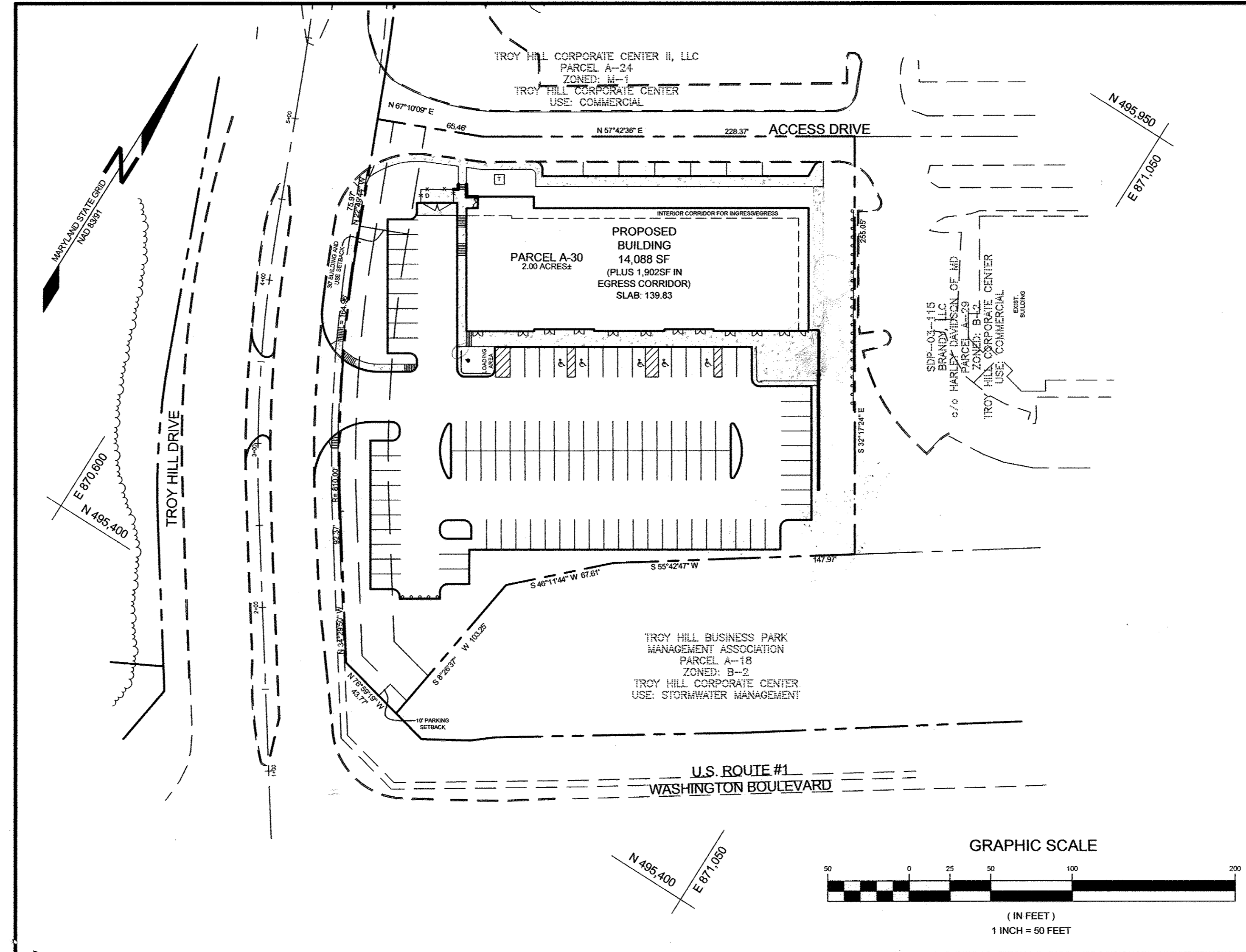
*THE BUILDING WILL HAVE A MINIMUM OF SIX (6) TENANTS
**THERE IS AN ADDITIONAL 1,902SF WITHIN THE INTERIOR EGRESS CORRIDOR THAT HAS BEEN REMOVED FROM THE PARKING CALCULATIONS. AN ADDITIONAL 1,195 SF HAS BEEN ADDED FOR THE NORTH & SOUTH OUTSIDE SEATING AREAS.

STORMWATER MANAGEMENT COMPARISON			
	SDP-13-115	ECP-15-054	SDP-16-040
IMPERVIOUS AREA *	1.70 ACRES	1.35 ACRES	1.35 ACRES
IMPERVIOUS RATE *	85.0%	67.5%	74.0%
Pe	N/A	1.0"	1.0"
RCN	85 AND 87	90	90
VOLUME REQUIRED IN SAND FILTER	13,960 CF	N/A	N/A
VOLUME PROVIDED IN SAND FILTER	14,005 CF	N/A	N/A
VOLUME REQD IN WQ FACILITY #5	24,738 CF	N/A	N/A
VOLUME PROVIDED IN WQ FACILITY #5	38,520 CF	N/A	N/A
VOLUME REQUIRED ESD *	N/A	4,661 CF	5,585 CF
VOLUME PROVIDED ESD *	N/A	680 CF	1,215 CF
TOTAL VOLUME REQUIRED	38,698 CF	4,661 CF	5,585 CF
TOTAL VOLUME PROVIDED	52,585 CF	642 CF	1,215 CF

NOTES:
1. CALCULATIONS FOR THE SAND FILTER AND WATER QUALITY FACILITY #5 HAVE BEEN TAKEN FROM THE SWM REPORT FOR PARCEL A-29, WHICH INCLUDES PARCEL A-30 AND A PORTION OF TROY HILL DRIVE.
2. * DENOTES PARCEL A-30 ONLY.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING		APPROVED: FOR PUBLIC WATER AND PUBLIC SEWAGE SYSTEMS IN ACCORDANCE WITH THE MASTER PLAN OF HOWARD COUNTY	
DATE	DATE	DATE	DATE
7-14-17	7-25-17	7-25-17	7/21/2017
CHIEF, DEVELOPMENT ENGINEERING DIVISION		COUNTY HEALTH OFFICER	
CHIEF, DIVISION OF LAND DEVELOPMENT		COUNTY HEALTH DEPARTMENT	
DIRECTOR			



LOCATION MAP
SCALE: 1"=50'

SITE ANALYSIS DATA CHART			
TOTAL PROJECT AREA	AREA OF SUBMISSION	DISTURBED AREA	PRESENT ZONING
2.00 AC±	2.00 AC±	2.11 AC±	B-2
PROPOSED USE	FLOOR SPACE PER USE	TOTAL UNITS ALLOWED	TOTAL UNITS PROPOSED
SHOPPING CENTER	SHOPPING CENTER	NA	NA
MAX. # EMPLOY/TENANTS	PARKING SPACES REQ.	PARKING SPACES PROV.	HC SPACES PROVIDED
NA	92(SEE CHART THIS SHEET)	112	5
OPEN SPACE REQUIRED	OPEN SPACE PROVIDED	REC. O.S. REQUIRED	REC. O.S. PROVIDED
NA	NA	NA	NA
BUILDING COVERAGE	FLOOR AREA RATIO	DPZ FILE REFERENCES	
15,990 SF±	17%±	SEE GENERAL NOTE 7	

PERMIT INFORMATION CHART					
SUBDIVISION NAME	SECTION	PARCEL # / LOT #			
TROY HILL CORPORATE CENTER	NA	A-30			
PLAT NO.	GRID #	ZONING	TAX MAP #	ELECT. DIS.	CENSUS TRACT
16141	18	B-2	37	1ST	6012.02
WATER CODE	SEWER CODE				
A03	2152200				

THE PURPOSE OF THIS REVISED PLAN IS TO CHANGE THE CURB AND GUTTER, STORM DRAIN, AND STORMWATER MANAGEMENT FACILITIES.

OWNER/DEVELOPER
TROY HILL SQUARE, LLC
c/o H&H ROCK COMPANIES
MARK LEVY
6800 DEERPATH ROAD, SUITE 100
ELKRIDGE, MD 21075
410.579.2442

REVISED COVER SHEET
TROY HILL CORPORATE CENTER
PARCEL A-30

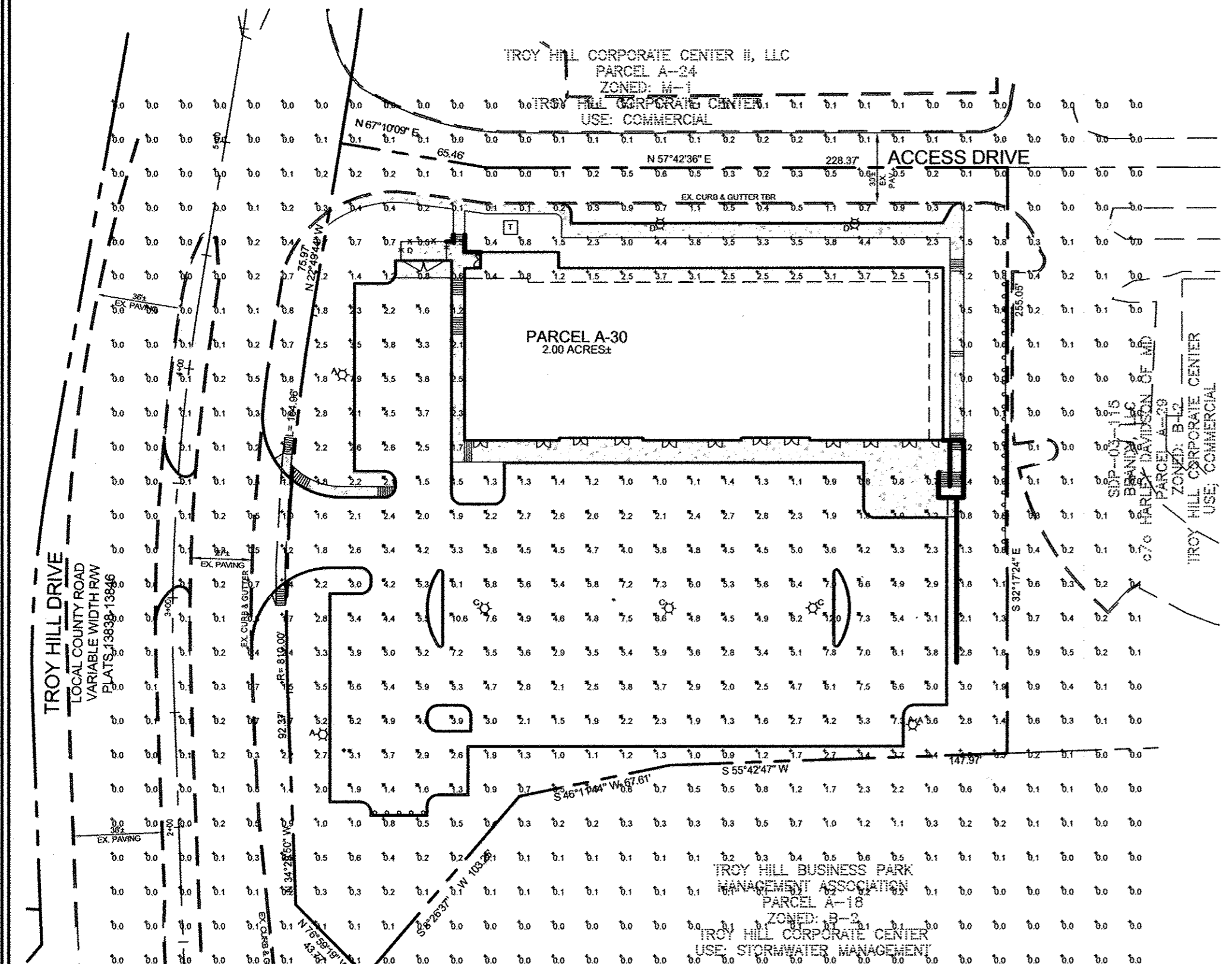
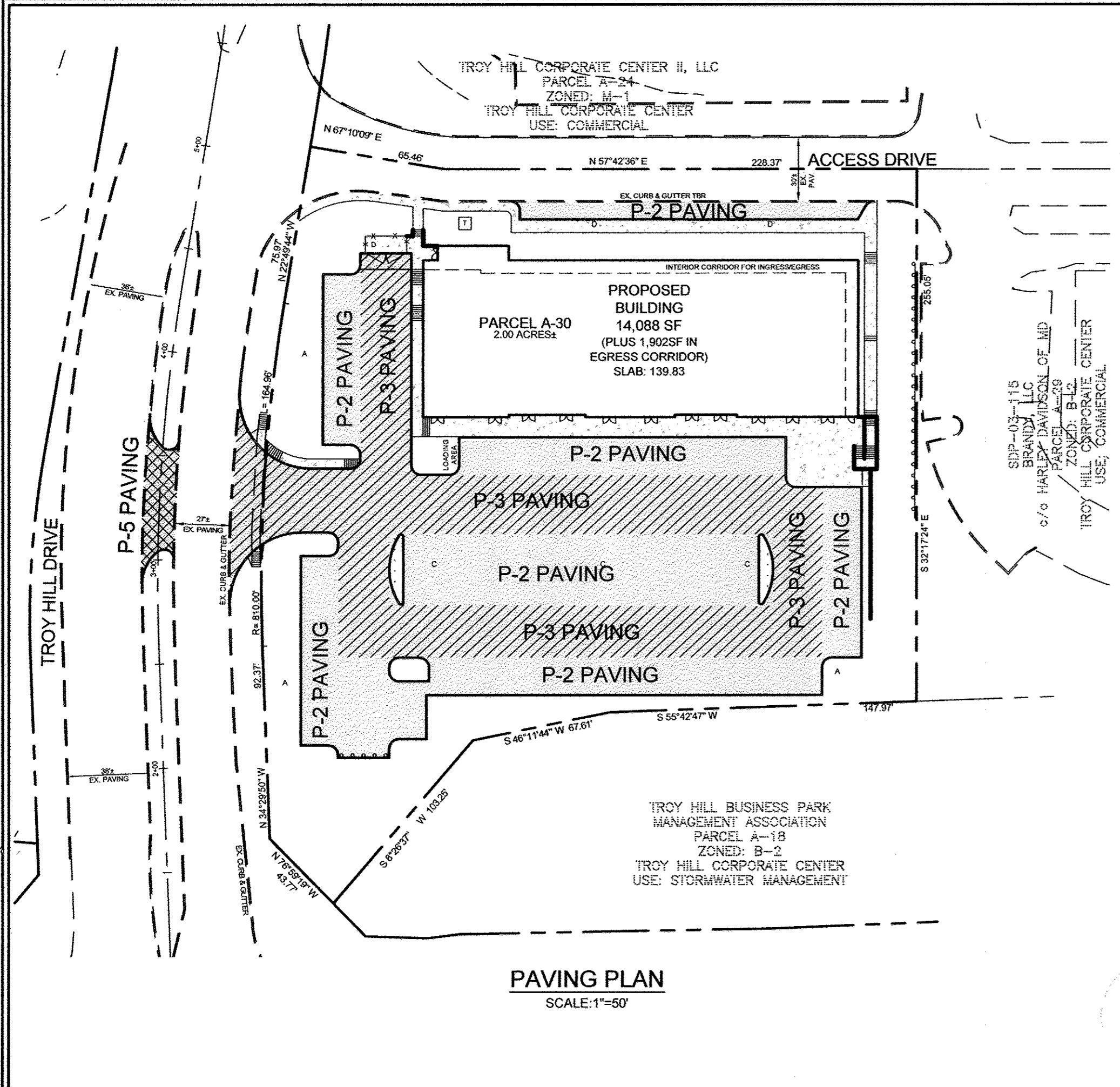
TAX MAP 37 GRID 18
1ST ELECTION DISTRICT

PARCEL 135
HOWARD COUNTY, MARYLAND

DESIGN BY: PS
DRAWN BY: KSZ/RA
CHECKED BY: PS
SCALE: AS SHOWN
DATE: APRIL 13, 2017
PROJECT #: 14-013
SHEET #: 1 of 15

SILL ENGINEERING GROUP, LLC
11130 Dovedale Court, Suite 200
Marriottsville, Maryland 21104
Phone: 410-496-3022
Fax: 410-496-3022
Email: info@sillengineering.com
Civil Engineering for Land Development

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. 32028, EXPIRATION DATE: JUNE 30, 2019.

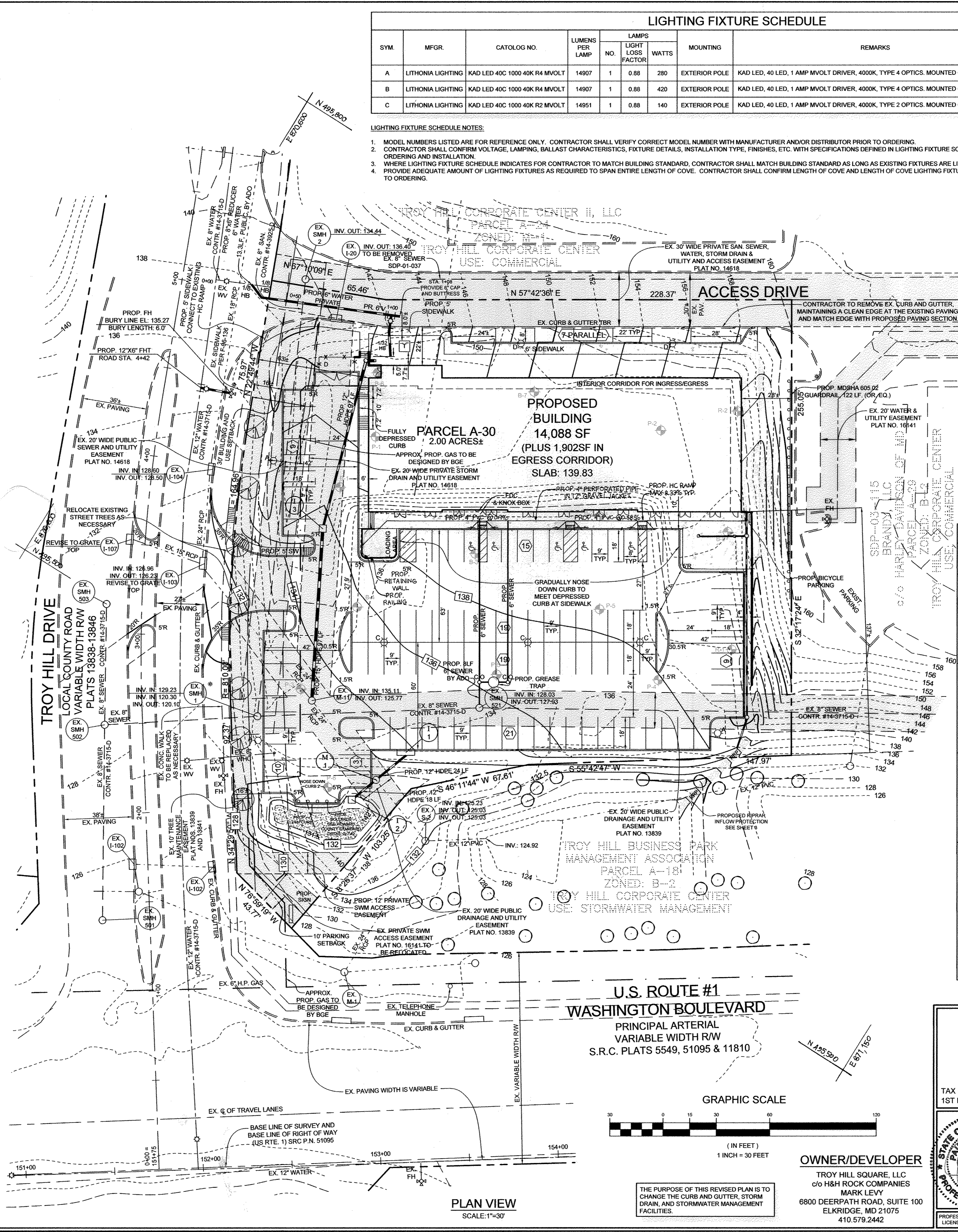


APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

7-14-17
7-25-17
7-25-17

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

NO.	DESCRIPTION	DATE
2	ADDED NORTH & SOUTH OUTSIDE SEATING AREA	01/11/2018
1	REVISE CURB, SD AND SWM	04/09/2017



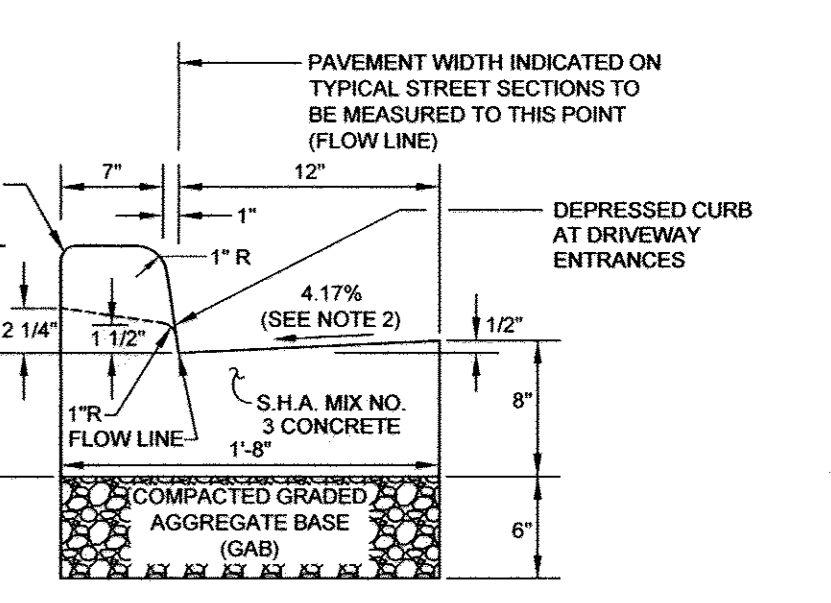
LIGHTING FIXTURE SCHEDULE

SYM	MFR	CATALOG NO.	LUMENS PER LAMP	LAMPS		MOUNTING	REMARKS
				NO.	WATTS		
A	LITHONIA LIGHTING	KAD LED 40C 1000 40K R4 MVOLT	14907	1	0.88 280	EXTERIOR POLE	KAD LED, 40 LED, 1 AMP MVOLT DRIVER, 4000K, TYPE 4 OPTICS. MOUNTED ON 20 HIGH POLE
B	LITHONIA LIGHTING	KAD LED 40C 1000 40K R4 MVOLT	14907	1	0.88 420	EXTERIOR POLE	KAD LED, 40 LED, 1 AMP MVOLT DRIVER, 4000K, TYPE 2 OPTICS. MOUNTED ON 20 HIGH POLE
C	LITHONIA LIGHTING	KAD LED 40C 1000 40K R2 MVOLT	14951	1	0.88 140	EXTERIOR POLE	KAD LED, 40 LED, 1 AMP MVOLT DRIVER, 4000K, TYPE 2 OPTICS. MOUNTED ON 20 HIGH POLE

- LIGHTING FIXTURE SCHEDULE NOTES:
- MODEL NUMBERS LISTED ARE FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY CORRECT MODEL NUMBER WITH MANUFACTURER AND/OR DISTRIBUTOR PRIOR TO ORDERING.
 - CONTRACTOR SHALL CONFIRM VOLTAGE, LAMPING, BALLAST CHARACTERISTICS, FIXTURE DETAILS, INSTALLATION TYPE, FINISHES, ETC. WITH SPECIFICATIONS DEFINED IN LIGHTING FIXTURE SCHEDULE TO ORDERING AND INSTALLATION.
 - WHERE LIGHTING FIXTURE SCHEDULE INDICATES FOR CONTRACTOR TO MATCH BUILDING STANDARD, CONTRACTOR SHALL MATCH BUILDING STANDARD AS LONG AS EXISTING FIXTURES ARE LIKE-TYPE FIXTURES.
 - PROVIDE ADEQUATE AMOUNT OF LIGHTING FIXTURES AS REQUIRED TO SPAN ENTIRE LENGTH OF COVE. CONTRACTOR SHALL CONFIRM LENGTH OF COVE AND LENGTH OF COVE LIGHTING FIXTURES IN FIELD PRIOR TO ORDERING.

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING LIGHT POLES
- PROPOSED LIGHT POLES
- PROPOSED DUMPSTER AND ENCLOSURE
- EXISTING BORING LOCATION
- PROPOSED HANDICAP PARKING SPACE
- PROPOSED PARKING SPACE COUNT
- PROPOSED TRANSFORMER PAD

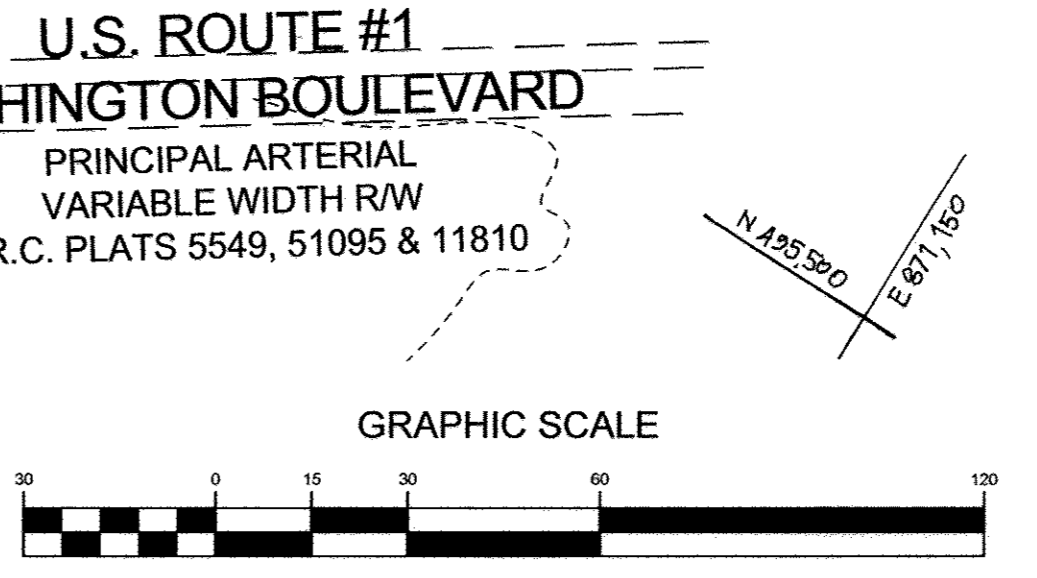


- ### STANDARD COMBINATION CURB AND GUTTER
- HOWARD COUNTY STANDARD R-3.01
- NOTE:
- A REVERSE GUTTER PAN SHALL HAVE A GUTTER SLOPE OF 4.17% AWAY FROM THE FLOW LINE, AND SHALL NOT BE USED WHERE THIS DRAINAGE CREATES A HAZARDOUS CONDITION.
 - GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OF THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB & GUTTER.
 - A MINIMUM OF TWO (2) FEET OF COMPACTED STABILIZED EARTH, OR EQUIVALENT, SHALL SUPPORT THE ENTIRE BACK OF CURB.
 - POSITIVE DRAINAGE SHALL BE PROVIDED BOTH BEHIND THE CURB AND ALONG THE GUTTER AND FLOW LINE.

PAVING SECTIONS

SEC. NO.	ROAD AND STREET CLASSIFICATION	PAVEMENT MATERIAL (INCHES)	MIN HMA WITH GAB	MIN HMA WITH CONSTANT GAB
P-2	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.0	1.0
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	2.0	2.0
P-3	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.0	1.0
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	3.0	3.0
P-5	MINOR ARTERIAL	HMA SUPERPAVE FINAL SURFACE 12.5 MM, PG 70-22, LEVEL 3 (HIGH ESAL)	2.0	2.0
		HMA SUPERPAVE INTERMEDIATE SURFACE 12.5 MM, PG 64-22, LEVEL 3 (HIGH ESAL)	2.0	2.0
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 3 (HIGH ESAL)	6.0	6.0

- NOTES:
- HEAVY TRUCKS ARE DEFINED AS THOSE WITH SIX (6) WHEELS OR MORE INCLUDING GARAGE TRUCKS.
 - HMA SUPERPAVE LAYERS SHALL BE PLACED IN APPROPRIATE COMPACTED LIFT THICKNESS: 19.0 MM BASE (2.7" MIN TO 4.7" MAX), 12.5 MM SURFACE (1.5" MIN TO 3.7" MAX), AND 9.5 MM SURFACE (1.0" MIN TO 2.0" MAX).
 - GRADED AGGREGATE BASE (GAB) TO BE PLACED AND COMPACTED IN 6" MAX COMPACTED THICKNESS LAYERS.
 - THE INTERMEDIATE SURFACE COURSE LAYER MUST BE PLACED WITHIN 2 WEEKS OF PLACEMENT OF SURFACE COURSE, AND IS REQUIRED PRIOR TO SUBSTANTIAL COMPLETION INSPECTION AND BOND REDUCTION.
 - IN LIEU OF PLACING THE INTERMEDIATE SURFACE COURSE LAYER FOR COMMERCIAL/ INDUSTRIAL ENTRANCE APRONS WITHIN THE COUNTY RIGHT-OF-WAY WHERE AUXILIARY LANES ARE NOT REQUIRED, THE THICKNESS OF THE INTERMEDIATE PAVEMENT LAYER CAN BE ADDED TO THE REQUIRED THICKNESS OF THE BASE ASPHALT LAYER.
 - THE CONSTRUCTION DRAWINGS SHALL SHOW THE PAVING SECTION, ROAD CLASSIFICATION AND CRB VALUE FOR EACH ROADWAY.



REVISED SITE DEVELOPMENT PLAN

TROY HILL CORPORATE CENTER

PARCEL A-30

TAX MAP 37 GRID 18
1ST ELECTION DISTRICT

PARCEL 135
HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER
TROY HILL SQUARE, LLC
c/o H&H ROCK COMPANIES
MARK LEVY
6800 DEERPATH ROAD, SUITE 100
ELK RIDGE, MD 21075
410.579.2442

DESIGN BY: PS
DRAWN BY: KSZ/RA
CHECKED BY: PS
SCALE: AS SHOWN
DATE: APRIL 13, 2017
PROJECT #: 14-013
SHEET #: 2 of 15

SILL ENGINEERING GROUP, LLC
11130 Dovedale Court, Suite 200
Marriottsville, Maryland 21104
Phone: 443-325-5076
Fax: 410-696-2022
Email: info@sillingengineering.com
Civil Engineering for Land Development

PROFESSIONAL ENGINEER

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	K% FACTOR
JaB	JACKLAND SILT LOAM, 3 TO 8 PERCENT SLOPES	D	0.37
SrD	SASSAFRAS AND GROCEN SOILS, 10 TO 15 PERCENT SLOPES	B	0.32

NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

LEGEND

EXISTING CONTOUR: 382

PROPOSED CONTOUR: 382

EXISTING SPOT ELEVATION: +82.53

PROPOSED SPOT ELEVATION: +82.53

DIRECTION OF FLOW:

EXISTING TREELINE:

EXISTING STREET TREES:

EXISTING LIGHT POLES:

PROPOSED HANDICAP PARKING SPACE:

PROPOSED SOIL BORING:

PROPOSED PARKING SPACE COUNT: 18

PROPOSED MICRO-BIORETENTION FACILITY:

STABILIZED CONSTRUCTION ENTRANCE:

SILT FENCE: SF SF

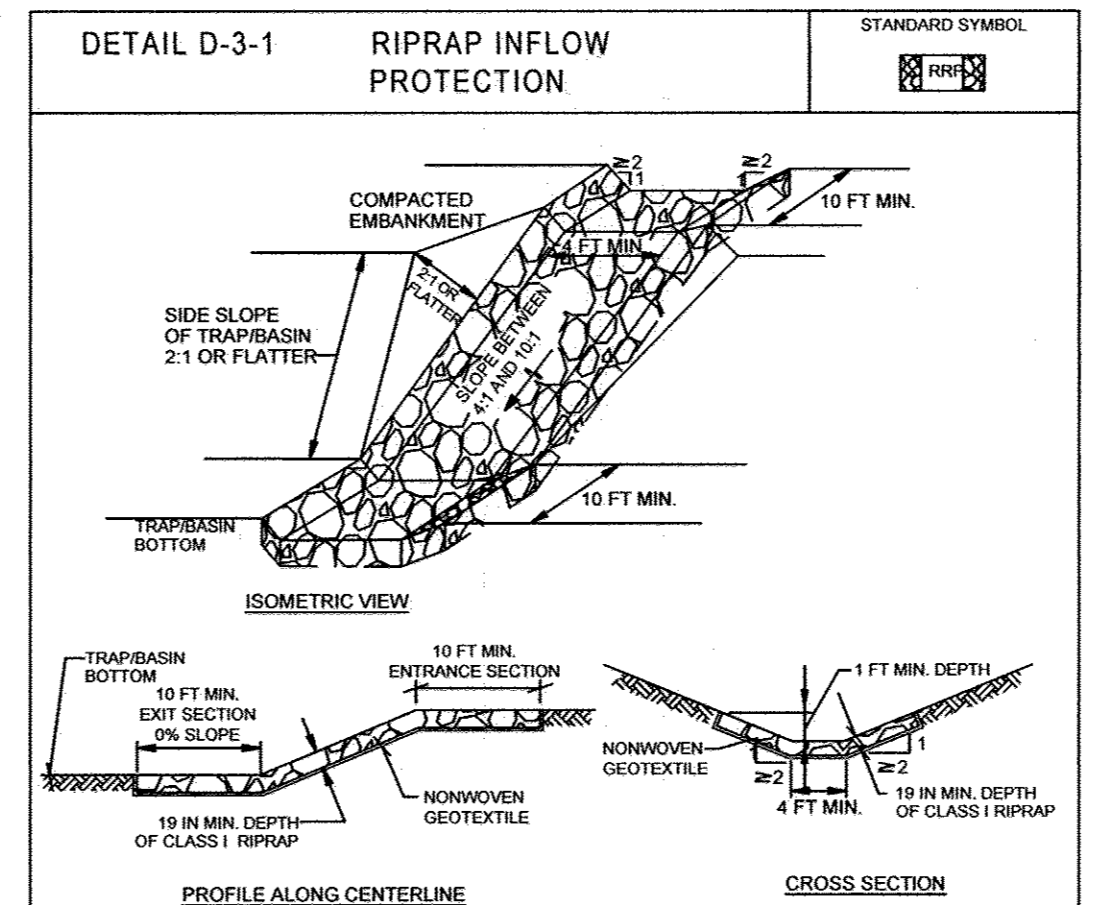
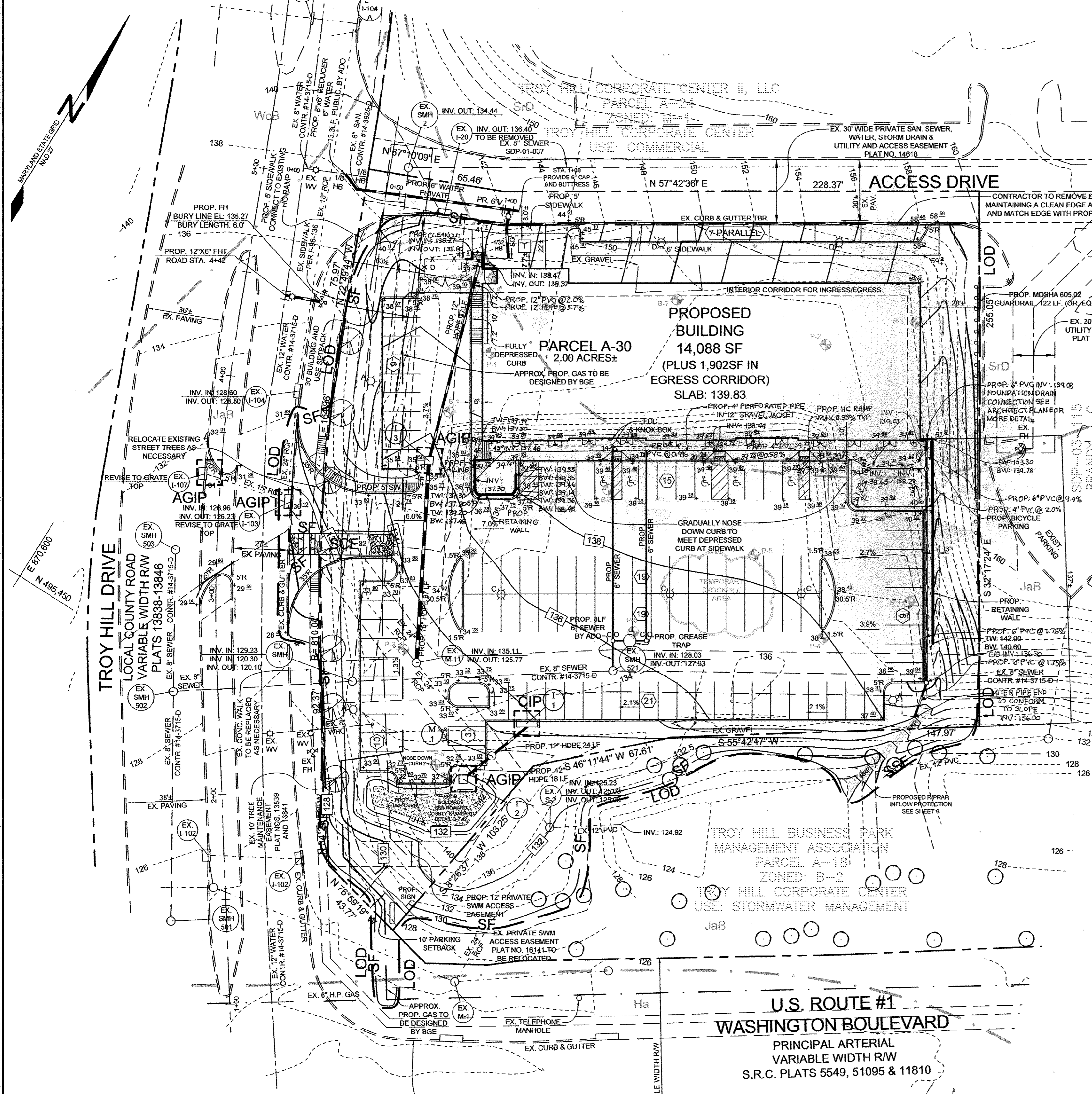
LIMIT OF DISTURBANCE: LOD

SOIL BOUNDARY:

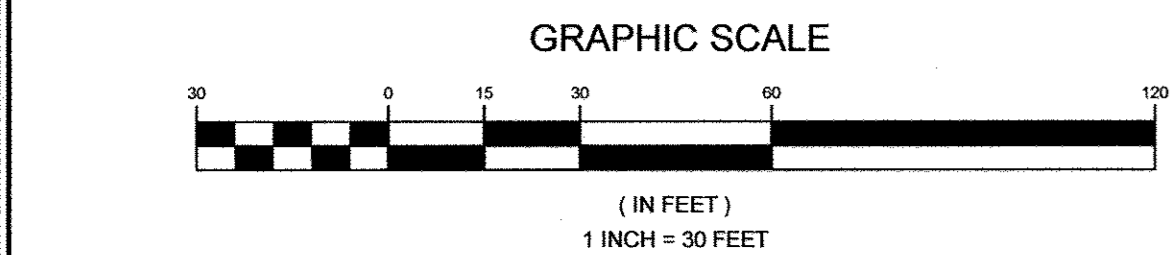
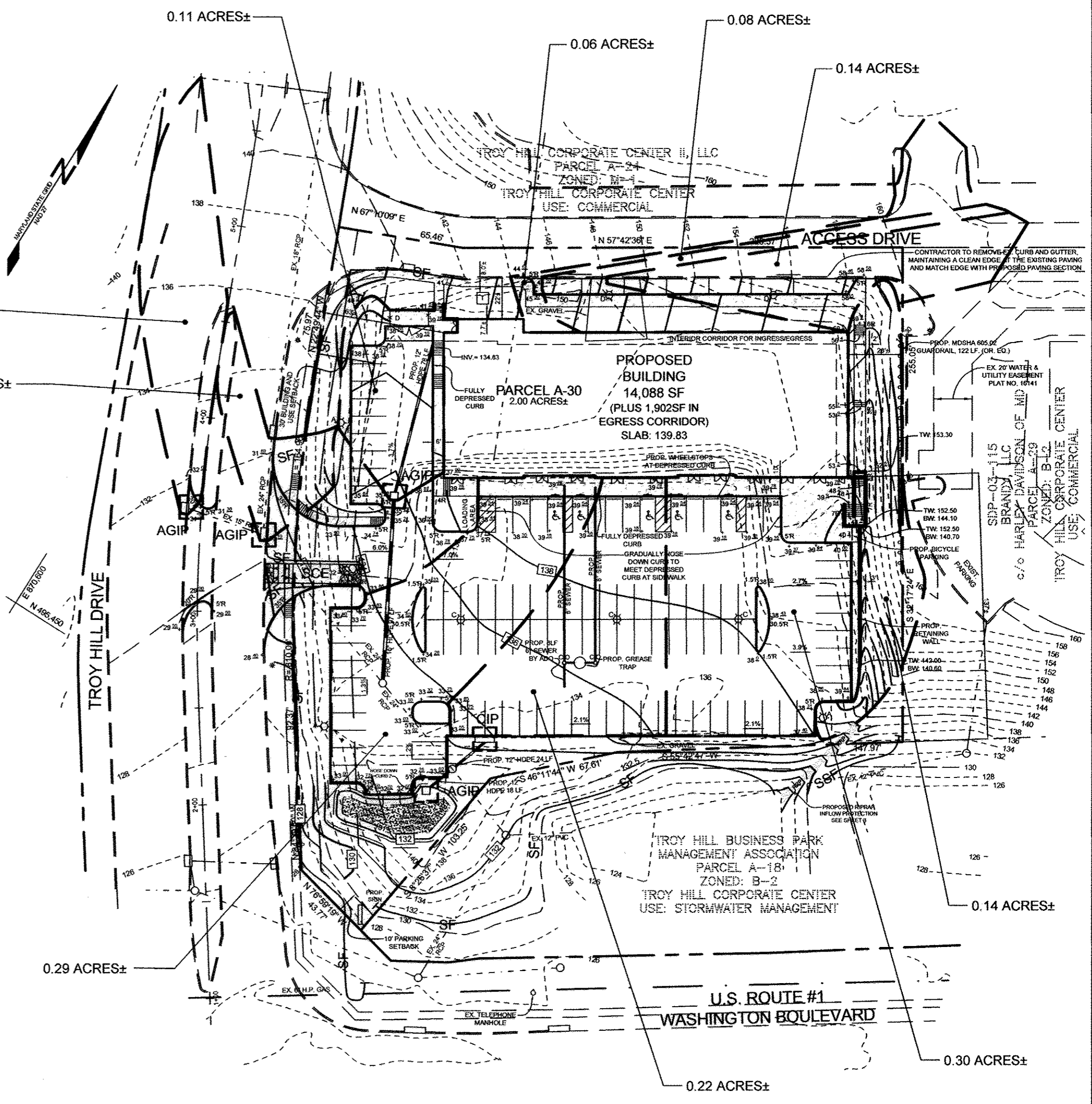
AT GRADE INLET PROTECTION: AGIP

CURB INLET PROTECTION: CIP

PROP. MICRO-BIORETENTION FACILITY:



- CONSTRUCTION SPECIFICATIONS**
1. PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL RIPRAP.
 2. CONSTRUCT INFLOW CHANNEL WITH CLASS 1 RIPRAP OR EQUIVALENT RECYCLED CONCRETE LINING TO A MINIMUM DEPTH OF 19 INCHES (2 x D₅₀) AND A 1 FOOT DEEP FLOW CHANNEL. INFLOW RIPRAP PROTECTION CHANNEL MUST HAVE A TRAPEZOIDAL CROSS SECTION WITH 2:1 OR FLATTER SIDE SLOPES AND A 4 FOOT MINIMUM BOTTOM WIDTH.
 3. INSTALL ENTRANCE AND EXIT SECTIONS AS SHOWN ON THE PROFILE.
 4. BLEND RIPRAP INTO EXISTING GROUND.
 5. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION.



PLAN VIEW
SCALE: 1" = 30'

SEDIMENT CONTROL DRAINAGE AREA MAP
SCALE: 1" = 50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Egan 7-14-17
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Valmir Jovic 7-25-17
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Valmir Jovic 7-25-17
 DIRECTOR DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

John Roberts 6/28/17
 DATE

ENGINEER'S CERTIFICATE

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

Paul M. Sill, P.E. 6/19/17
 SIGNATURE OF ENGINEER DATE

DEVELOPER'S CERTIFICATE

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

Mark Levy 6/12/17
 SIGNATURE OF DEVELOPER DATE

NO.	REVISIONS	DESCRIPTION	DATE
2	ADD TO NORTH SOUTH OUTSIDE SEAT IN 4 AREA,		01/11/2018
1	REVISE CURB, SD AND SWM		04/09/2017

THE PURPOSE OF THIS REVISED PLAN IS TO CHANGE THE CURB AND GUTTER, STORM DRAIN, AND STORMWATER MANAGEMENT FACILITIES.

OWNER/DEVELOPER

TROY HILL SQUARE, LLC
 c/o H&H ROCK COMPANIES
 MARK LEVY
 6800 DEERPATH ROAD, SUITE 100
 ELKCRIDGE, MD 21075
 410.579.2442

REVISED GRADING, SEDIMENT AND EROSION CONTROL PLAN AND DETAILS TROY HILL CORPORATE CENTER

PARCEL A-30

TAX MAP 37 GRID 18
 1ST ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC

11130 Dovedale Court, Suite 200
 Marriottsville, Maryland 21104
 Phone: 410-325-5076
 Fax: 410-496-3022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

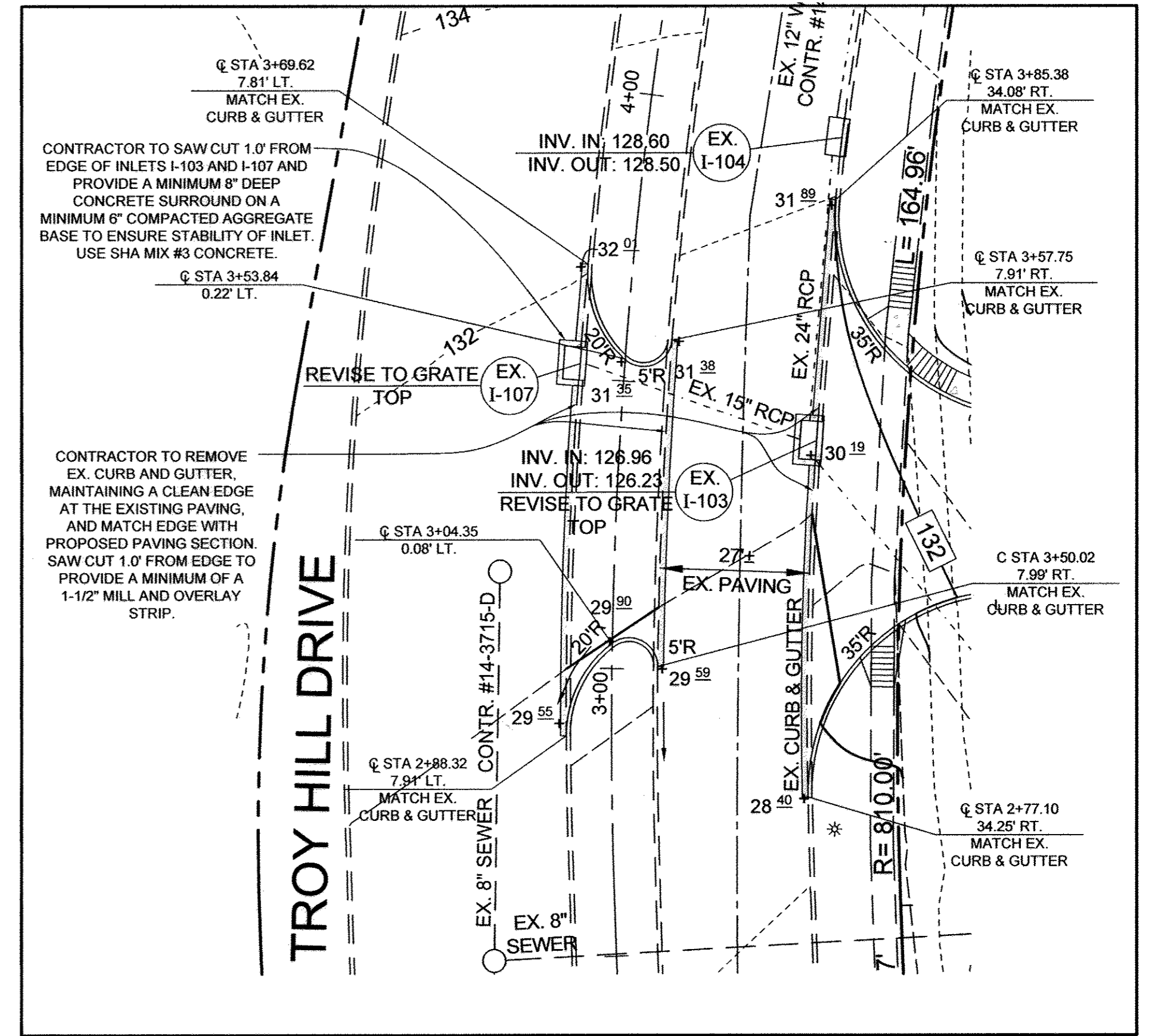
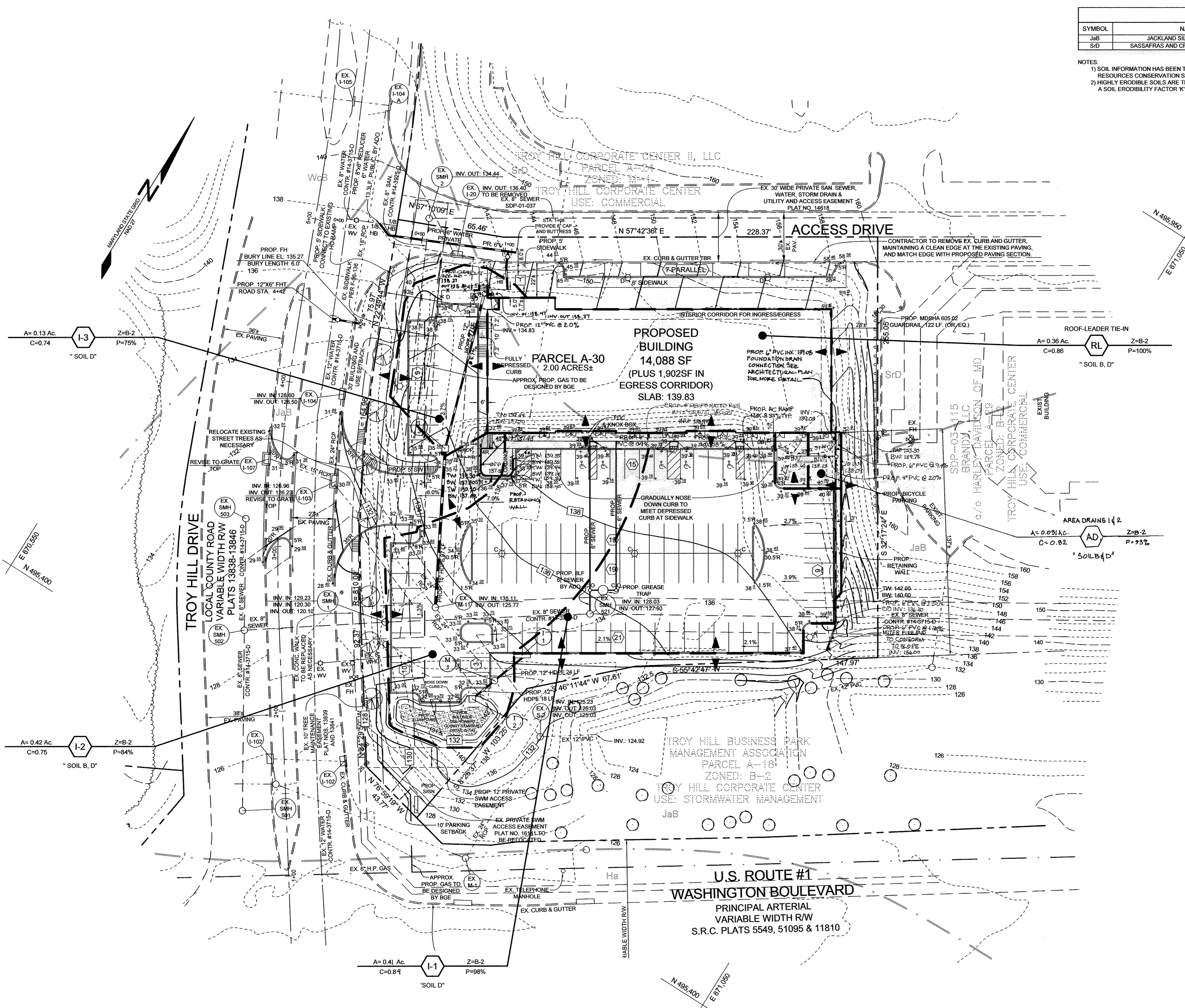
DESIGN BY: PS
 DRAWN BY: KSZ/RA
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: APRIL 13, 2017
 PROJECT #: 14-013
 SHEET #: 3 of 15

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33025, EXPIRATION DATE: JUNE 29, 2019.

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
JaB	JACKLAND SILT LOAM, 3 TO 8 PERCENT SLOPES	D	0.37
SrD	SASSAFRAS AND CROON SOILS, 10 TO 15 PERCENT SLOPES	B	0.32

NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE; NATURAL RESOURCES CONSERVATION SERVICE; WEB SOIL SURVEY.
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

LEGEND	
EXISTING CONTOUR	
PROPOSED CONTOUR	
EXISTING SPOT ELEVATION	
PROPOSED SPOT ELEVATION	
DIRECTION OF FLOW	
EXISTING TREELINE	
EXISTING TREES	
EXISTING STREET TREES	
EXISTING LIGHT POLES	
PROPOSED HANDICAP PARKING SPACE	
PROPOSED PARKING SPACE COUNT	
PROP. MICRO-BIORETENTION FACILITY	
PROPOSED DRAINAGE DIVIDE	

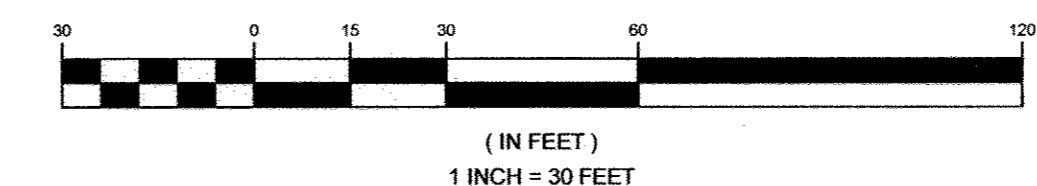


ENTRANCE DETAIL
SCALE: 1" = 20'

U.S. ROUTE #1
 WASHINGTON BOULEVARD
 PRINCIPAL ARTERIAL
 VARIABLE WIDTH R/W
 S.R.C. PLATS 5549, 51095 & 11810

PLAN VIEW
SCALE: 1" = 30'

GRAPHIC SCALE



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING			
Chief, Development Engineering Division	DATE		
Chief, Division of Land Development	DATE		
Director	DATE		
NO.	DESCRIPTION	DATE	
2	ADDED NORTH 5 SOUTH OUTSIDE BEATING AREA	01/11/2018	
1	REVISE CURB, SD AND SMM	04/09/2017	

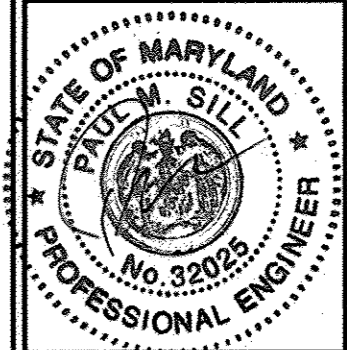
THE PURPOSE OF THIS REVISED PLAN IS TO CHANGE THE CURB AND GUTTER, STORM DRAIN, AND STORMWATER MANAGEMENT FACILITIES.

OWNER/DEVELOPER
 TROY HILL SQUARE, LLC
 c/o H&H ROCK COMPANIES
 MARK LEVY
 6800 DEERPATH ROAD, SUITE 100
 ELK RIDGE, MD 21075
 410.579.2442

REVISED STORM DRAIN DRAINAGE AREA MAP AND ENTRANCE DETAIL
 TROY HILL CORPORATE CENTER
 PARCEL A-30

TAX MAP 37 GRID 18
 1ST ELECTION DISTRICT

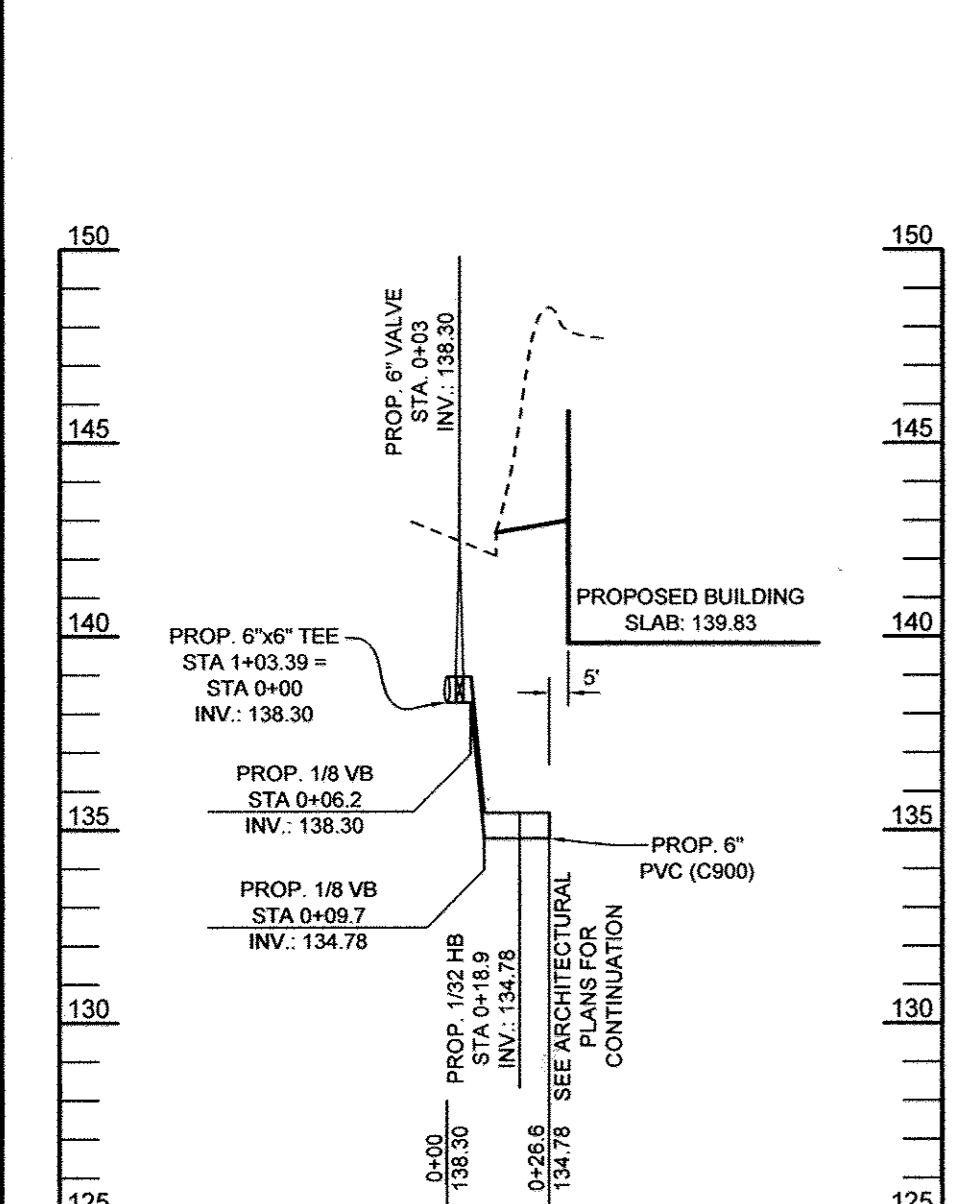
PARCEL 135
 HOWARD COUNTY, MARYLAND



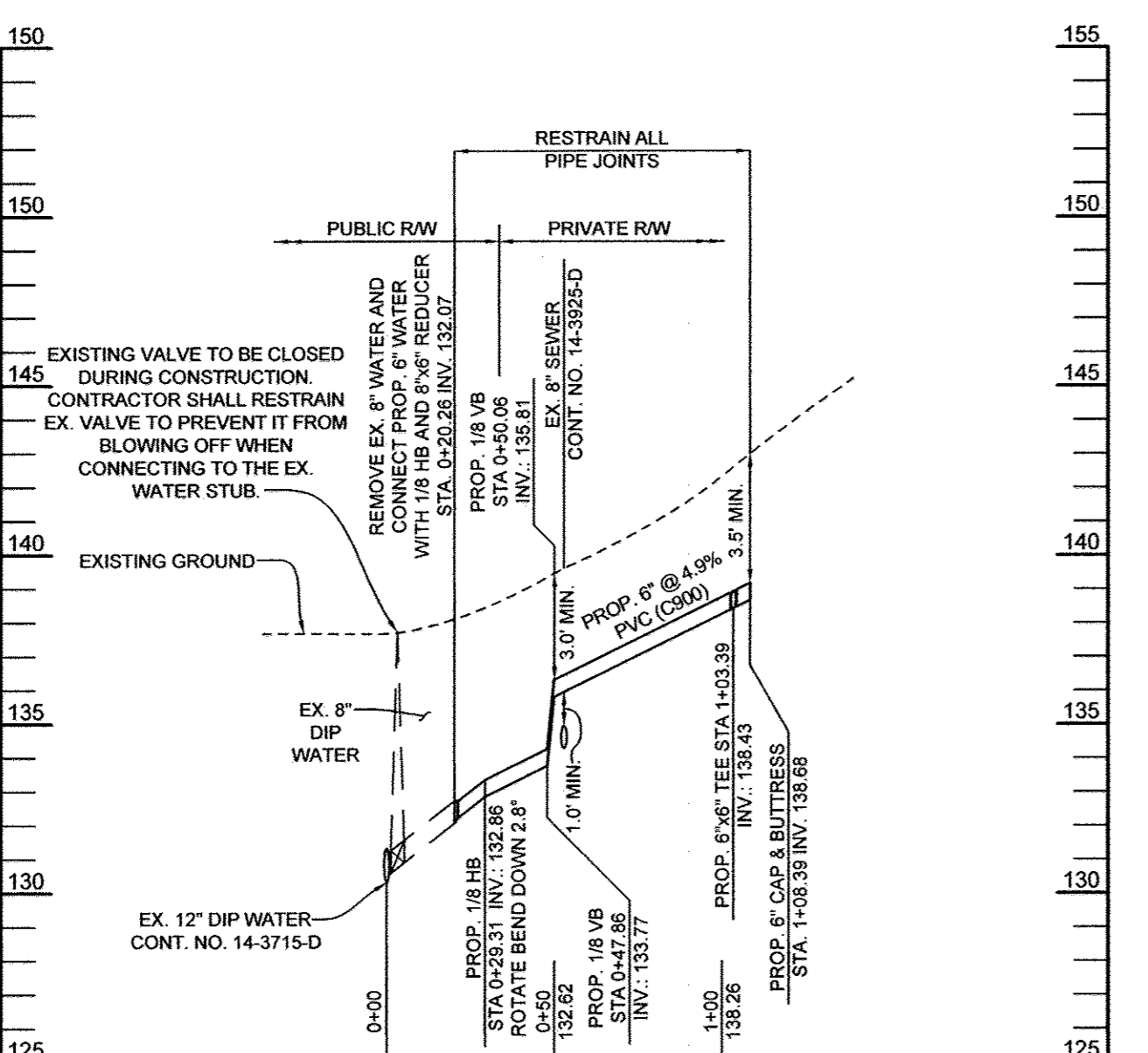
SILL ENGINEERING GROUP, LLC
 11130 Dovedale Court, Suite 200
 Marriottsville, Maryland 21104
 Phone: 443-325-5076
 Fax: 410-696-3022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

DESIGN BY: PS
 DRAWN BY: KSZ/RA
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: APRIL 13, 2017
 PROJECT #: 14-013
 SHEET #: 5 of 15

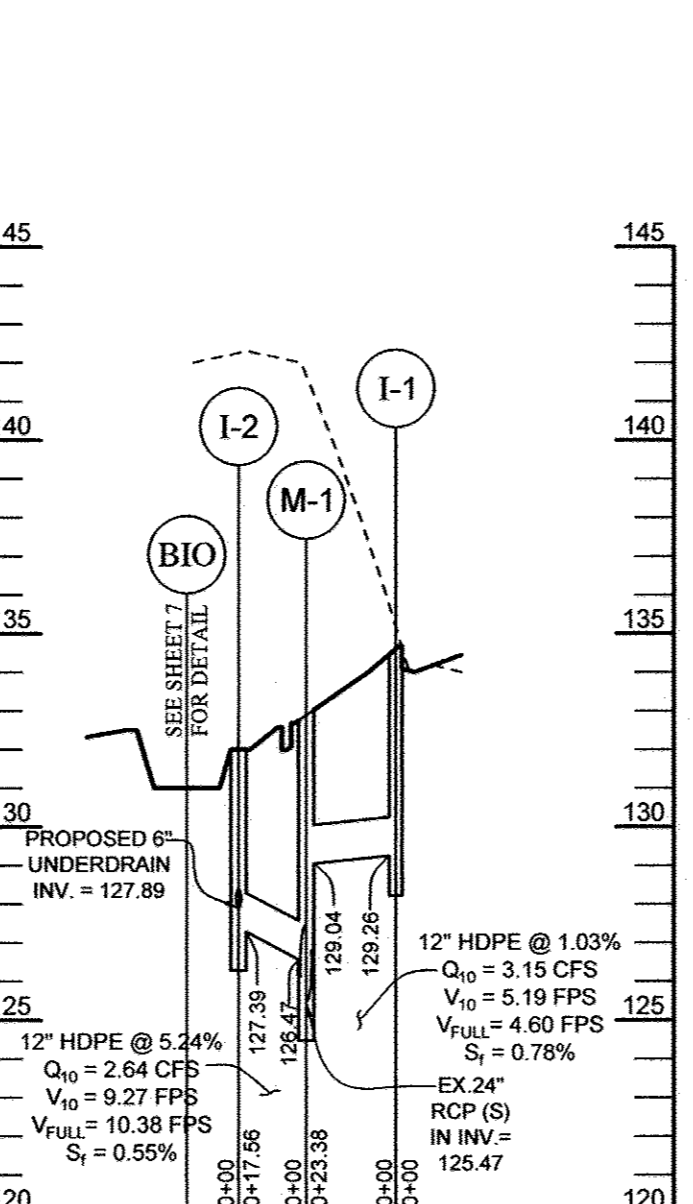
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 20, 2019



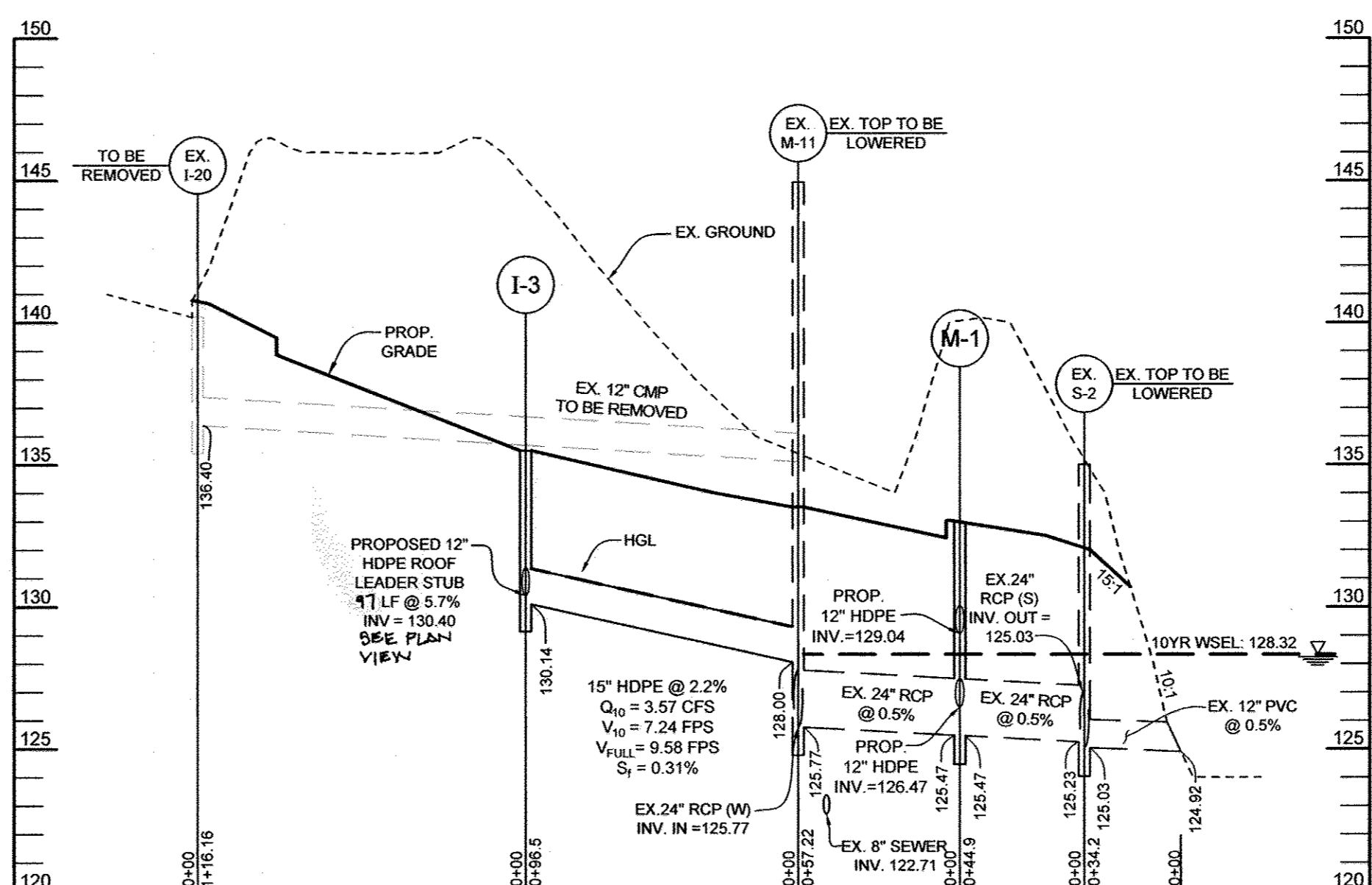
WATER PROFILE AT TEE STA. 1+03.39
SCALE: HORIZ.: 1"=50'
VERT.: 1"=5'



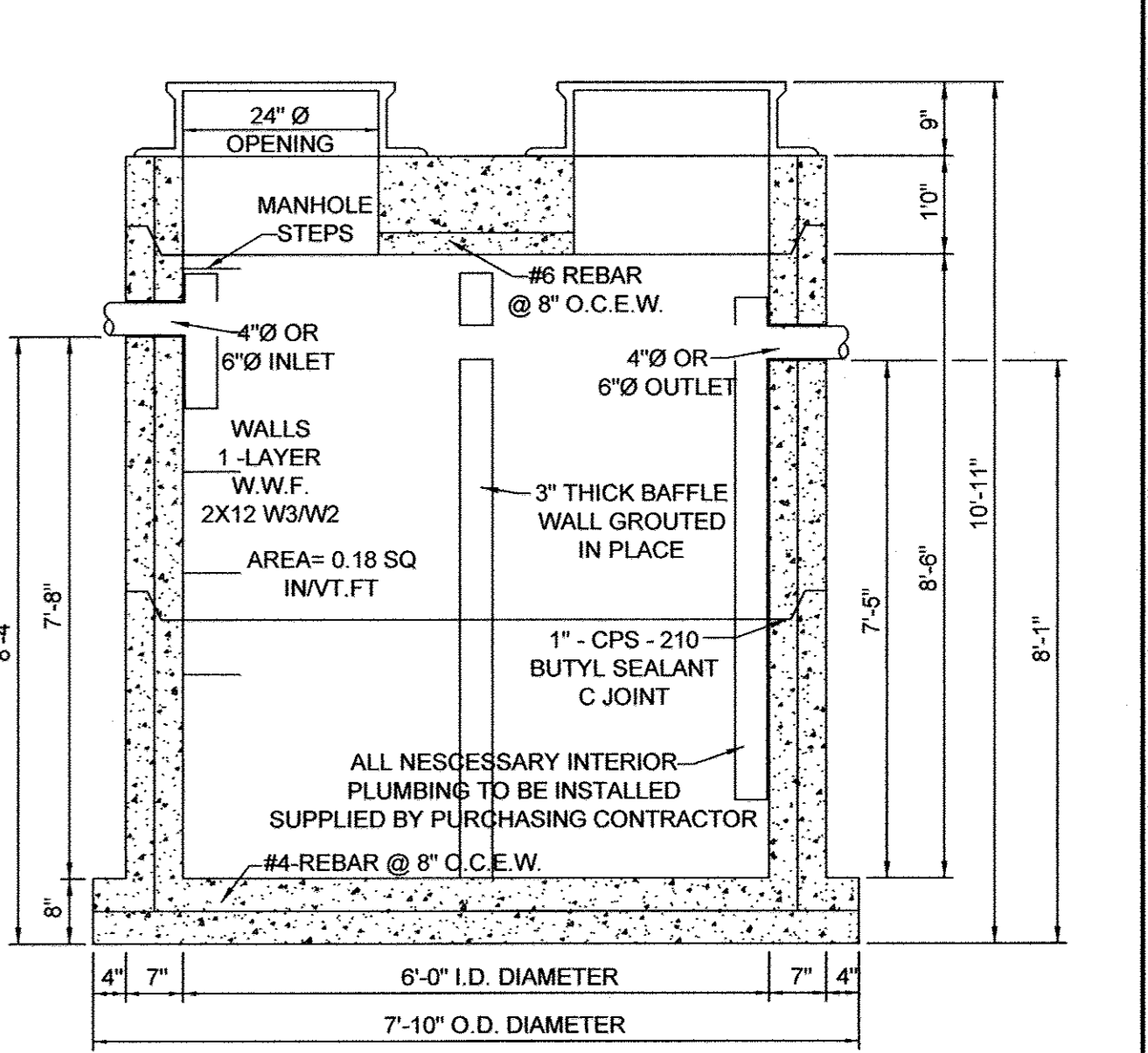
WATER PROFILE AT ROAD STA. 5+02
SCALE: HORIZ.: 1"=50'
VERT.: 1"=5'



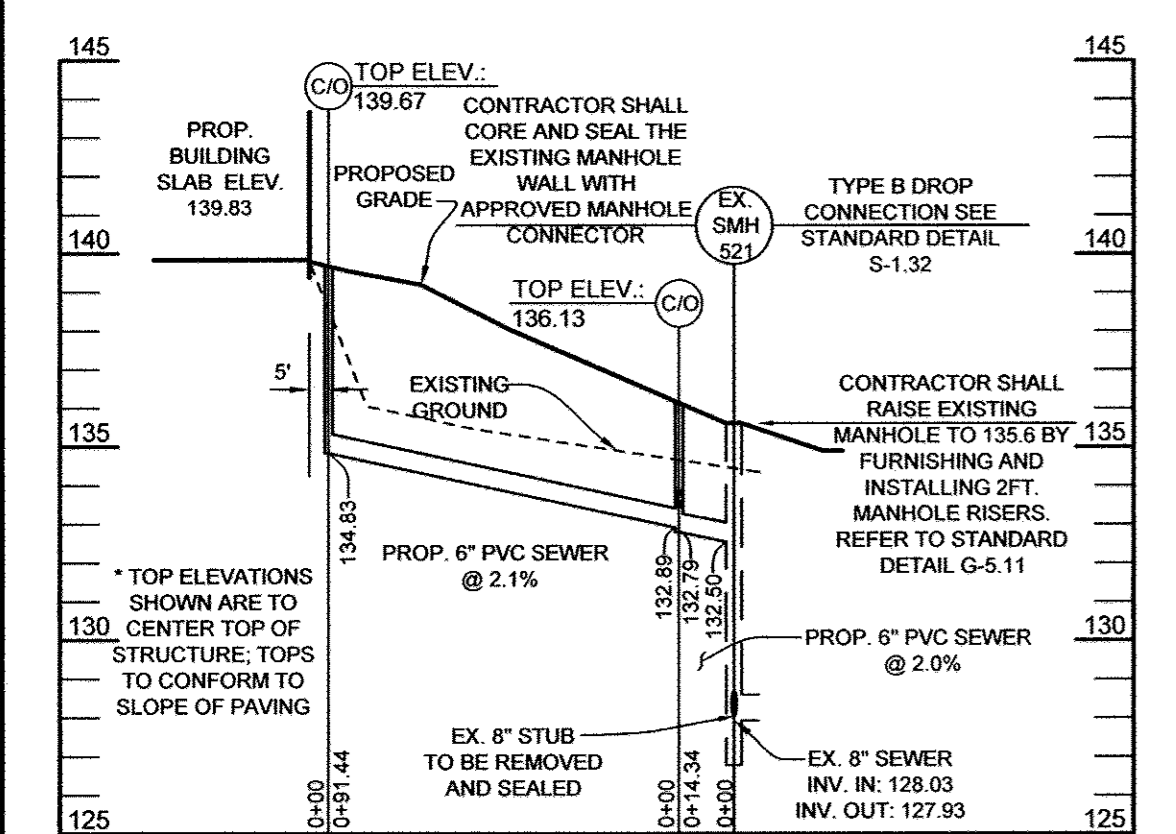
STORM DRAIN PROFILE
SCALE: HORIZ.: 1"=50'
VERT.: 1"=5'



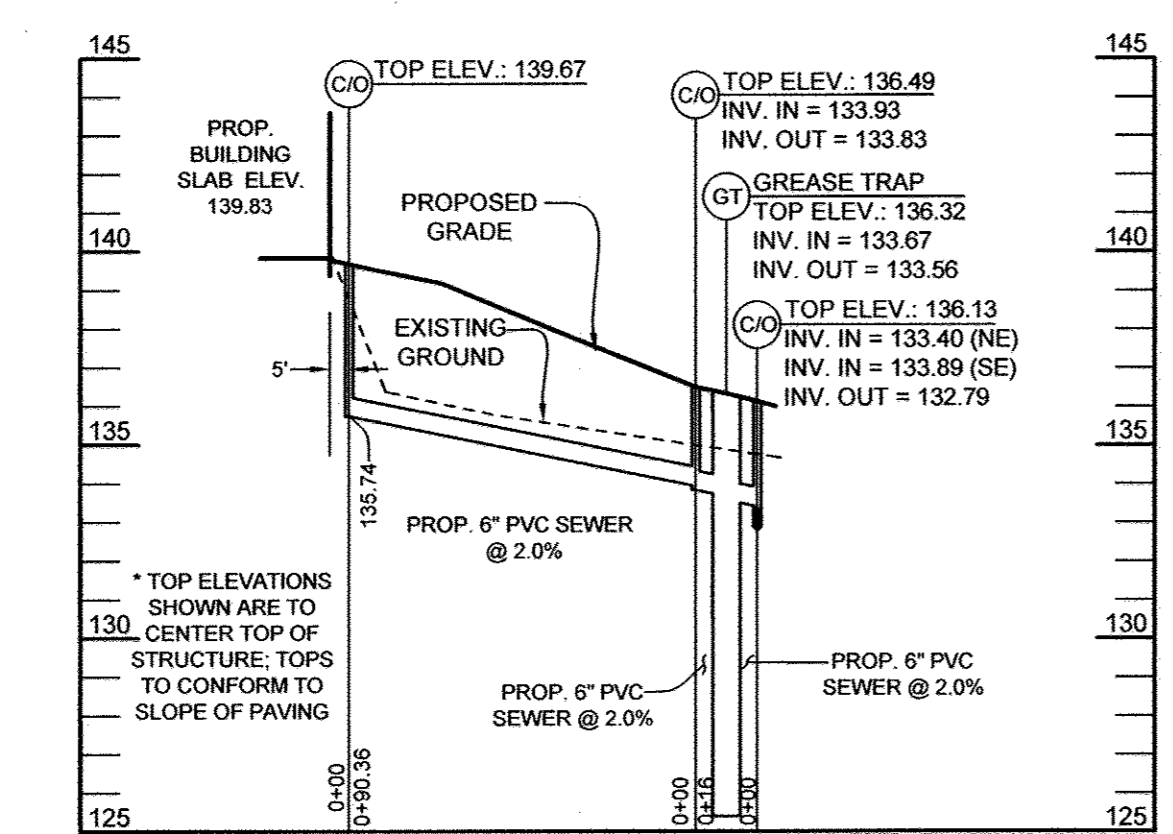
STORM DRAIN PROFILE
SCALE: HORIZ.: 1"=50'
VERT.: 1"=5'



1500 GALLON TRAFFIC BEARING GREASE TRAP
NOT TO SCALE



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



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

STRUCTURE SCHEDULE

NO.	TYPE & OWNERSHIP	LOCATION	TOP ELEV.	INV. IN	INV. OUT	REMARKS
I-1	TYPE "A-10" INLET PUBLIC	N 870,843.47 E 495,520.43	134.00	129.26	129.26	HO CO DTL. D-4.03
I-2	SINGLE PRECAST TYPE "S" INLET	N 870,832.27 E 495,482.95	132.00	127.89	127.39	HO CO DTL. D-4.22
I-3	SINGLE PRECAST TYPE "S" INLET	N 495,601.30 E 870,736.80	135.51	130.40	130.14	HO CO DTL. D-4.22
M-1	DOGHOUSE 4' PRECAST MANHOLE	N 534,839.25 E 1,349,378.82	132.98	125.47	125.47	HO CO DTL. G-5.14

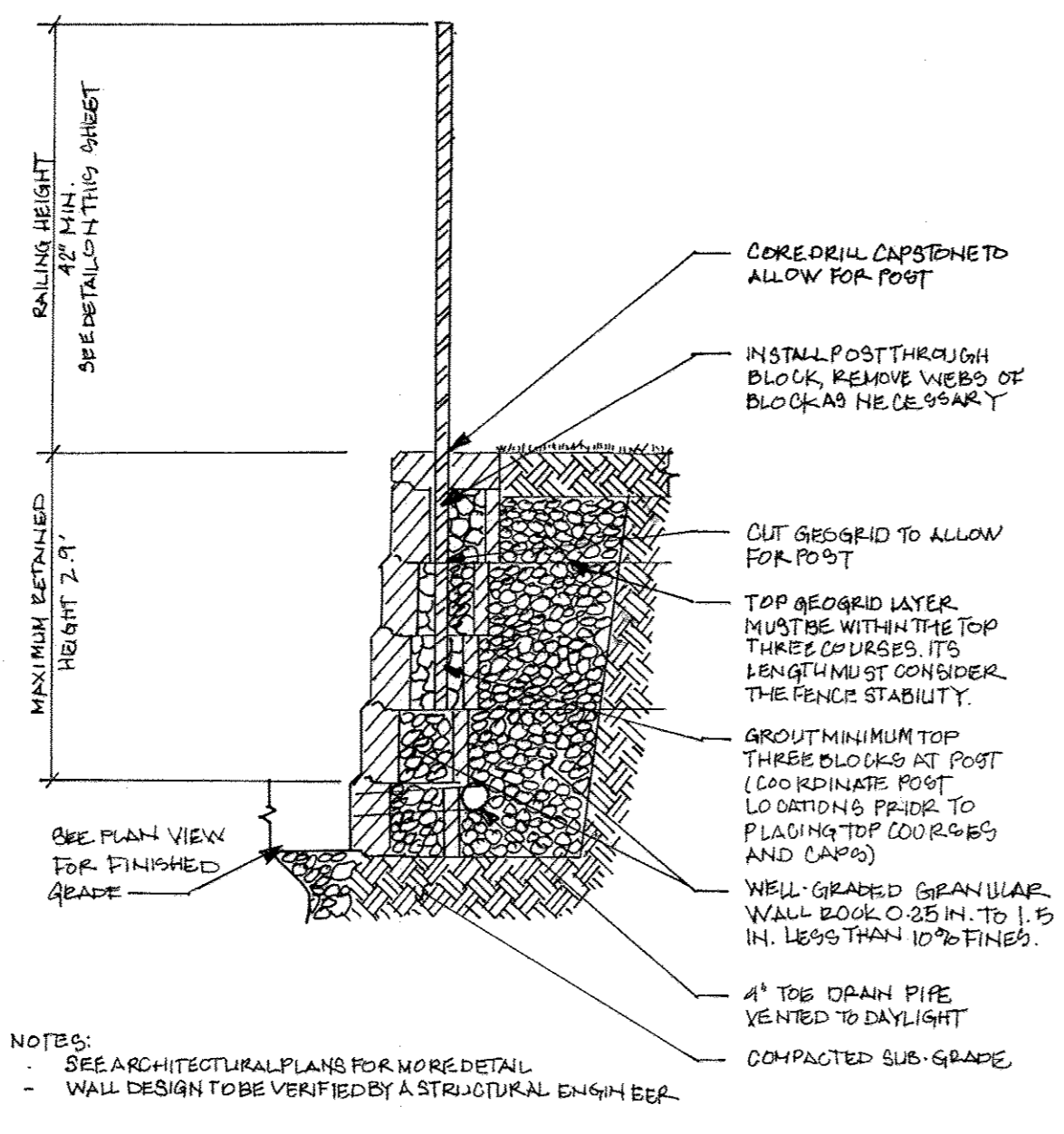
- NOTES:
- TOP ELEVATIONS FOR PRECAST MANHOLES ARE TO THE CENTER TOP OF MANHOLE COVER AND FLOWLINE FOR INLETS.
 - TOP ELEVATION FOR THE TERRACE UNIT IS TO FLOWLINE, UPHILL SIDE OF INLET. CONTRACTOR TO SLOPE TOP SLAB TO CONFORM TO ROAD SLOPE WHILE KEEPING THE MAXIMUM SLOPE OF THE FILTER MEDIA TO 4.0%. TREE OPENINGS TO USE A TREE GUARD.
 - TOP SLOPE OF STRUCTURES TO CONFORM TO SLOPE OF PAVING/GROUND.
 - LOCATION COORDINATES ARE CENTER OF STRUCTURE FOR MANHOLES AND INLETS.
 - APPROPRIATE NORTH OUTSIDE BEARING AREA ARE TO BE NYLOMAST OR EQUAL. SEE PLANS FOR INVERTS.

PIPE SCHEDULE

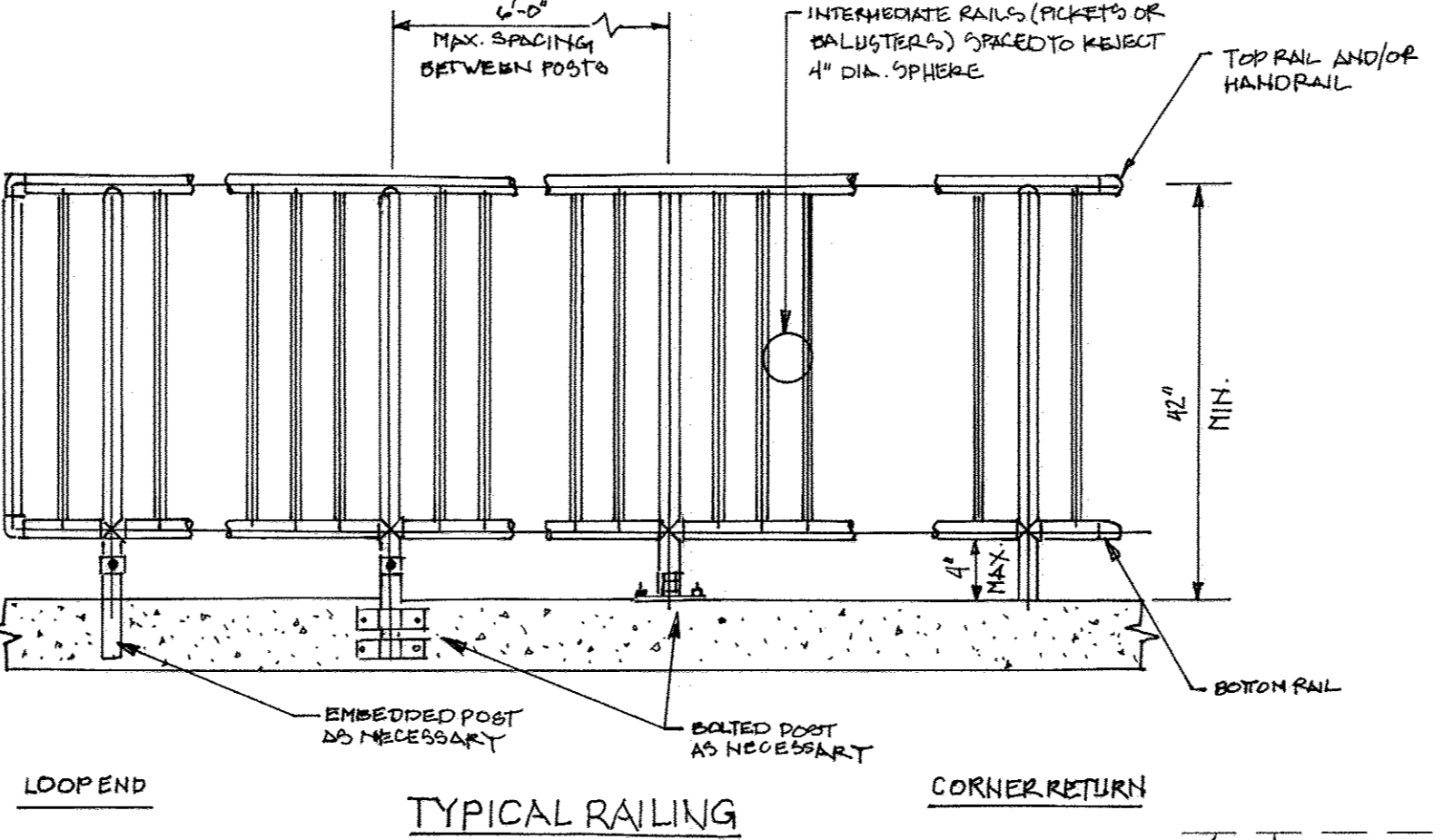
SIZE	TYPE	LENGTH
12" PRIVATE	HDPE	1141.50 LF
15" PRIVATE	HDPE	97 LF
4" PRIVATE SOLID	5/8" x 40	2.7 LF
4" PRIVATE SOLID	5/8" x 40	152 LF
4" PRIVATE PERF.	5/8" x 40	22.2 LF

- GENERAL CONSTRUCTION NOTES**
- FOR DETAILS NOT SHOWN ON THE DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
 - THE A.D.O. CONSTRUCTION WORK MUST BE PERFORMED UNDER THE CONTINUOUS INSPECTION OF THE HOWARD COUNTY BUREAU OF UTILITIES. THE CONTRACTOR SHALL NOTIFY THE BUREAU OF UTILITIES-REGULATION INSPECTOR AT 410-913-4942 OR 410-913-1438 AT LEAST FIVE (5) DAYS PRIOR TO THE START OF ANY CONSTRUCTION FOR THIS A.D.O.
 - CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
 - THE CONTRACTOR SHALL NOTIFY ALL UTILITIES AND AGENCIES AND MISS UTILITY AT LEAST TWO (2) WORKING DAYS BEFORE STARTING WORK SHOWN ON THE PLANS.
 - EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- WATER CONSTRUCTION NOTES**
- ALL WATER MAINS SHALL BE D.I.P., CLASS 54 MINIMUM, OR AWWA C900/C905 P.V.C. PIPE, CLASS DR18 MINIMUM.
 - TOPS OF ALL WATER PIPES SHALL HAVE NOT LESS THAN 4'-0" OF COVER UNLESS OTHERWISE NOTED.
 - VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
 - FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE PLANS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTIONS 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
 - ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
 - THE CONTRACTOR SHALL NOTIFY THE BUREAU OF UTILITIES AT LEAST 48 HOURS IN ADVANCE OF SCHEDULED SHUTDOWNS OF THE EXISTING WATER MAIN. SHUTDOWNS OF THE EXISTING WATER MAIN FOR NEW CONNECTIONS AND REMOVAL OF EXISTING SERVICE CONNECTIONS SHALL BE AS SPECIFIED UNDER SECTION 1002.06-CONNECTIONS OF THE STANDARD SPECIFICATIONS.
 - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
 - INSTALLATION OF THE WATER METER IS NOT PART OF THE A.D.O. CONSTRUCTION WORK. WATER SERVICE CONNECTIONS INCLUDE PRESSURE AND LEAK TESTING, DISINFECTION AND BACTERIOLOGICAL TESTING.
 - THE NEW WATER METER ASSEMBLY SHALL BE THE INSIDE COMBINED FRESHWATER SETTING PER HOWARD COUNTY DETAIL PLATE W-3.44. INSTALLATION OF THE WATER METER IS NOT PART OF THE A.D.O. CONSTRUCTION WORK.
 - TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL WATER MAINS IN ACCORDANCE WITH DETAIL PLATE G-8.21 OF THE STANDARD SPECIFICATIONS.
 - PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS. THE MANUFACTURER'S INSERTION LINE OF GASKETED PVC PIPE JOINTS INDICATES THE MAXIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. AFTER ASSEMBLY OF THE JOINT, THE LINE SHALL REMAIN VISIBLE. DUAL INSERTION LINES ON GASKETED PVC PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL.
 - TEES, CROSSES, BENDS GREATER THAN 5 DEGREES, AND SIMILAR FITTINGS FOR USE WITH C-900 PVC WATER PIPE SHALL BE DUCTILE IRON CONFORMING TO AWWA C153.
 - ALL CHANGES IN HORIZONTAL OR VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADE WITH HIGH-DEFLECTION COUPLINGS, 5-DEGREE SWEEPS OR STANDARD BENDS. NO BENDING OF PIPE OR DEFLECTION OF PVC PIPE JOINTS IS PERMITTED.
 - SEVENTEEN (17) POUND SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND DETAILS. MAGNESIUM ANODES SHALL BE INSTALLED ON ALL IRON VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSES. ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC WATER MAINS.

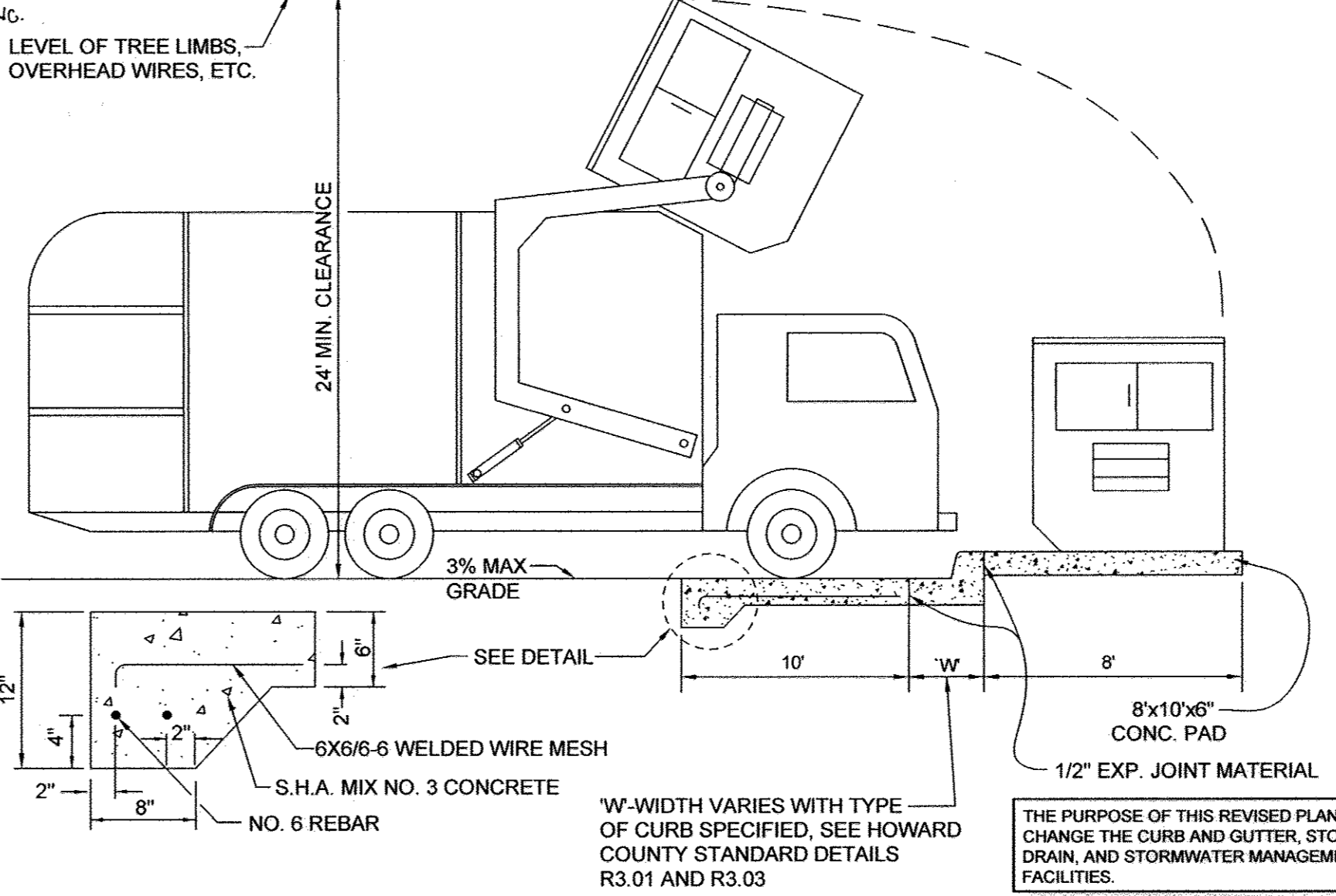
- SEWER CONSTRUCTION NOTES**
- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
 - SHC CONNECTIONS TO EXISTING MANHOLES: IF THE EXISTING MANHOLE HAS A STUB CONNECTION, THE CONTRACTOR SHALL MATCH THE EXISTING PIPE MATERIAL OR REPLACE THE STUB IF THE PIPE MATERIAL IS NOT ONE OF THE APPROVED PIPE MATERIALS. IF THE EXISTING MANHOLE DOES NOT HAVE AN OPENING OR A KNOCKOUT FOR A FUTURE CONNECTION, THE MANHOLE SHALL BE CORED, THE INVERT CHANNEL FORMED AND A FIELD GASKET CONNECTOR INSTALLED TO SECURE THE NEW SEWER PIPE TO THE EXISTING MANHOLE.



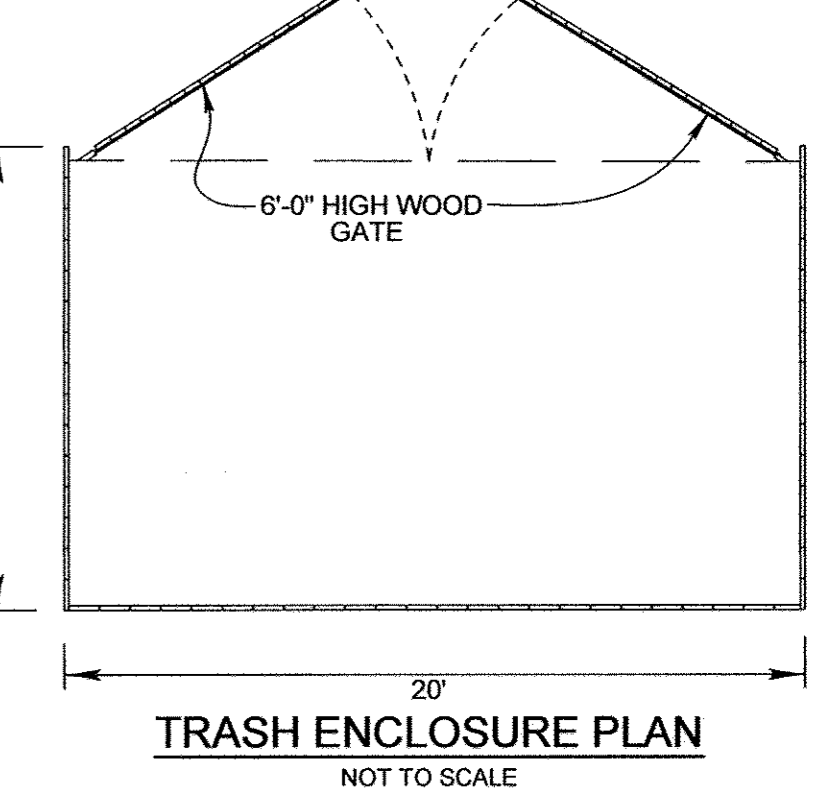
TYPICAL RETAINING WALL SECTION
ALLAN BLOCK CORPORATION OR EQUIVALENT
WWW.ALLANBLOCK.COM
N.T.S.



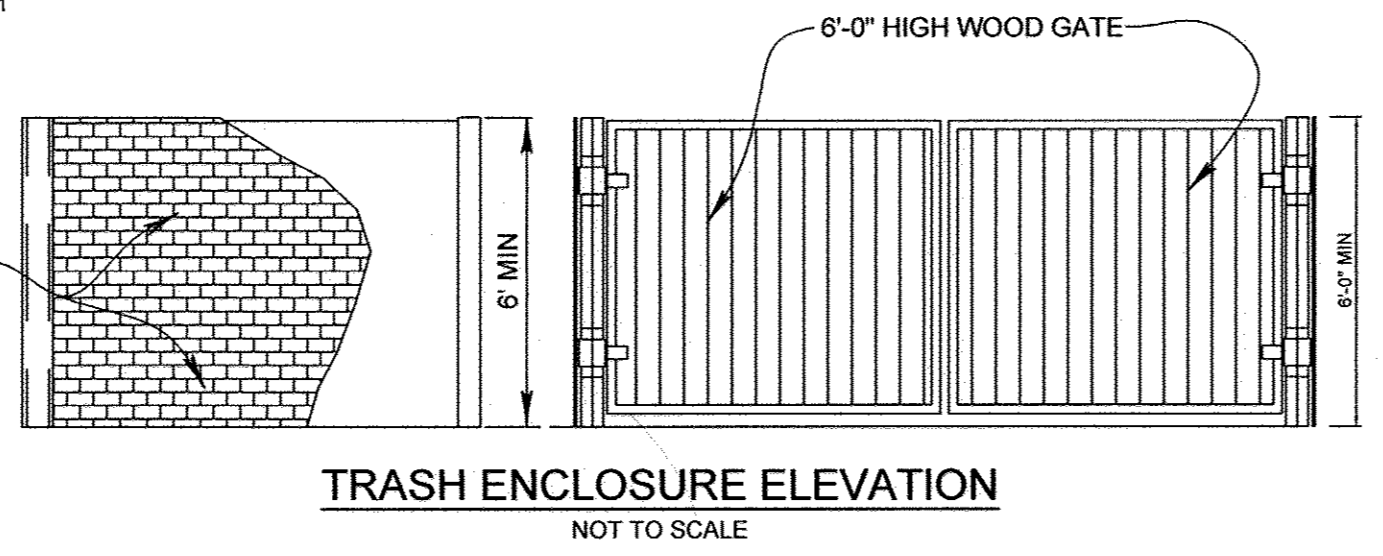
TYPICAL RAILING
FOR FURTHER INFORMATION SEE AMERICAN RAILING SYSTEMS, INC.
OR EQUIVALENT
WWW.AMERICANRAILING.COM (A.D.O. DETAILS HTN)
N.T.S.



SOLID WASTE SERVICE PAD
HOWARD COUNTY STD. R-8.03
NOT TO SCALE



TRASH ENCLOSURE PLAN
NOT TO SCALE



TRASH ENCLOSURE ELEVATION
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

NO.	DESCRIPTION	DATE
1	REVISION CURB, SD AND SWM	04/09/2017
2	ADDRESS RETAINING WALL DETAIL, 4" x 6" PIPES	01/11/2018
3	STRUCTURAL SCHEDULE NOTE #5, REVISED I-3	

REVISIONS

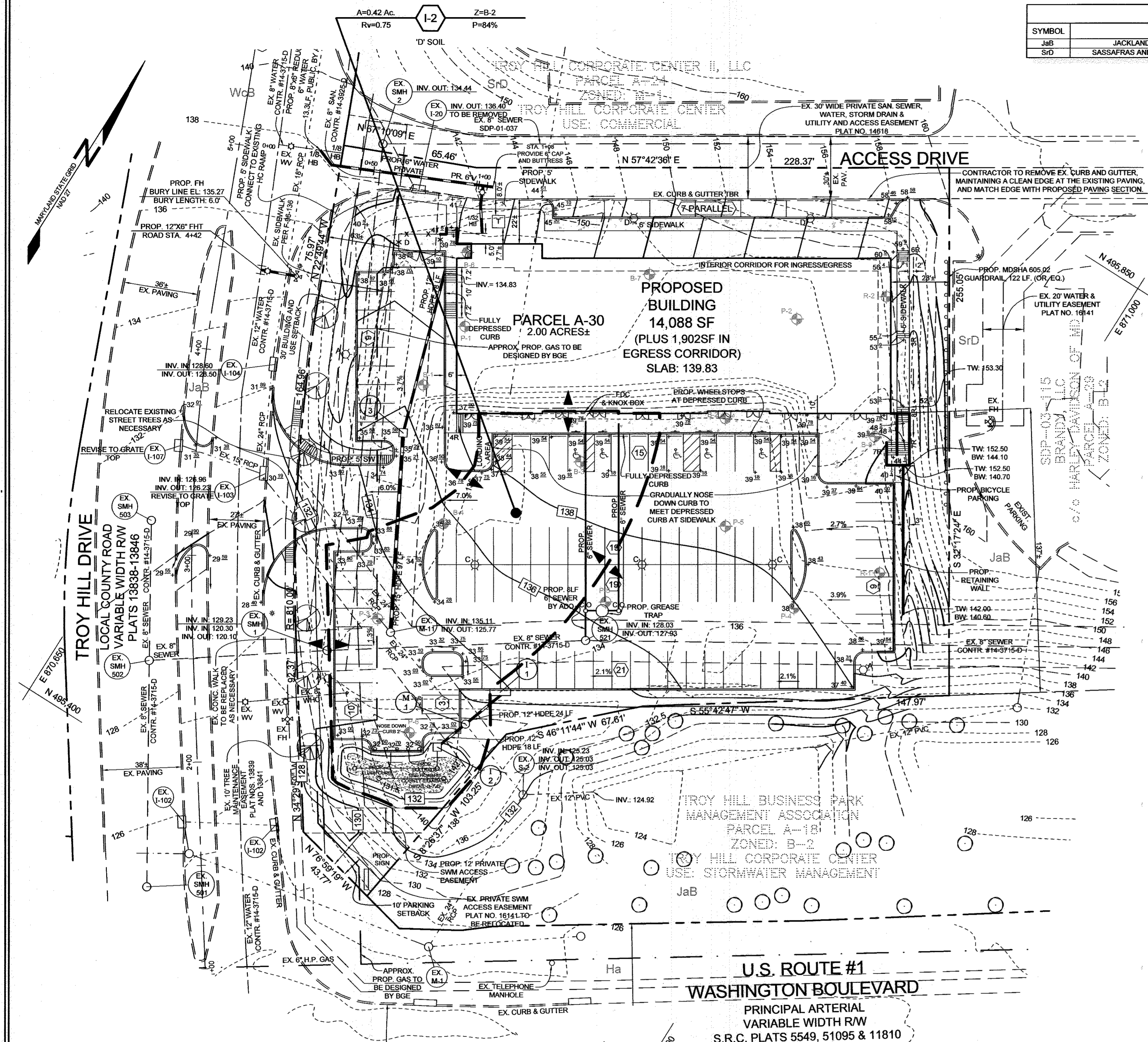
NO.	DESCRIPTION	DATE
1	REVISION CURB, SD AND SWM	04/09/2017
2	ADDRESS RETAINING WALL DETAIL, 4" x 6" PIPES	01/11/2018
3	STRUCTURAL SCHEDULE NOTE #5, REVISED I-3	

REVISED STORM DRAIN PROFILES, WATER AND SEWER PROFILE, AND DETAILS TROY HILL CORPORATE CENTER

PARCEL A-30
TAX MAP 37 GRID 18
1ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC
11130 Dovedale Court, Suite 200
Marriottsville, Maryland 21104
Phone: 443-325-5076
Fax: 410-696-3022
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: PS
DRAWN BY: KSZ/BA
CHECKED BY: PS
SCALE: AS SHOWN
DATE: APRIL 13, 2017
PROJECT #: 14-013
SHEET #: 6 of 15



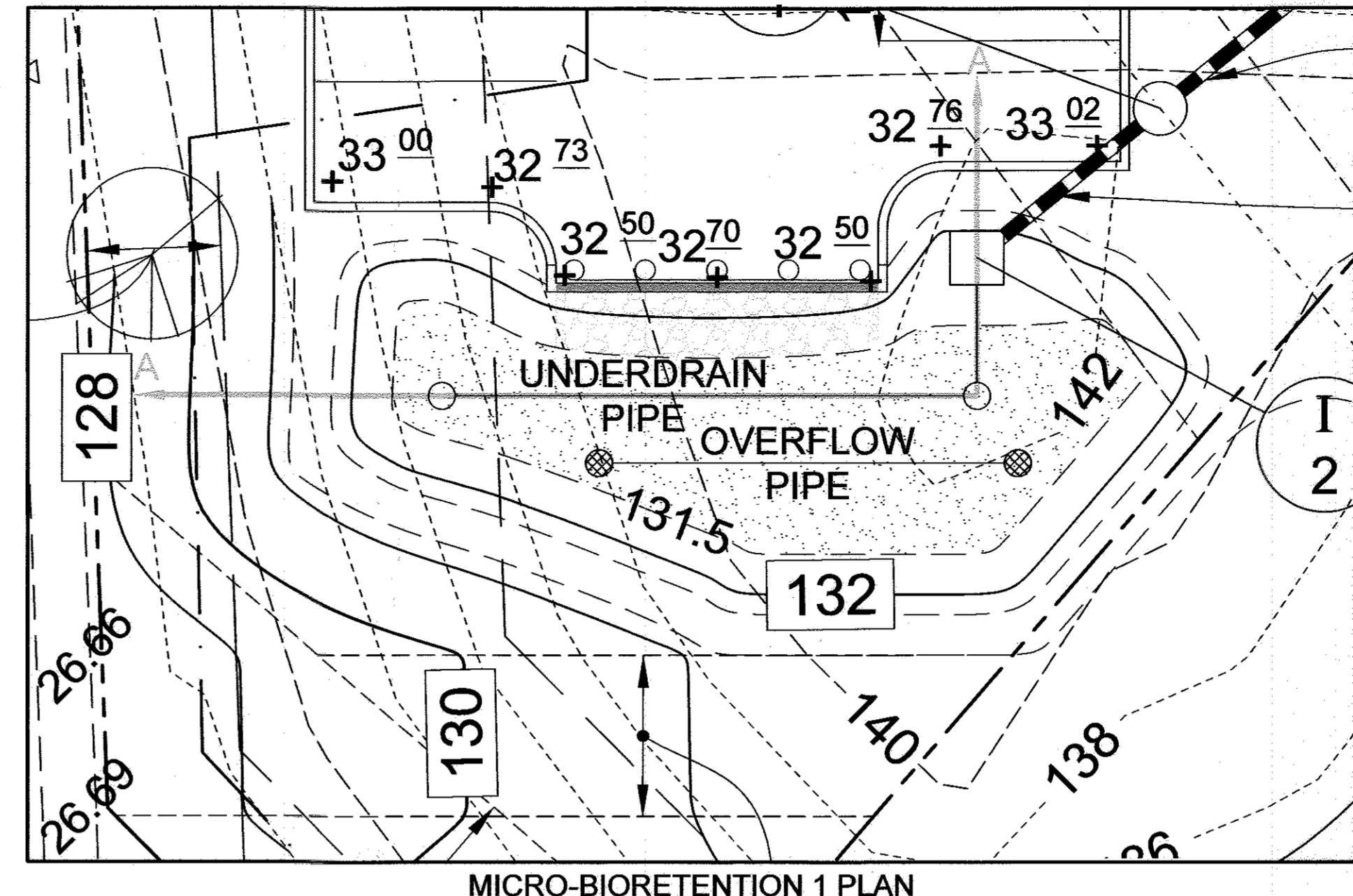
SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
JdB	JACKLANT SILT LOAM, 3 TO 8 PERCENT SLOPES	D	0.37
SrD	SASSAFRAS AND CROON SOILS, 10 TO 15 PERCENT SLOPES	B	0.32

NOTES:
1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
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LEGEND

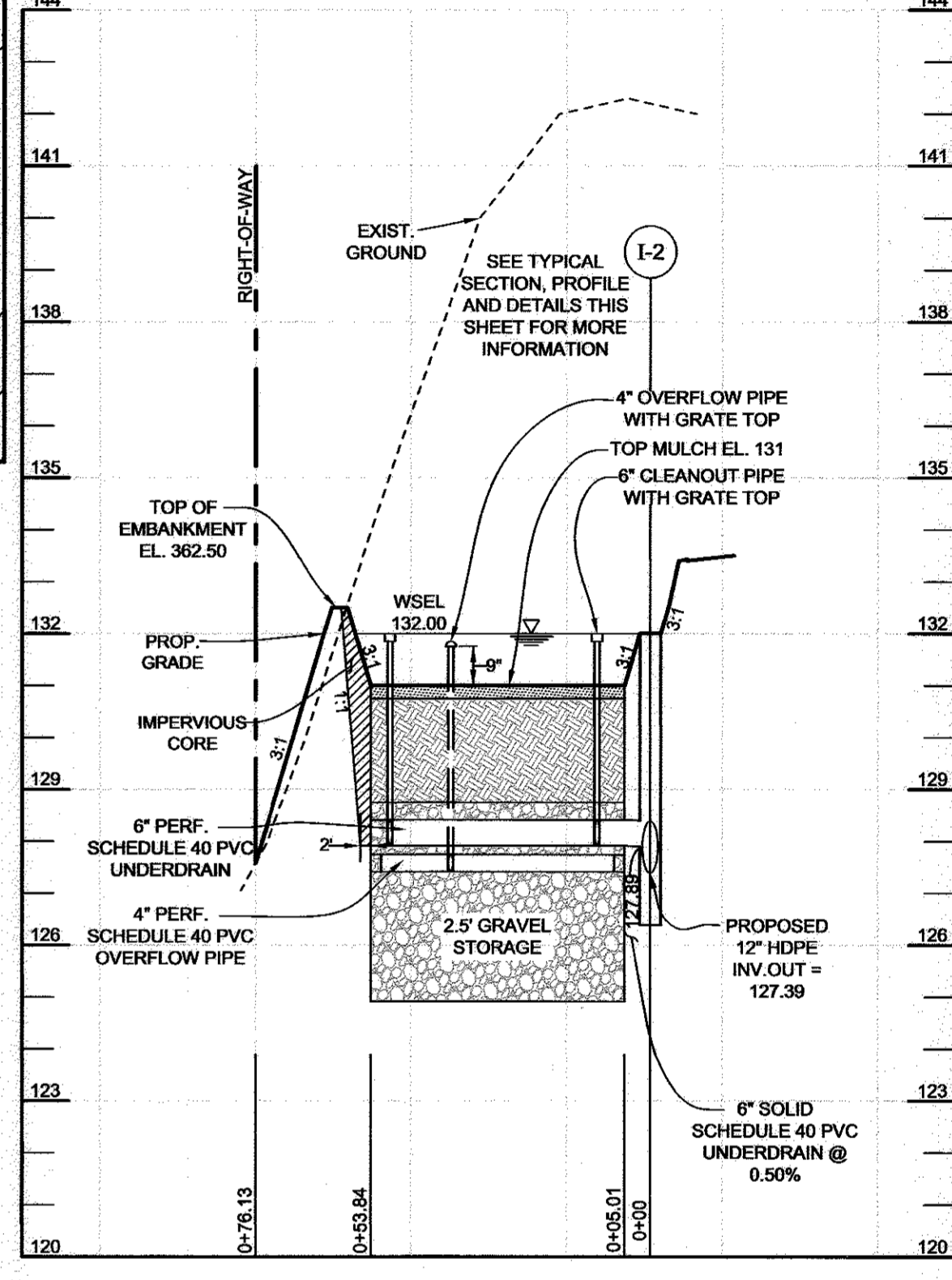
EXISTING CONTOUR	---
PROPOSED CONTOUR	---
EXISTING SPOT ELEVATION	+
PROPOSED SPOT ELEVATION	+
DIRECTION OF FLOW	→
EXISTING TREELINE	~
EXISTING TREES	○
EXISTING STREET TREES	○
EXISTING LIGHT POLES	⊙
PROPOSED HANDICAP PARKING SPACE	⊙
PROPOSED SOIL BORING	⊙
PROPOSED PARKING SPACE COUNT	⊙
PROP. MICRO-BIURETENTION FACILITY	⊙
PROPOSED DRAINAGE DIVIDE	---



BIURETENTION PLANT LIST

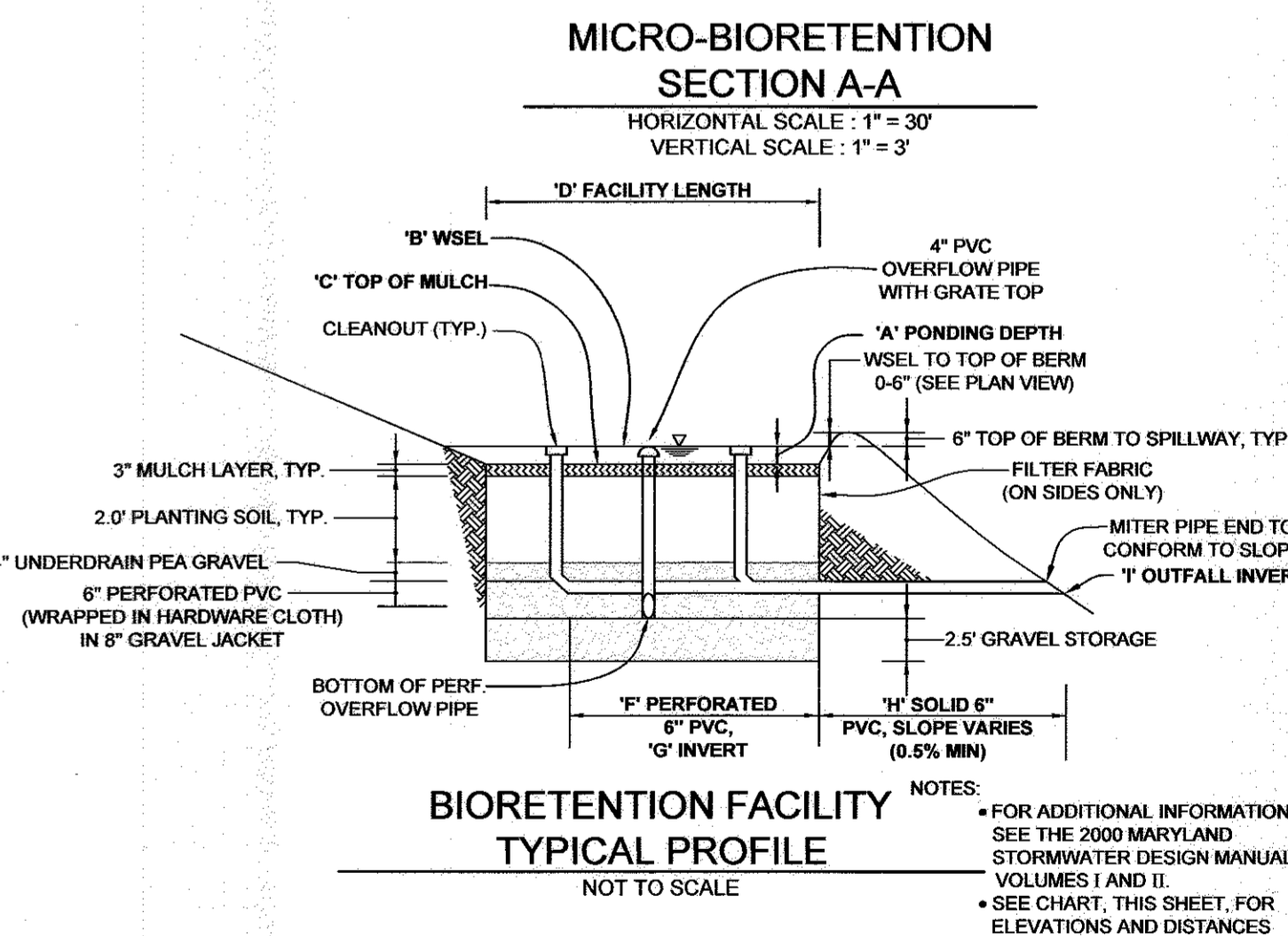
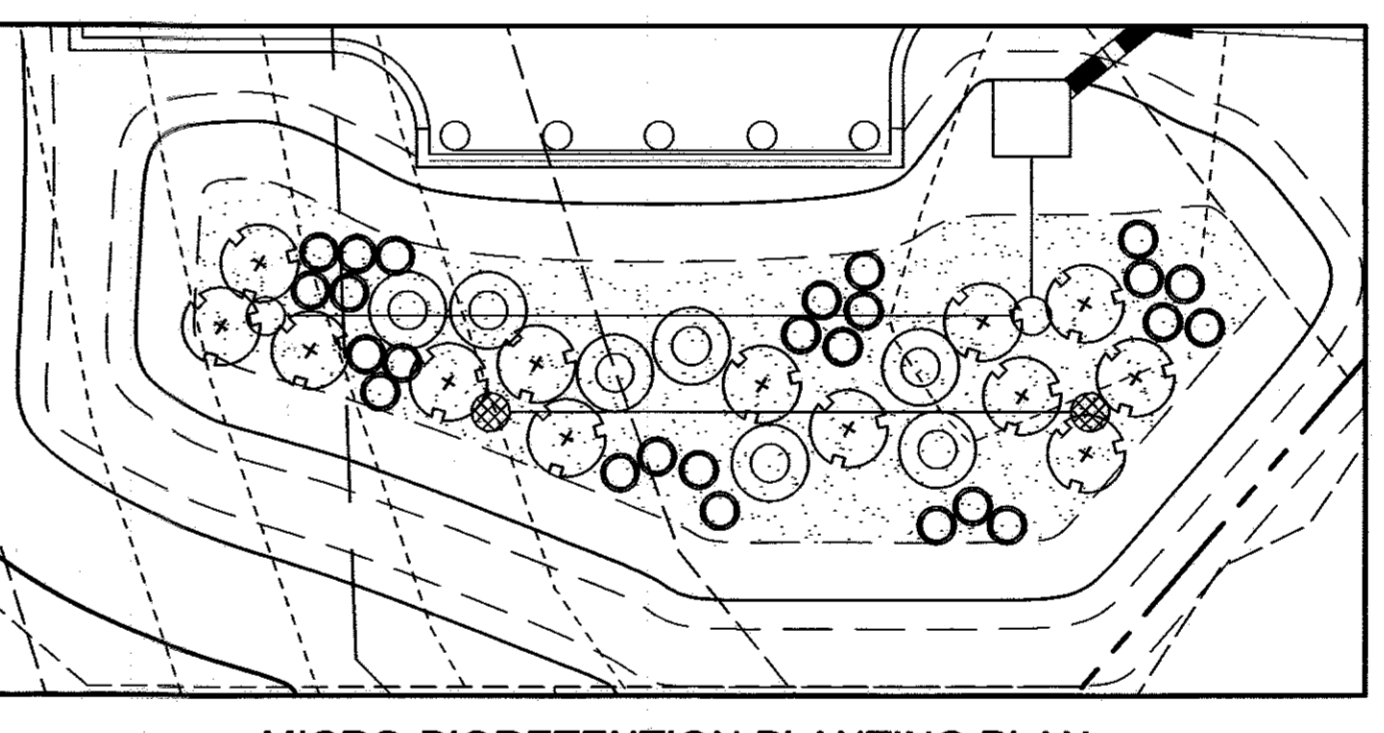
SYMBOL	SHRUBS	KEY	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	QUANTITY
⊙	VDE	ILEX VERTICILLATA	WINTERBERRY	AS SHOWN (MIN. 5' O.C.)	18"-24" HT.	13	
⊙	EM	EUPATORIUM MACULATUM	JOE-PYE WEED	AS SHOWN (MIN. 4' O.C.)		7	
⊙	RL	RUDEBECKIA LACINIATA	TALL CONEFLOWER	AS SHOWN (MIN. 2' O.C.)		25	

NOTE: PLANT MATERIAL MUST COVER 50% OF THE MULCH AREA AT MATURE GROWTH.
BIO 1 - BIURETENTION AREA = 683 S.F. OR 0.01 AC.



BIURETENTION ELEVATIONS AND DIMENSIONS

DESCRIPTION	BIO
'A' PONDING DEPTH	1.0'
'B' WSEL	132.0
'C' TOP OF MULCH	131.0
'D' FACILITY LENGTH	54'
'E' FACILITY WIDTH	15'
'F' PERF. UNDERDRAIN DIMENSION	44.6'
'G' UNDERDRAIN INVERT	127.92'
'H' SOLID UNDERDRAIN DIMENSION	5.01'
'I' OUTFALL INVERT	127.89'
'J' OVERFLOW PIPE	127.41'



STORMWATER MANAGEMENT NOTES AND DESIGN NARRATIVE

- ENVIRONMENTALLY SENSITIVE AREAS (STREAMS AND STEEP SLOPES) DO NOT EXIST ON SITE. THE SITE HAS BEEN PREVIOUSLY MASS GRADED AND DOES NOT CONTAIN ANY NATURAL RESOURCES AS DEFINED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
- TO THE GREATEST EXTENT PRACTICABLE THE NATURAL FLOW PATTERNS OF THE SITE HAVE BEEN MAINTAINED.
- IMPERVIOUS AREAS HAVE BEEN REDUCED BY THE USE OF THE NARROWEST DRIVE AISLE ALLOWED, IN MOST LOCATIONS.
- A STABILIZED CONSTRUCTION ENTRANCE AND SILT FENCES ARE USED FOR SEDIMENT AND EROSION CONTROL. THE SITE'S STORMWATER MANAGEMENT OBLIGATION FOR CP, WQV, AND REV, WAS ADDRESSED UNDER P-36-136 AND SDR-10-115. SINCE THIS SITE IS BEING DEVELOPED AFTER THE IMPLEMENTATION OF THE STORMWATER MANAGEMENT ACT OF 2007, THIS SITE HAS BEEN FURTHER EVALUATED FOR ADDITIONAL ENVIRONMENTAL SITE DELINEATION (ESD) REQUIREMENTS. ESD FOR THIS SITE IS DIFFICULT TO ACHIEVE DUE TO THE MULTIPLE PRIVATE AND PUBLIC EASEMENTS THAT CRISS-CROSS THE SITE. A MICRO-BIURETENTION FACILITIES HAS BEEN PROVIDED TO ACHIEVE ESD TO THE MAXIMUM EXTENT PRACTICABLE.
- NO DESIGN MANUAL AND WAIVER PETITION REQUESTS HAVE BEEN MADE AT THE TIME OF THIS SUBMISSION.

OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIURETENTION (M-6)

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A.4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD OR DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

OWNER/DEVELOPER
TROY HILL SQUARE, LLC
c/o H&H ROCK COMPANIES
MARK LEVY
6800 DEERPATH ROAD, SUITE 100
ELKRIDGE, MD 21075
410.579.2442

REVISED STORMWATER MANAGEMENT PLAN AND DETAILS TROY HILL CORPORATE CENTER
PARCEL A-30
TAX MAP 37 GRID 18
1ST ELECTION DISTRICT
PARCEL 135
HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC
11130 Dovesdale Court, Suite 200
Marristown, Maryland 21104
Phone: 410-325-5076
Fax: 410-696-2022
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: PS
DRAWN BY: KSZ/RA
CHECKED BY: PS
SCALE: 1"=30'
DATE: APRIL 13, 2017
PROJECT #: 14-013
SHEET #: 7 of 15

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 4/14/17

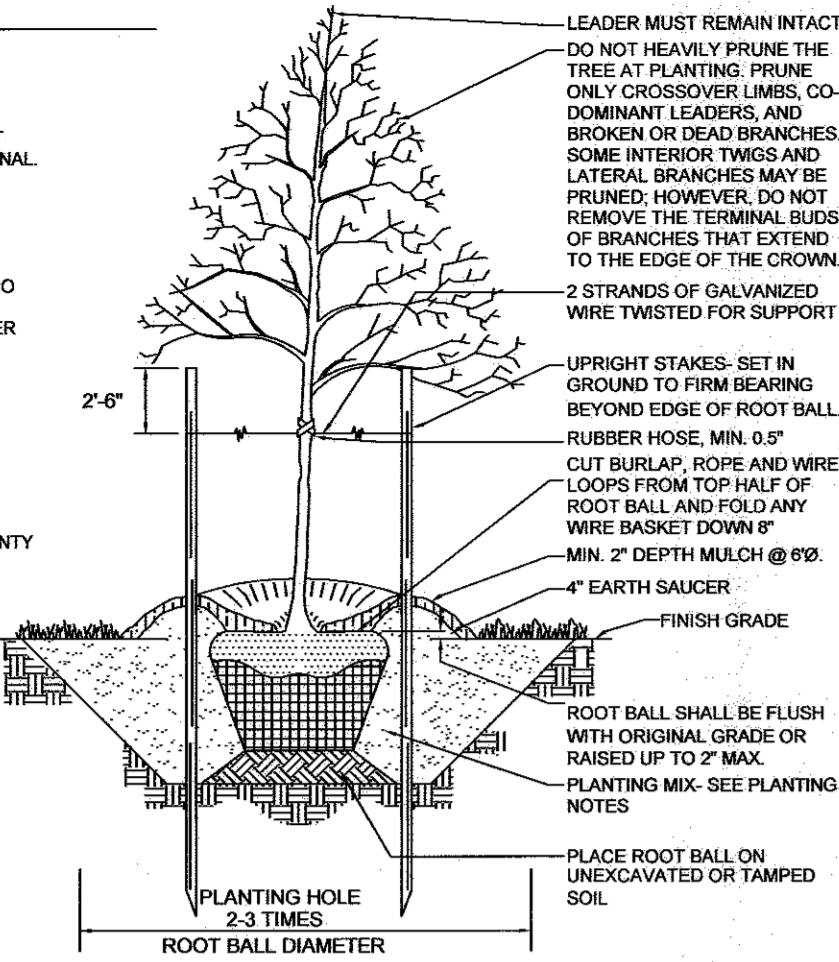
CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 7-25-17

DIRECTOR: *[Signature]* DATE: 7-25-17

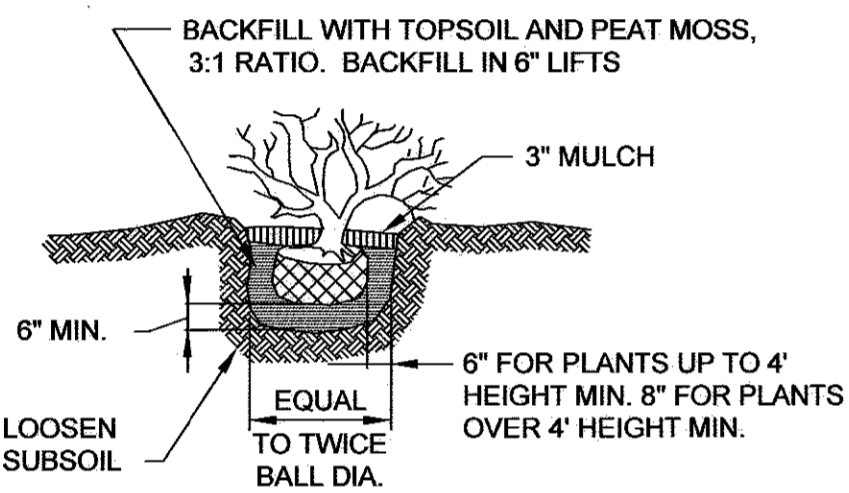
NO.	REVISION	DESCRIPTION	DATE
1	REVISE CURB, SD AND SWM		04/09/2017

NOTES

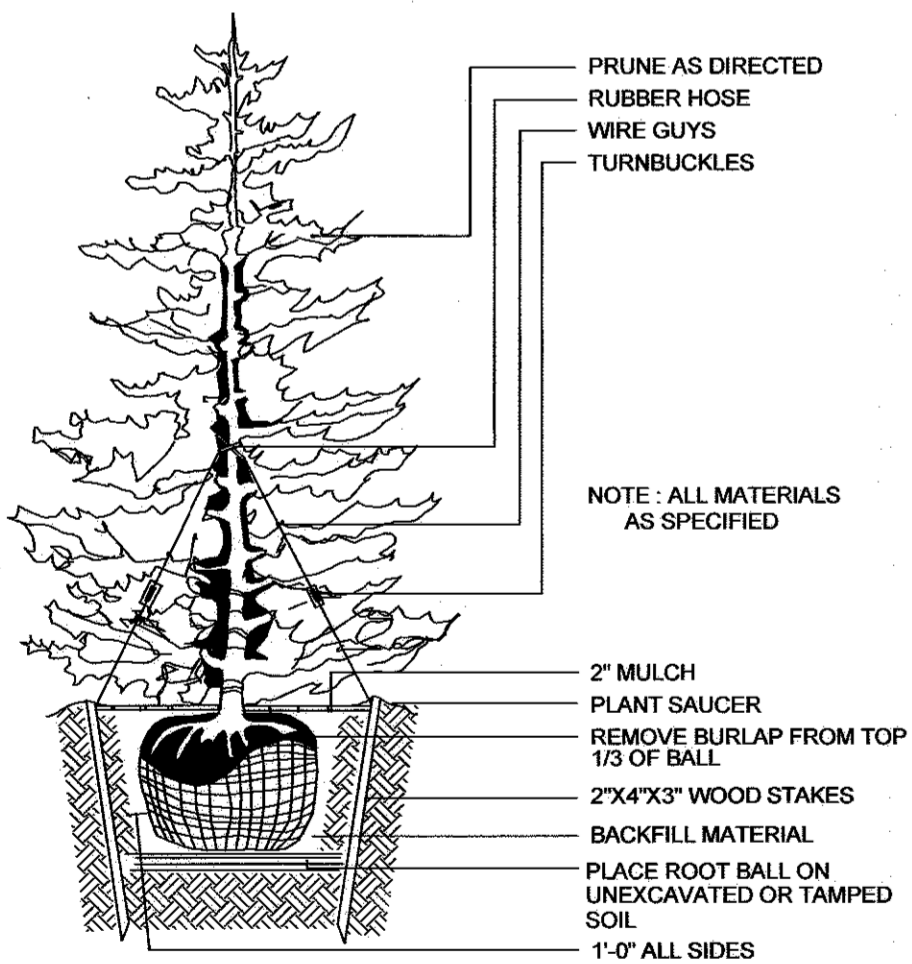
- CONSULT INTERNATIONAL SOCIETY OF ARBORICULTURE GUIDELINES FOR FURTHER DETAILS OF PLANTING SPECIFICATIONS, OR CONSULT WITH A QUALIFIED PROFESSIONAL.
- EACH TREE SHALL BE PLANTED SUCH THAT THE TRUNK FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL.
- STAKES SHALL BE REMOVED NO LATER THAN THE END OF THE FIRST GROWING SEASON AFTER PLANTING.
- PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
- KEEP MULCH 1" FROM TRUNK.
- SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTINGS WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
- TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWAGE EASEMENT.



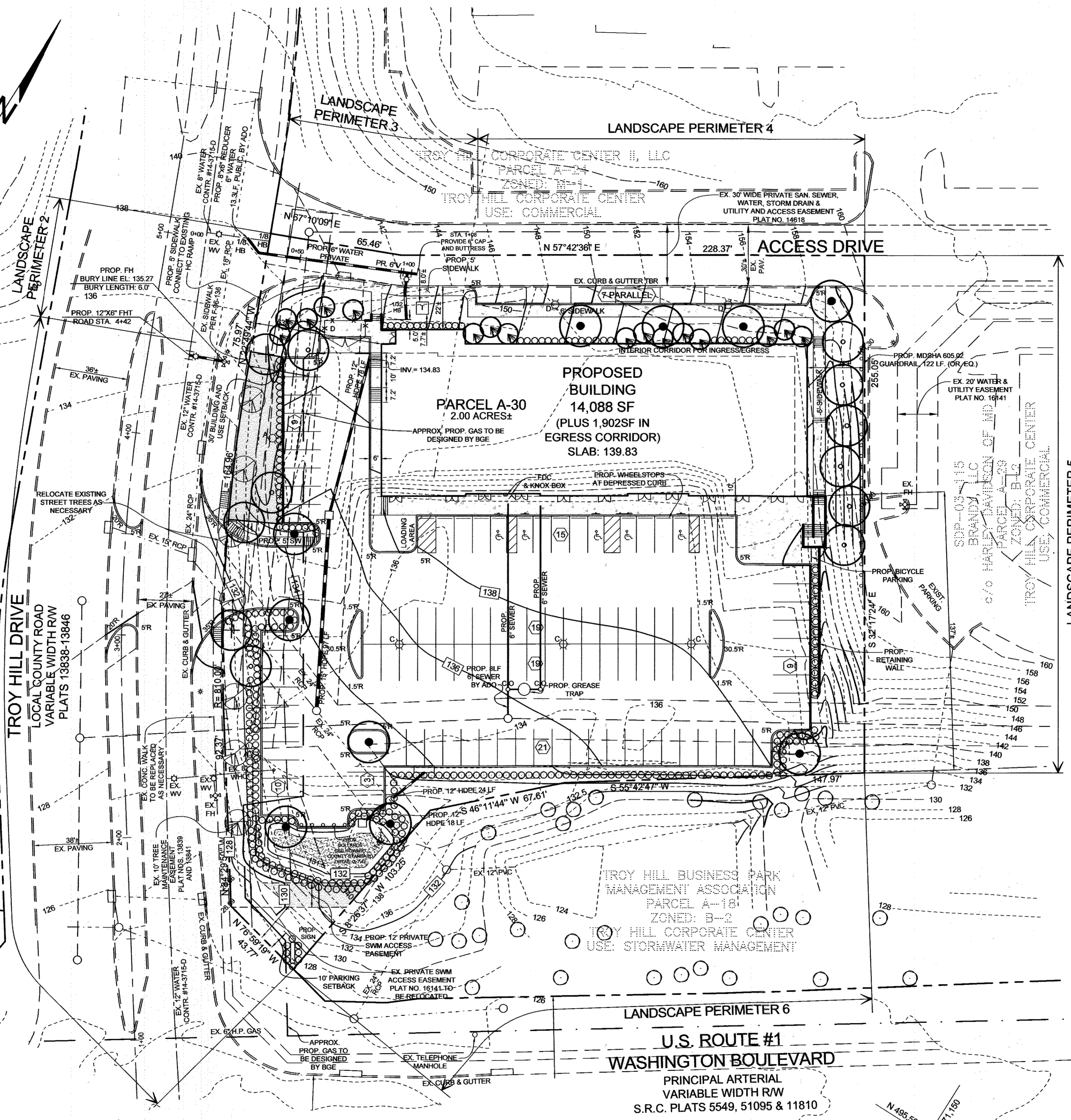
TYPICAL TREE PLANTING AND STAKING
DECIDUOUS TREES UP TO 2-1/2" CALIPER NOT TO SCALE



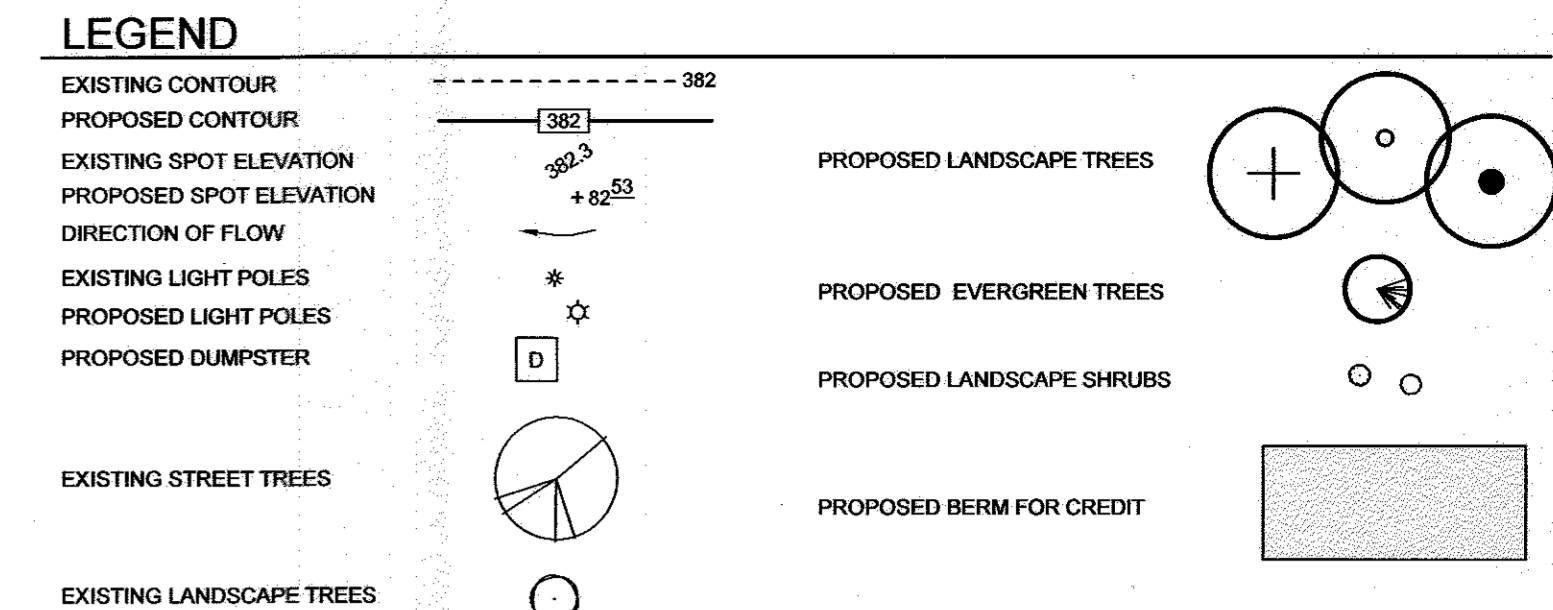
TYPICAL SHRUB PLANTING DETAIL
NOT TO SCALE



TYPICAL EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE



PLAN VIEW
SCALE: 1"=30'



SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS					ADJACENT TO PERIMETER PROPERTIES
	1	2	3	4	5	
PERIMETER/FRONTAGE DESIGNATION	E	B	C	E	A	
LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	318	59	103	191	319	255
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	YES	NO	NO	NO	NO	NO
REMAINING PERIMETER LENGTH (YES, NO, LINEAR FEET)	83.5 (1)	NO	NO	NO	NO	100 (2)
REMAINING PERIMETER LENGTH	234.5					155
NUMBER OF PLANTS REQUIRED	1.40 = 6	1.50 = 2	1.50 = 3	1.40 = 5	1.40 = 8	1.60 = 3
SHADE TREES	1.4 = 58	1.40 = 2	1.40 = 3	1.4 = 48	1.4 = 80	-
EVERGREEN TREES						
NUMBER OF PLANTS PROVIDED	4 (6)	2	1 (3)	5	0 (5)	5 (3,6)
SHADE TREES	-	-	-	-	-	-
OTHER TREES (2:1 SUBSTITUTION)	131(4,6,7)	-	13(3)	21 (4)	130(7)	-
SHRUBS (10:1 SUBSTITUTION)						
CREDITS BELOW IF NEEDED						

- NOTES:**
- CREDIT TAKEN FOR 2' HIGH GRADED BERM.
 - CREDIT TAKEN FOR PROPOSED RETAINING WALL.
 - SUBSTITUTE 20 SHRUBS FOR 2 SHADE TREES. DUE TO SITE CONSTRAINTS, 7 (SEVEN) OF THESE SHRUBS ARE PLACED ALONG THE PARKING AREA IN PERIMETER 4. DUE TO THE AMOUNT OF UTILITIES IN THE AREA, ONE SHADE TREE HAS BEEN MOVED TO PERIMETER 5.
 - DUE TO SITE CONSTRAINTS, THIRTY TWO (32) OF THESE SHRUBS ARE PLACED ALONG THE ENTRANCE IN PERIMETER 1.
 - SUBSTITUTE 80 SHRUBS FOR 8 SHADE TREES.
 - ONE SHADE TREE MOVED TO PERIMETER 5 AND ONE SUBSTITUTED FOR 10 SHRUBS, DUE TO EXISTING STREET TREES AND CROWDED CONDITIONS OF TREES AT MATURE SIZE.
 - 21 SHRUBS HAVE BEEN MOVED TO PERIMETER 1 BECAUSE OF PROXIMITY TO PROPERTY LINE AND FOR UNIFORM CONSISTENCY IN LANDSCAPE DESIGN.

SCHEDULE B PARKING LOT LANDSCAPING CHART

NUMBER OF PARKING SPACES	112
NUMBER OF ISLANDS REQUIRED	6
NUMBER OF ISLANDS PROVIDED	6
NUMBER OF TREES REQUIRED	6
NUMBER OF TREES PROVIDED	6
SHADE TREES	6
OTHER TREES (2:1 SUBSTITUTION)	-

PLANT LIST

KEY	QUANTITY	BOTANICAL NAME	SIZE	NOTE
+	3	ACER RUBRA 'RED SUNSET'	2 1/2"-3" CAL.	B & B
o	9	RED MAPLE	2 1/2"-3" CAL.	B & B
o	10	COLUMNAR ENGLISH OAK	2 1/2"-3" CAL.	B & B
o	10	QUERCUS ROBUR 'FASTIGIATA'	2 1/2"-3" CAL.	B & B
o	5 + 11'	LIQUIDAMBAR STYRACIFLUA 'ROTUNDILOBA'	2 1/2"-3" CAL.	B & B
o	173	JUNIPERUS VIRGINIANA CULTIVARS	6' - 8 HT.	B & B
o	122	RED CEDAR	2-1/2' - 3' HT.	B & B
o	173	ILEX GLABRA 'SHAMROCK'	2-1/2' - 3' HT.	B & B
o	122	INK BERRY	2-1/2' - 3' HT.	B & B
o	173	ILEX CORNUTA 'CARISSA'	2-1/2' - 3' HT.	B & B
o	122	CORNUS STYRACIFLUA 'ARCTIC FIRE'	2-1/2' - 3' HT.	B & B

*NOTE: THESE PLANTS ARE AT THE REQUEST OF THE DEVELOPER AND ARE PROVIDED BEYOND THE COUNTY LANDSCAPING REQUIREMENTS AND THEREFORE SHOULD NOT BE INCLUDED IN THE SURETY AMOUNT.

LANDSCAPE NOTES

- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.
- THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING (22 SHADE TREES, 5 EVERGREEN TREES, AND 285 SHRUBS) WILL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$16,200.00.

REVISED LANDSCAPING PLAN
TROY HILL CORPORATE CENTER

PARCEL A-30

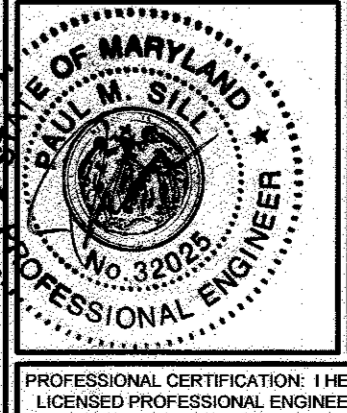
TAX MAP 37 GRID 18
1ST ELECTION DISTRICT

PARCEL 135
HOWARD COUNTY, MARYLAND

THE PURPOSE OF THIS REVISED PLAN IS TO CHANGE THE CURB AND GUTTER, STORM DRAIN, AND STORMWATER MANAGEMENT FACILITIES.

OWNER/DEVELOPER:

TROY HILL SQUARE, LLC
c/o H&H ROCK COMPANIES
MARK LEVY
6800 DEERPATH ROAD, SUITE 100
ELKRIDGE, MD 21075
410.579.2442



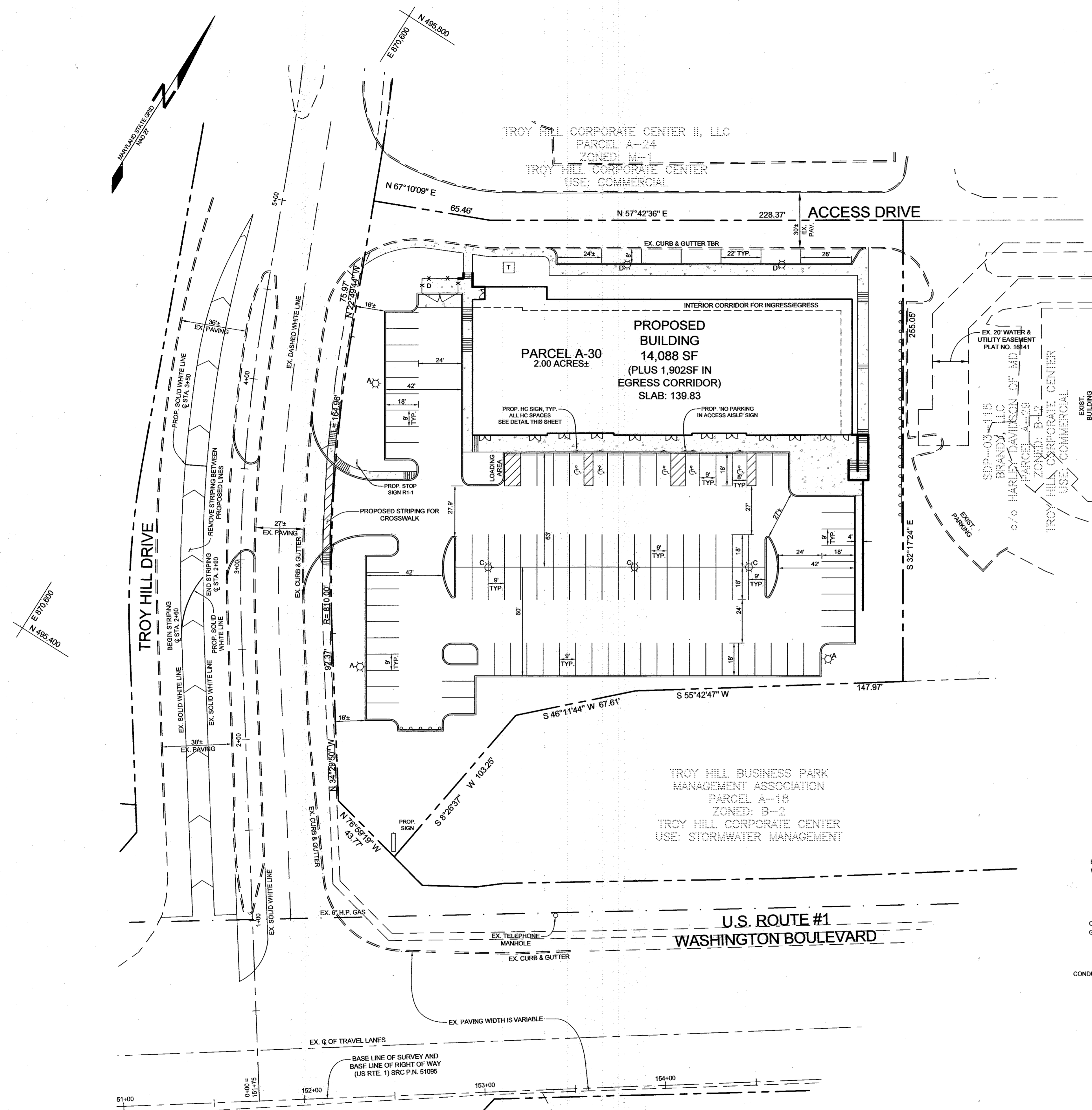
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11130 Dovedale Court, Suite 200
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Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: PS
DRAWN BY: KSZ/RA
CHECKED BY: PS
SCALE: AS SHOWN
DATE: APRIL 13, 2017
PROJECT #: 14-013
SHEET #: 8 of 15

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
7/14/17
7-25-17
7-25-17

DEVELOPER'S BUILDER'S CERTIFICATE
I 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 FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE(1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
6/21/17

NO.	REVISIONS	DATE
1	REVISE CURB, SD AND SWM	04/09/2017



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: *[Signature]* DATE: 7-14-17

Chief, Division of Land Development: *[Signature]* DATE: 7-25-17

Director: *[Signature]* DATE: 7-25-17

NO.	REVISIONS	DATE
1	REVISE CURB, SD AND SWM	04/09/2017

PLAN VIEW
SCALE: 1"=30'

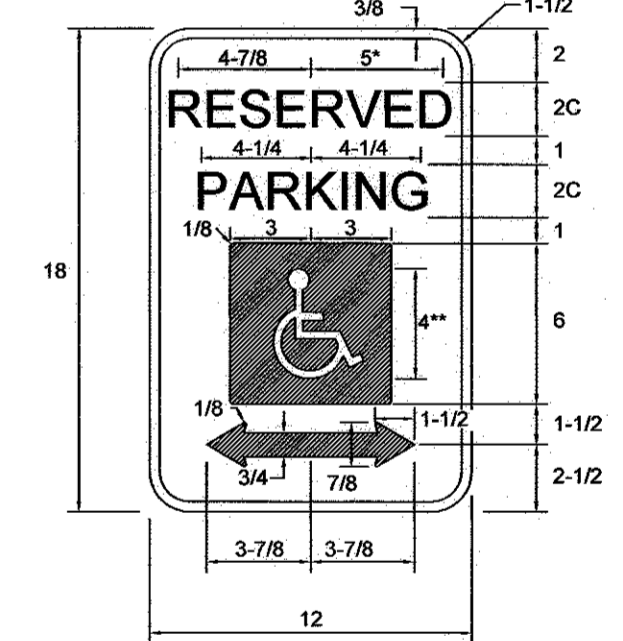
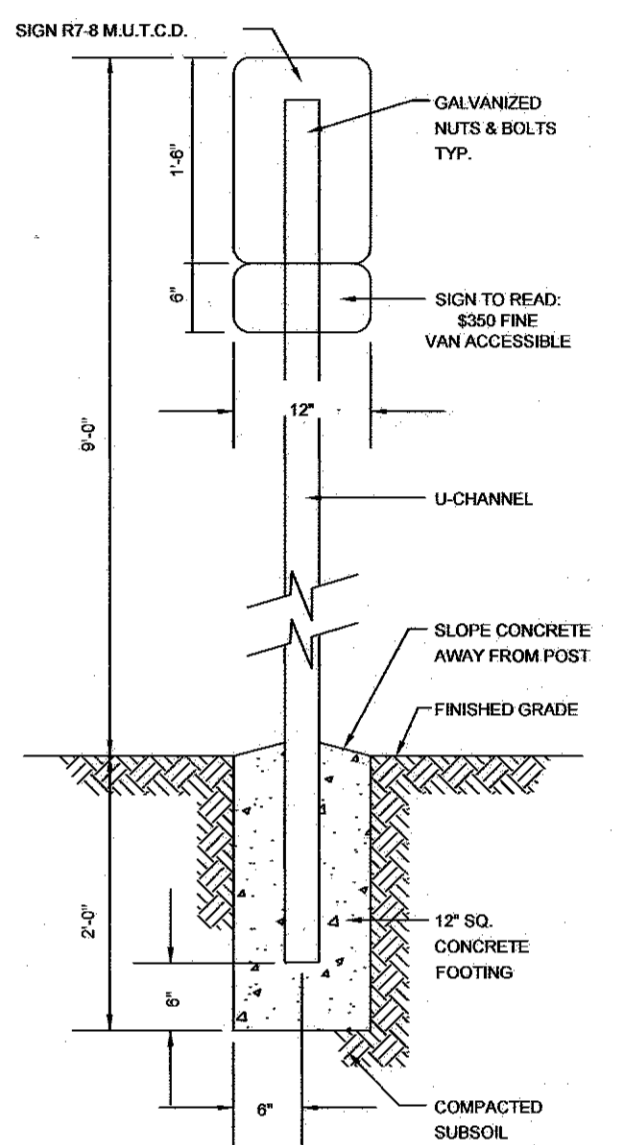
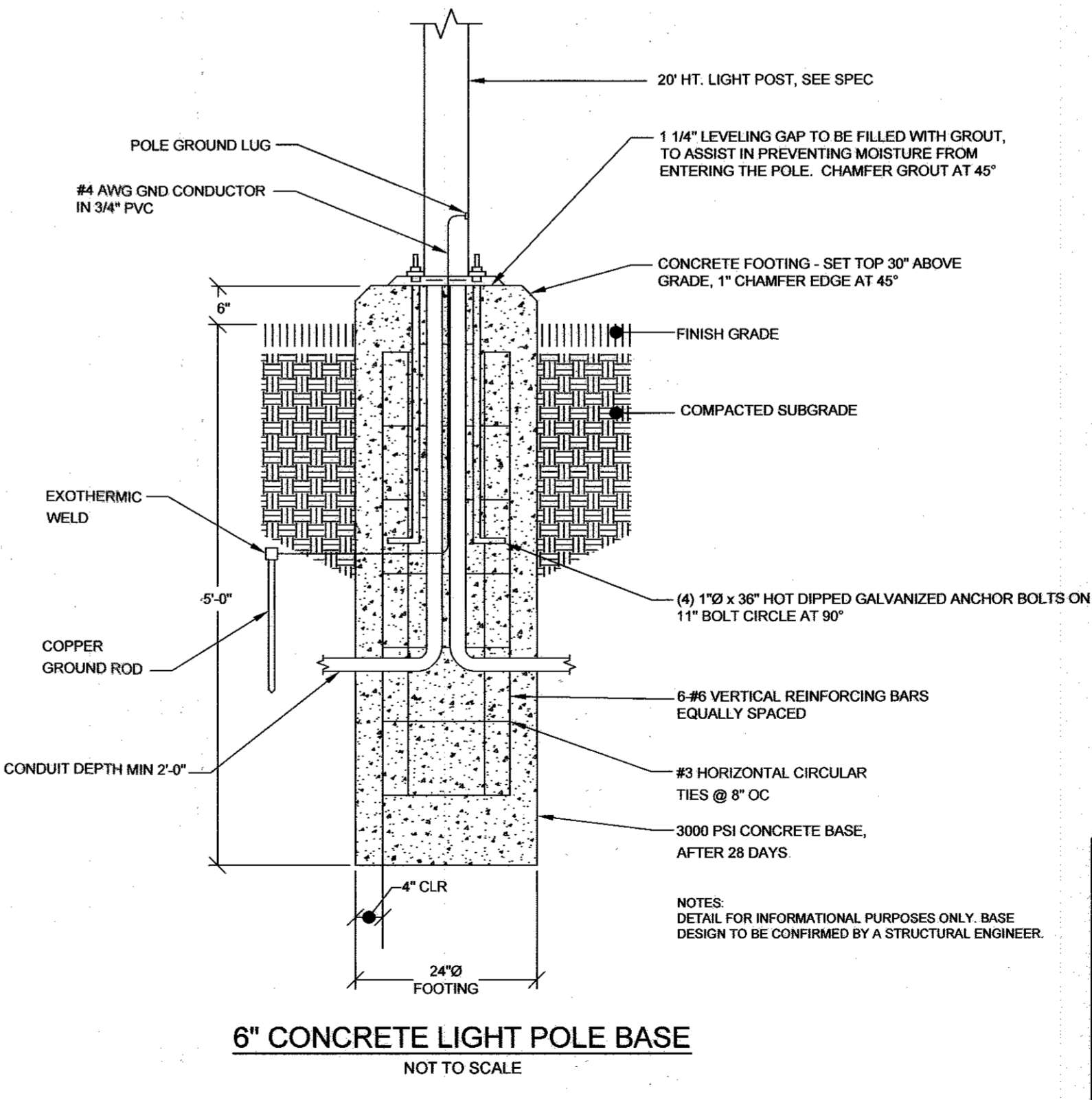
NOTES APPLICABLE TO ALL TYPE B TERMINALS

- 6:1 MAX GRADING IS ALLOWABLE WHEN THE BARRIER IS LOCATED 12 FT. OR MORE FROM THE OUTSIDE EDGE OF SHOULDER.
- END TREATMENT DELINEATION SHALL BE PLACED IN ACCORDANCE WITH STD. MD 605.02-01
- 4' FLARE REQUIRED
- TYPE B TERMINAL SHALL ONLY BE USED WHEN THE GRADING AS SHOWN AND THE REQUIRED LENGTH OF NEED IS PROVIDED.

SPECIFICATION 605	CATEGORY CODE ITEMS	Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES TYPE B TRAFFIC BARRIER END TREATMENT STANDARD NO. MD 605.02
APPROVED	<i>[Signature]</i> DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT APPROVAL - SHA: <i>[Signature]</i> APPROVAL - FEDERAL HIGHWAY ADMINISTRATION: <i>[Signature]</i> APPROVAL - 11-16-12 REVISION: 12-17-12 REVISION: 12-17-12 REVISION: 12-17-12	

LEGEND

- EXISTING CONTOUR: --- 382
- PROPOSED CONTOUR: - - - 382
- EXISTING SPOT ELEVATION: 382.0
- PROPOSED SPOT ELEVATION: +82.53
- DIRECTION OF FLOW: →
- EXISTING LIGHT POLES: * X
- PROPOSED LIGHT POLES: * X
- PROPOSED DUMPSTER AND ENCLOSURE: SEE SHEET SIX FOR DETAILS
- PROPOSED HANDICAP PARKING SPACE: ♿
- PROPOSED PARKING SPACE COUNT: 18
- PROPOSED TRANSFORMER PAD: T



NOTES:

- ALL VAN ACCESSIBLE PARKING SPACE AISLE SHALL HAVE A "NO PARKING IN ACCESS AISLE" SIGN
- SEE SYMBOL 1800 FOR SYMBOL DESIGN (ALL DIMENSIONS FOR SIGNS IN INCHES)
- LEGEND AND BORDER - GREEN WHITE SYMBOL ON BLUE BACKGROUND
- REFERENCE: STATE OF MARYLAND STANDARD HIGHWAY SIGNS BOOKLET MARYLAND DEPARTMENT OF TRANSPORTATION.

REVISED PAVEMENT STRIPING AND SIGNAGE PLAN AND DETAILS
TROY HILL CORPORATE CENTER
PARCEL A-30

TAX MAP 37 GRID 18
1ST ELECTION DISTRICT

PARCEL 135
HOWARD COUNTY, MARYLAND

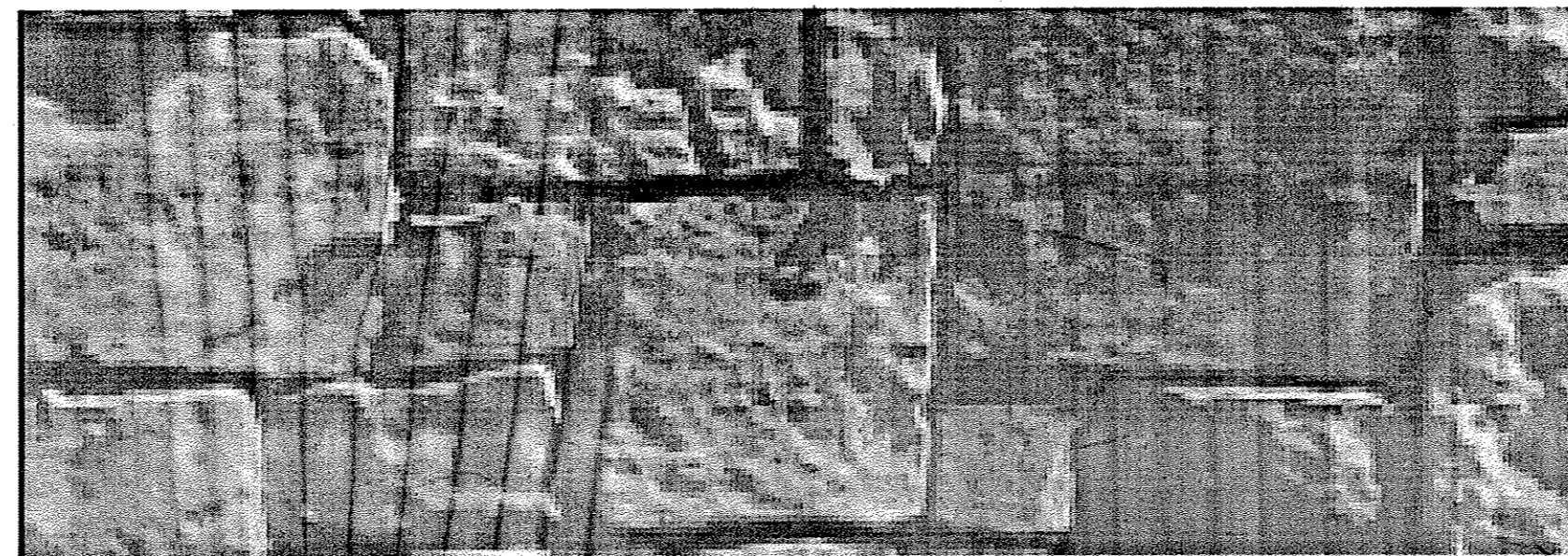
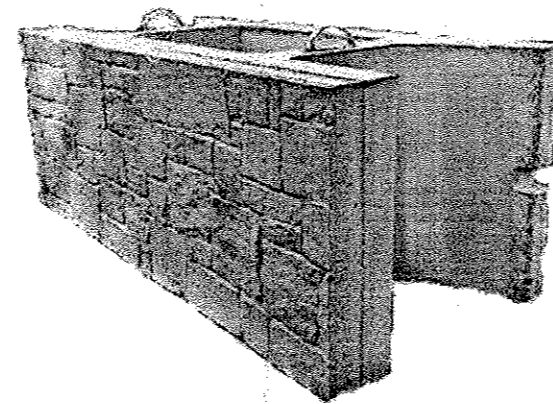
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CHECKED BY: PS
SCALE: AS SHOWN
DATE: APRIL 13, 2017
PROJECT #: 14-013
SHEET #: 9 of 15

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 20, 2019.

PRECAST CONCRETE STONE FILLED GRAVITY RETAINING WALL STONE STRONG® RETAINING WALL SYSTEM



- 1 COVER SHEET & GENERAL NOTES
- 3 PLAN VIEW
- 4 WALL ELEVATION
- 5 STONESTRONG STANDARD UNITS
- 6 TYPICAL WALL SECTIONS
- 7-9 TYPICAL WALL DETAILS

GENERAL NOTES

1. PROPERTIES OF THE Stone Strong® PRECAST CONCRETE RETAINING WALL SYSTEM SHALL CONFORM TO THOSE PRESENTED IN THE Stone Strong Systems® PRODUCT LITERATURE. THE PRECAST UNITS SHALL BE MANUFACTURED UNDER LICENSE FROM Stone Strong Systems®.
2. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF AASHTO M-288-06, CLASS III (e.g., MIRAFI 140N OR EQUIVALENT).
3. THE WALL BASE SHALL CONSIST OF MDHSA No. 57 CRUSHED AGGREGATE, OR No. 57 RECYCLED CONCRETE, OR EQUIVALENT.
4. CONSTRUCTION OF THE RETAINING WALL COMPONENTS (I.E., PRECAST CONCRETE UNITS, UNIT FILL, DRAINAGE AGGREGATE, DRAINAGE PIPES, AND BACKFILL) SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION RECOMMENDATIONS. PRIOR TO START OF WALL CONSTRUCTION, THE CONTRACTOR SHALL REVIEW THE MANUFACTURER'S INSTALLATION MANUAL FOR PRECAST CONCRETE STONE FILLED RETAINING WALLS.
5. THE DESIGN WAS PERFORMED USING THE Stone Strong Systems® DESIGN SOFTWARE (VERSION 5.1).11.
6. THESE DRAWINGS HAVE BEEN PREPARED BY AFS GEO CONSULTANTS, LLC SOLELY FOR THE USE OF RECOMMENDED Stone Strong INSTALLATION CONTRACTORS.
7. RETAINED BACKFILL SHALL BE PLACED IN HORIZONTAL LIFTS NOT EXCEEDING 8 INCHES IN COMPACTED LIFT THICKNESS AND COMPACTED TO A MINIMUM OF 95 PERCENT MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698 (STANDARD PROCTOR DENSITY). COMPACTION OF THE NO. 57 CRUSHED AGGREGATE, IF USED IN THE RETAINED BACKFILL ZONE, MAY BE ACHIEVED BY A MINIMUM OF TWO PASSES OF A VIBRATORY ROLLER OR UNTIL THERE IS NO VISIBLE MOVEMENT OF THE AGGREGATE, AS DETERMINED BY THE GEOTECHNICAL TESTING AGENCY. COMPACTION TESTING IS NOT REQUIRED FOR THE NO. 57 STONE BACKFILL.
8. HEAVY COMPACTION EQUIPMENT SHALL NOT BE OPERATED WITHIN TWO FEET OF THE WALL FACE. HAND OPERATED EQUIPMENT SHALL BE USED WITHIN TWO FEET OF FACING UNITS. IMPACT TYPE COMPACTORS SHALL BE KEPT CLEAR OF THE WALL FACE. A REDUCED LIFT THICKNESS OF 4 INCHES SHALL BE USED WITHIN THREE FEET OF THE WALL FACE.
9. ALL WALL DIMENSIONS, WALL STEPS, ETC. ARE APPROXIMATE. CONTRACTOR SHALL ADJUST DIMENSIONS AS REQUIRED TO MEET ACTUAL FIELD CONDITIONS.
10. THE DESIGN OF THE PRECAST CONCRETE GRAVITY RETAINING WALL IS BASED ON THE SITE CONCEPTUAL LAYOUT PLAN, BY SILL ENGINEERING GROUP, LLC, (DATED NOVEMBER 23, 2015). THE WALL CONTRACTOR SHALL CONSTRUCT THE RETAINING WALL BASED ON THE LINES, GRADES, AND DIMENSIONS SHOWN ON THE APPROVED SITE PLANS. THE CONTRACTOR SHALL ADJUST THE WALL GRADES AND DIMENSIONS TO MEET ACTUAL FIELD CONDITIONS, AS APPROVED BY THE ENGINEER. AFS GEO CONSULTANTS, LLC SHALL BE GIVEN THE OPPORTUNITY TO REVIEW ANY CHANGES TO THE PROPOSED GRADING IN THE VICINITY OF THE RETAINING WALL, TO DETERMINE IF A MODIFICATION TO THE WALL DESIGN, SHOWN ON THESE DRAWINGS, IS REQUIRED.
11. ALL TEMPORARY EXCAVATIONS SHALL COMPLY WITH OSHA REGULATIONS (BY OTHERS).
12. THE FOLLOWING SOIL PARAMETERS HAVE BEEN USED FOR THE DESIGN OF THIS RETAINING WALL:

Soil Design Parameters Precast Concrete Block Gravity Retaining Walls						
Material	Description	γ (pcf)	ϕ (degrees)	C (psf)	Max. Applied Bearing Pressure	Comments
Foundation Soils	Firm Natural Residual Soil (fine-grained, excluding moderately to highly plastic clay) (See Note d.)	120	27	0	1,600 psf See Wall Elevations	
Foundation Soils	Decomposed Rock (Granular), or Approved Compacted Granular Structural Fill	135	32	0	2,800 psf See Wall Elevations	
Retained Backfill	Select Granular Material (SM, SC, or more granular per ASTM D-2487) (See Note c.)	120	32	0	N/A	
Retained Backfill (STA 0+06.01 to STA. 0+12.53)	MDSHA #57 Crushed Aggregate, or #57 Recycled Concrete, or Equivalent Free-Draining Material. (See Note c.)	105 -110	36	0	N/A	
Unit Fill	MDSHA #57 Crushed Aggregate, or #57 Recycled Concrete, or Equivalent Free-Draining Material. (See Note c.)	105 -110	35	0	N/A	

NOTES:

- a. Design parameters are based on the subsurface data included in the Geotechnical Engineering Report by Herbst-Benson & Associates, Inc., dated May 25, 2015.
- b. C = Cohesion, ϕ = Friction Angle, γ = Moist Unit Weight, N/A = Not Applicable, LL = Liquid Limit, and PI = Plasticity Index.
- c. The retained backfill, and unit fill, materials shall be substantially free of shale or other soft, poor durability particles. If processed material/aggregate is used, the material shall have a magnesium sulfate soundness loss of less than 30 percent after four (4) cycles, as determined by ASTM C88 - 13.
- d. Moderately to highly plastic clay soils, if encountered at the wall's foundation subgrade, shall be undercut a minimum of 18 inches (below the bottom of the leveling pad/wall base) and replaced with compacted granular material, across the entire base width, as determined by the Owners Geotechnical Engineer/Testing Agency.
- e. AFS Geo Consultants, LLC shall be notified immediately if the actual soil conditions in the field are not as indicated by the above table, or if unsuitable/soft/loose soils are encountered in the field, as determined by the Owner's/Developer's Geotechnical Testing Agency.
- e. The maximum applied vertical wall bearing pressure(s) is indicated on the wall elevation(s). Bearing capacity and settlement of the foundation soils is the responsibility of the Owner's/Developer's Geotechnical Engineer.
- f. Live Load Traffic Surcharge = 100 psf (due to parking lot at the top of the hill).
- g. Design is based on the following minimum safety factors:
Sliding = 1.50 Overturning = 2.00

Rev. No.	Description	By:	Date:
1	Extended Retaining Wall Per Revised Civil Plans	AFS	8/29/2017



I, ALY F. SOLIMAN, 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: 19957 Expiration Date: 2/23/2019

AFS Geo Consultants, LLC
Geotechnical Consulting and Retaining Wall Design

7820 Lakeside Valley Dr.
Springfield, VA 22153
Tel: (703) 249-4655
Fax: (703) 249-4656

REVISED RETAINING WALL COVER SHEET & GENERAL NOTES

TROY HILL CORPORATE CENTER

PARCEL A-30

TAX MAP 37 GRID 18
1ST ELECTION DISTRICT

PARCEL 135
HOWARD COUNTY, MARYLAND



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DESIGN BY: TK
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SHEET #: 10 of 15

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ELKRIDGE, MD 21075
410.579.2442

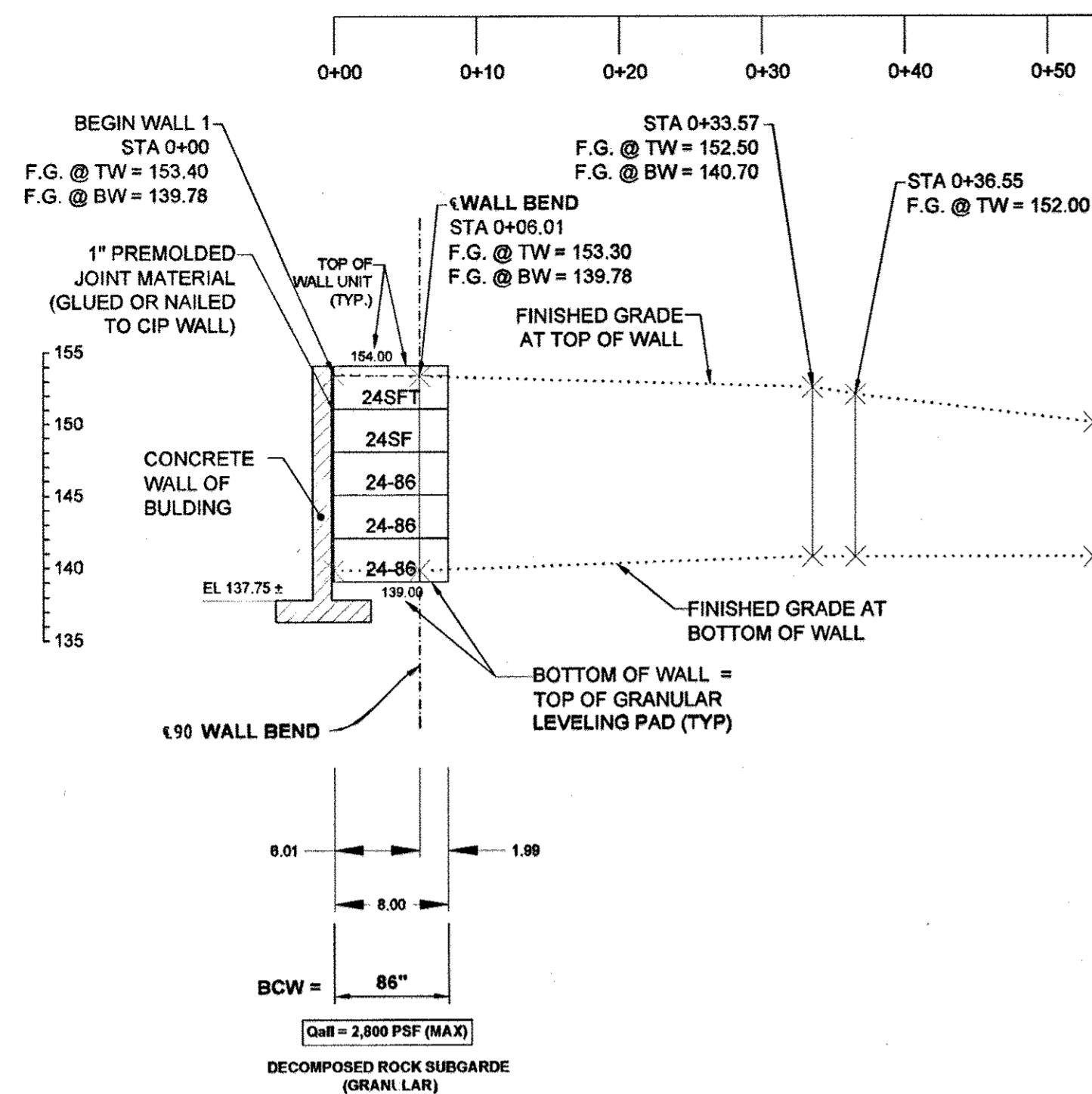
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 22023, EXPIRATION DATE: JUNE 30, 2017

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

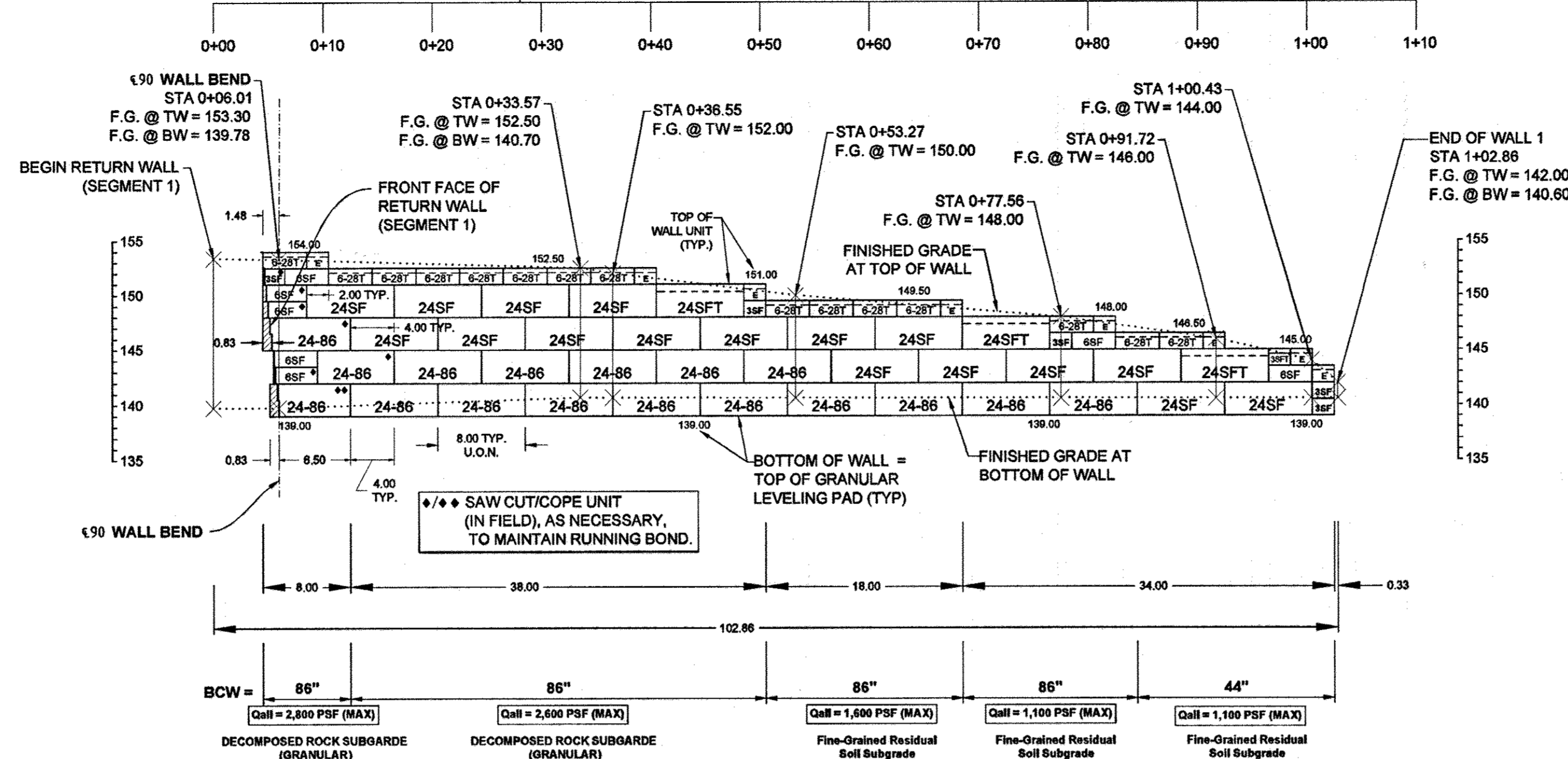
[Signature] 2-12-18
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE

[Signature] 2/16/18
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE

[Signature] 2-20-18
DIRECTOR
DATE



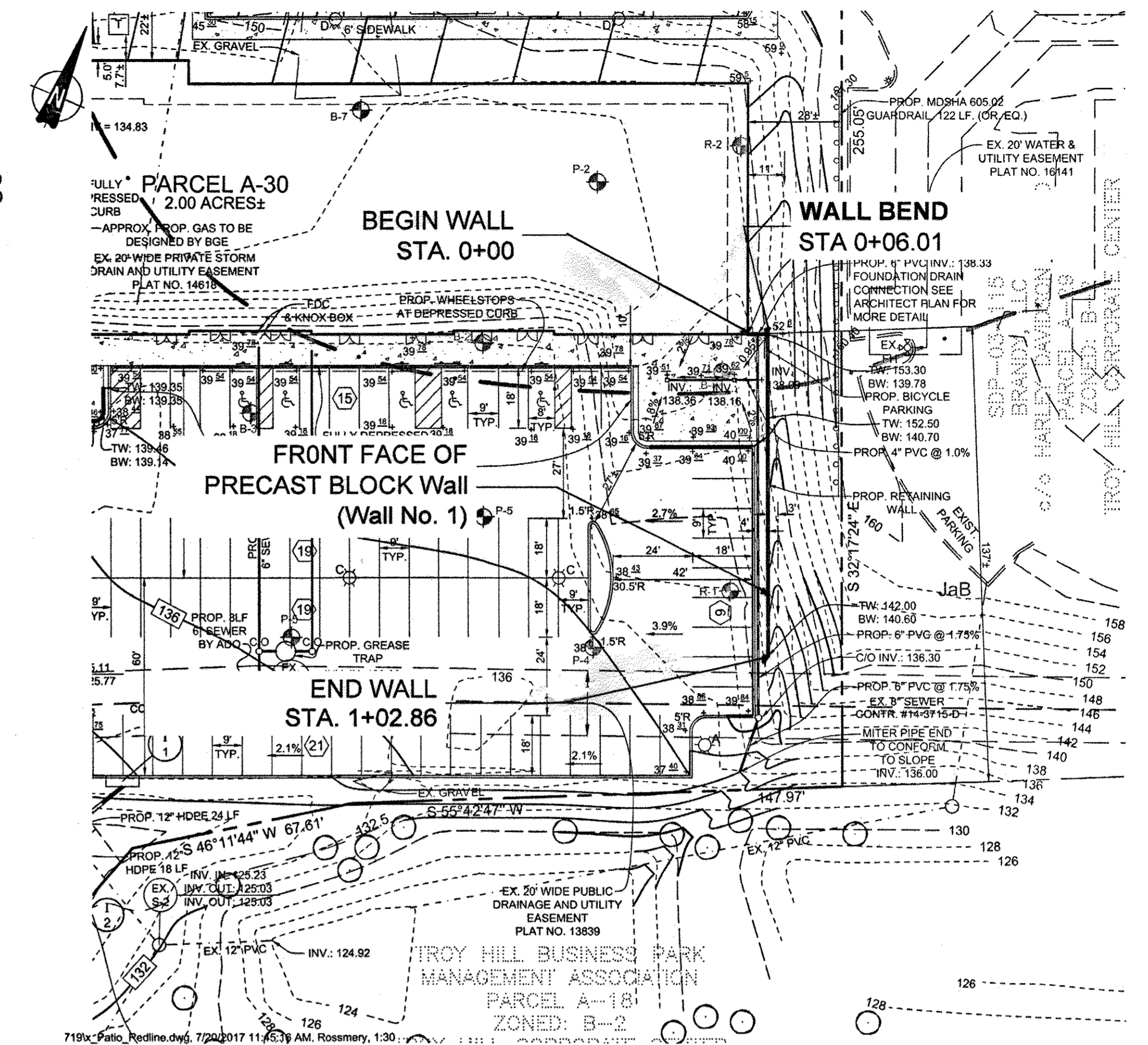
ELEVATION - WALL No.1 - SEGMENT 1/RETURN WALL - FRONT FACE
SCALE 1"=10'



ELEVATION - WALL No.1 - SEGMENT 2 - FRONT FACE
SCALE 1"=10'

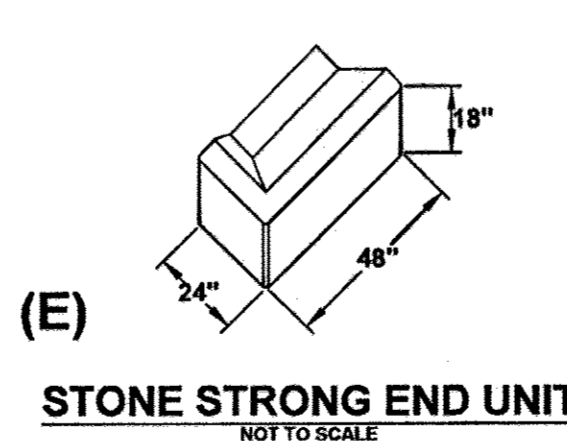
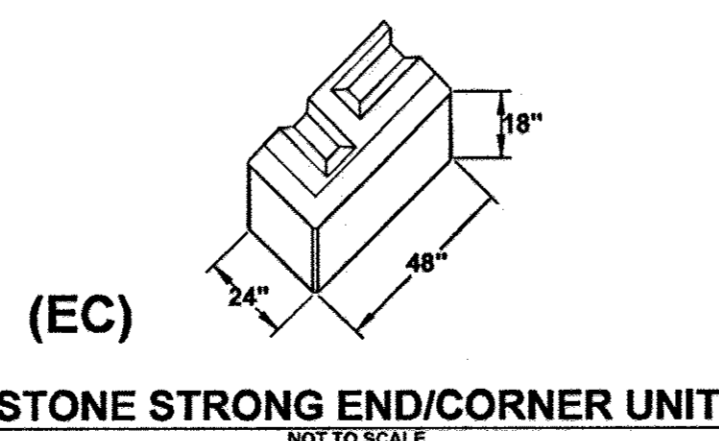
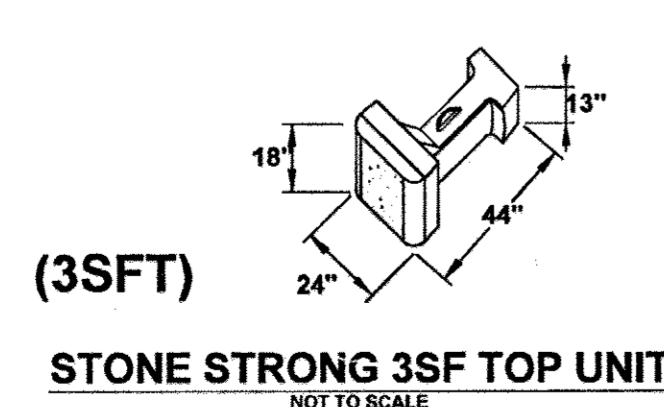
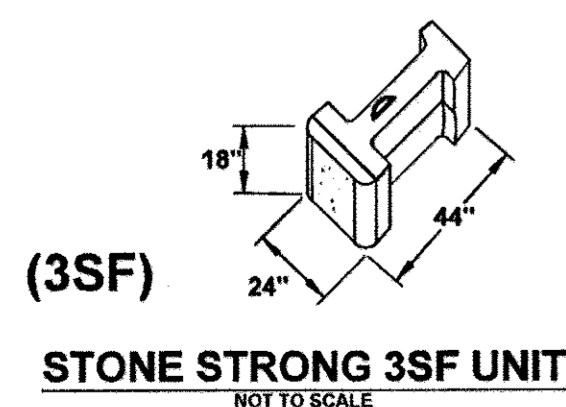
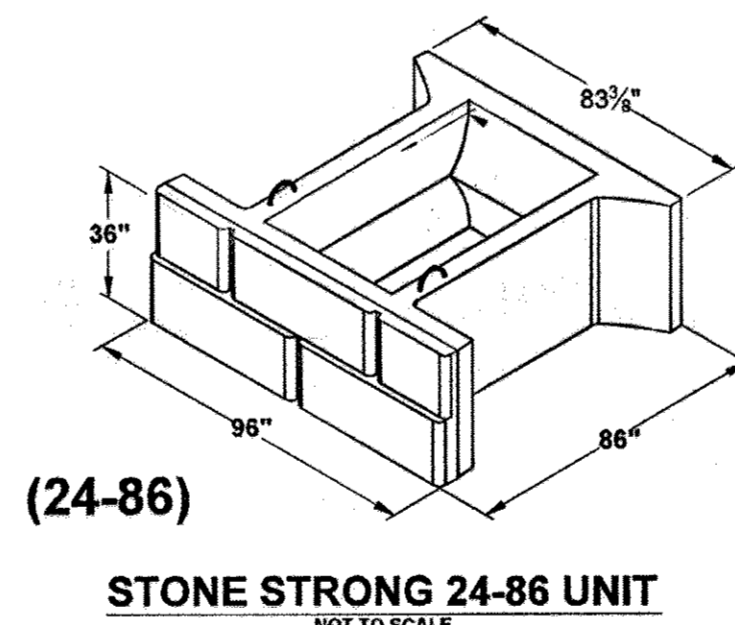
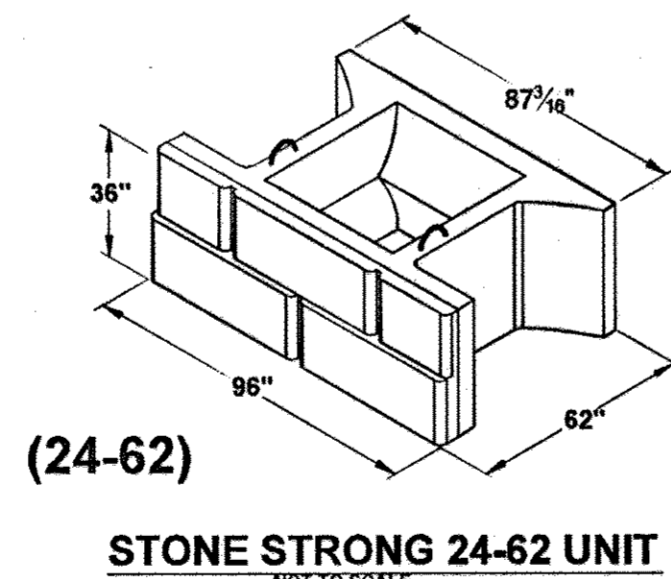
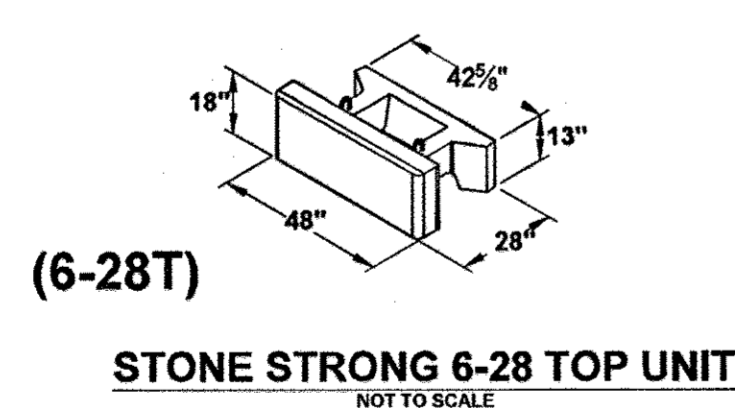
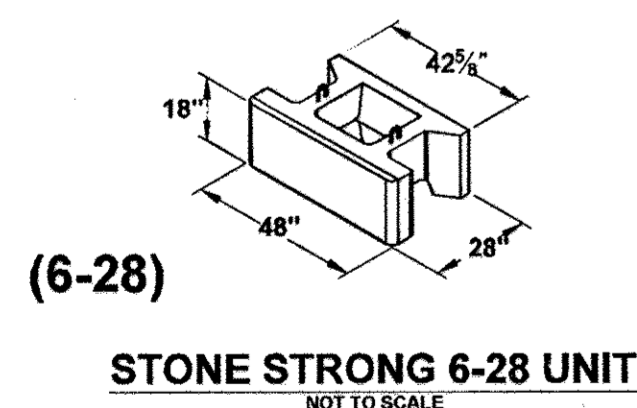
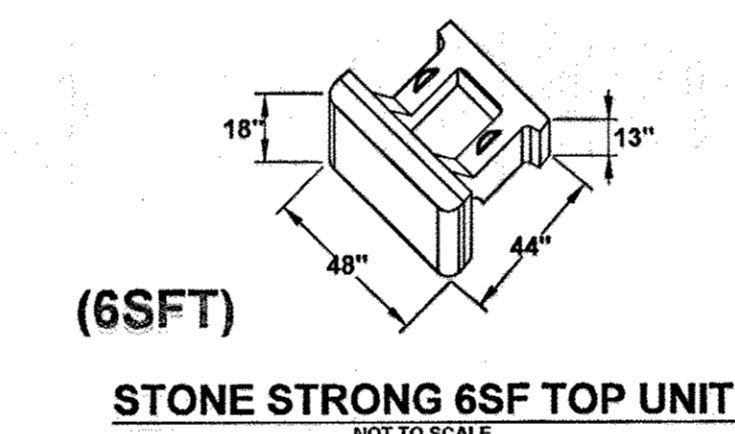
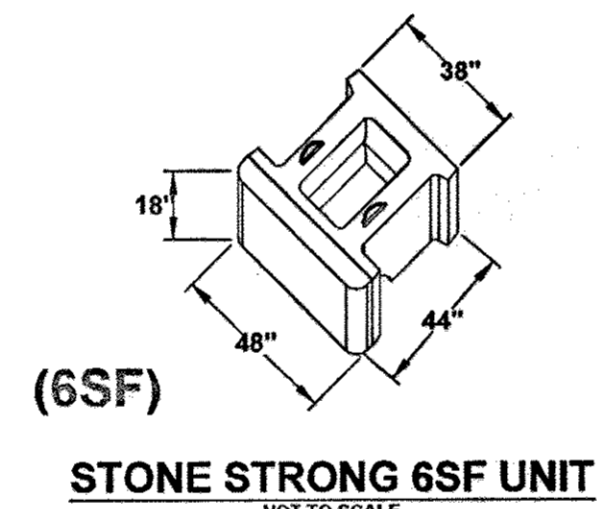
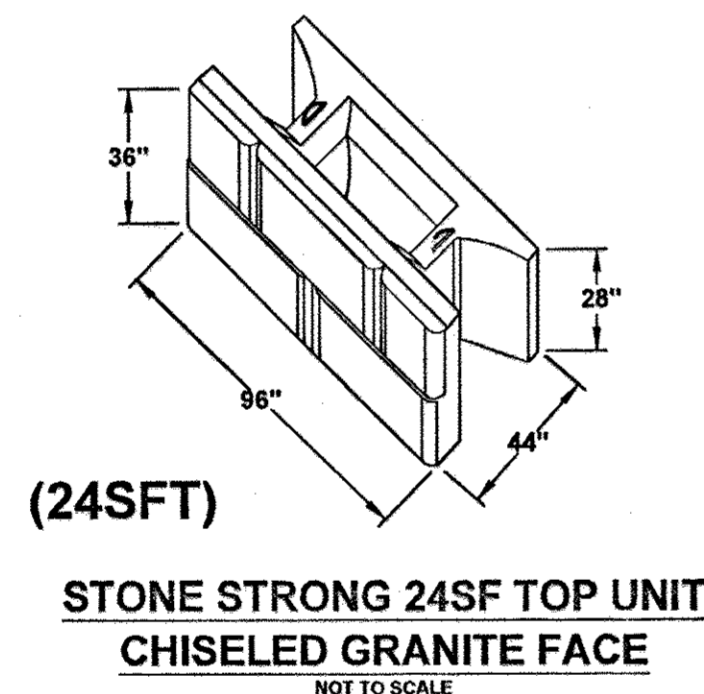
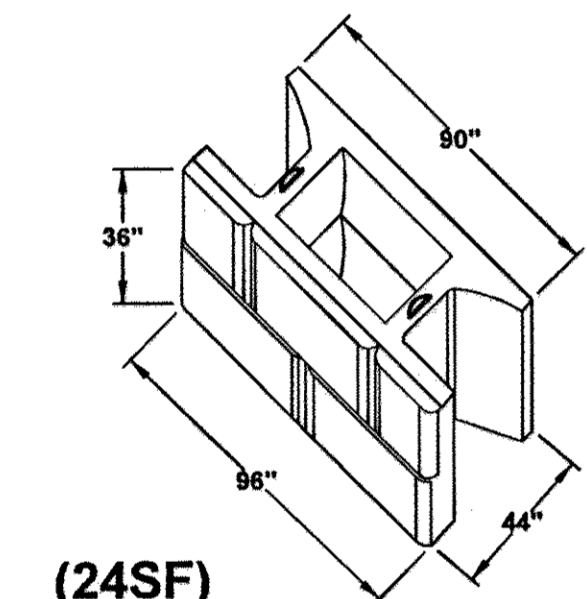
LEGEND:
 Qall APPLIED (SERVICE) VERTICAL BEARING PRESSURE
 F.G. @ TW FINISHED GRADE AT TOP OF WALL
 F.G. @ BW FINISHED GRADE AT BOTTOM OF WALL
 BCW WIDTH OF BOTTOM COURSE (PRECAST BLOCK WIDTH)
 ◆ BLOCK CUT AND/OR COPED ON ONE SIDE
 ◆◆ BLOCK CUT AND/OR COPED ON TWO SIDES
 ALL DIMENSIONS ARE IN FEET
 ALL STATIONS ARE ALONG FRONT FACE OF WALL, AT THE BOTTOM COURSE.

MAXIMUM RECOMMENDED PRECAST BLOCK CUTS
 3 SF 4" ± Per Side
 6 SF 4" ± Per Side
 24SF/24-86 1'-0" ± Per Side
 A MIN GAP OF 5" MUST BE MAINTAINED BETWEEN THE REAR FLANGES OF ADJOINING UNITS, TO PERMIT DRAINAGE BETWEEN THE CUT UNITS.



PLAN VIEW - RETAINING WALL No. 1
SCALE 1"=30'

Rev. No.	Description	By:	Date:
1	Extended Retaining Wall Per Revised Civil Plans	AFS	8/29/2017



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 2-12-18
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 2/16/18
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] 2-20-18
 DIRECTOR

STONESTRONG® STANDARD PRECAST UNITS
N.T.S.
CHISELED GRANITE FINISH SHOWN

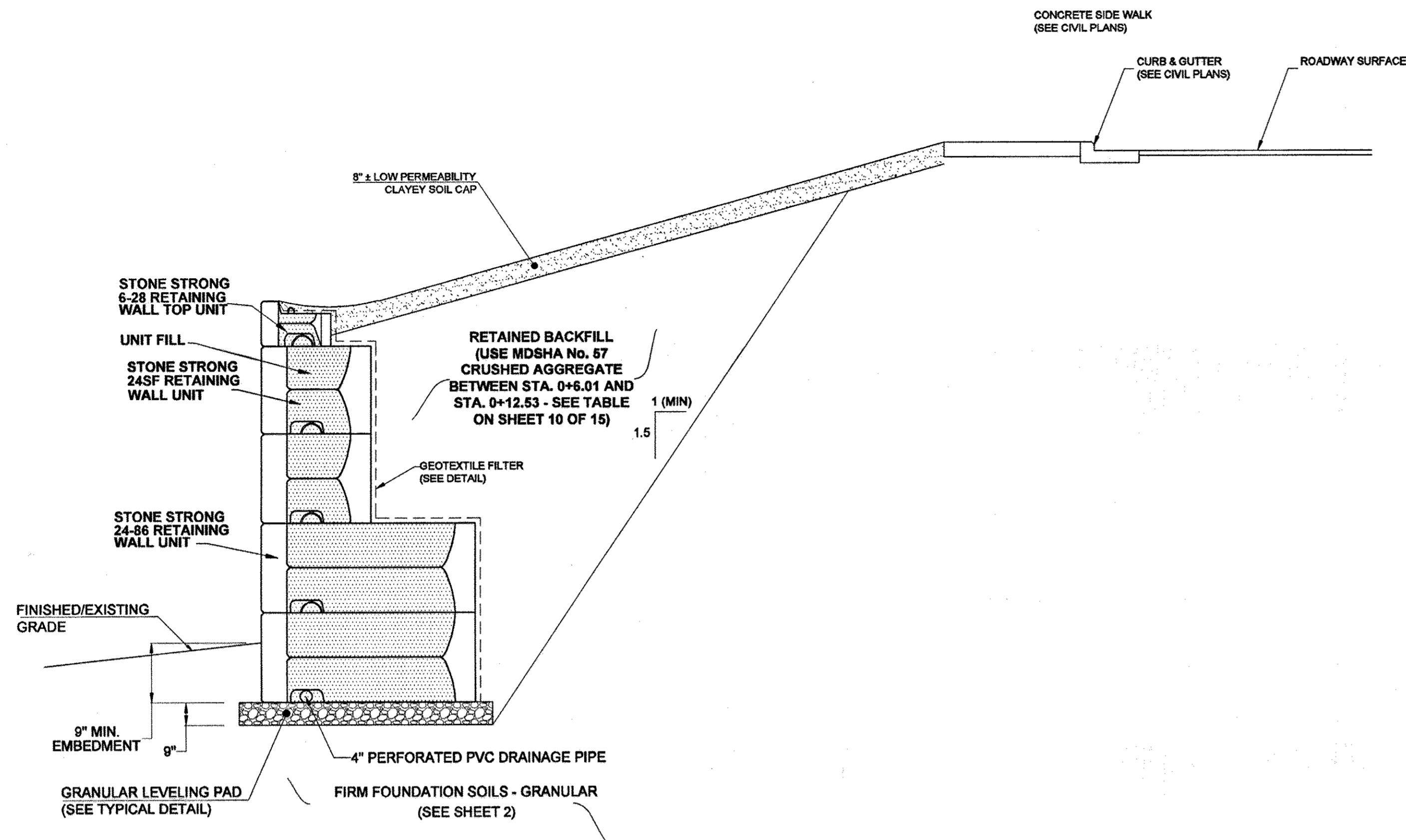
OWNER/DEVELOPER
 TROY HILL SQUARE, LLC
 c/o H&H ROCK COMPANIES
 MARK LEVY
 8800 DEERPATH ROAD, SUITE 100
 ELK RIDGE, MD 21075
 410.579.2442

SILL ENGINEERING GROUP, LLC

11130 Dovedale Court, Suite 200
 Manassasville, Maryland 21104
 Phone: 443-325-5076
 Fax: 410-696-2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

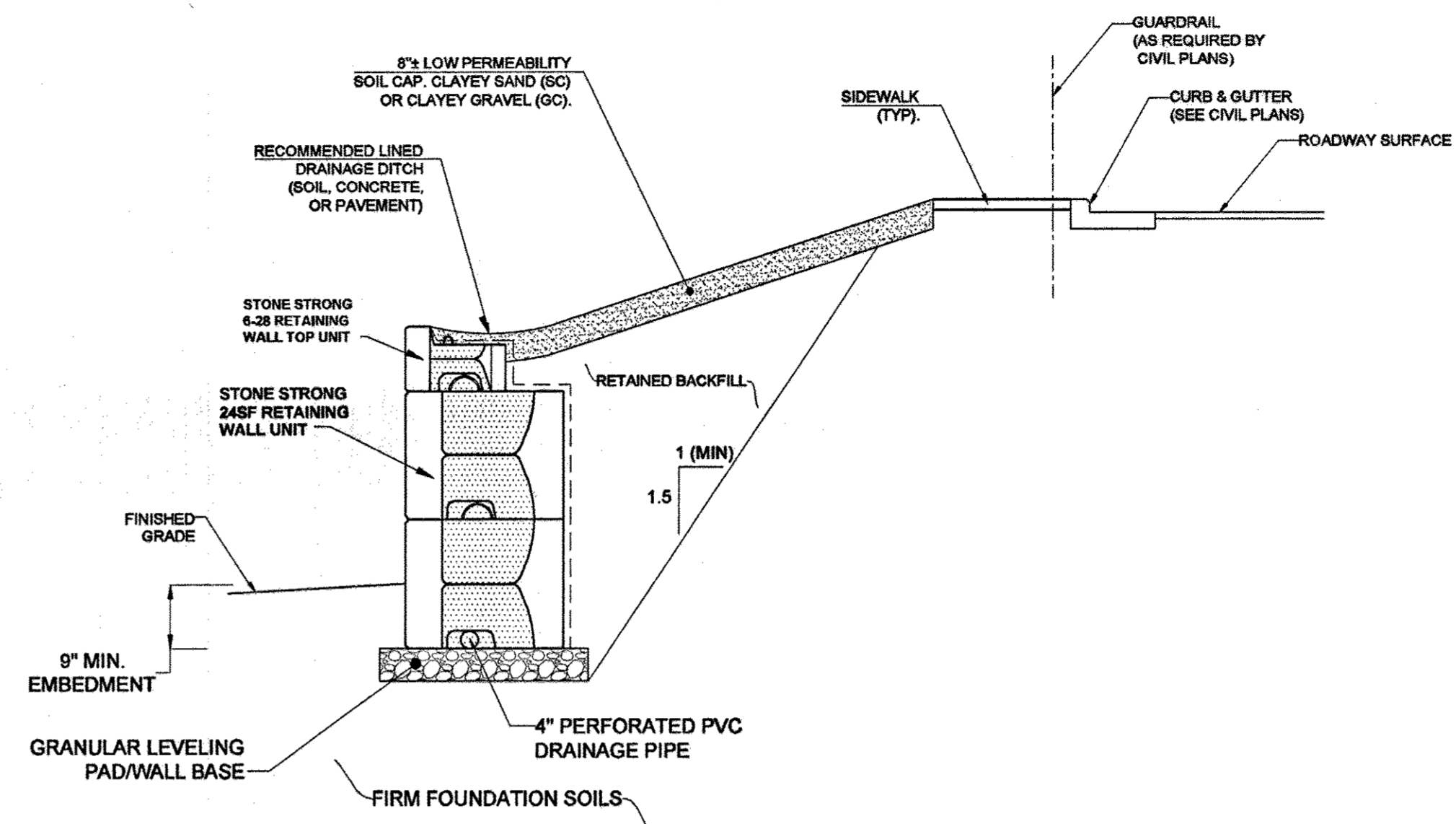
DESIGN BY: TK
 DRAWN BY: TK
 CHECKED BY: AFS
 SCALE:
 DATE: Aug 29, 2017
 PROJECT #: 14-013
 SHEET #: 11 of 15

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33923, EXPIRATION DATE: JUNE 30, 2017



TYPICAL WALL SECTION
NOT TO SCALE

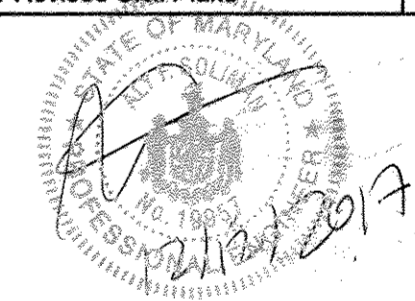
- Notes:
1. ALL TEMPORARY EXCAVATIONS SHALL MEET OSHA REQUIREMENTS.
 2. OUTLET PERFORATED DRAINAGE PIPE(S) INTO A NEARBY STORM STRUCTURE, OR DAYLIGHT AT LOW POINTS OF WALL, OR USE WEEP HOLES THROUGH THE PRECAST UNITS, AS DESIRED/AS APPLICABLE.



TYPICAL WALL SECTION
NOT TO SCALE

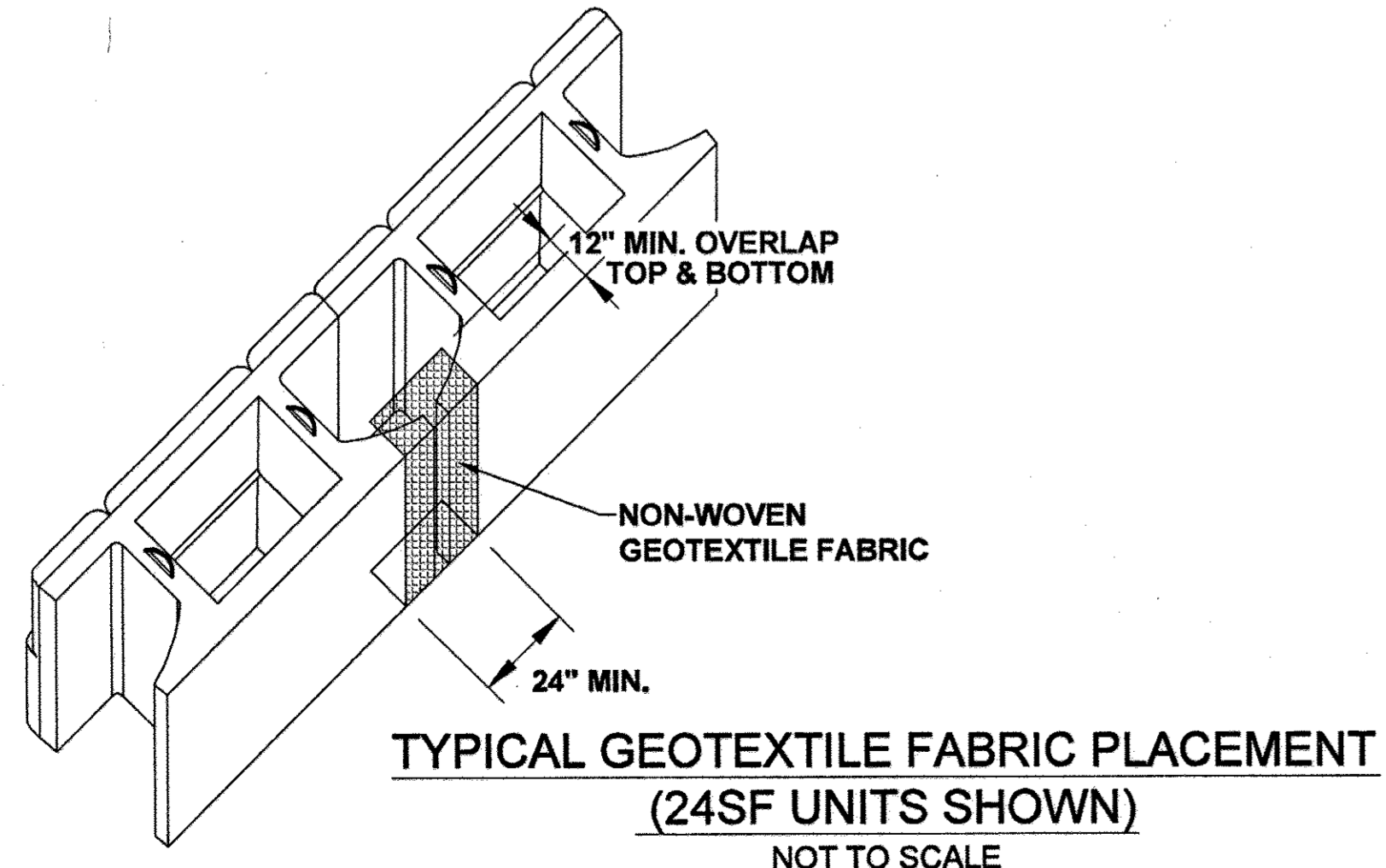
- Notes:
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Rev. No.	Description	By:	Date:
1	Extended Retaining Wall Per Revised Civil Plans	AFS	8/29/2017

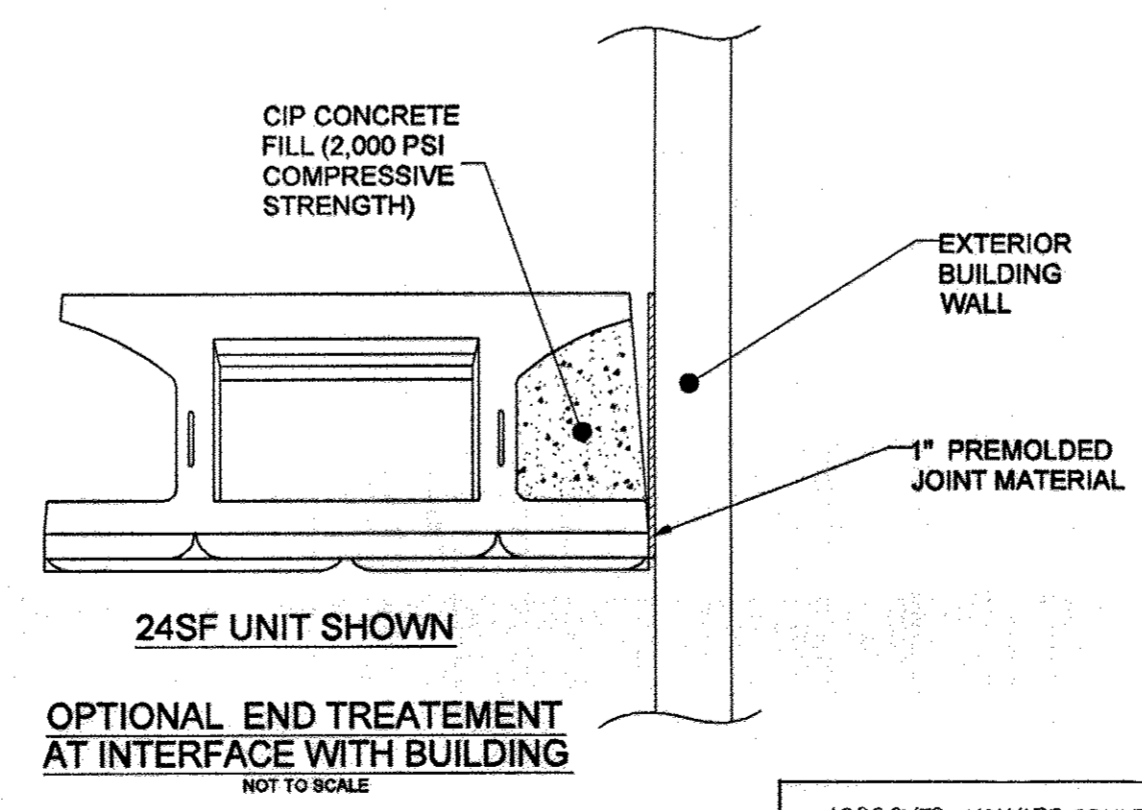


I, ALY F SOLIMAN, hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No: 19957 Expiration Date: 2/23/2019

AFS Geo Consultants, LLC
Geotechnical Consulting and Retaining Wall Design
7820 Lakeland Valley Dr.
Springfield, VA 22153
Tel: (703) 249-4655
Fax: (703) 249-4656



TYPICAL GEOTEXTILE FABRIC PLACEMENT
(24SF UNITS SHOWN)
NOT TO SCALE



OPTIONAL END TREATMENT AT INTERFACE WITH BUILDING
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Alton
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 2-12-18

Jaei Maria-Jana A. Les
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 2-16-18

Walter J. Soliman
DIRECTOR
DATE: 2-20-18

OWNER/DEVELOPER
TROY HILL SQUARE, LLC
c/o H&H ROCK COMPANIES
MARK LEVY
6800 DEERPATH ROAD, SUITE 100
ELK RIDGE, MD 21075
410.579.2442

REVISED RETAINING WALL TYPICAL SECTIONS & DETAILS
TROY HILL CORPORATE CENTER
PARCEL A-30

TAX MAP 37 GRID 18
1ST ELECTION DISTRICT

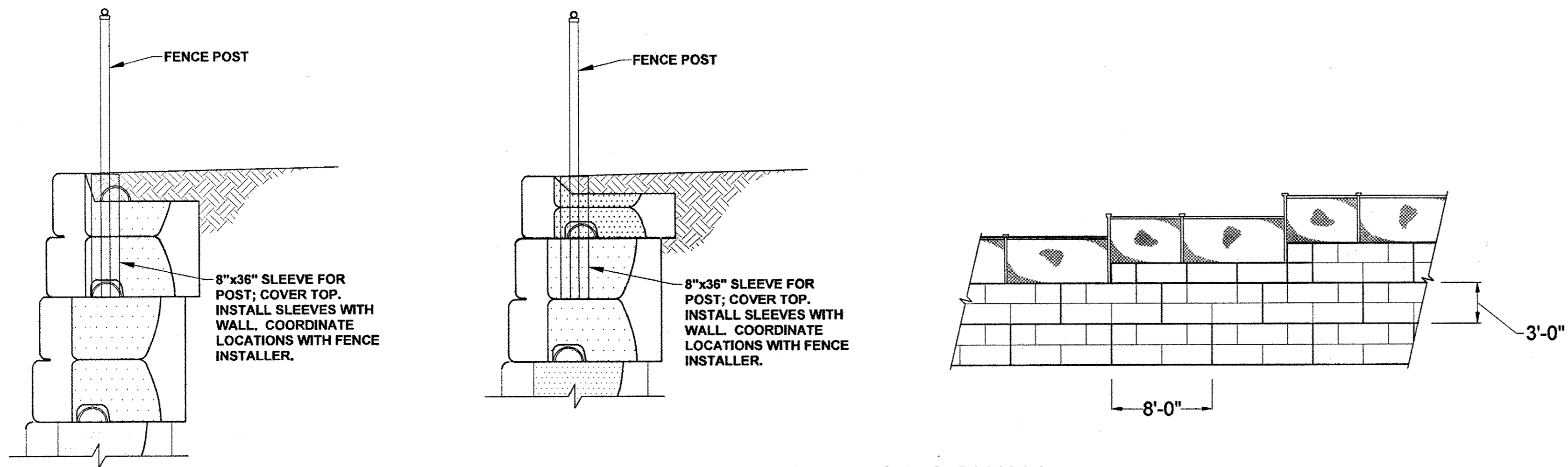
PARCEL 135
HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC
11130 Dovedale Court, Suite 200
Manassasville, Maryland 21104
Phone: 443-325-5076
Fax: 410-696-2022
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: TK
DRAWN BY: TK
CHECKED BY: AFS
SCALE:
DATE: Aug 28, 2017
PROJECT #: 14-013
SHEET #: 12 of 15

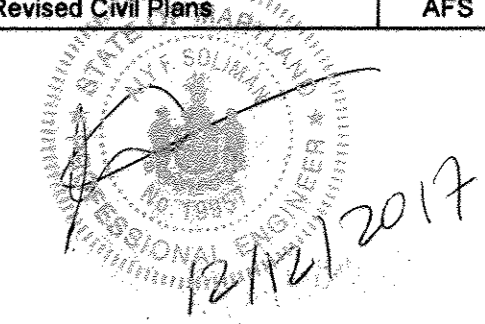
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 30, 2017

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TYPICAL FENCE DETAILS AT TOP OF WALL
NOT TO SCALE

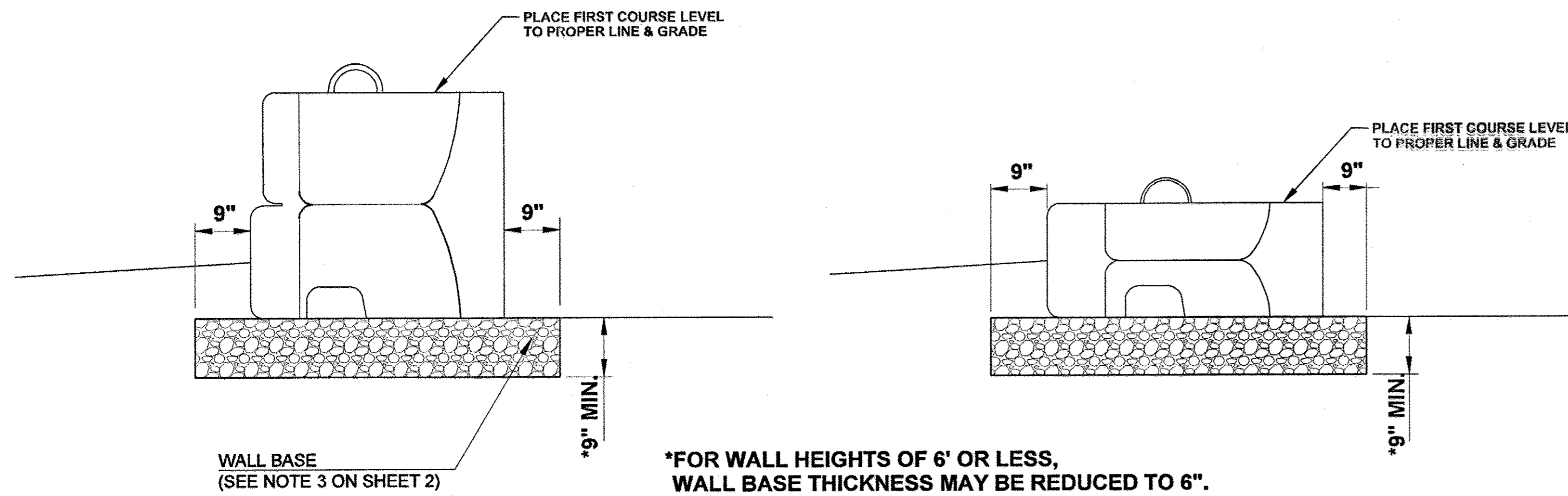
Rev. No.	Description	By:	Date:
1	Extended Retaining Wall Per Revised Civil Plans	AFS	8/29/2017



I, ALY F. SOLIMAN, 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: 19957 Expiration Date: 2/23/2019

AFS Geo Consultants, LLC
Geotechnical Consulting and Retaining Wall Design

7820 LakeLand Valley Dr.
Springfield, VA 22153
Tel: (703) 249-4655
Fax: (703) 249-4656



TYPICAL WALL BASE DETAIL
NOT TO SCALE

REVISED RETAINING WALL TYPICAL SECTIONS & DETAILS
TROY HILL CORPORATE CENTER
PARCEL A-30

TAX MAP 37 GRID 18
1ST ELECTION DISTRICT

PARCEL 135
HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER
TROY HILL SQUARE, LLC
c/o H&H ROCK COMPANIES
MARK LEVY
6800 DEERPATH ROAD, SUITE 100
ELKRIDGE, MD 21075
410.579.2442

SILL ENGINEERING GROUP, LLC
11130 Dovedale Court, Suite 200
Marriottsville, Maryland 21104
Phone: 443-325-5076
Fax: 410-696-2022
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: TK
DRAWN BY: TK
CHECKED BY: AFS
SCALE:
DATE: Aug 29, 2017
PROJECT #: 14-013
SHEET #: 13 of 15

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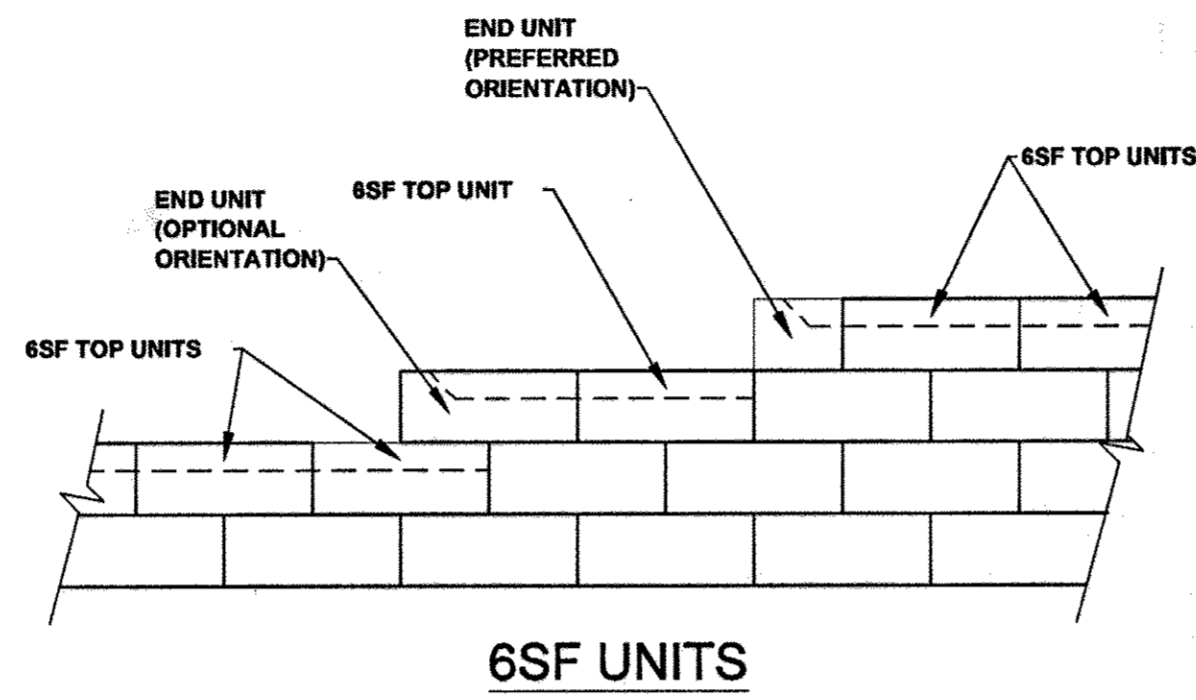
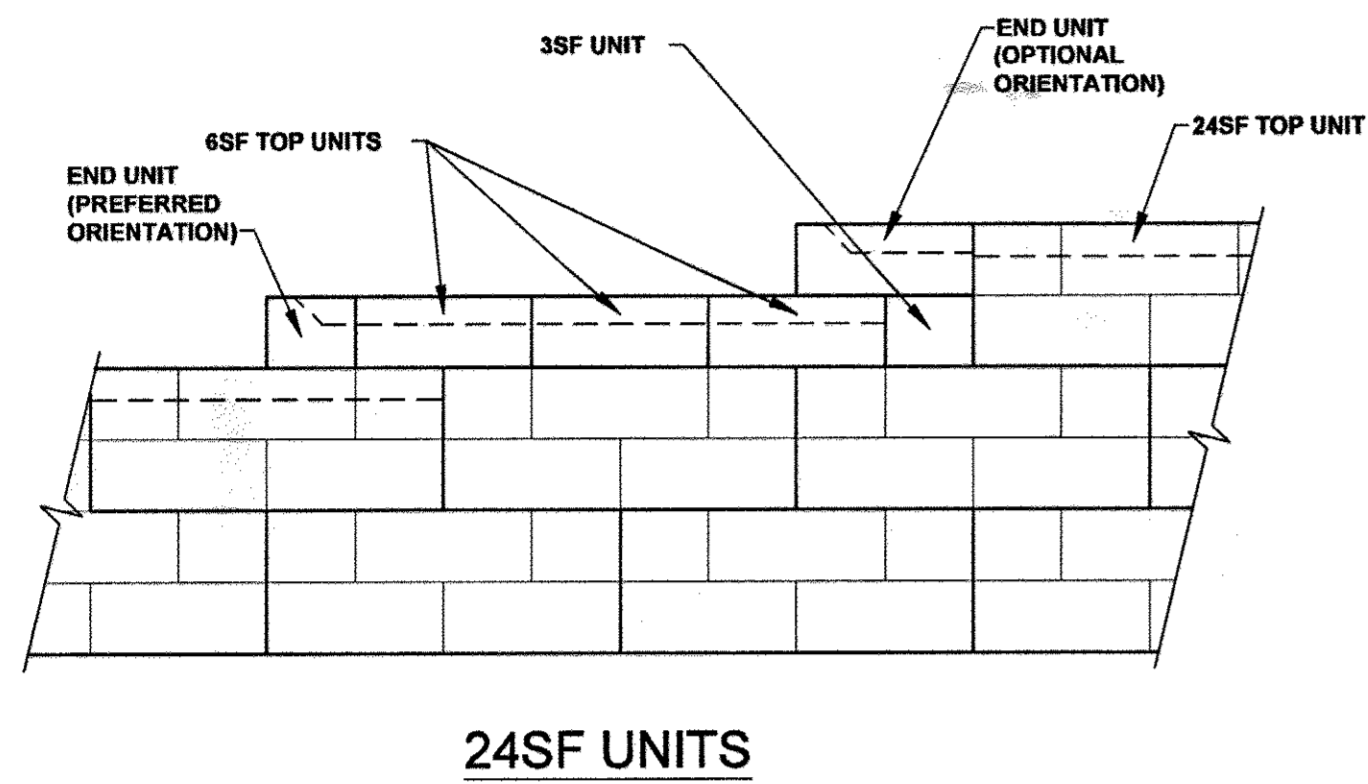
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

David Church 2-12-18
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Shirley M. ... 2/16/18
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

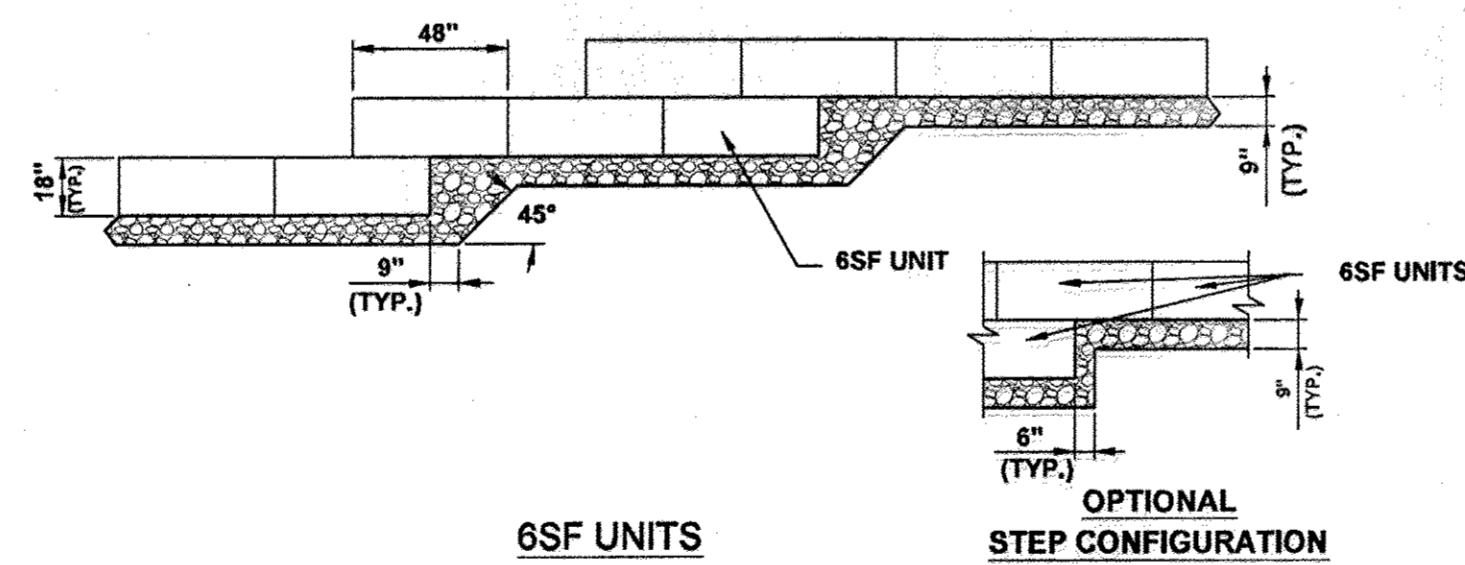
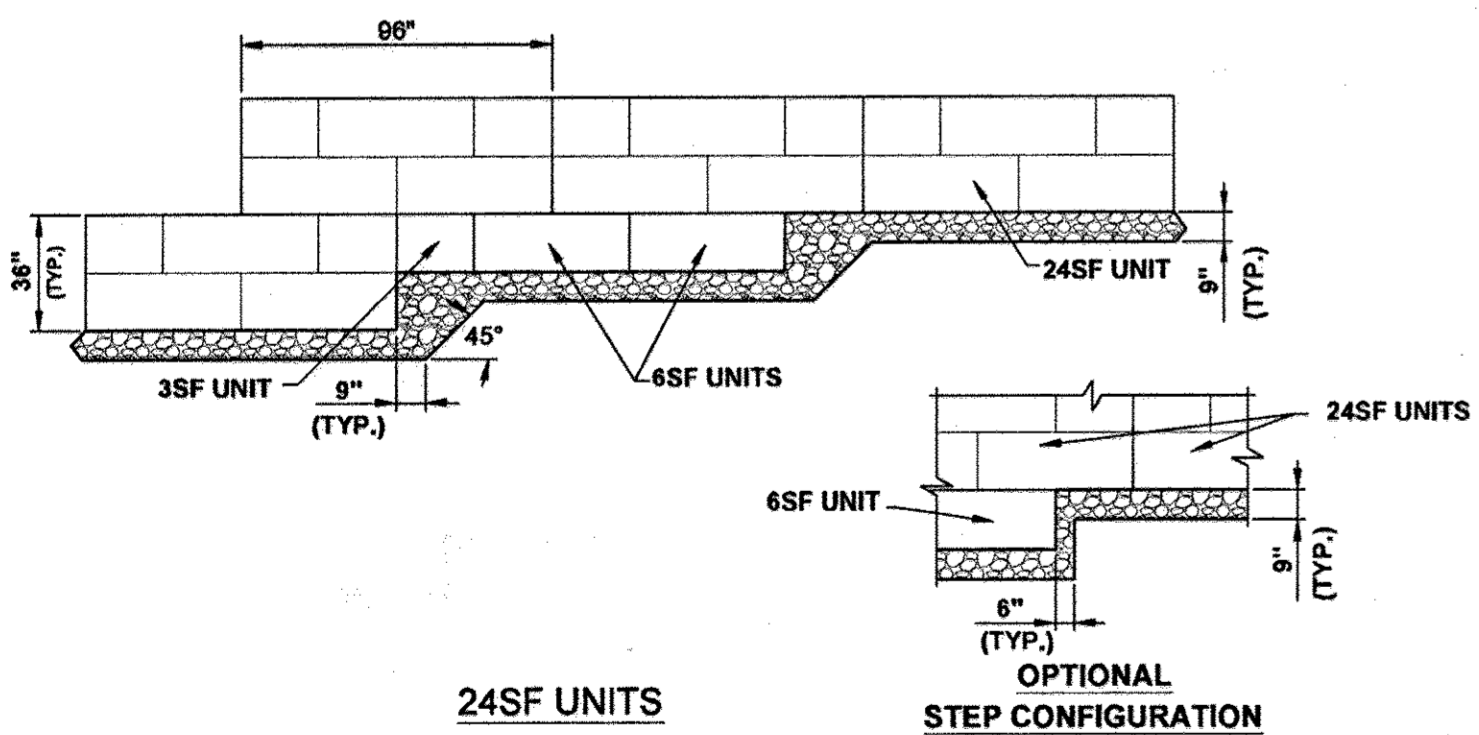
William J. ... 2-20-18
DIRECTOR DATE

AFS Geo Project D:\MD project\2016\MD\MD\2016\Troy Hill Square, Howard County, MD StoneStrongFinal CAD Design\TROY HILL Wall Plans Vertical File 26/09/16 AFS 29 August 2017 Final.dwg 8/29/2017 2:34:22 PM



TYPICAL TOP OF WALL STEPS
NOT TO SCALE

Rev. No.	Description	By:	Date:
1	Extended Retaining Wall Per Revised Civil Plans	AFS	8/29/2017



TYPICAL BOTTOM OF WALL STEPS
NOT TO SCALE



I, ALY F. SOLIMAN, 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: 19957 Expiration Date: 2/23/2019

AFS Geo Consultants, LLC
Geotechnical Consulting and Retaining Wall Design

7820 LakeLand Valley Dr.
Springfield, VA 22153
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Fax: (703) 249-4556

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 2-12-18
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 2/16/18
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 2-20-18
DIRECTOR DATE

OWNER/DEVELOPER
TROY HILL SQUARE, LLC
c/o H&H ROCK COMPANIES
MARK LEVY
6800 DEERPATH ROAD, SUITE 100
ELKRIDGE, MD 21075
410.579.2442

RETAINING WALL TYPICAL DETAILS
TROY HILL CORPORATE CENTER
PARCEL A-30

TAX MAP 37 GRID 18
1ST ELECTION DISTRICT

PARCEL 135
HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC
11130 Dovedale Court, Suite 200
Marriottsville, Maryland 21104
Phone: 483-325-5076
Fax: 410-696-2022
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: TK
DRAWN BY: TK
CHECKED BY: AFS
SCALE:
DATE: Aug 29, 2017
PROJECT #: 14-013
SHEET #: 14 of 15

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AFS Geo Project: D:\Projects\2015\MD\MD16021 Troy Hill Square, Howard County, MD - Borealis\Drawings\CAD Design\TROY HILL Wall Plans Vertical Rev. 2/12/18 AFS 29 August 2017 Final.dwg 8/29/2017 2:42:27 PM

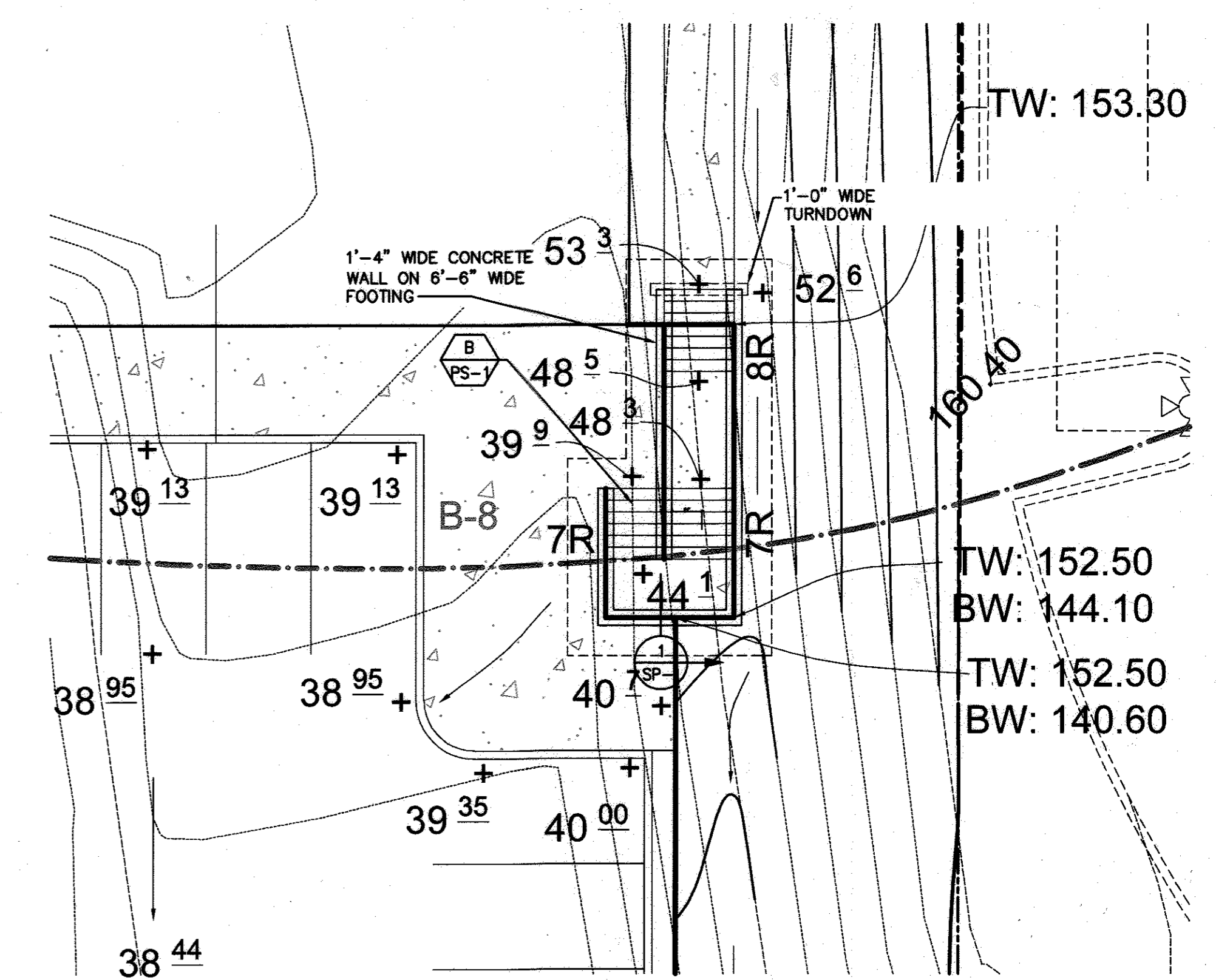
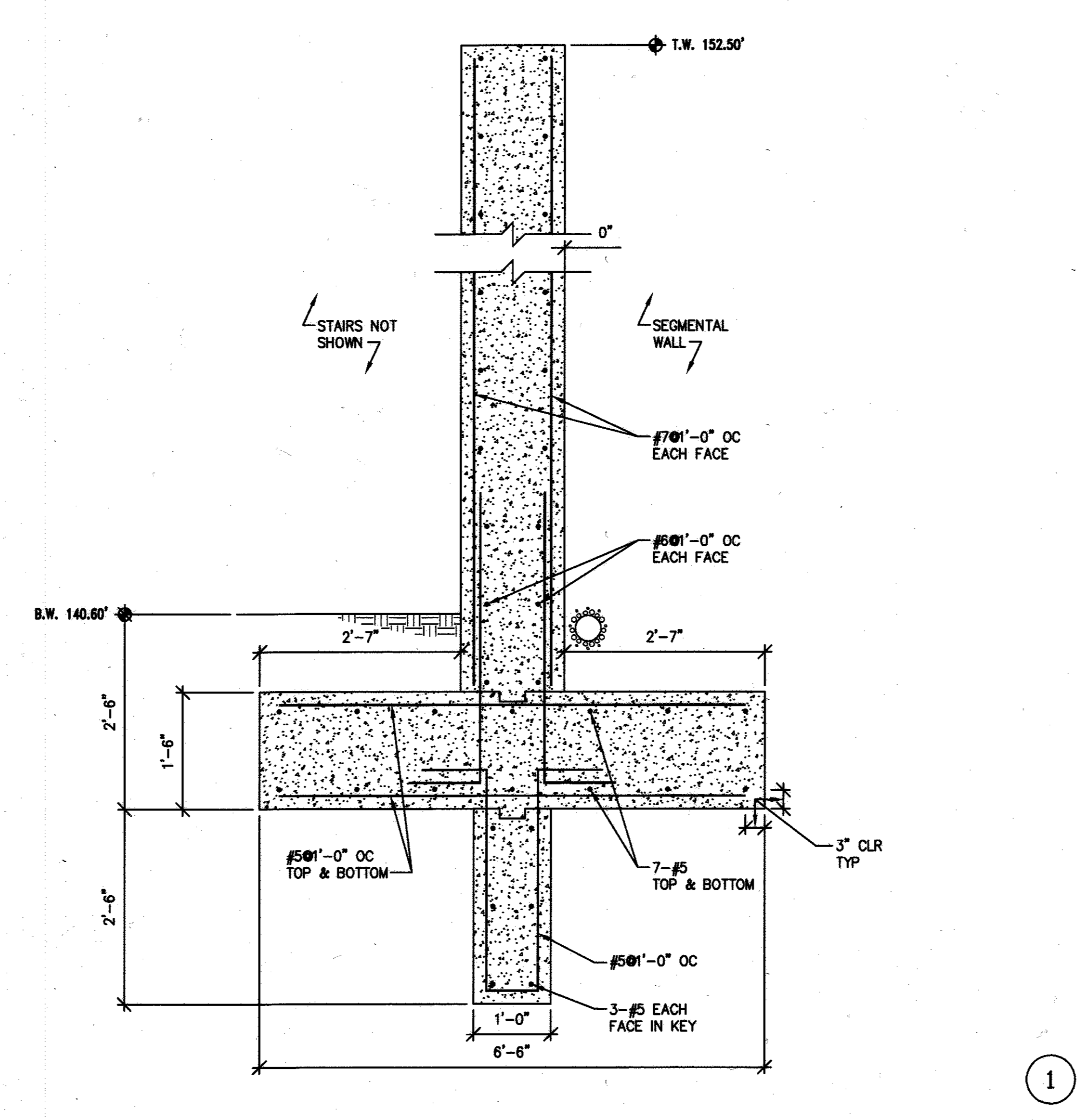
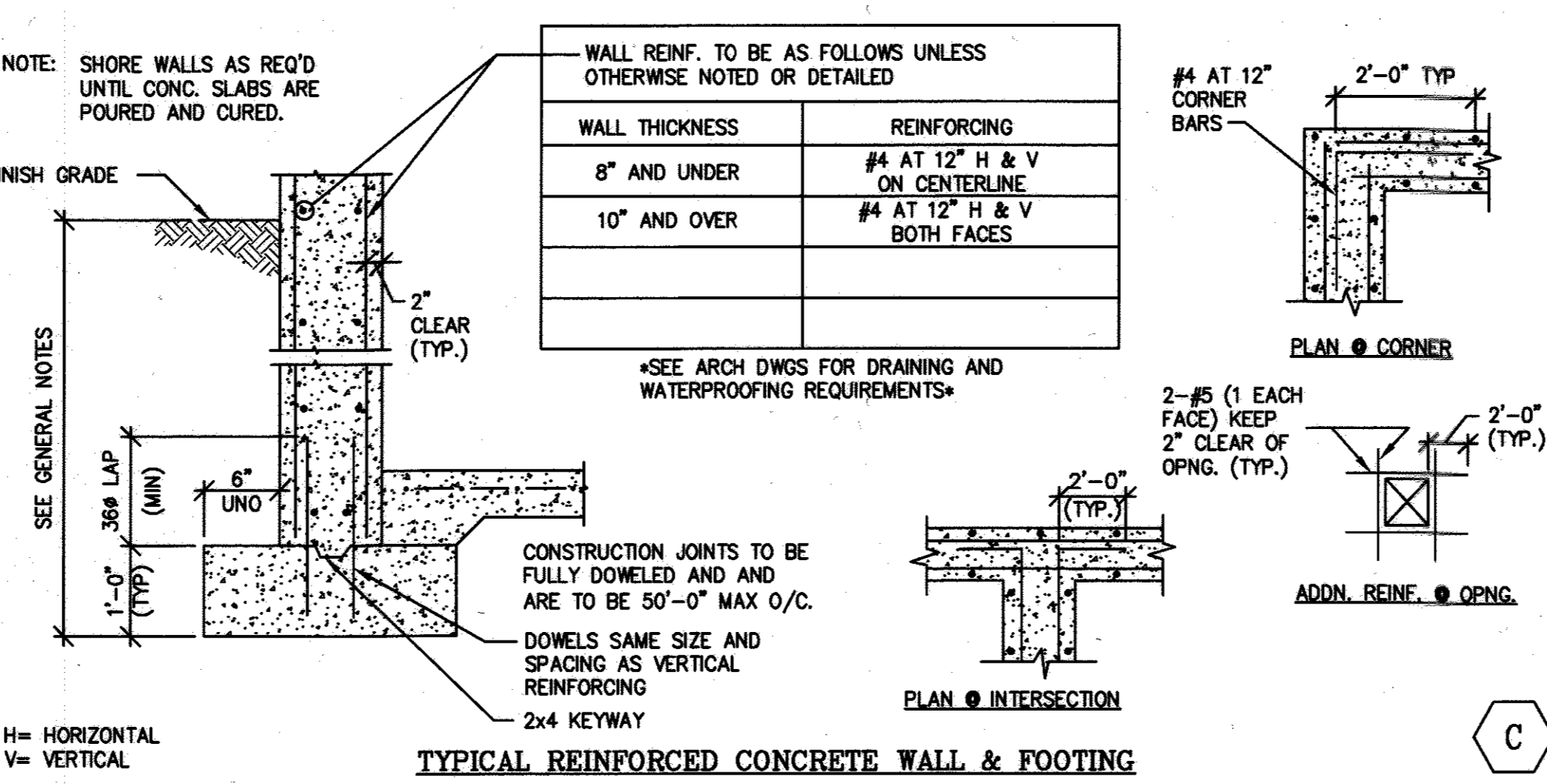
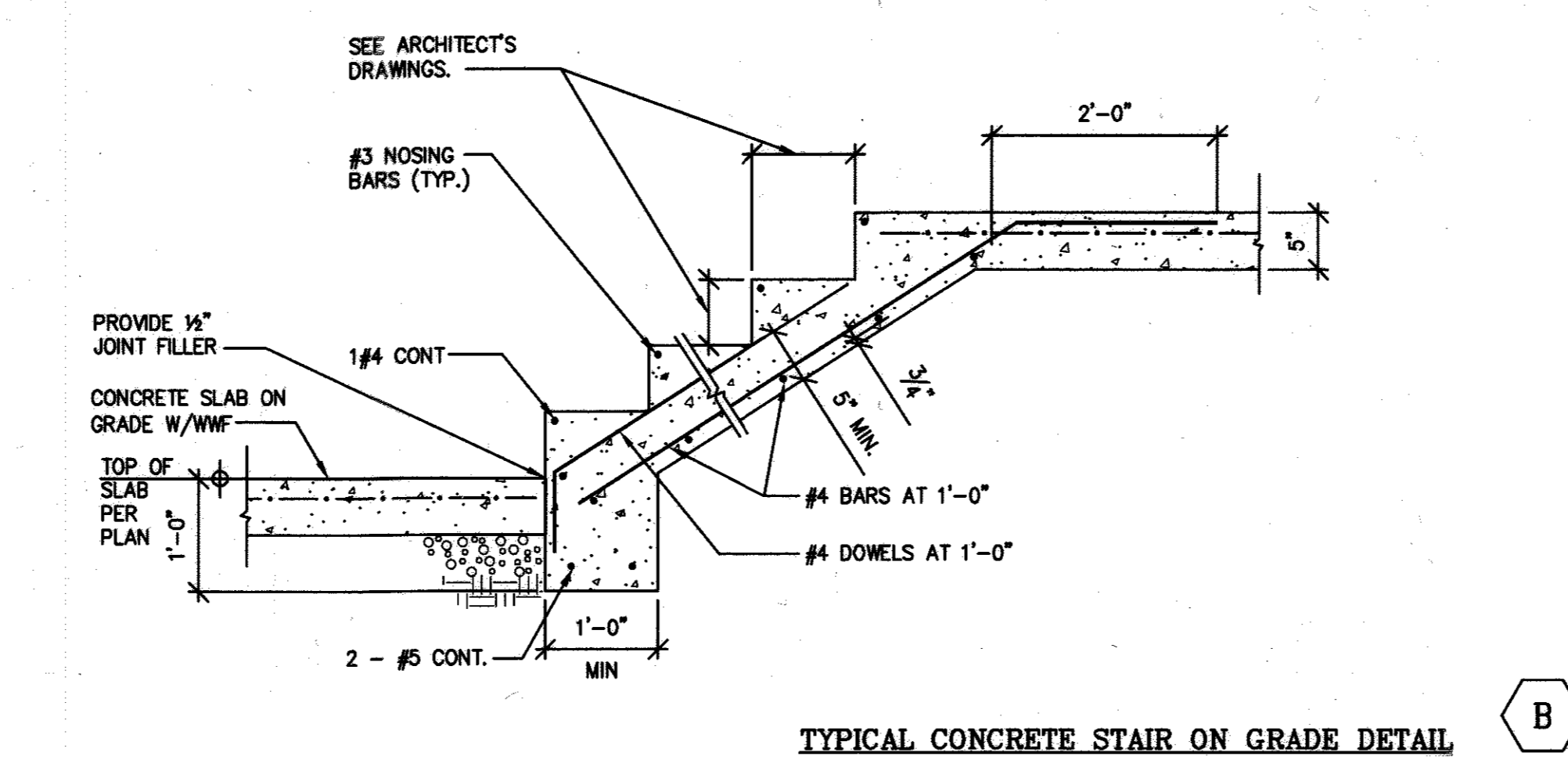
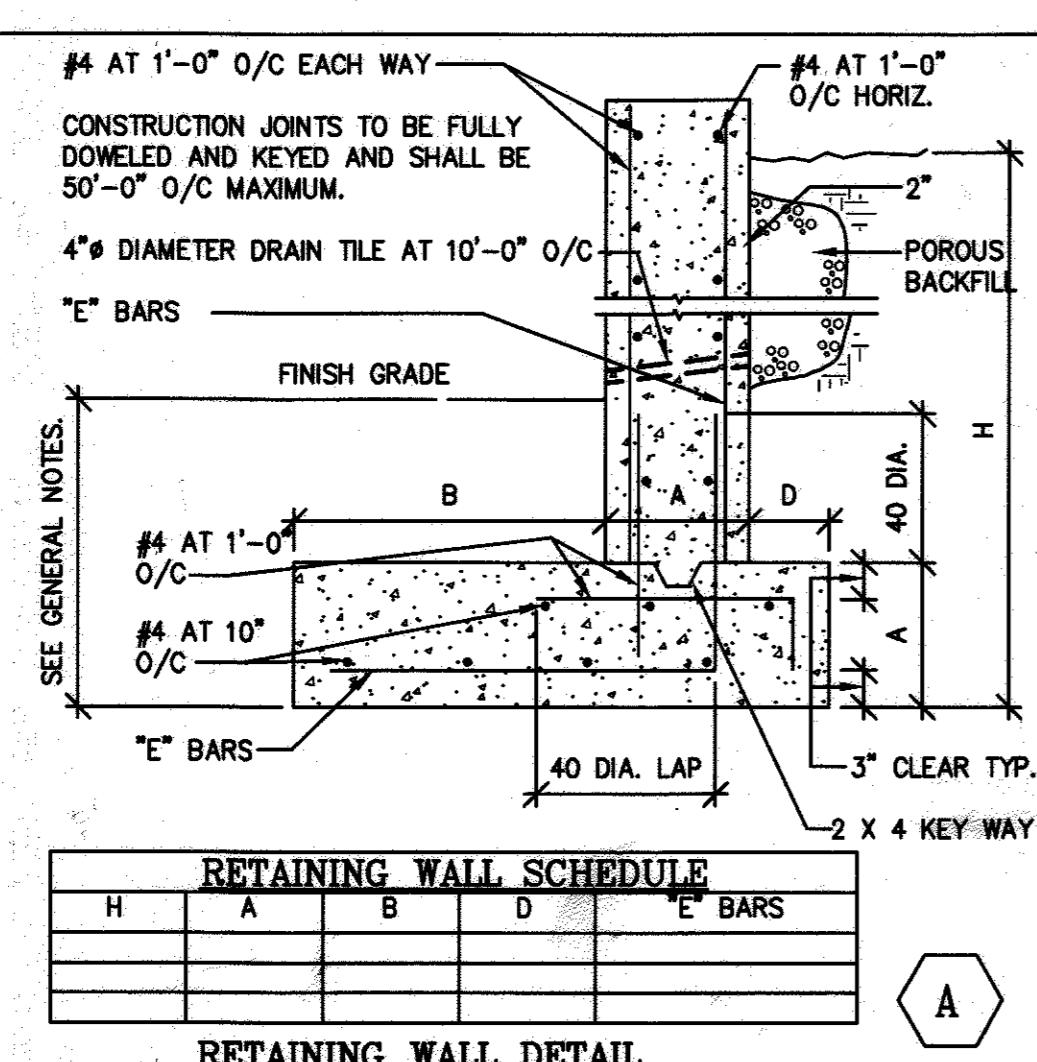
General Notes

- 1.0 GENERAL CONDITIONS**
- A. THE STANDARD GENERAL CONDITIONS FOR THE CONSTRUCTION CONTRACT N.S.P.E. DOCUMENT 1910-8 SHALL GOVERN THIS WORK AS IF ENTIRELY INCLUDED ON THESE DRAWINGS.
- 1.1 DESIGN LOADS**
- A. THE STRUCTURE WAS DESIGNED FOR THE LIVE LOADS SHOWN BELOW AND DEAD LOADS AS REQUIRED BY CONSTRUCTION IN ACCORDANCE WITH IBC 2015.
- B. LIVE LOADS SHOWN BELOW ARE IN POUNDS PER SQUARE FOOT (PSF).
- STAIRS: 100 PSF
- 1.5 SUBMITTALS**
- A. BEFORE SUBMISSION OF SHOP DRAWINGS, CONTRACTOR SHALL HAVE DETERMINED AND VERIFIED QUANTITIES, DIMENSIONS, SPECIFIED PERFORMANCE CRITERIA, INSTALLATION REQUIREMENTS, MATERIALS, CATALOG NUMBERS, AND SIMILAR DATA WITH RESPECT THERETO AND REVIEWED OR COORDINATED EACH SHOP DRAWING WITH OTHER SHOP DRAWINGS AND SAMPLES AND WITH THE REQUIREMENTS OF THE WORK AND THE CONTRACT DOCUMENTS.
- B. AFTER CHECKING AND VERIFYING COMPLIANCE WITH CONTRACT DOCUMENTS AND ACTUAL FIELD CONDITIONS, CONTRACTOR SHALL SUBMIT, FOR REVIEW, SHOP DRAWINGS REFERENCED IN THE INDIVIDUAL MATERIALS SECTIONS. CONTRACTOR SHALL STAMP OR PROVIDE A SIMILAR WRITTEN INDICATION THAT CONTRACTOR HAS REVIEWED THE SUBMISSION AND IS SATISFIED THAT MATERIALS SHOWN ARE IN COMPLIANCE WITH THE CONTRACT DOCUMENTS.
- C. A REVIEW PERIOD OF 5 WORKING DAYS WILL BE REQUIRED FOR SHOP DRAWING REVIEW, OF EACH UNIT TYPE. SHOP DRAWING SUBMISSION OF MULTIPLE COMPONENT TYPES WILL REQUIRE ADDITIONAL REVIEW TIME. SHOP DRAWINGS WILL BE FORWARDED TO ARCHITECT OR CLIENT FOR THEIR REVIEW BEFORE RETURNING TO THE CONTRACTOR.
- 2.3 FOUNDATIONS**
- A. A SOIL BEARING CAPACITY OF 4000 PSF WAS USED FOR FOOTING DESIGN. ENGAGE THE SERVICES OF A GEOTECHNICAL ENGINEER TO VERIFY EXCAVATIONS AND SOIL BEARING CAPACITY. IF SOIL OF THIS CAPACITY IS NOT ENCOUNTERED AT ELEVATIONS INDICATED, CONTACT ENGINEER OF RECORD (EOR).
- B. INSTALL FOOTING BOTTOMS 2'-6" MINIMUM BELOW EXISTING GRADE OR COMPACTED FILL, WHICHEVER IS HIGHER.
- C. COMPACT FILL AND BACKFILL TO 95% OF ASTM D-698 (1957). PERFORM FILL AND BACKFILL OPERATIONS UNDER THE DIRECT SUPERVISION OF THE GEOTECHNICAL ENGINEER.
- D. PRIOR TO POURING CONCRETE, ENGAGE THE SERVICES OF A PROFESSIONAL GEOTECHNICAL ENGINEER (REGISTERED IN MARYLAND), TO PERFORM TESTS, BORINGS, ETC., REQUIRED TO CERTIFY THAT THE SOIL BEARING CAPACITY MEETS OR EXCEEDS THAT SHOWN IN THE GENERAL NOTES ABOVE. GEOTECHNICAL ENGINEER SHALL VERIFY SUBGRADE CAPACITIES PRIOR TO INSTALLATION OF DRAINAGE FILL AND MOISTURE BARRIER.
- 3.1 CONCRETE**
- A. UNLESS GOVERNED BY BUILDING CODE OR LOCAL AMENDMENTS, CONCRETE WORK INCLUDING FORMING, MIXING, PLACING AND CURING SHALL BE IN ACCORDANCE WITH ACI 301. PLACEMENT OF REINFORCING SHALL BE IN ACCORDANCE WITH ACI 315 AND 318. WHEN THERE IS A CONFLICT, THE MOST STRINGENT IS TO APPLY.
- B. SUBMIT COMPLETE SHOP AND ERECTION DRAWINGS FOR REVIEW PRIOR TO FABRICATION OR ERECTION. REPRINTS OF CONTRACT DRAWINGS ARE NOT ACCEPTABLE. SUBMIT DESIGN MIXES FOR EACH CLASS OF CONCRETE PRIOR TO USE.
- C. CONCRETE REINFORCING: ASTM A-615, GRADE 60.
- D. WELDED WIRE REINFORCEMENT: ASTM A-185.
- E. PORTLAND CEMENT: ASTM C-150, TYPE I.
- F. BLENDED HYDRAULIC CEMENT: ASTM C-595.
- G. FLY ASH: ASTM C-618, CLASS F (25% MAX.)
- H. AGGREGATE: ASTM C-33. 1" MAXIMUM FOR FOOTINGS, WALLS AND SLABS ON GRADE.
- I. EXTERIOR CONCRETE TO BE AIR-ENTRAINED AND SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
- J. WATER CEMENT RATIO NOT TO EXCEED 0.45 FOR AIR ENTRAINED CONCRETE.
- K. INSTALL WELDED WIRE REINFORCEMENT 2" BELOW UPPER SURFACE OF CONCRETE SLAB.
- L. REINFORCING FOR FOOTINGS AND OTHER CONCRETE USING EARTH FORMS SHALL

- HAVE 3" CONCRETE COVER. REINFORCING FOR CONCRETE EXPOSED TO GROUND OR WEATHER AFTER REMOVAL OF FORMS SHALL HAVE 2" CONCRETE COVER.
- M. LAP CONTINUOUS FOOTING REINFORCING 48 BAR DIAMETERS AT SPLICES.
- N. USE A WATER REDUCING ADMIXTURE IN ALL CONCRETE.
- O. USE A MINIMUM OF 5 1/2 BAGS OF CEMENT AND A MAXIMUM OF 6 1/2 GALLONS OF WATER PER BAG FOR EACH CUBIC YARD OF CONCRETE.
- P. SLUMP - AS REQUIRED BY ACI (211.1), EXCEPT THAT SLABS-ON-GRADE AND THIN-FRAMED SLABS SHALL HAVE A MAXIMUM SLUMP OF 4". SHOULD EXTRA WATER BE REQUIRED BEFORE DEPOSITING CONCRETE AND WATER/CEMENT RATIO OF ACCEPTED MIX DESIGN HAS NOT BEEN EXCEEDED, GENERAL CONTRACTOR'S SUPERINTENDENT SHALL HAVE SOLE AUTHORITY TO AUTHORIZE ADDITION OF WATER. ANY ADDITIONAL WATER ADDED TO MIX AFTER LEAVING BATCH PLANT SHALL BE INDICATED ON THE TRUCK TICKET AND SIGNED BY PERSON RESPONSIBLE. SUBMIT COPY OF TRUCK TICKET FOR REVIEW.
- Q. AIR ENTRAIN EXTERIOR EXPOSED CONCRETE 6% +/- 1%.
- R. NO CALCIUM CHLORIDE WILL BE PERMITTED IN CONCRETE.
- S. ENGAGE THE SERVICES OF A TESTING AGENCY APPROVED BY THE ARCHITECT TO PERFORM TESTS OF CONCRETE. TAKE A MINIMUM OF 5 CYLINDERS FOR EACH CLASS OF CONCRETE POURED IN ANY ONE DAY. PERFORM 1 SLUMP TEST PER TRUCK LOAD OF CONCRETE.
- T. PROVIDE TWO COMPRESSION TESTS AT 7 DAYS, TWO AT 28 DAYS, AND RETAIN ONE TEST FOR ADDITIONAL TESTING AS REQUIRED. COMPRESSIVE STRENGTH OF CONCRETE AT 7 DAYS TO ACHIEVE AT LEAST 65% OF MINIMUM DESIGN STRENGTH.

- 5.9 STEEL GUARDRAILS/HANDRAILS**
- A. MANUFACTURER SHALL DESIGN GUARDRAILS/HANDRAILS AND CONNECTIONS TO STRUCTURE AT BALCONIES, STAIRWELLS, RAMPS, AND FLOOR OPENINGS (BOTH EXTERIOR AND INTERIOR) TO SUPPORT THE FOLLOWING DESIGN LOADS: 50 POUNDS PER LINEAL FOOT OR 200 POUND CONCENTRATED LOAD, WHICHEVER IS GREATER, APPLIED AT ANY POINT AND IN ANY DIRECTION TO TOP OF RAIL, AND 50 POUND CONCENTRATED LOAD APPLIED ON A 1-SQUARE-FOOT AREA AT ANY POINT FOR REMAINING GUARDRAIL INFILL COMPONENTS. THESE LOADS NEED NOT BE ASSUMED TO ACT CONCURRENTLY. SUBMIT SHOP AND ERECTION DRAWINGS INDICATING SIZES AND CONNECTIONS OF GUARDRAIL AND HANDRAIL COMPONENTS.
- B. SUBMIT MANUFACTURER'S SHOP DRAWINGS CONTAINING A CERTIFICATION SEALED BY A PROFESSIONAL ENGINEER (REGISTERED IN MARYLAND) STATING THAT THE GUARDRAIL AND HANDRAIL COMPONENTS HAVE BEEN DESIGNED TO SUPPORT THE SPECIFIED LOADS.

- SYMBOLS**
- A. ALL TYPICAL DETAILS, SECTIONS, AND NOTES ARE GENERAL IN NATURE AND USAGE IS NOT LIMITED TO WHERE SPECIFICALLY NOTED.
- B - TYPICAL DETAIL LETTER
S-3 - SHEET WHERE DETAIL IS DRAWN
- 1 - SECTION NUMBER
S-3 - DIRECTION OF SECTION
S-3 - SHEET WHERE SECTION IS DRAWN
- 1.1 - GENERAL NOTE NUMBER



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 1-30-17
CHIEF DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 1-30-17
CHIEF DIVISION OF LAND DEVELOPMENT DATE

[Signature] 1-30-17
DIRECTOR DATE

CONCRETE WALL AND STAIRS PLAN AND DETAILS

TROY HILL CORPORATE CENTER

PARCEL A-30

TAX MAP 37 GRID 18 1ST ELECTION DISTRICT

PARCEL 135 HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER
TROY HILL SQUARE, LLC
c/o H&H ROCK COMPANIES
MARK LEVY
6800 DEERPATH ROAD, SUITE 100
ELKRDIDGE, MD 21075
410.579.2442

SILL ENGINEERING GROUP, LLC
11130 Dovedale Court, Suite 200
Marriottsville, Maryland 21104
Phone: 443-325-9076
Fax: 410-696-2022
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: JPH
DRAWN BY: RLR
CHECKED BY: JPH
SCALE: AS NOTED
DATE: MAY 23, 2016
PROJECT #: 16414
SHEET #: 15 of 15

STATE OF MARYLAND
PROFESSIONAL ENGINEER
No. 12519
DATE: JUNE 11, 2017

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

SKARDA AND ASSOCIATES
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