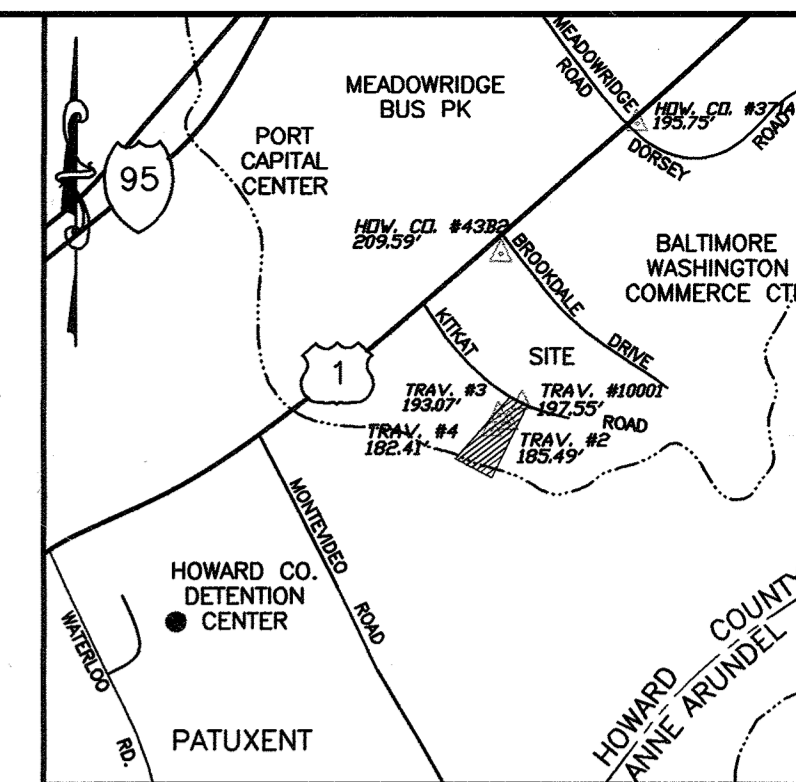


SITE DEVELOPMENT PLAN POTOMAC ABATEMENT INDUSTRIAL PARK 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND



VICINITY MAP
SCALE: 1" = 2000'

PARKING SPACE REQUIREMENTS
 BLDG #1: 32,400 SF (HYBRID INDUSTRIAL/OFFICE) @ 2.5 SF/1000 SF = 81
 BLDG #2: 19,200 SF (WATERHOUSE/DISTRIBUTION) @ 0.9 SF/1000 SF = 10
TOTAL SPACES REQUIRED = 91
TOTAL SPACES PROVIDED = 104 (INCLUDING H.C.)

SETBACKS:
 (PER ZONING SECTION 123.D.2A)
 50' STRUCTURE AND USE SETBACK
 30' FENCE AND PARKING SETBACK
 #SETBACKS ARE FROM R/W.

SW OVERLAY (PER ZONING SECTION 124.E.3.)
 STRUCTURE AND USE SETBACKS
 100' FROM PUBLIC R-O-W
 100' FROM BL. STREAMS & WETLANDS
 50' FROM LOT LINES

SITE DATA

AREA OF PARCEL	12.59 ACRES (548,405.9 SF)
FLOODPLAIN AREA	5.13 ACRES (223,388 SF)
DISTURBED AREA	6.72 ACRES (292,537.37 SF)
PRESENT ZONING	M-2 (SW OVERLAY)
EXISTING USE	CONTRACTORS STORAGE YARD
BUILDING COVERAGE (EX.)	1,295 SF (0.2% OF SITE)
STORAGE BUILDING (TO BE REMOVED)	1,295 SF
PROPOSED USE	BLDG #1 FLEX OFFICE/WAREHOUSE SPACE (2-BUILDINGS) SW TRANSFER
BLDG. #1:	32,400 S.F.
BLDG. #2:	19,200 S.F.
TOTAL BLDG. COVERAGE:	51,600 S.F. (9.4% OF SITE)
PARKING SPACES REQUIRED* (500'S ABOVE)	91 SPACES (0.9% OF SITE)
*-2.5 SP/1000 SF (HYBRID INDUSTRIAL/OFFICE)-131 SPACES (FOR 52,400 SF)-	
*-TOTAL REQUIRED	131 SPACES
*PARKING SPACES PROVIDED	138 SPACES (INCL. H.C.)

*PER HOWARD COUNTY ZONING REGULATIONS SECT. 133.D.5.b FOR ENTIRE PARCEL

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

<i>Lee S. Britt</i>	2/7/00
DIRECTOR	DATE
<i>John J. ...</i>	7/19/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Cindy Hamilton</i>	8/1/00
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE

DATE	NO.	REVISION
7-21-01		REVISED TO IMPLEMENT SW DISTRICT CHANGES & MISCELLANEOUS SITE MODIFICATIONS

OWNER:
THOMAS AND BARBARA PALACOROLLA
12183 TRIADDELPHIA ROAD
ELLCOTT CITY, MD. 21042

DEVELOPER:
POTOMAC ABATEMENT
9550 BERGER ROAD
COLUMBIA, MD. 21046
ATTN: JIM HARRIS

PROJECT:
POTOMAC ABATEMENT
INDUSTRIAL PARK

AREA: TAX MAP 43, BLOCK 10, ZONED M-2
PARCEL 46,
1st ELECTION DISTRICT

TITLE SHEET

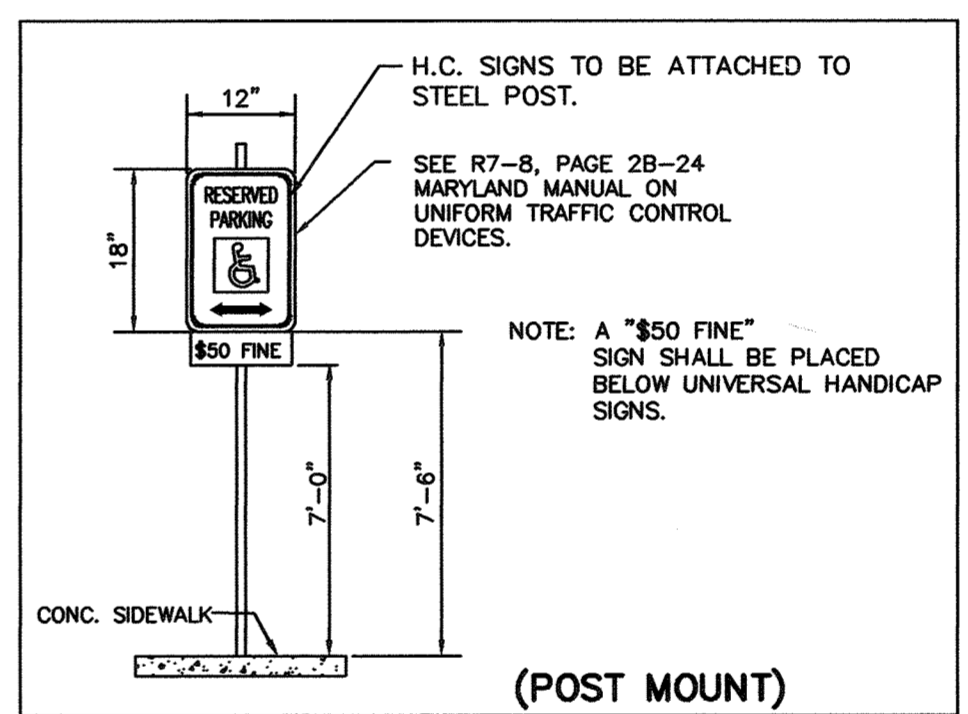
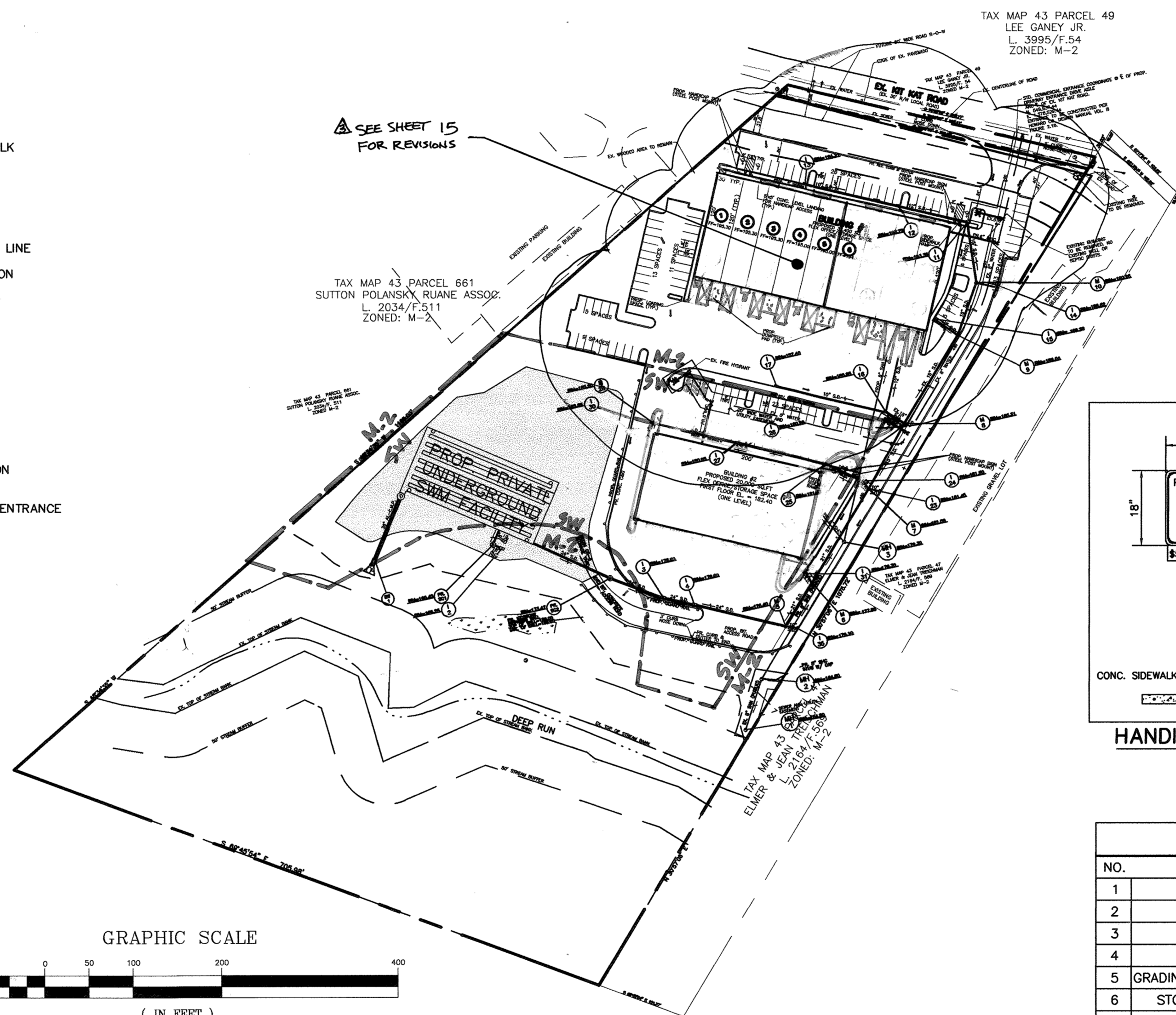
MESSICK & ASSOCIATES*
CONSULTING ENGINEERS
31 OLD SOLOMONS ISLAND RD., SUITE 201
ANNAPOLIS, MARYLAND 21401
(410) 266-3212

DESIGNED BY: WRD
DRAWN BY: WRD
PROJECT NO:
DATE: APRIL 9, 1999
SCALE: AS SHOWN
WAYNE A. NEWTON #2159T
DRAWING NO.: 1 OF 15

- 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 THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
 - THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
 - TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
 - ALL PLAN DIMENSIONS ARE TO FACE OF CURB AND FACE OF BUILDING UNLESS OTHERWISE NOTED.
 - THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY DESIGN TECH DATED MARCH 1999.
 - THE COORDINATES SHOWN HEREON ARE BASED UPON MARYLAND GRID COORDINATE SYSTEM. BENCHMARKS ARE PROVIDED HEREON.
 - WATER IS PUBLIC, CONTRACT NO. 36W&S.
 - SEWER IS PUBLIC, CONTRACT NO. 292-S & 579-S.
 - STORM WATER QUANTITY AND QUALITY MANAGEMENT FOR THIS PROJECT IS TO BE PROVIDED THROUGH A PRIVATE ON SITE SYSTEM OF UNDERGROUND PIPES AND FACILITIES AND STORMCEPTORS. THE DEVICES ARE TO BE PRIVATELY OWNED AND MAINTAINED.
 - APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION. OWNER & ENGINEER ASSUME NO RESPONSIBILITY FOR ITS ACCURACY. CONTRACTOR SHALL TO HIS OWN SATISFACTION VERIFY THE TYPE, SIZE AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
 - THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
 - A TRAFFIC STUDY IS NOT REQUIRED FOR THIS PROJECT.
 - A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
 - A GEO-TECHNICAL REPORT HAS BEEN PREPARED BY MARSHALL ENGINEERING, INC. DATED MARCH 1999.
 - THE BOUNDARY FOR THIS PROJECT IS BASED ON A BOUNDARY SURVEY PROVIDED BY M&H DEVELOPMENT ENGINEERS, INC. DATED DECEMBER 1998.
 - SUBJECT PROPERTY IS ZONED M-2, PER COMPREHENSIVE ZONING PLAN.
 - ALL OUTDOOR LIGHTING SHALL COMPLY WITH THE REQUIREMENTS OF HOWARD COUNTY'S ZONING SECTION 134.
 - CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
 - PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
 - NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
 - ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS 'C' AS SHOWN IN FIG. 11.4, VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
 - ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED.
 - STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST AMENDMENTS.
 - PROFILES STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
 - ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T-180.
 - NO PUBLIC NOTICE POSTERS ARE REQUIRED FOR THE ENTRANCE SHOWN BECAUSE THIS ENTRANCE CURRENTLY EXISTS IN THE SAME GENERAL LOCATION.
 - NO PUBLIC NOTICE POSTERS ARE REQUIRED BECAUSE NO WETLAND MITIGATION IS PROPOSED WITH THIS PROJECT.
 - NO GRADING OR DISTURBANCE IS PERMITTED WITHIN THE LIMITS OF THE FLOODPLAIN, FOREST CONSERVATION EASEMENTS, STREAM BUFFER, WETLANDS OR WETLANDS BUFFER SHOWN HEREON.
 - ALL ELEVATIONS AND COORDINATES FOR THIS PROJECT ARE BASED ON HOWARD CO. CONTROL STATION COORDINATE N. 490,906.0 E. 865,758.6 AND ELEVATION 209.59 AND #371 HAVING COORDINATE N. 492,566.2 E. 867,563.8 AND ELEVATION 195.75.
 - THE FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE, FOREST CONSERVATION ACT. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENTS; HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
 - THE FOREST CONSERVATION OBLIGATIONS INCURRED BY THIS SITE DEVELOPMENT, 116,305 SQUARE FEET (2.67 ACRES) OF REVEGETATION/AFFORESTATION HAS BEEN MET BY THE PAYMENT OF \$ _____ AS A FEE-IN-LIEU TO THE HOWARD COUNTY FOREST CONSERVATION FUND.
 - FOR FOREST CONSERVATION OBLIGATIONS, SEE SHEET 13 OF THE PLAN SET.
 - COUNTY COUNCIL RESOLUTION No. 122-2000 APPROVES AND UPDATES THE COUNTY'S SOLID WASTE MANAGEMENT PLAN.
 - ZONING BOARD CASE No. 1014M WAS APPROVED ON JULY 16, 2001. THIS CASE APPROVED THE DEVELOPMENT AND OPERATIONS PLAN FOR THE CONSTRUCTION AND OPERATION OF A SOLID WASTE PROCESSING FACILITY AND FURTHER GRANTS THE SOLID WASTE OVERLAY DISTRICT COVERING THE M-2 ZONED LAND AS REQUESTED IN THE PETITION.

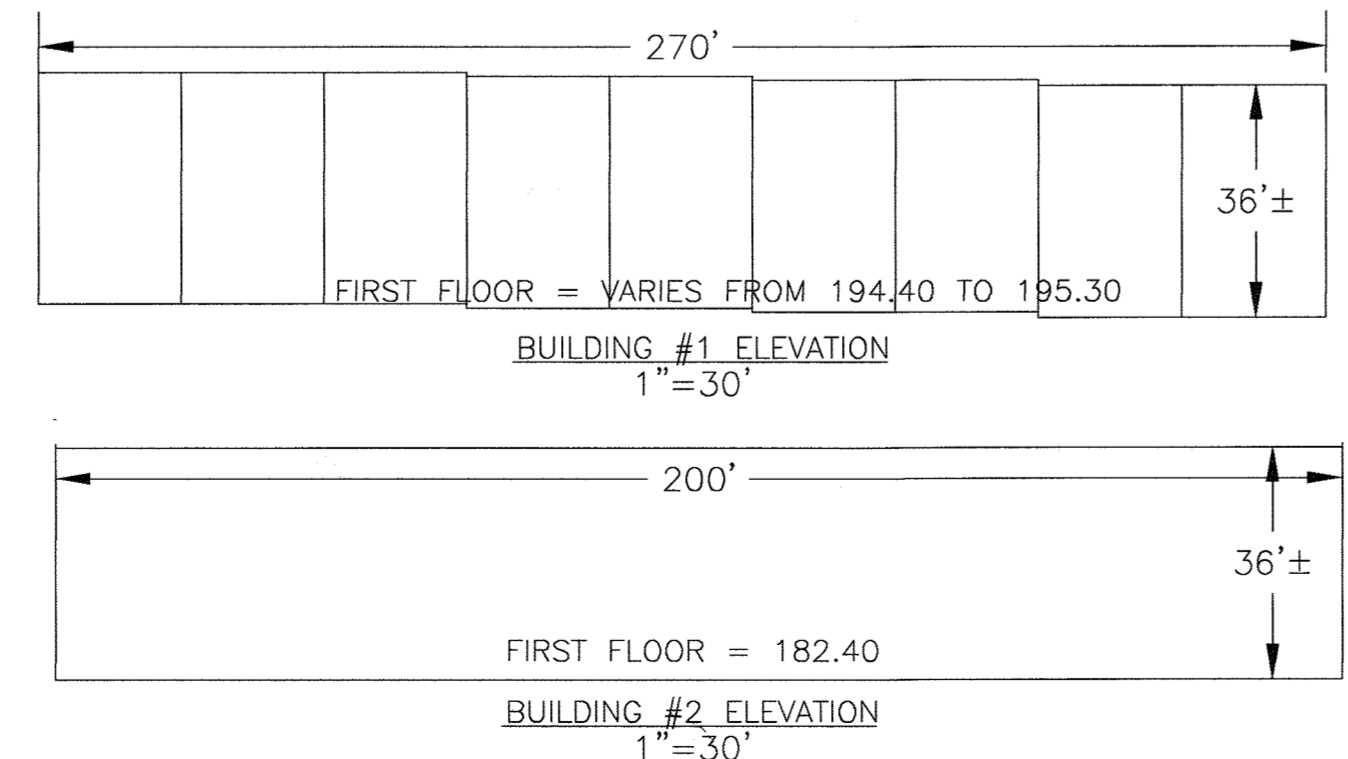
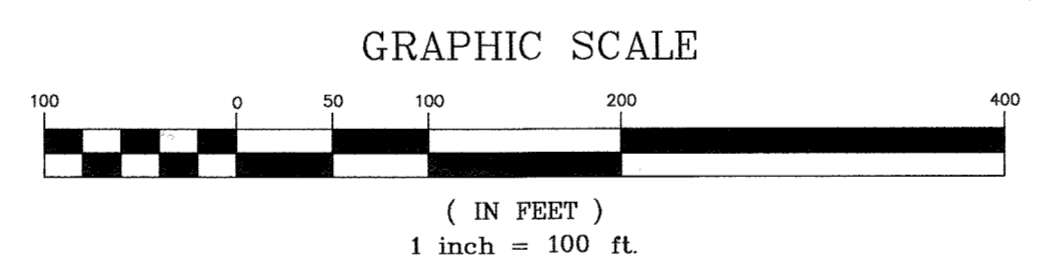
LEGEND

	EXISTING CONTOURS
	EXISTING CURB & GUTTER
	PROPERTY LINE
	EXISTING LIGHT POLE
	EXISTING POWER POLE
	EXISTING BUILDING
	EXISTING CONCRETE SIDEWALK
	EXISTING STORM DRAIN
	EXISTING SEWER
	EXISTING TREELINE
	EXISTING TREE/SHRUB
	EXISTING OVERHEAD POWER LINE
	PROPOSED BUILDING ADDITION
	PROPOSED CONTOUR
	PROPOSED SPOT SHOT
	PROPOSED SIDEWALK
	PROPOSED STORM DRAIN
	LIMIT OF DISTURBANCE
	CURB INLET PROTECTION
	AT GRADE INLET PROTECTION
	STABILIZED CONSTRUCTION ENTRANCE
	TRAFFIC FLOW ARROW
	DRAINAGE FLOW ARROW
	DRAINAGE AREA LINE
	EX. WETLAND LIMITS AND 25' BUFFER
	EARTH DIKE
	SUPER SILT FENCE
	TREE PROTECTION FENCE



SHEET INDEX

NO.	DESCRIPTION
1	TITLE SHEET
2	SITE DEVELOPMENT PLAN
3	GRADING AND SEDIMENT CONTROL PLAN
4	T.S.W.M./SED. TRAP PLAN & DETAILS
5	GRADING & SEDIMENT CONTROL NOTES AND DETAILS
6	STORMWATER MANAGEMENT PLAN AND PROFILES
7	SWM DETAILS AND FORMS
8	STORM DRAIN DRAINAGE AREA MAP
9	STORM DRAIN PROFILES
10	STORM DRAIN PROFILES-WHC & SHC PROFILES
11	DETAILS AND SPECS
12	LANDSCAPE PLAN
13	FOREST CONSERVATION PLAN
14	FOREST CONSERVATION PLAN
15	REVISED SITE DEVELOPMENT PLAN



**** NOTE: this record drawing created by field observations by Messick Group Inc. & survey information provided by the owner. Messick assumes no responsibility for survey information.**

ADDRESS CHART

PARCEL	STREET ADDRESS
46	7140 KIT KAT ROAD

PARCEL DATA:
 SUBDIVISION NAME: N/A
 DEED #: 4636/681
 BLOCK #: 10
 ZONING: M2
 TAX MAP NO.: 43
 ELECT. DIST.: 1st
 CENSUS TRACT: 6012
 WATER CODE: B01
 OWNER CODE: 2370000

Lumark
1000-100 Watt/1-PS, MH, MV

Appearance: The overall appearance of the luminaire should be clean and modern. The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy.

Flexibility: The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy.

Reliability: The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy.

Lighting: The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy.

Applications: The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy.

Ordering Information

Ordering Number	Wattage	PS	MH	MV
1000-100	100	1-PS		
1000-100-1	100	1-PS		
1000-100-2	100	1-PS		
1000-100-3	100	1-PS		
1000-100-4	100	1-PS		
1000-100-5	100	1-PS		
1000-100-6	100	1-PS		
1000-100-7	100	1-PS		
1000-100-8	100	1-PS		
1000-100-9	100	1-PS		
1000-100-10	100	1-PS		
1000-100-11	100	1-PS		
1000-100-12	100	1-PS		
1000-100-13	100	1-PS		
1000-100-14	100	1-PS		
1000-100-15	100	1-PS		
1000-100-16	100	1-PS		
1000-100-17	100	1-PS		
1000-100-18	100	1-PS		
1000-100-19	100	1-PS		
1000-100-20	100	1-PS		
1000-100-21	100	1-PS		
1000-100-22	100	1-PS		
1000-100-23	100	1-PS		
1000-100-24	100	1-PS		
1000-100-25	100	1-PS		
1000-100-26	100	1-PS		
1000-100-27	100	1-PS		
1000-100-28	100	1-PS		
1000-100-29	100	1-PS		
1000-100-30	100	1-PS		

LOW INTENSITY LIGHTING TO BE PROVIDED ALONG BUILDING FRONT TO BE DESIGNED PRIOR TO PERMIT APPLICATION.

Lumark
35 Watt/1-PS, MH, MV

Appearance: The overall appearance of the luminaire should be clean and modern. The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy.

Flexibility: The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy.

Reliability: The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy.

Lighting: The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy.

Applications: The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy. The luminaire should be designed to provide a high quality of light with a long life expectancy.

Ordering Information

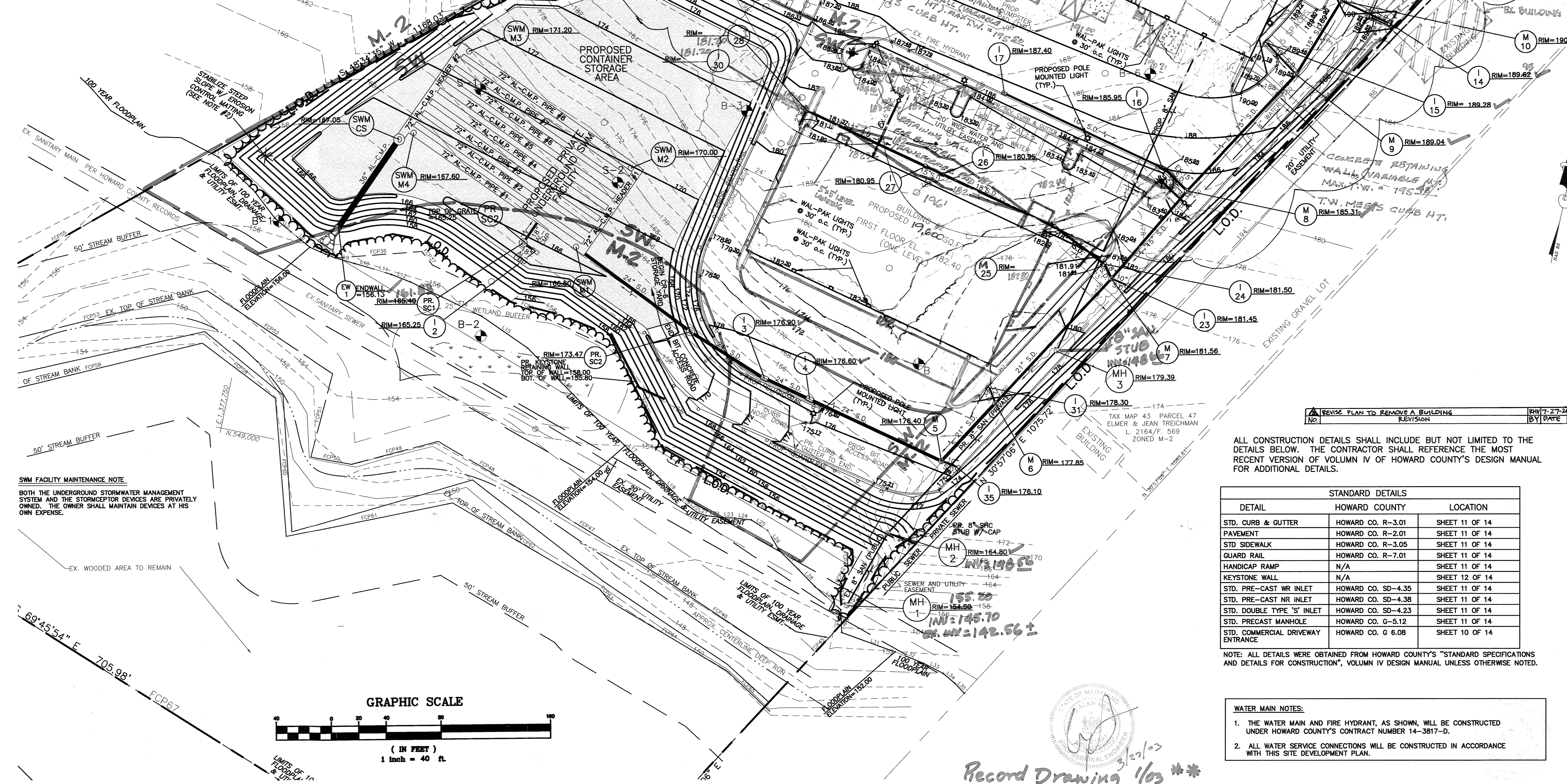
Ordering Number	Wattage	PS	MH	MV
35-100	35	1-PS		
35-100-1	35	1-PS		
35-100-2	35	1-PS		
35-100-3	35	1-PS		
35-100-4	35	1-PS		
35-100-5	35	1-PS		
35-100-6	35	1-PS		
35-100-7	35	1-PS		
35-100-8	35	1-PS		
35-100-9	35	1-PS		
35-100-10	35	1-PS		
35-100-11	35	1-PS		
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35-100-25	35	1-PS		
35-100-26	35	1-PS		
35-100-27	35	1-PS		
35-100-28	35	1-PS		
35-100-29	35	1-PS		
35-100-30	35	1-PS		

NOTE: FOR GRADES ALONG FRONT SIDEWALK, SEE 20 SCALE BLOWUP ON SHEET 30A14

SEE SHEET 15 FOR REVISIONS

- ★ FULL CUTOFF FREESTANDING - POLE MOUNTED PARKING LOT LIGHT, LIGHT TO BE SINGLE SETTING 100 WATT METAL HALIDE LIGHTING LUMINAIRES MODEL # MHSB-AL-400 AS MANUFACTURED BY LUMARK LIGHTING OR EQUAL. MOUNTED ON 40' HIGH MATCHING STEEL POLE. ALL FIXTURES AND POLES TO BE BRONZE FINISH.
 - LOW INTENSITY WALL MOUNTED LIGHT, LIGHT TO BE 175 WATT MOUNTED LIGHT. LIGHT TO BE 175 WATT MERCURY VAPOR LAMP MOUNTED BY ABOVE FINISHED GRADE ON BUILDING WALL. FIXTURE TO BE MODEL #MVL-175 WAL-PAK (8600 LUMENS) AS MANUFACTURED BY LUMARK LIGHTING OR EQUAL. FIXTURE TO BE BRONZE FINISH.
- NOTE: ADDITIONAL LOW INTENSITY LIGHTING WILL BE REQUIRED ALONG THE FRONT OF BOTH BUILDINGS SHOWN HEREON. THESE LIGHTS SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE HOWARD COUNTY ZONING REGULATIONS SECTION 134.

TAX MAP 43 PARCEL 661
SUTTON POLANSKY RUANE ASSOC.
L 2034/F. 511
ZONED M-2



WATER NOTES:

1. FIRE FLOW REQUIREMENTS FOR THESE BUILDINGS MUST BE ESTABLISHED PRIOR TO PERMIT APPLICATION.
2. ALL ON-SITE FIRE HYDRANTS SHOWN HEREON ARE PUBLIC OWNED.
3. THE EXISTING WATER MAIN WAS DESIGNED AND WILL BE CONSTRUCTED UNDER CONTRACT NUMBER 14-3817-D.
4. ALL UNDER SERVICE CONNECTIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THIS SITE DEVELOPMENT PLAN.
5. ALL WATER METERS SHALL BE INSIDE WATER METER SETTINGS.

FLOODPLAIN LINE TABLE

LINE	LENGTH	BEARING
L1	5.74	N74°19'44"W
L2	15.58	N58°33'15"W
L3	18.70	N59°14'53"W
L4	26.59	N49°33'14"W
L5	15.34	N61°44'59"W
L6	17.65	N63°02'22"W
L7	12.28	N78°45'51"W
L8	8.02	N80°41'42"W
L9	14.37	N85°36'11"W
L10	14.37	N85°36'11"W
L11	13.66	N85°02'49"W
L12	14.86	N80°25'43"W
L13	25.64	N76°40'38"W
L14	32.47	N75°56'00"W
L15	40.48	N62°18'09"W
L16	79.60	N56°29'35"W
L17	52.99	N59°02'38"W
L18	24.64	N56°51'14"W
L19	7.14	N60°33'50"W
L20	8.01	N65°38'29"W
L21	6.85	N81°56'46"W
L22	12.13	S85°06'14"W
L23	8.83	S80°07'02"W
L24	12.00	S84°16'00"W
L25	14.25	N69°13'33"W
L26	17.17	N42°23'55"W
L27	19.48	N57°30'08"W
L28	17.38	N55°45'59"W
L29	23.35	N60°30'41"W
L30	16.58	N14°10'08"W
L31	41.37	N81°59'37"W
L32	22.54	N80°10'04"W
L33	15.99	N74°44'25"W
L34	11.01	N61°44'02"W
L35	10.13	N55°32'14"W

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 8/17/03
DIRECTOR DATE

[Signature] 7/19/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 8/11/03
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

OWNER: THOMAS AND BARBARA PALACOROLLA
12183 TRIADAPARK ROAD
ELICOTT CITY, MD. 21042

DEVELOPER: POTOMAC ABATEMENT
9550 BERGER ROAD
COLUMBIA, MD 21046
ATTN: JIM HARRIS

PROJECT: POTOMAC ABATEMENT INDUSTRIAL PARK

AREA: TAX MAP 43, BLOCK 10, ZONED M-2
PARCEL 46,
1st ELECTION DISTRICT

TITLE: SITE DEVELOPMENT PLAN

MESSICK & ASSOCIATES
CONSULTING ENGINEERS
31 OLD SOLOMONS ISLAND RD., SUITE 201
ANNAPOLIS, MARYLAND 21401
(410) 286-3212

DATE: 3/27/03

DESIGNED BY: WRD

DRAWN BY: WRD

PROJECT NO:

DATE: APRIL 9, 1999

SCALE: AS SHOWN

DRAWING NO.: 2 OF 15

WAYNE A. NEWTON #2159T

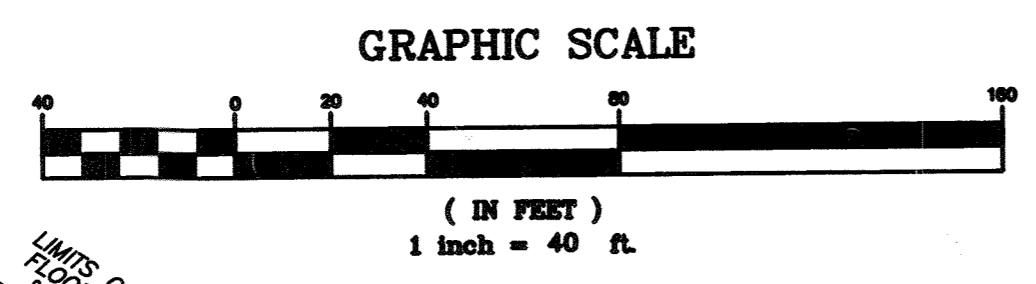
STANDARD DETAILS

DETAIL	HOWARD COUNTY	LOCATION
STD. CURB & GUTTER	HOWARD CO. R-3.01	SHEET 11 OF 14
PAVEMENT	HOWARD CO. R-2.01	SHEET 11 OF 14
STD. SIDEWALK	HOWARD CO. R-3.05	SHEET 11 OF 14
GUARD RAIL	HOWARD CO. R-7.01	SHEET 11 OF 14
HANDICAP RAMP	N/A	SHEET 11 OF 14
KEYSTONE WALL	N/A	SHEET 12 OF 14
STD. PRE-CAST WR INLET	HOWARD CO. SD-4.35	SHEET 11 OF 14
STD. PRE-CAST NR INLET	HOWARD CO. SD-4.38	SHEET 11 OF 14
STD. DOUBLE TYPE 'S' INLET	HOWARD CO. SD-4.23	SHEET 11 OF 14
STD. PRECAST MANHOLE	HOWARD CO. G-5.12	SHEET 11 OF 14
STD. COMMERCIAL DRIVEWAY ENTRANCE	HOWARD CO. G 6.08	SHEET 10 OF 14

NOTE: ALL DETAILS WERE OBTAINED FROM HOWARD COUNTY'S "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION", VOLUME IV DESIGN MANUAL UNLESS OTHERWISE NOTED.

WATER MAIN NOTES:

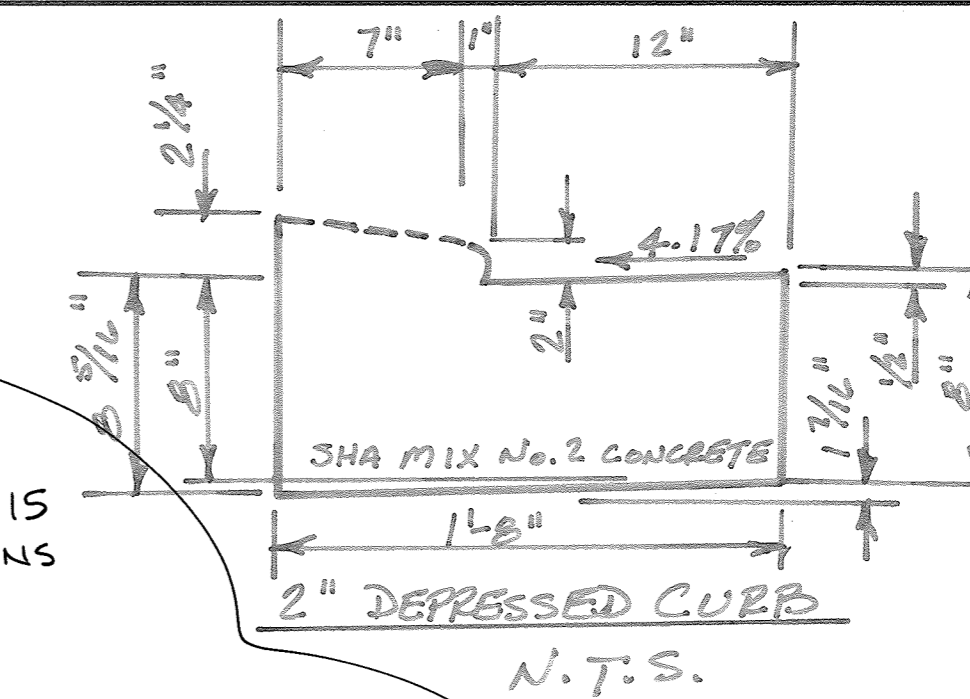
1. THE WATER MAIN AND FIRE HYDRANT, AS SHOWN, WILL BE CONSTRUCTED UNDER HOWARD COUNTY'S CONTRACT NUMBER 14-3817-D.
2. ALL WATER SERVICE CONNECTIONS WILL BE CONSTRUCTED IN ACCORDANCE WITH THIS SITE DEVELOPMENT PLAN.



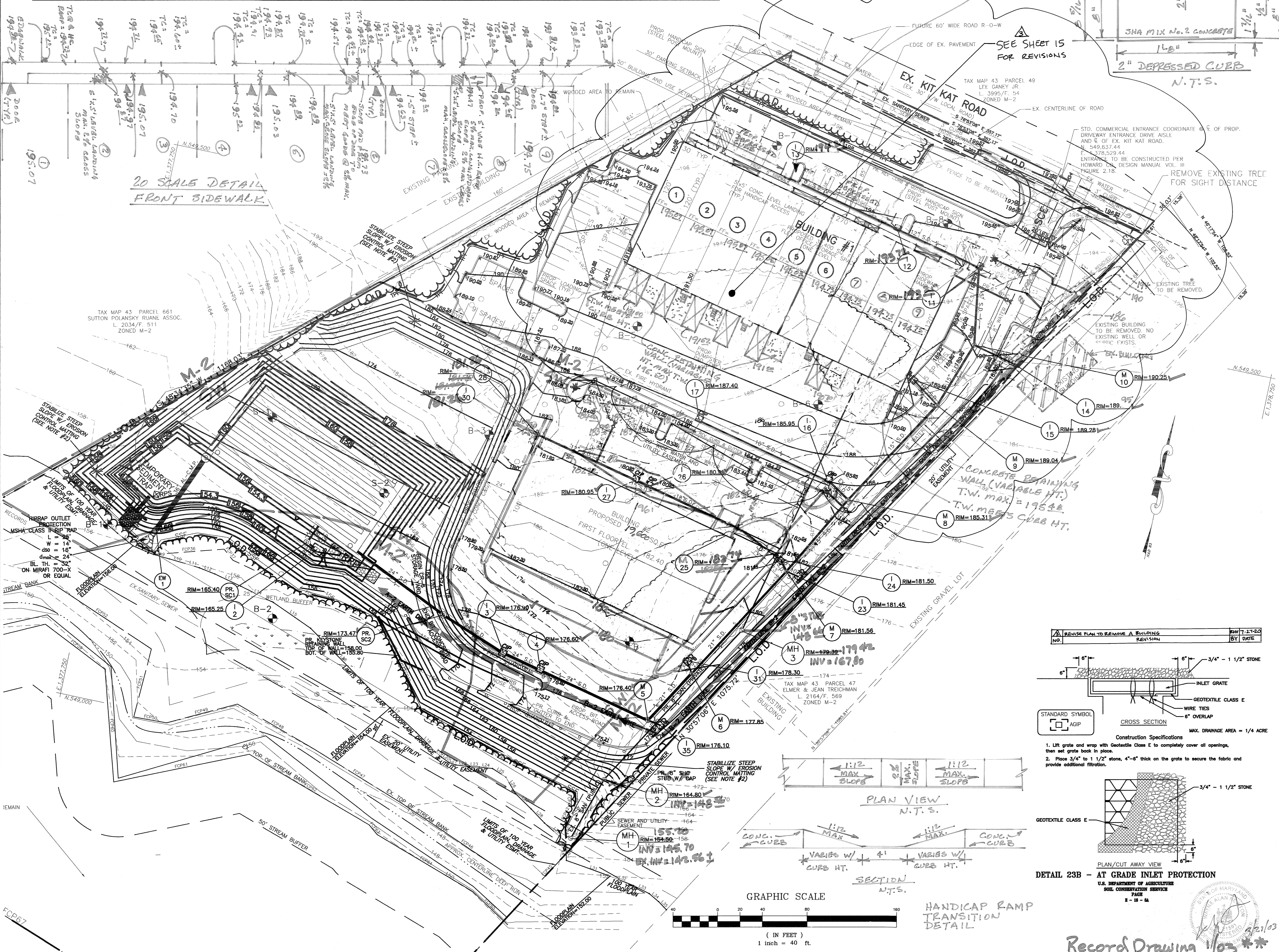
Record Drawing 1/03 ***

SEDIMENT TRAP DATA																					
TRAP TYPE	DRAINAGE AREA (ACRES)	STORAGE (CU YD)	STORAGE PROVIDED (CU YD)	WIDTH (FT)	LENGTH (FT)	DEPTH (FT)	SLOPE RATIO	BOTTOM ELEVATION	WEIR CREST ELEV.	WET STORAGE DEPTH (FT)	WET STORAGE ELEVATION	WET STORAGE VOLUME	CLEANOUT ELEVATION	EMBANKMENT HEIGHT	EMBANKMENT ELEVATION	OUTLET ELEVATION	DRY STORAGE ELEVATION	DRY STORAGE VOLUME	Oppt.	Oppt.	Omanged.
IV	6.7	24,120	46,130	SEE GRADING	SEE GRADING	SEE GRADING	2.0	154.30	158.30	2.2	156.50	12,088 CF	155.40	4.0	160.50	156.50	158.30	34,042 CF	7.82	25.34	1.85

NOTE:
FOR GRADES ALONG FRONT SIDEWALK, SEE
20 SCALE BLOW-UP THIS SHEET.



- NOTE:
1. REPLACE FILL MATERIAL (AS NEEDED) FOR EARTH DIKES AND ABOVE THE PIPE SLOPE DRAINS AT THE BEGINNING OF EACH WORK DAY UNTIL CURB IS INSTALLED.
 2. STABILIZE ALL STEEP SLOPES 25% OR GREATER WITH EROSION CONTROL MATTING (I.E. CURLEX, 700X MIRAFI OR EQUAL).
 3. CONTRACTOR MAY PLACE TEMPORARY SOIL STOPIPPE AREAS WITHIN THE LIMITS OF DISTURBANCE AS NEEDED. SILT FENCE SHALL BE PLACED AT THE BASE OF THE DOWN GRADIENT SLOPE.



BY THE DEVELOPER:

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

Gene E. 3/27/00
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.

Gene E. 3/27/00
ENGINEER DATE

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

Cheryl Sims / GS 7/14/00
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

Sharon S. 7/14/00
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

David Butler 8/7/00
DIRECTOR DATE

John D. 7/19/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hamilton 8/11/00
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
7-21-01		REVISED TO IMPLEMENT NEW CURB CHANGES
7-02		ADDED OBSERVATIONS, NOTES, AND U.S. GOVT. DETAIL. ADD ADDITIONAL 2" DEPRESSED CURB TO

OWNER:
THOMAS AND BARBARA PALACOROLLA
12183 TRIADAPLA ROAD
ELLCOTT CITY, MD. 21042

DEVELOPER:
POTOMAC ABATEMENT
9550 BERGER ROAD
COLUMBIA, MD. 21046
ATTN: JIM HARRIS

PROJECT
POTOMAC ABATEMENT
INDUSTRIAL PARK

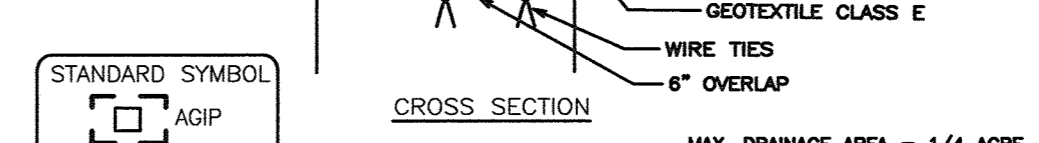
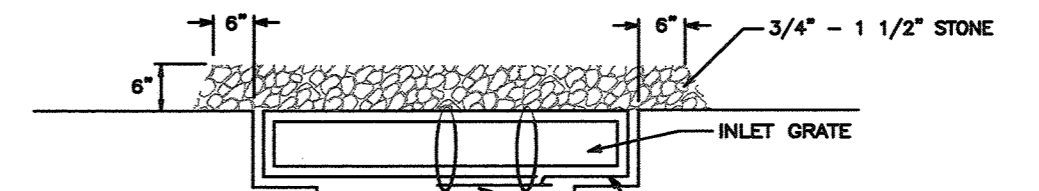
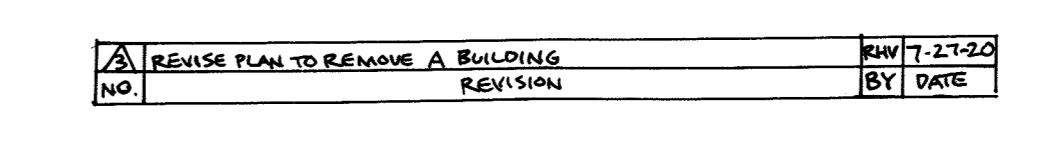
AREA TAX MAP 43, BLOCK 10, ZONED M-2
PARCEL 46,
1st ELECTION DISTRICT

TITLE
GRADING AND SEDIMENT CONTROL PLAN

MESSICK & ASSOCIATES*
CONSULTING ENGINEERS
31 OLD SOLOMONS ISLAND RD., SUITE 201
ANNAPOLIS, MARYLAND 21401
(410) 266-3212

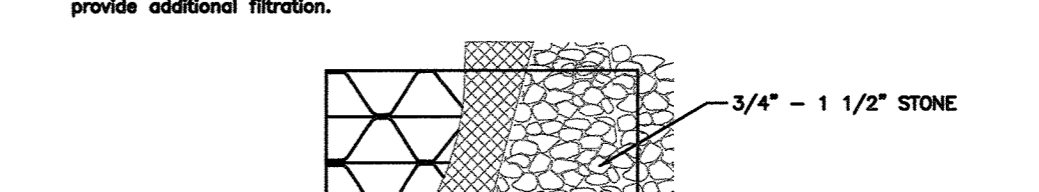
Wayne A. Newton 3/27/00
DATE

DESIGNED BY: WRD
DRAWN BY: WRD
PROJECT NO:
DATE: APRIL 9, 1999
SCALE: AS SHOWN
DRAWING NO.: 3 OF 15



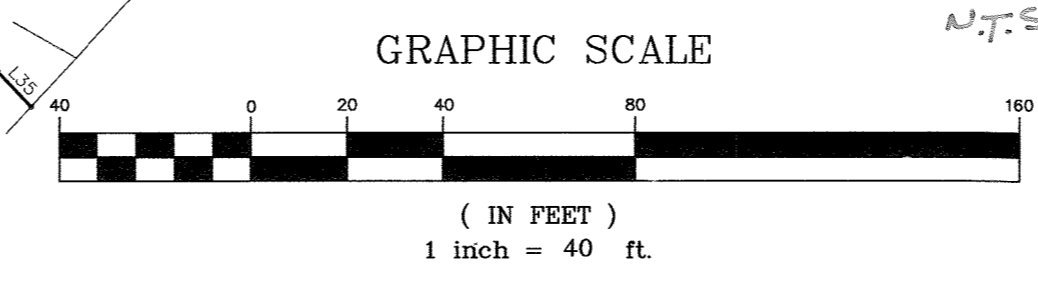
Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
2. Place 3/4" to 1 1/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.



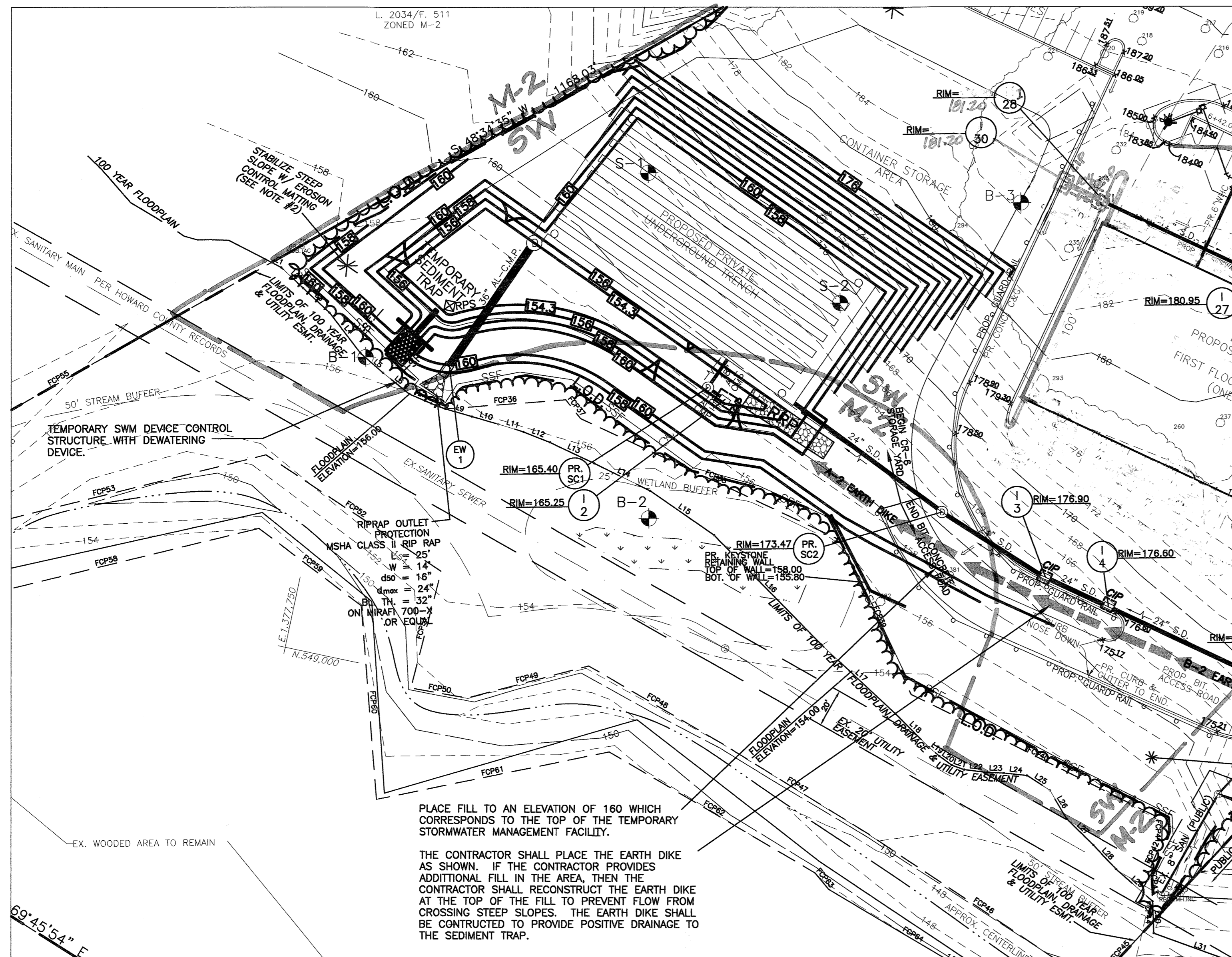
DETAIL 23B - AT GRADE INLET PROTECTION

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
PAGE 8 - 10 - 84



HANDICAP RAMP
TRANSITION
DETAIL

Record Drawing 1/03 ***

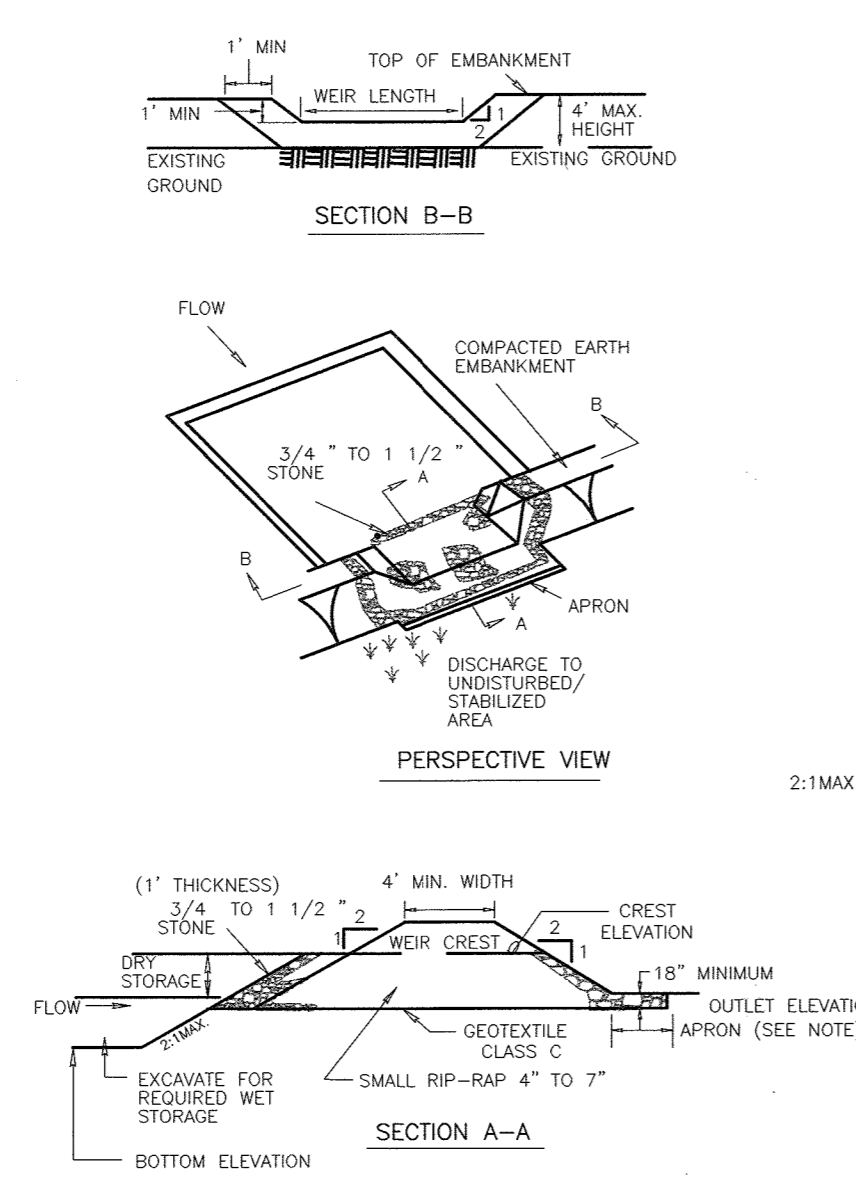


NOTE: THE CONTOURS AS SHOWN ON THIS PLAN ARE FOR THE CONSTRUCTION OF THE SEDIMENT TRAP/TEMPORARY STORMWATER MANAGEMENT DEVICE ONLY.

SEDIMENT TRAP/TEMPORARY STORMWATER MANAGEMENT GRADING PLAN
SCALE 1"=40'

DETAIL 10A - STONE / RIP-RAP OUTLET SEDIMENT TRAP - ST IV

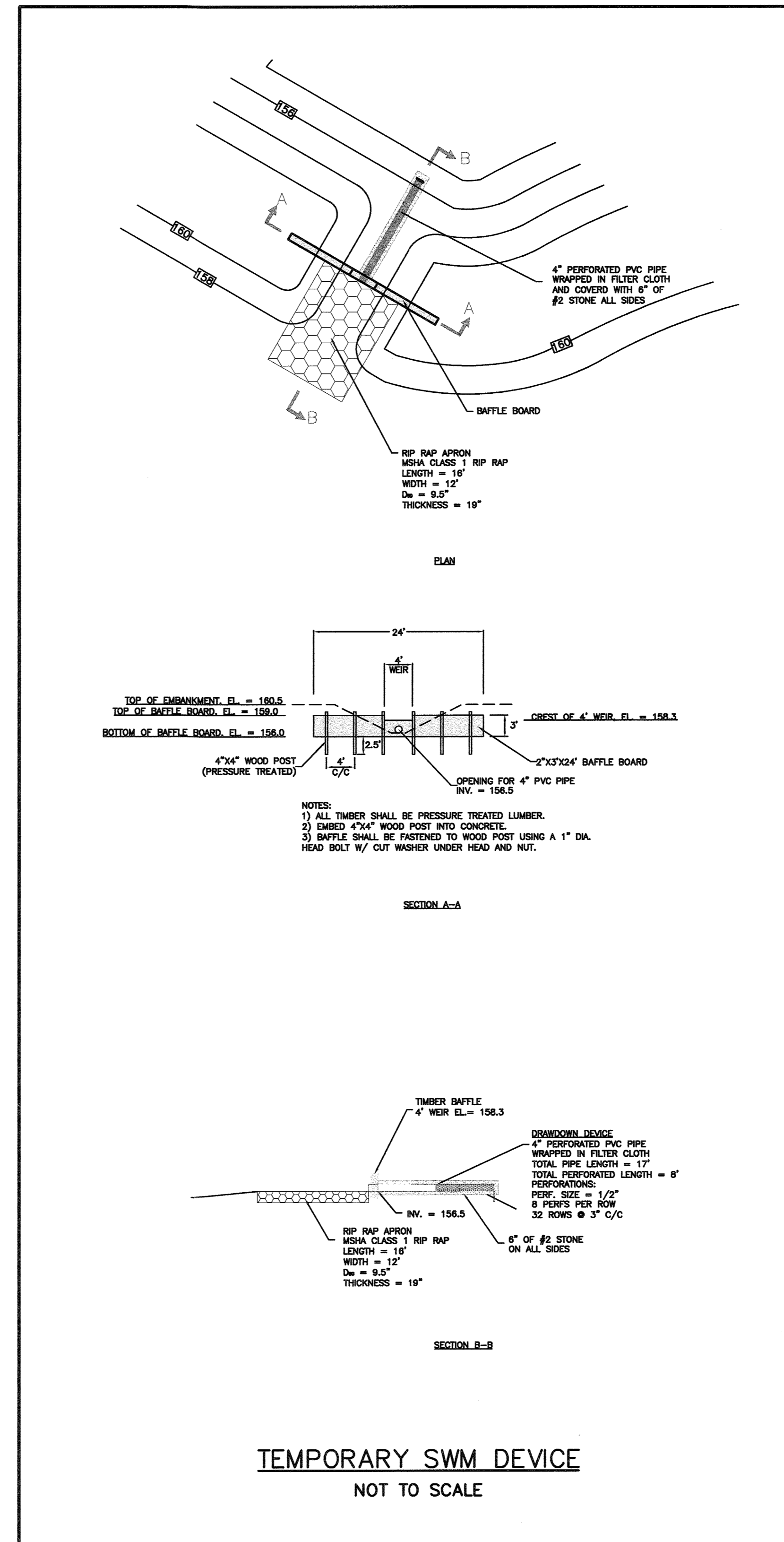
(See Temporary SWM Device Detail this sheet for Outfall Structure)



STONE / RIP-RAP OUTLET SEDIMENT TRAP - ST IV

Construction Specifications

- The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
- The fill material for the embankment shall be free of roots or other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by treading with equipment while it is being constructed. Maximum height of embankment shall be 4', measured at centerline of embankment.
- All cut and fill slopes shall be 2:1 or flatter.
- Elevation of the top of any dike directing water into trap must equal or exceed the height of trap embankment.
- Storage area provided shall be figured by computing the volume measured from top of excavation. (For storage requirements see Table 9).
- Geotextile Class C shall be placed over the bottom and sides of the outlet channel prior to placement of stone. Section of fabric must overlap at least 1' with section nearest the entrance placed on top. Fabric shall be embedded at least 6" into existing ground at entrance of outlet channel.
- 4" - 7" stone shall be used to construct the weir and 4" - 12" or Class 1 rip-rap shall be used to construct the outlet channel.
- Outlet - An outlet shall include a means of conveying the discharge in an erosion free manner to an existing stable channel. Protection against scour at the discharge point shall be provided as necessary.
- Outlet channel must have positive drainage from the trap.
- Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2" of the wet storage depth of the trap (600 cf/w). Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- The structure shall be inspected periodically after each rain and repaired as needed.
- Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentrated inflow shall be protected in accordance with Erosion Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.
- The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.



- NOTE:
- REPLACE FILL MATERIAL (AS NEEDED) FOR EARTH DIKES AND ABOVE THE PIPE SLOPE DRAINS AT THE BEGINNING OF EACH WORK DAY UNTIL CURB IS INSTALLED.
 - STABILIZE ALL STEEP SLOPES 25% OR GREATER WITH EROSION CONTROL MATTING (I.E. CURLEX, 700X MIRAFI OR EQUAL).
 - CONTRACTOR MAY PLACE TEMPORARY SOIL STOPIE AREAS WITHIN THE LIMITS OF DISTURBANCE AS NEEDED. SILT FENCE SHALL BE PLACED AT THE BASE OF THE DOWN GRADIENT SLOPE.

BY THE DEVELOPER:

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

James G. 3/27/00
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.

Wm. H. S. 3/27/00
ENGINEER DATE

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

Cheryl Simms 7/14/00
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John S. 7/14/00
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

James R. R. 8/7/00
DIRECTOR DATE

Cheryl Simms 7/19/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Andy Hamilton 8/1/00
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

OWNER:

THOMAS AND BARBARA PALACOROLLA
12183 TRIADDELPHIA ROAD
ELLCOTT CITY, MD. 21042

DEVELOPER:
POTOMAC ABATEMENT
9550 BERGER ROAD
COLUMBIA, MD. 21046
ATTN: JIM HARRIS

PROJECT
POTOMAC ABATEMENT
INDUSTRIAL PARK

AREA TAX MAP 43, BLOCK 10, ZONED M-2
PARCEL 46,
1st ELECTION DISTRICT

TITLE
T.S.W.M./SED. TRAP PLAN & DETAILS

MESSICK & ASSOCIATES *
CONSULTING ENGINEERS
31 OLD SOLOMONS ISLAND RD., SUITE 201
ANNAPOLIS, MARYLAND 21401
(410) 266-3212

3/27/00
DATE
Wayne A. Newton
DESIGNED BY: WRD
DRAWN BY: WRD
PROJECT NO:
DATE: APRIL 9, 1999
SCALE: AS SHOWN

WAYNE A. NEWTON #2159T
DRAWING NO.: 4 OF 15
SDP-99-130

Record Drawing 1/03**

SEQUENCE OF CONSTRUCTION

1. Obtain all necessary approvals, permits, and easements. The contractor must notify the Howard County Department of Inspection and Permits, Maryland Department of the Environment, and Miss Utility at least 48 hours prior to beginning work.
2. The contractor shall schedule a pre-construction meeting with the respective agencies to review the plans and permits. 1 day
3. Clear only for, grade, and install stabilized construction entrance, if required. 1 day
4. Clear only for and install perimeter sediment control measures (i.e. super silt fence, inlet protection, etc.) and tree protection fencing as shown on the approved plans. 5 days
5. Clear only the minimal area required to construct the sediment trap and temporary swm structure. 2 days
6. Clear only for and install earth dikes as shown. This will channel all on-site runoff to sediment trap. 2 days
7. Clear and grub area above underground SWM Facility. Excavate as shown on sheet 4 of the plans to provide the required temporary SWM for the site during construction. The contractor shall receive permission from the Sediment Control Inspector before proceeding. 2 weeks
8. Clear, grub and rough grade site per approved plans. 1 month
9. Excavate for footings and construct buildings (can be done concurrently with number 8). 1 year
10. Install storm drains, water, sewer, and other site utilities (can be done concurrently with number 9). 2 months
11. Fine grade site, stabilize with seed and mulch or paving (can be done concurrently with number 10). 1 month
12. With approval of the Howard County Sediment Control Inspector, flush stormdrain lines, construct SWM facility and stormceptors. 3 weeks
13. Fill sediment trap and grade storage yard. Place surface course 1 week
14. Vegetatively stabilize all remaining disturbed areas with seed and mulch. 1 day
15. Once the site is stabilized and with the approval of the Howard County Sediment Control Inspector, remove all sediment control measures. Re-stabilize areas disturbed due to the removal of the sediment control devices. 2 days

Notes:
At the end of the job, the Howard County Inspector shall inspect the area below the sediment trap/stormwater management facility for erosion. If at this time the Inspector and the Soil Conservation District feel that further action is required to stabilize a eroding channel, the owner/developer shall obtain the necessary permits to provide a stabilize conveyance to the stream. The work shall proceed at the direction of the Howard County Soil Conservation District.

Small temporary stockpiles may be created within the limits of disturbance provided that the stockpiles are perimetered by silt fence, maximum height = 6', side slopes 3H:1V.

TEMPORARY SEEDING NOTES

- Apply to graded or cleared areas likely to be redistributed where a short-term vegetative cover is needed.
- Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.
- Soil Amendments: Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq. ft.)
- Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushels per acre of annual ryegrass (3.2 lbs. per 1000 sq. ft.) For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (0.07 lbs. per 1000 sq. ft.) For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.
- Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq. ft.) of untreated small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.
- Refer to the 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control for rate and methods not covered.

PERMANENT SEEDING NOTES

- Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
- Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.
- Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:
- 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs. per 1000 sq.ft.).
 - 2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (25 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.
- Seeding: for the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 50 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (0.05 lbs. per 1000 sq.ft.) of weeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options:
- 1) 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.
 - 2) Use sod.
 - 3) Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.
- Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of untreated small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.
- Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseedings.

21.0 Standard and Specifications for Topsoil

- Definition
Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.
- Purpose
To provide a suitable soil medium for vegetative growth. Soils of concern are low moisture content, low pH, materials toxic to plants, and/or unacceptable soil gradation.
- Conditions Where Practice Applies
I. This practice is limited to areas having 2:1 or flatter slopes where:
a) The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
b. The soil material is so shallow that the rooting zone is not deep enough to obtain continuing supplies of moisture and plant nutrients.
c. The original soil to be vegetated contains material toxic to plant growth.
d. The soil is so acidic that treatment with limestone is not feasible.
- II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

- I. Topsoil salvaged from the existing site may be used provided that it meets the standards set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimentation Station.
- II. Topsoil Specifications - Soil to be used as topsoil must meet the following:
I. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1-1/2" in diameter.
II. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, nutgrass, nutsedge, poison ivy, thistle, or others as specified.
III. Where subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

For sites having disturbed areas under 5 acres:

1. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
- II. On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
b. Organic content of topsoil shall be not less than 1.5 percent by weight.
c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals for weed control until sufficient time has elapsed (14 days minimum) to permit dissipation of phytotoxic materials.

Note: Topsoil substitutes to amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority may be used in lieu of natural topsoil.

- II. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
- V. Topsoil Application

- I. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
- II. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, about 4" - 8" higher in elevation.

- III. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that seeding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
- IV. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.
- V. Alternative for permanent seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

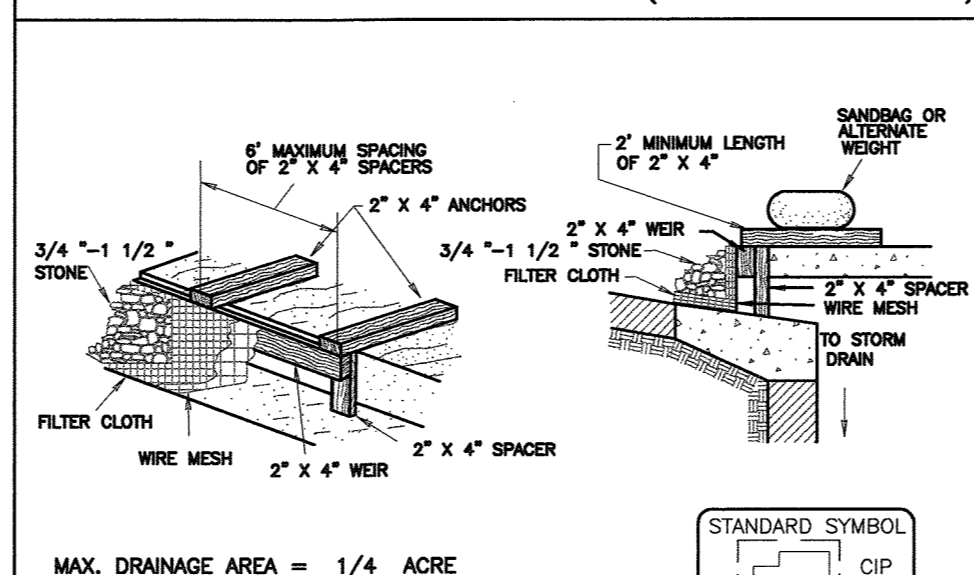
1. Composted sludge material for use as a soil conditioner for sites having disturbed areas under 5 acres shall be tested to prescribe amendments and for site having disturbed areas under 5 acres shall conform to the following requirements:
a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 9.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
d. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 of the normal lime application rate.
- References: Guidelines Specifications, Soil Preparation and Seeding, MD-VA, Pub. 1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institute, Revised 1973.

SEDIMENT CONTROL NOTES

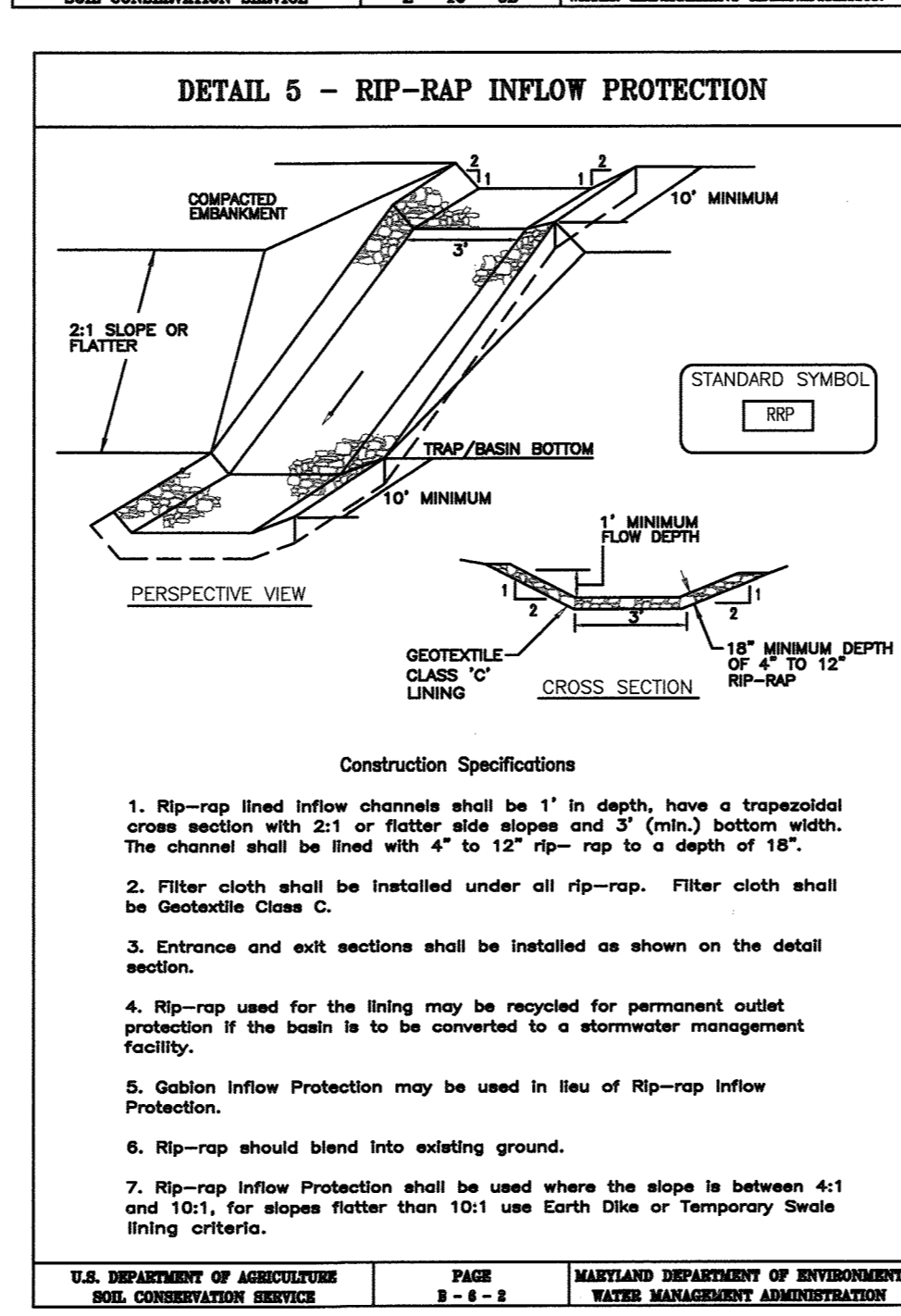
1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (410) 313-1855.
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL, AND ALL SUBSEQUENT REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN A 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1; B) 14 DAYS AS TO OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL FOR PERMANENT SEEDINGS (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDINGS (SEC.50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:
TOTAL AREA OF SITE 12.59 ACRES
AREA DISTURBED 6.72 ACRES
AREA TO BE ROOFED OR PAVED 4.34 ACRES
AREA TO BE VEGETATIVELY STABILIZED 2.38 ACRES
TOTAL CUT 13,800 CU. YARDS
TOTAL FILL 13,800 CU. YARDS
WASTE TO BE DISPOSED OF ON A SITE WITH AN OPEN GRADING PERMIT

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
11. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.
12. CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL, OR EMBANKMENT MATERIAL, NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.
13. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 AC., APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
14. TRENCHES FOR THE CONSTRUCTION OF UTILITIES ARE LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
15. BORROW SITE TO BE PRE-APPROVED BY THE SEDIMENT CONTROL INSPECTOR, OR IN CASE OF EXCESS MATERIAL AN APPROVED SEDIMENT CONTROL PLAN WILL BE NEEDED TO DEPOSIT EXCESS OFF-SITE.

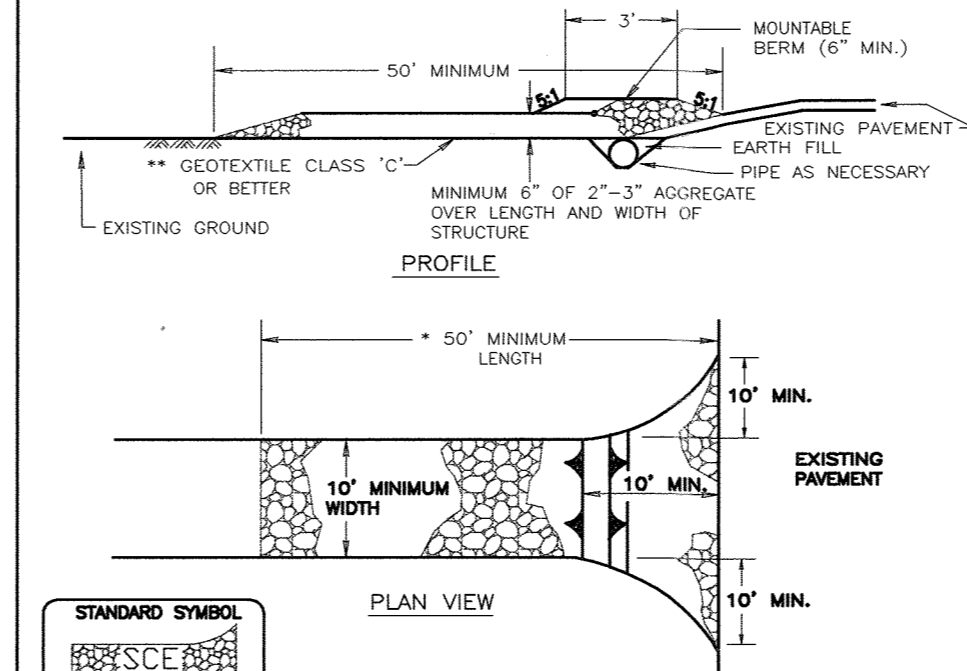
DETAIL 23C - CURB INLET PROTECTION (COG OR COS INLETS)



- MAX. DRAINAGE AREA = 1/4 ACRE
- Construction Specifications
1. Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
 2. Place a continuous piece of Geotextile Class C of the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.
 3. Securely nail the 2" x 4" weir to a 9" long vertical support to be located between the weir and the inlet face (max. 4" apart).
 4. Place the assembly against the inlet throat and nail (minimum 2" lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by snags or alternate weight.
 5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
 6. Form the 1/2" x 1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4" x 1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
 7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
 8. Ensure that storm flow does not bypass the inlet by installing a temporary curb or capcut dike to divert the flow to the inlet.

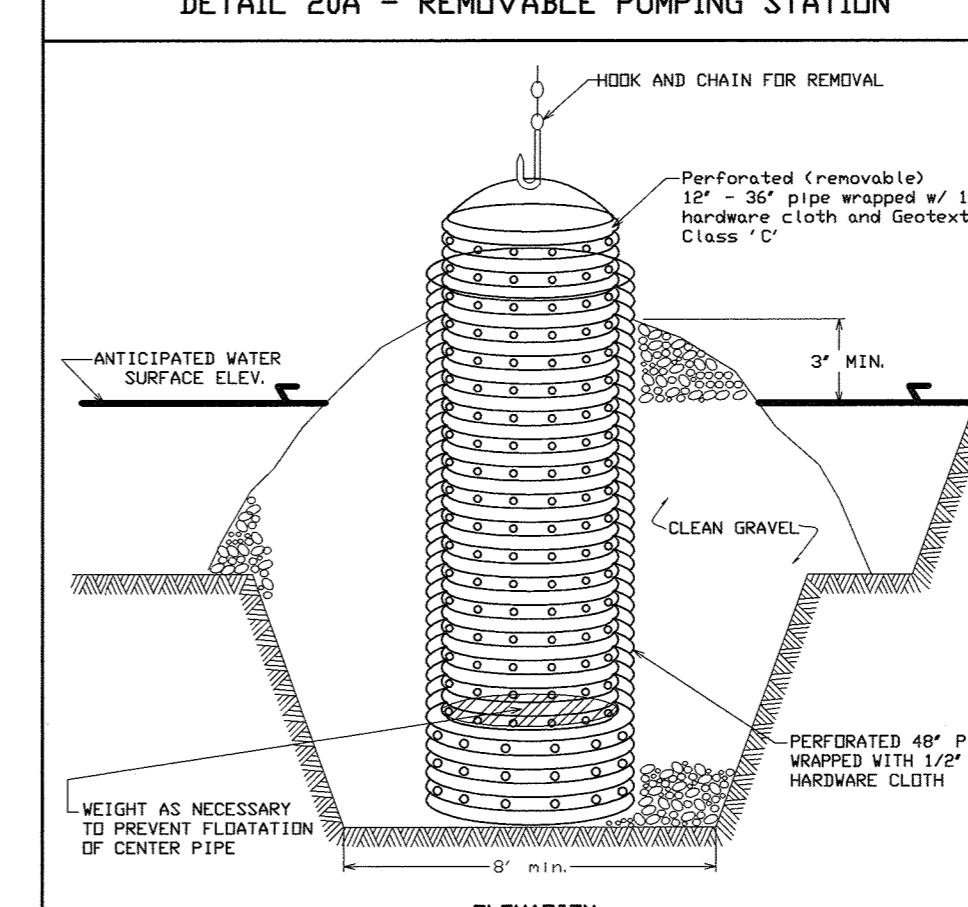


DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



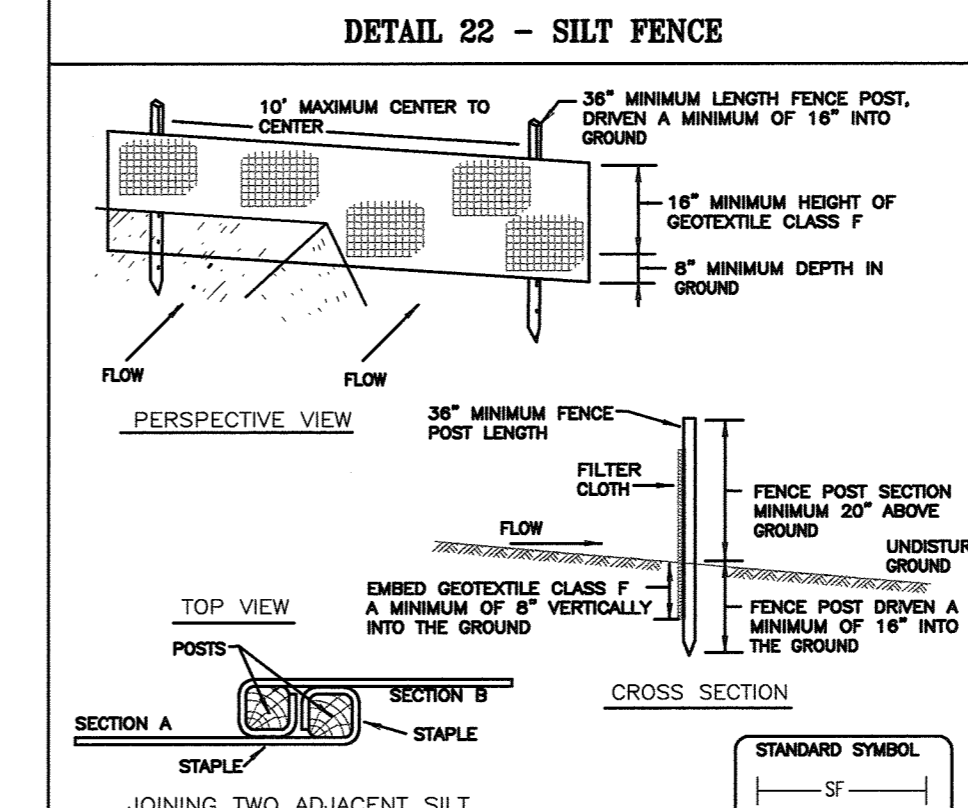
- U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 8 - 18 - 8 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 20A - REMOVABLE PUMPING STATION

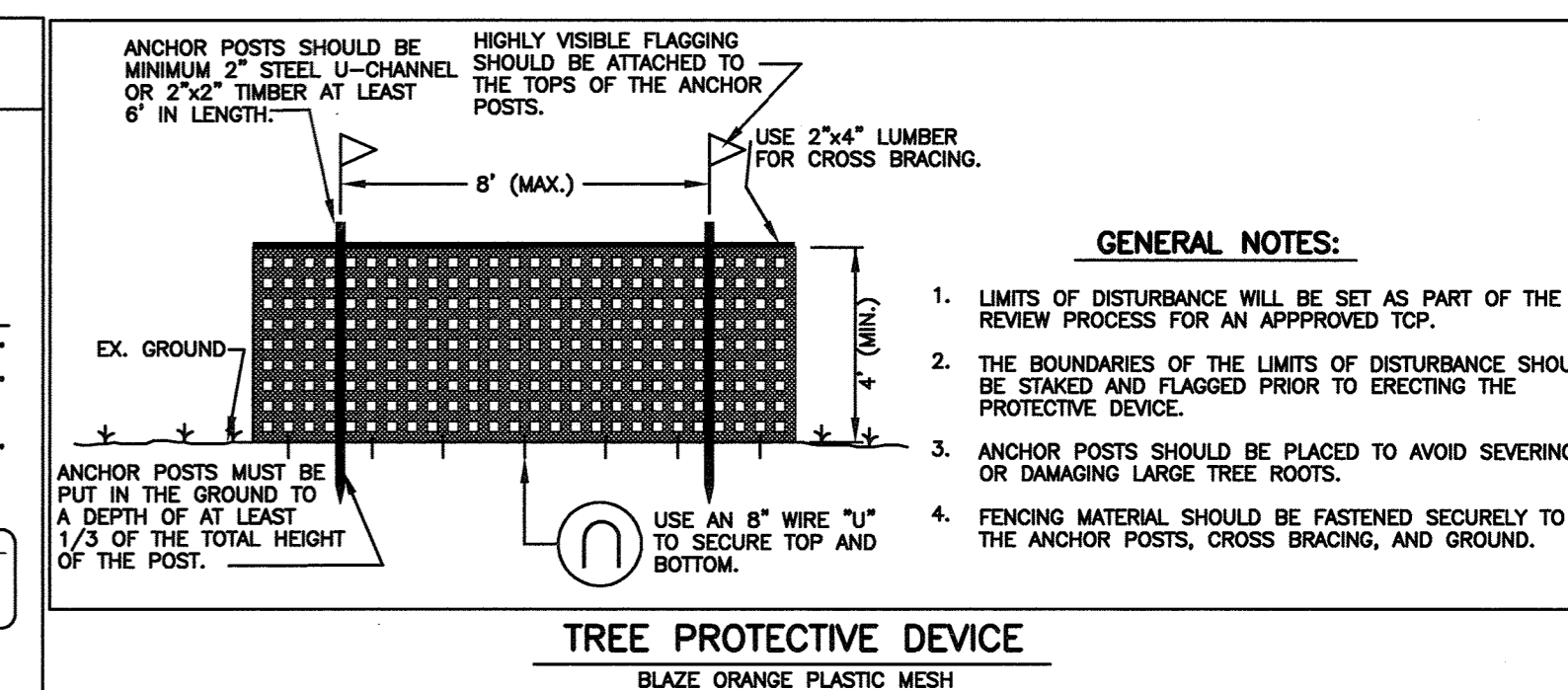
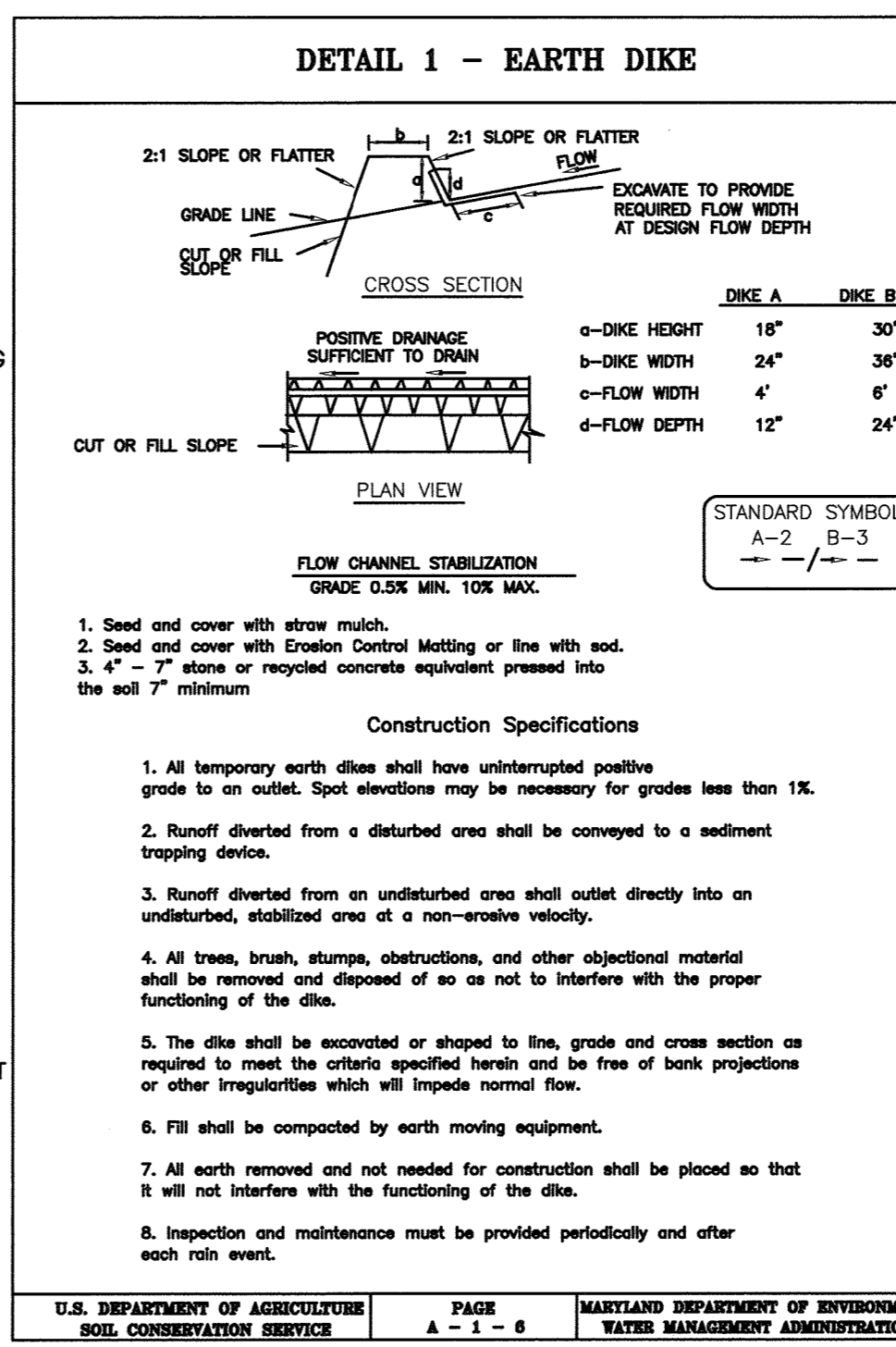


- U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 8 - 12 - 4 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

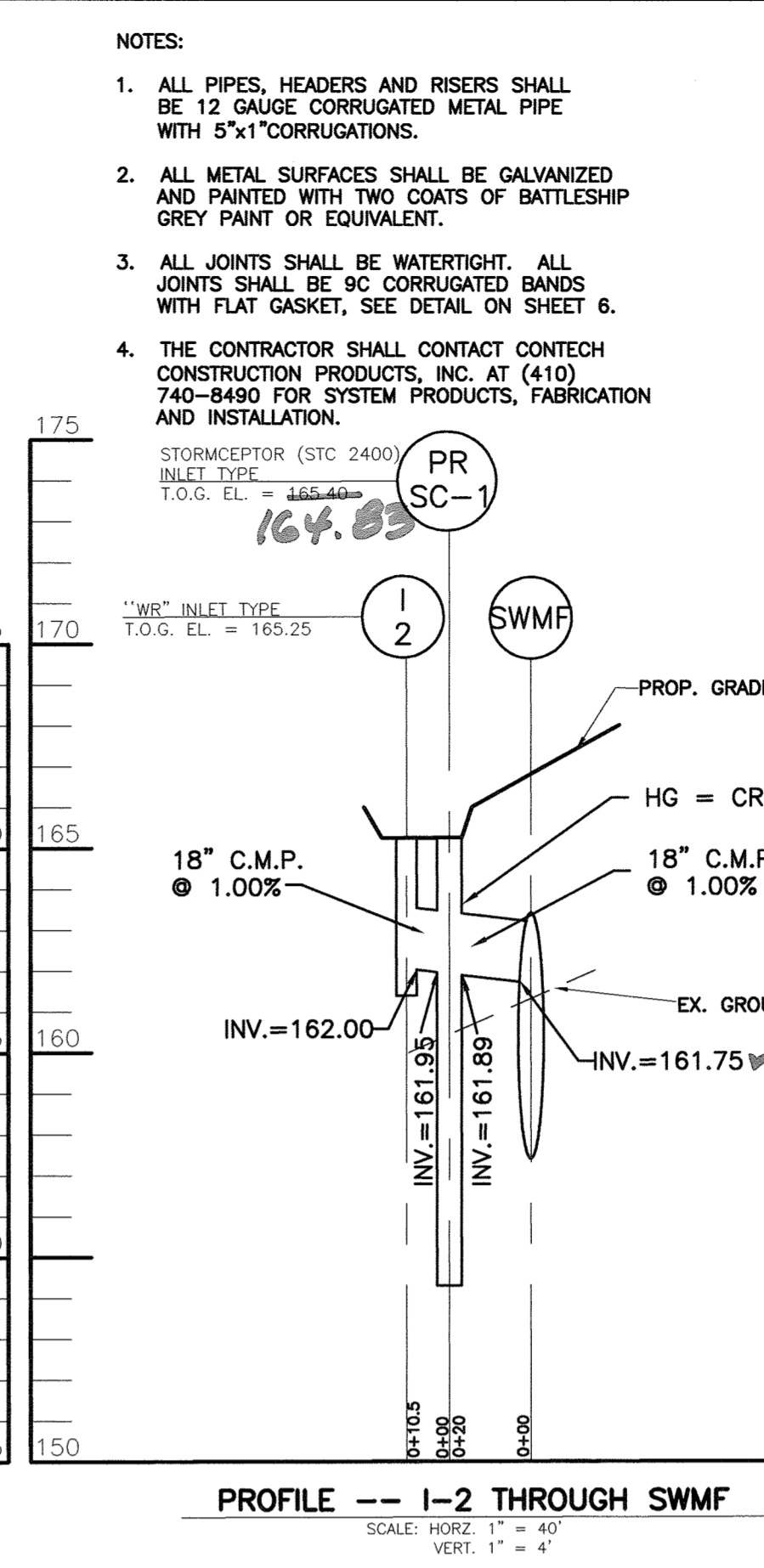
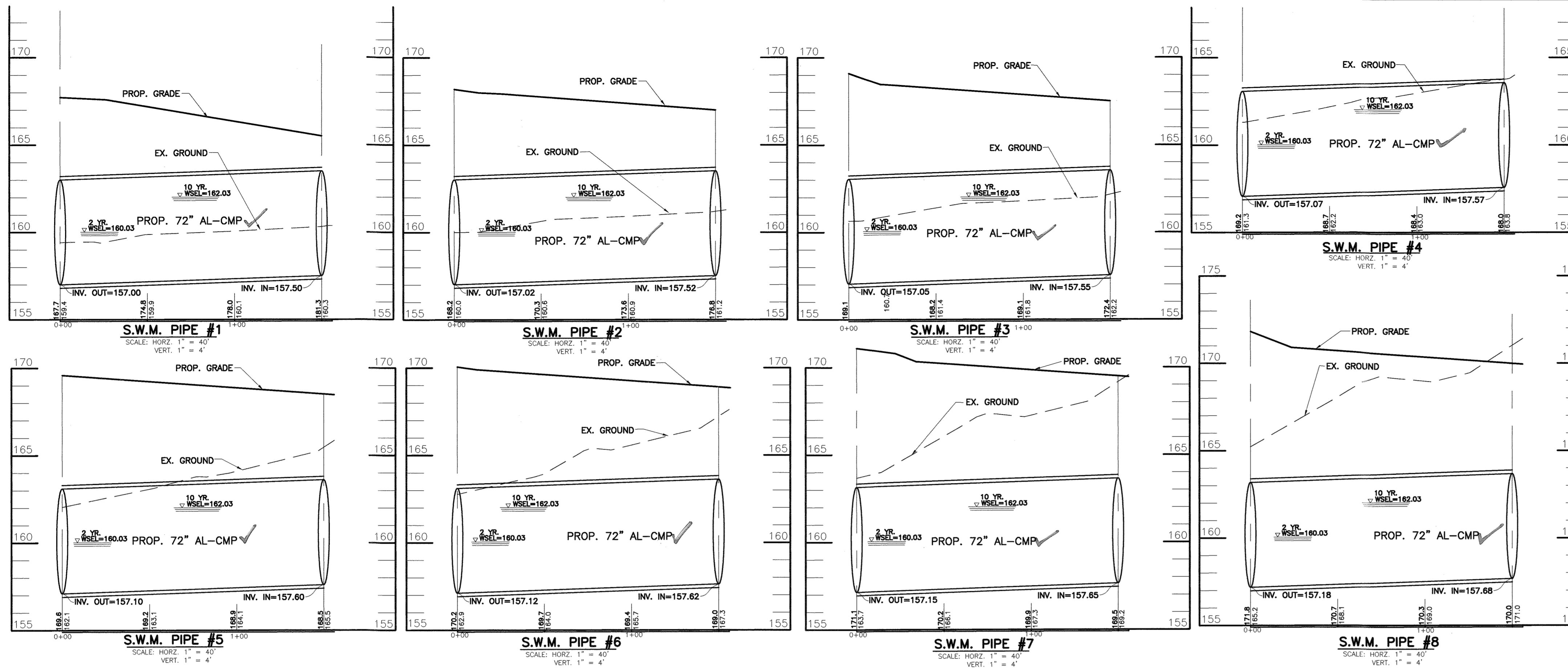
DETAIL 22 - SILT FENCE



- U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 8 - 18 - 3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



Record Drawing 1/03**



SWM SUMMARY CHART			
STORM	2 YR.	10 YR.	100 YR.
ALLOWABLE RELEASE RATE	8.36 cfs	19.01 cfs	N/A
INFLOW	20.67 cfs	35.98 cfs	52.68 cfs
DISCHARGE	5.41 cfs	15.54 cfs	37.42 cfs
DISCHARGE ELEVATION	160.03	162.03	163.10
STORAGE	0.39 Ac-ft	0.73 Ac-ft	0.87 Ac-ft
RISER TYPE = ALUMINIZED CORRUGATED METAL (12 GAUGE)			
PRINCIPAL SPILLWAY = 36" AL-C.M.P. (12 GAUGE)			
EMERGENCY SPILLWAY = NONE			

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

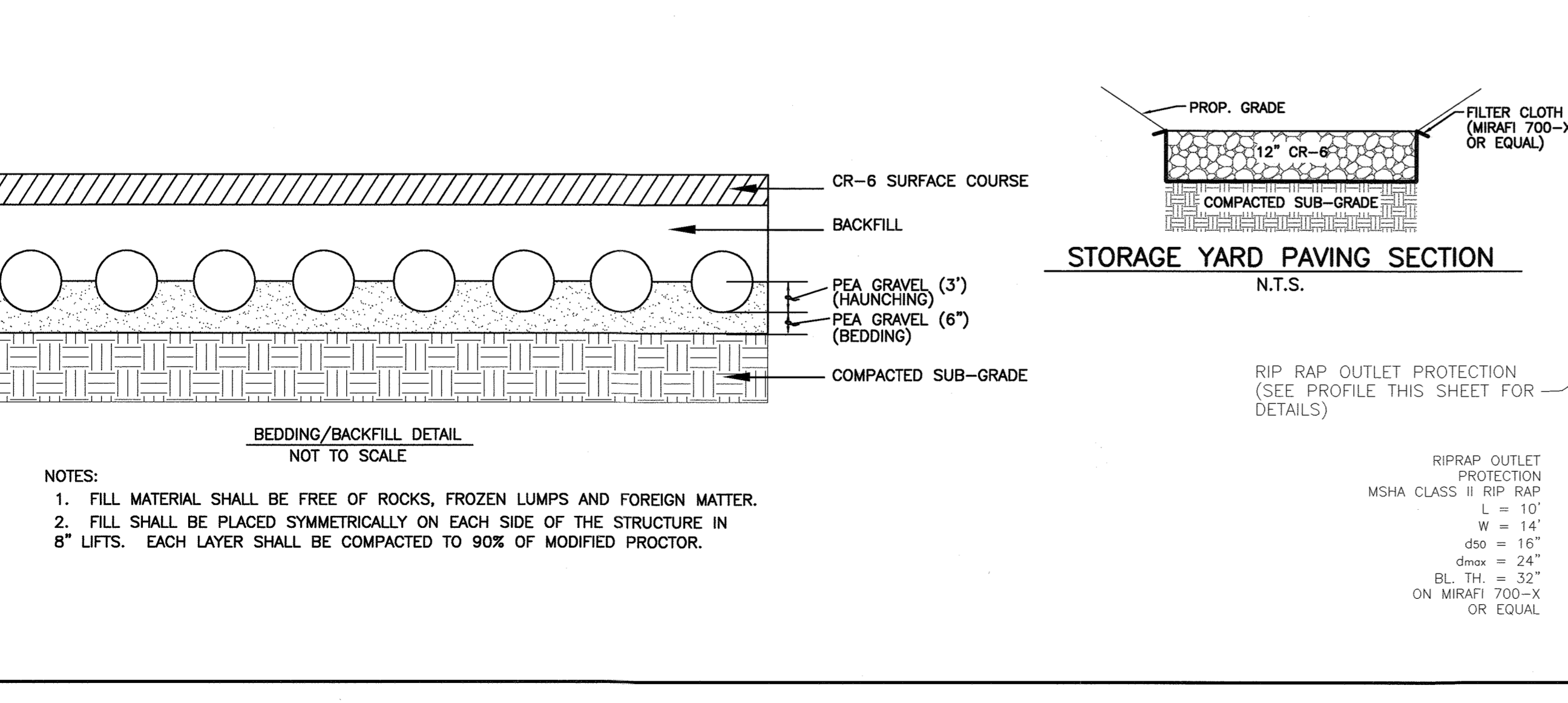
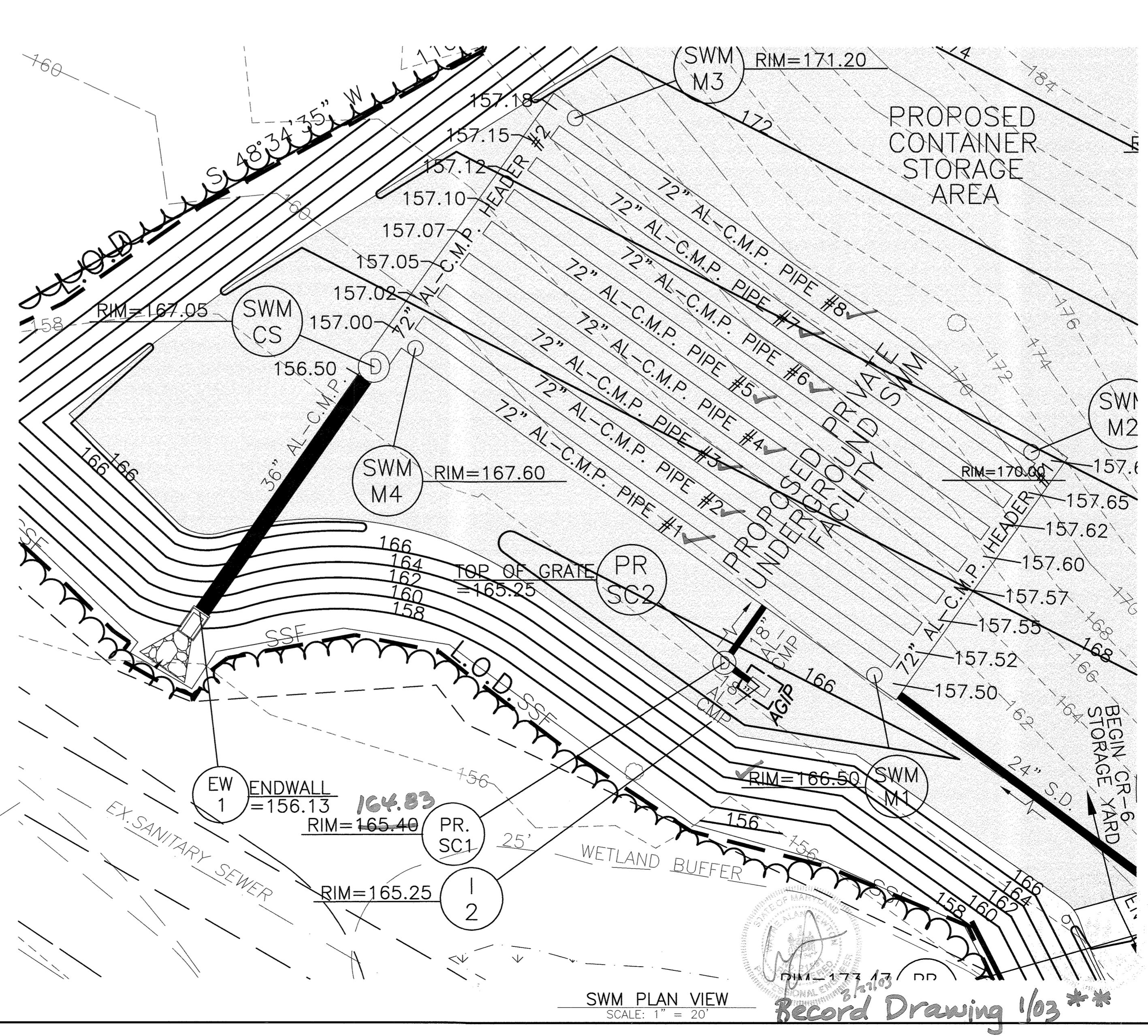
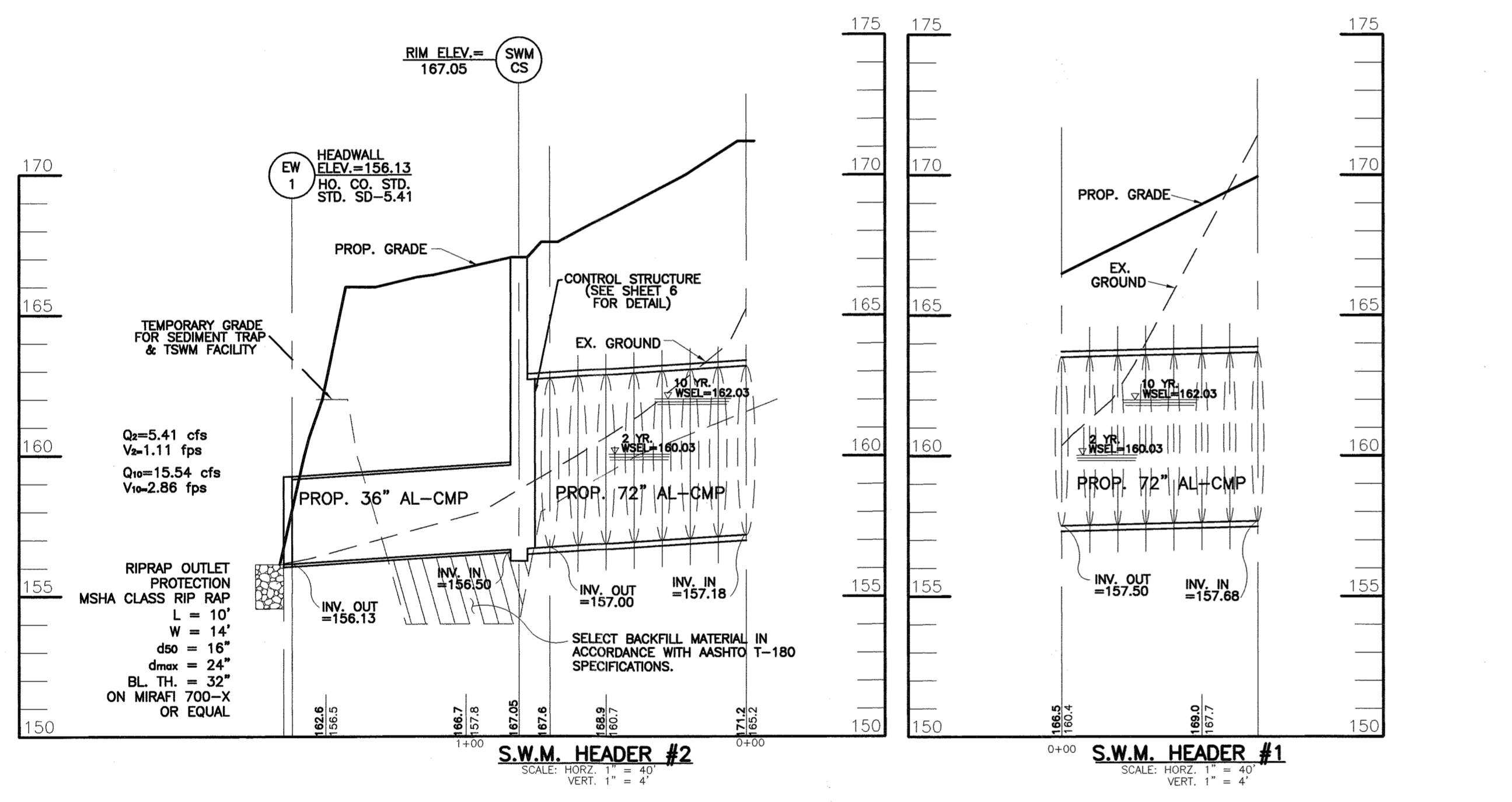
DEVELOPER: *James S.* 3/27/00 DATE

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.

ENGINEER: *Wayne A. Newton* 3/27/00 DATE

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

CHIEF, DIVISION OF LAND DEVELOPMENT: *Chief Stewart* 7/14/00 DATE



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DIRECTOR: *Paul R. Ricks* 8/7/00 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *John D. ...* 7/15/00 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT: *Chris Hamstra* 8/1/00 DATE

DATE	NO.	REVISION	BY
7-27-20	1	REVISE PLAN TO REMOVE A BUILDING	RHN

OWNER: THOMAS AND BARBARA PALACOROLLA
 12183 TRIADDELPHIA ROAD
 ELLICOTT CITY, MD. 21042

DEVELOPER: POTOMAC ABATEMENT
 9550 BERGER ROAD
 COLUMBIA, MD. 21046
 ATTN: JIM HARRIS

PROJECT: POTOMAC ABATEMENT INDUSTRIAL PARK

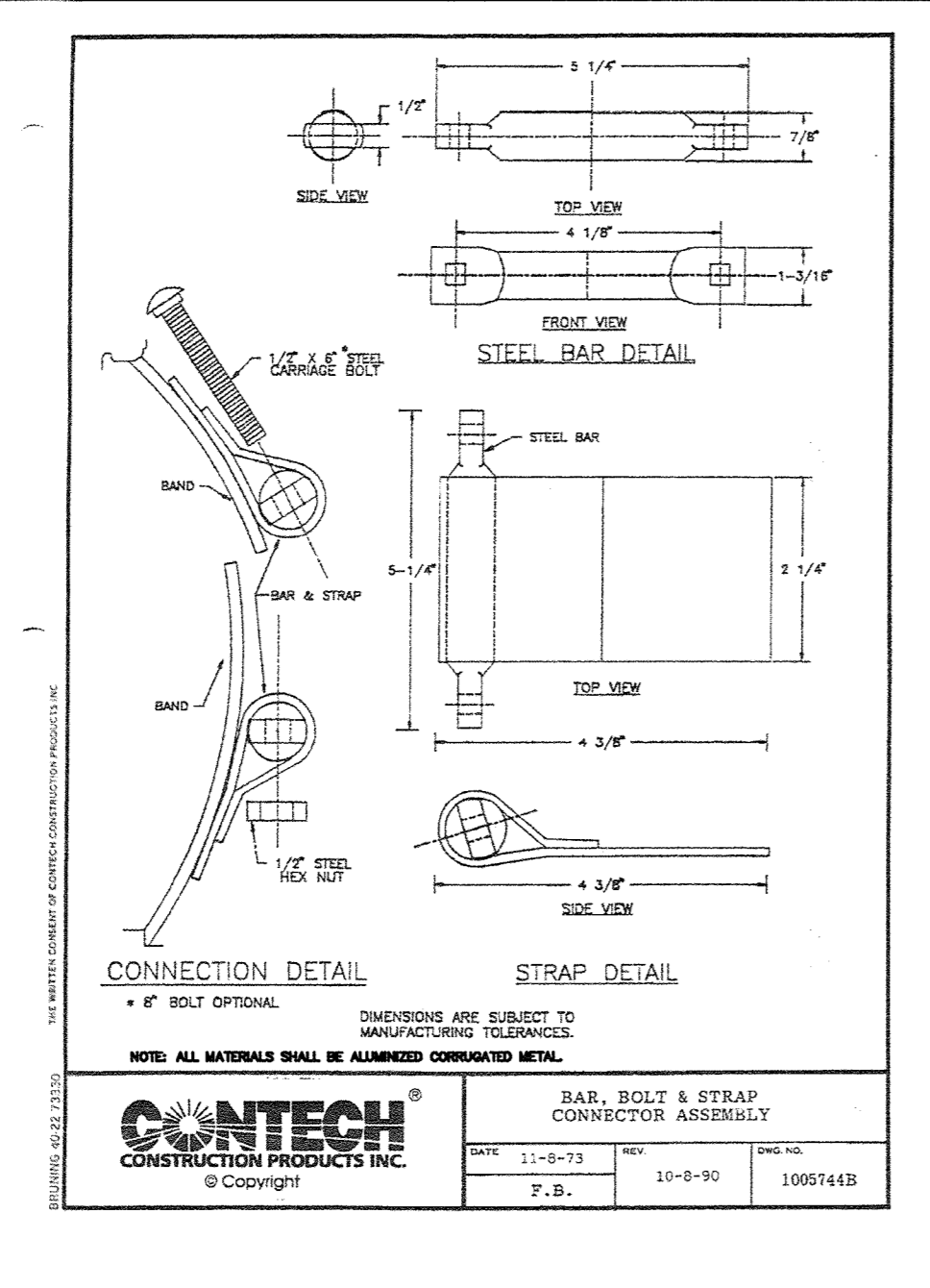
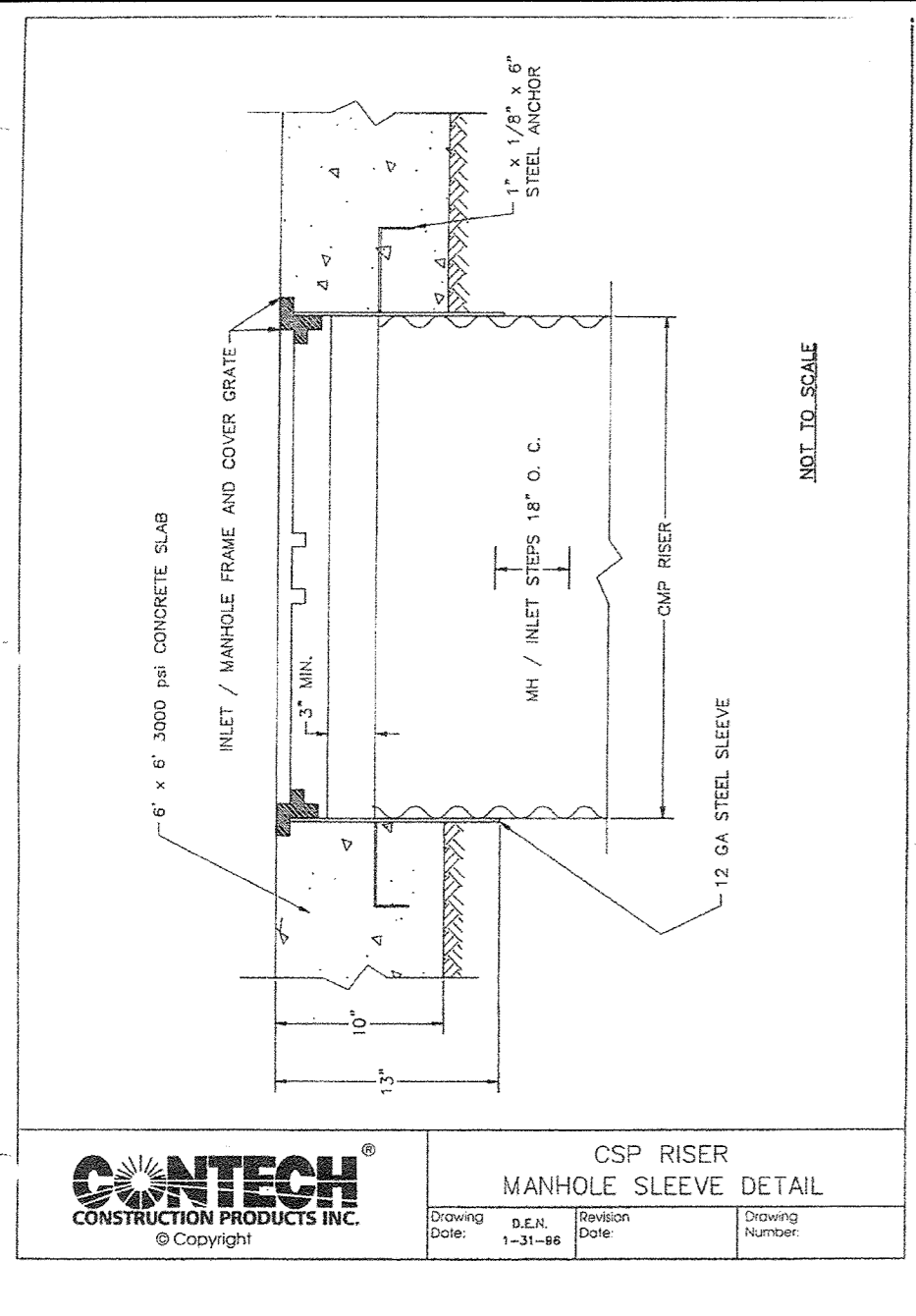
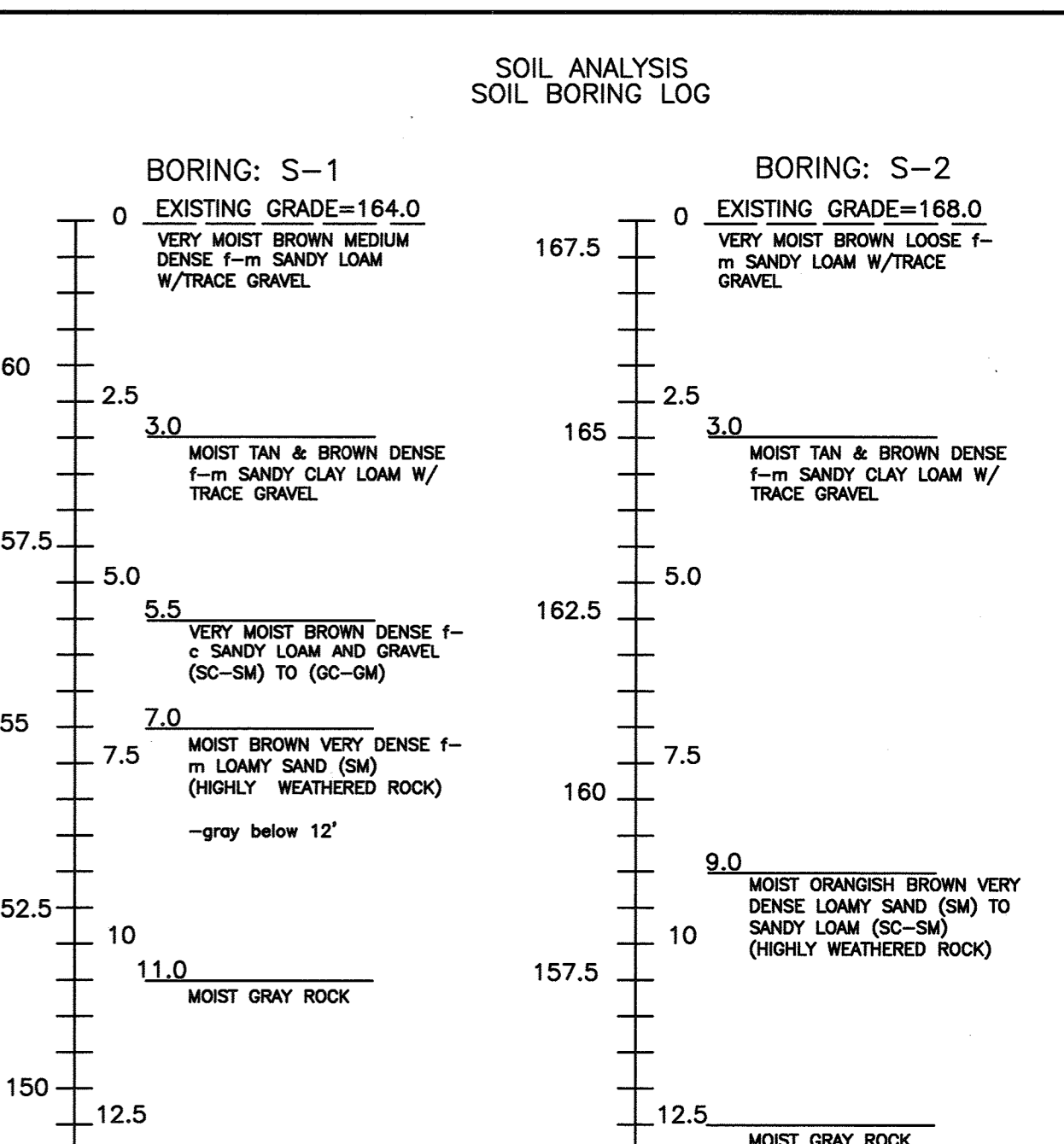
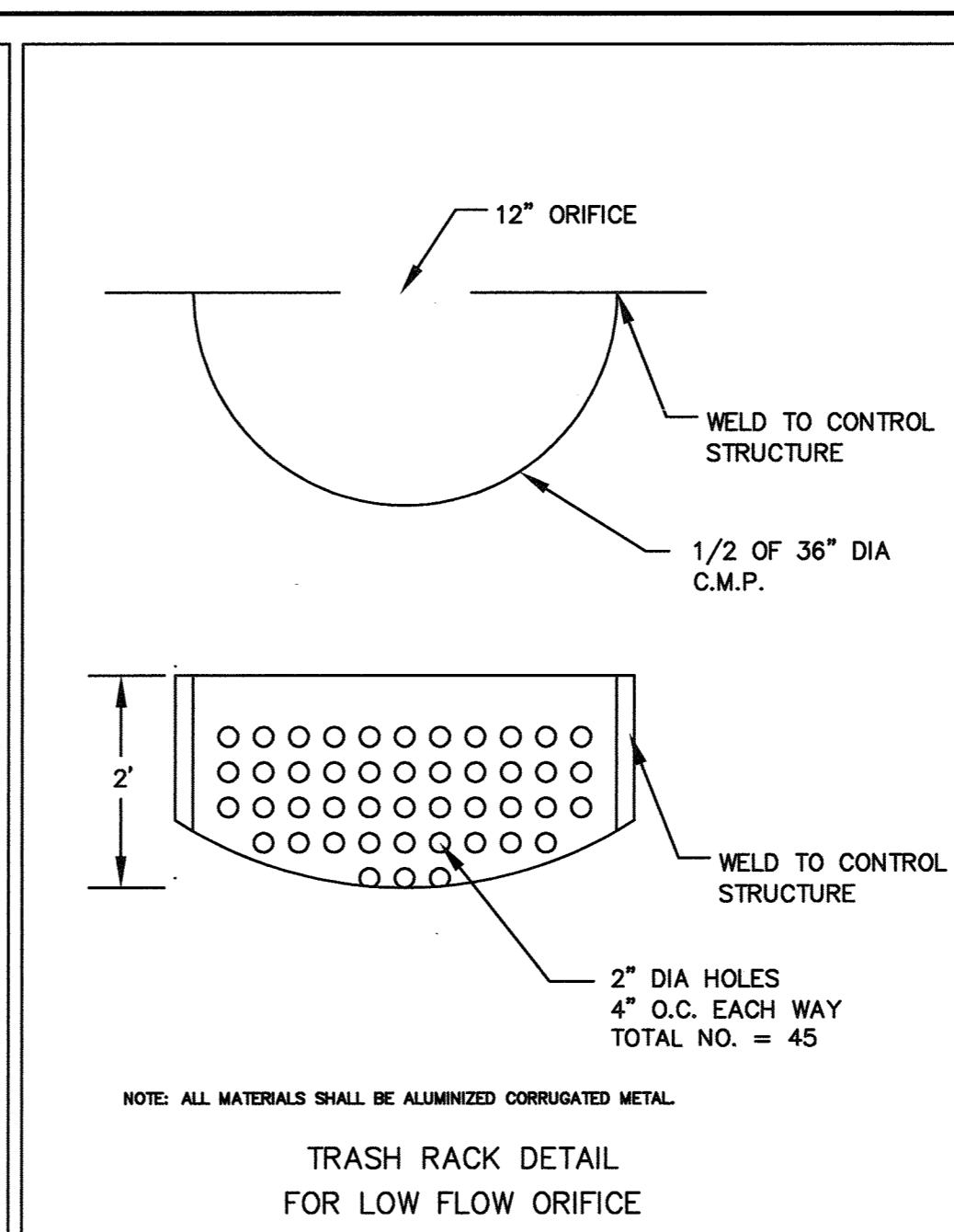
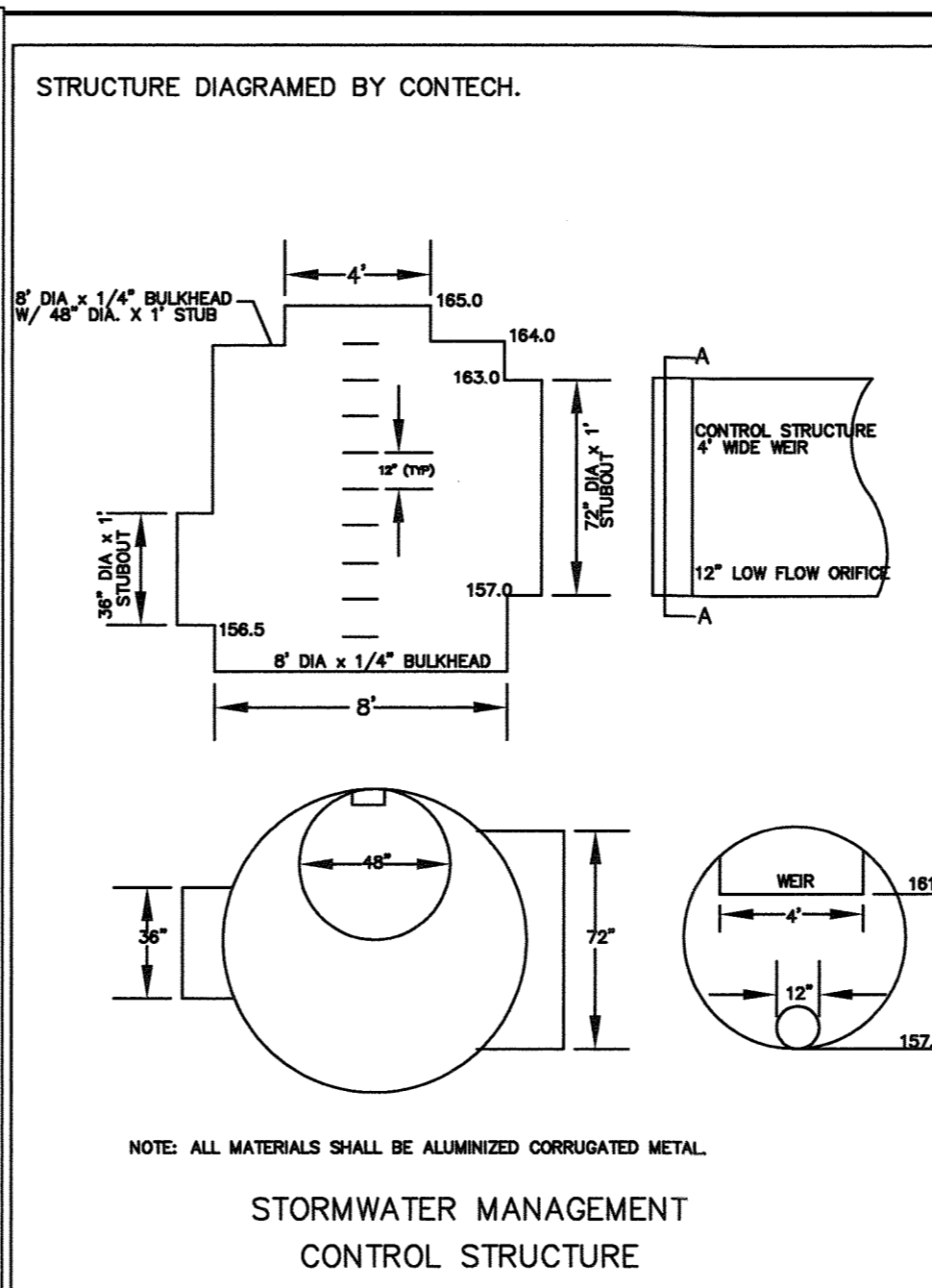
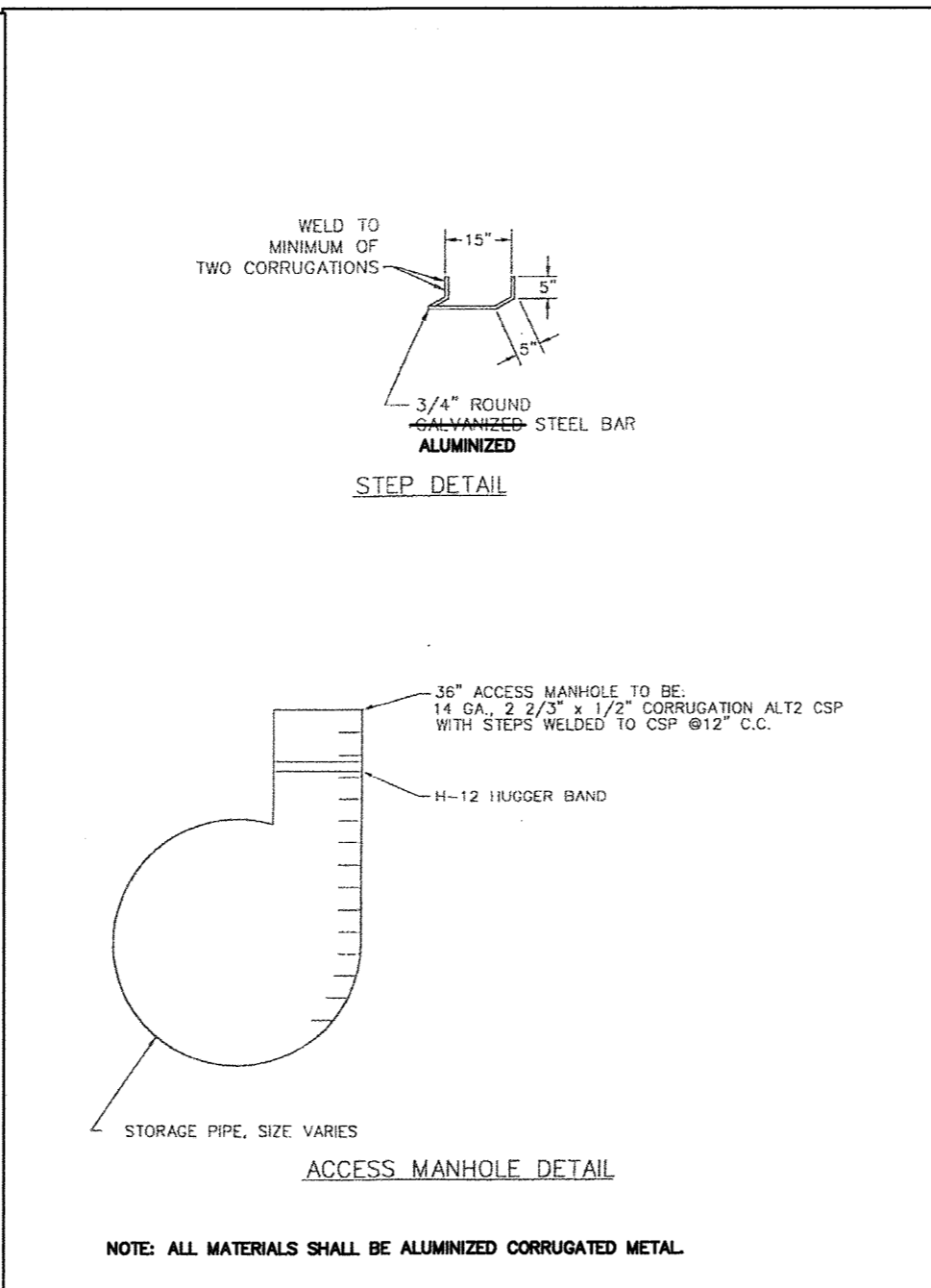
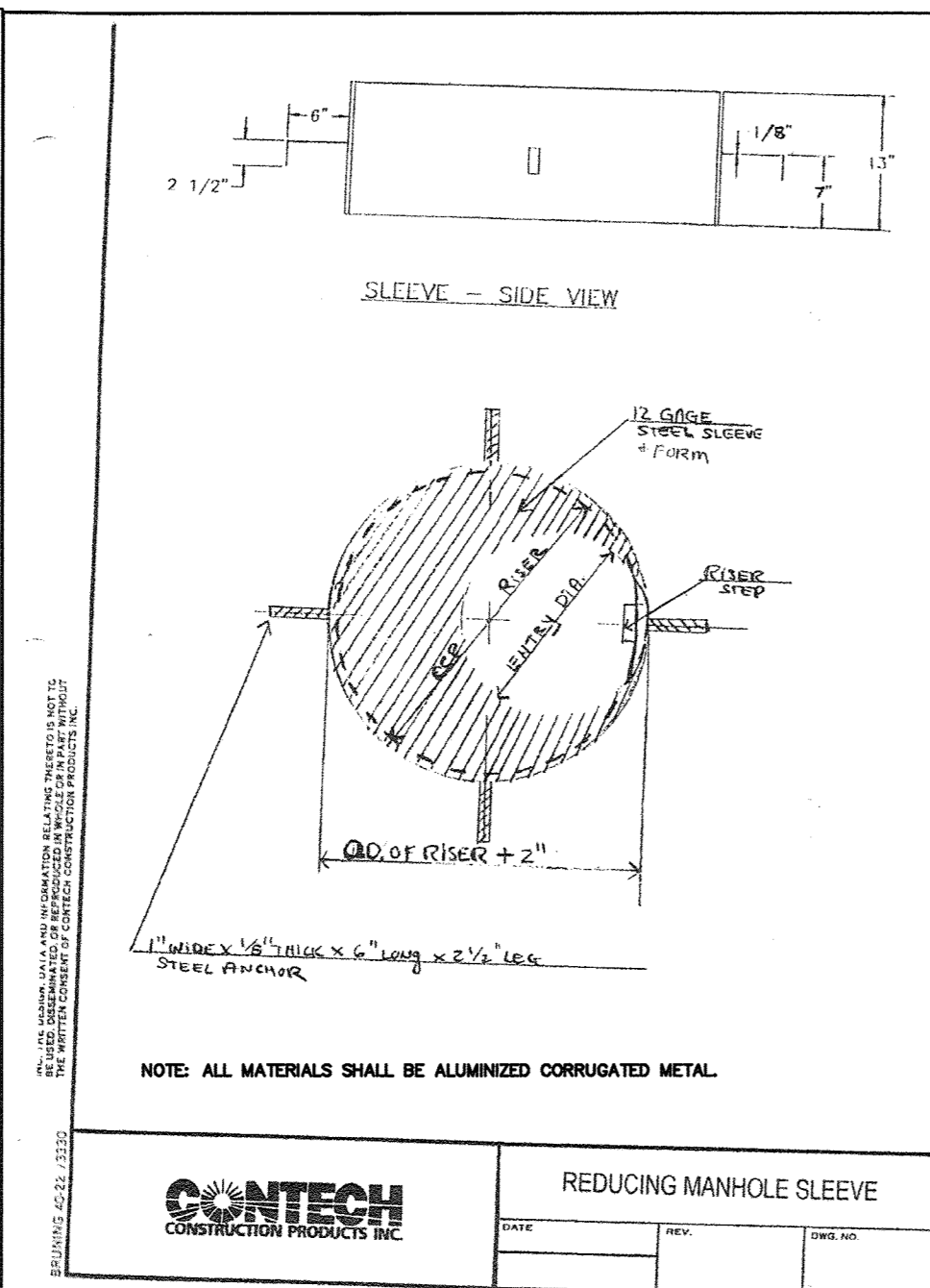
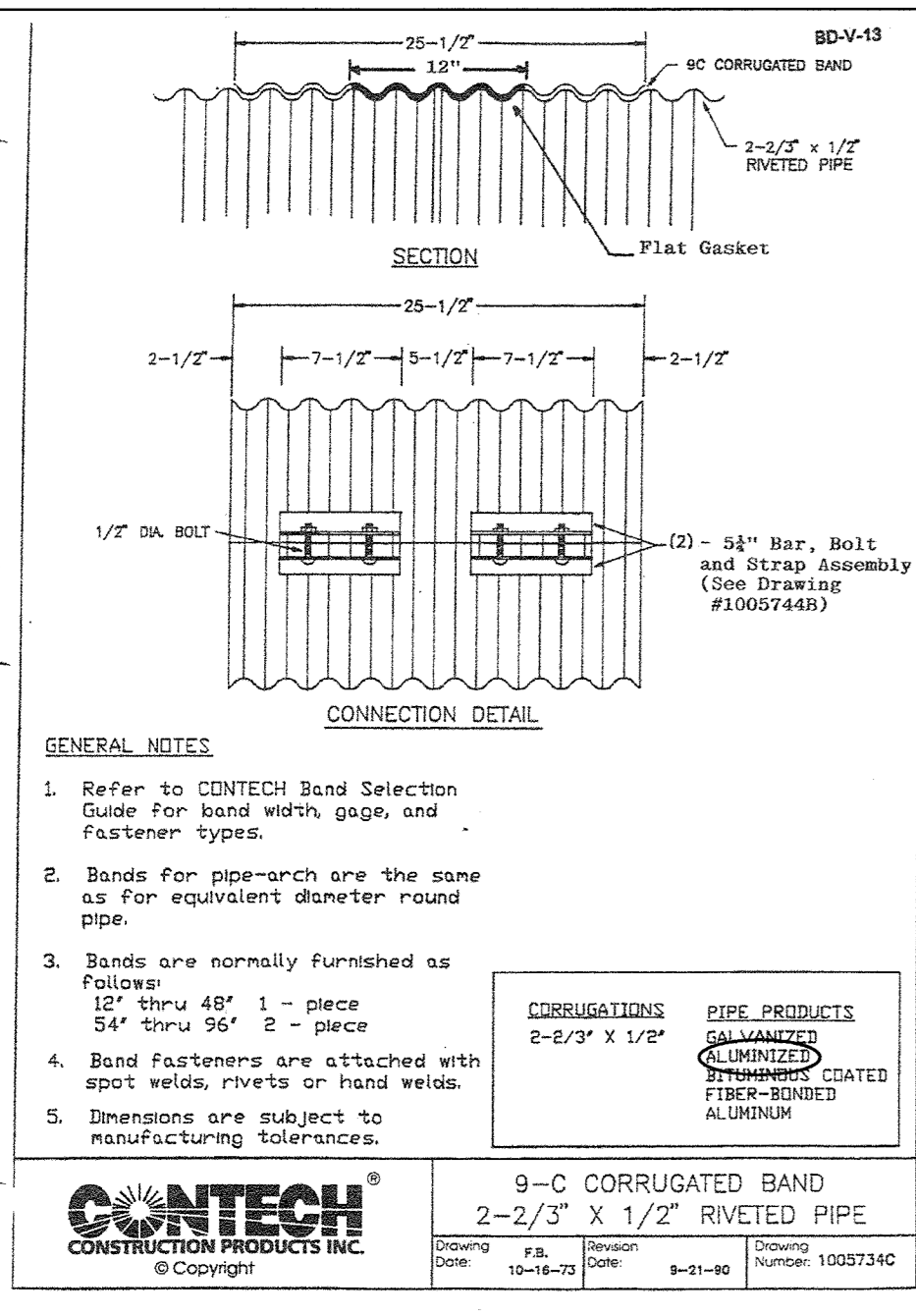
AREA: TAX MAP 43, BLOCK 10, ZONED M-2
 PARCEL 46,
 1st ELECTION DISTRICT

TITLE: SWM PLAN AND PROFILES

MESSICK & ASSOCIATES *
 CONSULTING ENGINEERS
 31 OLD SOLOMONS ISLAND RD., SUITE 201
 ANNAPOLIS, MARYLAND 21401
 (410) 266-3212

DESIGNED BY: WRD
 DRAWN BY: WRD
 PROJECT NO:
 DATE: APRIL 9, 1999
 SCALE: AS SHOWN
 DRAWING NO.: 6 OF 15

WAYNE A. NEWTON #2159T



OPERATION AND MAINTENANCE SCHEDULE FOR STORMCEPTOR WATER QUALITY DEVICE

- The Stormceptor water quality structure shall be periodically inspected and cleaned to maintain operation and function. The owner shall inspect the Stormceptor unit yearly at a minimum, utilizing the Stormceptor Inspection/Monitoring Form. Inspections shall be done by using a clear Plexiglas tube ("sludge judge") to extract a water column sample. When the sediment depth exceeds the level specified in Table 6 of the Stormceptor Technical Manual, the unit must be cleaned.
- The Stormceptor water quality structure shall be checked and cleaned immediately after petroleum spills. The owner shall contact the appropriate regulatory agencies.
- The maintenance of the Stormceptor unit shall be done using a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons and other materials in the unit. Proper cleaning and disposal of the removed materials and liquid must be followed by the owner.
- The inlet and outlet pipes shall be checked for any obstructions at least once every six months. If obstructions are found the owner shall have them removed. Structural parts of the Stormceptor unit shall be repaired as needed.
- The owner shall retain and make the Stormceptor Inspection/Monitoring Forms available to the Howard County officials upon their request.

OPERATION AND MAINTENANCE SCHEDULE FOR UNDERGROUND STORMWATER MANAGEMENT FACILITY

The underground stormwater management facility shall be inspected, cleaned, and maintained periodically to maintain optimal operation and function.

Inspection

The underground SWM facility shall be inspected, at minimum, once a year or as required by Howard County. The inspection shall include but not be limited to:

- Check inlet, outlet, control structure, and trash rack for obstructions. If obstructions are found, remove immediately.
- Check both pipe joints and control structure for water tightness (leaks).
- Check the structural integrity (deflections) of all pipes.
- Check sediment depth in the structure.

The inspection shall be documented in written log books. The log books shall be retained on site and be made available to Howard County officials upon request.

Maintenance

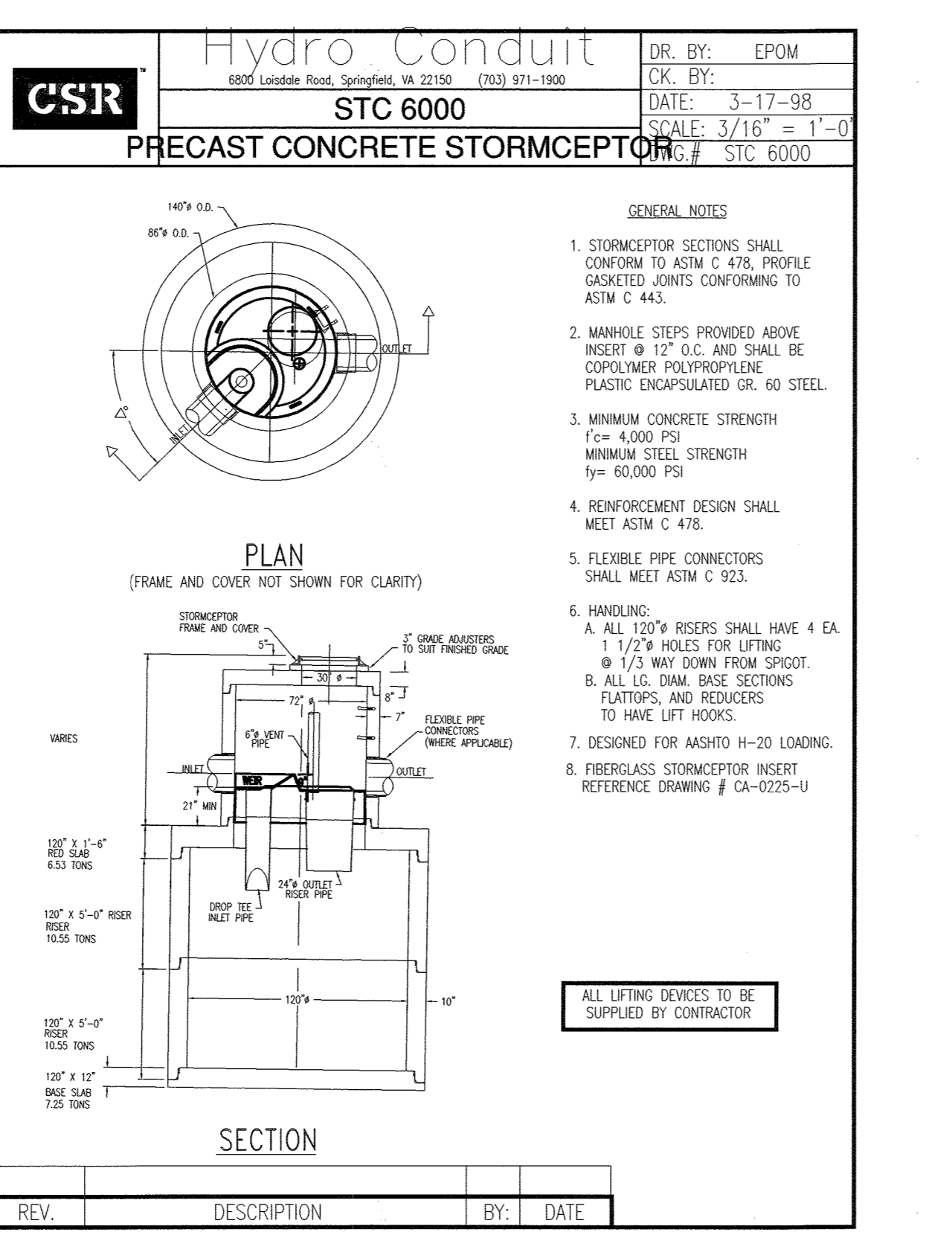
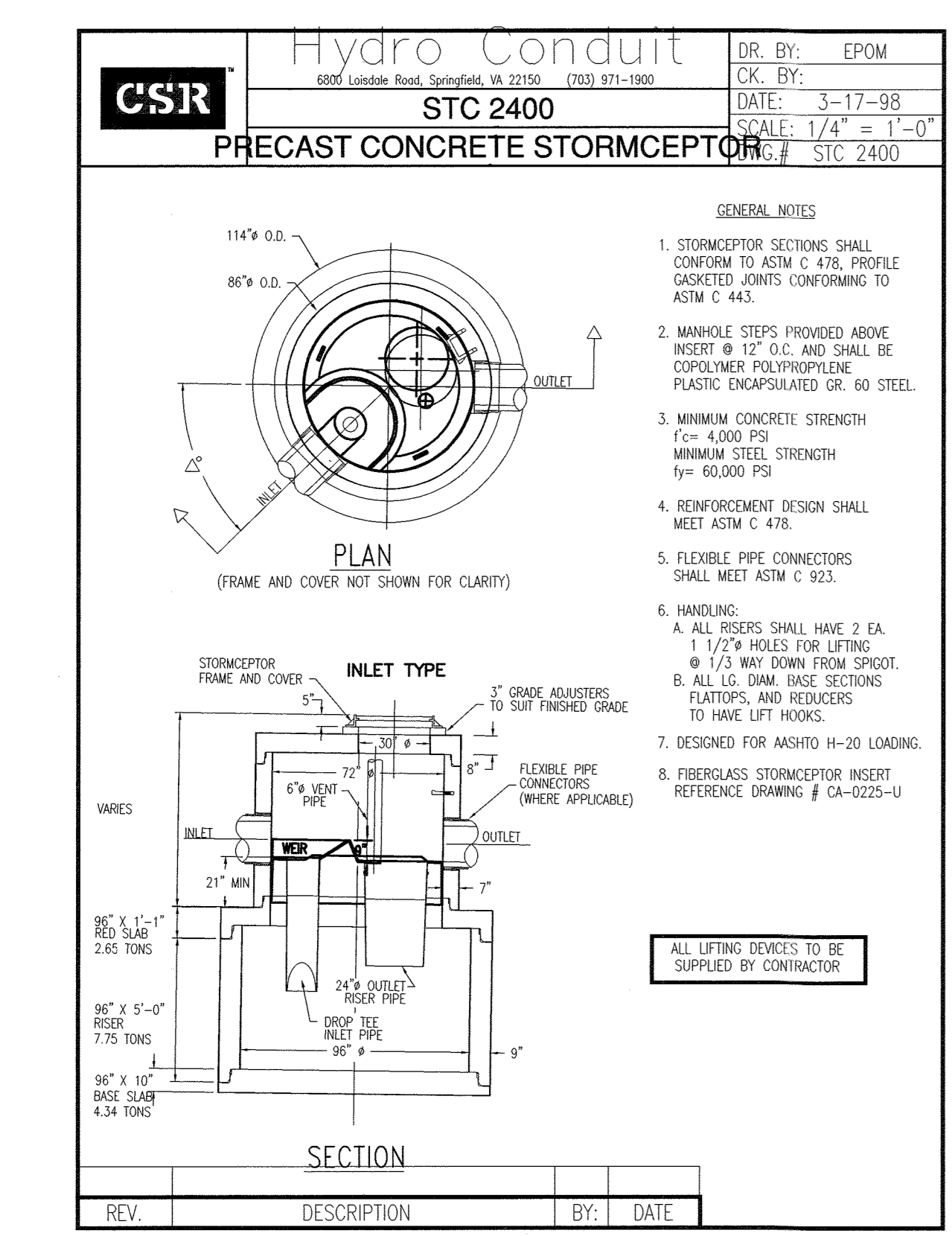
The underground SWM facility shall be maintained as needed to provide optimal operation and function.

- Obstructions - remove immediately upon inspection.
- Sediment and debris - The facility shall be cleaned if sediment exceeds 6 inches in depth, or if debris prevents the structure from functioning properly.
- Cracks/Structural Problems - Consult manufacturer for repair services and/or details.

CONSTRUCTION SPECIFICATIONS

ALL SITE PREPARATION, CONSTRUCTION AND INSTALLATION, AND BACKFILLING OF THE PROPOSED DEVICES SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

- UNDERGROUND STORMWATER MANAGEMENT DEVICE (MANUFACTURER - CONTECH CONSTRUCTION PRODUCTS, INC. - COLUMBIA, MD.)
- STORMCEPTOR WATER QUALITY STRUCTURES (MANUFACTURER - STORMCEPTOR CORPORATION - ROCKVILLE, MD.)



Stormceptor® Order Form

This document is to be included on SWM Plans by the Designer

For Office Use Only
Order # _____ Date _____

Which plant will be manufacturing the unit:
ROCKVILLE, MARYLAND

Manhole #	PR-SC1
Finish Top elevation (ft)	165.25
Top slab elevation (ft)	164.83
Inlet pipe invert (ft)	0
Outlet pipe invert (ft)	162.13
Pipe Type	AL-CMP
Inlet Pipe Inside Dia. (in) [ID]	NA
Inlet Pipe Outside Dia. (in) [OD]	NA
Outlet Pipe Inside Dia. (in) [ID]	18
Outlet Pipe Outside Dia. (in) [OD]	21

Draw the orientation of inlet (max 2) and outlet pipes (1) on the diagram. Clearly mark the inlet pipe with an "I" and the outlet pipe with an "O". *Be sure to provide the inlet/outlet pipe angle in degrees.

Stormceptor Model # (Circle One): 4500 5100 1200 1800 2400 3600 4800 6000 7200

Install. Type (Circle One): Commercial (Industrial) Residential Highway/DOT Gas Station Mun/Govt Other (Be specific as possible): _____

(Circle One): Single Inlet Multiple Inlet Impervious Drainage Area (in acres): 1.60

This installation is... (Circle One): New Construction or Retrofit

Contractor Information:
Contractor **TO BE DETERMINED** Contact Person _____
Phone () _____ Fax () _____

Owner (Maintainer) Information:
Owner **POTOMAC ABATEMENT** Contact Person **JAMES HARRIS**
Phone (410) 381-2020 Fax () _____

Project Details:
Name of Project: **POTOMAC ABATEMENT** Design Firm: **MESSICK & ASSOCIATES**
Deliver insert by (date): **TO BE DETERMINED** City: **ELKBRIDGE** State: **MARYLAND**
Address of Installation: **KIT KAT ROAD** City: **ELKBRIDGE** State: **MARYLAND**
Designer Contact: **DARRELL VOLNEY** Phone: (410) 266-3212 Fax: (410) 266-3502
Approving Agency: **HOWARD COUNTY** Contact _____ Phone () _____

Please fax this sheet back to: Stormceptor Corp. at (301) 762-4199
Attention: Vincent H. Berg, P.E. (301) 762-8361

For technical assistance please call Stormceptor Corporation toll free at (800) 762-4703
All lifting apparatus to be provided by the installation contractor

Stormceptor® Order Form

This document is to be included on SWM Plans by the Designer

For Office Use Only
Order # _____ Date _____

Which plant will be manufacturing the unit:
ROCKVILLE, MARYLAND

Manhole #	PR-SC2
Finish Top elevation (ft)	173.47
Top slab elevation (ft)	172.47
Inlet pipe invert (ft)	167.25
Outlet pipe invert (ft)	163.10
Pipe Type	AL-CMP
Inlet Pipe Inside Dia. (in) [ID]	24
Inlet Pipe Outside Dia. (in) [OD]	30
Outlet Pipe Inside Dia. (in) [ID]	24
Outlet Pipe Outside Dia. (in) [OD]	30

Draw the orientation of inlet (max 2) and outlet pipes (1) on the diagram. Clearly mark the inlet pipe with an "I" and the outlet pipe with an "O". *Be sure to provide the inlet/outlet pipe angle in degrees.

Stormceptor Model # (Circle One): 4500 5100 1200 1800 2400 3600 4800 6000 7200

Install. Type (Circle One): Commercial (Industrial) Residential Highway/DOT Gas Station Mun/Govt Other (Be specific as possible): _____

(Circle One): Single Inlet Multiple Inlet Impervious Drainage Area (in acres): 5.12

This installation is... (Circle One): New Construction or Retrofit

Contractor Information:
Contractor **TO BE DETERMINED** Contact Person _____
Phone () _____ Fax () _____

Owner (Maintainer) Information:
Owner **POTOMAC ABATEMENT** Contact Person **JAMES HARRIS**
Phone (410) 381-2020 Fax () _____

Project Details:
Name of Project: **POTOMAC ABATEMENT** Design Firm: **MESSICK & ASSOCIATES**
Deliver insert by (date): **TO BE DETERMINED** City: **ELKBRIDGE** State: **MARYLAND**
Address of Installation: **KIT KAT ROAD** City: **ELKBRIDGE** State: **MARYLAND**
Designer Contact: **DARRELL VOLNEY** Phone: (410) 266-3212 Fax: (410) 266-3502
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For technical assistance please call Stormceptor Corporation toll free at (800) 762-4703
All lifting apparatus to be provided by the installation contractor

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Lead Batts 8/7/00
DIRECTOR DATE

William... 7/15/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy... 8/1/00
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

7-27-20 REVISE PLAN TO REMOVE A BUILDING RHW

DATE NO. REVISION BY

OWNER: THOMAS AND BARBARA PALACOROLLA
12183 TRIADDELPHIA ROAD
ELLCOTT CITY, MD. 21042

DEVELOPER: POTOMAC ABATEMENT
9550 BERGER ROAD
COLUMBIA, MD. 21046
ATTN: JIM HARRIS

PROJECT: POTOMAC ABATEMENT INDUSTRIAL PARK

AREA: TAX MAP 43, BLOCK 10, ZONED M-2
PARCEL 46,
1st ELECTION DISTRICT

TITLE: SWM DETAILS AND FORMS

MESSICK & ASSOCIATES
CONSULTING ENGINEERS
31 OLD SOLOMONS ISLAND RD., SUITE 201
ANNAPOLIS, MARYLAND 21401
(410) 266-3212

3/27/00
DATE

DESIGNED BY: WRD

DRAWN BY: WRD

PROJECT NO:

DATE: APRIL 9, 1999

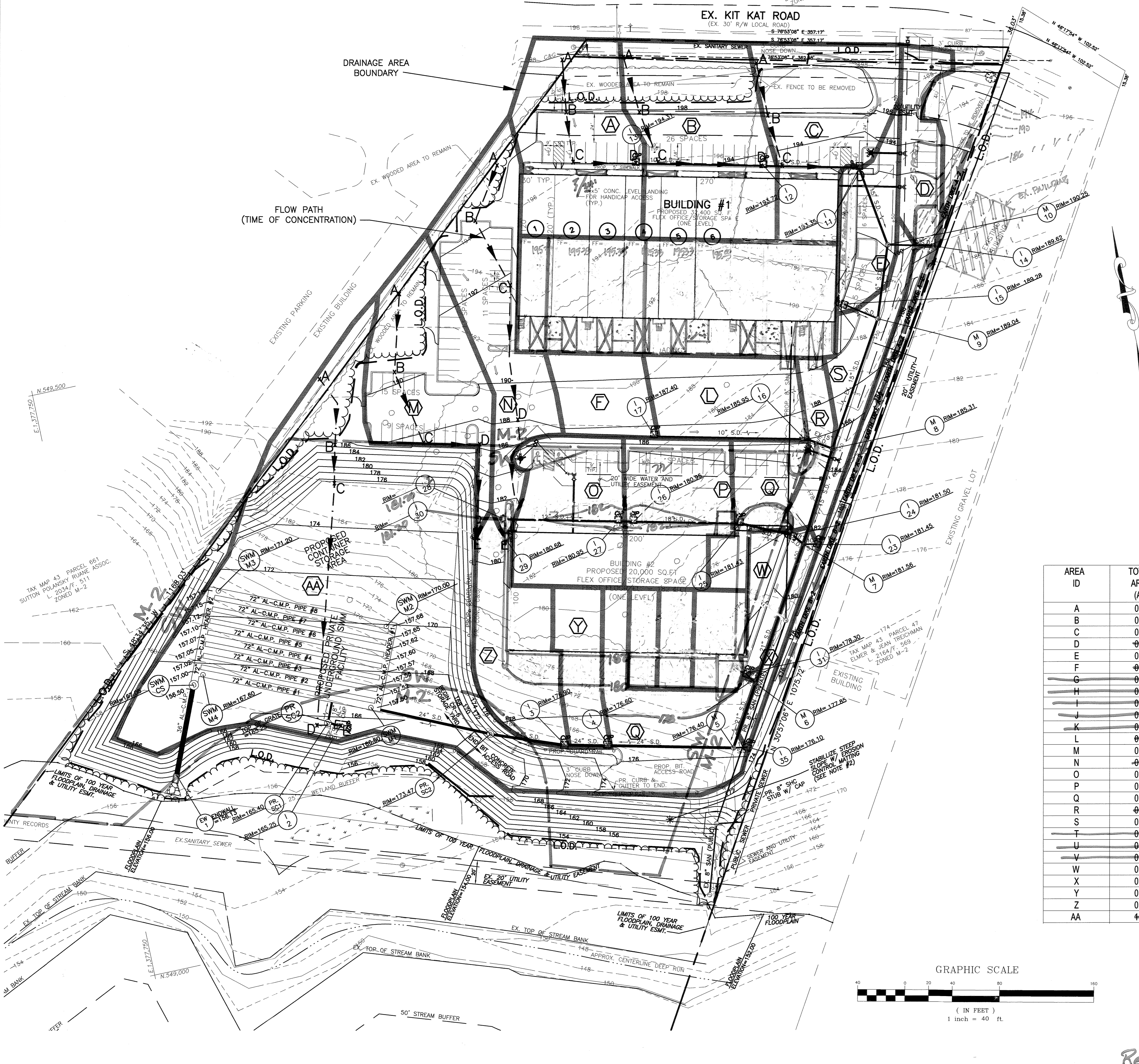
SCALE: AS SHOWN

WAYNE A. NEWTON #2159T

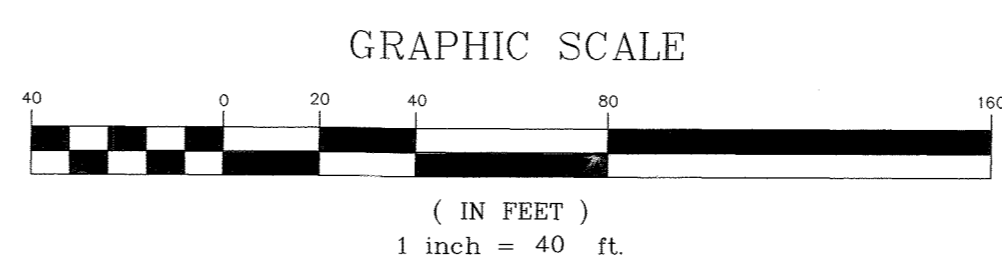
DRAWING NO.: 7 OF 15

SDP-99-130

Record Drawing 1/03 *** 3/27/03



AREA ID	TOTAL AREA (AC)	PERCENT IMPERVIOUS %	COMPOSITE "C" FACTOR
A	0.37	63	0.58
B	0.45	77	0.69
C	0.33	70	0.66
D	0.19	100	0.86
E	0.14	86	0.76
F	0.13	100	0.86
G	0.07	100	0.86
H	0.13	100	0.86
I	0.13	100	0.86
J	0.13	100	0.86
K	0.14	100	0.86
L	0.21	100	0.86
M	0.33	67	0.62
N	0.36	72	0.67
O	0.26	85	0.76
P	0.24	92	0.80
Q	0.13	77	0.71
R	0.08	100	0.86
S	0.15	100	0.86
T	0.08	100	0.86
U	0.06	100	0.86
V	0.05	100	0.86
W	0.09	56	0.56
X	0.05	100	0.86
Y	0.12	100	0.86
Z	0.23	91	0.80
AA	1.85	77	0.70



BY THE DEVELOPER:
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
 DEVELOPER: [Signature] DATE: 3/27/00

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.
 ENGINEER: [Signature] DATE: 3/27/00

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

NATURAL RESOURCES CONSERVATION SERVICE DATE

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

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DIRECTOR: [Signature] DATE: 8/2/00

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 7/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 8/1/00

DATE	NO.	REVISION	BY
7-21-01		REVISED TO IMPROVE SW DRAINAGE CHANNEL	
7-27-00		REVISE PLAN TO REMOVE A BUILDING	

OWNER:
 THOMAS AND BARBARA PALACOROLLA
 12183 TRIADDELPHIA ROAD
 ELLICOTT CITY, MD. 21042

DEVELOPER:
 POTOMAC ABATEMENT
 9550 BERGER ROAD
 COLUMBIA, MD. 21046
 ATTN: JIM HARRIS

PROJECT
 POTOMAC ABATEMENT INDUSTRIAL PARK

AREA TAX MAP 43, BLOCK 10, ZONED M-2
 PARCEL 46,
 1st ELECTION DISTRICT

TITLE
 STORM DRAIN DRAINAGE AREA MAP

MESSICK & ASSOCIATES*
 CONSULTING ENGINEERS
 31 OLD SOLOMONS ISLAND RD., SUITE 201
 ANNAPOLIS, MARYLAND 21401
 (410) 266-3212

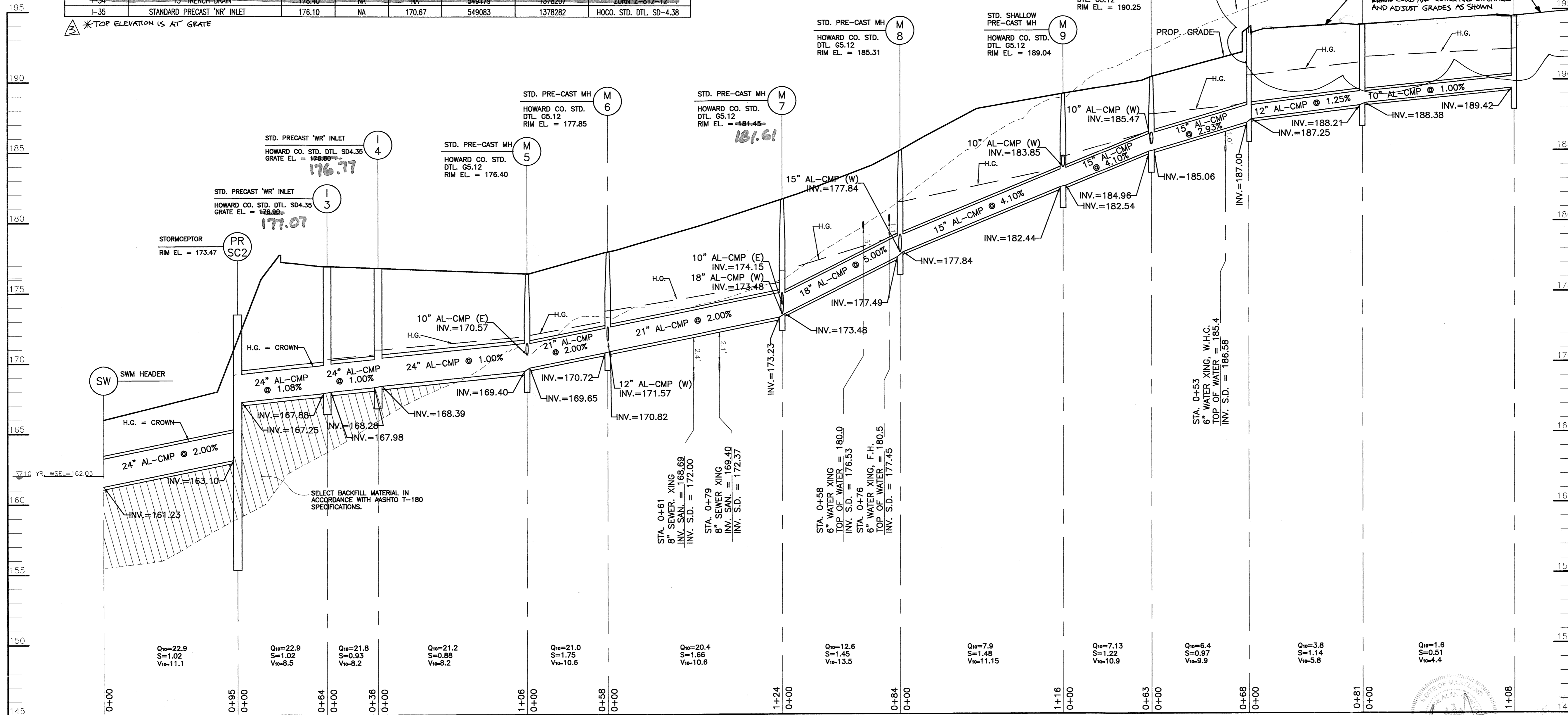
DATE: 3/27/00
 DESIGNED BY: WRD
 DRAWN BY: WRD
 PROJECT NO:
 DATE: APRIL 9, 1999
 SCALE: AS SHOWN
 WAYNE A. NEWTON #2159T
 DRAWING NO.: 8 OF 15

Record Drawing 1/03**

STORM DRAIN STRUCTURE SCHEDULE									
STRUCTURE ID	STRUCTURE TYPE	TOP ELEVATION	INVERTS		LOCATION (COORDINATES)		DETAIL REFERENCE		
			IN	OUT	NORTHING	EASTING			
EW-1	CONCRETE END WALL	156.13	NA	156.13	549160	1377803	HO. CO. SD-5.41		
SWM-CS	AL-CMP RISER	167.05	NA	NA	549232	1377833	CONTEC		
SWM-M1	AL-CMP RISER	166.50	NA	NA	549183	1377976	CONTEC		
SWM-M2	AL-CMP RISER	170.00	NA	NA	549249	1378004	CONTEC		
SWM-M3	AL-CMP RISER	171.20	NA	NA	549306	1377870	CONTEC		
SWM-M4	AL-CMP RISER	167.60	NA	NA	549239	1377842	CONTEC		
PR-SC1	STORMCEPTOR (STC 2400) - MANHOLE	165.25	161.95	161.89	549178	1377937	STORMCEPTOR		
PR-SC2	STORMCEPTOR (STC 6000) - MANHOLE	173.47	167.25	163.10	549140	1378070	STORMCEPTOR		
I-2	STANDARD PRECAST "NR" INLET	165.25	NA	162.00	549173	1377947	HOCO STD. DTL. SD-4.23		
I-3	STANDARD PRECAST "NR" INLET	176.90	167.98	167.88	549118	1378130	HOCO STD. DTL. SD-4.35		
I-4	STANDARD PRECAST "NR" INLET	176.60	168.39	168.28	549109	1378165	HOCO STD. DTL. SD-4.35		
M-5	STD PRECAST MANHOLE	176.40	169.65	169.40	549085	1378269	HOCO STD. DTL. GS.12		
M-6	STD PRECAST MANHOLE	177.85	170.82	170.72	549134	1378299	HOCO STD. DTL. GS.12		
M-7	STD PRECAST MANHOLE	181.56	173.48	173.23	549241	1378362	HOCO STD. DTL. GS.12		
M-8	STD PRECAST MANHOLE	185.31	177.84	177.49	549315	1378403	HOCO STD. DTL. GS.12		
M-9	STD PRECAST MANHOLE	189.04	182.53	182.43	549414	1378463	HOCO STD. DTL. GS.12		
M-10	STD PRECAST MANHOLE	190.75	185.06	184.96	549474	1378484	HOCO STD. DTL. GS.12		
I-11	STANDARD PRECAST "NR" INLET	193.35	187.25	187.00	549542	1378474	HOCO STD. DTL. SD-4.38		
I-12	STANDARD PRECAST "NR" INLET	194.00*	188.38	188.21	549561	1378396	HOCO STD. DTL. SD-4.38		
I-13	STANDARD PRECAST "NR" INLET	194.00*	NA	189.42	549585	1378290	HOCO STD. DTL. SD-4.38		
I-14	STANDARD PRECAST "NR" INLET	188.62	NA	185.00	549465	1378622	HOCO STD. DTL. SD-4.38		
I-15	STANDARD PRECAST "NR" INLET	189.26	NA	184.93	549433	1378438	HOCO STD. DTL. SD-4.38		
I-16	STANDARD PRECAST "NR" INLET	185.95	178.61	178.19	549328	1378382	HOCO STD. DTL. SD-4.38		
I-17	STANDARD PRECAST "NR" INLET	187.40	NA	179.77	549357	1378258	HOCO STD. DTL. SD-4.38		
I-18	30" TRENCH DRAIN	190.40	NA	NA	549424	1378398	ZURN Z-812-12"		
I-19	30" TRENCH DRAIN	190.70	NA	NA	549438	1378340	ZURN Z-812-12"		
I-20	30" TRENCH DRAIN	191.00	NA	NA	549451	1378281	ZURN Z-812-12"		
I-21	30" TRENCH DRAIN	191.30	NA	NA	549465	1378223	ZURN Z-812-12"		
I-22	15" TRENCH DRAIN	191.90	NA	NA	549477	1378171	ZURN Z-812-12"		
I-23	STANDARD PRECAST "NR" INLET	181.50	NA	174.25	549238	1378375	HOCO STD. DTL. SD-4.38		
I-24	STANDARD PRECAST "NR" INLET	181.50	173.62	173.52	549250	1378355	HOCO STD. DTL. SD-4.38		
I-25	STANDARD PRECAST "NR" INLET	181.43	173.94	173.84	549270	1378313	HOCO STD. DTL. SD-4.38		
I-26	STANDARD PRECAST "NR" INLET	180.95	174.62	174.37	549290	1378226	HOCO STD. DTL. SD-4.38		
I-27	STANDARD PRECAST "NR" INLET	180.95	174.91	174.66	549293	1378213	HOCO STD. DTL. SD-4.38		
I-28	STD PRECAST MANHOLE	181.00	175.94	175.84	549315	1378119	HOCO STD. DTL. SD-4.38		
I-29	STANDARD PRECAST "NR" INLET	180.66	176.21	176.06	549301	1378116	HOCO STD. DTL. SD-4.38		
I-30	STANDARD PRECAST "NR" INLET	180.06	NA	176.42	549306	1378094	HOCO STD. DTL. SD-4.38		
I-31	STANDARD PRECAST "NR" INLET	178.50	172.64	171.69	549145	1378291	HOCO STD. DTL. SD-4.38		
I-32	15" TRENCH DRAIN	178.40	NA	NA	549166	1378266	ZURN Z-812-12"		
I-33	15" TRENCH DRAIN	178.40	NA	NA	549172	1378236	ZURN Z-812-12"		
I-34	15" TRENCH DRAIN	178.40	NA	NA	549179	1378207	ZURN Z-812-12"		
I-35	STANDARD PRECAST "NR" INLET	176.10	NA	170.67	549083	1378282	HOCO STD. DTL. SD-4.38		

STORM DRAIN PIPE SCHEDULE											
STRUCTURE	PIPE SIZE (INCHES)	PIPE TYPE	PIPE CLASSIFICATION	TOTAL LENGTH	STRUCTURE		PIPE SIZE (INCHES)	PIPE TYPE	PIPE CLASSIFICATION	TOTAL LENGTH	
					FROM	TO					
SWMF	PR-SC1	18	AL-CMP	12 GAUGE	10						
PR-SC1	I-2	18	AL-CMP	12 GAUGE	10	I-16	I-17	10	AL-CMP	12 GAUGE	123
SWMF	PR-SC2	24	AL-CMP	12 GAUGE	92	I-16	I-18	12	AL-CMP	12 GAUGE	95
PR-SC2	I-3	24	AL-CMP	12 GAUGE	58	I-18	I-19	12	AL-CMP	12 GAUGE	86
I-3	I-4	24	AL-CMP	12 GAUGE	31	I-19	I-20	12	AL-CMP	12 GAUGE	60
I-4	M-5	24	AL-CMP	12 GAUGE	102	I-20	I-21	10	AL-CMP	12 GAUGE	60
M-5	M-6	21	AL-CMP	12 GAUGE	54	I-21	I-22	10	AL-CMP	12 GAUGE	46
M-6	M-7	21	AL-CMP	12 GAUGE	120	M-7	I-23	10	AL-CMP	12 GAUGE	10
M-7	M-8	18	AL-CMP	12 GAUGE	80	M-7	I-24	18	AL-CMP	12 GAUGE	9
M-8	M-9	15	AL-CMP	12 GAUGE	112	I-24	I-25	18	AL-CMP	12 GAUGE	42
M-9	M-10	15	AL-CMP	12 GAUGE	61	I-25	I-26	18	AL-CMP	12 GAUGE	86
M-10	I-11	15	AL-CMP	12 GAUGE	66	I-26	I-27	15	AL-CMP	12 GAUGE	9
I-11	I-12	12	AL-CMP	12 GAUGE	77	I-27	I-28	12	AL-CMP	12 GAUGE	93
I-12	I-13	10	AL-CMP	12 GAUGE	104	I-28	I-29	12	AL-CMP	12 GAUGE	11
M-10	I-14	10	AL-CMP	12 GAUGE	36	I-29	I-30	10	AL-CMP	12 GAUGE	20
M-9	I-15	10	AL-CMP	12 GAUGE	29	M-6	I-31	12	AL-CMP	12 GAUGE	10
M-8	I-16	15	AL-CMP	12 GAUGE	23	I-31	I-32	10	AL-CMP	12 GAUGE	33
I-16	I-17	10	AL-CMP	12 GAUGE	123	I-32	I-33	10	AL-CMP	12 GAUGE	30
						I-33	I-34	10	AL-CMP	12 GAUGE	30
						I-34	I-35	10	AL-CMP	12 GAUGE	10

- NOTES:
- 1) THE CONTRACTOR SHALL CROSS-REFERENCE ALL INFORMATION IN BOTH THE PIPE AND STRUCTURE SCHEDULES WITH THE INFORMATION CONTAINED IN THE PROFILES. IF THERE ARE ANY DISCREPANCIES BETWEEN SAID INFORMATION, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR VERIFICATION. PRIOR TO CASTING OR ORDERING MATERIALS, ANY INCORRECT CASTINGS OR PURCHASES SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
 - 2) ALL STORM DRAIN PIPE SHALL BE "ULTRAFLO" ALUMINIZED CORRUGATED METAL PIPE WITH A N=0.013 BY CONTECH CONSTRUCTION PRODUCTS, INC. OR APPROVED EQUAL.



PROFILE -- SWMF THROUGH I-13
 SCALE: HORIZ. 1" = 40'
 VERT. 1" = 4'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 2/7/00 DATE
 DIRECTOR

[Signature] 7/19/00 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 8/1/00 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT

7-21-01 REVISION TO IMPROVE DRAINAGE CAPACITY
 7-27-00 REVISION TO REMOVE A BUILDING

OWNER: THOMAS AND BARBARA PALACOROLLA
 12183 TRIADPHIA ROAD
 ELLICOTT CITY, MD. 21042

DEVELOPER: POTOMAC ABATEMENT
 9550 BERGER ROAD
 COLUMBIA, MD. 21046
 ATTN: JIM HARRIS

PROJECT: POTOMAC ABATEMENT INDUSTRIAL PARK

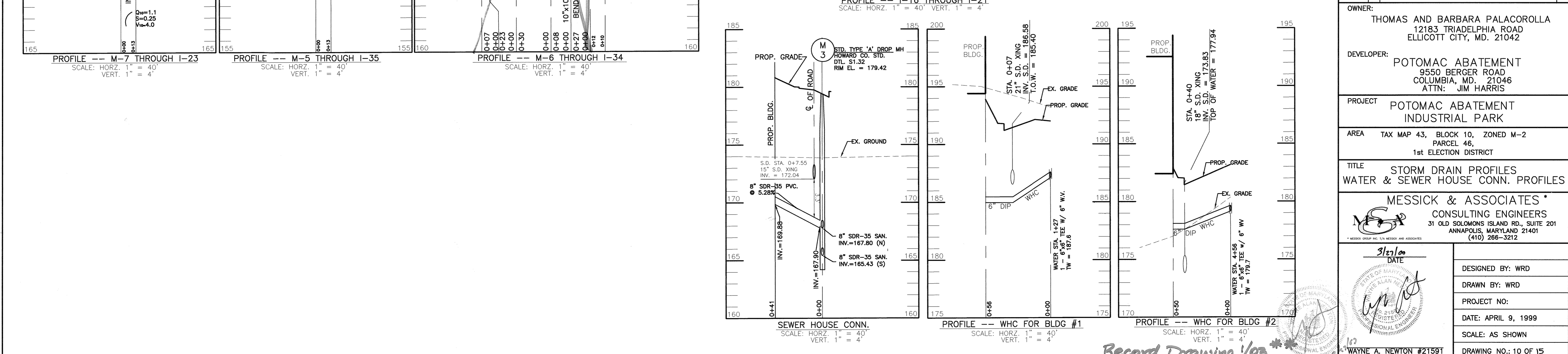
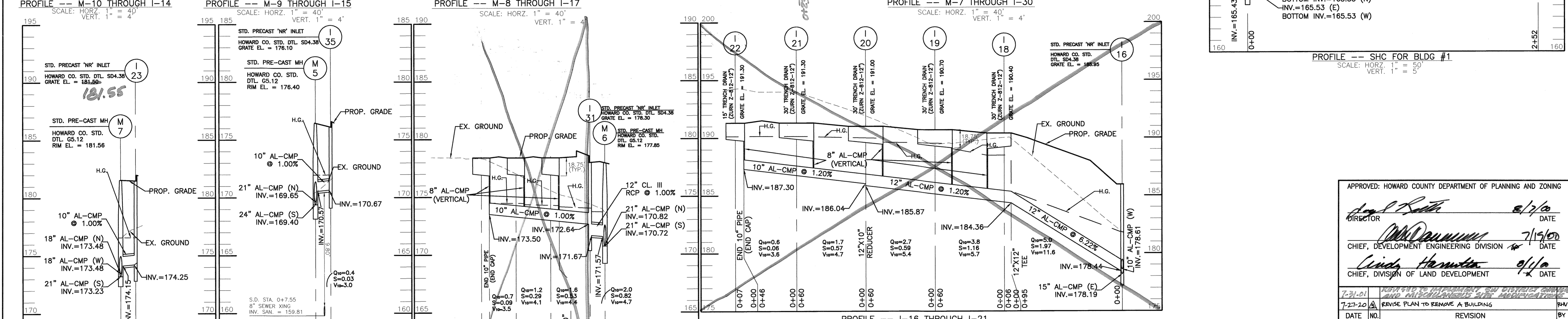
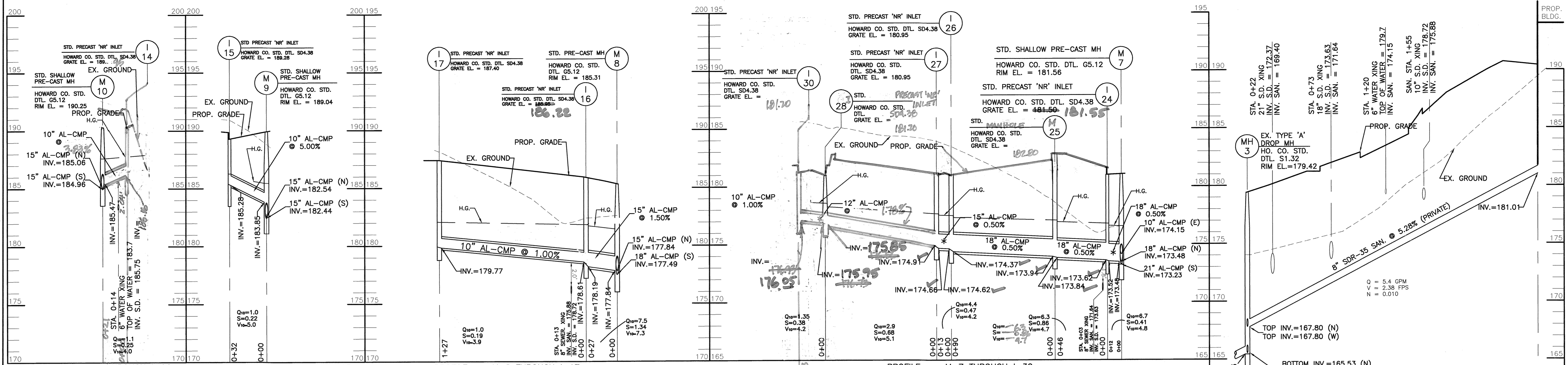
AREA: TAX MAP 43, BLOCK 10, ZONED M-2
 PARCEL 46,
 1st ELECTION DISTRICT

TITLE: STORM DRAIN PROFILES

MESSICK & ASSOCIATES *
 CONSULTING ENGINEERS
 31 OLD SOLOMONS ISLAND RD., SUITE 201
 ANNAPOLIS, MARYLAND 21401
 (410) 266-3212

3/27/00 DATE
 DESIGNED BY: WRD
 DRAWN BY: WRD
 PROJECT NO:
 DATE: APRIL 9, 1999
 SCALE: AS SHOWN
 WAYNE A. NEWTON #21591
 DRAWING NO.: 9 OF 15

Record Drawing 1/03 ***



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

David P. Smith 8/2/99
DIRECTOR DATE

John D. Williams 7/19/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Clinda Hamilton 8/1/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

OWNER:
THOMAS AND BARBARA PALACOROLLA
12183 TRIADELPHIA ROAD
ELLCOTT CITY, MD. 21042

DEVELOPER:
POTOMAC ABATEMENT
9550 BERGER ROAD
COLUMBIA, MD. 21046
ATTN: JIM HARRIS

PROJECT
POTOMAC ABATEMENT
INDUSTRIAL PARK

AREA TAX MAP 43, BLOCK 10, ZONED M-2
PARCEL 46,
1st ELECTION DISTRICT

TITLE
STORM DRAIN PROFILES
WATER & SEWER HOUSE CONN. PROFILES

MESSICK & ASSOCIATES *
CONSULTING ENGINEERS
31 OLD SOLOMONS ISLAND RD., SUITE 201
ANNAPOLIS, MARYLAND 21401
(410) 266-3212

3/27/00
DATE

DESIGNED BY: WRD
DRAWN BY: WRD
PROJECT NO:
DATE: APRIL 9, 1999
SCALE: AS SHOWN
DRAWING NO.: 10 OF 15

WAYNE A. NEWTON #2159T

Record Drawing 1/03

SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of 50 foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Earth Fill

Materials - The fill material shall be taken from approved, designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stone greater than 6", frozen or other objectionable materials. Fill material for the embankment shall conform to Unified Soil Classification GC, SC, CH or CL.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of the fill. Fill materials shall be placed in maximum 8" thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the fill shall be compacted by not less than 100% of the dry weight of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble yet be so wet that water can be squeezed out.

Where a minimum required density is specified, it shall not be less than 95% of maximum dry density with a moisture content within +2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99.

Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall equipment be allowed to operate closer than four feet, measured horizontally, to any part of the structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Pipe Conduits

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

1. Materials

Steel Pipe - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mils) on both sides of the pipe. The following coatings or equal may be used: Nepon, Plast-Coat, Slick-Koat, and Beth-Cu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.

Aluminum Coated Steel Pipe - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

Aluminum Pipe - This pipe and its appurtenances shall conform to AASHTO Specification M-190 or M-211 with watertight coupling bands or flanges. Aluminum surfaces that are to be in contact with concrete shall be primed with one coat of zinc chromate primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

Coupling Bands, anti-seep collars, end sections, etc. must be composed of the same materials as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials of least 24 mils in thickness.

Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled around an adequate number of corrugations to accommodate the band width. The following table for pipe sizes that are 24" in diameter or larger shall be used: flanges on both ends of the pipe, a 12" wide standard top type band with 12" wide by 3/8" thick closed cell circular neoprene gasket; and a 12" wide hugger type band with O-ring gaskets having a minimum diameter of 1/2" greater than the corrugation depth. Pipes 24" in diameter and larger shall be connected by a 24" long annular corrugated band using rods and lugs. A 12" wide by 3/8" thick closed cell circular neoprene gasket will be installed on the end of each pipe for a total of 24".

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

Backfilling - Backfilling shall be conform to "Structural Backfill"

Other Details - Other details such as anti-seep collars, valves, etc. shall be as shown on the drawings.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe: Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361.

Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe to a depth of at least 10R of its outside diameter with a minimum thickness of 3 inches, or as shown on the drawings.

Laying Pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 feet from the riser.

Backfilling - Backfilling shall conform to "Structural Backfill"

Other Details - Other details such as anti-seep collars, valves, etc. shall be as shown on the drawings.

Polyvinyl Chloride (PVC) Pipe - All of the following criteria shall apply for polyvinyl chloride (PVC) pipe:

Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241.

Joints and Connections - Joints and connections to anti-seep collars shall be completely watertight.

Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

Backfilling - Backfilling shall conform to "Structural Backfill"

Other details - Other details such as anti-seep collars, valves, etc. shall be as shown on the drawings.

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311 & 901.2.

The riprap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the riprap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks. Filter cloth shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09.

Care of Water During Construction

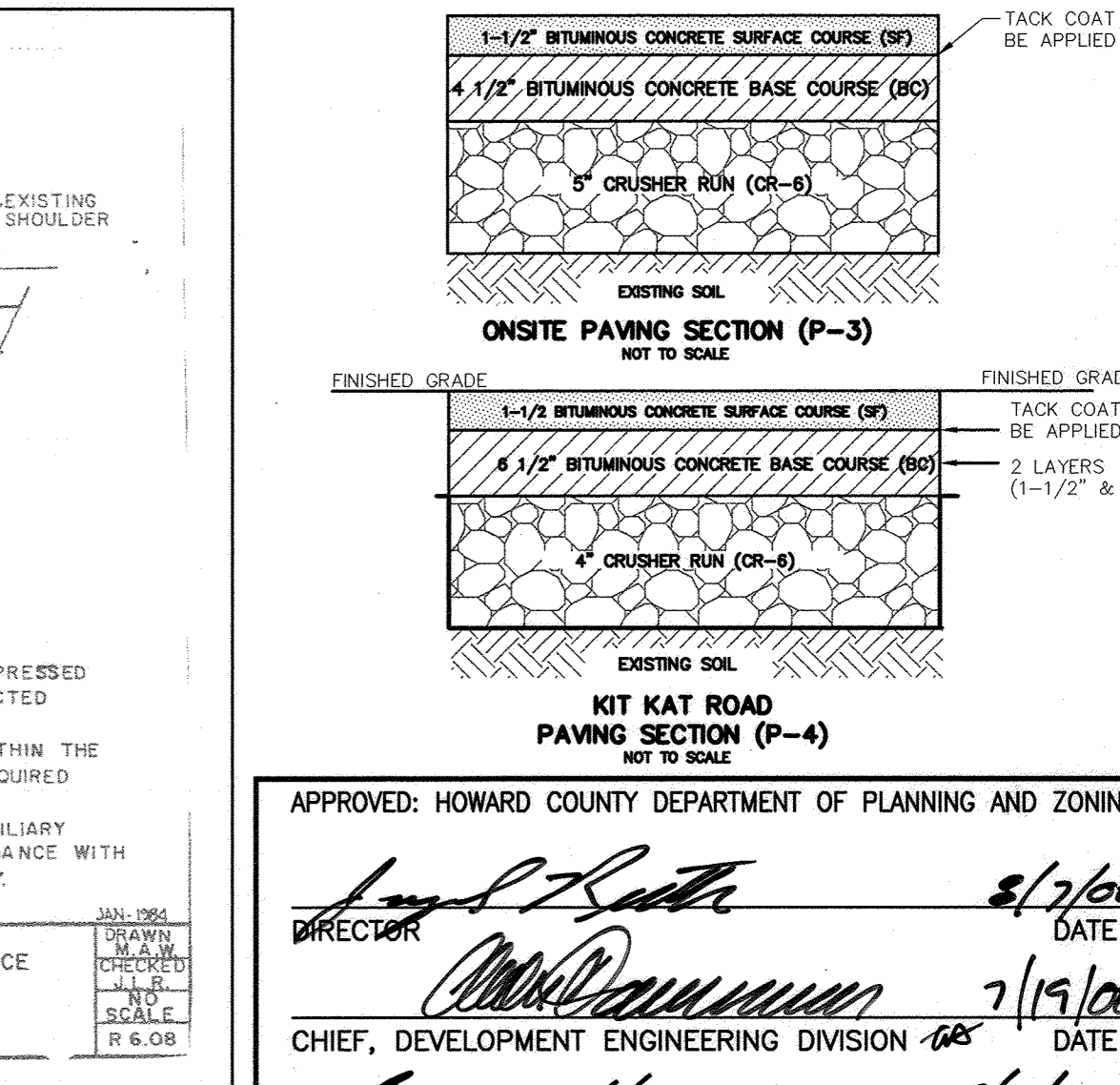
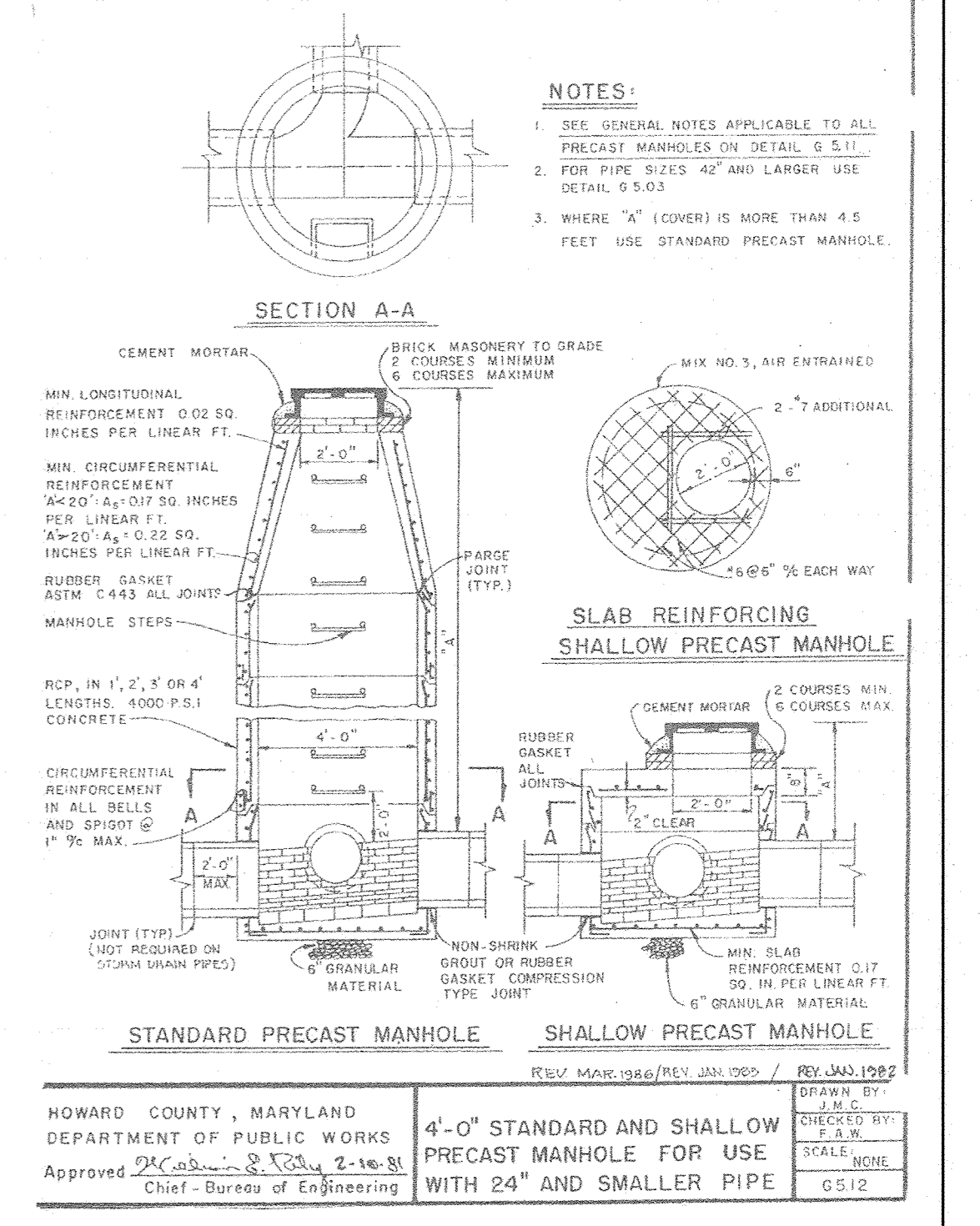
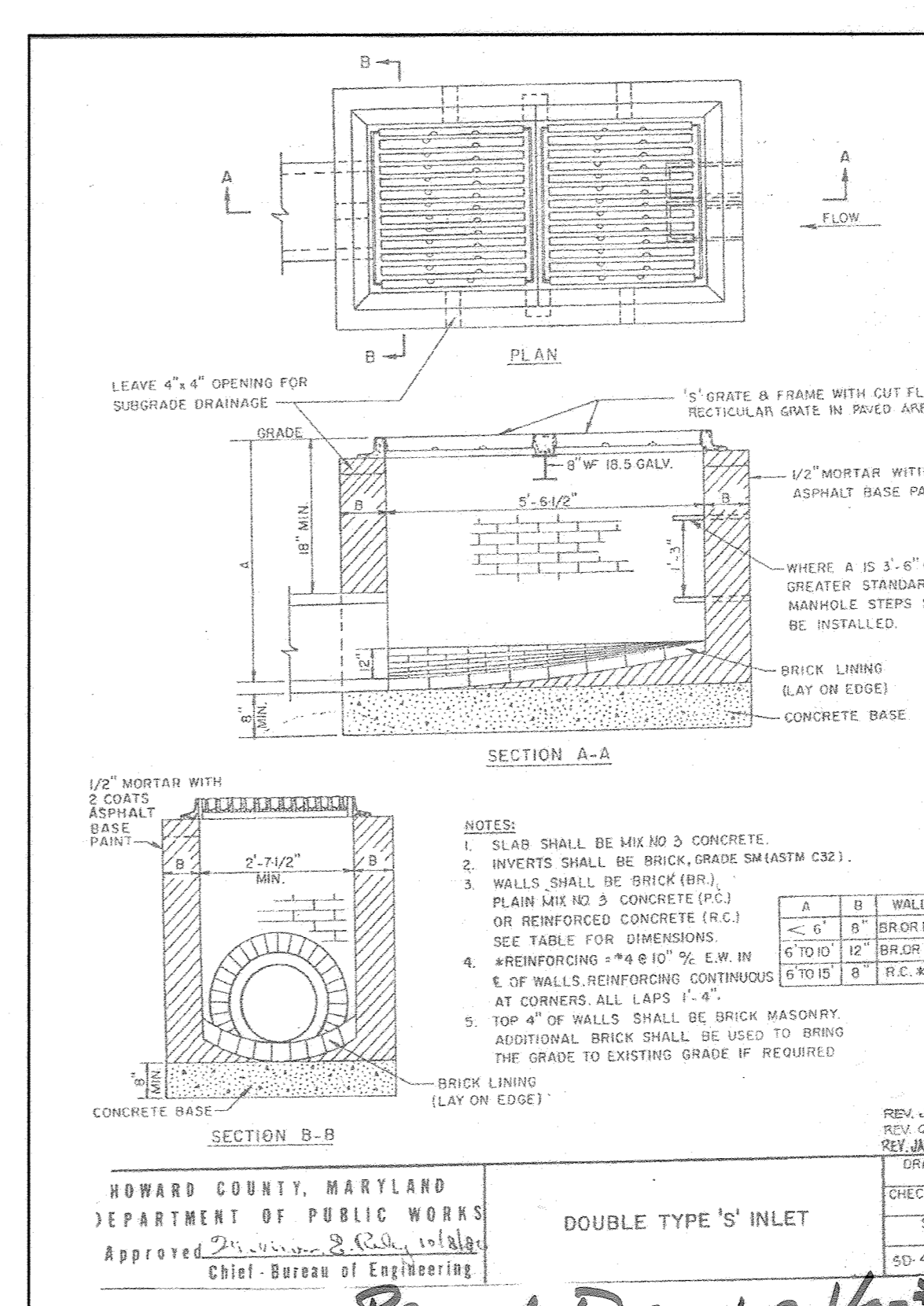
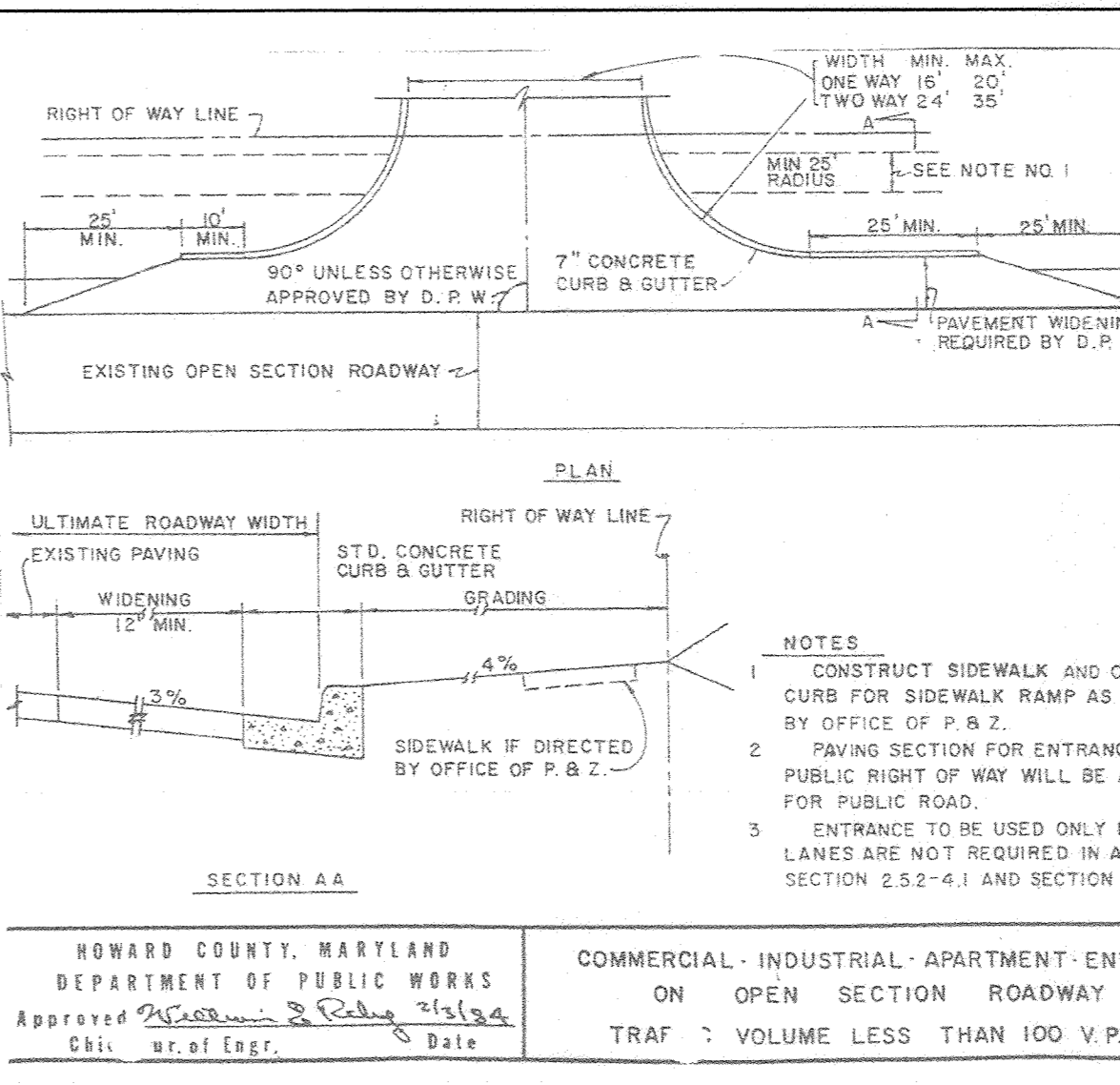
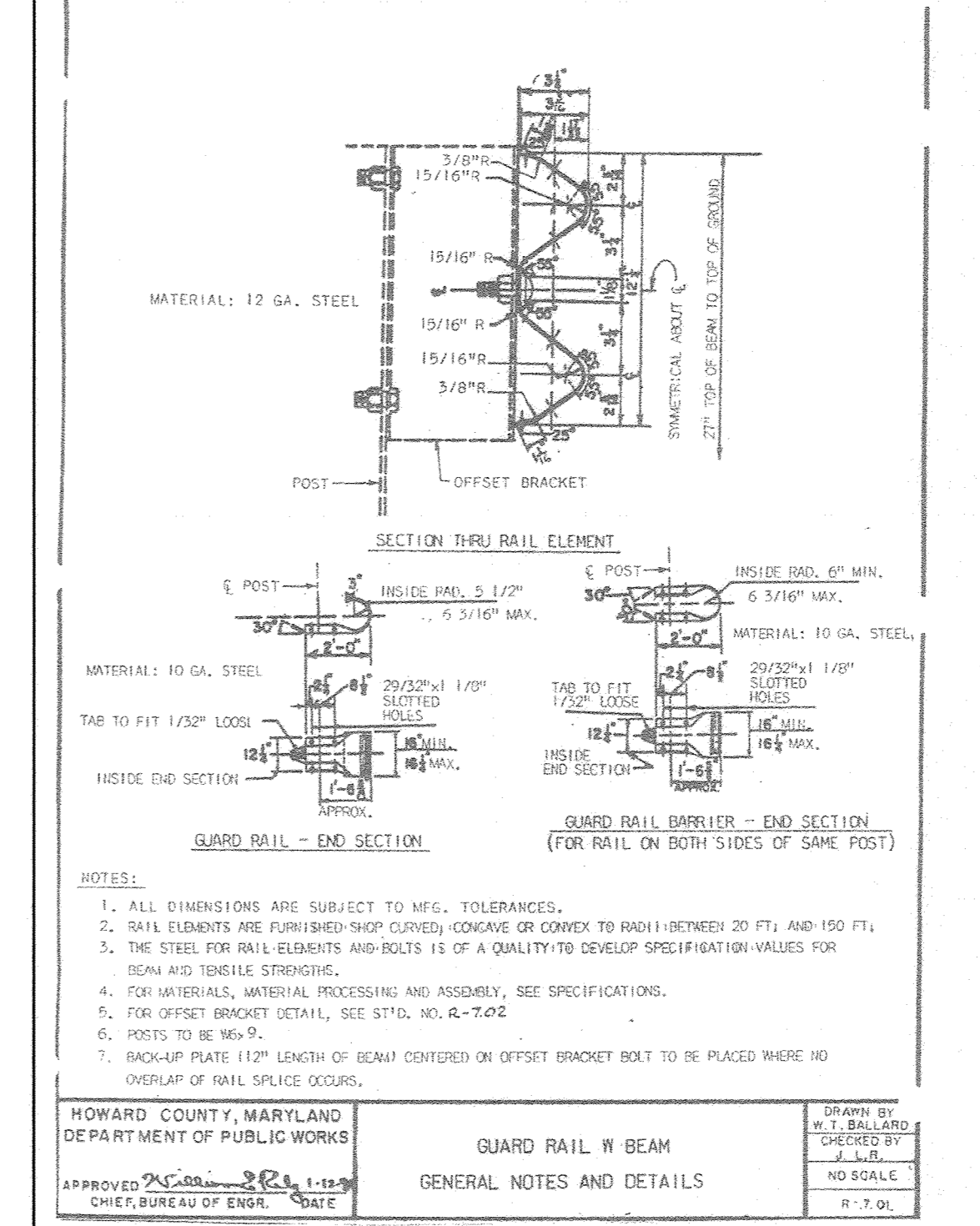
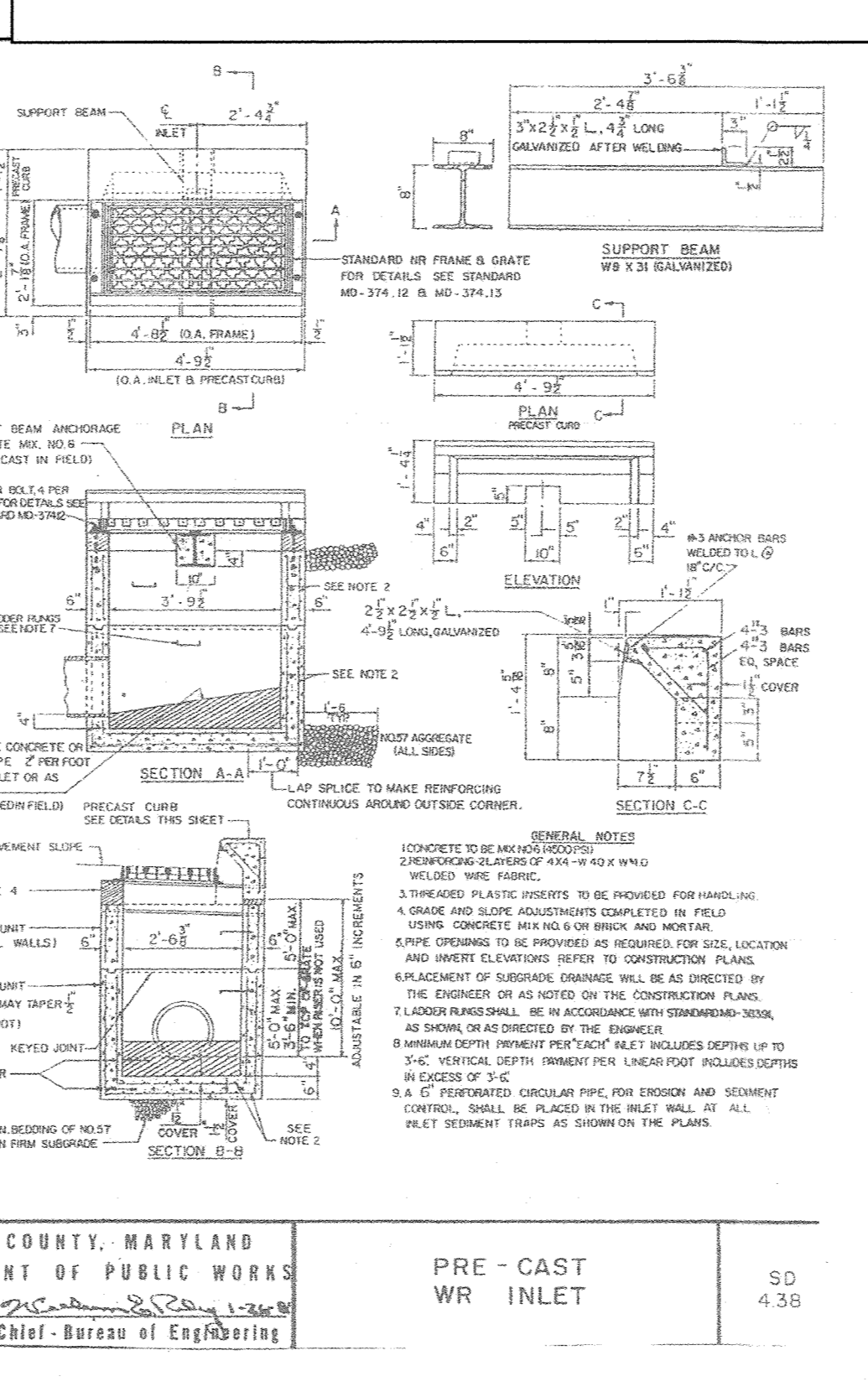
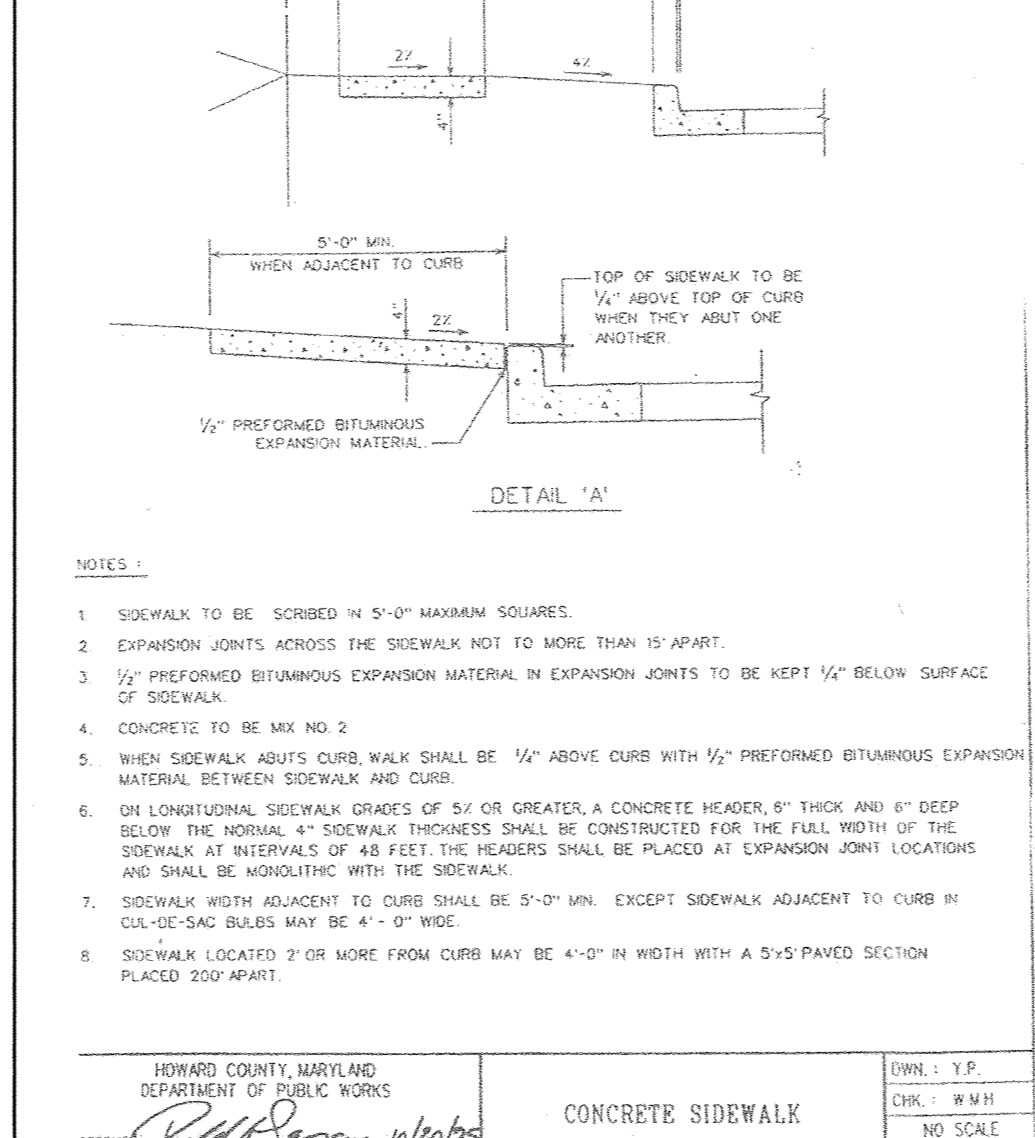
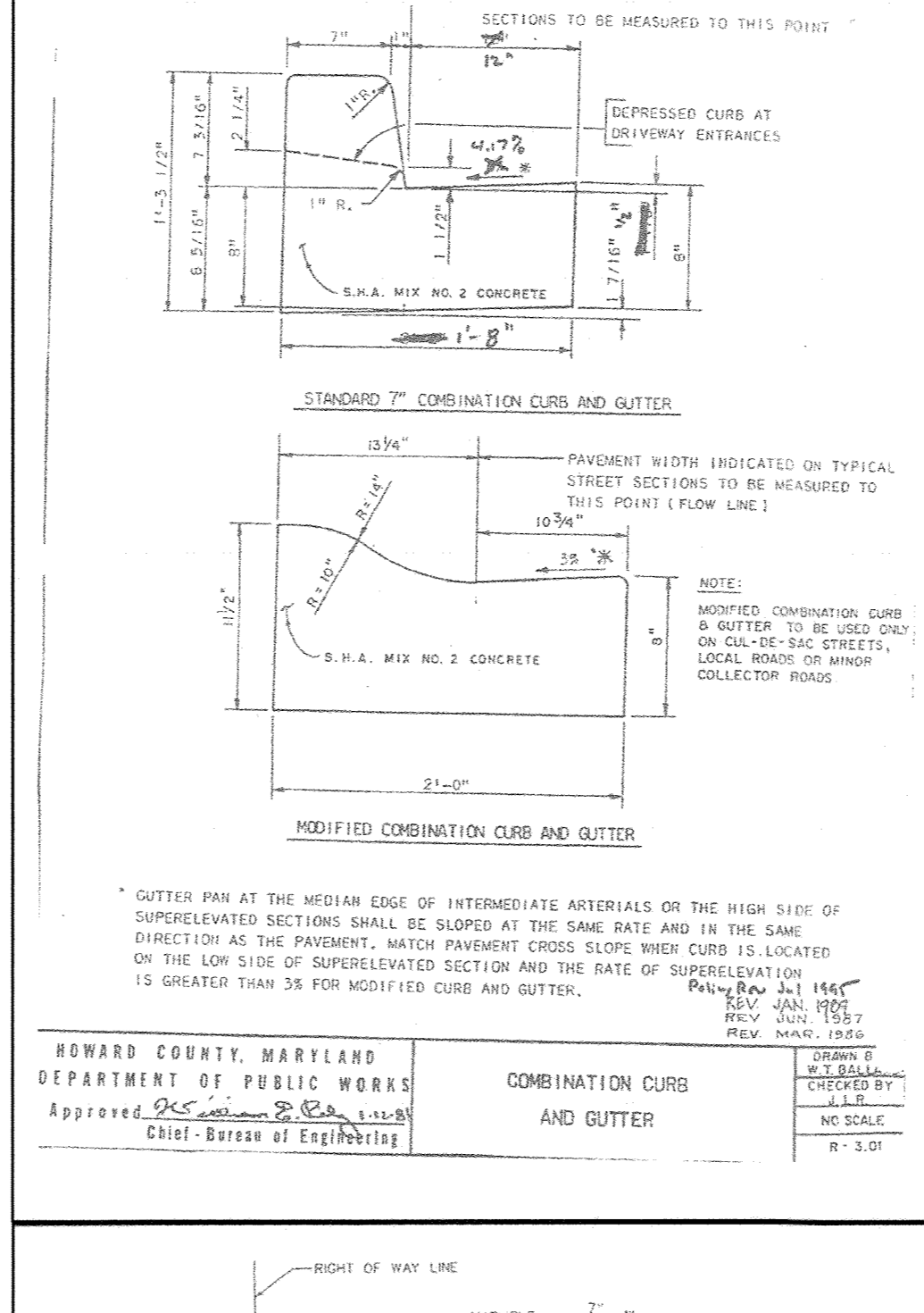
All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to pumps from which the water will be pumped.

Stabilization

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing, and mulching in accordance with the Maryland Soil Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.



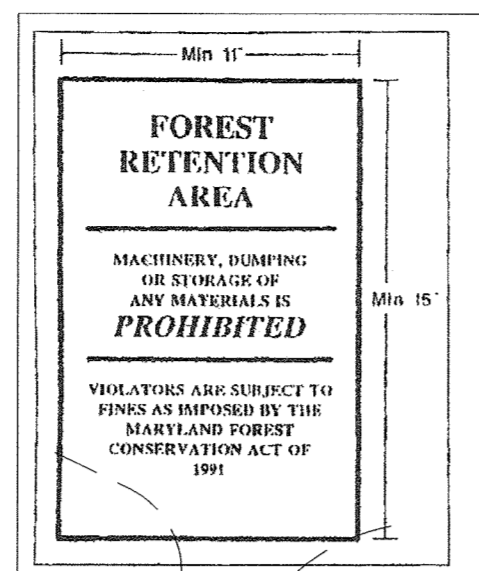
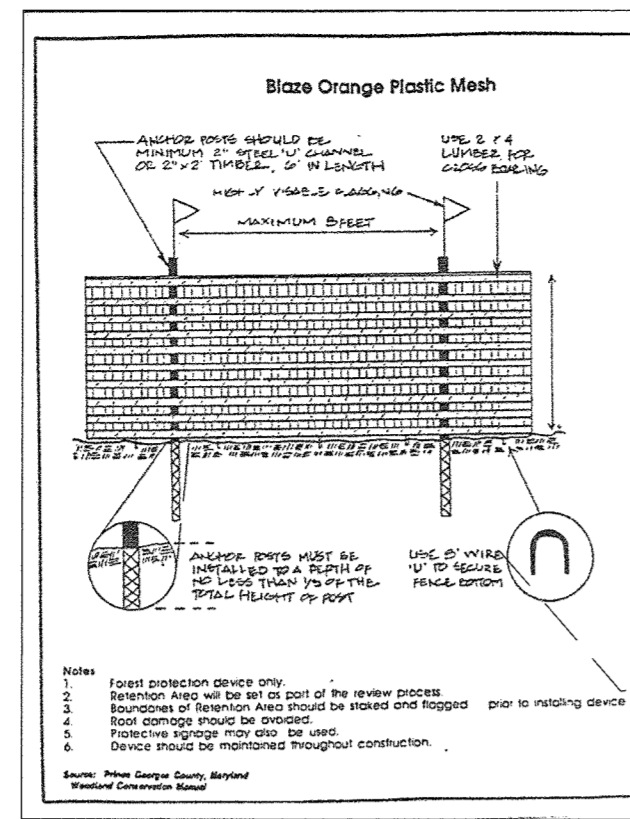
Approval and revision stamps, including signatures of the Director, Chief of Development Engineering, and Chief of Land Development, along with dates and project details.

Record Drawing 1/03**

SDP-99-130

EXISTING WETLANDS
METES & BOUNDS
1859.17 SQ. FT.

W1	N 60°15'59" E	12.49'
W2	N 85°04'49" E	9.67'
W3	N 86°50'06" E	14.01'
W4	N 80°55'41" E	18.90'
W5	N 87°04'44" E	31.37'
W6	N 76°31'41" E	41.24'
W7	S 10°25'53" W	11.76'
W8	S 87°10'51" W	29.58'
W9	N 72°34'30" W	24.45'
W10	S 80°55'36" W	37.27'
W11	N 72°27'33" W	34.35'



FOREST CONSERVATION EASEMENT #1		
LINE	LENGTH	BEARING
L1	5.74	N74°19'44"W
L2	15.58	N58°33'15"W
L3	18.70	N59°14'53"W
L4	26.59	N49°33'14"W
L5	15.34	N61°44'55"W
L6	17.85	N63°02'22"W
L7	12.28	N78°45'51"W
L8	8.02	N80°41'42"W
FCP36	63.01	N73°46'02"E
FCP37	12.44	S60°18'14"E
FCP38	153.57	S78°59'23"E
FCP39	88.45	S36°42'35"E
FCP40	146.45	S75°27'37"E
FCP41	11.42	S10°53'15"E
FCP42	14.62	S11°54'54"W

100 YR. FLOODPLAIN METES & BOUNDS		
LINE	LENGTH	BEARING
L1	5.74	N74°19'44"W
L2	15.58	N58°33'15"W
L3	18.70	N59°14'53"W
L4	26.59	N49°33'14"W
L5	15.34	N61°44'55"W
L6	17.85	N63°02'22"W
L7	12.28	N78°45'51"W
L8	8.02	N80°41'42"W
L9	14.37	N85°56'11"W
L10	14.37	N85°56'11"W
L11	13.66	N85°02'46"W
L12	14.86	N87°25'43"W
L13	25.64	N76°40'38"W
L14	32.47	N75°58'00"W
L15	40.48	N67°18'09"W
L16	79.50	N56°24'37"W
L17	52.99	N59°02'38"W
L18	24.64	N56°51'14"W
L19	7.14	N80°53'50"W
L20	8.01	N85°38'28"W
L21	6.85	N81°54'06"W
L22	12.13	S85°08'14"W
L23	8.83	S80°07'02"W
L24	12.00	S84°18'00"W
L25	14.25	N89°13'33"W
L26	17.17	N42°23'55"W
L27	19.48	N57°30'08"W
L28	17.38	N55°45'58"W
L29	25.35	N60°30'41"W
L30	18.58	N41°10'06"W
L31	41.37	N81°58'37"W
L32	22.54	N80°10'04"W
L33	15.99	N74°44'26"W
L34	11.01	N61°44'02"W
L35	10.13	N59°32'14"W

FOREST CONSERVATION EASEMENT #1 (THIS SHEET)
23,197.88 S.F./ 0.53 AC.±
FLOODPLAIN AREA WITHIN EASEMENT #1 (THIS SHEET)
13,443.25 S.F./0.31 AC.±
CREDITED EASEMENT (THIS SHEET)
9754.63 S.F./0.22 AC.±

FOREST CONSERVATION NOTE:
The Forest Conservation easements have been established to fulfill the requirements of section 16.1200 of the Howard County Code, Forest Conservation Act. No clearing, grading or construction is permitted within the forest conservation easement; however, forest management practices as defined in the Deed of Forest Conservation Easement are allowed.

The two FCP retention easements, which are known as #1 and #2, contain 1.52 acres and 3.19 acres, respectively and are described in the "Plot of Forest Conservation" recorded in the Howard County Land record office under Plot Number(s) **14337/14338**.

REFORESTATION NOTE:
The forest conservation obligations for this plan have been met by the establishment of the two on-site retention easements with a total credited forest retention area outside of the floodplain of 0.24 acre, and a fee-in-lieu payment of \$34,368.84 to the Howard County Forest Conservation Fund for the 2.63 acres (114,462.80 square feet) of reforestation obligation.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 8/7/00 DATE
DIRECTOR

[Signature] 7/19/00 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 5/1/00 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

7/2/01	REVISED TO CORRECT SW PROPERTY CORNER
7/2/02	DELETE BLVD - ADD 1/2" PER

OWNER:
THOMAS AND BARBARA PALACOROLLA
12183 TRIADDELPHIA ROAD
ELLICOTT CITY, MD. 21042

DEVELOPER:
POTOMAC ABATEMENT
9550 BERGER ROAD
COLUMBIA, MD. 21046
ATTN: JIM HARRIS

PROJECT: POTOMAC ABATEMENT INDUSTRIAL PARK

AREA: TAX MAP 43, BLOCK 10, ZONED M-2 PARCEL 46, 1st ELECTION DISTRICT

TITLE: FOREST CONSERVATION PLAN

MESSICK & ASSOCIATES
CONSULTING ENGINEERS
31 OLD SOLOMONS ISLAND RD., SUITE 201
ANNAPOLIS, MARYLAND 21401
(410) 266-3212

3/27/00 DATE

DESIGNED BY: WRD
DRAWN BY: WRD
PROJECT NO:
DATE: APRIL 9, 1999
SCALE: AS SHOWN
WAYNE A. NEWTON #21591
DRAWING NO.: 13 OF 15
SDP-99-130

FOREST CONSERVATION WORKSHEET

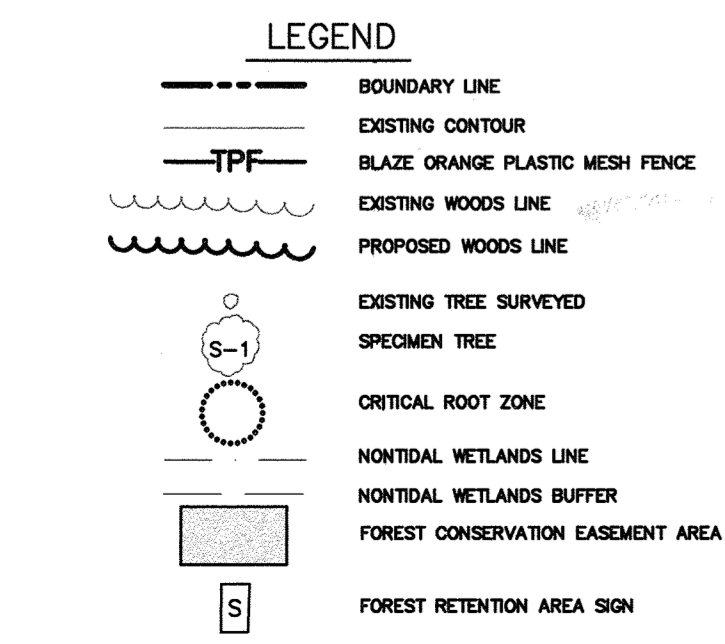
	ACRES (1/10 acres)
Gross Site Area	12.59
Area Within 100 Year Floodplain	5.13
Area Within Agricultural Use of Preservation Parcel (if applicable)	7.46
Net Tract Area	7.46
Land Use Category (C/U/O)	0.00
INFORMATION FOR CALCULATIONS	
A. Net Tract Area	7.46
B. Reforestation Threshold (15% x A)	1.12
C. Afforestation Minimum (10% x A)	0.75
D. Existing Forest on Net Tract Area	0.00
E. Forest Areas to be Cleared	0.00
F. Forest Areas to be Retained	0.00
DETERMINING REQUIREMENTS: AFFORESTATION OR REFORESTATION (Reforestation only; go to Section IV)	
REFORESTATION CALCULATIONS	
A. Net Tract Area	7.46
B. Reforestation Threshold (15% x A)	1.12
C. Existing Forest on Net Tract Area	0.00
D. Forest Areas to be Cleared	0.00
E. Forest Areas to be Retained	0.00
F. Forest Areas Cleared Above Reforestation Threshold (D-E, if F equals or is greater than B, Alternate 1)	0.00
G. Forest Areas Cleared Below Reforestation Threshold (D-E, if applicable)	0.00
H. Forest Areas Retained Above Reforestation Threshold (E-C, if applicable)	0.00
I. Forest Areas Retained Below Reforestation Threshold (E-C, if applicable)	0.00
SELECT THE ALTERNATIVE THAT APPLIES:	
1. CLEARING ABOVE THE THRESHOLD ONLY (Not Applicable)	
2. CLEARING BELOW THE THRESHOLD (If forest areas to be retained are less than the reforestation threshold (If F is less than B), the following calculations apply: Reforestation for clearing above threshold (F) x 1/4 = 0.87 Reforestation for clearing below the threshold (G) x 2 = 0.00 Total Reforestation required ((F) x 1/4) + ((G) x 2) = 0.87	0.87
AFFORESTATION CALCULATIONS	
NOTES: FOREST CONSERVATION EASEMENT (TOTAL)=205,493.93 S.F./4.72 AC. 100-YEAR FLOODPLAIN IN FCP EASEMENTS=195,244.73 S.F./4.48 AC. (EXCLUDES AREA WITHIN THE LIMITS OF THE STREAM, SINCE THIS AREA IS NOT INCLUDED IN THE FOREST RETENTION EASEMENTS) TOTAL 100-YEAR FLOODPLAIN AREA = 223,368.02 S.F./5.13 AC. CREDITED EASEMENT=10,249.20 S.F./0.24 AC.	

MATCH LINE SEE SHEET 14 OF 14

TOTAL AREA IN EASEMENT #1 = 1.52 AC. = 1.28 AC.
TOTAL FLOODPLAIN AREA IN EASEMENT #1 = 1.28 AC.
TOTAL CREDITED EASEMENT IN EASEMENT #1 = 0.24 AC.

SPECIMEN TREE CHART

S-1 Tulip Poplar	Liriodendron tulipifera 34.0" dbh Poor Condition (Roots Cut)
S-2 Tulip Poplar	Liriodendron tulipifera 39.2" dbh Fair- to Good Condition
S-3 White Ash	Fraxinus americana 33.8" dbh Fair- to Good Condition



FOREST CONSERVATION PLAN PREPARED BY:
Eric E. See 7/28/00
ERIC E. SEE QUALIFIED PROFESSIONAL DATE
SEE ENVIRONMENTAL SERVICES, INC.
THE WOODBRIDGE CENTER
2444 SOLOMONS ISLAND RD.
SUITE 217
ANNAPOLIS, MARYLAND 21401
(410) 266-3828

SCALE: 1"=40'

NO.	REVISION	REV. DATE
1	REVISE PLAN TO REMOVE A BUILDING	7-27-00
		BY DATE

Record Drawing 103 *** 3/2/00

LINE	LENGTH	BEARING
FCP43	17.76	S15°32'47"E
FCP44	10.41	S14°10'08"E
FCP45	45.30	S30°57'06"W
FCP46	141.82	N68°08'34"W
FCP47	89.74	N70°20'54"W
FCP48	80.25	N71°45'23"W
FCP49	65.56	S63°18'41"W
FCP50	29.93	S88°08'13"W
FCP51	62.73	N02°34'09"E
FCP52	109.32	N68°33'36"W
FCP53	172.56	S64°08'15"W
FCP54	52.22	N82°30'32"W
FCP55	252.17	N48°34'35"E

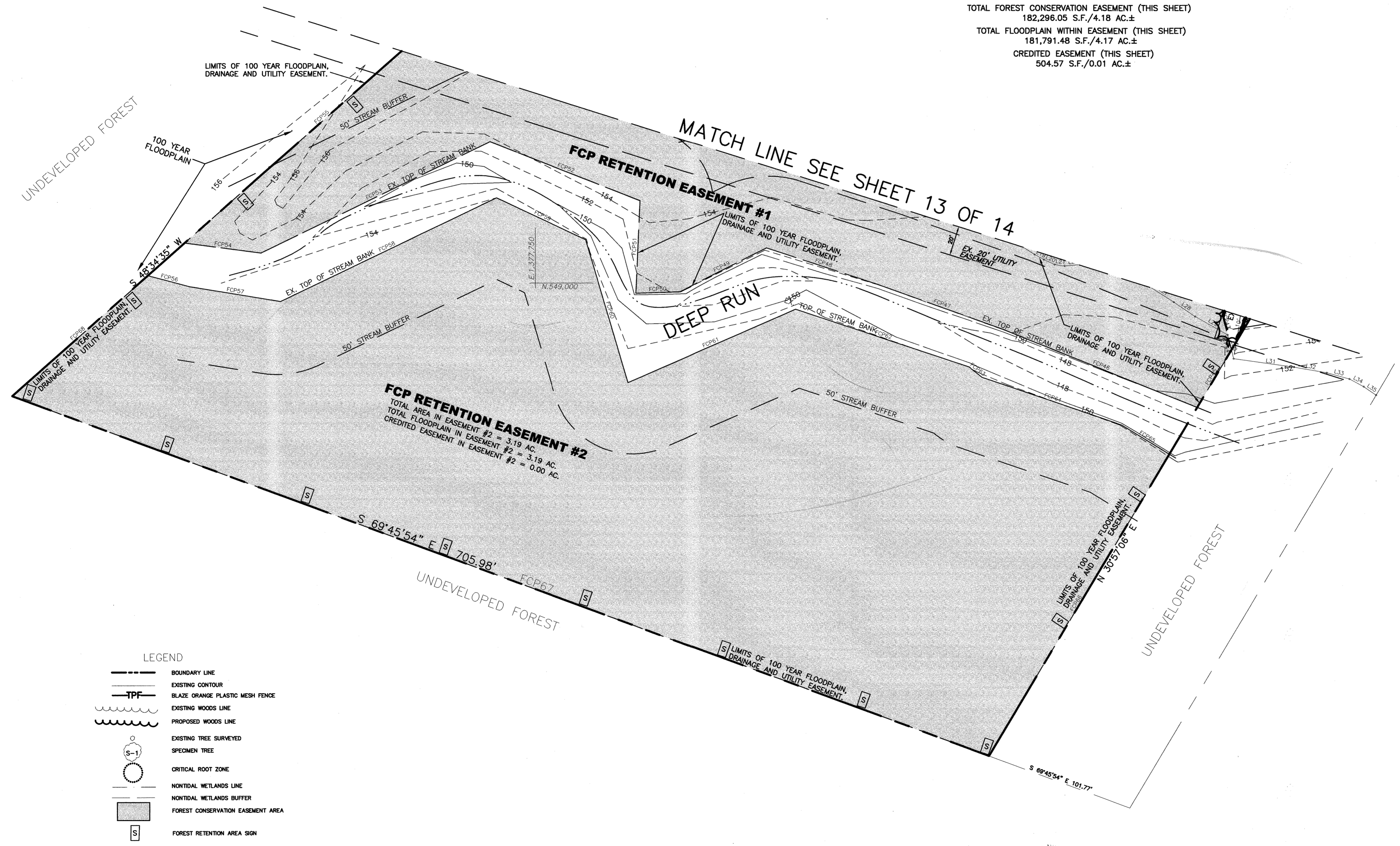
FOREST CONSERVATION EASEMENT #1 (THIS SHEET)
43,362.47 S.F./0.99 AC.±
FLOODPLAIN WITHIN EASEMENT #1 (THIS SHEET)
42,857.90 S.F./0.98 AC.±

LINE	LENGTH	BEARING
FCP56	29.36	S75°15'34"E
FCP57	62.33	S80°42'38"E
FCP58	162.40	N64°27'04"E
FCP59	66.85	S64°54'50"E
FCP60	100.82	S16°28'52"E
FCP61	123.88	N66°34'16"E
FCP62	124.18	S71°38'19"E
FCP63	11.21	S51°38'38"E
FCP64	100.04	S71°13'50"E
FCP65	37.68	S58°31'08"E
FCP66	238.16	S30°57'06"W
FCP67	705.98	N69°45'54"W
FCP68	122.94	N48°34'35"E

FOREST CONSERVATION EASEMENT #2 (THIS SHEET)
138,933.58 S.F./3.19 AC.±
FLOODPLAIN WITHIN EASEMENT #2 (THIS SHEET)
138,933.58 S.F./3.19 AC.±

TOTAL FOREST CONSERVATION EASEMENT (THIS SHEET)
182,296.05 S.F./4.18 AC.±
TOTAL FLOODPLAIN WITHIN EASEMENT (THIS SHEET)
181,791.48 S.F./4.17 AC.±
CREDITED EASEMENT (THIS SHEET)
504.57 S.F./0.01 AC.±

LINE	LENGTH	BEARING
L1	5.74	N74°19'44"W
L2	15.58	N58°33'15"W
L3	18.70	N59°14'53"W
L4	26.59	N49°33'14"W
L5	15.34	N61°44'55"W
L6	17.65	N63°02'22"W
L7	12.28	N78°45'51"W
L8	8.02	N80°41'42"W
L9	14.37	N85°56'11"W
L10	14.37	N85°56'11"W
L11	13.66	N85°02'49"W
L12	14.86	N80°25'43"W
L13	25.64	N76°40'38"W
L14	32.47	N75°56'00"W
L15	40.49	N67°18'09"W
L16	79.60	N56°29'35"W
L17	52.99	N59°02'38"W
L18	24.64	N56°51'14"W
L19	7.14	N60°53'50"W
L20	8.01	N65°38'29"W
L21	6.85	N81°56'46"W
L22	12.13	S85°06'14"W
L23	8.83	S80°07'02"W
L24	12.00	S84°16'00"W
L25	14.25	N69°13'33"W
L26	17.17	N42°23'55"W
L27	19.48	N57°30'08"W
L28	17.38	N85°45'59"W
L29	25.35	N60°30'41"W
L30	16.58	N14°10'08"W
L31	41.37	N81°59'37"W
L32	22.54	N80°10'04"W
L33	15.99	N74°44'25"W
L34	11.01	N61°44'02"W
L35	10.13	N55°32'14"W



- LEGEND
- BOUNDARY LINE
 - - - EXISTING CONTOUR
 - - - TPF BLAZE ORANGE PLASTIC MESH FENCE
 - ~~~~~ EXISTING WOODS LINE
 - ~~~~~ PROPOSED WOODS LINE
 - EXISTING TREE SURVEYED
 - SPECIMEN TREE
 - CRITICAL ROOT ZONE
 - NONTIDAL WETLANDS LINE
 - NONTIDAL WETLANDS BUFFER
 - FOREST CONSERVATION EASEMENT AREA
 - FOREST RETENTION AREA SIGN

FOREST CONSERVATION PLAN PREPARED BY:
Eric E. See 7/28/00
ERIC E. SEE QUALIFIED PROFESSIONAL DATE
SEE ENVIRONMENTAL SERVICES, INC.
THE WOODBRIDGE CENTER
2444 SOLOMONS ISLAND RD.
SUITE 217
ANNAPOLIS, MARYLAND 21401
(410) 266-3828

SCALE = 1" = 40'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Paul R. Smith 8/7/00
DIRECTOR DATE

Chris Drummond 7/19/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hamstra 8/1/00
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

7-27-20 REVISION NO. REVISION

OWNER:
THOMAS AND BARBARA PALACOROLLA
12183 TRIADDELPHIA ROAD
ELLCOTT CITY, MD. 21042

DEVELOPER:
POTOMAC ABATEMENT
9550 BERGER ROAD
COLUMBIA, MD. 21046
ATTN: JIM HARRIS

PROJECT
POTOMAC ABATEMENT
INDUSTRIAL PARK

AREA TAX MAP 43, BLOCK 10, ZONED M-2
PARCEL 46,
1st ELECTION DISTRICT

TITLE
FOREST CONSERVATION PLAN

MESSICK & ASSOCIATES
CONSULTING ENGINEERS
31 OLD SOLOMONS ISLAND RD., SUITE 101
ANNAPOLIS, MARYLAND 21401
(410) 266-3212

3/27/00 DATE
Wayne A. Newton
DESIGNED BY: WRD
DRAWN BY: WRD
PROJECT NO:
DATE: APRIL 9, 1999
SCALE: AS SHOWN
WAYNE A. NEWTON #21591 DRAWING NO.: 14 OF 15

Record Drawing 103***

KIT KAT ROAD PARTNERS II, LLC
 C/O CRAIG STUART PAUL
 TAX MAP 43 / BLOCK 11 / PARCEL 49
 ZONED M-2
 PLAT 17299

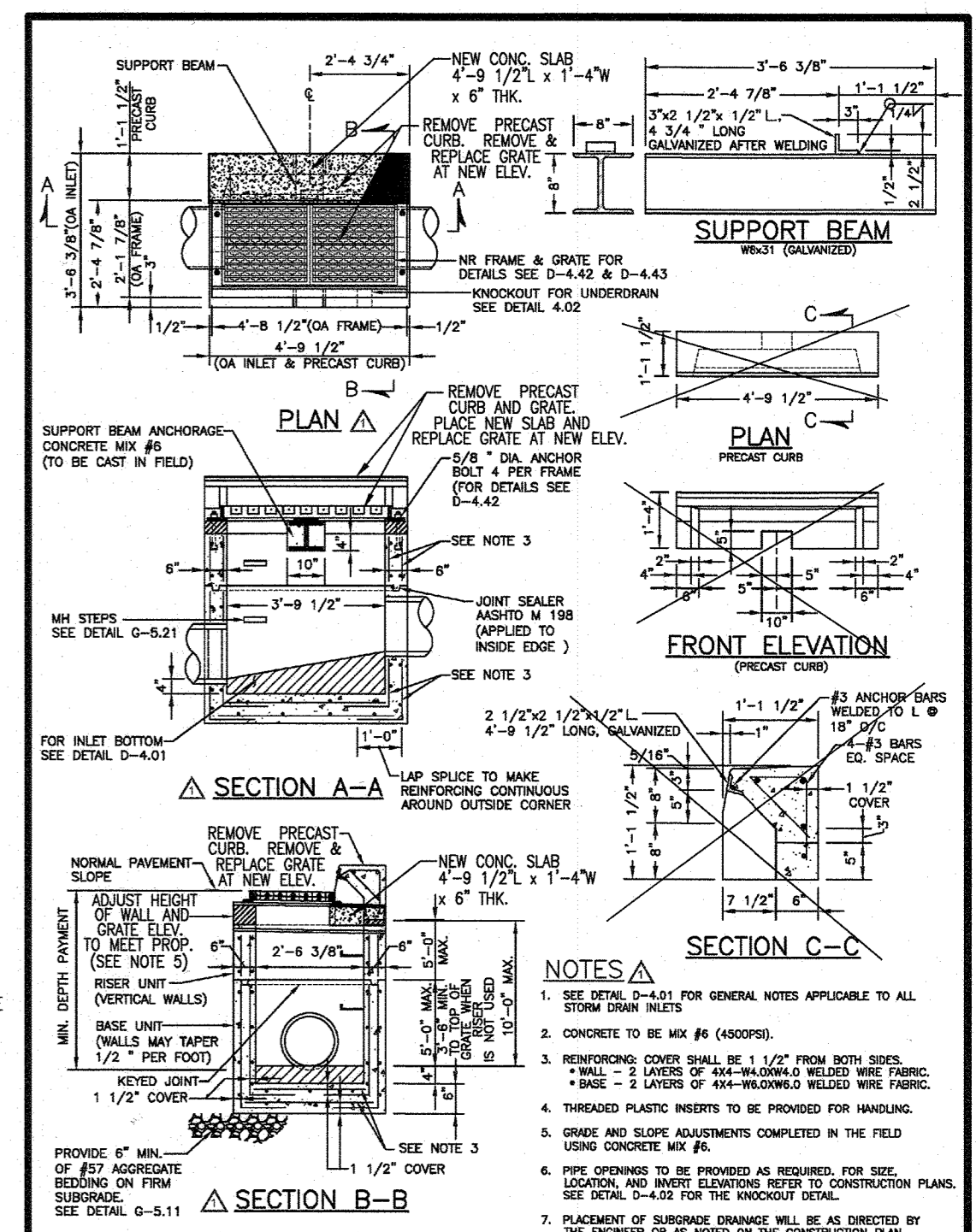
SUTTON POLANSKY RUANE ASSOC.
 C/O DYNASTY EQUIPMENT
 TAX MAP 43 / BLOCK 10 / PARCEL 661
 ZONED M-2
 L.02034 / F. 00511

POTOMAC ABATEMENT HOLDING, LLC
 TAX MAP 43 / BLOCK 10 / PARCEL 46
 ZONED M-2
 L.05008 / F. 00681

GAULIN PROPERTIES NO. 2, LLC
 TAX MAP 43 / BLOCK 11 / PARCEL 47
 ZONED M-2
 L.14869 / F. 00148

LEGEND:

- PROPERTY LINE
- FRONT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING TREE LINE (FIELD LOCATED)
- EXISTING FENCE
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN INLET
- PROPOSED TREE LINE
- STABILIZED CONSTRUCTION ENTRANCE
- SUPER SILT FENCE
- LIMIT OF DISTURBANCE
- AT GRADE INLET PROTECTION

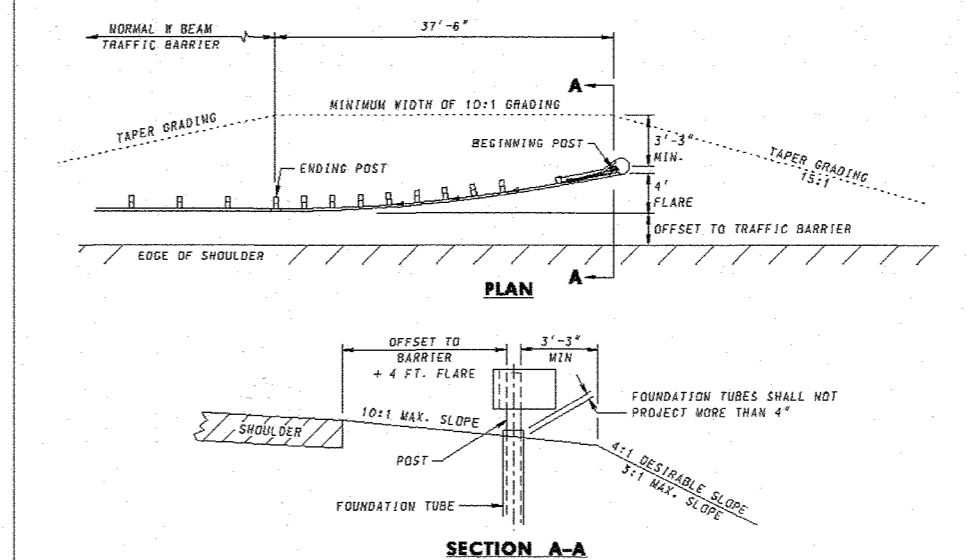
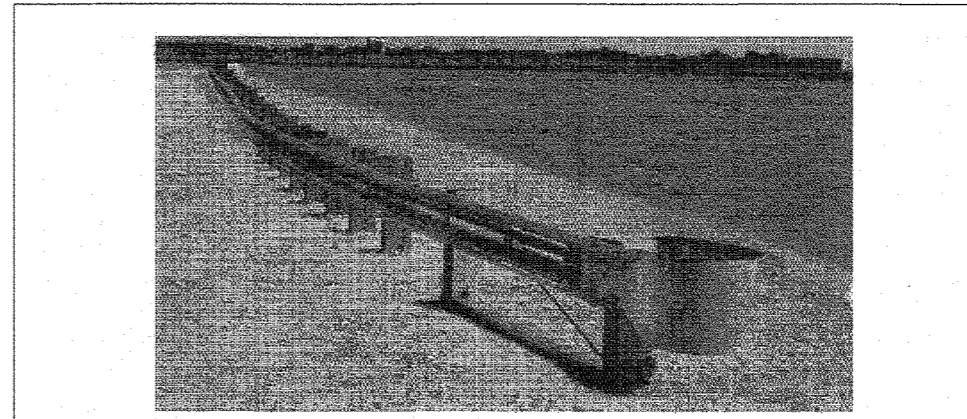


- NOTES:
- SEE DETAIL D-4.41 FOR GENERAL NOTES APPLICABLE TO ALL STORM DRAIN INLETS.
 - CONCRETE TO BE MIX #1 (AS PER).
 - REINFORCING COVER SHALL BE 1 1/2" FROM BOTH SIDES.
 - WALL - 2 LAYERS OF #4-#40x40x40 WELDED WIRE FABRIC - 1 LAYER OF #4-#40x40x40 WELDED WIRE FABRIC - 1 1/2" COVER.
 - GRADE AND SLOPE ADJUSTMENTS COMPLETED IN THE FIELD.
 - PIPE CONTRACT TO BE PROVIDED AS REQUIRED. FOR SIZE, LOCATION AND BENT/ELEVATION REFER TO CONSTRUCTION PLANS. SEE DETAIL D-4.42 FOR THE KNOCKOUT DETAIL.
 - PLACEMENT OF STORM DRAINAGE SHALL BE AS DIRECTED BY THE ENGINEER OR AS NOTED ON THE CONSTRUCTION PLAN.

Howard County, Maryland Department of Public Works	MODIFIED NR INLET Precast	Detail D-4.41
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NOTE:
 - SILT FENCE IS TO BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
 - SILT FENCE SHALL BE CURLED UP/HILL NO MORE THAN 35 FEET APART
 - DOUBLE ROWS OF SUPER SILT FENCE SHALL BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

OWNER / DEVELOPER
 POTOMAC ABATEMENT HOLDING, LLC
 MR. ANTHONY FARNELLA
 8309A SHERWICK COURT
 JESSUP, MARYLAND 20794
 (443) 829-7872



- NOTES APPLICABLE TO ALL TYPE B TERMINALS:
- E11 MAY GRADING IS ALLOWABLE WHEN THE BARRIER IS LOCATED 12 FT. OR MORE FROM THE OUTSIDE EDGE OF SHOULDER.
 - END TREATMENT DELINEATOR SHALL BE PLACED IN ACCORDANCE WITH STD. NO. 605.02-01
 - 4" PLANK REQUIRED
 - TYPE B TERMINAL SHALL ONLY BE USED WHEN THE GRADING AS SHOWN AND THE REQUIRED LENGTH OF HEEL IS PROVIDED.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

APPROVED: *[Signature]* 10-1-20
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: *[Signature]* 10/1/20
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: *[Signature]* 10-16-20
 DIRECTOR DATE

OWNER/DEVELOPER CERTIFICATION:
 I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY FRONT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE.

DESIGNER CERTIFICATION:
 I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

DESIGNER'S SIGNATURE: *[Signature]* DATE: 9/3/20
 ROBERT H. VOGEL
 PRINTED NAME

MD REGISTRATION NO. 16193
 (E.A. R.L.S. OR R.L.A. (circle one))

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

3	REVISE PLAN TO REMOVE A BUILDING	7-27-20
NO.	REVISION	DATE

(REVISED) SITE DEVELOPMENT PLAN
 SITE REVISIONS
 POTOMAC ABATEMENT INDUSTRIAL PARK
 7140 KIT KAT ROAD
 REVISION TO REMOVE EXISTING BUILDING

TAX MAP 43 BLOCK 10
 1ST ELECTION DISTRICT

ZONED: M-2
 PARCEL 46
 HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING
 +
TIMMONS GROUP

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 P: 410.461.7666 F: 410.461.8961 www.timmons.com

PROFESSIONAL CERTIFICATE

DESIGN BY: RHW/GH
 DRAWN BY: JMR/JCH
 CHECKED BY: RHW
 DATE: JULY 2020
 SCALE: AS SHOWN
 W.O. NO.: 44935

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 ROBERT H. VOGEL, PE No. 16193

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. 16193, EXPIRATION DATE 09-27-2020.

15 SHEET OF 15