

SEQUENCE OF CONSTRUCTION

- 0 DAYS NOTIFY HOWARD COUNTY, SEDIMENT AND EROSION CONTROL INSPECTOR AT LEAST 10 BUSINESS DAYS BEFORE THE START OF CONSTRUCTION. THE CONTRACTOR SHALL MAINTAIN EROSION CONTROL MATTING THROUGHOUT THE SITE AS DIRECTED BY INSPECTOR.
- 2 DAYS INSTALL SEDIMENT CONTROLS AS SHOWN ON THE APPROVED SEDIMENT AND EROSION CONTROL PLAN. IMMEDIATELY STABILIZE ALL AREAS DISTURBED BY STORM DRAIN INSTALLATION. ALL TREE CLEARING SHALL BE MINIMIZED.
- 15 DAYS BEGIN INSTALLATION OF STORM DRAIN CONSTRUCTION SHALL PROCEED FROM DOWNSTREAM TO UPSTREAM. PROTECT FROM RUNOFF UNTIL ALL TRIBUTARY AREAS ARE STABILIZED. INSTALL EROSION CONTROL MATTING AS DIRECTED BY INSPECTOR.
- 5 DAYS REMOVE AND RUBBLIZE BITUMINOUS PAVEMENT ACCORDING TO DEMOLITION PLAN. BITUMINOUS PAVEMENT MUST BE REMOVED FROM THE SITE UNLESS DIRECTED OTHERWISE.
- 5 DAYS CONSTRUCT SEPTIC DRAINAGE FIELD, DISTRIBUTION BOX AND SEPTIC TANK.
- 10 DAYS ROUGH GRADE PARKING LOT AND EXCAVATE FOR BUILDING FOUNDATIONS. SPOIL EXCESS EXCAVATED MATERIAL IN THE DESIGNATED LOCATIONS.
- 10 DAYS PROOF ROLL SUBGRADE AND REPAIR AS NECESSARY. PLACE GRADED AGGREGATE BASE.
- 15 DAYS CONSTRUCT PLAZA AREA. COORDINATE WITH CONSTRUCTION OF OBSERVATORY BUILDING.
- 20 DAYS CONSTRUCT STORMWATER MANAGEMENT PRACTICES ONCE ALL TRIBUTARY AREAS ARE STABILIZED.
- 2 DAYS PLACE TOPSOIL, SOLID CODING, OR EROSION CONTROL MATTING IN ANY REMAINING DISTURBED AREAS. EROSION CONTROL MATTING TO BE INSTALLED AS DIRECTED BY INSPECTOR.
- 7 DAYS INSTALL NEW BITUMINOUS PAVEMENT.
- 4 DAYS ONCE ALL DISTURBED AREAS ARE STABILIZED AND WITH APPROVAL BY THE SEDIMENT AND EROSION CONTROL INSPECTOR, SEDIMENT CONTROL DEVICES MAY BE REMOVED.

TOTAL 95 DAYS

GENERAL NOTES:

- 1. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM THE BEST AVAILABLE RECORDS. THE CONTRACTOR MUST DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF THE UTILITIES BY DIGGING TEST PITS AT ALL UTILITY CROSSINGS PRIOR TO CONSTRUCTION. IF CLEARANCES ARE LESS THAN SPECIFIED ON THIS PLAN OR LESS THAN 12 INCHES WHEN NOT SPECIFIED, CONTACT THE ENGINEER AND THE OWNER OF OTHER INVOLVED UTILITY.
- 2. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
MSS UTILITY (1-800-257-7777), VERISON, HOWARD COUNTY (410) 313-1880,
Baltimore Gas & Electric Company - UNDERGROUND ELECTRIC,
DISTRIBUTION CUSTOMER SERVICE (410) 685-0123,
VERIZON(410) 224-9285,
AMERICAN TELEPHONE & TELEGRAPH CABLE LOCATION DIVISION (410) 393-3553,
BUREAU OF UTILITIES, HOWARD COUNTY (410) 313-2040
- 3. THE EXISTING TOPOGRAPHY IS TAKEN FROM A FIELD SURVEY WITH MAXIMUM ONE FOOT CONTOUR INTERVALS PREPARED BY HOWARD COUNTY DATED APRIL, 2009.
- 4. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM, HOWARD COUNTY MONUMENT NOS. 10GB AND 10HS WERE USED FOR THIS PROJECT.
- 5. ALL PLAN DIMENSIONS ARE TO EDGE OF PAVING UNLESS OTHERWISE NOTED.
- 6. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (1/4 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED SQUARE TUBE SLEEVE (1/2 GAUGE)- 3" LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- 7. AVOID DAMAGE TO TREES ON THE SITE TO MAXIMUM EXTENT. OTHER TREES WITHIN LIMITS OF CONSTRUCTION SHALL NOT BE DESTROYED WITHOUT APPROVAL OF THE ENGINEER. TREES WITHIN 100 SHAL BE PROTECTED USING TREE PROTECTIVE FENCING.
- 8. ALL GRADING SHALL BE INSIDE THE L.O.D. SHOWN INCLUDING SIDE SLOPES AND STABILIZATION ONLY. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED AS FOLLOWS:
A. SEVEN (7) CALENDAR DAYS FOR THE SURFACE OF ALL PERIMETER CONTROLS, DUES SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES, AND ALL SLOPES GREATER THAN THREE HORIZONTAL TO ONE VERTICAL (3:1).
- B. FOURTEEN (14) CALENDAR DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- 9. FOR DETAILS NOT SHOWN ON THESE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD CO. DESIGN MANUAL, VOL. IV STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOL. IV ON THE JOB.
- 10. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- 11. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) ALL STREET AND REGULATORY SIGNS SHALL BE PLACED PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- 12. WATER IS PUBLIC, CONTRACT NO. 44-3480, SEWER IS PRIVATE.
- 13. STORMWATER MANAGEMENT CONSISTS OF MICROBIOTENTION M-5, BIOSWALES M-8, GRASS SWALES M-8, AND TWO DRY PONDS, AND IS PUBLIC AND MAINTAINED BY HOWARD COUNTY.
- 14. THE FLOODPLAIN IS BASED ON FEMA PANEL 240044000B EFFECTIVE DATE 12/24/1986.
- 15. THE WETLAND DELINEATION WAS BASED ON NATIONAL WETLAND INVENTORY AND VERIFIED BY HOWARD COUNTY THAT THERE ARE NO WETLANDS OR WETLAND BUFFERS WITHIN THE LIMIT OF DISTURBANCE.
- 16. NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.
- 17. THE PARK WILL BE OPEN TO THE PUBLIC DURING CONSTRUCTION. THE CONTRACTOR SHALL PROTECT THE PUBLIC FROM THE WORK WITH ORANGE CONSTRUCTION FENCE AND SIGNS. TWO WAY TRAFFIC SHALL BE MAINTAINED ON THE PARK ROAD AT ALL TIMES. WHEN THE PARK IS IN USE, THE CONTRACTOR SHALL COORDINATE WITH THE DEPARTMENT OF RECREATION AND PARKS, AND MAINTAIN ACCESS TO ALL PARK FACILITIES.
- 18. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAMS OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS, AND 100 YEAR FLOODPLAIN.
- 19. THE FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.200 OF THE HOWARD COUNTY CODE AND FOREST ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT HOWEVER FOREST MANAGEMENT PRACTICES AS DEFINED IN THE FOREST CONSERVATION EASEMENT AGREEMENT UNDER ADD-97-126.
- 20. FINAL PATH LOCATIONS WILL BE IDENTIFIED ON SITE BY RECREATION AND PARKS PRIOR TO CONSTRUCTION. THE PATH LOCATIONS WILL BE IDENTIFIED ON THE PLAN WITHIN THE FOREST CONSERVATION EASEMENTS. NATURAL SURFACE PATHS MAY ENCROUGH WITHIN THE FOREST CONSERVATION EASEMENTS.
- 21. "COMP LITE" ZONING AMENDMENTS EFFECTIVE 7/28/2006.
- 22. THE SUBJECT PROPERTY IS ZONED RC-DEO PER THE 02/02/04 COMPREHENSIVE ZONING PLAN AND THE COUNTY CODE HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL BY PROVIDING 4 SHADE TREES AND 11 ORNAMENTAL TREES TO MEET THE PARKING LOT INTERNAL LANDSCAPING REQUIREMENT.

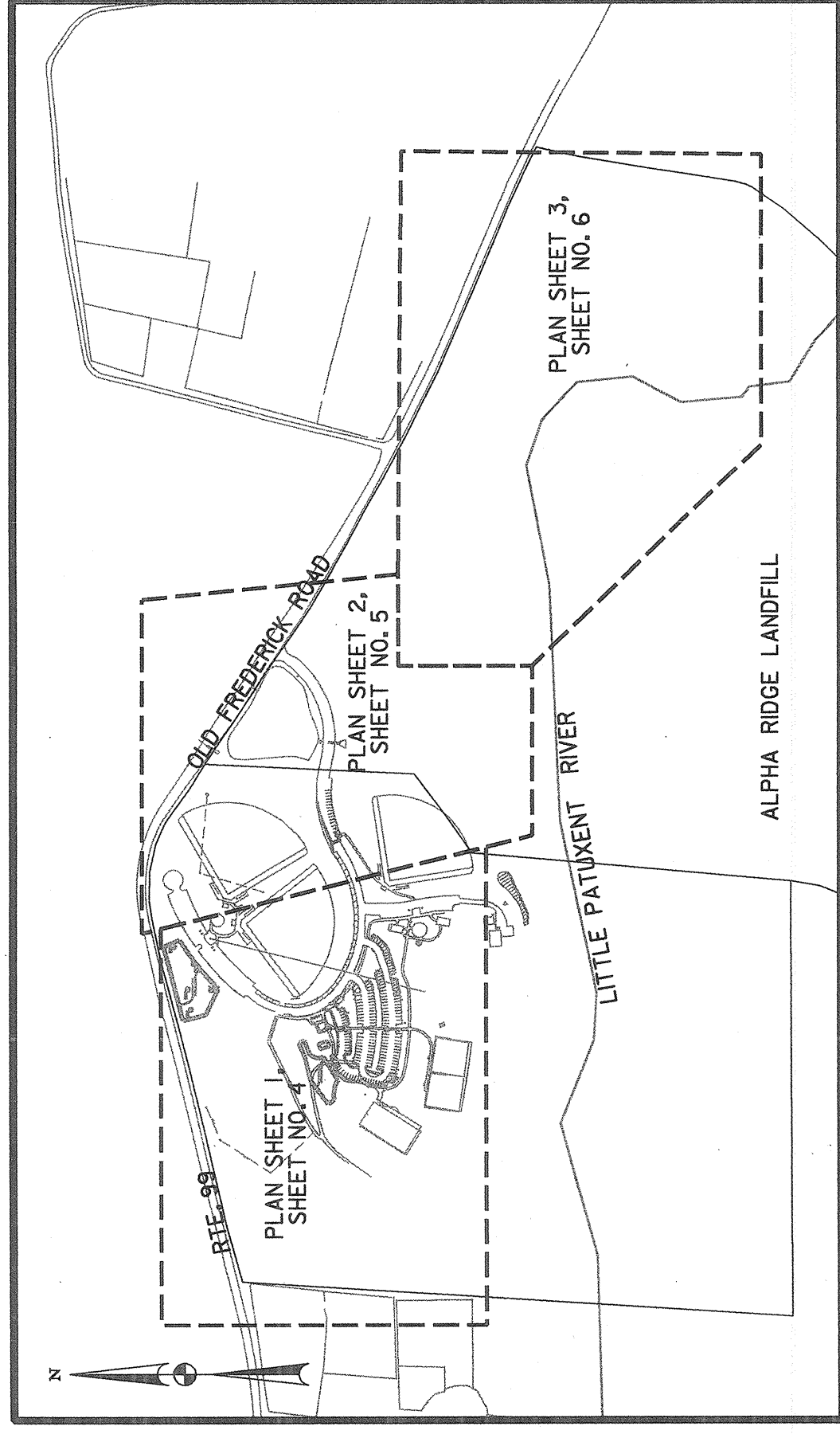
ALPHA RIDGE PARK

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

CAPITAL PROJECT NO.: N-3964

SITE DEVELOPMENT PLAN 90-18



LOCATION MAP

SCALE: 1" = 500'

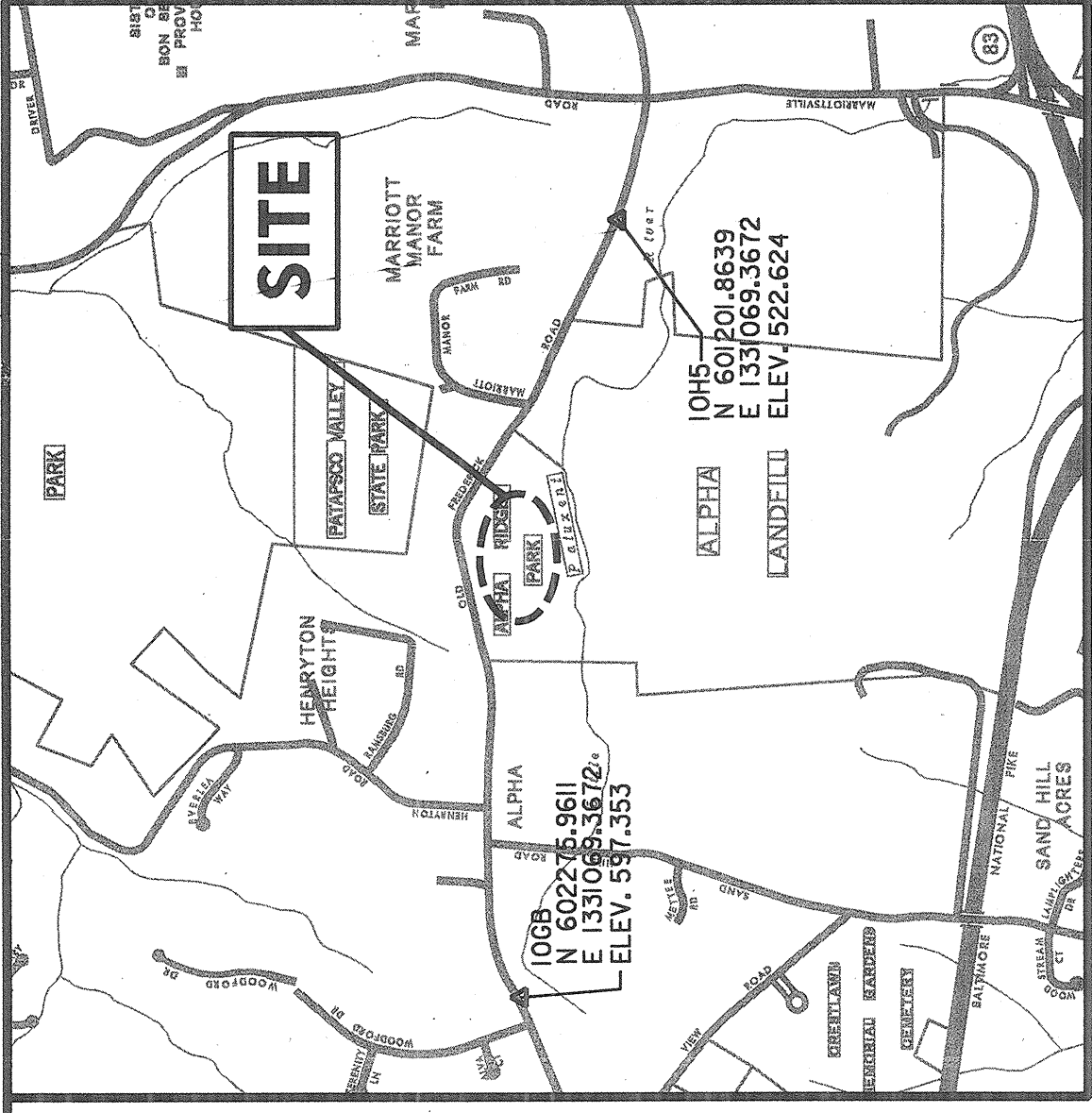
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SITE ANALYSIS DATA CHART

TOTAL PROPERTY AREA: 72.4 AC.
 AREA OF PLAN SUBMISSION: 4.72 AC.
 LIMIT OF DISTURBED AREA: 4.72 AC.
 PRESENT ZONING DESIGNATION: RC-DEO
 PROPOSED USES: MULTIPLE-USE, PICNIC AREAS, FLOOR SPACE, RESTROOM FACILITY, 915 SF OBSERVATORY, 577 SF
 PARKING REQUIREMENTS (PER HOWARD COUNTY RECREATION AND PARKS):
 EXISTING ADDITIONAL SPACES: 62 SPACES (HC ACCESSIBLE)
 NEW ADDITIONAL SPACES: 162 SPACES (HC ACCESSIBLE)
 TOTAL PROPOSED: 224 SPACES, 14 HC ACCESSIBLE (9 HC CHANGED TO 9.5' X 18' SPACED APPLICABLE DPZ FILE NUMBER: SDP 90-18 EOP 12-02 SDP-97-126(F))
 AREA OF WETLANDS: 15.05 AC.
 AREA OF 100 YR FLOODPLAIN: 18.83 AC.
 AREA OF STEEP SLOPES >25%: 3.03 AC.
 FORESTED AREA: 72.2 AC.
 GREEN OPEN AREA: 92.3 AC.



VICINITY MAP

SCALE: 1" = 2000'
 ADC MAP 4694, GRID C9, D9, E9
 C10, D10, E10

LEGEND

- EX. CONTOURS
- EX. TREES
- EX. UTILITY POLE
- EX. FIRE HYDRANT
- EX. SANITARY MAIN
- EX. STORM DRAIN PIPE
- EX. STORM DRAIN STRUCTURE
- EX. WATER MAIN
- PROPOSED CONTOURS
- PROPOSED STORM DRAIN PIPE
- PROPOSED STORM DRAIN STRUCTURE
- PROPOSED ASPHALT SURFACE
- PROPOSED WOOD CHIP TRAIL
- STORMWATER MANAGEMENT DEVICE
- EXISTING TREE LINE
- PROPERTY LINE
- 75' BUILDING SETBACK LINE
- PARKING SPACES
- ROW LINE
- EX. 2' CONTOURS
- STREAM CENTER LINE
- 75' STREAM BUFFER
- WETLAND BUFFER
- FLOODPLAIN
- FOREST CONSERVATION AREA
- STEEP SLOPES 15-25%
- STEEP SLOPES >25%
- SILT FENCE
- SUPER SILT FENCE
- LIMIT OF DISTURBANCE
- AT GRADE INLET PROTECTION
- SOIL BOUNDARY
- HYDROLOGIC CLASSIFICATION

PURPOSE NOTE:
 TO PROVIDE ADDITIONAL PARKING, PAVED TRAILS, RESTROOM FACILITIES AND STORMWATER FACILITIES FOR PARK.

<p>OWNER: HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS 7120 OAKLAND MILLS ROAD COLUMBIA, MD 21046 ATTN: MR. RAUL DELLENNE VOICE 410-313-4689 FAX 410-313-4646</p>	<p>DEVELOPER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 9250 BENDIX ROAD COLUMBIA, MD 21045 ATTN: MR. MARSHALL DAVIDSON VOICE 410-313-5806 FAX 410-313-6144</p>	<p>DESIGNER: R.H. DRN: A.W.W. CHK: M.S.Z. DATE: Jan., 2013 BY: NO REVISION: DATE</p>	<p>Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland license No. 19916. Expiration date: 01/1/2015.</p>	<p>REVISIONS:</p>

Title Sheet

SOILS CHART

MAP SYMBOL AND SOIL NAME	HYDROLOGIC GROUP	Kf	EROSION HAZARD RATING
BaA - Balle silt loam, 0 to 3 percent slopes	D	.37	SLIGHT
GbA - Gladstone loam, 0 to 3 percent slopes	D	.24	SLIGHT
GbB - Gladstone loam, 3 to 8 percent slopes	B	.24	MODERATE
GbC - Gladstone loam, 8 to 15 percent slopes	B	.24	MODERATE
GcB - Glenelg loam, 3 to 8 percent slopes	B	.28	MODERATE
GmB - Glenville silt loam, 3 to 8 percent slopes	C	.28	MODERATE
Hg - Harboro-Codorus silt loams, 0 to 3 percent slopes	D	.37	SLIGHT
MdD - Manor loam, 15 to 25 percent slopes, very rocky	B	.28	SEVERE
Ubf - Udothents, Refuse, 0 to 65 percent slopes	B	N/A	NOT RATED



APPROVED: DEPARTMENT OF RECREATION AND PARKS
 DATE 1/30/2013
 DIRECTOR *David Wehner*

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
 DATE 2/2/2013
 COUNTY HEALTH OFFICER *Maureen Roman*

APPROVED: DEPARTMENT OF PUBLIC WORKS
 DATE 2/15/13
 DIRECTOR OF PUBLIC WORKS *John M. Chen*

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 DATE 2/22/13
 CHIEF-DEVELOPMENT ENGINEERING DIVISION *[Signature]*

APPROVED: CHIEF-TRANSPORTATION & SPECIAL PROJECTS
 DATE 2/25/13
 CHIEF-DEPARTMENT OF PLANNING AND ZONING *[Signature]*

APPROVED: CHIEF-DIVISION OF LAND DEVELOPMENT
 DATE 2/25/13
 DIRECTOR *Mark A. Gayle*

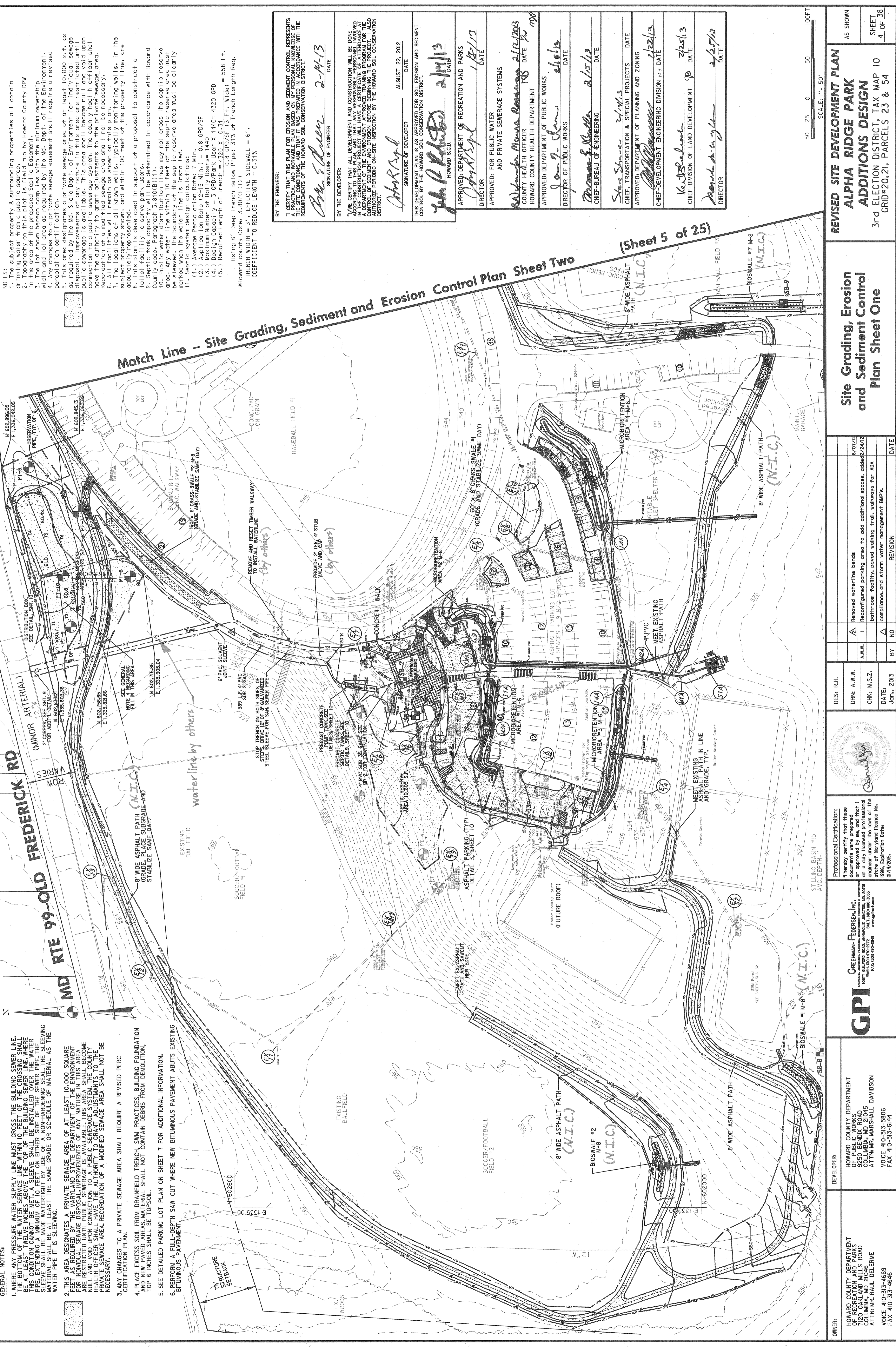
OWNER: HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS 7120 OAKLAND MILLS ROAD COLUMBIA, MD 21046 ATTN: MR. RAUL DELERME VOICE 410-313-4689 FAX 410-313-4646	DEVELOPER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 9250 BENDIX ROAD COLUMBIA, MD 21045 ATTN: MR. MARSHALL DAVIDSON VOICE 410-313-5806 FAX 410-313-6144	DES: R.H. DRN: A.W.W. CHK: M.S.Z. DATE: Jan., 2013	REVISION BY NO DATE
			REVISION
PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 1986, Expiration Date: 01/17/2015.		DESIGNED BY: [Signature] DATE: 01/17/2015	
GPI GREENMAN-PEDERSEN, INC. ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS & SURVEYORS 1000 WASHINGTON AVENUE, SUITE 1000 WASHINGTON, DC 20001-4242 BALTIMORE, MD 21201-4242 FAX: (301) 461-2849 www.gpi.com		REVISED SITE DEVELOPMENT PLAN ALPHA RIDGE PARK ADDITIONS DESIGN 3rd ELECTION DISTRICT, TAX MAP 10 GRID#20.21, PARCELS 23 & 54	

GENERAL NOTES:

- WHERE ANY PRESSURE WATER SUPPLY LINE MUST CROSS THE BUILDING SEWER LINE, THE BOTTOM OF THE WATER SERVICE LINE WITHIN 10 FEET OF THE CROSSING SHALL BE AT LEAST TWELVE INCHES ABOVE THE TOP OF THE BUILDING SEWER LINE. WATER PIPES EXCEEDING 12 INCHES IN DIAMETER SHALL BE INSTALLED OVER THE SEWER PIPE. MATERIAL SHALL BE AT LEAST THE SAME GRADE OR SCHEDULE OF MATERIAL AS THE WATER PIPE IT IS SLEEVING.
- THIS AREA DESIGNATES A PRIVATE SEWAGE AREA OF AT LEAST 10,000 S.F. AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THIS AREA SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWAGE SYSTEM. THE COUNTY PRIVATE SEWAGE AREA RE-RECORDATION OF A MODIFIED SEWAGE AREA SHALL NOT BE NECESSARY.
- ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERC CERTIFICATION PLAN.
- PLACE EXCESS SOIL FROM DRAINFIELD TRENCH, SWM PRACTICES, BUILDING FOUNDATION AND NEW PAVED AREAS. MATERIAL SHALL NOT CONTAIN DEBRIS FROM DEMOLITION, TOP 6 INCHES SHALL BE TOPSOIL.
- SEE DETAILED PARKING LOT PLAN ON SHEET 7 FOR ADDITIONAL INFORMATION.
- PERFORM A FULL-DEPTH SAW CUT WHERE NEW BITUMINOUS PAVEMENT ABUTS EXISTING BITUMINOUS PAVEMENT.

NOTES:

- The subject property & surrounding properties all obtain drinking water from a public source.
- Topography on this plot is field run by Howard County DPM in the area of the proposed Septic Easement.
- The lot shown hereon complies with the minimum ownership with an area as required by the Md. Dept. of the Environment. All other areas shown on this plan require a revised percolation certification.
- This area designates a private sewage area of at least 10,000 s.f. as required by the Md. State Dept. of Environment for individual sewage disposal. Improvements of any nature in this area are restricted until public sewerage is available. This area shall become null and void upon connection to a public sewerage system. The county health officer shall have the authority to grant adjustments to the private sewage area. All facilities will remain as shown on this plan.
- The locations of all known wells, typically monitoring wells, in the subject property shown, and within 100 feet of the property line, are accurately represented.
- This plan is developed in support of a proposal to construct a toilet facility to serve park users.
- Septic tank capacity = 810(B).
- Public water distribution lines may not cross the septic reserve area. Any water line within 10 feet of the septic reserve area must be sleeved. The boundary of the septic reserve area must be clearly marked when the water line is installed.
- Septic system design calculations:
 (1.) Average Percolation Rate: 7 Min. = 0.8 GPD/SF
 (2.) Application Rate (2-15 Min.) = 0.40
 (3.) Design Capacity = 3 GPD/Park User X 1440 = 4320 GPD
 (4.) Required Length of Trench = 4320 X 0.31 = 556 Ft.
 (5.) Required Length of Trench = 4320 X 0.31 = 556 Ft.
 Using 6" Deep Trench Below Pipe: 31% of Trench Length Req.
 #Howard county code, 3.807(E)(12)
 TRENCH WIDTH = 3', EFFECTIVE SIDEWALL COEFFICIENT TO REDUCE LENGTH = 0.31.



Match Line - Site Grading, Sediment and Erosion Control Plan Sheet Two

(Sheet 5 of 25)

<p>BY THE ENGINEER:</p> <p>7. 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.</p> <p><i>Thomas S. Blum</i> SIGNATURE OF ENGINEER DATE: 2-14-13</p>	<p>BY THE DEVELOPER:</p> <p>8. I ME 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 THE HOWARD SOIL CONSERVATION DISTRICT TRAINING COURSE FOR EROSION AND SEDIMENT CONTROL. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.</p> <p><i>John P. Rosta</i> SIGNATURE OF DEVELOPER DATE: 2/14/13</p>	<p>APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS</p> <p><i>William M. Moore</i> COUNTY HEALTH OFFICER HOWARD COUNTY HEALTH DEPARTMENT DATE: 2/12/2013</p> <p>APPROVED: DEPARTMENT OF PUBLIC WORKS</p> <p><i>Jan V. Slav</i> DIRECTOR OF PUBLIC WORKS DATE: 2/16/13</p> <p>APPROVED: DEPARTMENT OF PLANNING AND ZONING</p> <p><i>Steve Shaver</i> CHIEF, TRANSPORTATION & SPECIAL PROJECTS DATE: 2/15/13</p> <p>APPROVED: DEPARTMENT OF ENGINEERING</p> <p><i>Thomas E. Blum</i> CHIEF-BUREAU OF ENGINEERING DATE: 2/15/13</p> <p>APPROVED: DIVISION OF LAND DEVELOPMENT</p> <p><i>Kevin P. Blum</i> CHIEF-DIVISION OF LAND DEVELOPMENT DATE: 2/15/13</p> <p>APPROVED: DIRECTOR</p> <p><i>Thomas E. Blum</i> DIRECTOR DATE: 2/15/13</p>
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<p>OWNER:</p> <p>HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 7120 OAKLAND MILLS ROAD COLUMBIA, MD 21046 ATTN: MR. RAUL DELERME VOICE 410-313-4689 FAX 410-313-4646</p>	<p>DEVELOPER:</p> <p>HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 9250 BENDIX ROAD COLUMBIA, MD 21045 ATTN: MR. MARSHALL DAVIDSON VOICE 410-313-5806 FAX 410-313-6144</p>
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REVISED SITE DEVELOPMENT PLAN
ALPHA RIDGE PARK
ADDITIONS DESIGN
 3rd ELECTION DISTRICT, TAX MAP 10
 GRID#20,21, PARCELS 23 & 54

DES. R.H.	DRN. A.W.W.	CHK. M.S.Z.	DATE:	BY	NO.	REVISION	DATE
			Jan, 2013				
						Removed water-line bonds	6/17/12
						Reconfigured parking areas to add additional spaces, added 2/24/12 bathroom facility, paved walking trail, walkways for ADA compliance, and storm water management BMPs.	6/17/12

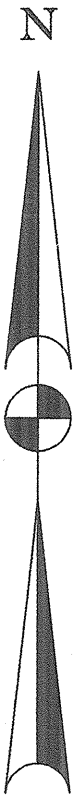
Professional Certification:

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer in the State of Maryland license No. 1996, expiration date: 8/14/2015.

Thomas E. Blum
 Professional Engineer
 License No. 1996

GPI GREENMAN-FEDERSEN, INC.
 ENGINEERS, ARCHITECTS, PLANNERS, CONSTRUCTION MANAGERS & INTERIORS
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 TEL: (703) 491-2772 FAX: (703) 491-2000
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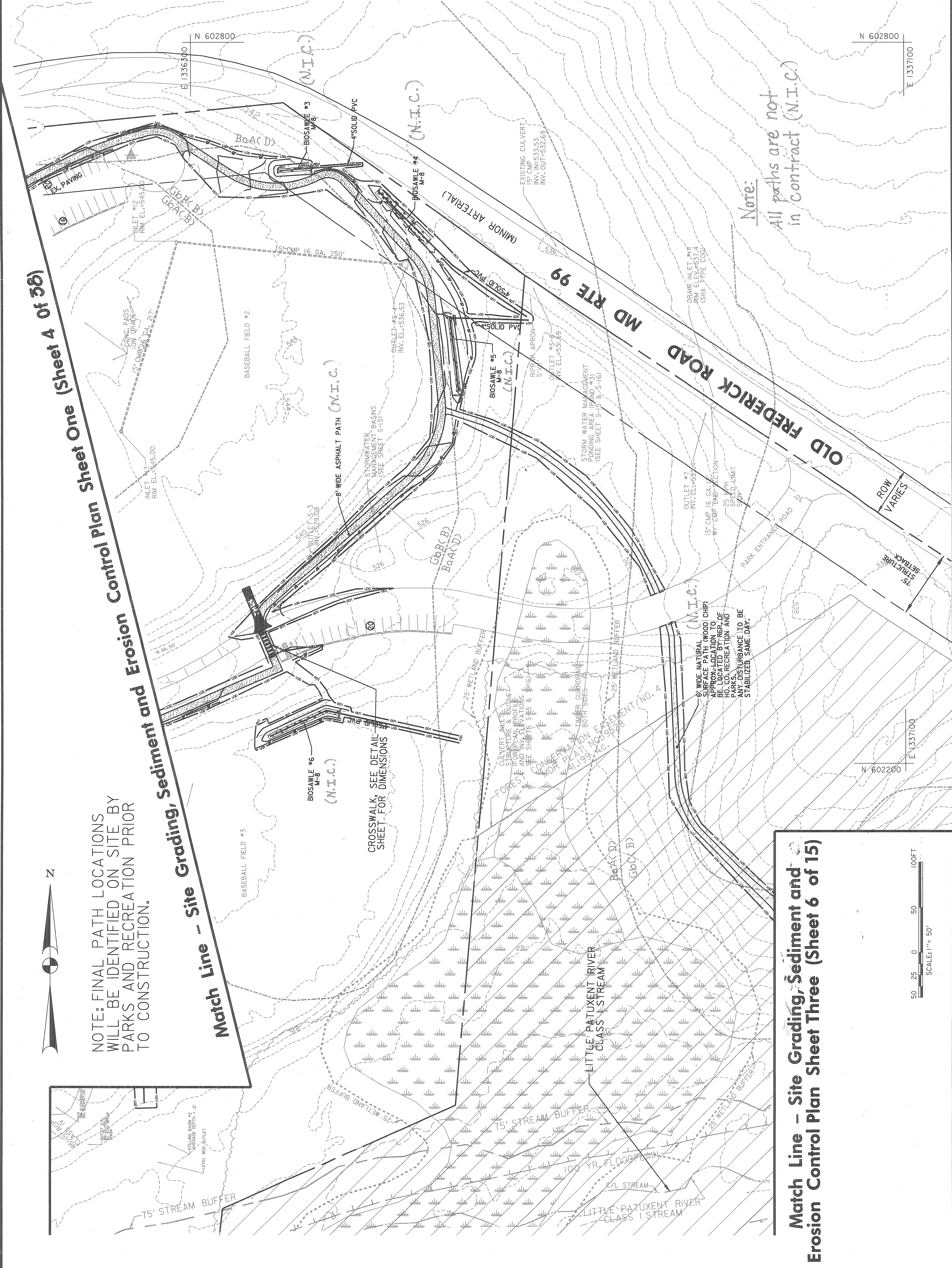
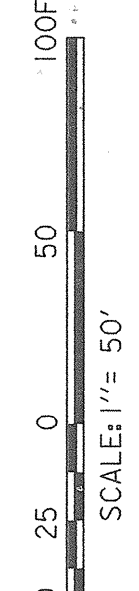
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NOTE: FINAL PATH LOCATIONS WILL BE IDENTIFIED ON SITE BY PARKS AND RECREATION PRIOR TO CONSTRUCTION.

Match Line - Site Grading, Sediment and Erosion Control Plan Sheet One (Sheet 4 of 38)

Match Line - Site Grading, Sediment and Erosion Control Plan Sheet Three (Sheet 6 of 15)



Note:
All paths are not
in contract (N.I.C.)

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 PROJECT AND THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
Robert S. Anderson 6-5-12
SIGNATURE OF ENGINEER DATE

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 THE HOWARD SOIL CONSERVATION DISTRICT'S TRAINING COURSE. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
John R. [Signature] 1/18/13
SIGNATURE OF DEVELOPER DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
John R. [Signature] 2/14/13
HOWARD S.C.D.

APPROVED: DEPARTMENT OF RECREATION AND PARKS
John R. [Signature] 1/18/13
DIRECTOR

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
John R. [Signature] 2/12/2013
DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
John R. [Signature] 2/15/13
DATE

DIRECTOR OF PUBLIC WORKS

CHIEF-BUREAU OF ENGINEERING

CHIEF, TRANSPORTATION & SPECIAL PROJECTS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
John R. [Signature] 2/21/13
DATE

CHIEF-DEVELOPMENT ENGINEERING DIVISION 17 DATE

CHIEF-DIVISION OF LAND DEVELOPMENT 2/25/13
DATE

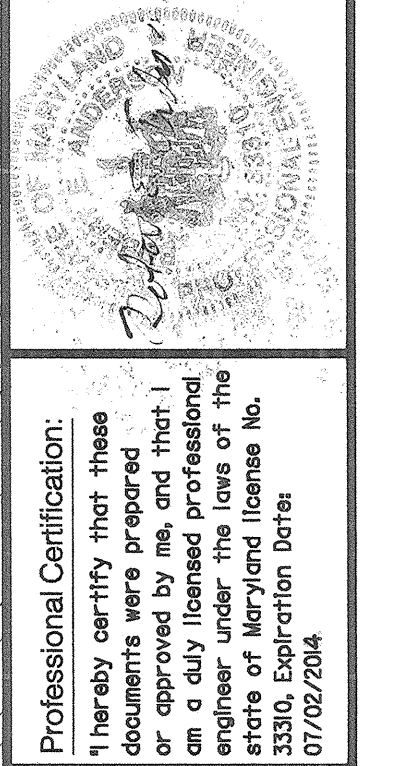
DIRECTOR 2/25/13
DATE

REVISION SITE DEVELOPMENT PLAN
ALPHA RIDGE PARK
ADDITIONS DESIGN
3rd ELECTION DISTRICT, TAX MAP 10
GRID #20, 21, PARCELS 23 & 54

SCALE: AS SHOWN
SHEET 5 OF 38

Site Grading, Sediment and Erosion control
Plan Sheet Two

DES:	R.H.	DATE:	NO	REVISION	DATE
DRN:	A.W.W.				
CHK:	M.S.Z.				
A.W.W.:	1	Added paved trail, storm water management BMP's and wood chip paths.			2/22/12



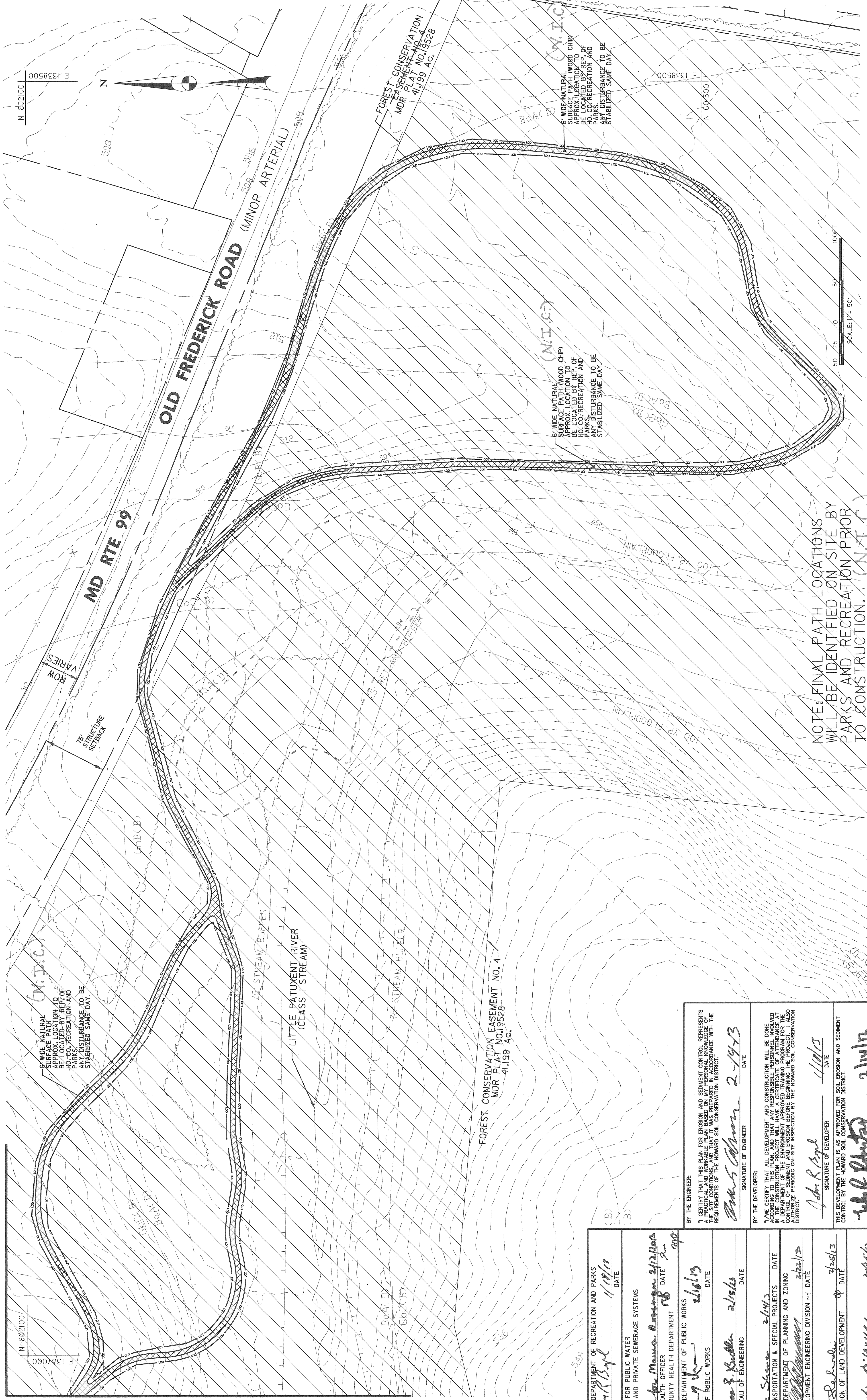
Professional Certification:
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the state of Maryland and license No. 07102/2004.

GPI
GREENMAN- PEDERSEN, INC.
1077 CALDWAY ROAD, ANNAPOLIS JUNCTION, MD 20704
ATTN: MR. MARSHALL DAVIDSON
VOICE: 410-313-5306
FAX: 410-313-6144

OWNER:
HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS
1077 CALDWAY ROAD, ANNAPOLIS JUNCTION, MD 20704
ATTN: MR. RAIL BELERME
VOICE: 410-313-4689
FAX: 410-313-4646

DEVELOPER:
HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS
1077 CALDWAY ROAD, ANNAPOLIS JUNCTION, MD 20704
ATTN: MR. MARSHALL DAVIDSON
VOICE: 410-313-5306
FAX: 410-313-6144

Match Line - Site Grading, Sediment and Erosion Control Plan Two (Sheet 5 of 25)



(N.E.C.)
6' WIDE NATURAL SURFACE PATH (WOOD CHIP) APPROX. LOCATION TO BE LOCATED BY REF. OF PARKS, RECREATION AND ANY DISTURBANCE TO BE STABILIZED SAME DAY.

(N.E.C.)
6' WIDE NATURAL SURFACE PATH (WOOD CHIP) APPROX. LOCATION TO BE LOCATED BY REF. OF PARKS, RECREATION AND ANY DISTURBANCE TO BE STABILIZED SAME DAY.

(N.E.C.)
6' WIDE NATURAL SURFACE PATH (WOOD CHIP) APPROX. LOCATION TO BE LOCATED BY REF. OF PARKS, RECREATION AND ANY DISTURBANCE TO BE STABILIZED SAME DAY.

NOTE: FINAL PATH LOCATIONS WILL BE IDENTIFIED ON SITE BY PARKS AND RECREATION PRIOR TO CONSTRUCTION. (N.E.C.)

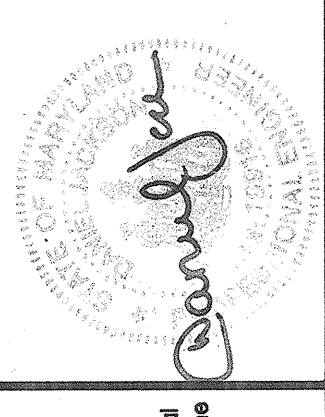
APPROVED: DEPARTMENT OF RECREATION AND PARKS <i>John R. Spill</i> DIRECTOR DATE: 1/19/13	APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS <i>Andrew M. Mason</i> COUNTY HEALTH OFFICER DATE: 2/12/13	APPROVED: DEPARTMENT OF PUBLIC WORKS <i>John W. [Signature]</i> DIRECTOR OF PUBLIC WORKS DATE: 2/16/13	APPROVED: BUREAU OF ENGINEERING <i>Thomas E. Keller</i> CHIEF-BUREAU OF ENGINEERING DATE: 2/15/13	BY THE DEVELOPER: <i>John R. Spill</i> SIGNATURE OF DEVELOPER DATE: 1/19/13	BY THE ENGINEER: <i>John R. Spill</i> SIGNATURE OF ENGINEER DATE: 2/14/13
CHIEF-TRANSPORTATION & SPECIAL PROJECTS <i>Steve [Signature]</i> DATE: 2/14/13	CHIEF-DEPARTMENT OF PLANNING AND ZONING <i>[Signature]</i> DATE: 2/21/13	CHIEF-DEVELOPMENT ENGINEERING DIVISION <i>[Signature]</i> DATE: 2/25/13	DIRECTOR <i>[Signature]</i> DATE: 2/28/13	DIRECTOR <i>[Signature]</i> DATE: 2/28/13	DIRECTOR <i>[Signature]</i> DATE: 2/28/13

GPI GREENMAN-PEDERSEN, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS & SURVEYORS
10071 OLD BRIDGE ROAD, ANNAPOLIS JUNCTION, MD 20704
TEL: 410-313-5806 FAX: 410-313-5806
WWW.GPI-INC.COM

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
9250 OAKLAND MILLS ROAD
COLUMBIA, MD 21046
ATTN: MR. MARSHALL DAVIDSON
VOICE: 410-313-5806
FAX: 410-313-6144

Professional Certification:
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer in the State of Maryland, License No. 1586, Expiration Date: 07/1/2015.

[Signature]
DATE: 2/24/13

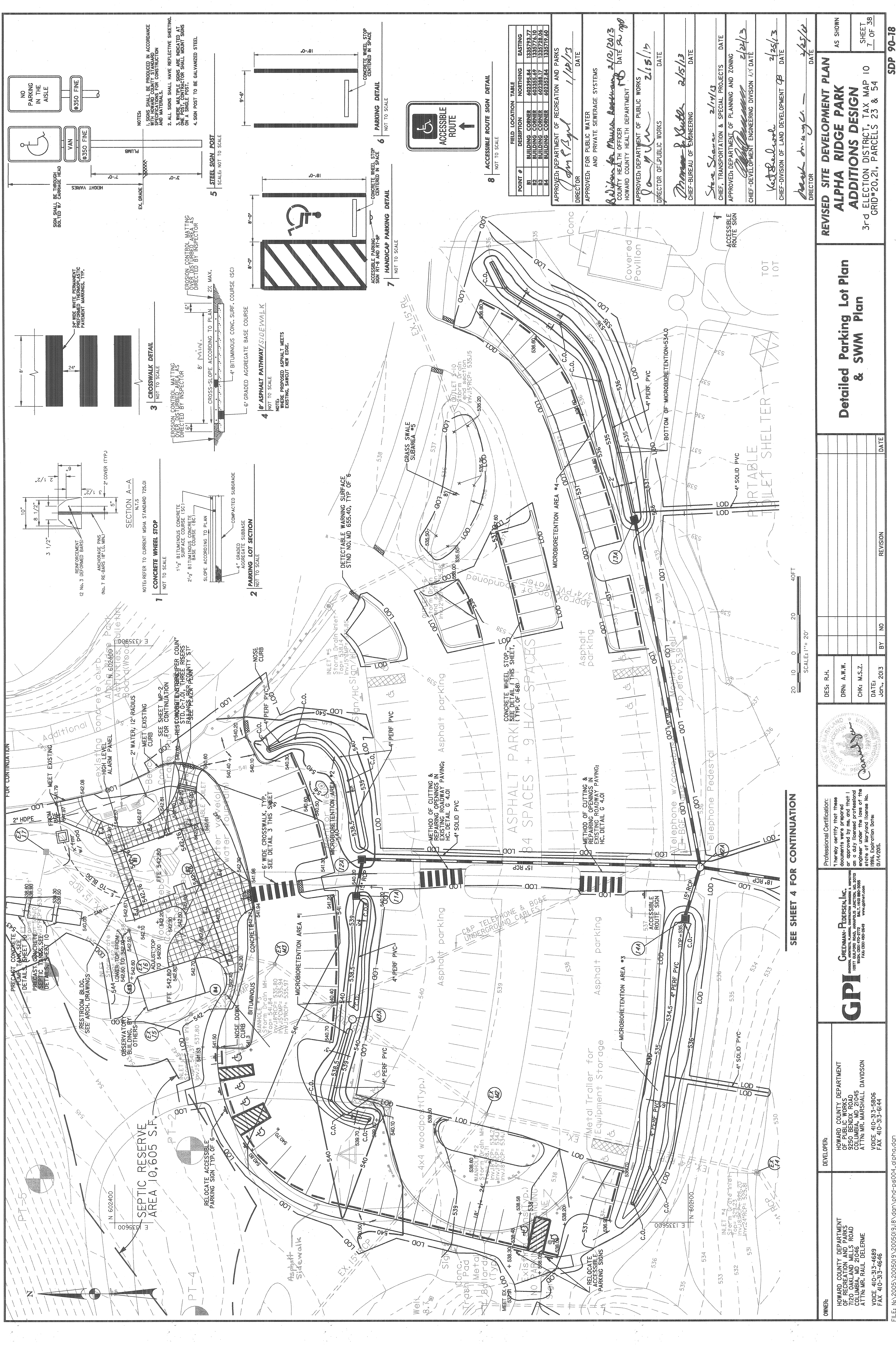


DES: R.H.	BY: NO	REVISION	DATE
DRN: A.W.W.	BY: I	Added wood chip path	2/24/13
CHK: M.S.Z.	BY: I		
DATE: Jan., 2013	BY: I		

REVISED SITE DEVELOPMENT PLAN
ALPHA RIDGE PARK
ADDITIONS DESIGN
3-D ELECTION DISTRICT, TAX MAP 10
GRID#20,21, PARCELS 23 & 54

Site Grading, Erosion and Sediment Control
Plan Sheet Three

AS SHOWN
SHEET 6 OF 38



POINT #	DESCRIPTION	NORTHING	EASTING
B1	BUILDING CORNER	602386.84	1335793.77
B2	BUILDING CORNER	602385.49	1335774.00
B3	BUILDING CORNER	602388.17	1335728.00
B4	BUILDING CORNER	602387.84	1335719.50

APPROVED: DEPARTMENT OF RECREATION AND PARKS
 DIRECTOR: *John R. Spill* 1/18/13
 DATE: 1/18/13

APPROVED FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
 COUNTY HEALTH OFFICER: *William R. Morrison* 2/12/2013
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 DIRECTOR OF PUBLIC WORKS: *Donna Wynn* 2/15/13
 DATE: 2/15/13

CHIEF-BUREAU OF ENGINEERING: *Thomas P. Butler* 2/15/13
 DATE: 2/15/13

CHIEF, TRANSPORTATION & SPECIAL PROJECTS: *Steve Sloman* 2/14/13
 DATE: 2/14/13

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF-DEVELOPMENT ENGINEERING DIVISION: *[Signature]* 2/21/13
 DATE: 2/21/13

CHIEF-DIVISION OF LAND DEVELOPMENT: *Victor Sealwood* 2/25/13
 DATE: 2/25/13

DIRECTOR: *David M. Ayers* 2/25/13
 DATE: 2/25/13

REVISED SITE DEVELOPMENT PLAN
ALPHA RIDGE PARK
ADDITIONS DESIGN

AS SHOWN
 SHEET 38
 OF 38

3rd ELECTION DISTRICT, TAX MAP 10
 GRID#20,21, PARCELS 23 & 54

Detailed Parking Lot Plan & SWM Plan

SCALE: 1" = 20'

20 10 0 20 40 FT

DES: R.H.
 DRN: A.M.W.
 CHK: M.S.Z.
 DATE: Jan., 2013
 BY: NO
 REVISION: DATE

Professional Certification:
 I hereby certify that these drawings were prepared by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, license No. 1996, Expiration Date: 07/16/2015.

GPI
 GREENMAN-PEDERSEN, INC.
 9205 BENDIGO ROAD
 ANNAPOLIS, MARYLAND 21410
 TEL: 410-890-5005
 FAX: 410-890-5005
 WWW.GPI-INC.COM

DEVELOPER:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 9205 BENDIGO ROAD
 ANNAPOLIS, MARYLAND 21410
 ATTN: MR. MARSHALL DAVIDSON
 VOICE 410-313-5806
 FAX 410-313-6144

OWNER:
 HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS
 7120 OAKLAND MILLS ROAD
 ANNAPOLIS, MARYLAND 21410
 ATTN: MR. RAUL DELEME
 VOICE 410-313-4689
 FAX 410-313-4646

FILE: H:\2005\2005019\2005019.dgn
 DATE: Wednesday, January 16, 2013 4:10:10 AM

SEE SHEET 4 FOR CONTINUATION

NO PARKING IN THE AISLE

VAN

NO PARKING IN THE AISLE

STEEL SIGN POST

CROSSWALK DETAIL

PARKING LOT SECTION

ASPHALT PATHWAY/SIDEWALK

HANDICAP PARKING DETAIL

ACCESSIBLE ROUTE SIGN DETAIL

ACCESSIBLE ROUTE SIGN

CONCRETE WHEEL STOP

CONCRETE WHEEL STOP

CONCRETE WHEEL STOP

CONCRETE WHEEL STOP

CONCRETE WHEEL STOP

CONCRETE WHEEL STOP

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CONCRETE WHEEL STOP

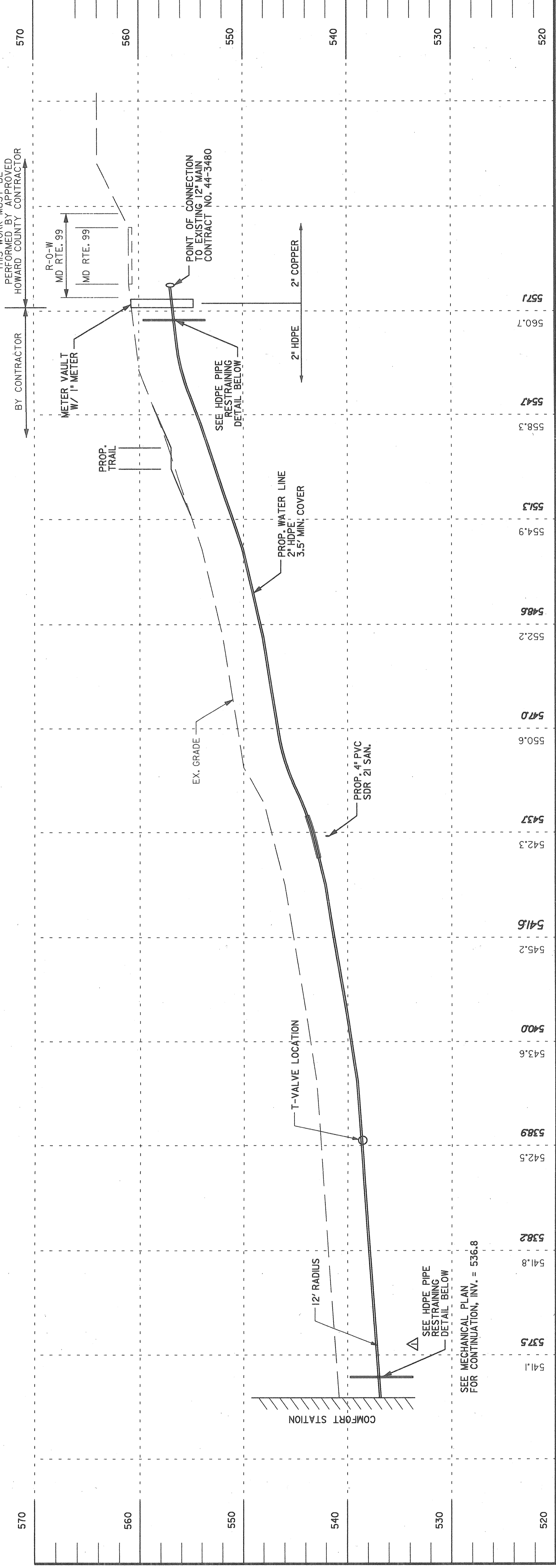
CONCRETE WHEEL STOP

CONCRETE WHEEL STOP

CONCRETE WHEEL STOP

CONCRETE WHEEL STOP

CONCRETE WHEEL STOP



NOTE:
 Water line to be constructed by others. Not part of this contract.
 Contractor responsible for connecting water-line to comfort station.

THIS WORK MUST BE REFERENCED TO HOWARD COUNTY CONTRACTOR BY CONTRACTOR

POINT OF CONNECTION WITH EXISTING CONTRACT NO. 44-3480

SEE HDPE PIPE RESTRAINING DETAIL BELOW

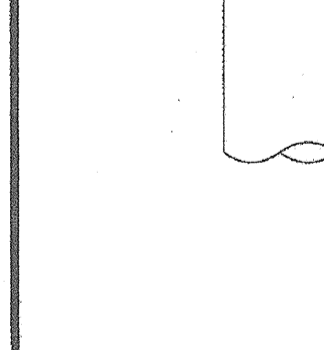
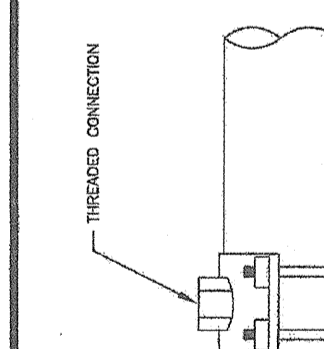
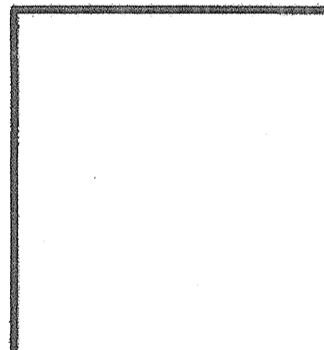
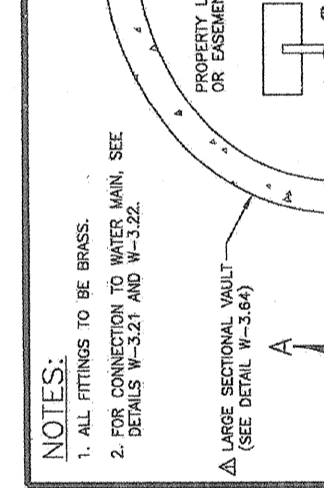
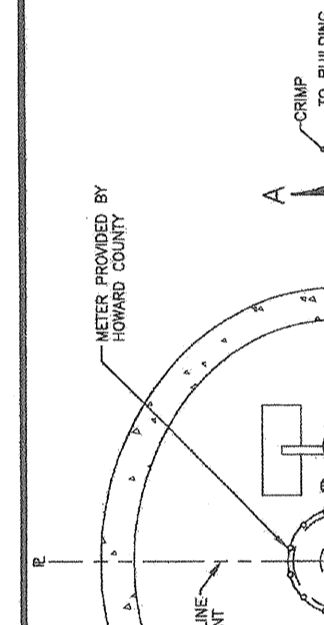
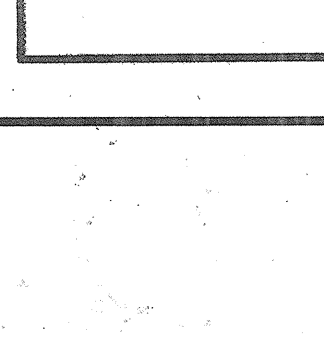
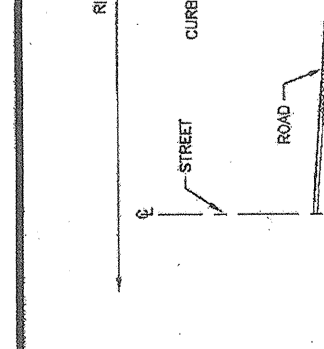
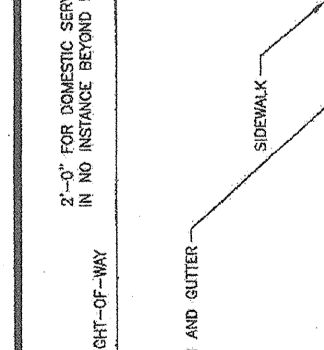
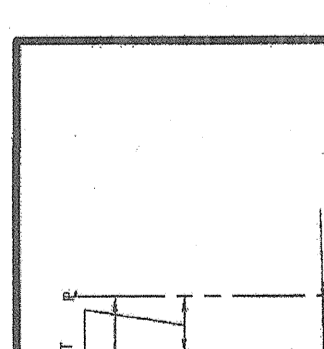
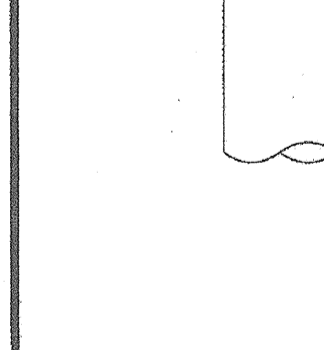
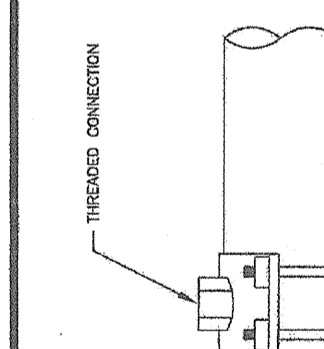
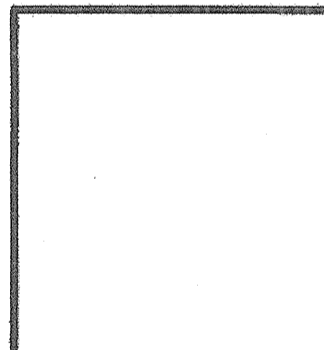
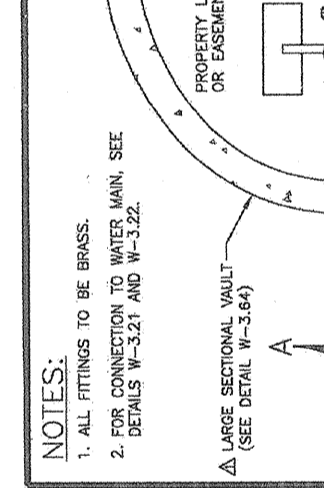
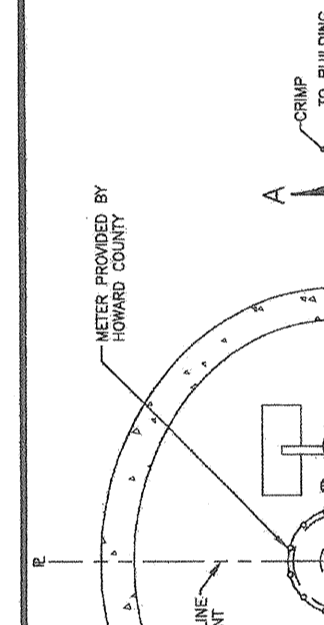
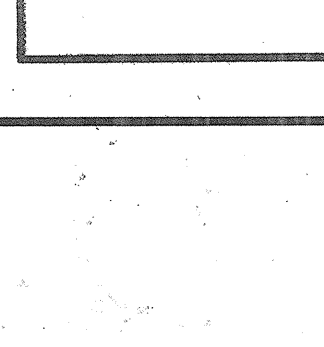
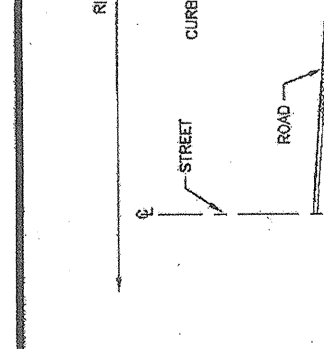
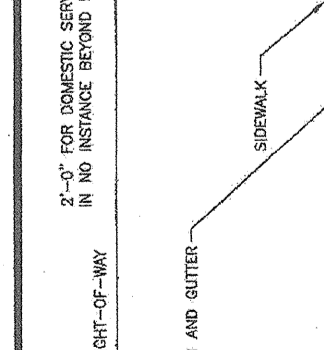
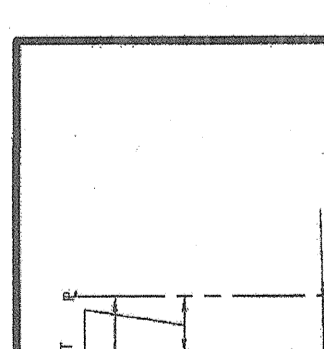
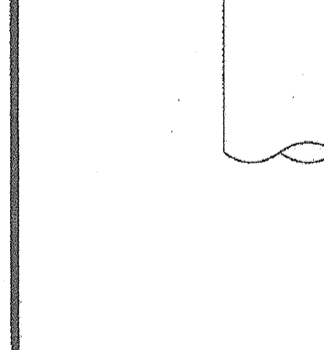
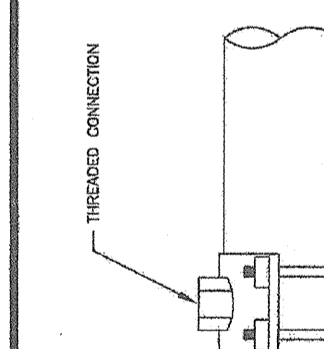
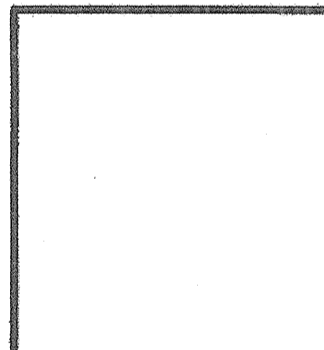
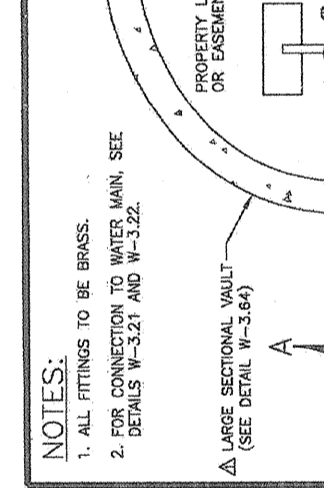
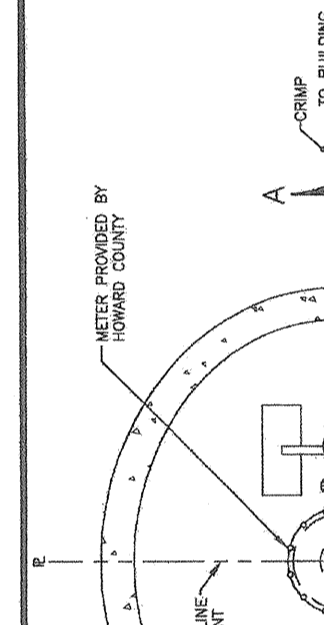
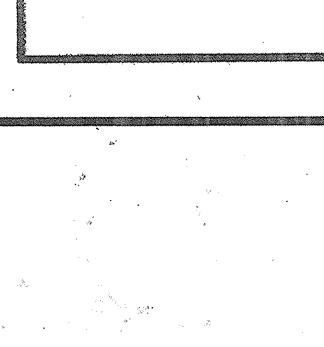
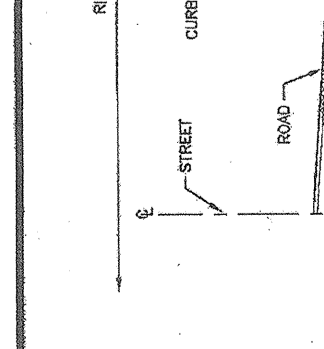
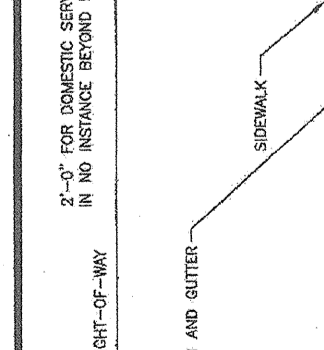
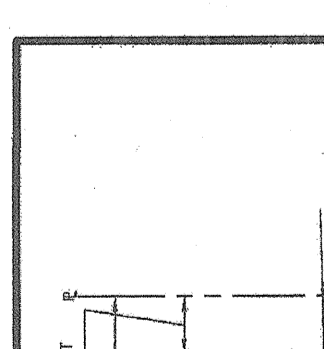
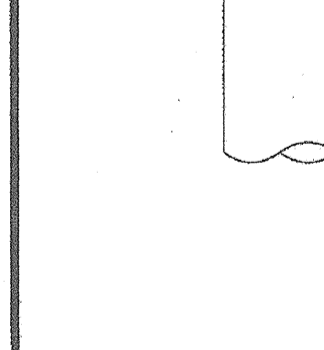
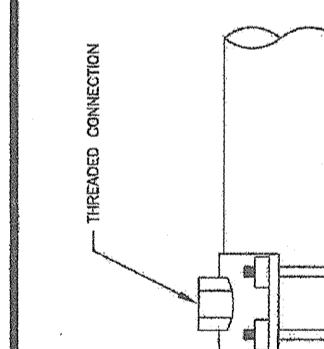
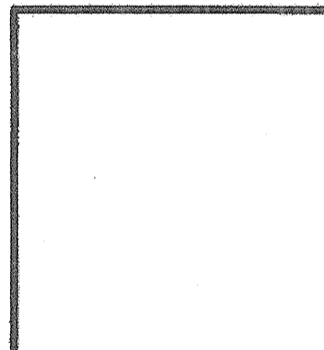
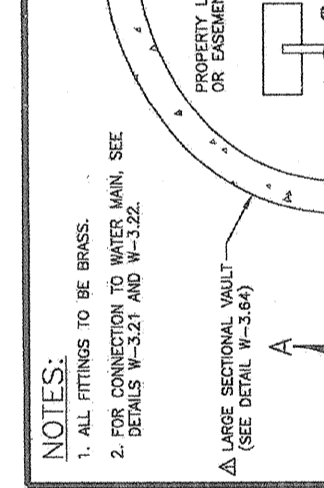
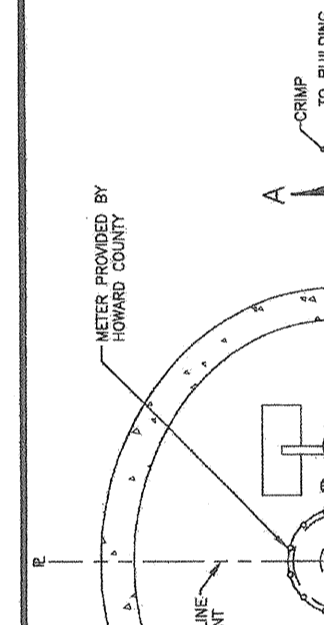
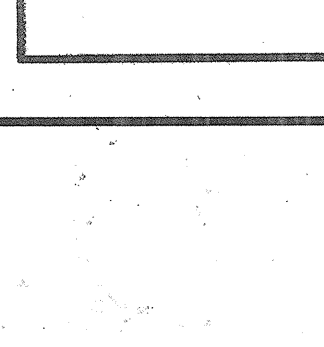
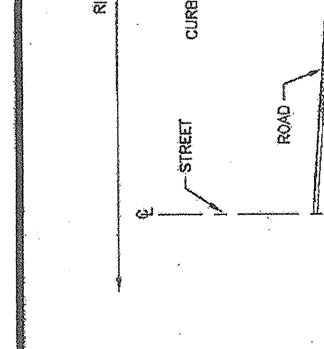
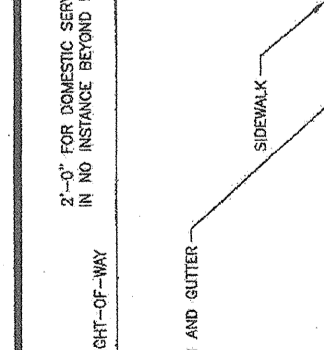
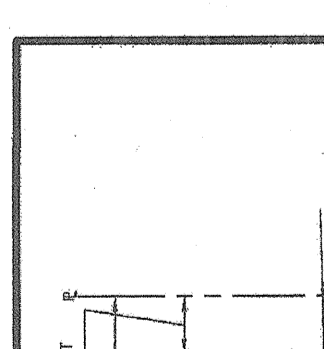
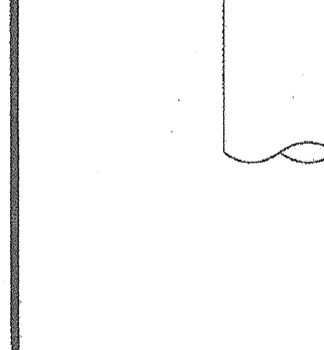
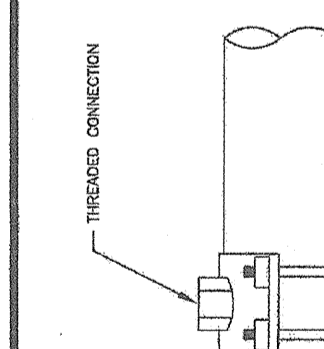
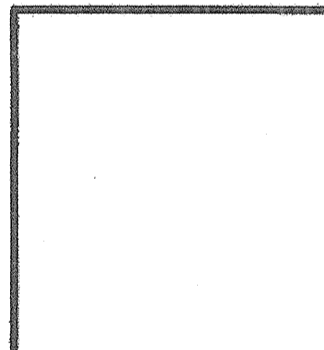
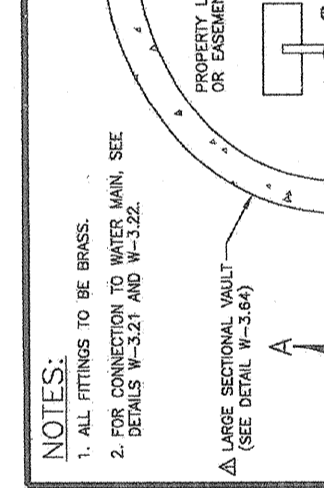
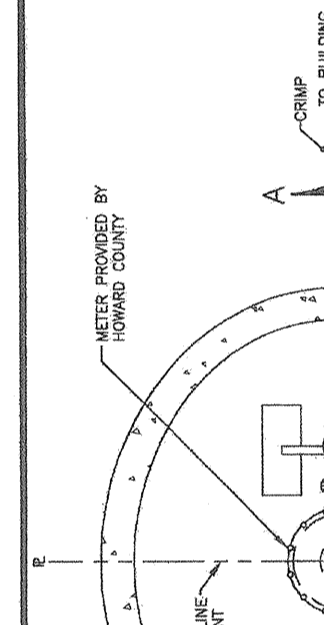
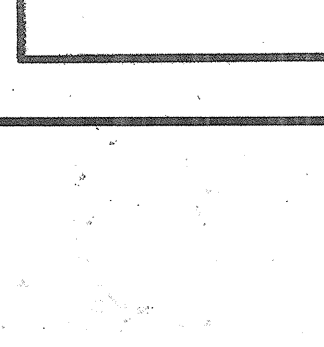
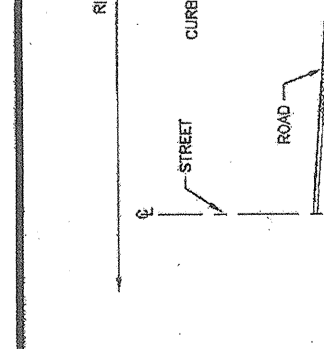
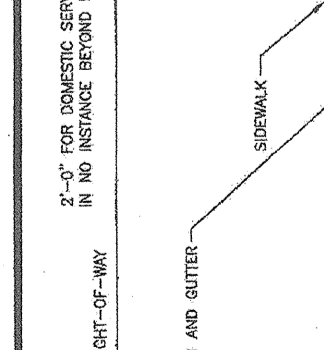
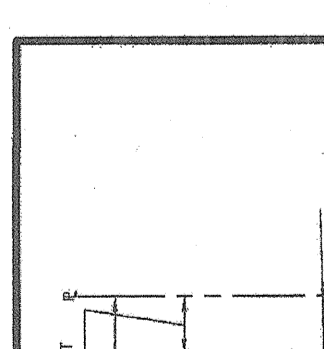
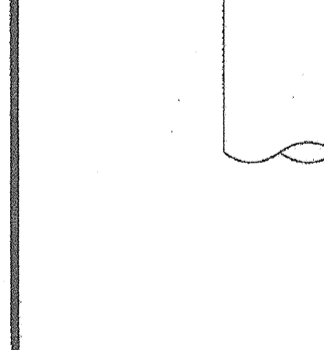
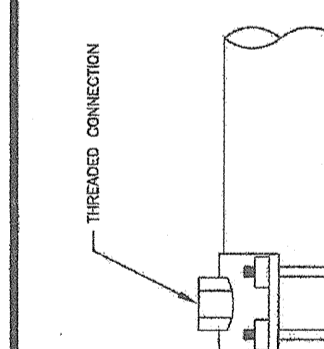
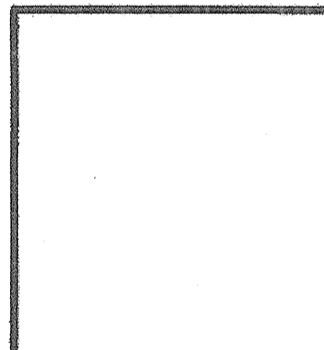
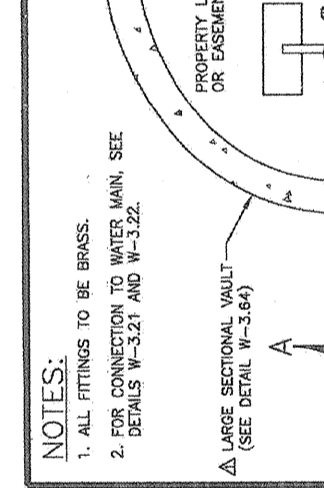
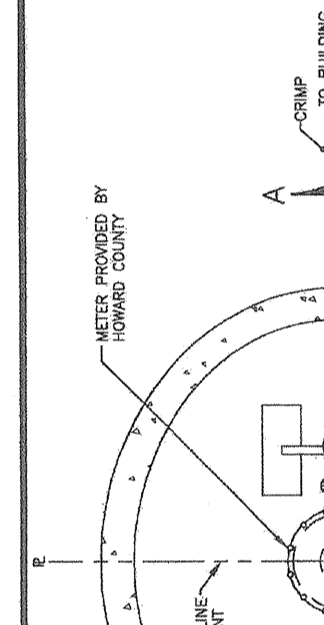
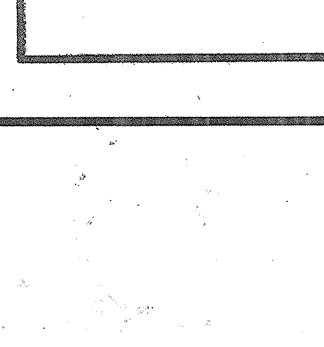
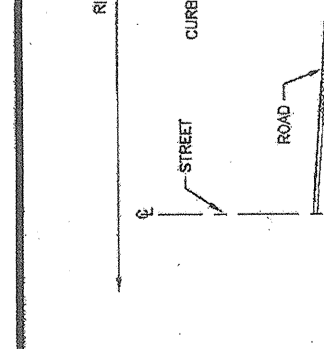
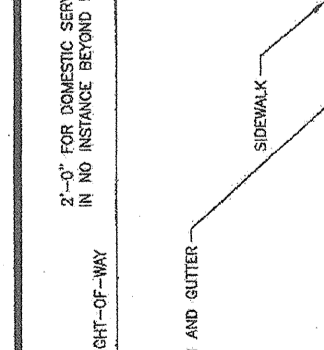
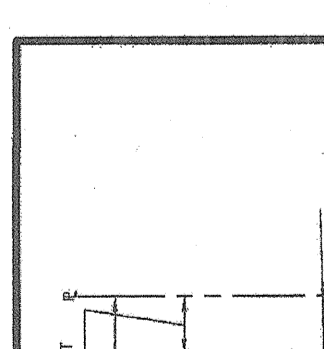
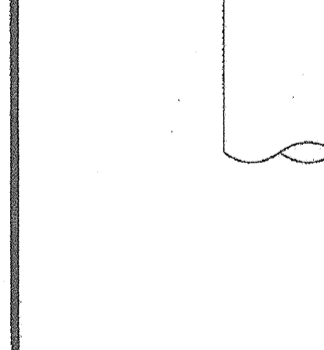
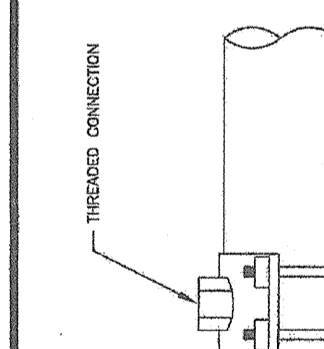
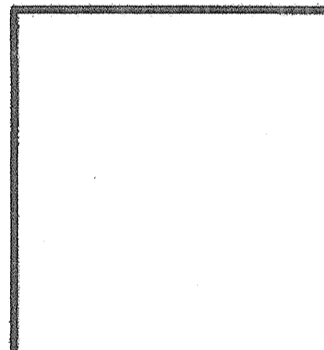
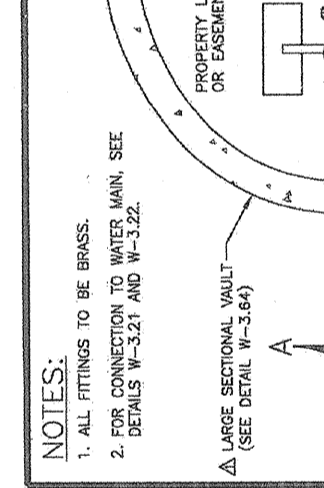
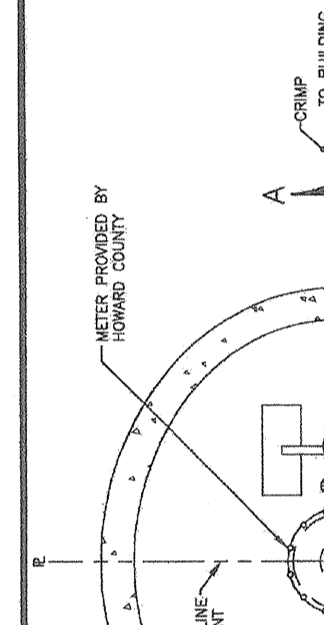
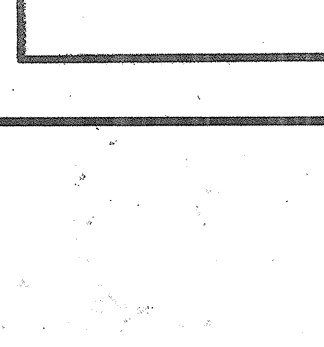
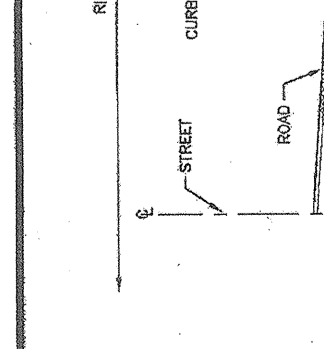
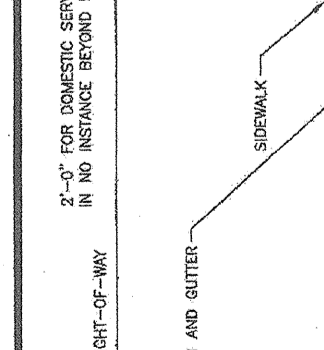
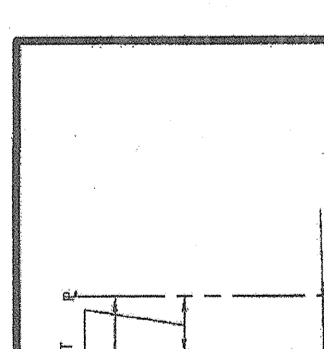
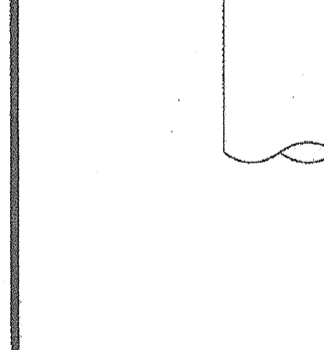
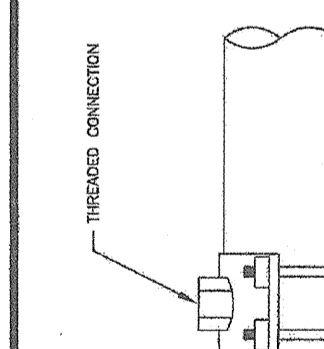
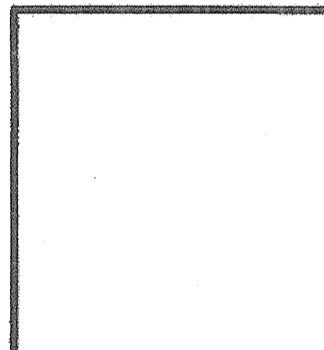
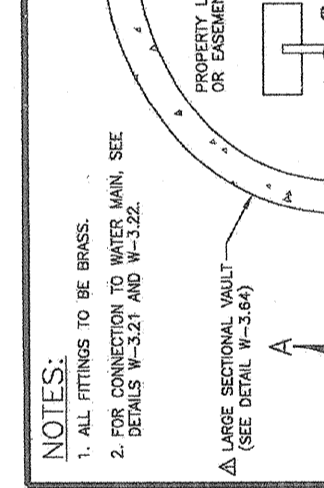
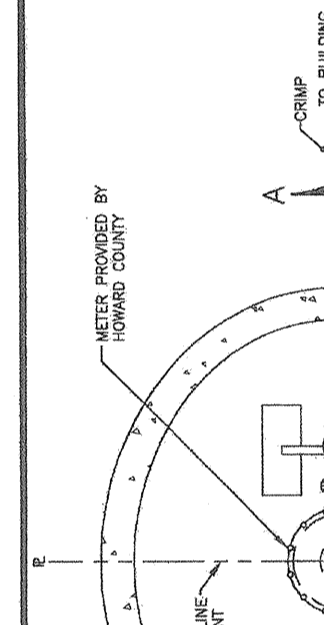
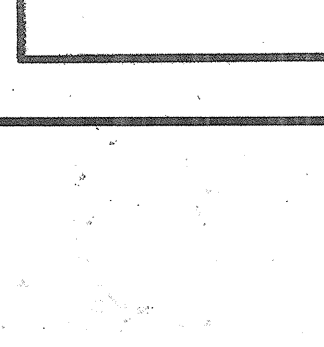
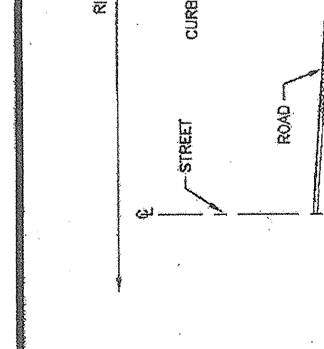
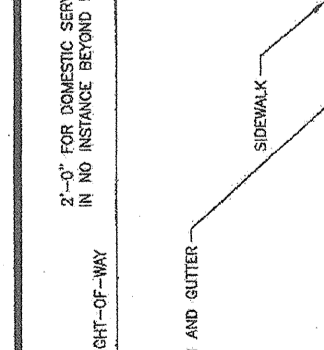
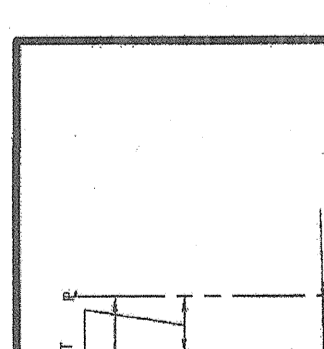
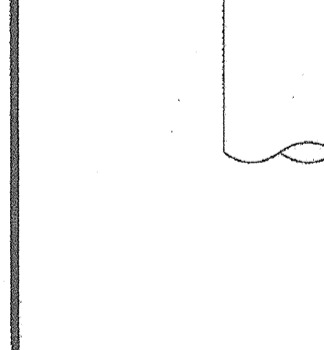
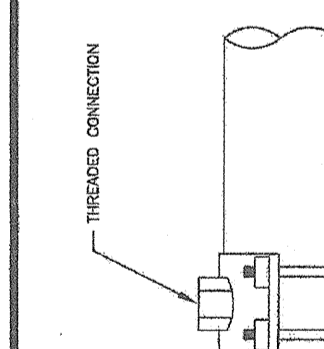
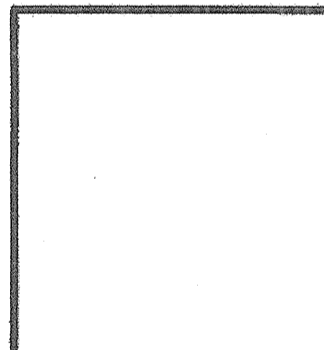
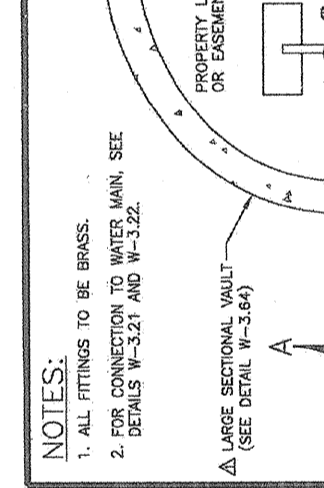
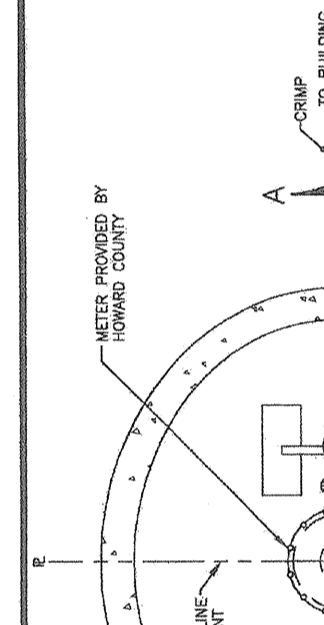
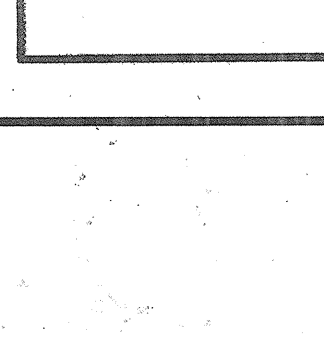
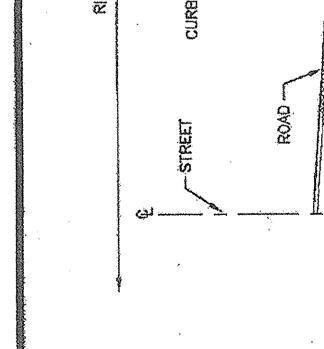
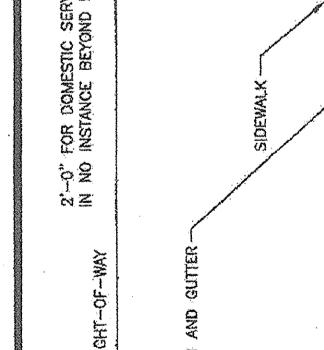
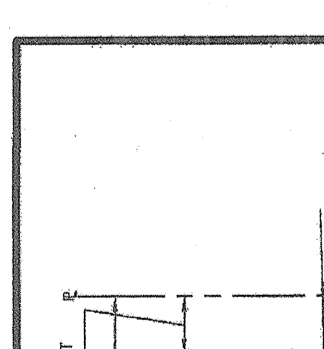
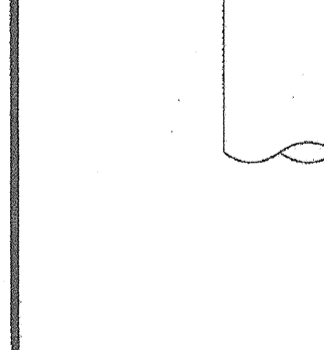
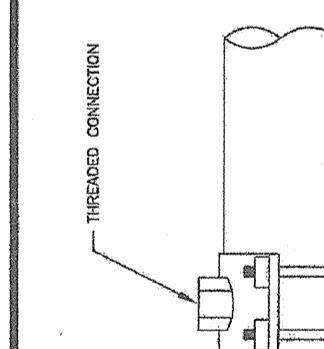
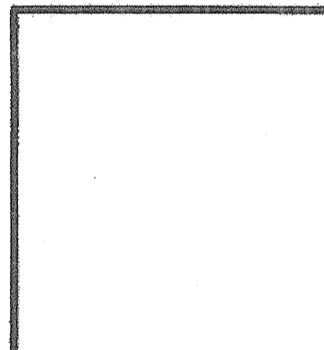
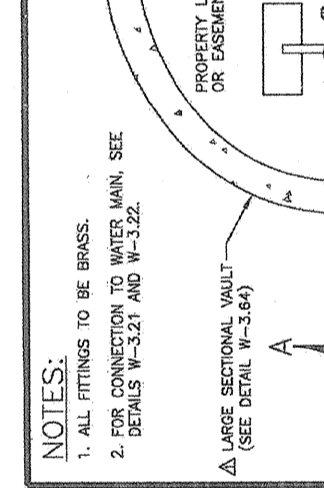
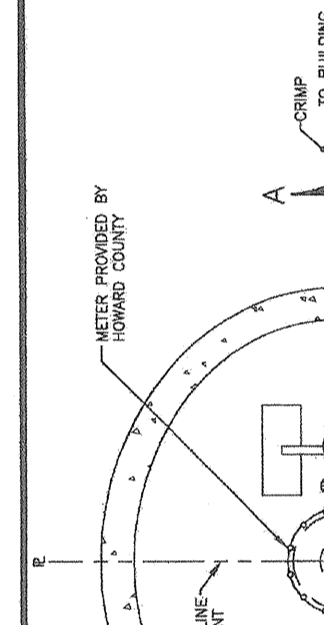
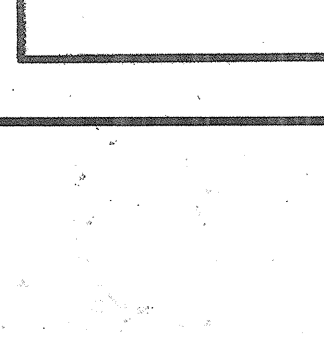
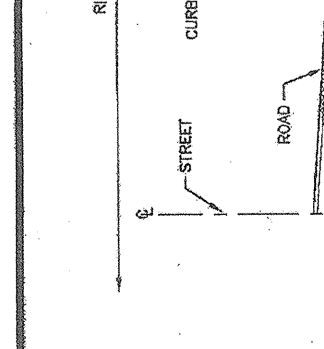
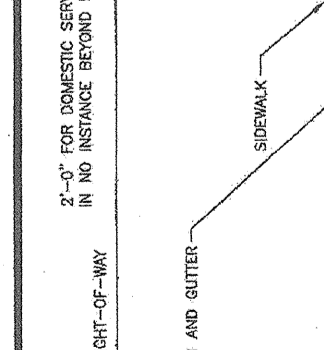
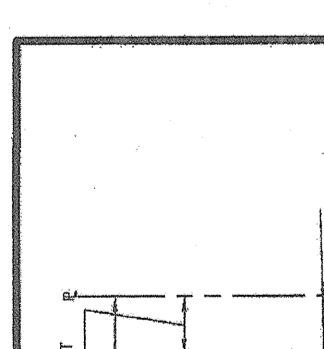
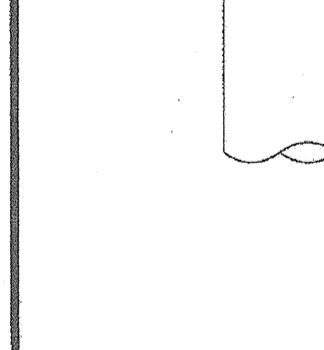
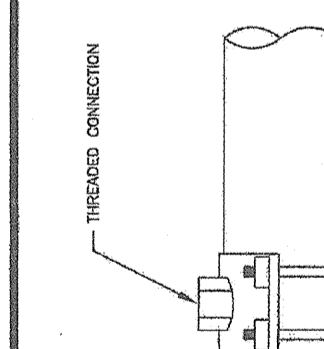
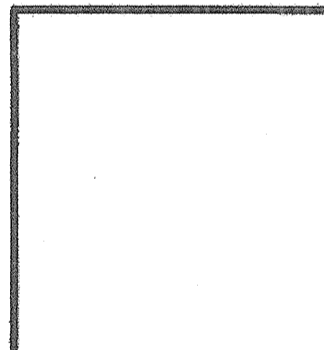
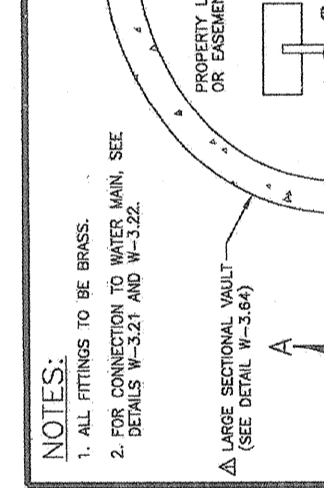
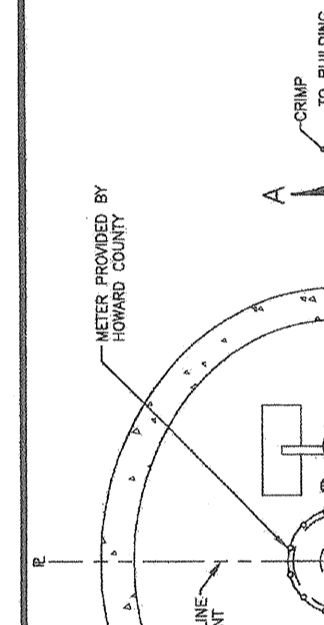
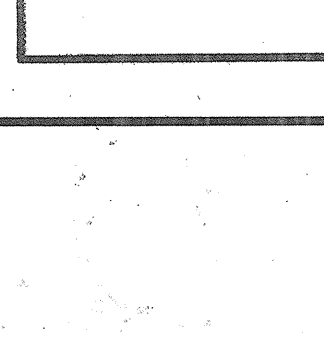
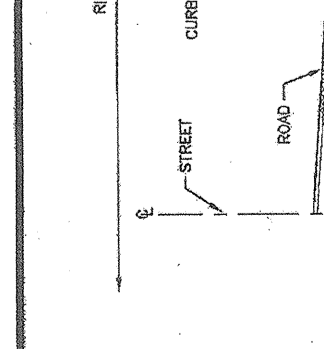
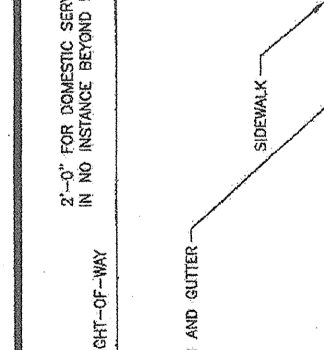
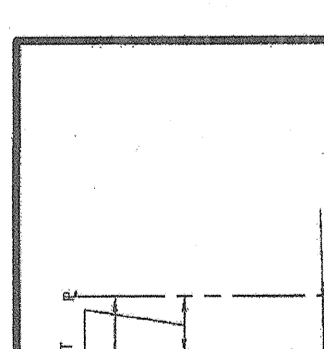
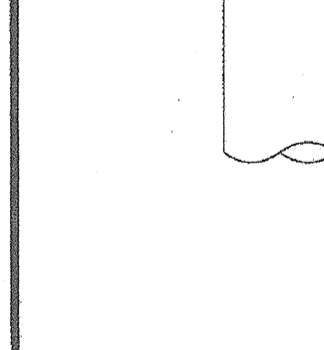
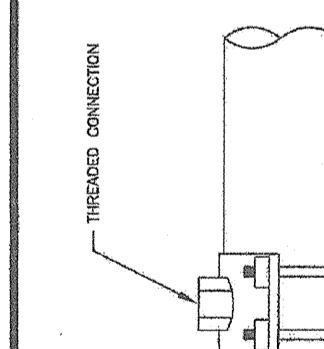
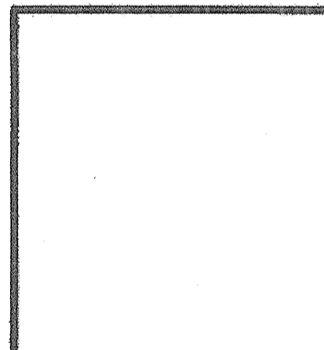
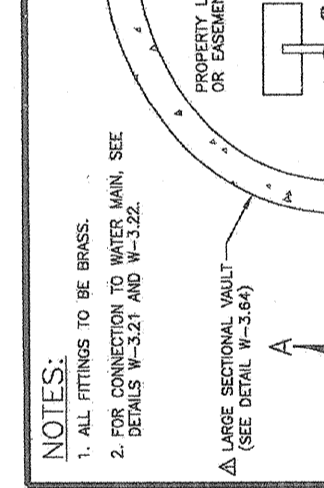
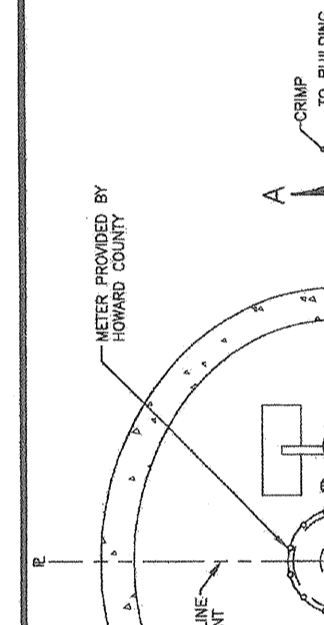
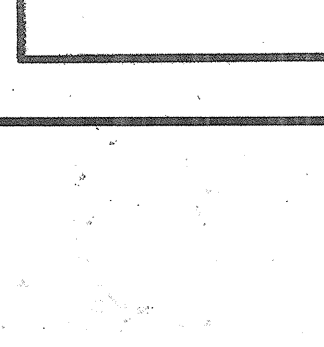
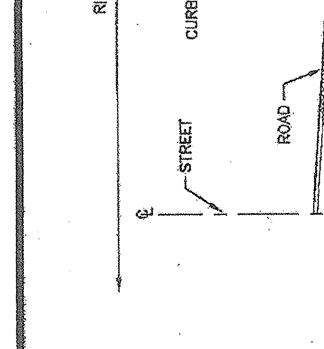
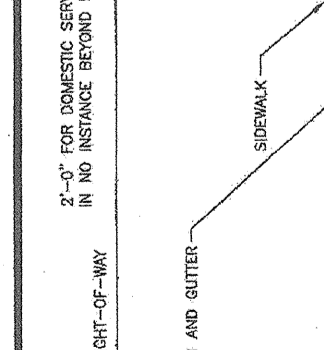
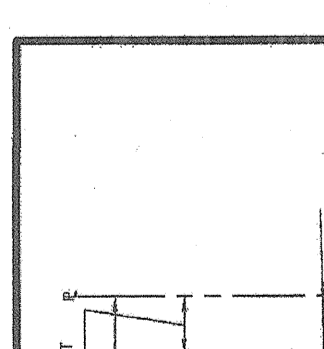
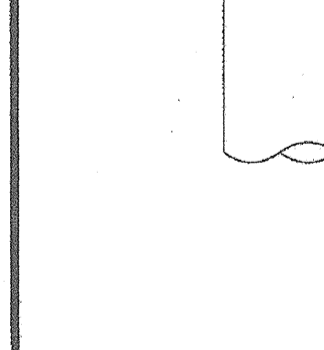
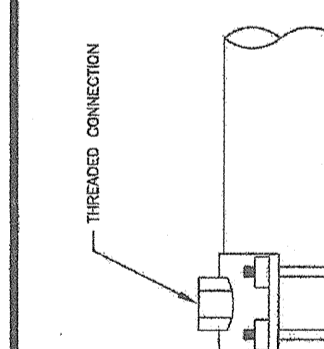
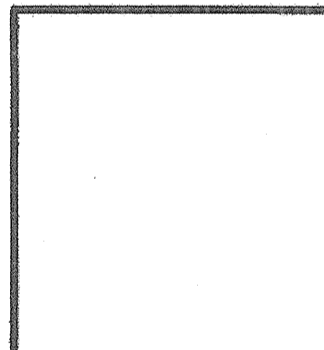
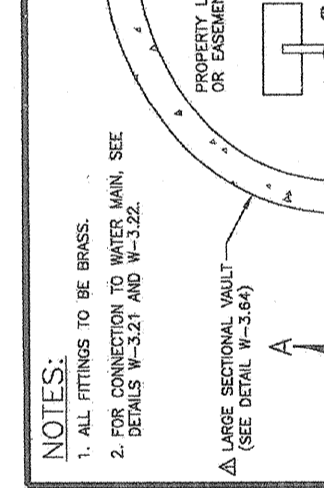
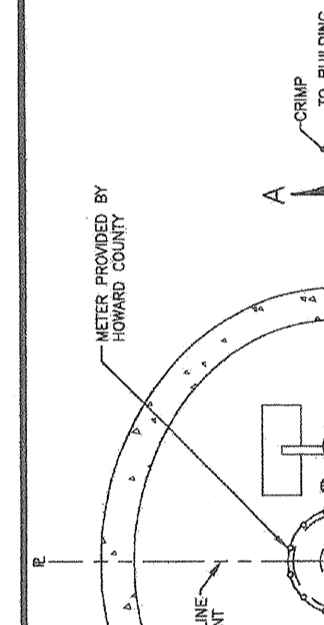
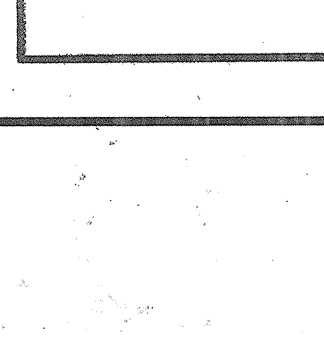
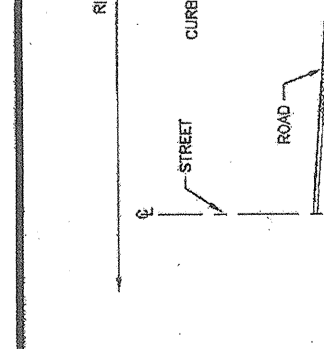
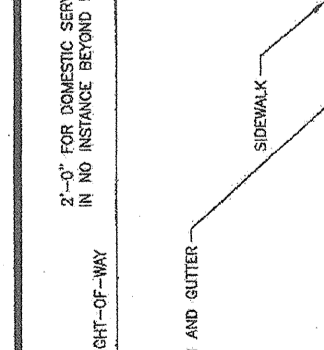
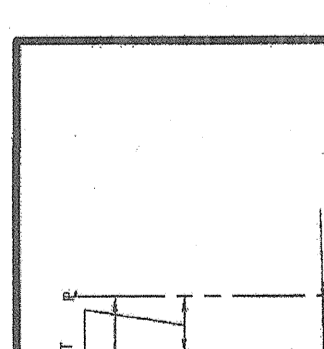
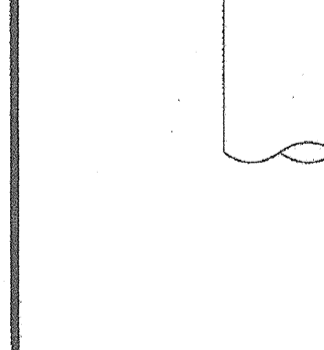
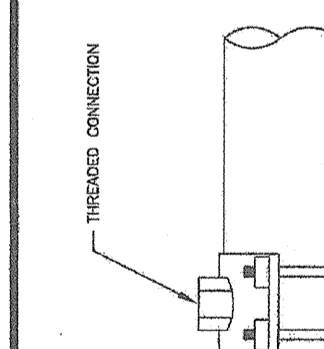
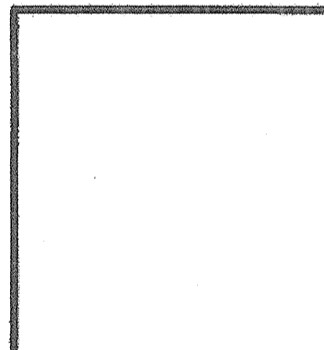
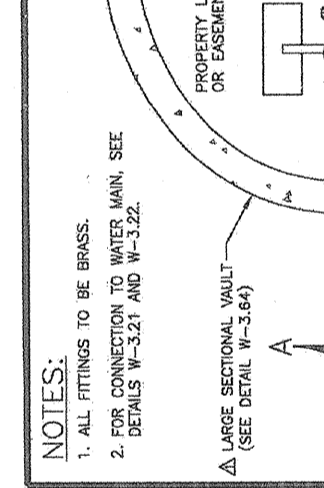
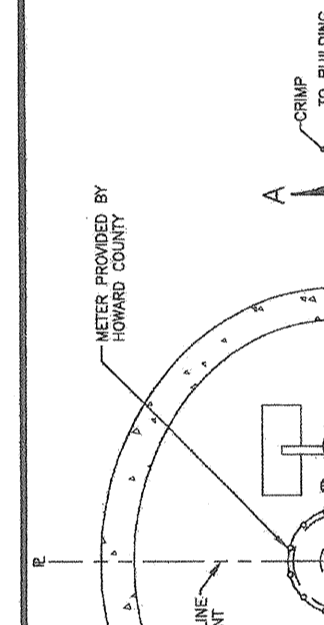
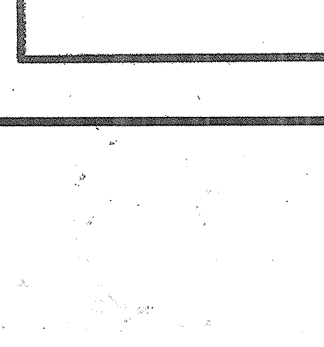
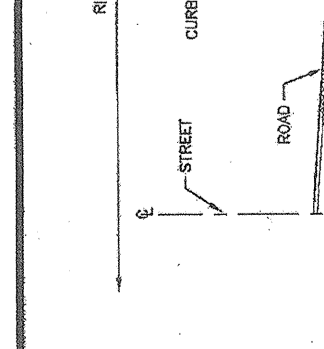
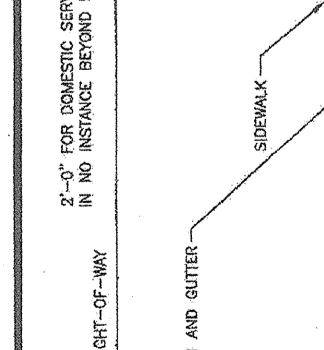
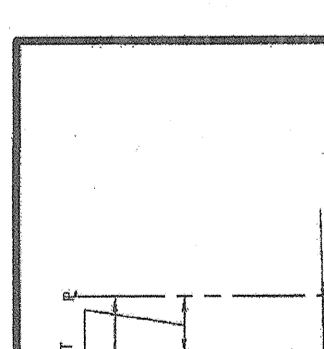
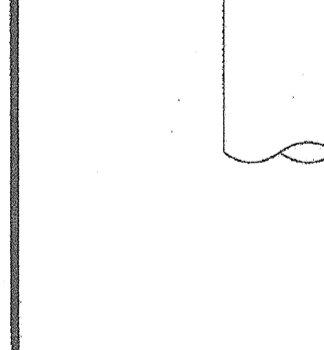
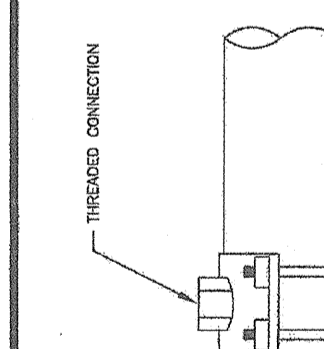
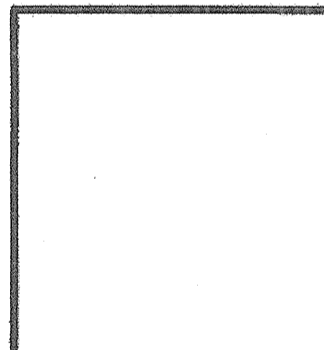
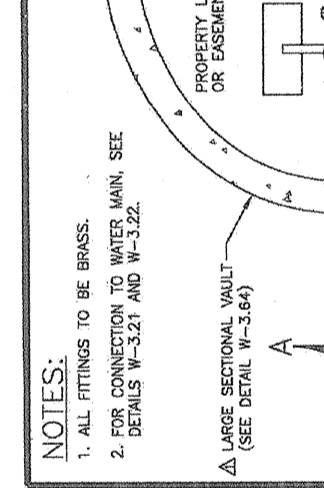
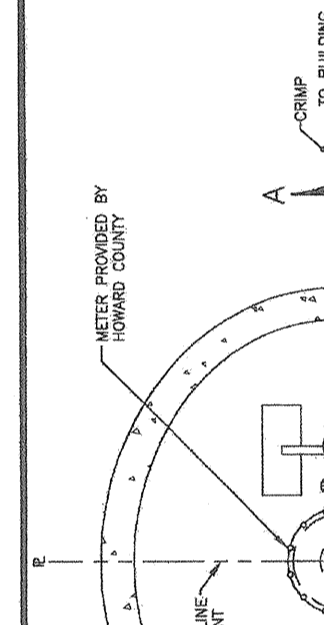
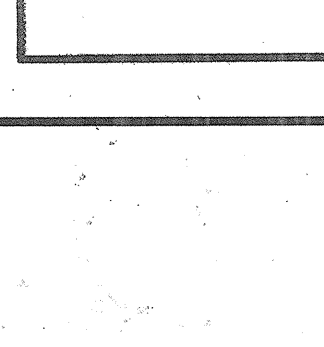
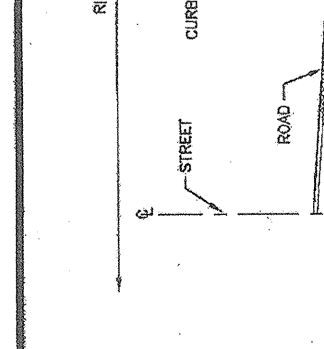
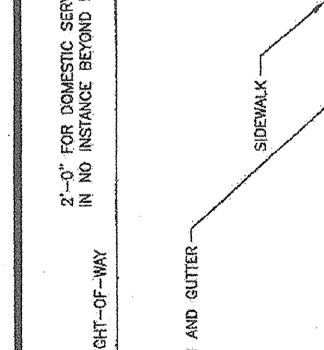
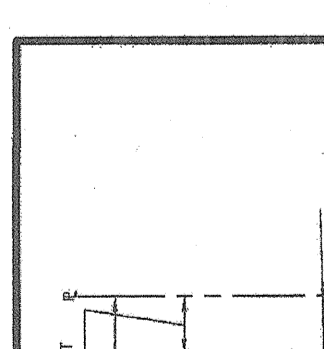
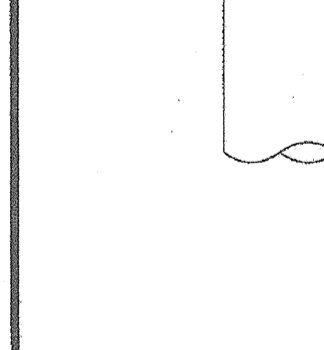
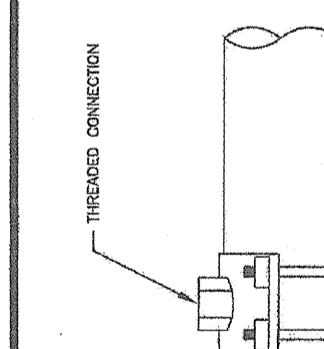
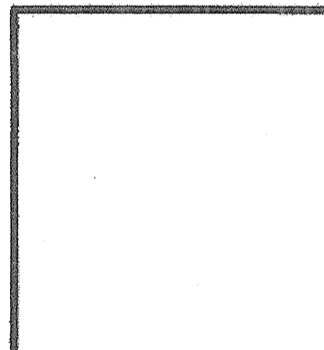
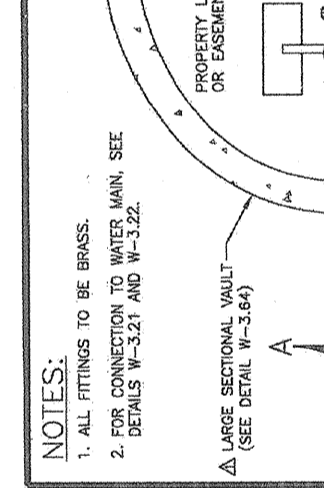
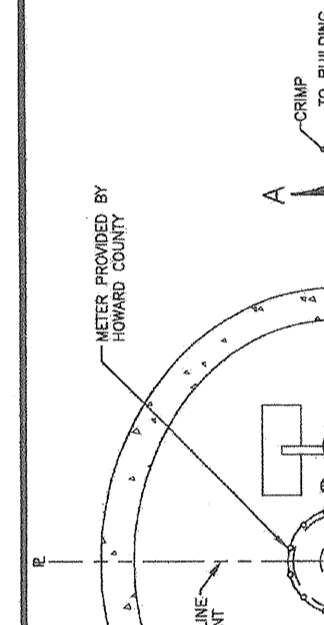
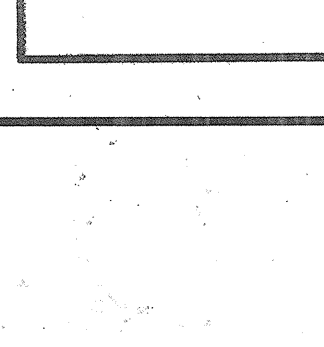
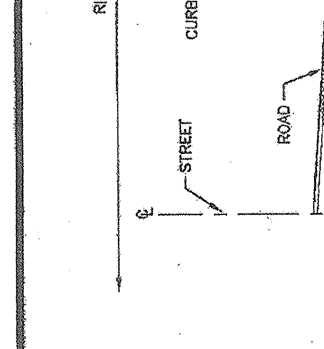
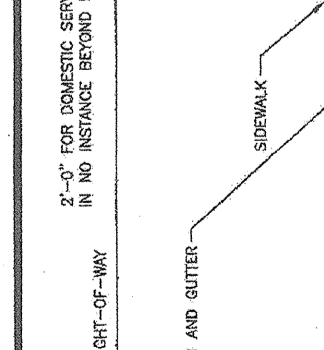
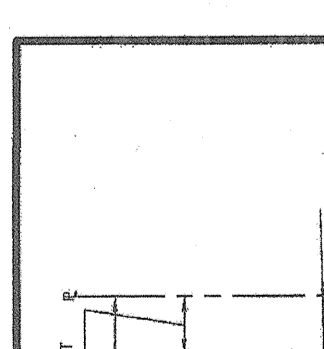
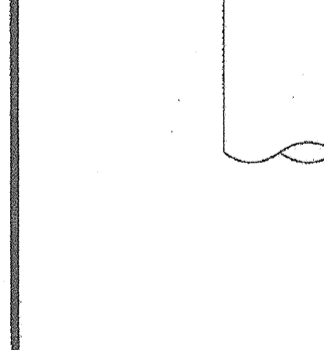
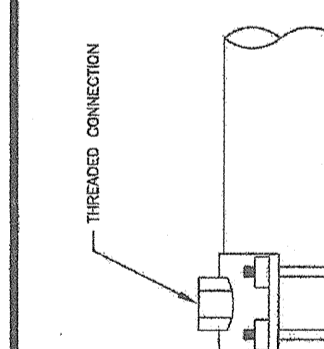
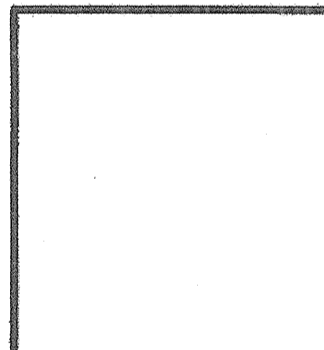
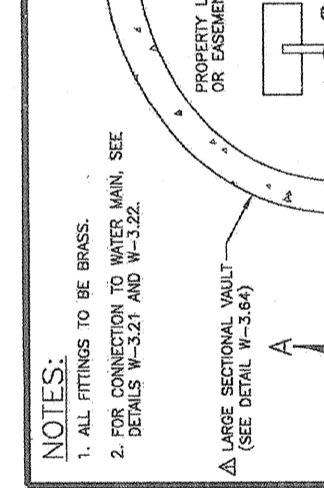
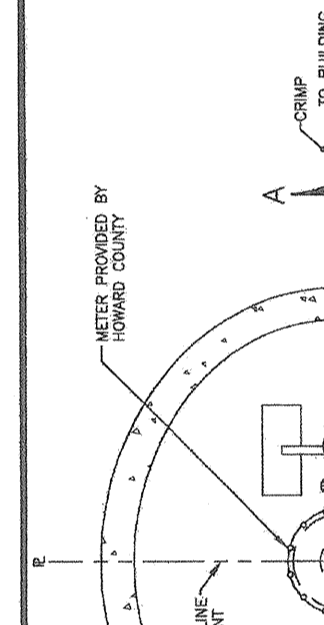
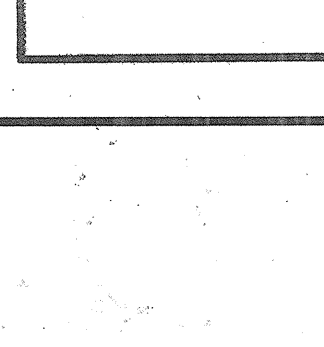
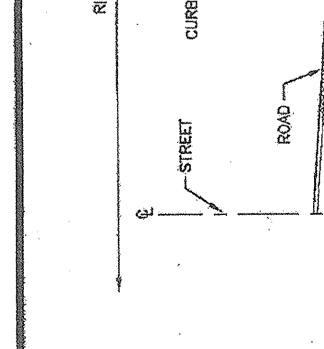
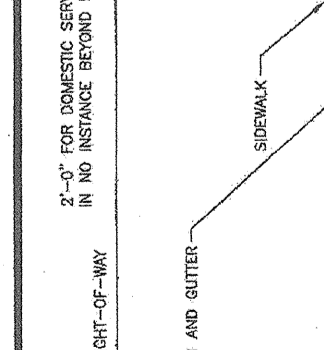
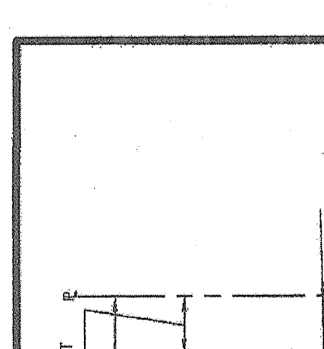
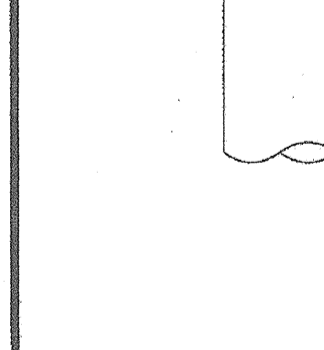
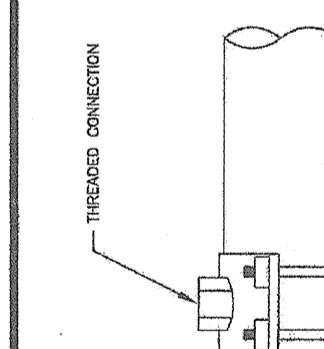
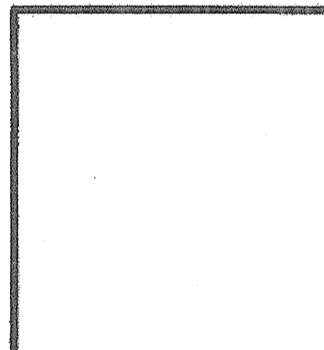
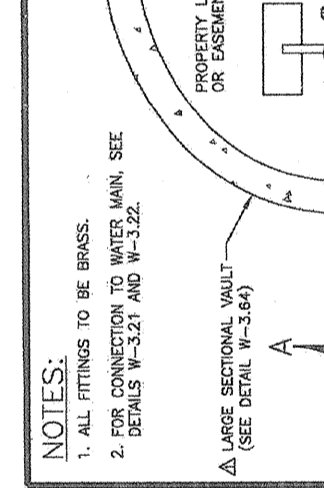
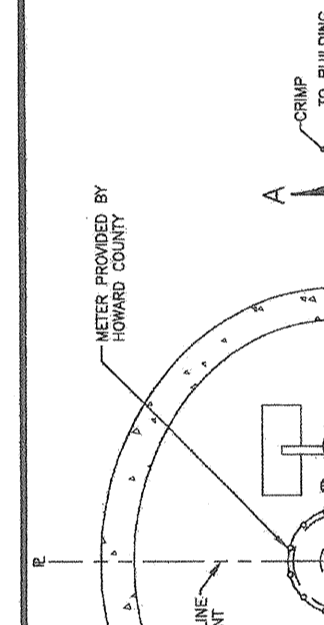
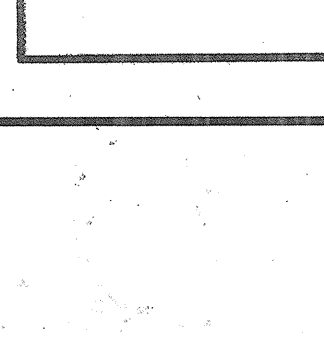
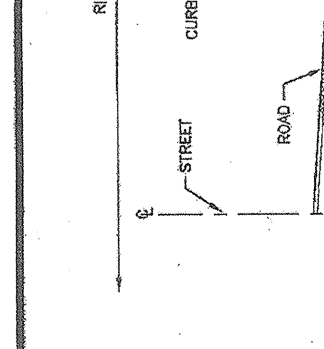
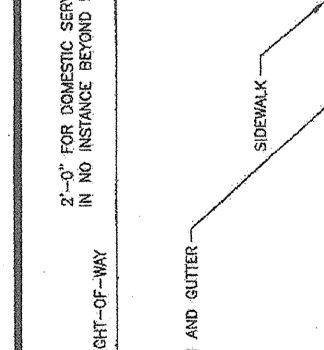
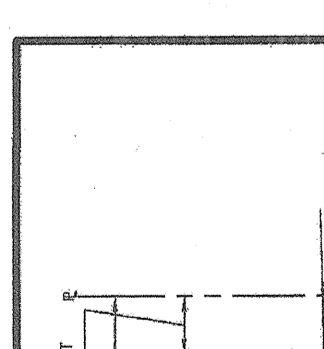
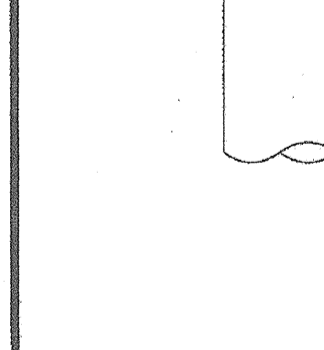
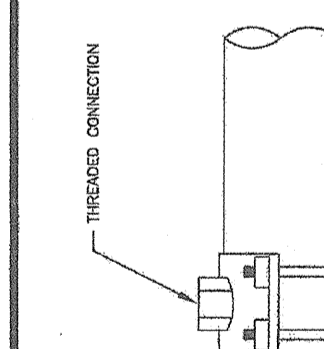
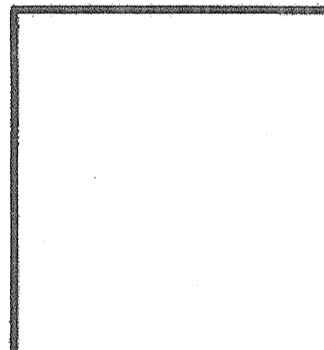
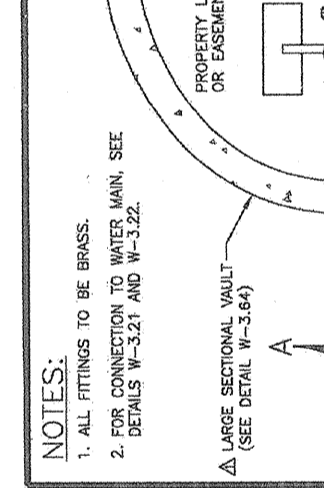
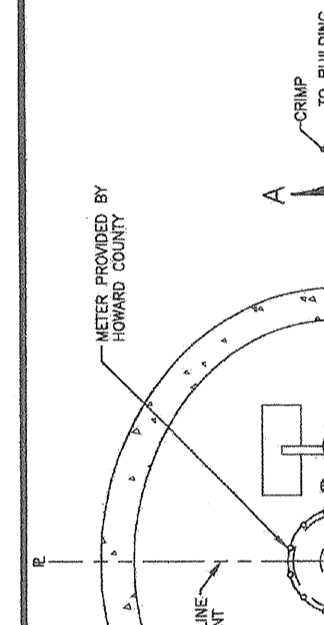
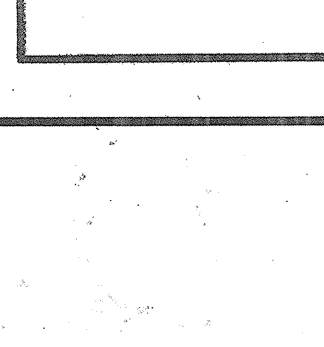
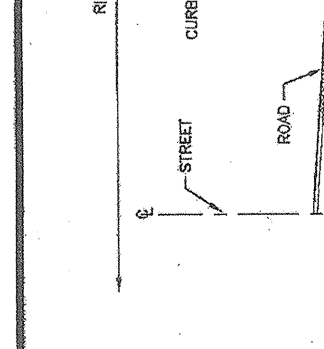
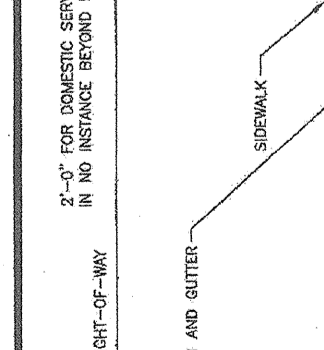
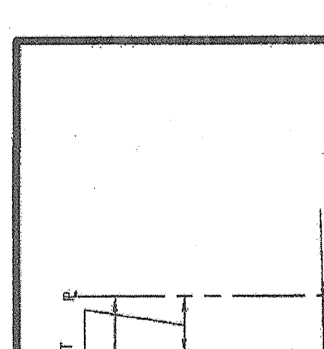
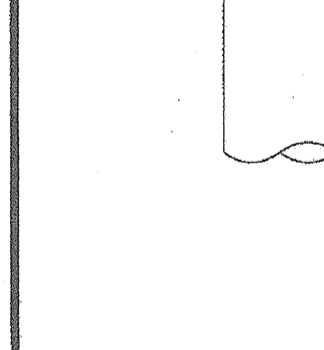
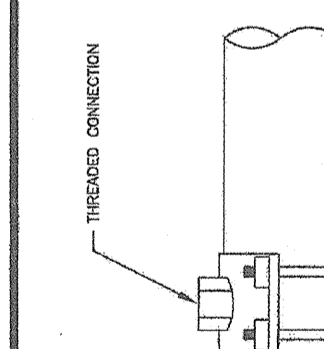
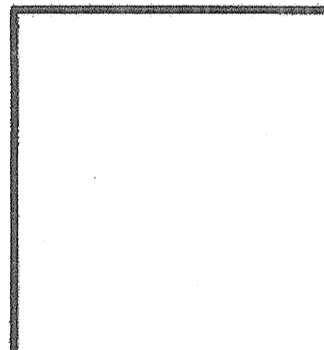
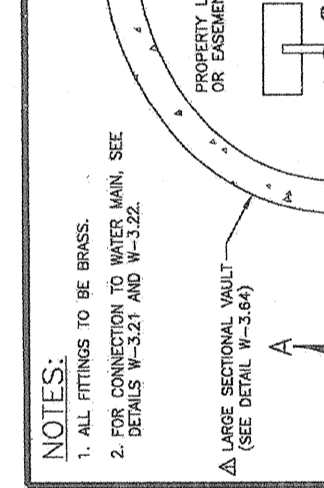
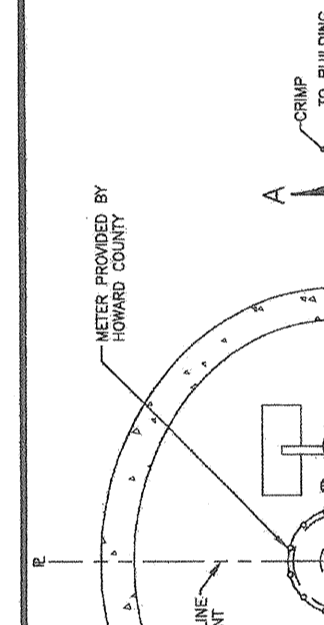
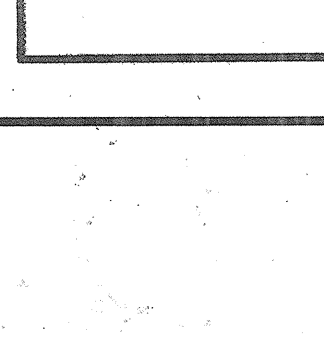
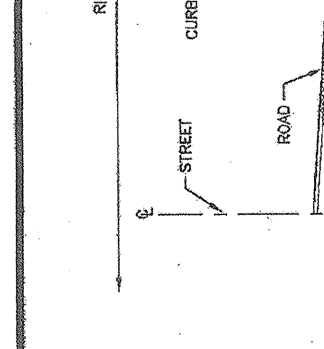
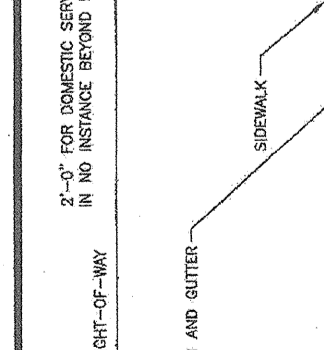
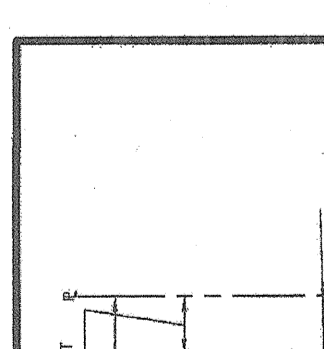
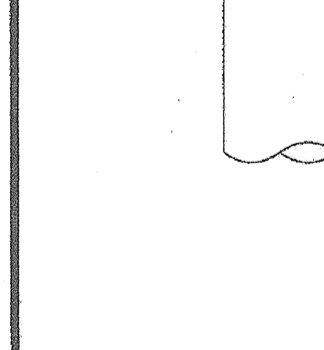
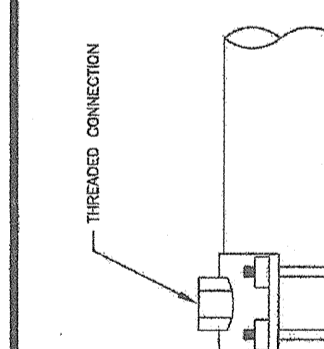
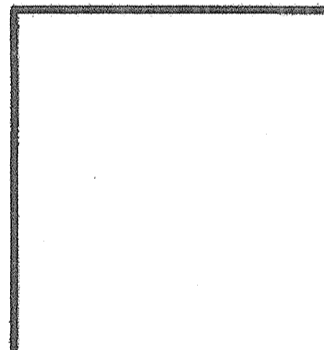
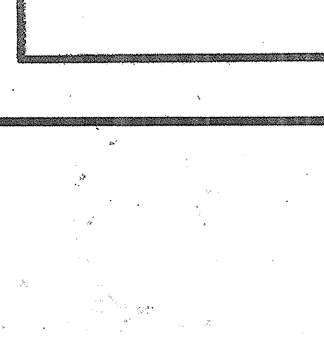
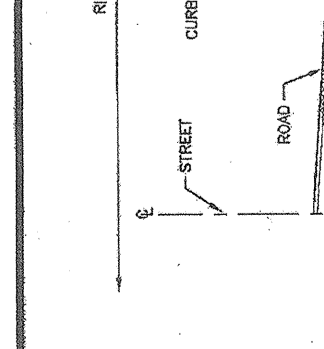
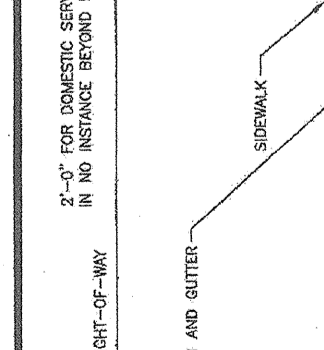
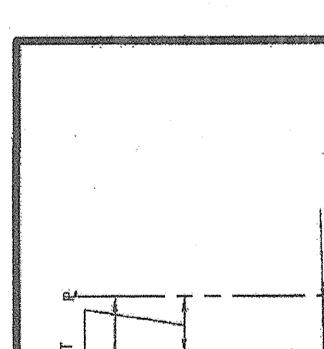
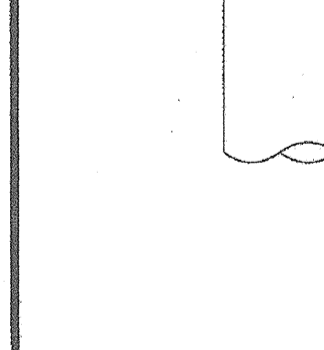
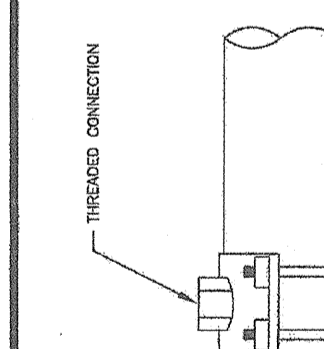
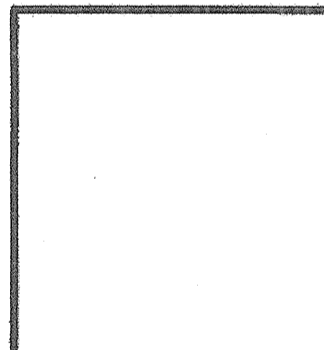
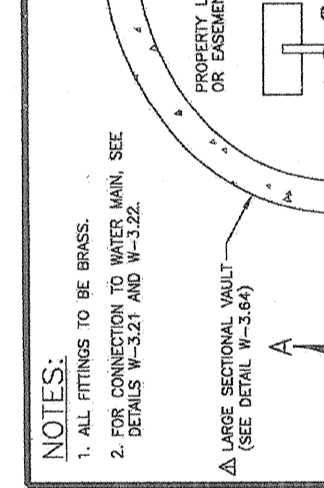
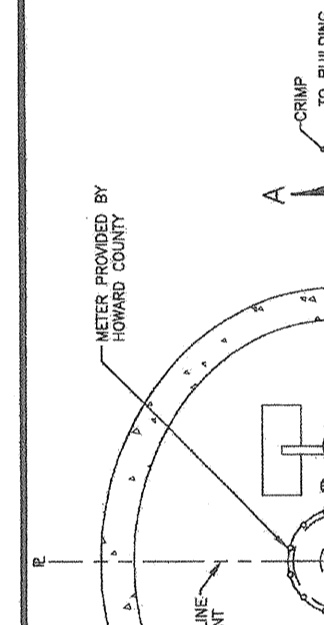
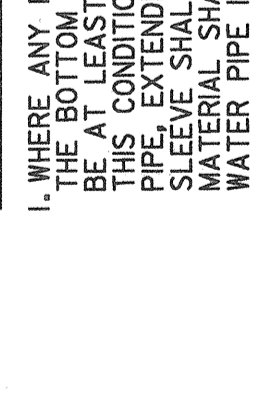
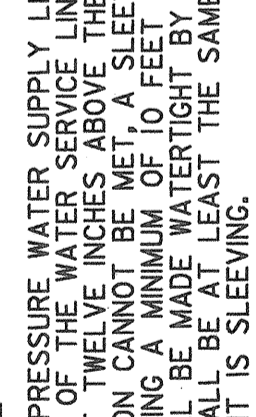
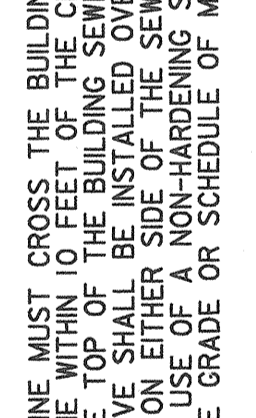
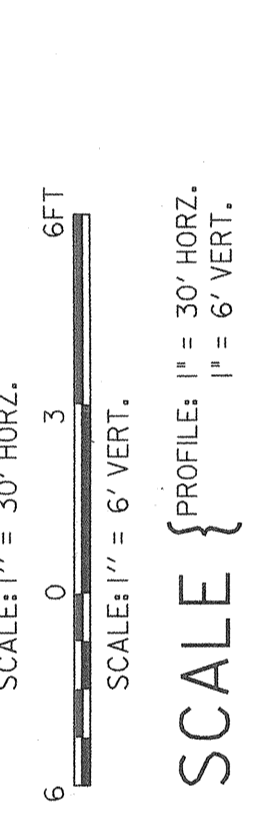
SEE HDPE PIPE RESTRAINING DETAIL BELOW

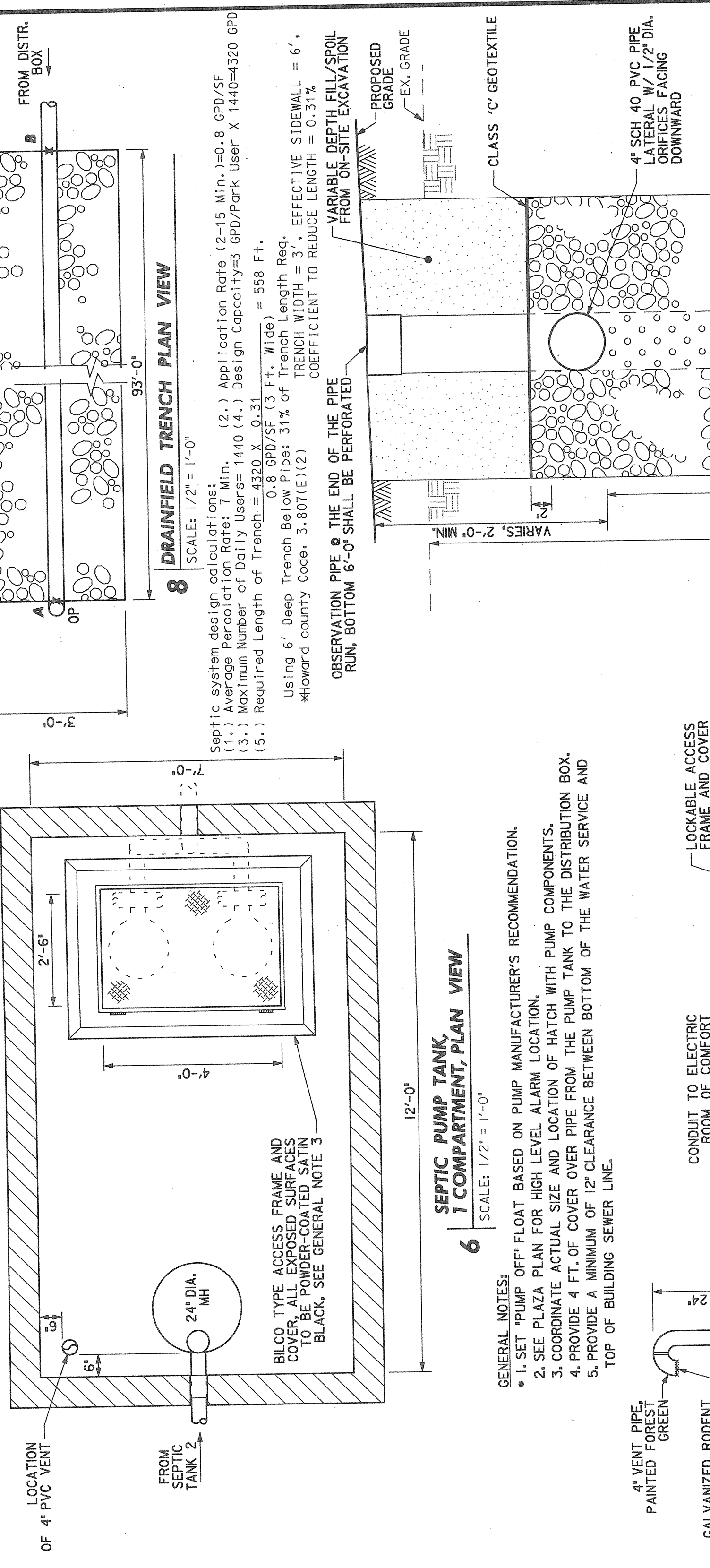
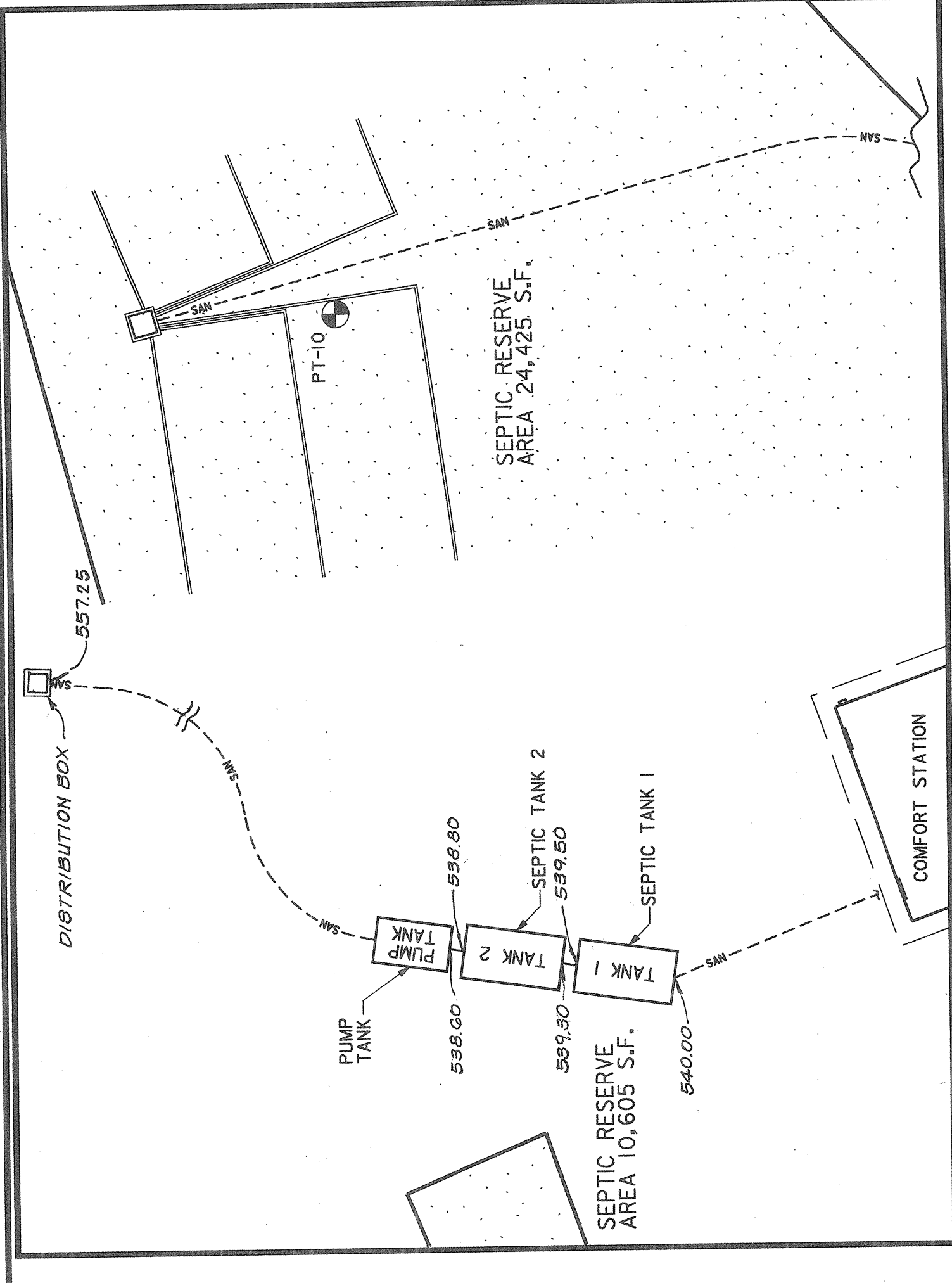
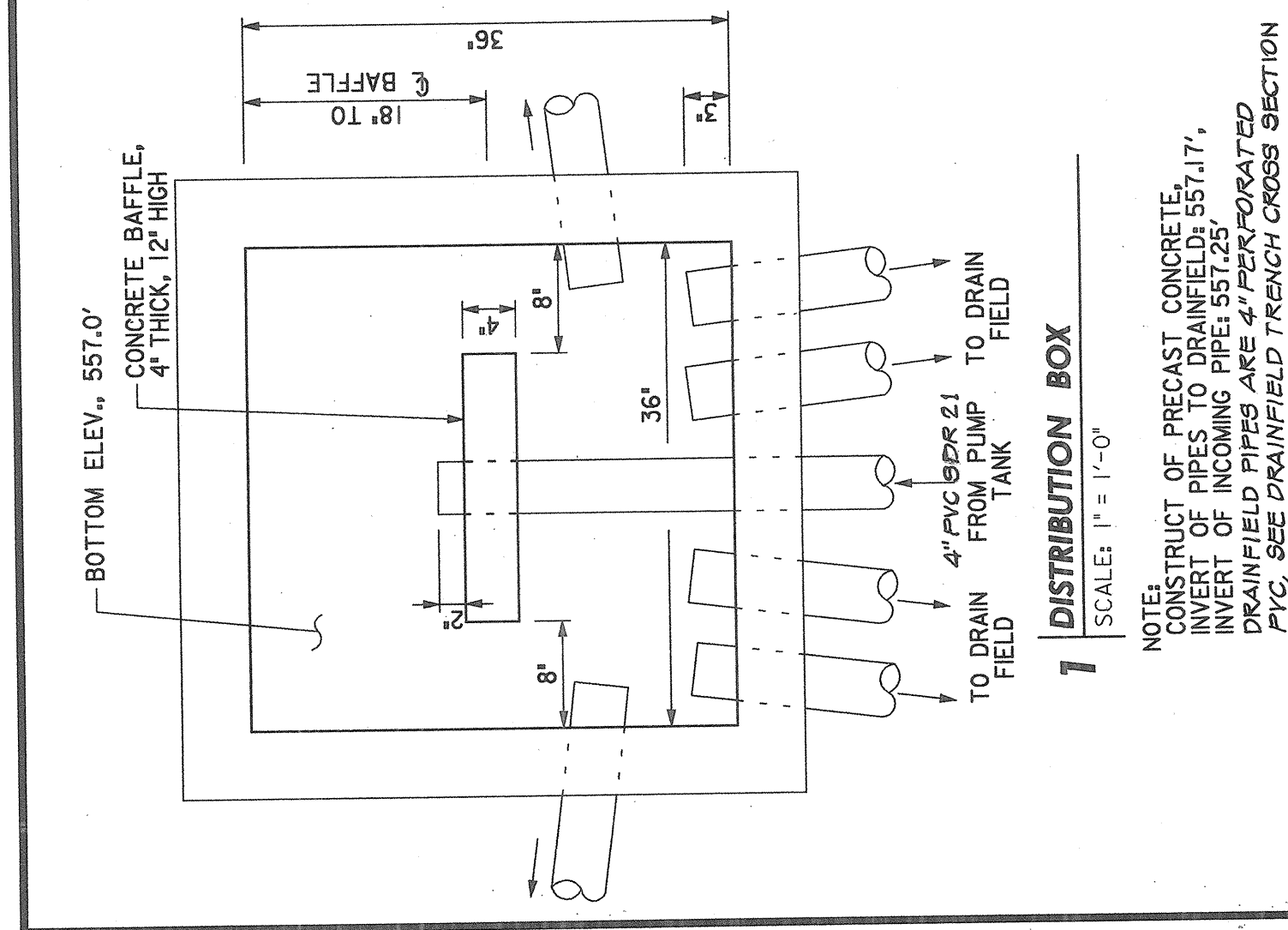
SEE MECHANICAL PLAN FOR CONTINUATION INV. = 536.8

SEE HDPE PIPE RESTRAINING DETAIL BELOW

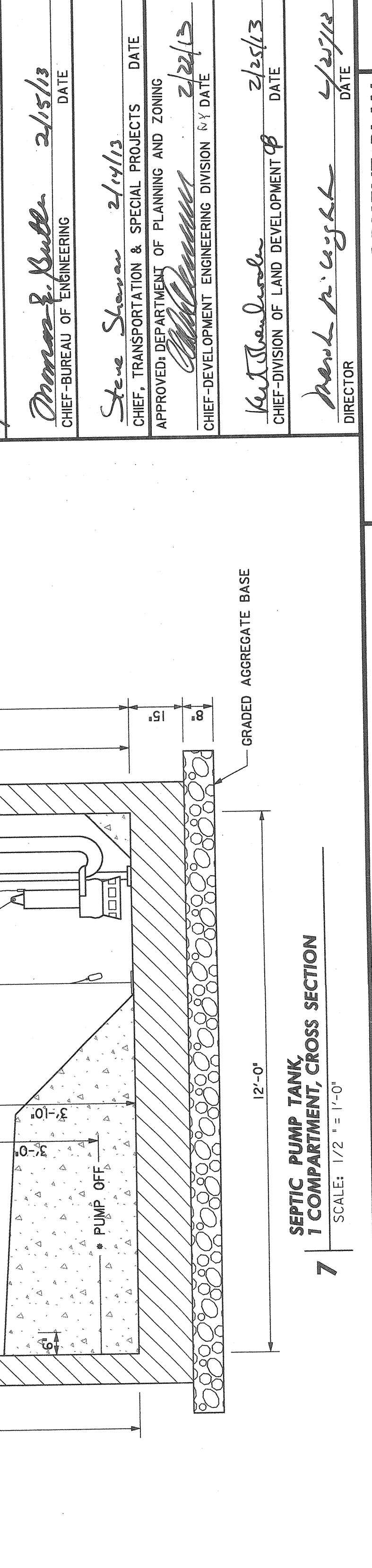
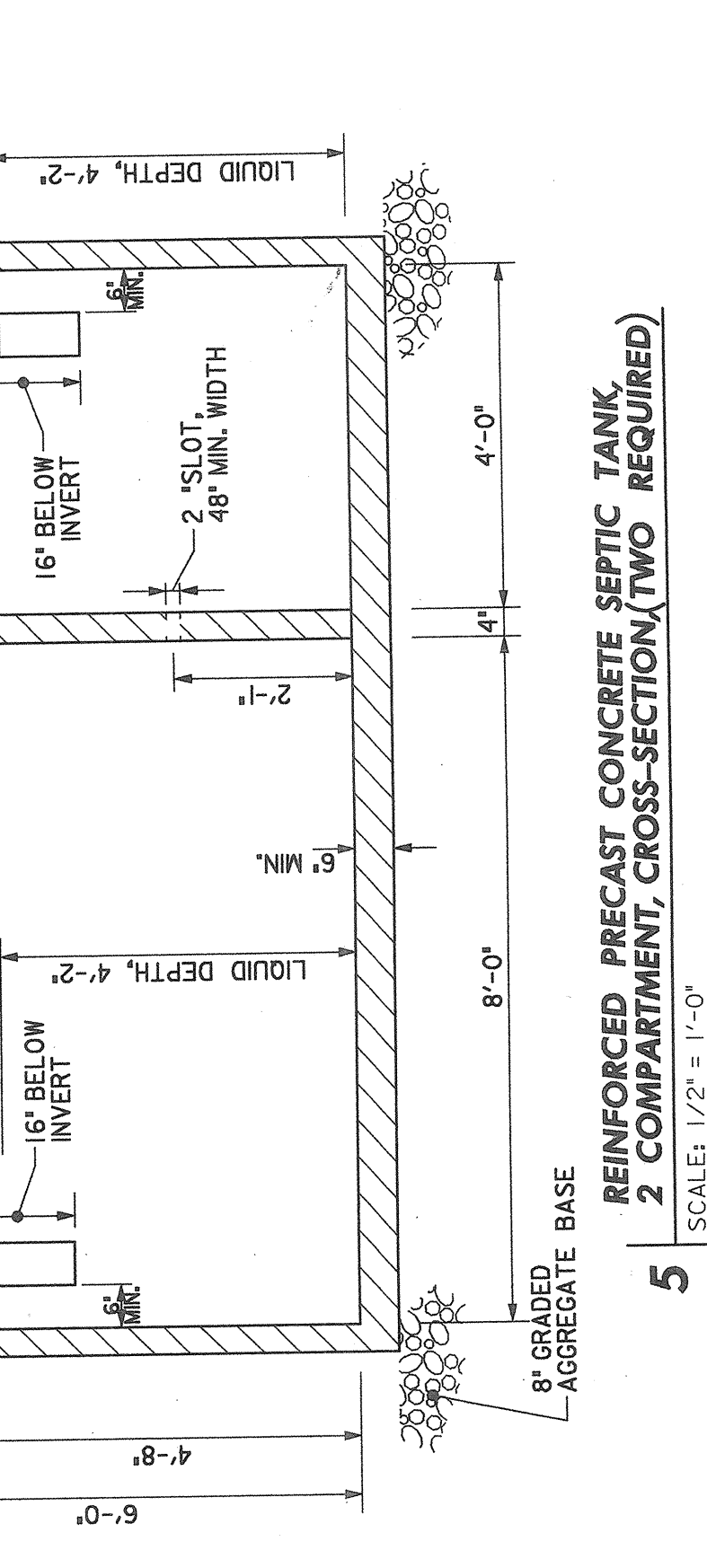
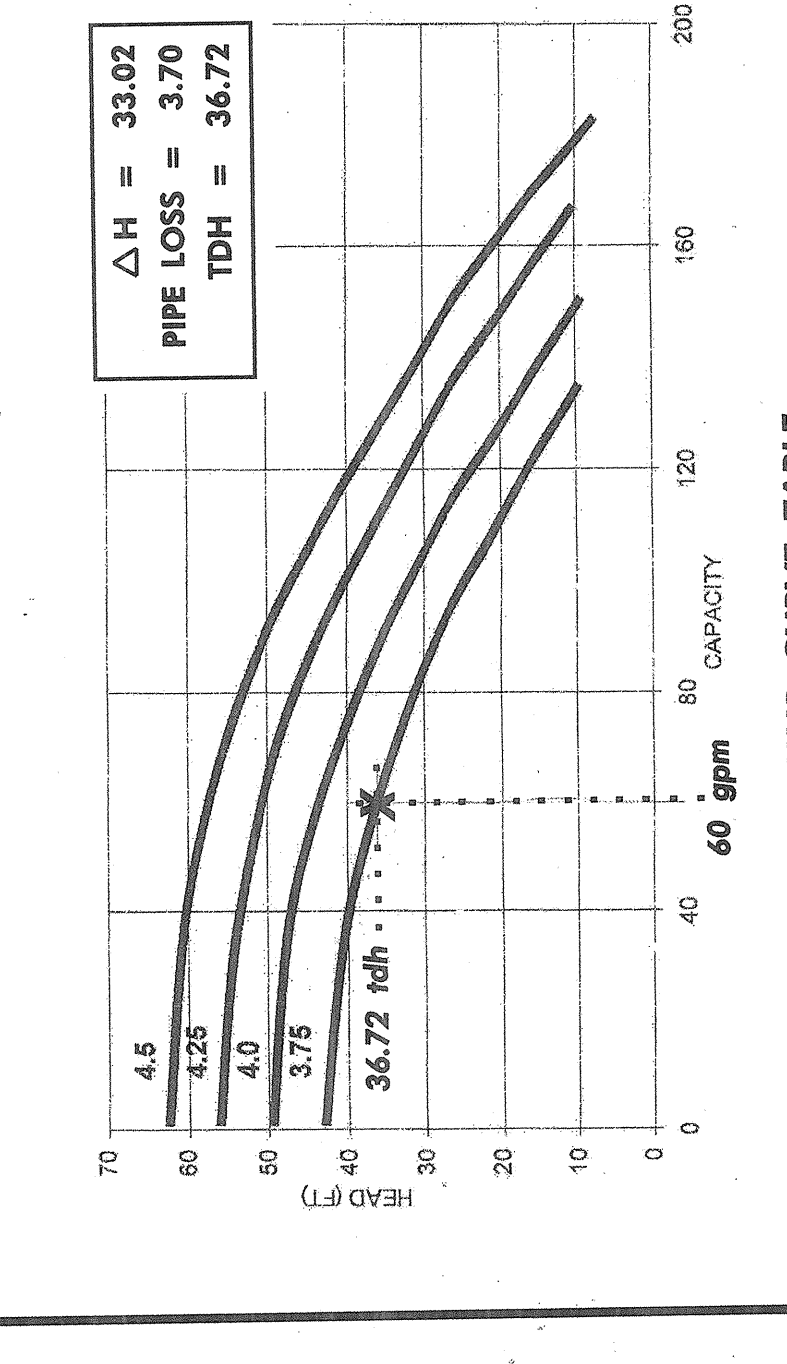
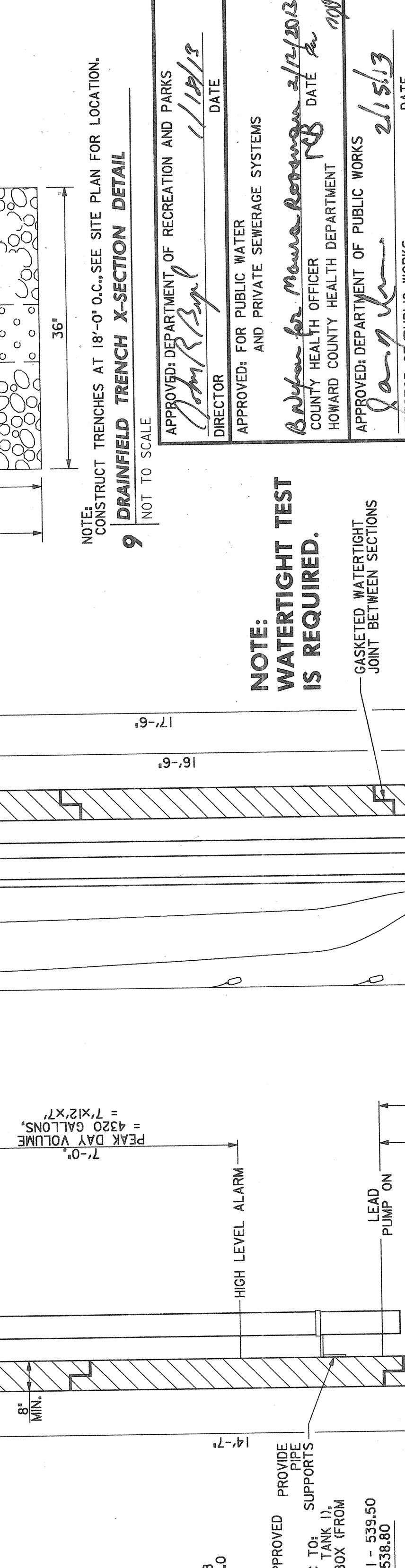
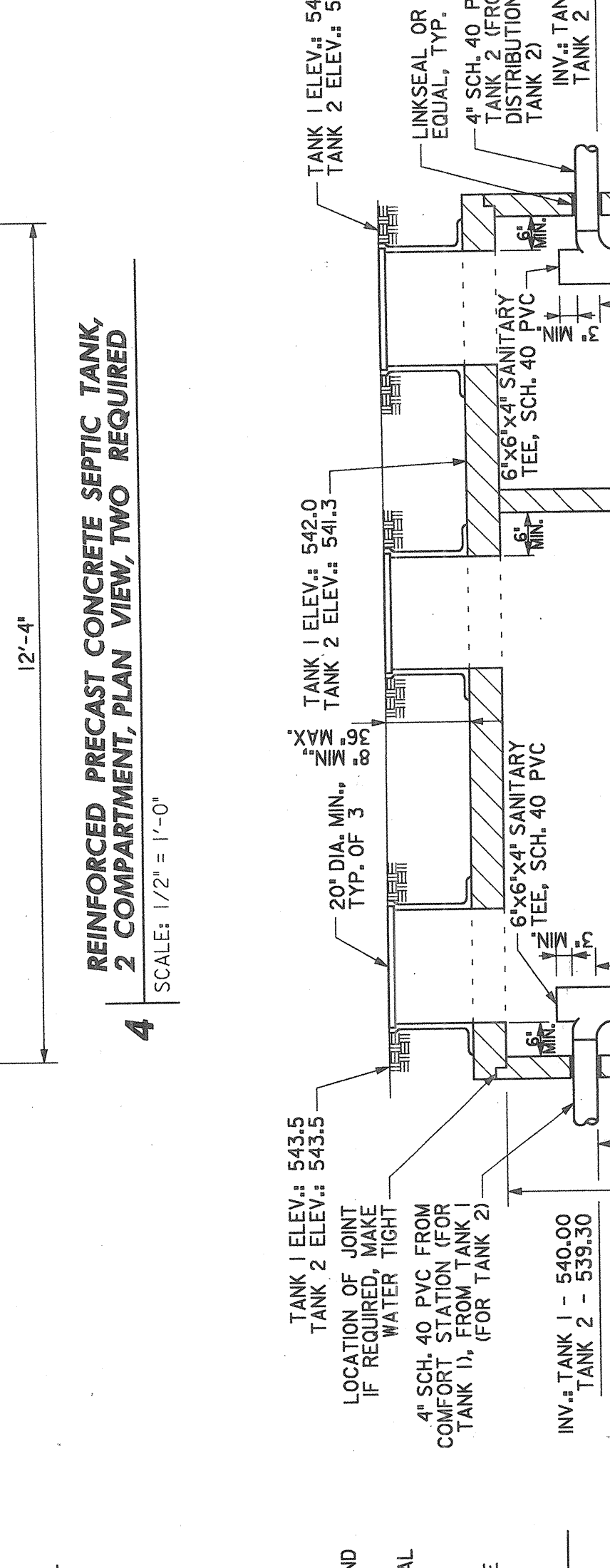
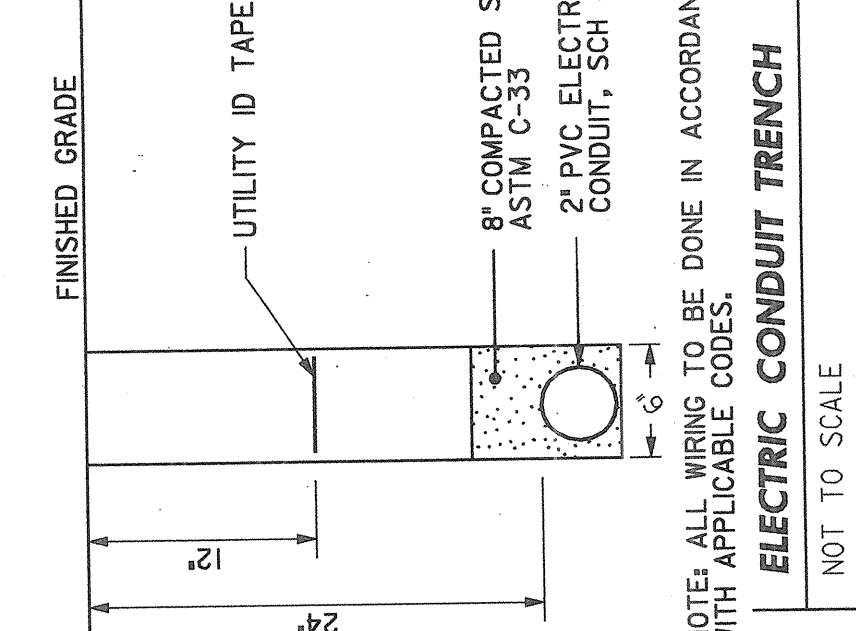
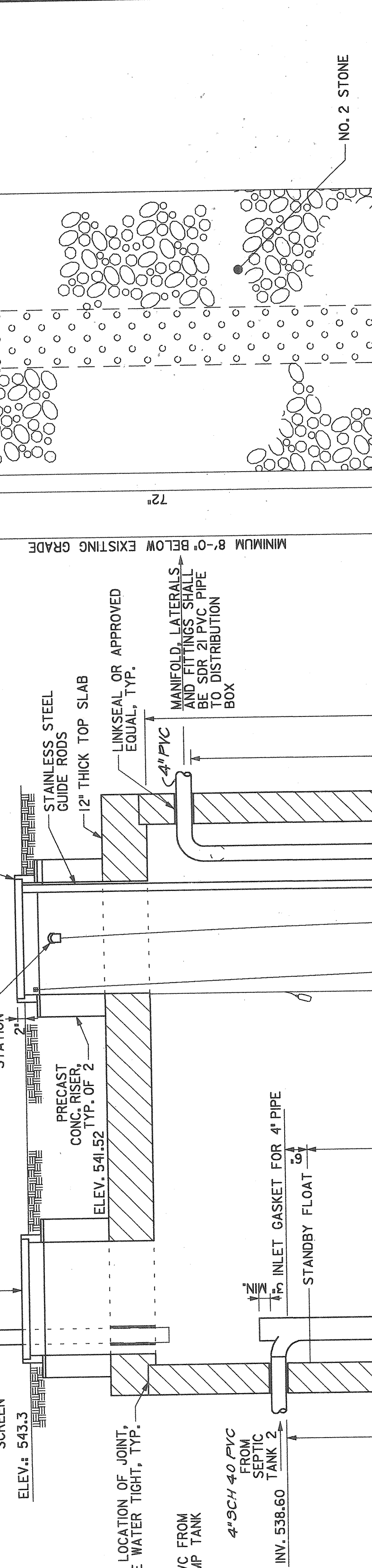
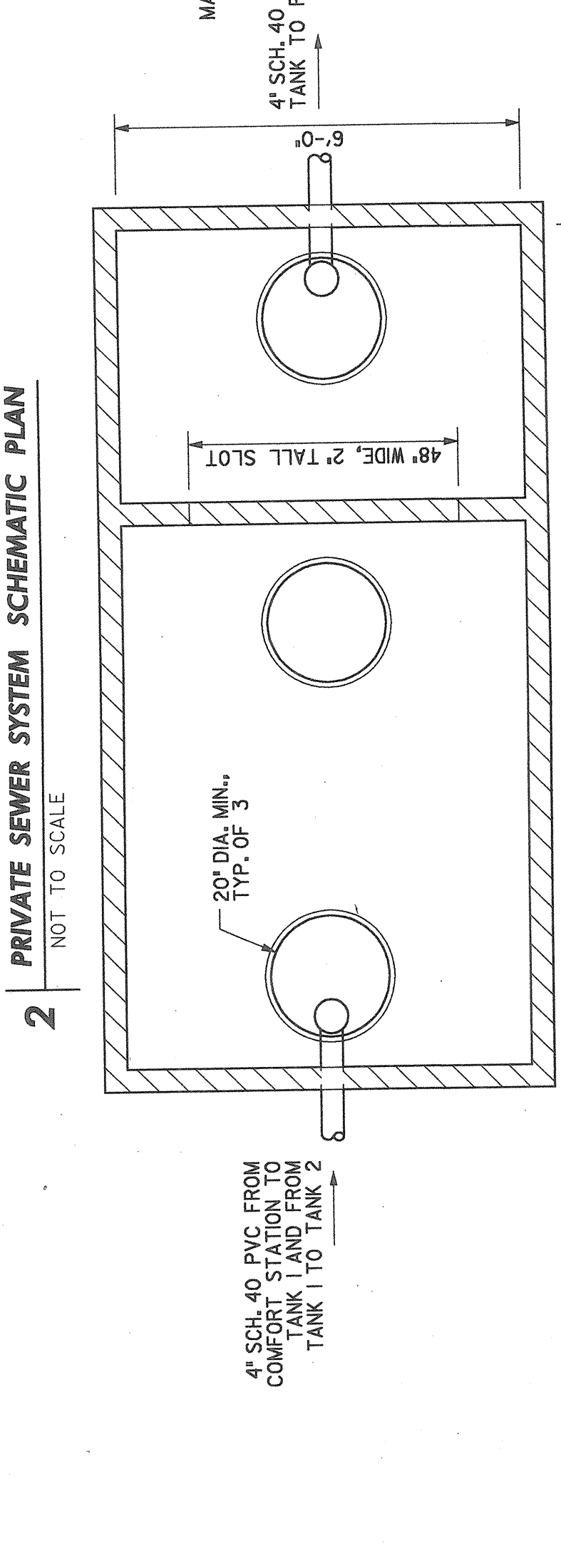
SEE HDPE PIPE RESTRAINING DETAIL BELOW

SEE HDPE PIPE RESTRAINING DETAIL BELOW





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T1	N 602830.48 E 1335809.03	N 602842.86 E 1335901.22	
T2	N 602812.14 E 1335812.19	N 602825.13 E 1335904.45	
T3	N 602794.99 E 1335815.24	N 602807.37 E 1335907.42	
T4	N 602878.46 E 1335991.25	N 602843.83 E 1335904.92	
T5	N 602861.47 E 1335991.24	N 602826.81 E 1335904.84	
T6	N 602844.52 E 1336003.32	N 602809.89 E 1335917.01	



OWNER: HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS
7120 OAKLAND MILLS ROAD
COLUMBIA, MD 21045
ATTN: MR. MARSHALL DAVIDSON
VOICE 410-313-5806
FAX 410-313-4646

DEVELOPER: GREENMAN-PETERSEN, INC.
ENGINEERS, ARCHITECTS, PLANNERS, INTERIORS, ENVIRONMENTAL SCIENTISTS & SURVEYORS
1000 WASHINGTON BLVD., SUITE 200
BALTIMORE, MD 21201
TEL: 410-800-2000
FAX: 410-800-2000
www.gpiinc.com

DESIGNER: R.H. W.K.T. M.S.Z.
DATE: Nov., 2012
BY: NO
REVISION: DATE

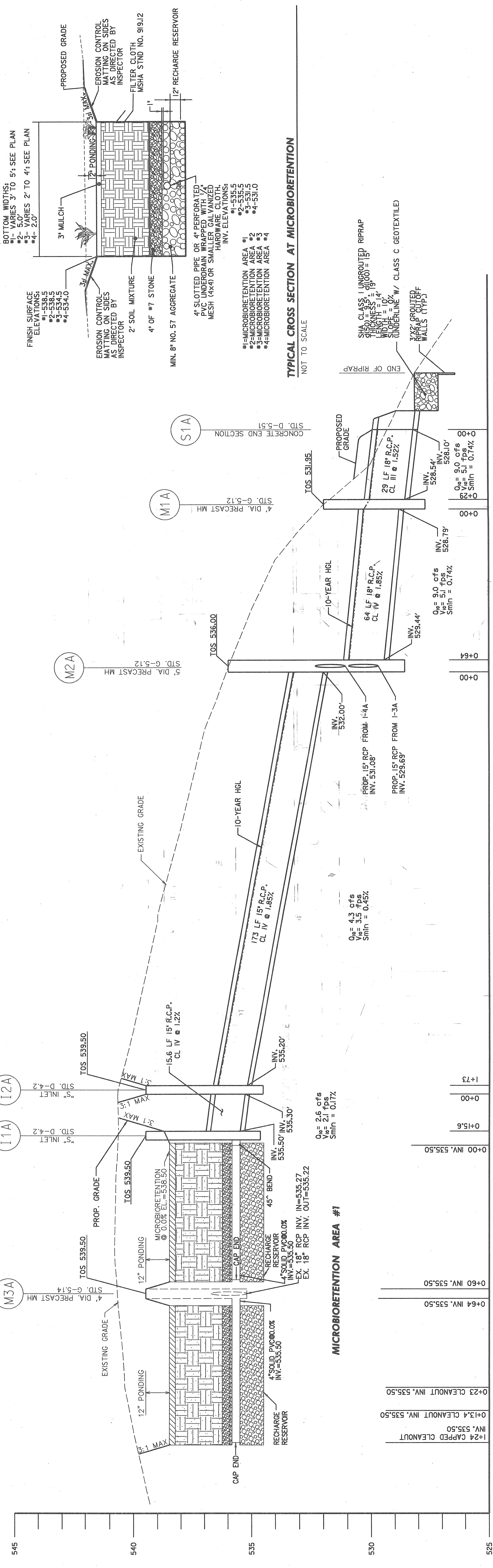
REVISIONS:

NO.	DATE	DESCRIPTION
1	11/14/12	APPROVED FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
2	2/15/13	APPROVED FOR PUBLIC WORKS
3	2/15/13	APPROVED FOR PUBLIC WORKS
4	2/15/13	APPROVED FOR PUBLIC WORKS
5	2/15/13	APPROVED FOR PUBLIC WORKS
6	2/15/13	APPROVED FOR PUBLIC WORKS
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8	2/15/13	APPROVED FOR PUBLIC WORKS
9	2/15/13	APPROVED FOR PUBLIC WORKS

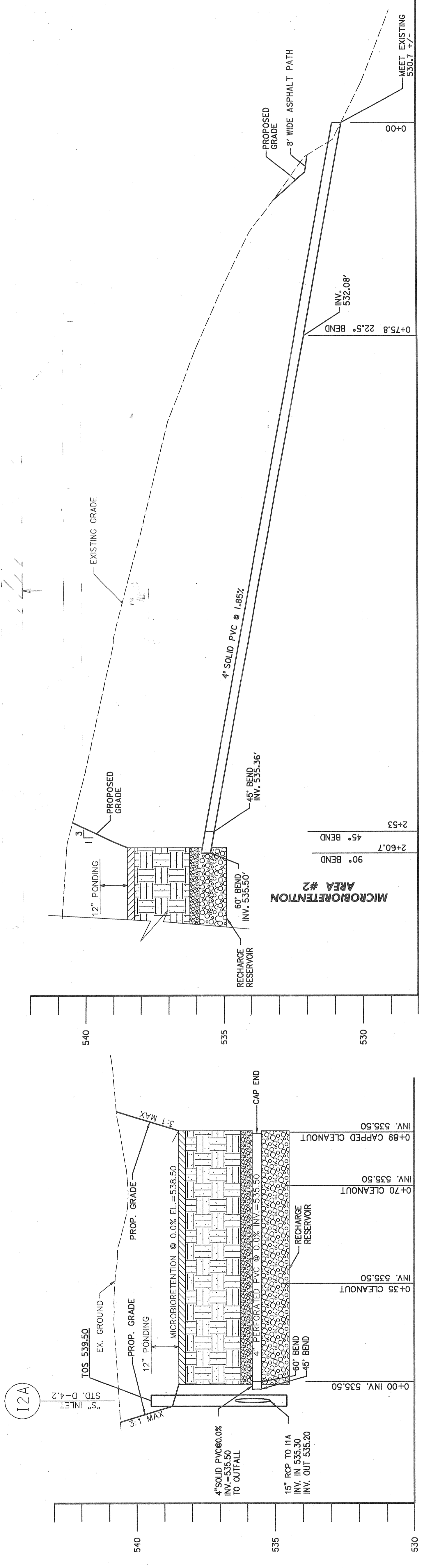
APPROVED: DIRECTOR OF RECREATION AND PARKS
APPROVED: COUNTY HEALTH OFFICER
APPROVED: DIRECTOR OF PUBLIC WORKS

REVISIONS:

NO.	DATE	DESCRIPTION
1	11/14/12	APPROVED FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
2	2/15/13	APPROVED FOR PUBLIC WORKS
3	2/15/13	APPROVED FOR PUBLIC WORKS
4	2/15/13	APPROVED FOR PUBLIC WORKS
5	2/15/13	APPROVED FOR PUBLIC WORKS
6	2/15/13	APPROVED FOR PUBLIC WORKS
7	2/15/13	APPROVED FOR PUBLIC WORKS
8	2/15/13	APPROVED FOR PUBLIC WORKS
9	2/15/13	APPROVED FOR PUBLIC WORKS



CROSSSECTION THROUGH MICROBIOTENTATION AREA #1 AND PROFILE I-1A TO S-1A
SCALE: H: 1" = 20' V: 1" = 2'



CROSSSECTION THROUGH MICROBIOTENTATION AREA #2 TO OUTFALL
SCALE: H: 1" = 20' V: 1" = 2'

BOTTOM WIDTHS:
#1- VARIES 3' TO 5'; SEE PLAN
#2- VARIES 2' TO 4'; SEE PLAN
#3- VARIES 2' TO 4'; SEE PLAN
#4- 2.0'

NOT TO SCALE

MEET EXISTING 530.7 +/-

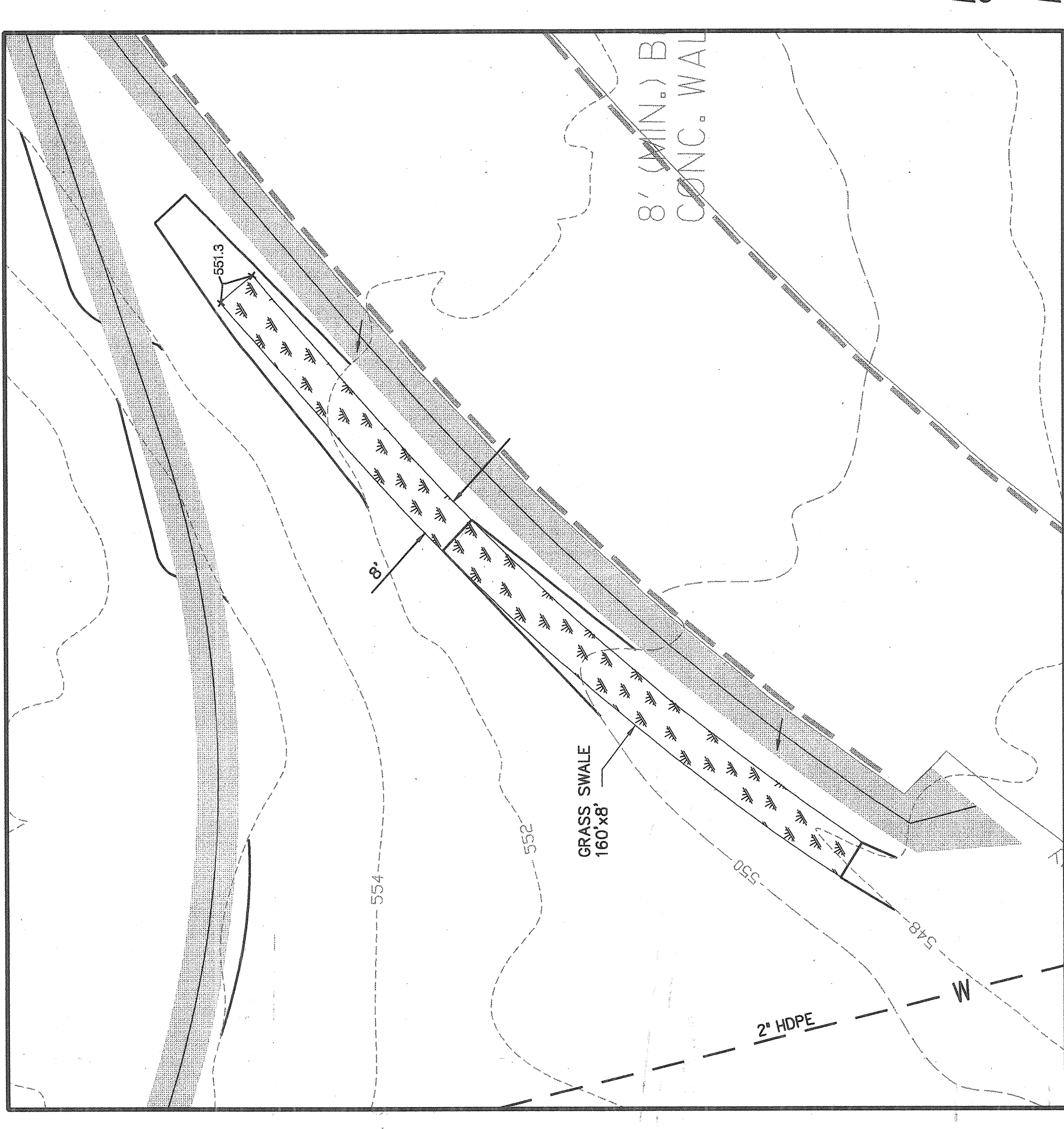
APPROVED: DEPARTMENT OF RECREATION AND PARKS <i>Robert Spald</i> DIRECTOR	DATE 11/11/13
APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS <i>Kevin P. Moore</i> DIRECTOR	DATE 2/22/2013
APPROVED: DEPARTMENT OF PUBLIC WORKS <i>Paul W. ...</i> DIRECTOR	DATE 2/15/13
APPROVED: BUREAU OF ENGINEERING <i>Thomas S. Butler</i> CHIEF	DATE 2/15/13
APPROVED: DEPARTMENT OF PLANNING AND ZONING <i>Steve Stover</i> CHIEF	DATE 2/15/13
APPROVED: DEVELOPMENT ENGINEERING DIVISION <i>Keith Standish</i> CHIEF	DATE 2/25/13
DIRECTOR	DATE 2/15/13

REVISED SITE DEVELOPMENT PLAN ALPHA RIDGE PARK ADDITIONS DESIGN	SCALE: AS SHOWN
3rd ELECTION DISTRICT, TAX MAP 10 GRID #20, 21, PARCELS 23 & 54	SHEET II OF 38

Stormwater Management and Storm Drain Profiles	DATE
DES: R.H.	NO
DRN: A.W.W.	BY
CHK: M.S.Z.	NO
DATE: May, 2012	REVISION

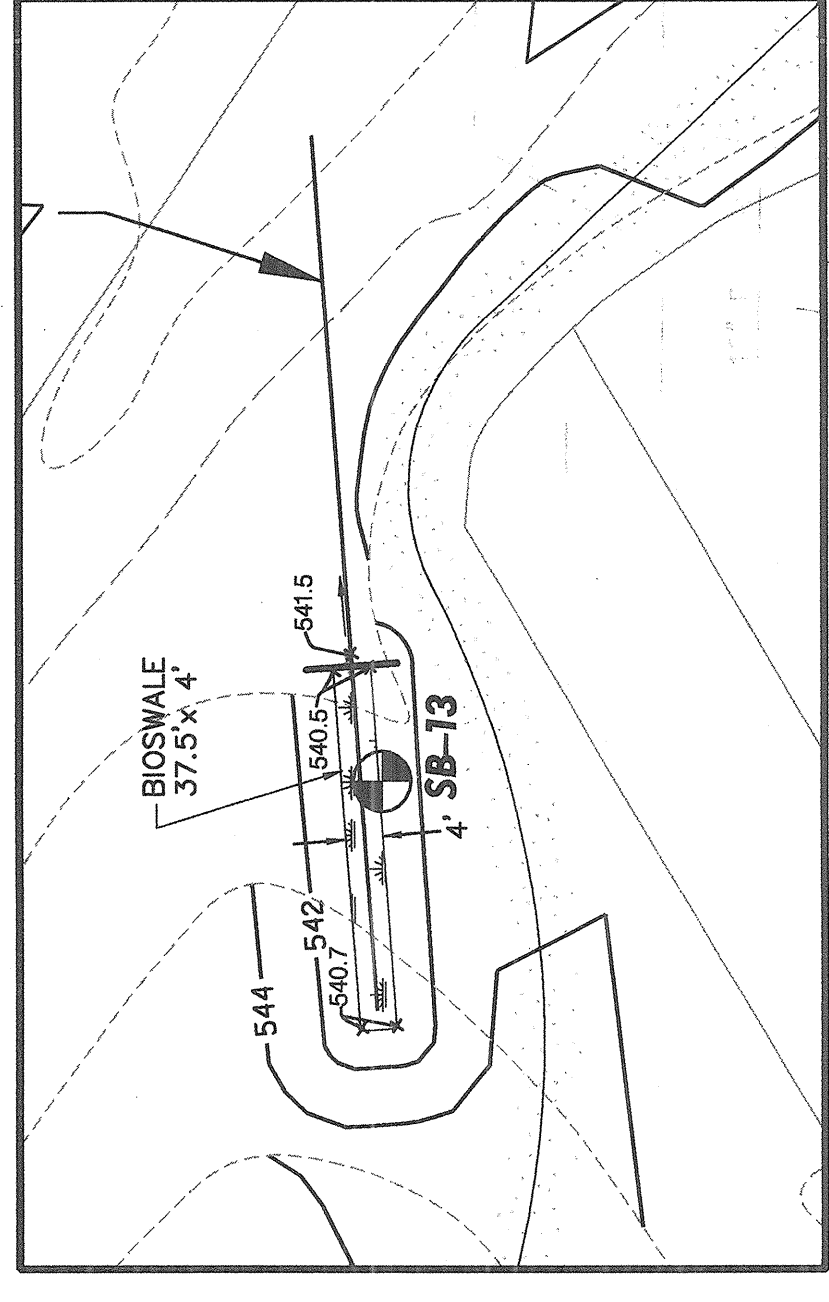
Professional Certification: I hereby certify that these plans were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the state of Maryland license No. 97022046.	DATE
GPI GREENMAN-PEDERSEN, INC. 10877 CULVER ROAD, ANNAPOLIS, MD 21408 TEL: 410-840-3000 FAX: 410-840-3005 WWW.GPI-INC.COM	DATE

OWNER: HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS 1200 WINDMILLS ROAD FREDERICK, MD 21704 ATTN: MR. MARSHALL DAVIDSON VOICE: 410-313-4689 FAX: 410-313-4686	DEVELOPER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 1000 WINDMILLS ROAD FREDERICK, MD 21704 ATTN: MR. MARSHALL DAVIDSON VOICE: 410-313-4689 FAX: 410-313-4686
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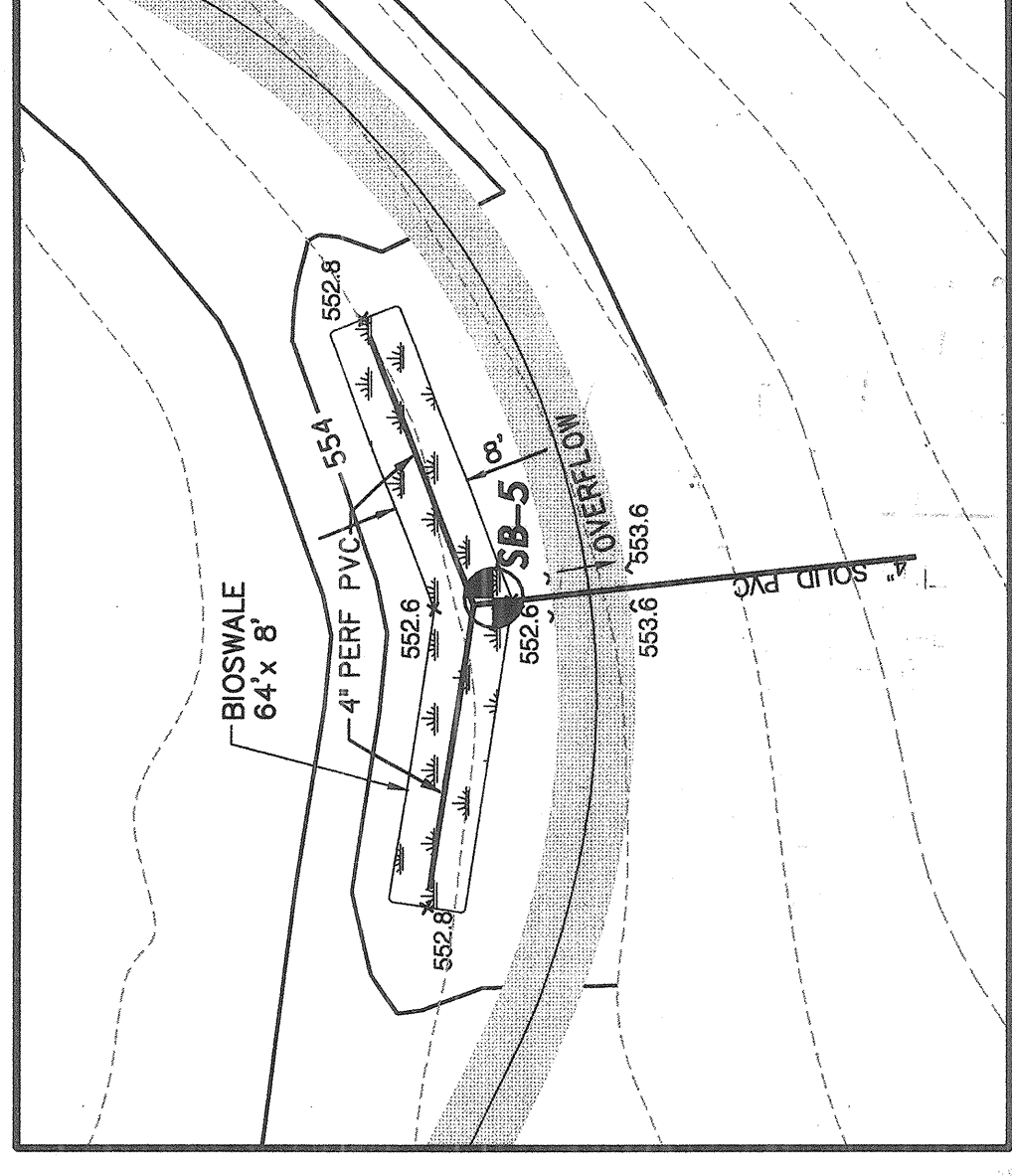


**PLAN VIEW
GRASS SWALE#2 SUB AREA #8**
SCALE 1" = 20'

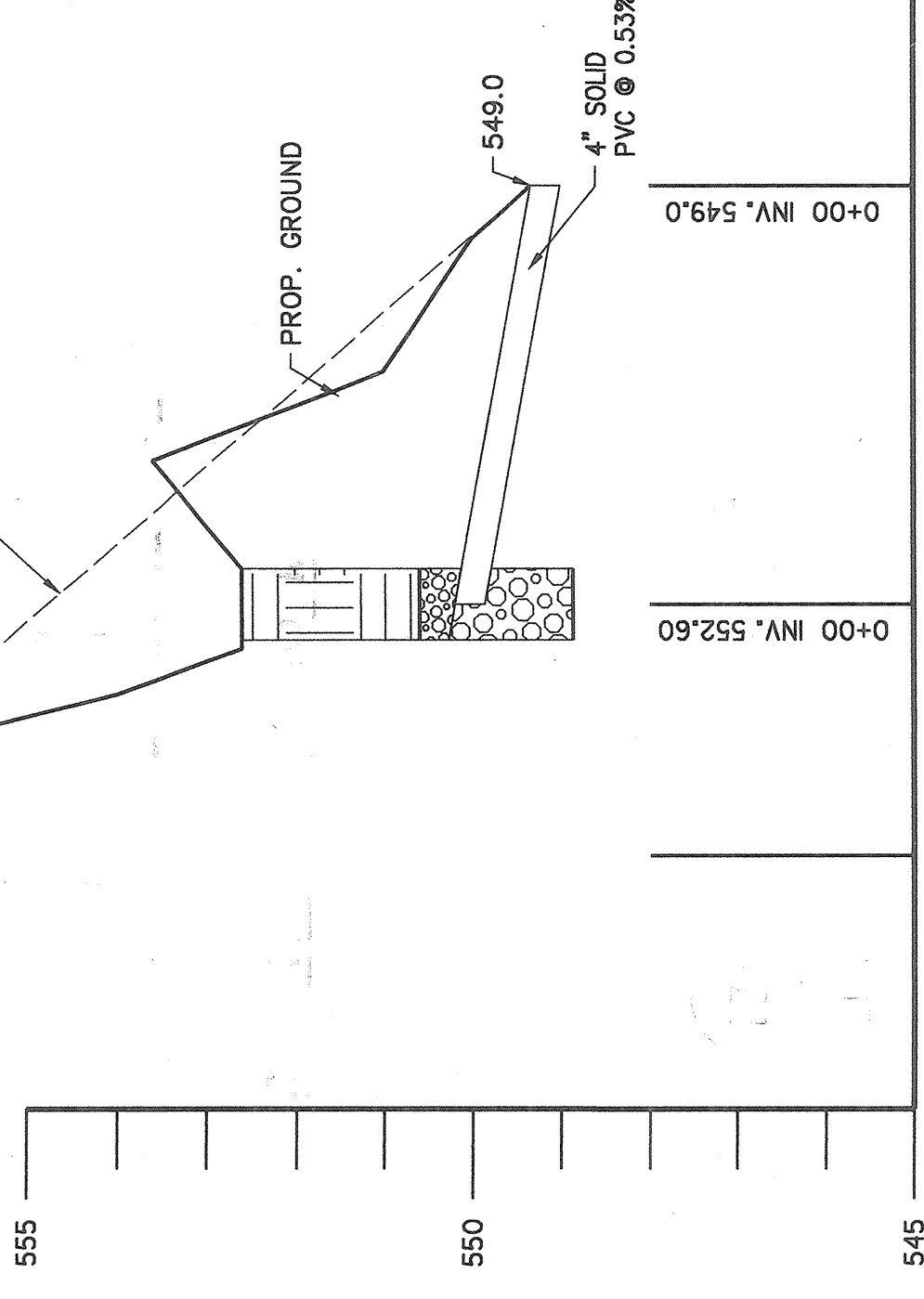
Note:
Bioswales are
not in this contract.



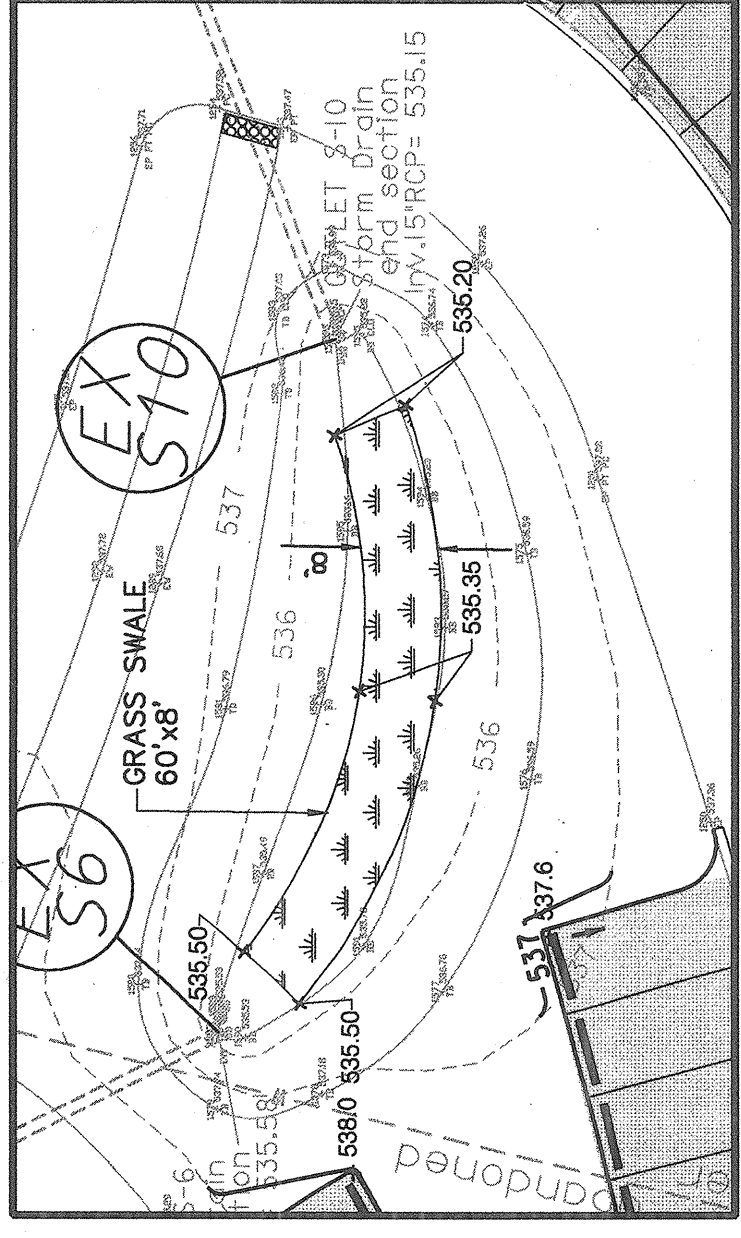
**PLAN VIEW
BIOSWALE#3 SUB AREA #9**
SCALE 1" = 20'



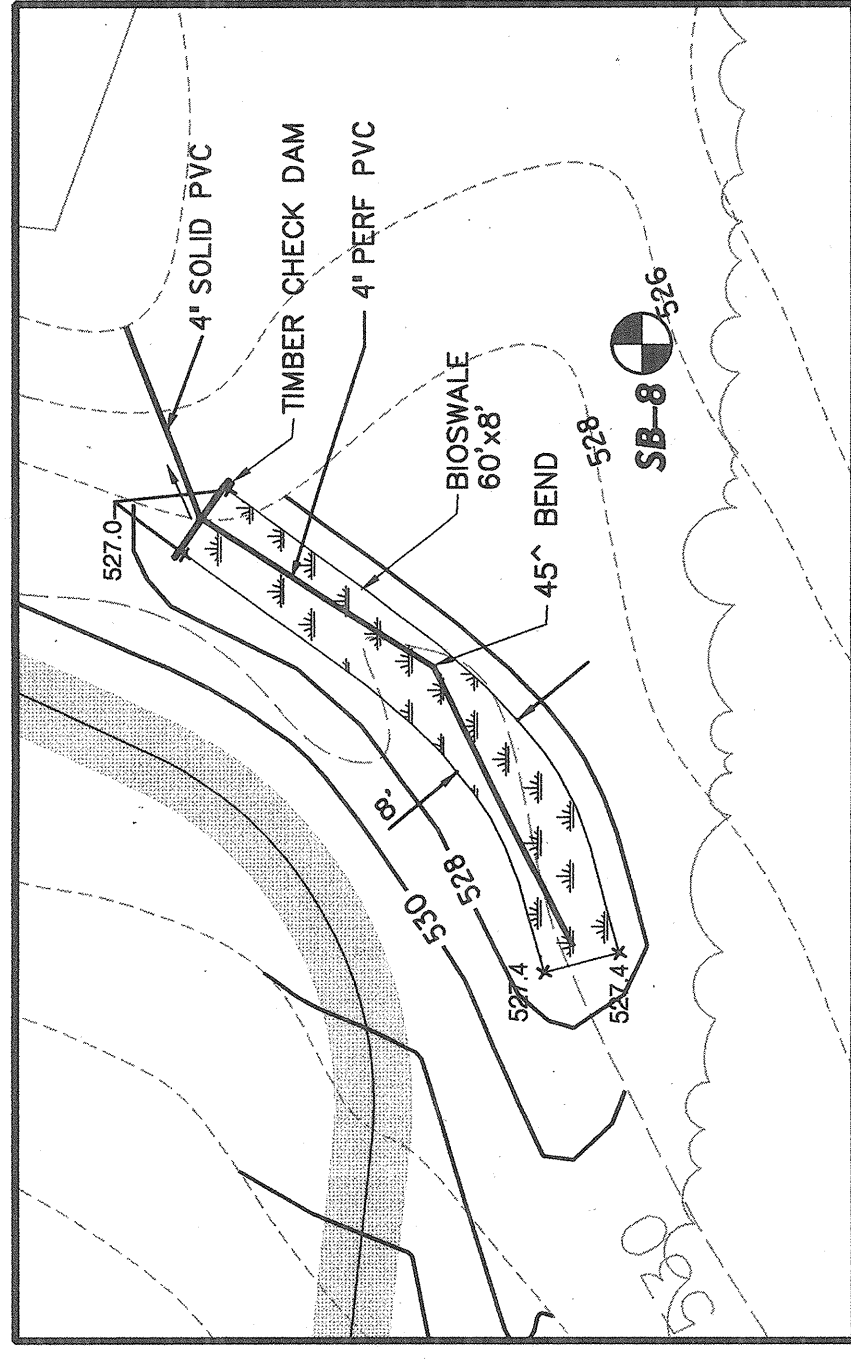
**PLAN VIEW
BIOSWALE#2 SUB AREA #7**
SCALE 1" = 20'



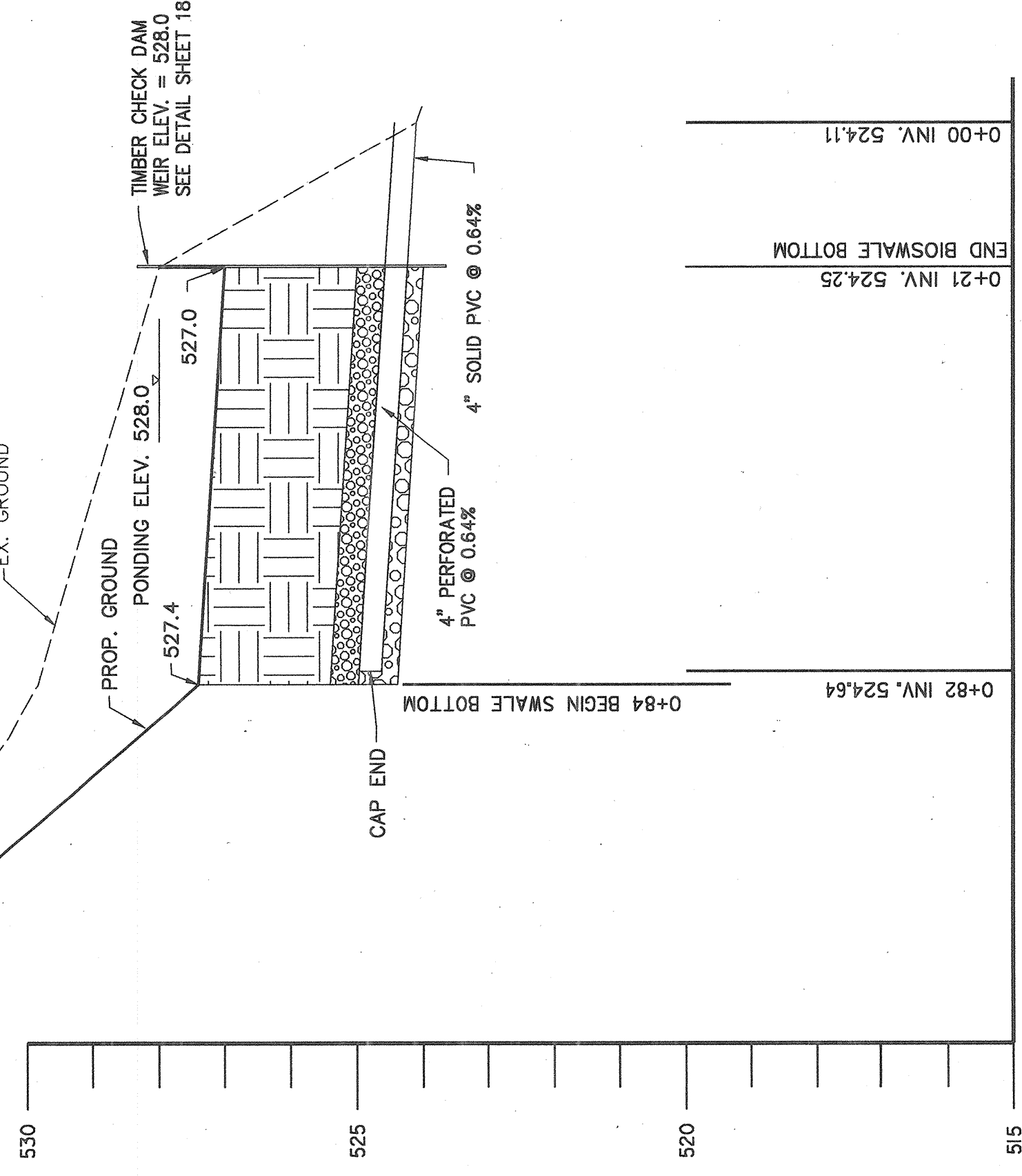
BIOSWALE#2 SUB AREA #7
SCALE H: 1" = 20' V: 1" = 2'



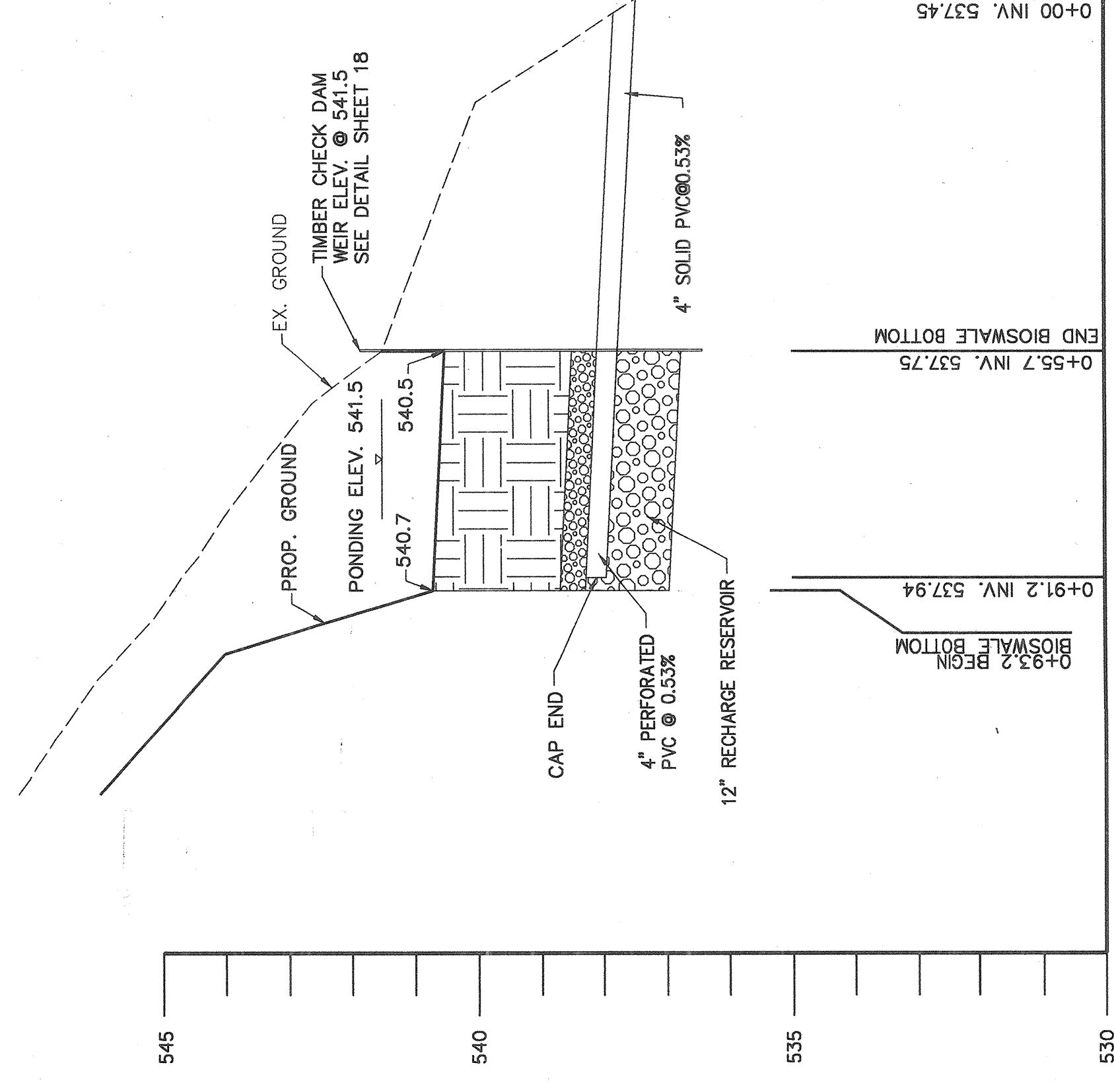
**PLAN VIEW
GRASS SWALE#1 SUB AREA #5**
SCALE 1" = 20'



**PLAN VIEW
BIOSWALE#1 SUB AREA #6**
SCALE 1" = 20'



BIOSWALE#1 SUB AREA #6
SCALE H: 1" = 20' V: 1" = 2'



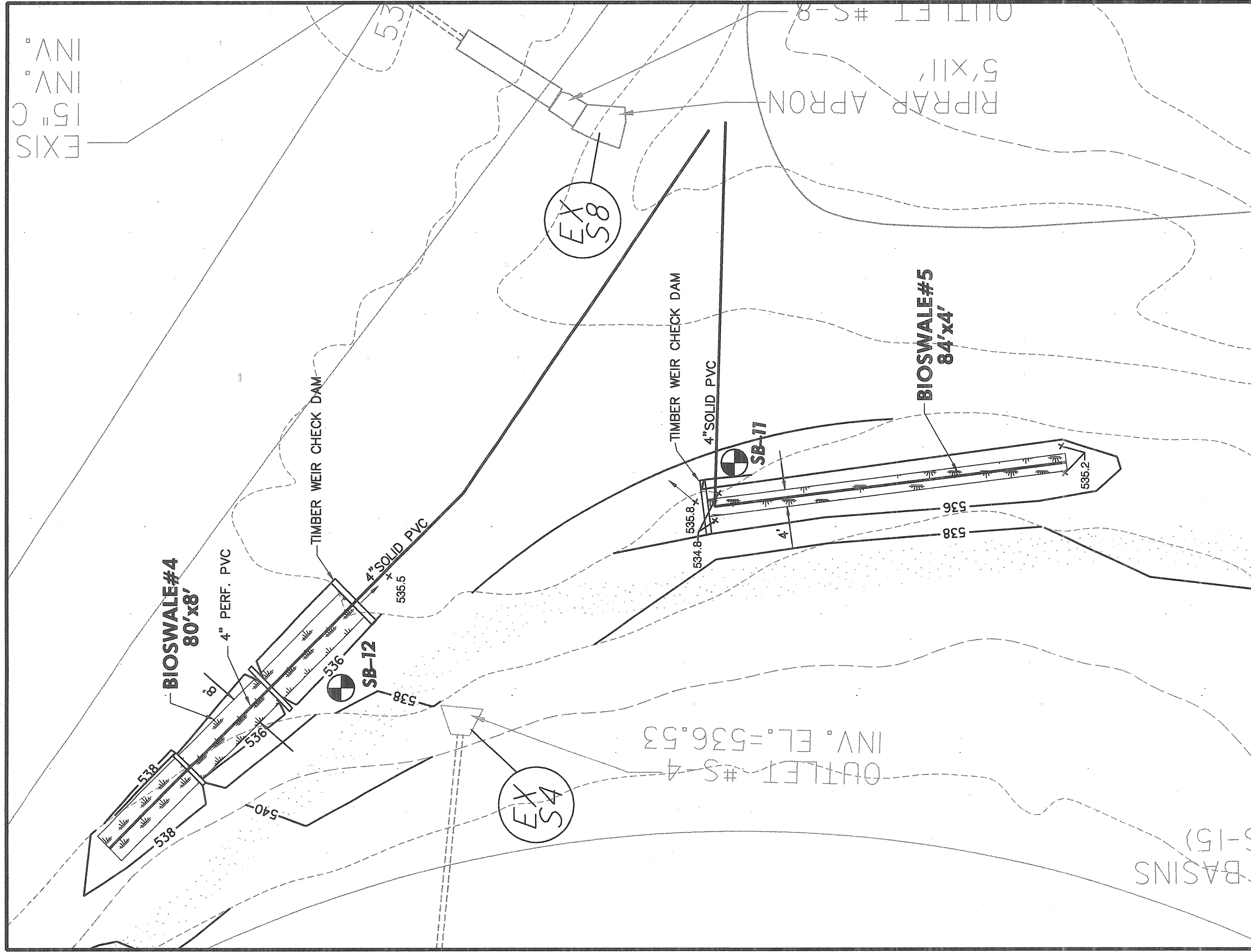
BIOSWALE#3 SUB AREA #9
SCALE H: 1" = 20' V: 1" = 2'

APPROVED: DEPARTMENT OF RECREATION AND PARKS <i>John B. Syd</i> DIRECTOR DATE 11/19/13	APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS <i>Brian M. Moore</i> DATE 2/12/2013	APPROVED: DEPARTMENT OF PUBLIC WORKS <i>Janet</i> DATE 2/15/13	APPROVED: DEPARTMENT OF PLANNING AND ZONING <i>Steve Shaver</i> DATE 2/15/13	APPROVED: DEPARTMENT OF LAND DEVELOPMENT <i>Victor</i> DATE 2/25/13
APPROVED: DEPARTMENT OF RECREATION AND PARKS <i>John B. Syd</i> DIRECTOR DATE 11/19/13	APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS <i>Brian M. Moore</i> DATE 2/12/2013	APPROVED: DEPARTMENT OF PUBLIC WORKS <i>Janet</i> DATE 2/15/13	APPROVED: DEPARTMENT OF PLANNING AND ZONING <i>Steve Shaver</i> DATE 2/15/13	APPROVED: DEPARTMENT OF LAND DEVELOPMENT <i>Victor</i> DATE 2/25/13

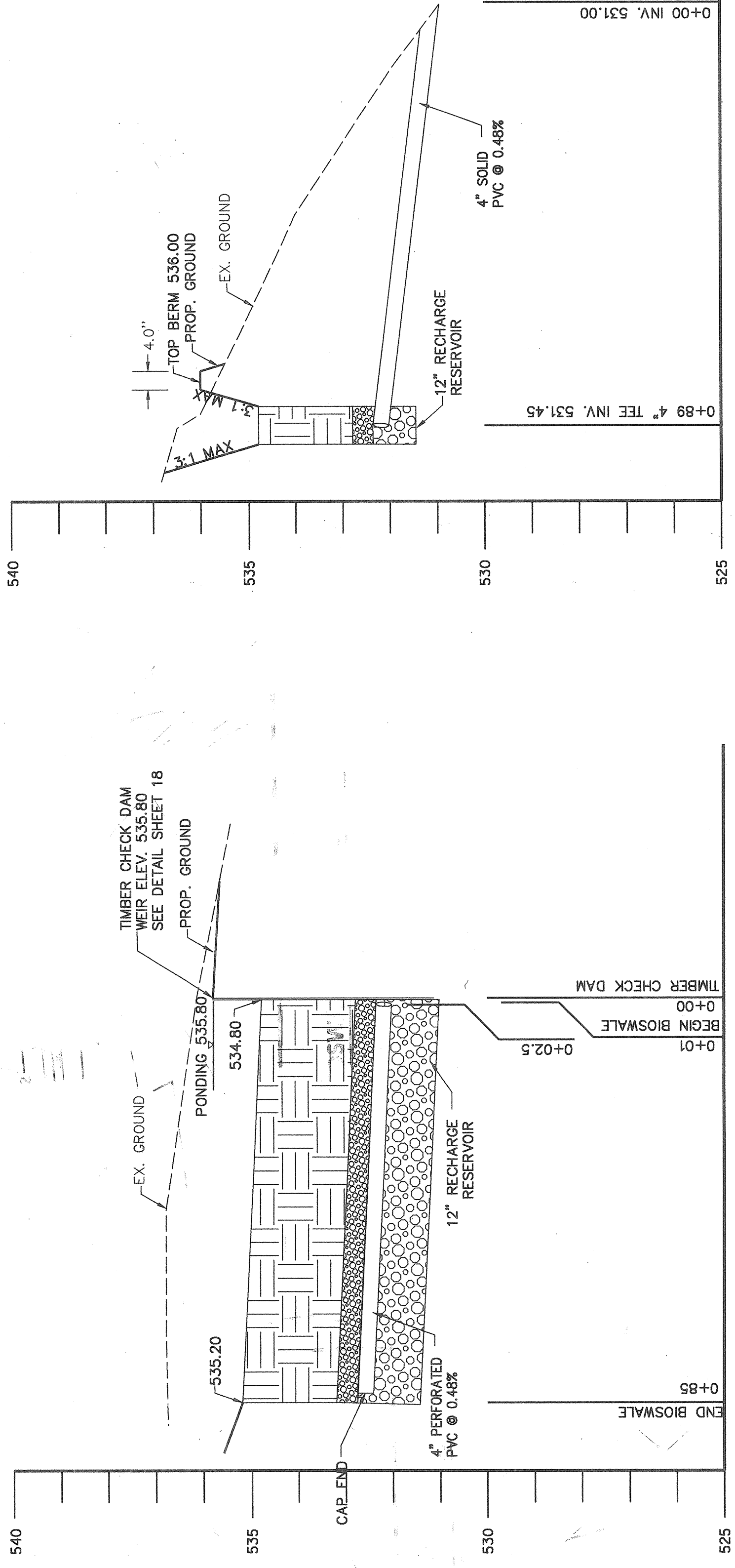
OWNER: HOWARD COUNTY DEPARTMENT 7700 OAKLAND MILLS ROAD COLUMBIA, MD 21046 ATTN: MR. PAUL DELEME VOICE 410-313-6889 FAX 410-313-6846	DEVELOPER: HOWARD COUNTY DEPARTMENT 7700 OAKLAND MILLS ROAD COLUMBIA, MD 21046 ATTN: MR. MARSHALL DAVIDSON VOICE 410-313-5206 FAX 410-313-6144	DESIGNER: DES: R.H. DRN: A.W.W. CHK: M.S.Z. DATE: Mgr, 2012	PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer in the State of Maryland. License No. 33310, Expiration Date: 07/02/2014.	SEAL OF PROFESSIONAL ENGINEER	REVISION	DATE
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REVISED SITE DEVELOPMENT PLAN
ALPHA RIDGE PARK
ADDITIONS DESIGN
3rd ELECTION DISTRICT, TAX MAP 10
GRID#20,21, PARCELS 23 & 54

**Stormwater Management
Plan and Profiles**

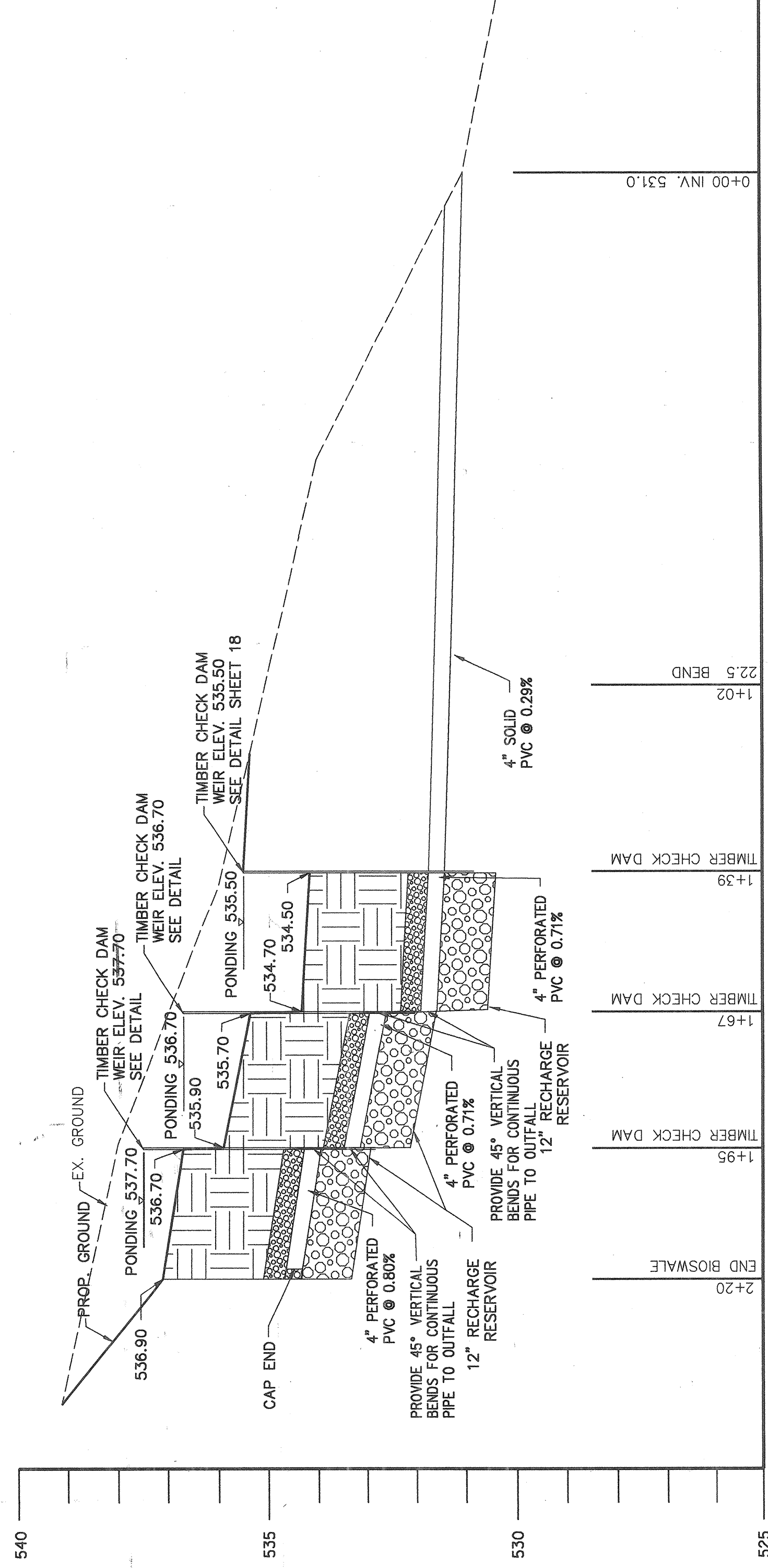


PLAN VIEW SUB AREA #10 & #11
SCALE: 1" = 20'



BIOSWALE#5 SUB AREA #11
SCALE: 1" = 20' V: 1" = 2'

PROFILE BIOSWALE#5 SUB AREA #11 TO OUTFALL
SCALE: H: 1" = 20' V: 1" = 2'



BIOSWALE#4 SUB AREA #10
SCALE: 1" = 20' V: 1" = 2'

APPROVED: DEPARTMENT OF RECREATION AND PARKS DIRECTOR <i>John L. Spill</i> DATE 11/28/13	APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS <i>Barbara M. Moore</i> DATE 2/12/2013	APPROVED: DEPARTMENT OF PUBLIC WORKS DIRECTOR OF PUBLIC WORKS <i>Tom V. Allen</i> DATE 2/15/13	APPROVED: DEPARTMENT OF PLANNING AND ZONING CHIEF-DEPARTMENT OF PLANNING AND ZONING <i>Steve Shuman</i> DATE 2/15/13	APPROVED: DEPARTMENT OF ENGINEERING CHIEF-BUREAU OF ENGINEERING <i>Thomas R. Kettle</i> DATE 2/15/13	APPROVED: DEPARTMENT OF ENGINEERING CHIEF-DEPARTMENT OF ENGINEERING <i>Steve Shuman</i> DATE 2/15/13	APPROVED: DEPARTMENT OF ENGINEERING CHIEF-DEPARTMENT OF ENGINEERING <i>Steve Shuman</i> DATE 2/15/13	APPROVED: DEPARTMENT OF ENGINEERING CHIEF-DEPARTMENT OF ENGINEERING <i>Steve Shuman</i> DATE 2/15/13
--	---	--	--	--	--	--	--

OWNER:
HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS
5250 BENDIX ROAD
COLUMBIA, MD 21046
ATTN: MR. MARGARET J. JAMISON
VOICE: 410-313-6889
FAX: 410-313-6844

DEVELOPER:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
5250 BENDIX ROAD
COLUMBIA, MD 21046
ATTN: MR. MARGARET J. JAMISON
VOICE: 410-313-6889
FAX: 410-313-6844

GPI GREENMAN-PEDERSEN, INC.
10000 GREENMAN-PEDERSEN DRIVE
COLUMBIA, MD 21046
TEL: 410-313-6889
WWW.GPI-INC.COM

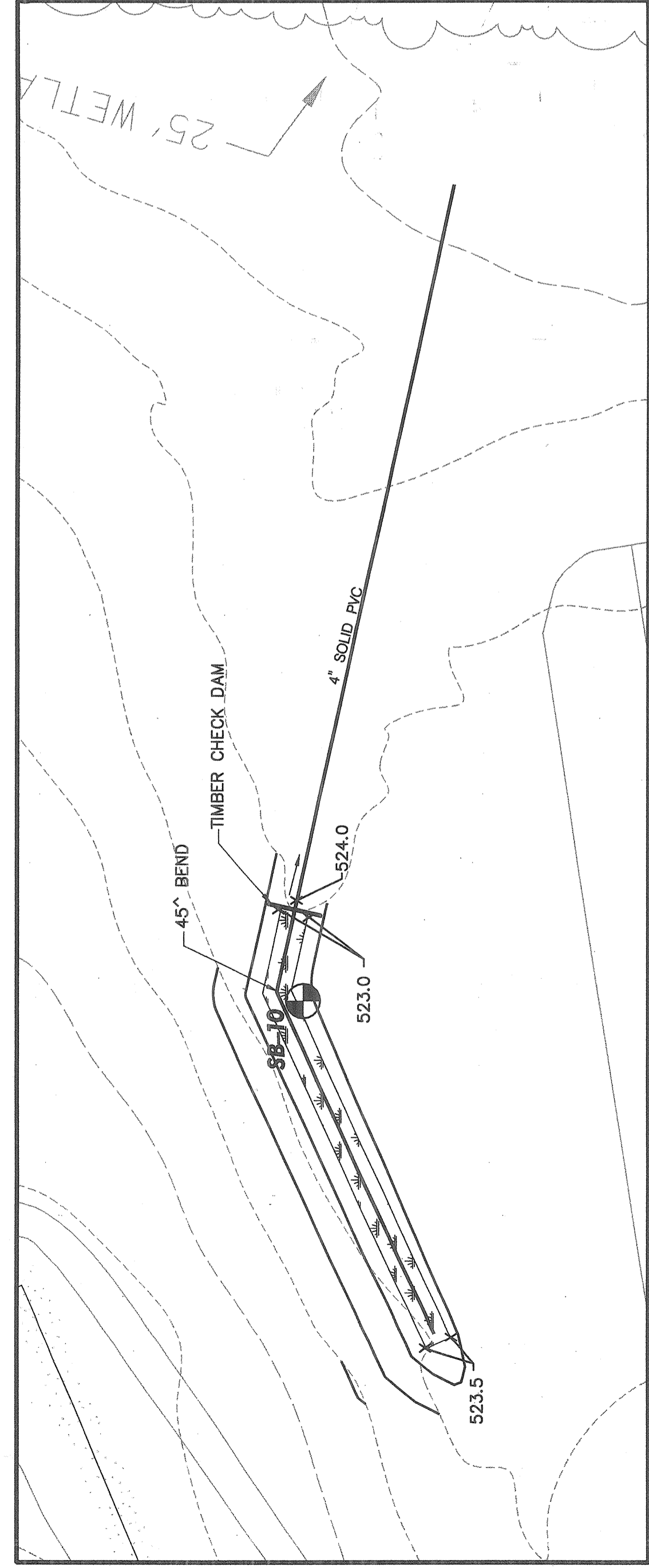
Professional Certification:
I hereby certify that these documents were prepared or approved by me or under my direct supervision and I am a duly licensed professional engineer under the laws of the state of Maryland license No. 33316, Expiration Date: 07/02/2014.

DES:	R.H.	DRN:	A.M.W.	CHK:	M.S.Z.	DATE:	MGY:	2012	BY:	NO:	REVISION:	DATE:

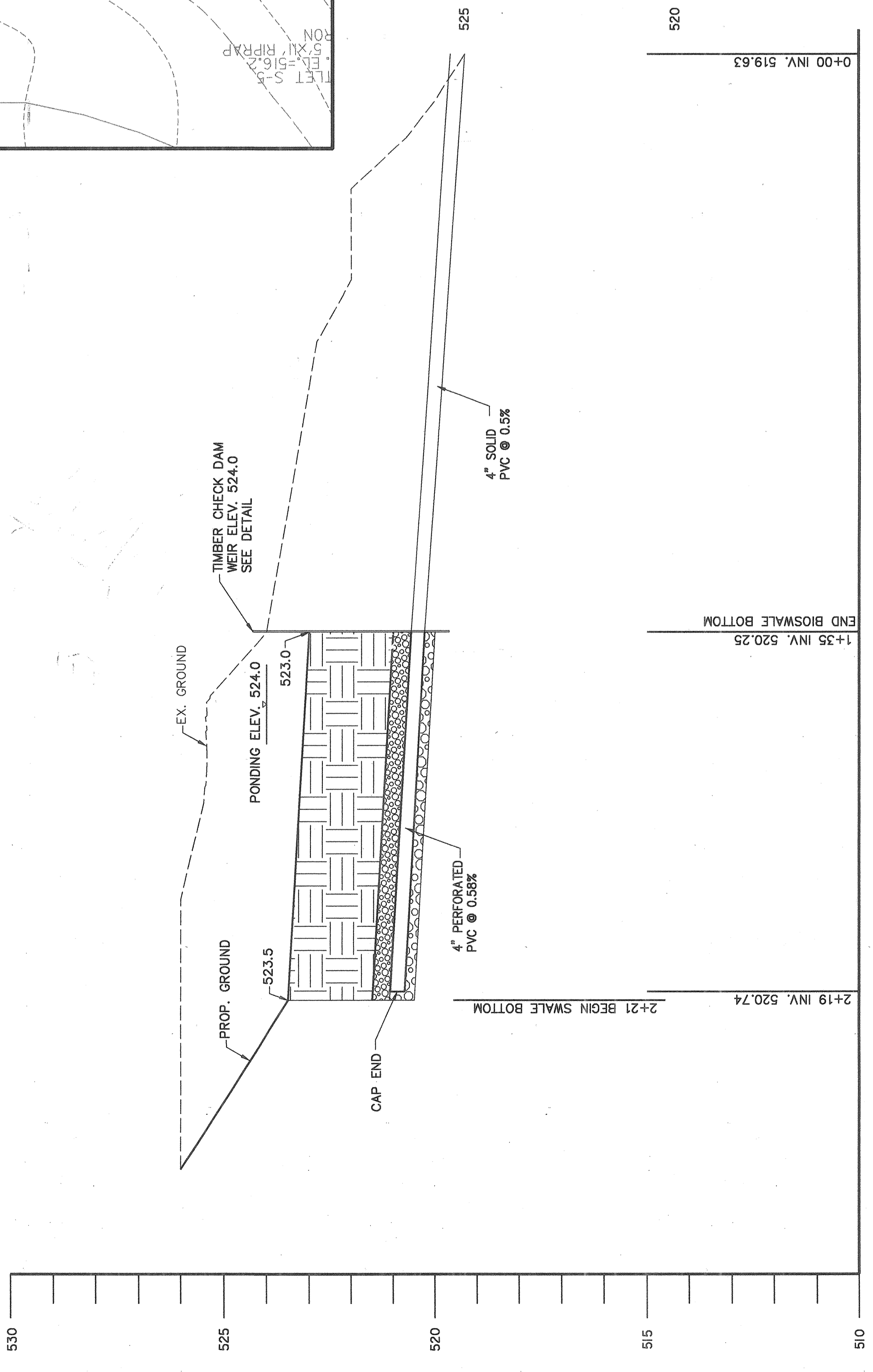
Stormwater Management Plan and Profiles

REVISED SITE DEVELOPMENT PLAN
ALPHA RIDGE PARK
ADDITIONS DESIGN
3rd ELECTION DISTRICT, TAX MAP 10
GRID#20, 21, PARCELS 23 & 54

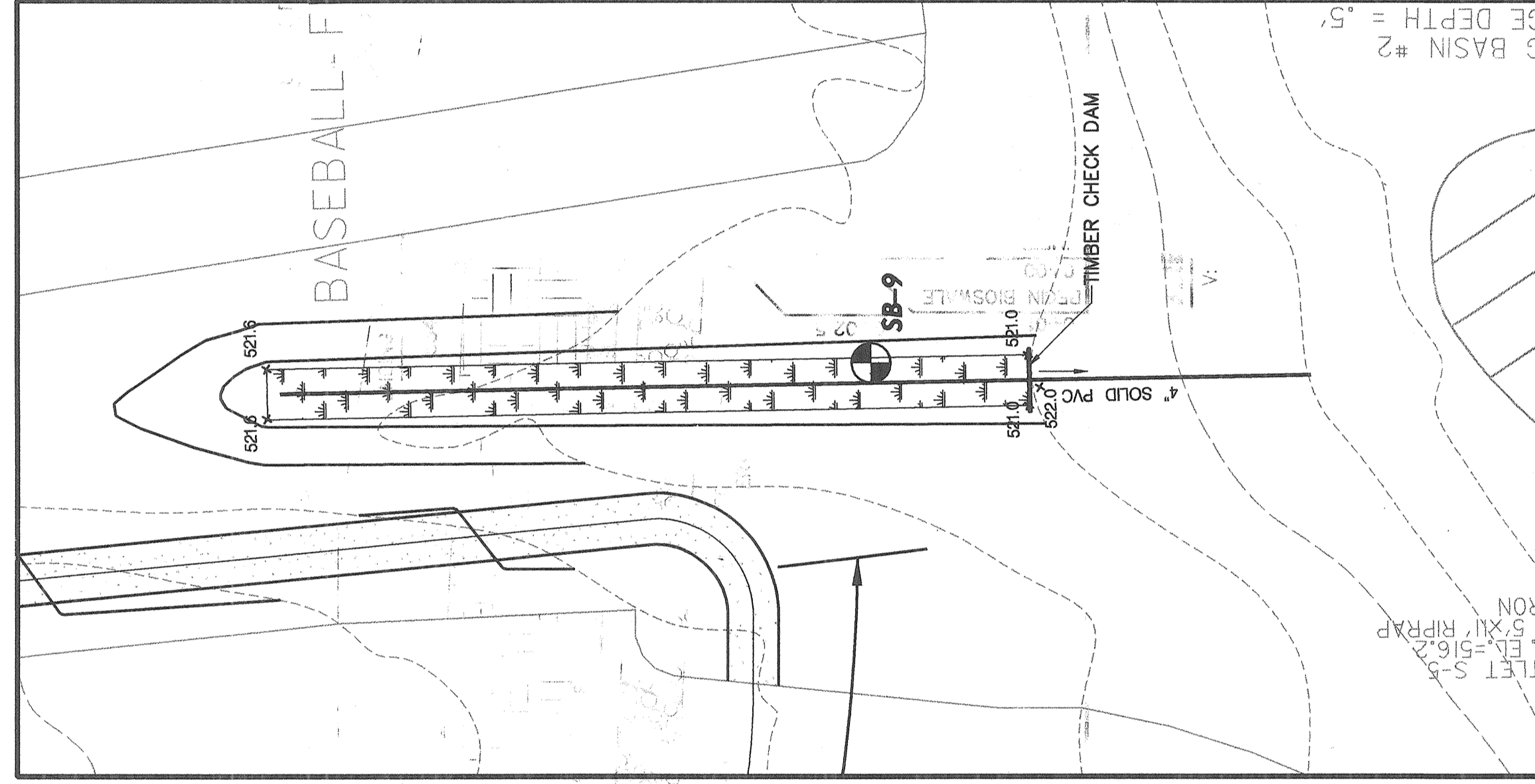
SCALE: AS SHOWN
SHEET 38
14 OF 38



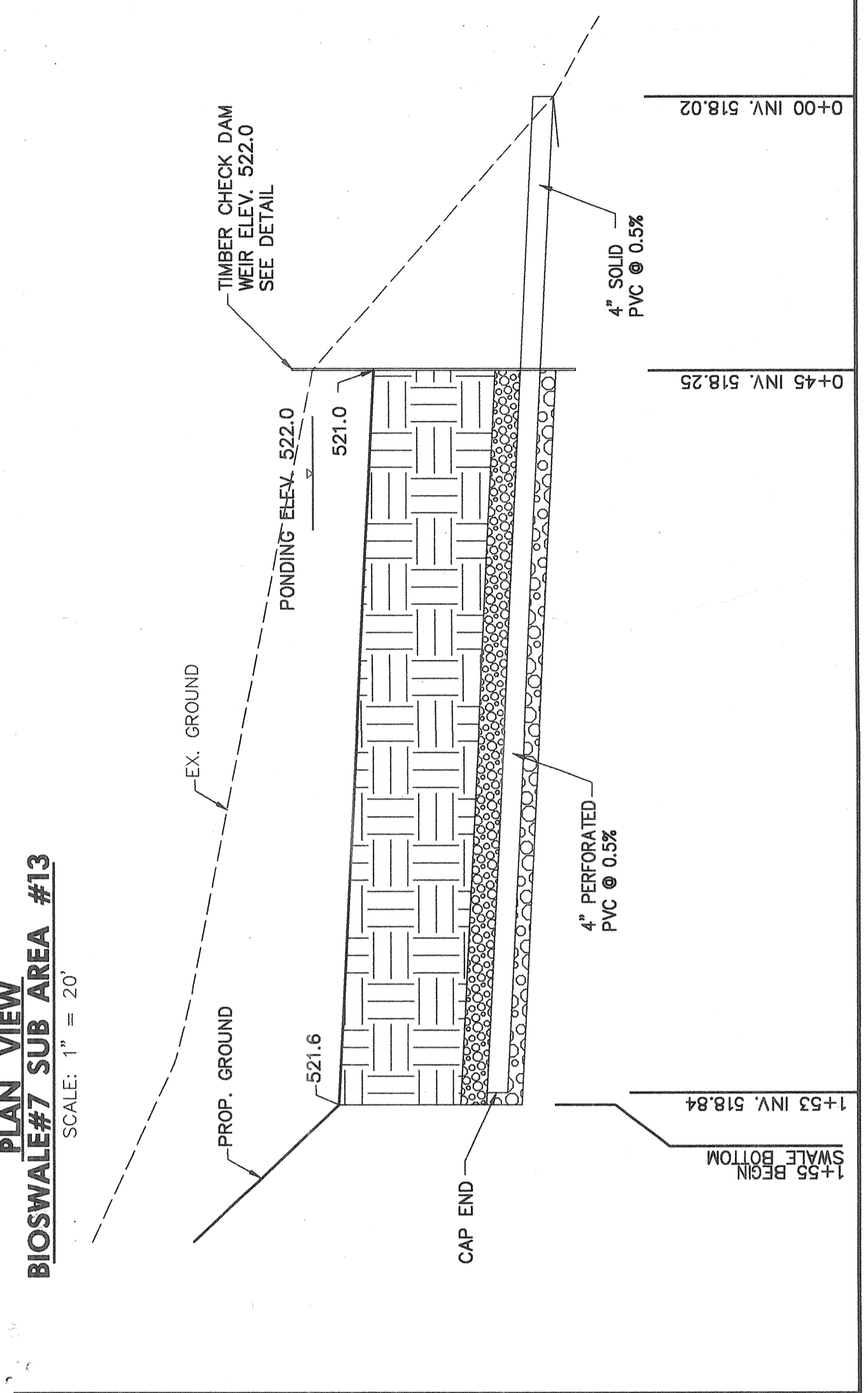
BIOSWALE#6 SUB AREA #12
SCALE: 1" = 20'



BIOSWALE#6 SUB AREA #12
SCALE: H: 1" = 20' V: 1" = 2'



PLAN VIEW BIOSWALE#7 SUB AREA #13
SCALE: 1" = 20'



BIOSWALE#7 SUB AREA #13
SCALE: H: 1" = 20' V: 1" = 2'

APPROVED: DEPARTMENT OF RECREATION AND PARKS DIRECTOR <i>Debra R. Rye</i> DATE 1/12/13	APPROVED: DEPARTMENT OF PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS DIRECTOR <i>Steve Stancov</i> DATE 2/12/2013	APPROVED: DEPARTMENT OF PUBLIC WORKS DIRECTOR <i>Janey Law</i> DATE 2/15/13	APPROVED: DEPARTMENT OF PLANNING AND ZONING CHIEF-DEVELOPMENT ENGINEERING DIVISION BY DATE <i>Steve Stancov</i> 2/22/13	APPROVED: DEPARTMENT OF LAND DEVELOPMENT CHIEF-DIVISION OF LAND DEVELOPMENT BY DATE <i>Kevin Stuchlik</i> 2/25/13
APPROVED: DEPARTMENT OF RECREATION AND PARKS DIRECTOR <i>Debra R. Rye</i> DATE 1/12/13	APPROVED: DEPARTMENT OF PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS DIRECTOR <i>Steve Stancov</i> DATE 2/12/2013	APPROVED: DEPARTMENT OF PUBLIC WORKS DIRECTOR <i>Janey Law</i> DATE 2/15/13	APPROVED: DEPARTMENT OF PLANNING AND ZONING CHIEF-DEVELOPMENT ENGINEERING DIVISION BY DATE <i>Steve Stancov</i> 2/22/13	APPROVED: DEPARTMENT OF LAND DEVELOPMENT CHIEF-DIVISION OF LAND DEVELOPMENT BY DATE <i>Kevin Stuchlik</i> 2/25/13
APPROVED: DEPARTMENT OF RECREATION AND PARKS DIRECTOR <i>Debra R. Rye</i> DATE 1/12/13	APPROVED: DEPARTMENT OF PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS DIRECTOR <i>Steve Stancov</i> DATE 2/12/2013	APPROVED: DEPARTMENT OF PUBLIC WORKS DIRECTOR <i>Janey Law</i> DATE 2/15/13	APPROVED: DEPARTMENT OF PLANNING AND ZONING CHIEF-DEVELOPMENT ENGINEERING DIVISION BY DATE <i>Steve Stancov</i> 2/22/13	APPROVED: DEPARTMENT OF LAND DEVELOPMENT CHIEF-DIVISION OF LAND DEVELOPMENT BY DATE <i>Kevin Stuchlik</i> 2/25/13

OWNER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 700 OAKLAND MILLS ROAD COLUMBIA, MD 21046 ATTN: MR. RAUL DELERME VOICE 410-313-4689 FAX 410-313-4646	DEVELOPER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 700 OAKLAND MILLS ROAD COLUMBIA, MD 21046 ATTN: MR. MARSHALL DAVISON VOICE 410-313-5306 FAX 410-313-6144		DES: R.H. DRN: A.W.W. CHK: M.S.Z. DATE: MGY, 2012	REVISION BY NO DATE
				REVISED SITE DEVELOPMENT PLAN ALPHA RIDGE PARK ADDITIONS DESIGN 3-C ELECTION DISTRICT, TAX MAP 10 GRID#20,21, PARCELS 23 & 54

APPROVED: DEPARTMENT OF RECREATION AND PARKS
 DIRECTOR *John S. Spl...* DATE 11/19/13

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
William J. Moore, Rosemary... DATE 2/12/13
 COUNTY HEALTH OFFICER
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PUBLIC WORKS
 DIRECTOR OF PUBLIC WORKS DATE 2/16/13

Thomas R. Rutledge DATE 2/15/13
 CHIEF-BUREAU OF ENGINEERING

Steve Shaver DATE 2/14/13
 CHIEF-DEPARTMENT & SPECIAL PROJECTS

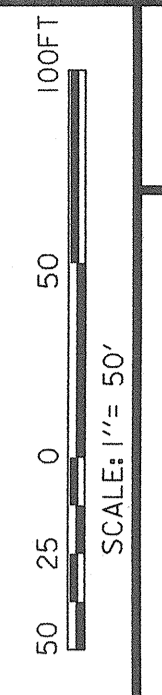
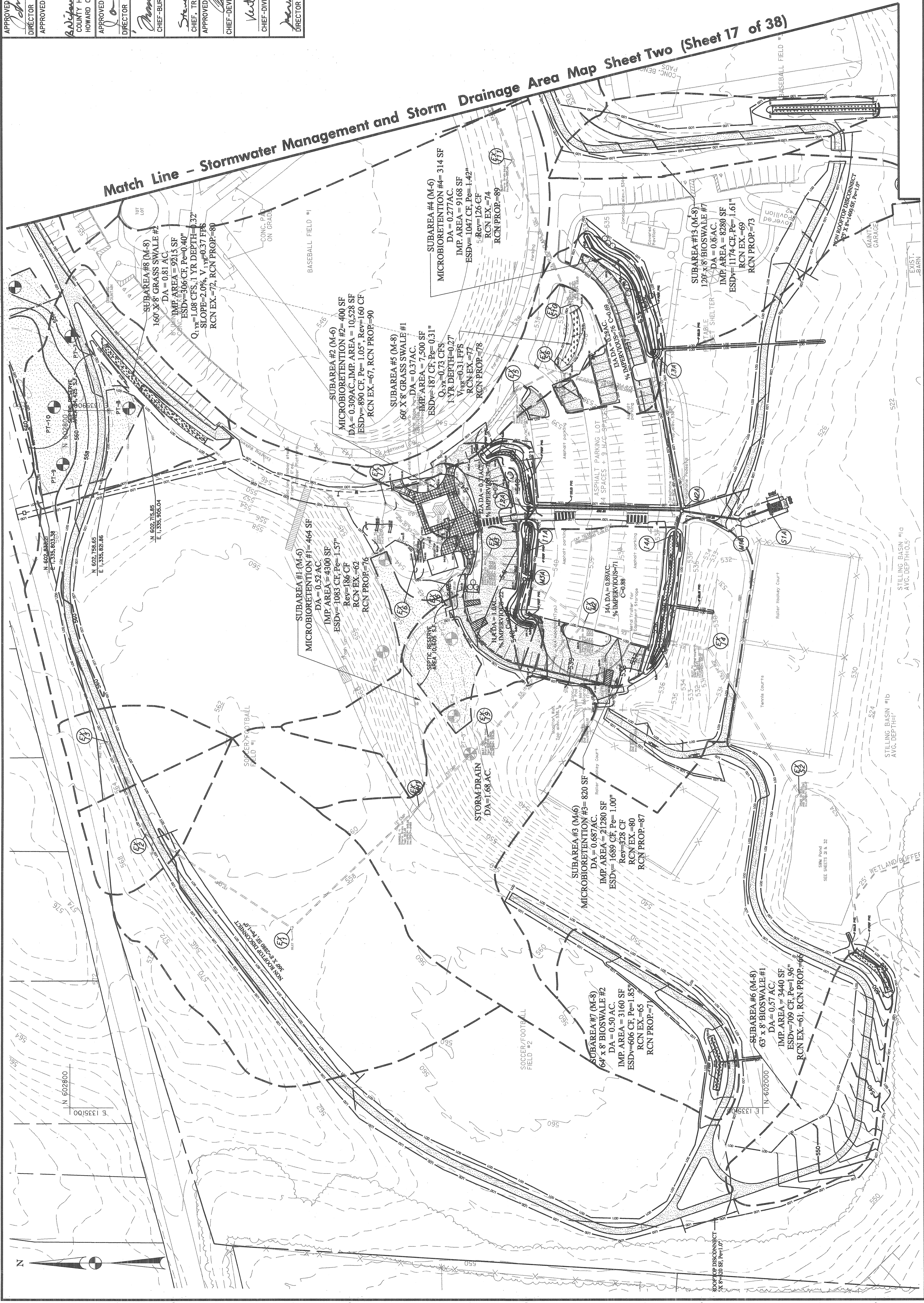
Michael... DATE 2/22/13
 APPROVED: DEPARTMENT OF PLANNING AND ZONING

Victor Shalunov DATE 2/25/13
 CHIEF-DEVELOPMENT ENGINEERING DIVISION

Perk... DATE 2/25/13
 CHIEF-DIVISION OF LAND DEVELOPMENT

Perk... DATE 2/25/13
 DIRECTOR

Match Line - Stormwater Management and Storm Drainage Area Map Sheet Two (Sheet 17 of 38)



REVISOR SITE DEVELOPMENT PLAN
ALPHA RIDGE PARK
ADDITIONS DESIGN
 3rd ELECTION DISTRICT, TAX MAP 10
 GRID #20, 21, PARCELS 23 & 54

Stormwater Management and Storm Drainage Area Map Sheet One

DES. R.H.
 DRN. A.W.W.
 CHK. M.S.Z.
 DATE: Nov., 2012
 BY NO REVISION DATE

Professional Certification:
 I hereby certify that these drawings were prepared, designed, or approved by me, and that I am a duly licensed professional engineer under the laws of the state of Maryland license No. 1996, expiration date 03/31/2025.

DEVELOPER:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 700 OAKLAND HILLS ROAD
 COLUMBIA, MD 21045
 ATTN: MR. MARSHALL DAVIDSON
 VOICE: 410-313-5806
 FAX: 410-313-6146

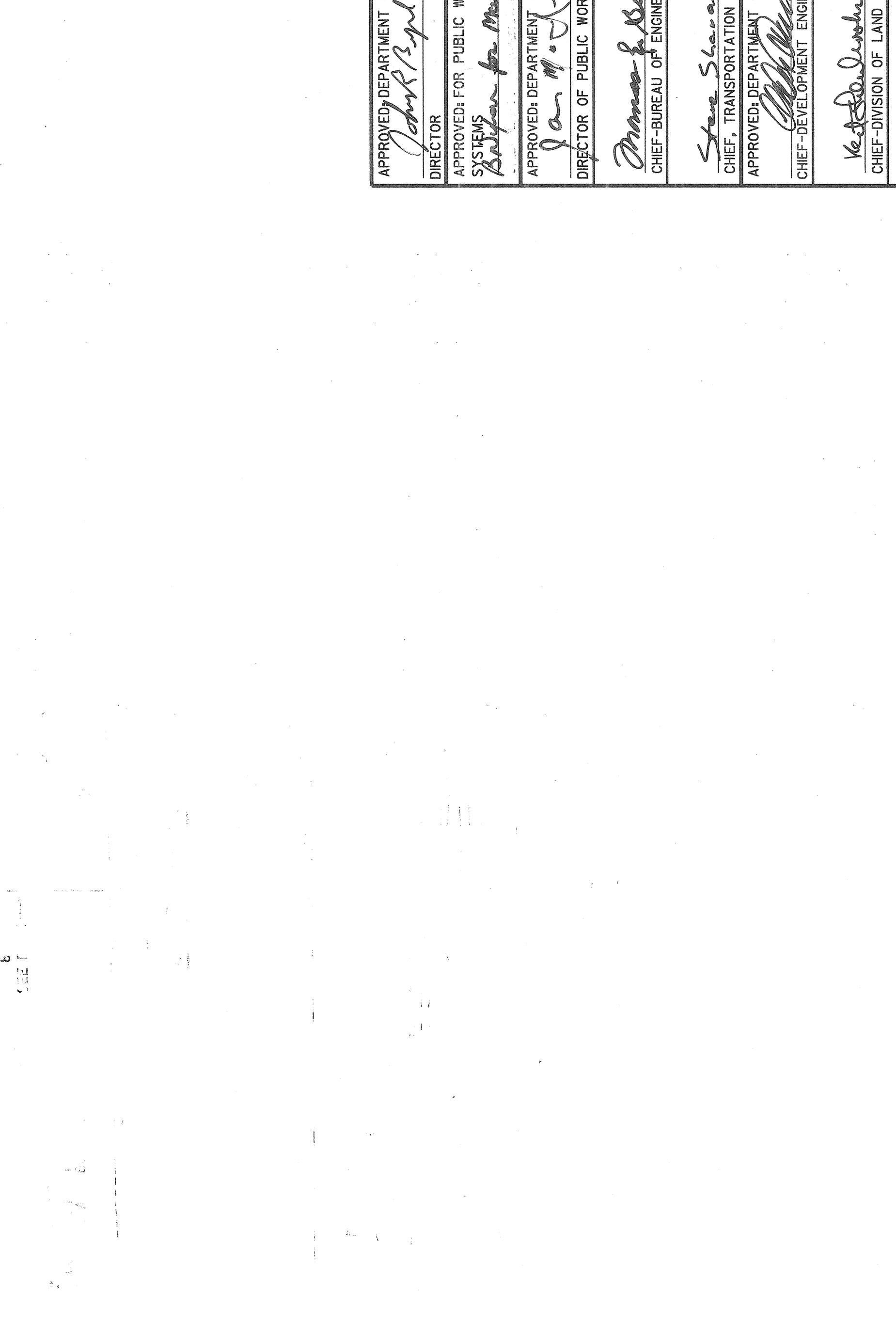
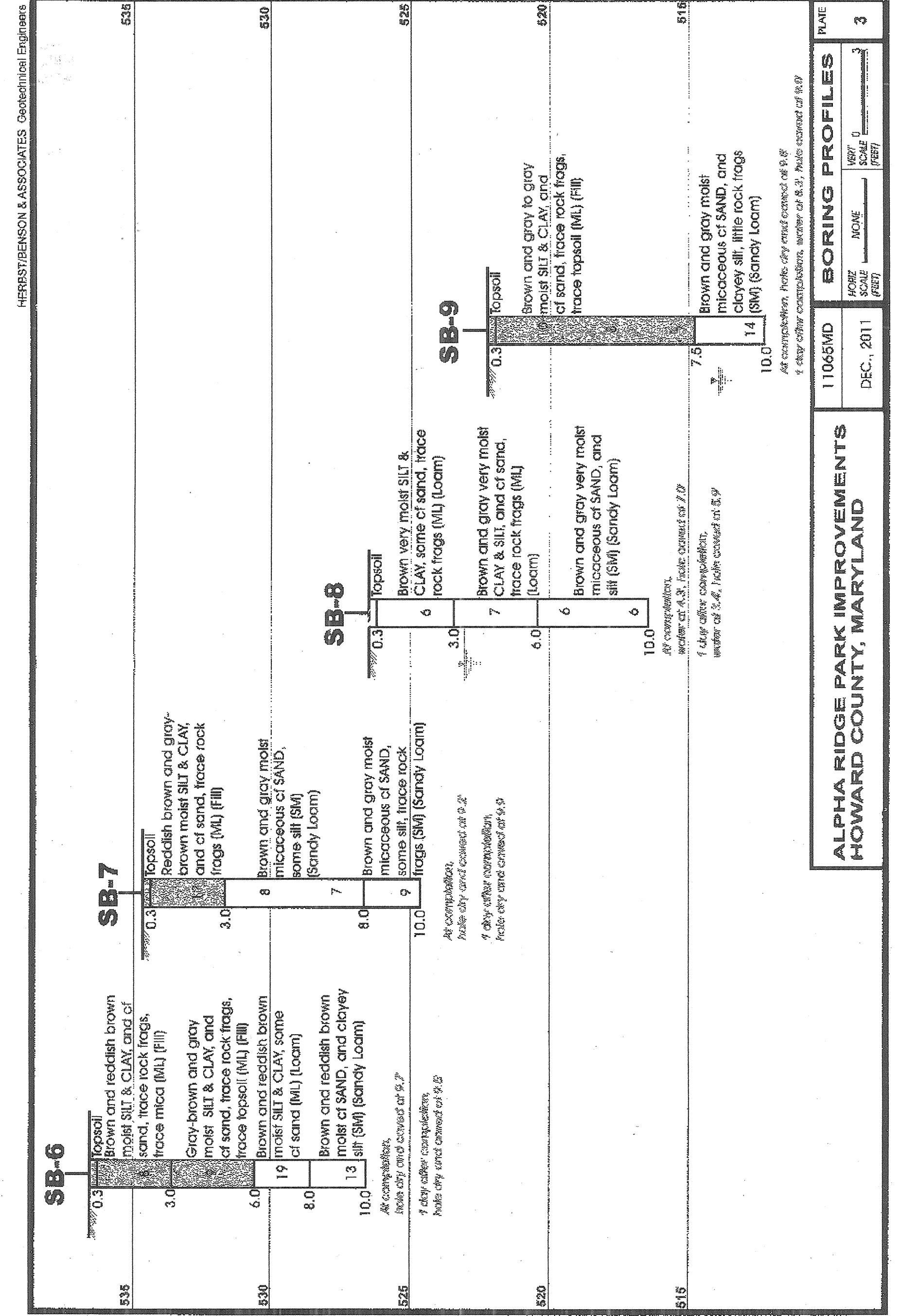
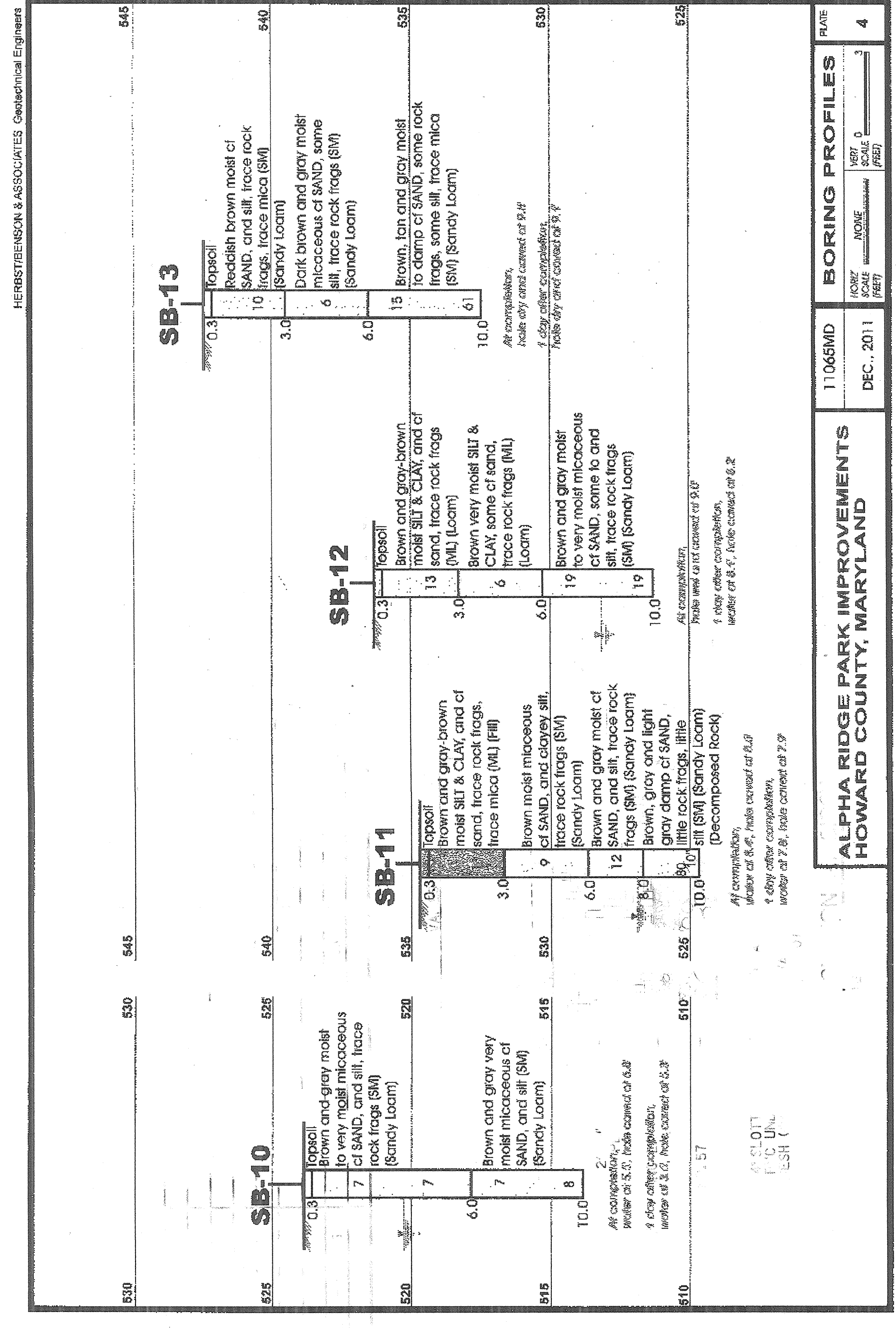
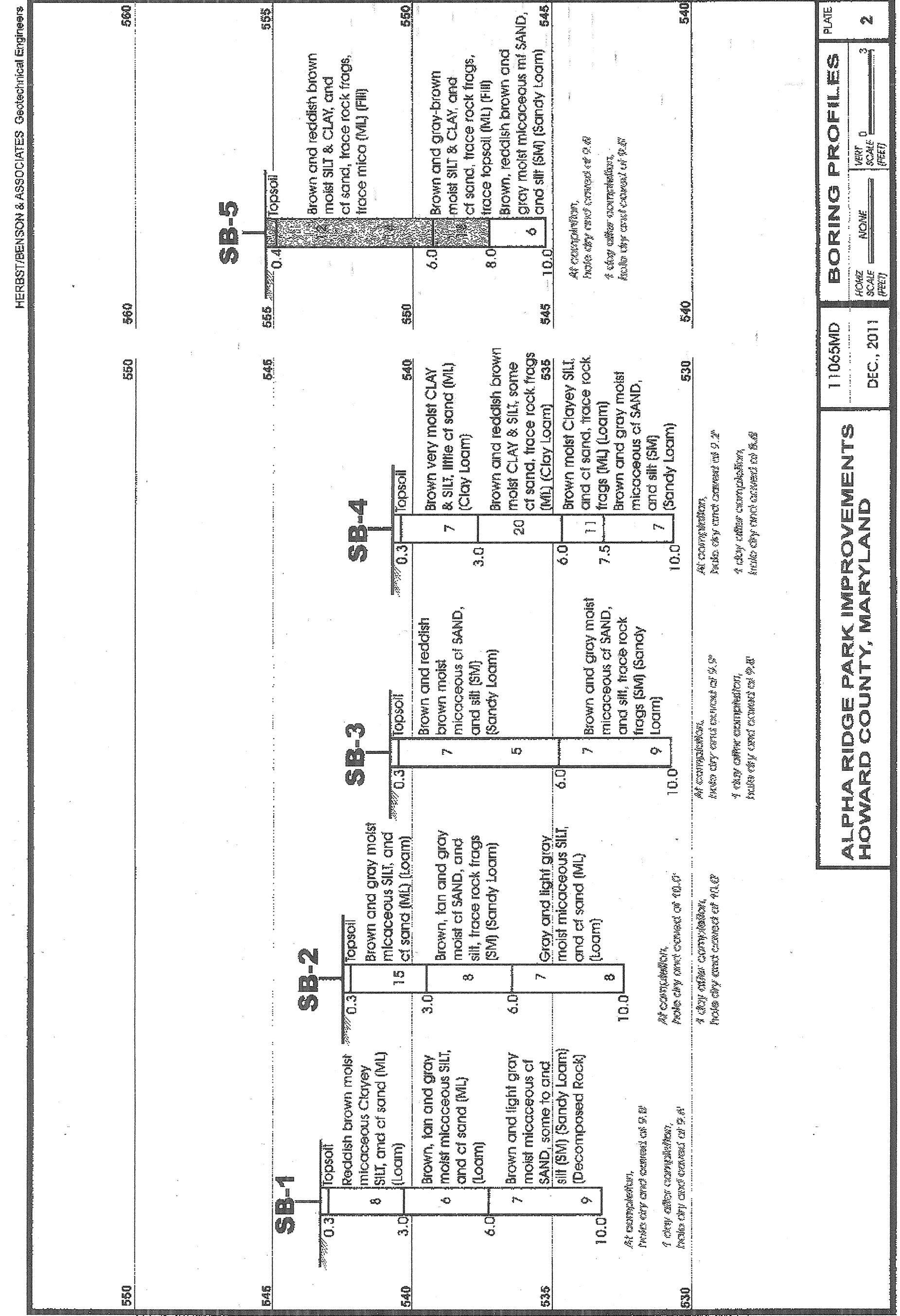
OWNER:
 HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS
 700 OAKLAND HILLS ROAD
 COLUMBIA, MD 21045
 ATTN: MR. RAUL DELERME
 VOICE: 410-313-4689
 FAX: 410-313-4616

GPI GREENMAN-PEDERSEN, INC.
 1097 CALVERT ROAD, ANNAPOLIS, MD 21403
 TEL: 410-293-3000
 FAX: 410-293-3005
 WWW.GPI-INC.COM

FILE: NA.2005\20050918\20050918.dgn
 DATE: Wednesday, November 21, 2012 AT 11:53 AM

AS SHOWN SHEET 16 OF 38

SDP 90-18



HERBSTBERNSON & ASSOCIATES Geotechnical Engineers

APPROVED DEPARTMENT OF RECREATION AND PARKS
 DIRECTOR *John K. Egan* 1/18/13
 DATE
 APPROVED FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
 SYSTEMS *Barbara M. Rouse* 2/12/13
 DATE
 APPROVED DEPARTMENT OF PUBLIC WORKS
 DIRECTOR *Jan M. O'Neil* 2/15/13
 DATE
 CHIEF-BUREAU OF ENGINEERING
Thomas E. Butler 2/15/13
 DATE
 CHIEF, TRANSPORTATION & SPECIAL PROJECTS
Steve Shoran 2/14/13
 DATE
 APPROVED DEPARTMENT OF PLANNING AND ZONING
[Signature] 2/12/13
 DATE
 CHIEF-DEVELOPMENT ENGINEERING DIVISION 1-7
[Signature] 2/21/13
 DATE
 CHIEF-DIVISION OF LAND DEVELOPMENT
[Signature] 2/25/13
 DATE
 DIRECTOR *Paul A. Wajle* 2/12/13
 DATE

APPROVED DEPARTMENT OF RECREATION AND PARKS
 DIRECTOR *John K. Egan* 1/18/13
 DATE
 APPROVED FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
 SYSTEMS *Barbara M. Rouse* 2/12/13
 DATE
 APPROVED DEPARTMENT OF PUBLIC WORKS
 DIRECTOR *Jan M. O'Neil* 2/15/13
 DATE
 CHIEF-BUREAU OF ENGINEERING
Thomas E. Butler 2/15/13
 DATE
 CHIEF, TRANSPORTATION & SPECIAL PROJECTS
Steve Shoran 2/14/13
 DATE
 APPROVED DEPARTMENT OF PLANNING AND ZONING
[Signature] 2/12/13
 DATE
 CHIEF-DEVELOPMENT ENGINEERING DIVISION 1-7
[Signature] 2/21/13
 DATE
 CHIEF-DIVISION OF LAND DEVELOPMENT
[Signature] 2/25/13
 DATE
 DIRECTOR *Paul A. Wajle* 2/12/13
 DATE

OWNER: HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS
 1000 WOODLAND ROAD
 COLUMBIA, MD 21046
 ATTN: MR. RAUL DELERME
 VOICE 410-313-4689
 FAX 410-313-4646

DEVELOPER: GREENMAN-ROPER, INC.
 1077 CALDWAY ROAD, ANNAPOLIS JUNCTION, MD 20701
 ATTN: MR. MARSHALL DAVIDSON
 VOICE 410-313-5306
 FAX 410-313-6144

DES: R.H.
 DRN: A.W.H.
 CHK: M.S.Z.
 DATE: MAY, 2012

BY: NO
 REVISION: DATE

Professional Certification:
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland and license No. 07/02/2004.

REVISION SITE DEVELOPMENT PLAN
 ALPHA RIDGE PARK
 ADDITIONS DESIGN
 3rd ELECTION DISTRICT, TAX MAP 10
 GRID*20, 21, PARCELS 23 & 54

SCALE: AS SHOWN
 SHEET 19 OF 38

SDP 90-18

STRUCTURE SCHEDULE

NO.	TYPE	WIDTH/DIAM.	INV. OUT	TOP ELEV. AT CENTERLINE	STD. DETAIL*	COORDINATE NORTHING/EASTING
I1A	'S' INLET	2'-7 1/2"	535.50	539.50	D-4.22	N 602,274.02 E 1,335,770.17
I2A	'S' INLET	2'-7 1/2"	535.20	539.50	D-4.22	N 602,271.19 E 1,335,788.90
I3A	'S' INLET	2'-7 1/2"	531.50	535.00	D-4.22	N 602,127.81 E 1,335,985.52
I4A	'S' INLET	2'-7 1/2"	531.50	535.50	D-4.22	N 602,101.40 E 1,335,758.19
M1A	PRECAST STD MANHOLE	4'-0"	528.54	531.95	G5.12	N 602,026.18 E 1,335,774.56
M2A	PRECAST STD MANHOLE	5'-0"	529.44	536.00	G5.12	N 602,093.86 E 1,335,784.68
M3A	PRECAST STD MANHOLE	4'-0"	535.20	539.50	G5.14	N 602,275.94 E 1,335,705.81
S1A	CONCRETE END SECTION	18"	528.10	--	D-5.51	N 601,991.25 (AT END) E 1,335,786.88

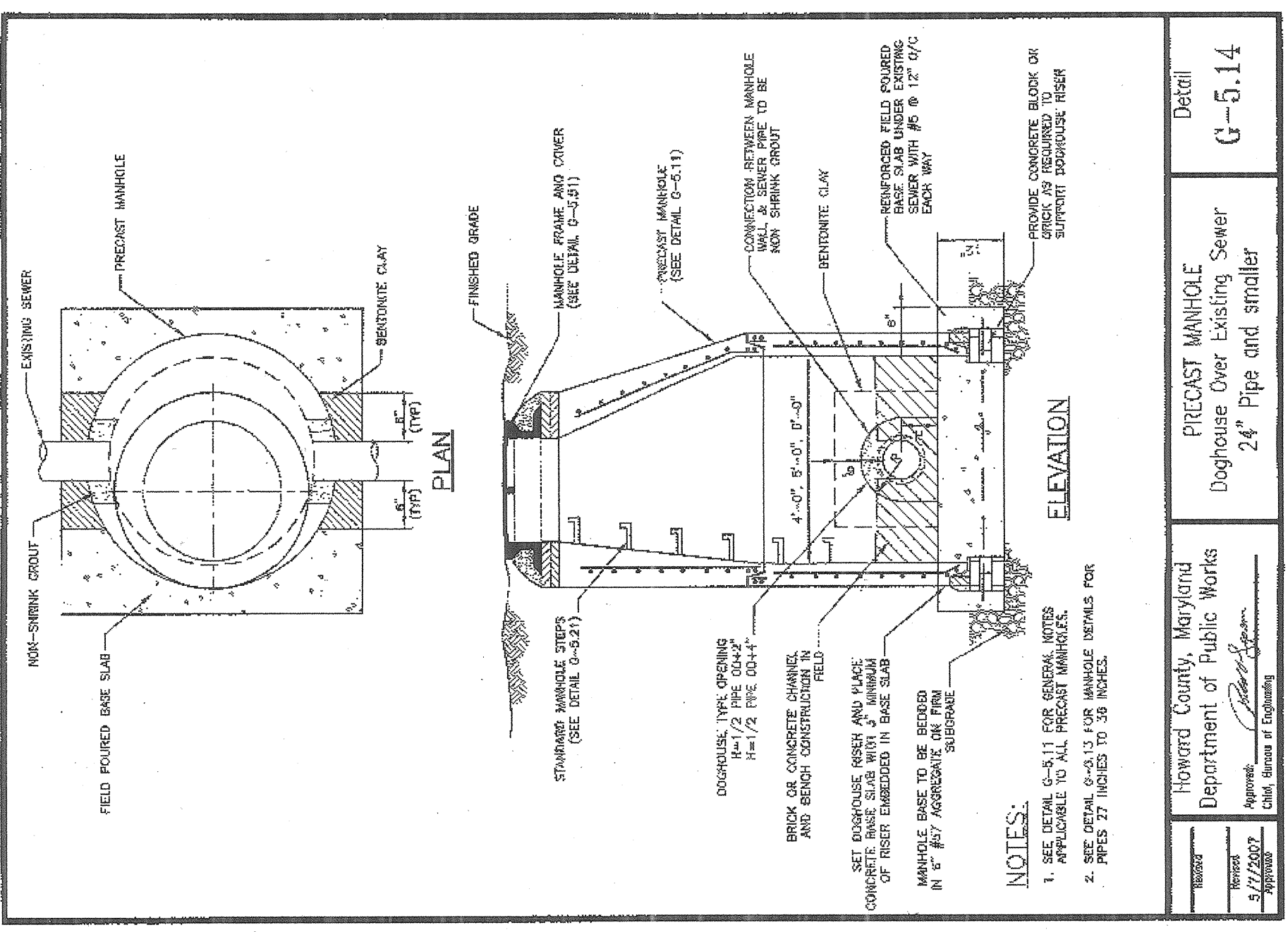
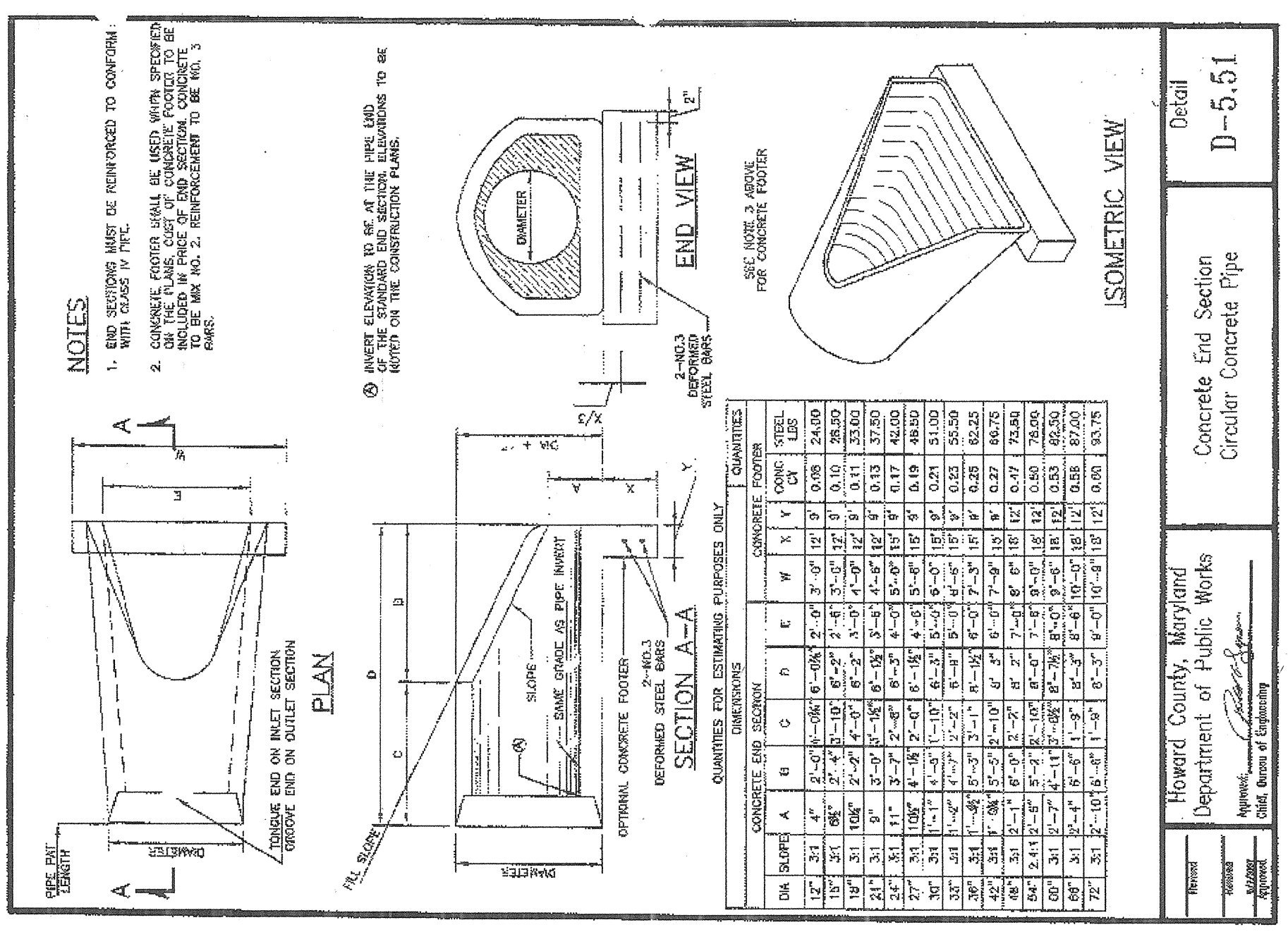
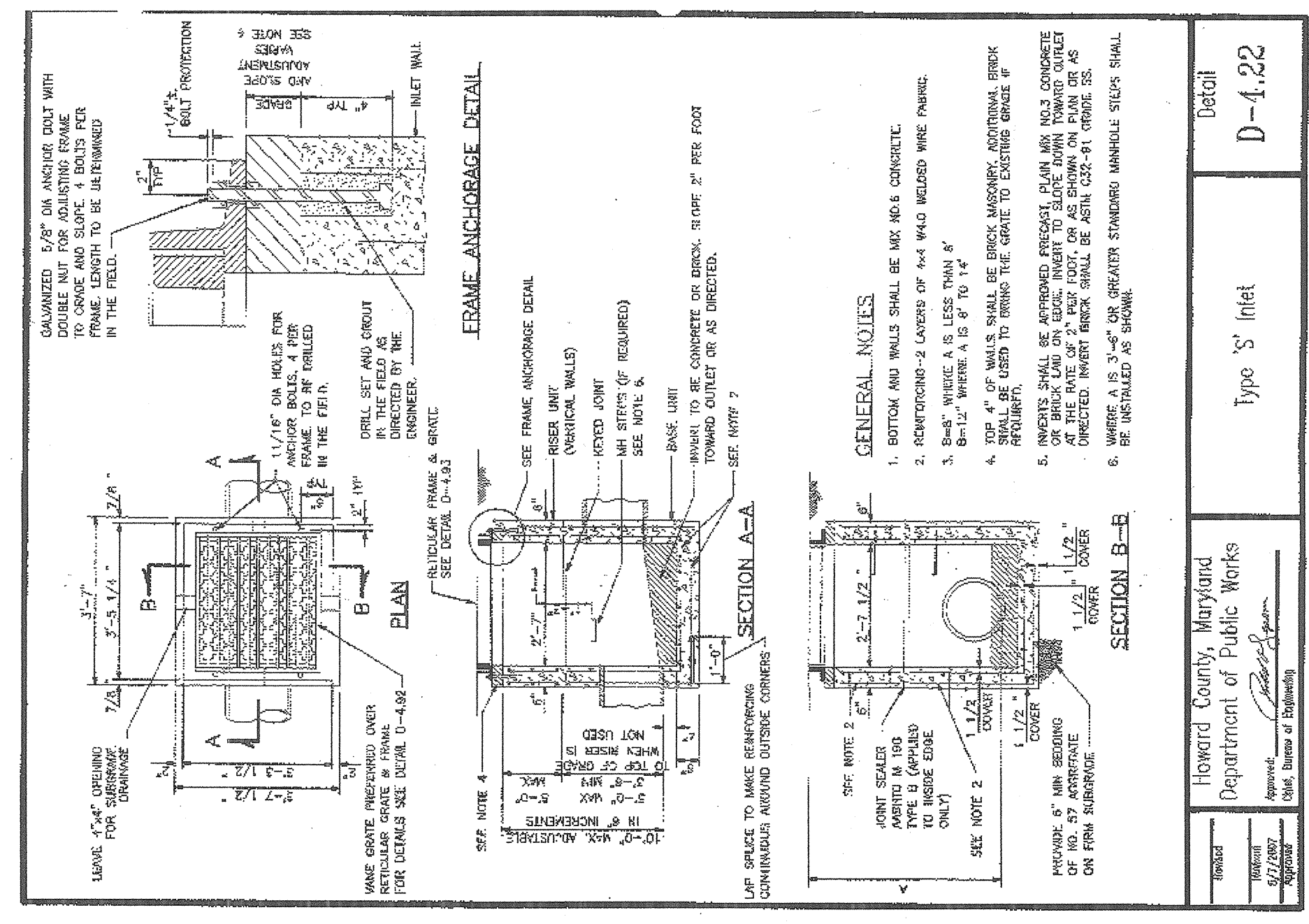
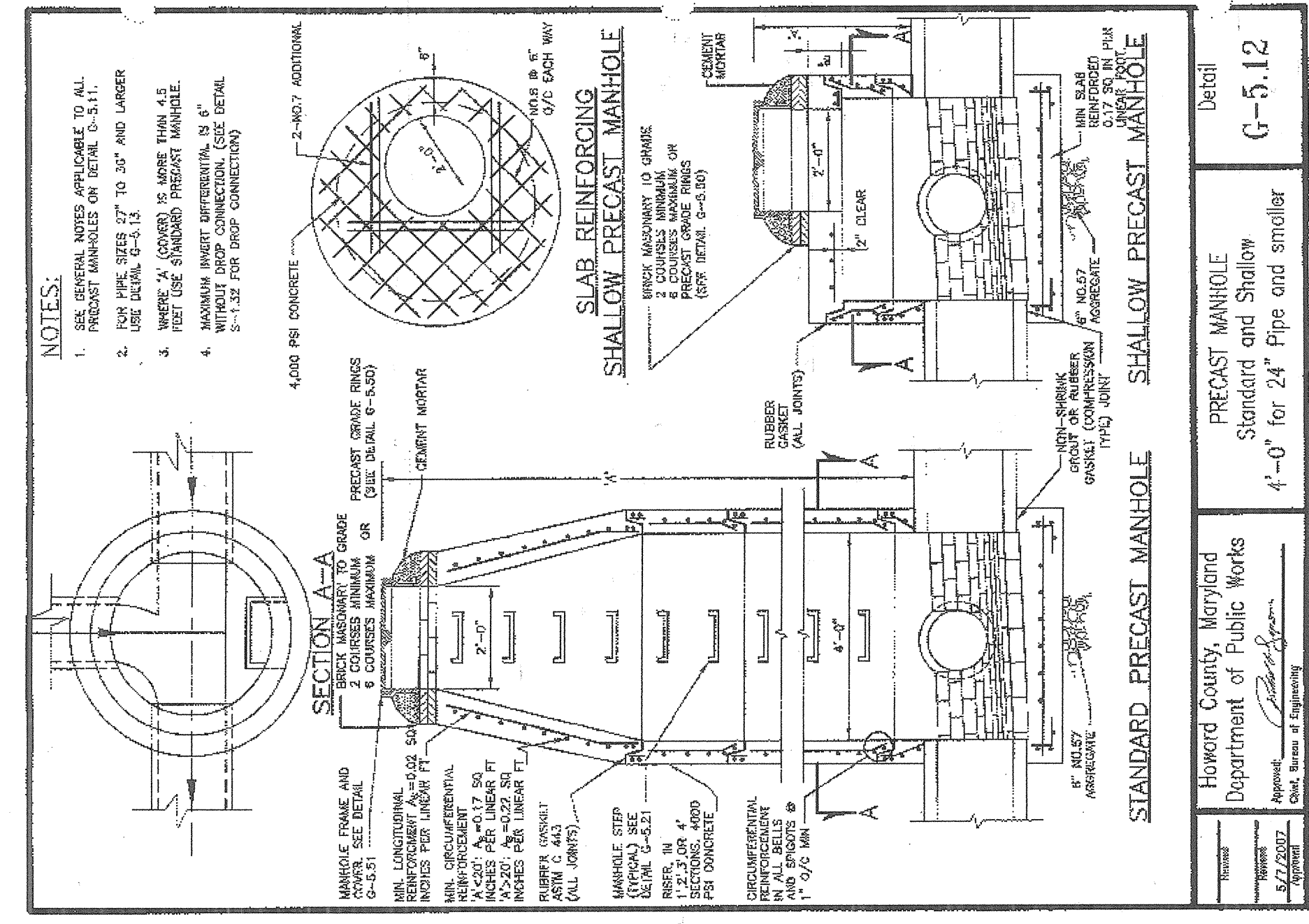
* HOWARD COUNTY STD. DETAIL

PIPE SCHEDULE

FROM	TO	SIZE	TYPE	LENGTH
I1A	I2A	15"	RCP CL IV	15.1 LF
I2A	M2A	18"	RCP CL IV	173 LF
M2A	M1A	18"	RCP CL IV	64 LF
M1A	S1A	18"	RCP CL III	29 LF
I3A	M2A	15"	RCP CL III	181 LF
I4A	M2A	15"	RCP CL III	27.7 LF
MICROBIORIENTATION #1	M3A	4"	SOLID PVC	7 LF
MICROBIORIENTATION #1	M3A	4"	PERF. PVC	113 LF
MICROBIORIENTATION #2	M3A	4"	PERF. PVC	88 LF
MICROBIORIENTATION #2	OUTFALL	4"	SOLID PVC	280.7 LF
MICROBIORIENTATION #3	OUTFALL	4"	PERF. PVC	147 LF
MICROBIORIENTATION #3	OUTFALL	4"	SOLID PVC	55.2 LF
MICROBIORIENTATION #4	OUTFALL	4"	PERF. PVC	155 LF
MICROBIORIENTATION #4	OUTFALL	4"	SOLID PVC	200 LF
BIOSWALE #1	OUTFALL	4"	PERF. PVC	61 LF
BIOSWALE #1	OUTFALL	4"	SOLID PVC	21 LF
BIOSWALE #2	OUTFALL	4"	PERF. PVC	62 LF
BIOSWALE #2	OUTFALL	4"	SOLID PVC	46 LF
BIOSWALE #3	OUTFALL	4"	PERF. PVC	35.5 LF
BIOSWALE #3	OUTFALL	4"	SOLID PVC	55.7 LF
BIOSWALE #4	OUTFALL	4"	PERF. PVC	81 LF
BIOSWALE #4	OUTFALL	4"	SOLID PVC	139 LF
BIOSWALE #5	OUTFALL	4"	PERF. PVC	84 LF
BIOSWALE #5	OUTFALL	4"	SOLID PVC	89 LF
BIOSWALE #6	OUTFALL	4"	PERF. PVC	84 LF
BIOSWALE #6	OUTFALL	4"	SOLID PVC	135 LF
BIOSWALE #7	OUTFALL	4"	PERF. PVC	108 LF
BIOSWALE #7	OUTFALL	4"	SOLID PVC	45 LF

PIPE SUMMARY

DIA. (IN.)	TYPE	TOTAL LENGTH
4"	SOLID PVC	1053.6'
4"	PERFORATED PVC	1080.5'
15"	RCP CL. III	208.7'
18"	RCP CL. IV	188.1'
18"	RCP CL. IV	64'



APPROVED: DEPARTMENT OF RECREATION AND PARKS
DIRECTOR: *John R. Boyd* 1/28/13 DATE

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
Systems for *Morris Runway* 2/12/2013 DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
Director: *John R. Boyd* 2/15/13 DATE

CHIEF-BUREAU OF ENGINEERING
Thomas R. Smith 2/15/13 DATE

CHIEF, TRANSPORTATION & SPECIAL PROJECTS
Steve Sloman 2/15/13 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 2/22/13 DATE

CHIEF-DEVELOPMENT ENGINEERING DIVISION N.Y. DATE
[Signature] 2/25/13 DATE

DIRECTOR
[Signature] 2/25/13 DATE

REVISED SITE DEVELOPMENT PLAN
ALPHA RIDGE PARK
ADDITIONS DESIGN
3rd ELECTION DISTRICT, TAX MAP 10
GRID #20, 21, PARCELS 23 & 54

SCALE: AS SHOWN
SHEET 20 OF 38

Storm Drain Details

DESIGNER	DATE	BY	NO	REVISION
R.H.				
A.W.W.				
M.S.Z.				
DATE: May, 2012				

Professional Certification:
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland license no. 017022004.

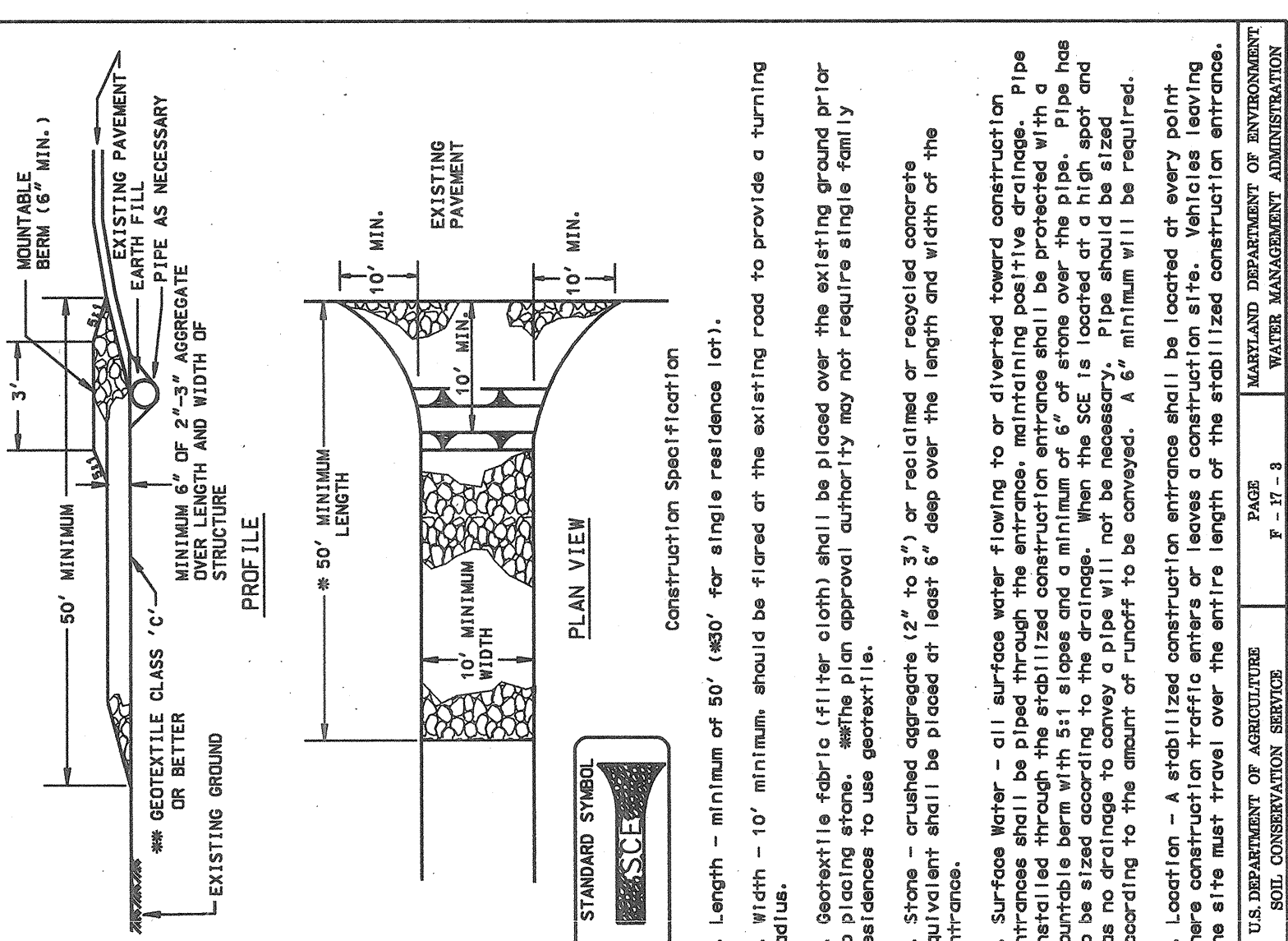
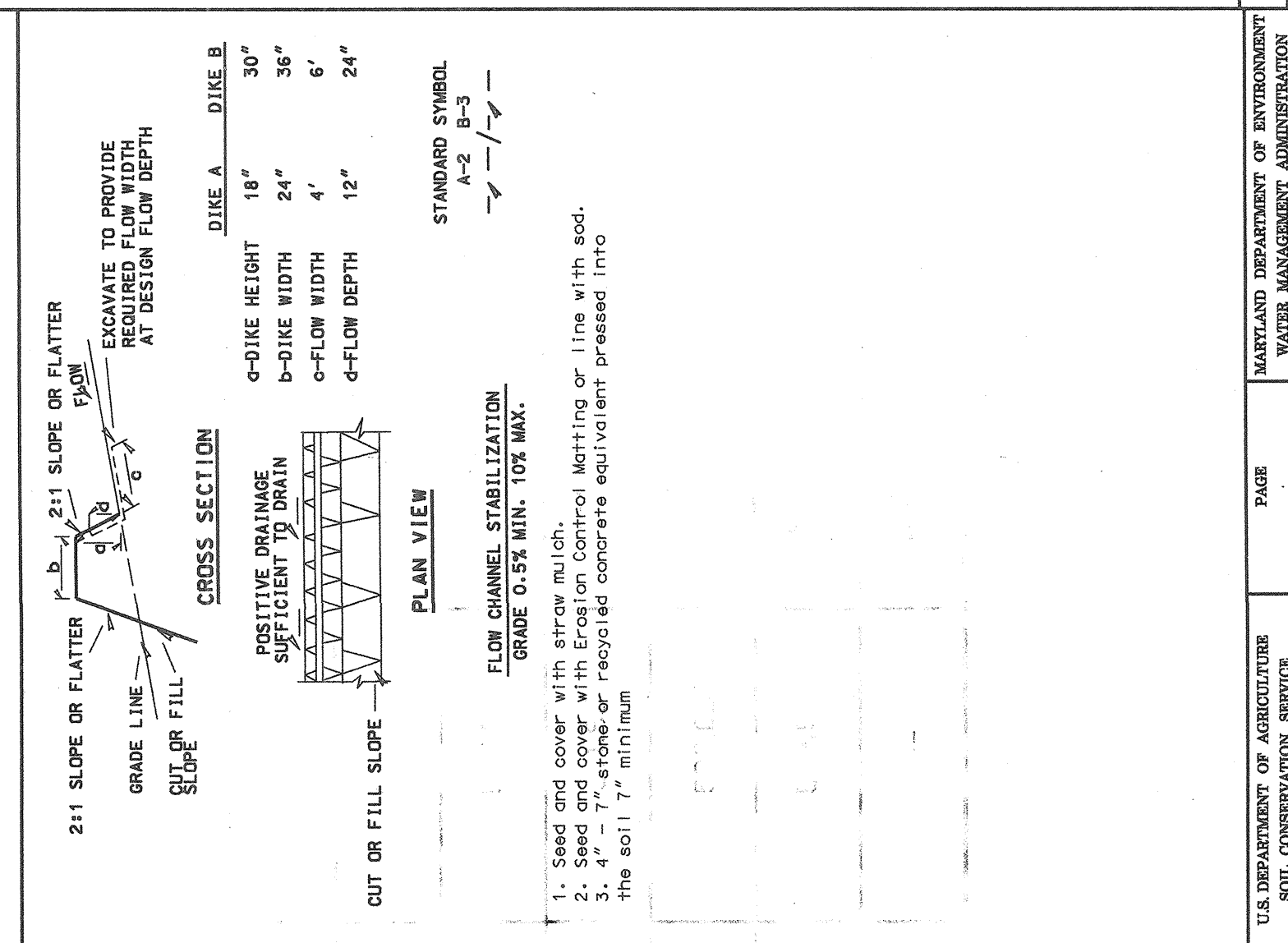
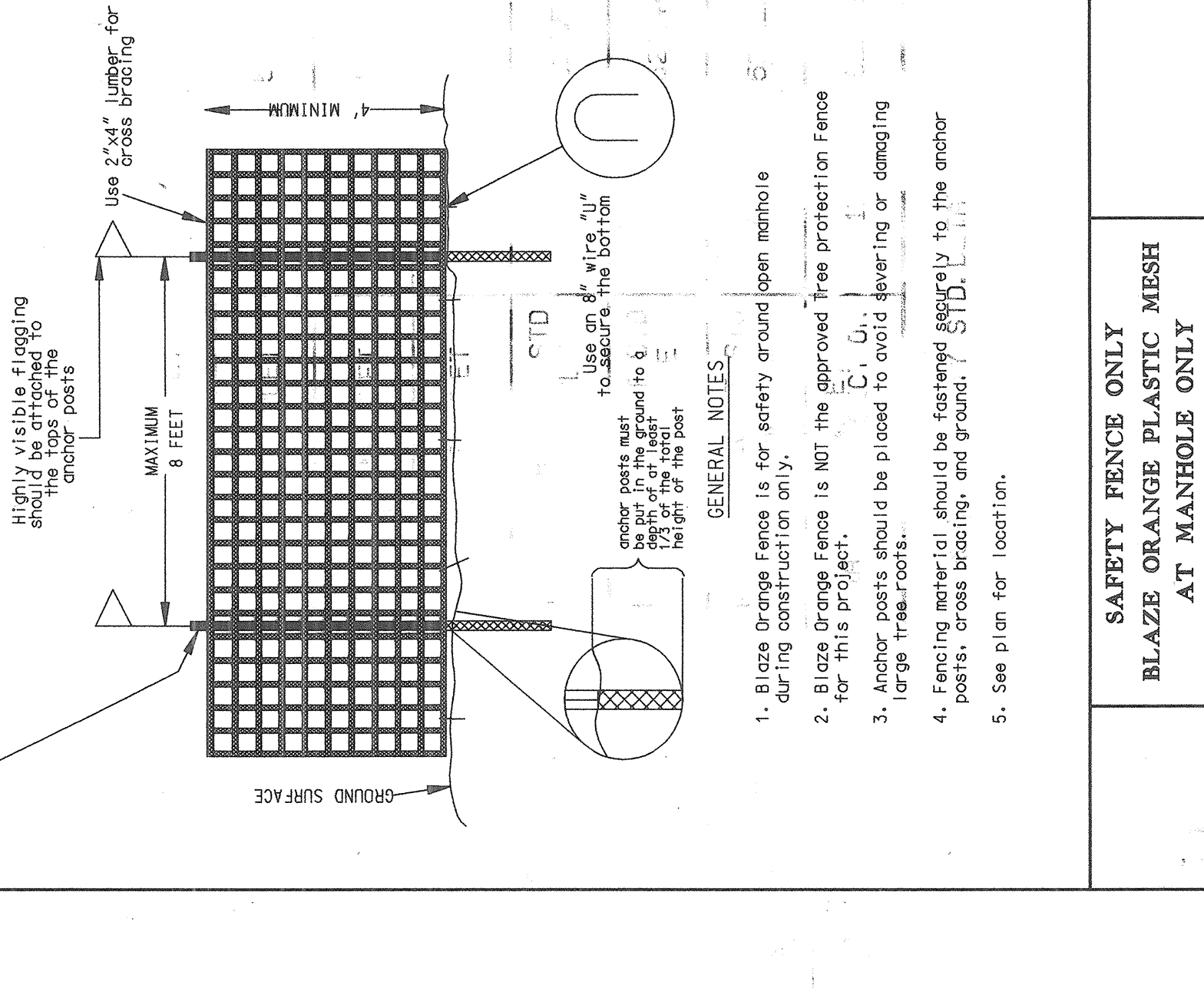
GPI
GREENMAN-PEASE INC.
1077 CALVERT ROAD, ANNAPOLIS, MARYLAND 21403
TEL: 410-291-1000 FAX: 410-291-1001
WWW.GPI.COM

OWNER: HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS
DEVELOPER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

STANDARD EROSION AND SEDIMENT CONTROL NOTES

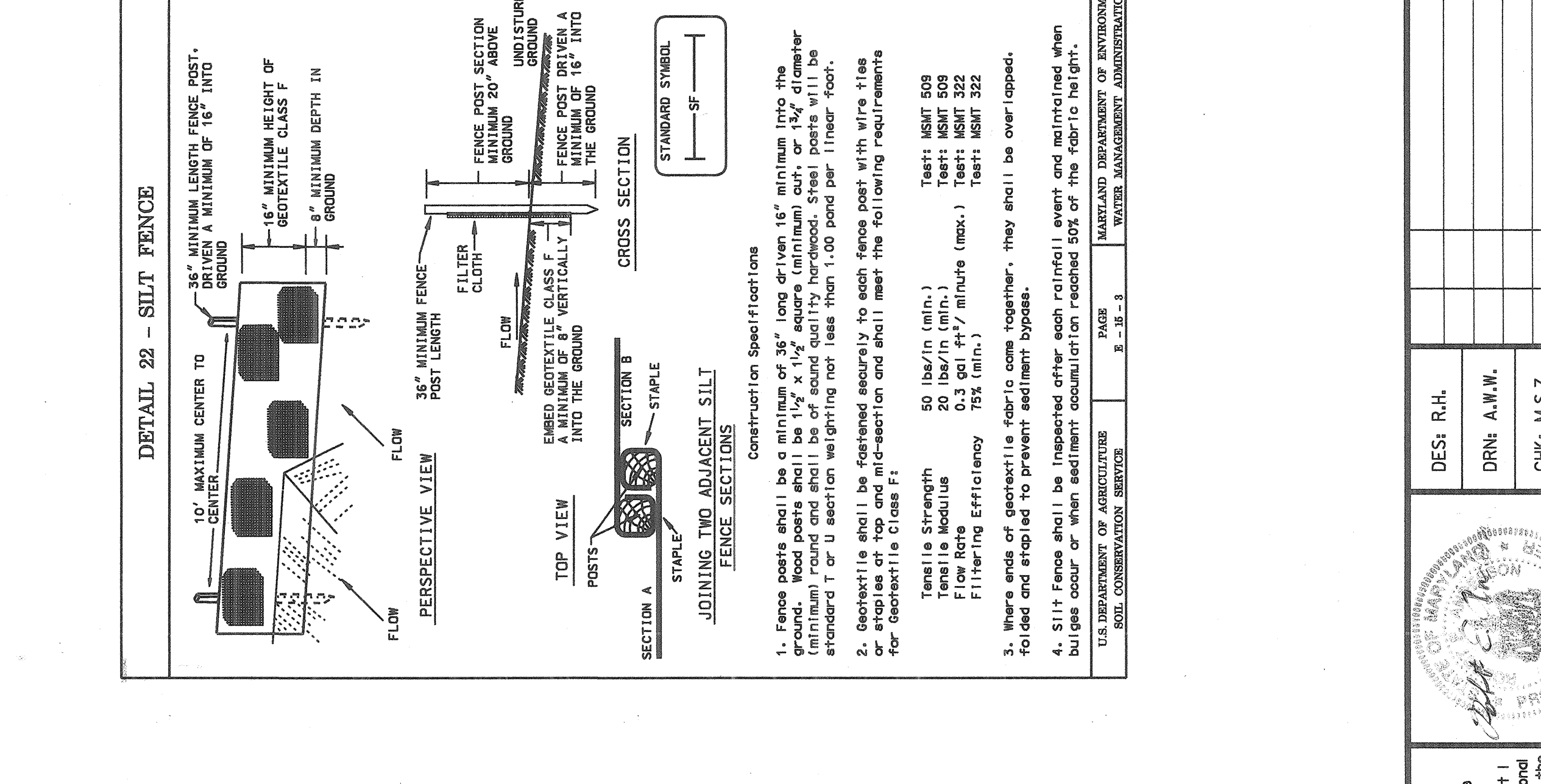
- August 2008
- The permittee shall notify the Department of Permitting Services (DPS) forty-eight (48) hours before commencing any land disturbing activity and, if necessary, shall attend a pre-construction meeting with the Department representative of the Department.
 - The permittee must obtain inspection and approval by DPS at the following points:
 - At the required pre-construction meeting.
 - Following installation of sediment control measures and prior to any other land disturbing activity.
 - During the installation of a sediment basin or stormwater management structure at the required inspection points (see inspection Checklist on plan). Notification prior to commencing construction is mandatory.
 - Prior to removal or modification of any sediment control structure(s).
 - Prior to final acceptance.
 - The permittee shall construct all erosion and sediment control measures per the approved plan and construction sequence, shall have them inspected and approved by the Department prior to beginning any other land disturbing activity, and shall not remove any sediment control structure until the sediment control measures are approved by the Department.
 - The permittee shall protect all points of construction ingress and egress to prevent the deposition of materials onto traversed public thoroughfares. All materials deposited onto public thoroughfares shall be removed immediately.
 - The permittee shall inspect periodically and maintain continuously in an effective operating condition, all erosion and sediment control measures until such times as they are removed with prior permission from the Department. The permittee is responsible for immediately repairing or replacing any sediment control structure as which have been damaged or removed by the permittee or any other person.
 - All sediment basins, trap embankments, perimeter dikes, and all disturbed areas shall be stabilized within 14 days of completion. Sediment control structures shall be maintained as necessary to ensure continued stabilization.
 - The permittee shall apply sod, seed, and anchored straw mulch, or other approved stabilization measures to all disturbed areas within fourteen (14) days of establishment. All areas disturbed outside of the perimeter sediment control system must be minimized and stabilized immediately. Maintenance must be performed as necessary to ensure continued stabilization.
 - Prior to removal of sediment control measures, the permittee shall stabilize the area with sod, seed, and anchored straw mulch and an approved anchored straw mulch. Wood fiber mulch may only be used in seeding season when the slope does not exceed 1:1. Grass seeding shall be done to promote establishment. Areas stabilized within four (4) calendar days of establishment. When property is brought to finished grade during the months of November through February, and sod and straw mulch shall be applied to disturbed areas. The final permanent stabilization of such property shall be completed prior to the following April 15.
 - The site permit, work, materials, approved SC/SN plans, and test reports shall be available at the site for inspection by duly authorized officials of Montgomery County.
 - Surface drainage flows over unstabilized out and fill slopes shall be controlled by either preventing drainage flows from traversing the slopes or by installing mechanical devices to lower the water down slope of out and fill slopes until the slope and drainage area to it are fully stabilized, at which time they must be removed and final grading done to promote sheet flow drainage. Mechanical devices must be provided at points of concentrated flow where erosion is likely to occur.
 - Permanent swales or other points of concentrated water flow shall be stabilized within 14 days of establishment with sod, seed, and approved erosion control matting or by other approved stabilization measures.
 - Temporary sediment control devices shall be removed, with permission of the permittee, after the permanent stabilization of the area. Stormwater management structures used temporarily for sediment control shall be converted to the permanent configuration within this time period as well.
 - No permanent out or fill slope with a gradient steeper than 3:1 will be permitted in lawn maintenance areas or on residential lots. A slope gradient of 2:1 will be permitted in non-maintenance areas provided that those areas are stabilized with sod, seed, and anchored straw mulch. Slope gradient steeper than 2:1 will not be permitted with vegetative stabilization.
 - The permittee shall install a splashblock at the bottom of each downspout unless the downspout is connected by a drain line to an acceptable outlet.
 - For finished grading, the permittee shall provide adequate gradients, so as to prevent ponding of water on any surface. Within 24 hours after the end of a rainfall, except in designated drainage courses and swale flow areas, which may drain as long as forty-eight (48) hours after the end of a rainfall.
 - Sediment traps or basins are not permitted within 20 feet of a building which is existing or under construction. No building may be constructed within 20 feet of a sediment trap or basin.
 - All inlets in non-sump areas shall have asphalt berms installed at the time of base paving establishment.
 - The sediment control inspector has the option of requiring additional sediment control measures, as deemed necessary.
 - All trap elevations are relative to the outlet elevation, which must be on existing undisturbed ground.
 - Vegetative stabilization shall be performed in accordance with the Standards and Specifications for Soil Erosion and Sediment Control.

- Temporary sediment trap(s) shall be cleaned out and restored to the original dimensions when sediment has accumulated to a point where it is no longer effective. The trap or traps shall be cleaned out when required by the sediment control inspector.
- Sediment removed from traps shall be placed and stabilized in approved areas, but not within a floodplain.
- All sediment basins and traps must be surrounded with a 2-foot high safety fence. The fence must be at least 42 inches high. Safety fence openings no greater than 8 inches in width and four inches in height, with a minimum of two openings per 10 feet of fence. The fence must be maintained in good condition at all times.
- No excavation in the areas of existing utilities is permitted. All excavation shall be done in accordance with the Maryland State Utility Act (8-201) and the Department of Public Safety. Call 800-257-7171, 48 hours prior to the start of work.
- Off-site spoil or borrow areas must have prior approval by DPS.
- Sediment trap/basin dewatering for cleanout or permittee. The inspector must approve the dewatering method for each application. The following methods may be considered:
 - Pump discharge may be directed to another on-site sediment trap or basin, provided it is of sufficient capacity and the discharge is directed to prevent aggradation or suction of deposited sediments to prevent.
 - The pump intake may utilize a Removable Pumping Structure and discharge into an undisturbed area through a non-erosive outlet, or
 - The pump intake may be floated and discharge into a 12" x 12" x 12" undisturbed buffer area.
- Remember: Dewatering operation and method must have prior approval by the DPS inspector.
- The permittee must notify the Department of all utility construction activities within the permitted limits of utility disturbance prior to the commencement of those activities.
- Tessal must be applied to all pervious areas within the limits of disturbance prior to permanent stabilization in accordance with Howard County standards and specifications for topsoiling.



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE P-11-3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE P-11-3A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE P-11-3B	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE P-11-3A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE P-11-3B	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE P-11-3C	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE P-11-3A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE P-11-3B	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE P-11-3C	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE P-11-3A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE P-11-3B	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE P-11-3C	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Professional Certification:
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 3336, Expiration Date: 07/02/2008.

DES: R.H.
DRN: A.W.W.
CHK: M.S.Z.
DATE: May, 2012
BY: NO
REVISION:

OWNER: HOWARD COUNTY DEPARTMENT OF PERMITTING SERVICES
10000 WOODBURN ROAD
COLUMBIA, MD 21046
ATTN: MR. MARSHALL DAVIDSON
VOICE: 410-313-5306
FAX: 410-313-6144

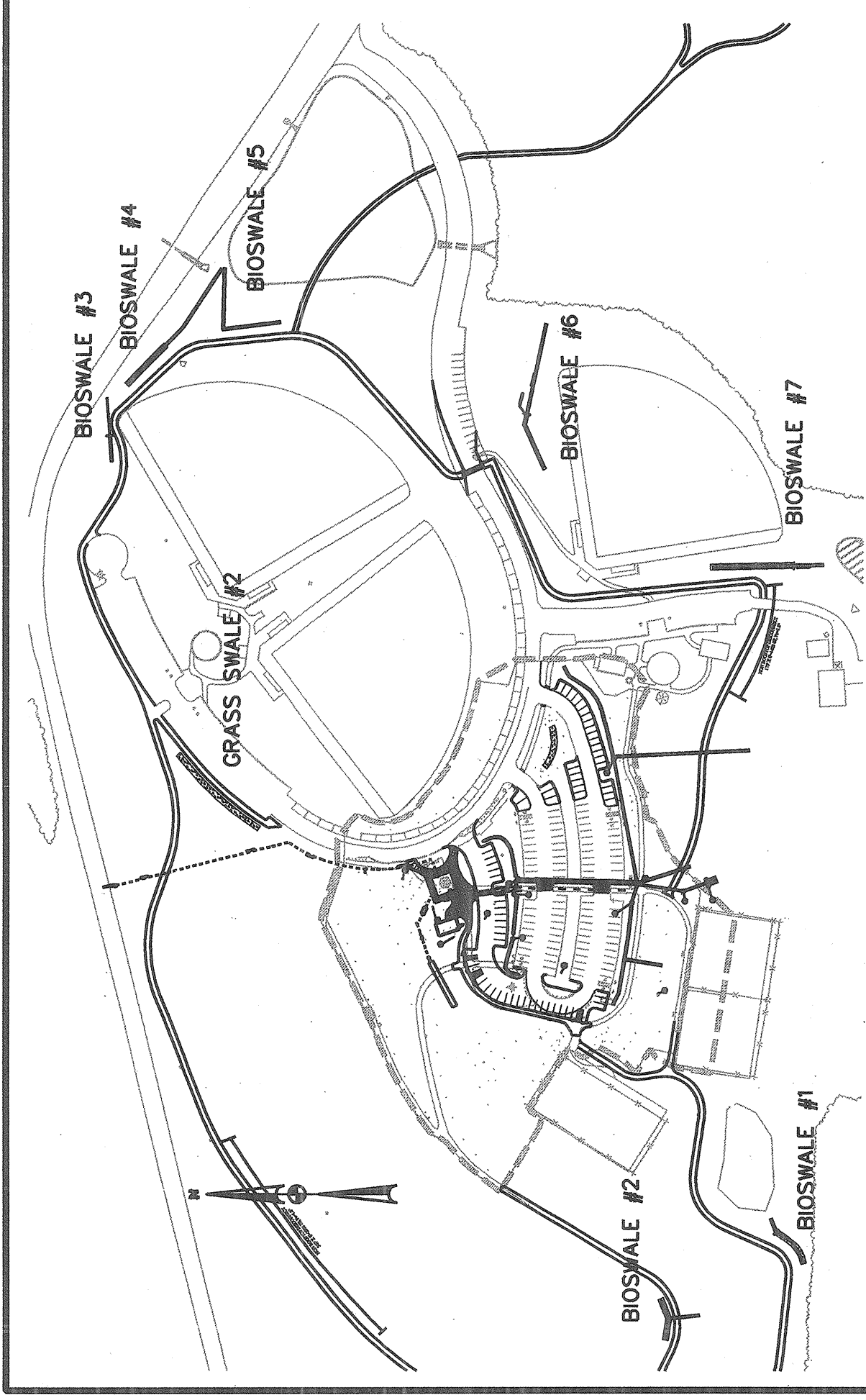
DEVELOPER: GREENMAN-ROSENEN, INC.
10077 CALVERT ROAD, ANNAPOLIS, MD 21403
TEL: 410-291-1000
FAX: 410-291-2400
WWW.GPI.COM

REVISIONS:

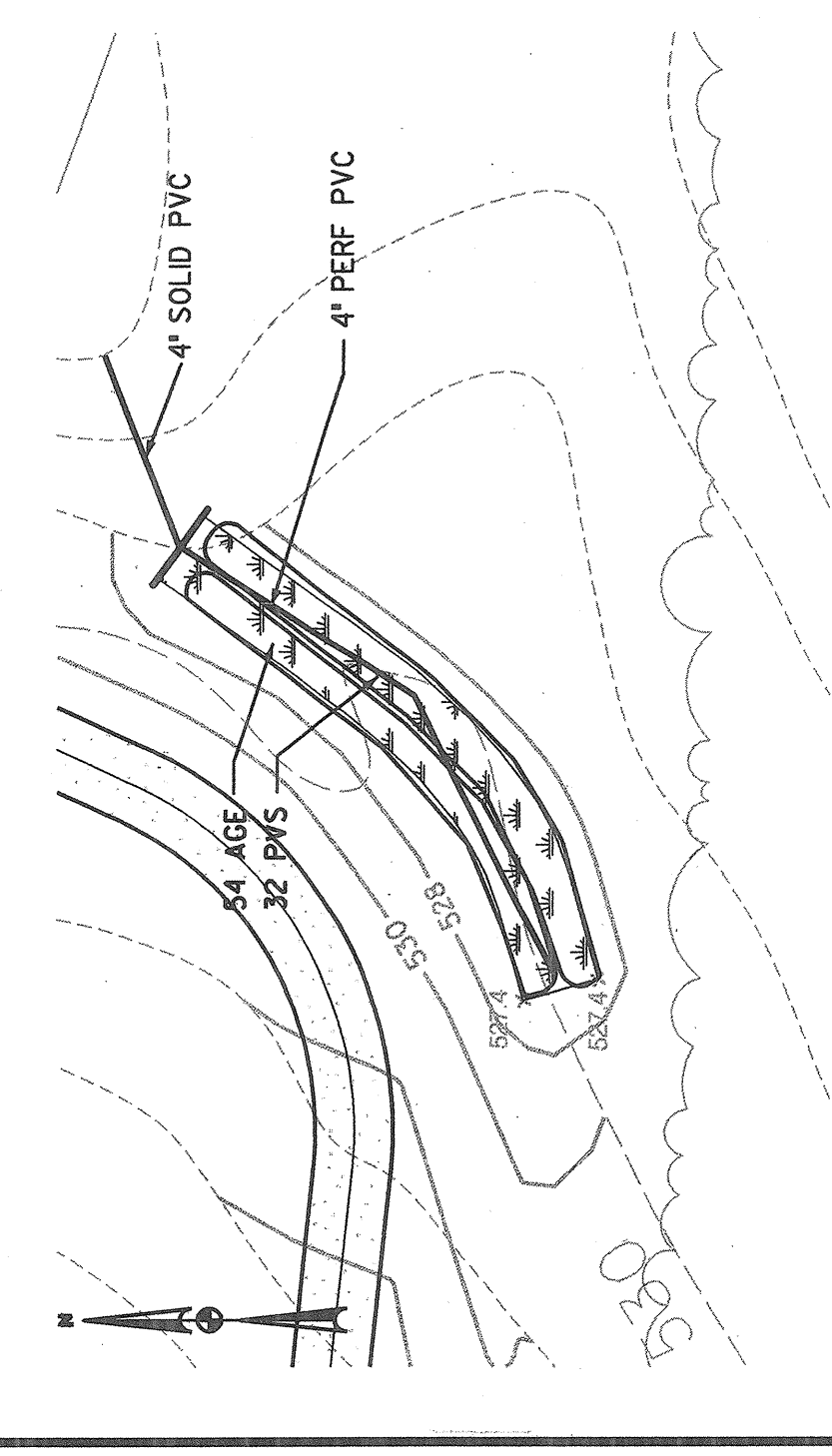
NO.	DATE	DESCRIPTION
1	05/15/13	AS SHOWN

SCALE: AS SHOWN
SHEET: 21 OF 38
3rd ELECTION DISTRICT, TAX MAP 10 GRID#20, 21, PARCELS 25 & 54

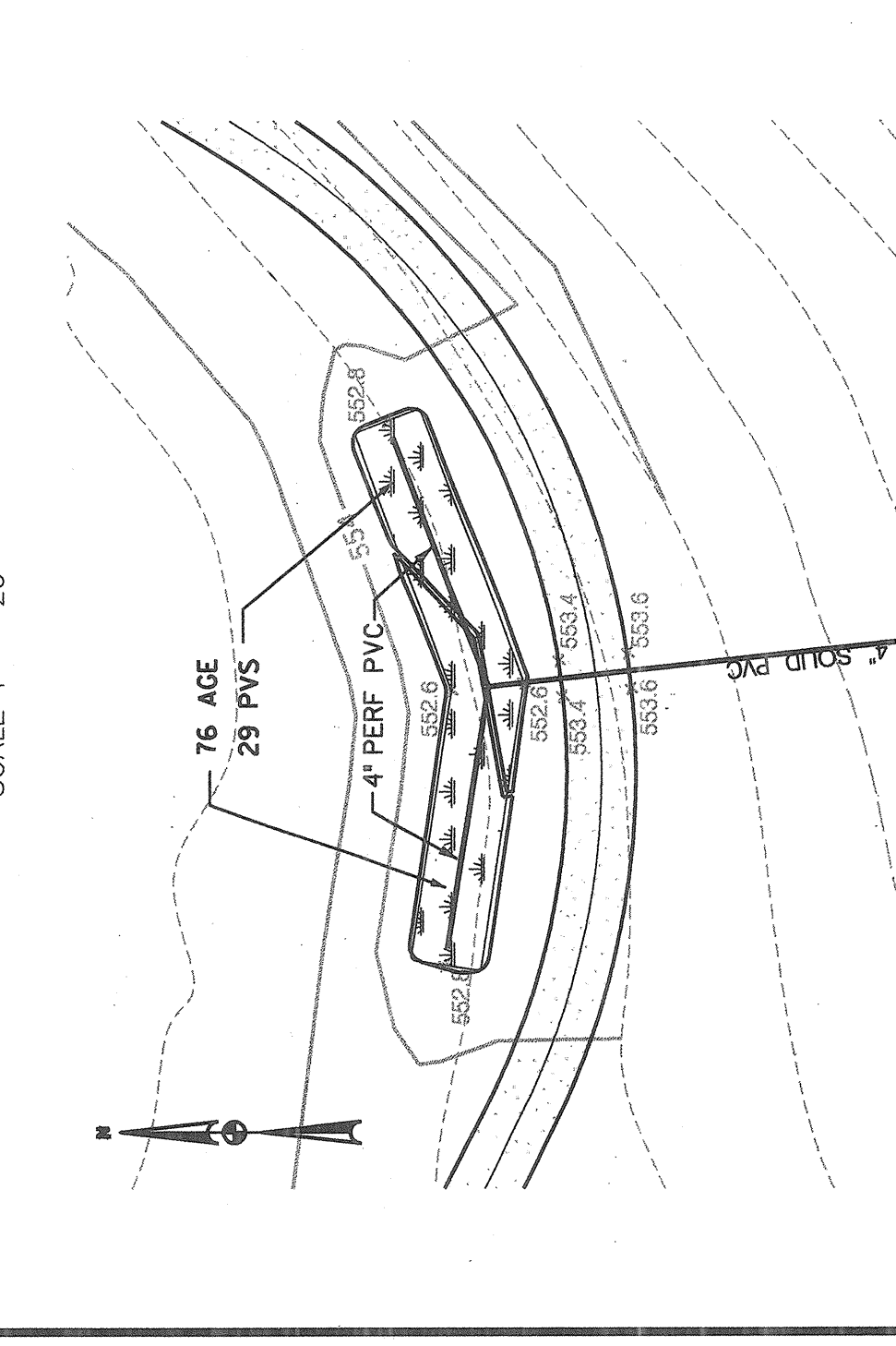
SDP 90-18



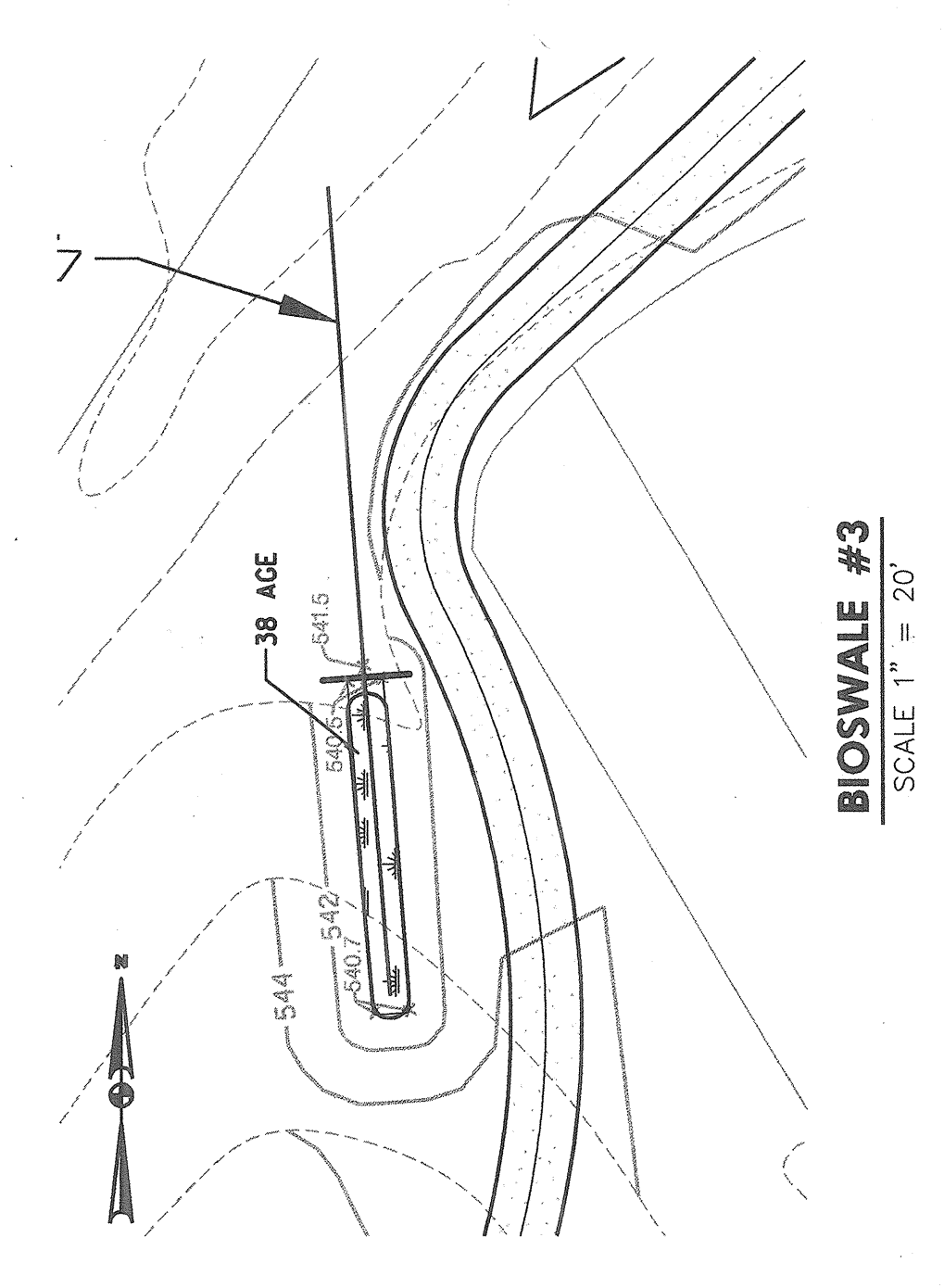
PLAN KEY



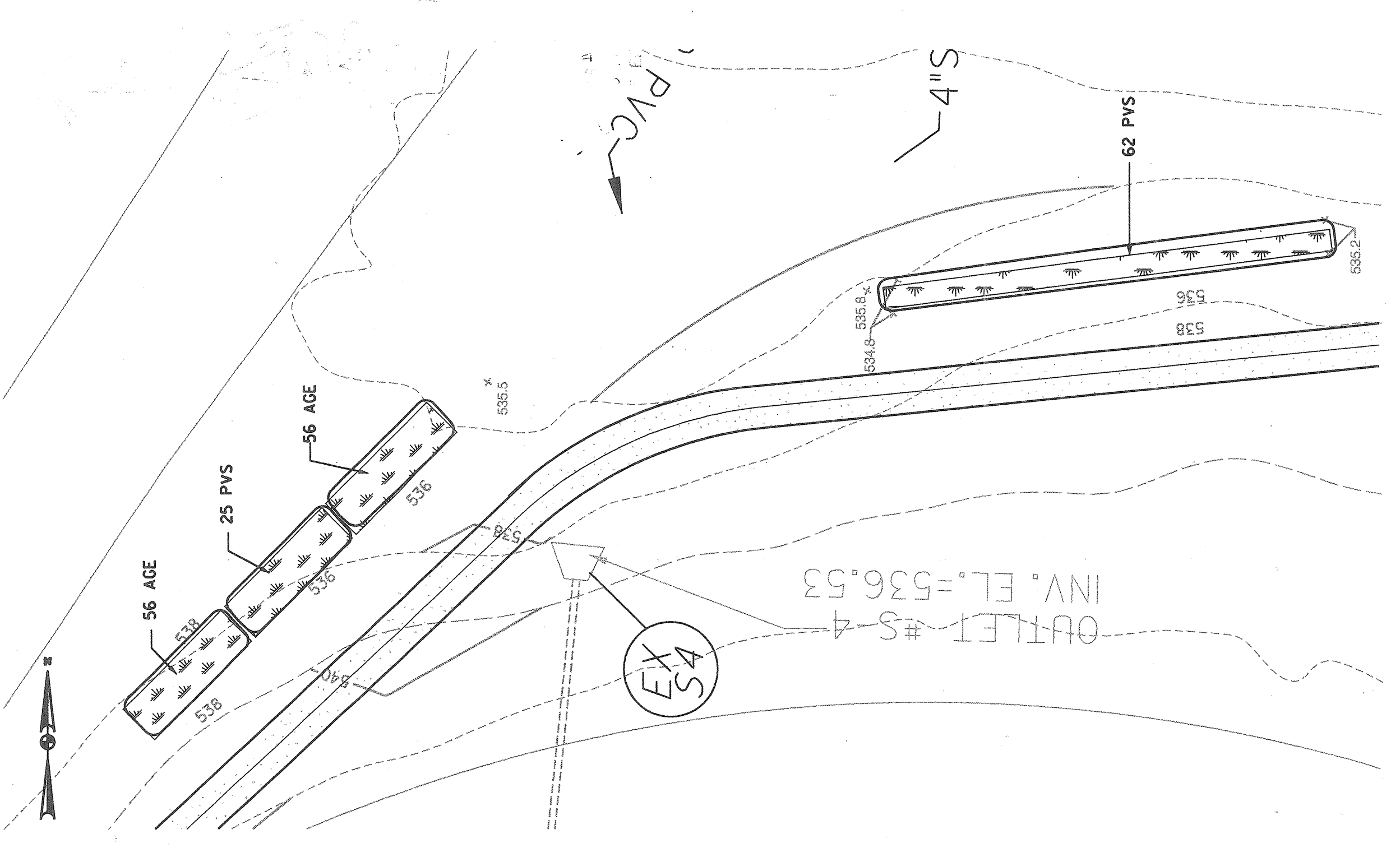
BIOSWALE #1
SCALE: 1" = 20'



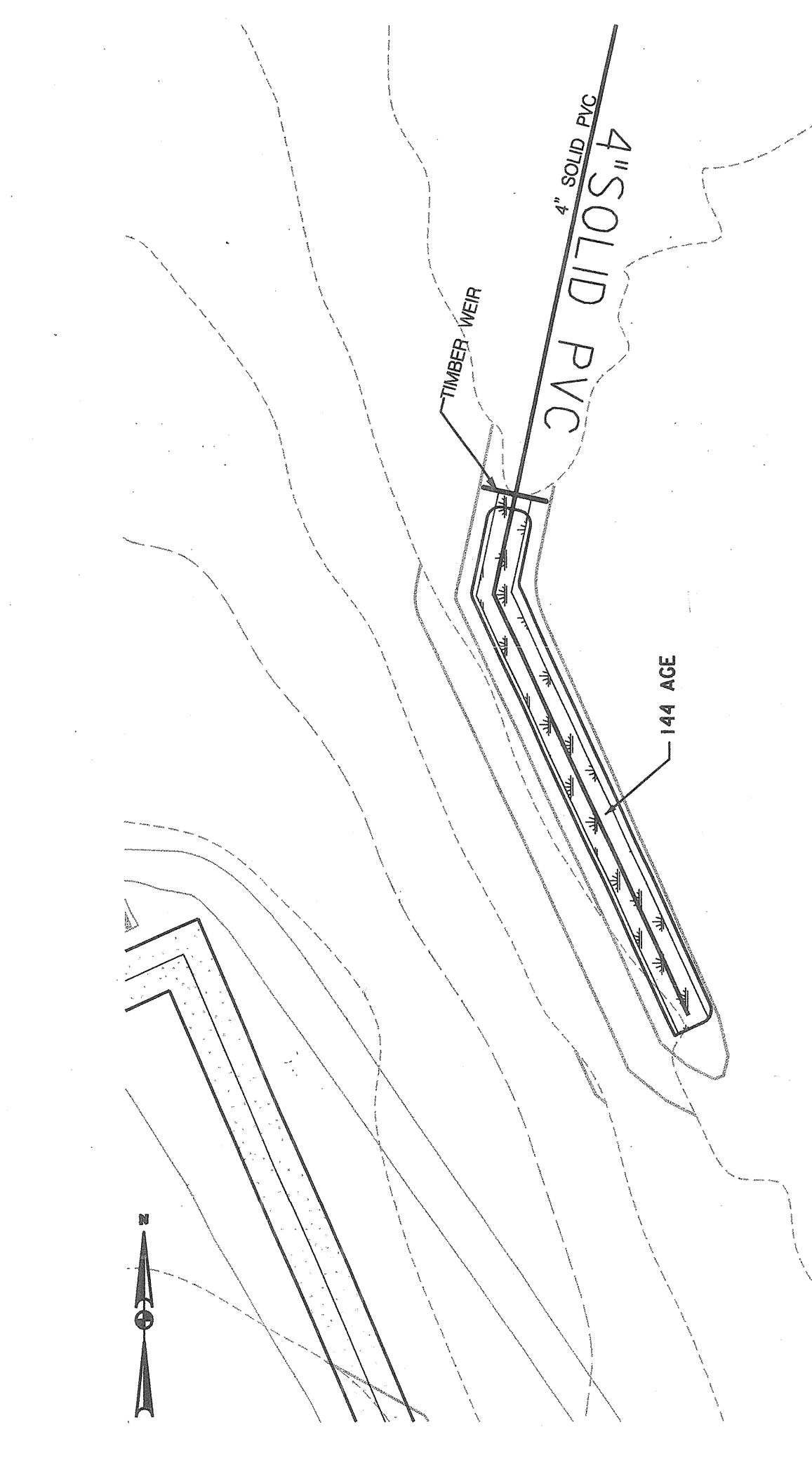
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SCALE: 1" = 20'



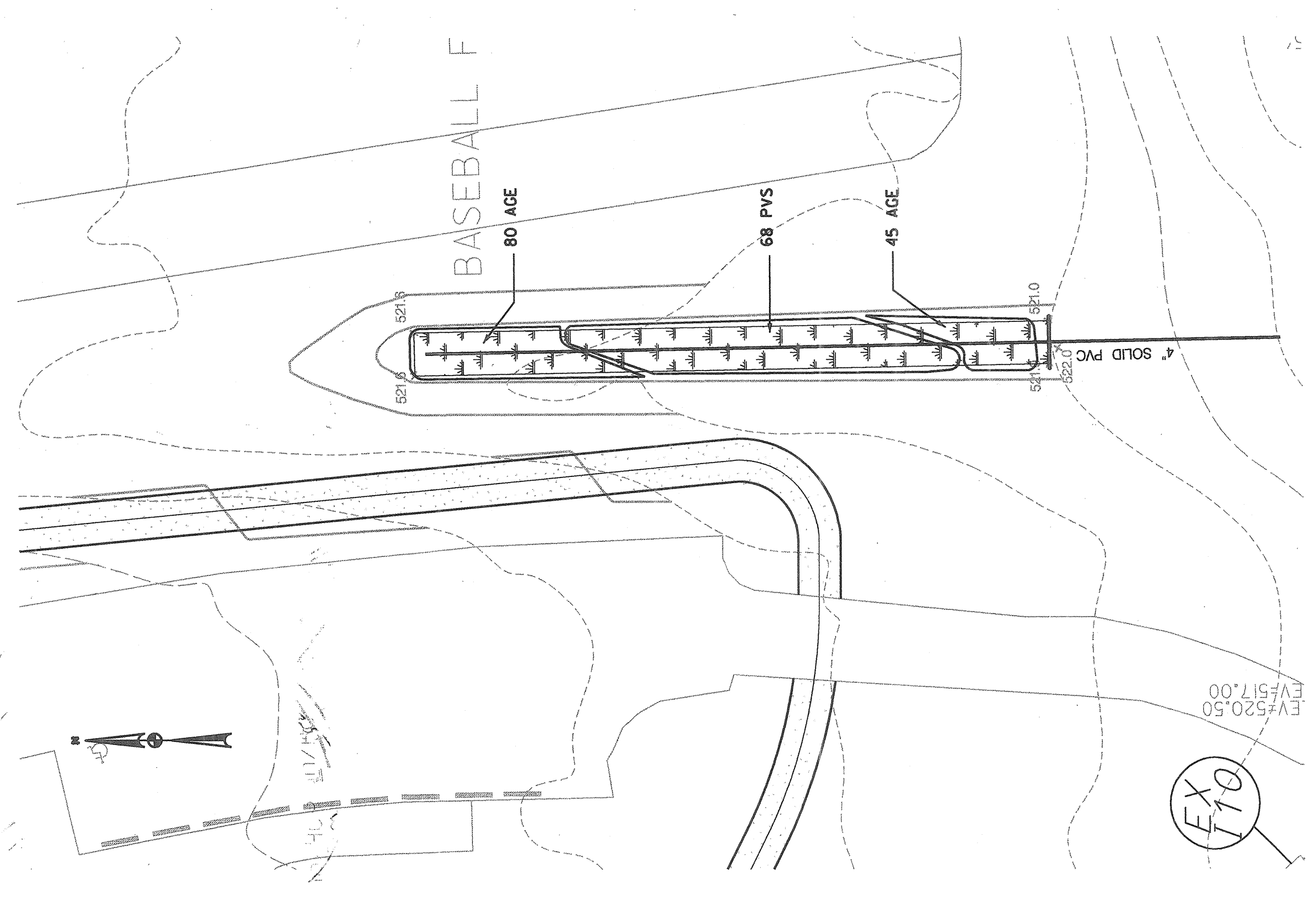
BIOSWALE #3
SCALE: 1" = 20'



BIOSWALE #4 & #5
SCALE: 1" = 20'



BIOSWALE #6
SCALE: 1" = 20'



BIOSWALE #7
SCALE: 1" = 20'

GRASS SWALE #2 TO BE SEEDED
SEE SWM PLANS FOR DETAILS

Note:
Bioswale not part
of this contract

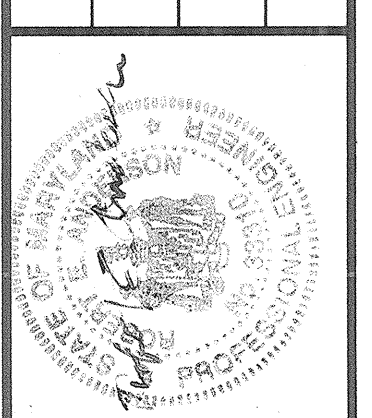
QUANTITY	FORM	KEY	SCIENTIFIC NAME	COMMON NAME	HEIGHT	SPACING	SIZE
549	Grass	AGE	Andropogon gerardii	Big Bluestem	3.5'-6.5'	2' OC	2' OC
216	Grass	PVS	Panicum virgatum	Shemandoah Switchgrass	2'-3'	3' OC	3' OC

OWNER:
HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS
1077 CALLEON ROAD
COLUMBIA, MD 21046
ATTN: MR. PAUL DELERNE
VOICE: 410-313-4689
FAX: 410-313-6446

DEVELOPER:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
1077 CALLEON ROAD, ANNAPOLIS JUNCTION, MD 20704
COLUMBIA, MD 21046
ATTN: MR. MARSHALL DAVIDSON
VOICE: 410-313-5306
FAX: 410-313-6446

GPI GREENMAN-PEPPERSEN, INC.
1077 CALLEON ROAD, ANNAPOLIS JUNCTION, MD 20704
COLUMBIA, MD 21046
ATTN: MR. MARSHALL DAVIDSON
VOICE: 410-313-5306
FAX: 410-313-6446

Professional Certification:
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the care of the State of Maryland (license no. 05502, Expiration Date: 7-7-2014)



DES: R.H.
DRN: A.W.W.
CHK: M.S.Z.
DATE: May, 2012

NO	BY	REVISION	DATE

Stormwater Management Landscape Plan

REVISED SITE DEVELOPMENT PLAN
ALPHA RIDGE PARK
ADDITIONS DESIGN
3rd ELECTION DISTRICT, TAX MAP 10
GRID#20, 21, PARCELS 23 & 54

APPROVED: DEPARTMENT OF RECREATION AND PARKS DIRECTOR <i>[Signature]</i> 1/28/17	DATE
APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS <i>[Signature]</i> 1/18/2013	DATE
APPROVED: DEPARTMENT OF PUBLIC WORKS <i>[Signature]</i> 2/15/17	DATE
DIRECTOR OF PUBLIC WORKS	DATE
<i>[Signature]</i> 2/15/13	DATE
CHIEF-BUREAU OF ENGINEERING	DATE
<i>[Signature]</i> 2/14/13	DATE
CHIEF, TRANSPORTATION & SPECIAL PROJECTS	DATE
APPROVED: DEPARTMENT OF PLANNING AND ZONING <i>[Signature]</i> 2/22/13	DATE
CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE
<i>[Signature]</i> 2/25/13	DATE
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE
<i>[Signature]</i> 2/27/13	DATE
DIRECTOR	DATE

SDP #90-18
 ALPHA RIDGE PARK
 REVIEWED NO FACILITIES REQUIRED
 HENRI COUNTY HEALTH DEPARTMENT
 JAMES M. BISHOP, PE, PLS
 1/24/92
 APPROVED: HENRI COUNTY DEPARTMENT OF PLANNING AND ZONING
 JAMES M. BISHOP, PE, PLS
 1/24/92
 APPROVED: HENRI COUNTY DEPARTMENT OF PUBLIC WORKS
 JAMES M. BISHOP, PE, PLS
 1/24/92
 APPROVED: HENRI COUNTY DEPARTMENT OF ENGINEERING
 JAMES M. BISHOP, PE, PLS
 1/24/92

SITE DATA
 OWNER: HOWARD COUNTY
 DEPT. OF PUBLIC WORKS
 PROPOSED IMPROVEMENT: PARK
 DEED REF: LB#1847, FOLIO 606
 TAX MAP #10, PARCEL #28
 ELECTION DISTRICT #3
 CENSUS TRACT #1000
 JANUARY 1992
 SHEET
 S.8
 500-20 of 38
 of 20
 J. CHRISTOPHER BATTEN, INC.
 Land Planning & Design Consultant
 8 North Church Street
 P.O. Box 11157
 201-974-3365

MANHOLE SCHEDULE

No.	Type	Size	In.	Out.	Rim Elev.
M-1	Standard Precast	12'-0"	549.82		555.60
M-2	Shallow Precast		534.75	539.40	539.40
M-3	Shallow Precast		536.36	542.60	542.60

OUTLET SCHEDULE

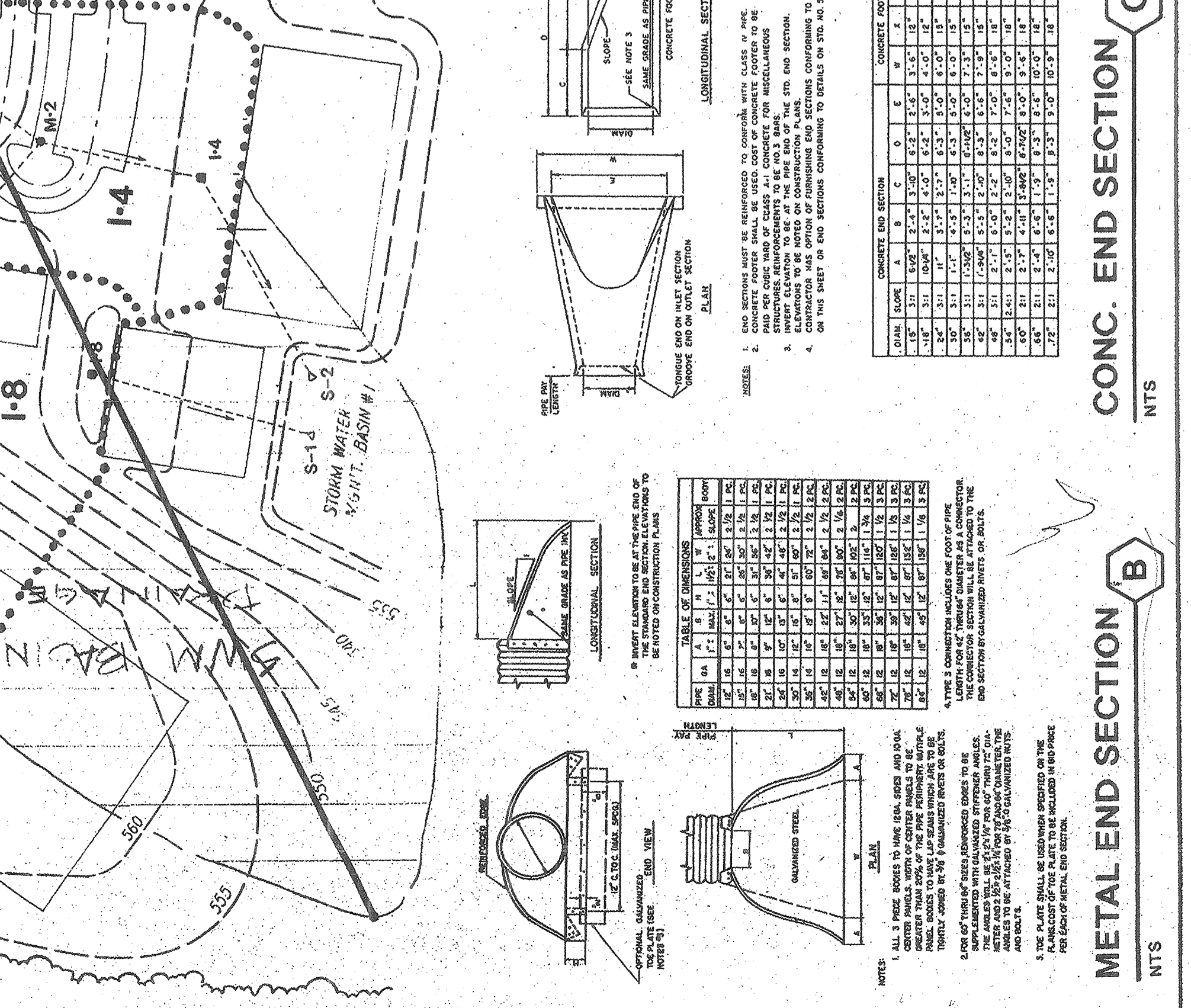
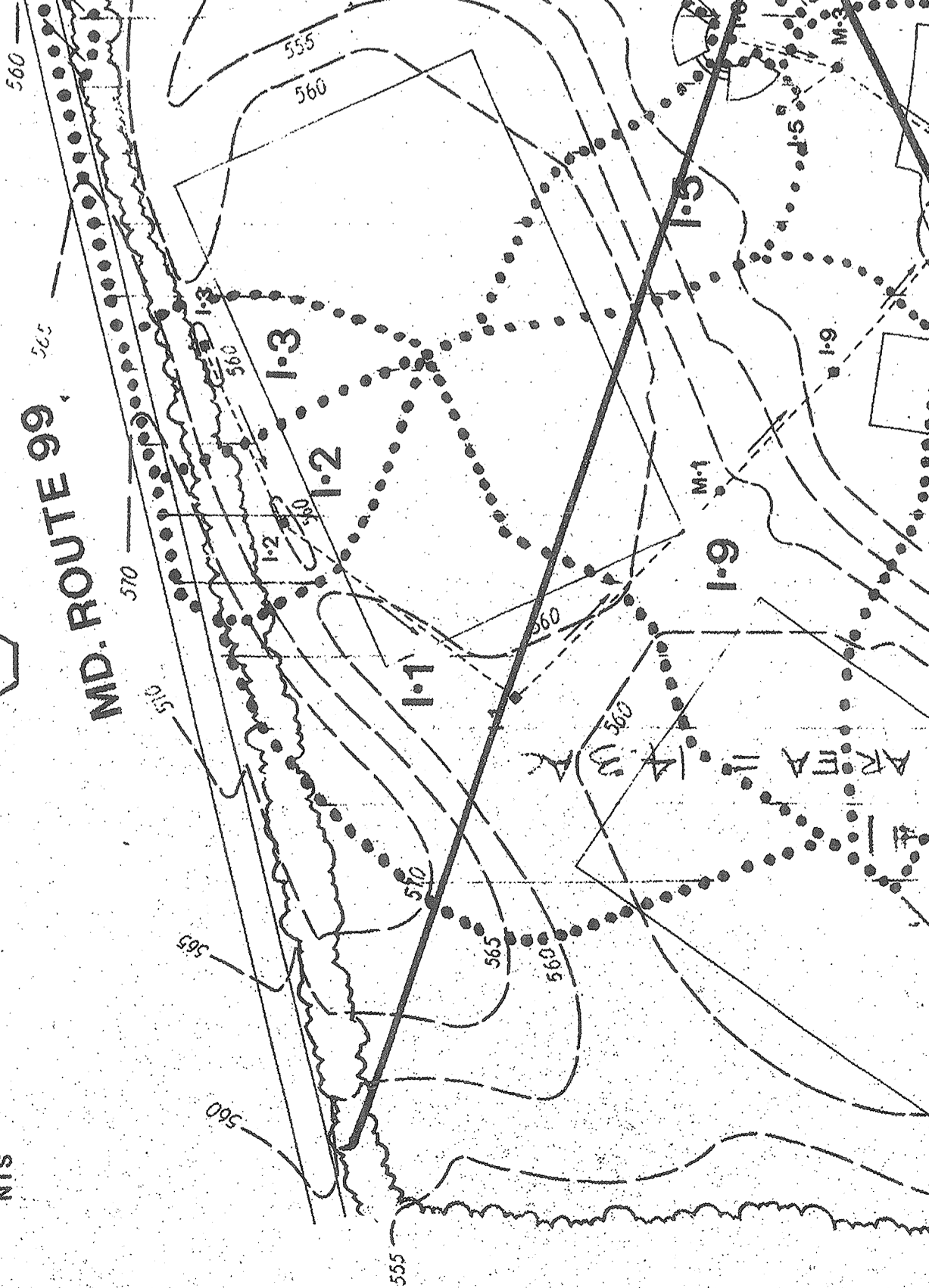
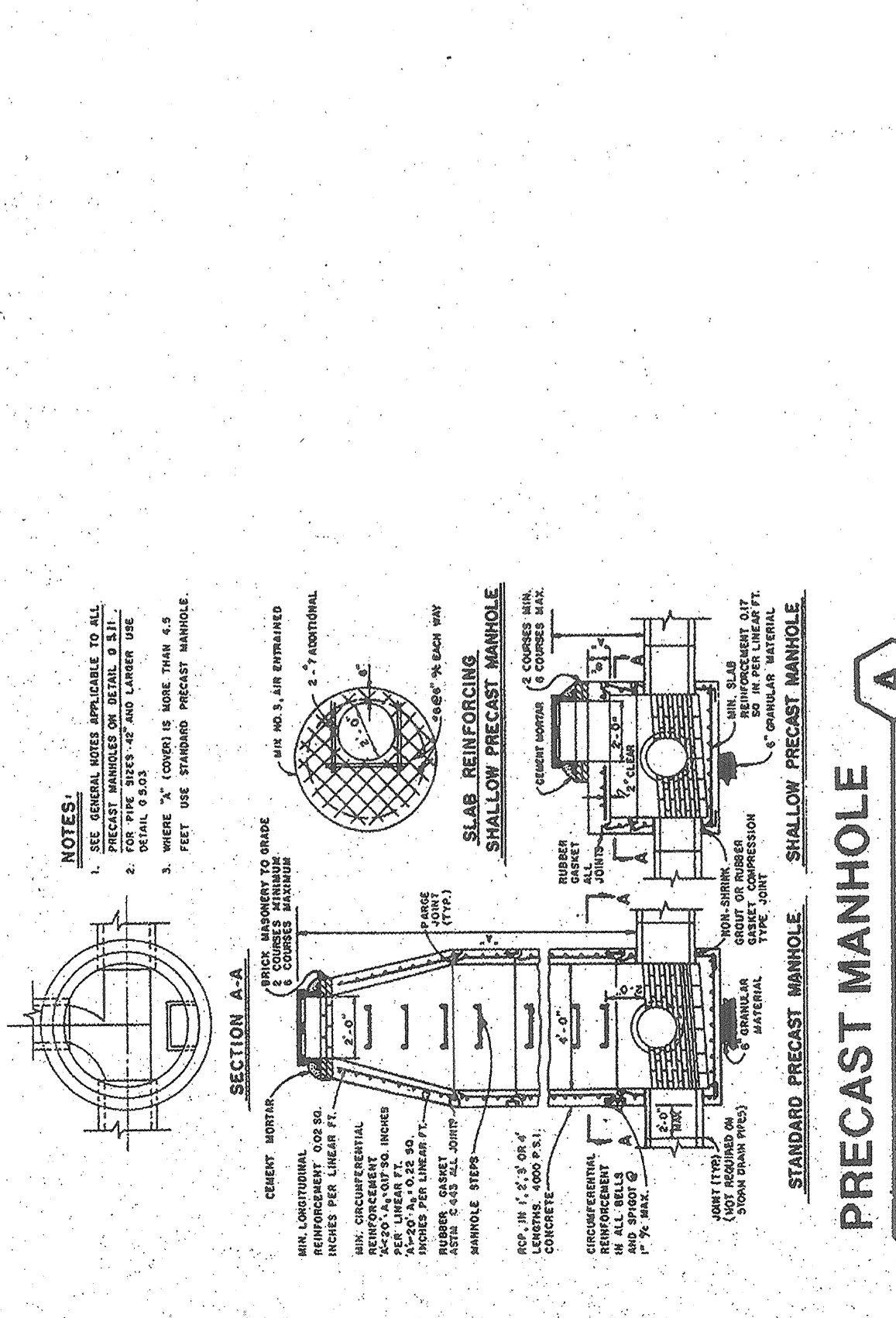
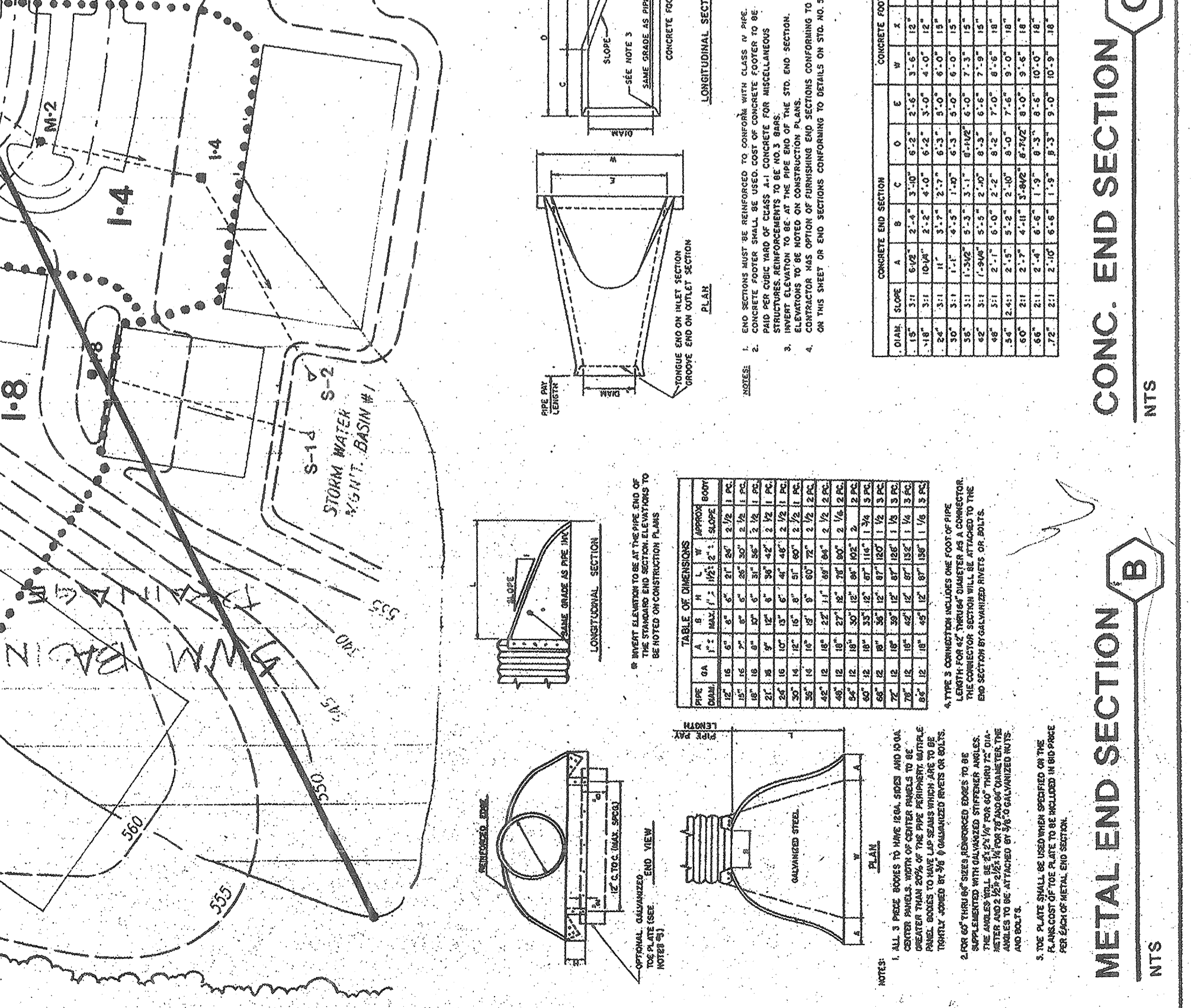
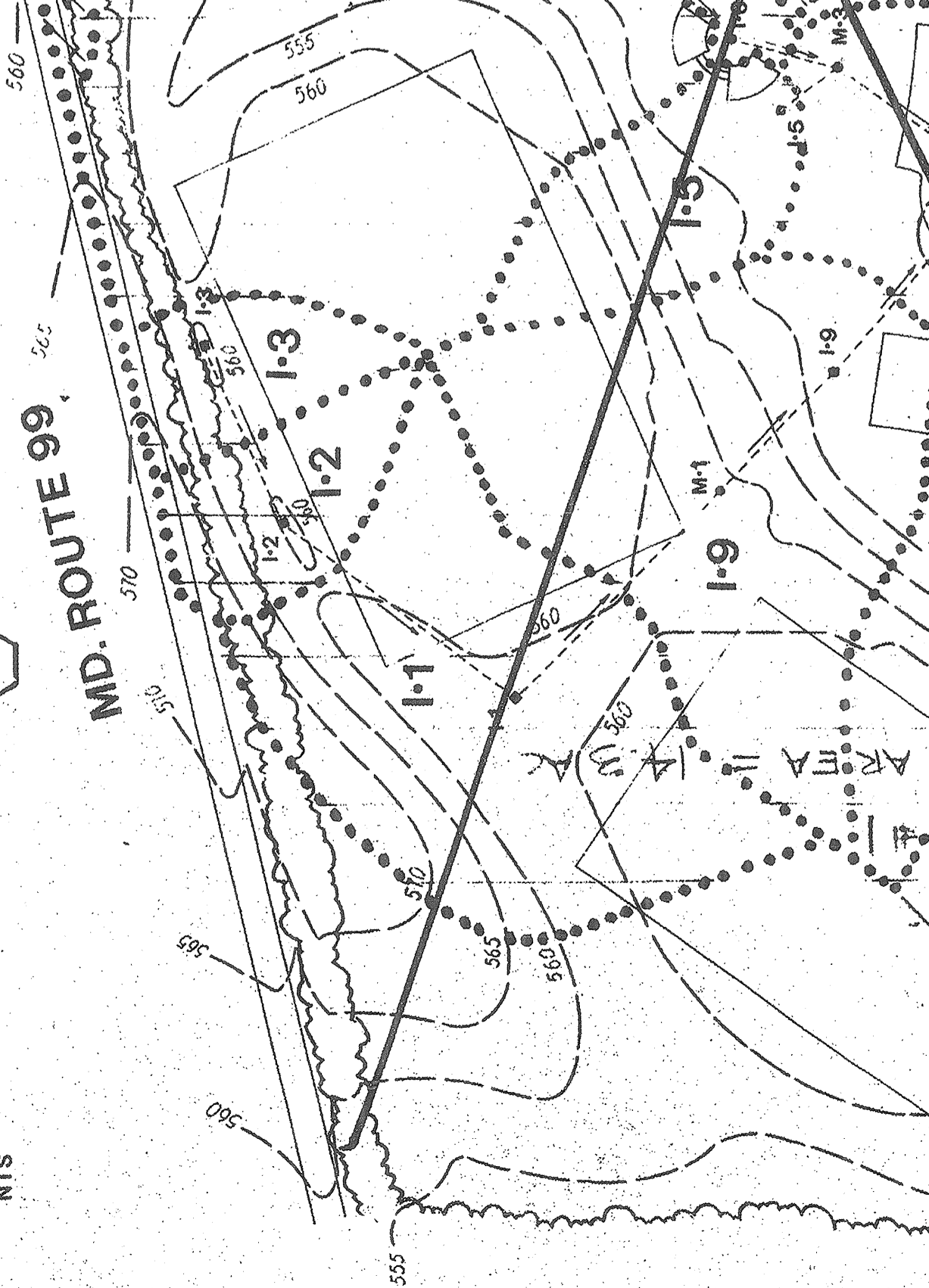
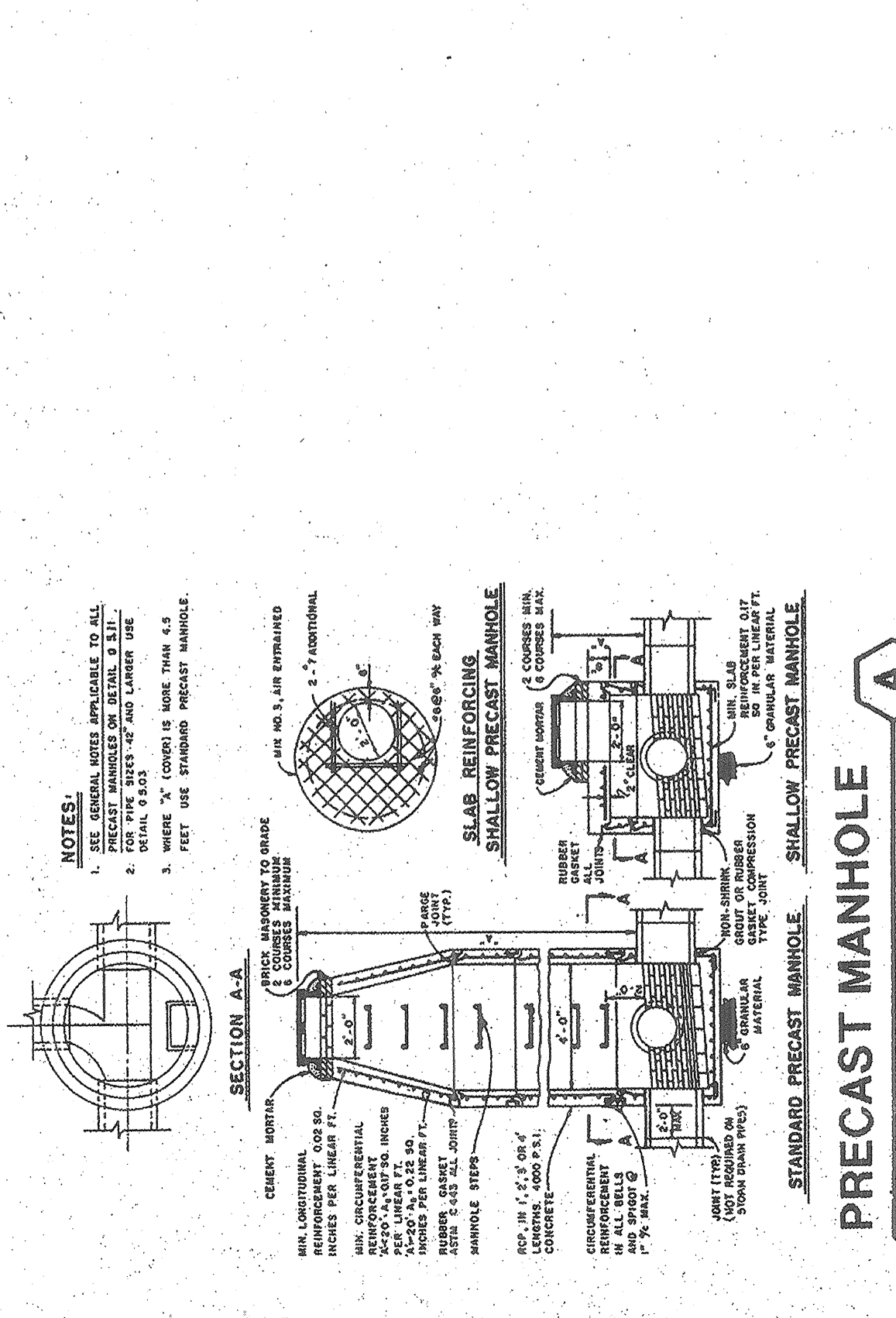
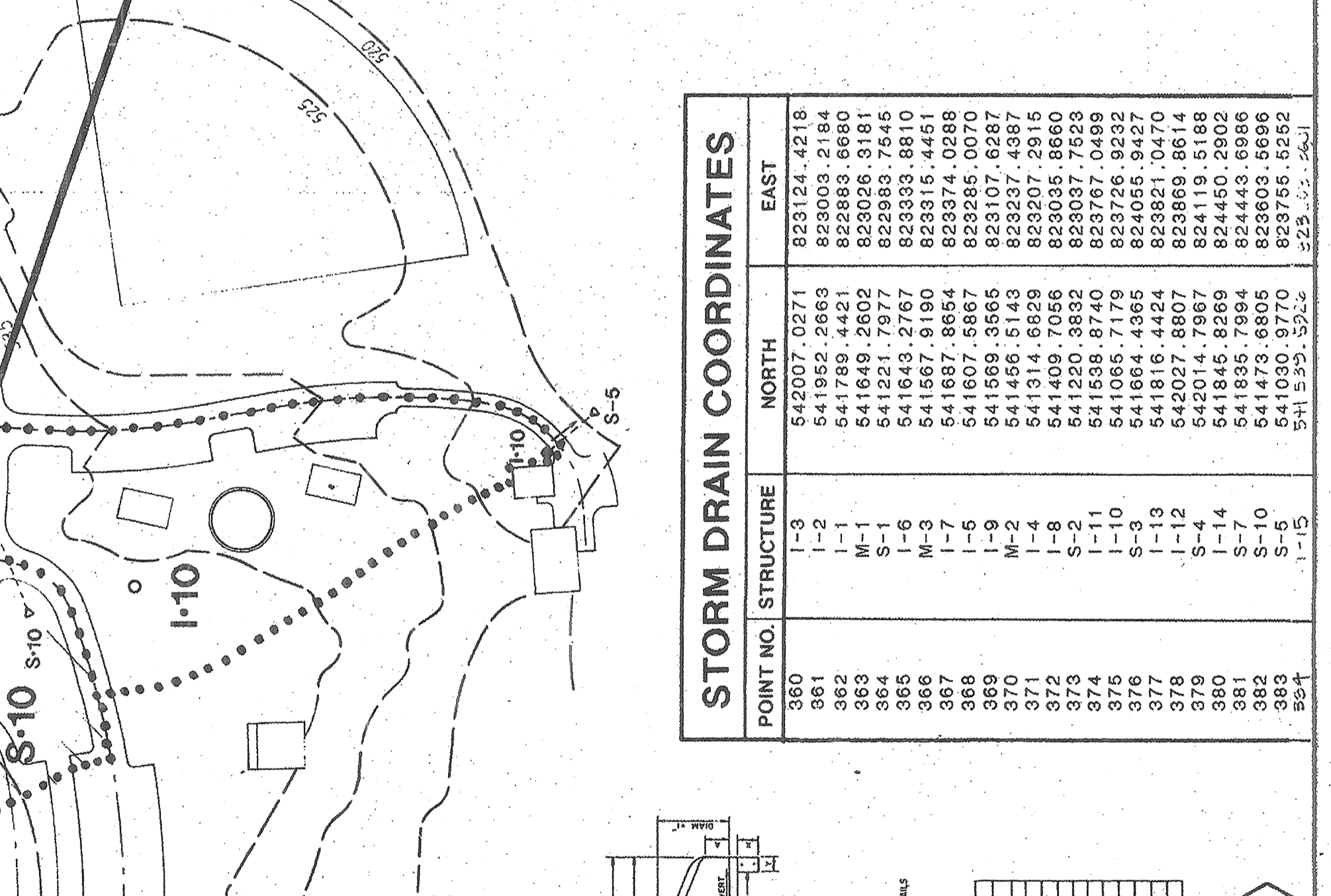
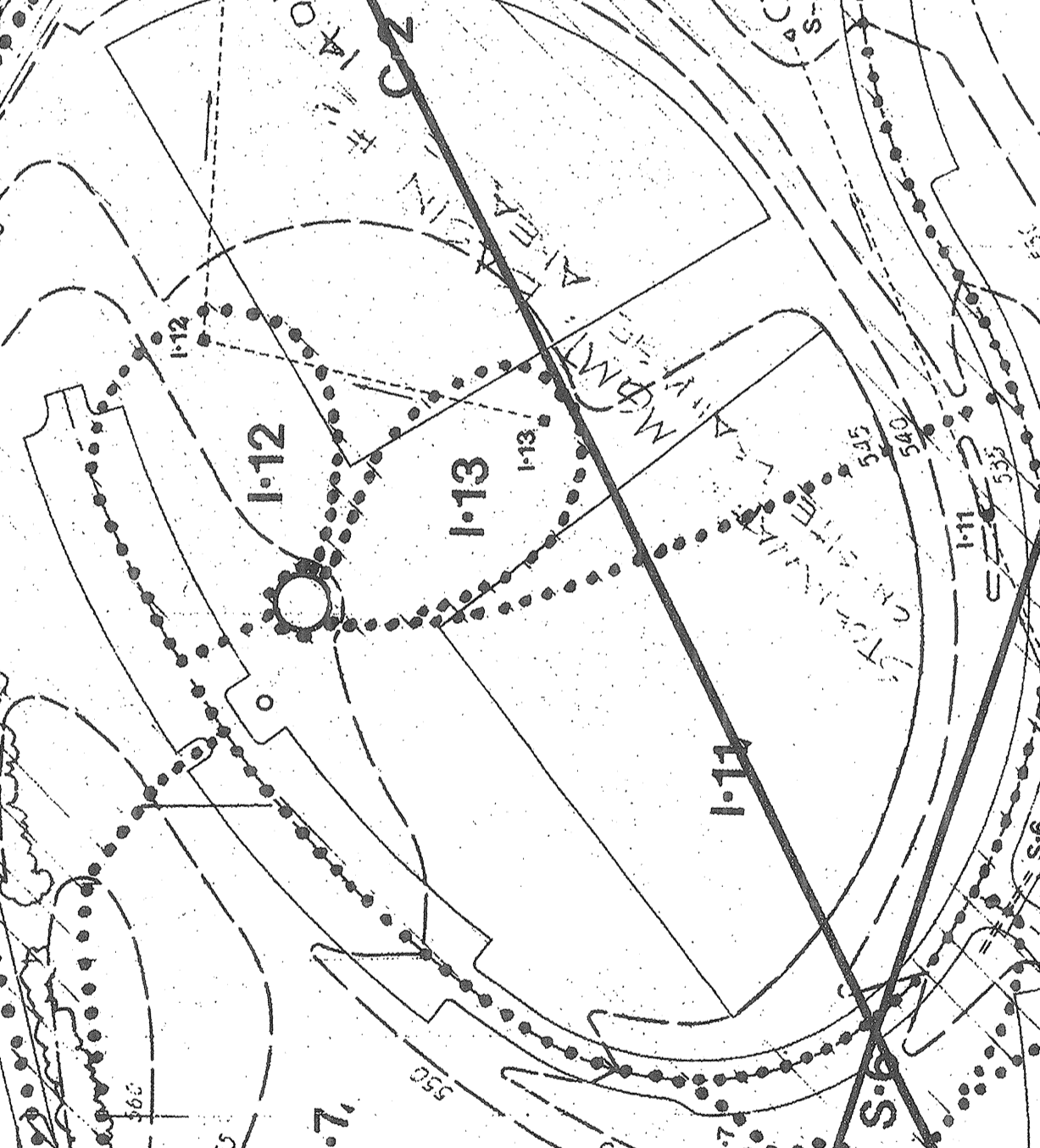
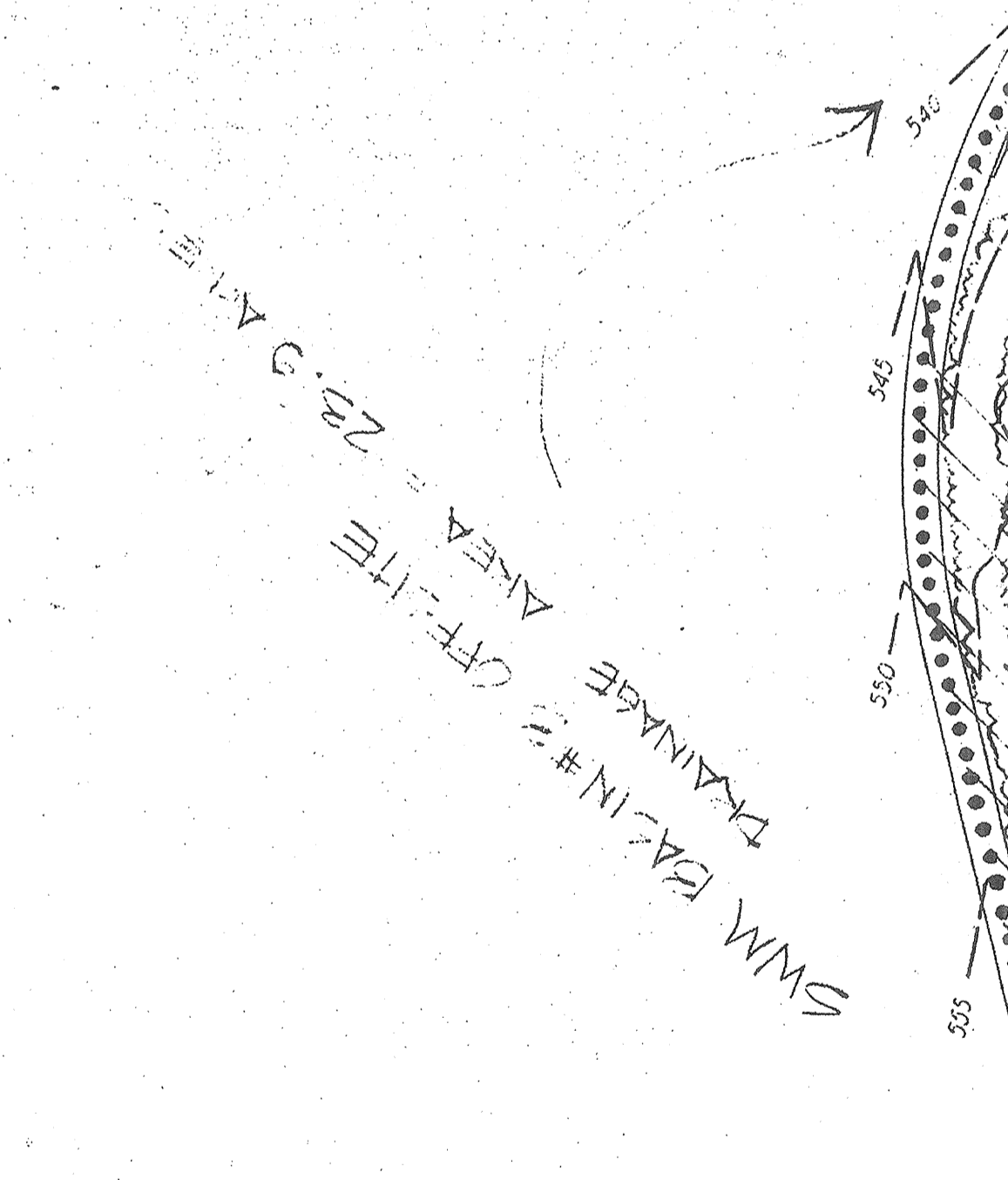
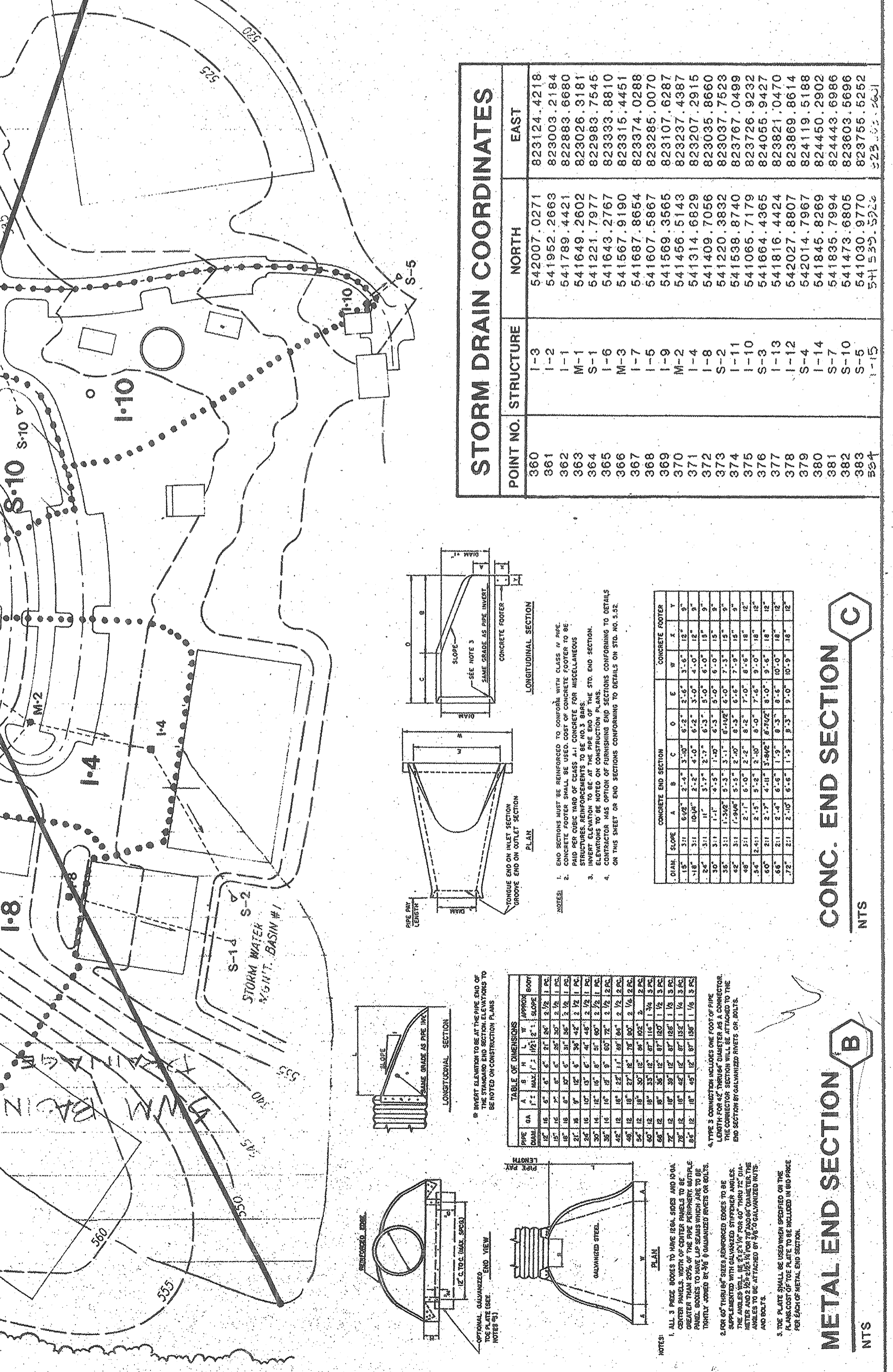
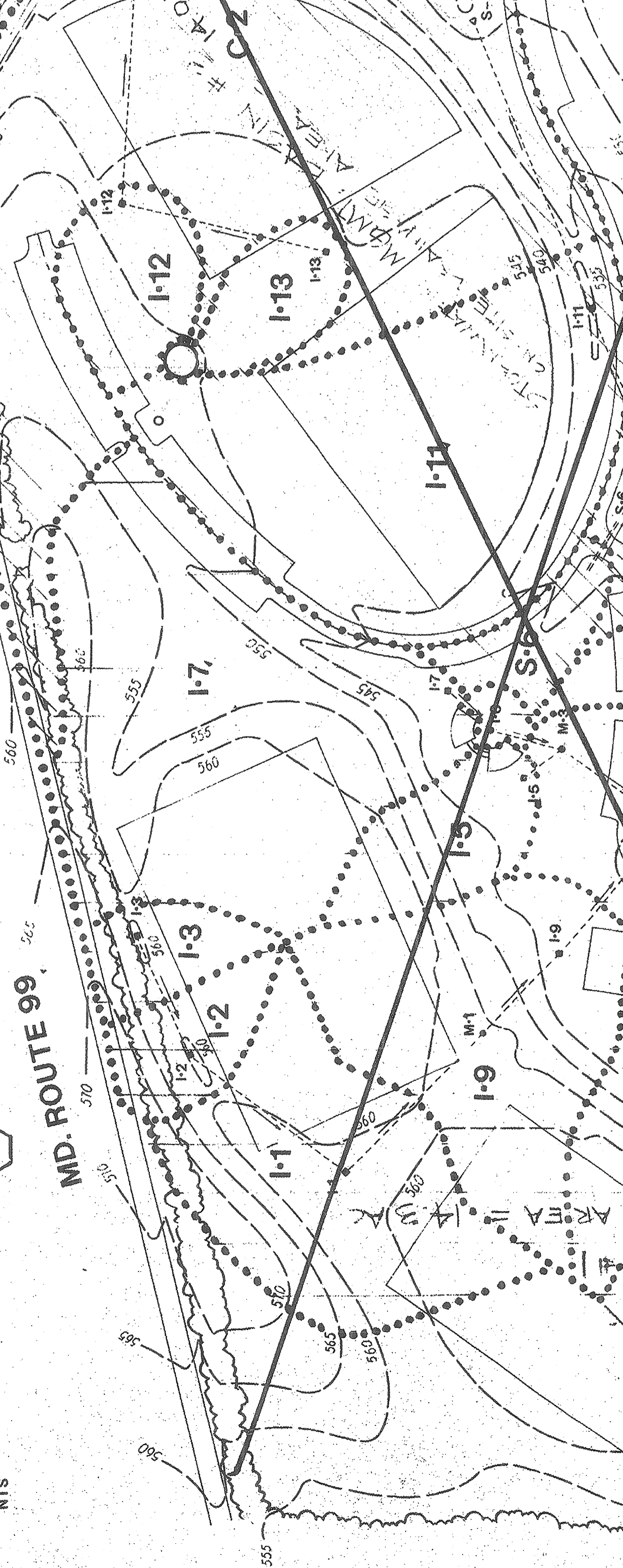
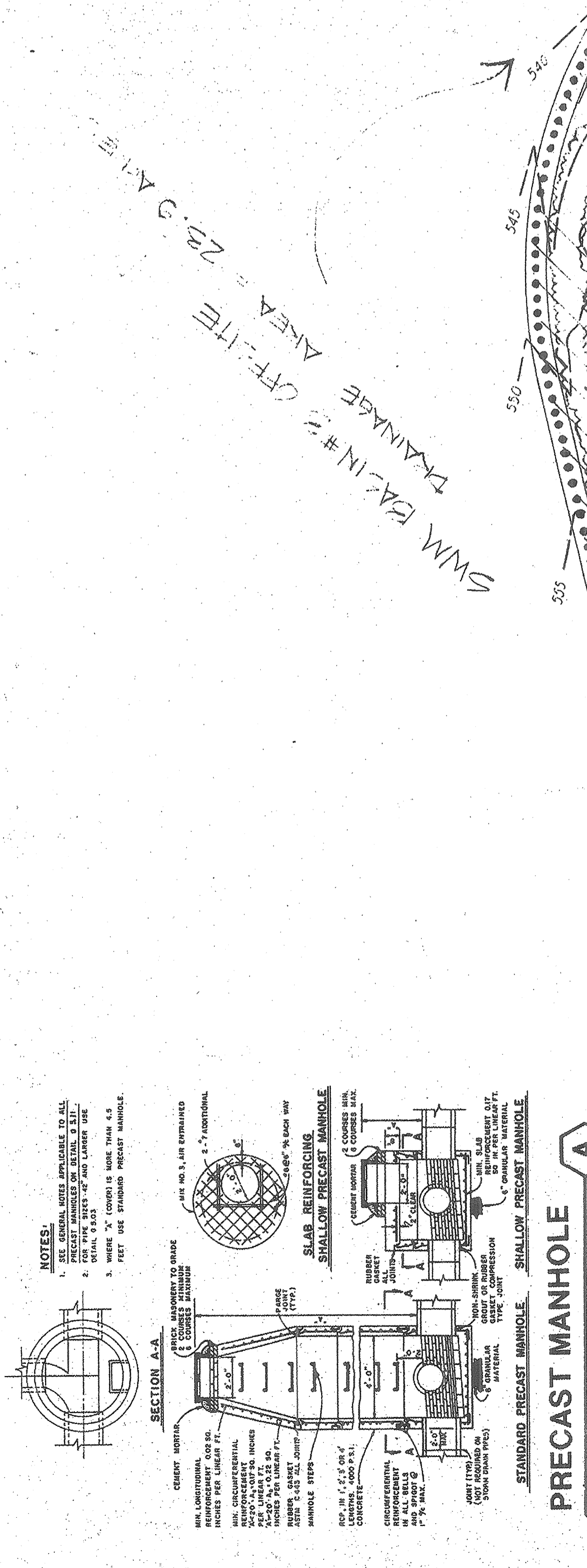
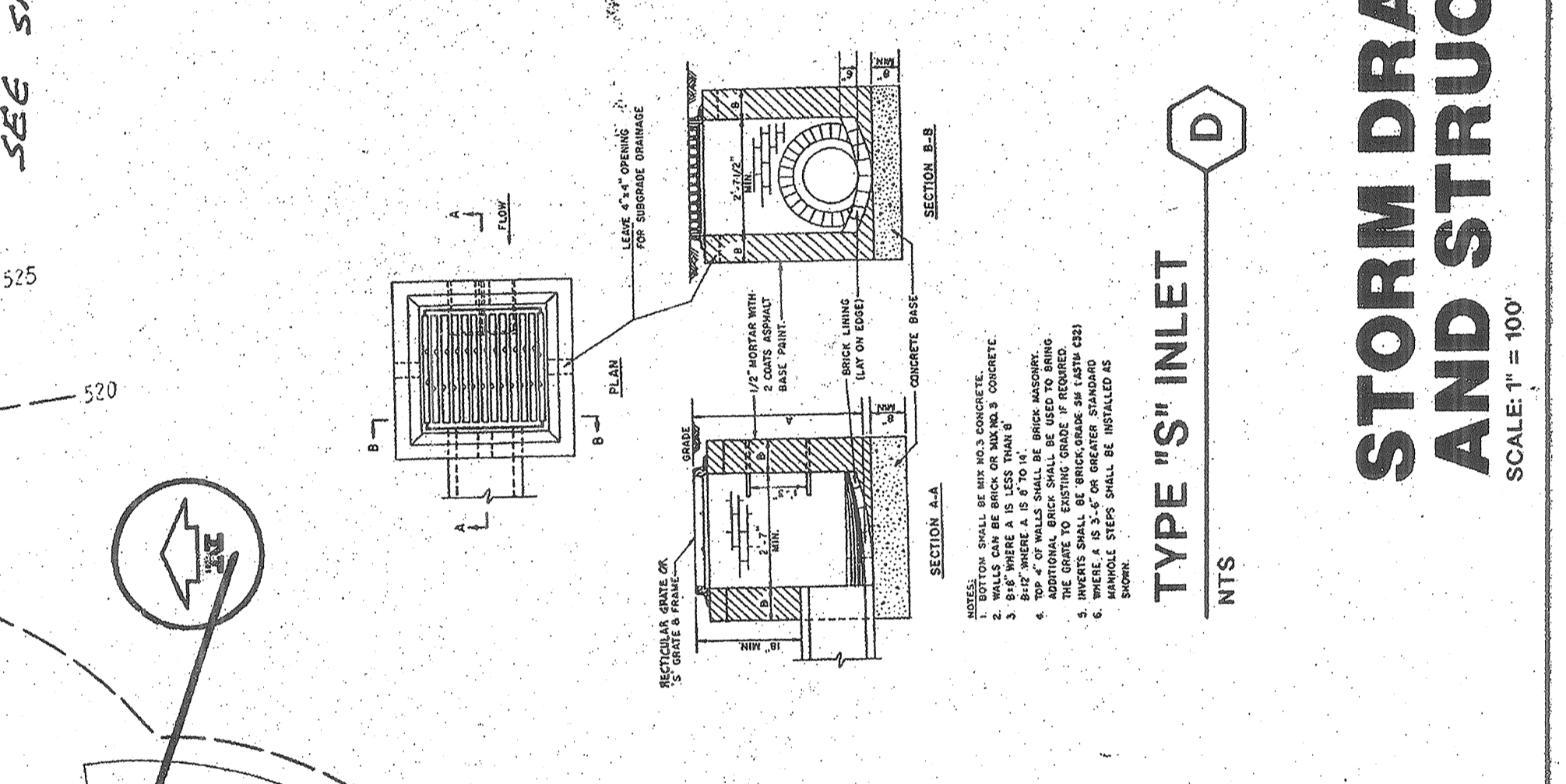
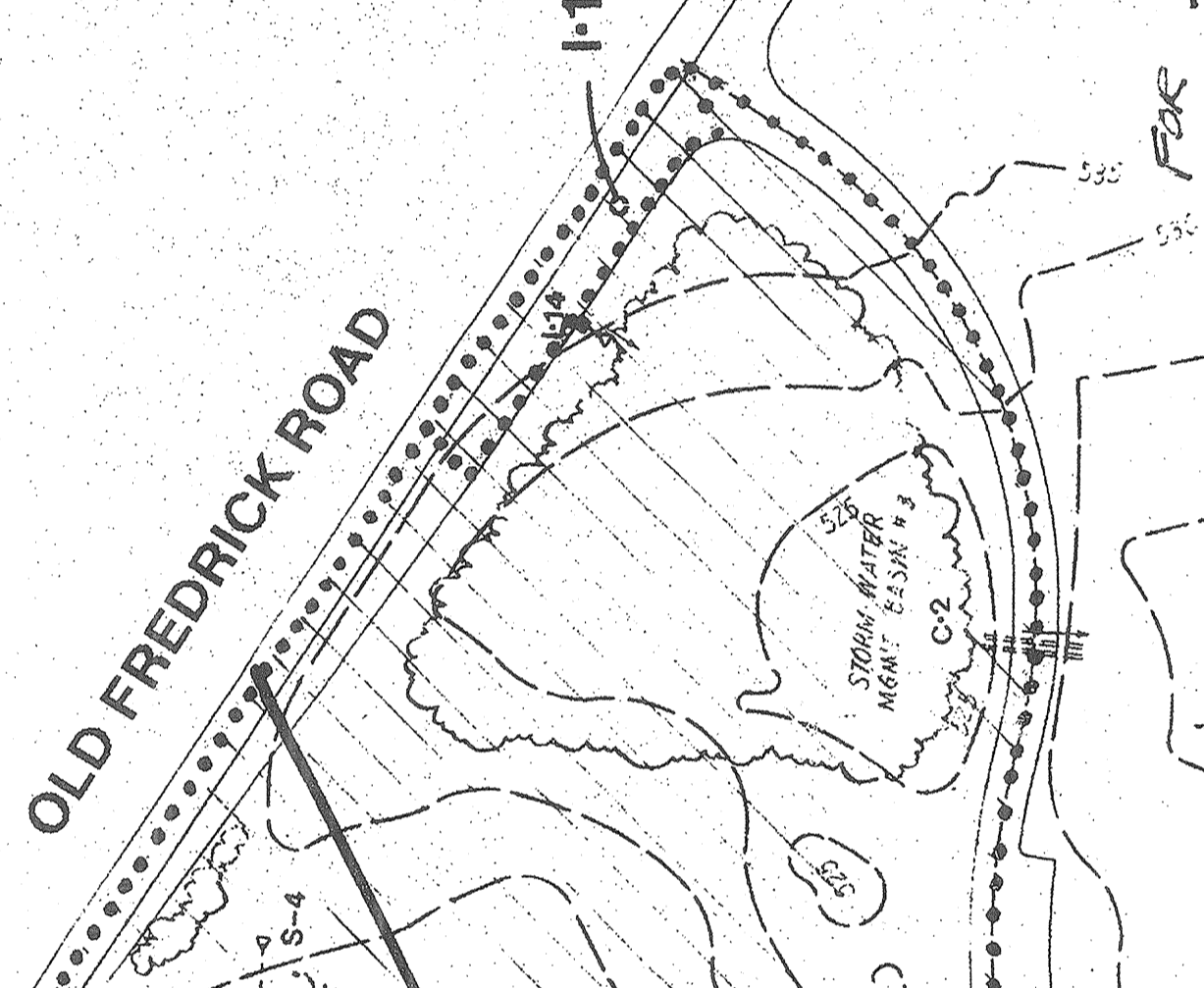
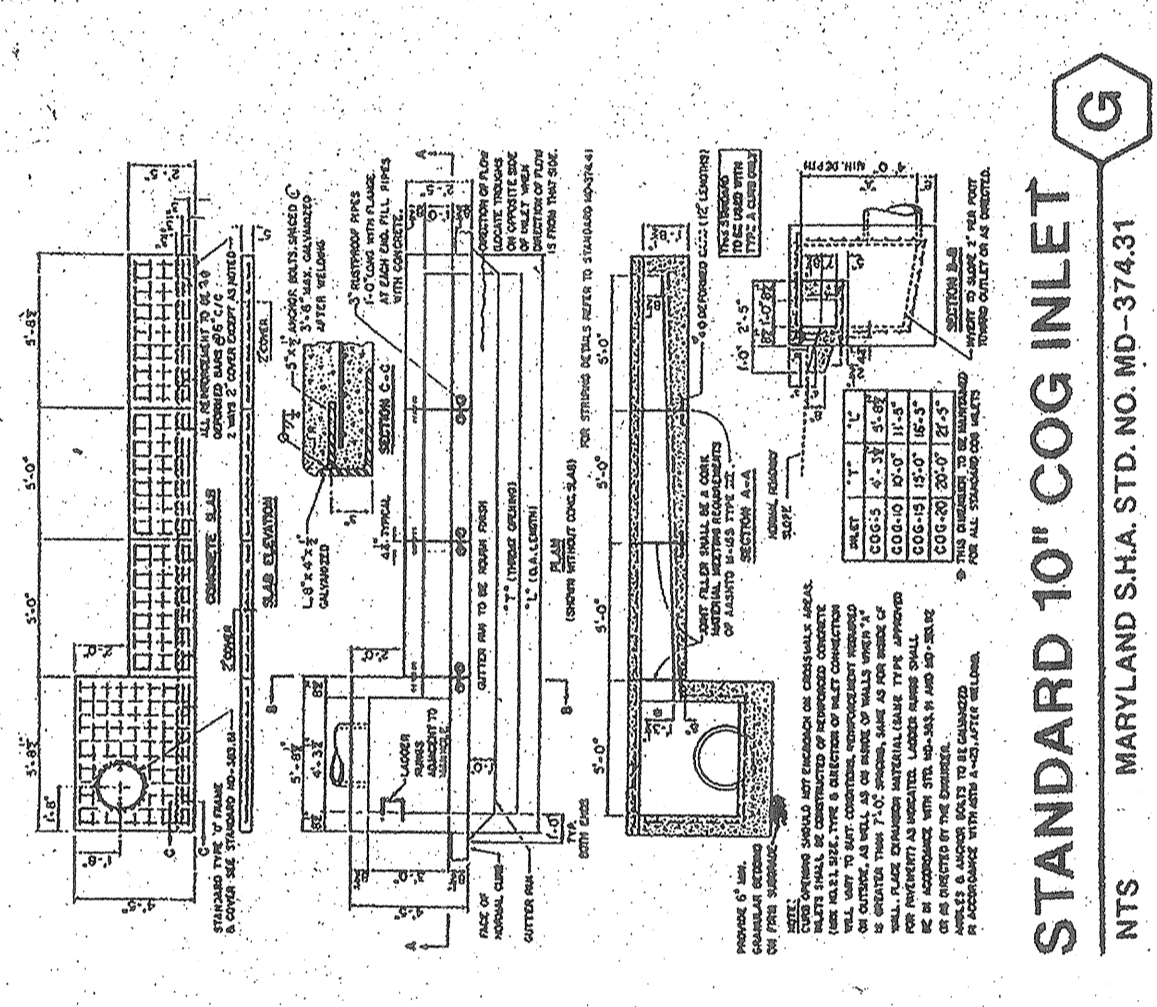
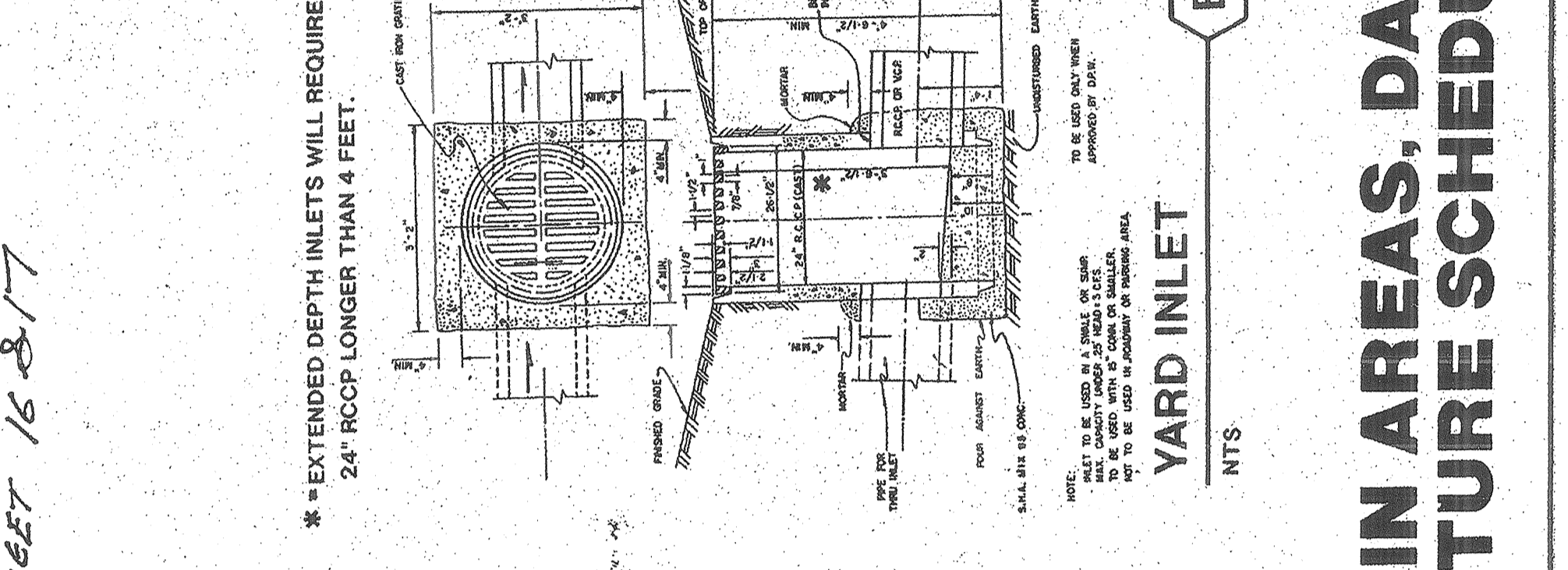
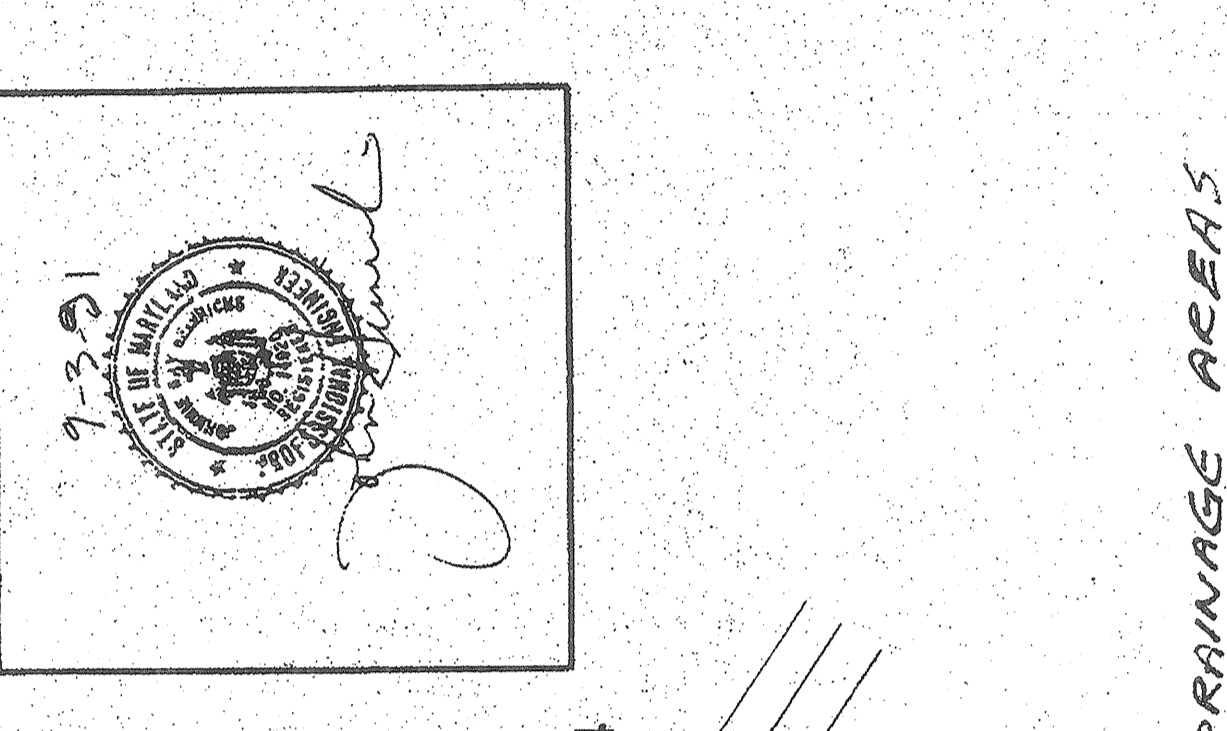
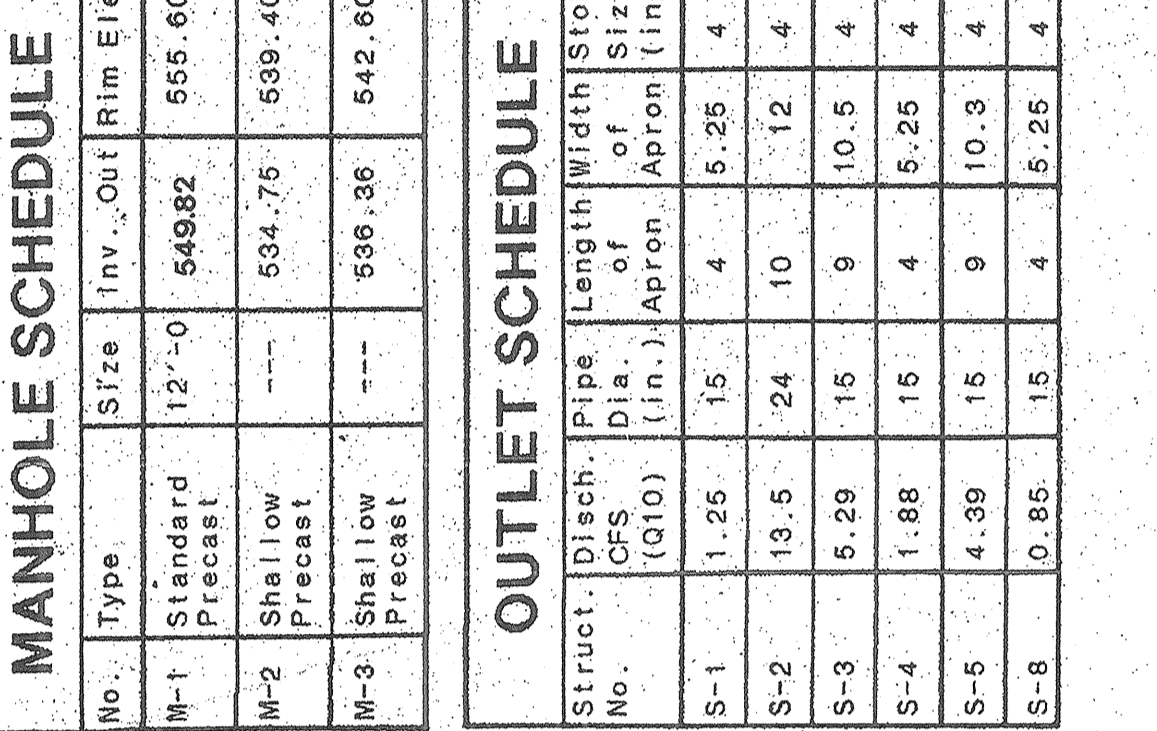
Struct. No.	Disch. (GPD)	Pipe Dia. (in.)	Length (ft.)	Width (ft.)	Depth (ft.)	Structure
S-1	1.25	15	4	5.25	4	
S-2	13.5	24	10	12	4	
S-3	5.29	15	9	10.5	4	
S-4	1.88	15	4	5.25	4	
S-5	4.39	15	9	10.3	4	
S-8	0.85	15	4	5.25	4	

INLET SCHEDULE

No.	Type	Q cfs	In.	Out.	Rim Elev.
I-1	YARD INLET	2.30	562.27		556.60
I-2	YARD INLET	0.36	554.74		559.50
I-3	YARD INLET	0.27	556.45		559.50
I-4	'S'	13.48	526.28		530.00
I-5	YARD INLET	0.58	538.45		542.00
I-6	YARD INLET**	4.44	537.71		543.00
I-7	'S'	4.75	538.80		541.70
I-8	YARD INLET	1.25	530.25		533.80
I-9	YARD INLET	4.03	537.21		540.75
I-10	'D' INLET	4.39	517.00		520.50
I-11	'S'	5.29	530.78		534.00
I-12	YARD INLET**	1.88	539.83		545.00
I-13	YARD INLET	0.52	542.45		545.00
I-14	COG - 10	0.85	534.00		537.40
I-15	'D' INLET	1.53	534.54		539.02

DRAINAGE AREA RUNOFF DATA

STRUCTURE	AREA (acres)	C	Q (CFS)
I-1	1.71	0.20	2.30
I-2	0.34	0.20	0.36
I-3	0.27	0.20	0.27
I-4	1.93	0.53	13.48
I-5	0.40	0.27	0.58
I-6	0.08	0.95	4.44
I-7	2.95	0.27	4.06
I-8	0.88	0.28	1.25
I-9	1.53	0.25	4.03
I-10	1.52	0.47	4.39
I-11	3.06	0.29	5.29
I-12	0.54	0.38	1.88
I-13	0.30	0.26	0.52
I-14	0.11	0.95	0.85
I-15	0.33	0.55	1.53
S-10	0.41	0.53	3.36
C-2	8.18	0.29	23.02

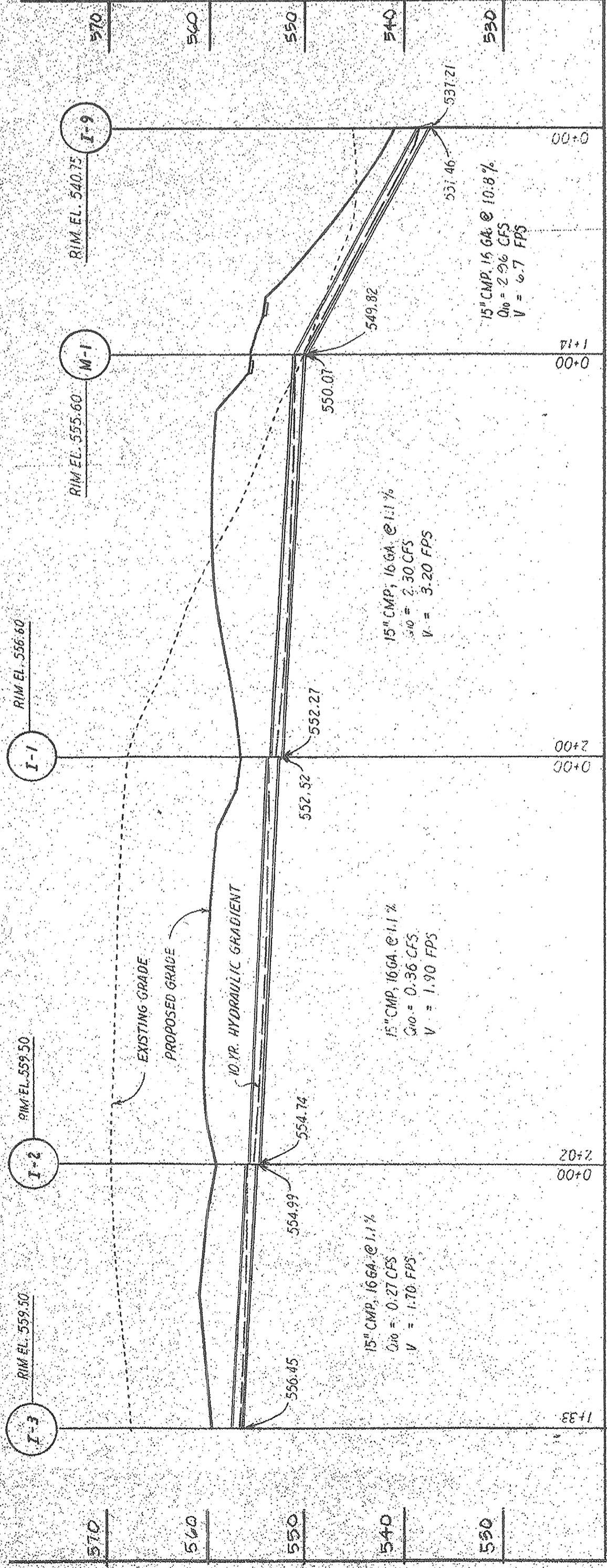


STORM DRAIN AREAS, DATA, DETAILS, AND STRUCTURE SCHEDULE
 SCALE: 1" = 100'

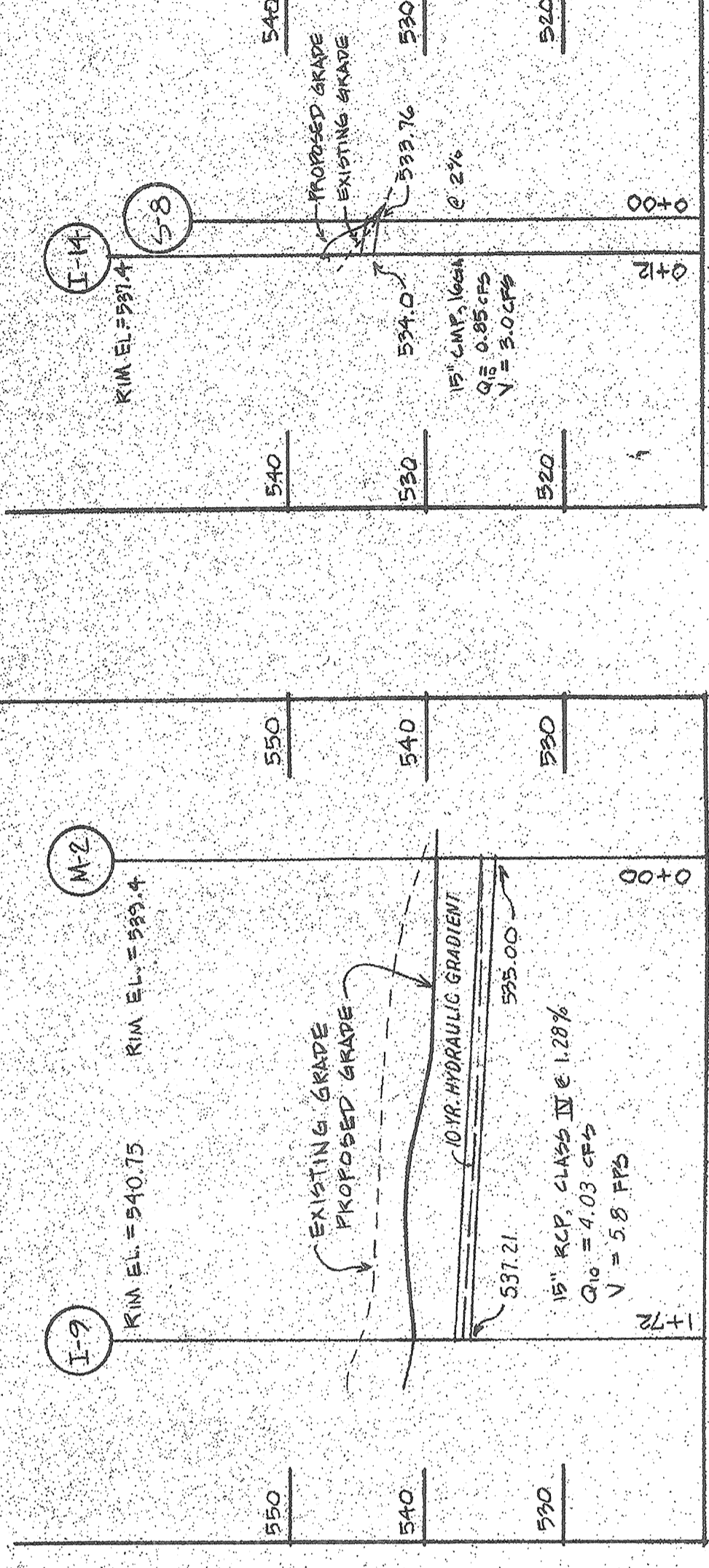
REVIEWED NO FACILITIES REQUIRED
 HANCO COUNTY HEALTH DEPARTMENT
 COUNTY HEALTH OFFICER
 APPROVED: HANCO COUNTY DEPARTMENT OF PLANNING AND ZONING
 APPROVED: FOR PRIVATE WATER AND NO SEWERAGE, PER STORM DRAINAGE SYSTEMS
 AND PUBLIC ROAD
 HANCO COUNTY DEPARTMENT OF PUBLIC WORKS
 APPROVED: [Signature]

SITE DATA
 OWNER: HOWARD COUNTY
 DEPT. OF PUBLIC WORKS
 PROPOSED IMPROVEMENT: PARK
 DEED REF. LIBER 847, FOLIO 608
 TAX MAP #10, PARCEL #28
 ELECTION DISTRICT #8
 CENSUS TRACT # 6030
 WATER: [Blank]
 SEWER: [Blank]
 JANUARY 27, 1992

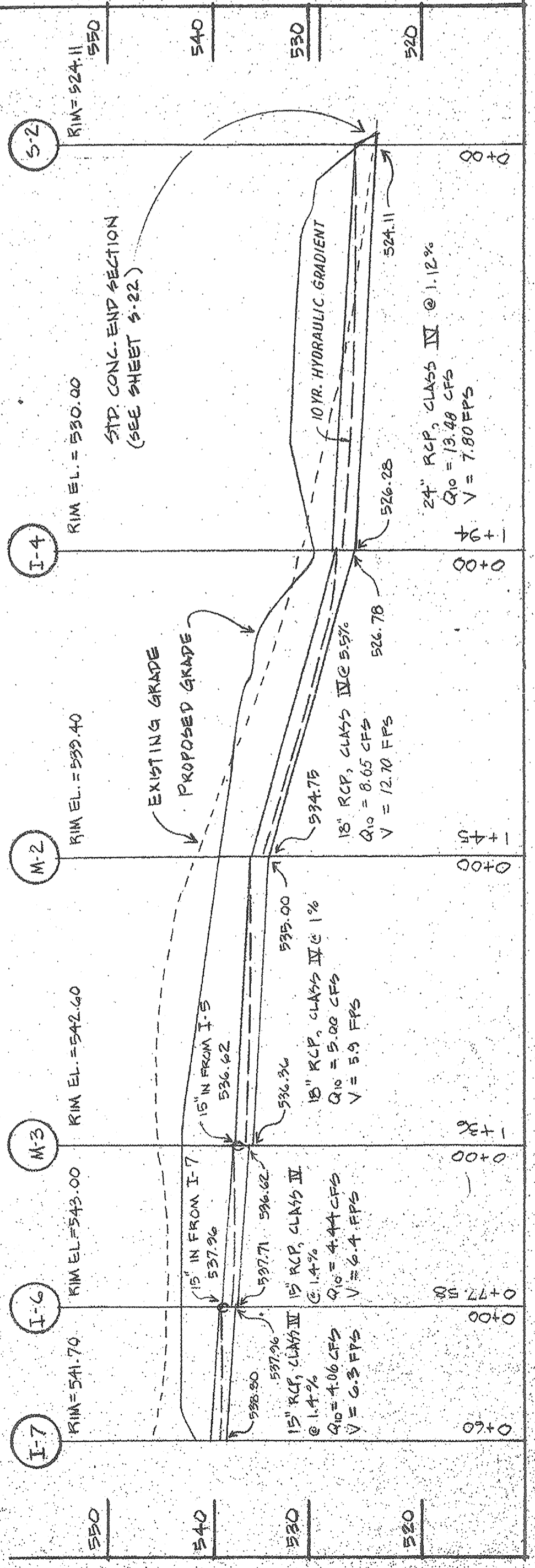
S.9
 SPP 27 of 38
 of 20
 SHEET



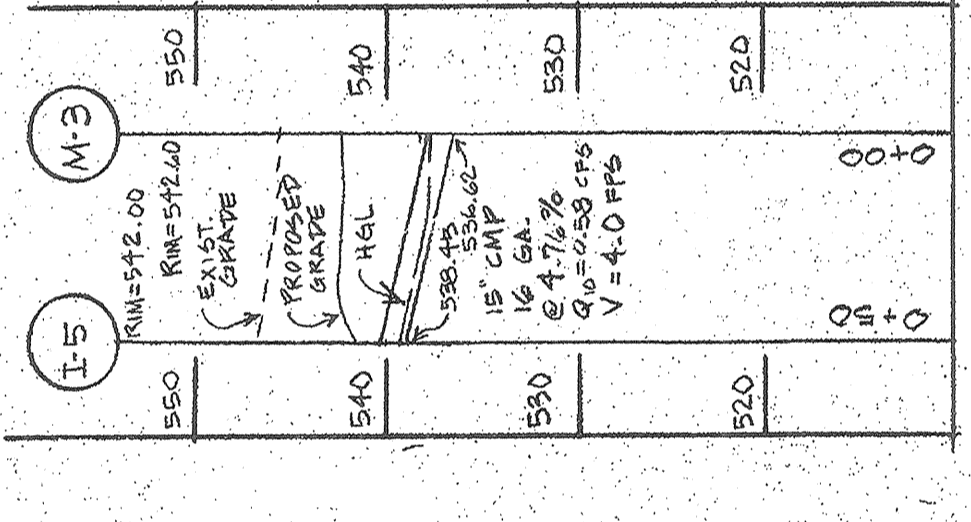
INLET 3 to INLET 9



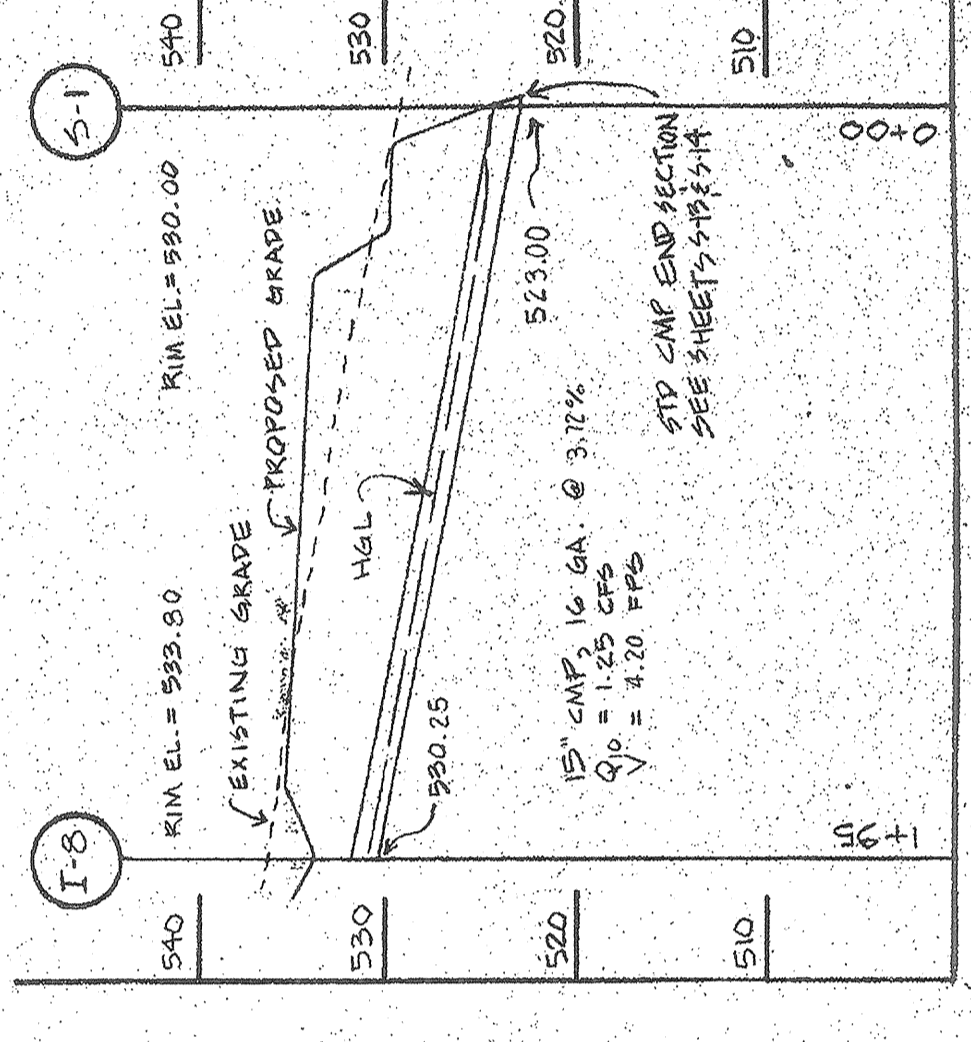
INLET 9 to MANHOLE 2



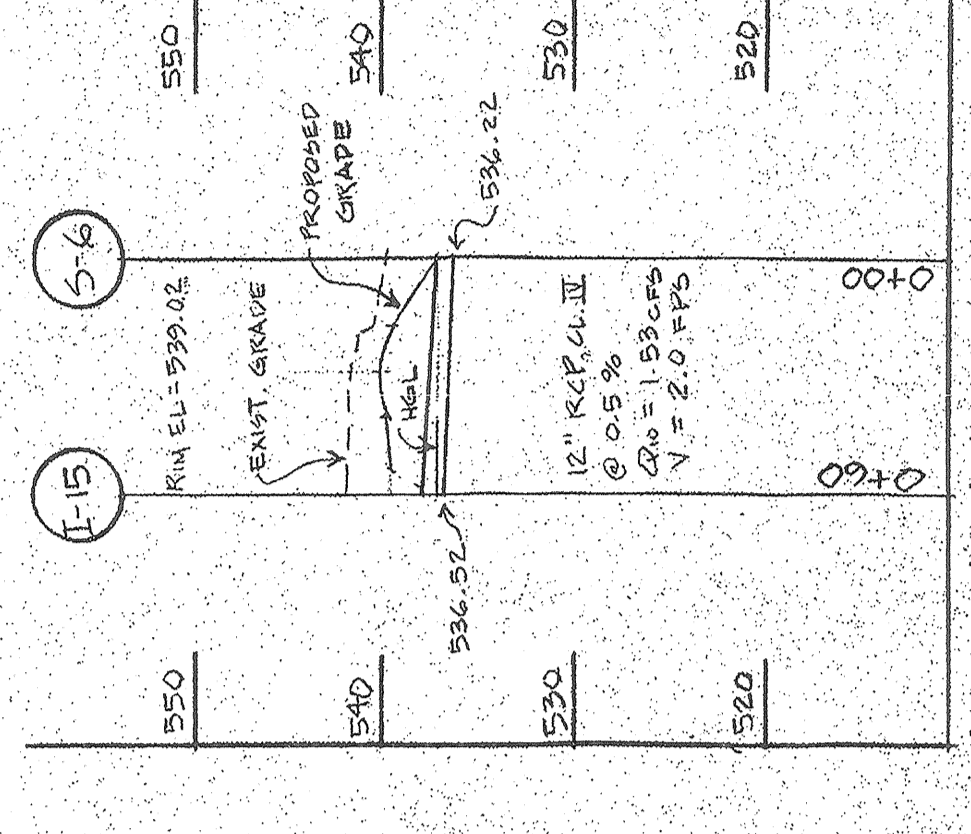
INLET 7 to STRUCTURE 2



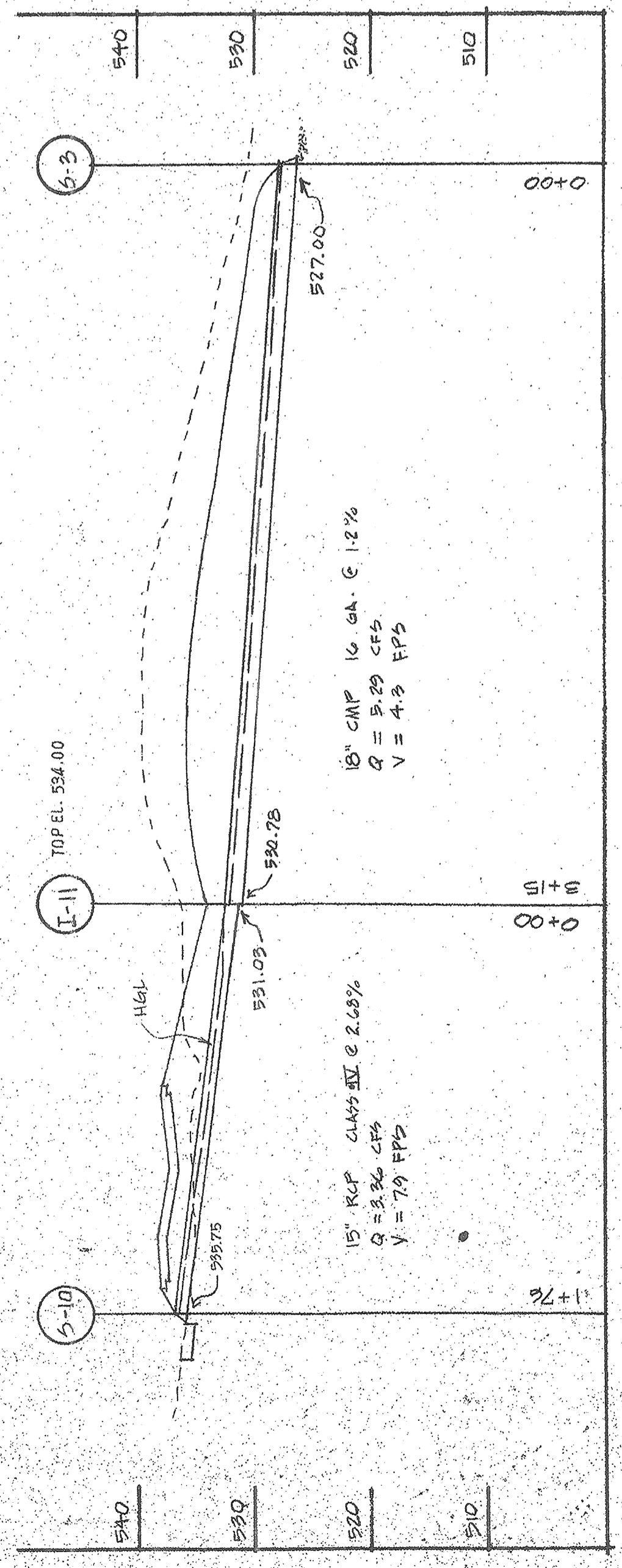
I-5 to M-3



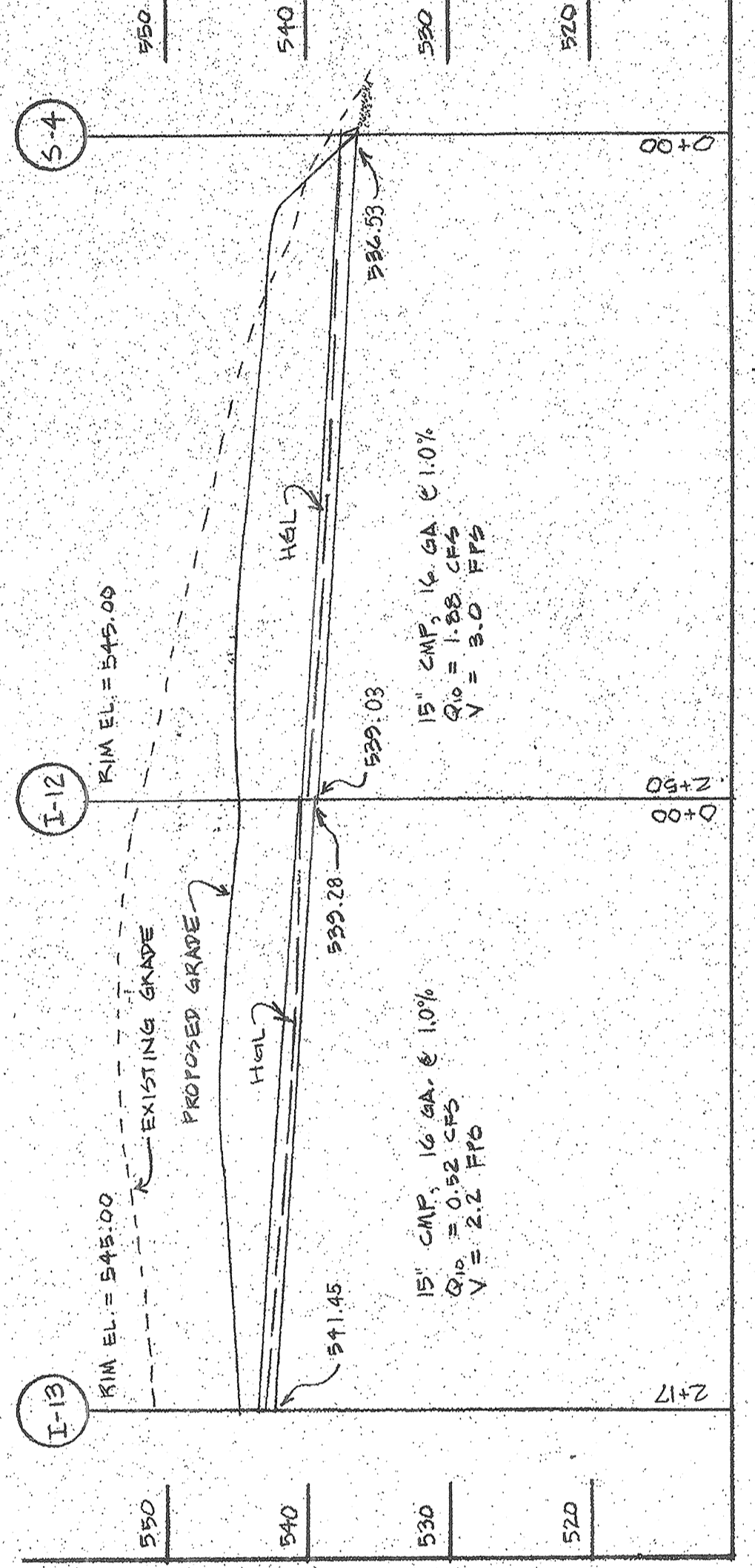
INLET 8 to S-1



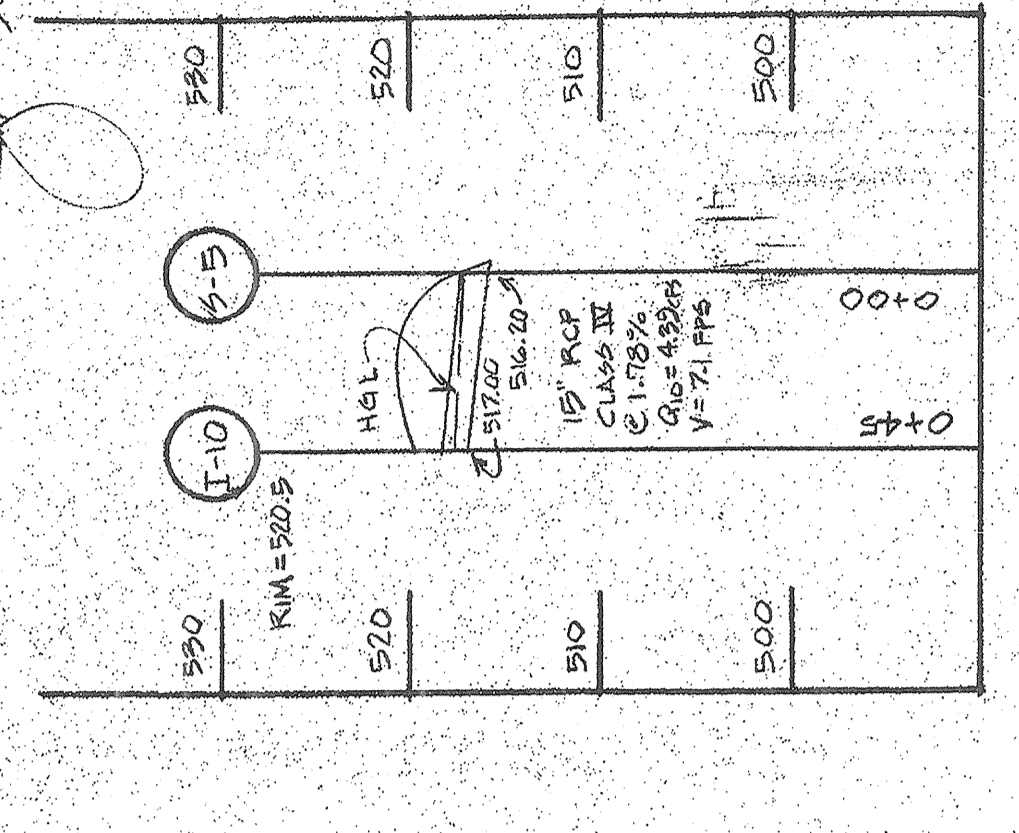
INLET 14 to STRUCTURE 8



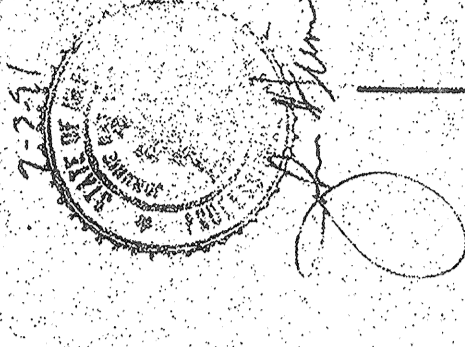
STRUCTURE 10 to STRUCTURE 3



INLET 13 to STRUCTURE 4



INLET 10 to STRUCTURE 5



NOTE: FOR OUTLET STRUCTURES & ARKONS SEE SHEETS S-8 & S-13

STORM DRAIN PROFILES

SCALE: Vertical 1" = 10', Horizontal 1" = 50'

REVISIONS NO FACILITIES REQUIRED

APPROVED: [Signature] 1/20/92

APPROVED: [Signature] 1/20/92

APPROVED: [Signature] 1/20/92

APPROVED: [Signature] 1/20/92

APPROVED: [Signature] 1/20/92

APPROVED: [Signature] 1/20/92

APPROVED: [Signature] 1/20/92

APPROVED: [Signature] 1/20/92

APPROVED: [Signature] 1/20/92

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APPROVED: [Signature] 1/20/92

APPROVED: [Signature] 1/20/92

APPROVED: [Signature] 1/20/92

APPROVED: [Signature] 1/20/92

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APPROVED: [Signature] 1/20/92

APPROVED: [Signature] 1/20/92

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APPROVED: [Signature] 1/20/92

APPROVED: [Signature] 1/20/92

APPROVED: [Signature] 1/20/92

APPROVED: [Signature] 1/20/92

APPROVED: [Signature] 1/20/92

APPROVED: [Signature] 1/20/92

APPROVED: [Signature] 1/20/92

SITE DATA

OWNER: HOWARD COUNTY DEPT. OF PUBL. C. WORKS

PROPOSED IMPROVEMENT: PAV. & D.E.D. REF. L.I.B.E.R. 847. O.L.C. 800

TAX MAP #10, PARC. #28

ELECTRONIC DISTRICT #3

CENSUS TRACT 8000

WATER

SEWER

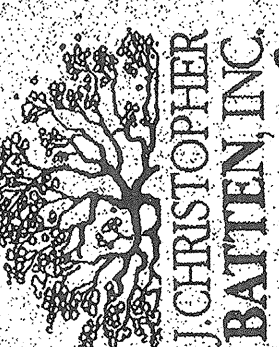
DATE: JANUARY 24, 1992

BY: [Signature]

SCALE: AS SHOWN

PROJECT: ALPHA RIDGE PARK

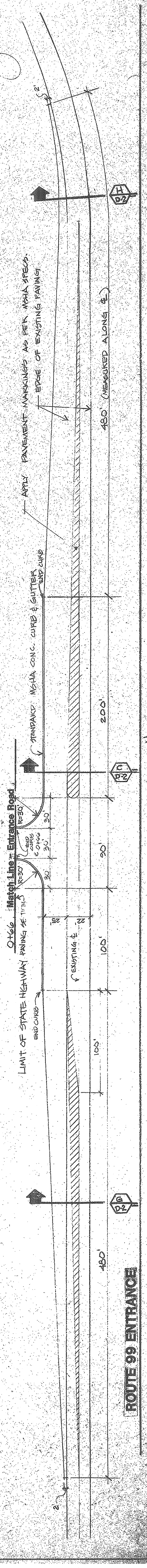
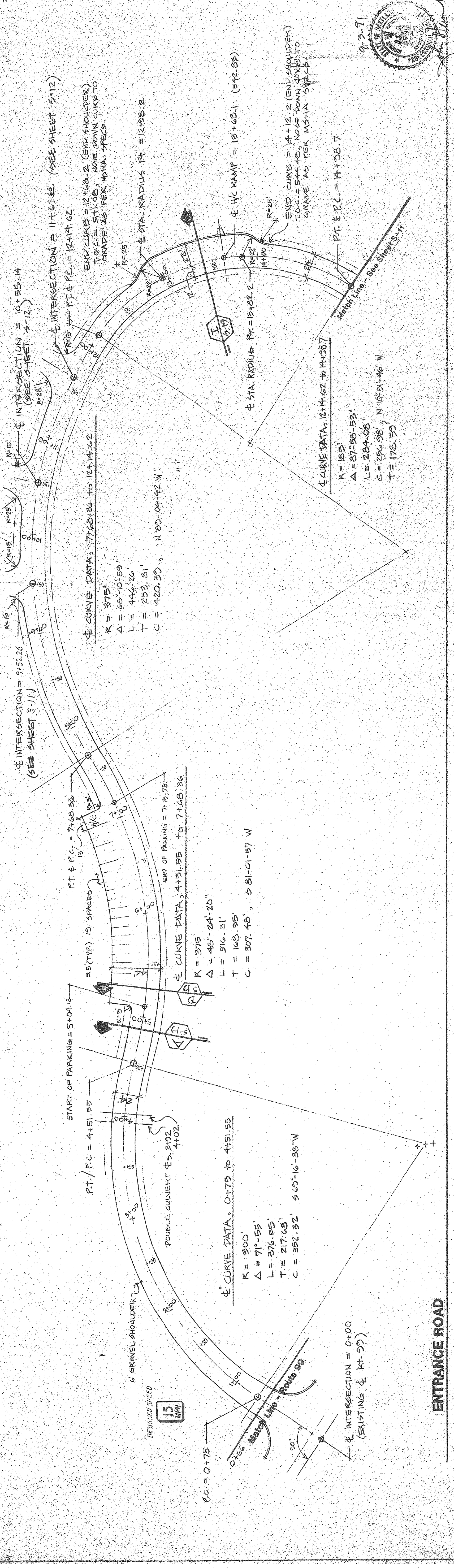
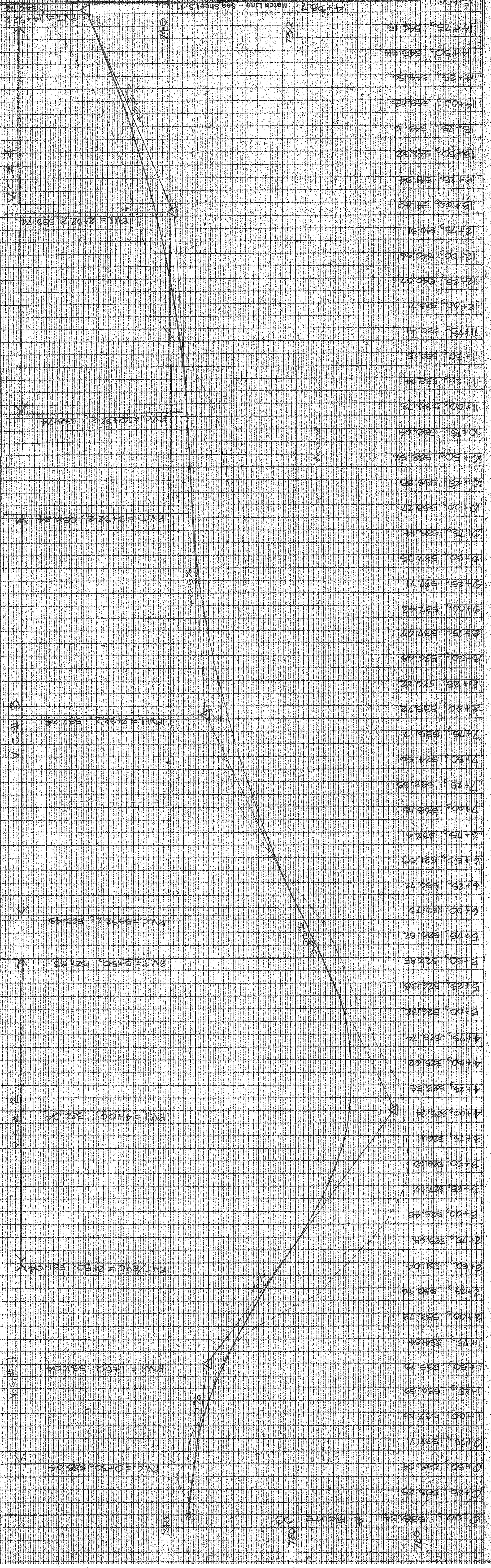
DATE: 1/20/92



J. CHRISTOPHER BATTEN, INC. Land Planning & Design Consultant

8 North Church Street, Westminster, Maryland 21157

301-707-0200



NOTES: 1) PAVING SECTIONS - SEE SHEET D-2. 2) ALL EXISTING PAVING MARKINGS MUST BE ELIMINATED BY CONTRACTOR AS DIRECTED BY S.H.A. REPRESENTATIVE.

ROUTE 99 ENTRANCE & MAIN ROAD 0+00 TO 14+98.7

REVIEWED NO FACILITIES REQUIRED
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: *Jesse M. [Signature]* 1/21/92
 COUNTY HEALTH OFFICER

APPROVED: *[Signature]* 1/21/92
 DIRECTOR

APPROVED: *[Signature]* 1/21/92
 CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: *[Signature]*
 FOR PRIVATE WATER AND SEWERAGE, FOR ROAD DRAINAGE SYSTEM AND PUBLIC WORKS
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED: *[Signature]*
 DIRECTOR

APPROVED: *[Signature]*
 CHIEF DIVISION OF ENGINEERING

APPROVAL STAMP

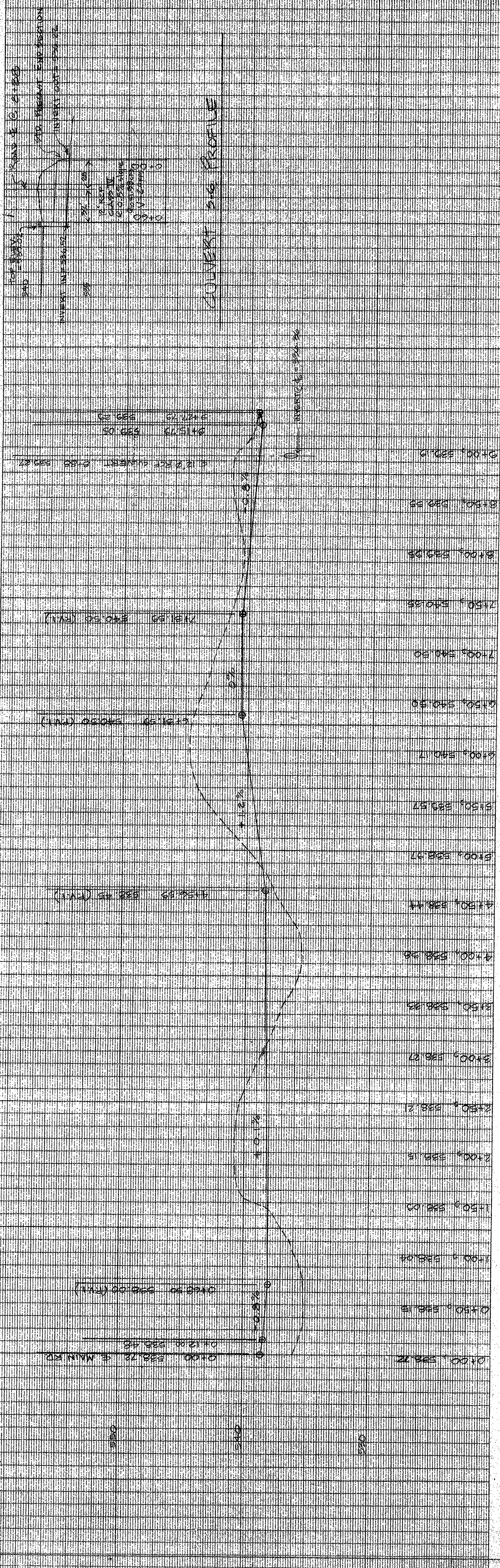
SITE DATA

OWNER: HOWARD COUNTY
 DEPT. OF PUBLIC WORKS
 PROPOSED IMPROVEMENT: PARK
 DEED REF: LIBER 847, FOLIO 606
 TAX MAP #10, PARCEL #28
 ELECTION DISTRICT #8
 CENSUS TRACT 0090
 WATER: NONE
 SEWER: NONE

JANUARY 24, 1992



SHEET
S-12
 of 20
 SDP-90-18

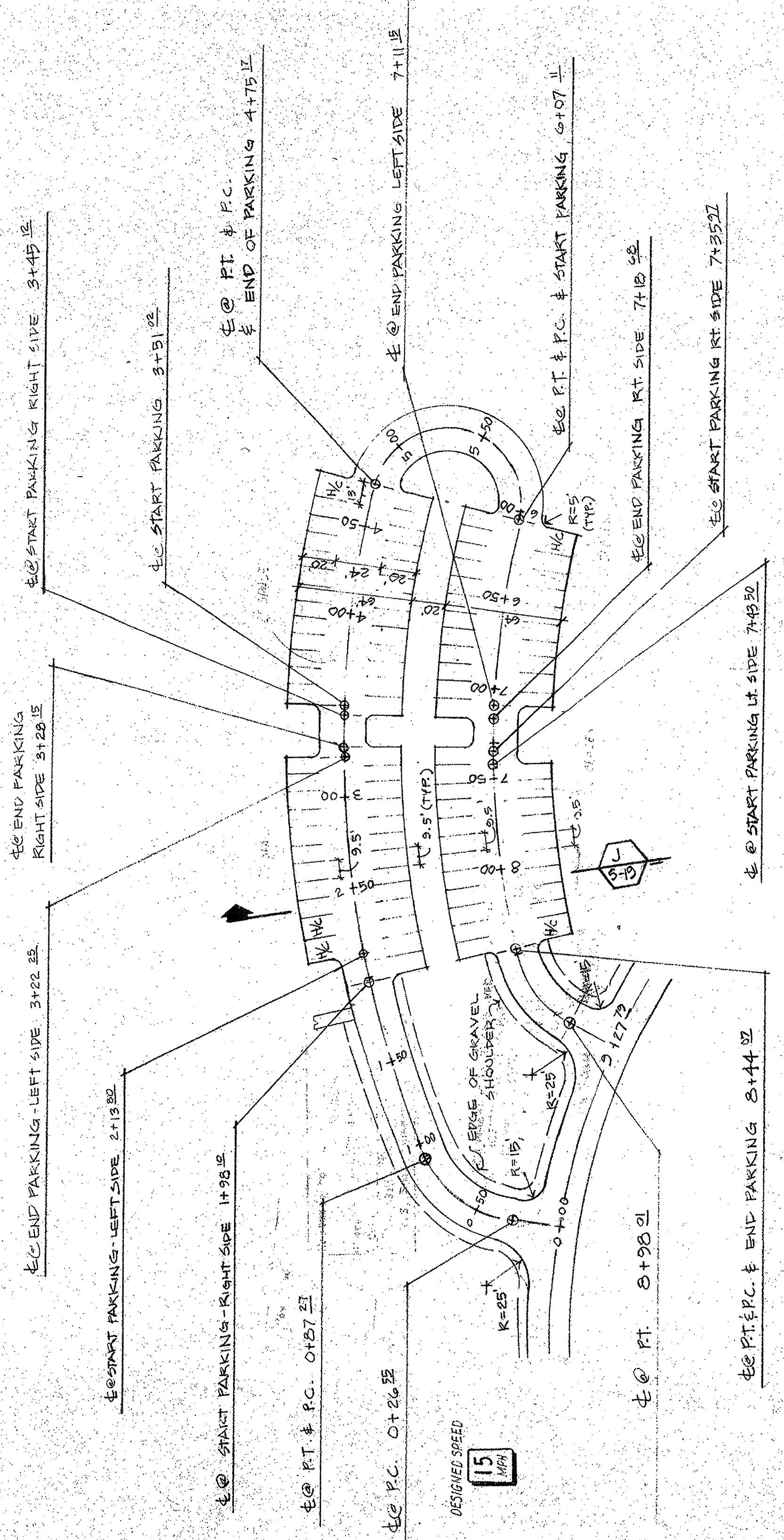


NOTE:
 NO VERTICAL CURVE COMPUTATIONS HAVE BEEN PREPARED FOR THIS SECTION OF ROAD DUE TO THE LIMITED SLOPES. ALSO THIS IS A LOW SPEED TRAVEL AREA THROUGH THE PARKING LOT.

HORIZONTAL CURVE DATA

STATIONS	DELTA	RADIUS	ARC TANGENT	CHORD BEARING & DISTANCE
0+26.50 to 0+87.50	57°59'15"	60.00	23.25'	S 40°-01'-57" N 58.17'
0+87.50 to 4+75.00	95°20'-00"	685.00	387.90	S 86°-31'-33" W 381.90'
4+75.00 to 6+07.00	180°-00'-00"	42.00	131.04'	N 14°-01'-33" E 84.00'
6+07.00 to 8+44.00	24°-38'-27"	551.00	286.94'	N 88°-36'-12" E 235.14'
8+44.00 to 8+98.00	50°-39'-54"	61.00	53.94'	N 53°-41'-38" E 52.20'

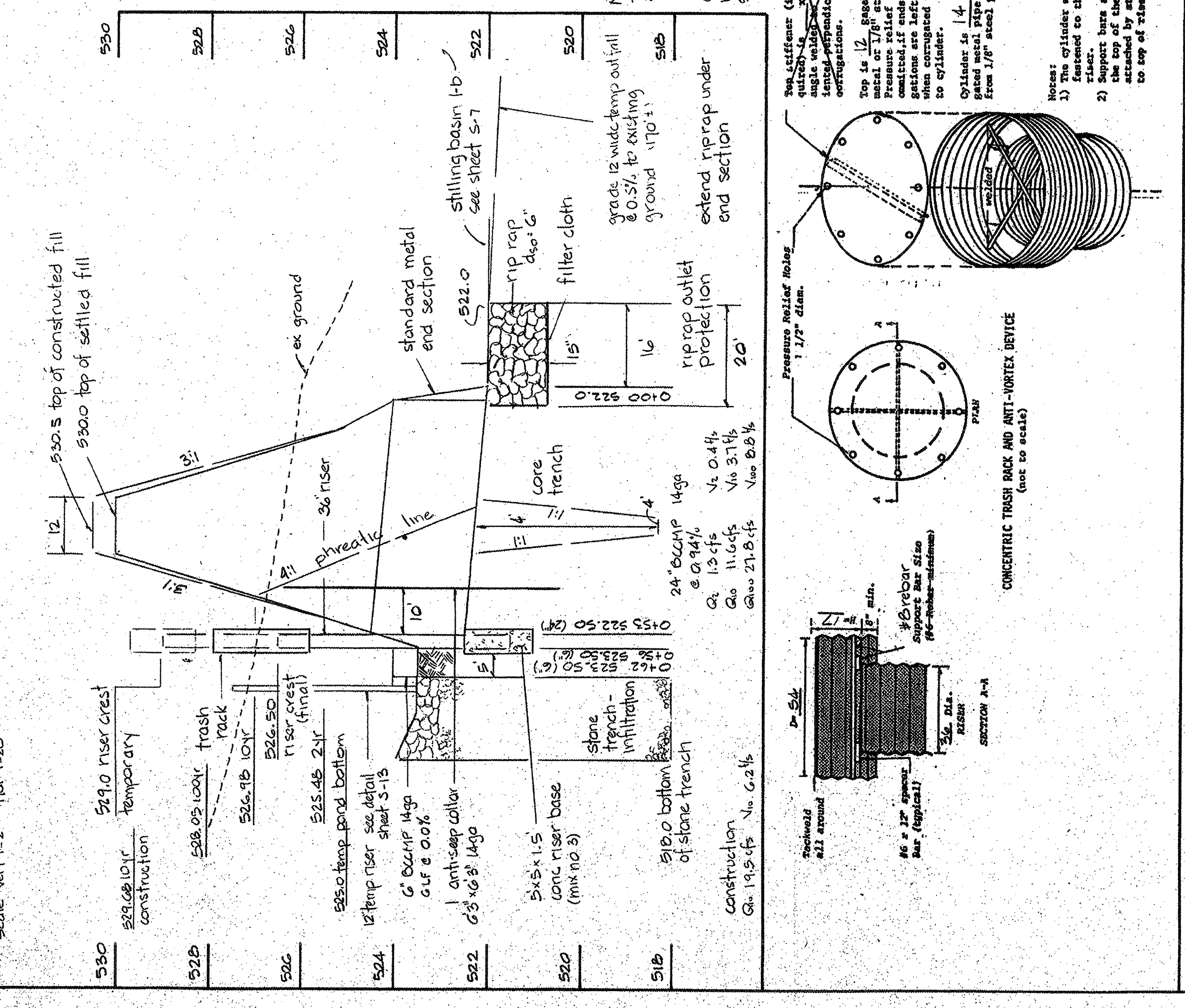
NOTES:
 1.) PAVING SECTIONS - SEE SHEET D-2



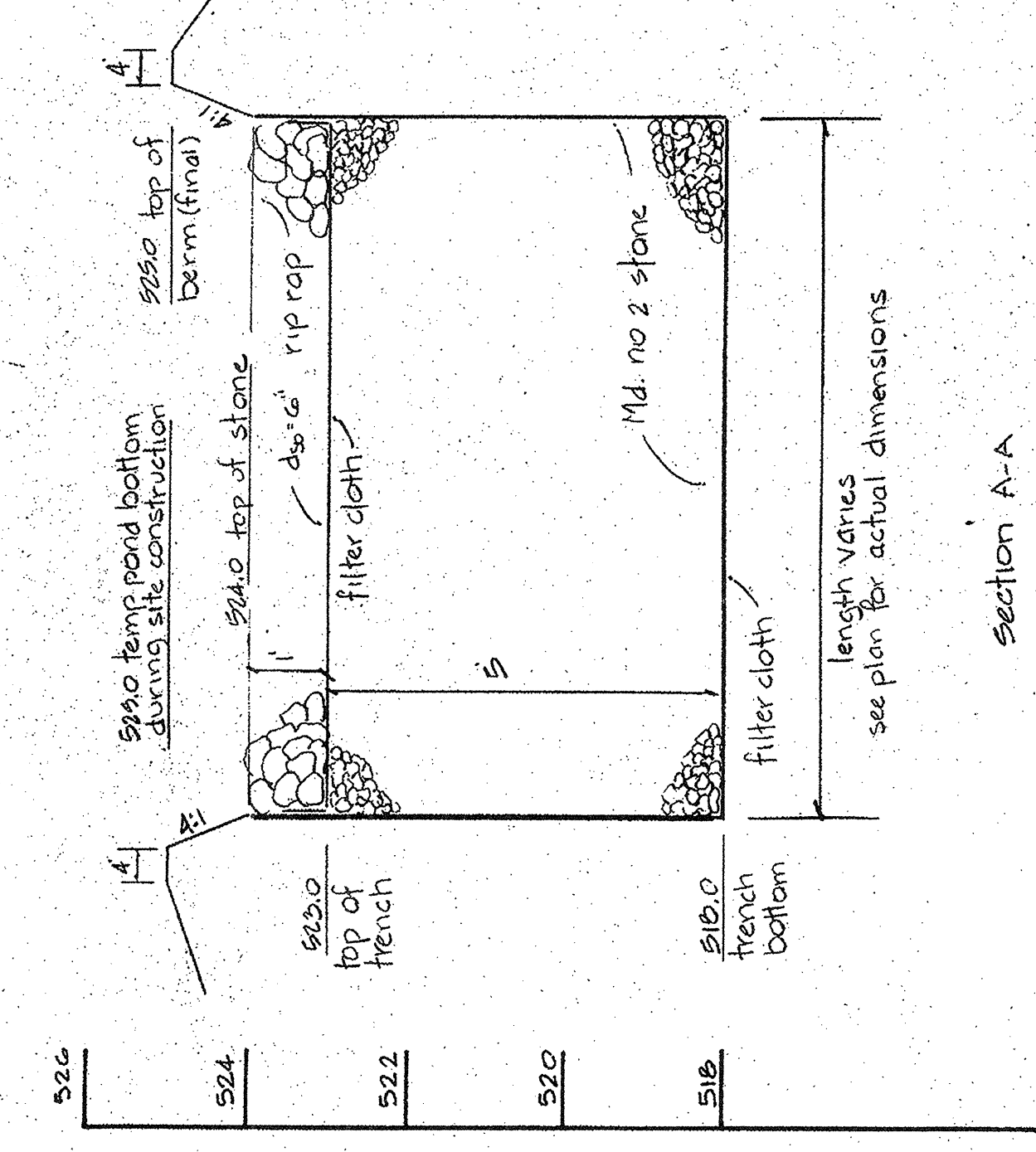
PARKING LOT LOOP ROAD PROFILE

SCALES: Profiles 1"=50'
 Vertical 1"=4'

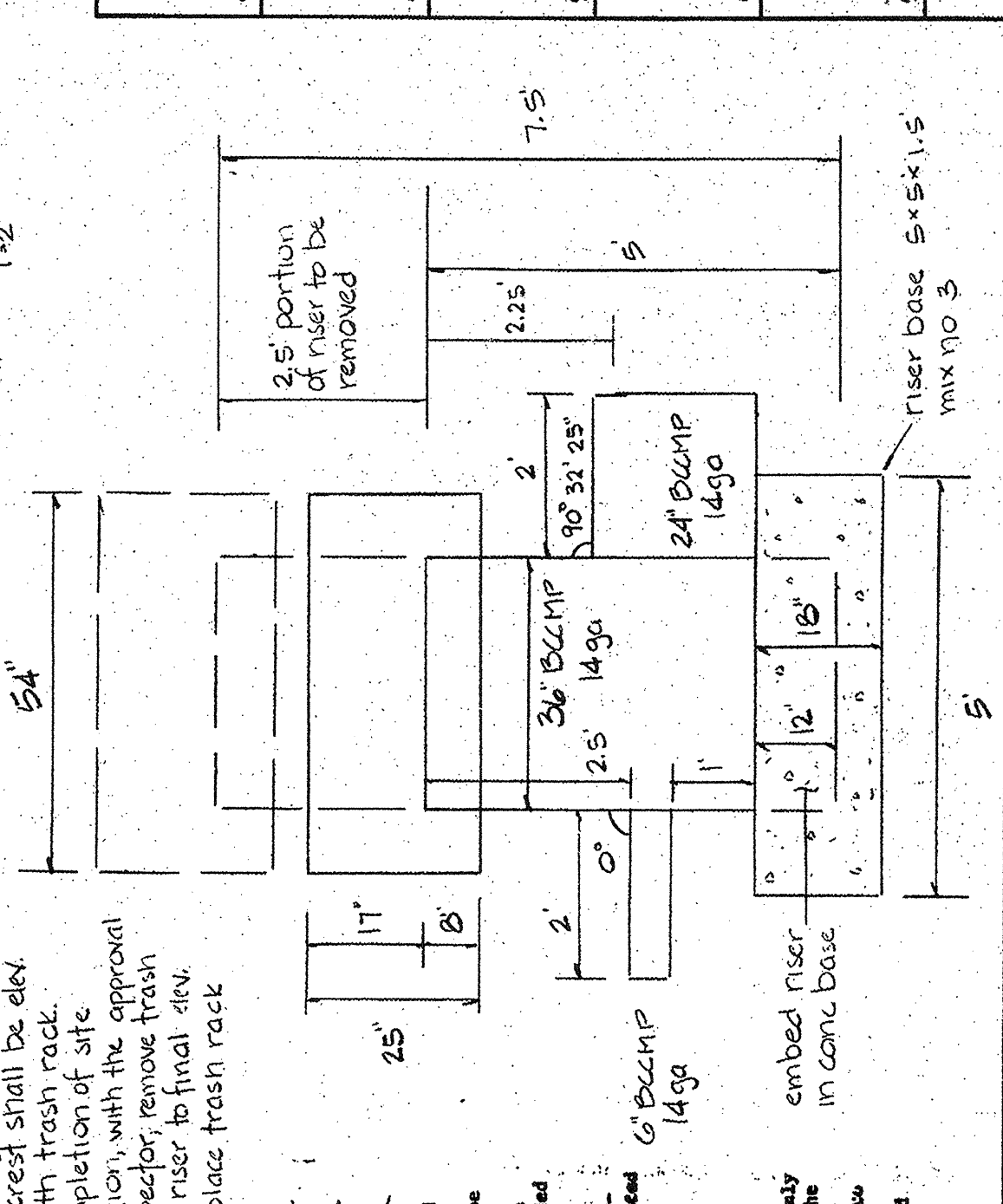
Profile - Principal Spillway and Cross Section of Dam
 scale vert 1"=2' hor 1"=20'



Sections - Infiltration Trench
 scale vert 1"=2' hor 1"=20'

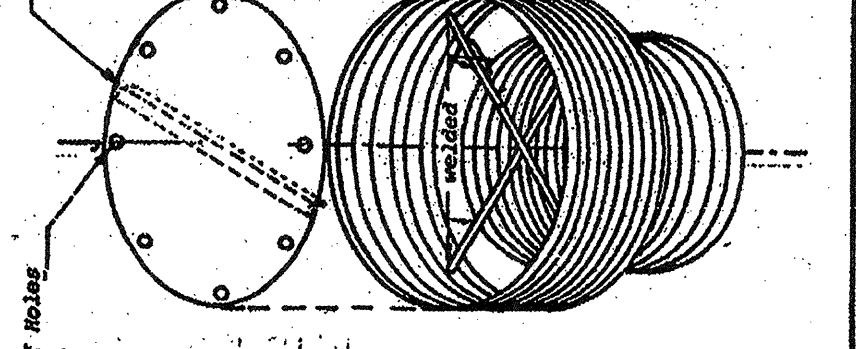


Riser Detail
 scale 1"=2'



Note: during site construction the riser crest shall be elevated 0.5' to existing ground upon completion of site stabilization, with the approval of the inspector, remove trash rack, cut riser to final elev. 526.5, replace trash rack

Notes: 1) riser crest shall be elevated 0.5' to existing ground upon completion of site stabilization, with the approval of the inspector, remove trash rack, cut riser to final elev. 526.5, replace trash rack



CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE (not to scale)

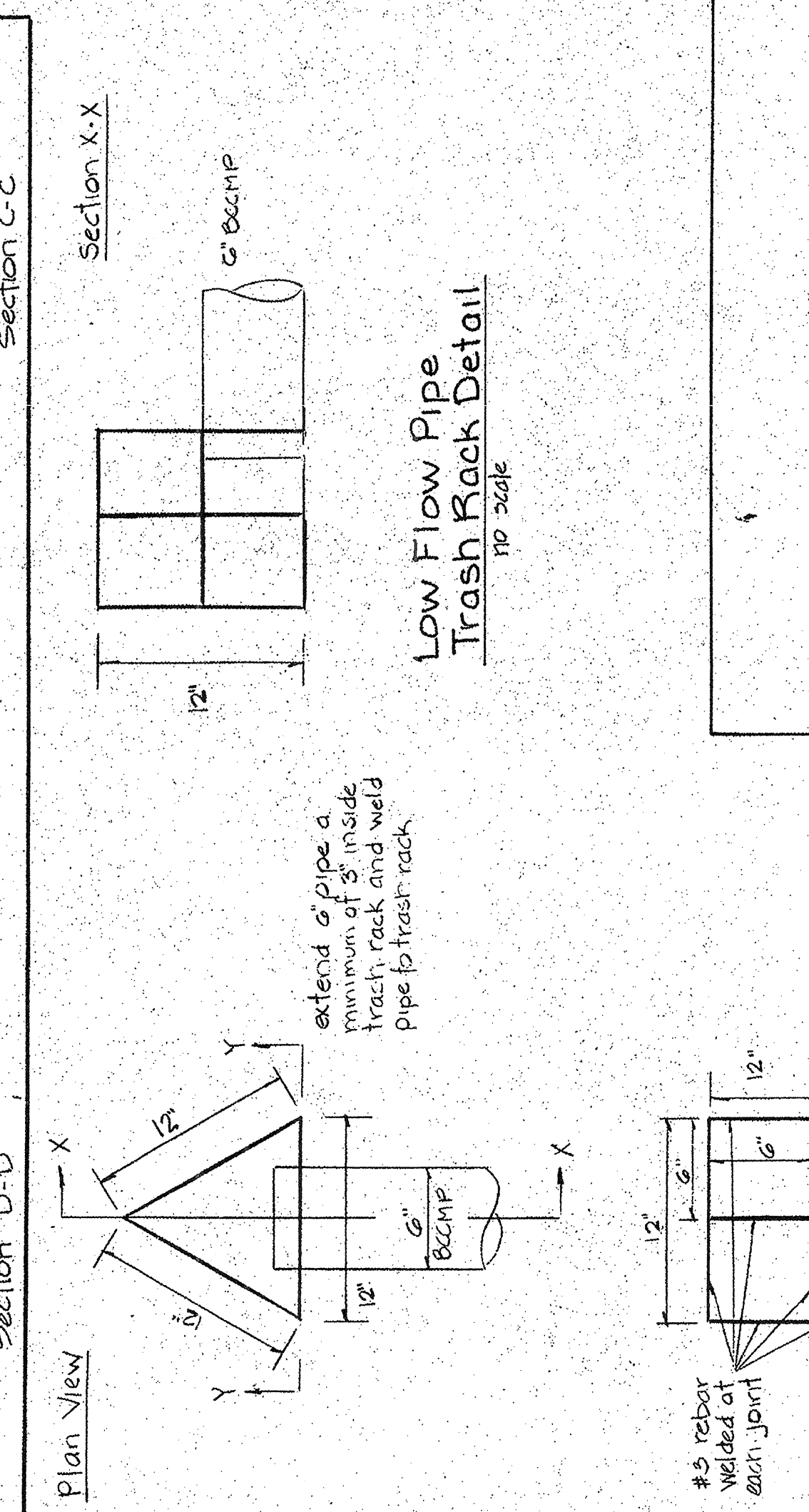
REVIEWED NO FACILITIES REQUIRED
 HANOVER COUNTY HEALTH DEPARTMENT
 APPROVED: *[Signature]* DATE: 10/14/92
 APPROVED: *[Signature]* DATE: 10/14/92
 APPROVED: *[Signature]* DATE: 10/14/92
 APPROVED: *[Signature]* DATE: 10/14/92

APPROVED FOR THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 APPROVED: *[Signature]* DATE: 10/14/92
 APPROVED: *[Signature]* DATE: 10/14/92

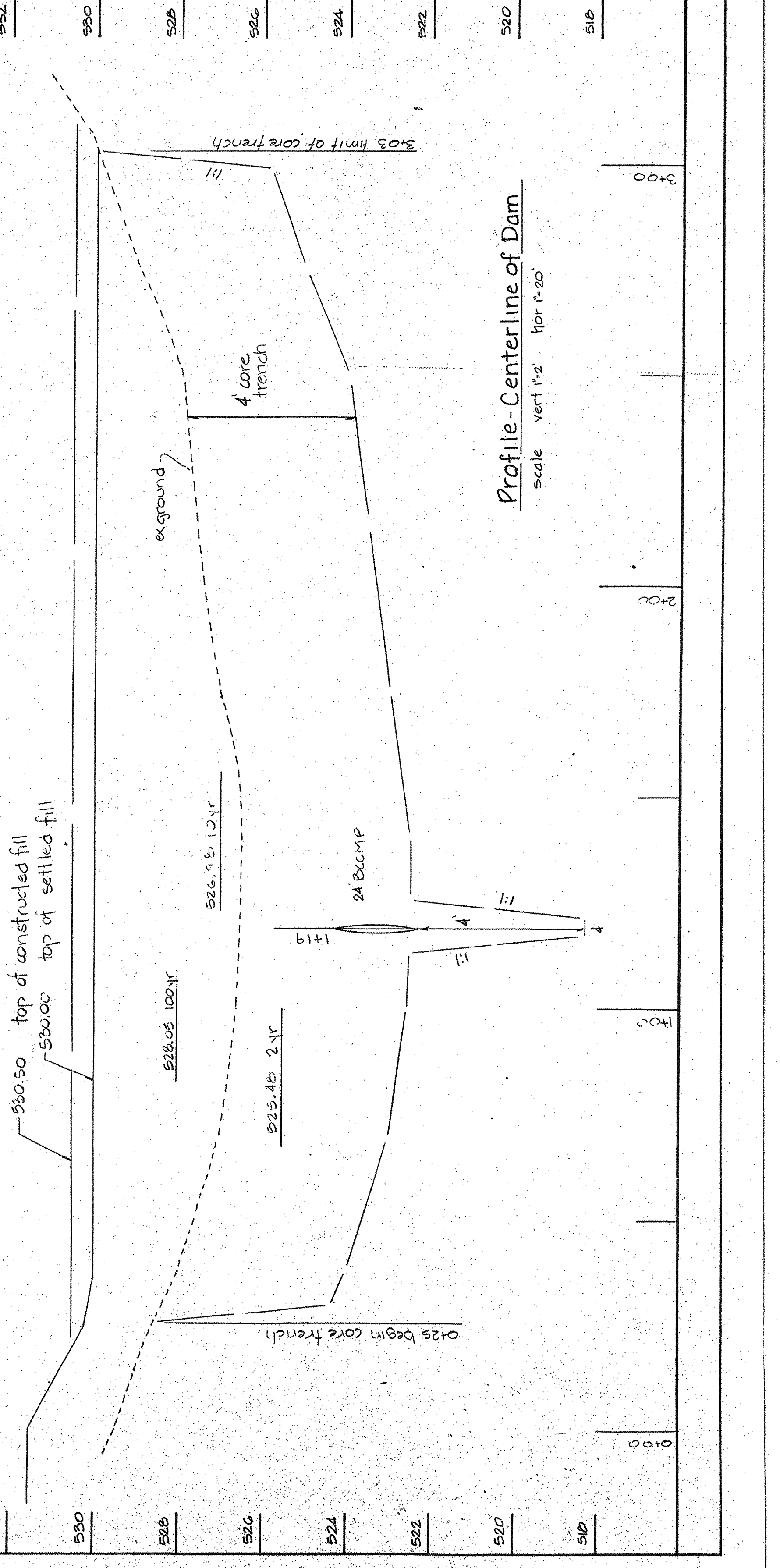
APPROVED FOR THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 APPROVED: *[Signature]* DATE: 10/14/92
 APPROVED: *[Signature]* DATE: 10/14/92

SITE DATA
 OWNER: HOWARD COUNTY DEPT. OF PUBLIC WORKS
 PROPOSED IMPROVEMENT: PARK
 DEED REF: LIBER 847, FOLIO 606
 TAX MAP #10, PARCEL #23
 ELECTION DISTRICT: #3
 GENUS TRACT 8000
 WATER: NONE
 SEWER: NONE
 JANUARY 24, 1993

CHRISTOPHER BAITEN INC.
 Land Planning & Design Consultant
 8 North Church Street
 Westminister, Maryland 21157
 301-976-3385



Stormwater Management Pond #1 Profiles



Profile - Center line of Dam
 scale vert 1"=2' hor 1"=20'

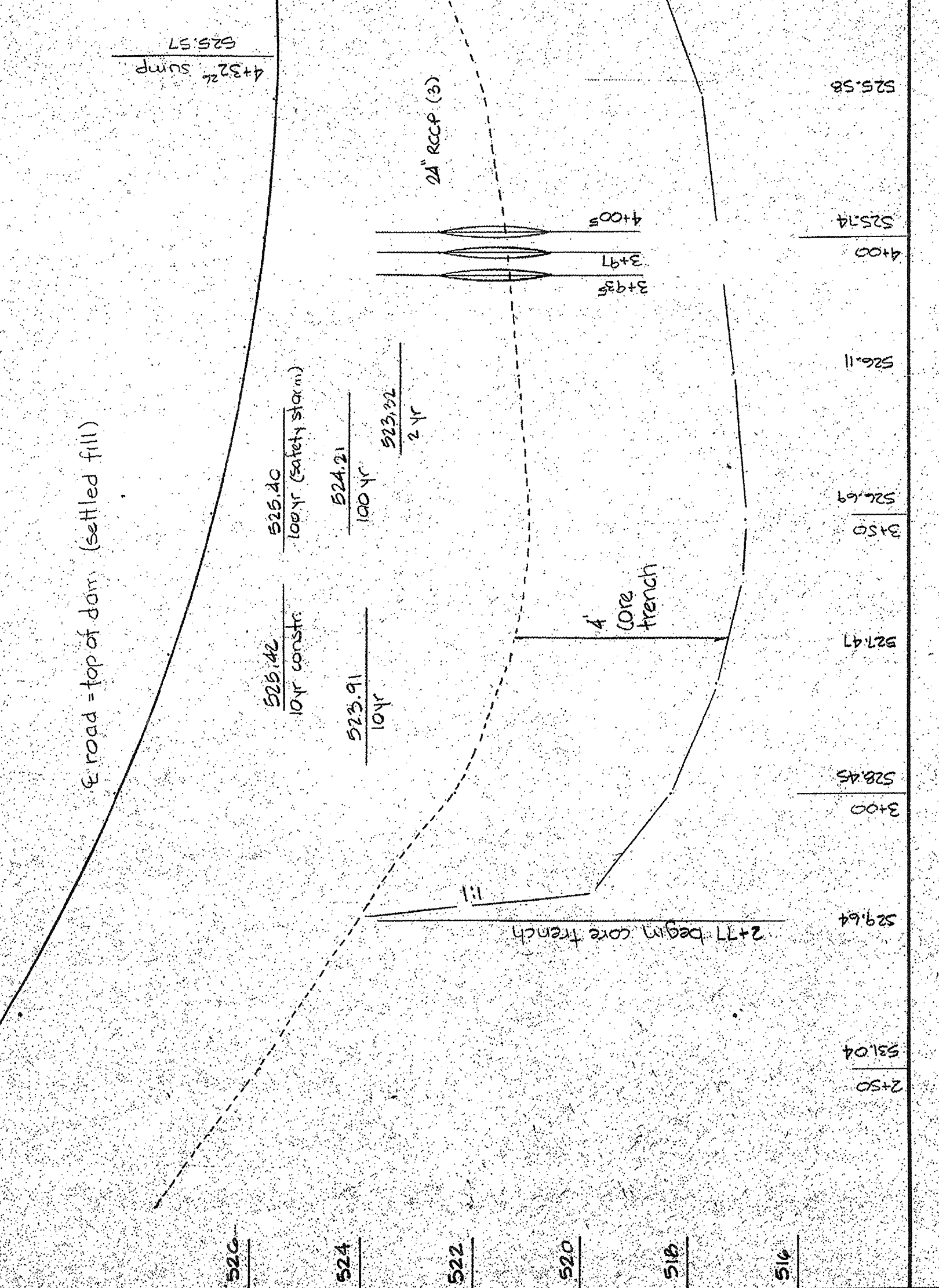
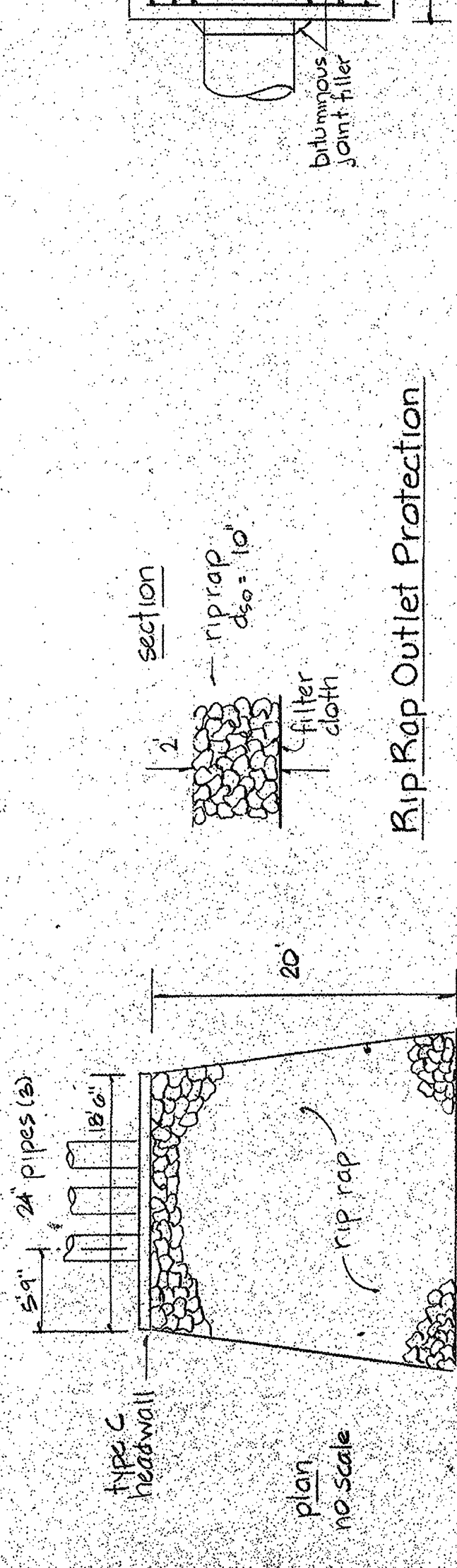
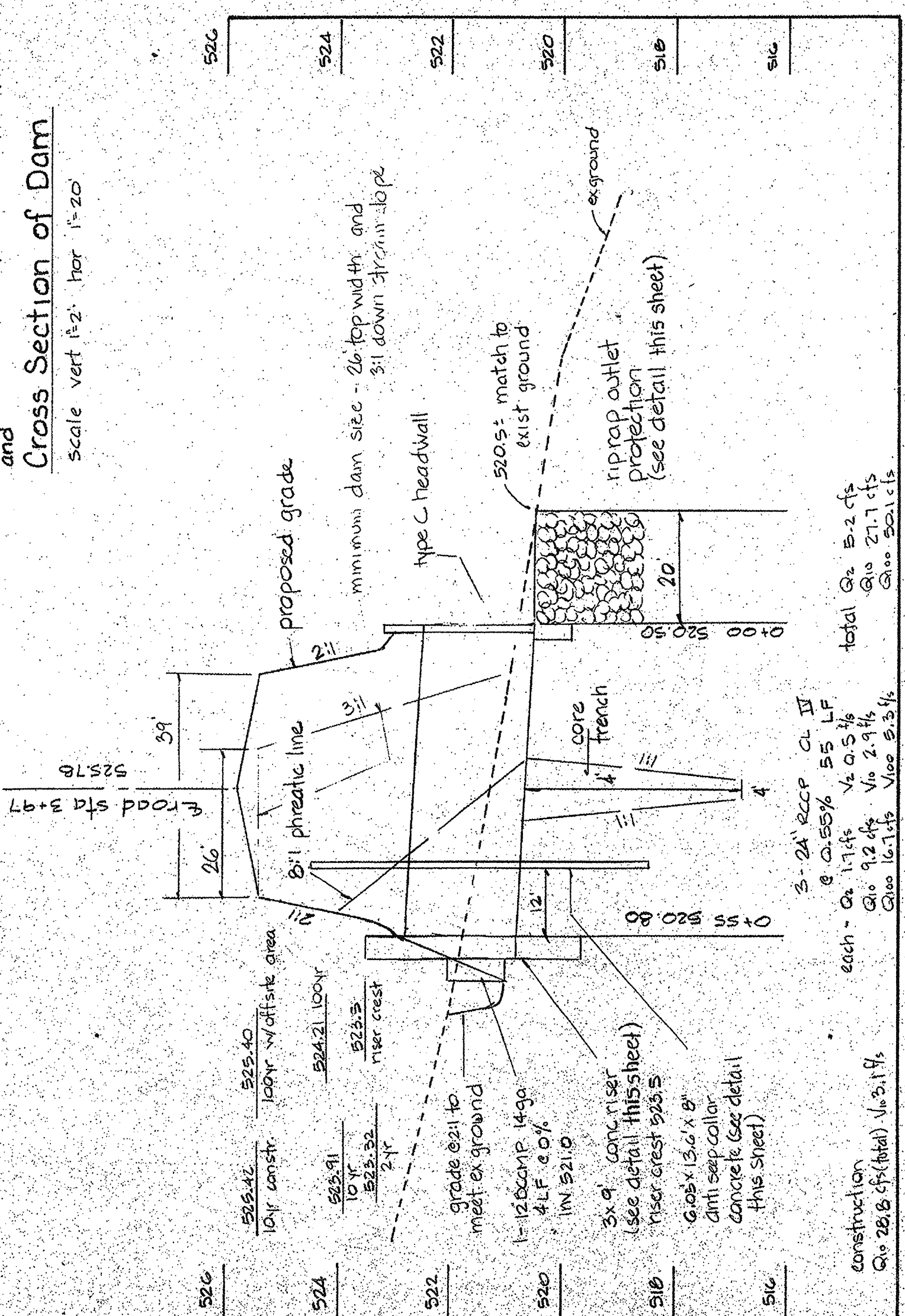
524 522 520 518

524 522 520 518

524 522 520 518

524 522 520 518

Profile - Principal Spillway and Cross Section of Dam
Scale vert 1:2, hor 1:20



REVIEWED NO FACILITIES REQUIRED
APPROVED: *[Signature]* DATE: 1/21/92
APPROVED: *[Signature]* DATE: 1/21/92
APPROVED: *[Signature]* DATE: 1/21/92

APPROVED: *[Signature]* DATE: 1/21/92
APPROVED: *[Signature]* DATE: 1/21/92
APPROVED: *[Signature]* DATE: 1/21/92

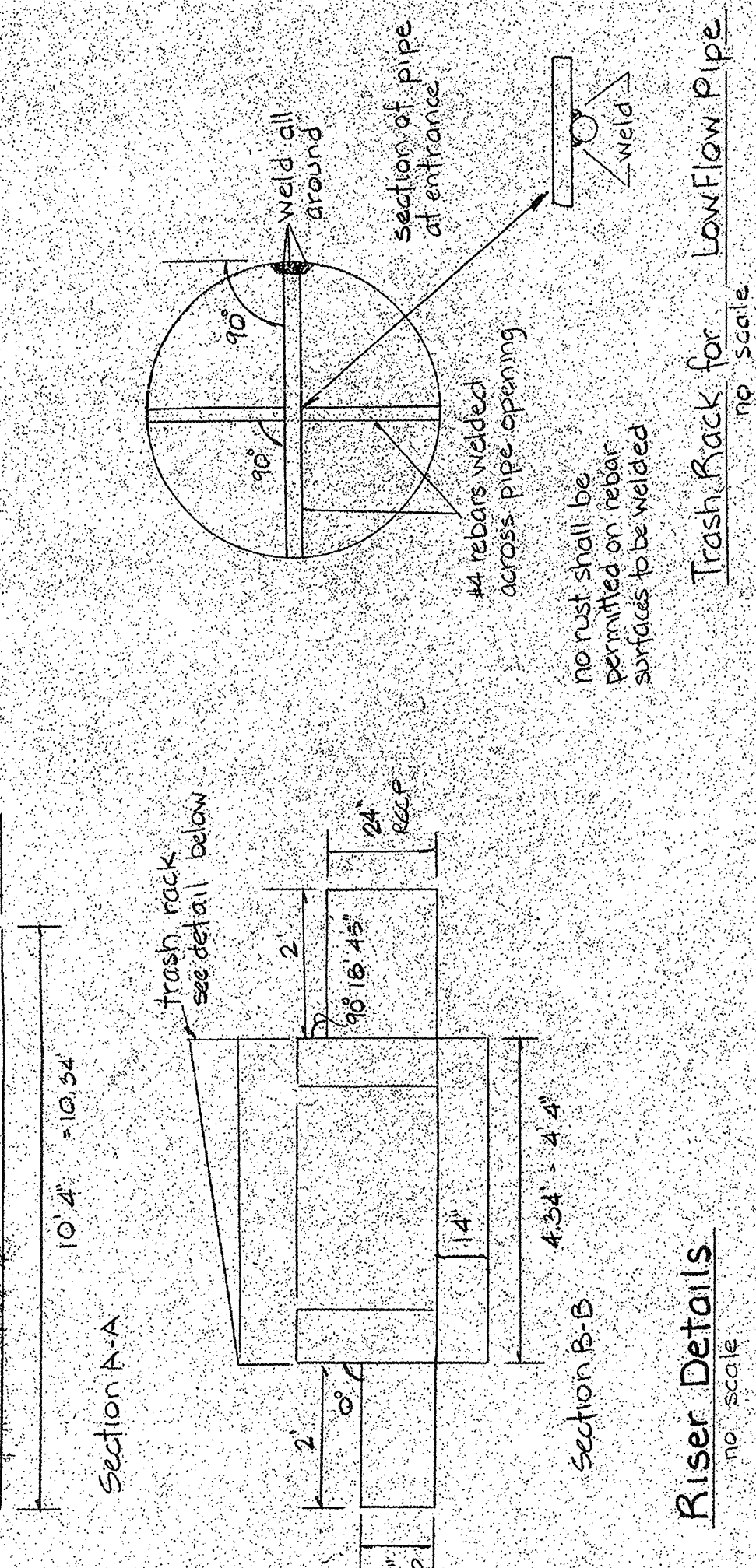
APPROVED: *[Signature]* DATE: 1/21/92
APPROVED: *[Signature]* DATE: 1/21/92
APPROVED: *[Signature]* DATE: 1/21/92

APPROVED: *[Signature]* DATE: 1/21/92
APPROVED: *[Signature]* DATE: 1/21/92
APPROVED: *[Signature]* DATE: 1/21/92

SITE DATA
OWNER: HOWARD COUNTY
DEPT. OF PUBLIC WORKS
PROPOSED IMPROVEMENT: PARK
DEED REF: LIBER 817, P. 10 & 806
TAX MAP #10, PARCEL #28
ELECTION DISTRICT #8
GENSLUS TRACT 0030
WATER: NONE
SEWER: NONE
JANUARY 24, 1992

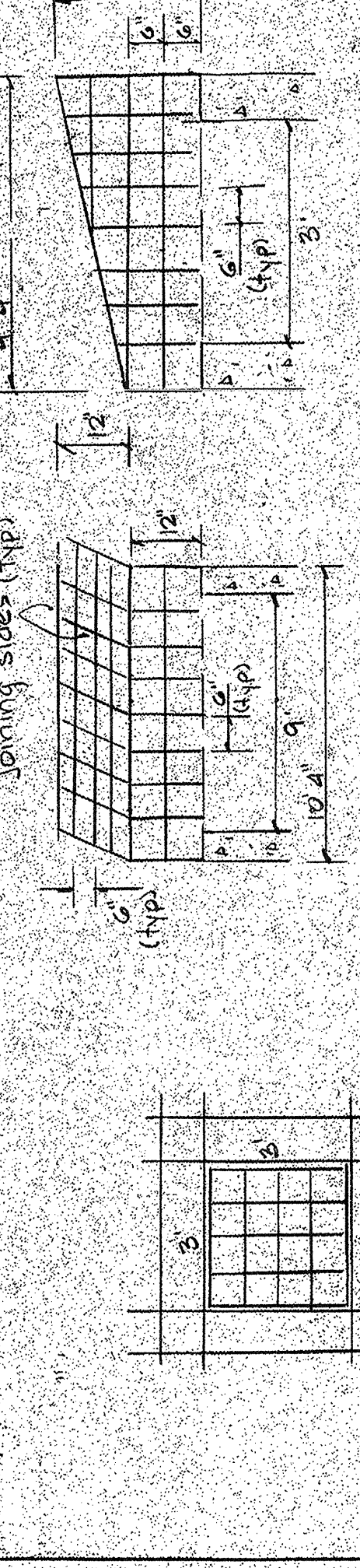
J. CHRISTOPHER BAUTEN, INC.
Land Planning & Design Consultant
1 North Church Street
Washington, Maryland 21157
301-474-5555
SHEET **S-16**
SDP #90-18 of 20

- Notes:**
- Slab-concrete base shall be MK no. 3 concrete.
 - Walls shall be reinforced MK no. 3 concrete.
 - Reinforcing shall be #4 @ 10" o.c. each way in E of walls. Reinforcing continuous at corners. All laps 1'-4".



Riser Details
no scale

Trash Rack for LowFlow Pipe
no scale



Riser Trash Rack Details
no scale

Contractor shall field measure the riser dimensions for exact fitting of trash rack.
The entire trash rack shall be galvanized after fabrication.

Stormwater Management Pond #3
Profiles and Details
9-5-91

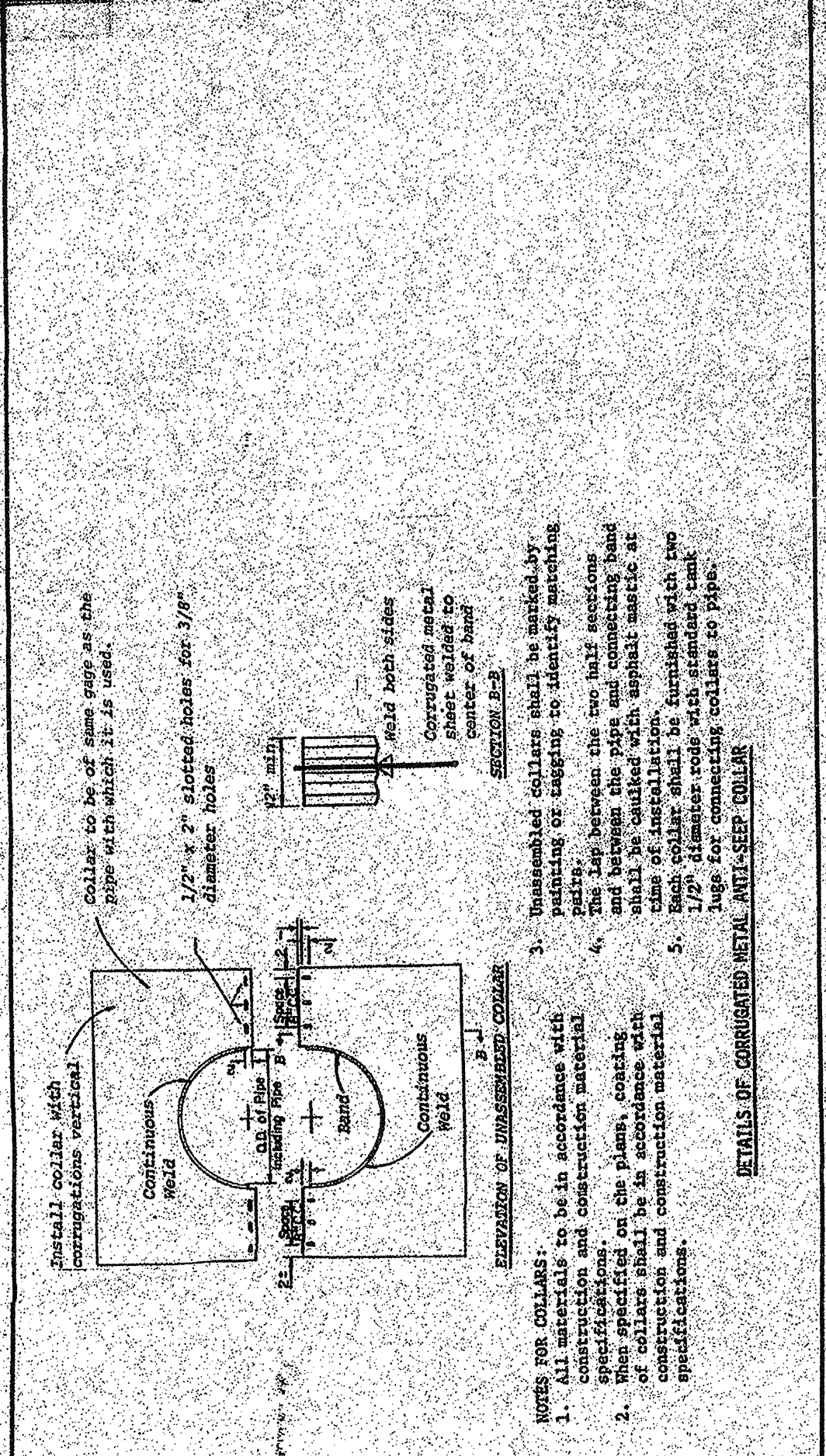
APPROVAL STAMP
 Approved: *[Signature]* 1/27/92
 Approved: *[Signature]* 1/27/92

APPROVAL STAMP
 Approved: *[Signature]* 1/27/92
 Approved: *[Signature]* 1/27/92

APPROVAL STAMP
 Approved: *[Signature]* 1/27/92
 Approved: *[Signature]* 1/27/92

APPROVAL STAMP
 Approved: *[Signature]* 1/27/92
 Approved: *[Signature]* 1/27/92

SITE DATA
 OWNER: HOWARD COUNTY
 DEPT. OF PUBLIC WORKS
 PROPOSED IMPROVEMENT: PARK
 DEED REF: LIBERTY FOLIO 006
 TAXMAP NO. PACE #28
 ELECTION DISTRICT #3
 CENSUS TRACT 060
 WATER
 SEWER NO. 100



DETAILS OF CONCRETE METAL INTER-SEEP COLLAR

1. The collar shall be installed in accordance with the specifications and shall be installed in accordance with the specifications.

2. The collar shall be installed in accordance with the specifications and shall be installed in accordance with the specifications.

DETAILS OF CONCRETE METAL INTER-SEEP COLLAR

1. The collar shall be installed in accordance with the specifications and shall be installed in accordance with the specifications.

2. The collar shall be installed in accordance with the specifications and shall be installed in accordance with the specifications.

CERTIFICATION BLOCKS ON THIS SHEET APPLY EQUALLY TO THE FOLLOWING SHEETS:

5-4, SEDIMENT CONTROL PLAN - EAST
 5-5, SEDIMENT CONTROL PLAN - WEST
 5-6, GRADING PLAN - EAST
 5-7, GRADING PLAN - WEST
 5-13, STORMWATER MANAGEMENT POND 1 PLAN
 5-14, STORMWATER MANAGEMENT POND 2 PLAN
 5-15, STORMWATER MANAGEMENT POND 3 PLAN
 5-16, STORMWATER MANAGEMENT POND 3 PROFILES & DETAILS

Stormwater Management Ponds 1 & 3 Construction Specifications Details

9-3-71

APPROVAL STAMP
 Approved: *[Signature]* 1/27/92
 Approved: *[Signature]* 1/27/92

11. FENCE
 Construct fencing in accordance with the State Highway Administration Standard Plans 699.01 and 699.02. The fence shall be 6' high and constructed of galvanized steel pipe and posts. The fence shall be constructed in accordance with the specifications and shall be installed in accordance with the specifications.

12. 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 structures 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 the removal of water from the various parts of the work and for maintaining the excavations, foundations, and other parts of the work free from water. The contractor shall be responsible for the removal of water from the various parts of the work and for maintaining the excavations, foundations, and other parts of the work free from water.

13. FILLER CLOTH
 Filler cloth shall be woven fabric, Dupont Type 341 or 3401, or approved equal.

14. ROCK FILTER
 All filters shall be Class IV, with PVC-coated wire baskets.

15. ROCK FILTER
 All filters shall be Class IV, with PVC-coated wire baskets.

16. ROCK FILTER
 All filters shall be Class IV, with PVC-coated wire baskets.

17. ROCK FILTER
 All filters shall be Class IV, with PVC-coated wire baskets.

18. ROCK FILTER
 All filters shall be Class IV, with PVC-coated wire baskets.

6. STABILIZATION
 All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces, embankment, spillway, spill and borrow areas, and bays shall be stabilized in accordance with the specifications and shall be installed in accordance with the specifications.

6.1 Sod
 Sod shall be 4-6 inch tall fescue or Kentucky bluegrass sod, certified or approved sod.

6.2 Permanent Seeding
 Seeded Preparation - Loosen the upper 3 inches of soil by raking, digging or other acceptable means before seeding.

6.3 Temporary Seeding
 Seeded Preparation - Loosen upper 3 inches of soil by raking, digging or other acceptable means before seeding.

6.4 Filter Cloth
 Filler cloth shall be woven fabric, Dupont Type 341 or 3401, or approved equal.

6.5 Rock Filter
 All filters shall be Class IV, with PVC-coated wire baskets.

6.6 Rock Filter
 All filters shall be Class IV, with PVC-coated wire baskets.

6.7 Rock Filter
 All filters shall be Class IV, with PVC-coated wire baskets.

6.8 Rock Filter
 All filters shall be Class IV, with PVC-coated wire baskets.

4. PIPE CONDUITS
 All pipes shall be circular in cross section.

4.1 Corrugated Metal Pipe
 This pipe and its appurtenances shall be fabricated in accordance with the specifications and shall be installed in accordance with the specifications.

4.2 Reinforced Concrete Pipe
 Materials - Reinforced concrete pipe conduits shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Specification C-301. An approved equivalent is allowed.

4.3 Polyvinyl Chloride (PVC) Pipe
 Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2911.

4.4 Filter Cloth
 Filler cloth shall be woven fabric, Dupont Type 341 or 3401, or approved equal.

4.5 Rock Filter
 All filters shall be Class IV, with PVC-coated wire baskets.

4.6 Rock Filter
 All filters shall be Class IV, with PVC-coated wire baskets.

4.7 Rock Filter
 All filters shall be Class IV, with PVC-coated wire baskets.

4.8 Rock Filter
 All filters shall be Class IV, with PVC-coated wire baskets.

2. 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. Chain-link and sharp breaks shall be stopped to no deeper than 12 inches.

3.1 Materials
 The quality of all materials shall be taken from approved designated sources. All materials shall be tested and certified by a qualified testing agency. All materials shall be tested and certified by a qualified testing agency.

3.2 Placement
 Areas on which earth fill is to be placed shall be certified prior to placement of fill. All materials shall be placed in 3 inch maximum thickness (before compaction) layers which are to be continuous over the entire length of the fill. The most porous borrow materials shall be placed in the downstream portions of the embankment. The principal spillway shall be installed in accordance with the specifications and shall be installed in accordance with the specifications.

3.3 Compaction
 The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed a minimum of four complete passes of a roller. The roller shall be of the type specified in the specifications and shall be installed in accordance with the specifications.

3.4 Cutoff Trench
 Where specified, a cutoff trench shall be excavated along or parallel to the embankment of the structure. The depth shall be as shown on the plans and shall be at least 4 feet below existing grade. The side slopes of the trench shall be 1:1 or flatter. The backfill material for the cutoff trench shall be compacted with equipment or rollers to assure uniformity of the fill. The minimum permeability coefficient shall be as shown on the plans.

