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# SITE DEVELOPMENT PLAN

## JPG PROPERTIES

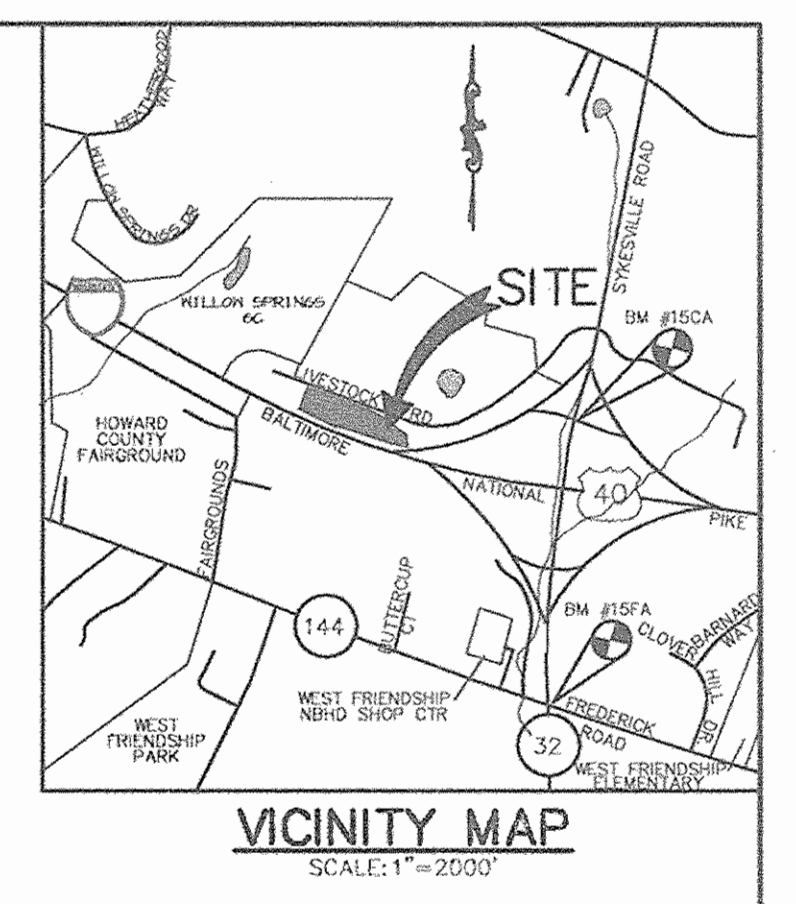
### 3rd ELECTION DISTRICT

### HOWARD COUNTY, MARYLAND

**BENCH MARK**

HO. CO. SURVEY CONTROL STATION: 15CA  
 N 598,862.638 E 1,325,913.787  
 ELEVATION: 516.148'  
 LOCATED IN MEDIAN STRIP OF RT. 32 AT  
 INTERSECTION OF RT. 32 AND RT 144

HO. CO. SURVEY CONTROL STATION: 15FA  
 N 595,906.955 E 1,325,627.710  
 ELEVATION: 486.950'  
 LOCATED IN MEDIAN STRIP OF RT. 32 AT  
 INTERSECTION OF RT. 32 AND RAMP TO  
 WEST BOUND INTERSTATE 70



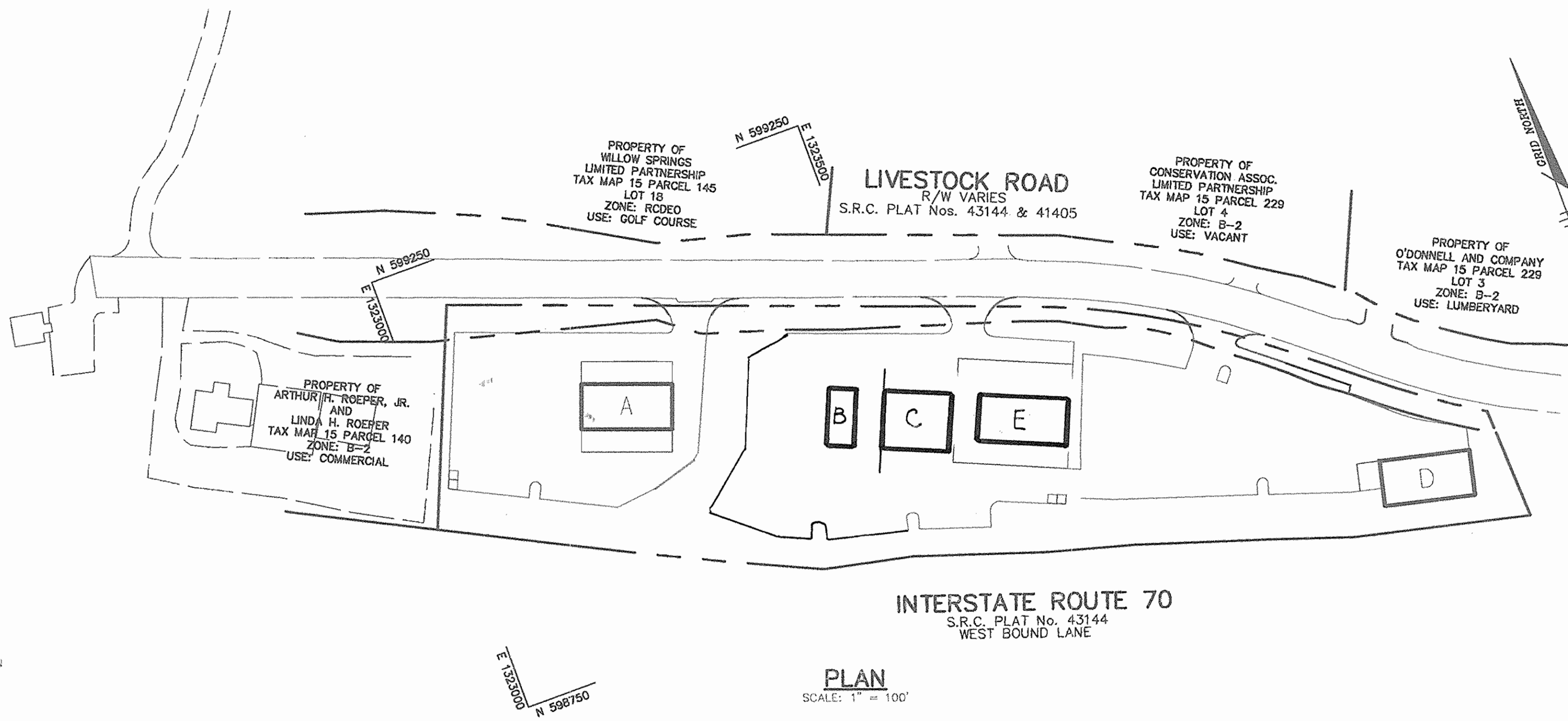
**SITE TABULATION**

SITE AREA-PARCEL 13	5.95 ACRES
SITE AREA-R/W DEFERRED	0.61 ACRES
LIMIT OF DISTURBED AREA	6.16 ACRES
PRESENT ZONING	B-2
PROPOSED USE:	MOTOR VEHICLE REPAIR, CONTRACTOR'S STORAGE, SCHOOL BUS STORAGE/SERVICE, SALES, AND SERVICE

21,890 SF FLOOR AREA  
 SALES/SERVICE 10,000 SF  
 VEHICLE SERVICE 11,890 SF

PARKING SPACES REQUIRED	
RETAIL SALES AND SERVICE/ 5 SPACES PER 1000 SF	50 SPACES (BUILDING A & D)
VEHICLE SERVICE/ 3 SPACES + 3 SPACES PER BAY (8 BAYS)	27 SPACES (BUILDING B, C & E)
<b>TOTAL</b>	<b>77 SPACES</b>
PARKING SPACES PROVIDED	77 SPACES (INCLUDES 4 HC SPACES)
RETAIL SALES & SERVICE	10 EMPLOYEES (MAX.)
SCHOOL BUS, MOTOR VEHICLE, BOAT, AND RECREATIONAL VEHICLE SERVICE & STORAGE	6-8 EMPLOYEES (MAX.)

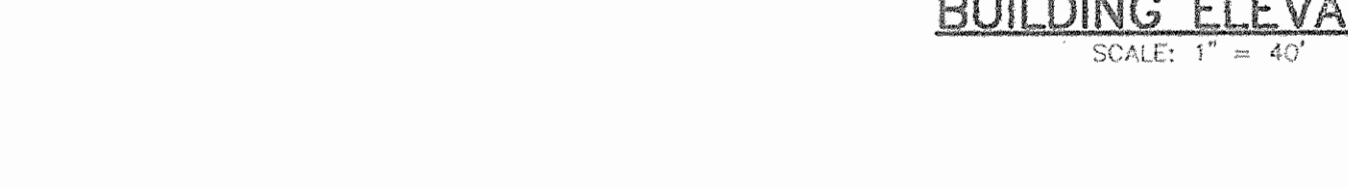
- GENERAL NOTES**
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
  - THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410)313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
  - THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
  - TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCO). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
  - ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
  - THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY PHR&A DATED JUNE, 2001.
  - 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. 15CA AND 15FA WERE USED FOR THIS PROJECT.
  - THE STORMWATER MANAGEMENT FACILITIES PROPOSED FOR THIS SITE ARE PRIVATELY OWNED AND MAINTAINED UNDERGROUND SWM FACILITY, THREE(3) BIORETENTION FACILITIES, AND TWO(2) STORMCEPTORS.
  - APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
  - THE TRAFFIC STUDY WAS PREPARED BY MARS GROUP, DATED AUGUST 2002.
  - THE GEOTECHNICAL STUDY FOR STORMWATER MANAGEMENT FOR THIS PROJECT WAS PREPARED BY ECS LTD DATED NOVEMBER 2002.
  - THE BOUNDARY SURVEY FOR THIS PROJECT WAS PREPARED BY (PHR&A) DATED FEBRUARY 2002.
  - SUBJECT PROPERTY ZONED B-2 PER 10-18-93 COMPREHENSIVE ZONING PLAN.
  - ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
  - SEE DEPARTMENT OF PLANNING AND ZONING FILE NO. BA-02-11C.
  - THE CONTRACTOR SHALL VERIFY EXISTING UTILITIES AT LEAST FIVE DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
  - CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
  - NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
  - ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
  - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
  - STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.e., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST AMENDMENTS.
  - PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
  - ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO 199.
  - THIS DEVELOPMENT COMPLIES WITH THE REQUIREMENTS OF 16.1200 OF HOWARD COUNTY CODES FOR FOREST CONSERVATION WITH PAYMENT OF FEE-IN-LIEU IN THE AMOUNT OF \$21,562.20 FOR THE OBLIGATION OF 0.99 AC. ~~of reforestation~~
  - THERE ARE NO WETLANDS PRESENT ON SITE BASED ON THE WETLAND REPORT DATED JULY 12, 2001.
  - FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AND AGREEMENT IN THE AMOUNT OF \$48,240 FOR 67 SHADE TREES, 159 EVERGREEN TREES AND 143 SHRUBS.
  - THIS SITE IS A DESIGNATED STORMWATER HOTSPOT AND MUST MEET THE REQUIREMENTS OF SECTION 2.8 OF 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME I.
  - BUILDING A WILL NOT HAVE AN OUTDOOR DISPLAY AREA.



- AMEND THE LANDSCAPING PLAN TO INCLUDE THE LANDSCAPE ISLAND AND ANY REQUIRED LANDSCAPING AS IT RELATES TO THE PLACEMENT OF THE BUILDING AND ADDITIONAL PARKING SPACES.
- REMOVE ALL REFERENCES TO THE CONTRACTOR'S STORAGE.
- ADD THE FOLLOWING NOTE "THIS RED-LINE PLAN IS VALID ONE-YEAR FROM THE APPROVAL DATE OF THE RED-LINE PLAN."
- ADD A NOTE STATING THAT THE BA-02-11C HAS BEEN VOIDED BECAUSE THE SDP WAS NOT TIMELY FILED.
- COMPLIANCE WITH ALL SUBDIVISION REVIEW COMMITTEE COMMENTS.

1. A RED-LINE OF ALL SHEETS OF SDP-03-087 MUST BE SUBMITTED WITHIN 45-DAYS (ON OR BEFORE OCTOBER 29, 2007). THE FOLLOWING INFORMATION MUST BE PROVIDED, BUT SHALL NOT BE LIMITED TO:

A. PROVIDE THE REQUIRED NUMBER OF PARKING SPACES FOR THE 5,000 SQUARE FEET BUILDING (25 SPACES = 5 SPACES PER 1,000 SQUARE FOOT BUILDING)



**ADDRESS CHART**

LOT NUMBER	STREET ADDRESS
BUILDING A	12951 LIVESTOCK ROAD
BUILDING B	12931 LIVESTOCK ROAD
BUILDING C	12921 LIVESTOCK ROAD
BUILDING D	12801 LIVESTOCK ROAD

SUBDIVISION NAME	SECT./AREA	PARCEL
PLAT # L 657 F. 694 L 1802 F. 748	BLOCK # ZONING	TAX MAP NO. ELECT. DIST. CENSUS TRACT
	4 B-2	15 3 6063
WATER CODE	SEWER CODE	

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

*Donna M. ...* 11-13-03  
 COUNTY HEALTH OFFICER DATE  
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*David A. ...* 11/21/03  
 DIRECTOR DATE

*Chris ...* 10/21/03  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Chris ...* 11/20/03  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

2-19-08 2 ADD BUILDING E, REVISE WELL LOCATIONS, ADD  
 3-31-09 1 REMOVE SWM POND AND ADD AN UNDERGROUND SWM PIPES

DATE	NO.	REVISION

OWNER/DEVELOPER:

JPG PROPERTIES  
 3799 BROTHERS DELIGHT ROAD  
 MANCHESTER, MARYLAND 21102  
 ATTN: JOHN GLASSMAN  
 (410)442-1914

PROJECT

**JPG PROPERTIES**

AREA TAX MAP 15 BLOCK 4  
 PARCEL 13 ZONED B-2  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE

**TITLE SHEET**

Patton Harris Rust & Associates, PC  
 Engineers, Surveyors, Planners, Landscape Architects.

**PHRA** 8818 Centre Park Drive  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

10-10-03  
 DATE

DESIGNED BY: A.C.R.  
 DRAWN BY: DRH  
 CHECKED BY: C.J.R.  
 PROJECT NO: 22478  
 C000COV.DWG  
 DATE: OCTOBER 10, 2003  
 SCALE: AS SHOWN  
 DRAWING NO. 1 OF 17

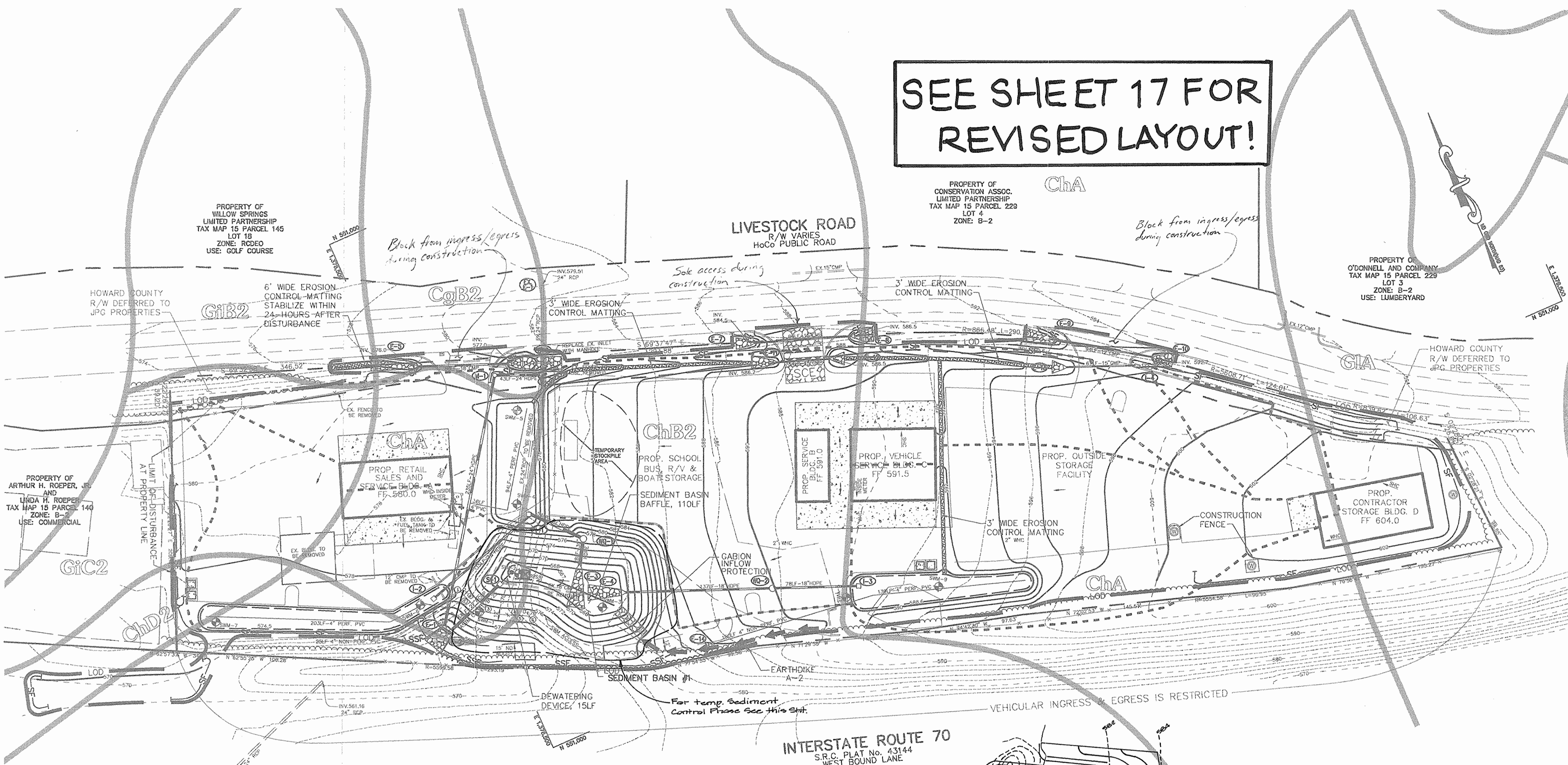
CHRISTOPHER J. REID #19949







**SEE SHEET 17 FOR REVISED LAYOUT!**



BY THE DEVELOPER :  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*John R. Glassman* 10/12/03  
 DEVELOPER DATE

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

*Cheryl J. Reed* 10-10-03  
 ENGINEER DATE

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

*Jim Mann* 10/22/03  
 NATURAL RESOURCES CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*John R. Glassman* 10/22/03  
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

*John R. Glassman* 11-13-03  
 COUNTY HEALTH OFFICER MR. DATE  
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*John R. Glassman* 11/21/03  
 DIRECTOR DATE

*John R. Glassman* 10/22/03  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION gvb DATE

*John R. Glassman* 11/29/03  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

2-19-08 [ ] ADDED NOTE, CHANGED SHEET NUMBER  
 5-21-05 [ ] ADDED TRAP INFORMATION

OWNER/DEVELOPER:  
 JPG PROPERTIES  
 3799 BROTHERS DELIGHT ROAD  
 MANCHESTER, MARYLAND 21102  
 ATTN: JOHN GLASSMAN  
 (410)442-1914

PROJECT  
**JPG PROPERTIES**

AREA  
 TAX MAP 15 BLOCK 4  
 PARCEL 13 ZONED B-2  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE  
**DRAINAGE AREA MAP AND SEDIMENT CONTROL PLAN**

Patton Harris Rust & Associates, p.c.  
 Engineers, Surveyors, Planners, Landscape Architects.  
 5818 Centre Park Drive  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

10-10-03  
 DATE

DESIGNED BY : A.C.R.  
 DRAWN BY : DRH  
 CHECKED BY : C.J.R.  
 PROJECT NO : 22478  
 C600ESC.DWG  
 DATE : OCTOBER 10, 2003  
 SCALE : 1" = 50'  
 DRAWING NO. 3 OF 17

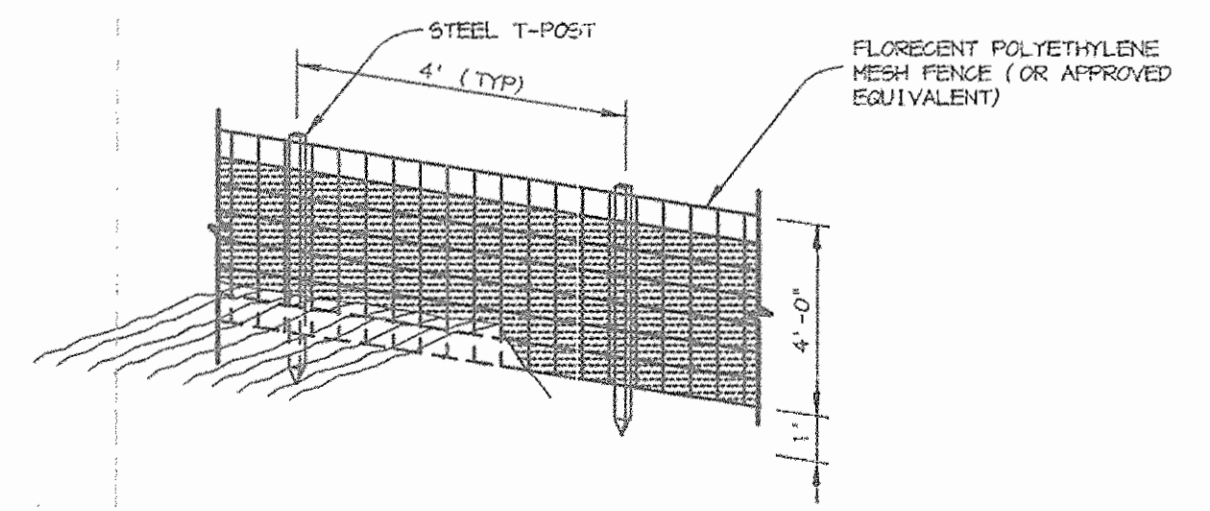
CHRISTOPHER J. REID #19949  
 SDP-03-87

**BOGT #1** (see detail Stk. 16)  
 Drainage Area : 4.5 Ac.  
 Storage Req'd (Net) 8100 CF  
 Storage Provided (Net) 8020 CF  
 Storage Provided (Dry) 19,500 CF @ 570.0  
 Crest El. = 570.0  
 Cleanout El. = 569.5  
 Top of Dam El. = 571.0  
 Bottom El. = 564.0  
 Side Slopes: 2:1  
 Weir Length: 20'  
 Bottom Dimension: 25' x 75'

**SEDIMENT BASIN #1**  
 DA = 5.15 AC.  
 WET STORAGE REQ'D = 9270 CF  
 DRY STORAGE REQ'D = 9270 CF  
 WET STORAGE PROV. = 9400 CF @ 569.92  
 DRY STORAGE PROV. = 25090 CF @ 573.67  
 CREST ELEV. = 573.67  
 TOP OF DAM = 578.00  
 BOTTOM ELEV. = 568.00  
 CLEANOUT ELEV. = 569.5  
 Q<sub>1</sub> EX. = 0.20 CFS  
 Q<sub>1</sub> PROP. = 0.20 CFS

**DAM CENTERLINE DATA**

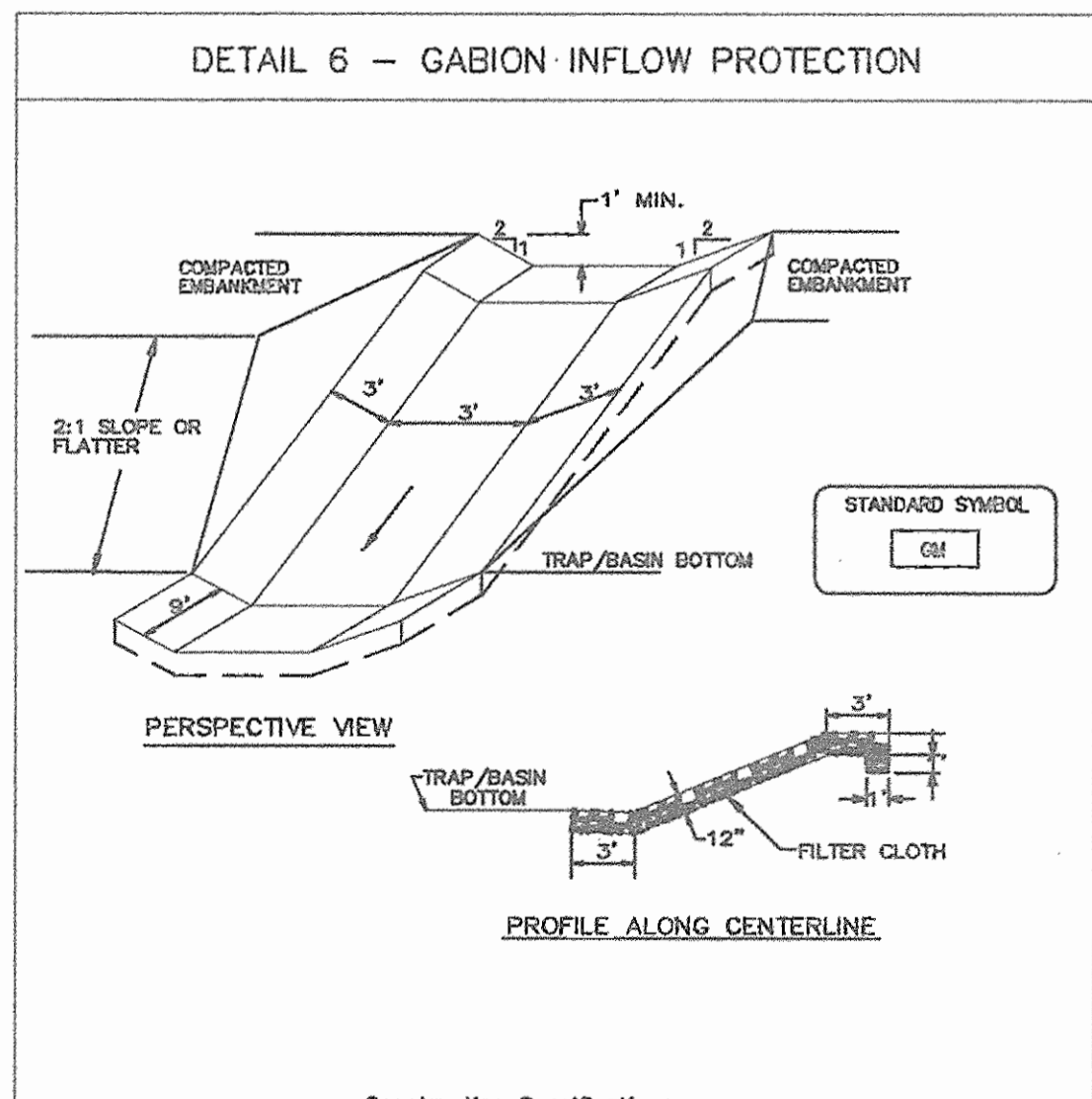
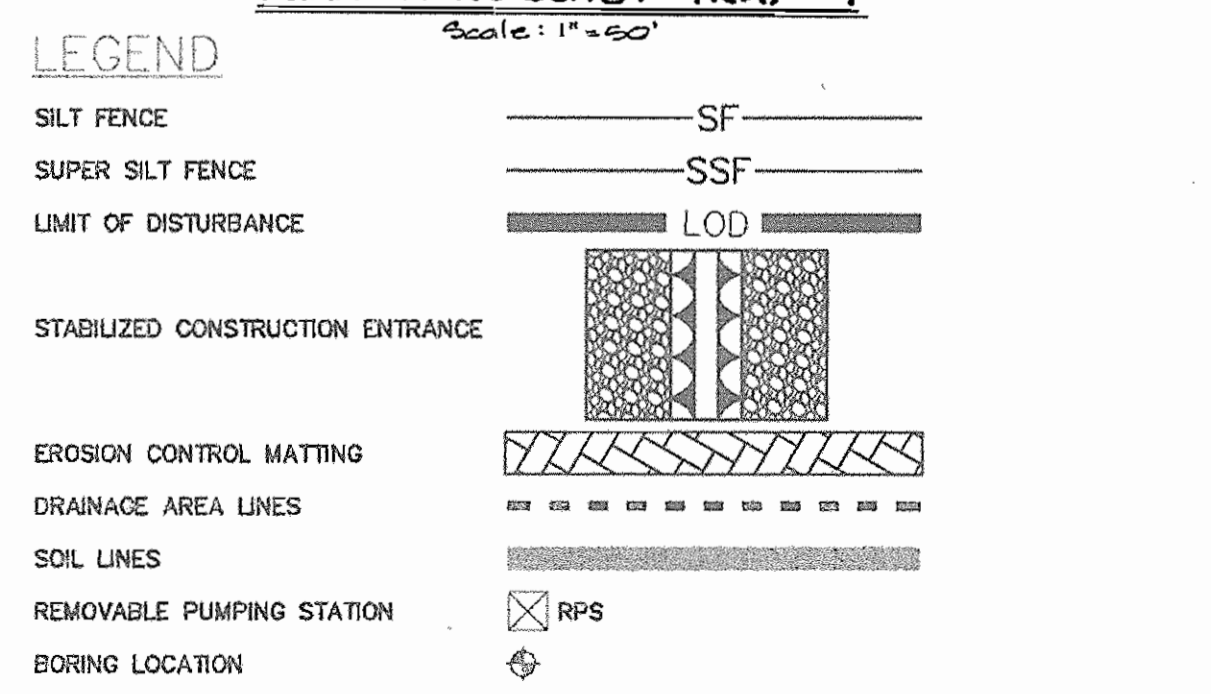
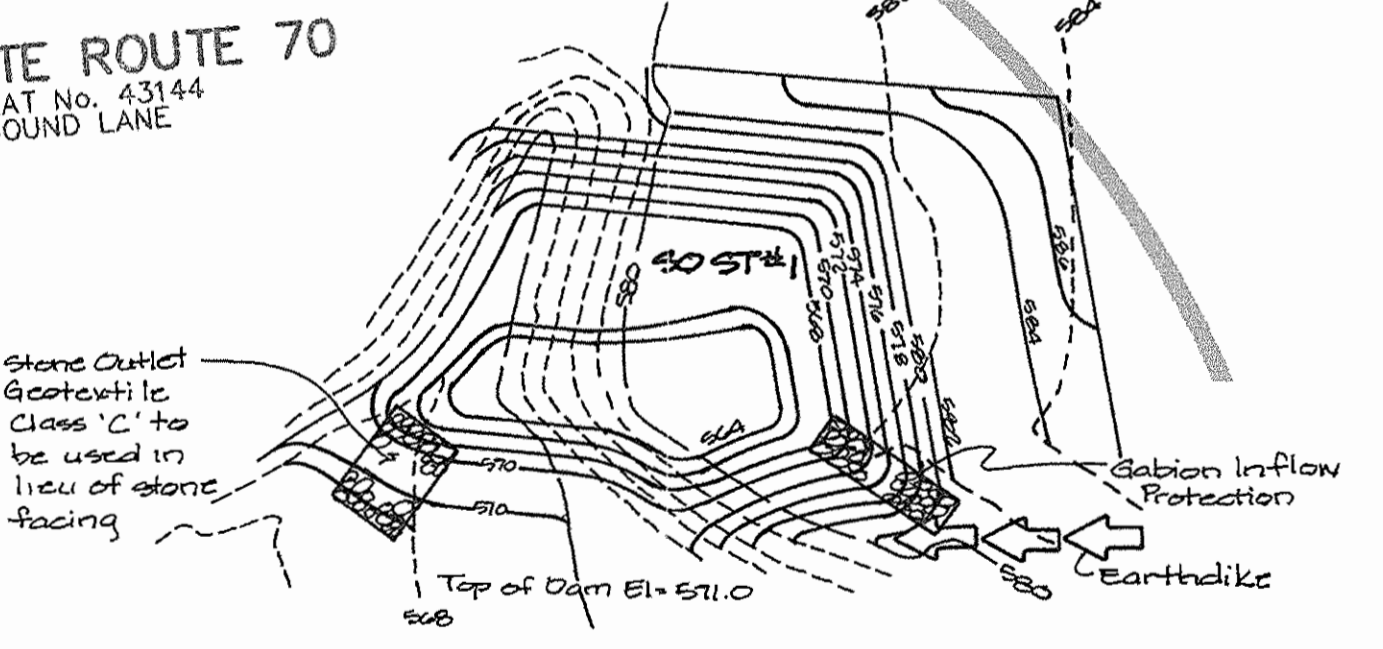
1	N 598913.77, E 1323230.72
1 - 2	S 18° 37' 25" E, 13.15'
2 - 3	R=31.31', L=21.10'
3 - 4	R=111.16', L=19.22'
4 - 5	S 64° 25' 46" E, 10.17'
5 - 6	R=36.40', L=6.04'



**CONSTRUCTION FENCE**  
 NO SCALE

**DRAINAGE AREA DATA**

INLET NO.	DRAINAGE AREA	'C' FACTOR	PERCENT IMPERVIOUS
1-1	2.99 AC	0.70	86.5
1-2	0.84 AC	0.79	91
1-3	1.22 AC	0.63	67
1-4	0.23 AC	0.86	100



Construction Specifications

- Gabion inflow protection shall be constructed of 9" x 3" x 9" gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.
- Geotextile Class C shall be installed under all gabion baskets.
- The stone used to fill the gabion baskets shall be 4" - 7".
- Gabions shall be installed in accordance with manufacturer's recommendations.
- Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.

U.S. DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE

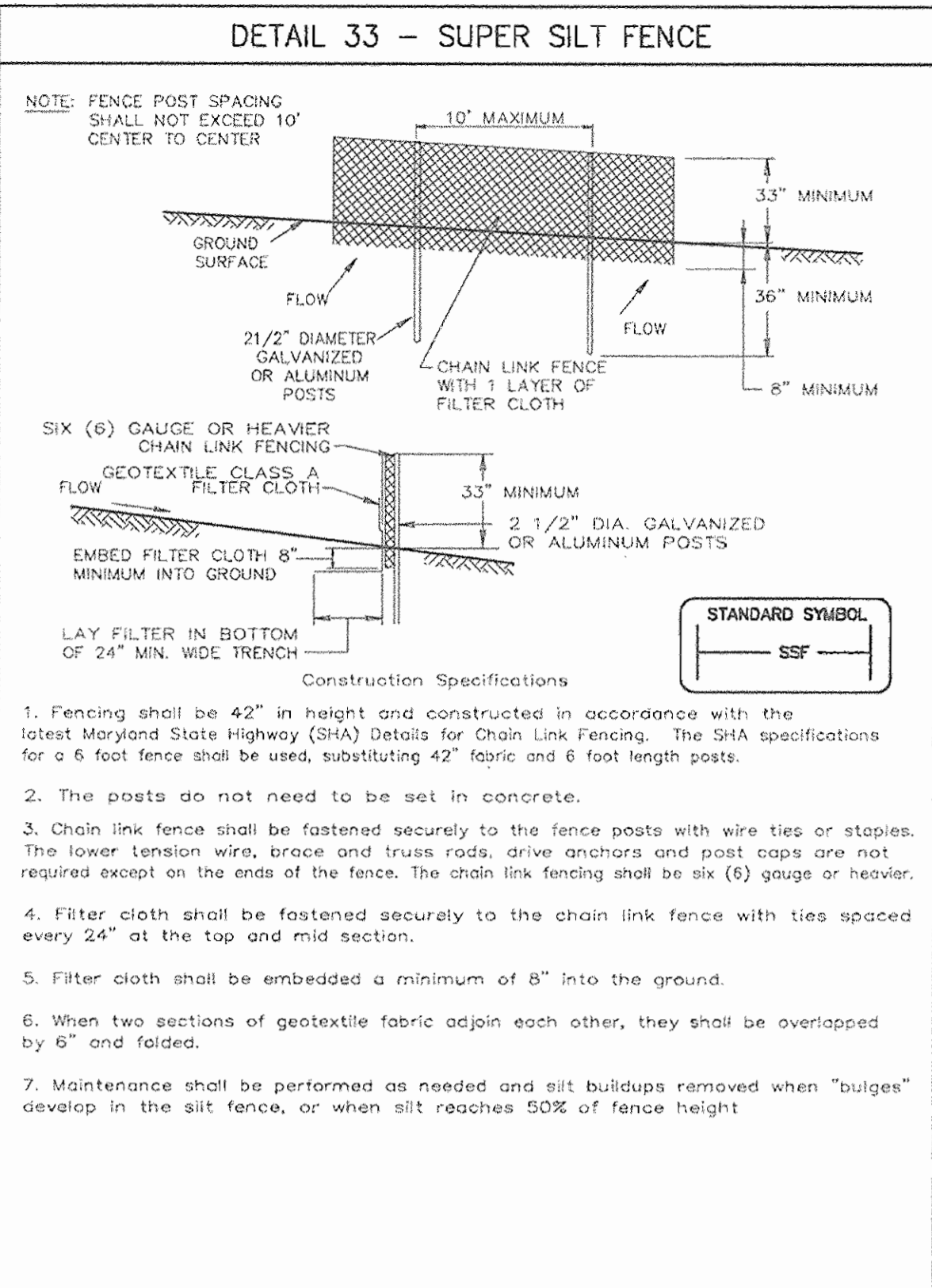
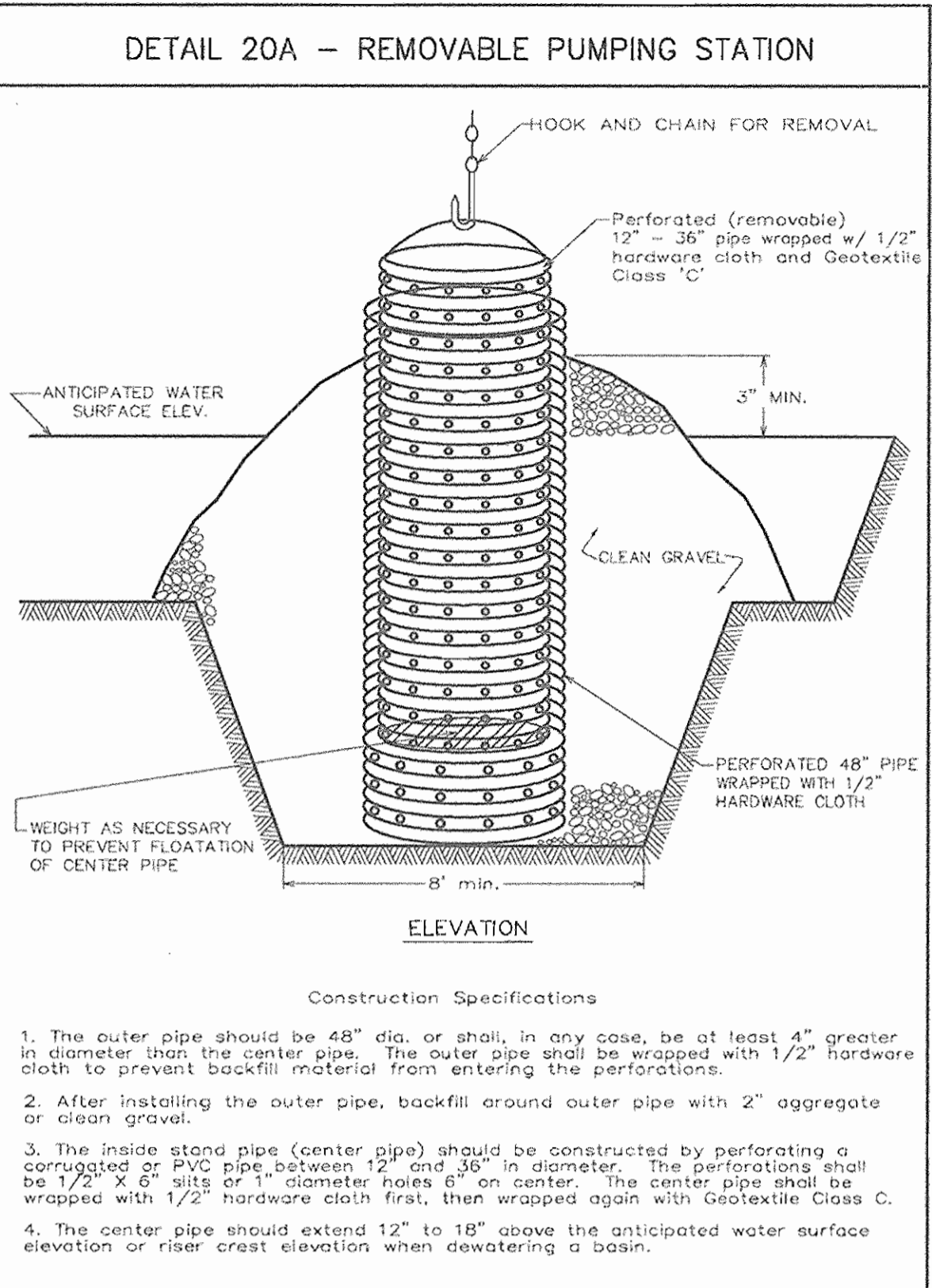
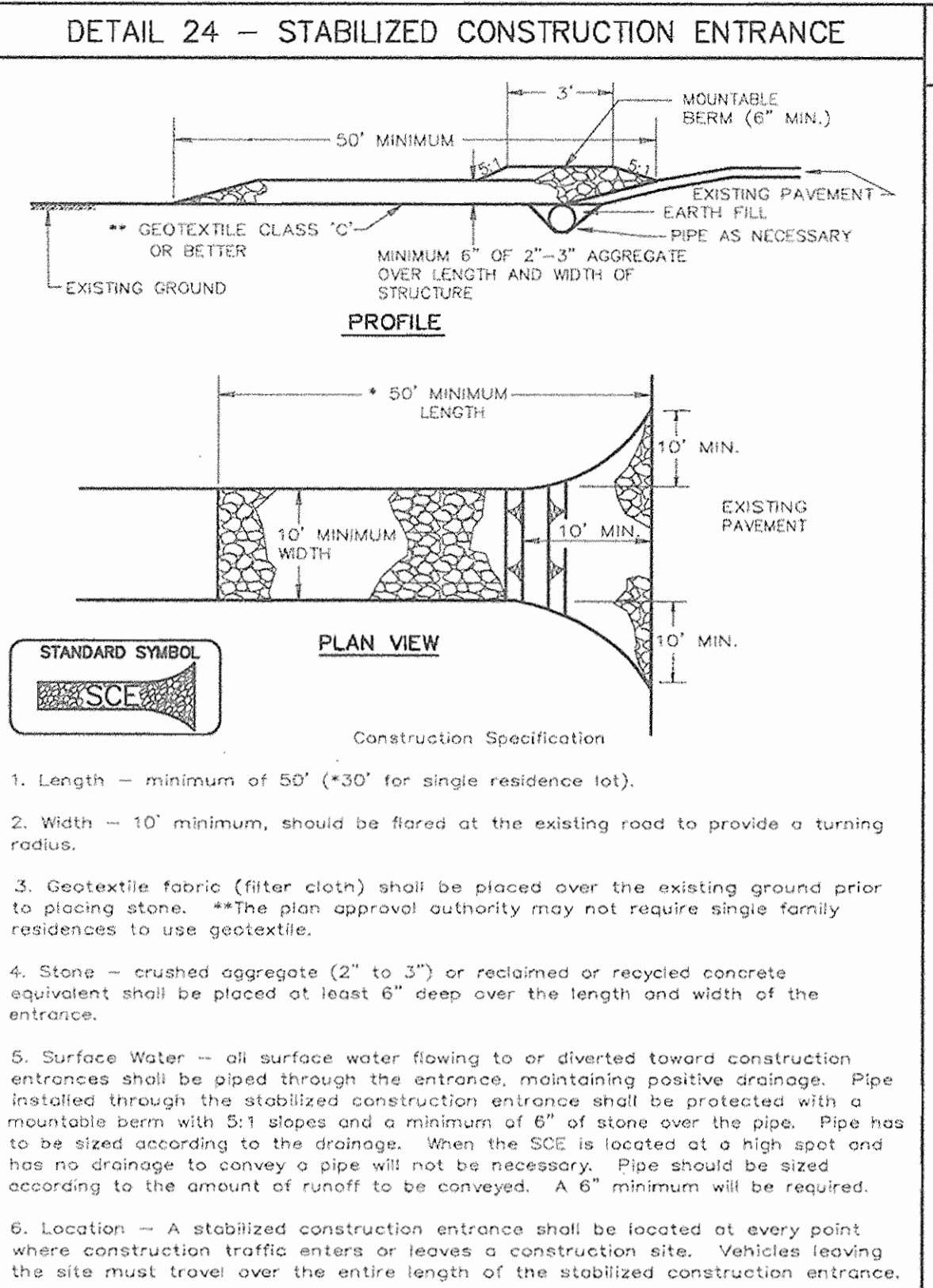
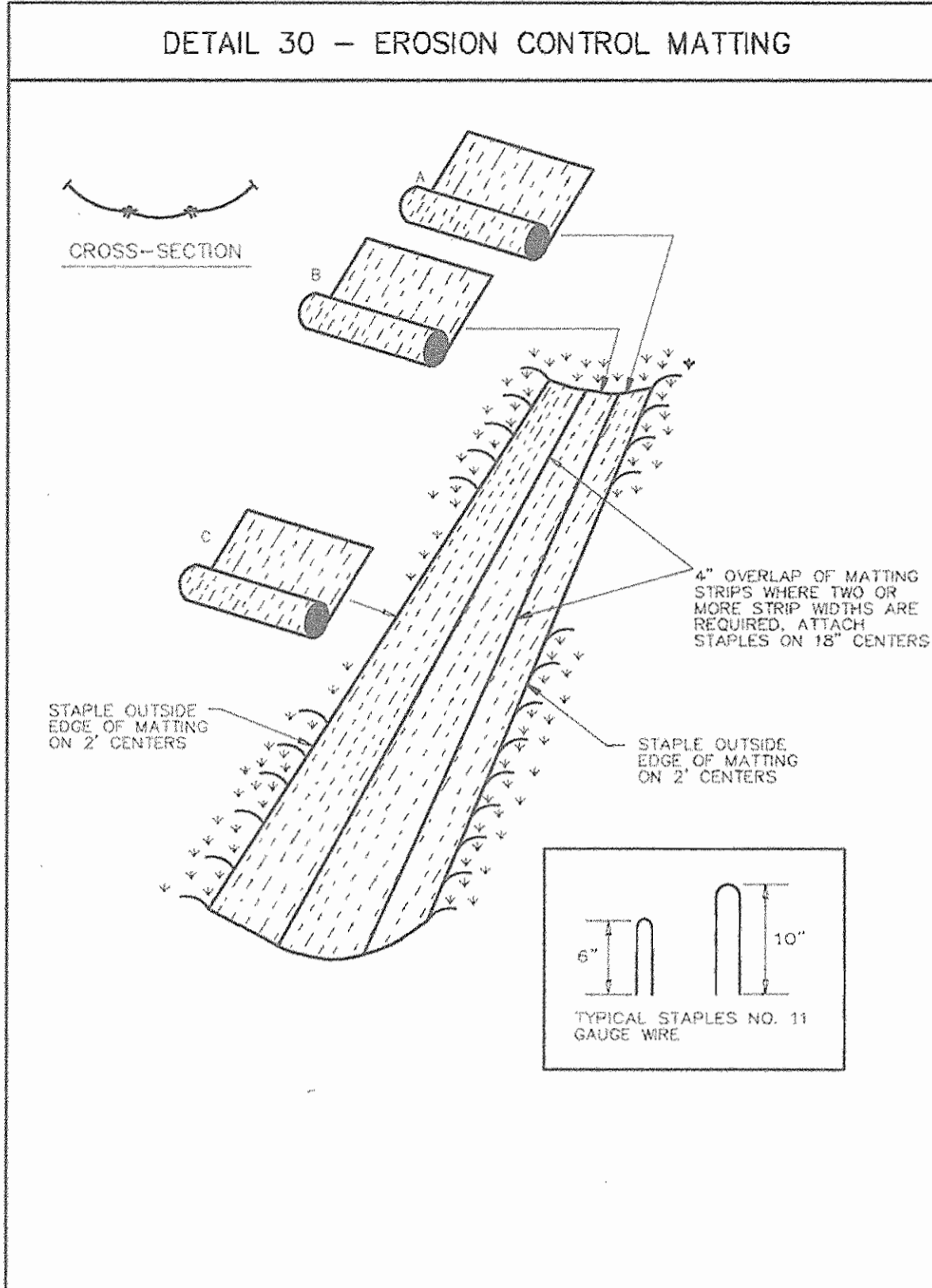
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MARYLAND DEPARTMENT OF ENVIRONMENT  
 WATER MANAGEMENT ADMINISTRATION







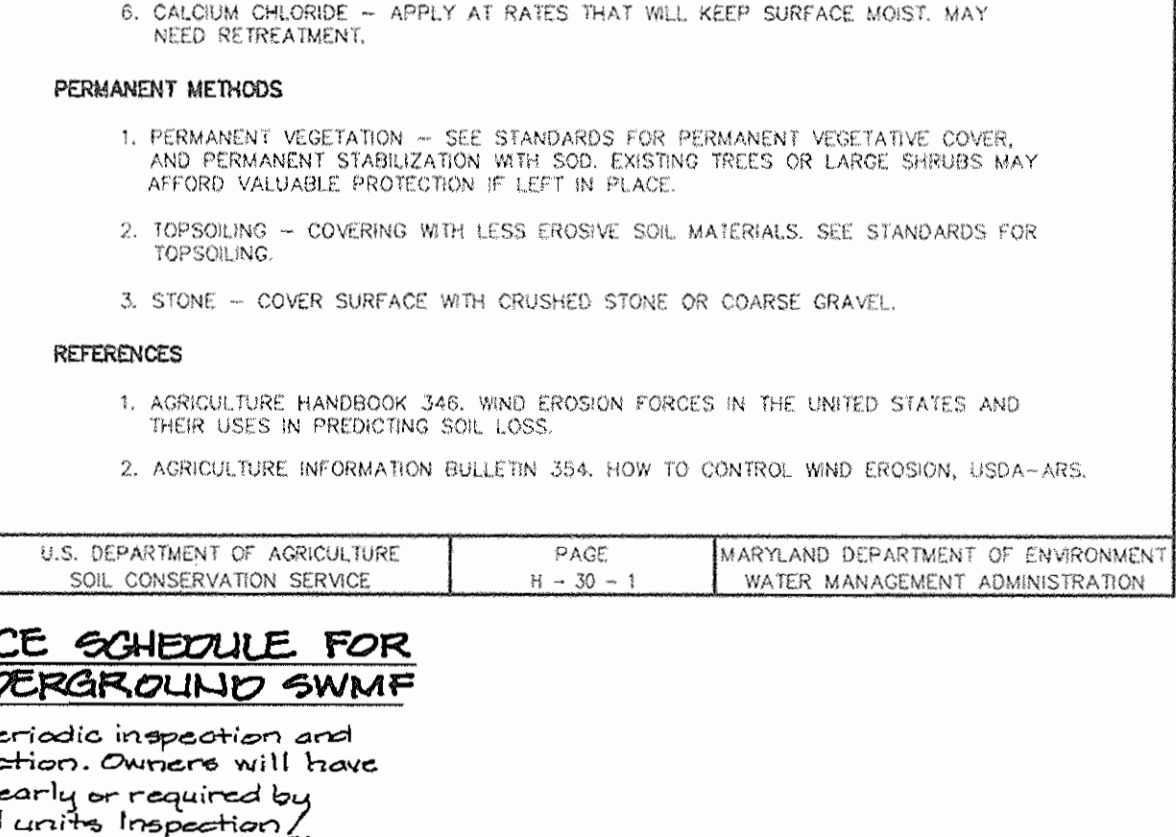
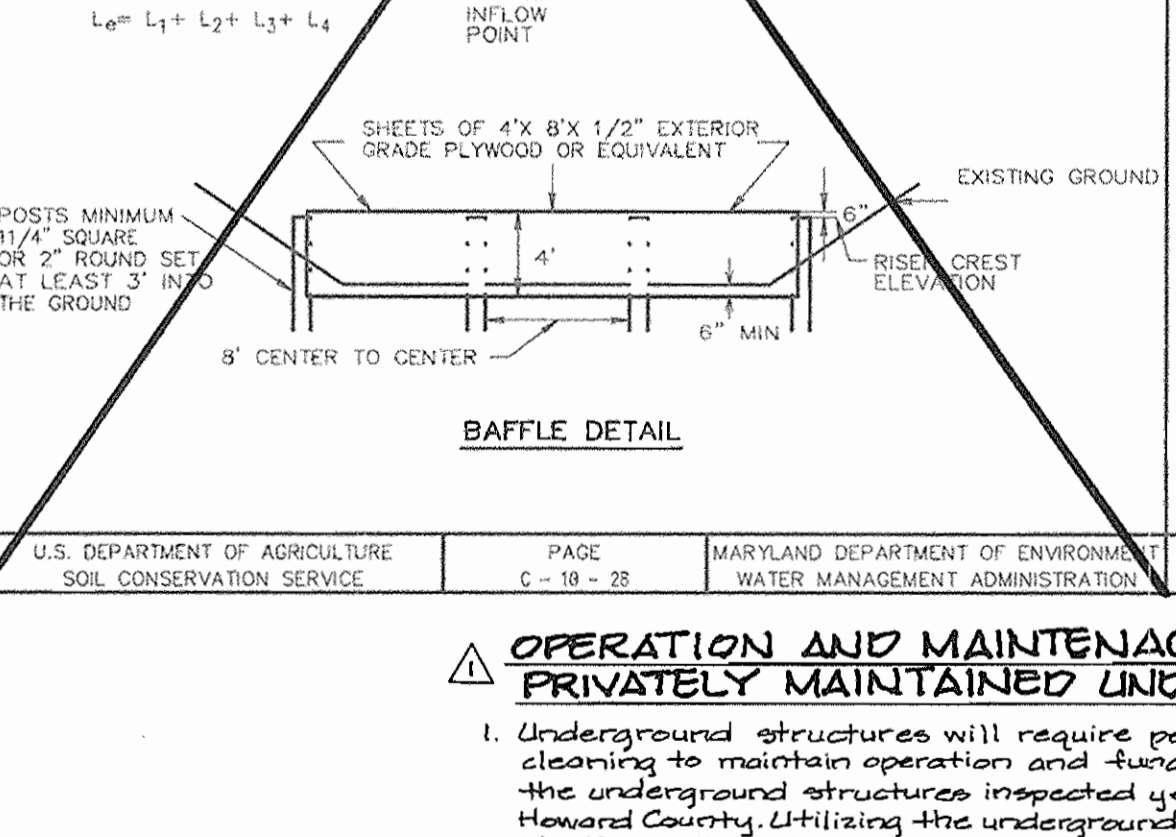
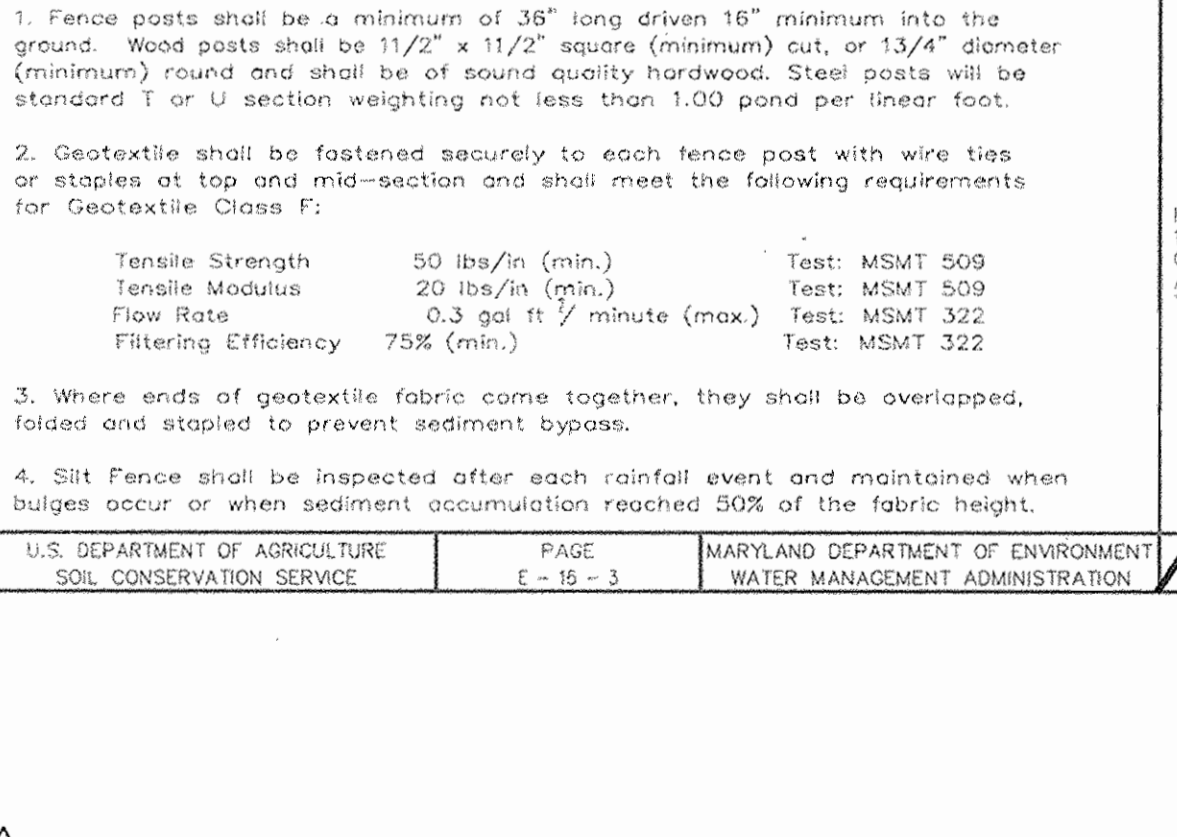
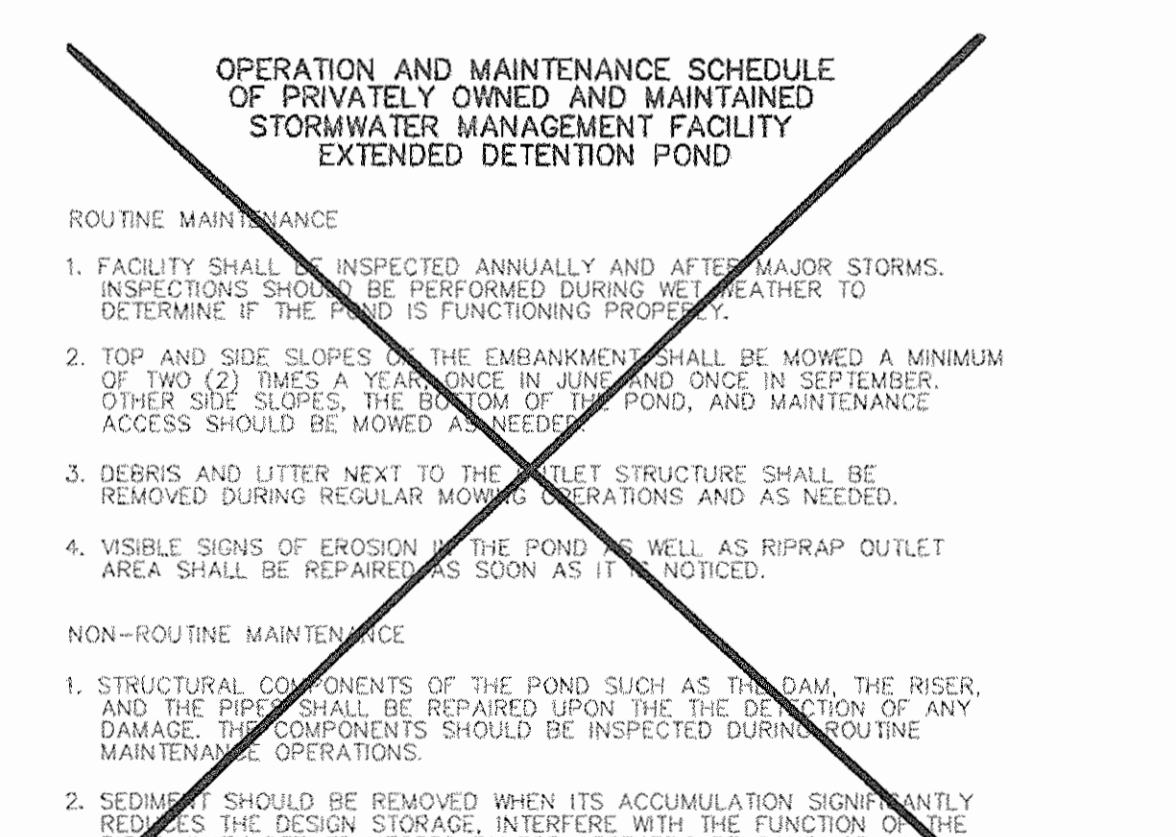
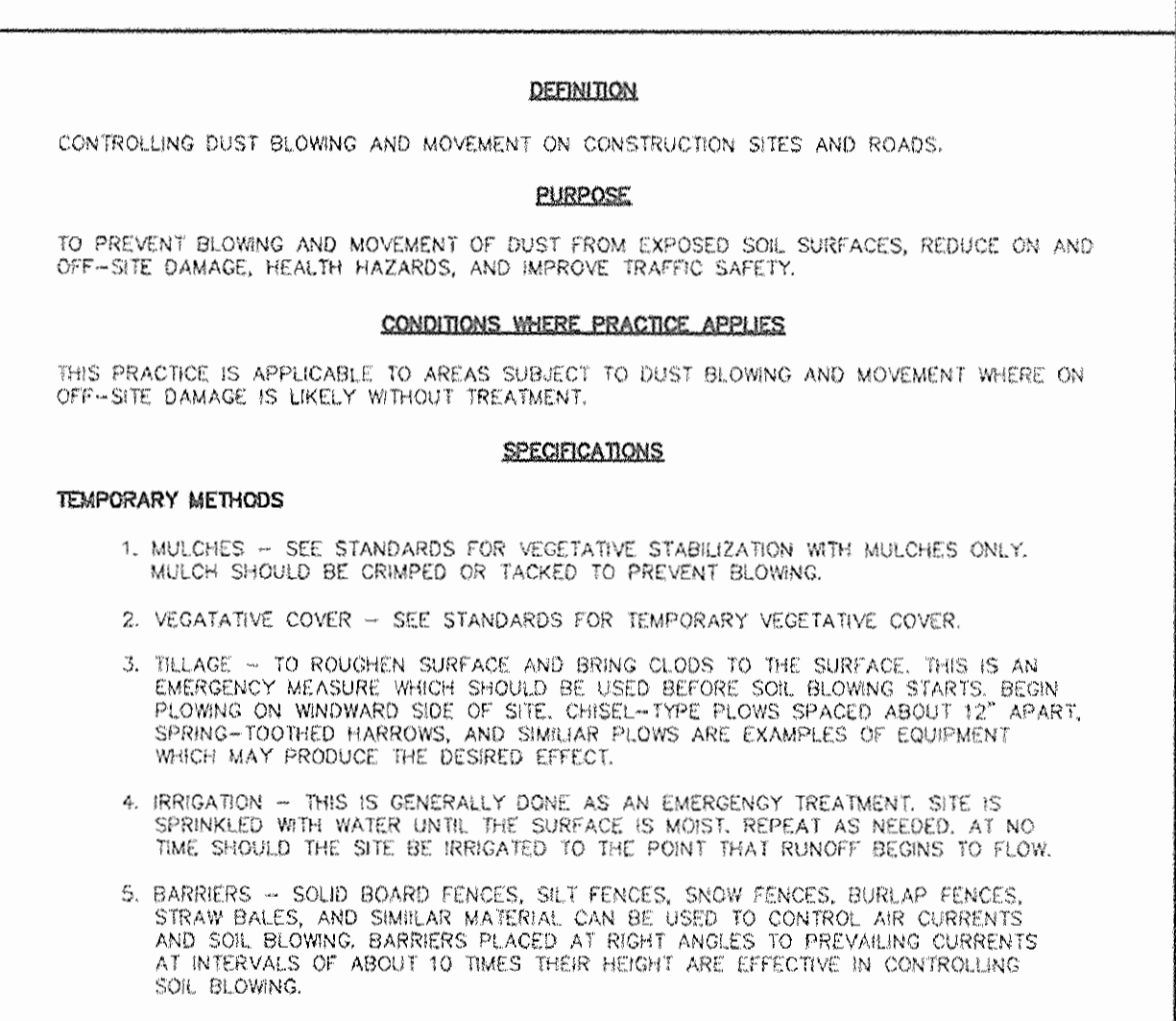
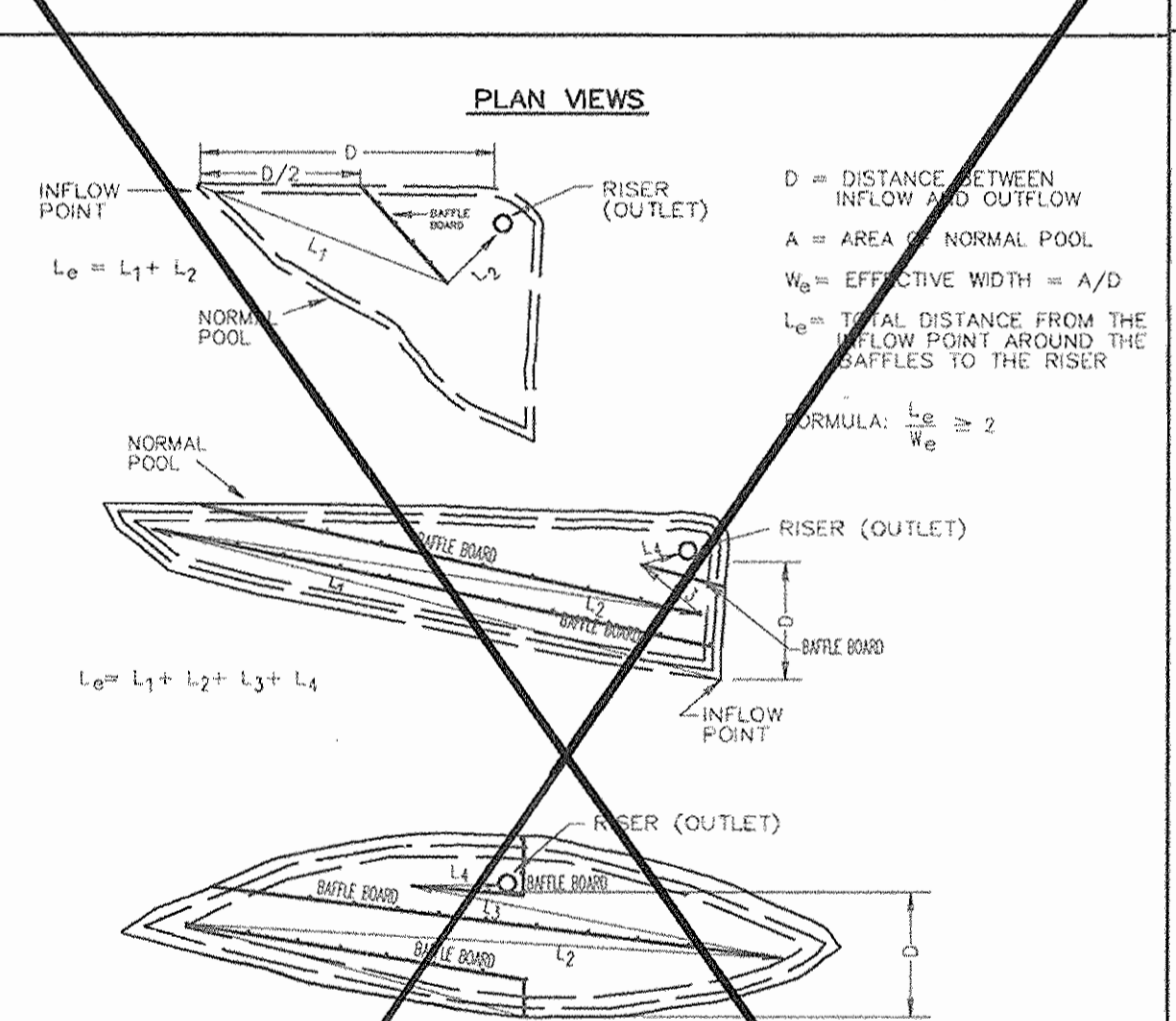
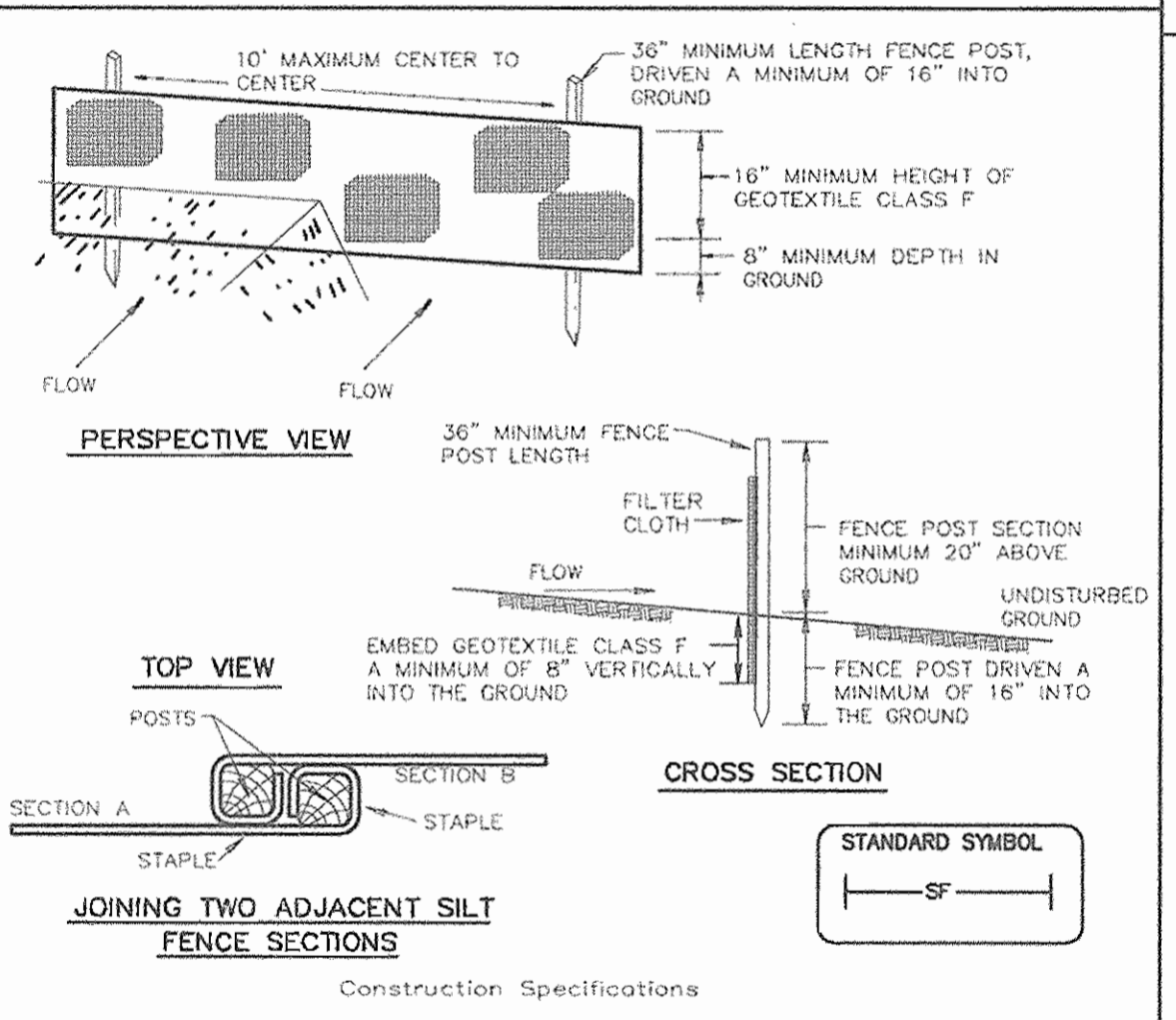
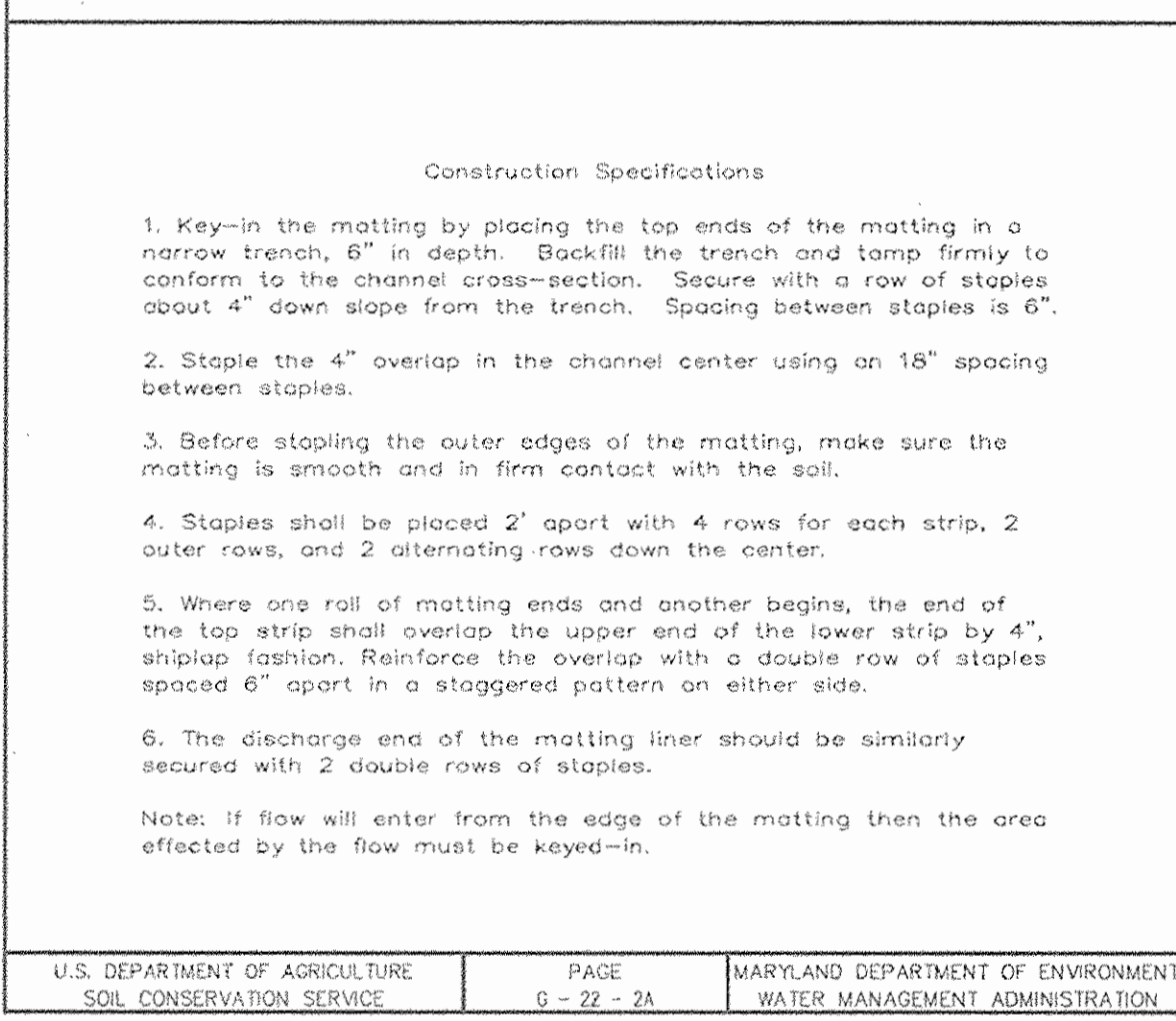


U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 6 - 23 - 2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 7 - 17 - 3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 11 - 26 - 3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*John R. Glassman* 10/13/03  
DEVELOPER DATE

BY THE ENGINEER :

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

*Chedy J. Rees* 10-10-03  
ENGINEER DATE

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

*Jim Myers* 10/22/03  
NATURAL RESOURCES CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Yvette Sh...* 10/22/03  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

*Dennis...* 11-13-03  
COUNTY HEALTH OFFICER DATE  
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Frank D. Loy...* 11/2/03  
DIRECTOR DATE

*...* 10/29/03  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*...* 11/20/03  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

2-19-08 2 CHANGED SHEET NUMBER  
3-31-09 1 Removed Basin Details and SWM Pond O&M Notes and Undergrnd O&M Notes

DATE NO. REVISION

OWNER/DEVELOPER:

JPG PROPERTIES  
3799 BROTHERS DELIGHT ROAD  
MANCHESTER, MARYLAND 21102  
ATTN: JOHN GLASSMAN  
(410)442-1914

PROJECT

JPG PROPERTIES

AREA

TAX MAP 15 BLOCK 4  
PARCEL 13 ZONED B-2  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE

SEDIMENT CONTROL NOTES AND DETAILS

Patton Harris Rust & Associates, p.c.  
Engineers, Surveyors, Planners, Landscape Architects.

*PHR+A*  
8819 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

10-10-03  
DATE

DESIGNED BY : A.C.R.

DRAWN BY : DRH

CHECKED BY : C.J.R.

PROJECT NO : 22478  
C900DET1.DWG

DATE : OCTOBER 10, 2003

SCALE : AS SHOWN

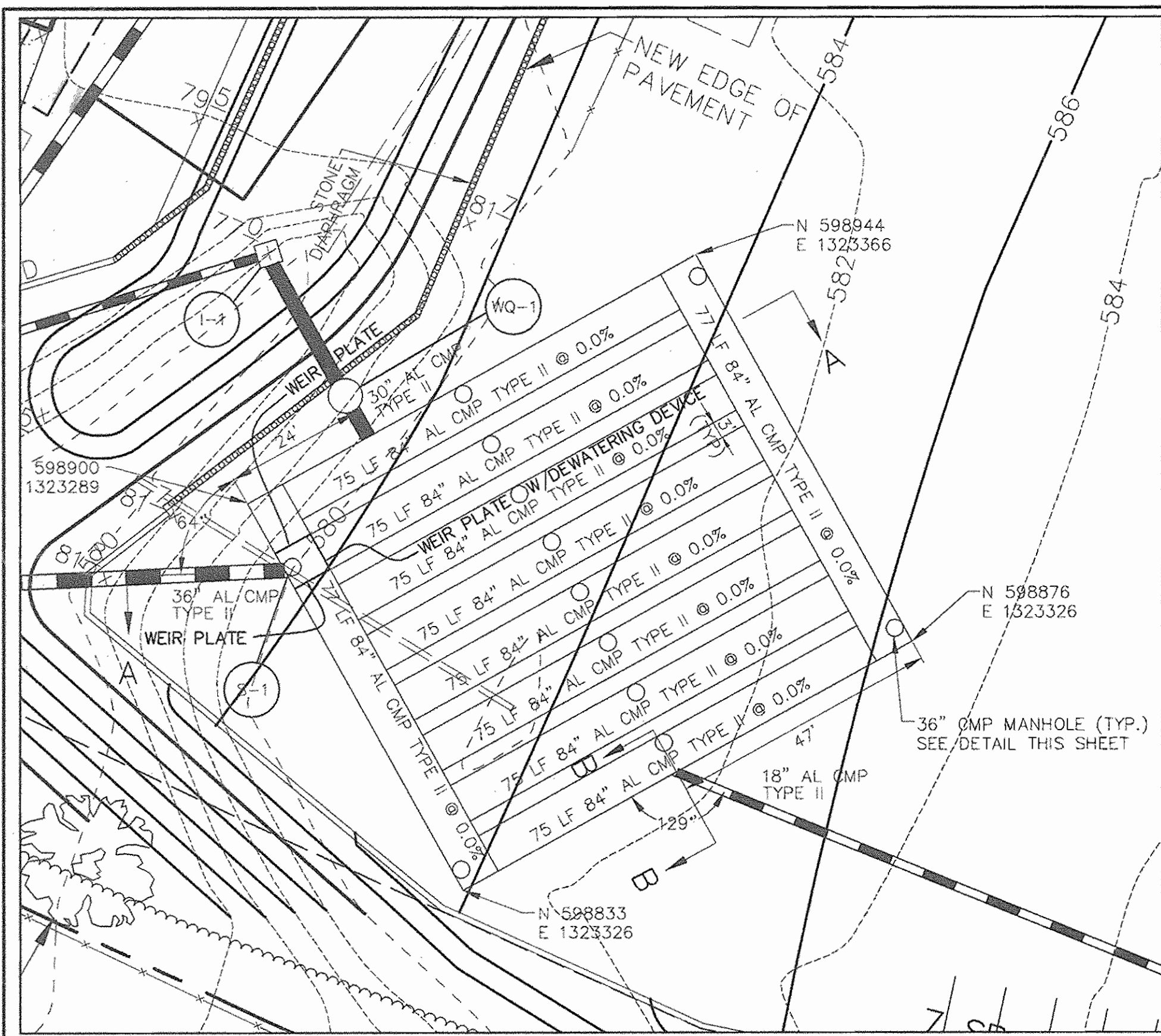
DRAWING NO. 5 OF 17

CHRISTOPHER J. REID #19949

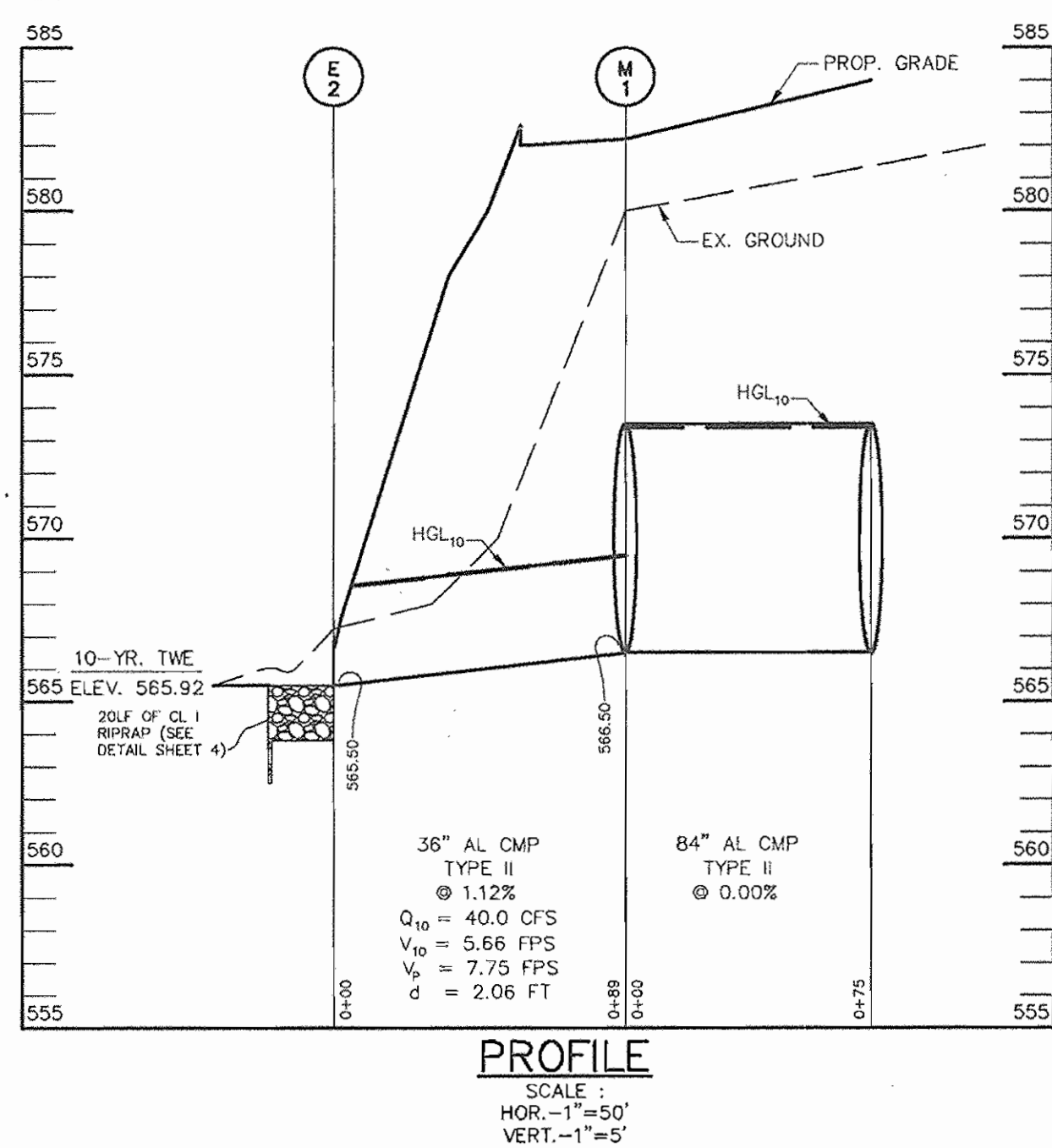
SDP-03-87



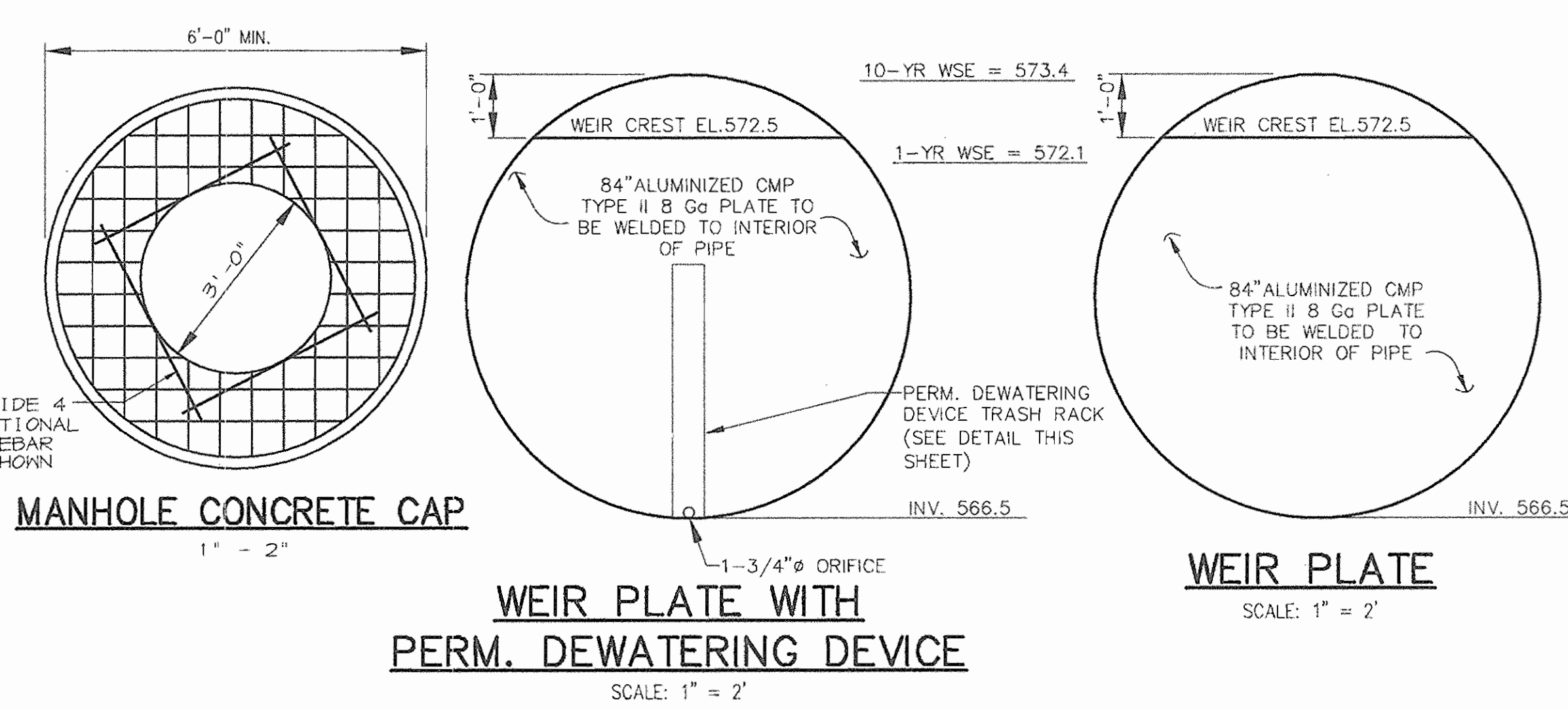




**UNDERGROUND S.W.M.F.**  
SCALE: 1" = 20'



**PROFILE**  
SCALE: HOR.-1"=50'  
VERT.-1"=5'

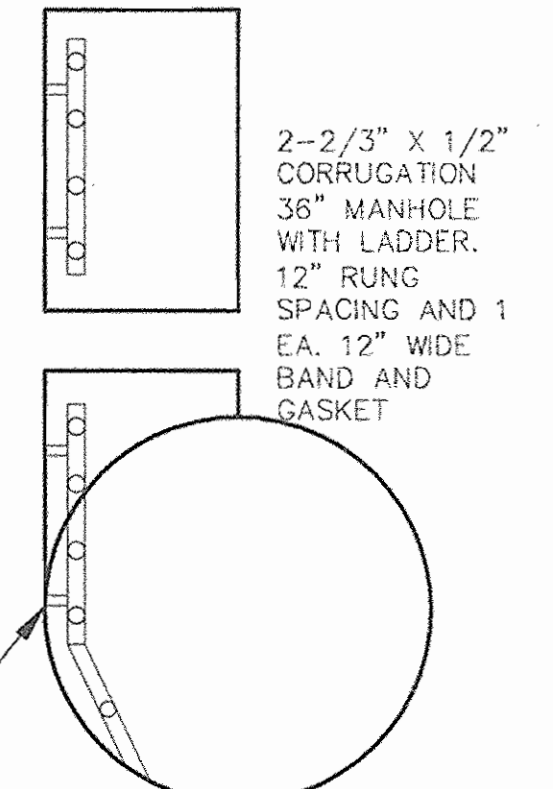


**MANHOLE CONCRETE CAP**  
SCALE: 1" = 2'

**WEIR PLATE WITH PERM. DEWATERING DEVICE**  
SCALE: 1" = 2'

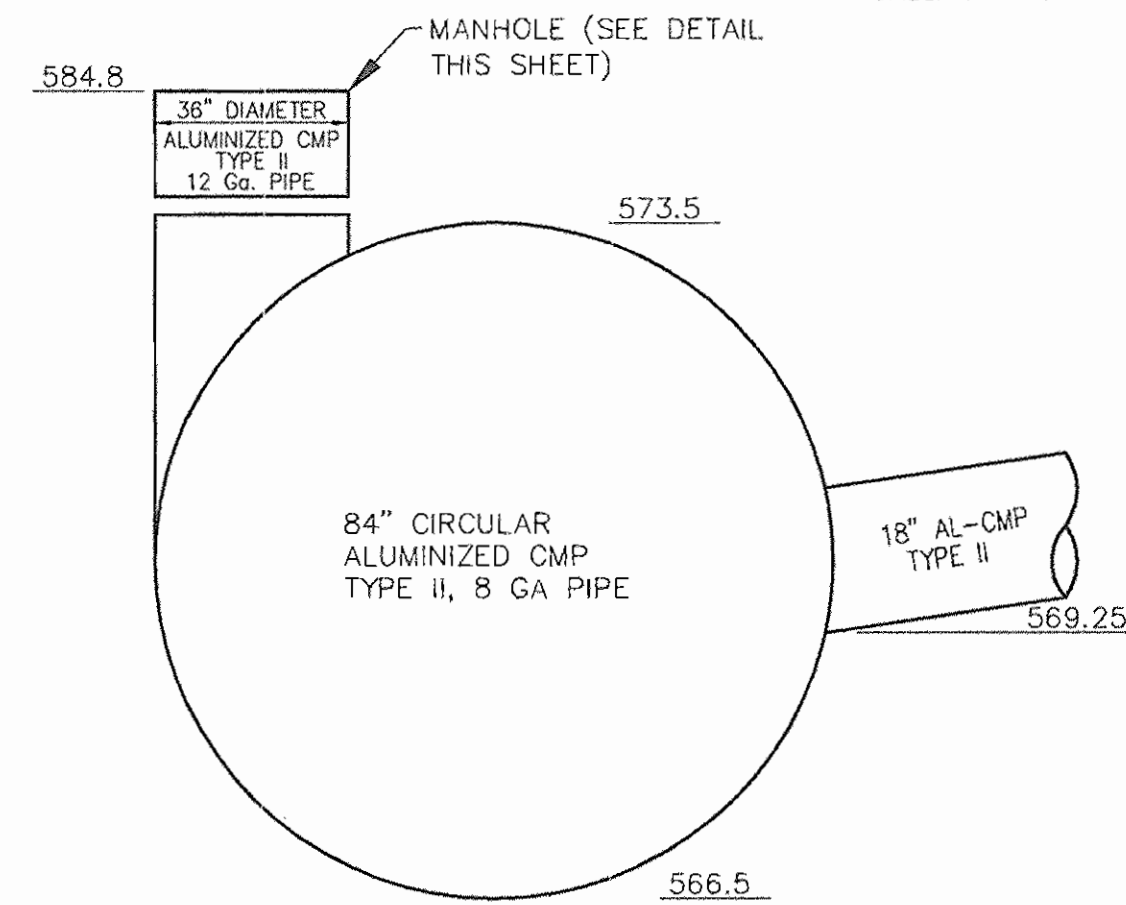
**WEIR PLATE**  
SCALE: 1" = 2'

MANHOLES MAY NEED TO BE TRIMMED TO GRADE (RESPONSIBILITY OF CONTRACTOR)

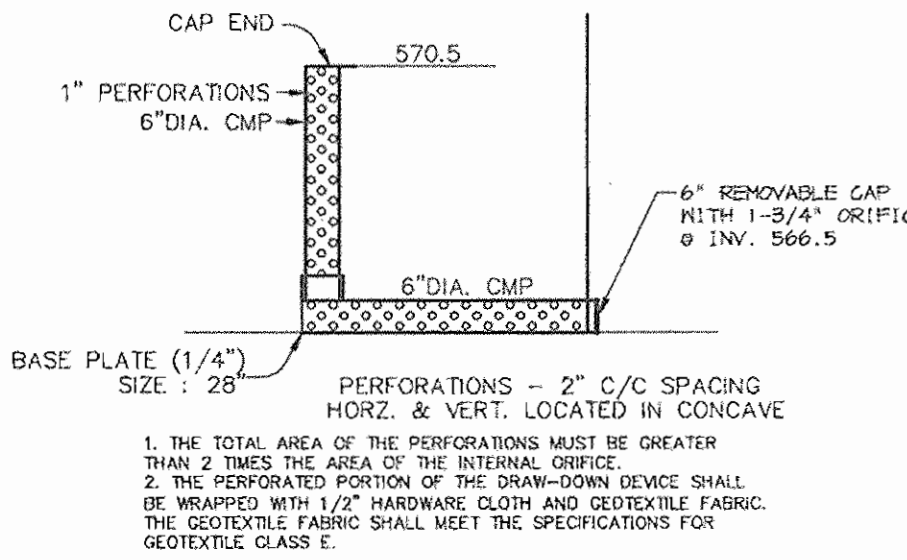


LADDERS ARE WELDED TO RISER WITH 3" SPACERS AS NEEDED

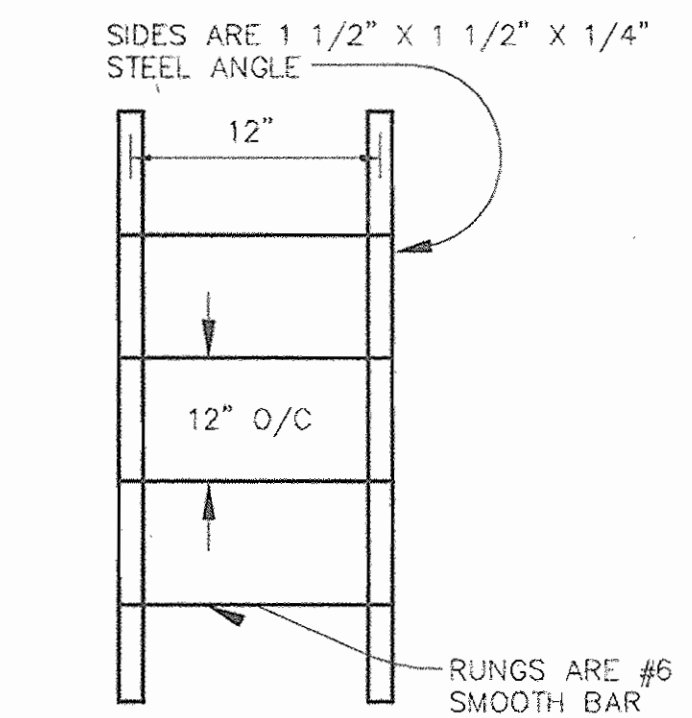
**MANHOLE LADDER DETAIL**  
NOT TO SCALE



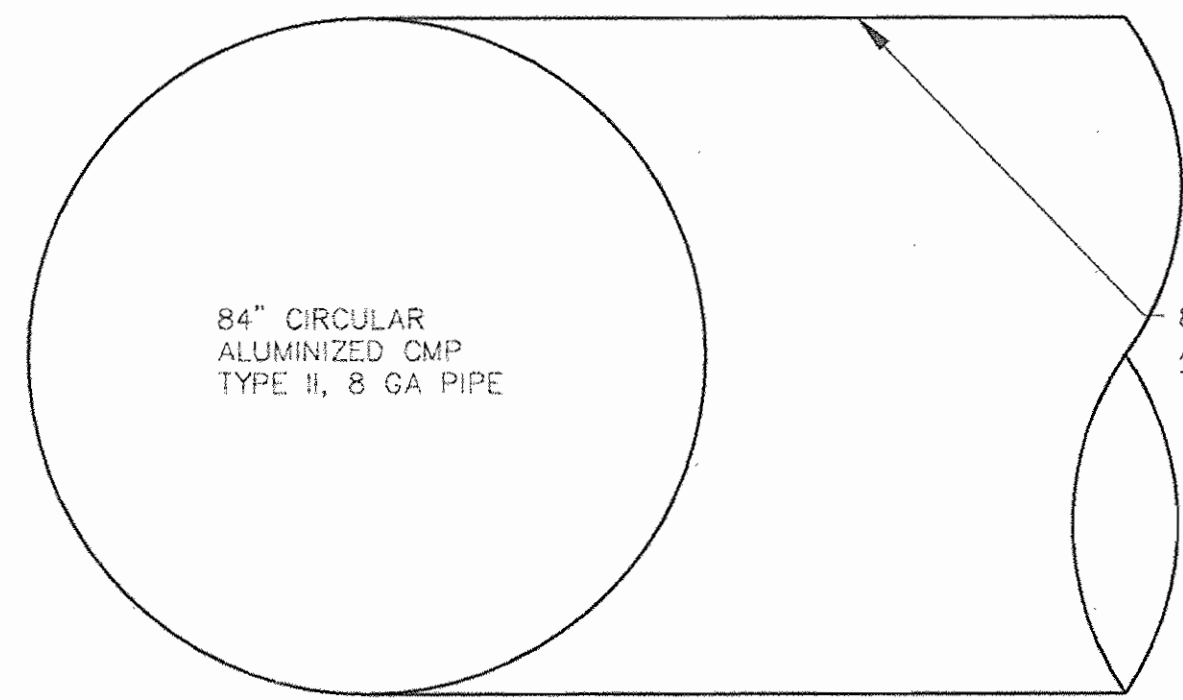
**SECTION B-B**  
SCALE: 1" = 2'



**PERMANENT DEWATERING DEVICE**  
SCALE: 1" = 2'

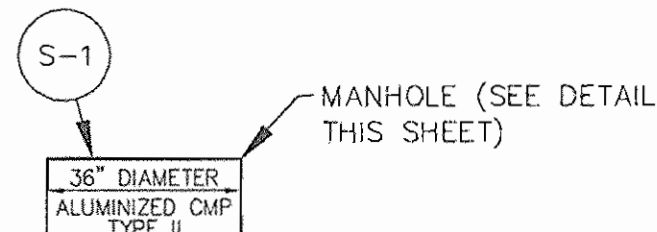


**MANHOLE LADDER DETAIL**  
NOT TO SCALE



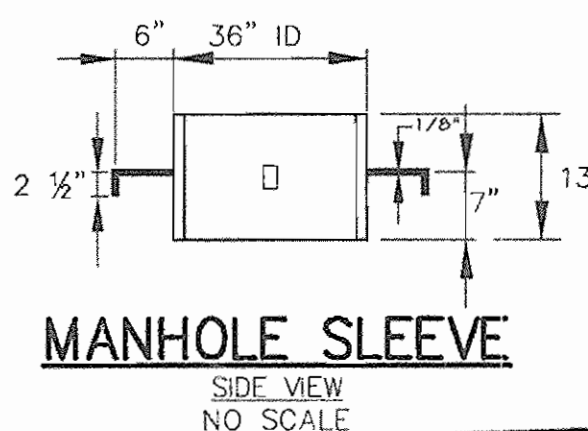
**SECTION A-A**  
SCALE: 1" = 2'

84" CIRCULAR ALUMINIZED CMP TYPE II 12 GA WELDED WEIR PLATE WITH PERM. DEWATERING DEVICE (SEE DETAIL THIS SHEET)

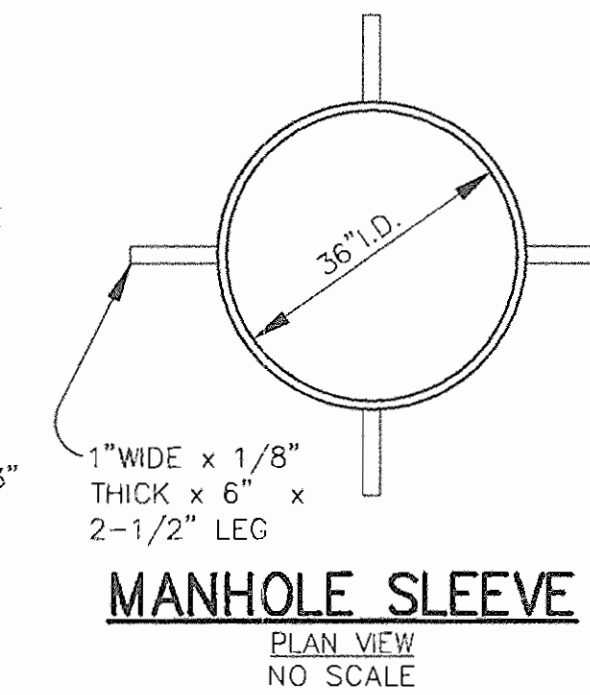


MANHOLE (SEE DETAIL THIS SHEET)

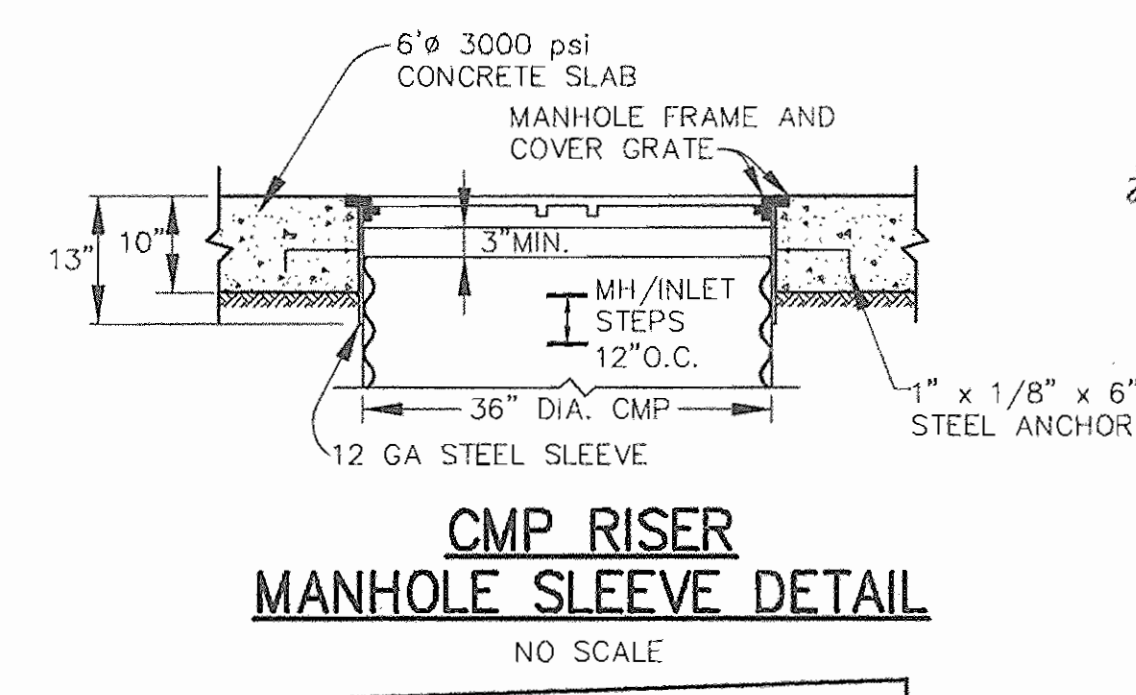
\*THIS SLEEVE SLIDES OVER THE OUTSIDE OF THE MANHOLE RISER AND REMOVES THE LIVE LOADS FROM THE PIPE ITSELF.



**MANHOLE SLEEVE**  
SIDE VIEW  
NO SCALE



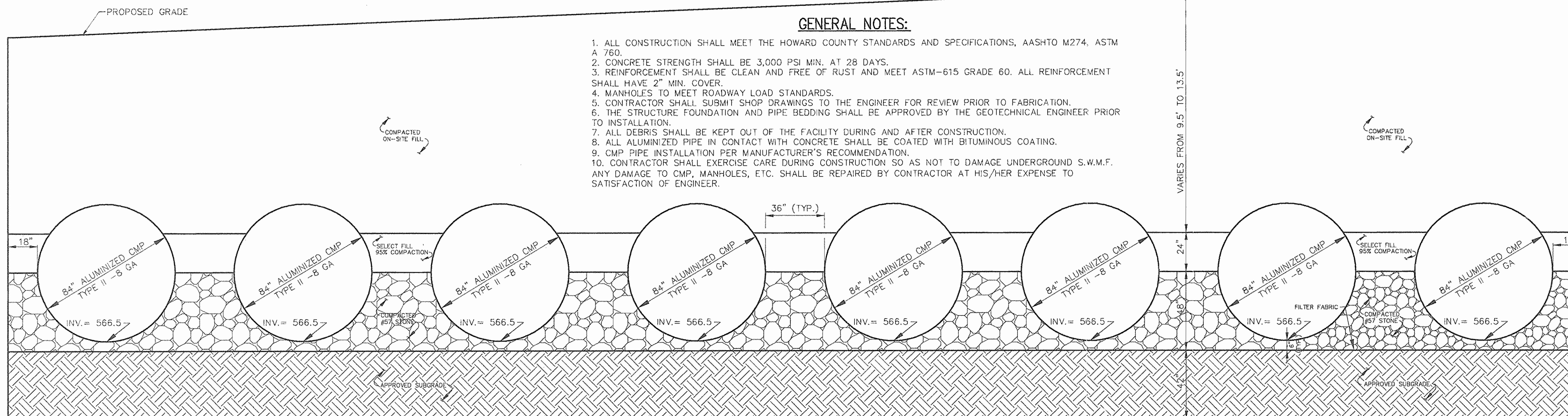
**MANHOLE SLEEVE**  
PLAN VIEW  
NO SCALE



**CMP RISER MANHOLE SLEEVE DETAIL**  
NO SCALE

**GENERAL NOTES:**

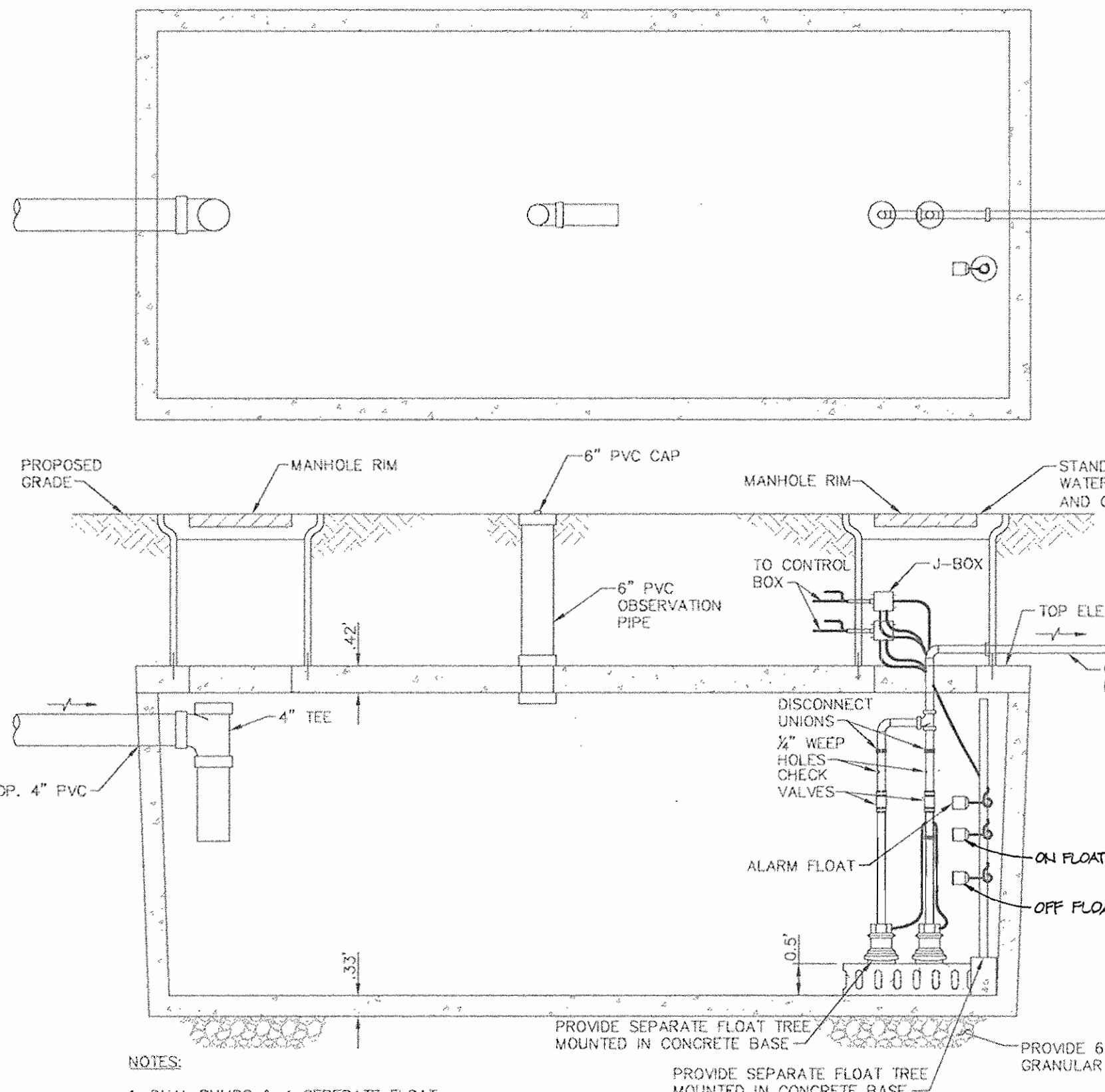
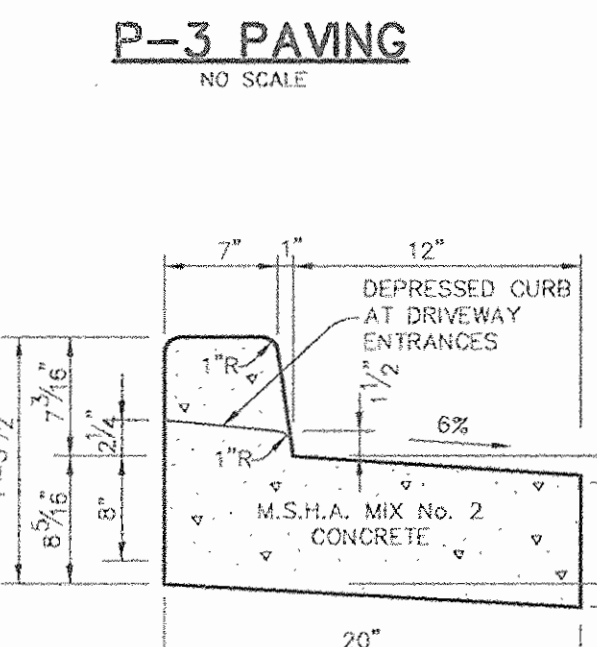
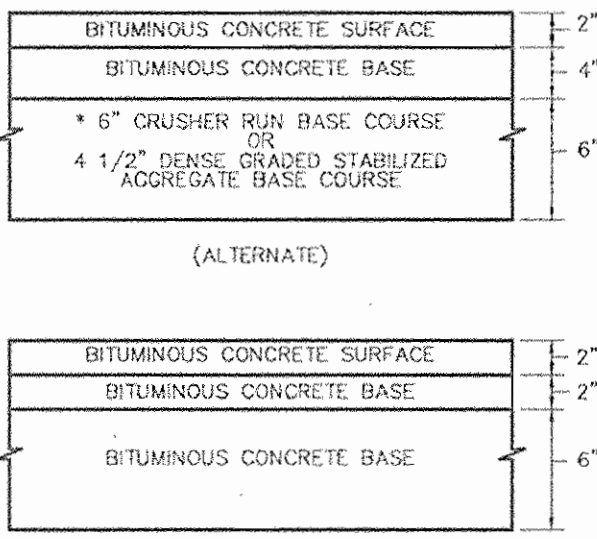
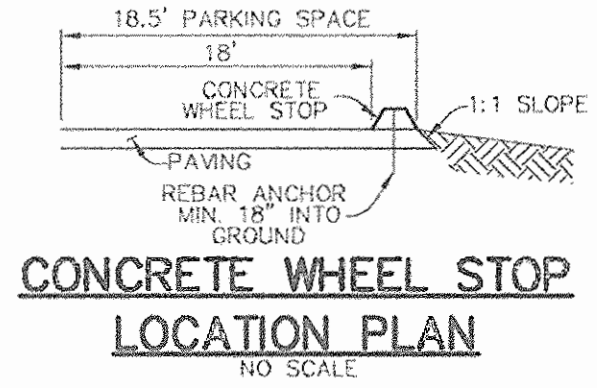
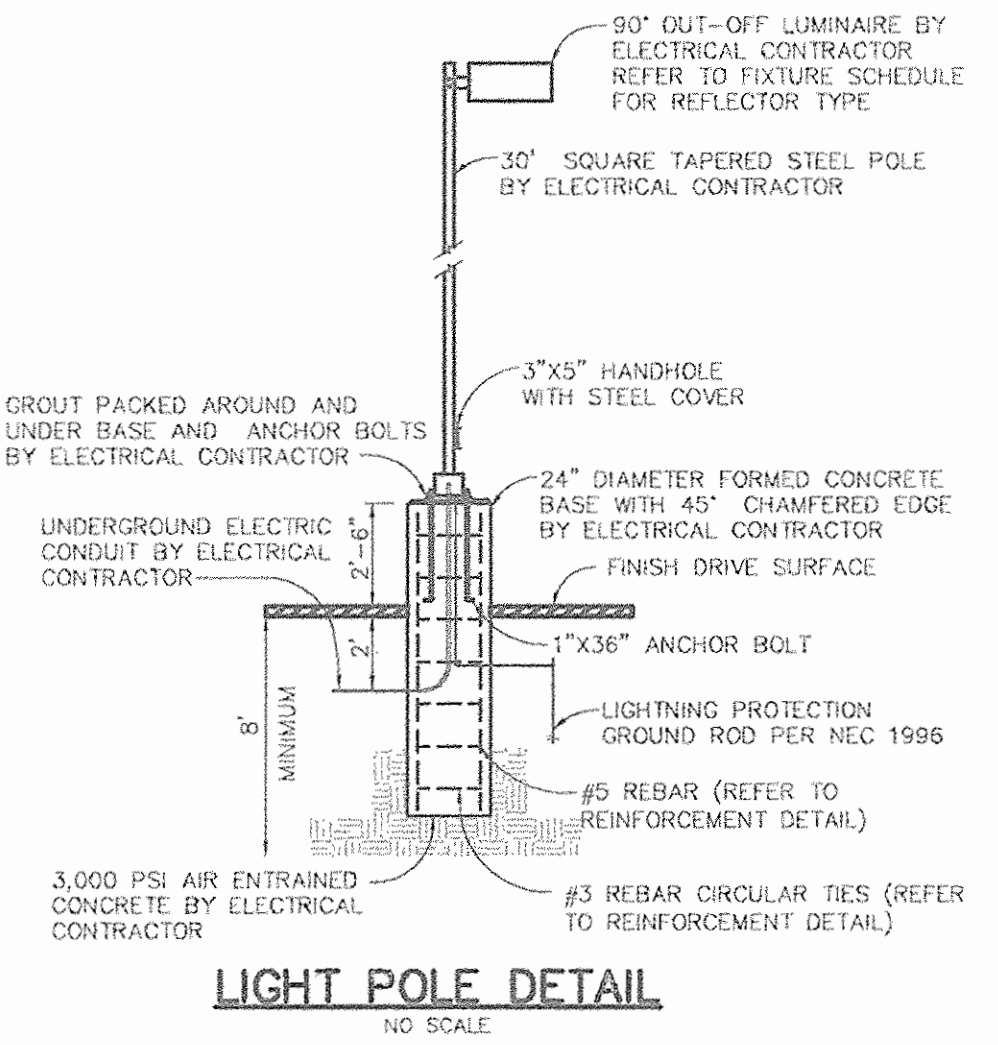
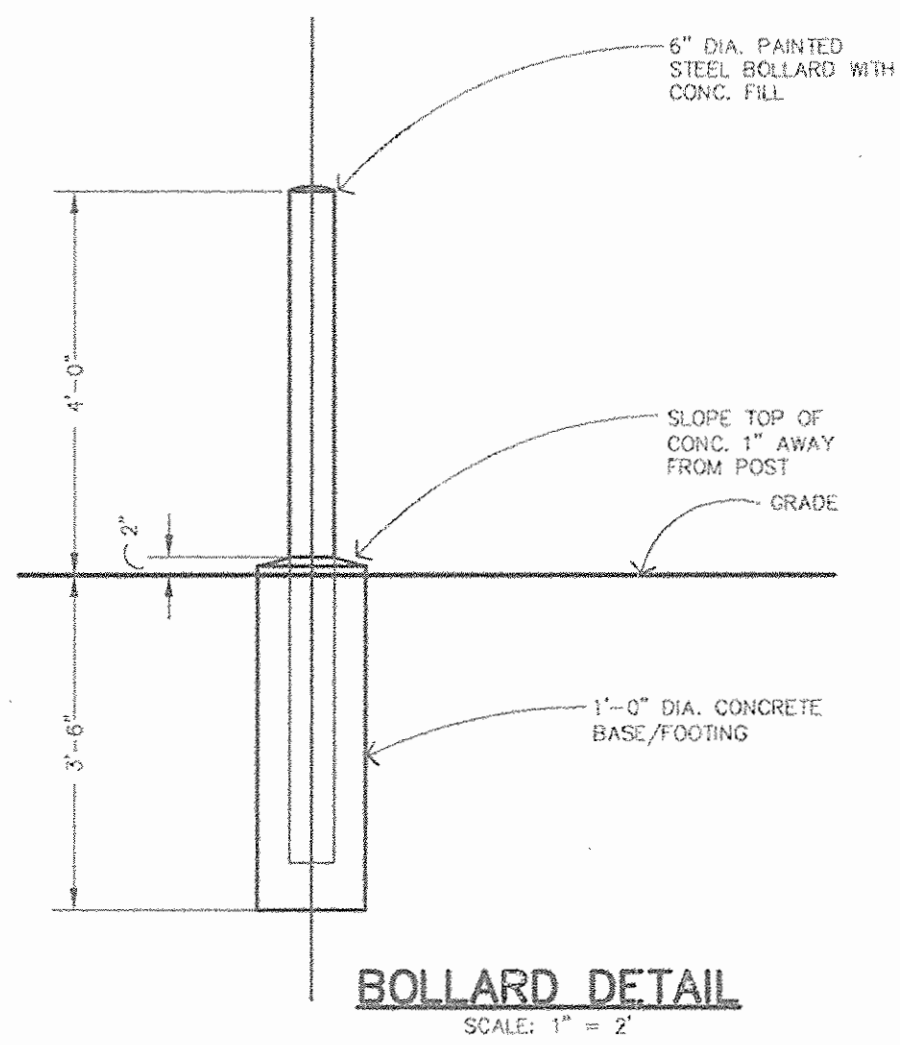
1. ALL CONSTRUCTION SHALL MEET THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS, AASHTO M274, ASTM A 760.
2. CONCRETE STRENGTH SHALL BE 3,000 PSI MIN. AT 28 DAYS.
3. REINFORCEMENT SHALL BE CLEAN AND FREE OF RUST AND MEET ASTM-615 GRADE 60. ALL REINFORCEMENT SHALL HAVE 2" MIN. COVER.
4. MANHOLES TO MEET ROADWAY LOAD STANDARDS.
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.
6. THE STRUCTURE FOUNDATION AND PIPE BEDDING SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO INSTALLATION.
7. ALL DEBRIS SHALL BE KEPT OUT OF THE FACILITY DURING AND AFTER CONSTRUCTION.
8. ALL ALUMINIZED PIPE IN CONTACT WITH CONCRETE SHALL BE COATED WITH BITUMINOUS COATING.
9. CMP PIPE INSTALLATION PER MANUFACTURER'S RECOMMENDATION.
10. CONTRACTOR SHALL EXERCISE CARE DURING CONSTRUCTION SO AS NOT TO DAMAGE UNDERGROUND S.W.M.F. ANY DAMAGE TO CMP, MANHOLES, ETC. SHALL BE REPAIRED BY CONTRACTOR AT HIS/HER EXPENSE TO SATISFACTION OF ENGINEER.



**TYPICAL SECTION**  
SCALE: 1" = 3'

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS	
<i>Robert J. Walker</i>	12/30/04 DATE
COUNTY HEALTH OFFICER HOWARD COUNTY HEALTH DEPARTMENT KN	
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Steph Lallier</i>	12/29/04 DATE
DIRECTOR (ACTING)	
<i>Chad Deussen</i>	12/17/04 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	
<i>Neil Deussen</i>	12/29/04 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	
5/24/04 SUPPLEMENTAL SHEET TO REPLACE OLD SH4 6	
24906	2 CHANGED SHEET NUMBER
DATE NO.	REVISION
OWNER/DEVELOPER:	
JPG PROPERTIES 3799 BROTHERS DELIGHT ROAD MANCHESTER, MARYLAND 21102 ATTN: JOHN GLASSMAN (410)442-1914	
PROJECT	
JPG PROPERTIES	
AREA	
TAX MAP 15 BLOCK 4 PARCEL 13 ZONED B-2 3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE	
UNDERGROUND STORMWATER MANAGEMENT DETAILS	
Patton Harris Rust & Associates, PC Engineers, Surveyors, Planners, Landscape Architects.	
PHRA 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282	
12-7-04 DATE	DESIGNED BY: A.C.R.
	DRAWN BY: DAM
	CHECKED BY: C.J.R.
	PROJECT NO: 22478 C900DET6.DWG
	DATE: DECEMBER 8, 2004
	SCALE: AS SHOWN
CHRISTOPHER J. REID #19949	DRAWING NO. 6 OF 17

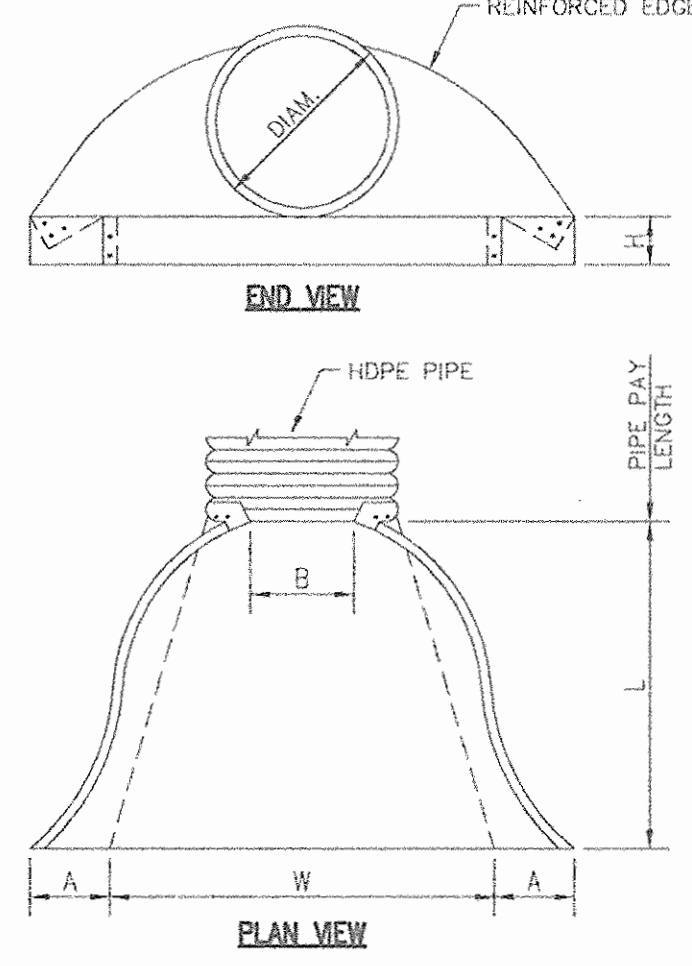




NOTES:  
 1. DUAL PUMPS & A SEPARATE FLOAT TREE ARE REQUIRED.  
 2. TANK MUST BE TRAFFIC BEARING.

**PIPE SCHEDULE Δ**

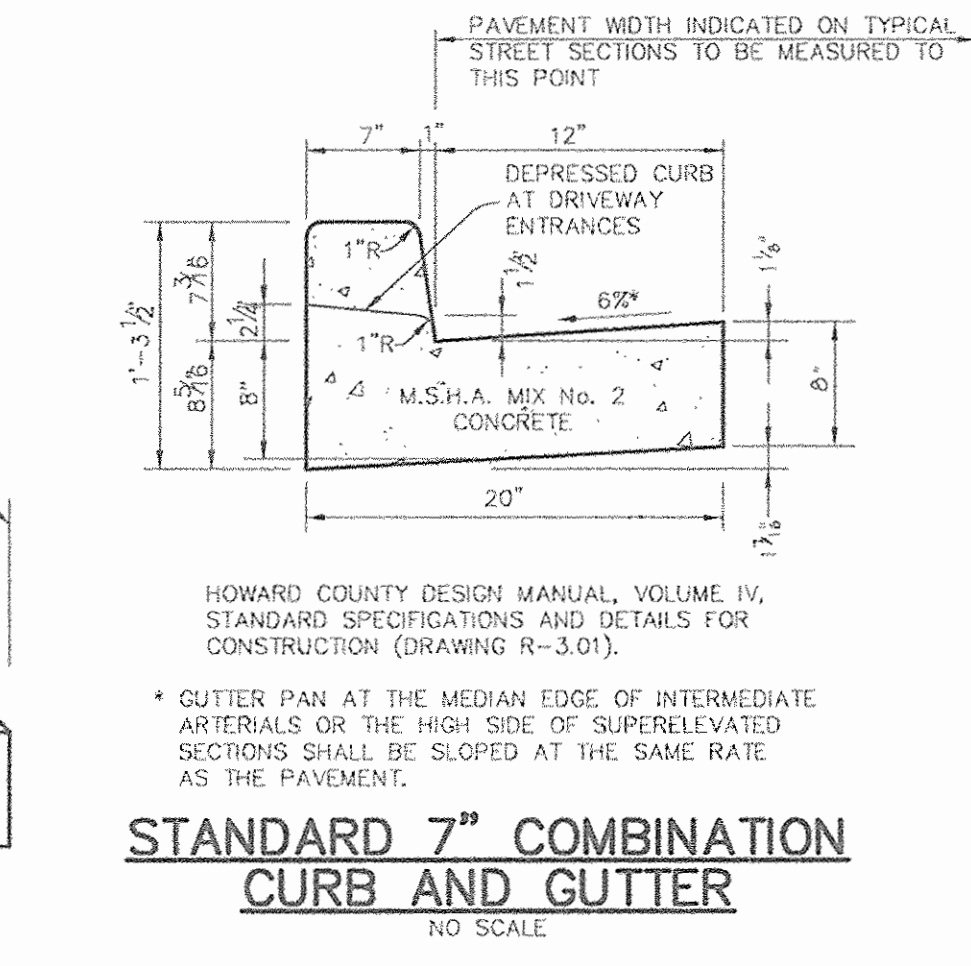
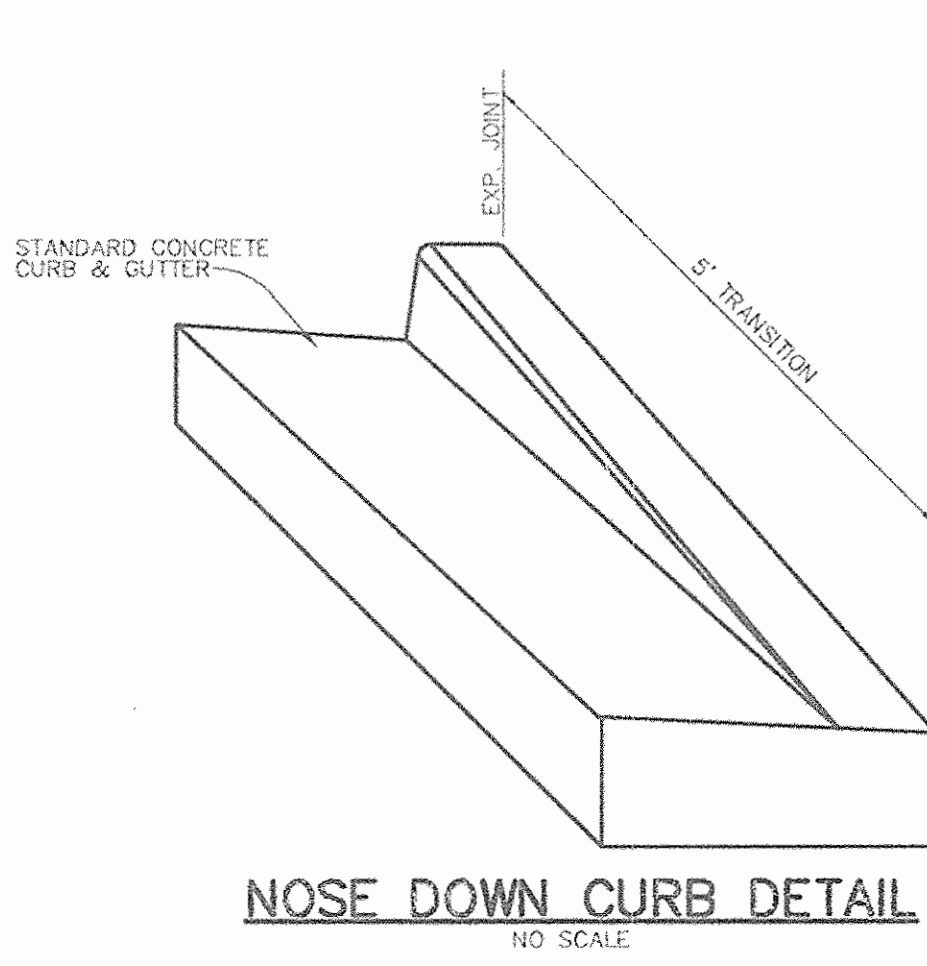
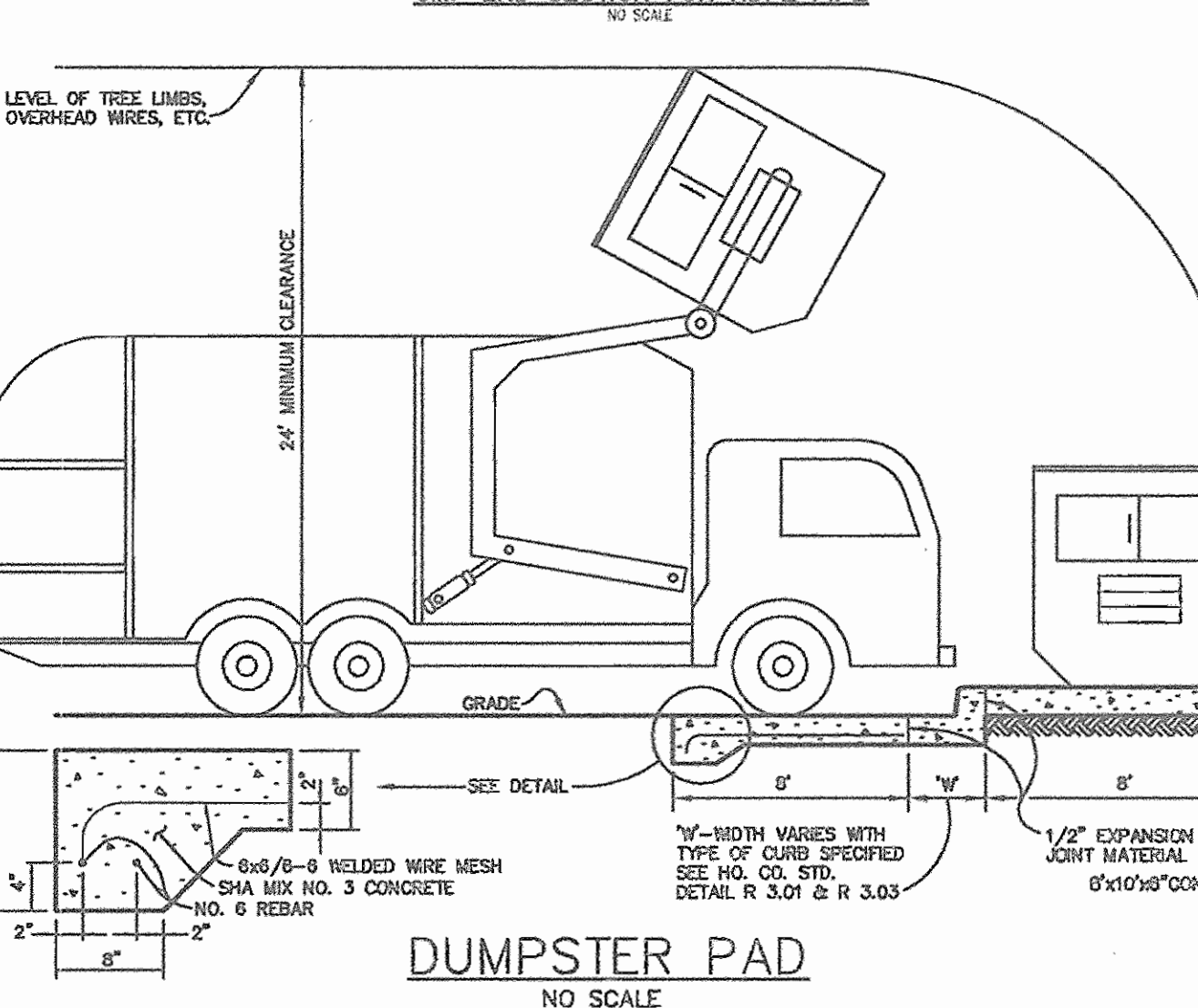
PIPE LENGTH	SIZE	TYPE
207	4"	PVC
480	4"	PERF. PVC
94	12"	CMP
215	15"	CMP
88	18"	CMP
168	18"	HDPE
278	24"	HDPE
28	30"	HDPE
454	84"	AL CMP Type II
158	150"	AL CMP Type II
18	300"	AL CMP Type II
87	300"	AL CMP Type II



**TABLE OF DIMENSIONS**

PIPE DIAM.	CA	A	B	H	L	W	APPROX. SLOPE	BODY
12"	16"	6"	6"	8"	21"	24"	2 1/2%	1 PC
15"	16"	7"	8"	6"	26"	30"	2 1/2%	1 PC
18"	16"	8"	10"	6"	31"	36"	2 1/2%	1 PC
21"	16"	9"	12"	6"	36"	42"	2 1/2%	1 PC
24"	16"	10"	13"	6"	41"	48"	2 1/2%	1 PC
30"	14"	12"	16"	8"	51"	60"	2 1/2%	1 PC
36"	14"	14"	19"	9"	60"	72"	2 1/2%	2 PC
42"	12"	16"	22"	11"	69"	84"	2 1/2%	2 PC
48"	12"	18"	27"	12"	78"	90"	2 1/2%	2 PC
54"	12"	18"	30"	12"	84"	102"	2 1/2%	2 PC
60"	12"	18"	33"	12"	87"	114"	1 1/2%	3 PC
66"	12"	18"	36"	12"	87"	120"	1 1/2%	3 PC
72"	12"	18"	39"	12"	87"	126"	1 1/2%	3 PC
78"	12"	18"	42"	12"	87"	132"	1 1/2%	3 PC
84"	12"	18"	45"	12"	87"	138"	1 1/2%	3 PC

NOTES:  
 1. ALL 3 PIECE BODIES TO HAVE 12GA. SIDES AND 10GA. CENTER PANELS. WIDTH OF CENTER PANELS TO BE GREATER THAN 20% OF THE PIPE PERIPHERY. MULTIPLE PANEL BODIES TO HAVE LAP SEAMS WHICH ARE TO BE TIGHTLY JOINED BY 3/8" GALVANIZED RIVETS AND BOLTS.  
 2. FOR 60" THRU 84" SIZES, REINFORCED EDGES TO BE SUPPLEMENTED WITH GALVANIZED STIFFENER ANGLES. THE ANGLES WILL BE 2"x2"x1/4" FOR 78" AND 84" DIAMETER. THE ANGLES TO BE ATTACHED BY 3/8" GALVANIZED NUTS AND BOLTS.  
 3. TOE PLATE SHALL BE USED WHEN SPECIFIED ON THE PLAN. COST OF TOE PLATE TO BE INCLUDED IN BID PRICE PER EACH OF METAL END SECTION.  
 4. TYPE 3 CONNECTION INCLUDES ONE FOOT OF PIPE LENGTH FOR 42" THRU 64" DIAMETER AS A CONNECTOR. THE CONNECTOR SECTION WILL BE ATTACHED TO THE END SECTION BY GALVANIZED RIVETS OR BOLTS.



**BORING SWM-1**

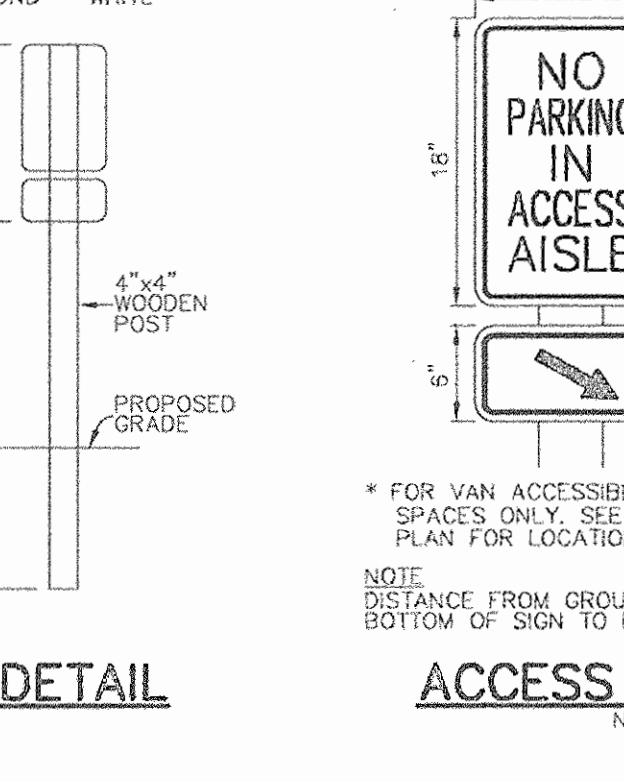
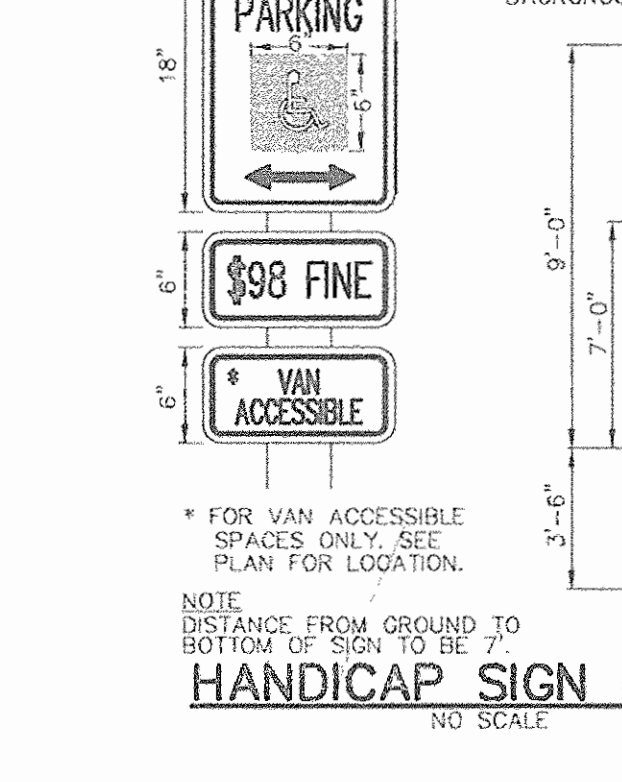
0'	SURFACE ELEVATION = 568
1.0'	CLAYEY FINE SAND, WITH ROCK FRAGMENTS, BROWN, WET, LOOSE (SC) SANDY CLAY
3.0'	SILTY FINE SAND, TRACE CLAY AND ROCK FRAGMENTS, ORANGE, WET, MEDIUM DENSE (SM) SANDY CLAY
5.5'	SANDY SILT, SOME ROCK FRAGMENTS, TAN, WET, MEDIUM DENSE (SM) SILT LOAM
8.0'	SILTY FINE SAND, TRACE ROCK FRAGMENTS, GRAY, WET, MEDIUM DENSE (ML) SANDY CLAY LOAM
11.5'	SANDY SILT, TRACE ROCK FRAGMENTS, ORANGE, WET, MEDIUM DENSE (ML) SILT LOAM
15.0'	BOTTOM ELEVATION = 553

**BORING SWM-2**

0'	SURFACE ELEVATION = 573
1.0'	CLAYEY FINE SAND, BROWN TO ORANGE, WET, FIRM TO MEDIUM DENSE (SC) SANDY CLAY
3.0'	S-1: TRACE ROOTS S-2: TRACE ROCK FRAGMENTS
5.5'	SILTY FINE SAND, GRAY TO ORANGE AND GREEN, WET, FIRM TO VERY DENSE (SM) SANDY CLAY LOAM
8.0'	S-3: WITH ROCK FRAGMENTS S-4: TRACE ROCK FRAGMENTS
15.0'	BOTTOM ELEVATION = 558

**BORING SWM-3**

0'	SURFACE ELEVATION = 582
1.0'	TOPSOIL
3.0'	SANDY SILT, TRACE ROCK FRAGMENTS, BROWN, WET, FIRM (ML) SILT LOAM
5.5'	SANDY CLAY, ORANGE, WET, STIFF (CL) SANDY CLAY
8.0'	SILTY FINE SAND, BROWN TO ORANGE, WET, MEDIUM DENSE (SM) SANDY CLAY LOAM
16.5'	SILTY FINE TO COARSE SAND, SOME ROCK FRAGMENTS, GRAY AND TAN, WET, DENSE (SM) SANDY CLAY LOAM
20.0'	BOTTOM ELEVATION = 562



**BORING SWM-4**

0'	SURFACE ELEVATION = 580
1.0'	MICAEOUS SILTY FINE SAND, TRACE ROCK FRAGMENTS, DARK GREEN WET, FIRM (SM) SANDY CLAY LOAM
3.0'	CLAYEY FINE SAND, TRACE ROCK FRAGMENTS, ORANGE-BROWN, WET, FIRM (SC-SM) SANDY CLAY LOAM
5.5'	SILTY FINE SAND, ORANGE, WET, FIRM (SM) SANDY CLAY LOAM
8.0'	CLAYEY FINE SAND, BROWN TO ORANGE AND GREEN, WET, MEDIUM DENSE (SC) SANDY CLAY
15.0'	BOTTOM ELEVATION = 565

**BORING SWM-5**

0'	SURFACE ELEVATION = 579.5
1.0'	CLAYEY FINE SAND, SOME SILT, BROWN TO DARK BROWN, MOIST TO WET, LOOSE TO FIRM (SC/POSSIBLE FILL) SANDY CLAY
3.0'	S-1: MICACEOUS; TRACE ORGANICS S-2: WET; TRACE ORGANICS
5.5'	CLAYEY FINE SAND, BROWN, WET, FIRM (SC) SANDY CLAY
8.0'	SILTY CLAY, TRACE SAND, ORANGE, MOIST, MEDIUM STIFF (CL) CLAY
11.5'	SANDY SILT, TRACE ROCK FRAGMENTS, ORANGE, MOIST, MEDIUM DENSE (ML) SILT LOAM
15.0'	BOTTOM ELEVATION = 564.5

**BORING SWM-6**

0'	SURFACE ELEVATION = 578
1.0'	SILTY FINE SAND, SOME CLAY, TRACE ROCK FRAGMENTS, DARK GREEN, WET, FIRM (SM) SANDY CLAY LOAM
3.0'	SILTY CLAY, TRACE SAND AND ROCK FRAGMENTS, ORANGE, WET, SOFT TO MEDIUM STIFF (CL) CLAY
5.5'	S-1: MICACEOUS; TRACE ORGANICS S-2: MICACEOUS; AND ROCK FRAGMENTS S-3: TRACE ROCK FRAGMENTS
15.0'	BOTTOM ELEVATION = 563

**BORING SWM-7**

0'	SURFACE ELEVATION = 579
1.0'	SANDY SILT, GREENISH-BROWN TO ORANGE-BROWN, WET, LOOSE TO FIRM (ML) SANDY CLAY LOAM
3.0'	S-1: MICACEOUS; TRACE ORGANICS S-2: MICACEOUS; AND ROCK FRAGMENTS S-3: TRACE ROCK FRAGMENTS S-4: MOIST
15.0'	BOTTOM ELEVATION = 564

**BORING SWM-8**

0'	SURFACE ELEVATION = 590
1.0'	SILTY FINE SAND, BROWN TO ORANGE, WET, MEDIUM DENSE (SM) SANDY CLAY LOAM
3.0'	S-3: SOME ROCK FRAGMENTS S-4: SOME ROCK FRAGMENTS
8.0'	SILTY FINE TO COARSE SAND, AND ROCK FRAGMENTS, BROWN, MOIST, MEDIUM DENSE (SM) SANDY CLAY LOAM
11.5'	SILTY FINE SAND, ORANGE-TAN, MOIST, DENSE (SM) SANDY CLAY LOAM
15.0'	BOTTOM ELEVATION = 575

**BORING SWM-9**

0'	SURFACE ELEVATION = 593.5
1.0'	SILTY CLAY, TRACE SAND, ORANGE, MOIST, SOFT, (CL) CLAY
3.0'	CLAYEY FINE SAND, TRACE SILT FRAGMENTS, ORANGE-BROWN, WET, FIRM (SC-SM) SANDY CLAY LOAM
5.5'	SILTY FINE SAND, TAN, MOIST, MEDIUM DENSE (SM) SANDY CLAY LOAM
8.0'	SANDY SILT, TAN, MOIST, MEDIUM DENSE (ML) SILT LOAM
15.0'	BOTTOM ELEVATION = 578.5

**STRUCTURE SCHEDULE Δ**

STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
S-1		N 598,887.91 E 1,323,296.57		562.50 (24")	562.0	SEE SHEET 6
I-1	DOUBLE S	N 598,944.08 E 1,323,292.34	570.67 (18")	569.67 (30")	577.0	HOCO STD. DETAIL SD-4.23
I-2	DOUBLE S	N 598,917.61 E 1,323,205.98		571.25 (18")	575.5	HOCO STD. DETAIL SD-4.23
I-3	DOUBLE S	N 598,771.78 E 1,323,562.38		582.38 (18")	589.6	HOCO STD. DETAIL SD-4.23
I-4	A-5 3.5" WIDE	N 598,842.86 E 1,323,887.60		582.90 (15")	596.0	HOCO STD. DETAIL SD-4.40
M-1	4'-0" DIA	N 599,080.76 E 1,323,338.58	573.83 (24")	573.73 (24")	578.5	HOCO STD. DETAIL G-5.11
M-2	4'-0" DIA	N 599,063.84 E 1,323,337.96	578.79 (EX. 24")	574.50 (24")	581.0	HOCO STD. DETAIL G-5.11
WQ-1		N 598,999.38 E 1,323,306.76	589.40 (30")	589.30 (30")	581.7	SEE DETAIL SHEET 16
WQ-2		N 598,801.52 E 1,323,460.28	581.60 (18")	581.50 (18")	589.9	SEE DETAIL SHEET 16
E-1	24" CMP END SECTION	N 598,888.50 E 1,323,203.08	565.50 (24")			SEE DETAIL THIS SHEET
E-2	27" RCP END SECTION	N 598,883.64 E 1,323,206.39	565.50 (27")			HOCO STD. DETAIL SD-5.51
E-5	18" CMP END SECTION	N 599,117.48 E 1,323,275.14	576.00 (18")			SEE DETAIL THIS SHEET
E-6	18" CMP END SECTION	N 599,084.10 E 1,323,356.93	577.00 (18")			SEE DETAIL THIS SHEET
E-7	15" CMP END SECTION	N 599,013.14 E 1,323,562.45	584.50 (15")			SEE DETAIL THIS SHEET
E-8	15" CMP END SECTION	N 598,980.94 E 1,323,651.02	586.50 (15")			SEE DETAIL THIS SHEET
E-9	12" CMP END SECTION	N 598,895.72 E 1,323,828.28	590.60 (12")			SEE DETAIL THIS SHEET
E-10	12" CMP END SECTION	N 598,843.67 E 1,323,906.75	592.70 (12")			SEE DETAIL THIS SHEET
E-11	15" CMP END SECTION	N 598,988.90 E 1,323,574.37	586.20 (15")			SEE DETAIL THIS SHEET
E-12	15" CMP END SECTION	N 598,969.87 E 1,323,625.09	586.50 (15")			SEE DETAIL THIS SHEET
E-13	15" CMP END SECTION	N 598,878.18 E 1,323,812.47	592.50 (15")			SEE DETAIL THIS SHEET
E-14	PVC PIPE END	N 598,776.90 E 1,323,421.96		584.50 (4")		

NOTES:  
 FOR END SECTIONS AND HEADWALLS THE LOCATION IS CENTER OF THROAT OPENING AT FACE OF STRUCTURE. LOCATION OF INLETS AND MANHOLES IS AT CENTER OF TOP COVER. FOR 'A' INLETS LOCATION IS GIVEN FOR CENTER OF THROAT OPENING AT FACE OF CURB;

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
 COUNTY HEALTH OFFICER MR. DATE  
 HOWARD COUNTY HEALTH DEPARTMENT

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

2/1/08 2 CHANGED SHEET NUMBER  
 9-01-08 1 Storm Drain revised due to removal of SWM Pond and adding underground 36" I/P Pipes.

DATE NO. REVISION

OWNER/DEVELOPER:  
 JPG PROPERTIES  
 3799 BROTHERS DELIGHT ROAD  
 MANCHESTER, MARYLAND 21102  
 ATTN: JOHN GLASSMAN  
 (410)442-1914

PROJECT  
 JPG PROPERTIES

AREA  
 TAX MAP 15 BLOCK 4  
 PARCEL 13 ZONED B-2  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

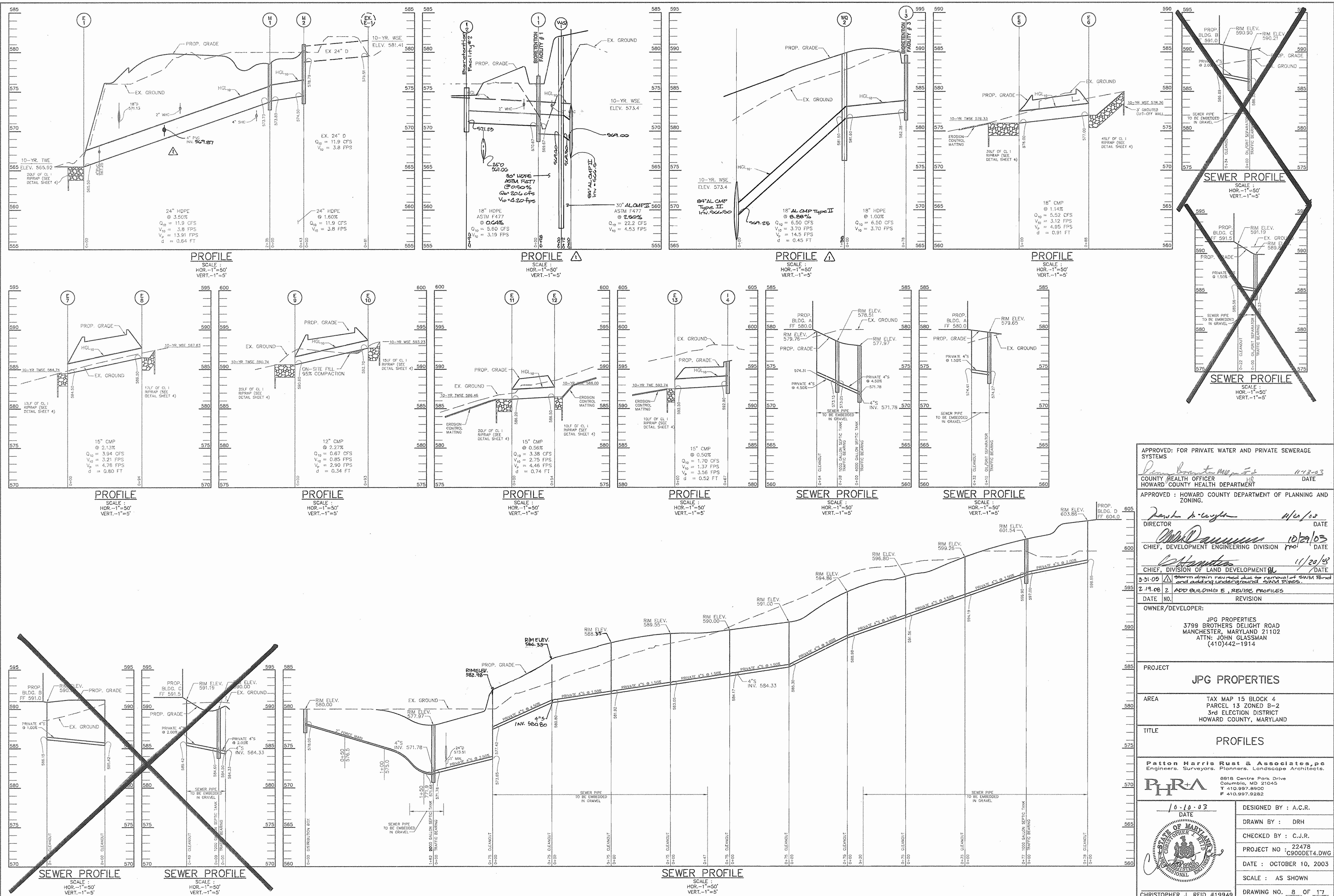
TITLE  
 DETAILS

Patton Harris Rust & Associates, PC  
 Engineers, Surveyors, Planners, Landscape Architects.  
 8915 Centre Park Drive  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

10.10.03  
 DATE  
 DESIGNED BY: A.C.R.  
 DRAWN BY: DRH  
 CHECKED BY: C.J.R.  
 PROJECT NO: 22478  
 C900DET3.DWG  
 DATE: OCTOBER 10, 2003  
 SCALE: AS SHOWN  
 DRAWING NO. 7 OF 17

CHRISTOPHER J. REID #19949  
 SDP-03-87

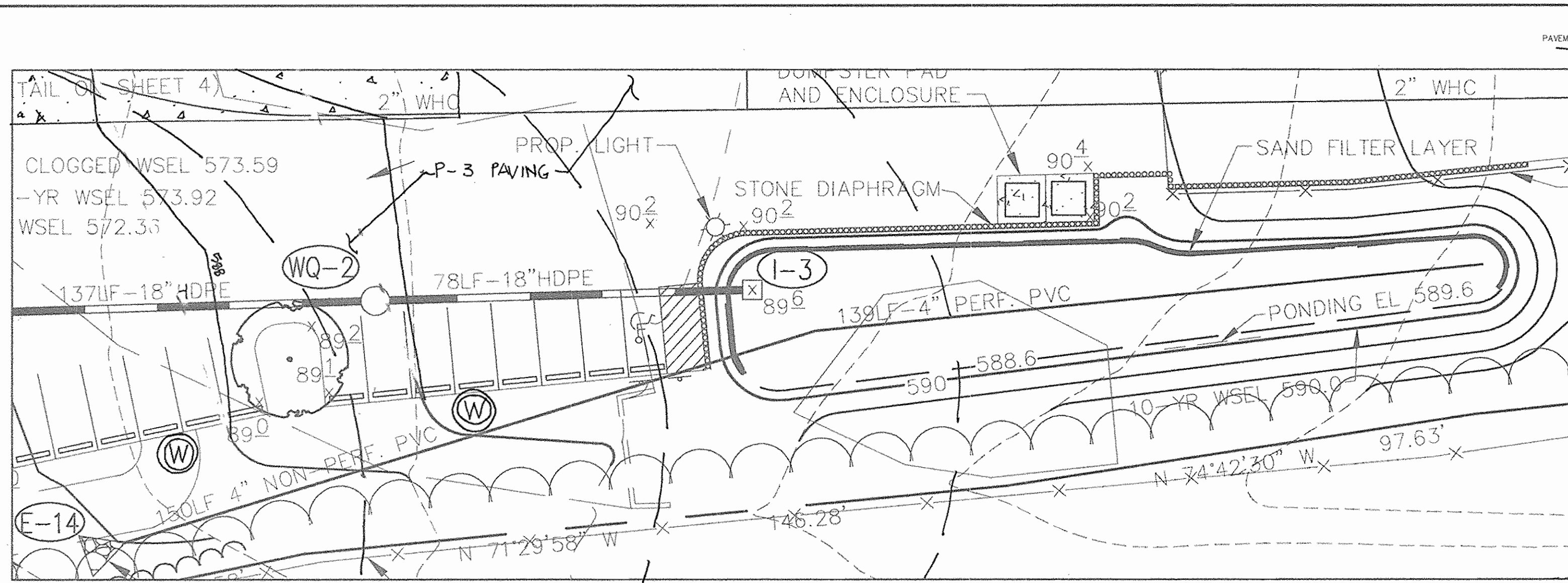




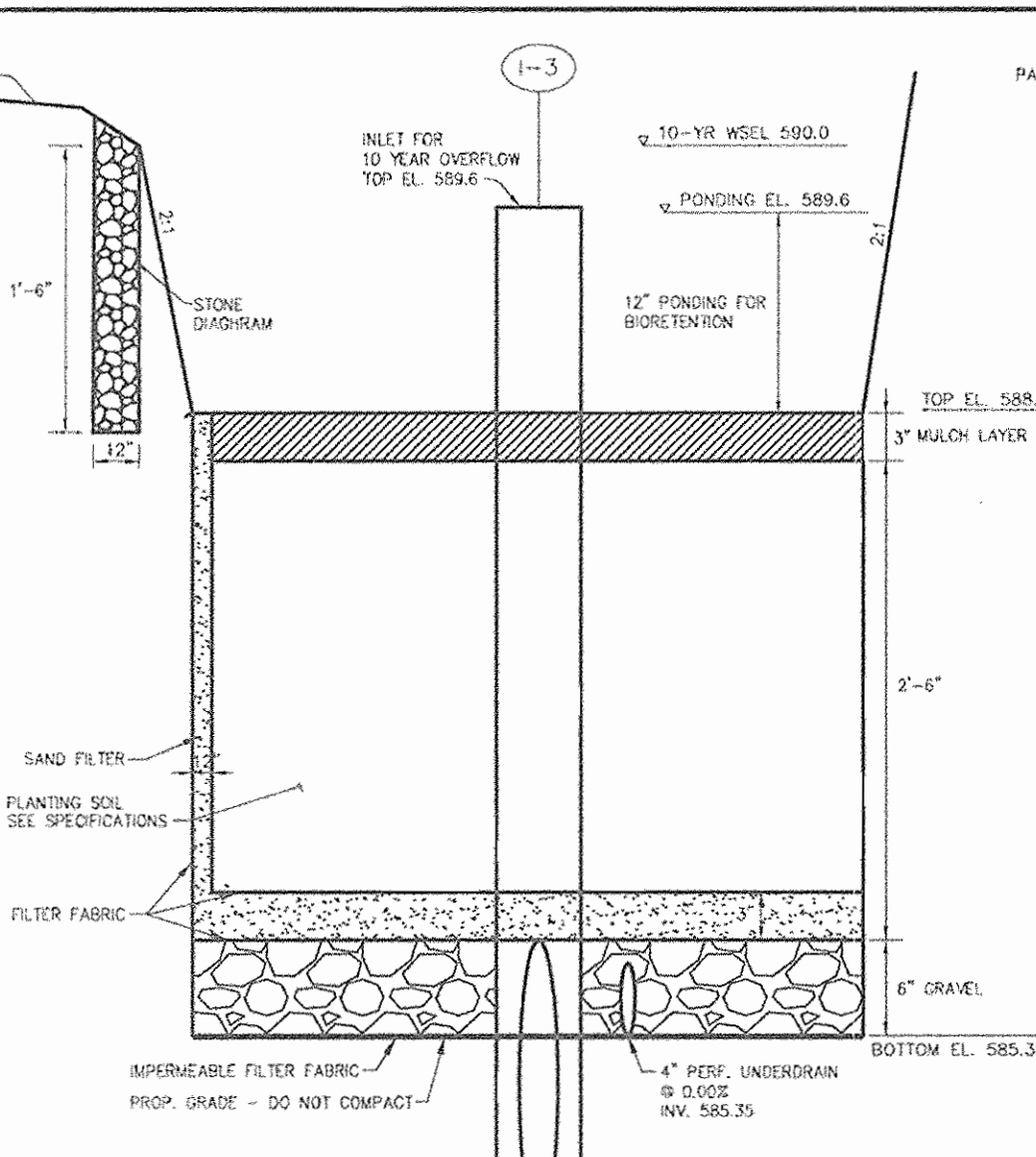
APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS	
<i>James Brantley</i>	11/12/03
COUNTY HEALTH OFFICER	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Donna K. Wright</i>	11/12/03
DIRECTOR	DATE
<i>Chris Danner</i>	10/29/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Chris Danner</i>	11/20/03
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
3-31-05 $\Delta$ Storm drain removed due to removal of SWM pond and adding underground SWM pipes.	
2-19-08 2 ADD BUILDING E, REVISE PROFILES	
DATE NO.	REVISION
OWNER/DEVELOPER:	
JPG PROPERTIES 3799 BROTHERS DELIGHT ROAD MANCHESTER, MARYLAND 21102 ATTN: JOHN GLASSMAN (410)442-1914	
PROJECT	
JPG PROPERTIES	
AREA	
TAX MAP 15 BLOCK 4 PARCEL 13 ZONED B-2 3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE	
PROFILES	
Patton Harris Rust & Associates, PC Engineers, Surveyors, Planners, Landscape Architects.	
PHRA 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282	
DATE	DESIGNED BY: A.C.R.
10-10-03	
DRAWN BY: DRH	
CHECKED BY: C.J.R.	
PROJECT NO: 22478 C900DET4.DWG	
DATE: OCTOBER 10, 2003	
SCALE: AS SHOWN	
DRAWING NO. 8 OF 17	
CHRISTOPHER J. REID #19949	
SDP-03-87	

P:\project\22478\1-01\right\Plans\C900DET4.dwg, Layout1, 10/10/2003 09:52:06 AM, HP756C09.ppt3, Arch D - 24 x 36 in. (landscape), 1:1

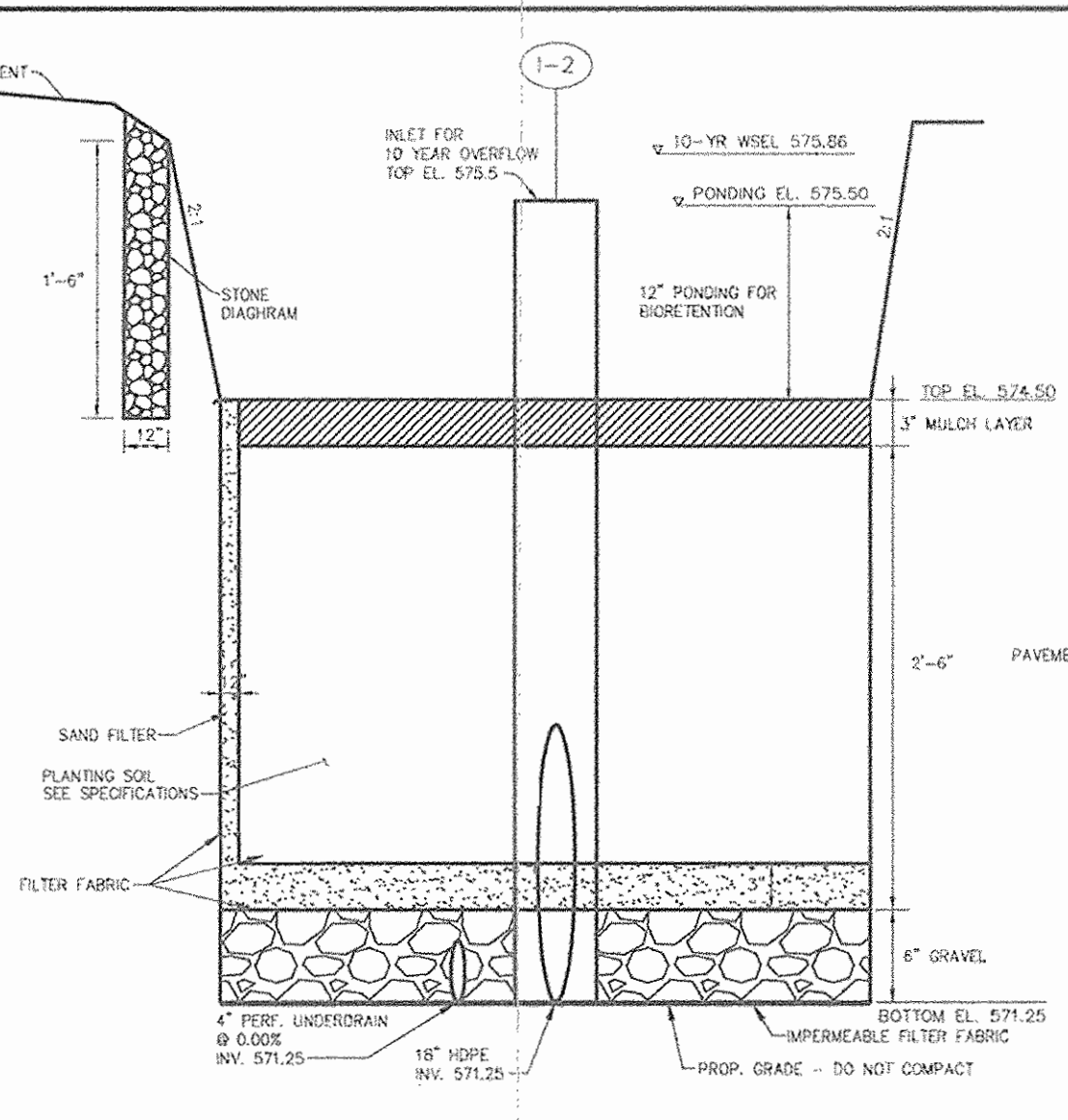




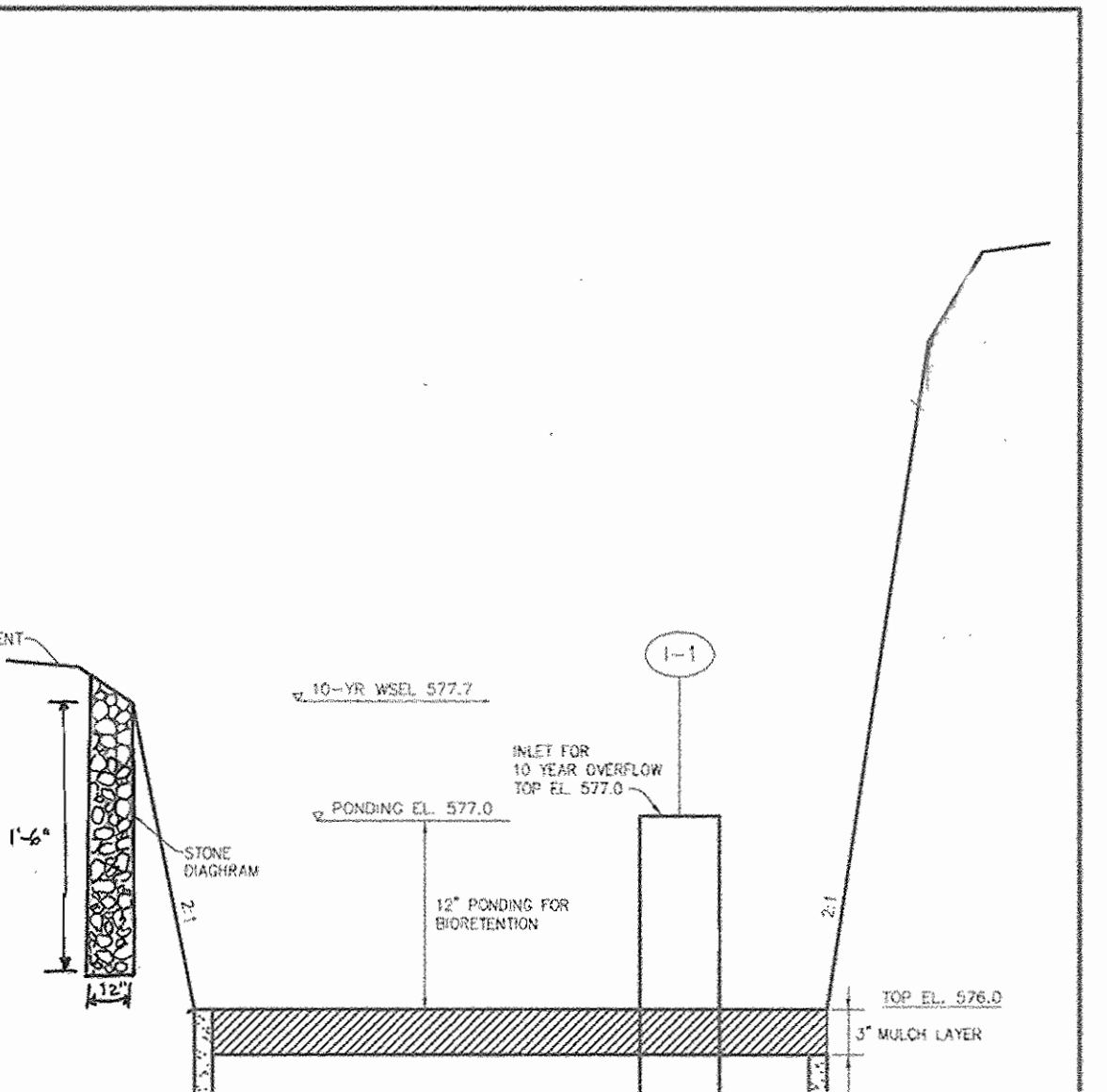
**BIORETENTION #3**  
SCALE: 1"=20'



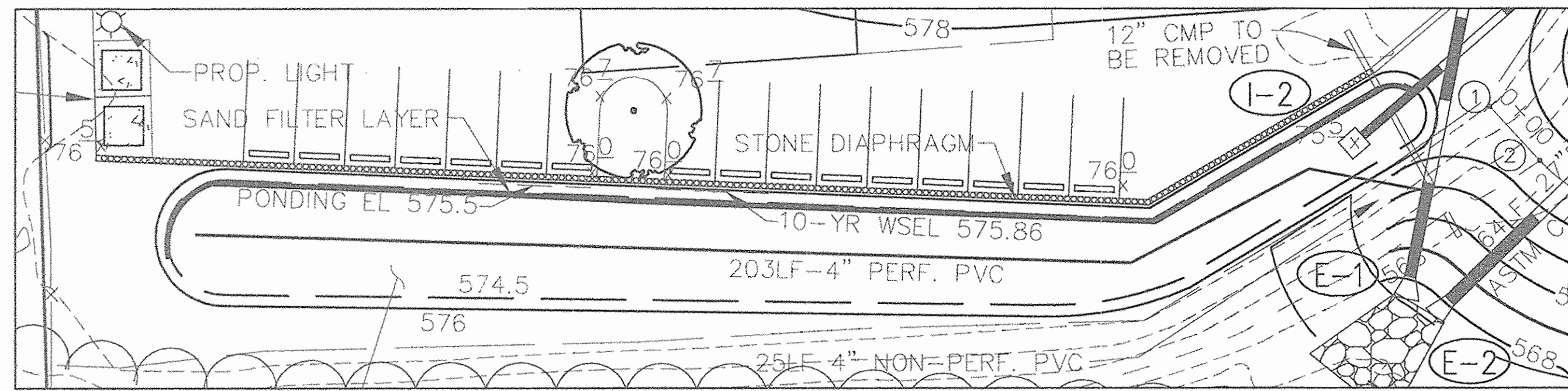
**BIORETENTION FACILITY #3 TYPICAL SECTION**  
SCALE: HOR. 1"=10' VERT. 1"=1'



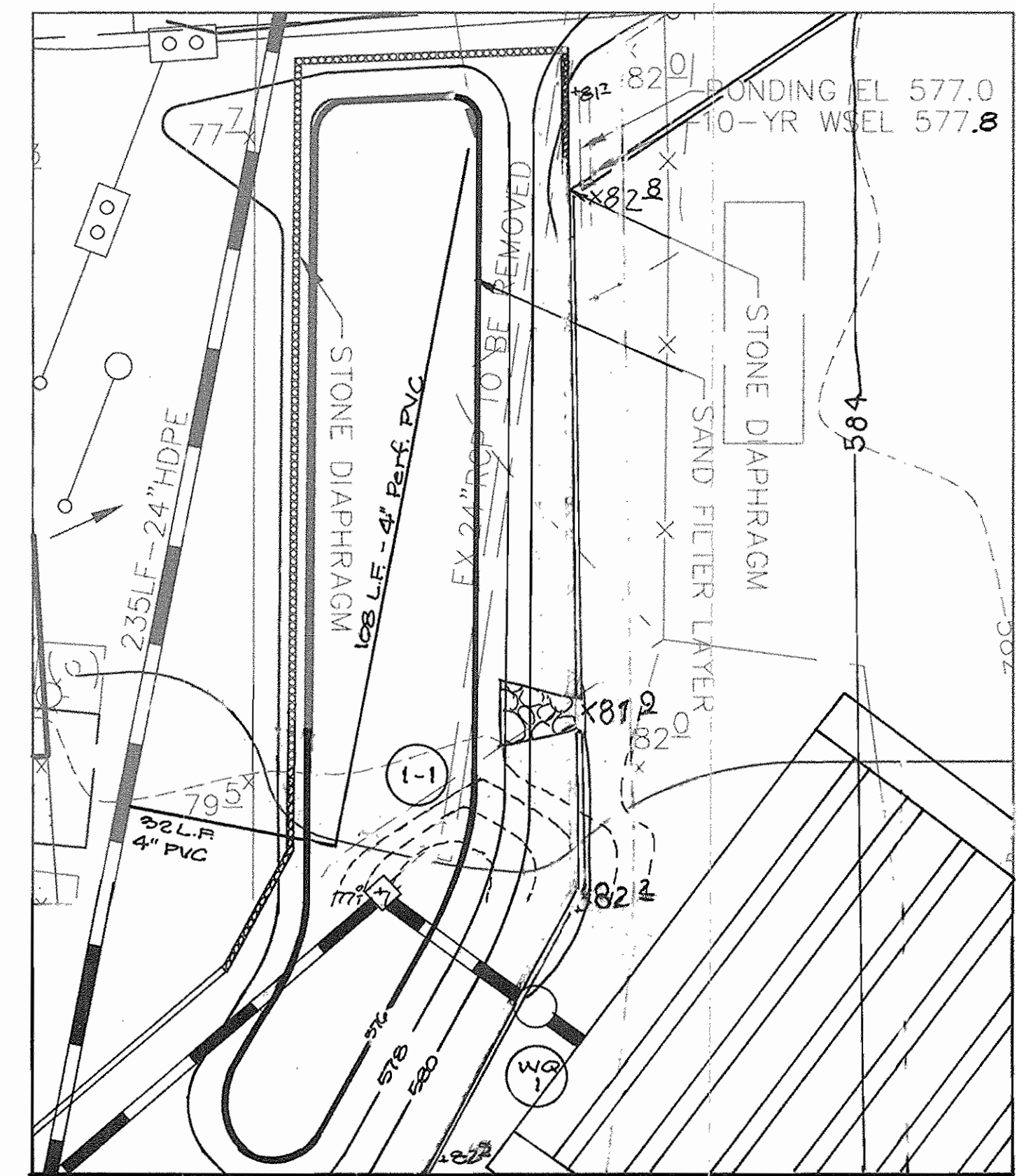
**BIORETENTION FACILITY #2 TYPICAL SECTION**  
SCALE: HOR. 1"=10' VERT. 1"=1'



**BIORETENTION FACILITY #1 TYPICAL SECTION**  
SCALE: HOR. 1"=10' VERT. 1"=1'



**BIORETENTION #2**  
SCALE: 1"=20'



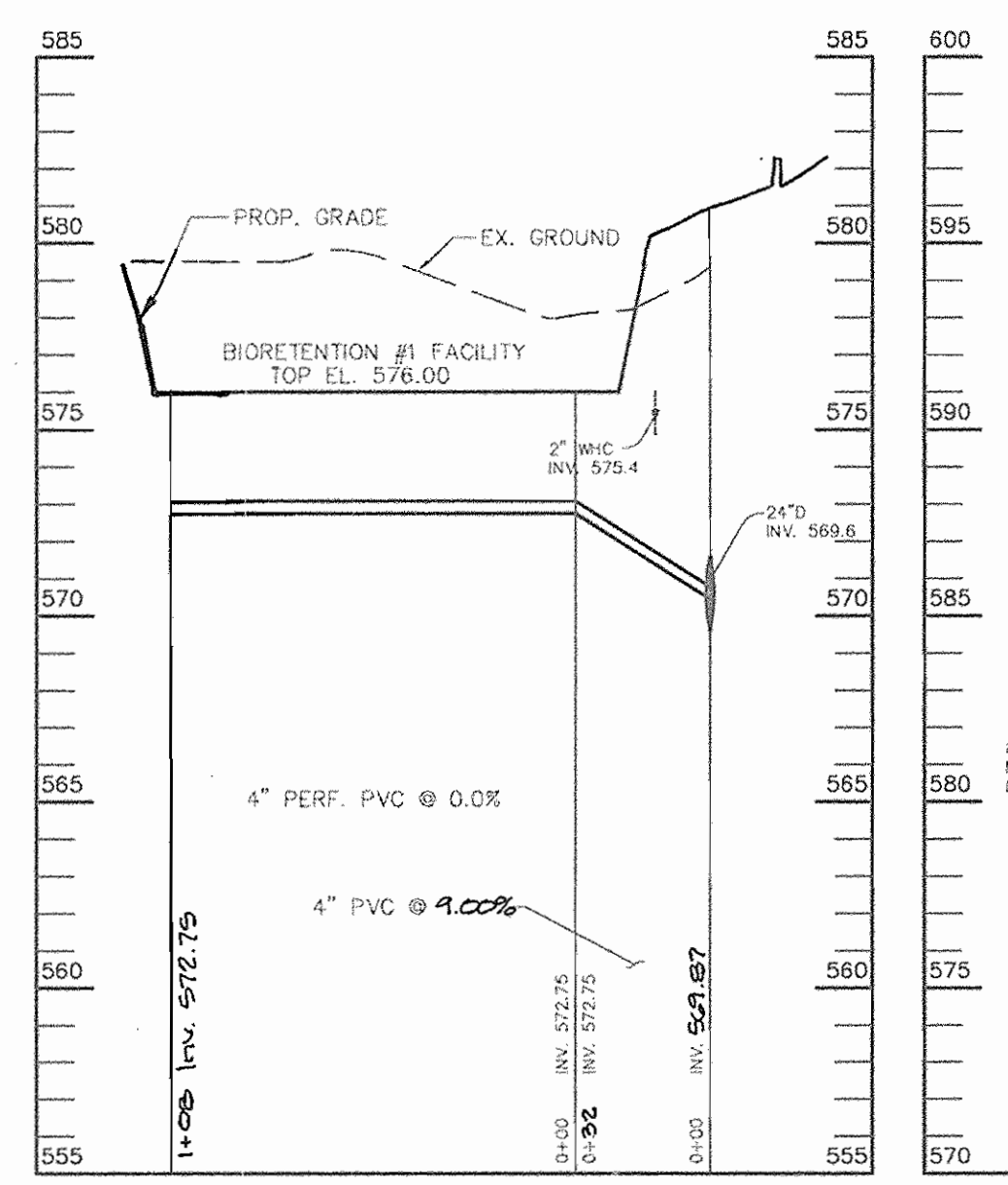
**BIORETENTION #1**  
SCALE: 1"=20'

**Table: Materials Specifications for Bioretention**

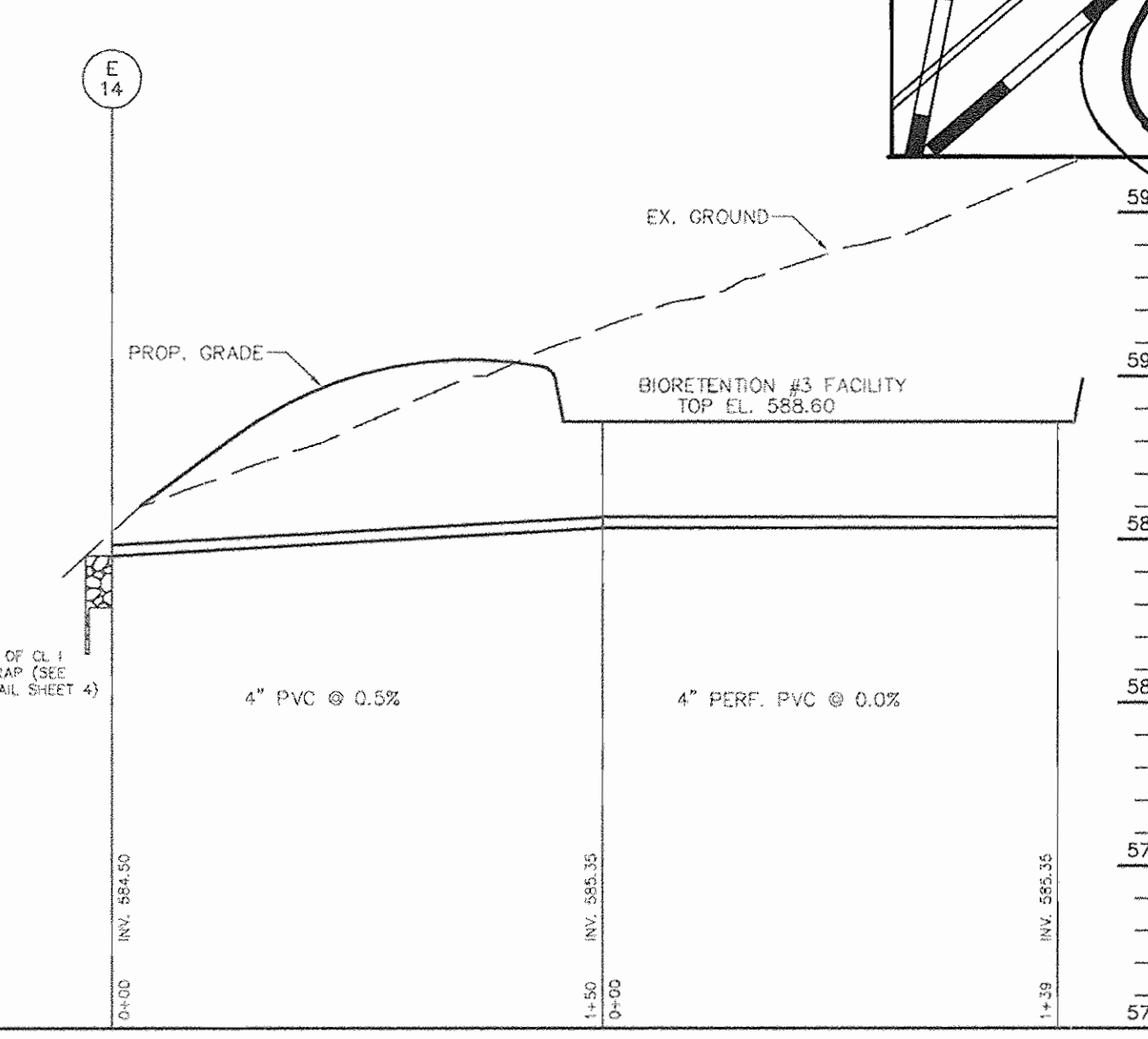
MATERIAL	SPECIFICATIONS	SIZE	NOTES
PLANTINGS	SEE LANDSCAPE PLAN SHEET	N/A	
PLANTING SOIL (2.5' TO 4' DEEP)	SAND 35 - 60 % SILT 30 - 55 % CLAY 10 - 25 %	N/A	USDA SOIL TYPES LOAMY SAND, SANDY LOAM, OR LOAM
MULCH	SHREDED HARDWOOD	N/A	AGED 6 MONTHS, MINIMUM
STONE DIAPHRAGM	PEA GRAVEL: ASTM-D-448 ORNAMENTAL STONE: WASHED COBBLES	PEA GRAVEL: No. 6 STONE: 2" to 5"	
GEOTEXTILE	CLASS "C"-APPARENT OPENING SIZE (ASTM-D-4751), GRAB TENSILE STRENGTH (ASTM-D-4632), PUNCTURE RESISTANCE (ASTM-D-4822)	N/A	BETWEEN SAND FILTER LAYER & SOIL/GRAVEL
UNDERDRAIN GRAVEL	AASHTO M-43	0.375" to 0.75"	
UNDERDRAIN PIPE	F 758, TYPE PS 28 OR AASHTO M-278	4" TO 6" RIGID SCHEDULE 40 PVC OR SDR35	3/8" PERF. @ 6"/C, 4 HOLES PER ROW; MIN. OF 3" OF GRAVEL OVER PIPES
SAND	AASHTO M-6 or ASTM C-33	0.02" to 0.04"	SAND SUBSTITUTIONS SUCH AS DIABASE AND GRANSTONE #10 ARE NOT ACCEPTABLE; NO CALCIUM CARBONATED OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND.

**SPECIFICATIONS FOR BIORETENTION**

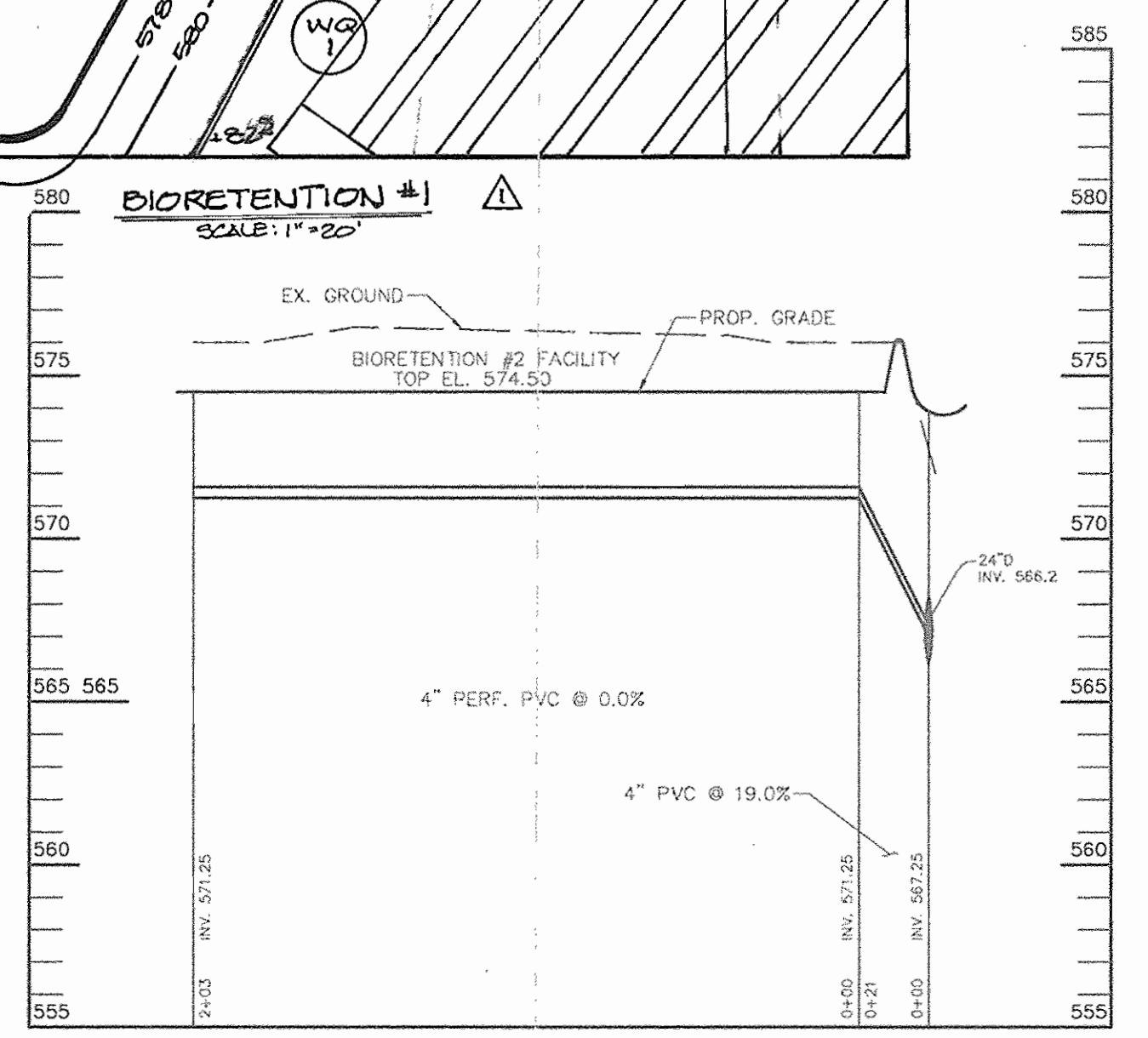
- MATERIAL SPECIFICATIONS**  
THE ALLOWABLE MATERIALS TO BE USED IN BIORETENTION AREA ARE DETAILED IN TABLE B.3.2 THIS SHEET
- PLANTING SOIL**  
THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUD GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.06.01.05.  
  
THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:  
pH RANGE 5.7-7  
ORGANIC MATTER 1.5-4% (BY WEIGHT)  
MAGNESIUM 35 lb./ac  
PHOSPHORUS (PHOSPHATE-P<sub>2</sub> O<sub>5</sub>) 75 lb./ac  
POTASSIUM (POTASH-K<sub>2</sub> O) 85 lb./ac  
SOLUBLE SALTS NOT TO EXCEED 500 ppm
- COMPACTION**  
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF BIORETENTION AREAS ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARCH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.  
  
COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.  
  
ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDING WATER BEFORE PREPARING (ROTOTILLING) BASE.  
  
WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.  
  
WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.
- UNDERDRAINS**  
UNDERDRAINS ARE TO BE PLACED ON A 3'-0" WIDE SECTION OF FILTER CLOTH. PIPE IS PLACED NEXT, FOLLOWED BY THE GRAVEL BEDDING. THE ENDS OF UNDERDRAIN PIPES NOT TERMINATING IN AN OBSERVATION WELL SHALL BE CAPPED.
- MISCELLANEOUS**  
THE BIORETENTION FACILITY MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.



**BIORETENTION #1**  
SCALE: HOR. 1"=50' VERT. 1"=5'



**BIORETENTION #3**  
SCALE: HOR. 1"=50' VERT. 1"=5'



**BIORETENTION #2**  
SCALE: HOR. 1"=50' VERT. 1"=5'

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

*Christopher J. Reid* 11-15-03  
COUNTY HEALTH OFFICER  
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*David M. Lough* 11/16/03  
DIRECTOR

*John Glassman* 10/28/03  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Christopher J. Reid* 11/20/03  
CHIEF, DIVISION OF LAND DEVELOPMENT

2-19-08 2 ADD BUILDING E. REVISE GRADING  
3-21-09 1 Revised Bioretention Facility #1 Layout and Underdrain

DATE NO. REVISION

OWNER/DEVELOPER:  
JPG PROPERTIES  
3799 BROTHERS DELIGHT ROAD  
MANCHESTER, MARYLAND 21102  
ATTN: JOHN GLASSMAN  
(410)442-1914

PROJECT  
**JPG PROPERTIES**

AREA  
TAX MAP 15 BLOCK 4  
PARCEL 13 ZONED B-2  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE  
**BIORETENTION DETAILS**

**Patton Harris Rust & Associates, PC**  
Engineers, Surveyors, Planners, Landscape Architects.

**PHRA**  
8618 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

DATE 10.10.03  
DESIGNED BY: A.C.R.  
DRAWN BY: DRH  
CHECKED BY: C.J.R.  
PROJECT NO: 22478  
C900DET5.DWG  
DATE: OCTOBER 10, 2003  
SCALE: AS SHOWN  
DRAWING NO. 9 OF 17

CHRISTOPHER J. REID #19949  
SDP-03-87







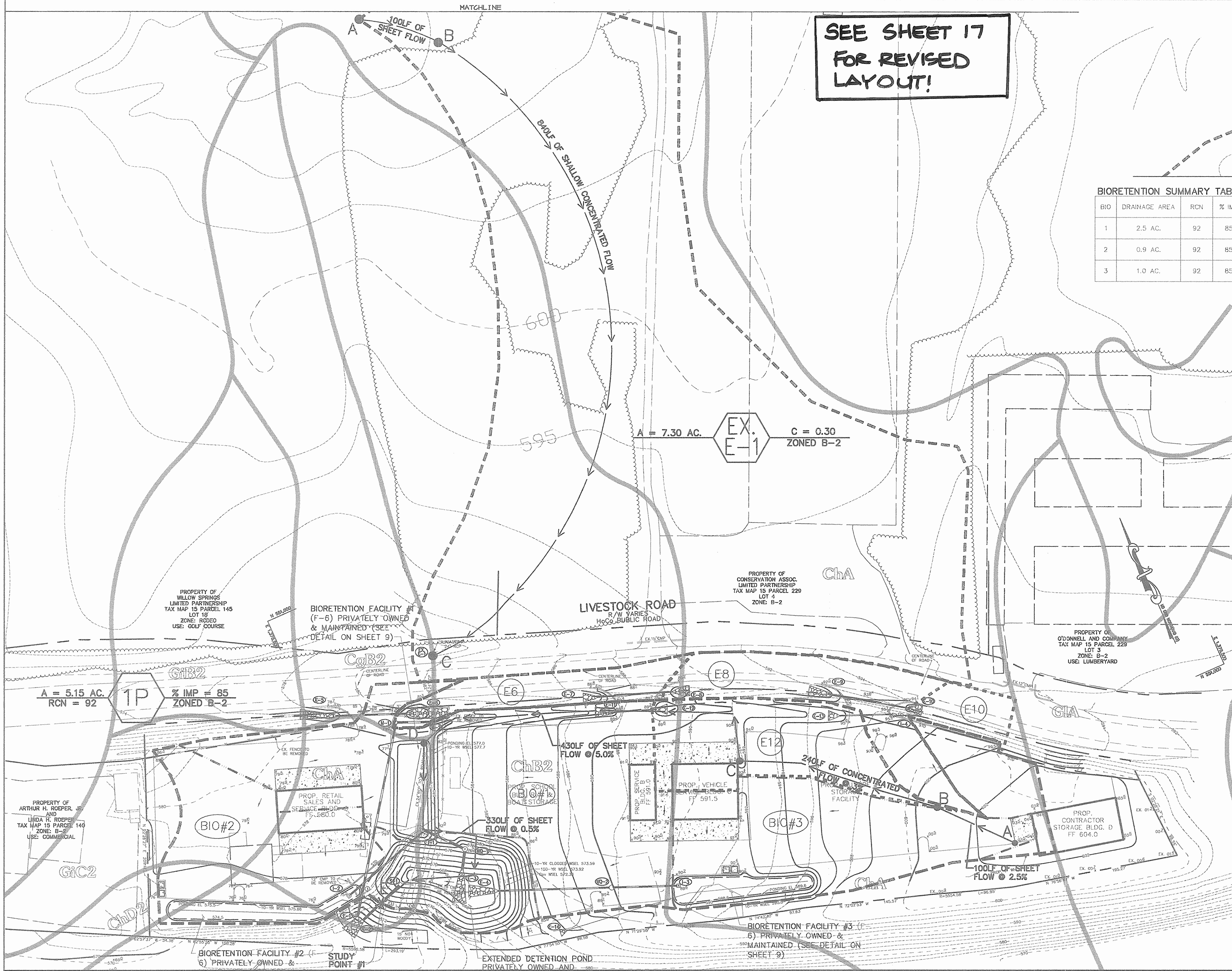
**SEE SHEET 17  
FOR REVISED  
LAYOUT!**

**BIORETENTION SUMMARY TABLE**

BIO	DRAINAGE AREA	RCN	% IMP
1	2.5 AC.	92	85
2	0.9 AC.	92	85
3	1.0 AC.	92	85

**LEGEND**

- DRAINAGE AREA DIVIDE
- CULVERT DRAINAGE AREA DIVIDE
- BIORETENTION DRAINAGE AREA DIVIDE
- \* STUDY POINT
- ① DRAINAGE AREA DESIGNATION
- TIME OF CONCENTRATION PATH
- SOIL DIVIDE
- ⊖ E CULVERT SUBDRAINAGE AREA DESIGNATION
- ⊖ BIO BIORETENTION SUBDRAINAGE AREA DESIGNATION



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
 COUNTY HEALTH OFFICER M.R. DATE 11-13-03  
 HOWARD COUNTY HEALTH DEPARTMENT  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
 DIRECTOR DATE 11/20/03  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 10/21/03  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE 11/20/03

2/11/08 1 ADDED NOTE, CHANGED SHEET NUMBER  
 DATE NO. REVISION  
 OWNER/DEVELOPER:  
 JPG PROPERTIES  
 3799 BROTHERS DELIGHT ROAD  
 MANCHESTER, MARYLAND 21102  
 ATTN: JOHN GLASSMAN  
 (410)442-1914

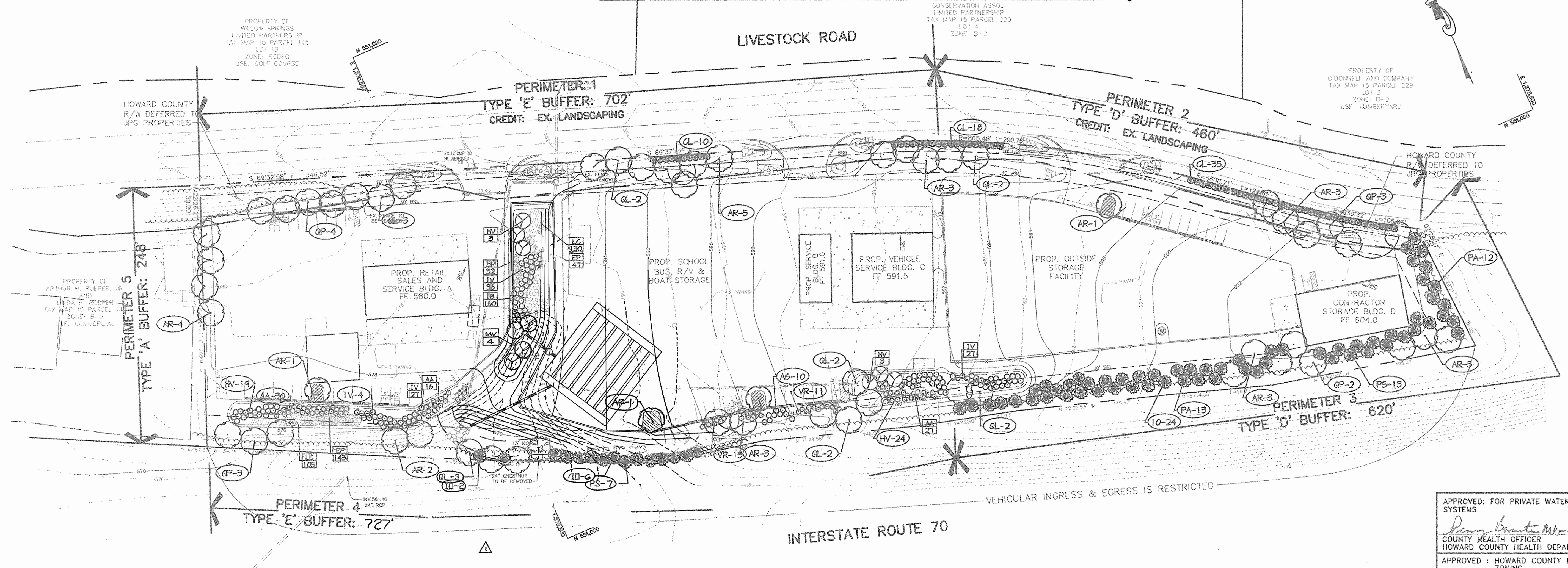
PROJECT  
**JPG PROPERTIES**  
 AREA TAX MAP 15 BLOCK 4  
 PARCEL 13 ZONED B-2  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE  
**SWM PROPOSED CONDITIONS  
 DRAINAGE AREA MAP**  
 Patton Harris Rust & Associates, pc  
 Engineers, Surveyors, Planners, Landscape Architects.  
 PHRA 8818 Centre Park Drive  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9262

10-10-03  
 DATE  
 DESIGNED BY: A.C.R.  
 DRAWN BY: DRH  
 CHECKED BY: C.J.R.  
 PROJECT NO: 22478  
 C410PDA.DWG  
 DATE: OCTOBER 10, 2003  
 SCALE: 1" = 50'  
 DRAWING NO. 11 OF 17  
 CHRISTOPHER J. REID #19949  
 SDP-03-87



SEE SHEET 17 FOR  
REVISED PLAN AND LAYOUT!

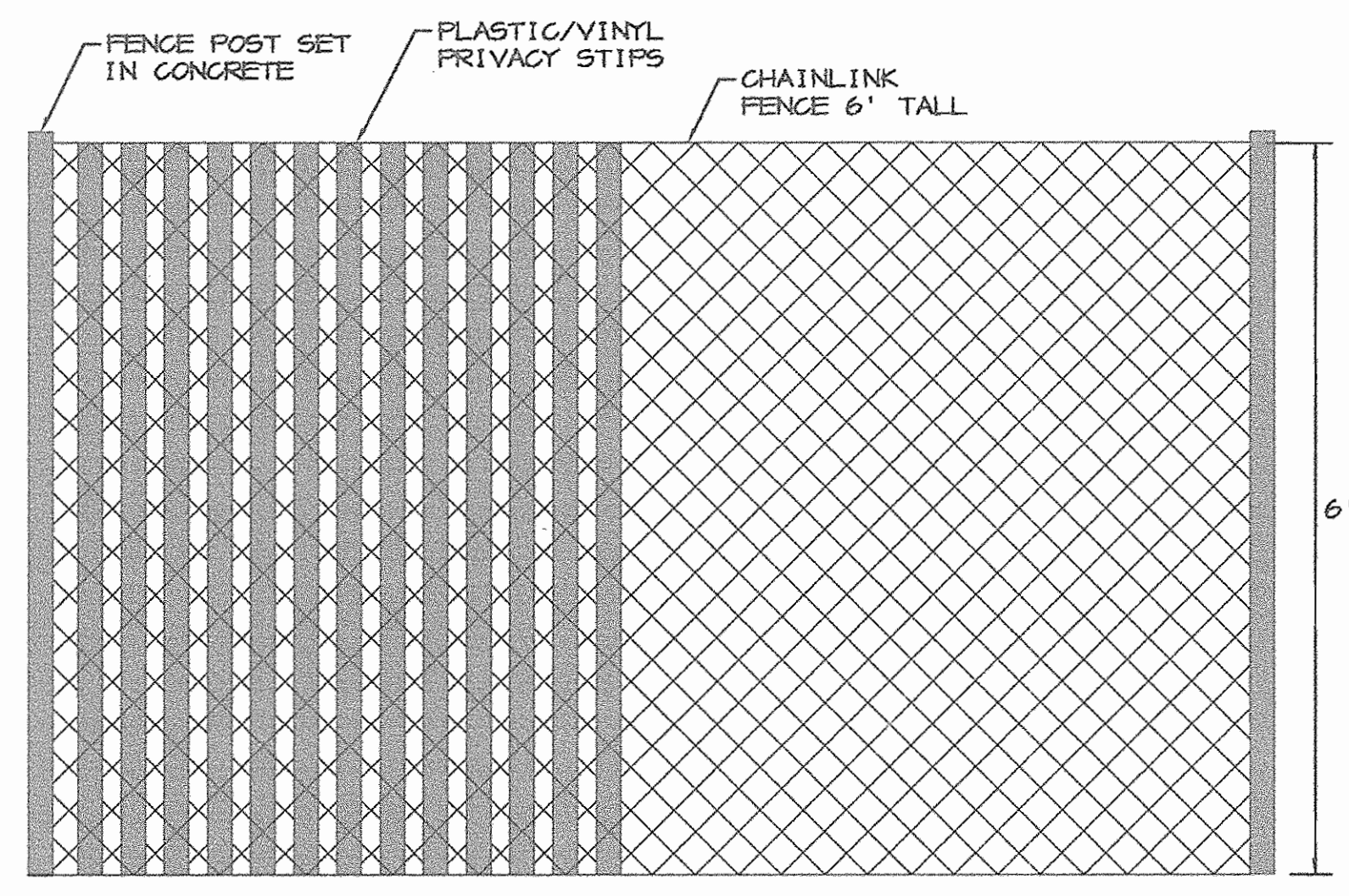


INTERSTATE ROUTE 70

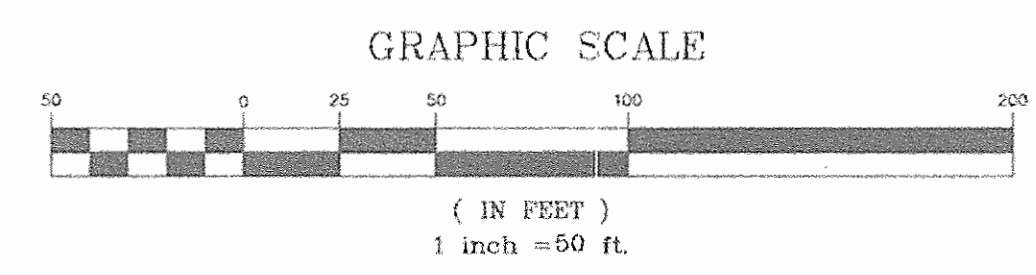
VEHICULAR INGRESS & EGRESS IS RESTRICTED

**LEGEND**

EX. TREELINE	
PROP. TREELINE	
PROPERTY LINE	
WETLANDS AND 25' BUFFER	
PERENNIAL STREAM AND 50' BUFFER	
100-YEAR FLOODPLAIN	
CONTOUR LINES	
EX. BUILDING	
PROP. BUILDING	
PROP. SHADE TREE	
PROP. EVERGREEN TREE	
PROP. ORNAMENTAL TREE	
PROP. SHRUBS	
LANDSCAPE REQUIREMENT	
BIORETENTION PLANTING	
PERIMETER LANDSCAPE EDGE LIMITS	
CREDITED LANDSCAPE ISLAND	



6' HIGH OPAQUE FENCE DETAIL  
NOT TO SCALE



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

*Donna D. Wright* 11/13/03  
COUNTY HEALTH OFFICER H/C DATE  
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Donna D. Wright* 11/20/03  
DIRECTOR DATE

*John Glassman* 10/29/03  
CHIEF, DEVELOPMENT ENGINEERING DIVISION 976 DATE

*John Glassman* 11/20/03  
CHIEF, DIVISION OF LAND DEVELOPMENT W DATE

2.19.08 Z ADD BUILDING E. PREPENS, LANDSCAPING  
3.31.09 A Removed 5MM Road Landscaping Changed Perimeter

DATE NO. REVISION

OWNER/DEVELOPER:  
JPG PROPERTIES  
3799 BROTHERS DELIGHT ROAD  
MANCHESTER, MARYLAND 21102  
ATTN: JOHN GLASSMAN  
(410)442-1914

PROJECT  
**JPG PROPERTIES**

AREA  
TAX MAP 15 BLOCK 4  
PARCEL 13 ZONED B-2  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE  
**LANDSCAPE PLAN**

Patton Harris Rust & Associates, pc  
Engineers, Surveyors, Planners, Landscape Architects.

**PHRA** 8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

10.10.03  
DATE

DESIGNED BY: K.L.S.  
DRAWN BY: K.L.S.  
CHECKED BY: P.J.S.  
PROJECT NO: 22478  
L200LND

DATE: OCTOBER 10, 2003  
SCALE: 1" = 50'  
DRAWING NO. 12 OF 17

*David T. Dows*  
DAVID T. DOWS #830

P:\project\22478\1-0\Eng\Plans\L200LND.dwg, Layout1, 10/10/2003 10:01:35 AM, HP756C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1



SECTION 16.124	ADJACENT TO ROADWAYS				ADJACENT TO PERIMETER PROPERTIES
	1	2	3	4	
PERIMETER	E	D	D	E	A
LANDSCAPE TYPE	E	D	D	E	A
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	702' ±	460' ±	620' ±	727' ±	248' ±
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO
CREDIT FOR DRIVE ENTRANCES (YES, NO, LINEAR FEET)	YES 37' ±	NO	NO	NO	NO
LINEAR FEET REMAINING	665' ±	460' ±	620' ±	727' ±	248' ±
CREDIT FOR MALL, FENCE, OR BERM (YES/NO/LINEAR FEET)	NO	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED					
SHADE TREES	17	8	10	18	4
EVERGREEN TREES	0	46	62	0	0
SHRUBS	166	0	0	182	0
NUMBER OF PLANTS PROVIDED					
SHADE TREES	17	8	10	18	4
EVERGREEN TREES	0	46	62	0	0
SMALL FLOWERING TREES	0	0	0	113	0

**SCHEDULE 'A' NOTES:**

\* REGULATIONS DO NOT REQUIRE LANDSCAPE EDGES, BUFFERING, OR SCREENING BETWEEN INTERNAL LOTS OR PARCELS WITHIN THE SAME DEVELOPMENT PLAN. (PAGE 17 OF THE HO. CO. LANDSCAPE MANUAL)

**SUBSTITUTION NOTES:**

PERIMETER 1: 17 EVERGREEN TREES WERE SUBSTITUTED FOR 166 SHRUBS.  
 PERIMETER 4: 8 EVERGREEN TREES WERE SUBSTITUTED FOR 4 SHADE TREES AND 7 EVERGREEN TREES WERE SUBSTITUTED FOR 29 SHRUBS.

SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING	
PARKING LOT	1
NUMBER OF PARKING SPACES	77
NUMBER OF SHADE TREES REQUIRED (1/20 SPACES)	4
NUMBER OF TREES PROVIDED	4
SHADE TREES	-
OTHER TREES (2:1 SUBSTITUTION)	-
NUMBER OF ISLANDS PROVIDED	4

PARKING LOT AND PERIMETER PLANT LIST					
SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
AR	24	Acer rubrum 'Red Sunset' Red Sunset Red Maple	2.5'-3' cal.	B&B	Plant as shown
QL	16	Quercus palustris Pin Oak	2.5'-3' cal.	B&B	Plant as shown
QP	12	Quercus phellos Willow Oak	2.5'-3' cal.	B&B	Plant as shown
CL	63	Cupressocyparis leylandii Leyland cypress	5' - 6' ht.	B&B	Plant as shown
IO	32	Ilex opaca American Holly	5' - 6' ht.	B&B	Plant as shown
PA	25	Picea abies Norway Spruce	6' - 8' ht.	B&B	Plant as shown
PS	20	Pinus strobus Eastern White Pine	6' - 8' ht.	B&B	Plant as shown
AG	10	Abelia grandiflora Glossy Abelia	2.5'-3' ht.	B&B	Plant as shown
VR	26	Viburnum rhytidophyllum Leatherleaf viburnum	2.5'-3' ht.	B&B	Plant as shown
AA	30	Aronia arbutifolia Red chokeberry	2.5'-3' ht.	B&B	Plant as shown
HV	43	Hamamelis vernalis Vernal Witchhazel	2.5'-3' ht.	B&B	Plant as shown
IV	4	Itea virginica 'Henry's Garnet' Virginia Sweetspire	2.5'-3' ht.	B&B	Plant as shown

BIORETENTION PLANT LIST						
KEY	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	SPACING	ZONE*
MV	10	MAGNOLIA VIRGINIANA SWAMP MAGNOLIA	6'-8' HT.	B&B	PLANT AS SHOWN	***
AA	43	ARONIA ARBUTIFOLIA RED CHOKEBERRY	2.5'-3' HT.	CONT.	PLANT AS SHOWN	***
IV	40	ITEA VIRGINICA 'HENRY'S GARNET' VIRGINIA SWEETSPIRE	2.5'-3' HT.	CONT.	PLANT AS SHOWN	***
EP	242	EUPATORIUM PURPUREA JOE PYE WEDD	1 GAL.	CONT.	24" SPACING	****
IB	160	IRIS VERSICOLOR 'BLUE FLAG' BLUE FLAG IRIS	1 GAL.	CONT.	24" SPACING	(1, 2), 3
LC	235	LOBELIA CARDINALIS CARDINAL FLOWER	1 GAL.	CONT.	24" SPACING	1, (2, 3), 4

**BIORETENTION PLANT LIST NOTES:**

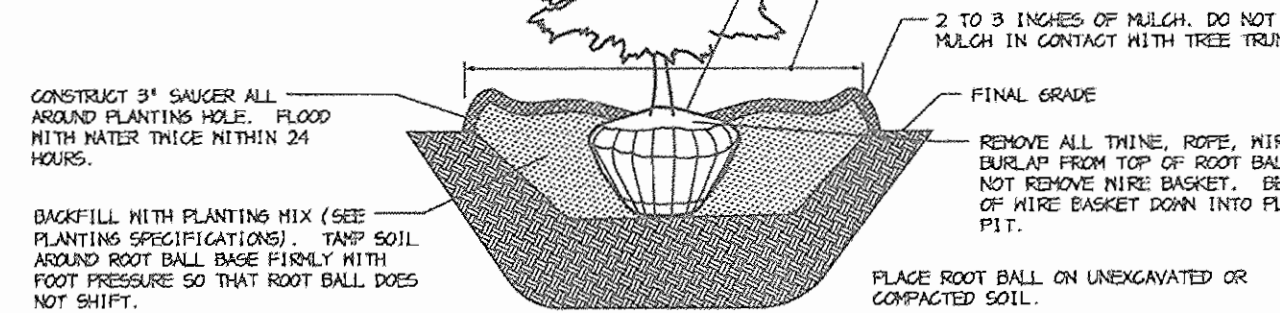
\* HYDROLOGIC ZONES ACCORDING TO APPENDIX A OF THE MARYLAND MODEL STORMWATER MANAGEMENT ORDINANCE JULY 2000.  
 \*\* ALSO KNOWN CAREX STRICTA 'AUREA'  
 \*\*\* KNOWN TO TOLERATE INUNDATION AS WELL AS DRY AREAS ACCORDING TO DIRR, MICHAEL A., MANUAL OF WOODY LANDSCAPE PLANTS  
 \*\*\*\* COMMONLY USED BIORETENTION SPECIES ACCORDING TO TABLE A.4 IN APPENDIX A OF THE MARYLAND MODEL STORMWATER MANAGEMENT ORDINANCE JULY 2000.

**PLANTING SPECIFICATIONS**

- Plants, related material, and operations shall meet the detailed description, as given on the plans and as described herein. Where discrepancies exist between Standards & Guidelines referenced within these specifications and the Howard County Landscape Manual, the latter takes precedence.
- All plant material, unless otherwise specified, that is not nursery grown, uniformly branched, does not have a vigorous root system, and does not conform to the most recent edition of the American Association of Nurserymen (AAN) Standards will be rejected. Plant material that is not healthy, vigorous, free from defects, decay, disfiguring roots, sunscald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements will be rejected. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will be rejected. All B & B plants shall be freshly dug; no healed-in plants or plants from cold storage will be accepted.
- Unless otherwise specified, all general conditions, planting operations, details and planting specifications shall conform to the most recent edition of the "Landscape Specification Guidelines by the Landscape Contractors Association of MD, DC, & VA", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architects.
- Contractor shall guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section on the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.
- Contractor shall be responsible for notifying all relevant and appropriate utility companies, utility contractors, and "Miss Utility" a minimum of 48 hours prior to the beginning of any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Major changes will require the approval of the landscape architect. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.
- Protection of existing vegetation to remain shall be accomplished via the temporary installation of 4 foot high snow fence at the drip line, see detail.
- Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within growing season of completion of site construction. Do not plant Pinus strobus or Xcupressocyparis leylandii between November 15 and March 15. Landscape plants are not to be installed before site is graded to final grade.
- Contractor to regrade, fine grade, sod, hydroseed and straw mulch all areas disturbed by their work.
- Bid shall be based on actual site conditions. No extra payment shall be made for work arising from actual site conditions differing from those indicated on drawings and specifications.
- Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence. Where discrepancies on the plan exist between the symbols and the callout leader, the number of symbols take precedence.
- All shrubs and groundcover areas shall be planted in continuous planting beds, prepared as specified, unless otherwise indicated on plans. (See Specification 13). Beds to be mulched with minimum 2" and maximum 3" of composted, double-shredded hardwood mulch throughout.
- Positive drainage shall be maintained on planting beds (minimum 2 percent slope).
- Bed preparation shall be as follows: Till into a minimum depth of 6" 1 yard of Compro or Leafgro per 200 SF of planting bed, and 1 yard of topsoil per 100 SF of bed. Add 3 lbs of standard 5-10-5 fertilizer per cubic yard of planting mix and till. Ericaceous plants (Azaleas, Rhododendrons, etc.); top dress after planting with iron sulfate or comparable product according to package directions. Taxus baccata 'Repandans' (English weeping yew); top dress after planting with 1/4 to 1/2 cup lime each.
- Planting mix: For trees not in a prepared bed, mix 50% Compro or Leafgro with 50% soil from tree hole to use as backfill, see tree planting detail.
- Weed & insect control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. For tree planting, apply a pre-emergent on top of soil and root ball before mulching. Caution: For areas to be planted with a ground cover, be sure to carefully check the chemical used to assure its adaptability to the specific groundcover to be treated. Maintain the mulch weed-free for the extent of the warranty period. Under no circumstances is a pesticide containing chlorpyrifos to be used as a means of pest control.
- Water: All plant material planted shall be watered thoroughly the day of planting. All plant material not yet planted shall be properly protected from drying out until planted. At a minimum, water unplanted plant material daily and as necessary to avoid desiccation.
- Pruning: Do not heavily prune trees and shrubs at planting. Prune only broken, dead, or diseased branches.
- All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded, grass seed planted, and covered with straw mulch.

**NOTES:**

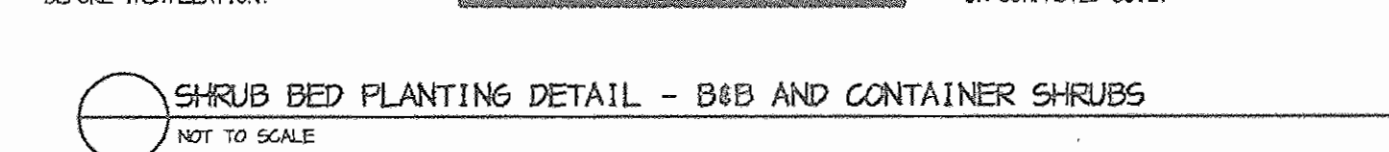
- SELECT ONLY NURSERY STOCK WITH A SINGLE LEADER UNLESS OTHERWISE SPECIFIED ON PLAN. PLANTS WITH CO-DOMINANT, MISSING, OR DAMAGED LEADERS SHALL BE REJECTED.
- SPACE TREES ONLY IF RECOMMENDED ON THE PLANT SCHEDULE OR UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT. STAKING DETAIL SHOWN ONLY IF RECOMMENDED.
- DIG PLANTING PIT THICE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5".



**EVERGREEN B&B TREE PLANTING DETAIL**  
NOT TO SCALE

**NOTES:**

- SEE PLANTING SPECIFICATIONS FOR PREPARATION OF PLANTING BED.
- DO NOT HEAVILY PRUNE THE SHRUB AT PLANTING. PRUNE ONLY BROKEN, DAMAGED, OR DISEASED BRANCHES.
- PLANTING PIT 1/2\"/>



**SHRUB BED PLANTING DETAIL - B&B AND CONTAINER SHRUBS**  
NOT TO SCALE

**SCHEDULE D-STORMWATER MANAGEMENT AREA LANDSCAPING**

S. N. M. BOND PERIMETER	
LANDSCAPE TYPE	C
LINEAR FEET OF TOTAL PERIMETER	686' ±
CREDIT FOR EX. VEGETATION (NO OR YES & %)	NO
CREDIT FOR OTHER PROP. LANDSCAPING (NO OR YES & %)	NO
LINEAR FEET OF REMAINING PERIMETER	686' ±
NUMBER OF TREES REQUIRED:	
SHADE TREES	17
EVERGREEN TREES	34
NUMBER OF PLANTS PROVIDED	
SHADE TREES	14
EVERGREEN TREES	34
OTHER TREES (2:1 SUBSTITUTION, 50% MAX.)	30
SHRUBS (10:1 SUBSTITUTION)	30

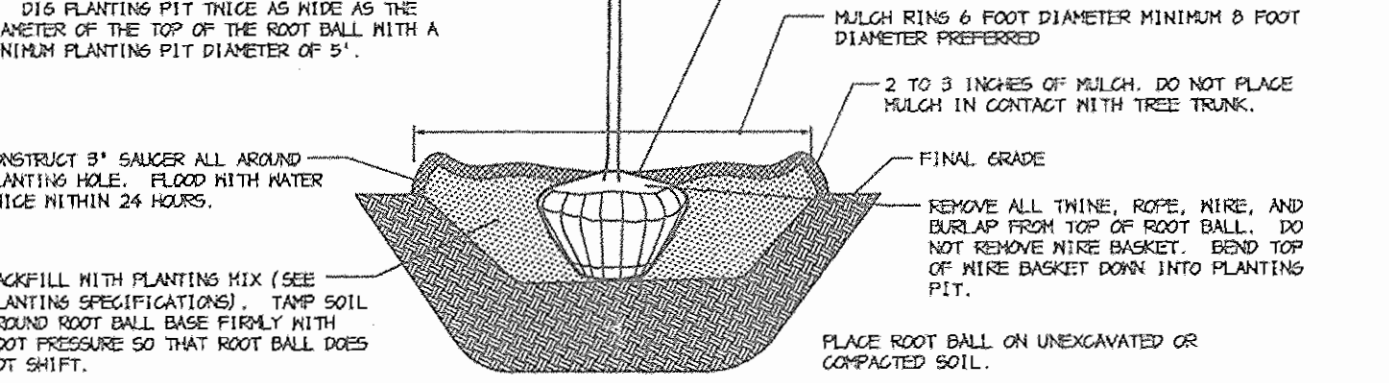
SUBSTITUTION NOTES:  
 (30) SHRUBS WERE SUBSTITUTED FOR (3) SHADE TREES.

**STORM WATER MANAGEMENT AREA PLANT LIST**

KEY	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
AR	6	ACER RUBRUM 'RED SUNSET' RED SUNSET RED MAPLE	2.5'-3' CAL	B&B	PLANT AS SHOWN
QL	8	QUERCUS PALUSTRIS PIN OAK	2.5'-3' CAL.	B&B	PLANT AS SHOWN
IO	20	ILEX OPACA AMERICAN HOLLY	5'-6' HT.	B&B	PLANT AS SHOWN
PS	14	PINUS STROBUS EASTERN WHITE PINE	6'-8' HT.	B&B	PLANT AS SHOWN
AG	12	ABELIA GRANDIFLORA GLOSSY ABELIA	2.5'-3' HT.	B&B	PLANT AS SHOWN
VR	18	VIBURNUM RHYTIDOPHYLLUM LEATHERLEAF VIBURNUM	2.5'-3' HT.	B&B	PLANT AS SHOWN

**NOTES:**

- DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-BRANCHING LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR THICK AND LATERAL BRANCHES MAY BE PRUNED. HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
- SPACE TREES ONLY IF RECOMMENDED ON THE PLANT SCHEDULE OR UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT. STAKING DETAIL SHOWN ONLY IF RECOMMENDED.
- DIG PLANTING PIT THICE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5".



**DECIDUOUS B&B TREE PLANTING DETAIL**  
NOT TO SCALE

**GENERAL NOTES:**

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$48,240. 07 SHADE TREES @ \$900 = \$63,000 154 EVERGREEN TREES @ \$150 = \$23,100 143 SHRUBS @ \$90 = \$12,870
- THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- ALL MATERIAL SELECTED SHALL BE EQUAL TO OR BETTER THAN THE REQUIREMENTS OF THE "USA STANDARD FOR NURSERY STOCK", LATEST EDITION, AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- ALL MATERIAL SHALL BE PLANTED IN ACCORDANCE WITH THE MINIMUM STANDARDS LISTED IN THE LATEST EDITION OF "LANDSCAPE SPECIFICATION GUIDELINES" PUBLISHED BY THE LANDSCAPE CONTRACTORS ASSOCIATION.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS SHALL BE OF THE PROPER HEIGHT AND/OR SPREAD REQUIREMENTS IN ACCORDANCE WITH THIS PLAN AND THE HOWARD COUNTY LANDSCAPE MANUAL.
- NO SUBSTITUTIONS OR RELOCATION OF PLANTS MAY BE MADE WITHOUT PRIOR APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING OF HOWARD COUNTY. ANY DEVIATION FROM THIS LANDSCAPE PLAN MAY RESULT IN A REQUIREMENT FOR SUBMITTAL OF AN OFFICIAL "REDLINE REVISION" TO THE SITE DEVELOPMENT PLAN(S) AND/OR DENIAL IN THE RELEASE OF LANDSCAPE SURETY.
- NO SWM LANDSCAPING REQUIRED DUE TO UNDERGROUND SWM FACILITY.

**DEVELOPER'S/BUILDER'S CERTIFICATE:**

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

*John R. Glassman* 10/13/03  
 SIGNATURE DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

*John B. ...* 11-23-03  
 COUNTY HEALTH OFFICER DATE  
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*...* 11/20/03  
 DIRECTOR DATE

*...* 10/22/03  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*...* 11/20/03  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

2-19-08 2 ADD BUILDING E, ADD PARKING AND LANDSCAPING  
 3-31-09 1 REMOVED SWM BED LANDSCAPING AND REUSED PERIMETER.  
 DATE NO. REVISION

OWNER/DEVELOPER:  
 JPG PROPERTIES  
 3799 BROTHERS DELIGHT ROAD  
 MANCHESTER, MARYLAND 21102  
 ATTN: JOHN GLASSMAN  
 (410)442-1914

PROJECT  
 JPG PROPERTIES

AREA  
 TAX MAP 15 BLOCK 4  
 PARCEL 13 ZONED B-2  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE  
 LANDSCAPE SCHEDULES AND DETAILS

Patton Harris Rust & Associates, pc  
 Engineers, Surveyors, Planners, Landscape Architects.

*PHRA*  
 8818 Centre Park Drive  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

10.10.03 DATE DESIGNED BY: K.L.S.

CHECKED BY: K.L.S.

PROJECT NO: 22478

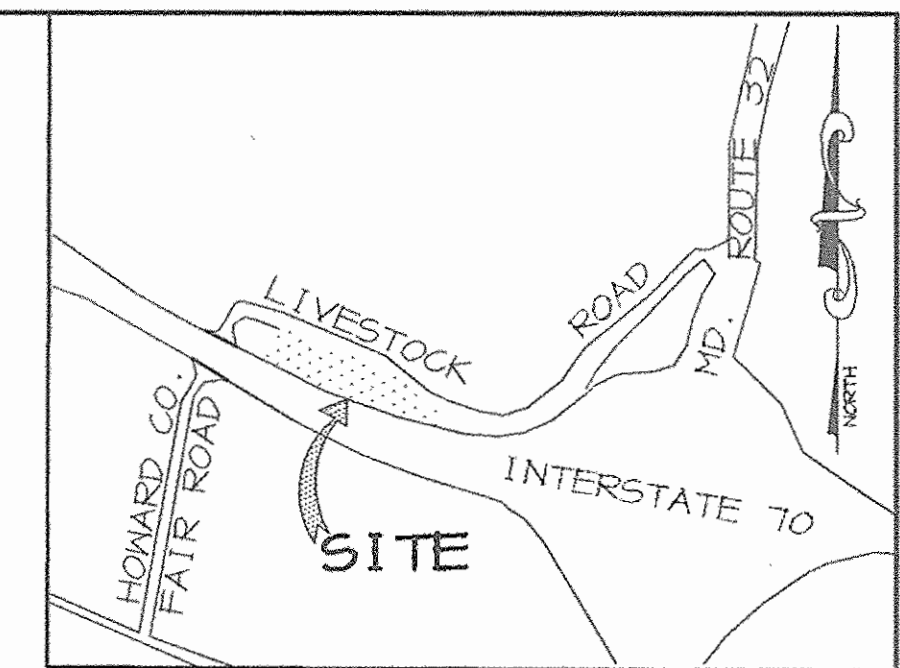
DATE: OCTOBER 10, 2003

SCALE: AS SHOWN

DRAWING NO. 13 OF 17

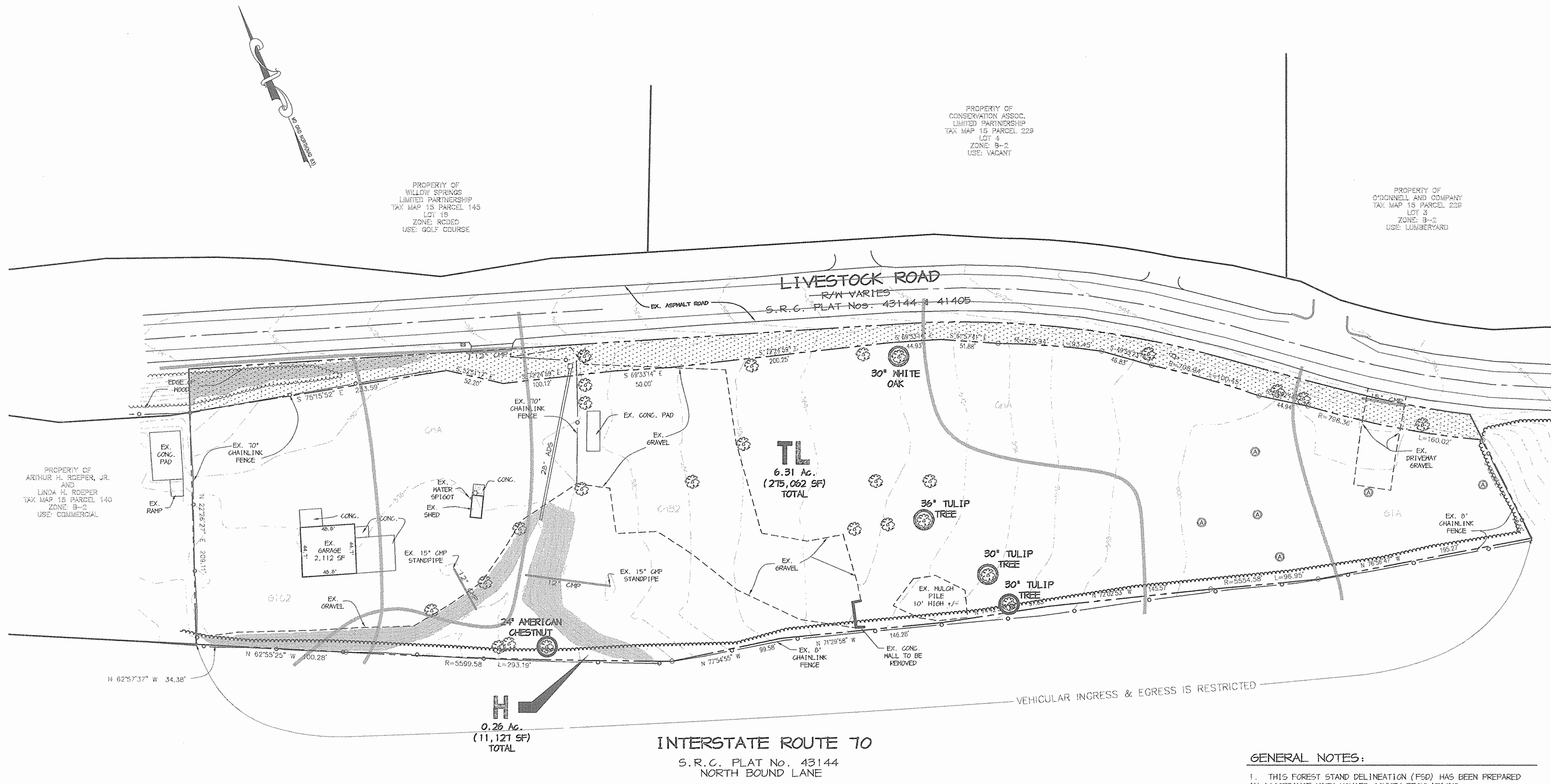
SDP-03-87





VICINITY MAP  
SCALE: 1"=1200'

LEGEND	
EX. TREE	
EX. TREELINE	
PROPERTY LINE	
ROW TO BE ACQUIRED FROM HOWARD COUNTY	
SOIL DIVISION LINE	
SOIL TYPE	
SLOPES: 25% & GREATER	
CONTOUR LINES	
EX. FENCE	
EX. WELL	
PLANT COMMUNITY TYPE	
SPECIMEN TREES (≥ 30" DIAM.)	



PROPERTY OF  
CONSERVATION ASSOC.  
LIMITED PARTNERSHIP  
TAX MAP 15 PARCEL 229  
LOT 4  
ZONE: B-2  
USE: VACANT

PROPERTY OF  
WILLOW SPRINGS  
LIMITED PARTNERSHIP  
TAX MAP 15 PARCEL 145  
LOT 18  
ZONE: RODEO  
USE: GOLF COURSE

PROPERTY OF  
O'DONNELL AND COMPANY  
TAX MAP 15 PARCEL 229  
LOT 3  
ZONE: B-2  
USE: LUMBERYARD

PROPERTY OF  
ARTHUR H. ROEPER, JR.  
AND  
LINDA H. ROEPER  
TAX MAP 15 PARCEL 140  
ZONE: B-2  
USE: COMMERCIAL

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
*David T. Dows* 11/13/03  
COUNTY HEALTH OFFICER DATE  
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*Wanda K. Leight* 1/20/03  
DIRECTOR DATE  
*John P. Williams* 10/29/03  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*J. Hamilton* 11/20/03  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

2-19-03 1 CHANGED SHEET NUMBER  
DATE NO. REVISION

OWNER/DEVELOPER:  
JPG PROPERTIES  
3799 BROTHERS DELIGHT ROAD  
MANCHESTER, MARYLAND 21102  
ATTN: JOHN GLASSMAN  
(410)442-1914

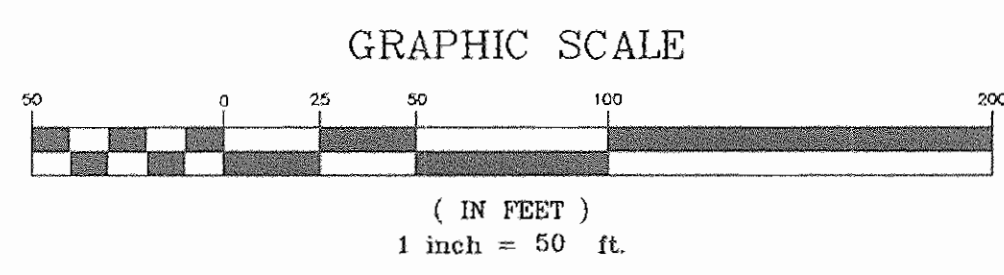
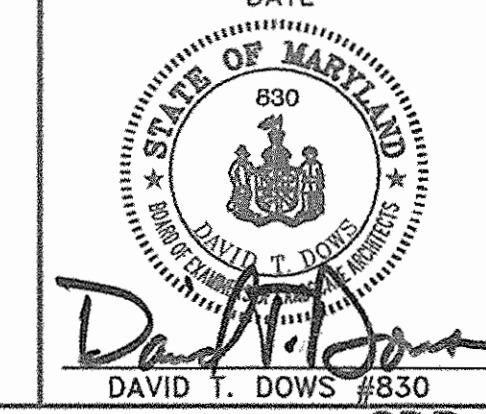
PROJECT  
JPG PROPERTIES

AREA  
TAX MAP 15 BLOCK 4  
PARCEL 13 ZONED B-2  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE  
FOREST STAND DELINEATION

Patton Harris Rust & Associates, PC  
Engineers, Surveyors, Planners, Landscape Architects.  
**PHRA**  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

10.10.03  
DATE  
DESIGNED BY: GTH  
DRAWN BY: GTH  
CHECKED BY: DTD  
PROJECT NO: 22478  
L200FSD.DWG  
DATE: OCTOBER 10, 2003  
SCALE: 1"=50'  
DRAWING NO. 14 OF 17



**SITE CHARACTERISTICS:**

CURRENT SITE AREA	5.45 ACRES
R.O.W. TO BE ACQUIRED	0.62 ACRES
GROSS SITE AREA	6.57 ACRES
FORESTED AREA	0.00 ACRES
100 YEAR FLOODPLAIN AREA	0.00 ACRES
NET TRACT AREA	6.57 ACRES
NET TRACT AREA FOREST	0.00 ACRES

**SPECIMEN TREES:**

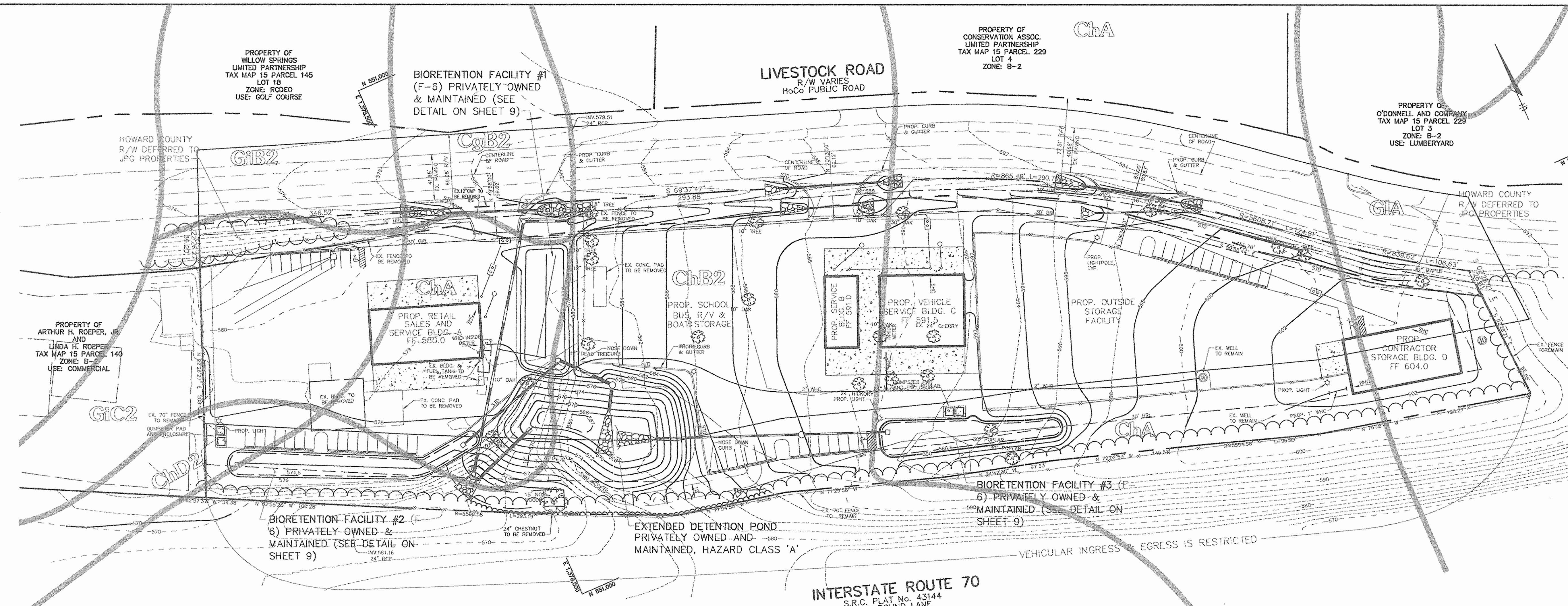
1. 30" WHITE OAK
2. 36" TULIP TREE
3. 30" TULIP TREE
4. 30" TULIP TREE

**PLANT COMMUNITIES:**

HEDGEROW (H)	0.26 ACRES
TREES/LAWN/IMPERVIOUS (TL)	6.31 ACRES
TOTAL	6.57 ACRES

- GENERAL NOTES:**
- THIS FOREST STAND DELINEATION (FSD) HAS BEEN PREPARED IN ACCORDANCE WITH HOWARD COUNTY REGULATIONS.
  - THIS FSD IS BASED ON A FIELD INVESTIGATION BY GRAHAM HUBBARD, ENVIRONMENTAL TECHNICIAN OF PATTON HARRIS RUST & ASSOCIATES, PC WITH ASSISTANCE FROM KELLY SEEICO, PLANNER ON AUGUST 14, 2002.
  - TREELINES SHOWN ARE BASED ON AERIAL SURVEY AND FIELD APPROXIMATION.
  - THIS SITE CONTAINS NO HYDRIC SOILS OR SOILS WITH HYDRIC INCLUSIONS.
  - NO CRITICAL HABITATS OF RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED.
  - ONE RARE PLANT SPECIES, A 24" DBH AMERICAN CHESTNUT, IS LOCATED ON SITE. OTHERWISE, NO TREES, SHRUBS, OR PLANTS IDENTIFIED AS THREATENED OR ENDANGERED SPECIES WERE OBSERVED.
  - THERE ARE NO KNOWN CEMETERY OR BURIAL PLOTS LOCATED ON THE SITE, ACCORDING TO THE HOWARD COUNTY HISTORIC & CEMETERY SITE MAP.
  - THIS SITE CONTAINS NO WETLANDS OR 100-YEAR FLOODPLAIN. STREAMS LOCATIONS ARE AS SHOWN ON THIS PLAN.
  - STRUCTURES ON THE SITE EXIST AS SHOWN. THE PROPERTY IS NOT LISTED IN THE HOWARD COUNTY HISTORIC BUILDING REGISTER.
  - SPECIMEN TREES ARE PRESENT ON THE SITE AS SHOWN ON THE PLAN.





LEGEND	
EX. FRESHLINE	[Symbol]
PROP. FRESHLINE	[Symbol]
PROPERTY LINE	[Symbol]
WETLANDS AND 25' BUFFER	[Symbol]
PRESIDENTIAL STREAM AND 50' BUFFER	[Symbol]
100-YEAR FLOODPLAIN	[Symbol]
CONTOUR LINES	[Symbol]
EX. BUILDING	[Symbol]
PROP. BUILDING	[Symbol]
FOREST CONSERVATION EASEMENT	[Symbol]
LIMIT OF DISTURBANCE	[Symbol]
STEEP SLOPES 15%-25%	[Symbol]
STEEP SLOPES 25%+	[Symbol]

SEE SHEET 17 FOR REVISED LAYOUT!

**Howard County Forest Conservation Worksheet**

Project Name: **Livestock Road**  
 State File #: \_\_\_\_\_  
 Date: **December 16, 2002**

Net Tract Area	Acres
A. Total Tract Area	A = 6.57
B. Other Deductions	B = 0.00
C. Net Tract Area (A-B-C)	C = 6.57
<b>Land Use Category: Commercial</b>	
D. Afforestation Threshold (Net Tract Area X .15%)	D = 0.99
E. Conservation Threshold (Net Tract Area X .15%)	E = 0.99
<b>Existing Forest Cover</b>	
F. Existing Forest Cover within the Net Tract Area	F = 0.00
G. Area of Forest Above Conservation Threshold	G = 0.00
If the Existing Forest Cover (F) is greater than Conservation Threshold (G), then G = Existing Forest Cover (F) - Conservation Threshold (E); Otherwise G = 0	
<b>Break Even Point</b>	
H. Break Even (Amount of forest that must be retained so that no mitigation is required)	H = FALSE
(1) If the area of forest above the Conservation Threshold (G) is greater than zero, then $H = (0.2 \times \text{the area of forest above Conservation Threshold (G)}) + \text{the Conservation Threshold (E)}$	
(2) If the area of forest above the Conservation Threshold (G) is equal to zero, then H = Existing Forest Cover (F)	
I. Forest Clearing Permitted Without Mitigation	I = 0.00
I = Existing Forest Cover (F) - Break Even Point (H)	
<b>Proposed Forest Clearing</b>	
J. Total Area of Forest to be Cleared	J = 0.00
K. Total Area of Forest to be Retained	K = 0.00
K = Existing Forest Cover (F) - forest to be cleared (J)	
<b>Planting Requirements</b>	
If the Total Area of Forest to be Cleared (J) is at or above the Break Even Point (H), no planting is required and no further calculations are necessary (L=0, M=0, N=0, P=0); If not, calculate the planting requirement below:	
L. Reforestation for Clearing Above the Conservation Threshold	L = 0.00
(1) If the total area of forest to be retained (K) is greater than the Conservation Threshold (E), then $L = \text{the area of forest to be cleared (J)} \times 0.25$ ; or	
(2) If the forest to be retained (K) is less than or equal to the Conservation Threshold (E), then $L = \text{the area of forest above Conservation Threshold (G)} \times 0.25$	
M. Reforestation for Clearing Below the Conservation Threshold	M = 0.00
(1) If Existing Forest Cover (F) is greater than Conservation Threshold (E) and the forest to be retained (K) is less than or equal to the Conservation Threshold (E), then $M = 2.0 \times (\text{the Conservation Threshold (E)} - \text{the forest to be retained (K)})$	
(2) If Existing Forest (F) is less than or equal to the Conservation Threshold (E), then $M = 2.0 \times \text{Forest to be cleared (J)}$	
N. Credit for Retention Above the Conservation Threshold	N = 0.00
If the area of forest to be retained (K) is greater than the Conservation Threshold (E), then $N = K - E$	
P. Total Reforestation Required	P = 0.00
Q. Total Afforestation Required	Q = 0.99
(1) If Existing Forest Cover (F) is less than the Afforestation Threshold (D) then $Q = \text{the Afforestation Threshold (D)} - \text{the Existing Forest Cover (F)}$	
R. Total Planting Requirement	R = P + Q
	R = 0.99

**GENERAL NOTES:**

- THIS PLAN HAS BEEN PREPARED USING FIELD RUN TOPOGRAPHY.
- NO CRITICAL HABITATS OF THREATENED OR ENDANGERED SPECIES WERE OBSERVED. A RARE 24" AMERICAN CHESTNUT IN POOR CONDITION IS LOCATED ON SITE.
- NO TREES, SHRUBS, OR PLANTS IDENTIFIED AS RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED.
- THERE ARE NO KNOWN CEMETERIES OR BURIAL PLOTS LOCATED ON THE SITE, ACCORDING TO THE HOWARD COUNTY CEMETERIES INVENTORY.
- ONE EXISTING STRUCTURE IS PRESENT ON THE SITE AS SHOWN.
- THIS SITE CONTAINS NO HYDRIC SOILS AND NO SOILS WITH HYDRIC INCLUSIONS. CHESTER SILT LOAM (ChD2), CHESTER SILT LOAM (ChA), CHESTER SILT LOAM (ChB2), GLENELG LOAM (G1A), AND GLENELG LOAM (G1C2) ARE PRESENT ON THE SITE.
- THE FSD, DATED AUGUST 21, 2002, WAS PREPARED BY PATTON HARRIS RUST & ASSOCIATES IN CONJUNCTION WITH THIS PROJECT.
- JUSTIFICATION FOR FOREST REMOVAL: IN ORDER TO PROVIDE PARKING AND STORMWATER MANAGEMENT, SOME TREES WILL NEED TO BE REMOVED. HOWEVER, NO FOREST EXISTS ON SITE THEREFORE NO FOREST WILL BE CLEARED.
- THE HOWARD COUNTY FOREST CONSERVATION MANUAL SUPERCEDES ANY DISCREPANCIES BETWEEN THE MANUAL AND THESE PLANS.
- THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION.
- THE FOREST CONSERVATION OBLIGATION FOR THE PROPOSED SITE DEVELOPMENT HAS BEEN MET WITH PAYMENT OF FEE-IN-LIEU IN THE AMOUNT OF \$21,562.20 FOR THE OBLIGATION OF .99 AC.

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
*Patton Harris Rust & Associates, PC* 11-18-02  
 COUNTY HEALTH OFFICER DATE  
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*Mark A. Leight* 1/20/03  
 DIRECTOR DATE

*John P. ...* 10/21/02  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Patton Harris Rust & Associates, PC* 11/20/02  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

2-19-03 | ADDED NOTE / CHANGED SHEET NUMBER  
 DATE NO. REVISION

OWNER/DEVELOPER:  
 JPG PROPERTIES  
 3799 BROTHERS DELIGHT ROAD  
 MANCHESTER, MARYLAND 21102  
 ATTN: JOHN GLASSMAN  
 (410)442-1914

PROJECT  
**JPG PROPERTIES**

AREA TAX MAP 15 BLOCK 4  
 PARCEL 13 ZONED B-2  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

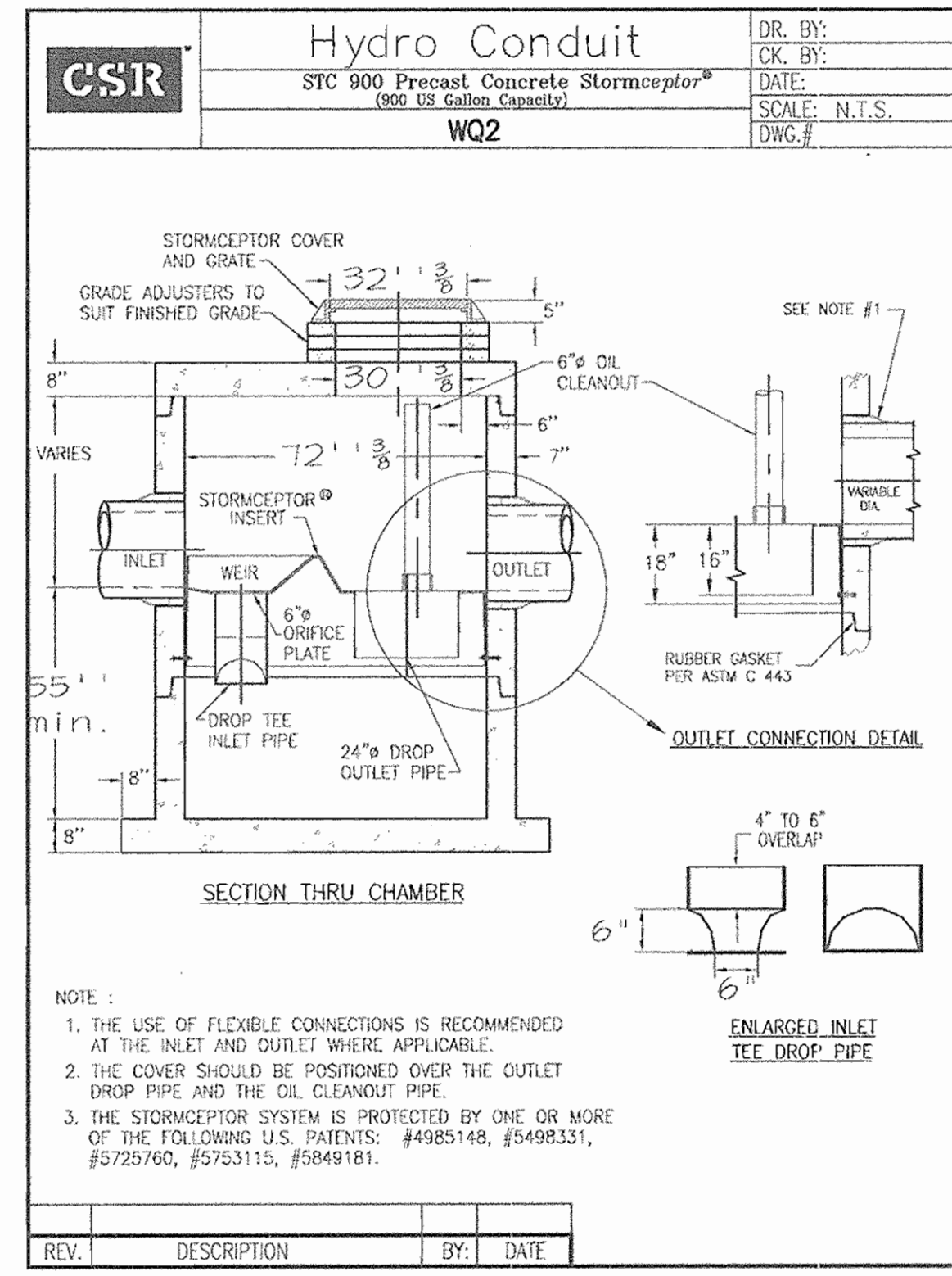
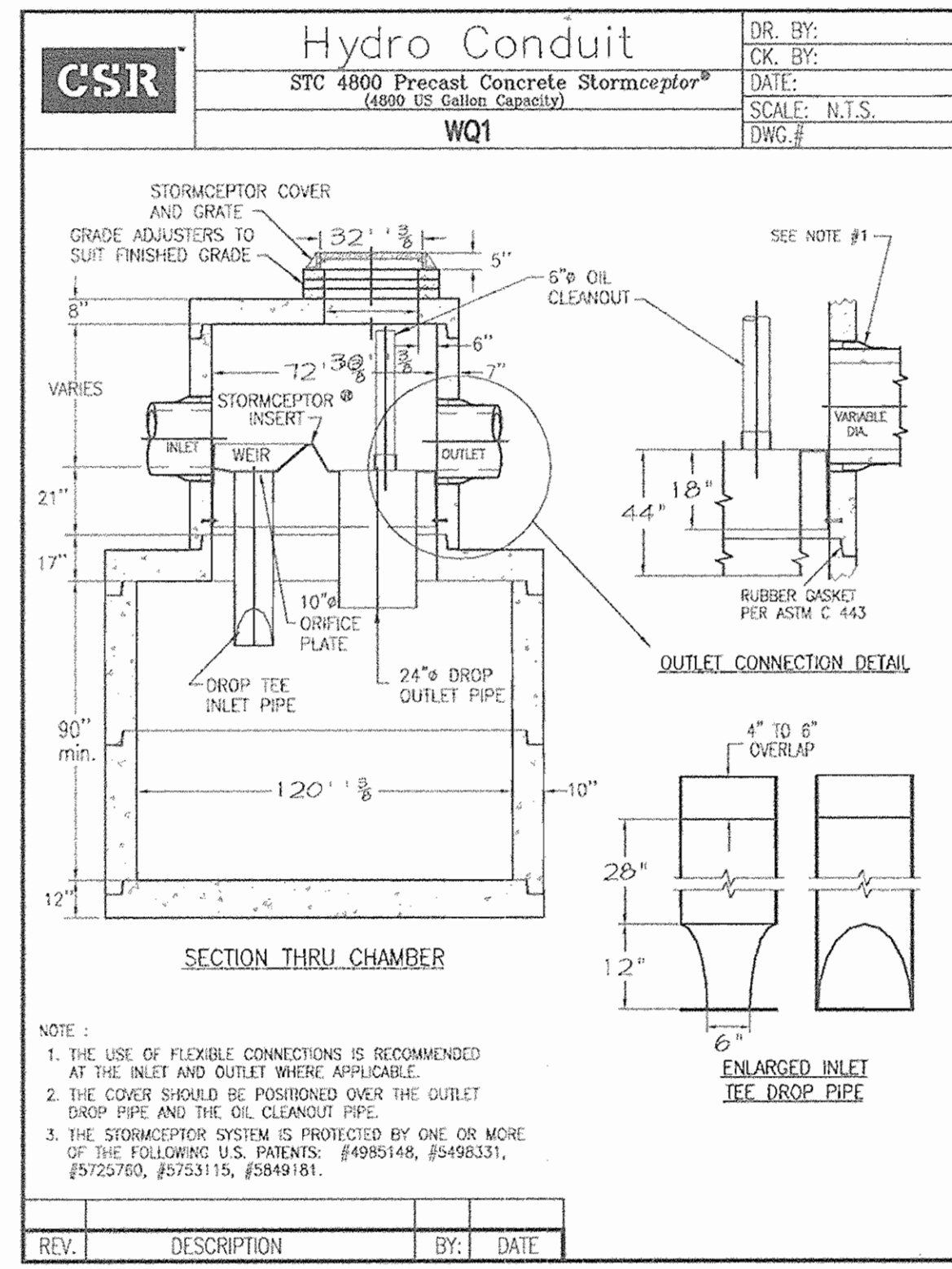
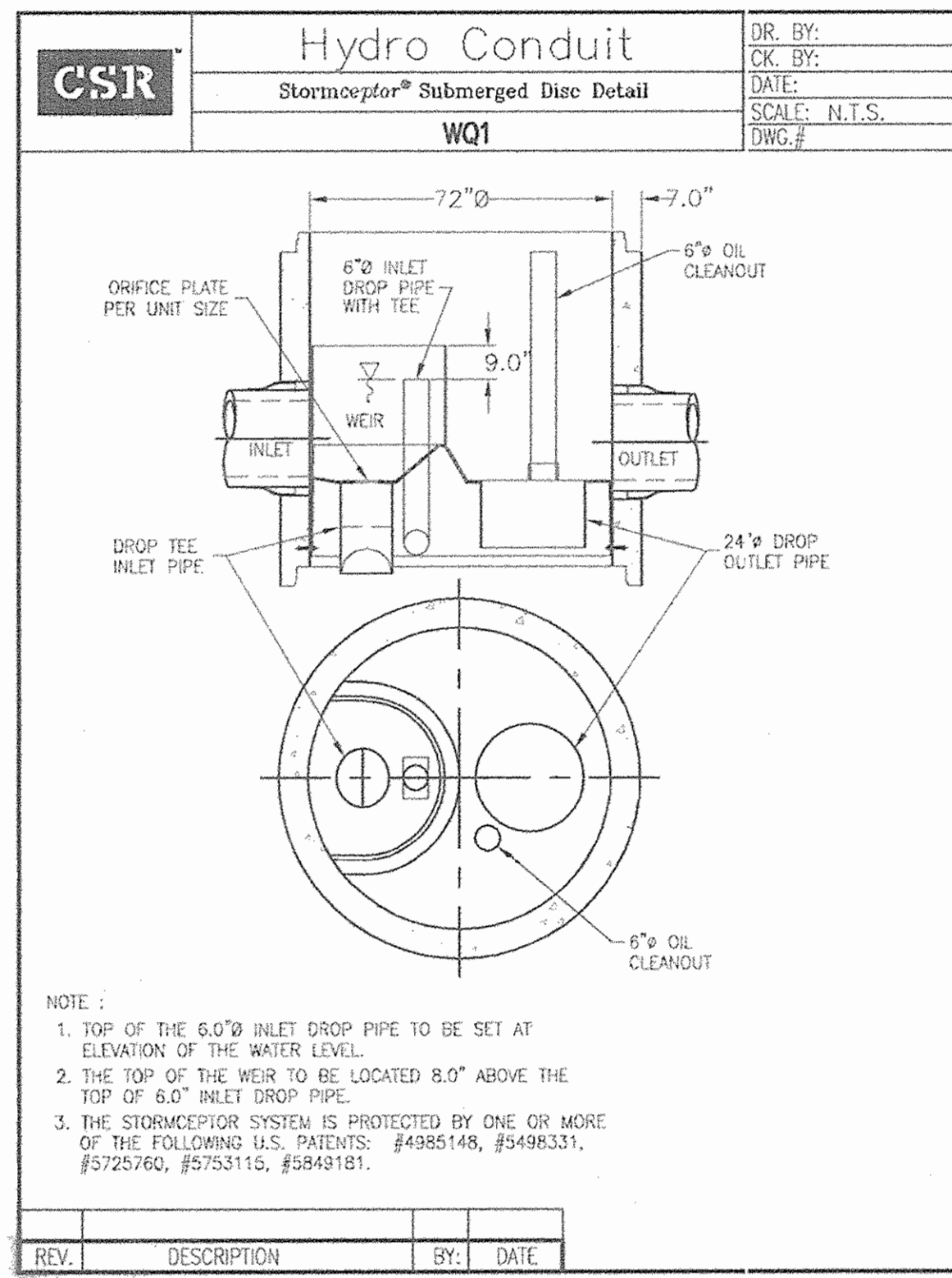
TITLE  
**FOREST CONSERVATION PLAN**

**Patton Harris Rust & Associates, PC**  
 Engineers, Surveyors, Planners, Landscape Architects.  
 8818 Centre Park Drive  
 Columbia, MD 21045  
 T 410.997.6900  
 F 410.997.6282

10-10-03  
 DATE  
 DESIGNED BY: KLS  
 DRAWN BY: KLS  
 CHECKED BY: PJS  
 PROJECT NO: 22478  
 L300FCP  
 DATE: JANUARY 3, 2003  
 SCALE: 1" = 50'  
 DRAWING NO. 15 OF 17

*David T. Dows*  
 DAVID T. DOWS #830  
 SDP-03-87





**Precast Concrete Stormceptor® Order Request Form**

**CONTRACTOR INFORMATION**

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_  
State \_\_\_\_\_  
Zip \_\_\_\_\_  
Contact \_\_\_\_\_  
Phone \_\_\_\_\_  
Fax \_\_\_\_\_

**GENERAL/PRIME CONTRACTOR**

Name \_\_\_\_\_  
Phone \_\_\_\_\_  
Fax \_\_\_\_\_

**OWNER INFORMATION**

Name \_\_\_\_\_  
Phone \_\_\_\_\_  
Fax \_\_\_\_\_

**Stormceptor® Model**

450	<input type="checkbox"/>	2400	<input type="checkbox"/>	7200	<input type="checkbox"/>
900	<input type="checkbox"/>	3600	<input type="checkbox"/>	11000*	<input type="checkbox"/>
1200	<input type="checkbox"/>	4800	<input type="checkbox"/>	13000*	<input type="checkbox"/>
1800	<input type="checkbox"/>	6000	<input type="checkbox"/>	16000*	<input type="checkbox"/>

Manhole Number **WQ-1**  
Top Elevation (ft) **576.5**  
Inlet Pipe Invert (ft) **569.40**  
Outlet Pipe Invert (ft) **569.30**  
#2 Inlet Pipe Invert (ft) **-**  
#2 Outlet Pipe Invert (ft) **-**  
Pipe Type **HDPE**  
Inlet Pipe Inside Diameter (ID) **30"**  
Inlet Pipe Outside Diameter (OD) **36.1"**  
Outlet Pipe Inside Diameter (ID) **30"**  
Outlet Pipe Outside Diameter (OD) **36.1"**

\* for use with series units only

Project Name \* **JPG PROPERTIES**  
Bonded? \_\_\_\_\_ Bonding Company \_\_\_\_\_ Telephone \_\_\_\_\_ Bond # \_\_\_\_\_  
Tax Exempt? \_\_\_\_\_ Approximate time frame of delivery (weeks) \_\_\_\_\_  
Delivery Address Street (For Permits) \* **12951 LIVESTOCK ROAD**  
City \* \_\_\_\_\_ State \* **MD** Zip Code \* \_\_\_\_\_  
Designer Company **PATTON HARRIS RUST & ASSOCIATES**  
Designer Contact **AIMEE REMINGTON** Phone **410-997-8900** Fax **410-997-9282**

PLEASE FILL OUT COMPLETELY AND FAX TO:  
ATTN: BRIAN GINGRICH FAX: (301)698-5351, PHONE: (800)414-7960 EXT. 240

**Precast Concrete Stormceptor® Order Request Form**

**CONTRACTOR INFORMATION**

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_  
State \_\_\_\_\_  
Zip \_\_\_\_\_  
Contact \_\_\_\_\_  
Phone \_\_\_\_\_  
Fax \_\_\_\_\_

**GENERAL/PRIME CONTRACTOR**

Name \_\_\_\_\_  
Phone \_\_\_\_\_  
Fax \_\_\_\_\_

**OWNER INFORMATION**

Name \_\_\_\_\_  
Phone \_\_\_\_\_  
Fax \_\_\_\_\_

**Stormceptor® Model**

450	<input type="checkbox"/>	2400	<input type="checkbox"/>	7200	<input type="checkbox"/>
900	<input checked="" type="checkbox"/>	3600	<input type="checkbox"/>	11000*	<input type="checkbox"/>
1200	<input type="checkbox"/>	4800	<input type="checkbox"/>	13000*	<input type="checkbox"/>
1800	<input type="checkbox"/>	6000	<input type="checkbox"/>	16000*	<input type="checkbox"/>

Manhole Number **WQ-2**  
Top Elevation (ft) **579.0**  
Inlet Pipe Invert (ft) **581.60**  
Outlet Pipe Invert (ft) **581.50**  
#2 Inlet Pipe Invert (ft) **-**  
#2 Outlet Pipe Invert (ft) **-**  
Pipe Type **HDPE**  
Inlet Pipe Inside Diameter (ID) **18"**  
Inlet Pipe Outside Diameter (OD) **21.1"**  
Outlet Pipe Inside Diameter (ID) **18"**  
Outlet Pipe Outside Diameter (OD) **21.1"**

\* for use with series units only

Project Name \* **JPG PROPERTIES**  
Bonded? \_\_\_\_\_ Bonding Company \_\_\_\_\_ Telephone \_\_\_\_\_ Bond # \_\_\_\_\_  
Tax Exempt? \_\_\_\_\_ Approximate time frame of delivery (weeks) \_\_\_\_\_  
Delivery Address Street (For Permits) \* **12951 LIVESTOCK ROAD**  
City \* \_\_\_\_\_ State \* **MD** Zip Code \* \_\_\_\_\_  
Designer Company **PATTON HARRIS RUST & ASSOCIATES**  
Designer Contact **AIMEE REMINGTON** Phone **410-997-8900** Fax **410-997-9282**

PLEASE FILL OUT COMPLETELY AND FAX TO:  
ATTN: BRIAN GINGRICH FAX: (301)698-5351, PHONE: (800)414-7960 EXT. 240

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

*Dennis Bonita* 11-13-03  
COUNTY HEALTH OFFICER DATE  
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*James K. Lough* 11/20/03  
DIRECTOR DATE  
*John Glassman* 10/21/03  
CHIEF, DEVELOPMENT ENGINEERING DIVISION gms DATE  
*John Glassman* 11/20/03  
CHIEF, DIVISION OF LAND DEVELOPMENT W DATE

2-19-08 | CHANGED SHEET NUMBER  
DATE NO. REVISION

OWNER/DEVELOPER:  
JPG PROPERTIES  
3799 BROTHERS DELIGHT ROAD  
MANCHESTER, MARYLAND 21102  
ATTN: JOHN GLASSMAN  
(410)442-1914

PROJECT  
**JPG PROPERTIES**

AREA  
TAX MAP 15 BLOCK 4  
PARCEL 13 ZONED B-2  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE  
**WATER QUALITY DETAILS**

**Patton Harris Rust & Associates, pc**  
Engineers, Surveyors, Planners, Landscape Architects.

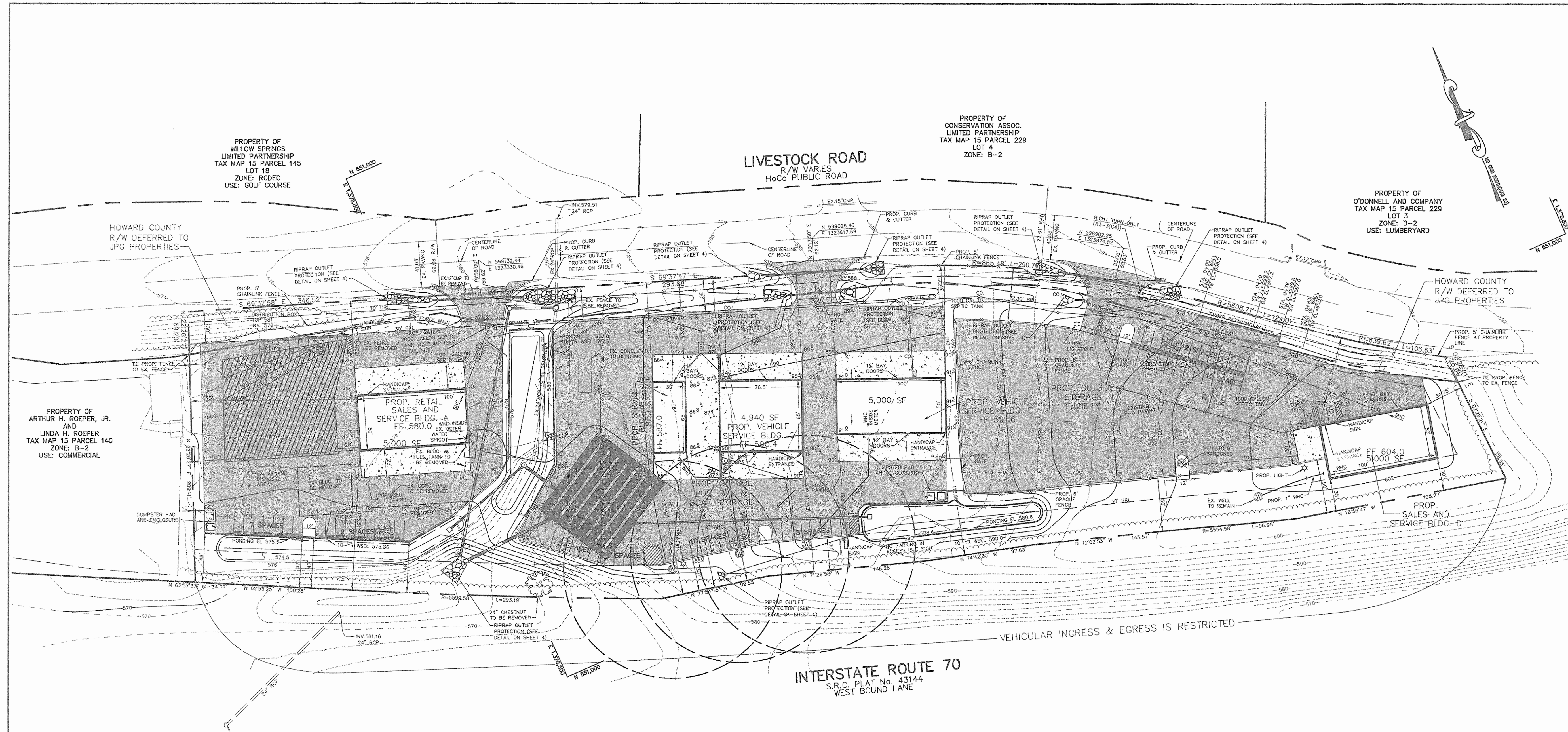
**PHRA**  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

10-13-03  
DATE  
DESIGNED BY : A.C.R.  
DRAWN BY : DAM  
CHECKED BY : C.J.R.  
PROJECT NO : 22478  
C900DE16.DWG  
DATE : OCTOBER 10, 2003  
SCALE : AS SHOWN  
DRAWING NO. 16 OF 17

CHRISTOPHER J. REID #19949  
SDP-03-87

P:\project\22478-1-01\Eng\Plans\C900DE16.dwg, Layout1, 10/10/2003 09:58:07 AM, HP750C3(S).pc3, Arch D - 24 x 36 in. (landscape), 1:1



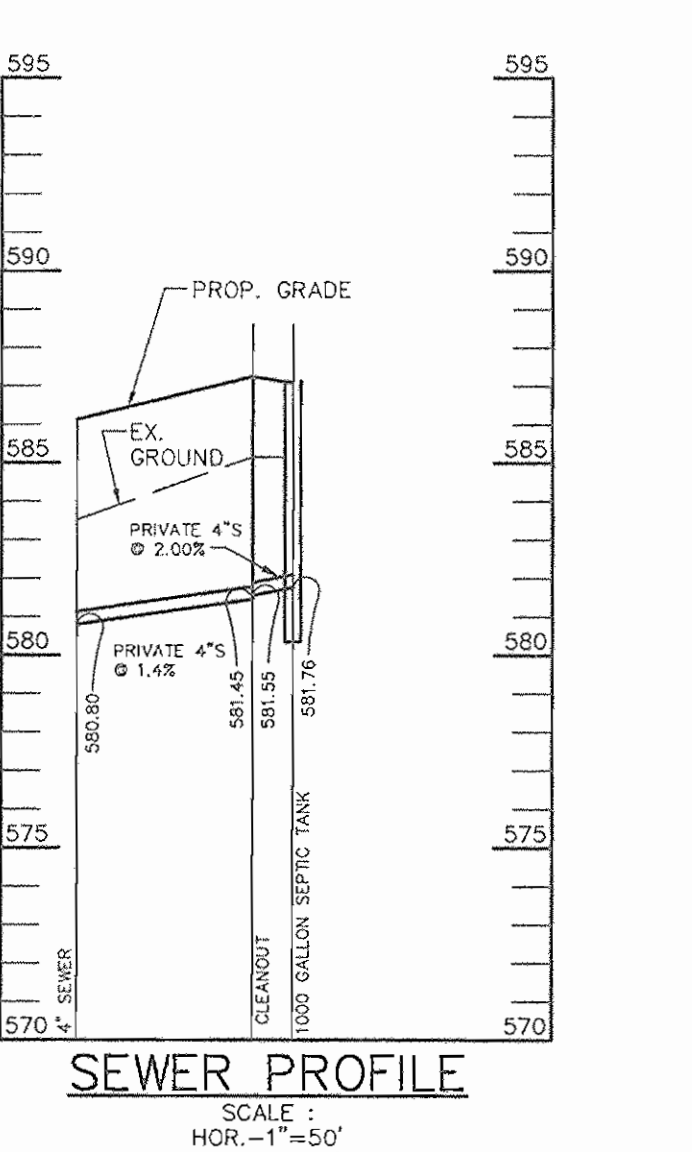
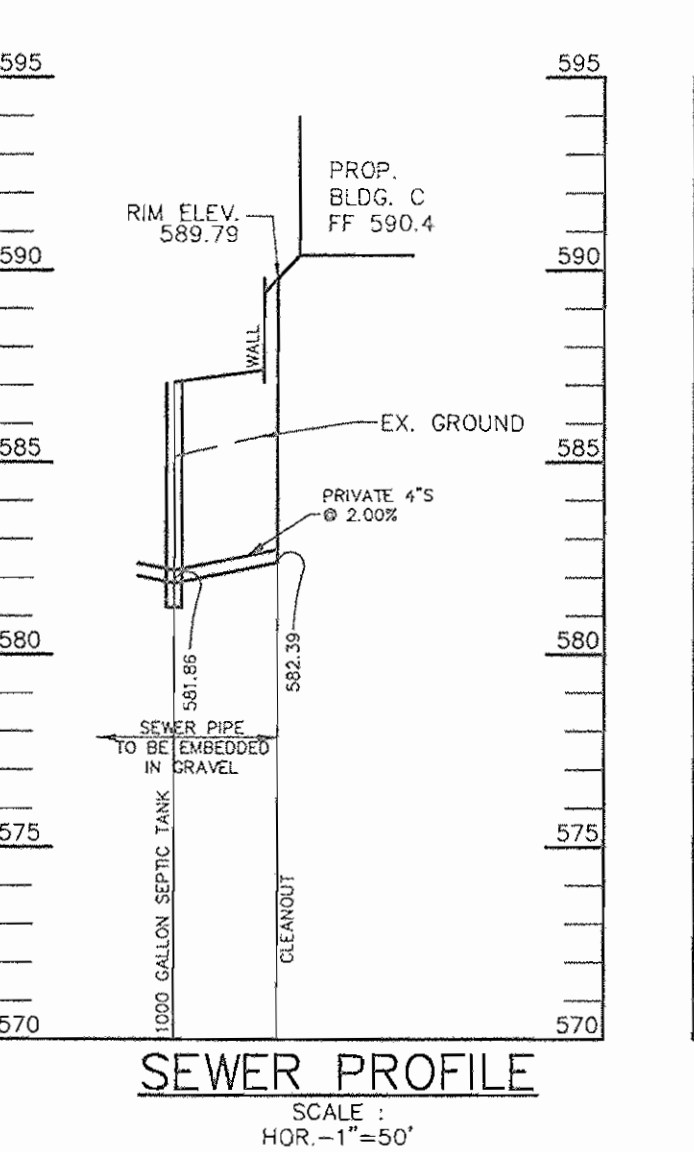
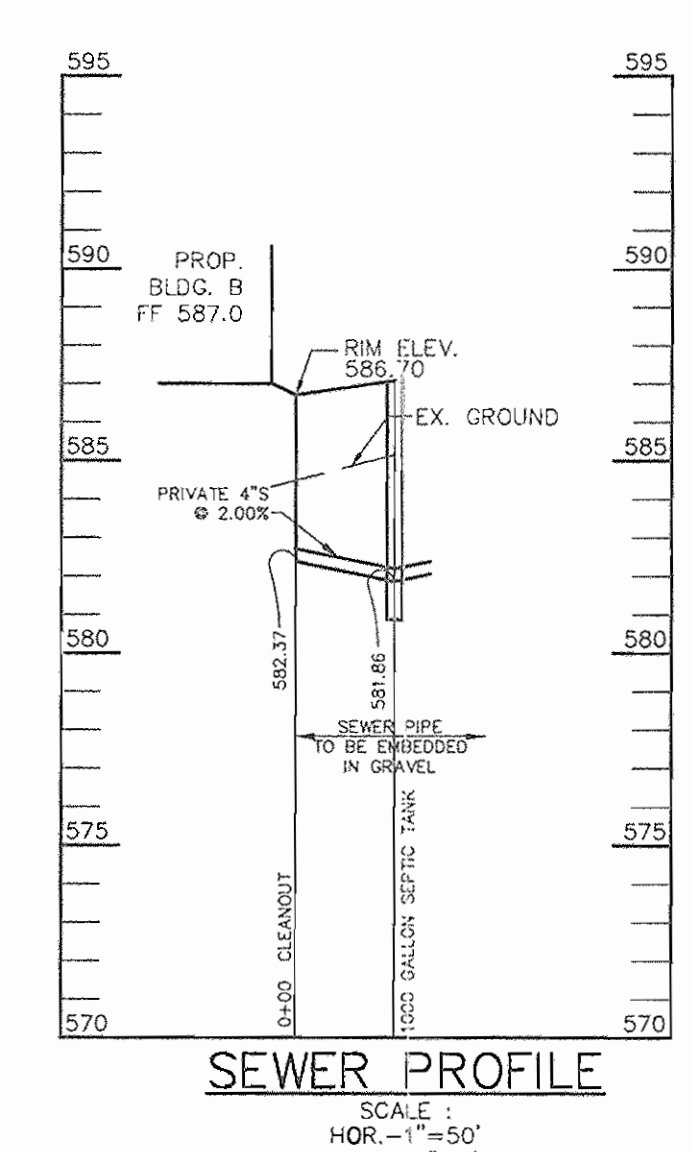
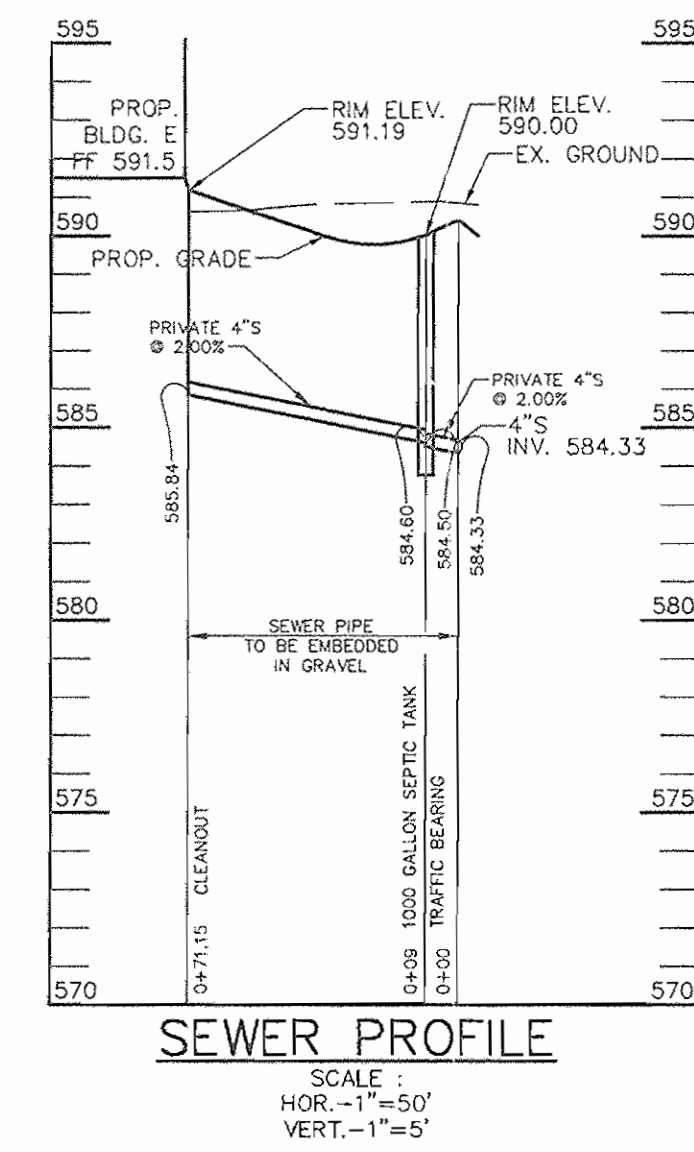


**LEGEND**

- EX. CONTOUR: --- 590 ---
- PROP. CONTOUR: --- 590 ---
- EX. TREELINE: ~~~~~
- PROP. TREELINE: ~~~~~
- PROP. SPOT ELEVATION: 91.0
- CURB & GUTTER: [Symbol]
- CONCRETE: [Symbol]
- P-3 PAVING: [Symbol]
- FENCE: [Symbol]
- PROP. LIGHT: [Symbol]
- VEHICULAR INGRESS AND EGRESS RESTRICTED: VI & ER
- BIORETENTION FACILITY PRIVATELY OWNED AND MAINTAINED: BRF

PROPOSED WELL AND 100' SETBACK: [Symbol]

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS	
<i>B. Wilson for Peter Brillemann</i>	2/26/08
COUNTY HEALTH OFFICER	DATE
HOWARD COUNTY HEALTH DEPARTMENT	1008
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Mark D. Craigie</i>	2/26/08
DIRECTOR	DATE
<i>Chris Demunier</i>	2/19/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Cindy Hamrick</i>	2/27/08
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
DATE NO.	REVISION
OWNER/DEVELOPER:	
JPG PROPERTIES 3799 BROTHERS DELIGHT ROAD MANCHESTER, MARYLAND 21102 ATTN: JOHN GLASSMAN (410)442-1914	
PROJECT	
JPG PROPERTIES	
AREA	
TAX MAP 15 BLOCK 4 PARCEL 13 ZONED B-2 3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE	
REVISED SITE DEVELOPMENT PLAN	
Patton Harris Rust & Associates, pc Engineers, Surveyors, Planners, Landscape Architects.	
PHRA 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282	
6/23/08	DESIGNED BY: PJS
	DRAWN BY: PJS
	CHECKED BY: PJS/AB
	PROJECT NO: 22478 SHEET 17.0WG
	DATE: FEBRUARY 13, 2008
	SCALE: 1" = 50'
	DRAWING NO. 17 OF 17



The purpose of this sheet is to replace sheet number 2.