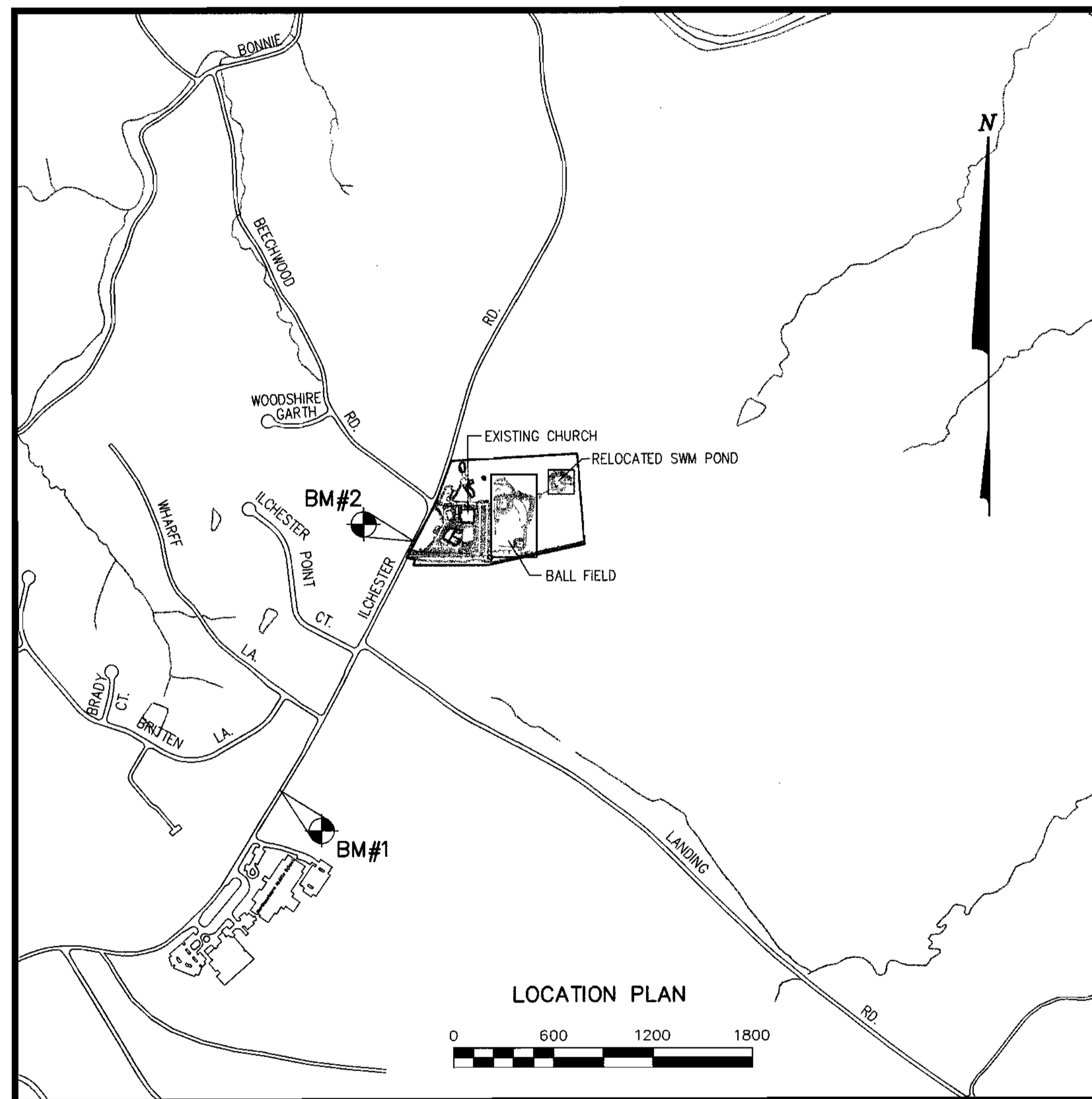


# SITE DEVELOPMENT PLAN OUR LADY OF PERPETUAL HELP BALL FIELD IMPROVEMENTS

## GENERAL NOTES

1. All construction shall be in accordance with the latest Howard County and MSHA Standards and Specifications.
2. The Contractor shall notify the Department of Public Works/Construction Inspection Division at (410) 313-1880 at least five (5) working days prior to the start of work.
3. The Contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
4. The Contractor shall notify the Howard County Department of Public Works, Bureau of Utilities at (410) 313-4900 at least five working days prior to starting any excavation.
5. Site area: 26.35 ACRES
6. Existing topography reflects field survey by Century Engineering, March, 2000.
7. Coordinates and bearings are based on the MD State Plane System (NAD '83).
8. Stormwater Management is addressed by relocating a SWM Pond designed under SDP-93-14. The Relocated SWM Pond, which will be privately owned and maintained, is an extended detention facility.
9. Existing water and sewer shown is public (Contract #'s: 10-1214, 10-1215 and 208-w). There is no water and sewer within the proposed disturbed area.
10. Recording reference: Plat No. 274/939
11. Previous site plan references - S.D.P. 84-294 and S.D.P. 93-14 and BA CASE 83-39E, WP 91-28, BA CASE 90-24E, BA 01-51c, SDP-02-97
12. The Forest Conservation Obligation for this project will be fulfilled by onsite retention of 3.30 acres of existing forest and 1.25 acres of reforestation. Wetland and Forest Stand Delineation for the site are addressed in a report dated July 7, 2004 by Eco-Science Professionals, Inc.
13. There are no burial grounds on subject property.
14. The subject property is zoned R-ED per the February 2, 2004 Comprehensive Zoning Plan.
15. No clearing, grading or construction is permitted within the existing wetlands, stream or their buffers and forest conservation easement areas.
16. Financial surety for the required landscaping has been posted as part of the DPW developer's agreement in the amount of \$ 2,400.00 for 5 shade trees and 6 evergreen trees.

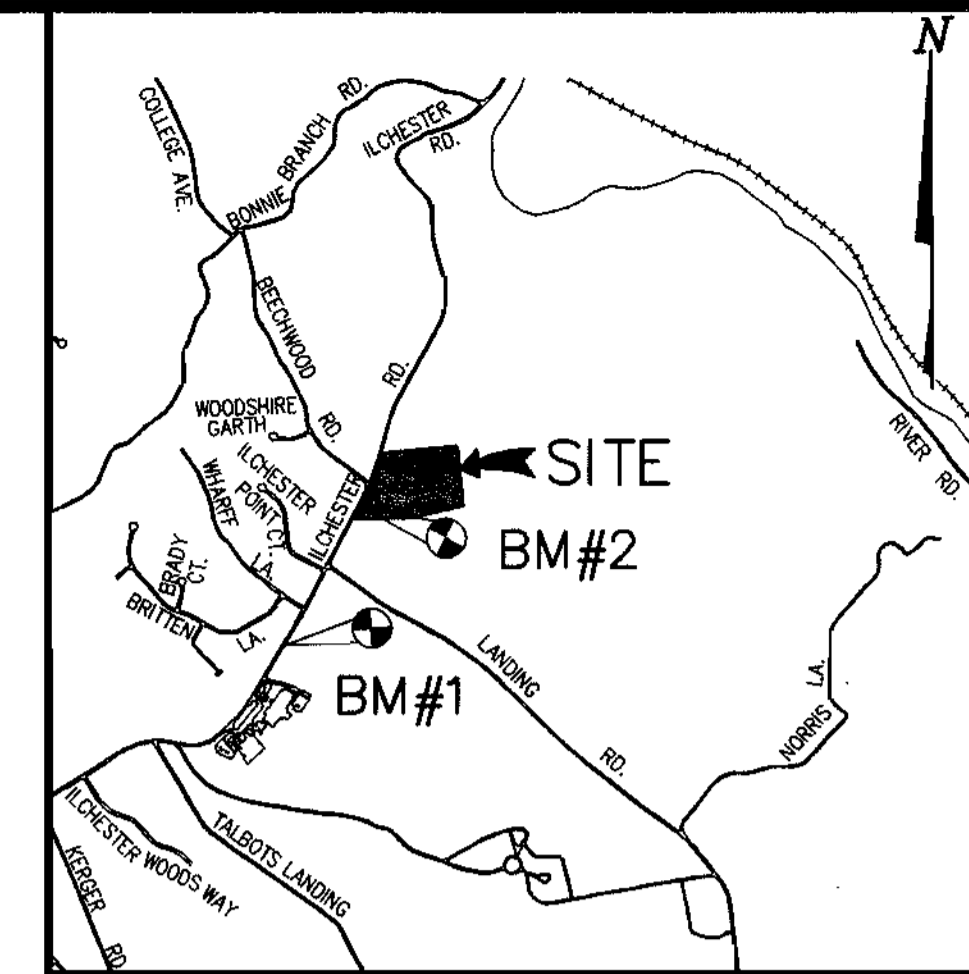


**PURPOSE NOTE:**  
THE PURPOSE OF THIS SITE DEVELOPMENT PLAN IS TO SHOW IMPROVEMENTS TO AN EXISTING BALL FIELD AND TO RELOCATE A STORMWATER MANAGEMENT POND (DESIGNED PER SDP 93-14). THIS PLAN IS A CONTINUATION OF SDP-02-97, UNDER A REVISION REFERENCED AS "BALL FIELD STOCKPILE." NO BUILDING, PARKING OR ENTRANCE MODIFICATIONS ARE PROPOSED UNDER THIS PLAN.

ADDRESS CHART		
LOT/PARCEL#	STREET ADDRESS	
PARCEL NO. 260	4805 ILCHESTER ROAD	
PERMIT INFORMATION CHART		
SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NO. 260
PLAT # OR L/F	GRID #	ZONING
274/535	10	R-ED
TAX MAP NO.	ELEC. DIST.	CENSUS TRACT
31	1	6011.01
WATER CODE: 6-10	SEWER CODE: 1252600	

## BENCHMARKS

- BM #1**  
31E6 - NAIL & FLASHER IN POWER POLE, 2 TREES & FENCE POST  
5' - S.W. OF EDGE OF ROAD & 500' - W. OF WHARF LANE  
NAD83 N 570852.4  
E 1376700.7
- BM #2**  
31E7 - 9' S.E. OF EDGE OF ROAD AND 250' W OF BEECHWOOD ROAD  
NAD83 N 572335.3  
E 1377503.9



VICINITY MAP  
SCALE: 1"=2000'

## DRAWING LIST

NO.	
1 OF 15	COVER SHEET
2 OF 15	SITE DEVELOPMENT PLAN
3 OF 15	INFIELD PLAN
4 OF 15	DRAINAGE AREA MAP
5 OF 15	STORMWATER MANAGEMENT PLAN
6 OF 15	SEDIMENT CONTROL PLAN
7 OF 15	SEDIMENT BASIN PLAN
8 OF 15	STORMWATER MANAGEMENT AND STORM DRAIN PROFILES
9 OF 15	STORMWATER MANAGEMENT DETAILS
10 OF 15	STORMWATER MANAGEMENT CONSTRUCTION SPECIFICATIONS
11 OF 15	SEDIMENT CONTROL NOTES
12 OF 15	SEDIMENT CONTROL DETAILS
13 OF 15	SOIL BORING LOGS AND MISCELLANEOUS DETAILS
14 OF 15	FOREST CONSERVATION AND LANDSCAPE PLAN
15 OF 15	FOREST CONSERVATION AND LANDSCAPE DETAILS

## SITE ANALYSIS CHART

TOTAL SITE AREA	1,147,806 SF (26.35 AC.)
BUILDING COVERAGE: 0.98 ACRES AND 3.7% OF GROSS AREA	
AREA PLAN SUBMISSION	26.35 AC.
DISTURBED AREA	4.66 AC.
ZONING	R-ED
USES-SITE-STRUCTURE	EXISTING: CHURCH, MULTIPURPOSE HALL, SCHOOL, AND PARKING PROPOSED: BALL FIELD IMPROVEMENTS
FLOOR SPACE	N/A
PROPOSED PARKING	N/A

APPROVED  
PLANNING BOARD  
of HOWARD COUNTY  
DATE 10/27/04



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
Director: [Signature] 6/14/05  
Chief, Division of Land Development: [Signature] 6-14-05  
Chief, Development Engineering Division: [Signature] 6/16/05

**CENTURY ENGINEERING, INC.**  
CONSULTING ENGINEERS, PLANNERS, SURVEYORS  
32 WEST ROAD  
TOWSON, MARYLAND 21204  
(410) 823-8070

DATE	REVISION	BY	APP'R.

PREPARED FOR:  
ARCHDIOCESE OF BALTIMORE  
OUR LADY OF PERPETUAL HELP  
4805 ILCHESTER ROAD  
ELLCOTT CITY, MARYLAND 21043

COVER SHEET  
**OUR LADY OF PERPETUAL HELP  
BALL FIELD IMPROVEMENTS**  
ELLICOTT CITY, MARYLAND  
1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND

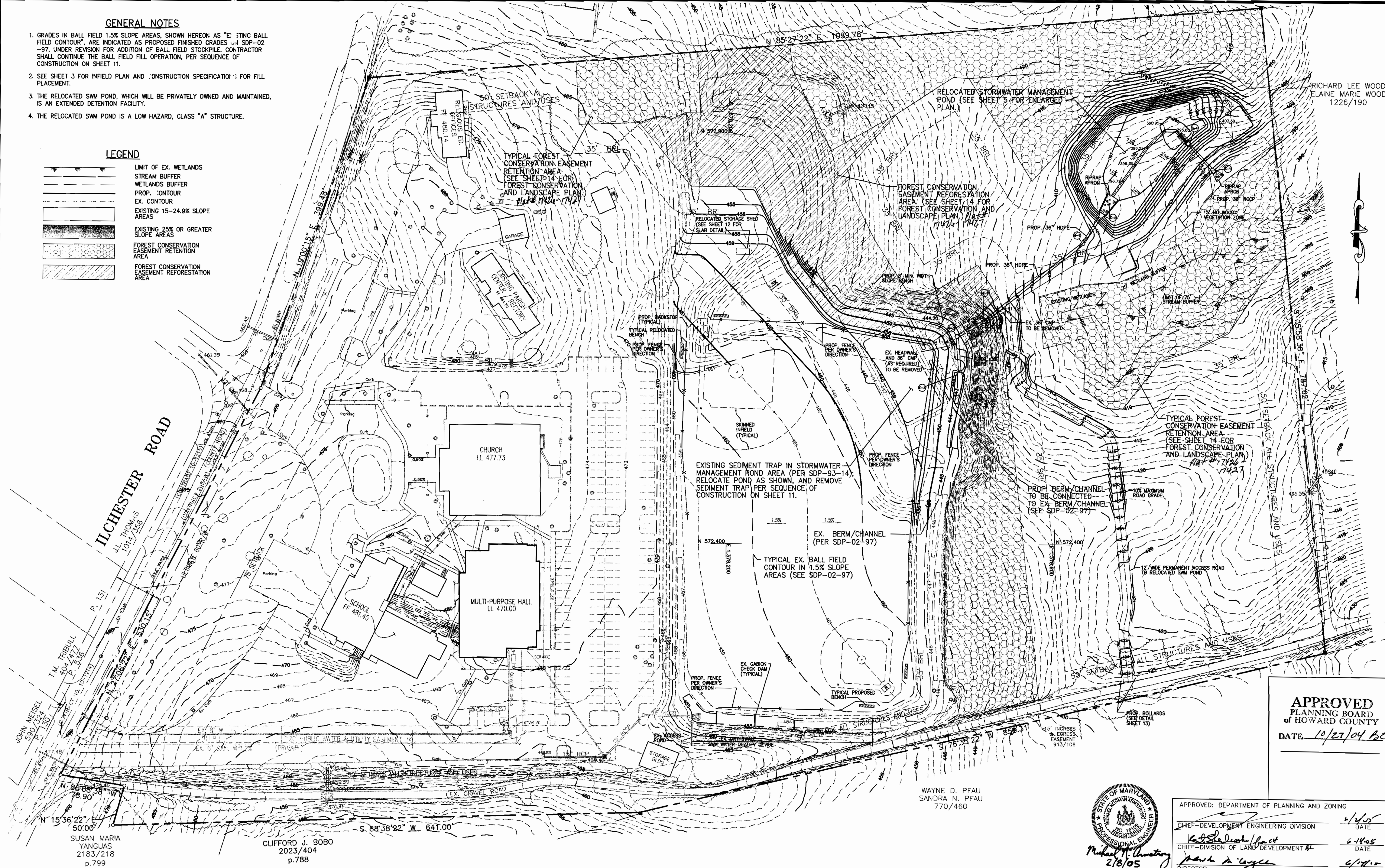
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AS SHOWN	R-ED	23248.00
DATE	TAX MAP No.	SHEET
FEB., 2005	31	1 OF 15

**GENERAL NOTES**

- GRADES IN BALL FIELD 1.5% SLOPE AREAS, SHOWN HEREON AS "EXISTING BALL FIELD CONTOUR", ARE INDICATED AS PROPOSED FINISHED GRADES ON SDP-02-97, UNDER REVISION FOR ADDITION OF BALL FIELD STOCKPILE. CONTRACTOR SHALL CONTINUE THE BALL FIELD FILL OPERATION, PER SEQUENCE OF CONSTRUCTION ON SHEET 11.
- SEE SHEET 3 FOR INFIELD PLAN AND CONSTRUCTION SPECIFICATIONS FOR FILL PLACEMENT.
- THE RELOCATED SWM POND, WHICH WILL BE PRIVATELY OWNED AND MAINTAINED, IS AN EXTENDED DETENTION FACILITY.
- THE RELOCATED SWM POND IS A LOW HAZARD, CLASS "A" STRUCTURE.

**LEGEND**

- LIMIT OF EX. WETLANDS
- STREAM BUFFER
- WETLANDS BUFFER
- PROP. CONTOUR
- EX. CONTOUR
- EXISTING 15-24.9% SLOPE AREAS
- EXISTING 25% OR GREATER SLOPE AREAS
- FOREST CONSERVATION EASEMENT RETENTION AREA
- FOREST CONSERVATION EASEMENT REFORESTATION AREA



RICHARD LEE WOOD  
ELAINE MARIE WOOD  
1226/190

**APPROVED**  
PLANNING BOARD  
of HOWARD COUNTY  
DATE 10/27/04 *bc*



APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF-DEVELOPMENT ENGINEERING DIVISION 4/16/05 DATE  
 Michael N. Umstrey 2/8/05  
 CHIEF-DIVISION OF LAND DEVELOPMENT 6-14-05 DATE  
 Mark A. Coyle 6/14/05 DATE  
 DIRECTOR

SUSAN MARIA YANGUAS  
2183/218  
p.799

CLIFFORD J. BOBO  
2023/404  
p.788

WAYNE D. PFAU  
SANDRA N. PFAU  
770/460

**CENTURY ENGINEERING, INC.**  
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32 WEST ROAD  
TOWSON, MARYLAND 21204  
(410) 823-8070

PREPARED FOR:  
ARCHDIOCESE OF BALTIMORE  
OUR LADY OF PERPETUAL HELP  
4801 ILCHESTER ROAD  
ELLCOTT CITY, MARYLAND 21043

**SITE DEVELOPMENT PLAN**  
**OUR LADY OF PERPETUAL HELP**  
**BALL FIELD IMPROVEMENTS**  
ELLICOTT CITY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
1"=50'	R-20	23248.00
DATE	TAX MAP No.	SHEET
FEB., 2005	31	2 OF 15

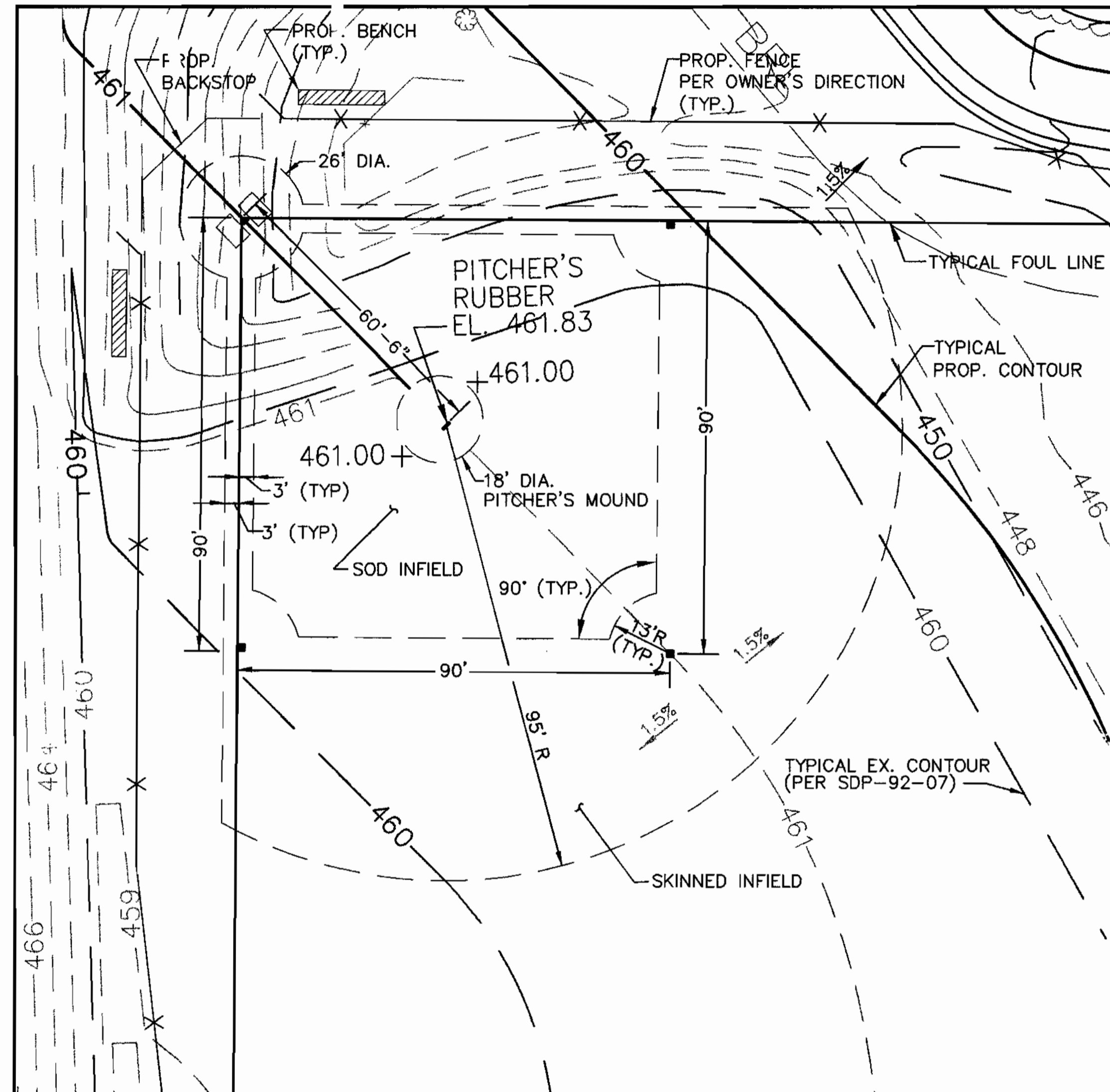
DATE	REVISION	BY	APP'R.

1<sup>st</sup> ELECTION DISTRICT

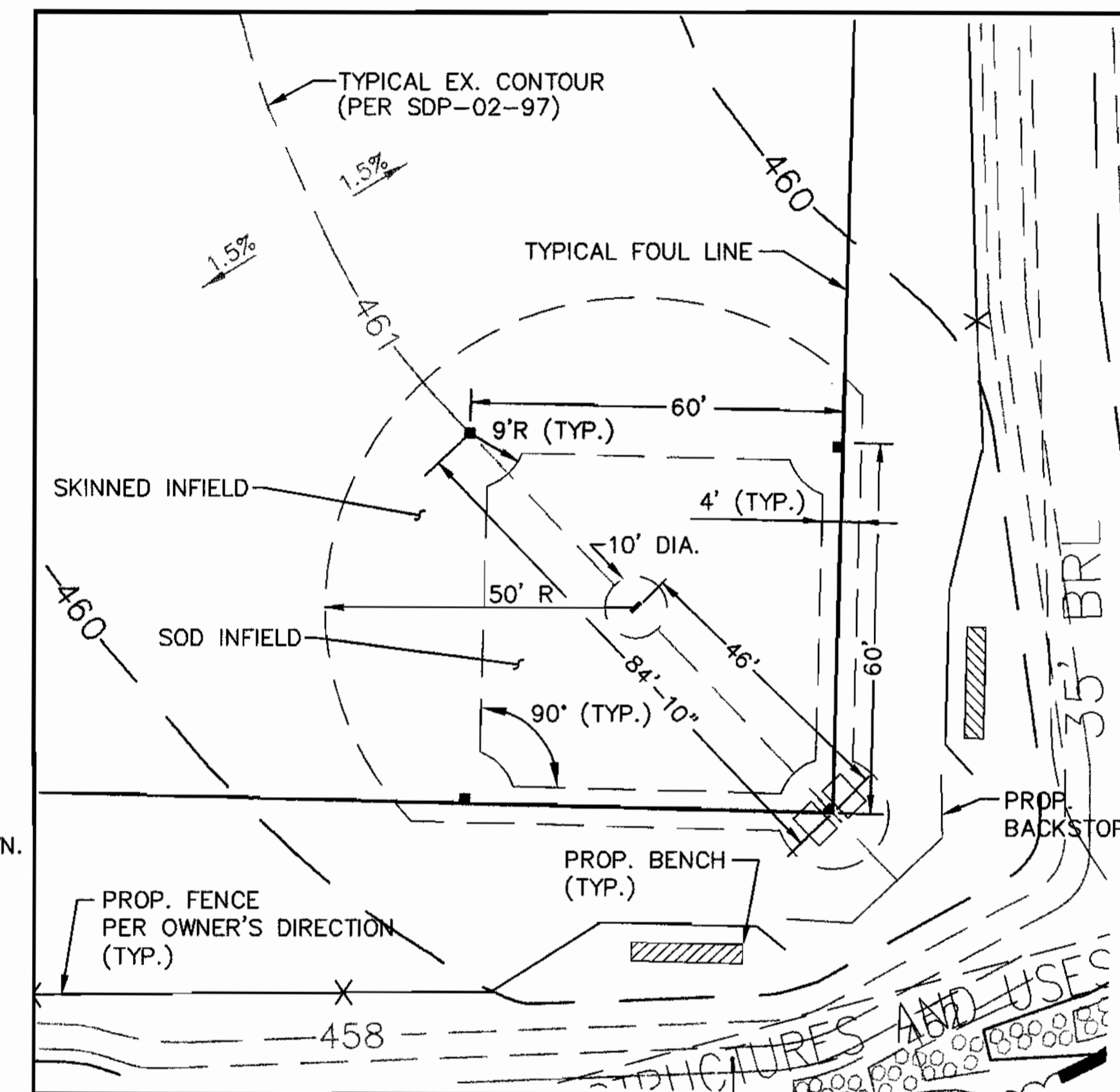
HOWARD COUNTY, MARYLAND

### CONSTRUCTION SPECIFICATIONS

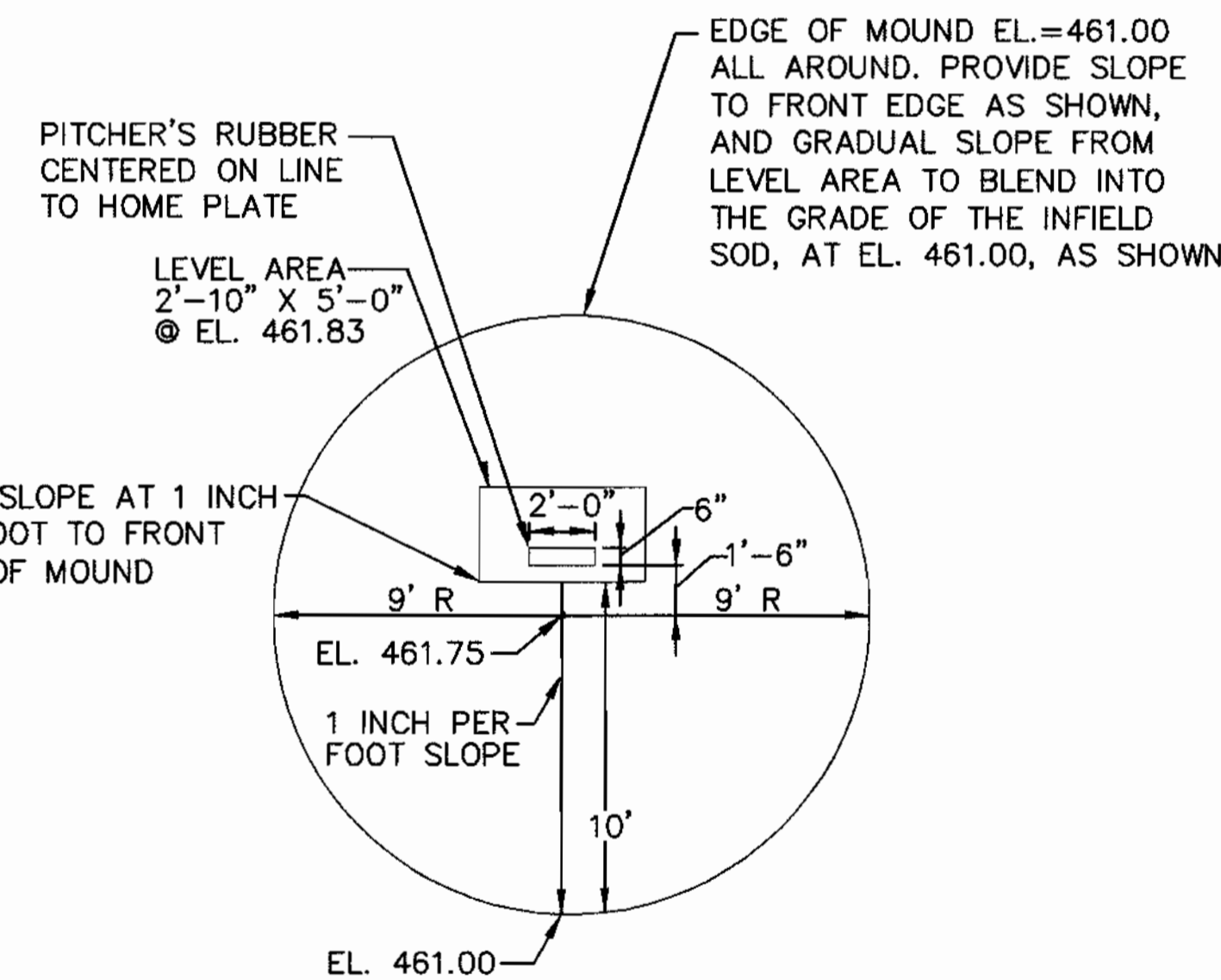
1. ALL FILL MATERIAL SHALL BE CLEAN EARTH FILL IN ACCORDANCE WITH ALL STATE AND COUNTY REQUIREMENTS. EXISTING CONTOURS (PER SDP-02-97) IN 1.5% SLOPE AREAS, AND PROPOSED CONTOURS REPRESENT FINISHED GRADES.
2. ALL FILL MATERIAL (EXCLUDING TOPSOIL, BERM/CHANNEL ALONG BALL FIELD EAST PERIMETER AND 2:1 SIDE SLOPES) SHALL BE COMPACTED TO A MINIMUM OF 90% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 698 (STANDARD PROCTOR). BERM/CHANNEL AND 2:1 SIDE SLOPES SHALL BE COMPACTED TO 95% STANDARD PROCTOR. A 6-INCH TOPSOIL LAYER SHALL BE PLACED OVER ALL DISTURBED AREAS (EXCLUDING INFIELDS AND STRUCTURE AREAS). A 12-INCH TOPSOIL LAYER (IN TWO 6-INCH LIFTS) MAY BE PLACED IN 1.5% SLOPE AREAS. TAPER 6-INCH DEPTH AT PERIMETER OF 1.5% SLOPE AREAS TO 12-INCH DEPTH AS REQUIRED.
3. THE CONTRACTOR SHALL PROVIDE KENTUCKY BLUEGRASS SOD (BY GREEN MANOR TURF FARM, OR APPROVED EQUAL) BETWEEN THE BASE PATHS AND PITCHER'S MOUND. THE SKINNED INFIELD SHALL BE COMPRISED OF AN 8-INCH LAYER OF BASEBALL DIAMOND MIX BY C.D. THOMAS CO., OR APPROVED EQUAL.
4. ALL WORK SHALL BE INSPECTED BY AN INDEPENDENT TESTING AGENCY.



**HIGH SCHOOL INFIELD**  
SCALE: 1"=20'



**LITTLE LEAGUE INFIELD**  
SCALE: 1"=20'



**PITCHER'S MOUND DETAIL**  
NOT TO SCALE

NOTE. ALL DIMENSIONS FOR INFIELDS AND PITCHER'S MOUND ARE TAKEN FROM "COURT AND FIELD DIAGRAM GUIDE" BY NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS.

THE TOP OF PITCHER'S RUBBER MUST BE 10 INCHES ABOVE THE TOP SURFACE OF HOME PLATE. INSIDE THE CIRCLE, THE PITCHER'S MOUND SHALL BE CONSTRUCTED ACCORDING TO THE SPECIFICATIONS SHOWN. THE PITCHER'S MOUND IS AN 18-FOOT DIAMETER CIRCLE, THE CENTER OF WHICH IS 59 FEET FROM BACK OF HOME PLATE. LOCATE THE FRONT EDGE OF RUBBER 1 FOOT 6 INCHES BEHIND CENTER OF MOUND AS SHOWN. THE DISTANCE FROM THE FRONT EDGE OF RUBBER TO BACK POINT OF HOME PLATE IS 60 FEET, 6 INCHES.

**APPROVED**  
PLANNING BOARD  
of HOWARD COUNTY  
DATE 10/27/04 *mc*



APPROVED: DEPARTMENT OF PLANNING AND ZONING  
CHIEF-DEVELOPMENT ENGINEERING DIVISION 6/14/05  
DATE  
CHIEF-DIVISION OF LAND DEVELOPMENT 6/14/05  
DATE  
DIRECTOR 6/14/05  
DATE

**CENTURY ENGINEERING, INC.**  
CONSULTING ENGINEERS, PLANNERS, SURVEYORS  
32 WEST ROAD  
TOWSON, MARYLAND 21204  
(410) 823-8070

DATE	REVISION	BY	APP'R.

PREPARED FOR:  
ARCHDIOCESE OF BALTIMORE  
OUR LADY OF PERPETUAL HELP  
4801 ILCHESTER ROAD  
ELLCOTT CITY, MARYLAND 21043

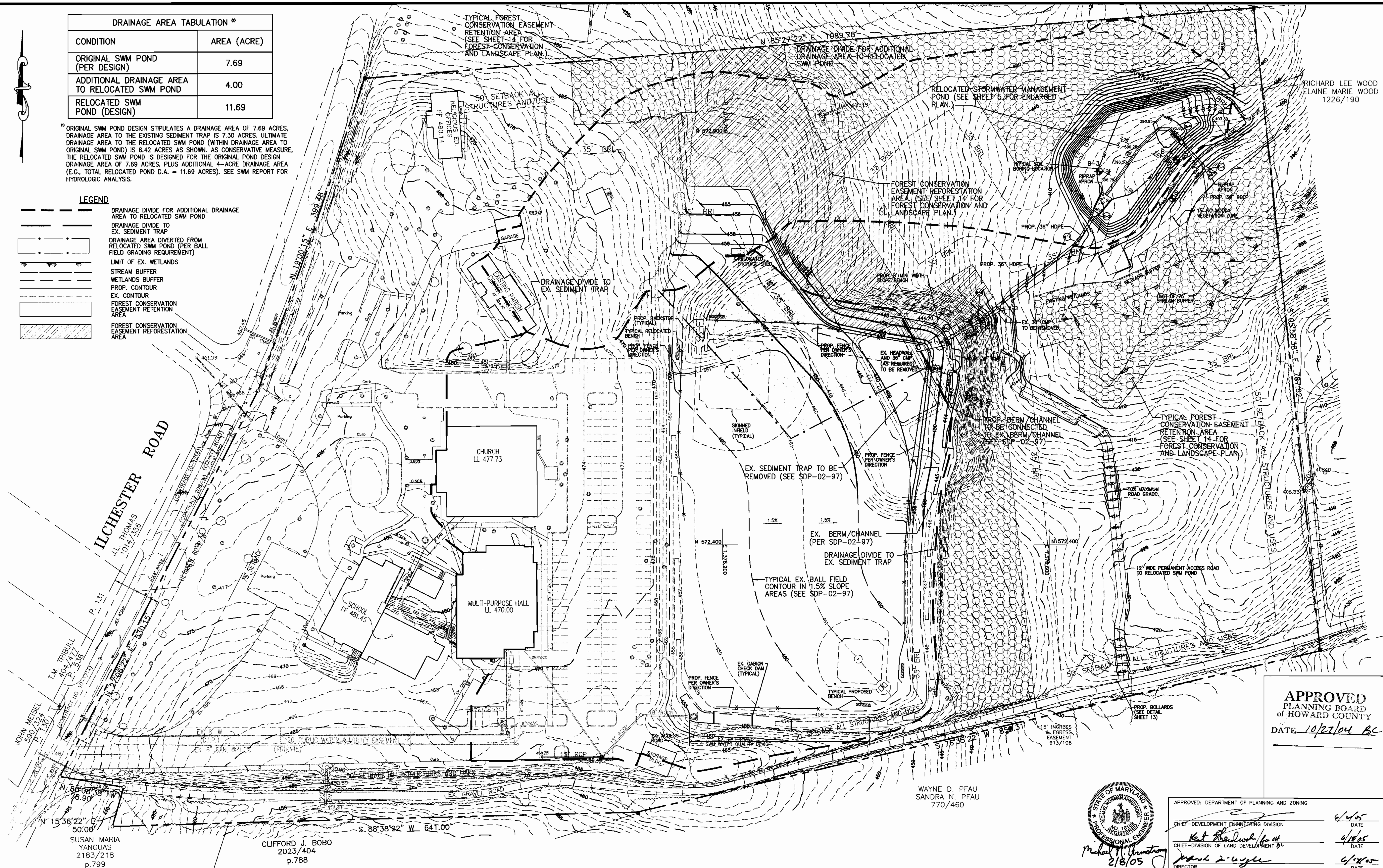
INFIELD PLAN  
**OUR LADY OF PERPETUAL HELP**  
**BALL FIELD IMPROVEMENTS**  
ELLICOTT CITY, MARYLAND  
2<sup>nd</sup> ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
AS SHOWN	R-20	23248.00
DATE	TAX MAP No.	SHEET
FEB., 2005	31	3 OF 15

DRAINAGE AREA TABULATION	
CONDITION	AREA (ACRE)
ORIGINAL SWM POND (PER DESIGN)	7.69
ADDITIONAL DRAINAGE AREA TO RELOCATED SWM POND	4.00
RELOCATED SWM POND (DESIGN)	11.69

ORIGINAL SWM POND DESIGN STIPULATES A DRAINAGE AREA OF 7.69 ACRES, DRAINAGE AREA TO THE EXISTING SEDIMENT TRAP IS 7.30 ACRES. ULTIMATE DRAINAGE AREA TO THE RELOCATED SWM POND (WITHIN DRAINAGE AREA TO ORIGINAL SWM POND) IS 6.42 ACRES AS SHOWN. AS CONSERVATIVE MEASURE, THE RELOCATED SWM POND IS DESIGNED FOR THE ORIGINAL POND DESIGN DRAINAGE AREA OF 7.69 ACRES, PLUS ADDITIONAL 4-ACRE DRAINAGE AREA (E.G., TOTAL RELOCATED POND D.A. = 11.69 ACRES). SEE SWM REPORT FOR HYDROLOGIC ANALYSIS.

LEGEND	
	DRAINAGE DIVIDE FOR ADDITIONAL DRAINAGE AREA TO RELOCATED SWM POND
	DRAINAGE DIVIDE TO EX. SEDIMENT TRAP
	DRAINAGE AREA DIVERTED FROM RELOCATED SWM POND (PER BALL FIELD GRADING REQUIREMENT)
	LIMIT OF EX. WETLANDS
	STREAM BUFFER
	WETLANDS BUFFER
	PROP. CONTOUR
	EX. CONTOUR
	FOREST CONSERVATION EASEMENT RETENTION AREA
	FOREST CONSERVATION EASEMENT REFORESTATION AREA



RICHARD LEE WOOD  
ELAINE MARIE WOOD  
1226/190

**APPROVED**  
PLANNING BOARD  
of HOWARD COUNTY  
DATE 10/27/04 BC

WAYNE D. PFAU  
SANDRA N. PFAU  
770/460



APPROVED: DEPARTMENT OF PLANNING AND ZONING		
CHIEF-DEVELOPMENT ENGINEERING DIVISION	<i>Michael T. Armstrong</i>	4/14/05
CHIEF-DIVISION OF LAND DEVELOPMENT	<i>Paul J. Wynn</i>	4/14/05
DIRECTOR		4/14/05

**CENTURY ENGINEERING, INC.**  
CONSULTING ENGINEERS, PLANNERS, SURVEYORS  
32 WEST ROAD  
TOWSON, MARYLAND 21204  
(410) 823-8070

PREPARED FOR:  
ARCHDIOCESE OF BALTIMORE  
OUR LADY OF PERPETUAL HELP  
4801 ILCHESTER ROAD  
ELLICOTT CITY, MARYLAND 21043

DRAINAGE AREA MAP  
**OUR LADY OF PERPETUAL HELP**  
**BALL FIELD IMPROVEMENTS**  
ELLICOTT CITY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
1"=50'	R-20	23248.00
DATE	TAX MAP No.	SHEET
FEB., 2005	31	4 OF 15

DATE	REVISION	BY	APP'R.

1st ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

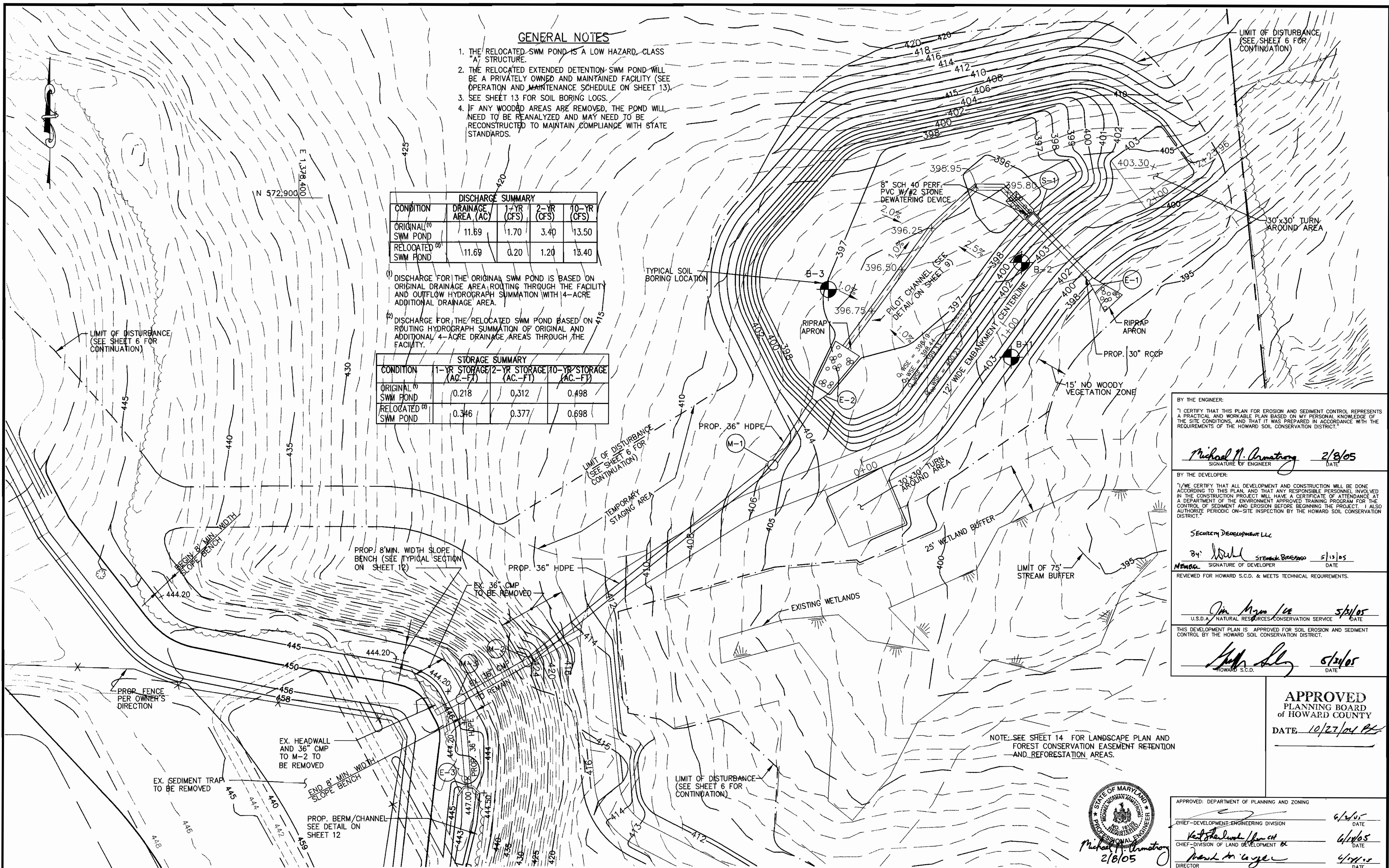
**GENERAL NOTES**

1. THE RELOCATED SWM POND IS A LOW HAZARD, CLASS "A" STRUCTURE.
2. THE RELOCATED EXTENDED DETENTION SWM POND WILL BE A PRIVATELY OWNED AND MAINTAINED FACILITY (SEE OPERATION AND MAINTENANCE SCHEDULE ON SHEET 13).
3. SEE SHEET 13 FOR SOIL BORING LOGS.
4. IF ANY WOODED AREAS ARE REMOVED, THE POND WILL NEED TO BE REANALYZED AND MAY NEED TO BE RECONSTRUCTED TO MAINTAIN COMPLIANCE WITH STATE STANDARDS.

DISCHARGE SUMMARY				
CONDITION	DRAINAGE AREA (AC)	1-YR (CFS)	2-YR (CFS)	10-YR (CFS)
ORIGINAL <sup>(1)</sup> SWM POND	11.69	1.70	3.40	13.50
RELOCATED <sup>(2)</sup> SWM POND	11.69	0.20	1.20	13.40

- (1) DISCHARGE FOR THE ORIGINAL SWM POND IS BASED ON ORIGINAL DRAINAGE AREA ROUTING THROUGH THE FACILITY AND OUTFLOW HYDROGRAPH SUMMATION WITH 4-ACRE ADDITIONAL DRAINAGE AREA.
- (2) DISCHARGE FOR THE RELOCATED SWM POND BASED ON ROUTING HYDROGRAPH SUMMATION OF ORIGINAL AND ADDITIONAL 4-ACRE DRAINAGE AREAS THROUGH THE FACILITY.

STORAGE SUMMARY			
CONDITION	1-YR STORAGE (AC.-FT)	2-YR STORAGE (AC.-FT)	10-YR STORAGE (AC.-FT)
ORIGINAL <sup>(1)</sup> SWM POND	0.218	0.312	0.498
RELOCATED <sup>(2)</sup> SWM POND	0.346	0.377	0.698



BY THE ENGINEER:  
 "I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
*Michael N. Armatrong* 2/8/05  
 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 A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."  
 SECURITY DEVELOPMENT LLC  
*By: Wade Stenmark* 5/13/05  
 SIGNATURE OF DEVELOPER DATE

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.  
*Jim Myers* 5/18/05  
 U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*John Kelly* 5/24/05  
 HOWARD S.C.D. DATE

**APPROVED**  
 PLANNING BOARD  
 of HOWARD COUNTY  
 DATE 10/27/04



APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF-DEVELOPMENT ENGINEERING DIVISION 6/2/05 DATE  
*Victor Stalinski* 6/2/05 DATE  
 CHIEF-DIVISION OF LAND DEVELOPMENT 6/2/05 DATE  
*Michael N. Armatrong* 2/8/05 DATE  
 DIRECTOR

**CENTURY ENGINEERING, INC.**  
 CONSULTING ENGINEERS, PLANNERS, SURVEYORS  
 32 WEST ROAD  
 TOWSON, MARYLAND 21204  
 (410) 823-8070

DATE	REVISION	BY	APP'R.

PREPARED FOR:  
 ARCHDIOCESE OF BALTIMORE  
 OUR LADY OF PERPETUAL HELP  
 4801 ILCHESTER ROAD  
 ELLICOTT CITY, MARYLAND 21043

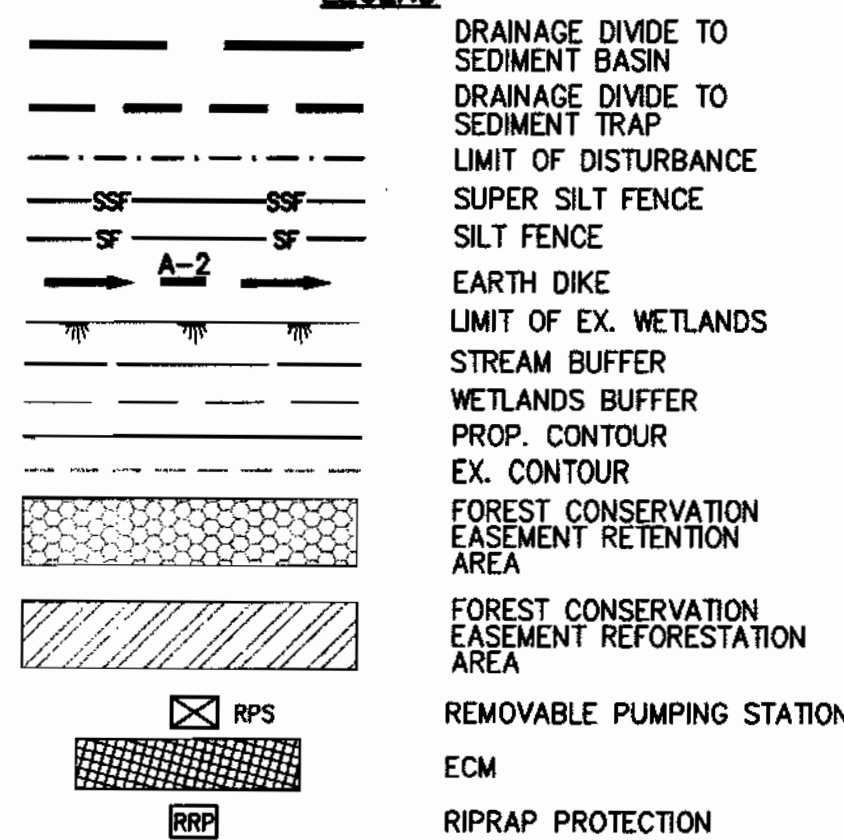
STORMWATER MANAGEMENT PLAN  
**OUR LADY OF PERPETUAL HELP  
 BALL FIELD IMPROVEMENTS**  
 ELLICOTT CITY, MARYLAND  
 1<sup>st</sup> ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
1"=20'	R-20	23248.00
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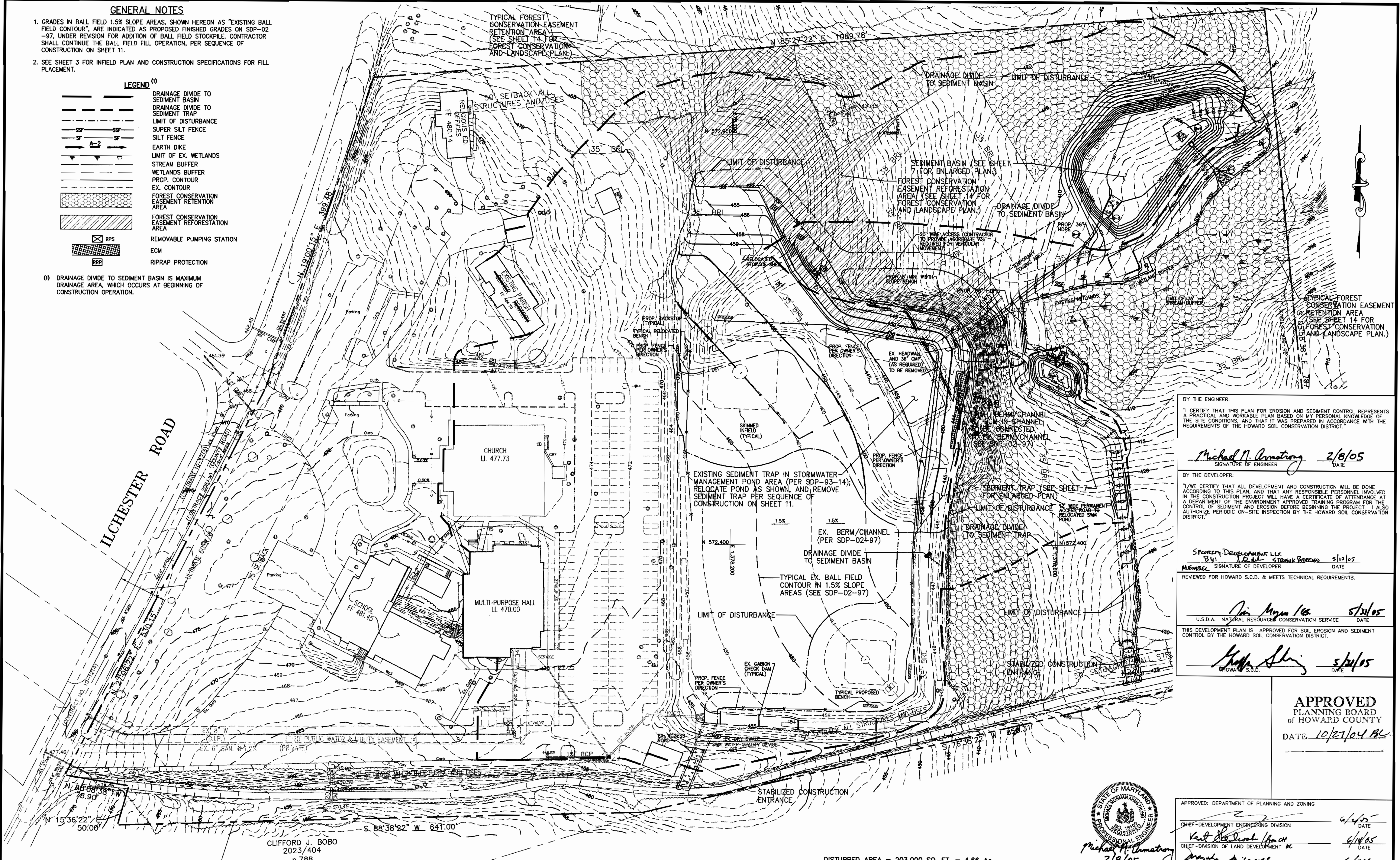
**GENERAL NOTES**

- GRADES IN BALL FIELD 1.5% SLOPE AREAS, SHOWN HEREON AS "EXISTING BALL FIELD CONTOUR", ARE INDICATED AS PROPOSED FINISHED GRADES ON SDP-02-97, UNDER REVISION FOR ADDITION OF BALL FIELD STOCKPILE. CONTRACTOR SHALL CONTINUE THE BALL FIELD FILL OPERATION, PER SEQUENCE OF CONSTRUCTION ON SHEET 11.
- SEE SHEET 3 FOR INFIELD PLAN AND CONSTRUCTION SPECIFICATIONS FOR FILL PLACEMENT.

**LEGEND (1)**



(1) DRAINAGE DIVIDE TO SEDIMENT BASIN IS MAXIMUM DRAINAGE AREA, WHICH OCCURS AT BEGINNING OF CONSTRUCTION OPERATION.



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

*Michael N. Armstrong* 2/8/05  
 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 A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

*SECUREX DEVELOPMENT LLC* 5/12/05  
 SIGNATURE OF DEVELOPER DATE

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.  
*Jim Moran* 5/31/05  
 U.S.D.A. NATURAL RESOURCE CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*Michael Shig* 5/21/05  
 HOWARD S.C.D. DATE

**APPROVED**  
 PLANNING BOARD  
 OF HOWARD COUNTY  
 DATE 10/27/04



*Michael N. Armstrong*  
 2/8/05

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF-DEVELOPMENT ENGINEERING DIVISION 6/14/05  
 DATE  
*Kent B. Wood* 6/14/05  
 CHIEF-DIVISION OF LAND DEVELOPMENT DATE  
*Michael N. Armstrong* 6/14/05  
 DIRECTOR DATE

DISTURBED AREA = 203,000 SQ. FT. = 4.66 Ac.

CLIFFORD J. BOBO  
 2023/404  
 p.788

**CENTURY ENGINEERING, INC.**  
 CONSULTING ENGINEERS, PLANNERS, SURVEYORS  
 32 WEST ROAD  
 TOWSON, MARYLAND 21204  
 (410) 823-8070

DATE	REVISION	BY	APP'R.

PREPARED FOR:  
 ARCHDIOCESE OF BALTIMORE  
 OUR LADY OF PERPETUAL HELP  
 4801 ILCHESTER ROAD  
 ELLICOTT CITY, MARYLAND 21043

SEDIMENT CONTROL PLAN  
**OUR LADY OF PERPETUAL HELP**  
**BALL FIELD IMPROVEMENTS**  
 ELLICOTT CITY, MARYLAND  
 2<sup>nd</sup> ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
1"=50'	R-20	23248.00
DATE	TAX MAP No.	SHEET
FEB., 2005	31	6 OF 15

**GENERAL NOTES**

- THIS SHEET IS TO SHOW SEDIMENT BASIN, SEDIMENT TRAP, AND APPURTENANT CONSTRUCTION. SEE SHEET 6 FOR CONTINUATION OF LIMIT OF DISTURBANCE, AND ALL OTHER SEDIMENT CONTROL MEASURES.
- SEE SEDIMENT BASIN DEWATERING DEVICE DETAIL AND SEDIMENT CONTROL DETAIL FOR S-1 ON SHEET 12.

SEDIMENT BASIN TABULATION	
DRAINAGE AREA	11.69 AC.
STORAGE REQUIRED	42,084 C.F.
STORAGE PROVIDED	43,867 C.F.
BOTTOM ELEVATION	395.80 FT.
WET STORAGE EL.	398.43 FT.
WET STORAGE VOL.	21,042 C.F.
DRY STORAGE EL.	400.00 FT.
DRY STORAGE VOL.	22,825 C.F.
TOP OF EMBANKMENT EL.	403.00 FT.
SIDE SLOPE	2:1
CLEANOUT EL.	397.55
PRE-CONSTRUCTION Q1	1.7 C.F.S.
DURING CONSTRUCTION Q1	0.0 C.F.S.
POST-CONSTRUCTION Q1	0.2 C.F.S.

STONE OUTLET SEDIMENT TRAP ST-II	
DRAINAGE AREA	1.04 AC.
STORAGE REQUIRED	3,744 C.F.
STORAGE PROVIDED	4,046 C.F.
BOTTOM ELEVATION	406.00 FT.
WET STORAGE EL.	408.14 FT.
WET STORAGE VOL.	1,872 C.F.
DRY STORAGE EL.	410.00 FT.
DRY STORAGE VOL.	2,174 C.F.
TOP OF EMBANKMENT EL.	411.00 FT.
SIDE SLOPE	2:1
CLEANOUT EL.	406.70
WEIR CREST EL.	408.14 FT.
WEIR LENGTH	5.0 FT.
RIPRAP APRON LENGTH	5.0 FT.

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

*Michael A. Armstrong* 2/8/05  
 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 A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

SECURITY DEVELOPMENT LLC  
 B4: *William Strewnk Peregino* 5/13/05  
 SIGNATURE OF DEVELOPER DATE

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

*Jim Meyer* 5/13/05  
 U.S.D.A. NATIONAL RESOURCES CONSERVATION SERVICE DATE

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

*Shawn Kelly* 5/13/05  
 HOWARD S.C.D. DATE

**APPROVED**  
 PLANNING BOARD  
 OF HOWARD COUNTY  
 DATE 10/22/04



APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF-DEVELOPMENT-ENGINEERING DIVISION 4/2/05  
 DATE  
*Michael A. Armstrong* 4/14/05  
 CHIEF-DIVISION OF LAND DEVELOPMENT DATE  
*Michael A. Armstrong* 6/19/05  
 DIRECTOR DATE

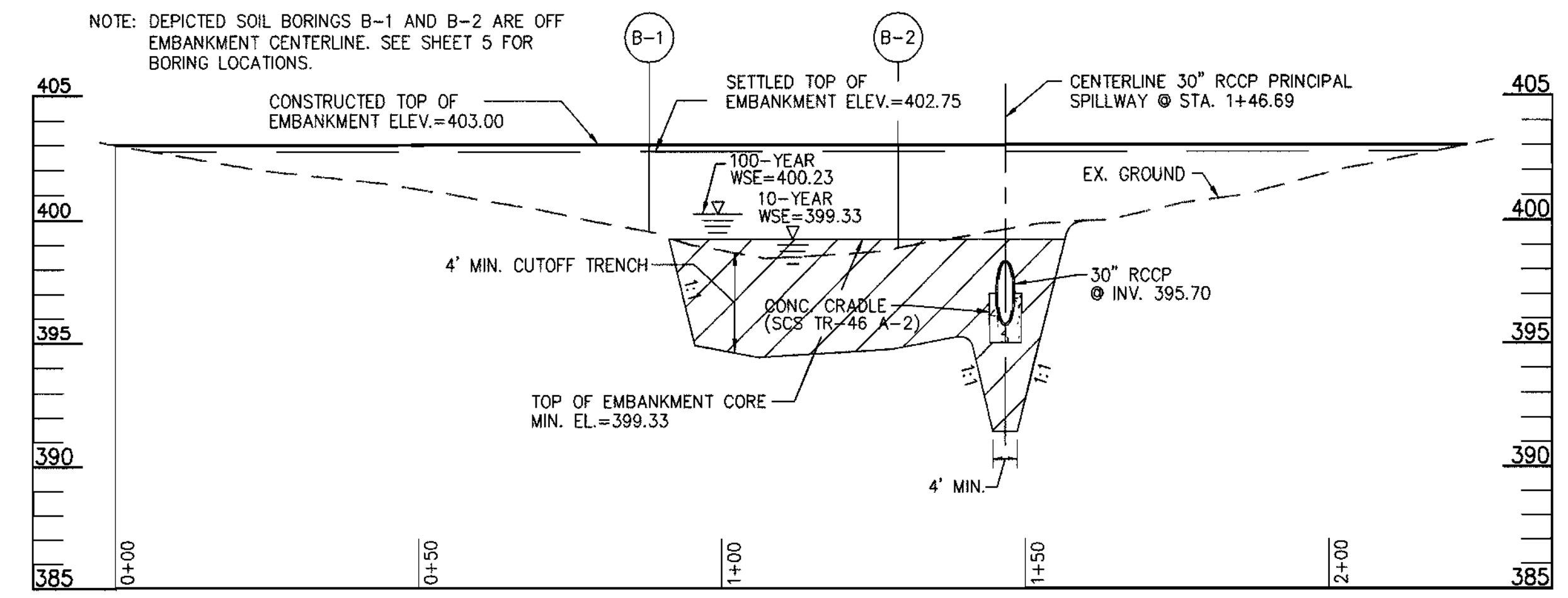
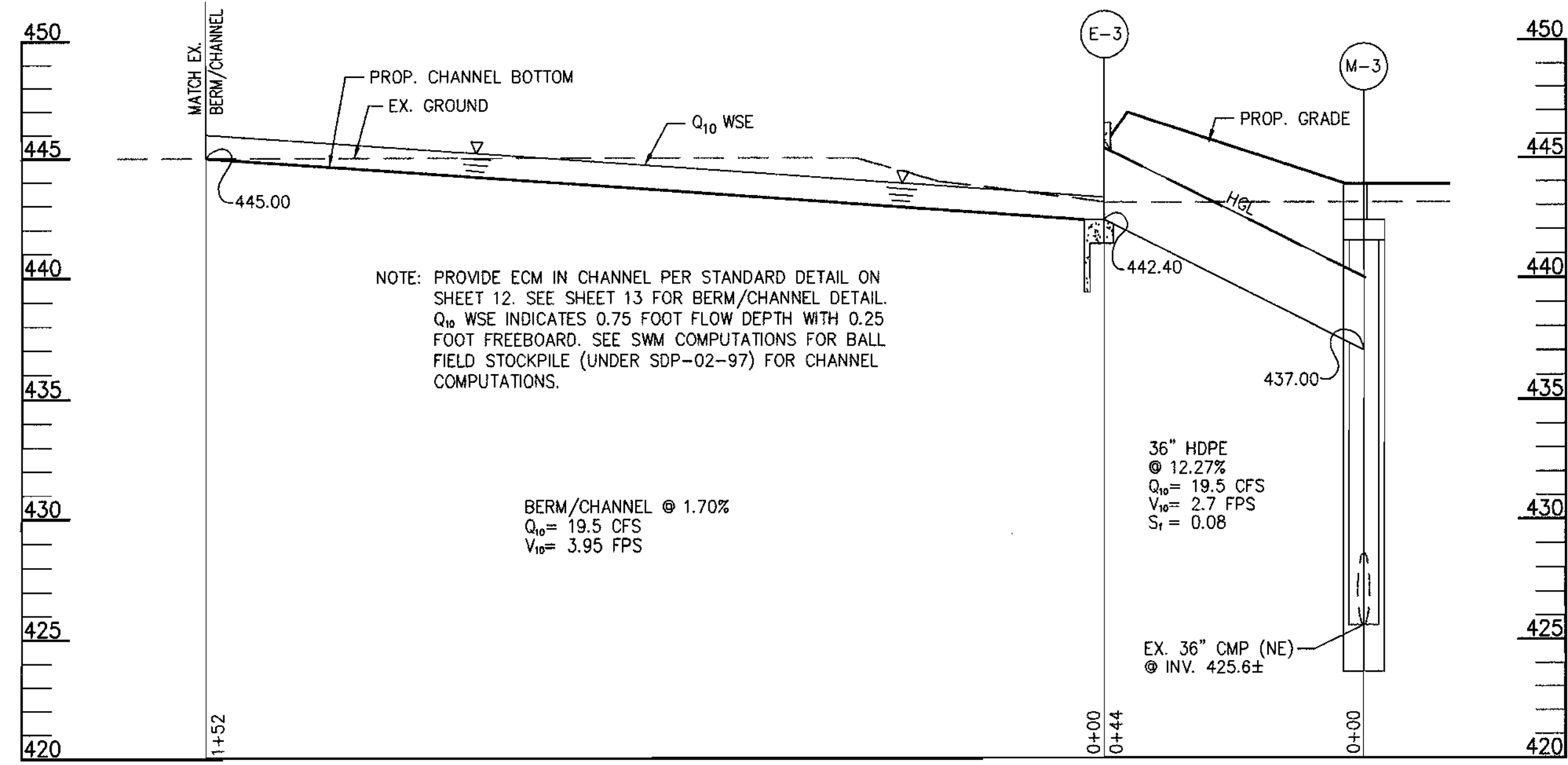
**CENTURY ENGINEERING, INC.**  
 CONSULTING ENGINEERS, PLANNERS, SURVEYORS  
 32 WEST ROAD  
 TOWSON, MARYLAND 21204  
 (410) 823-8070

DATE	REVISION	BY	APPR.

PREPARED FOR:  
 ARCHDIOCESE OF BALTIMORE  
 OUR LADY OF PERPETUAL HELP  
 4801 ILCHESTER ROAD  
 ELLICOTT CITY, MARYLAND 21043

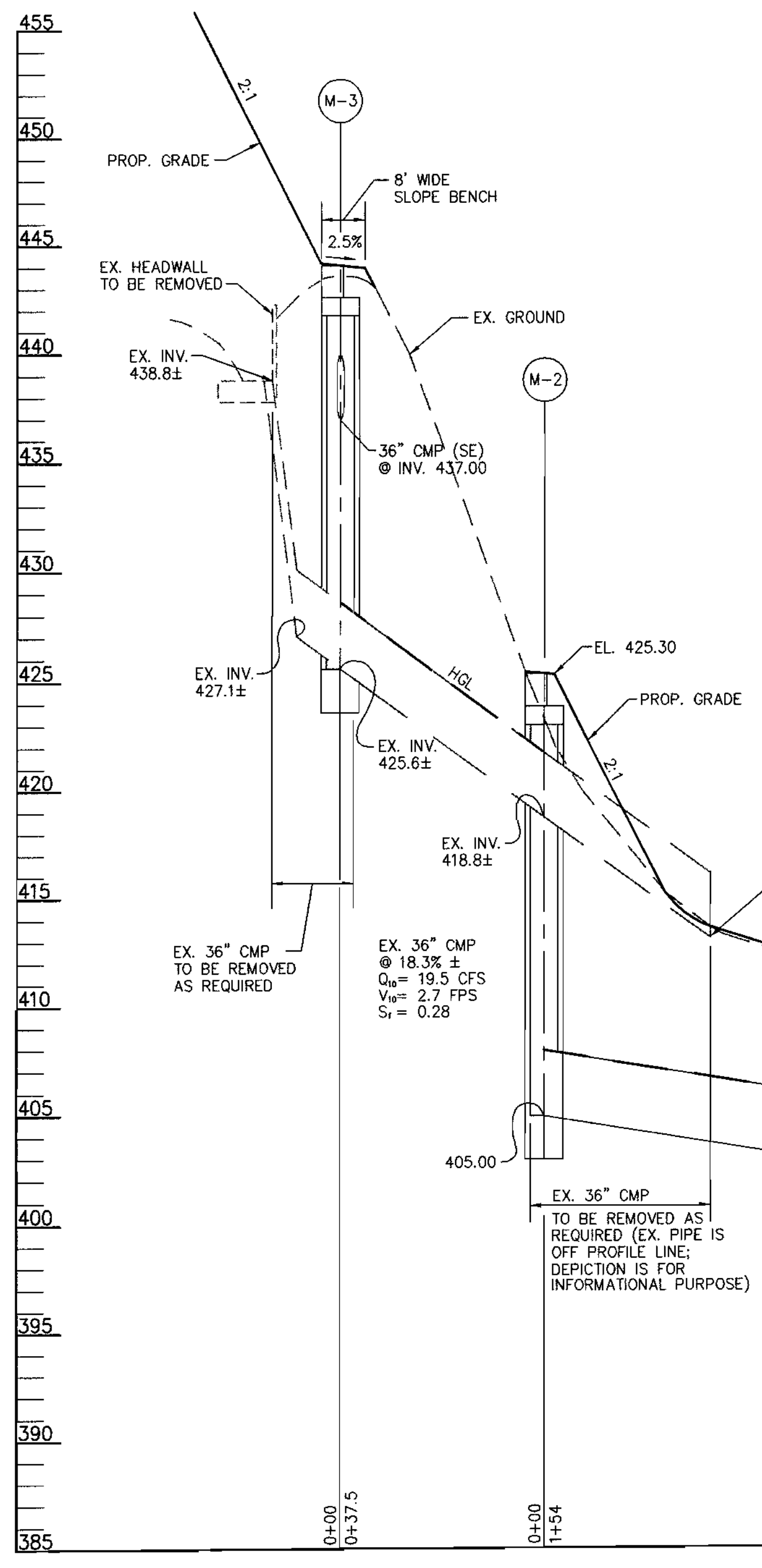
SEDIMENT BASIN PLAN  
**OUR LADY OF PERPETUAL HELP**  
**BALL FIELD IMPROVEMENTS**  
 ELLICOTT CITY, MARYLAND  
 2<sup>nd</sup> ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
1"=20'	R-20	23248.00
DATE	TAX MAP No.	SHEET
FEB., 2005	31	7 OF 15



**STORM DRAIN PROFILE**  
 SCALE: HORZ. 1"=20'  
 VERT. 1"=5'

**EMBANKMENT CENTERLINE PROFILE**  
 SCALE: HORZ. 1"=20'  
 VERT. 1"=5'



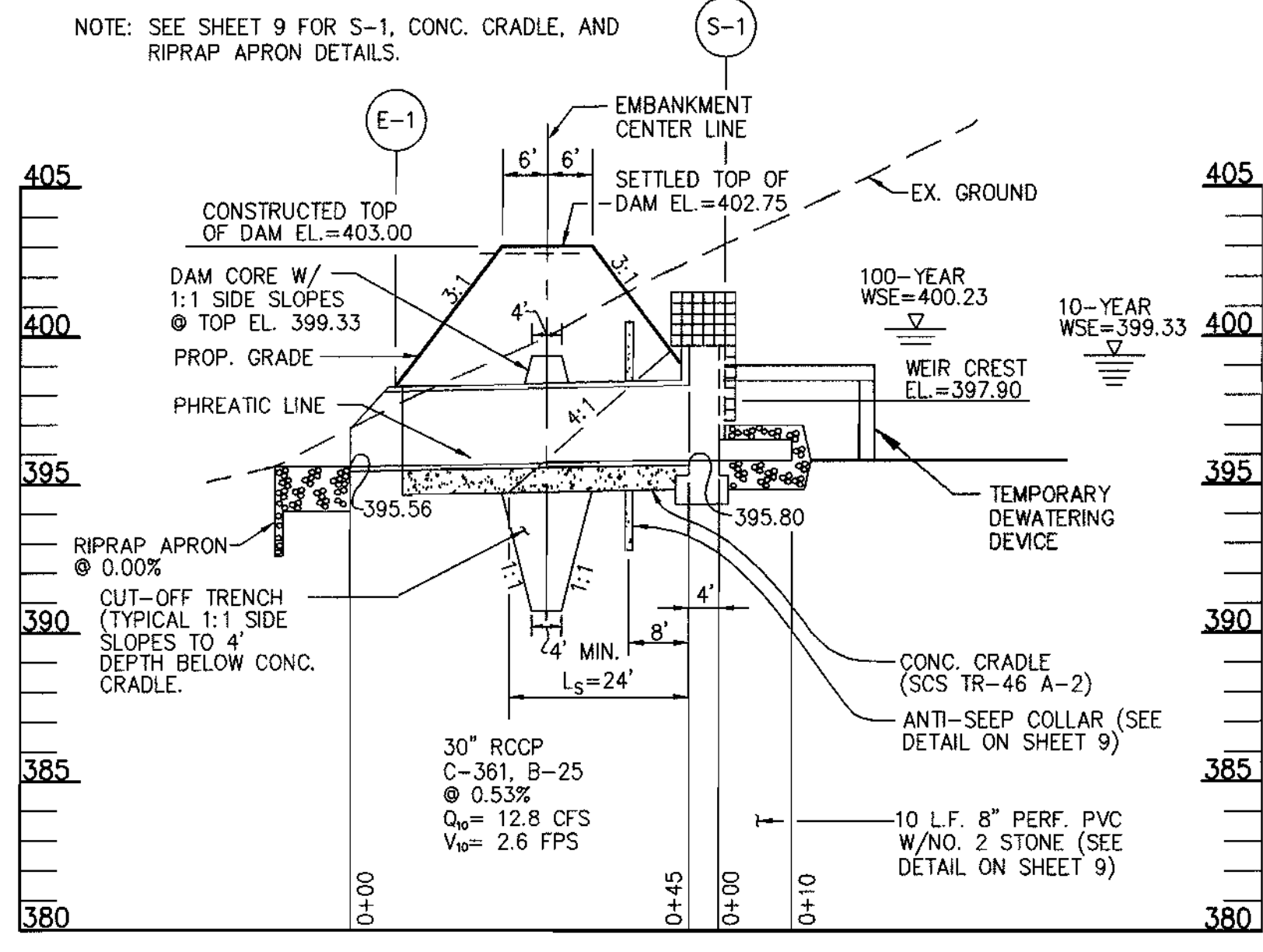
**STORM DRAIN PROFILE**  
 SCALE: HORZ. 1"=20'  
 VERT. 1"=5'

STRUCTURE SCHEDULE					
NO.	TYPE	TOP ELEV.	STD. DETAIL	LOCATION	REMARKS
E-1	CONC. END SECTION		SD 5.51	SEE PLAN	
S-1	CONC. RISER			SEE PLAN	SEE DETAIL SHEET 9
E-2	HDPE END SECTION			SEE PLAN	
M-1 <sup>(1)</sup>	SHALLOW MANHOLE	406.00	G 5.13	SEE PLAN	
M-2 <sup>(1)</sup>	SHALLOW MANHOLE	425.50	G 5.13	SEE PLAN	GRANITE BLOCK BOTTOM
M-3 <sup>(1)</sup>	SHALLOW MANHOLE	444.20	G 5.13	SEE PLAN	GRANITE BLOCK BOTTOM
E-3	"A" HEADWALL		SD 5.11	SEE PLAN	

<sup>(1)</sup> M-1, M-2 AND M-3 INSIDE DIAMETER IS 5 FEET.

PIPE SCHEDULE			
TYPE & SIZE	CLASS	QUANTITY	REMARKS
36" HDPE		242 LF	
8" PERF.	SCH 40	20 LF	
30" RCCP	C-361, B-25	40 LF	

36" HDPE TO BE PROVIDED BY HANCOR OR APPROVED EQUAL. CONTRACTOR SHALL INSTALL PIPE PER MANUFACTURER'S RECOMMENDATIONS, AND SHALL ENSURE THAT PROPER COVER IS PROVIDED FOR HEAVY EQUIPMENT LOADING.



**PRINCIPAL SPILLWAY PROFILE**  
 SCALE: HORZ. 1"=20'  
 VERT. 1"=5'

BY THE ENGINEER:  
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*Michael N. Armstrong* 2/8/05  
 SIGNATURE OF ENGINEER DATE

BY THE DEVELOPER:  
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SECURITY DEVELOPMENT LLC  
 BY: *Michael Steinhilber* 5/13/05  
 MEMBER SIGNATURE OF DEVELOPER DATE

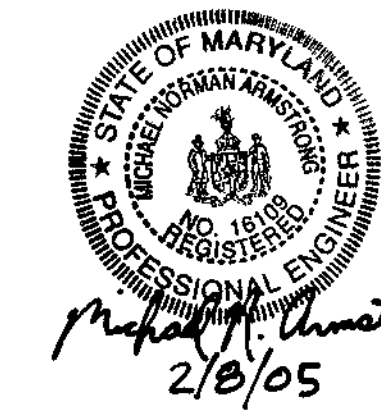
REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

*Jan M.../a* 5/3/05  
 U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*John A...* 5/10/05  
 HOWARD S.C.D. DATE

APPROVED  
 PLANNING BOARD  
 of HOWARD COUNTY  
 DATE: 10/27/04



APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION 4/6/05  
 DATE

CHIEF-DIVISION OF LAND DEVELOPMENT 4/14/05  
 DATE

DIRECTOR *Michael N. Armstrong* 2/8/05  
 DATE

**CENTURY ENGINEERING, INC.**  
 CONSULTING ENGINEERS, PLANNERS, SURVEYORS  
 32 WEST ROAD  
 TOWSON, MARYLAND 21204  
 (410) 823-8070

DATE	REVISION	BY	APPR.

PREPARED FOR:  
 ARCHDIOCESE OF BALTIMORE  
 OUR LADY OF PERPETUAL HELP  
 4801 ILCHESTER ROAD  
 ELLICOTT CITY, MARYLAND 21043

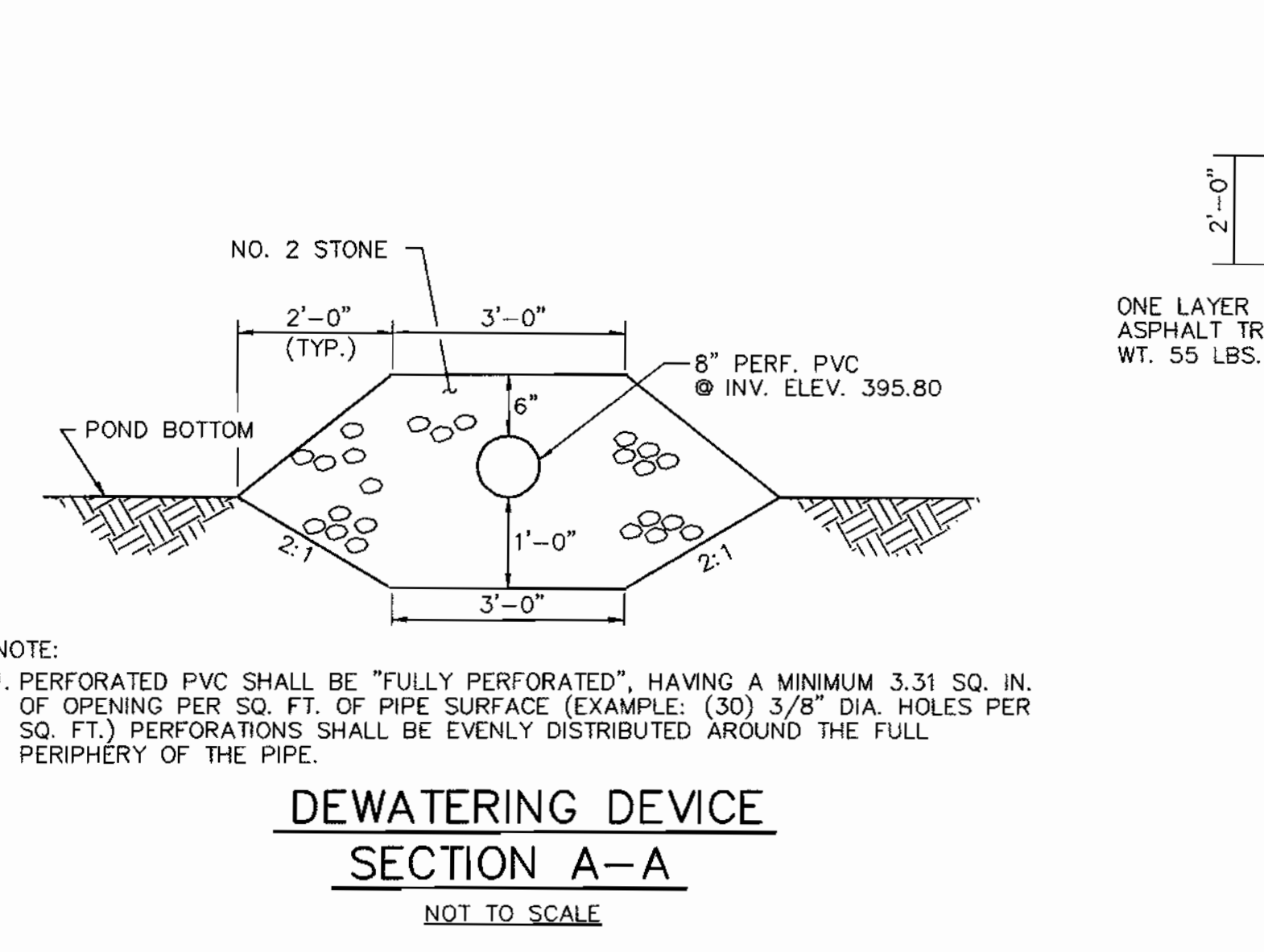
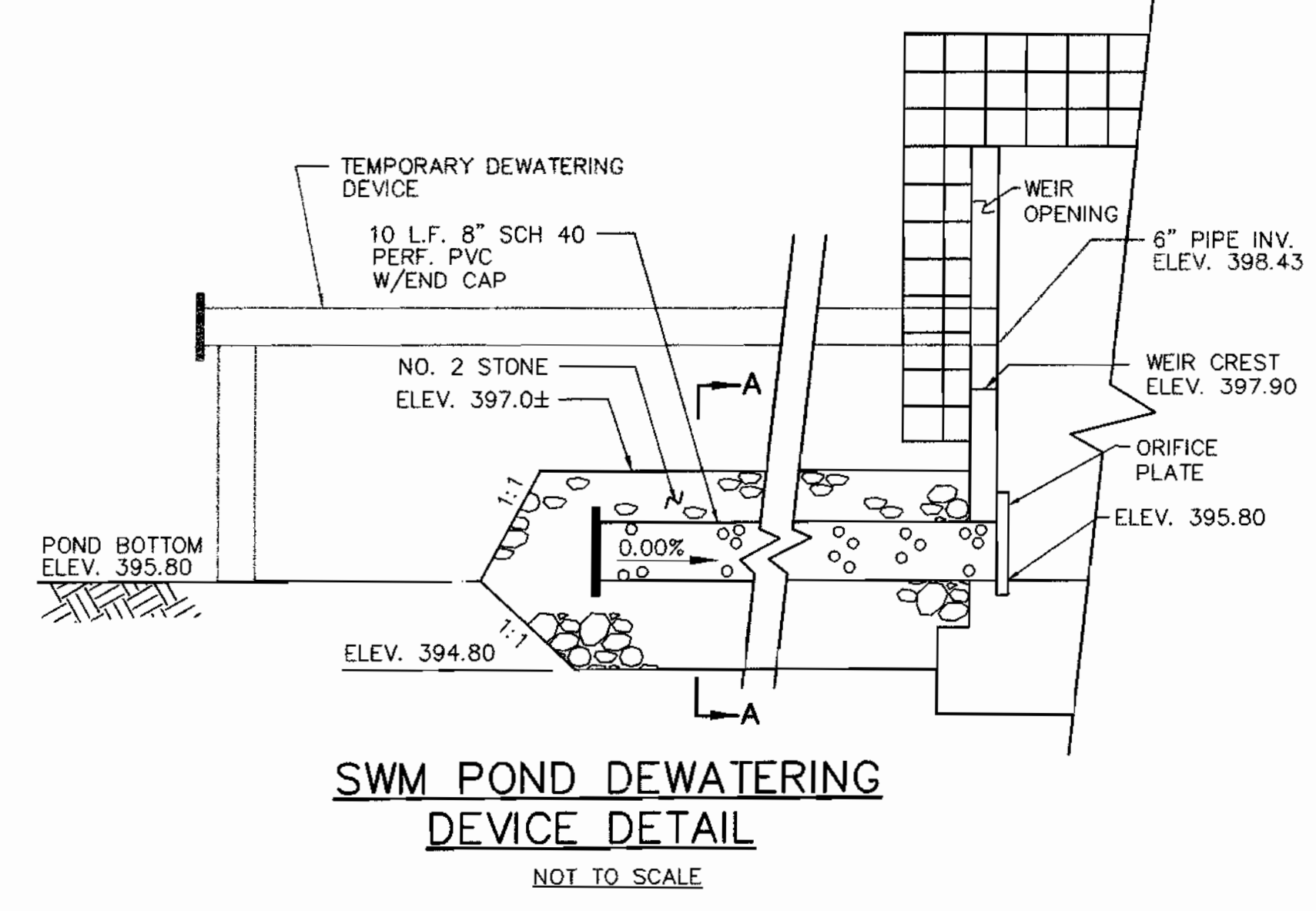
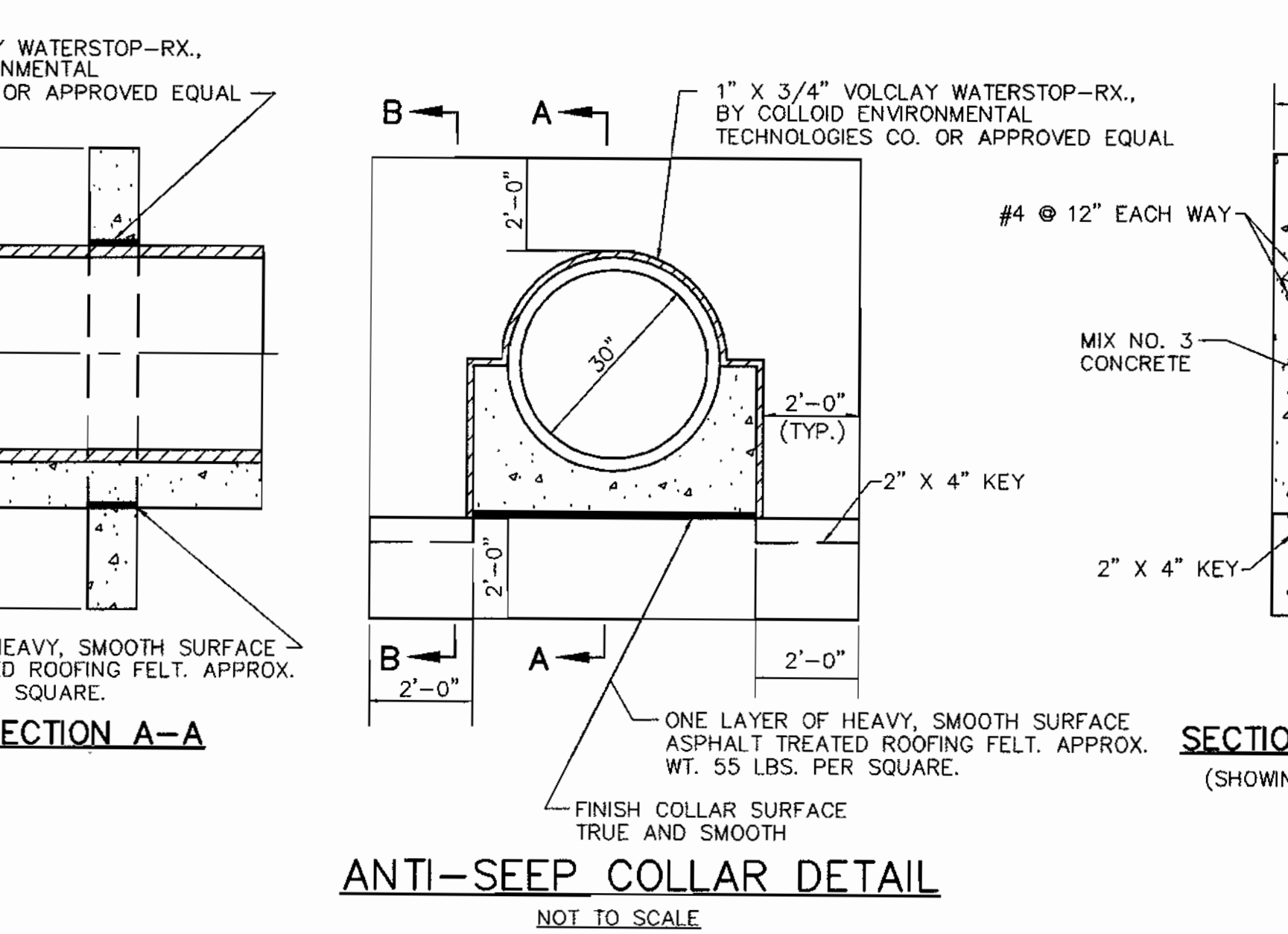
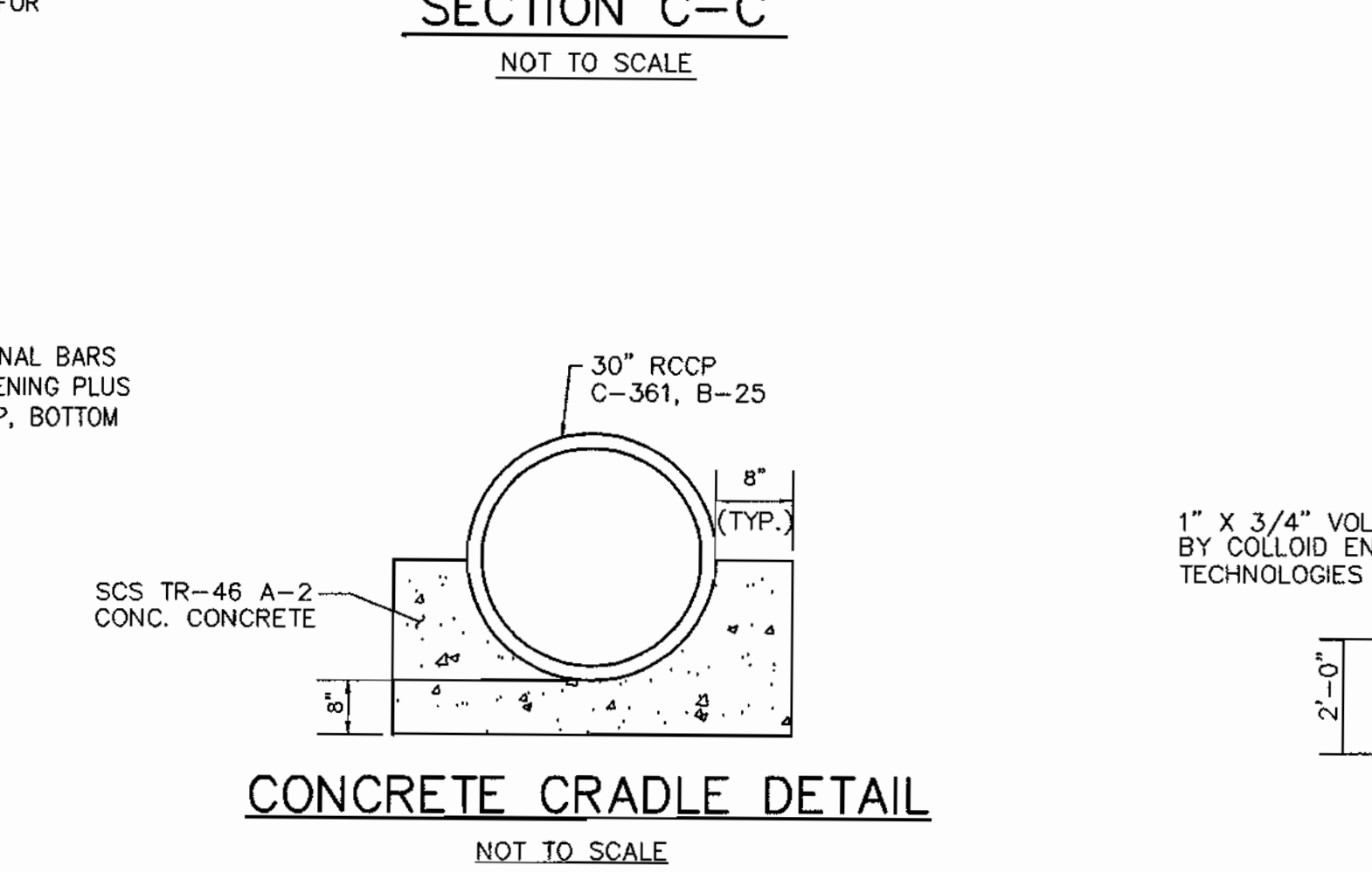
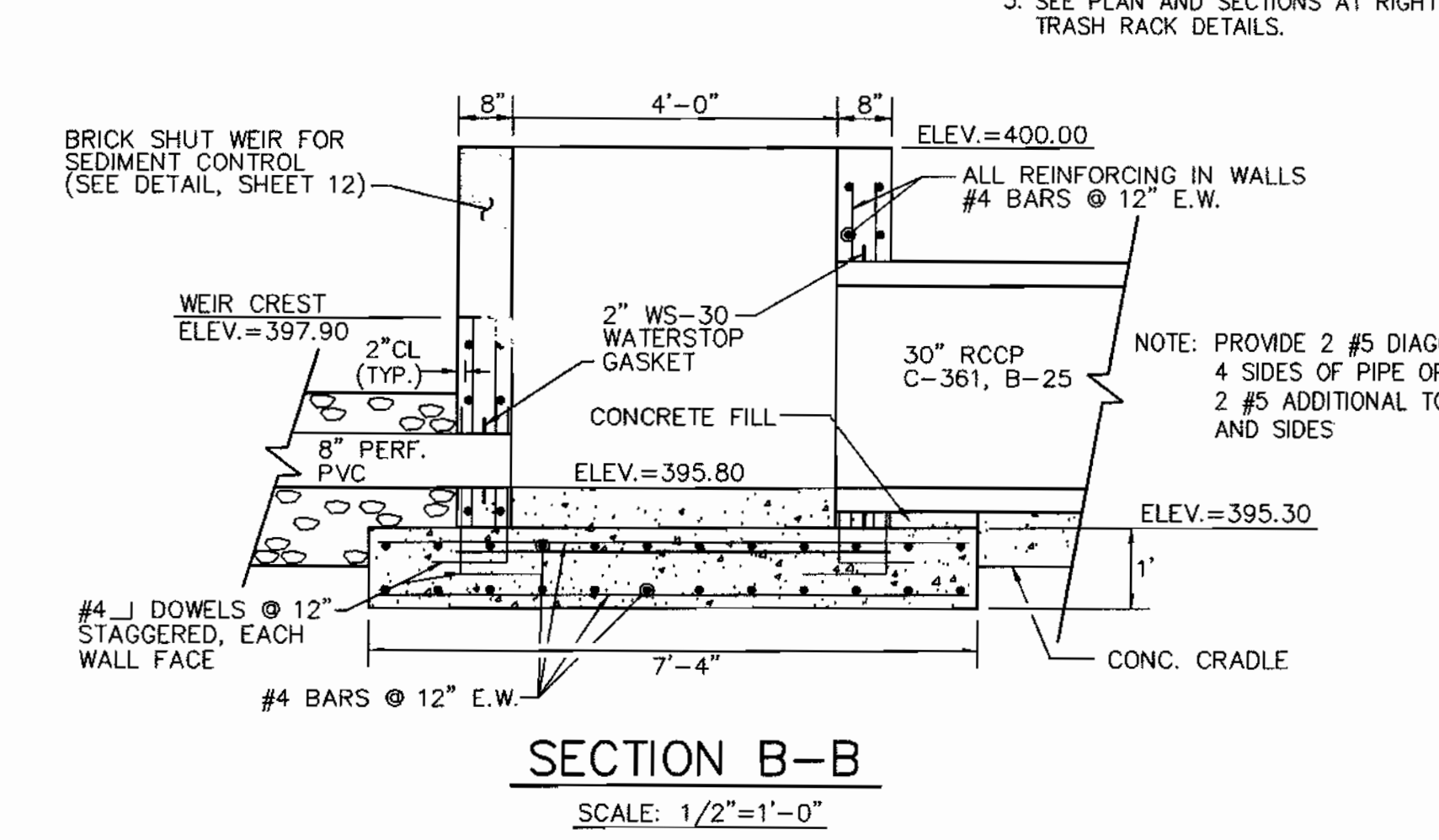
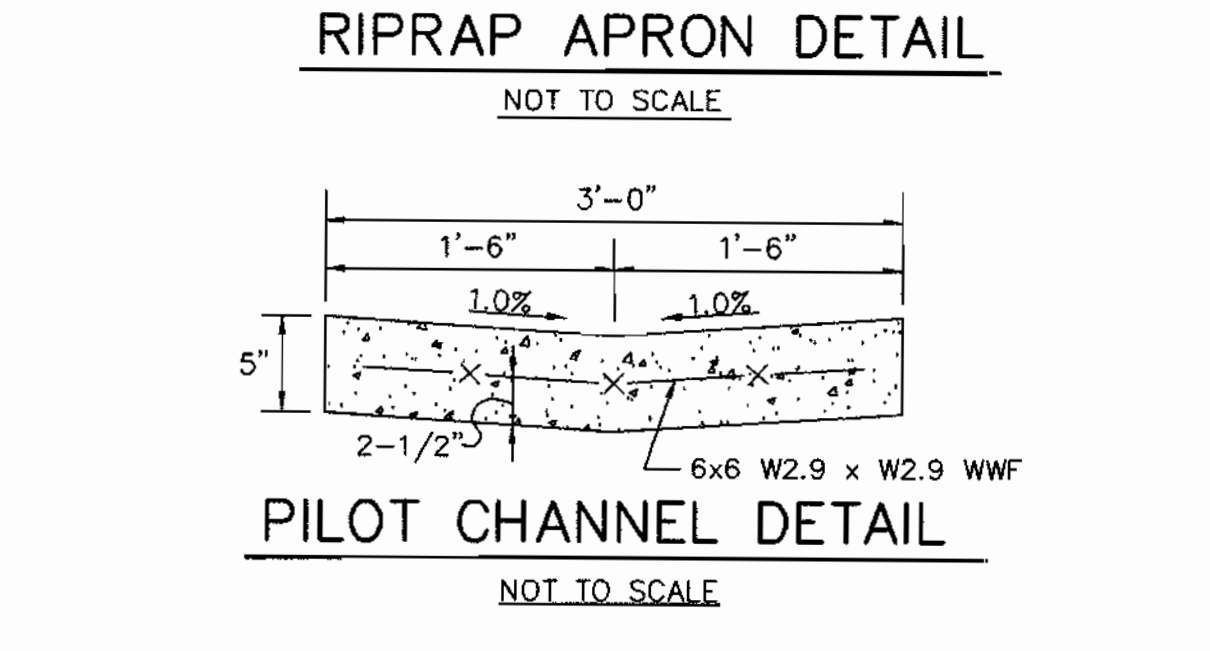
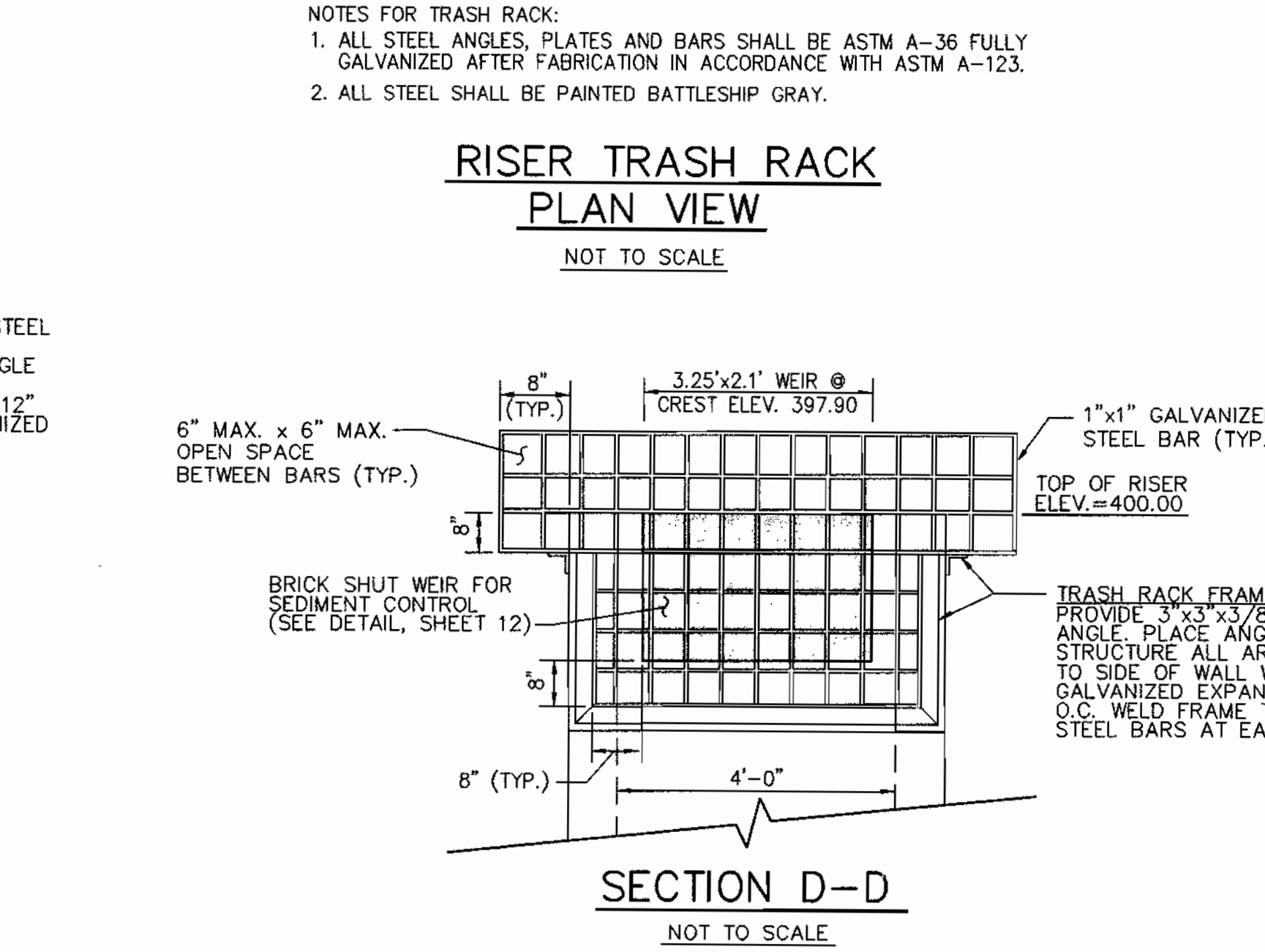
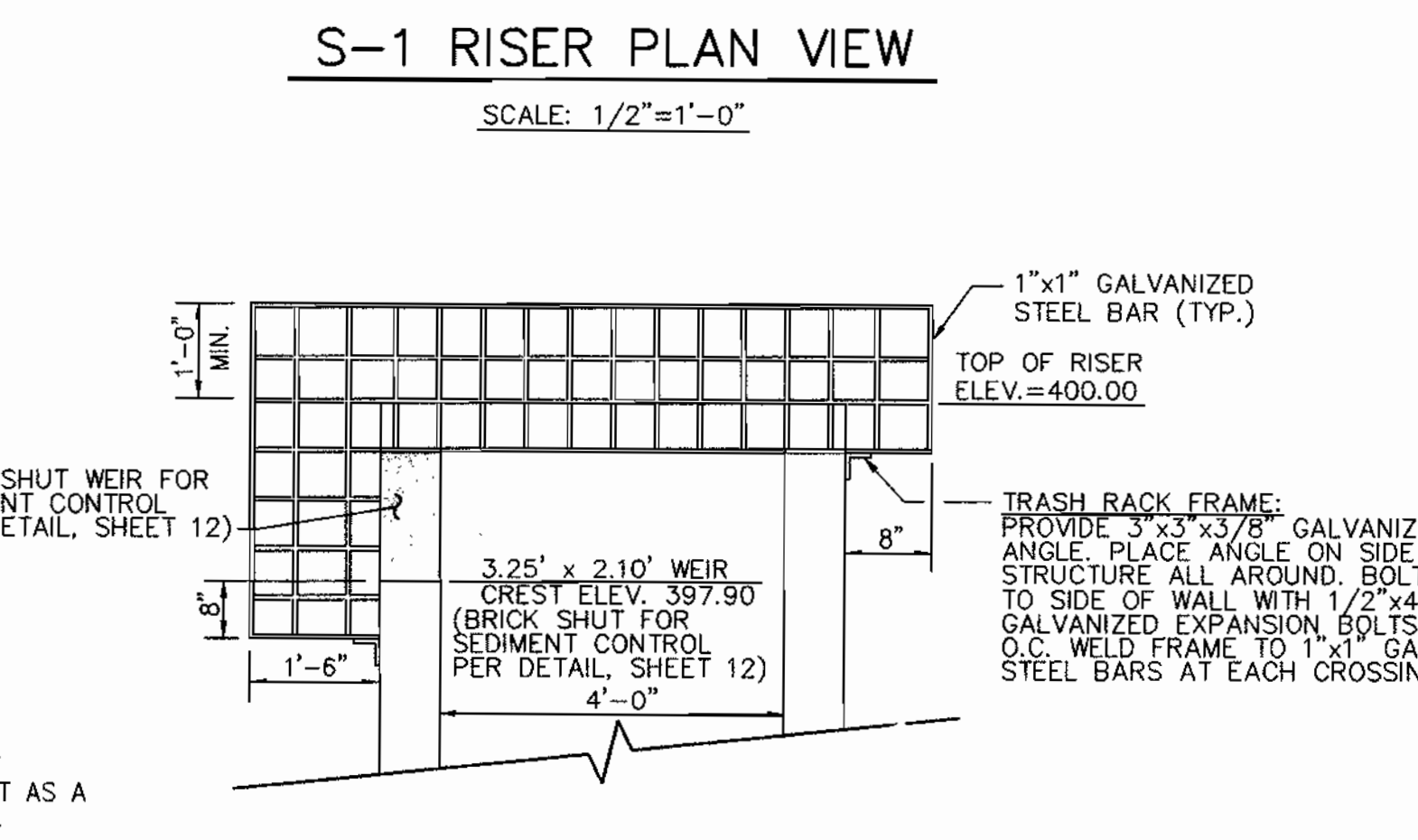
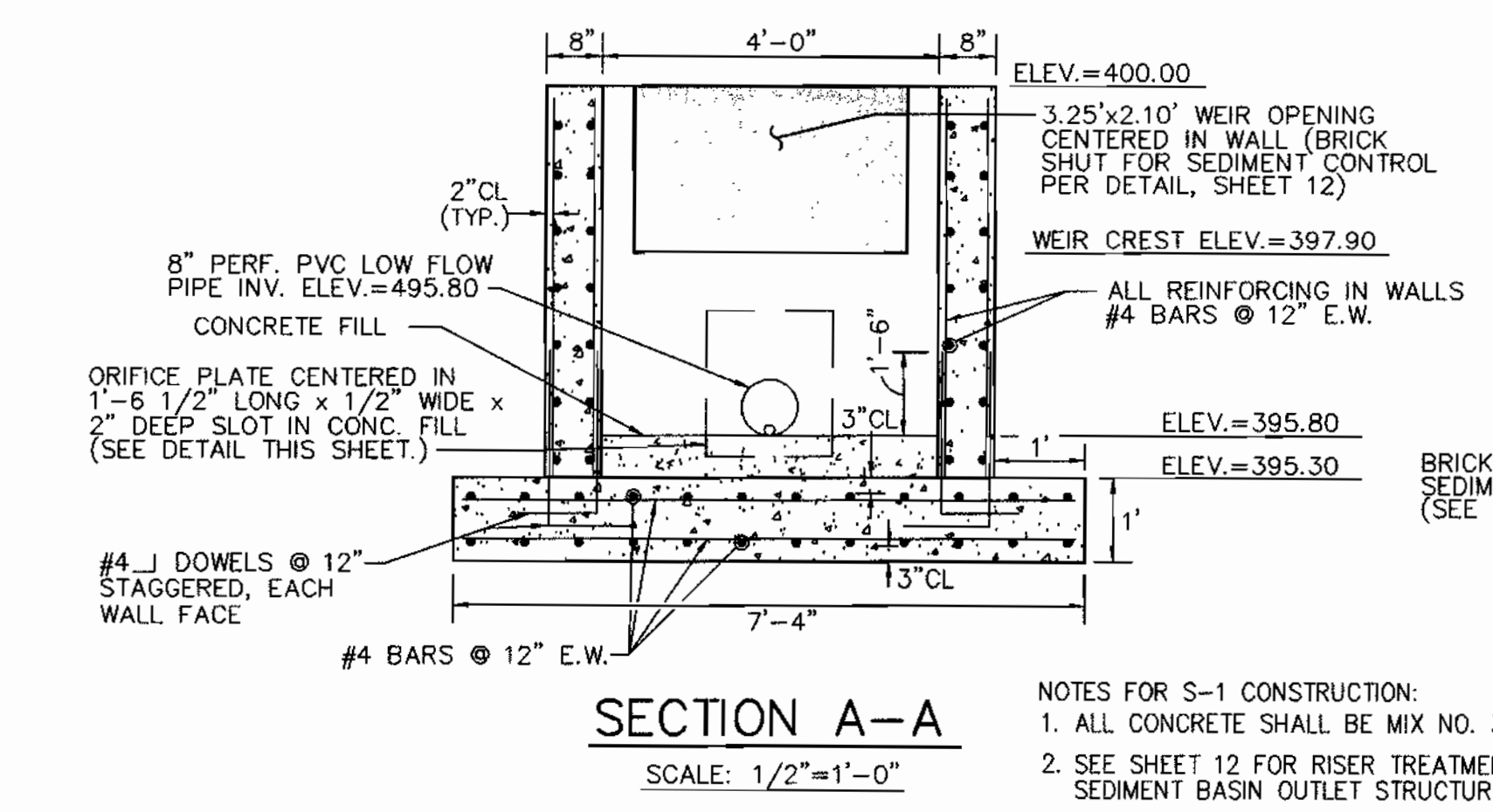
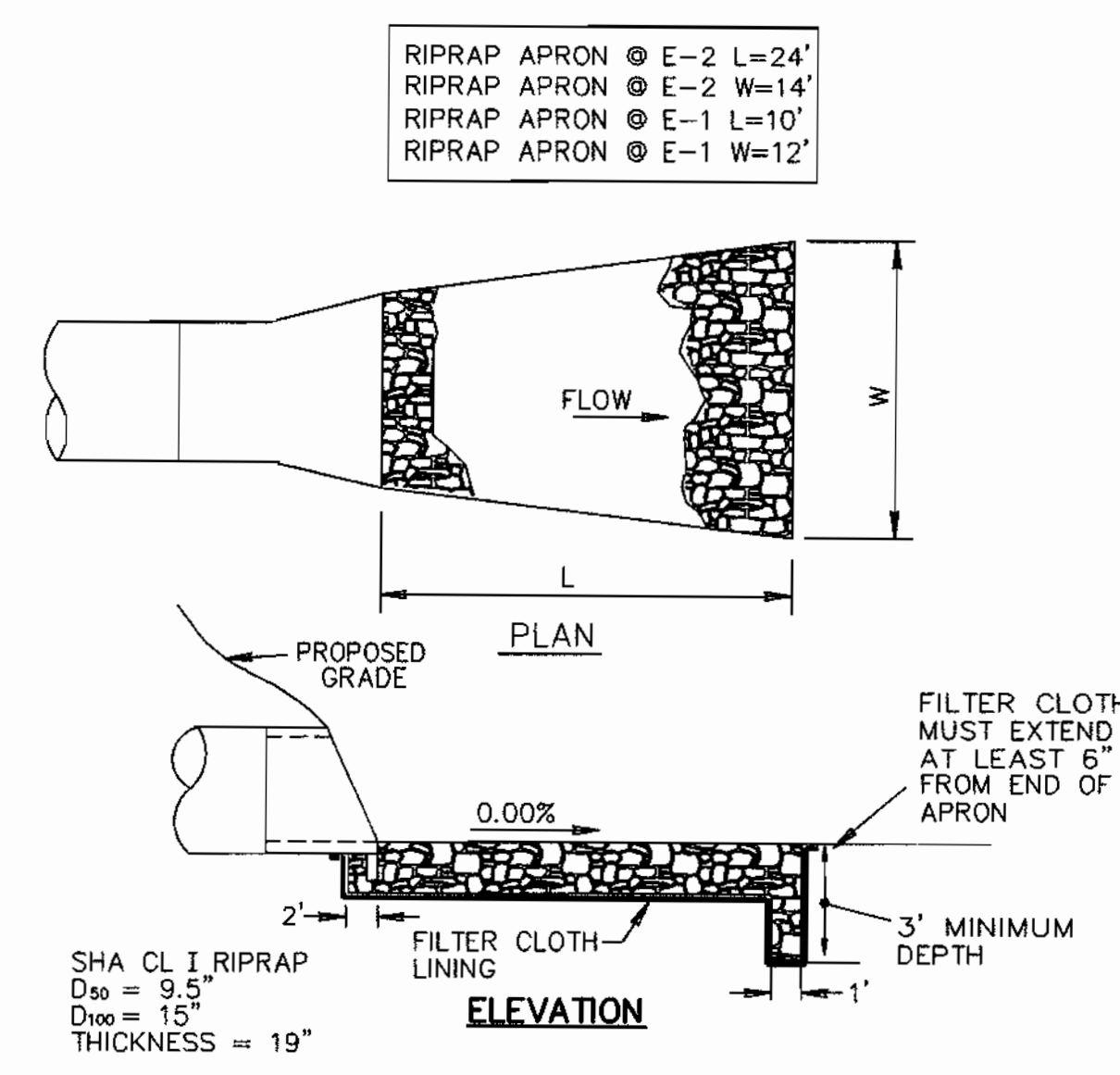
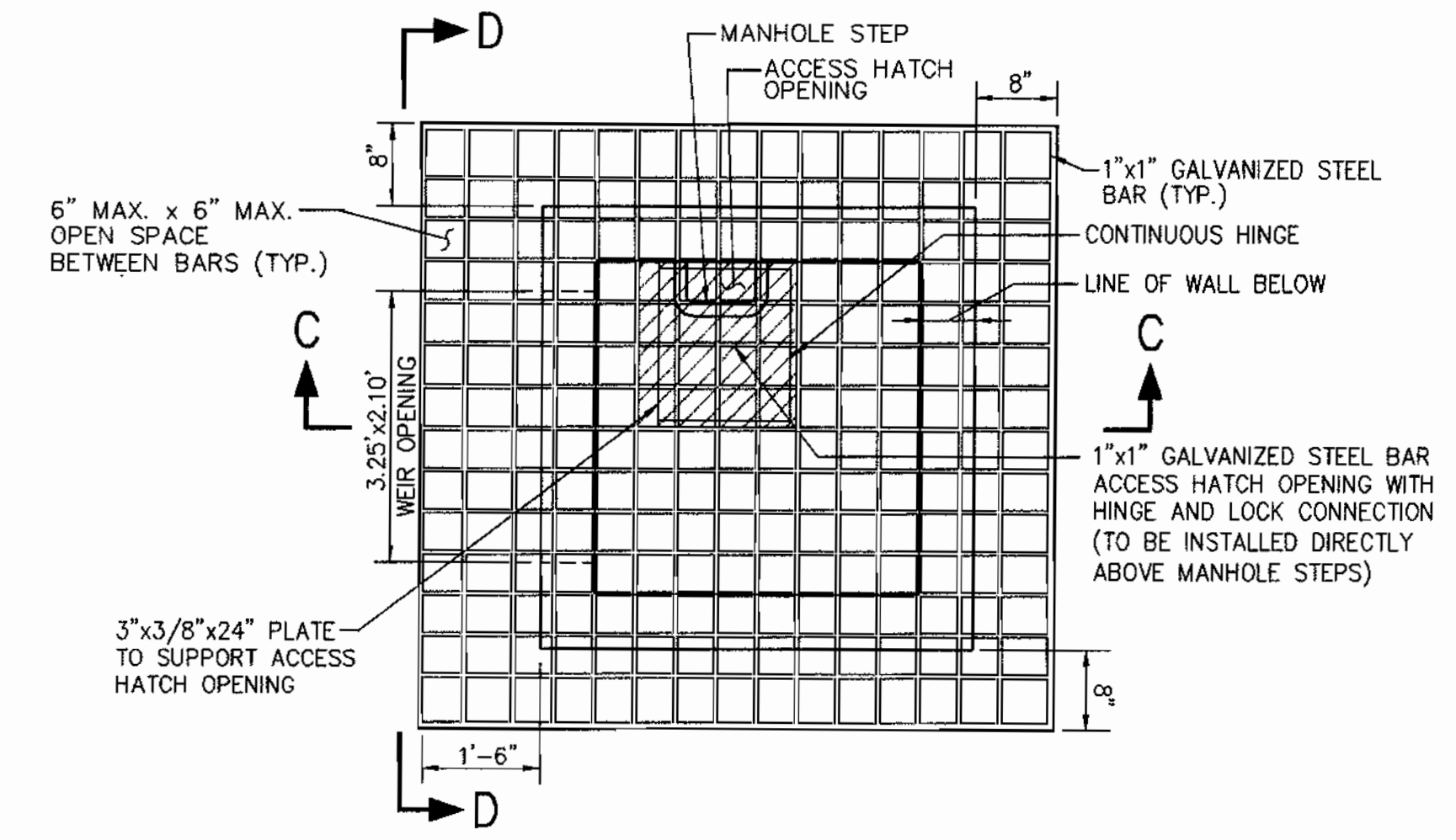
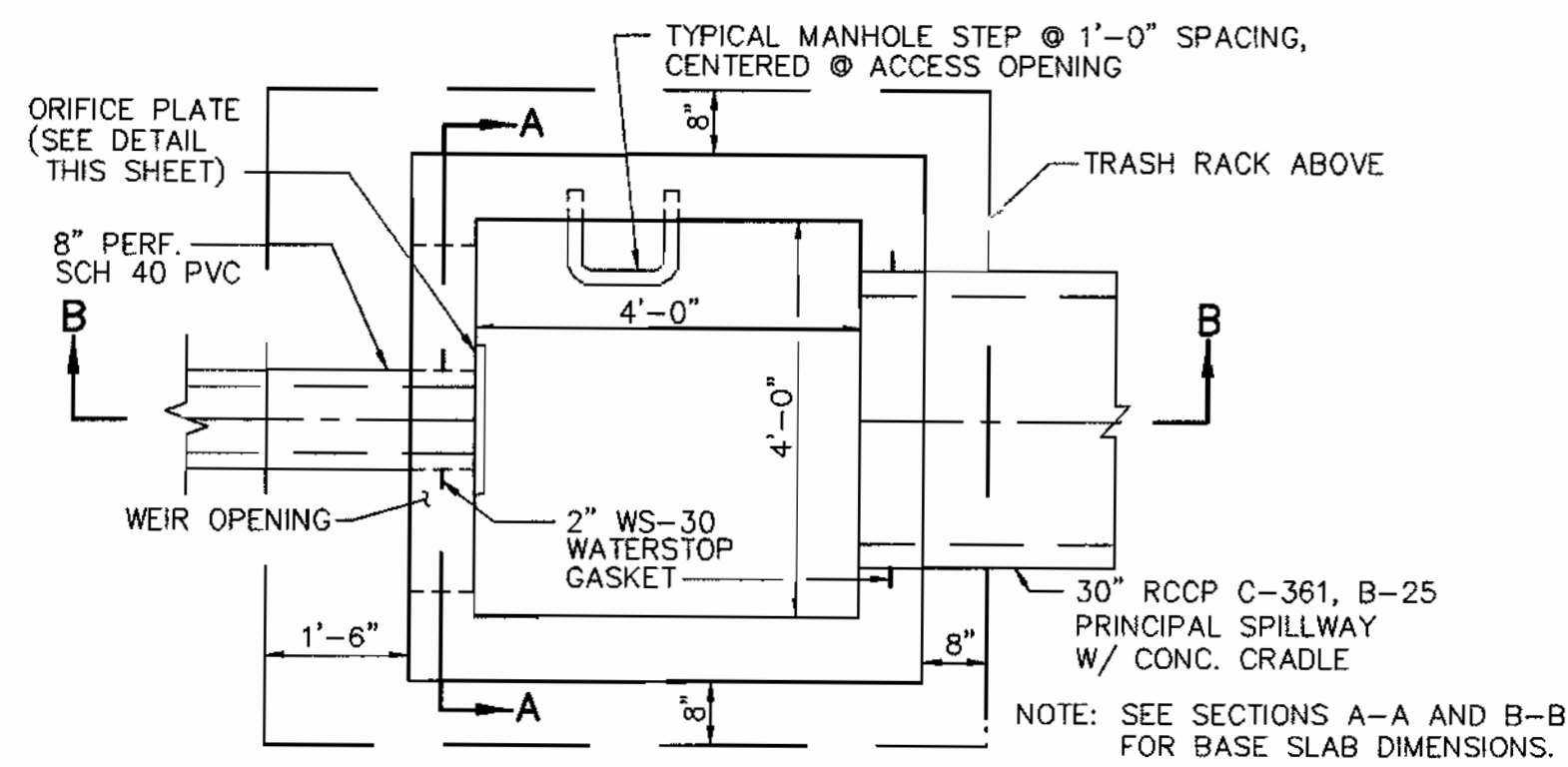
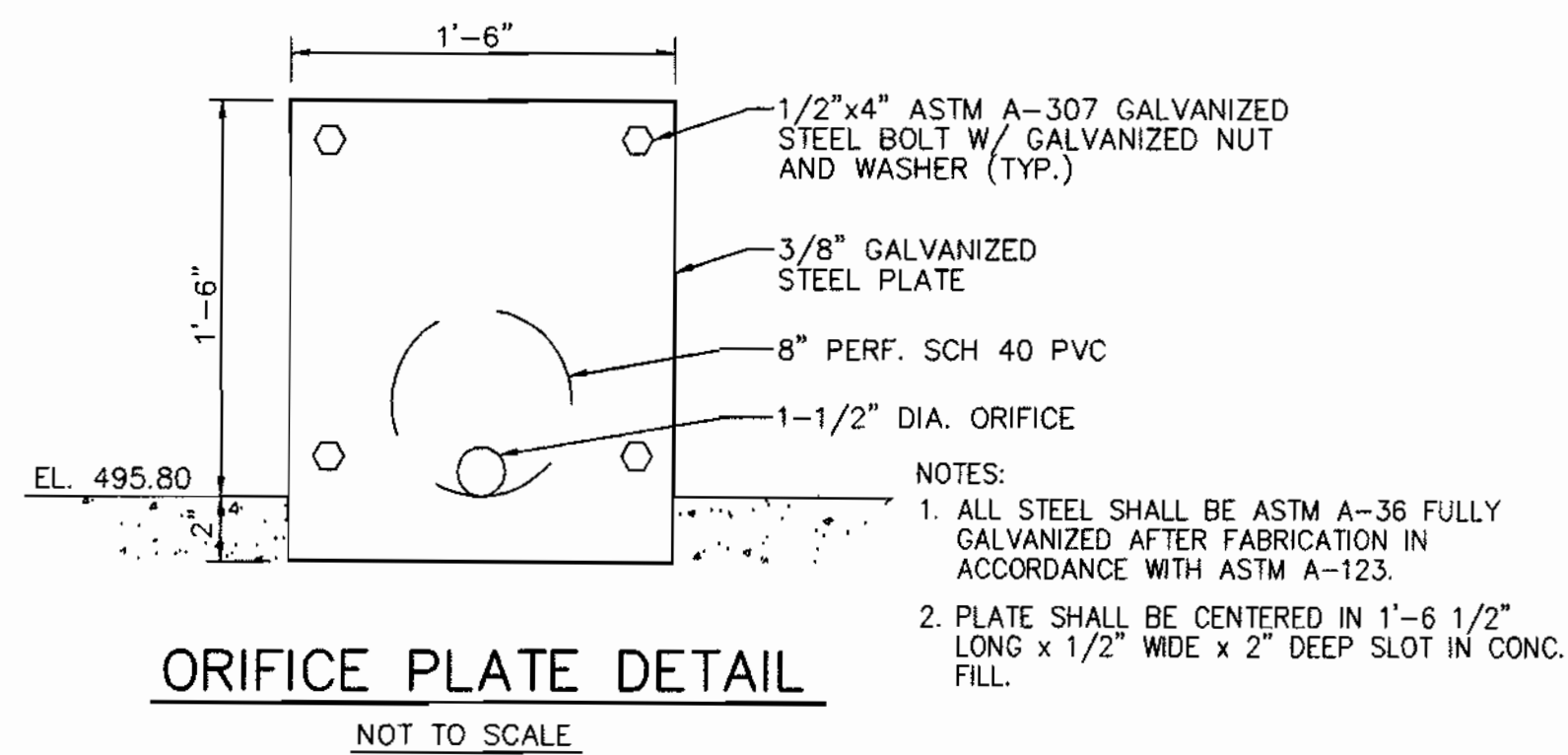
STORMWATER MANAGEMENT AND STORM DRAIN PROFILES

**OUR LADY OF PERPETUAL HELP  
 BALL FIELD IMPROVEMENTS**

2<sup>nd</sup> ELECTION DISTRICT  
 ELLICOTT CITY, MARYLAND  
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
AS SHOWN	R-20	23248.00
DATE	TAX MAP No.	SHEET
FEB., 2005	31	8 OF 15





BY THE ENGINEER:  
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 Michael M. Armstrong 2/8/05  
 SIGNATURE OF ENGINEER DATE

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 SECURITY DEVELOPMENT LLC  
 BY: MR. JAMES GREEN 5/13/05  
 MEMBER SIGNATURE OF DEVELOPER DATE

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.  
 Jim Anzures 5/13/05  
 U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 Mike S. 5/13/05  
 HOWARD S.C.D. DATE

APPROVED  
 PLANNING BOARD  
 of HOWARD COUNTY  
 DATE 10/27/04

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF-DEVELOPMENT ENGINEERING DIVISION 6/2/05 DATE  
 Karl Schuchman 6/2/05 DATE  
 CHIEF-DIVISION OF LAND DEVELOPMENT 6/13/05 DATE  
 Michael M. Armstrong 2/8/05 DIRECTOR DATE

**CENTURY ENGINEERING, INC.**  
 CONSULTING ENGINEERS, PLANNERS, SURVEYORS  
 32 WEST ROAD  
 TOWSON, MARYLAND 21204  
 (410) 823-8070

DATE	REVISION	BY	APP'R.

PREPARED FOR:  
 ARCHDIOCESE OF BALTIMORE  
 OUR LADY OF PERPETUAL HELP  
 4801 ILCHESTER ROAD  
 ELLICOTT CITY, MARYLAND 21043

STORMWATER MANAGEMENT DETAILS  
**OUR LADY OF PERPETUAL HELP  
 BALL FIELD IMPROVEMENTS**  
 ELLICOTT CITY, MARYLAND  
 1<sup>st</sup> ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
AS SHOWN	R-20	23248.00
DATE	TAX MAP No.	SHEET
FEB., 2005	31	9 OF 15

# POND MD-378 STORMWATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS

## CONSTRUCTION SPECIFICATIONS

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

### Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

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

### Earth Fill

**Material** - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

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

**Compaction** - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

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

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

**Embankment Core** - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

### Structure Backfill

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

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

### Pipe Conduits

All pipes shall be circular in cross section.

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

- Materials - (Polymer Coated Steel Pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

**Materials - (Aluminum Coated Steel Pipe)** - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

**Materials - (Aluminum Pipe)** - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-198 or M-211 with watertight coupling bands or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

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

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

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled on adequate number of corrugations to accommodate the bandwidth. The following type connections are acceptable for pipes less than 24 inches in diameter: flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, pre-punched to the flange bolt circle, sandwiched between adjacent flanges; a 12-inch wide standard lap type band with 12-inch wide by 3/8-inch thick closed cell circular neoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange are also acceptable.

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

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

- Backfilling shall conform to "Structure Backfill".

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

**Reinforced Concrete Pipe** - All of the following criteria shall apply for reinforced concrete pipe:

- Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361.

**Bedding** - Reinforced concrete pipe conduits shall be laid in a concrete bedding / cradle for their entire length. This bedding / cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 8 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.

- Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

- Backfilling shall conform to "Structure Backfill".
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

**Plastic Pipe** - The following criteria shall apply for plastic pipe:

- Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.

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

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

- Backfilling shall conform to "Structure Backfill".

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

**Drainage Diaphragms** - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

### Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 902.10.03, Mix No. 3.

### Rock Riprap

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

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

### Care of Water during Construction

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

### Stabilization

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

### Erosion and Sediment Control

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

### SEEDING

Seeding, Fertilizing and mulching shall be as follows:

Seed Mix:  
 Rebel II Tall Fescue (125 lbs. per acre)  
 Pennfene Perennial Ryegrass (15 lbs. per acre)  
 Kenblue Kentucky Bluegrass (10 lbs. per acre)  
 (or)  
 83% Rebel II Tall Fescue (110 lbs. per acre)  
 2% Weeplly Lovegrass (3 lbs. per acre)  
 15% Scercia Lespedeza (20 lbs. per acre)

Optimum seeding dates: March 1 to April 30.

Lime: 2 tons per acre Dolomitic Limestone.

Fertilizer: 600 lbs. per acre 10-10-10 fertilizer before seeding,  
 400 lbs. per acre 30-0-0 ureaform fertilizer at time of seeding.

Mulch: Straw at 4,000 lbs. per acre.

Anchoring: Mulching tool or emulsified asphalt at a rate of 8 gal. per 1,000 square feet.

### FILTER CLOTH

Filter cloth shall conform to Mirafi 140N, Dupont Typar 3341 or 3401, Supac 5P, Amoco 4551 or approved equal.

### CONSTRUCTION INSPECTION BY DESIGNATED ENGINEERS

The construction of the pond and embankment, and certification that the pond and embankment have been built in accordance with the plan shall be under the supervision of a Registered Professional Engineer. The Engineer shall be notified sufficiently in advance of construction in order that arrangements can be made for (1) inspection of pipe trench and bedding, (2) inspection of risers and anti-seep collars and (3) supervision of embankment construction and compaction testing. The Engineer shall direct the handling of water during construction, and minor changes not affecting the integrity of the dam in order to compensate for unusual soil conditions, and the removal of defective fill.

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

*Michael N. Armstrong* 2/8/05  
 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 A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

*Security Development LLC* 5/13/05  
 BY: *MR. W. STEVEN BREEDEN* SIGNATURE OF DEVELOPER DATE  
 MD0564

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

*Jin Hyun Lee* 5/31/05  
 U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*Howard S.C.D.* 5/13/05  
 HOWARD S.C.D. DATE

APPROVED FOR PLANNING AND ZONING  
 OF HOWARD COUNTY  
 DATE 10/27/04 *pac*



APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF-DEVELOPMENT ENGINEERING DIVISION 4/14/05  
*Paul Blackwood* DATE  
 CHIEF-DIVISION OF LAND DEVELOPMENT 4/14/05  
*Michael N. Armstrong* DATE  
 DIRECTOR 2/8/05  
 CHIEF-DIRECTOR 4/14/05  
*Barbara D. Lytle* DATE

**CENTURY ENGINEERING, INC.**  
 CONSULTING ENGINEERS, PLANNERS, SURVEYORS  
 32 WEST ROAD  
 TOWSON, MARYLAND 21204  
 (410) 823-8070

DATE	REVISION	BY	APP'R.

PREPARED FOR:  
 ARCHDIOCESE OF BALTIMORE  
 OUR LADY OF PERPETUAL HELP  
 4801 ILCHESTER ROAD  
 ELLICOTT CITY, MARYLAND 21043

STORMWATER MANAGEMENT CONSTRUCTION SPECIFICATIONS  
**OUR LADY OF PERPETUAL HELP  
 BALL FIELD IMPROVEMENTS**  
 ELLICOTT CITY, MARYLAND  
 1<sup>ST</sup> ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
AS SHOWN	R-20	23248.00
DATE	TAX MAP No.	SHEET
FEB., 2005	31	10 OF 15

**SEQUENCE OF CONSTRUCTION\***

- OBTAIN GRADING PERMIT.
- NOTIFY HOWARD COUNTY DEPARTMENT OF PERMITS & LICENSES, GRADING AND SEDIMENT CONTROL INSPECTIONS AT 410-313-1855 AT LEAST 48 HOURS PRIOR TO BEGINNING WORK.
- EXISTING HAUL ROAD USED FOR SITE ACCESS TO GRADE THE BALL FIELD STOCKPILE (UNDER SDP-02-97 REVISION) MAY BE USED FOR ACCESS TO CONSTRUCT THE SEDIMENT BASIN AND COMPLETE THE BALL FIELD GRADING. PRIOR TO BEGINNING CONSTRUCTION, INSTALL STONE CONSTRUCTION ENTRANCE, CLEAR THE MINIMUM AREA REQUIRED FOR INSTALLATION OF SEDIMENT CONTROL MEASURES, AND INSTALL ALL SEDIMENT CONTROLS REQUIRED FOR CONSTRUCTION OF THE SEDIMENT BASIN AND THE BALL FIELD GRADING OPERATION. SUPER SILT FENCE AND SILT FENCE SHALL BE INSTALLED ALONG THE ENTIRE BASIN PERIMETER TO THE NORTHWEST CORNER OF THE SEDIMENT TRAP TO BE INSTALLED FOR CONSTRUCTION OF THE PERMANENT ACCESS ROAD TO RELOCATED SWM POND.  
THE PERMANENT ACCESS ROAD TO THE RELOCATED SWM POND MAY BE INSTALLED AT ANY TIME DURING THE CONSTRUCTION OPERATION, PROVIDED THAT, PRIOR TO BEGINNING CONSTRUCTION, THE MINIMUM AREA IS CLEARED FOR INSTALLATION OF REQUIRED SEDIMENT CONTROL MEASURES, AND ALL SEDIMENT CONTROL MEASURES ARE INSTALLED.
- NOTIFY HOWARD COUNTY DEPARTMENT OF PERMITS & LICENSES, GRADING AND SEDIMENT CONTROL INSPECTIONS @ 414-313-1855 UPON COMPLETION OF INSTALLATION OF SEDIMENT CONTROL MEASURES FOR BASIN CONSTRUCTION AND BALL FIELD GRADING OPERATION. IF THE PERMANENT ACCESS ROAD TO RELOCATED SWM POND IS BUILT DURING OR AFTER THE BALL FIELD GRADING OPERATION, CONTACT 414-313-1855 UPON COMPLETION OF INSTALLATION OF SEDIMENT CONTROL MEASURES FOR SAID ACCESS ROAD CONSTRUCTION.
- AFTER ALL REQUIRED SEDIMENT CONTROLS ARE IN PLACE, BEGIN THE SEDIMENT BASIN CONSTRUCTION, AND CLEAR THE AREA REQUIRED TO ACCESS THE BALL FIELD FROM THE BASIN. BEGINNING AT E-2, START 36" PIPE INSTALLATION, PER UTILITY NOTES BELOW. EXCAVATED MATERIAL FROM THE BASIN MAY BE STOCKPILED OR PLACED IN BALL FIELD AREA WITH EXISTING SEDIMENT CONTROL MEASURES (SEE NOTE BELOW FOR FILL IN BALL FIELD AND ADJACENT AREA). UPON COMPLETION OF BASIN CONSTRUCTION, VEGETATIVELY STABILIZE TOP OF DAM AND OUTSIDE SLOPES, AND COMPLETE 36" PIPE INSTALLATION FROM E-2 TO M-2.
- REMOVE EXISTING HEADWALL AND 36" CMP. INSTALL THE 36" PIPE FROM E-3 TO M-3, CONSTRUCT AND CONNECT THE BERM/CHANNEL TO THE EXISTING BERM/CHANNEL, AND STABILIZE WITH EROSION CONTROL MATTING. FILL THE EXISTING SEDIMENT TRAP AS REQUIRED, PER NOTE BELOW FOR FILL IN BALL FIELD AND ADJACENT AREA.
- MAINTAIN THE SEDIMENT BASIN AS REQUIRED, AND COMPLETE THE GRADING OPERATION.
- FINE GRADE AND COMPLETE THE BALL FIELD INFIELD CONSTRUCTION AND VEGETATIVELY STABILIZE ALL DISTURBED AREAS, EXCLUDING THE SEDIMENT BASIN.
- WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, CONVERT THE SEDIMENT BASIN TO THE STORMWATER MANAGEMENT POND, BY GRADING THE BASIN TO FINISHED POND BOTTOM GRADES, INSTALLING PILOT CHANNEL, MODIFYING S-1 TO PERMANENT STRUCTURE, AND REPLACING THE TEMPORARY SEDIMENT BASIN DEWATERING DEVICE WITH THE PERMANENT SWM DEWATERING DEVICE. VEGETATIVELY STABILIZE DISTURBED POND AREA. WITH THE SEDIMENT CONTROL INSPECTOR'S APPROVAL, REMOVE SEDIMENT CONTROL MEASURES, GRADE THE SEDIMENT TRAP AREA TO PRE-CONSTRUCTION CONDITIONS, AND VEGETATIVELY STABILIZE ALL REMAINING DISTURBED AREAS.

\* THIS PROJECT IS A CONTINUATION OF THE GRADING OPERATION REFERENCED AS "BALL FIELD STOCKPILE" UNDER SDP-02-97 REVISION. EXISTING FINISHED GRADES IN THE BALL FIELD AREA ARE BASED ON PROPOSED GRADES SHOWN ON SDP-02-97. THIS SEQUENCE CONSIDERS GRADING REQUIRED TO RELOCATE A SWM POND (DESIGNED UNDER SDP-93-14 TO BE IN THE NORTHEAST CORNER OF THE EXISTING FIELD), AND TO PROVIDE FILL AS REQUIRED TO COMPLETE BALL FIELD CONSTRUCTION.  
FILL IN BALL FIELD (INCLUDING ADJACENT AREA) SIDE SLOPES, 8-FOOT WIDE BENCH AREAS AND PERMANENT BERM/CHANNELS SHALL BE COMPACTED TO A MINIMUM OF 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 698 (STANDARD PROCTOR). OTHER FILL IN BALL FIELD AND ADJACENT AREA SHALL BE COMPACTED TO 90% STANDARD PROCTOR.

**UTILITY NOTES**

- CONTRACTOR SHOULD OPEN THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE) THE TRENCH.
- PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
- ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

**SPECIFICATION FOR FILL TO REMAIN IN PLACE**

FILL TO REMAIN IN PLACE (WHICH EXCLUDES ALL BERMS, CHANNELS AND SIDE SLOPES) SHALL BE COMPACTED TO A MINIMUM OF 90% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 698 (STANDARD PROCTOR). BERMS, CHANNELS AND SIDE SLOPES SHALL BE COMPACTED TO 95% STANDARD PROCTOR.

**TIMETABLE**

- |          |
|----------|
| 1 DAY    |
| 3 DAYS   |
| 1 DAY    |
| 2 MONTHS |
| 1 WEEK   |
| 1 WEEK   |
| 1 WEEK   |
| 1 WEEK   |

**HOWARD SOIL CONSERVATION DISTRICT**

**STANDARD SEDIMENT CONTROL NOTES**

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313-1855).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes steeper than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7 of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding, sod, temporary seeding and mulching (Sec. C). Temporary stabilization with mulch alone shall only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:
 

Total Area of Site	=	26.375 Acres
Area Disturbed	=	4.66 Acres
Area to be roofed or paved	=	0.0 Acres
Area to be vegetatively stabilized	=	4.66 Acres
Total Cut	=	7,000 Cu. Yds.
Total Fill	=	20,000 Cu. Yds.
Offsite waste/borrow area location	=	F-03-134 & F-03-150
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary, by the Howard County Sediment Control Inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- Trenches for the construction of utilities is limited to three pipe lengths or that which shall be backfilled and stabilized within one working day, whichever is shorter.

**21.0 STANDARD AND SPECIFICATIONS**

**FOR TOPSOIL**  
Definition  
Place 2" of topsoil over a prepared subsoil prior to establishment of permanent vegetation.  
Purpose  
To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.  
Conditions Where Practice Applies

- This practice is limited to areas having 2:1 or flatter slopes where:
  - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
  - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
  - The original soil to be vegetated contains material toxic to plant growth.
  - The soil is so acidic that treatment with limestone is not feasible.
- For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

**Construction and Material Specifications**

- Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
  - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
  - Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutedge, poison ivy, thistle, or others as specified.

- Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
- For sites having disturbed areas under 5 acres:
  - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
- For sites having disturbed areas over 5 acres:
  - On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
    - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
    - Organic content of topsoil shall be not less than 1.5 percent by weight.
    - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
    - No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.

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

- Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
- Topsoil Application
  - When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
  - Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
  - Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
  - Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

**HOWARD SOIL CONSERVATION DISTRICT**

**PERMANENT SEEDING NOTES**

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

- Preferred - Apply 2 tons/acre dolomitic limestone (92,000 lbs/1000 sq. ft) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs/acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.).
- Acceptable - Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs/acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

Seeding - For the periods March 1 - April 30 and August 1 - October 15, seed with 60 lbs/acre (1.4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May - July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs/acre (.05 lbs/1000 sq. ft.) of weeping lovegrass. During the period of October 16 - February 28, protect site by Option 1 - Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2 - Use sod. Option 3 - Seed with 60 lbs/acre Kentucky 30 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching - Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

Maintenance: Inspect all seeding areas and make needed repairs, replacements and reseeds.

**TEMPORARY SEEDING NOTES**

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.

Seedbed preparation - Loosen upper three inches of soil by raking, disking or other means before seeding, if not previously loosened.

Soil Amendments - Apply 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.).

Seeding - For period March 1 - April 30 from August 15 - October 15, seed with 2 1/2 bushel per acre of annual rye (3.2 lbs/1000 sq. ft.). for the period May 1 - August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 16 - February 28, protect site by applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching - Apply 1 1/2 tons/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 ft. or higher, use 348 gal. per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

- Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
  - Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
    - Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
    - Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a Ph of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
    - Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
    - Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sodding, MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

BY THE ENGINEER:

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

*Michael P. Armstrong* 2/8/05  
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 A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

*SECURITY DEVELOPMENT LLC*  
*PHILIP B. BROWN* 5/13/05  
SIGNATURE OF DEVELOPER DATE

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

*Jim Mays* 5/13/05  
U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

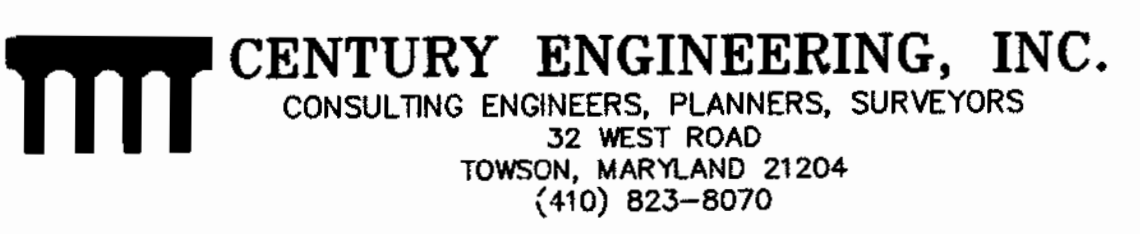
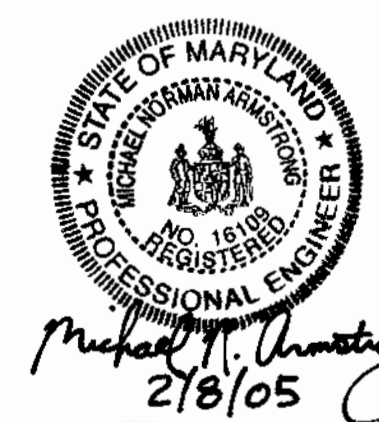
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Michael P. Armstrong* 5/13/05  
HOWARD S.C.D. DATE

**APPROVED**  
PLANNING BOARD  
of HOWARD COUNTY  
DATE 10/27/04 BC

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION 4/14/05  
*Michael P. Armstrong* DATE  
CHIEF-DIVISION OF LAND DEVELOPMENT 4/14/05  
*Michael P. Armstrong* DATE  
DIRECTOR 4/14/05  
*Michael P. Armstrong* DATE



DATE	REVISION	BY	APPR.

PREPARED FOR:  
ARCHDIOCESE OF BALTIMORE  
OUR LADY OF PERPETUAL HELP  
4801 ILCHESTER ROAD  
ELLCOTT CITY, MARYLAND 21043

SEDIMENT CONTROL NOTES  
**OUR LADY OF PERPETUAL HELP**  
**BALL FIELD IMPROVEMENTS**  
ELLCOTT CITY, MARYLAND  
2<sup>nd</sup> ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
AS SHOWN	R-20	23248.00
DATE	TAX MAP No.	SHEET
FEB., 2005	31	11 OF 15

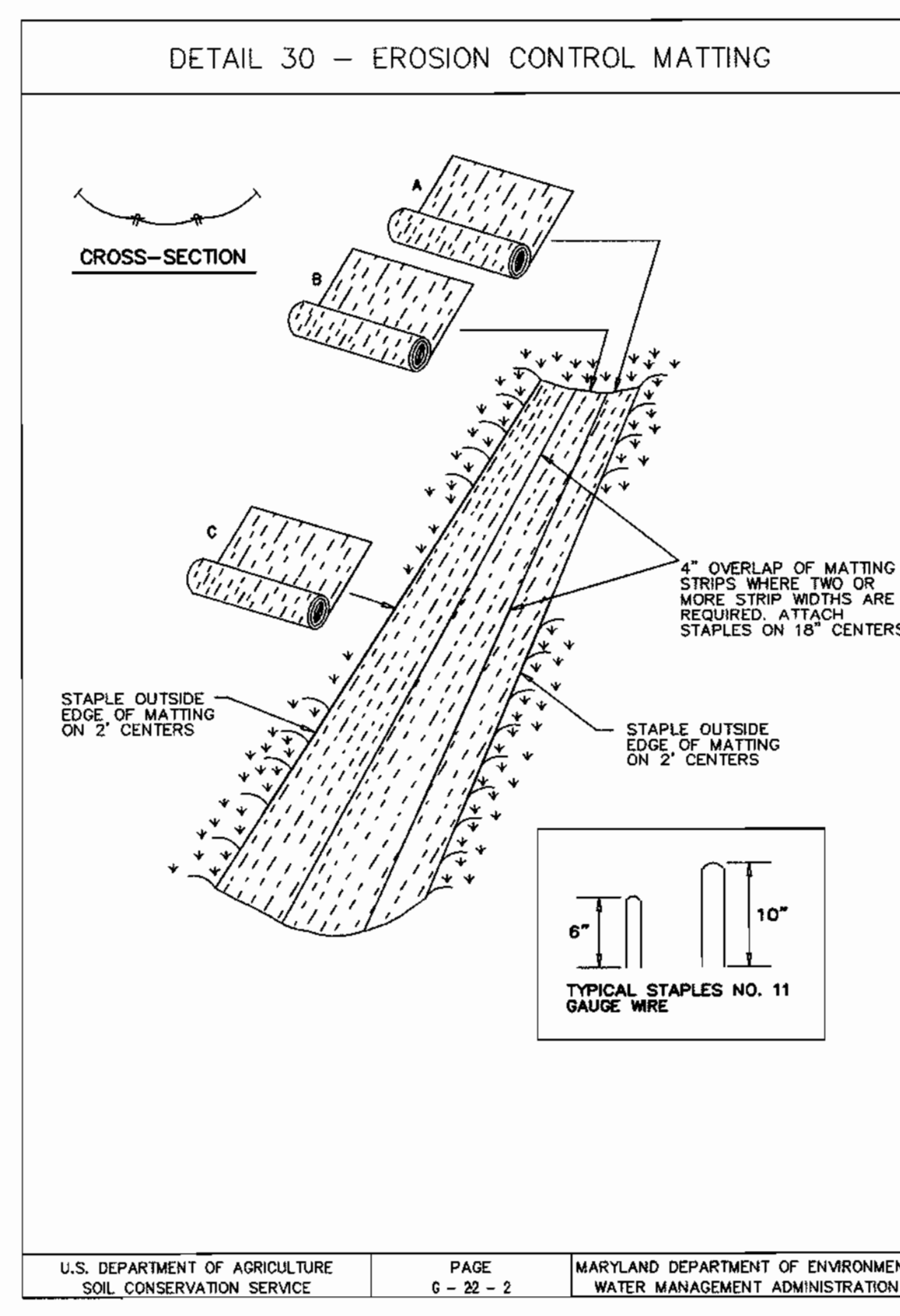
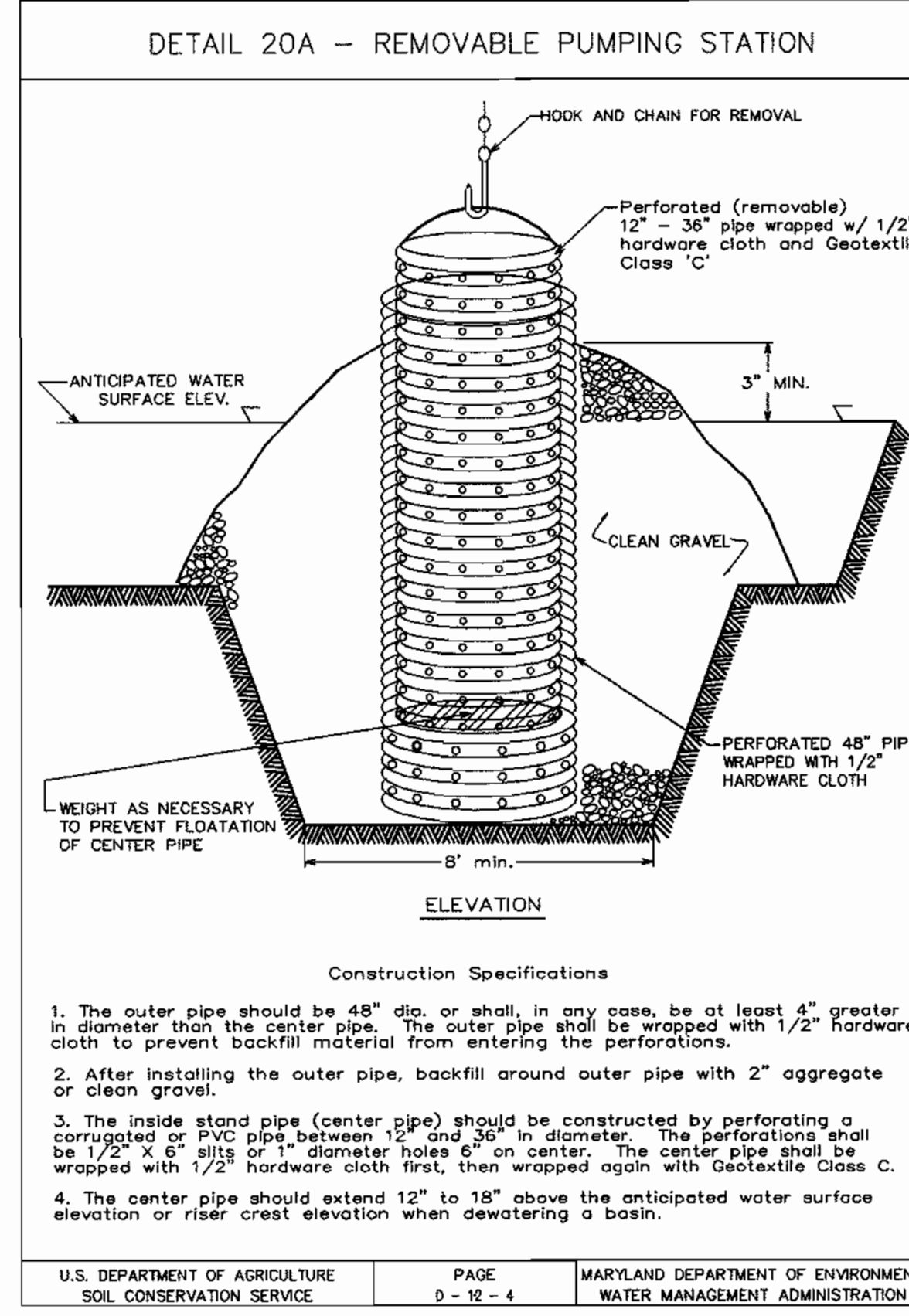
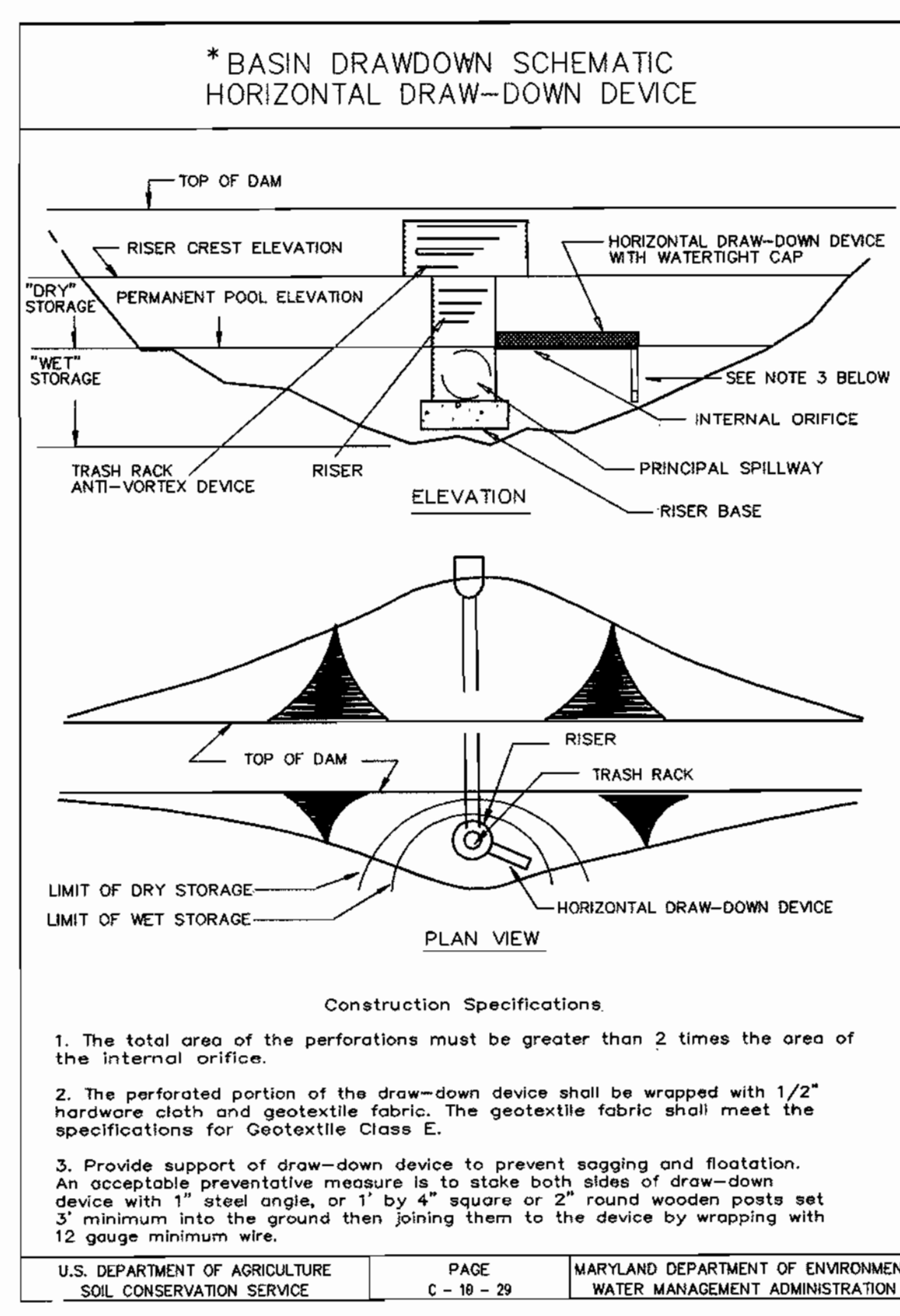
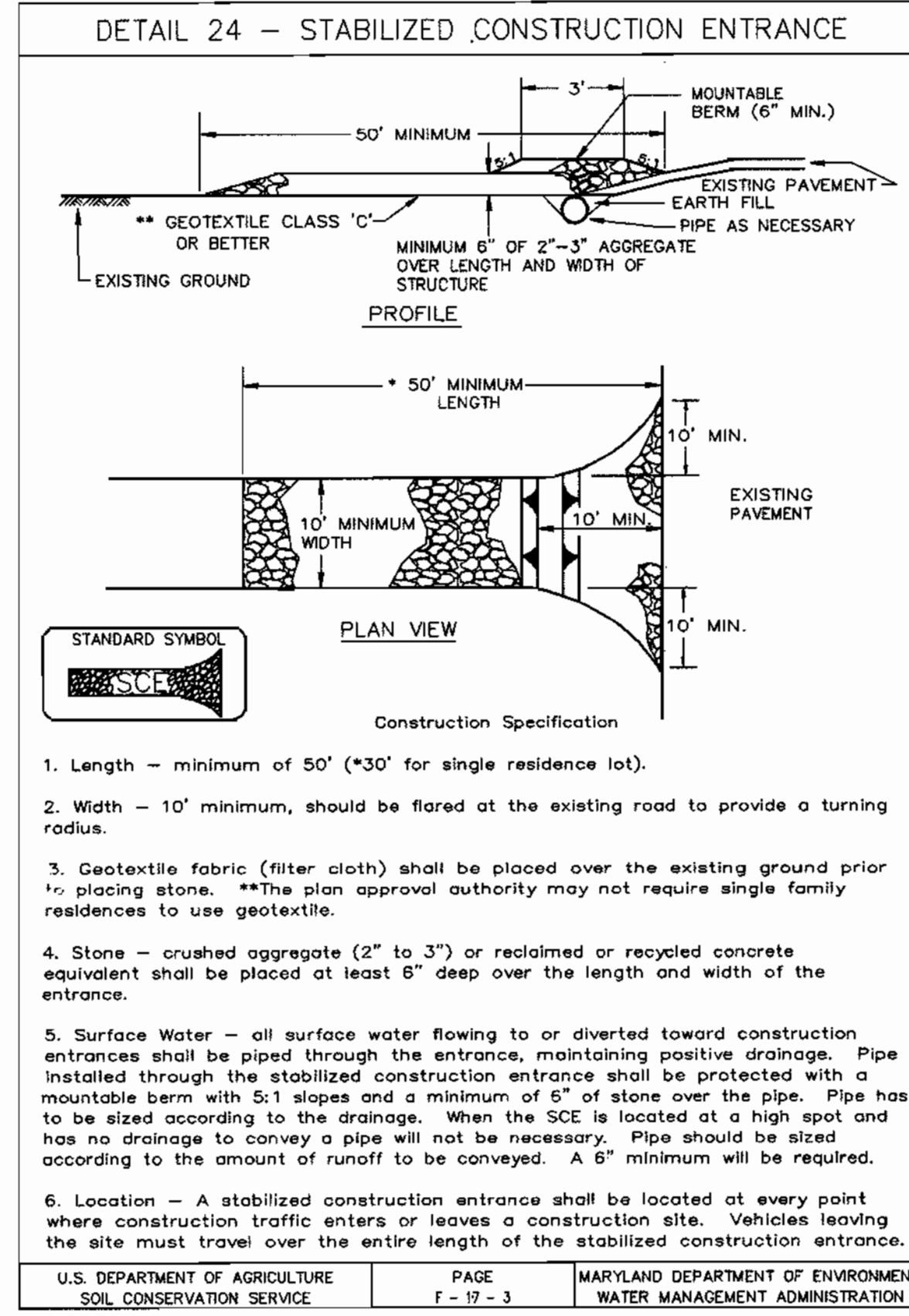
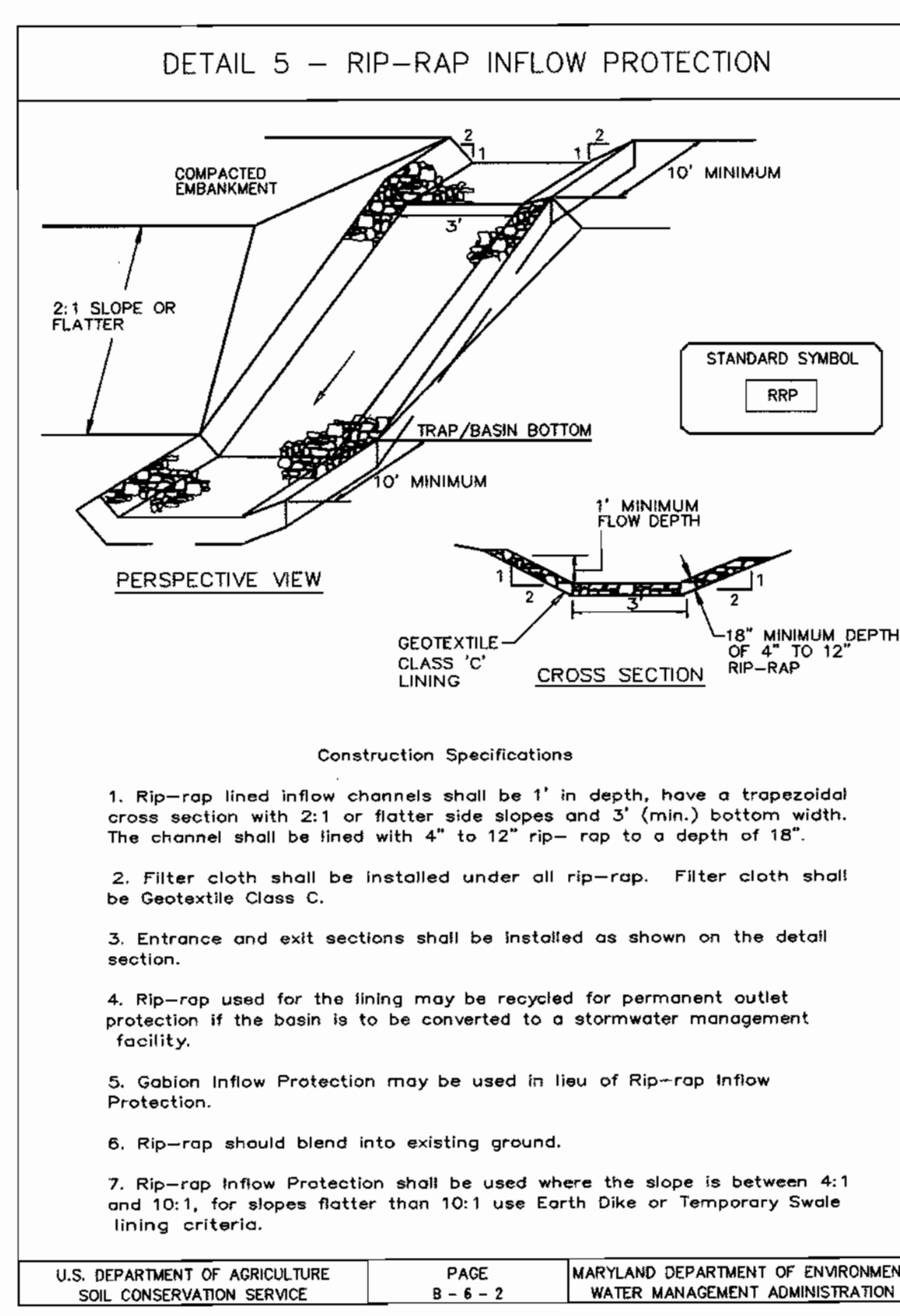
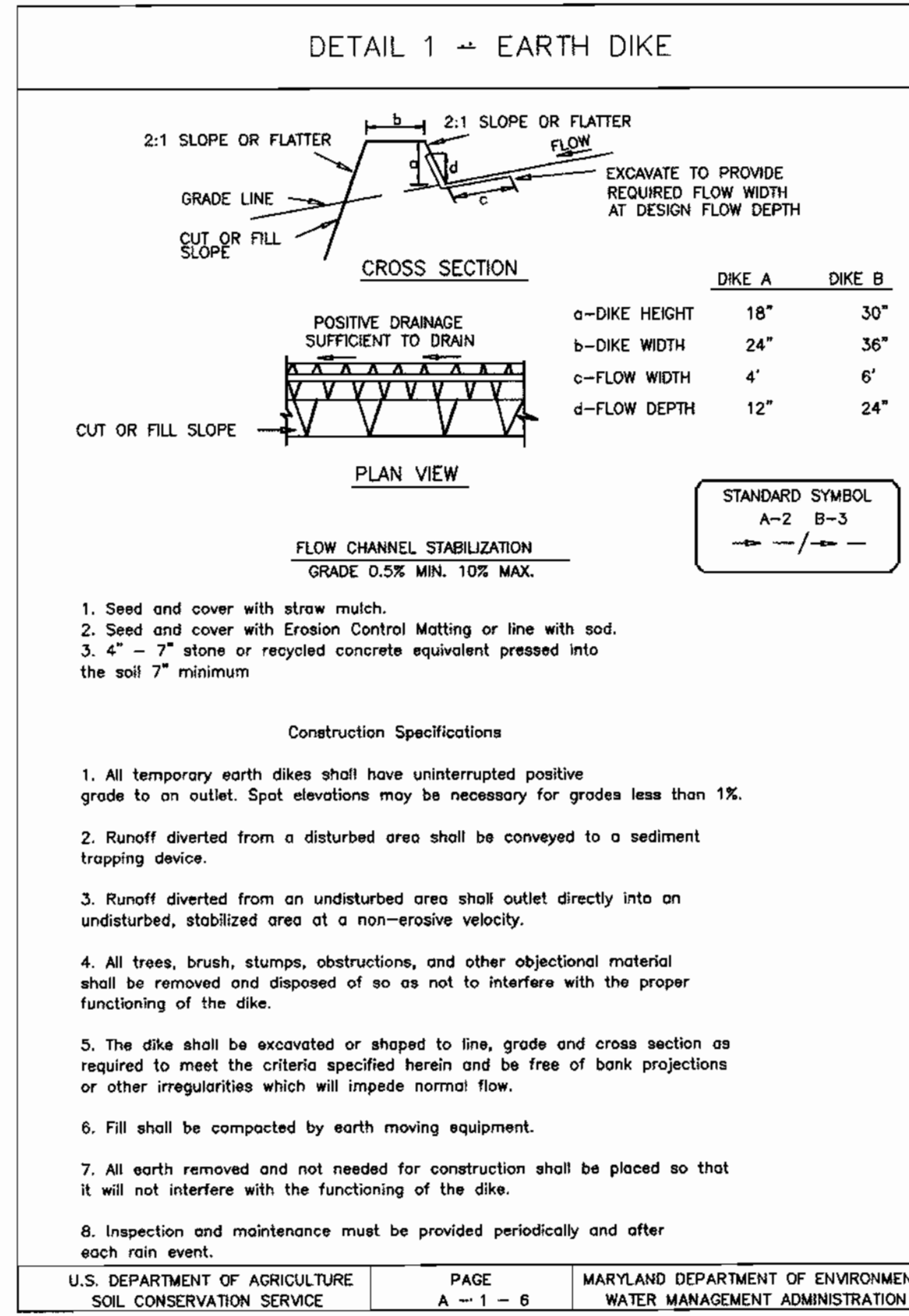
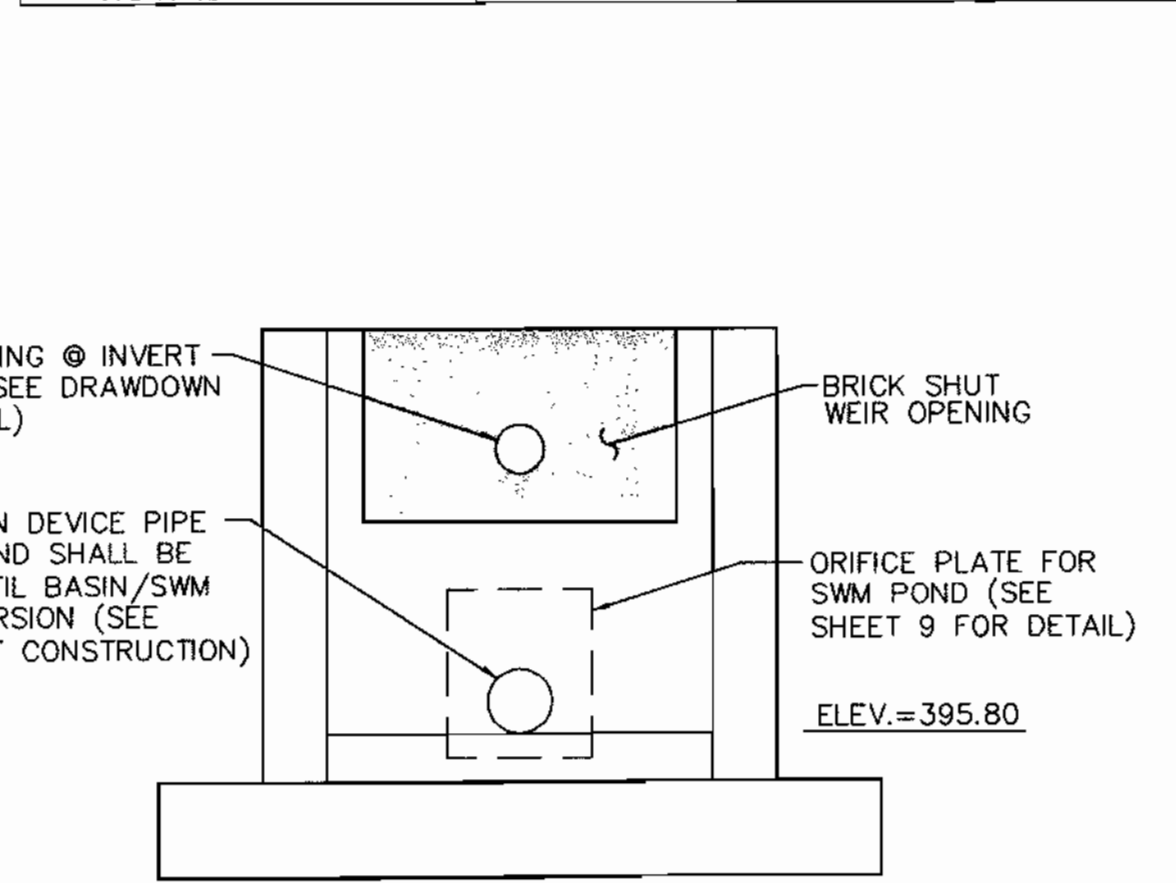
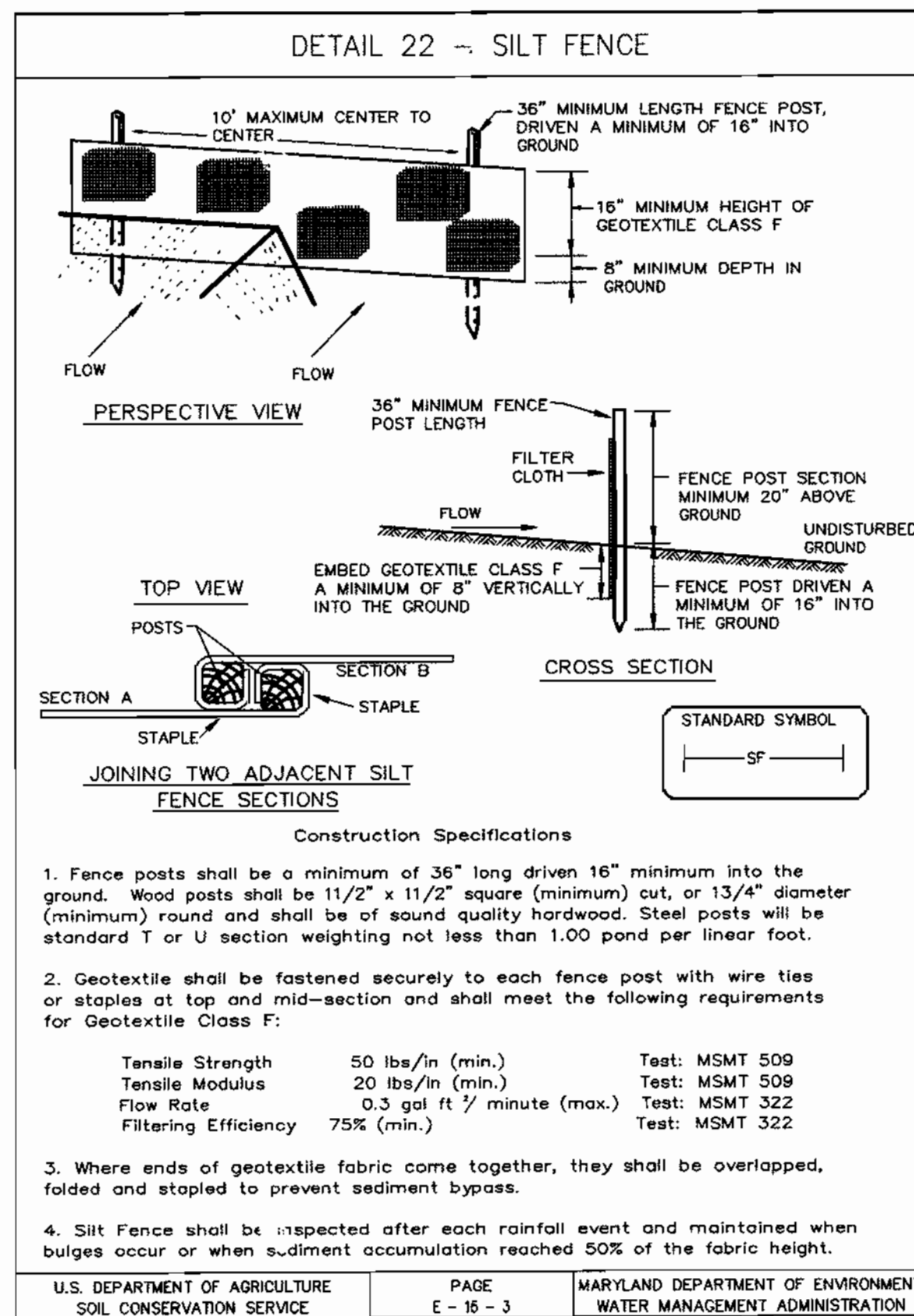
### SILT FENCE

Silt Fence Design Criteria

Slope Steepness	Silt Fence Length	
	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 15 - 3A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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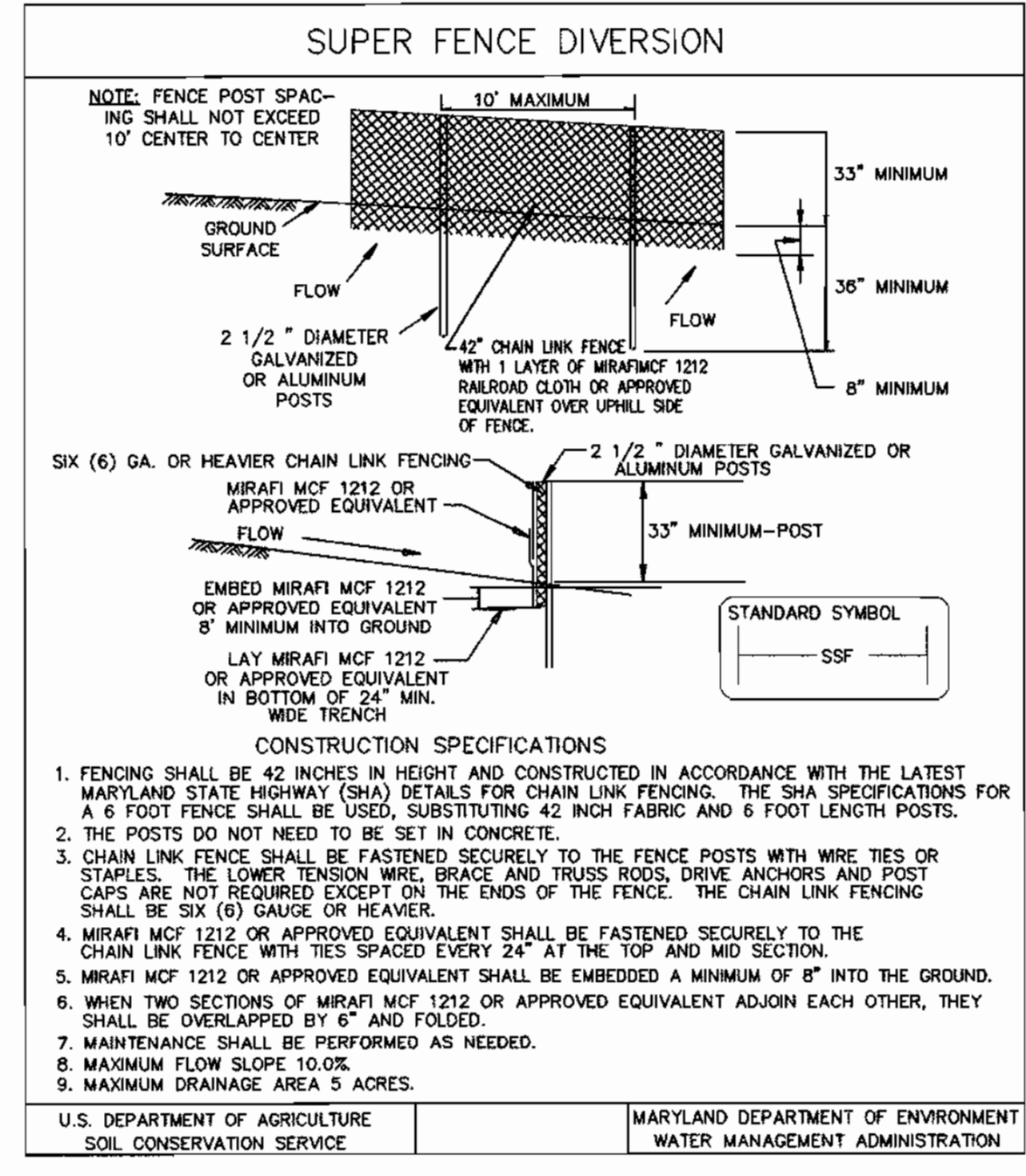


### SUPER SILT FENCE

DESIGN CRITERIA

SLOPE	SLOPE STEEPNESS	SLOPE LENGTH (MAXIMUM)	SILT FENCE LENGTH (MAXIMUM)
0 - 10%	0 - 10:1	UNLIMITED	UNLIMITED
10 - 20%	10:1 - 5:1	200 FEET	1,500 FEET
20 - 33%	5:1 - 3:1	100 FEET	1,000 FEET
33 - 50%	3:1 - 2:1	100 FEET	500 FEET
50% +	2:1 +	50 FEET	250 FEET

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H - 28 - 3A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
---	---------------------	---



BY THE ENGINEER:

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

*Michael N. Armstrong* 2/8/05  
SIGNATURE OF ENGINEER DATE

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

*Jim Hughes* 5/14/05  
U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*Howard S.C.D.* 5/14/05  
HOWARD S.C.D. DATE

**APPROVED**  
PLANNING BOARD  
OF HOWARD COUNTY

DATE: 1/27/04

BY THE DEVELOPER:

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

*Security Development LLC*  
BY: *Steve Stora* 5/13/05  
MEMBER SIGNATURE OF DEVELOPER DATE



APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION 4/6/05 DATE

*Keith...* 4/19/05 DATE

CHIEF-DIVISION OF LAND DEVELOPMENT 4/19/05 DATE

*David...* 4/19/05 DATE

DIRECTOR

**CENTURY ENGINEERING, INC.**  
CONSULTING ENGINEERS, PLANNERS, SURVEYORS  
32 WEST ROAD  
TOWSON, MARYLAND 21204  
(410) 823-8070

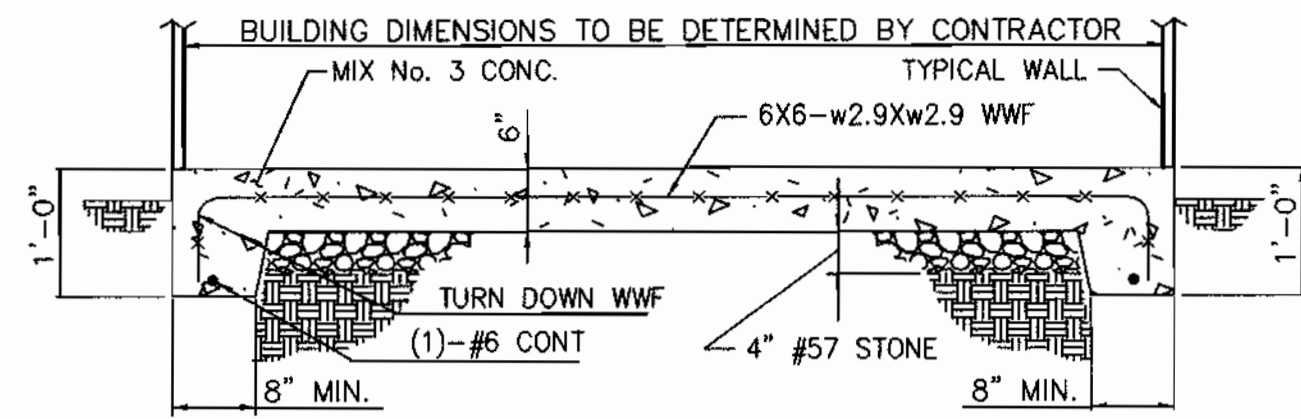
DATE	REVISION	BY	APP'R.

PREPARED FOR:  
ARCHDIOCESE OF BALTIMORE  
OUR LADY OF PERPETUAL HELP  
4801 ILCHESTER ROAD  
ELLCOTT CITY, MARYLAND 21043

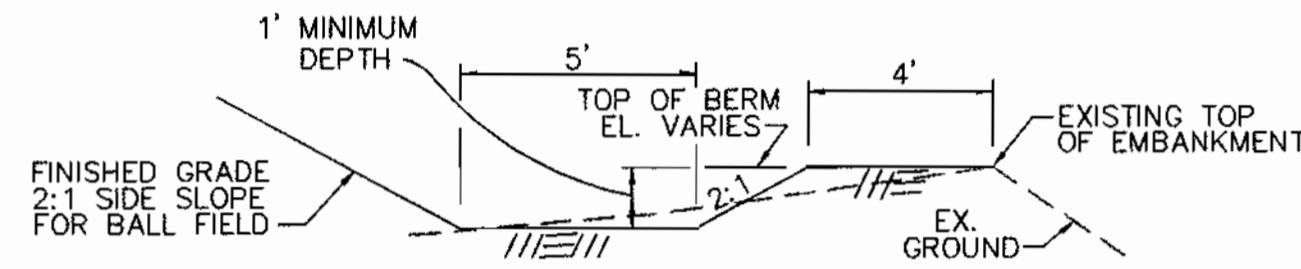
**SEDIMENT CONTROL DETAILS**  
**OUR LADY OF PERPETUAL HELP**  
**BALL FIELD IMPROVEMENTS**  
ELLCOTT CITY, MARYLAND

2<sup>nd</sup> ELECTION DISTRICT

SCALE	ZONING	C.E.I. FILE No.
AS SHOWN	R-20	23248.00
DATE	TAX MAP No.	SHEET
FEB., 2005	31	12 OF 15

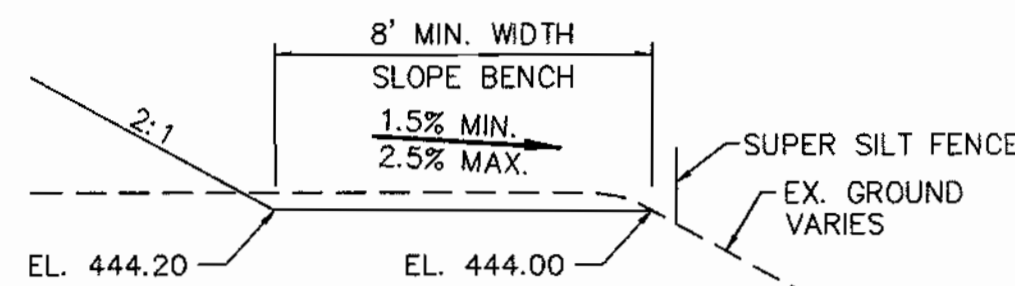


**SLAB FOR RELOCATED STORAGE SHED**  
NOT TO SCALE



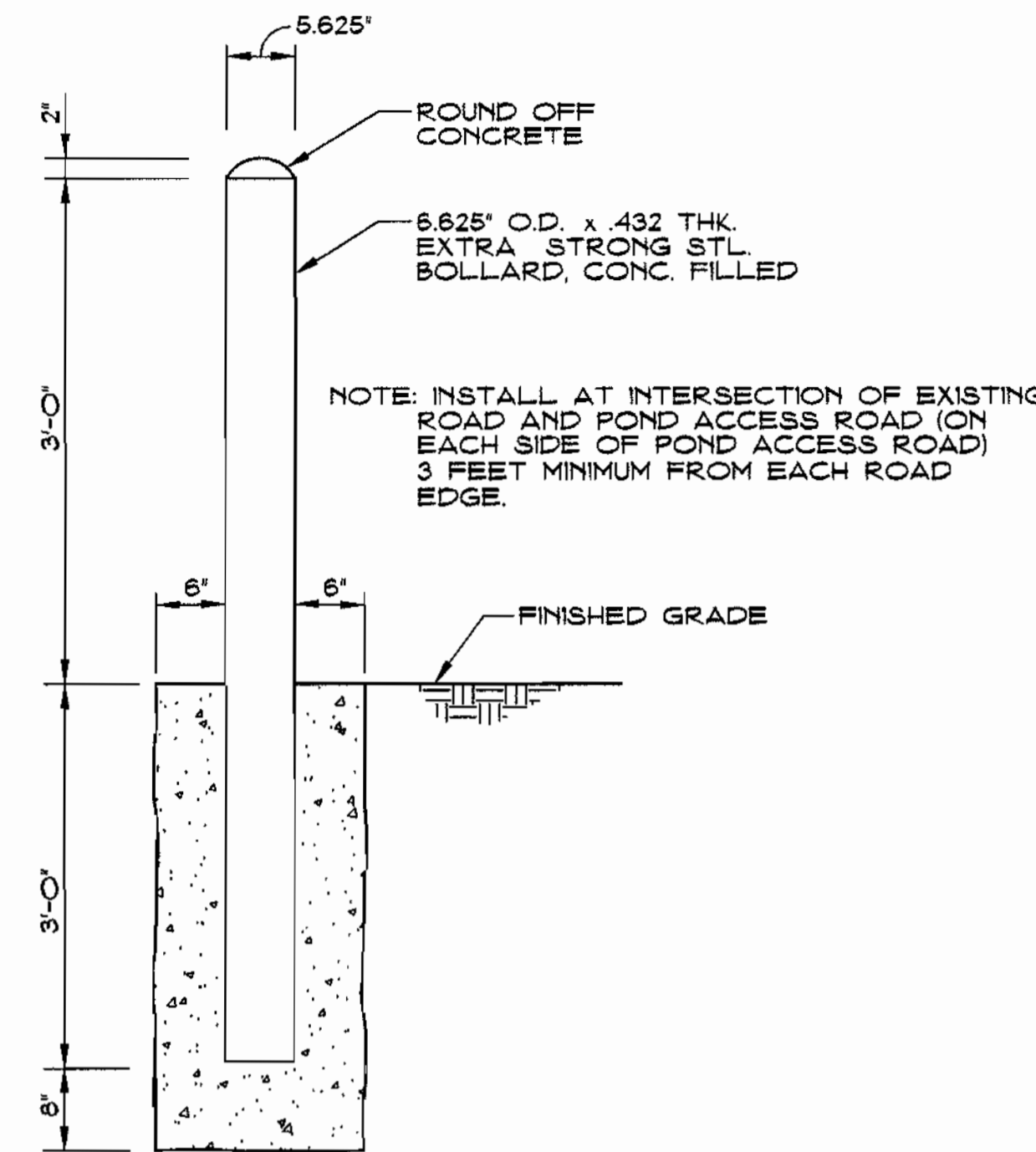
NOTE: ALL BERM/CHANNEL CONSTRUCTION, AND 2:1 SIDE SLOPES (TO BE TEMPORARY OR PERMANENT) SHALL BE COMPACTED TO 95% STANDARD PROCTOR. PROVIDE EROSION CONTROL MATTING IN CHANNEL (SEE DETAIL SHEET 12)

**BERM/CHANNEL ALONG BALL FIELD EAST PERIMETER**  
NOT TO SCALE



NOTE: CONSTRUCT THE SLOPE BENCH TOE OF SLOPE AT EL. 444.00 AS SHOWN ABOVE AND ON PLAN. PER EXISTING TOPOGRAPHY ON PLAN, MAXIMUM BENCH WIDTH IS APPROXIMATELY 13 FEET. THEREFORE, MINIMUM BENCH CROSS SLOPE IS APPROXIMATELY 1.5 PERCENT; MAXIMUM BENCH CROSS SLOPE IS 2.5 PERCENT, AT WIDTH OF 8 FEET. PRIOR TO BEGINNING SLOPE BENCH CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING TOPOGRAPHY TO ENSURE THAT THE SLOPE BENCH CAN BE CONSTRUCTED AS SHOWN, AND THEREBY ENSURE THAT TOP OF SLOPE ELEVATION AT THE BALL FIELD NORTHEAST CORNER CAN BE ACHIEVED, AT THE INDICATED LOCATION.

**SLOPE BENCH TYPICAL CROSS SECTION**  
NOT TO SCALE



**BOLLARD DETAIL**  
NOT TO SCALE

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT POND**  
**ROUTINE MAINTENANCE**

1. THE STORMWATER MANAGEMENT POND SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.
2. THE TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOVED A MINIMUM OF TWO TIMES PER YEAR (ONCE IN JUNE AND ONCE IN SEPTEMBER). OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHALL BE MOVED AS NEEDED.
3. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
4. VISIBLE SIGNS OF EROSION IN THE POND AND RIPRAP APRON OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

**NON-ROUTINE MAINTENANCE**

1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, RISER, AND THE PIPES SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHALL BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
2. SEDIMENT SHALL BE REMOVED FROM THE POND NO LATER THAN WHEN THE CAPACITY OF THE POND IS HALF FULL OF SEDIMENT, OR WHEN DEEMED NECESSARY FOR AESTHETIC REASON, UPON APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS.

**HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION**

Project Name: Our Lady of Perpetual Help Ball Field Improvements Boring No. B-1  
Location: Howard County, MD Job # 01472C

Date: 07/20/04 Hammer Wt. 399 lbs. Hole Diameter 4.00 in. Rock Core Diameter 3.00 in. Inspector J. Dass  
Date Started 07/20/04 Pipe Size 1.5 in. Boring Method Test Pit Date Completed 07/20/04

Elevation/Depth	SOIL SYMBOL/SAMPLE CONDITIONS	Description	Boring and Sampling Notes	Rec. NM	SPT Blows	SPT Blows/foot	
						N	Curve
0		9" of Topsoil Reddish brown, moist, clayey sand, trace gravel, with rock fragments (SC)					
1		Brown, wet, silty coarse sand and gravel, with rock fragments (SM-GM)					
2		Gray, wet, micaceous sandy silt, trace gravel (SM-ML)					
3		Gray, wet, silty coarse sand and gravel, with rock fragments and mica (Decomposed Rock) Bottom of Test Pit at 10.5 ft					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED  
SAMPLE CONDITIONS: D - DISINTEGRATED, I - INTACT, U - UNDISTURBED, L - LOST  
GROUND WATER: 6.0 ft  
CAVE IN DEPTH: 0 ft  
BORING METHOD: HSA - HOLLOW STEM AUGERS, CFA - CONTINUOUS FLIGHT AUGERS, DC - DRIVING CASING, MD - MUD DRILLING

**HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION**

Project Name: Our Lady of Perpetual Help Ball Field Improvements Boring No. B-2  
Location: Howard County, MD Job # 01472C

Date: 07/20/04 Hammer Wt. 401 lbs. Hole Diameter 4.00 in. Rock Core Diameter 3.00 in. Inspector J. Dass  
Date Started 07/20/04 Pipe Size 1.5 in. Boring Method Test Pit Date Completed 07/20/04

Elevation/Depth	SOIL SYMBOL/SAMPLE CONDITIONS	Description	Boring and Sampling Notes	Rec. NM	SPT Blows	SPT Blows/foot	
						N	Curve
0		9" of Topsoil Brown, moist, clayey silt, trace sand (ML)					
1		Brown, moist, silty coarse sand and gravel, with rock fragments (SM-GM)					
2		Reddish brown, moist, micaceous sandy silt, trace gravel (ML)					
3		Gray, moist, micaceous sandy silt, no gravel (ML)					
10.5		Bottom of Test Pit at 15.0 ft	No Groundwater encountered while excavating				

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED  
SAMPLE CONDITIONS: D - DISINTEGRATED, I - INTACT, U - UNDISTURBED, L - LOST  
GROUND WATER: Dry  
CAVE IN DEPTH: 0 ft  
BORING METHOD: HSA - HOLLOW STEM AUGERS, CFA - CONTINUOUS FLIGHT AUGERS, DC - DRIVING CASING, MD - MUD DRILLING

**HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION**

Project Name: Our Lady of Perpetual Help Ball Field Improvements Boring No. B-3  
Location: Howard County, MD Job # 01472C

Date: 07/20/04 Hammer Wt. 406 lbs. Hole Diameter 4.00 in. Rock Core Diameter 3.00 in. Inspector J. Dass  
Date Started 07/20/04 Pipe Size 1.5 in. Boring Method Test Pit Date Completed 07/20/04

Elevation/Depth	SOIL SYMBOL/SAMPLE CONDITIONS	Description	Boring and Sampling Notes	Rec. NM	SPT Blows	SPT Blows/foot	
						N	Curve
0		12" of Topsoil Brown, moist, micaceous silt, trace sand (ML)					
1		Brown, moist to wet, micaceous silty sand, trace clay (SM)					
2		Gray, wet, micaceous sandy silt, trace gravel, trace rock fragments (ML)					
16.5		Bottom of Test Pit at 16.5 ft	Excavation terminated at 16.5 ft due to caving				

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED  
SAMPLE CONDITIONS: D - DISINTEGRATED, I - INTACT, U - UNDISTURBED, L - LOST  
GROUND WATER: 9.5 ft  
CAVE IN DEPTH: 16.5 ft  
BORING METHOD: HSA - HOLLOW STEM AUGERS, CFA - CONTINUOUS FLIGHT AUGERS, DC - DRIVING CASING, MD - MUD DRILLING

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

*Michael N. Armstrong* 2/8/05  
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 A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

*SECURITY DEVELOPMENTS LLC*  
BY: *Michael N. Armstrong* 5/13/05  
SIGNATURE OF DEVELOPER DATE

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

*Jim Myron / us* 5/13/05  
U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*Howard S.C.D.* 5/13/05  
HOWARD S.C.D. DATE

APPROVED  
PLANNING BOARD  
OF HOWARD COUNTY  
DATE 10/27/04



APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION 6/6/05  
DATE  
CHIEF-DIVISION OF LAND DEVELOPMENT 6/18/05  
DATE  
DIRECTOR 6/18/05  
DATE

**CENTURY ENGINEERING, INC.**  
CONSULTING ENGINEERS, PLANNERS, SURVEYORS  
32 WEST ROAD  
TOWSON, MARYLAND 21204  
(410) 823-8070

DATE	REVISION	BY	APPR.

PREPARED FOR:  
ARCHDIOCESE OF BALTIMORE  
OUR LADY OF PERPETUAL HELP  
4801 ILLICESTER ROAD  
ELLICOTT CITY, MARYLAND 21043

**SOIL BORING LOGS AND MISCELLANEOUS DETAILS**

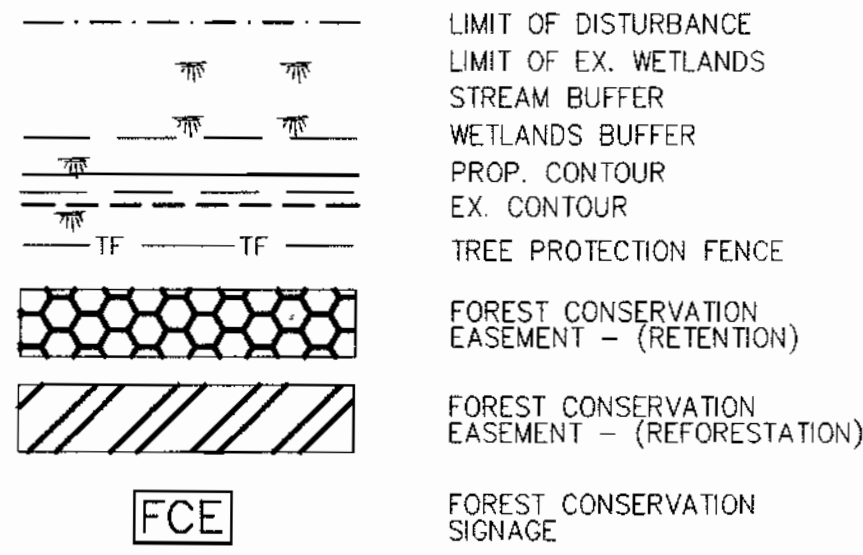
**OUR LADY OF PERPETUAL HELP BALL FIELD IMPROVEMENTS**  
ELLICOTT CITY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
AS SHOWN	R-20	23248.00
DATE	TAX MAP No.	SHEET
FEB., 2005	31	13 OF 15

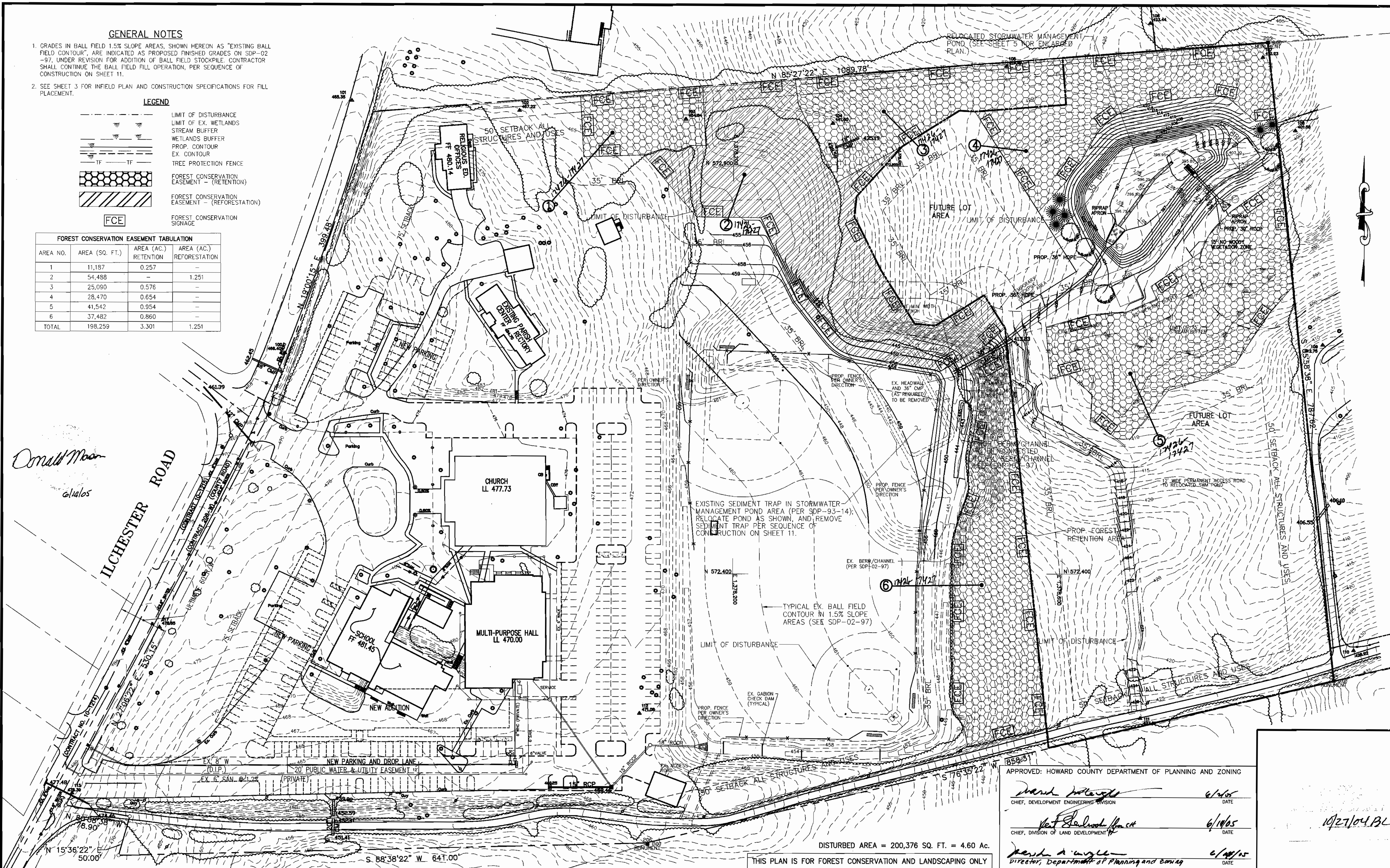
**GENERAL NOTES**

- GRADES IN BALL FIELD 1.5% SLOPE AREAS, SHOWN HEREON AS "EXISTING BALL FIELD CONTOUR", ARE INDICATED AS PROPOSED FINISHED GRADES ON SDP-02-97, UNDER REVISION FOR ADDITION OF BALL FIELD STOCKPILE. CONTRACTOR SHALL CONTINUE THE BALL FIELD FILL OPERATION, PER SEQUENCE OF CONSTRUCTION ON SHEET 11.
- SEE SHEET 3 FOR INFIELD PLAN AND CONSTRUCTION SPECIFICATIONS FOR FILL PLACEMENT.

**LEGEND**



FOREST CONSERVATION EASEMENT TABULATION			
AREA NO.	AREA (SQ. FT.)	AREA (AC.) RETENTION	AREA (AC.) REFORESTATION
1	11,187	0.257	-
2	54,488	-	1.251
3	25,090	0.576	-
4	28,470	0.654	-
5	41,542	0.954	-
6	37,482	0.860	-
TOTAL	198,259	3.301	1.251



*Donald Moon*  
6/1/05

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Mark H. ...* 6/1/05  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*...* 6/1/05  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

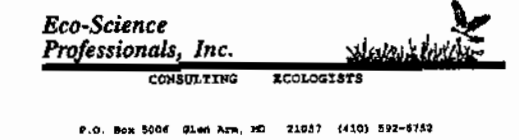
*...* 6/1/05  
DIRECTOR, DEPARTMENT OF PLANNING AND ZONING DATE

DISTURBED AREA = 200,376 SQ. FT. = 4.60 AC.  
THIS PLAN IS FOR FOREST CONSERVATION AND LANDSCAPE ONLY

PREPARED FOR:  
ARCHDIOCESE OF BALTIMORE  
OUR LADY OF PERPETUAL HELP  
4801 ILCHESTER ROAD  
ELlicott CITY, MARYLAND 21043

FOREST CONSERVATION AND LANDSCAPE PLAN  
**OUR LADY OF PERPETUAL HELP  
BALL FIELD IMPROVEMENTS**  
ELlicott CITY, MARYLAND  
ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE 1"=50'	ZONING R-20	C.E.I. FILE No. 23248.00
DATE FEB., 2005	TAX MAP No. 31	SHEET 14 OF 15



DATE	REVISION	BY	APP'R.

LANDSCAPE PLANTING LIST				
SYMBOL	QUANTITY	NAME	REMARKS	DESCRIPTION
	5	ACER RUBRUM (Red Maple)	2-1/2" - 3" cal.	SHADE TREES ALONG PERIMETER TO BE PROVIDED BY THE DEVELOPER
	6	PINUS STROBUS (Eastern White Pine)	6' - 8' ht.	EVERGREEN TREES ALONG SWM FACILITIES TO BE PROVIDED BY THE DEVELOPER

SCHEDULE D SWM PERIMETER LANDSCAPING	
LINEAR FEET OF PERIMETER	808'
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	578'
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO
LINEAR FEET OF REQUIRED PLANTING	230'
BUFFER TYPE	"B"
NUMBER OF TREES REQUIRED	
SHADE TREES	5
EVERGREEN TREES	6
NUMBER OF TREES PROVIDED	
SHADE TREES	5
EVERGREEN TREES	6

**FCP NOTES:**

- ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF THESE AREAS.
- FORESTED AREAS OCCURRING OUTSIDE OF THE FCE SHALL NOT BE CONSIDERED PART OF THE FCE AND SHALL NOT BE SUBJECT TO PROTECTIVE LAND COVENANTS.
- LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.
- THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY DPZ.
- NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
- TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED ALONG ALL FCE BOUNDARIES WHICH OCCUR WITHIN 25 FEET OF THE PROPOSED LIMITS.
- PERMANENT SIGNAGE SHALL BE PLACED 50-100' APART ALONG THE BOUNDARIES OF ALL AREAS INCLUDED IN FOREST CONSERVATION EASEMENTS. SIGNS SHALL BE MOUNTED ON A PERMANENT WOOD POST OR METAL STAKE. FCE SIGNS SHALL NOT BE ATTACHED TO TREES.
- THE FOREST CONSERVATION OBLIGATION FOR THIS SUBDIVISION WILL BE FULFILLED BY ONSITE RETENTION OF 3.30 ACRES OF EXISTING FOREST AND 1.25 ACRES OF REFORESTATION.

FOREST DATA		ACRES
GROSS AREA:		26.4
FLOODPLAIN/UNFORESTED PRESERVATION		0
PARCEL:		14.6
NET TRACT AREA (NTA):		9.9
EXISTING FOREST (NTA):		6.6
AFFORESTATION THRESHOLD:		2.9
REFORESTATION THRESHOLD:		4.6
BREAK-EVEN POINT:		6.6
FOREST TO BE CLEARED (NTA):		3.3
FOREST TO BE RETAINED (NTA):		3.3
FOREST TO BE RETAINED IN FCE:		3.3

**Planting/Soil Specifications**

- Installation of bareroot plant stock shall take place between March 15 - April 20; b&b/container stock March 15 - May 30 or September 15 - November 15. Fall planting of B&B stock is not recommended.
- Disturbed areas shall be seeded and stabilized as per general construction plan for project. Planting areas not impacted by site grading shall have no additional topsoil installed.
- Bareroot plants shall be installed so that the top of root mass is level with the top of existing grade. Roots shall be dipped in an anti-desiccant gel prior to planting. Backfill in the planting pits shall consist of 3 parts existing soil to 1 part pine fines or equivalent.
- Fertilizer shall consist of Agriform 22-8-2, or equivalent, applied as per manufacturer's specifications, for woody plants. Herbaceous plants shall be fertilized with Osmocote 8-6-12.
- Plant material shall be transported to the site in a tarped or covered truck. Plants shall be kept moist prior to planting.
- All non-organic debris associated with the planting operation shall be removed from the site by the contractor.

**Sequence of Construction**

- Sediment control shall be installed in accordance with general construction plan for site.
- Plants shall be installed as per Plant Schedule and the Planting/Soil Specifications for the project.
- Upon completion of the planting, signage shall be installed as shown.
- Plantings shall be maintained and guaranteed in accordance with the Maintenance and Guarantee requirements for project.

**Maintenance of Plantings**

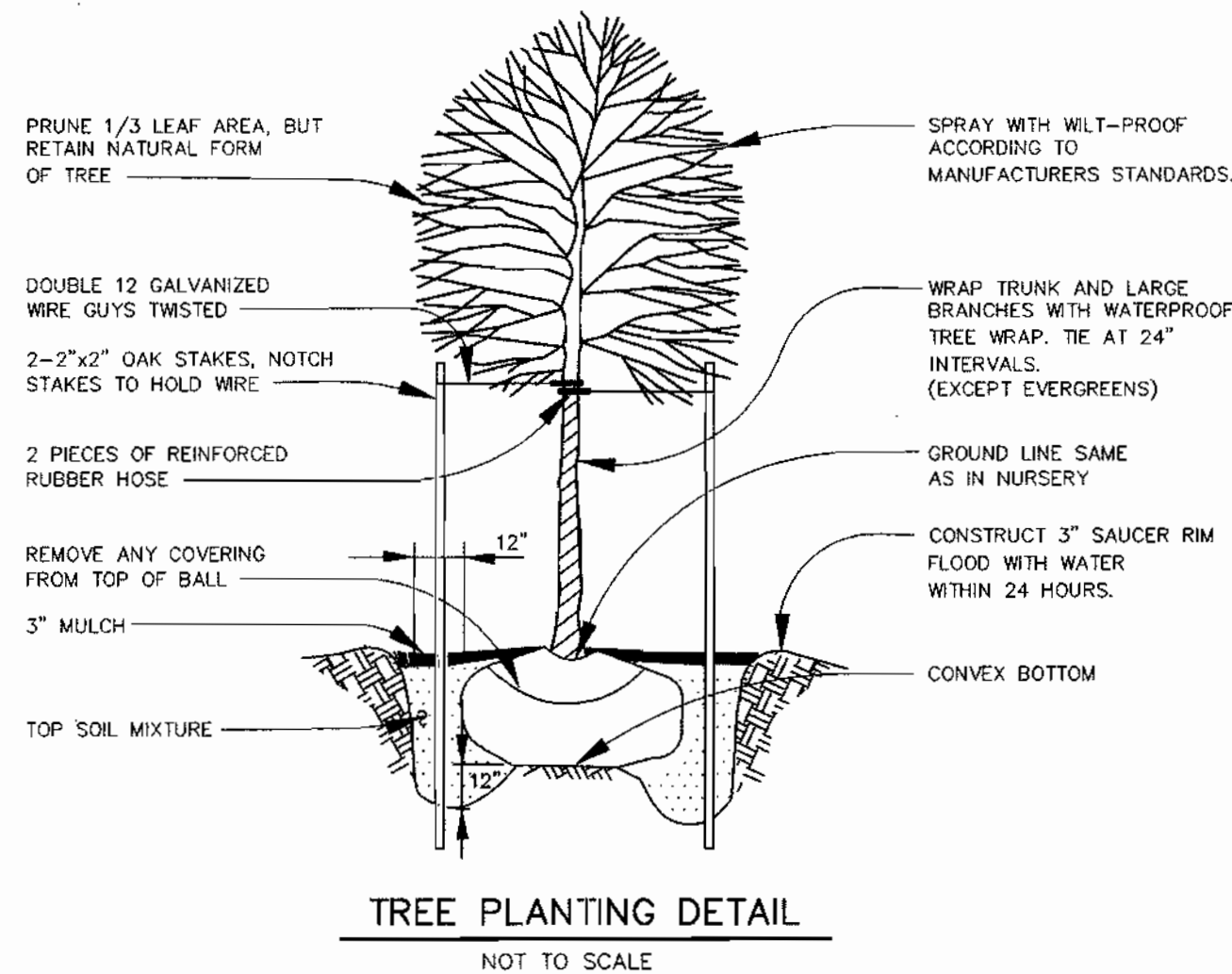
- Maintenance of plantings shall last for a period of 2 years.
- Plantings must receive 2 gallons of water, either through precipitation or watering, weekly during the 1st growing season, as needed. During second growing season, once a month during May-September, if needed.
- Invasive exotics and noxious weeds will be removed, as required, from planting areas mechanically and/or with limited herbicide application (see groundcover note where appropriate). Old field successional species will be retained.
- Plants will be examined a minimum two times during the growing season for serious plant pests and diseases. Serious problems will be treated with the appropriate agent.
- Dead branches will be pruned from plantings.

**Guarantee Requirements**

- A 75 percent survival rate of forestation plantings will be required at the end of 2 growing seasons. All plant material below the 75 percent threshold will be replaced at the beginning of the next growing season. Wild trees arising from natural regeneration may be counted up to 50 percent towards the total survival number if they are healthy, native species at least 12 inches tall.

**Surety for Forestation**

- The developer shall post a surety (bond, letter of credit) to ensure that forestation plantings are completed.



**Planting Schedule**

FCE # 1 - 1.25 acres  
Planting units Required: 875  
Planting units Provided: 876

Qty	Species	Size	Spacing	Total FCA Units
3	Acer rubrum - Red maple	2" cal	20' o.c.	
3	Liriodendron tulipifera	2" cal	20' o.c.	
3	Quercus alba - White oak	2" cal	20' o.c.	
3	Quercus rubra - Red oak	2" cal	20' o.c.	
12	Total 2" caliper trees x 7 units/tree = FCA unit credit			84
15	Acer rubrum - Red maple	1" cal	15' o.c.	
15	Liriodendron tulipifera - Tulip poplar	1" cal	15' o.c.	
15	Quercus alba - White oak	1" cal	15' o.c.	
15	Quercus rubra - Red oak	1" cal	15' o.c.	
60	Total 1" caliper trees x 3.5 units/tree = FCA unit credit			210
30	Acer rubrum - Red maple	2-3' whip	11' o.c.	
20	Cercis canadensis - Redbud	2-3' whip	11' o.c.	
20	Cornus florida - Flowering dogwood	2-3' whip	11' o.c.	
6	Diospyros virginiana - Persimmon	2-3' whip	11' o.c.	
55	Liriodendron tulipifera - Tulip poplar	2-3' whip	11' o.c.	
10	Platanus occidentalis - Sycamore	2-3' whip	11' o.c.	
35	Prunus serotina - Black cherry	2-3' whip	11' o.c.	
55	Quercus alba - White oak	2-3' whip	11' o.c.	
30	Quercus rubra - Red oak	2-3' whip	11' o.c.	
30	Viburnum prunifolium - Blackhaw	2-3' whip	11' o.c.	
291	Total whip plantings x 3 units/tree = FCA unit credit			876
Total Unit Credit				876

**Planting Note:**

All whips are required to be installed with tree shelters per Howard County FCA requirements. Whips may be container grown or bare root at the discretion of the installation contractor.

**FOREST CONSERVATION WORKSHEET**

I. BASIC SITE DATA		ACRES (1/10 acre)	IV. REFORESTATION CALCULATIONS		ACRES (1/10 acre)
GROSS SITE AREA		26.4	A. NET TRACT AREA		14.6
AREA WITHIN 100 YEAR FLOOD PLAIN		0	B. REFORESTATION THRESHOLD (20% x A)		2.9
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE)		11.8	D. EXISTING FOREST ON NET TRACT AREA		9.9
NET TRACT AREA		14.6	E. FOREST AREAS TO BE CLEARED		6.6
LAND USE CATEGORY INST/R-20			F. FOREST AREAS TO BE RETAINED		3.3
			G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD		6.6
			(D-F, if F equals or is greater than B, Alternate 1)		
			(D-B, if F is less than B, Alternate 2)		
			H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD		
			(B-F, if applicable)		
			I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD		0.4
			(F-B, Retention Credit, if applicable)		

**III. DETERMINING REQUIREMENTS: AFFORESTATION OR REFORESTATION**

**1. Reforestation**

If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and clearing of forest areas is proposed, reforestation requirements may apply.

If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and no clearing of existing forest resources is proposed, no reforestation is required. No further calculations are needed.

**2. Afforestation**

If existing forest areas are less than the afforestation minimum (if D is less than C), afforestation requirements apply.

**SELECT THE ALTERNATE THAT APPLIES:**

**1. Clearing above the threshold only**

If forest areas to be retained equal or are greater than the reforestation threshold (if F equals or is greater than B), the following calculations apply:

REFORESTATION FOR CLEARING ABOVE THRESHOLD	$G \times 1/4$	1.65 ac.
CREDIT FOR FOREST AREAS RETAINED ABOVE THRESHOLD	$I = \text{Retention Credit}$	0.4 ac.
TOTAL REFORESTATION REQUIRED	$(G \times 1/4) - I$	1.25 ac.

If the total reforestation requirement is equal to or less than 0, no reforestation is required.

**2. Clearing below the threshold**

If forest areas to be retained are less than the reforestation threshold (if F is less than B), the following calculations apply:

REFORESTATION FOR CLEARING ABOVE THRESHOLD	$G \times 1/4$	---
REFORESTATION FOR CLEARING BELOW THRESHOLD	$H \times 2$	---
TOTAL REFORESTATION REQUIRED	$(G \times 1/4) + (H \times 2)$	---

Since clearing occurs below the threshold, no forest retention credit is possible

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

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CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 6/16/05

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CHIEF, DIVISION OF LAND DEVELOPMENT DATE 6/14/05

\_\_\_\_\_  
DIRECTOR, DEPARTMENT OF PLANNING AND ZONING DATE 6/14/05



APPROVED  
DATE 6/21/05

Eco-Science Professionals, Inc. 14000 Old Orchard Road, Suite 100, Columbia, MD 21046 P.O. Box 8058, 814A Ave. Rd., 21057, 4103 998-4718	PREPARED FOR: ARCHDIOCESE OF BALTIMORE OUR LADY OF PERPETUAL HELP 4801 ILCHESTER ROAD ELLICOTT CITY, MARYLAND 21043	<b>FOREST CONSERVATION AND LANDSCAPE DETAILS</b> <b>OUR LADY OF PERPETUAL HELP</b> <b>BALL FIELD IMPROVEMENTS</b> ELLICOTT CITY, MARYLAND 2 <sup>nd</sup> ELECTION DISTRICT	SCALE: 1"=50' ZONING: R-20 DATE: FEB., 2005	C.E.I. FILE NO.: 23248.00 SHEET: 15 OF 15 TAX MAP No.: 31
	DATE: _____ REVISION: _____ BY: _____ APP'R: _____	HOWARD COUNTY, MARYLAND		