

- ### SITE ANALYSIS
- AREA OF PARCEL: 109,916 AC.
  - ZONING: RC-DEO
  - PROPOSED USE: GOLF COURSE CLUB HOUSE AND MAINTENANCE BUILDINGS.
  - FLOOR SPACE: BUILDING A = 4050 (1 STORY)  
BUILDING B = 5100 (1 STORY)  
SECURITY PERSONNEL RESIDENCE = 2800  
MAINTENANCE BUILDING = 1500
  - TOTAL NUMBER OF UNITS ALLOWED: 4
  - MAXIMUM NUMBER OF EMPLOYEES: 73
  - NUMBER OF PARKING SPACES PROVIDED: 214 (4.6 = 26)
  - BUILDING COVERAGE OF SITE: 12,144 SQ. FT. = 0.279 AC. (PERCENTAGE OF GROSS = 0.25%)
  - EXISTING CONTOURS BASED ON AERIAL TOPOGRAPHY.
  - BENCHMARKS:  
1) HOWARD CO. TRAV. PT. # 3536007 EL. 860.48  
2) SHANABERGER & LANE TRAV. PT. # B13 EL. 548.28
  - PREVIOUS COUNTY FILES: BA-86-04 WP-90-145  
S-87-17  
P-87-11  
F-88-105  
QP-88-05  
QP-89-13  
QP-89-26
  - THERE ARE NO WETLANDS OR STREAMS WITHIN THE LIMITS OF THIS SUBMISSION.
  - STORMWATER MANAGEMENT IS PROVIDED UNDER QP-89-26.
  - AN AUTOMATIC SPRINKLER SYSTEM FOR CLUBHOUSE IS RECOMMENDED PER REQUEST OF DEPARTMENT OF FIRE AND RESCUE SERVICES, HOWARD COUNTY, MD.  
BALTIMORE LIVESTOCK AUCTION MARKET, INC.  
PLAT # 5308  
ZONED 'B-2'
  - AN ACCESS LANE FOR EMERGENCY FIRE EQUIPMENT BETWEEN POND #2 AND CLUBHOUSE AREA IS PROVIDED ON PLAN SHEET #2.
  - WATER METERS TO BE INSTALLED ON ALL INCOMING WATER LINES.
  - EXISTING SEPTIC SYSTEM SERVING CLUBHOUSE TO BE ABANDONED.

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT.  
 Joseph Boyle 10-3-90  
 COUNTY HEALTH OFFICER DATE

APPROVED: DEPARTMENT OF PLANNING ZONING HOWARD COUNTY.  
 [Signature] 10-24-90  
 PLANNING DIRECTOR DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
 [Signature] 8/1/90  
 DIRECTOR DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
 [Signature] 8/1/90  
 DIRECTOR DATE

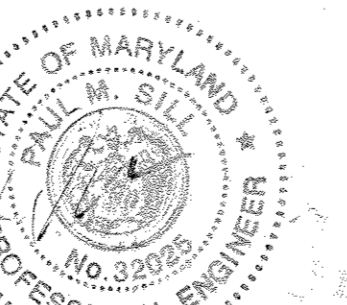
APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
 [Signature] 8/27/90  
 CHIEF BUREAU OF ENGINEERING DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.  
 [Signature] 8/1/90  
 HOWARD SOIL CONSERVATION DISTRICT DATE

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 [Signature] 8/1/90  
 HOWARD SOIL CONSERVATION DISTRICT DATE

STATE OF MARYLAND  
 PAUL M. SILL  
 PROFESSIONAL ENGINEER  
 NO. 32225  
 FOR REVISION #2 ONLY

STATE OF MARYLAND  
 SHANABERGER & LANE  
 8726 TOWN & COUNTRY BLD.  
 SUITES 106 & 107  
 BELLICOTT CITY, MD 21043  
 (301) 461-9563



LOT NO.	GROSS AREA	FLOOD PLAIN/ STEEP SLOPES	NET AREA	PREEXISTING AREA	10% CREATED STEEP SLOPES	MINIMUM LOT AREA
PART OF LOT 18	0.440 AC.	0/1.3966 AC.	7043.4 SQ. FT.	0	0.1368 AC.	7180.2 AC.

DESIGNED	DRAWN	CHECKED	DATE
ALM	SEG 2		8/15/91
			8/7/17

ADDRESS CHART  
 LOT NUMBER 18 STREET ADDRESS 12980 LIVESTOCK RD

DEVELOPER: WILLOW SPRINGS I LIMITED PARTNERSHIP  
 16801 WESLEY CHAPEL RD  
 MANKTON, MD 21111  
 (301) 341-8722

OWNER: WILLOW SPRINGS I LIMITED PARTNERSHIP  
 16801 WESLEY CHAPEL RD  
 MANKTON, MD 21111  
 (301) 341-8722

DATE: JANUARY 18, 1990

"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. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
 Sayed A. Soudart 2/14/90  
 CIVIL & GEOTECHNICAL PROFESSIONAL ENGINEER #16493 DATE

DEVELOPER'S CERTIFICATE  
 "I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES 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."  
 Al Jarvis Feb 14 90  
 NAME AND TITLE DATE

SUBDIVISION NAME	SECTION/AREA	LOT #
WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE		18

PLAT OF LIT. BOOK	ZONE	TAX MAP	SUB. DIST.	CENSUS TRACT
PLAT # 1921, 1922, 1923, 1924	RC-DEO	2115	5th	6030

WATER CODE: PRIVATE SEWER CODE: PRIVATE

SITE DEVELOPMENT PLAN  
 COVER SHEET  
 WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE  
 HOWARD COUNTY, MARYLAND  
 DATE: JANUARY 18, 1990

SCALE: 1" = 200'  
 SHEET 1 OF 7  
 SDP-90-159

CLUBHOUSE SEPTIC DESIGN BASED ON:

3500 GAL/DAY  
 1 GAL / 1 SQ.FT. SIDEWALL  
 2' TRENCH WIDTH  
 5' STONE DEPTH - TRENCHES FOR SYSTEMS 1, 2, & 3  
 700 L.F. OF TRENCH/SYSTEM  
 SYSTEM #1 705 L.F. SYSTEM #2 720 L.F. SYSTEM #3 700 L.F.

REVISOR PRIVATE SEWAGE EASEMENT  
 APPROVED BY HEALTH DEPT. 7/14/90

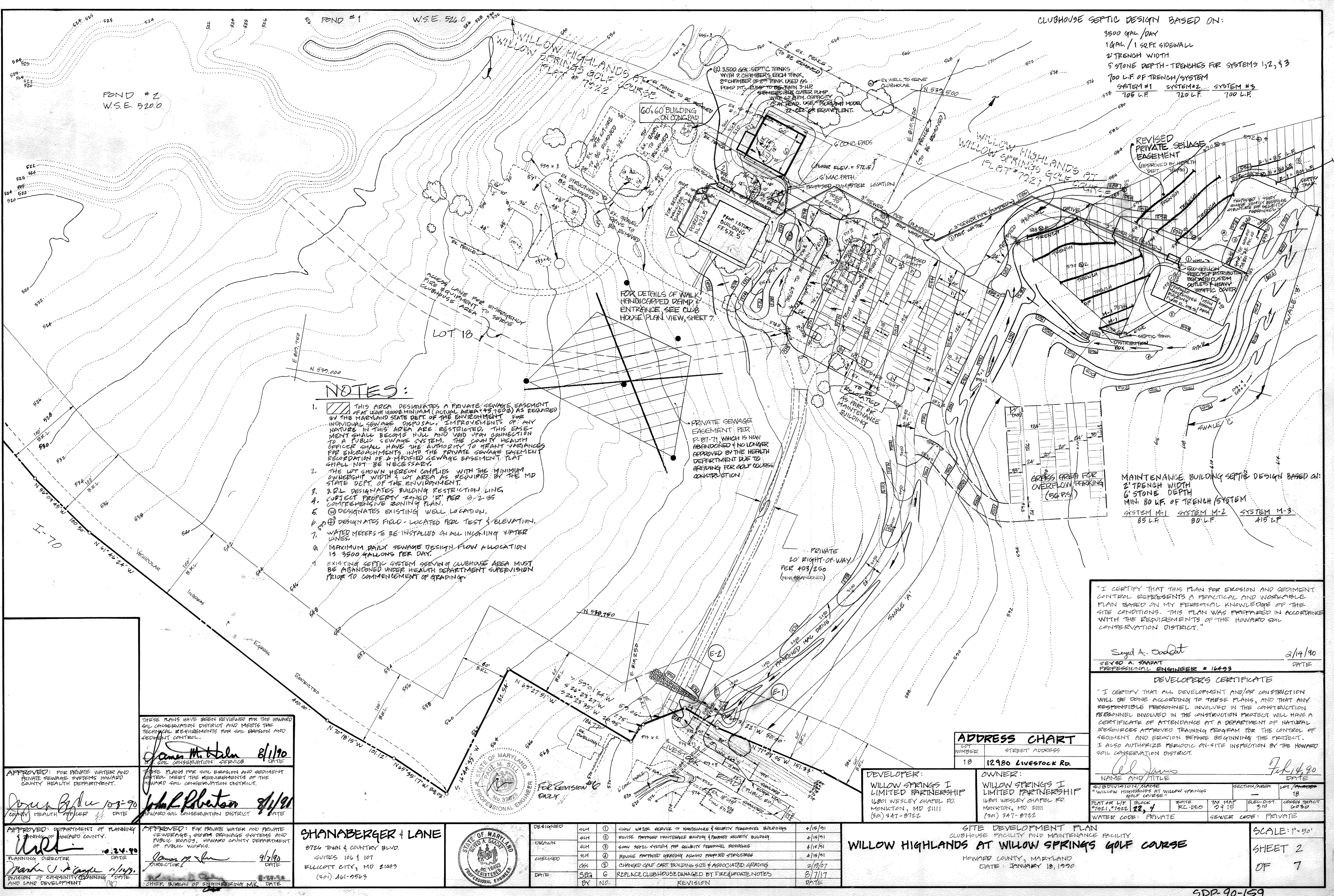
MAINTENANCE BUILDING SEPTIC DESIGN BASED ON:  
 2' TRENCH WIDTH  
 6' STONE DEPTH  
 MIN. 80 L.F. OF TRENCH/SYSTEM  
 SYSTEM M-1 85 L.F. SYSTEM M-2 80 L.F. SYSTEM M-3 415 L.F.

**NOTES:**

- THIS AREA DESIGNATES A PRIVATE SEWAGE EASEMENT BY THE MARYLAND STATE DEPT. OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENTS INTO THE PRIVATE SEWAGE EASEMENT RECORDATION OF A MODIFIED SEWAGE EASEMENT PLAT SHALL NOT BE NECESSARY.
- THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP WIDTH & LOT AREA AS REQUIRED BY THE MD STATE DEPT. OF THE ENVIRONMENT.
- B.R.L. DESIGNATES BUILDING RESTRICTION LINE, SUBJECT PROPERTY ZONED 'R' PER 3-2-35 COMPREHENSIVE ZONING PLAN.
- ⊙ DESIGNATES EXISTING WELL LOCATION.
- ⊕ DESIGNATES FIELD-LOCATED PERU TEST & ELEVATION.
- WATER METERS TO BE INSTALLED ON ALL INCOMING WATER LINES.
- MAXIMUM DAILY SEWAGE DESIGN FLOW ALLOCATION IS 3500 GALLONS PER DAY.
- EXISTING SEPTIC SYSTEM SERVING CLUBHOUSE AREA MUST BE ABANDONED UNDER HEALTH DEPARTMENT SUPERVISION PRIOR TO COMMENCEMENT OF GRADING.

PRIVATE SEWAGE EASEMENT PER P. 87-71 WHICH IS NOW ABANDONED & NO LONGER APPROVED BY THE HEALTH DEPARTMENT DUE TO GRADING FOR GOLF COURSE CONSTRUCTION

PRIVATE 20' RIGHT-OF-WAY PER 403/250 (NOW ABANDONED)



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

*James M. Hill* 8/1/90  
 SOIL CONSERVATION SERVICES DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT.  
*John L. Robertson* 8/1/90  
 COUNTY HEALTH OFFICER DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE, SEWERAGE, SEWER DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
*James M. Hill* 8/1/90  
 DIRECTOR DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING OF HOWARD COUNTY.  
*Mark J. Campbell* 1/14/90  
 DIVISION OF COMMUNITY PLANNING & ZONING AND LAND DEVELOPMENT DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE, SEWERAGE, SEWER DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
*James M. Hill* 8/1/90  
 CHIEF, BUREAU OF ENGINEERING MK DATE

**SHANABERGER & LANE**  
 8726 TOWN & COUNTRY BLVD.  
 SUITES 106 & 107  
 ELLICOTT CITY, MD 21113  
 (301) 461-9569



DESIGNED	DRAWN	CHECKED	DATE	BY	NO.	REVISION
GLM	GLM	GLM	4/15/91	GLM	1	SHOW WATER SERVICE TO MAINTENANCE & SECURITY PERSONNEL BUILDINGS
GLM	GLM	GLM	4/15/91	GLM	2	REVISE PROPOSED MAINTENANCE BUILDING & PROPOSED SECURITY BUILDING
GLM	GLM	GLM	4/15/91	GLM	3	SHOW SEPTIC SYSTEM FOR SECURITY PERSONNEL RESIDENCES
GLM	GLM	GLM	4/15/91	GLM	4	REVISE PROPOSED GRADING AROUND PROPOSED STRUCTURES
CSJ	CSJ	CSJ	2/9/97	CSJ	5	CHANGED GOLF CART BUILDING SIZE & ASSOCIATED GRADINGS
SPG	SPG	SPG	3/7/17	SPG	6	REPLACE CLUBHOUSE DAMAGED BY FIRE & UPDATE NOTES

**ADDRESS CHART**

LOT NUMBER	STREET ADDRESS
18	12980 Livestock Rd.

**DEVELOPER:**  
 WILLOW SPRINGS I LIMITED PARTNERSHIP  
 16801 WESLEY CHAPEL RD.  
 MONKTON, MD 21111  
 (301) 347-8722

**OWNER:**  
 WILLOW SPRINGS I LIMITED PARTNERSHIP  
 16801 WESLEY CHAPEL RD.  
 MONKTON, MD 21111  
 (301) 347-8722

**SITE DEVELOPMENT PLAN**  
 CLUBHOUSE FACILITY AND MAINTENANCE FACILITY  
**WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE**  
 HOWARD COUNTY, MARYLAND  
 DATE: JANUARY 18, 1990

"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. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

*Sayed A. Soudat* 2/14/90  
 SEYED A. Soudat PROFESSIONAL ENGINEER # 16493 DATE

**DEVELOPER'S CERTIFICATE**

"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES 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."

*John L. Robertson* 7/18/90  
 NAME AND TITLE DATE

SUBDIVISION NAME	SECTION/AREA	LOT NUMBER
"WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE"		18

PLAT OR L.F. BLOCK	ZONING	TAX MAP	BLDG. DIST.	CENSUS TRACT
"7021, 7022, 22, 4"	RC-DEO	2415	370	0030

WATER CODE: PRIVATE GENCOR CODE: PRIVATE

SCALE: 1"=50'  
 SHEET 2 OF 7  
 SDR-90-159

**HYDROLOGIC CRITERIA**

PRINCIPAL SPILLWAY ROUTING: 2 AND BULK OF 3 YR STORM  
EMERGENCY SPILLWAY ROUTING: 10 AND ALL 100 YEAR STORMS

**STRUCTURE CLASSIFICATION**

STRUCTURE CLASS 'A'  
STRUCTURE LOCATION: RURAL  
WATERSHED AREA: 337 A.C.  
NORMAL SURFACE AREA:  
POND 1: 526.0; POND 2: 522.0; POND 3: 517.0  
HEIGHT TO EMERGENCY SPILLWAY CREST:  
POND 1: 7.0'; POND 2: 7.9' POND 3: 6.5'  
STRUCTURE TYPE: WET DETENTION EMBANKMENT POND

**PEAK FLOW SUMMARY**

POND DESIGNATION	2 YEAR	10 YEAR	100 YEAR
①	INFLOW (C.F.S.) 133.2	354.0	619.8
	OUTFLOW (C.F.S.) 108.2	341.0	605.11
	ELEVATION 521.16	521.77	528.27
	STORAGE (A.C.F.T.) 6.59	9.27	11.95
②	INFLOW (C.F.S.) 106.4	317.4	573.3
	OUTFLOW (C.F.S.) 97.71	309.0	646.7
	ELEVATION 521.09	522.22	522.92
	STORAGE (A.C.F.T.) 6.59	9.31	9.48
③	INFLOW (C.F.S.) 12.4	42.4	81.2
	OUTFLOW (C.F.S.) 11.0	34.6	74.4
	ELEVATION 517.35	518.47	519.65
	STORAGE (A.C.F.T.) 0.55	0.81	1.17

AT DESIGN POINT (INLET OF 72' WULVERT UNDER I-70)

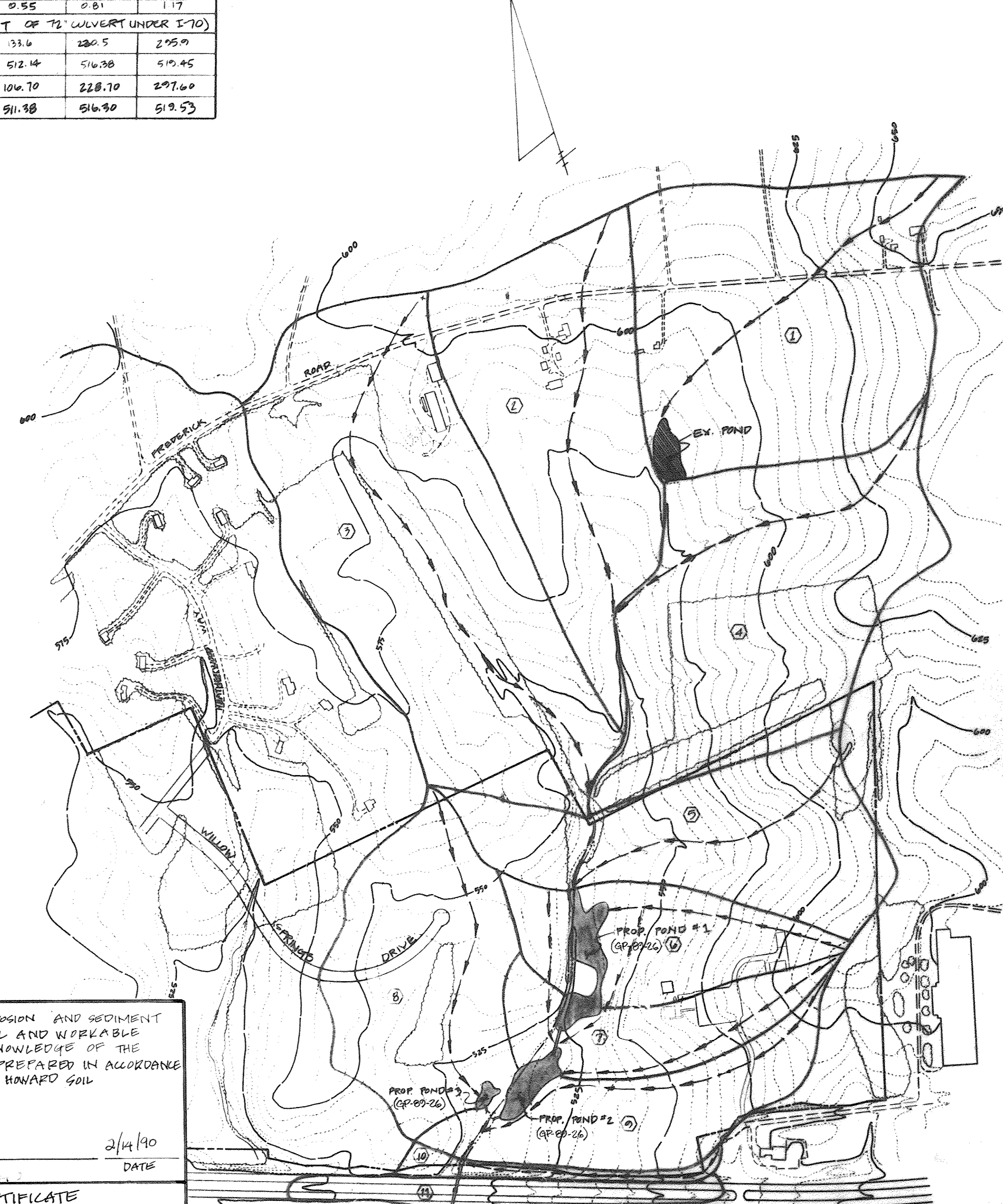
	EXISTING	2 YEAR	10 YEAR	100 YEAR
PEAK FLOW	33.6	120.5	205.9	
ELEVATION	512.14	516.38	519.45	
PROPOSED	PEAK FLOW	106.70	228.70	297.60
ELEVATION	511.38	516.90	519.53	

**POND MAINTENANCE SCHEDULE**

THE PONDS, RIVER STRUCTURES AND OUTFALL DEVICES SHOULD BE INSPECTED ON A ROUTING BASIS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. REPAIRS SHOULD BE MADE AS REQUIRED. INSPECTION CAN BE MADE ON A SEMI-ANNUAL BASIS BUT SHOULD ALWAYS BE CONDUCTED FOLLOWING EVERY STORM.



RTE. 70  
**PRE-DEVELOPMENT DRAINAGE AREA MAP**  
SCALE: 1" = 400'



RTE. 70  
**POST-DEVELOPMENT DRAINAGE AREA MAP**  
SCALE: 1" = 400'

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*Greg A. Sobel* 2/14/90  
GREG A. SOBEL  
PROFESSIONAL ENGINEER # 16493 DATE

**DEVELOPER'S CERTIFICATE**  
"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES 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."

*John M. Hahn* 2/14/90  
JOHN M. HAHN  
NAME AND TITLE DATE

**ADDRESS CHART**

LOT NUMBER	STREET ADDRESS
18	12980 LIVESTOCK ROAD

**DEVELOPER:**  
WILLOW SPRINGS I LIMITED PARTNERSHIP  
16801 WESLEY CHAPEL RD  
MONKTON, MD 21111  
(301) 347-8722

**OWNER:**  
WILLOW SPRINGS I LIMITED PARTNERSHIP  
16801 WESLEY CHAPEL RD  
MONKTON, MD 21111  
(301) 347-8722

SUBDIVISION NAME		SECTION/AREA	LOT/PARCELS
WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE		18	18
PLAT OR L/P #7021, #7022	BLOCK 22, 4	ZONE RCDEO	TAX MAP 9415
WATER CODE: PRIVATE		REG. DIST. 304	CENSUS TRACT 6030
SEWER CODE: PRIVATE			

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT.  
*Joyce Zylak* 8-3-90  
JOYCE ZYLAK  
COUNTY HEALTH OFFICER DATE

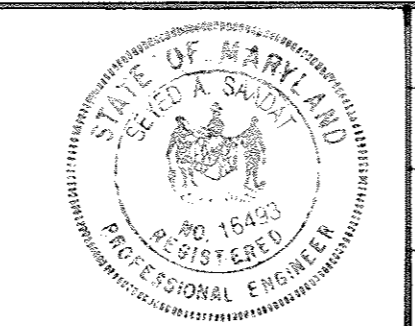
THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
*John L. Robertson* 8/1/90  
JOHN L. ROBERTSON  
HOWARD SOIL CONSERVATION DISTRICT DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.  
*John M. Hahn* 8/1/90  
JOHN M. HAHN  
U.S. SOIL CONSERVATION SERVICE DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY.  
*Mark V. A. Campbell* 10/24/90  
MARK V. A. CAMPBELL  
PLANNING DIRECTOR DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
*John G. Shanaberger* 9/7/90  
JOHN G. SHANABERGER  
DIRECTOR DATE

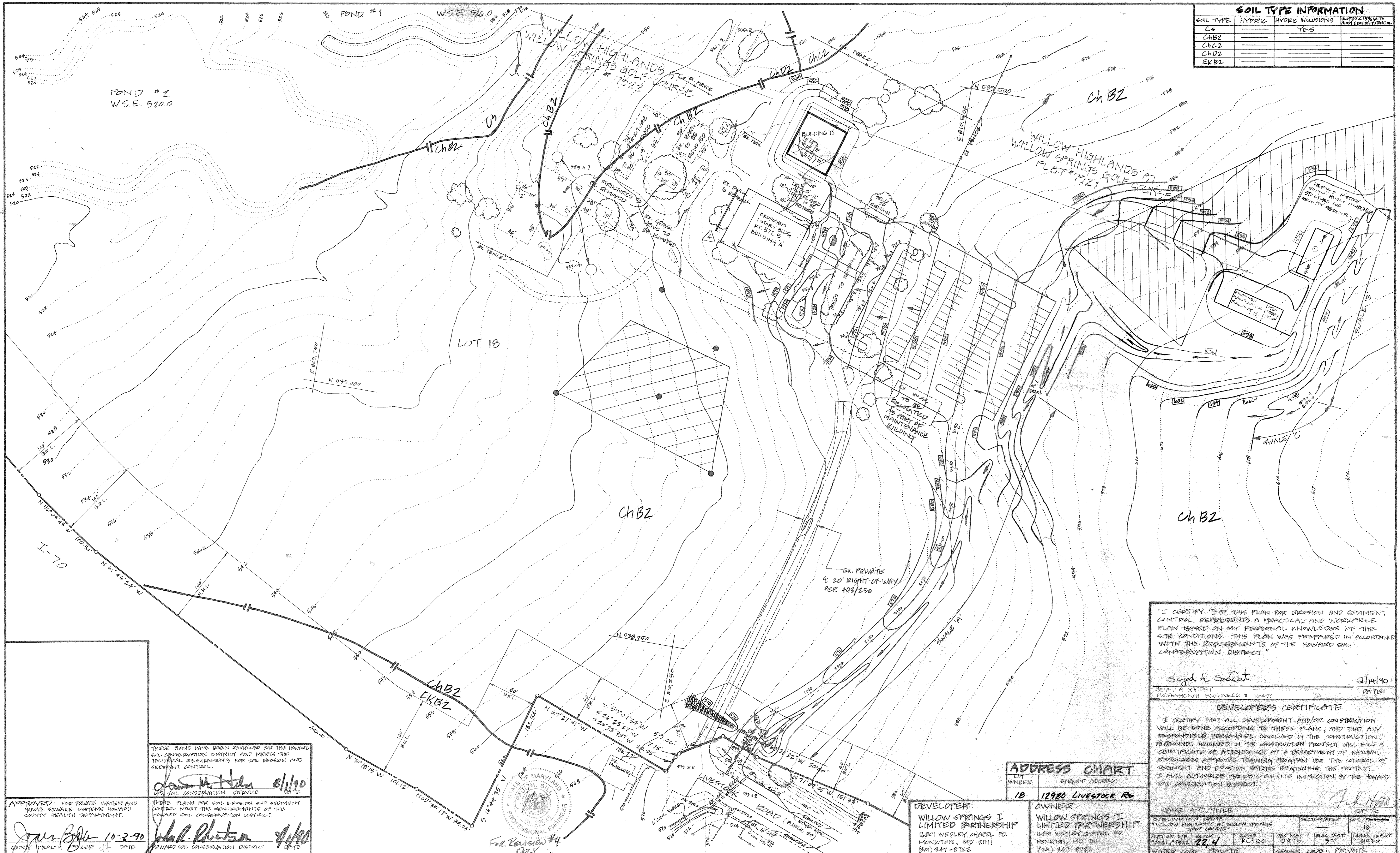
**SHANABERGER & LANE**  
8726 TOWN & COUNTRY BLVD  
SUITES 106 & 107  
ELLICOTT CITY, MD 21043  
(301) 461-9563



DESIGNED	DATE	BY	NO.	REVISION	DATE
GGG	1/1/90	GGG	1	CHANGED C/PET BOLDING SIZE	2/9/07
		SEG	2	ADD ADDRESS CHART	8/7/17
CHECKED					
DATE					

**WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE**  
SITE DEVELOPMENT PLAN  
DRAINAGE AREA MAPS  
HOWARD COUNTY, MARYLAND  
DATE: JANUARY 18, 1990  
SCALE: AS SHOWN  
SHEET 3 OF 7

SOIL TYPE INFORMATION			
SOIL TYPE	HYDRIC	HYDRIC INCLUSIONS	GROUP 2/15% WITH HIGH EXPANSION POTENTIAL
CS		YES	
ChB2			
ChC2			
ChD2			
EKB2			



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Sayed A. Sedat  
 CIVIL ENGINEER  
 PROFESSIONAL ENGINEER # 16493  
 DATE: 2/14/90

**DEVELOPER'S CERTIFICATE**  
 "I CERTIFY THAT ALL DEVELOPMENT, AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

ADDRESS CHART			
LOT NUMBER	STREET ADDRESS		
18	12980 LIVESTOCK RD		

DEVELOPER:				OWNER:			
WILLOW SPRINGS I LIMITED PARTNERSHIP 16801 WESLEY CHAPEL RD. MONKTON, MD 21111 (301) 841-0722				WILLOW SPRINGS I LIMITED PARTNERSHIP 16801 WESLEY CHAPEL RD. MONKTON, MD 21111 (301) 841-0722			

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

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT.  
 APPROVED: DEPARTMENT OF PLANNING AND LAND DEVELOPMENT HOWARD COUNTY.

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

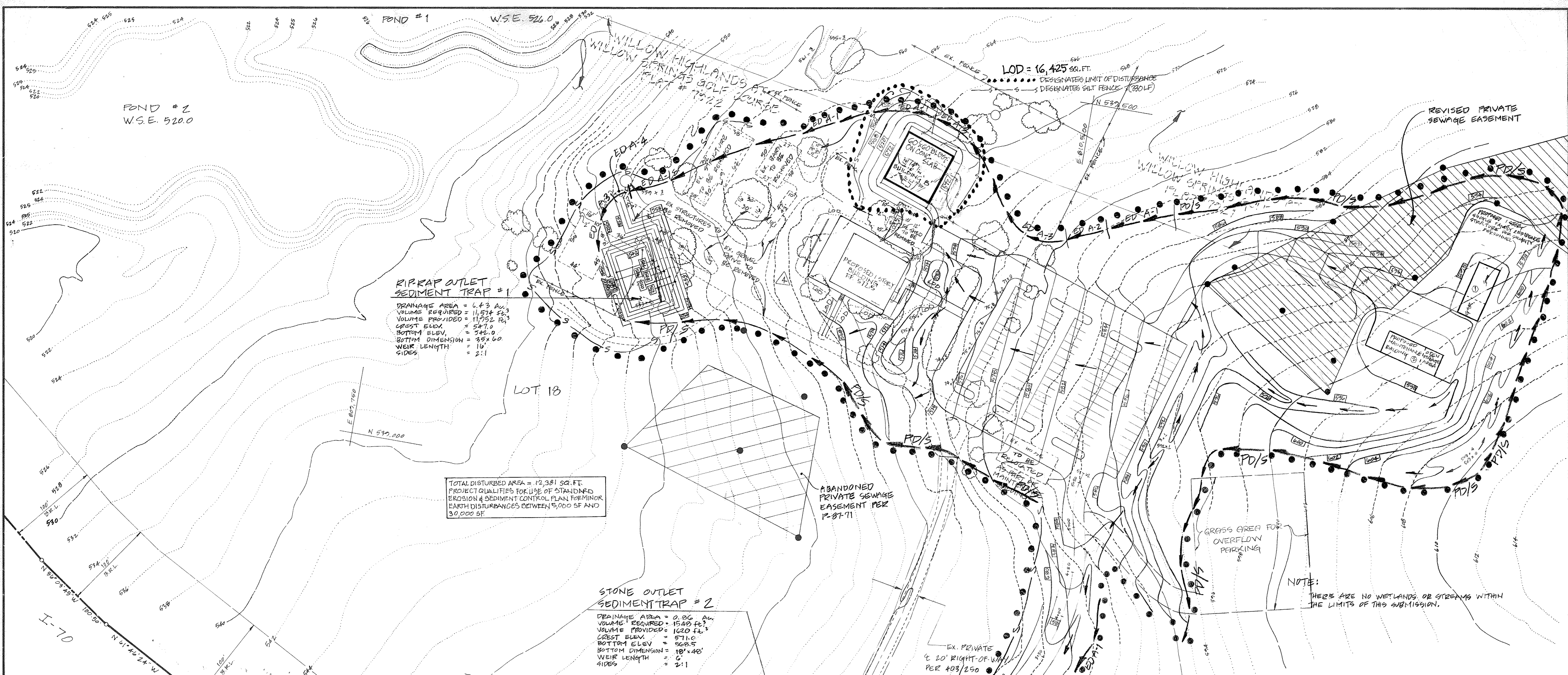
**SHANABERGER & LANE**  
 8726 TOWN & COUNTRY BLVD.  
 SUITES 106 & 107  
 ELLICOTT CITY, MD 21043  
 (301) 461-0563



DESIGNED	DRAWN	CHECKED	DATE	BY NO.	REVISION	DATE
GJM	GJM	QGS	4/15/91		REVISED SECURITY PERSONNEL BUILDING & PROPOSED GRADING	4/15/91
	QGS		4/16/91		REVISED PROPOSED MAINTENANCE BUILDING & PROPOSED GRADING	4/16/91
			2/10/97		CHANGED GOLF COURSE BUILDING SIZE & ASSOCIATED GRADING	2/10/97
			8/7/17		REPLACE CLUBHOUSE DAMAGED BY FIRE & UPDATE NOTES	8/7/17

**WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE**  
 CLUBHOUSE FACILITY AND MAINTENANCE FACILITY  
 HOWARD COUNTY, MARYLAND  
 DATE: JANUARY 18, 1990

SCALE: 1"=50'  
 SHEET 4 OF 7



**RIPRAP OUTLET SEDIMENT TRAP #1**  
 DRAINAGE AREA = 4.43 AC.  
 VOLUME REQUIRED = 11,574 cu. ft.  
 VOLUME PROVIDED = 11,952 cu. ft.  
 CREST ELEV. = 547.0  
 BOTTOM ELEV. = 542.0  
 BOTTOM DIMENSION = 95' x 60'  
 WEIR LENGTH = 18'  
 SIDES = 2:1

TOTAL DISTURBED AREA = 12,381 SQ. FT.  
 PROJECT QUALIFIES FOR USE OF STANDARD EROSION & SEDIMENT CONTROL PLAN FOR MINOR EARTH DISTURBANCES BETWEEN 5,000 SF AND 30,000 SF

**STONE OUTLET SEDIMENT TRAP #2**  
 DRAINAGE AREA = 0.86 AC.  
 VOLUME REQUIRED = 1549 cu. ft.  
 VOLUME PROVIDED = 1620 cu. ft.  
 CREST ELEV. = 571.0  
 BOTTOM ELEV. = 568.5  
 BOTTOM DIMENSION = 18' x 48'  
 WEIR LENGTH = 6'  
 SIDES = 2:1

NOTE:  
 THERE ARE NO WETLANDS OR STREAMS WITHIN THE LIMITS OF THIS SUBMISSION.

"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. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Sayed A. Saadat 2/14/90  
 SEYED A. SAADAT  
 PROFESSIONAL ENGINEER # 16423 DATE

**DEVELOPER'S CERTIFICATE**  
 "I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES 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."

Al Davis February 90  
 NAME AND TITLE DATE  
 SUBDIVISION NAME: WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE  
 LOT: 18  
 PLAT OR L/F: BLOCK 22, 4  
 ZONE: RC-DEO  
 TAX MAP: 2415  
 SEC. DIST.: 303  
 CORNER TRACT: 6030  
 WATER CODE: PRIVATE  
 SEWER CODE: PRIVATE

**ADDRESS CHART**

LOT NUMBER	STREET ADDRESS
18	12980 LIVESTOCK RD

**DEVELOPER:**  
 WILLOW SPRINGS I LIMITED PARTNERSHIP  
 1681 WESLEY CHAPEL RD.  
 MONKTON, MD 21111  
 (301) 347-8782

**OWNER:**  
 WILLOW SPRINGS I LIMITED PARTNERSHIP  
 1681 WESLEY CHAPEL RD.  
 MONKTON, MD 21111  
 (301) 347-8782

**SITE DEVELOPMENT PLAN**  
 EROSION AND SEDIMENT CONTROL PLAN  
**WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE**  
 LOT 18  
 HOWARD COUNTY, MARYLAND  
 DATE: JANUARY 18, 1990

SCALE: 1" = 50'  
 SHEET 5  
 OF 7

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.  
 Approved: *James H. Hahn* 8/1/90  
 DISTRICT SOIL CONSERVATION SERVICE DATE

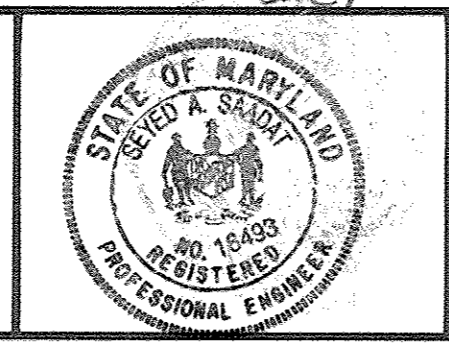
THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 Approved: *John L. Roberts* 4/1/90  
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING OF HOWARD COUNTY.  
 Approved: *William U. ...* 10/29/90  
 PLANNING DIRECTOR DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE, SEWER DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
 Approved: *James G. ...* 9/7/90  
 DIRECTOR DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE, SEWER DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
 Approved: *James G. ...* 8-27-90  
 CHIEF, BUREAU OF ENGINEERING MK DATE

**SHANABERGER & LANE**  
 8726 TOWN & COUNTRY BLVD.  
 SUITES 106 & 107  
 ELLICOTT CITY, MD 21043  
 (301) 461-0569



DESIGNED	DRAWN	CHECKED	SAS	DATE	BY	NO.	REVISION	DATE
SLM	①	RAINED SECURITY PERSONNEL BUILDING & PROPOSED GRADING		4/15/91				
SLM	②	RAINED PROPOSED MAINTENANCE BUILDING & PROPOSED GRADING		4/15/91				
GS	③	CHANGED GOLF CART BUILDING SIZE, ASSOCIATED GRADING & SEDIMENT CONTROL		2/10/07				
SLM	④	REPLACE CLUB HOUSE DAMAGED BY FIRE & UPDATE NOTES		8/7/17				

**TEMPORARY SEEDING NOTES**

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

**SEEDBED PREPARATION:** LOOSEN UPPER 3 INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

**SOIL AMENDMENTS:** APPLY 600 LB. PER ACRE 10-10-10 FERTILIZER (14 LB./1000 SQ. FT.)

**SEEDING:** FOR PERIOD MARCH 4 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2 1/2 BUSHES PER ACRE OF ANNUAL RYE (3.2 LB./1000 SQ. FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LB. PER ACRE OF WHEAT (4.5 LB./1000 SQ. FT.) FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28. PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

**MULCHING:** APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LB./1000 SQ. FT.) OF UNWEAVERED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 2 1/2 GAL. PER ACRE (5 GAL./1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS ON SLOPES OF FT. OR HIGHER USE 3 1/2 GAL. PER ACRE (8 GAL./1000 SQ. FT.) FOR ANCHORING.

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

**PERMANENT SEEDING NOTES**

APPLY TO GRADED OR CLEARED AREA NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

**SEEDBED PREPARATION:** LOOSEN UPPER 3 INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

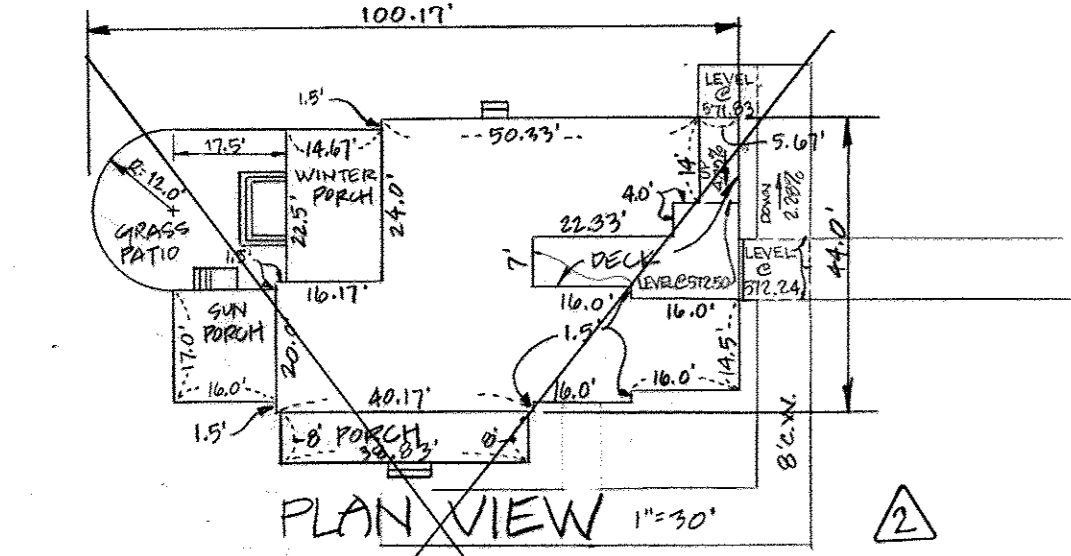
**SOIL AMENDMENTS:** IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- 1) PREFERRED - APPLY 2 TONS PER ACRE DOMANTIC LIMESTONE (92 LB./1000 SQ. FT.) AND 600 LB./ACRE 10-10-10 FERTILIZER (14 LB./1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL AT THE TIME OF SEEDING. APPLY 400 LB./ACRE 30-0-0 UREAFORM FERTILIZER (9 LB./1000 SQ. FT.).
- 2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOMANTIC LIMESTONE (92 LB./1000 SQ. FT.) AND 100 LB./ACRE 10-10-10 FERTILIZER (23 LB./1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

**SEEDING:** FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LB. PER ACRE (1.4 LB./1000 SQ. FT.) OF KENTUCKY 91 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LB. KENTUCKY 91 TALL FESCUE PER ACRE AND 2 LB. PER ACRE (.05 LB./1000 SQ. FT.) OF WHEAT LONGGRASS. DURING THE PERIOD OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 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 LB. KENTUCKY 91 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

**MULCHING:** APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LB./1000 SQ. FT.) OF UNWEAVERED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 2 1/2 GAL. PER ACRE (5 GAL./1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES OF FT. OR HIGHER, USE 3 1/2 GAL. PER ACRE (8 GAL./1000 SQ. FT.) FOR ANCHORING.

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.



**ELEVATION 1"=30'**  
**PROPOSED CLUBHOUSE BUILDING 'A'**

THIS CLUBHOUSE BUILDING WAS DAMAGED BY FIRE IN NOVEMBER, 2016, AND IS TO BE REPLACED WITH A NEW 1-STORY CLUBHOUSE BUILDING DETAILS OF NEW BUILDING ON SHEET 7.

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

*[Signature]* 8/1/90  
SOIL CONSERVATION SERVICE DATE

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

*[Signature]* 8/1/90  
HOWARD SOIL CONSERVATION DISTRICT DATE

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

*[Signature]* 10/24/90  
COUNTY HEALTH OFFICER DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

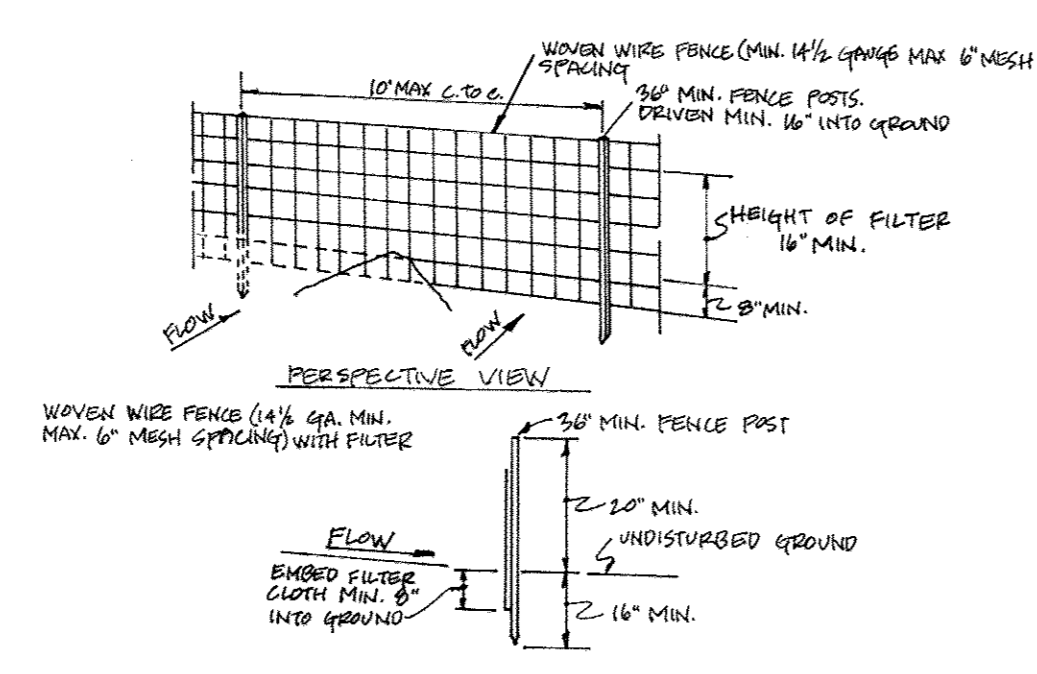
*[Signature]* 9/7/90  
DIRECTOR DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING OF HOWARD COUNTY.

*[Signature]* 1/24/91  
PLANNING DIRECTOR DATE

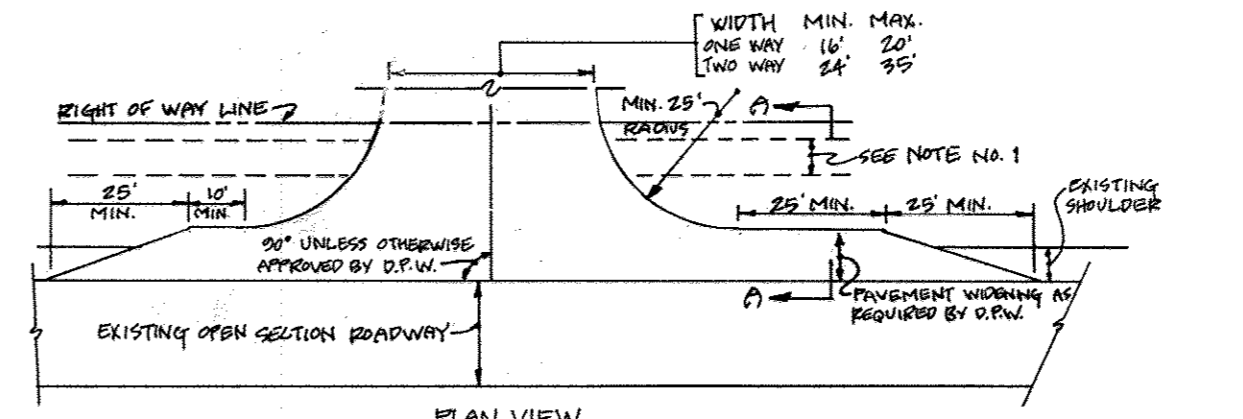
APPROVED: DEPARTMENT OF COMMUNITY PLANNING AND LAND DEVELOPMENT.

*[Signature]* 1/24/91  
DATE



**PAVING SECTION**

SECTION NUMBER	ROAD AND STREET CLASSIFICATION
R2	RESIDENTIAL ZONES LOCAL, UN-DEVELOPED STREETS, ALLEYS AND PRIVATE ROADS SERVING INDIVIDUAL LOTS
TRAVELWAYS	FOR APARTMENTS AND COMMERCIAL INDUSTRIAL ZONES WITH NO MORE THAN 10 HEAVY TRUCKS
PAVEMENT MATERIALS	FULL DEPTH BIT. CONC. ALTERNATE
GRANULAR EDGE ALTERNATES	1 1/2" BIT CONC. SURFACE 5" BIT CONC. BASE



- NOTES:**
- PAVING SECTION FOR ENTRANCE WITHIN THE PUBLIC RIGHT-OF-WAY WILL BE AS REQUIRED FOR A PUBLIC ROAD.
  - ENTRANCE TO BE USED ONLY IF AUXILIARY LANES ARE NOT REQUIRED IN ACCORDANCE WITH SECTION 2.5.2-4.1 AND SECTION 2.6.7.

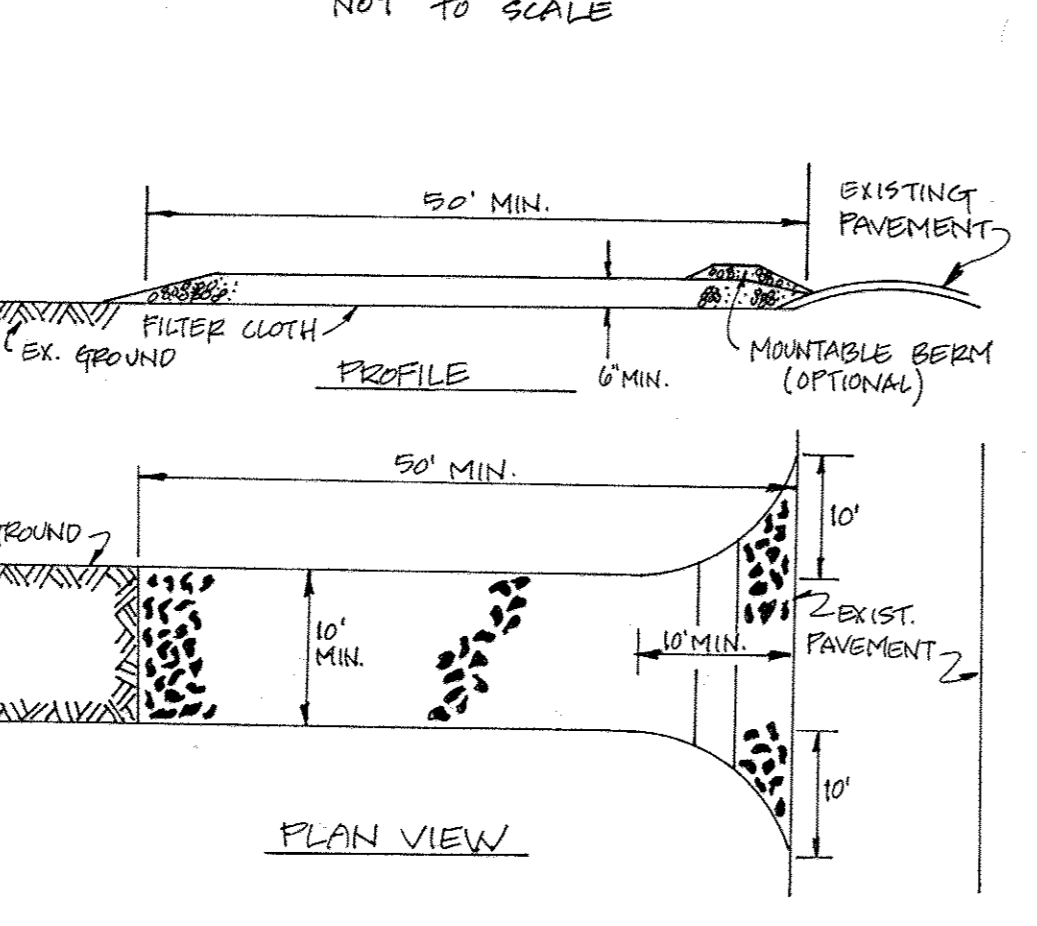
**COMMERCIAL · INDUSTRIAL · APARTMENT · ENTRANCE ON OPEN SECTION ROADWAY**  
TRAFFIC VOLUME LESS THAN 100 V.P.H.

**SECTION CONSTRUCTION SPECIFICATIONS FOR FABRICATED SILT FENCE**

- WAVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
- FILTER CLOTH TO BE FASTENED SECURELY TO WAVEN WIRE FENCE WITH THE GRADED BARELY 2" AT 2' AND MID SECTION.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
- MAINTENANCE SHALL BE AS FOLLOWS: WHEN NEEDED AND MATERIAL PROVIDED WHEN "BLADES" DEVELOP IN THE SILT FENCE.

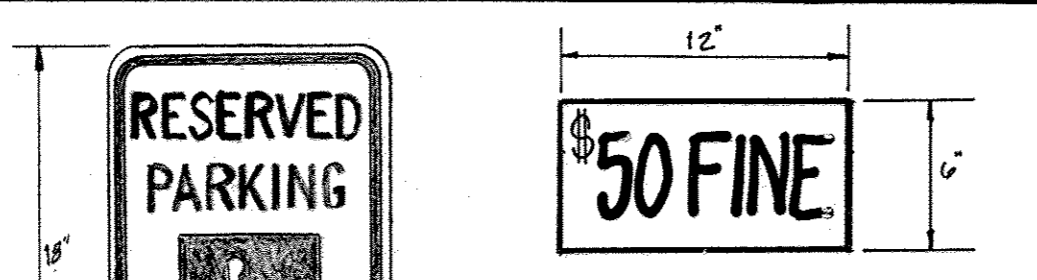
**SILT FENCE**

**STABILIZED CONSTRUCTION ENTRANCE**  
NOT TO SCALE



**CONSTRUCTION SPECIFICATIONS**

- STONE SIZE - USE 3" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- LENGTH - AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
- THICKNESS - NOT LESS THAN 6" SIX INCHES.
- WIDTH - TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
- FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. FILTER WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT.
- SURFACE WATER - ALL SURFACE WATER FLOWING OR INVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PLACED ACROSS THE ENTRANCE. IF PLACING IS IMPRACTICAL, A MOUNTABLE BEAM WITH 5:1 SLOPES WILL BE PERMITTED.
- MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SKILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
- WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
- PERIODIC INSPECTIONS AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

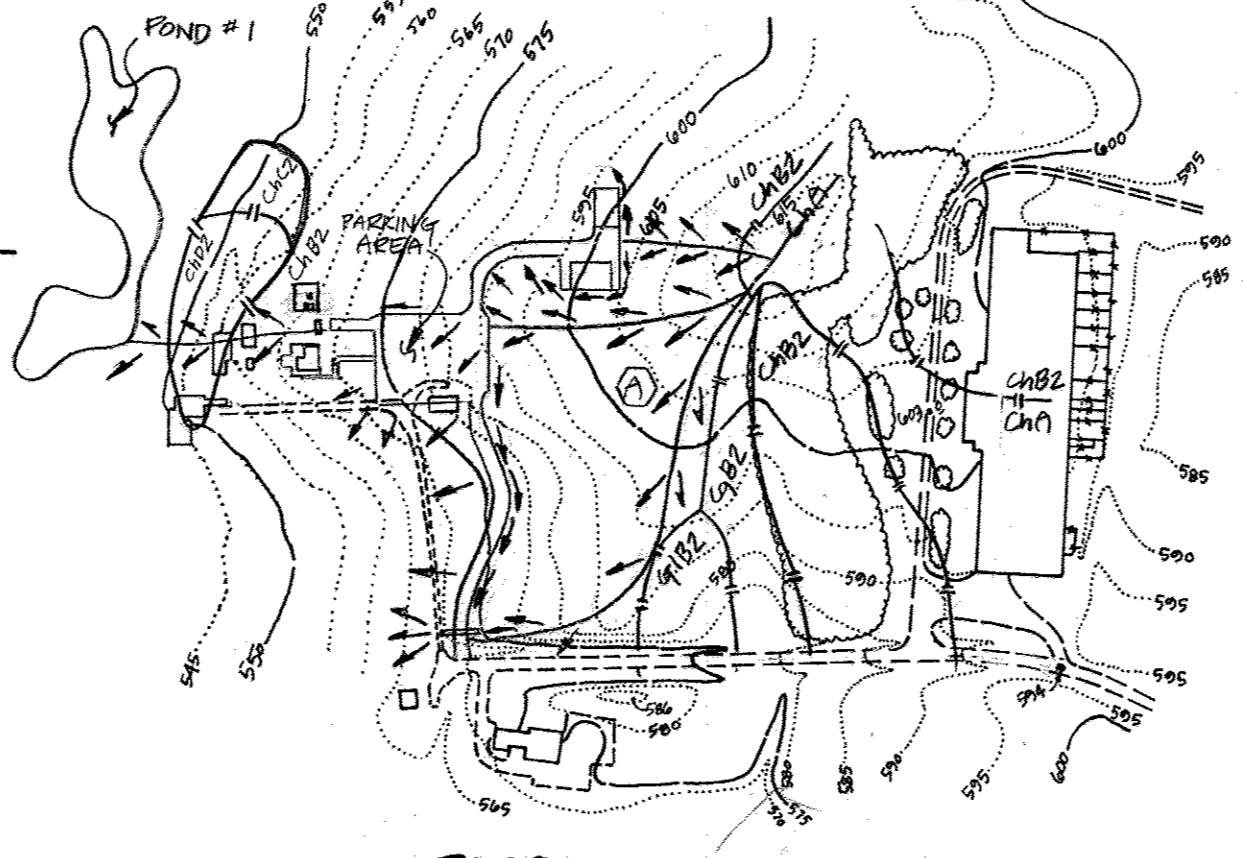


**HANDICAPPED PARKING SIGN SPECIFICATIONS**

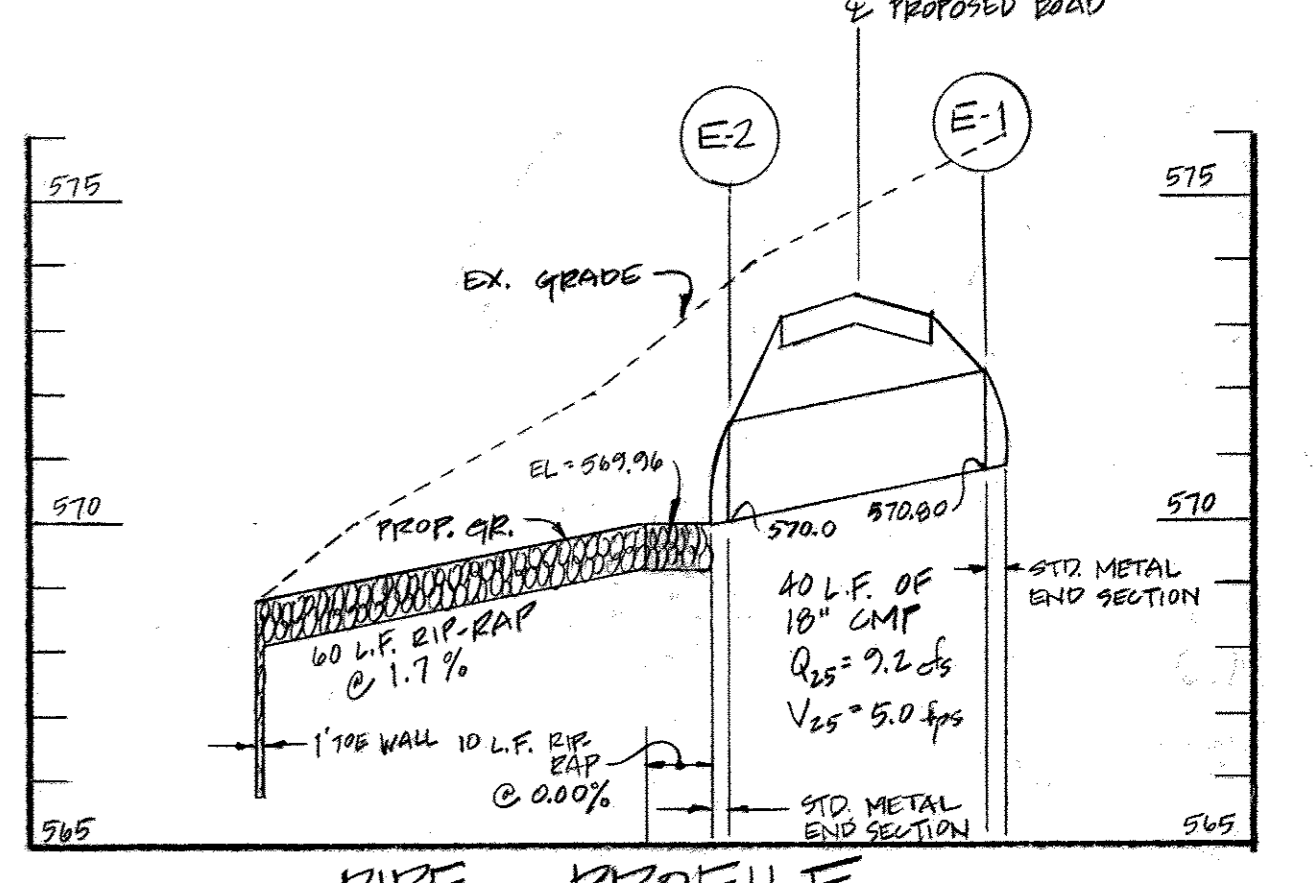
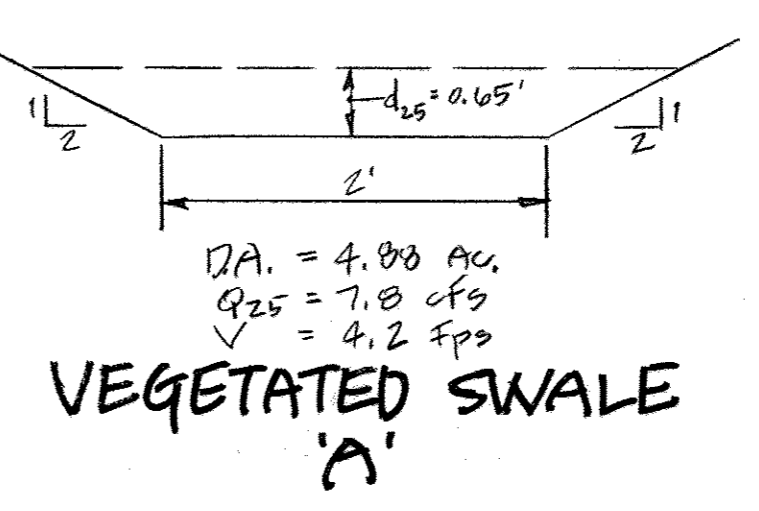
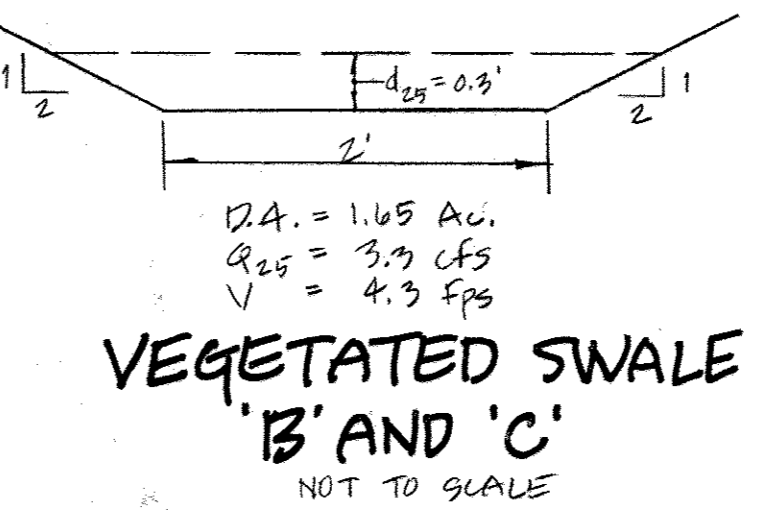
NOTES:

- 50 FINE SIGN TO BE WHITE WITH GREEN TEXT AND BORDER TO MATCH RESERVED PARKING SIGN AT LEFT.
- THE ABOVE FINE SIGN TO BE MOUNTED UNDERNEATH THE RESERVED PARKING SIGN WITH BOTTOM EDGE A MINIMUM OF 7" ABOVE GROUND.

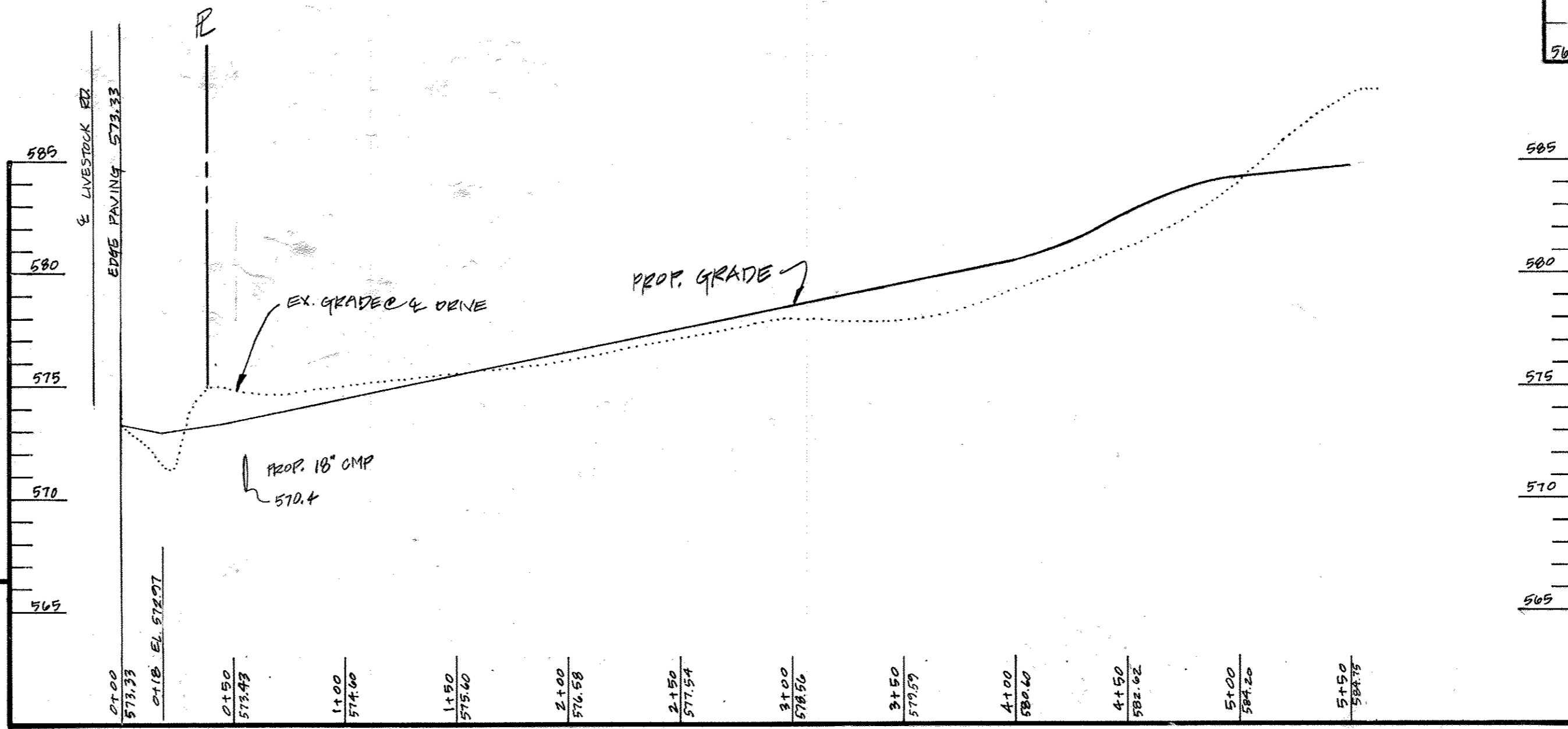
**SHANABERGER & LANE**  
8126 TOWN & COUNTRY BLVD  
WITTES 104 & 107  
ELLCOTT CITY, MD 21043  
(301) 461-0563



**DRAINAGE AREA MAP**  
SCALE: 1" = 400'



**PIPE PROFILE**  
SCALE: HORIZ - 1" = 30'  
VERT - 1" = 3'



**ADDRESS CHART**

LOT NUMBER	STREET ADDRESS
18	12980 LIVESTOCK ROAD

**DEVELOPER:**  
WILLOW SPRINGS I LIMITED PARTNERSHIP  
16801 WESLEY CHAPEL RD  
MONKTON, MD 21111  
(301) 347-8122

**OWNER:**  
WILLOW SPRINGS I LIMITED PARTNERSHIP  
16801 WESLEY CHAPEL RD  
MONKTON, MD 21111  
(301) 347-8122

**SITE DEVELOPMENT PLAN**  
NOTES AND DETAILS SHEET  
**WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE**  
HOWARD COUNTY, MARYLAND  
DATE: JANUARY 18, 1990

**SCALE: AS SHOWN**  
**SHEET 6 OF 7**

**SEDIMENT CONTROL NOTES:**

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS PRIOR TO THE STARTS OF ANY CONSTRUCTION.
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: (A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, Dikes, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1 (B) 14 DAYS AS TO 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 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGES.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52), TEMPORARY STABILIZATION WITH PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:**  
TOTAL AREA OF SITE ..... 109,710 AC.  
AREA DISTURBED ..... 8,615 AC.  
AREA TO BE GRADED OR PAVED ..... 2,120 AC.  
AREA TO BE VEGETATIVELY STABILIZED ..... 6,555 AC.  
TOTAL CUT ..... 10,704 C.Y.  
TOTAL FILL ..... 2,904 C.Y.  
OFFSITE WASTE/BARRON AREA LOCATION: WILLOW SPRINGS GOLF COURSE
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY UTILITY ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT 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.
- ALL PILES TO BE BLOKED AT THE END OF EACH DAY.
- THE TOTAL AMOUNT OF STRAW BALE Dikes/SILT FENCE EQUALS 1090 L.F.

"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. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

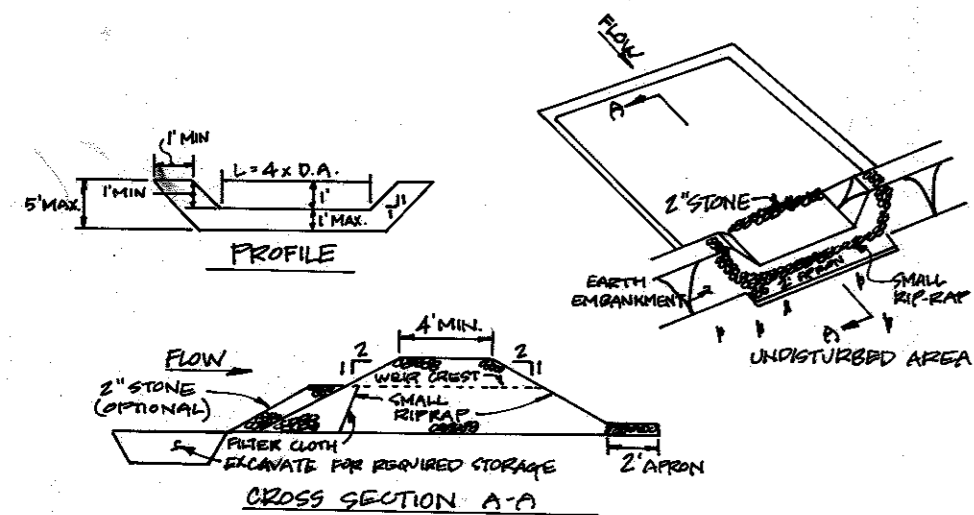
*[Signature]* 11/4/90  
PROFESSIONAL ENGINEER #16493 DATE

**DEVELOPER'S CERTIFICATE**

"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES 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."

*[Signature]* Feb 14 1990  
NAME AND TITLE DATE

SUBDIVISION NAME "WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE"	SECTION/AREA -	LOT NUMBER 18
PLAT # & DATE "1981" 10/22	ZONING RC-DEO	TAX MAP 2115
WATER CODE: PRIVATE	SEWER CODE: PRIVATE	UNITS TRACT 3rd 0030

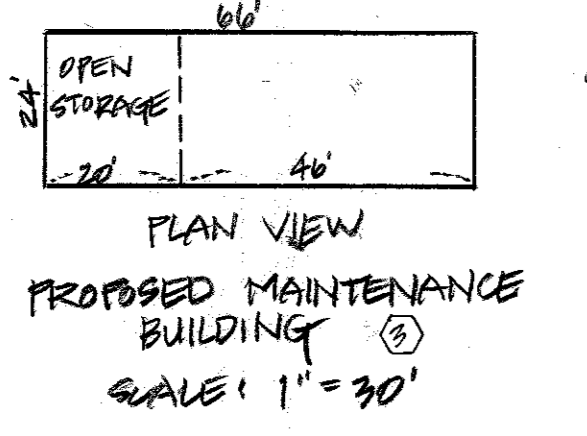
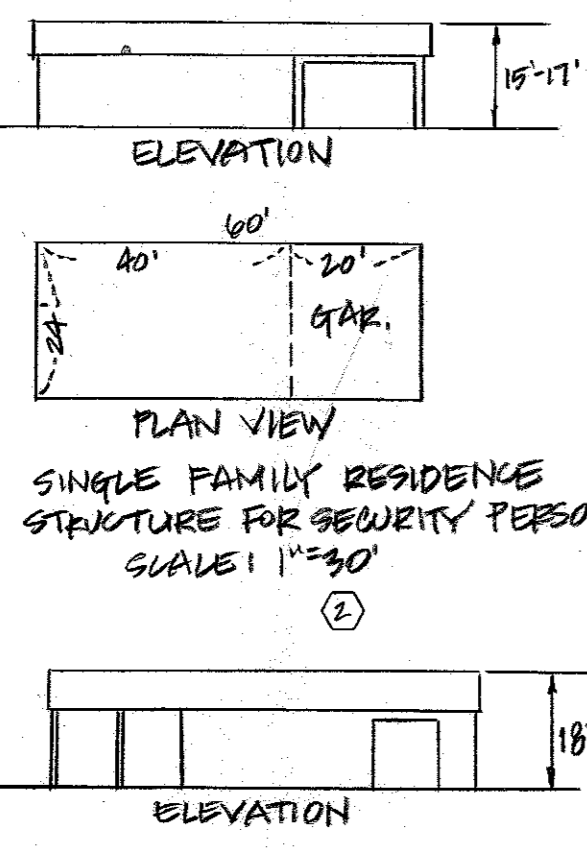
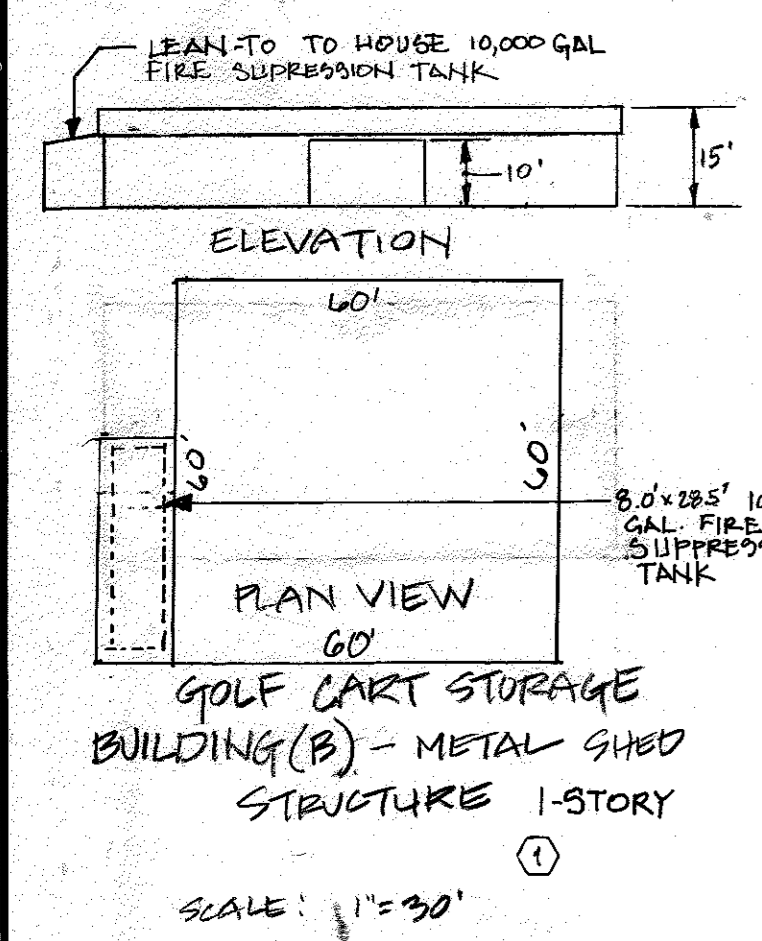


OPTION: A ONE FOOT LAYER OF 2" STONE MAY BE PLACED ON THE UPSTREAM SIDE OF THE RIP-RAP IN PLACE OF THE EMBEDDED FILTER CLOTH

**CONSTRUCTION SPECIFICATIONS**

- AREA UNDER THE EMBANKMENT SHALL BE CLEARED, GRUBBED AND STEEPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
- THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS AND OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE CONSTRUCTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
- ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
- THE STONE USED IN THE OUTLET SHALL BE SMALL RIP-RAP 4" - 6" ALONG WITH A 1" THICKNESS OF 2" AGGREGATE PLACED ON THE UPSTREAM SIDE OF THE SMALL RIP-RAP OR EMBEDDED FILTER CLOTH IN THE RIP-RAP.
- SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT ACCUMULATES TO 1/2 THE DESIGN DEPTH OF THE TRAP.
- THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
- CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION IS MINIMIZED.
- THE STRUCTURE SHALL BE REMOVED AND AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

**STONE OUTLET SEDIMENT TRAP**  
NOT TO SCALE



APPROVED FOR PRIVATE WATER AND SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT. DATE: 10-3-90

APPROVED FOR PRIVATE WATER AND SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT. DATE: 8/1/90

**CONSTRUCTION SPECIFICATIONS**

- ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
- ALL DIKES SHALL HAVE A POSITIVE DRAINAGE TO AN OUTLET.
- TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
- FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
- EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. RUNOFF SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OF THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
- STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.

**FLOW CHANNEL STABILIZATION**

TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	5 - 8.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1 - 5.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
3	5.1 - 8.0%	SEED WITH JUTE OR 50% 2" STONE	LINED RIP-RAP 4" - 6"
4	8.1 - 10%	LINED RIP-RAP 4" - 6"	ENGINEERING DESIGN

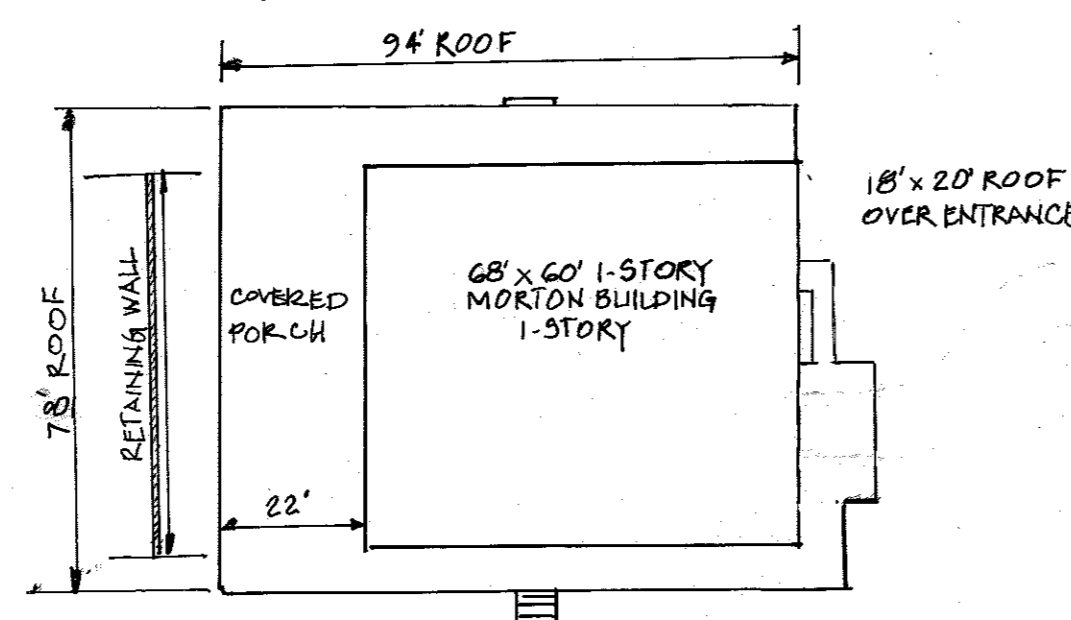
A. STONE TO BE 2 INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.

B. RIP-RAP TO BE 4-6 INCHES IN A LAYER AT LEAST 8 INCHES IN THICKNESS AND PRESSED INTO THE SOIL.

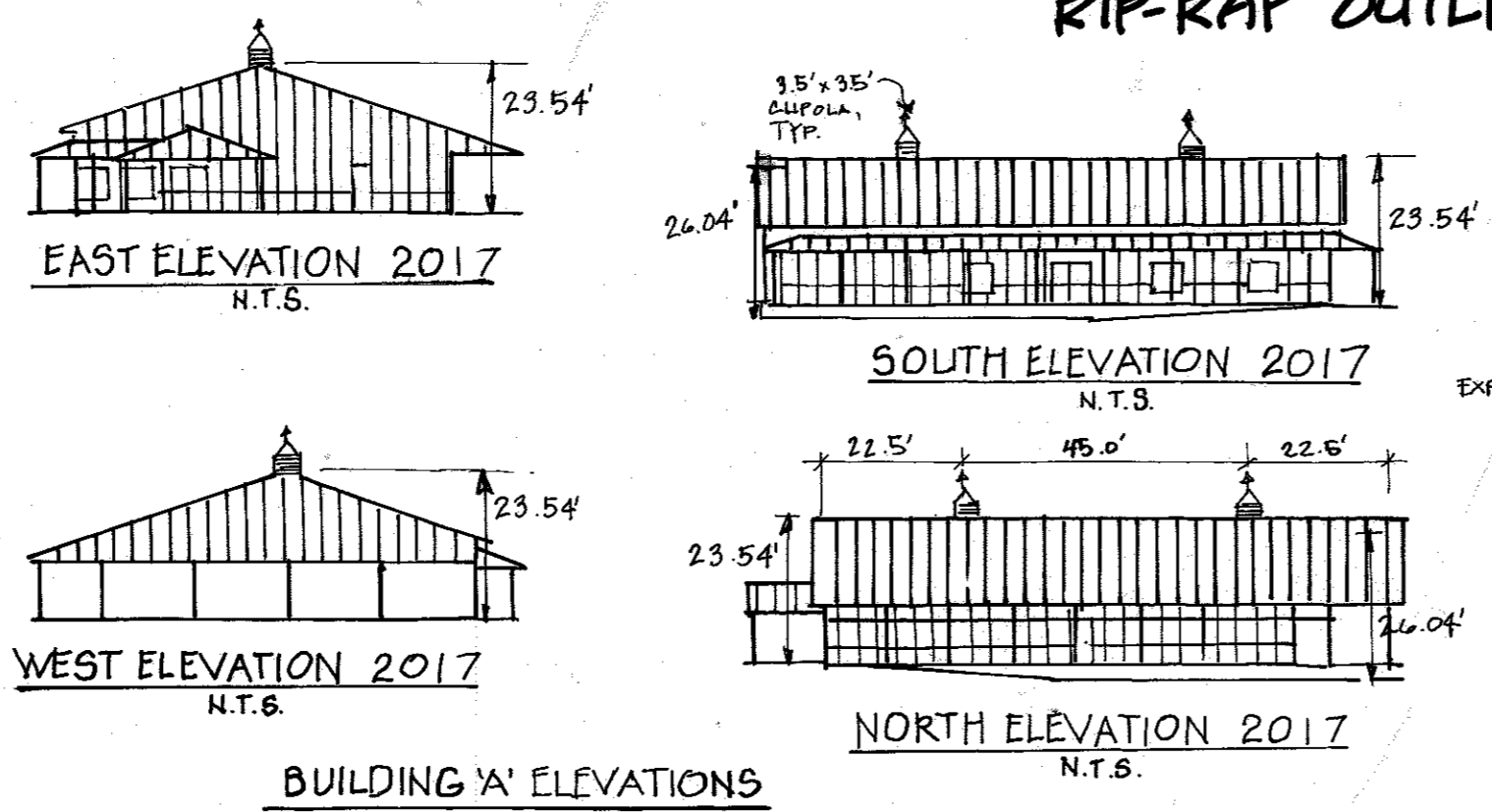
C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.

7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

**EARTH DIKE**  
NOT TO SCALE



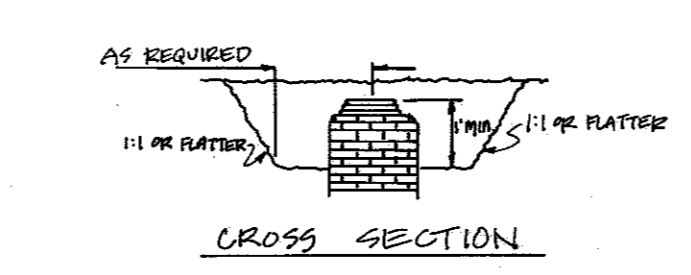
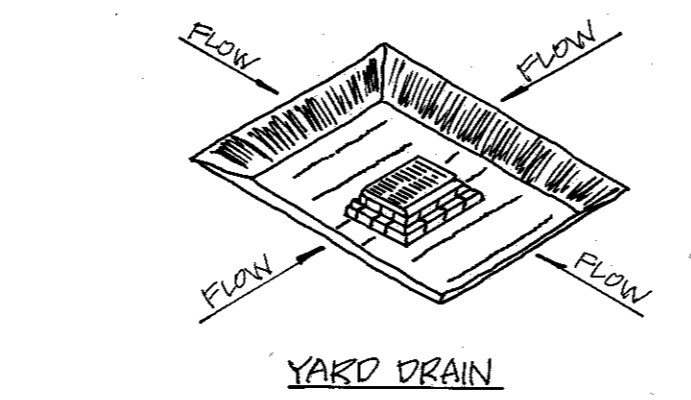
BUILDING 'A' DETAIL 2017  
SCALE: 1" = 30'



BUILDING 'A' ELEVATIONS

**SHANBERGER & LANE**

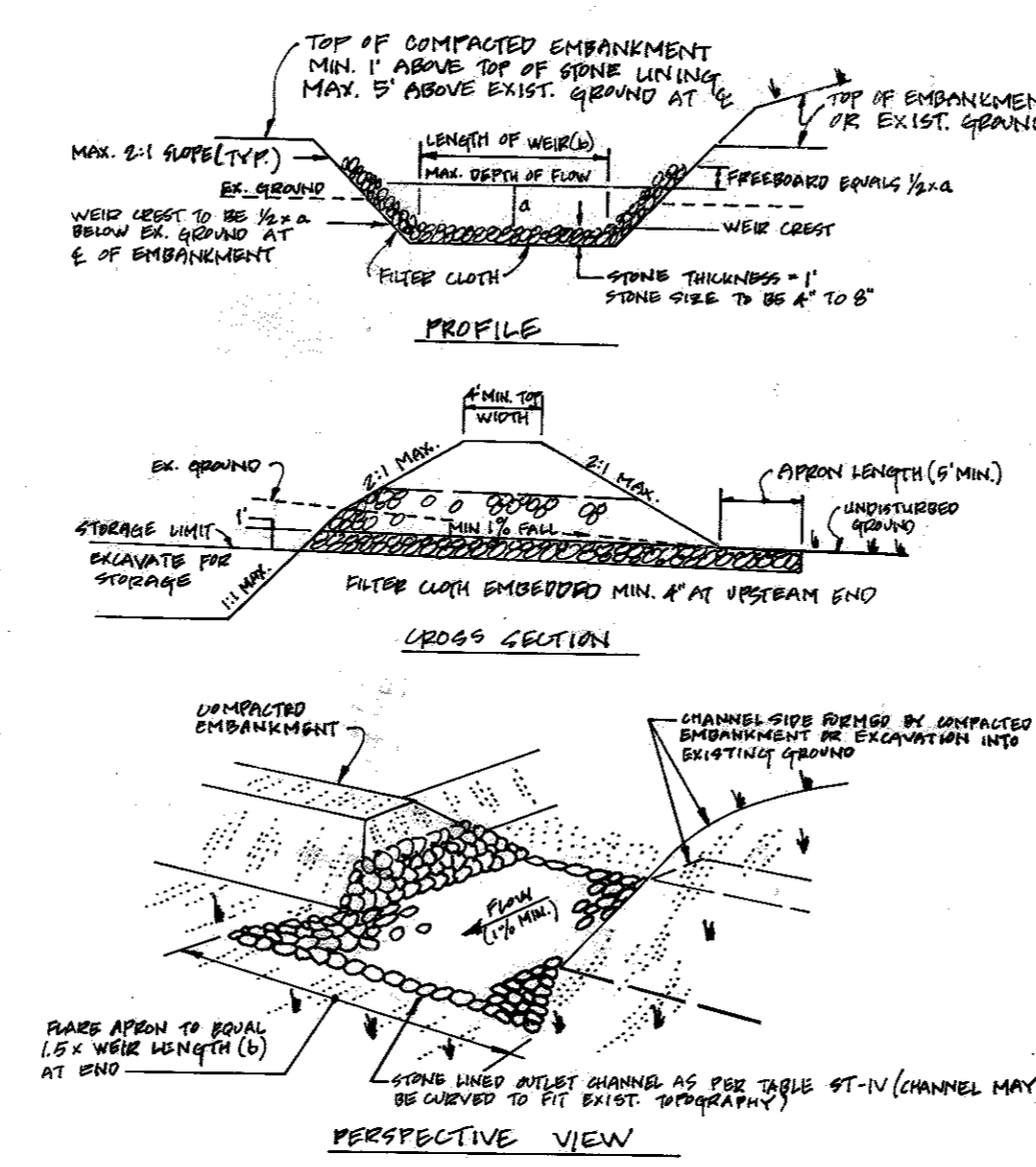
8126 TOWN & COUNTRY BLVD  
SUITE 106 & 107  
ELLIOTT CTY, MD 21043  
(301) 461-9503



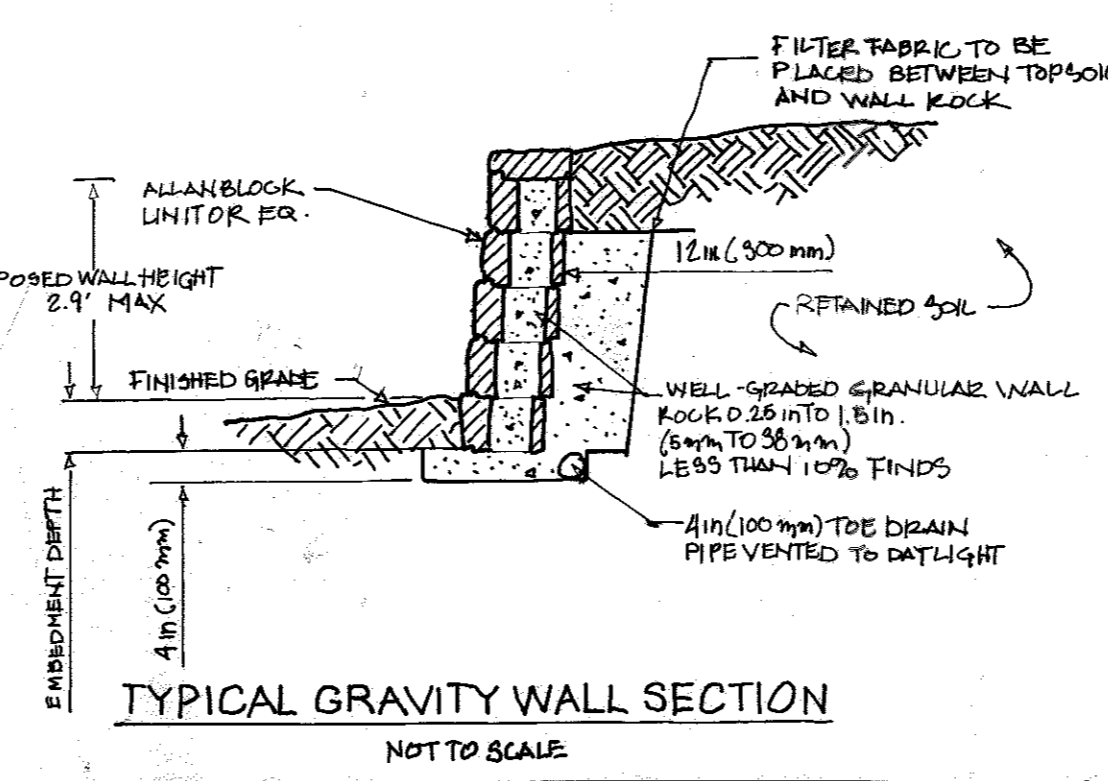
**CONSTRUCTION SPECIFICATIONS**

- SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
- THE VOLUME OF SEDIMENT STORAGE SHALL BE 1000 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE.
- THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
- CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION SHALL BE MINIMIZED.
- THE SEDIMENT TRAP SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE CONSTRUCTED DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
- ALL CUT SLOPES SHALL BE 1:1 OR FLATTER.

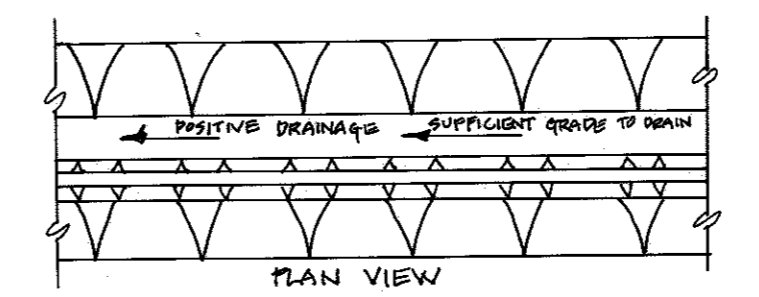
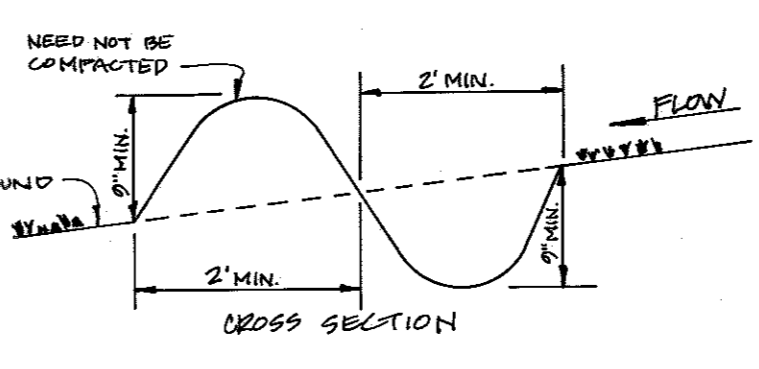
**STORM INLET SEDIMENT TRAP**  
NOT TO SCALE



**RIP-RAP OUTLET SEDIMENT TRAP**



TYPICAL GRAVITY WALL SECTION  
NOT TO SCALE



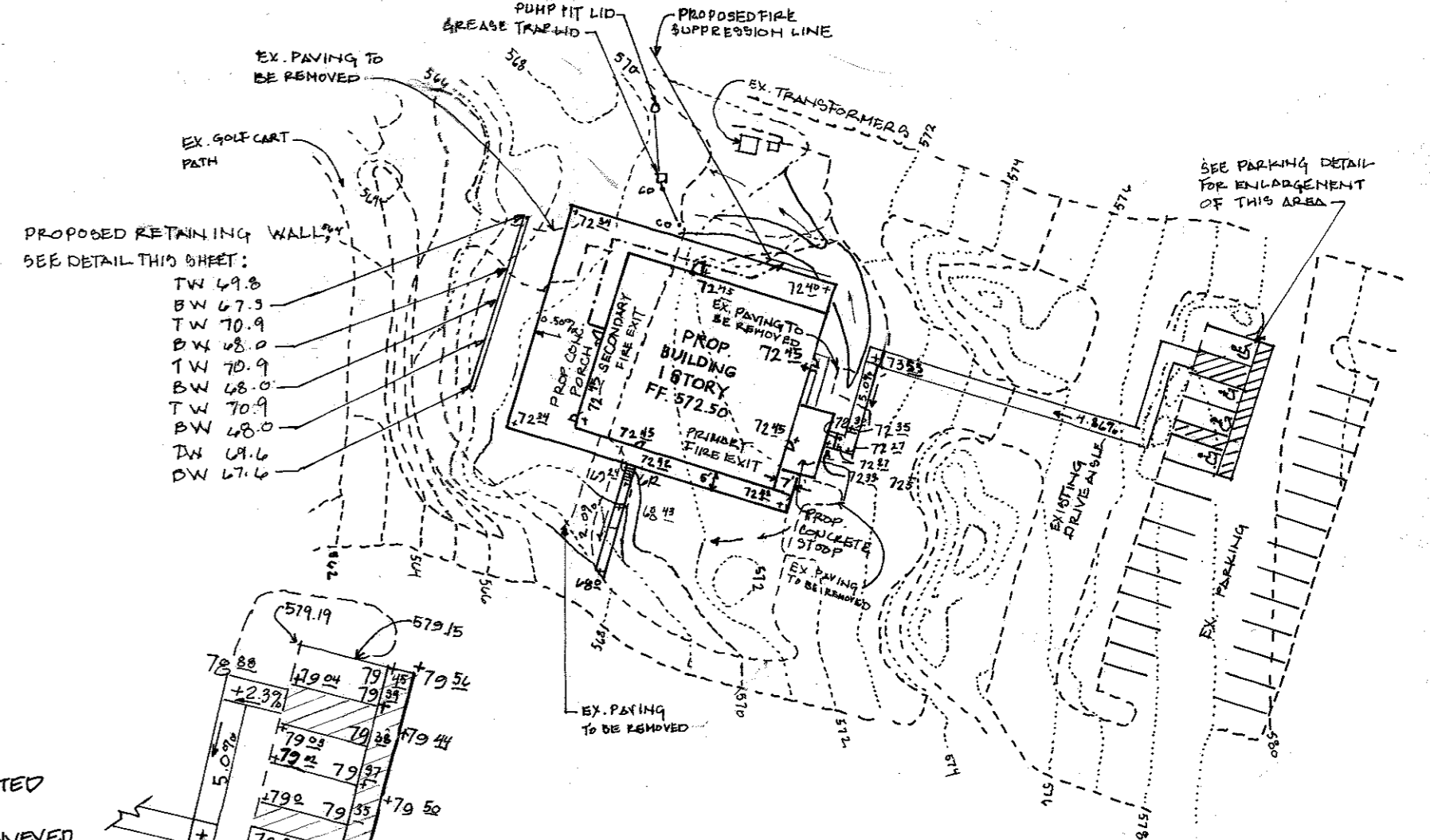
**CONSTRUCTION SPECIFICATIONS**

- ALL PERIMETER DIKE/SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADES TO AN OUTLET.
- DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
- DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET INTO AN UNDISTURBED STABILIZED AREA AT A NON-EROSION VELOCITY.
- THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED IN THE STANDARD.
- STABILIZATION OF THE AREA DISTURBED BY THE DIKE AND SWALE SHALL BE DONE IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SEED AND STRAW MULCH AND SHALL BE DONE WITHIN 10 DAYS.
- PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

**PERIMETER DIKE/SWALE**  
NOT TO SCALE

**CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTLET SEDIMENT TRAP**

- THE AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STEEPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
- THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE CONSTRUCTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED. MAXIMUM HEIGHT OF EMBANKMENT SHALL BE FIVE(5) FEET, MEASURED AT CENTERLINE OF EMBANKMENT.
- ALL FILL SLOPES SHALL BE 2:1 OR FLATTER; CUT SLOPES 1:1 OR FLATTER.
- ELEVATION OF THE TOP OF ANY DIKE DIRECTING WATER INTO TRAP MUST BE EQUAL OR EXCEED THE HEIGHT OF EMBANKMENT.
- STORAGE AREA PROVIDED SHALL BE COMPUTED BY COMPUTING THE VOLUME AVAILABLE BEHIND THE OUTLET CHANNEL UP TO AN ELEVATION OF ONE (1) FOOT BELOW THE LEVEL WEIR CREST.
- FILTER CLOTH SHALL BE PLACED OVER THE BOTTOM AND SIDES OF THE OUTLET CHANNEL PRIOR TO PLACEMENT OF STONE. SECTIONS OF FABRIC MUST OVERLAP AT LEAST ONE (1) FOOT WITH SECTION NEAREST THE ENTRANCE PLACED ON TOP. FABRIC SHALL BE EMBEDDED AT LEAST SIX (6) INCHES INTO EXISTING GROUND AT ENTRANCE OF OUTLET CHANNEL.
- STONE USED IN THE OUTLET CHANNEL SHALL BE FOUR (4) TO EIGHT (8) INCHES (RIP-RAP). TO PROVIDE A FILTERING EFFECT, A LAYER OF FILTER CLOTH SHALL BE EMBEDDED ONE (1) FOOT BACK INTO THE UPSTREAM FACE OF THE OUTLET STONE OR A ONE (1) FOOT THICK LAYER OF TWO (2) INCH OF FINER AGGREGATE SHALL BE PLACED ON THE UPSTREAM FACE OF THE OUTLET.
- SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
- THE STRUCTURES SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
- CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE MINIMIZED.
- THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
- DRAINAGE AREA FOR THE TRAP IS LIMITED TO 15 ACRES OR LESS.



BUILDING 'A' & HANDICAP DETAIL 2017  
SCALE: 1" = 30'

NOTE:  
EXISTING SEPTIC SYSTEM SERVING CLUBHOUSE AREA MUST BE ABANDONED UNDER HEALTH DEPARTMENT SUPERVISION PRIOR TO COMMENCEMENT OF GRADING SEQUENCE.

**SEQUENCE OF CONSTRUCTION**

- OBTAIN GRADING PERMIT.
- NOTIFY D.P.W. SEDIMENT CONTROL INSPECTOR 48 HOURS BEFORE STARTING WORK.
- CLEAR & GRUB AREAS NECESSARY TO INSTALL SEDIMENT CONTROL MEASURES.
- INSTALL SEDIMENT TRAPS, EARTH DIKES, PERIMETER DIKE/SWALES, SILT FENCE.
- INSTALL STORM DRAIN E-1 TO E-2.
- CLEAR & GRUB GRADE SITE & APPLY TEMPORARY STABILIZATION.
- REMOVE EXISTING STRUCTURES.
- RELOCATE EXISTING HOUSE AS PART OF MAINTENANCE BUILDING.
- BEGIN BUILDING CONSTRUCTION.
- FINE GRADE PARKING AREA & DRIVEWAYS.
- INSTALL GRAVEL AND MACADAM.
- APPLY PERMANENT STABILIZATION.
- AFTER OBTAINING APPROVAL FROM SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL MEASURES AND STABILIZE.
- AFTER REMOVAL OF SEDIMENT TRAP #2 CONSTRUCT REMAINDER OF RIP-RAP OUTFALL FROM E-2 TO MEET EXISTING GRADE.
- CONSTRUCT BUILDINGS.

"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. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

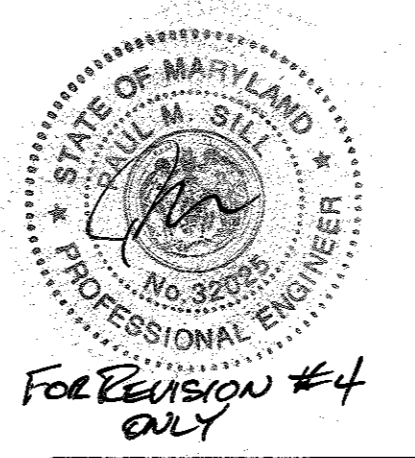
Sayed A. Saadat, 2/14/90  
PROFESSIONAL ENGINEER #16493

**DEVELOPER'S CERTIFICATE**

"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES 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."

NAME AND TITLE		DATE	
WILLOW SPRINGS I LIMITED PARTNERSHIP	WILLOW SPRINGS I LIMITED PARTNERSHIP	2/14/90	
16801 WESLEY CHAPEL RD MONKTON, MD 21111 (301) 347-8122	16801 WESLEY CHAPEL RD MONKTON, MD 21111 (301) 347-8122		

ADDRESS CHART	
LOT NUMBER	STREET ADDRESS
13	12980 LIVESTOCK ROAD



FOR REVISION #4 ONLY

DEVELOPER:  
WILLOW SPRINGS I LIMITED PARTNERSHIP  
16801 WESLEY CHAPEL RD MONKTON, MD 21111 (301) 347-8122

OWNER:  
WILLOW SPRINGS I LIMITED PARTNERSHIP  
16801 WESLEY CHAPEL RD MONKTON, MD 21111 (301) 347-8122

GRADING AND SEDIMENT CONTROL PLAN  
DETAIL SHEET  
WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE  
HOWARD COUNTY, MARYLAND  
DATE: JANUARY 18, 1990

SCALE: AS SHOWN  
SHEET 7  
OF 7

### TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

**SEEDBED PREPARATION:** LOOSEN UPPER 3 INCHES OF SOIL BY BRAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING; IF NOT PREVIOUSLY LOOSENED.

**SOIL AMENDMENTS:** APPLY 600 LB. PER ACRE 10-10-10 FERTILIZER (14 LB./1000 SQ. FT.)

**SEEDING:** FOR PERIOD MARCH 4 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2 1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LB./1000 SQ. FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 2 LB. PER ACRE OF WHEATLONGGRASS (.97 LB./1000 SQ. FT.) FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 20. PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SO2.

**MULCHING:** APPLY 1 1/2 TO 2 TONS PER ACRE (10 TO 20 LB./1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 210 GAL. PER ACRE (5 GAL./1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS ON SLOPES OF 2 FT. OR HIGHER USE 348 GAL. PER ACRE (8 GAL./1000 SQ. FT.) FOR ANCHORING.

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATES AND METHODS NOT COVERED.

### PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

**SEEDBED PREPARATION:** LOOSEN UPPER 3 INCHES OF SOIL BY BRAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING; IF NOT PREVIOUSLY LOOSENED.

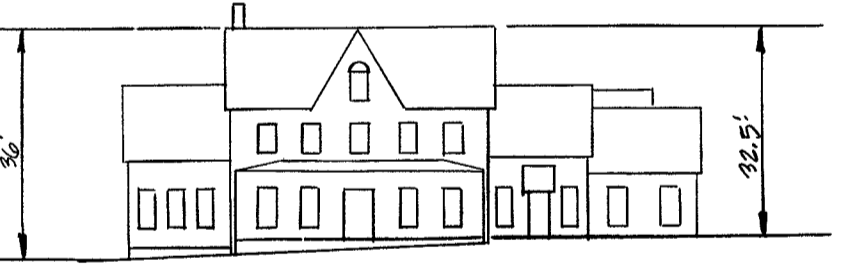
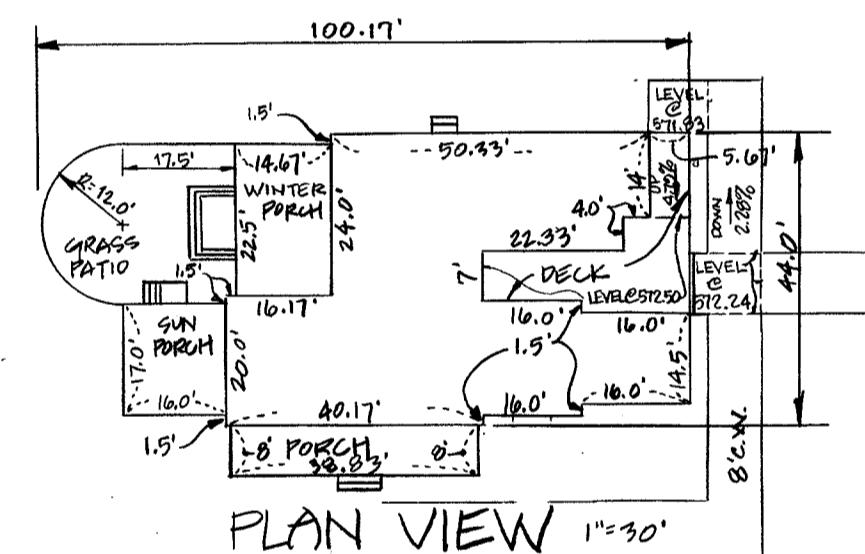
**SOIL AMENDMENTS:** IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- 1) PREFERRED - APPLY 2 TONS PER ACRE VOLCANIC LIMESTONE (.92 LB./1000 SQ. FT.) AND 600 LB./ACRE 10-10-10 FERTILIZER (14 LB./1000 SQ. FT.) BEFORE SEEDING. HARDEN OR DISC INTO UPPER THREE INCHES OF SOIL. AT THE TIME OF SEEDING, APPLY 400 LB./ACRE 30-0-0 UREAFORM FERTILIZER (9 LB./1000 SQ. FT.)
- 2) ACCEPTABLE - APPLY 2 TONS PER ACRE VOLCANIC LIMESTONE (.92 LB./1000 SQ. FT.) AND 100 LB./ACRE 10-10-10 FERTILIZER (23 LB./1000 SQ. FT.) BEFORE SEEDING. HARDEN OR DISC INTO UPPER THREE INCHES OF SOIL.

**SEEDING:** FOR THE PERIODS MARCH 4 THRU APRIL 30, AND AUGUST 15 THRU OCTOBER 15, SEED WITH 40 LB. PER ACRE (1.1 LB./1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LB. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LB. PER ACRE (.05 LB./1000 SQ. FT.) OF WHEATLONGGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 20, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SO2. OPTION (3) SEED WITH 60 LB. KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

**MULCHING:** APPLY 1 1/2 TO 2 TONS PER ACRE (10 TO 20 LB./1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 210 GAL. PER ACRE (5 GAL./1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS ON SLOPES OF 2 FT. OR HIGHER, USE 348 GAL. PER ACRE (8 GAL./1000 SQ. FT.) FOR ANCHORING.

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATES AND METHODS NOT COVERED.



### PROPOSED CLUBHOUSE BUILDING 'A'

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

APPROVED: DEPARTMENT OF PLANNING & ZONING OF HOWARD COUNTY.

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

APPROVED: DEPARTMENT OF PLANNING & ZONING OF HOWARD COUNTY.

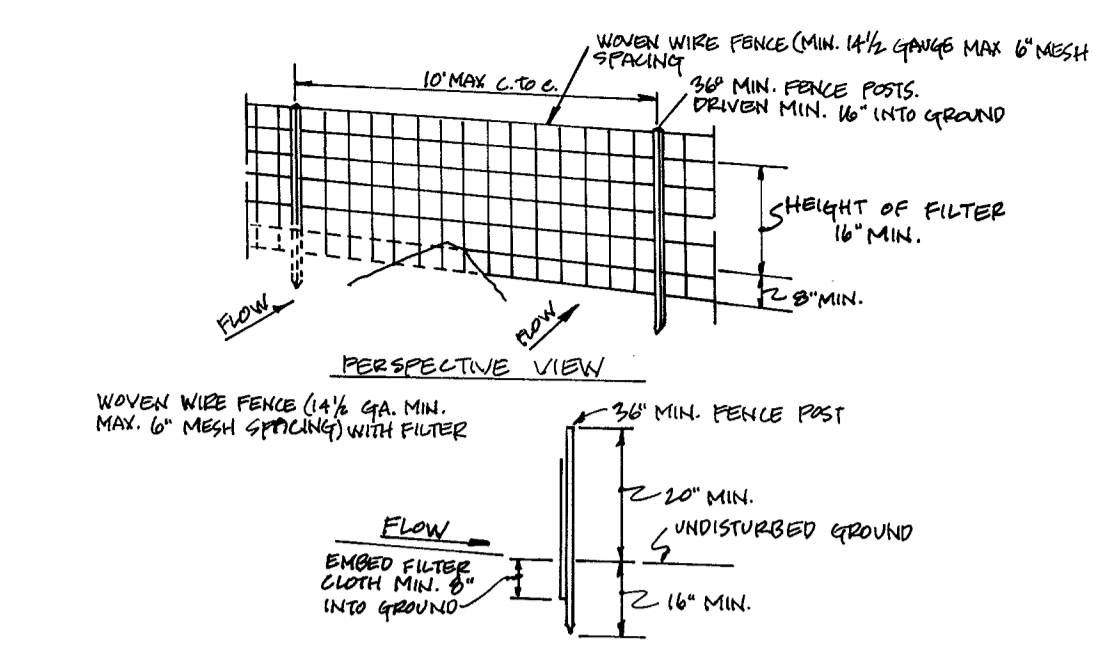
APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

APPROVED: DEPARTMENT OF PLANNING & ZONING OF HOWARD COUNTY.

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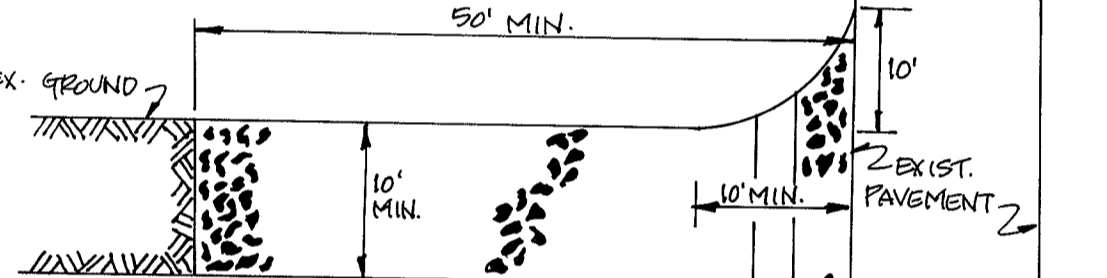
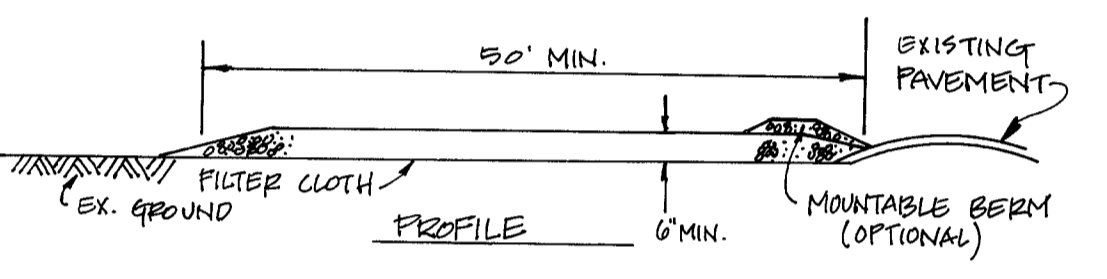
### CONSTRUCTION SPECIFICATIONS FOR FABRICATED SILT FENCE

1. WOVEN WIRE FENCE TO BE FURNISHED SUBSTANTIALLY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FENCE CLOTH TO BE FURNISHED SUBSTANTIALLY TO WOVEN WIRE FENCE WITH 1/4" GRADED BERRY 24" AT 24" AND NO SECTION.
3. WHEN TWO SECTIONS OF FENCE CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE DONE AS NEEDED AND MATERIALS REMOVED WHEN "BOLDS" DEVELOP IN THIS SILT FENCE.

### SILT FENCE

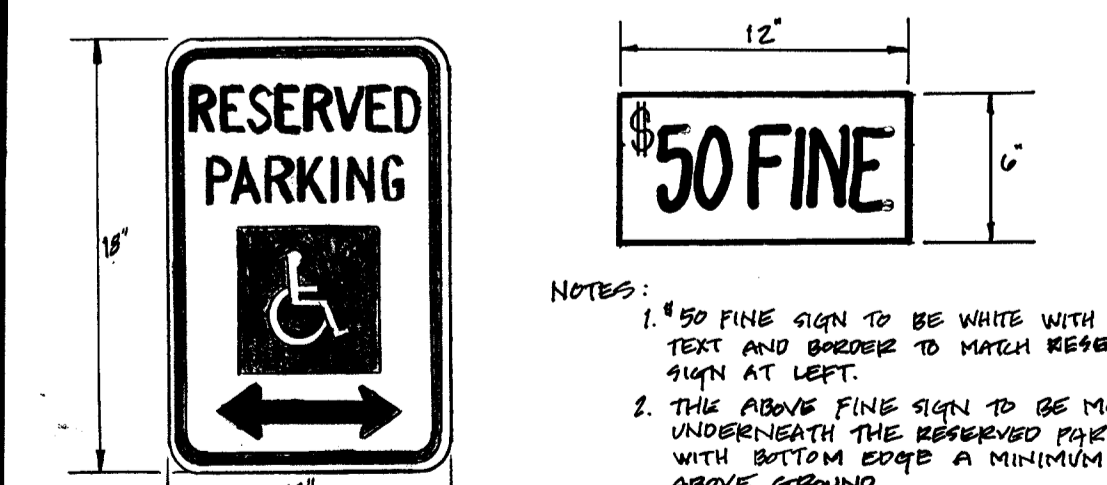
### STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



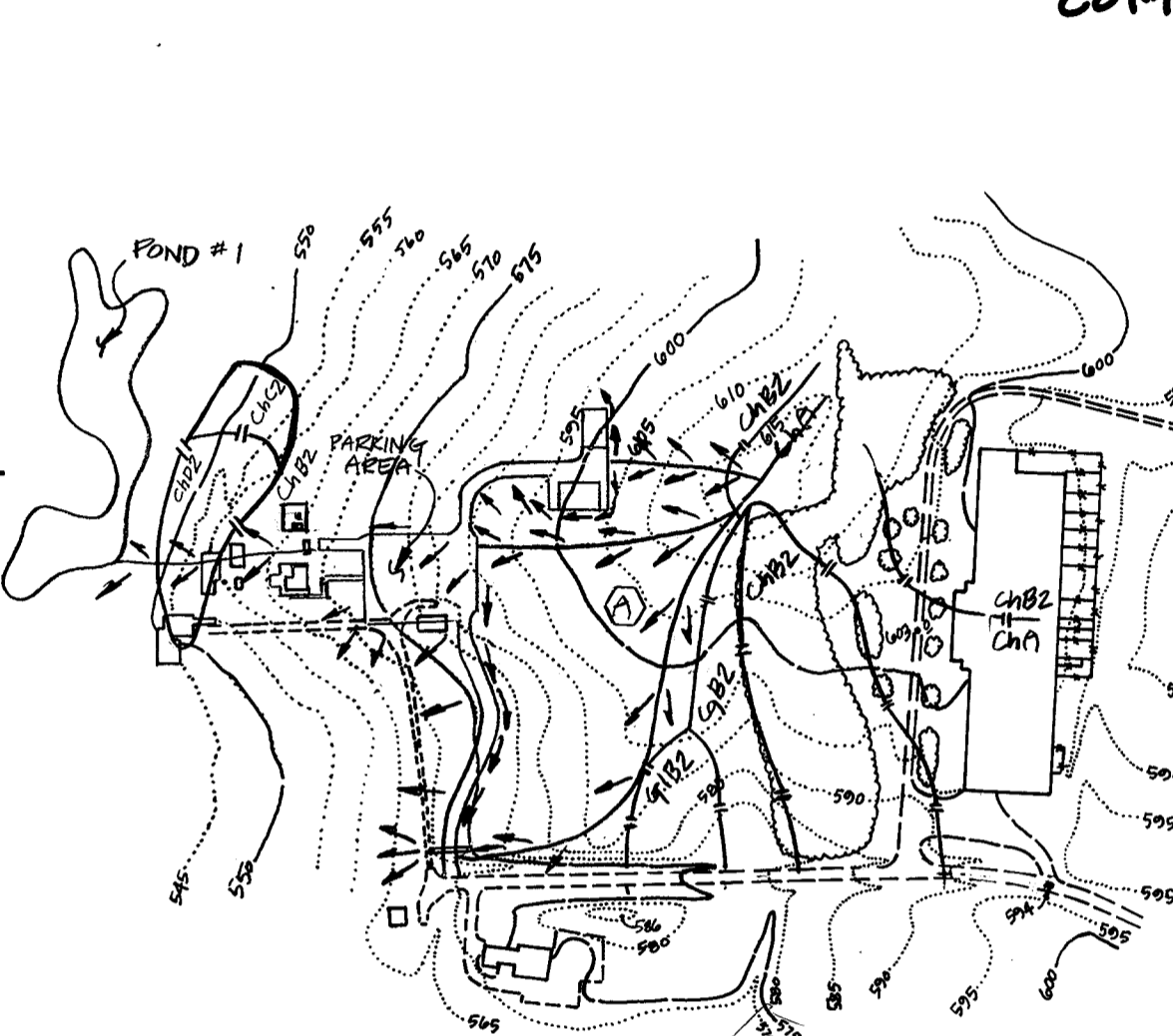
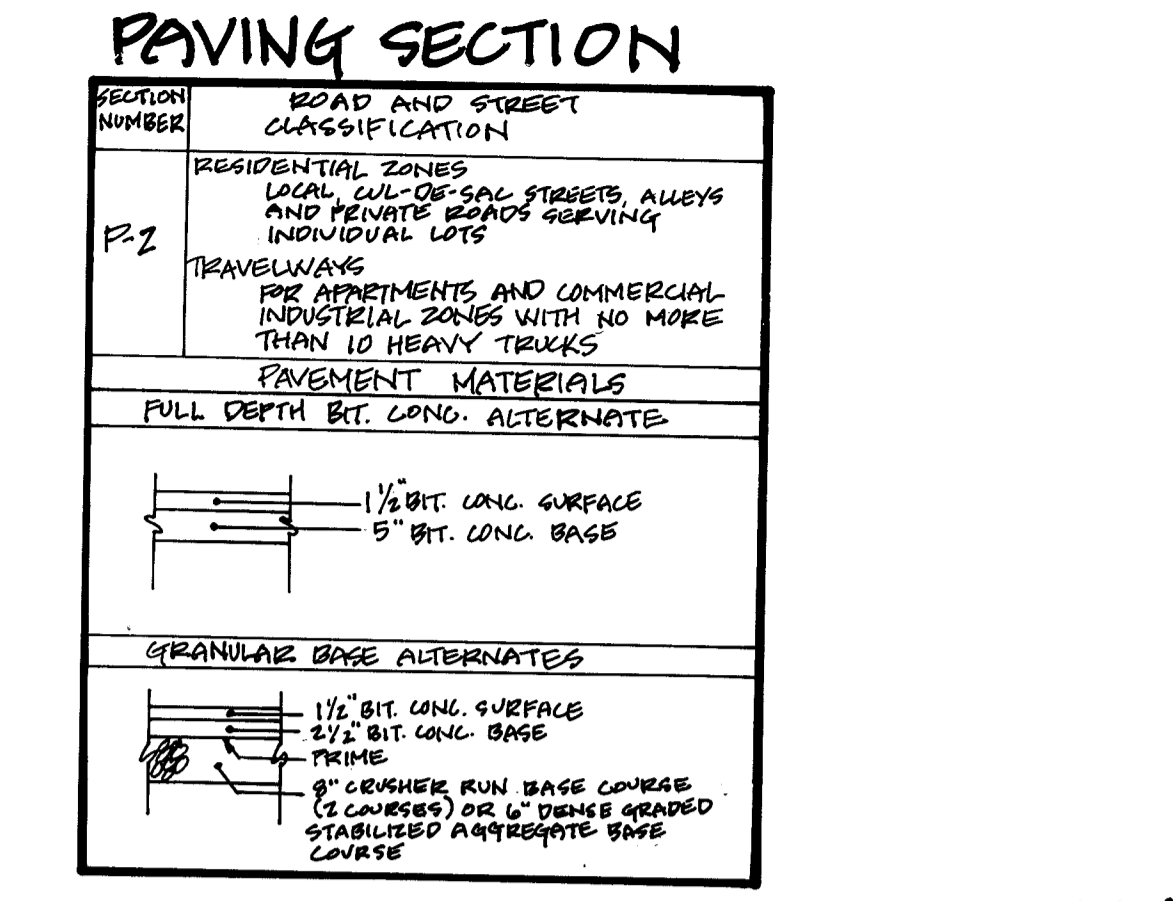
### CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN (6) SIX INCHES.
4. WIDTH - TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. FILTER CLOTH WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. FILTER WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT FILLED, DROTTED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. PERIODIC INSPECTIONS AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.
9. PERIODIC INSPECTIONS AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.



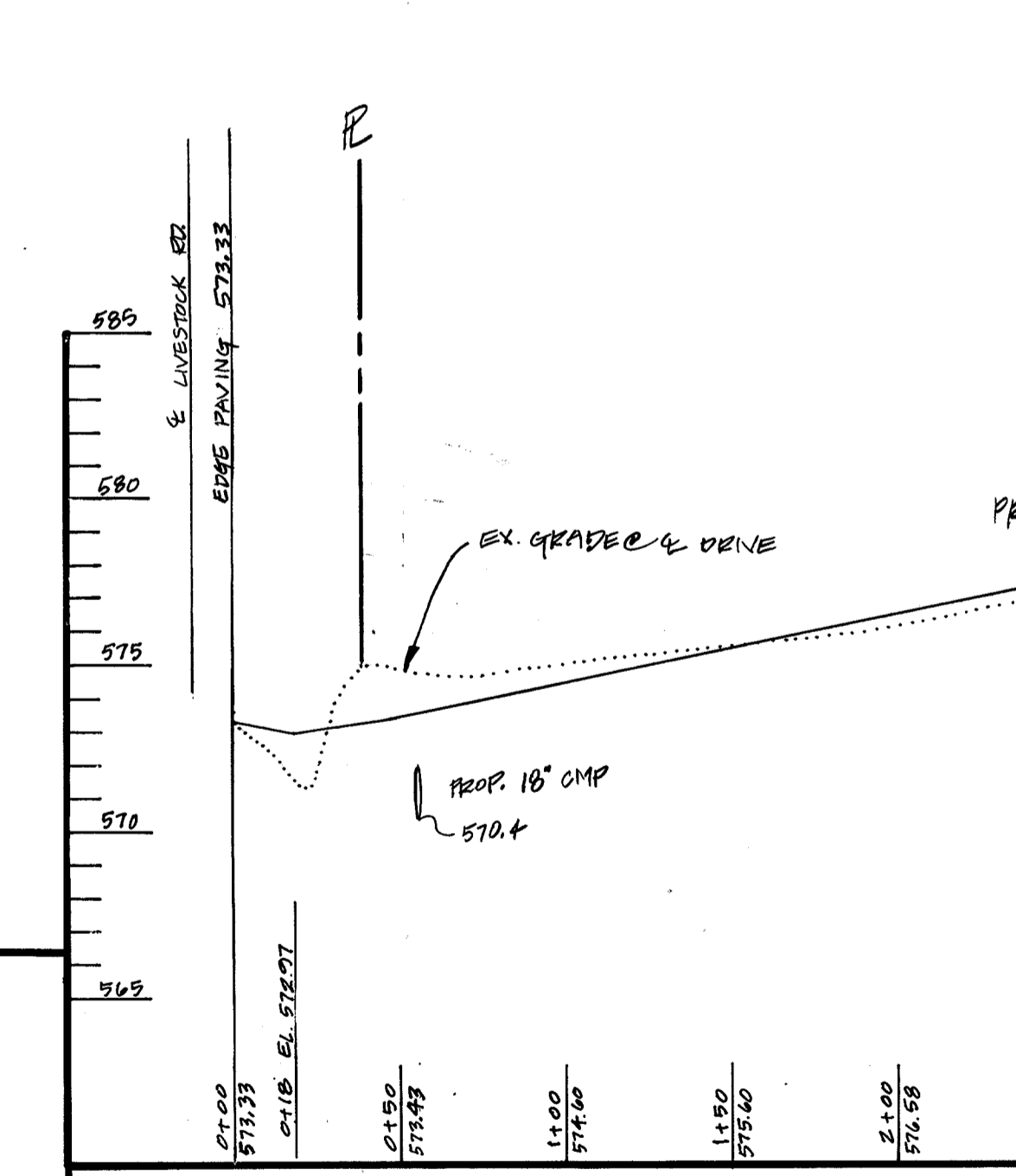
**HANDICAPPED PARKING SIGN SPECIFICATIONS**

**SHANABERGER & LANE**  
8126 TOWN & COUNTRY BLVD  
SUITE 106 & 107  
ELLICOTT CITY, MD 21043  
(301) 461-9563



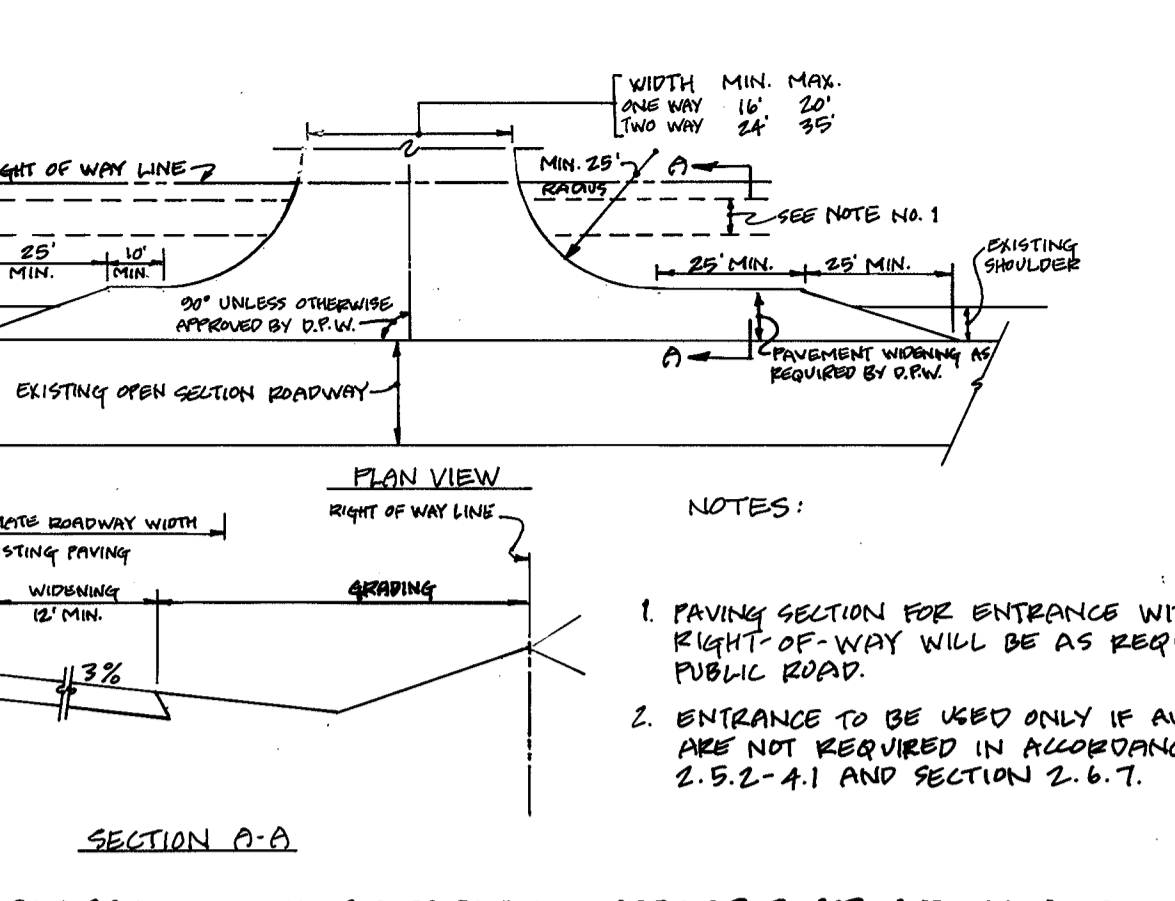
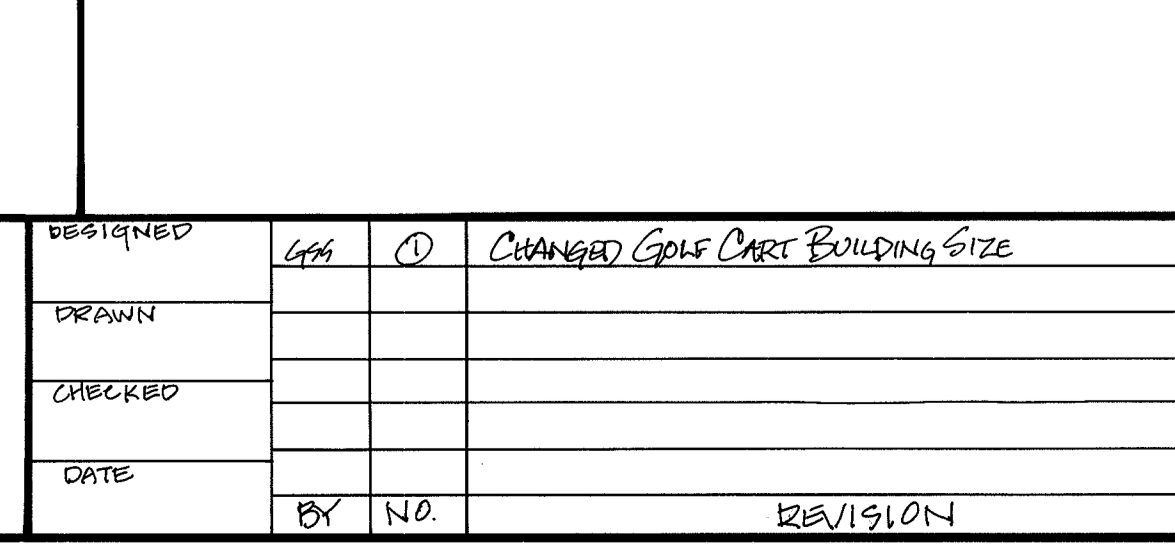
### DRIVEWAY PROFILE

SCALE: HORIZ - 1" = 50'  
VERT - 1" = 5'



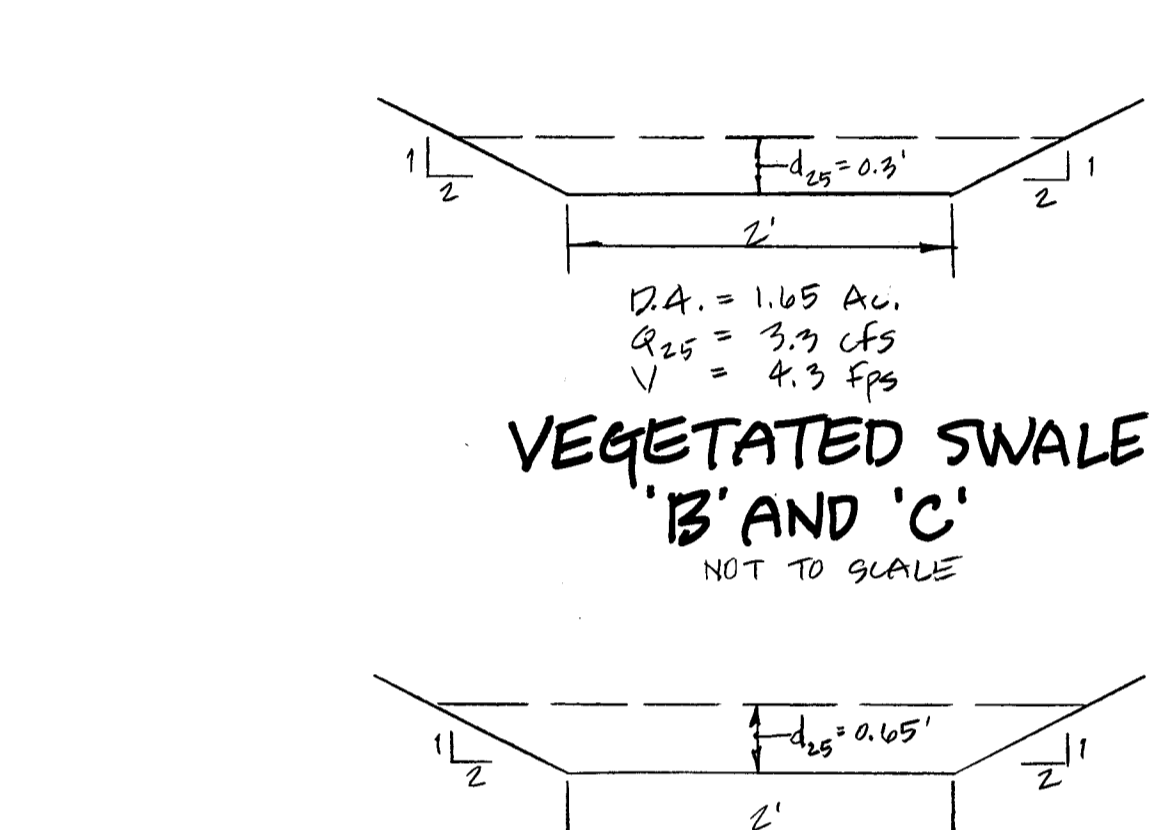
### VEGETATED SWALE 'A'

SCALE: HORIZ - 1" = 30'  
VERT - 1" = 3'



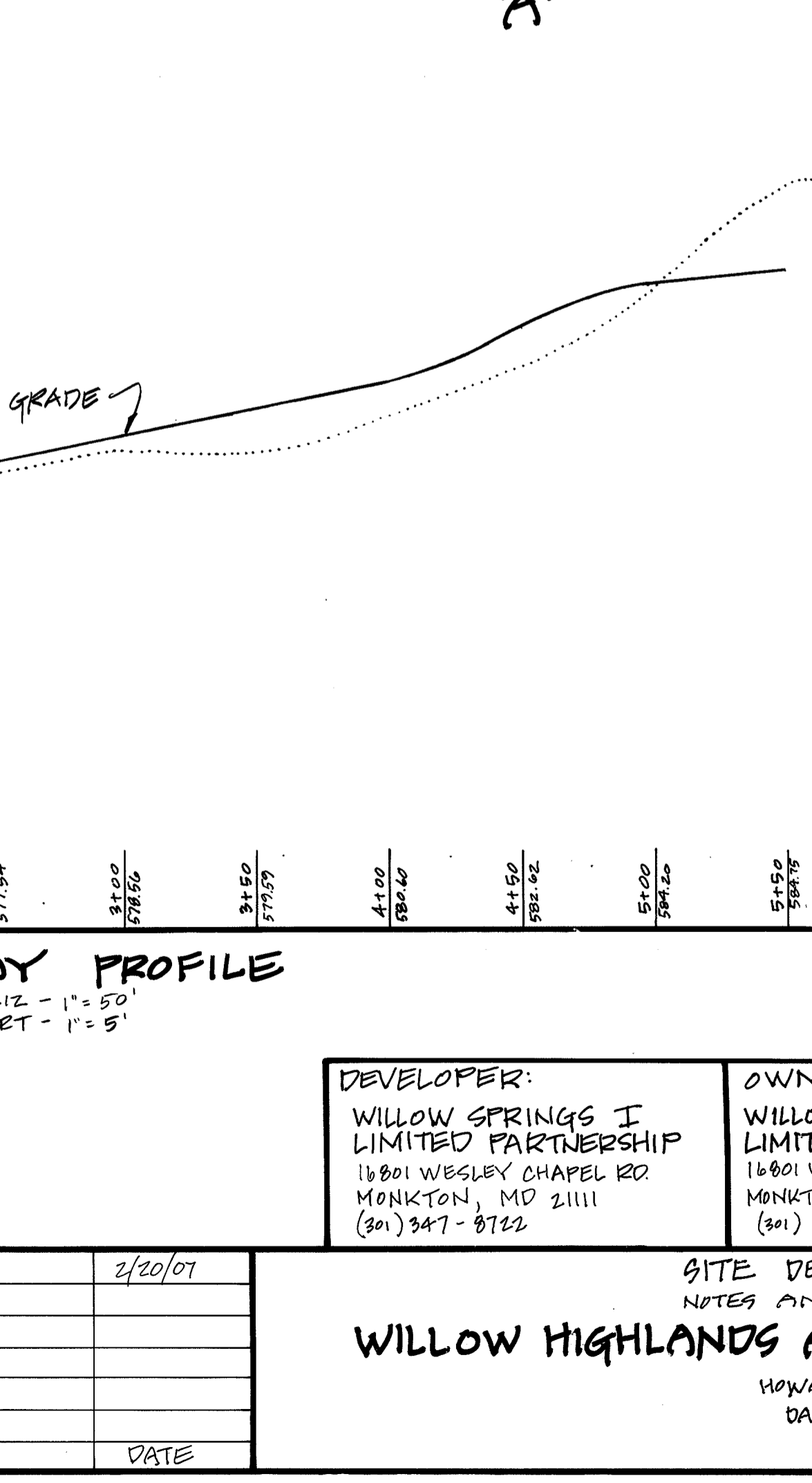
### VEGETATED SWALE 'B' AND 'C'

SCALE: HORIZ - 1" = 30'  
VERT - 1" = 3'



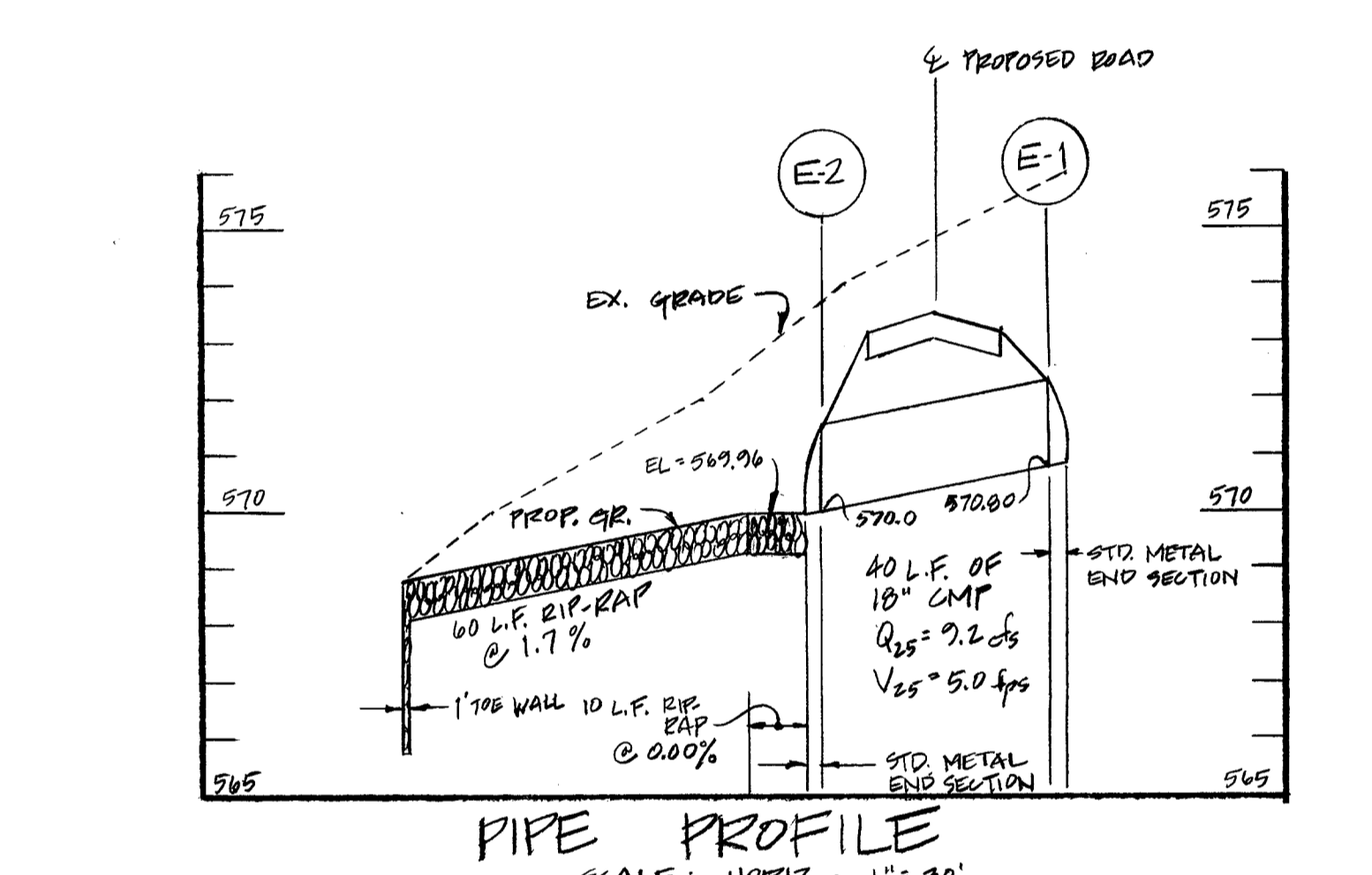
### VEGETATED SWALE 'A'

SCALE: HORIZ - 1" = 30'  
VERT - 1" = 3'



### SEDIMENT CONTROL NOTES:

1. A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPT. OF INSPECTIONS AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION.
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DICES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1 B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SO2 (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:
  - SITAL AREA OF SITE: 109,716 AC.
  - AREA DISTURBED: 8,675 AC.
  - AREA TO BE GRADED OR PAVED: 2,120 AC.
  - AREA TO BE VEGETATIVELY STABILIZED: 6,555 AC.
  - TOTAL LOT: 10,704 AC.
  - TOTAL FILL: 2,904 C.Y.
  - OFFSITE WASTE/BARRON AREA LOCATION: WILLOW SPRINGS GOLF COURSE (SEE MAP OF PAGES 69-76)
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS ARE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY DEPT. SEDIMENT CONTROL INSPECTOR.
10. 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.
11. ALL PIPES TO BE BLOCKED AT THE END OF EACH DAY.
12. THE TOTAL AMOUNT OF STRAW BALE DICES/SILT FENCE EQUALS 1092 L.F.



"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. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Signed: **A. Sadat** 2/14/90  
DATE

6666 A. SADAT  
PROFESSIONAL ENGINEER # 16493

### DEVELOPER'S CERTIFICATE

"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES 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."

NAME AND TITLE: **Al Jain** Feb 14 90  
DATE

SUBDIVISION NAME: WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE  
SECTION/AREA: 12  
LOT: 12

PLAT OR L.P. BLOCK: 1221-1222  
ZONE: R-12  
TAX MAP: 2-15  
BLK. DIST.: 3rd  
CONV. TRACT: 0030

WATER CODE: PRIVATE  
SEWER CODE: PRIVATE

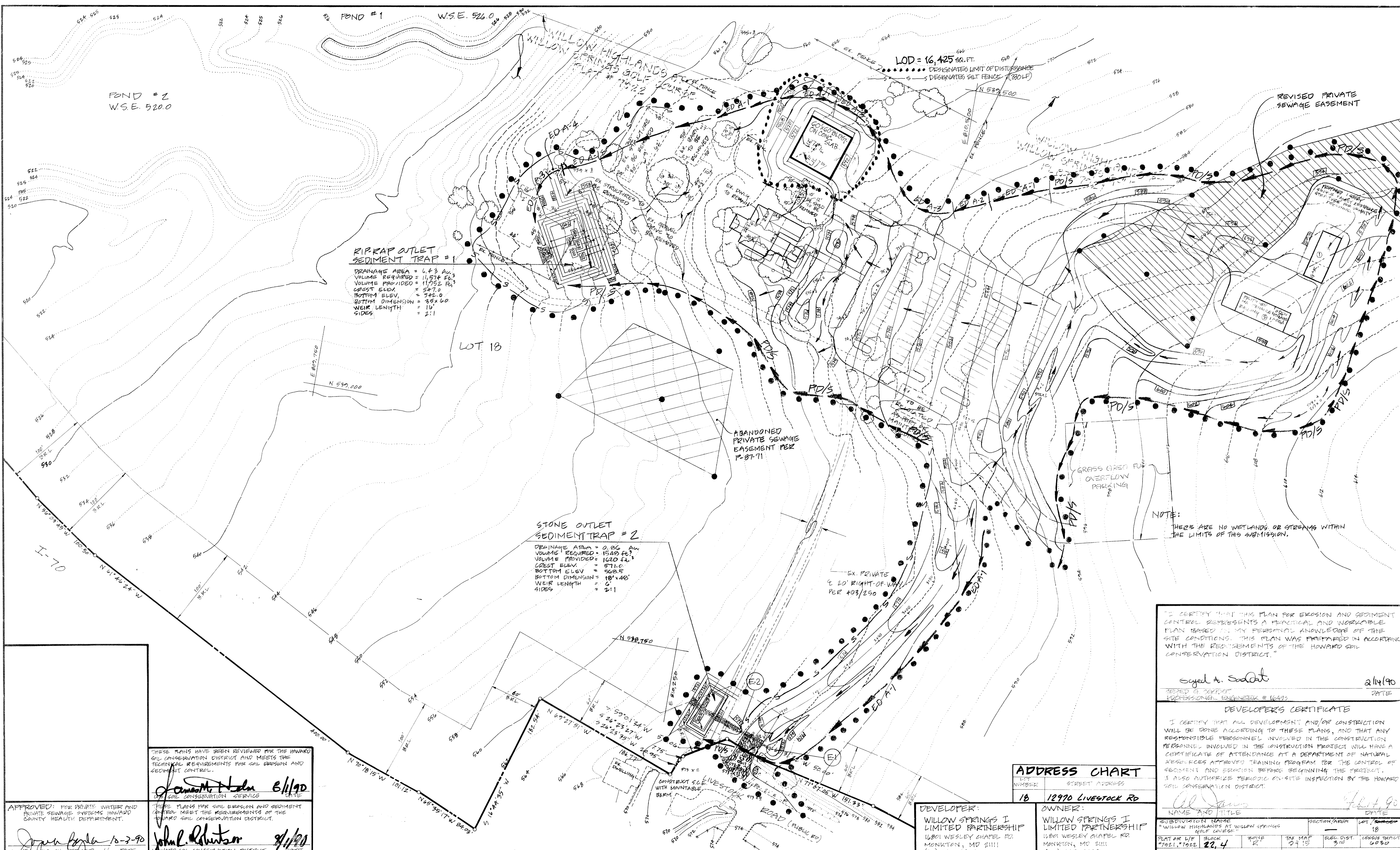
DEVELOPER: WILLOW SPRINGS I LIMITED PARTNERSHIP  
18801 WESLEY CHAPEL RD  
MONKTON, MD 21111  
(301) 347-8722

OWNER: WILLOW SPRINGS I LIMITED PARTNERSHIP  
18801 WESLEY CHAPEL RD  
MONKTON, MD 21111  
(301) 347-8722

SITE DEVELOPMENT PLAN  
NOTES AND DETAILS SHEET  
**WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE**  
HOWARD COUNTY, MARYLAND  
DATE: JANUARY 18, 1990

SCALE: AS SHOWN  
SHEET 6 OF 7





**RIP-RAP OUTLET SEDIMENT TRAP #1**  
 DRAINAGE AREA = 4.43 AC.  
 VOLUME REQUIRED = 11,574 cu. ft.  
 VOLUME PROVIDED = 11,952 cu. ft.  
 CREST ELEV. = 547.0  
 BOTTOM ELEV. = 542.0  
 BOTTOM DIMENSION = 95' x 60'  
 WEIR LENGTH = 16'  
 SIDES = 2:1

**STONE OUTLET SEDIMENT TRAP #2**  
 DRAINAGE AREA = 0.96 AC.  
 VOLUME REQUIRED = 1549 cu. ft.  
 VOLUME PROVIDED = 1620 cu. ft.  
 CREST ELEV. = 571.0  
 BOTTOM ELEV. = 568.5  
 BOTTOM DIMENSION = 18' x 40'  
 WEIR LENGTH = 6'  
 SIDES = 2:1

NOTE:  
 THERE ARE NO WETLANDS OR STREAMS WITHIN THE LIMITS OF THIS SUBMISSION.

"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. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Sayed A. Sadat 2/14/90  
 REGISTERED PROFESSIONAL ENGINEER # 16493 DATE

**DEVELOPER'S CERTIFICATE**  
 I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES 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.

SUBMITTER'S NAME "WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE"		SECTION/AREA	LOT/REVISION
PLAT OR L/F # "2021.12022"		BLOCK	CENSUS TRACT
ZONING "R"		TAX MAP "2415"	BLDG. DIST. "300"
WATER CODE: PRIVATE		GENERAL CODE: PRIVATE	

LOT NUMBER	STREET ADDRESS
18	12970 LIVESTOCK RD

**DEVELOPER:**  
 WILLOW SPRINGS I LIMITED PARTNERSHIP  
 16801 WESLEY CHAPEL RD  
 MONKTON, MD 21111  
 (301) 347-8722

**OWNER:**  
 WILLOW SPRINGS I LIMITED PARTNERSHIP  
 16801 WESLEY CHAPEL RD  
 MONKTON, MD 21111  
 (301) 347-8722

**SITE DEVELOPMENT PLAN**  
 EROSION AND SEDIMENT CONTROL PLAN  
**WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE**  
 LOT 18  
 HOWARD COUNTY, MARYLAND  
 DATE: JANUARY 18, 1990

SCALE: 1" = 50'  
 SHEET 5 OF 7

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT.  
 John Boyle 10-3-90  
 COUNTY HEALTH OFFICER DATE

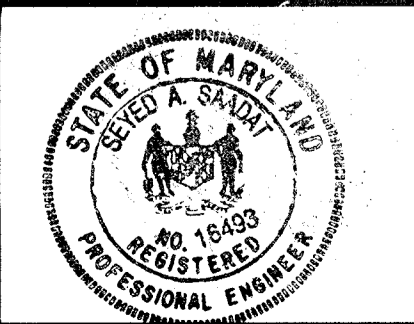
APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
 John L. Roberts 8/1/90  
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING OF HOWARD COUNTY.  
 [Signature] 10-29-90  
 PLANNING DIRECTOR DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
 [Signature] 9/1/90  
 DIRECTOR DATE

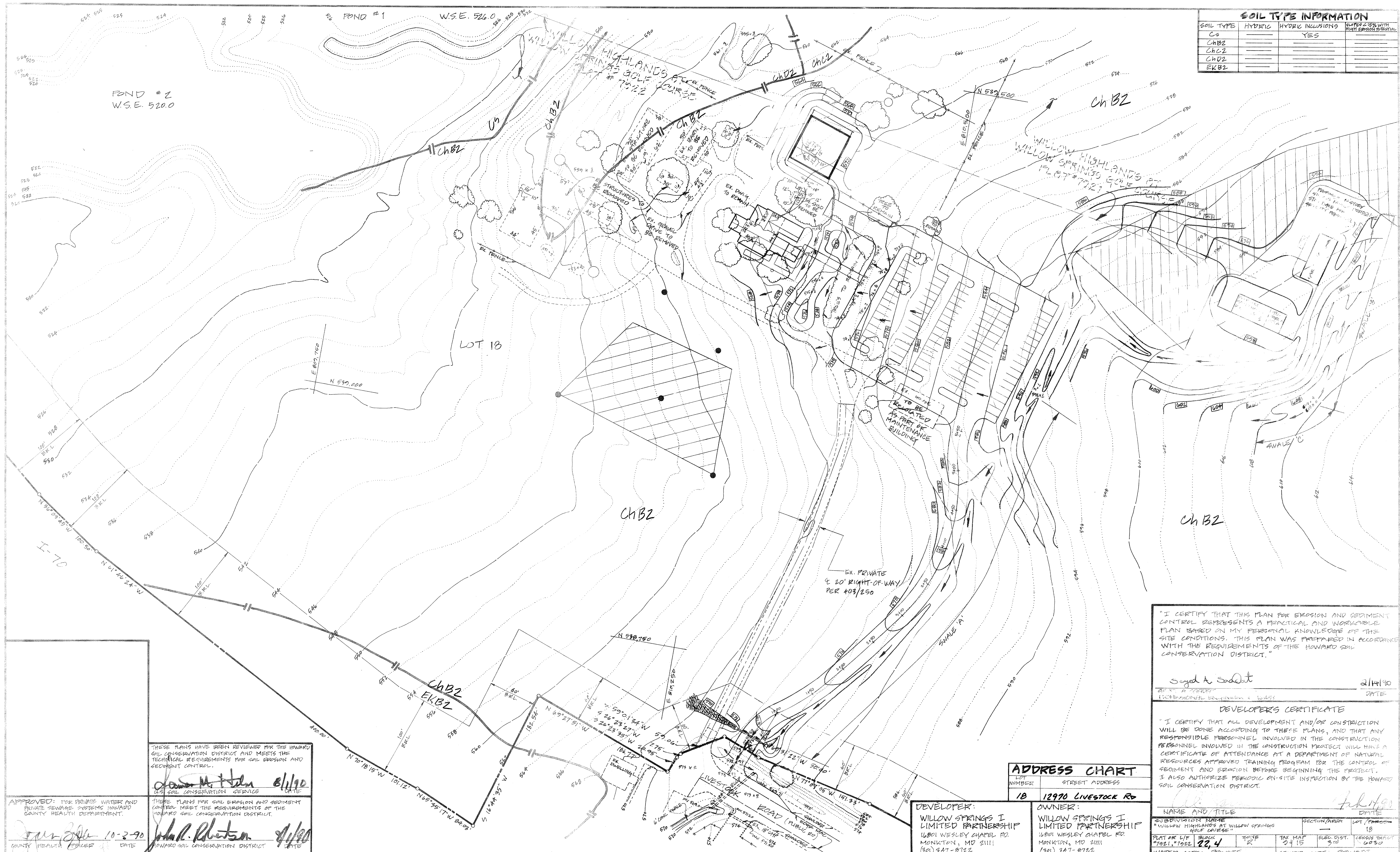
APPROVED: CHIEF, BUREAU OF ENGINEERING MK  
 [Signature] 8-21-90  
 CHIEF, BUREAU OF ENGINEERING MK DATE

**SHANABERGER & LANE**  
 8726 TOWN & COUNTRY BLVD.  
 SUITES 106 & 107  
 BELLCOTT CITY, MD 21043  
 (301) 461-0563



DESIGNED	DRAWN	CHECKED	DATE	BY NO.	REVISION	DATE
GLM ①	GLM ②	GLM ③	2/10/91		REVISED SECURITY PERSONNEL BUILDING & PROPOSED GRADING	4/15/91
					REVISED PROPOSED MAINTENANCE BUILDING & PROPOSED GRADING	4/15/91
					CHANGED GOLF CART BUILDING SIZE, ASSOCIATED GRADING & SED CONTROL	2/10/97

SOIL TYPE INFORMATION			
SOIL TYPE	HYDRIC	HYDRIC INCLUSIONS	ADDED 2.15% WITH FIELD EROSION CONTROL
Cs		YES	
ChB2			
ChC2			
ChD2			
EKB2			



"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. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Sayed A. Soudat  
 PROFESSIONAL ENGINEER - 12483  
 DATE: 2/14/90

DEVELOPER'S CERTIFICATE

"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES 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."

DATE: 2/14/90

ADDRESS CHART	
LOT NUMBER	STREET ADDRESS
18	12970 LIVESTOCK RD

DEVELOPER:  
 WILLOW SPRINGS I LIMITED PARTNERSHIP  
 16801 WESLEY CHAPEL RD.  
 MONKTON, MD 21111  
 (301) 347-8722

OWNER:  
 WILLOW SPRINGS I LIMITED PARTNERSHIP  
 16801 WESLEY CHAPEL RD.  
 MONKTON, MD 21111  
 (301) 347-8722

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT.  
 DATE: 10-3-90

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.  
 DATE: 8/1/90

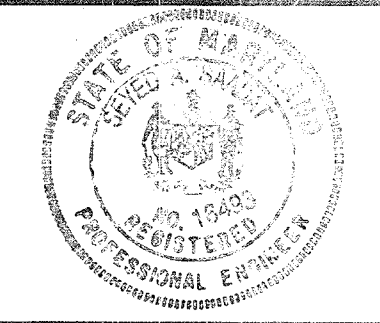
APPROVED: DEPARTMENT OF PLANNING & LAND DEVELOPMENT HOWARD COUNTY.  
 DATE: 10-24-90

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 DATE: 4/1/90

APPROVED: DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT  
 DATE: 10-24-90

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
 DATE: 3/7/90

SHANABERGER & LANE  
 8726 TOWN & COUNTRY BLVD.  
 SUITES 106 & 107  
 ELLICOTT CITY, MD 21043  
 (301) 461-9963



DESIGNED	DATE	BY	NO.	REVISION	DATE
GLM	1/15/91	GLM	1	REVISED SECURITY PERSONNEL BUILDING & PROPOSED GRADING	1/15/91
GLM	1/16/91	GLM	2	REVISED PROPOSED MAINTENANCE BUILDING & PROPOSED GRADING	1/16/91
GLM	2/19/97	GLM	3	CHANGED GOLF COURSE BUILDING SIZE & ASSOCIATED GRADING	2/19/97

SOILS MAP  
 CLUBHOUSE FACILITY AND MAINTENANCE FACILITY  
**WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE**  
 HOWARD COUNTY, MARYLAND  
 DATE: JANUARY 18, 1990

SCALE: 1"=50'  
 SHEET 4  
 OF 7

**HYDROLOGIC CRITERIA**

PRINCIPAL SPILLWAY ROUTING: 2 AND BULK OF 5 YR STORM  
EMERGENCY SPILLWAY ROUTING: 10 AND ALL 100 YEAR STORMS

**STRUCTURE CLASSIFICATION**

STRUCTURE CLASS: 'A'  
STRUCTURE LOCATION: RURAL  
WATERSHED AREA: 337 AC ±  
NORMAL SURFACE AREA:  
POND 1: 526.0 ; POND 2: 520.0 ; POND 3: 517.0  
HEIGHT TO EMERGENCY SPILLWAY CREST:  
POND 1: 7.0' ; POND 2: 7.5' ; POND 3: 6.5'  
STRUCTURE TYPE: WET DETENTION EMBANKMENT POND

**PEAK FLOW SUMMARY**

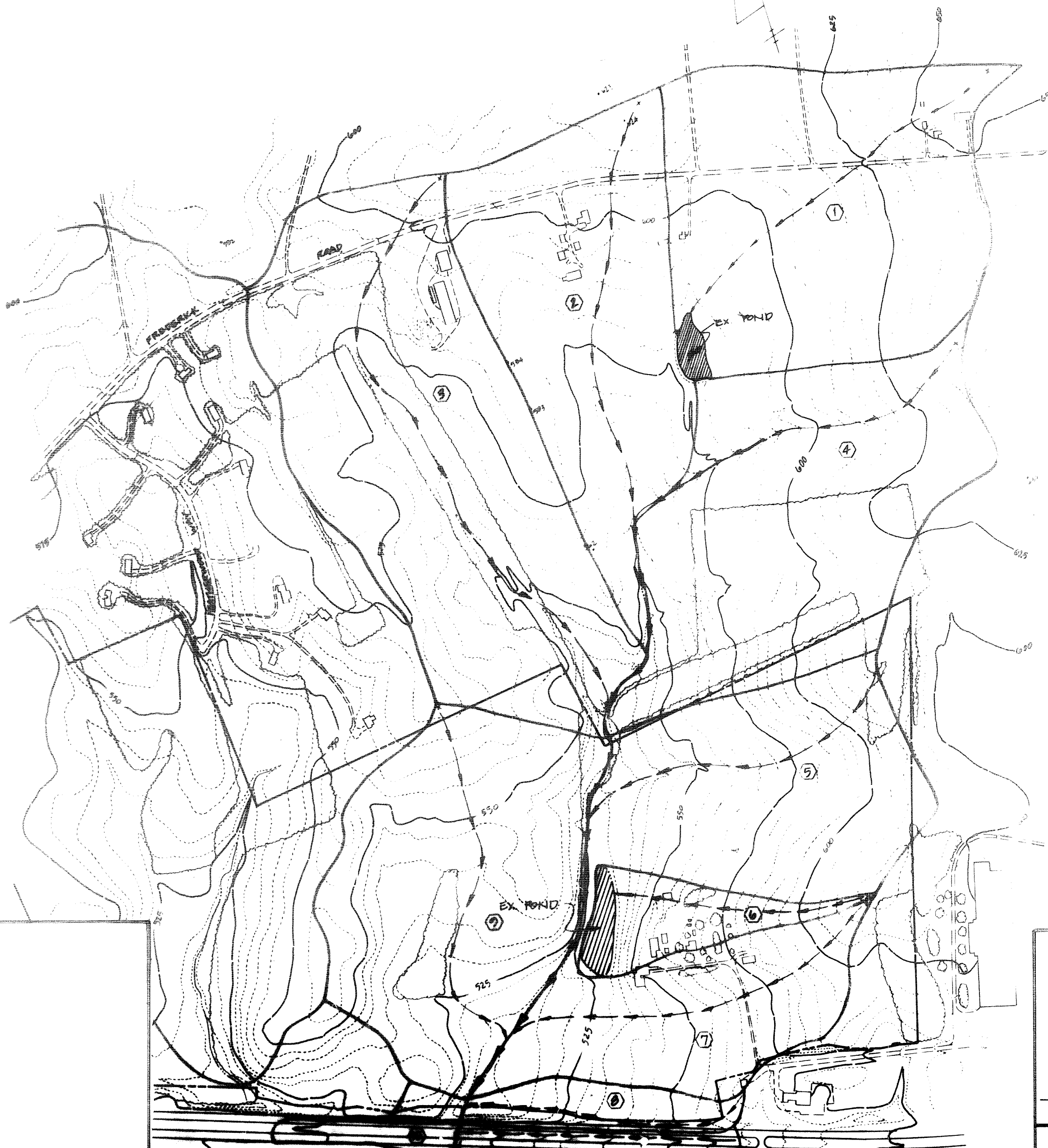
POND DESIGNATION	1 YEAR	5 YEAR	100 YEAR
①	INFLOW (CFS) 133.2	354.0	619.8
	OUTFLOW (CFS) 133.2	341.5	603.11
	ELEVATION 521.0	521.77	528.27
	STORAGE (A. FT.) 0.55	0.27	0.95
②	INFLOW (CFS) 126.4	307.4	523.3
	OUTFLOW (CFS) 97.71	299.0	516.0
	ELEVATION 521.02	522.22	522.92
	STORAGE (A. FT.) 0.53	0.31	0.48
③	INFLOW (CFS) 12.4	42.4	21.2
	OUTFLOW (CFS) 11.0	36.6	14.4
	ELEVATION 517.35	518.47	519.65
	STORAGE (A. FT.) 0.55	0.81	1.17

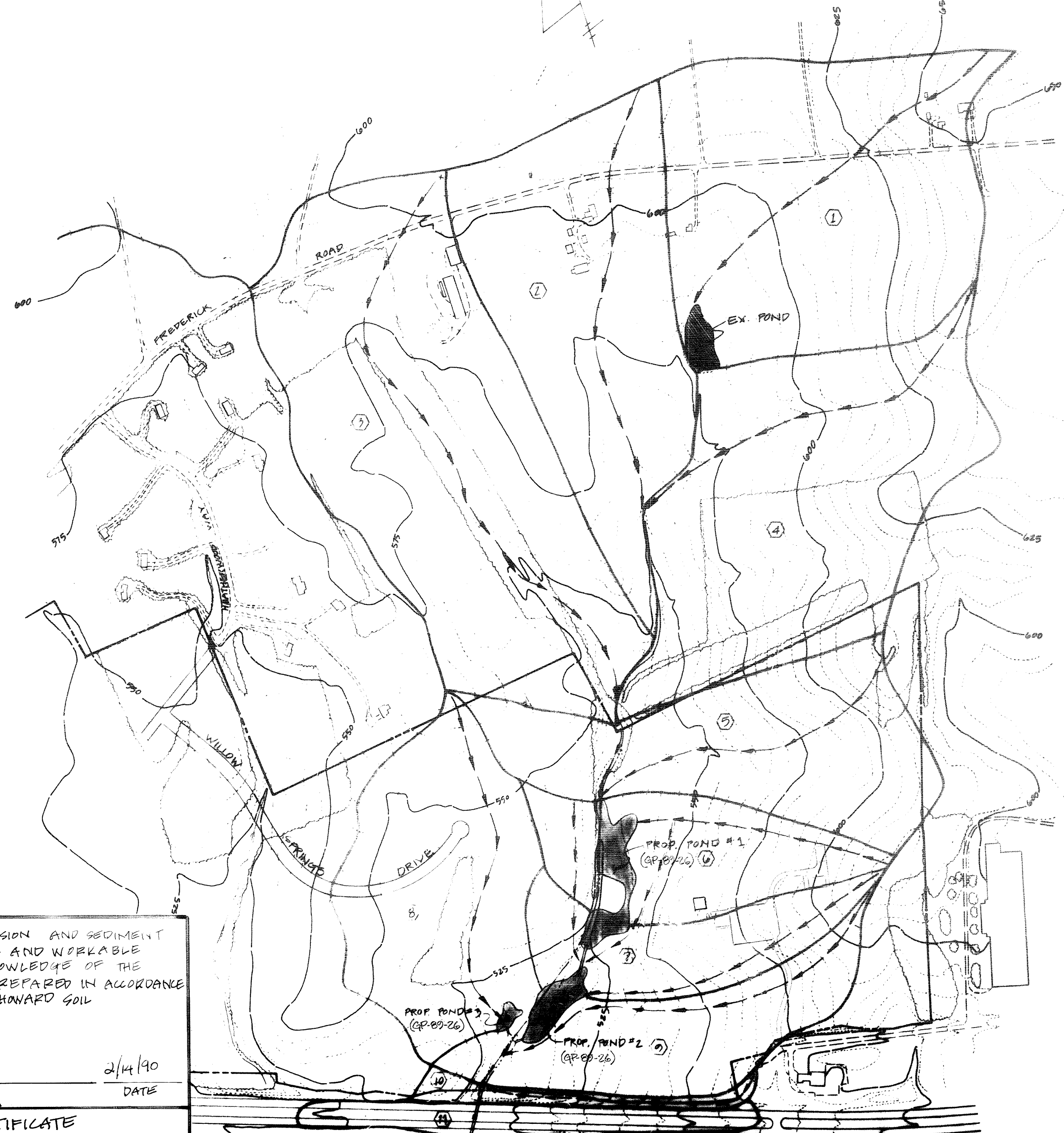
AT DESIGN POINT (INLET OF T2 WILVERT UNDER I-70)			
EXISTING	PEAK FLOW	33.6	220.5
	ELEVATION	512.44	510.38
PROPOSED	PEAK FLOW	106.70	228.70
	ELEVATION	511.38	510.53

**POND MAINTENANCE SCHEDULE**

THE PONDS, RISER STRUCTURES AND OUTFALL DEVICES SHOULD BE INSPECTED ON A ROUTINE BASIS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. REPAIRS SHOULD BE MADE AS REQUIRED. INSPECTION CAN BE MADE ON A SEMI-ANNUAL BASIS BUT SHOULD ALWAYS BE CONDUCTED FOLLOWING EVERY STORM.



RTE 70  
**PRE-DEVELOPMENT DRAINAGE AREA MAP**  
SCALE: 1" = 400'



RTE 70  
**POST-DEVELOPMENT DRAINAGE AREA MAP**  
SCALE: 1" = 400'

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Sayed A. Sabat 2/14/90  
SEPED A. SABAT  
PROFESSIONAL ENGINEER # 16493 DATE

**DEVELOPER'S CERTIFICATE**

"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES 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."

NAME AND TITLE DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT.  
[Signature] 8/1/90  
COUNTY HEALTH OFFICER DATE

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
[Signature] 8/1/90  
HOWARD SOIL CONSERVATION DISTRICT DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.  
[Signature] 8/1/90  
U.S. SOIL CONSERVATION SERVICE DATE

APPROVED: DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT HOWARD COUNTY.  
[Signature] 10/24/90  
PLANNING DIRECTOR DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
[Signature] 9/7/90  
DIRECTOR DATE

**SHANBERGER & LANE**  
8726 TOWN & COUNTRY BLVD  
SUITES 106 & 107  
ELLICOTT CITY, MD 21043  
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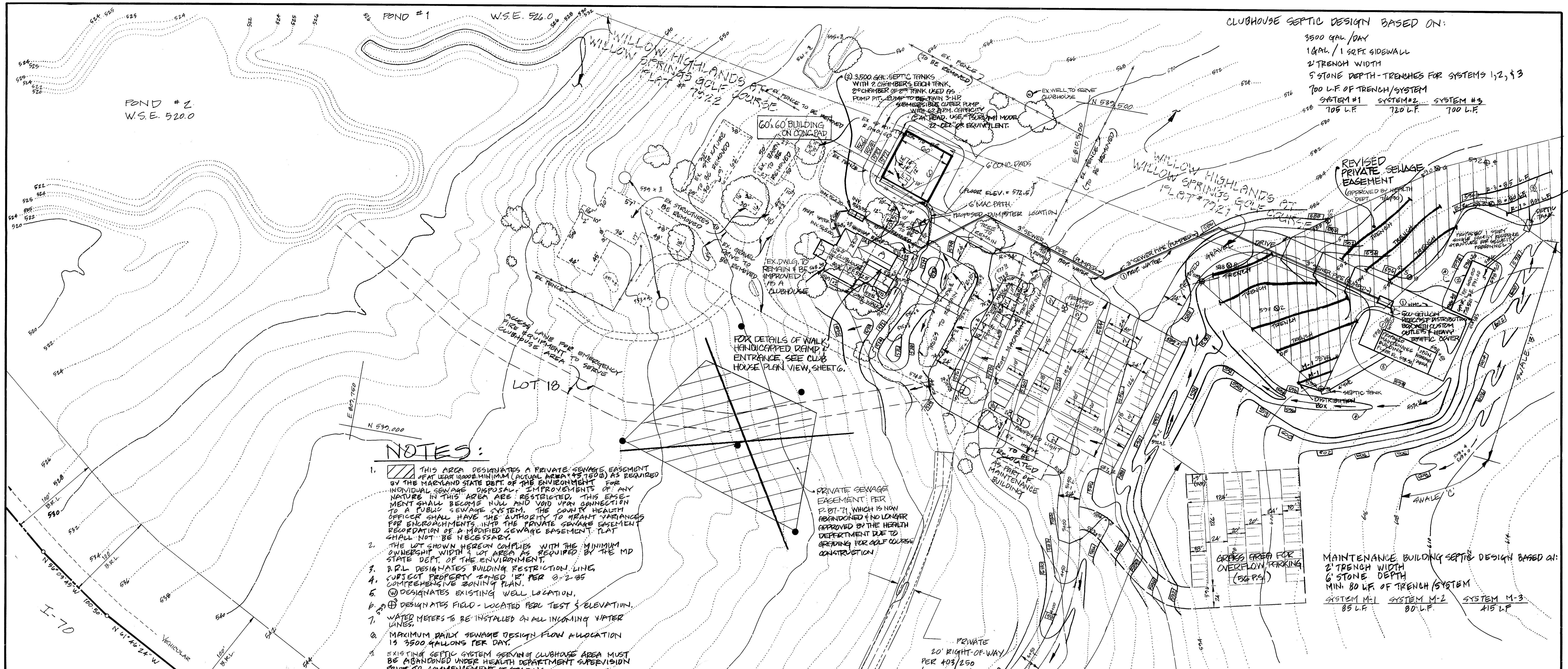
DESIGNED	DRAWN	CHECKED	DATE
SSS	①		2/10/97
BY NO.	REVISION	DATE	

**DEVELOPER:**  
WILLOW SPRINGS I LIMITED PARTNERSHIP  
16801 WESLEY CHAPEL RD  
MONKTON, MD 21111  
(301) 347-8722

**OWNER:**  
WILLOW SPRINGS I LIMITED PARTNERSHIP  
16801 WESLEY CHAPEL RD  
MONKTON, MD 21111  
(301) 347-8722

SUBDIVISION NAME		SECTION/AREA	LOT/ACREAGE
WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE			18
PLAT OR L/F	BLOCK	ZONE	TAX MAP
#7021, #7022	22, 4	R	9 & 15
WATER CODE: PRIVATE		SEWER CODE: PRIVATE	

**WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE**  
SITE DEVELOPMENT PLAN  
DRAINAGE AREA MAPS  
HOWARD COUNTY, MARYLAND  
DATE: JANUARY 10, 1990  
SCALE: AS SHOWN  
SHEET 3 OF 7



CLUBHOUSE SEPTIC DESIGN BASED ON:  
 3500 GAL/DAY  
 1 GAL./1 SQ.FT. SIDEWALL  
 2 TRENCH WIDTH  
 5' STONE DEPTH-TRENCHES FOR SYSTEMS 1,2,3  
 700 L.F. OF TRENCH/SYSTEM  
 SYSTEM #1 105 L.F. SYSTEM #2 120 L.F. SYSTEM #3 700 L.F.

- NOTES:**
- THIS AREA DESIGNATES A PRIVATE SEWAGE EASEMENT OF AT LEAST 10000.00 MINIMUM (ACTUAL AREA = 45750.00) AS REQUIRED BY THE MARYLAND STATE DEPT. OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENTS INTO THE PRIVATE SEWAGE EASEMENT RECORDATION OF A MODIFIED SEWAGE EASEMENT PLAT SHALL NOT BE NECESSARY.
  - THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP WIDTH & LOT AREA AS REQUIRED BY THE MD STATE DEPT. OF THE ENVIRONMENT.
  - B.R.L. DESIGNATES BUILDING RESTRICTION LINE.
  - SUBJECT PROPERTY ZONED 'R' PER 0-2-85 COMPREHENSIVE ZONING PLAN.
  - ⊙ DESIGNATES EXISTING WELL LOCATION.
  - ⊕ DESIGNATES FIELD-LOCATED PERU TEST & ELEVATION.
  - WATER METERS TO BE INSTALLED ON ALL INCOMING WATER LINES.
  - MAXIMUM DAILY SEWAGE DESIGN FLOW ALLOCATION IS 3500 GALLONS PER DAY.
  - EXISTING SEPTIC SYSTEM SERVING CLUBHOUSE AREA MUST BE ABANDONED UNDER HEALTH DEPARTMENT SUPERVISION PRIOR TO COMMENCEMENT OF GRADING.

MAINTENANCE BUILDING SEPTIC DESIGN BASED ON:  
 2' TRENCH WIDTH  
 6' STONE DEPTH  
 85 L.F. OF TRENCH/SYSTEM  
 SYSTEM M-1 85 L.F. SYSTEM M-2 80 L.F. SYSTEM M-3 415 L.F.

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Sayed A. Saadat 2/14/90  
 SEYED A. SAADAT  
 PROFESSIONAL ENGINEER # 16493 DATE

**DEVELOPER'S CERTIFICATE**  
 "I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."  
 Feb 14 1990

**ADDRESS CHART**

LOT NUMBER	STREET ADDRESS
18	12970 LIVESTOCK RD.

**DEVELOPER:**  
 WILLOW SPRINGS I LIMITED PARTNERSHIP  
 16801 WESLEY CHAPEL RD.  
 MONKTON, MD 21111  
 (301) 347-8722

**OWNER:**  
 WILLOW SPRINGS I LIMITED PARTNERSHIP  
 16801 WESLEY CHAPEL RD.  
 MONKTON, MD 21111  
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**SITE DEVELOPMENT PLAN**  
 CLUBHOUSE FACILITY AND MAINTENANCE FACILITY  
**WILLOW HIGHLANDS AT WILLOW SPRINGS GOLF COURSE**  
 HOWARD COUNTY, MARYLAND  
 DATE: JANUARY 18, 1990

SCALE: 1"=50'  
 SHEET 2  
 OF 7

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.  
 James M. Hahn 8/1/90  
 SOIL CONSERVATION SERVICES

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT.  
 James E. Glick 03-90  
 COUNTY HEALTH OFFICER

APPROVED: DEPARTMENT OF PLANNING & ZONING OF HOWARD COUNTY.  
 Mark J. A. Cagle 1/18/90  
 DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
 James J. Lane 9/7/90  
 DIRECTOR

APPROVED: CHIEF, BUREAU OF ENGINEERING MK  
 DATE

**SHANABERGER & LANE**  
 8726 TOWN & COUNTRY BLVD.  
 SUITES 101 & 107  
 ELLICOTT CITY, MD 21143  
 (301) 461-9569



DESIGNED	DRAWN	CHECKED	DATE	BY NO.	REVISION	DATE
SLM	SLM	CSB	2/19/91	1	SHOW WATER SERVICE TO MAINTENANCE & SECURITY PERSONNEL BUILDINGS	4/19/91
SLM	SLM	CSB	4/19/91	2	REVISE PROPOSED MAINTENANCE BUILDING & PROPOSED SECURITY BUILDING	4/19/91
SLM	SLM	CSB	4/19/91	3	SHOW SEPTIC SYSTEM FOR SECURITY PERSONNEL RESIDENCE	4/19/91
CSB	CSB	CSB	4/19/91	4	REVISE PROPOSED GRADING AROUND PROPOSED STRUCTURES	4/19/91
CSB	CSB	CSB	2/19/97	5	CHANGED GOLF CART BUILDING SIZE & ASSOCIATED GRADING	2/19/97