

THE PLANNING BOARD APPROVED RED-LINED REVISIONS TO THESE PLANS AUGUST 14, 1996. CHANGES ARE SHOWN ON SHEETS H-1 THROUGH H-13 ONLY.

FAIRWAY HILLS GOLF COURSE

HOWARD COUNTY COLUMBIA, MARYLAND

DOE PERMIT MODIFICATIONS:

- PERMIT # 92-NI-0482/199266444:
 1) DECEMBER 8, 1995: A MODIFICATION AFTER THE FACT WAS ISSUED TO PERMIT THE FOLLOWING IMPACTS:
 A. HOLE #2: GRADING IN 1,663 S.F. OF NONTIDAL WETLANDS AND 4,080 S.F. OF WETLAND BUFFER.
 B. HOLE #11: 1,600 S.F. ADDITIONAL DISTURBANCE OF WETLAND BUFFER.
 C. HOLE #12: REDUCTION OF PREVIOUSLY APPROVED DISTURBANCE TO WETLAND BUFFER BY 3,150 S.F.
 D. HOLE #16: ADDITIONAL 300 S.F. DISTURBANCE TO WETLAND BUFFER.
 E. HOLE #18: ADDITIONAL 5,070 S.F. DISTURBANCE TO WETLAND BUFFER AND CONSTRUCTION OF 53 L.F. OF BOARDWALK OVER WETLANDS.

- 2) JUNE 4, 1996: A MODIFICATION WAS ISSUED TO PERMIT THE FOLLOWING IMPACTS:
 A. HOLE #2: REDUCTION OF PREVIOUSLY APPROVED AREA OF WETLAND BUFFER IMPACT BY 190 L.F. (1900 S.F.) AND CONSTRUCTION OF 26 L.F. OF BOARDWALK OVER WETLANDS.
 B. HOLE #3: REDUCTION OF APPROVED LENGTH OF WETLAND CROSSING BY 10 L.F.
 C. HOLE #5: REDUCTION OF BUFFER IMPACT BY 95 L.F. (950 S.F.) AND 13 L.F. IN WETLANDS.

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46. STORM DRAINAGE/BASIN PROFILES
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49. STORM DRAINAGE/BASIN PROFILES
50. STORM DRAINAGE/BASIN PROFILES
51. DETAIL SHEET
52. DETAIL SHEET
53. DETAIL SHEET
54. DETAIL SHEET
55. DETAIL SHEET
56. DETAIL SHEET

(SEE GREEN DETAIL SHEETS NOT PART OF THIS SDP.)

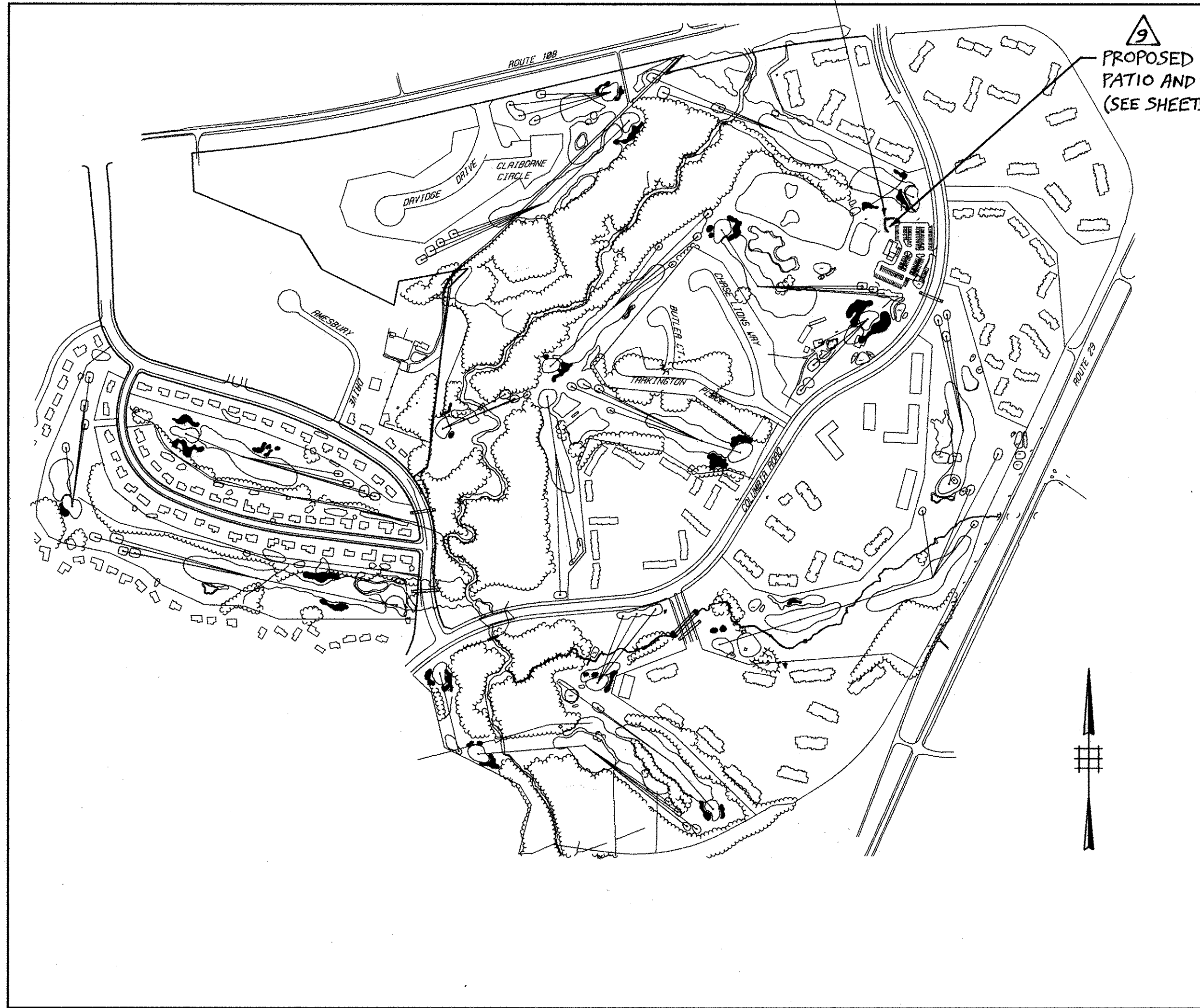
APPLICANT/OWNER:

COLUMBIA PARK AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY
 COLUMBIA, MARYLAND 21045

57. H-14 GRADING AND DRAINAGE PLAN-DRIVING RANGE TEE AREA

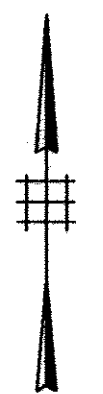
58. RETAINING WALL GRADING AND SEDIMENT & EROSION CONTROL PLAN

59-G1. RETAINING WALL CONSTRUCTION PLANS



PROPOSED RETAINING WALL, SEE SHEET 11; SHEETS 58-G1 FOR GRADING, SEC. 2 RETAINING WALL DETAILS.

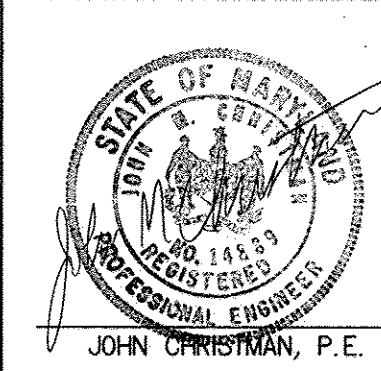
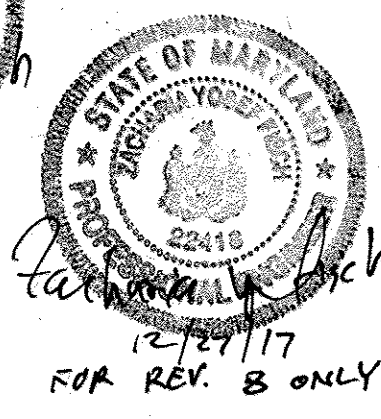
PROPOSED CONCRETE PATIO AND WALKWAY (SEE SHEETS 11 & 58)



SCALE 1" = 500'

RON PRICHARD

Golf Architect



no.	description	date
1	AS PER COUNTY COMMENTS	7-27-92
2	AS PER COUNTY COMMENTS	1-6-93
3	AS PER DPZ COMMENTS	10/1/93
4	RED-LINE REVISIONS	9/24/94
5	CLASSROOM ADDITION SITE ANALYSIS	4-29-02
6	RED-LINE REVISIONS SHEET H-14-40000	5/20/14
7	RED-LINE REVISIONS	7/15/14
8	ADD RETAINING WALL & SHEETS 58-G1	12/00/17

prepared by
RON PRICHARD
 Golf Architect
 10600 SIX PINES DRIVE
 THE WOODLANDS, TEXAS 77380
 (713) 292-1902
 1730 WALTON ROAD, SUITE 300
 BLUE BELL, PA. 19422
 (215) 941-7240

prepared by
The RBA ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

SITE ANALYSIS

- A. ZONING: NEW TOWN (OPEN SPACE) FDP 191-A-II, FDP 167, FDP 19, FDP 18
 B. O.S. CREDITED.....201.943 AC.
 C. O.S. NON-CREDITED.0.83 AC (COMMERCIAL-PARCEL H - 1.813 AC.)
 D. AREA OF SITE: 204.586 ACRES
 E. BUILDING SIZE:
 EXISTING CLUBHOUSE
 GROUND FLOOR 1980 SF
 2ND FLOOR 1840 SF
 3RD FLOOR 1216 SF
 4TH FLOOR 1216 SF
 TOTAL 6252 SF
 PROPOSED ADDITION 1242 SF CLASSROOM 381 SF (DECK)
 TOT. EXIST. & PROP. 7875 SF
 (AREA OF CLASSROOM 1242 SF)
 F. ONE 18 HOLE CHAMPIONSHIP GOLF COURSE
 G. AREA OF PRACTICE RANGE IS 3.85 AC
 H. AREA OF PARKING LOT 1.53 AC
 I. AREA OF LANDSCAPE ISLANDS 0.18 AC
 J. TOTAL AREA OF PARKING AND DRIVEWAY IN CREDITED OPEN SPACE IS 0.0 AC
 K. NUMBER OF PARKING SPACES REQUIRED
 1 SPACE PER EMPLOYEE: 1 X 10 = 10 SPACES
 6 SPACES PER HOLE: 6 X 18 = 108 SPACES
 1 SPACE PER 300 SF OF REMAINING USE: 3222 / 300 = 11 SPACES
 TOTAL = 129
 L. EMPLOYEES INCLUDING MAINTENANCE AND CLUBHOUSE SUPPORT 10 PEOPLE
 M. NUMBER OF PARKING SPACES PROVIDED: 150 SPACES
 N. BUILDING COVERAGE:
 CLUBHOUSE (INCLUDING ADDITION) 3403 SF
 MAINTENANCE BUILDING 6000 SF
 PUMPHOUSE 375 SF
 TOTAL BUILDING COVERAGE 11,475 SF
 PERCENTAGE OF BUILDING COVERAGE IS LESS THAN 1% OF ENTIRE SITE
 O. OPEN SPACE: IN PROJECT AREA CREDITED

LOT 30	23.834 Ac.
LOT 39	12.208 Ac.
LOT 33	8.439 Ac.
LOT 55	5.974 Ac.
LOT 1A	92.522 Ac.
LOT 2	25.710 Ac.
LOT 4A	33.256 Ac.
TOTAL 201.943 AC	

PERMIT INFORMATION

PERMIT	NUMBER	EXPIRATION DATE
WATER APPROPRIATION PERMIT (MARYLAND DNR)	H0925010(01)	SEPTEMBER 1, 2005
NONTIDAL WETLAND AND WATERWAYS PERMIT (JOINT PERMIT)	92-NI-0482/199266444	SEPTEMBER 30, 1996

HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING WAIVER PETITION FILE #WP92-188 REQUEST TO WAIVE SECTION 16.116(A) PERMIT DEVELOPMENT ACTIVITY (GRADING AND CLEARING) WITHIN 100 YR. FLOODPLAIN IS 16.116(C)(4) TO PERMIT GRADING AND CLEARING ON 25' AND GREATER STEEP SLOPE AREAS AND IS 16.116(C)(5) TO PERMIT GRADING AND CLEARING WITHIN THE 25 FOOT WETLAND BUFFERS AND WETLANDS FOR THE CONSTRUCTION OF AN 18 HOLE GOLF COURSE.
 APPROVED 1-5-93

AMENDMENTS TO WP-92-188 (CONT.)

- THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING APPROVED THE FOLLOWING AMENDMENTS TO WP-92-188:
 1. ON JULY 11, 1995 THE PLANNING DIRECTOR WAIVED SECTION 16.116(A)(1) AND SECTION 16.116(A)(2)(ii) TO PERMIT GRADING OR REMOVAL OF VEGETATIVE COVER WITHIN 25 FEET OF A WETLAND AND 75 FEET OF A PERENNIAL STREAM FOR CONSTRUCTION OF HOLE #2.
 2. ON NOVEMBER 16, 1995: THE PLANNING DIRECTOR WAIVED SECTION 16.116(A)(1) AND SECTION 16.116(A)(2)(ii) TO PERMIT GRADING OR REMOVAL OF VEGETATIVE COVER WITHIN 25 FEET OF A WETLAND AND 75 FEET OF A PERENNIAL STREAM FOR CONSTRUCTION OF HOLES 11, 12, 16, & 18.
 3. ON APRIL 16, 1995: THE PLANNING DIRECTOR WAIVED SECTION 16.116(A)(1) AND SECTION 16.116(A)(2)(ii) TO PERMIT GRADING OR REMOVAL OF VEGETATIVE COVER WITHIN 25 FEET OF A WETLAND AND 75 FEET OF A PERENNIAL STREAM FOR CONSTRUCTION OF HOLES 2, 3, 5, & 6.

APPROVED PLANNING BOARD OF HOWARD COUNTY

DATE 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. DIRECTOR JAMES M. LEWIS DATE 11/2/93
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING DIRECTOR MARIE J. WAGLER DATE 11/1/93
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT. COUNTY HEALTH OFFICER JAYCE M. BORDOWITZ DATE 11/5/92

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

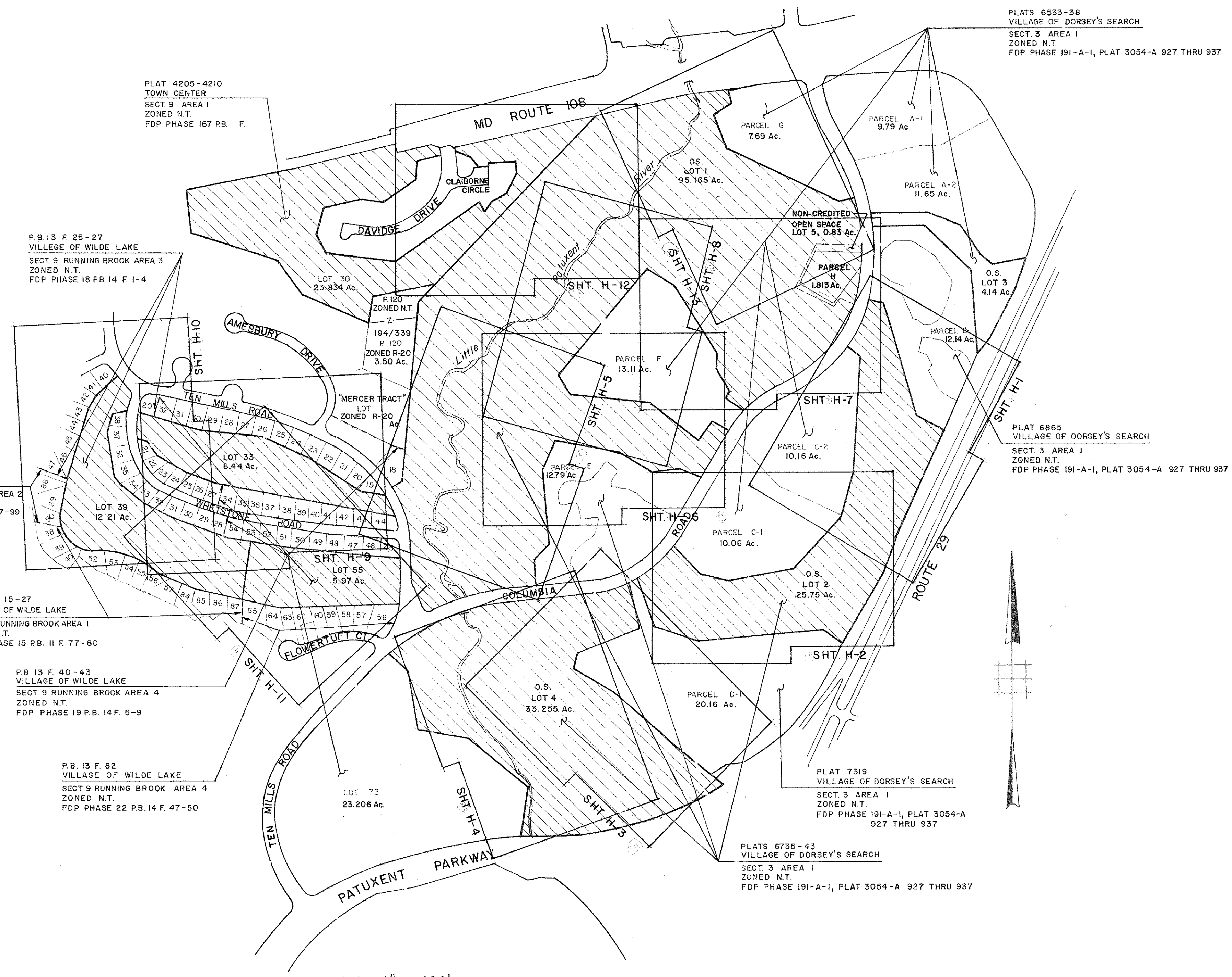
BUILDING	STREET ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD
LOT1-MAINT.BLDG	5280 COLUMBIA ROAD

The **RBA** ENGINEERS • ARCHITECTS • PLANNERS
 Group
 William Garro, P.E., P.P. Lic.No. 16268
 John Murphy, R.A. Cert. No. C3885
 Warren Bendixen, R.A., P.P. Cert. No. C4241

TITLE SHEET	SCALE
FAIRWAY HILLS GOLF COURSE	AS SHOWN
COLUMBIA HO. CO. MARYLAND	DRAWN KBW CHECKED J.B.
SDP-92-104	PROJ. NO. M0405 DATE 3-92
	SHEET 1 OF 61

ADJACENT PROPERTIES/OWNERS

PROPERTY ID	OWNERS	LIBER/FILIO	ZONED
Running Brook Sec.9 Ar.4 Lot 54	A. Thomas Batty & wf.	666/375	NT
Running Brook Sec.9 Ar.3 Lot 28	Neil M. Kirschner & wf.	826/732	NT
Running Brook Sec.9 Ar.3 Lot 29	Raymond Davis Jr.	705/412	NT
Running Brook Sec.9 Ar.3 Lot 30	Ruben & Marta Adler & D. Arostegui	1113/261	NT
Running Brook Sec.9 Ar.3 Lot 31	Kenneth R. & Caroline M. Allen	1077/309	NT
Running Brook Sec.9 Ar.3 Lot 32	William Farnes & wf.	729/513	NT
Running Brook Sec.9 Ar.3 Lot 33	Rogers O. Weiss & wf.	539/112	NT
Running Brook Sec.9 Ar.3 Lot 34	Edwin C. Susskind & wf.	1152/366	NT
Running Brook Sec.9 Ar.3 Lot 35	Alvin James Wyrick & wf.	1611/67	NT
Running Brook Sec.9 Ar.3 Lot 36	Haurice Kopon & wf.	639/625	NT
Running Brook Sec.9 Ar.3 Lot 37	Janet I. Taddeo	1461/578	NT
Running Brook Sec.9 Ar.3 Lot 38	Uri Feldman & wf.	793/196	NT
Running Brook Sec.9 Ar.3 Lot 40	M.A. & Laura A. Arias	2137/421	NT
Running Brook Sec.9 Ar.3 Lot 41	Hugh A. Oesterreicher Jr. & wf.	1759/343	NT
Running Brook Sec.9 Ar.3 Lot 42	Saul Jay Lubitz & wf.	1024/692	NT
Running Brook Sec.9 Ar.3 Lot 43	John W. Kelly & wf.	617/142	NT
Running Brook Sec.9 Ar.3 Lot 44	Alfred H. Pletzky & wf.	787/120	NT
Running Brook Sec.9 Ar.3 Lot 45	Edwin R. Strakna & wf.	621/59	NT
Running Brook Sec.9 Ar.3 Lot 46	Harold E. Greenberg & wf.	620/259	NT
Running Brook Sec.9 Ar.3 Lot 47	Stanley McKenzie & wf.	682/371	NT
Running Brook Sec.9 Ar.2 Lot 88	David E. Gardner	980/369	NT
Running Brook Sec.9 Ar.2 Lot 89	Charles F. Brooks & wf.	526/487	NT
Running Brook Sec.9 Ar.2 Lot 90	Donald H. & Mary Jane Bullock	898/257	NT
Running Brook Sec.9 Ar.1 Lot 38	Cary M. Cooper & wf.	542/72	NT
Running Brook Sec.9 Ar.1 Lot 39	Jacquiline Pratt Ludford	1273/210	NT
Running Brook Sec.9 Ar.1 Lot 40	Alfred J. Bates & wf.	692/103	NT
Running Brook Sec.9 Ar.1 Lot 52	Sominic M. Tiburri & wf.	1352/15	NT
Running Brook Sec.9 Ar.1 Lot 53	Ernest F. Moreland & wf.	542/77	NT
Running Brook Sec.9 Ar.1 Lot 54	Robert J. Skapura & wf.	523/759	NT
Running Brook Sec.9 Ar.1 Lot 55	John M. & John Z. Schneider	1628/622	NT
Running Brook Sec.9 Ar.1 Lot 56	Nancy L. Provov	1514/468	NT
Running Brook Sec.9 Ar.1 Lot 57	Michael R. & Shirley J. Cothran	1075/261	NT
Running Brook Sec.9 Ar.1 Lot 84	Bertharae F. Glick	1610/572	NT
Running Brook Sec.9 Ar.1 Lot 85	Justin E. Morrill & wf.	520/728	NT
Running Brook Sec.9 Ar.1 Lot 86	Barry J. & Gail M. Kearney	997/674	NT
Running Brook Sec.9 Ar.1 Lot 87	Steven M. Brakos & wf.	1402/263	NT
Running Brook Sec.9 Ar.4 Lot 65	Lawrence Hall Jr. & Greer Hall Jr.	878/713	NT
Running Brook Sec.9 Ar.4 Lot 64	Jesse H. Ingram & wf.	757/583	NT
Running Brook Sec.9 Ar.4 Lot 63	David H. Swann	1021/394	NT
Running Brook Sec.9 Ar.4 Lot 62	Darrell E. Davis & wf.	760/694	NT
Running Brook Sec.9 Ar.4 Lot 60	Donald M. Wheeler & wf.	882/486	NT
Running Brook Sec.9 Ar.4 Lot 59	Edward Johnson & wf.	725/151	NT
Running Brook Sec.9 Ar.4 Lot 58	Ernest L. Murphy	568/278	NT
Running Brook Sec.9 Ar.4 Lot 57	Clyde Smith & wf.	710/245	NT
Running Brook Sec.9 Ar.4 Lot 56	Homer J. Weidemeyer	2020/271	NT
Lot 73 Running Brook Sec.9 Ar.4	OH Inc. c/o Krupp Realty Co.	1156/117	NT
Lot 30 "Town Center Sec.9 Ar.1"	Columbia Park & Rec. Assoc. Inc.	1910/9	NT
P. 120	Wm. HC Griffith & wf.	194/339	NT
Lot 1 "Mercer Tract"	Fiorelli S. & Ana Vicencio	745/427	R-20
Running Brook Sec.9 Ar.4 Lot 18	J. Homer Weidemeyer	2190/611	NT
Running Brook Sec.9 Ar.4 Lot 19	Indrakumar Jaishnani & wf.	876/465	NT
Running Brook Sec.9 Ar.4 Lot 20	David Kosciuk et al	1759/199	NT
Running Brook Sec.9 Ar.4 Lot 21	Eugene Hwang & wf.	1673/554	NT
Running Brook Sec.9 Ar.4 Lot 22	Louis J. & Irene C. Marmo	1253/167	NT
Running Brook Sec.9 Ar.4 Lot 23	Richard T. West & wf.	646/351	NT
Running Brook Sec.9 Ar.4 Lot 24	Gene Bradford & wf.	651/267	NT
Running Brook Sec.9 Ar.4 Lot 25	Bernice A. Kish	1961/179	NT
Running Brook Sec.9 Ar.4 Lot 26	Rose M. Hall	1711/12	NT
Running Brook Sec.9 Ar.4 Lot 27	Richard E. Freudenberger & wf.	1913/680	NT
Running Brook Sec.9 Ar.4 Lot 28	Ayvan Yafrah & wf.	697/26	NT
Running Brook Sec.9 Ar.4 Lot 29	Ronald L. Spahn & wf.	772/237	NT
Running Brook Sec.9 Ar.4 Lot 30	William W. Blake & wf.	643/86	NT
Running Brook Sec.9 Ar.4 Lot 31	Richard F. Cioffi et al	1569/354	NT
Running Brook Sec.9 Ar.4 Lot 32	Phillip P. Cole & wf.	671/5	NT
Running Brook Sec.9 Ar.3 Lot 20	Heheadon Radden & wf.	660/738	NT
Running Brook Sec.9 Ar.3 Lot 21	Uri & Dahlia Felkman & WJ Behring	1056/483	NT
Running Brook Sec.9 Ar.3 Lot 22	William C. & Ruth C. Lach	1892/65	NT
Running Brook Sec.9 Ar.3 Lot 23	William R. Wood	634/459	NT
Running Brook Sec.9 Ar.3 Lot 24	Stuart Howatt & wf.	634/695	NT
Running Brook Sec.9 Ar.3 Lot 25	Warner Lewis Shipp & wf.	1332/270	NT
Running Brook Sec.9 Ar.3 Lot 26	Stephan I. Block & wf.	1189/677	NT
Running Brook Sec.9 Ar.3 Lot 27	Joseph R. Gomez & wf.	2052/34	NT
Running Brook Sec.9 Ar.4 Lot 34	Donald R. Barbary & wf.	883/228	NT
Running Brook Sec.9 Ar.4 Lot 35	William W. McCollum & wf.	2238/195	NT
Running Brook Sec.9 Ar.4 Lot 36	William J. Smith & wf.	653/44F	NT
Running Brook Sec.9 Ar.4 Lot 37	Lawrence G. Rowe Jr. & wf.	725/621	NT
Running Brook Sec.9 Ar.4 Lot 38	Joseph W. Gentile & wf.	1229/100	NT
Running Brook Sec.9 Ar.4 Lot 39	Harold J. Engel & wf.	678/740	NT
Running Brook Sec.9 Ar.4 Lot 40	Hau L. Cheong & wf.	1575/455	NT
Running Brook Sec.9 Ar.4 Lot 41	George E. Hohman Jr. & wf.	556/258	NT
Running Brook Sec.9 Ar.4 Lot 42	Jay Don Gensler & wf.	803/748	NT
Running Brook Sec.9 Ar.4 Lot 43	Robert W. Alexander Jr. & wf.	1938/237	NT
Running Brook Sec.9 Ar.4 Lot 44	Herber Salisbury & wf.	1066/423	NT
Running Brook Sec.9 Ar.4 Lot 45	Jacoba F. Weaver & wf.	725/351	NT
Running Brook Sec.9 Ar.4 Lot 46	Charles M. Cullen Jr. & wf.	913/246	NT
Running Brook Sec.9 Ar.4 Lot 47	William Kovensky & wf.	1010/702	NT
Running Brook Sec.9 Ar.4 Lot 48	Uri & Dalia Feldman et al	1289/262	NT
Running Brook Sec.9 Ar.4 Lot 49	Thomas D. Scott & wf.	543/124	NT
Running Brook Sec.9 Ar.4 Lot 50	Alsandro Turner & wf.	723/334	NT
Running Brook Sec.9 Ar.4 Lot 51	Bruce D. Alexander & wf.	679/556	NT
Running Brook Sec.9 Ar.4 Lot 52	Robert L. & Carole F. Milner	1392/387	NT
Running Brook Sec.9 Ar.4 Lot 53	Joyce L. Wright & Thomas S. McElroy	1164/666	NT
Parcel D-1	Golf Course View Partnership	1763/287	NT
Parcel C-1	Chase Green Ltd. Partnership	1425/542	NT
Parcel C-2	Allview-Oxford Ltd. Partnership	1442/607	NT
Part of Parcel B-1 (GCX area)	Eshee Homes of Allview Inc.	1518/470	NT
Parcel B-2	Fairway Partners	1584/488	NT
Part of Parcel G (JOB area)	Heatherfield Joint Venture	1917/558	NT
Part of Parcel F	Howard Research & Dev. Corp.	1533/193	NT
Part of Parcel E	NVR-Lazerov Assoc. & NV Homes, LP	1848/138	NT



SCALE: 1" = 400'

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 2-2-93

LEGEND
22 LOT NUMBERS
PROJECT LIMITS

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
James M. Shown 1/12/93 DATE
DIRECTOR
Paul D. Dorman 1/11/93 DATE
CHIEF, BUREAU OF ENGINEERING
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
James M. Shown 1/12/93 DATE
DIRECTOR
Gina Stummans 1/10/93 DATE
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
James M. Shown 1/15/93 DATE
COUNTY HEALTH OFFICER

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045
DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045
ADDRESS CHART
BUILDING STREET ADDRESS
LOTS-CLUBHOUSE 5100 COLUMBIA ROAD
LOT-1-MAINT BLDG 5280 COLUMBIA ROAD
SUBDIVISION NAME VML 9/3, LOT 39 SECTION/AREA LOT/PARCEL
VWL 9/4, LOTS 33&35, TC, 9/1, LOT 30 9/3, 9/4, LOTS 1,2,3,
& VDS, 3/1, LOTS 1, 2 & 4 9/1 & 3/1 33, 39 & 55
PLAT 6735 THRU 6743, BLOCK ZONE TAX ZONE MAP ELEC. DIST. CENSUS TR
6536 PB131.41 & 10, NT-0.3, 30 5 TR 6054
WATER CODE SEWER CODE

PROJECT NO. THE RBA GROUP, MDRRISTOWN, NEW JERSEY

FOR REV. 2 ONLY



no.	description	date
1	PER DPZ COMMENTS	10-93
2	REVISE SHEET NUMBER	11/28/97

prepared by
RON PRICHARD
Golf Architect
10600 SIX PINES DRIVE
THE WOODLANDS, TEXAS 77380
713) 292-1902
730 WALTON ROAD, SUITE 300
LLUE BELL, PA. 19422
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5560 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 7-07950 821-6050

KEY SHEET
SCALE 1" = 400'
DRAWN BY BZ
PROJ. NO. MO405
DATE 3-92
SHEET 2 OF 61

SDP-92-104

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE 2-2-93

LEGEND

EXISTING WOODLANDS _____
 LINE _____
 75' STREAMBANK BUFFER _____
 LINE _____
 WETLAND LIMIT _____
 WETLAND BUFFER _____
 100 YR. FLOOD PLAIN _____
 EXISTING STREAMS _____

HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING WAIVER PETITION, FILE #WP92-188
 REQUEST TO WAIVE SECTION 16.116(A) PERMIT DEVELOPMENT ACTIVITY (GRADING AND CLEARING) WITHIN 100 YR. FLOODPLAIN, 16.116(C) (4) TO PERMIT GRADING AND CLEARING ON 25% AND GREATER STEEP SLOPE AREAS AND 16.116(C) (6) TO PERMIT GRADING AND CLEARING WITHIN THE 25 FOOT WETLAND BUFFERS AND WETLANDS FOR THE CONSTRUCTION OF AN 18 HOLE GOLF COURSE.
 APPROVED 1-5-93

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

Jama M. Loran 11/2/93
 DIRECTOR DATE
Paul J. Deegan 11/1/93
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Paul J. Deegan 11/2/93
 DIRECTOR DATE
Gina Stannard 11/10/93
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

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

Joyce M. Boyd 11/5/93
 COUNTY HEALTH OFFICER DATE

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING STREET ADDRESS

LOTS-CLUBHOUSE 5100 COLUMBIA ROAD

LOT1-MAINT. BLDG. 5280 COLUMBIA ROAD

SUBDIVISION NAME VWL-9/3-LOT39 SECTION/AREA LOT/PARCEL
 VWL-9/4-LOTS 33855-TC-9/1, LOT30 9/3-9/4 1-2, 3,
 & VDS-3/1-LOTS 1, 2 & 4 9/1 & 3/1 33-39 & 53
 FLAT (BLOCK) ZONE TAX/ZONE MAP ELEC. DIST. CENSUS TR.
 8-9, 10-17-0, 21 30 51h 6054
 14-15 16 COMM.

WATER CODE SEWER CODE

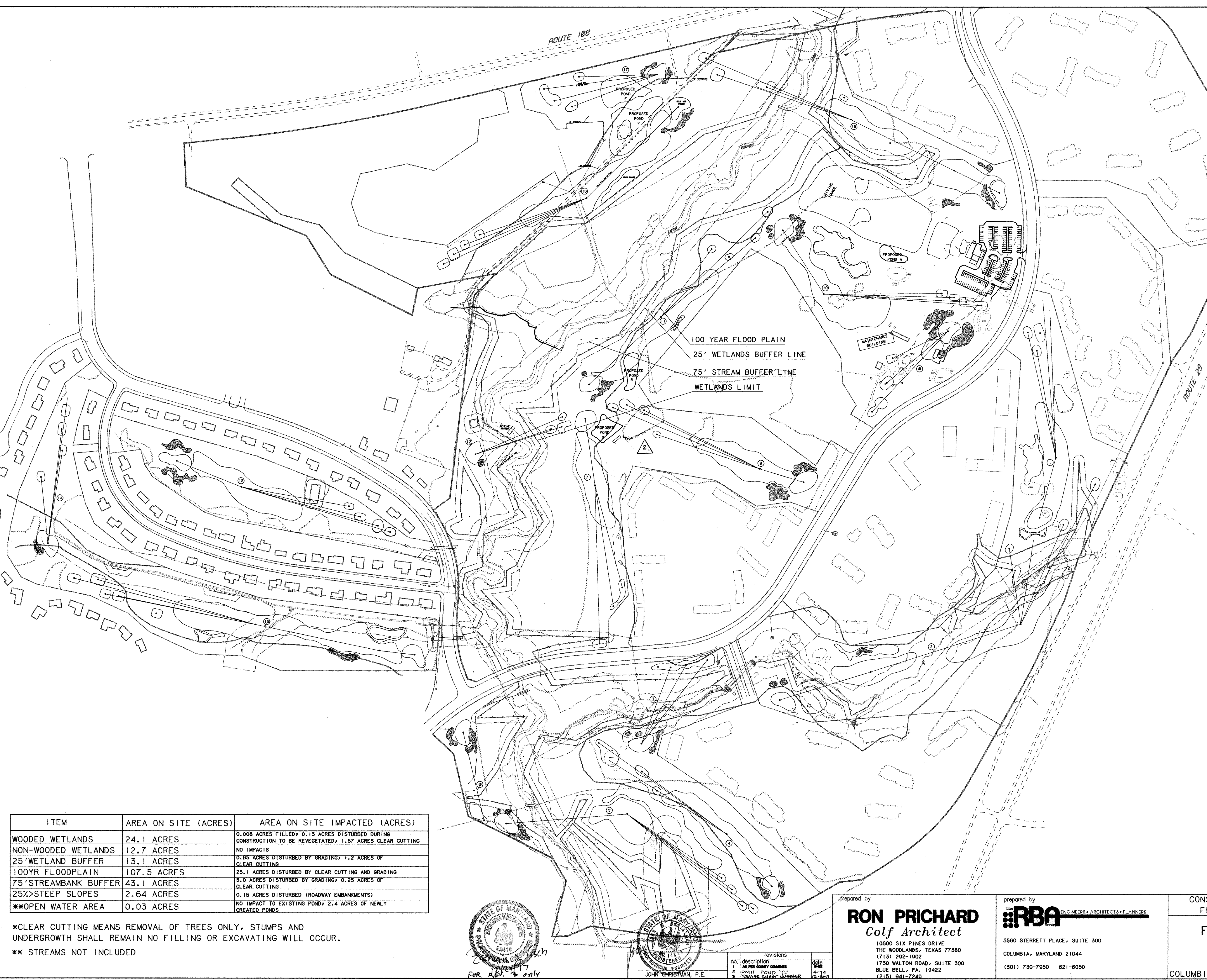
CONSTRAINTS MAP WETLAND, FLOODPLAIN, WOODLAND

SCALE 1" = 200'

FAIRWAY HILLS GOLF COURSE

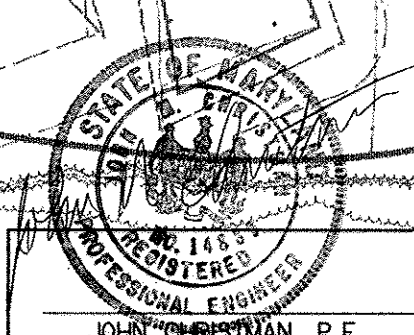
PROJ. NO. M0405 DATE 3-92

COLUMBIA MARYLAND SHEET 3 OF 61



ITEM	AREA ON SITE (ACRES)	AREA ON SITE IMPACTED (ACRES)
WOODED WETLANDS	24.1 ACRES	0.008 ACRES FILLED; 0.13 ACRES DISTURBED DURING CONSTRUCTION TO BE REVEGETATED; 1.57 ACRES CLEAR CUTTING
NON-WOODED WETLANDS	12.7 ACRES	NO IMPACTS
25' WETLAND BUFFER	13.1 ACRES	0.65 ACRES DISTURBED BY GRADING; 1.2 ACRES OF CLEAR CUTTING
100YR FLOODPLAIN	107.5 ACRES	25.1 ACRES DISTURBED BY CLEAR CUTTING AND GRADING
75' STREAMBANK BUFFER	43.1 ACRES	5.0 ACRES DISTURBED BY GRADING; 0.25 ACRES OF CLEAR CUTTING
25%+ STEEP SLOPES	2.64 ACRES	0.15 ACRES DISTURBED (ROADWAY EMBANKMENTS)
**OPEN WATER AREA	0.03 ACRES	NO IMPACT TO EXISTING POND; 2.4 ACRES OF NEWLY CREATED PONDS

*CLEAR CUTTING MEANS REMOVAL OF TREES ONLY, STUMPS AND UNDERGROWTH SHALL REMAIN NO FILLING OR EXCAVATING WILL OCCUR.
 ** STREAMS NOT INCLUDED



prepared by
RON PRICHARD
 Golf Architect
 10600 SIX PINES DRIVE
 THE WOODLANDS, TEXAS 77380
 (713) 292-1902
 1730 WALTON ROAD, SUITE 300
 BLUE BELL, PA. 19422
 (215) 941-7240

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

no.	description	date
1	AS PER COUNTY ORDINANCE	11-92
2	DATE PLOTTED 12-92	12-92
3	REVISED SHEET NUMBER	12-92

THE RBA GROUP, MORRISTOWN, NEW JERSEY

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE 2-2-93

LEGEND
EXISTING TREE LINE
SOIL LINE
SLOPES GREATER THAN 25%

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS,
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS,
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
James M. Shon 11/2/92
DIRECTOR DATE
James M. Shon 11/1/93
CHIEF, BUREAU OF ENGINEERING DATE
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Mark J. Lewis 11/2/92
DIRECTOR DATE
Gunnar J. Jorgensen 11/10/93
CHIEF, DIVISION OF COMMUNITY
PLANNING AND LAND
DEVELOPMENT DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS,
HOWARD COUNTY HEALTH DEPARTMENT.
Joyce M. ... 11/5/92
COUNTY HEALTH OFFICE DATE

OWNER: COLUMBIA PARKS AND
RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045
DEVELOPER: COLUMBIA PARKS AND
RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

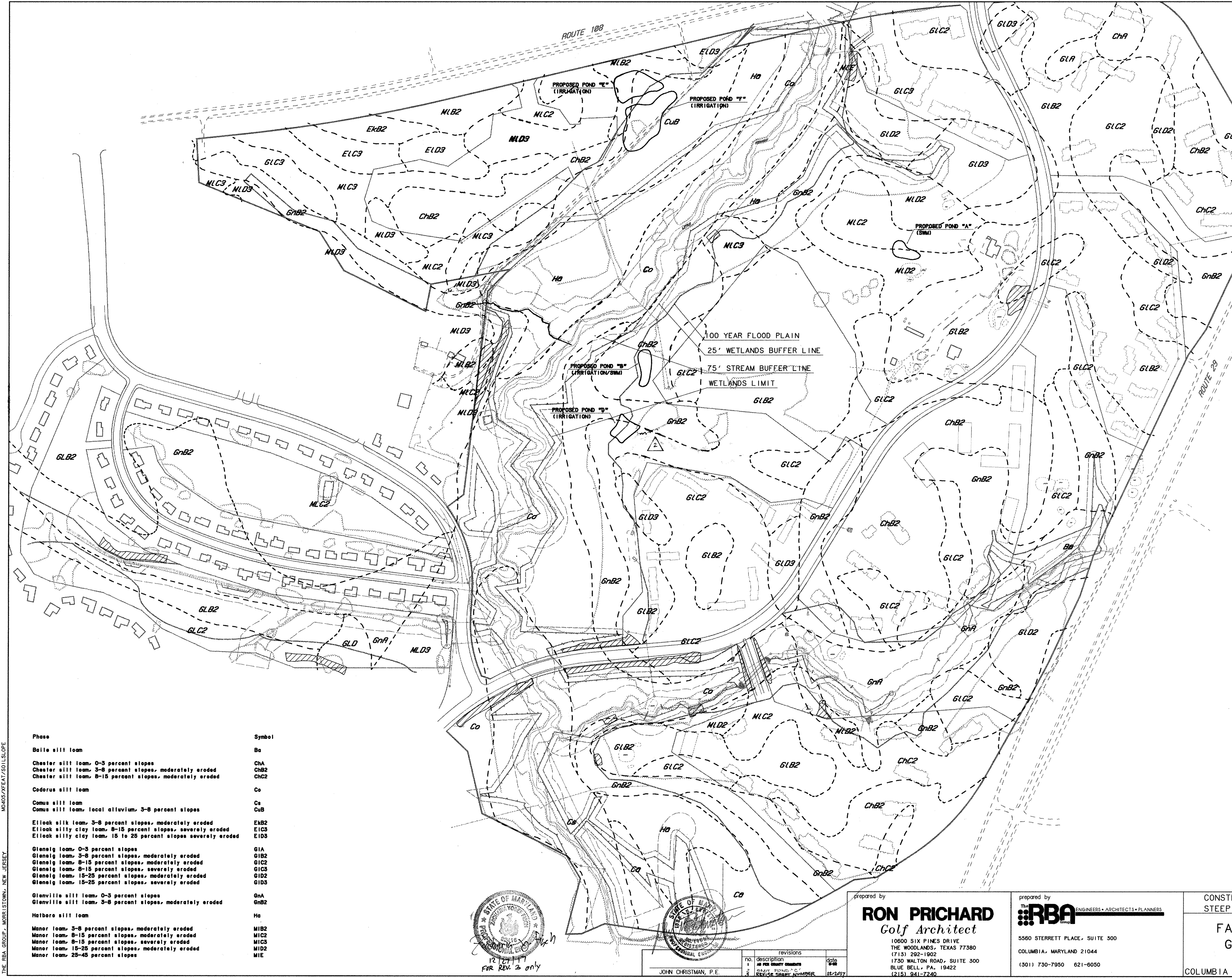
BUILDING	STREET	ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD	
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD	

SUBDIVISION NAME	VWL	SECTION/AREA	LOT/PARCEL
VWL 9/4-LOTS 33&35, TC 9/1-LOT 30	9/3, 9/4	9/1 & 3/1	LOTS 1, 2, 3, 4 & 5
PLAT	8, 9, 10	30	51h 6054

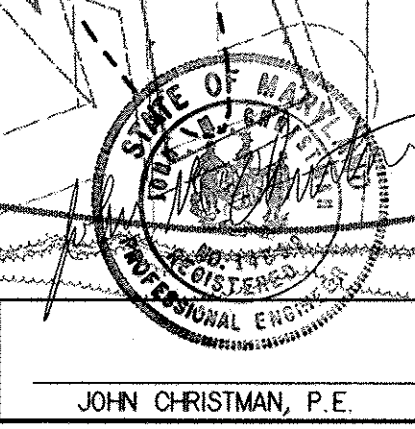
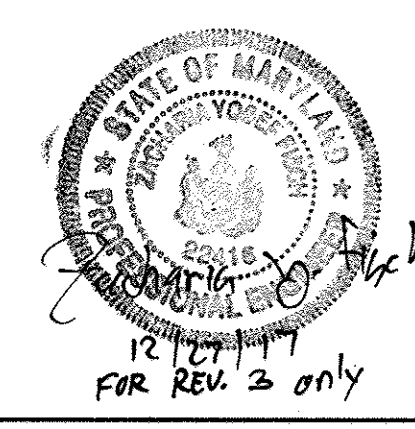
CONSTRAINTS MAP
STEEP SLOPES AND SOILS
SCALE 1" = 200'
DRAWN KBW CHECKED J.B.
PROJ. NO. M0405 DATE 3-92
COLUMBIA MARYLAND SHEET 4 OF 6L

prepared by
RON PRICHARD
Golf Architect
10600 SIX PINES DRIVE
THE WOODLANDS, TEXAS 77380
(713) 292-1902
1730 WALTON ROAD, SUITE 300
BLUE BELL, PA. 19422
(215) 941-7240

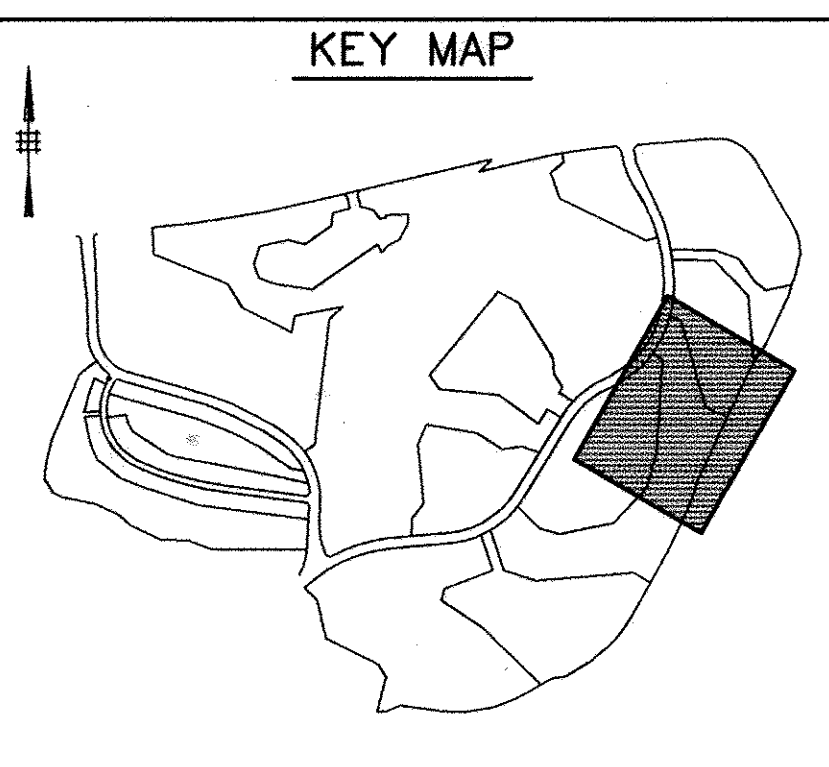
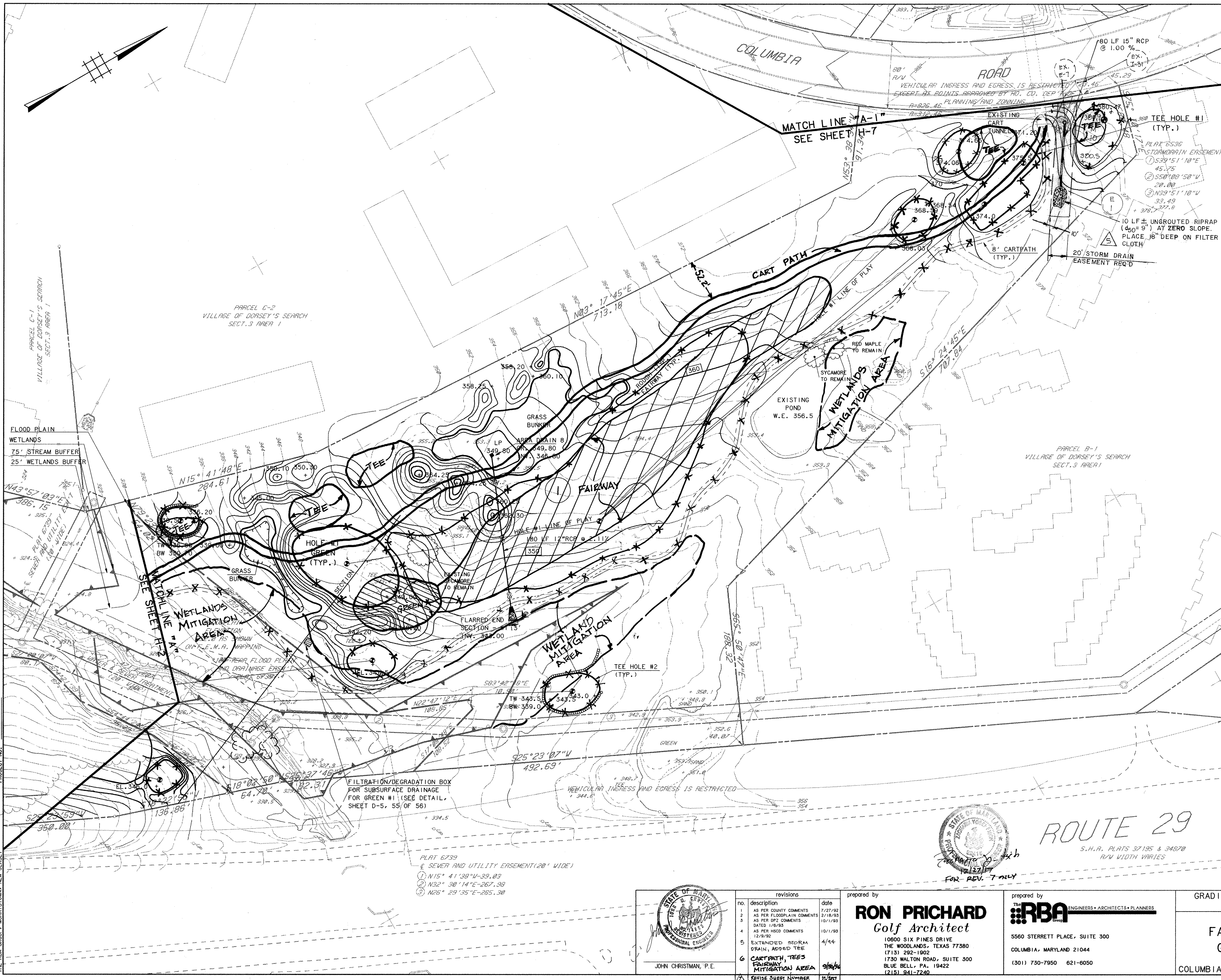
prepared by
RBA
ENGINEERS • ARCHITECTS • PLANNERS
5560 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7950 621-6050



Phase	Symbol
Baile silt loam	Ba
Chester silt loam, 0-3 percent slopes	ChA
Chester silt loam, 3-8 percent slopes, moderately eroded	ChB2
Chester silt loam, 8-15 percent slopes, moderately eroded	ChC2
Coderus silt loam	Co
Comus silt loam	Cs
Comus silt loam, local alluvium, 3-8 percent slopes	CoB
Eilook silt loam, 3-8 percent slopes, moderately eroded	EhB2
Eilook silty clay loam, 8-15 percent slopes, severely eroded	E1C3
Eilook silty clay loam, 15 to 25 percent slopes severely eroded	E1D3
Glenelig loam, 0-3 percent slopes	G1A
Glenelig loam, 3-8 percent slopes, moderately eroded	G1B2
Glenelig loam, 8-15 percent slopes, moderately eroded	G1C2
Glenelig loam, 8-15 percent slopes, severely eroded	G1C3
Glenelig loam, 15-25 percent slopes, moderately eroded	G1D2
Glenelig loam, 15-25 percent slopes, severely eroded	G1D3
Glenville silt loam, 0-3 percent slopes	GnA
Glenville silt loam, 3-8 percent slopes, moderately eroded	GnB2
Hatboro silt loam	Ha
Manor loam, 3-8 percent slopes, moderately eroded	M1B2
Manor loam, 8-15 percent slopes, moderately eroded	M1C2
Manor loam, 8-15 percent slopes, severely eroded	M1C3
Manor loam, 15-25 percent slopes, moderately eroded	M1D2
Manor loam, 25-45 percent slopes	M1E



THE RBA GROUP, MOREL STONW, NEW JERSEY



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE	+ 350.0	+ 350.0
WOODED AREA		TO REMAIN
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER		
RETAINING WALL		
EXISTING STREAM		
EXISTING PROP. LINE		
EXISTING EASEMENT LINE		

APPROVED
PLANNING BOARD
 OF HOWARD COUNTY
 DATE 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC WORKS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
James M. ... 11/2/93
 DIRECTOR DATE
Charles ... 11/1/93
 CHIEF BUREAU OF ENGINEERING DATE
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Mary ... 11/1/93
 DIRECTOR DATE
Gina ... 11/0/93
 CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
James M. ... 11/5/93
 COUNTY HEALTH OFFICER DATE

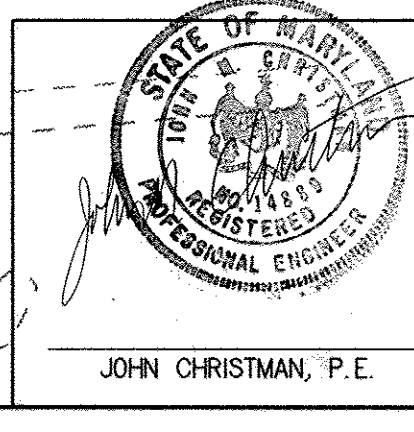
OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
 DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
 ADDRESS CHART

BUILDING	STREET ADDRESS
LOT5-CLUBHOUSE	5100 COLUMBIA ROAD
LOT1-MAINT. BLDG	5280 COLUMBIA ROAD

SUBDIVISION NAME: VML 9/3, LOT39, VML 9/4, LOTS 33655-TC, 9/1, LOT30 & VMS-3/L LOTS 1, 2 & 4
 SECTION/AREA: 9/3, 9/4, 9/1 & 3/1
 LOT/PARCEL: LOTS 1, 2, 3, 33, 32 & 55
 PLAT: BLOCK ZONE TAX ZONE MAP ELEC. DIST. CENSUS TR.
 14/15 10 ANT-0.5 30 51h 6054
 WATER CODE: SEWER CODE:

PROJECT NO. THE RBA GROUP, MORRISTOWN, NEW JERSEY

- PLAT 6739
 SEWER AND UTILITY EASEMENT (20' WIDE)
 1) N15° 41' 38" U-39.03
 2) N32° 30' 14" E-267.39
 3) N26° 29' 35" E-285.30



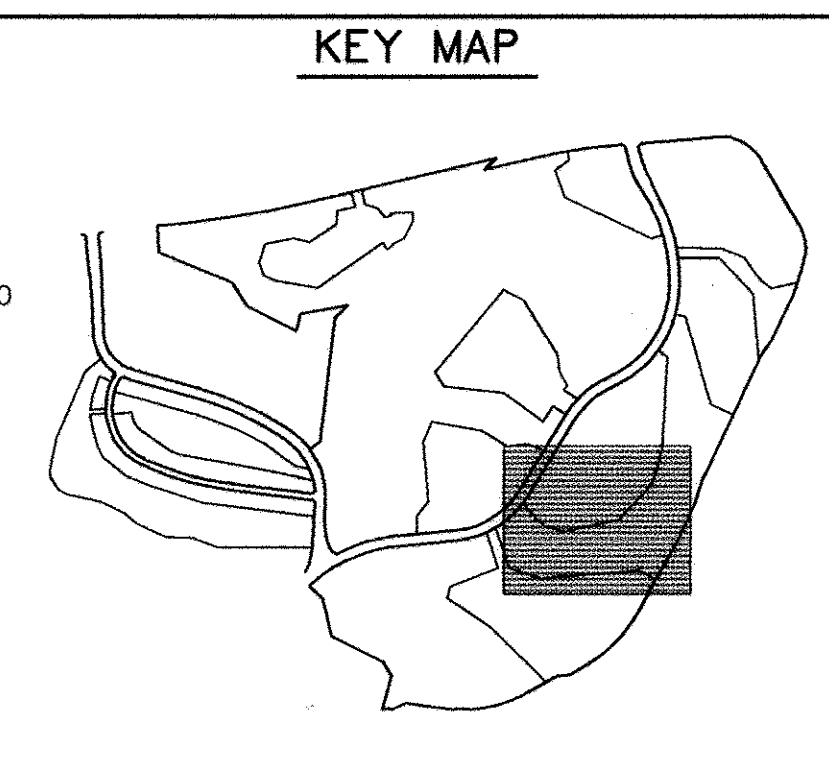
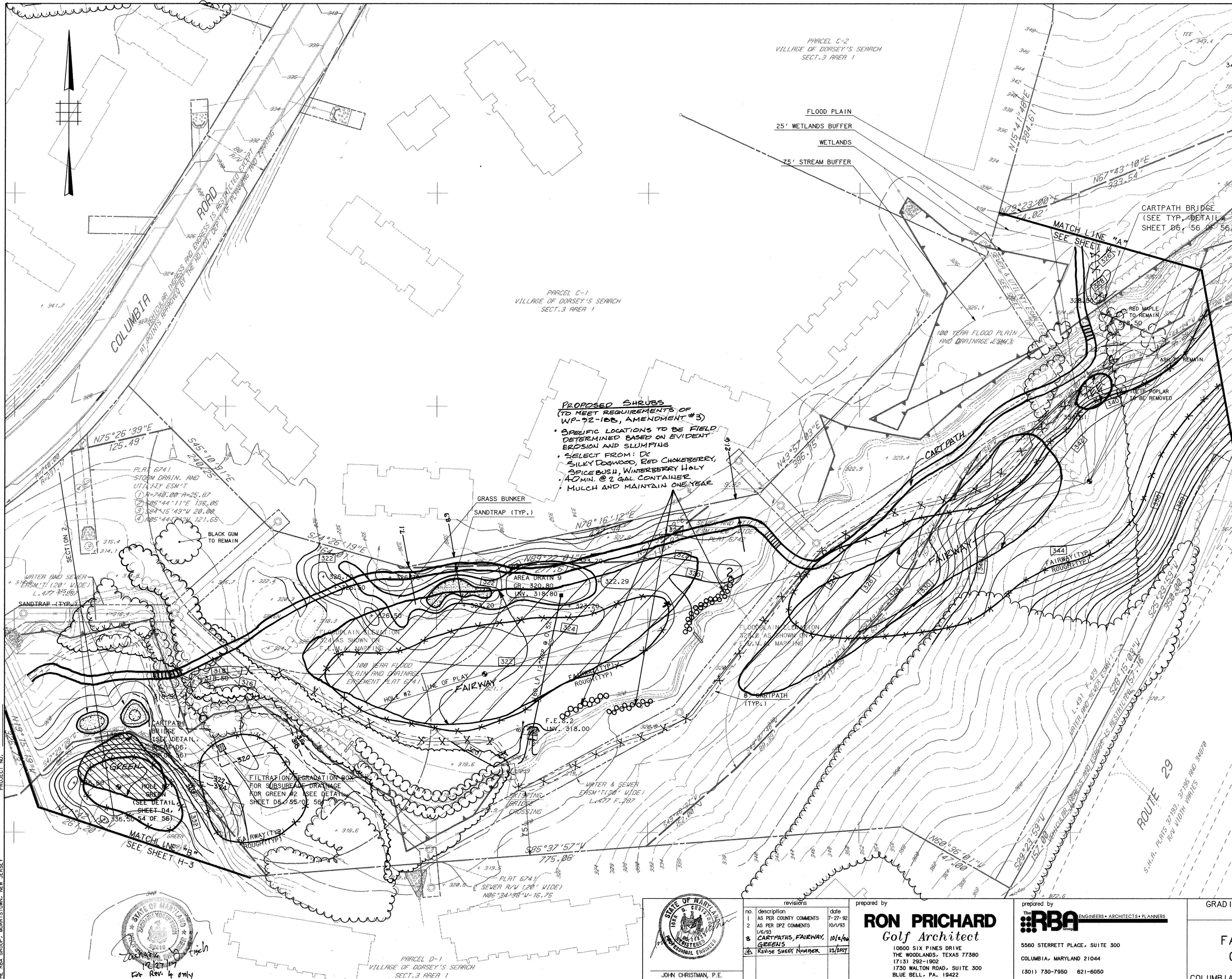
NO.	DESCRIPTION	DATE
1	AS PER COUNTY COMMENTS	12/21/92
2	AS PER FLOODPLAIN COMMENTS	5/18/93
3	AS PER DPZ COMMENTS	10/11/93
4	AS PER DPZ COMMENTS	10/11/93
5	AS PER HSCD COMMENTS	10/11/93
6	EXTENDED STORM DRAIN, ADDED TEE	4/44
7	CARTPATH, TEES, FAIRWAY, MITIGATION AREA	9/24/93
8	REVISE SHEET NUMBER	12/1/93

prepared by
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 Golf Architect
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 1730 WALTON ROAD, SUITE 300
 BLUE BELL, PA. 19422
 (215) 941-7240

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

GRADING AND DRAINAGE PLAN
 HOLE #1
 SCALE 1" = 50'
 DRAWN MBB CHECKED JJB
 PROJ. NO. M0405 DATE 9-9-91
H-1
 COLUMBIA MARYLAND SHEET 5 OF 61

SDP-92-104



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE	+ 350.0	+ 350.0
WOODED AREA		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER		
RETAINING WALL		
EXISTING STREAM		
EXIST. PROPERTY LINE		
EXIST. EASEMENT LINE		

PROPOSED SHRUBS
(TO MEET REQUIREMENTS OF WP-92-100, AMENDMENT #3)

- SPECIFIC LOCATIONS TO BE FIELD DETERMINED BASED ON EVIDENT EROSION AND SLUMPING
- SELECT FROM: DC SILKY DOGWOOD, RED CHOKERBERRY, SPICE BUSH, WINTERBERRY HOLY
- 40 MIN. @ 2 GAL. CONTAINER
- MULCH AND MAINTAIN ONE YEAR

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
James M. Shew DIRECTOR 11/2/93 DATE
John Deegan CHIEF BUREAU OF ENGINEERING 11/10/93 DATE
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Mark DeAngelis DIRECTOR 11/10/93 DATE
Gene Wiermann CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT 11/10/93 DATE
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
Jayne M. Boyd COUNTY HEALTH OFFICER 11/5/93 DATE

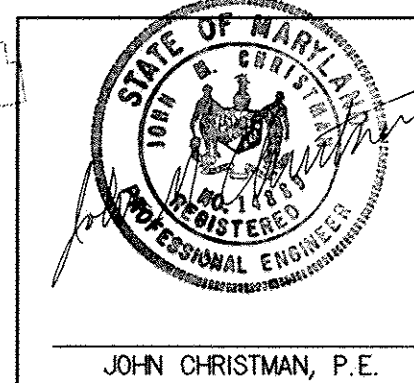
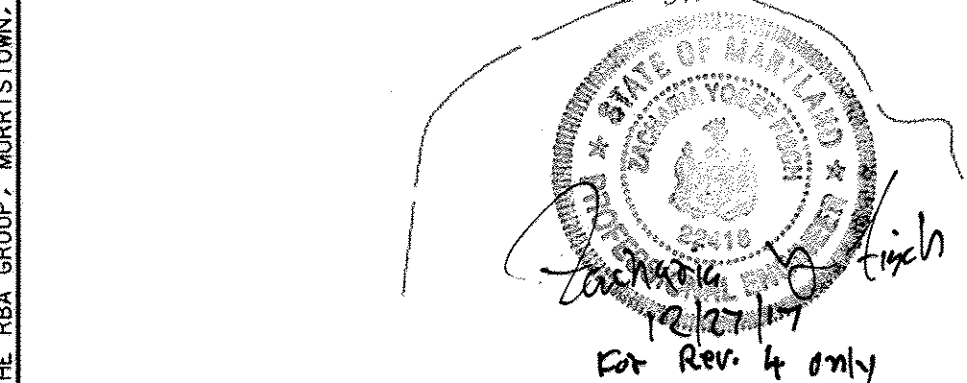
OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045
DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING	STREET	ADDRESS
LOT5-CLUBHOUSE	5100 COLUMBIA ROAD	
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD	

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL
V.L. 9/3, LOT 39	9/3, 9/4	33, 39 & 55
V.L. 9/4, LOTS 33, 35, 37, 38, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	9/4 & 3/1	33, 39 & 55
PLAT	BLOCK/ZONE	TAX/ZONE MAP
	30	5th
	14-15	6054

GRADING AND DRAINAGE PLAN
HOLE #2
FAIRWAY HILLS GOLF COURSE
COLUMBIA MARYLAND
SCALE 1" = 50'
DRAWN MBB CHECKED JUB
PROJ. NO. MO405 DATE 9-9-91
H-2
SHEET 6 OF 6

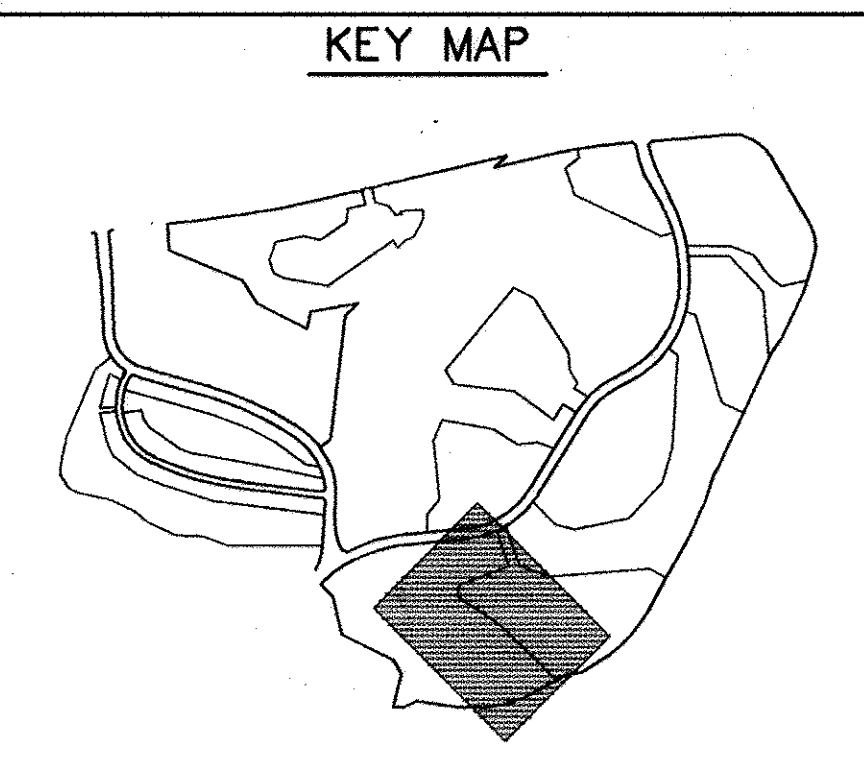
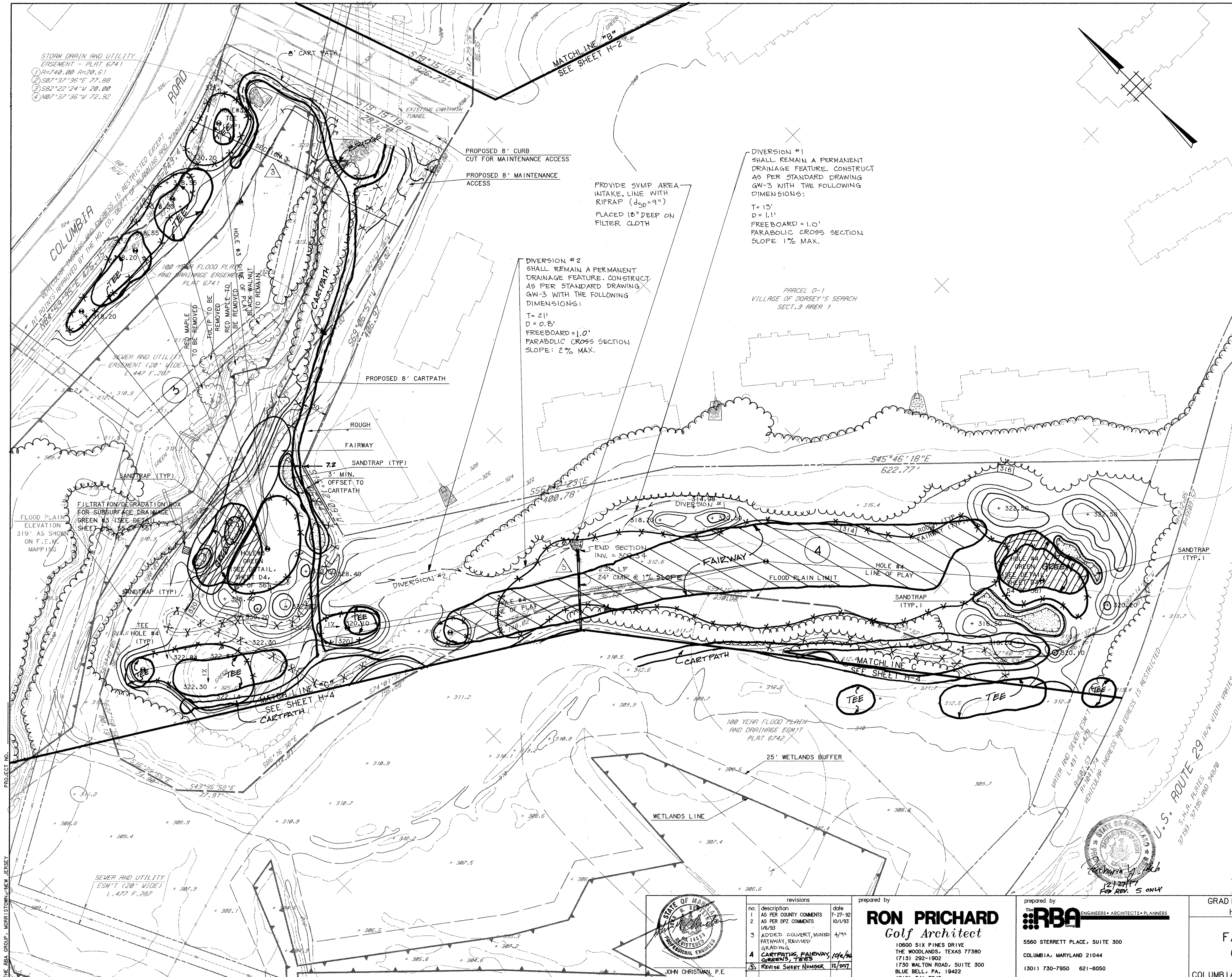


revisions

no.	description	date
1	AS PER COUNTY COMMENTS	7-27-92
2	AS PER DPZ COMMENTS	10/1/93
3	CARTPATHS, FAIRWAY, GREENS	10/1/94
4	REVISE SHEET NUMBER	12/1/97

prepared by
RON PRICHARD
Golf Architect
10600 SIX PINES DRIVE
THE WOODLANDS, TEXAS 77380
(713) 292-1902
1730 WALTON ROAD, SUITE 300
BLUE BELL, PA. 19422
(215) 941-7240

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
5560 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7950 621-6050



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE	+ 350.0	+ 350.0
WOODED AREA		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER		
RETAINING WALL		
EXISTING STREAM		
EXIST. PROPERTY LINE		
EXIST. EASEMENT LINE		

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
 DATE 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS,
 DIRECTOR: James M. Shaw 11/2/93
 CHIEF, BUREAU OF ENGINEERING
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 DIRECTOR: Mark A. Conner 11/10/93
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
 COUNTY HEALTH OFFICER: Joyce M. ... 11/5/93

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
 DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING	STREET	ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD	
LOT1-MAINT.BLDG.	5280 COLUMBIA ROAD	

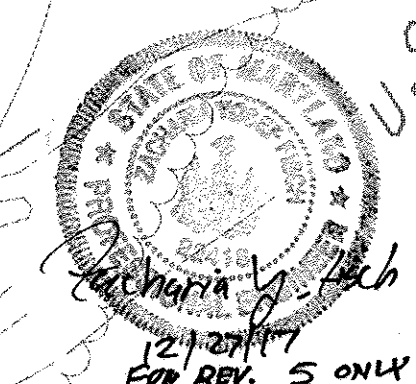
NO.	DESCRIPTION	DATE
1	AS PER COUNTY COMMENTS	7-27-92
2	AS PER DPZ COMMENTS	10/1/93
3	ADDED CULVERT, MOVED PATHWAY, REVISED GRADING	1/1/94
4	CARTPATHS, FAIRWAY, GREENS, TEES	10/6/94
5	REVISE SHEET NUMBER	12/20/97

prepared by **RON PRICHARD**
 Golf Architect
 10600 SIX PINES DRIVE
 THE WOODLANDS, TEXAS 77380
 (713) 292-1902
 1730 WALTON ROAD, SUITE 300
 BLUE BELL, PA. 19422
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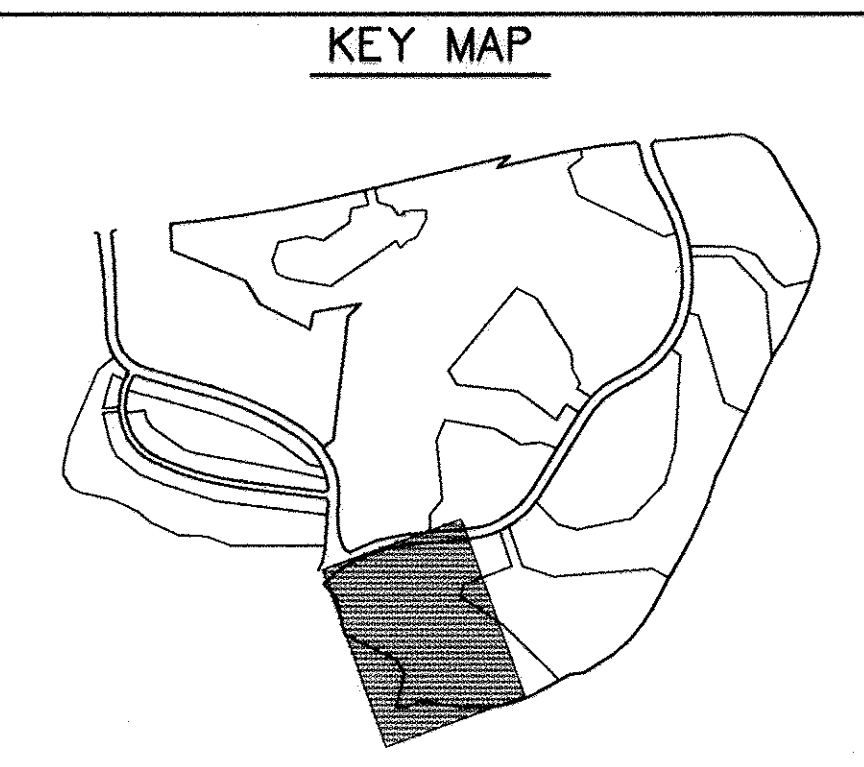
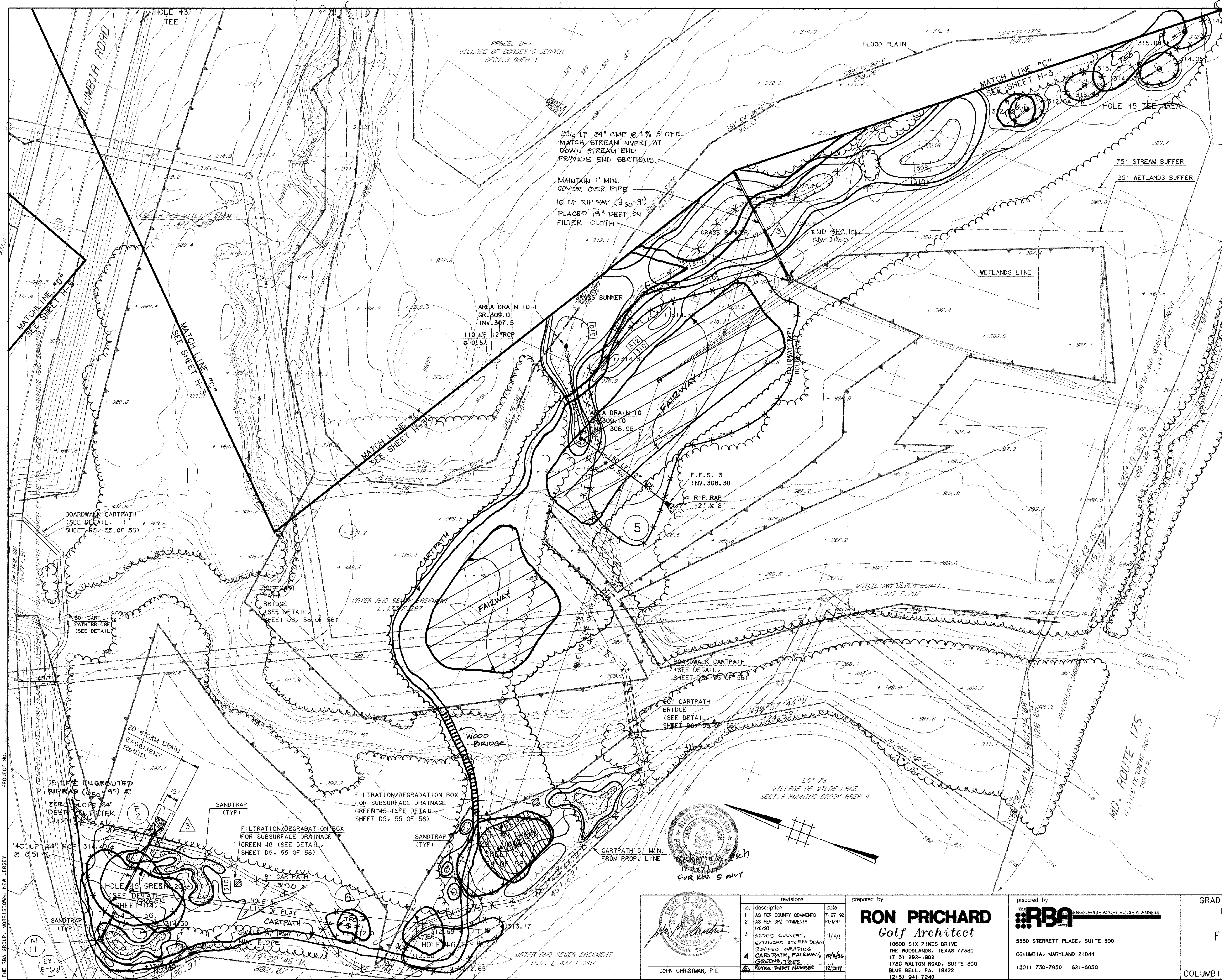
prepared by **RBA**
 ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

GRADING AND DRAINAGE PLAN
 HOLE #3 & HOLE #4
 SCALE 1" = 50'
 DRAWN: MBB
 CHECKED: JJB
 PROJ. NO. M0405
 DATE: 9-9-91
H-3
 COLUMBIA MARYLAND
 SHEET 7 OF 61

PROJECT NO. SDP-92-104
 THE RBA GROUP, MORRISTOWN, NEW JERSEY



SDP-92-104



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE	+ 350.0	+ 350.0
WOODED AREA		TO REMAIN
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER		
RETAINING WALL		
EXISTING STREAM		
EXISTING PROPERTY LINE		
EXISTING EASEMENT LINES		

APPROVED
PLANNING BOARD
 OF HOWARD COUNTY
 DATE 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS,
 DIRECTOR James M. Moran 11/2/93 DATE
 CHIEF, BUREAU OF ENGINEERING Charles J. Deaton 11/1/93 DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 DIRECTOR Robert A. Long 11/1/93 DATE
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT Gina M. Murray 11/10/93 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
 HOWARD COUNTY HEALTH DEPARTMENT.
Joyce M. Boyd 11/5/93 DATE
 COUNTY HEALTH OFFICER

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD, 21045

DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD, 21045

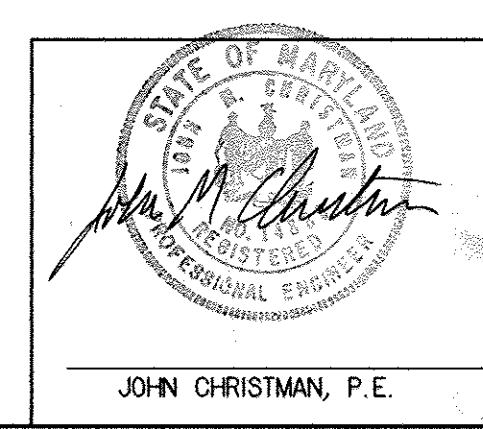
ADDRESS CHART

BUILDING	STREET ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD
LOT1-MAINT.BLDG.	5280 COLUMBIA ROAD

SUBDIVISION NAME: VML 9/3, LOT39
 VML 9/4, LOTS 33555-TC-9/1, LOT30
 & VDS, 3/1, LOTS 1, 2 & 4
 PLAT 9/1 & 3/1 33-39 & 55

BLOCK: 30 TAX: 51h ELEC. DIST: 6054

WATER CODE: SEWER CODE:



revisions

no.	description	date
1	AS PER COUNTY COMMENTS	7-27-92
2	AS PER DPZ COMMENTS	10/1/93
3	ADDED CULVERT, EXTENDED STORM DRAIN, REVISED GRADING	4/1/94
4	CARTPATH, FAIRWAY, GREENS, TEES	10/6/96
5	REVISE SHEET NUMBER	12/20/97

prepared by
RON PRICHARD
 Golf Architect
 10600 SIX PINES DRIVE
 THE WOODLANDS, TEXAS 77380
 (713) 292-1902
 1730 WALTON ROAD, SUITE 300
 BLUE BELL, PA. 19422
 (215) 941-7240

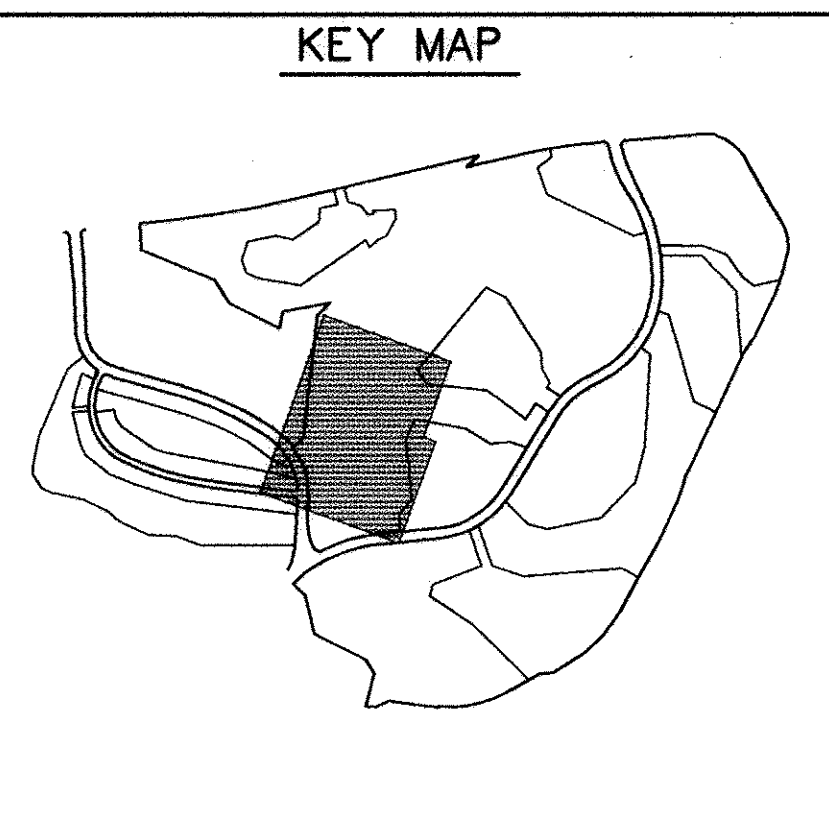
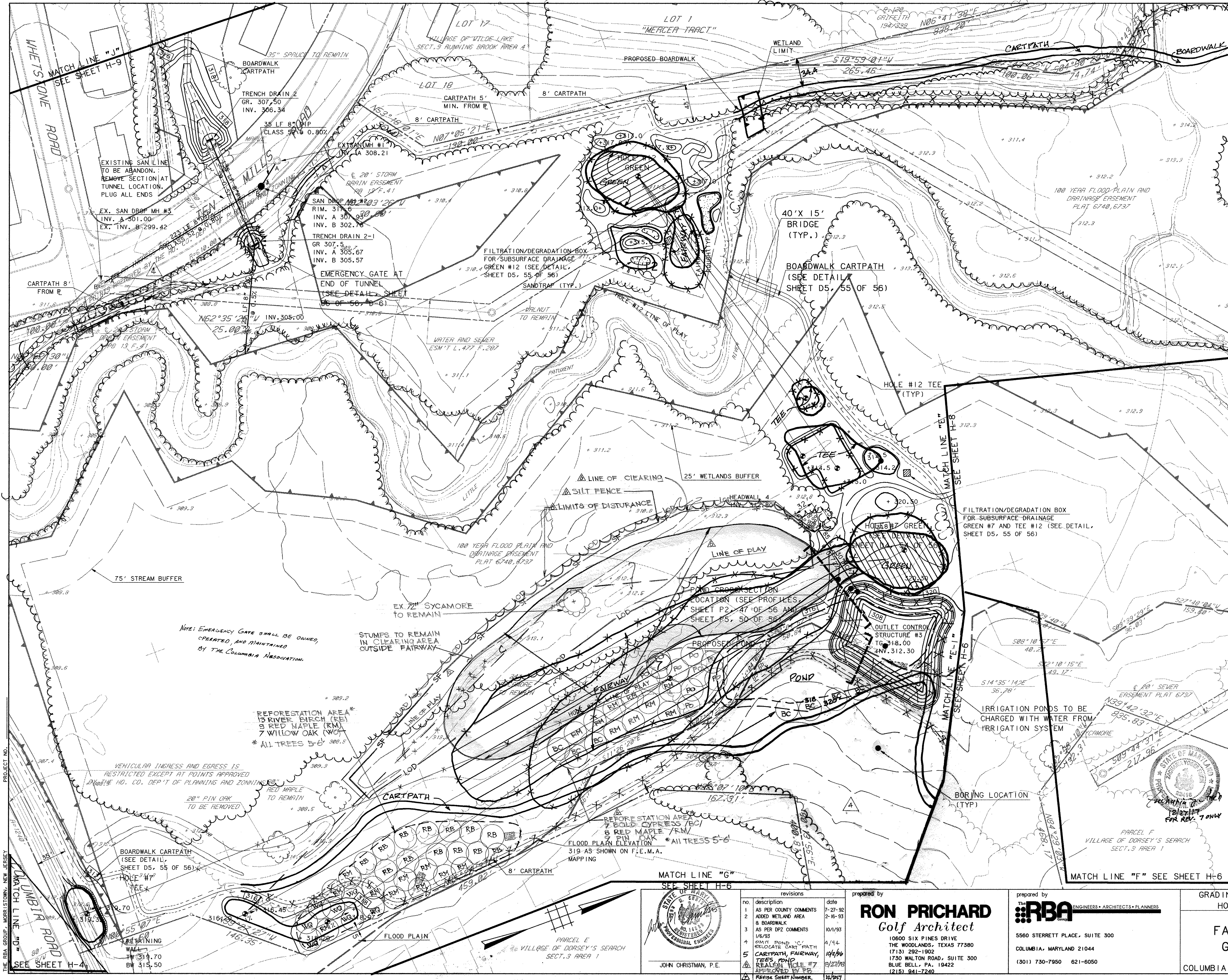
prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

GRADING AND DRAINAGE PLAN
 HOLE #5 & HOLE #6

SCALE 1" = 50'

DRAWN: MBB CHECKED: JJB
 PROJ. NO: M0405 DATE: 9-9-91
H-4
 SHEET 8 OF 61

COLUMBIA MARYLAND



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE	+ 358.8	+ 350.0
WOODED AREA		TO REMAIN
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER		
RETAINING WALL		
EXISTING STREAM		
EXISTING PROPERTY LINE		
EXISTING EASEMENT LINE		
BORING LOCATION		

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
 DATE 2-2-93

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS,
 DIRECTOR *James M. Shaw* 11/2/93 DATE
 CHIEF, BUREAU OF ENGINEERING *Charles Egan* 11/1/93 DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 DIRECTOR *Martha J. Lawler* 4/1/92 DATE
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT *Gina Summary* 11/10/93 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
 HOWARD COUNTY HEALTH DEPARTMENT.
 COUNTY HEALTH OFFICER *Joyce M. Boudreau* 11/5/93 DATE

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING	STREET ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD

SUBDIVISION NAME: VWL 9/3, LOT39, VWL 9/4, LOTS 33855, TC 9/1, LOT30 & VOS 3/1, LOTS 1, 2, 4, 4 PLAT

SECTION/AREA: 9/1 & 3/1

LOT/PARCEL: LOTS 1, 2, 3, 33, 38 & 55

TAX/ZONE MAP: 30

ELEC. DIST: 51h

CENSUS TR.: 6054

WATER CODE: _____

SEWER CODE: _____

PROJECT NO. _____

THE RBA GROUP, MORRISTOWN, NEW JERSEY

NOTE: EMERGENCY GATE SHALL BE OWNED, OPERATED, AND MAINTAINED BY THE COLUMBIA ASSOCIATION.

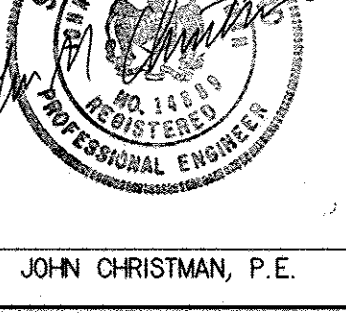
STUMPS TO REMAIN IN CLEARING AREA OUTSIDE FAIRWAY

REFORESTATION AREA
 15 RIVER BIRCH (RB)
 3 RED MAPLE (RM)
 7 WILLOW OAK (WO)
 * ALL TREES 5'-6'

REFORESTATION AREA
 7 BOLD CYPRESS (BC)
 8 RED MAPLE (RM)
 2 PIN OAK (PO)
 * ALL TREES 5'-6'

FLOOD PLAIN ELEVATION
 319 AS SHOWN ON F.I.E.M.A. MAPPING

MATCH LINE "G" SEE SHEET H-6



revisions

no.	description	date
1	AS PER COUNTY COMMENTS	7-27-92
2	ADDED WETLAND AREA	2-16-93
3	AS PER DPZ COMMENTS	10/1/93
4	DPZ COMMENTS	1/6/93
5	RELOCATE CART PATH	4/4
6	CARTPATH, FAIRWAY, TEES, POND	10/2/96
7	REALIGN FAIRWAY #7	3/27/98
8	APPROVED BY DPZ	
9	REVISE SHEET NUMBER	12/2/97

prepared by
RON PRICHARD
 Golf Architect
 10600 SIX PINES DRIVE
 THE WOODLANDS, TEXAS 77380
 (713) 292-1902
 1730 WALTON ROAD, SUITE 300
 BLUE BELL, PA. 19422
 (215) 941-7240

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

GRADING AND DRAINAGE PLAN
 HOLE #7 & HOLE #12

SCALE 1" = 50'

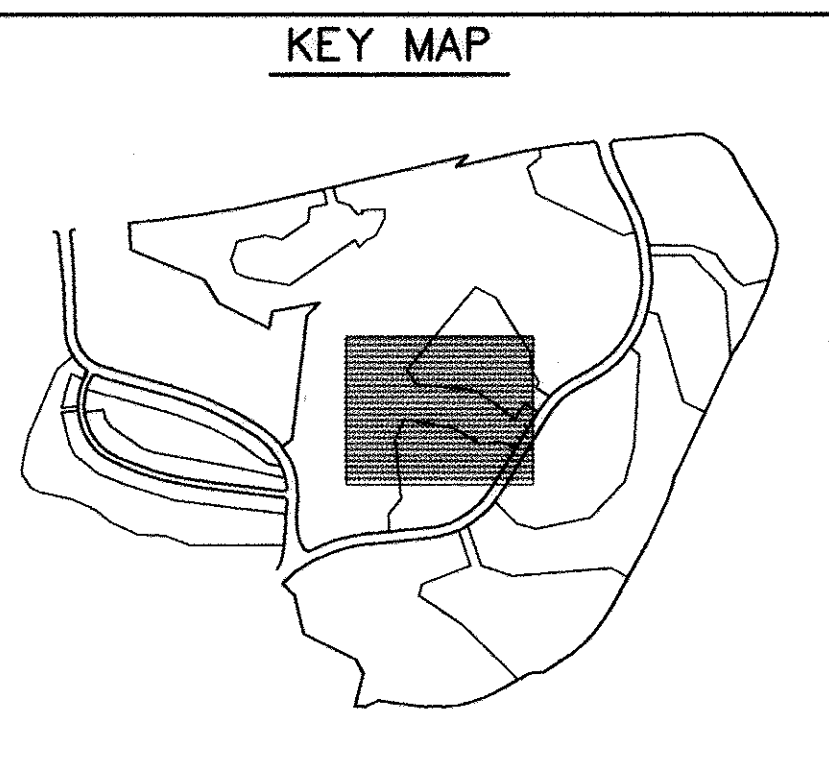
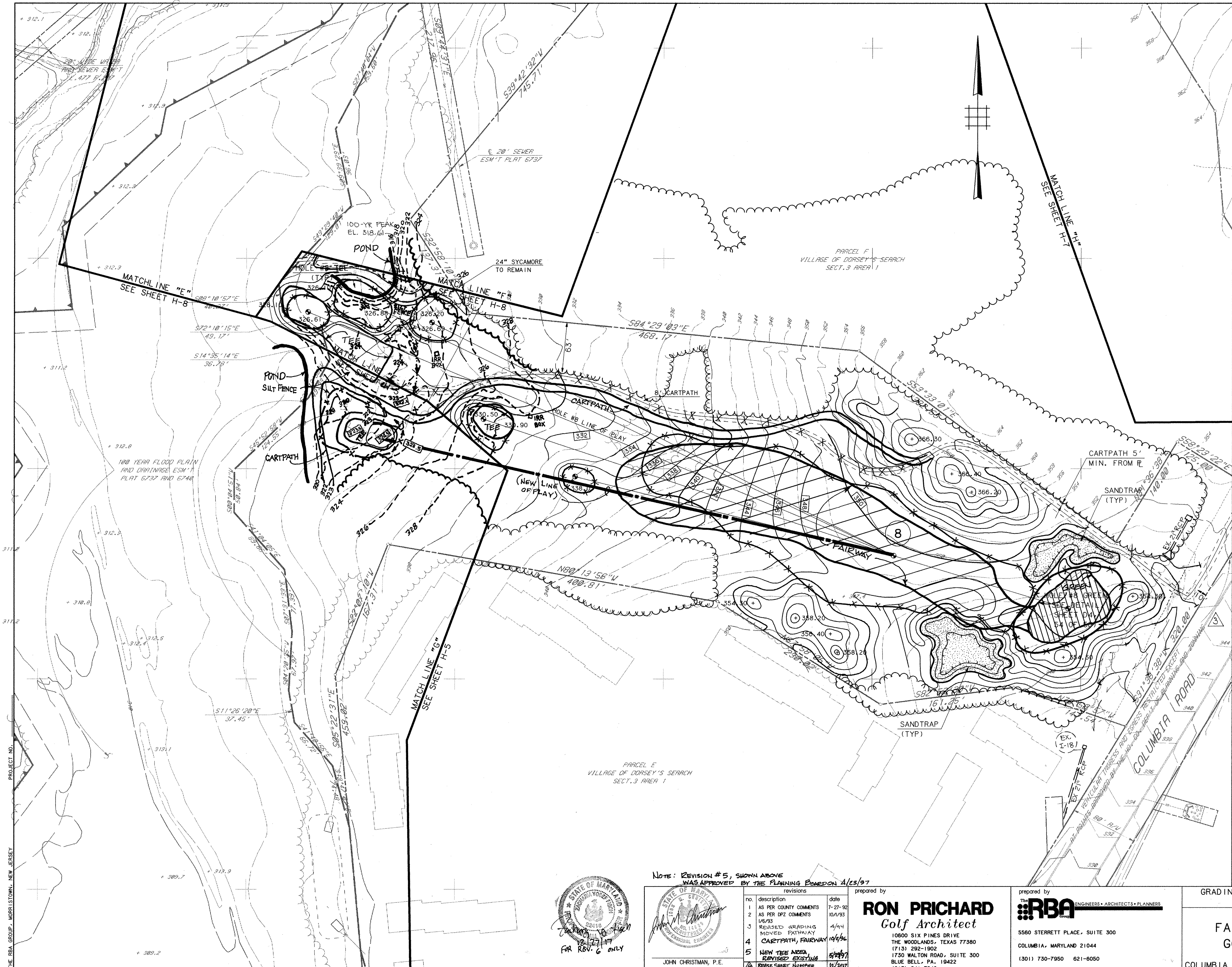
DRAWN: MBB
 CHECKED: JUB

PROJ. NO. M0405
 DATE 9-9-91

H-5

COLUMBIA MARYLAND
 SHEET 9 OF 61

SDP-92-104



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE	+ 358.0	+ 350.0
WOODED AREA		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER		
RETAINING WALL		
EXISTING STREAM		
EXISTING PROPERTY LINE		
EXISTING EASEMENT LINE		

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
 DATE 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
James M. Shaw 11/2/93
 DIRECTOR DATE
Philip Deegan 11/1/93
 CHIEF, BUREAU OF ENGINEERING DATE
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Mark J. Taylor 11/16/93
 DIRECTOR DATE
Gina Szymanski 11/10/93
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
Joyce M. Boyd 11/5/93
 COUNTY HEALTH OFFICER DATE

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD, 21045
 DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD, 21045

ADDRESS CHART

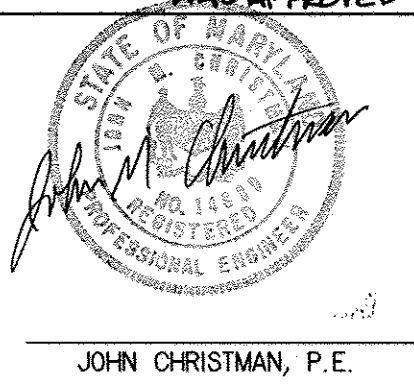
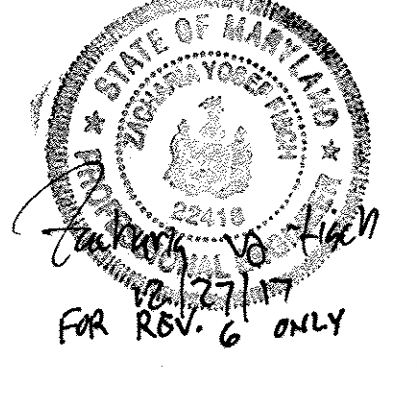
BUILDING	STREET	ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD	
LOT1-MAINT.BLDG	5280 COLUMBIA ROAD	

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL
VILL. 9/4/4 LOTS 33855-10, 3/1, LOT 30	9/1 & 3/1	LOTS 1, 2, 3, & 4
VDS. 3/1, LOTS 1, 2 & 4	9/1 & 3/1	33-39 & 55

PLAT	BLOCK ZONE	TAX ZONE MAP	ELEC. DIST.	CENSUS TR.
8, 9, 10, 11, 12, 13, 14, 15 & COMM	30	5th	6054	

WATER CODE _____ SEWER CODE _____

NOTE: REVISION #5, SHOWN ABOVE WAS APPROVED BY THE PLANNING BOARD 4/13/97



revisions prepared by

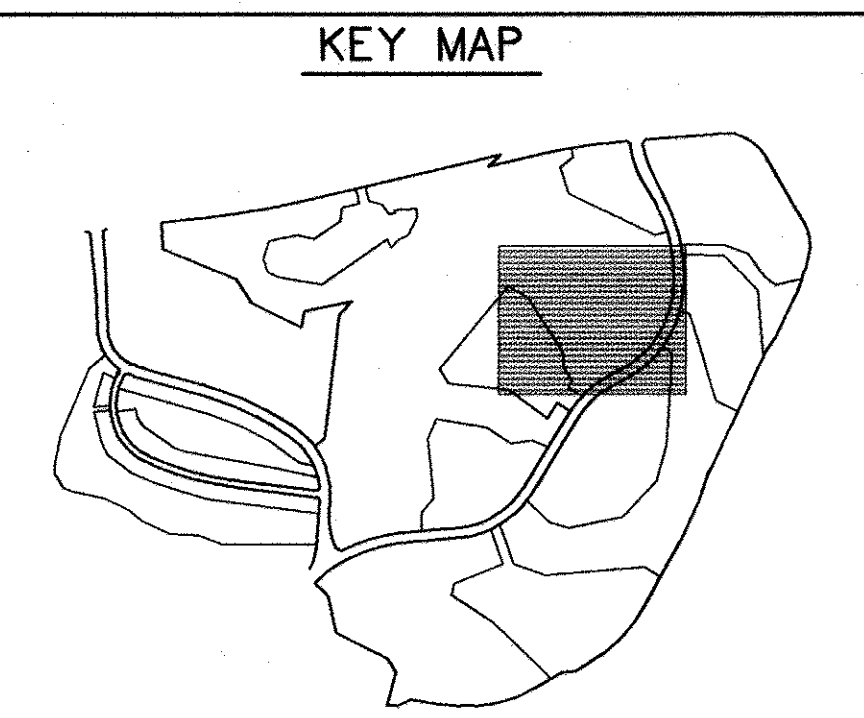
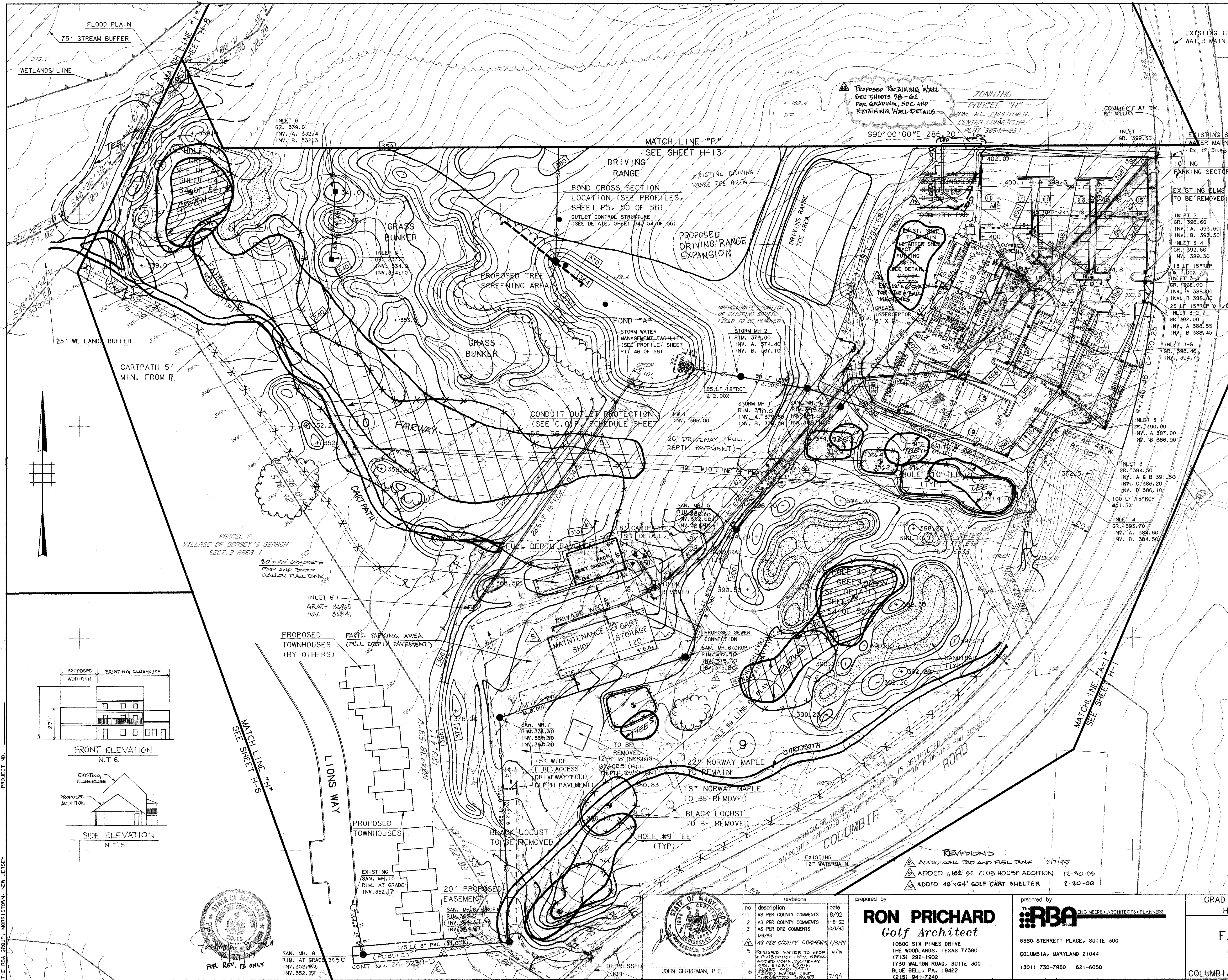
no.	description	date
1	AS PER COUNTY COMMENTS	7-27-92
2	AS PER DPZ COMMENTS	10/1/93
3	REVISED GRADING MOVED PATHWAY	4/94
4	CARTPATH, FAIRWAY	10/96
5	NEW TEE AREA, REVISED EXISTING	5/97
6	REVISE SHEET NUMBER	12/2017

RON PRICHARD
 Golf Architect
 10800 SIX PINES DRIVE
 THE WOODLANDS, TEXAS 77380
 (713) 292-1902
 1730 WALTON ROAD, SUITE 300
 BLUE BELL, PA. 19422
 (215) 941-7240

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

GRADING AND DRAINAGE PLAN
 HOLE #8
FAIRWAY HILLS
GOLF COURSE
 COLUMBIA MARYLAND
 SCALE 1" = 50'
 DRAWN MBB CHECKED JJB
 PROJ. NO. M0405 DATE 9-9-91
H-6
 SHEET 10 OF 61

SDP-92-104



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE		
WOODED AREA		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER		
EXISTING STREAM		
EXISTING PROPERTY LINE		
EXISTING EASEMENT LINE		
BORING LOCATION		

APPROVED PLANNING BOARD OF HOWARD COUNTY
DATE 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS,
James M. Sheen 11/2/93
DIRECTOR DATE
Charles Deason 11/1/93
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Frank DeAngelis 1/16/93
DIRECTOR DATE
Gina Stumm 1/10/93
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
Joyce M. Boyd and per Jim 11/5/93
COUNTY HEALTH OFFICER DATE

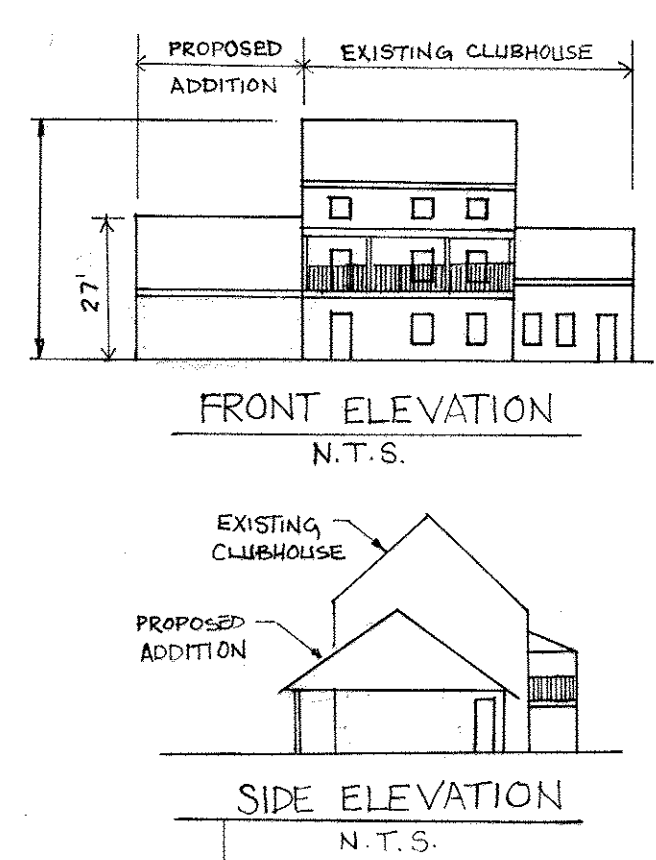
OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD, 21045

DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD, 21045

ADDRESS CHART

BUILDING	STREET	ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD	
LOT1-MAINT.BLDG.	5280 COLUMBIA ROAD	

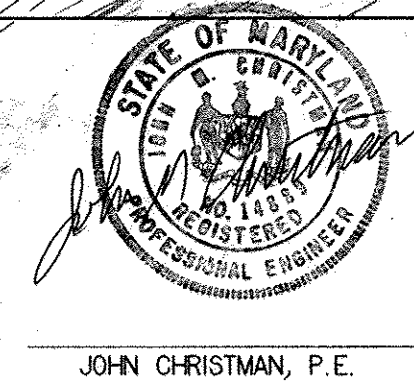
SUBDIVISION NAME	V.L.	9/3, LOT30	SECTION/AREA	9/3, 9/4	LOT/PARCEL
W.V.L. 9/4, LOTS 33855-10-9/11, LOT30					17, 2, 3
W.V.D.S. 3/1, LOTS 1, 2, 3, 4					33, 39 & 55



- REVISIONS**
- ADDED CONC PAD AND FUEL TANK 2/1/93
 - ADDED 1,182 SF CLUB HOUSE ADDITION 12-30-93
 - ADDED 40'x24' GOLF CART SHELTER 2-20-93

PROJECT NO. _____

THE RBA GROUP, MORRISTOWN, NEW JERSEY



revisions

NO.	DESCRIPTION	DATE
1	AS PER COUNTY COMMENTS	8/92
2	AS PER COUNTY COMMENTS	1-6-92
3	AS PER DPZ COMMENTS	10/1/93
4	AS PER COUNTY COMMENTS	1/3/94
5	REVISED WATER TO SHOP & CLUBHOUSE	4/94
6	ADDED WATER LINE	7/94
7	ADDED PORCH LIGHTING	7/94
8	ADDED DRIVEWAY	10/2/96
9	ADDED DRIVEWAY	10/2/96
10	ADDED DRIVEWAY	10/2/96

prepared by
RON PRICHARD
Golf Architect
10600 SIX PINES DRIVE
THE WOODLANDS, TEXAS 77380
(713) 292-1902
1750 WALTON ROAD, SUITE 300
BLUE BELL, PA. 19422
(215) 941-7240

prepared by
RBA
ENGINEERS • ARCHITECTS • PLANNERS
5560 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7950 621-6050

GRADING AND DRAINAGE PLAN
HOLE #9 & HOLE #10

SCALE 1" = 50'

FAIRWAY HILLS
GOLF COURSE

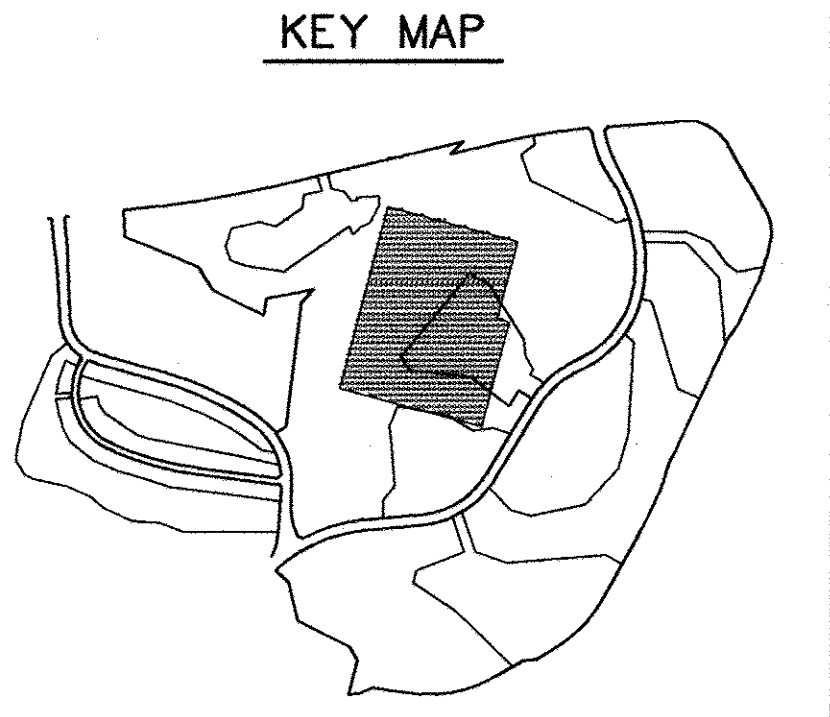
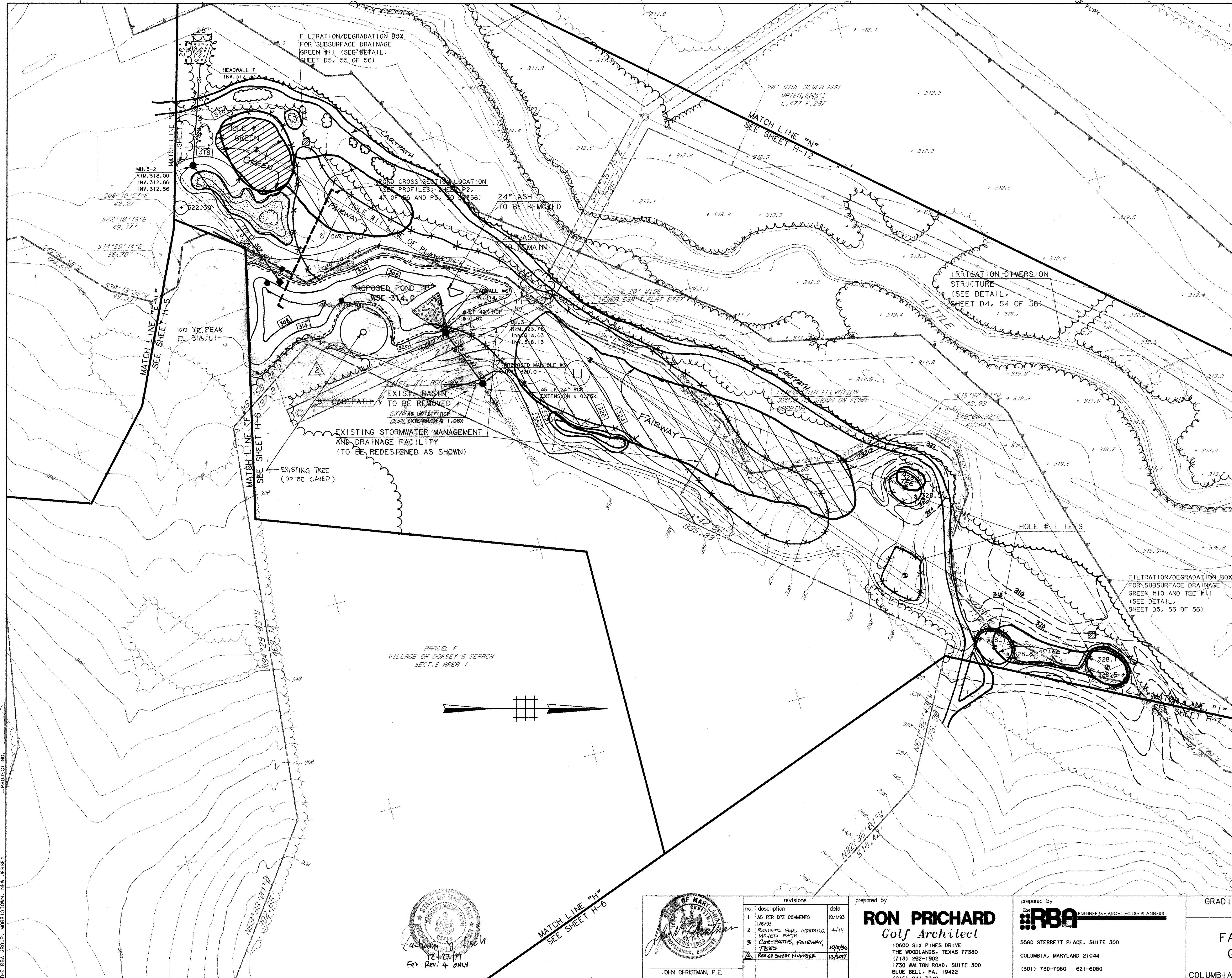
COLUMBIA MARYLAND

PROJ. NO. M0405 DATE 9-9-91

H-7

SHEET 11 OF 11

SDP-92-104



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE	+ 350.8	+ 350.0
WOODED AREA		TO REMAIN
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER		
RETAINING WALL		
EXISTING STREAM		
EXISTING PROPERTY LINE		
EXISTING EASEMENT LINE		
BORING LOCATION		

APPROVED
PLANNING BOARD
 OF HOWARD COUNTY
 DATE **2-2-93**

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 James H. [Signature] 11/2/93 DATE
 [Signature] 11/1/93 DATE
 CHIEF BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 [Signature] 11/1/93 DATE
 [Signature] 11/10/93 DATE
 CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
 [Signature] 11/5/93 DATE
 COUNTY HEALTH OFFICER

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

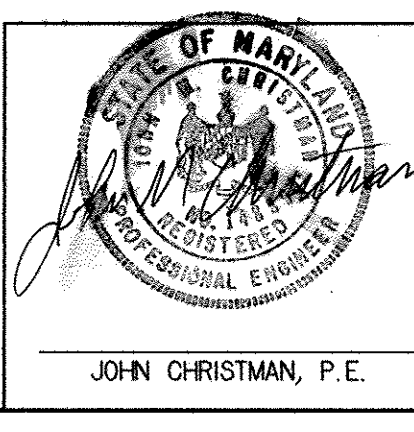
DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING	STREET ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD

SUBDIVISION NAME	SECTION/AREA	PLAT	LOT
VWL-9/3, LOT39, VWL-9/4, LOTS 33855, TC-9/1, LOT30 & VDS-311, LOTS 1, 2 & 4	9/3, 9/4, 9/1 & 3/11	33, 35 & 55	1, 2, 3, 33, 35 & 55
BLOCK/ZONE	TAX/ZONE MAP	ELEC. DIST.	CENSUS TR.
B-9, 10, 11, 12, 13, 14, 15 (B COMM)	30	51h	6054

GRADING AND DRAINAGE PLAN		SCALE	
HOLE #11		1" = 50'	
DRAWN	MBB	CHECKED	JJB
PROJ. NO.	M0405	DATE	9-9-91
H-8		SHEET 12 OF 61	
COLUMBIA	MARYLAND		



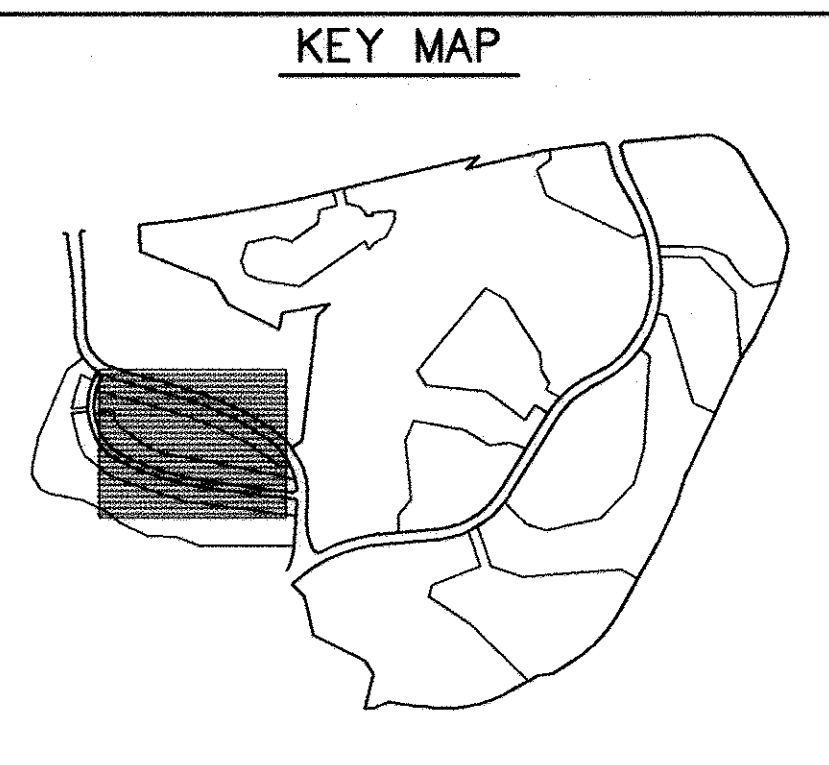
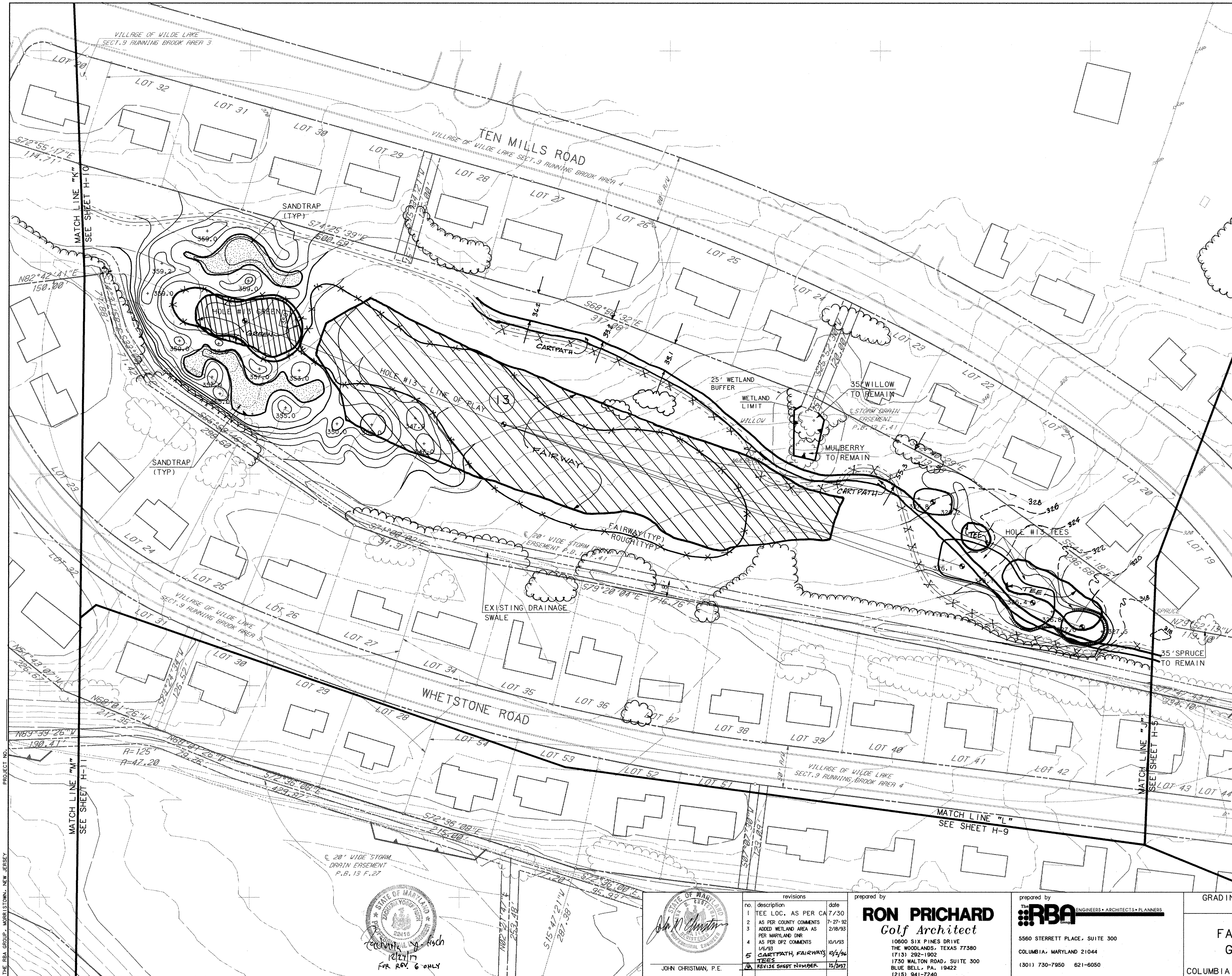
no.	description	date
1	AS PER DPZ COMMENTS	10/1/93
2	REVISED POND GRADING MOVED PATH	4/94
3	CARTPATHS, FAIRWAY, TEES	10/2/96
4	REVISE SHEET NUMBER	12/20/97

prepared by
RON PRICHARD
 Golf Architect
 10600 SIX PINES DRIVE
 THE WOODLANDS, TEXAS 77380
 (713) 292-1902
 1730 WALTON ROAD, SUITE 300
 BLUE BELL, PA. 19422
 (215) 941-7240

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

STATE OF MARYLAND
 JOHN CHRISTMAN, P.E.
 12/27/97
 FOR REV. 4 ONLY

PROJECT NO. THE RBA GROUP - MORRISTOWN, NEW JERSEY



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE		
WOODED AREA		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER		
RETAINING WALL		
EXISTING STREAM		
EXISTING PROPERTY LINE		
EXISTING EASEMENT LINE		

APPROVED
PLANNING BOARD
 OF HOWARD COUNTY
 DATE **2-2-93**

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 DIRECTOR: *James H. [Signature]* DATE: 11/6/93
 CHIEF: BUREAU OF ENGINEERING DATE: 11/1/93
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 DIRECTOR: *Paul A. [Signature]* DATE: 11/10/93
 CHIEF: DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE: 11/10/93

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
 COUNTY HEALTH OFFICER: *Joyce M. [Signature]* DATE: 11/5/93

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
 DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
 ADDRESS CHART

BUILDING	STREET ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL
VWL 9/3, LOTS 39, 40, 41, 42, 43, 44	9/3, 9/4, 9/1, 9/2, 9/3, 9/4	LOTS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44

WATER CODE	SEWER CODE

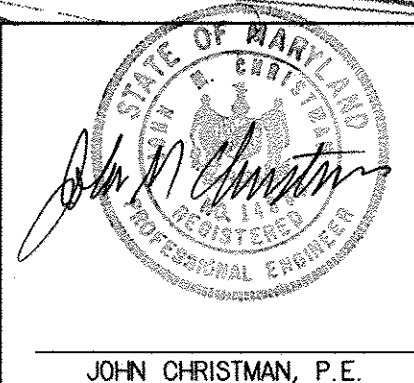
GRADING AND DRAINAGE PLAN
 HOLE #13

SCALE 1" = 50'

DRAWN: MBB
 CHECKED: JJB
 PROJ. NO. M0405
 DATE 9-9-91

H-9
 SHEET 13 OF 61

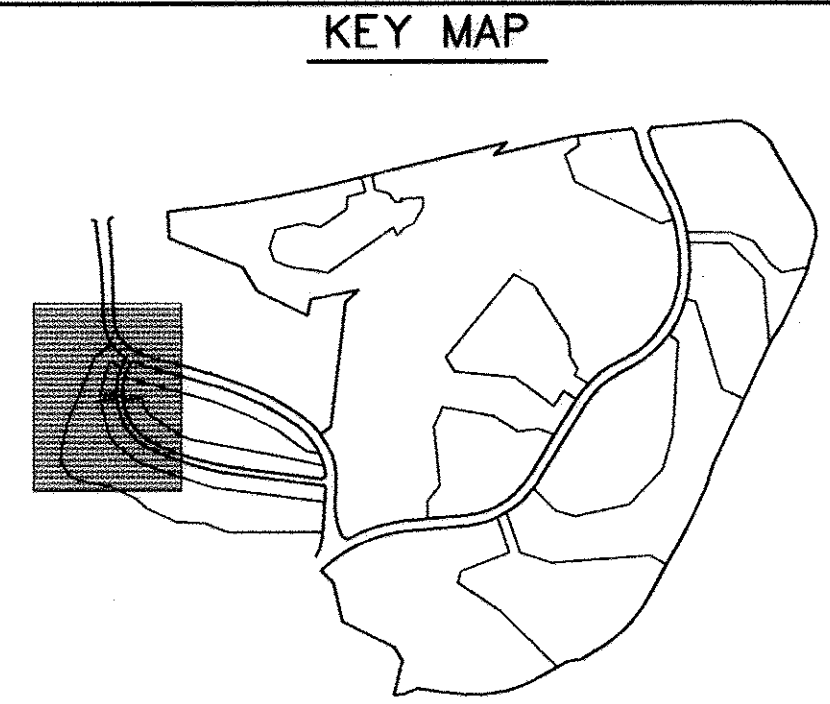
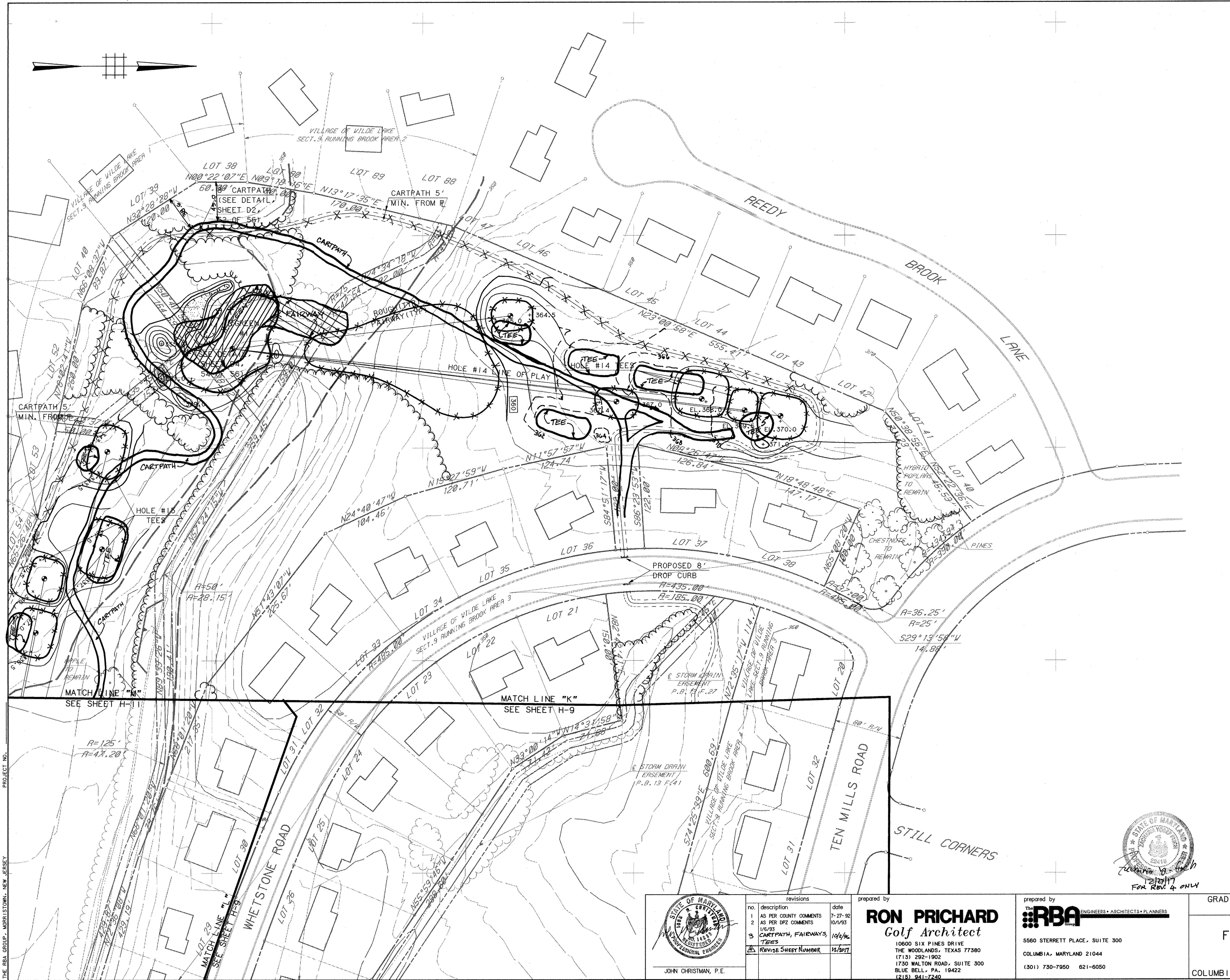
COLUMBIA MARYLAND



no.	description	revisions	date
1	TEE LOC. AS PER CA		7/30
2	AS PER COUNTY COMMENTS		7-27-92
3	ADDED WETLAND AREA AS PER MARYLAND DNR		2/18/93
4	AS PER DPZ COMMENTS		10/1/93
5	CARTPATH, FAIRWAYS, TEES		10/2/94
6	REVISE SHEET NUMBER		12/2/97

prepared by
RON PRICHARD
 Golf Architect
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 BLUE BELL, PA. 19422
 (215) 941-7240

prepared by
RBA
 ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE	+ 350.0	+ 350.0
WOODED AREA		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER		
RETAINING WALL		
EXISTING STREAM		
EXISTING PROPERTY LINE		
EXISTING EASEMENT LINE		

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS,
 DIRECTOR *James M. Low* 11/2/93 DATE
 CHIEF, BUREAU OF ENGINEERING *Paul D. Deegan* 11/1/93 DATE
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 DIRECTOR *Paul D. Deegan* 11/2/93 DATE
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT *Gina Summary* 11/10/93 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
 COUNTY HEALTH OFFICER *Joyce M. Ford* per *J.M.* 11/5/93 DATE

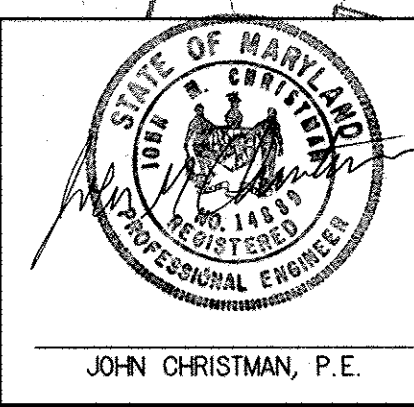
OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD, 21045
 DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD, 21045

ADDRESS CHART

BUILDING	STREET	ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD	
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD	

SUBDIVISION NAME: VWL 9/3, LOT 30
 VWL 9/4, LOTS 33, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
 PLAT: 9/1 & 3/1 33-39 & 55
 BLOCK: 30
 TAX: 30
 ELEC. DIST.: 51h
 CENSUS TR.: 6054
 WATER CODE: SEWER CODE:

PROJECT NO. THE RBA GROUP, MORRISTOWN, NEW JERSEY



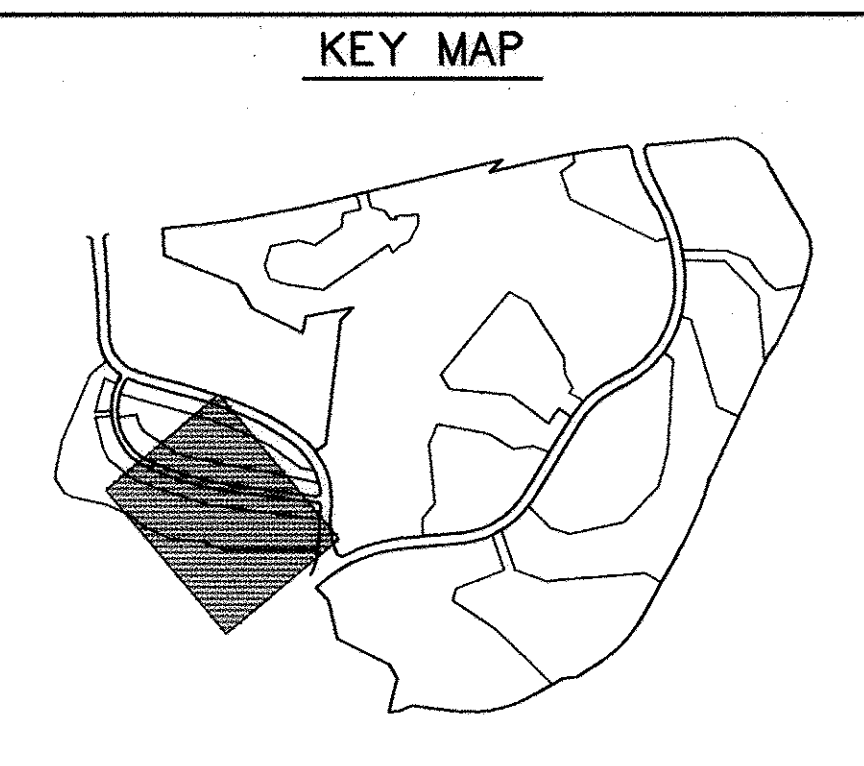
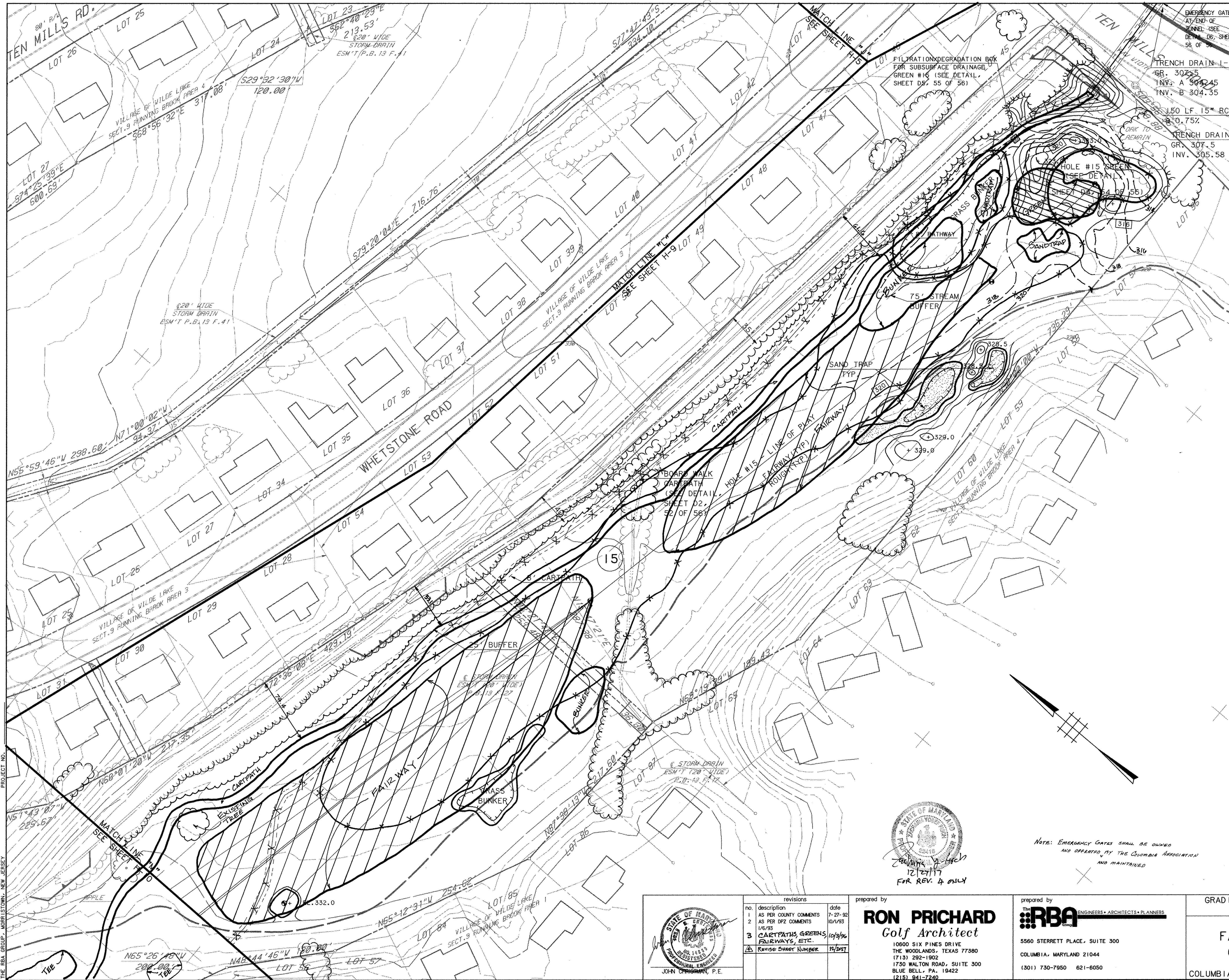
revisions

no.	description	date
1	AS PER COUNTY COMMENTS	7-27-92
2	AS PER DPZ COMMENTS	10/1/93
3	CARTPATH, FAIRWAYS, TEES	10/4/93
4	REVISE SHEET NUMBER	12/2/93

prepared by
RON PRICHARD
 Golf Architect
 10600 SIX PINES DRIVE
 THE WOODLANDS, TEXAS 77380
 (713) 292-1902
 1730 WALTON ROAD, SUITE 300
 BLUE BELL, PA, 19422
 (215) 941-7240

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

GRADING AND DRAINAGE PLAN
 HOLE #14
 SCALE 1" = 50'
 DRAWN: MBB CHECKED: JUB
 PROJ. NO. M0405 DATE 9-9-91
H10
 COLUMBIA MARYLAND SHEET 14 OF 61



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE	$+ 350.0$	$+ 350.0$
WOODED AREA		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER		
RETAINING WALL		
EXISTING STREAM		
EXISTING PROPERTY LINE		
EXISTING EASEMENT LINE		

APPROVED
 PLANNING BOARD
 of HOWARD COUNTY
 DATE **2-2-93**

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS,
 STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS,
 DIRECTOR *James M. Linn* 11/2/92 DATE
 CHIEF, BUREAU OF ENGINEERING *Shirley D. Brown* 11/1/93 DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 DIRECTOR *James M. Linn* 11/2/92 DATE
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT *Gina Summari* 11/10/93 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS,
 HOWARD COUNTY HEALTH DEPARTMENT.
 COUNTY HEALTH OFFICER *Joyce M. Boydland* 11/5/93 DATE

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

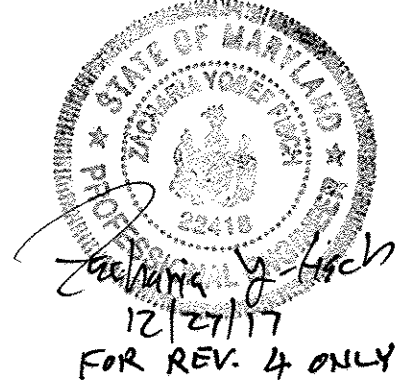
DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

ADDRESS CHART

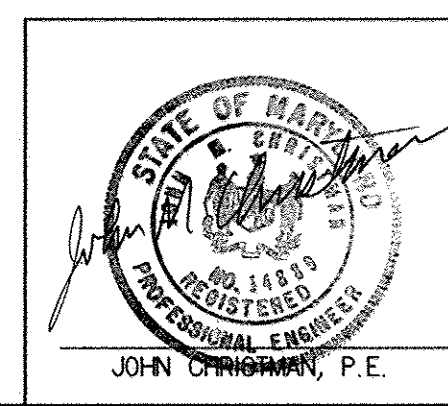
BUILDING	STREET ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD
LOT1-MAINT.BLDG.	5280 COLUMBIA ROAD

SUBDIVISION NAME VWL 9/3, LOT 39
 VWL 9/4, LOTS 38 & 39, TC 9/1, LOT 30
 & NOS. 3/1, LOTS 1, 2, & 4
 PLAT 9/1 & 3/1
 BLOCK ZONE TAX ZONE MAP FILED DIST. CENSUS TR.
 30 51h 6054

WATER CODE SEWER CODE



NOTE: EMERGENCY GATES SHALL BE OWNED AND OPERATED BY THE COLUMBIA ASSOCIATION AND MAINTAINED



revisions

no.	description	date
1	AS PER COUNTY COMMENTS	7-27-92
2	AS PER DPZ COMMENTS	10/1/93
3	CARTPATHS, GREENS, FAIRWAYS, ETC.	10/3/96
4	Revise Sheet Number	12/2/97

prepared by
RON PRICHARD
 Golf Architect
 10600 SIX PINES DRIVE
 THE WOODLANDS, TEXAS 77380
 (713) 292-1902
 1750 WALTON ROAD, SUITE 300
 BLUE BELL, PA. 19422
 (215) 941-7240

prepared by
RBA
 ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

GRADING AND DRAINAGE PLAN
 HOLE #15

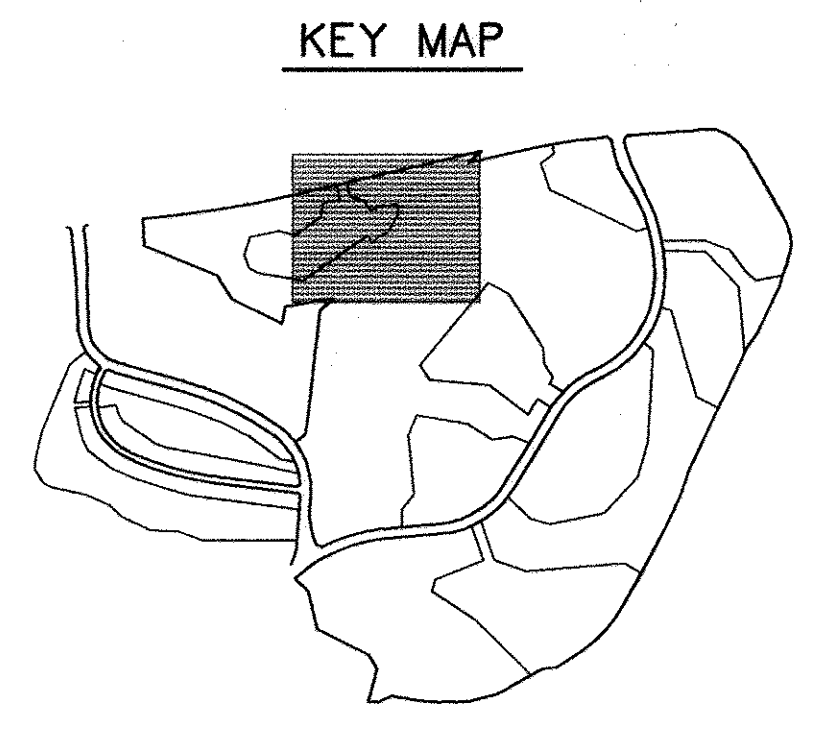
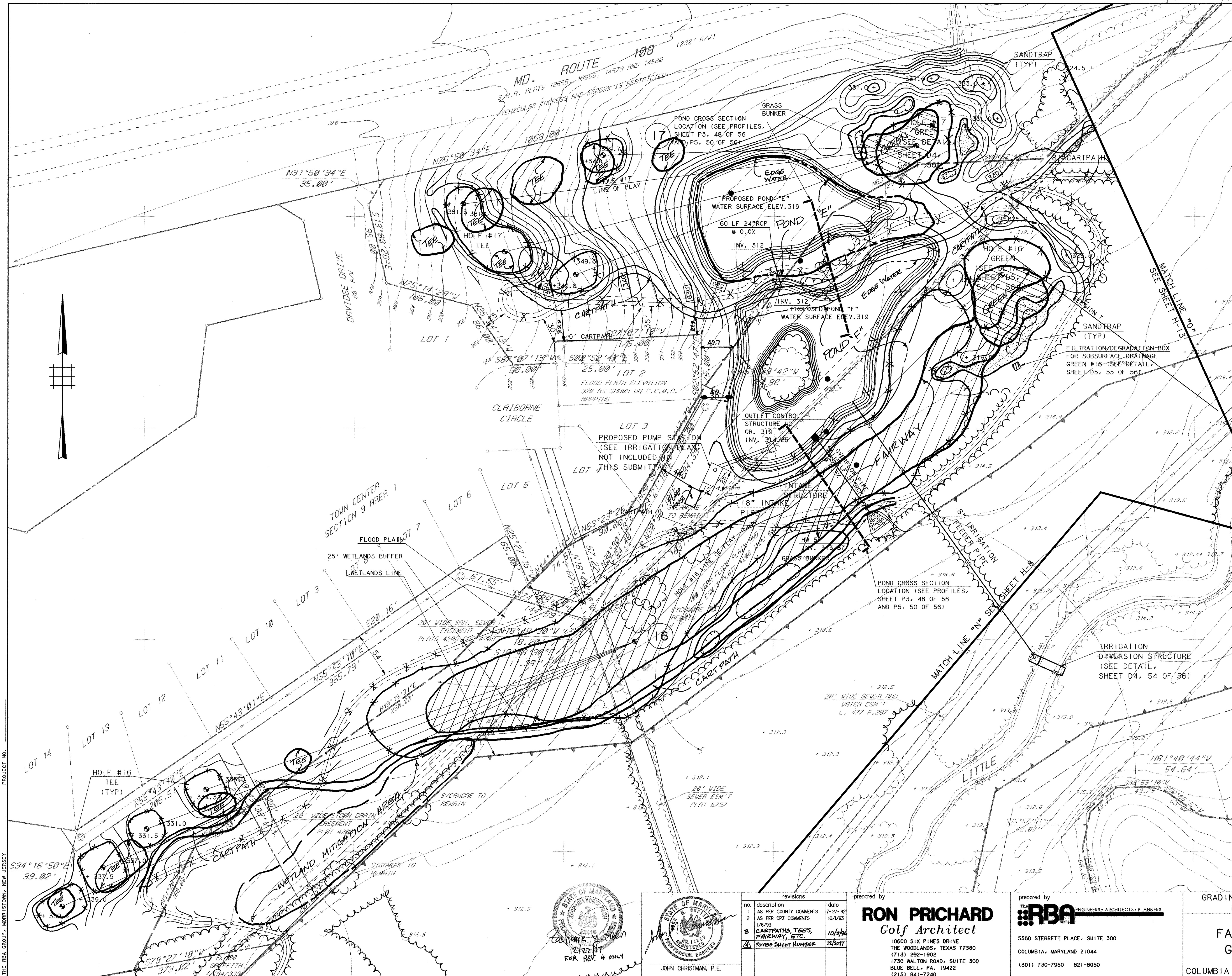
FAIRWAY HILLS GOLF COURSE

COLUMBIA MARYLAND

SCALE 1" = 50'

DRAWN MBB CHECKED JUB
 PROJ. NO. M0405 DATE 9-9-91
H11 SHEET 15 OF 61

SDP-92-104



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE	+ 350.0	+ 350.0
WOODED AREA		TO REMAIN
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER		
EXISTING STREAM		
EXISTING PROPERTY LINE		
EXISTING EASEMENT LINE		
BORING LOCATION		

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC WORKS.
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS,
 DIRECTOR: *[Signature]* DATE: 11/2/93
 CHIEF, BUREAU OF ENGINEERING: *[Signature]* DATE: 11/1/93

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 DIRECTOR: *[Signature]* DATE: 11/2/93
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT: *[Signature]* DATE: 11/10/93

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
[Signature] DATE: 11/5/93
 COUNTY HEALTH OFFICER

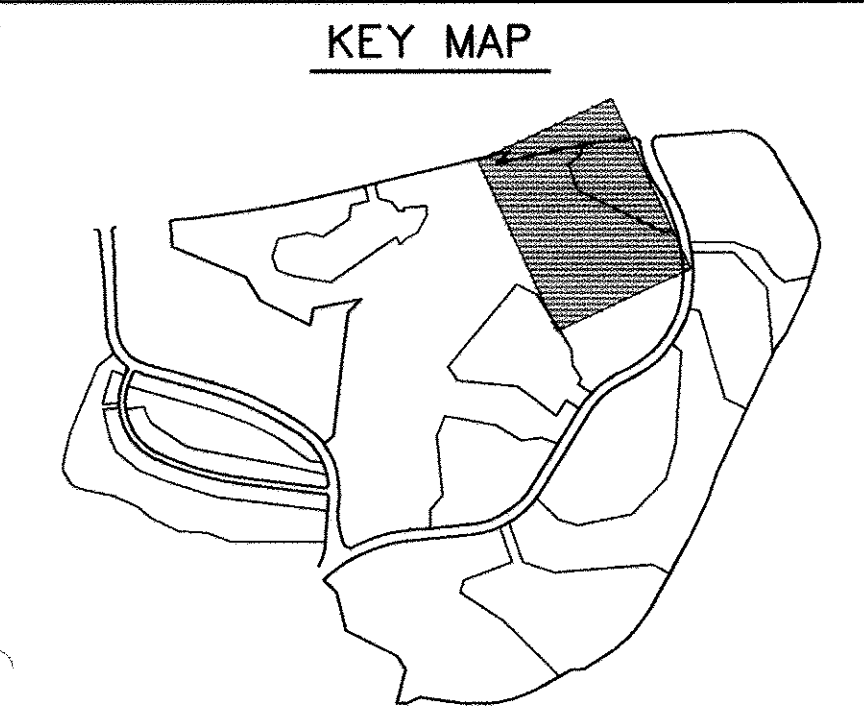
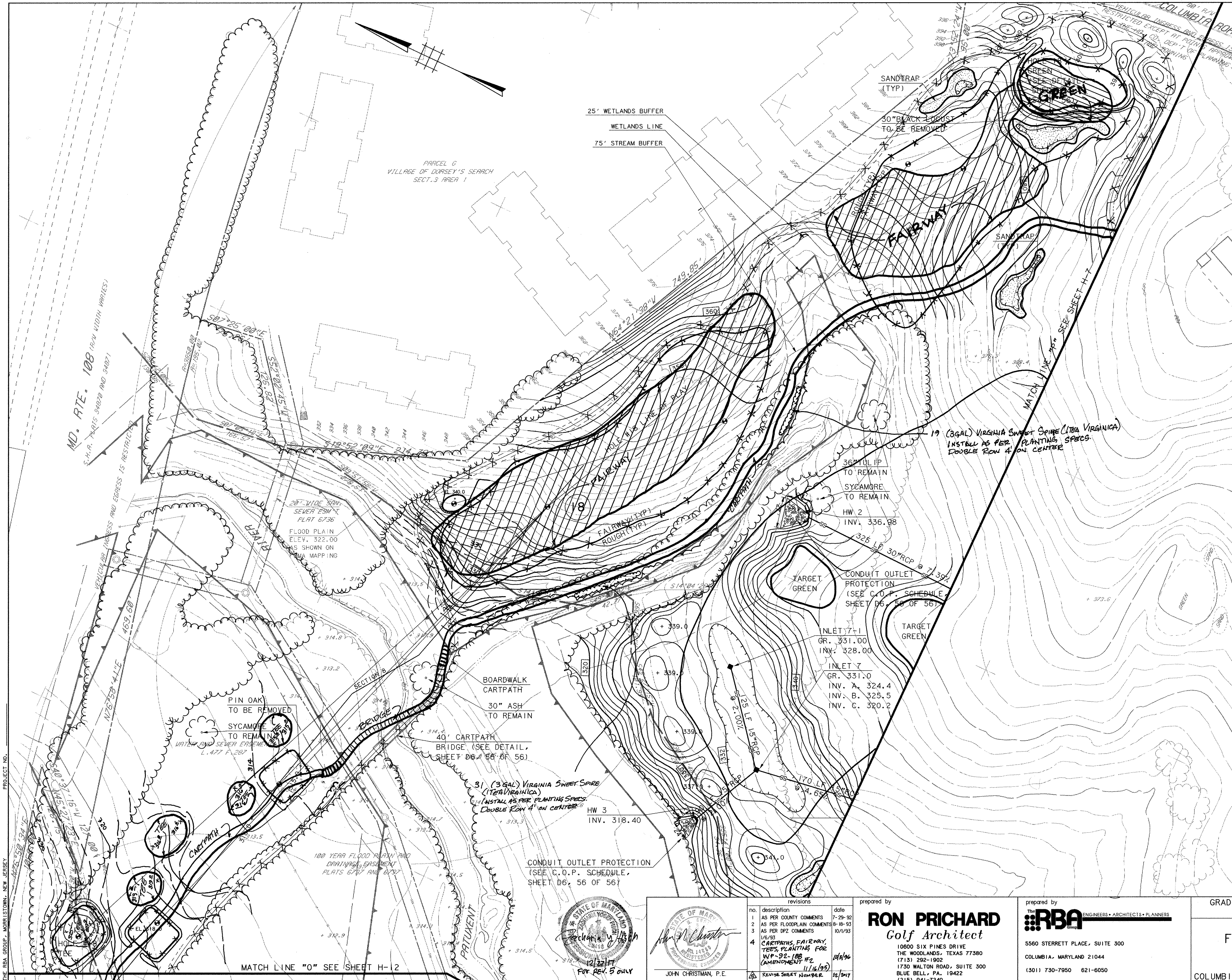
OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING	STREET	ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD	
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD	

SUBDIVISION NAME: VYL 9/3, LOT 39, SECTION/AREA: 9/3, 9/4, LOT/PARCEL: 9/1, LOT 30, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 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1669, 1670, 1671, 1672, 1673, 1674, 1675, 1676, 1677, 1678, 1679, 1680, 1681, 1682, 1683, 1684, 1685, 1686, 1687, 1688, 1689, 1690, 1691, 1692, 1693, 1694, 1695, 1696, 1697, 1698, 1699, 1700, 1701, 1702, 1703, 1704, 1705, 1706, 1707, 1708, 1709, 1710, 1711, 1712, 1713, 1714, 1715, 1716, 1717, 1718, 1719, 1720, 1721, 1722, 1723, 1724, 1725, 1726, 1727, 1728, 1729, 1730, 1731, 1732, 1733, 1734, 1735, 1736, 1737, 1738, 1739, 1740, 1741, 1742, 1743, 1744, 1745, 1746, 1747, 1748, 1749, 1750, 1751, 1752, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1761, 1762, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1770, 1771, 1772, 1773, 1774, 1775, 1776, 1777, 1778, 1779, 1780, 1781, 1782, 1783, 1784, 1785, 1786, 1787, 1788, 1789, 1790, 1791, 1792, 1793, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 201



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE	+ 350.0	+ 350.0
WOODED AREA		TO REMAIN
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER		
RETAINING WALL		
EXISTING STREAM		
EXISTING PROPERTY LINE		
EXISTING EASEMENT LINE		

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
James M. Linn 11/2/93
DIRECTOR DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Glen Williams 11/10/93
DIRECTOR DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
Joyce M. Boyd 11/5/93
COUNTY HEALTH OFFICER DATE

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING	STREET ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD
LOT1-MAIN BLDG.	5280 COLUMBIA ROAD

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL
V.L. 9/4, LOTS 33855, TC 9/1, LOT 30	9/3, 9/4	LOTS 1, 2, 3, & V.D.S. 3/1, LOTS 1, 2 & 4
PLAT	BLOCK ZONE	TAX/ZONE MAP
9, 9, 10, 11, 12, 13, 14, 15 & COMM	30	51h 6054

GRADING AND DRAINAGE PLAN
HOLE #18

SCALE 1" = 50'

DRAWN MBB CHECKED JJB

PROJ. NO. M0405 DATE 9-9-91

H13

SHEET 17 OF 61

PROJECT NO. SDP-92-104

THE RBA GROUP, MORRISTOWN, NEW JERSEY

STATE OF MARYLAND
Professional Engineer
John Christman, P.E.

revisions

no.	description	date
1	AS PER COUNTY COMMENTS	7-29-92
2	AS PER FLOODPLAIN COMMENTS	8-18-93
3	AS PER DPZ COMMENTS	10/1/93
4	CARTPATHS, FAIRWAY, TEES, PLANTING FOR WP-92-108 CEMENTIMENT #2	11/16/93
	REVISE SHEET NUMBER	12/2/93

prepared by
RON PRICHARD
Golf Architect
10800 SIX PINES DRIVE
THE WOODLANDS, TEXAS 77380
(713) 292-1902
1730 WALTON ROAD, SUITE 300
BLUE BELL, PA. 19422
(215) 941-7240

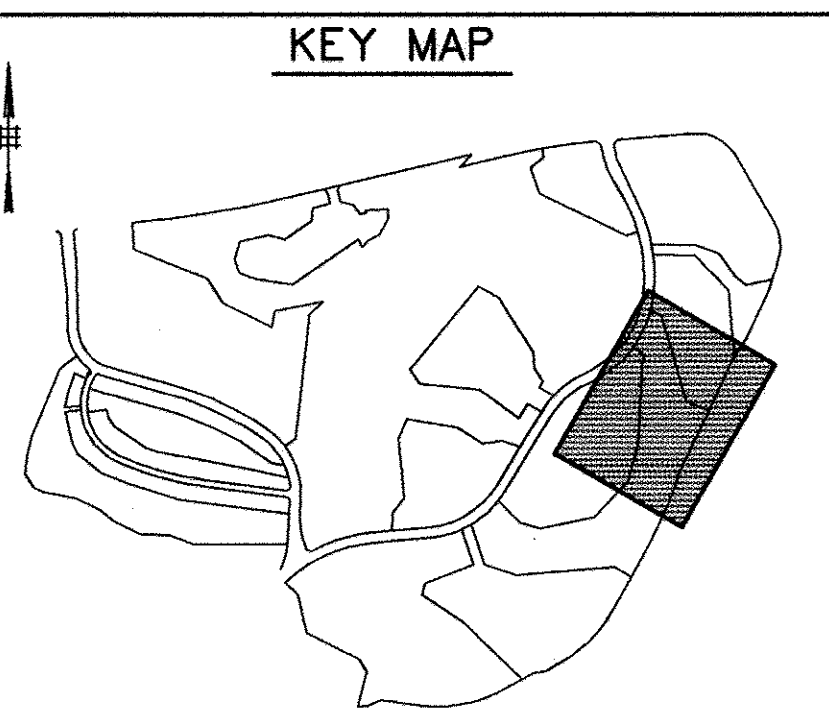
prepared by
RBA
ENGINEERS • ARCHITECTS • PLANNERS
5560 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7950 621-6050

COLUMBIA MARYLAND

SDP-92-104

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS & PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
James M. Lu 11/9/93 DATE
 DIRECTOR
E. Edward Sals, Acting 11/9/93 DATE
 CHIEF, BUREAU OF ENGINEERING
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
David J. Unger 11/10/93 DATE
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
 APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEM HOWARD COUNTY HEALTH DEPARTMENT
Joyce M. Borden 11/10/93 DATE
 COUNTY HEALTH OFFICER

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 2-2-93



ITEM	EXISTING	PROPOSED
CONTOURS	(Solid line)	(Dashed line)
SPOT GRADE	(Circle with number)	(Circle with number)
WOODED AREA	(Cloud-like shape)	(Cloud-like shape with 'TO REMAIN')
SILT FENCE	(Dashed line with 'S')	(Dashed line with 'S')
LIMIT OF DISTURBANCE	(Dashed line)	(Dashed line)
RETAINING WALL	(Dashed line with 'R')	(Dashed line with 'R')
WETLAND LIMIT (25' BUFFER)	(Dashed line with 'W')	(Dashed line with 'W')
100 YR. FLOOD PLAIN	(Dashed line with 'F')	(Dashed line with 'F')
DIVERSION SWALE	(Dashed line with 'D')	(Dashed line with 'D')

RESPONSIBLE PERSONNEL CERTIFICATION
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN AUTHORIZING PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF DEVELOPER
John Christman 10/13/93 DATE
 CERTIFICATION BY THE ENGINEER
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

SIGNATURE OF ENGINEER
John Christman, P.E. 10/13/93 DATE
 THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

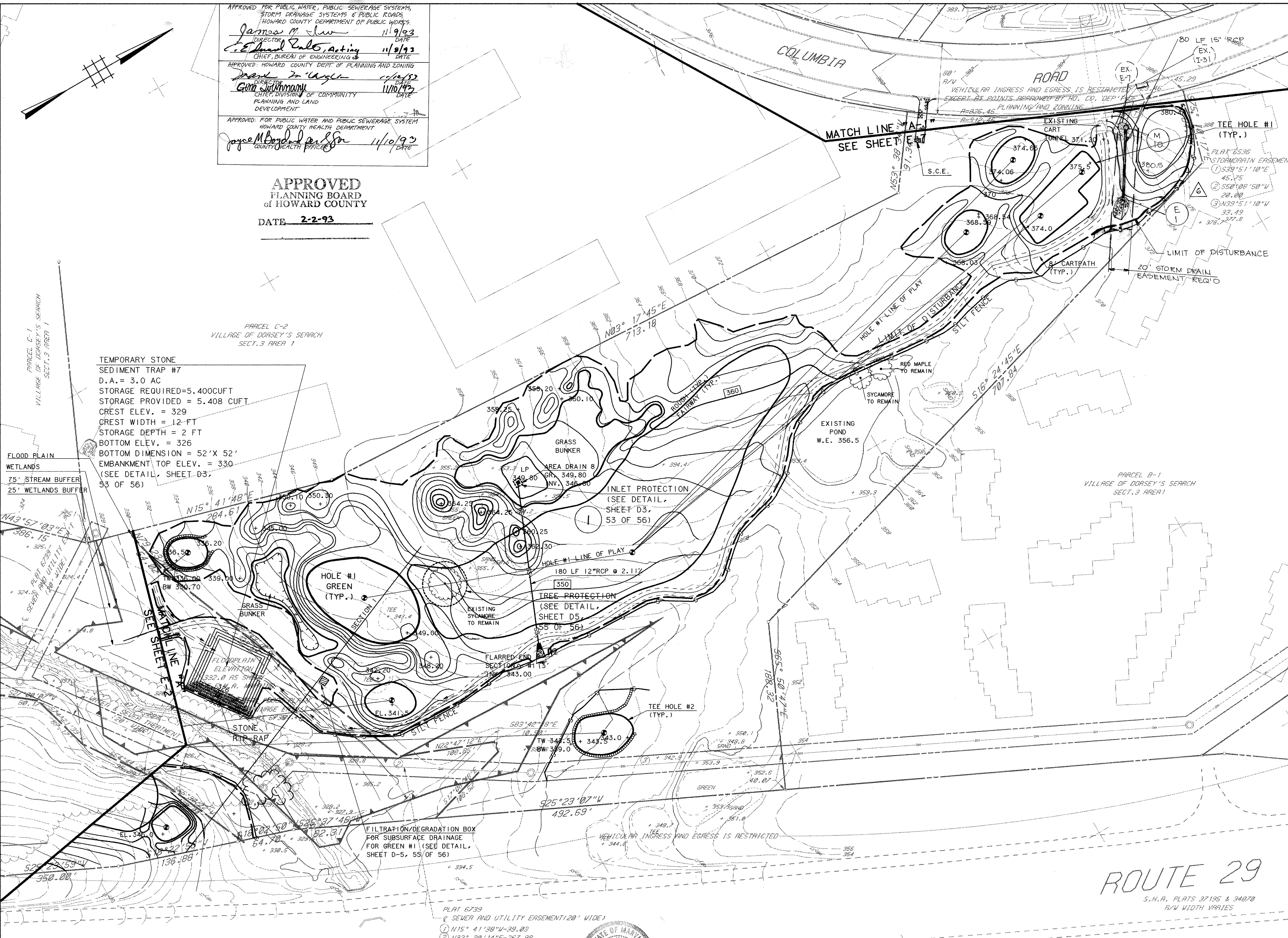
APPROVED: **Robert W. Ziemer** 10/14/93 DATE
 HOWARD S.C.D. MEETS TECHNICAL REQUIREMENTS.

APPROVED: **J. H. Wolf** 10/14/93 DATE
 U.S. SOIL CONSERVATION SERVICE

OWNER COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
 DEVELOPER COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
 ADDRESS CHART

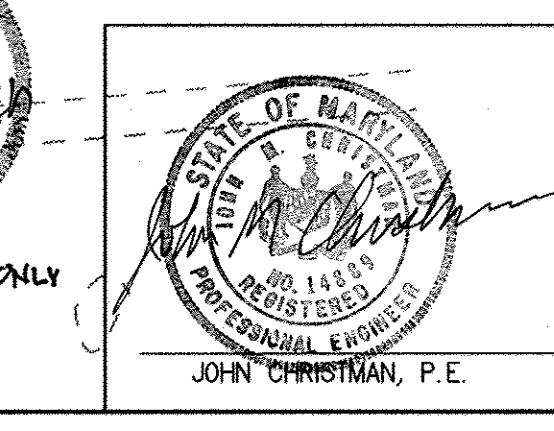
BUILDING	STREET ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL
VWL 9/3, LOT 39	9/3, 9/4	LOTS 1, 2, 3
VWL 9/4, LOTS 33 & 35	9/1, LOT 30	LOTS 1, 2, 3, 4
PLAT	BLOCK ZONE	TAX ZONE MAP ELEC. DIST. (CONS. TR.)
1415 R COMM	30	51h 6054



NOTE:
 1. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO (SEE STANDARD SEDIMENT CONTROL NOTE #2, SHEET D-3, 53 OF 56).
 2. SILT FENCE MUST BE INSTALLED PARALLEL TO CONTOURS.

PLAT 6739
 & SEWER AND UTILITY EASEMENT (20' WIDE)
 ① N115° 41' 38" W - 39.83
 ② N132° 30' 14" E - 267.98
 ③ N126° 29' 35" E - 295.38



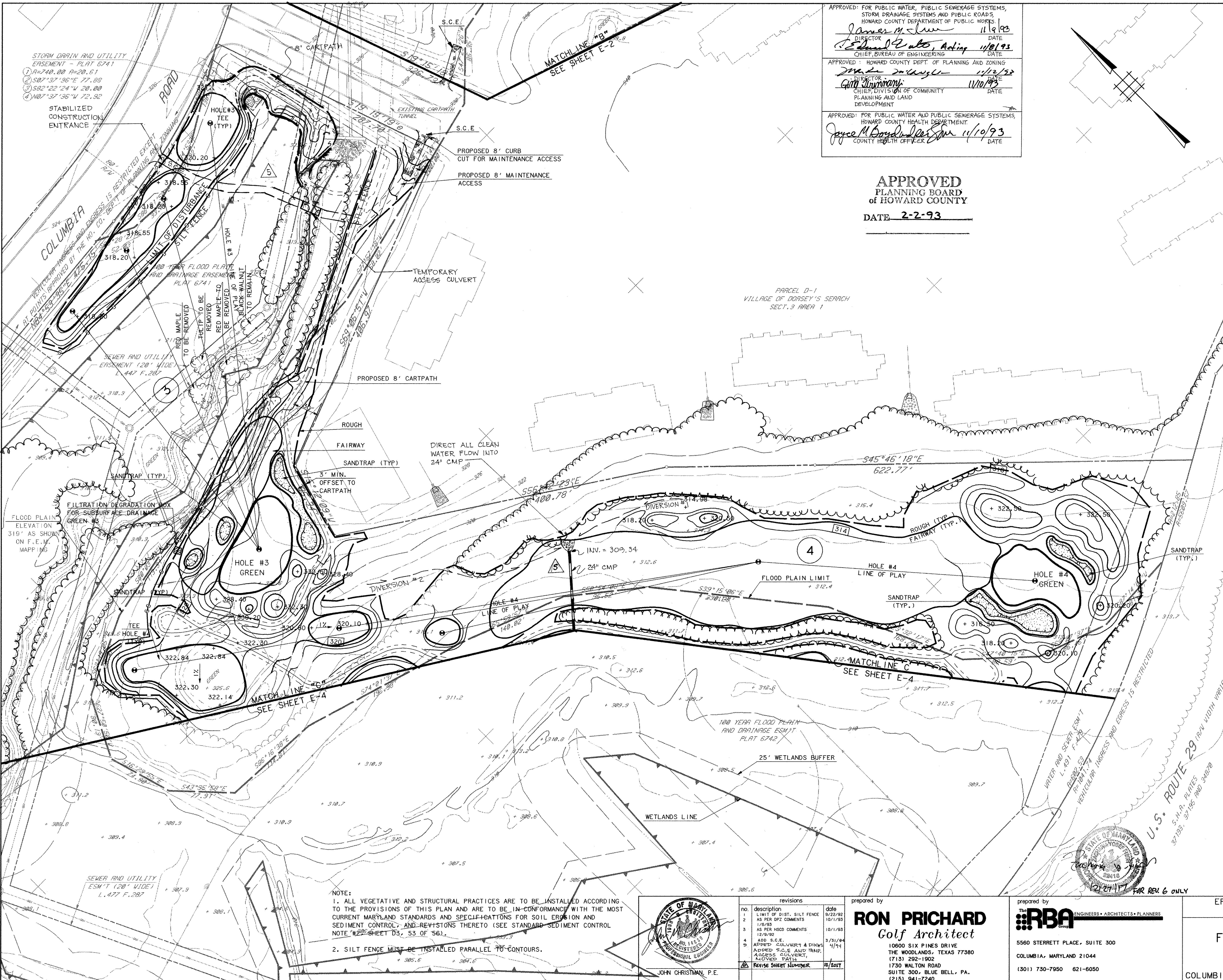
revisions

no.	description	date
1	LIMIT OF DIST. SILT FENCE	9/22/92
2	AS PER FLOODPLAIN COMMENTS	2/18/93
3	AS PER DRP COMMENTS	10/1/93
4	AS PER HSED COMMENTS	10/1/93
5	ADD S.C.E.	12/9/92
6	EXTEND STORM DRAIN REVISE GRADING ADDRESS TIE	3/21/94
7	REVISE SHEET NUMBER	4/94

prepared by
RON PRICHARD
 Golf Architect
 10600 SIX PINES DRIVE
 THE WOODLANDS, TEXAS 77380
 (713) 292-1902
 1730 WALTON ROAD
 SUITE 300, BLUE BELL, PA.
 (215) 941-7240

prepared by
RBA
 ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

EROSION AND SEDIMENT CONTROL PLAN
 FAIRWAY HILLS GOLF COURSE
 COLUMBIA MARYLAND
 SCALE 1" = 50'
 DRAWN KBW CHECKED JJB
 PROJ. NO. M0405 DATE 9/22/92
 SHEET E-1 18 OF 61



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

James M. Law 11/9/93
DIRECTOR DATE

P. Edward G. also, Acting 11/8/93
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

John A. DeAngelis 11/12/93
DIRECTOR DATE

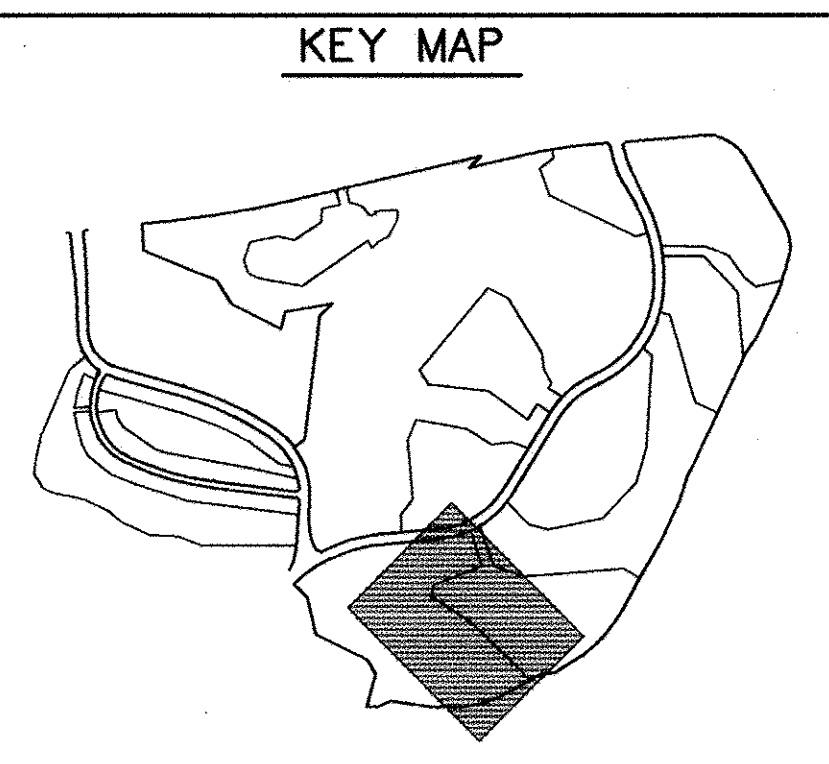
Gina J. Lawrence 11/10/93
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.

Joyce M. Boyd 11/10/93
COUNTY HEALTH OFFICER DATE

APPROVED
PLANNING BOARD
of HOWARD COUNTY

DATE 2-2-93



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE	+ 358.8	+ 350.0
WOODED AREA		TO REMAIN
SILT FENCE		
LIMIT OF DISTURBANCE		
RETAINING WALL		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		

RESPONSIBLE PERSONNEL CERTIFICATION

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

Deanna Nicks 10/13/93
SIGNATURE OF DEVELOPER DATE

John Christman, P.E. 10/13/93
SIGNATURE OF ENGINEER DATE

CERTIFICATION BY THE ENGINEER

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

John Christman, P.E. 10/13/93
SIGNATURE OF ENGINEER DATE

Deanna Nicks 10/13/93
SIGNATURE OF DEVELOPER DATE

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

APPROVED: *Robert W. Johnson* 10/21/93
HOWARD S.C.D. DATE

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

APPROVED: *J. G. Washfield* 10/21/93
HOWARD S.C.D. DATE

OWNER COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

DEVELOPER COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING	STREET ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD
LOT1-MAIN INT. BLDG.	5280 COLUMBIA ROAD

SUBDIVISION NAME		SECTION/AREA	LOT/PARCEL
VWL 9/74 LOTS 33855, TC 9/1, L. LOT 30		9/3, 9/4, 9/7 & 3/11	33, 35 & 55
VWS 3/1 LOTS 1, 2 & 4		3/1 & 3/11	33, 35 & 55
PLAT		BLOCK ZONE	TAX/ZONE MAP
B. 9, 10, 11, 12, 13, 14, 15 & COMM.		30	51h 6054

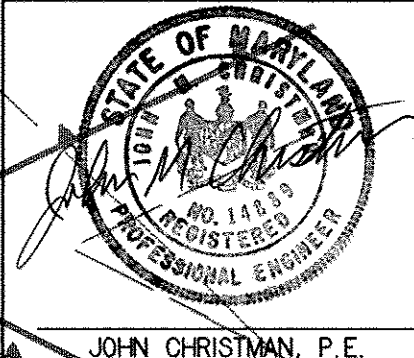
STORM DRAIN AND UTILITY EREASEMENT - PLAT 6741

- 1) R=740.00 R=20.61
- 2) S07°37'36"E 77.85
- 3) S02°22'24"W 28.00
- 4) N07°37'36"W 72.92

FLOOD PLAIN ELEVATION 319' AS SHOWN ON F.E.M. MAPPING

NOTE:

1. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISTIONS THERETO (SEE STANDARD SEDIMENT CONTROL NOTE #22 SHEET D3, 53 OF 56).
2. SILT FENCE MUST BE INSTALLED PARALLEL TO CONTOURS.



revisions

no.	description	date
1	LIMIT OF DIST. SILT FENCE AS PER HPZ COMMENTS	9/22/92
2	AS PER HPZ COMMENTS	10/1/93
3	AS PER HPZ COMMENTS	10/1/93
4	ADD S.C.E.	3/31/94
5	ADDED CULVERT & DIKE, ADDED S.C.E. AND TEMP. ACCESS CULVERT, ADDED PATH	4/1/94
6	REVISE SHEET NUMBER	12/20/93

prepared by

RON PRICHARD
Golf Architect

10600 SIX PINES DRIVE
THE WOODLANDS, TEXAS 77380
(713) 292-1902
1730 WALTON ROAD
SUITE 300, BLUE BELL, PA.
(215) 241-7240

prepared by

RBA ENGINEERS • ARCHITECTS • PLANNERS

5560 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7950 621-6050

EROSION AND SEDIMENT CONTROL PLAN

SCALE 1" = 50'

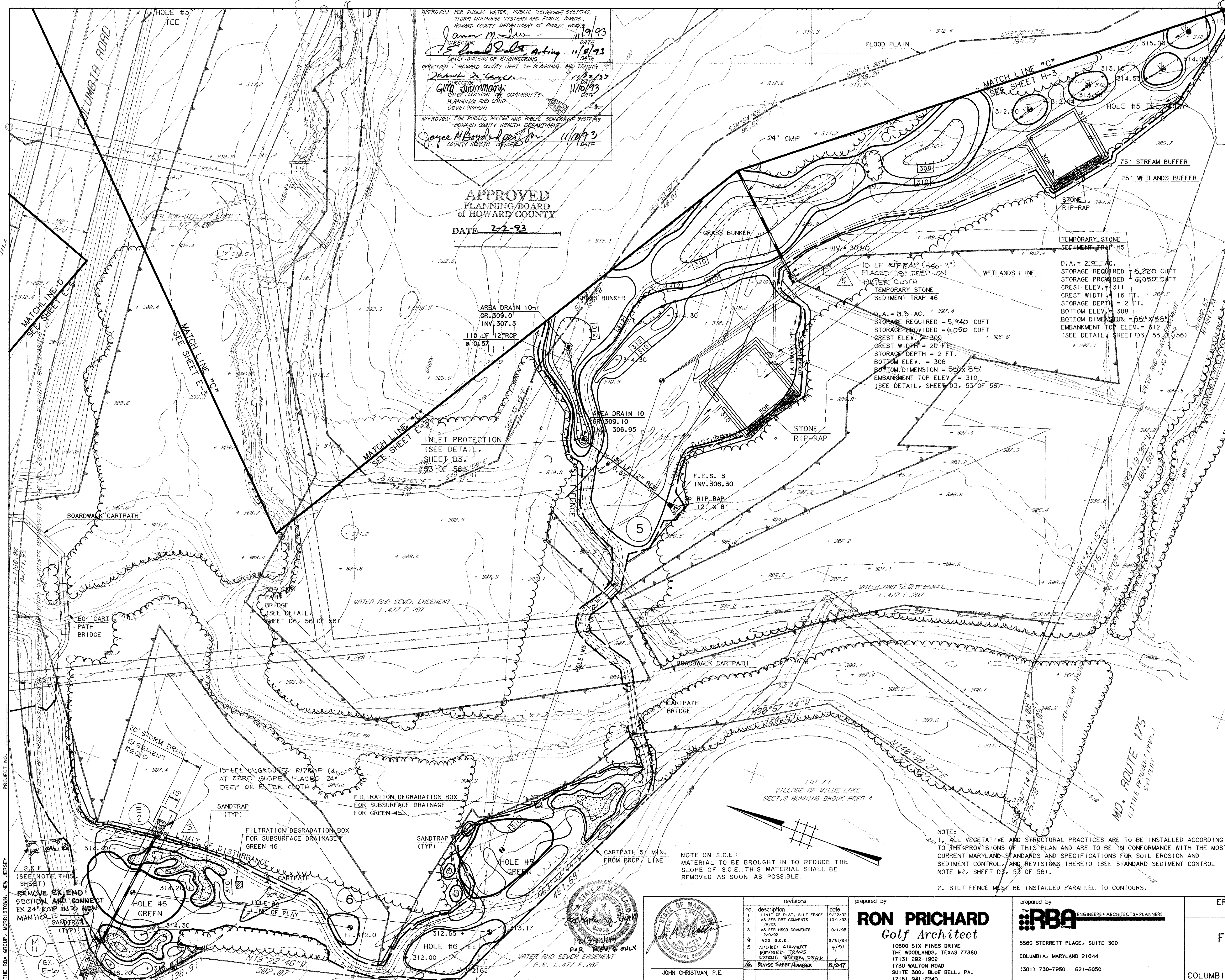
DRAWN KBW CHECKED JJB

PROJ. NO. M0405 DATE 9/22/92

E-3

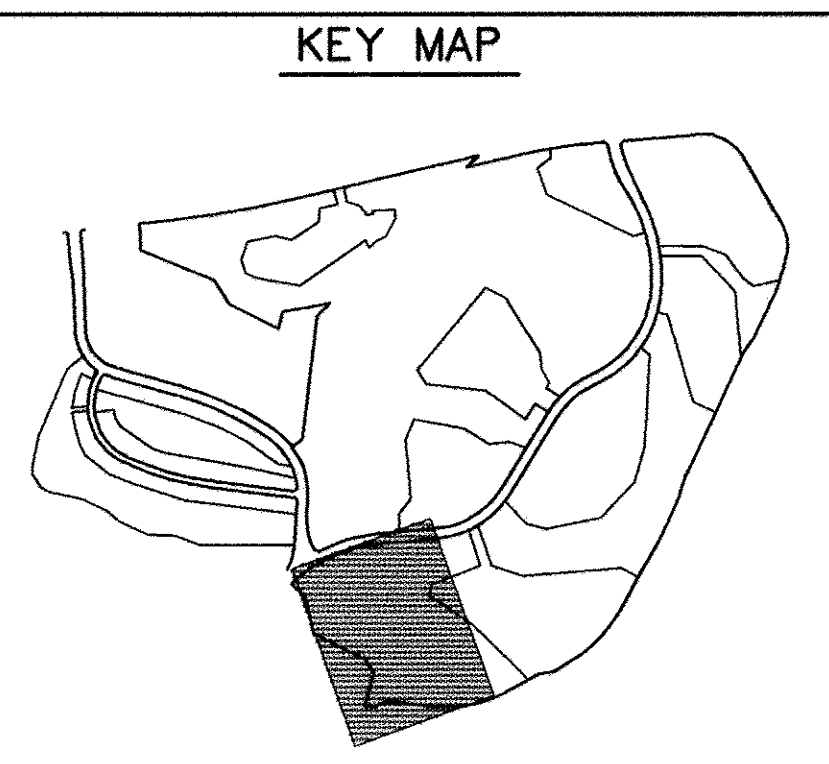
COLUMBIA MARYLAND SHEET 20 OF 61

SDP-92-104



APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 APPROVED: *James M. W...* 11/9/93
 DIRECTOR
 APPROVED: *Edward D. ...* 11/8/93
 CHIEF, BUREAU OF ENGINEERING
 APPROVED: *Thomas D. ...* 11/21/93
 CHIEF, DIVISION OF PLANNING AND ZONING
 APPROVED: *Chm. ...* 11/10/93
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
 APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
 HOWARD COUNTY HEALTH DEPARTMENT
 APPROVED: *James M. ...* 11/10/93
 COUNTY HEALTH OFFICER

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 2-2-93



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE		
WOODED AREA		
SILT FENCE		
LIMIT OF DISTURBANCE		
RETAINING WALL		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN DIVERSION SWALE		

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

James V. ... (01/15/93) DATE
 SIGNATURE OF DEVELOPER
 CERTIFICATION BY THE ENGINEER
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
John Christman, P.E. (01/17/93) DATE
 SIGNATURE OF ENGINEER
 JOHN CHRISTMAN, P.E.
 THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

APPROVED: *Robert W. ...* 10/21/93 DATE
 HOWARD S.C.D.
 REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.
 APPROVED: *J. ...* 10/21/93 DATE
 J.S. SOIL CONSERVATION SERVICE

OWNER COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
 DEVELOPER COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
 ADDRESS CHART

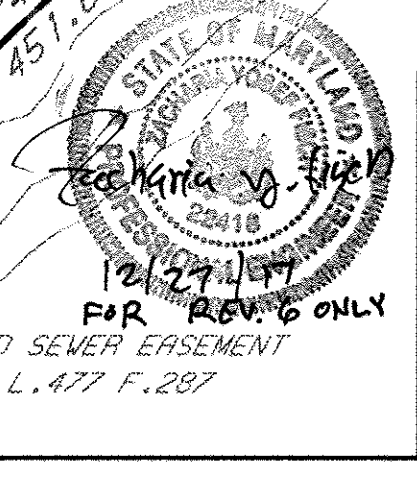
BUILDING	STREET	ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD	
LOT1-MAIN BLDG.	5280 COLUMBIA ROAD	

EROSION AND SEDIMENT CONTROL PLAN
 SCALE 1" = 50'
 DRAWN KBW CHECKED JJB
 PROJ. NO. M0405 DATE 9/22/92
 SHEET E-4 21 OF 61
 COLUMBIA MARYLAND

PROJECT NO. SDP-92-104
 THE RBA GROUP, MORRISTOWN, NEW JERSEY

NOTE ON S.C.E.: MATERIAL TO BE BROUGHT IN TO REDUCE THE SLOPE OF S.C.E. THIS MATERIAL SHALL BE REMOVED AS SOON AS POSSIBLE.

NOTE:
 1. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO (SEE STANDARD SEDIMENT CONTROL NOTE #2, SHEET D3, 53 OF 56).
 2. SILT FENCE MUST BE INSTALLED PARALLEL TO CONTOURS.



STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 JOHN CHRISTMAN, P.E.

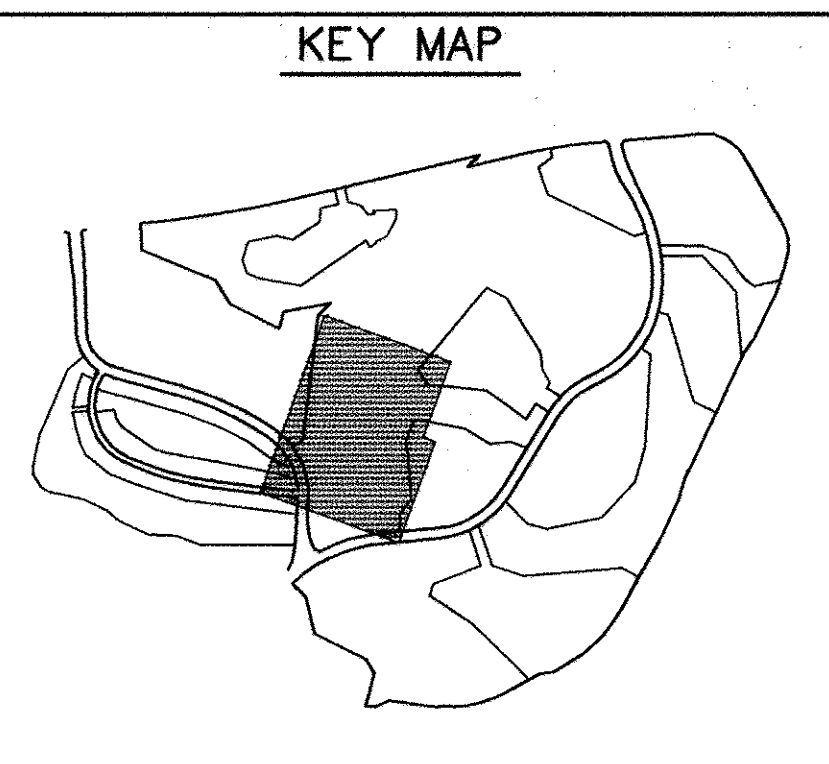
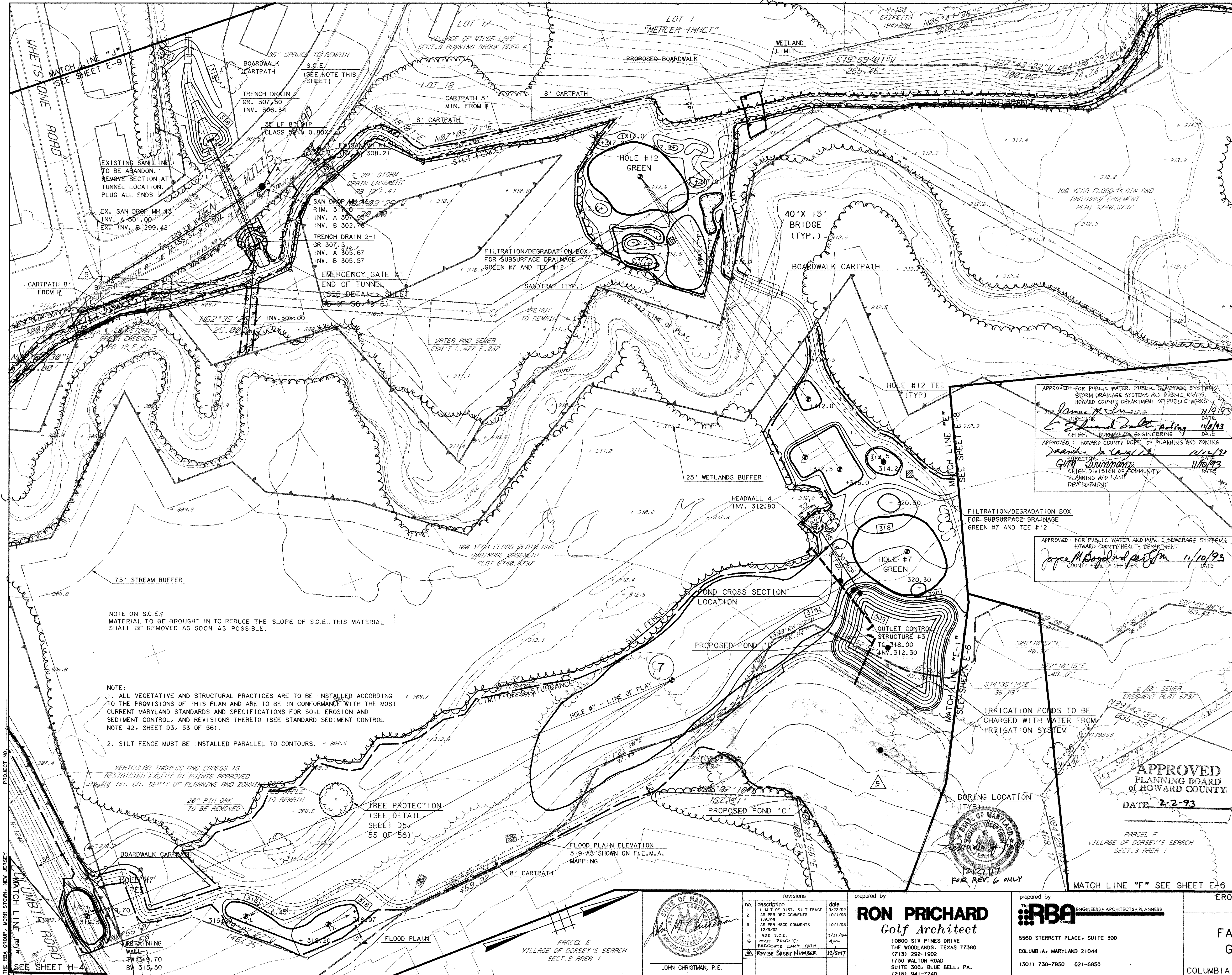
revisions

no.	description	date
1	LIMIT OF DIST. SILT FENCE	9/22/92
2	AS PER DR2 COMMENTS	10/1/93
3	1/6/93 AS PER HSD COMMENTS	10/1/93
4	12/9/92 ADD S.C.E.	3/31/94
5	APPROVED CONVEYER REVISED TRAPS EXTEND STORM DRAIN	4/1/94
6	REVISE SHEET NUMBER	12/20/97

prepared by
RON PRICHARD
 Golf Architect
 10600 SIX PINES DRIVE
 THE WOODLANDS, TEXAS 77380
 (713) 292-1902
 1730 WALTON ROAD
 SUITE 300, BLUE BELL, PA.
 (215) 941-7240

prepared by
RBA
 ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

SDP-92-104



ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE		
WOODED AREA		
SILT FENCE		
LIMIT OF DISTURBANCE		
RETAINING WALL		
WETLAND LIMIT		
100 YR. FLOOD PLAIN		
DIVERSION SWALE		

DIVERSION SWALE
 RESPONSIBLE PERSONNEL CERTIFICATION
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN AUTHORIZING PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

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

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

APPROVED: *Robert W. Johnson* 10/21/93
 HOWARD S.C.D. DATE

APPROVED: *J. S. Workfield* 10/21/93
 S.C. SOIL CONSERVATION SERVICE DATE

OWNER COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

DEVELOPER COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING	STREET	ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD	
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD	

SUBDIVISION NAME: VWL 9/73, LOT39, VWL 9/74, LOTS 33&55, TC 9/11, LOT30 & VDS 3/11, LOTS 1, 2 & 4
 BLOCK ZONE: 835-833 TAX ZONE: MAP 11-11-33-39 & 55 PLAT: 8-9-10-11-12-13-14-15 & 16 COMM. DATE: 4/74

WATER CODE: SEWER CODE:

EROSION AND SEDIMENT CONTROL PLAN

SCALE 1" = 50'

DRAWN: KBW CHECKED: JJB

PROJ. NO. M0405 DATE: 9/22/92

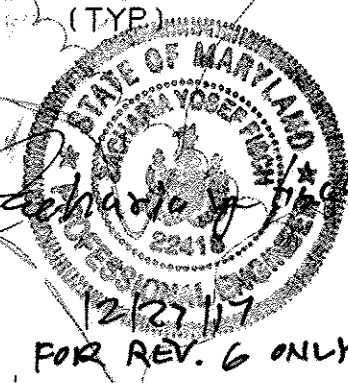
E-5

COLUMBIA MARYLAND SHEET 22 OF 61

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 DIRECTOR: *James M. Johnson* 11/9/93 DATE
 CHIEF: *Edward B. Bales* 11/9/93 DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 DIRECTOR: *James M. Johnson* 11/9/93 DATE
 CHIEF: *Gina J. Johnson* 11/9/93 DATE

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
 COUNTY HEALTH OFFICER: *James M. Johnson* 11/10/93 DATE



STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 JOHN CHRISTMAN, P.E.

NO.	DESCRIPTION	DATE
1	LIMIT OF DIST. SILT FENCE	9/22/92
2	AS PER DPZ COMMENTS	10/1/93
3	AS PER HSCD COMMENTS	10/1/93
4	ADD S.C.E.	3/31/94
5	ONLY POND 'C', RELOCATE CART PATH	4/74
6	REVISE SHEET NUMBER	12/20/97

prepared by
RON PRICHARD
 Golf Architect
 10600 SIX PINES DRIVE
 THE WOODLANDS, TEXAS 77380
 (713) 292-1902
 1730 WALTON ROAD
 SUITE 300, BLUE BELL, PA.
 (215) 941-7240

prepared by
RBA
 ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

NOTE ON S.C.E.:
 MATERIAL TO BE BROUGHT IN TO REDUCE THE SLOPE OF S.C.E. THIS MATERIAL SHALL BE REMOVED AS SOON AS POSSIBLE.

NOTE:
 1. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO (SEE STANDARD SEDIMENT CONTROL NOTE #2, SHEET D3, 53 OF 56).
 2. SILT FENCE MUST BE INSTALLED PARALLEL TO CONTOURS.

VEHICULAR INGRESS AND EGRESS IS RESTRICTED EXCEPT AT POINTS APPROVED BY THE HO. CO. DEPT. OF PLANNING AND ZONING.

20" PIN OAK TO BE REMOVED

TREE PROTECTION (SEE DETAIL SHEET D5, 55 OF 56)

FLOOD PLAIN ELEVATION 319 AS SHOWN ON F.E.M.A. MAPPING

PARCEL E
 VILLAGE OF DORSEY'S SEARCH
 SECT. 3 AREA 1

PROJECT NO. 1210
 THE RBA GROUP, MORRISTOWN, NEW JERSEY
 MATCH LINE "D" SEE SHEET H-4

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

James M. Lu 11/9/93
DIRECTOR DATE

C. Edward Potts, Acting 11/9/93
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Neil J. Lange 11/14/93
DIRECTOR DATE

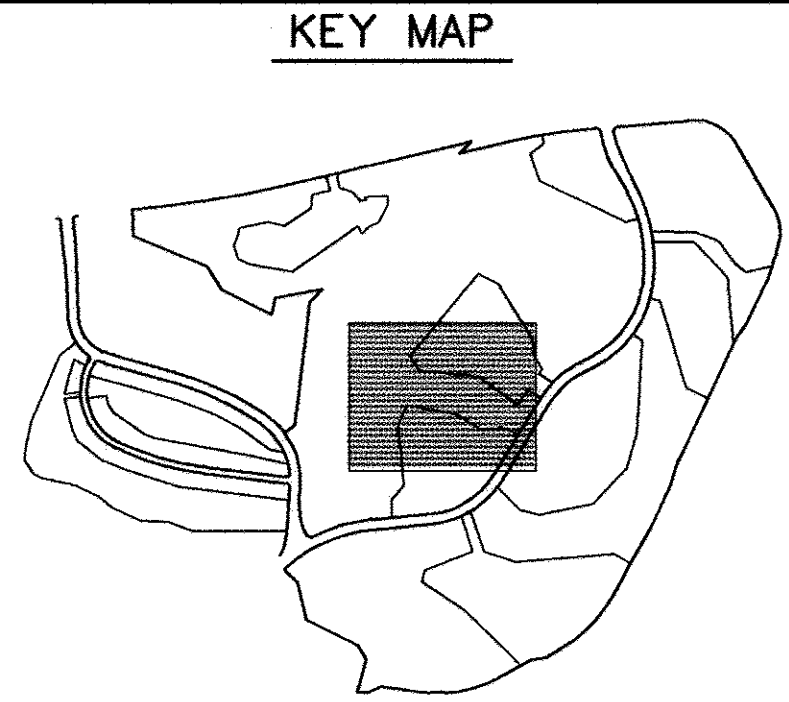
Gina Drummond 11/10/93
CHIEF, DIVISION OF COMMUNITY
PLANNING AND LAND
DEVELOPMENT DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS,
HOWARD COUNTY HEALTH DEPARTMENT

Joyce M. Boyd 11/10/93
COUNTY HEALTH OFFICER DATE

APPROVED
PLANNING BOARD
OF HOWARD COUNTY

DATE 2-2-93



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE		
WOODED AREA		
SILT FENCE		
LIMIT OF DISTURBANCE		
RETAINING WALL		
WETLAND LIMIT		
(25' BUFFER)		
100 YR. FLOOD PLAIN		
DIVERSION SWALE		

RESPONSIBLE PERSONNEL CERTIFICATION

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

Signature of Developer: *James M. Lu* 10/13/93 DATE

CERTIFICATION BY THE ENGINEER

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

Signature of Engineer: *John Christman* 10/13/93 DATE

CERTIFICATION BY THE DEVELOPER

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

Signature of Developer: *Robert W. Johnson* 10/13/93 DATE

APPROVED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.

Signature of Developer: *J. A. Ward* 10/13/93 DATE

APPROVED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.

OWNER COLUMBIA PARKS AND RECREATION ASSOCIATION

9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

DEVELOPER COLUMBIA PARKS AND RECREATION ASSOCIATION

9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING	STREET ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL
VW 9/4, LOTS 33855, TC 9/1, LOT 30	9/3, 9/4	LOTS 1, 2, 3
& VDS 3/1, LOTS 1, 2 & 4	9/1 & 3/1	33, 39 & 55
PLAT	BLOCK ZONE	TAX ZONE MAP ELEC. DIST. (GENUS TR.)
	30	5th 6054

WATER CODE: _____ SEWER CODE: _____

EROSION AND SEDIMENT CONTROL PLAN

SCALE 1" = 50'

DRAWN: KBW CHECKED: JJB

PROJ. NO. M0405 DATE 9/22/92

FAIRWAY HILLS GOLF COURSE

COLUMBIA MARYLAND

E-6 SHEET 23 OF 61

revisions

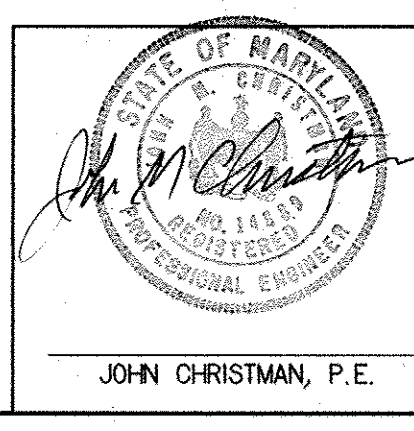
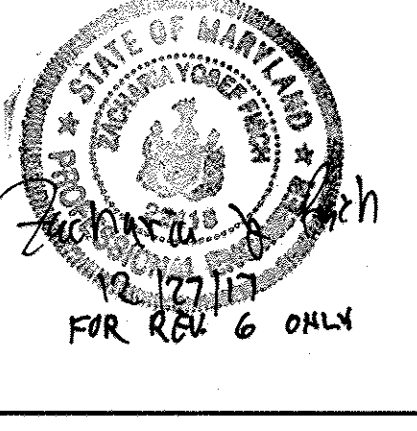
no.	description	date
1	LIMIT OF DIST. SILT FENCE AS PER DPZ COMMENTS	9/22/92
2	AS PER DPZ COMMENTS	10/11/93
3	AS PER HSCD COMMENTS	10/11/93
4	ADD S.C.E.	3/31/94
5	REVISED GRADING MOVED PATH	4/19/94
6	REVISE SHEET NUMBER	11/20/97

prepared by: **RON PRICHARD**
Golf Architect

10600 SIX PINES DRIVE
THE WOODLANDS, TEXAS 77380
(713) 292-1902
1730 WALTON ROAD
SUITE 300, BLUE BELL, PA.
(215) 941-7240

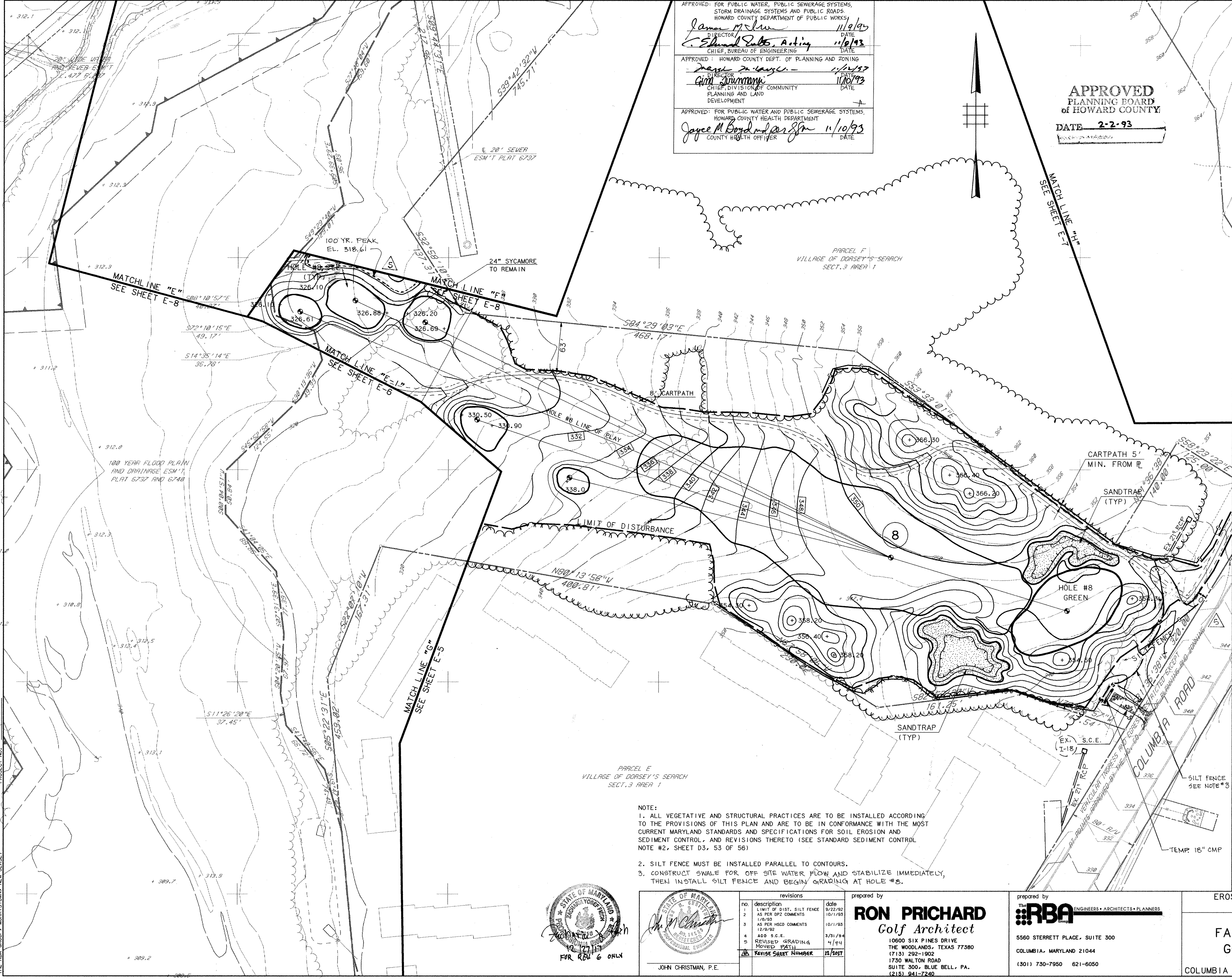
prepared by: **RBA** ENGINEERS • ARCHITECTS • PLANNERS

5560 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7950 621-6050



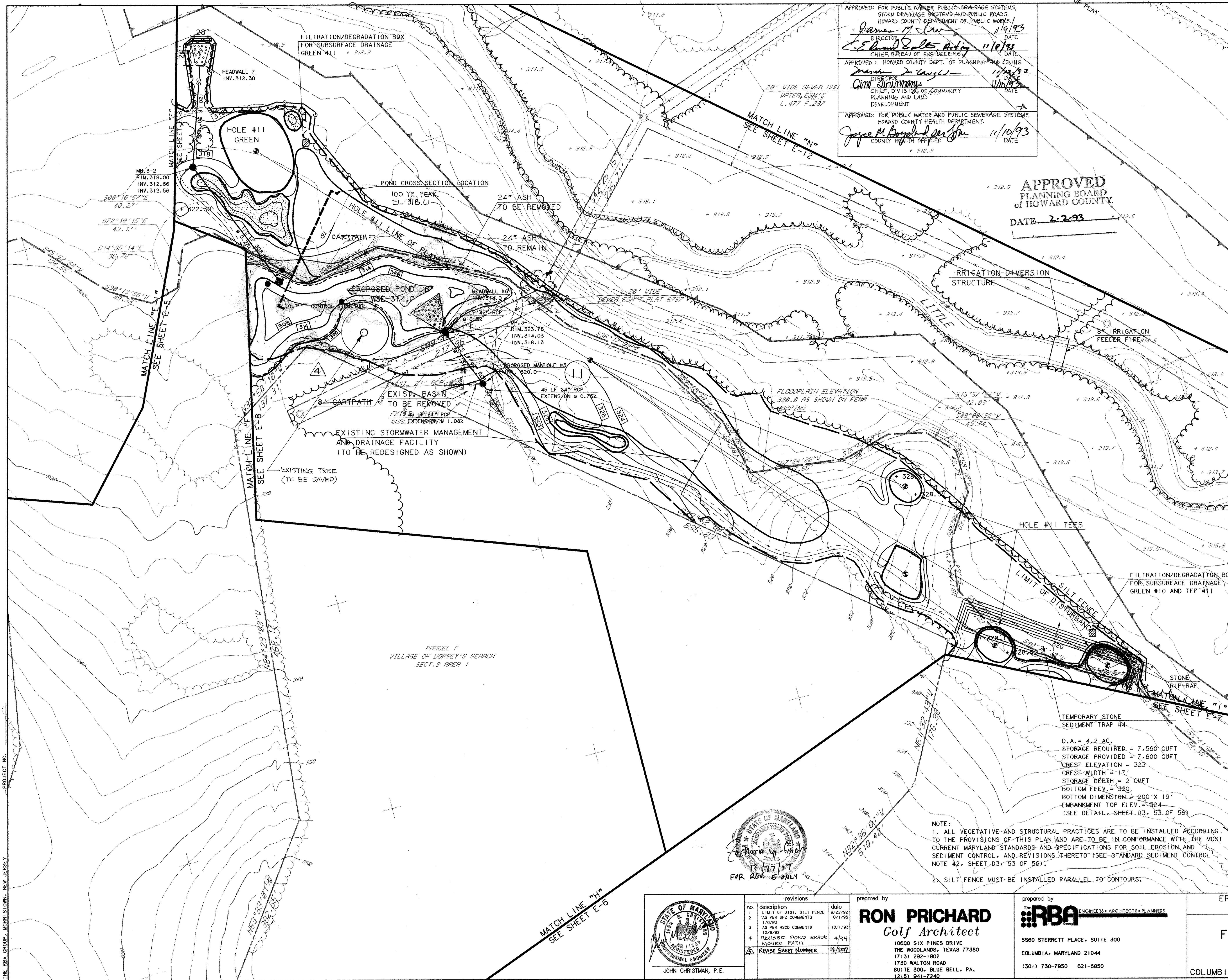
NOTE:

- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO (SEE STANDARD SEDIMENT CONTROL NOTE #2, SHEET D3, 53 OF 56)
- SILT FENCE MUST BE INSTALLED PARALLEL TO CONTOURS.
- CONSTRUCT SWALE FOR OFF SITE WATER FLOW AND STABILIZE IMMEDIATELY, THEN INSTALL SILT FENCE AND BEGIN GRADING AT HOLE #8.



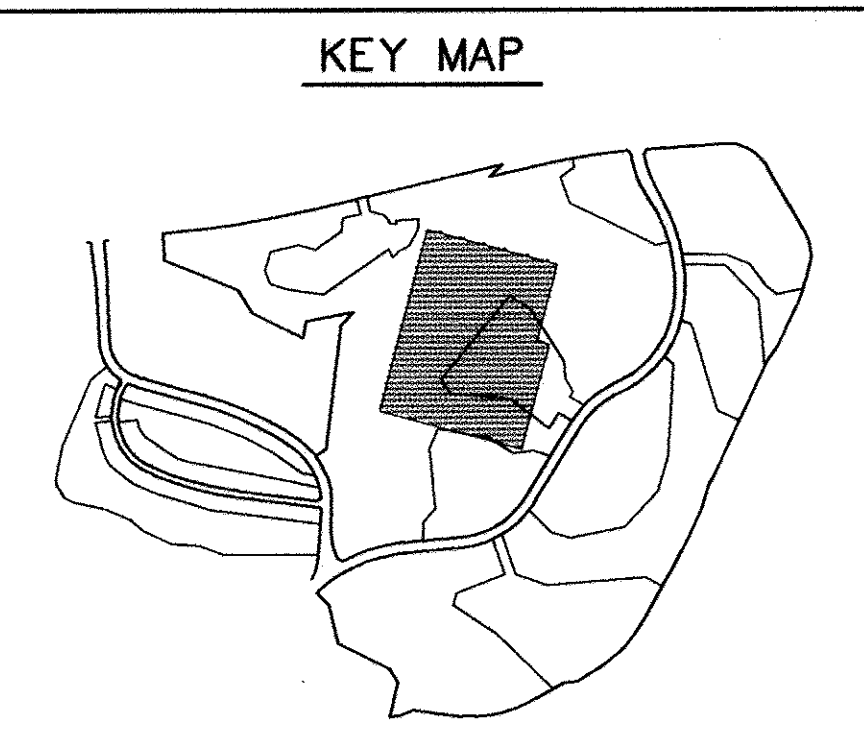
PROJECT NO. _____

THE RBA GROUP, MORRISTOWN, NEW JERSEY



APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 James M. Law 11/19/93
 DIRECTOR DATE
 E. David Sells Acting 11/19/93
 CHIEF, BUREAU OF ENGINEERING DATE
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 Dennis J. Gault 11/19/93
 DIRECTOR DATE
 Gini Strimmon 11/16/93
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE
 APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
 Joyce M. Boyland 11/10/93
 COUNTY HEALTH OFFICER DATE

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY.
 DATE 2-2-93



ITEM	LEGEND	
	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE		
WOODED AREA		
SILT FENCE		
LIMIT OF DISTURBANCE		
RETAINING WALL		
WETLAND LIMIT		
(25' BUFFER)		
100 YR. FLOOD PLAIN		
DIVERSION SWALE		

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

Signature of Developer: Dennis M. Mott
 Signature of Engineer: John Christman, P.E.
 CERTIFICATION BY THE DEVELOPER: THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

Signature of Engineer: Robert W. Ziehm, III
 APPROVED: Robert W. Ziehm, III
 HOWARD S.C.D. DATE 10/13/93

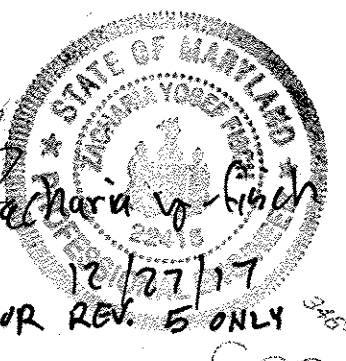
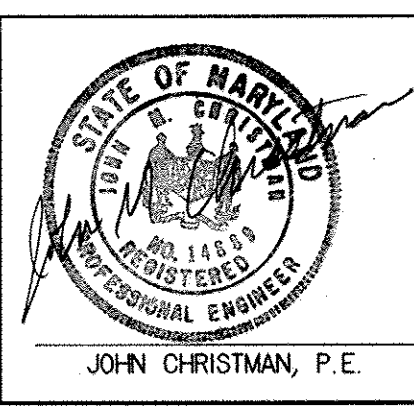
Signature of Developer: J. M. Workfield
 APPROVED: J. M. Workfield
 S. SOIL CONSERVATION SERVICE DATE 10/21/93

OWNER COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
 DEVELOPER COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

ADDRESS CHART		
BUILDING	STREET ADDRESS	
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD	
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD	
SUBDIVISION NAME	VW 9/3, LOT39	SECTION/AREA 3/3, 9/4
VW 9/4, LOTS 3385-10, 371, LOT30 & VDS. 3/1, LOTS 1, 2 & 4	9/1 & 3/1	LOTS 1, 2, 3, 33, 39 & 55
PLAT	9/9, 10/40-0, 53	ELEC. DIST. 33-39 & 55
BLOCK/ZONE	14, 15 & COMA	30
TAX/ZONE MAP	51h	6054
WATER CODE	SEWER CODE	

TEMPORARY STONE SEDIMENT TRAP #4
 D.A. = 4.2 AC.
 STORAGE REQUIRED = 7,560 CUFT
 STORAGE PROVIDED = 7,600 CUFT
 CREST ELEVATION = 323
 CREST WIDTH = 17'
 STORAGE DEPTH = 2 CUFT
 BOTTOM ELEV. = 320
 BOTTOM DIMENSION = 200' X 19'
 EMBANKMENT TOP ELEV. = 324
 (SEE DETAIL, SHEET D3, 53 OF 56)

NOTE:
 1. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO (SEE STANDARD SEDIMENT CONTROL NOTE #2, SHEET D3, 53 OF 56).
 2. SILT FENCE MUST BE INSTALLED PARALLEL TO CONTOURS.



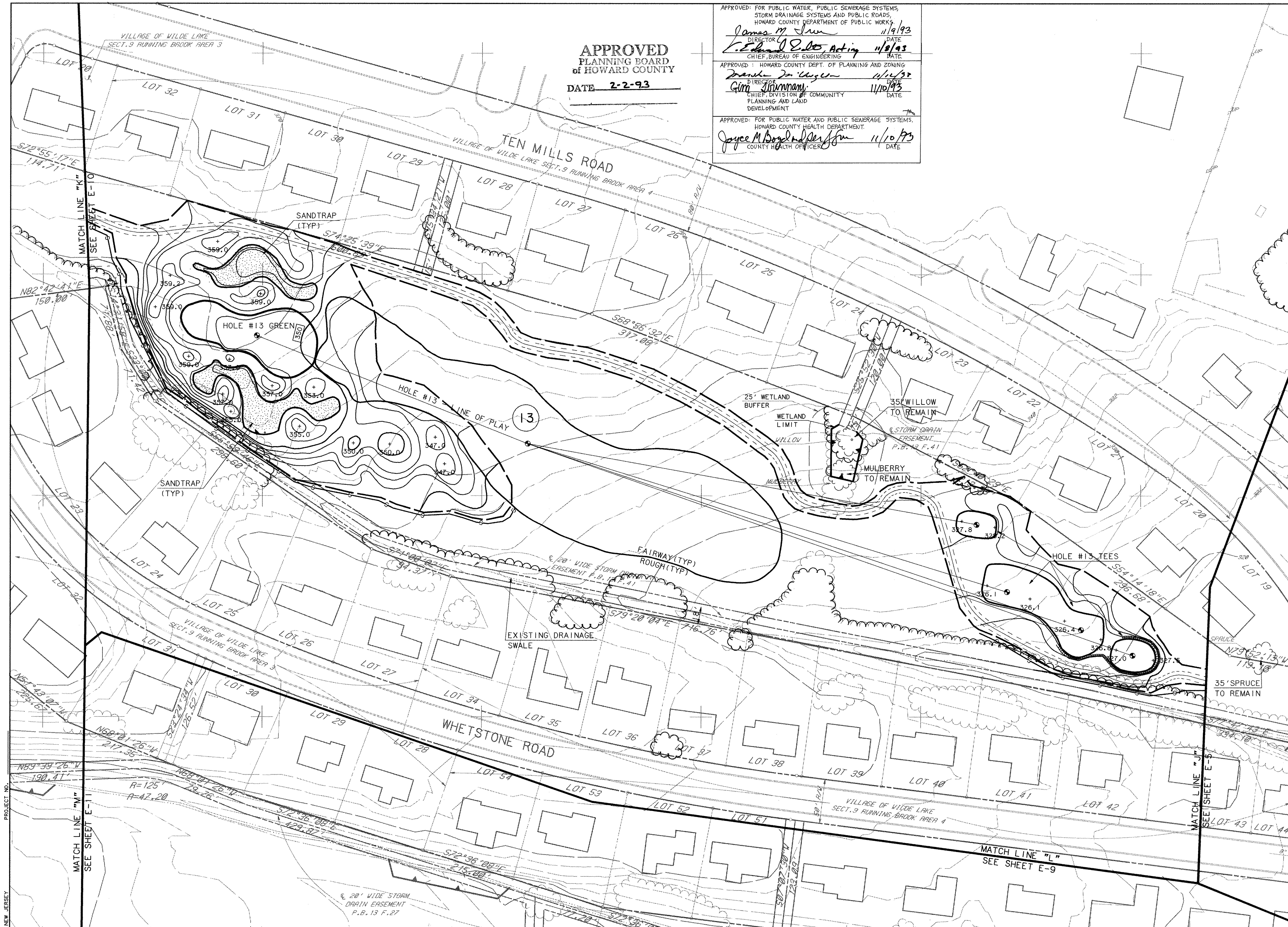
revisions

no.	description	date
1	LIMIT OF DIST. SILT FENCE	9/22/92
2	AS PER DPZ COMMENTS	10/1/93
3	AS PER HSD COMMENTS	10/1/93
4	REVISED POND GRADE	4/14
5	MOVED PATH	12/29/97
6	REVISE SHEET NUMBER	12/29/97

prepared by
RON PRICHARD
 Golf Architect
 10600 SIX PINES DRIVE
 THE WOODLANDS, TEXAS 77380
 (713) 292-1902
 1730 WALTON ROAD
 SUITE 300, BLUE BELL, PA.
 (215) 941-7240

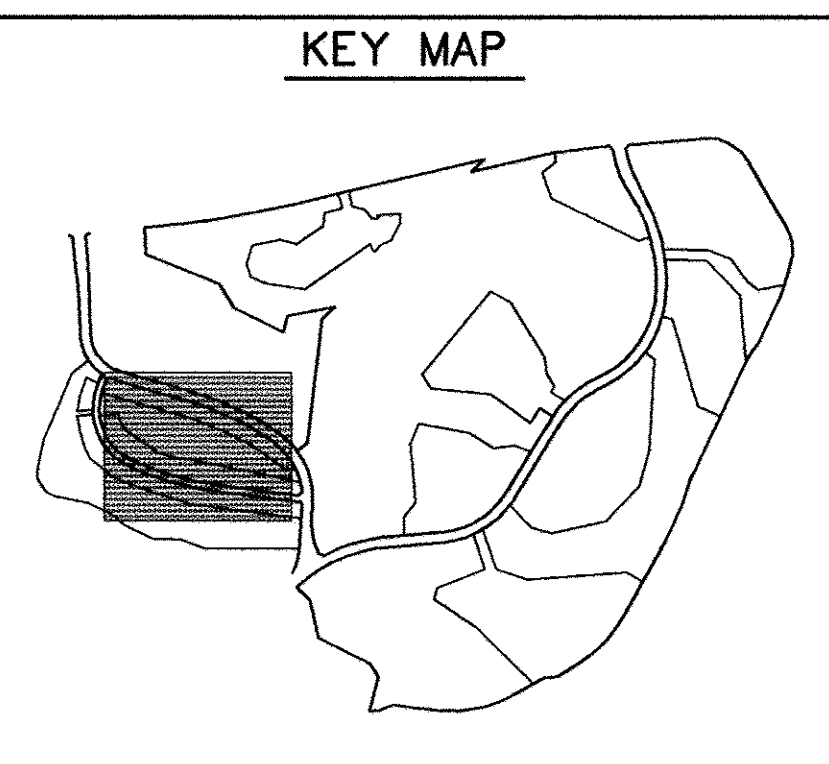
prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

EROSION AND SEDIMENT CONTROL PLAN
FAIRWAY HILLS GOLF COURSE
 COLUMBIA MARYLAND
 SCALE 1" = 50'
 DRAWN KBW CHECKED JJB
 PROJ. NO. M0405 DATE 9/22/92
E-8
 SHEET 25 OF 61



APPROVED
PLANNING BOARD
of HOWARD COUNTY
 DATE **2-2-93**

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS,
 STORM DRAINAGE SYSTEMS AND PUBLIC ROADS,
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 James M. Iru *11/9/93*
 DIRECTOR DATE
 Edward E. DeLoe, Acting *11/8/93*
 CHIEF, BUREAU OF ENGINEERING DATE
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 Frank J. Unger *11/12/93*
 DIRECTOR DATE
 Gini Williams *11/10/93*
 CHIEF, DIVISION OF COMMUNITY
 PLANNING AND LAND
 DEVELOPMENT DATE
 APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS,
 HOWARD COUNTY HEALTH DEPARTMENT.
 Joyce M. Boyd *11/10/93*
 COUNTY HEALTH OFFICER DATE



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE		
WOODED AREA		
SILT FENCE		
LIMIT OF DISTURBANCE		
RETAINING WALL		
WETLAND LIMIT		
(25' BUFFER)		
100 YR. FLOOD PLAIN		
DIVERSION SWALE		

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

Signature of Developer: *Deanna Kalk* *10/13/93* DATE
 Signature of Engineer: *John Christman* *10/13/93* DATE
 Signature of Developer: *Deanna Kalk* *10/13/93* DATE
 Signature of Engineer: *John Christman* *10/13/93* DATE
 Signature of Developer: *Deanna Kalk* *10/13/93* DATE
 Signature of Engineer: *John Christman* *10/13/93* DATE

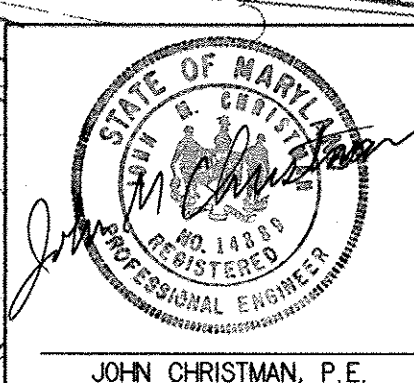
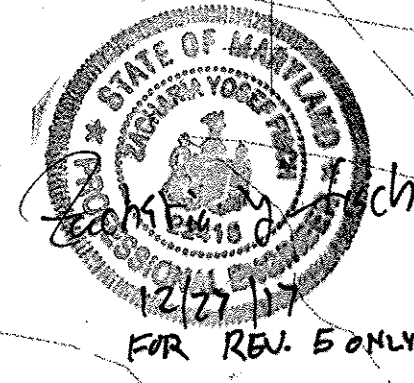
APPROVED: *Robert W. Zich* *10/21/93* DATE
 HOWARD S.C.D.
 REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.
 APPROVED: *J.H. Warfield* *10/21/93* DATE
 S.C.D. SOIL CONSERVATION SERVICE

OWNER COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
DEVELOPER COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
ADDRESS CHART

BUILDING	STREET ADDRESS
LOT5-CLUBHOUSE	5100 COLUMBIA ROAD
LOT1-MAINT.BLDG.	5280 COLUMBIA ROAD

EROSION AND SEDIMENT CONTROL PLAN		SCALE
DRAWN KBW CHECKED JJB		1" = 50'
PROJECT NO. M0405 DATE 9/22/92		
E-9		
COLUMBIA	MARYLAND	SHEET 26 OF 61

NOTE:
 1. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO (SEE STANDARD SEDIMENT CONTROL NOTE #2, SHEET D3, 53 OF 56).
 2. SILT FENCE MUST BE INSTALLED PARALLEL TO CONTOURS.



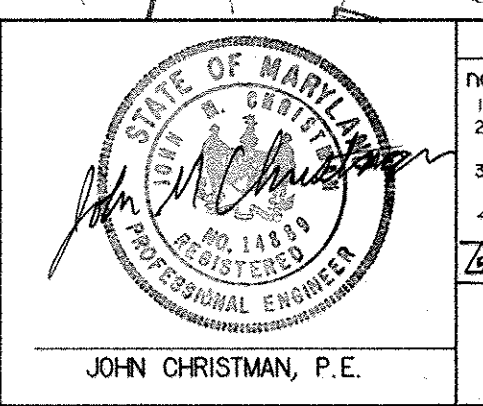
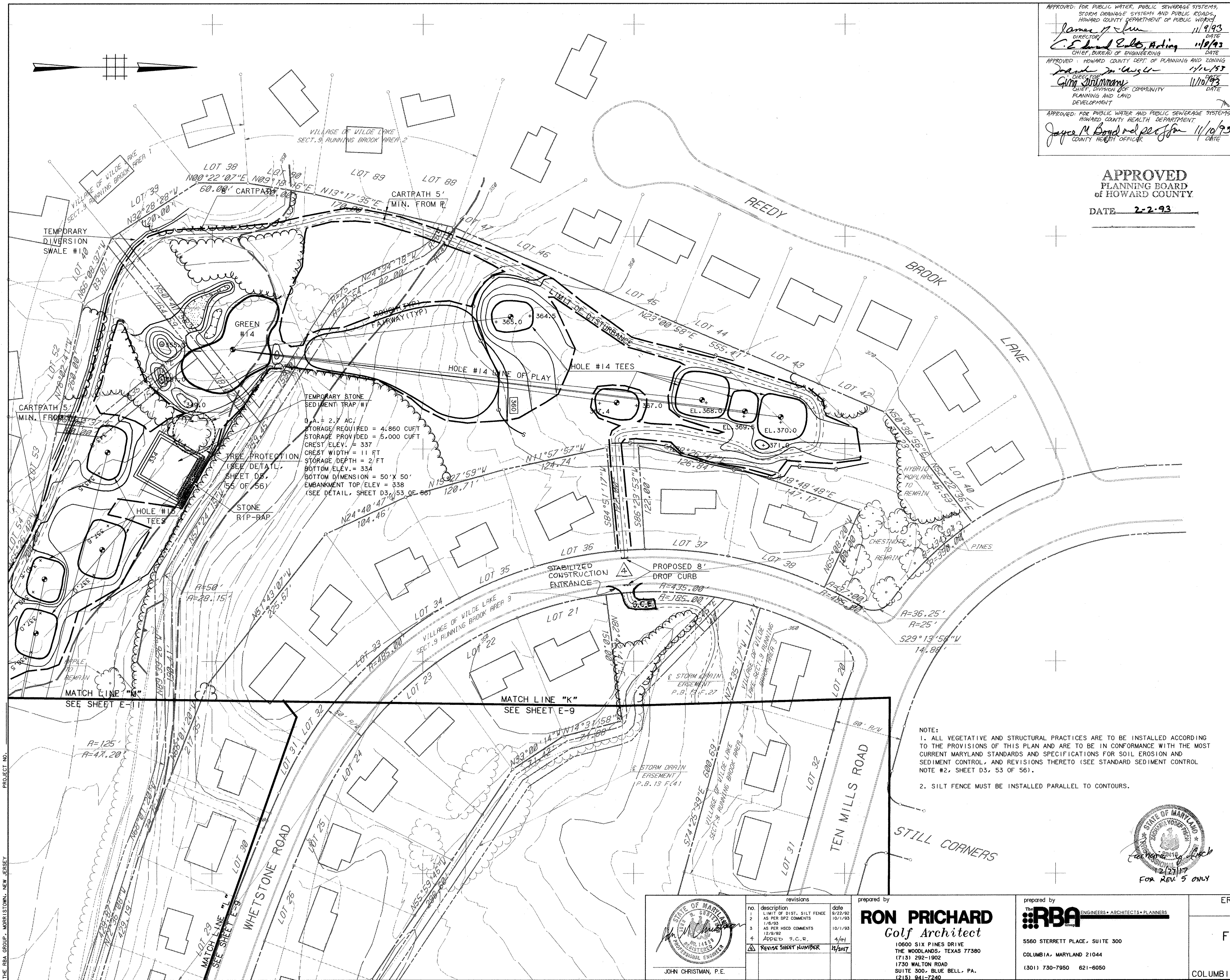
revisions

no.	description	date
1	LIMIT OF DIST. SILT FENCE	9/22/92
2	ADDED WETLAND AREA AS PER MARYLAND DEP	2/18/93
3	AS PER DPZ COMMENTS	10/1/93
4	AS PER HSCD COMMENTS	10/1/93
5	AS PER HSCD COMMENTS	12/9/92
6	REVISE SHEET NUMBER	12/20/92

prepared by
RON PRICHARD
Golf Architect
 10800 SIX PINES DRIVE
 THE WOODLANDS, TEXAS 77380
 (713) 292-1902
 1730 WALTON ROAD
 SUITE 500, BLUE BELL, PA.
 (215) 941-7240

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

PROJECT NO. 100-100-100-100
 SHEET E-9
 THE RBA GROUP - MORRISTOWN, NEW JERSEY



no.	description	date
1	LIMIT OF DIST. SILT FENCE	9/22/92
2	AS PER DPZ COMMENTS	10/1/93
3	AS PER HSCD COMMENTS	10/1/93
4	APPROVED S.C.S.	4/91
5	REVISE SHEET NUMBER	11/20/97

prepared by
RON PRICHARD
 Golf Architect
 10600 SIX PINES DRIVE
 THE WOODLANDS, TEXAS 77380
 (713) 292-1902
 1730 WALTON ROAD
 SUITE 300, BLUE BELL, PA.
 (215) 941-7240

prepared by
RBA
 ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

EROSION AND SEDIMENT CONTROL PLAN

FAIRWAY HILLS GOLF COURSE

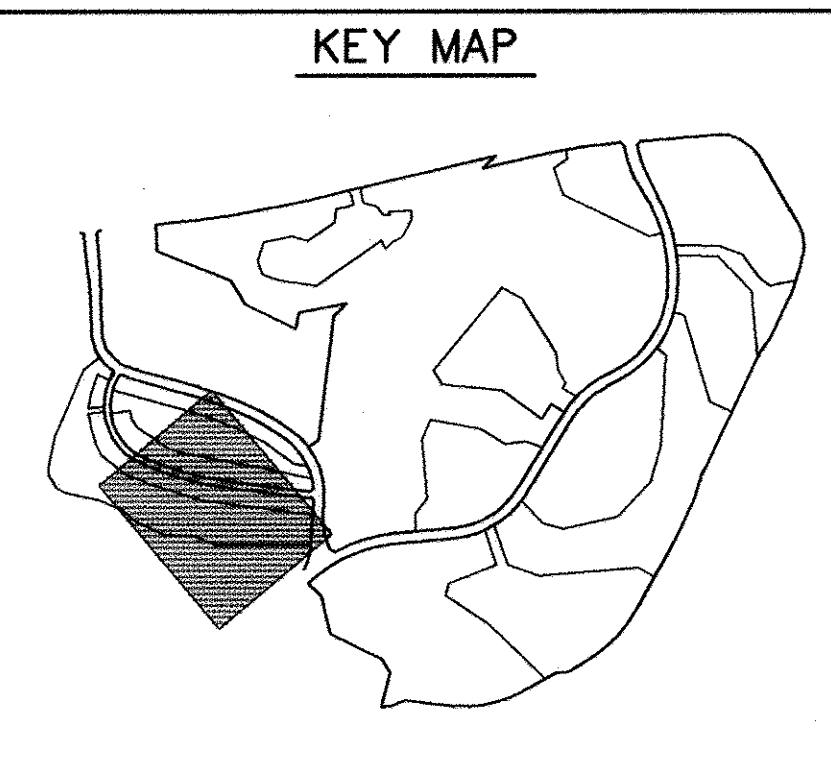
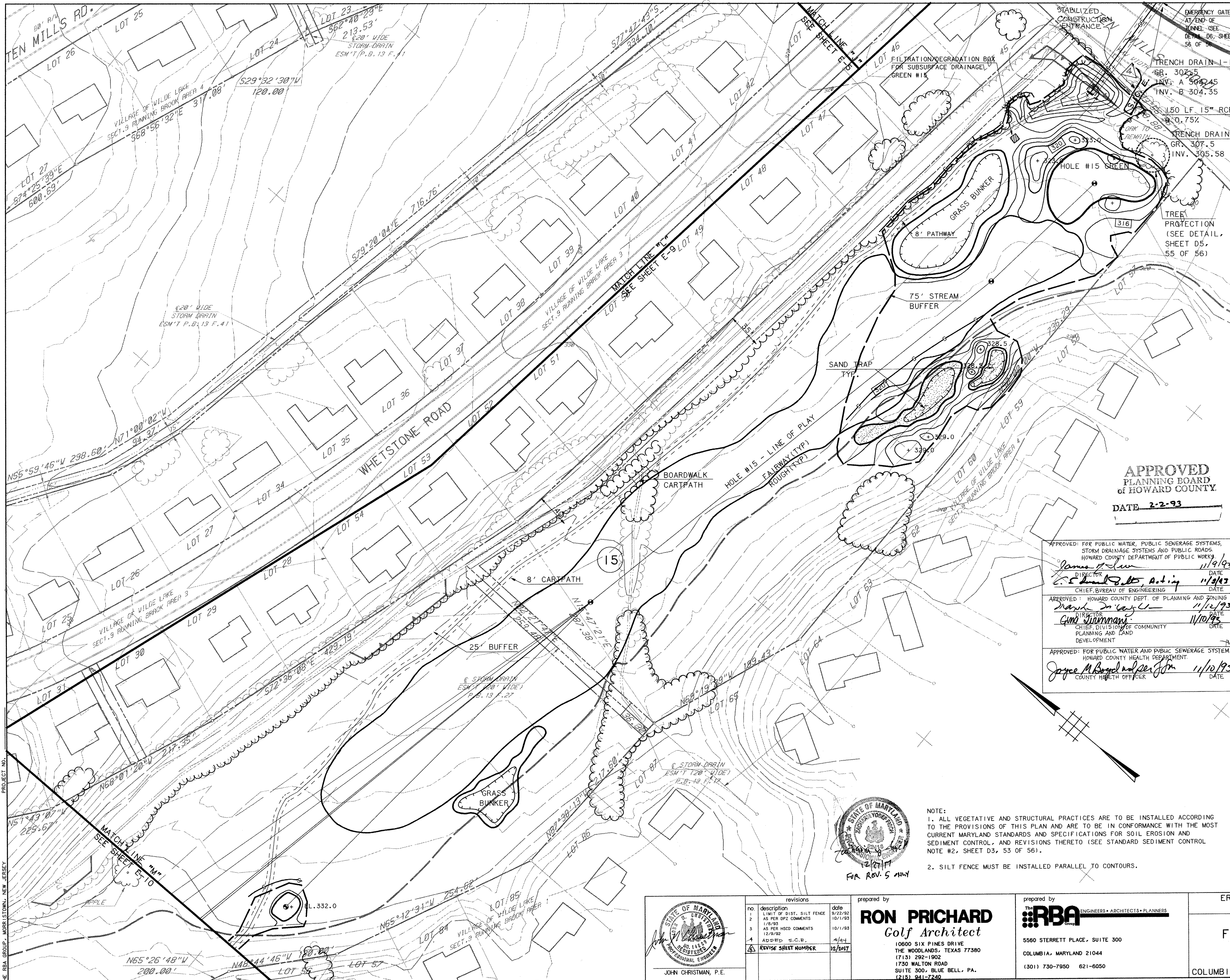
COLUMBIA MARYLAND

SCALE 1" = 50'

DRAWN: KBW CHECKED: JUB

PROJ. NO: M0405 DATE: 9/22/92

E10 SHEET 27 OF 61



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE		
WOODED AREA		
SILT FENCE		
LIMIT OF DISTURBANCE		
RETAINING WALL		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN DIVERSION SWALE		

RESPONSIBLE PERSONNEL CERTIFICATION
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN AUTHORIZING PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature of Developer: *James M. Kohl* 10/13/93
 Signature of Engineer: *John Christman, P.E.* 10/13/93
CERTIFICATION BY THE ENGINEER
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL, REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
 DATE: 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
James A. Lew 11/9/93
 DIRECTOR DATE
Charles B. Aotia 11/9/93
 CHIEF, BUREAU OF ENGINEERING DATE
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Mark J. ... 11/2/93
 DIRECTOR DATE
Chris ... 11/10/93
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE
 APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
 HOWARD COUNTY HEALTH DEPARTMENT
Joyce M. ... 11/10/93
 COUNTY HEALTH OFFICER DATE

NOTE:
 1. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO (SEE STANDARD SEDIMENT CONTROL NOTE #2, SHEET D3, 53 OF 56).
 2. SILT FENCE MUST BE INSTALLED PARALLEL TO CONTOURS.

PROJECT NO. ...
 THE RBA GROUP, MORRISTOWN, NEW JERSEY

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 JOHN CHRISTMAN, P.E.

no.	description	date
1	LIMIT OF DIST. SILT FENCE	8/22/92
2	AS PER DEP COMMENTS	10/1/93
3	AS PER HSCD COMMENTS	1/6/93
4	ADDED S.C.B.	4/94
5	REVISE SHEET NUMBER	12/20/97

prepared by
RON PRICHARD
 Golf Architect
 10600 SIX PINES DRIVE
 THE WOODLANDS, TEXAS 77380
 (713) 292-1902
 1730 WALTON ROAD
 SUITE 300, BLUE BELL, PA.
 (215) 941-7240

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
 5580 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

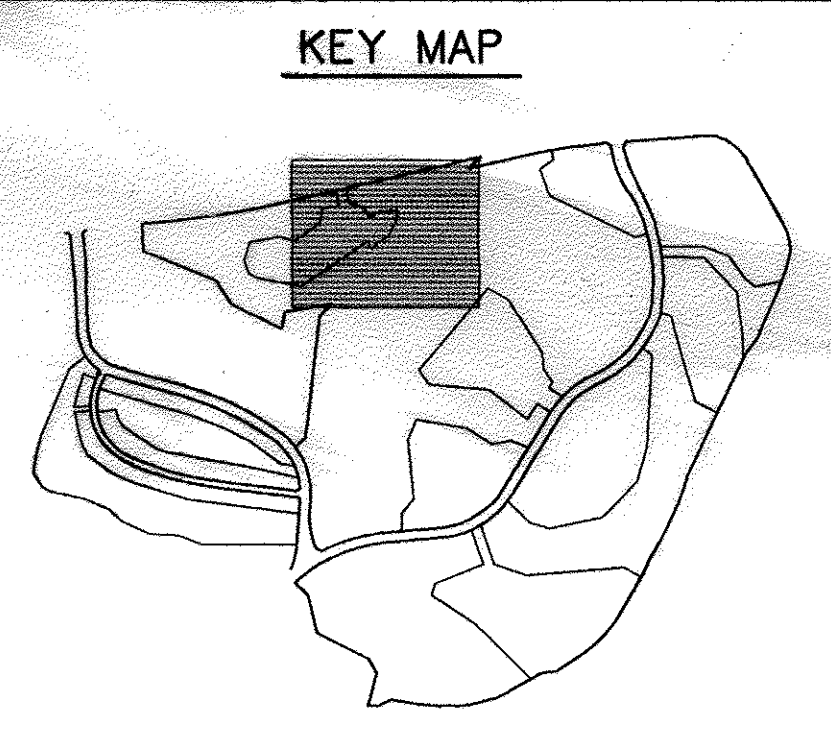
EROSION AND SEDIMENT CONTROL PLAN
FAIRWAY HILLS GOLF COURSE
 COLUMBIA MARYLAND
 SCALE 1" = 50'
 DRAWN KBW CHECKED JUB
 PROJ. NO. M0405 DATE 9/22/92
E11
 SHEET 28 OF 61

SDP-92-104

NOTE:
 1. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO (SEE STANDARD SEDIMENT CONTROL NOTE #2, SHEET D5, 53 OF 56).
 2. SILT FENCE MUST BE INSTALLED PARALLEL TO CONTOURS.

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, DATE 11/9/93, DIRECTOR James M. ...
 APPROVED HOWARD COUNTY DEPT. OF PLANNING AND ZONING, DATE 11/10/93, CHIEF DIVISION OF COMMUNITY PLANNING AND ZONING DEVELOPMENT ...
 APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT, DATE 11/10/93, COUNTY HEALTH OFFICER ...

S.C.E. BEGINS AT RT. 108 (SEE NOTE THIS SHEET)
 NOTE: OWNER TO OBTAIN TEMPORARY PERMIT FROM SHA IF NECESSARY PRIOR TO CONSTRUCTION OF S.C.E.; IF REQUIRED THIS ACCESS IS CURRENTLY IN USE BY ADJOINING PROPERTY OWNER WHO WILL ALLOW OWNER TEMPORARY USE OF DRIVEWAY FOR S.C.E..



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS	(Symbol)	(Symbol)
SPOT GRADE	(Symbol)	(Symbol)
WOODED AREA	(Symbol)	(Symbol)
SILT FENCE	(Symbol)	(Symbol)
LIMIT OF DISTURBANCE	(Symbol)	(Symbol)
RETAINING WALL	(Symbol)	(Symbol)
WETLAND LIMIT	(Symbol)	(Symbol)
100 YR. FLOOD PLAIN	(Symbol)	(Symbol)
DIVERSION SWALE	(Symbol)	(Symbol)

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

SIGNATURE OF DEVELOPER (Date 10/15/93)
 CERTIFICATION BY THE ENGINEER (Date 10/13/93)
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

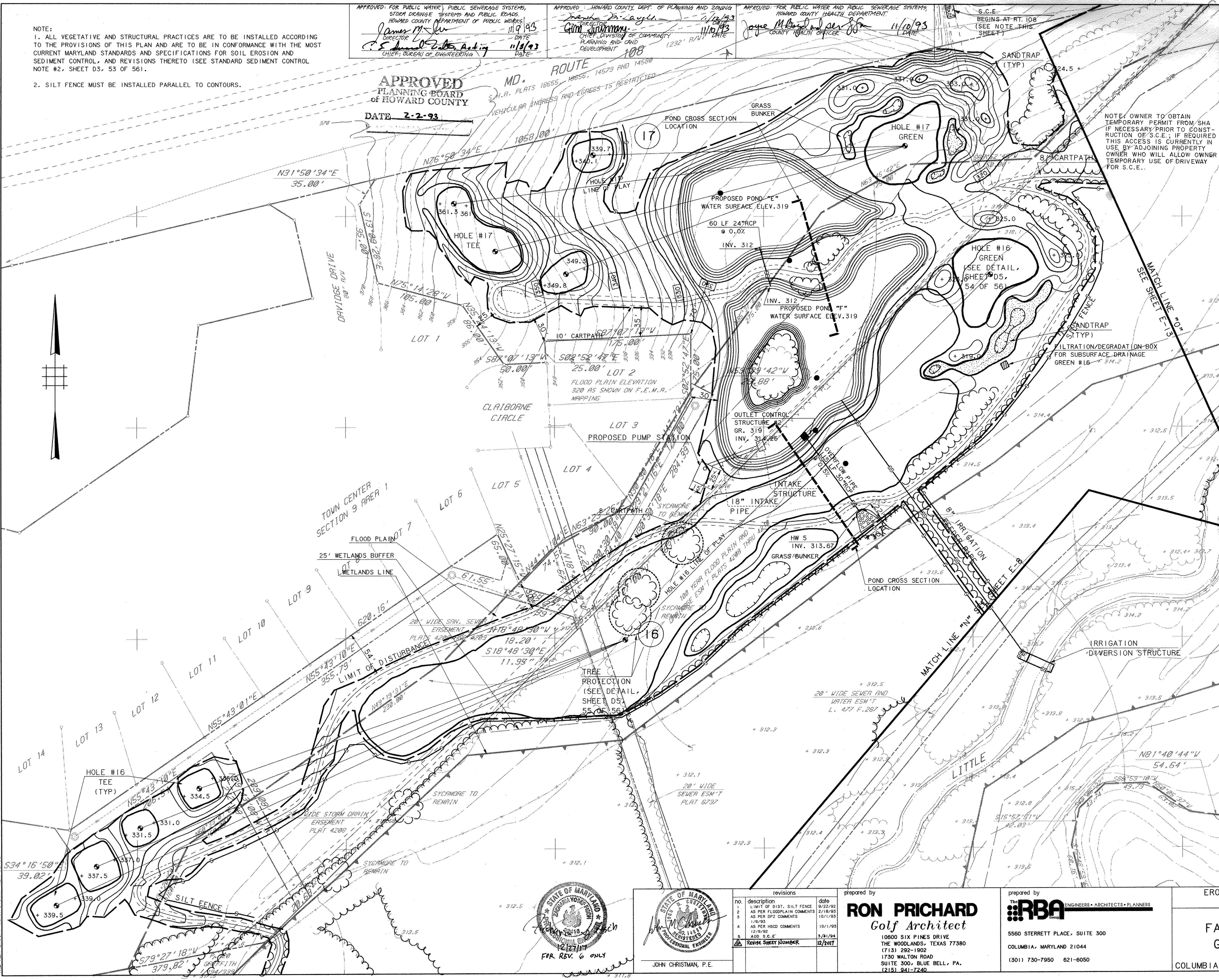
SIGNATURE OF ENGINEER (Date 10/13/93)
 JOHN CHRISTMAN, P.E.
 CERTIFICATION BY THE DEVELOPER
 THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

APPROVED (Date 10/21/93)
 REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.
 APPROVED (Date 10/21/93)
 HOWARD S.C.D. SOIL CONSERVATION SERVICE

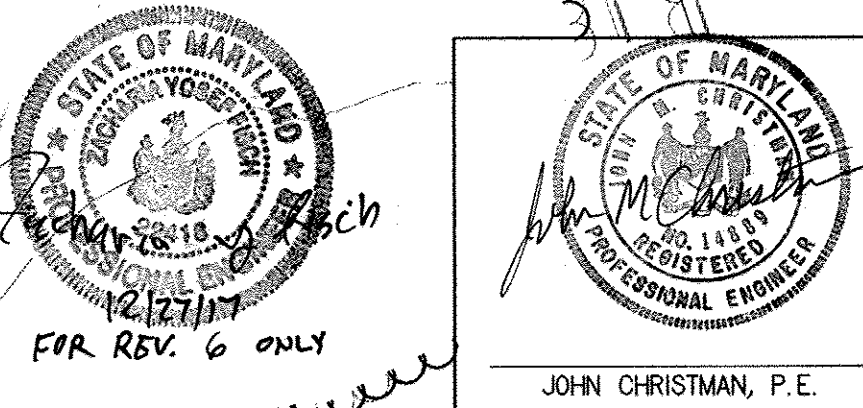
OWNER COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
 DEVELOPER COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
 ADDRESS CHART

BUILDING	STREET	ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD	
LOT-1-MAINT. BLDG.	5280 COLUMBIA ROAD	

SUBDIVISION NAME: VWL-9/23-LOT39, VWL-3/4-LOTS 33&35-TO-9/1-LOT30 & VDS-3/1-LOTS 1,2 & 4
 SECTION/AREA: 3/4/3/2, 9/1 & 3/1
 LOT/PARCEL: LOTS 1,2,3, 33,39 & 55
 PLAT: 8-29-1987-D.S.
 BLOCK ZONE: 14.15 (C.COM.)
 TAX ZONE MAP: 30
 ELEC. DIST: 51h
 CENSUS TR.: 6054
 WATER CODE: SEWER CODE:



PROJECT NO. THE RBA GROUP - MORRISTOWN, NEW JERSEY



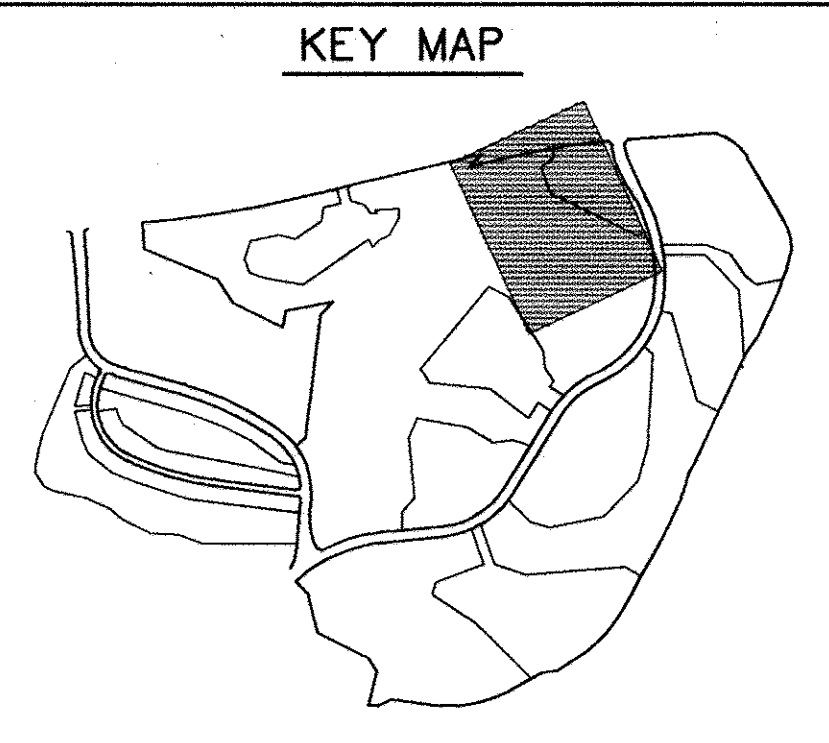
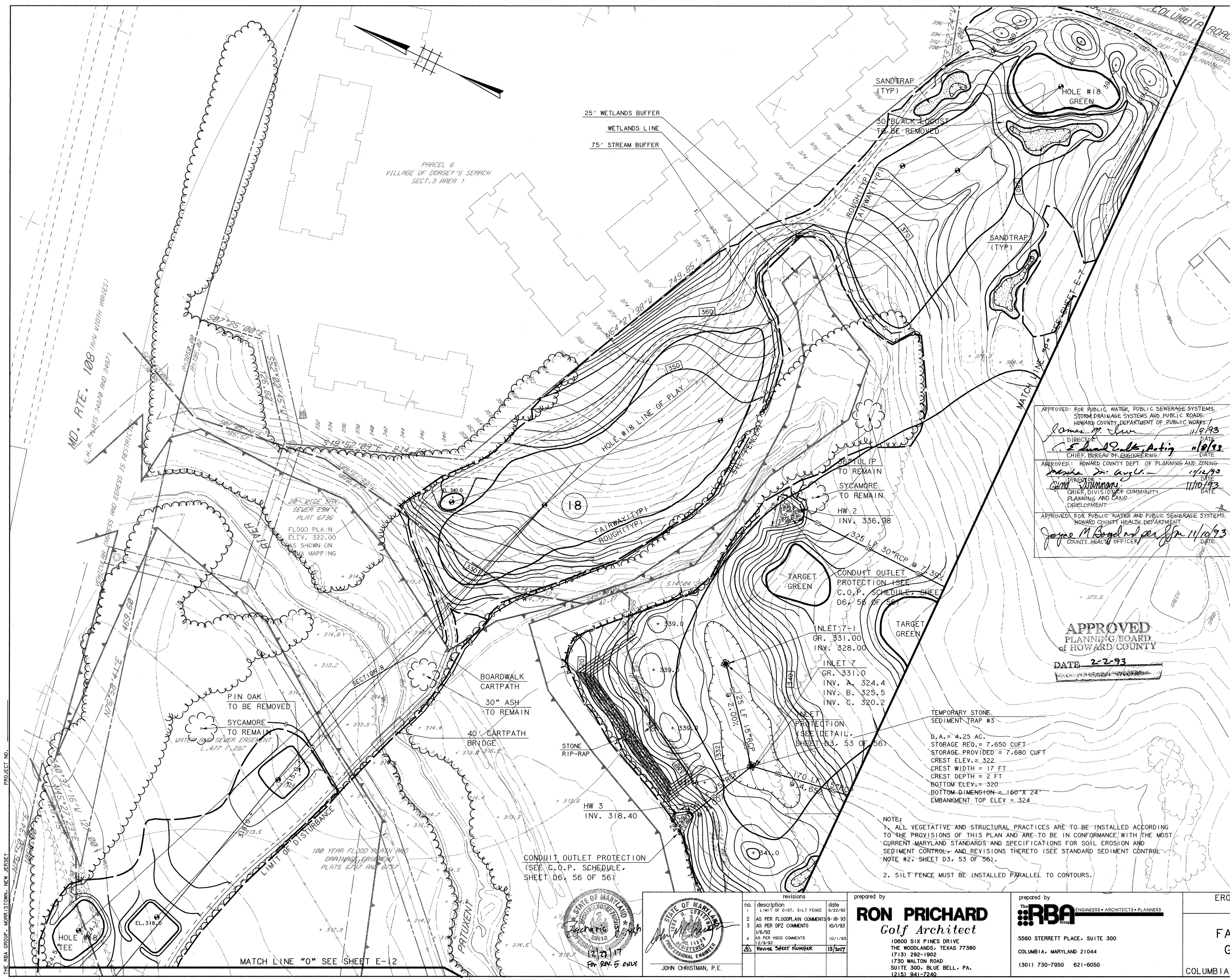
revisions

no.	description	date
1	LIMIT OF DIST. SILT FENCE	9/22/92
2	AS PER FLOODPLAIN COMMENTS	2/18/93
3	AS PER DDC COMMENTS	10/1/93
4	AS PER HSCD COMMENTS	10/1/93
5	ADD S.C.E.	3/21/94
6	REVISE SHEET NUMBER	12/20/17

prepared by
RON PRICHARD
 Golf Architect
 10600 SIX PINES DRIVE
 THE WOODLANDS, TEXAS 77380
 (713) 292-1800
 1730 WALTON ROAD
 SUITE 300, BLUE BELL, PA.
 (215) 941-7240

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

EROSION AND SEDIMENT CONTROL PLAN
 SCALE 1" = 50'
 DRAWN KBW CHECKED JJB
 PROJ. NO. M0405 DATE 9/22/92
E12
 COLUMBIA MARYLAND SHEET 29 OF 61



ITEM	LEGEND	
	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE		
WOODED AREA		
SILT FENCE		
LIMIT OF DISTURBANCE		
RETAINING WALL		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN DIVERSION SWALE		

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

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 James M. Slun 11/9/93
 DIRECTOR
 C. E. Hand 11/8/93
 CHIEF, BUREAU OF ENGINEERING
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 James M. Slun 11/12/93
 DIRECTOR
 Gina Williams 11/10/93
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
 APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT
 James M. Slun 11/10/93
 COUNTY HEALTH OFFICER

APPROVED PLANNING BOARD OF HOWARD COUNTY
 DATE 2-2-93

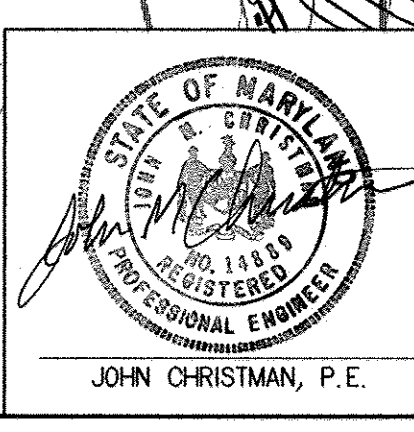
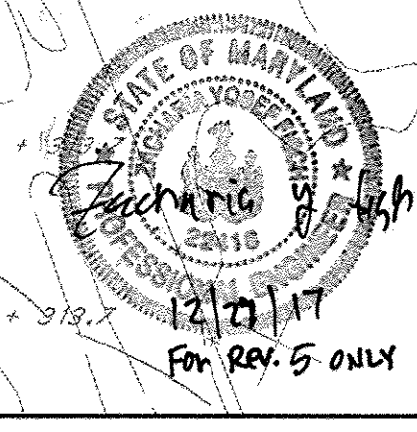
SIGNATURE OF DEVELOPER
 JOHN CHRISTMAN, P.E.
 CERTIFICATION BY THE ENGINEER
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
 John Christman 10/13/93
 SIGNATURE OF ENGINEER
 JOHN CHRISTMAN, P.E.
 CERTIFICATION BY THE DEVELOPER
 THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
 John Christman 10/13/93
 SIGNATURE OF DEVELOPER
 JOHN CHRISTMAN, P.E.
 THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 Robert W. Johnson 10/21/93
 APPROVED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.
 Robert W. Johnson 10/21/93
 S.S. SOIL CONSERVATION SERVICE
 SIGNATURE OF DEVELOPER
 JOHN CHRISTMAN, P.E.
 OWNER COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
 DEVELOPER COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
 ADDRESS CHART

BUILDING	STREET ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD
LOT1-MAINT. BLDG	5280 COLUMBIA ROAD
SUBDIVISION NAME	VW, 9/3, LOT 39, VW, 9/4, LOTS 33855, TC, 9/1, LOT 30, & VDS, 3/1, LOTS 1, 2 & 4
SECTION/AREA	9/3, 9/4, 9/1 & 3/1
LOT/PARCEL	LOTS 1, 2, 3, 33, 39 & 55
PLAT	8-5, 10/1/01-D, 3, 14, 15 [E COM]
BLOCK ZONE	30
TAX ZONE	51H
MAP FILE	6054
GENUS TR	
WATER CODE	
SEWER CODE	

NOTE:
 1. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO (SEE STANDARD SEDIMENT CONTROL NOTE #2; SHEET D3, 53 OF 56).
 2. SILT FENCE MUST BE INSTALLED PARALLEL TO CONTOURS.

PROJECT NO. THE RBA GROUP, MORRISTOWN, NEW JERSEY

MATCH LINE "O" SEE SHEET E-12



no.	description	date
1	LIMIT OF DIST. SILT FENCE	9/22/92
2	AS PER FLOODPLAIN COMMENTS	8-18-93
3	AS PER DPZ COMMENTS	10/19/93
4	AS PER HCD COMMENTS	12/9/92
5	REVISE SHEET NUMBER	12/20/97

prepared by
RON PRICHARD
 Golf Architect
 10600 SIX PINES DRIVE
 THE WOODLANDS, TEXAS 77380
 (713) 292-1902
 1730 WALTON ROAD
 SUITE 300, BLUE BELL, PA.
 (215) 941-7240

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

EROSION AND SEDIMENT CONTROL PLAN
FAIRWAY HILLS GOLF COURSE
 COLUMBIA MARYLAND
 SCALE 1" = 50'
 DRAWN KBW CHECKED JJB
 PROJ. NO. M0405 DATE 9/22/92
E13
 SHEET 30 OF 61

SDP-92-104

PLANT LIST SHEETS L-1 & L-2

QTY L1	QTY L2	KEY	SIZE	PLANT NAME: BOTANICAL/COMMON NAME	ROOT	REMARKS
-	4	⊕	2-2 1/2' CML	ACER RUBRUM RED SUNSET RED SUNSET MAPLE	BBB	FULL HEAD
3	-	⊙	6-8' HT	CRATAEGUS LAVALLEI LAVELL HAWTHORN	BBB	FULL
5	2	⊙	2-2 1/2' CML	FRAXINUS PENNSYLVANICA GREEN ASH	BBB	FULL HEAD
6	2	⊕	2-2 1/2' CML	PLATANUS ACERIFOLIA LONDON PLANE TREE	BBB	FULL HEAD
8	0	⊕	6-8' HT	PRUNUS YEDOENSIS YOSHINO CHERRY	BBB	FULL HEAD
14	8	⊙	3-6' HT	PINUS STROBUS WHITE PINE	BBB	FULL
22	0	⊙	6-8' HT	PINUS STROBUS WHITE PINE	BBB	FULL
7	3	⊙	8-10' HT	PINUS STROBUS WHITE PINE	BBB	FULL
8	-	⊙	2-2 1/2' CML	QUERCUS PALUSTRIS PIN OAK	BBB	FULL HEAD

REFER TO SHEET L-15 FOR DETAILS & GENERAL NOTES.

KEY MAP

LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE		
WOODED AREA		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER		
RETAINING WALL		
EXISTING STREAM		
EXISTING PROP. LINE		
EXISTING EASEMENT LINE		
BOUNDARY/PROPERTY LINE		

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
James M. Law 11/2/92
DIRECTOR DATE
Robert Deppa 11/1/93
CHIEF BUREAU OF ENGINEERING DATE
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Debra A. Layle 11/2/93
DIRECTOR DATE
Gini Dummery 11/10/93
CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
 Joyce M. Boudreau per John 1/5/96
COUNTY HEALTH OFFICER DATE

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045
DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045
ADDRESS CHART

BUILDING	STREET	ADDRESS
LOT1-CLUBHOUSE	5100 COLUMBIA ROAD	
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD	

SUBDIVISION NAME: VWL-9/3-LOT39, VWL-9/4-LOTS 33655-TC-9/1, LOT30
SECTION/AREA: 9/3, 9/4, LOTS 1, 2, 3, 9/1 & 3/1, 33, 39 & 55
PLAT: PB 151 P. 25, P. 19, BLOCK ZONE TAX/ZONE MAP ELEC DIST CENSUS TR
2-41, 6-135, 6-143, 6-508, 6-1, 6-10, 6-5, 4205-4210 14-15 (R COMM) 30 51h 6054
WATER CODE: E01 SEWER CODE: 5680200

LANDSCAPE PLAN
HOLE #1
SDP-92-104
FAIRWAY HILLS
GOLF COURSE
COLUMBIA MARYLAND
SCALE 1" = 50'
DRAWN: *Shaw* CHECKED: *Shaw*
PROJ NO: M0405 DATE: 10-2-92
L-1 SHEET: 31 OF 61

FLOOD PLAIN
WETLANDS
75' STREAM BUFFER
25' WETLANDS BUFFER

PROJECT NO. THE RBA GROUP, MORRISTOWN, NEW JERSEY

STATE OF MARYLAND
REGISTERED LANDSCAPE ARCHITECT
NO. 219
FOR RBA 3 ONLY

STATE OF MARYLAND
REGISTERED LANDSCAPE ARCHITECT
NO. 219
CHARLES H. SHAW JR.

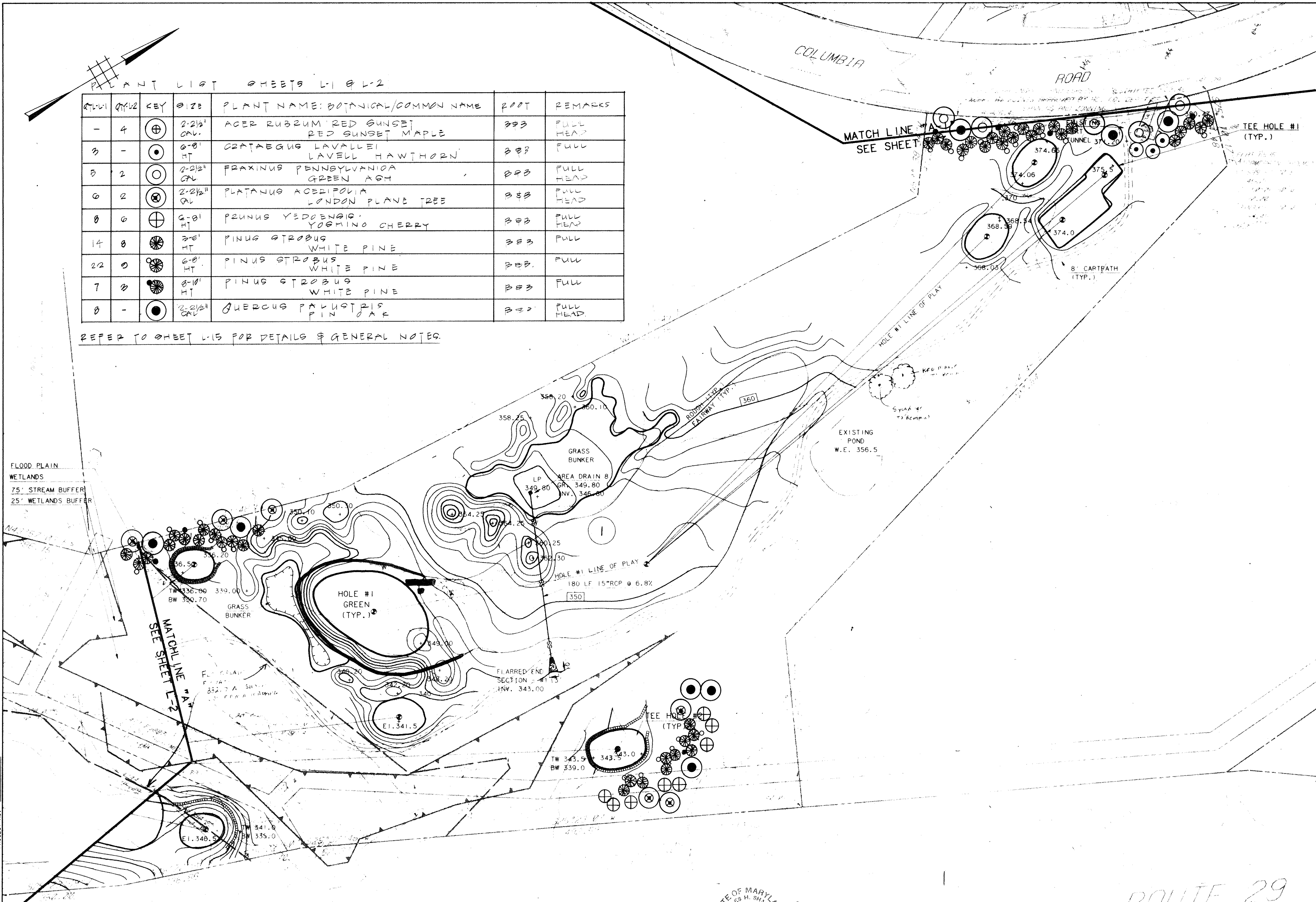
NO.	DESCRIPTION	DATE
1	AS PER COUNTY ZONING	10-93
2	PER DPZ COMMENTS	10-93
3	REVISE SHEET NUMBER	12/2017

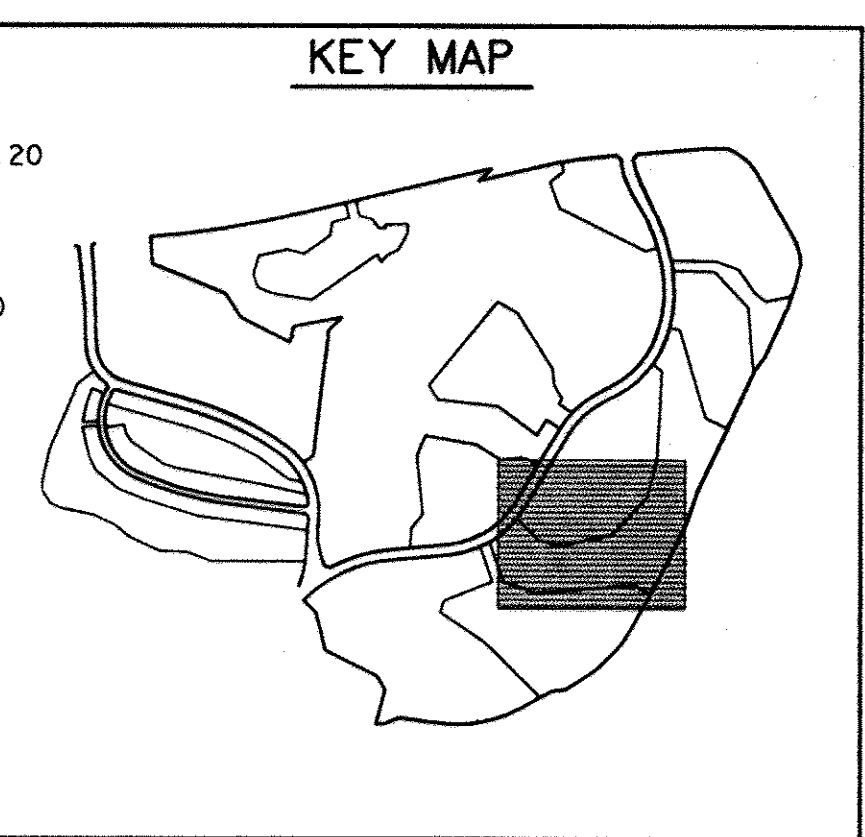
prepared by
Charles H. Shaw
Landscape Architect
6651 Cedar Lane
Columbia, MD 21044

prepared by
RBA
ENGINEERS • ARCHITECTS • PLANNERS
5560 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7950 621-6050

NOTE: THIS PLAN IS FOR PLANTING PURPOSES ONLY

ROUTE 29





LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE	+ 350.0	+ 350.0
WOODED AREA		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER		
RETAINING WALL		

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 2-2-93

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 DIRECTOR: *[Signature]* DATE: 11/1/93
 CHIEF, BUREAU OF ENGINEERING
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 DIRECTOR: *[Signature]* DATE: 11/1/93
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
 APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
 COUNTY HEALTH OFFICER: *[Signature]* DATE: 11/5/93

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
 DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING	STREET	ADDRESS
CLUBHOUSE	COLUMBIA ROAD	COLUMBIA

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL
VILLAGE OF DORSEYS SEARCH RUNNING BROOK	1/2	3-4
PLAT 6755 THRU 6743, BLOCK ZONE	9/3.4	53, 59 & 55
6536 PB131.41	NT	30
6536 PB131.23		5



PROJECT NO. THE RBA GROUP, MORRISTOWN, NEW JERSEY

MATCH SHEET L-3

NOTES:
 REFER TO SHEET L-1 FOR PLANT LIST & QUANT.
 THIS PLAN IS FOR PLANNING PURPOSES ONLY.

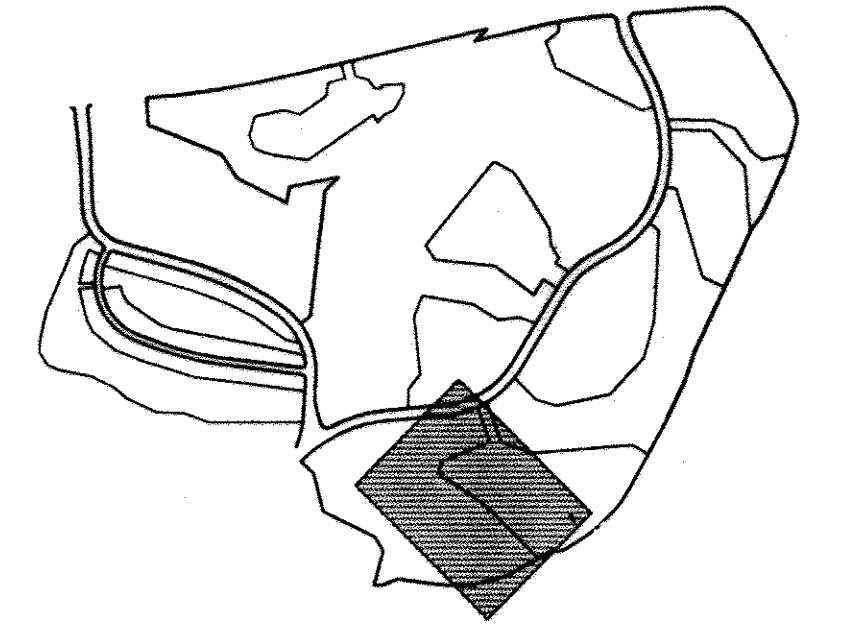
STATE OF MARYLAND
 CHARLES H. SHAW
 REGISTERED LANDSCAPE ARCHITECT
 NO. 219

no.	description	date
1	PER OPZ COMMENTS	10-9-92
2	REVISE SHEET NUMBER	12/20/92

prepared by
Charles H. Shaw
 Landscape Architect
 6651 Cedar Lane
 Columbia, MD 21044

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
 5880 STERRETT PLACE, SUITE 500
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

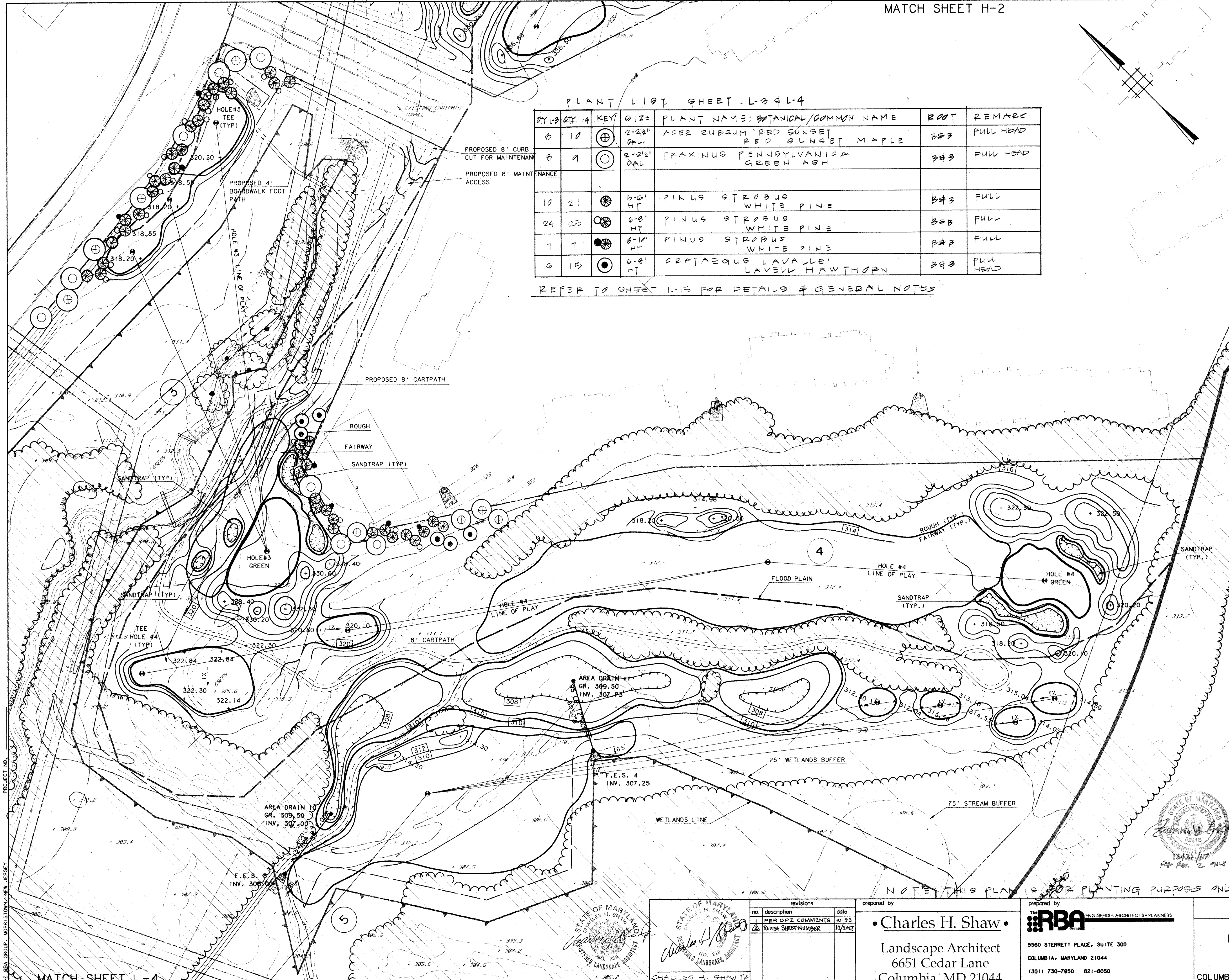
LANDSCAPE PLAN
 HOLE #2
FAIRWAY HILLS GOLF COURSE
 COLUMBIA MARYLAND
 SCALE 1" = 50'
 DRAWN: *[Signature]* CHECKED: *[Signature]*
 PROJ. NO. M0405 DATE: 10-2-92
 L-2 SHEET 32 OF 61



PLANT LIST SHEET - L-3 & L-4

QTY	KEY	SIZE	PLANT NAME: BOTANICAL/COMMON NAME	ROOT	REMARK
10	⊕	2-2 1/2" GR.	ACER RUBRUM 'RED SUNSET' / RED SUNSET MAPLE	B&B	FULL HEAD
9	⊙	2-2 1/2" BAL	FRAXINUS PENNSYLVANICA / GREEN ASH	B&B	FULL HEAD
10	⊗	5-6" HT	PINUS STROBUS / WHITE PINE	B&B	FULL
24	⊗	6-8" HT	PINUS STROBUS / WHITE PINE	B&B	FULL
7	⊗	8-10" HT	PINUS STROBUS / WHITE PINE	B&B	FULL
6	⊙	6-8" HT	CRATAEGUS LAVALLE / LAVELL HAWTHORN	B&B	FULL HEAD

REFER TO SHEET L-15 FOR DETAILS & GENERAL NOTES



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE	+ 350.0	+ 350.0
WOODED AREA		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER RETAINING WALL		

APPROVED
PLANNING BOARD
OF HOWARD COUNTY

DATE 2-2-93

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

James M. ... 11/2/93
DIRECTOR DATE
Charles H. Shaw 11/1/93
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
... 11/2/93
DIRECTOR DATE
... 11/10/93
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

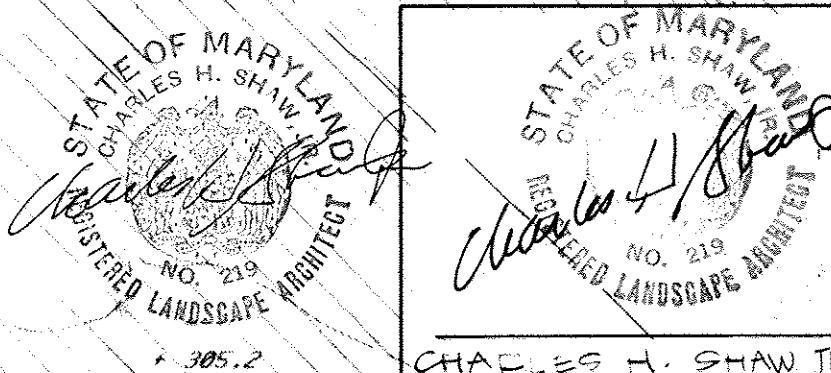
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
James M. ... 11/5/93
COUNTY HEALTH OFFICER DATE

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD, 21045
DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD, 21045
ADDRESS CHART

BUILDING STREET ADDRESS
CLUBHOUSE COLUMBIA ROAD, COLUMBIA

SUBDIVISION NAME: VILLAGE OF DORSEYS SEARCH RUNNING BROOK
SECTION/AREA: 1/1, 9/3.4
LOT/PARCEL: 33, 39 & 55
PLAT 6735 THRU 6743, BLOCK ZONE TAX/ZONE MAP ELEC. DIST. CENSUS TR. 6536 PB131.41 NT 30 5
WATER CODE SEWER CODE

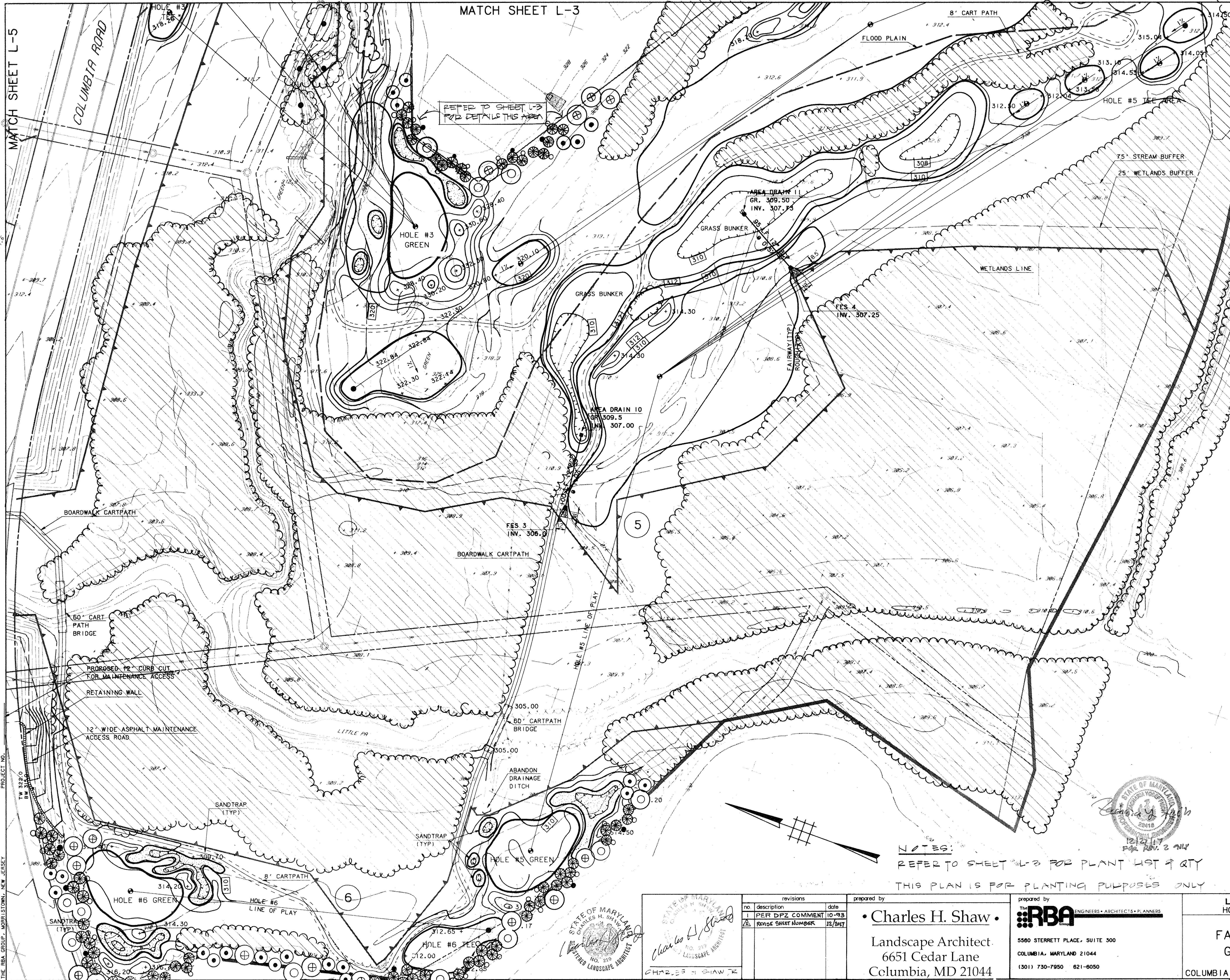
LANDSCAPE PLAN
HOLE #3 & HOLE #4
FAIRWAY HILLS
GOLF COURSE
COLUMBIA MARYLAND
SCALE 1" = 50'
DRAWN: *Shaw*
CHECKED: *Shaw*
PROJ. NO. MO405
DATE 10-2-92
L-3 SHEET 33 OF 61



revisions
no. description date
1 P&R DPZ COMMENTS 10-93
2 REVISE SHEET NUMBER 12/2017
prepared by
Charles H. Shaw
Landscape Architect
6651 Cedar Lane
Columbia, MD 21044

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
5580 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7950 821-6050

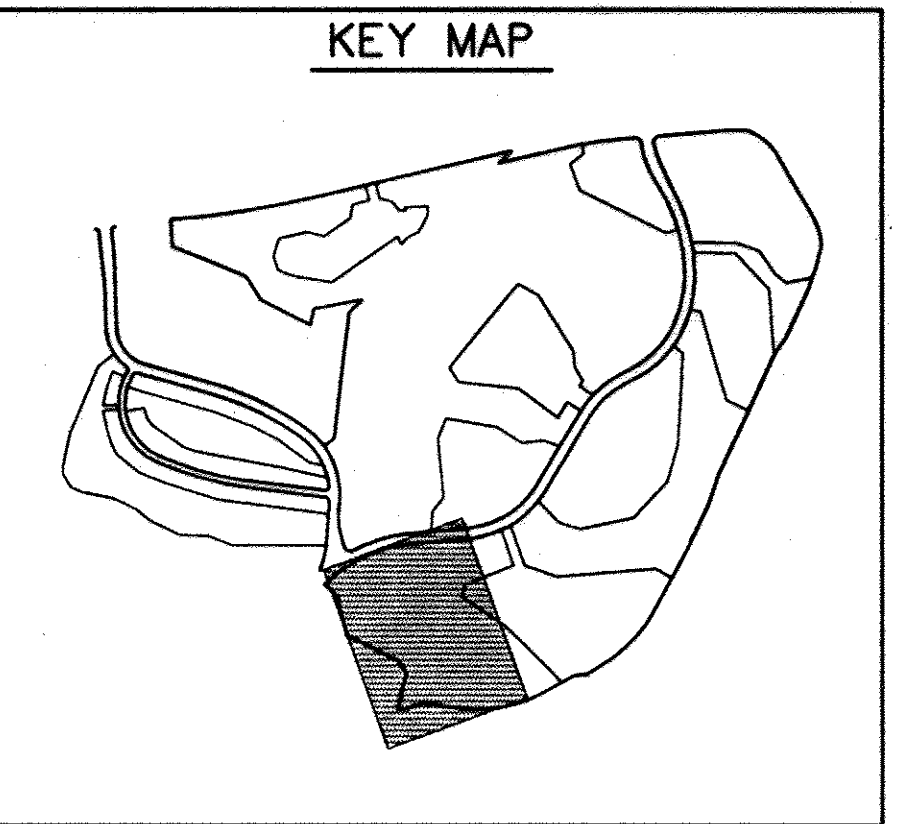
NOTES: THIS PLAN IS FOR PLANTING PURPOSES ONLY



MATCH SHEET L-5

PROJECT NO. TW 322.0
THE RBA GROUP, MORRISTOWN, NEW JERSEY

MATCH SHEET L-3



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE	+ 350.0	+ 350.0
WOODED AREA		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER		
RETAINING WALL		

APPROVED
PLANNING BOARD
OF HOWARD COUNTY

DATE 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS,
DIRECTOR James M. Shaw 11/6/93 DATE
CHIEF-BUREAU OF ENGINEERING 11/1/93 DATE
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
DIRECTOR 11/1/93 DATE
CHIEF-DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT 11/10/93 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS,
HOWARD COUNTY HEALTH DEPARTMENT,
DIRECTOR Joyce M. Bond 1/5/93 DATE
COUNTY HEALTH OFFICE

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING	STREET	ADDRESS
CLUBHOUSE	COLUMBIA ROAD	COLUMBIA

SUBDIVISION NAME	SECTION/AREA	LOT/PARCELS
VILLAGE OF DORSEYS SEARCH RUNNING BROOK	1/1	1, 2, 3, 4
PLAT 6735 THRU 6743, BLOCK ZONE	9/3.4	33, 39 & 55
6536 PB131.41, BLOCK ZONE	NT	30
6536 PB131.25	NT	5

LANDSCAPE PLAN		SCALE	
HOLE #5 & HOLE #6		1" = 50'	
DRAWN	CHECKED	PROJ. NO.	DATE
Shaw	Shaw	M0405	10-2-92
L-4		SHEET 34 OF 61	

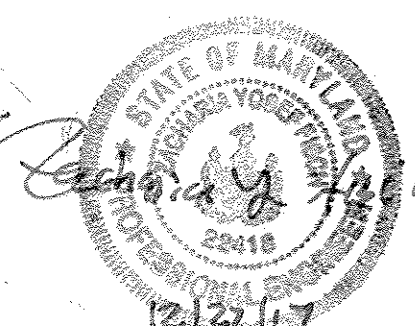
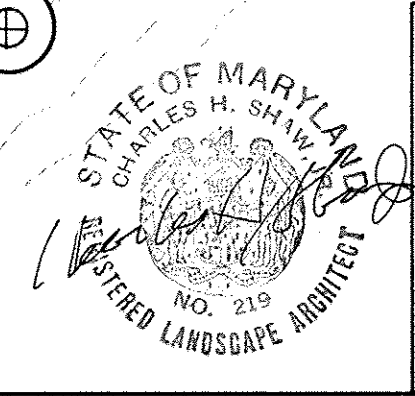
NOTES:
REFER TO SHEET L-3 FOR PLANT LIST & QTY
THIS PLAN IS FOR PLANTING PURPOSES ONLY

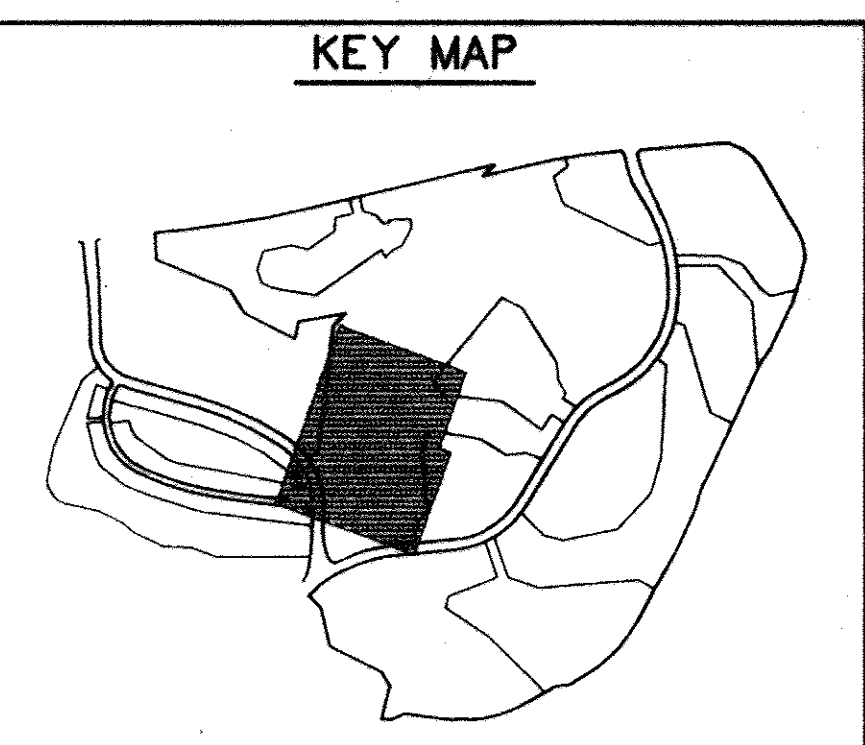
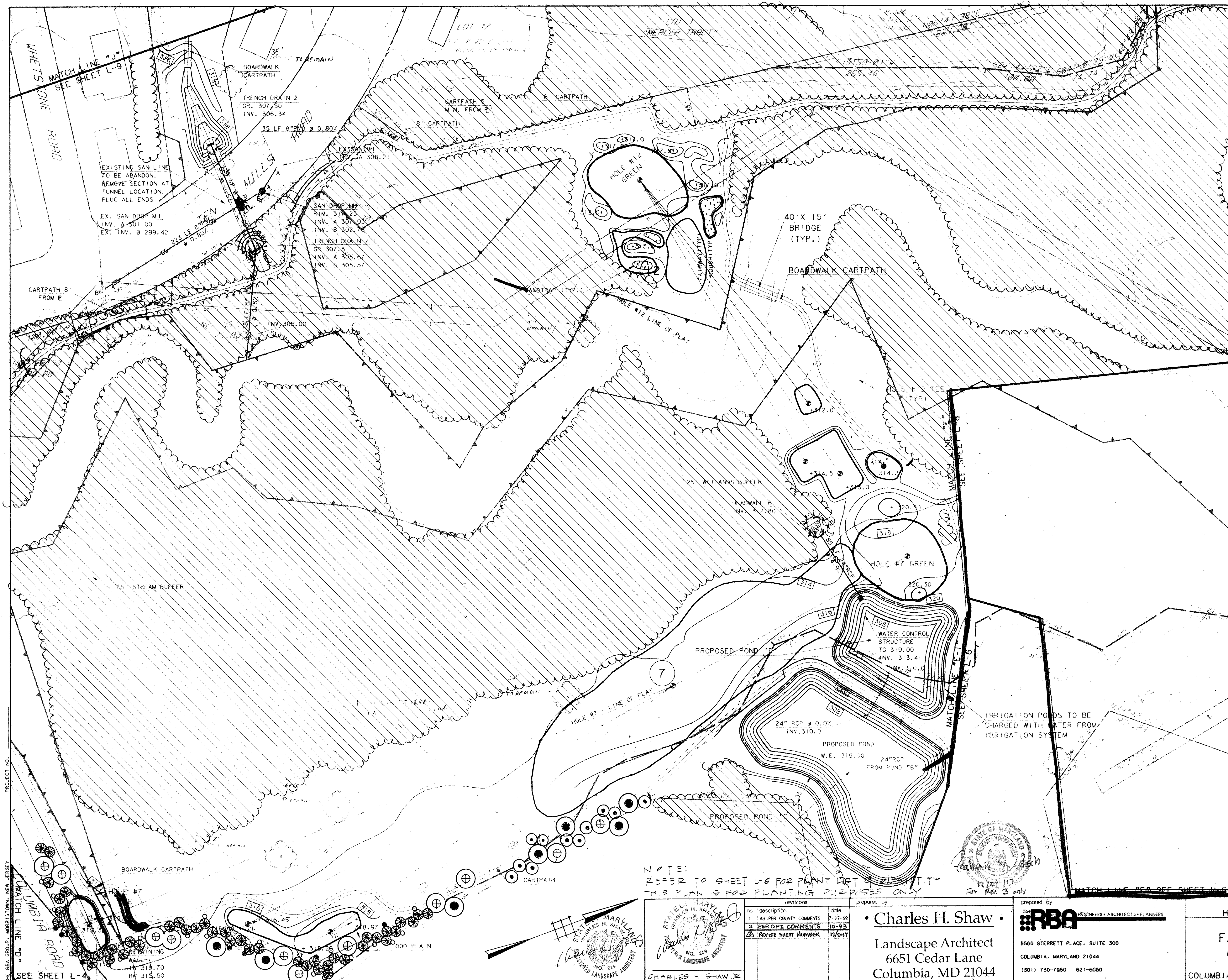
revisions

no.	description	date
1	PER DPZ COMMENT	10-93
2	REVISE SHEET NUMBER	12/20/97

prepared by
Charles H. Shaw
Landscape Architect
6651 Cedar Lane
Columbia, MD 21044

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
5560 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7950 621-8050





LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE		+ 350.0
WOODED AREA		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER		
RETAINING WALL		
EXISTING STREAM		
EXISTING PROPERTY LINE		
EXISTING EASEMENT LINE		

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE: 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
James M. [Signature] 11/2/93
DIRECTOR DATE
Charles H. Shaw 11/1/93
CHIEF, BUREAU OF ENGINEERING DATE
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
James M. [Signature] 11/1/93
DIRECTOR DATE
Gina [Signature] 11/10/93
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
Joyce M. [Signature] 11/5/93
COUNTY HEALTH OFFICER DATE

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD, 21045
DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD, 21045

ADDRESS CHART

BUILDING	STREET ADDRESS
LOT 1 - CLUBHOUSE	5100 COLUMBIA ROAD
LOT 1 - MAINT. BLDG.	5280 COLUMBIA ROAD

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL
V.M. 9/3, LOT 39	9/3, 9/4	LOTS 1, 2, 3
V.M. 9/4, LOTS 33, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55	9/1 & 3/1	33, 39 & 55
PLAT	BLOCK/ZONE <td>TAX/ZONE MAP </td>	TAX/ZONE MAP
	11-10-01-0-51	30
	11-10-01-0-51	51H
		6054

LANDSCAPE PLAN
HOLE #7 & HOLE #12
FAIRWAY HILLS GOLF COURSE
COLUMBIA MARYLAND
SCALE 1" = 50'
DRAWN: Shaw
CHECKED: Shaw
PROJ. NO. MO405
DATE: 10-2-92
SHEET 35 OF 61

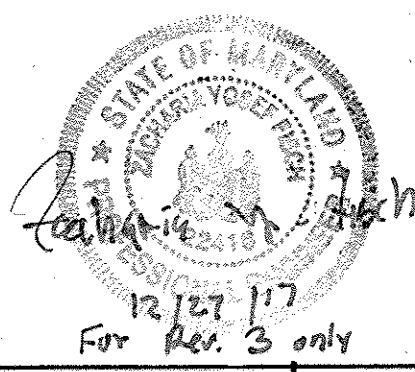
NOTE:
REFER TO SHEET L-6 FOR PLANT LIST & QUANTITIES
THIS PLAN IS FOR PLANTING PURPOSES ONLY

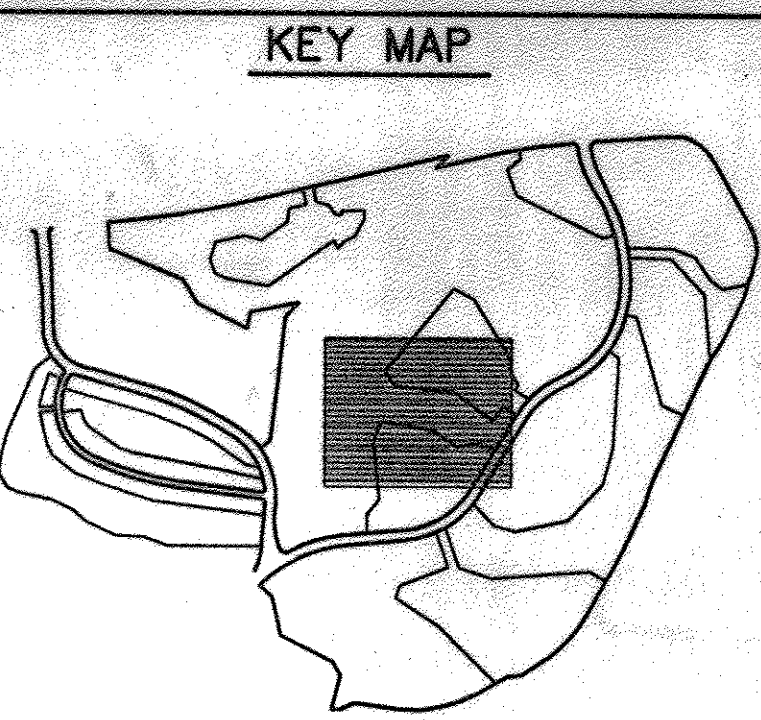
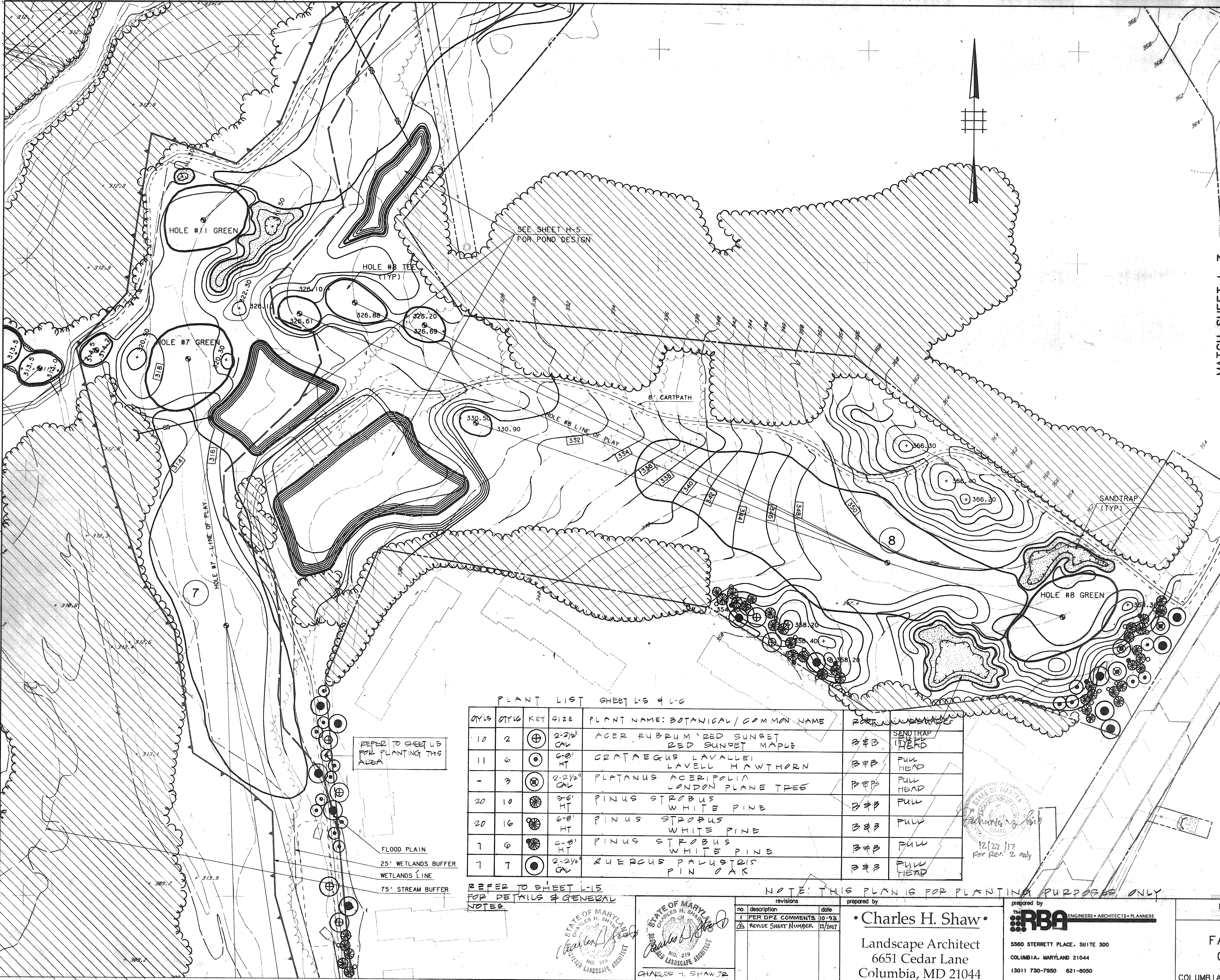
STATE OF MARYLAND
NOTARY PUBLIC
CHARLES H. SHAW JR.
LANDSCAPE ARCHITECT
NO. 219

revisions
1 AS PER COUNTY COMMENTS 7-27-92
2 PER DPZ COMMENTS 10-93
3 REVISE SHEET NUMBER 12/20/97

prepared by
Charles H. Shaw
Landscape Architect
6651 Cedar Lane
Columbia, MD 21044

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
5560 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7950 621-6050





LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE	+ 350.0	+ 350.0
WOODED AREA		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER RETAINING WALL		

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE 2-2-93

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
James M. ... 11/2/93
DIRECTOR DATE
... 11/1/93
CHIEF, BUREAU OF ENGINEERING DATE
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
... 11/2/93
DIRECTOR DATE
... 11/10/93
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE
APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.
HOWARD COUNTY HEALTH DEPARTMENT.
Joyce M. ... 11/5/93
COUNTY HEALTH OFFICER DATE

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045
DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045
ADDRESS CHART

BUILDING	STREET ADDRESS
CLUBHOUSE	COLUMBIA ROAD, COLUMBIA

SECTION/AREA	LOT/PARCEL
VILLAGE OF DORSEYS SEARCH	LOTS 1, 2, 3, 4
RUNNING BROOK	33, 39 & 55
PLAT 6735 1TH BY 3/23/83	TAX ZONE MAP FILED DIST. GENUS TR.
6536 PB131.41	NT 30 5
6536 PB131.25	

PLANT LIST SHEET L-5 & L-6

QTY	QTY LG	KEY	SIZE	PLANT NAME: BOTANICAL / COMMON NAME	ROOT	REMARKS
10	2	⊕	2-2 1/2 CAL	ACER RUBRUM 'RED SUNSET RED SUNSET MAPLE	R & B	SAND TRAP (TYP)
11	6	⊙	6-8' HT	CRATAEGUS LAVALLEI LAVELL HAWTHORN	B & B	FULL HEAD
-	3	⊕	2-2 1/2 CAL	PLATANUS ACERIFOLIA LONDON PLANE TREE	P & B	FULL HEAD
20	10	⊙	3-6' HT	PINUS STROBUS WHITE PINE	B & B	FULL
20	16	⊙	6-8' HT	PINUS STROBUS WHITE PINE	B & B	FULL
7	6	⊙	6-8' HT	PINUS STROBUS WHITE PINE	B & B	FULL
7	7	⊙	2-2 1/2 CAL	QUERCUS PALUSTRIS PIN OAK	B & B	FULL HEAD

REFER TO SHEET L-5 FOR PLANTING THIS AREA

FLOOD PLAIN
25' WETLANDS BUFFER
WETLANDS LINE
75' STREAM BUFFER

REFER TO SHEET L-15 FOR DETAILS & GENERAL NOTES

NOTE: THIS PLAN IS FOR PLANTING PURPOSES ONLY

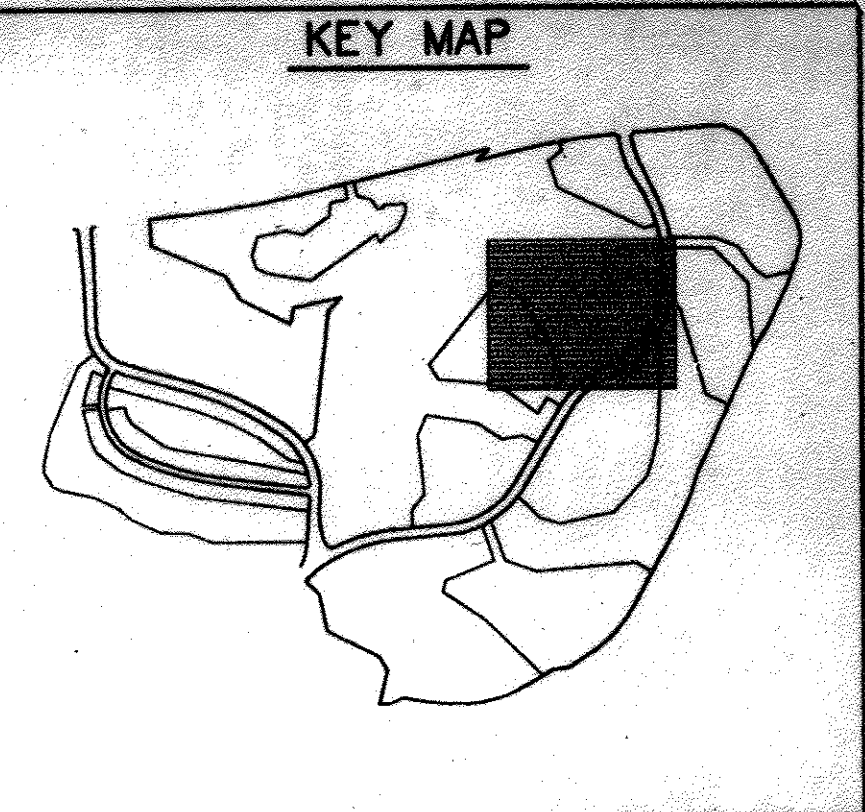
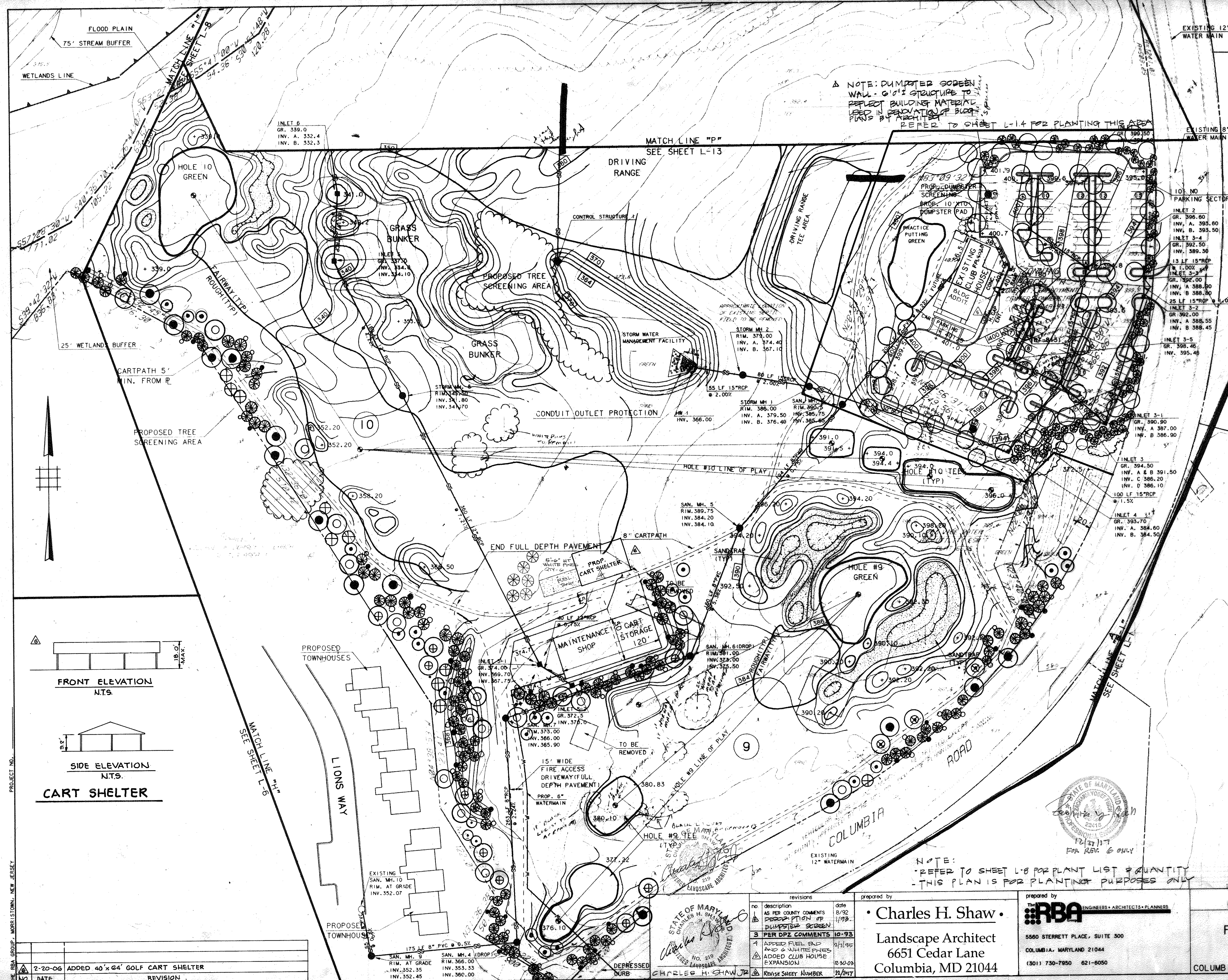
STATE OF MARYLAND
CHARLES H. SHAW
LICENSED LANDSCAPE ARCHITECT
NO. 219

no.	description	date
1	PER DPZ COMMENTS	10-93
2	REVISE SHEET NUMBER	11/20/97

prepared by
Charles H. Shaw
Landscape Architect
6651 Cedar Lane
Columbia, MD 21044

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
5560 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7950 621-6050

LANDSCAPE PLAN
HOLE #8
FAIRWAY HILLS GOLF COURSE
COLUMBIA MARYLAND
SCALE 1" = 50'
DRAWN *Shaw* CHECKED *Shaw*
PROJ. NO. MO405 DATE 10-2-92
L-6 SHEET 36 OF 61
SDP-92-104



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS	(Solid line)	(Dashed line)
SPOT GRADE	(Dotted line)	(Dashed line)
WOODED AREA	(Cloud-like pattern)	(Cloud-like pattern)
WETLAND LIMIT (25' BUFFER)	(Dashed line)	(Dashed line)
100 YR. FLOOD PLAIN	(Dashed line)	(Dashed line)
75' STREAM BUFFER	(Dashed line)	(Dashed line)
RETAINING WALL	(Dashed line)	(Dashed line)
EXISTING STREAM	(Solid line)	(Solid line)
EXISTING PROPERTY LINE	(Dashed line)	(Dashed line)
EXISTING EASEMENT LINE	(Dashed line)	(Dashed line)

APPROVED
PLANNING BOARD
 OF HOWARD COUNTY
 DATE: 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 Director: [Signature] 11/2/93 DATE
 Chief, Bureau of Engineering: [Signature] 11/1/93 DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 Director: [Signature] 11/12/93 DATE
 Chief, Division of Community Planning and Land Development: [Signature] 11/16/93 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
 Joyce M. Bondrup, John 11/17/93 DATE
 COUNTY HEALTH OFFICER

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING	STREET ADDRESS
LOT1-CLUBHOUSE	5100 COLUMBIA ROAD
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD

LANDSCAPE PLAN
 HOLE #9 & HOLE #10

FAIRWAY HILLS GOLF COURSE

COLUMBIA MARYLAND

SCALE 1" = 50'

DRAWN: [Signature] CHECKED: [Signature]

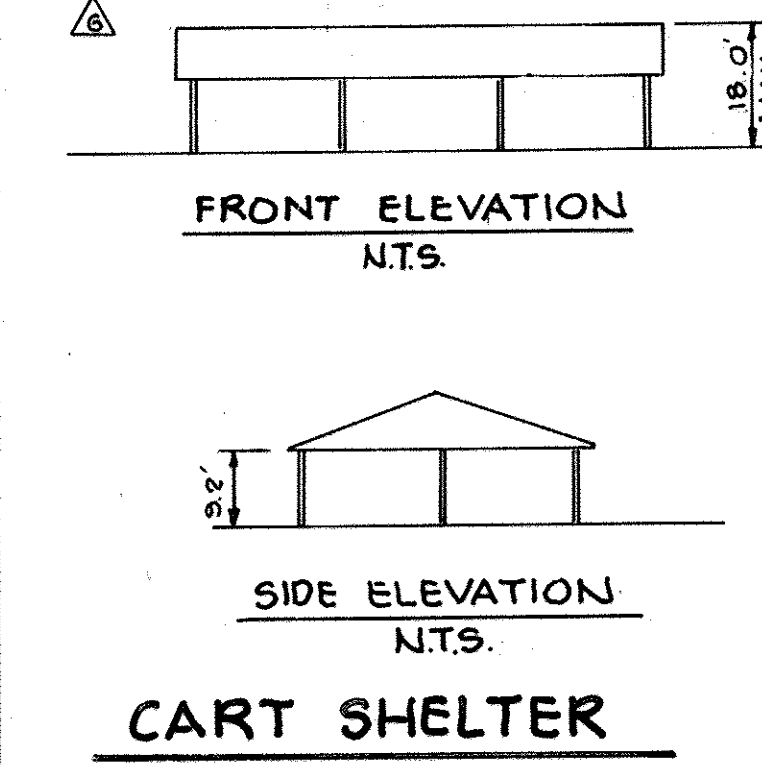
PROJ. NO. M0405 DATE: 10-2-92

L-7

SHEET 37 OF 61

NOTE: DUMPSTER SCREEN WALL - 6' HIGH STRUCTURE TO REFLECT BUILDING MATERIAL USED IN RENOVATION OF BLDG. PLANS BY ARCHITECT REFER TO SHEET L-14 FOR PLANTING THIS AREA

NOTE: REFER TO SHEET L-8 FOR PLANT LIST & QUANTITY - THIS PLAN IS FOR PLANTING PURPOSES ONLY



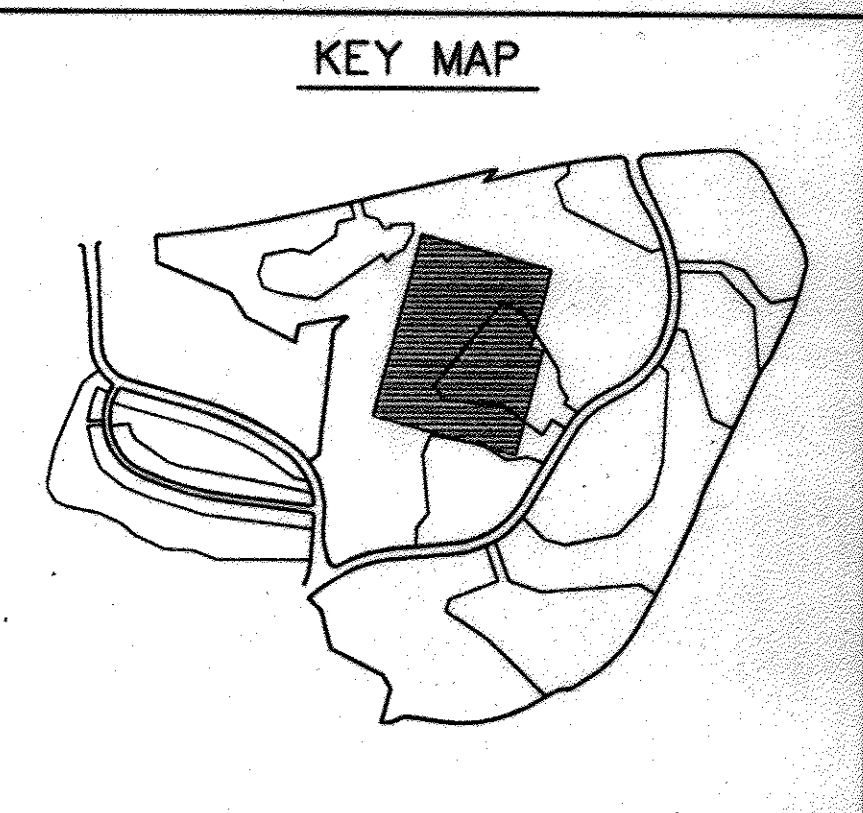
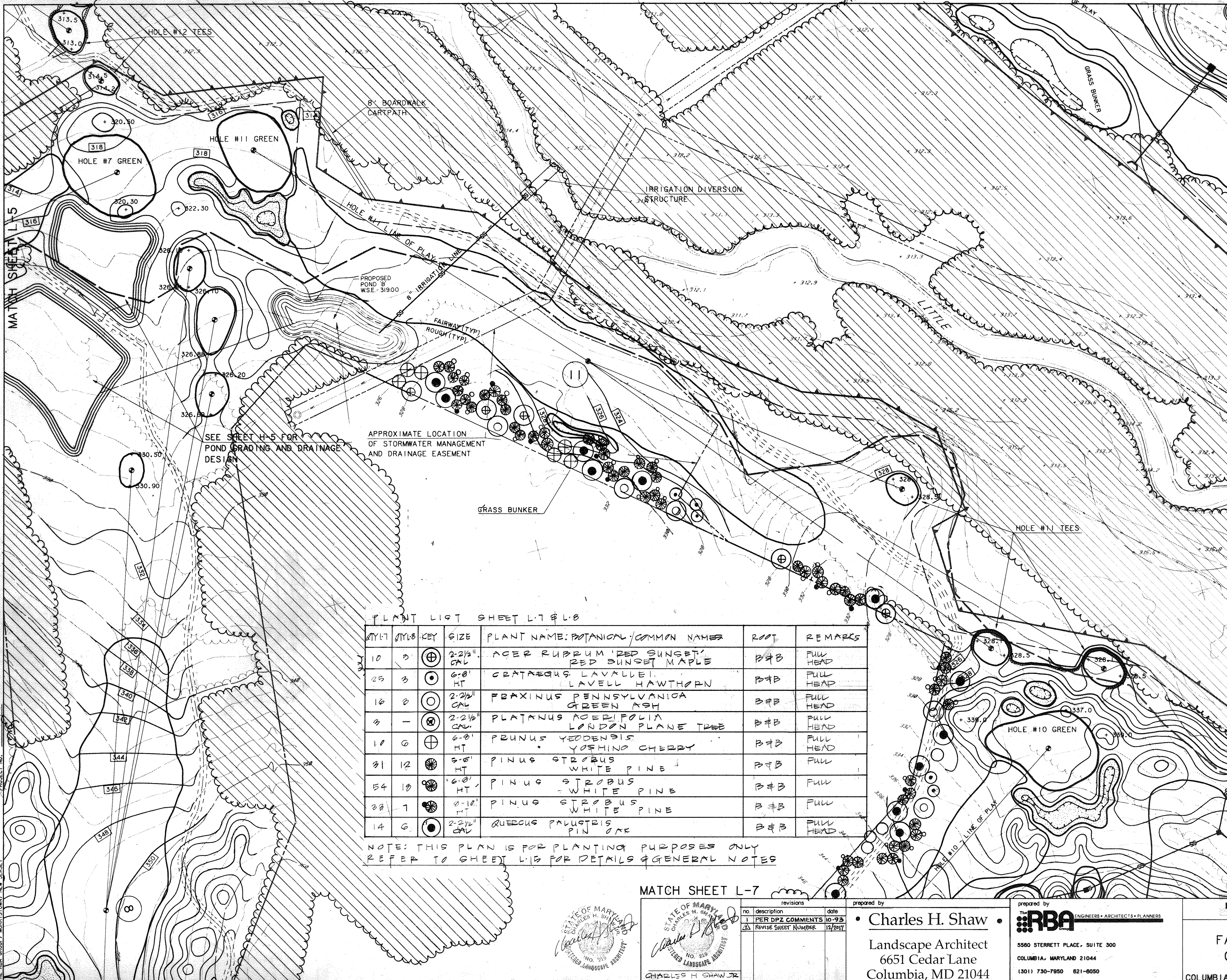
NO.	DATE	REVISION
1	2-20-06	ADDED 40' x 64' GOLF CART SHELTER

no.	description	date
1	AS PER COUNTY COMMENTS PER DPZ COMMENTS	8/92
2	ADDED FUEL PAD AND 6" WHITE PINES	1/93
3	PER DPZ COMMENTS	10-93
4	ADDED CLUB HOUSE EXPANSION	2/1/95
5	REVISION NUMBER	10/2/97

Charles H. Shaw
 Landscape Architect
 6651 Cedar Lane
 Columbia, MD 21044

prepared by **RBA** ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050

STATE OF MARYLAND
 CHARLES H. SHAW, JR.
 LANDSCAPE ARCHITECT
 No. 219
 12/27/17
 FOR REV. 6 ONLY



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE	+ 350.0	+ 350.0
WOODED AREA		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75AC+9AFRAG+BWACER		

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 2-2-93

STATE OF MARYLAND
PLANNING AND ZONING
COMMISSION

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
James M. Shaw 11/2/93
DIRECTOR DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
G. M. Shaw 11/1/93
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
Joyce M. Boyd 11/5/93
COUNTY HEALTH OFFICER DATE

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD, 21045

DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD, 21045

ADDRESS CHART

BUILDING	STREET ADDRESS
CLUBHOUSE	COLUMBIA ROAD, COLUMBIA

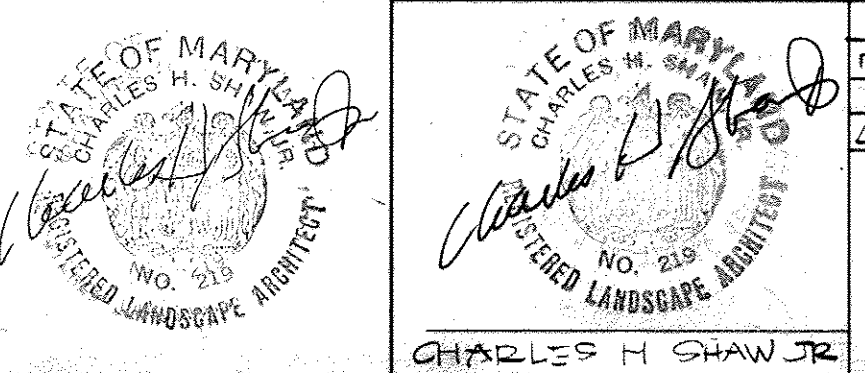
SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL
VILLAGE OF DORSEYS SEARCH	1/1	LOTS 1,2,3,4
RUNNING BROOK	93.4	33-39 & 35
PLAT 6735 THRU 6743, BLOCK ZONE	TAX/ZONE MAP	ELEC. DIST. CENSUS TR.
6536 PB131.41	30	5
PB131.25		
WATER CODE	SEWER CODE	

PLANT LIST SHEET L-7 & L-8

QTY	KEY	SIZE	PLANT NAME: BOTANICAL / COMMON NAMES	ROOT	REMARKS
10	⊕	2-2 1/2" CAL	ACER RUBRUM 'RED SUNSET', RED SUNSET MAPLE	B#B	FULL HEAD
25	⊙	6-8' HT	CRATAEGUS LAVALLEI, LAVELL HAWTHORN	B#B	FULL HEAD
10	⊙	2-2 1/2" CAL	FRAXINUS PENNSYLVANICA, GREEN ASH	B#B	FULL HEAD
3	⊙	2-2 1/2" CAL	PLATANUS ACERIFOLIA, LONDON PLANE TREE	B#B	FULL HEAD
10	⊕	6-8' HT	PRUNUS YEDDENBIS, YOSHINO CHERRY	B#B	FULL HEAD
31	⊙	5-6' HT	PINUS STROBUS, WHITE PINE	B#B	FULL
54	⊙	6-8' HT	PINUS STROBUS, WHITE PINE	B#B	FULL
33	⊙	8-10' HT	PINUS STROBUS, WHITE PINE	B#B	FULL
14	⊙	2-2 1/2" CAL	QUEBECUS PALUSTRIS, PIN OAK	B#B	FULL HEAD

NOTE: THIS PLAN IS FOR PLANTING PURPOSES ONLY REFER TO SHEET L-8 FOR DETAILS & GENERAL NOTES

MATCH SHEET L-7



no.	description	date
1	PER DPZ COMMENTS 10-93	
2	REVISE SHEET NUMBER	12/20/97

prepared by
Charles H. Shaw
Landscape Architect
6651 Cedar Lane
Columbia, MD 21044

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
5580 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7950 821-8050

LANDSCAPE PLAN
HOLE #11

FAIRWAY HILLS GOLF COURSE

COLUMBIA MARYLAND

SCALE 1" = 50'

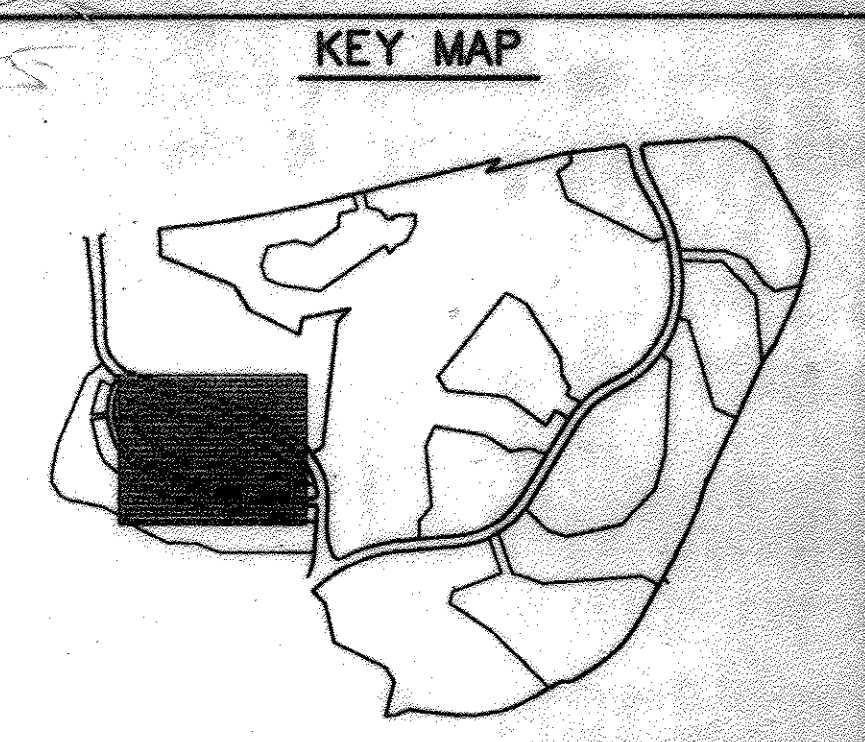
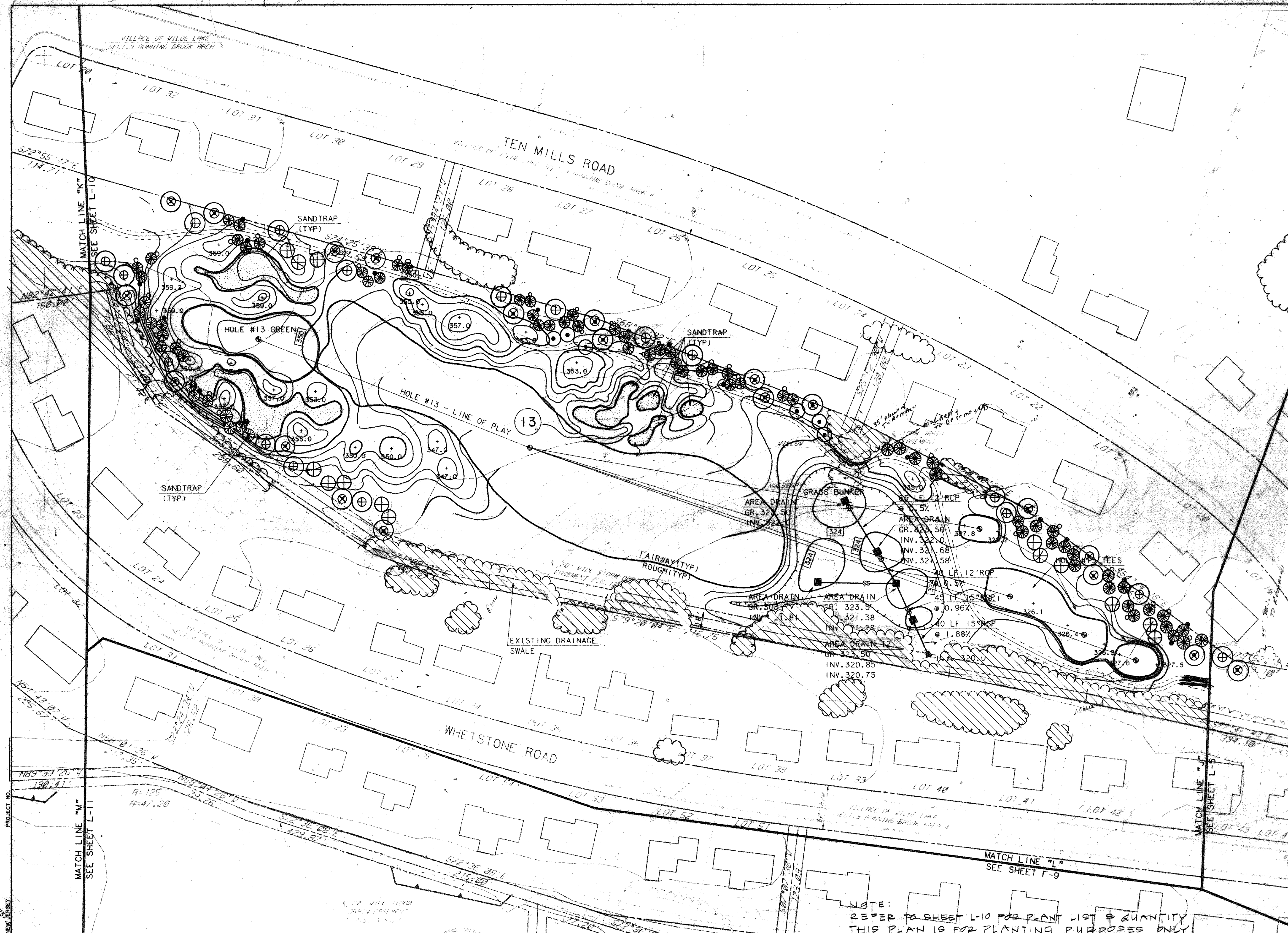
DRAWN: S.W. CHECKED: S.W.

PROJ. NO. MO405 DATE 10-2-92

L-8
SHEET 38 OF 61

SDP-92-104

PROJECT NO. THE RBA GROUP, MORRISTOWN, NEW JERSEY



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE		
WOODED AREA		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER RETAINING WALL		
EXISTING STREAM		
EXISTING PROPERTY LINE		
EXISTING EASEMENT LINE		

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 2-2-93

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC WORKS.
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 Director: *James M. Lewis* 11/2/93
 DATE: 11/2/93
 Chief, Bureau of Engineering
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 Director: *James M. Lewis* 11/1/93
 DATE: 11/1/93
 Chief, Division of Community Planning and Land Development
 APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
 Director: *Joyce M. Rowland* per *Jim* 11/5/93
 DATE: 11/5/93
 COUNTY HEALTH OFFICER

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
 DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
 ADDRESS CHART

BUILDING	STREET ADDRESS
LOT1-CLUBHOUSE	5100 COLUMBIA ROAD
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD

SECTION/AREA	LOT/PARCEL
VIL. 9/4, LOTS 33855, TC 9/1, LOT 30	9/3, 9/4, LOTS 1, 2, 3, & VDS. 3/1, LOTS 1-2 & 4
TAX/ZONE MAP ELEC. DIST. CENSUS TR. PLAT	30 51h 6054

NOTE: REFER TO SHEET L-10 FOR PLANT LIST & QUANTITY
 THIS PLAN IS FOR PLANTING PURPOSES ONLY

STATE OF MARYLAND
 REGISTERED LANDSCAPE ARCHITECT
 12/27/17
 FOR REV. 4 ONLY

STATE OF MARYLAND
 REGISTERED LANDSCAPE ARCHITECT
 CHARLES H. SHAW JR.

revisions	description	date
1	TEE LOC. AS PER CA	7/30
2	AS PER COUNTY COMMENTS	7-27-92
3	PER DPZ COMMENTS	10-93
4	Revise Sheet Number	12/20/97

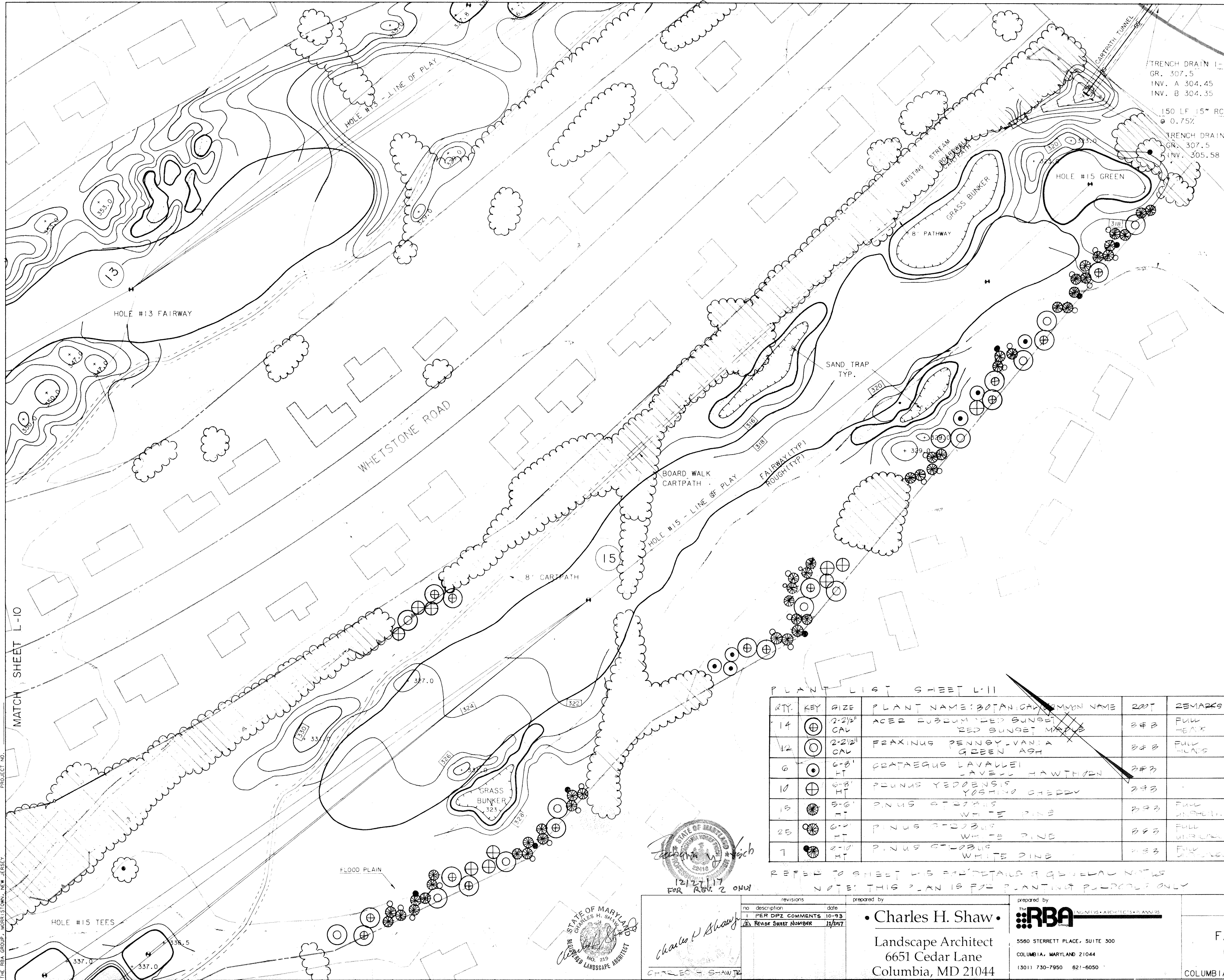
prepared by
Charles H. Shaw
 Landscape Architect
 6651 Cedar Lane
 Columbia, MD 21044

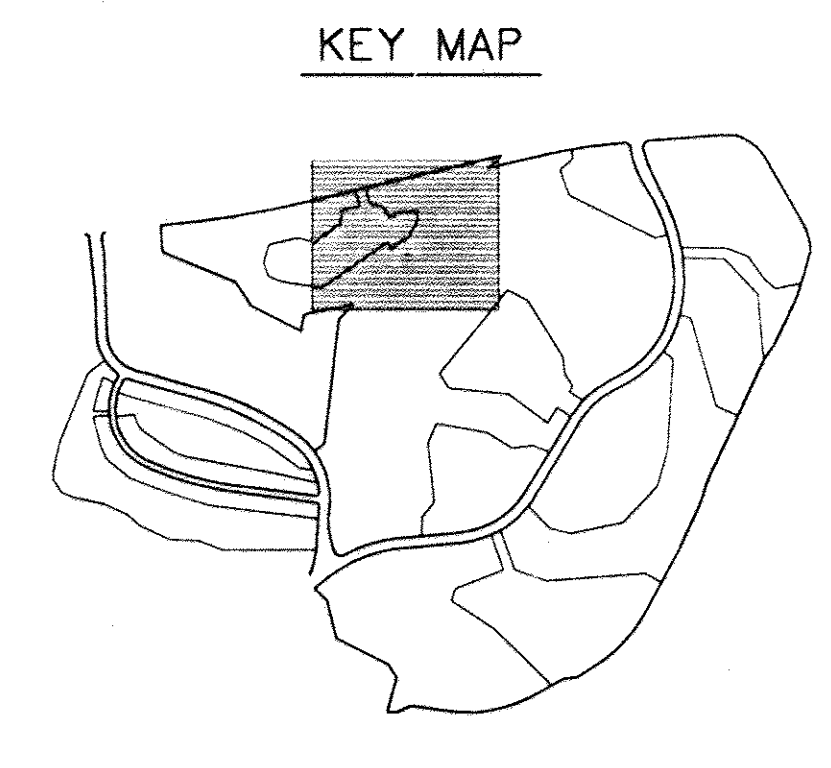
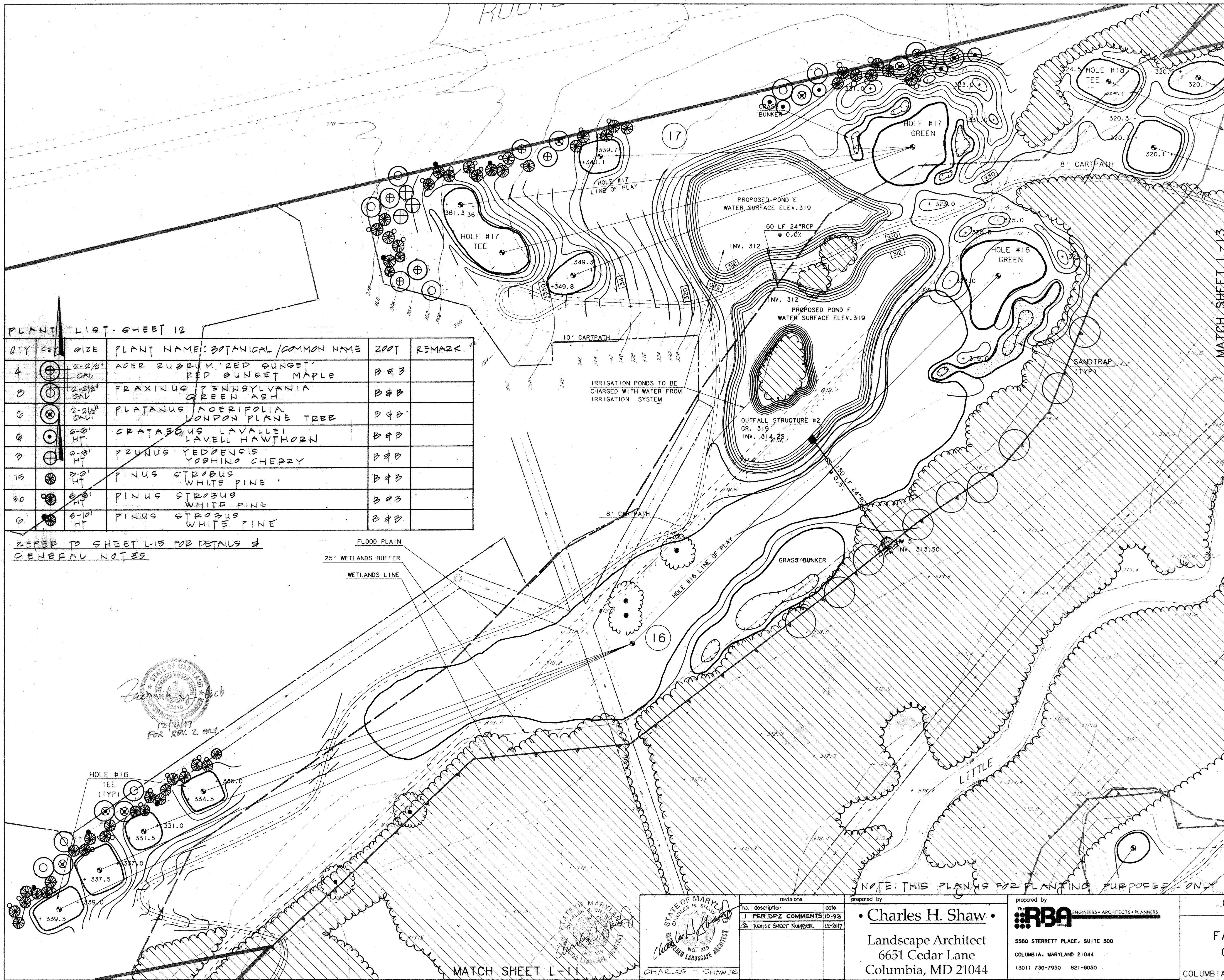
prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 750-7950 621-6050

LANDSCAPE PLAN
 HOLE #13
FAIRWAY HILLS
GOLF COURSE
 COLUMBIA MARYLAND

SCALE 1" = 50'
 DRAWN: *Shaw* CHECKED: *Shaw*
 PROJ. NO. MO405 DATE 10-2-92
L-9
 SHEET 39 OF 61

SPP-92-104





LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE		
WOODED AREA		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75% STORM WATER		

PLANT LIST - SHEET 12

QTY	KEY	SIZE	PLANT NAME: BOTANICAL / COMMON NAME	ROOT	REMARK
4		2-2 1/2" CAL	ACER RUBRUM 'RED SUNSET' / RED SUNSET MAPLE	B # B	
0		2-2 1/2" GRV	FRAXINUS PENNSYLVANIA / GREEN ASH	B # B	
0		2-2 1/2" GRV	PLATANUS ACERIFOLIA / LONDON PLANE TREE	B # B	
0		6-8' HT	CRATAEGUS LAVALLEI / LAVELL HAWTHORN	B # B	
0		6-8' HT	PRUNUS YEDOENSIS / YOSHINO CHERRY	B # B	
15		3-0' HT	PINUS STROBUS / WHITE PINE	B # B	
30		6-8' HT	PINUS STROBUS / WHITE PINE	B # B	
0		6-10' HT	PINUS STROBUS / WHITE PINE	B # B	

REFER TO SHEET L-15 FOR DETAILS & GENERAL NOTES

FLOOD PLAIN
25' WETLANDS BUFFER
WETLANDS LINE

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS,
DIRECTOR *James M. Law* 11/2/93 DATE
CHIEF, BUREAU OF ENGINEERING *John R. Reppert* 11/1/93 DATE
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
DIRECTOR *Joseph J. Langley* 11/12/93 DATE
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT *Gina Stummans* 11/10/93 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS,
HOWARD COUNTY HEALTH DEPARTMENT
James M. Boudreau 11/5/93 DATE
COUNTY HEALTH OFFICER

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045
DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045
ADDRESS CHART

BUILDING	STREET	ADDRESS
CLUBHOUSE	COLUMBIA ROAD,	COLUMBIA

SUBDIVISION NAME: VILLAGE OF DORSEYS SEARCH
SECTION/AREA: 1/1
LOT/PARCEL: 33, 39 & 55
PLAT 6735 THRU 6743, BLOCK ZONE TAX/ZONE MAP ELEC. DIST. CENSUS TR.
6536 PB13.41 NT 30 5
PB13.25 NT 30 5
WATER CODE: 30
SEWER CODE: 30

NOTE: THIS PLAN IS FOR PLANTING PURPOSES ONLY

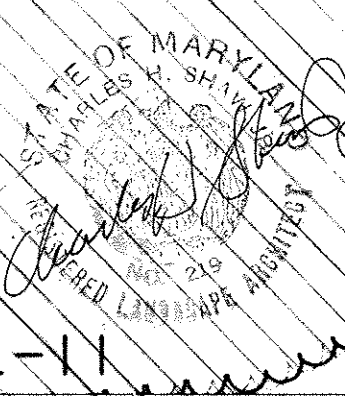
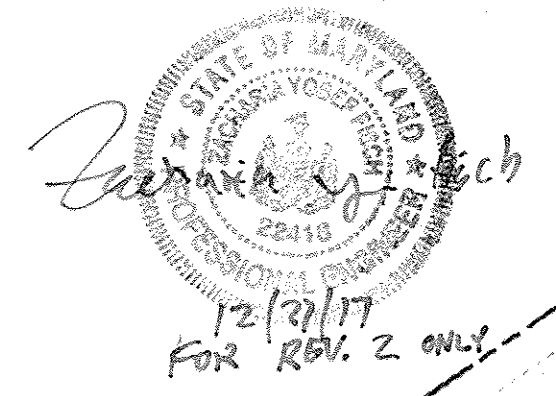
STATE OF MARYLAND
LANDSCAPE ARCHITECT
Charles H. Shaw
NO. 219
12-2017

revisions	description	date
1	PER DPZ COMMENTS	10-93
2	REVISE SHEET NUMBER	12-2017

prepared by
Charles H. Shaw
Landscape Architect
6651 Cedar Lane
Columbia, MD 21044

prepared by
RBA
ENGINEERS • ARCHITECTS • PLANNERS
5580 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7950 621-6050

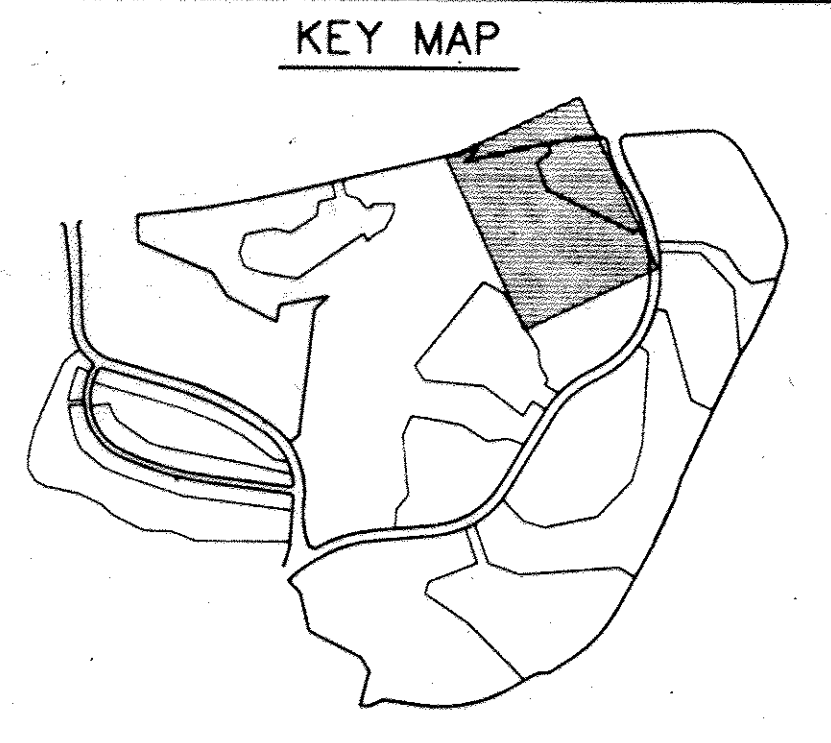
SCALE 1" = 50'
DRAWN *Shaw* CHECKED *Shaw*
PROJ. NO. MO405 DATE 10-2-92
L-12
COLUMBIA MARYLAND SHEET 42 OF 61
SDP-92-104



PLANT LIST SHEET L-13

QTY	KEY	SIZE	PLANT NAME: BOTANICAL / COMMON NAME	PO	REMARKS
6	⊙	6-8' HT	CRATAEGUS LAVALLEI LAVELL HAWTHORN	B # B	FULL HEAD
7	⊙	5-6' HT	PINUS STROBUS WHITE PINE	B # B	FULL
16	⊙	6-8' HT	PINUS STROBUS WHITE PINE	B # B	FULL
4	⊙	8-10' HT	PINUS STROBUS WHITE PINE	B # B	FULL
4	⊙	2-2 1/2" GAL	PLATANUS ACERIFOLIA LONDON PLANE TREE	B # B	FULL HEAD
4	⊙	2-2 1/2" GAL	QUERCUS PALUSTRIS PIN OAK	B # B	FULL HEAD

REFER TO SHEET L-15 FOR DETAILS & GENERAL NOTES



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE		
WOODED AREA		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER		
RAINING WALL		

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE 2-2-93

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

James P. ... 11/2/93
DIRECTOR DATE

Michael ... 11/1/93
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

... 11/2/93
DIRECTOR DATE

Gina ... 11/10/93
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS,
HOWARD COUNTY HEALTH DEPARTMENT

Joyce M. ... 11/5/93
COUNTY HEALTH OFFICER DATE

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING	STREET	ADDRESS
CLUBHOUSE	COLUMBIA ROAD	COLUMBIA

SUBDIVISION NAME: VILLAGE OF DORSEYS SEARCH
SECTION/AREA: 1/1
LOT/PARCEL: LOTS 1, 2, 3, 4

PLAT 6735 11/10/83 6743-1 BLOCK ZONE 9/3, 4
TAX/ZONE MAP 11/10/83 33, 39 & 55

6536 PB131.41 NT
PB131.25

WATER CODE: SEWER CODE:

LANDSCAPE PLAN
HOLE #18

SCALE 1" = 50'

FAIRWAY HILLS GOLF COURSE

COLUMBIA MARYLAND

L-13 SHEET 43 OF 61

revisions

no.	description	date
1	PER DPZ COMMENTS 10-93	
2	REVISE SHEET NUMBER	11/2/93

prepared by: **Charles H. Shaw**
Landscape Architect
6651 Cedar Lane
Columbia, MD 21044

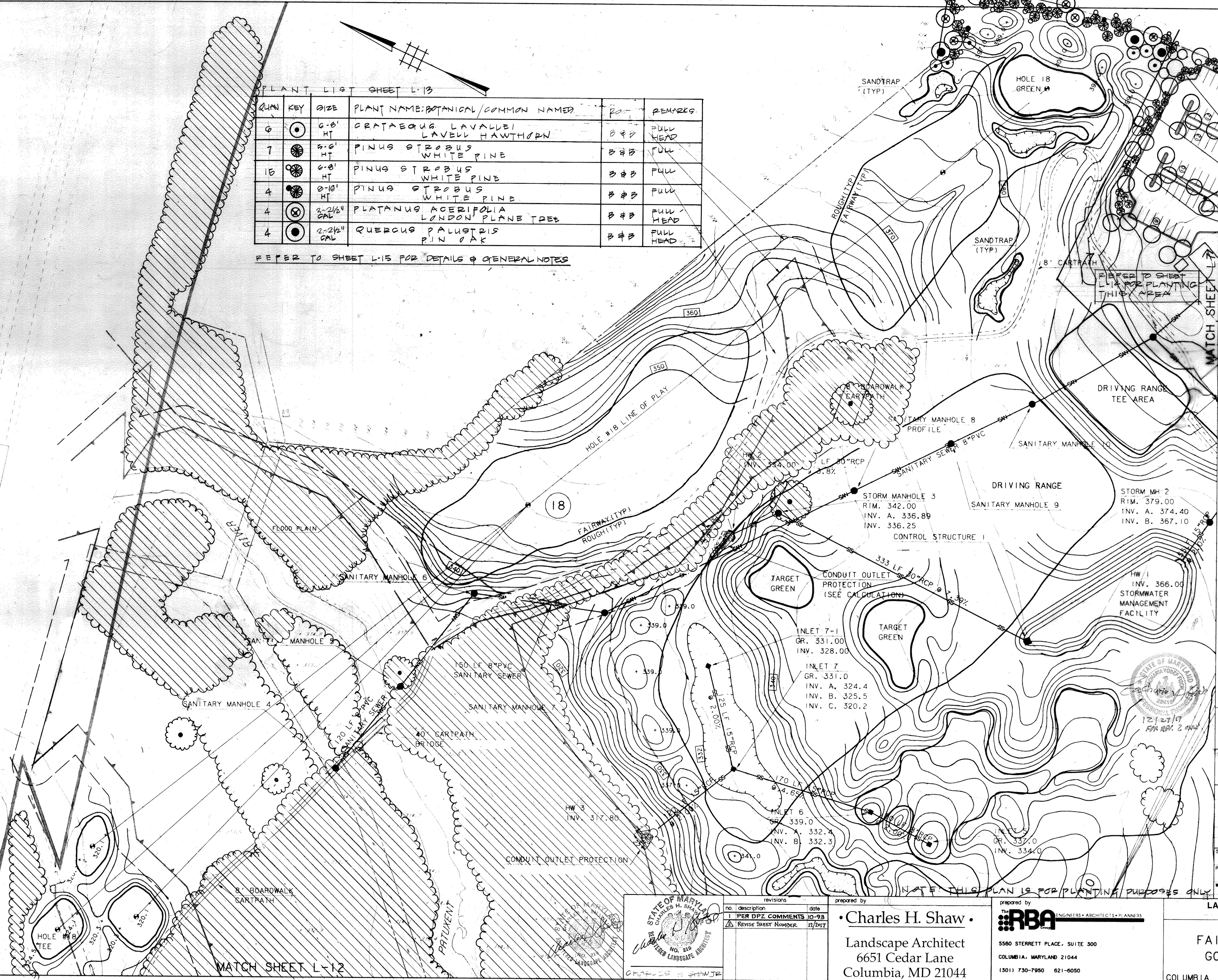
prepared by: **RBA**
ENGINEERS • ARCHITECTS • PLANNERS
5560 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7950 621-6050

PROJECT NO. THE RBA GROUP, MORRISTOWN, NEW JERSEY

MATCH SHEET L-12

MATCH SHEET L-17

NOTE: THIS PLAN IS FOR PLANTING PURPOSES ONLY



PLANT LIST - SHEET L-14

PLAN	KEY	SIZE	PLANT NAME; BOTANICAL/COMMON NAME	ROOT	REMARK
12	⊕	2-2 1/2' CAL	ACER RUBRUM 'RED SUNSET' RED SUNSET MAPLE	B&B	FULL HEAD
6	⊙	6-8' HT	CRATAEGUS LAVALLEI LAVELL HAWTHORN	B&B	FULL HEAD
125	⊕	24-30" SPR	ILEX GLABRA NANA DWARF INK BERRY	CAN	TRIM INTO HEDGE
6	⊗	8-10' HT	MAGNOLIA SOULANGIANA SAUCER MAGNOLIA	B&B	FULL MULTISTEM
41	⊕	2 1/2-3" CAL	PLATANUS ACERIFOLIA LONDON PLANE TREE	B&B	FULL HEAD
34	⊙	8-10' HT	PINUS STROBUS WHITE PINE	B&B	FULL
30	⊙	6-8' HT	PINUS STROBUS WHITE PINE	B&B	FULL
11	⊙	8-10' HT	PINUS STROBUS WHITE PINE	B&B	FULL
3	⊕	8-10' HT	PRUNUS YEDOENSIS YOSHINO CHERRY	B&B	FULL HEAD
20	⊙	2 1/2-3" CAL	QUERCUS PALUSTRIS PIN OAK	B&B	FULL HEAD
85	⊕	24-30" SPR	VIBURNUM CARLEGGI KOREAN SPICE VIBURNUM	B&B	

REFER TO SHEET L-13 FOR DETAILS & GENERAL NOTES

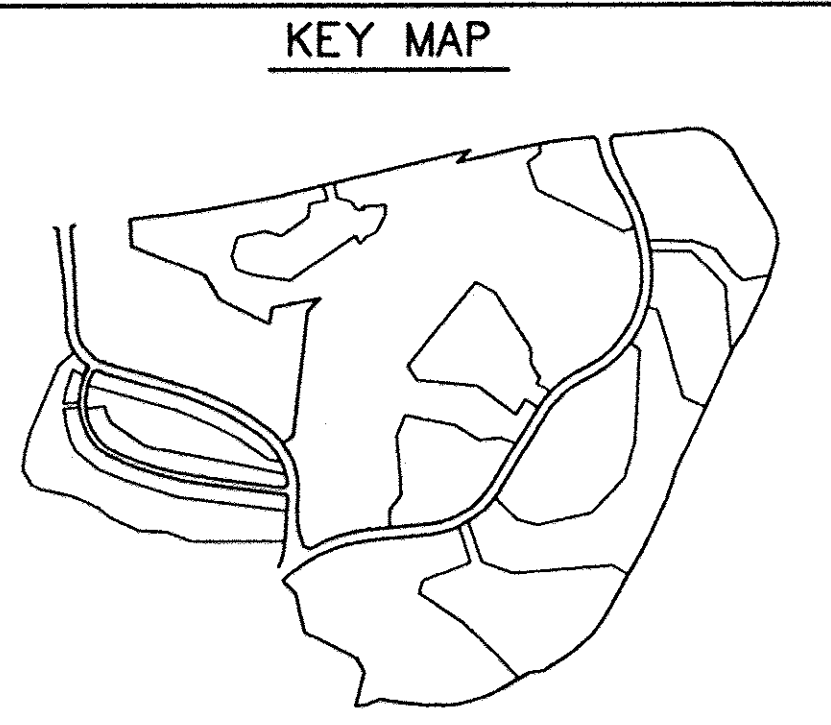
PLANT 30 - ILEX GLABRA - 3" CAL
TRIM INTO HEDGE

DUMPSTER - FINAL BUILDING SIZE TO BE DETERMINED BY ARCHITECT

PLANT 95 - ILEX GLABRA - 3" CAL
TRIM INTO HEDGE

HOLE # 10 TEE

NOTE: THIS PLAN IS FOR PLANTING PURPOSES ONLY



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE	+ 350.0	+ 350.0
WOODED AREA		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER		
RETAINING WALL		

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
James M. Shwin 11/2/93
DIRECTOR DATE
John J. Johnson 11/1/93
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
David J. Coughlin 11/16/93
DIRECTOR DATE
Gina Drummond 11/16/93
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

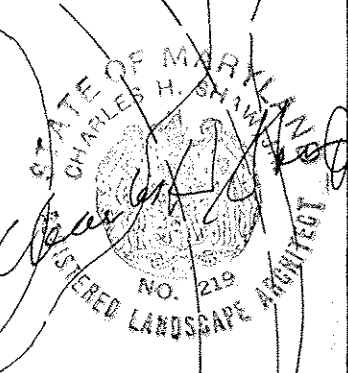
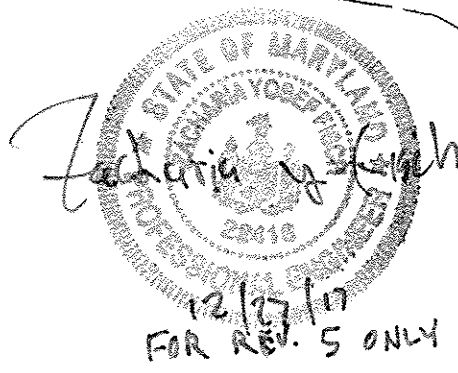
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
Joyce M. Boychuk per J. J. Johnson 11/5/93
COUNTY HEALTH OFFICER DATE

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045
DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045
ADDRESS CHART

BUILDING	STREET ADDRESS
LOT1-CLUBHOUSE	5100 COLUMBIA ROAD
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD

SUBDIVISION NAME	VOL.	PLAT	SECTION/AREA	LOT/PARCEL
V.M. 9/74, LOTS 33&35, TC 9/1, LOT 30	9/3, 9/4,	9/3, 9/4,	33, 35 & 35	33, 35 & 35
PLAT	9/7, 10/1, LOTS 1, 2 & 4	9/7, 10/1, LOTS 1, 2 & 4	9/7, 10/1, LOTS 1, 2 & 4	9/7, 10/1, LOTS 1, 2 & 4

PROJECT NO. THE RBA GROUP, MORRISTOWN, NEW JERSEY



revisions
no. description date
1 AS PER COUNTY COMMENTS 7-27-92
2 ADD SHEETS DUMPSTER NOTE 1/93
3 PER DPZ COMMENTS 10-93
4 ADDED CLUB HOUSE EXPANSION 12-30-93
5 REVISE SHEET NUMBERS 12-24-97

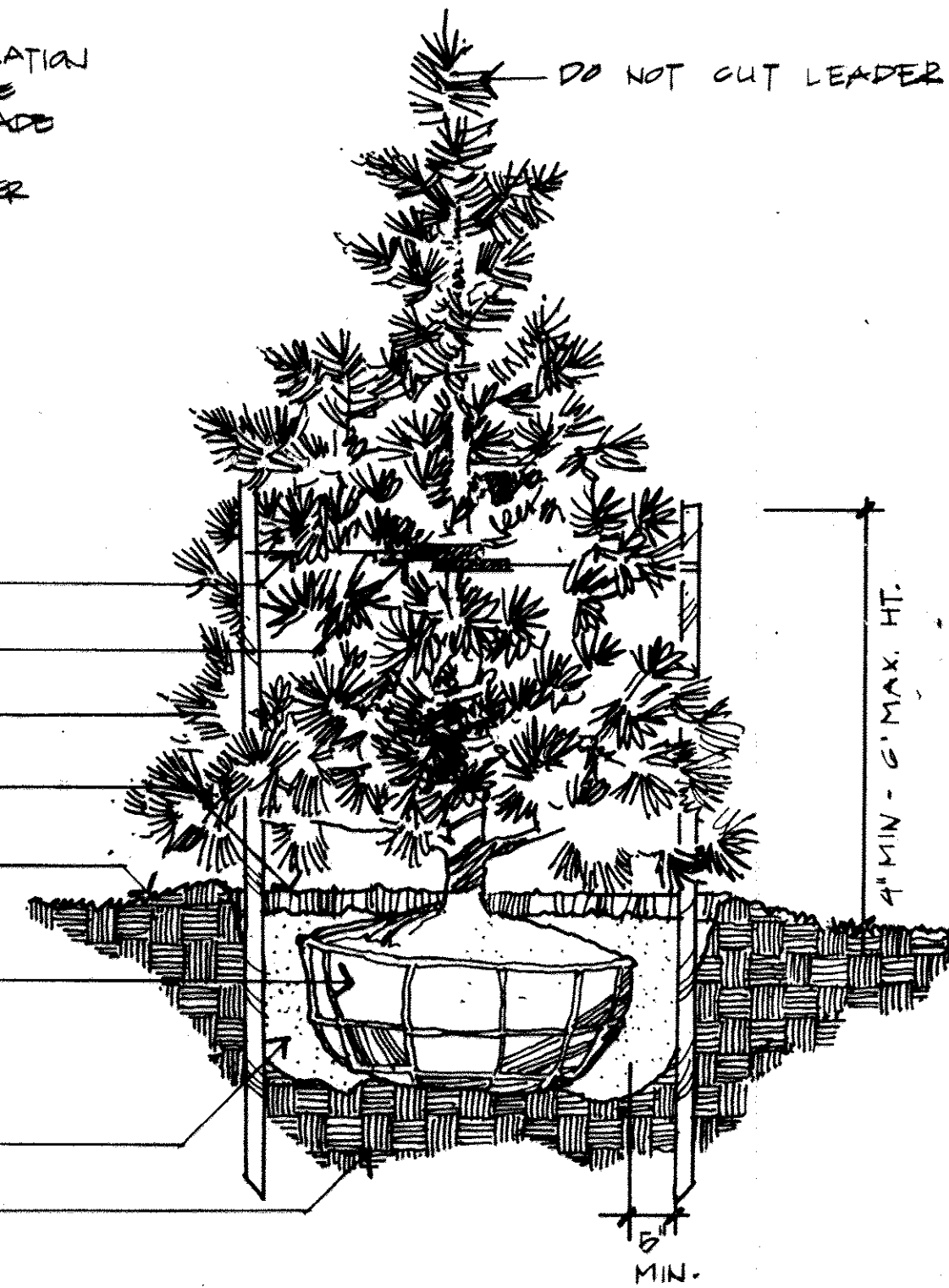
prepared by
Charles H. Shaw
Landscape Architect
6651 Cedar Lane
Columbia, MD 21044

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
5560 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7950 621-6050

SCALE 1" = 20'
DRAWN *Shaw*
CHECKED *Shaw*
PROJ. NO. M0405
DATE 10-2-92
L-14
SHEET 44 OF 61

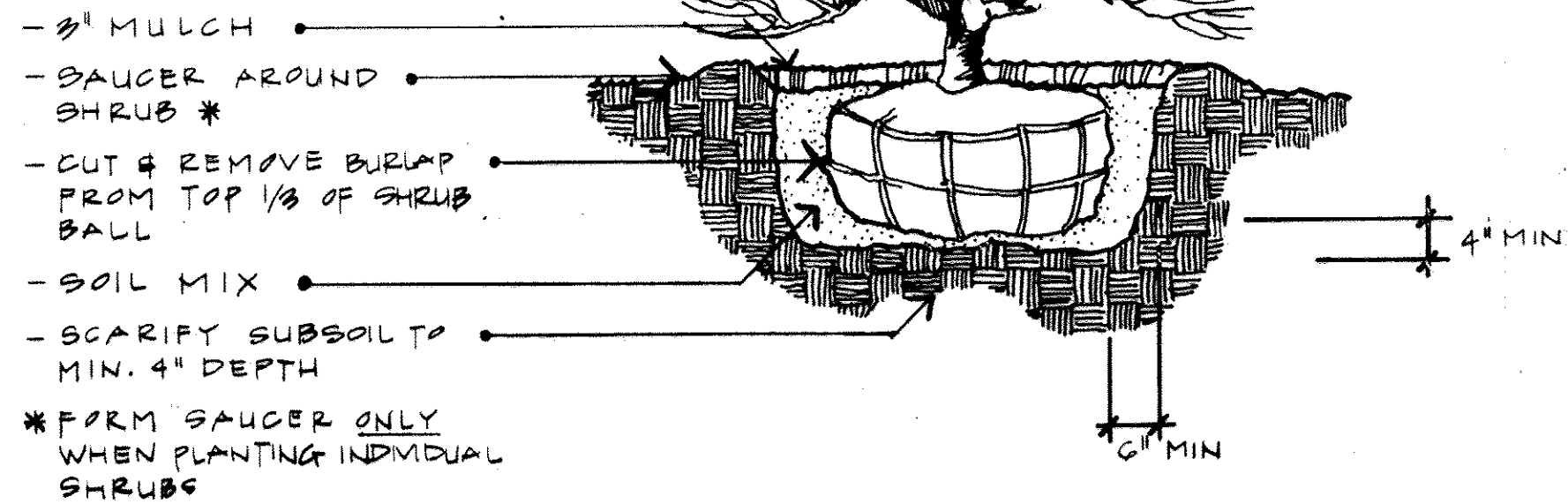
LANDSCAPE PLAN
FAIRWAY HILLS GOLF COURSE
COLUMBIA MARYLAND
SDP-92-104

- TREE SHALL BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO PREVIOUSLY EXISTING GRADE
- STAKE TREES UNDER 4" IN CALIPER WITH 2" HARDWOOD STAKES PER TREE



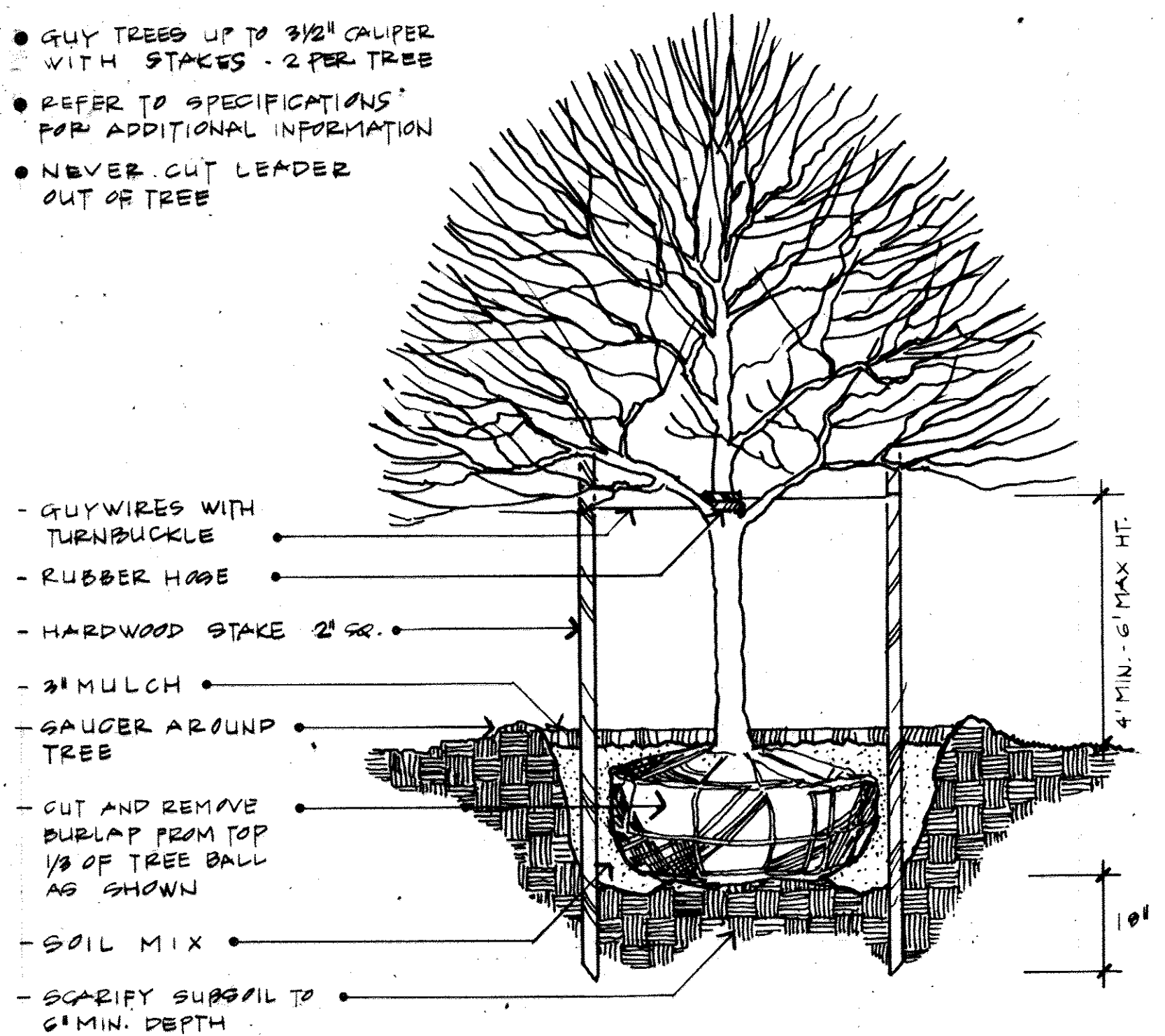
A TYPICAL EVERGREEN TREE PLANTING DETAIL
L-15 N.T.S.

- SHRUB SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE TO PREVIOUSLY EXISTING GRADE
- THIN BRANCHES AND FOLIAGE (NOT ALL END TIPS) BY 1/3, RETAINING NORMAL PLANT SHAPE.
- REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION



B TYPICAL SHRUB PLANTING DETAIL
L-15 N.T.S.

- GUY TREES UP TO 3 1/2" CALIPER WITH STAKES - 2 PER TREE
- REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION
- NEVER CUT LEADER OUT OF TREE



C TYPICAL DECIDUOUS TREE PLANTING DETAIL
L-15 N.T.S.

GENERAL NOTES

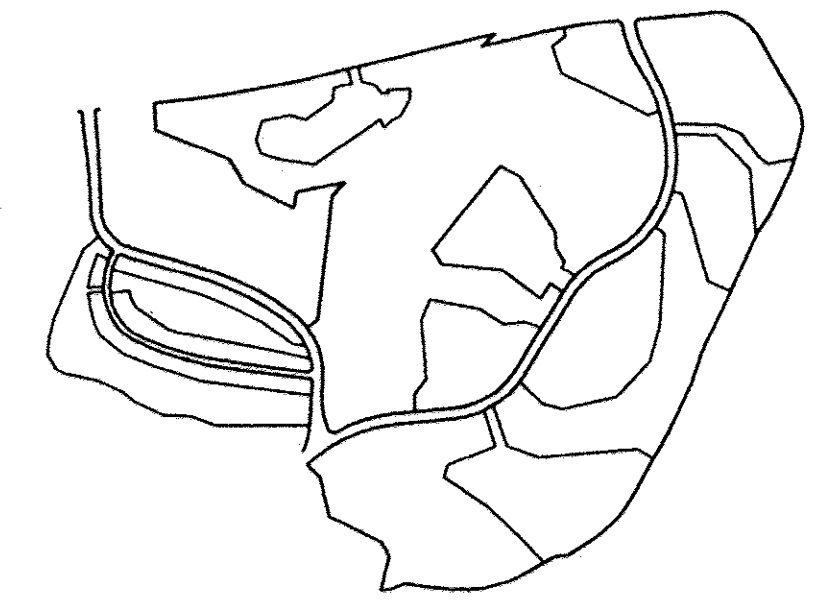
1. ALL PLANT MATERIAL TO MEET A.A.N. STANDARDS.
2. ALL PLANTING SHALL BE IN ACCORDANCE WITH STD. AMERICAN ASSOCIATION OF NURSEYMEN PROCEDURES & SPECIFICATIONS
3. CONTRACTOR & OWNER'S REPRESENTATIVE SHALL VERIFY THE CORRECT LOCATION OF ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO INSTALLATION OF ANY PLANT MATERIALS
4. NO SUBSTITUTIONS TO BE MADE WITHOUT CONSENT OF LANDSCAPE ARCHITECT OR OWNER
5. ALL PLANT BEDS & PLANTING AREAS TO BE MULCHED TO A DEPTH OF 3"
6. ALL AREAS DISTURBED BY PLANTING OPERATIONS SHALL BE FINE GRADED & SEEDING
7. LANDSCAPE CONTRACTOR/OWNER SHALL SELECT, VERIFY AND/OR APPROVE ALL PLANT MATERIAL

8. QUANTITIES SHOWN ON PLANT LIST ARE FOR THE CONTRACTOR'S CONVENIENCE ONLY & ARE NOT GUARANTEED TO BE ACCURATE. IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN ON THE PLAN & QUANTITIES SHOWN ON THE PLANT LIST, THE QUANTITIES SHOWN ON THE PLAN SHALL APPLY
9. REFER TO ENGINEER'S PLANS FOR LOCATION OF EXISTING TREES TO REMAIN, WETLANDS & ALL OTHER PERTINENT INFORMATION

MASTER PLANT LIST SHEET L-1 THRU L-14

NO.	PLAN	KEY	SIZE	PLANT NAMES - BOTANICAL - COMMON NAME	ROOT	REMARKS
1.	103	⊕	2-2 1/2" CAL 4-16" HT	ACER RUBRUM RED SUNSET RED SUNSET MAPLE	B & B	FULL HEADS
2.	105	⊙	6-8" HT 1 1/2 - 1 3/4" CAL	CRATAEGUS LAYALLEI LAYELLE HAWTHORN	B & B	FULL HEADS
3.	74	⊙	2-2 1/2" CAL 14-16" HT	FRAXINUS PENNSYLVANICA GREEN ASH	B & B	FULL HEADS
4.	125	⊗	24-30" SPR+HT	ILEX GLABRA 'NANA' DWARF INKBERRY	CAN	PLANT 3' OCT TOP TAMING HEDGE
5.	6	⊗	8-10" HT 2-2 1/2" CAL	MAGNOLIA SOULANGIANA SAUCER MAGNOLIA	B & B	FULL HEADS MULTI STEM
6.	249	⊙	5-6" HT	PINUS STROBUS WHITE PINE	B & B	FULL UN-SHEARED
7.	369	⊙	6-8" HT	PINUS STROBUS WHITE PINE	B & B	FULL UN-SHEARED
8.	199	⊙	8-10" HT	PINUS STROBUS WHITE PINE	B & B	FULL UN-SHEARED
9.	90	⊕	2-2 1/2" CAL 14-16" HT	PLATANUS ACERIFOLIA LONDON PLANE TREE	B & B	FULL HEADS
10.	69	⊕	6-8" HT 1 1/2 - 1 3/4" CAL	PRUNUS YEDOENSIS YOSHINO CHERRY	B & B	FULL HEADS
11.	66	⊙	2-2 1/2" CAL 14-16" HT	QUERCUS PALUSTRIS PIN OAK	B & B	FULL HEADS
12.	85	⊕	24-30" SPR+HT	VIBURNUM CARLESII KOREAN SPICE VIBURNUM	B & B	

KEY MAP



LEGEND

ITEM	EXISTING	PROPOSED
CONTOURS		
SPOT GRADE	+ 350.0	+ 350.0
WOODED AREA		
WETLAND LIMIT (25' BUFFER)		
100 YR. FLOOD PLAIN		
75' STREAM BUFFER RETAINING WALL		

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR: *James M. Lewis* 11/2/93 DATE
CHIEF BUREAU OF ENGINEERING: *John J. ...* 11/1/93 DATE
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
DIRECTOR: *John J. ...* 1/2/93 DATE
CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT: *Gina ...* 11/16/93 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
Joseph M. ... 11/15/93 DATE
COUNTY HEALTH OFFICER

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045
DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

BUILDING	STREET ADDRESS
LOT1-CLUBHOUSE	5100 COLUMBIA ROAD
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD
SUBDIVISION NAME	V.M. 9/3, LOT 30, SECTION 9/3, AREA 9/3, PARCEL 9/3, LOTS 1, 2, 3, & 4
FLAT	1.2 & 4
WATER CODE	SEWER CODE

PROJECT NO. THE RBA GROUP - MORRISTOWN, NEW JERSEY

FOR REV. 2 ONLY

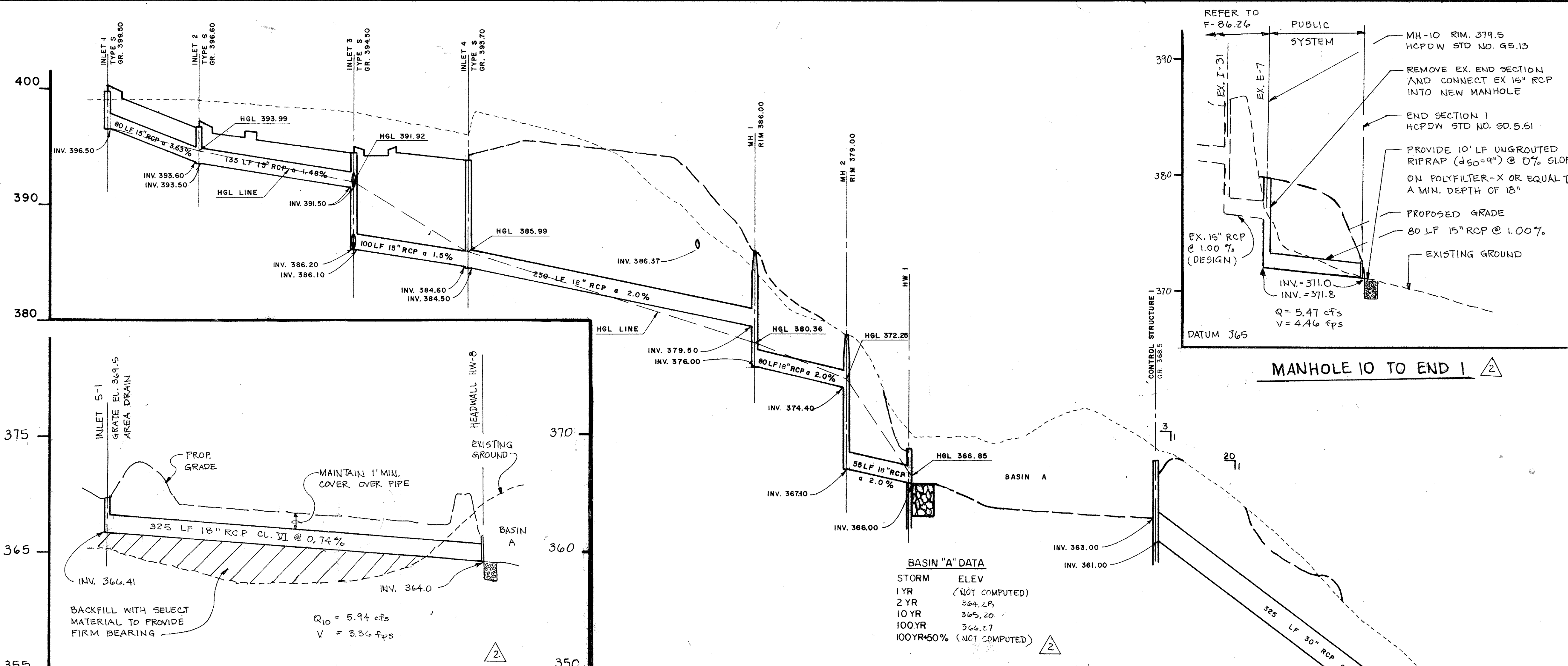
STATE OF MARYLAND
LANDSCAPE ARCHITECT
CHARLES H. SHAW JR.

no.	description	date
1	AS PER COUNTY COMMENTS	7-27-92
2	ADD PLANT MATERIAL	1/7/93
3	REVISE SHEET NUMBER	12/20/97

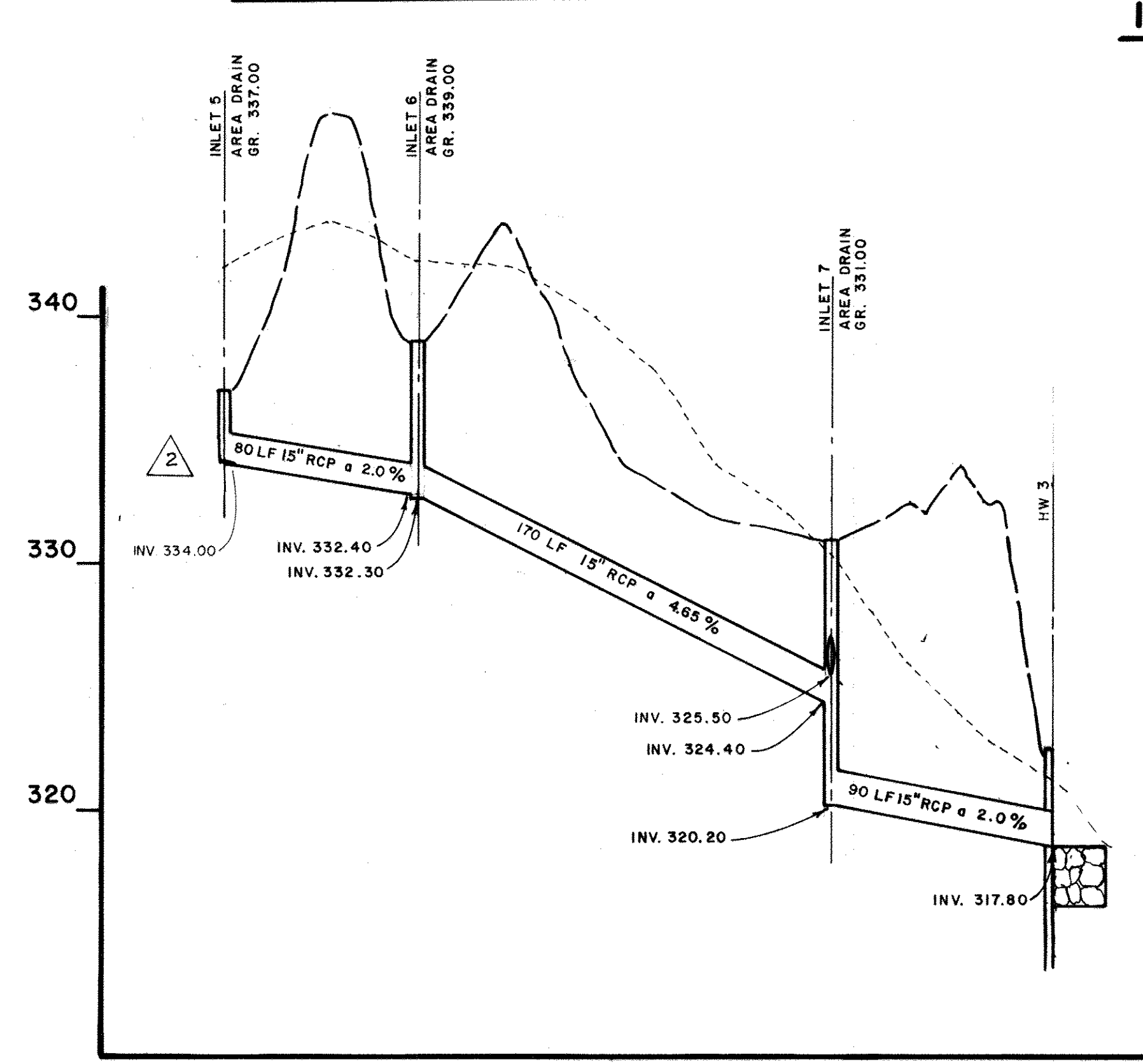
prepared by
Charles H. Shaw
Landscape Architect
6651 Cedar Lane
Columbia, MD 21044

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
5560 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7950 621-6050

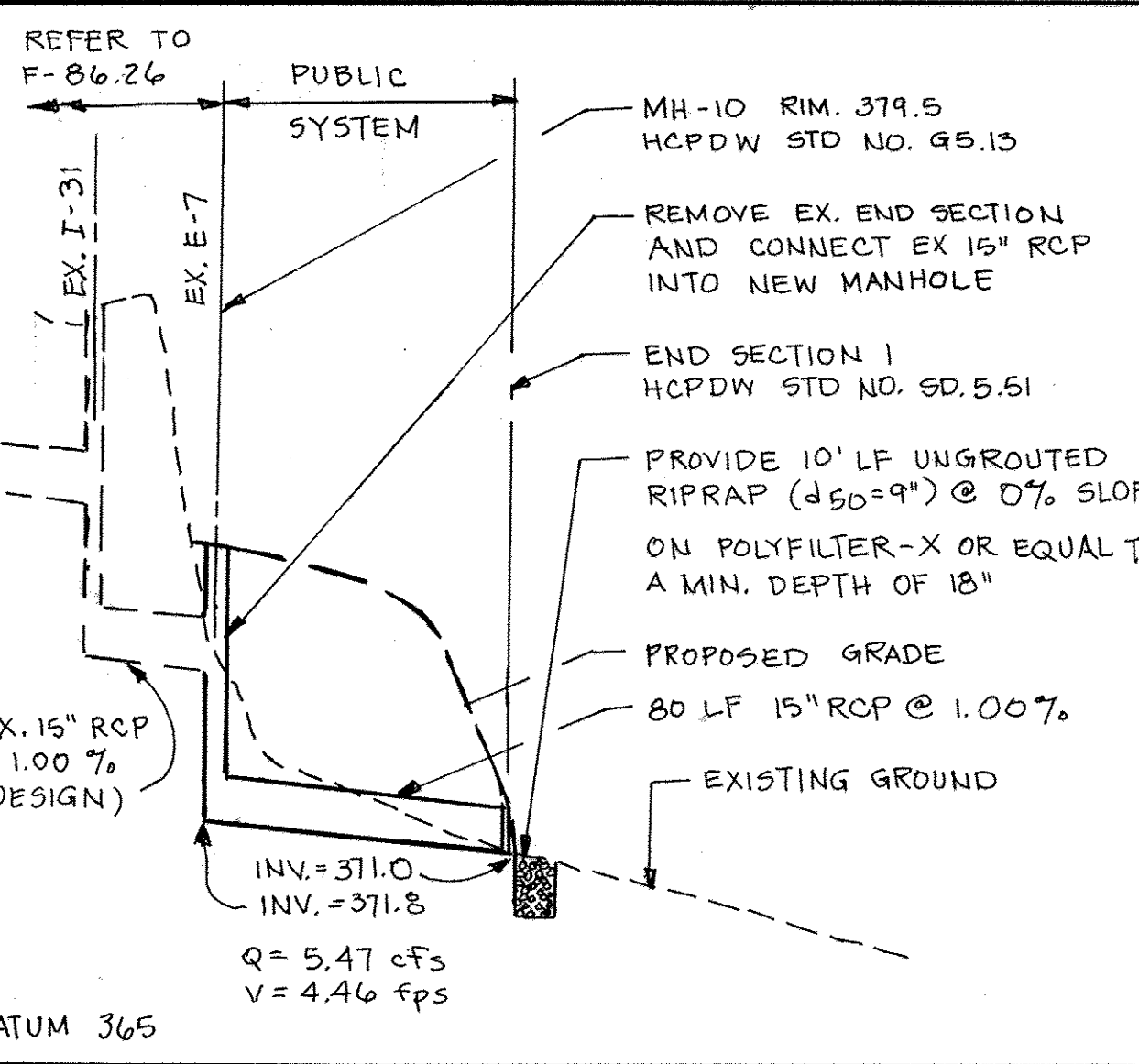
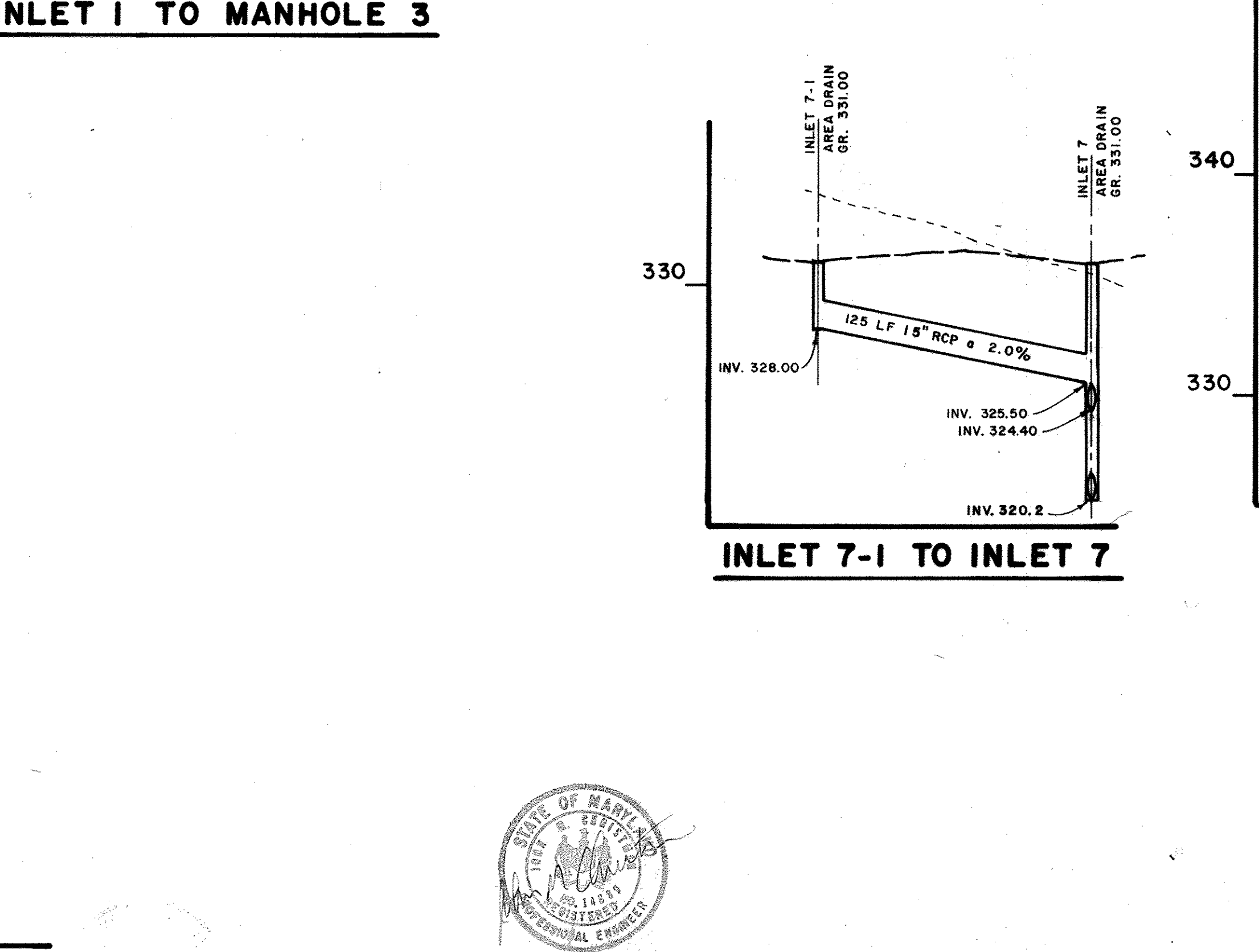
SCALE 1" = 50'
DRAWN *Shaw*
PROJ. NO. M0405
DATE 10-2-92
FAIRWAY HILLS GOLF COURSE
COLUMBIA MARYLAND
L-15 SHEET 45 OF 61
SDP-92-104



INLET 5-1 TO HEADWALL 8



INLET 1 TO MANHOLE 3

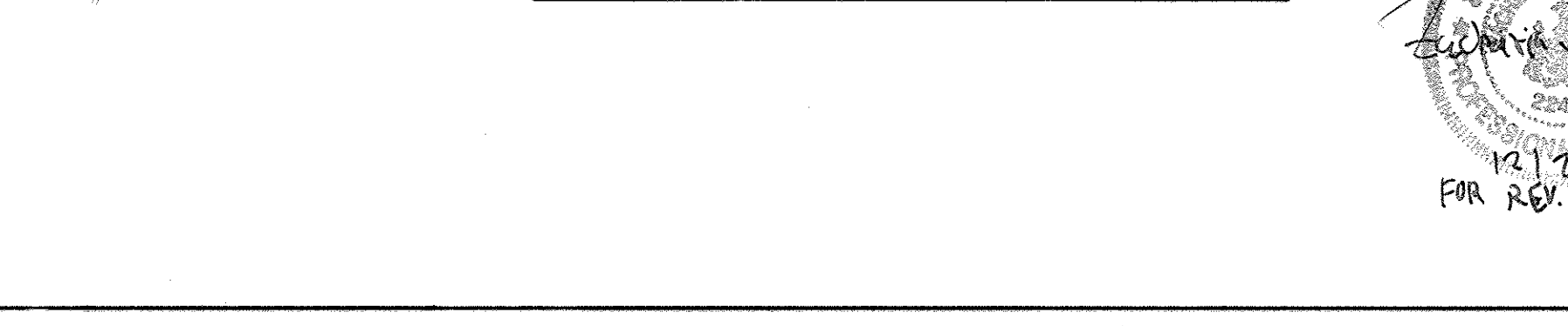


MANHOLE 10 TO END 1

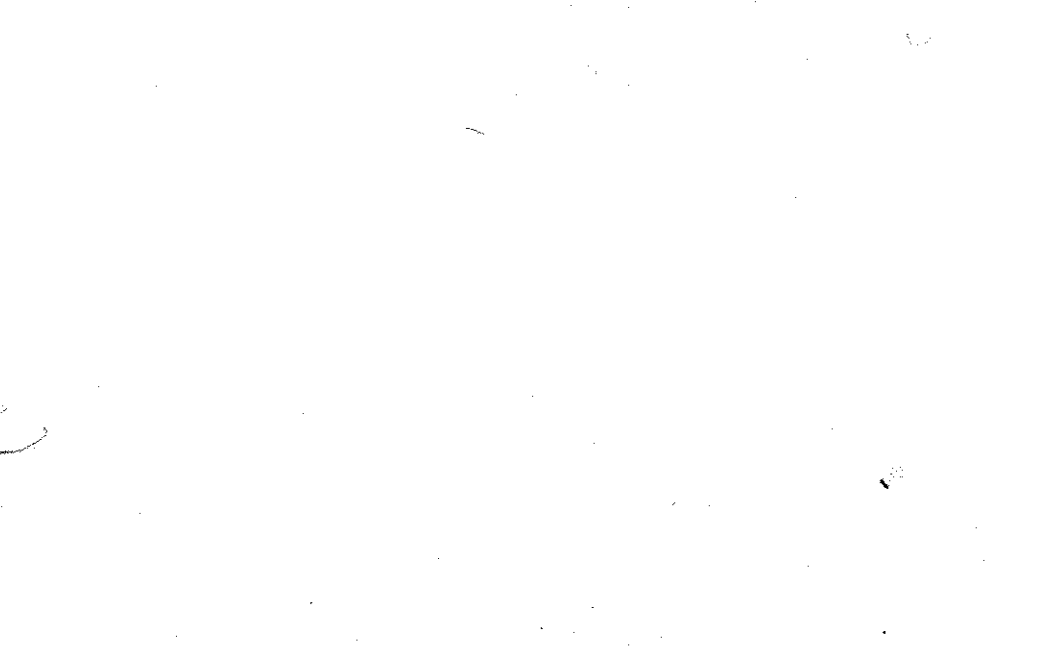
BASIN "A" DATA

STORM	ELEV
1 YR	(NOT COMPUTED)
2 YR	364.25
10 YR	365.20
100 YR	366.17
100 YR 50%	(NOT COMPUTED)

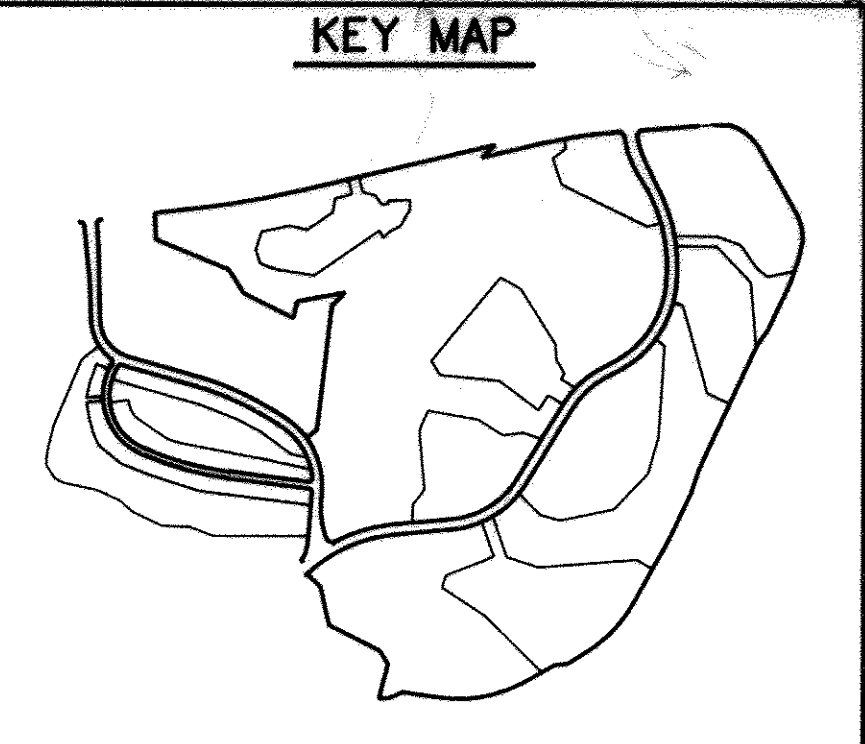
INLET 5 TO HEADWALL 3



INLET 7-1 TO INLET 7



NOTE 1. HGL COMPUTATION IS INCLUDED IN APPENDIX E OF THE DRAINAGE REPORT.
 2. ANTI-SEEP COLLARS SHALL BE PLACED AT LEAST 2' FROM CLOSEST PIPE JOINT.



LEGEND

ITEM	EXISTING	PROPOSED
GROUND	(Dashed line symbol)	(Solid line symbol)
PIPE	(Line with 'EX' symbol)	(Line with 'P' symbol)

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 DIRECTOR: James M. Slavin 11/2/93
 CHIEF-BUREAU OF ENGINEERING: [Signature] 11/1/93
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 DIRECTOR: [Signature] 11/2/93
 CHIEF-DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT: Gina Sturmann 11/10/93

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
 COUNTY HEALTH OFFICER: Joyce M. Boyd-Walsh 11/3/93

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045
DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING	STREET ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD
LOT1-MAINT.BLDG	5280 COLUMBIA ROAD
SUBDIVISION NAME	VL-9/4-LOTS 33&35-TC-9/1-LOT30
SECTION/AREA	9/3,9/4, 9/1, 2,3, 4
LOT/PARCEL	33,35 & 55
FLAT	1,2 & 4
BLOCK ZONE	14-15 E COMM
TAX ZONE MAP	30
ELEC. DIST.	5th
GENBUS TR.	6054
WATER CODE	
SEWER CODE	

STORM DRAINAGE/BASIN PROFILES
 SCALE VERT. 1" = 5'
 HORIZ. 1" = 50'
 DRAWN: MBB
 CHECKED: JJB
 PROJ. NO. M0405
 DATE 3-20-92
P1
 SHEET 46 OF 61



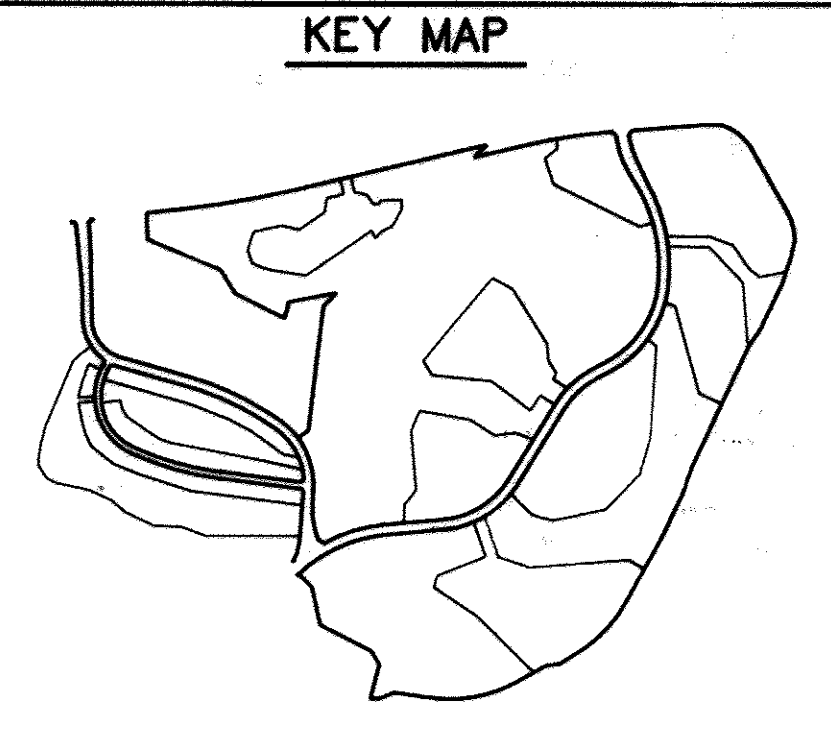
JOHN CHRISTMAN, P.E.

revisions

no.	description	date
1	AS PER COUNTY COMMENT ADDED PROFILE	10/24/92
2	REVISE POND DATA DELETE STORM DRAIN REVISE SHEET NUMBER	12/29/92

prepared by
RON PRICHARD
 Golf Architect
 10600 SIX PINES DRIVE
 THE WOODLANDS- TEXAS 77380
 (713) 292-1902
 1730 WALTON ROAD, SUITE 500
 BLUE BELL, PA. 19422
 (215) 841-7240

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
 5550 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-6050



LEGEND

ITEM	EXISTING	PROPOSED
GROUND		
PIPE		

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Director: *[Signature]* DATE 11/2/93
 Chief: *[Signature]* DATE 11/1/93

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 Director: *[Signature]* DATE 11/2/93
 Chief: *[Signature]* DATE 11/10/93

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.
 HOWARD COUNTY HEALTH DEPARTMENT
 Director: *[Signature]* DATE 11/5/93

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING	STREET	ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD	
LOT1-MAINT.BLDG	5280 COLUMBIA ROAD	

SUBDIVISION NAME	VOL.	PAGE	SECTION/AREA	LOT/PARCEL
WIL-974 LOTS 3385-TC-3/1 LOT 30	9/3	9/4	9/3-9/4	LOTS 1, 2, 3, & 4
WIL-974 LOTS 3385-TC-3/1 LOT 30	9/1	9/1	9/1 & 9/1	33, 39 & 55

PLAT	BLOCK	ZONE	TAX ZONE	MAP	ELEC. DIST.	CENSUS TR.
14.1	10	10-3	30	51h	6054	

WATER CODE	SEWER CODE

STORM DRAINAGE/ BASIN PROFILES

FAIRWAY HILLS GOLF COURSE

COLUMBIA MARYLAND

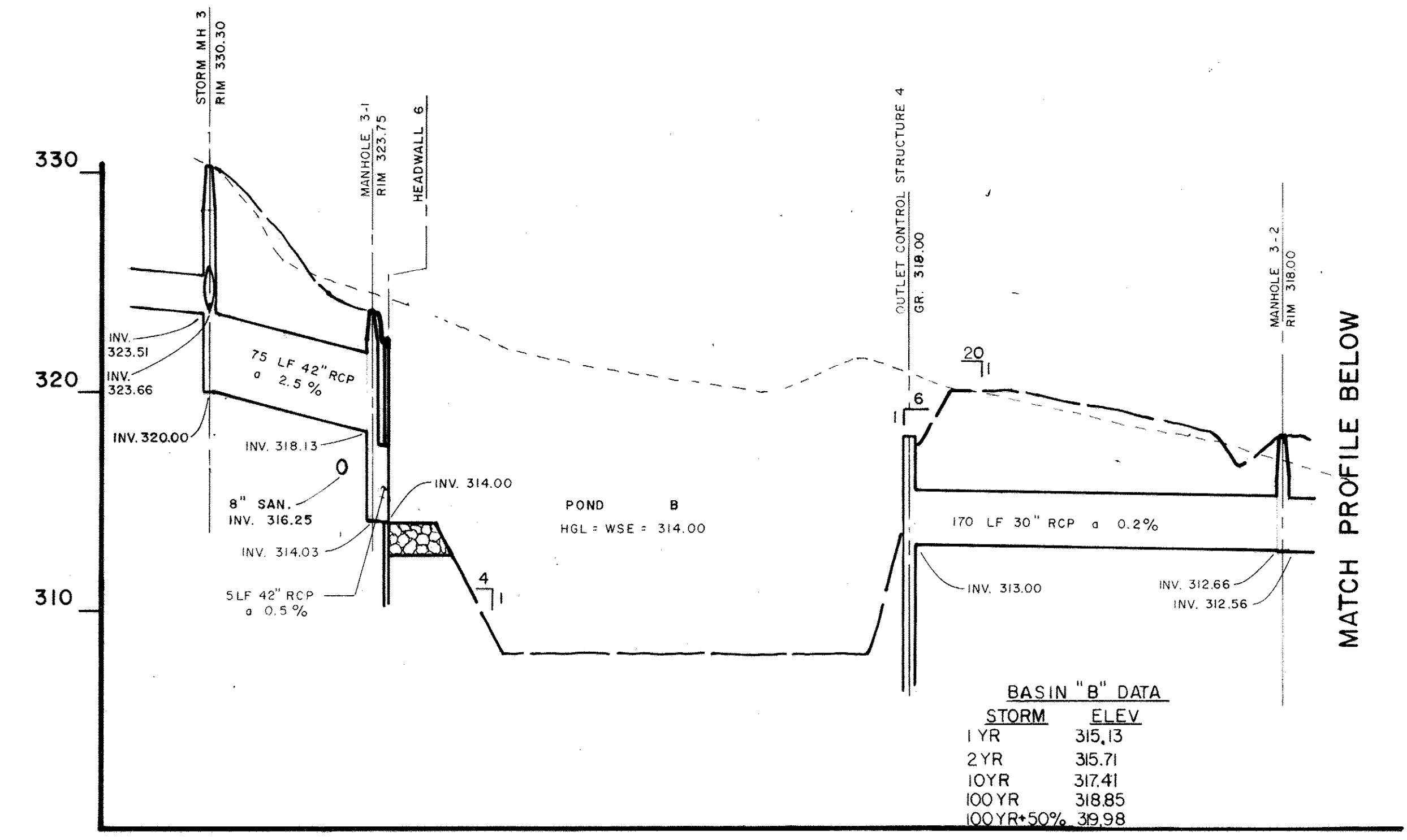
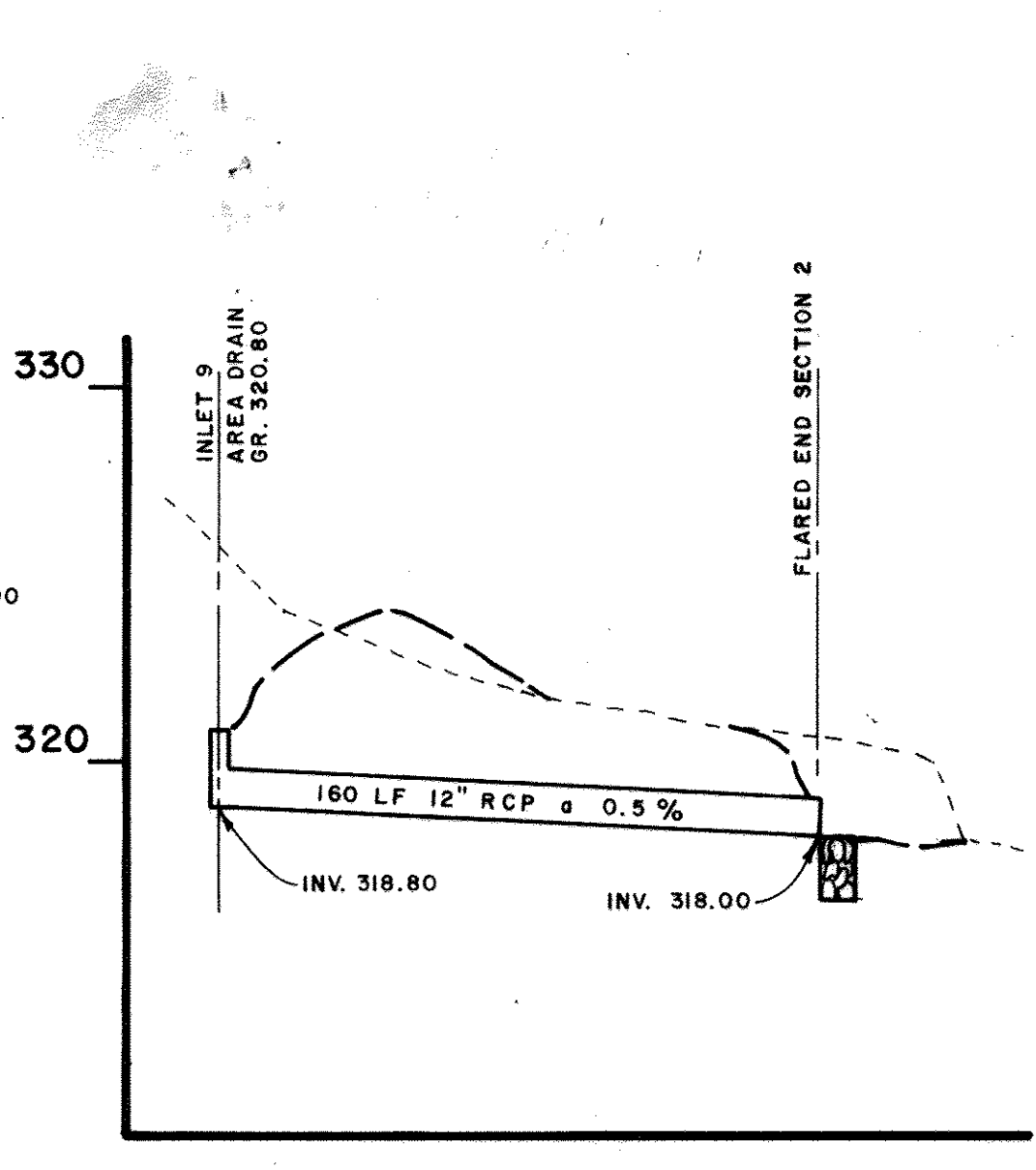
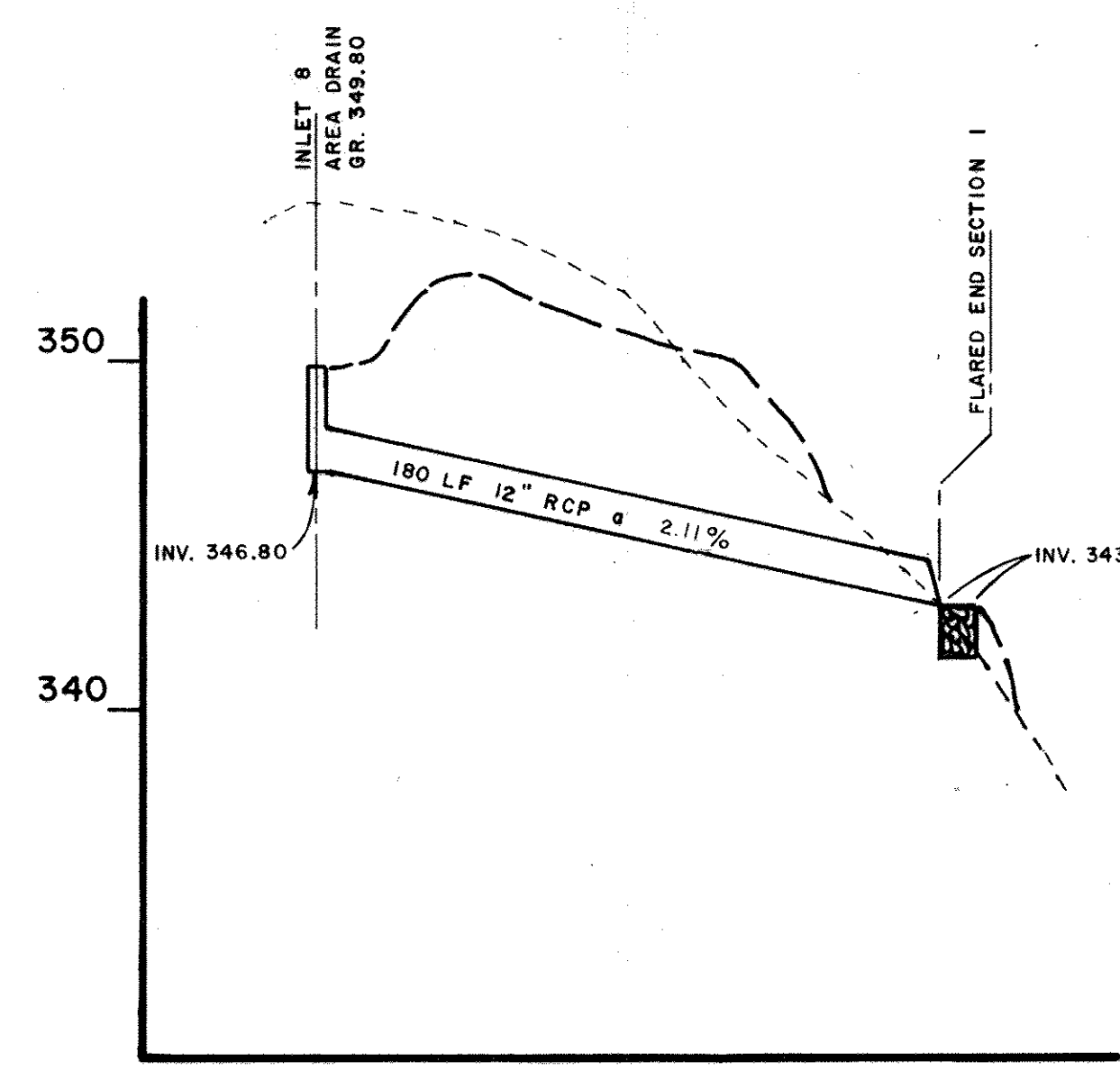
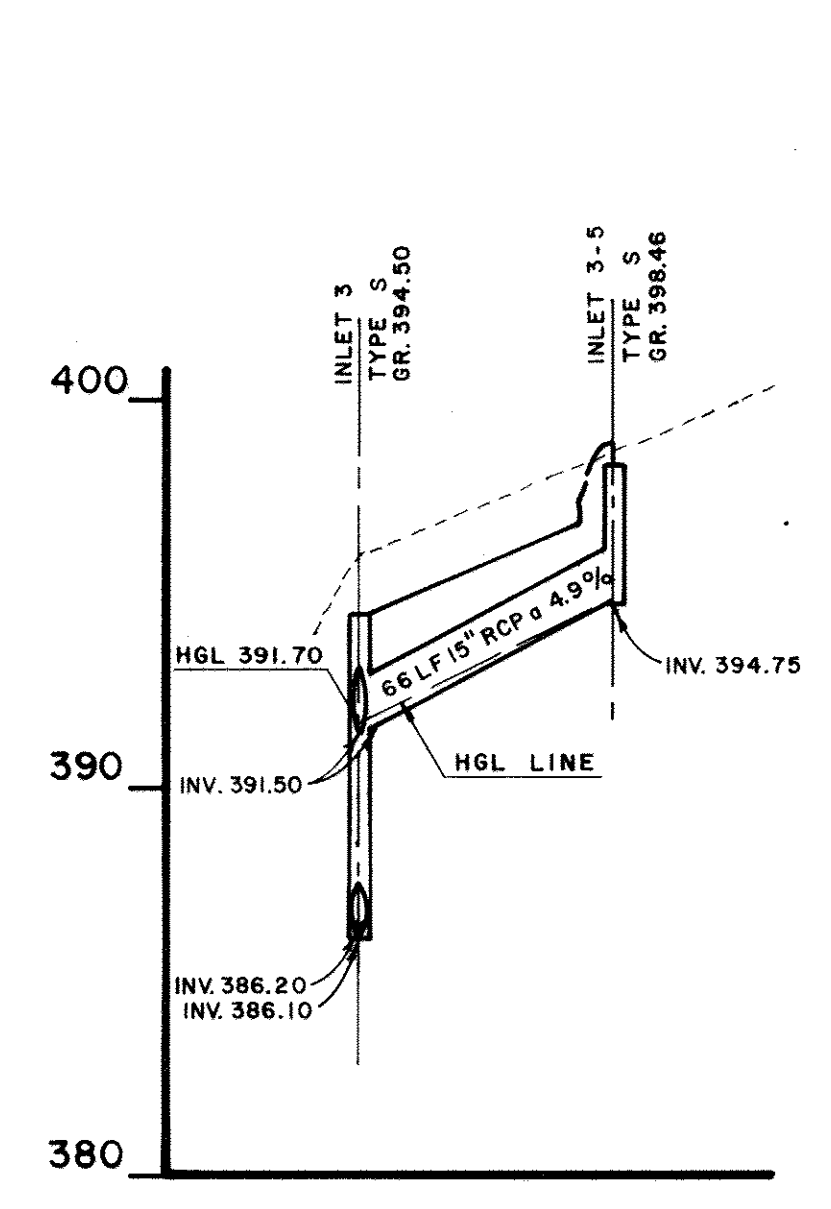
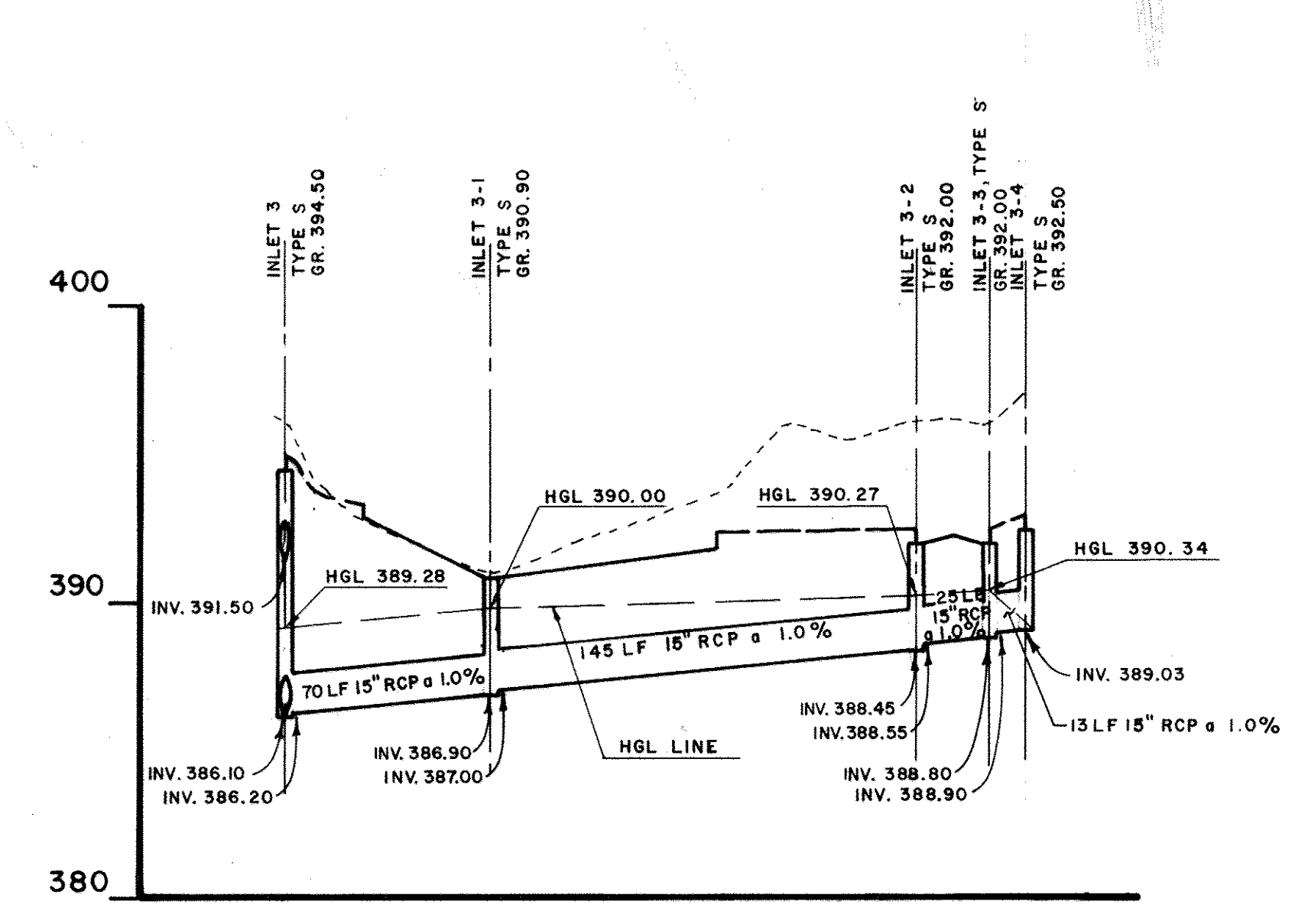
SCALE: VERT. 1" = 5'
 HORIZ. 1" = 50'

DRAWN: MBB
 CHECKED: JUB

PROJ. NO. M0405
 DATE 3-20-92

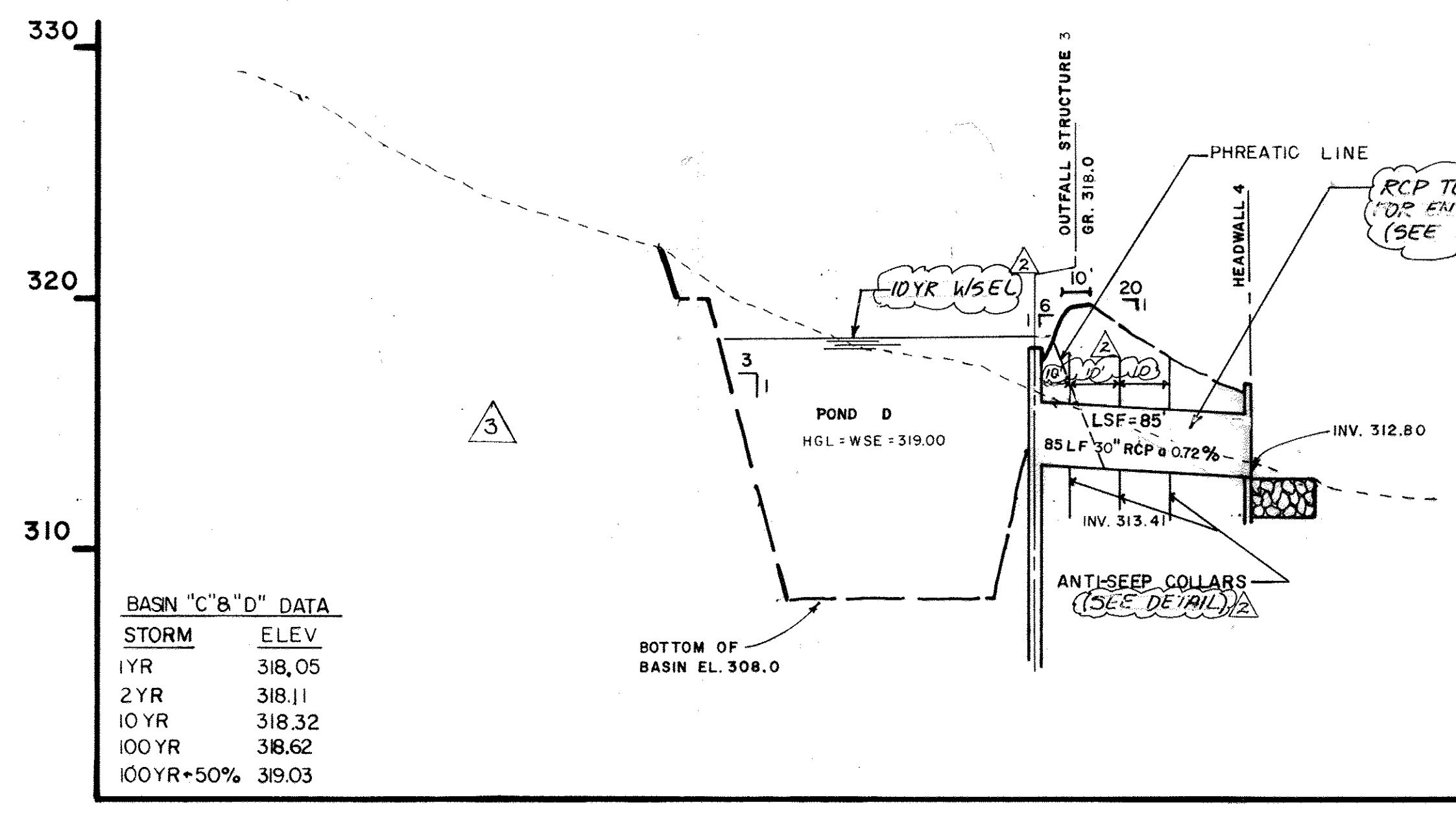
P2

SHEET 47 OF 61



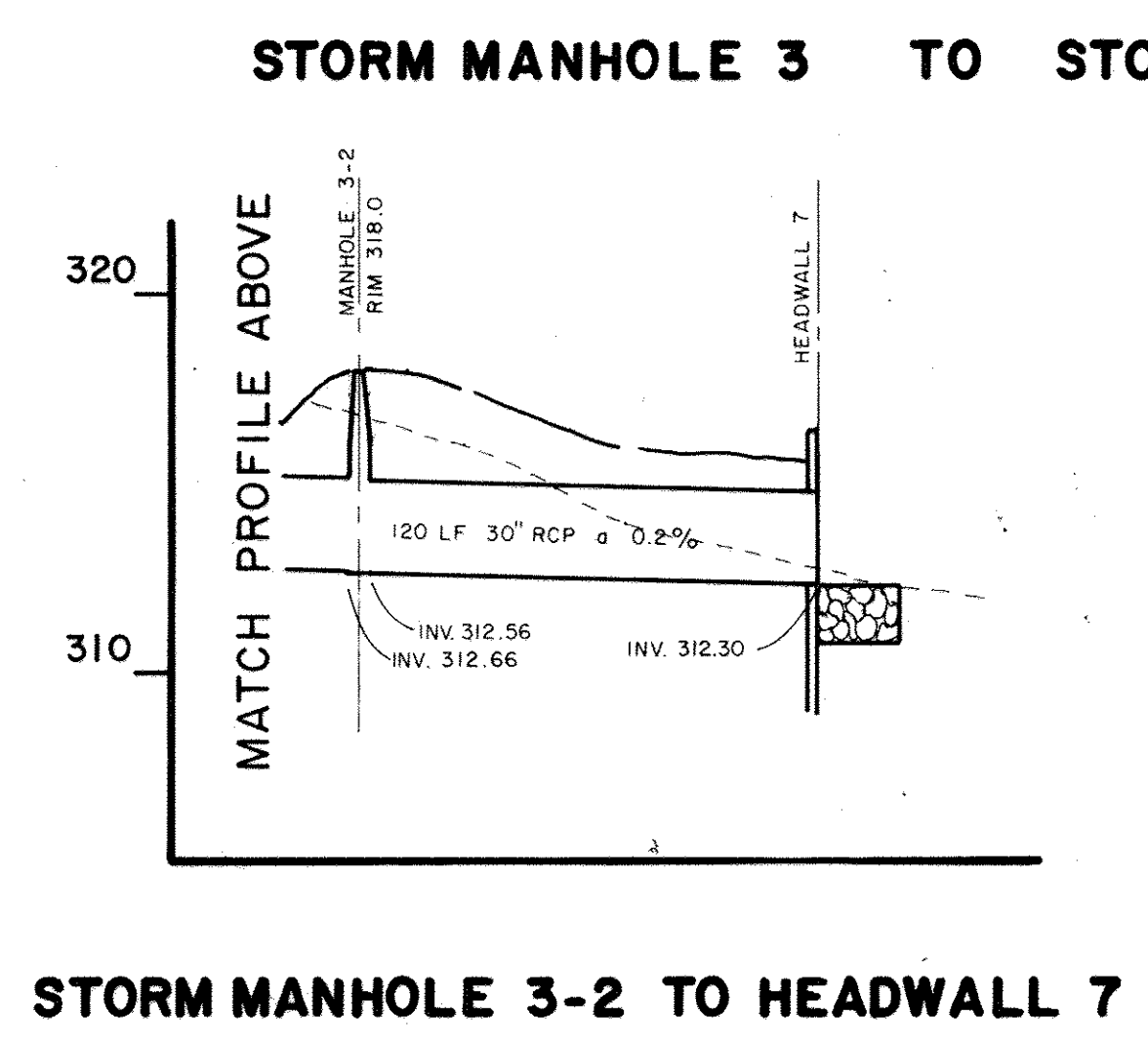
BASIN "B" DATA

STORM	ELEV.
1 YR	315.13
2 YR	315.71
10 YR	317.41
100 YR	318.85
100 YR + 50%	319.98

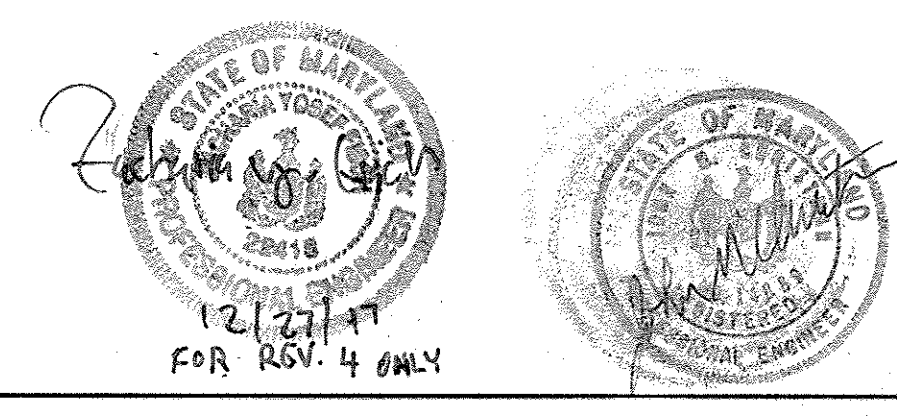


BASIN "C" & "D" DATA

STORM	ELEV.
1 YR	318.05
2 YR	318.11
10 YR	318.32
100 YR	318.62
100 YR + 50%	319.03



NOTE 1. HGL COMPUTATION IS INCLUDED IN APPENDIX E OF THE DRAINAGE REPORT.
 2. ANTI-SEEP COLLARS SHALL BE PLACED AT LEAST 2' FROM CLOSEST PIPE JOINT.



JOHN CHRISTMAN, P.E.

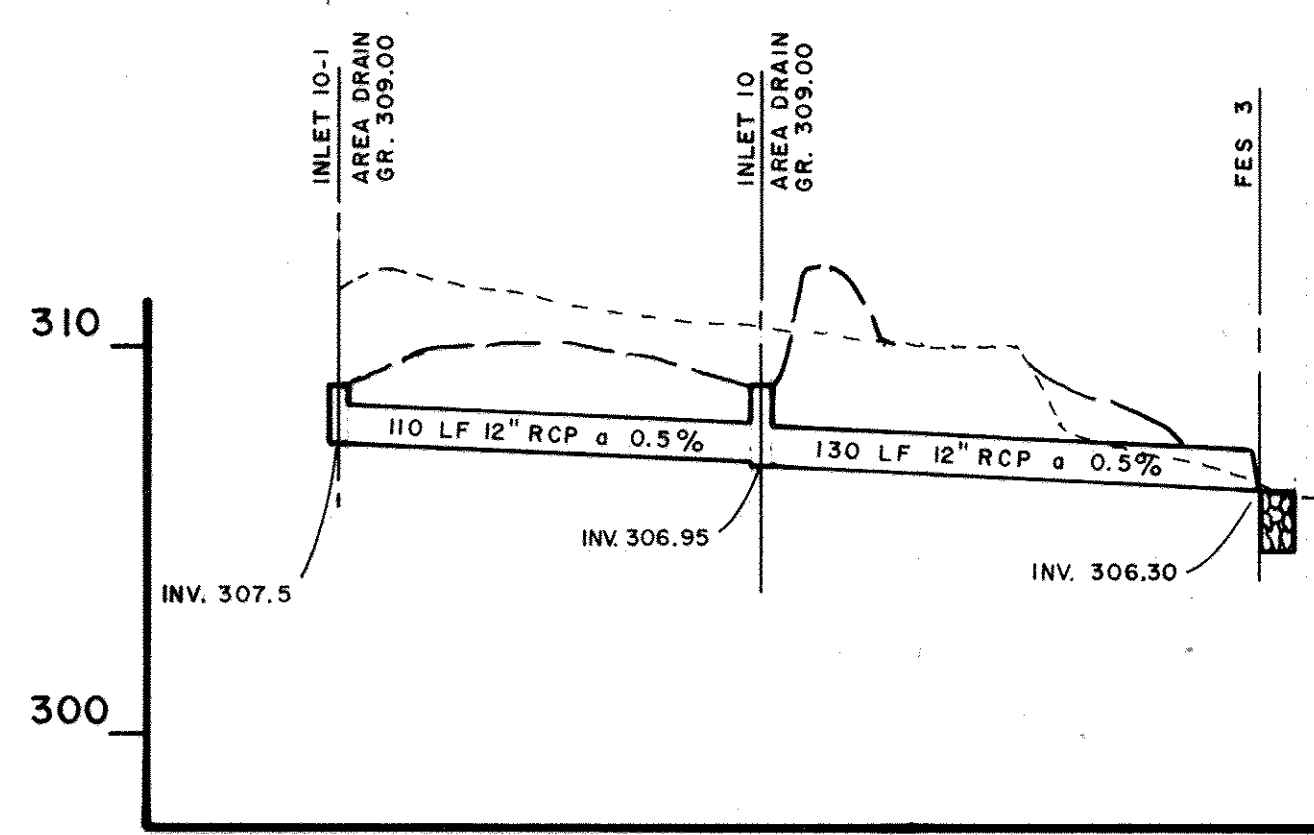
revisions

no.	description	date
1	AS PER COUNTY COMMENTS	10/24/92
2	AS PER COUNTY COMMENTS	1/3/93
3	REVISED WSEL'S, POND B, DMIT, POND C	4/94
4	REVISE SHEET NUMBER	12/20/97

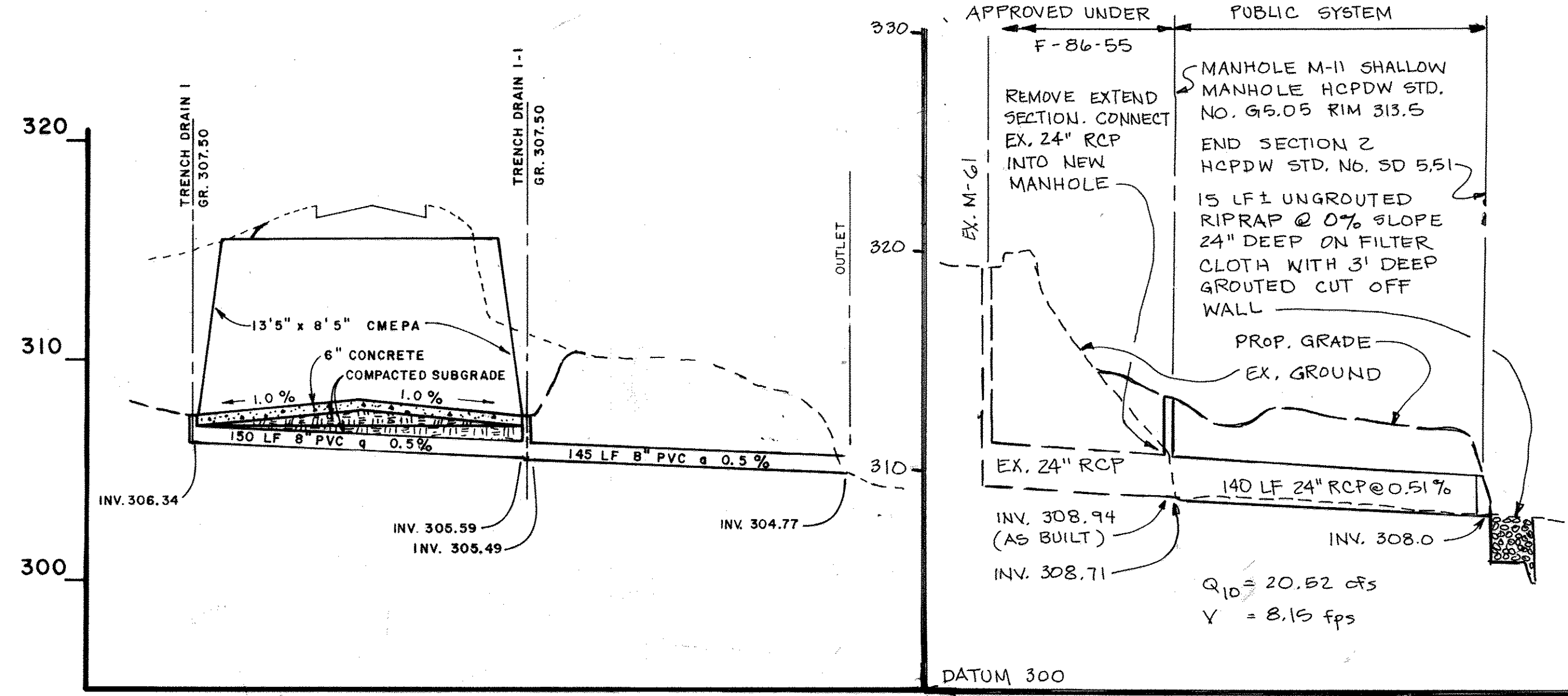
prepared by
RON PRICHARD
 Golf Architect
 10800 SIX PINES DRIVE
 THE WOODLANDS, TEXAS 77380
 (713) 292-1902
 1730 WALTON ROAD, SUITE 300
 BLUE BELL, PA. 19422
 (215) 384-7240

prepared by
RBA
 ENGINEERS • ARCHITECTS • PLANNERS
 5560 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-8050

SDP-92-104

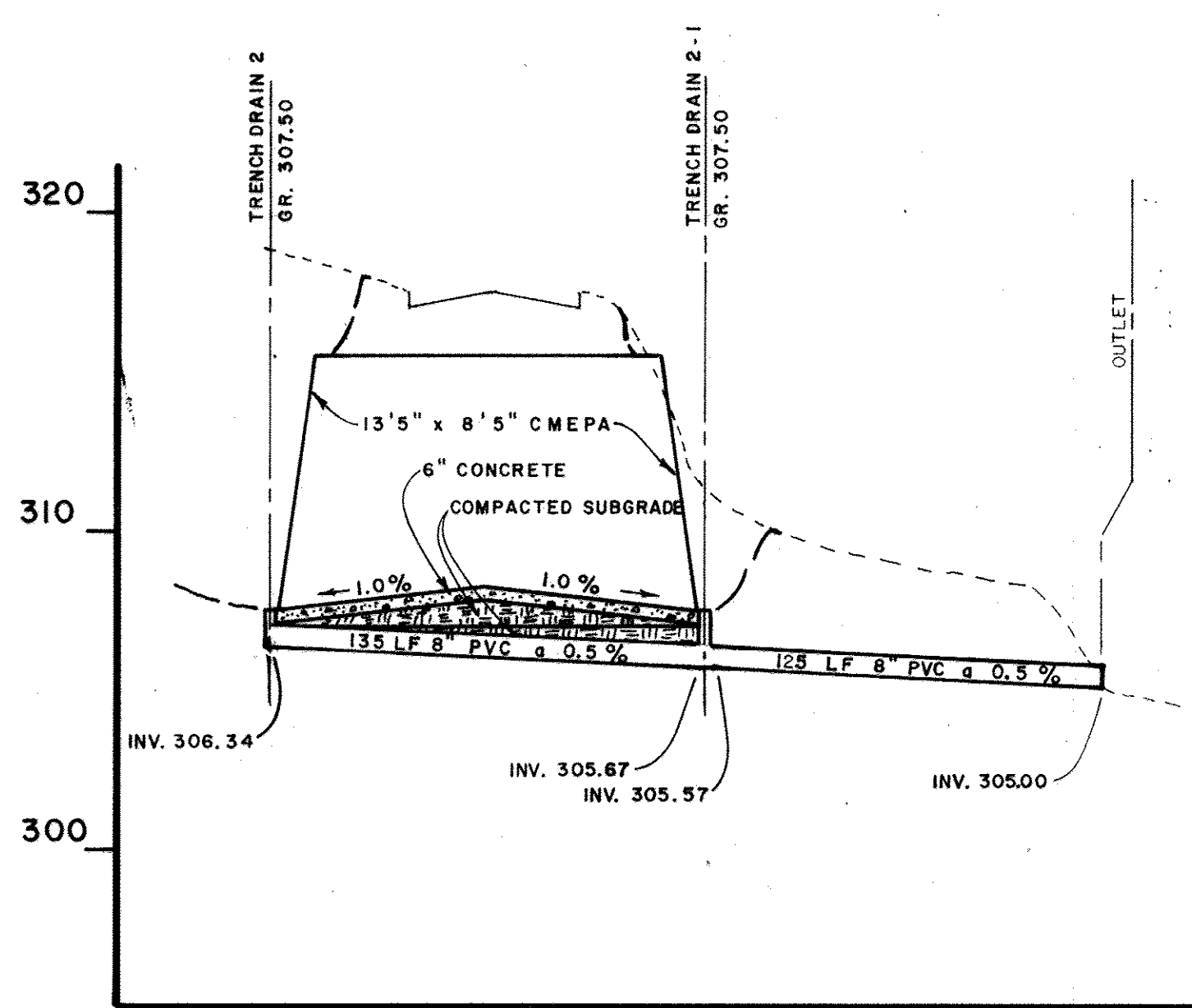


INLET 10-1 TO FES 3

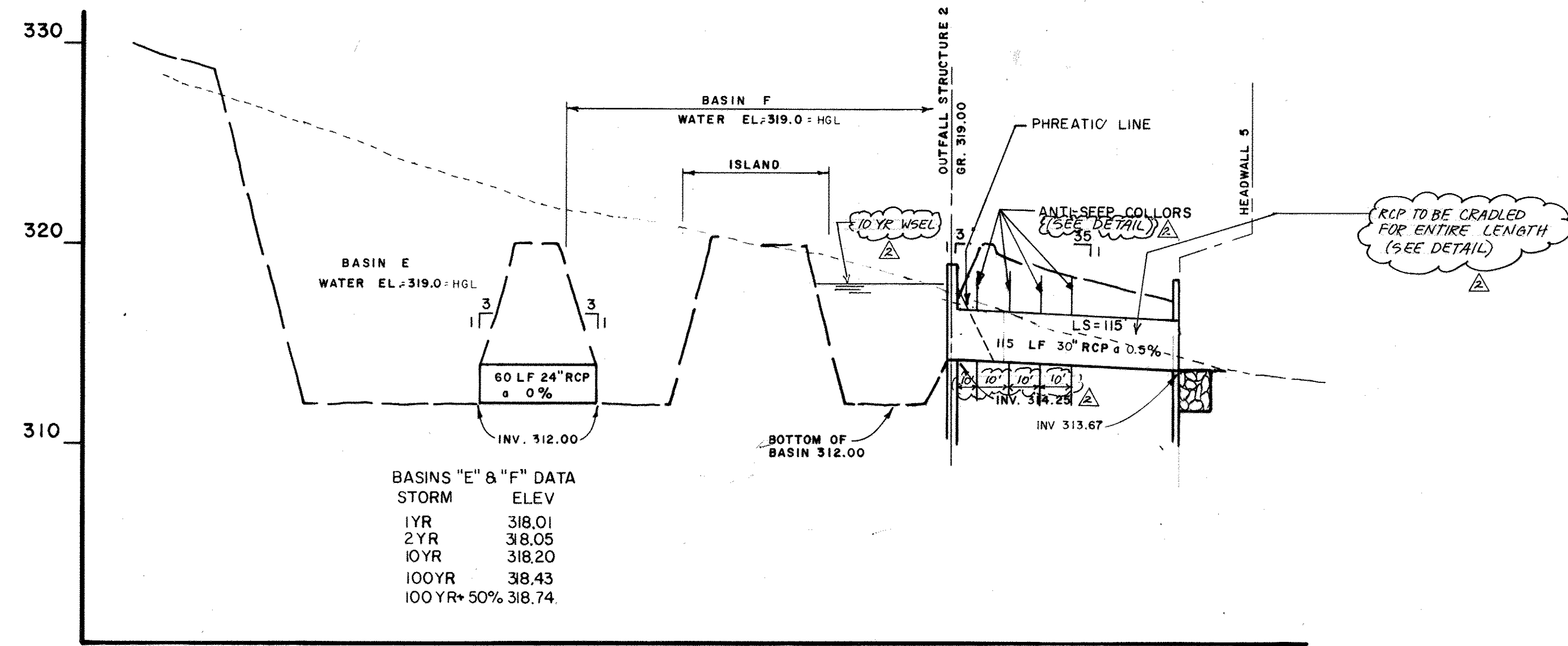


TRENCH DRAIN 1 TO OUTLET

MANHOLE 11 TO END 2



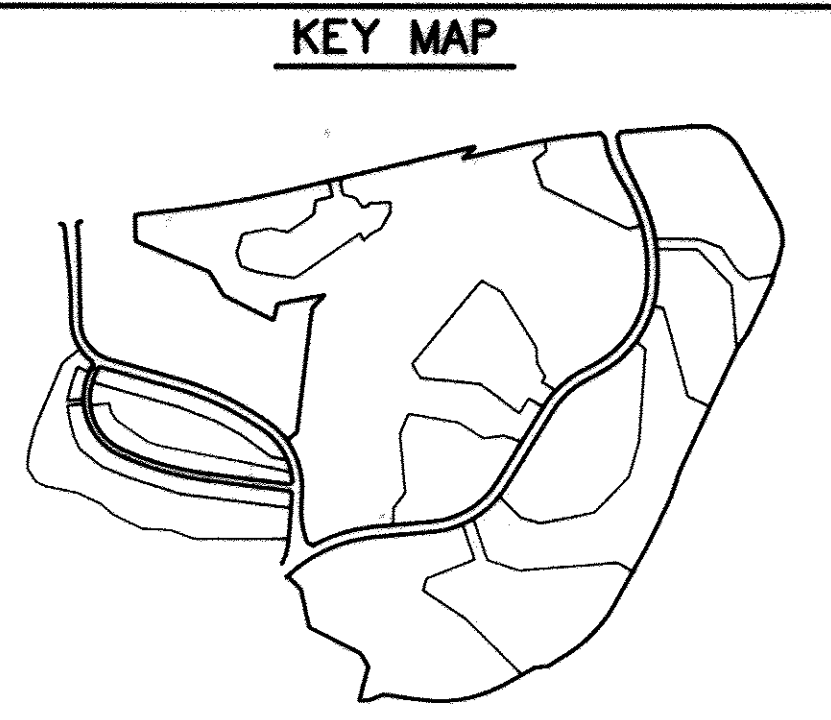
TRENCH DRAIN 2 TO OUTLET



BASIN E TO HEADWALL 5

BASINS "E" & "F" DATA

STORM	ELEV
1YR	318.01
2YR	318.05
10YR	318.20
100YR	318.43
100 YR+ 50%	318.74



LEGEND

ITEM	EXISTING	PROPOSED
GROUND		
PIPE		

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS,
DIRECTOR *[Signature]* DATE 11/2/93
CHIEF, BUREAU OF ENGINEERING
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
DIRECTOR *[Signature]* DATE 11/10/93
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT
[Signature] COUNTY HEALTH OFFICER DATE 11/15/93

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045
DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

ADDRESS CHART

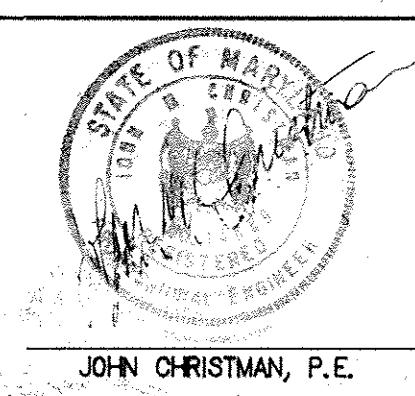
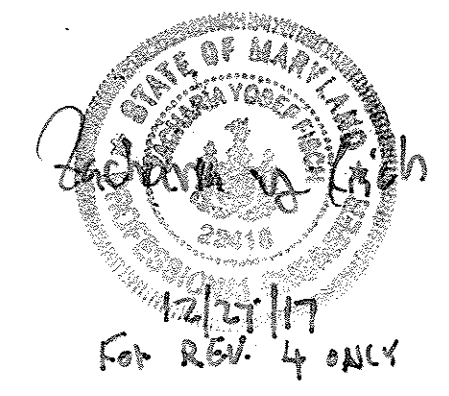
BUILDING	STREET	ADDRESS
LOT5-CLUBHOUSE	5100 COLUMBIA ROAD	
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD	

SUBDIVISION NAME	BLK/LOT	SECTION/AREA	LOT/AREA
FAIRWAY HILLS	LOT 5	9/3 & 9/4	LOTS 1, 2, 3, & 4
	LOTS 1, 2 & 4	9/1 & 9/1	33-39 & 55

PLAT	BLOCK	TAX ZONE	MAP	ELEC. DIST.	CENSUS TR.
14-15	14	30	5th		8054

WATER CODE	SEWER CODE

NOTE 1. HGL COMPUTATION IS INCLUDED IN APPENDIX E OF THE DRAINAGE REPORT.
2. ANTI-SEEP COLLARS SHALL BE PLACED AT LEAST 2' FROM CLOSEST PIPE JOINT.

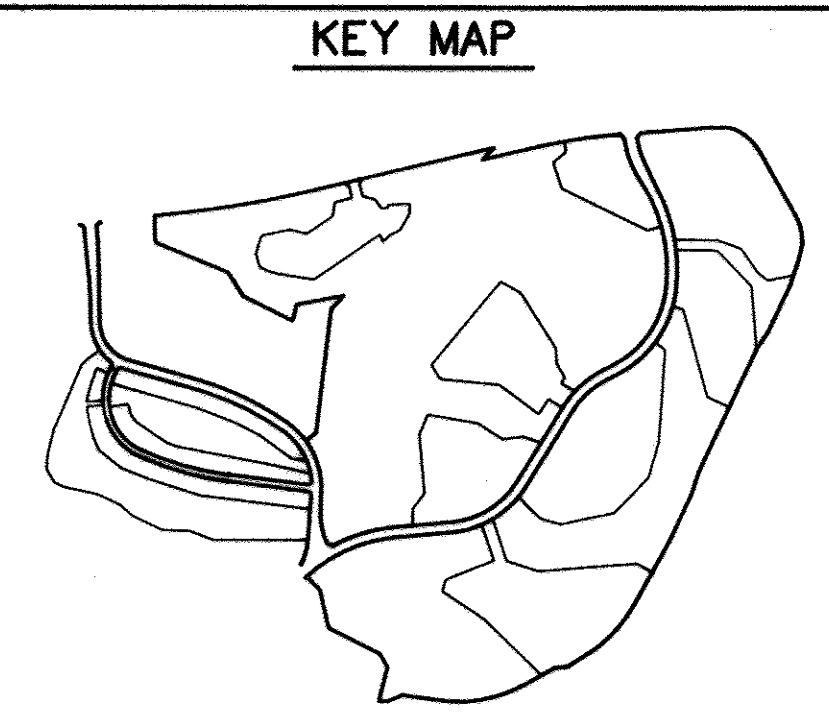


no.	description	date
1	AS PER COUNTY COMMENTS	1/28/92
2	AS PER COUNTY COMMENTS	1/3/94
3	ADDED PROFILE DELETE PROFILES	4/94
4	REVISE SHEET NUMBER	12/2017

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(215) 841-7240

RBA ENGINEERS • ARCHITECTS • PLANNERS
5560 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7880 621-6050

STORM DRAINAGE/ BASIN PROFILES
FAIRWAY HILLS GOLF COURSE
COLUMBIA MARYLAND
SCALE VERT. 1" = 5'
HORIZ. 1" = 50'
DRAWN MBB CHECKED JJB
PROJ. NO. M0405 DATE 3-20-92
P3
SHEET 48 OF 61



LEGEND

ITEM	EXISTING	PROPOSED
GROUND		
PIPE		

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 2-2-93

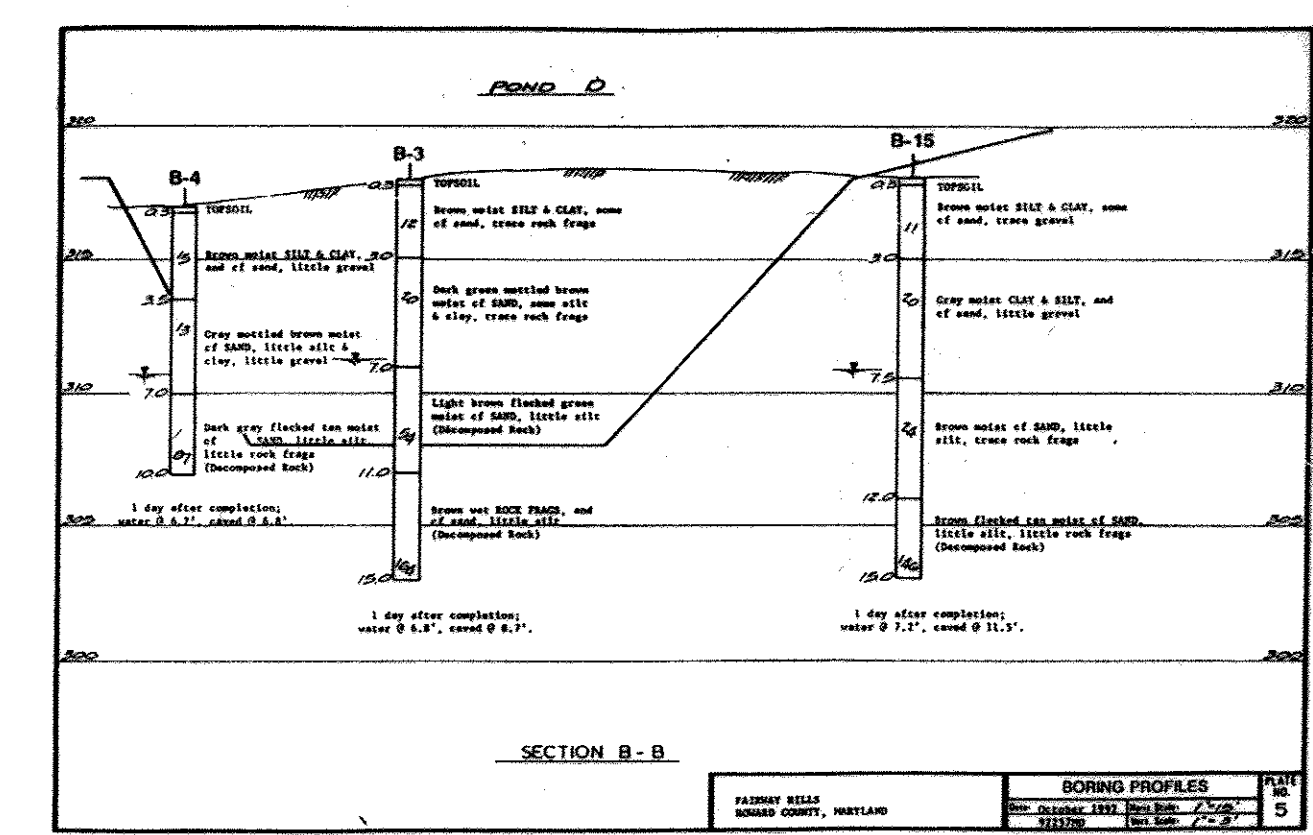
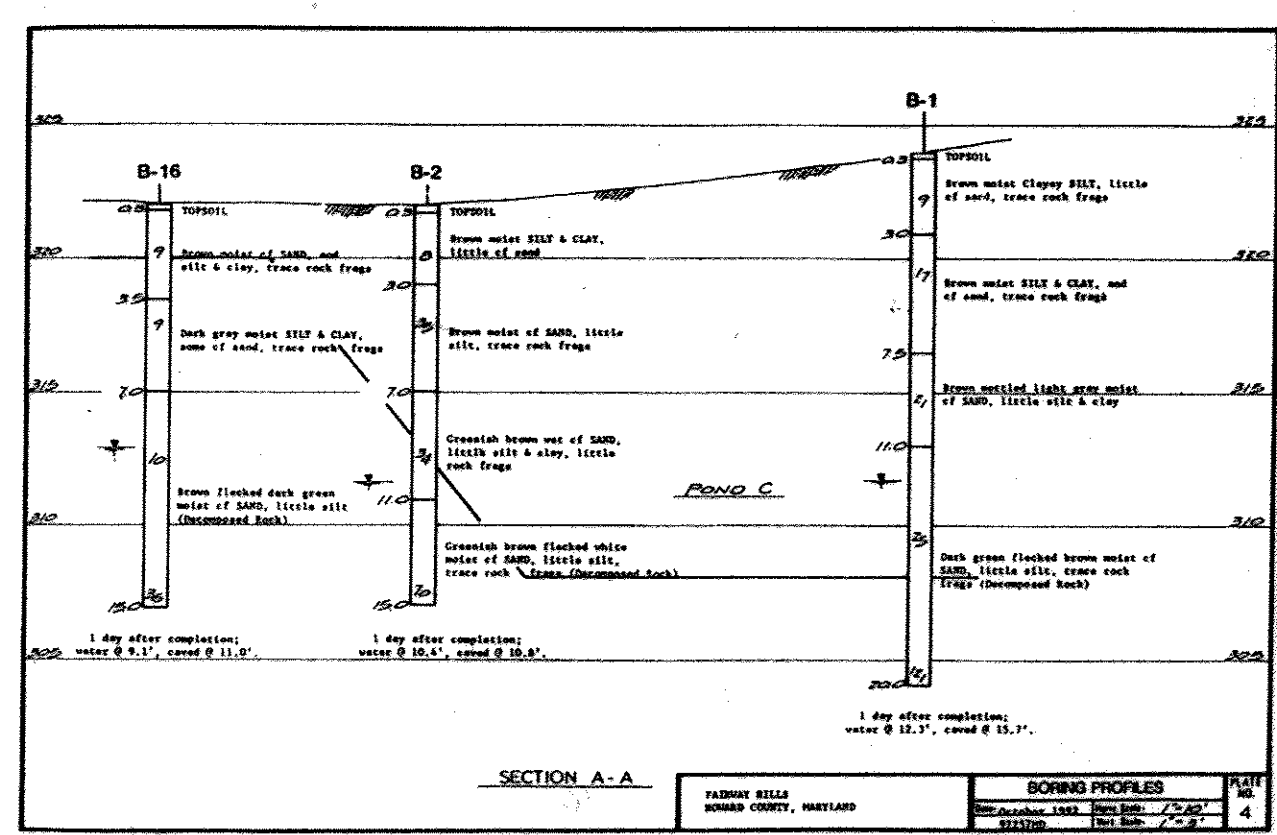
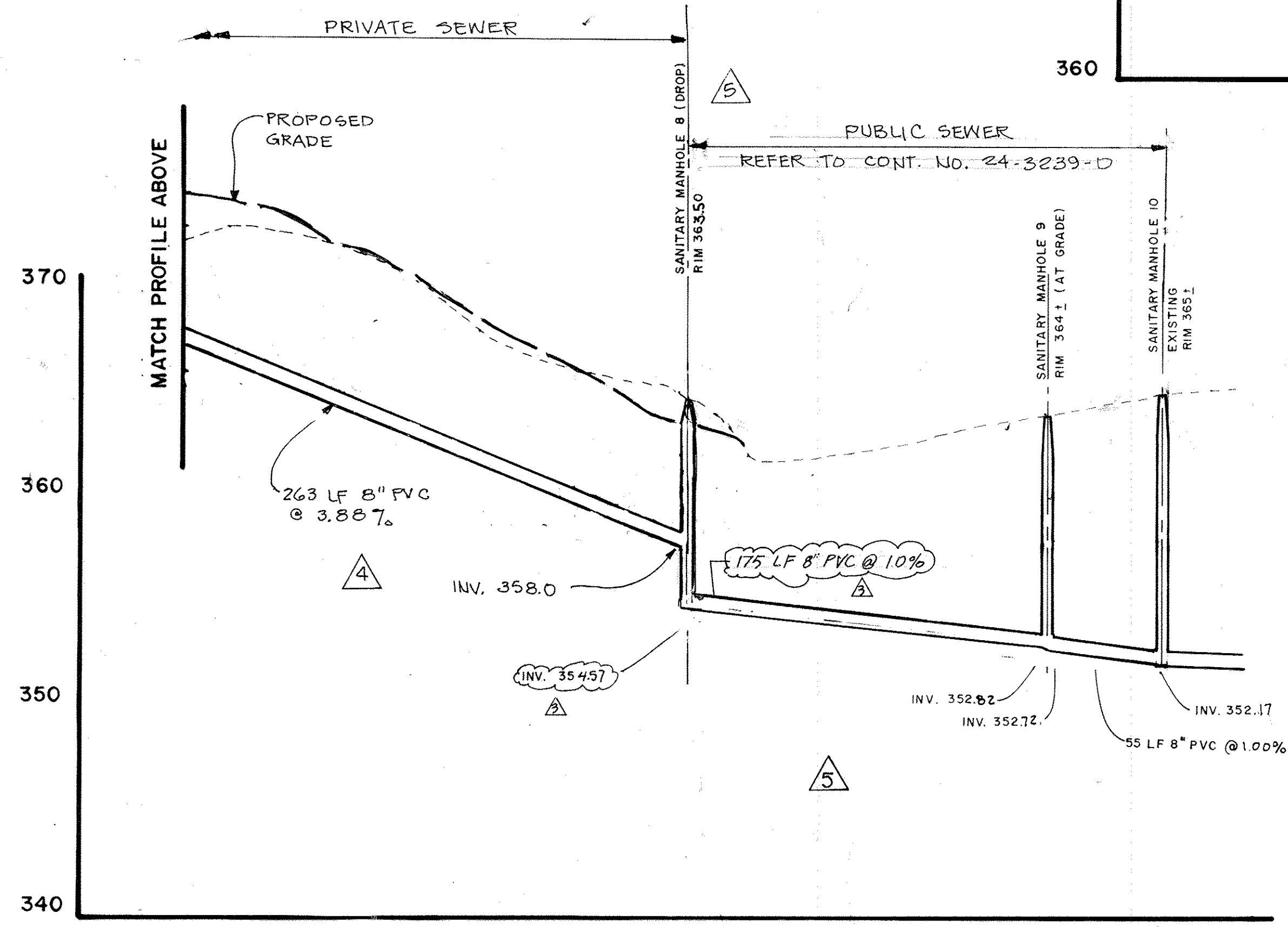
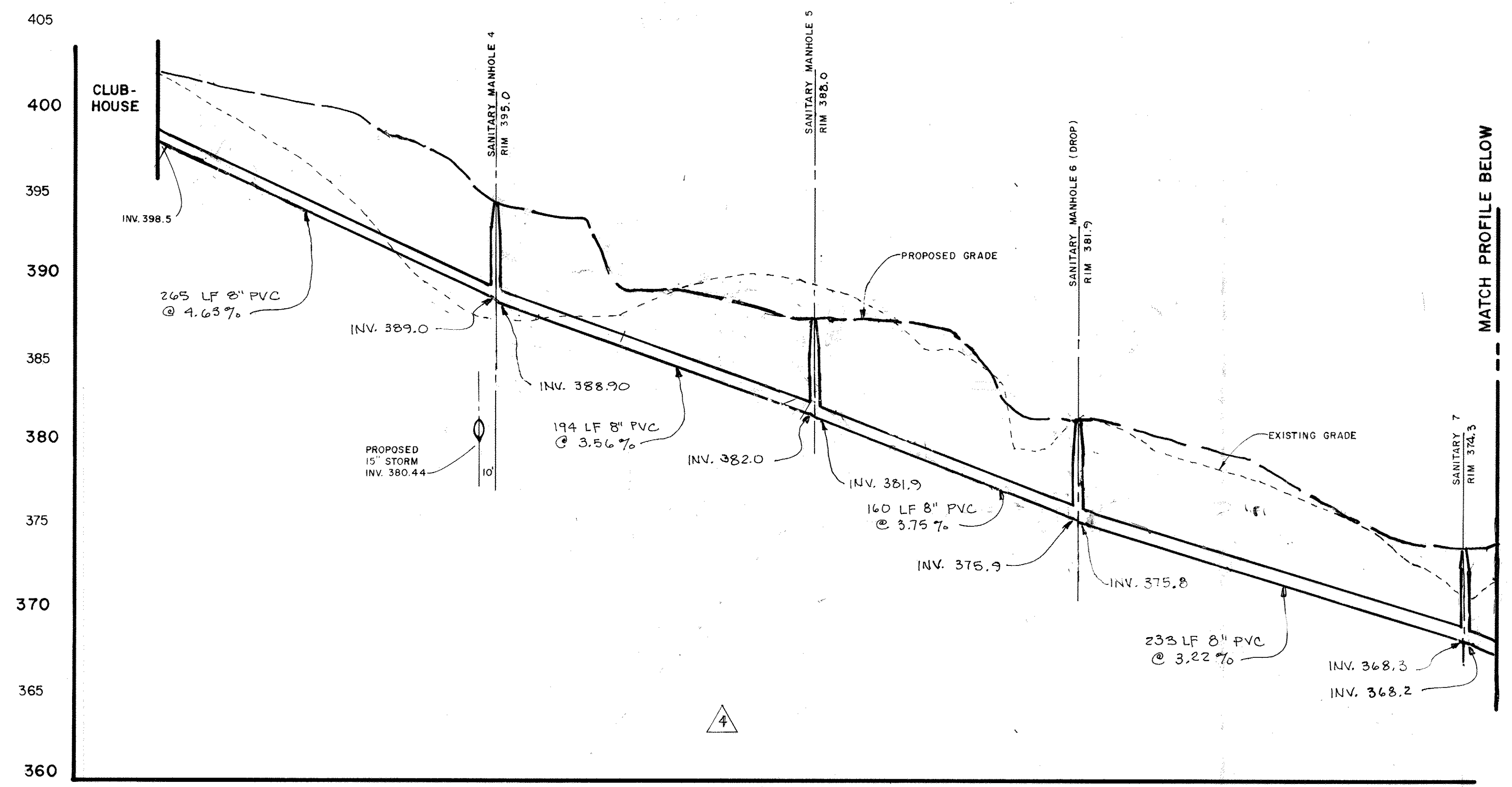
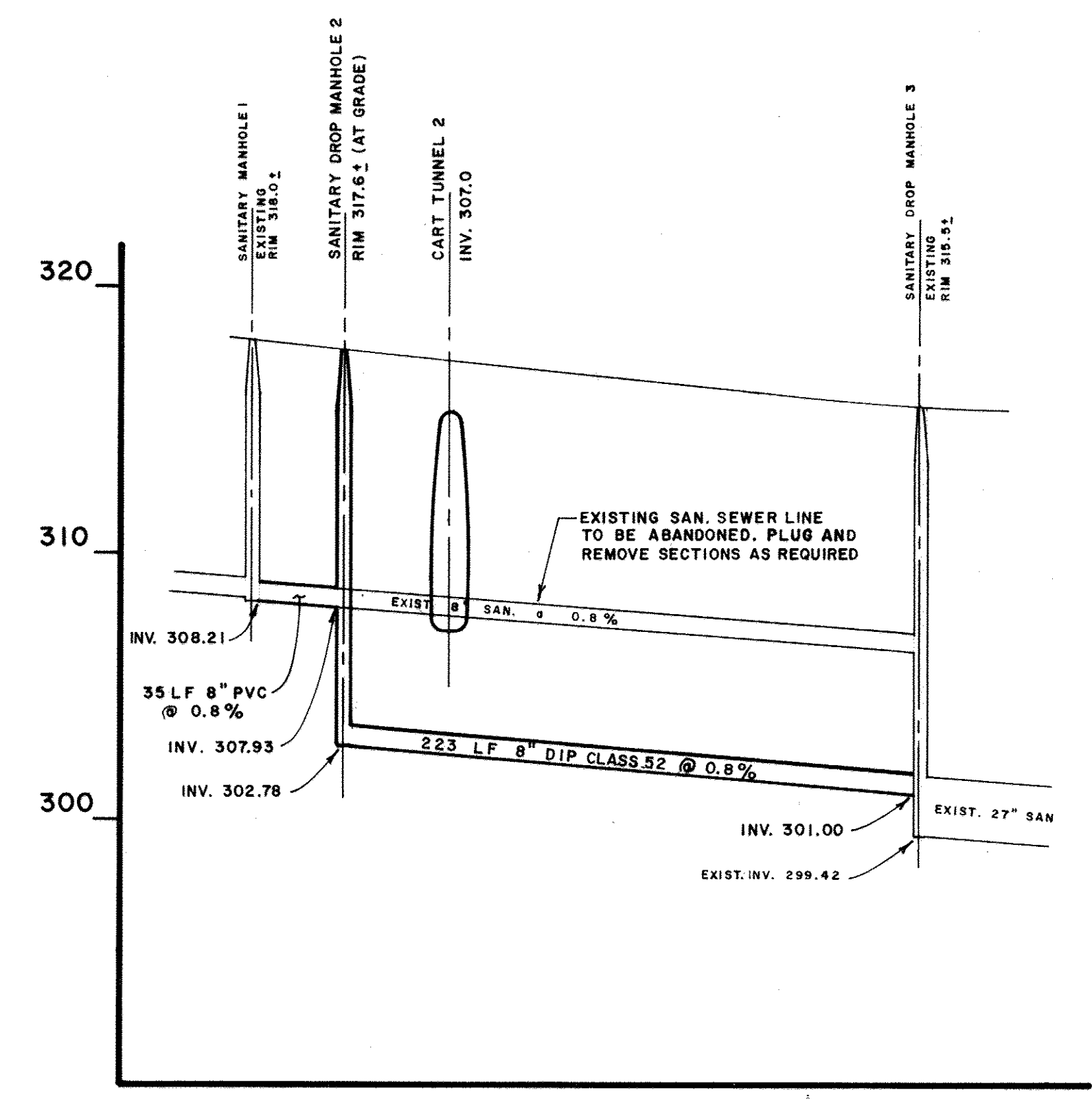
APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS,
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS,
James P. Iwan 11/2/93
DIRECTOR DATE
Charles S. Sapan 11/1/93
CHIEF, BUREAU OF ENGINEERING DATE
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
James P. Iwan 11/2/93
DIRECTOR DATE
Gilbert J. Szymanski 11/10/93
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT,
Joyce M. Boudreau 11/5/93
COUNTY HEALTH OFFICER DATE

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
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COLUMBIA, MD. 21045
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ADDRESS CHART

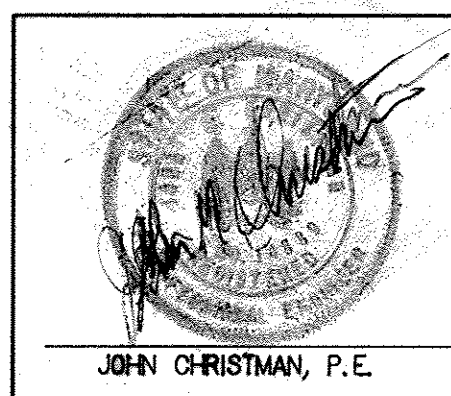
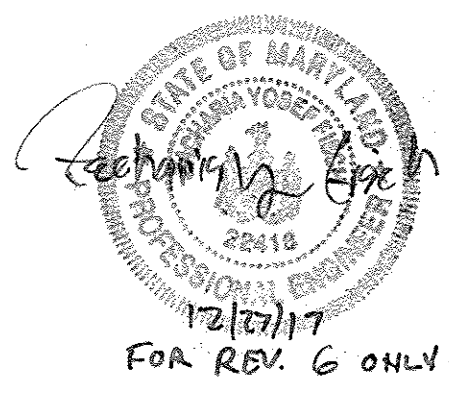
BUILDING	STREET	ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD	
LOT1-MAINT.BLDG	5280 COLUMBIA ROAD	
SUBDIVISION NAME: VHL 973, LOT 38		
VHL 974, LOTS 33, 35, 7C, 8/1, LOT 30		
SECTION/AREA: 9/3, 9/4, 9/1 & 3/1		
LOT/PIECE: 33, 35 & 55		
FLAT: 14-19 IN COM.		
BLOCK ZONE: 14-19 IN COM.	TAX ZONE MAP: 30	ELEC. DIST. CENSUS TR. 51h 6054
WATER CODE	SEWER CODE	

STORM DRAINAGE/
BASIN PROFILES
SCALE VERT. 1" = 5'
HORIZ. 1" = 50'
DRAWN MBB CHECKED JJB
PROJ. NO. M0405 DATE 3-20-92
P4
COLUMBIA MARYLAND SHEET 49 OF 61



NOTE 1, HGL COMPUTATION IS INCLUDED IN APPENDIX E OF THE DRAINAGE REPORT.
2, ANTI-SEEP COLLARS SHALL BE PLACED AT LEAST 2' FROM CLOSEST PIPE JOINT.

SAN. MH 7 TO SAN. MH 10 (EXISTING)



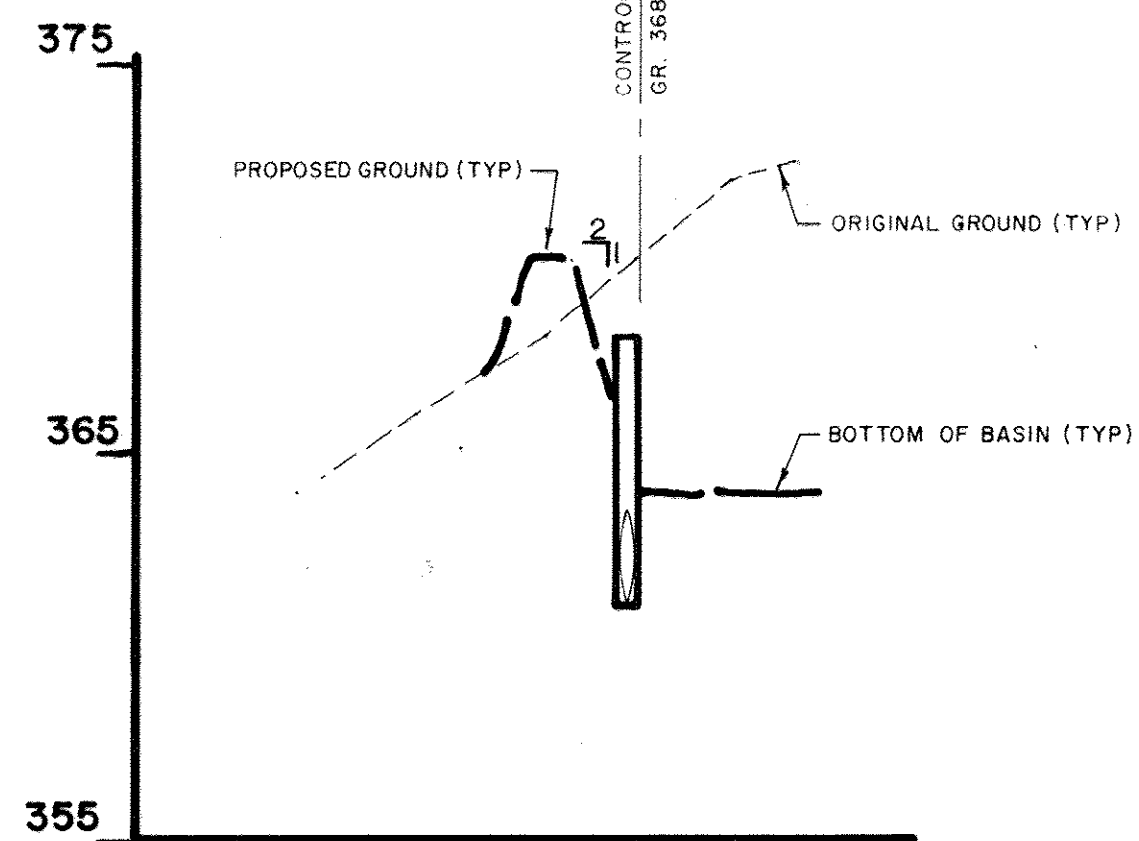
revisions

no.	description	date
1	SEWER LINE	8-92
2	PER DPZ COMMENTS	10-93
3	PER COUNTY COMMENTS	1/3/94
4	REVISED PROFILES FROM CLUBHOUSE TO MANHOLE 8	7/94
5	REVISED SEWER REVISION SHEET NUMBER	12/2017

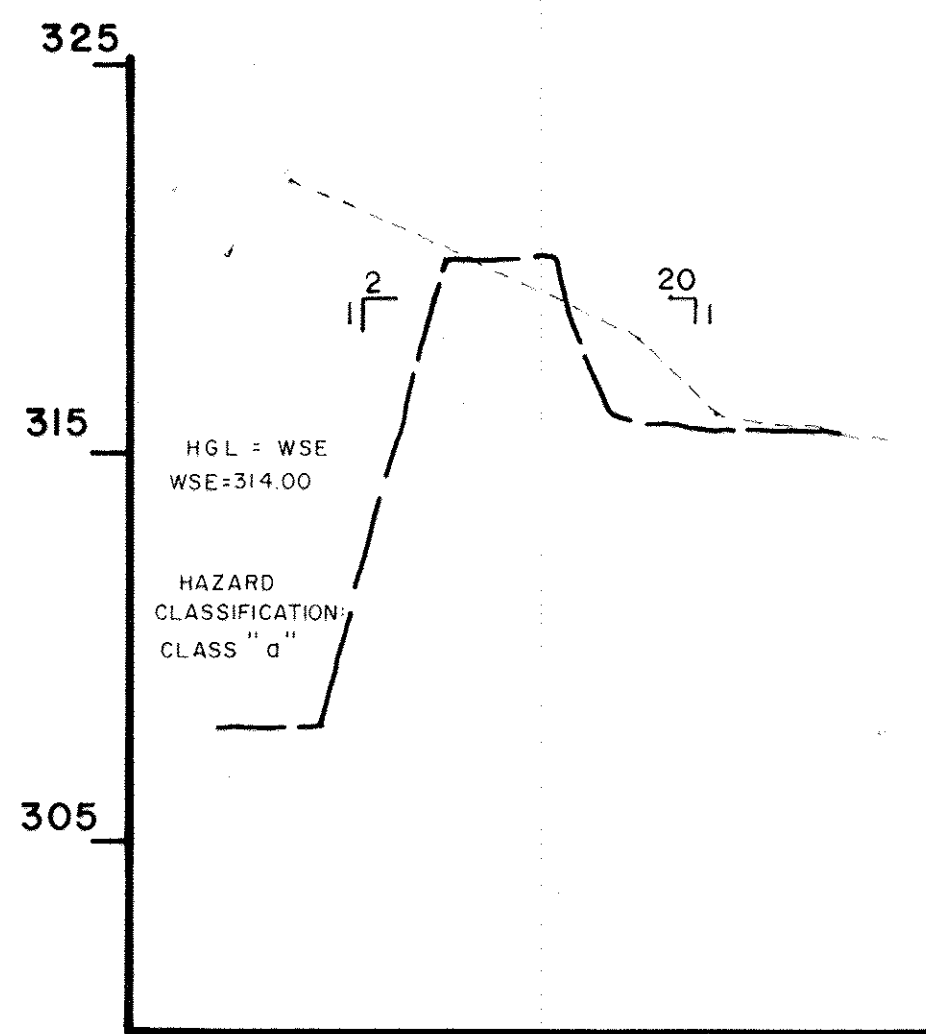
prepared by
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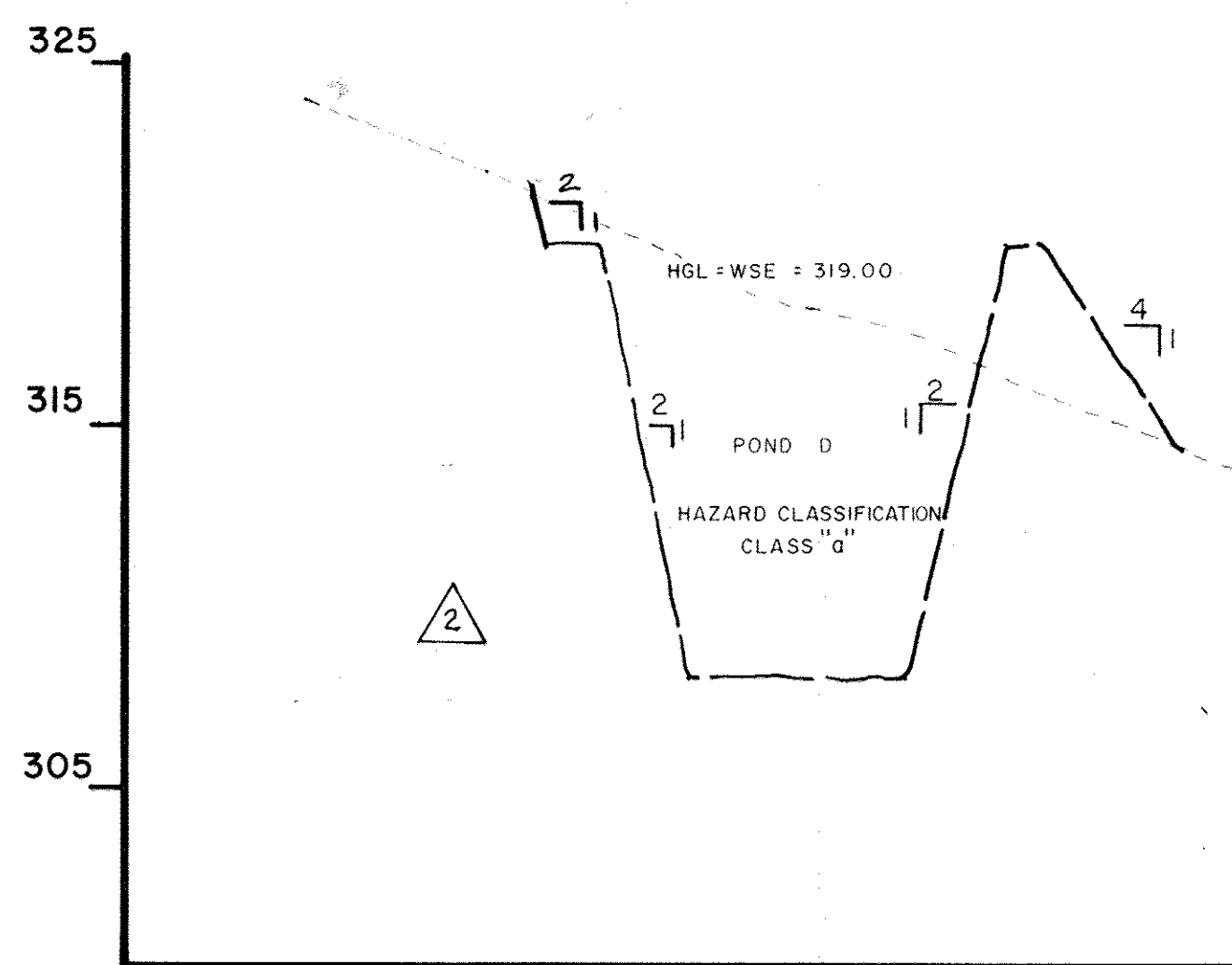
STORM DRAINAGE/
BASIN PROFILES
SCALE VERT. 1" = 5'
HORIZ. 1" = 50'
DRAWN MBB CHECKED JJB
PROJ. NO. M0405 DATE 3-20-92
P4
COLUMBIA MARYLAND SHEET 49 OF 61



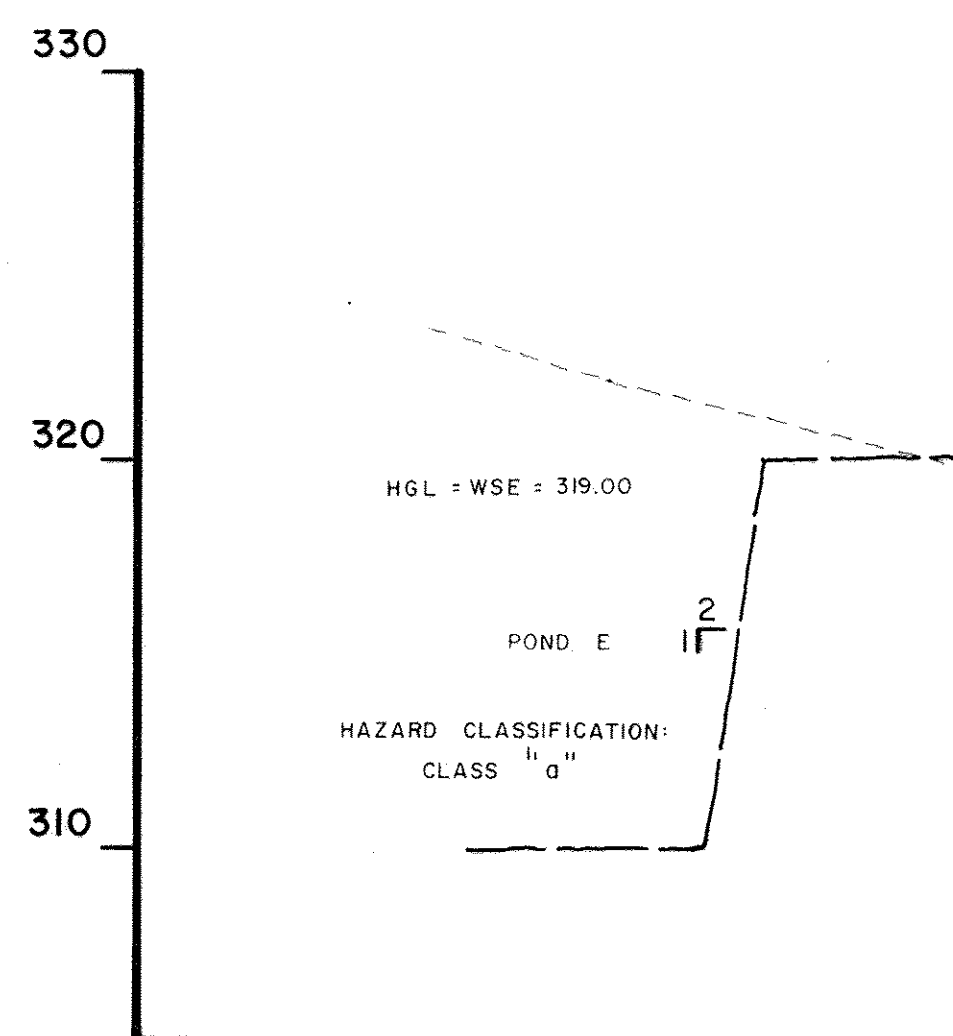
POND A



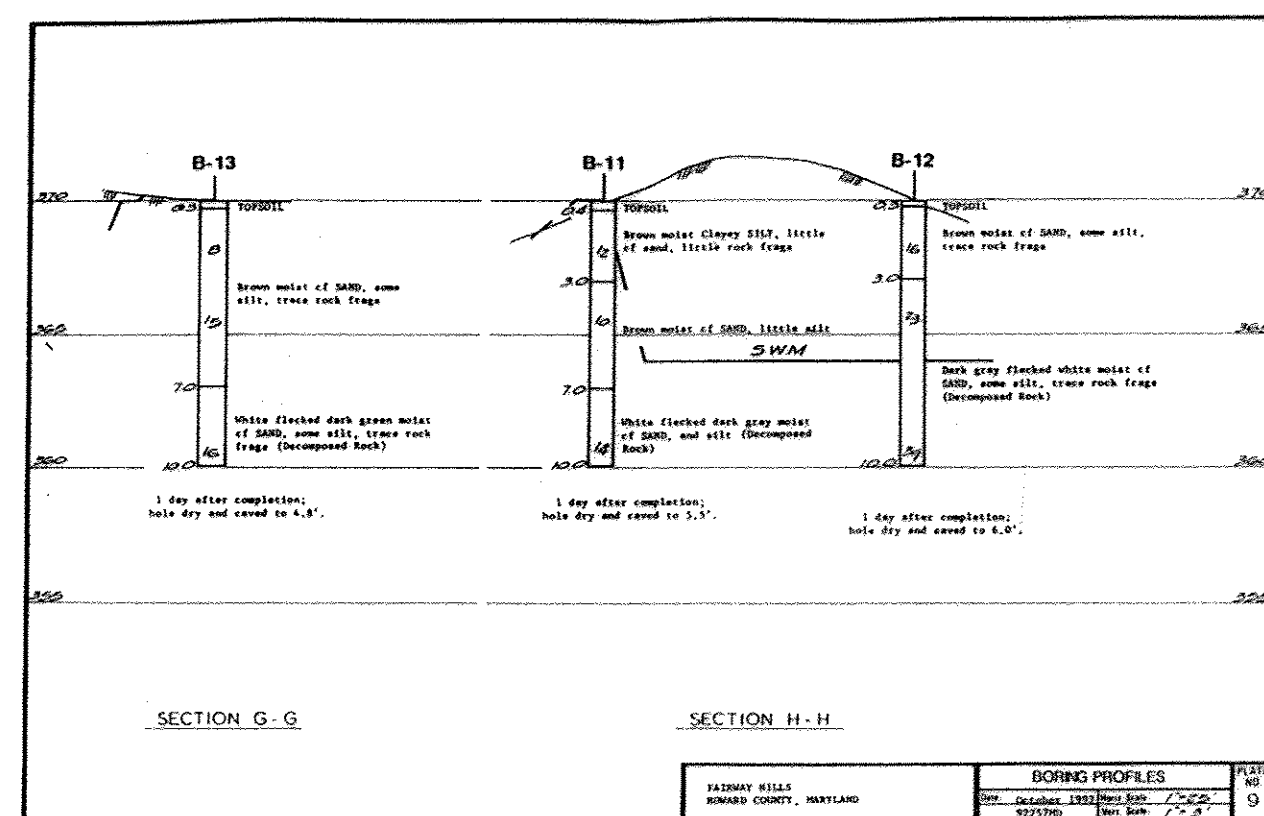
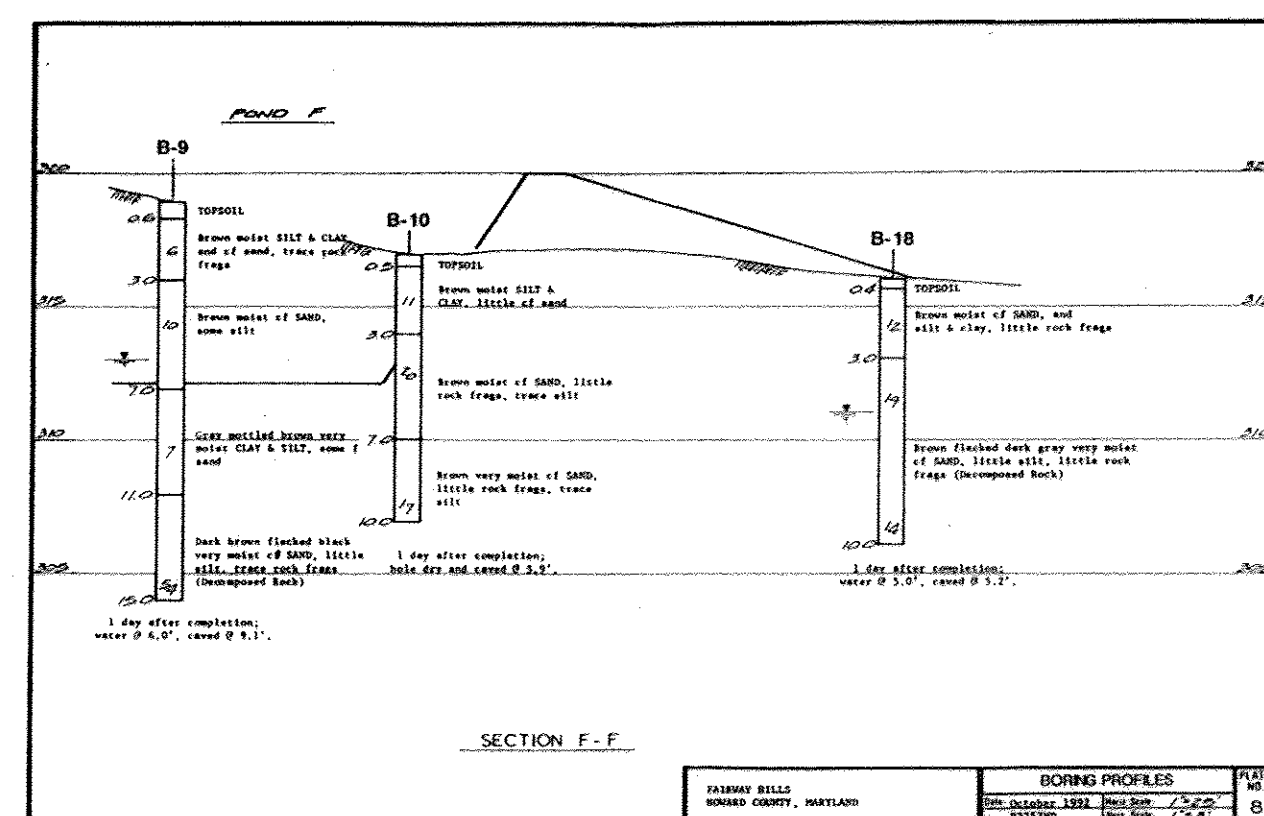
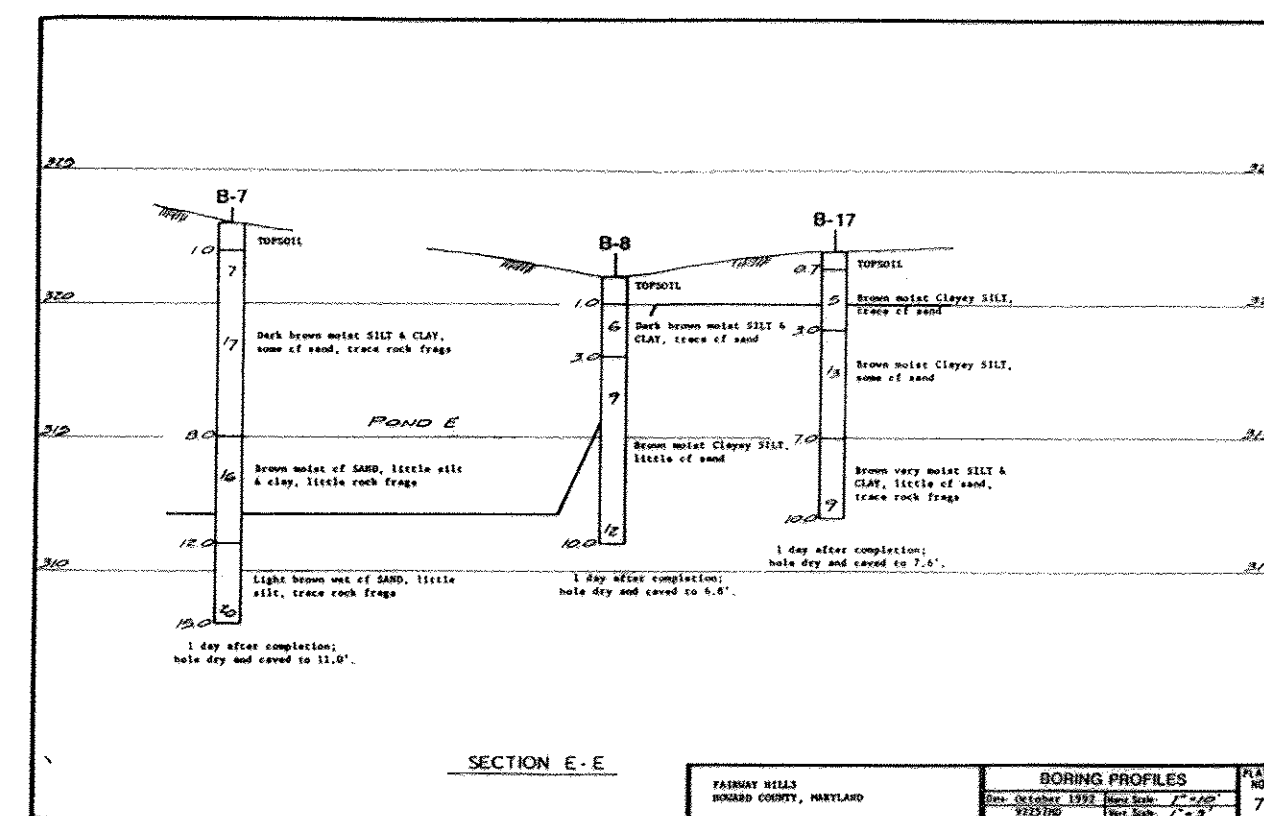
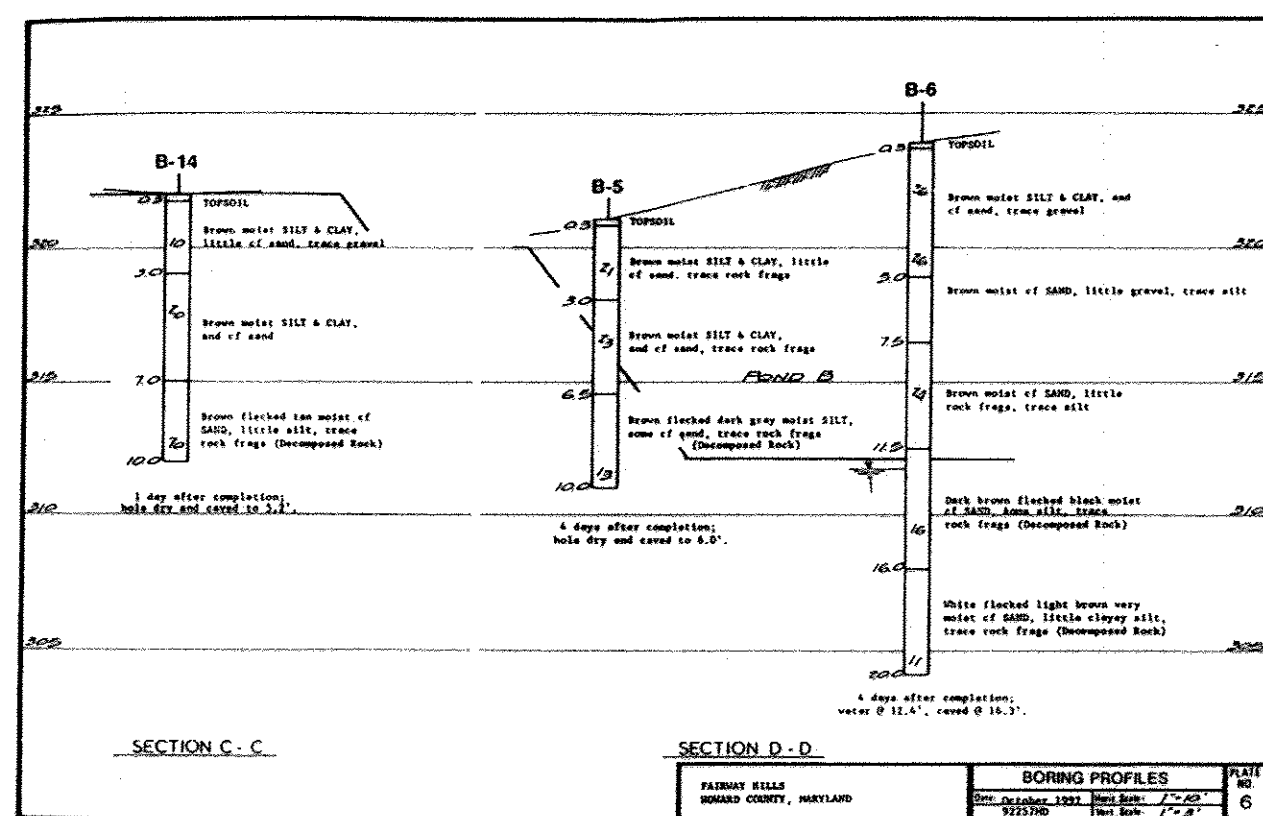
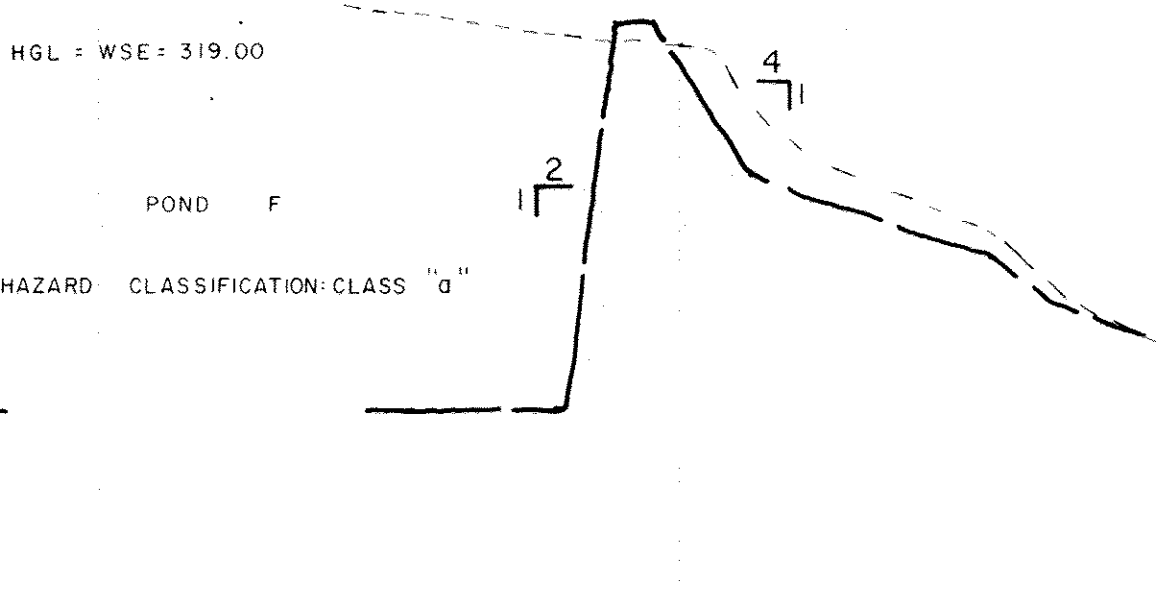
POND B



PONDS C & D



PONDS E & F



SPECIFICATIONS

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

Site Preparation

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

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

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

Earth Fill

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 out of trench shall conform to Unified Soil Classification GC, SC, CH, or CL. Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer.

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 track of the equipment or compaction shall be achieved by a minimum of four

complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that it formed into a ball it will not crumble yet not be so wet that water can be squeezed out.

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

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

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall 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.

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 - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any

bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings or an approved equal may be used: Nepon, Plast-Cote, Bac-Klad, and Both-Cu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-265 and M-266.

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. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Aluminum surfaces that are to be in contact with concrete shall be primed with one coat of zinc chromate primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

- Coupling bands, anti-seep collars, and sections, etc., must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.
- Connections - All connections with pipes must be completely watertight. The down 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 an adequate number of compactions to accommodate the band width. The following type connections are acceptable for pipes less than 48" in diameter: flanges on both ends of the pipe, a 12" wide standard lap type band with 12" wide by 3/8" thick closed coil circular neoprene gasket; and a 12" wide rubber type band with O-ring gaskets having a minimum diameter of 1/2" greater than the connection depth. Pipes 48" in diameter and larger shall be connected by a 24" long annular corrugated band using rods and lugs. A 12" wide by 3/8" thick closed coil circular neoprene gasket will be installed on the end of each pipe for a total of 24".

Helicly corrugated pipe shall have either continuously welded seams or have lock seams.

- Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soil, 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 Designation C-361. An approved equivalent is AWWA Specification C-302.
- Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe to at least 10% of its outside diameter with a minimum thickness of 3 inches, or as shown on the drawings.
- Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 feet from the riser.

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

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

- Materials - PVC pipe shall be PVC-120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241.
- 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 soil, 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.

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 608, Mix No. 3.

Rock Riprap

All rock shall be dense, sound, and free from cracks, seams, and other defects conducive to accelerated weathering. The rock fragments shall be angular to subangular in shape. The least dimension of an individual rock fragment shall be not less than one-third the greatest dimension of the fragment.

- The rock shall have the following properties:
 - Bulk specific gravity (saturated surface-dry basis) not less than 2.5.
 - Absorption not more than three percent.
 - Soundness: Weight loss in two cycles not more than 20 percent when sodium sulfate is used.

Bulk specific gravity and absorption shall be determined according to ASTM C 127. The test for soundness shall be performed according to ASTM C 68.

The riprap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will ensure the riprap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks. Filter cloth shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 919.12.

Care of Water during Construction

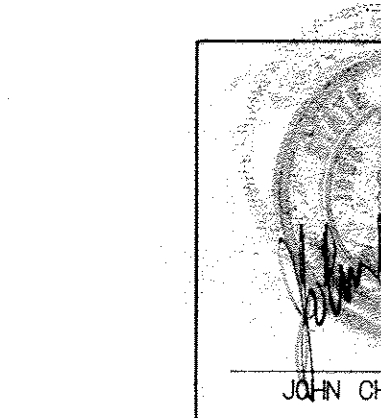
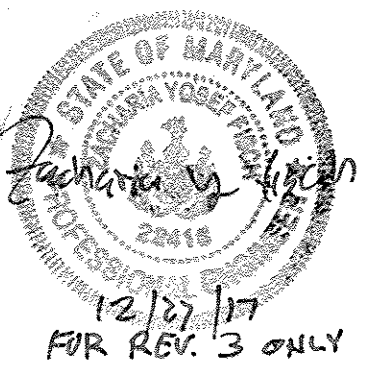
All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom. Required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to 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, spot and borrow areas shall be stabilized by seeding, liming, mulching and mounding in accordance with the Maryland Soil Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Frozen and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and all pollutants shall be stabilized by seeding, liming, mulching and mounding in accordance with the Maryland Soil Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.



no.	description	revisions	date	prepared by
1	AS PER COUNTY COMMENTS		7-27-92	
2	OMIT POND 'C'			
3	REVISE SHEET NUMBER		12/20/97	

RON PRICHARD
 Golf Architect
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 5580 STERRETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 621-8050

LEGEND
 ORIGINAL GROUND - - - - -
 PROPOSED GROUND - - - - -

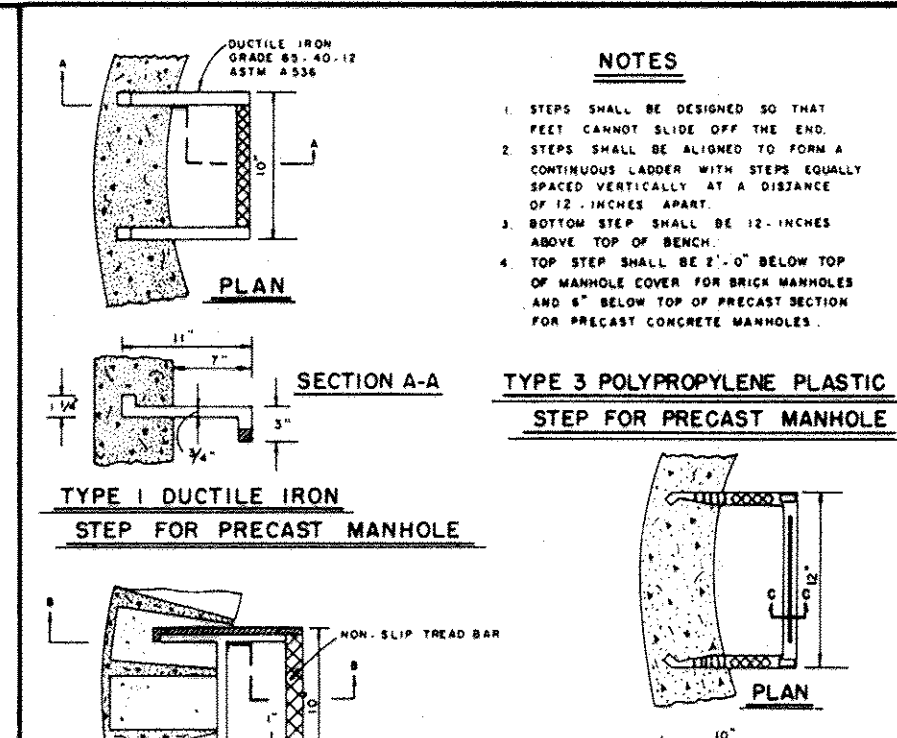
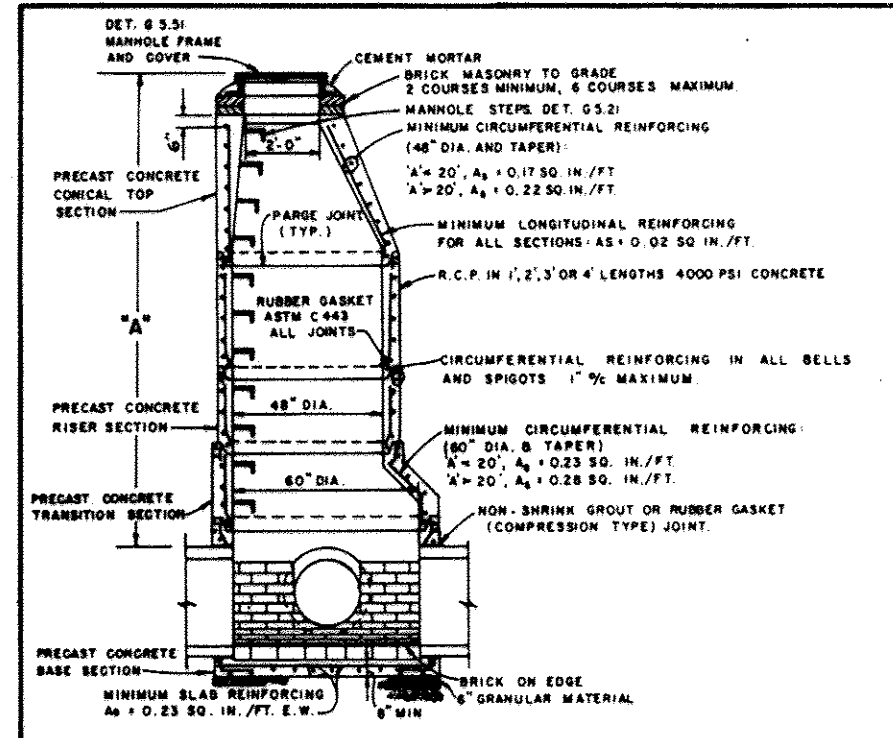
APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 2-2-93

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC WORKS.
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 Director: *James H. Law* DATE: 11/2/93
 Chief: *James H. Law* DATE: 11/1/93
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 Director: *James H. Law* DATE: 11/2/93
 Chief: *James H. Law* DATE: 11/1/93
 APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 Director: *James H. Law* DATE: 11/5/93
 County Health Officer: *James H. Law* DATE: 11/5/93

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
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DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
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BUILDING	STREET	ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD	
LOT1-MAINT.BLDG.	5280 COLUMBIA ROAD	

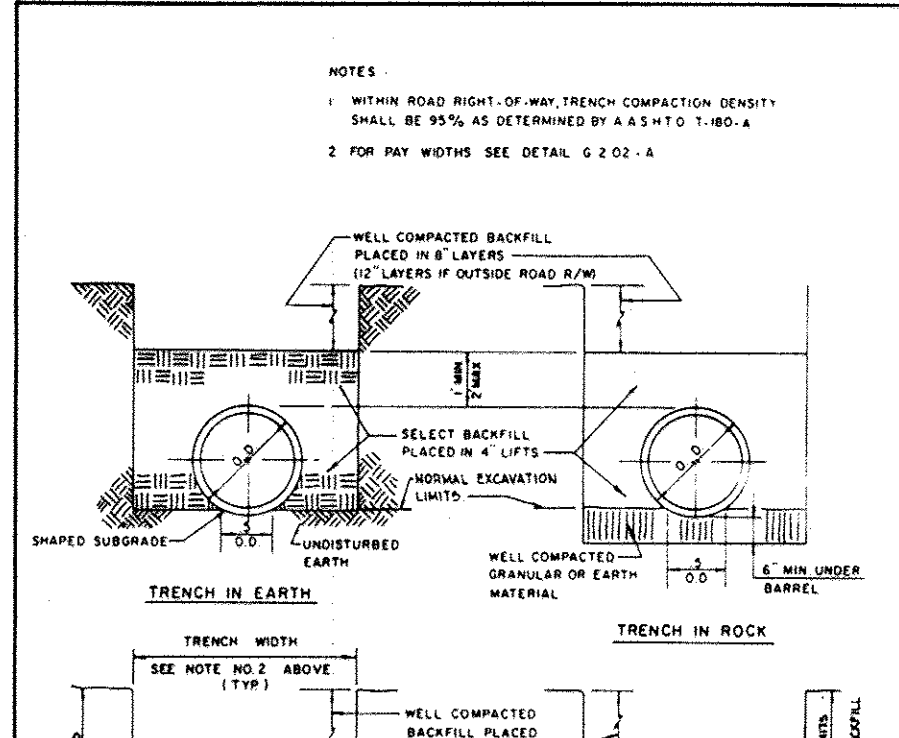
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DRAWN	K.M.	CHECKED	J.J.B.
PROJ. NO.	M0405	DATE	10/10/92
FAIRWAY HILLS GOLF COURSE		COLUMBIA MARYLAND	
SDP-92-104		SHEET 50 OF 61	



GENERAL NOTES APPLICABLE TO ALL PRECAST MANHOLES

- MANHOLE BASE SHALL BE BEDDED ON 4" MINIMUM GRANULAR MATERIAL ON FIRM SUBGRADE.
- ELEVATION BELOW PIPE SHALL BE BACKFILLED WITH GRANULAR OR SELECT MATERIAL 1/3 OF WAY TO TOP OF PIPE.
- CONNECTION BETWEEN MANHOLE WALL AND SEWER SHALL BE NON-SHINKING GROUT OR RUBBER GASKET (COMPRESSION TYPE) JOINT.
- MANHOLE STEPS SHALL BE AS SPECIFIED ON DETAIL 8-2.
- PROVIDE 8 COATS COAL TAR PROPY COATING, 1/4" MIN. DRY, SANITARY SEWER ONLY. (LATERAL SURFACE ONLY).
- PROVIDE PIPE JOINT WITHIN 12" OF MAXIMUM FROM OUTSIDE OF MANHOLE WALL.
- MANHOLE CHANNELS SHALL BE FORMED TO PROVIDE A SMOOTH HYDRAULIC TRANSITION BETWEEN PIPES. BEACHES SHALL BE TO TOP OF PIPE OR AS SHOWN ON PLANS. MANHOLE CHANNELS AND BEACHES SHALL BE FORMED FROM SEWER BRICK, GRADE 45, ASTM C-33.
- MANHOLE SHALL BE IN ACCORDANCE WITH ASTM C-478 EXCEPT AS SHOWN.

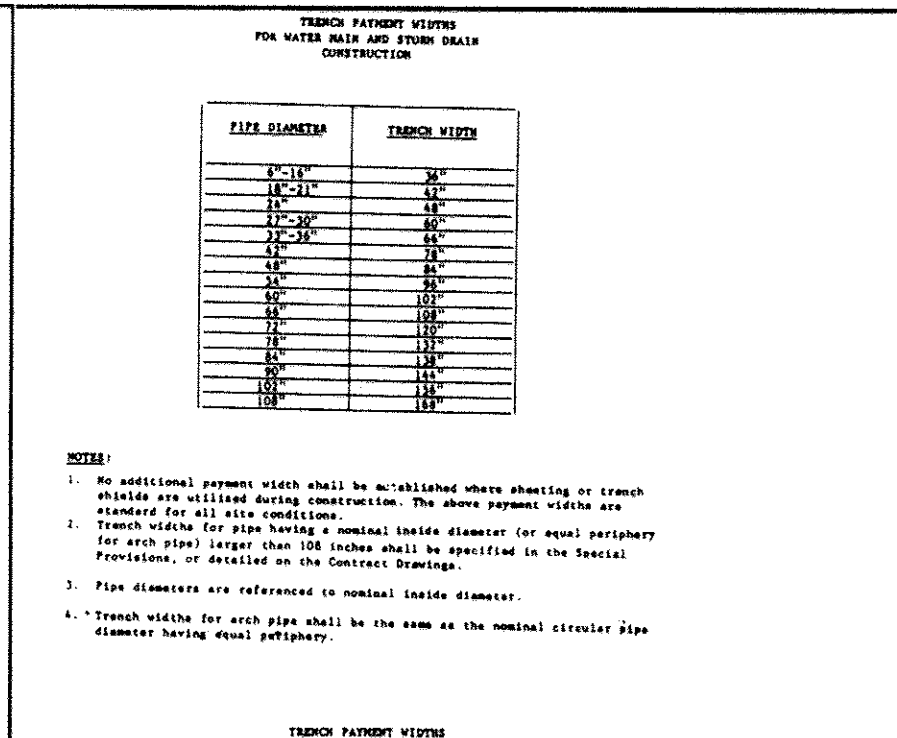
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved: *[Signature]*
Chief, Bureau of Engineering



TRENCH PAYMENT WIDTH

PIPE DIAMETER	TRENCH WIDTH
12"	24"
18"	36"
24"	48"
30"	60"
36"	72"
42"	84"
48"	96"
54"	108"
60"	120"

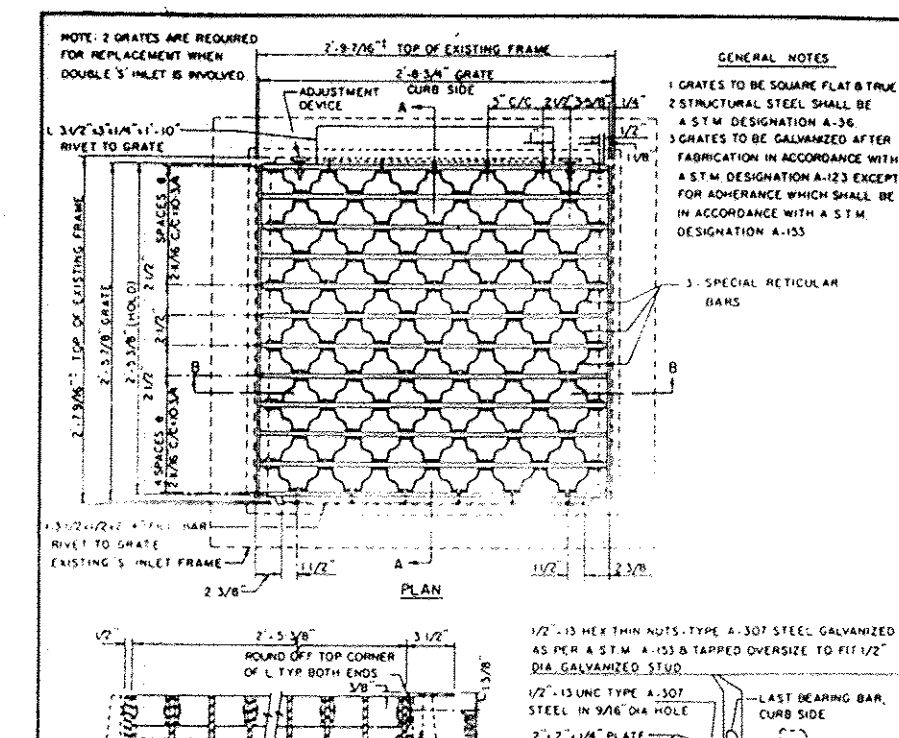
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved: *[Signature]*
Chief, Bureau of Engineering



TRENCH PAYMENT WIDTH

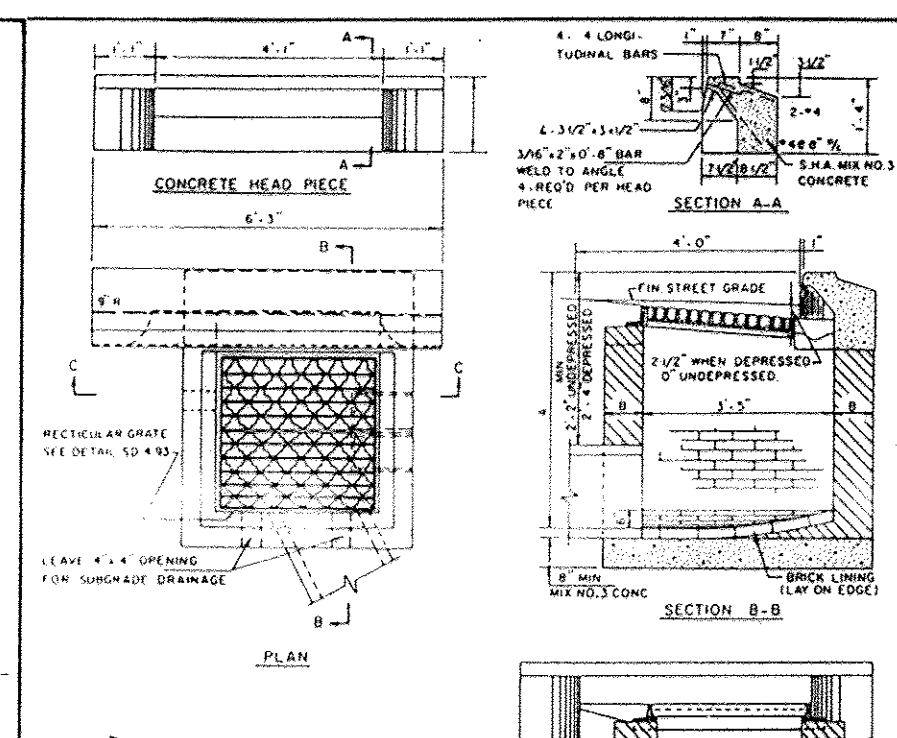
PIPE DIAMETER	TRENCH WIDTH
12"	24"
18"	36"
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HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved: *[Signature]*
Chief, Bureau of Engineering



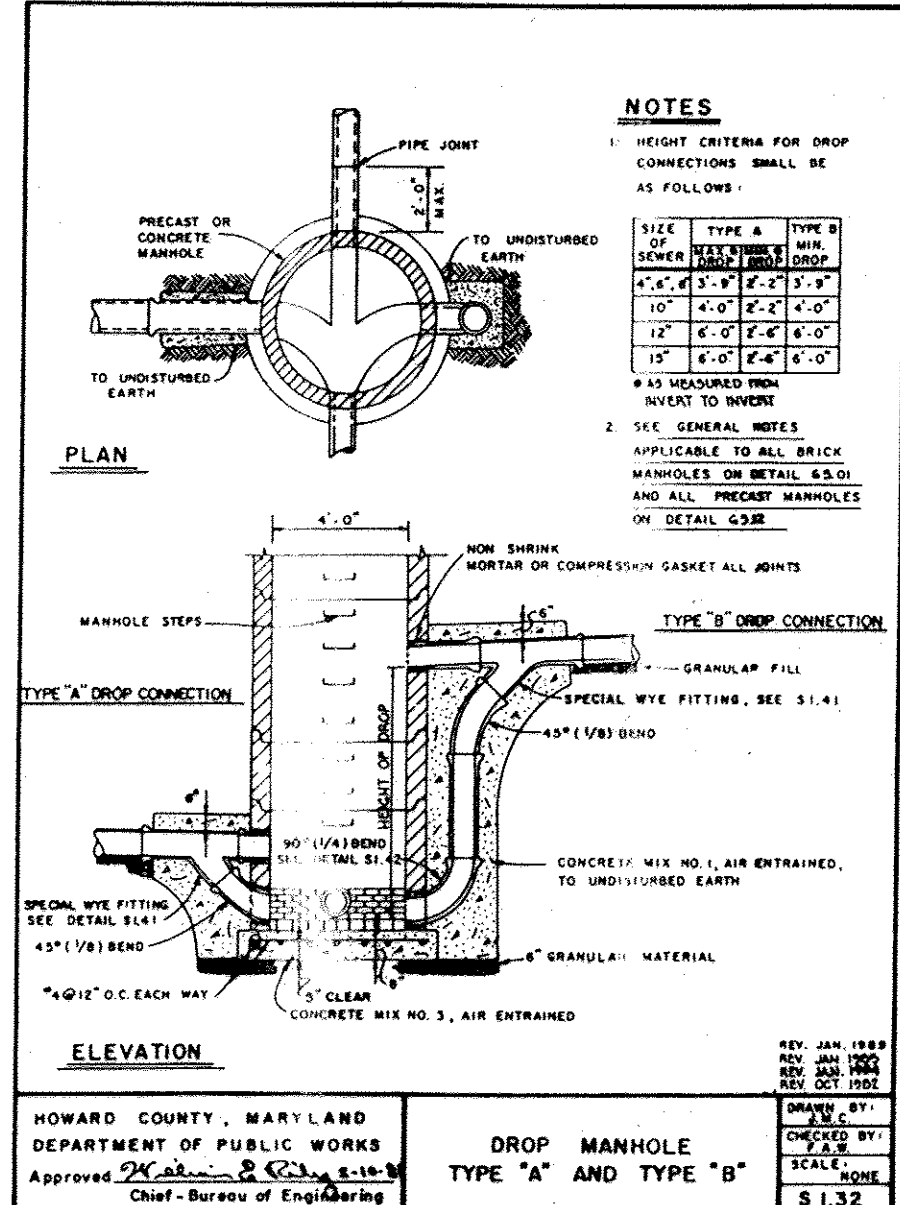
TYPE 'S' INLET

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved: *[Signature]*
Chief, Bureau of Engineering



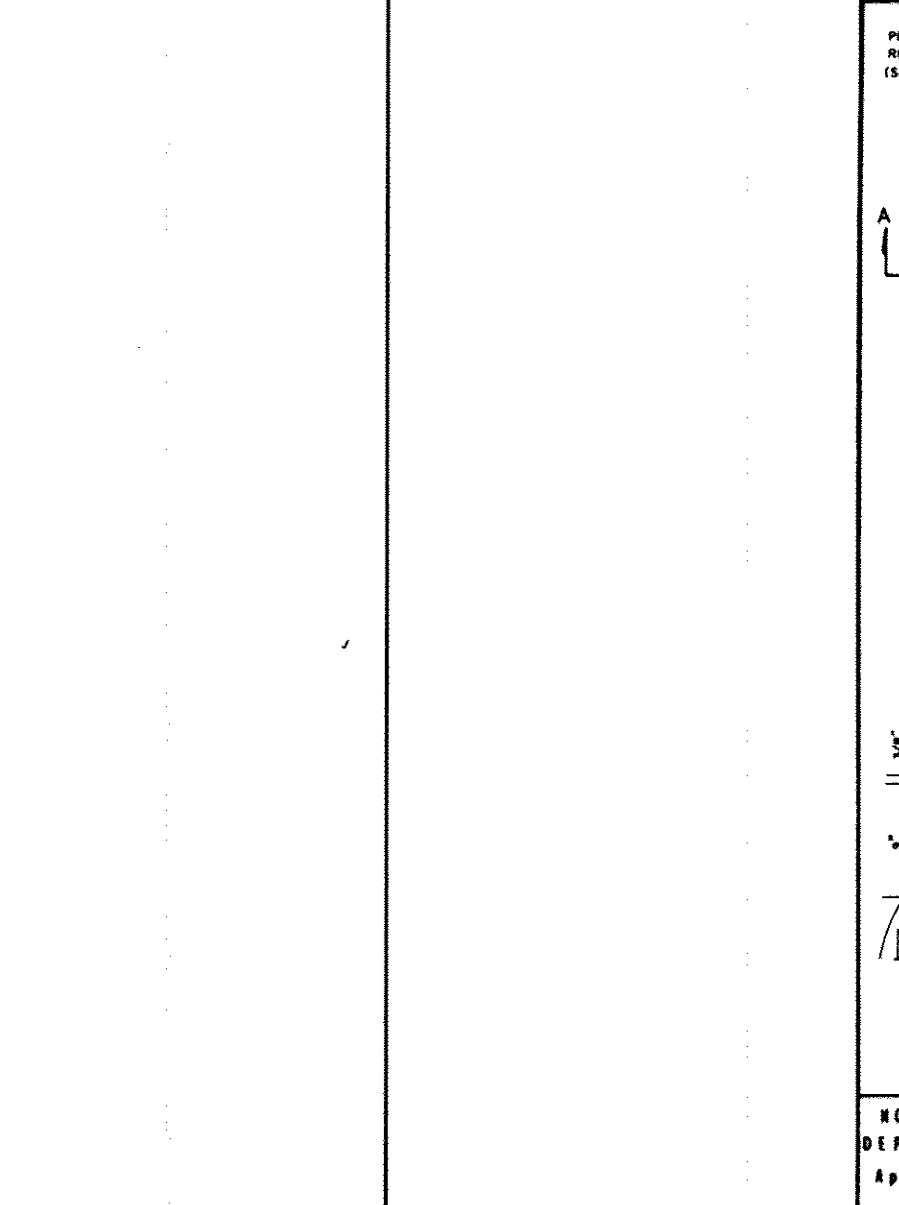
TYPE 'S' COMB. INLET

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved: *[Signature]*
Chief, Bureau of Engineering



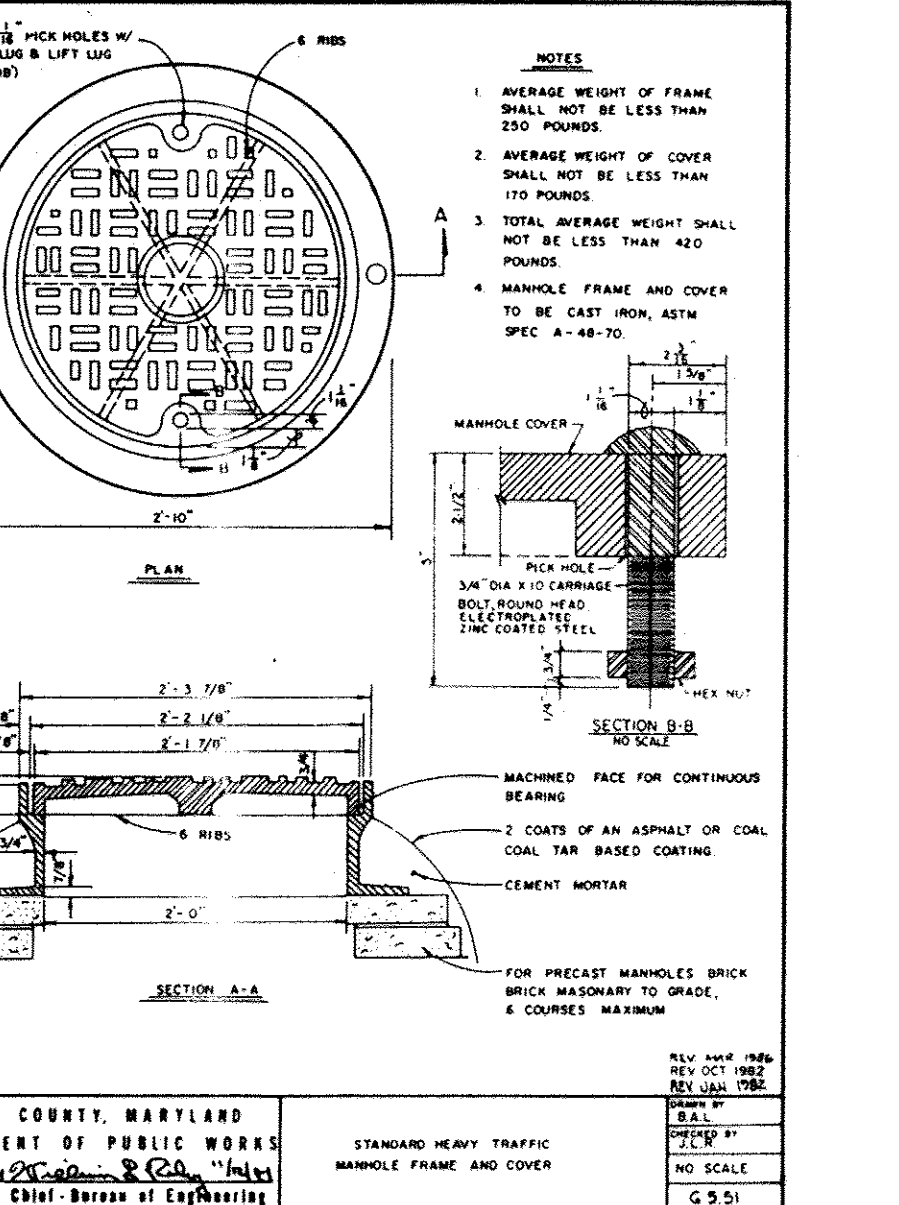
DROP MANHOLE TYPE 'A' AND TYPE 'B'

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved: *[Signature]*
Chief, Bureau of Engineering



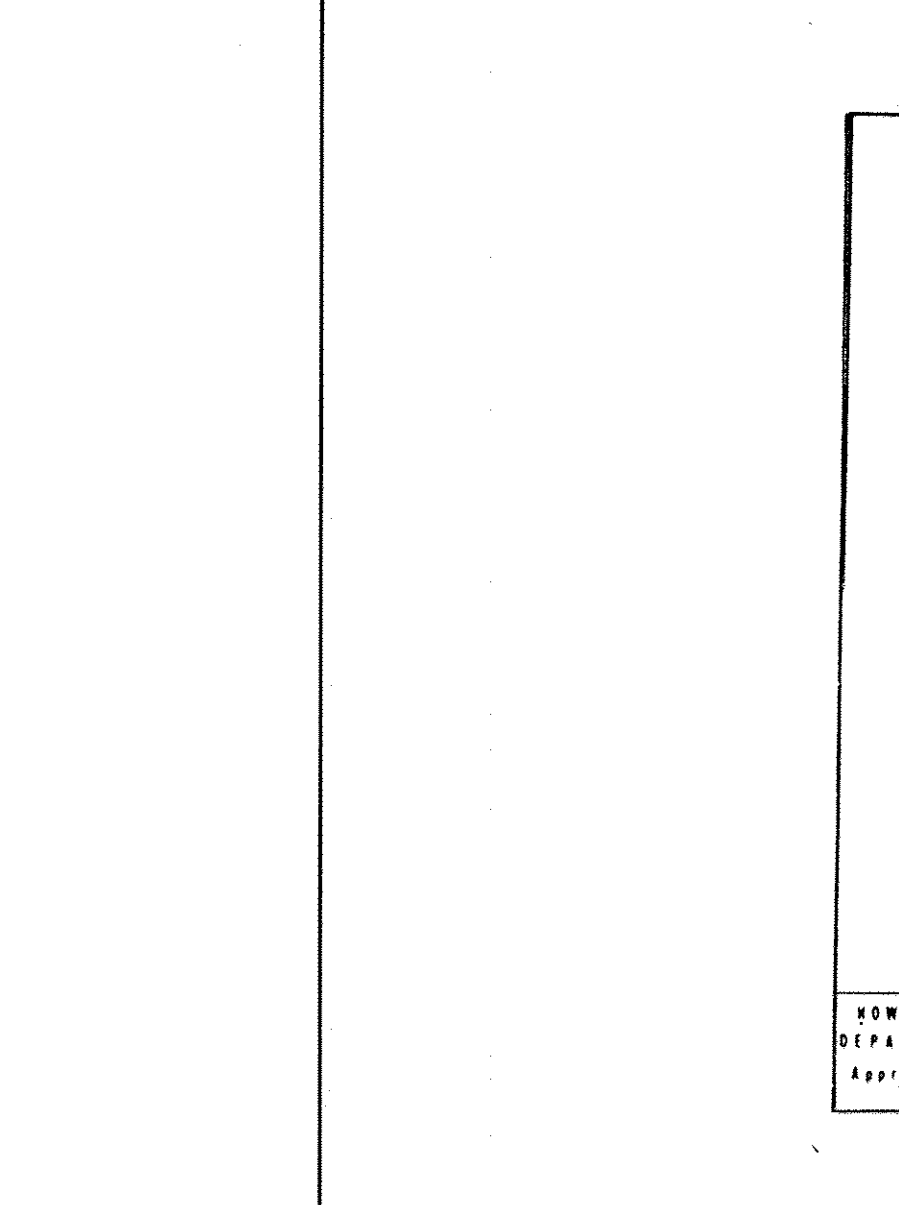
DROP MANHOLE TYPE 'A' AND TYPE 'B'

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved: *[Signature]*
Chief, Bureau of Engineering



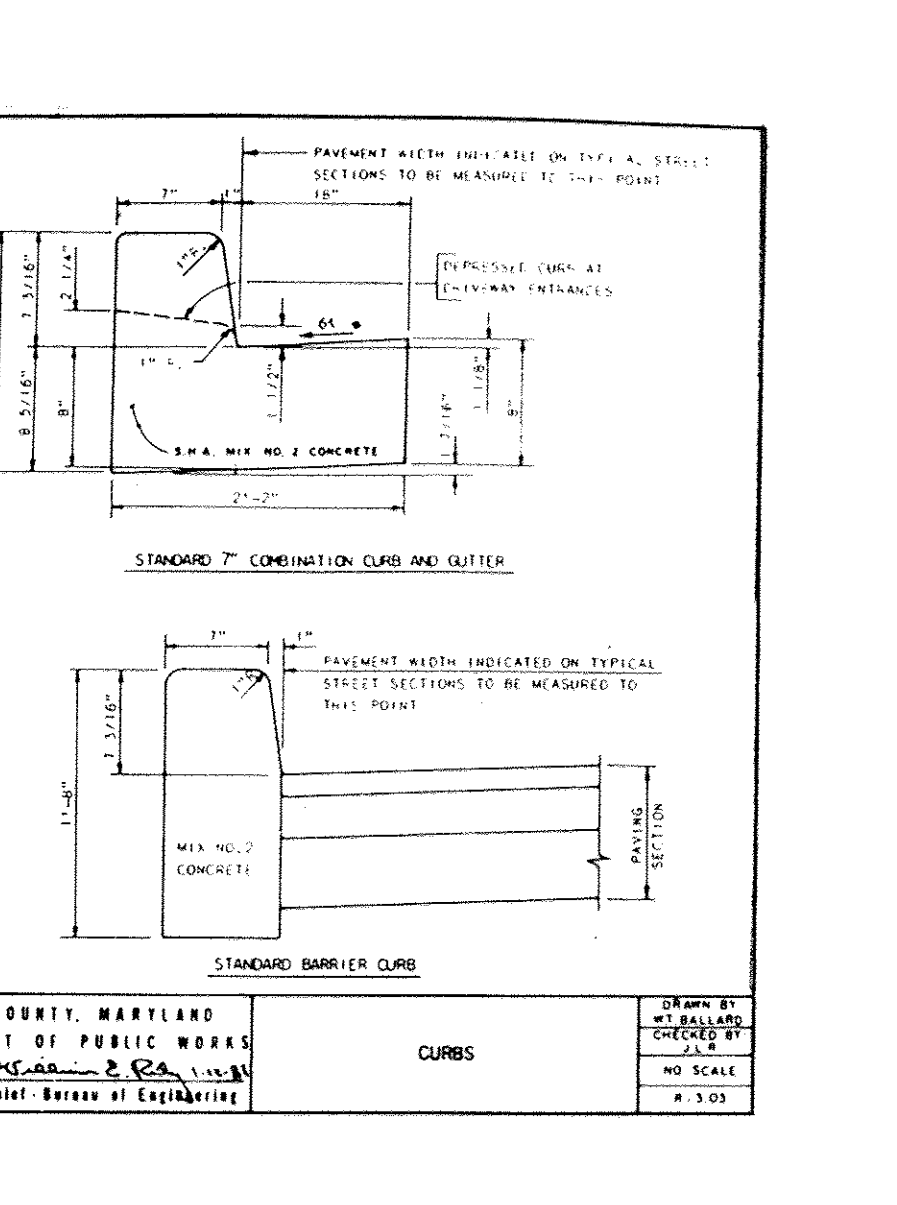
DROP MANHOLE TYPE 'A' AND TYPE 'B'

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved: *[Signature]*
Chief, Bureau of Engineering



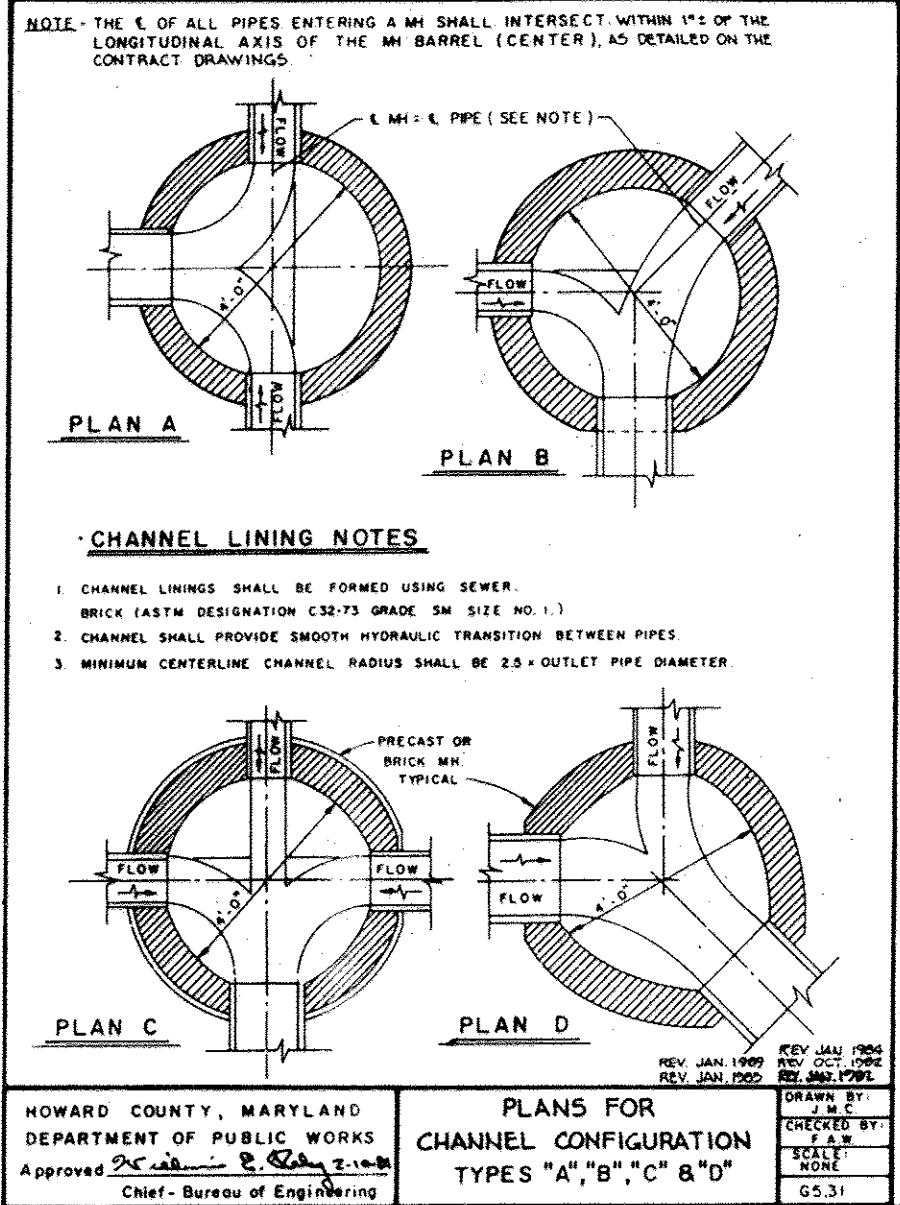
DROP MANHOLE TYPE 'A' AND TYPE 'B'

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved: *[Signature]*
Chief, Bureau of Engineering



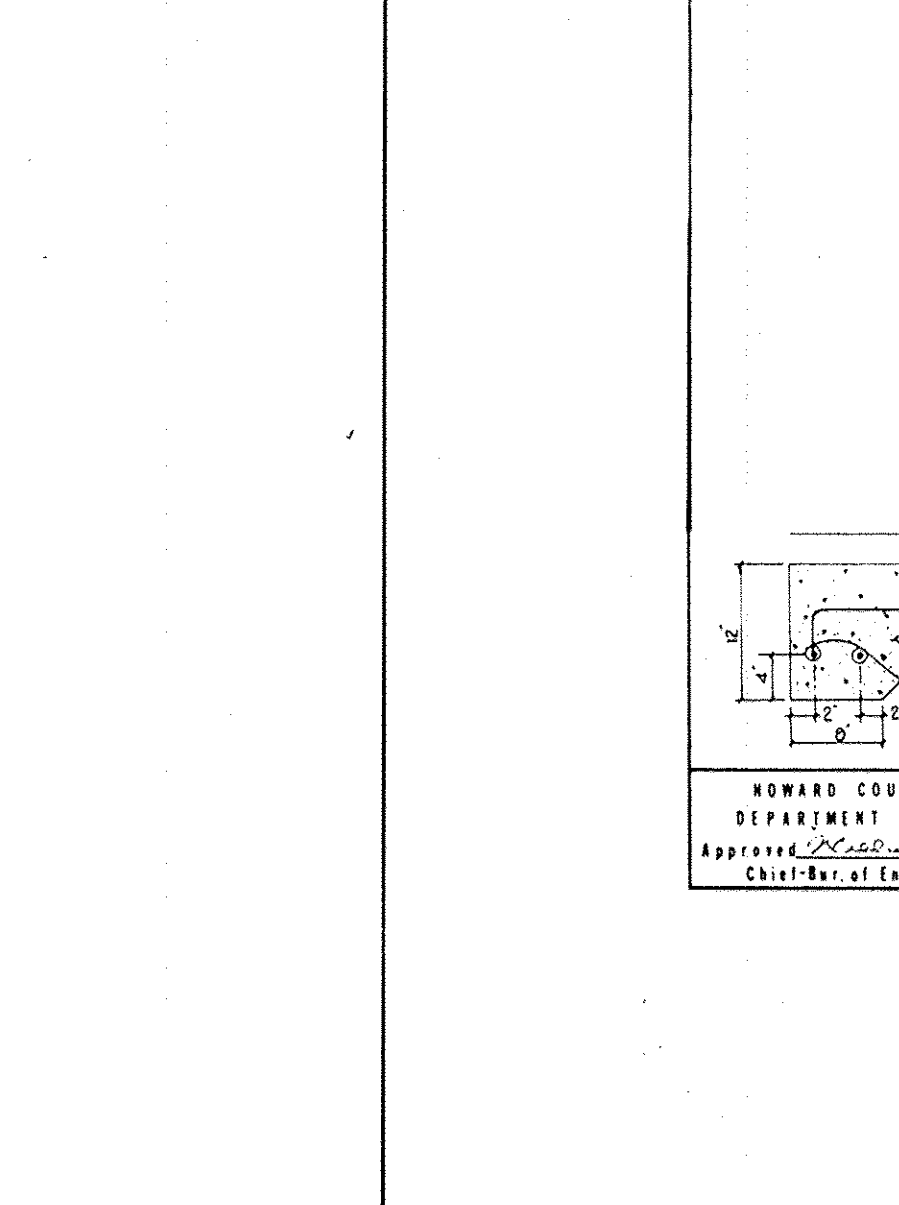
DROP MANHOLE TYPE 'A' AND TYPE 'B'

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved: *[Signature]*
Chief, Bureau of Engineering



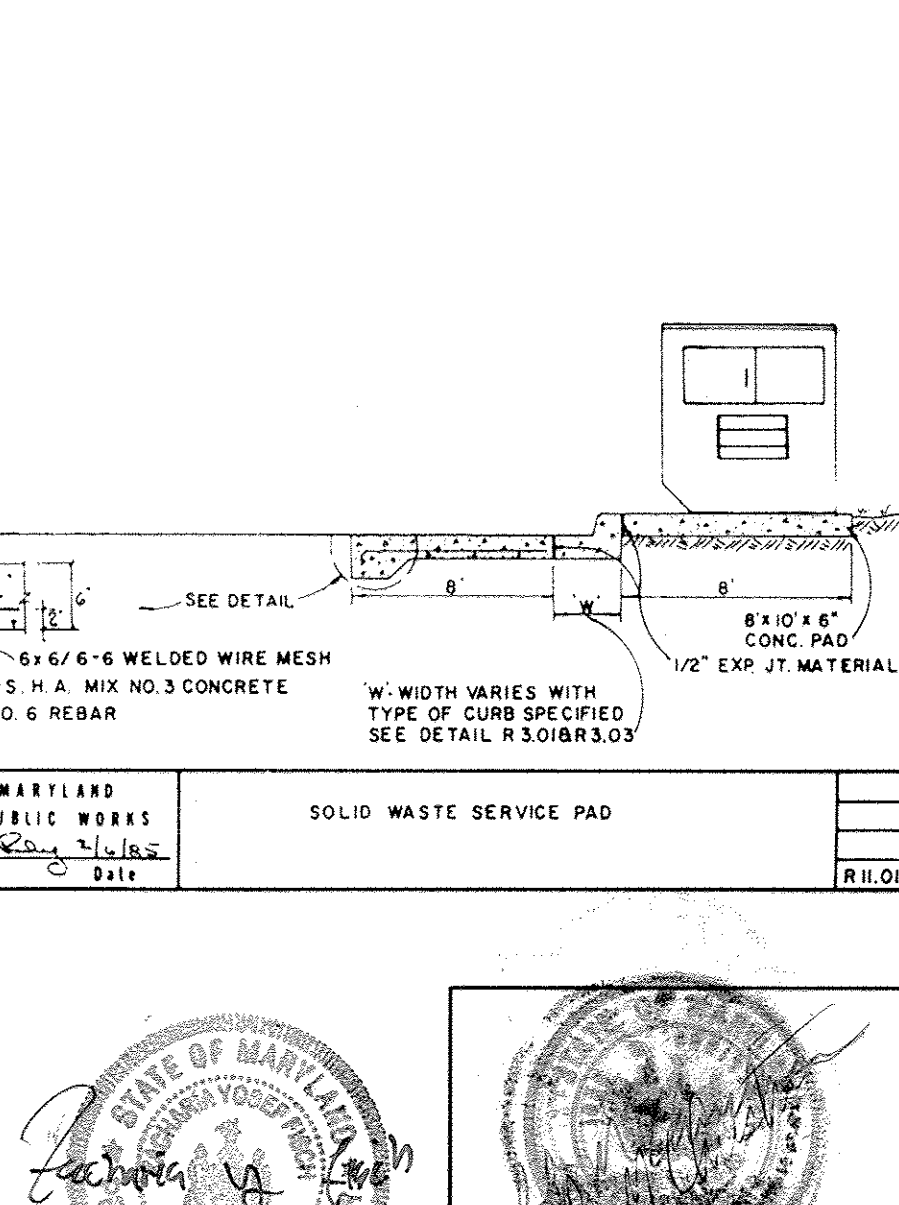
PLANS FOR CHANNEL CONFIGURATION TYPES 'A', 'B', 'C' & 'D'

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved: *[Signature]*
Chief, Bureau of Engineering



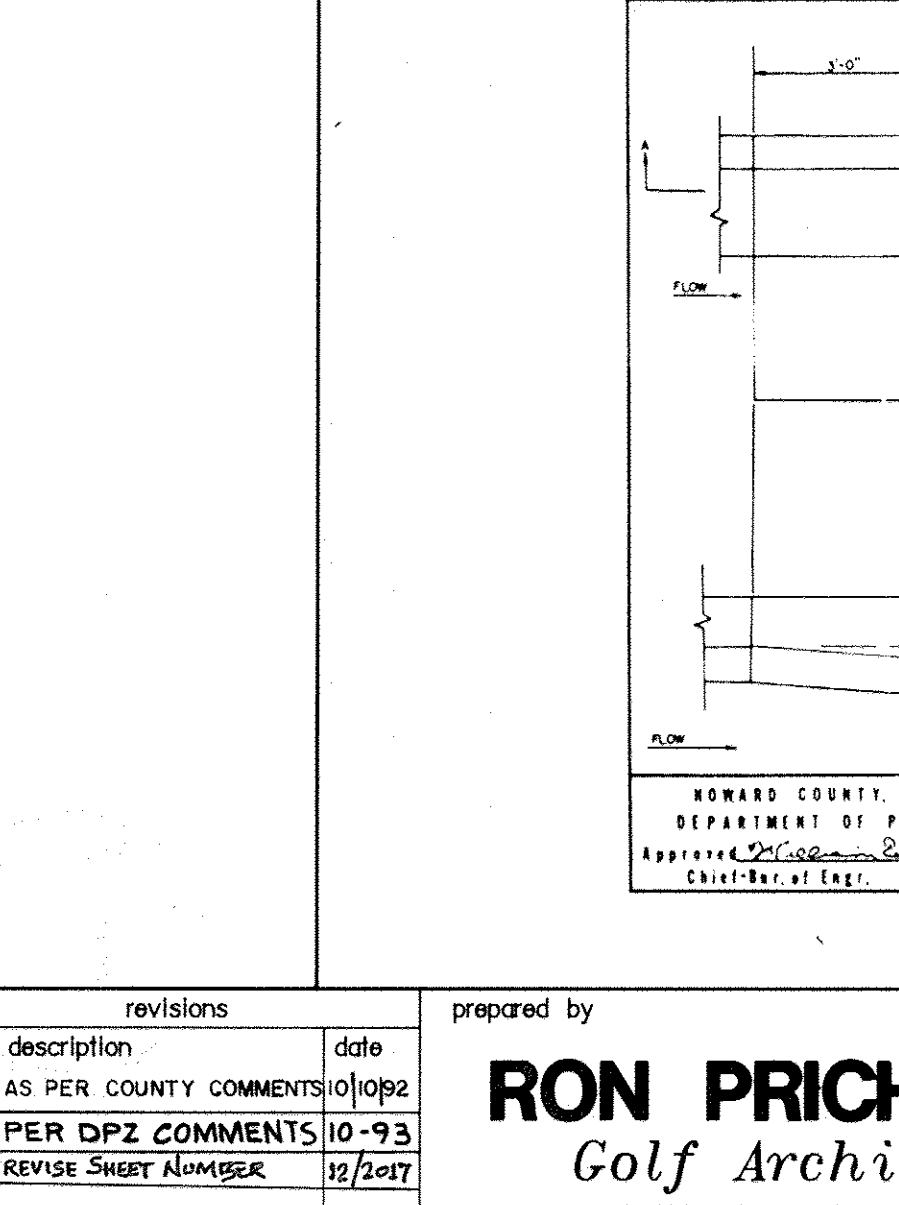
PLANS FOR CHANNEL CONFIGURATION TYPES 'A', 'B', 'C' & 'D'

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved: *[Signature]*
Chief, Bureau of Engineering



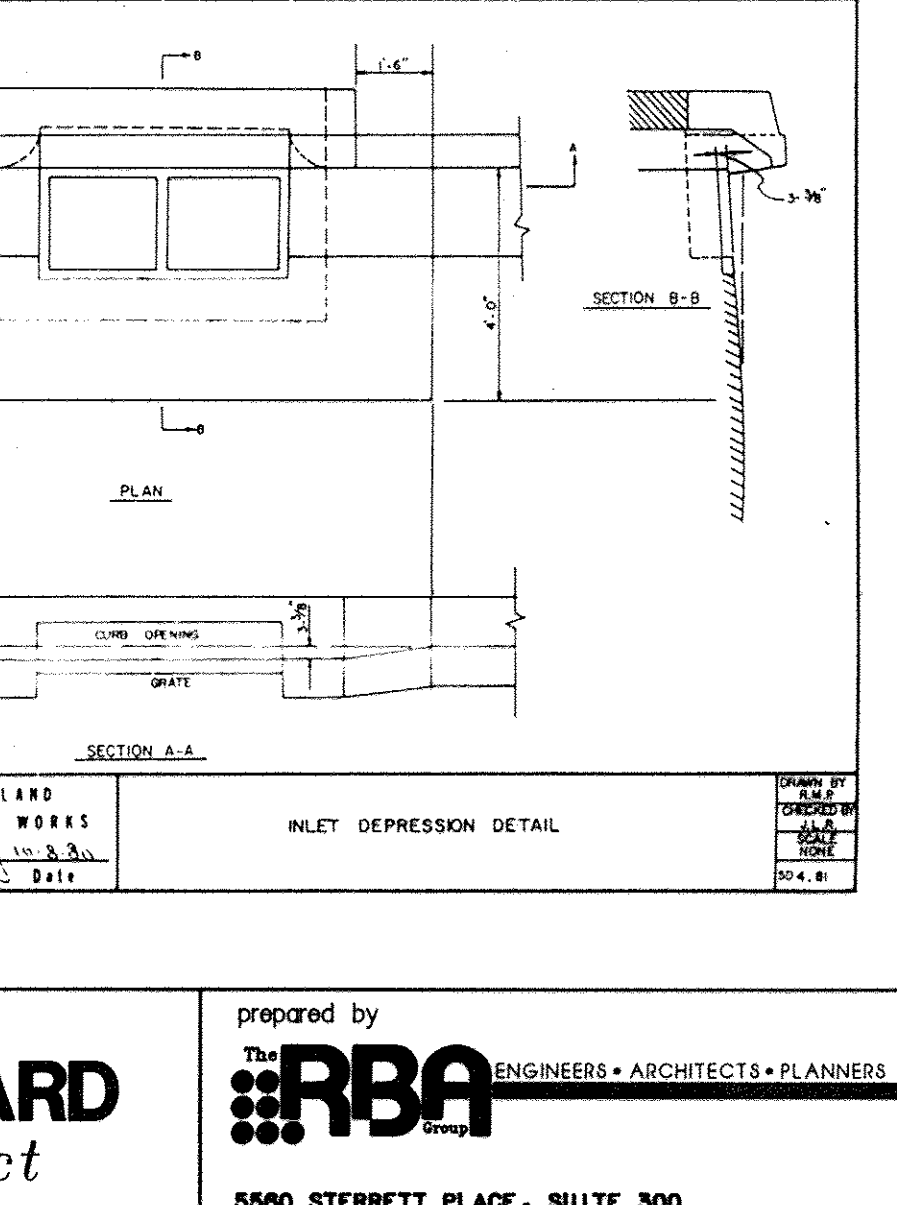
SOLID WASTE SERVICE PAD

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved: *[Signature]*
Chief, Bureau of Engineering



INLET DEPRESSION DETAIL

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved: *[Signature]*
Chief, Bureau of Engineering



INLET DEPRESSION DETAIL

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved: *[Signature]*
Chief, Bureau of Engineering

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE: 2-2-93

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

APPROVED: *[Signature]* 11/2/93
DIRECTOR
CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

APPROVED: *[Signature]* 11/10/93
DIRECTOR
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

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

APPROVED: *[Signature]* 11/5/93
COUNTY HEALTH OFFICER

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING	STREET	ADDRESS
LOT5-CLUBHOUSE	5100 COLUMBIA ROAD	
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD	

SUBDIVISION NAME: VML-9/3-LOT39
VWL-9/4-LOTS 33&35, TC-9/1-LOT30 & VDS-3/1-LOTS 1, 2 & 4

SECTION/AREA: 9/3, 9/4, 9/1 & 3/1

LOT/PARCEL: LOTS 1, 2, 3, 33, 39 & 55

PLAT: BLOCK ZONE MAP ELEC. DIST. 14, 15 & COMM. 51H

WATER CODE: 30
SEWER CODE: 6054

DETAILS

SCALE: AS SHOWN

FAIRWAY HILLS GOLF COURSE

COLUMBIA MARYLAND

DRAWN: CADD
PROJ. NO.: MO405
DATE: 9-92

D1
SHEET 51 OF 61

PROJECT NO. THE RBA GROUP, MORRISTOWN, NEW JERSEY

revisions

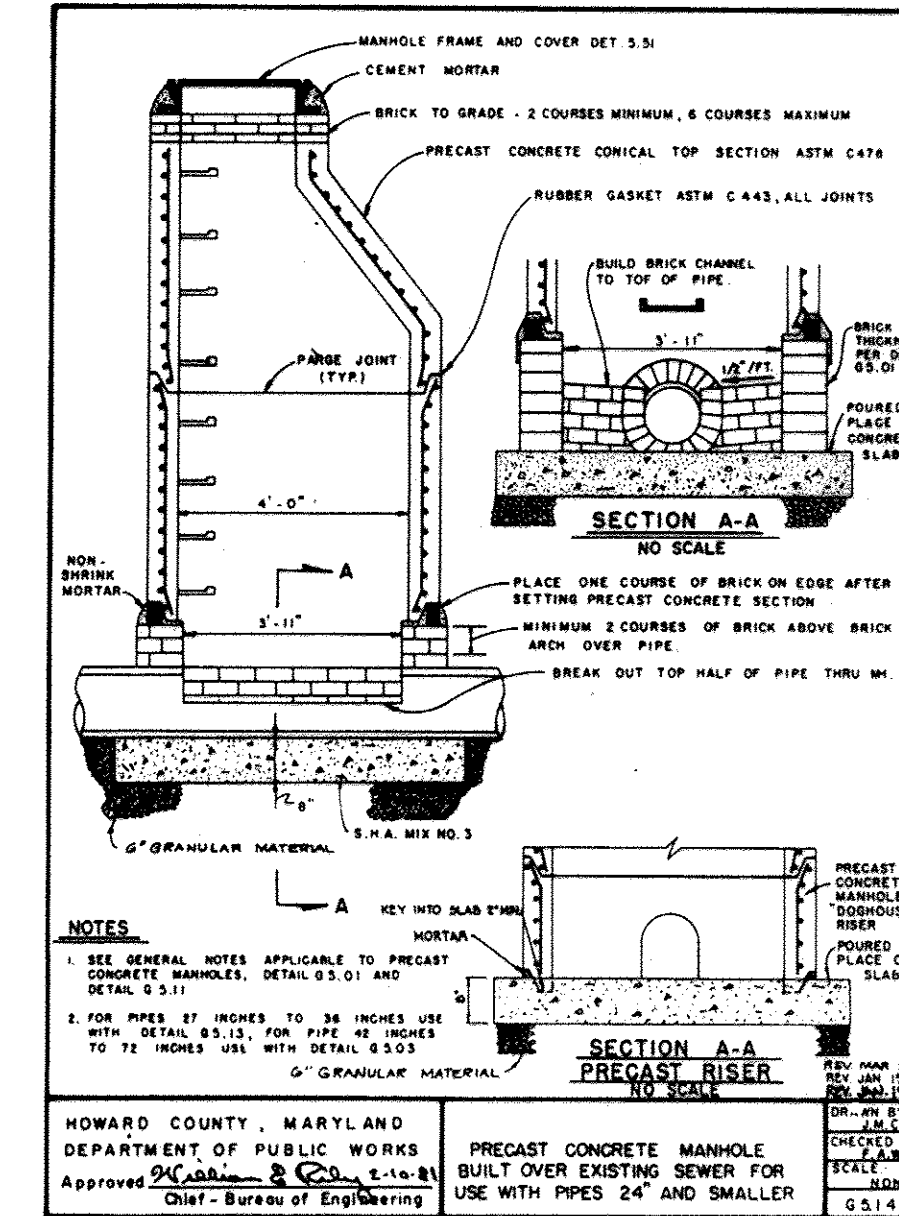
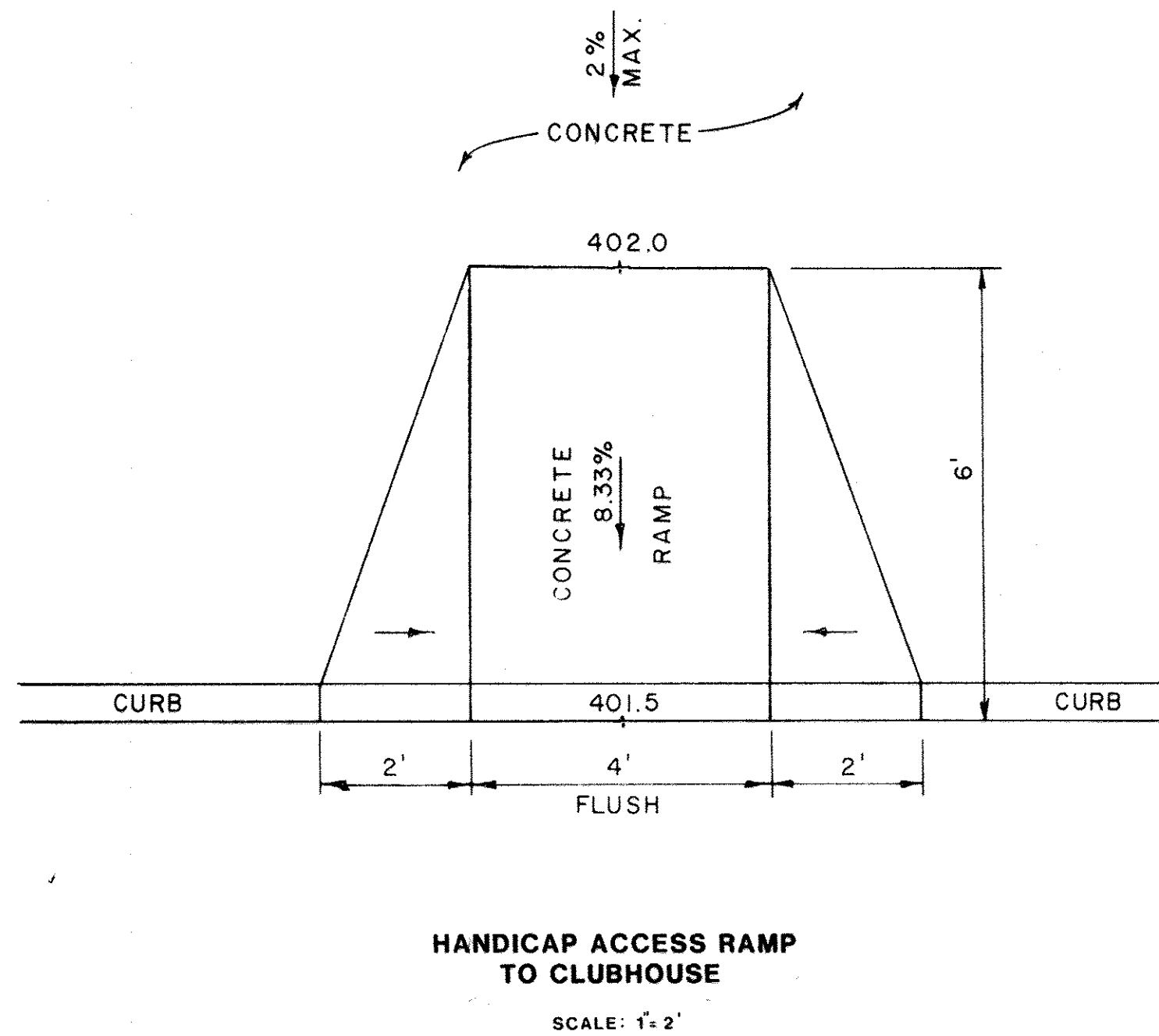
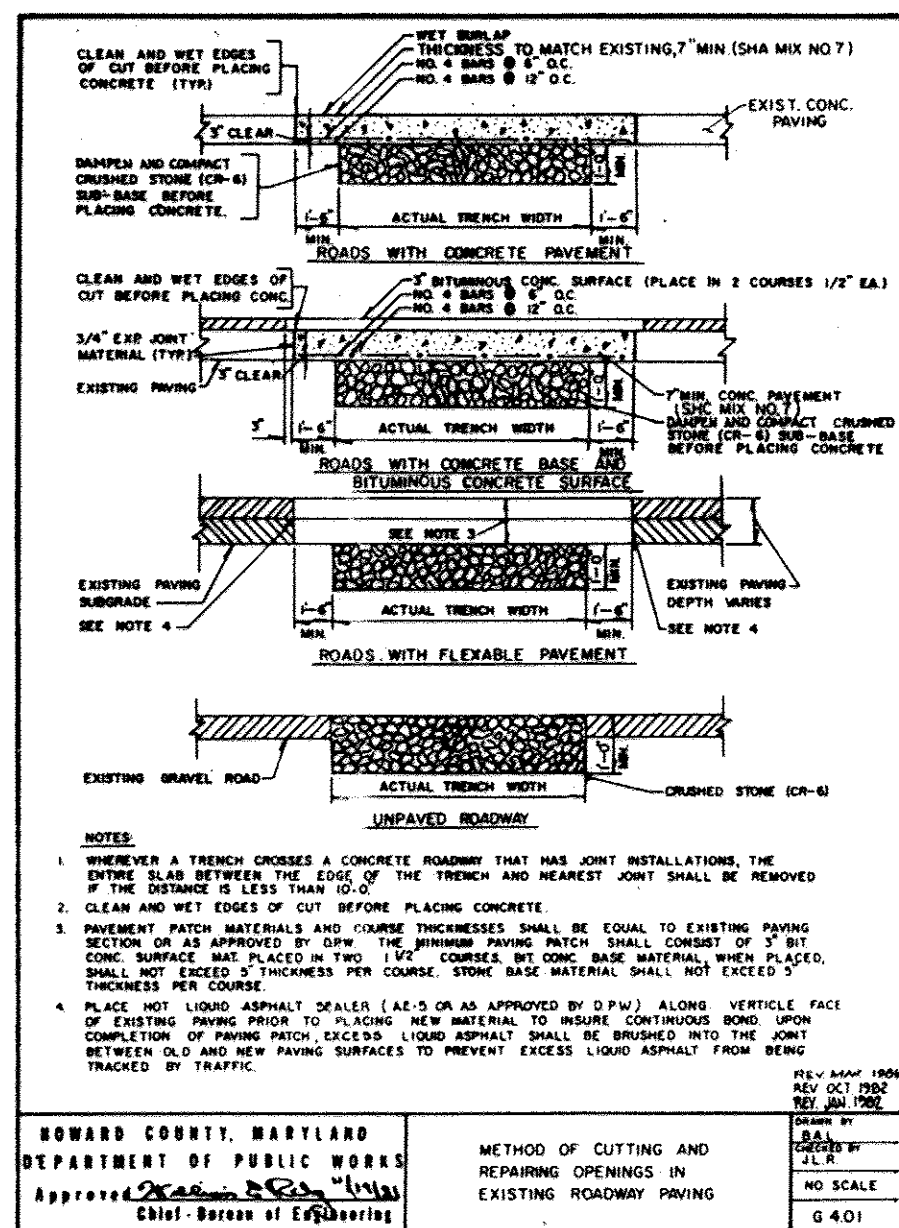
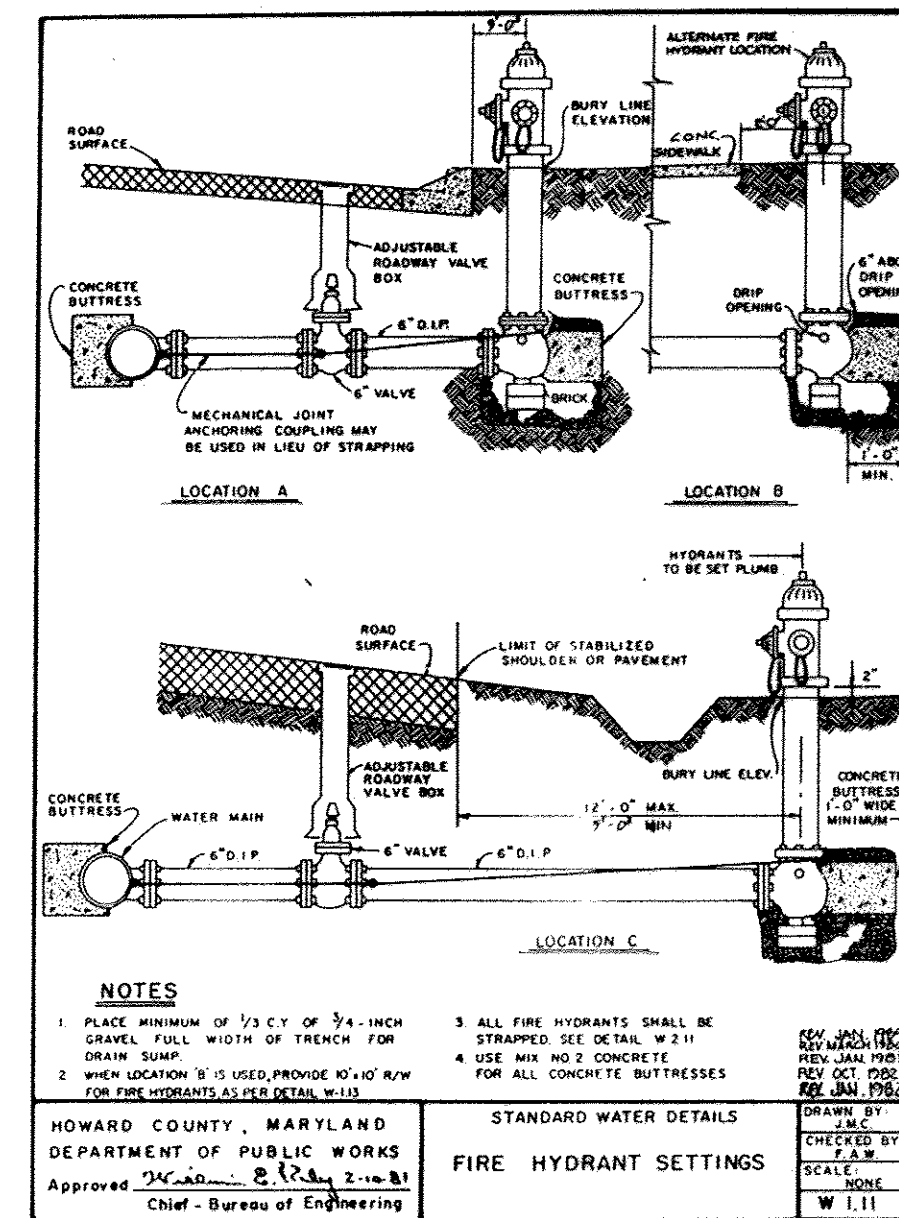
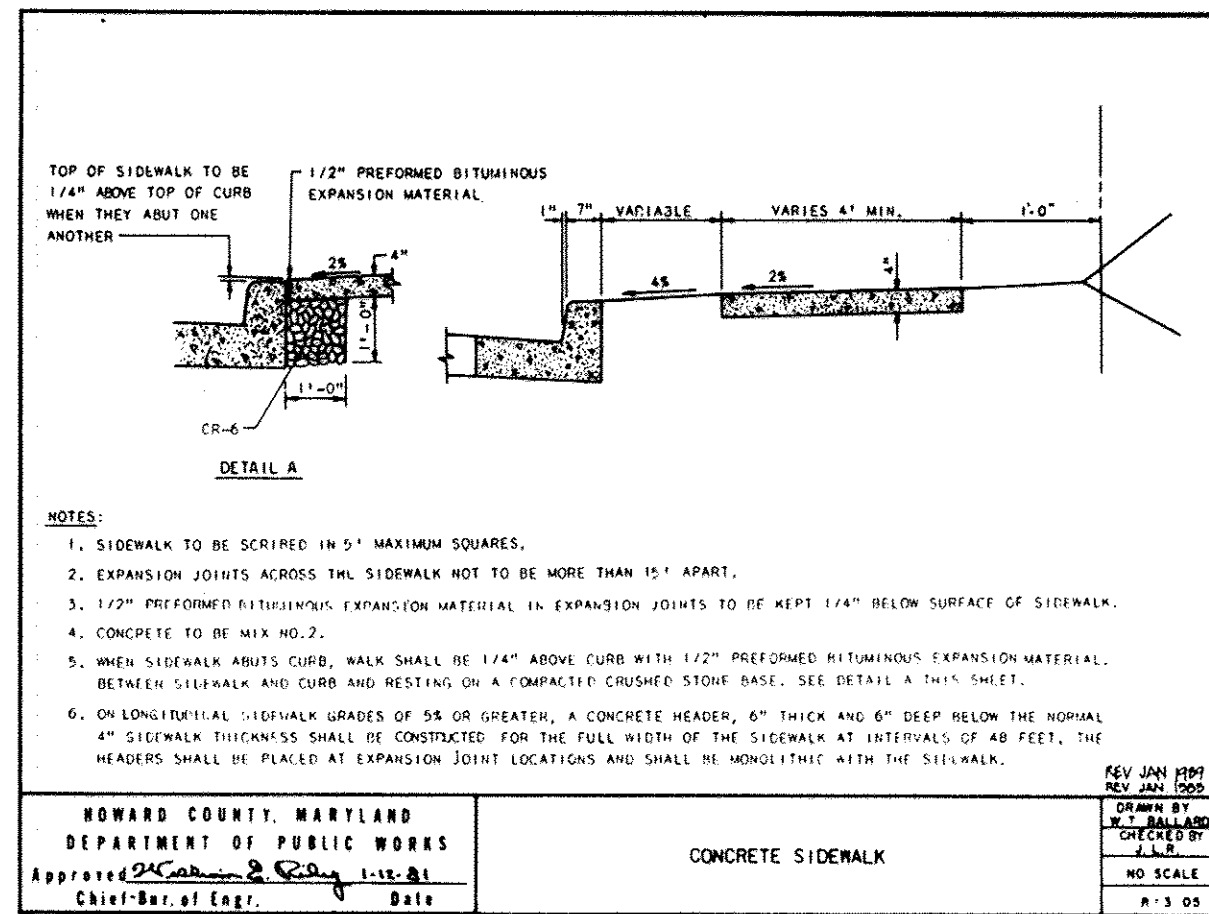
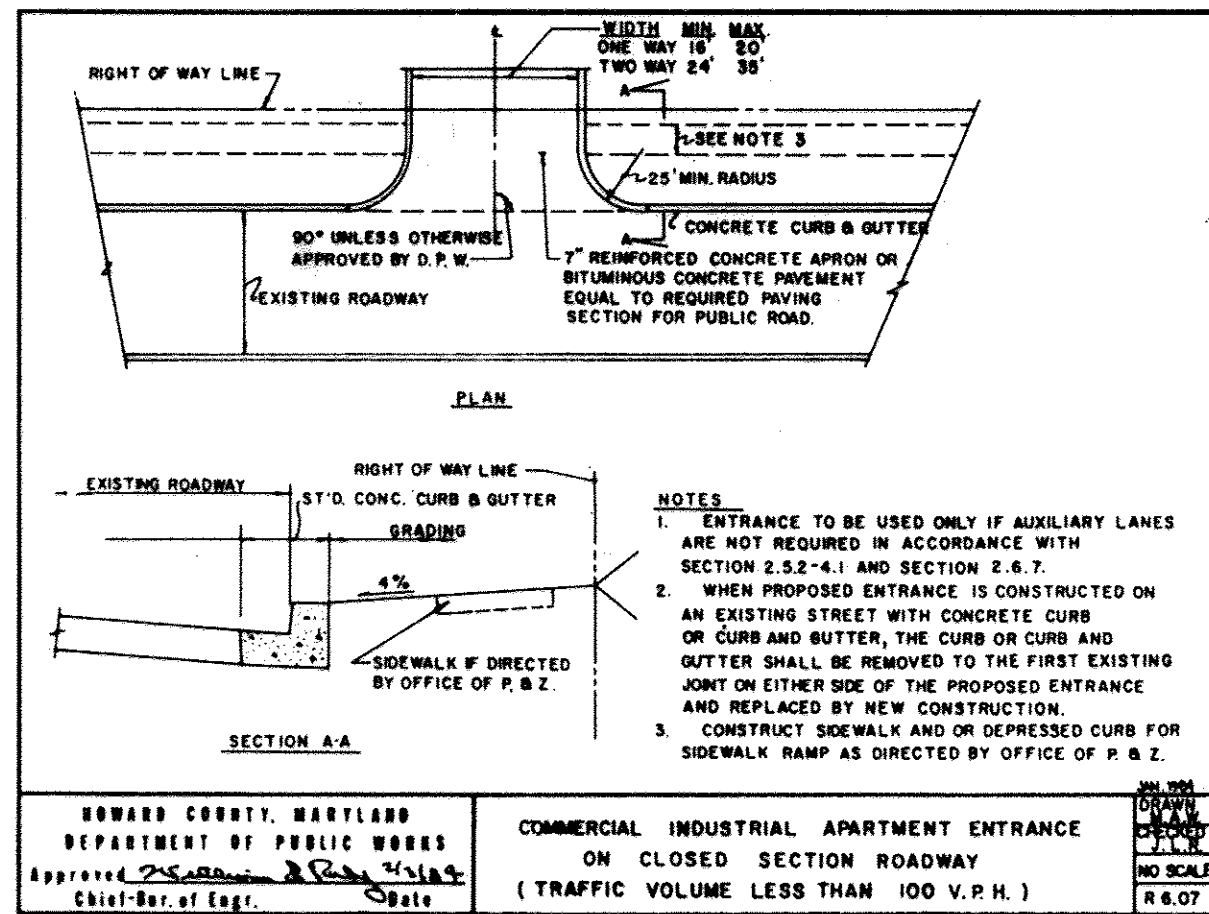
no.	description	date
1	AS PER COUNTY COMMENTS	10/92
2	PER DPZ COMMENTS	10-93
3	REVISE SHEET NUMBER	12/2007

prepared by
RON PRICHARD
Golf Architect
10600 SIX PINES DRIVE
THE WOODLANDS, TEXAS 77380
(713) 292-1902
1730 WALTON ROAD, SUITE 300
BLUE BELL, PA. 19422
(215) 941-7240

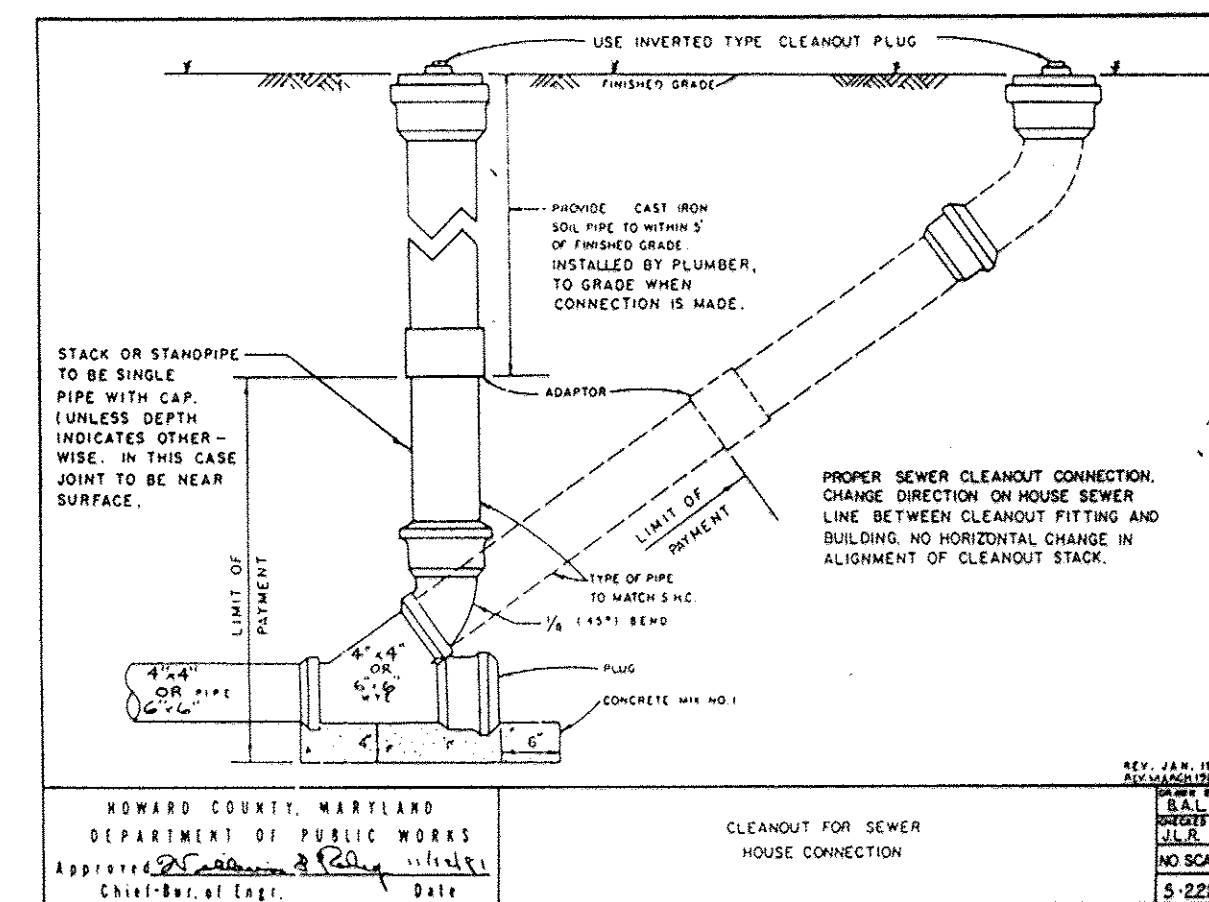
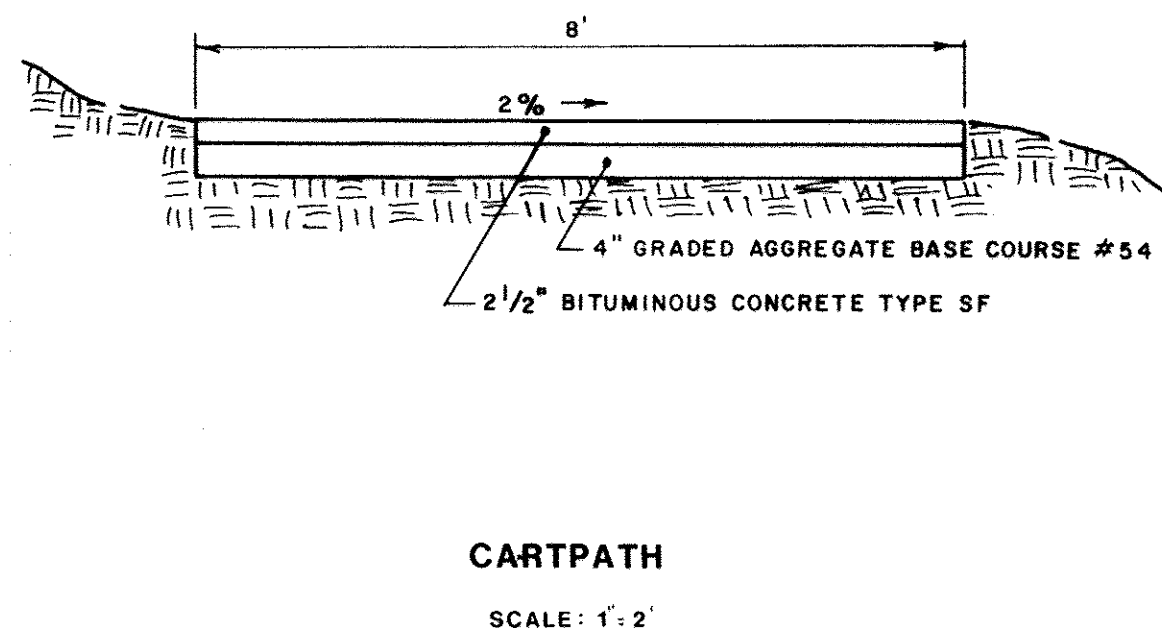
prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
5560 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7850 621-6050

STATE OF MARYLAND
JOHN CHRISTMAN, P.E.

SDP-92-104



SECTION NUMBER	ROAD AND STREET CLASSIFICATION	PAVEMENT MATERIALS	
		FULL DEPTH BIT. CONC. ALTERNATE	GRANULAR BASE ALTERNATES
P-1	TRAFFICWAYS AND COMMERCIAL-INDUSTRIAL ZONES WITH HEAVY TRUCK TRAVELWAYS AND COMMERCIAL-INDUSTRIAL ZONES WITH NO HEAVY TRUCK TRAVEL	1 1/2\"/>	
P-2	RESIDENTIAL ZONES, LEGAL COLLECTOR STREETS AND PRIVATE ROADS SERVING INDIVIDUAL TRACTS	1 1/2\"/>	
P-3	RESIDENTIAL ZONES, LEGAL COLLECTOR STREETS AND PRIVATE ROADS SERVING INDIVIDUAL TRACTS	1 1/2\"/>	
P-4	TRAFFICWAYS AND COMMERCIAL-INDUSTRIAL ZONES WITH HEAVY TRUCK TRAVEL	1 1/2\"/>	



APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE: 2-2-93

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
DATE: 11/2/93
DATE: 11/10/93
DATE: 11/2/93
DATE: 11/16/93

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045
DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045
ADDRESS CHART
BUILDING STREET ADDRESS
LOTS-CLUBHOUSE 5100 COLUMBIA ROAD
LOT1-MAINT. BLDG. 5280 COLUMBIA ROAD
SUBDIVISION NAME: VML-9/3-LOT39, VML-9/4-LOTS 33&35, TC-9/1-LOT30 & VDS-3/1-LOTS 1,2 & 4
SECTION/AREA: 9/3-9/4, 9/1 & 3/1
LOT/PARCEL: LOTS 1-2,3, 33,39 & 55
PLAT: 14-10-AT-10-2
BLK/CLZ ZONE: 14-15 R COMM
TAX/ZONE MAP: 30
ELEC. DIST: 5th
CENSUS TR: 6054
WATER CODE: SEWER CODE:

PROJECT NO. THE RBA GROUP, MORRISTOWN, NEW JERSEY

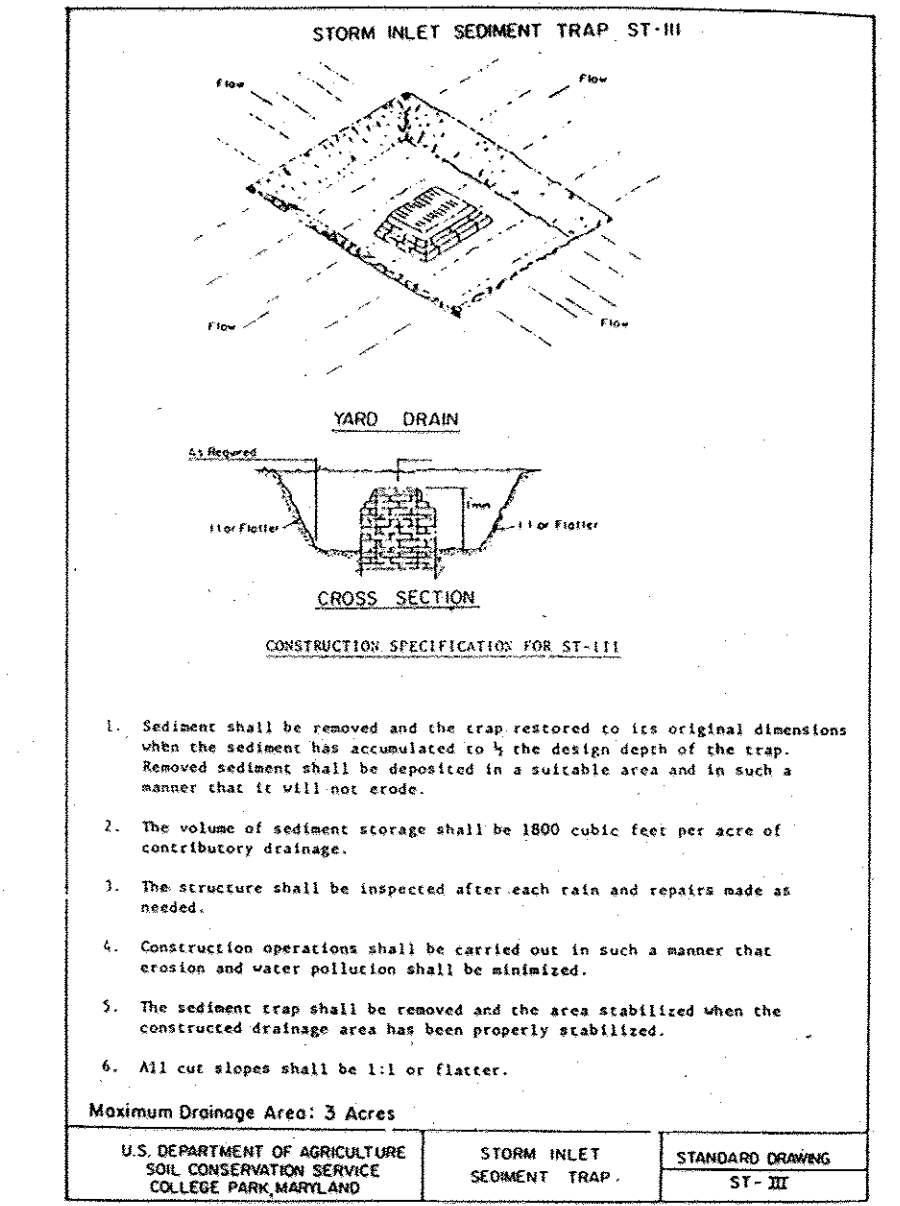
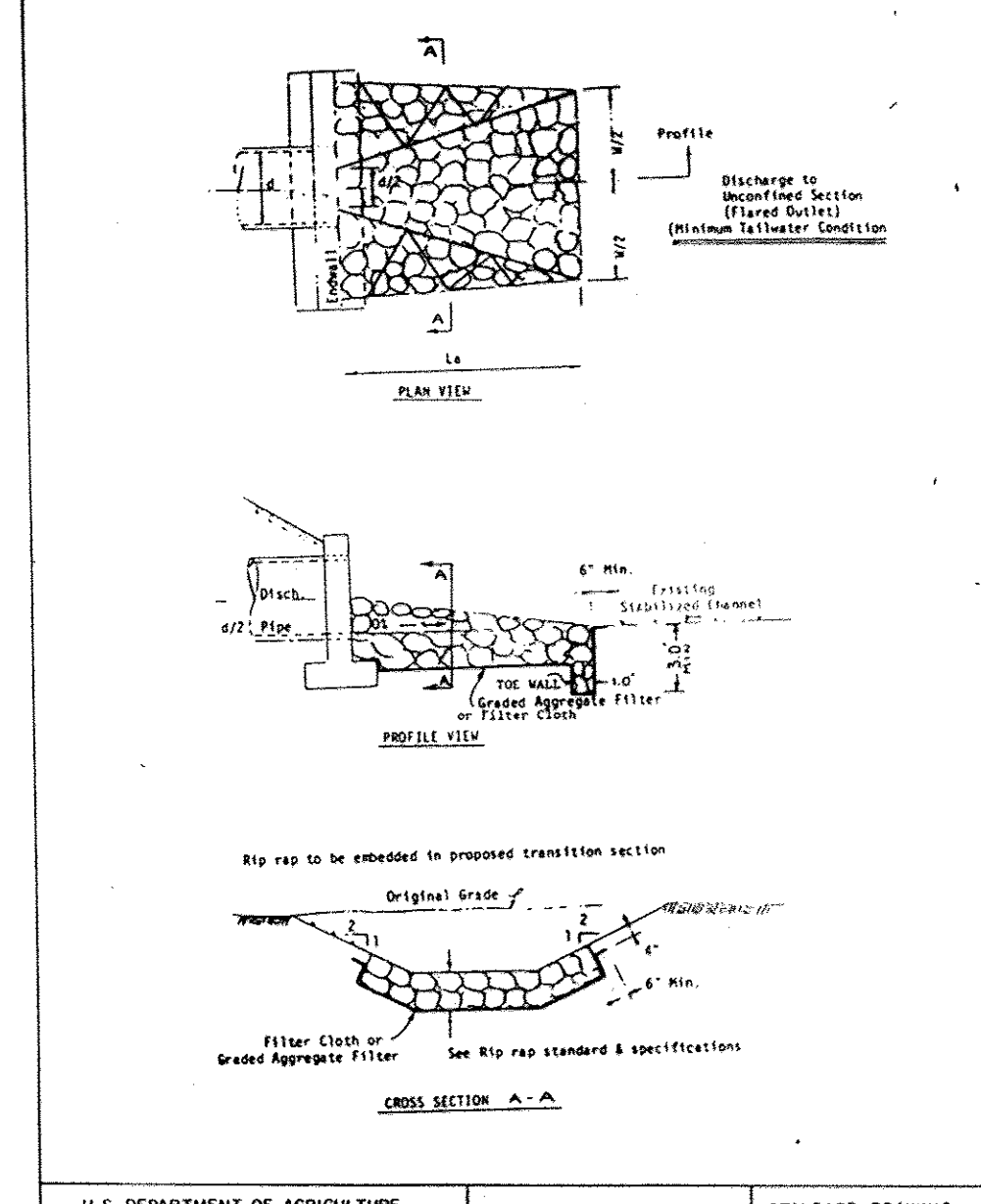
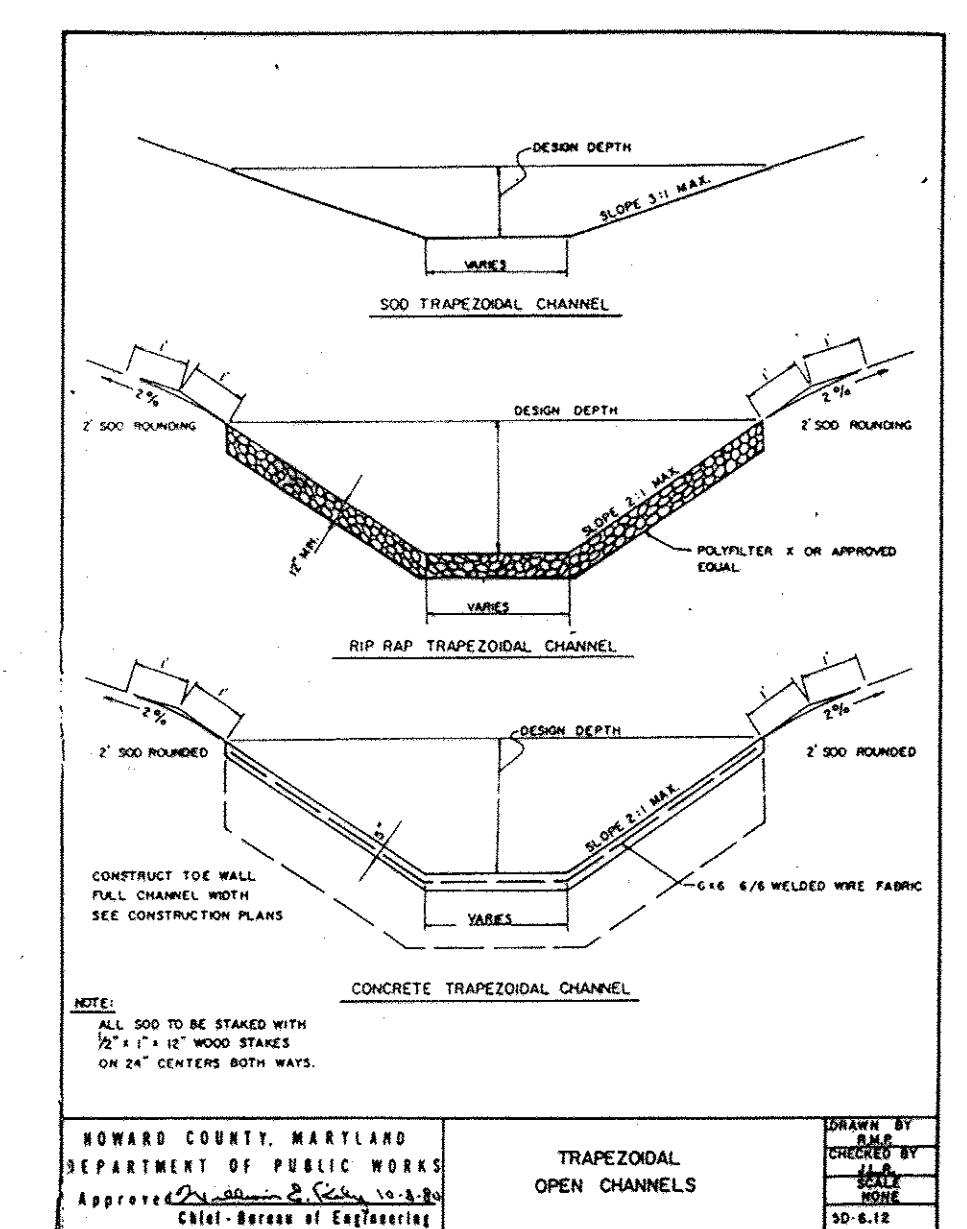
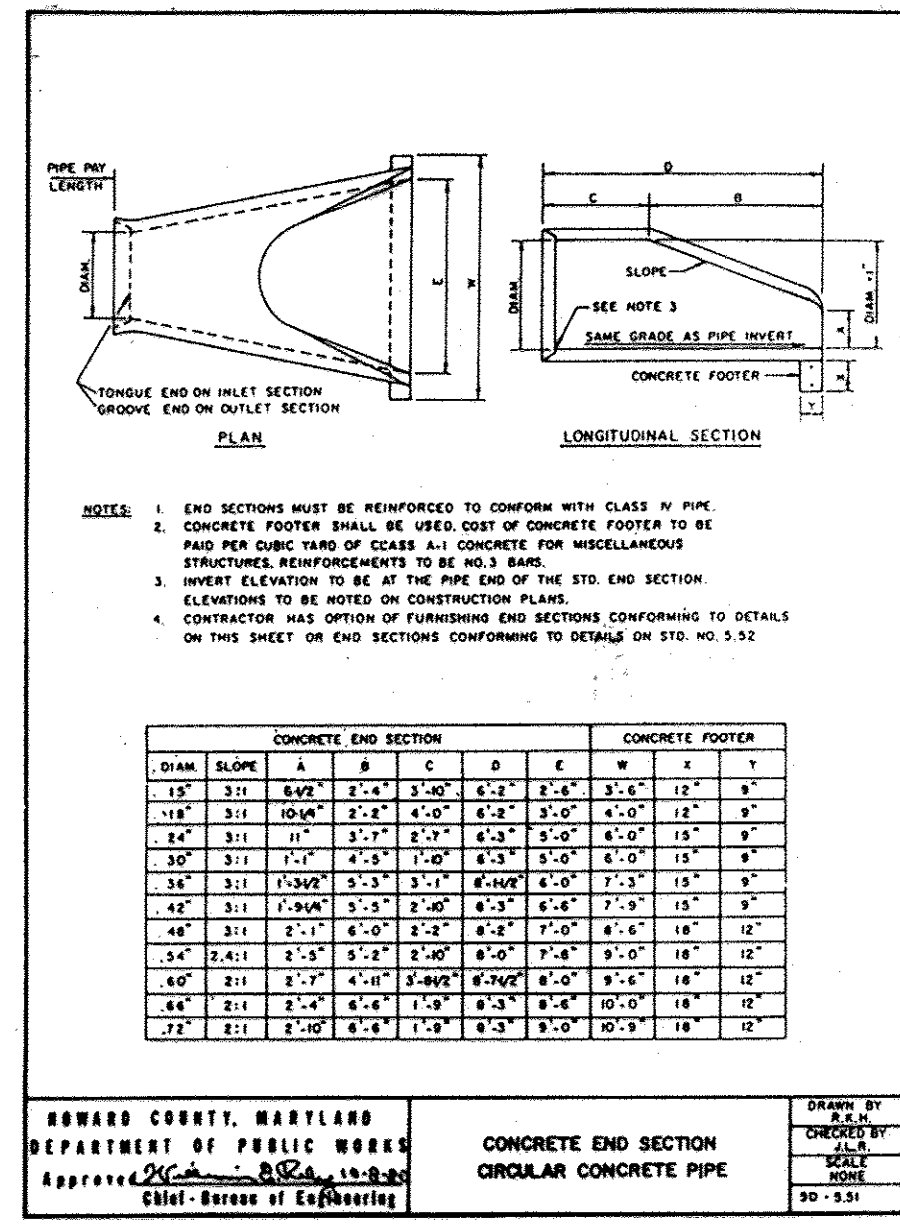
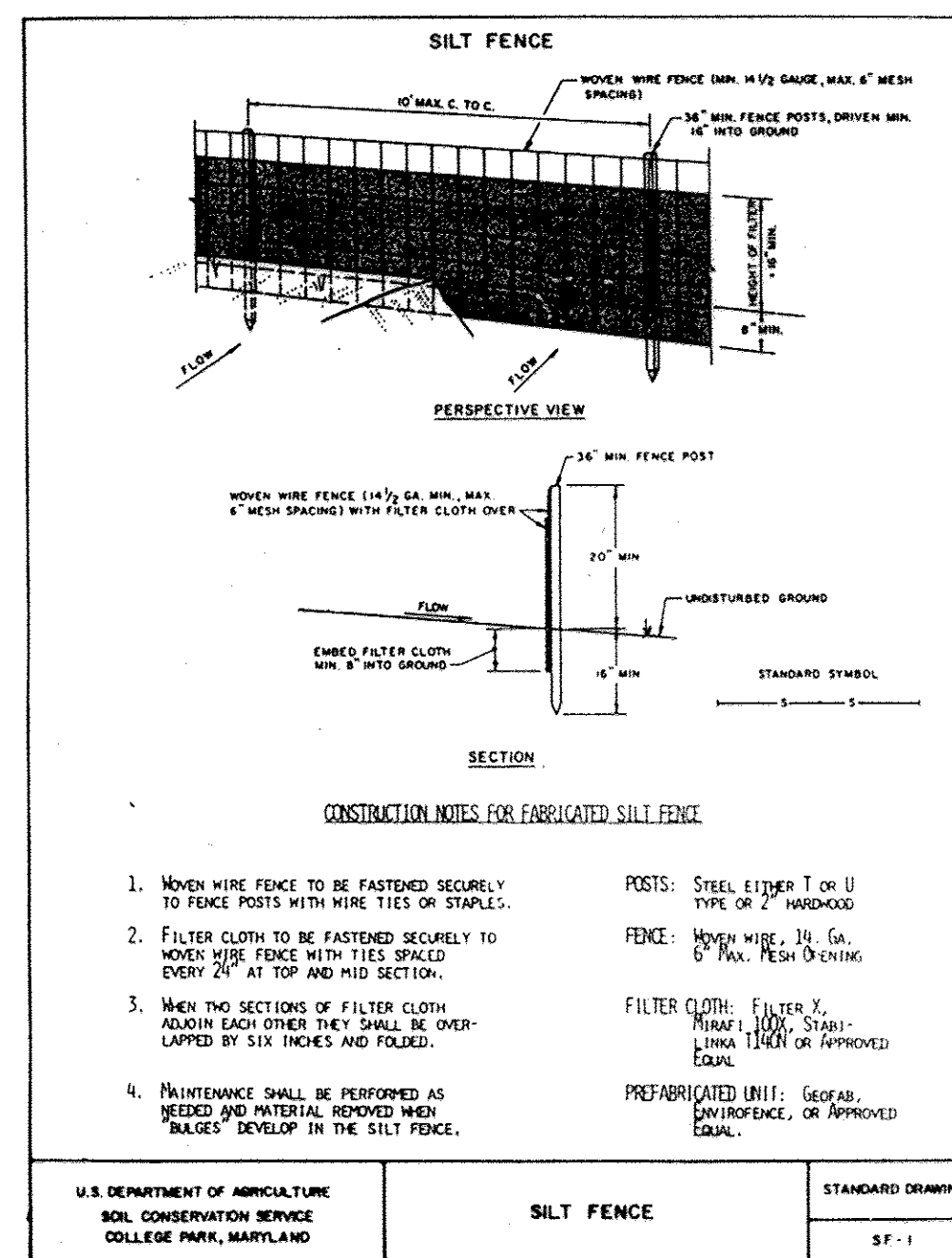
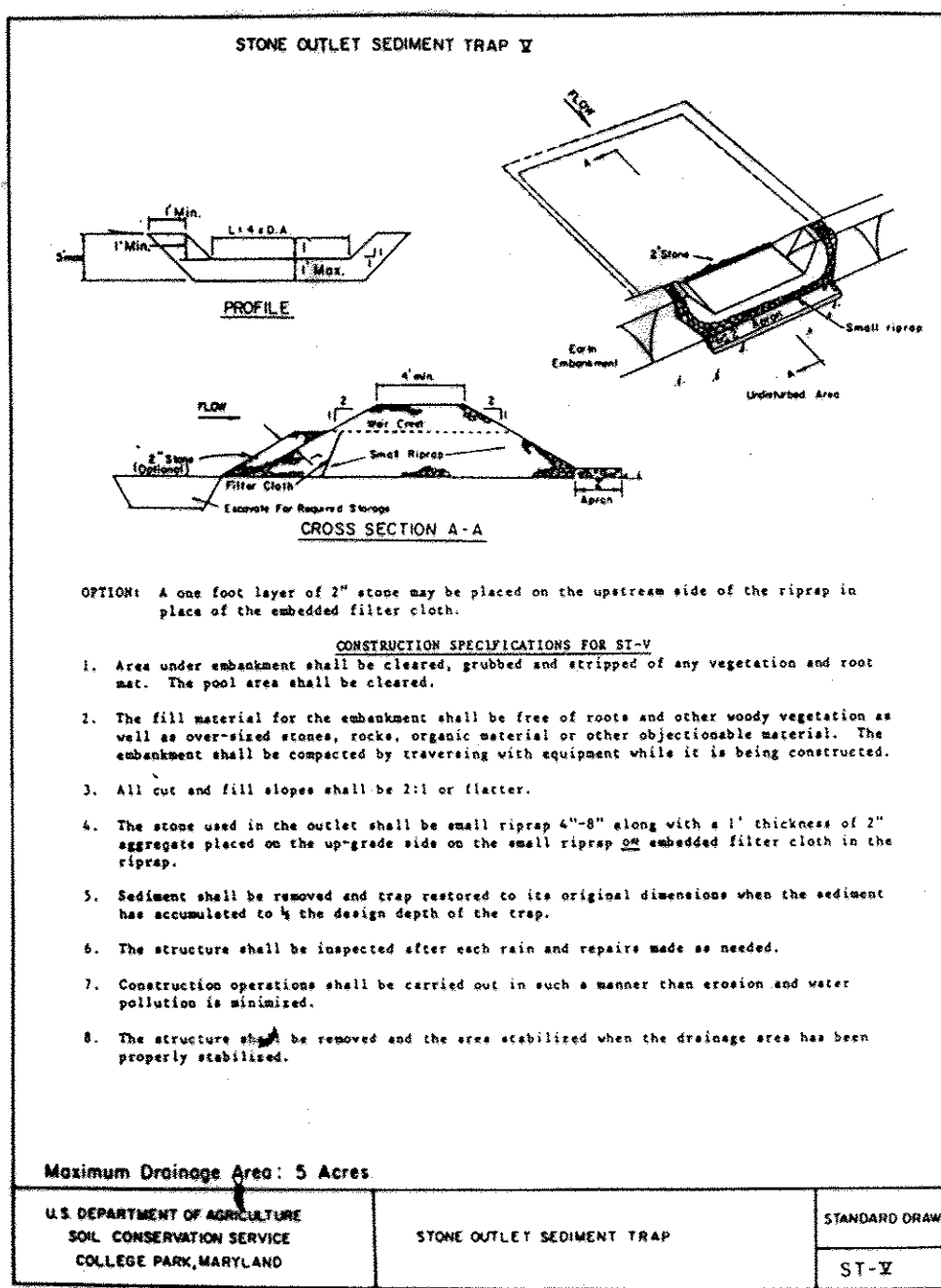
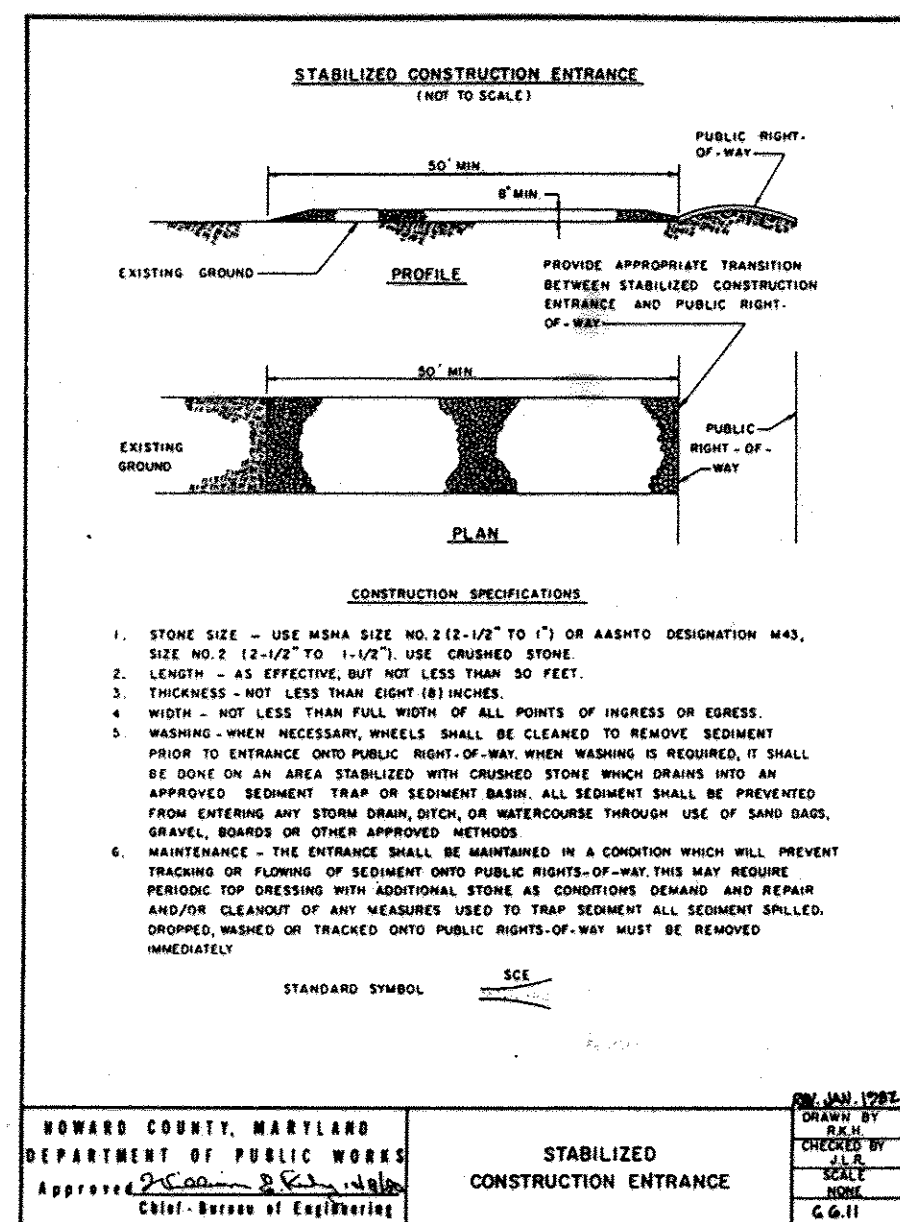
STATE OF MARYLAND
Professional Engineer
John Christman, P.E.

revisions
no. description date
1 AS PER COUNTY COMMENTS 10/10/92
2 REVISE SHEET NUMBER 12/20/92

prepared by
RON PRICHARD
Golf Architect
10800 SIX PINES DRIVE
THE WOODLANDS, TEXAS 77380
(713) 282-1902
1730 WALTON ROAD, SUITE 300
BLUE BELL, PA. 19422
(215) 841-7240

prepared by
RBA ENGINEERS-ARCHITECTS-PLANNERS
5560 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7950 621-8050

DETAILS
FAIRWAY HILLS
GOLF COURSE
COLUMBIA MARYLAND
SCALE: AS SHOWN
DRAWN: CADD
CHECKED: DATE: 9-92
PROJ. NO. MO405
SHEET 52 OF 61
SDP-92-104



HOWARD COUNTY SOIL CONSERVATION DISTRICT
EROSION 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. (880-3450)
- All vegetative and structural practices are to be installed according to the specifications of this plan and are to be in accordance with the most current "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" and revisions thereto.
- Following initial soil disturbance or redistribution, 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 1:1 to 1:1/2.
- All sediment traps/basins shall be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- 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 seeding (Sec. 31), and temporary seeding (Sec. 30) and mulching (Sec. 32). Temporary stabilization with mulch alone can only be done when recommended seeding rates do not allow for proper establishment and establishment of structure.
- 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: 2.04 Acres
Area to be Seeded: 1.00 Acres
Area to be vegetatively stabilized: 1.04 Acres
Total Cut: 1.00 Cu. Yds.
Total Fill: 1.00 Cu. Yds.
Off-site waste/borrow area location: 1.00 Cu. Yds.
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day.
- Additional sediment control must be provided, if deemed necessary, by the Howard County Sediment Control Inspector.
- 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 control, but before proceeding with installation of any other earth disturbance or grading. Other building or grading inspection approval may not be authorized until this initial approval by the inspection agency is received.
- Trenches for the reconstruction of utilities is limited to three pipe lengths or that which can be backfilled and stabilized within one working day, whichever is shorter.

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

Seeding 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 alternatives:

- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1,000 sq. ft.) and 500 lbs per acre 10-10-10 fertilizer (14 lbs/1,000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs per acre 10-10-10 fertilizer (14 lbs/1,000 sq. ft.).
- Alternative - Apply 2 tons per acre dolomitic limestone (92 lbs/1,000 sq. ft.) and 1000 lbs per acre 10-10-10 fertilizer (14 lbs/1,000 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 50 lbs per acre (1.4 lbs/1,000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 50 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.50 lbs/1,000 sq. ft.) of weeping lovegrass. During the period of October 16 thru February 28, project 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 lbs 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 lbs/1,000 sq. ft.) of untreated weed free straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 216 gals per acre (4 gal/1,000 sq. ft.) of unamended asphalt on flat areas. On slopes 6 feet or higher, use 348 gals per acre (6 gal/1,000 sq. ft.) for anchoring.

Maintenance - Inspect all seeding areas and make needed repairs, replacement and reseedings.

TEMPORARY SEEDING NOTES

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

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

Soil Amendments - Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1,000 sq. ft.).

Seeding - For periods March 1 thru April 30 and from August 1 thru October 15, seed with 50 lbs per acre of annual ryegrass (1.2 lbs/1,000 sq. ft.). For the period May 1 thru August 14, seed with 2 lbs per acre of weeping lovegrass (.07 lbs/1,000 sq. ft.). For the period November 1 thru February 28, project 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 (10 to 20 lbs/1,000 sq. ft.) of untreated weed free straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 216 gal per acre (4 gal/1,000 sq. ft.) of unamended asphalt on flat areas. On slopes 6 feet or higher, use 348 gal per acre (6 gal/1,000 sq. ft.) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL AREA AND MULCHING NOT COVERED.

revisions

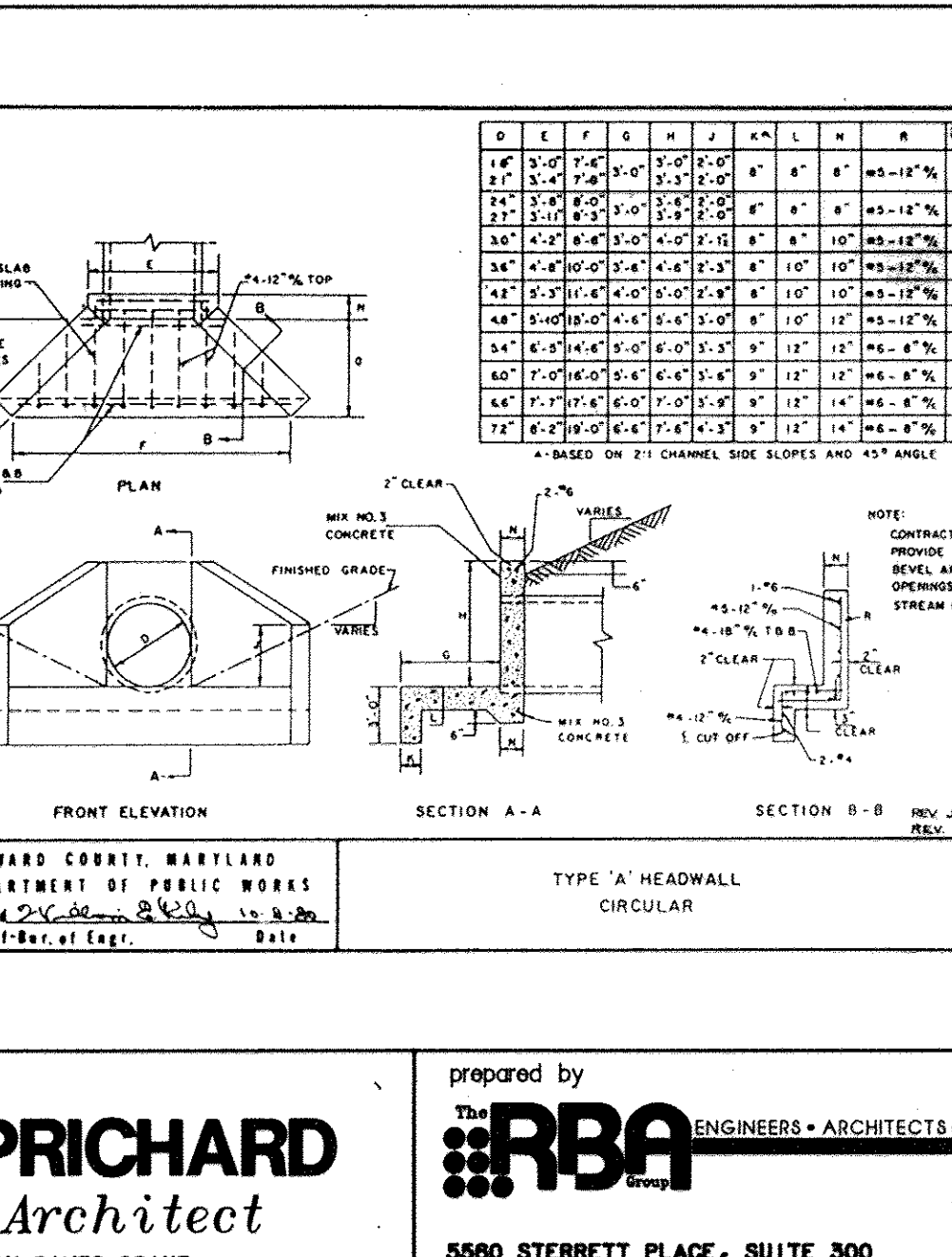
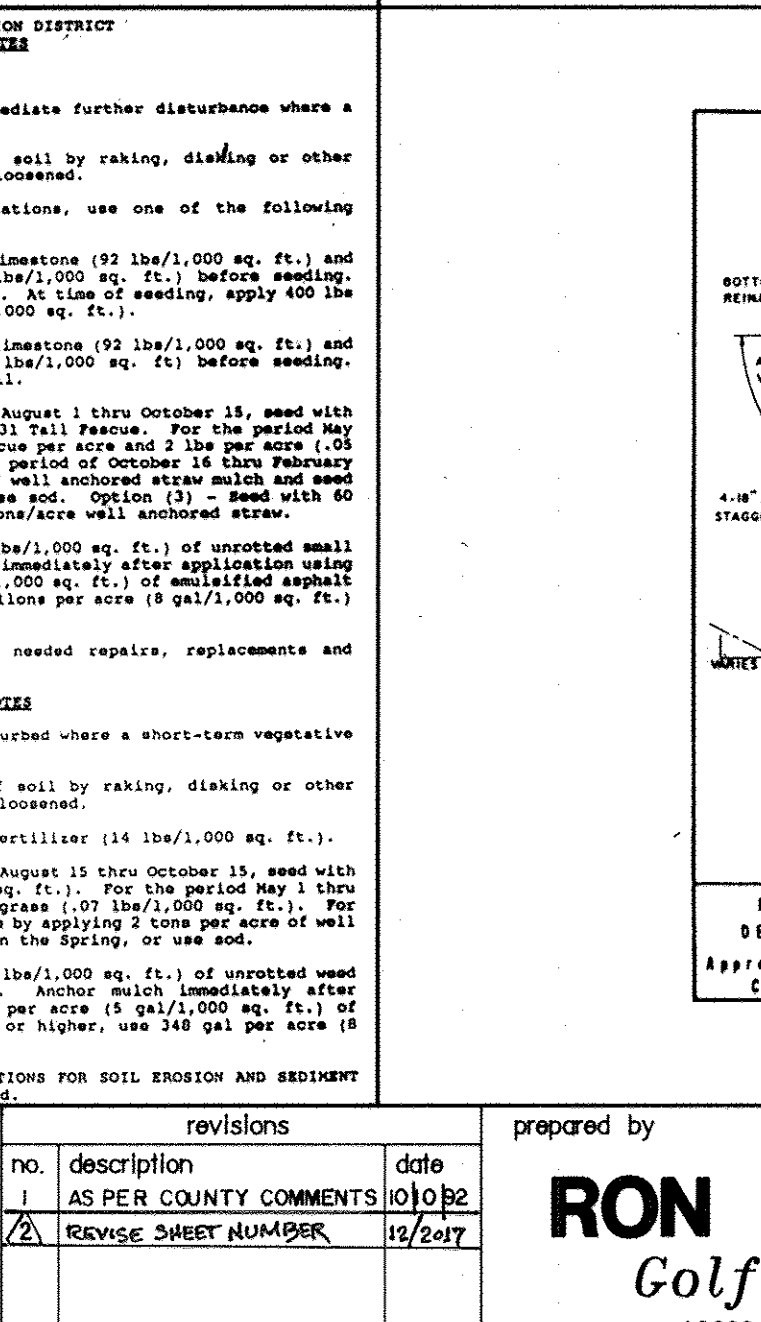
no.	description	date
1	AS PER COUNTY COMMENTS	10/02
2	REVISE SHEET NUMBER	12/20/97

prepared by
RON PRICHARD
Golf Architect
10800 SIX PINES DRIVE
THE WOODLANDS, TEXAS 77380
(713) 292-1902
1730 WALTON ROAD, SUITE 300
BLUE BELL, PA. 19422
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prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
5580 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7950 621-6050

DATE: 12/27/97
FOR REV. 2 ONLY

JOHN CHRISTIAN, P.E.



APPROVED
PLANNING BOARD
OF HOWARD COUNTY

DATE: 2-2-93

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

James M. Shaw 11/2/93
DIRECTOR DATE

Shirley L. Eason 11/16/93
CHIEF BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Mark J. J. J. J. 11/16/93
DIRECTOR DATE

Gina J. J. J. 11/16/93
CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.

James M. Shaw 11/16/93
COUNTY HEALTH OFFICER DATE

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING	STREET	ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD	
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD	

SUBDIVISION NAME: VWL-9/3-LOT39
VWL-9/4-LOTS 33&55-TC-9/1-LOT30
& VDS-3/1-LOTS 1-2 & 4

SECTION/AREA: 9/3/9/4
9/1 & 3/1

LOT/PARCEL: LOTS 1,2,3, 33,39 & 55

PLAT: BLDG. ZONE: TAX/ZONE MAP: ELEC. DIST. CENSUS TR. 9-10-91-0-3, 14-15 & COMA

WATER CODE: 30
SEWER CODE: 51H
6054

DETAILS

SCALE: AS SHOWN

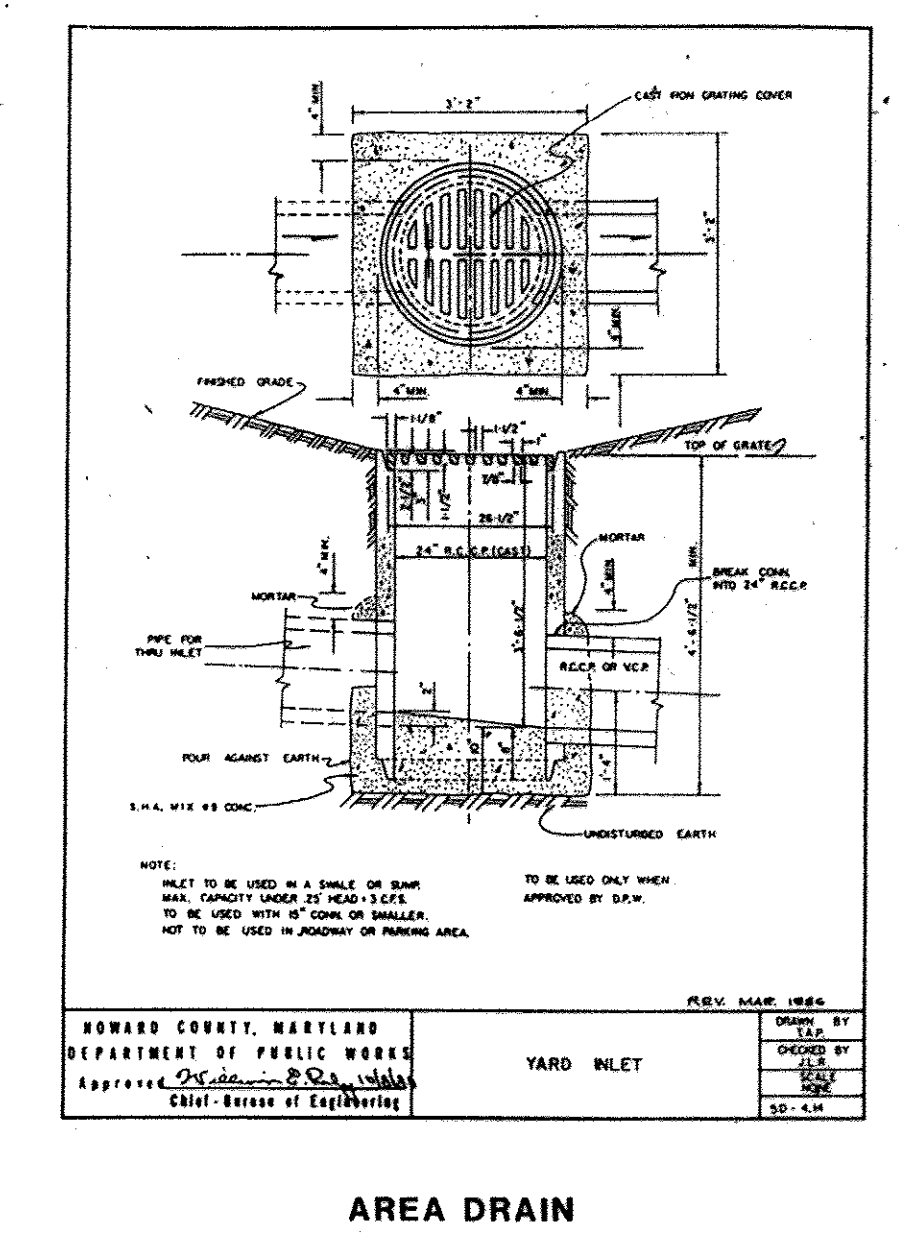
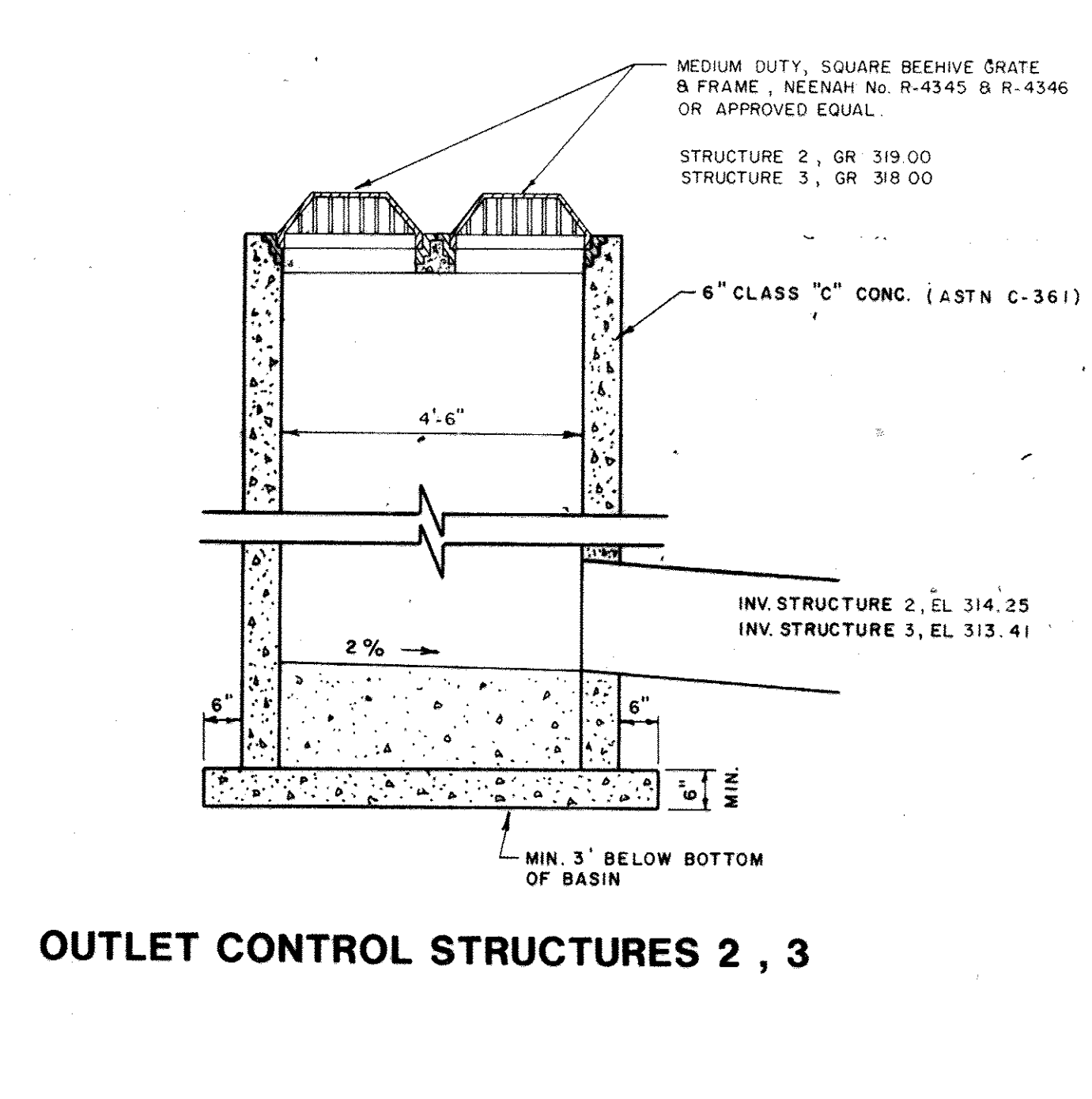
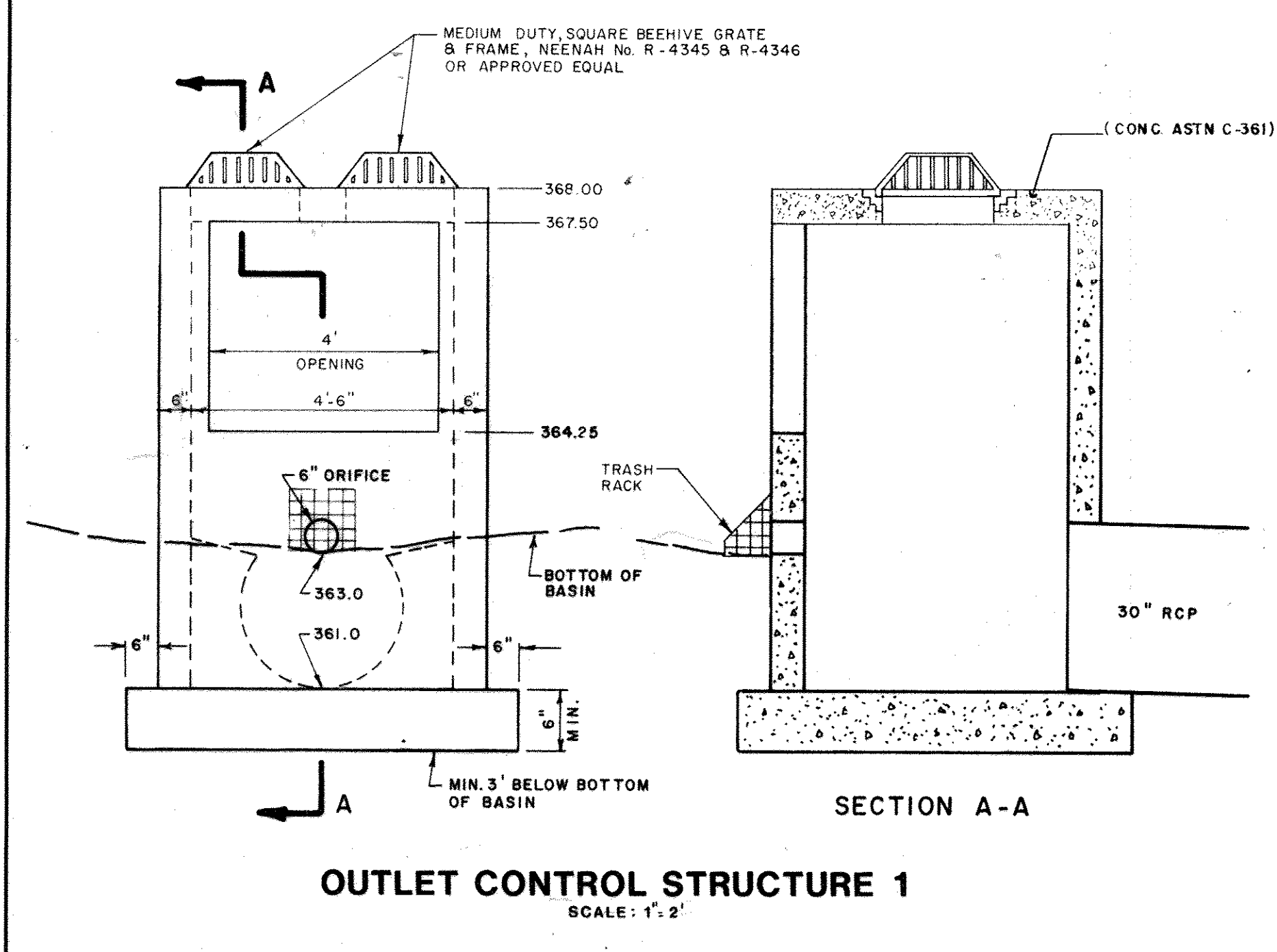
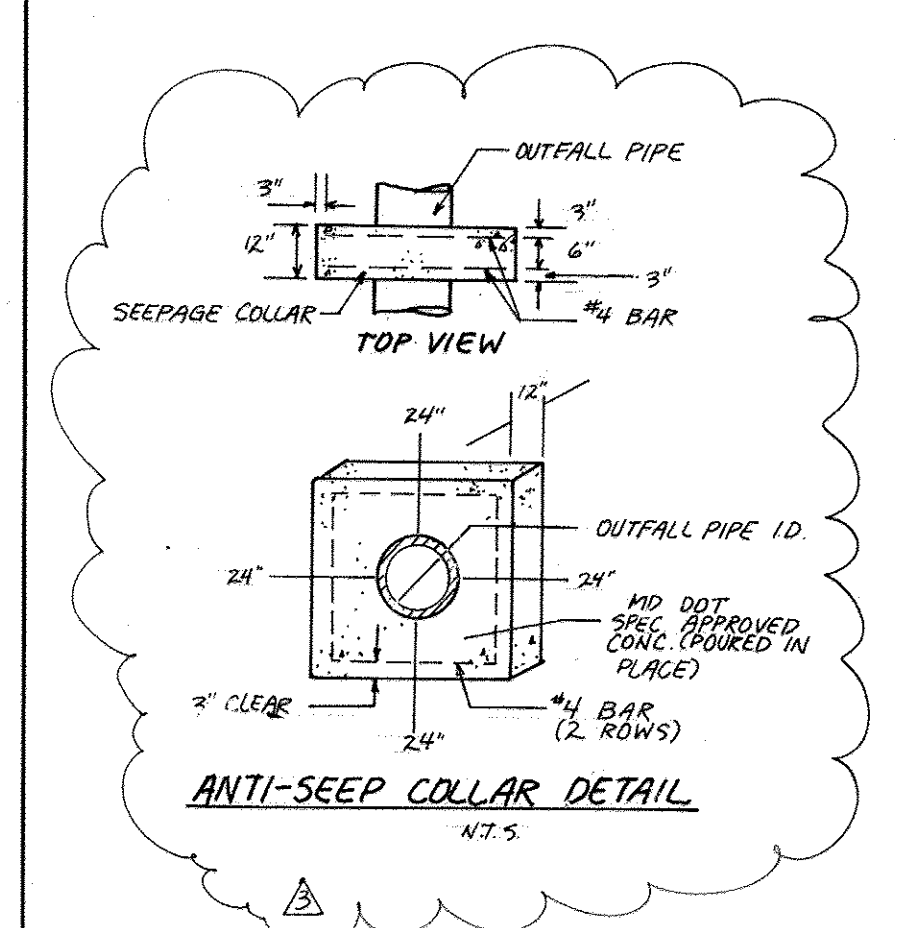
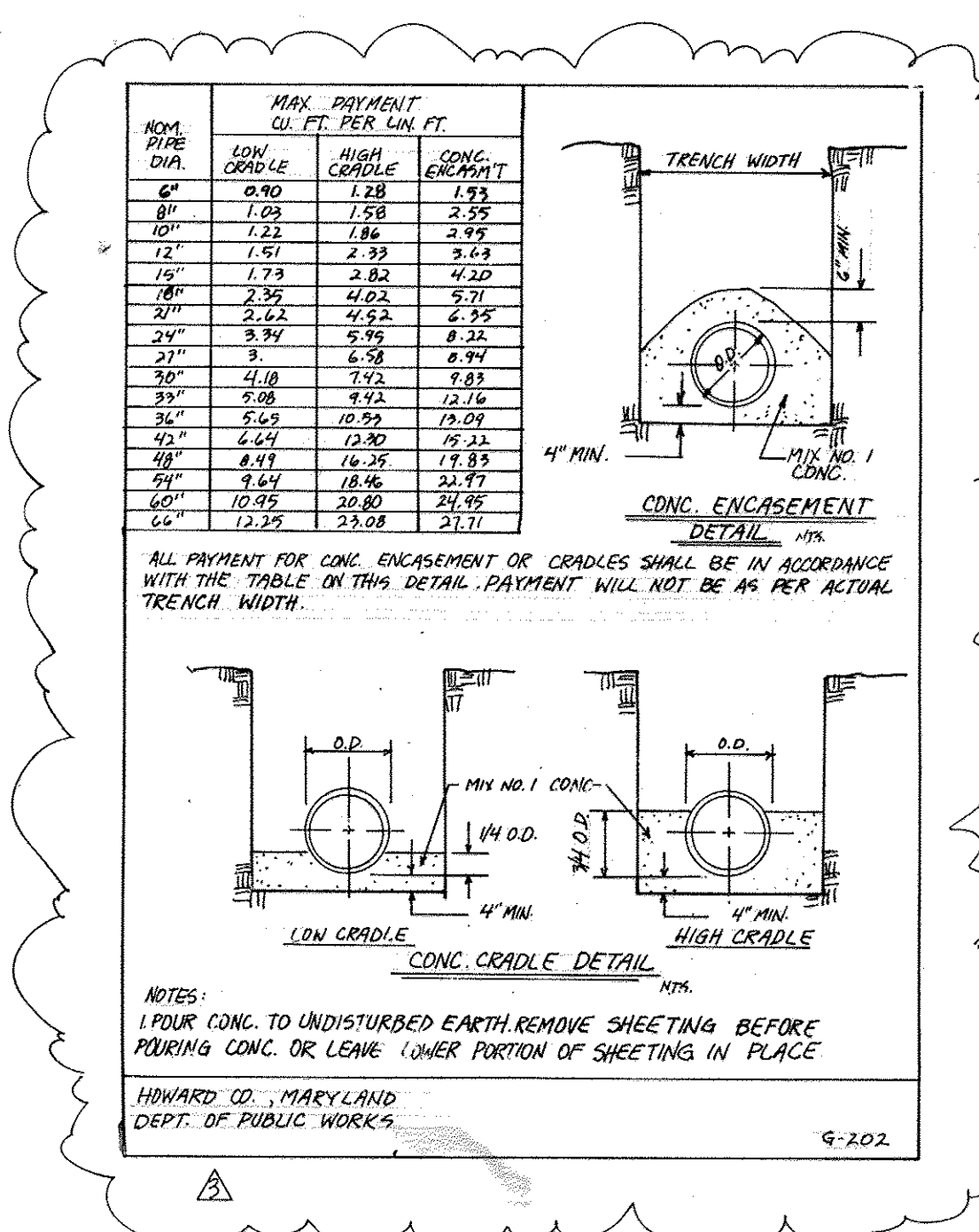
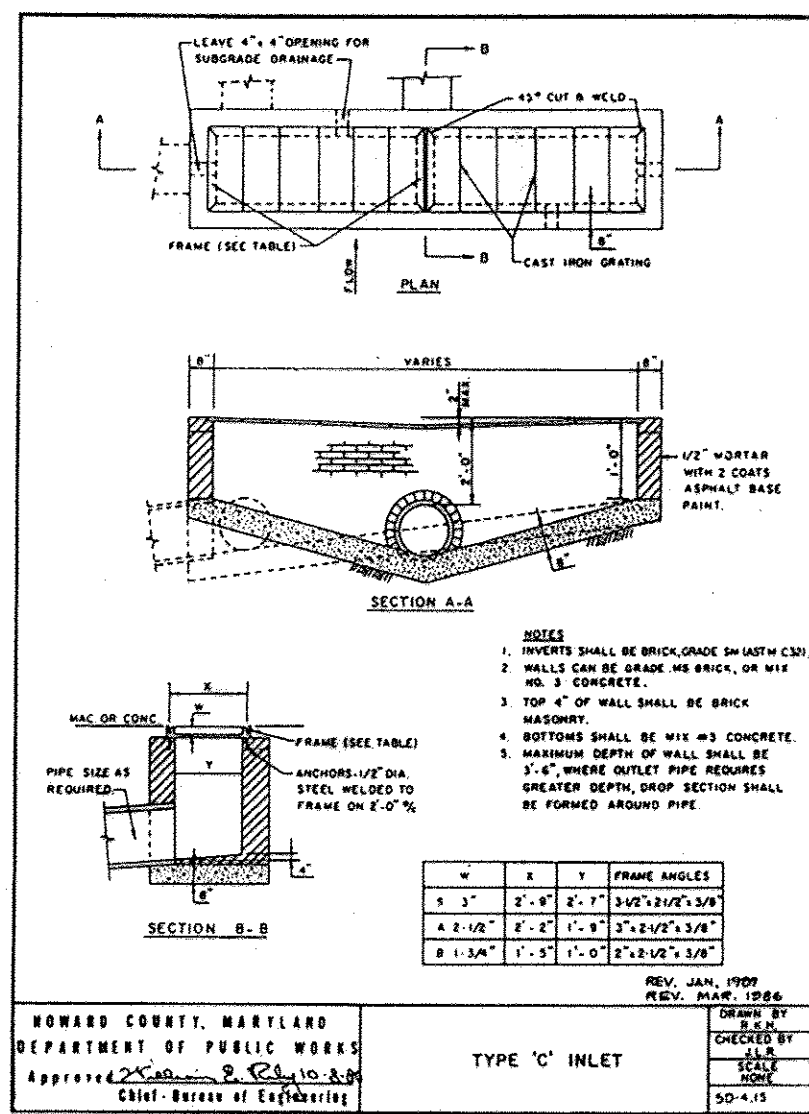
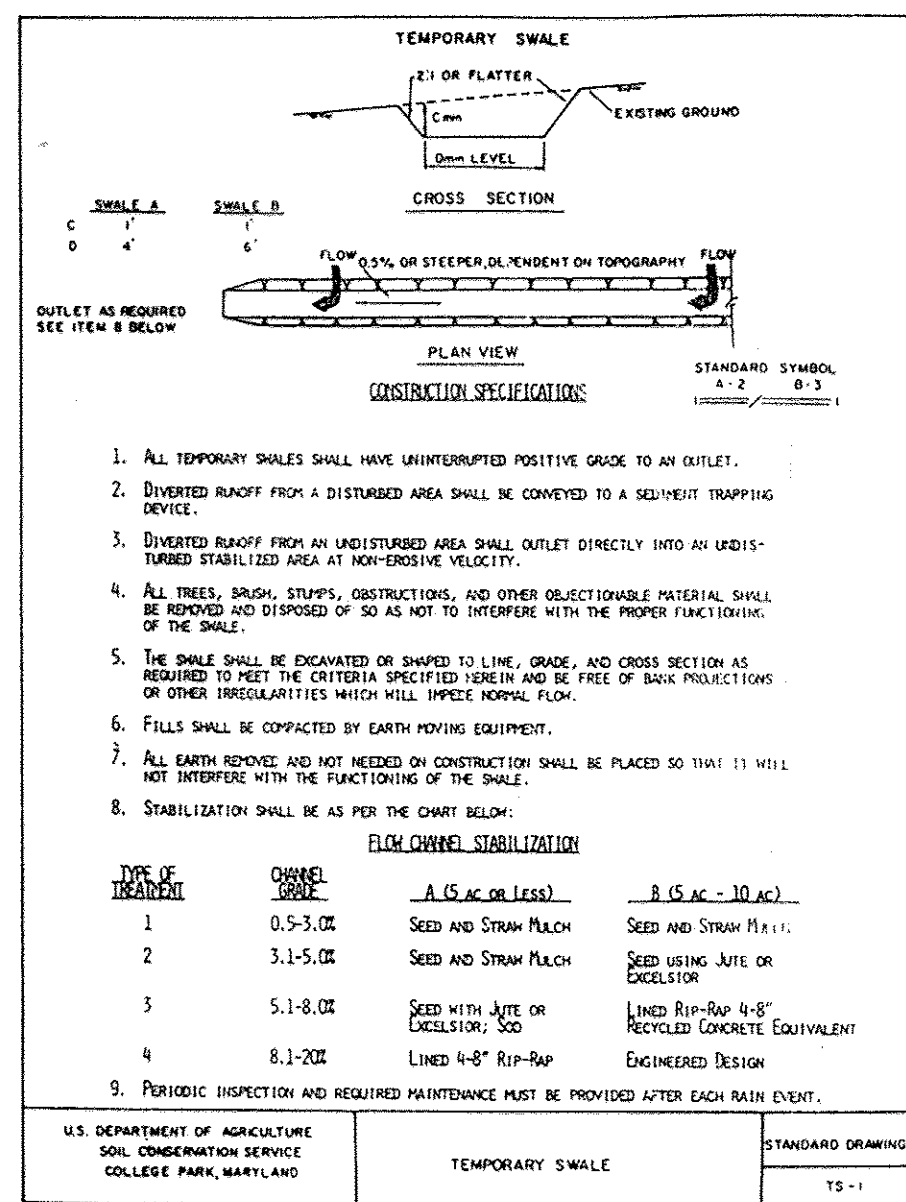
DRAWN: CADD
CHECKED: [Signature]

PROJ. NO. MO405
DATE: 9-92

D3

COLUMBIA MARYLAND
SHEET 53 OF 61

SDP-92-104

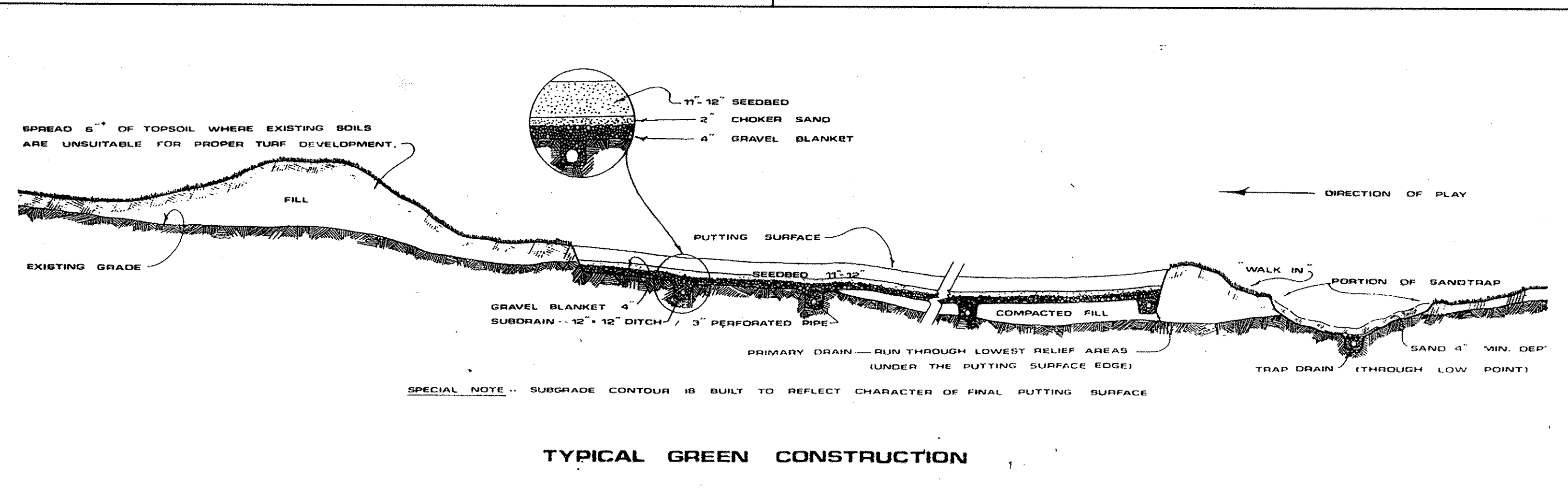
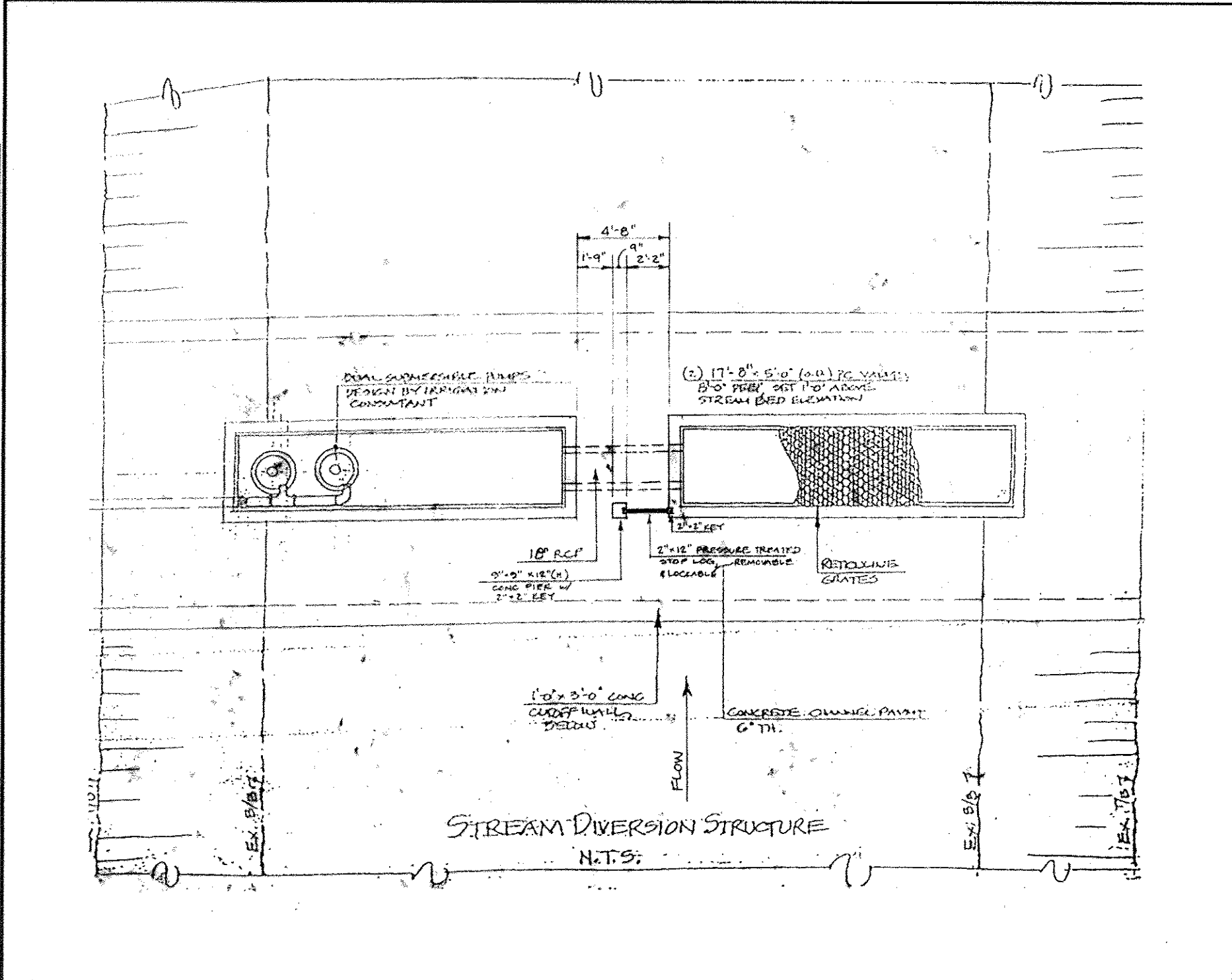


APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 2-2-93

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

APPROVED FOR HOWARD COUNTY DEPT. OF PLANNING AND ZONING

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS,
HOWARD COUNTY HEALTH DEPARTMENT.



PROJECT NO. THE AREA GROUP, MORRISTOWN, NEW JERSEY

STATE OF MARYLAND
DEPARTMENT OF PUBLIC WORKS
12/27/17
FOR REV. 4 ONLY

revisions
no. description date
1 AS PER COUNTY COMMENTS 10/20/93
2 PER DPZ COMMENTS 10-93
3 AS PER COUNTY COMMENTS 1/5/94
4 REVISE SHEET NUMBER 12/20/17

prepared by
RON PRICHARD
Golf Architect
10800 SIX PINES DRIVE
THE WOODLANDS, TEXAS 77380
(713) 292-1902
1780 WALTON ROAD, SUITE 300
BLUE BELL, PA. 19422
(215) 841-7240

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
5860 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7850 821-8050

SCALE AS SHOWN
DRAWN CADD
PROJ. NO. MO405
DATE 9-92
SHEET 54 OF 61

FAIRWAY HILLS GOLF COURSE
COLUMBIA MARYLAND
SDP-92-104

HANDICAPPED PARKING SIGN SPECIFICATIONS:

1. **File Sign:**
 Manufactured in Howard County, Class II, 18" x 24" sign to be established a \$50.00 fee. The sign shall be reflective green and shall be reflective green. The sign shall be reflective green and shall be reflective green.

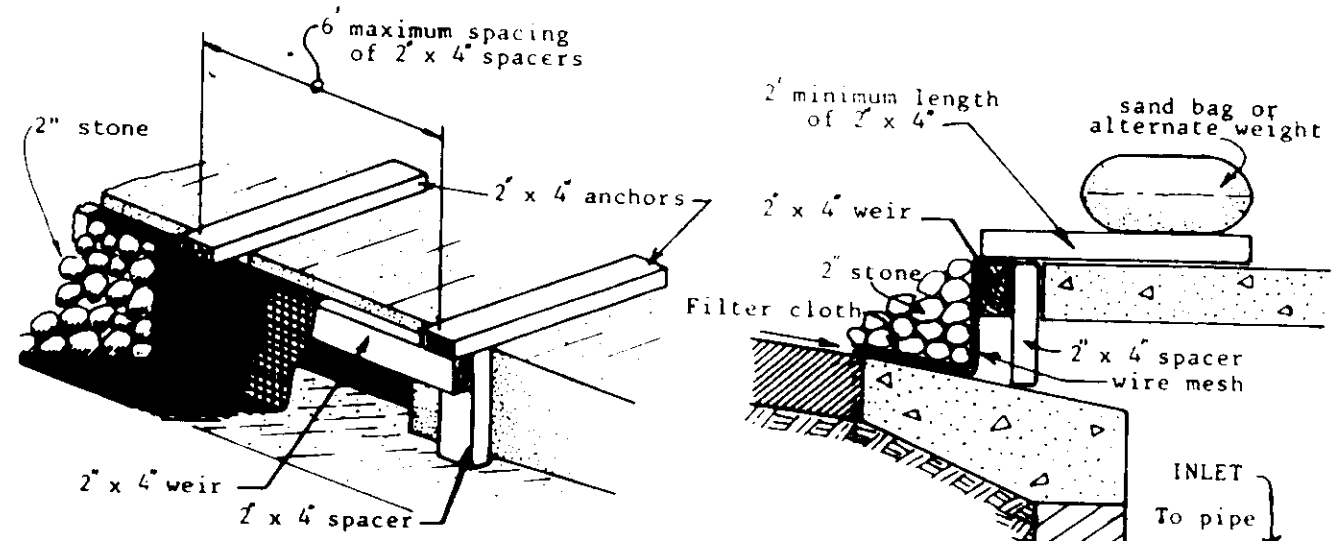


2. **Reserved Sign:**
 The above file sign shall be mounted underneath the below #7.8 reserved parking sign. The bottom edge shall be no less than 7 feet above ground. The sign shall be placed against a building, structure or other location where vehicle or pedestrian traffic is not obstructed. The bottom edge of the sign shall be at least 6 feet, but no more than 10 feet above ground. Because this is in addition to existing sign installation, some adjustment in height will be necessary.

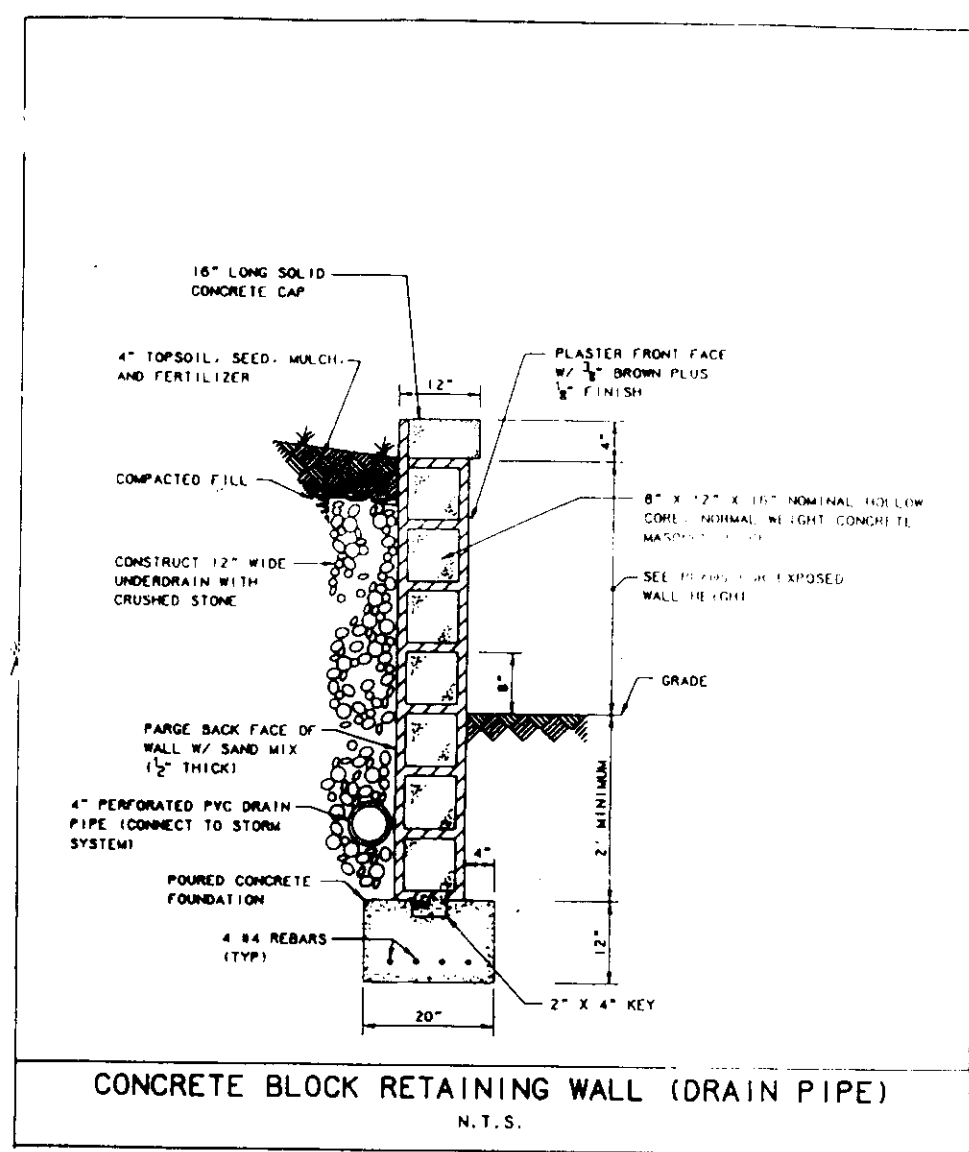


HANDICAPPED PARKING SIGN R7-8
 N.T.S.

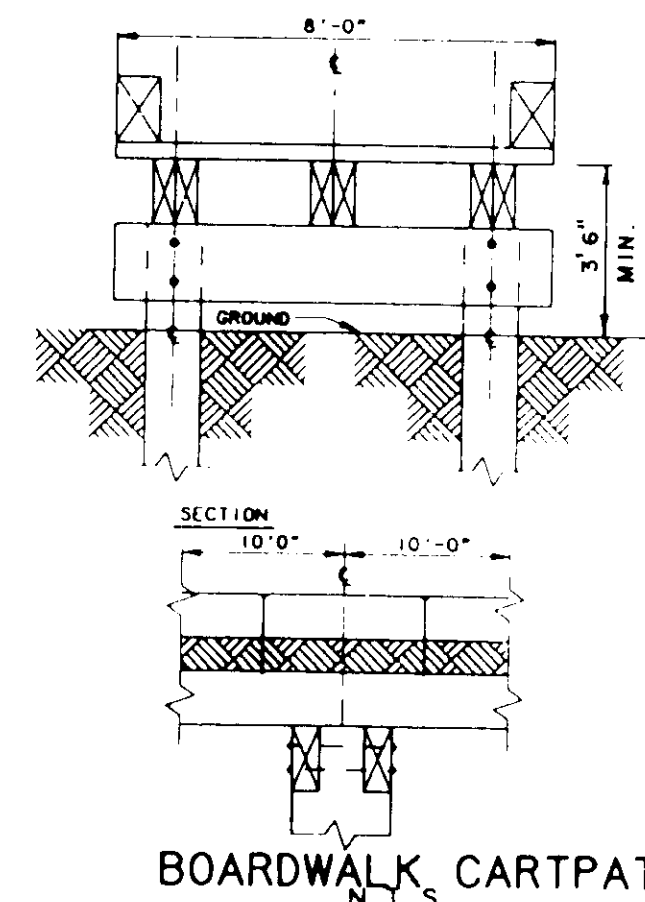
CURB INLET PROTECTION DETAIL



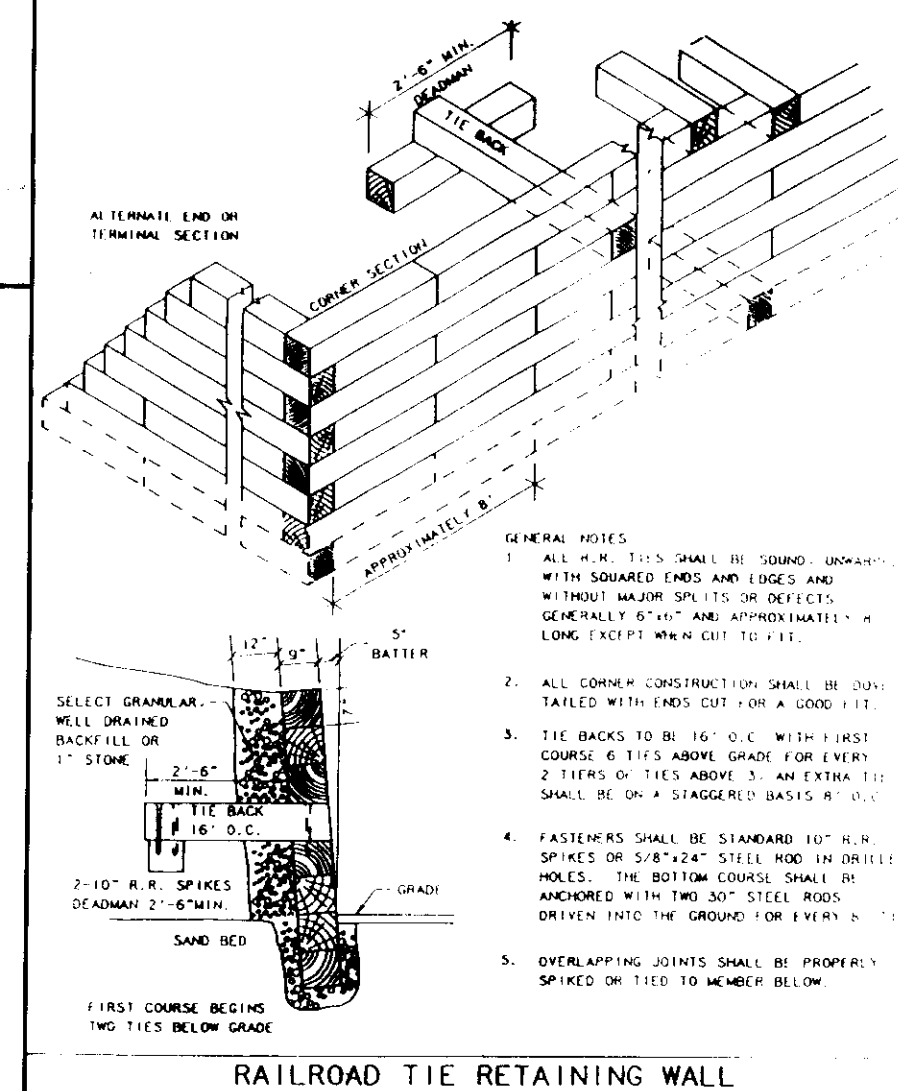
STANDARD SYMBOL
 U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND
 INLET PROTECTION DETAIL
 STANDARD DRAWING IPD-1



CONCRETE BLOCK RETAINING WALL (DRAIN PIPE)
 N.T.S.



BOARDWALK CARTPATH
 N.T.S.



RAILROAD TIE RETAINING WALL
 N.T.S.

General Notes:

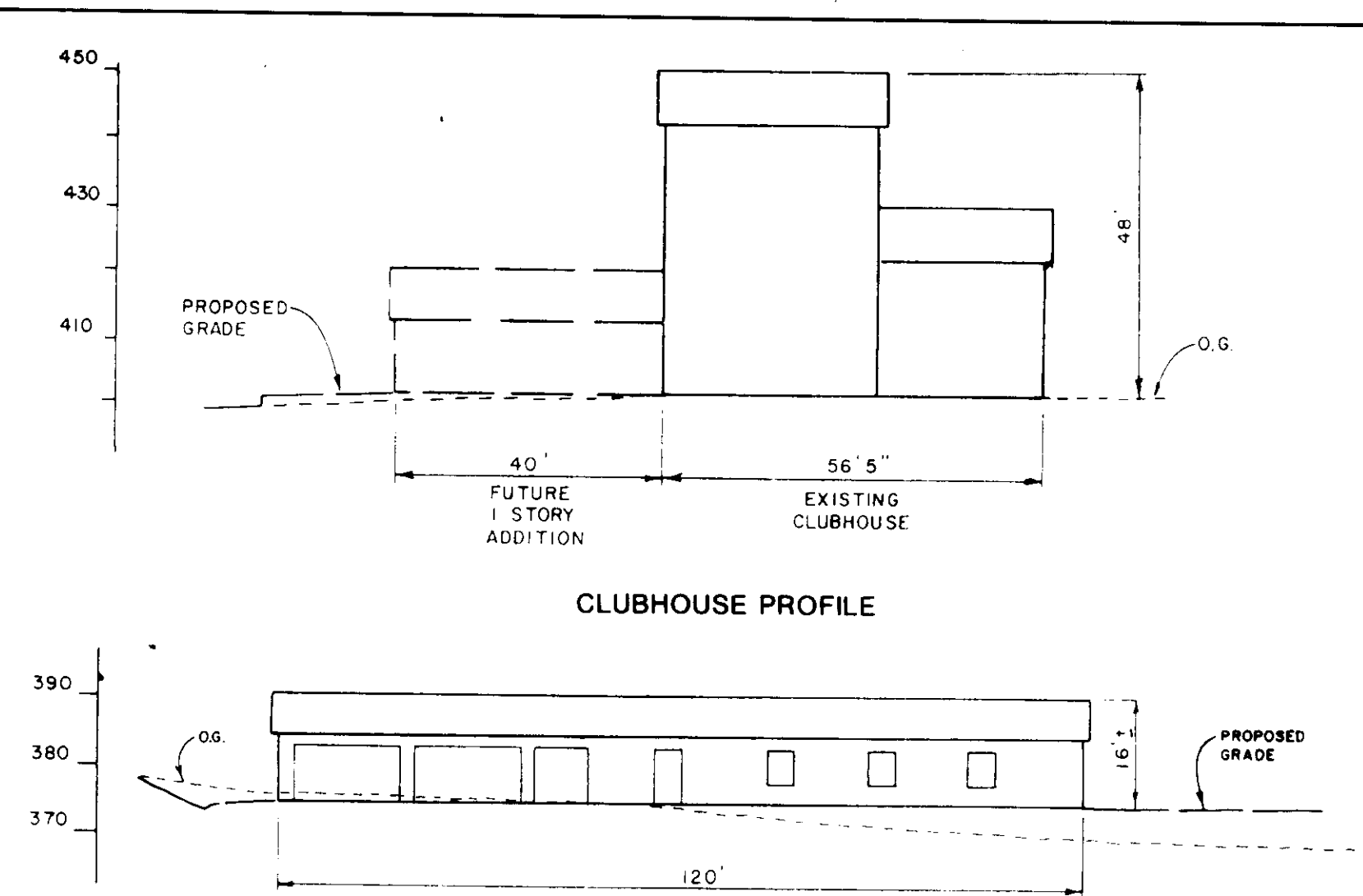
- All construction shall be in accordance with the latest standards and specifications of Howard County.
- The contractor shall notify the Department of Public Works/Bureau of Construction Inspection at (301) 792-7772 at least five (5) working days prior to the start of work. (verbatis)
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work. (verbatis)
- Project Background:
 Location: Tax Map 30 Parcel 2.3
 Zoning: RT-05
 Section/Area: 9/1, 9/4, 9/8 & 3/1
 Site Area: 124.62 AC.
 Date Final Plan Approved, Name and DPZ Reference:
- Dates, reference numbers, and names of all submittals, valuers (approved or denied), etc. concerning this tract.
- Traffic control devices, markings, and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt. (verbatis)
- All plan dimensions are to the face of curb unless otherwise noted. (verbatis)
- Reference the survey, contour interval, company performing the survey, and date of survey.
- Identify the horizontal and vertical datum used.
- State whether water and sewer is public or private. Include contract number and drainage area if public.
- Reference the floodplain study, name of the company that performed the study, date compiled, file reference number, and date approved by Howard County.
- State whether water and sewer is public or private. Include contract number and drainage area if public.
- State the type of stormwater management control.
- Reference the wetlands delineation study, date compiled, and date approved by Howard County.
- Reference the traffic study, date compiled and date approved by Howard County.
- Stormwater management facility will be privately owned and maintained. (verbatis if applicable)
- Identify how existing utilities were located.

Announcement of Completion

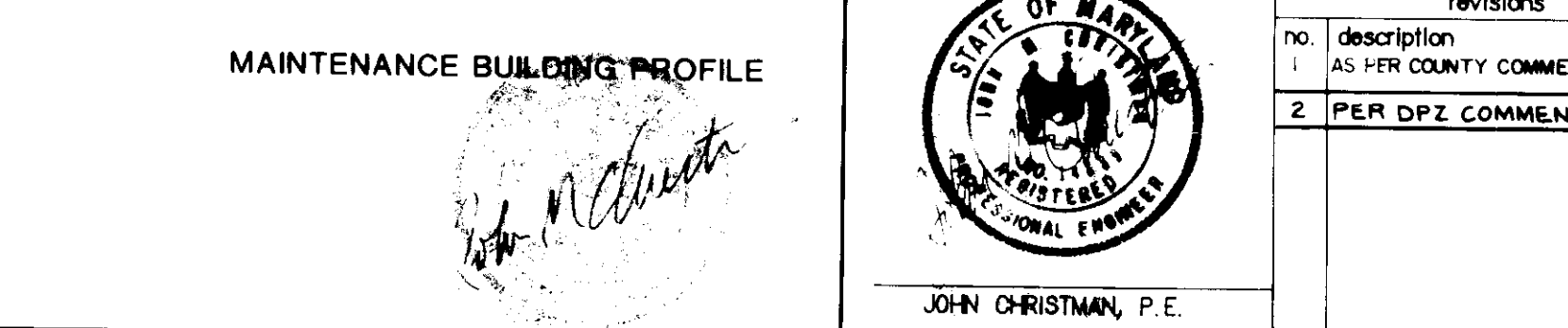
- Notify H&M, DMR and Howard County of intent to commence.
- Notify Miss Utility.
- Clearing and grubbing of those areas necessary for installation of perimeter controls.
- Construction of perimeter controls.
- Install tree protection devices.
- Install stabilized construction entrances where excavation vehicles will be crossing paved roadways.
- Construct temporary stormwater detention traps and weirs.
- Clearing and grubbing of site.
- Mass excavation and rough grading associated with golf course construction. Stockpiles must be stabilized within 7 days.
- Construction and stabilization of permanent stormwater management ponds.
- Structure paving and outfalls.
- Construct remaining area ditches and outfalls.
- Provide inlet protection.
- Construct irrigation ponds and diversion structures.
- Construct concrete and railroad tie retaining walls.
- Extend sanitary sewer lines to clubhouse and maintenance building locations.
- Obtain building permits from County.
- Construction of clubhouse, maintenance building, roadways and bridges.
- Construct manholes, install pipe and provide sanitary line to The Mill Road.
- Excavate Ten Mill Road and related areas for east tunnel.
- Install trench drain and provide inlet protection.
- Construct tunnel and reconstruct roadway.
- Install flood gates.
- Construct filtration/degradation boxes and green underdrain systems.
- Final grade site.
- Construct parking lots and cartpaths.
- Stabilization of greens, tees, fairways and rough areas as grading is completed.
- Removal of sediment control devices upon approval of the Maryland Department of Environmental and Howard County.

Construction Timing
 (per item number)

1. Two days	15. Two weeks
2. Four days	16. One day
3. Four weeks	17. Sixteen weeks
4. Two weeks	18. One week
5. Two weeks	19. One week
6. One week	20. Three days
7. Two weeks	21. Two weeks
8. Eight weeks	22. One week
9. Two weeks	23. Fifteen weeks
10. Six weeks	24. Sixteen weeks
11. Three weeks	25. Two weeks
12. Three weeks	26. Two weeks
13. Four weeks	27. Seven days
14. Two weeks	



CLUBHOUSE PROFILE



MAINTENANCE BUILDING PROFILE

PROTECTION OF DESIRABLE TREES
 Protection of desirable trees that have value for erosion and sediment control, shade, aesthetics, wind break, air quality, soil control, noise abatement, and oxygen production.

On-site Development Sites Containing Valuable Trees:
 1. The commission shall lead clearing and grading work to result in an aesthetically pleasing development with minimal vegetation removal. The presence of trees at the site shall be noted on the site plan and clearly marked on the ground. Construction of retaining walls, structures, paving, and outfalls shall be planned to avoid damage to the trees and their root systems. (verbatis)

Tree Protection:
 1. The commission shall lead clearing and grading work to result in an aesthetically pleasing development with minimal vegetation removal. The presence of trees at the site shall be noted on the site plan and clearly marked on the ground. Construction of retaining walls, structures, paving, and outfalls shall be planned to avoid damage to the trees and their root systems. (verbatis)

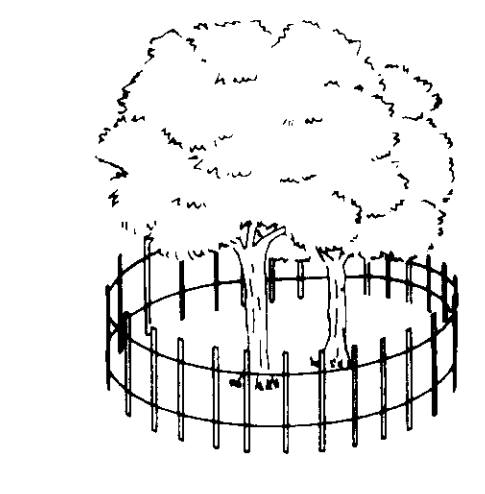


Figure 3.9-1 Correct fencing for tree protection

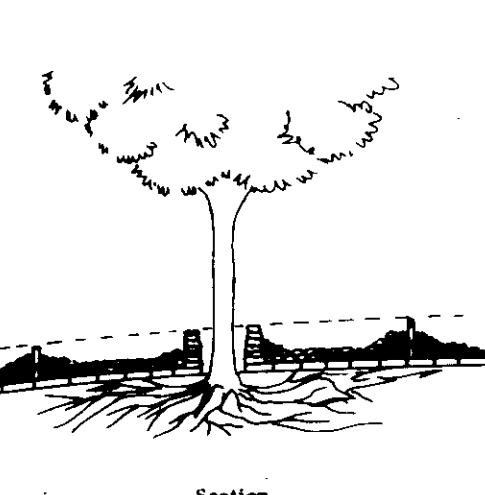
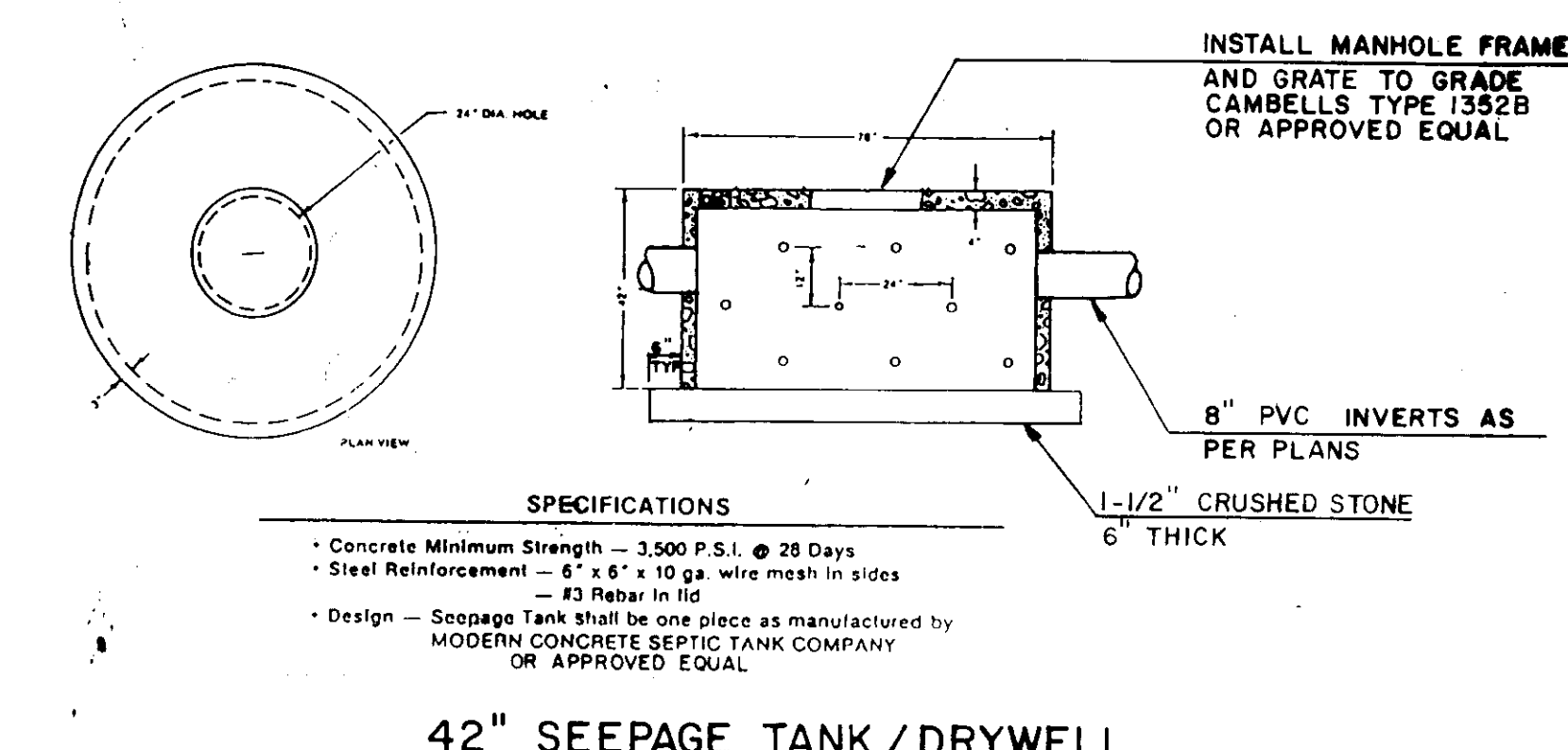


Figure 3.9-2 Tree protection - tile and gravel will allow air circulation to root zone under a fill



42" SEEPAGE TANK / DRYWELL
 N.T.S.

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 Director: James M. Lewin 11/2/93
 Chief, Bureau of Engineering: [Signature] 11/1/93

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 Director: [Signature] 11/1/93
 Chief, Division of Community Planning and Land Development: [Signature] 11/1/93

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
 County Health Officer: [Signature] 11/5/93

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

DEVELOPER: COLUMBIA PARKS AND RECREATION ASSOCIATION
 9861 BROKEN LAND PARKWAY, SUITE 300
 COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING	STREET ADDRESS
LOTS-CLUBHOUSE	5100 COLUMBIA ROAD
LOT1-MAINT. BLDG	5280 COLUMBIA ROAD

SUBDIVISION NAME: VML-9/3, LOT38, VML-9/4, LOTS 3855-TC-9/1, LOT30 & VPS-3/1, LOTS 1, 2 & 3, 4, 5 & 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

revisions:
 1 AS PER COUNTY COMMENTS 10/23/92
 2 PER DPZ COMMENTS 10/93

prepared by
RON PRICHARD
 Golf Architect
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 BLUE BELL, PA. 19422
 (215) 841-7240

JOHN CHRISTMAN, P.E.

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
 5580 STERNETT PLACE, SUITE 300
 COLUMBIA, MARYLAND 21044
 (301) 730-7950 821-8050

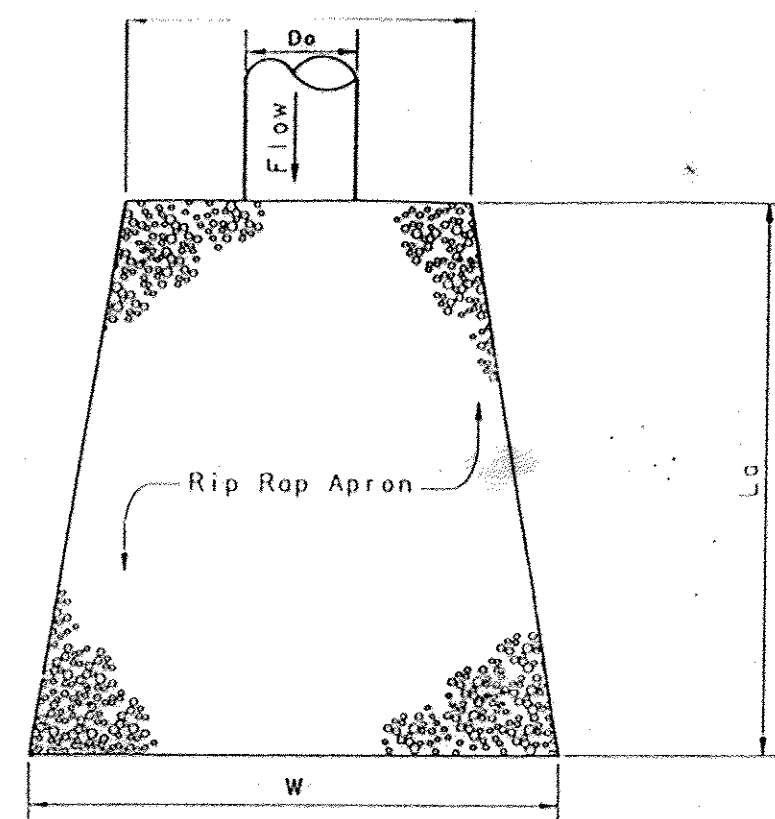
DETAILS

SCALE AS SHOWN

DRAWN CADD CHECKED
 PROJ. NO. MO405 DATE 9-92
D5
 SHEET 55 OF 56

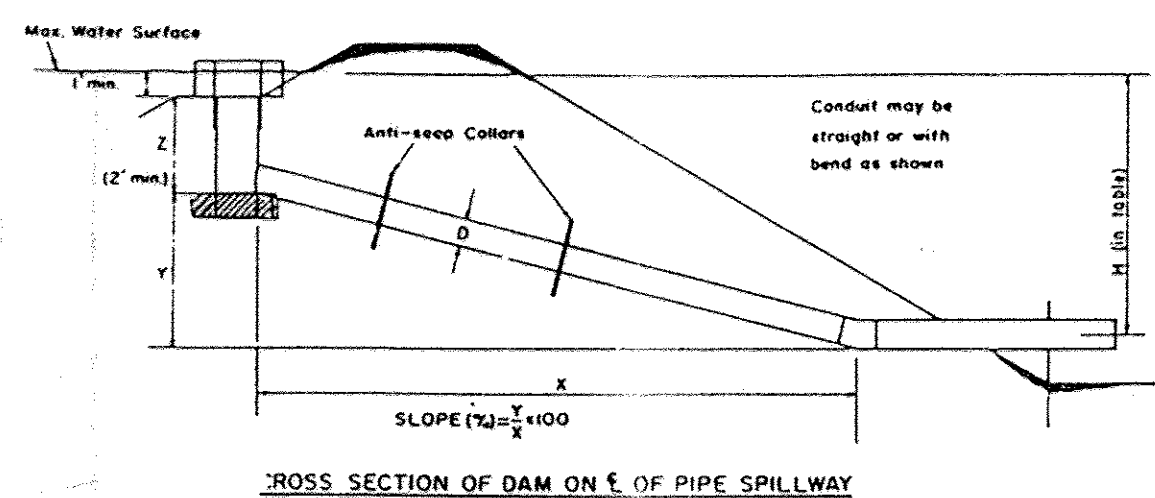
COLUMBIA MARYLAND
SDP-92-104

PROJECT NO. THE RBA GROUP, MORRISTOWN, NEW JERSEY



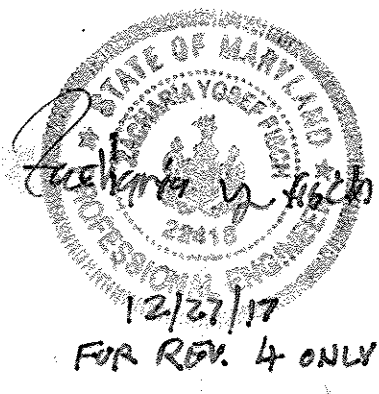
- NOTE:
1. Stone for Rip-Rap shall consist of well-graded hard angular field or quarry stone, approx. rectangular in shape and with a specific gravity of at least 2.5. Fifty percent by weight of the Rip-Rap mixture shall be smaller than the median stone size, designated as d50. The largest stone size in the mixture shall be 1.5 times the d50 size. Rubble concrete having a minimum density of 150 pounds per cubic foot and meeting specified stone sizes may be used.
 2. Minimum Rip-Rap thickness shall be 3 times the median stone diameter or 6 inches.

LOCATION	PIPE DIA. (FT.)	APRON DIMENSIONS (FT.)		RIP-RAP DIMENSIONS (IN.)		
	D0	W	L0	d50	dMax	THICKNESS
HW-1	1.25	22	18	11	16	33
HW-2	2.50	27	20	6	9	18
HW-3	1.25	24	21	10	15	30
HW-4	2.50	32	25	6	9	18
HW-5	2.50	30	22	6	9	18
HW-6	3.50	44	34	6	9	18
HW-7	2.50	28	20	6	9	18
FES-1	1.00	13	10	6	9	18
FES-2	1.00	12	8	6	9	18
FES-3	1.00	12	8	6	9	18
END-1	1.25	10	10	6	9	18
END-2	2.00	15	15	9	12	24
HW-8	1.50	14	10	6	9	18



- GRADE OF DAM
1. Obtain Table No. 1 with the planned conduit slope. (See view above and use next largest whole number for entering table).
 2. From Table No. 1 obtain value for discharge (Q) for planned conduit size.
 3. If Q obtained from Table No. 1 is:
 - (a) greater than Q shown in Table No. 2 (For the design head, conduit length and conduit slope), a clear height (H) of 50 is required to provide full dam flow.
 - (b) equal to or less than Q shown in Table No. 2 a clear height (H) less than 50 can be used. (Minimum height = 2'-0").

ANTI-SEEP COLLAR TYPICAL LOCATION



APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 2-2-93

FOR RFP # 4 ONLY

CLUBHOUSE				SAN MH 4	395.0	389.0
SAN MH 4	395.0	388.1	194 LF 8" PVC @ 3.56%	SAN MH 5	388.0	382.0
SAN MH 5	388.0	381.9	160 LF 8" PVC @ 3.75%	SAN MH 6	381.9	375.9
SAN MH 6	381.9	376.8	233 LF 8" PVC @ 3.22%	SAN MH 7	374.3	368.3
SAN MH 7	374.3	368.2	263 LF 8" PVC @ 3.88%	SAN MH 8	363.5	357.0

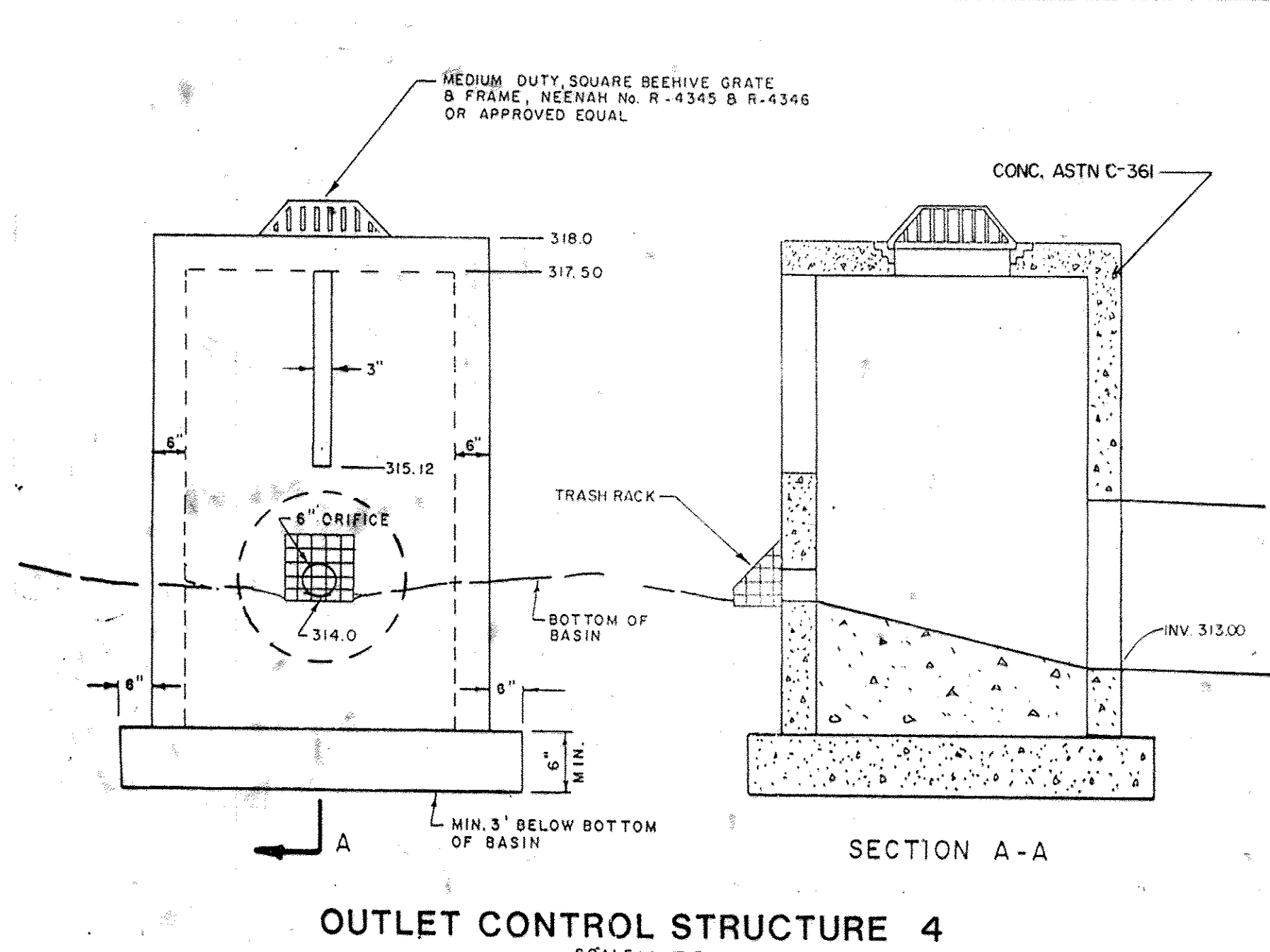
UPPER STRUCTURE		PIPE		LOWER STRUCTURE		
GR/INV	INV.			GR/INV	INV.	
SAN-MH-1	318.00/-	308.21	35 LF 8" PVC @ 0.80%	SAN-MH-2	317.60/-	309.93
SAN-MH-2	317.60/-	302.78	223 LF 8" CPVC @ 0.80%	SAN-MH-3	315.50/-	301.00
Clubhouse	---	398.50	205 LF 8" PVC @ 6.22%	SAN-MH-4	390.50	385.75
SAN-MH-4	390.50	385.65	194 LF 8" PVC @ 0.75%	SAN-MH-5	389.75	384.20
SAN-MH-5	389.75	384.10	160 LF 8" PVC @ 5.28%	SAN-MH-6	381.00	375.50
SAN-MH-6	381.00	373.00	233 LF 8" PVC @ 3.00%	SAN-MH-7	373.00	366.00
SAN-MH-7	373.00	365.90	263 LF 8" PVC @ 2.24%	SAN-MH-8	366.00	360.00
SAN-MH-8	366.00	362.33	175 LF 8" PVC @ 0.50%	SAN-MH-9	364.00/-	352.43
SAN-MH-9	364.00/-	352.15	55 LF 8" PVC @ 0.50%	SAN-MH-10	365.00/-	352.07

UPPER STRUCTURE		PIPE		LOWER STRUCTURE		
GR/INV	INV.			GR/INV	INV.	
TD-1	307.50	306.34	150 LF 8" PVC @ 0.50%	TD-1-1	307.50	309.99
TD-1-1	307.50	305.49	145 LF 8" PVC @ 0.50%	Outlet	---	304.77
TD-2	307.50	306.34	135 LF 8" PVC @ 0.50%	TD-2-1	307.50	308.67
TD-2-1	307.50	305.57	135 LF 8" PVC @ 0.50%	Outlet	---	305.00
OCS-1	368.00	361.00	325 LF 30" RCP @ 7.39%	HW-2	---	336.98
OCS-2	319.00	314.25	115 LF 30" RCP @ 0.50%	HW-5	---	313.67
OCS-3	318.00	313.41	85 LF 30" RCP @ 0.72%	HW-4	---	312.80
OCS-4	318.00	315.50	170 LF 30" RCP @ 0.20%	HW-3-4	318.00	312.66
HW-3-2	318.00	315.28	120 LF 30" RCP @ 0.20%	HW-7	---	312.30
HW-3	330.30	325.00	75 LF 42" RCP @ 2.50%	HW-3-1	323.75	318.13
HW-3-1	323.75	314.03	5 LF 42" RCP @ 0.50%	HW-6	---	314.00

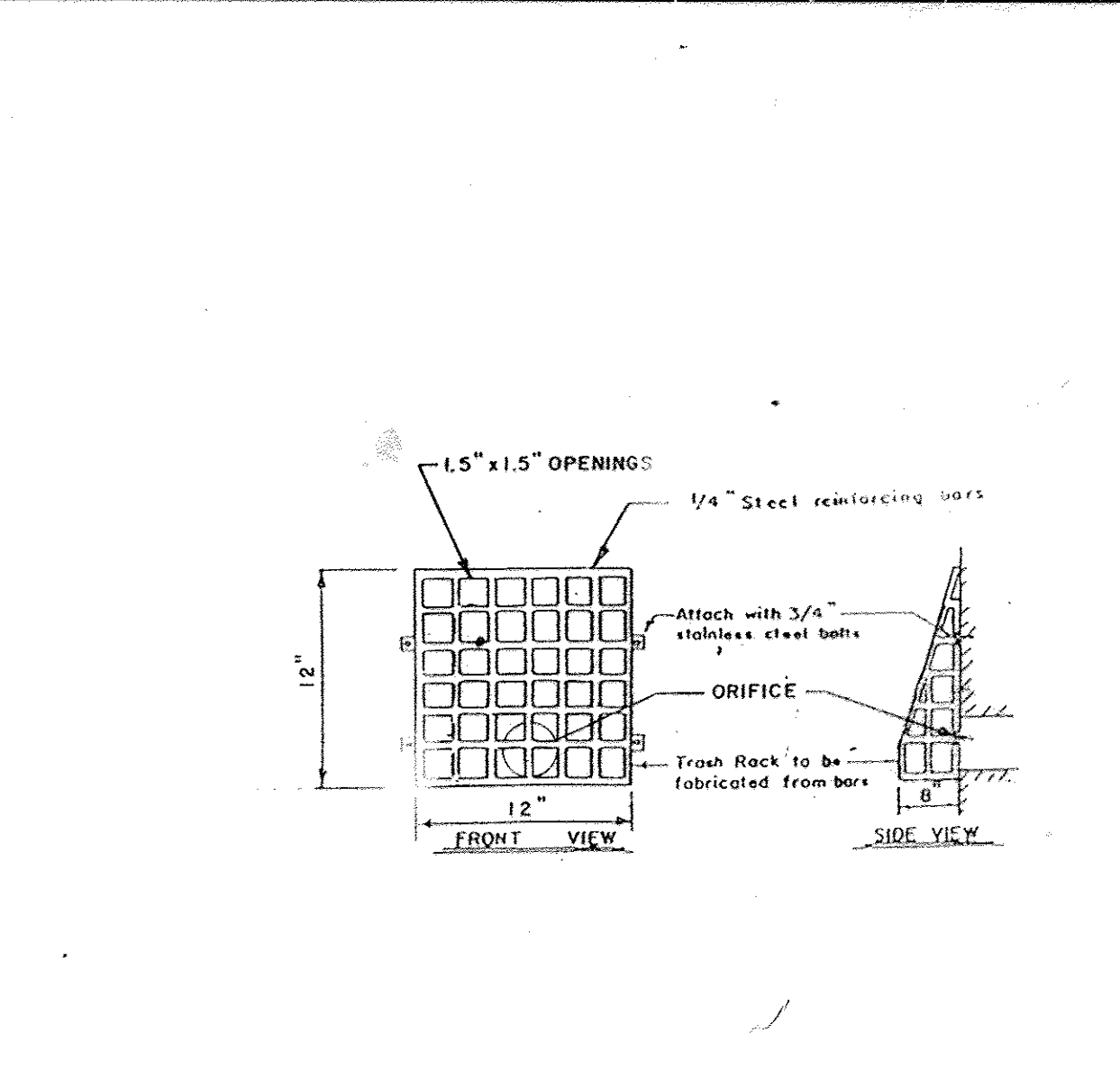
UPPER STRUCTURE		PIPE		LOWER STRUCTURE		
GR/INV	INV.			GR/INV	INV.	
TD-1	307.50	306.34	150 LF 8" PVC @ 0.50%	TD-1-1	307.50	309.99
TD-1-1	307.50	305.49	145 LF 8" PVC @ 0.50%	Outlet	---	304.77
TD-2	307.50	306.34	135 LF 8" PVC @ 0.50%	TD-2-1	307.50	308.67
TD-2-1	307.50	305.57	135 LF 8" PVC @ 0.50%	Outlet	---	305.00
OCS-1	368.00	361.00	325 LF 30" RCP @ 7.39%	HW-2	---	336.98
OCS-2	319.00	314.25	115 LF 30" RCP @ 0.50%	HW-5	---	313.67
OCS-3	318.00	313.41	85 LF 30" RCP @ 0.72%	HW-4	---	312.80
OCS-4	318.00	315.50	170 LF 30" RCP @ 0.20%	HW-3-4	318.00	312.66
HW-3-2	318.00	315.28	120 LF 30" RCP @ 0.20%	HW-7	---	312.30
HW-3	330.30	325.00	75 LF 42" RCP @ 2.50%	HW-3-1	323.75	318.13
HW-3-1	323.75	314.03	5 LF 42" RCP @ 0.50%	HW-6	---	314.00

UPPER STRUCTURE		PIPE		LOWER STRUCTURE		
GR/INV	INV.			GR/INV	INV.	
Inlet 1	399.50	396.60	80 LF 15" RCP @ 1.62%	Inlet 2	396.60	392.40
Inlet 2	396.60	393.50	135 LF 15" RCP @ 1.48%	Inlet 3	394.50	391.50
Inlet 3	394.50	386.10	100 LF 15" RCP @ 1.50%	Inlet 4	393.70	384.60
Inlet 4	393.70	384.50	250 LF 15" RCP @ 2.00%	HW-1	385.00	379.50
HW-1	385.00	376.00	80 LF 18" RCP @ 2.00%	HW-2	375.00	374.40
HW-2	375.00	367.10	55 LF 18" RCP @ 2.00%	HW-1	---	366.00
Inlet 3-4	392.50	389.03	13 LF 15" RCP @ 1.00%	Inlet 3-3	392.00	388.90
Inlet 3-3	392.00	388.80	25 LF 15" RCP @ 1.00%	Inlet 3-2	392.00	388.85
Inlet 3-2	392.00	388.45	145 LF 15" RCP @ 1.00%	Inlet 3-1	390.90	387.00
Inlet 3-1	390.90	386.90	70 LF 15" RCP @ 1.00%	Inlet 3	394.50	386.20
Inlet 3-5	398.46	394.75	66 LF 15" RCP @ 4.90%	Inlet 3	394.50	391.50
Inlet 5-2	395.60	390.00	40 LF 15" RCP @ 0.28%	Inlet 5-1	394.00	388.20
Inlet 5-1	394.00	387.95	380 LF 12" RCP @ 7.25%	HW-5	349.50	345.00
HW-5	349.50	341.70	180 LF 12" RCP @ 4.28%	Inlet 6	337.00	334.50
Inlet 6	337.00	334.00	80 LF 15" RCP @ 2.10%	Inlet 7	335.00	332.40
Inlet 7	335.00	332.30	170 LF 15" RCP @ 4.65%	Inlet 7	335.00	334.40
Inlet 7-1	331.00	328.00	90 LF 15" RCP @ 2.00%	HW-3	---	317.80
Inlet 7-1	331.00	328.00	125 LF 15" RCP @ 2.00%	Inlet 7	331.00	325.50
Inlet 8	349.80	346.80	180 LF 12" RCP @ 2.11%	FES-1	---	343.00
Inlet 9	320.80	318.80	160 LF 12" RCP @ 0.50%	FES-2	---	318.00
Inlet 10-1	309.00	307.50	110 LF 12" RCP @ 0.50%	Inlet 10	309.00	306.95
Inlet 10	309.00	308.95	130 LF 12" RCP @ 0.50%	FES-3	---	306.30
INLET 5	364.5	364.4	126 LF 15" RCP @ 0.85%	HW-8	---	364.0

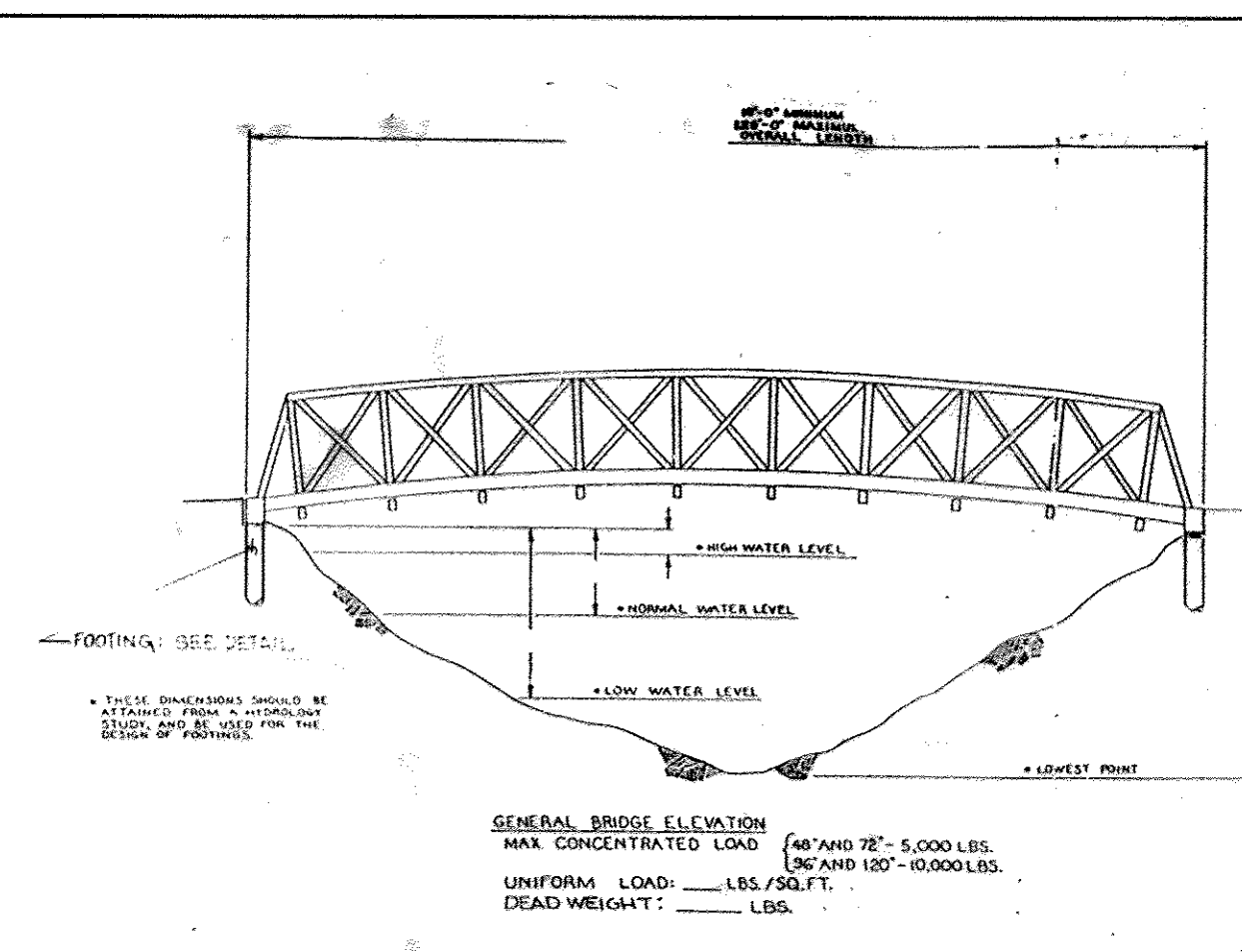
MH-10	379.5	371.8	80 LF 15" RCP @ 1.00%	END 1	371.0
MH-11	313.5	308.71	140 LF 24" RCP @ 0.51%	END 2	308.0



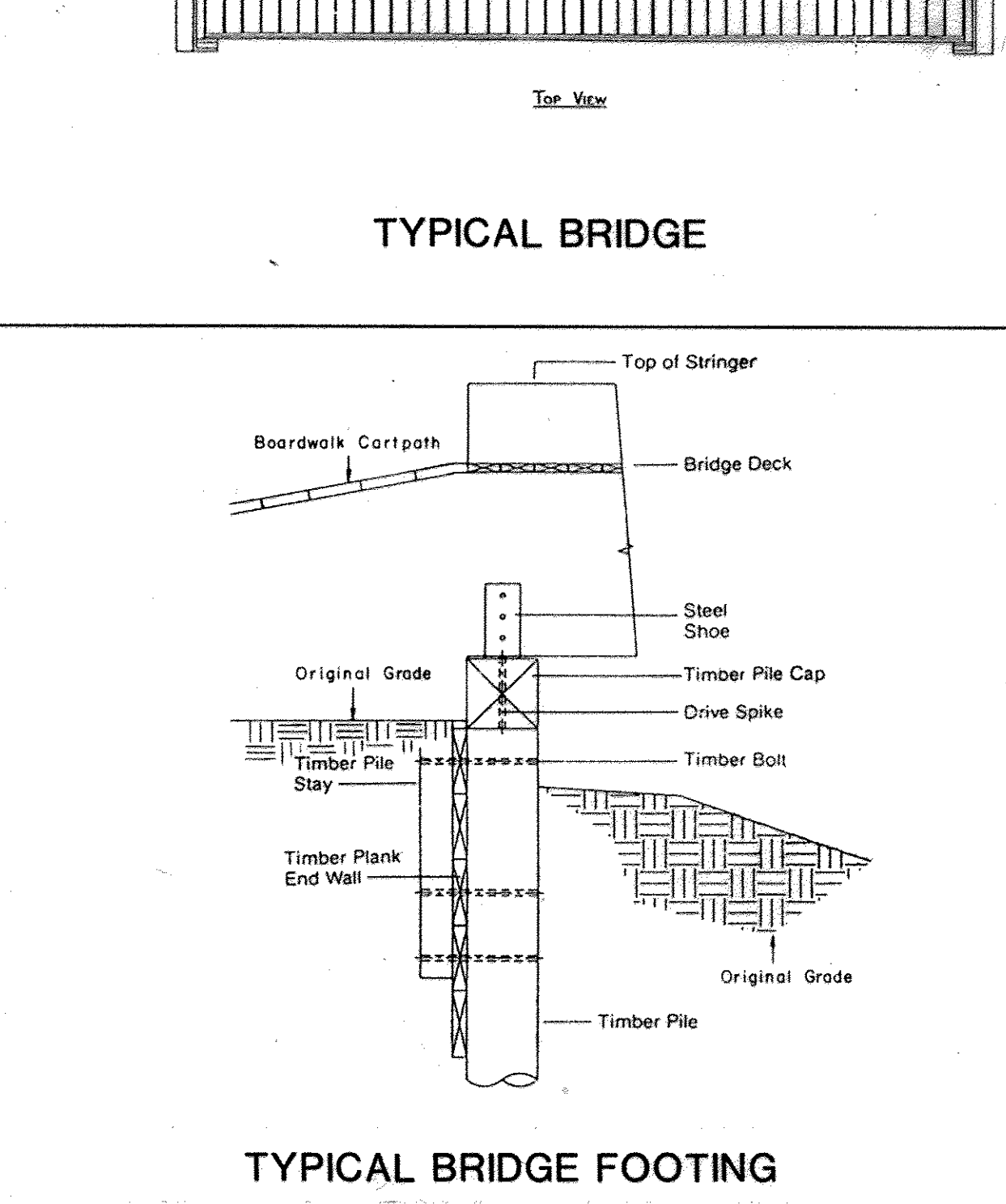
OUTLET CONTROL STRUCTURE 4
SCALE: NTS



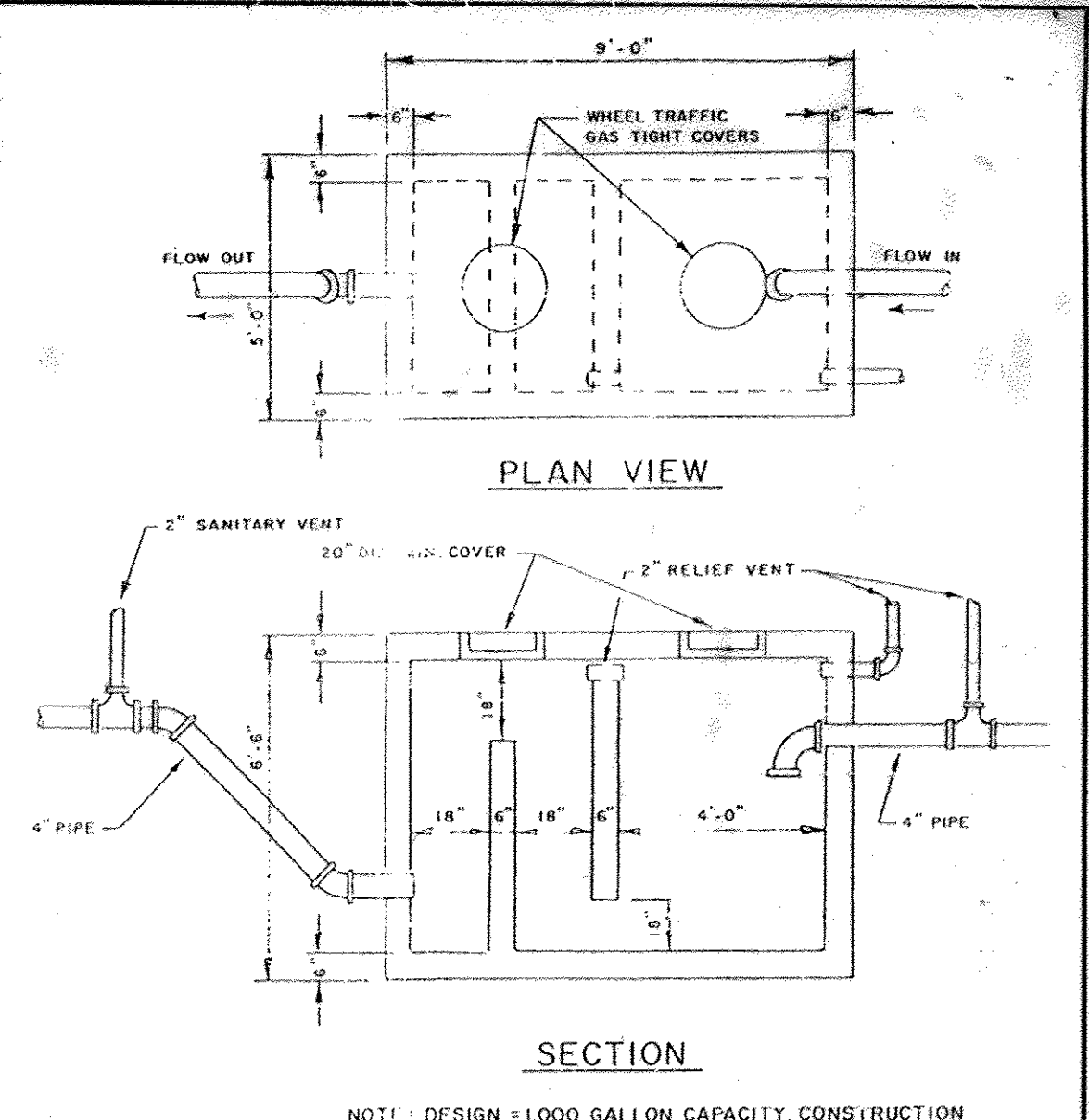
TRASH RACK



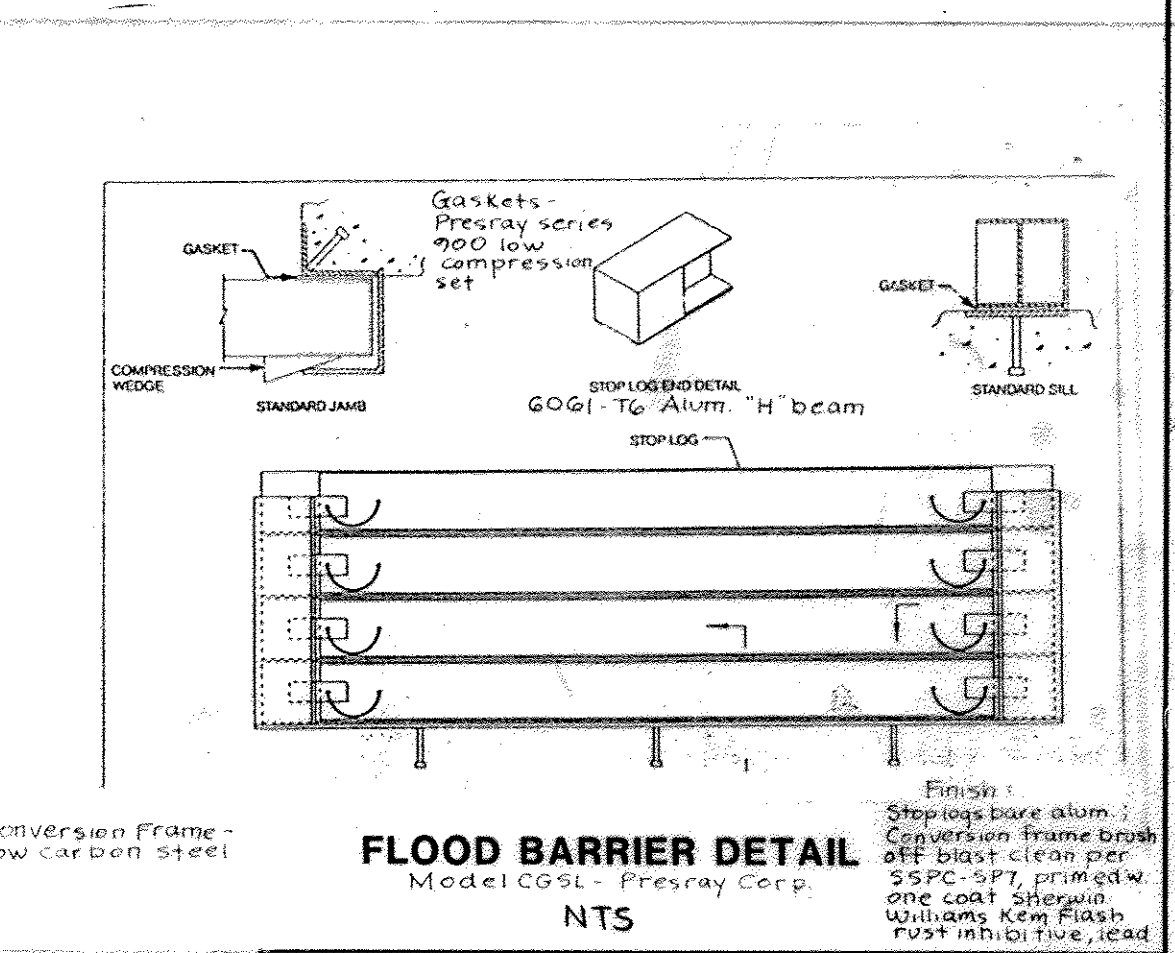
TYPICAL BRIDGE



TYPICAL BRIDGE FOOTING



GREASE TRAP DETAIL
NTS



FLOOD BARRIER DETAIL
NTS

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
DATE: 11/2/93
James M. Boyd, Director
APPROVED: 11/1/93
James M. Boyd, Director
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
DATE: 11/10/93
James M. Boyd, Director
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.
HOWARD COUNTY HEALTH DEPARTMENT
DATE: 11/5/93
James M. Boyd, Director

OWNER: COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

DEVELOPER: RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD. 21045

ADDRESS CHART

BUILDING	STREET	ADDRESS
LOT1-CLUBHOUSE	5100 COLUMBIA ROAD	
LOT1-MAINT. BLDG.	5280 COLUMBIA ROAD	

SUBDIVISION NAME: VIL 9/3 LOT39, VIL 9/4 LOTS 33&35, TC 9/1 LOT30 & VDS 3/1 LOTS 1, 2 & 3, 4
SECTION/AREA: 9/3, 9/4, 9/1 & 3/1
LOT/PARCEL: LOTS 1, 2, 3, 33, 35 & 55
PLAT: 14-15 R COM
BLOCK/ZONE: 30
TAX/ZONE MAP: 51R
ELEC. DIST.: 6054
CENSUS TR.: 6054
WATER CODE: SEWER CODE:

SCALE: AS SHOWN
DRAWN: CADD
CHECKED: DATE
PROJ. NO. M0405
DATE: 12/27/17
SHEET: 56 OF 61
FAIRWAY HILLS GOLF COURSE
COLUMBIA MARYLAND
SDP-92-104

no.	description	date
1	AS PER COUNTY COMMENTS	10/26/92
2	PER DPZ COMMENTS	10-93
3	ADDED TABLE INFO	4/94
4	REVISE SHEET NUMBER	12-2017

prepared by
RON PRICHARD
Golf Architect
10600 SIX PINES DRIVE
THE WOODLANDS, TEXAS 77380
(713) 292-1902
1730 WALTON ROAD, SUITE 300
BLUE BELL, PA. 19422
(215) 841-7240

prepared by
RBA ENGINEERS • ARCHITECTS • PLANNERS
5560 STERRETT PLACE, SUITE 300
COLUMBIA, MARYLAND 21044
(301) 730-7950 821-8050

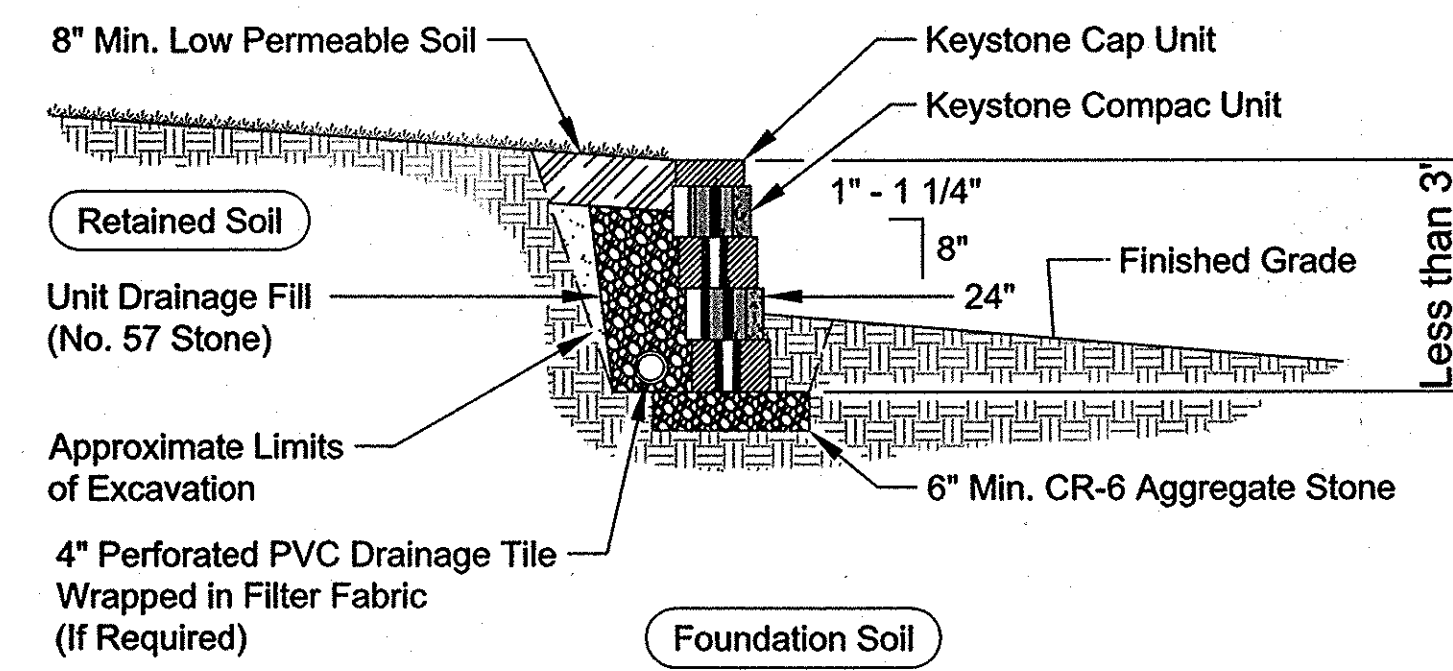
PROJECT NO. THE RBA GROUP - MORRISTOWN, NEW JERSEY

Name	Northing	Easting	Elevation	Description
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111	571591.935942	1356298.619657	397.695	DCI-111R&C

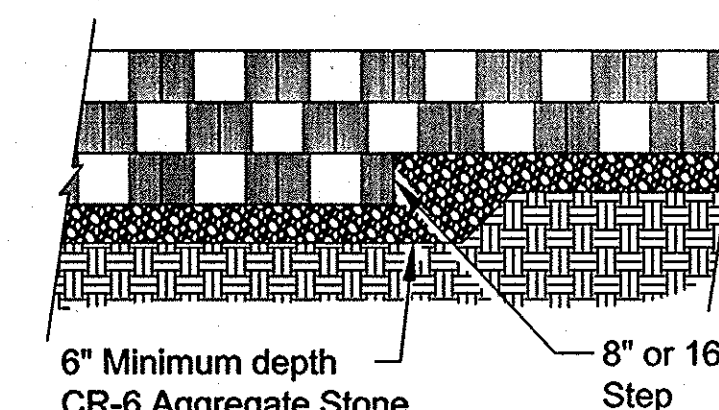
SITE LEGEND	
	PROPOSED RETENTION WALL
	PUTTING AREA EXPANSION
	SILT FENCE
	LIMITS OF DISTURBANCE

GENERAL DEMOLITION NOTES:

- ALL WORK BE PERFORMED IN STRICT ACCORDANCE WITH THE MOST CURRENT APPLICABLE EPA AND OSHA REGULATIONS AND MUST COMPLY WITH THE MOST CURRENT FEDERAL, STATE AND/OR LOCAL REGULATIONS AND CODES APPLICABLE TO SAID WORK.
- THE CONTRACTOR SHALL NOTIFY THE CONTRACTING OFFICER IMMEDIATELY UPON ENCOUNTERING ANY HAZARDOUS AND CONTAMINATED MATERIALS. THE CONTRACTOR SHALL DOCUMENT SAME TO THE OWNER TO OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.
- CARE SHALL BE TAKEN TO PROTECT ALL EXISTING ADJACENT SURFACES AND AREAS FROM DAMAGE. ANY AREAS DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL SHEET/SHORE AND BRACE ANY AND ALL STRUCTURES EXPOSED BY EXCAVATION/CONSTRUCTION AS NECESSARY.
- ALL SAWCUTS ARE TO BE STRAIGHT AND EVEN, JAGGED EDGES WILL NOT BE ACCEPTED.
- ALL UNDERGROUND UTILITIES ENCOUNTERED DURING DEMOLITION AND CONSTRUCTION SHALL BE ASSUMED TO BE LIVE UNTIL DETERMINED OTHERWISE.
- SURVEY CONTROL SHOWN HEREON IS FOR THE CONVENIENCE OF THE CONTRACTOR. IF ADDITIONAL CONTROL IS REQUIRED, THE CONTRACTOR SHALL ESTABLISH HIS OR HER OWN CONTROL PRIOR TO DEMOLITION OF EXISTING CONTROLS AT HIS OR HER OWN COST.
- STRIPPING/EXCAVATION OPERATIONS BY THE CONTRACTOR WILL INCLUDE THE FOLLOWING:
 - REMOVE DEBRIS AND WASTE FROM SITE
 - EXISTING STRUCTURAL FEATURES SHALL BE ENTIRELY REMOVED FROM WITHIN THE PROPOSED BUILDING FOOTPRINT AND EXTENDED TO LIMITS OF DISTURBANCE.

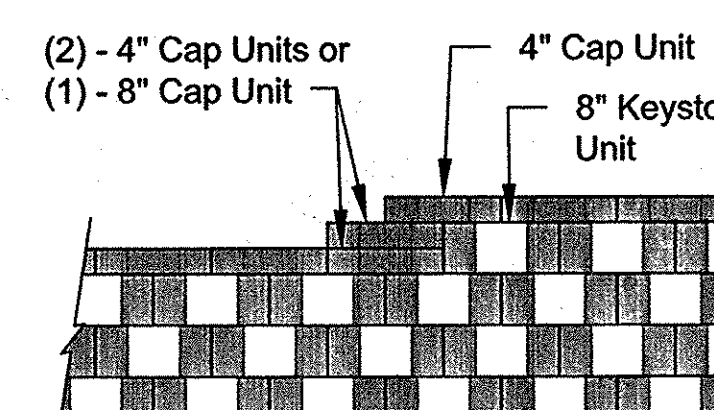


Typical Gravity Wall Section
Compac Unit - 1" Setback



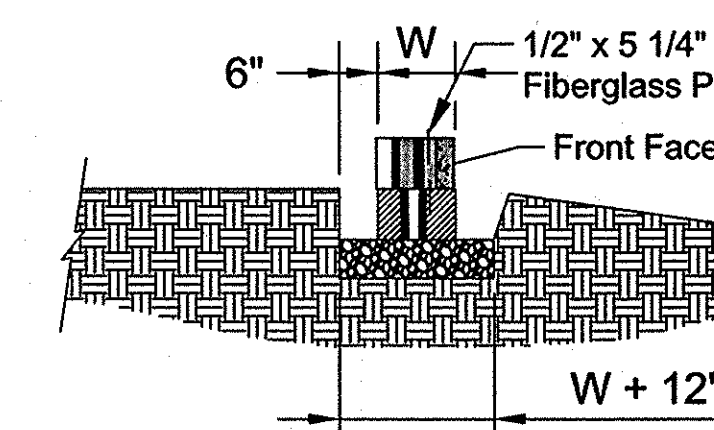
Elevation

- Note:**
- The leveling pad is to be constructed of CR-6 Aggregate Stone.

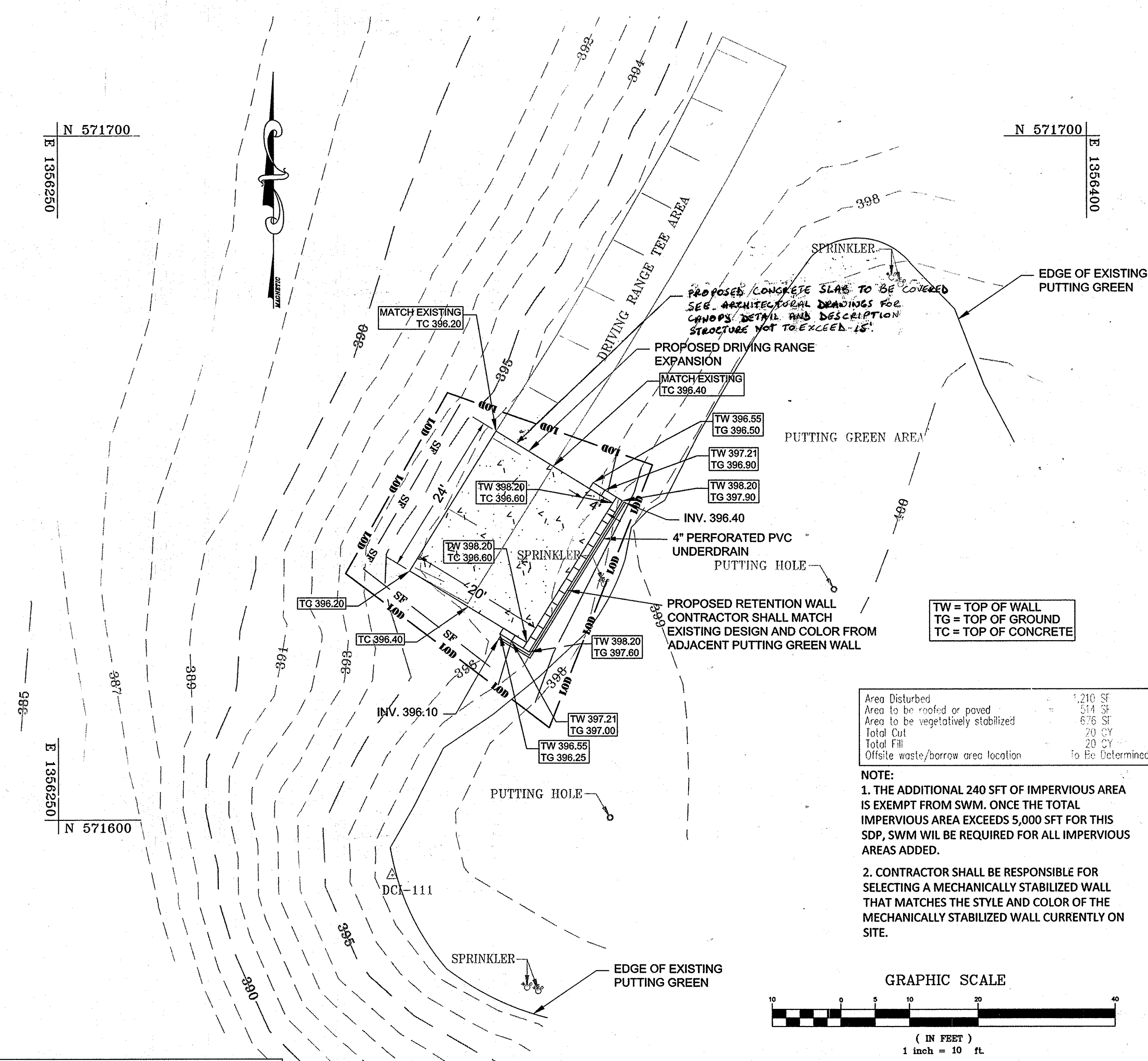
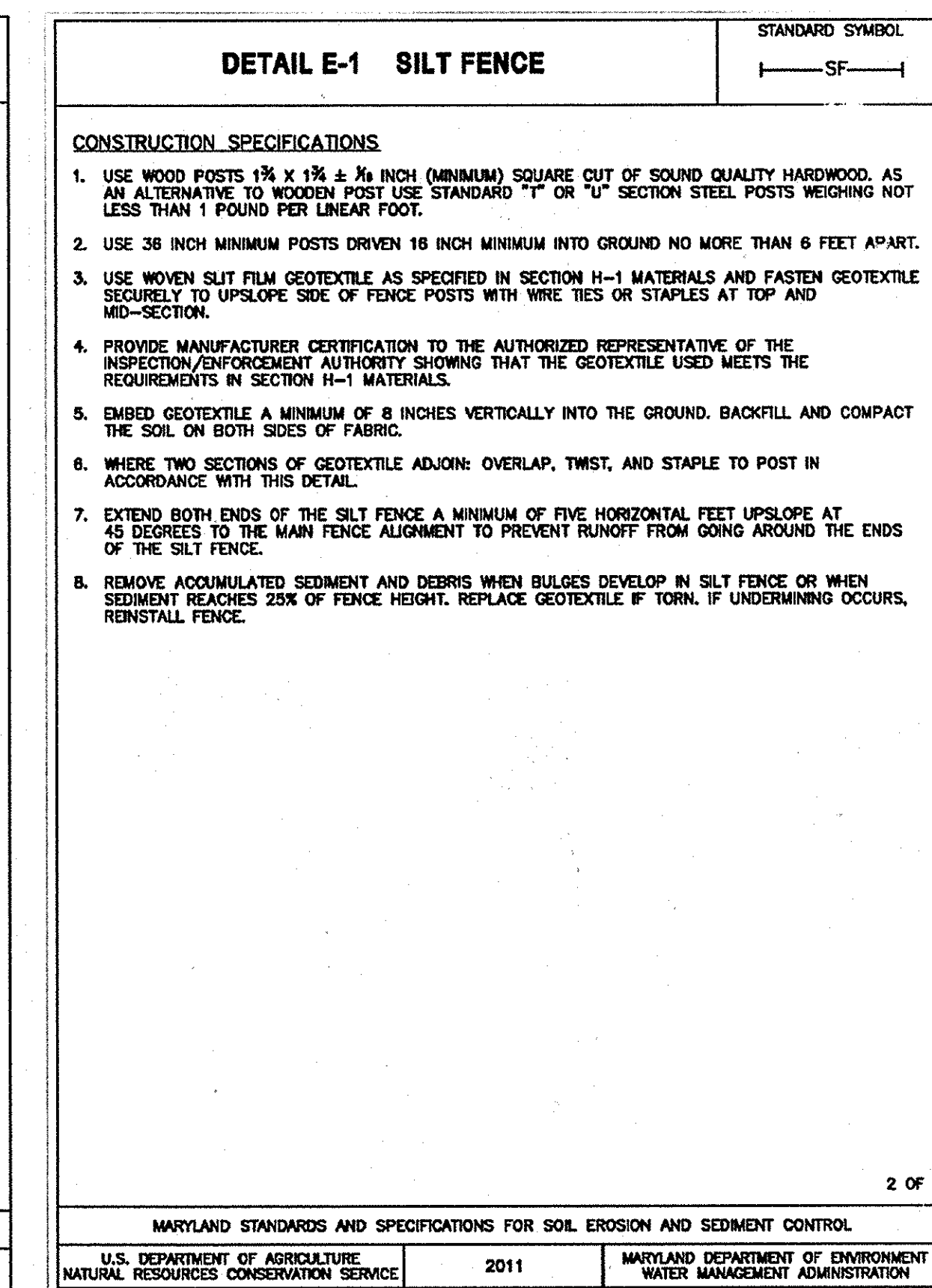
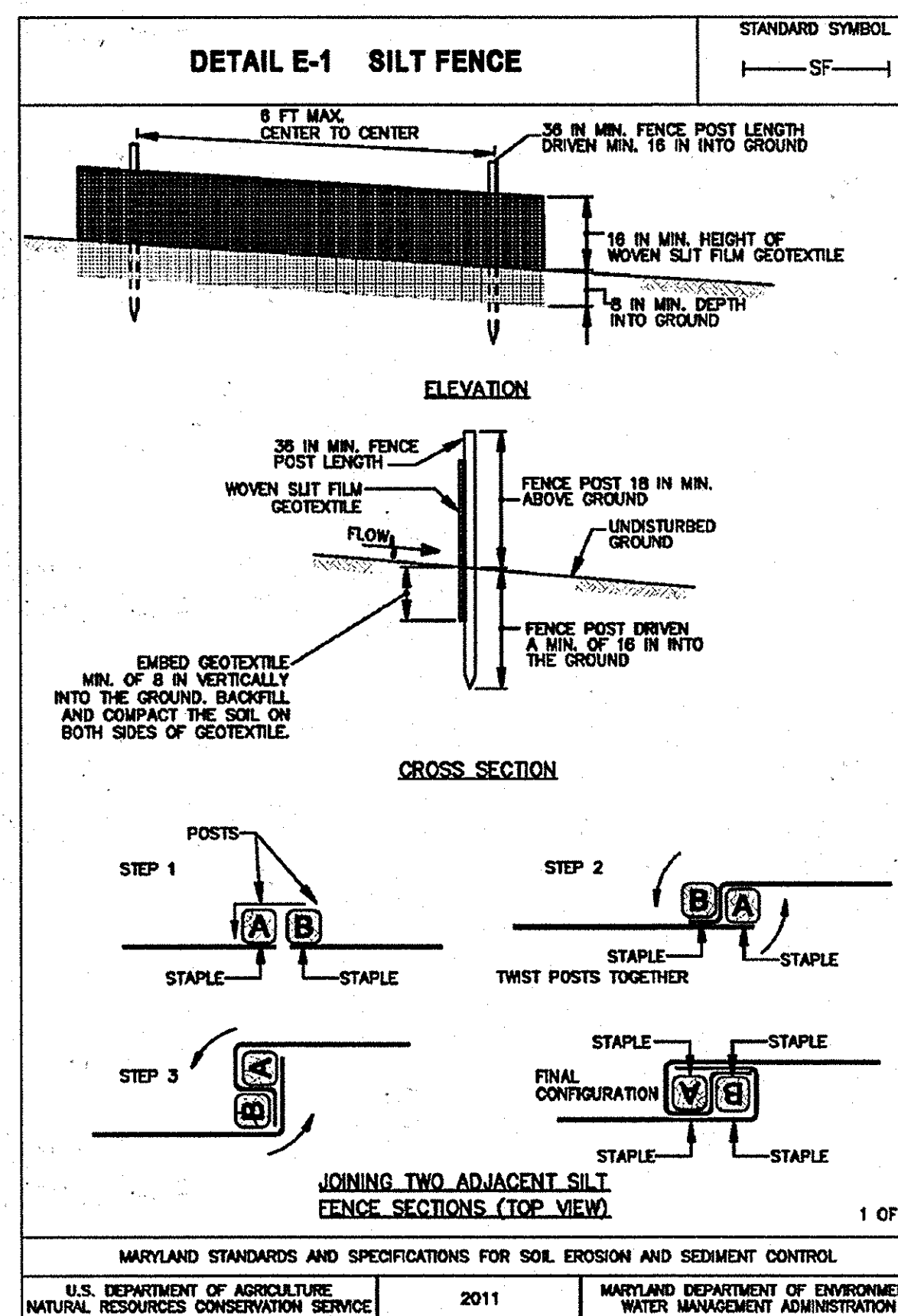
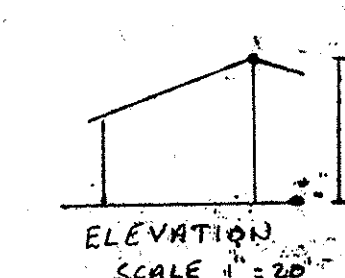
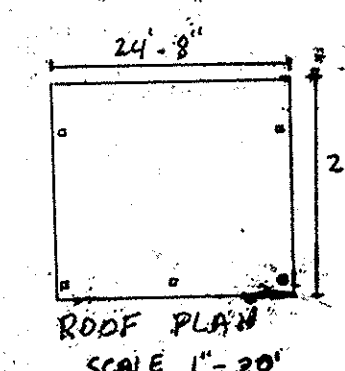


- Note:**
- Secure all cap units with Keystone Kapsel or equal.

Top of Wall Steps

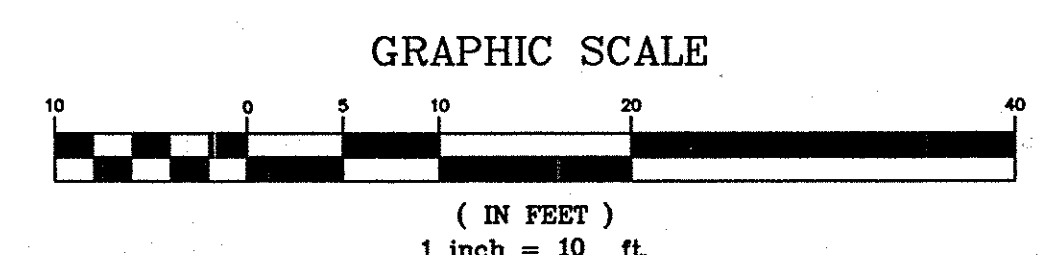


Leveling Pad Detail



Area Disturbed	1,210 SF
Area to be roofed or paved	514 SF
Area to be vegetatively stabilized	676 SF
Total Cut	20 CY
Total Fill	20 CY
Offsite waste/borrow area location	To Be Determined

- NOTE:**
- THE ADDITIONAL 240 SFT OF IMPERVIOUS AREA IS EXEMPT FROM SWM. ONCE THE TOTAL IMPERVIOUS AREA EXCEEDS 5,000 SFT FOR THIS SDP, SWM WILL BE REQUIRED FOR ALL IMPERVIOUS AREAS ADDED.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING A MECHANICALLY STABILIZED WALL THAT MATCHES THE STYLE AND COLOR OF THE MECHANICALLY STABILIZED WALL CURRENTLY ON SITE.



PLAT	BLOCK	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR
	8,9,10,14,15	NT-O.S.& COMM.	30	51 h	6054

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Al Edmund 7/2/14
Chief, Development Engineering Division Date

Walter Schaefer 7-2-14
Chief, Division of Land Development Date

David M. Long 7/2/14
Director Date

OWNER:
COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD 21045

gba
gant-brunnett
ARCHITECTS
15 West Mulberry Street
Baltimore, Maryland 21201-4406
Telephone Number: 410-234-8444

PROFESSIONAL CERTIFICATION
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 6581, EXPIRATION DATE 05/23/2015.

(C) GANT BRUNETT ARCHITECTS
ALL REPRODUCTION IS PROHIBITED

CONSULTANTS:
DCI
DANIEL CONSULTANTS INC.
CONSULTING ENGINEERS AND PLANNERS
890 Rt. 108 E., Suite 225, Columbia, MD 21046
Phone: 410-996-0099 Fax: 410-996-1038



PROFESSIONAL CERTIFICATION
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 15222, EXPIRATION DATE 01/04/2015.

PROJECT:

**FAIRWAY HILLS GOLF CLUB
DRIVING RANGE IMPROVEMENTS
5100 COLUMBIA ROAD
COLUMBIA, MARYLAND 21045**

PROJ. NO.:	14-205-01
DATE:	04/16/2014
SCALE:	AS SHOWN
REVISION:	5/20/14 DPZ 5/8/14
	7/2/14 REG-LINE

SITE PLAN AND DETAILS

H-14

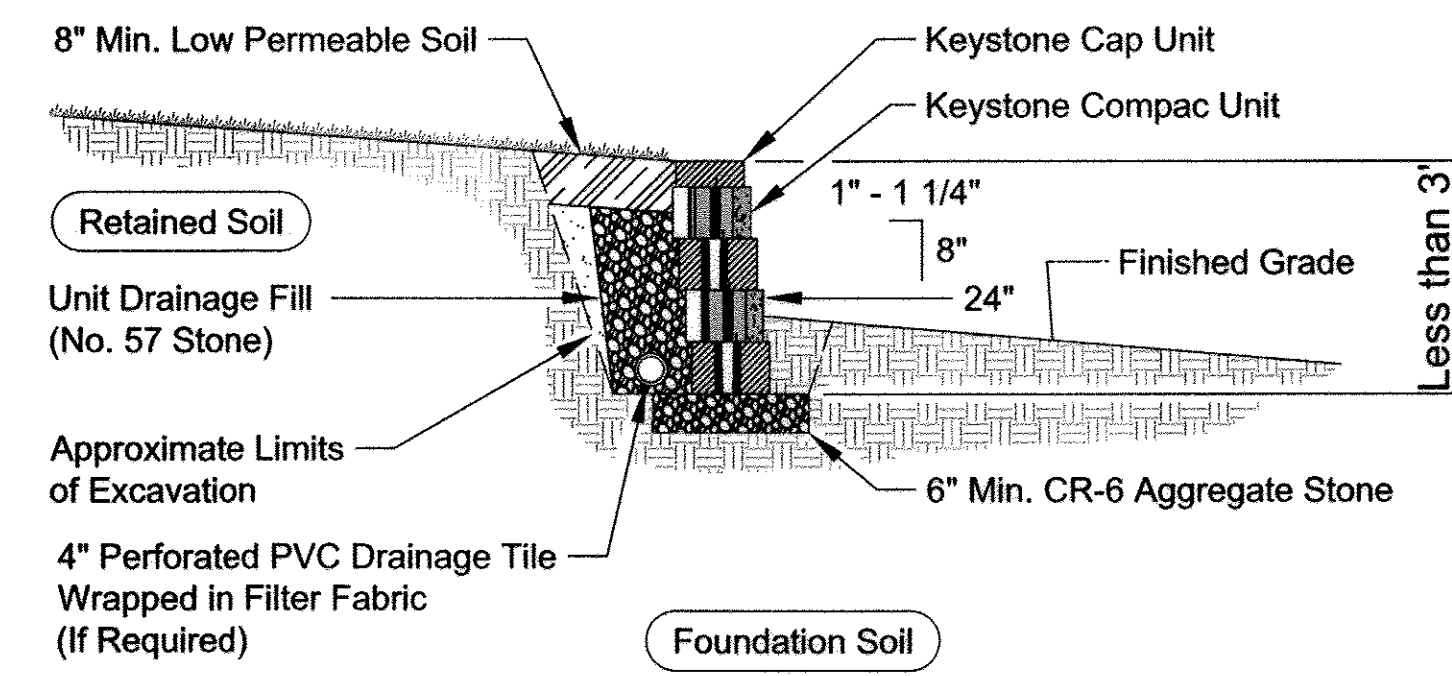
SHEET 56A OF 56

Name	Northing	Easting	Elevation	Description
110	571814.059163	1356485.085520	402.759	DCI-110R&C
111	571591.935942	1356298.619657	397.695	DCI-111R&C

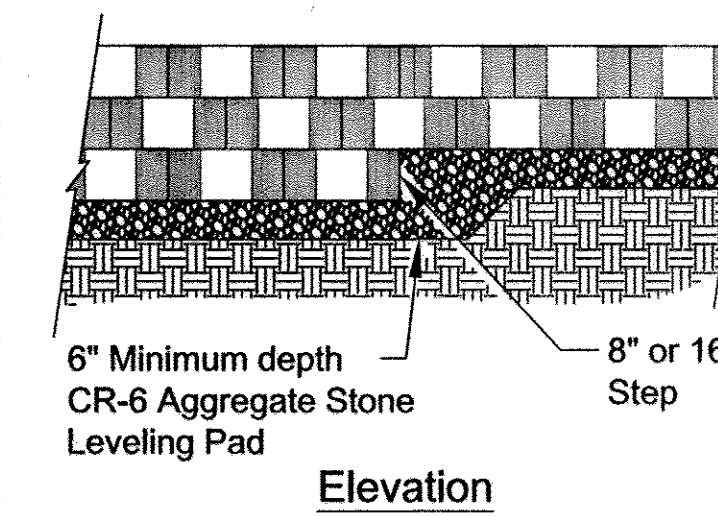
SITE LEGEND	
	PROPOSED RETENTION WALL
	PUTTING AREA EXPANSION
	SILT FENCE
	LIMITS OF DISTURBANCE

GENERAL DEMOLITION NOTES:

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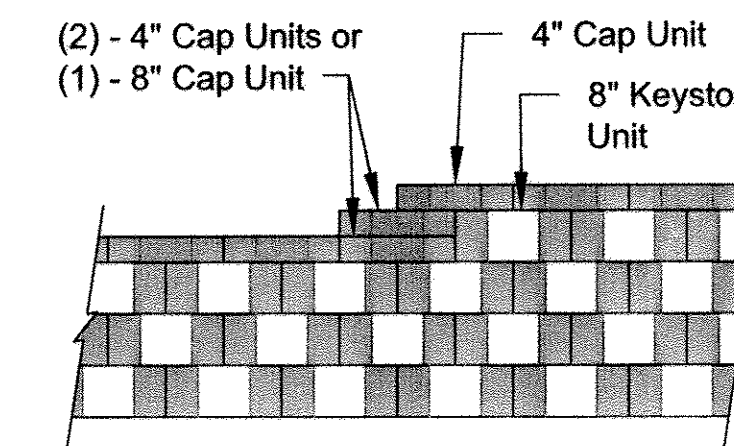
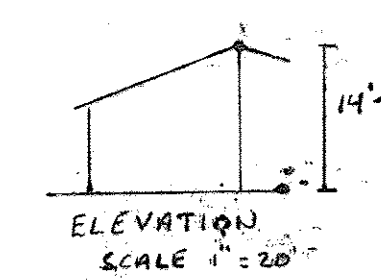
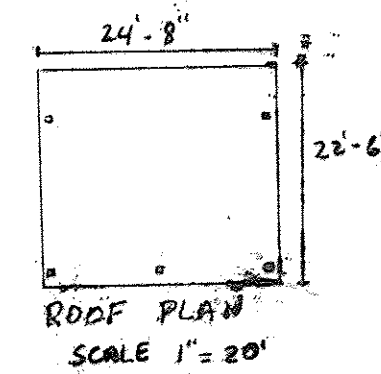


Typical Gravity Wall Section
Compac Unit - 1" Setback



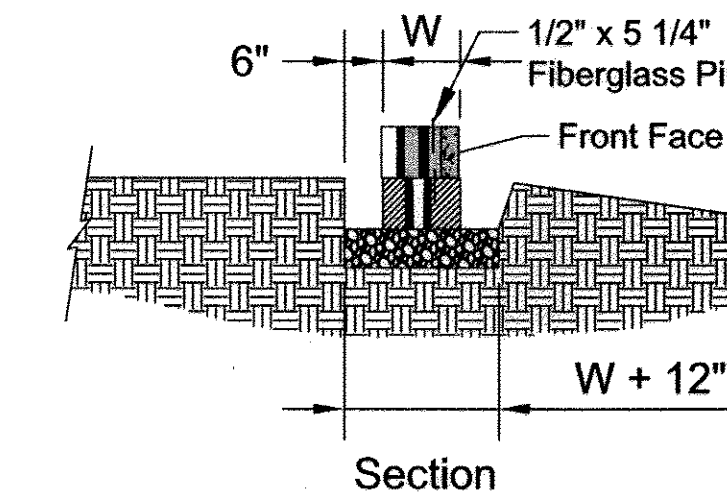
Elevation

Note:
1. The leveling pad is to be constructed of CR-6 Aggregate Stone.

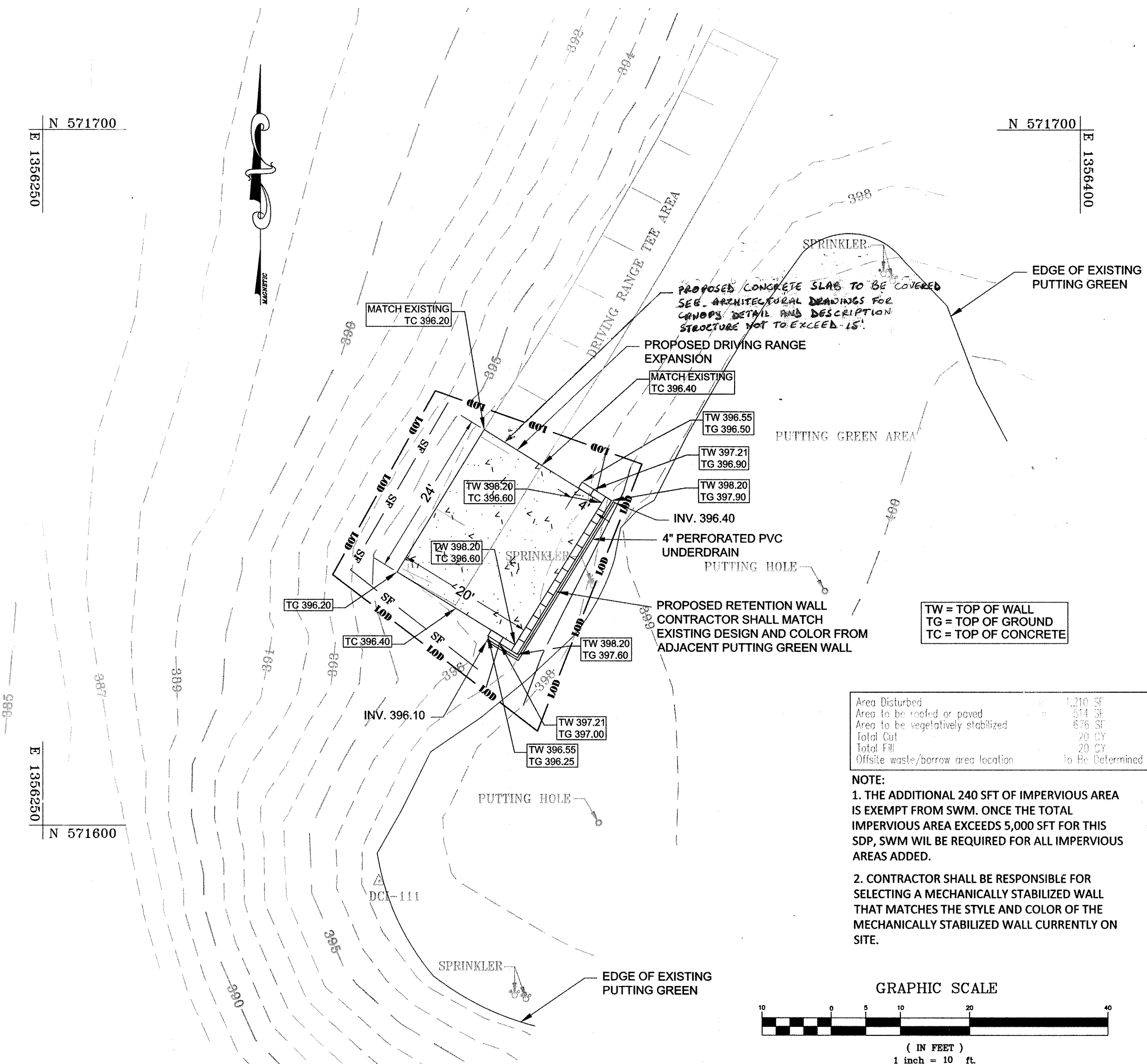


Note:
1. Secure all cap units with Keystone Kapsel or equal.

Top of Wall Steps



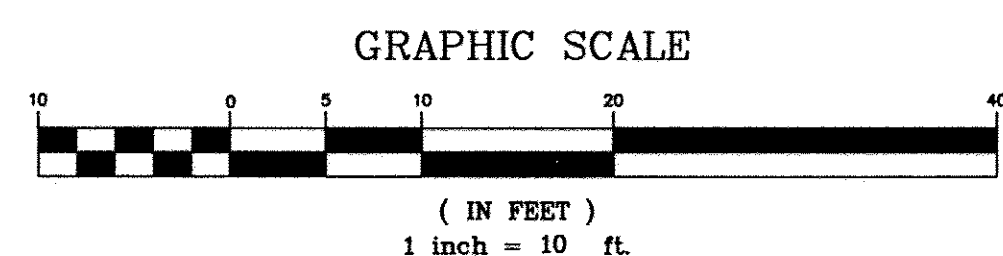
Leveling Pad Detail



TW = TOP OF WALL
TG = TOP OF GROUND
TC = TOP OF CONCRETE

Area Disturbed	1,210 SF
Area to be roofed or paved	514 SF
Area to be vegetatively stabilized	676 SF
Total Cut	20 CY
Total Fill	20 CY
Offsite waste/borrow area location	To Be Determined

NOTE:
1. THE ADDITIONAL 240 SFT OF IMPERVIOUS AREA IS EXEMPT FROM SWM. ONCE THE TOTAL IMPERVIOUS AREA EXCEEDS 5,000 SFT FOR THIS SDP, SWM WILL BE REQUIRED FOR ALL IMPERVIOUS AREAS ADDED.
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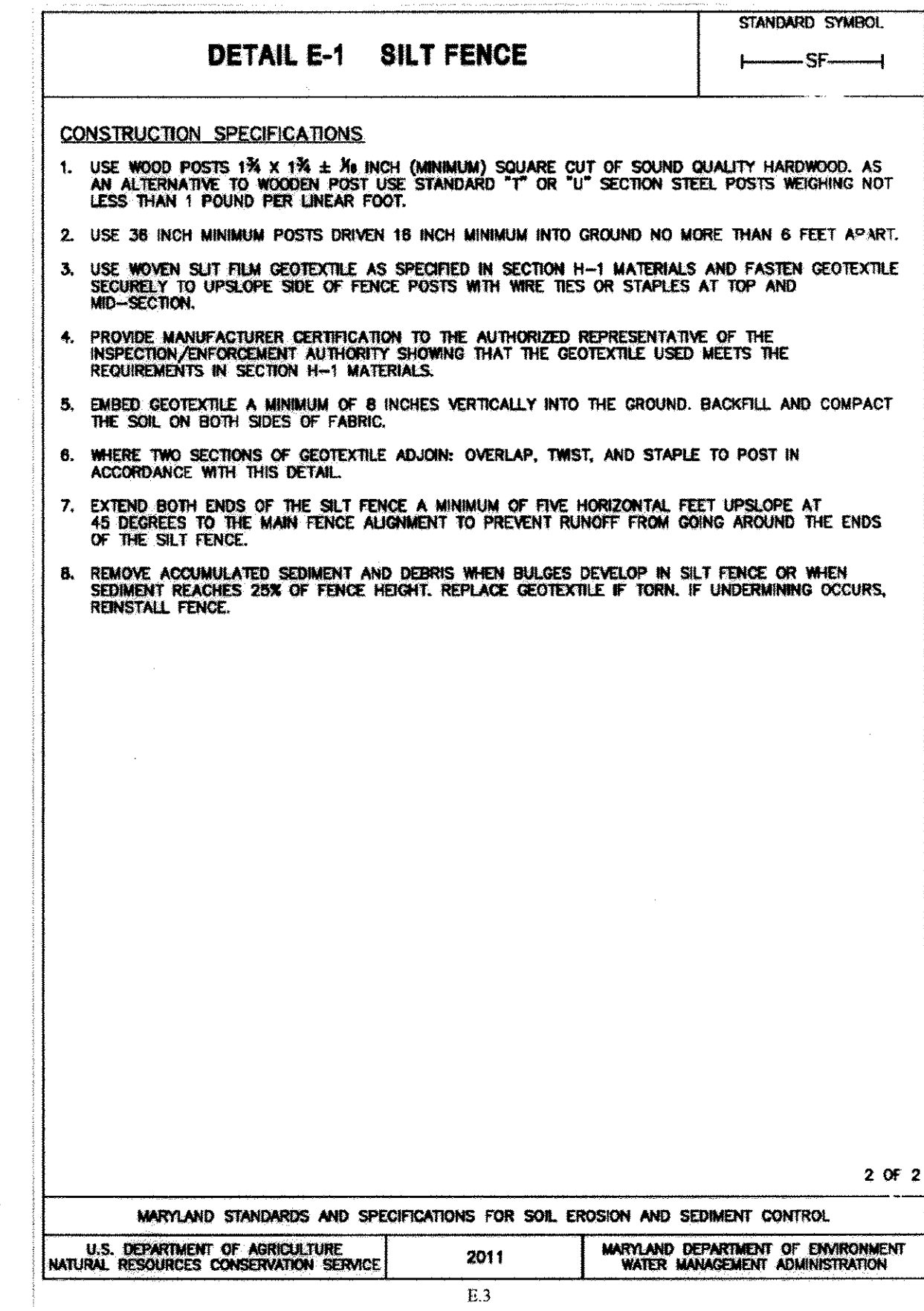
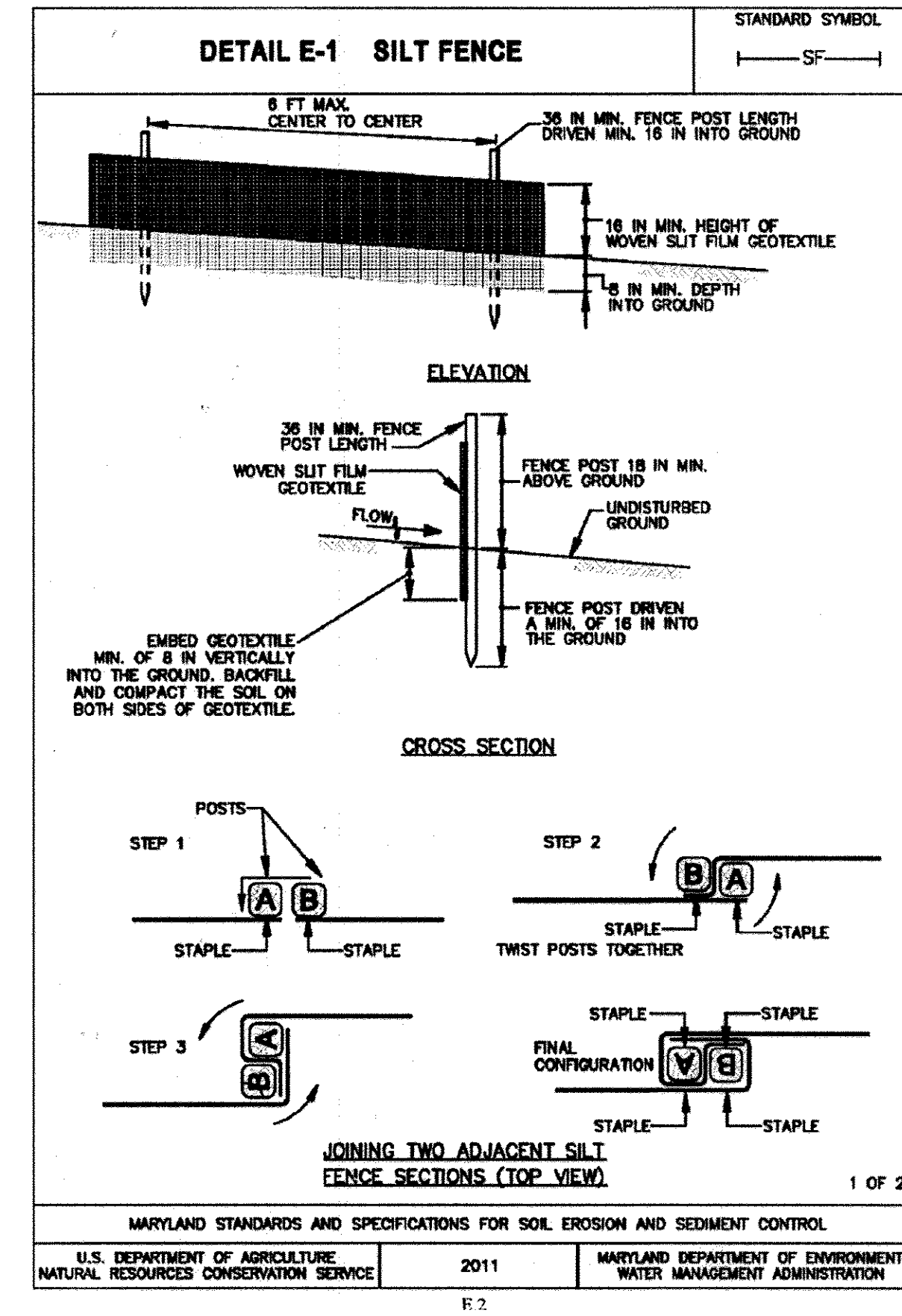


APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chief, Development Engineering Division 7/2/14
Chief, Division of Land Development 7/2/14
Director 7/2/14

OWNER:
COLUMBIA PARKS AND RECREATION ASSOCIATION
9861 BROKEN LAND PARKWAY, SUITE 300
COLUMBIA, MD 21045

SUBDIVISION NAME VWL 9/3, LOT 39 VWL 9/4, LOTS 33&35, TC, 9/1, LOT 30 & VDS, 3/1 LOTS 1, 2 & 4		SECTION / AREA 9/3, 9/4, 9/1 & 3/1		LOT/PARCEL LOTS 1, 2, 3, 33, 39 & 55	
PLAT	BLOCK	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR
	8, 9, 10, 14, 15	NT-O.S. & COMM.	30	51 h	6054
WATER CODE			SEWER CODE		

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 12/27/17
 FOR REV 1 ONLY



gba
gant-brunnett
ARCHITECTS
15 West Mulberry Street
Baltimore, Maryland 21201-4406
Telephone Number: 410-234-8444

PROFESSIONAL CERTIFICATION
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DAILY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 6581, EXPIRATION DATE 05/23/2015.

(C) GANT BRUNETT ARCHITECTS
ALL REPRODUCTION IS PROHIBITED

CONSULTANTS:
DCI
DANIEL CONSULTANTS INC.
CONSULTING ENGINEERS AND PLANNERS
950 Rt. 108 E., Suite 229, Columbia, MD 21045
Phone: 410-995-0900 Fax: 410-995-0308



PROFESSIONAL CERTIFICATION
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DAILY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 15222, EXPIRATION DATE 01/04/2015.

PROJECT:

FAIRWAY HILLS GOLF CLUB
DRIVING RANGE IMPROVEMENTS
5100 COLUMBIA ROAD
COLUMBIA, MARYLAND 21045

PROJ. NO:	14-205-01
DATE:	04/16/2014
SCALE:	AS SHOWN
REVISION:	5/20/14 DPZ 5/8/14
	7/18/14 REV LINE
	12/20/17 REVISE SHEET NUMBER

SITE PLAN AND DETAILS

H-14

SHEET 57 OF 61

SEDIMENT CONTROL NOTES

- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter control, dikes, silt fences, perimeter slopes and all slopes greater than 3 horizontal to 1 vertical (3H:1V), and seven (7) calendar days as to all other disturbed areas on the project site, except for those areas under active grading.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for Topsoil (Sec. B-4-3), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulch (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground stabilizer is applied immediately (Sec. B-4-1) specifications shall be enforced in areas with 1/8" of cut and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 ft. must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6).
- 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 CID.

- Site Analysis:
- Total Area of Site: 0.100 Acres
 - Area Disturbed: 3,414 SQ. FT. or 0.082 Acres
 - Area to be roofed or paved: 0.017 Acres
 - Area to be vegetatively stabilized: 0.234 Acres
 - Total Cut: 26,000 CY
 - Total Fill: 500 CY
6. Any sediment control practice that is distributed by grading activity for permanent stabilization shall be repaired on the same day of disturbance.
7. Additional sediment control must be provided, if deemed necessary by the CID. The site and all activities shall be inspected by the contractor weekly and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include:
- Inspection type (routine, pre-storm event, during rain event).
 - Name and title of inspector.
 - Weather information (current conditions as well as time and amount of last recorded precipitation).
 - Brief description of project's status (e.g. percent complete).
 - Order current activities.
 - Evidence of sediment discharges.
 - Identification of plan deficiencies.
 - Identification of sediment controls that require maintenance.
 - Identification of missing or improperly installed sediment controls.
 - Compliance status regarding the sequence of construction and stabilization requirements.
 - Photographic.
 - Maintaining/cleaning.
 - Maintenance and/or corrective action performed.
 - Other inspection items required by the General Permit for Stormwater Associated with Construction Activities (NPDES, TMDL).

8. Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter.
9. Any major changes or revisions to the sequence of construction must be reviewed and approved by the CID prior to proceeding with construction. Minor revisions may be approved by the CID per the list of HSCD-approved field changes.
10. Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the CID, no more than 30 acres cumulatively may be disturbed at a given time.
11. Wash water from any equipment, vehicles, wheelbar, pavement, and other sources must be treated in a sediment basin or other approved washout structure.
12. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.
13. All silt fence and silt fence shall be placed on-the-contour, and be installed at 25' minimum intervals, with lower ends curled uphill by 2' in elevation.
14. Stream channels must not be disturbed during the following restricted time periods (inclusive):
- Use I and IP March 1 - June 15
 - Use III and IIP October 1 - April 30
 - Use IV March 1 - May 31
15. A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.
16. Earthwork quantities are solely for the purpose of calculating fees.
17. Contractor to verify all quantities prior to the start of construction.
18. To be determined by contractor, with pre-approval of the Sediment Control Inspector, with an approved and active grading permit.

GENERAL NOTES:

- Topographic survey provided by NJR Associates.
- Proposed Limits of Disturbance = 3,966 S.F.
- Structural Wall Design by Geolob.

NOTE:
 THE LOD OF 1,800 SQ.-FT. IS EXEMPT FROM PROVIDING SWM AS IT IS LESS THAN 5,000 SQ.-FT. ANY FUTURE MODIFICATIONS WHERE THE CUMULATIVE LOD EXCEEDS 5,000 SQ.-FT. THEN SWM SHALL BE PROVIDED. CURRENT CUMULATIVE TOTAL EXEMPTION STANDS AT 2,040 SQ.-FT.



- CONSTRUCTION SPECIFICATIONS**
- USE WOOD POSTS 1 1/2" x 1 1/2" x 1/2" INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD, AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
 - USE 3/8 INCH MINIMUM POSTS DRIVEN 18 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
 - USE WOVEN SILT FENCE GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
 - PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
 - EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND, BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
 - WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
 - EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
 - REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT, REPLACE GEOTEXTILE IF TORN, IF UNDERMINING OCCURS, REINSTALL FENCE.

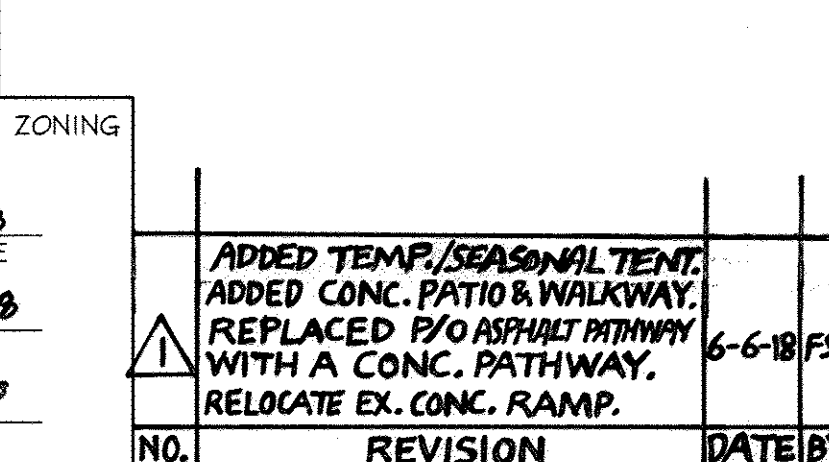
NO.	REVISION	DATE	BY
1	ADDED TEMP./SEASONAL TENT, ADDED CONC. PATIO & WALKWAY, REPLACED P/O ASPHALT PATHWAY WITH A CONC. PATHWAY, RELOCATE EX. CONC. RAMP.	6-6-18	FSH
		7/20/18	
			FOR REV. 1 ONLY

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Ed Edman, CHIEF, DEVELOPMENT ENGINEERING DIVISION, DATE 1-2-18

T. Mearns, CHIEF, DIVISION OF LAND DEVELOPMENT, DATE 1-11-18

William J. [Signature], DIRECTOR, DATE 1-11-18



OWNER/DEVELOPER: Columbia Association, Inc., 6310 Hillside Court, Suite 100, Columbia, Maryland 21046

PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. #22418, Expiration Date: 07/29/2019.

DESIGN BY: CRH2, DRAWN BY: CRH2, CHECKED BY: ZYF, SCALE: 1" = 10', DATE: Dec. 14, 2017, W.O. No.: SHEET No. 58 OF 61

FSH Associates, Engineers Planners Surveyors, 6339 Howard Lane, Elkridge, MD 21075, Tel: 410-587-5200, Fax: 410-796-1562, E-mail: info@fsher.com

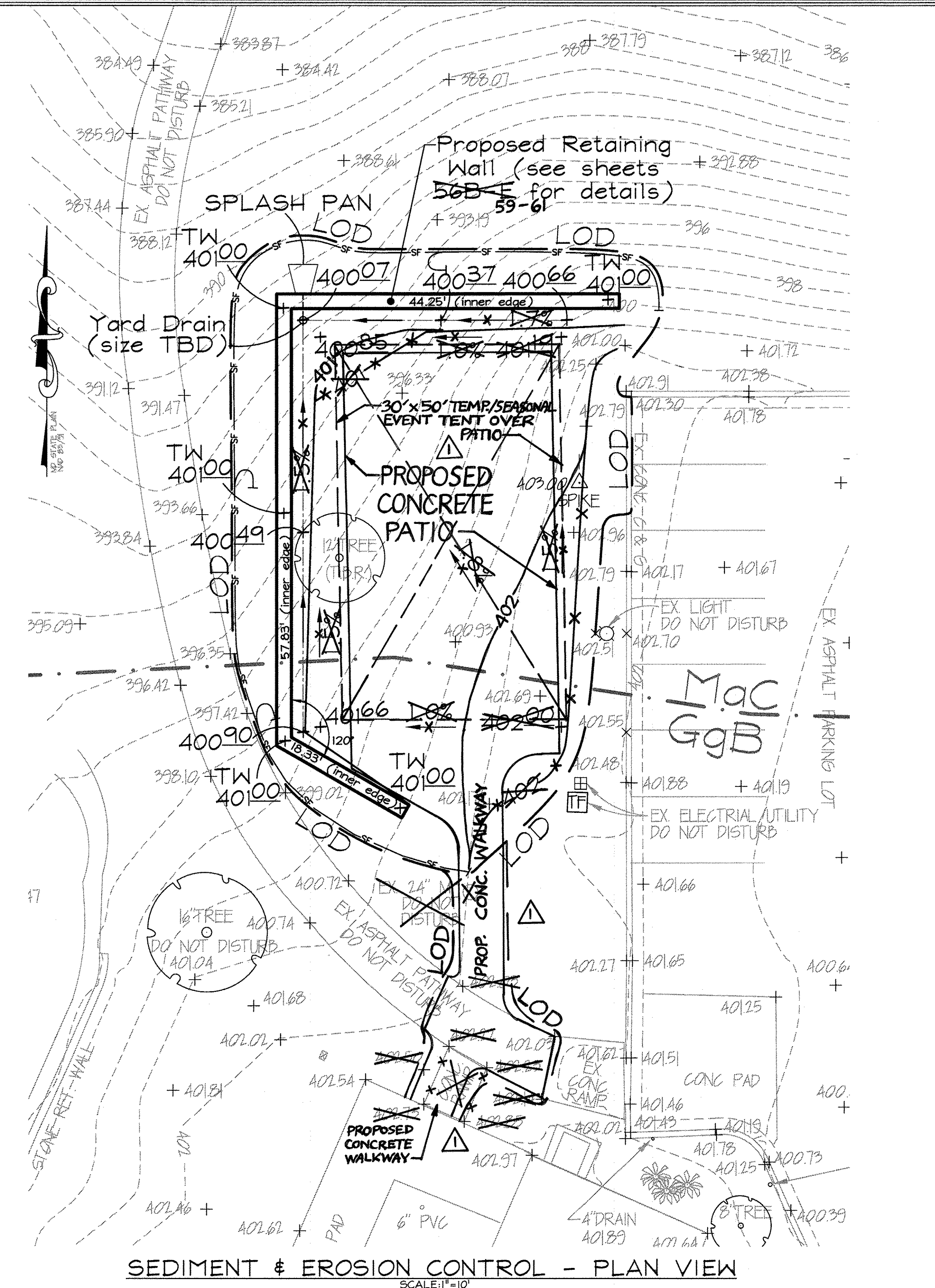
SDP-92-104

SOILS LEGEND

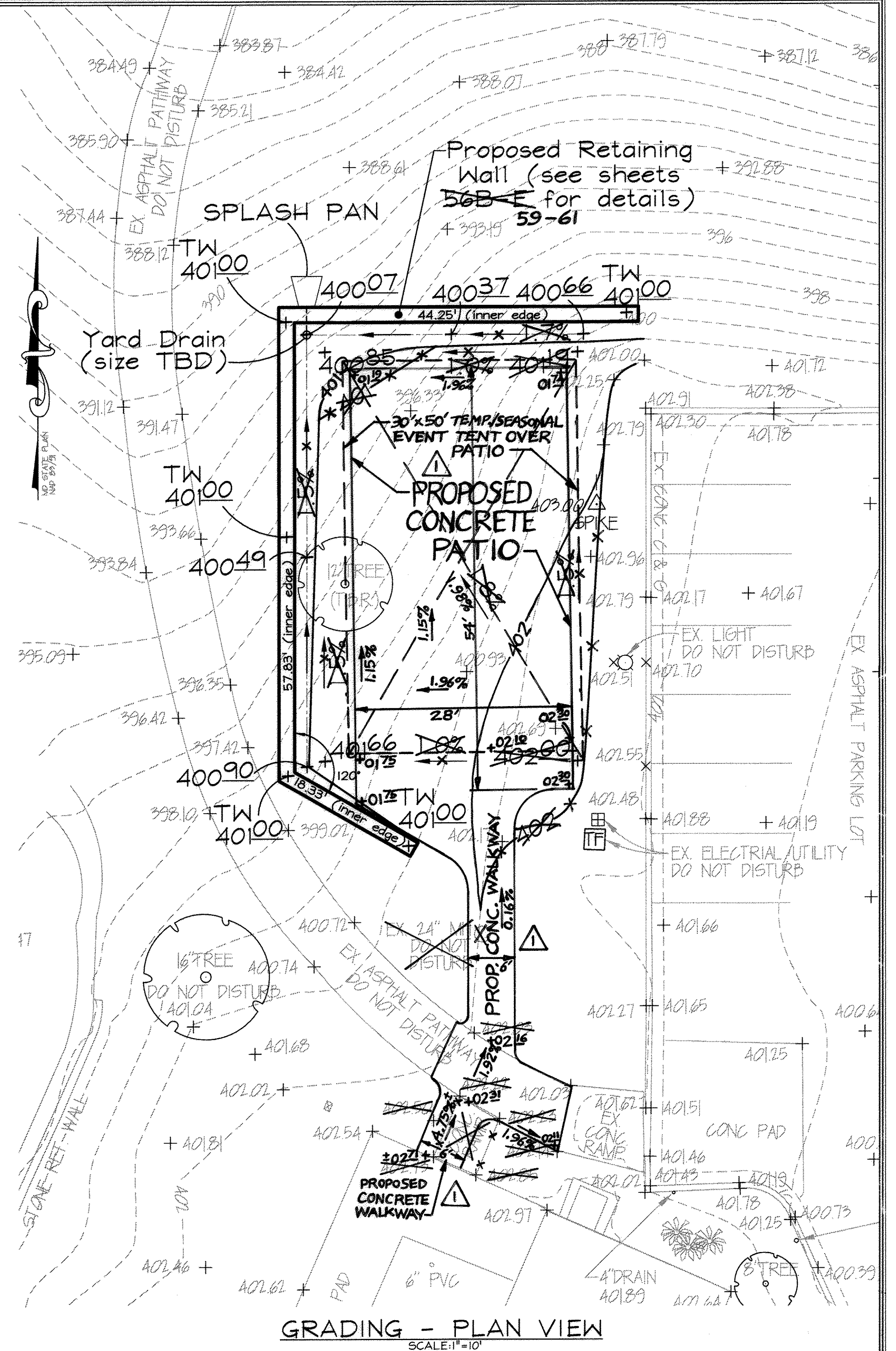
SYMBOL	NAME / DESCRIPTION	SOIL GROUP
GgB	Glenelg loam, 3 to 8 percent slopes	B
Mac	Major loam, 8 to 15 percent slopes	B

LEGEND

- Existing Contour: - - - - - 382
- Proposed Contour: ——— 382
- Existing Spot Elevation: + 387.94
- Existing Tree: (Symbol)
- Limits of disturbance: - - - - - LOD
- Silt Fence: ——— SF
- Proposed Spot Elevation: + 52.26
- Soils Line & Label: Mac



SEDIMENT & EROSION CONTROL - PLAN VIEW
 SCALE: 1"=10'



GRADING - PLAN VIEW
 SCALE: 1"=10'

PURPOSE STATEMENT
 The purpose of this plan is to provide a grading and sediment control plan and details for the construction of a retaining wall.

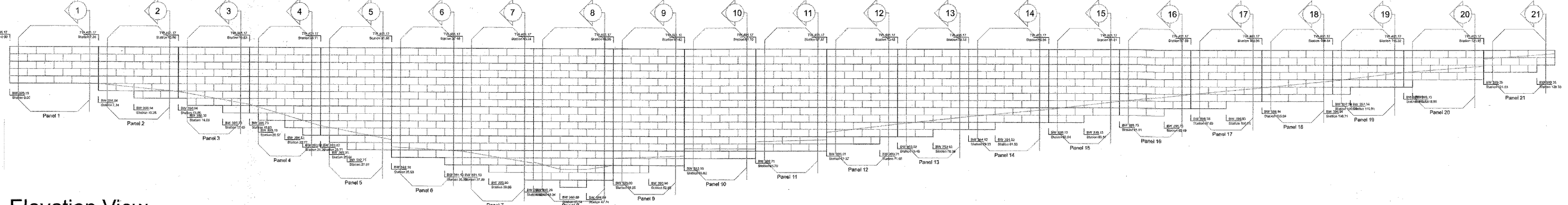
REVISED SITE DEVELOPMENT PLAN
RETAINING WALL GRADING AND
SEDIMENT & EROSION CONTROL PLAN
FAIRWAY HILLS GOLF COURSE
 PLAT #6738

TAX MAP 30 GRID 9 PARCEL 397
 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DESIGN BY: CRH2
 DRAWN BY: CRH2
 CHECKED BY: ZYF
 SCALE: 1" = 10'
 DATE: Dec. 14, 2017
 W.O. No.:
 SHEET No. 58 OF 61

FSH Associates
 Engineers Planners Surveyors
 6339 Howard Lane, Elkridge, MD 21075
 Tel: 410-587-5200 Fax: 410-796-1562
 E-mail: info@fsher.com

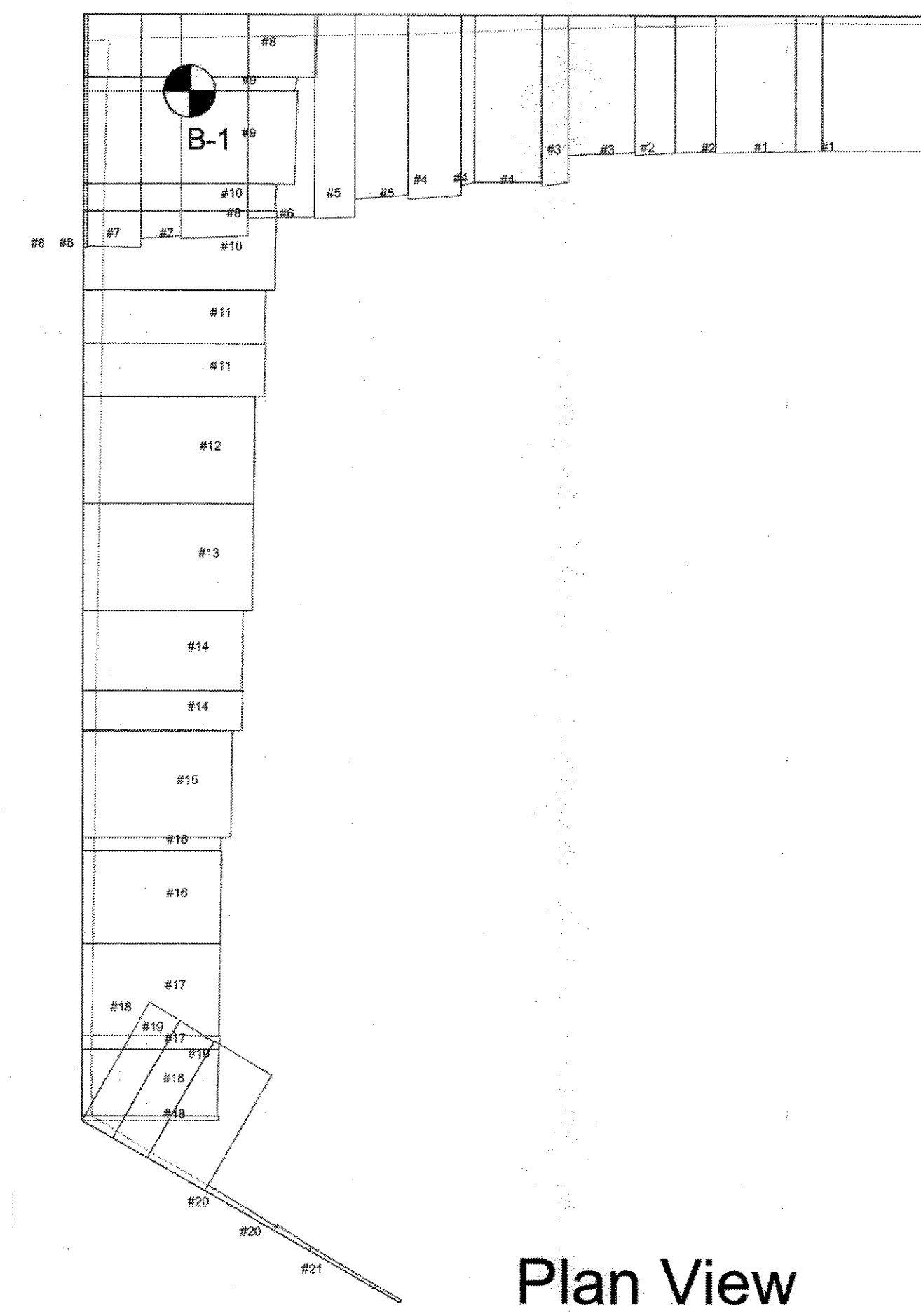
SDP-92-104



Elevation View

Note: Panel Sections cover the total over all height of each panel. See individual panel section drawings for geogrid strength and lengths, wall surcharge and slope above information.

Elevation Scale - 1:4



Plan View

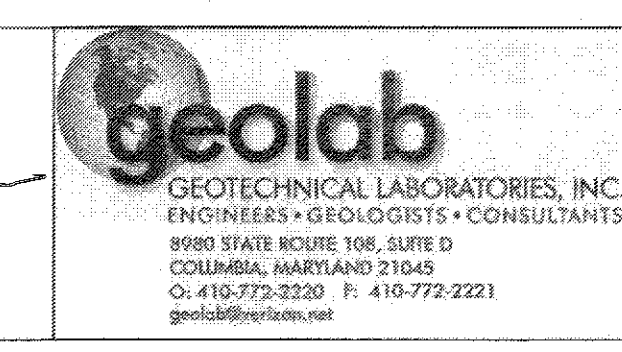
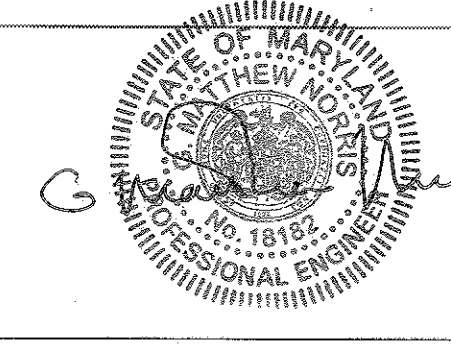
Section #	Begin Sta.	End Sta.	Geogrid Info		Elevations					
			Qty	Length	Start of Section			End of Section		
					BW	Grade	TW	BW	Grade	TW
1	0	7.3	1	Top: 7'	398.15	399.65	401.17	397.54	398.87	401.17
			1	4'						
2	7.3	14	1	Top: 7'	397.54	398.87	401.17	396.94	397.64	401.17
			2	4'						
3	14	19.3	1	Top: 7'	396.94	397.64	401.17	395.73	396.43	401.17
			3	4'						
			4	4'						
4	19.3	25.7	1	Top: 8.5'	395.73	396.43	401.17	393.92	395.12	401.17
			4	5.5'						
5	25.7	31.6	1	Top: 9'	393.92	395.12	401.17	392.71	393.51	401.17
			5	6'						
6	31.6	37.5	1	Top: 10'	392.71	393.51	401.17	391.50	392.71	401.17
			6	7'						
7	37.5	43.3	2	Top: 11'	391.50	392.71	401.17	390.29	391.79	401.17
			6	8'						
			7	8'						
8	43.3	49.9	2	Top: 11.5'	390.29	391.79	401.17	389.69*	391.00	401.17
			7	8.5'						
			2	Top: 10.5'	390.90	392.00	401.17	392.10	392.71	401.17
9	49.9	55.8	6	7.5'						
			1	Top: 9.5'	392.10	392.71	401.17	392.71	393.70	401.17
			6	6.5'						
10	55.8	61.7	1	Top: 9'	392.71	393.70	401.17	393.31	394.30	401.17
			5	6'						
			1	Top: 8.5'	393.31	394.30	401.17	393.92	395.20	401.17
11	61.7	67.6	5	5.5'						
			1	Top: 8.5'	393.92	395.20	401.17	394.52	395.80	401.17
			4	5.5'						
12	67.6	73.4	1	Top: 8'	394.52	395.80	401.17	395.13	396.40	401.17
			4	5'						
			1	Top: 7.5'	395.13	396.40	401.17	395.73	397.00	401.17
13	73.4	79.3	3	4.5'						
			1	Top: 7'	395.73	397.00	401.17	396.33	397.80	401.17
			3	4'						
14	79.3	85.9	1	Top: 7'	396.33	397.80	401.17	396.94	397.94	401.17
			2	4'						
			1	Top: 7'	396.94	397.94	401.17	397.54	398.54	401.17
15	85.9	91.8	2	4'						
			1	Top: 7'	397.54	398.54	401.17	398.15	399.55	401.17
			1	4'						
16	91.8	97.7	1	Top: 7'	397.54	398.54	401.17	398.15	399.55	401.17
			1	4'						
17	97.7	103.6	1	Top: 7'	398.15	399.55	401.17	399.35	400.35	401.17
			2	4'						
			1	Top: 7'	399.35	400.35	401.17	399.96	401.00	401.17
18	103.6	109.4	1	Top: 7'	399.35	400.35	401.17	399.96	401.00	401.17
			1	4'						
19	109.4	115.3	1	Top: 7'	399.35	400.35	401.17	399.96	401.00	401.17
			1	4'						
20	115.3	121.9	-	-	398.15	399.55	401.17	399.35	400.35	401.17
			-	-	399.35	400.35	401.17	399.96	401.00	401.17
21	121.9	127.8	-	-	398.15	399.55	401.17	399.35	400.35	401.17
			-	-	399.35	400.35	401.17	399.96	401.00	401.17

*The base (leveling pad) for all sections is 2.0 feet wide and 0.5 feet thick. The first course of block will be set 0.6 feet from front edge of base.

* Wall rock will extend no less than 12 inches behind the block to a height of one course below the top of the wall.

Prepared by:
Geotechnical Laboratories
8980 Route 108, Suite D
Columbia, Maryland 21045
(P) 410-772-2220
(F) 410-772-2221

Professional Certification:
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No.: 18182 Expiration Date: 3/12/2019



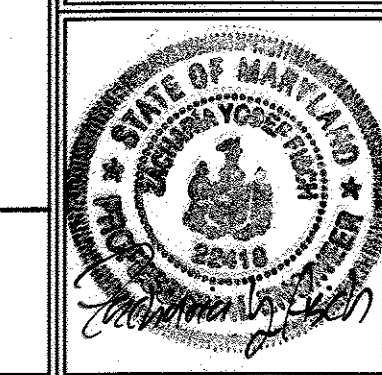
Prepared for:
Mr. Jeff Clark
Hometown Landscape
P.O. Box 4727,
Silver Spring, MD 20914

Title: **Wall Design**
Retaining Wall
Fairway Hills Golf Course
5100 Columbia Road
Columbia, Howard County, Maryland

Designed By: BJJ Date: 9/7/2017
Reviewed By: GMN Project No.: 117-105
Drafted By: BJJ Sheet No.:
Scale: As Noted

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chief, Development Engineering Division 1-2-18
J. Maerzke, Esq. 1-11-18
Director 1-11-18

OWNER/DEVELOPER
Columbia Association, Inc.
6310 Hillside Court, Suite 100
Columbia, Maryland 21046

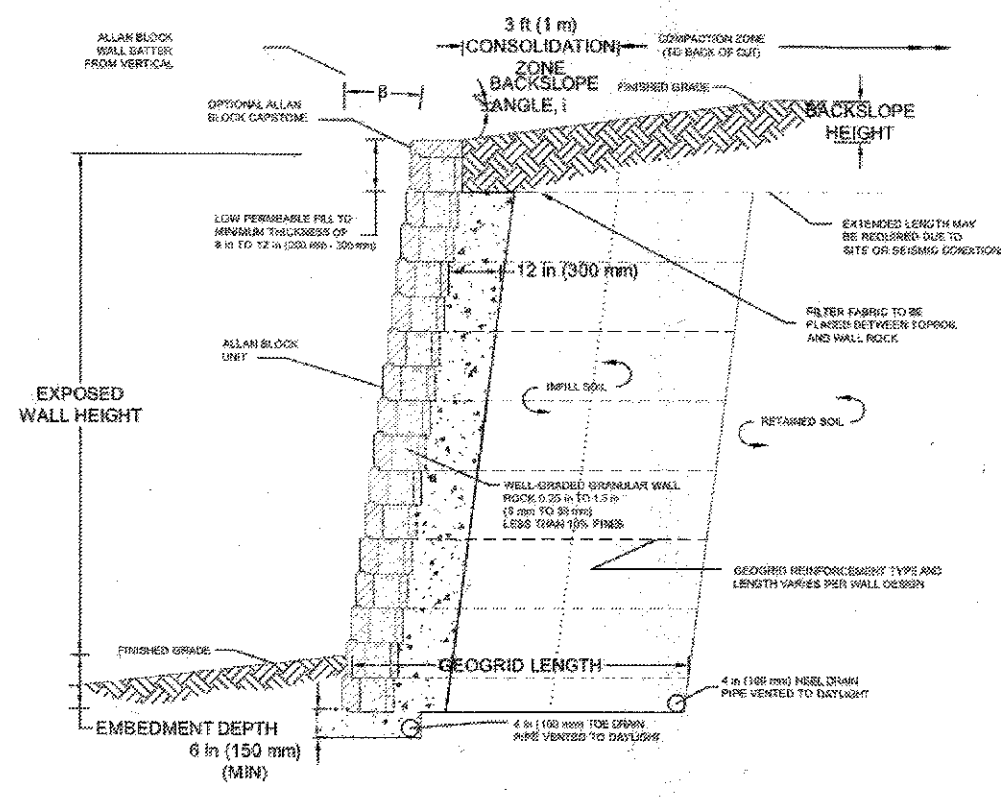


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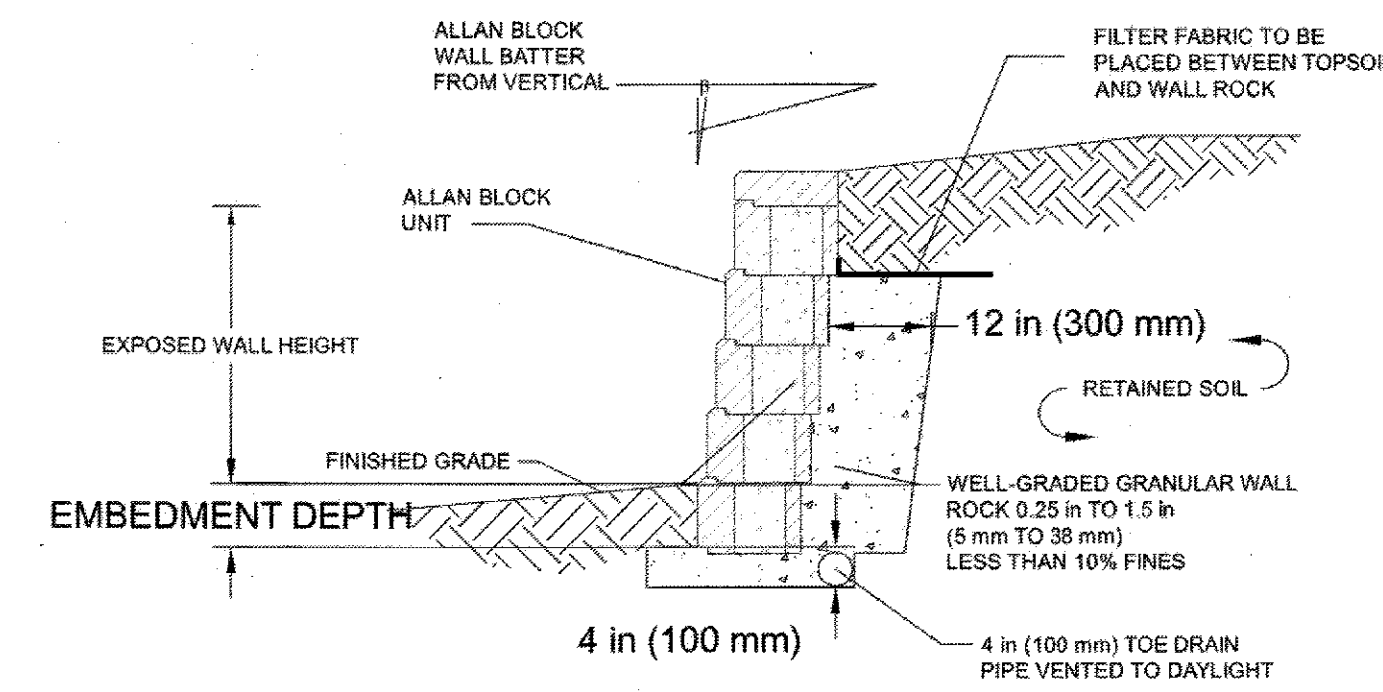
DESIGN BY: CRH2
DRAWN BY: CRH2
CHECKED BY: ZYF
SCALE:
DATE: Dec. 14, 2017
W.O. No.:
SHEET No.: 59 OF 61

PURPOSE STATEMENT
The purpose of this plan is to provide retaining wall construction plans, details, and notes for the construction of a retaining wall. Structural retaining wall design by Geolab Geotechnical Laboratories, Inc.

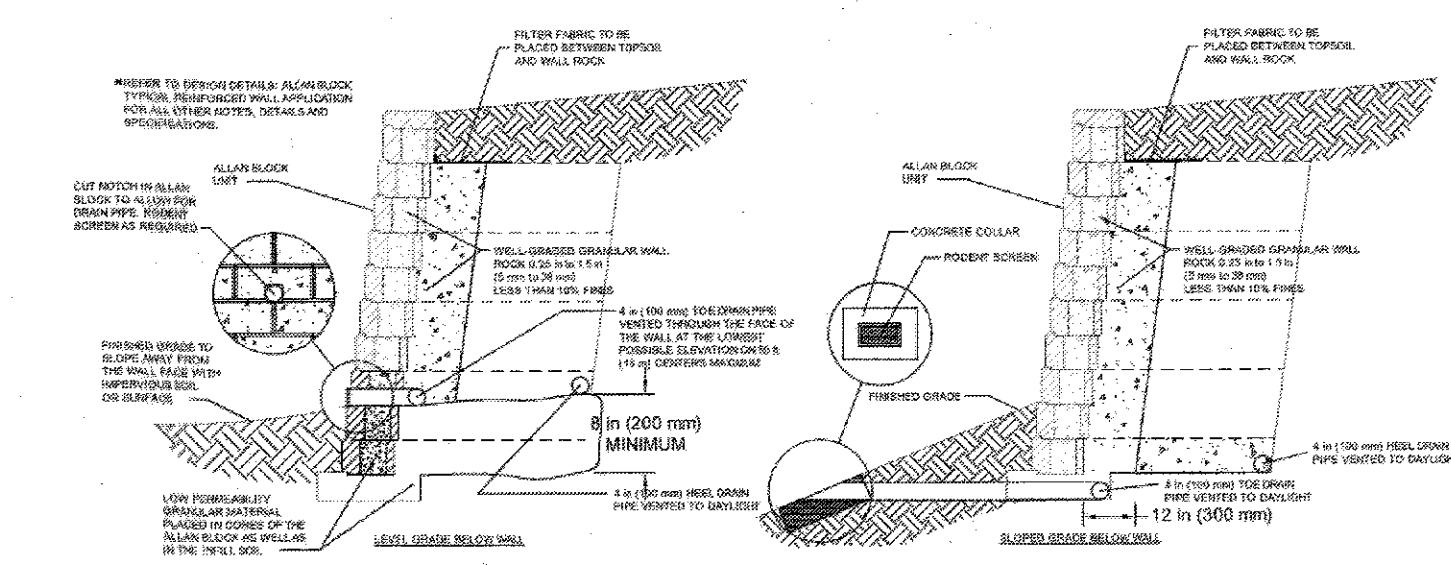
REVISED SITE DEVELOPMENT PLAN
RETAINING WALL CONSTRUCTION PLAN
FAIRWAY HILLS
GOLF COURSE
PLAT #6738
TAX MAP 30 GRID 9 PARCEL 397
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND



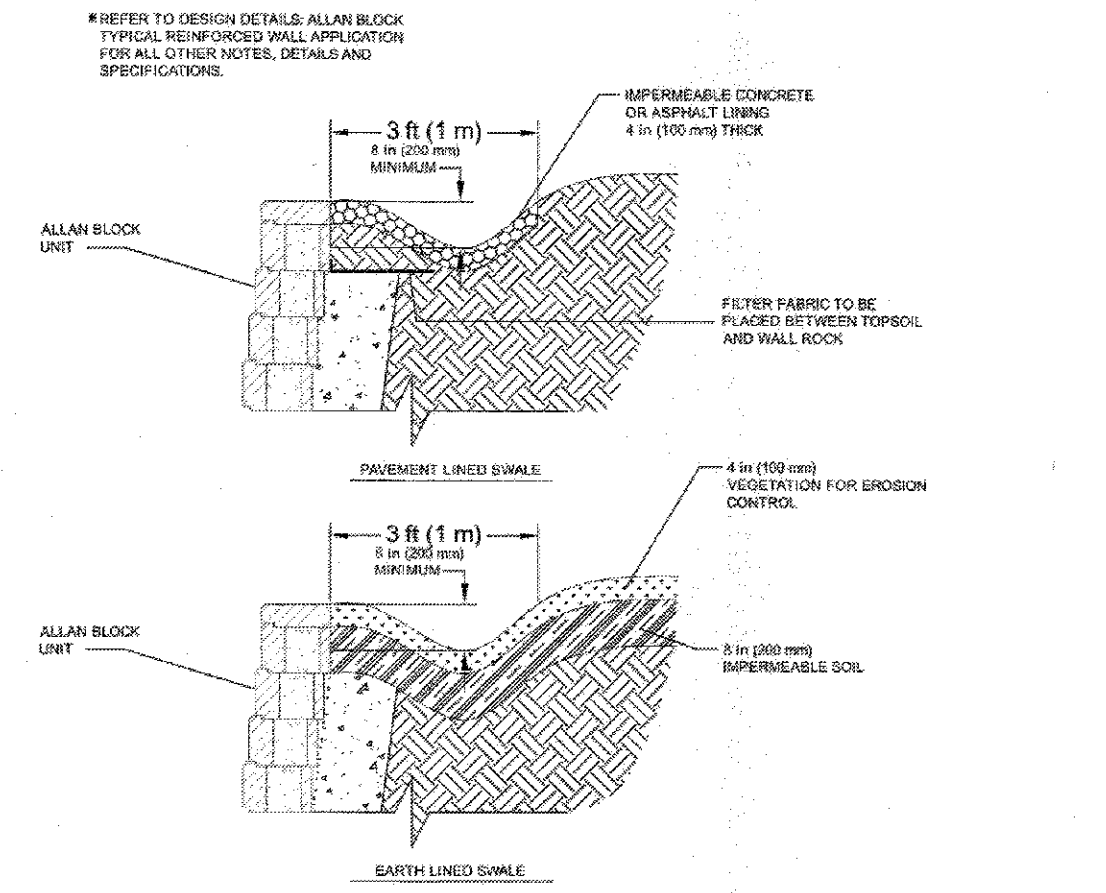
Typical Reinforced Wall Section



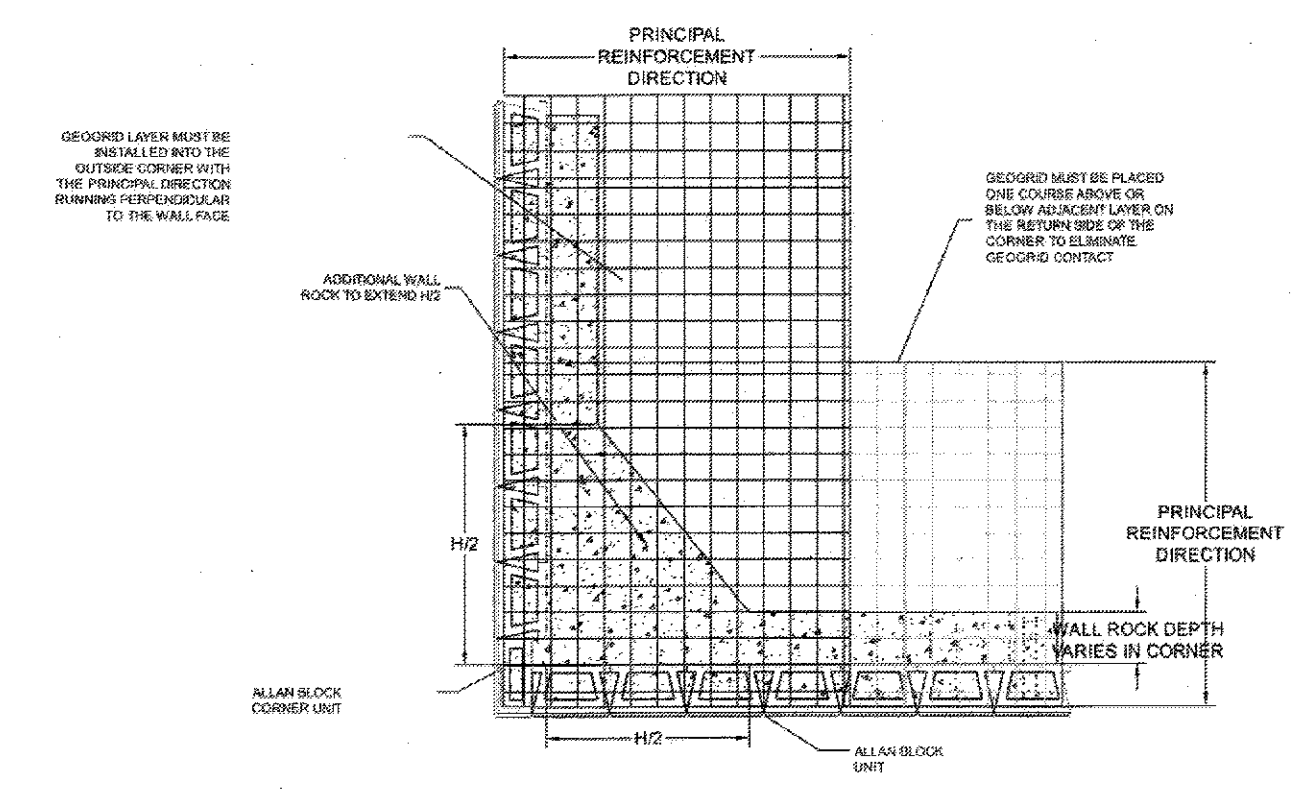
Typical Gravity Wall Section



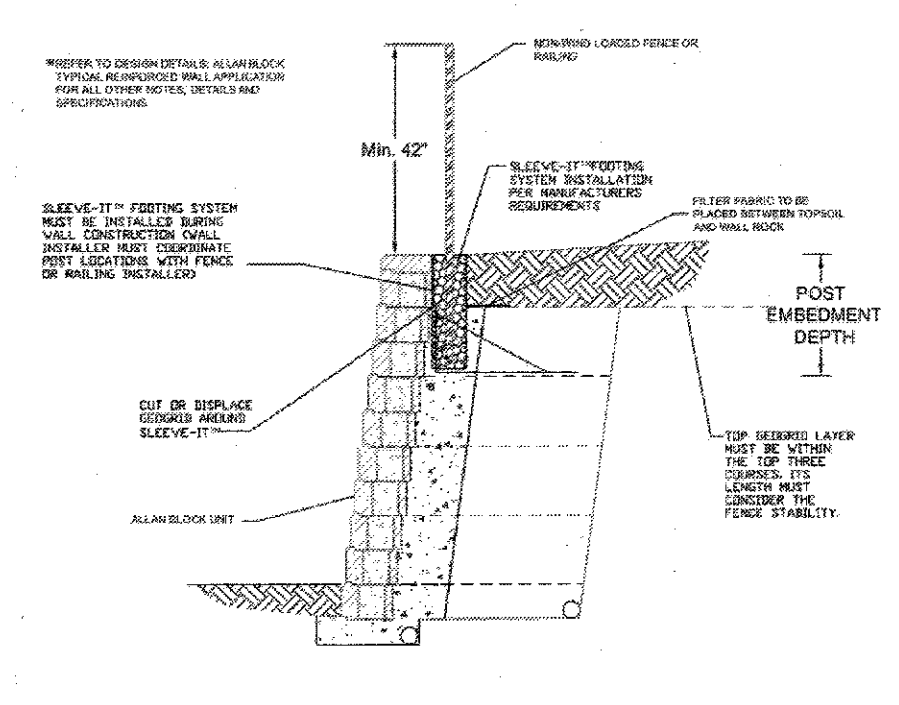
Alternate Drain Wall Sections



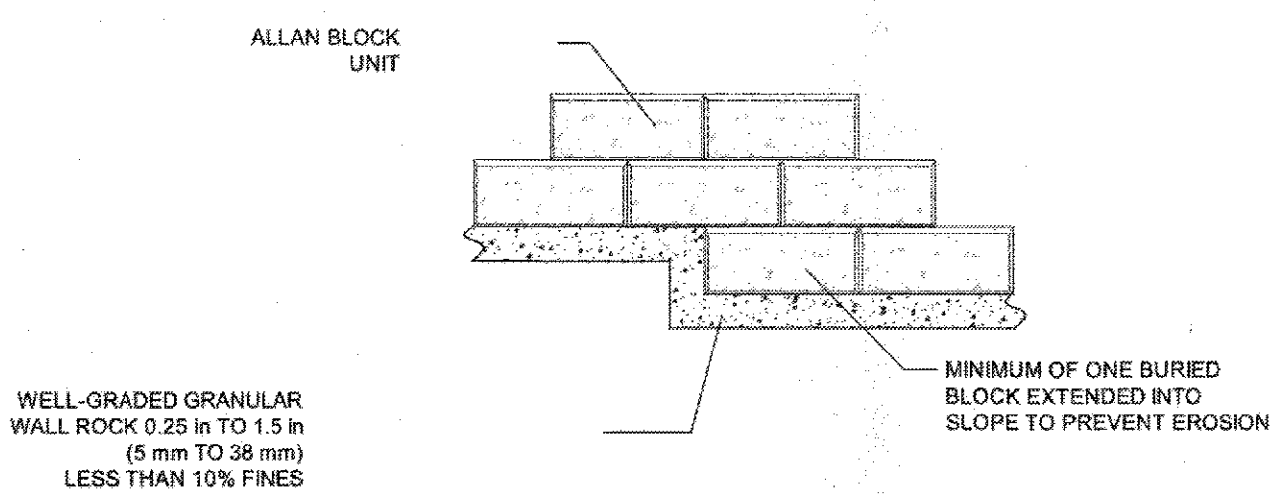
Pavement and Earth Lined Swales



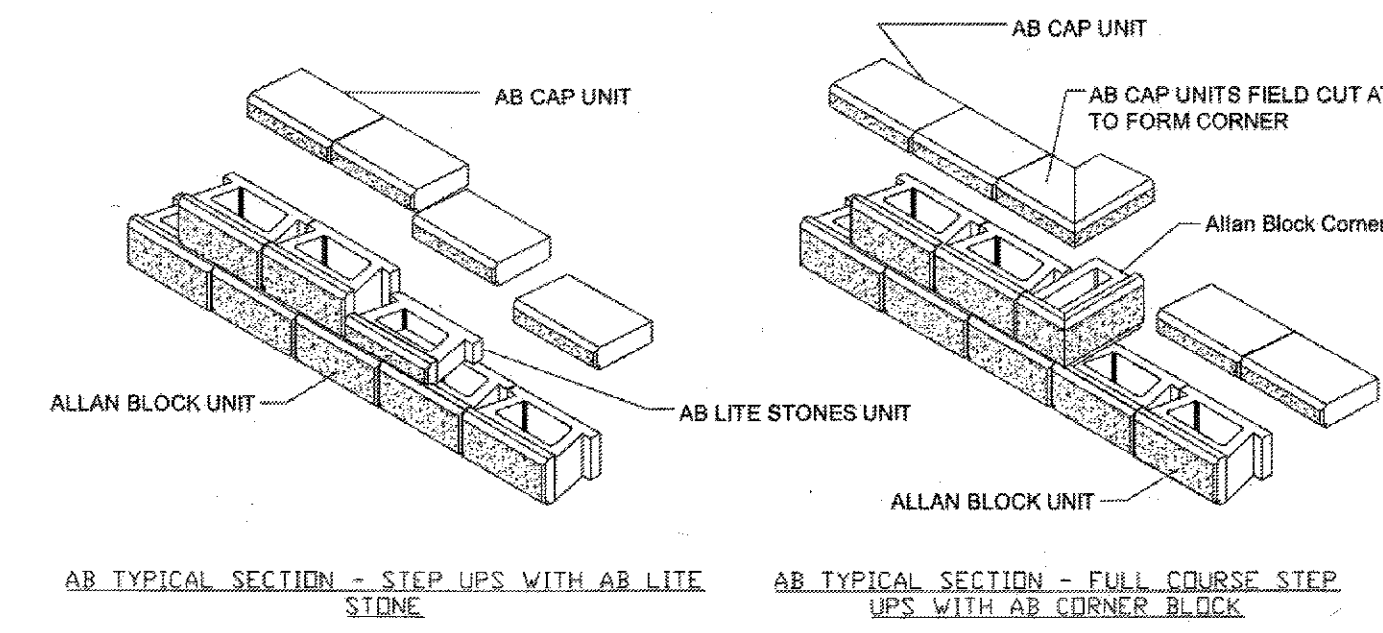
Outside Corner Application



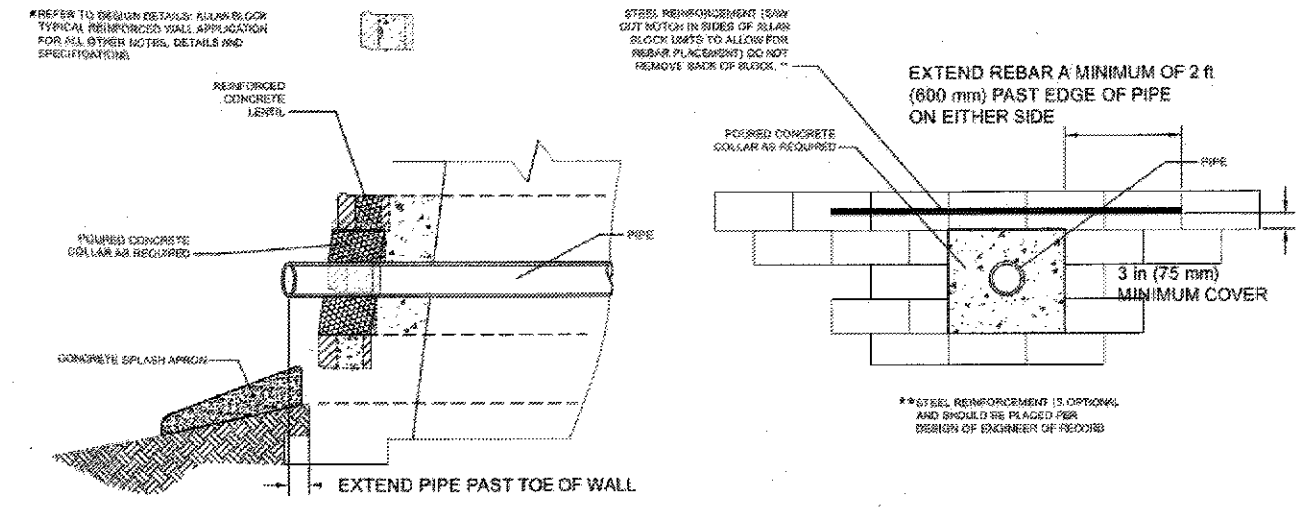
Alternate Fence Footing



Step-up at Base



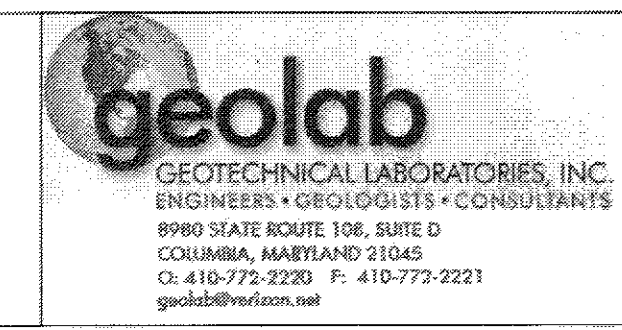
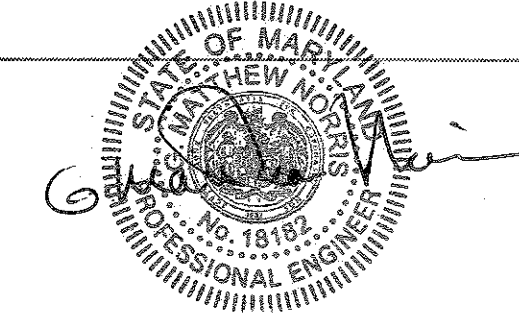
AB Step-up Finishing Details



Storm Pipe Wall Section

Prepared by:
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(F) 410-772-2221

Professional Certification:
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No.: 18182 Expiration Date: 3/12/2019



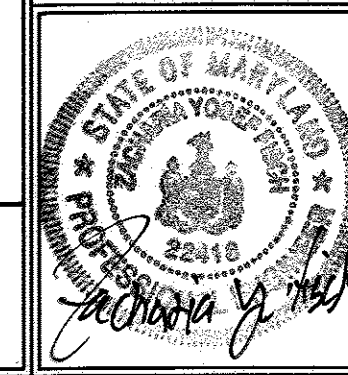
Prepared for:
Mr. Jeff Clark
Hometown Landscape
P.O. Box 4727,
Silver Spring, MD 20914

Title: **Typical Details**
Retaining Wall
Fairway Hills Golf Course
5100 Columbia Road
Columbia, Howard County, Maryland

Designed By: BJL
Date: 9/7/2017
Reviewed By: GMN
Project No.: 117-105
Drafted By: BJL
Sheet No.:
Scale: NTS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
1-2-18 DATE
7-11-18 DATE
1-11-18 DATE

OWNER/DEVELOPER
Columbia Association, Inc.
6310 Hillside Court, Suite 100
Columbia, Maryland 21046



FSH Associates
Engineers Planners Surveyors
6339 Howard Lane, Elkridge, MD 21075
Tel: 410-567-5200 Fax: 410-796-1562
E-mail: info@fsheri.com

DESIGN BY: CRH2
DRAWN BY: CRH2
CHECKED BY: ZTF
SCALE:
DATE: Dec. 14, 2017
W.O. No.:
SHEET No.: 60 OF 61

PURPOSE STATEMENT
The purpose of this plan is to provide retaining wall construction plans, details, and notes for the construction of a retaining wall. Structural retaining wall design by Geolab Geotechnical Laboratories, Inc.

Specification Guidelines: Allan Block Modular Retaining Wall Systems

The following specifications provide Allan Block Corporation's typical requirements and recommendations. At the engineer of record's discretion these specifications may be revised to accommodate site specific design requirements.

SECTION 1: ALLAN BLOCK MODULAR RETAINING WALL SYSTEMS

PART 1: GENERAL

1.1 Scope

Work includes furnishing and installing modular concrete block retaining wall units to the lines and grades designated on the construction drawings and as specified herein.

1.2 Applicable Sections of Related Work

Section 2: Geogrid Reinforcement

1.3 Reference Standards

- A. ASTM C1372 Standard Specification for Segmental Retaining Wall Units.
B. ASTM C1288 Evaluating the Freshness of Manufactured CMAs and Related Concrete Units.
C. ASTM D88 Moisture Density Relationship for Soils, Standard Method.
D. ASTM D422 Gradation of Soil.
E. ASTM C143 Sieves and Testing Cones Masonry Units.

1.4 Delivery, Storage, and Handling

- A. Contractor shall check the materials upon delivery to ensure proper material has been received.
B. Contractor shall prevent excessive mud, cementitious material, and like construction debris from coming in contact with the materials.
C. Contractor shall protect the materials from damage. Damaged material shall not be incorporated in the project (ASTM C1372).

1.5 Contractor Requirements

- A. Contractor shall be bonded by a manufacturer or equivalent accredited organization.
B. Allan Block and NCSA have certification programs that are accredited. Identify what advanced certification levels are appropriate based on complexity and criticality of project application.
C. Contractor shall provide details of all projects they have completed.

PART 2: MATERIALS

2.1 Modular Wall Units

- A. Wall units shall be Allan Block Retaining Wall units as produced by a bonded manufacturer.
B. Wall units shall have minimum 28 day compressive strength of 3000 psi (20.7 MPa) in accordance with ASTM C1372. The concrete units shall have adequate freeze-thaw protection with an average absorption rate in accordance with ASTM C1372 or an average absorption rate of 7.5 lbs (3.4 kg) for northern climates and 10 lbs (4.5 kg) for southern climates.
C. Exterior dimensions shall be uniform and consistent. Maximum dimensional deviations on the height of any two units shall be 0.125 in. (3 mm) for northern climates and 0.187 in. (4.75 mm) for southern climates.
D. Wall units shall provide a minimum of 110 lbs (50 kg) net weight per square foot of wall face area (500 kg/m²). Hollow cores to be filled with rock and compacted by using plate compactor or soil wall units (see Section 3.4). Unit weight of wall rock may be less than 100% depending on compaction levels.
E. Exterior face shall be textured. Color as specified by owner.
F. Freeze Thaw Durability: Like all concrete products, dry-cast concrete SRW units are susceptible to freeze-thaw degradation with exposure to de-icing salts and cold temperatures. This is a concern in northern tier states or countries that use de-icing salts. Based on good performance achieved by several agencies, ASTM C1372 or equivalent governing standard or public authority. Standard Specification for Segmental Retaining Wall Units should be used as a model, except that, to increase durability, the compressive strength for the units should be increased to a minimum of 4,000 - 5,000 psi (28 - 40 MPa) unless local requirements dictate higher levels. Also, maximum water absorption should be reduced and requirements for freeze thaw testing increased.
a. Require a current passing ASTM C 1462 or equivalent governing standard or public authority, test report from material supplier in northern or cold weather climates.
b. See the Allan Block Best Practices for SRW Design document for detailed information on freeze thaw durability testing criteria and regional temperature and exposure severity figures and tables to define the appropriate zone and requirements for the project.

2.2 Wall Rock

- A. Material must be well-graded compactable aggregate, 0.25 in. to 1.5 in., (6.35 - 38 mm) with no more than 10% passing the #20 sieve (ASTM D422).
B. Material behind and within the blocks may be the same material.

2.3 Infill Soil

- A. Infill material shall be site excavated soils when approved by the on-site soils engineer unless otherwise specified in the drawings. Unsuitable soils for backfill (heavy clay or organic soils) shall not be used in the reinforced soil mass. Fine grained cohesive soils with friction angle (φ) less than 31 degrees with a PI range between 6 and 20 and LL from 30 to 40, may be used in wall construction, but additional bedding, compaction and water management efforts are required. Poorly graded sands, expansive clay soils and soils with a plasticity index (PI) greater than 20 or a liquid limit (LL) greater than 40 should not be used in wall construction.
B. The infill soil used must meet or exceed the designed friction angle and description noted on the design cross sections, and must be free of debris and consist of one of the following inorganic USCS soil types: GP, GW, SW, SP, GP-GM, SP-GM meeting the following granular as determined in accordance with ASTM D422.
Sieve Size, Percent Passing
1 inch (25 mm) 100 - 75
No. 4 (4.75 mm) 100 - 20
No. 40 (0.85 mm) 0 - 60
No. 200 (0.075 mm) 0 - 35
C. Where additional fill is required, contractor shall submit sample and specifications to the wall design engineer or the on-site soils engineer for approval and the approving engineer must certify that the soils proposed for use has properties meeting or exceeding original design standards.

PART 3: WALL CONSTRUCTION

3.1 Excavation

- A. Contractor shall excavate to the lines and grades shown on the construction drawings. Contractor shall use caution not to over-excavate beyond the lines shown, or to disturb the soil strata beyond those shown.
B. Contractor shall verify locations of existing structures and utilities prior to excavation. Contractor shall ensure all surrounding structures are protected from the effects of wall excavation.

3.2 Foundation Soil Preparation

- A. Foundation soil shall be defined as any soils located beneath a wall.
B. Foundation soil shall be prepared as designated on the plans and compacted to a minimum of 90% of Standard Proctor (ASTM D698) prior to placement of the base material.
C. Foundation soil shall be prepared by the on-site soils engineer to ensure that the actual foundation soil strength meets or exceeds assumed design strength. Soil not meeting the required strength shall be removed and replaced with acceptable material.

3.3 Base

- A. The base material shall be the same as the Wall Rock material (Section 2.2) or a low permeable granular material.
B. Base material shall be placed on the construction drawings. Top of base shall be located to allow bottom wall units to be buried to proper depths as per wall height and specifications.
C. Base material shall be installed on undisturbed native soils or suitable replacement fills compacted to a minimum of 90% Standard Proctor (ASTM D698).
D. Base shall be compacted at 95% Standard Proctor (ASTM D698) to provide a level hard surface on which to place the first course of blocks. The base shall be compacted to ensure proper wall settlement and the final elevation shown on the plans. Well-graded sand can be used to smooth the top 12 in. (31 mm) of the base record.
E. Base material shall be 4 in. (100 mm) minimum depth for walls under 4 ft (1.2 m) and a 6 in. (150 mm) minimum depth for walls over 4 ft (1.2 m).

3.4 Unit Installation

- A. Install units in accordance with the manufacturer's instructions and recommendations for the specific concrete retaining wall unit, and as specified herein.
B. Ensure that units are in full contact with base. Proper course shall be taken to develop straight lines and smooth corners on base course as per wall layout.
C. Fill all cores and cavities and a minimum of 12 in. (300 mm) behind the base course with wall rock. Use infill soils behind the wall rock and approved soils in front of the base course to 150% compaction. Check signs for level and alignment. Use a plate compactor to consolidate the area behind the base course. All excess material shall be swept from top of units.

3.4 Unit Installation (Continued)

- D. Install next course of wall units on top of this course. Position blocks to be offset from seams of blocks below. Perfect running bond is not essential, but a 1/2 inch (12.7 mm) minimum offset is recommended. Check each block for proper alignment and level. Fill all cavities in and around wall units with a minimum of 12 in. (300 mm) depth behind block with wall rock. Block alignment and level shall be maintained in uniformity not exceeding 1/8 inch (3.18 mm). Compensation requirements for all soils in areas in, around and behind the reinforced mass shall be compacted to 95% of maximum Standard Proctor dry density (ASTM D698) with a moisture content of 1% to 2% of optimum.
E. For taller wall applications, structural fill should be specified for a minimum bottom 10 to 12 ft of the reinforced mass. Structures not installed in the reinforced mass, the depth of wall rock behind the block should be increased. See the Best Practices for SRW Design document for more information.
F. The consolidation zone shall be defined as 3 ft (91.4 mm) behind the wall. Compaction within the consolidation zone shall be accomplished by using a hand operated plate compactor and shall begin by running the plate compactor directly on the block and then compacting in parallel paths from the wall face until the entire consolidation zone has been compacted. A minimum of five passes of the plate compactor are required with maximum lifts of 8 in. (200 mm). Expansive or fine-grained soils may require additional compaction passes and/or specific compaction equipment such as a vibratory roller. Maximum lifts of 4 inches (100 mm) may be required to achieve adequate compaction within the consolidation zone. Empty methods using lightweight compaction equipment that will not disturb the stability or behavior of the wall. Final compaction requirements in the consolidation zone shall be established by the engineer of record.
G. Install each subsequent course in like manner. Repeat procedure to the extent of wall height.
H. As with any construction work, some deviation from construction drawing alignments will occur. Variability in construction of SRW is approximately 1/8 inch (3.18 mm) for each 10 ft (3.05 m) of wall. Variability in construction of SRW is approximately 1/8 inch (3.18 mm) for each 10 ft (3.05 m) of wall. Variability in construction of SRW is approximately 1/8 inch (3.18 mm) for each 10 ft (3.05 m) of wall. Variability in construction of SRW is approximately 1/8 inch (3.18 mm) for each 10 ft (3.05 m) of wall.

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Vertical Control: +1.25 in. (32 mm) max. over 10 ft (3.05 m) distance
Horizontal Location Control: straight lines +1.20 in. (32 mm) over a 10 ft (3.05 m) distance.
Rotation: from established plan will be less than 2.0 Deg.
Bulging: +1.25 in. (32 mm) over a 10 ft (3.05 m) distance.

3.5 Additional Construction Notes

- A. When one wall branches into two reinforced walls, it is important to note that the soil behind the lower wall is also the foundation soil beneath the upper wall. This soil shall be compacted to a minimum of 95% of Standard Proctor (ASTM D698) prior to placement of the base material. Achieving proper compaction in the soil beneath an upper terrace prevents settlement and deformation of the upper wall. One way to replace it is as with wall rock and a 1/2 inch (12.7 mm) offset. This offset may be compacted to maximum lifts of 8 in. (200 mm) or as required to achieve specific compaction.
B. Vertical filter fabric use is not suggested for use with cohesive soils. Omitting of such fabric creates unacceptable hydraulic permeability. In soil reinforced structures, when filtration is deemed necessary in cohesive soils, use a three dimensional filtration system of clean sand or filtration aggregate. Vertical filter fabric may be used to separate the wall rock zone from the graded, sandy infill soils if the design engineer deems it necessary based on potential water migration from above or below grade through the reinforced zone to the wall rock on the project. Horizontal filter fabric should be placed above the wall rock column to prevent soils from migrating into the wall rock design equipment.
C. Embedment protection fabric is used to stabilize fill and foundation soils in water applications and to separate fill materials from the retained soils. This fabric should permit the passage of fines to prevent clogging of the material. Embedment protection fabric shall be a high strength polypropylene non-woven fabric designed to meet or exceed typical Corps of Engineers filter fabric specifications (CW-02218), stabilized against ultraviolet (UV) degradation and typically meeting the values in Table 1, page 7 of the AB Spec Book.
D. Water management is of extreme concern during and after construction. Steps must be taken to ensure that drain pipes are properly installed and verified to drain or collected by an underground drainage system and a grading plan has been developed that routes water away from the retaining wall location. Site water management is required both during construction of the wall and after completion of construction.

Specification Guidelines: Geogrid Reinforcement Systems

The following specifications provide Allan Block Corporation's typical requirements and recommendations. At the engineer of record's discretion these specifications may be revised to accommodate site specific design requirements.

SECTION 2

PART 1: GENERAL

1.1 Scope

Work includes furnishing and installing geogrid reinforcement, wall block, and backfill to the lines and grades designated on the construction drawings and as specified herein.

1.2 Applicable Sections of Related Work

Section 1: Allan Block Modular Retaining Wall System

1.3 Reference Standards

- See specific geogrid manufacturer's reference standards. Additional Standards:
A. ASTM D4759 - Tensile Properties of Geotextiles by the Wide-Width Strip Method
B. ASTM D5526 - Test Method for Evaluating the Unconfined Grip Behavior of Geogrids
C. ASTM D6838 - Grid Connection Strength (SRW-G1)
D. ASTM D6819 - SRW Block Shear Strength (SRW-G2)
E. GRI-GG4 - Grid Long Term Alkaline Strength (SRW-G3)
F. ASTM D6705 - Grid Pullout of Soil

1.4 Delivery, Storage, and Handling

- A. Contractor shall check the geogrid upon delivery to assure that the proper material has been received.
B. Geogrid shall be stored above -10 F (23 C).
C. Contractor shall prevent excessive mud, cementitious material, or other foreign materials from coming in contact with the geogrid material.

PART 2: MATERIALS

2.1 Definitions

- A. Geogrid products shall be of high density polyethylene or polyester yarns encapsulated in a protective coating specifically fabricated for use as a soil reinforcement material.
B. Concrete retaining wall units are as detailed on the drawings and shall be Allan Block Retaining Wall Units.
C. Drainage material is fine drainage granular material as defined in Section 1, 2.2 Wall Rock.
D. Infill soil is the soil used as fill for the reinforced soil mass.
E. Foundation soil is the in-situ soil.

2.2 Products

Geogrid shall be the type as shown on the drawings having the property requirements as described within the manufacturer's specifications.

2.3 Acceptable Manufacturers

A manufacturer's product will be approved by the wall design engineer.

PART 3: WALL CONSTRUCTION

3.1 Foundation Soil Preparation

- A. Foundation soil shall be excavated to the lines and grades as shown on the construction drawings, or as directed by the on-site soils engineer.
B. Foundation soil shall be prepared as specified by the on-site soils engineer to assure that the actual foundation soil strength meets or exceeds assumed design strength.
C. Over-excavated areas shall be filled with compacted backfill material approved by on-site soils engineer.
D. Contractor shall verify locations of existing structures and utilities prior to excavation. Contractor shall ensure all surrounding structures are protected from the effects of wall excavation.

3.2 Wall Construction

Wall construction shall be as specified under Section 1, Part 3, Wall Construction.

3.3 Geogrid Installation

- A. Install Allan Block wall to designated height of first geogrid layer. Backfill and compact the wall rock and infill soil in layers not to exceed 8 in. (200 mm) lifts behind wall to depth equal to designed grid length before grid is installed.
B. Cut geogrid to designed embedment length and place on top of Allan Block to back edge of the retained face or within 1 in. (25 mm) of the concrete retaining wall face when using ABS/Fieldstone. Extend away from wall approximately 2 ft above horizontal or compacted wall face.
C. Lay geogrid at the proper elevation and orientation shown on the construction drawings as directed by the wall design engineer.
D. Correct orientation of the geogrid shall be verified by the contractor and on-site soils engineer. Strength direction is typically perpendicular to wall face.

3.3 Geogrid Installation (Continued)

- E. Follow manufacturer's guidelines for overlay requirements. In curves and corners, layout shall be as specified in Design Detail 9-12 Using Grid with Corners and Curves, see page 14 of the AB Spec Book.
F. Place next course of Allan Block on top of grid and fill block cores with wall rock to lock in place. Remove slack and folds in grid and stakes to hold in place.
G. Adjacent sheets of geogrid shall be butted against each other at the wall face to achieve 100 percent coverage.
H. Geogrid overlaps shall be continuous, spanning provided to the wall face a full width.

3.4 Fill Placement

- A. Infill shall be placed in lifts and compacted as specified under Section 1, Part 3.4, Unit Installation.
B. Infill soil shall be placed, spread and compacted in such a manner that minimizes the development of slack or movement of the geogrid.
C. Only hand-operated compaction equipment shall be allowed within 3 ft (91.4 mm) behind the wall. This area shall be defined as the consolidation zone. Compaction in this zone shall begin by running the plate compactor directly on the block and then compacting in parallel paths to the wall face until the entire consolidation zone has been compacted. A minimum of five passes of the plate compactor are required with maximum lifts of 8 in. (200 mm). Expansive or fine-grained soils may require additional compaction passes and/or specific compaction equipment such as a vibratory roller. Maximum lifts of 4 inches (100 mm) may be required to achieve adequate compaction within the consolidation zone. Empty methods using lightweight compaction equipment that will not disturb the stability or behavior of the wall. Final compaction requirements in the consolidation zone shall be established by the engineer of record.
D. When fill is placed and compaction cannot be obtained in terms of Standard Proctor Density, then compaction shall be performed using ordinary compaction process and completed to that on information to be observed from the compaction equipment or by the verification of the engineer of record or the site soils engineer.
E. Tracked compaction equipment shall be used to compact the geogrid. A minimum lift thickness of 1 ft (300 mm) is required prior to operation of tracked vehicles over the geogrid. Turning of tracked vehicles should be kept to a minimum to prevent tracks from displacing the fill and disturbing the geogrid.
F. Rubber-tired equipment shall be used for geogrid reinforcement at steep slopes, less than 10:1 (10:10). Sudden braking and sharp turning shall be avoided.
G. The infill soil shall be compacted to achieve 95% Standard Proctor (ASTM D698). Soil tests of the infill soil shall be submitted to the on-site soils engineer for review and approval prior to the placement of any material. The contractor is responsible for achieving the specified compaction requirements. The on-site soils engineer may direct the contractor to remove, correct or amend any soil found not in compliance with these written specifications.
H. An independent testing firm should be hired by the owner to provide services.
I. Independent firm to keep inspection log and provide written reports at predetermined intervals to the owner.
J. Testing frequency should be set to establish a proper compaction procedure to consistently achieve the minimum compaction requirements set by the design requirements. If full time inspection and testing at 8 in. (200 mm) lifts is not provided, then the following testing frequency should be followed:
a. One test for every 8 inches (200 mm) of vertical lift placed and compacted, for every 25 feet (7.6 m) of retaining wall length, starting on the first course of block.
b. Very compaction test locations to cover the entire area of reinforced zone, including the areas compacted by the hand-operated compaction equipment.
c. One protocol is deemed acceptable, testing can be conducted randomly at locations and frequencies determined by the on-site soils engineer.
K. Slopes above the wall must be compacted and checked in a similar manner.

3.5 Special Considerations

- A. Geogrid can be interrupted by periodic penetration of a culvert, pipe, or existing structure.
B. Allan Block walls with accepted vertical and horizontal reinforcing with water and geogrid.
C. If site conditions will not allow geogrid/embankment length, consider the following alternatives:
Masonry Reinforced Walls - Soil Nailing - Increased Wall Height - Earth Anchors - Double Allan Block Wall - Rock Bolts - No-Fines Concrete
See Design Details Pages 16 and 17 of the AB Spec Book.
D. Allan Block may be used in a wide variety of water applications as indicated in Section 3, Part 1.8.

Specification Guidelines: Water Management

The following specifications provide Allan Block Corporation's typical requirements and recommendations. At the engineer of record's discretion these specifications may be revised to accommodate site specific design requirements.

SECTION 3

PART 1: GENERAL DRAINAGE

1.1 Surface Drainage

Rainfall or other water sources such as irrigation activities collected by the ground surface atop the retaining wall can be defined as surface water. Retaining wall design shall take into consideration the management of this water.

- A. At the end of each day's construction and at final completion, grade the backfill to avoid water accumulation behind the wall or in the reinforced zone.
B. Surface water must not be allowed to pond or be trapped in the area above the wall or at the toe of the wall.
C. Existing surface adjacent to retaining wall or slopes created during the grading process shall include drainage details so that surface water will not be allowed to drain over the top of the slope face and/or wall. This may require a combination of berms and surface drainage devices.
D. Irrigation activities at the site shall be done in a controlled and responsible manner. If an irrigation system is employed, the design engineer or irrigation manufacturer shall provide details and specification for required equipment to ensure applied water infiltrates into the structural integrity of the retaining wall system.
E. Surface water that cannot be diverted from the wall must be collected with surface drainage devices and drained laterally in order to disperse the water around the wall structure. Construction of a lateral swale system shall be in accordance with Design Detail 5, Swales, of the AB Spec Book.

1.2 Grading

- The sloping and re-contouring of land in order to prepare it for site development is grading. Site grading shall be designed to route water around the wall.
A. Establish final grade with a positive gradient away from the wall structure. Concentrations of surface water runoff shall be managed by providing necessary structures, such as paved ditches, drainage swales, catch basins, etc.
B. Grading designs must divert sources of concentrated surface flow, such as parking lots, away from the wall.

1.3 Drainage System

- The internal drainage system of the retaining wall can be described as the means of attenuating the buildup of interstitial water which infiltrates the soils behind the wall. Drainage system design will be a function of the water conditions on the site. Possible drainage facilities include Toe and Heel drainage collection pipes and blanket or chimney rock drains or geogrid. Design engineer shall determine the required drainage facilities to completely drain the retaining wall structure for each particular site condition.
A. All walls will be constructed with a minimum of 12 in. (300 mm) of wall rock directly behind the wall facing. The material shall meet or exceed the specification for wall rock outlined in Section 1, 2.2 Wall Rock.
B. The drainage collection pipe, drain pipe, shall be 4 in. (100 mm) perforated or slotted PVC, or corrugated HDPE pipe as approved by engineer of record.
C. All walls will be constructed with a 4 in. (100 mm) diameter drain pipe placed at the lowest possible elevation within the 12 in. (300 mm) of wall rock. This drain pipe is referred to as toe drain. Section 3, 1.4 Toe Drain.
D. Geogrid Reinforced Walls shall be constructed with an additional 4 in. (100 mm) drain pipe at the back bottom of the reinforced soil mass. This drain pipe is referred to as a heel drain. Section 3, 1.5 Heel Drain.

1.4 Toe Drain

A toe drain pipe should be located at the back of the wall behind the wall as close to the bottom of the wall as allowed while still maintaining a positive gradient for drainage to daylight, or a storm water management system. Toe drains are installed for interstitial water management not as a primary drainage system.

- A. For site configurations with bottoms of the base on a level plane it is recommended that a minimum one percent gradient be maintained on the placement of the pipe with outlets on 50 ft (15 m) centers, or 100 ft (30 m) centers if pipe is crossed between the outlets. This would provide for a maximum height above the bottom of the base in a flat configuration of no more than 6 in. (150 mm).
B. For rigid drain pipes with drain holes the pipe should be constructed with the holes located over, Allan Block does not require that toe drain pipes be wrapped when installed into base rock complying with the specified wall rock material.
C. Pipes shall be rolled to storm drains where appropriate or through under the wall at low points when the job site grading and site layout allow for routing. Appropriate details shall be included to prevent pipes from being crushed, plugged, or sealed with mortar.
D. On sites where the natural slope in grade exceeds the one percent minimum, drain pipes outlets shall be on 100 foot (30 m) centers maximum. This will provide outlet in the event that excessive water flow exceeds the capacity of pipe over long stretches.
E. When the drain pipe must be raised to accommodate drainage through the wall face, refer to Design Detail 4, Alternative Drain, Page 13 of the AB Spec Book.

1.5 Heel Drain

- The purpose of the heel drain is to pick up any water that migrates from behind the retaining wall structure at the toe and route the water away from the reinforced mass during the construction process and for interstitial water for the life of the structure.
A. The piping used at the back of the reinforced mass shall have a one percent minimum gradient cover the length, but it is not critical for it to be positioned at the very bottom of the cut. Additionally the entire length of the pipe may be vented at one point and should not be set into the toe drain.
B. The pipe may be a rigid pipe with holes at the bottom with an integral sock encasing the pipe or a corrugated perforated flexible pipe with a sock to filter out fines when required based on soil conditions. For infill soils with a high percentage of sand and/or gravel the heel drain pipe sock will need to be surrounded by wall rock. When working with soils containing the graded (clean) soils having a φ of greater than 8 and LL of 30 or greater, 1 cubic foot (0.03 cubic meter) of drainage rock is required around the pipe for each 1 ft. (30 cm) of pipe length.

1.6 Ground Water

- Ground water can be defined as water that occurs within the soil. It may be present because of surface infiltration or water table fluctuation. Ground water movement must not be allowed to come in contact with the retaining wall.
A. If water is encountered in the area of the wall during excavation or construction, a drainage system (chimney, composite or blanket) must be installed as directed by the wall design engineer.
B. Standard retaining wall designs do not include hydrostatic forces associated with the presence of ground water. If adequate drainage is not provided retaining wall design must consider the presence of the water.
C. When non-free draining soils (soils with friction angles less than 30 degrees) are used in the reinforced zone, the incorporation of a chimney and blanket drain should be used to minimize the water penetration into the reinforced mass. Refer to Design Detail 6: Chimney and Blanket Drain, Page 13 of the AB Spec Book.
D. Drain material to be consistent with wall rock material. For more information on wall rock material see Specification Guidelines: Allan Block Modular Retaining Wall Systems, section 2.1.
E. Manufactured chimney and blanket drains to be approved by the geotechnical and/or the local engineer of record prior to use.

1.7 Concentrated Water Sources

- All collection devices such as roof downspouts, storm sewers, and curb gutters are concentrated water sources. They must be designed to accommodate maximum flow rates into the wall area of the wall.
A. All roof downspouts of nearby structures shall be sized with adequate capacity to carry storm water from the roof away from the wall area. They shall be connected to a drainage system in closed pipe and routed around the retaining wall area.
B. Site layout must take into account locations of retaining wall structures and all site drainage paths. Drainage paths should always be away from retaining wall structures.
C. Storm sewers and catch basins shall be located away from retaining wall structures and designed so as not to introduce any incidental water into the reinforced soil mass.
D. A path to route storm sewer overflow must be incorporated into the site layout to direct water away from the retaining wall structure.

1.8 Water Application

- Retaining walls constructed in conditions that allow standing or moving water to come in contact with the wall face are considered water applications. These walls require specific design and construction details to ensure performance. Refer to Design Detail 7 and 8: Water Applications, Page 13 of the AB Spec Book.
A. The wall rock should be placed to the limits of the geogrid length up to a height equal to 12 inches (30 cm) higher than the determined high water mark. If the high water mark is unknown, the entire lift zone should be constructed with wall rock.
B. The drain pipe should be raised to the high water elevation to aid in the evacuation of water from the reinforced mass as water level fluctuates.
C. Embedment protection fabric should be used under the infill mass and up the back of the infill mass to a height of 12 inches (30 cm) higher than the determined high water mark.
D. Embedment protection fabric is used to stabilize fill and foundation soils in water applications and to separate fill materials from the retained soils. This fabric should permit the passage of fines to preclude clogging of the material. Embedment protection fabric shall be a high strength polypropylene non-woven fabric designed to meet or exceed typical NTPSP specifications. Stabilization against ultraviolet (UV) degradation and typically meets or exceeds the values in Table 1.

Table 1: Embedment Protection Fabric Specifications. Columns: Mechanical Properties, Determination Method. Rows: Tensile Strength, Puncture Strength, Average Opening, Trapezoidal Tear, Permeability Open Area, Permeability.

- D. For walls having moving water or wave action, natural or manufactured rip-rap in front of the wall to protect the toe of the wall from rock erosion is recommended.

General Notes

Soil Notes

Table: Soil Notes. Columns: Internal Friction Angle, Cohesion, Unit WT. Rows: Infill Soil, Retained Soil, Foundation Soil. Includes Soil Type: Well compacted silt fine SAND.

Construction Notes

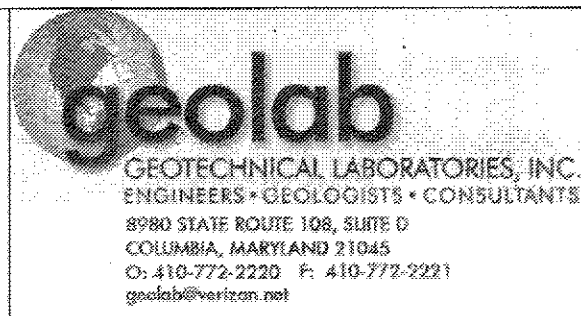
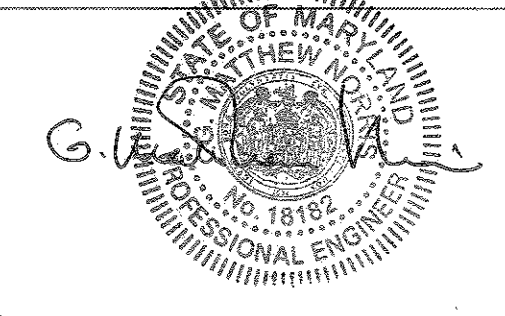
- 1. Actual soil parameters must be tested or exceed these listed conditions to be used in wall construction. In general, granular soils (friction angle greater than or equal to 31 degrees) are recommended as infill soil. Fine grained cohesive soils (friction angle less than 31 degrees) with the plasticity (PI) less than 20 may be used in wall construction, but additional bedding and compaction efforts are required. Geotechnical Laboratories, Inc. has not verified these design conditions, and if required the soil parameters shall be confirmed by the Site Geotechnical Engineer or other prior to wall construction.
2. Specification of infill soils are strictly prohibited unless approved by the engineer of record.
3. In this analysis, the effective friction angle without the addition of cohesion is used to determine the design strength of the soil when calculating lateral forces. At the discretion of the engineer of record, cohesion may be used when calculating the ultimate bearing capacity over the top of a typically limited.
4. Global stability and seismic loading are not considered in this design.
5. Hydrostatic loading is not considered in this analysis. Sufficient drainage must be provided such that hydrostatic loading (pore pressure) does not develop in the reinforced zone.
6. Analysis assumes fill placement in 8 inch (200 mm) lifts compacted to 95% Standard Proctor Density. For any wall over 10 feet (3 meters), with a surcharge or contains cohesive soils, compaction test frequency and location shall be determined by the engineer of record or as otherwise indicated.
7. All 12" placed above walls shall be placed and compacted in accordance with the requirements for all other reinforced material.
8. Retaining wall units and installation shall conform to the Allan Block Modular Retaining Wall Systems Specification Guidelines, Geogrid Reinforcement Systems Specification Guidelines, and Water Management Specification Guidelines as established in the AB Spec Book and the AB Engineering Manual.
9. Retaining walls must be installed and constructed according to the contract drawings. The retaining wall plan view for wall identification only.
10. Geogrid spacing is determined by structural cross-section design requirements. To insure proper geogrid placement, contractor must review both elevation views and cross sections prior to wall construction.
11. Suggested Quality Assurance Requirements: A qualified engineer or technician shall supervise the wall construction in verify field and site soil conditions. In the event that the Site Geotechnical Engineer does not perform this function, a qualified Geotechnical Engineer/Technician shall be contracted to assist the Allan Block Wall is constructed with proper soil parameters.
12. This wall was designed for the use of AB Rocke Block units (see Clause 1) and Mergal 3XT geogrid.
13. The substrate must have a minimum bearing capacity of 2,000 pounds per square foot (PSF).

Surface Drainage Notes

- 1. Retention and other water sources such as irrigation activities can be defined as surface water. The retaining wall design shall take into consideration the management of this water.
2. Site grading shall be designed to route surface water around and away from the wall.
3. The internal drainage system of the retaining wall is designed to remove interstitial water that infiltrates into the soil behind the wall. Adequate storm water drainage systems are required to completely drain the area around the retaining wall structure.
4. Drain piping, toe drains, should be located at the back of the rock drain field behind the wall as close to the bottom of the wall as allowed while still maintaining a positive gradient for drainage to daylight, or to a storm water management system.
5. A heel drain may be required at back of the cut to route water away from the reinforced soil mass during the construction process.
6. Ground water can present within the wall due to surface infiltration or water table fluctuation. If ground water is encountered during construction, an adequate drainage system must be established on the wall design to consider the presence of water within the soil mass.
7. All water collection devices such as roof downspouts, storm sewers, and curb gutters must be designed to accommodate maximum flow rates and outlets outside the retaining wall area.
8. Retaining walls in conditions that allow standing water to overlap the wall face are considered water applications. These walls require specific design and construction details to ensure performance.

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Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No.: 18182 Expiration Date: 3/12/2019



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Title: Specifications Retaining Wall Fairway Hills Golf Course 5100 Columbia Road Columbia, Howard County, Maryland

Designed By: BJL Date: 9/7/2017 Project No.: 117-105 Reviewed By: GMM Sheet No.: Drafted By: BJL Scale: As Noted