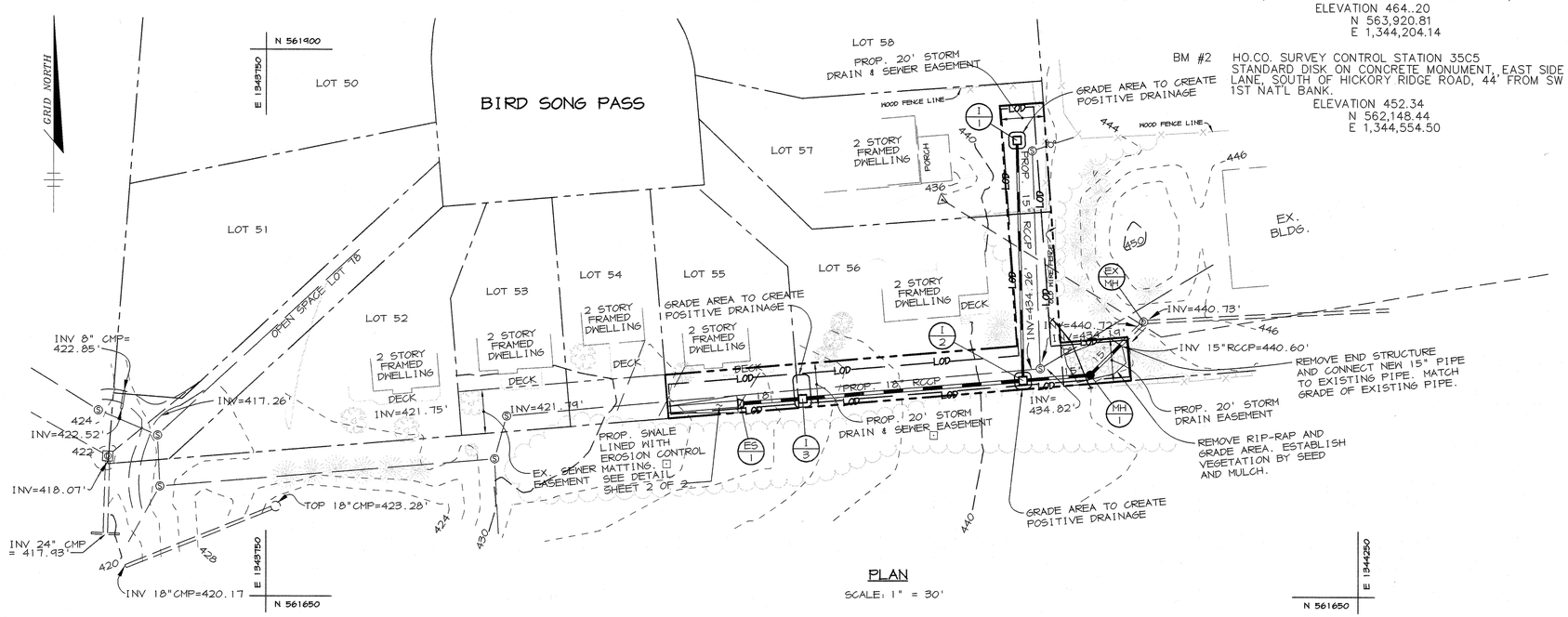
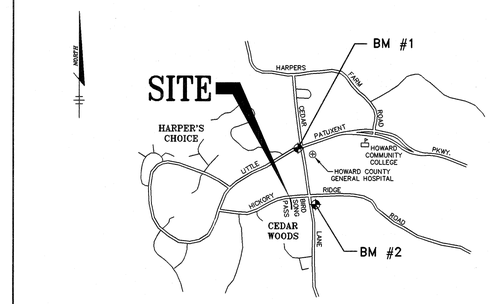
BM #1 HO.CO. SURVEY CONTROL STATION 35C2
STANDARD DISK ON CONCRETE MONUMENT, WEST SIDE OF CEDAR LANE, IN MEDIAN OF LITTLE PATUXENT PKWY, 11' FROM METAL POST.
ELEVATION 464..20
N 563,920.81
E 1,344,204.14

BM #2 HO.CO. SURVEY CONTROL STATION 35C5
STANDARD DISK ON CONCRETE MONUMENT, EAST SIDE OF CEDAR LANE, SOUTH OF HICKORY RIDGE ROAD, 44' FROM SW CORNER OF 1ST NAT'L BANK.
ELEVATION 452.34
N 562,148.44
E 1,344,554.50



PLAN
SCALE: 1" = 30'



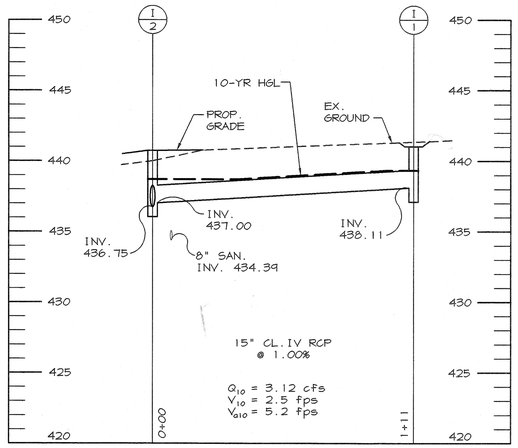
VICINITY MAP
SCALE : 1"=2000'

GENERAL NOTES

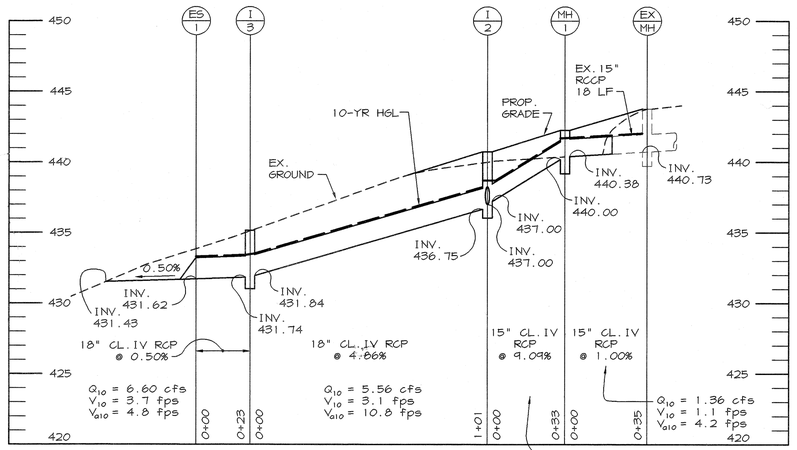
1. Existing utilities are shown for the convenience of the Contractor and the completeness or accuracy of the same is not guaranteed. The Contractor shall determine the location and elevation of the existing utilities before trench excavation begins. He shall protect service connections and maintain their uninterruped service. Any damage caused by the Contractor shall be repaired immediately. The cost of such repairs shall be borne by the Contractor.
2. Roadside drainage ditches, culverts and underdrains which are damaged or destroyed by construction will be restored to a condition at least equal to that prior to the start of construction at the Contractor's expense.
3. All areas disturbed within Easements and Right-Of-Ways shall be restored to a condition of at least equal to that which existed prior to the start of construction. The cost of such shall be borne by the Contractor.
4. All horizontal controls are based on NAD 83.
5. Vertical controls are based on U.S.G.S. datum.
6. All pipe elevations shown (IE) are invert elevations.
7. Clear all utilities by a minimum of 12". Clear all poles by 3'-0" minimum or tunnel as required. Coordinate with the utility companies to schedule any necessary bracing of the poles.
8. Storm drains shall have a minimum cover of 18" except where greater depths are indicated.
9. For details not shown on the drawings, and for materials required, refer to Specifications.
10. Contractor shall notify the following utility companies or agencies at least five working days before starting work shown on these plans:

AT&T	410-393-3553
Baltimore Gas & Electric Co. Contractor Services	410-850-4620
Baltimore Gas & Electric Co. Underground Damage Control	410-787-9068
Miss Utility	1-800-257-7777
Bureau of Utilities, Howard County Department of Public Works	410-313-4900

11. Trees and shrubs are to be protected from damage to maximum extent. Trees and shrubs located on private property within the construction strip, and outside the immediate line of excavation are not to be removed or damaged by the Contractor.
12. Contractor shall remove trees, stumps and roots along the immediate line of excavation. Payment for such removal shall be included in the unit price bid for construction of the stormdrain.
13. Contractor is solely responsible for construction means, methods, techniques, sequences, procedures, and safety precautions and programs.
14. Sediment control to be provided as shown and shall be approved by the Sediment Control Inspector before starting any site grading. Trench length is limited to three (3)pipe lengths at any one time, to be stabilized immediately.
15. Trenching and backfilling shall be in accordance with Howard County by the Maryland Department of the Environment and the Soil Conservation Service. standard detail G2.01.
16. All work shall comply with all applicable provisions of the "1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control" issued
17. Boundary and topographic information shown here is based on County deeds and field surveys by Reimer Muegge & Associates, Inc. dated January 1999.
18. It shall be distinctly understood that failure to mention specifically any work which would be required to complete the project shall not relieve the Contractor of his responsibility to perform such work.
19. The Contractor shall note that in the case of a discrepancy between the scaled and the figure dimensions shown on the plans, the figure dimensions shall govern.
20. At the end of each working day, all sediment control measures will be inspected and left in operational condition.
21. Contractor shall immediately remove all spoil material from site to an approved location.



PROFILE
SCALE: HORZ: 1" = 30'
VERT: 1" = 5'



PROFILE
SCALE: HORZ: 1" = 30'
VERT: 1" = 5'

LEGEND

R.O.W. LINE	
PROPERTY LINE	
EX. FENCE LINE	X X
EX. CONTOUR	338 340
LIMIT OF DISTURBANCE	LOD
SILTFENCE	S.F. S.F.
STD. INLET PROTECTION	
PROP. STORM DRAIN	
PROP. MANHOLE	
PROP. INLET	
PROP. END SECTION	
PROP. EASEMENT	
EX. TREE LINE	
EX. ELEC. BOX	
EX. MAILBOX	
EX. MANHOLE (SANITARY)	S
EX. CLEANOUT (SANITARY)	
EX. SANITARY SEWER	
EX. WATER MAIN	
EX. STORMDRAIN	
EX. INLET	
EX. PROPERTY CORNER	
EX. CABLE TV PEDESTAL	
EX. 4" ROOF DRAIN	

DISTURBED AREA: 4600 sq.ft.

BY THE DEVELOPER :

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

DEVELOPER _____ DATE 7/6/99

BY THE ENGINEER :

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

ENGINEER _____ DATE

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

NATURAL RESOURCES CONSERVATION _____ DATE

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

HOWARD SOIL CONSERVATION DISTRICT _____ DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS _____ DATE 7/6/99
CHIEF, BUREAU OF ENGINEERING _____ DATE 7/6/99
CHIEF, BUREAU OF HIGHWAYS _____ DATE 7/6/99
CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT _____ DATE 7/6/99

REIMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive • Suite 200 • Columbia, MD 21045
410-997-8900 FAX : 410-997-9282
99015\POINTS.DWG

STATE OF MARYLAND — FRANK DONALD SCOTT — No. 8146 — REGISTERED PROFESSIONAL ENGINEER
FRANK DONALDSON #8146
6/11/99

DES: T.D.
DRN: G.T.H.
CHK: G.C.L.
MAY 1999

BY	NO.	REVISION	DATE

BIRD SONG PASS
STORM DRAIN PLAN

600' SCALE MAP NO. 35 BLOCK NO. 5,11

BIRD SONG PASS
STORM DRAIN IMPROVEMENT
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT NO. D-1118 UU PHASE II

SCALE AS SHOWN

SHEET 1 OF 2

M:\PROJECT\99041\SD-PLAN.DWG Thu Jun 10 10:09:21 1999 Reimer Muegge & Associates Inc.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short–term vegetative cover is needed.

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

Soil Amendments : Apply 600 lbs. per acre 10–10–10 fertilizer (14 lbs. per 1000 sq.ft.).

Seeding : For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2–1/2 bushels per acre of annual rye (3.2 lbs. per 1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (0.07 lbs. per 1000 sq.ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching : Apply 1–1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

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

PERMANENT SEEDING NOTES

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

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

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

1) Preferred – Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10–10–10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30–0–0 ureaform fertilizer (9 lbs. per 1000 sq.ft.).

2) Acceptable – Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10–10–10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

Seeding : For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (0.05 lbs. per 1000 sq.ft.) of weeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options :

1) 2 tons per acre of well–anchored mulch straw and seed as soon as possible in the spring.

2) Use sod.

3) Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.

Mulching : Apply 1–1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Maintenance : Inspect all seeded areas and make needed repairs, replacements and reseedings.

BY THE DEVELOPER :

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

DEVELOPER _____ DATE _____

BY THE ENGINEER :

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

ENGINEER _____ DATE _____

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

NATURAL RESOURCES CONSERVATION _____ DATE _____

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

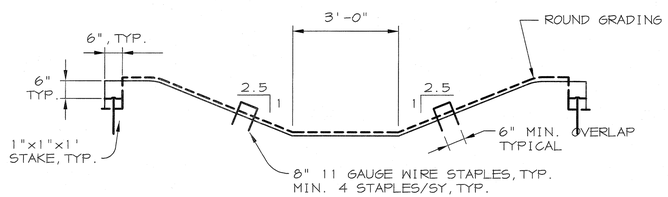
HOWARD SOIL CONSERVATION DISTRICT _____ DATE _____

STRUCTURE SCHEDULE

STRUCTURE NUMBER	LOCATION	TYPE	TOP GRATE ELEV.	INV. IN	INV. OUT	REMARKS
I–1	N 561858.82 E 1344093.56	D	±441.0	---	438.11	HO. CO. STD. SD–4.11
I–2	N 561748.92 E 1344096.60	D	±440.7	437.00	436.75	HO. CO. STD. SD–4.11
MH–1	N 561751.46 E 1344127.25	STD. 4'–0"	±442.3	440.38	440.00	HO. CO. STD. G–5.12
I–3	N 561740.44 E 1343995.63	D	±435.0	431.84	431.74	HO. CO. STD. SD–4.11
ES–1	N 561738.31 E 1343968.52	END SECTION	---	---	431.62	HO. CO. STD. SD–5.51

STORM DRAIN FLOW TABULATION

LOCATION		ACRES		C x A			TIME	I	Q = CIA	PIPE n = 0.013				TIME
FROM	TO	SUB.	TOTAL	C	C x A	SUM	(MIN.)	(IN./HR.)	10 YR. C.F.S.	SIZE	SLOPE %	VEL.(fps)	LGTH. (ft)	(MIN.)
I–1	I–2	1.52	1.52	0.32	0.49	0.49	10.8	6.36	3.12	15"	1.00	2.5	111	0.7
EX. INLET	EX. MH	0.19	0.19	0.85	0.16	0.16	5.0	8.50	1.36	15"	1.00	1.1	155	2.3
EX. MH	MH–1	---	0.19	---	---	0.16	7.3	---	1.36	15"	1.00	1.1	35	0.5
MH–1	I–2	---	0.19	---	---	0.16	7.8	---	1.36	15"	9.09	1.1	33	0.5
I–2	I–3	0.77	2.48	0.32	0.25	0.90	11.5	6.18	5.56	18"	4.86	3.1	101	0.5
I–3	ES–1	0.60	3.08	0.32	0.19	1.09	12.0	6.05	6.60	18"	0.50	3.7	23	0.1



SWALE SECTION – EROSION CONTROL MATTING

N.T.S.

EROSION CONTROL MATTING INSTALLATION NOTES:

1. ALL MATTING SHALL BE FREE OF TEARS OR BREAKS.
2. PRIOR TO INSTALLATION OVER DESIGNATED AREA, FINAL GRADING MUST BE COMPLETE
3. PREPARE SOIL BEFORE INSTALLING BLANKETS. INCLUDE APPLICATION OF LIME, FERTILIZER AND SEED.
4. BEGIN AT THE UPSTREAM END OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6"x6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
5. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW ON BOTTOM OF CHANNEL.
6. PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH A 6" OVERLAP. USE A DOUBLE ROW OF STAGGERED STAPLES 4" APART TO SECURE BLANKETS.
7. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED IN 6" DEEP BY 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
8. BLANKETS ON SIDE SLOPES MUST BE OVERLAPPED 2" OVER THE CENTER BLANKET AND STAPLED.
9. PLACE A STAPLE CHECK SLOT AT 30 TO 40 FOOT INTERVALS. USE A ROW OF STAPLES 4" APART OVER ENTIRE WIDTH OF THE CHANNEL. PLACE A SECOND ROW 4" BELOW THE FIRST ROW IN A STAGGERED PATTERN.
10. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED IN A 6" DEEP BY 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
11. NO VEHICULAR TRAFFIC OF ANY KIND IS PERMITTED ON MATTING DURING OR AFTER INSTALLATION.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS _____ DATE _____
CHIEF, BUREAU OF ENGINEERING _____ DATE _____
CHIEF, BUREAU OF HIGHWAYS _____ DATE _____
CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT _____ DATE _____

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STATE OF MARYLAND — JAMES W. DONALDSON — No. 8146 — PROFESSIONAL ENGINEER
FRANK DONALDSON #8146
5/11/99

DES: T.D.
DRN: G.T.H.
CHK: G.C.L.
MAY 1999

BY	NO.	REVISION	DATE

BIRD SONG PASS
SCHEDULES & NOTES

600' SCALE MAP NO. 35 BLOCK NO. 5,11

BIRD SONG PASS
STORM DRAIN IMPROVEMENT
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT NO. D–1118 UU PHASE II

SCALE AS SHOWN

SHEET 2 OF 2

M:\PROJECT\99044\NOTES.DWG Thu Jun 10 10:10:32 1999 Riemer Muegge & Associates Inc.