ROAD CONSTRUCTION PLANS
MAPLE LAWN FARMS
MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND COMMON OPEN AREA LOTS 184 THRU 186

GENERAL NOTES:

1. ZONING: SITE IS BEING DEVELOPED UNDER MXD-3 REGULATIONS, PER ZB995M, APPROVED ON 2/8/01 AND ZB-1039M APPROVED 03/20/06 AND THE COMPREHENSIVE ZONING PLAN DATED 02/02/04. UNDERLYING ZONING IS RR-DEO AND THE COMP LITE ZONING REGULATION AMENDMENTS DATED 07/28/06.

2. THE PREVIOUS DEPARTMENT OF PLANNING AND ZONING FILE NUMBERS: S 01-17, S-06-16, ZB-995M, ZB-1039M, PB-353, PB-378, WP-01-111, WP-03-02, F-05-113, F-06-162, F-06-219, F-07-74, F-07-112, F-07-140, F-07-210, F-08-04, F-08-15, F-08-16, F-08-72, WP-03-120, F-12-29, F-12-30.

3. THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.

4. THE CEMETERY INVENTORY MAPS DO NOT SHOW ANY CEMETERIES WITHIN THE PROJECT LIMITS. THE EXISTING CEMETERY ONCE LOCATED ON THE WESSEL PROPERTY WAS RELOCATED UNDER WP-05-12.

5. THE SCENIC ROADS MAP DOES NOT INDICATE ANY SCENIC ROADS WITHIN OR ADJACENT TO THE PROJECT LIMITS.

6. THIS PROPERTY WAS BROUGHT INTO THE METROPOLITAN DISTRICT ON APRIL 26, 2011.

7. THIS AREA OF DEVELOPMENT HAS BOTH PUBLIC AND PRIVATE ROADS, WHICH HAVE BEEN DENOTED ON THE PLAN.

8. SITE ANALYSIS

GROSS SITE AREA FOR PHASES 1 THROUGH 9D	494.93 ACRES ±
AREA OF THIS PLAN SUBMISSION:	34.08 ACRES ±
DISTURBED AREA:	18.5 ACRES ±
AREA OF OPEN SPACE:	13.60 ACRES ±
AREA OF 100 YR FLOODPLAIN:	4.15 ACRES ±
AREA OF ROADWAY (PUBLIC):	4.73 ACRES ±
AREA OF ROADWAY (PRIVATE):	0.97 ACRES ±
AREA OF RESIDENTIAL LOTS:	14.78 ACRES ±
AREA OF OR LOTS/PARCELS:	0.0 ACRES ±
AREA OF SFD LOTS:	14.78 ACRES ±
TOTAL UNITS (PER S-06-16 ALLOCATIONS):	128 LOTS
TOTAL NUMBER OF LOTS / PARCELS (THIS PLAN SUBMISSION):	85 LOTS
NO. OF OR LOTS/PARCELS:	0 LOTS
NO. OF SFD LOTS:	85 LOTS
AREA OF NON-BUILDABLE PARCELS:	0.00 ACRES ±
NO. NON-BUILDABLE PARCELS:	0 PARCELS

9. OPEN SPACE REQUIREMENTS:
   MINIMUM OPEN SPACE REQUIREMENT FOR PROJECT IS 35%.

TOTAL OPEN SPACE REQUIRED FOR THIS PLAN SUBMISSION:	11.93 ACRES ±
TOTAL OPEN SPACE PROVIDED:	13.60 ACRES ±
RECREATIONAL OPEN SPACE REQUIRED FOR THIS PLAN SUBMISSION:	1.36 ACRES ±
RECREATIONAL OPEN SPACE PROVIDED:	5.04 ACRES ±

(SEE CHART-SHEET 2)

EXCESS OPEN SPACE FROM THIS PHASE WILL BE USED TO FULFILL THE MINIMUM OPEN SPACE REQUIREMENTS FOR FUTURE PHASES.

10. THE 128 UNITS WILL BE BROUGHT INTO THE PROJECT AS FOLLOWS:
    43 FROM THE WESTSIDE DISTRICT (F 13-003)
    85 FROM THE MIDTOWN WEST DISTRICT (F 13-007)

11. SOILS DATA WAS TAKEN FROM THE SOIL SURVEY OF HOWARD COUNTY, MARYLAND ISSUED JULY 1968.

12. CONTOURS SHOWN WERE TAKEN FROM AERIAL TOPOGRAPHY PREPARED DURING MARCH 1997 BY 3DI AND THEN UPDATED BY GRADE CHECKS PERFORMED BY GUTSCHICK, LITTLE & WEBER, P. A. AND BASED ON F-12-30. BOUNDARY INFORMATION SHOWN IS BASED UPON A FIELD SURVEY PREPARED BY GUTSCHICK, LITTLE, AND WEBER, P.A. ON OR ABOUT JUNE, 2001.

13. WETLAND DELINEATION WAS DETERMINED BY EXPLORATION RESEARCH, INC. AND APPROVED BY THE CORPS OF OF ENGINEERS UNDER JD 63787-3 ON 05/14/98. IMPACTS TO WETLANDS AND WATERS OF THE STATE RESULTING FROM THIS DEVELOPMENT ARE AUTHORIZED BY MDE PERMIT #01-NT-0311/200165421.

14. THE 100-YEAR FLOOD PLAIN LIMITS WERE DETERMINED BY THE FLOODPLAIN STUDY PREPARED BY GUTSCHICK, LITTLE AND WEBER, P.A. AS PART OF P-02-12 AND P-11-02.

15. HORIZONTAL AND VERTICAL DATUM IS BASED ON HOWARD COUNTY STATION 46BC AND 46BD.

16. EXISTING UTILITIES WERE TAKEN FROM AVAILABLE HOWARD COUNTY RECORDS.

17. PUBLIC WATER AND SEWER TO BE UTILIZED:
    EXISTING WATER CONTRACT NUMBER: 24-4702-D THRU 24-4704-D
    EXISTING SEWER CONTRACT NUMBERS: 24-4702-D THRU 24-4704-D

18. TRAFFIC STUDY WAS PREPARED AND SUBMITTED AS PART OF S 06-16, WHICH WAS SIGNED BY THE PLANNING BOARD ON 02/20/07.

19. PERENNIAL STREAM BUFFERS ARE DETERMINED BY LAND USE ADJOINING THE OPEN SPACE (I.E. EMPLOYMENT = 50' BUFFER, RESIDENTIAL = 75' BUFFER). ALL USES ADJOINING AN INTERMITTENT STREAM = 50' BUFFER.

20. STORMWATER MANAGEMENT, FOR BOTH QUALITY AND QUANTITY, FOR THE INFRASTRUCTURE ASSOCIATED WITH THE RESIDENTIAL LOTS PROPOSED BY THESE PLANS WILL BE SATISFIED BY AN EXISTING REGIONAL FACILITY CONSTRUCTED UNDER F-12-30. THE EXISTING FACILITY IS A P-3 POND WITH EXTENDED DETENTION AND IS PUBLICLY OWNED WITH JOINT MAINTENANCE. THE RECHARGE REQUIREMENTS FOR THIS DEVELOPMENT WILL BE PROVIDED IN A PRIVATELY OWNED AND MAINTAINED FACILITY ON OPEN SPACE LOT 182. THE RECHARGE FACILITY WILL BE AN INFILTRATION TRENCH.

21. THE RESIDENTIAL LOTS, PARCELS AND EMPLOYMENT USE STRUCTURES DEVELOPED OR PROPOSED ON THE ORIGINAL 507 ACRE TRACT FOR MAPLE LAWN FARMS ARE GRANDFATHERED TO THE FOURTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AS DEVELOPED UNDER S-01-17, PB CASE 353 AND ZB CASE NO. 995M. HOWEVER, THE PROPOSED RESIDENTIAL AND EMPLOYMENT USES THAT ARE TO BE DEVELOPED UNDER THE AMENDED CSP, S-06-16 AND ZB CASE NO. 1039M FOR THE FORMER WESSEL AND OLIVER PROPERTIES ARE SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL NO. 45-2003 AND THE ZONING REGULATIONS PER COUNCIL BILL NO. 75-2003.

22. AS STATED IN THE DECISION AND ORDER FOR THIS PLAN, THE PLANNING BOARD SHALL REVIEW AND APPROVE SITE DEVELOPMENT PLANS FOR ALL SINGLE FAMILY ATTACHED AND MULTI-FAMILY RESIDENTIAL USES, AND ALL EMPLOYMENT AND OPEN SPACE USE DEVELOPMENT FOR THE SUBJECT MAPLE LAWN FARMS PROJECT. ALL OF THE IMPROVEMENTS THAT WERE NECESSARY FOR THE MAPLE LAWN FARMS PROJECT TO BE IN COMPLIANCE WITH THE FUNDING TEST EVALUATION RESTRICTIONS ENUNCIATED BY THE ZONING BOARD ON PAGE 22-23 OF ITS DECISION ON THE PDP HAVE BEEN CONSTRUCTED.

23. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, OR PLACEMENT OF NEW STRUCTURES IS PERMITTED WITHIN LIMITS OF WETLANDS, STREAMS OR THEIR REQUIRED BUFFERS, AND 100 YEAR FLOOD PLAIN AREAS, EXCEPT AS PERMITTED UNDER WP-02-54, WP-03-02, AND WP-03-120.

24. OPEN SPACE LOTS MAY CONTAIN ACTIVE RECREATIONAL FACILITIES AS ALLOWED BY THE APPROVED COMPREHENSIVE DEVELOPMENT CRITERIA.

25. PHASING FOR THIS PROJECT IS IN ACCORDANCE WITH THE DECISION AND ORDER FOR ZONING BOARD CASE NO. ZB-995M & ZB-1039M AND THE DECISION AND ORDER FOR PB CASE NO. 353 (COMPREHENSIVE SKETCH PLAN, S-01-17) AND NO. 378 (COMPREHENSIVE SKETCH PLAN, S-06-16) AND THE DPZ APFO RE-PHASING LETTER DATED JULY 8, 2008.

26. DEVELOPMENT FOR THIS PHASE WILL BE DONE IN ACCORDANCE WITH THE COMPREHENSIVE DEVELOPMENT CRITERIA APPROVED WITH S-01-17, S-06-16, PB-353, AND PB-378.

27. THE TRANSPORTATION AND TRANSIT DESIGN WILL BE IMPLEMENTED AS OUTLINED IN THE PETITIONER'S EXHIBIT 55 AS SUBMITTED AS PART OF ZB995M.

28. A NOISE STUDY WAS PREPARED BY WILDMAN & ASSOCIATES FOR S 01-17, (APPROVED BY PLANNING BOARD ON AUGUST 8, 2001), AND UPDATED BY WILSON T. BALLARD COMPANY IN MAY 2006 FOR S-06-16 (APPROVED BY PLANNING BOARD ON FEBRUARY 20, 2007).

29. THE LIMITS OF THIS SUBMISSION DOES NOT INCLUDE MODERATE INCOME HOUSING UNITS.

30. FOR SOIL TYPES, DESCRIPTIONS AND LIMITATIONS, SEE S 01-17, AND S-06-16.

GENERAL NOTES (cont.) :

31. THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL FOR PHASE 9C OF THIS PROJECT WILL BE PROVIDED BY THIS PLAN. FOREST CONSERVATION SURETY WILL BE POSTED WITH THE DEVELOPER AGREEMENT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT; HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.

32. THE 75' TREE CONFLICT EASEMENT SHOWN ON THESE PLANS GRANTS PEPCO THE RIGHT TO ENTER THE EASEMENT FOR THE PURPOSE OF CUTTING DOWN, TRIMMING, REMOVING AND/OR KEEPING CUT ALL TREES WHICH MAY INTERFERE WITH ANY TOWERS, POLES, STRUCTURES, WIRES, CABLES, CONDUITS OR OTHER IMPROVEMENTS WITHIN THE PEPCO R/W, AS PER LIBER 2305 FOLIO 33.

33. MINIMUM BUILDING SETBACK RESTRICTIONS FROM PUBLIC ROADS AND PROPERTY LINES WILL BE PROVIDED IN ACCORDANCE WITH THE COMPREHENSIVE DEVELOPMENT CRITERIA APPROVED FOR THIS PROJECT UNDER S-06-16, PB-378 AND ZB-1039M.

34. ALL BUFFERING AND OTHER LANDSCAPING REQUIREMENTS/FEATURES WILL BE PROVIDED AT THE SITE DEVELOPMENT PLAN STAGE AND/OR THE FINAL PLAN STAGE AND WILL BE PROVIDED IN ACCORDANCE WITH THE COMPREHENSIVE SKETCH PLAN CRITERIA.

35. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II. IT WAS DETERMINED THAT THIS PROJECT MET THE CRITERIA OUTLINED IN THE MDE STORMWATER MANAGEMENT REGULATIONS; GUIDANCE FOR IMPLEMENTATION FOR ACCEPTANCE OF THE 2000 DESIGN CRITERIA AND THROUGH THE ADMINISTRATVE WAIVER PROCESS, WAS GRANTED A WAIVER. THIS PLAN RECEIVED COMPREHENSIVE SKETCH PLAN APPROVAL (S 06-16) ON JANUARY 25, 2007. THIS PLAN IS ALSO SUBJECT TO THE EXPIRATION OF THIS WAIVER UNLESS ALL OF THE STORMWATER MANAGEMENT IS CONSTRUCTED BY MAY 4, 2017.

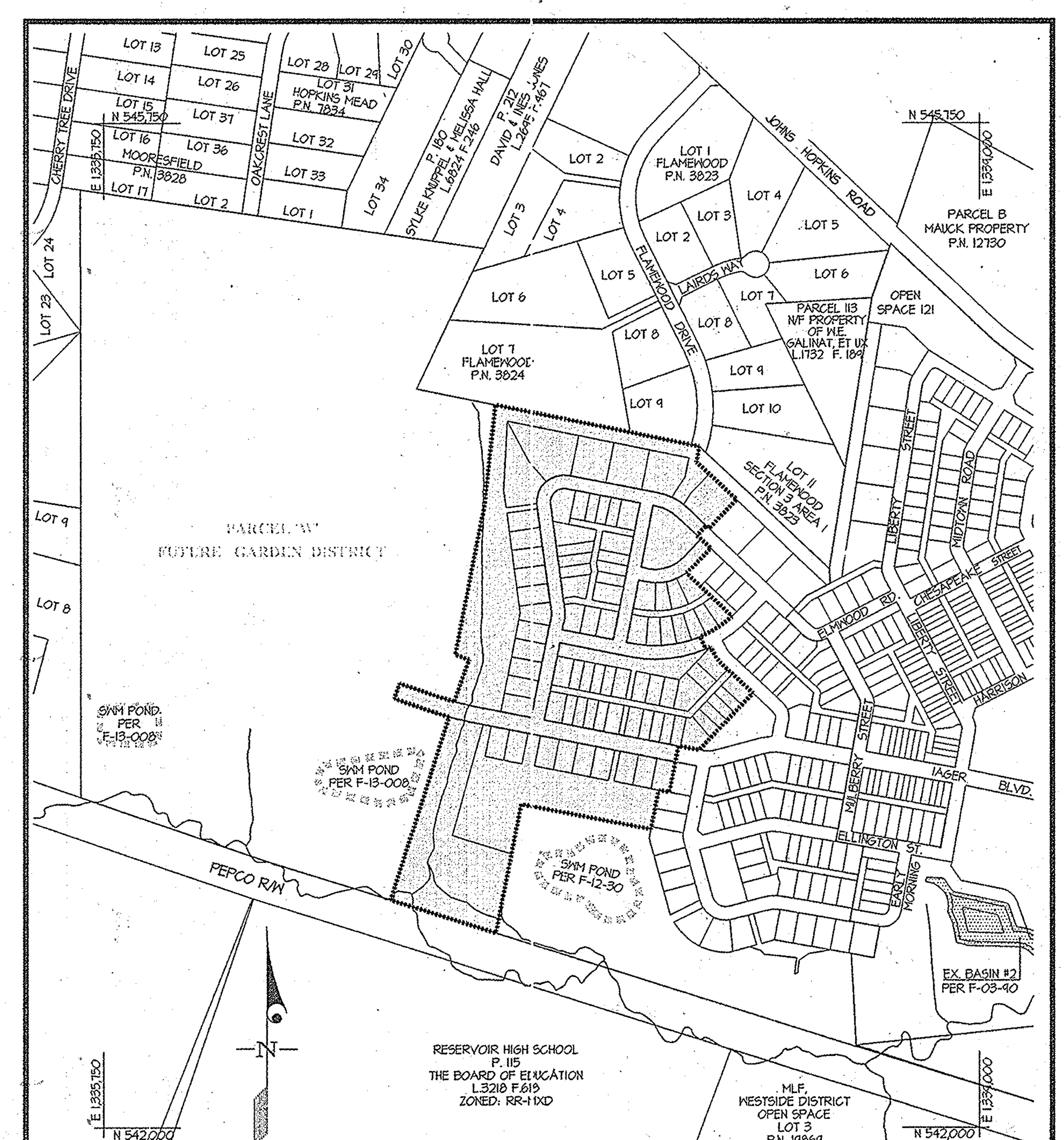
36. PER TABLE 2.11 IN SECTION 2.9.B OF THE HOWARD COUNTY DESIGN MANUAL VOLUME III (ROADS AND BRIDGES), 43 ON STREET GUEST/OVERFLOW PARKING SPACES ARE REQUIRED. THEY ARE BEING PROVIDED AT A RATE OF 0.5 SPACES PER DWELLING. ON-STREET PARKING IS ONLY PERMITTED ON THE 28' ROAD SECTIONS.

WP-01-111
ON MAY 2, 2001, WP-01-111 WAS GRANTED FOR THE FOLLOWING:
- ADDITIONAL POINTS OF ACCESS ALLOWED ONTO SANNER ROAD OTHER THAN THOSE PERMITTED BY 16.119(F)(1), SUBJECT TO FURTHER ANALYSIS AND APPROVALS AT LATER PLAN STAGES.
- RESIDENTIAL LOTS ARE ALLOWED TO FRONT ON NEIGHBORHOOD PARKS INSTEAD BEING LIMITED FRONTAGE ON PUBLIC R/W'S AS IN 16.120(C)(2), SUBJECT TO ADEQUATE PRIVATE ALLEY ACCESS.

WP-03-02
ON OCT. 11,2002, WP-03-02 WAS GRANTED TO ALLOW:
- GRADING WITHIN THE 75' STREAM BUFFER AND FLOODPLAIN AS SHOWN ON THE REVISED GRADING EXHIBIT SUBMITTED 9/6/02 (WAIVER FROM SECTION 16.116 (A)(2)(II) AND SECTION 16.115 (C)(2) RESPECTIVELY.
- ELIMINATION OF TRUNCATION AT RIGHT-OF-WAY CORNERS OF RESIDENTIAL LOTS AND OTHER PARCEL CORNERS AT RIGHT-OF-WAYS WHERE NECESSARY TO ACHIEVE THE TRADITIONAL NEIGHBORHOOD DESIGN (WAIVER FROM SECTION 16.119 (E)(5).

THE DISTURBANCE WITHIN THE FLOODPLAIN AND STREAM BUFFER IS SUBJECT TO OBTAINING THE NECESSARY PERMITS FROM MDE AND DNR. ELIMINATION OF THE TRUNCATIONS IS SUBJECT TO HAVING ADEQUATE SIGHT AND INTERSECTION DISTANCE AS DETERMINED BY THE DPZ, DEVELOPMENT · ENGINEERING DIVISION.

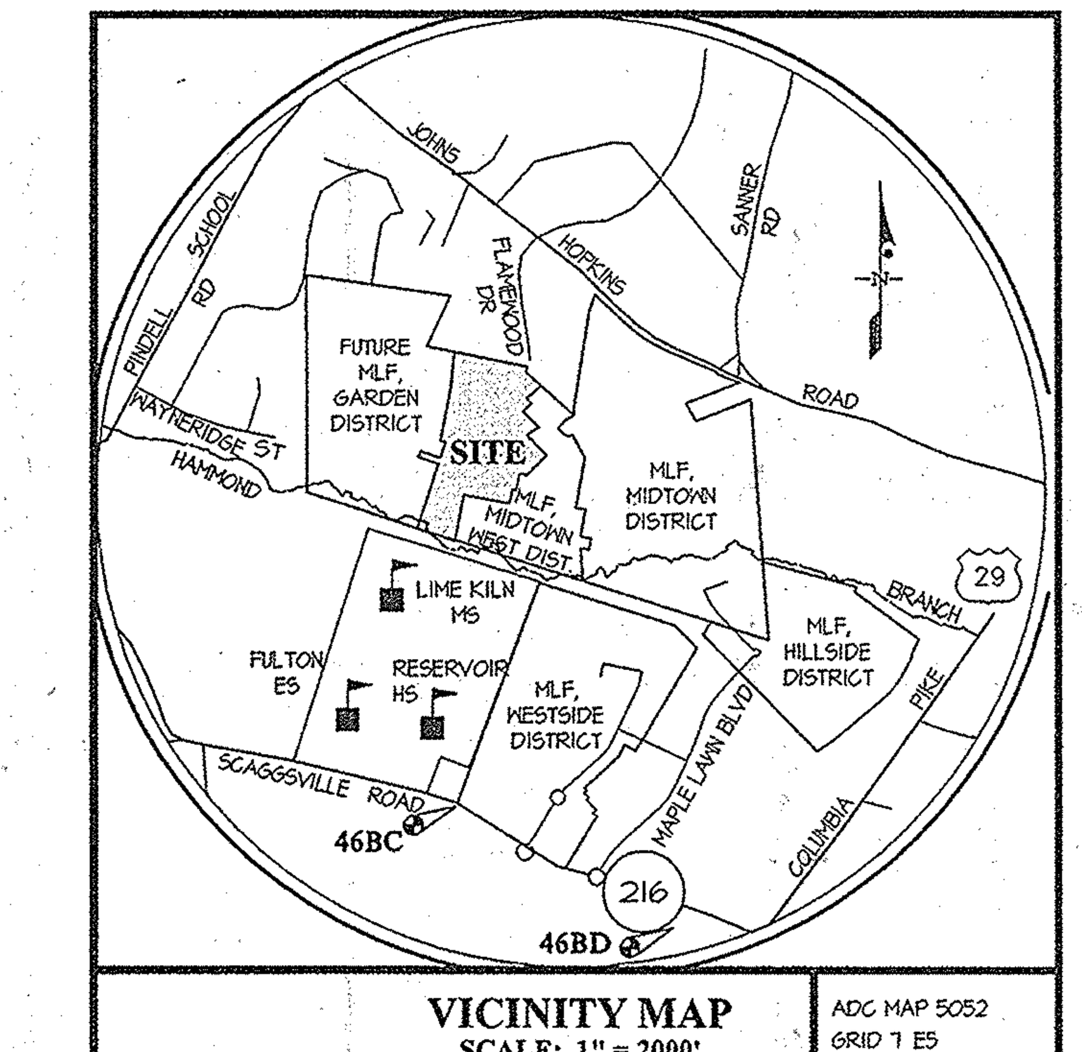
WP-03-120
ON JULY 29, 2003, WP 03-120 WAS GRANTED FOR THE FOLLOWING:
- INSTALLATION OF A TEMPORARY STREAM CROSSING FOR THE PURPOSE OF EARTH MOVING OPERATIONS.



LOCATION PLAN
SCALE: 1" = 400'

SHEET INDEX

1 - COVER SHEET
2 - OVERALL PROJECT CRITERIA and INFORMATION
3 - ROAD CONSTRUCTION PLAN
4 - ROAD CONSTRUCTION PROFILES - ELMWOOD RD., ALFALFA LN. and SPRING AVE.
5 - ROAD CONSTRUCTION PROFILES - IAGER BOULEVARD and GRAND CHAMPION STREET
6 - ROAD DETAILS
7 - ADA COMPLIANT SIDEWALK RAMPS
8 - SIGNING, STREET TREE and LIGHTING
9 - STORM DRAIN INFORMATION PLAN
10 - STORM DRAIN DRAINAGE AREA MAP
11 - STORM DRAIN PROFILES
12 - STORM DRAIN PROFILES
13 - STORM DRAIN PROFILES
14 - STORM DRAIN PROFILES
15 - RECHARGE FACILITY DETAILS
16 - SEDIMENT CONTROL PLAN
17 - SEDIMENT CONTROL NOTES and DETAILS
18 - SEDIMENT CONTROL NOTES and DETAILS -WATERWAY CONSTRUCTION
19 - ARCH SPAN - PLAN, PROFILE and SOIL BORING INFORMATION
20 - ARCH SPAN - PLAN & DETAILS
21 - ARCH SPAN - SPECIFICATIONS
22 - LAND USE PLAN
23 - LANDSCAPE PLAN / NOTES and DETAILS
24 - FOREST CONSERVATION PLAN
25 - FOREST CONSERVATION NOTES and DETAILS



VICINITY MAP
SCALE: 1" = 2000'

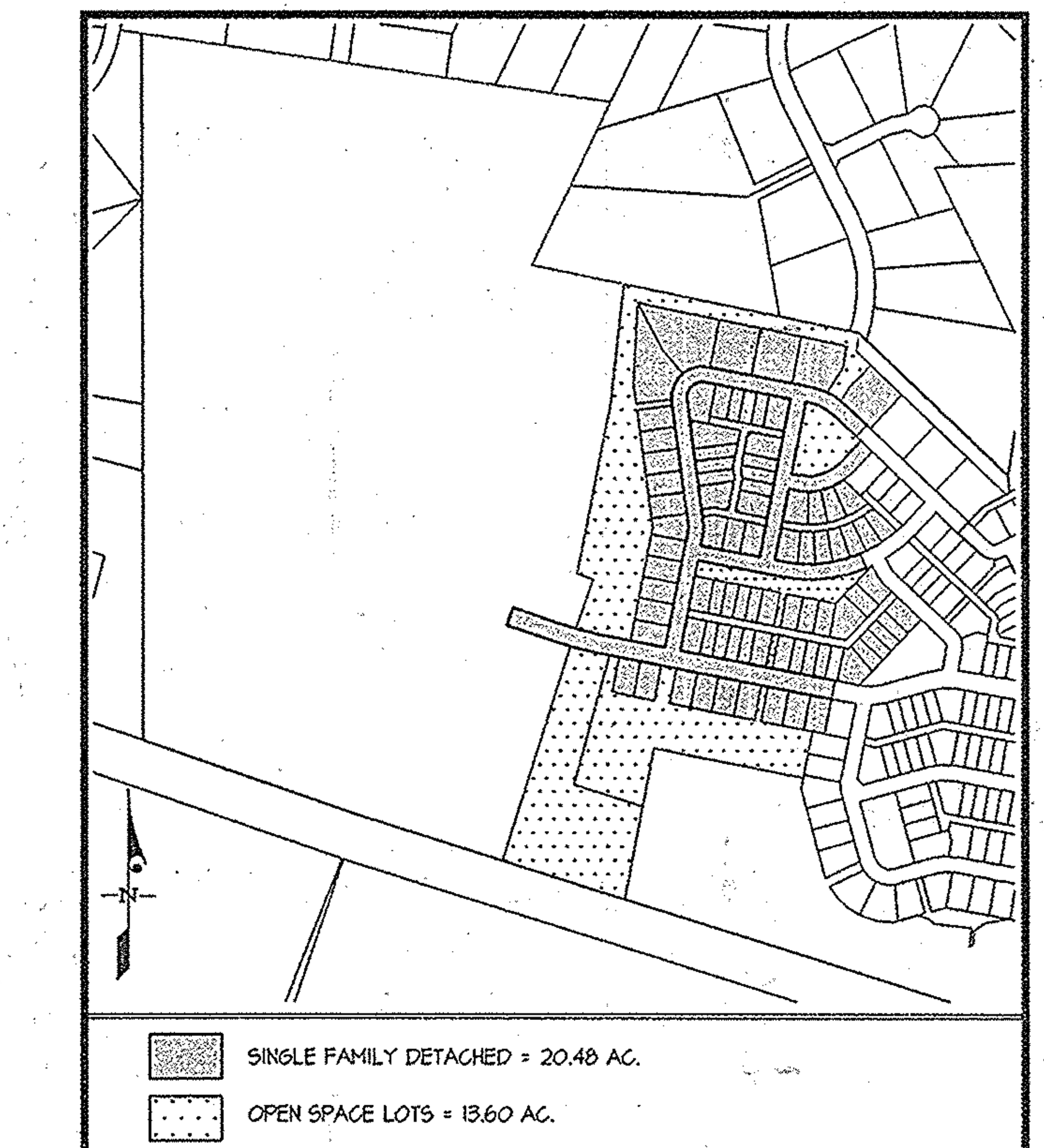
ADC MAP 5052 GRID 7 E5

BENCHMARKS

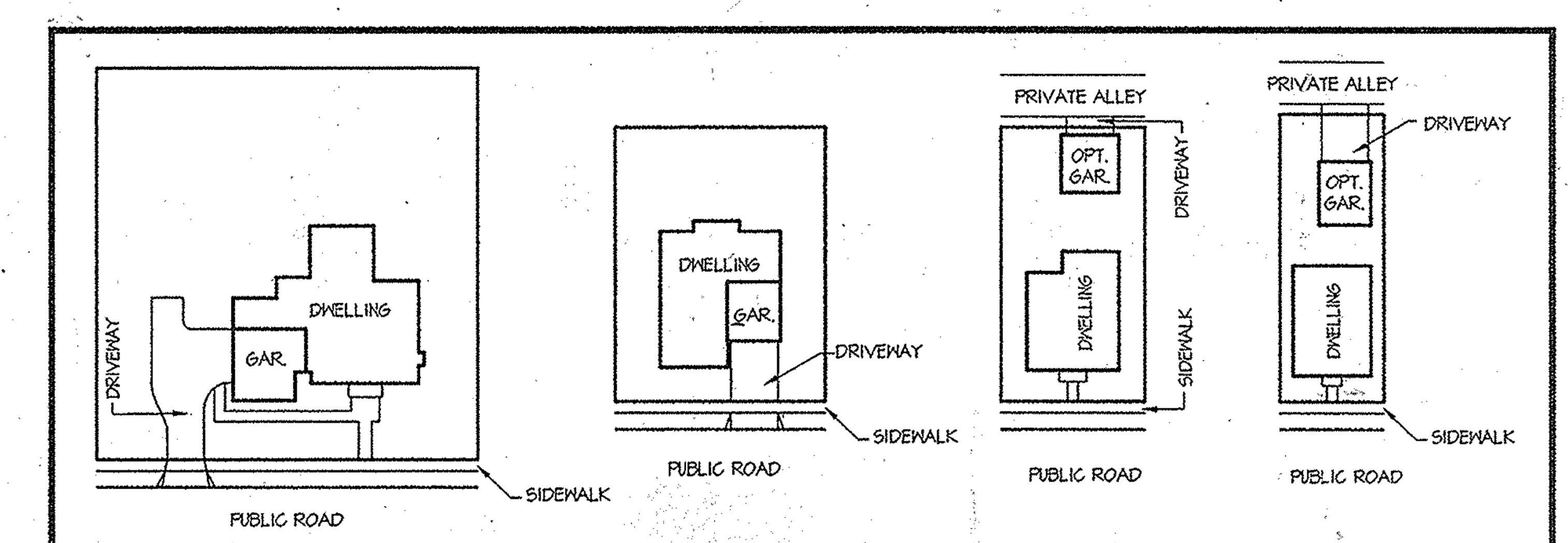
46BC	46BD
ELEV. = 412.16	ELEV. = 431.17
N = 539,425.13 E=1,337,205.77	N = 538,656.76 E=1,339,461.55
STANDARD DISC ON CONCRETE MONUMENT	STANDARD DISC ON CONCRETE MONUMENT

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING TREELINE
- EXISTING SANITARY SEWER
- EXISTING WATERLINE
- EXISTING FIRE HYDRANT
- PROPOSED STORM DRAIN
- STRUCTURE NUMBER
- CONCRETE SIDEWALK (per Ho. Co. Det R-3.05)
- EXISTING CURB AND GUTTER
- PROPOSED CURB AND GUTTER
- PROPOSED BITUMINOUS CURB
- PROPOSED BARRICADE
- 100 YEAR FLOODPLAIN
- STREAM BUFFER
- FOREST CONSERVATION EASEMENT
- BOTTOM OF STREAM
- CENTERLINE OF STREAM
- LIMIT OF WETLAND
- WETLAND AREA
- WETLAND BUFFER
- 15' NO-WOODY ZONE
- LIMIT OF SUBMISSION
- LIMIT OF DISTURBANCE



LAND USE MAP
SCALE: 1" = 600'



TYPICAL FOOTPRINT
SCALE: 1"=60'

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. 12975, Expiration Date: May 26 2016.

10-29-15
Date

Carl K. Gutschick
Professional Engineer
Maryland Reg. No. 12975

LOT INFORMATION

LOT TYPE	LOTS	MINIMUM LOT SIZE & WIDTH AT FRONT BRL	MINIMUM SETBACK REQUIREMENTS
COTTAGE	103-106, 108-111, 114-117, 120-123, 131-136, 139-141, 143-145, 151-153, 157-159	SEE SHEET 2	SEE SHEET 2
MANOR	102, 107, 112, 113, 124-127, 129, 130, 137, 138, 154-156	SEE SHEET 2	SEE SHEET 2
VILLA	93-101, 118, 119, 128, 142, 146-150, 160, 167-177	SEE SHEET 2	SEE SHEET 2
ESTATE	161-166	SEE SHEET 2	SEE SHEET 2

ASBUILTS

ASBUILT SHEET 1 OF 11

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Diane Schwarz, Acting — 11/29/12
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Kent Sheubrooks — 12/11/12
Chief, Division of Land Development — Date
Chad Edmondson — 12.6.12
Chief, Development Engineering Division — Date

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 01-02_CS.dwg | DES. DEV | DRN. KLP | CHK. CKG

DATE	REVISION	BY	APP'R.

PREPARED FOR:
MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS 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. 12975, EXPIRATION DATE: MAY 26, 2014
11-7-12

STATE OF MARYLAND — CARLTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

COVER SHEET
MAPLE LAWN FARMS
MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND COMMON OPEN AREA LOTS 184 THRU 186

ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	MXD-3	11001
DATE	TAX MAP - GRID	SHEET
OCT. 2015 / OCT. 2012	41-21/46-3	1 OF 25

ASBUILTS F-13-007

C.L. CURVE DATA CHART

STREET NAME	CURVE	PC STA.	PT STA.	RADIUS	TANGENT	ARC	CHORD	BEARING	DELTA
ELMWOOD ROAD	A	10+24.53	11+29.21	185.00'	53.79'	104.69'	103.29'	N 62°44'40" W	32°25'19"
ELMWOOD ROAD	B	14+69.06	16+11.26	75.00'	104.44'	142.21'	121.84'	S 46°43'35" W	108°38'12"
ELMWOOD ROAD	C	20+15.36	20+30.00	45.00'	7.38'	14.64'	14.57'	N 01°43'35" E	18°38'12"
ALFALFA LANE	D	1+19.87	2+85.68	165.00'	90.67'	165.81'	158.92'	N 72°15'20" E	57°34'41"
GRAND CHAMPION STREET	E	3+05.56	5+71.08	449.00'	136.77'	265.52'	261.67'	N 84°06'12" E	33°52'51"
IAGER BOULEVARD	F	23+63.45	25+19.70	1100.00'	78.26'	156.25'	156.12'	S 74°53'10" E	8°08'19"

TOP OF CURB ELEVATION TABLE FOR ELMWOOD ROAD

PT. NO	STATION	OFFSET	ELEV.	ASBUILT
E1	9+25.08	14.0' RT.	445.25	445.03
E2	10+24.53	14.0' RT.	446.96	446.62
E3	11+29.21	14.0' RT.	448.70	448.70
E4	14+69.06	14.0' RT.	448.22	447.83
E5	16+11.26	14.0' RT.	444.31	443.96
E6	20+15.36	14.0' RT.	433.36	
E7	20+30.00	14.0' RT.	433.41	433.12
E8	24+18.74	14.0' RT.	426.30	426.37
E9	9+25.68	12.0' LT.	445.32	445.10
E10	9+33.68	20.0' LT.	445.25	445.21
E11	10+24.53	20.0' LT.	446.78	446.83
E12	10+70.67	20.0' LT.	447.55	447.63
E13	10+79.23	12.4' LT.	447.92	447.98
E14	11+20.15	13.8' LT.	448.56	448.71
E15	11+28.58	14.0' LT.	448.69	448.29
E16	12+04.63	14.0' LT.	449.95	449.91
E17	14+69.06	14.0' LT.	448.22	448.29
E18	16+11.26	14.0' LT.	443.98	444.13
E19	20+15.36	14.0' LT.	433.36	433.44
E20	20+30.00	14.0' LT.	433.11	433.11
E22	21+40.74	14.0' LT.	431.17	431.14
E23	24+18.74	14.0' LT.	431.55	426.53

TOP OF CURB ELEVATION TABLE FOR GRAND CHAMPION STREET

PT. NO	STATION	OFFSET	ELEV.	ASBUILT
G1	3+05.56	14.0' RT.	439.18	439.22
G2	5+71.08	14.0' RT.	440.16	440.12
G3	5+86.07	14.0' RT.	439.82	439.85
G4	6+64.07	14.0' RT.	437.48	437.46
G5	8+29.07	14.0' RT.	432.22	432.29
G6	3+05.56	14.0' LT.	439.18	439.21
G7	5+71.08	14.0' LT.	440.16	440.13
G8	8+29.07	14.0' LT.	432.22	432.29

TOP OF CURB ELEVATION TABLE FOR IAGER BOULEVARD

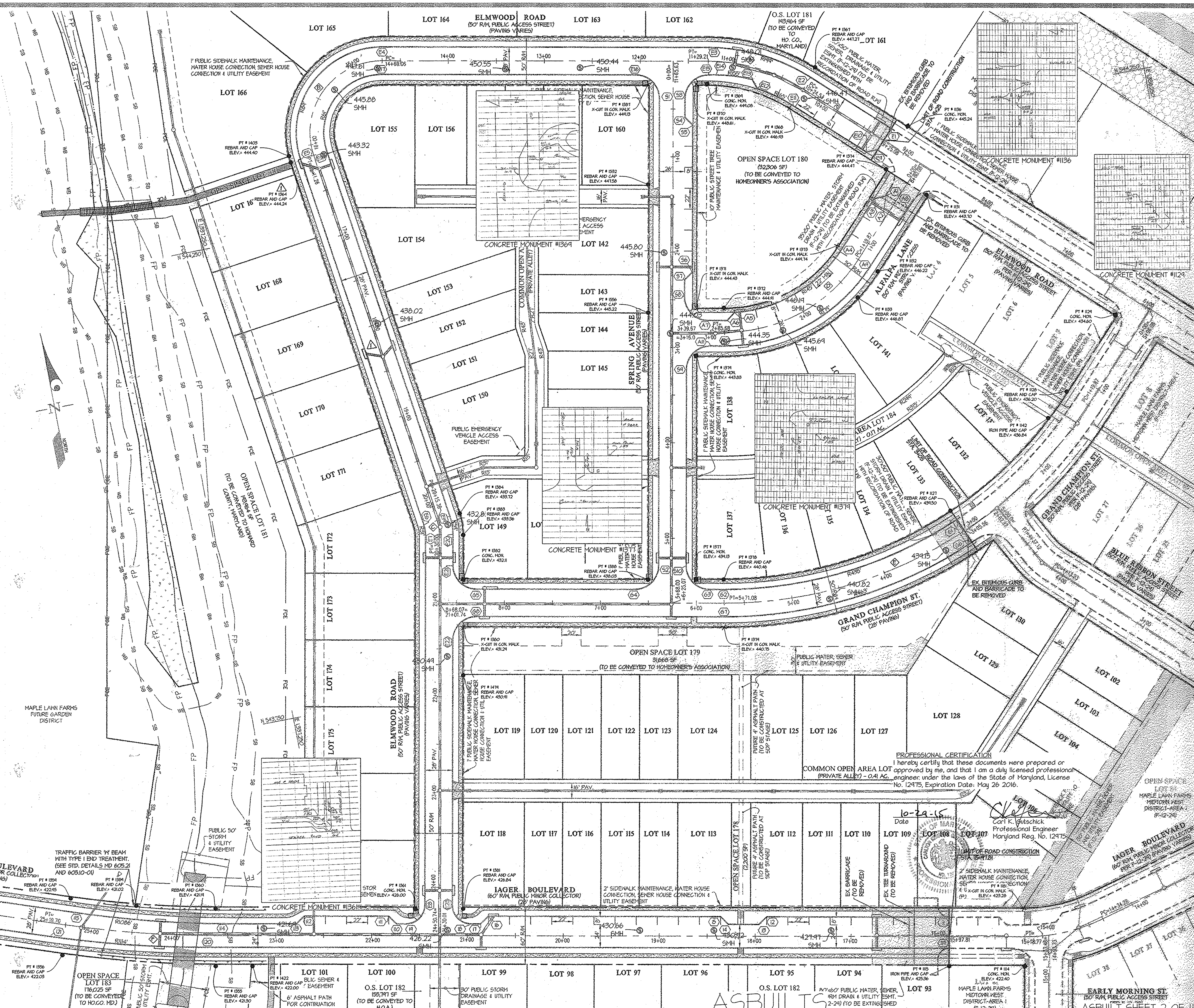
PT. NO	STATION	OFFSET	ELEV.	ASBUILT
I1	15+97.81	20.0' RT.	MATCH EX.	425.07
I2	17+87.82	20.0' RT.	429.83	429.82
I3	17+95.82	12.0' RT.	430.25	430.22
I4	18+28.01	12.0' RT.	430.84	444.13
I5	18+36.01	20.0' RT.	430.70	430.72
I6	20+78.01	20.0' RT.	427.47	427.51
I7	20+86.01	12.0' RT.	427.52	
I8	20+96.01	12.0' RT.	427.28	427.41
I9	21+64.01	12.0' RT.	425.68	425.63
I10	21+74.01	12.0' RT.	425.44	425.43
I11	21+82.01	20.0' RT.	425.01	425.02
I12	22+70.01	20.0' RT.	422.93	422.91
I13	22+78.01	12.0' RT.	422.99	422.81
I14	23+49.47	12.0' RT.	421.50	421.45
I15	25+05.39	13.9' RT.	421.66	421.72
I16	26+64.61	14.0' RT.	424.62	424.58
I19	15+97.81	12.0' LT.	424.81	424.78
I20	23+77.29	12.0' LT.	421.18	421.15
I21	25+33.83	14.0' LT.	422.26	422.24
I22	26+64.61	14.0' LT.	424.62	424.68

TOP OF CURB ELEVATION TABLE FOR SPRING AVENUE

PT. NO	STATION	OFFSET	ELEV.	ASBUILT
S1	0+39.00	14.0' RT.	448.61	448.79
S2	5+29.00	14.0' RT.	438.87	438.92
				448.29
S3	0+39.00	12.0' LT.	448.67	444.72
S4	0+59.00	12.0' LT.	448.44	448.48
S5	0+67.00	20.0' LT.	448.12	448.07
S6	2+21.00	20.0' LT.	445.62	445.71
S7	2+29.00	12.0' LT.	445.68	445.62
S8	2+47.00	12.0' LT.	445.27	445.21
S9	3+23.00	14.0' LT.	443.50	443.44
S10	5+29.00	14.0' LT.	438.87	438.90

TOP OF CURB ELEVATION TABLE FOR ALFALFA LANE

PT. NO	STATION	OFFSET	ELEV.	ASBUILT
A1	0+47.58	12.0' RT.	444.63	444.78
A2	0+49.15	12.0' RT.	444.66	444.78
A3	0+57.15	20.0' RT.	444.62	444.83
A4	1+19.87	20.0' RT.	446.08	446.03
A5	2+73.81	20.0' RT.	445.00	445.09
A6	2+82.44	12.0' RT.	445.03	445.00
A7	3+02.67	12.0' RT.	444.56	444.66
A8	0+47.58	14.0' LT.	444.57	444.31
A9	1+19.88	14.0' LT.	446.26	446.19
A10	2+85.69	14.0' LT.	444.86	444.91
A11	3+00.67	14.0' LT.	444.55	444.49



NOTES:

1. ROAD CONSTRUCTION PROFILE FOR ELMWOOD ROAD, ALFALFA LANE AND SPRING AVENUE IS ON SHEET 4.
2. ROAD CONSTRUCTION PROFILE FOR IAGER BOULEVARD AND GRAND CHAMPION STREET IS ON SHEET 5.
3. ALL CURB RADII ARE 25' UNLESS OTHERWISE NOTED.
4. FOR TYPICAL ROAD SECTIONS SEE SHEET 6.
5. FOR STREET TREE AND STREET LIGHT INFORMATION SEE SHEET 7.
6. FOR STORM DRAIN INFORMATION SEE SHEET 8.
7. ALL STORM DRAIN IN COMMON OPEN AREAS SHALL BE PRIVATELY OWNED AND MAINTAINED.
8. A PUBLIC SIDEWALK MAINTENANCE, WATER HOUSE CONNECTION, SEWER HOUSE CONNECTION & UTILITY EASEMENT HAS BEEN ADDED TO LOTS WITH FRONT AND/OR SIDE LOT LINES ADJACENT TO A PUBLIC RIGHT-OF-WAY.
9. ALL SIDEWALK IS 4' UNLESS OTHERWISE NOTED.
10. ALL SIDEWALKS THAT END WITH A HANDICAP RAMP MUST MEET HOWARD COUNTY STANDARD R-4.02 (SIDEWALK RAMP TYPE 'B').
11. THERE WILL BE A 10' TRANSITION FROM 4' SIDEWALK TO 5' SIDEWALK ADJACENT TO THE CURB. THE 5' WIDTH IS TO BE MEASURED FROM THE BACK OF CURB.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Diane Schwarz, Acting — 11/29/12
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[signature] — 12/11/12
Chief, Division of Land Development — Date

Chad Edmondson — 12.6.12
Chief, Development Engineering Division — Date

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
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L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 03-05_SG.dwg | DES. DEV | DRN. dds | CHK. CKG

DATE	REVISION	BY	APP'R.
08/00/2015	1 rev. c.o. to accomodate lot grading pedestrian pathway & APA ...	WKJ	DEV

PREPARED FOR:
MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS 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. 12975 EXPIRATION DATE: MAY 26, 2014
11-7-12

ROAD CONSTRUCTION PLAN

MAPLE LAWN FARMS

MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND COMMON OPEN AREA LOTS 184 THRU 186

ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 50'	MXD-3	11001
DATE	TAX MAP – GRID	SHEET
OCT., 2015 OCT. 2012	41-21/46-3	3 OF 25

C.L. CURVE DATA CHART

STREET NAME	CURVE	PC STA.	PT STA.	RADIUS	TANGENT	ARC	CHORD	BEARING	DELTA
ELMWOOD ROAD	A	10+24.53	11+29.21	185.00'	53.79'	104.69'	103.29'	N 62°44'40" W	32°25'19"
ELMWOOD ROAD	B	14+69.06	16+11.26	75.00'	104.44'	142.21'	121.84'	S 46°43'35" W	108°38'12"
ELMWOOD ROAD	C	20+15.36	20+30.00	45.00'	7.38'	14.64'	14.57'	N 01°43'35" E	18°39'12"
ALFALFA LANE	D	1+19.87	2+85.68	165.00'	90.67'	165.81'	158.92'	N 72°15'20" E	57°34'48"
GRAND CHAMPION STREET	E	3+05.56	5+71.08	449.00'	136.77'	265.52'	261.67'	N 84°06'12" E	33°52'51"
IAGER BOULEVARD	F	23+63.45	25+19.70	1100.00'	78.26'	156.25'	156.12'	S 74°53'10" E	8°08'19"

TOP OF CURB ELEVATION TABLE FOR ELMWOOD ROAD

PT. NO	STATION	OFFSET	ELEV.	ASBUILT
E1	9+25.08	14.0' RT.	445.25	445.03
E2	10+24.53	14.0' RT.	446.96	446.62
E3	11+29.21	14.0' RT.	448.70	448.70
E4	14+69.06	14.0' RT.	448.22	447.83
E5	16+11.26	14.0' RT.	444.31	443.96
E6	20+15.36	14.0' RT.	433.36	
E7	20+30.00	14.0' RT.	433.41	433.12
E8	24+18.74	14.0' RT.	426.30	426.37
E9	9+25.68	12.0' LT.	445.32	445.10
E10	9+33.68	20.0' LT.	445.25	445.21
E11	10+24.53	20.0' LT.	446.78	446.83
E12	10+70.67	20.0' LT.	447.55	447.63
E13	10+79.23	12.4' LT.	447.92	447.98
E14	11+20.15	13.8' LT.	448.56	448.71
E15	11+28.58	14.0' LT.	448.69	448.29
E16	12+04.63	14.0' LT.	449.95	449.91
E17	14+69.06	14.0' LT.	448.22	448.29
E18	16+11.26	14.0' LT.	443.98	444.13
E19	20+15.36	14.0' LT.	433.36	433.44
E20	20+30.00	14.0' LT.	433.11	433.11
E22	21+40.74	14.0' LT.	431.17	431.14
E23	24+18.74	14.0' LT.	431.55	426.53

TOP OF CURB ELEVATION TABLE FOR GRAND CHAMPION STREET

PT. NO	STATION	OFFSET	ELEV.	ASBUILT
G1	3+05.56	14.0' RT.	439.18	439.22
G2	5+71.08	14.0' RT.	440.16	440.12
G3	5+86.07	14.0' RT.	439.82	439.85
G4	6+64.07	14.0' RT.	437.48	437.46
G5	8+29.07	14.0' RT.	432.22	432.29
G6	3+05.56	14.0' LT.	439.18	439.21
G7	5+71.08	14.0' LT.	440.16	440.13
G8	8+29.07	14.0' LT.	432.22	432.29

TOP OF CURB ELEVATION TABLE FOR IAGER BOULEVARD

PT. NO	STATION	OFFSET	ELEV.	ASBUILT
I1	15+97.81	20.0' RT.	MATCH EX.	425.07
I2	17+87.82	20.0' RT.	429.83	429.82
I3	17+95.82	12.0' RT.	430.25	430.22
I4	18+28.01	12.0' RT.	430.84	444.13
I5	18+36.01	20.0' RT.	430.70	430.72
I6	20+78.01	20.0' RT.	427.47	427.51
I7	20+86.01	12.0' RT.	427.52	
I8	20+96.01	12.0' RT.	427.28	427.41
I9	21+64.01	12.0' RT.	425.68	425.63
I10	21+74.01	12.0' RT.	425.44	425.43
I11	21+82.01	20.0' RT.	425.01	425.02
I12	22+70.01	20.0' RT.	422.93	422.91
I13	22+78.01	12.0' RT.	422.99	422.81
I14	23+49.47	12.0' RT.	421.50	421.45
I15	25+05.39	13.9' RT.	421.66	421.72
I16	26+64.61	14.0' RT.	424.62	424.58
I19	15+97.81	12.0' LT.	424.81	424.78
I20	23+77.29	12.0' LT.	421.18	421.15
I21	25+33.83	14.0' LT.	422.26	422.24
I22	26+64.61	14.0' LT.	424.62	424.68

TOP OF CURB ELEVATION TABLE FOR SPRING AVENUE

PT. NO	STATION	OFFSET	ELEV.	ASBUILT
S1	0+39.00	14.0' RT.	448.61	448.79
S2	5+29.00	14.0' RT.	438.87	438.92
				448.29
S3	0+39.00	12.0' LT.	448.67	444.72
S4	0+59.00	12.0' LT.	448.44	448.48
S5	0+67.00	20.0' LT.	448.12	448.07
S6	2+21.00	20.0' LT.	445.62	445.71
S7	2+29.00	12.0' LT.	445.68	445.62
S8	2+47.00	12.0' LT.	445.27	445.21
S9	3+23.00	14.0' LT.	443.50	443.44
S10	5+29.00	14.0' LT.	438.87	438.90

TOP OF CURB ELEVATION TABLE FOR ALFALFA LANE

PT. NO	STATION	OFFSET	ELEV.	ASBUILT
A1	0+47.58	12.0' RT.	444.63	444.78
A2	0+49.15	12.0' RT.	444.66	444.78
A3	0+57.15	20.0' RT.	444.62	444.83
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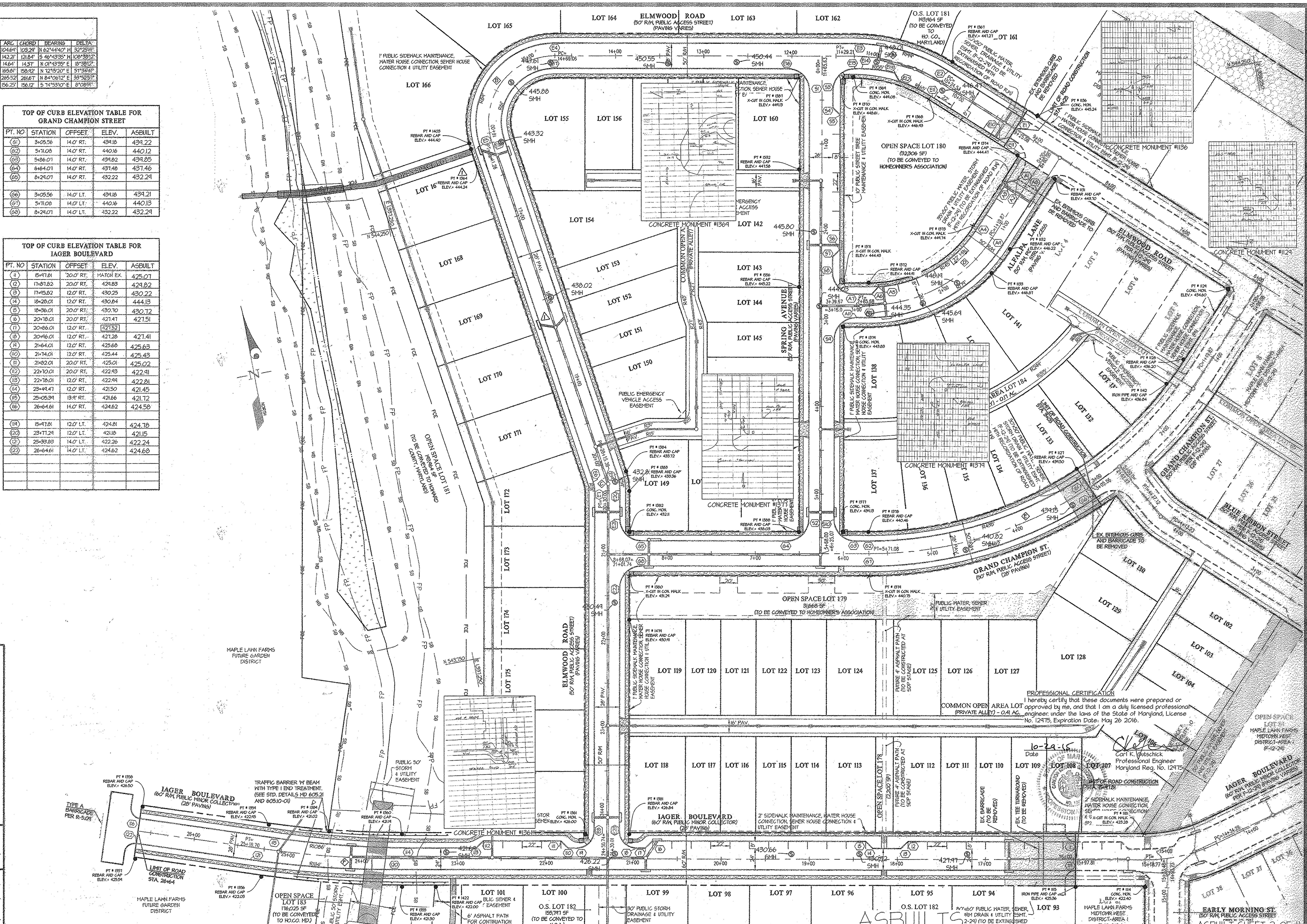
A5	2+73.81	20.0' RT.	445.00	445.09
A6	2+82.44	12.0' RT.	445.03	445.00
A7	3+02.67	12.0' RT.	444.56	444.66
A8	0+47.58	14.0' LT.	444.57	444.31
A9	1+19.88	14.0' LT.	446.26	446.19
A10	2+85.69	14.0' LT.	444.86	444.91
A11	3+00.67	14.0' LT.	444.55	444.49



NOTES:

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11. THERE WILL BE A 10' TRANSITION FROM 4' SIDEWALK TO 5' SIDEWALK ADJACENT TO THE CURB. THE 5' WIDTH IS TO BE MEASURED FROM THE BACK OF CURB.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Diane Schwarz, Acting — 11/29/12
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Kent Sheubrooks — 12/11/12
Chief, Division of Land Development — Date

Chad Edmondson — 12-6-12
Chief, Development Engineering Division — Date

GLW GUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 03-05_SG.dwg | DES. DEV | DRN. dds | CHK. CKG

DATE	REVISION	BY	APP'R.
08/00/2017	1 rev. c.o. to accomodate lot grading pedestrian pathway & ADA ramps	WGJ	DEV

PREPARED FOR:

MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS 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. 12975 EXPIRATION DATE: MAY 26, 2014

11-7-12

STATE OF MARYLAND — CARLTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

ROAD CONSTRUCTION PLAN

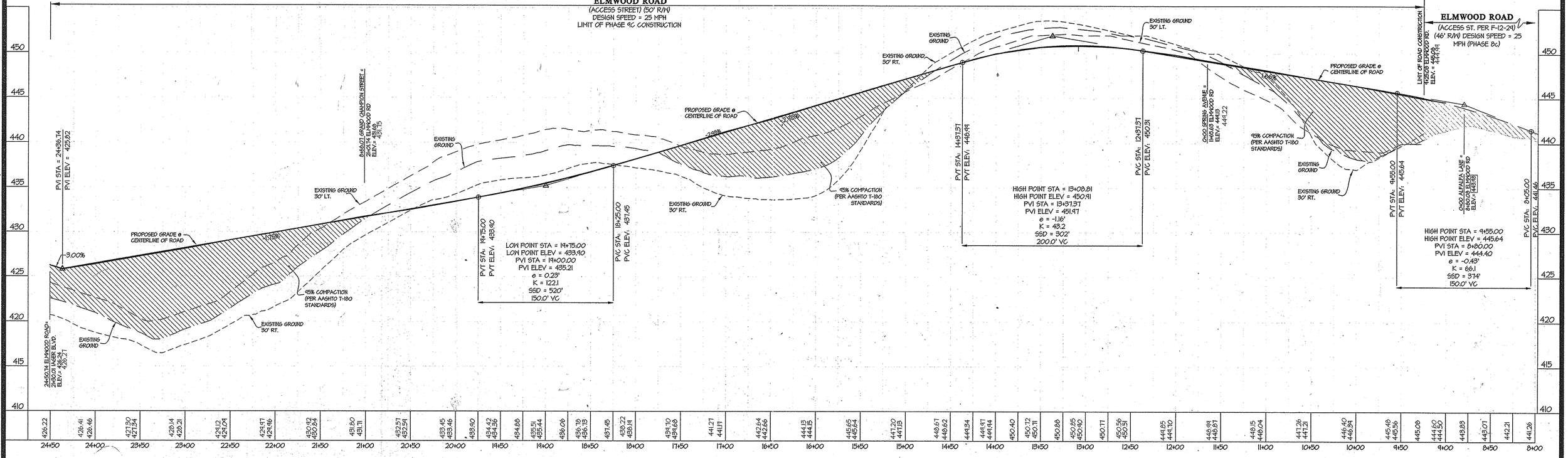
MAPLE LAWN FARMS

MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND
COMMON OPEN AREA LOTS 184 THRU 186

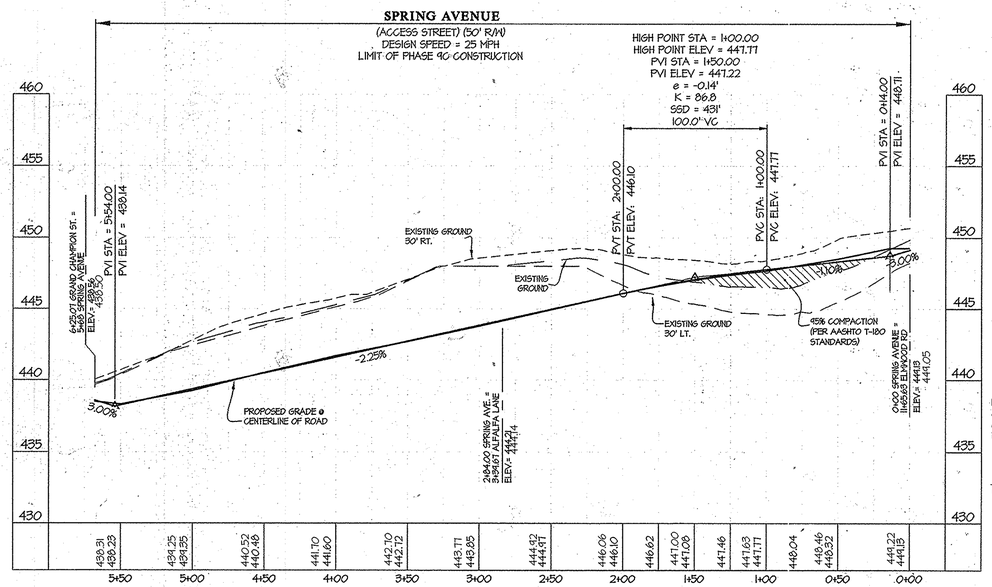
ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 50'	MXD-3	11001
DATE	TAX MAP – GRID	SHEET
OCT., 2015 / OCT. 2012	41-21/46-3	3 OF 25

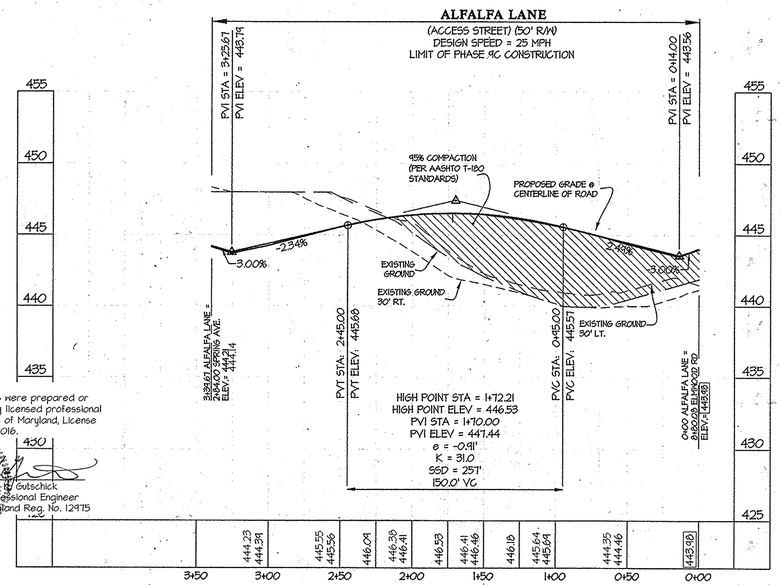
ASBUILTS F-13-007



ROAD CONSTRUCTION PROFILE - ELMWOOD ROAD



ROAD CONSTRUCTION PROFILE - SPRING AVENUE



ASBUILTS ROAD CONSTRUCTION PROFILE - ALFALFA LANE

ASBUILT SHEET 3 OF 11

LEGEND

- EXISTING GRADE
- EXISTING GRADE LEFT
- EXISTING GRADE RIGHT
- PROPOSED GRADE ℄ CENTERLINE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Diane Schwarz, Acting — 11/29/12
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Kent Sheubrooks — 12/11/12
Chief, Division of Land Development — Date

Chad Edmondson — 12-6-12
Chief, Development Engineering Division — Date

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. 12975, Expiration Date: May 26 2016.

10-29-15
Date

Carl D. Gutschick
Professional Engineer
Maryland Reg. No. 12975

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 03-05_SG.dwg | DES. DEV | DRN. dds | CHK. cwg

DATE	REVISION	BY	APP'R.

PREPARED FOR:

MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

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1-7-12

ROAD CONSTRUCTION PROFILES - ELMWOOD RD., ALFALFA LN. and SPRING AVE.

MAPLE LAWN FARMS

MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND COMMON OPEN AREA LOTS 184 THRU 186

ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

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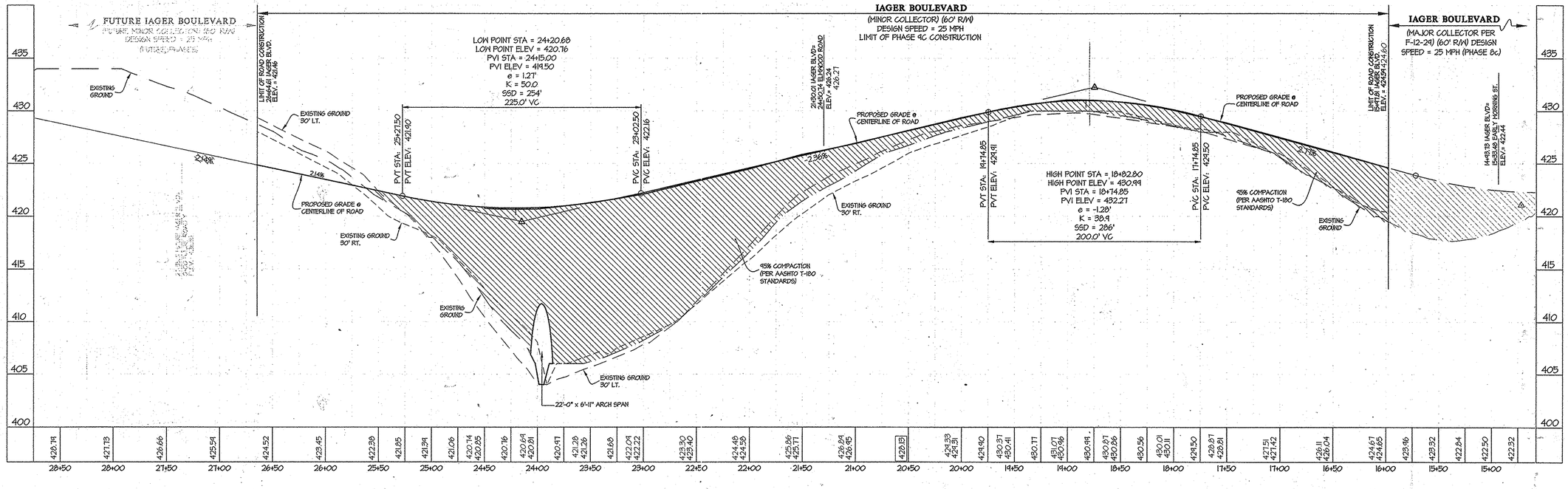
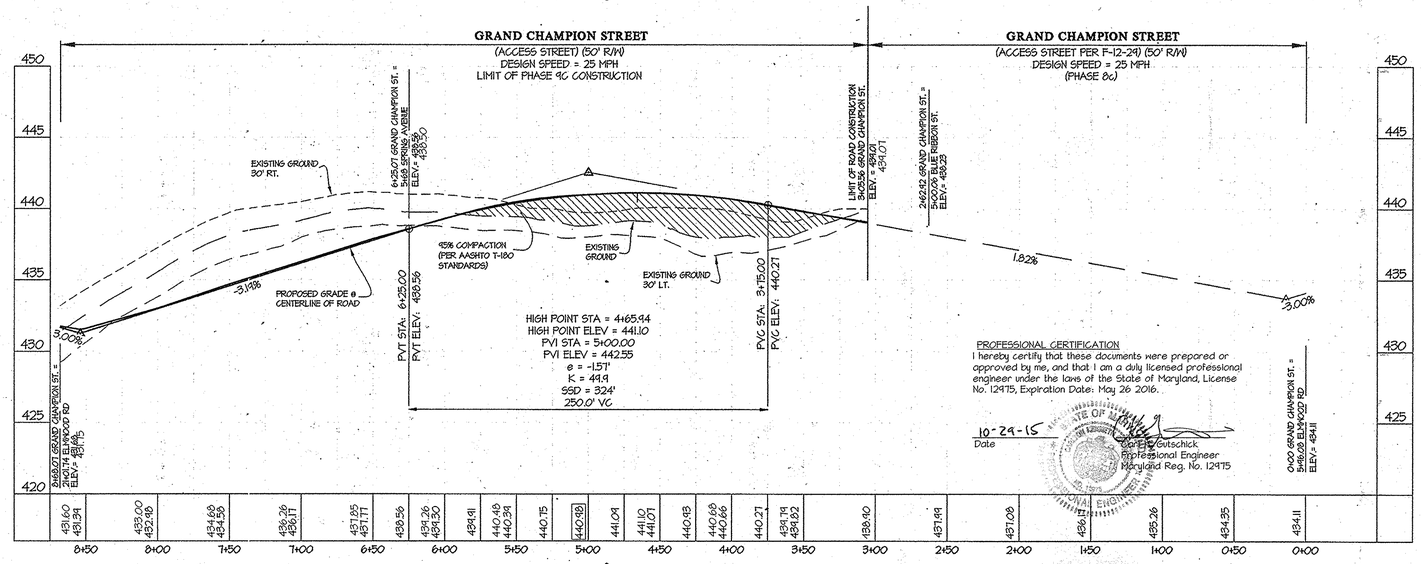
1"=50' HORZ. 1"=5' VERT.	MXD-3	11001
DATE OCT. 2015 OCT. 2012	TAX MAP ÷ GRID 41-21/46-3	SHEET 4 OF 25

ASBUILTS F-13-007



ROAD CONSTRUCTION PROFILE - IAGER BOULEVARD



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. 12975, Expiration Date: May 26 2016.

10-29-15
Date

Gary K. Gutschick
Professional Engineer
Maryland Reg. No. 12975

ROAD CONSTRUCTION PROFILE - GRAND CHAMPION STREET ASBUILTS

ASBUILT SHEET 4 OF 11

LEGEND
- EXISTING GRADE
- EXISTING GRADE LEFT
- EXISTING GRADE RIGHT
- PROPOSED GRADE ℄ CENTERLINE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Diane Schwarz, Acting — 11/29/12
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Kent Sheubrooks — 12/11/12
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Chief, Development Engineering Division — Date

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L:\CADD\DRAWINGS\11001\SHEETS\ROADS-SP\11001 03-05_SC.dwg | DES. DEV | DRN. dds | CHK. cks

DATE	REVISION	BY	APP'R.

PREPARED FOR:
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EXPIRATION DATE: MAY 26, 2014
11-7-12

STATE OF MARYLAND — GARY K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

ROAD CONSTRUCTION PROFILES - GRAND CHAMPION STREET and IAGER BOULEVARD

MAPLE LAWN FARMS
MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND COMMON OPEN AREA LOTS 184 THRU 186

ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
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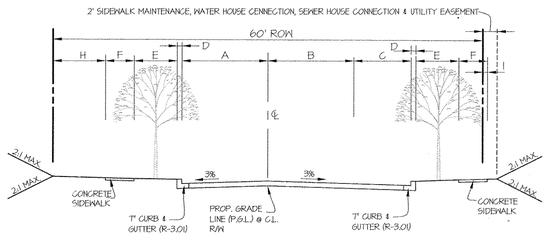
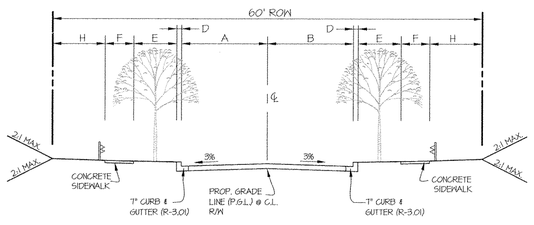
DATE OCT., 2015 OCT. 2012	TAX MAP – GRID 41-21/46-3	SHEET 5 OF 25

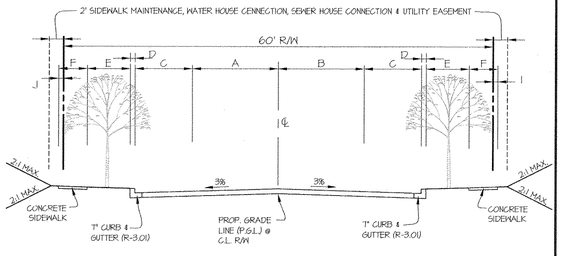
ASBUILTS F-13-007



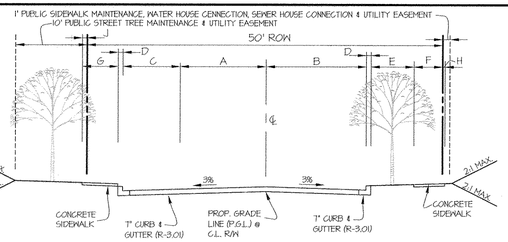
1 **TYPICAL SECTION FOR 60' R/W WITH RIGHT PARALLEL PARKING** NO SCALE



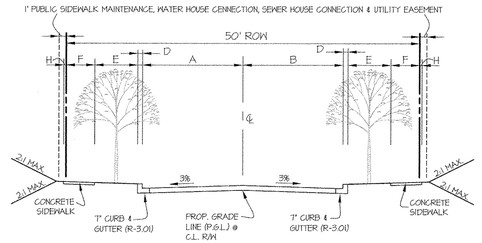
2 **TYPICAL SECTION FOR 60' R/W WITH NO PARALLEL PARKING** NO SCALE



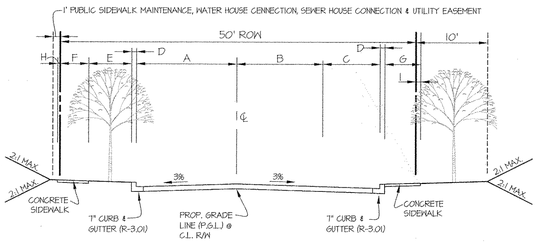
3 **TYPICAL SECTION FOR 60' R/W WITH LEFT & RIGHT PARALLEL PARKING** NO SCALE



4 **TYPICAL SECTION FOR 50' R/W WITH LEFT PARALLEL PARKING** NO SCALE



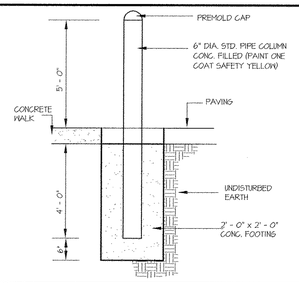
5 **TYPICAL SECTION FOR 50' R/W WITH NO PARALLEL PARKING** NO SCALE



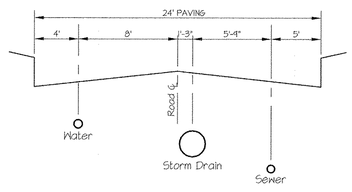
6 **TYPICAL SECTION FOR 50' R/W WITH RIGHT PARALLEL PARKING** NO SCALE

THIS DETAIL HAS BEEN OMITTED INTENTIONALLY

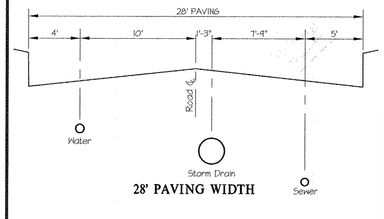
7



8 **BOLLARD DETAIL** NO SCALE

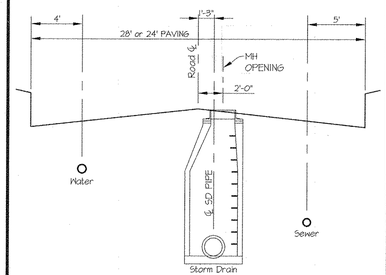


24' PAVING WIDTH

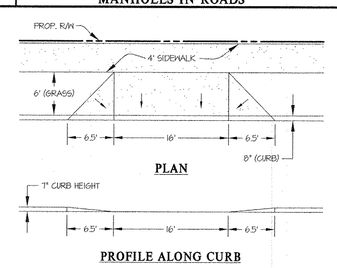


28' PAVING WIDTH

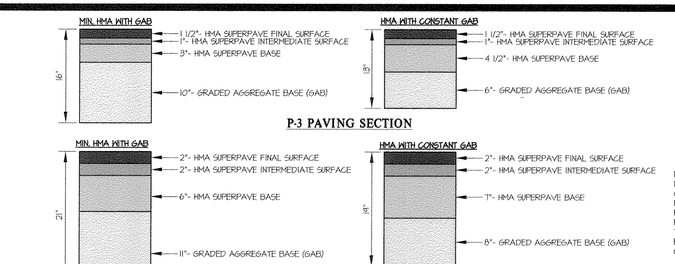
9 **TYPICAL UTILITY LOCATIONS** SCALE: 1"=6'



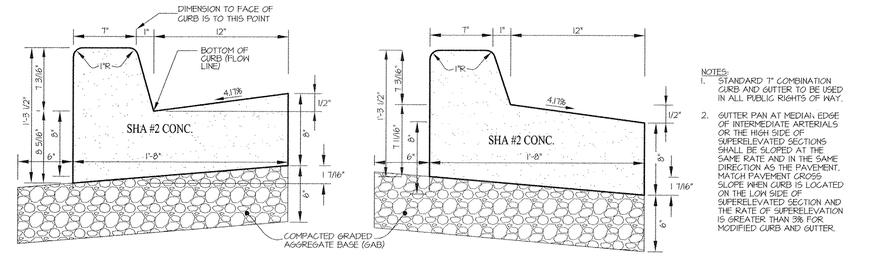
10 **DETAIL FOR SETTING STORM DRAIN MANHOLES IN ROADS** SCALE: 1"=6'



11 **TYPICAL ALLEY ENTRANCE DETAIL** NO SCALE

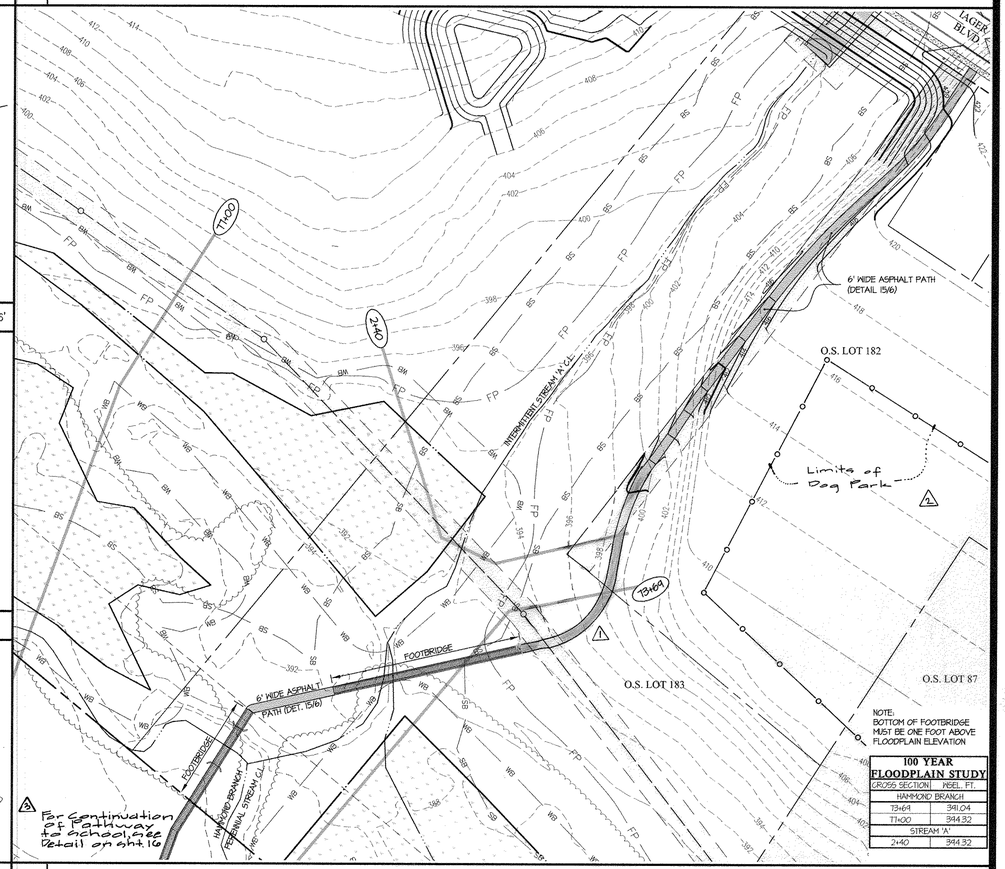


12 **PAVING SECTIONS** NO SCALE



13 **7" CONCRETE CURB AND GUTTER (STANDARD AND REVERSE)** NO SCALE

15 **6' ASPHALT PATHWAY DETAIL** NO SCALE



14 **6' ASPHALT PATHWAY PLAN VIEW** 1"=50'

NOTE: ALL TYPICAL SECTIONS HAVE BEEN SHOWN LOOKING UP STATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Diane Schwarz, Acting — Chief, Bureau of Highways — 11/29/12 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Kent Sheubrooks — Chief, Division of Land Development — 12/4/12 Date

Chad Edmondson — Chief, Development Engineering Division — 12.6.12 Date

ROAD INFORMATION

ROAD NAME	STATION	CLASSIFICATION	DESIGN SPEED	A	B	G	D	E	F	G	H	I	J	R/W	PAVING SECTION	SECTION
IAGER BOULEVARD	15+17.81 TO 22+78	MINOR COLLECTOR	25 MPH	12'	12'	8'	8"	6'	4'	-	7'-4"	8"	-	60'	P-5	1
IAGER BOULEVARD	22+78 TO 24+13	MINOR COLLECTOR	25 MPH	12'	12'	-	8"	6'	4'	-	7'-4"	-	-	60'	P-5	2
IAGER BOULEVARD	24+93 TO 26+64.60	MINOR COLLECTOR	25 MPH	12'	12'	8'	8"	6'	4'	-	-	8"	8"	60'	P-5	3
ELMWOOD ROAD	9+25.00 TO 11+65.63	ACCESS STREET	25 MPH	12'	14'	8'	8"	6'	4'	5'	4"	-	8"	50'	P-3	4
ELMWOOD ROAD	11+65.63 TO 24+50.74	ACCESS STREET	25 MPH	14'	14'	-	8"	6'	4'	-	4"	-	-	50'	P-3	5
ALFALFA LANE	0+00 TO 3+16.00	ACCESS STREET	25 MPH	14'	12'	8'	8"	6'	4'	5'	-	8"	-	50'	P-3	6
SPRING STREET	0+00 TO 3+39.67	ACCESS STREET	25 MPH	12'	14'	8'	8"	6'	4'	5'	4"	-	8"	50'	P-3	4
SPRING STREET	3+39.67 TO 5+68.00	ACCESS STREET	25 MPH	14'	14'	-	8"	6'	4'	-	4"	-	-	50'	P-3	5
GRAND CHAMPION STREET	3+05 TO 8+69.07	ACCESS STREET	25 MPH	14'	14'	-	8"	6'	4'	-	4"	-	-	50'	P-3	5

DATE	REVISION	BY	APP'R.
08/08/2013	1 Pedestrian Pathway	WDJ	DEV
11-17-2014	2 Added Limits of dog park.	DEV	DEV
9-01-2017	3 Added note for path connection to school campus	GT	HKJ

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 06_SG DET.dwg | DES. DEV | DRN. GT | CHK. CKG

PREPARED FOR:
MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS 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. 12975, EXPIRATION DATE: MAY 26, 2014.

11-7-12

STATE OF MARYLAND — CLINTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

ROAD DETAILS

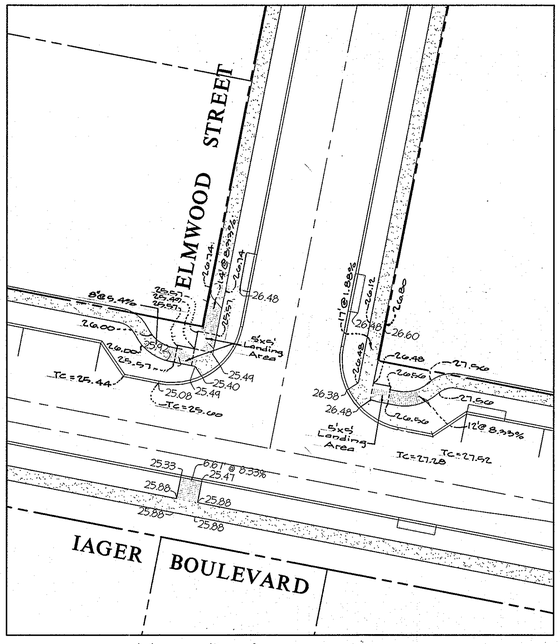
MAPLE LAWN FARMS

MIDTOWN WEST DISTRICT · AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND COMMON OPEN AREA LOTS 184 THRU 186

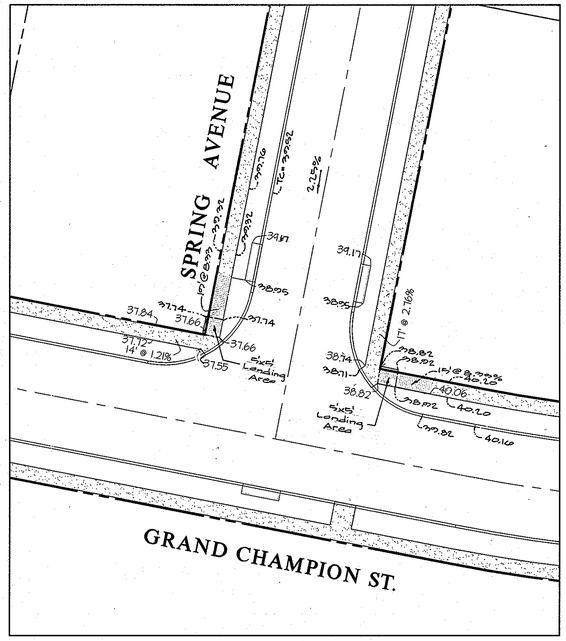
ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	MXD-3	11001
DATE	TAX MAP - GRID	SHEET
OCT. 2012	41-21/46-3	6 OF 25

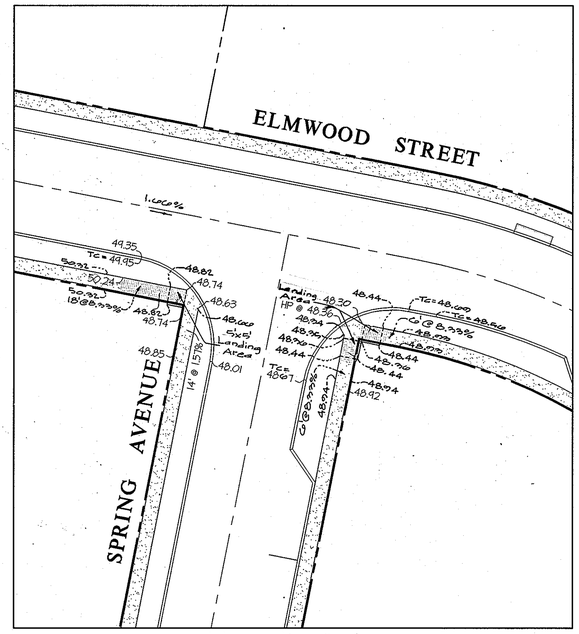
F-13-007



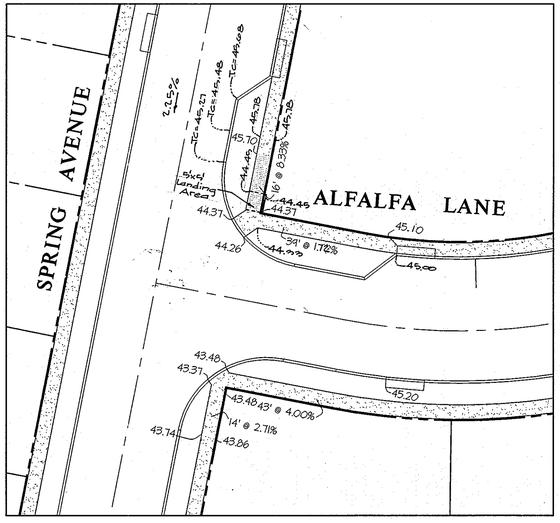
Intersection A SCALE: 1" = 20'



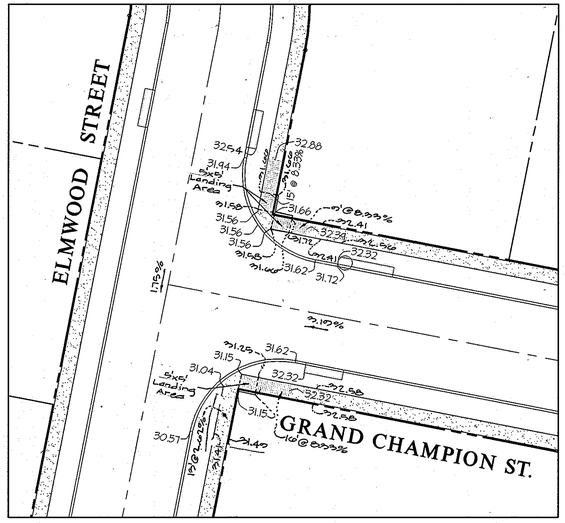
Intersection B SCALE: 1" = 20'



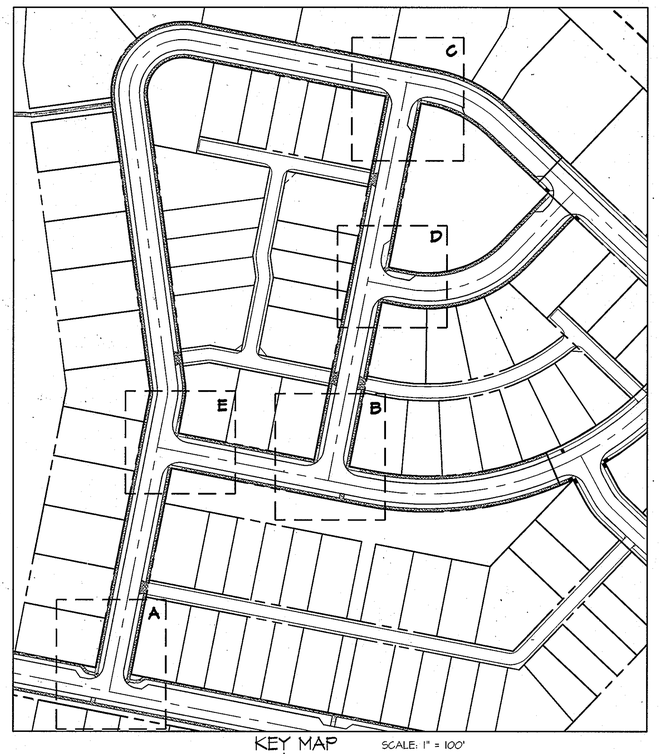
Intersection C SCALE: 1" = 20'



Intersection D SCALE: 1" = 20'



Intersection E SCALE: 1" = 20'



KEY MAP SCALE: 1" = 100'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Diane Schwarz, Acting — 11/29/12
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Kent Sheubrooks — 12/4/12
Chief, Division of Land Development — Date

Chad Edmondson — 12.6.12
Chief, Development Engineering Division — Date

GLW GUTSCHICK LITTLE & WEBER, P.A.
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L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 07_ADA.dwg | DES. DEV | DRN. JRD | CHK. DEV

DATE	REVISION	BY	APP'R.
08/30/2013	1 Rev ADA ramps & show pedestrian pathway	WHJ	DEV

PREPARED FOR:
MAPLE LAWN FARMS 1, LLC
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410-484-8400

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11-7-12

STATE OF MARYLAND — CARLTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

ADA COMPLIANT SIDEWALK RAMPS

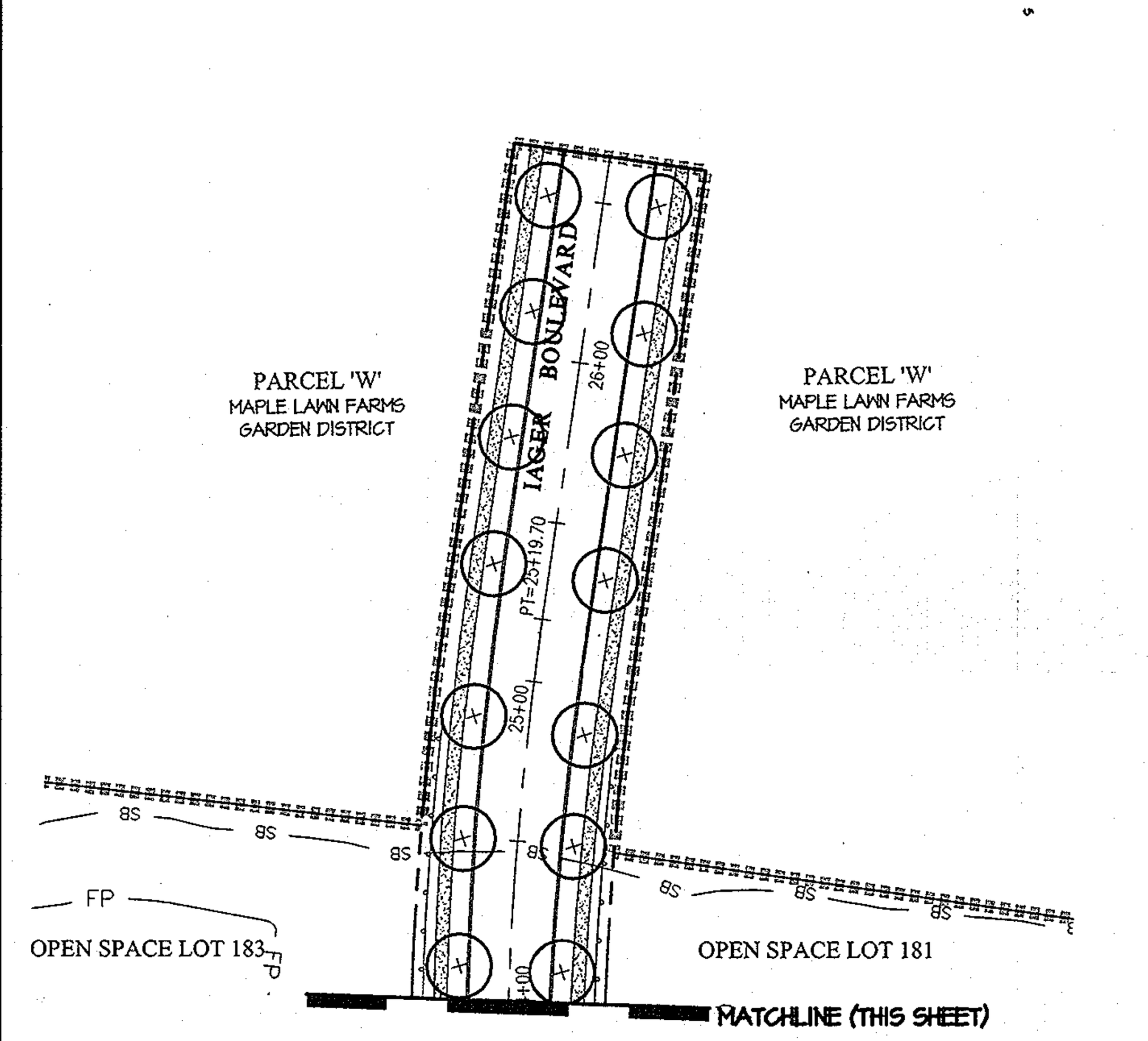
MAPLE LAWN FARMS

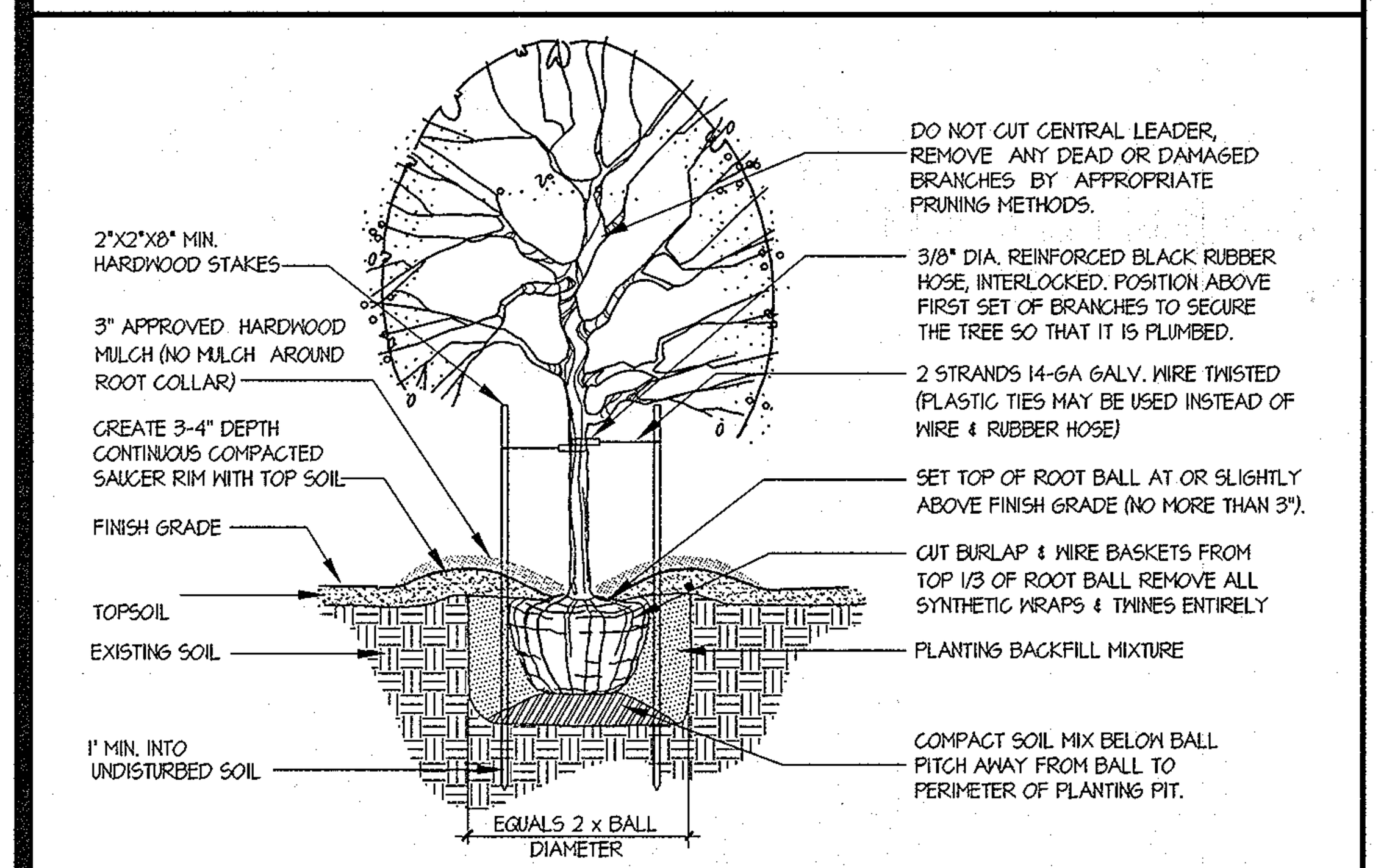
MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND
COMMON OPEN AREA LOTS 184 THRU 186

ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	MXD-3	11001
DATE	TAX MAP – GRID	SHEET
OCT. 2012	41-21/46-3	7 OF 25

F-13-007





NOTE: ALL SUPPORTING DEVICES (STAKES, WIRES, ETC.) SHALL BE REMOVED AFTER 2 GROWING SEASONS.

DECIDUOUS TREE PLANTING DETAIL

FOR PLANTING MATERIAL UP TO 3 1/2" CALIPER NTS

STREET TREE REQUIREMENTS

ROAD	LENGTH OF CURB (L.F.)	# OF TREES REQUIRED	# OF TREES PROVIDED
IAGER BOULEVARD	2,086'	52	52
GRAND CHAMPION STREET	969'	25	25
ALFALFA LANE	527'	14	14
SPRING AVENUE	859'	22	22
ELMWOOD STREET	2,805'	70	70
	TOTAL	183	183

MINIMUM TREE QUANTITIES AND PREFERRED SPACING ARE AS FOLLOWS (PER 5-06-16):

ALL STREETS — 1 TREE PER 40 LINEAR FEET, BOTH SIDES:

PRIVATE ALLEYS — NO TREES REQUIRED

THESE ARE ONLY MINIMUM STANDARDS. TREES SHOULD BE PLACED TO ALIGN WHERE POSSIBLE WITH LOT LINES AND DEMISING WALLS OF UNITS SO AS TO AVOID BLOCKING THE FRONTS AND/OR DOORS AND WINDOWS OF UNITS.

SYMBOL	NAME (BOTANICAL/COMMON)	SIZE	REMARKS
(×)	ACER SACHARUM / GREEN MOUNTAIN SUGAR MAPLE	2 1/2" cal.	B & B FULL HEADS

STREET LIGHT SCHEDULE

LOCATION			LAMP TYPE	FIXTURE	POLE TYPE
℄ STA. 10+69.00	ELMWOOD ROAD	18' R	100-WATT HPS VAPOR	ACORN POST	12' BLACK FIBERGLASS
℄ STA. 13+54.60	ELMWOOD ROAD	18' R	100-WATT HPS VAPOR	ACORN POST	12' BLACK FIBERGLASS
℄ STA. 15+36.00	ELMWOOD ROAD	18' R	100-WATT HPS VAPOR	ACORN POST	12' BLACK FIBERGLASS
℄ STA. 17+71.00	ELMWOOD ROAD	17' L	100-WATT HPS VAPOR	ACORN POST	12' BLACK FIBERGLASS
℄ STA. 19+94.00	ELMWOOD ROAD	17' L	100-WATT HPS VAPOR	ACORN POST	12' BLACK FIBERGLASS
℄ STA. 22+85.00	ELMWOOD ROAD	17' L	100-WATT HPS VAPOR	ACORN POST	12' BLACK FIBERGLASS
℄ STA. 6+24.00	GRAND CHAMPION ST.	19' L	100-WATT HPS VAPOR	ACORN POST	12' BLACK FIBERGLASS
℄ STA. 8+37.00	GRAND CHAMPION ST.	18' L	100-WATT HPS VAPOR	ACORN POST	12' BLACK FIBERGLASS
℄ STA. 1+36.66	ALFALFA LANE	17' L	100-WATT HPS VAPOR	ACORN POST	12' BLACK FIBERGLASS
℄ STA. 18+10.00	IAGER BOULEVARD	19' R	100-WATT HPS VAPOR	ACORN POST	12' BLACK FIBERGLASS
℄ STA. 20+96.00	IAGER BOULEVARD	19' R	100-WATT HPS VAPOR	ACORN POST	12' BLACK FIBERGLASS
℄ STA. 23+20.00	IAGER BOULEVARD	15' R	100-WATT HPS VAPOR	ACORN POST	12' BLACK FIBERGLASS
℄ STA. 0+31.00	SPRING AVENUE	18' R	100-WATT HPS VAPOR	ACORN POST	12' BLACK FIBERGLASS
℄ STA. 1+56.00	SPRING AVENUE	18' R	100-WATT HPS VAPOR	ACORN POST	12' BLACK FIBERGLASS
℄ STA. 3+15.50	SPRING AVENUE	18' L	100-WATT HPS VAPOR	ACORN POST	12' BLACK FIBERGLASS
℄ STA. 4+40.00	SPRING AVENUE	18' R	100-WATT HPS VAPOR	ACORN POST	12' BLACK FIBERGLASS

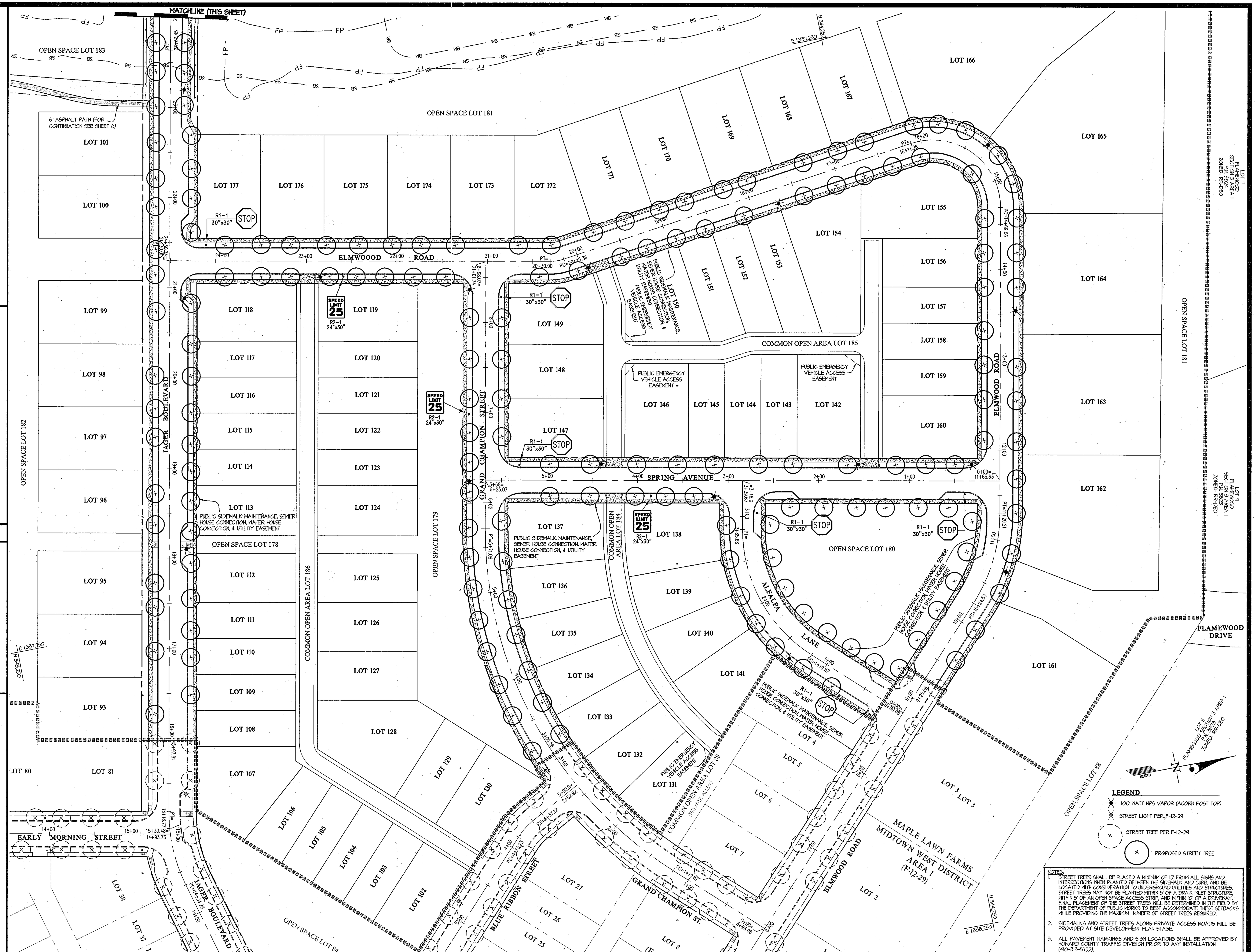
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Diane Schwarz, Acting — 11/29/12
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Kent Sheubrooks — 12/11/12
Chief, Division of Land Development — Date

Chad Edmondson — 12-6-12
Chief, Development Engineering Division — Date



NOTES:

1. STREET TREES SHALL BE PLACED A MINIMUM OF 15' FROM ALL SIGNS AND INTERSECTIONS WHEN PLANTED BETWEEN THE SIDEWALK AND CURB, AND BE LOCATED WITH CONSIDERATION TO UNDERGROUND UTILITIES AND STRUCTURES. STREET TREES MAY NOT BE PLANTED WITHIN 5' OF A DRAIN INLET STRUCTURE, WITHIN 5' OF AN OPEN SPACE ACCESS STRIP, AND WITHIN 10' OF A DRIVEWAY. FINAL PLACEMENT OF THE STREET TREES WILL BE DETERMINED IN THE FIELD BY THE DEPARTMENT OF PUBLIC WORKS TO BEST ACCOMMODATE THESE SETBACKS WHILE PROVIDING THE MAXIMUM NUMBER OF STREET TREES REQUIRED.
2. SIDEWALKS AND STREET TREES ALONG PRIVATE ACCESS ROADS WILL BE PROVIDED AT SITE DEVELOPMENT PLAN STAGE.
3. ALL PAVEMENT MARKINGS AND SIGN LOCATIONS SHALL BE APPROVED BY HOWARD COUNTY TRAFFIC DIVISION PRIOR TO ANY INSTALLATION (410-313-5752).

GLW GUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS

3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK

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L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 08_SSTL.dwg | DES. DEV | DRN. KLP | CHK. CKG

DATE	REVISION	BY	APP'R.

PREPARED FOR:

MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
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11-7-12

STATE OF MARYLAND — CARLTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

SIGNING, STREET TREE & LIGHTING PLAN

MAPLE LAWN FARMS

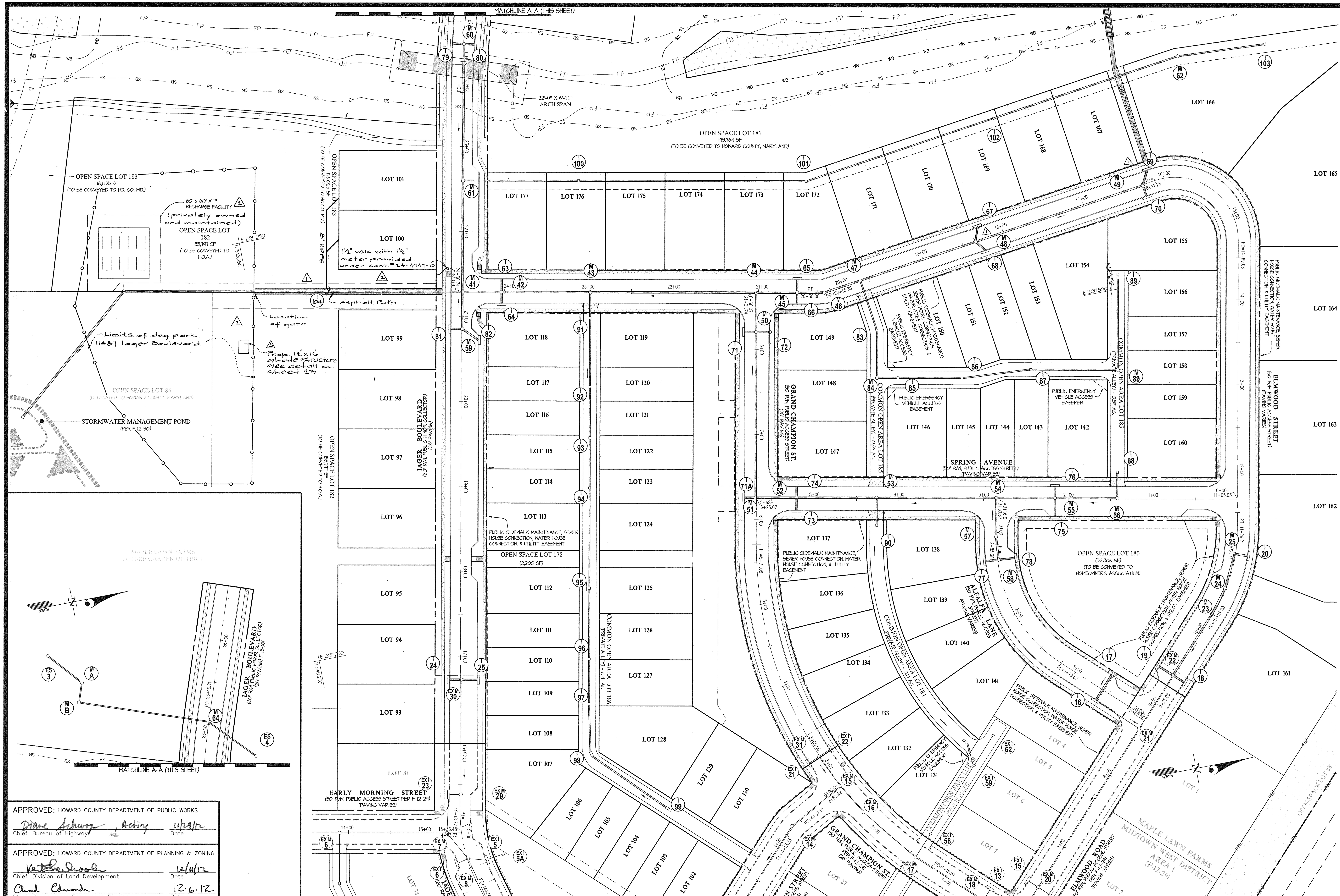
MIDTOWN WEST DISTRICT - AREA 2

LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND COMMON OPEN AREA LOTS 184 THRU 186

ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 50'	MXD-3	11001
DATE	TAX MAP - GRID	SHEET
OCT. 2012	41-21/46-3	8 OF 25

-L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 08_SSTL.dwg, PLOTTED:10/25/2012 10:04 AM, LAST SAVED:10/24/2012 8:52 AM, PLOTTED BY: Jennifer R. Dicks



FROM NO.	TO NO.	DIA. (IN.) & TYPE OF PIPE	L (ft)
I-20	M-25	15" HDPE	12
M-25	M-24	18" HDPE	38
M-24	M-23	18" HDPE	30
M-23	EX. M-22	18" HDPE	82
I-18	EX. M-22	15" HDPE	13
I-19	EX. M-22	15" HDPE	17
EX. M-22	EX. M-21	18" HDPE	N.I.C.
I-17	I-16	15" HDPE	34
I-16	EX. M-21	15" HDPE	N.I.C.
I-25	EX. M-30	15" HDPE	17
I-24	EX. M-30	15" HDPE	10
EX. M-30	EX. M-29	18" HDPE	N.I.C.
I-60	EX. I-59	15" HDPE	28
I-69	M-49	15" HDPE	12
I-70	M-49	15" HDPE	10
M-49	M-48	18" HDPE	204
I-67	M-48	15" HDPE	12
I-68	M-48	15" HDPE	12
M-48	M-47	18" HDPE	140
I-89	M-89	15" HDPE	106
M-89	I-87	15" HDPE	99
I-87	I-86	15" HDPE	78
I-86	I-85	15" HDPE	72
I-85	I-84	15" HDPE	21
I-84	I-83	15" HDPE	52
I-83	M-47	18" HDPE	58
M-47	M-46	24" HDPE	41
M-46	M-45	24" HDPE	28
I-65	M-45	15" HDPE	12
I-66	M-45	15" HDPE	11
M-45	M-44	24" HDPE	44
I-88	M-56	18" HDPE	26
M-56	M-55	18" HDPE	70
I-75	M-55	15" HDPE	19
I-76	M-55	15" HDPE	10
M-55	M-54	18" HDPE	65
I-77	M-58	15" HDPE	13
I-78	M-58	15" HDPE	17
M-58	M-57	18" HDPE	23
M-57	M-54	18" HDPE	42
M-54	M-53	18" HDPE	137
I-90	M-53	15" HDPE	28
M-53	M-52	18" HDPE	91
I-73	M-52	15" HDPE	12
I-74	M-52	15" HDPE	11
M-52	M-51	24" HDPE	44
I-71A	M-51	15" HDPE	11
M-51	M-50	24" HDPE	191
I-71	M-50	15" HDPE	11
I-72	M-50	15" HDPE	12
M-50	M-44	24" HDPE	42
M-44	M-43	30" HDPE	192
I-99	I-98	15" HDPE	107
I-98	I-97	15" HDPE	59
I-97	I-96	18" HDPE	53
I-96	I-95	18" HDPE	81
I-95	I-94	24" HDPE	118
I-94	I-93	24" HDPE	59
I-93	I-92	24" HDPE	60
I-92	I-91	24" HDPE	79
I-91	M-43	24" HDPE	26
M-43	M-42	36" HDPE	101
I-63	M-42	15" HDPE	15
I-64	M-42	15" HDPE	10
M-42	M-41	36" HDPE	42
I-81	M-59	15" HDPE	11
I-82	M-59	15" HDPE	20
M-59	M-41	18" HDPE	39
I-79	M-60	15" HDPE	10
I-80	M-60	15" HDPE	9
M-60	M-61	18" HDPE	157
I-103	M-62	15" HDPE	100
M-62	I-102	18" HDPE	225
I-102	I-101	18" HDPE	229
I-101	I-100	18" HDPE	265
I-100	M-61	18" HDPE	132
M-61	M-41	24" HDPE	127
M-40	ES-2	36" HDPE	187
ES-4	M-64	30" HDPE	65
M-64	M-B	30" HDPE	152
M-B	M-A	30" HDPE	24
M-A	ES-3	30" HDPE	49
M-41	I-104	36" hdpe	151
I-104	M-40	36" hdpe	240
Lot 101	I-104	8" hdpe	110

NOTE: STORM DRAINS WITHIN COMMON OPEN AREAS ARE PRIVATELY OWNED AND MAINTAINED

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Diane Schwarz, Acting — 11/29/12
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[signature] — 12/11/12
Chief, Division of Land Development — Date

Chad Edmonds — 12.6.12
Chief, Development Engineering Division — Date

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 09_SD INFO.dwg | DES. DEV | DRN. KLP | CHK. CKG

DATE	REVISION	BY	APP'R.
08/00/2013	1 rev. u.o. to accomodate lot grading, pedestrian pathways & ADA ramps	WGJ	DEV
11.17.2014	2 added dog park limits, maintenance note, gate location, asphalt path, WHC information, and address.	DEV	DEV.
10.2.2018	3 Added shade structure within Dog Park Limits	gt	CKG.

PREPARED FOR:
MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS 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. 12975, EXPIRATION DATE: MAY 26, 2014
11-7-12 [signature]

STORM DRAIN INFORMATION PLAN

MAPLE LAWN FARMS

MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND COMMON OPEN AREA LOTS 184 THRU 186

ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 50'	MXD-3	11001
DATE	TAX MAP - GRID	SHEET
OCT. 2012	41-21/46-3	9 OF 25

L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 09_SD INFO.dwg, PLOTTED: 10/25/2012 10:09 AM, LAST SAVED: 10/24/2012 3:05 PM, PLOTTED BY: Jennifer R. Dicks

'C' FACTOR COMPUTATIONS

STRUCTURE	AREA (AC.)	'C'	IMPERVIOUS	STRUCTURE	AREA (AC.)	'C'	IMPERVIOUS
I-16	0.13 Ac	0.71	80%	I-81	0.35 Ac	0.71	80%
I-17	0.21 Ac	0.71	80%	I-82	0.54 Ac	0.71	80%
I-18	0.23 Ac	0.71	80%	I-83	0.25 Ac	0.71	80%
I-19	0.31 Ac	0.71	80%	I-85	0.16 Ac	0.71	80%
I-20	0.43 Ac	0.71	80%	I-86	0.24 Ac	0.71	80%
I-21	0.42 Ac	0.71	80%	I-87	0.28 Ac	0.71	80%
I-22	0.36 Ac	0.71	80%	I-88	0.25 Ac	0.71	80%
I-24	0.35 Ac	0.71	80%	I-89	0.24 Ac	0.71	80%
I-25	0.54 Ac	0.71	80%	I-90	0.24 Ac	0.71	80%
I-59	0.15 Ac	0.71	80%	I-91	0.20 Ac	0.71	80%
I-60	0.32 Ac	0.71	80%	I-92	0.20 Ac	0.71	80%
I-63	0.41 Ac	0.71	80%	I-93	0.20 Ac	0.71	80%
I-64	0.44 Ac	0.71	80%	I-94	0.15 Ac	0.71	80%
I-65	0.34 Ac	0.71	80%	I-95	0.26 Ac	0.71	80%
I-66	0.51 Ac	0.71	80%	I-96	0.21 Ac	0.71	80%
I-67	0.36 Ac	0.71	80%	I-97	0.17 Ac	0.71	80%
I-68	0.48 Ac	0.71	80%	I-98	0.40 Ac	0.71	80%
I-69	0.10 Ac	0.71	80%	I-99	0.26 Ac	0.71	80%
I-70	0.38 Ac	0.71	80%	I-100	0.79 Ac	0.71	80%
I-71	0.34 Ac	0.71	80%	I-101	0.50 Ac	0.71	80%
I-71A	0.32 Ac	0.71	80%	I-102	0.48 Ac	0.71	80%
I-72	0.64 Ac	0.71	80%	I-103	0.81 Ac	0.71	80%
I-73	0.42 Ac	0.71	80%	I-104	1.03Ac	0.70	79%
I-74	0.38 Ac	0.71	80%				
I-75	0.34 Ac	0.71	80%				
I-76	0.38 Ac	0.71	80%				
I-77	0.13 Ac	0.71	80%				
I-78	0.16 Ac	0.71	80%				
I-79	0.34 Ac	0.71	80%				
I-80	0.51 Ac	0.71	80%				

NOTE:
1. DUE TO MASS GRADING, 'C' SOIL WAS USED FOR CALCULATIONS.
2. FOR STORM DRAIN PIPE INFORMATION, SEE SHEET 9.
3. I-61 OMITTED INTENTIONALLY DUE TO HOWARD COUNTY COMMENTS.

100 YEAR FLOODPLAIN STUDY

CROSS SECTION	WSEL. FT.
STREAM 'A'	
6+00	403.68
7+91	406.68
8+65	409.42
9+30	410.68
10+00	413.60
14+00	423.33

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 11/29/12

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12/4/12

Chief, Development Engineering Division — Date 12.6.12

GLW GUTSCHICK LITTLE & WEBER, P.A.
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L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 10_SD DAM.dwg | DES. DEV | DRN. KLP | CHK. CKG

DATE	REVISION	BY	APP'R.
09/04/2012	1 rev. cost to accumulate lot grading, pedestrian pathway & ADA ramps	WDJ	DBY

PREPARED FOR:
MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS 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. 12975, EXPIRATION DATE: MAY 26, 2014

11-7-12

STATE OF MARYLAND — CLINTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

STORM DRAIN DRAINAGE AREA MAP

MAPLE LAWN FARMS

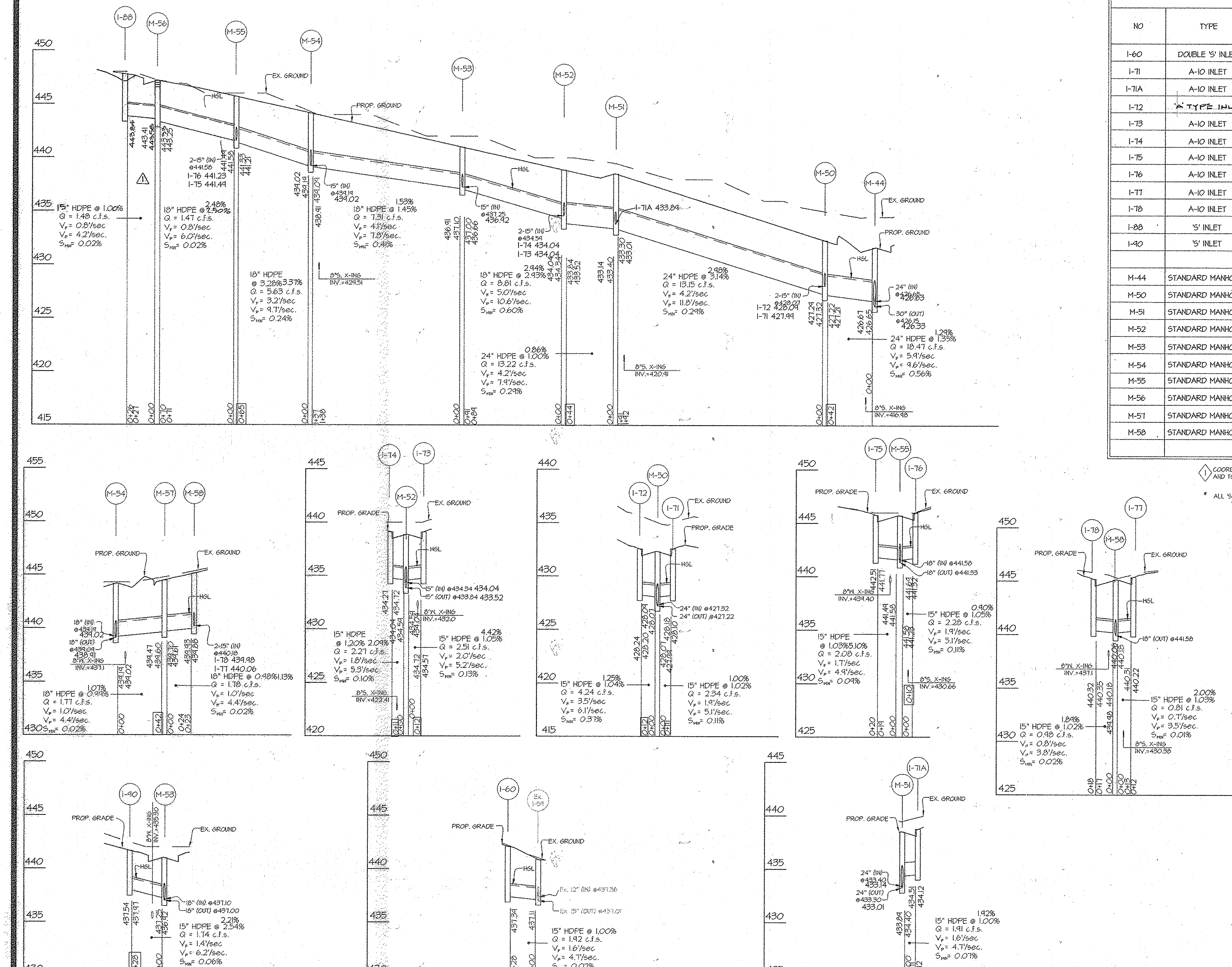
MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND
COMMON OPEN AREA LOTS 184 THRU 186

ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 50'	MXD-3	11001
DATE	TAX MAP - GRID	SHEET
OCT. 2012	41-21/46-3	10 OF 25

F-13-007

L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 10_SD DAM.dwg, PLOTTED: 11/5/2012 8:44 AM, LAST SAVED: 11/5/2012 8:44 AM, PLOTTED BY: Jennifer R. Dicks



STRUCTURE SCHEDULE

NO	TYPE	WIDTH (INSIDE)	TOP ELEVATION PROPOSED UPPER	TOP ELEVATION PROPOSED LOWER	TOP ELEVATION AS-BUILT UPPER	TOP ELEVATION AS-BUILT LOWER	INVERT PROPOSED UPPER	INVERT PROPOSED LOWER	INVERT AS-BUILT UPPER	INVERT AS-BUILT LOWER	STD. DETAIL	LOCATIONS ⟨1⟩	REMARKS
I-60	DOUBLE 'S' INLET	2'-7.5"	442.24	442.06			---	437.39			HO. CO. D-4.23	N 543,982 E 1,337,990	
I-71	A-10 INLET	2'-6"	432.66	432.33	432.77	432.48	---	428.18		428.10	HO. CO. D-4.03	N 543,817 E 1,337,466	
I-71A	A-10 INLET	2'-6"	438.88	438.54	438.91	438.55	---	434.51		434.12	HO. CO. D-4.03	N 543,780 E 1,337,657	
I-72	'A' TYPE INLET	2'-6"	432.94	432.44	432.97	432.52	---	428.20		428.24	SHA MD 374.62	N 543,844 E 1,337,471	
I-73	A-10 INLET	2'-6"	439.18	438.94	439.02	438.86	---	434.72		434.57	HO. CO. D-4.03	N 543,837 E 1,337,683	
I-74	A-10 INLET	2'-6"	439.18	439.94	439.18	438.97	---	434.72		434.27	HO. CO. D-4.03	N 543,842 E 1,337,656	
I-75	A-10 INLET	2'-6"	445.86	445.62	455.98	445.72	---	441.77		441.32	HO. CO. D-4.03	N 544,135 E 1,337,748	
I-76	A-10 INLET	2'-6"	446.04	445.80	445.98	445.72	---	441.69		441.32	HO. CO. D-4.03	N 544,141 E 1,337,714	
I-77	A-10 INLET	2'-6"	445.43	445.20	445.34	445.16	---	440.31		440.22	HO. CO. D-4.03	N 544,045 E 1,337,785	
I-78	A-10 INLET	2'-6"	445.28	445.00	445.26	445.03	---	440.35		440.32	HO. CO. D-4.03	N 544,079 E 1,337,787	
I-88	'S' INLET	2'-7.5" ⚠1	447.24	447.24			---	443.84 ⚠1			HO. CO. D-4.22	N 544,217 E 1,337,711	
I-90	'S' INLET	2'-7.5"	441.00	441.00			---	437.97			HO. CO. D-4.22	N 543,926 E 1,337,719	
M-44	STANDARD MANHOLE	5'-0"	---	431.63		431.53	426.65	426.15	426.67	426.33	HO. CO. 6-5.13	N 543,838 E 1,337,423	
M-50	STANDARD MANHOLE	4'-0"	---	432.29		432.08	428.07	427.22	428.09	427.21	HO. CO. 6-5.12	N 543,830 E 1,337,468	
M-51	STANDARD MANHOLE	4'-0"	---	438.50		438.36	433.40	433.30	433.89	433.01	HO. CO. 6-5.12	N 543,792 E 1,337,659	
M-52	STANDARD MANHOLE	4'-0"	---	438.86		438.62	434.54	433.84	434.04	433.52	HO. CO. 6-5.12	N 543,840 E 1,337,669	
M-53	STANDARD MANHOLE	4'-0"	---	440.99		440.92	437.25	437.00	436.92	436.66	HO. CO. 6-5.12	N 543,932 E 1,337,687	
M-54	STANDARD MANHOLE	4'-0"	---	444.16		443.91	439.19	439.09	439.02	438.91	HO. CO. 6-5.12	N 544,071 E 1,337,714	
M-55	STANDARD MANHOLE	4'-0"	---	445.71		445.46	441.58	441.33	441.49	441.21	HO. CO. 6-5.12	N 544,139 E 1,337,727	
M-56	STANDARD MANHOLE	4'-0"	---	447.18		446.98	⚠1 443.58	443.33	443.41	443.25	HO. CO. 6-5.12	N 544,211 E 1,337,741	
M-57	STANDARD MANHOLE	4'-0"	---	444.47		444.13	439.70	439.60	439.61	439.47	HO. CO. 6-5.12	N 544,062 E 1,337,759	
M-58	STANDARD MANHOLE	4'-0"	---	445.12		444.93	440.18	439.93	440.06	439.88	HO. CO. 6-5.12	N 544,060 E 1,337,786	

⟨1⟩ COORDINATE POINT GIVEN IS TO THE CENTERLINE OF STRUCTURE AT THE FACE OF CURB FOR INLETS AND TO THE CENTERLINE OF STRUCTURE FOR MANHOLES AND END SECTIONS.

* ALL 'S' INLETS SHALL UTILIZE BICYCLE SAFE GRATES (EAST JORDAN IRON WORKS, OR APPROVED EQUAL).

PIPE SCHEDULE

SIZE	TYPE	QUANTITY (l.f.)	REMARKS
15"	HDPE ⚠1	198	
18"	HDPE	428	
24"	HDPE	277	

NOTES:

1. HDPE INDICATES HIGH DENSITY POLYETHYLENE PIPE, SUCH AS N-12 BY ADS, OR HI-Q BY HANCOR OR AN APPROVED EQUAL.
2. TRENCH BEDDING TO BE PROVIDED PER HOWARD COUNTY DETAIL G 2.01, "TRENCH FOR P.V.C. PIPE AND H.D.P.E."
3. ALL WATER AND SEWER CROSSINGS SHOWN ARE PER CONTRACT. 24-4498 D

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. 12975, Expiration Date: May 26 2016.

10-29-15
Date

Carl K. Gutschick
Professional Engineer
Maryland Reg. No. 12975

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 11/29/12

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 12/4/12
Chief, Development Engineering Division — Date 12-6-12

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 11-14_SD PROFILES.dwg | DES. DEV | DRN. GT | CHK. CKG

DATE	REVISION	BY	APP'R.
08/06/2015	⚠1 rev storm drain to accomodate lot grading		

PREPARED FOR:
MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

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11-7-12

ASBUILTS

ASBUILT SHEET 6 OF 11

STORM DRAIN PROFILES

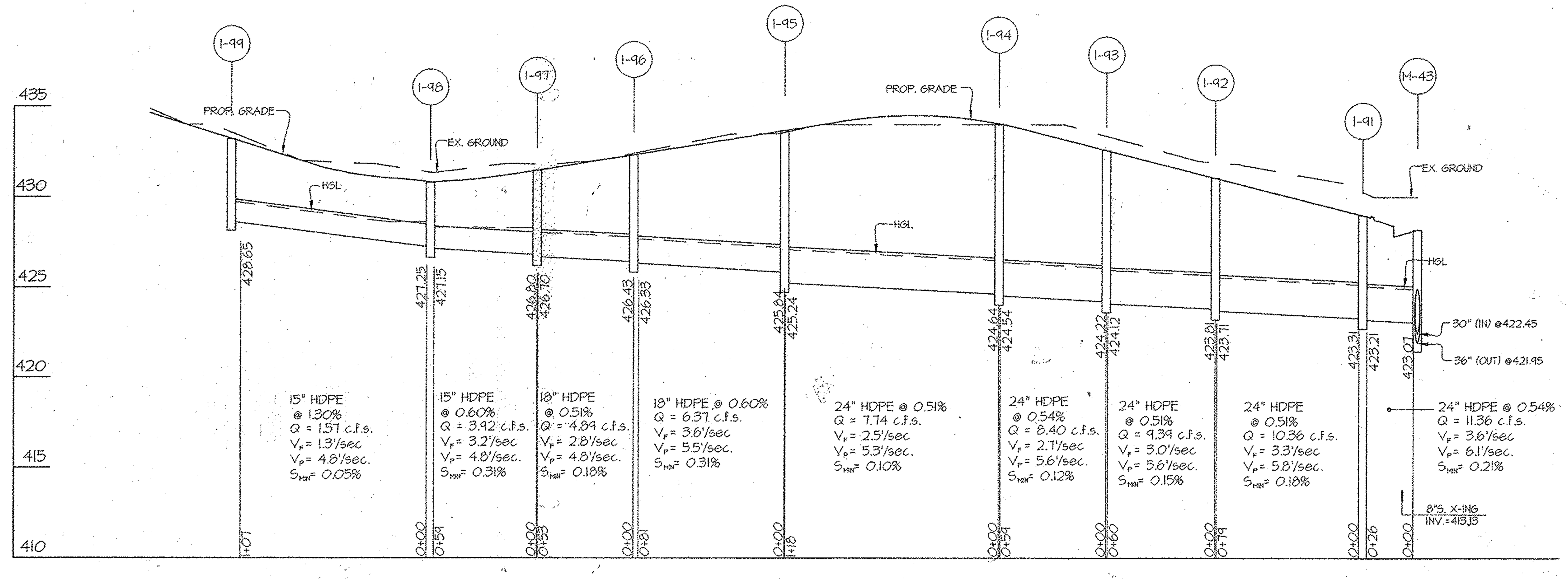
MAPLE LAWN FARMS

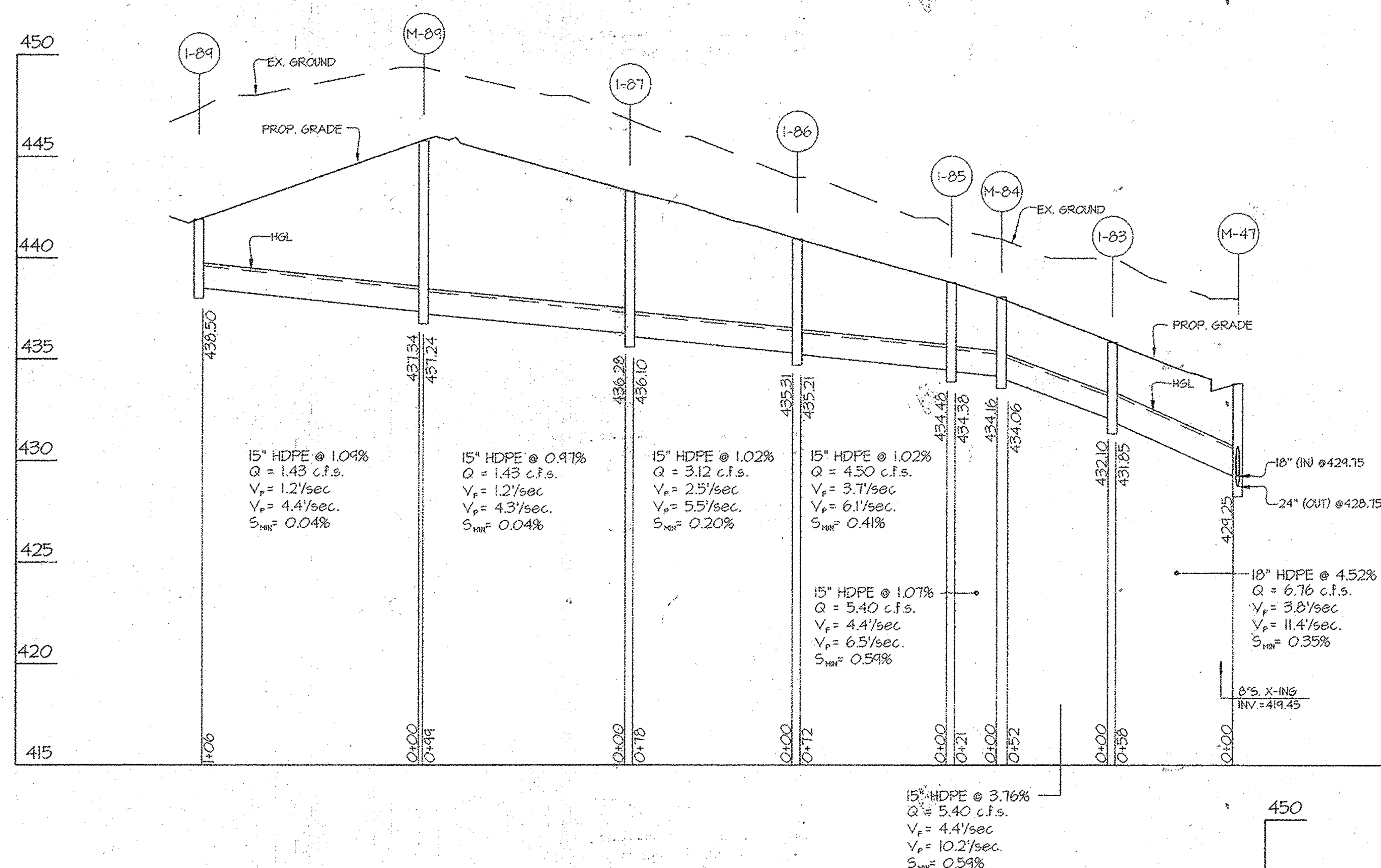
MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND COMMON OPEN AREA LOTS 184 THRU 186

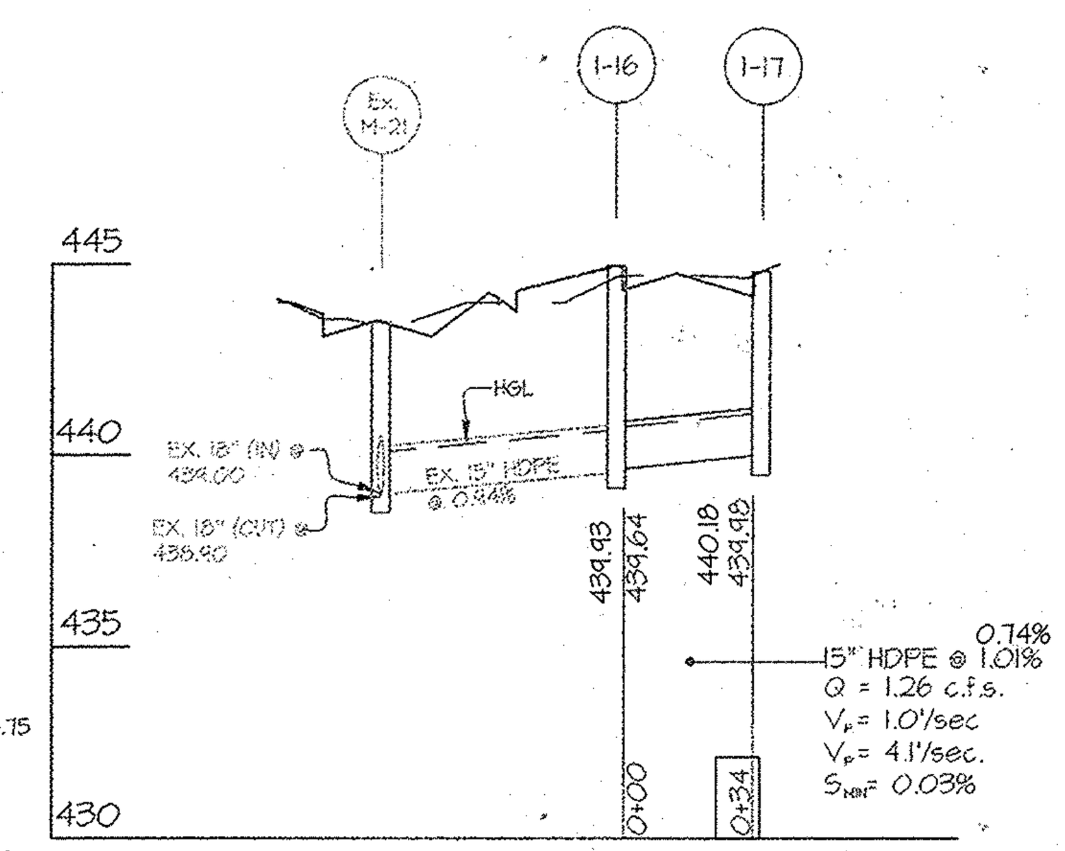
ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

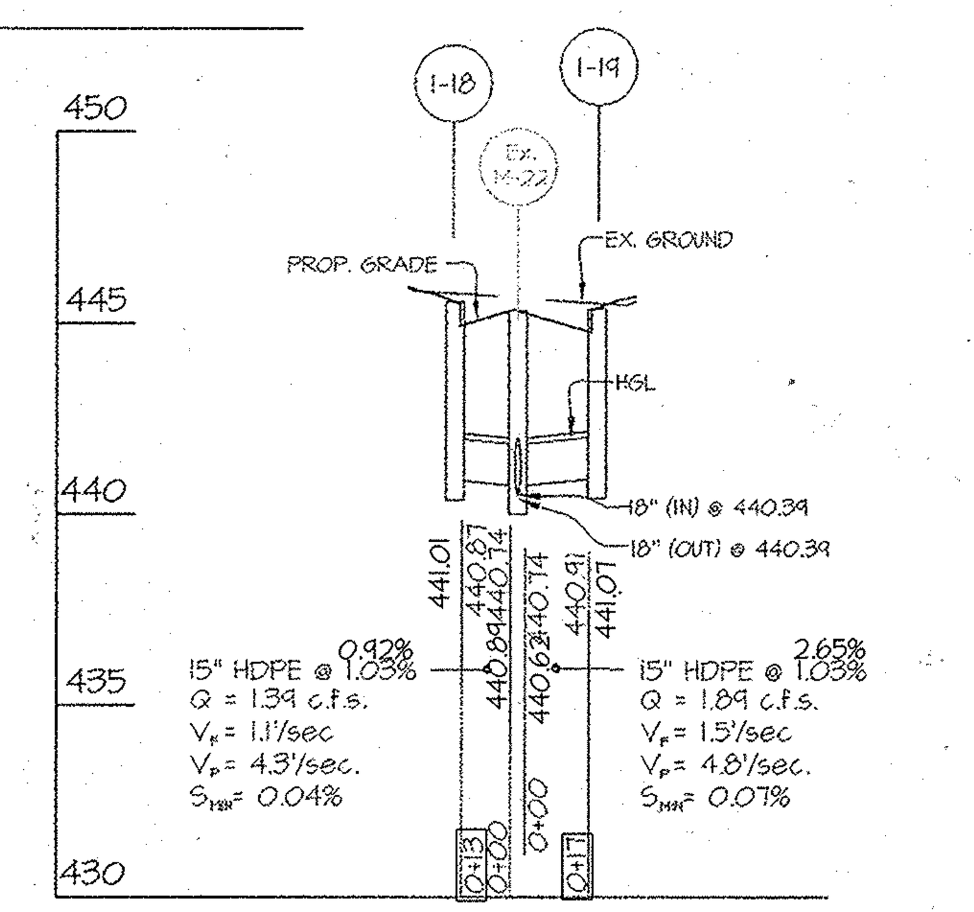
SCALE	ZONING	G. L. W. FILE No.
1" = 50' (H) 1" = 5' (V)	MXD-3	11001
DATE	TAX MAP - GRID	SHEET
OCT., 2015 OCT. 2012	41-21/46-3	11 OF 25

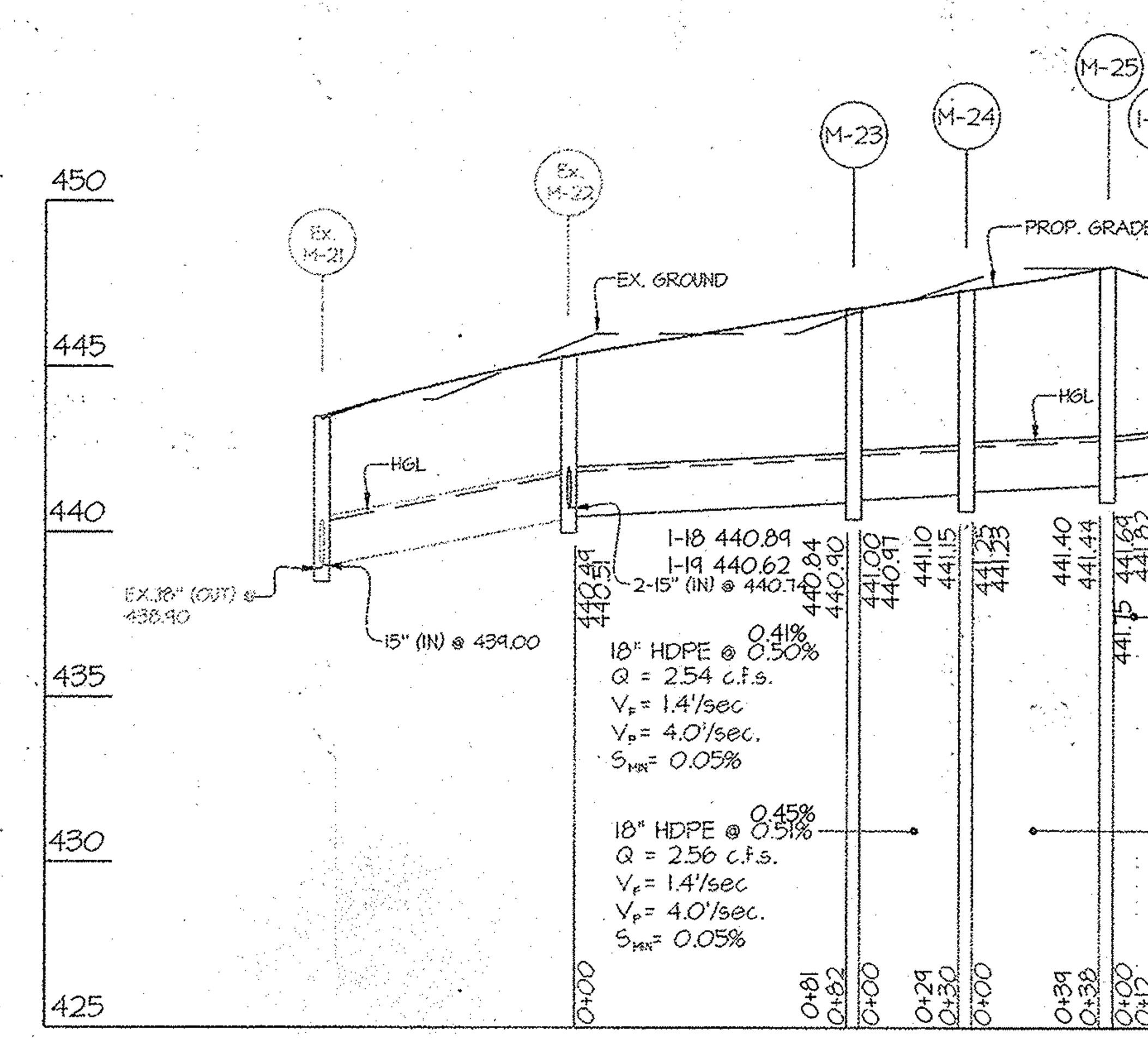
ASBUILTS F-13-007











STRUCTURE SCHEDULE

NO	TYPE	WIDTH (INSIDE)	TOP ELEVATION PROPOSED UPPER	TOP ELEVATION PROPOSED LOWER	TOP ELEVATION AS-BUILT UPPER	TOP ELEVATION AS-BUILT LOWER	INVERT PROPOSED UPPER	INVERT PROPOSED LOWER	INVERT AS-BUILT UPPER	INVERT AS-BUILT LOWER	STD. DETAIL	LOCATIONS ⟨1⟩	REMARKS
I-16	A-10 INLET	2'-6"	445.06	444.80	445.10	444.81	439.64	439.54	439.93	439.77	HO. CO. D-4.03	N 544,142 E 1,337,969	
I-17	A-10 INLET	2'-6"	444.88	444.62	445.05	444.82	---	439.98		440.18	HO. CO. D-4.03	N 544,165 E 1,337,944	
I-18	A-10 INLET	2'-6"	445.63	445.43	445.54	445.35	---	440.87		441.01	HO. CO. D-4.03	N 544,247 E 1,337,969	
I-19	A-10 INLET	2'-6"	445.45	445.21	445.35	445.19	---	440.91		441.07	HO. CO. D-4.03	N 544,223 E 1,337,945	
I-20	A-10 INLET	2'-6"	448.31	448.15	448.32	448.18	---	441.82		442.06	HO. CO. D-4.03	N 544,349 E 1,337,837	
I-83	'S' INLET	2'-7.5"	435.90	435.78			432.10	431.85			HO. CO. D-4.22	N 543,910 E 1,337,493	
I-85	'S' INLET	2'-7.5"	438.83	438.75			434.48	434.38			HO. CO. D-4.22	N 543,984 E 1,337,553	
I-86	'S' INLET	2'-7.5"	440.98	440.91			435.31	435.21			HO. CO. D-4.22	N 544,058 E 1,337,568	
I-87	'S' INLET	2'-7.5"	443.33	443.26			436.20	436.10			HO. CO. D-4.22	N 544,139 E 1,337,573	
I-89	DOUBLE 'S' INLET	2'-7.5"	442.04	441.75			---	438.50			HO. CO. D-4.23	N 544,261 E 1,337,485	
I-91	'S' INLET	2'-7.5" ⚠1	428.26	428.26			423.31	423.21			HO. CO. D-4.22	N 543,640 E 1,337,415	
I-92	'S' INLET	2'-7.5"	431.10	431.00			423.81	423.71			HO. CO. D-4.22	N 543,625 E 1,337,494	
I-93	'S' INLET	2'-7.5"	432.64	432.53			424.22	424.12			HO. CO. D-4.22	N 543,613 E 1,337,553	
I-94	'S' INLET	2'-7.5"	434.09	434.01			424.64	424.54			HO. CO. D-4.22	N 543,602 E 1,337,611	
I-95	'S' INLET	2'-7.5"	433.70	433.64			425.84	425.24			HO. CO. D-4.22	N 543,579 E 1,337,727	
I-96	'S' INLET	2'-7.5"	432.36	432.29			426.43	426.33			HO. CO. D-4.22	N 543,563 E 1,337,809	
I-97	'S' INLET	2'-7.5"	431.50	431.44			426.80	426.70			HO. CO. D-4.22	N 543,553 E 1,337,861	
I-98	DOUBLE 'S' INLET	2'-7.5"	430.79	430.79			427.25	427.15			HO. CO. D-4.23	N 543,545 E 1,337,919	
I-99	DOUBLE 'S' INLET	2'-7.5"	433.42	433.16			---	428.65			HO. CO. D-4.23	N 543,621 E 1,337,998	
M-23	STANDARD MANHOLE	4'-0"	---	446.76		446.71	441.00	440.90	440.97	440.84	HO. CO. G-5.12	N 544,295 E 1,337,896	
M-24	STANDARD MANHOLE	4'-0"	---	447.32		447.31	441.25	441.15	441.23	441.10	HO. CO. G-5.12	N 544,316 E 1,337,870	
M-25	STANDARD MANHOLE	4'-0"	---	448.03		448.03	441.69	441.44	441.75	441.40	HO. CO. G-5.12	N 544,336 E 1,337,832	
M-43	STANDARD MANHOLE	5'-0"	---	428.20		428.04	423.07	421.95	422.64	422.26	HO. CO. G-5.13	N 543,646 E 1,337,385	
M-47	STANDARD MANHOLE	4'-0"	---	433.82		433.65	429.15	428.75	429.03	428.73	HO. CO. G-5.12	N 543,962 E 1,337,432	
M-84	STANDARD MANHOLE	4'-0"	---	438.74			434.16	434.06			HO. CO. G-5.12	N 543,959 E 1,337,548	
M-89	STANDARD MANHOLE	4'-0"	---	445.76			437.34	437.24			HO. CO. G-5.12	N 544,240 E 1,337,593	

⟨1⟩ COORDINATE POINT GIVEN IS TO THE CENTERLINE OF STRUCTURE AT THE FACE OF CURB FOR INLETS AND TO THE CENTERLINE OF STRUCTURE FOR MANHOLES AND END SECTIONS.

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PIPE SCHEDULE

SIZE	TYPE	QUANTITY (L.F.)	REMARKS
15"	HDPE	670	
18"	HDPE	342	
24"	HDPE	342	

NOTES:

1. HDPE INDICATES HIGH DENSITY POLYETHYLENE PIPE, SUCH AS N-12 BY ADS, OR HI-Q BY HANCOR OR AN APPROVED EQUAL.
2. TRENCH BEDDING TO BE PROVIDED PER HOWARD COUNTY DETAIL G 2.01. "TRENCH FOR P.V.C. PIPE AND H.D.P.E."
3. ALL WATER AND SEWER CROSSINGS SHOWN ARE PER CONTRACT: 24-4498 D

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. 12975, Expiration Date: May 26 2016.

10-29-15
Date

Carl K. Gutschick
Professional Engineer
Maryland Reg. No. 12975

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Diane Schwarzman, Acting — 11/29/12
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

12/11/12
Chief, Division of Land Development — Date

12-6-12
Chief, Development Engineering Division — Date

GLW GUTSCHICK LITTLE & WEBER, P.A.
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BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 11-14_SD PROFILES.dwg | DES. DEV | DRN. GT | CHK. CKG

DATE	REVISION	BY	APP'R.
08/06/2013	⚠1 rev. storm drain to accomodate lot grading	WGJ	DEV

PREPARED FOR:
MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS 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. 12975
EXPIRATION DATE: MAY 26, 2014
11-7-12

ASBUILTS

ASBUILTS SHEET 7 OF 11

STORM DRAIN PROFILES

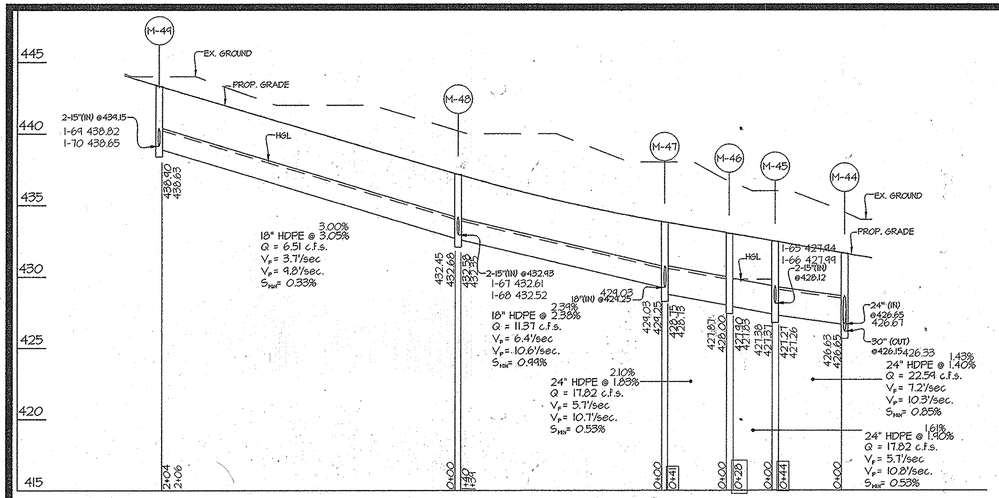
MAPLE LAWN FARMS

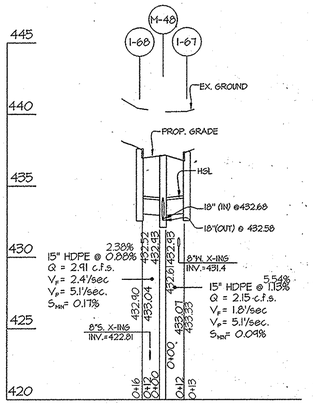
MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND COMMON OPEN AREA LOTS 184 THRU 186

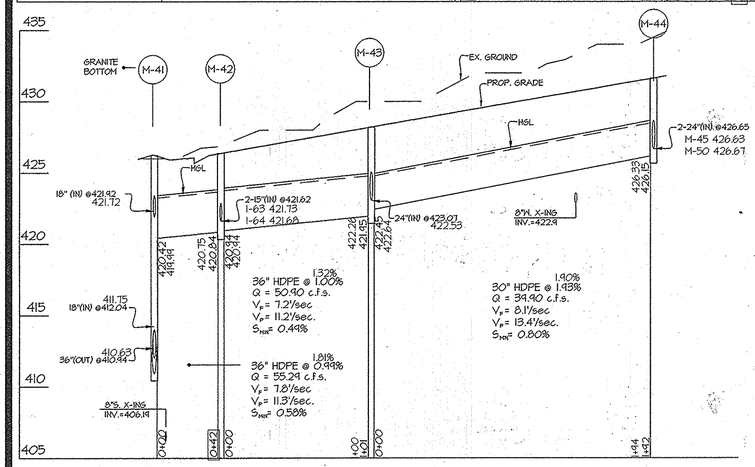
ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

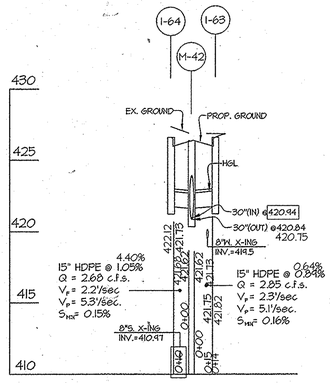
SCALE	ZONING	G. L. W. FILE No.
1" = 50' (H) 1" = 5' (V)	MXD-3	11001
DATE OCT., 2015 OCT. 2012	TAX MAP – GRID 41-21/46-3	SHEET 12 OF 25

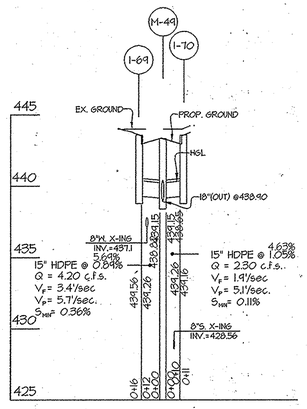
ASBUILTS F-13-007

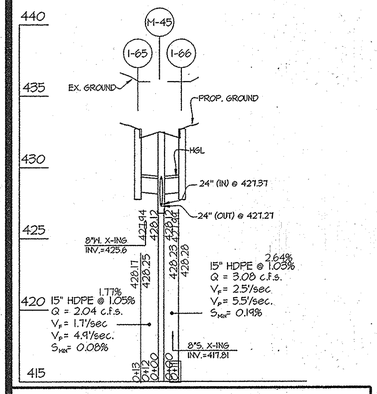


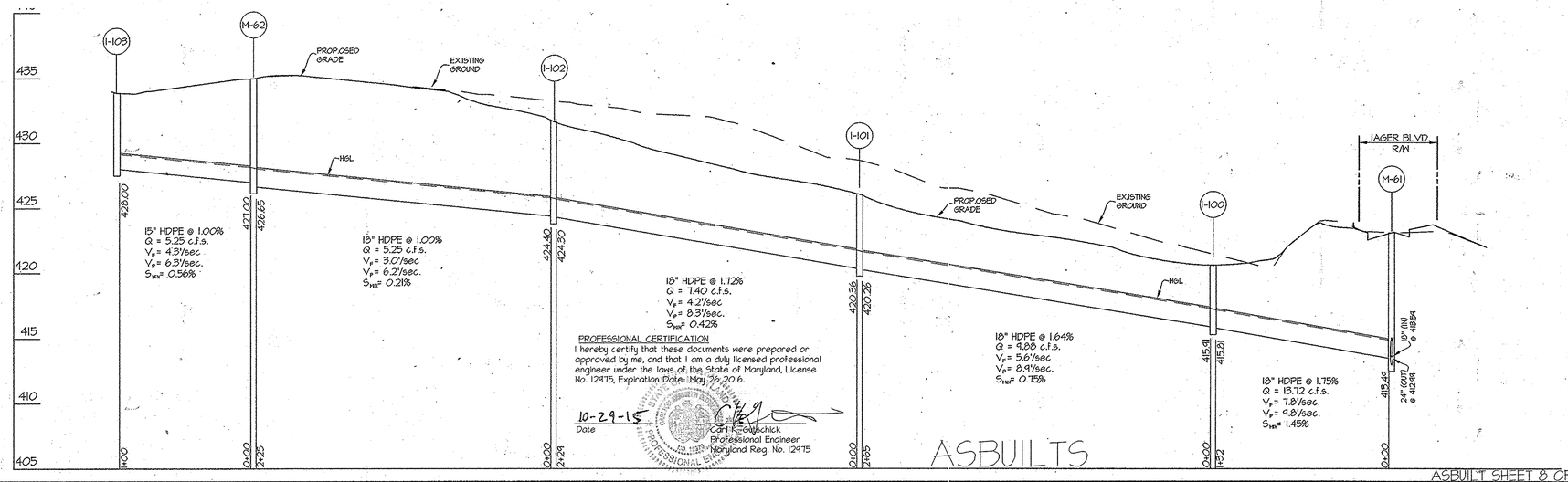












PROFESSIONAL CERTIFICATION
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12975, Expiration Date: May 26, 2016.

10-29-15
Date

Carl F. Gutschick
Professional Engineer
Maryland Reg. No. 12975

ASBUILTS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Diane Schwarz, Acting — 11/19/12
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Kent Sheubrooks — 12/11/12
Chief, Division of Land Development — Date

Chad Edmondson — 12.6.12
Chief, Development Engineering Division — Date

STRUCTURE SCHEDULE

NO	TYPE	WIDTH (INSIDE)	TOP ELEVATION PROPOSED UPPER	TOP ELEVATION PROPOSED LOWER	TOP ELEVATION AS-BUILT UPPER	TOP ELEVATION AS-BUILT LOWER	INVERT PROPOSED UPPER	INVERT PROPOSED LOWER	INVERT AS-BUILT UPPER	INVERT AS-BUILT LOWER	STD. DETAIL	LOCATIONS ◊1	REMARKS
I-63	A-10 INLET	2'-6"	426.67	426.48	426.74	426.44	---	421.75		421.82	HO. CO. D-4.03	N 543,546 E 1,337,351	
I-64	A-10 INLET	2'-6"	426.61	426.48	426.61	426.42	---	421.73		422.12	HO. CO. D-4.03	N 543,541 E 1,337,378	
I-65	A-10 INLET	2'-6"	432.71	432.59	432.75	432.58	---	428.25		428.17	HO. CO. D-4.03	N 543,884. E 1,337,417	
I-66	A-10 INLET	2'-6"	432.71	432.59	432.77	432.62	---	428.23		428.28	HO. CO. D-4.03	N 543,883 E 1,337,445	
I-67	A-10 INLET	2'-6"	437.50	437.19	437.72	437.41	---	433.07		433.33	HO. CO. D-4.03	N 544,102 E 1,337,348	
I-68	A-10 INLET	2'-6"	437.71	437.40	437.73	437.39	---	433.04		432.90	HO. CO. D-4.03	N 544,113 E 1,337,425	
I-69	A-10 INLET	2'-6"	443.69	443.37	443.91	443.63	---	434.26		434.56	HO. CO. D-4.03	N 544,308 E 1,337,371	
I-70	A-10 INLET	2'-6"	443.68	443.37	443.58	443.46	---	434.26		434.16	HO. CO. D-4.03	N 544,312 E 1,337,349	
I-100	'S' INLET		---	420.63			415.91	415.81			HO. CO. D-4.22	N 543,657. E 1,337,254	
I-101	'S' INLET		---	426.06			420.36	420.26			HO. CO. D-4.22	N 543,921 E 1,337,306	
I-102	'S' INLET		---	431.70			424.40	424.30			HO. CO. D-4.22	N 544,152 E 1,337,275	
I-103	'S' INLET		---	433.88			---	428.00			HO. CO. D-4.22	N 544,483 E 1,337,250	
M-41	STANDARD MANHOLE	5'-0"	---	426.23		426.14	421.92	410.94	421.72	410.63	HO. CO. 6-5.13	N 543,498 E 1,337,356	
M-42	STANDARD MANHOLE	5'-0"	---	426.37		426.15	421.62	420.84	421.13	420.75	HO. CO. 6-5.13	N 543,543 E 1,337,365	
M-43	STANDARD MANHOLE	5'-0"	---	428.20		428.04	423.07	421.45	422.53	422.26	HO. CO. 6-5.13	N 543,646 E 1,337,385	
M-44	STANDARD MANHOLE	5'-0"	---	431.63		431.53	426.65	426.15	426.67	426.33	HO. CO. 6-5.13	N 543,838 E 1,337,423	
M-45	STANDARD MANHOLE	4'-0"	---	432.48		432.30	428.12	427.27	427.99	427.26	HO. CO. 6-5.12	N 543,886 E 1,337,432	
M-46	STANDARD MANHOLE	4'-0"	---	433.02		432.83	428.00	427.90	427.81	427.83	HO. CO. 6-5.12	N 543,917 E 1,337,438	
M-47	STANDARD MANHOLE	4'-0"	---	433.82		433.65	424.25	428.75	429.03	428.73	HO. CO. 6-5.12	N 543,961 E 1,337,432	
M-48	STANDARD MANHOLE	4'-0"	---	437.14		436.93	432.93	432.58	432.52	432.35	HO. CO. 6-5.12	N 544,104 E 1,337,413	
M-49	STANDARD MANHOLE	4'-0"	---	443.33		443.14	---	438.90	438.82	438.63	HO. CO. 6-5.12	N 554,310 E 1,337,386	
M-62	STANDARD MANHOLE	4'-0"	---	434.99			427.00	426.65			HO. CO. 6-5.12	N 544,374 E 1,337,245	

◊1 COORDINATE POINT GIVEN IS TO THE CENTERLINE OF STRUCTURE AT THE FACE OF CURB FOR INLETS AND TO THE CENTERLINE OF STRUCTURE FOR MANHOLES AND END SECTIONS.

* ALL 'S' INLETS SHALL UTILIZE BICYCLE SAFE GRATES (EAST JORDAN IRON WORKS, OR APPROVED EQUAL)

PIPE SCHEDULE

SIZE	TYPE	QUANTITY (L.F.)	REMARKS
15"	HDPE	194	
18"	HDPE	1195	
24"	HDPE	113	
30"	HDPE	192	
36"	HDPE	143	

NOTES:
1. HDPE INDICATES HIGH DENSITY POLYETHYLENE PIPE, SUCH AS N-12 BY ADS, OR HI-Q BY HANCOR OR AN APPROVED EQUAL.
2. TRENCH BEDDING TO BE PROVIDED PER HOWARD COUNTY DETAIL 6 2.01, "TRENCH FOR P.V.C. PIPE AND H.D.P.E."
3. ALL WATER AND SEWER CROSSINGS SHOWN ARE PER CONTRACT: 24-4498 D .

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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L:\CADD\DRAWINGS\11001\PLANS\PROFILES-SD\11001 11-14_SD PROFILES.dwg | DES. DEV | DRN. GT | CHK. CKG

DATE	REVISION	BY	APP'R.

PREPARED FOR:
MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

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11-7-12

STORM DRAIN PROFILES

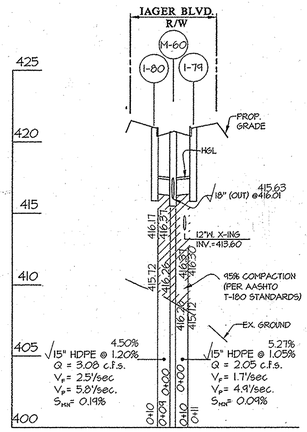
MAPLE LAWN FARMS
MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND COMMON OPEN AREA LOTS 184 THRU 186

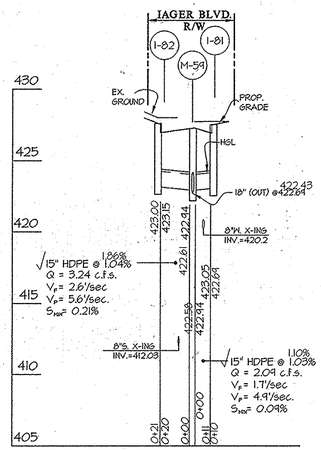
ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

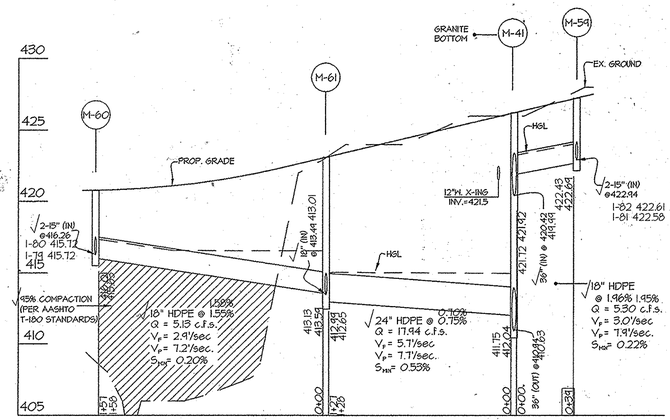
SCALE	ZONING	G. L. W. FILE No.
1" = 50' (H) 1" = 5' (V)	MXD-3	11001
DATE: OCT. 2015 OCT. 2012	TAX MAP - GRID: 41-21/46-3	SHEET: 13 OF 25

ASBUILT SHEET 8 OF 11

ASBUILTS F-13-007







STRUCTURE SCHEDULE

NO	TYPE	WIDTH (INSIDE)	TOP ELEVATION PROPOSED UPPER	TOP ELEVATION PROPOSED LOWER	TOP ELEVATION AS-BUILT UPPER	TOP ELEVATION AS-BUILT LOWER	INVERT PROPOSED UPPER	INVERT PROPOSED LOWER	INVERT AS-BUILT UPPER	INVERT AS-BUILT LOWER	STD. DETAIL	LOCATIONS ... ◇1	REMARKS
I-24	A-10 INLET	2'-6"	442.35	442.03	427.03	426.77	---	422.53		422.48	HO. CO. D-4.03	N 543,348 E 1,337,801	
I-25	A-10 INLET	2'-6"	442.35	442.03	426.80	426.48	---	422.34		422.67	HO. CO. D-4.03	N 543,424 E 1,337,807	
I-79	A-10 INLET	2'-6"	421.00	421.00	420.84	420.84	---	416.31		416.30	HO. CO. D-4.03	N 543,542 E 1,337,067	
I-80	A-10 INLET	2'-6"	421.00	421.00	420.76	420.68	---	416.37		416.17	HO. CO. D-4.03	N 543,566 E 1,337,013	
I-81	A-10 INLET	2'-6"	427.58	427.40	422.82	422.56	---	423.05		422.69	HO. CO. D-4.03	N 543,471 E 1,337,346	
I-82	A-10 INLET	2'-6"	427.72	427.47	427.16	427.53	---	423.15		423.00	HO. CO. D-4.03	N 543,506 E 1,337,415	
ES-2	END SECTION	3'-0"	347.00	---			---	344.00		343.93	◇2	N 542,959 E 1,337,403	
M-40	STANDARD MANHOLE	5'-0"	---	410.43		420.61	403.61	403.50	402.92	402.87	HO. CO. 6-5.13	N 543,105 E 1,337,280	
M-41	STANDARD MANHOLE	5'-0"	---	426.23		426.14	421.92	410.44	421.72	410.63	HO. CO. 6-5.13	N 543,448 E 1,337,356	
M-59	STANDARD MANHOLE	4'-0"	---	421.26		421.15	422.94	422.64	422.61	422.43	HO. CO. 6-5.12	N 543,484 E1,337,344	
M-60	STANDARD MANHOLE	4'-0"	---	420.83		420.50	416.26	416.01	415.72	415.63	HO. CO. 6-5.12	N 543,555 E 1,337,070	
M-61	STANDARD MANHOLE	4'-0"	---	423.12		422.90	413.54	412.99	413.13	412.65	HO. CO. 6-5.12	N 543,523 E 1,337,228	
M-A	STANDARD MANHOLE	5'-0"	---	413.84		414.03	405.99	404.39	404.38	404.28	HO. CO. 6-5.13	N 543,434 E 1,336,917	
M-B	STANDARD MANHOLE	5'-0"	---	410.00		411.49	406.33	406.23	404.99	404.89	HO. CO. 6-5.13	N 543,431 E 1,336,940	
M-64	STANDARD MANHOLE	5'-0"	---	421.42		421.40	408.70	408.50	408.65	408.35	HO. CO. 6-5.13	N 543,516 E 1,336,991	
ES-3	END SECTION	2'-6"	402.50	---			---	400.00		403.54	◇2	N 534,340 E 1,336,913	
ES-4	END SECTION	2'-6"	412.50	---			---	410.00		409.92	◇2	N 543,625 E 1,337,042	

◇1 COORDINATE POINT GIVEN IS TO THE CENTERLINE OF STRUCTURE AT THE FACE OF CURB FOR INLETS AND TO THE CENTERLINE OF STRUCTURE FOR MANHOLES AND END SECTIONS.

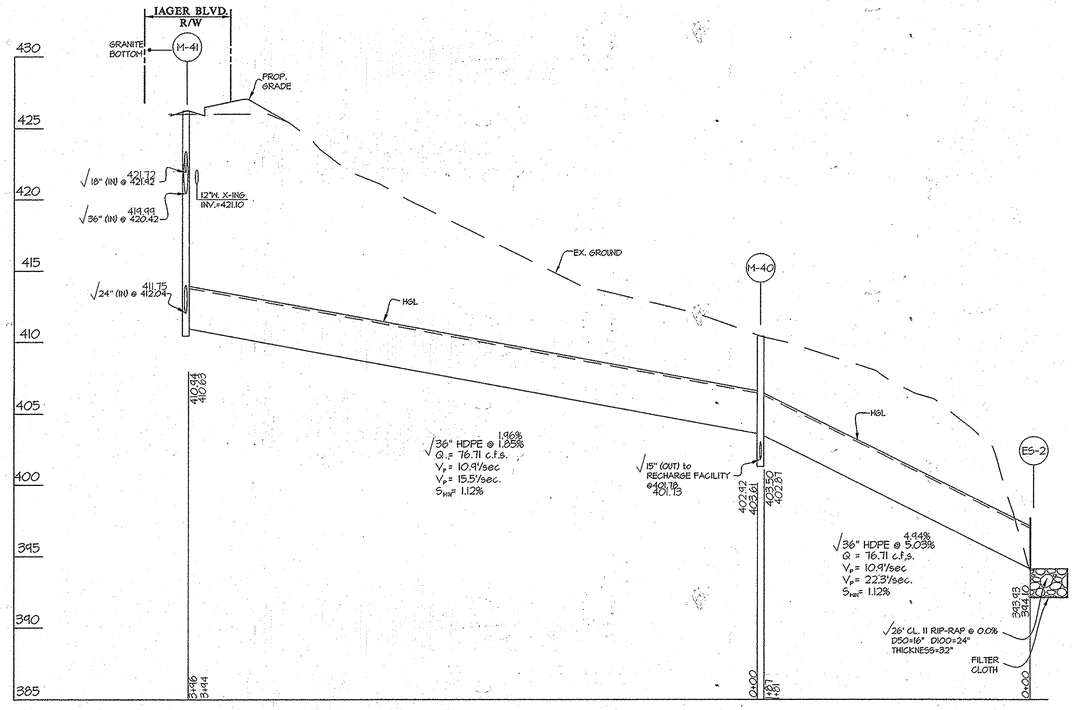
◇2 NYLOPLAST- ADS END SECTION OR APPROVED EQUAL.

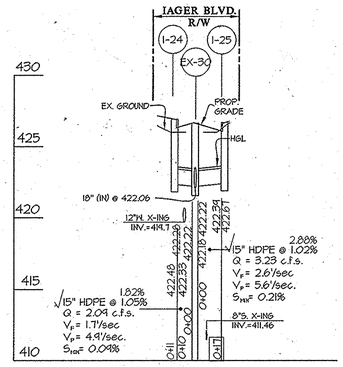
* ALL 'S' INLETS SHALL UTILIZE BICYCLE SAFE GRATES (EAST JORDAN IRON WORKS, OR APPROVED EQUAL)

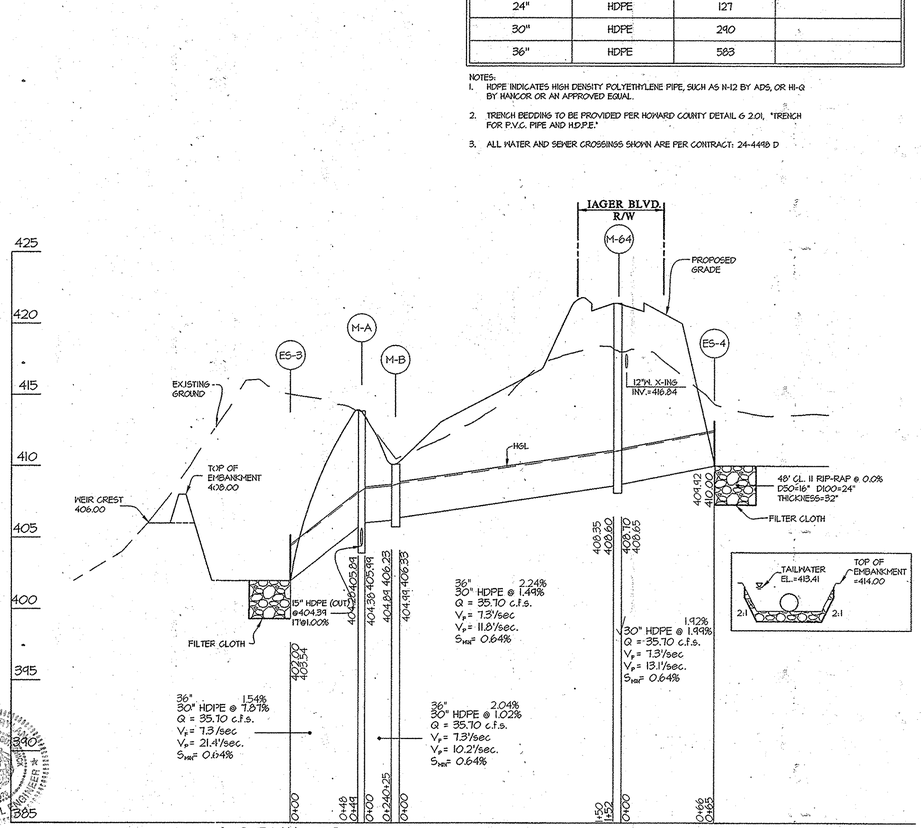
PIPE SUMMARY

SIZE	TYPE	QUANTITY (l.f.)	REMARKS
15"	HDPE	77	
18"	HDPE	196	
24"	HDPE	127	
30"	HDPE	290	
36"	HDPE	583	

NOTES:
1. HDPE INDICATES HIGH DENSITY POLYETHYLENE PIPE, SUCH AS N-12 BY ADS, OR HI-Q BY HANCOR OR AN APPROVED EQUAL.
2. TRENCH BEDDING TO BE PROVIDED PER HOWARD COUNTY DETAIL 6.20. "TRENCH FOR P.V.C. PIPE AND H.D.P.E."
3. ALL WATER AND SEWER CROSSINGS SHOWN ARE PER CONTRACT: 24-4418 D







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. 12975, Expiration Date: May 26, 2016.

10-29-15
Date

Carl K. Gutschick
Professional Engineer
Maryland Reg. No. 12975

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 11/29/12

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12/11/12

Chief, Development Engineering Division — Date 12-6-12

ASBUILTS

ASBUILT SHEET 9 OF 11

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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L:\2400\DRAWINGS\11000\FINALS\ROADS-SD\11000 11-14_SD PROFILES.dwg | DES. DEV | DRN. GT | CHK. CKG

DATE	REVISION	BY	APP'R.

PREPARED FOR:
MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
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ATTN: MARK BENNETT
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EXPIRATION DATE: MAY 26, 2014
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STORM DRAIN PROFILES

MAPLE LAWN FARMS

MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND
COMMON OPEN AREA LOTS 184 THRU 186

ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

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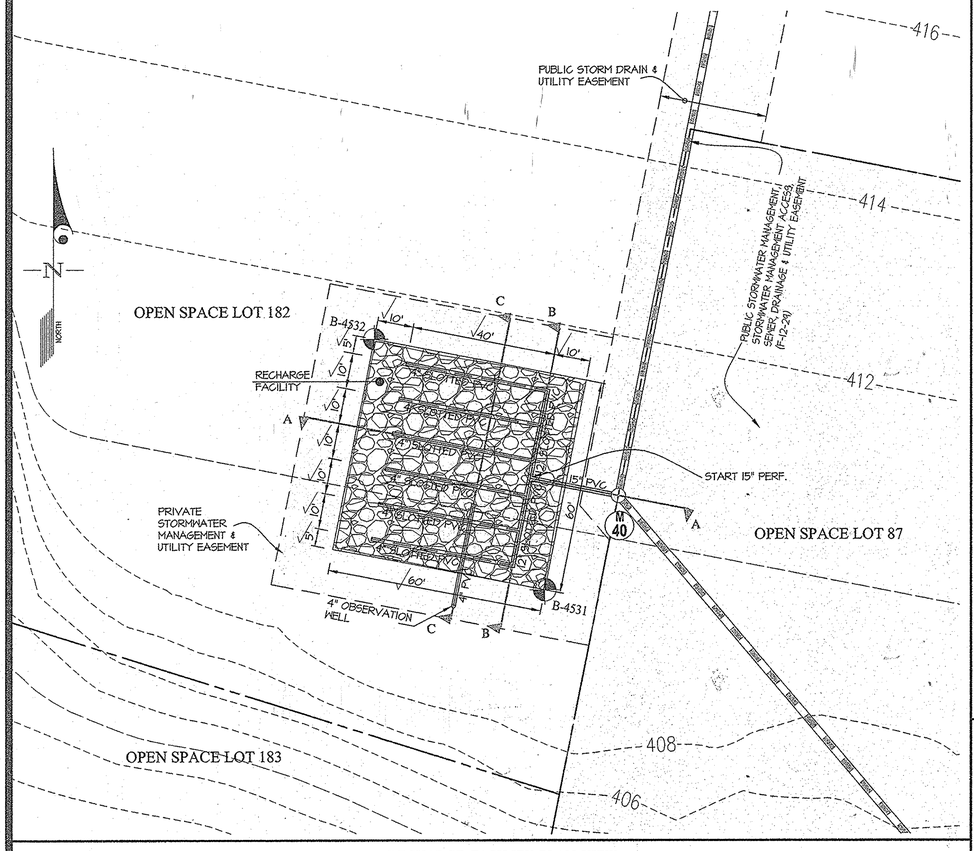
1" = 50' (H) 1" = 5' (V)	MXD-3	11001
DATE OCT., 2015 OCT. 2012	TAX MAP – GRID 41-21/46-3	SHEET 14 OF 25

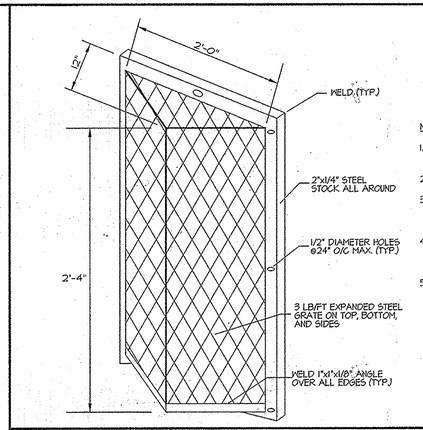
ASBUILTS F-13-007



RECHARGE FACILITY PLAN VIEW SCALE: 1" = 20'

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER INFILTRATION TRENCHES

1. THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
2. WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
3. A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
4. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN THE 72 HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
5. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
6. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.



NOTES FOR TRASH RACK

1. TRASH RACK TO BE CENTERED OVER OPENINGS.
2. STEEL TO CONFORM TO ASTM A-36.
3. ALL SURFACES TO BE COATED WITH ZRC COLD GALVANIZING COMPOUND AFTER WELDING.
4. TRASH RACK TO BE FASTENED TO THE WALL WITH 1/2" MASONRY ANCHORS. TRASH RACK TO BE REMOVABLE.
5. BOTTOM OF TRASH RACK TO BE LEFT OPEN (WOODED) AND SET 8" BELOW INVERT OF 12" OPENING

DETAIL FOR LOW FLOW TRASH RACK PROTECTION FOR MH 40 NTS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Diane Schwarz, Acting — 11/26/12
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Valdis Lazdins — 12/11/12
Chief, Division of Land Development — Date

Chad Edmondson — 12.6.12
Chief, Development Engineering Division — Date

S.D. PIPE SUMMARY TABLE
PRIVATELY OWNED AND MAINTAINED

SIZE (INCHES)	TYPE	QUANTITY (L.F.)	REMARKS
4	SLOTTED PVC	269	SCHEDULE 40
4	PVC	20	SCHEDULE 40
12	SLOTTED PVC	50	SCHEDULE 40
15	PVC	23	SCHEDULE 40

GLW GUTSCHICK LITTLE & WEBER, P.A.
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L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 15_RECHARGE.dwg | DES. DEV | DRN. LNH | CHK. CKG

DATE	REVISION	BY	APP'R.

PREPARED FOR:
G&R DEVELOPMENT, INC.
SUITE 300 WOODHOLME CENTER
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11-7-12

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

Project Name: Maple Lawn Farms - Midtown West — Boring No.: B-4531
Location: Howard County, Maryland — Job #: 12222A

SAMPLER
Datum: — Hammer Wt.: 140 lbs. — Hole Diameter: 6" — Foreman: J. Balk
Surf. Elev.: 412.6 ft — Hammer Drop: 30 in. — Rock Core Diameter: — Inspector:
Date Started: 6-05-12 — Pipe Size: 2.0 in. — Boring Method: HSA — Date Completed: 6-05-12

Elevation/ Depth	Soil Symbols/ Sample Conditions	Description	Boring and Sampling Notes	Rec.	N/M%	SPT Blows	SPT Blows/Foot N	SPT Blows/Foot Curve (10 30 50)
412.6 / 0	D	Red/brown, moist, medium stiff sandy silty CLAY, trace mica (CL-ML)	0" Topsoil	12"		3-3-5	8	
410.5 / 2	D	Reddish brown, moist, medium dense micaceous silty SAND to sandy SILT (SM-ML)		14"		6-8-8	16	
				14"		4-6-7	13	
			Groundwater encountered at 25.0' while drilling	14"		3-5-8	13	
405 / 7.5	D	Brown, moist, medium dense micaceous silty SAND with weathered rock (SM)	In-situ pipe set at 21.0'	14"		3-6-10	16	
			Backfilled after 24 hrs	14"		6-9-11	20	
				14"		6-8-7	15	
399 / 13.5				14"		6-8-11	19	
386 / 26.5		Bottom of Hole at 26.5'						

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST
GROUND WATER: AT COMPLETION Dry ft.; AFTER 24 HRS. Dry ft.; AFTER ___ HRS. ___ ft.
CAVE IN DEPTH: 23.0 ft.; 21.0 ft.; ___ ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING
STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30", COUNT MADE AT 6" INTERVALS.

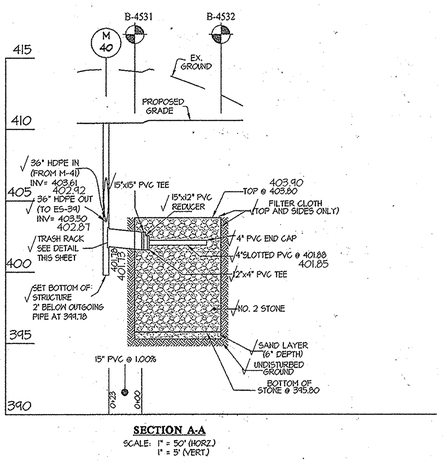
HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Maple Lawn Farms - Midtown West — Boring No.: B-4532
Location: Howard County, Maryland — Job #: 12222A

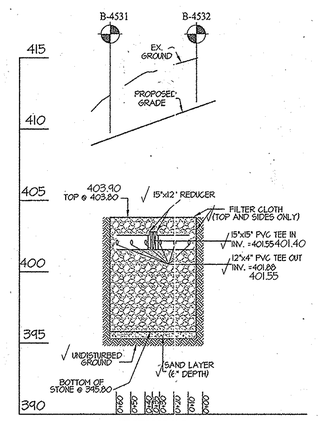
SAMPLER
Datum: — Hammer Wt.: 140 lbs. — Hole Diameter: 6" — Foreman: J. Balk
Surf. Elev.: 413.7 ft — Hammer Drop: 30 in. — Rock Core Diameter: — Inspector:
Date Started: 6-05-12 — Pipe Size: 2.0 in. — Boring Method: HSA — Date Completed: 6-05-12

Elevation/ Depth	Soil Symbols/ Sample Conditions	Description	Boring and Sampling Notes	Rec.	N/M%	SPT Blows	SPT Blows/Foot N	SPT Blows/Foot Curve (10 30 50)
413.7 / 0	D	Red/brown, moist, medium stiff silty sandy CLAY, trace mica (CL-ML)	0" Topsoil	12"		3-3-4	7	
410.5 / 3.2	D	Reddish brown, moist, medium dense sandy SILT to silty SAND (SM-ML)		18"		13-9-12	21	
				6"		10-8-10	18	
		Brown, moist, medium dense micaceous silty SAND with weathered rock (SM)	No groundwater encountered while drilling	14"		8-7-9	16	
			In-situ pipe set at 22.0'	11"		10-9-10	19	
			Backfilled after 24 hrs	12"		8-9-12	21	
				15"		11-10-10	20	
386 / 27.2		Bottom of Hole at 26.5'		11"		7-7-9	16	

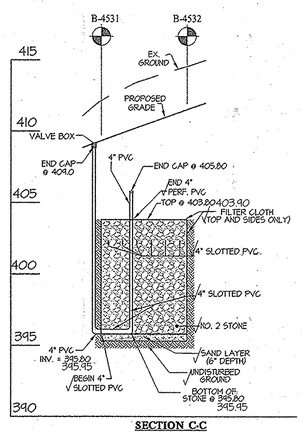
SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST
GROUND WATER: AT COMPLETION Dry ft.; AFTER 24 HRS. Dry ft.; AFTER ___ HRS. ___ ft.
CAVE IN DEPTH: 18.0 ft.; 19.0 ft.; ___ ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING
STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30", COUNT MADE AT 6" INTERVALS.



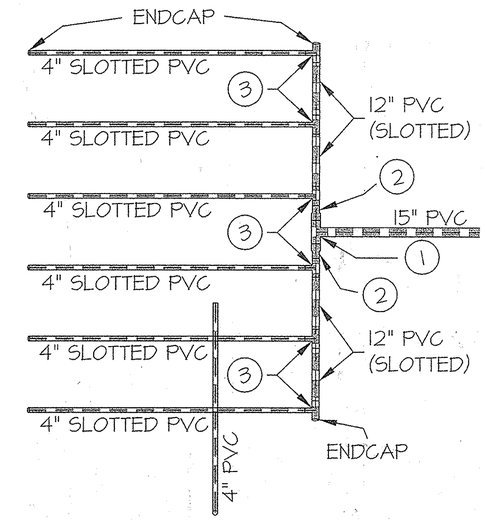
SECTION A-A
SCALE: 1" = 50' (HORZ.) 1" = 5' (VERT.)



SECTION B-B
SCALE: 1" = 50' (HORZ.) 1" = 5' (VERT.)



SECTION C-C
SCALE: 1" = 50' (HORZ.) 1" = 5' (VERT.)



FITTING PLAN SCALE: 1" = 10'

PARTS LIST

	TYPE	QUANTITY	ADS PART #
1	15" x 15" TEE	1	1565AN05B
2	15" x 12" REDUCER	2	1514AN05B
3	12" x 4" TEE	6	1260AN05B

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. 12975, Expiration Date: May 26 2016.

10-29-15
Date

Carl K. Gutschick
Professional Engineer
Maryland Reg. No. 12975

ASBUILTS

ASBUILT SHEET 10 OF 11

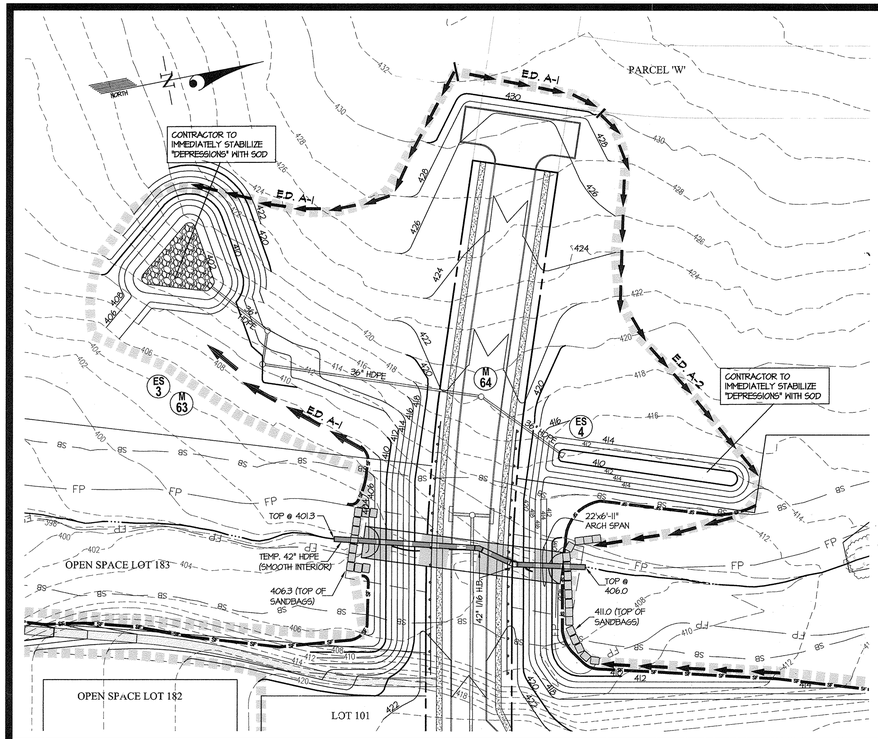
RECHARGE FACILITY DETAILS

MAPLE LAWN FARMS
MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND COMMON OPEN AREA LOTS 184 THRU 186

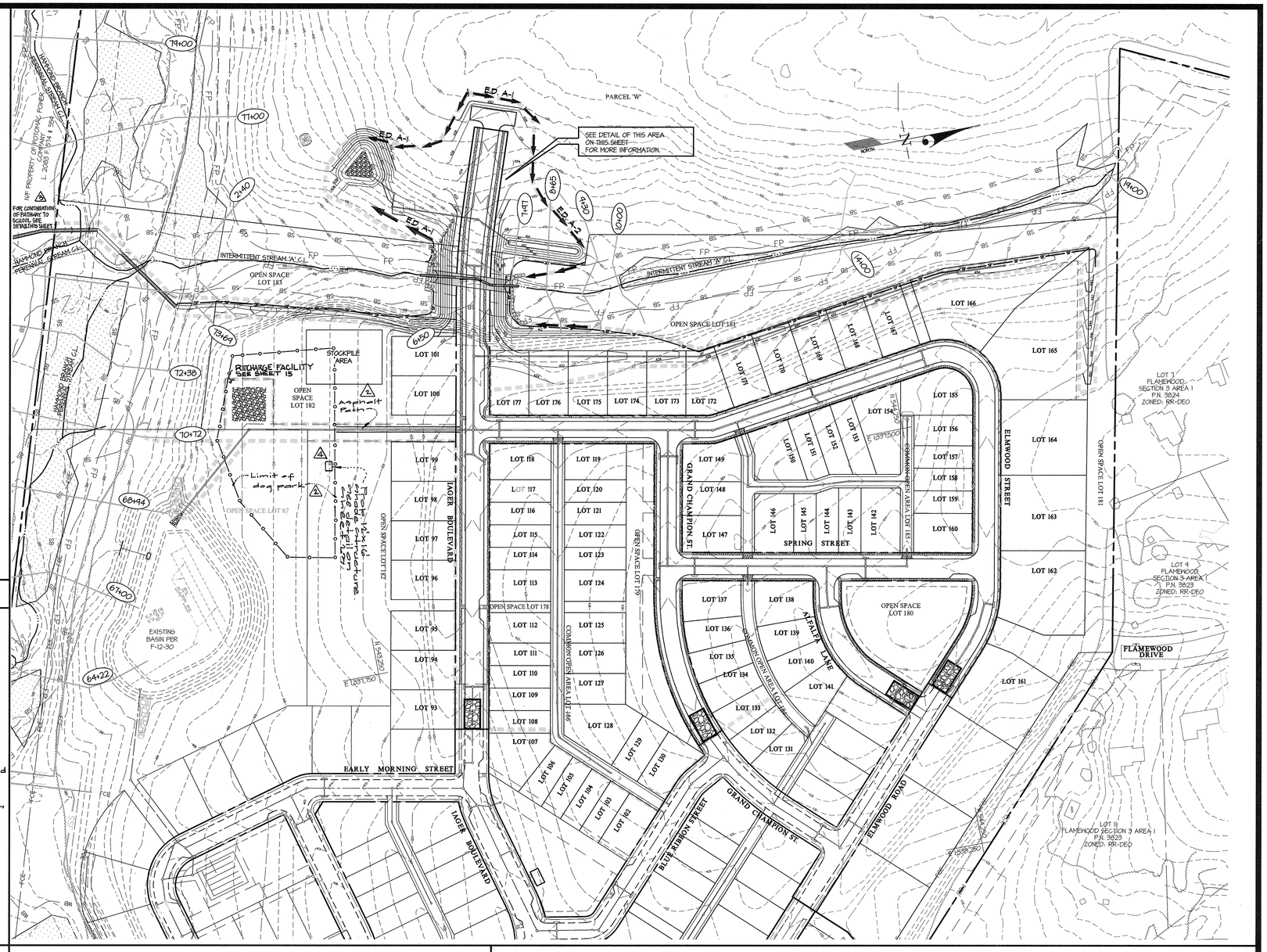
ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	MXD-3	11001
DATE: OCT., 2015 OCT. 2012	TAX MAP – GRID: 41-21/46-3	SHEET: 15 OF 25

ASBUILTS F-13-007



DETAIL SCALE: 1" = 50'



SEDIMENT CONTROL LEGEND

400	EXISTING CONTOUR
400	PROPOSED CONTOUR
	EXISTING TREELINE
	STABILIZED CONSTRUCTION ENTRANCE
⇨ ⇨	INITIAL EARTH DIKE
➡ ➡	FINAL EARTH DIKE
➡ ➡	BOTH CONDITIONS EARTH DIKE
	PROPOSED SANDBAGS
SSF	EXISTING SUPER SILT FENCE
SF	PROPOSED SILT FENCE
SSF	PROPOSED SUPER SILT FENCE
	LIMIT OF DISTURBANCE
	PROPOSED STORM DRAIN
FP	100 YEAR FLOODPLAIN
SB	STREAM BUFFER
	CENTERLINE OF STREAM
WB	WETLAND BUFFER
	LIMIT OF WETLAND
	WETLAND AREA

NOTES:

1. FOR STORM DRAIN SIZES SEE SHEET 8.
2. WHERE L.O.D. IS NOT SHOWN, THE SEDIMENT CONTROL DEVICES WILL INDICATE THE LIMIT OF DISTURBANCE.
3. CONTRACTOR MUST TURN ALL SILT FENCE AND SUPER SILT FENCE UPHILL BY 2' IN ELEVATION EVERY 25 FEET.
4. FOR DUST CONTROL INFORMATION SEE SHEET 16.
5. FOR RIP-RAP INFORMATION THIS SHEET.
6. FOR PROFILE ES-3 TO ES-4 SEE SHEET 13.

100 YEAR FLOODPLAIN STUDY

CROSS SECTION	WSEL. FT.
HAMMOND BRANCH	
64+22	383.95
67+00	385.17
68+94	386.20
70+72	388.21
72+38	389.58
73+69	391.04
77+00	394.32
79+00	394.57

100 YEAR FLOODPLAIN STUDY

CROSS SECTION	WSEL. FT.
STREAM 'A'	
2+40	394.32
6+50	403.68
7+97	408.68
8+65	409.42
9+30	410.68
10+00	413.60
14+00	423.33
19+00	435.89

③ 1. On August 30, 2017 the Division of Land Development determined that the proposed work indicated as Revision #3 is an essential disturbance.

2. On July 26, 2017 an e-mail was received from PEPCO granting approval for the work within their Right-of-way. The approved work has been indicated as Revision #3.

RIP RAP INFORMATION

LOCATION	PIPE SIZE	Q_{ACT}	Q_{CAP}	LENGTH		CLASS		D_{50}	D_{100}	THICKNESS
				REQUIRED	PROVIDED	REQUIRED	PROVIDED			
ES-2	36"	66.31	66.31	26'	26'	I	II	16"	24"	32"
ES-3	30"	35.7	62.8	47'	48'	I	II	16"	24"	32"

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

John R Robertson 11/20/12
HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Diane Schwarz, Acting 11/29/12
Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

12/11/12
Chief, Division of Land Development Date

Chad Edmondson 12.6.12
Chief, Development Engineering Division Date

BUILDER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR 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 MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HSCD."

Mark A. Bennett V. Pres 10/25/12
SIGNATURE OF DEVELOPER/BUILDER DATE

ENGINEER'S CERTIFICATE

"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."

11-7-12
SIGNATURE OF ENGINEER DATE

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT AND ARRANGE FOR AN ON-SITE PRE-CONSTRUCTION MEETING. (1 WEEK)
2. INSTALL STONE CONSTRUCTION ENTRANCES, SILT FENCE AS SHOWN ON THESE PLANS. (3 WEEKS)
3. INSPECT SEDIMENT CONTROL DEVICES CONSTRUCTED UNDER F 12-30 AND MAKE REPAIRS AS NEEDED. (1 WEEK)

NOTE: WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, ITEMS 4 THROUGH 6 AND ITEM 7 MAY BE PERFORMED CONCURRENTLY.

4. INSTALL SILT FENCE, TEMPORARY PIPE AND SANDBAGS IN THE AREA OF THE ARCH SPAN AS SHOWN ON SHEET 15. (1 WEEK)
5. WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, BEGIN CONSTRUCTION OF THE ARCH SPAN. (1 MONTH)
6. ONCE ENOUGH COVER HAS BEEN PLACE ON THE ARCH SPAN TO ALLOW CONSTRUCTION TRAFFIC, INSTALL THE LOCAL DEPRESSION, THE STORM DRAIN SYSTEM ES-4 TO ES-3, AND THE EARTH DIKES ON THE WEST SIDE OF THE TRIBUTARY AS SHOWN ON SHEET 15. (1 WEEK)
7. BEGIN CONSTRUCTION OF THE STORM DRAINS PER THIS PLAN, AND THE WATER AND SEWER PER THE CONSTRUCTION DRAWINGS, CONT. #24-4747-D AND CONT. #24-4748-D. (6 MONTHS)
8. INSTALL THE CURB AND GUTTER, SIDEWALKS, PATHWAY, AND BASE PAVING. (2 MONTHS)
9. FINE GRADE SITE AND STABILIZE DISTURBED AREAS. (1 MONTH)
10. INSTALL SURFACE COURSE. (1 MONTH)
11. REMOVE REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE ANY REMAINING DISTURBED AREAS. (2 WEEKS)
12. WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, FLUSH THE STORM DRAIN SYSTEM. (1 WEEK)

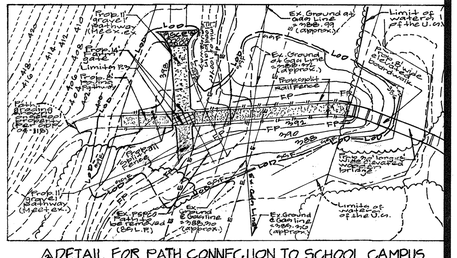
SEQUENCE OF CONSTRUCTION FOR ELEVATED BOARDWALK AND WOODEN BRIDGE. ③

1. THIS WORK WILL BE PERFORMED UNDER THE SAME GRADING PERMIT AS THE REST OF THE WORK SHOWN ON THESE FINAL PLANS.
2. ARRANGE FOR AN ON-SITE PRE-CONSTRUCTION MEETING WITH THE HOWARD COUNTY INSPECTOR
3. INSTALL THE SUPER SILT FENCE AND STONE CONSTRUCTION ENTRANCE AS SHOWN ON THESE PLANS.
4. BEGIN THE CONSTRUCTION OF THE ELEVATED BOARDWALK FROM THE MAPLE LAWN (NORTH) END OF THE BOARDWALK.
5. FROM THE EXISTING PAVEMENT, SET THE FIRST AND SECOND SET OF PILINGS AND BEGIN THE INSTALLATION OF THE FIRST SECTION OF THE BOARDWALK.
6. ONCE THE FIRST SECTION OF THE BOARDWALK IS IN PLACE, THE CONTRACTOR WILL SET UP AT THE END OF IT AND SET THE NEXT SET OF PILINGS. THIS PROCESS WILL CONTINUE UNTIL THE PILINGS FOR THE WOODEN BRIDGE IS REACHED.

CONCURRENT TO CONSTRUCTION ITEMS 4 THROUGH 8 ABOVE, THE FOLLOWING CONSTRUCTION CAN TAKE PLACE, GAINING ACCESS TO THE WORK AREA FROM THE SOUTH:

7. BEGIN CONSTRUCTION OF THE EARTHEN CAUSEWAY.
8. CONTINUE PLACING FILL UNTIL THE CAUSEWAY REACHES THE GRADES SHOWN ON THESE PLANS FILL SLOPES ARE TO BE STABILIZED IMMEDIATELY WITH SOD.
9. BEGIN THE CONSTRUCTION OF THE ELEVATED BOARDWALK BETWEEN THE PEPCO R/W AND THE BRIDGE.
10. INSTALL THE 30'x8' BRIDGE SECTION WHEN CALLED FOR IN THE CONTRACTOR'S PROCEDURE
11. REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE ANY REMAINING DISTURBED AREAS.

NOTE: THE CONTRACTOR MUST FOLLOW THE BEST MANAGEMENT SPECIFICATIONS SHOWN ON THIS PLAN.



③ DETAIL FOR PATH CONNECTION TO SCHOOL CAMPUS
scale: 1"=50'

THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 16-18_SC.dwg	DES. DEV	DRN. KLP	CHK. CKG

DATE	REVISION	BY	APP'R.
11.17.2014	② added limits of dog park and asphalt path.	DEV.	DEV.
9.6.2017	③ Added detail for path connection to school campus; sequence of construction	gt.	DEV.
10.2.2018	④ Added shade structure within Dog Park Limits	gt	CKG

PREPARED FOR:

MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS 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. 12975, EXPIRATION DATE: MAY 26, 2014.

11-7-12

CARLTON K. GUTSCHICK REG. NO. 12975

SEDIMENT CONTROL PLAN

MAPLE LAWN FARMS

MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND
COMMON OPEN AREA LOTS 184 THRU 186

ELECTION DISTRICT No. 5 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	MXD-3	11001
DATE	TAX MAP – GRID	SHEET
OCT. 2012	41-21/46-3	16 OF 25

L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 16-18_SC.dwg, PLOTTED:10/25/2012 10:48 AM, LAST SAVED:10/24/2012 10:21 AM, PLOTTED BY: Jennifer R. Dicks

F-13-007

B-4-2 STANDARD AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

DEFINITION

THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

PURPOSE

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

CONDITIONS WHERE PRACTICE APPLIES

WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA

A. SOIL PREPARATION

1. TEMPORARY STABILIZATION

a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

2. PERMANENT STABILIZATION

a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

I. SOIL PH BETWEEN 6.0 AND 7.0.

II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).

III. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.

IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.

V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.

c. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.

d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.

e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

B. TOPSOILING

1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.

3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:

a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.

5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:

a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1.5 INCHES IN DIAMETER.

b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

c. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

6. TOPSOIL APPLICATION

a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
c. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.
3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.
4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Diane Schwarz, Acting 11/29/12
Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Kent Sheubrooks 12/11/12
Chief, Division of Land Development Date

Chad Edmondson 12-6-12
Chief, Development Engineering Division Date

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING and MULCHING

DEFINITION

THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

PURPOSE

TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

CONDITIONS WHERE PRACTICE APPLIES

TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

CRITERIA

A. SEEDING

1. SPECIFICATIONS

a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.
c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
d. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

2. APPLICATION

a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
   i. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.
   ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.

b. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
   i. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
   ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
   i. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (POTASSIUM), 200 POUNDS PER ACRE.
   ii. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
   iii. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
   iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

B. MULCHING

1. MULCH MATERIALS (IN ORDER OF PREFERENCE)

a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
   i. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
   ii. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
   iii. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
   iv. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
   v. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.

2. APPLICATION

a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.
c. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

3. ANCHORING

a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:
   i. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
   ii. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
   iii. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.
   iv. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

BUILDER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR 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 MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HSCD."

Mark A. Bennett V. Pres 10/25/12

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

DEFINITION

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

PURPOSE

TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS. CONDITIONS WHERE PRACTICE APPLIES EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

CRITERIA

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.
2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPORARY SEEDING SUMMARY

HARDINESS ZONE: 6b SEED MIXTURE:					FERTILIZER RATE (10–10–10)	LIME RATE
No.	SPECIES	APPLICATION RATE (lb/ac.)	SEEDING DATES	SEEDING DEPTHS		
1	ANNUAL RYEGRASS	40 lb/ac	Mar. 1 to May 15, Aug. 1 to Oct. 15	0.5 INCHES	436 lb./ac. (10 lb./ 1,000 sf)	2 tons/ac. (90 lb./ 1,000 sf)
2	PEARL MILLET	20 lb/ac	May 16 to July 31	0.5 INCHES		

SEDIMENT CONTROL NOTES

1. A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION. (410) 313-1855

2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" AND REVISIONS THERETO.

3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
   A. 3 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
   B. 7 CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. I, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.

5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR PERMANENT SEEDINGS, SOD, TEMPORARY SEEDINGS AND MULCHING (SEC. B). TEMPORARY STABILIZATION, WITH MULCH ALONE, CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.

6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

TOTAL AREA OF SITE	:	34.08± Acres
AREA DISTURBED	:	18.5± Acres
AREA TO BE ROOFED OR PAVED	:	2.4± Acres
AREA TO BE VEGETATIVELY STABILIZED	:	16.1± Acres
TOTAL CUT	:	0.00 Cu. Yds.
TOTAL FILL	:	11,230 Cu. Yds.
OFF-SITE WASTE/BORROW AREA LOCATION	:	MIDTOWN WEST-AREA 1 (F-12-230)

7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE

8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY DPW SEDIMENT CONTROL INSPECTOR.

9. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

10. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO 3 PIPE LENGTHS OR THAT WHICH SHALL BE BACKFILLED AND STABILIZED WITHIN 1 WORKING DAY, WHICHEVER IS SHORTER.

STANDARDS AND SPECIFICATIONS FOR DUST CONTROL

DEFINITION

CONTROLLING THE SUSPENSION OF DUST PARTICLES FROM CONSTRUCTION ACTIVITIES.

PURPOSE

TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES TO REDUCE ON AND OFF-SITE DAMAGE INCLUDING HEALTH AND TRAFFIC HAZARDS.

CONDITIONS WHERE PRACTICE APPLIES

AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

SPECIFICATIONS

1. MULCHES: SEE SECTION B-4-2 SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS, SECTION B-4-3 SEEDING AND MULCHING, AND SECTION B-4-4 TEMPORARY STABILIZATION. MULCH MUST BE ANCHORED TO PREVENT BLOWING.
2. VEGETATIVE COVER: SEE SECTION B-4-4 TEMPORARY STABILIZATION.
3. TILLAGE: TILL TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT THAT MAY PRODUCE THE DESIRED EFFECT.
4. IRRIGATION: SPRINKLE SITE WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. THE SITE MUST NOT BE IRRIGATED TO THE POINT THAT RUNOFF OCCURS.
5. BARRIERS: SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING.
6. CHEMICAL TREATMENT: USE OF CHEMICAL TREATMENT REQUIRES APPROVAL BY THE APPROPRIATE PLAN REVIEW AUTHORITY.

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

John R. Robertson 11/20/12
HOWARD S.C.D. DATE

ENGINEER'S CERTIFICATE

"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."

11-7-12

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION

TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

PURPOSE

TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA

A. SEED MIXTURES

1. GENERAL USE
   a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
   b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
   c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
   d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

2. TURFGRASS MIXTURES

   a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.

   b. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.

      i. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

      ii. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

      iii. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE.
      RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.

      iv. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1 1/2 TO 3 POUNDS PER 1000 SQUARE FEET.

      NOTES:

      SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND"

      CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE

   i. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES
      WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A)
      CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)
      SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)

   j. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1 1/2 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.

   k. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

PERMANENT SEEDING SUMMARY

HARDINESS ZONE: 6b SEED MIXTURE: #8 (Tall Fescue)					FERTILIZER RATE (10–20–20)	LIME RATE
No.	SPECIES	APPLICATION RATE	SEEDING DATES	SEEDING DEPTHS		
8	*Certified Tall Fescue blend : Equal amounts of *Falcon IV, Penn 1901 & Rebel Exeda*	6–8 lb/ 1000 s.f.	Mar. 1 to May 15, Aug. 15 to Oct. 15	1/4 – 1/2 IN.	1.0 lb/ 1000 s.f. (45 lb/acre)	90 lb/ 1000 s.f.

* Other cultivars listed as "proven" in the most current UMD TT-77 may also be used

B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

1. GENERAL SPECIFICATIONS

   a. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
   b. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
   c. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
   d. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
   e. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

2. SOD INSTALLATION

   a. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
   b. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
   c. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
   d. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.

3. SOD MAINTENANCE

   a. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.
   b. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
   c. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

DETAIL C-1 EARTH DIKE

STANDARD SYMBOL A-1
PLACE DESIGNATION (e.g. A-1) ON FLOW CHANNEL SIDE OF DIKE.

DIKE TYPE

	A	B
a – DIKE HEIGHT	18 IN MIN.	30 IN MIN.
b – DIKE WIDTH	24 IN MIN.	36 IN MIN.
c – FLOW WIDTH	4 FT MIN.	6 FT MIN.
d – FLOW DEPTH	12 IN MIN.	24 IN MIN.

FLOW CHANNEL STABILIZATION

A–1	SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.)
A–2/B–2	SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.
A–3/B–3	4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

CONSTRUCTION SPECIFICATIONS

1. REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE.
2. EXCAVATE OR SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
3. COMPACT FILL.
4. CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
5. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
6. STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
7. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP EARTH DIKE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
8. UPON REMOVAL OF EARTH DIKE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE | 2011 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL ├──SF──┤

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
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DETAIL E-1 SILT FENCE

STANDARD SYMBOL ├──SF──┤

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ ± 1/16 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.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM 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.
4. 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.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. 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.
8. 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.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE | 2011 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL SCE

CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE | 2011 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL C-2 TEMPORARY SWALE

STANDARD SYMBOL A-1

SWALE TYPE

	A	B
MIN. DEPTH	1 FT MIN.	1 FT MIN.
BOTTOM WIDTH	4 FT MIN.	6 FT MIN.

FLOW CHANNEL STABILIZATION

A–1	SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.)
A–2/B–2	SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.
A–3/B–3	4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

CONSTRUCTION SPECIFICATIONS

1. REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF TEMPORARY SWALE.
2. EXCAVATE OR SHAPE TEMPORARY SWALE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
3. STABILIZE TEMPORARY SWALE WITHIN THREE DAYS OF INSTALLATION. STABILIZE SWALES USED FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
4. CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
5. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
6. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP TEMPORARY SWALE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
7. UPON REMOVAL OF TEMPORARY SWALE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE | 2011 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

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DATE	REVISION	BY	APP'R.

PREPARED FOR:
MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS 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. 12975, EXPIRATION DATE: MAY 26, 2014

11-7-12

CARLTON K. GUTSCHICK
REG. NO. 12975

SEDIMENT CONTROL NOTES and DETAILS

MAPLE LAWN FARMS
MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND
COMMON OPEN AREA LOTS 184 THRU 186

ELECTION DISTRICT No. 5 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
NO SCALE	MXD-3	11001
DATE	TAX MAP – GRID	SHEET
OCT. 2012	41-21/46-3	17 OF 25

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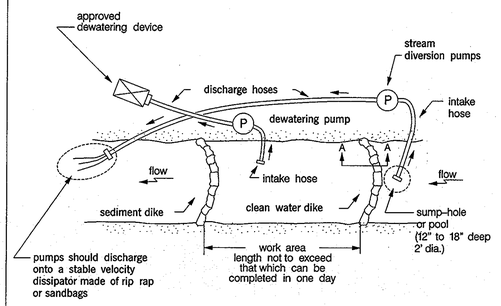
PLOTTED: 10/25/2012 10:48 AM, LAST SAVED: 10/24/2012 10:21 AM

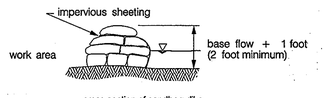
Maryland's Guidelines To Waterway Construction

DETAIL 1.2: PUMP-AROUND PRACTICE

PLAN VIEW



SECTION A–A



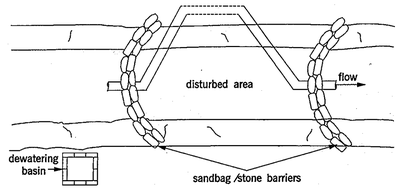
cross section of sandbag dike

TEMPORARY INSTREAM CONSTRUCTION MEASURES	*REVISED NOVEMBER 2000* *PAGE 1.2 - 3*	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

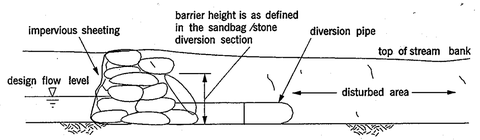
Maryland's Guidelines To Waterway Construction

DETAIL 1.4: DIVERSION PIPE

PLAN VIEW



LONGITUDINAL SECTION VIEW



TEMPORARY INSTREAM CONSTRUCTION MEASURES	*REVISED NOVEMBER 2000* *PAGE 1.4 - 2*	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

BEST MANAGEMENT PRACTICES

FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS

I. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILES OR STORED IN NON-TIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR 100 YEAR FLOODPLAIN.

2. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOOD PLAIN.

3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.

4. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.

5. REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.

6. RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.

7. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES:
   ANNUAL RYE GRASS (LOLIUM MULTIFLORUM)
   MILLET (SETARIA ITALICA) BARLEY (HORDEUM SPECIES)
   OATS (SP.)
   RYE (SECALE CEREALE)
   THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.

8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.

9. TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM USE I WATERS: IN STREAM WORK SHALL BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.

10. STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.

11. CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

MGWC 1.2: PUMP-AROUND PRACTICE

Temporary measure for dewatering in-channel construction sites

DESCRIPTION

The work should consist of installing a temporary pump around and supporting measures to divert flow around in-stream construction sites.

IMPLEMENTATION SEQUENCE

Sediment control measures, pump-around practices, and associated channel and bank construction should be completed in the following sequence (refer to Detail 1.2):

1. Construction activities including the installation of erosion and sediment control measures should not begin until all necessary easements and/or right-of-ways have been acquired. All existing utilities should be marked in the field prior to construction. The contractor is responsible for any damage to existing utilities that may result from construction and should repair the damage at his/her own expense to the county's or utility company's satisfaction.
2. The contractor should notify the Maryland Department of the Environment or WMA sediment control inspector at least 5 days before beginning construction. Additionally, the contractor should inform the local environmental protection and resource management inspection and enforcement division and the provider of local utilities a minimum of 48 hours before starting construction.
3. The contractor should conduct a pre-construction meeting on site with the WMA sediment control inspector, the county project manager, and the engineer to review limits of disturbance, erosion and sediment control requirements, and the sequence of construction. The contractor should stake out all limits of disturbance prior to the pre-construction meeting so they may be reviewed. The participants will also designate the contractor's staging areas and flag all trees within the limit of disturbance which will be removed for construction access. Trees should not be removed within the limit of disturbance without approval from the WMA or local authority.
4. Construction should not begin until all sediment and erosion control measures have been installed and approved by the engineer and the sediment control inspector. The contractor should stay within the limits of the disturbance as shown on the plans and minimize disturbance within the work area whenever possible.
5. Upon installation of all sediment control measures and approval by the sediment control inspector and the local environmental protection and resource management inspection and enforcement division, the contractor should begin work at the upstream section and proceed downstream beginning with the establishment of stabilized construction entrances. In some cases, work may begin downstream if appropriate. The sequence of construction must be followed unless the contractor gets written approval for deviations from the WMA or local authority. The contractor should only begin work in an area which can be completed by the end of the day including grading adjacent to the channel. At the end of each work day, the work area must be stabilized and the pump around removed from the channel. Work should not be conducted in the channel during rain events.
6. Sandbag dikes should be situated at the upstream and downstream ends of the work area as shown on the plans, and stream flow should be pumped around the work area. The pump should discharge onto a stable velocity dissipater made of riprap or sandbags.
7. Water from the work area should be pumped to a sediment filtering measure such as a dewatering basin, sediment bag, or other approved source. The measure should be located such that the water drains back into the channel below the downstream sandbag dike.
8. Traversing a channel reach with equipment within the work area where no work is proposed should be avoided. If equipment has to traverse such a reach for access to another area, then timber mats or similar measures should be used to minimize disturbance to the channel. Temporary stream crossings should be used only when necessary and only where noted on the plans or specified. (*See Section 4, Stream Crossings, Maryland Guidelines to Waterway Construction*).
9. All stream restoration measures should be installed as indicated by the plans and all banks graded in accordance with the grading plans and typical cross- sections. All grading must be stabilized at the end of each day with seed and mulch or seed and matting as specified on the plans.
10. After an area is completed and stabilized, the clean water dike should be removed. After the first sediment flush, a new clean water dike should be established upstream from the old sediment dike. Finally, upon establishment of a new sediment dike below the old one, the old sediment dike should be removed.
11. A pump around must be installed on any tributary or storm drain outfall which contributes baseflow to the work area. This should be accomplished by locating a sandbag dike at the downstream end of the tributary or storm drain outfall and pumping the stream flow around the work area. This water should discharge onto the same velocity dissipater used for the main stem pump around.
12. If a tributary is to be restored, construction should take place on the tributary before work on the main stem reaches the tributary confluence. Construction in the tributary, including pump around practices, should follow the same sequence as for the main stem of the river or stream. When construction on the tributary is completed, work on the main stem should resume. Water from the tributary should continue to be pumped around the work area in the main stem.
13. The contractor is responsible for providing access to and maintaining all erosion and sediment control devices until the sediment control inspector approves their removal.
14. After construction, all disturbed areas should be regraded and revegetated as per the planting plan.

MGWC 1.4: DIVERSION PIPE

Temporary measure for dewatering in-channel construction sites

DESCRIPTION

The work should consist of installing flow diversion pipes in combination with sandbag or stone diversions when construction activities occur within the stream channel.

EFFECTIVE USES & LIMITATIONS

Diversion pipes with an insufficient flow capacity can cause the channel diversion to fail thereby resulting in severe erosion of the disturbed channel section under construction. Therefore, in-channel construction activities should occur only during periods of low flow.

MATERIAL SPECIFICATIONS

Materials for stream diversions should meet the following requirements:

- *Riprap*: Stone should be washed and have a minimum diameter of 6 inches (15 centimeters).
- *Sandbags*: Sandbags should consist of materials which are resistant to ultra-violet radiation, tearing, and puncture and should be woven tightly enough to prevent leakage of fill material (i.e., sand, fine gravel, etc.).
- *Sheeting*: Sheeting should consist of polyethylene or other material which is impervious and resistant to puncture and tearing.

INSTALLATION GUIDELINES

All erosion and sediment control devices including mandatory dewatering basins should be installed as the first order of business according to a plan approved by the WMA or local authority. Installation should proceed from upstream to downstream during low flow conditions. If necessary, silt fence or straw bales should be installed around the perimeter of the work area.

Diversion pipes with sandbag or stone barriers should be completed as follows (refer to Detail 1.4):

1. Sandbag/stone barriers should be sized and installed as detailed in MGWC 1.5: Sandbag/Stone Diversion. The materials should be sized to withstand baseflow velocities.
2. All excavated material should be deposited and stabilized in an approved area outside the 100-year floodplain unless otherwise authorized by the WMA.
3. Sediment-laden water from the construction area should be pumped to a dewatering basin.
4. The diversion pipe should have a minimum capacity sufficient to convey the 2-year flow for projects with a duration of two weeks or greater. For projects of shorter duration, the capacity of the pipe can be reduced accordingly.
5. If necessary, silt fence or straw bales should be installed around the perimeter of the work area.
6. Sediment control devices are to remain in place until all disturbed areas are stabilized and the inspecting authority approves their removal.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Diane Schwarz, Acting — Chief, Bureau of Highways — 11/29/12 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Kent Sheubrooks — Chief, Division of Land Development — 12/11/12 Date

Chad Edmondson — Chief, Development Engineering Division — 12-6-12 Date

ENGINEER'S CERTIFICATE

"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."

SIGNATURE OF ENGINEER — 11-7-12 DATE

BUILDER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR 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 MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HSCD."

SIGNATURE OF DEVELOPER/BUILDER — 10/25/12 DATE

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

HOWARD S.C.D. — 11/20/12 DATE

THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
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L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 16-18_SC.dwg | DES. DEV | DRN. KLP | CHK. CKG

DATE	REVISION	BY	APP'R.

PREPARED FOR:
MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS 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. 12975, EXPIRATION DATE: MAY 26, 2014.

STATE OF MARYLAND — CLYDE K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

11-7-12

. SEDIMENT CONTROL NOTES and DETAILS - WATERWAY CONSTRUCTION

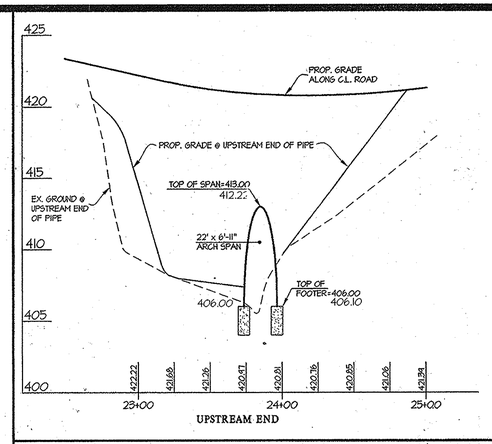
MAPLE LAWN FARMS
MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND COMMON OPEN AREA LOTS 184 THRU 186

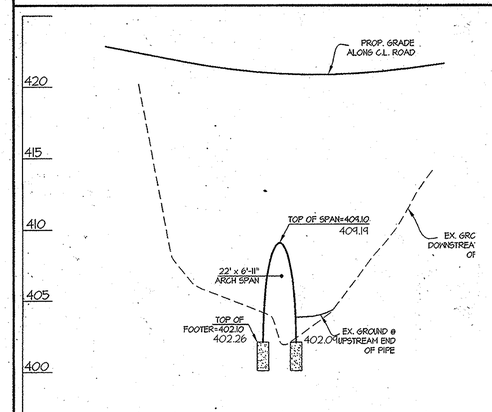
ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

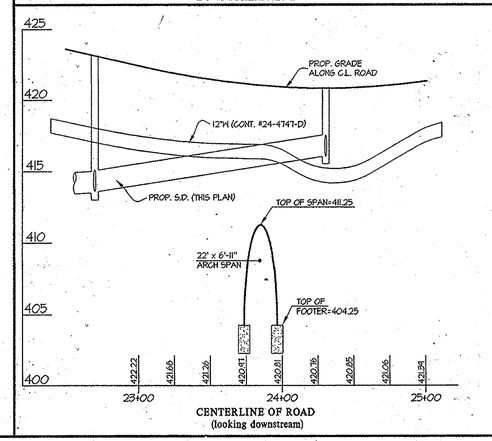
SCALE	ZONING	G. L. W. FILE No.
NO SCALE	MXD-3	11001
DATE	TAX MAP - GRID	SHEET
OCT. 2012	41-21/46-3	18 OF 25

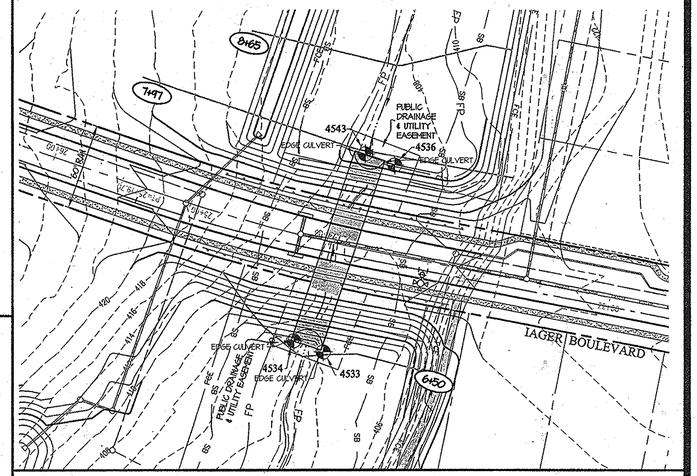
F-13-007

L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 16-18_SC.dwg, PLOTTED: 10/25/2012 10:50 AM, LAST SAVED: 10/24/2012 10:21 AM, PLOTTED BY: Jennifer R. Dicks









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

Project Name Maple Lawn Farms - Midtown West — Boring No. B-4533
Location Howard County, Maryland — Job # 12222A

SAMPLER
Datum ____ Hammer Wt. 140 lbs. Hole Diameter 6" Foreman J. Balk
Surf. Elev. 404.3 ft Hammer Drop 30 in. Rock Core Diameter ____ Inspector ____
Date Started 6-04-12 Pipe Size 2.0 in. Boring Method HSA Date Completed 6-04-12

Description	Boring and Sampling Notes	Rec.	NM%	SPT Blows	N
Brown to Red Brown, moist, medium stiff to soft silty sandy CLAY, trace mica (ML-CL)	4" Topsoil	10"		3-3-4	7
		9"		3-2-2	4
Gray, moist, loose, fine silty SAND to sandy SILT with mica (SM-ML)		12"		3-2-6	8
	Groundwater encountered at 10.0' while drilling	14"		10-6-9	15
Brown, wet, very dense, quartz GRAVEL (GM) Bottom of Hole at 14.0' Auger Refusal		2"		50/2"	50/2"

SAMPLER TYPE
DRIVEN SPLIT SPOON UNLESS OTHERWISE
PT - PRESSED SHELBY TUBE
CA - CONTINUOUS FLIGHT AUGER
RC - ROCK CORE

SAMPLE CONDITIONS
D - DISINTEGRATED
I - INTACT
U - UNDISTURBED
L - LOST

	GROUND WATER	CAVE IN DEPTH
AT COMPLETION	6.0 ft.	9.0 ft.
AFTER 24 HRS.	3.5 ft.	5.6 ft.
AFTER ___ HRS.	ft.	ft.

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
DC - DRIVING CASING
MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

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

Project Name Maple Lawn Farms - Midtown West — Boring No. B-4534
Location Howard County, Maryland — Job # 12222A

SAMPLER
Datum ____ Hammer Wt. 140 lbs. Hole Diameter 6" Foreman J. Balk
Surf. Elev. 403.7 ft Hammer Drop 30 in. Rock Core Diameter ____ Inspector ____
Date Started 6-04-12 Pipe Size 2.0 in. Boring Method HSA Date Completed 6-04-12

Description	Boring and Sampling Notes	Rec.	NM%	SPT Blows	N
Brown, moist, medium stiff sandy silty CLAY with organics (ML)	4" Topsoil	12"		2-3-3	6
Brown, moist to wet, loose to very dense, micaceous silty SAND with weathered rock (SM)		18"		9-3-5	8
		16"		8-8-10	18
	Groundwater encountered at 12.5' while drilling	10"		5-8-10	18
		8"		23-26-31	57
		10"		8-12-12	24
Bottom of Hole at 19.0'					

SAMPLER TYPE
DRIVEN SPLIT SPOON UNLESS OTHERWISE
PT - PRESSED SHELBY TUBE
CA - CONTINUOUS FLIGHT AUGER
RC - ROCK CORE

SAMPLE CONDITIONS
D - DISINTEGRATED
I - INTACT
U - UNDISTURBED
L - LOST

	GROUND WATER	CAVE IN DEPTH
AT COMPLETION	6.0 ft.	13.5 ft.
AFTER 24 HRS.	2.5 ft.	11.5 ft.
AFTER ___ HRS.	ft.	ft.

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
DC - DRIVING CASING
MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

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

Project Name Maple Lawn Farms - Midtown West — Boring No. B-4535
Location Howard County, Maryland — Job # 12222A

SAMPLER
Datum ____ Hammer Wt. 140 lbs. Hole Diameter 6" Foreman J. Balk
Surf. Elev. 408+/- ft Hammer Drop 30 in. Rock Core Diameter ____ Inspector ____
Date Started 6-04-12 Pipe Size 2.0 in. Boring Method HSA Date Completed 6-04-12

Description	Boring and Sampling Notes	Rec.	NM%	SPT Blows	N
Brown, moist, medium stiff to very stiff sandy silty CLAY, trace mica and organics (CL-ML)	4" Topsoil	8"		3-3-3	6
	Boring was staked in center of stream bed. Hole was offset up on the bank approximately 3 ft higher in elevation (Staked elevation was 405.0)	18"		4-10-11	21
Brown, moist, very dense micaceous silty SAND with quartz gravel (SM)		18"		8-28-27	55
Brown, moist to wet, medium dense to very dense micaceous silty SAND with weathered rock (SM)	Groundwater encountered at 13.0' while drilling	18"		12-15-14	29
		18"		8-7-9	16
		18"		10-15-17	32
Bottom of Hole at 20.0'					

SAMPLER TYPE
DRIVEN SPLIT SPOON UNLESS OTHERWISE
PT - PRESSED SHELBY TUBE
CA - CONTINUOUS FLIGHT AUGER
RC - ROCK CORE

SAMPLE CONDITIONS
D - DISINTEGRATED
I - INTACT
U - UNDISTURBED
L - LOST

	GROUND WATER	CAVE IN DEPTH
AT COMPLETION	9.0 ft.	13.0 ft.
AFTER 24 HRS.	6.5 ft.	11.0 ft.
AFTER ___ HRS.	ft.	ft.

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
DC - DRIVING CASING
MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

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

Project Name Maple Lawn Farms - Midtown West — Boring No. B-4536
Location Howard County, Maryland — Job # 12222A

SAMPLER
Datum ____ Hammer Wt. 140 lbs. Hole Diameter 6" Foreman J. Balk
Surf. Elev. 407.7 ft Hammer Drop 30 in. Rock Core Diameter ____ Inspector ____
Date Started 6-04-12 Pipe Size 2.0 in. Boring Method HSA Date Completed 6-04-12

Description	Boring and Sampling Notes	Rec.	NM%	SPT Blows	N
Brown, moist, soft fine sandy SILT, trace mica and rootmatter (ML)	6" Topsoil	10"		3-3-2	5
Gray, very moist, medium dense clayey SAND, trace mica (SC)		18"		3-2-10	12
Brown/Gray, moist to very moist, medium dense silty clayey SAND with mica and quartz gravel (SM-SC)		16"		8-6-9	15
	Groundwater encountered at 13.0' while drilling	10"		9-6-8	14
Brown/Gray, very moist, loose to medium dense micaceous silty SAND with weathered rock (SM)		12"		6-4-4	8
		18"		8-8-11	19
		18"		6-9-14	23
Bottom of Hole at 25.0'					

SAMPLER TYPE
DRIVEN SPLIT SPOON UNLESS OTHERWISE
PT - PRESSED SHELBY TUBE
CA - CONTINUOUS FLIGHT AUGER
RC - ROCK CORE

SAMPLE CONDITIONS
D - DISINTEGRATED
I - INTACT
U - UNDISTURBED
L - LOST

	GROUND WATER	CAVE IN DEPTH
AT COMPLETION	6.5 ft.	14.0 ft.
AFTER 24 HRS.	2.5 ft.	9.5 ft.
AFTER ___ HRS.	ft.	ft.

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
DC - DRIVING CASING
MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

5.1 General Site Preparation - Culvert

The initial step in the development of this site should be the controlled removal of surficial topsoil, wet or soft soils, and deleterious materials from the areas to be developed. Stripping operations should be performed in a manner consistent with good erosion and sediment control practices.

After the initial stripping process is completed, areas of the site to receive fill, or areas of the site at-grade where structures will be located, should be proofrolled. The proofrolling operations should be performed using a 20-ton, fully-loaded dump truck. The purpose of the proofrolling will be to provide surficial densification and to locate any near-surface pockets of soft or loose soils requiring undercutting. A Geotechnical Engineer or experienced Soils Inspector should witness the proofrolling operations and should determine which areas need further undercutting and/or stabilization. For areas that are not accessible to a dump truck, the exposed materials should be observed and tested by a geotechnical engineer or his representative utilizing a Dynamic Cone Penetrometer. Any excessively soft or loose materials identified by proofrolling or penetrometer testing should be excavated to suitable firm soil, and then grades re-established by backfilling with suitable soil.

5.2 Fill Selection, Placement and Compaction - Culvert

All material to be used as fill or backfill should be inspected, tested and approved by the Geotechnical Engineer. In general, the on-site soils which are free from organic and other deleterious components can be re-used as general site fill. Materials suitable for various construction purposes can be identified by an experienced Soils Inspector during grading operations.

Moisture conditioning (that is, wetting or drying) of the soils should be anticipated to achieve proper compaction. The moisture contents of the soils should be controlled properly to avoid extensive construction delays. If imported fill material is required, those materials should have Unified Soil Classifications of SM or better.

All fill should be placed in relatively horizontal 8-inch (maximum) loose lifts and should be compacted to a minimum of 95 percent of the Standard Proctor (ASTM D-698) maximum dry density or higher if required by the manufacturer of the proposed culvert. Fill materials in landscape and other non-structural areas should be compacted to at least 90 percent of the Standard Proctor maximum dry density if significant subsidence of the fill under its own weight is to be avoided. Field moisture contents should be maintained within 2 percentage points of the optimum moisture content in order to provide adequate compaction.

Fill slopes no steeper than 2(H):1(V), or flatter, should be used. New fill materials should be properly benched into existing slopes. A sufficient number of in-place density tests should be performed by an experienced Engineering Technician on a full-time basis to verify that the proper degree of compaction is being obtained.

5.3 Groundwater and Drainage

As stated previously, it should be anticipated that groundwater will be encountered at levels near the levels of the existing stream. It is expected that the water flow will be diverted around the foundation areas during construction. It should be expected that groundwater will also have to be pumped from the footing excavations prior to concreting.

It should also be anticipated that undercutting of wet, loose/soft or other unsuitable materials may be necessary. Additional dewatering procedures may also be necessary to prevent any potential bearing subgrade from becoming wet and/or soft. Any unsuitable materials removed should be replaced with lean (2000 psi) concrete.

Adequate drainage should be provided at the site to minimize any increases in the moisture contents of the foundation soils. All other graded areas should be sloped away from the structures to prevent the ponding of water.

5.4 Culvert Foundations

Our findings indicate that the proposed culvert structure can be supported on foundations bearing on firm natural soils. It has been assumed that the foundation for the culvert will be located at least 4± ft below the existing site grades at the proposed boring locations. If foundations are to be supported at shallower depths, then some additional modification to the shallow subsurface conditions should be anticipated.

Based on the maximum anticipated structural loads, the maximum allowable settlement, and the general soil conditions which were encountered, it is our judgment that a net allowable design soil bearing pressure of 2,500 psf will be appropriate for proportioning foundations supported on firm, natural materials for the culvert.

The exposed foundation subgrades should be inspected by a Geotechnical Engineer or experienced Soils Inspector prior to the placement of concrete. The purpose of the inspection would be to verify that the exposed materials will be capable of supporting the design bearing pressure. If soft or loose pockets are encountered in the footing excavations, the unsuitable materials should be removed and replaced with lean (2000 psi) concrete or with a clean, washed #57 stone or other approved freely drainage coarse-granular material back to the proposed culvert bearing level.

Foundation subgrades should be located at depths of at least 2.5 ft below final exterior grades so as to provide adequate protection from frost heave.

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. 12975, Expiration Date: May 26 2016.

10-29-15
Date

Carl K. Gutschick
Professional Engineer
Maryland Reg. No. 12975

UPSTREAM END

DOWNSTREAM END

CENTERLINE OF ROAD
(looking downstream)

CROSS SECTION	EX. Q_{100}	EX. W.S.E.L.	PROP. Q_{100}	PROP. W.S.E.L.
6+50	286 C.F.S.	403.68	286 C.F.S.	403.68
7+79	286 C.F.S.	408.68	286 C.F.S.	408.68
8+65	286 C.F.S.	409.42	286 C.F.S.	409.42

ARCH SPAN PLAN VIEW SCALE: 1" = 50'

EX. Q_{100} = 286 C.F.S.
PROP. Q_{100} = 286 C.F.S.

ARCH SPAN PROFILES and NOTES SCALE: 1" = 50' HORZ. 1" = 5' VERT.

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

John R Robertson 11/20/12
HOWARD S.C.D. DATE

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

11-7-12
ENGINEER'S SIGNATURE DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Diane Schwarz, Acting 11/29/12
Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Kent Sheubrooks 12/11/12
Chief, Division of Land Development Date
Chad Edmondson 12-6-12
Chief, Development Engineering Division Date

BUILDER'S CERTIFICATE
"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 MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. ~~I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.~~ I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

V. Pres 10/25/12
SIGNATURE OF DEVELOPER/BUILDER DATE

ASBUILTS

ASBUILT SHEET 11 OF 11

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 19_ARCHSPAN GEOTECH.dwg | DES. DEV | DRN. GT | CHK. CKG

DATE	REVISION	BY	APP'R.

PREPARED FOR:
MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS 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. 12975 EXPIRATION DATE: MAY 26, 2014
11-7-12

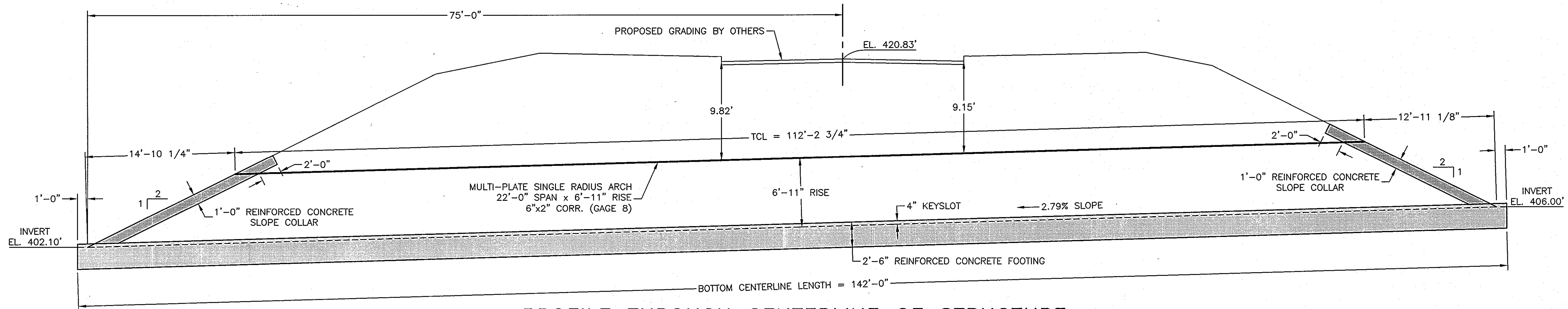
ARCH SPAN - PLAN, PROFILE AND SOIL BORING INFORMATION

MAPLE LAWN FARMS
MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND
COMMON OPEN AREA LOTS 184 THRU 186

ELECTION DISTRICT No. 5
HOWARD COUNTY, MARYLAND

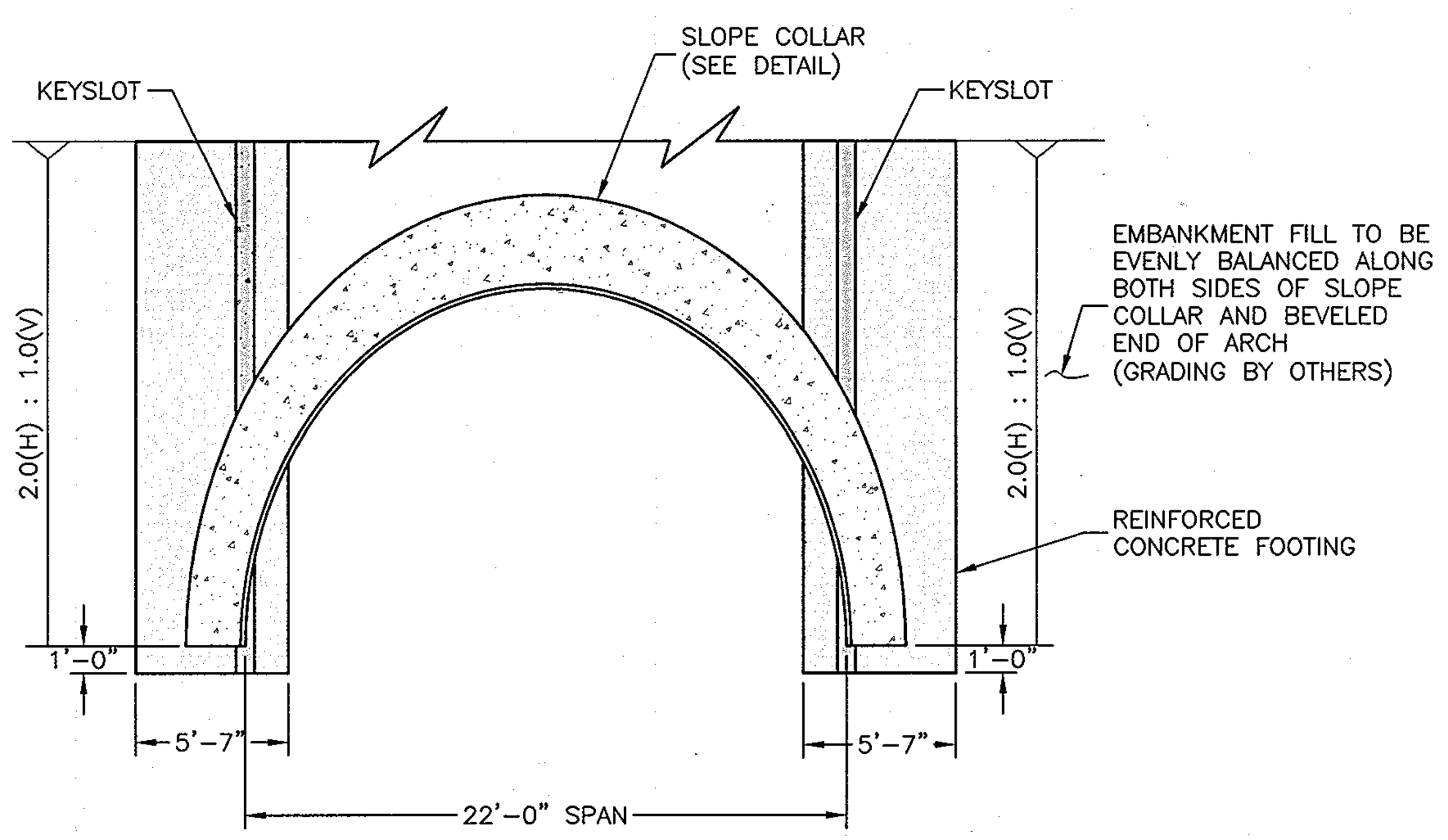
SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	MXD-3	11001
DATE	**TAX MAP – GRID**	**SHEET**
~~OCT. 2012~~ OCT. 2015	41-21/46-3	19 OF 25

ASBUILTS F-13-007



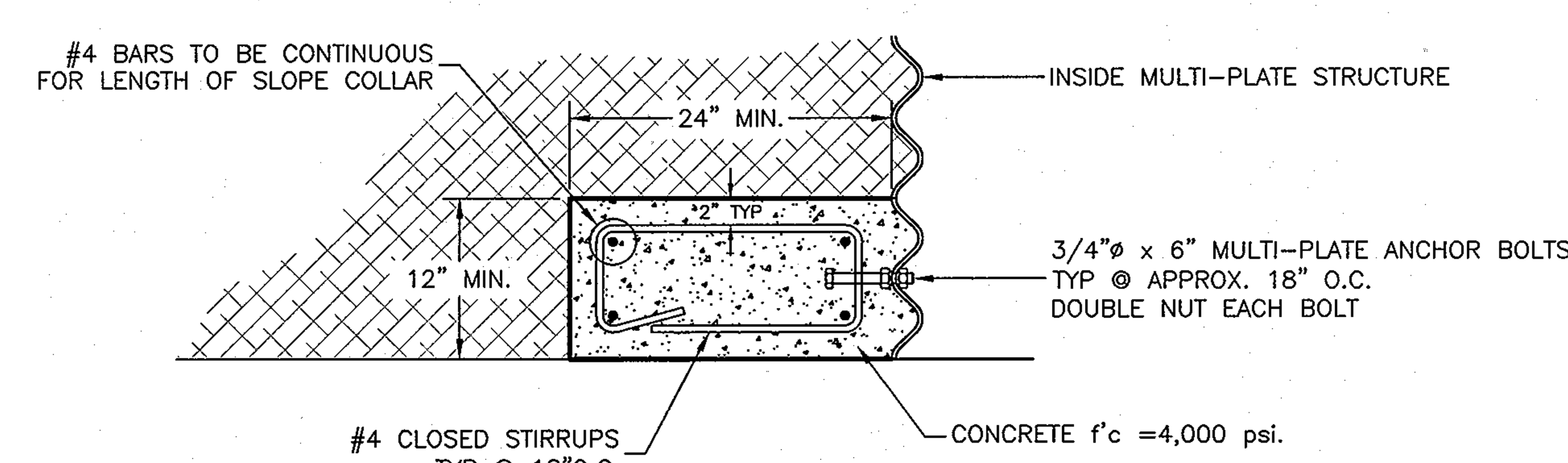
PROFILE THROUGH CENTERLINE OF STRUCTURE

GRAPHIC SCALE
6' 3' 0 6' 12'



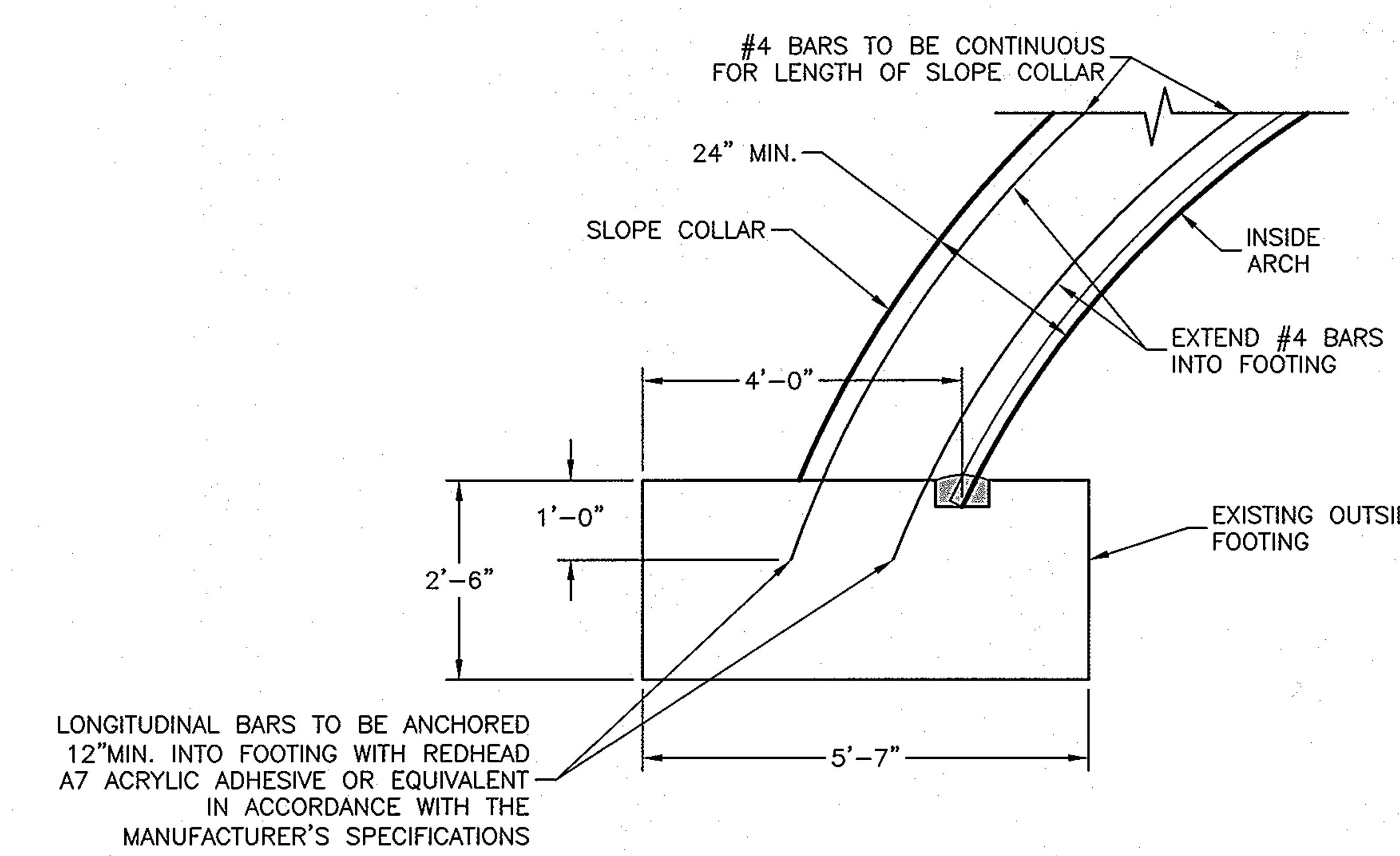
TYPICAL END PLAN VIEW

GRAPHIC SCALE
6' 3' 0 6' 12'



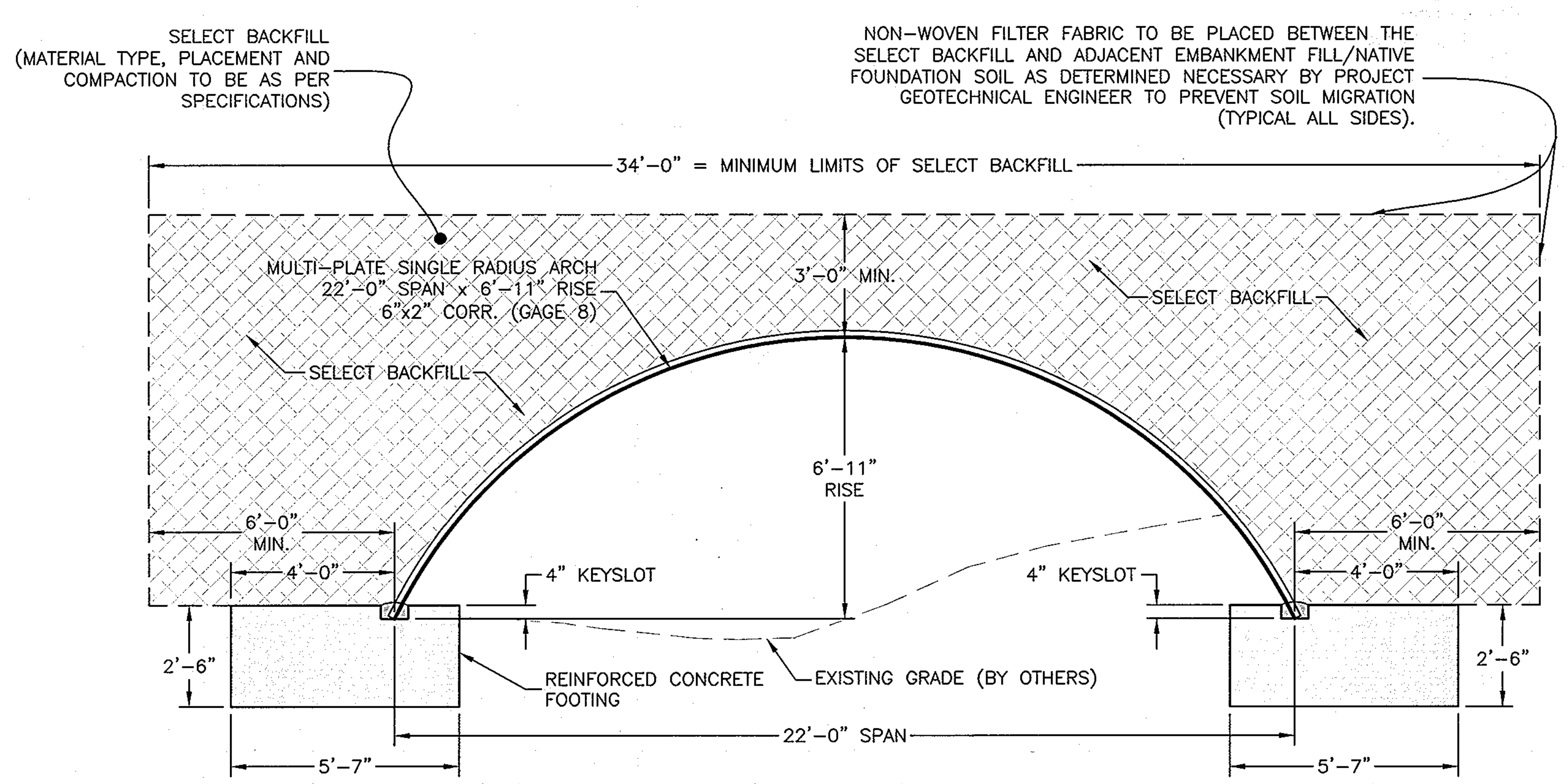
TYPICAL DETAIL OF SLOPE COLLAR

NOT TO SCALE



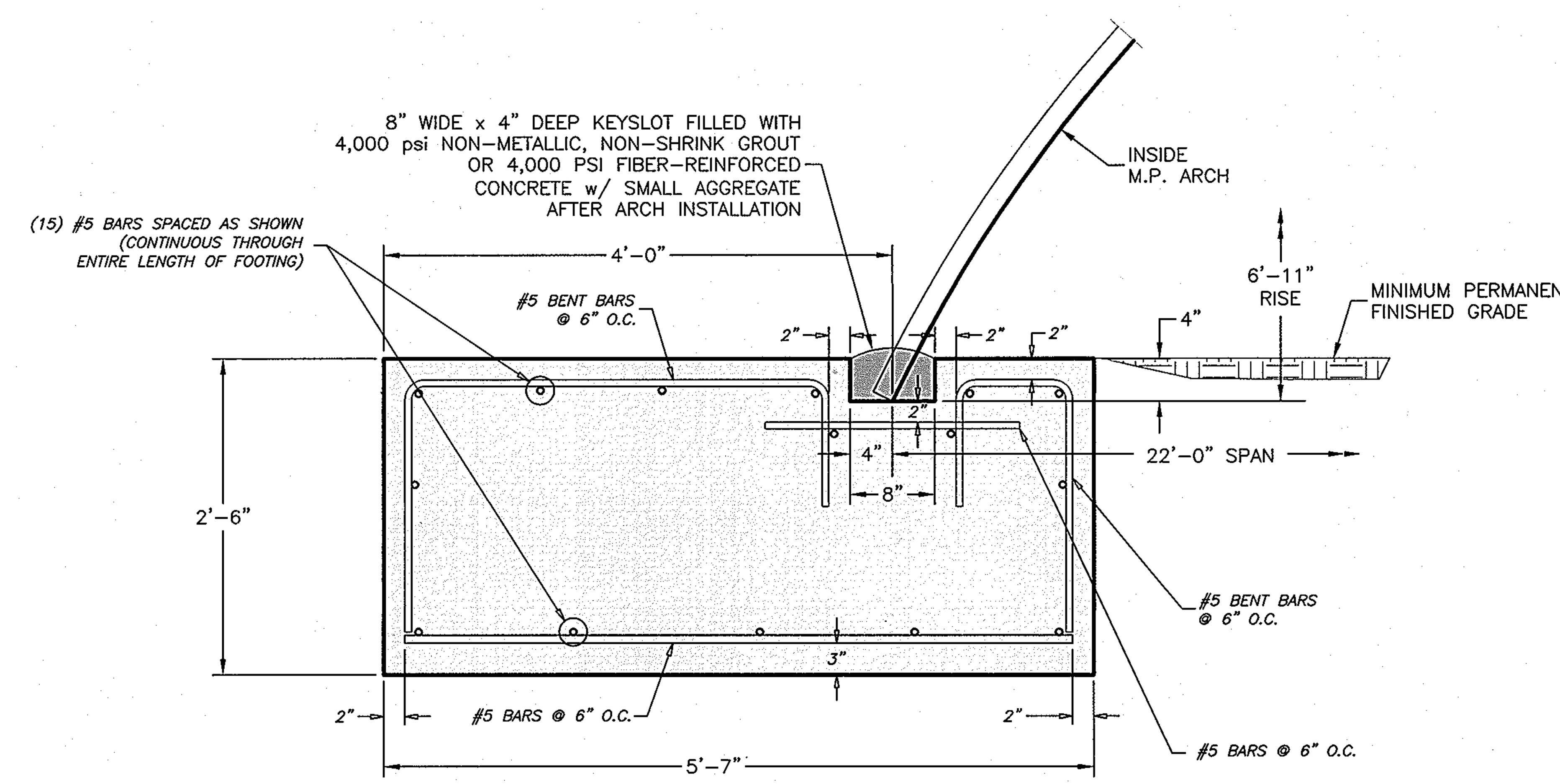
DETAIL OF SLOPE COLLAR ATTACHMENT TO FOOTINGS

GRAPHIC SCALE
2' 1' 0 2' 4'



TYPICAL SELECT BACKFILL DETAIL

GRAPHIC SCALE
3' 1.5' 0 3' 6'



TYPICAL FOOTING DETAIL

GRAPHIC SCALE
1' 0.5' 0 1' 2'

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 40240, EXPIRATION DATE: 5/13/13

STATE OF MARYLAND PROFESSIONAL ENGINEER 40240

NOTE:
1.) CONCRETE SHALL BE f'c = 4,000 psi.
2.) ALL REINFORCEMENT SHALL BE ASTM A-615, GRADE 60.
3.) FOOTING IS DESIGNED FOR A 5,000 psf ALLOWABLE BEARING CAPACITY. THIS VALUE MUST BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
4.) SCOUR IS NOT ADDRESSED HEREIN AND IS THE RESPONSIBILITY OF OTHERS THAN CBC ENGINEERS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Diane Schwarz, Acting — CHIEF, BUREAU OF HIGHWAYS — 11/29/12 DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Kent Sheubrooks — CHIEF, DIVISION OF LAND DEVELOPMENT — 12/11/12 DATE

Chad Edmondson — CHIEF, DEVELOPMENT ENGINEERING DIVISION — 12.6.12 DATE

CBC Engineers

PROFILE & DETAILS

Drawn By	Date	
DJH/JBE	10/31/12	CONTECH ENGINEERED SOLUTIONS, LLC DESIGN OF CONCRETE SPREAD FOOTING FOUNDATIONS, CONCRETE SLOPE COLLARS, AND SELECT BACKFILL SPECIFICATIONS FOR MP ARCH MAPLE LAWN FARMS HOWARD COUNTY, MARYLAND
Approved By	Date	

Scale	CBC Sheet No.	CBC Project No.	Rev.	Sheet
GRAPHIC	1 of 2	CBC-14610	-	20 OF 25

I - GENERAL

1.0 STANDARDS AND DEFINITIONS

1.1 STANDARDS - All standards refer to latest edition unless otherwise noted.

1.1.1 ASTM D-698-70 (Method C) "Standard Test Methods for Moisture. Density Relations of Soils and Soil Aggregate Mixtures Using 5.5-lb (2.5 kg.) Rammer and 12" (305-mm) Drop".

1.1.2 ASTM D-1557 "Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 [2,700 kN · m/m^3]).

1.1.3 ASTM D-2922 "Standard Test Method for Density of Soil and Soil Aggregate in Place by Nuclear Methods (Shallow Depth)".

1.1.4 ASTM D-1556 "Standard Test Method for Density of Soil in Place by the Sand-Cone Method".

1.1.5 All construction and materials shall be in accordance with the current AASHTO Specifications.

1.2 DEFINITIONS

1.2.1 Owner - In these specifications the word "Owner" shall mean Maple Lawn Farms, Howard County, Maryland.

1.2.2 Engineer - In these specifications the word "Engineer" shall mean the Owner designated engineer.

1.2.3 Design Engineer - In these specifications the words "Design Engineer" shall mean CBC Engineers and Associates, Ltd.

1.2.4 Contractor - In these specifications the word "Contractor" shall mean the firm or corporation undertaking the execution of any work under the terms of these specifications.

1.2.5 Approved - In these specifications the word "approved" shall refer to the approval of the Engineer or his designated representative.

1.2.6 As Directed - In these specifications the words "as directed" shall refer to the directions to the Contractor from the Owner or his designated representative.

2.0 GENERAL CONDITIONS

2.1 The Contractor shall furnish all labor, material and equipment and perform all work and services except those set out and furnished by the Owner, necessary to complete in a satisfactory manner the site preparation, excavation, footings, culvert installation, slope collars, filling, compaction, and grading as shown on the plans and as described therein.

This work is to be accomplished under the observation of the Owner or his designated representative.

2.2 The Contractor shall examine, investigate and inspect the construction site as to the nature and location of the work, and the general and local conditions at the construction site, including, without limitation, the character of surface or subsurface conditions and obstacles to be encountered on and around the construction site; and shall make such additional investigation as he may deem necessary for the planning and proper execution of the work.

If conditions other than those indicated are discovered by the Contractor, the Owner should be notified immediately. The material which the Contractor believes to be a changed condition should not be disturbed so that the owner can investigate the condition.

2.3 The construction shall be performed under the direction of an experienced engineer who is familiar with MULTI-PLATE arches.

II - FOOTINGS

1.0 EXCAVATION FOR FOOTINGS

1.1 Footing excavation shall consist of the removal of all material, of whatever nature, necessary for the construction of foundations.

1.2 It shall be the responsibility of the Contractor to identify and relocate all existing utilities which conflict with the proposed footing locations shown on the plan. The Contractor must call the appropriate utility company at least 48 hours before any excavation to request exact field location of utilities, and coordinate removal and installation of all utilities with the respective utility company.

1.3 The side of all excavations shall be cut to prevent sliding or caving of the material above the footings.

1.4 Excavated material shall be disposed in accordance with the plan established by the Engineer.

1.5 The footings are designed for a net allowable bearing capacity of 5,000 psf, and this shall be verified in the field before construction. The bottom of the footings should be permanently embedded at least 30 inches below finished grade for frost protection, and this is to be verified in the field.

2.0 CONCRETE FOOTING DIMENSIONS

The footings shall be reinforced in accordance with the construction drawings.

III - CONCRETE

1.0 CODES AND STANDARDS

1.1 Reinforced concrete shall conform to the requirements of AASHTO Standard Specifications for Highway Bridges, Division II - Construction, Section 8, "Concrete Structures", for Class A concrete, having a minimum compressive strength of 4,000 psi.

2.0 STANDARDS FOR MATERIALS

2.1 Portland Cement - Conforming to ASTM Specification C-150, Type I or II.

2.2 Water - The water shall be drinkable, clean free from injurious amounts of oils, acids, alkalis, organic materials, or deleterious substances.

2.3 Aggregates - Fine and coarse aggregates shall conform to current ASTM Specification C-33 "Specification for Concrete Aggregates" except that local aggregates which have been shown by tests and by actual service to produce satisfactory qualities may be used when approved by the Engineer.

2.4 Submittals - Test data and/or certifications to the Owner shall be furnished upon request.

3.0 PROPORTIONING OF CONCRETE

3.1 COMPOSITION

3.1.1 The concrete shall be composed of cement, fine aggregate, coarse aggregate and water.

3.1.2 The concrete shall be homogeneous, readily placeable, and uniformly workable, and shall be proportioned in accordance with ACI-211.1.

3.1.3 Proportions shall be established on the basis of field experience with the materials to be employed. The amount of water used shall not exceed the maximum 0.49 water/cement ratio, and shall be reduced as necessary to produce concrete of the specified consistency at the time of placement.

3.1.4 An air-entraining admixture, conforming to the requirements of ASTM C260, shall be used in all concrete furnished under this contract. The quantity of admixture shall be such as to produce an air-content in the freshly mixed concrete of 6 percent plus or minus 1 percent as determined in accordance with ASTM C231 or C173.

3.2 Qualities Required - As indicated in the table below:

TABLE III-1
QUALITIES REQUIRED

ITEM	QUALITY REQUIRED
AASHTO Class	A
Type of Cement	I or II
Compressive Strength f'c @ 28 days	4,000 psi
Slump, inches	2 - 4 in.

3.3 Maximum Size of Coarse Aggregates - Maximum size of coarse aggregates shall not be larger than 38 mm (1 ½ inches).

3.4 Rate of Hardening of Concrete - Concrete mix shall be adjusted to produce the required rate of hardening for varied climatic conditions:

Under 40°F Ambient Temperature - Accelerate calcium chloride at 2% is acceptable when used within the recommendations of ACI-306R "Cold Weather Concreting." Admixtures containing chloride ion in excess of 1% by weight of admixture shall not be used in reinforced concrete.

4.0 MIXING AND PLACING

4.1 Equipment - Ready Mix Concrete shall be used and shall conform to the "Specifications for Ready-Mix Concrete," ASTM C-94. Approval is required prior to using job mixed concrete.

4.2 Preparation - All work shall be in accordance with ACI-304, "Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete." All construction debris and extraneous matter shall be removed from within the forms. Concrete shall be placed on clean surfaces, free from water. Concrete that has to be dropped four (4) feet or more shall be placed through a tremie.

4.3 All concrete shall be consolidated by internal mechanical vibration immediately after placement. Vibrators shall be of a size appropriate for the work, capable of transmitting vibration to concrete at frequencies of not less than 4,500 impulses per minute.

5.0 FORM WORK

5.1 Forms shall be of wood, steel or other approved material and shall be set and held true to the dimensions, lines and grades of the structure prior to and during the placement of concrete.

5.2 Forms shall not be removed until the concrete has sufficient strength to prevent concrete damage and/or drainage.

6.0 CURING

6.1 Fresh concrete shall be protected from rains, flowing water and mechanical injury for a period of four (4) days.

7.0 REINFORCING STEEL

7.1 MATERIAL

7.1.1 All reinforcing bars shall be deformed bars (ASTM-A615) Grade 60.

7.2 BENDING AND SPLICING

7.2.1 Bar reinforcement shall be cut and bent to the shapes shown on the plans. Fabrication tolerances shall be in accordance with ACI 315. All bars shall be bent cold, unless otherwise permitted.

7.2.2 All reinforcement shall be furnished in the full lengths indicated on the plans unless otherwise permitted. Except for splices shown on the plans and splices for No. 5 or smaller bars, splicing of bars will not be permitted without written approval. Splices shall be staggered as far as possible.

7.2.3 In lapped splices, the bars shall be placed and wired in such a manner as to maintain the minimum distance to the surface of the concrete shown on the plans.

7.2.4 Substitution of different size bars will be permitted only when authorized by the engineer. The substituted bars shall have an area equivalent to the design area, or larger.

7.3 PLACING AND FASTENING

7.3.1 Steel reinforcement shall be accurately placed as shown on the plans and firmly held in position during the placing and setting of concrete. Bars shall be tied at all intersections around the perimeter of each mat and at not less than 2 foot centers or at every intersection, whichever is greater, elsewhere. Welding of cross bars (tack welding) will not be permitted for assembly of reinforcement.

7.3.2 Reinforcing steel shall be supported in its proper position by use of mortar blocks, wire bar supports, supplementary bars or other approved devices. Such devices shall be of such height and placed at sufficiently frequent intervals so as to maintain the distance between the reinforcing and the formed surface or the top surface within 1/4 inch of that indicated on the plans.

IV - SLOPE COLLARS

1.0 A reinforced concrete slope collar shall be formed and poured at each end of the structures in accordance with the plan dimensions.

2.0 The ends of the corrugated structure shall be step beveled as shown on the plans. The reinforced concrete slope collars shall be formed and poured to conform to the backfill at the finished grade of each end.

3.0 It must be emphasized that temporary bracing of the beveled ends of the structure may be required during the pipe backfilling and collar construction. Any required temporary bracing should remain in place until the collars and backfilling have been fully completed, and until the concrete in the collars has reached its design strength. The design of the temporary bracing is beyond the scope of this project. Others are responsible for the design of the temporary bracing. Unless the temporary bracing is adequate and supports the structure during filling, the structure could deform and collapse.

V- SELECT BACKFILL SPECIFICATIONS FOR THE MULTI-PLATE ARCH

1.0 GENERAL CONDITIONS

1.1 The contractor shall furnish all labor, materials, and equipment, and perform all work and services necessary to complete in a satisfactory manner the site preparation, excavation, filling, compaction and grading as shown on the plans and as described therein.

1.2 This work shall consist of all clearing and grading, removal of existing structures unless otherwise stated, preparation of the land to be filled, spreading and compaction of the fill, and all subsidiary work necessary to complete the grading of the cut and fill areas to conform with the lines, grades, slopes, and specifications.

2.0 SUBSURFACE CONDITIONS

2.1 The Contractor shall examine, investigate and inspect the construction site as to the nature and location of the work, and the general and local conditions at the construction site, including, without limitation, the character of surface or subsurface conditions and obstacles to be encountered on and around the construction site; and shall make such additional investigation as he may deem necessary for the planning and proper execution of the work.

3.0 SITE PREPARATION

3.1 Within the specified areas, all debris, existing stockpile material, and structures scheduled for demolition shall be removed and disposed of.

3.2 Any rubbish, organic and other objectionable soils, and other deleterious material, shall be disposed of off the site, or as directed by the Owner or his designated representative if on site disposal is provided. In no case shall such objectionable material be allowed in, or under the fill.

4.0 FORMATION OF FILL AREAS

4.1 SELECT BACKFILL

4.1.1 Select backfill shall be placed to a minimum distance of 6 feet horizontally, as measured from the springline of the structure, and to a distance of 3 feet above the crown of the structure as shown on the construction drawings.

5.0 MINIMUM BACKFILL REQUIREMENTS

5.1 MATERIAL

A granular type of material shall be used around and over the structure. This select structural backfill material shall conform to AASHTO Specification M-145, A-1-a, A-1-b, A-2-4, or A-2-5. Maximum particle size shall not exceed 3 inches. The gradation must conform to the following table:

TABLE V-1
BACKFILL REQUIREMENTS

AASHTO M-145 - TABLE 2 (MODIFIED)*				
GROUP CLASSIFICATION	A-1		A-2 (Modified)	
	A-1-a	A-1-b	A-2-4	A-2-5
Sieve Analysis, Percent Passing				
No. 10 (2.00 mm)	50 max.	--	--	--
No. 40 (0.425 mm)	30 max.	50 max.	--	--
No. 100 (.150 mm)	--	--	50 max.	50 max.
No. 200 (0.075 mm)	15 max.	25 max.	20 max.	20 max.
CHARACTERISTICS OF FRACTION PASSING NO. 40 (0.425 mm)				
Liquid Limit	--	--	40 max.	41 min.
Plasticity Index	6 max.		10 max.	10 max.
USUAL TYPES OF SIGNIFICANT CONSTITUENT MATERIALS	Stone Fragments, Gravel and Sand		Silty or Clayey Gravel and Sand	

*Modified to be more select than M-145.

Additional Backfill Material Requirements:

1. Backfill must be dense-graded material. Open-graded or gap-graded materials are not allowed.
2. On-site mixing or blending to achieve specified gradation is not allowed.
3. The maximum particle size shall not exceed 3 inches.
4. The stone particles shall be angular and not rounded.
5. The backfill should have a Los Angeles Abrasion Test loss no greater then 50%. Other backfill materials which provide equivalent long term structural properties in the environmental conditions expected (saturation, freeze-thaw, etc.) may be used. Such materials shall be approved only after thorough investigation and testing by a soils engineer.

5.2 BACKFILL LIMITS

The required width of the structural backfill shall be 6 feet minimum outside the springline and to 3 feet over the top of the structure.

5.3 BACKFILL PLACEMENT

Before backfilling, the erected structures shall meet the tolerance and symmetry requirements of AASHTO and Contech.

Approved backfill material shall be placed in horizontal, uniform layers not exceeding 8" in thickness, before compaction, and shall be brought up uniformly on both sides of the structures. Each layer of backfill shall be compacted to a density of not less than 90%, modified Proctor per AASHTO Test Method No. T-180. Field density tests of each lift of compacted backfill on each side of the structure shall be made at regular intervals during backfill.

Flexible structures, due to their size and shape, are sensitive to the types and weights of equipment used to place and compact the select backfill material. This is especially critical in the areas immediately adjacent to and above the structures. Therefore, equipment types will be restricted in those critical zones. Compaction equipment or methods that produce horizontal or vertical earth pressures which cause excessive distortion or damage to these structures shall not be used.

Contractors should plan to have a D4 (approximately 20,000 lbs.) or similar weight tracked dozer to place and grade backfill immediately alongside and above the structures until minimum cover level is reached. Lightweight vibratory plate or roller type compaction equipment must be used to compact the backfill in these zones. Use of heavier equipment and/or rubber tired equipment such as scrapers, graders and front end loaders are prohibited inside the select fill envelope zone until appropriate minimum cover height has been obtained.

6.0 SLOPE RATIO AND STORM WATER RUN-OFF

Protected slopes shall not be greater than 2.0 (horizontal) to one (1) (vertical) in both cut and fill, and storm water shall not be drained over the slopes.

7.0 GRADING

The Contractor shall furnish, operate, and maintain such equipment as is necessary to construct uniform layers, and control smoothness of grade for maximum compaction and drainage.

8.0 COMPACTING

8.1 The compaction equipment shall be approved equipment of such design, weight, and quantity to obtain the required density in accordance with these specifications, without distorting the structures.

8.2 During backfill, only small tracked vehicles (D-4 or smaller) shall be near the structures as fill progresses above the crown and to finished grade. The contractor is cautioned that the minimum cover may need to be increased to handle temporary construction vehicle loads (larger than a D-4).

9.0 TESTING AND INSPECTION SERVICES

9.1 Testing and inspection services will be provided by the Owner.

9.2 Regular inspection during erection and backfilling is required to achieve a structures with proper shape and backfill compacted to the specified density. Soil materials and compaction methods must be verified by testing which is supplied by the Owner.

VI – FILTER FABRIC (GEOTEXTILE SCREEN)

1.0 Filter fabric shall be placed at all locations shown on the construction drawings and as necessary to maintain a soil tight system.

2.0 Filter fabric cloth shall conform to Contech specification for C60-NW or equivalent and shall meet the following ASTM tests:

2.1 ASTM D4751 - Apparent opening size equal to #70 U.S. Standard Sieve Size.

2.2 ASTM D4632 (Grab Tensile Test) - Minimum Strength = 160 pounds.

2.3 ASTM D4632 (Grab Elongation) - 30-70%.

2.4 ASTM D4533 (Trapezoidal Tear) - Minimum Strength = 60 pounds.

2.5 ASTM D4355 (Stabilized for Heat and Ultra-Violet Degradation) - 70% strength retained.

3.0 The minimum fabric coefficient of permeability (ASTM D4491) shall be 0.24 cm/sec.

4.0 The fabric shall be non-woven with a minimum thickness (ASTM D5199) of 60 mils.

5.0 Fabric shall not be placed over sharp or angular rocks that could tear or puncture it.

6.0 Care should be exercised to prevent any puncturing or rupture of the filter fabric. Should such rupture occur the damaged area should be covered with a patch of filter fabric using an overlap minimum of one (1) foot.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Diane Schwarz Acting — 11/29/12
CHIEF, BUREAU OF HIGHWAYS — DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Kent Sheubrooks — 12/11/12
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

Chad Edmondson — 12.6.12
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 40240, EXPIRATION DATE: 5/13/13

STATE OF MARYLAND — MITCHELL T. HAAS — 40240 — PROFESSIONAL ENGINEER

CBC Engineers

SPECIFICATIONS

Drawn By	Date	CONTECH ENGINEERED SOLUTIONS, LLC DESIGN OF CONCRETE SPREAD FOOTING FOUNDATIONS, CONCRETE SLOPE COLLARS, AND SELECT BACKFILL SPECIFICATIONS FOR MP ARCH MAPLE LAWN FARMS HOWARD COUNTY, MARYLAND		
DJH/JBE	10/31/12			
Approved By	Date			
Scale	CBC Sheet No.	CBC Project No.	Rev.	Sheet
GRAPHIC	2 of 2	CBC-14610	-	21 OF 25

LEGEND

- OPEN SPACE AREA
- SINGLE FAMILY DETACHED
- ROAD RIGHT OF WAY (PUBLIC & PRIVATE)
- LIMIT OF SUBMISSION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Diane Schwarz, Acting — Chief, Bureau of Highways — 11/28/12 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Kent Sheubrooks — Chief, Division of Land Development — 12/11/12 Date

Chad Edmondson — Chief, Development Engineering Division — 12-6-12 Date

GLW GUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 25_LAND USE.dwg | DES. DEV | DRN. KLP | CHK. CKG

DATE	REVISION	BY	APP'R.
11-17-2014	2 added limits of dog park.	DEV	DEV

PREPARED FOR:

MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS 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. 12975, EXPIRATION DATE: MAY 26, 2014

11-7-12

STATE OF MARYLAND — CARLTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

LAND USE PLAN

MAPLE LAWN FARMS

MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND
COMMON OPEN AREA LOTS 184 THRU 186

ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 80'	MXD-3	11001
DATE	TAX MAP – GRID	SHEET
OCT. 2012	41-21/46-3	22 OF 25

F-13-007

LANDSCAPE LEGEND

- 400 — EXISTING CONTOUR
- EXISTING TREELINE
- EXISTING TREE
- BOTTOM OF STREAM
- CENTERLINE OF STREAM
- SB — STREAM BUFFER
- LIMIT OF WETLAND
- WETLAND AREA
- WB — WETLAND BUFFER
- FCE — FCE — EXISTING FOREST CONSERVATION EASEMENT
- LIMIT OF PROPOSED SUBDIVISION
- LIMIT OF DISTURBANCE/SUBMISSION
- EASEMENT
- STEEP SLOPES - 15% TO 25%
- STEEP SLOPES - 25% AND GREATER

LANDSCAPING NOTES:

1. SEE SHEET 7 FOR STREET TREE REQUIREMENTS AND QUANTITIES.
2. LOT PLANTING WILL BE PROVIDED WITH THE SITE DEVELOPMENT PLANS.
3. THE BUFFERS SHOWN IN THE SCHEDULES ARE IN ACCORDANCE WITH THE LANDSCAPE MANUAL. ACCORDING TO THE COMPREHENSIVE SKETCH PLAN CRITERIA, THE FOLLOWING ARE THE MINIMUM PLANTINGS TO BE PROVIDED

ALONG A PERIMETER EDGE:

SHADE TREE: 1 PER 80 LINEAR FEET OF MEASURED PERIMETER EDGE &
SMALL ORNAMENTAL DECIDUOUS TREE: 1 PER 60 LINEAR FEET OF MEASURED PERIMETER EDGE &
EVERGREEN TREE: 1 PER 20 LINEAR FEET OF MEASURED PERIMETER EDGE.

4. AFFORESTATION PLANTING SIZE SHALL BE LARGE ENOUGH TO MEET THE LANDSCAPE BUFFERING REQUIREMENT ALONG EXTERNAL PERIMETERS WHERE APPLICABLE.
5. UNLESS NOTED, ALL STEEP SLOPES AREAS WITHIN THE LIMITS OF SUBMISSION ARE LESS THAN 5,000 SF.

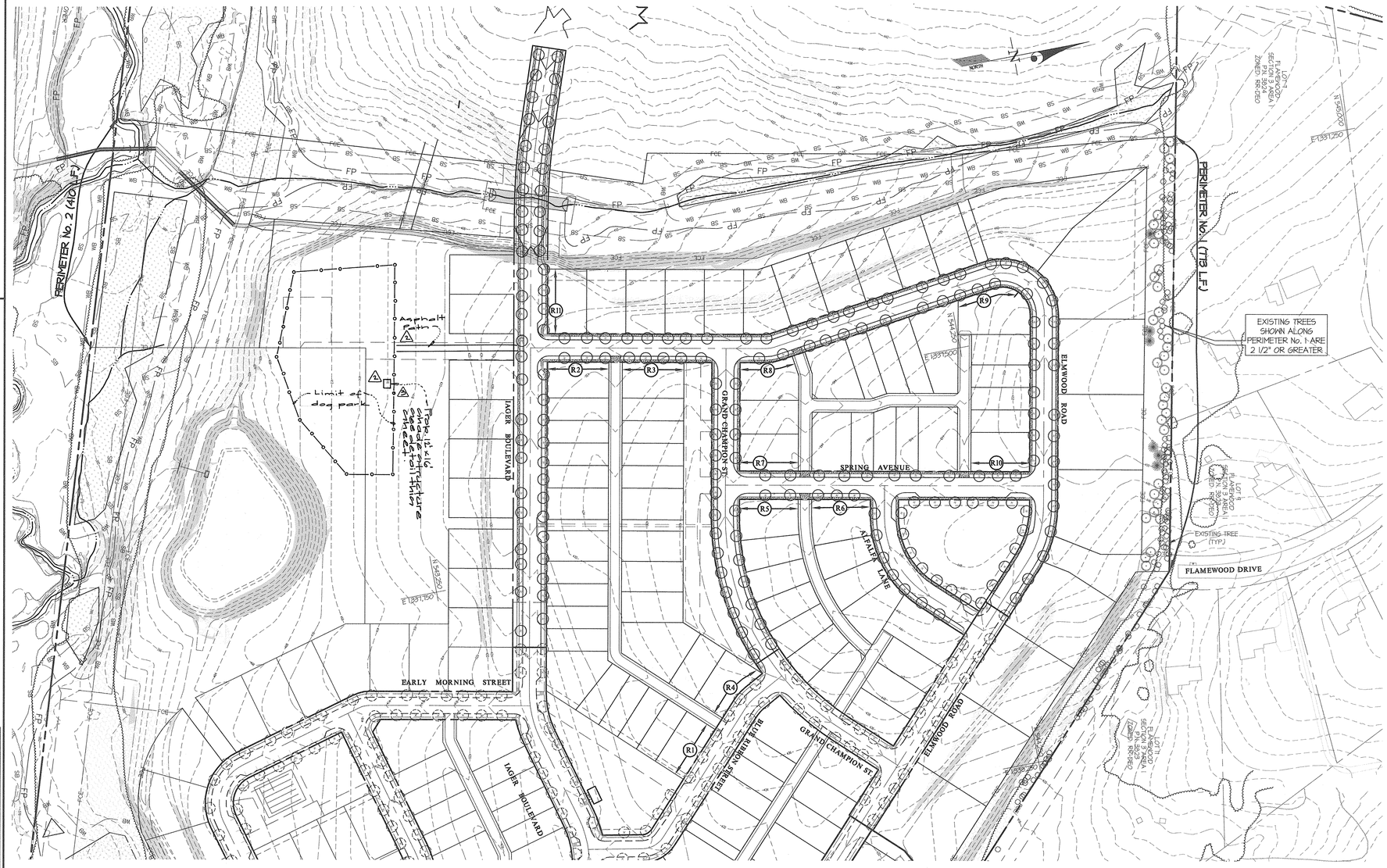
NOTES:

1. AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL AND THE MLF LANDSCAPE DESIGN CRITERIA. IN ADDITION, NO SUBSTITUTIONS OR REALLOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN THE DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE APPLICABLE PLANS.
2. THE OWNER, TENANTS AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
3. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE, THE LANDSCAPE MANUAL, AND THE MLF LANDSCAPE DESIGN CRITERIA _____ TREES. A LANDSCAPE SURETY IN THE AMOUNT OF $_____ WILL BE POSTED TO DPW WITH THE DEVELOPER'S AGREEMENT.

RESIDENTIAL LOT LANDSCAPE PERIMETER REQUIREMENTS SCHEDULE

RESIDENTIAL LOT LINE	LENGTH OF SIDE PERIMETER	REQUIRED LANDSCAPING
R1	105'	
R2	110'	
R3	110'	
R4	108'	
R5	105'	
R6	105'	
R7	105'	
R8	95'	
R9	115'	
R10	105'	
R11	115'	

THE REQUIRED LOT LANDSCAPING PER THE MLF LANDSCAPE DESIGN CRITERIA (5-06-16, SHEET 13 OF 15) SHALL BE PROVIDED AT SDP STAGE



EXTERNAL PERIMETER PLANTING SCHEDULE - SCHEDULE A

PERIMETER	LAND USE	ADJACENT LAND USE	TYPE OF BUFFER	LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	NUMBER OF PLANTS REQUIRED			CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) DESCRIBE BELOW IF NEEDED.	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) DESCRIBE BELOW IF NEEDED.	NUMBER OF PLANTS PROVIDED		
					SHADE TREES	ORNAMENTALS TREES	EVERGREEN TREES			SHADE TREES	ORNAMENTALS TREES	EVERGREEN TREES
PERIMETER 1	SFD RESIDENTIAL	SFD RESIDENTIAL	'A' Buffer *	773'	10	13	39	YES (1)	NO	SEE NOTE (1)	SEE NOTE (1)	39
PERIMETER 2	SFD RESIDENTIAL	INSTITUTIONAL	'A' Buffer *	410'	5	7	21	YES, 100% (2)	NO	EXISTING WOODLAND (2)		

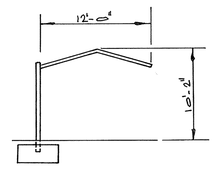
* FOLLOWS COMPREHENSIVE SKETCH PLAN GUIDELINE REQUIREMENTS

(1) CREDIT FOR EXISTING TREES RETAINED ALONG THIS PERIMETER.

(2) CREDIT FOR FOREST RETENTION ALONG THIS PERIMETER.

PLANT LIST

SYMBOL	QTY.	NAMES (BOTANICAL / SCIENTIFIC)	SIZE	ROOT	COMMENTS
EVERGREEN TREES					
	33	PINUS STROBUS WHITE PINE	6'-8' Ht.	B&B	
	6	ILEX OPACA AMERICAN HOLLY	6'-8' Ht.	B&B	



(B) shade structure side Elevation
(see structural plans for details)

DEVELOPER'S/OWNER'S LANDSCAPE CERTIFICATE

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

Charlton K. Gutschick Vice Pres. 11/7/12
DEVELOPER'S/OWNER'S NAME

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Diane Schwarz, Acting 11/29/12
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Kent Sheubrooks 12/11/12
Chief, Division of Land Development — Date

Chad Edmondson 12.6.12
Chief, Development Engineering Division — Date

DATE	REVISION	BY	APP'R.
11-7-2014	(2) added limit of dog park & asphalt path.	DEV.	DEV.
10-2-2018	(3) Added shade structure within Dog Park limits: side Elev. Detail	gt	CKG

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
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L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 23_LS.dwg | DES. DEV | DRN. KLP | CHK. CKG

PREPARED FOR:
MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS 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. 12975, EXPIRATION DATE: MAY 26, 2014.

11-7-12

STATE OF MARYLAND — CARLTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

LANDSCAPE PLAN / NOTES and DETAILS

MAPLE LAWN FARMS

MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND COMMON OPEN AREA LOTS 184 THRU 186

ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 100'	MXD-3	11001
DATE	TAX MAP - GRID	SHEET
OCT. 2012	41-21/46-3	23 OF 25

F-13-007

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PLOTTED: 11/7/2012 9:32 AM, LAST SAVED: 11/6/2012 2:58 PM

FOREST CONSERVATION LEGEND

- 400 — EXISTING CONTOUR
- EXISTING TREELINE
- CENTERLINE OF STREAM
- FP — FLOODPLAIN
- SB — STREAM BUFFER
- LIMIT OF WETLAND
- WETLAND AREA
- WB — WETLAND BUFFER
- FCE — 30' — FOREST CONSERVATION EASEMENT
- FOREST CONSERVATION SIGN
- FCE — 30' — PROPOSED FOREST CONSERVATION EASEMENT
- NON-CREDITED FOREST RETENTION
- CREDITED FOREST RETENTION
- PLANTING AREA (AFFORESTATION AND REFORESTATION)
- TPF — TREE PROTECTION FENCE
- MIDTOWN WEST AREA-2 TO BE PLATTED AT F-PLAN STAGE
- LIMIT OF DISTURBANCE

NOTE: FOR STEEP SLOPES SEE LANDSCAPE PLAN SHEET 25.

TREE PLANTING AND MAINTENANCE CALENDAR

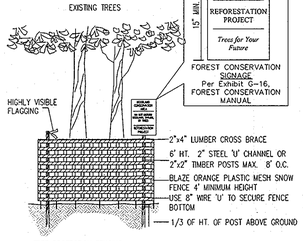
TASKS	MONTHS	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
TRANSPLANT OF 2" DBH OR GREATER													
PLANTING SEEDINGS, WHIPS													
MINIMUM MONITORING				*			*			*			
FERTILIZER + (IF NEEDED)													
WATER ++													
PRUNING													

KEY
- * ACTIVITIES DURING THESE MONTHS ARE DEPENDENT UPON GROUND CONDITIONS
- GREATLY RECOMMENDED
- RECOMMENDED WITH ADDITIONAL CARE
- RECOMMENDED
- \+ DEPENDANT UPON SITE CONDITIONS
- ++ DEPENDANT UPON SITE CONDITIONS; WEEKLY WATERING IS GREATLY RECOMMENDED FROM MAY THROUGH OCTOBER UNLESS WEEKLY RAINFALL EQUALS 1"

NOTE:
The planting and care of trees is most successful when coordinated with the local climatic conditions. This calendar summarizes some of the recommended time frames for basic reforestation and stress reduction activities.

SOURCE: adopted from the Maryland State FOREST CONSERVATION MANUAL

TREE PROTECTION FENCE NOT TO SCALE



TREE PROTECTION FENCING
1. FOREST PROTECTION DEVICE ONLY.
2. AVOID ROOT DAMAGE.
3. DEVICE MUST BE MAINTAINED THROUGHOUT CONSTRUCTION.

adapted from the Maryland State FOREST CONSERVATION MANUAL

NOTES:
1. THE TREE PROTECTION FENCING SHOWN ON THESE PLANS IS TEMPORARY AND SHALL REMAIN IN PLACE DURING CONSTRUCTION ACTIVITY. BUT THE FOREST CONSERVATION SIGNAGE IS PERMANENT AND SHALL REMAIN IN PLACE AROUND THE FOREST CONSERVATION EASEMENTS AFTER THE REMOVAL OF THE TREE PROTECTION FENCING.
2. FOREST CONSERVATION SIGNAGE SHALL BE INSTALLED ALONG THE PERIMETER OF THE CONSERVATION EASEMENT AT 50' TO 100' APART AND AT ALL CORNERS WHERE THE EASEMENT CHANGES DIRECTION.
3. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.

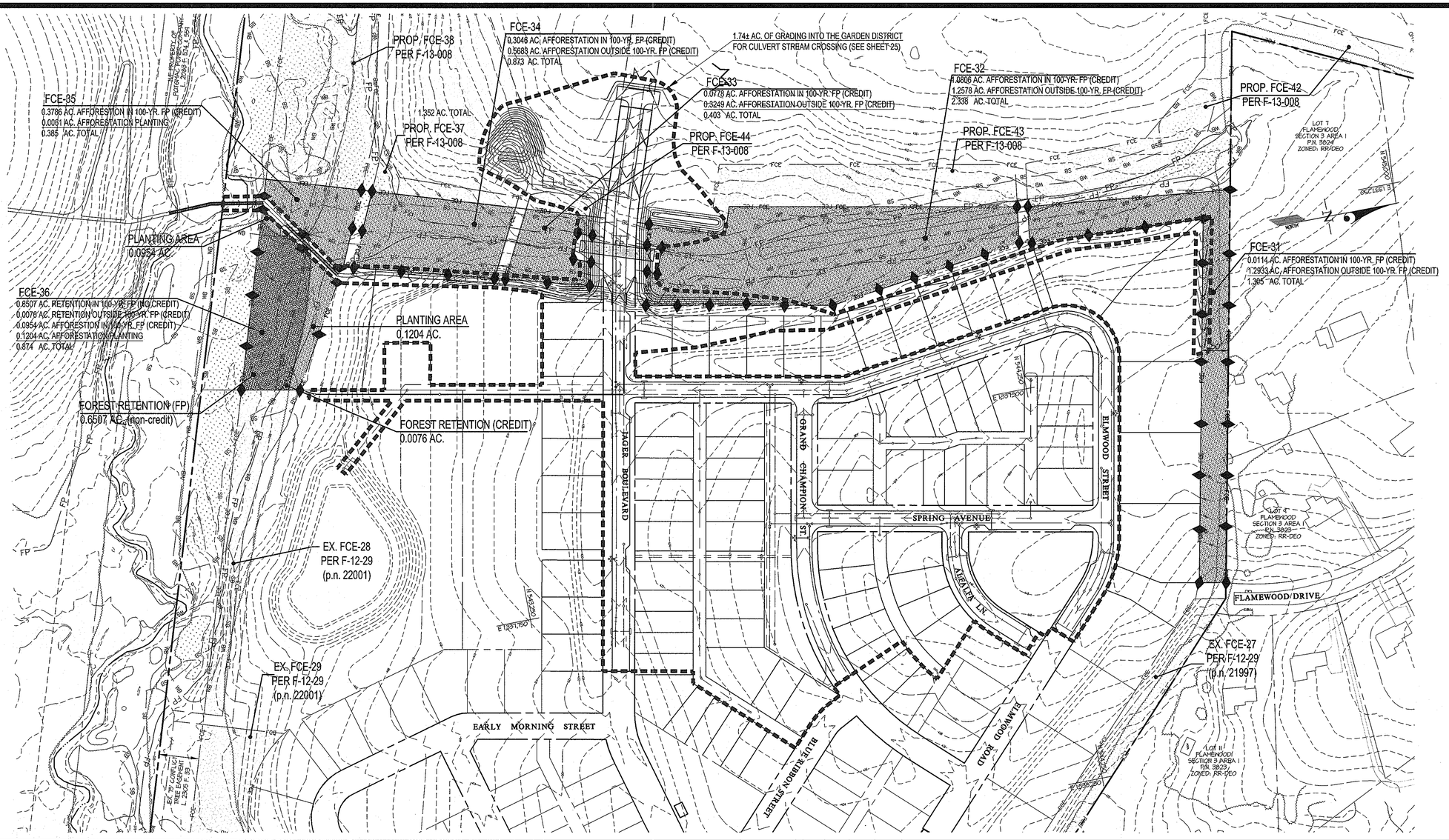
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Diane Schwarz Acting — 11/29/12
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Kent Sheubrooks — 12/11/12
Chief, Division of Land Development — Date

Chad Edmondson — 12-6-12
Chief, Development Engineering Division — Date



FOREST CONSERVATION PLANT LIST

PLANT NAME (BOTANICAL/COMMON)	FOREST PLANTING AREA						
	FCE-31	FCE-32	FCE-33	FCE-34	FCE-35	FCE-36	TOTAL
AMELANCHIER CANADENSIS/SERVICEBERRY	9	25	4			5	43
ACER RUBRUM/RED MAPLE	15	74	9	17	20	31	171
CERCIS CANADENSIS/EASTERN REDBUD	15	26	9	17		11	78
LIRIODENDRON TULIPFERA/TULIP TREE	10	25	9	17		7	68
PLATANUS OCCIDENTALIS/ AMERICAN SYCAMORE (PLANETREE)	15	74		19	19	26	153
QUERCUS PALUSTRIS/PIN OAK	15						15
QUERCUS RUBRUM/RED OAK	15		9	17		7	48
TOTAL	94	234	40	87	39	87	581

NOTES:
1. THE QUANTITY SHOWN ABOVE IS FOR PLANTING WITH 2 1/2" CAL. TREES AT 20' X 20' SPACING. EVERGREEN TREES SHALL BE 6'-8' HT.
2. LANDSCAPE TREES W/IN THE FCE AREAS WOULD REDUCE THE ABOVE QUANTITIES ACCORDINGLY.

FOREST CONSERVATION PLANTING QUANTITY SCHEDULE

FOREST PLANTING LOCATION NO.	FCE-31	FCE-32	FCE-33	FCE-34	FCE-35	FCE-36	TOTAL
AREA TO BE PLANTED (IN AC.)	1.305	2.34	0.403	0873	0.385	0.874	6.18
BASE QUANTITY OF 2" CAL. TREES REQUIRED (AT 100 TREES/AC.)	131	234	40	87	39	87	618
CREDIT FOR LANDSCAPE TREES TO BE PLANTED	37*	0	0	0	0	0	37
REQUIRED QUANTITY OF 2" CAL. TREES TO BE PLANTED	94	234	40	87	39	87	581

* SEE "LANDSCAPE PLAN" SHEET 23 FOR THE 37 EVERGREEN TREES.

STATE OF MARYLAND
Michael B. Tran
No. 933
REGISTERED LANDSCAPE ARCHITECT
11.07.12

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\11001\FINALS\ROADS-SD\11001 24_FC.dwg | DES. DEV | DRN. KLP | CHK. CKG

DATE	REVISION	BY	APP'R.

PREPARED FOR:
MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

FOREST CONSERVATION PLAN

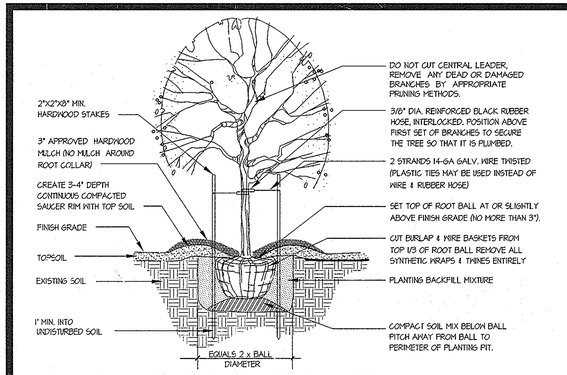
MAPLE LAWN FARMS

MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND COMMON OPEN AREA LOTS 184 THRU 186

ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 100'	MXD-3	11001
DATE	TAX MAP - GRID	SHEET
OCT. 2012	41-21/46-3	24 OF 25

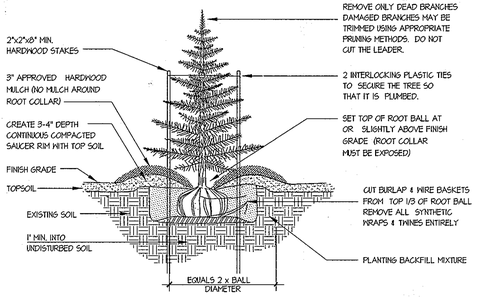
F-13-007



NOTE: ALL SUPPORTING DEVICES (STAKES, WIRES, ETC.) SHALL BE REMOVED 1 YEAR AFTER PLANTINGS.

DECIDUOUS TREE PLANTING DETAIL

FOR PLANTING MATERIAL UP TO 2 .2" CALIPER NTS



NOTE: ALL SUPPORTING DEVICES (STAKES, TIES, ETC.) SHALL BE REMOVED AFTER 2 GROWING SEASONS.

EVERGREEN TREE PLANTING DETAIL

NTS

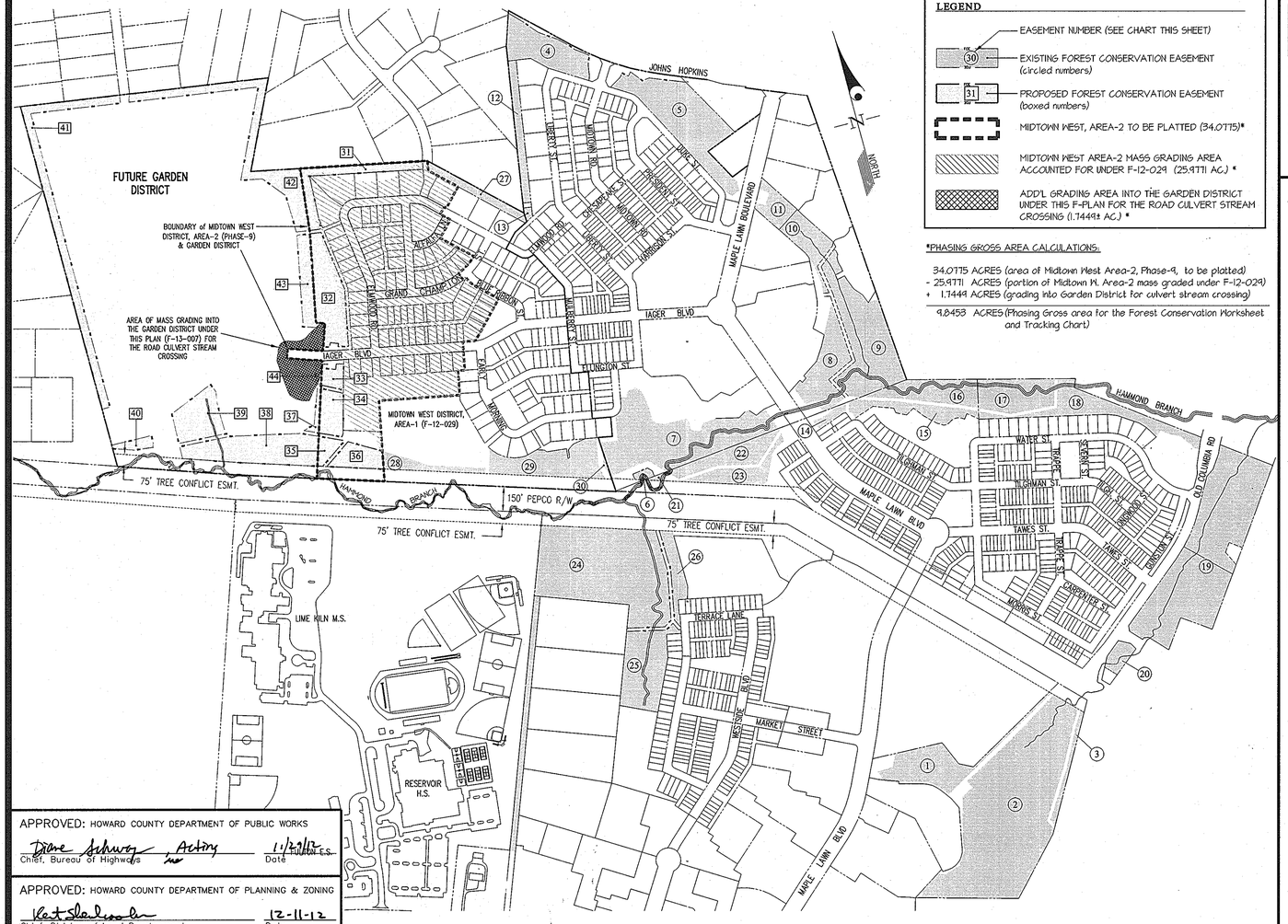


DIAGRAM of FOREST CONSERVATION EASEMENTS SCALE: 1" = 400'

LEGEND

- EASEMENT NUMBER (SEE CHART THIS SHEET)
- EXISTING FOREST CONSERVATION EASEMENT (circled numbers)
- PROPOSED FOREST CONSERVATION EASEMENT (boxed numbers)
- MIDTOWN WEST, AREA-2 TO BE PLATTED (34.0775)*
- MIDTOWN WEST AREA-2 MASS GRADING AREA ACCOUNTED FOR UNDER F-12-029 (25.9771 AC.) *
- ADD'L GRADING AREA INTO THE GARDEN DISTRICT UNDER THIS F-PLAN FOR THE ROAD CULVERT STREAM CROSSING (1.7444± AC.) *

*PHASING GROSS AREA CALCULATIONS:

34.0775 ACRES (area of Midtown West Area-2, Phase-9, to be platted)
- 25.9771 ACRES (portion of Midtown W. Area-2 mass graded under F-12-029)
+ 1.7444 ACRES (grading into Garden District for culvert stream crossing)

9.8453 ACRES (Phasing Gross area for the Forest Conservation Worksheet and Tracking Chart)

FOREST CONSERVATION TRACKING CHART

RETENTION / AFFORESTATION / REFORESTATION SUMMARY TABLE for MAPLE LAWN PROJECT

PHASE	NEW GROSS ACRE	FLOODPLAIN AREA (Ac.)	NET TRACT AREA (Ac.)	EX. FOREST AREA (Ac.)	FOREST CLEARED	FOREST RETAINED	EXCESS RETENTION	REF/AFF REQUIRED	CREDITED PLANTING PROVIDED	EXCESS FOREST CONSERVATION (Planting & Retention)	COMMENTS
1	51.98	3.40	48.58	9.45	0.51	8.94	0.63	-1.14	4.56	5.70	F-03-07 (created FCE 1-3)
2	75.20 (1)	2.38	72.82	0.00	0.00	0.00	0.00	10.92	6.97	-3.95	F-03-90 (created FCE 4&5)
	5.70 (1)	0.00	5.70	0.00	0.00	0.00	0.00	0.86	0.00	-0.86	SDP-03-140 (for mass grading)
									-0.16	-0.16	F-04-79 (adjusted FCE 4)
									-0.14	-0.14	F-04-88 (adjusted FCE 5)
3	19.09 (2)	14.85	4.24	0.21	0.00	0.21	0.00	0.43	10.49	10.06	F-04-92 (created FCE 6-13)
									-1.16	-1.16	F-05-82 (adjusted FCE 7 & 8)
4A	15.48	3.00	12.48	1.92	1.65	0.27	0.00	3.25	0.90	-2.35	F-05-81 (created FCE 14-16)
4B	3.12 (3)	0.35	2.77	0.00	0.00	0.00	0.00	0.42	-0.12	-0.54	F-05-139 (adjusted FCE 11)
									0.00	0.00	F-06-233 (decreased FCE 8- 9 and increased FCE-10 by same, net = 0)
4C	3.00	0.00	3.00	0.00	0.00	0.00	0.00	0.45	0.00	-0.45	F-05-112/113 (created ML Blvd R/W to connect Hillside & Business Distr.)
5A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	F-06-43 (re-subdivided Parcels from F-05-81)
5B	54.61 (4)	7.27	47.34	3.76	0.51	3.25	0.00	4.36	5.75	1.39	F-06-161 (created FCE 17-20)
									-0.01	-0.01	F-06-102 (adjusted FCE 15)
6A	10.30 (5)	3.84	6.46	0.00	0.00	0.00	0.00	0.97	1.70	0.73	F-08-72 (created FCE 21-23)
6B	69.86 (6)	1.22	68.64	4.59	2.10	2.49	0.00	9.91	11.22	1.31	F-08-54 (created FCE 24-26)
	25.06	0.00	25.06	0.00	0.00	0.00	0.00	3.76	0.00	-3.76	SDP-07-43 (for mass grading)
Forestation Planting to be used to fulfill obligation for "Rockland at Rogers" (F-10-64)								2.07		-2.07	F-10-64
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	F-10-61 (re-subdivided area from F-06-161)
8A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	F-11-27 (re-subdivided area from F-06-161)
8B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	F-12-21 (re-subdivided area from F-08-54)
F-12-015 (No Phase)	9.37	0.00	9.37	0.00	0.00	0.00	0.00	1.40	0.00	-1.40	9.97=(area of C-27 + area of Parcel 'P') less area of B-1 from PN 19870
Part of 8C (F-12-29)	1.66	0.00	1.66	0.00	0.00	0.00	0.00	0.25	0.00	-0.25	1.6583 ac = area of subdivision to be recorded by the plat for F-12-029
Part of 8C (F-12-29)	56.14 (7)	2.44	53.70	2.34	0.19	2.15	0.00	6.10	1.22	-4.88	F-12-029 (created FCE 27-30)
This F-plan (F-13-007)	9.85	4.04	5.80	0.01	0.00	0.01	0.00	0.86	5.52	4.66	F-13-007 (created FCE 31-36)
Forestation Planting to fulfill additional obligation for the construction of a WHC to a lot adjacent to "Rockland at Rogers"								0.03		-0.03	For reference see F-10-064 & F-13-014
Subotal	**410.41**	**42.79**	**367.62**	**22.28**	**4.96**	**17.32**	**0.63**	**44.88**	**46.74**	**1.85**	
Business Distr. Residual Area	10.48 (8)	0	10.48	0	0	0	0	1.57	0	-1.57	
Garden District	74.04	5.68	68.36	0.50	0.01	0.48	0.00	9.79	10.61	0.83	See F-13-008 (for FCE 37-44)
Total	**494.93** (9)	**48.47**	**446.45**	**22.78**	**4.97**	**17.80**	**0.63**	**56.24**	**57.35**	**1.11**	

(1) Includes future phase areas of Maple Lawn farms. When those areas are recorded in thurse phases, the forest conservation requirements will already have been met.
(2) 19.09 acres = 59.80 acres (phase-3 site total) – 40.71 acres (area of forest con. in phase-3 already provided by F-03-90 (35.01 ac.) and SDP-03-140 (5.70 ac.))
(3) 3.12 acres = 4.38 acres (phase-4 site total) – 1.26 acres (area of forest con. in phase-4 already provided by F-03-90 and F-04-92).
(4) Total area for phase-5B (54.61 ac.) = area platted (33.06 ac) + area mass graded outside platted area (21.55 ac.)
(5) Total area for phase-6A (10.30 ac.) = area platted (15.05 ac.) - area already covered under F-06-161 (4.75 ac.)
(6) Total area for phase-6B (69.86 ac.) = area of P.116 prior to platting (54.21 ac.) - area of SDP-07-43 within limits of this submission (23.79 ac.) - area covered by this plan (0.56 ac.)
(7) The 56.14 ac. = area to be platted under F-12-029 (50.21 ac.) + adjacent mass grading area (25.93 ac.)
(8) Adjustments for areas in the Business District not yet accounted for in order to total 494.94 acres (see footnote #9 below)
(9) 494.93 acres = entire gross areas of the 6 Districts of MLF (Business, Westside, Midtown, Hillside, Midtown West and Garden). The 494.93 acres does not include the Old Farm District.

NOTE: The entire MLF project is in an afforestation condition. Due to phasing delineation, the forest area in Phases 1 & 4A are artificially higher than the afforestation threshold and previous calculations for those two phase reflected that interim non-afforestation condition. However, that interim condition created an artificial inflated planting requirement (though conservative). The adjusted values shown (in the bold outlined cells) for these two phases reconcile these two phases as afforestation and with the overall Forest Conservation Worksheet for 6 of the MLF Districts (Business, Midtown, Hillside, Westside, Midtown West & Garden).

FOREST CONSERVATION WORKSHEET

		Acreage
1	**Site Data**	
A.	Gross Site Area (of Midtown West, Area-2, adjusted for phased development)	9.845
B.	Area within 100-yr floodplain	4.043
C.	Net Tract Area	5.802
E.	Land Use Category	RR-MXD3
2	**Input Data**	
A.	Net Tract Area	5.802
B.	Reforestation Threshold (percent of net tract = 15 %)	0.870
C.	Afforestation Threshold (percent of net tract = 15 %)	0.870
D	Existing Forest on Net Tract Area	0.008
E.	Forest Clearing on Net Tract Area	0.000
F.	Forest Retention on Net Tract Area	0.008
3	**Reforestation and/or Afforestaion Calculations**	
A.	Net tract forest clearing above reforestation threshold, if applicable	0.00
B.	Net tract forest clearing below reforestation threshold, if applicable	0.00
C.	Planting up to afforestation threshold, if applicable	0.86
D.	Reforestation planting required for clearing above threshold (3A x 0.25)	0.00
E.	Reforestation planting required for clearing below threshold (3B x 2.0)	0.00
F.	Net tract forest retention above reforestation threshold (2F-2B, available credit)	0.00
G.	Total reforestation planting required for MLF (3C+3D+3E - 3F)	0.86
4	**Break Even Point (BEP) Calculations**	
A.	Maximum clearing allowed with no reforestation planting (2D-2B)/1.25	Not Applicable
B.	Minimum net tract retention at BEP 0.20(2D-2B)+2B or 2D-4A	Not Applicable
5	**Forest Conservation Required**	
A.	Forest Retention Area (2F)	0.01
B.	Forest Planting Area (3G)	0.86
C.	Total minimum FCE required for retention and reforestation	0.87

FOREST CONSERVATION EASEMENT AREAS

District	Phase	File No.	Easement	Forest Retention on Net Tract (Credit)	Forest Retention in Floodplain (Non-Credit)	Forest Planting on Net Tract	Forest Planting in Floodplain	TOTAL
Business	1	F-03-07	1	0.98	0.21	1.27	0.03	2.49
			2	7.50	2.02	2.66	0.60	12.68
			3	0.36	0.05	0.00	0.00	0.41
			4	0.00	0.00	2.40	0.00	2.40
			Reduction to FCE-4 (by F-04-79, PN 16602)			-0.16		-0.16
			5	0.00	0.00	2.16	2.41	4.57
			Reduction to FCE-5 (by F-04-88, PN 16604)			-0.14		-0.14
Midtown and Hillside	2	F-03-90	6	0.00	0.14	0.00	0.00	0.14
			7	0.05	2.47	0.80	2.75	6.07
			Reduction to FCE-7 (by F-05-82, PN 17632)			-0.23		-0.23
			8	0.15	1.35	1.03	0.59	3.12
			Reduction to FCE-8 (by F-05-82, PN 17631)			-0.59	-0.32	-0.91
			Reduction to FCE-9 (by F-06-239, PN 19795)			-0.61		-0.61
	3	F-04-92	9	0.01	2.49	0.67	1.58	4.75
			Reduction to FCE-9 (by F-06-239, PN 19795)			-0.20		-0.20
			10	0.00	0.00	0.48	0.58	1.06
			Addition to FCE-10 (F-06-239, PN 19795)			0.08	0.13	0.21
			11	0.00	0.00	0.22	0.71	0.93
			Reduction to FCE-11 (F-05-139, PN 17939)			-0.12		-0.12
	4	F-05-81	12	0.00	0.00	1.00	0.00	1.00
			13	0.00	0.00	0.08	0.00	0.08
			14	0.00	0.00	0.11	0.10	0.21
			15	0.27	0.26	0.34	0.29	1.16
			Reduction to FCE-15 (F-06-182, PN 18661)			-0.01		-0.01
	5	F-06-161	16	0.00	1.74	0.01	0.05	1.80
			17	0.01	1.97	0.02	0.02	2.02
			18	0.00	0.45	1.03	0.77	2.25
			19	3.23	3.02	3.07	0.34	9.66
			20	0.00	0.00	0.15	0.35	0.50
			21	0.00	0.05	0.00	0.02	0.07
	6A	F-08-72	22	0.00	0.83	0.00	0.62	1.45
			23	0.00	0.00	0.07	0.99	1.06
Westside	6B	F-08-54	24	2.49	0.02	7.05	0.44	10.00
			25	0.00	0.00	2.46	0.37	2.83
			26	0.00	0.00	0.90	0.00	0.90
Hillside	7	F-10-161	--	0.00	0.00	0.00	0.00	0.00
Westside	8A	F-11-27	--	0.00	0.00	0.00	0.00	0.00
Westside	8B	F-12-21	--	0.00	0.00	0.00	0.00	0.00
Midtown West	8C	F-12- 29	27	0.00	0.00	0.77	0.00	0.77
			28	0.43	0.23	0.04	0.00	0.70
			29	1.72	0.33	0.40	0.00	2.45
			30	0.00	0.03	0.01	0.00	0.04
SUB-TOTAL for FCE-1 thru FCE-30				17.33	17.67	27.80	13.42	76.19
Midtown West	9C	F-13-007	31	0.0000	0.0000	1.2933	0.0114	1.305
			32	0.0000	0.0000	1.2578	1.0806	2.338
			33	0.0000	0.0000	0.3249	0.0778	0.403
			34	0.0000	0.0000	0.5583	0.3045	0.873
			35	0.0000	0.0000	0.0061	0.3786	0.385
			36	0.0076	0.5507	0.1204	0.0954	0.874
SUB-TOTAL for FCE-31 thru FCE-36				0.01	0.55	3.57	1.95	6.18
RUNNING TOTAL				17.31	18.32	31.37	15.37	82.37

TOTAL CREDITED FOREST CONSERVATION PLANTING for FCE-31 thru 36	5.52
TOTAL CREDITED FOREST CONSERVATION PLANTING for FCE-01 thru 36	46.74
TOTAL FOREST CONSERVATION PLANTING REQUIRED THRU PHASE-9C	44.56
DELTA (excess)	1.85

GENERAL NOTES:

1. THIS AFFORESTATION PLAN IS PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF SUBTITLE 12 "FOREST CONSERVATION" OF THE HOWARD COUNTY CODE.
2. IMPLEMENTATION OF THIS PLAN MUST BE PERFORMED BY A CONTRACTOR THAT IS KNOWLEDGEABLE AND EXPERIENCED IN AFFORESTATION/REFORESTATION TECHNIQUES AND PRACTICES.
3. THE OWNER IS RESPONSIBLE FOR A 2-YEAR (MIN.) POST-CONSTRUCTION MAINTENANCE PERIOD WHICH INVOLVES ACTIVITIES NECESSARY TO ENSURE SURVIVAL AND GROWTH OF THE CONSERVATION AREAS. TWO INSPECTIONS PER YEAR BY A QUALIFIED PROFESSIONAL AT BEGINNING AND END OF THE GROWING SEASON ARE RECOMMENDED IN ORDER TO TAKE REMEDIAL STEPS AS NECESSARY. IF, AFTER ONE YEAR, THE POSSIBILITY EXISTS THAT THE ORIGINAL PLANTING (IF APPLICABLE) WILL NOT MEET SURVIVAL RATE STANDARDS, THE APPLICANT MAY CHOOSE TO ESTABLISH REINFORCEMENT PLANTINGS.
4. AT THE END OF THE POST-CONSTRUCTION MANAGEMENT AND PROTECTION PERIOD, CERTIFICATION BY A QUALIFIED CONSULTANT WILL BE REQUIRED BEFORE TO THE OWNER CAN BE RELEASED FROM HIS/HER FOREST CONSERVATION OBLIGATION TO THE ADMINISTRATOR OF THE HOWARD COUNTY FOREST CONSERVATION PROGRAM.
5. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION OF ANY EXISTING UTILITIES. THE REPAIR OF ANY UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE AT THE CONTRACTOR'S EXPENSE.
6. THE FOREST CONSERVATION EASEMENTS SHOWN ON THIS PLAN WILL BE ESTABLISHED TO FULFILL THE REQUIREMENTS OF THE FOREST CONSERVATION PROGRAM. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENTS, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
7. THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL FOR THIS PARTICULAR PHASED SUBMISSION OF THE MLF PROJECT ARE:

   0.01 ACRES OF CREDITED RETENTION
   0.86 ACRES OF AFFORESTATION PLANTING
   0.87 ACRES OF FCE REQUIRED FOR THIS PHASE

   A TOTAL OF 5.52± ACRES OF FOREST PLANTING WILL BE ESTABLISHED IN THE NEW FCE-31 THRU FCE-36 TO SATISFY THE OBLIGATIONS OF THIS PHASE, PREVIOUS PHASES, REMAINING AREAS OF THE BUSINESS DISTRICT AND ADDITIONAL OBLIGATION FOR "THE ROCKLAND AT ROGERS" PROJECT.

   A FOREST CONSERVATION SURETY OF $0.50/SF FOR THE ABOVE FOREST PLANTING SHALL BE POSTED WITH THE DEVELOPER AGREEMENT AS CALCULATED BELOW:

   (5.52 AC)(43,560 SF/AC)($0.50/SF) = $120,226.00

CONSTRUCTION PERIOD PROTECTION PROGRAM:

1. THE LIMIT OF FOREST RETENTION SHALL BE STAKED AND FLAGGED.
2. A PRE-CONSTRUCTION MEETING AT THE SITE SHOULD BE HELD TO CONFIRM THE LIMITS OF CLEARING SPECIFIED. THE MEETING SHOULD INCLUDE THE OWNER OR THE OWNER'S REPRESENTATIVE, THE ON-SITE FOREMAN IN CHARGE OF LAND DISTURBANCE, THE ENVIRONMENTAL CONSULTANT AND THE APPROPRIATE HOWARD COUNTY INSPECTORS.
3. FOREST PROTECTION DEVICES AND SIGNS (SEE DETAILS) SHALL BE INSTALLED PRIOR TO ANY CLEARING OR GRADING. THE PROTECTION DEVICES AND SIGNS SHALL BE MAINTAINED DURING THE ENTIRE CONSTRUCTION PERIOD. NONE OF THE DEVICES SHALL BE ANCHORED OR ATTACHED IN ANY WAY TO THE TREES TO BE SAVED. THE MAINTENANCE TIME FRAME MAY BE EXTENDED TO ACCOMMODATE SUBSEQUENT PHASES OF DEVELOPMENT.
4. EQUIPMENT, VEHICLES AND BUILDING MATERIALS SHALL NOT BE WITHIN THE PROTECTED AREA. ACTIVITIES STRICTLY TO IMPLEMENT ANY REFORESTATION PLANTINGS AND MAINTENANCE (I.E. MULCHING, FERTILIZING, THINNING, PRUNING, REMOVAL OF DEAD AND DISEASED TREES WHERE NECESSARY, ETC.) OF THE CONSERVATION AREA ARE PERMITTED. CLEARING FOR THE PURPOSE OF SODDING OR PLANTING GRASS IS NOT PERMITTED WITHIN THE FOREST CONSERVATION AREA ONCE IT'S ESTABLISHED.
5. AT THE END OF THE CONSTRUCTION PERIOD, THE DESIGNATED QUALIFIED PROFESSIONAL SHALL CONVEY TO THE ADMINISTRATOR OF THE HOWARD COUNTY FOREST CONSERVATION PROGRAM THAT ALL FOREST RETENTION AREAS HAVE BEEN PRESERVED, ALL REFORESTATION AND/OR AFFORESTATION PLANTINGS (IF APPLICABLE) HAVE BEEN INSTALLED AS REQUIRED BY THE FOREST CONSERVATION PLAN, AND THAT ALL PROTECTION MEASURES REQUIRED FOR THE POST-CONSTRUCTION PERIOD HAVE BEEN INSTALLED. UPON REVIEW OF THE FINAL CERTIFICATION DOCUMENT FOR COMPLETENESS AND ACCURACY, THE PROGRAM COORDINATOR WILL NOTIFY THE OWNER OF RELEASE FROM THE CONSTRUCTION PERIOD OBLIGATIONS. THE 2-YEAR (MIN.) POST-CONSTRUCTION MANAGEMENT AND PROTECTION PERIOD THEN COMMENCES.

FOREST CONSERVATION PROGRAM SEQUENCE @ F-PLAN STAGE:

1. OBTAIN ALL NECESSARY PERMITS.
2. STAKEOUT LIMITS OF DISTURBANCE.
3. FIELD MEETING TO REVIEW AND VERIFY LIMIT OF DISTURBANCE FOR THE LIMITS OF GRADING AND CONSTRUCTION.
4. INSTALL FOREST CONSERVATION SIGNS (SEE DETAIL ON THIS SHEET) AND FOREST PROTECTION DEVICES ALONG THE FCE AREAS. (FENCES) ALONG THE PORTION OF THE LIMIT OF DISTURBANCE (THAT INVOLVES CLEARING AND/OR RETENTION OF TREES) SEE ALSO THE SEDIMENT CONTROL PLANS FOR OTHER PROTECTION MEASURES.
5. COMMENCE SITE CONSTRUCTION.
6. INSPECTION AND CERTIFICATION FOR THE RELEASE OF THE CONSTRUCTION PERIOD OBLIGATIONS, START OF POST-CONSTRUCTION MANAGEMENT PERIOD.
7. POST-CONSTRUCTION MANAGEMENT FOR A PERIOD OF 2 YEARS (MIN.).
8. FINAL INSPECTION AND CERTIFICATION FOR THE RELEASE OF THE OWNER'S FOREST CONSERVATION OBLIGATION.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Diane Schwarz, Acting — 1/29/12
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Kent Sheubrooks — 12-11-12
Chief, Division of Land Development — Date

Chad Edmondson — 12-6-12
Chief, Development Engineering Division — Date

STATE OF MARYLAND
Michael B. Traw
REGISTERED 933 LANDSCAPE ARCHITECT
11.07.12

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\11001\FINALS\11001-SDP_11001 25_FC NOTES.dwg | DES. MBT | DRN. MBT | CHK. CKG

DATE	REVISION	BY	APP'R.

PREPARED FOR:
MAPLE LAWN FARMS 1, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

FOREST CONSERVATION NOTES and DETAILS

MAPLE LAWN FARMS

MIDTOWN WEST DISTRICT - AREA 2
LOTS 93 THRU 177, OPEN SPACE LOTS 178 THRU 183, AND
COMMON OPEN AREA LOTS 184 THRU 186

ELECTION DISTRICT No. 5 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	MXD-3	11001
DATE	TAX MAP - GRID	SHEET
OCT. 2012	41-21/46-3	25 OF 25

F-13-007