

GENERAL NOTES

- 1. ZONING: RC - DEO PER THE 02/02/04 COMPREHENSIVE ZONING PLAN & PER THE COMP LITE ZONING REGULATION AMENDMENTS EFFECTIVE ON 7-28-06.
2. THE PREVIOUS DEPARTMENT OF PLANNING AND ZONING FILE NUMBERS: P-05-05, 5-01-51 & W-02-14 (SEE NOTE #23 BELOW).
3. FOREST STAND DELINEATION BY GUTSCHICK, LITTLE AND WEBER, APRIL 2001
4. WETLANDS DELINEATION BY EXPLORATION RESEARCH, INC., APRIL, 2001
5. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-515-1800 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF WORK.
6. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-251-7111 AT LEAST 48 HOURS TO ANY EXCAVATION WORK BEING DONE.
7. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
8. TRAFFIC STUDY IS BY THE TRAFFIC GROUP, INC. MARCH/APRIL 2001
9. A NOISE STUDY IS NOT REQUIRED AS PER SECTION 2.4. OF THE HOWARD COUNTY VOLUME III DESIGN MANUAL.
10. WALNUT GROVE FARM IS LISTED AS SITE NO. 19 ON THE HOWARD COUNTY INVENTORY OF HISTORIC SITES. THE EXISTING HISTORIC STRUCTURES WILL REMAIN AS PART OF PRESERVATION PARCEL "A".
11. ON 10/3/01, THE HOWARD COUNTY PLANNING BOARD APPROVED THE CEMETERY BOUNDARY DOCUMENTATION AND ACCOMMODATION PLAN FOR THE PROTECTION OF THE "MAYNERS CEMETERY". THE "MAYNERS CEMETERY" LOCATED ON THE SITE IS LISTED AS SITE NO. 28-4 ON THE HOWARD COUNTY CEMETERIES AND GRAVE SITES INVENTORY. THE EXISTING CEMETERY WILL BE CONTAINED WITHIN PRESERVATION PARCEL "D".
12. SHEPPARD LANE IS LISTED AS A SCENIC ROAD ON THE HOWARD COUNTY SCENIC ROADS MAP.
13. THIS PROPERTY IS NOT WITHIN THE METROPOLITAN DISTRICT.
14. THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
15. THIS DEVELOPMENT IS TO UTILIZE PRIVATE WATER IN THE FORM OF WELLS ON EACH INDIVIDUAL LOT. SEPTIC FOR LOTS 53 & 46 IS TO BE PRIVATE AND PROVIDED BY AN INDIVIDUAL SEPTIC FIELD ON EACH LOT. SEPTIC FOR THE REMAINING LOTS IS TO BE PROVIDED BY A COMMUNITY SEPTIC FIELD ON PRESERVATION PARCEL A. THE SEPTIC COLLECTION SYSTEM FOR THIS DEVELOPMENT IS TO BE PUBLIC (CONTR. #50-4330-D). THE PUBLIC TREATMENT SYSTEM IS UNDER CONTRACT NO. 50-42954-D.
16. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 28FB AND 35A2 WERE USED FOR THIS PROJECT.
17. ALL ROADS WITHIN THIS DEVELOPMENT ARE PUBLIC AND HAVE BEEN DESIGNED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS. STREET TREES WILL BE PROVIDED PER THE SUBDIVISION REGULATIONS AT THE FINAL PLAN STAGE.
18. STORM WATER MANAGEMENT FOR THIS SITE IS PROVIDED BY 5 PONDS (A, B, C, D, & E).

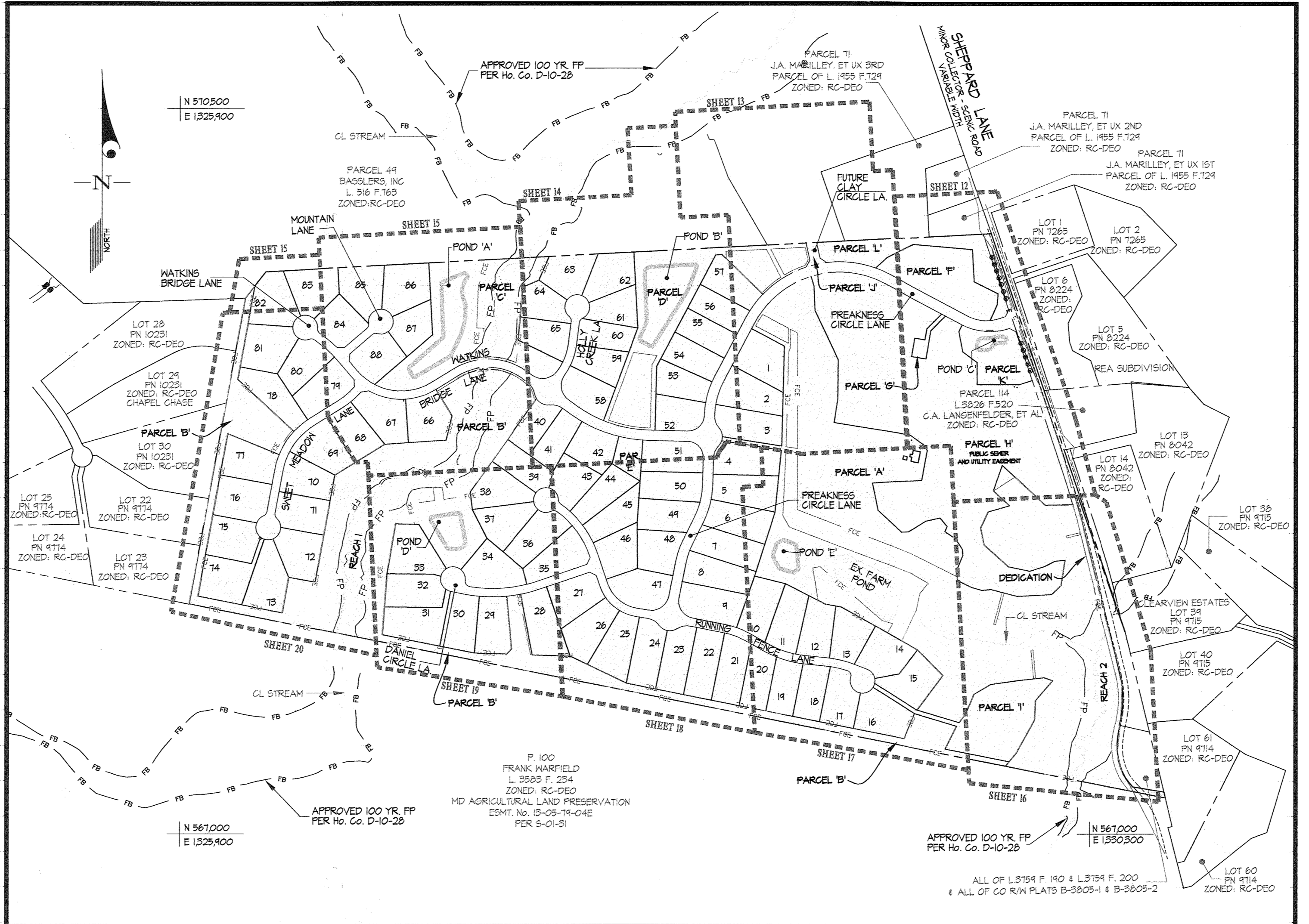
WALNUT GROVE CONSTRUCTION PLAN

LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL "A", NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND NON-BUILDABLE BULK PARCEL "J"

SHEET INDEX

- 1. COVER SHEET
2. ROAD CONSTRUCTION PLAN (PREAKNESS CIRCLE LANE STATION 0+00 TO STATION 15+25)
3. ROAD CONSTRUCTION PLAN (PREAKNESS CIRCLE LANE STATION 15+25 TO STATION 24+78.57)
4. ROAD CONSTRUCTION PLAN (MAYNERS BRIDGE LANE STATION 0+00 TO STATION 15+75)
5. ROAD CONSTRUCTION PLAN (MAYNERS BRIDGE LANE STATION 15+75 TO STATION 22+00.57)
6. ROAD CONSTRUCTION PLAN (MOUNTAIN LANE STATION 0+00 TO STATION 2+60)
7. ROAD CONSTRUCTION PLAN (MOUNTAIN LANE STATION 14+75 TO STATION 14+28.60)
8. ROAD CONSTRUCTION PLAN (SHEET MEADOW LANE STATION 0+00 TO STATION 8+57.50)
9. ROAD CONSTRUCTION PLAN (HOLLY CREEK LANE STATION 0+00 TO STATION 4+40.79)
10. ROAD DETAILS
11. ROAD DETAILS
12. ROAD DETAILS
13. ROAD DETAILS
14. ROAD DETAILS
15. ROAD DETAILS
16. ROAD DETAILS
17. ROAD DETAILS
18. ROAD DETAILS
19. ROAD DETAILS
20. ROAD DETAILS
21. ROAD DETAILS
22. ROAD DETAILS
23. ROAD DETAILS
24. ROAD DETAILS
25. ROAD DETAILS
26. ROAD DETAILS
27. ROAD DETAILS
28. ROAD DETAILS
29. ROAD DETAILS
30. ROAD DETAILS
31. ROAD DETAILS
32. ROAD DETAILS
33. ROAD DETAILS
34. ROAD DETAILS
35. ROAD DETAILS
36. ROAD DETAILS
37. ROAD DETAILS
38. ROAD DETAILS
39. ROAD DETAILS
40. ROAD DETAILS
41. ROAD DETAILS
42. ROAD DETAILS
43. ROAD DETAILS
44. ROAD DETAILS
45. ROAD DETAILS
46. ROAD DETAILS
47. ROAD DETAILS
48. ROAD DETAILS
49. ROAD DETAILS
50. ROAD DETAILS
51. ROAD DETAILS
52. ROAD DETAILS
53. ROAD DETAILS
54. ROAD DETAILS
55. ROAD DETAILS
56. ROAD DETAILS
57. ROAD DETAILS
58. ROAD DETAILS
59. ROAD DETAILS
60. ROAD DETAILS
61. ROAD DETAILS
62. ROAD DETAILS
63. ROAD DETAILS
64. ROAD DETAILS
65. ROAD DETAILS
66. ROAD DETAILS
67. ROAD DETAILS
68. ROAD DETAILS
69. ROAD DETAILS
70. ROAD DETAILS
71. ROAD DETAILS
72. ROAD DETAILS
73. ROAD DETAILS
74. ROAD DETAILS
75. ROAD DETAILS
76. ROAD DETAILS
77. ROAD DETAILS
78. ROAD DETAILS
79. ROAD DETAILS
80. ROAD DETAILS
81. ROAD DETAILS
82. ROAD DETAILS
83. ROAD DETAILS
84. ROAD DETAILS
85. ROAD DETAILS
86. ROAD DETAILS
87. ROAD DETAILS
88. ROAD DETAILS
89. ROAD DETAILS
90. ROAD DETAILS
91. ROAD DETAILS
92. ROAD DETAILS
93. ROAD DETAILS
94. ROAD DETAILS
95. ROAD DETAILS
96. ROAD DETAILS
97. ROAD DETAILS
98. ROAD DETAILS
99. ROAD DETAILS
100. ROAD DETAILS

VICINITY MAP SCALE: 1" = 2000'



SITE OVERVIEW SCALE: 1" = 400'

GENERAL NOTE 43 - SITE DATA TABLE

Table with 2 columns: Description and Value. Includes items like Gross Area of Property Tract, 100-Year Flood Plain Area, Net Area of Property Tract, etc.

MDE PERMIT TRACKING

Table with 2 columns: Description and Value. Includes items like Base Density, Maximum Density Allowed, Density Shown, etc.

- 21. PRESERVATION PARCEL EASEMENT HOLDERS: BUILDABLE PRESERVATION PARCEL "A" - (TO BE CONVEYED TO THE HOA WITH HOWARD COUNTY AND PATIENT CONSERVATION CORP. AS THE TWO EASEMENT HOLDERS)
22. PARCEL "J" DEDICATED TO ADJACENT PARCEL 44 FOR THE PURPOSE OF A PUBLIC ROAD. THE DENSITY FOR BULK PARCEL "J" IS UTILIZED WITHIN THIS SUBDIVISION AND WILL NOT BE TRANSFERRED TO PARCEL 44.
23. HAYVER PETITION #P-02-14, TO HAVE SECTION 6.16(A) TO ALLOW GRADING AND REMOVAL OF VEGETATIVE COVER WITHIN 25 FEET OF A HET-LAND AND WITHIN 15 FEET OF A PERENNIAL STREAM, AND SECTION 6.16(B)(2) TO ALLOW CONSTRUCTION ACTIVITY AND DISTURBANCE WITHIN THE 100' YEAR FLOOD PLAIN FOR THE PURPOSE OF CONSTRUCTING A PUBLIC ACCESS PLACE ROAD CROSSING TO SERVE 21 RESIDENTIAL BUILDING LOTS, WAS APPROVED SUBJECT TO CONDITIONS AS STATED IN THE HAYVER PETITION APPROVAL LETTER DATED SEPTEMBER 15, 2001.
24. THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL SURVEY WITH TWO FOOT CONTOUR INTERVALS PREPARED BY GJM PA. DATED (NOV., 2002).
25. THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY HILLS GARNES ASS., IN JULY OF 2004 AND AGAIN IN JULY OF 2005 AND HAS BEEN INCLUDED WITH THIS SUBMISSION.
26. THE FLOOD PLAN STUDY FOR REACH 1 & 2 WAS PREPARED BY GJM PA., IN FEBRUARY 2005 AND APPROVED UNDER P-05-05. REACH 1 IS THE LARGER TRIBUTARY RUNNING SOUTH-NORTH ALONG THE WESTERN PORTION OF THE SITE. REACH 2 WAS EXTENSIVELY MODELLED WITHIN THAT REPORT. REACH 2 IS THE SMALLER TRIBUTARY RUNNING SOUTH-NORTH ALONG THE WEST SIDE OF SHEPPARD LANE AT THE SOUTHEASTERN CORNER OF THE SITE. THE FLOOD PLAN SHEET FOR REACH 2 WAS TAKEN FROM THE EXISTING HOWARD COUNTY CUYDES BRANCH STUDY APPROVED UNDER CAPITAL PROJECT D-1028 AND RE-DELINEATED USING THE LATEST AERIAL TOPOGRAPHY.
27. THE MINIMUM PRINCIPAL STRUCTURE SETBACKS FOR THESE SFD UNITS ARE:
- FRONT TO PUBLIC ROW = 50'
- SIDE TO PUBLIC ROW = 50'
- FRONT/REAR TO OTHER = 10'
- REAR TO OTHER = 30'
- MINIMUM WIDTH AT BRK = 100'
- FRONT/REAR TO A COLLECTOR/ARTERIAL ROAD = 75'
28. THIS SUBMISSION IS GRANDFATHERED TO THE FOURTH EDITION OF THE SUBDIVISION REGULATIONS SINCE 5-01-03 RECEIVED SIGNATURE APPROVAL PRIOR TO 10/25/01. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS/PARCELS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE BUILDING OR GRADING PERMITS.
29. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
30. EXISTING UTILITIES ARE BASED ON MISS UTILITY FIELD LOCATION, GJM FIELD SURVEY AND THE LATEST HOWARD COUNTY RECORDS.
31. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)". ALL TREES SHALL BE PLACED A MINIMUM OF 20' FROM ANY STREET LIGHT.
32. TO FULFILL THE FOREST RESTORATION OBLIGATION FOR THE DEVELOPMENT OF THIS SITE, AT LEAST 41,544 ACRES OF FOREST CONSERVATION EASEMENTS WHICH COMPRISES OF 4,654 ACRES OF NET TRACT RETENTION AND 36,891 ACRES OF SUPPLEMENTAL PLANTING (AFFORESTATION/REFORESTATION) MUST BE RECORDED AT FINAL PLAN STAGE.
33. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL REQUIRING 326 SHADE TREES AND 201 EVERGREEN TREES PROVIDED WITH LANDSCAPE SURETY IN THE AMOUNT OF \$121,750.00 WITH DPM, DEVELOPER'S AGREEMENT.
34. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL PERFORATED, SQUARE TUBE POST (1/4 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL PERFORATED, SQUARE TUBE SLEEVE (1/2 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
35. THE 95% COMPACTION IN ALL FILL AREAS SHALL BE IN ACCORDANCE WITH AASHTO T-180 STANDARDS.
36. ALL SCHOOL BUS-STOP STANDING PADS SHALL BE MAINTAINED BY THE HOA.
37. ALL TRAFFIC ISLAND AREAS INTERIOR TO CURB SHALL BE MAINTAINED BY THE HOA.
38. ALL SHALES AND ROADSIDE DITCHES ARE TO BE LINED WITH EROSION CONTROL MATTING (PER G-22-2) TO MINIMUM WIDTH OF 6' AND CENTERED ON THE SHALE UNLESS OTHERWISE NOTED.
39. SILT FENCE IMERICATIONS TO EXTEND FOR A FULL 2' UPHILL WHEREVER IT RUNS DOWN A SLOPE.
40. STREETLIGHTS WILL BE REQUIRED IN THIS DEVELOPMENT IN ACCORDANCE WITH THE DESIGN MANUAL. STREETLIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)". THE JUNE 1993 POLICY INCLUDES GUIDELINES FOR LATERAL AND LONGITUDINAL PLACEMENT. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND STREET TREE.
41. THE EXISTING FARM POND SHALL BE PRIVATELY OWNED AND MAINTAINED.
42. THE ENVIRONMENTAL DISTURBANCE CREATED BY THE SWM OUTFALLS OF POND B (ON THE ADJACENT BAGSLER PROPERTY) AND POND D HAVE BEEN DETERMINED TO BE NECESSARY DISTURBANCES BY HSCD IN ACCORDANCE WITH SECTION 16.16(C) OF THE SUBDIVISION REGULATIONS.

GLWGuttschick 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

Table with columns: DATE, REVISION, and APPR. Includes drawing title '10-7-2010 REVISE SHEET 16 LOT 87 FOR HOUSE CONSTRUCTION' and approver initials 'HKT KLP'.

PREPARED FOR OWNER WALNUT GROVE HOLDING, L.L.C. WALNUT GROVE DEVELOPMENT, INC. ROBERT VAN DYKE PRESIDENT 10765 QUARTER DRIVE SUITE 300 COLUMBIA, MARYLAND 21044

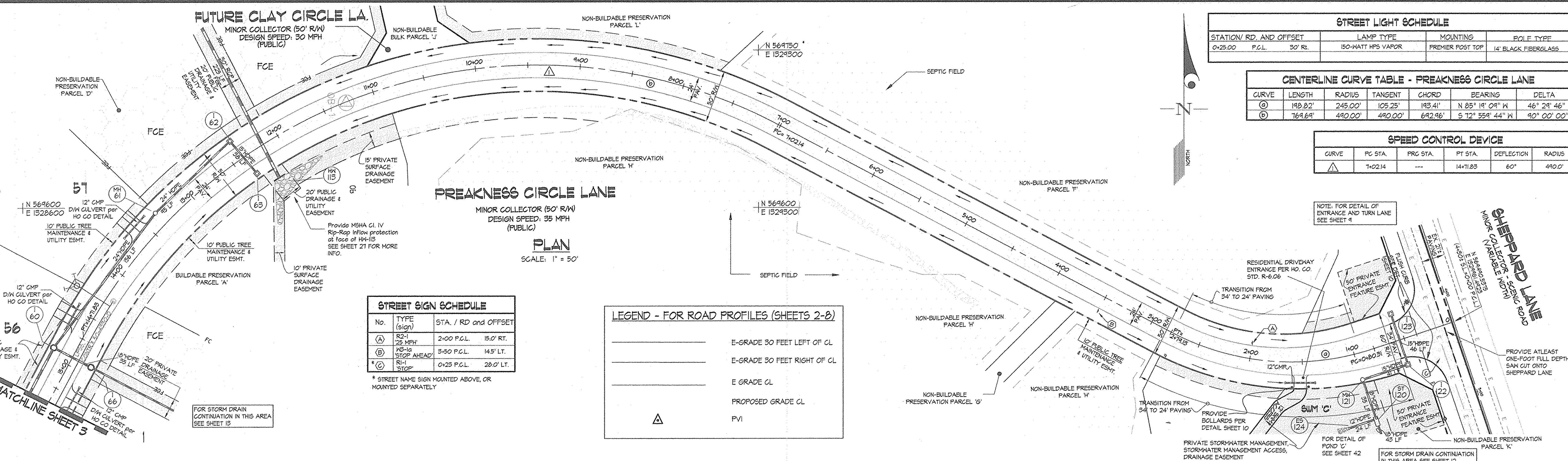
COVER SHEET WALNUT GROVE LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL "A", NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND NON-BUILDABLE BULK PARCEL "J" L.2921 F.487 HOWARD COUNTY, MARYLAND

Table with columns: SCALE, ZONING, G. L. W. FILE No., DATE, TAX MAP - GRID, SHEET, and 1 OF 78.

ROAD CONSTRUCTION PLAN LEGEND

- 366 --- EXISTING CONTOUR
- 300 --- PROPOSED CONTOUR
- PROP. STORM DRAIN
- ○ ○ PROPOSED STREET TREES FOR STREET TREE SCHED. SEE SHT. 65
- EASEMENTS
- EXISTING UTILITY LINE & POLE
- EDGE OF PAVING
- RAISED INTERSECTION FOR SPEED CONTROL (DET. 6/4)
- FLUSH CURB (DET. 5/10)
- CONCRETE CURB & GUTTER (DET. 4/10)
- MODIFIED COMB. CURB (DET. 1/10)
- 5' CONCRETE SIDEWALK (AC STD R-3-05)
- PROPOSED GRINDER PUMP AND 10' x 10' PUBLIC SEWERAGE & UTILITY EASEMENT
- PVC LESS PUBLIC (CONV. 450-450-D)
- FCE FOREST CONSERVATION ESMT. (FCE)
- PROPOSED LIGHT (50 WATT PREMIER)
- DRIVEWAY ENTRANCE PER HO.G.O. STD
- DITCH FLOW DIRECTION

- NOTES:**
- ALL SCHOOL BUS-STOP STANDING PADS SHALL BE H.O.A. MAINTAINED.
 - FOR DETAILS OF ROUNDABOUTS SEE SHEET 4.
 - ALL DRIVEWAY CULVERTS WILL BE 12" CMP UNLESS OTHERWISE NOTED.
 - FOR STREET NAME SIGNAGE CALL PARRIS ZIRKENBACH, TRAFFIC ENGINEER, AT 410-315-5152.
 - ALL ROAD SIDE SHALES AND ROADSIDE DITCHES ARE TO BE LINED WITH EROSION CONTROL MATTING (PER 0-22-21) TO MINIMUM WIDTH OF 6' AND CENTERED ON THE SHALE UNLESS OTHERWISE NOTED.



STREET SIGN SCHEDULE

| No. | TYPE (Sign) | STA. / RD AND OFFSET |
|-----|------------------|----------------------|
| (A) | R2-1 25 MPH | 2+00 P.C.L. 15' RT. |
| (B) | M5-10 STOP AHEAD | 5+50 P.C.L. 145' LT. |
| (C) | R1-1 STOP | 0+23 P.C.L. 28' LT. |

* STREET NAME SIGN MOUNTED ABOVE, OR MOUNTED SEPARATELY

LEGEND - FOR ROAD PROFILES (SHEETS 2-8)

| | |
|-----|-----------------------------|
| --- | E-GRADE 30 FEET LEFT OF CL |
| --- | E-GRADE 30 FEET RIGHT OF CL |
| --- | E-GRADE CL |
| --- | PROPOSED GRADE CL |
| △ | PVI |

STREET LIGHT SCHEDULE

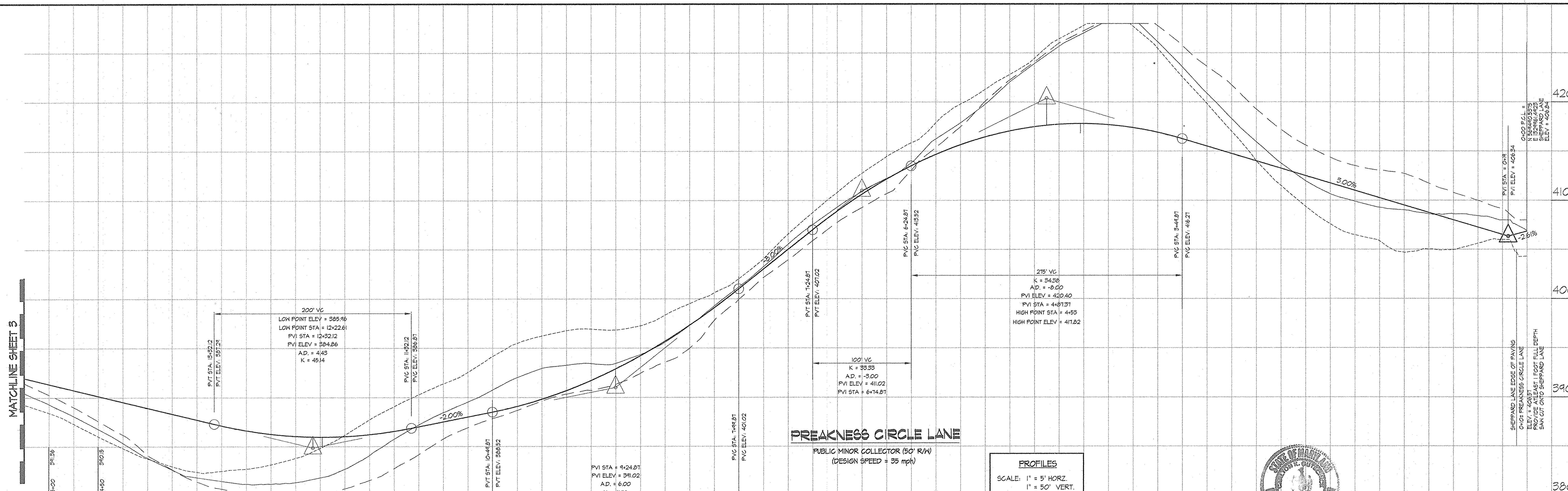
| STATION, RD. AND OFFSET | LAMP TYPE | MOUNTING | POLE TYPE |
|-------------------------|-------------------|------------------|----------------------|
| 0+25.00 P.C.L. 30' RL | 50-WATT HPS VAPOR | PREMIER POST TOP | 14' BLACK FIBERGLASS |

CENTERLINE CURVE TABLE - BREAKNECK CIRCLE LANE

| CURVE | LENGTH | RADIUS | TANGENT | CHORD | BEARING | DELTA |
|-------|---------|---------|---------|---------|-----------------|-------------|
| (C) | 148.82' | 245.00' | 105.25' | 143.41' | N 85° 1' 0" W | 46° 21' 46" |
| (D) | 164.61' | 490.00' | 490.00' | 692.96' | S 12° 55' 44" W | 90° 00' 00" |

SPEED CONTROL DEVICE

| CURVE | PC STA | PRG STA | PT STA | DEFLECTION | RADIUS |
|-------|---------|---------|----------|------------|---------|
| (A) | 1+02.14 | --- | 14+11.83 | 60° | 490.00' |



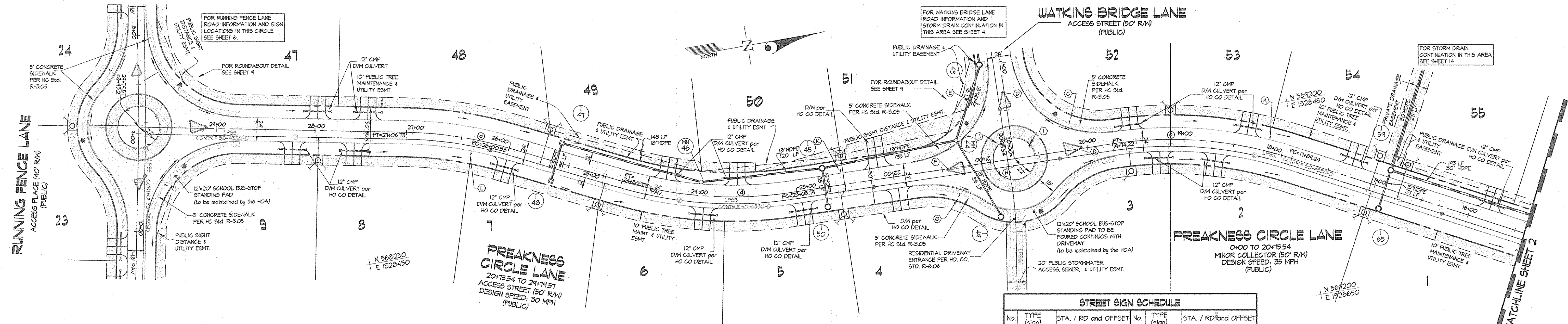
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William J. ... 2-5-07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Candy ... 2/8/07
 Chief, Division of Land Development Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
... 2/1/07
 Chief, Development Engineering Division Date

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
| 14+00 | 388.94 | 14+50 | 390.13 | 15+00 | 391.12 | 15+50 | 393.12 | 16+00 | 396.02 | 16+50 | 398.26 | 17+00 | 398.04 | 17+50 | 393.96 | 18+00 | 388.02 | 18+50 | 388.21 | 19+00 | 388.54 | 19+50 | 391.51 | 20+00 | 394.21 | 20+50 | 399.84 | 21+00 | 407.01 | 21+50 | 405.01 | 22+00 | 408.92 | 22+50 | 410.84 | 23+00 | 412.17 | 23+50 | 415.51 | 24+00 | 414.87 | 24+50 | 415.65 | 25+00 | 416.45 | 25+50 | 417.26 | 26+00 | 417.75 | 26+50 | 417.82 | 27+00 | 417.70 | 27+50 | 417.41 | 28+00 | 416.83 | 28+50 | 416.27 | 29+00 | 414.71 | 29+50 | 413.27 | 30+00 | 411.71 | 30+50 | 410.27 | 31+00 | 408.17 | 31+50 | 407.17 | 32+00 | 406.91 | 32+50 | 406.91 |
|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|

| | | | | | | |
|--|--|--|--|------------------------|--|--------------------------------|
| <p>GLW GUTSCHICK LITTLE & WEBER, P.A. CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK BURTONSVILLE, MARYLAND 20886 TEL: 301-421-4024 BALT. 410-380-1820 DC/VA: 301-389-2524 FAX: 301-421-4186</p> | <p>DATE: _____</p> <p>REVISION: _____</p> <p>BY: _____</p> <p>APP'R: _____</p> | <p>PREPARED FOR OWNER WALNUT GROVE HOLDING, L.L.C. WALNUT GROVE DEVELOPMENT, INC. ROBERT VAN DIKE PRESIDENT 10705 CHARTER DRIVE SUITE 320 COLUMBIA, MARYLAND 21044</p> | <p>ROAD CONSTRUCTION PLAN WALNUT GROVE LOTS 1 THRU 38, BUILDABLE PRESERVATION PARCEL "A", NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND NON-BUILDABLE BULK PARCEL "J" L.2927 F.487</p> | <p>SCALE: AS SHOWN</p> | <p>ZONING: RC-DEO</p> | <p>G. L. W. FILE No. 00153</p> |
| | | | | <p>DATE: JAN./2007</p> | <p>TAX MAP - GRID PARCEL 74 28 - 18,17</p> | <p>SHEET 2 OF 78</p> |

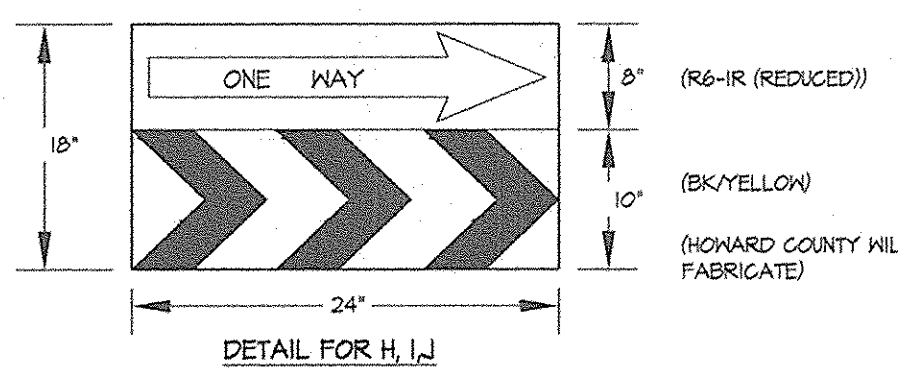


STREET LIGHT SCHEDULE

| STATION / RD. AND OFFSET | LAMP TYPE | MOUNTING | P.O.L. TYPE |
|---------------------------|--------------------|------------------|----------------------|
| 20+27.60 P.C.L. 39.29' RL | 150-WATT HPS VAPOR | PREMIER POST TOP | 14" BLACK FIBERGLASS |
| 20+56.64 57.18' LI. | 150-WATT HPS VAPOR | PREMIER POST TOP | 14" BLACK FIBERGLASS |
| 21+19.57 42.99' RL | 150-WATT HPS VAPOR | PREMIER POST TOP | 14" BLACK FIBERGLASS |
| 24+39.41 49.87' RL | 150-WATT HPS VAPOR | PREMIER POST TOP | 14" BLACK FIBERGLASS |
| 24+52.28 39.82' RL | 150-WATT HPS VAPOR | PREMIER POST TOP | 14" BLACK FIBERGLASS |
| 24+41.11 R.F.L. 60.19' RL | 150-WATT HPS VAPOR | PREMIER POST TOP | 14" BLACK FIBERGLASS |

NOTES:
 1. FOR STREET TREE SCHEDULE SEE LANDSCAPE NOTES & DETAIL SHEET 13.
 2. FOR MORE DETAIL OF ROUNDABOUTS SEE SHEET 4.

PLAN
 SCALE: 1" = 50'



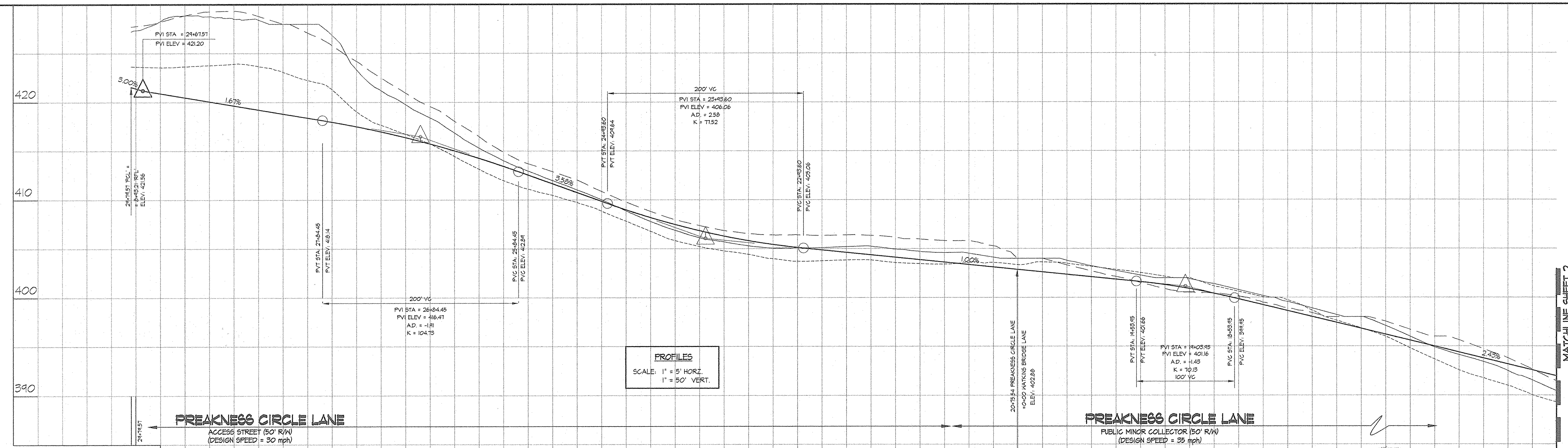
STREET SIGN SCHEDULE

| No. | TYPE (Sign) | STA. / RD. and OFFSET | No. | TYPE (Sign) | STA. / RD. and OFFSET |
|-----|---------------------|---------------------------|-----|---------------------------|-----------------------|
| (A) | W-1 (30"x30") | 18+85.00 P.C.L. 145' RT. | (H) | 18+15.51 P.C.L. 15.0' RT. | |
| (B) | Y-1 (18"x18") | 20+06.51 P.C.L. 121' RT. | (I) | 20+58.41 | 11.0' RT. |
| (C) | R-2 (50"x30") YIELD | 20+14.30 P.C.L. 28.9' RT. | (J) | 20+66.55 | 17.0' RT. |
| (D) | Y-1 (18"x18") | 20+76.54 P.C.L. 68.47 RT. | (K) | 22+63.00 | 14.5' RT. |
| (E) | R-2 (50"x30") YIELD | 21+04.24 P.C.L. 60.5' RT. | (L) | 26+31.68 | 15.0' LT. |
| (F) | Y-1 (18"x18") | 21+44.02 P.C.L. 104' LT. | | | |
| (G) | R-2 (50"x30") YIELD | 21+86.48 P.C.L. 28.5' LT. | | | |

SEE DETAILS

CENTERLINE CURVE TABLE - PREAKNESS CIRCLE LANE

| CURVE | LENGTH | RADIUS | TANGENT | CHORD | BEARING | DELTA |
|-------|---------|---------|---------|---------|-----------------|-------------|
| (C) | 184.98' | 400.00' | 94.17' | 183.33' | S 14° 40' 51" N | 26° 29' 46" |
| (D) | 174.53' | 400.00' | 88.68' | 173.15' | S 13° 55' 51" N | 25° 00' 00" |
| (E) | 106.34' | 400.00' | 53.44' | 106.03' | S 18° 48' 54" N | 15° 13' 51" |



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

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William J. Malachuk 2-5-07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Swidy Hovatt 2/5/07
 Chief, Division of Land Development Date

[Signature] 2/1/07
 Chief, Development Engineering Division Date

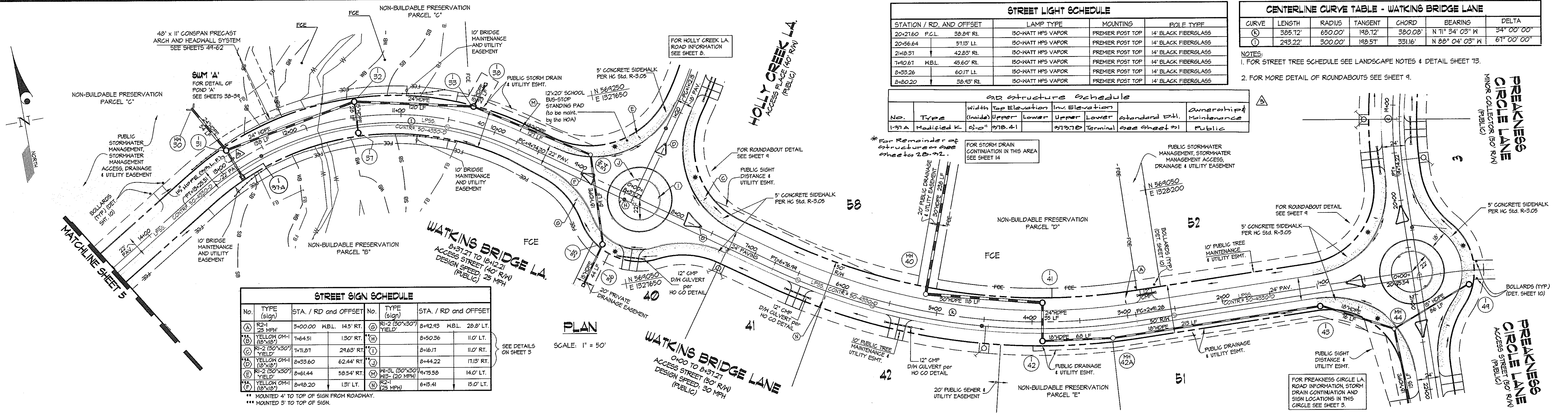
GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

| DATE | REVISION | BY | APP'R. |
|------|----------|----|--------|
| | | | |
| | | | |
| | | | |

PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DIKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

ROAD CONSTRUCTION PLAN
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
 NON-BUILDABLE BULK PARCEL "J"
 L.2927 R.487
 HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|----------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | 28 - 18,17 | 3 OF 78 |



CENTERLINE CURVE TABLE - WATKINS BRIDGE LANE

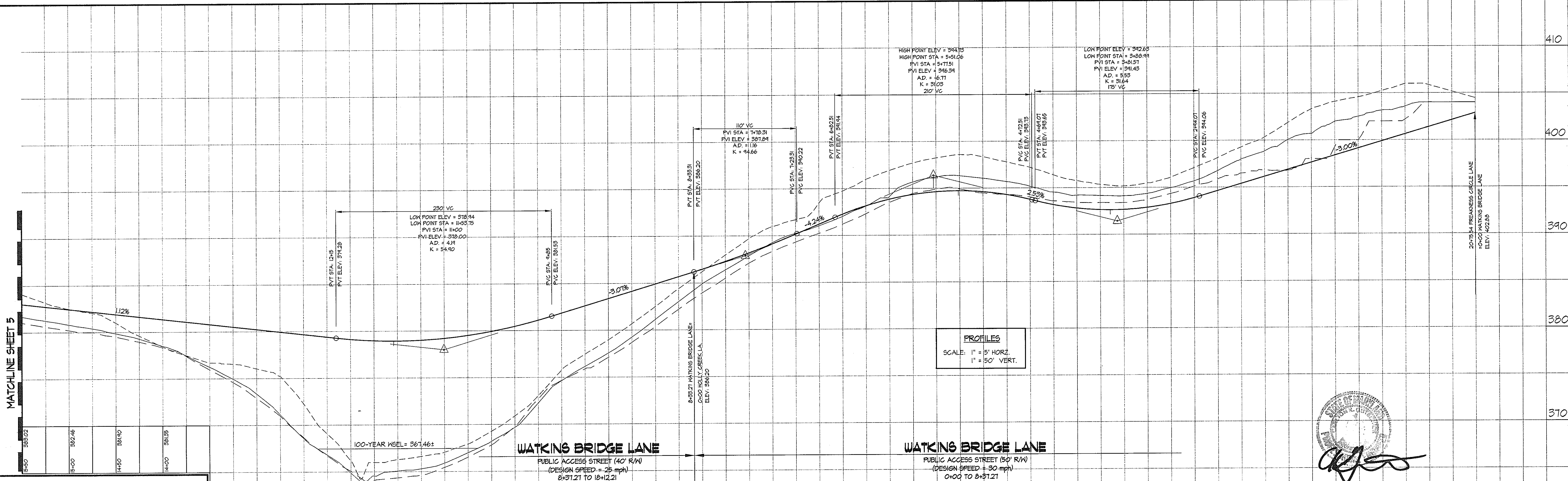
| CURVE | LENGTH | RADIUS | TANGENT | CHORD | BEARING | DELTA |
|-------|---------|---------|---------|---------|-----------------|-------------|
| (1) | 385.12' | 650.00' | 198.12' | 380.08' | N 71° 34' 03" W | 34° 00' 00" |
| (2) | 243.22' | 300.00' | 119.57' | 231.16' | N 88° 04' 03" W | 61° 00' 00" |

NOTES:
1. FOR STREET TREE SCHEDULE SEE LANDSCAPE NOTES & DETAIL SHEET 13.
2. FOR MORE DETAIL OF ROUNDABOUTS SEE SHEET 4.

Structure Schedule

| No. | Type | Width | Top Elevation | Inv. Elevation | Standard Dtl. | Ownership & Maintenance |
|-------|------------|-------|---------------|----------------|---------------|-------------------------|
| 1-37A | Modified K | 5'-0" | 978.41 | 979.70 | Terminal | Public |

* For Remainder of structures see sheets 28-32.
FOR STORM DRAIN CONTINUATION IN THIS AREA SEE SHEET 14



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter Z. Mahler 2-5-07
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Judy Hamant 2/5/07
 Chief, Division of Land Development

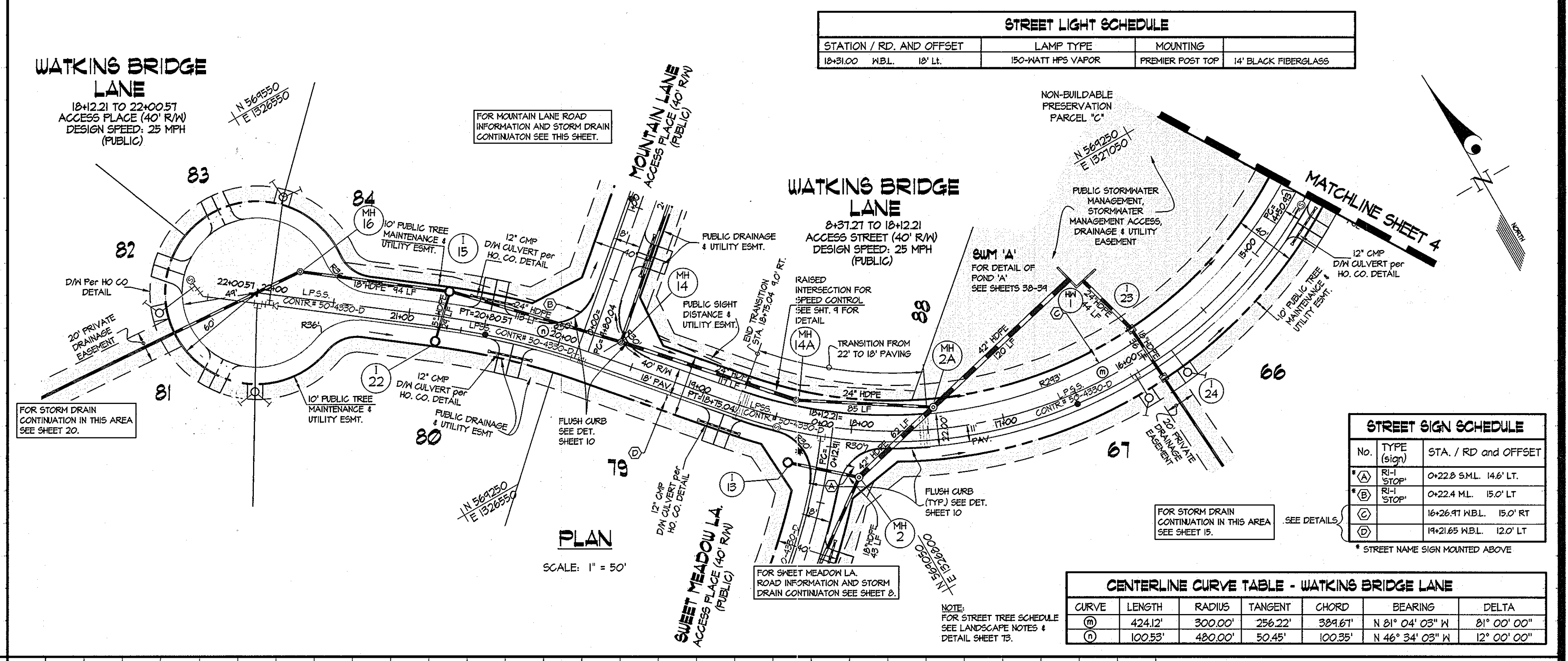
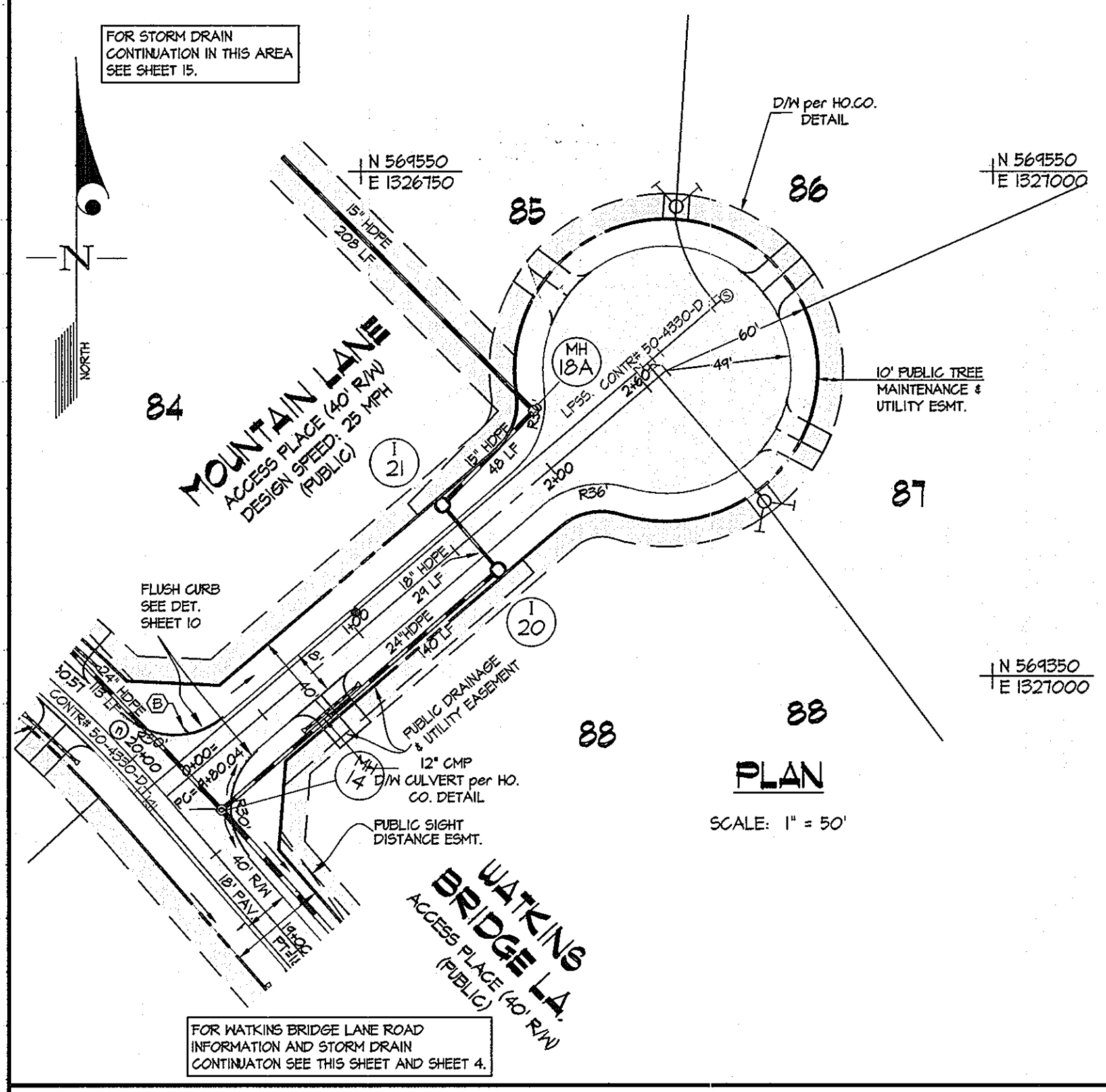
GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 FAX: 301-421-4186

| NO. | DATE | DESCRIPTION | BY | APPR. |
|-----|---------|---|----|-------|
| 1 | 1/21/07 | Initial design for Watkins Bridge Lane Rev. From 1148 to 1204 | WJ | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

ROAD CONSTRUCTION PLAN
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'J', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L2927 F487

| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|-------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 4 OF 78 |



STREET LIGHT SCHEDULE

| STATION / RD. AND OFFSET | LAMP TYPE | MOUNTING |
|--------------------------|--------------------|----------------------|
| 18+31.00 H.B.L. 12' LT. | 150-WATT HPS VAPOR | PREMIER POST TOP |
| | | 14' BLACK FIBERGLASS |

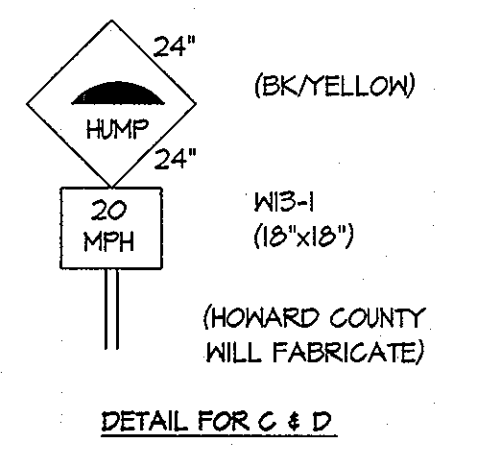
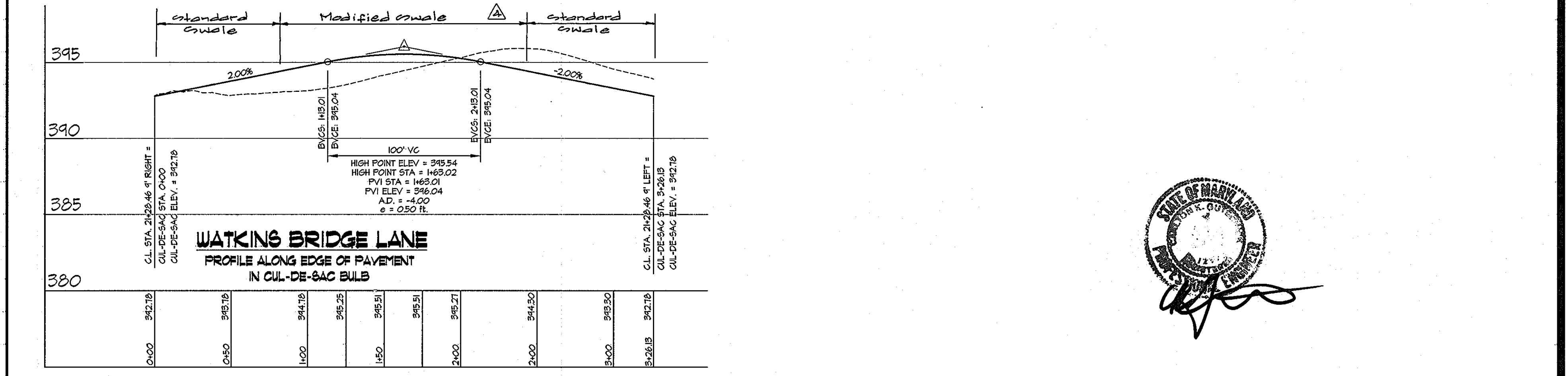
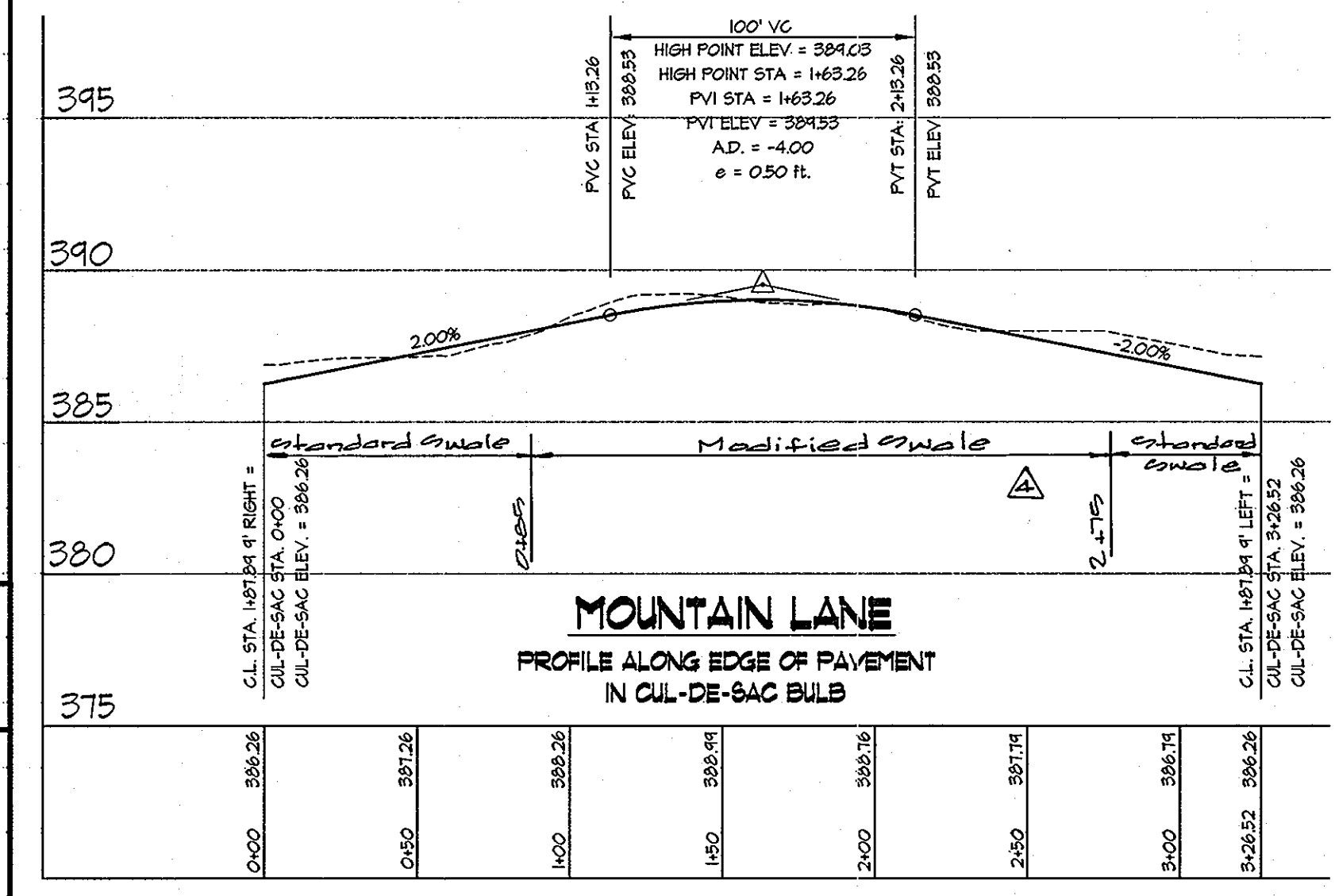
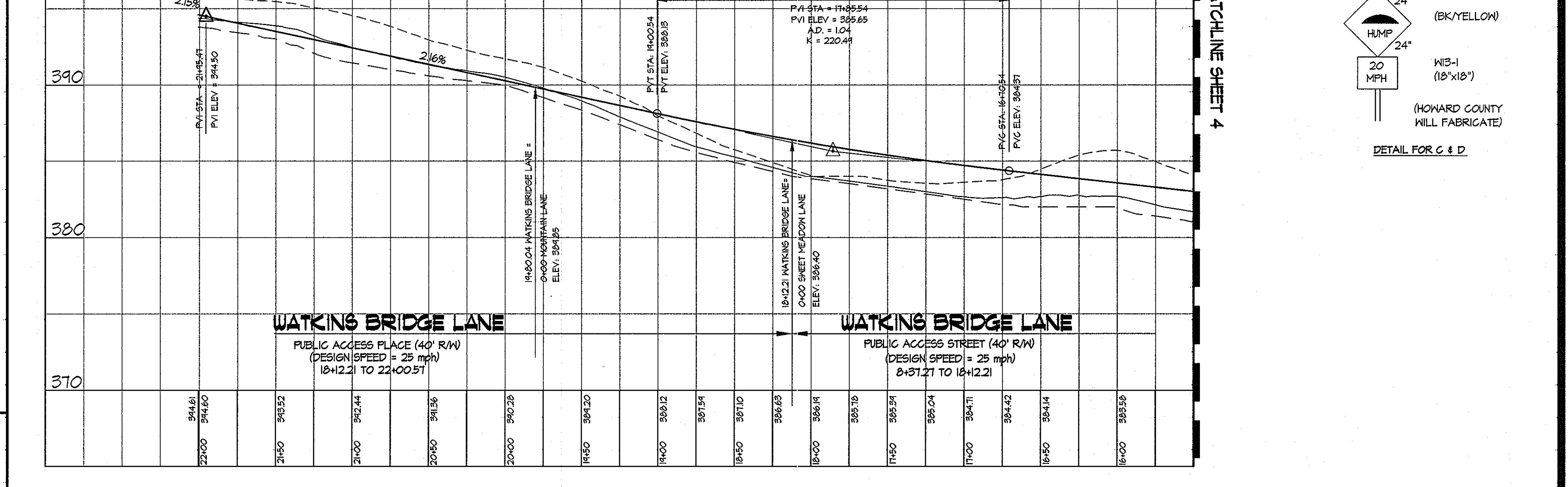
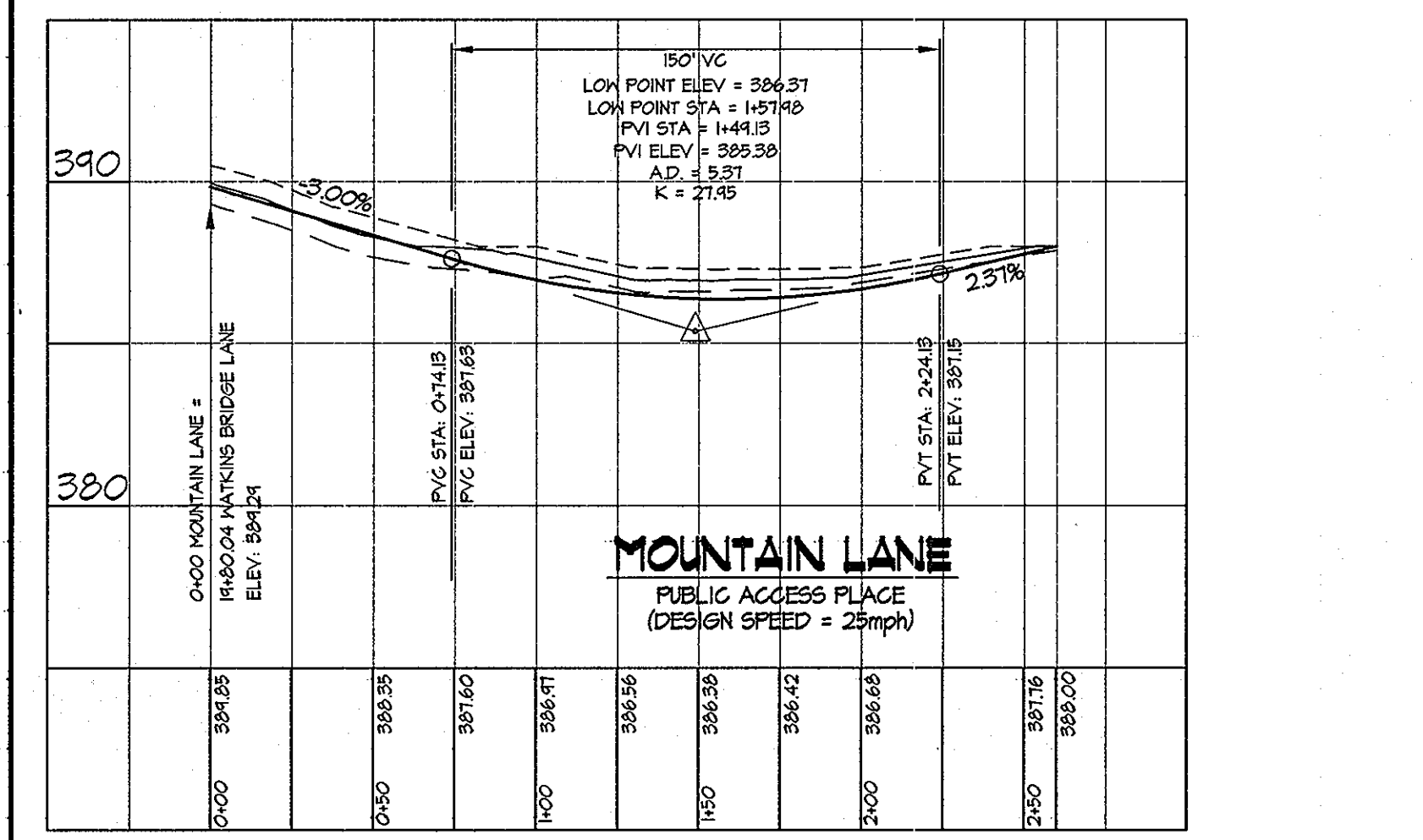
STREET SIGN SCHEDULE

| No. | TYPE (sign) | STA. / RD AND OFFSET |
|-----|-------------|---------------------------|
| (A) | R-1 STOP | 0+22.8 S.M.L. 14.6' LT. |
| (B) | R-1 STOP | 0+22.4 M.L. 15.0' LT. |
| (C) | | 16+26.41 H.B.L. 15.0' RT. |
| (D) | | 14+21.65 H.B.L. 12.0' LT. |

* STREET NAME SIGN MOUNTED ABOVE

CENTERLINE CURVE TABLE - WATKINS BRIDGE LANE

| CURVE | LENGTH | RADIUS | TANGENT | CHORD | BEARING | DELTA |
|-------|---------|---------|---------|---------|-----------------|-------------|
| (1) | 424.12' | 300.00' | 256.22' | 384.61' | N 81° 04' 03" W | 81° 00' 00" |
| (2) | 100.35' | 480.00' | 50.45' | 100.35' | N 46° 34' 03" W | 12° 00' 00" |



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William J. Mahan 2-5-07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cathy Hamer 2/8/07
 Chief, Division of Land Development Date

[Signature] 2/16/07
 Chief, Development Engineering Division Date

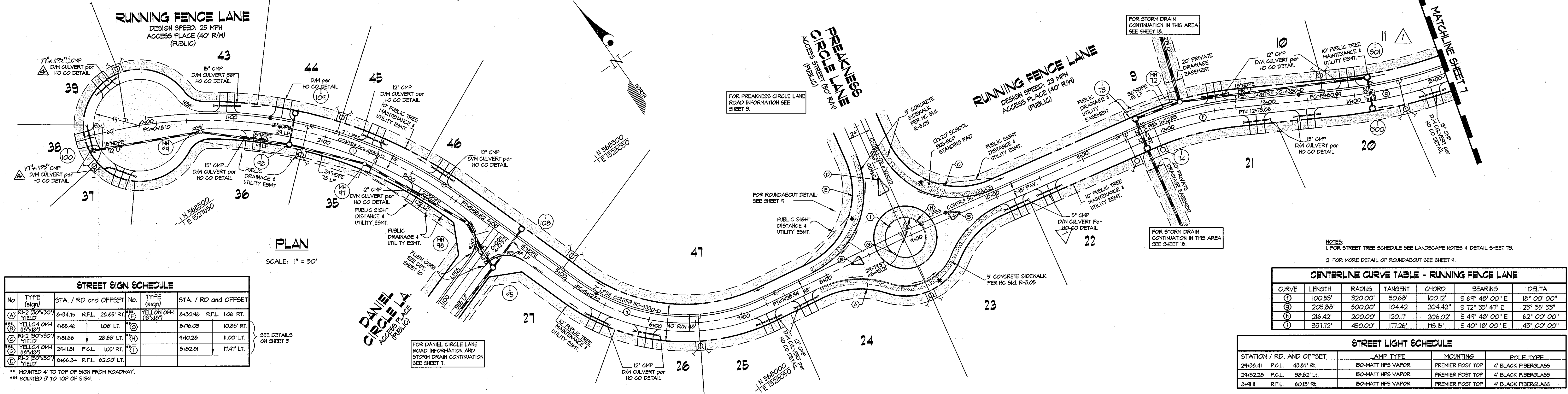
GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 FAX: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

| DATE | REVISION | BY | APPR. |
|----------|---|-----|-------|
| 12-23-07 | △ TYP Swale section in Cul-De-Sac Revised | Woj | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDINGS, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 300
 COLUMBIA, MARYLAND 21044

ROAD CONSTRUCTION PLAN
WALNUT GROVE
 LOTS 1 THRU 82, BULDBLE PRESERVATION PARCEL "A",
 NON-BULDBLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
 NON-BULDBLE BULK PARCEL "J"
 L2927 R487

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 5 OF 78 |



STREET SIGN SCHEDULE

| No. | TYPE (sign) | STA. / RD. and OFFSET | No. | TYPE (sign) | STA. / RD. and OFFSET |
|-----|----------------------|---------------------------|-----|----------------------|--------------------------|
| 1 | RC-2 (30"x30") YIELD | 2+34.75 R.F.L. 20.65' RT. | 1 | YELLOW OHH (18"x18") | 2+30.96 R.F.L. 1.06' RT. |
| 2 | RC-2 (30"x30") YIELD | 4+55.46 1.09' LT. | 2 | YELLOW OHH (18"x18") | 2+76.03 10.23' RT. |
| 3 | RC-2 (30"x30") YIELD | 4+51.66 20.65' RT. | 3 | YELLOW OHH (18"x18") | 4+10.28 11.00' LT. |
| 4 | RC-2 (30"x30") YIELD | 2+41.81 P.C.L. 1.05' RT. | 4 | YELLOW OHH (18"x18") | 2+82.81 11.47' LT. |
| 5 | RC-2 (30"x30") YIELD | 2+66.24 R.F.L. 62.00' LT. | | | |

SEE DETAILS ON SHEET 3

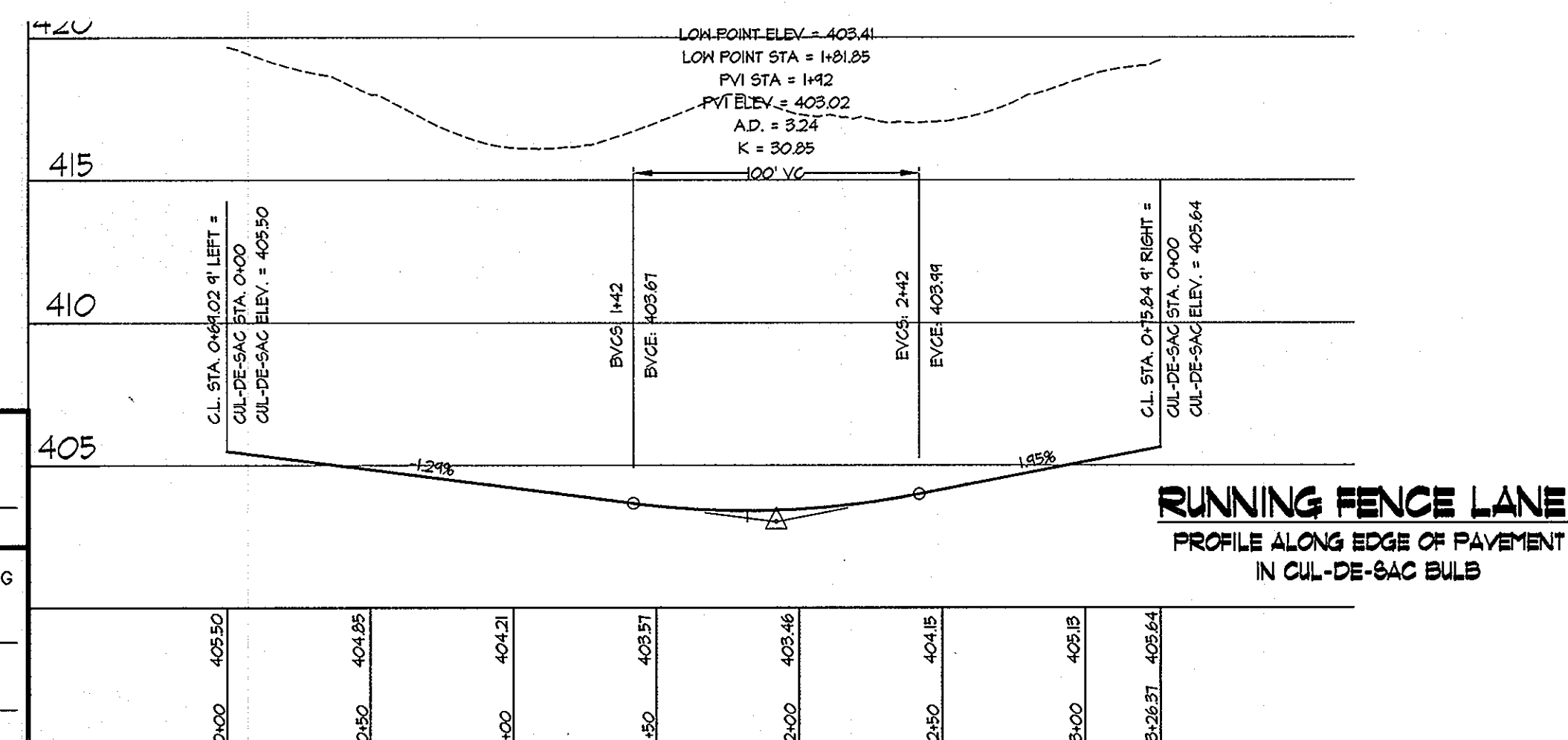
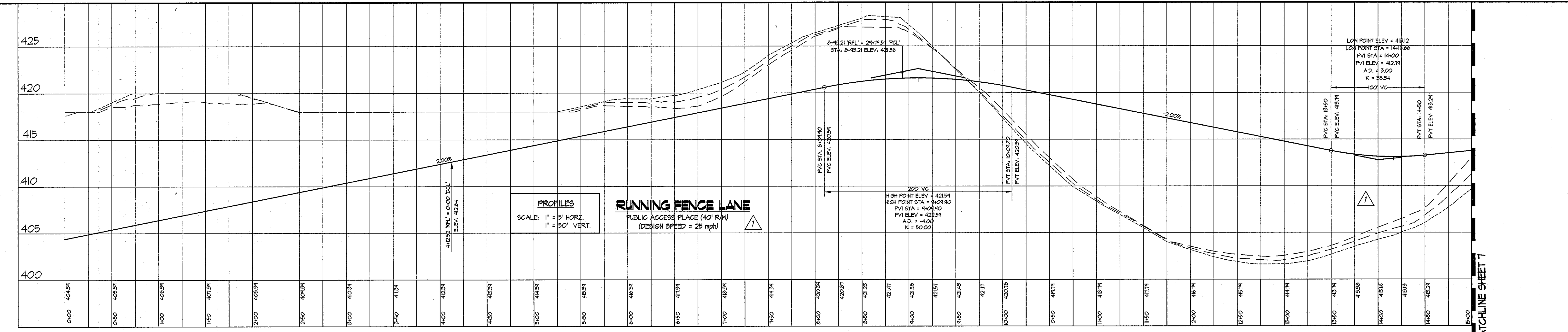
** MOUNTED 4' TO TOP OF SIGN FROM ROADWAY.
*** MOUNTED 3' TO TOP OF SIGN.

CENTERLINE CURVE TABLE - RUNNING FENCE LANE

| CURVE | LENGTH | RADIUS | TANGENT | CHORD | BEARING | DELTA |
|-------|---------|---------|---------|---------|-----------------|-------------|
| (1) | 100.53' | 320.00' | 50.68' | 100.12' | S 64° 48' 00" E | 18° 00' 00" |
| (2) | 205.88' | 500.00' | 104.42' | 204.42' | S 12° 35' 41" E | 23° 35' 33" |
| (3) | 216.42' | 200.00' | 120.17' | 206.02' | S 44° 48' 00" E | 62° 00' 00" |
| (4) | 331.12' | 450.00' | 171.26' | 173.15' | S 40° 18' 00" E | 43° 00' 00" |

STREET LIGHT SCHEDULE

| STATION / RD. AND OFFSET | LAMP TYPE | MOUNTING | POLE TYPE |
|---------------------------|--------------------|------------------|----------------------|
| 2+38.41 P.C.L. 43.87' RT. | 150-WATT HPS VAPOR | PREMIER POST TOP | 14' BLACK FIBERGLASS |
| 2+32.28 P.C.L. 38.82' LT. | 150-WATT HPS VAPOR | PREMIER POST TOP | 14' BLACK FIBERGLASS |
| 2+41.11 R.F.L. 60.13' RT. | 150-WATT HPS VAPOR | PREMIER POST TOP | 14' BLACK FIBERGLASS |



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William R. Mullan 12-3-07
 Chief, Bureau of Highways Date

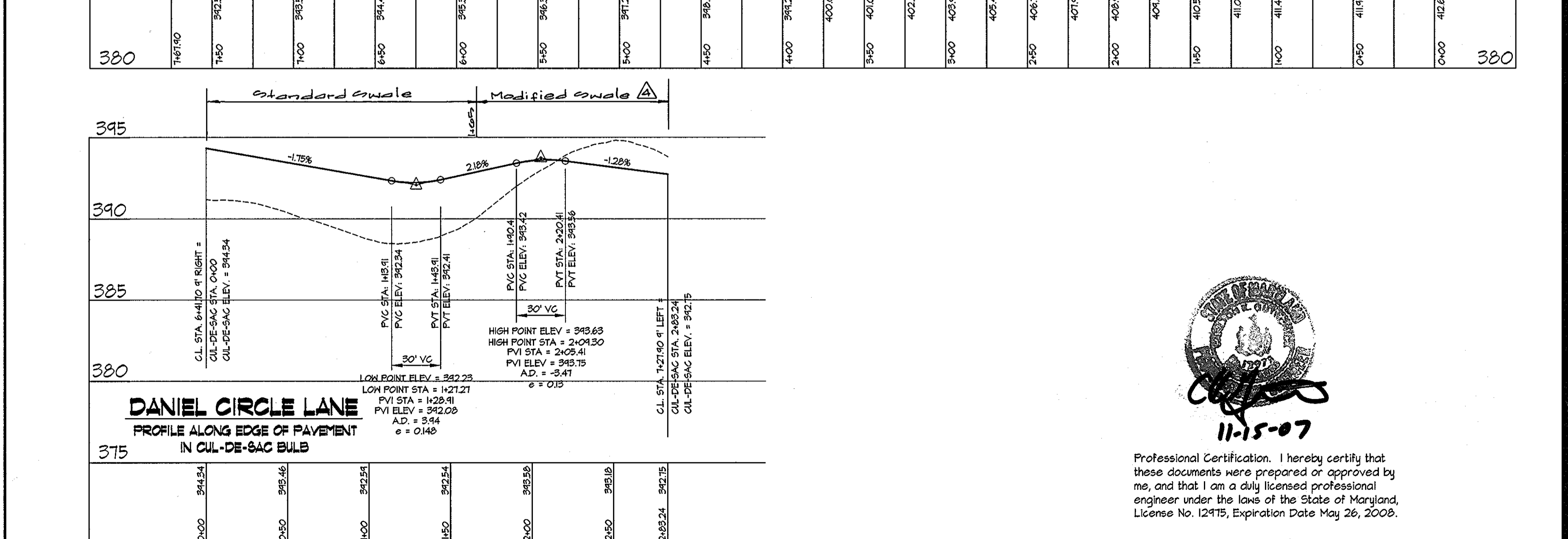
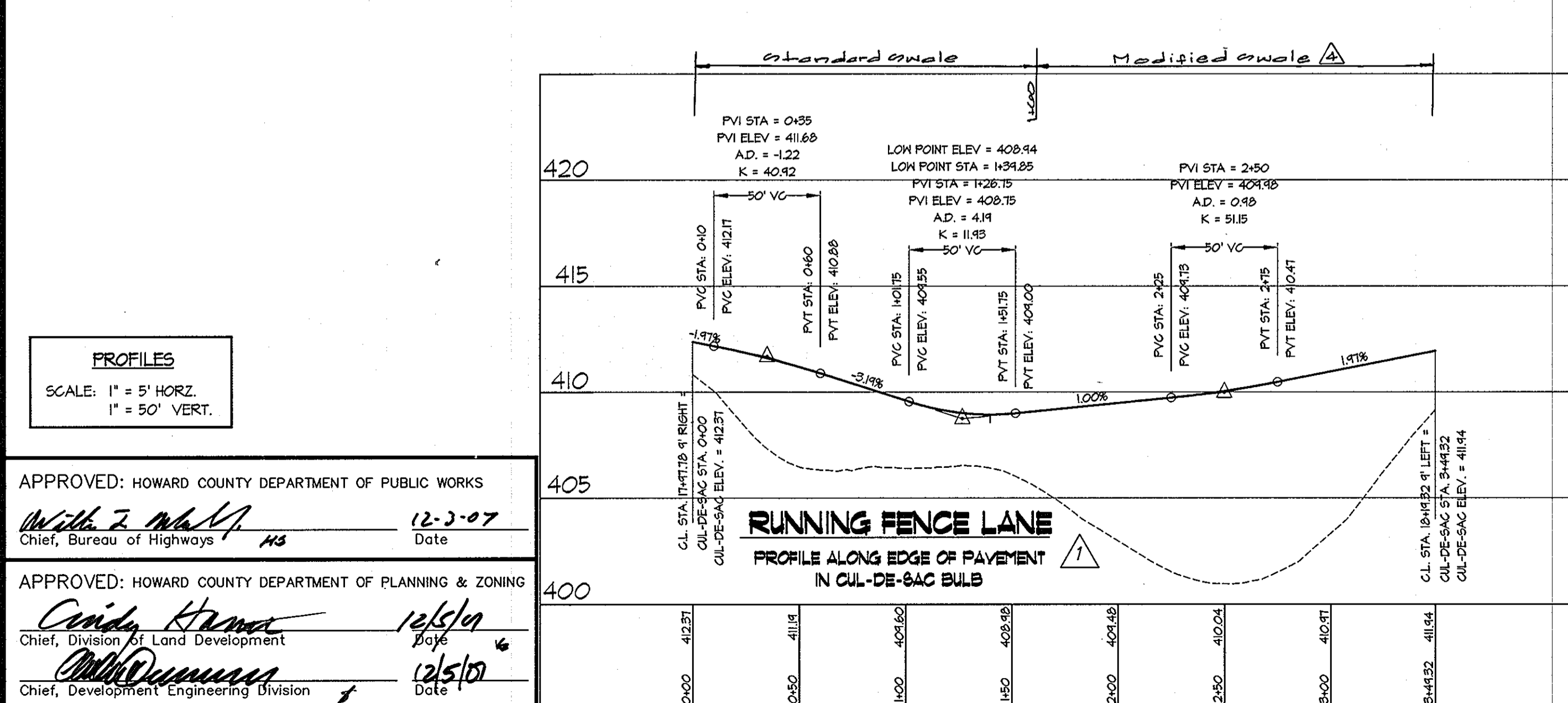
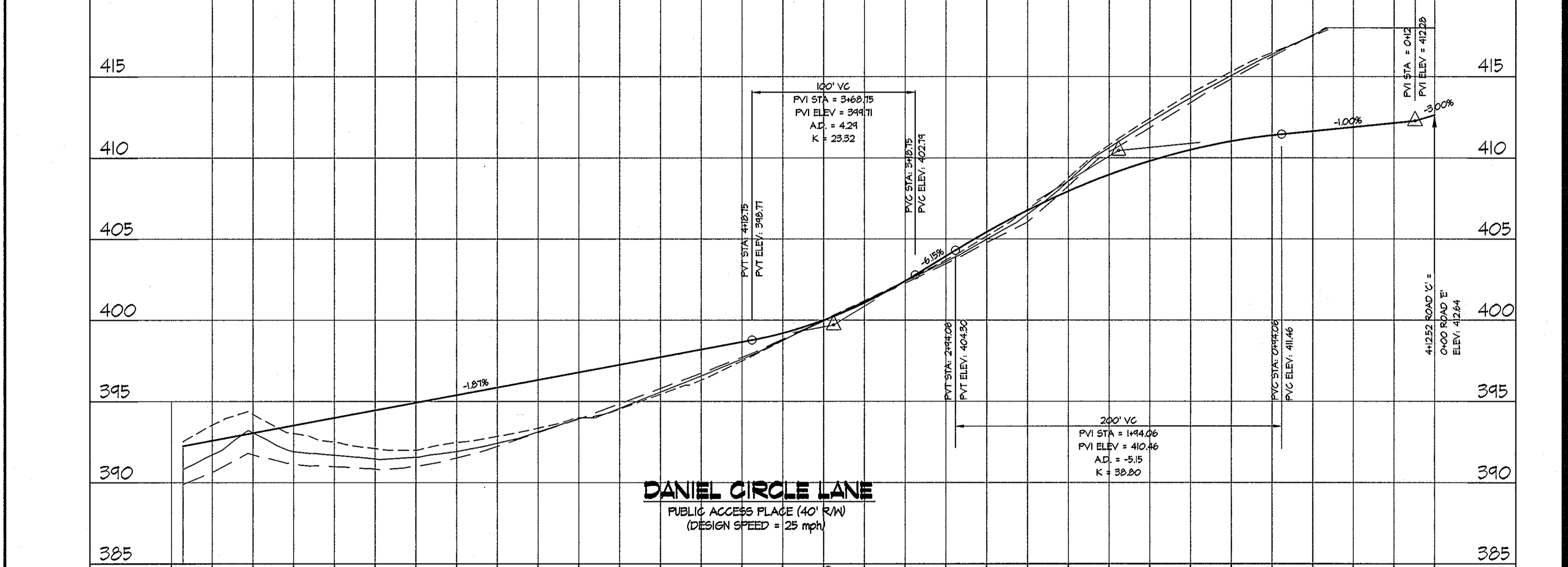
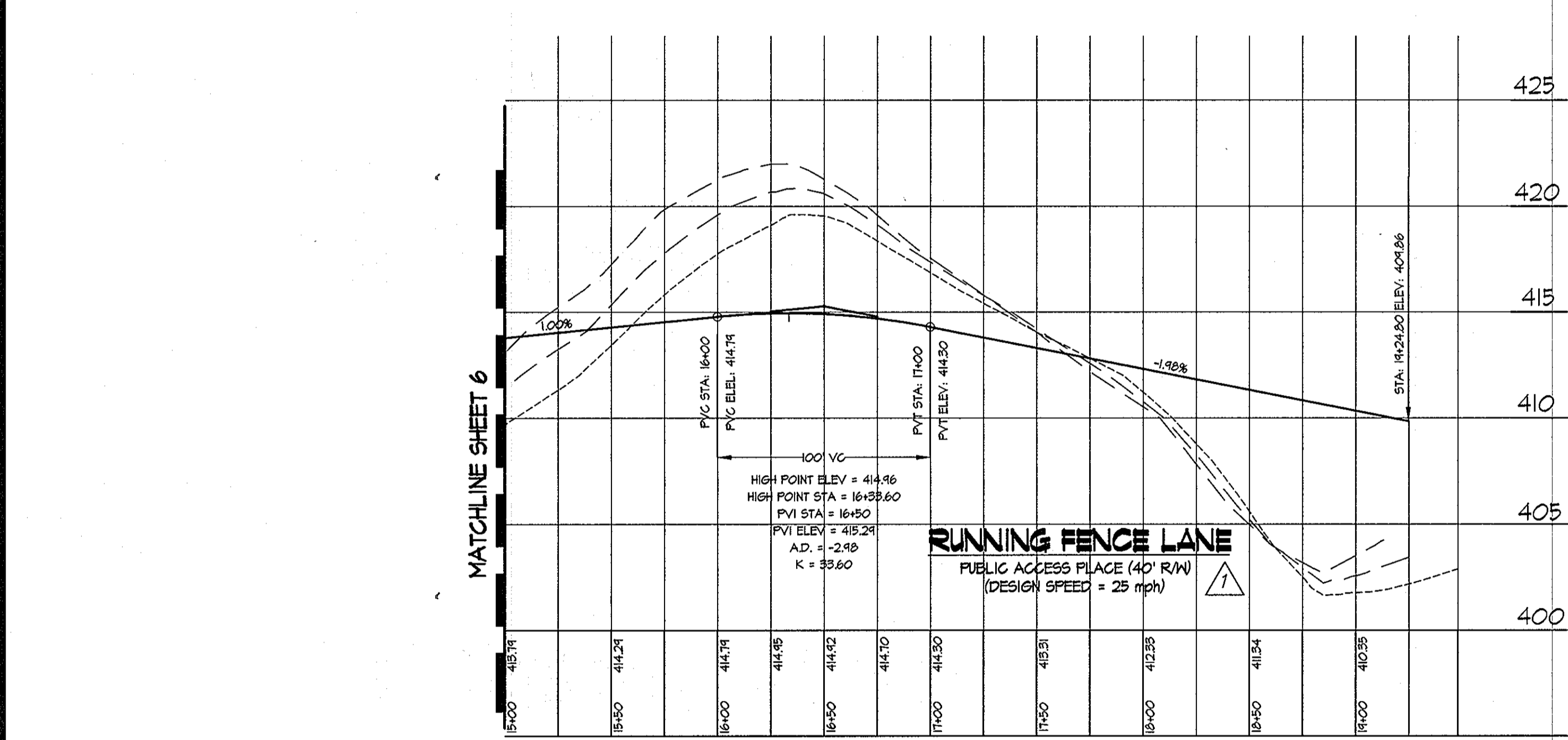
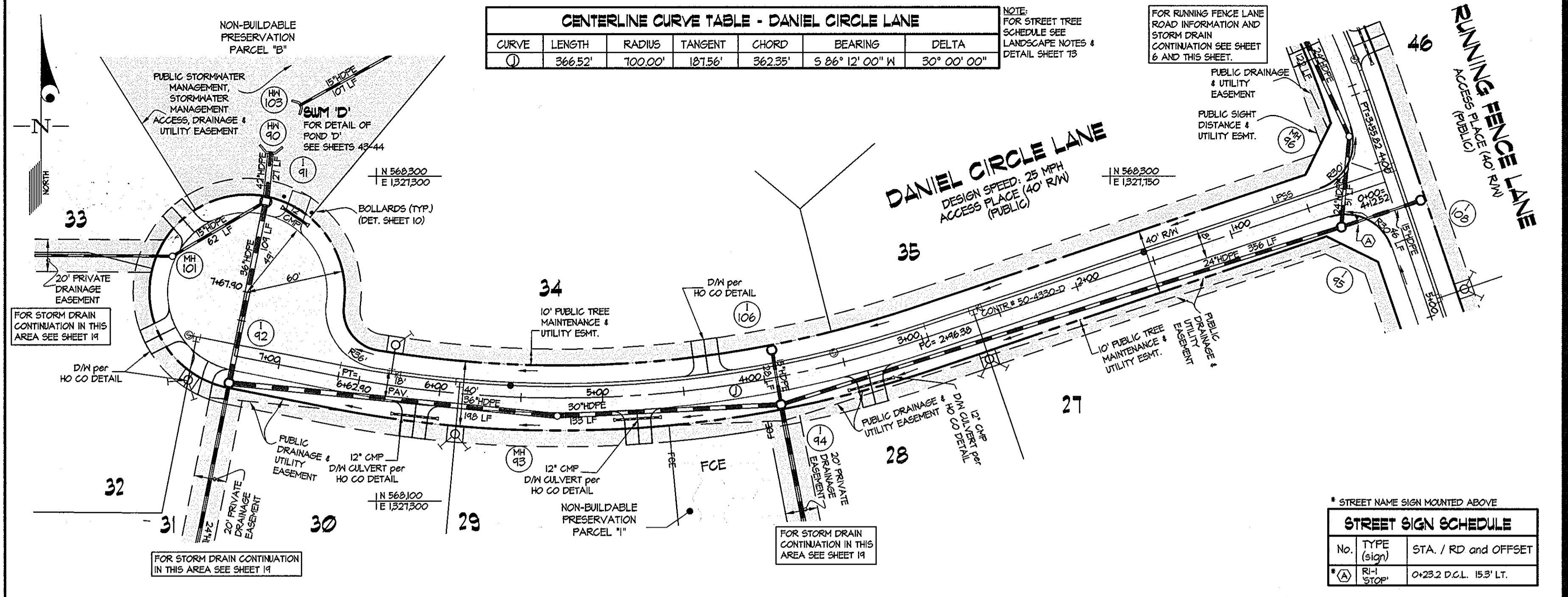
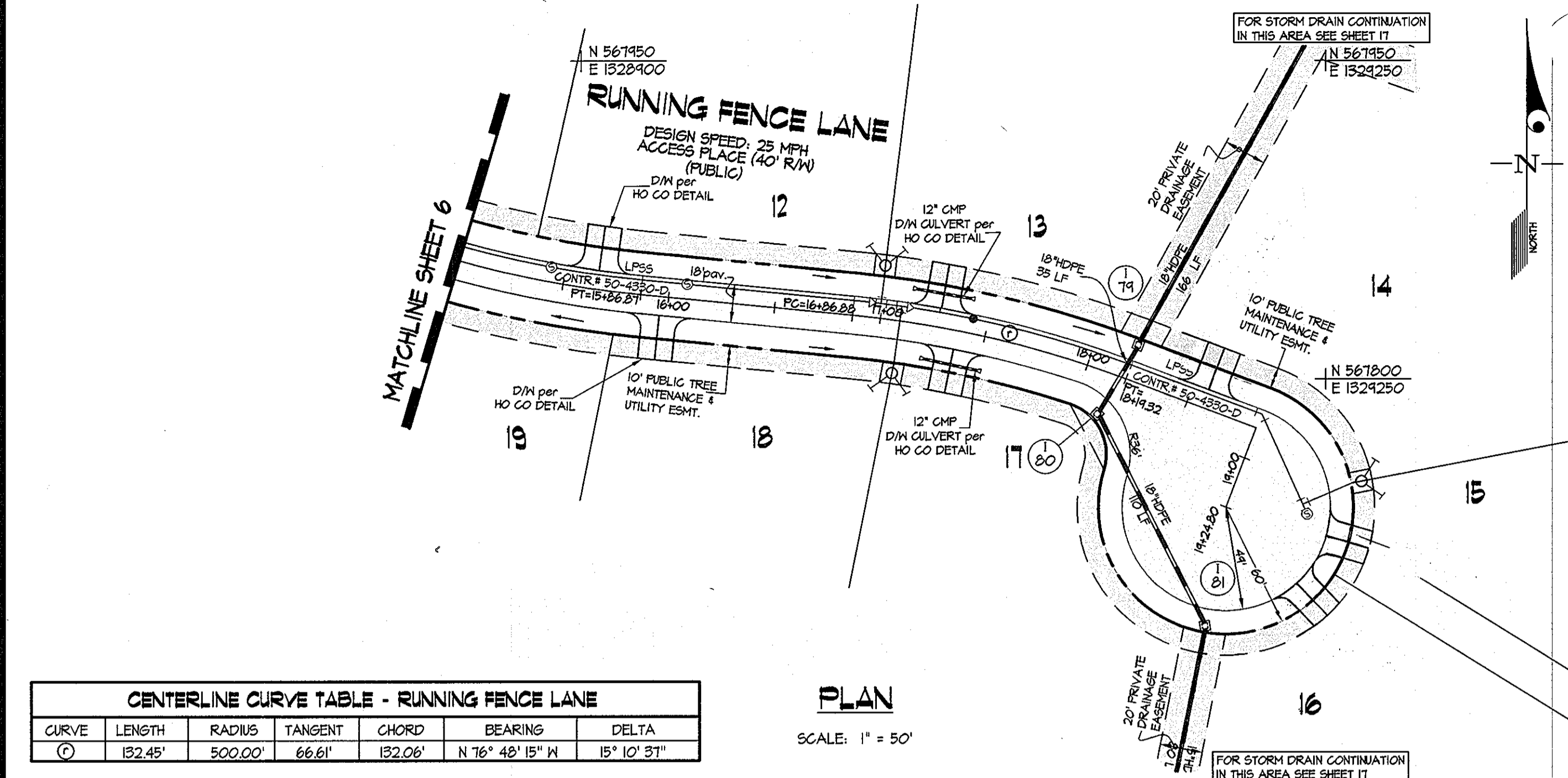
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hunter 12/5/07
 Chief, Division of Land Development Date

William R. Mullan 12/5/07
 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. 12915, Expiration Date May 26, 2008.

William R. Mullan 11-15-07

| | | | | | | | | | |
|--|------------------------------|--|---|------------------|---|---|-------------------|------------------|----------------------------|
| GLWGUTSCHICK LITTLE & WEBER, P.A. CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK BURTONSVILLE, MARYLAND 20886 TEL: 301-421-4024 BALT: 410-880-1820 DO/VA: 301-989-2524 FAX: 301-421-4186 | 12-22-07 11/15/07 DATE | 1. Running Fence Lane Lowered and Storm Drain Added at New Low Point REVISION | DDS BY | APPR. | PREPARED FOR OWNER WALNUT GROVE HOLDING, L.L.C. WALNUT GROVE DEVELOPMENT, INC. ROBERT VAN DYKE PRESIDENT 10705 CHARTER DRIVE SUITE 320 COLUMBIA, MARYLAND 21044 | REVISED ROAD CONSTRUCTION PLAN WALNUT GROVE LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A'; NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND NON-BUILDABLE BULK PARCEL 'J' L.2927 F487 | SCALE AS SHOWN | ZONING RC-DEO | G. L. W. FILE No. 00153 |
| | ELECTION DISTRICT No. 5 | DATE NOV./2007 | TAX MAP - GRID PARCEL 74 28 - 18,17 | SHEET 6 OF 78 | HOWARD COUNTY, MARYLAND | | | | |



GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20886
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-988-2524 FAX: 301-421-4186

| DATE | REVISION | BY | APP'R. |
|----------|---|-----|--------|
| 11/15/07 | Tip Profile Section Revised | WJS | DDS |
| 11/15/07 | RUNNING FENCE LANE LOWERED AND STORM DRAIN ADDED AT NEW LOW POINT | WJS | DDS |

PREPARED FOR
OWNER
WALNUT GROVE HOLDING, L.L.C.
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DYKE PRESIDENT
10705 CHARTER DRIVE
SUITE 320
COLUMBIA, MARYLAND 21044

REVISED ROAD CONSTRUCTION PLAN
WALNUT GROVE
LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A',
NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND
NON-BUILDABLE BULK PARCEL 'J'
L.2927 F.487

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|----------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| NOV./2007 | 28 - 18,17 | 7 OF 78 |

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. 12475, Expiration Date May 26, 2008.

11-15-07

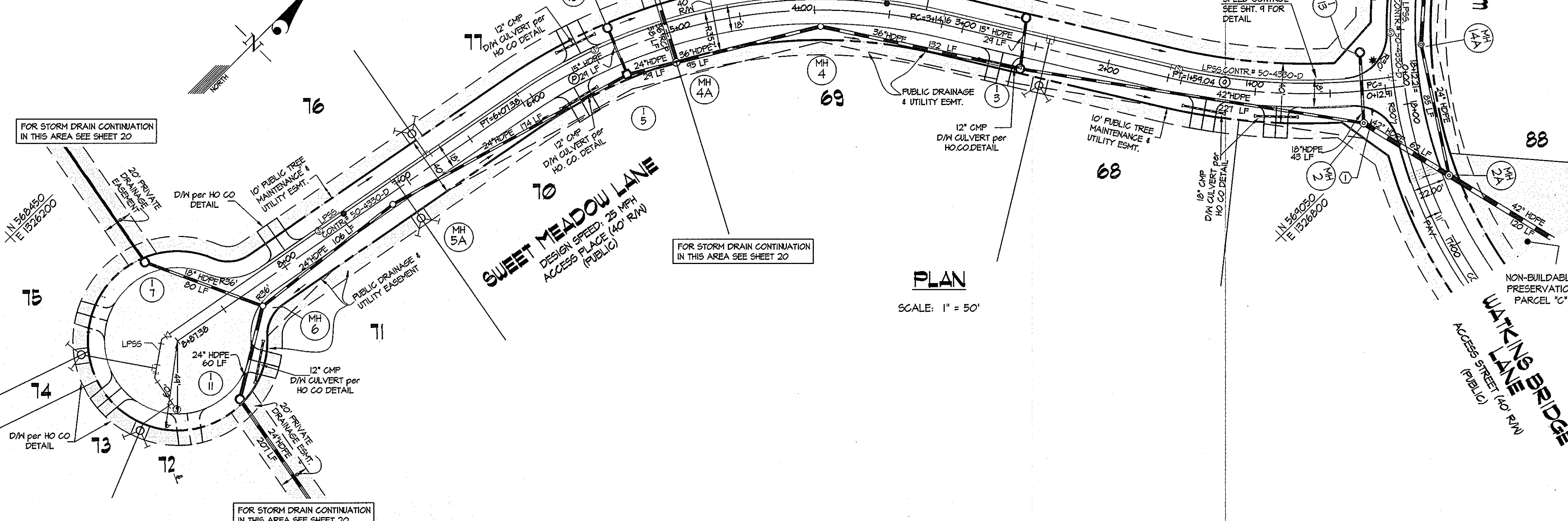
CENTERLINE CURVE TABLE - SWEET MEADOW LANE

| CURVE | LENGTH | RADIUS | TANGENT | CHORD | BEARING | DELTA |
|-------|---------|---------|---------|---------|-----------------|-------------|
| (Q) | 146.13' | 400.00' | 73.84' | 145.31' | S 41° 53' 53" W | 20° 22' 51" |
| (P) | 243.22' | 350.00' | 155.83' | 284.12' | S 34° 21' 44" E | 48° 00' 00" |

STREET SIGN SCHEDULE

| No. | TYPE (Sign) | STA. / RD and OFFSET |
|-----|-------------|-------------------------|
| 1 | ST STOP | 0+22.8 5.M.L. 14.6' LT. |

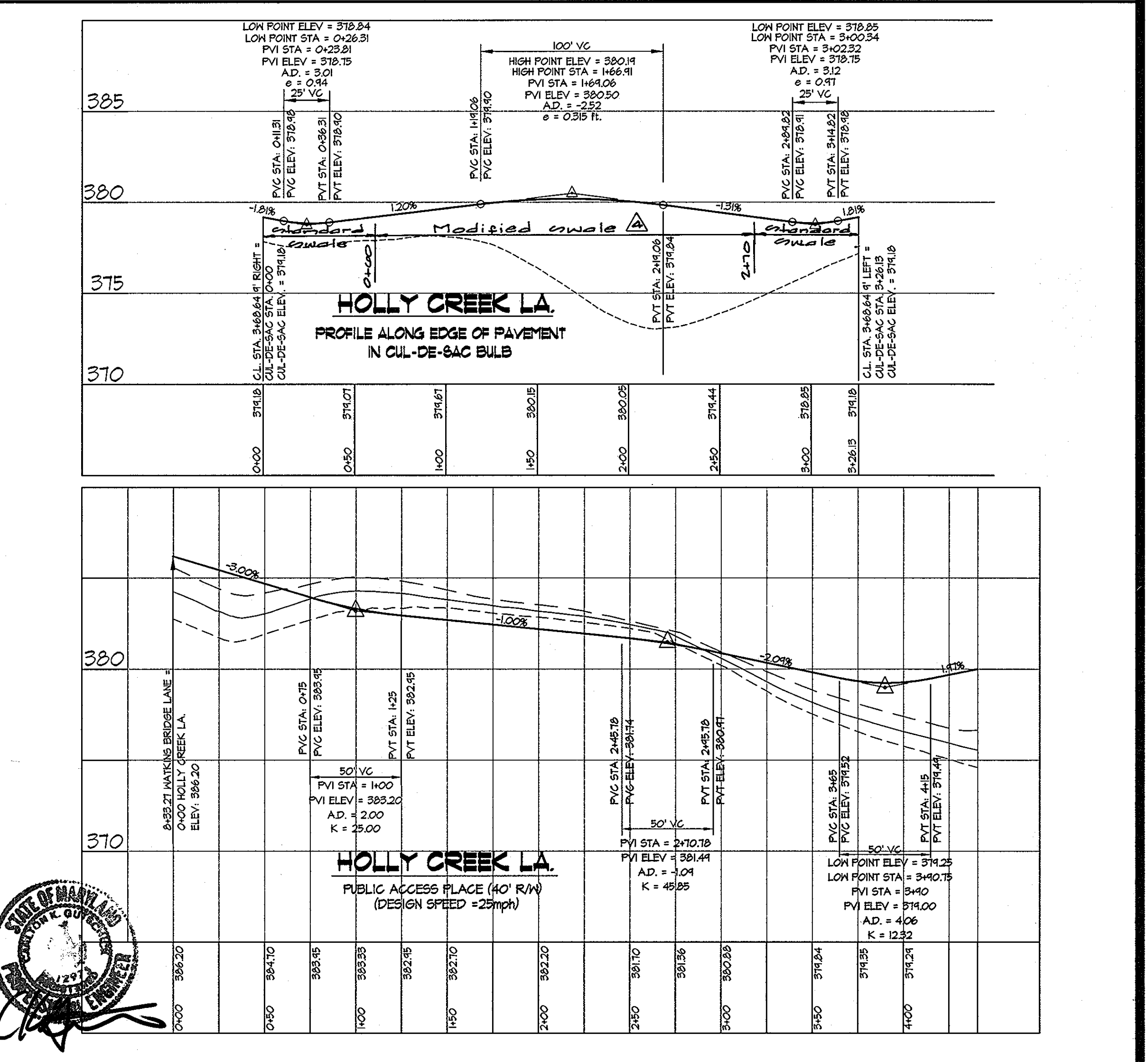
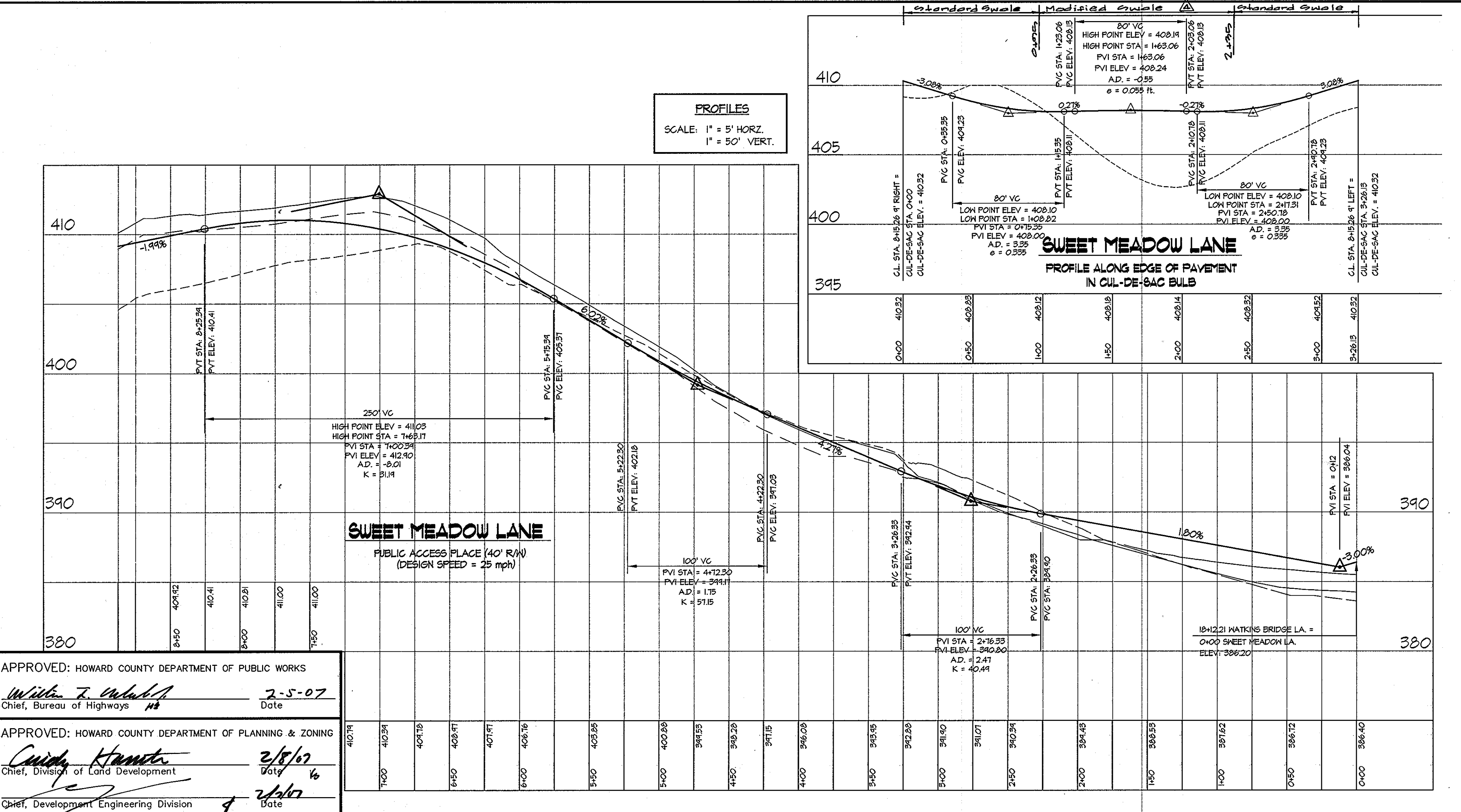
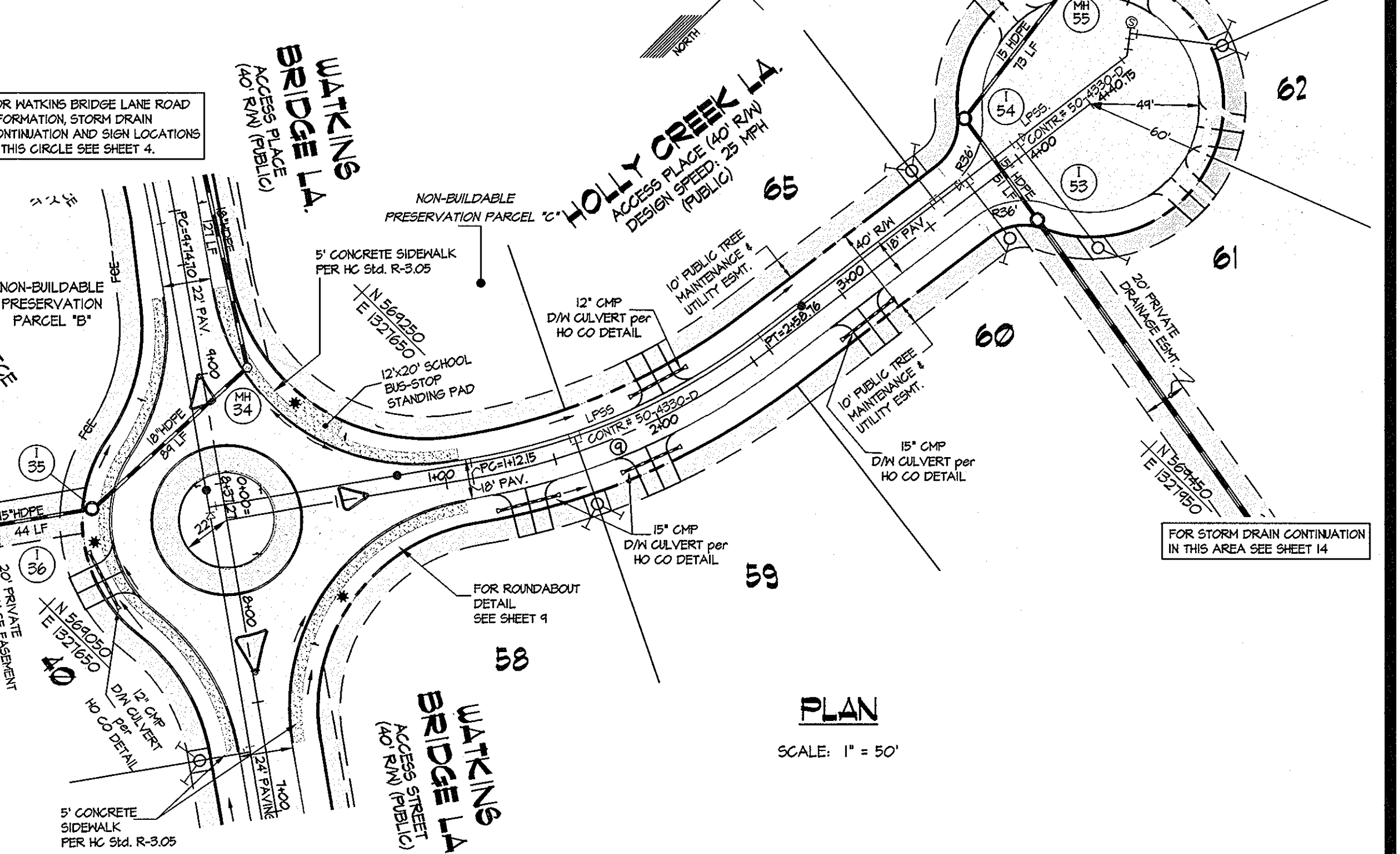
* STREET NAME SIGN MOUNTED ABOVE



CENTERLINE CURVE TABLE - HOLLY CREEK LANE

| CURVE | LENGTH | RADIUS | TANGENT | CHORD | BEARING | DELTA |
|-------|---------|---------|---------|---------|-----------------|-------------|
| (Q) | 146.61' | 300.00' | 74.20' | 145.15' | N 21° 25' 51" E | 28° 00' 00" |

NOTES:
1. FOR STREET TREE SCHEDULE SEE LANDSCAPE NOTES & DETAIL SHEET 75.
2. FOR MORE DETAIL OF ROUNDABOUT SEE SHEET 4.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter J. ... 2-5-07
Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cathy ... 2/5/07
Chief, Division of Land Development

Chief, Development Engineering Division

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 FAX: 301-421-4186

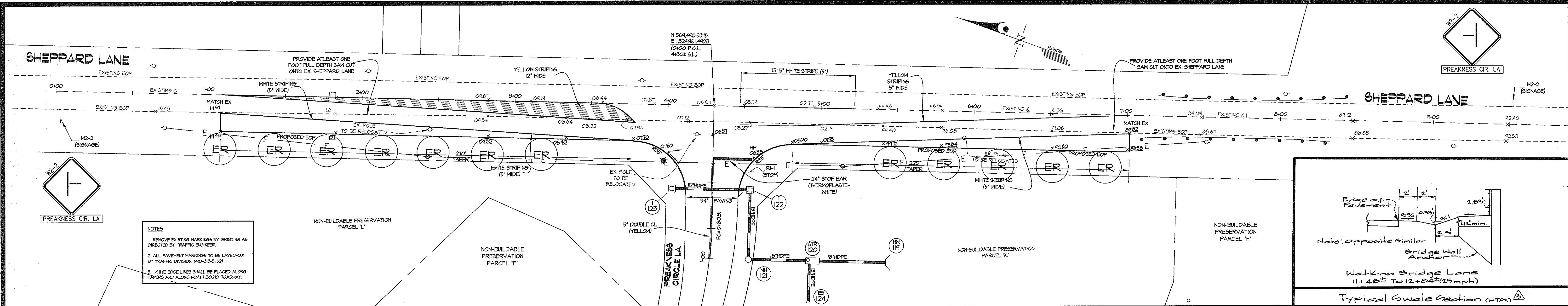
| DATE | REVISION | BY | APPR. |
|----------|--------------------------------|----|-------|
| 12-22-07 | Typ male in cul-de-sac Revised | WJ | |

PREPARED FOR OWNER
WALNUT GROVE HOLDINGS, LLC
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DYKE, PRESIDENT
1015 CHARTER DRIVE
SUITE 320
COLUMBIA, MARYLAND 21044

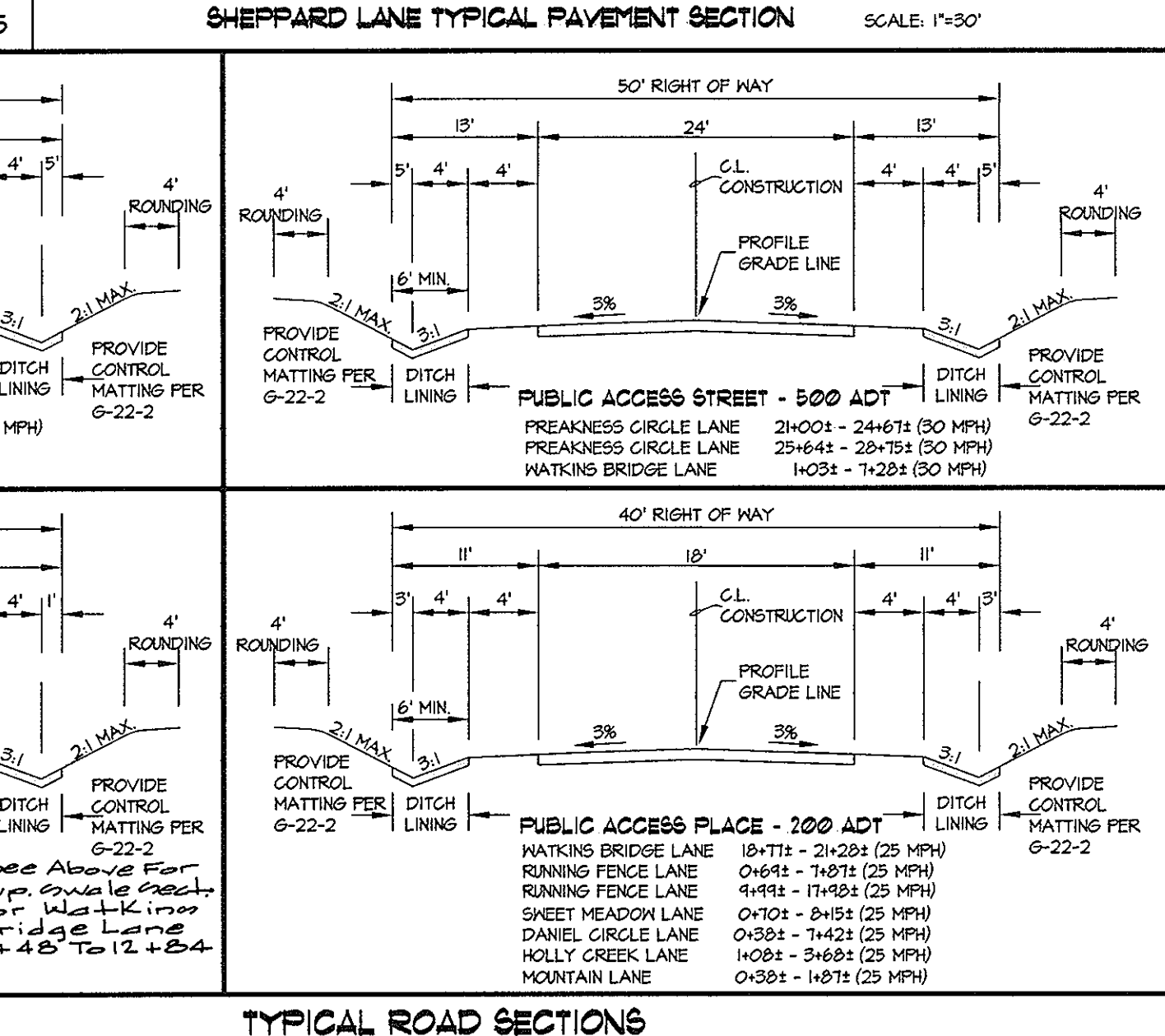
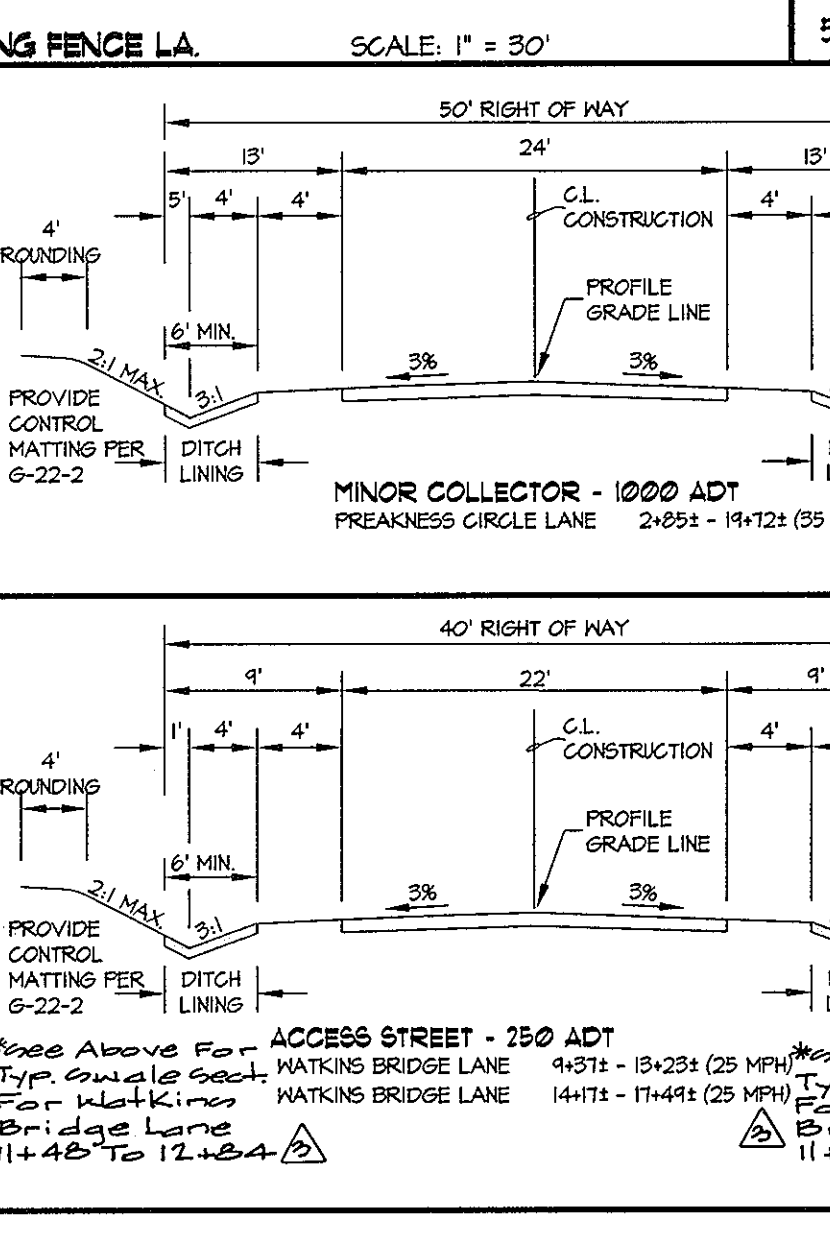
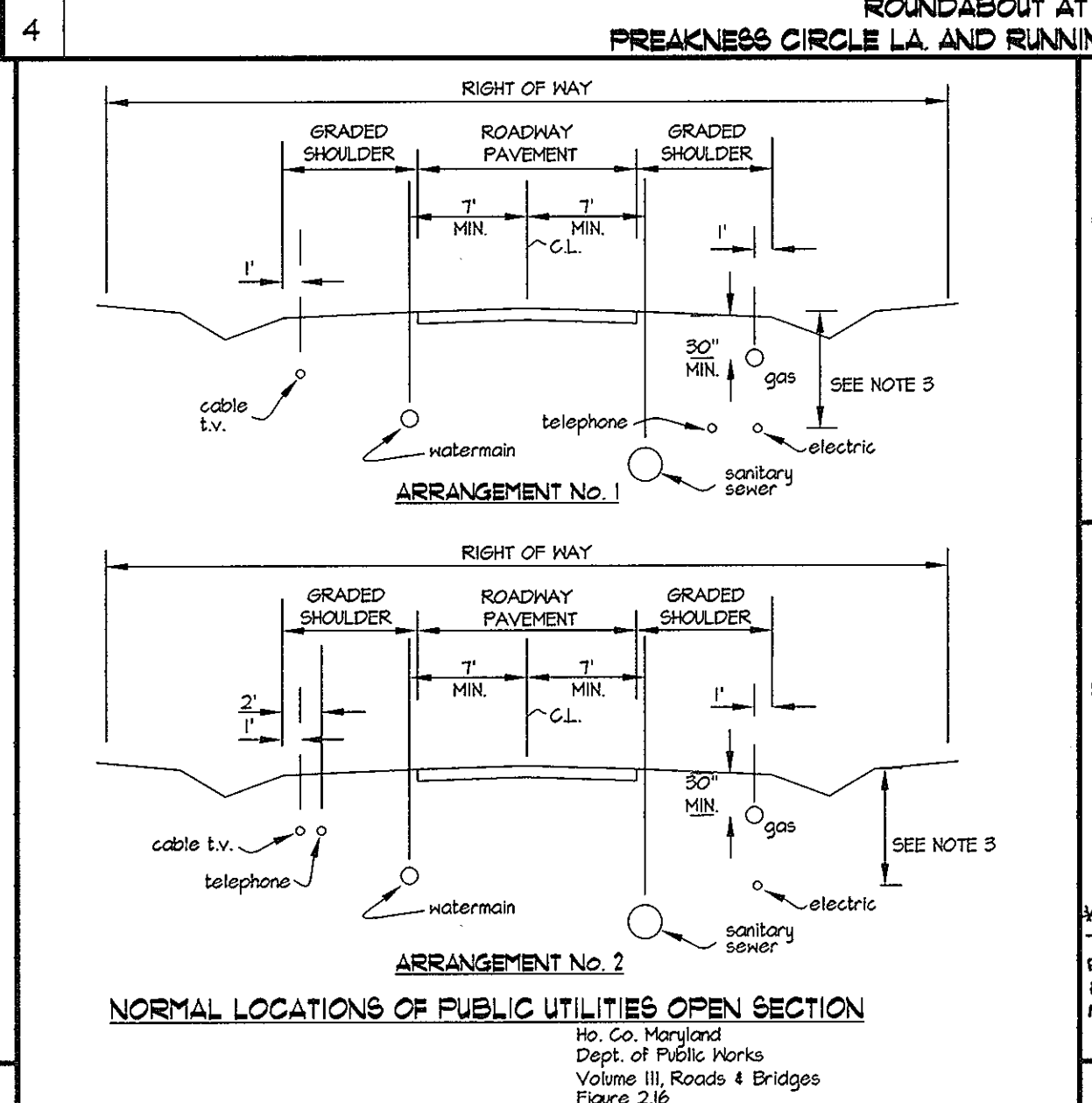
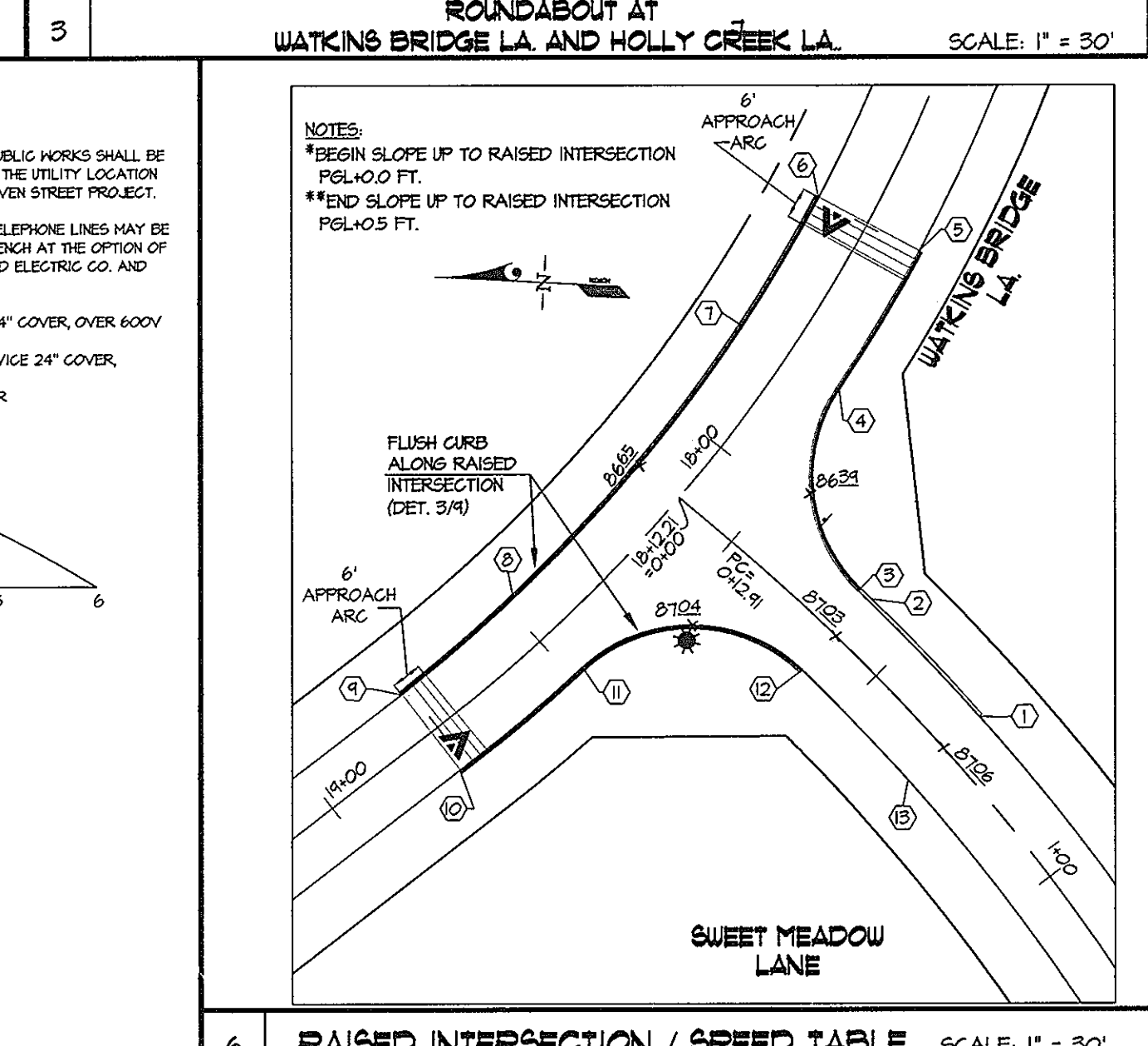
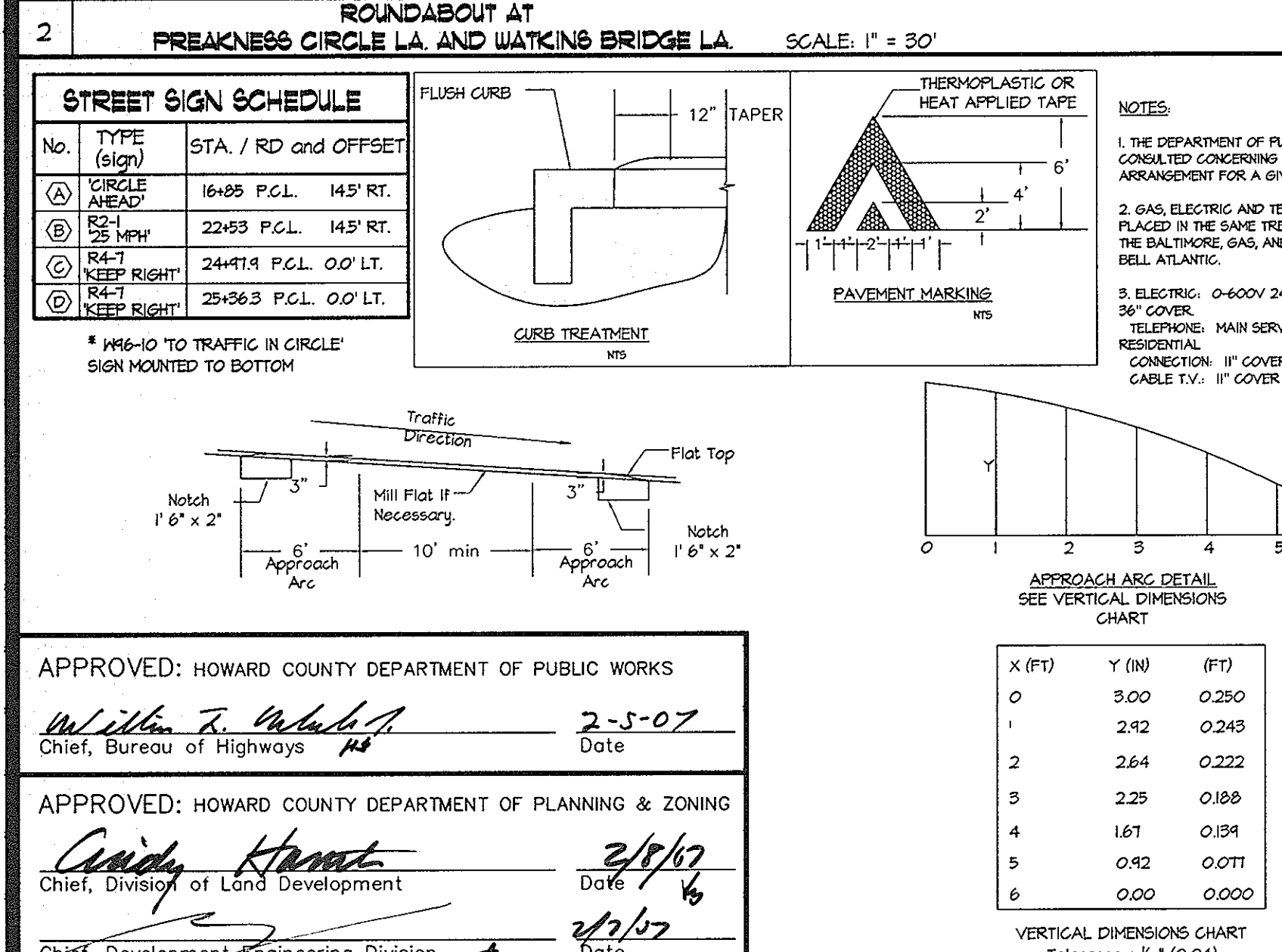
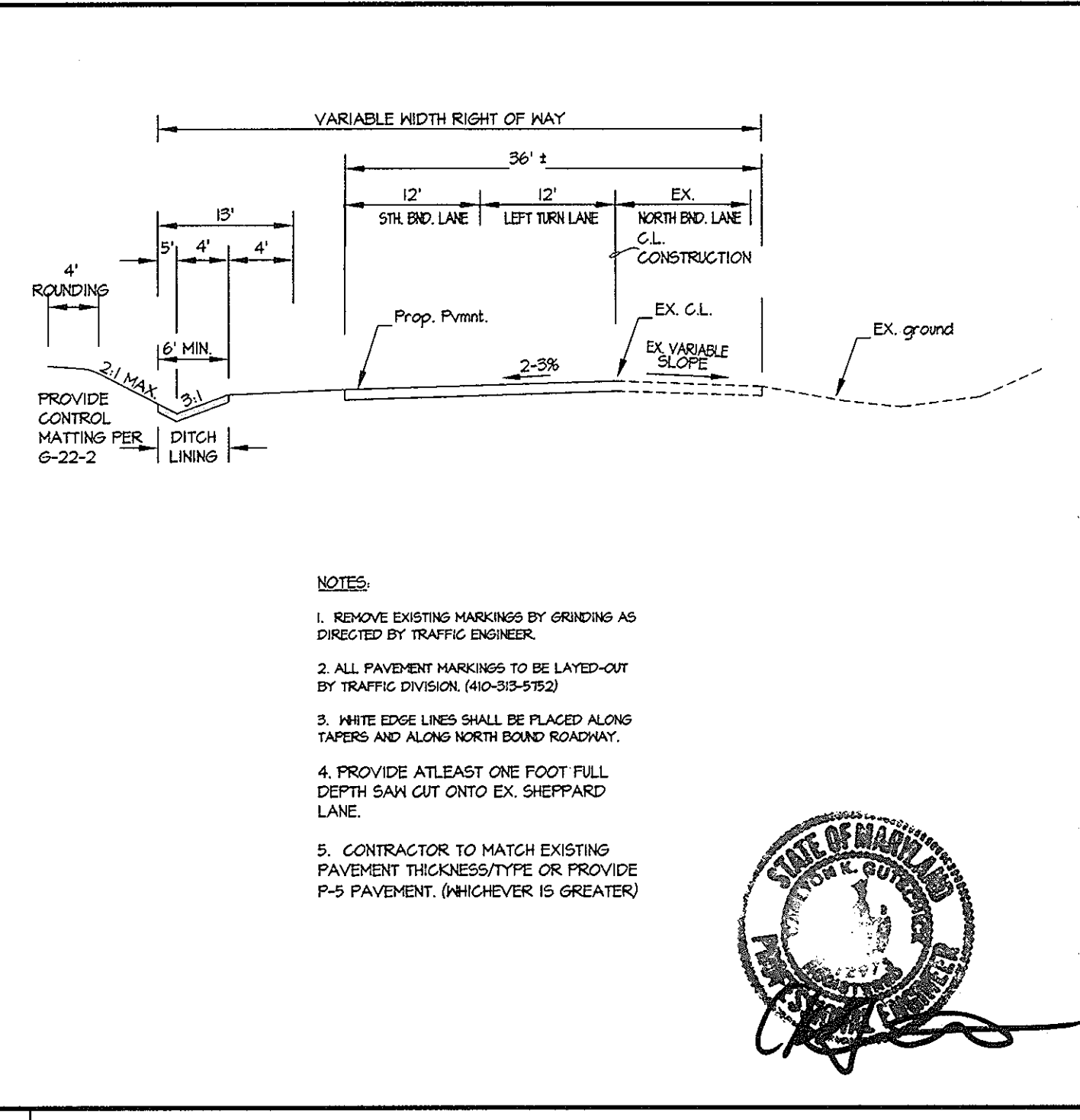
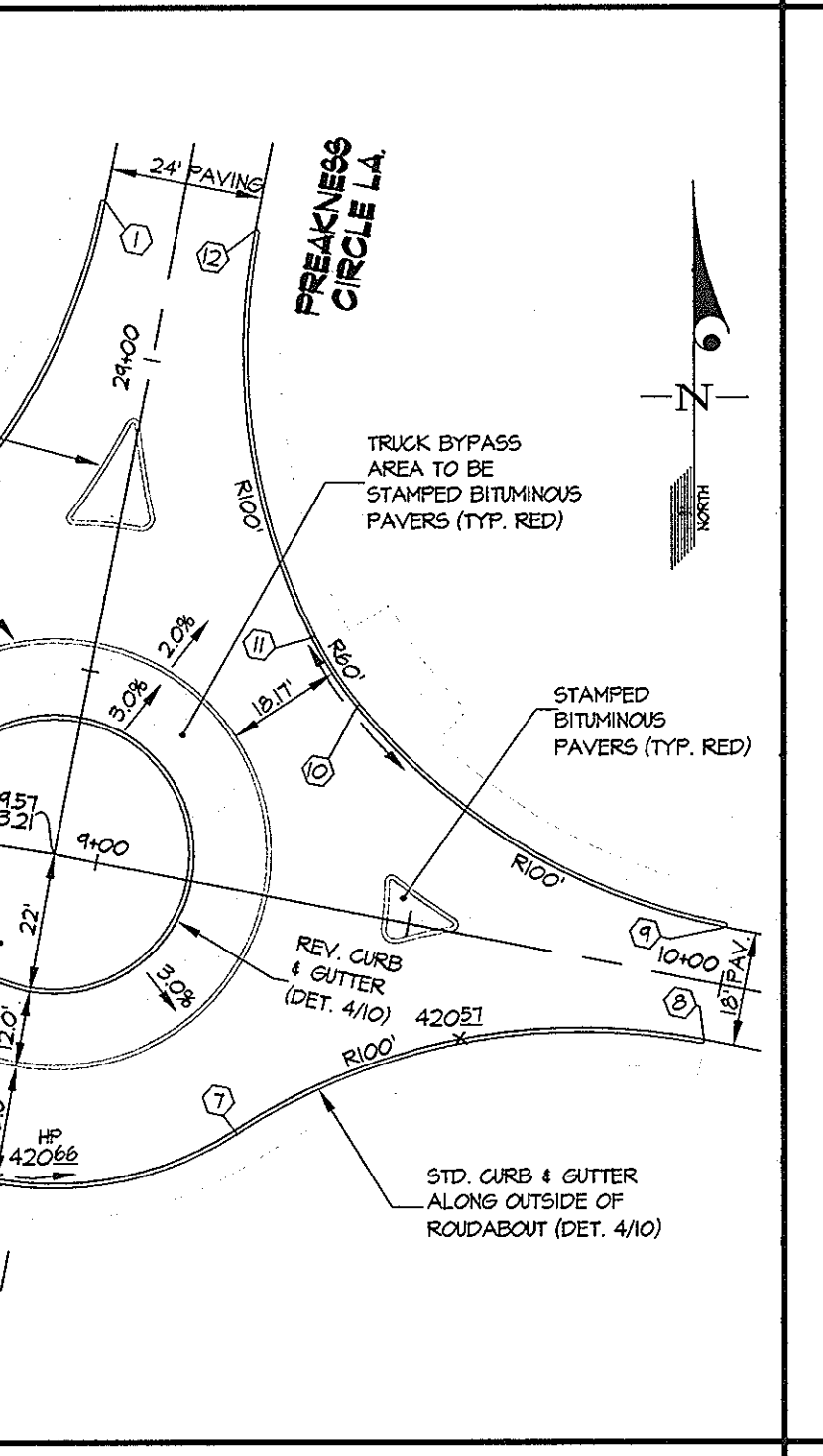
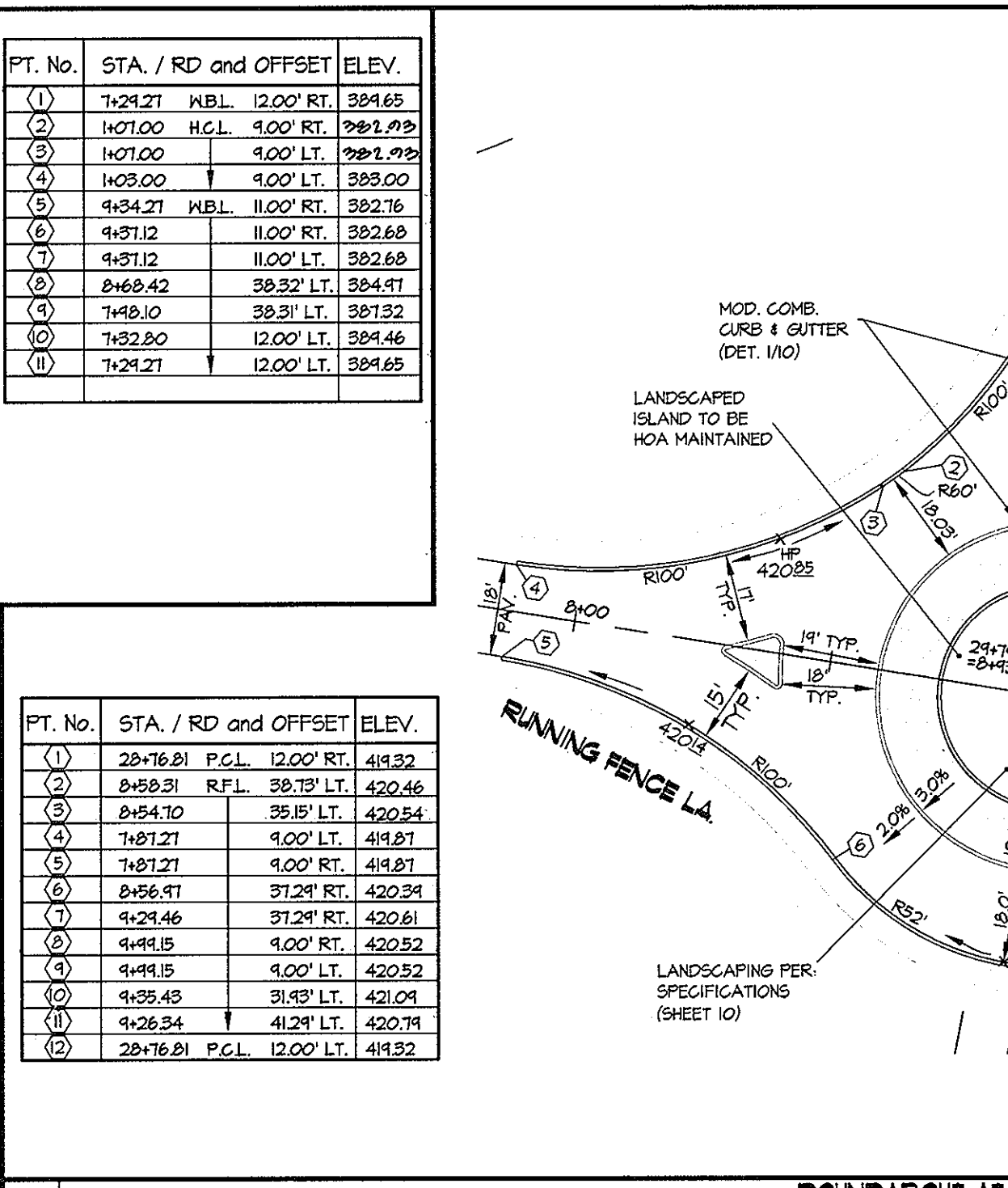
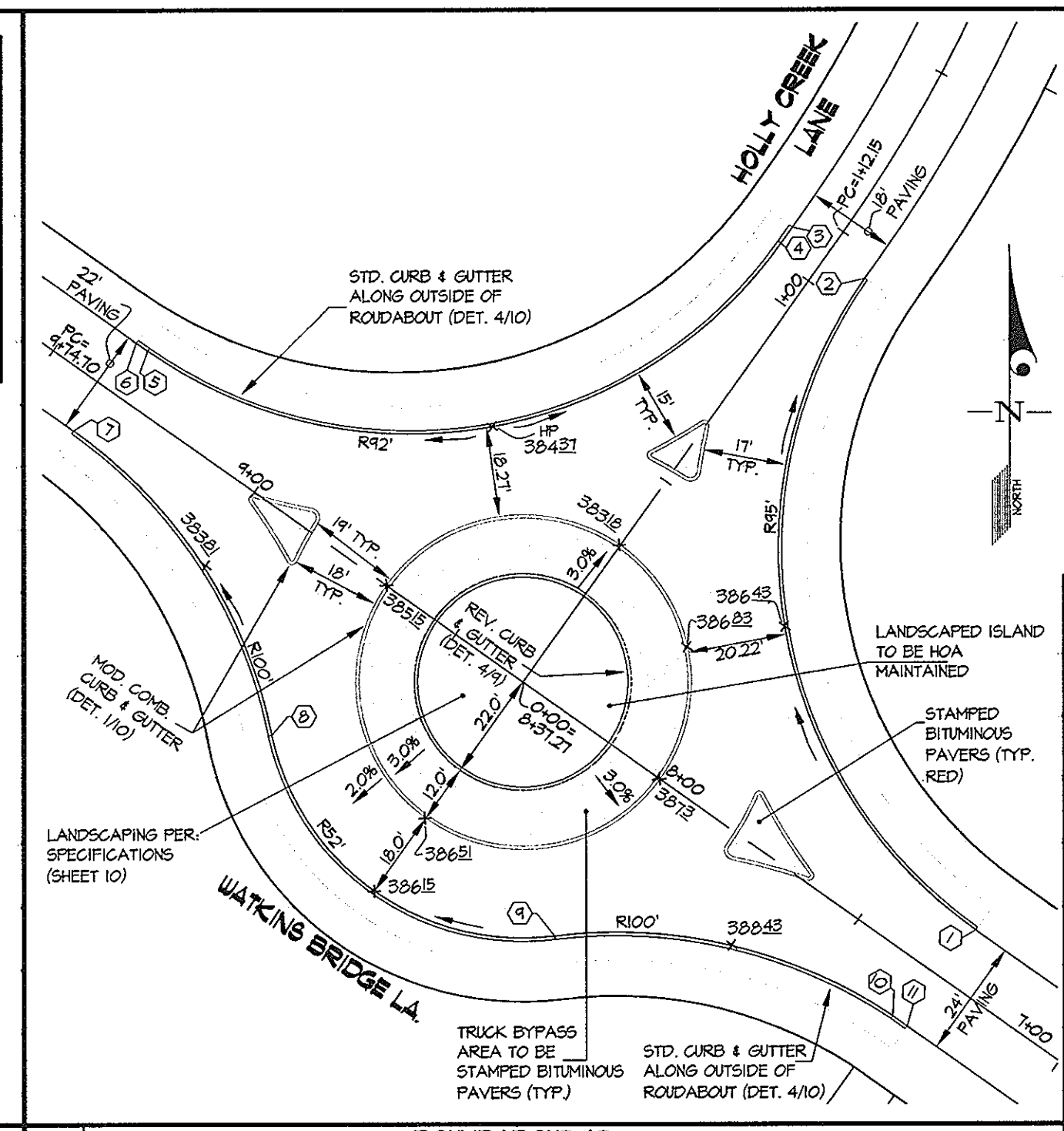
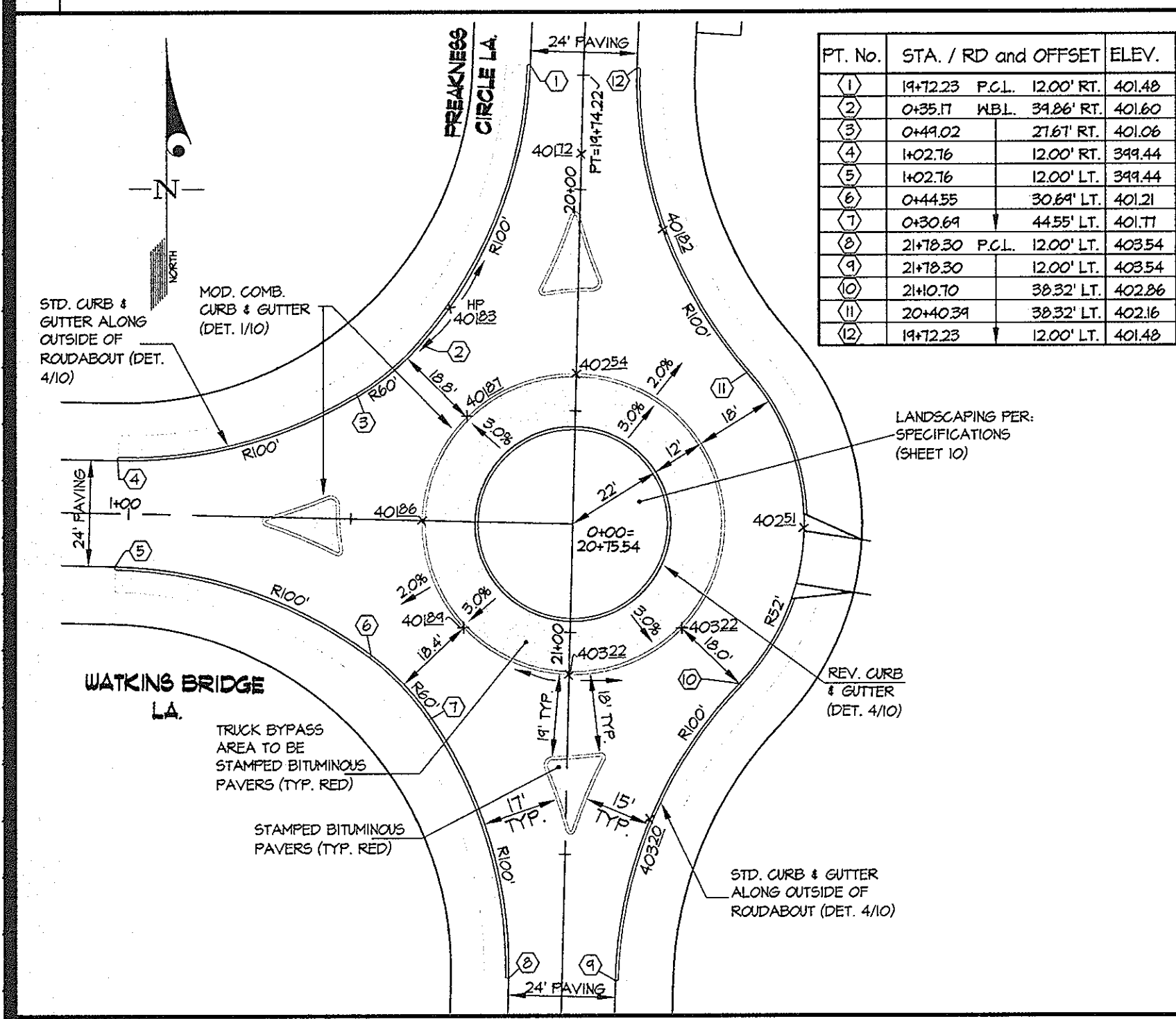
ROAD CONSTRUCTION PLAN
WALNUT GROVE
LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL "A",
NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
NON-BUILDABLE BULK PARCEL "J"
L 2927 F 487

ELECTION DISTRICT No. 5

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|----------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | 28 - 18,17 | 8 OF 78 |



SHEPPARD LANE ENTRANCE & TURN LANE DETAIL SCALE: 1"=30'



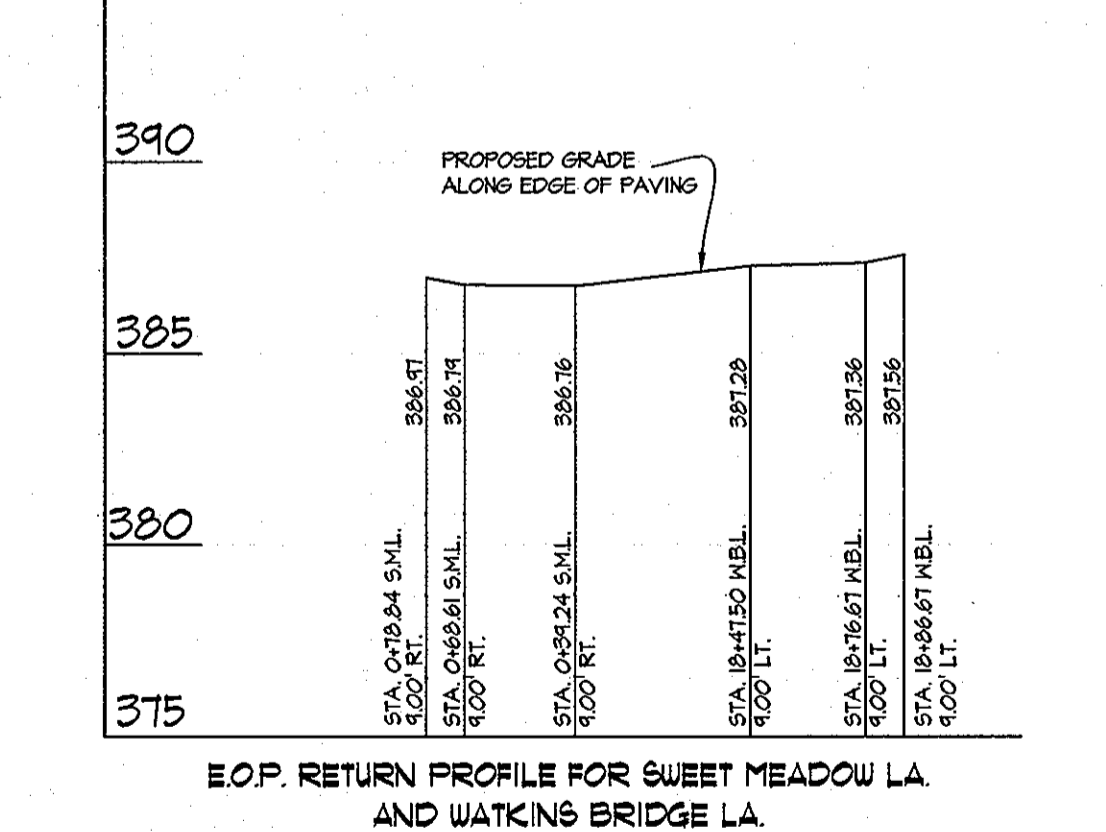
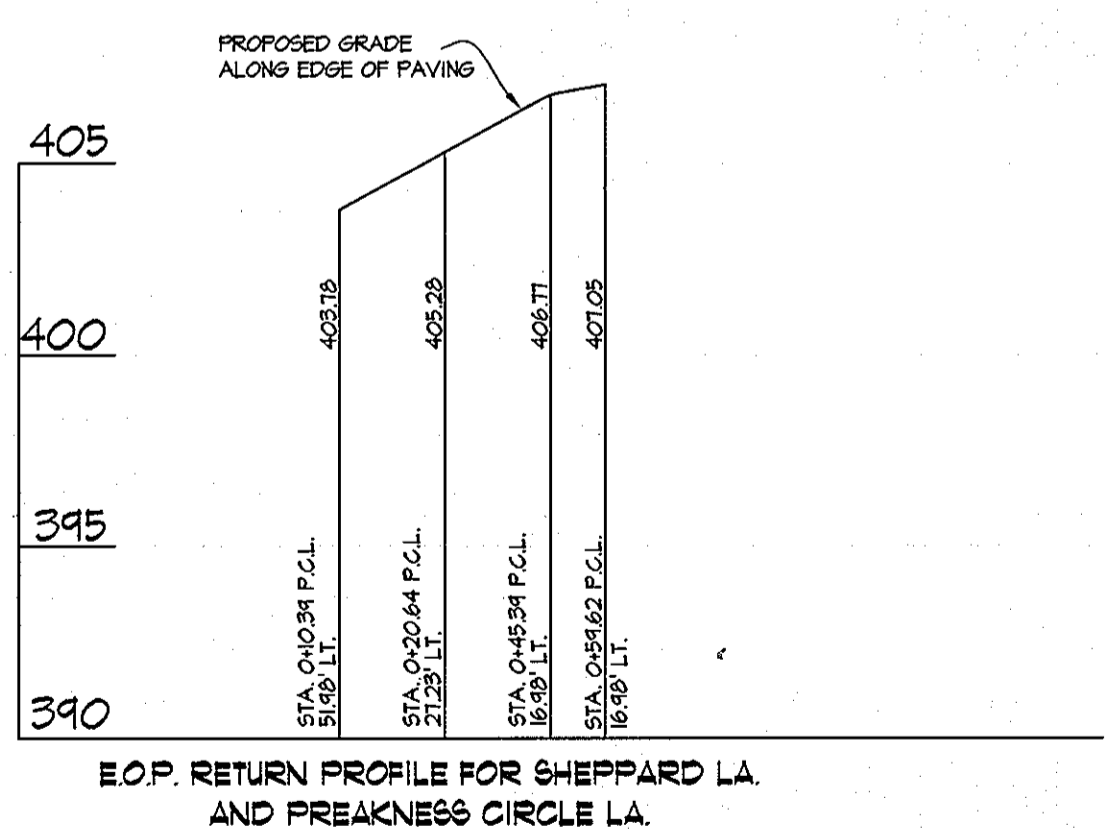
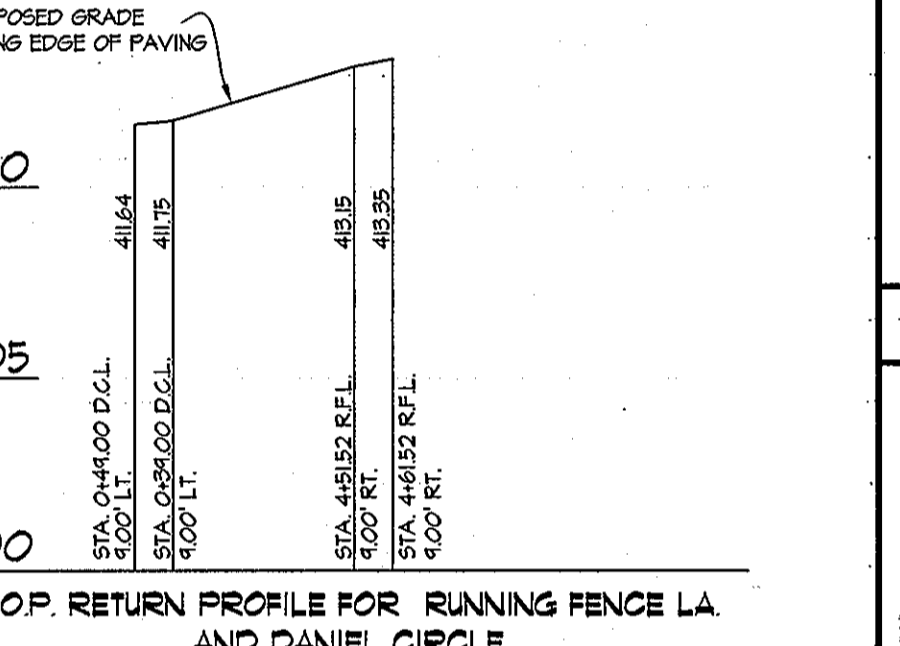
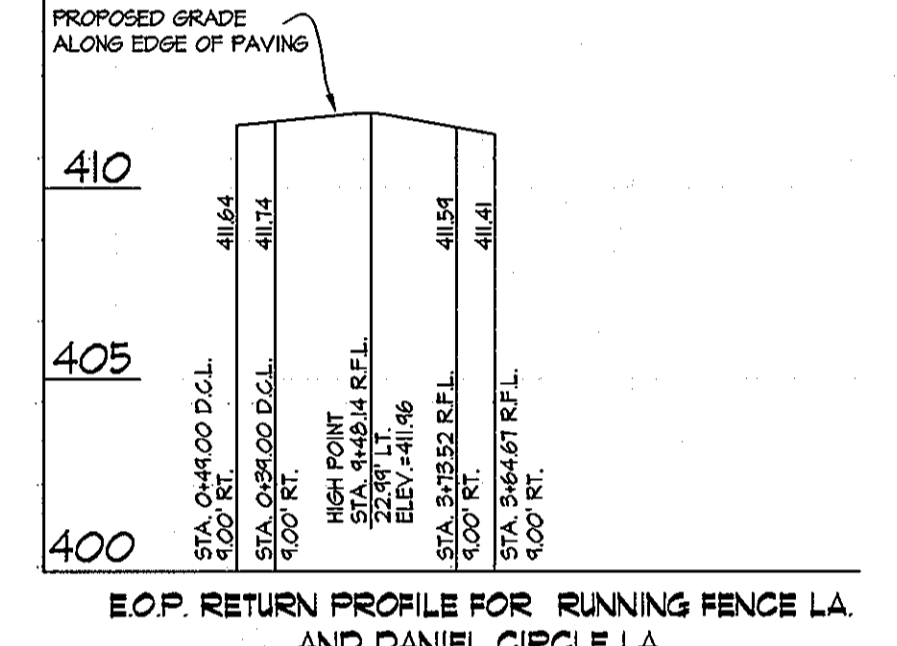
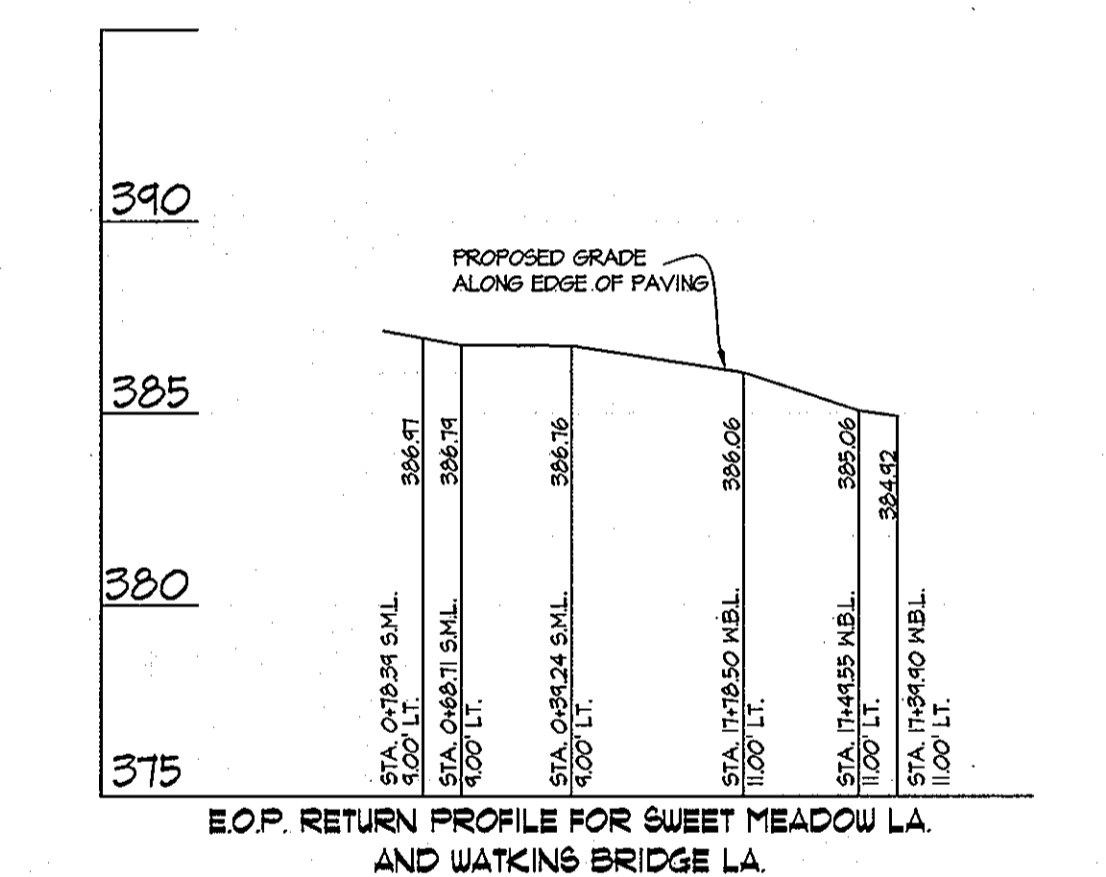
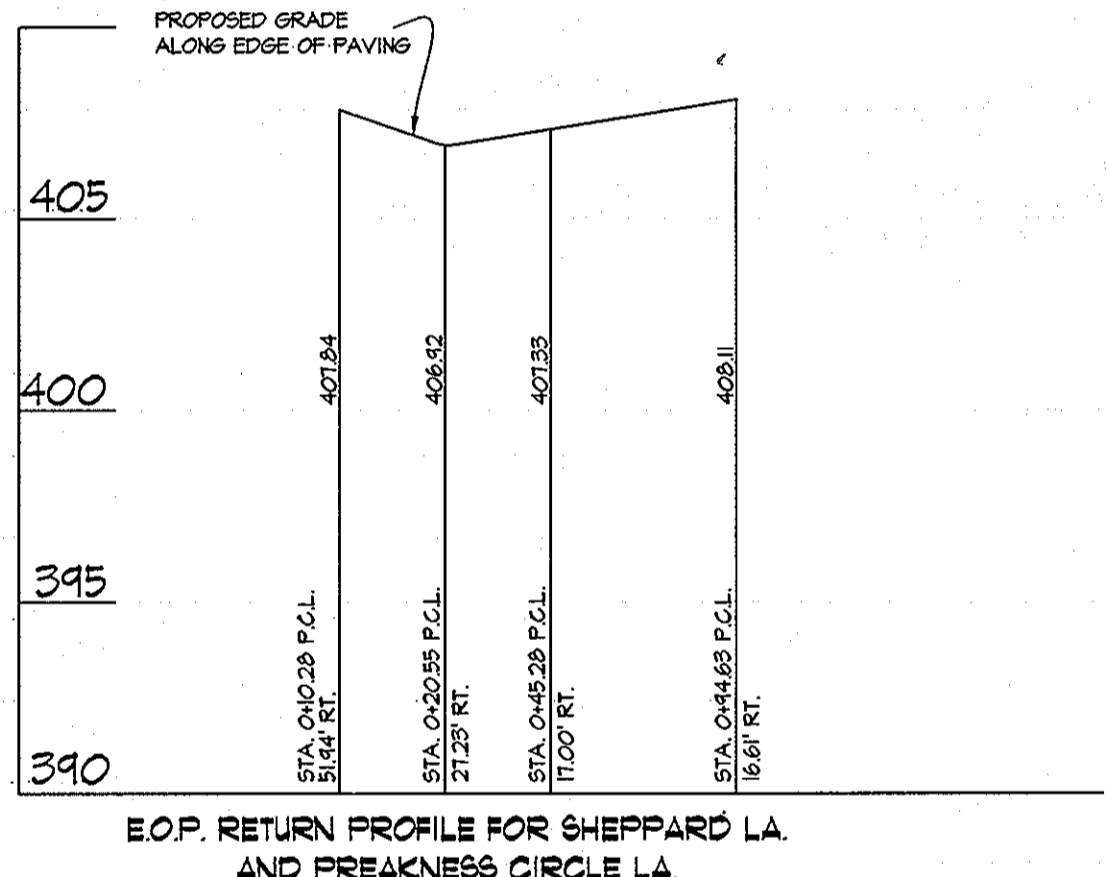
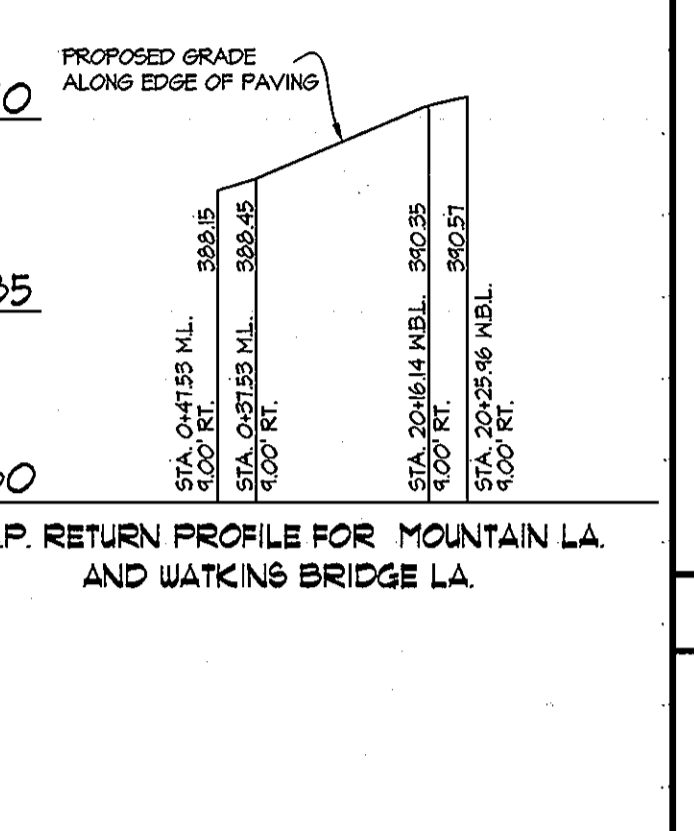
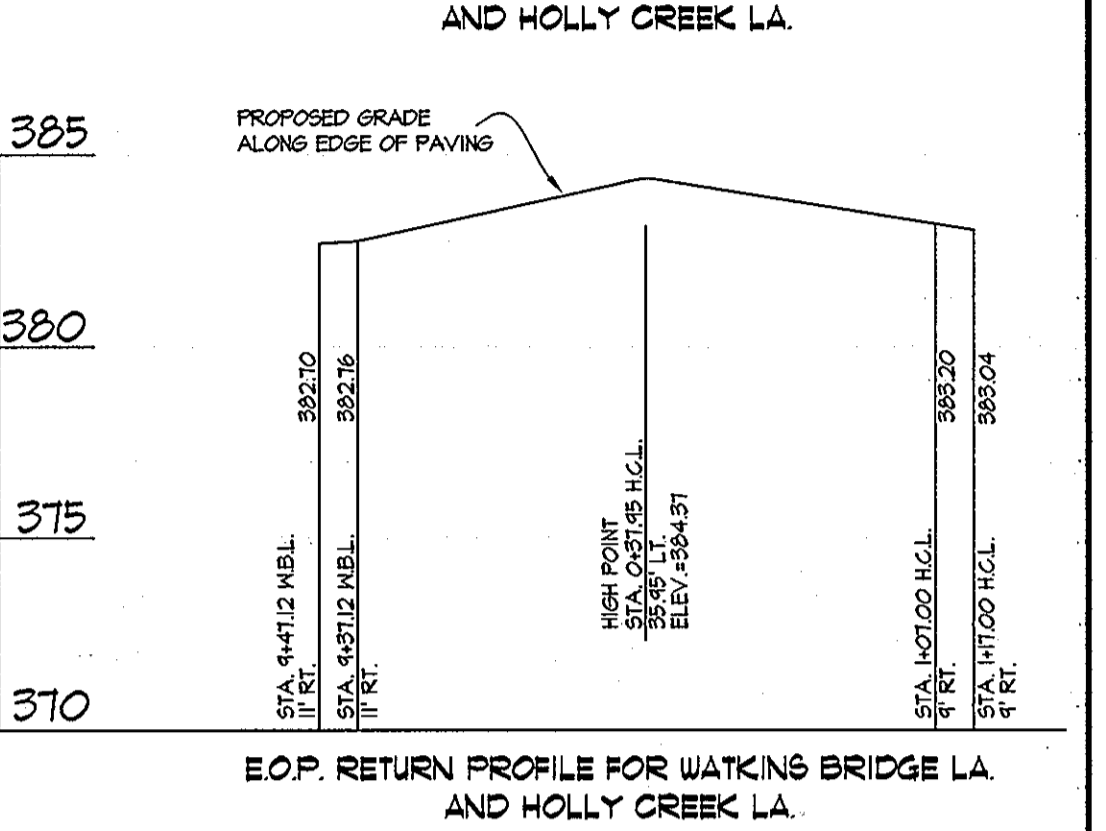
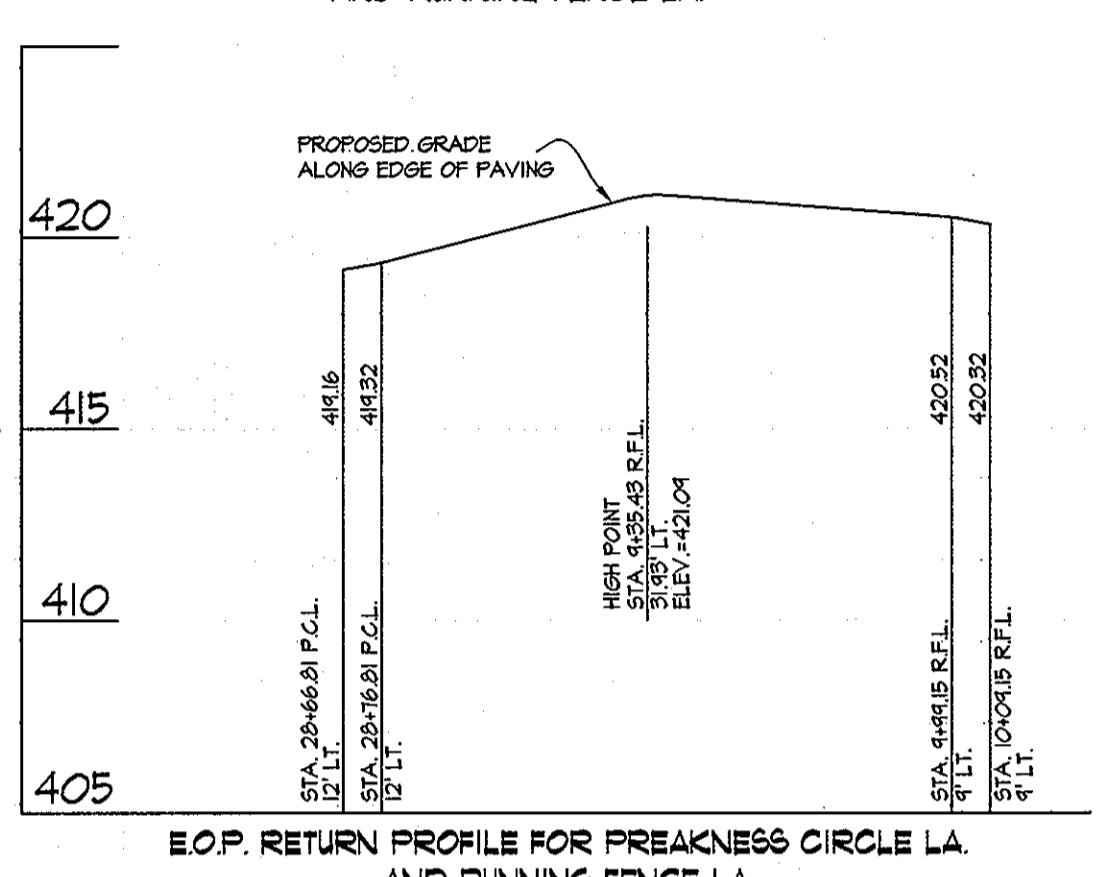
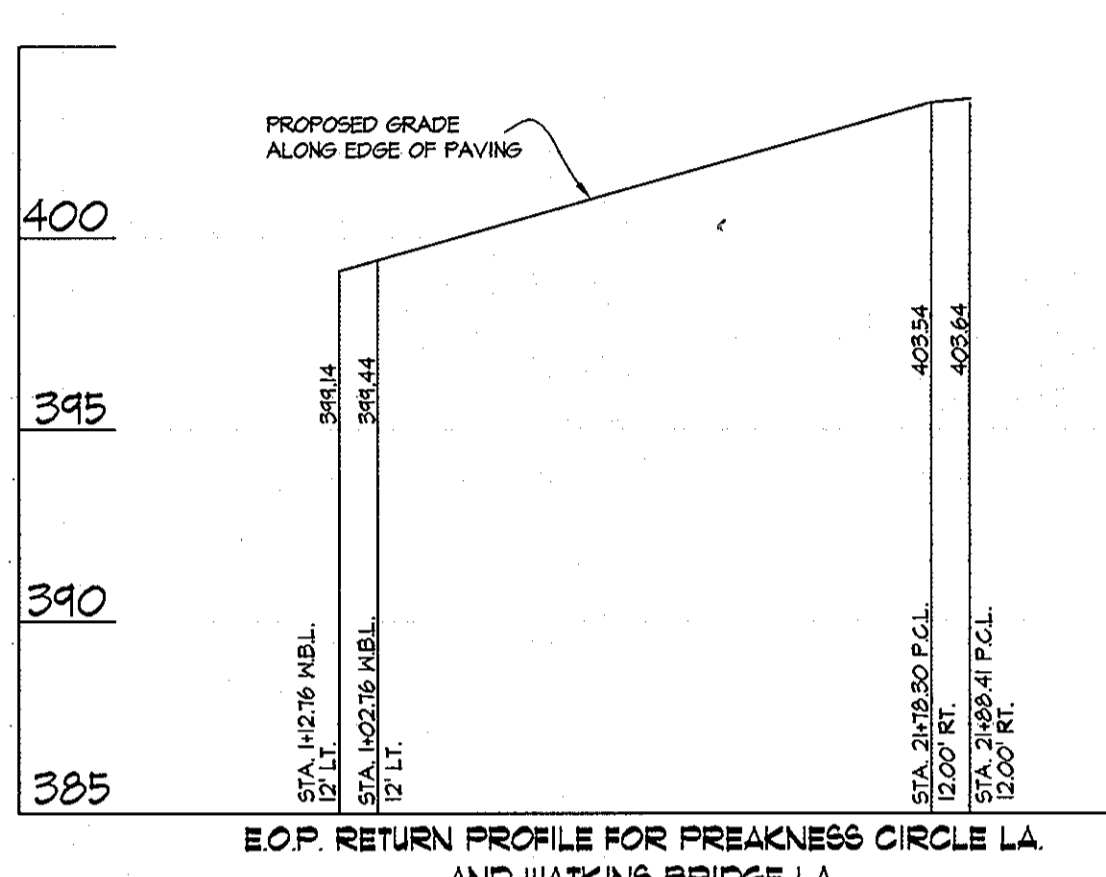
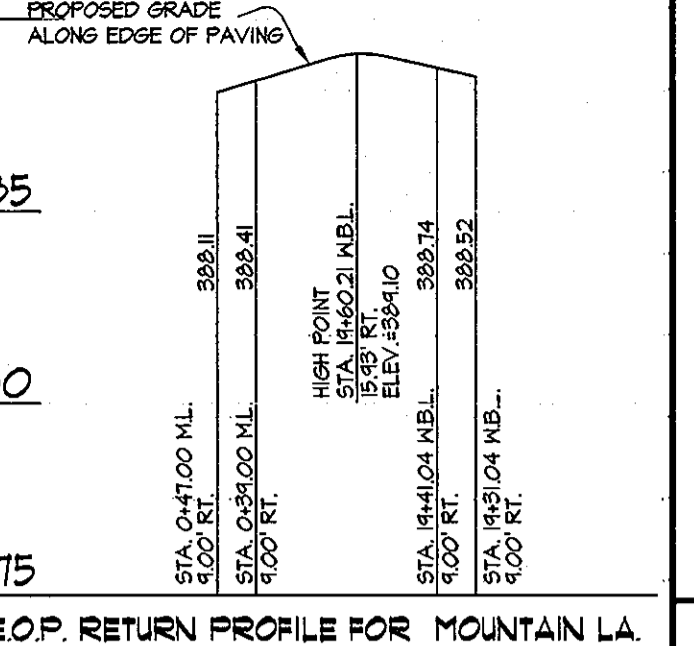
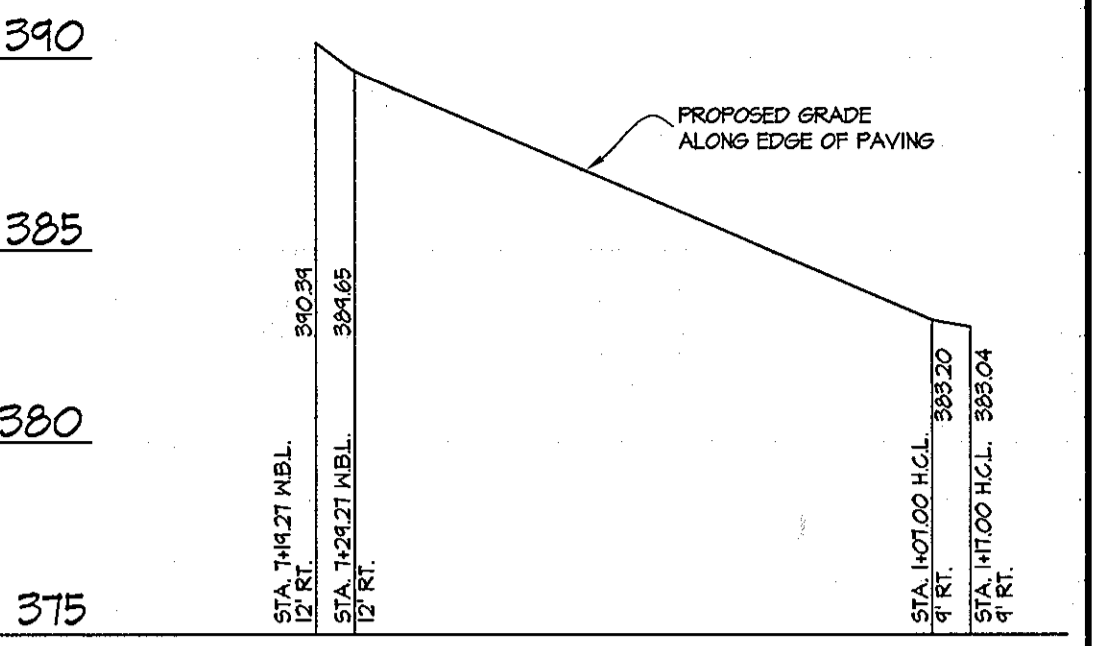
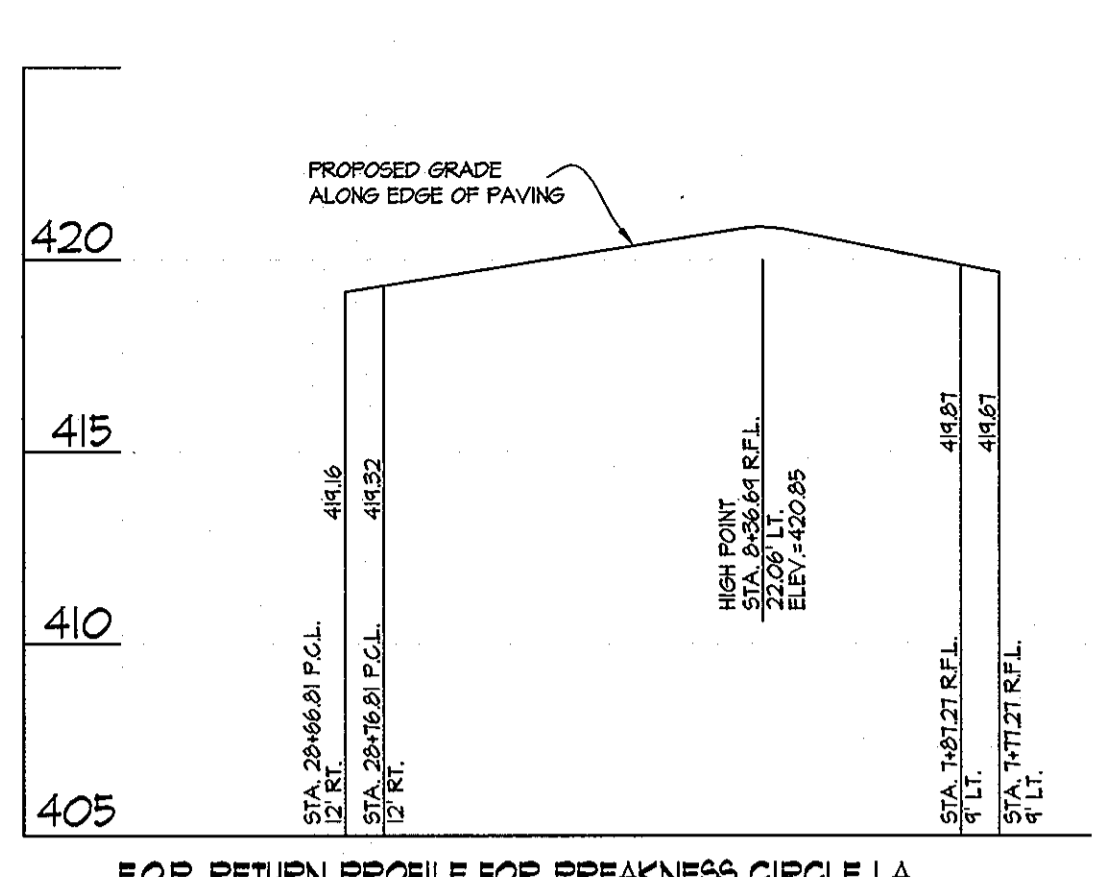
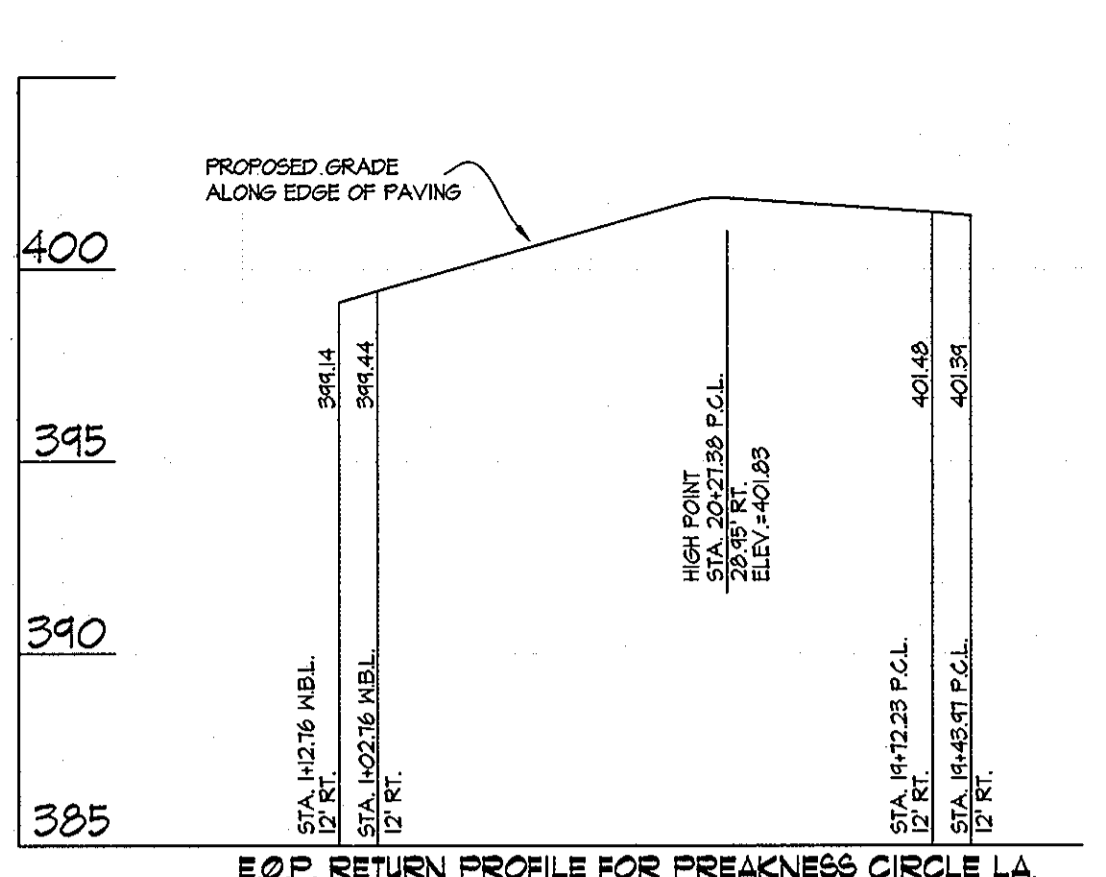
GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT. 410-580-1820 DC/VA. 301-989-2324 FAX: 301-421-4188

| DATE | REVISION | BY | APP'R. |
|----------|--|------|--------|
| 02-20-08 | Typ Swale Sect. For Watkins Bridge Lane Res. From 11+48.2 To 12+84.2 | WJ/J | |

OWNER
WALNUT GROVE HOLDING, L.L.C.
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DYKE PRESIDENT
10705 CHARTER DRIVE
SUITE 320
COLUMBIA, MARYLAND 21044

ROAD DETAILS
WALNUT GROVE
LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A',
NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'J', 'K' & 'L' AND
NON-BUILDABLE BULK PARCEL 'J'
L.2927 E.487

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 9 OF 78 |

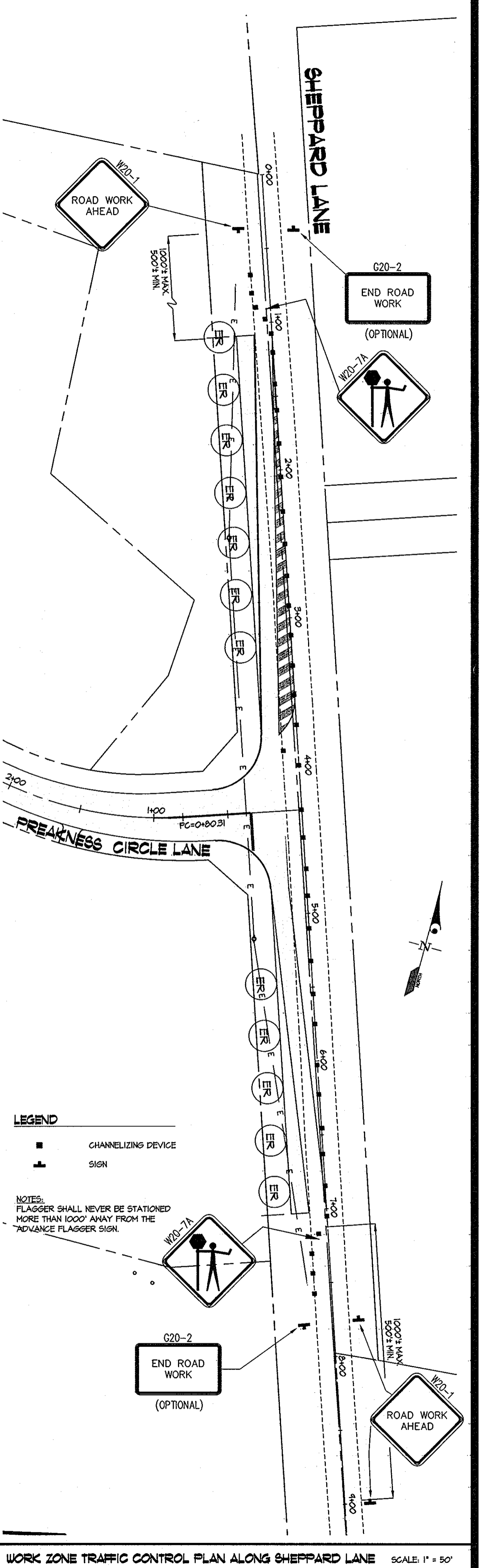
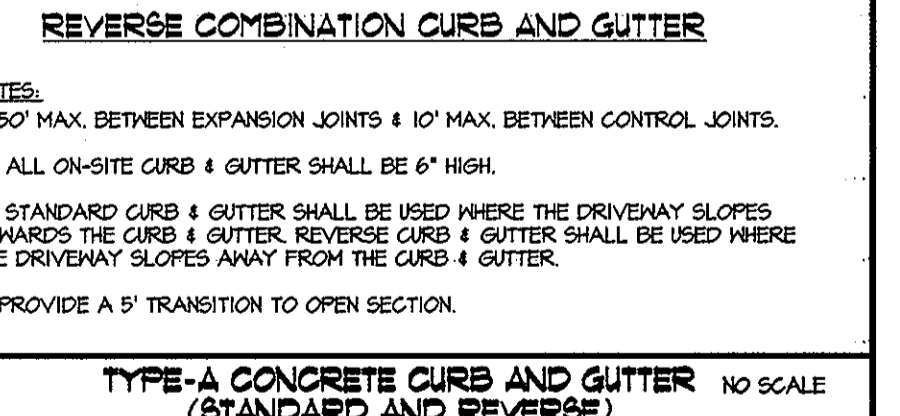
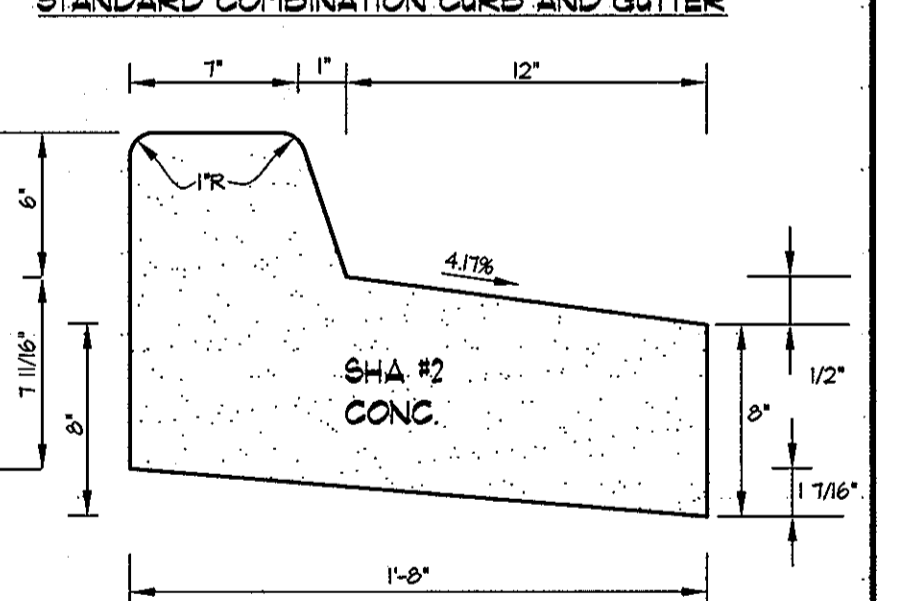
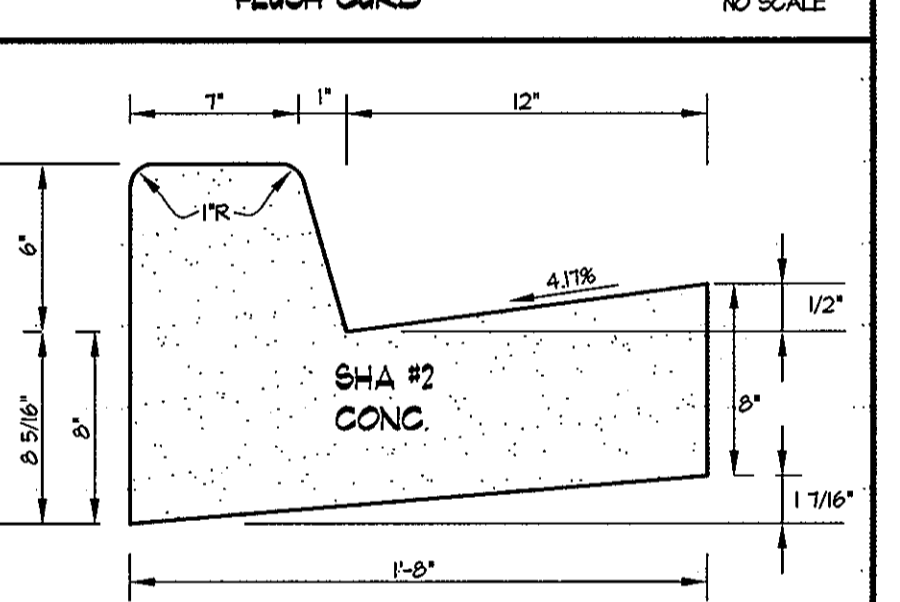
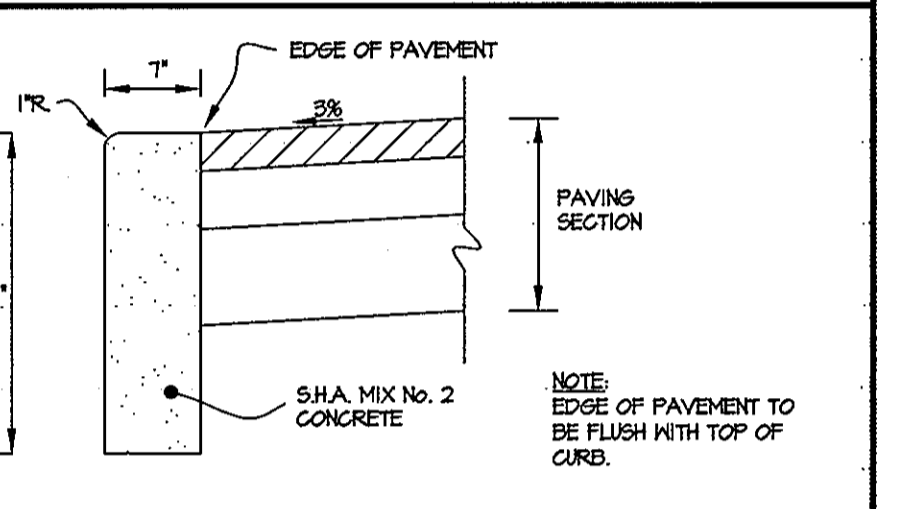
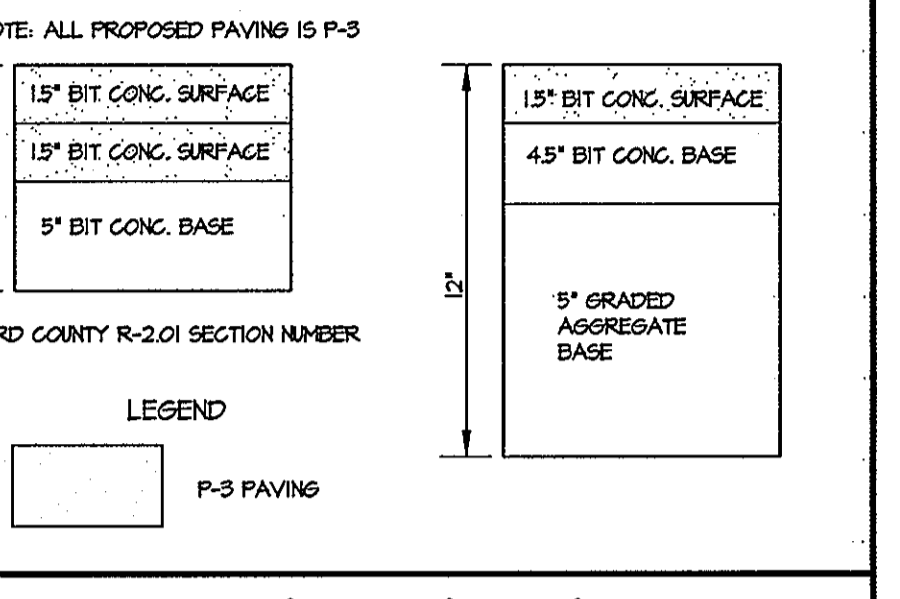
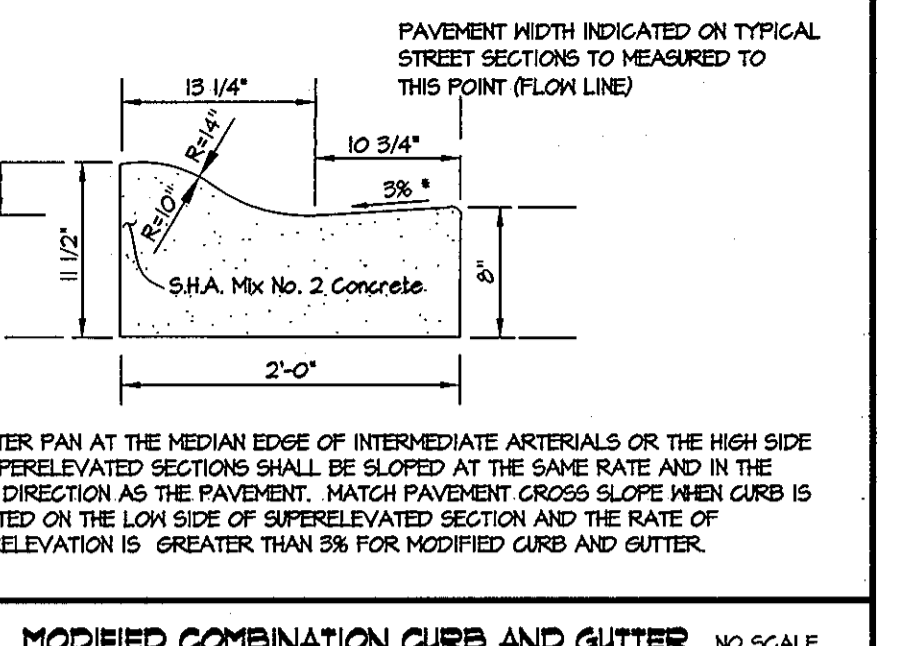
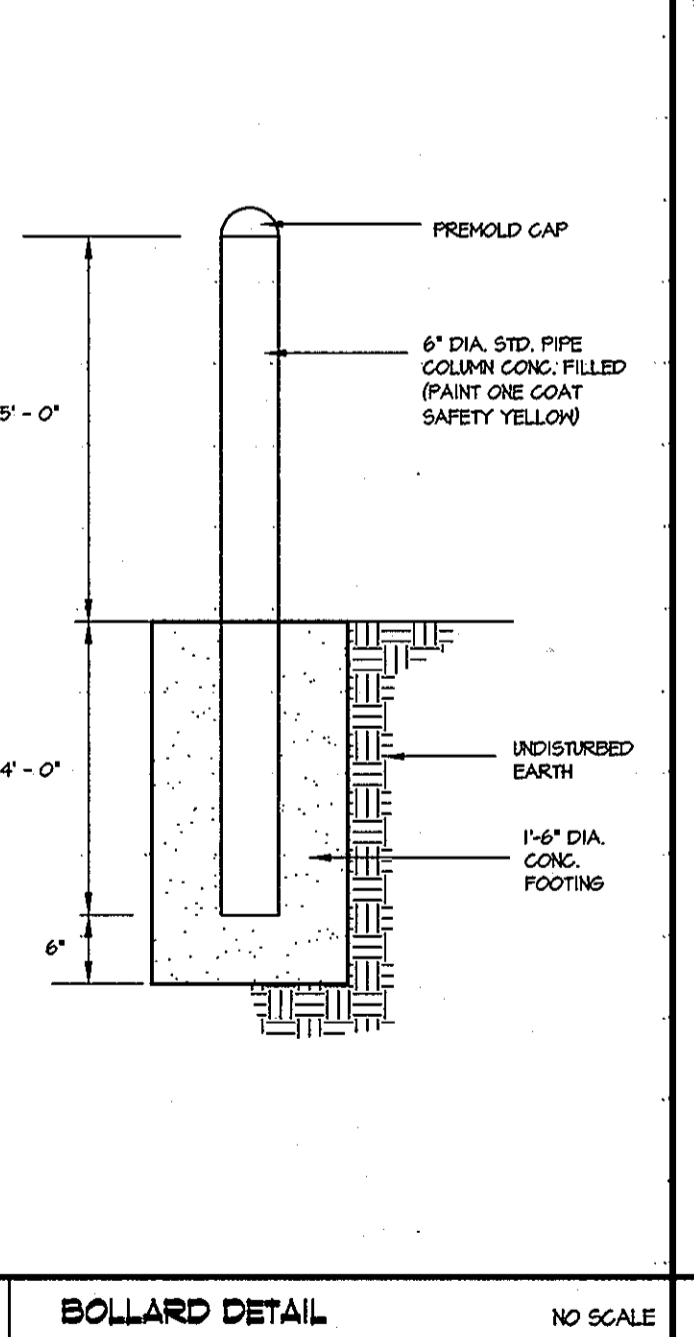


LANDSCAPING OF CENTRAL ISLAND:

COMPLETELY REMOVE ALL EXISTING ASPHALT. PROVIDE TOPSOIL WITH A MIXTURE OF 4 CUBIC YARDS OF LEAFGRASS. LOOSEN THE SOIL TO ONE FOOT BEFORE ADDING THE LEAFGRASS. AFTER ROTOTILLING THE ENTIRE AREA MIX THE LEAFGRASS INTO THE TOP SIX TO EIGHT INCHES. AS YOU START TO LEVEL OUT THE AREA CREATE A SLIGHT CROWN IN THE CENTER OF THE ISLAND. THE OUTER 4 FEET OF THE ISLAND WILL BE COMPACTED WITH A SMALL VIBRATOR AND THEN HAVE BARN RED STONE WITH A THICKNESS OF THREE INCHES DEEP INSTALLED. THE SIZE OF THE STONE SHALL BE 3 TO 4 INCHES IN SIZE ONCE THE ISLAND HAS BEEN PLANTED. THE REMAINDER OF THE ISLAND SHALL BE COVERED IN 3 INCHES OF SHREDED MULCH. PROVIDE LOW GROWING PLANTS AND FLOWERS THROUGHOUT THE REMAINDER OF THE ISLAND. A LIST OF ACCEPTABLE PLANTS ARE AS FOLLOWS:

| LATIN NAME | COMMON NAME | QUANTITY |
|---|--------------------------|------------|
| GROUP A | | |
| AMSONIA TABAERNAEMONTANA | BLUESTAR | 10 QT. |
| VERTICILLATA | THREADLEAF COREOPSIS | 24 GAL. |
| LEUCANTHEMUM | SHASTA DAISY | 10 QT. |
| GROUP B | | |
| PENNISETUM ORIENTALE | ORIENTAL FOUNTAIN GRASS | 6 x 1 GAL. |
| JUNIPERUS CONFERTA | SHORE JUNIPER | 6 x 1 GAL. |
| VERONICA PEDUNCULARIS | GEORGE BLUE | 12 GAL. |
| BEARDSTONIA PENSTEMON DIGITALIS | HUSKER'S RED | 24 GAL. |
| TREE LIST CHOOSE ONE (TREE SHALL BE 6 TO 8 FEET IN HEIGHT AND 1.5 INCH CALIBER) | | |
| LATIN NAME | | |
| LAGERSTROEMIA INDICA | GRAPE MYRTLE | |
| HAMAMELIS VIRGINIANA | FITCHHAZEL | |
| CORNUS MAS | CORNELIAN CHERRY DOGWOOD | |
| MALUS SARSENTII COLUMNARIS | CRAB APPLE | |

LANDSCAPING PLANS SHALL BE APPROVED BY BUREAU OF HIGHWAYS PRIOR TO PLANTING.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways *W. J. McLaughlin* 2-5-07
 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development *Candy Harvett* 2/5/07
 Date

Chief, Development Engineering Division *W. J. McLaughlin* 2/5/07
 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 FAX: 301-421-4188

| NO. | DATE | DESCRIPTION | BY | APP'R. |
|-----|----------|------------------------|-----|--------|
| 1 | 12-22-07 | Cul-De-Sac curbs added | WJL | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 SHARPE DRIVE
 SUITE 330
 COLUMBIA, MARYLAND 21044

ROAD DETAILS
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
 NON-BUILDABLE BULK PARCEL "J"
 L2927 F487

| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|-------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 10 OF 78 |

SEQUENCE OF CONSTRUCTION

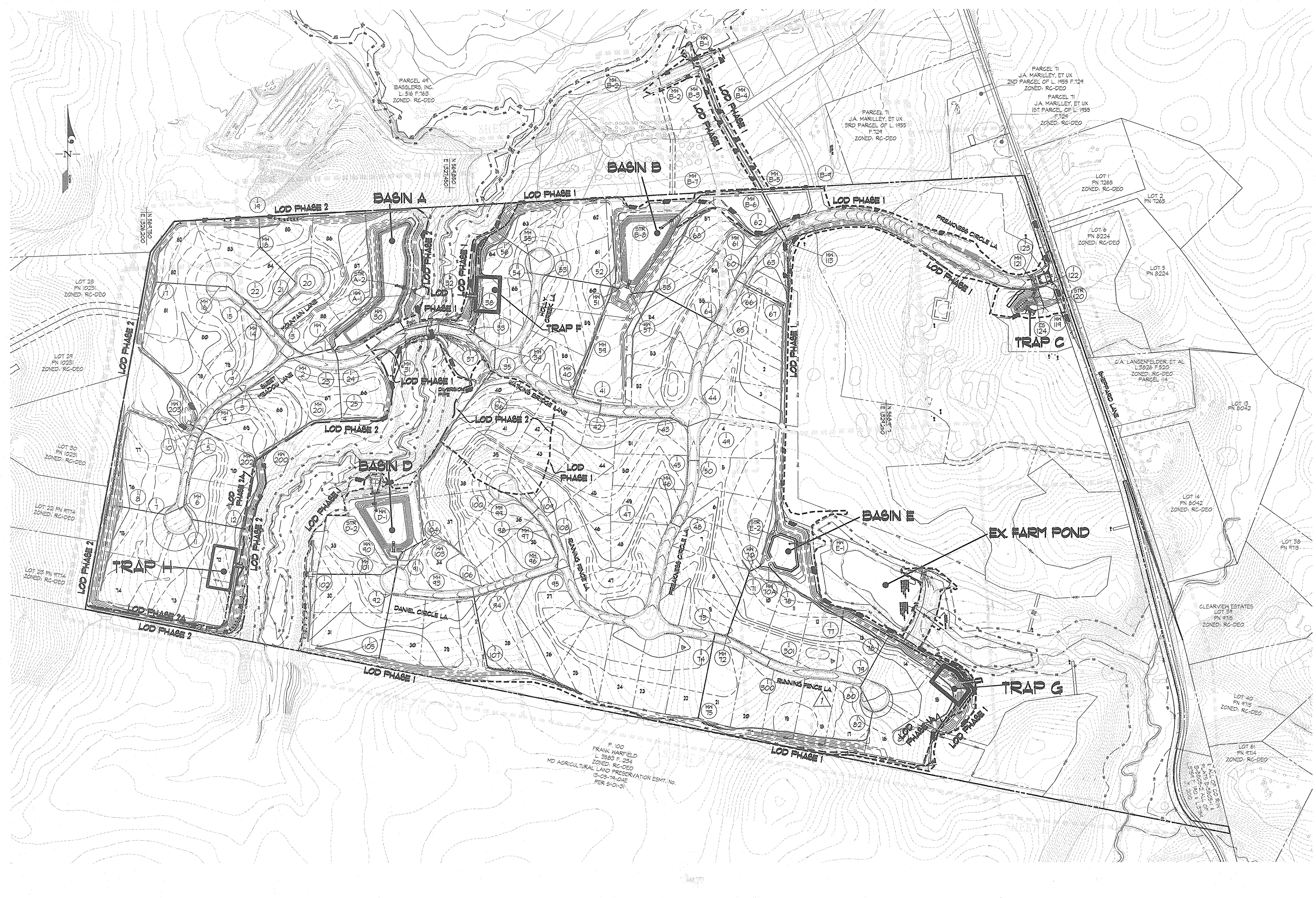
PHASE I
GENERAL: EASTERN PORTION OF THE SITE AND THE STREAM CROSSING.

- OBTAIN GRADING PERMIT AND ARRANGE THE PRE-CONSTRUCTION MEETING WITH THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR (SCI). (1 DAY)
- INSTALL THE STABILIZED CONSTRUCTION ENTRANCE AND CONSTRUCT TRAP C. CONSTRUCT STORM DRAIN FROM HW-120 TO ALL TERMINATIONS. (7 DAYS)
- INSTALL SILT FENCE ALONG NORTHERN PHASE I LOD, BEGINNING AT HIGH POINT 4+00 FREAKNESS CIRCLE LANE AND ENDING AT STREAM CROSSING. (12 DAYS)
- CONSTRUCT THE CULVERT AT HW-113 TO HW-103 AND INSTALL CLEAN WATER DIVERSION (CWD) 82-84, 85-87. (7 DAYS)
- CONSTRUCT TRAP F AND THE ASSOCIATED SWALES SHOWN ON SHEET 24. CONSTRUCT BASIN 'E'. CONSTRUCT STORM DRAIN RUN FROM HW-51 TO ALL TERMINATIONS AND CONSTRUCT PERMANENT SWALES 46-49, 80-81. (21 DAYS)
- INSTALL THE CWD ALONG THE SOUTHERN BORDER OF THE SITE BEGINNING NEAR LOT 18. INSTALL SILT FENCE BEGINNING NEAR LOT 16 AND ENDING NEAR BASIN 'E'. (12 DAYS)
- CONSTRUCT TRAP G AND THE ASSOCIATED TEMPORARY EARTH DIKES SHOWN ON SHEET 24. CONSTRUCT BASIN 'E'. BRING SITE IN VICINITY OF LOTS 10-22 TO GRADE. CONSTRUCT STORM DRAIN RUN FROM HW-10 TO HW-15 AND CONSTRUCT PERMANENT SWALES 62-65. CONSTRUCT STORM DRAIN RUN FROM HW-51 TO 1-48. (21 DAYS)
- UPON RECEIVING PERMISSION FROM THE INSPECTOR, REMOVE TRAP G AND BRING LOTS 13-16 TO GRADE. CONSTRUCT STORM DRAIN FROM HW-10A TO 1-82. INSTALL PERMANENT SWALES 66-78. LOD FOR PHASE-1A TO BE RELOCATED TO PHASE I LOD SHOWN SHEET 17. (7 DAYS)
- INSTALL SILT FENCE FROM LOT 31 TO BASIN 'D'. CONSTRUCT BASIN 'D'. (14 DAYS)
- CONSTRUCT STORM DRAIN FROM: HW-90 TO 1-102, HW-90 TO 1-105, 1-92 TO 1-107, HW-103 TO 1-104. CONSTRUCT PERMANENT SWALES 52-58. (7 DAYS)
- UPON RECEIVING PERMISSION FROM THE INSPECTOR REMOVE TRAP F AND BRING AREA IN VICINITY OF LOTS 62-65 TO GRADE. CONSTRUCT STORM DRAIN FROM HW-51 TO 1-56. INSTALL PERMANENT SWALES 40-45. (7 DAYS)
- UPON RECEIVING PERMISSION FROM THE INSPECTOR, MODIFY THE EXISTING STREAM CROSSING AND INSTALL ALL SILT FENCE IN VICINITY AS SHOWN ON SHEET 49. CONSTRUCT THE CONSPAN ARCH AND HEADWALLS. (14 DAYS)
- UPON RECEIVING PERMISSION FROM THE INSPECTOR BRING REMAINING AREAS OF SITE WITHIN THE PHASE I LOD TO GRADE. STABILIZE ALL DISTURBED AREAS AND OBTAIN PERMISSION OF SCI TO PROCEED TO PHASE 2. (7 DAYS)

PHASE 2
GENERAL: WESTERN PORTION OF SITE. COMPLETE MASS GRADING AND UTILITY INSTALLATION.

- INSTALL ALL REMAINING PERIMETER SILT FENCE CONSTRUCT BASIN 'A'. CONSTRUCT TRAP H AND THE ASSOCIATED CONTROLS SHOWN ON SHEET 25. CONSTRUCT STORM DRAIN RUN FROM HW-50 TO ALL TERMINATIONS. CONSTRUCT PERMANENT SWALE 88, AND 50-51. (21 DAYS)
- CONSTRUCT STORM DRAIN RUN FROM HW-11 TO 1-23. CONSTRUCT PERMANENT SWALES 21-24, AND 31-34. (7 DAYS)
- UPON RECEIVING PERMISSION FROM THE INSPECTOR CONSTRUCT PERMANENT SWALE 33-36. (14 DAYS)
- CONSTRUCT PERMANENT CWD 21-28, 25-26, 12-16, 1-7. (7 DAYS)
- CONSTRUCT STORM DRAIN RUN FROM: HW-1 TO 1-7, HW-1 TO 1-19, HW-1 TO 1-21. CONSTRUCT PERMANENT SWALES 24-30, 31-32. (14 DAYS)
- CONSTRUCT STORM DRAIN RUN FROM HW-2 TO ALL REMAINING TERMINATIONS. CONSTRUCT PERMANENT SWALES 8-19, 14-20, 17-19. (14 DAYS)
- UPON RECEIVING PERMISSION FROM THE INSPECTOR, REMOVE TRAP H AND RELOCATE PH-2A LOD TO PH2 LOD SHOWN ON SHEET 20. BRING REMAINING AREAS OF SITE WITHIN THE PHASE 2 LOD TO GRADE. INSTALL REMAINING STORM DRAIN AND SEWER. INSTALL PAVEMENT, LANDSCAPING AND FOREST CON. PLANTINGS. STABILIZE ENTIRE SITE AND OBTAIN PERMISSION OF SCI TO BEGIN FOND CONVERSION TO FINAL CONFIGURATION. (21 DAYS)
- CONTRACTOR TO REMOVE ANY AND ALL NEW/OLD JUNK, DEBRIS, TRASH AND OTHER UNNATURAL ITEMS FROM WETLANDS, STREAMS, FLOODPLAIN, OPEN SPACE, FOREST CONSERVATION AREAS, AND THEIR BUFFERS

- NOTES:
- THE PERMANENT SWALES AND STORM DRAIN OF THE FINAL CONDITION ARE INTEGRAL COMPONENTS OF THIS SEDIMENT CONTROL PLAN.
 - THE DISTURBANCE REQUIRED TO CONSTRUCT THE PERMANENT AND TEMPORARY CONTROLS MUST BE MINIMIZED. GRADING OF DRAINAGE AREAS UPSTREAM OF CONTROLS NOT YET FINALIZED IS PROHIBITED.
 - ALL STORM DRAIN INLETS AND PIPES ARE TO BE FLUSHED WITH WATER AND PUMPED CLEAN UPON CONVERSION TO THE FINAL CONFIGURATION.
 - NO MORE THAN 20 ACRES MAY BE UNSTABILIZED AT ANY POINT IN TIME.
 - DUST CONTROL TO BE PROVIDED THROUGHOUT ENTIRE PROJECT. SEE DETAIL SHEET 23



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
With 2. sub 1 12-3-07
 Chief, Bureau of Highways MS Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chris Hanna 12/5/07
 Chief, Division of Land Development MS Date

Chris Deussen 12/5/07
 Chief, Development Engineering Division MS Date

DEVELOPER'S/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 FOND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE FOND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Robert Van Dyke 11/15/07
 SIGNATURE OF DEVELOPER/BUILDER DATE

ENGINEER'S CERTIFICATE
 I CERTIFY THAT THIS PLAN FOR FOND 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 FOND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE FOND WITHIN 30 DAYS OF COMPLETION.

Chris Deussen 11-14-07
 ENGINEER'S SIGNATURE DATE

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

USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

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

Chris Deussen 11/29/07
 HOWARD SOIL CONSERVATION DISTRICT DATE

LEGEND

----- LIMIT OF DISTURBANCE PHASE 1
 - - - - - LIMIT OF DISTURBANCE PHASE 2

NOTES:
 1. NO MORE THAN 20 ACRES MAY BE UNSTABILIZED AT ANY POINT IN TIME.
 2. A WETLAND SEED MIX IS TO BE USED TO STABILIZE ALL WETLANDS WITHIN THE LOD.

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. 12475, Expiration Date May 26, 2008.

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3809 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-589-2524 FAX: 301-421-4186

| DATE | REVISION | BY | APP'R. |
|----------|---|-----|--------|
| 11/16/07 | RUNNING-FENCE LANE LOWERED & STORM DRAIN ADDED AT NEW LOW POINT | DDS | |
| | | | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

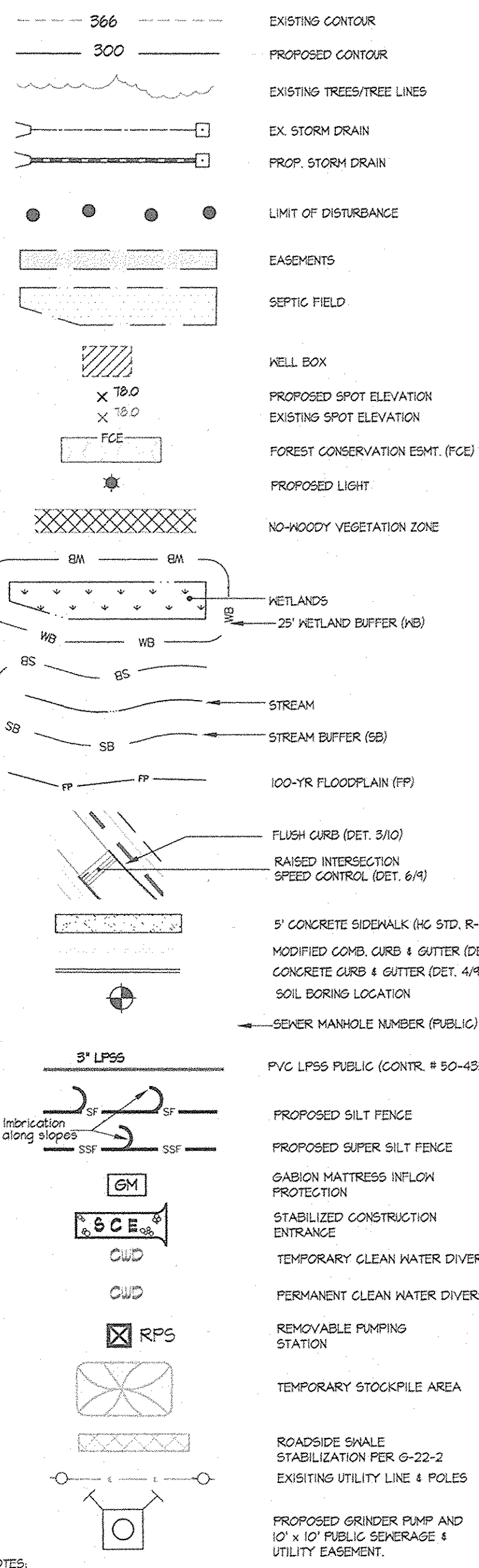
REVISED SEDIMENT CONTROL OVERVIEW AND SEQUENCE OF CONSTRUCTION

WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L2927 F487

ELECTION DISTRICT No. 5

| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|-------------------------|-------------------|
| 1" = 200' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| NOV./2007 | PARCEL 74 28 - 18,17 | 11 OF 78 |

SITE AND SEDIMENT CONTROL LEGEND



SEDIMENT TRAP C DATA TABLE

STONE OUTLET = +FE 57'-11"
 W/ MODIFIED DRAIN DOWN DEVICE
 EXISTING DRAINAGE AREA = 2.4 AC (EX-C)
 INTERIM DRAINAGE AREA = 31 AC (INT-3C)
 NET STORAGE VOL. REQUIRED = 0.15 AC-FT
 NET STORAGE VOL. PROVIDED = 0.15 AC-FT
 NET STORAGE ELEV. = 341.50
 DRY STORAGE REQUIRED = 0.15 AC-FT
 DRY STORAGE NEEL = 344.50
 EXISTING Q-HYR = 0.01 cfs
 INTERIM Q-HYR = 0.00 cfs
 SAFE PASS OF 10-YR STORM PROVIDED
 Q10 = 1.21 cfs
 10-YR NEEL = 344.11 ft
 BOTTOM ELEVATION = 344.00
 TOP OF EMBANKMENT = 400.50
 OUTFALL INVERT AT RISER = 341.00
 RISER NEAR CREST ELEVATION = 344.50
 RISER NEAR LENGTH = 12.4' min
 RISER TRASH RACK/ANTIVORTEX: N/A

ENTIRE 1-YR STORM STORED WITHIN TRAP
 INTERIM CONDITION HYDROGRAPH VOLUME = 0.04 AC-FT
 DRY STORAGE AVAILABLE = 0.15 AC-FT
 Q1-YR = 0.02 CFS

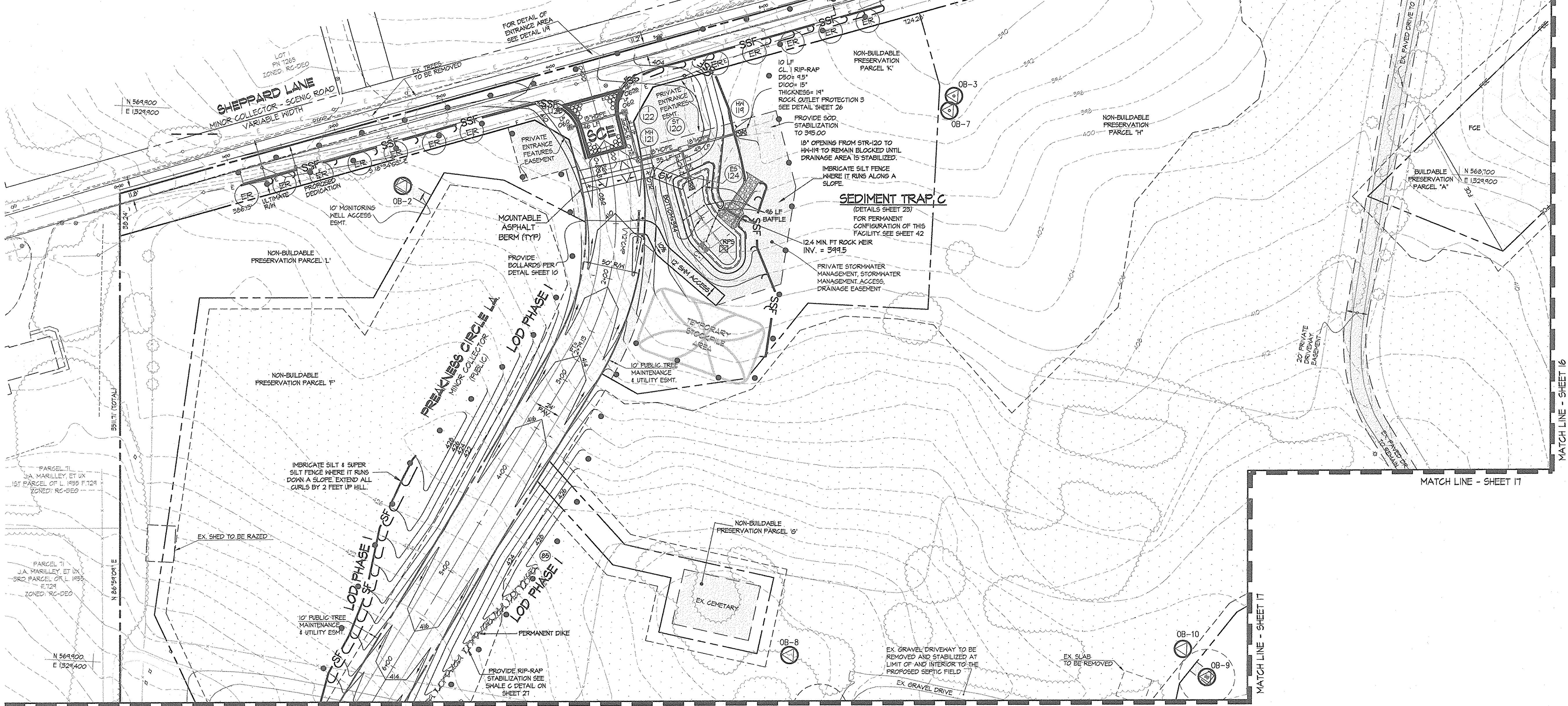
EMERGENCY SPILLWAY ELEV. = NONE
 CLEANOUT ELEVATION = 346.00
 EMBANKMENT TOP WIDTH = 12'
 SIDE SLOPES = 2:1 INTERIOR - 5:1 EXTERIOR

BAFFLE CONFIGURATION
 D = 60 FT
 A NET POOL = 2555 SQFT
 W₀ = A/D = 42
 L₀ = 2W₀ + 26 FT REQUIRED
 L₀ = 96 FT PROVIDED
 BAFFLE PER G-10-22
 INV. BAFFLE = 344
 TOP = 344.5

PERMANENT SWALE SUMMARY TABLE

| No. | Area (ft ²) | G-10 (ft) | SLOPE (ft) | DEPTH (ft) | VELOCITY (ft/sec) | SPECIFICATIONS | NOTES |
|-----|-------------------------|-----------|------------|------------|-------------------|----------------|---|
| 08 | 1.20 | 21 | 10.0 | 0.43 | 3.84 | BERM 1.0' 6.0' | 1' BERM PARALLEL TO ROW / RIP-RAP CHANNEL |

NOTE: SEE SHEET 25 FOR SWALE DETAIL.



- NOTES**
- ALL SIDEWALKS SHOWN ARE 5' (HG STD. R-3-05).
 - ALL PUBLIC SEWER LINE ON THIS FINAL ROAD PLAN IS 8" AND ALL SEWER HOUSE CONNECTIONS ARE 4" PER CONTR. 850-4330-D.
 - FOR SWALE INFORMATION SEE SEDIMENT CONTROL PLANS. (SHEETS 11-20)
 - ALL SWALES AND ROADSIDE DITCHES ARE TO BE LINED WITH EROSION CONTROL MATTING (PER G-22-2) MINIMUM WIDTH OF 6' AND CENTERED ON THE SWALE UNLESS OTHERWISE NOTED.

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

John S. [Signature] 2/1/07
 HOWARD SOIL CONSERVATION DISTRICT DATE

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

J. [Signature] 2/1/07
 USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William Z. [Signature] 2-5-07
 Chief, Bureau of Highways HZ Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Condy [Signature] 2/8/07
 Chief, Division of Land Development Date
[Signature] 2/7/07
 Chief, Development Engineering Division Date

DEVELOPER'S/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."

Robert R. Van [Signature] 1-25-07
 SIGNATURE OF DEVELOPER/BUILDER 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."

[Signature] 1-25-07
 ENGINEER'S SIGNATURE DATE



GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20869
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4166

| DATE | REVISION | BY | APP'R. |
|------|----------|----|--------|
| | | | |
| | | | |

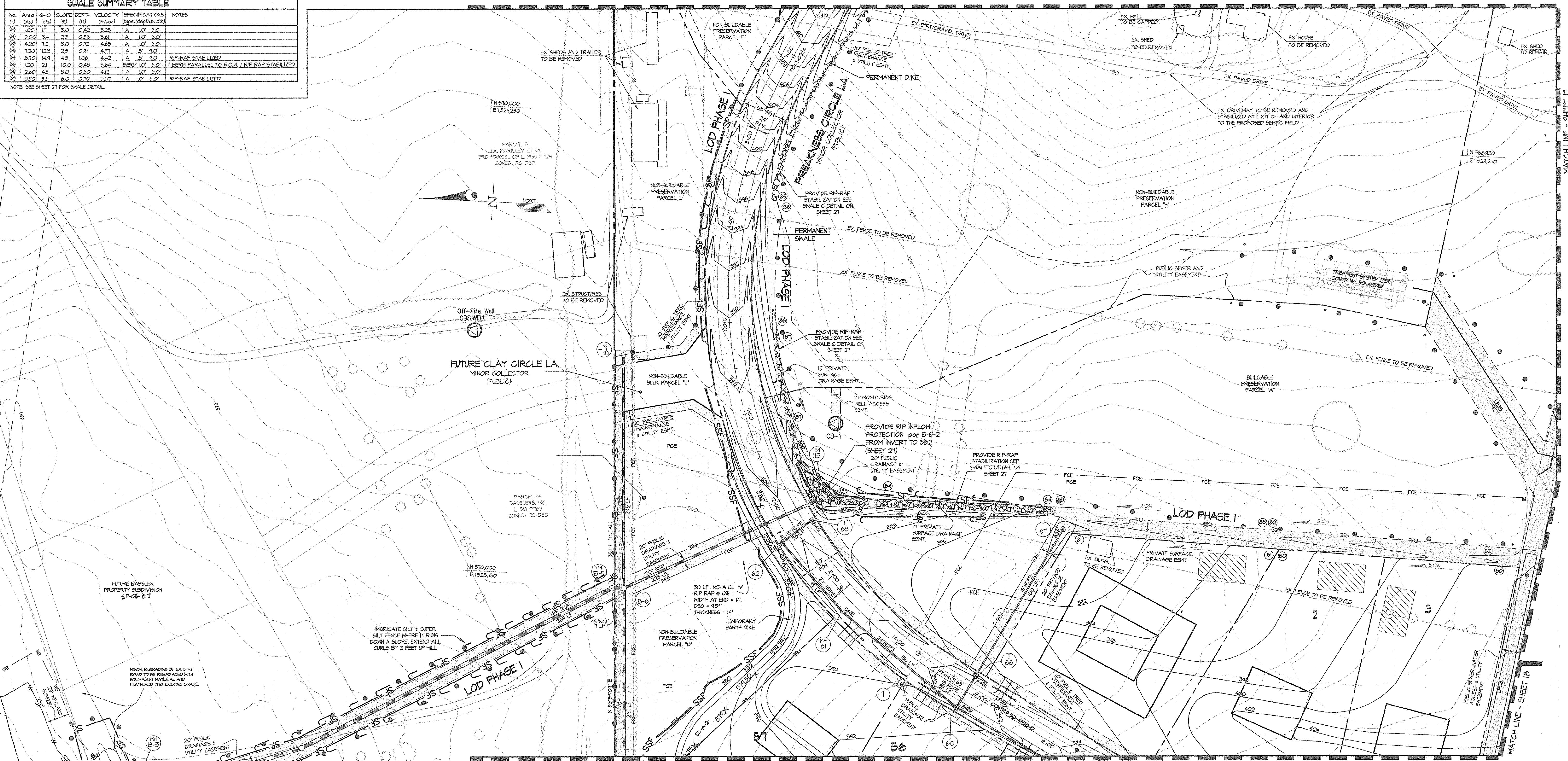
PREPARED FOR
 OWNER
 WALNUT GROVE HOLDINGS, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DIKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

GRADING and SEDIMENT CONTROL PLAN
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
 NON-BUILDABLE BULK PARCEL "J"
 L.2927 F.487

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|----------------|-------------------|
| 1" = 50' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | 28 - 18,17 | 12 OF 78 |

| SWALE SUMMARY TABLE | | | | | | | |
|---------------------|-----------|----------|-----------|------------|-------------------|-----------------------------------|---|
| No. (-) | Area (Ac) | G-I (ft) | SLOPE (%) | DEPTH (ft) | VELOCITY (ft/sec) | SPECIFICATIONS (Type/Depth/Width) | NOTES |
| 01 | 1.00 | 1.1 | 3.0 | 0.42 | 3.25 | A 10' 6.0' | |
| 02 | 2.02 | 3.4 | 2.8 | 0.56 | 3.61 | A 10' 6.0' | |
| 03 | 4.20 | 1.2 | 3.0 | 0.72 | 4.63 | A 10' 6.0' | |
| 04 | 1.20 | 1.3 | 2.5 | 0.41 | 4.11 | A 15' 9.0' | RIP-RAP STABILIZED |
| 05 | 8.70 | 14.1 | 4.5 | 1.06 | 4.42 | A 15' 9.0' | RIP-RAP STABILIZED |
| 06 | 1.20 | 2.1 | 10.0 | 0.45 | 3.64 | BERM 10' 6.0' | BERM PARALLEL TO ROW / RIP RAP STABILIZED |
| 07 | 2.60 | 4.5 | 3.0 | 0.60 | 4.12 | A 10' 6.0' | |
| 08 | 3.50 | 5.6 | 6.0 | 0.70 | 3.87 | A 10' 6.0' | RIP-RAP STABILIZED |

NOTE: SEE SHEET 21 FOR SWALE DETAIL.



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

[Signature] 2/1/07
 HOWARD SOIL CONSERVATION DISTRICT DATE

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

[Signature] 2/1/07
 USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

DEVELOPER'S/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 90 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

[Signature] 1-25-07
 SIGNATURE OF DEVELOPER/BUILDER 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."

[Signature] 1-25-07
 ENGINEER'S SIGNATURE DATE



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[Signature] 2-5-07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[Signature] 2/5/07
 Chief, Division of Land Development Date

[Signature] 2/5/07
 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

| DES. | DRN. | KIP | CHK. | MJT | DATE | REVISION | BY | APP'R. |
|------|------|-----|------|-----|------|----------|----|--------|
| | | | | | | | | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, LLC
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DIKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

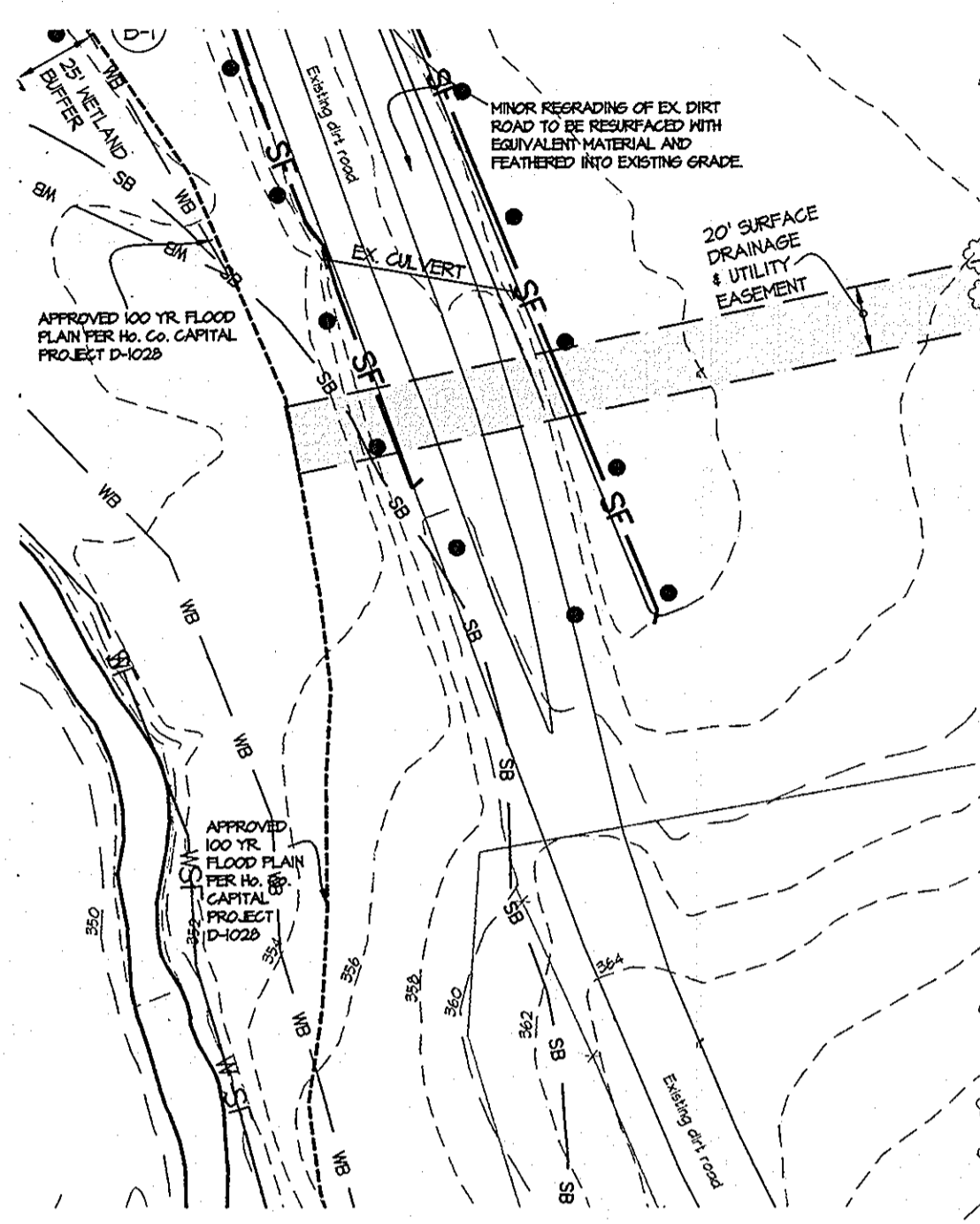
GRADING and SEDIMENT CONTROL PLAN
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
 NON-BUILDABLE BULK PARCEL "J"
 L.2927 F.487

ELECTION DISTRICT No. 5

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-----------------------|-------------------|
| 1" = 50' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID PARCEL | SHEET |
| JAN./2007 | 74 28 - 18,17 | 13 OF 78 |

| SWALE SUMMARY TABLE | | | | | | | |
|---------------------|-----------|------------|-----------|------------|-------------------|----------------------------|-------|
| No. | Area (Ac) | Q-10 (cfs) | SLOPE (%) | DEPTH (ft) | VELOCITY (ft/sec) | STABILIZATION (type/depth) | NOTES |
| 1 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |
| 2 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |
| 3 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |
| 4 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |
| 5 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |
| 6 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |
| 7 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |
| 8 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |
| 9 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |
| 10 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |
| 11 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |
| 12 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |
| 13 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |
| 14 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |
| 15 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |
| 16 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |
| 17 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |
| 18 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |
| 19 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |
| 20 | 0.30 | 0.5 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | |

NOTE: SEE SHEET 21 FOR SWALE DETAIL.



DEVELOPER/BUILDER'S CERTIFICATE

I HEREBY 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 FOND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE FOND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Walter Wundtzer 1-25-07
 SIGNATURE OF DEVELOPER/BUILDER DATE

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR FOND 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 FOND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE FOND WITHIN 30 DAYS OF COMPLETION.

Walter Wundtzer 1-25-07
 ENGINEER'S SIGNATURE DATE

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

Walter Wundtzer 2/1/07
 HOWARD SOIL CONSERVATION DISTRICT DATE

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

Jim Myrka 2/1/07
 USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Walter Wundtzer 2-5-07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

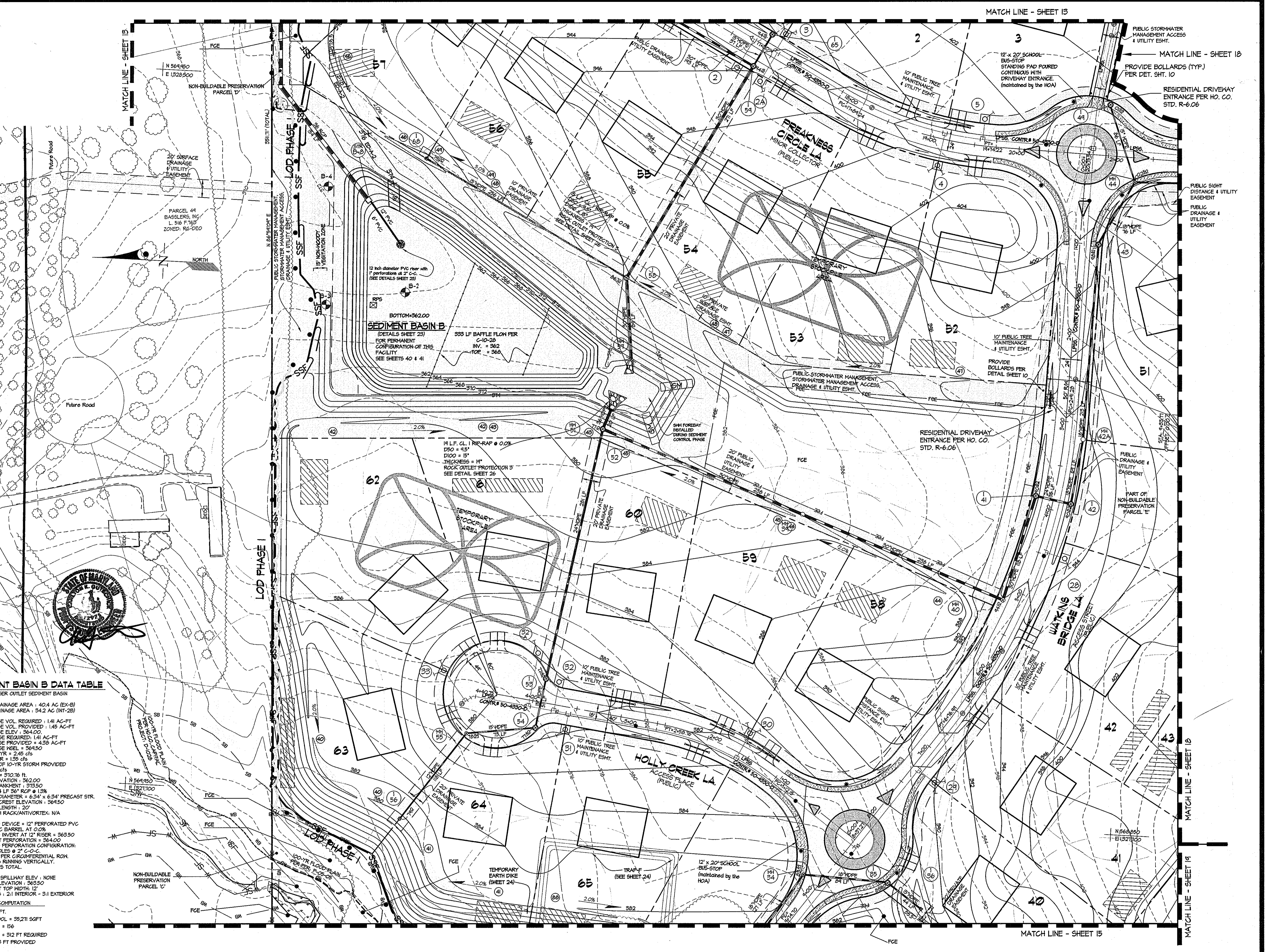
Condy Hanna 2/5/07
 Chief, Division of Land Development Date

Walter Wundtzer 2/1/07
 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 FAX: 301-421-4166

DATE: 12-22-07 BY: WJG APPR: WJG

REVISION: LOTS 1, 2, & 4 DRIVEWAY CULVERTS REMOVED



SEDIMENT BASIN B DATA TABLE

PRECAST RISER OUTLET SEDIMENT BASIN

EXISTING DRAINAGE AREA: 40.4 AC (EX-B)
 INTERIM DRAINAGE AREA: 34.2 AC (INT-2B)

NET STORAGE VOL. REQUIRED: 1.41 AC-FT
 NET STORAGE VOL. PROVIDED: 1.45 AC-FT
 NET STORAGE ELEV.: 362.00
 DRY STORAGE REQUIRED: 1.41 AC-FT
 DRY STORAGE PROVIDED: 4.38 AC-FT
 DRY STORAGE VOL.: 364.50
 EXISTING Q-1YR: 2.45 cfs
 INTERIM Q-1YR: 1.35 cfs
 SAFE PASS OF 10YR STORM PROVIDED Q10 = 11.20 cfs
 10-YR VELOCITY: 310.16 FT
 BOTTOM ELEVATION: 362.00
 TOP OF EMBANKMENT: 373.50
 OUTFALL: 154 LF 34" RCP @ 1.3%
 RISER/WEIR DIAMETER: 6.34' x 6.34' PRECAST STR.
 RISER/WEIR CREST ELEVATION: 364.50
 RISER/WEIR LENGTH: 20'
 RISER TRASH RACK/ANTI-VORTEX: N/A

DEWATERING DEVICE: 12" PERFORATED PVC WITH 12" PVC BARREL AT 0.0%
 DEWATERING INVERT AT 12" RISER: 363.50
 INVERT FIRST PERFORATION: 364.00
 DEWATERING PERFORATION CONFIGURATION: WITH 1" HOLES @ 27" O-C.
 14 HOLES PER PERFORATION RING.
 35 HOLES RUNNING VERTICALLY.
 621 HOLES TOTAL.

EMERGENCY SPILLWAY ELEV.: NONE
 CLEANOUT ELEVATION: 363.50
 EMBANKMENT TOP ELEV.: 12'
 SIDE SLOPES: 2:1 INTERIOR - 3:1 EXTERIOR

BAFFLE COMPUTATION

D = 226 FT.
 A NET POOL = 35.21 SOFT
 M6 = A/D = 56
 L6 = 296 = 302 FT REQUIRED
 L6 = 335 FT PROVIDED

GRADING and SEDIMENT CONTROL PLAN

WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
 NON-BUILDABLE BULK PARCEL "J"
 L.2927 F.487

SCALE: 1" = 50'

ZONING: RC-DEO

G. L. W. FILE No. 00153

DATE: JAN./2007

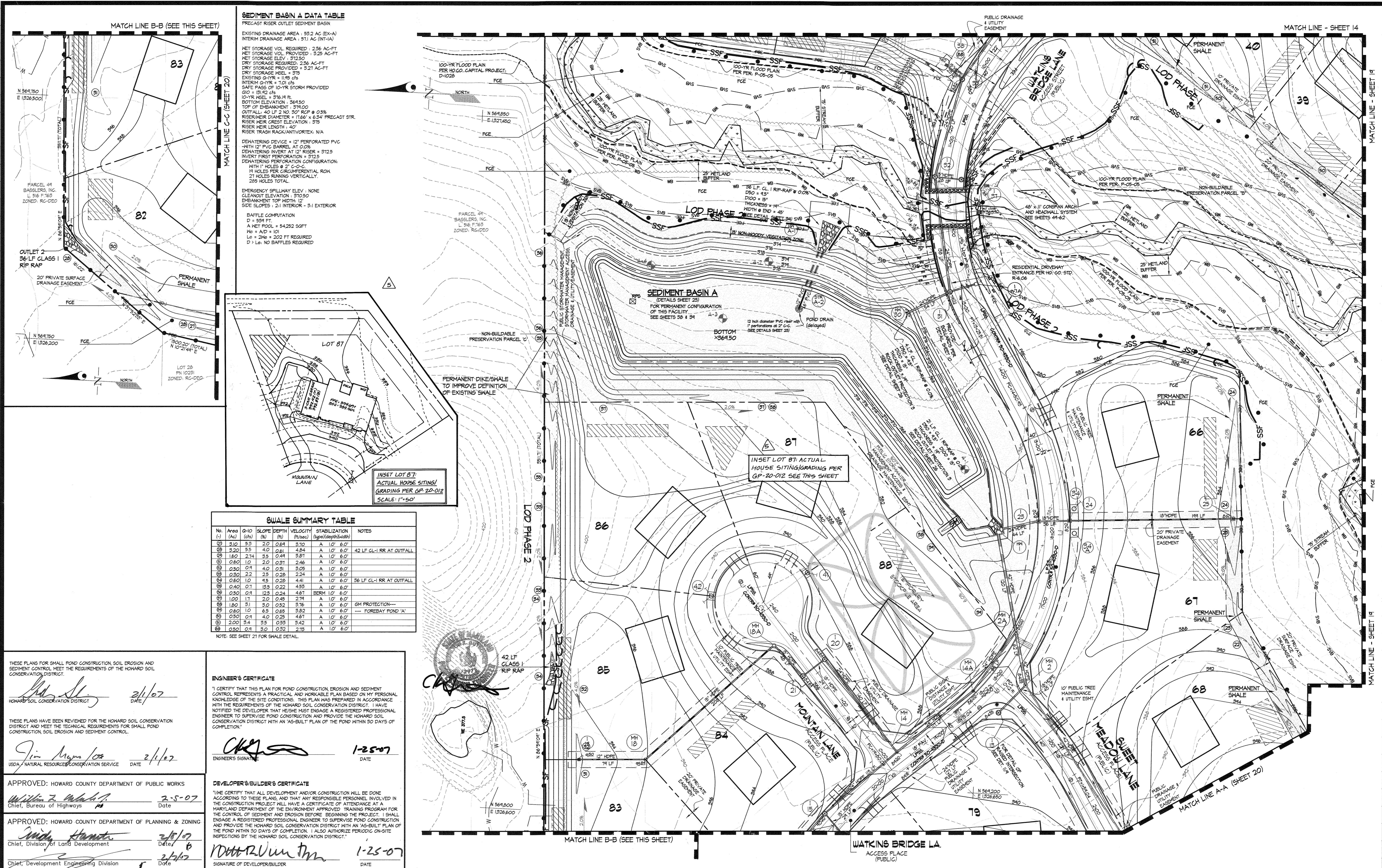
TAX MAP - GRID PARCEL 74 28 - 18,17

SHEET 14 OF 78

HOWARD COUNTY, MARYLAND

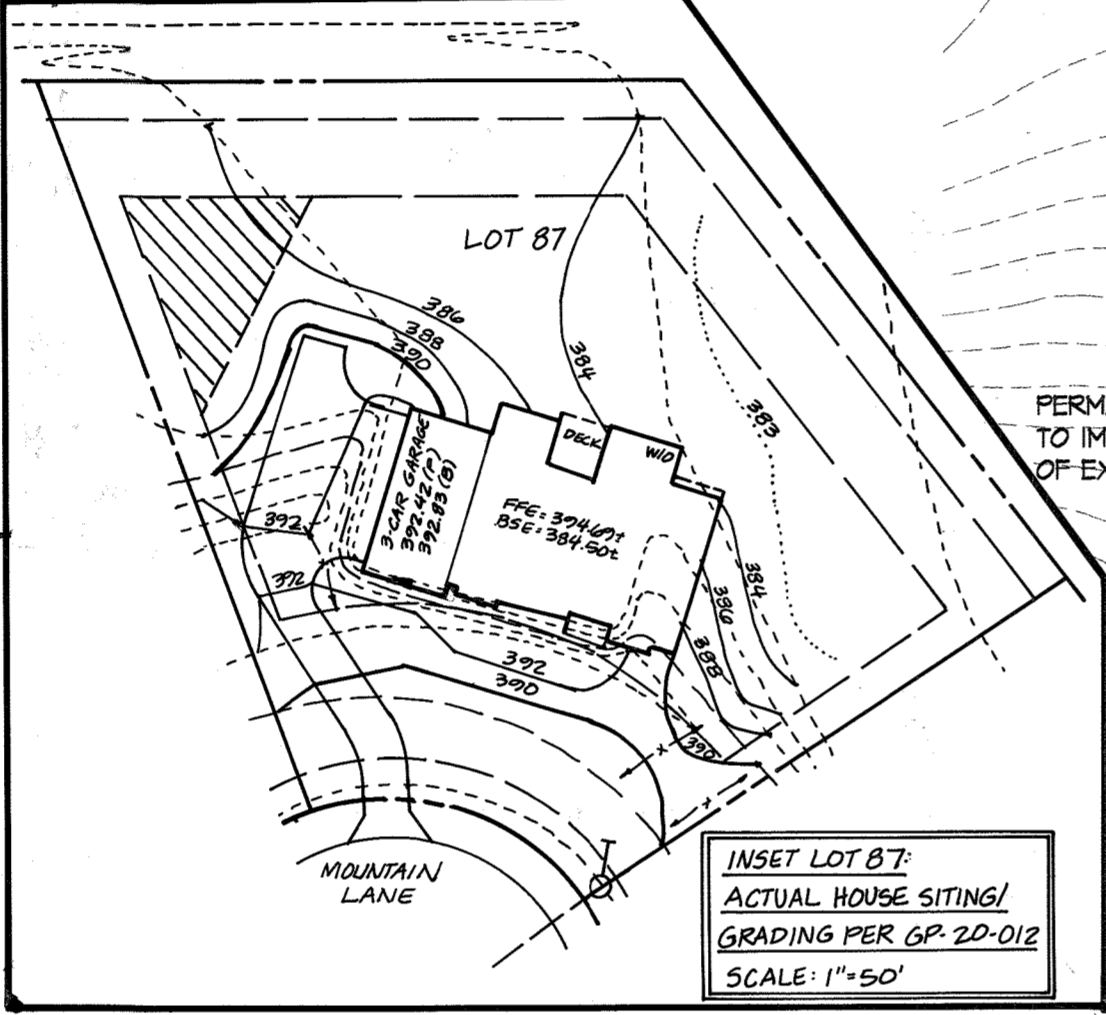
ELECTION DISTRICT No. 5

PREPARED FOR OWNER: WALNUT GROVE HOLDINGS, LLC, WALNUT GROVE DEVELOPMENT, INC., ROBERT VAN DYKE, PRESIDENT, 10705 CHARTER DRIVE, SUITE 320, COLUMBIA, MARYLAND 21044



SEDIMENT BASIN A DATA TABLE

PRECAST RISER OUTLET SEDIMENT BASIN
 EXISTING DRAINAGE AREA : 55.2 AC (EX-A)
 INTERIM DRAINAGE AREA : 57.1 AC (INT-A)
 NET STORAGE VOL. REQUIRED : 2.36 AC-FIT
 NET STORAGE VOL. PROVIDED : 3.25 AC-FIT
 NET STORAGE ELEV. : 312.50
 DRY STORAGE REQUIRED : 2.36 AC-FIT
 DRY STORAGE PROVIDED : 3.21 AC-FIT
 DRY STORAGE ELEV. : 315
 EXISTING Q-TYR : 11.49 cfs
 INTERIM Q-TYR : 17.01 cfs
 SAFE PASS OF 10-YR STORM PROVIDED
 Q10 : 21.42 cfs
 10-YR PEAK : 216.19 ft.
 BOTTOM ELEVATION : 364.50
 TOP OF EMBANKMENT : 374.00
 OUTFALL : 40 LF 2 NO. 30" RCP @ 0.5%
 RISERWEIR DIAMETER : 17.66" x 6.34" PRECAST STR.
 RISER WEIR CREST ELEVATION : 315
 RISER WEIR LENGTH : 40'
 RISER TRASH RACK/ANTIVORTEX : N/A
 DENATURING DEVICE : 12" PERFORATED PVC WITH 12" PVC BARREL AT 0.0%
 DENATURING INVERT AT 12" RISER : 312.5
 INVERT FIRST PERFORATION : 312.5
 DENATURING PERFORATION CONFIGURATION WITH 1" HOLES @ 2" C-TO-C
 14 HOLES PER CIRCUMFERENTIAL RING
 21 HOLES RUNNING VERTICALLY
 259 HOLES TOTAL
 EMERGENCY SPILLWAY ELEV. NONE
 CLEANOUT ELEVATION : 310.50
 EMBANKMENT TOP WIDTH : 12'
 SIDE SLOPES : 2:1 INTERIOR - 5:1 EXTERIOR
 BAFFLE COMPUTATION
 D = 554 FT
 A NET POOL = 54,252 SQ FT
 Mb = A/D = 101
 Lb = 296 = 202 FT REQUIRED
 D > Lb : NO BAFFLES REQUIRED



SWALE SUMMARY TABLE

| No. | Area (Ac) | Q-10 (cfs) | SLOPE (ft) | DEPTH (ft) | VELOCITY (ft/sec) | STABILIZATION (type/depth) | NOTES |
|-----|-----------|------------|------------|------------|-------------------|----------------------------|--------------------------|
| 01 | 3.10 | 5.3 | 2.0 | 0.64 | 3.10 | A 10' 6.0' | |
| 02 | 3.20 | 5.5 | 4.0 | 0.61 | 4.84 | A 10' 6.0' | 42 LF CL-1 RR AT OUTFALL |
| 03 | 1.60 | 2.74 | 3.5 | 0.44 | 3.97 | A 10' 6.0' | |
| 04 | 0.82 | 1.2 | 2.0 | 0.31 | 2.46 | A 10' 6.0' | |
| 05 | 0.50 | 0.4 | 4.0 | 0.31 | 3.05 | A 10' 6.0' | |
| 06 | 0.30 | 2.2 | 2.5 | 0.28 | 2.24 | A 10' 6.0' | 36 LF CL-1 RR AT OUTFALL |
| 07 | 0.60 | 1.0 | 4.5 | 0.28 | 4.41 | A 10' 6.0' | |
| 08 | 0.40 | 0.7 | 1.5 | 0.22 | 4.53 | A 10' 6.0' | |
| 09 | 0.30 | 0.4 | 1.2 | 0.24 | 4.67 | BERM 10' 6.0' | |
| 10 | 1.00 | 1.7 | 2.0 | 0.45 | 2.74 | A 10' 6.0' | |
| 11 | 1.80 | 3.1 | 3.0 | 0.52 | 3.76 | A 10' 6.0' | GM PROTECTION--- |
| 12 | 0.60 | 1.0 | 6.5 | 0.65 | 3.82 | A 10' 6.0' | --- FOREBAY POND 'A' |
| 13 | 0.50 | 0.4 | 4.0 | 0.25 | 4.67 | A 10' 6.0' | |
| 14 | 2.20 | 3.4 | 3.5 | 0.35 | 3.42 | A 10' 6.0' | |
| 15 | 0.50 | 0.4 | 3.0 | 0.52 | 2.75 | A 10' 6.0' | |

NOTE: SEE SHEET 21 FOR SWALE DETAIL.

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

[Signature] 2/1/07
 HOWARD SOIL CONSERVATION DISTRICT DATE

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

[Signature] 2/1/07
 USDA NATURAL RESOURCES CONSERVATION SERVICE DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 2-5-07
 Chief, Bureau of Highways DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
[Signature] 2/1/07
 Chief, Division of Land Development DATE

[Signature] 2/2/07
 Chief, Development Engineering Division 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.

[Signature] 1-25-07
 ENGINEER'S SIGNATURE DATE

DEVELOPER'S/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.

[Signature] 1-25-07
 SIGNATURE OF DEVELOPER/BUILDER DATE

| | | | | | | | | |
|--|--|---|--|---|--|-------------------|---|----------------------------|
| GLWGUTSCHICK 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 | | PREPARED FOR OWNER WALNUT GROVE HOLDING, L.L.C. WALNUT GROVE DEVELOPMENT, INC. ROBERT VAN DYKE PRESIDENT 10765 QUARTER DRIVE SUITE 320 COLUMBIA, MARYLAND 21044 | | GRADING and SEDIMENT CONTROL PLAN WALNUT GROVE LOTS 1 THRU 88, BUIDABLE PRESERVATION PARCEL 'A', NON-BUIDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND NON-BUIDABLE BULK PARCEL 'J' L2927 F487 | | SCALE 1" = 50' | ZONING RC-DEO | G. L. W. FILE No. 00153 |
| 10-07-10 [A] ADD INSET LOT 87 FOR ACTUAL HOUSE SITING/GRADING PER GP-20-012 12-22-07 [A] Lots 83 & 87 driveway culverts 07-23-08 [A] Lot 1-77A added & typ. swales check for Watkins Bridge Lane Rev. From 11-14-08 to 12-18-08 | | IKJ KLP WJG WJG | | DATE REVISION | | DATE JAN./2007 | TAX MAP - GRID PARCEL 74 28 - 18,17 | SHEET 15 OF 78 |



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William J. DeLash... 2-5-07
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Condy Ham... 2/5/07
 Chief, Division of Land Development

[Signature] 2/5/07
 Chief, Development Engineering Division

DEVELOPER'S/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 HOWARD COUNTY 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 90 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Robert D. V... 1-25-07
 SIGNATURE OF DEVELOPER/BUILDER 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 90 DAYS OF COMPLETION.

[Signature] 1-25-07
 ENGINEER'S SIGNATURE DATE

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

[Signature] 2/1/07
 USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

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

[Signature] 2/1/07
 HOWARD SOIL CONSERVATION DISTRICT DATE



GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3009 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BALY: 410-850-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

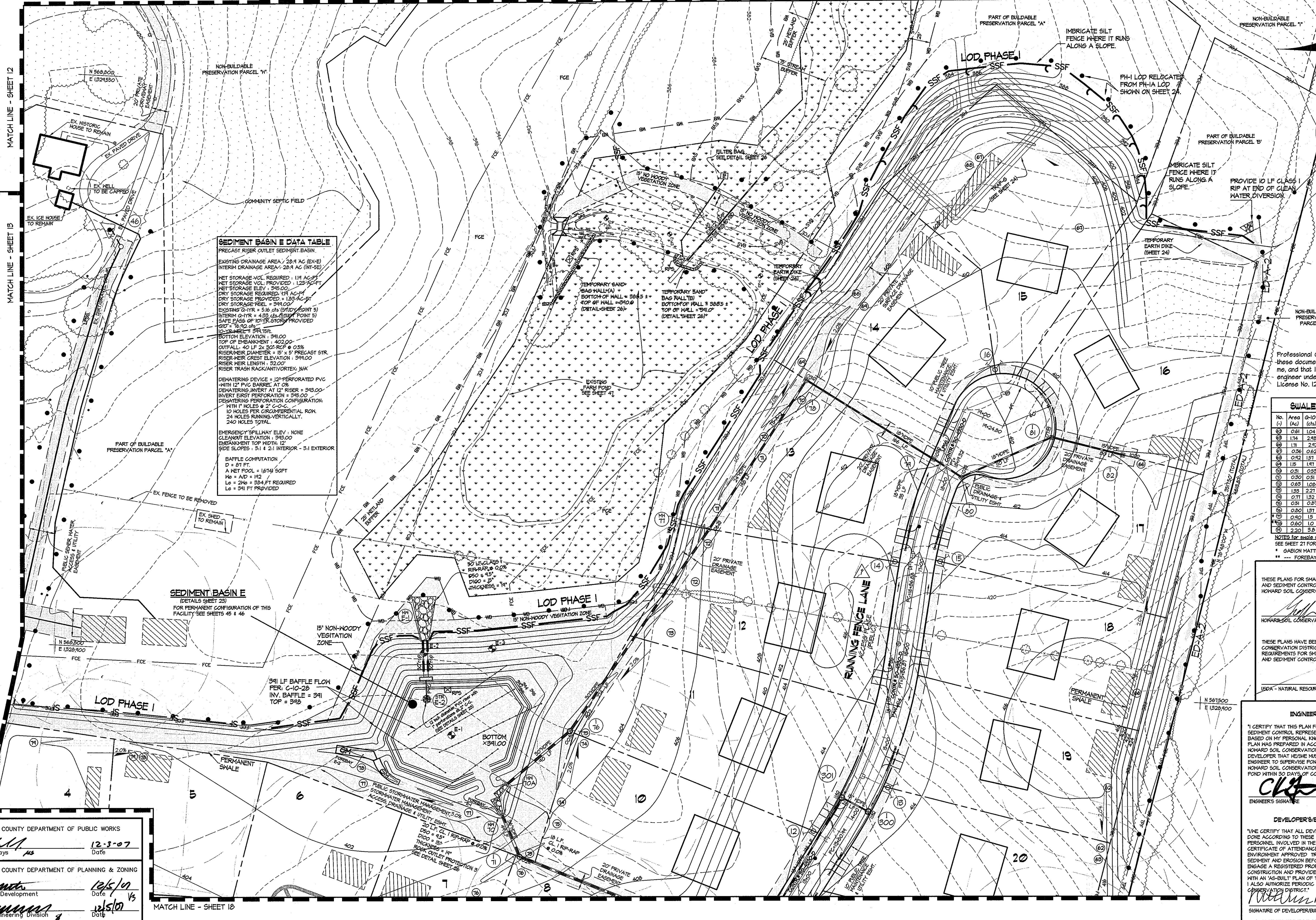
| DATE | REVISION | BY | APP'R. |
|------|----------|----|--------|
| | | | |
| | | | |
| | | | |

PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DIKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

GRADING and SEDIMENT CONTROL PLAN
WALNUT GROVE
 LOTS 1 THRU 88, BUILDBLE PRESERVATION PARCEL "A",
 NON-BUILDBLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
 NON-BUILDBLE BULK PARCEL "J"
 L.2927 F.487

ELECTION DISTRICT No. 5

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| 1" = 50' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 16 OF 78 |



SEDIMENT BASIN E DATA TABLE

PRECAST RISER OUTLET SEDIMENT BASIN

EXISTING DRAINAGE AREA: 28.4 AC (EX-E)
 INTERIM DRAINAGE AREA: 28.4 AC (INT-E2)

NET STORAGE VOL. REQUIRED: 118 AC-FT
 NET STORAGE VOL. PROVIDED: 123 AC-FT
 WET STORAGE ELEV.: 395.00'
 DRY STORAGE REQUIRED: 118 AC-FT
 DRY STORAGE PROVIDED: 123 AC-FT
 DRY STORAGE ELEV.: 391.00'
 EXISTING Q-HYR = 5.16 cfs (OUTLET POINT 5)
 INTERIM Q-HYR = 4.35 cfs (STUDY POINT 5)
 SAFE PASS OF 12" PVC STORM PROVIDED:
 Q10' = 16.10 cfs
 Q5' = 10.00 cfs

BOTTOM ELEVATION: 391.00'
 TOP OF EMBANKMENT: 402.00'
 OUTFALL: 40 LF 2% SLOPE @ 0.5%
 RISER/WEIR DIAMETER = 15" x 5' PRECAST STR.
 RISER/WEIR CRIST ELEVATION: 394.00'
 RISER WEIR LENGTH: 33.00'
 RISER TRASH RACK/ANTIVORTEX: N/A

DEWATERING DEVICE = 12" PERFORATED PVC
 WITH 12" PVC BARREL AT 0%
 DEWATERING INVERT AT 12" RISER = 393.00'
 INVERT FIRST PERFORATION = 395.00'
 DEWATERING PERFORMANCE CONFIGURATION:
 WITH 1" HOLES @ 2" ON-C
 10 HOLES PER CIRCUMFERENTIAL RING
 24 HOLES RUNNING VERTICALLY
 240 HOLES TOTAL

EMERGENCY SPILLWAY ELEV.: NONE
 CLEANOUT ELEVATION: 395.00'
 EMBANKMENT TOP WIDTH: 12'
 SIDE SLOPES: 3:1 & 2:1 INTERIOR - 3:1 EXTERIOR

BAFFLE COMPUTATION
 D = 87 FT
 A NET POOL = 1674 SQ FT
 M0 = A/D = 192
 L0 = 2M0 = 384 FT REQUIRED
 L0 = 391 FT PROVIDED

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. 12475, Expiration Date May 26, 2008.

SWALE SUMMARY TABLE

| No. (-) | Area (Ac) | Q-10 (cfs) | SLOPE (%) | DEPTH (ft) | VELOCITY (ft/sec) | STABILIZATION (type/depth) |
|---------|-----------|------------|-----------|------------|-------------------|----------------------------|
| 1 | 0.81 | 104 | 150 | 0.40 | 2.21 | A 1.0' 6.0' |
| 2 | 1.14 | 249 | 200 | 0.36 | 3.32 | A 1.0' 6.0' |
| 3 | 1.11 | 242 | 200 | 0.35 | 3.14 | A 1.0' 6.0' |
| 4 | 0.36 | 0.62 | 135 | 0.33 | 1.86 | A 1.0' 6.0' |
| 5 | 0.42 | 151 | 135 | 0.41 | 2.34 | A 1.0' 6.0' |
| 6 | 1.15 | 151 | 135 | 0.31 | 2.48 | A 1.0' 6.0' |
| 7 | 0.21 | 0.23 | 2.0 | 0.24 | 2.29 | A 1.0' 6.0' |
| 8 | 0.30 | 0.31 | 2.0 | 0.24 | 2.06 | A 1.0' 6.0' |
| 9 | 0.63 | 1.08 | 2.0 | 0.38 | 2.44 | A 1.0' 6.0' |
| 10 | 1.33 | 2.21 | 2.0 | 0.30 | 2.91 | A 1.0' 6.0' |
| 11 | 0.71 | 1.52 | 4.0 | 0.36 | 3.51 | A 1.0' 6.0' |
| 12 | 0.21 | 0.21 | 1.0 | 0.25 | 2.36 | A 1.0' 6.0' |
| 13 | 0.20 | 1.31 | 2.0 | 0.42 | 2.64 | A 1.0' 6.0' |
| 14 | 0.40 | 1.5 | 5.0 | 0.31 | 3.83 | A 1.0' 6.0' |
| 15 | 0.60 | 1.0 | 2.0 | 0.31 | 2.46 | A 1.0' 6.0' |
| 16 | 2.20 | 3.8 | 1.5 | 0.31 | 3.83 | A 1.0' 6.0' |

NOTES: See Swale Summary Table
 SEE SHEET 21 FOR SWALE DETAIL
 * GABION MATRICES PROTECTION INTO ---
 ** FOREBAY OF SWM POND 'E'

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

HOWARD SOIL CONSERVATION DISTRICT DATE: 11/23/07

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

USDA - NATURAL RESOURCES CONSERVATION SERVICE 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 ROAD CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER'S SIGNATURE: [Signature] DATE: 11-14-07

DEVELOPER/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.

DEVELOPER/BUILDER SIGNATURE: [Signature] DATE: 11/15/07

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 12-3-07
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 [Signature] 1/5/08
 Chief, Division of Land Development

[Signature] 1/5/08
 Chief, Development Engineering Division

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTNSVILLE OFFICE PARK
 BURTNSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BALT: 410-889-1820 DC/VA: 301-589-2524 FAX: 301-421-4186

Drawings\00153\Final-Road\00153Grading.dwg DES. BJM DRN. KIP CHK. MJT

REVISIONS

| NO. | DATE | DESCRIPTION | BY | APP'R. |
|-----|----------|---|-----|--------|
| 1 | 11/15/07 | Lot 14, 15, 16 Driveway Culvert to be Removed | WGS | |
| 2 | 11/15/07 | RUNNING FENCE LANE LOWERED AND STORM DRAIN ADDED AT NEW LOW POINT | DDS | |
| | | | BY | APP'R. |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

REVISED GRADING and SEDIMENT CONTROL PLAN
WALNUT GROVE
 LOTS 1 THRU 38, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L.2927 F.487

ELECTION DISTRICT No. 5

SCALE: 1" = 50'

ZONING: RC-DEO

G. L. W. FILE NO.: 00153

DATE: NOV. 2007

TAX MAP - GRID PARCEL: 74 28 - 18, 17

SHEET: 17 OF 78



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. 12475, Expiration Date May 26, 2008.

SCALE SUMMARY TABLE

| No. | Area (Ac) | Q-10 (ft) | SLOPE (%) | DEPTH (ft) | VELOCITY (ft/s) | STABILIZATION (ft/s) | NOTES |
|-----|-----------|-----------|-----------|------------|-----------------|----------------------|--|
| 1 | 0.21 | 1.04 | 1.50 | 0.40 | 2.21 | A 11.0' 6.0' | |
| 2 | 0.21 | 1.04 | 1.50 | 0.40 | 2.21 | A 11.0' 6.0' | |
| 3 | 1.74 | 2.93 | 2.00 | 0.56 | 3.20 | A 10' 6.0' | |
| 4 | 1.71 | 2.92 | 2.00 | 0.55 | 3.14 | A 10' 6.0' | |
| 5 | 0.36 | 0.62 | 1.33 | 0.33 | 1.86 | A 10' 6.0' | |
| 6 | 0.42 | 1.51 | 1.33 | 0.47 | 2.34 | A 10' 6.0' | |
| 7 | 1.18 | 1.71 | 1.33 | 0.31 | 2.49 | A 10' 6.0' | |
| 8 | 0.31 | 0.53 | 2.0 | 0.24 | 2.05 | A 10' 6.0' | |
| 9 | 0.50 | 0.51 | 2.0 | 0.24 | 2.06 | A 10' 6.0' | |
| 10 | 0.63 | 1.08 | 2.0 | 0.38 | 2.44 | A 10' 6.0' | |
| 11 | 1.35 | 2.27 | 2.0 | 0.50 | 2.94 | A 10' 6.0' | |
| 12 | 0.17 | 1.52 | 4.0 | 0.36 | 3.24 | A 10' 6.0' | |
| 13 | 0.51 | 0.81 | 2.0 | 0.35 | 2.36 | A 10' 6.0' | |
| 14 | 0.80 | 1.51 | 2.0 | 0.42 | 2.64 | A 10' 6.0' | |
| 15 | 0.40 | 1.5 | 5.0 | 0.31 | 3.83 | A 10' 6.0' | GABION MATRESS PROTECTION INTO FOREBAY OF SWM POND 'E' |
| 16 | 0.60 | 1.0 | 2.0 | 0.27 | 2.46 | A 10' 6.0' | |
| 17 | 2.23 | 3.8 | 2.3 | 0.27 | 3.23 | A 10' 6.0' | |
| 18 | 1.40 | 1.5 | 2.5 | 1.14 | 3.46 | A 15' 4.0' | RIP-RAP STABILIZED |
| 19 | 10.40 | 11.8 | 5.5 | 0.41 | 3.65 | A 15' 4.0' | |
| 20 | 1.14 | 2.49 | 2.0 | 0.36 | 3.20 | A 10' 6.0' | |
| 21 | 15.98 | 25.11 | 2.0 | 1.52 | 3.65 | B 15' 10.0' | RIP-RAP STABILIZED |
| 22 | 1.34 | 2.21 | 2.50 | 0.49 | 3.28 | A 10' 6.0' | ROCK STABILIZED AT HEADWALL |
| 23 | 1.40 | 2.4 | 2.0 | 0.5 | 3.03 | A 10' 6.0' | |

NOTE: SEE SHEET 21 FOR SCALE DETAIL.

DEVELOPER'S/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."

Robert Van Dye 11/15/07
SIGNATURE OF DEVELOPER/BUILDER 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."

Robert Van Dye 11-14-07
ENGINEER'S SIGNATURE DATE

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

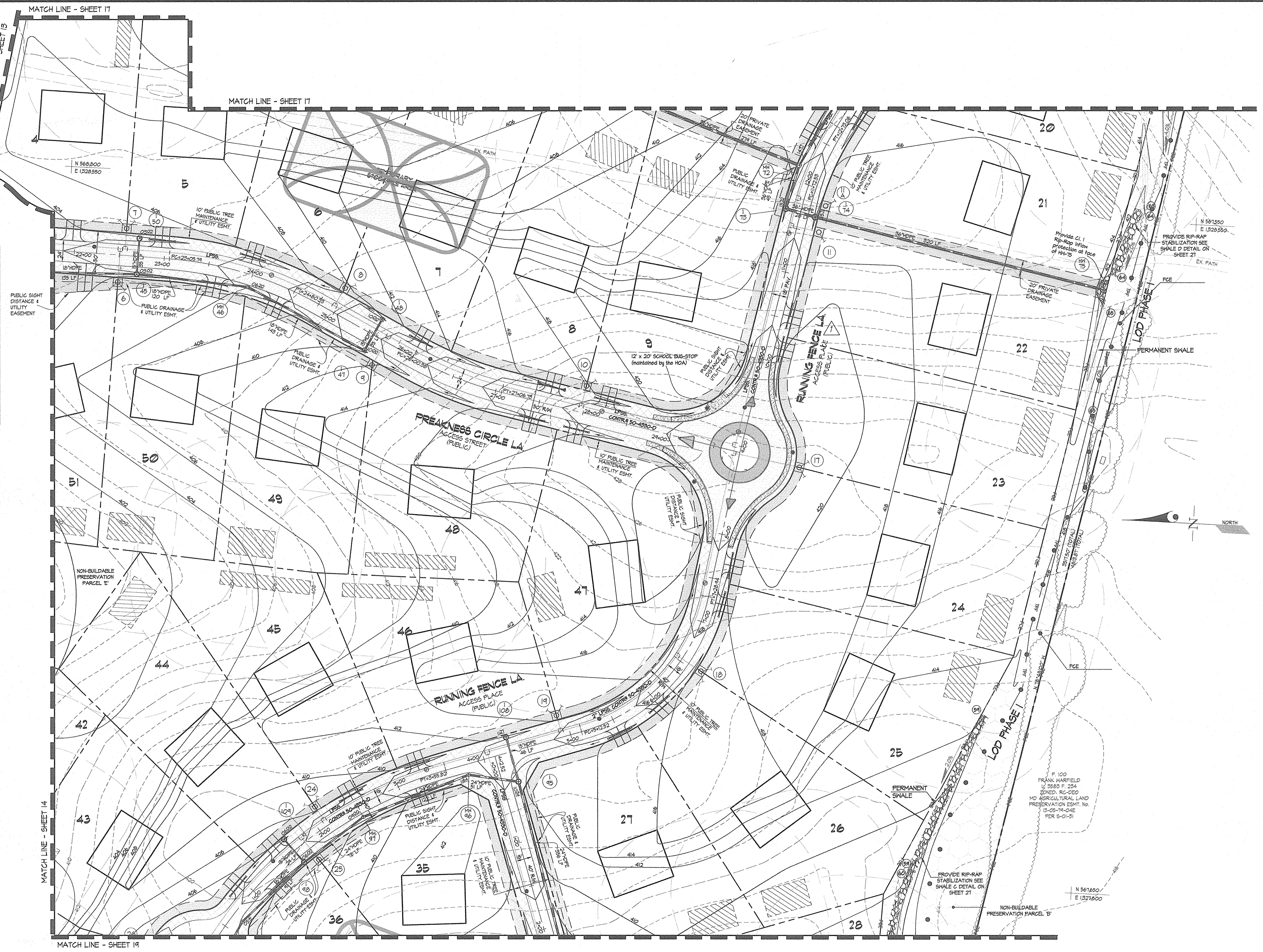
John A. ... 11/29/07
HOWARD SOIL CONSERVATION DISTRICT DATE

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

USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter ... 12-3-07
Chief, Bureau of Highways DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy ... 12/5/07
Chief, Division of Planning and Zoning DATE
Robert Van Dye 12/5/07
Chief, Development Engineering Division DATE



GLWGUTSCHICK LITTLE & WEBER, P.A.

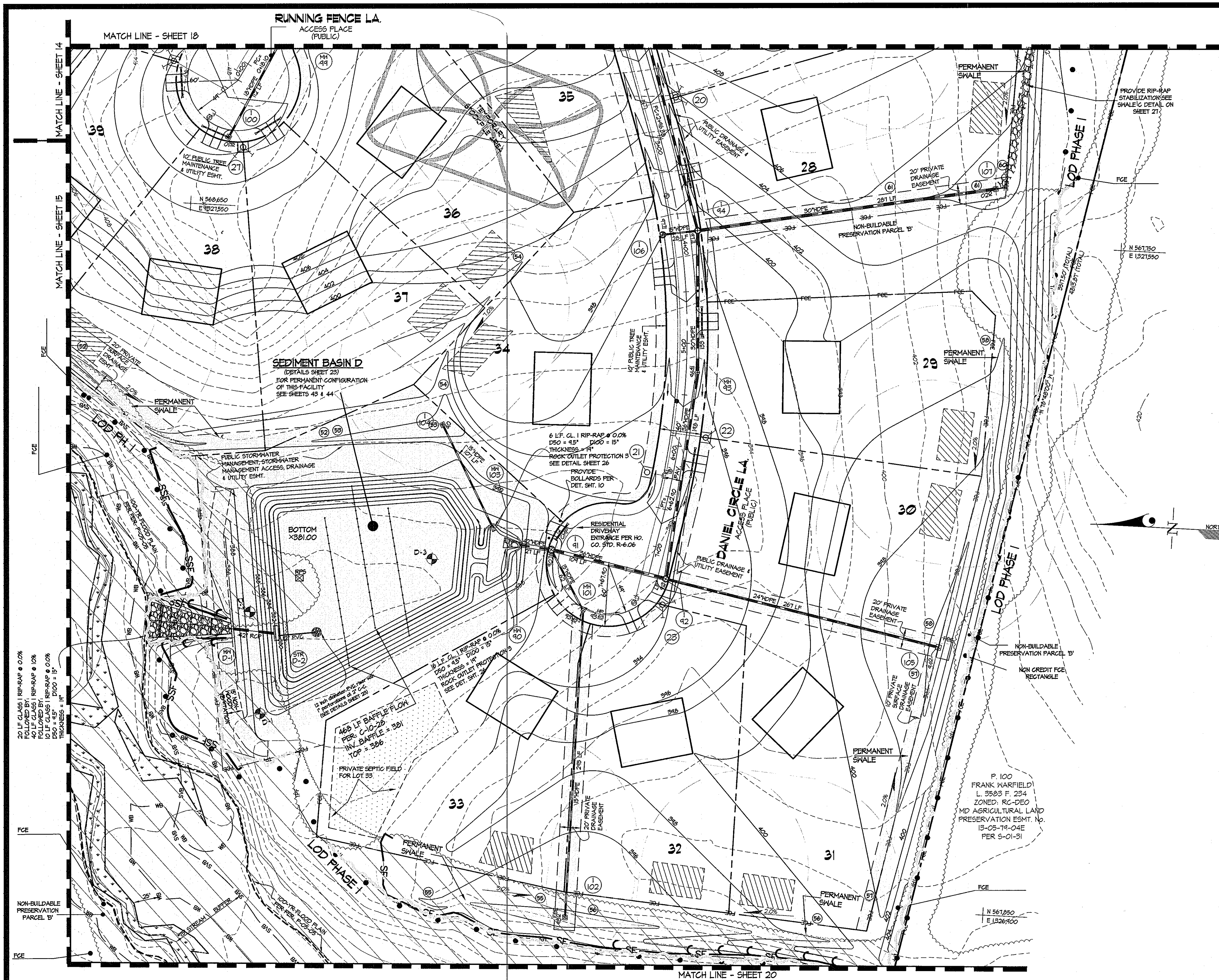
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3809 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/WA: 301-889-2524 FAX: 301-421-4186

| | | | |
|----------|---|-----|-------|
| 11/16/07 | RUNNING FENCE LANE LOWERED AND STORM DRAIN ADDED AT NEW LOW POINT | DDS | |
| | REVISION | BY | APPR. |

PREPARED FOR OWNER
WALNUT GROVE HOLDING, L.L.C.
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DYKE PRESIDENT
10705 CHARTER DRIVE
SUITE 320
COLUMBIA, MARYLAND 21044

REVISED GRADING and SEDIMENT CONTROL PLAN
WALNUT GROVE
LOTS 1 THRU 36, BUILDABLE PRESERVATION PARCEL 'A',
NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND
NON-BUILDABLE BULK PARCEL 'J'
L.2927 F487
ELECTION DISTRICT No. 5
HOWARD COUNTY, MARYLAND

| | | |
|-----------|----------------|-------------------|
| SCALE | ZONING | G. L. W. FILE No. |
| 1" = 50' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| NOV./2007 | 28 - 18,17 | 18 OF 78 |



| No. (-) | Area (Ac) | Q-10 (cfs) | SLOPE (%) | DEPTH (ft) | VELOCITY (ft/sec) | STABILIZATION (ft ² /depth/width) | NOTES |
|---------|-----------|------------|-----------|------------|-------------------|--|-------|
| 28 | 0.40 | 15 | 2.0 | 0.44 | 2.12 | A 1.0' 6.0' | |
| 29 | 1.20 | 21 | 2.0 | 0.49 | 2.92 | A 1.0' 6.0' | |
| 30 | 0.40 | 15 | 6.5 | 0.25 | 4.25 | A 1.0' 6.0' | |
| 31 | 0.30 | 0.5 | 4.0 | 0.25 | 2.81 | A 1.0' 6.0' | |
| 32 | 1.10 | 1.4 | 3.0 | 0.43 | 3.32 | A 1.0' 6.0' | |
| 33 | 2.00 | 3.4 | 3.0 | 0.54 | 3.86 | A 1.0' 6.0' | |
| 34 | 2.90 | 5.0 | 2.0 | 0.61 | 3.64 | A 1.0' 6.0' | |
| 35 | 10.42 | 11.8 | 3.5 | 0.71 | 3.63 | A 1.0' 6.0' | |
| 36 | 0.90 | 1.5 | 2.0 | 0.43 | 2.11 | A 1.0' 6.0' | |

NOTE: SEE SHEET 21 FOR SWALE DETAIL.

SEDIMENT BASIN D DATA TABLE

PRECAST RISER OUTLET SEDIMENT BASIN
 EXISTING DRAINAGE AREA : 21.6 AC (EX-D)
 INTERIM DRAINAGE AREA : 34.3 AC (INT-ID)
 NET STORAGE VOL. REQUIRED : 142 AC-FT
 NET STORAGE VOL. PROVIDED : 200 AC-FT
 NET STORAGE ELEV. : 304.00
 DRY STORAGE REQUIRED : 142 AC-FT
 DRY STORAGE PROVIDED : 234 AC-FT
 DRY STORAGE WEEL : 306.42
 EXISTING Q-10-YR : 1.23 cfs
 INTERIM Q-10-YR : 1.03 cfs
 SAFE PASS OF 10-YR STORM PROVIDED
 Q10 = 11.62 cfs
 10-YR WEEL = 307.14 ft
 BOTTOM ELEVATION : 301.00
 TOP OF EMBANKMENT : 340.00
 OUTFALL : 41 LF 42" RCP @ 0.5%
 RISER WEIR DIAMETER : 15" x 15" PRECAST STR.
 RISER WEIR CREST ELEVATION : 306.42
 RISER WEIR LENGTH : 32.0'
 RISER TRASH RACK (ANTIVORTEX) : N/A
 DENATURING DEVICE : 12" PERFORATED PVC WITH 12" PVC BARREL AT 0.0%
 DENATURING INVERT AT 12" RISER : 302.0
 INVERT FIRST PERFORATION : 304.00
 DENATURING PERFORATION CONFIGURATION : WITH 1" HOLES @ 2" C-O-C.
 14 HOLES PER CIRCUMFERENTIAL ROW.
 18 HOLES RUNNING VERTICALLY.
 342 HOLES TOTAL.
 EMERGENCY SPILLWAY ELEV. : NONE
 CLEANOUT ELEVATION : 305.00
 EMBANKMENT TOP WIDTH : 12'
 SIDE SLOPES : 2:1 INTERIOR - 3:1 EXTERIOR
 BAFFLE COMPUTATION
 D = 116 FT
 A NET POOL = 32.201 SQFT
 M = A/D = 164
 L = 2M = 324 FT REQUIRED
 L = 460 FT PROVIDED

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William T. Walsh 2/5/07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Condy Hanna 2/5/07
 Chief, Division of Land Development Date

John J. ... 2/5/07
 Chief, Development Engineering Division Date

DEVELOPER'S/BUILDER'S CERTIFICATE
 "I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A 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."
Robert Van Dyke 1-25-07
 SIGNATURE OF DEVELOPER/BUILDER 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."
CRJ 1-25-07
 ENGINEER'S SIGNATURE DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
J. Maguire 2/1/07
 USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] 2/1/07
 HOWARD SOIL CONSERVATION DISTRICT 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 FAX: 301-421-4188

| NO. | DATE | REVISION | BY | APPR. |
|----------|------|---------------------------------|----|-------|
| 12-22-09 | | Lot 23 Driveway Culvert Removed | | |

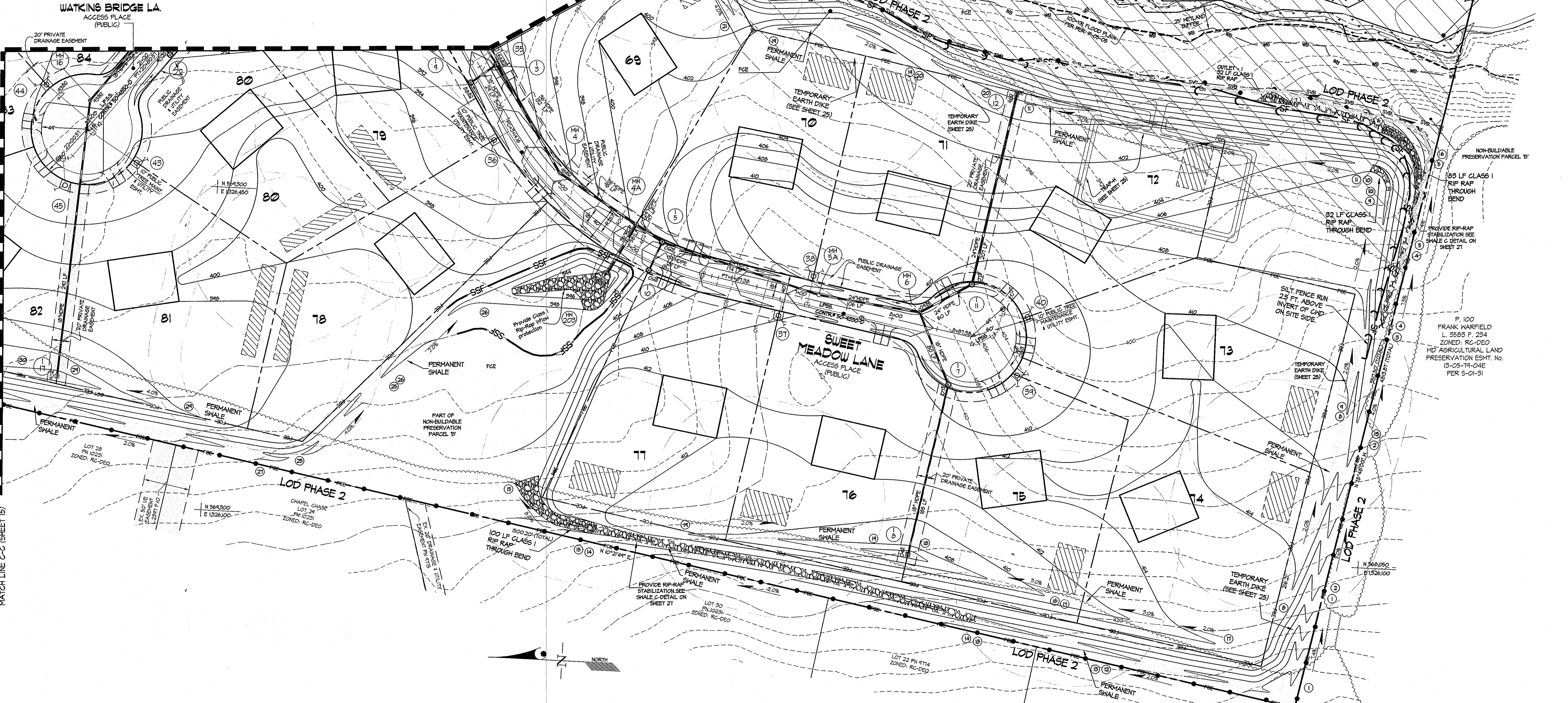
PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, LLC
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

GRADING and SEDIMENT CONTROL PLAN
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L.2927 F.487
 HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| 1" = 50' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 19 OF 78 |

| SWALE SUMMARY TABLE | | | | | | | | | | | | | | | |
|---------------------|-----------|------------|-----------|------------|-------------------|-----------------------------|------------------------------|---------|-----------|------------|-----------|------------|-------------------|-----------------------------|----------------------------------|
| No. (L) | Area (Ac) | Q-10 (cfs) | SLOPE (%) | DEPTH (ft) | VELOCITY (ft/sec) | STABILIZATION (Type/Length) | NOTES | No. (L) | Area (Ac) | Q-10 (cfs) | SLOPE (%) | DEPTH (ft) | VELOCITY (ft/sec) | STABILIZATION (Type/Length) | NOTES |
| 1 | 0.40 | 0.68 | 4.5 | 0.24 | 3.91 | A 10' 6.0' | | 6 | 10.0 | 17.1 | 12.0 | 0.93 | 6.62 | A 15' 9.0' | RIP-RAP |
| 2 | 1.60 | 2.14 | 5.5 | 0.45 | 4.58 | A 10' 6.0' | | 7 | 0.50 | 0.4 | 2.5 | 0.34 | 2.55 | A 10' 6.0' | |
| 3 | 1.90 | 3.25 | 4.5 | 0.41 | 4.44 | A 10' 6.0' | | 8 | 1.20 | 2.1 | 3.5 | 0.44 | 3.60 | A 10' 6.0' | |
| 4 | 2.10 | 3.6 | 6.0 | 0.56 | 3.85 | A 10' 6.0' | RIP-RAP STABILIZED | 9 | 1.20 | 2.1 | 2.5 | 0.46 | 3.11 | A 10' 6.0' | |
| 5 | 4.50 | 1.95 | 4.0 | 0.25 | 3.55 | A 10' 6.0' | RIP-RAP STABILIZED | 10 | 1.1 | 1.5 | 3.0 | 0.43 | 3.32 | A 10' 6.0' | |
| 6 | 4.5 | 7.1 | 6.0 | 0.78 | 4.18 | B 10' 6.0' | RIP-RAP STABILIZED | 11 | 0.50 | 0.5 | 4.0 | 0.25 | 2.61 | A 10' 6.0' | |
| 7 | 4.1 | 8.0 | 4.5 | 0.84 | 3.75 | A 10' 6.0' | RIP-RAP STABILIZED | 12 | 0.10 | 1.2 | 6.5 | 0.32 | 3.91 | A 10' 6.0' | |
| 8 | 0.7 | 1.2 | 2.0 | 0.40 | 2.55 | A 10' 6.0' | | 13 | 1.5 | 2.6 | 4.5 | 0.45 | 4.18 | A 10' 6.0' | |
| 9 | 1.0 | 1.71 | 2.5 | 0.45 | 3.05 | A 10' 6.0' | | 14 | 0.60 | 1.0 | 2.5 | 0.26 | 2.81 | A 10' 6.0' | |
| 10 | 1.2 | 2.1 | 2.5 | 0.46 | 3.11 | A 10' 6.0' | ROCK STABILIZED THROUGH TURN | 15 | 1.02 | 1.8 | 3.5 | 0.42 | 3.32 | A 10' 6.0' | |
| 11 | 2.4 | 4.56 | 2.5 | 0.65 | 3.56 | A 10' 6.0' | | 16 | 3.10 | 5.5 | 2.0 | 0.61 | 5.10 | A 10' 6.0' | |
| 12 | 2.60 | 4.48 | 2.5 | 0.62 | 3.85 | A 10' 6.0' | | 17 | 3.20 | 5.5 | 4.0 | 0.61 | 4.94 | A 10' 6.0' | 42 LF CLASS I RIP-RAP AT OUTFALL |
| 13 | 6.3 | 10.71 | 2.0 | 0.4 | 4.42 | A 10' 6.0' | | 18 | 1.60 | 2.1 | 3.5 | 0.41 | 3.81 | A 10' 6.0' | |
| 14 | 9.70 | 16.94 | 3.0 | 1.11 | 3.91 | A 15' 9.0' | ROCK STABILIZED THROUGH TURN | 19 | 0.80 | 1.4 | 2.0 | 0.42 | 2.84 | A 10' 6.0' | |

NOTE: SEE SHEET 21 FOR SWALE DETAIL.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William T. Melchior 2-5-07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Candy Hanna 2/5/07
 Chief, Division of Land Development Date

2/5/07
 Chief, Development Engineering Division Date

DEVELOPER'S/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.

Robert B. Vunthorn 1-25-07
 SIGNATURE OF DEVELOPER/BUILDER 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.

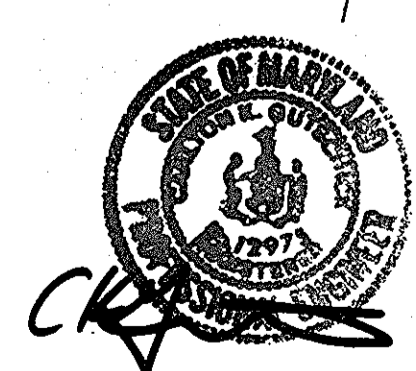
CRJ 1-25-07
 ENGINEER'S SIGNATURE DATE

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

Jim Myer 2/1/07
 USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

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

Chelle Aley 2/1/07
 HOWARD SOIL CONSERVATION DISTRICT 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 FAX: 301-421-4186

| DATE | REVISION | BY | APPR. |
|----------|---------------------------------------|-----|-------|
| 12-22-09 | Lot 72 & 75 Driveway Culverts Removed | WBJ | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, LLC
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

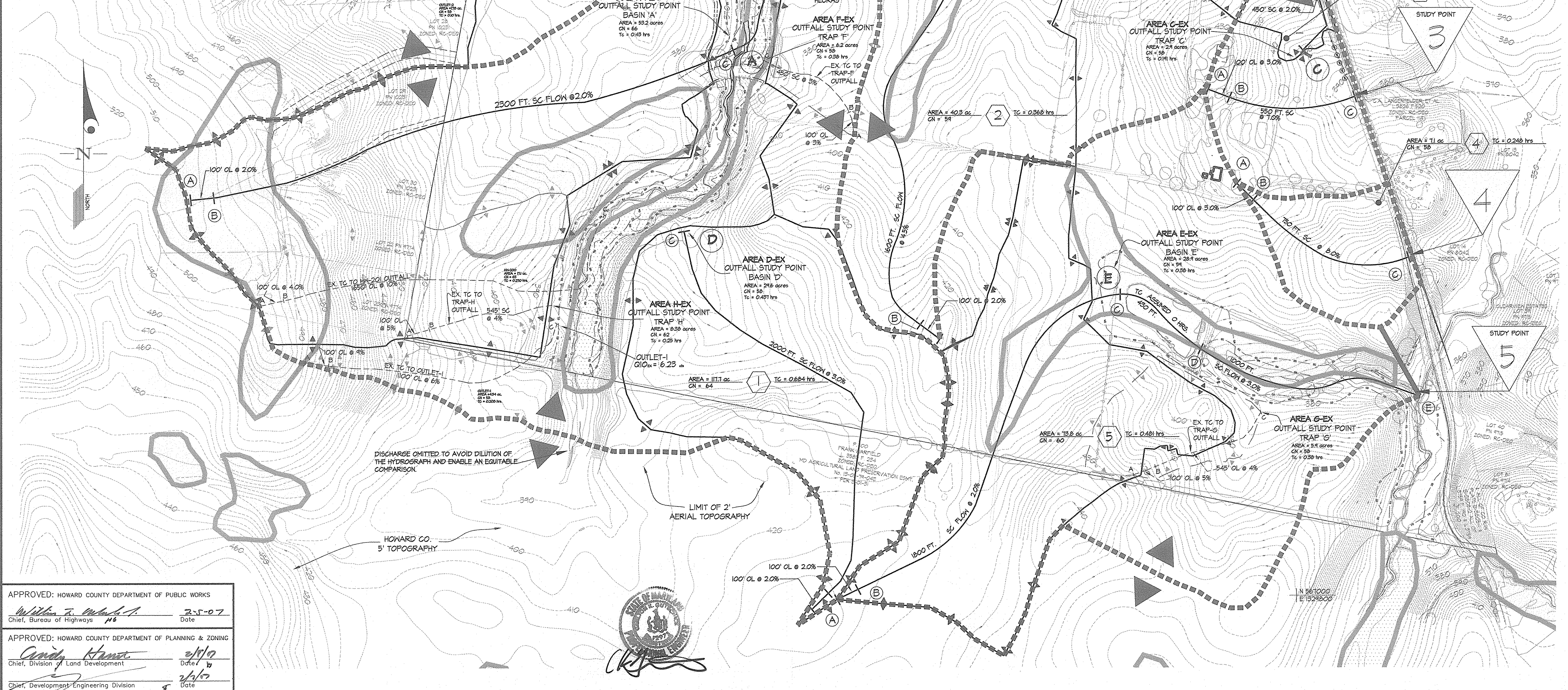
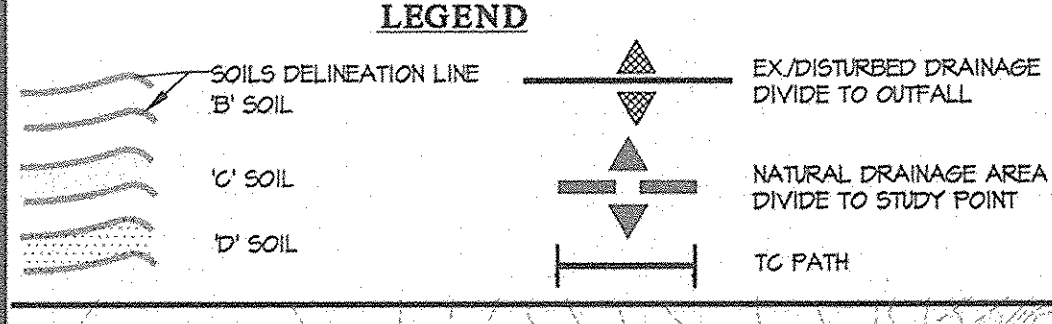
GRADING and SEDIMENT CONTROL PLAN
WALNUT GROVE
 LOTS 1 THRU 82, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L2927 F487
 HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| 1" = 50' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 20 OF 78 |

STUDY POINT SUMMARY TABLES

| PROPERTY BOUNDARY STUDY POINTS | | BASIN/TRAP OUTFALL STUDY POINTS | |
|--------------------------------|--------------|---------------------------------|--------------|
| Study Point (No.) | Qex-YR (cfs) | Study Point (No.) | Qex-YR (cfs) |
| 1 | 14.42 | A | 11.95 |
| 2 | 2.44 | B | 2.45 |
| 3 | 0.67 | C | 0.19 |
| 4 | 0.57 | D | 1.23 |
| 5 | 5.16 | E | 1.73 |
| | | F | 0.28 |
| | | G | 0.26 |
| | | H | 1.41 |

Note: Temporary Stormwater Management has been provided in the form of 1-yr attenuation at the Study Points along the property line as well as at all basin/trap outfalls. The natural drainage areas have been analyzed at the property boundary. The interim/disturbed drainage areas to each outfall have been modeled as meadow and analyzed accordingly.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William T. ... 2/5/07
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Candice ... 2/1/07
 Chief, Division of Land Development

Chief, Development Engineering Division



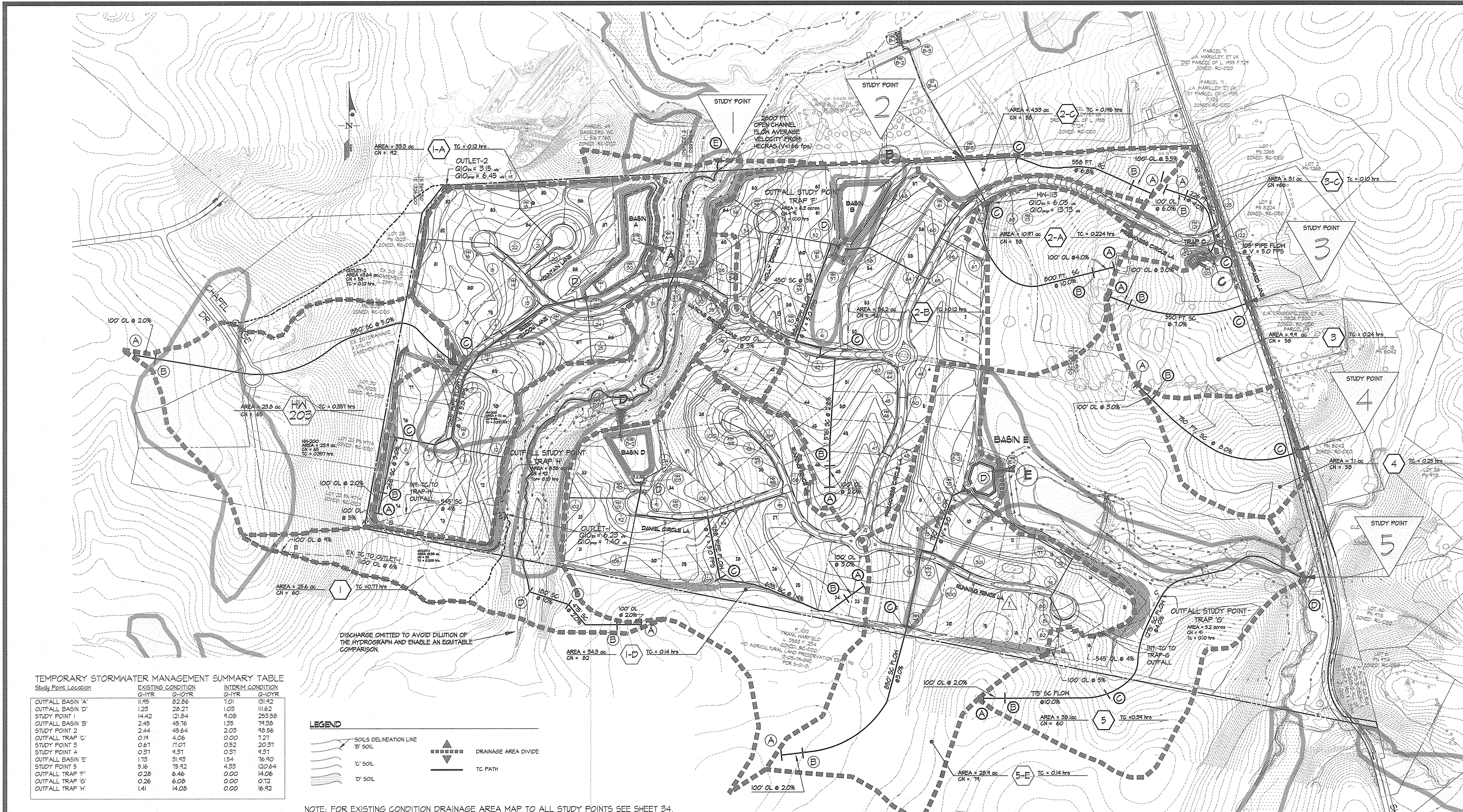
GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 FAX: 301-421-4186

| DATE | REVISION | BY | APPR. |
|------|----------|----|-------|
| | | | |
| | | | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DIKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

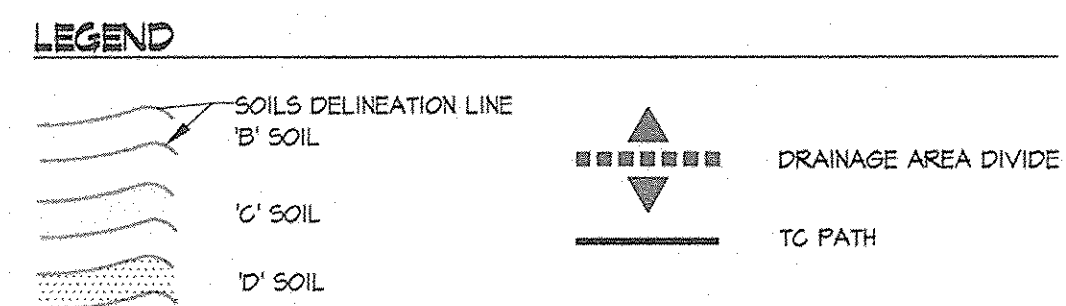
EXISTING CONDITION SEDIMENT AND EROSION CONTROL DRAINAGE AREA MAP
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
 NON-BUILDABLE BULK PARCEL "J"
 L.2927 F.487
 HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| 1"=200' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 21 OF 78 |



TEMPORARY STORMWATER MANAGEMENT SUMMARY TABLE

| Study Point Location | EXISTING CONDITION | | INTERIM CONDITION | |
|----------------------|--------------------|--------|-------------------|--------|
| | Q-1YR | Q-10YR | Q-1YR | Q-10YR |
| OUTFALL BASIN 'A' | 11.95 | 82.86 | 1.01 | 131.92 |
| OUTFALL BASIN 'D' | 1.23 | 28.27 | 1.03 | 111.62 |
| STUDY POINT 1 | 14.42 | 121.84 | 9.08 | 253.58 |
| OUTFALL BASIN 'B' | 2.45 | 45.76 | 1.55 | 71.38 |
| STUDY POINT 2 | 2.44 | 45.64 | 2.02 | 49.56 |
| OUTFALL TRAP 'C' | 0.18 | 4.26 | 1.21 | 1.21 |
| STUDY POINT 3 | 0.61 | 11.07 | 0.52 | 20.37 |
| STUDY POINT 4 | 0.57 | 4.51 | 0.37 | 4.51 |
| OUTFALL BASIN 'E' | 1.13 | 31.43 | 1.54 | 76.90 |
| STUDY POINT 5 | 5.16 | 75.92 | 4.33 | 120.64 |
| OUTFALL TRAP 'F' | 0.28 | 6.46 | 0.00 | 14.06 |
| OUTFALL TRAP 'G' | 0.26 | 6.08 | 0.00 | 0.72 |
| OUTFALL TRAP 'H' | 1.41 | 14.08 | 0.00 | 16.92 |



NOTE: FOR EXISTING CONDITION DRAINAGE AREA MAP TO ALL STUDY POINTS SEE SHEET 34.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter J. ... 12-3-07
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
... 12/3/07
 Chief, Development Engineering Division

DEVELOPER'S/BUILDER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS...
 SIGNATURE OF DEVELOPER/BUILDER: *...* DATE: 11/15/07

ENGINEER'S CERTIFICATE
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN...
 ENGINEER'S SIGNATURE: *...* DATE: 11-16-07

USDA - NATURAL RESOURCES CONSERVATION SERVICE
 THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT...
 HOWARD SOIL CONSERVATION DISTRICT SIGNATURE: *...* DATE: 11/23/07

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. 12478, Expiration Date May 26, 2008.

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 TEL: 301-421-4024 FAX: 301-421-4186

| DATE | REVISION | BY | APP'R. |
|----------|---|-----|--------|
| 11/16/07 | RUNNING FENCE LANE LOWERED AND STORM DRAIN ADDED AT NEW LOW POINT | DDS | |

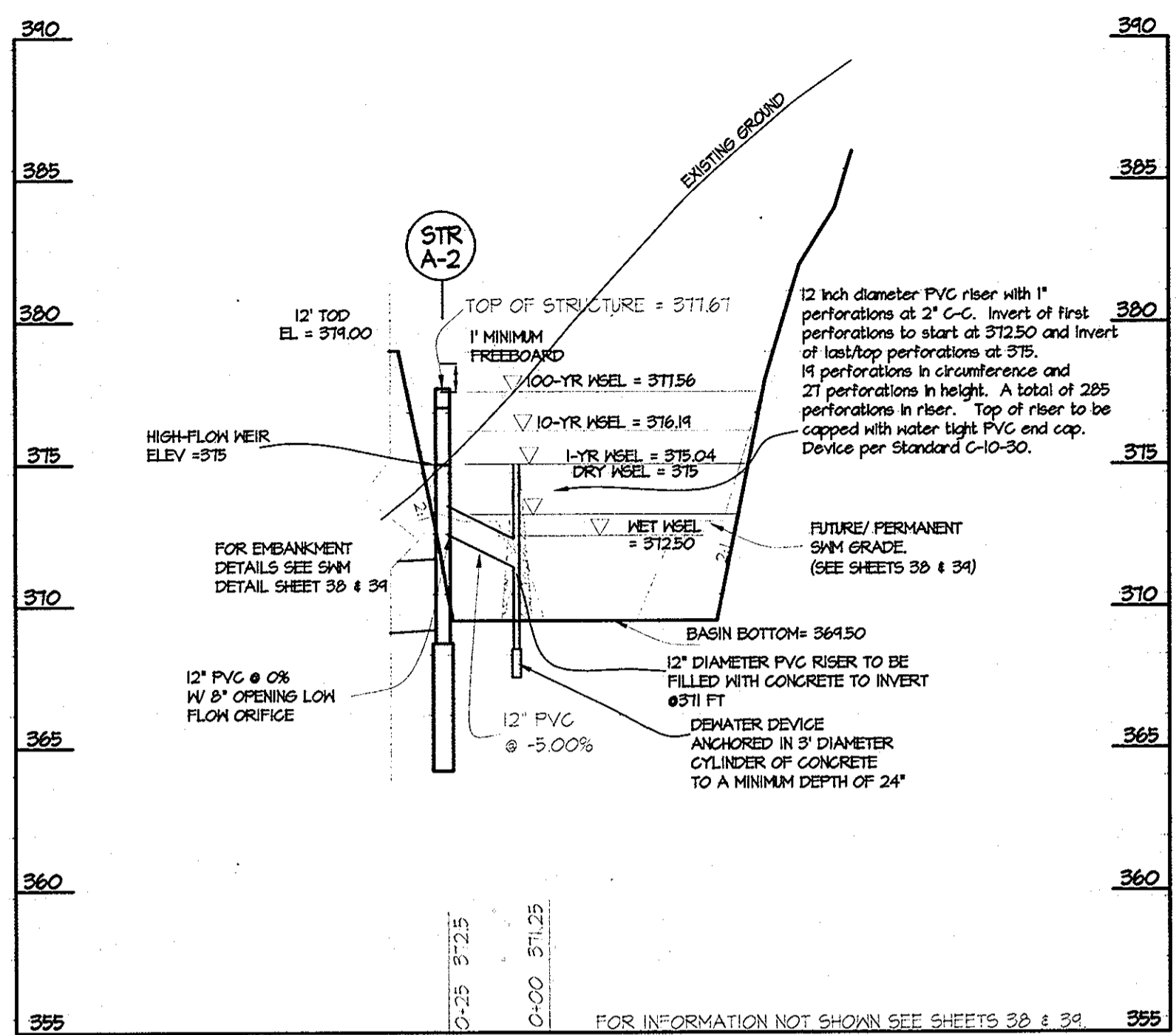
PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 1075 CHARTER DRIVE
 SUITE 320
 COLUMA, MARYLAND 21044

REVISED SEDIMENT CONTROL INTERIM CONDITION DRAINAGE AREA MAP
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L.2927 F.487
 HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|----------------|-------------------|
| 1" = 200' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| NOV./2007 | 28 - 18,17 | 22 OF 78 |

SEDIMENT BASIN A DATA TABLE

EXISTING DRAINAGE AREA: 38.2 AC (EX-A)
 INTERIM DRAINAGE AREA: 37.1 AC (INT-A)
 NET STORAGE VOL. REQUIRED: 2.36 AC-FT
 NET STORAGE VOL. PROVIDED: 3.25 AC-FT
 NET STORAGE ELEV.: 372.50
 DRY STORAGE REQUIRED: 2.36 AC-FT
 DRY STORAGE PROVIDED: 3.21 AC-FT
 DRY STORAGE ELEV.: 375
 EXISTING O-H-R: 1.01 cfs
 INTERIM O-H-R: 1.01 cfs
 SAFE PASS OF 10-YR STORM PROVIDED: 0.0 = 0.0 cfs
 10-YR WSEL: 376.14 ft
 BOTTOM ELEVATION: 368.50
 TOP OF EMBANKMENT: 378.00
 OUTFALL: 40 LF 24" 30" RCP @ 0.5%
 RISER KEIR DIAMETER: 12" x 6.54' PRECAST STR
 RISER KEIR CREST ELEVATION: 375
 RISER KEIR LENGTH: 20'
 RISER TRASH RACK/ANTI-VORTEX: N/A
 DENATERING DEVICE: 12" PERFORATED PVC WITH 12" PVC BARREL AT 0.0%
 DENATERING INVERT AT 12" RISER: 372.5
 INVERT FIRST PERFORATION: 372.5
 DENATERING PERFORATION CONFIGURATION:
 WITH 1" HOLES @ 2" C-C
 18 HOLES PER CIRCUMFERENTIAL ROW
 27 HOLES RUNNING VERTICALLY
 324 HOLES TOTAL
 EMERGENCY SPILLWAY ELEV.: NONE
 CLEANOUT ELEVATION: 370.50
 EMBANKMENT TOP WIDTH: 12'
 SIDE SLOPES: 2:1 INTERIOR - 3:1 EXTERIOR



SEDIMENT BASIN A - PROFILE THROUGH PRINCIPLE SPILLWAY

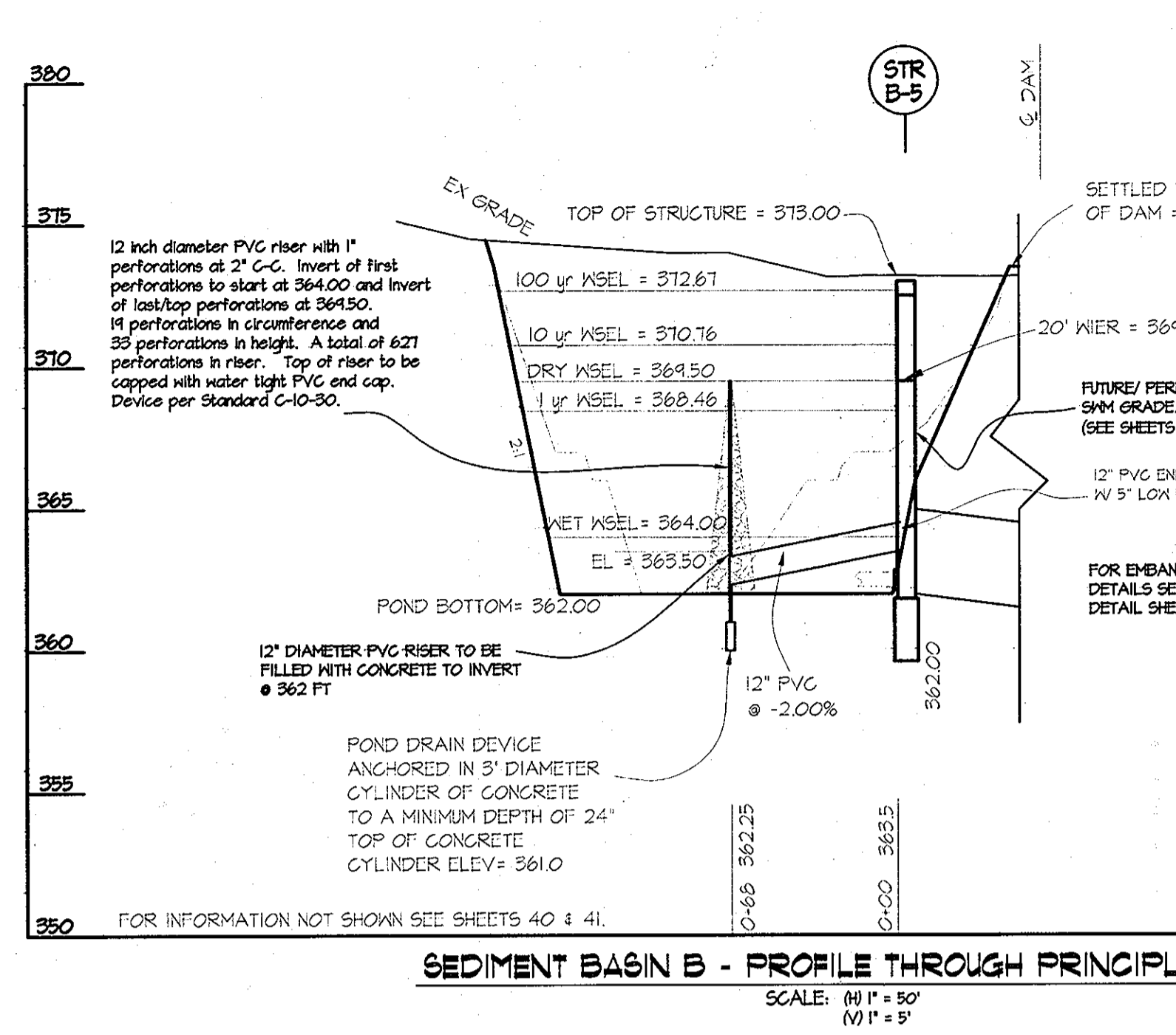
SCALE: (H) 1" = 5'
(V) 1" = 5'

BASIN A ORIFICE DETAIL



SEDIMENT BASIN B DATA TABLE

EXISTING DRAINAGE AREA: 40.4 AC (EX-B)
 INTERIM DRAINAGE AREA: 34.2 AC (INT-B)
 NET STORAGE VOL. REQUIRED: 1.41 AC-FT
 NET STORAGE VOL. PROVIDED: 1.45 AC-FT
 NET STORAGE ELEV.: 364.00
 DRY STORAGE REQUIRED: 1.41 AC-FT
 DRY STORAGE PROVIDED: 1.43 AC-FT
 DRY STORAGE ELEV.: 364.50
 EXISTING O-H-R: 2.45 cfs
 INTERIM O-H-R: 1.35 cfs
 SAFE PASS OF 10-YR STORM PROVIDED: 0.0 = 0.0 cfs
 10-YR WSEL: 370.76 ft
 BOTTOM ELEVATION: 362.00
 OUTFALL: 40 LF 24" RCP @ 1.2%
 RISER KEIR DIAMETER: 6.54' x 6.54' PRECAST STR
 RISER KEIR CREST ELEVATION: 364.50
 RISER KEIR LENGTH: 20'
 RISER TRASH RACK/ANTI-VORTEX: N/A
 DENATERING DEVICE: 12" PERFORATED PVC WITH 12" PVC BARREL AT 0.0%
 DENATERING INVERT AT 12" RISER: 365.50
 INVERT FIRST PERFORATION: 365.50
 DENATERING PERFORATION CONFIGURATION:
 WITH 1" HOLES @ 2" C-C
 18 HOLES PER CIRCUMFERENTIAL ROW
 33 HOLES RUNNING VERTICALLY
 427 HOLES TOTAL
 EMERGENCY SPILLWAY ELEV.: NONE
 CLEANOUT ELEVATION: 365.50
 EMBANKMENT TOP WIDTH: 12'
 SIDE SLOPES: 2:1 INTERIOR - 3:1 EXTERIOR



SEDIMENT BASIN B - PROFILE THROUGH PRINCIPLE SPILLWAY

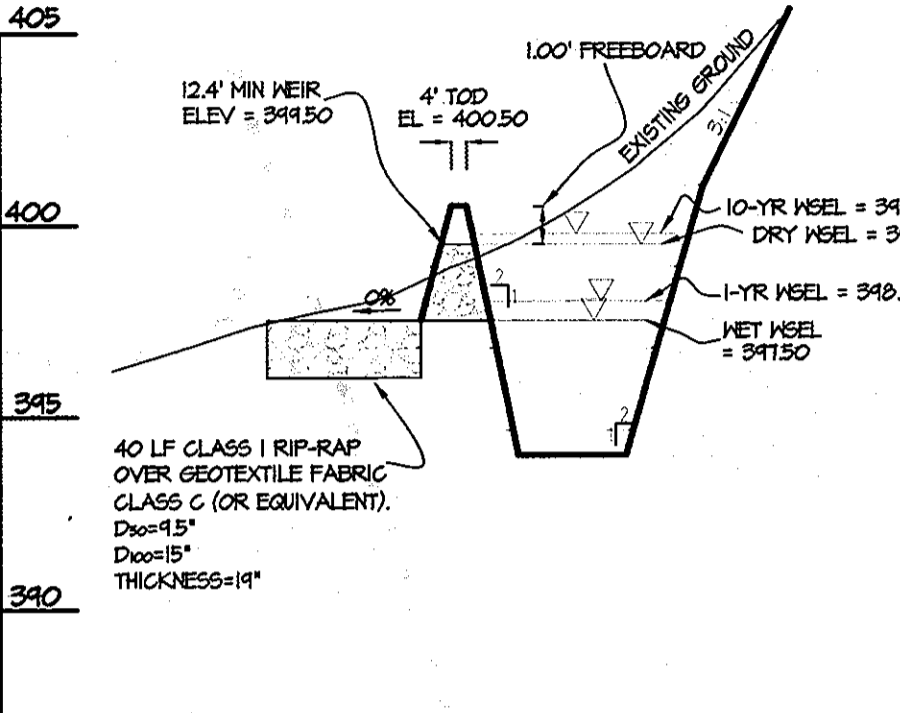
SCALE: (H) 1" = 5'
(V) 1" = 5'

BASIN B ORIFICE DETAIL



SEDIMENT TRAP C DATA TABLE

STONE OUTLET: 4" x 8" x 12"
 W/ MODIFIED BRANDBLOW DEVICE
 EXISTING DRAINAGE AREA: 2.8 AC (EX-C)
 INTERIM DRAINAGE AREA: 3.1 AC (INT-C)
 NET STORAGE VOL. REQUIRED: 0.15 AC-FT
 NET STORAGE VOL. PROVIDED: 0.15 AC-FT
 NET STORAGE ELEV.: 397.50
 DRY STORAGE REQUIRED: 0.15 AC-FT
 DRY STORAGE PROVIDED: 0.15 AC-FT
 DRY STORAGE ELEV.: 398.50
 EXISTING O-H-R: 0.18 cfs
 INTERIM O-H-R: 0.00 cfs
 SAFE PASS OF 10-YR STORM PROVIDED: 0.0 = 0.0 cfs
 10-YR WSEL: 398.11 ft
 BOTTOM ELEVATION: 394.00
 TOP OF EMBANKMENT: 400.50
 OUTFALL INVERT AT RISER: 397.00
 RISER KEIR CREST ELEVATION: 398.50
 RISER KEIR LENGTH: 12.4'
 RISER TRASH RACK/ANTI-VORTEX: N/A
 ENTIRE 1-YR STORM STORED WITHIN TRAP
 WET CONDITION HYDROGRAPH VOLUME: 0.09 AC-FT
 DRY STORAGE AVAILABLE: 0.15 AC-FT
 O-H-R: 0.00 cfs
 EMERGENCY SPILLWAY ELEV.: NONE
 CLEANOUT ELEVATION: 398.00
 EMBANKMENT TOP WIDTH: 12'
 SIDE SLOPES: 2:1 INTERIOR - 3:1 EXTERIOR

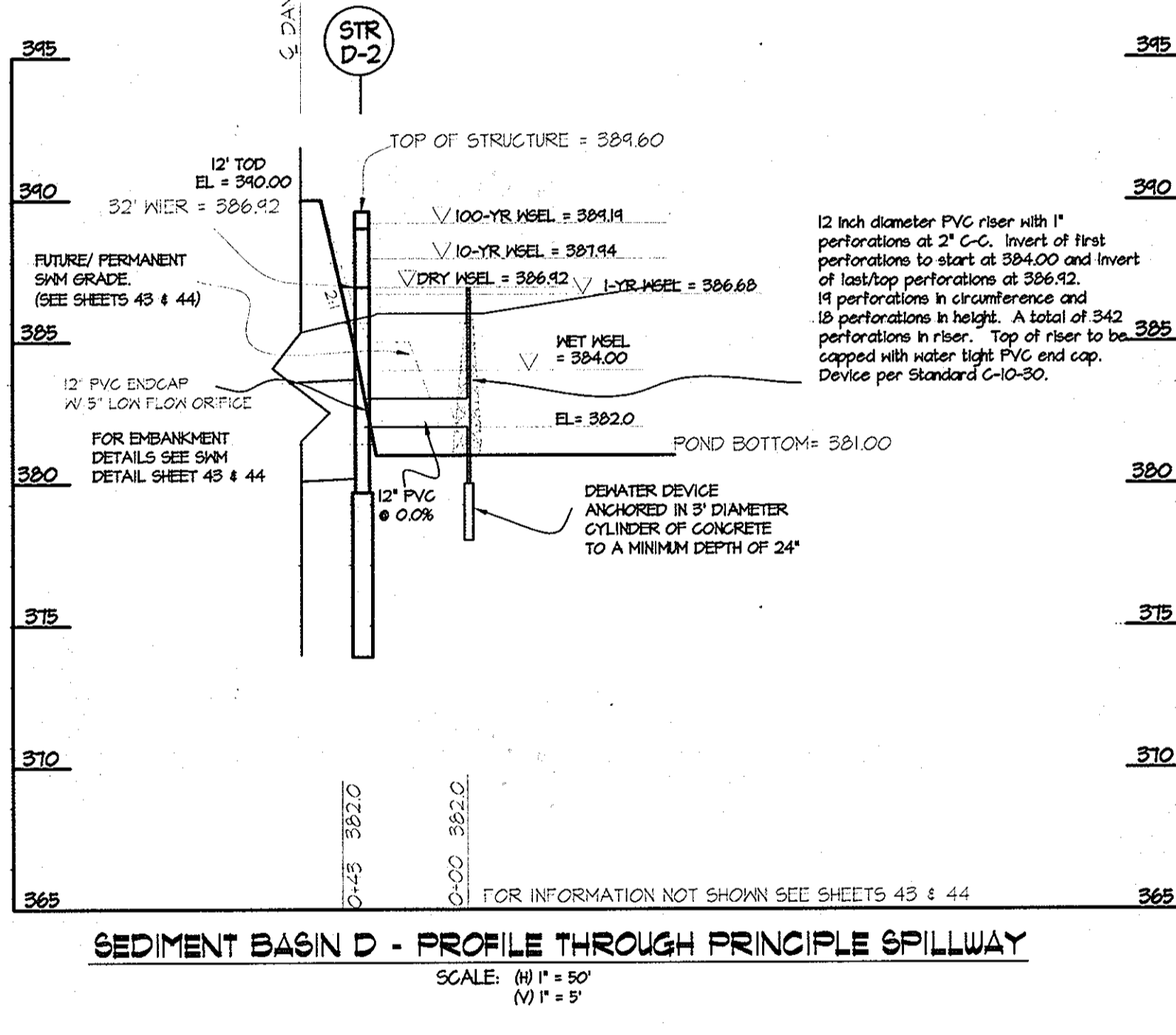


SEDIMENT TRAP C - PROFILE THROUGH PRINCIPLE SPILLWAY

SCALE: (H) 1" = 5'
(V) 1" = 5'

SEDIMENT BASIN D DATA TABLE

EXISTING DRAINAGE AREA: 28.6 AC (EX-D)
 INTERIM DRAINAGE AREA: 24.8 AC (INT-D)
 NET STORAGE VOL. REQUIRED: 1.42 AC-FT
 NET STORAGE VOL. PROVIDED: 2.00 AC-FT
 NET STORAGE ELEV.: 394.00
 DRY STORAGE REQUIRED: 1.42 AC-FT
 DRY STORAGE PROVIDED: 1.84 AC-FT
 DRY STORAGE ELEV.: 398.50
 EXISTING O-H-R: 1.22 cfs
 INTERIM O-H-R: 1.02 cfs
 SAFE PASS OF 10-YR STORM PROVIDED: 0.0 = 0.0 cfs
 10-YR WSEL: 397.44 ft
 BOTTOM ELEVATION: 391.00
 TOP OF EMBANKMENT: 394.00
 OUTFALL: 40 LF 24" RCP @ 0.5%
 RISER KEIR DIAMETER: 12" x 6.54' PRECAST STR
 RISER KEIR CREST ELEVATION: 398.50
 RISER KEIR LENGTH: 20'
 RISER TRASH RACK/ANTI-VORTEX: N/A
 DENATERING DEVICE: 12" PERFORATED PVC WITH 12" PVC BARREL AT 0.0%
 DENATERING INVERT AT 12" RISER: 394.00
 INVERT FIRST PERFORATION: 394.00
 DENATERING PERFORATION CONFIGURATION:
 WITH 1" HOLES @ 2" C-C
 18 HOLES PER CIRCUMFERENTIAL ROW
 24 HOLES RUNNING VERTICALLY
 240 HOLES TOTAL
 EMERGENCY SPILLWAY ELEV.: NONE
 CLEANOUT ELEVATION: 393.00
 EMBANKMENT TOP WIDTH: 12'
 SIDE SLOPES: 2:1 INTERIOR - 3:1 EXTERIOR



SEDIMENT BASIN D - PROFILE THROUGH PRINCIPLE SPILLWAY

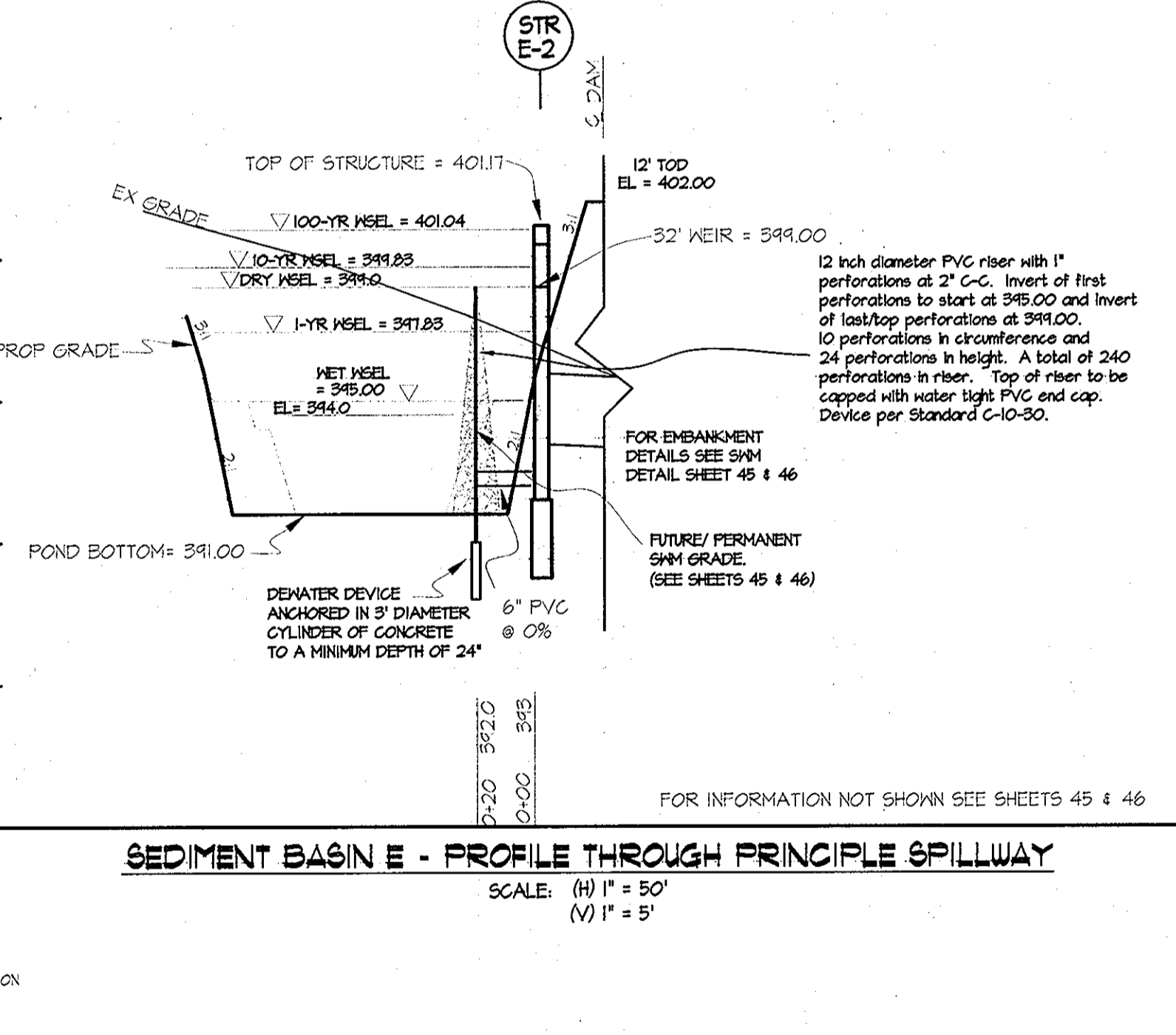
SCALE: (H) 1" = 5'
(V) 1" = 5'

BASIN D ORIFICE DETAIL



SEDIMENT BASIN E DATA TABLE

EXISTING DRAINAGE AREA: 28.4 AC (EX-E)
 INTERIM DRAINAGE AREA: 28.4 AC (INT-E)
 NET STORAGE VOL. REQUIRED: 1.18 AC-FT
 NET STORAGE VOL. PROVIDED: 1.25 AC-FT
 NET STORAGE ELEV.: 395.00
 DRY STORAGE REQUIRED: 1.18 AC-FT
 DRY STORAGE PROVIDED: 1.85 AC-FT
 DRY STORAGE ELEV.: 399.00
 EXISTING O-H-R: 3.16 cfs (STUDY POINT 5)
 INTERIM O-H-R: 4.48 cfs (STUDY POINT 5)
 SAFE PASS OF 10-YR STORM PROVIDED: 0.0 = 0.0 cfs
 10-YR WSEL: 398.83 ft
 BOTTOM ELEVATION: 391.00
 TOP OF EMBANKMENT: 402.00
 OUTFALL: 40 LF 24" RCP @ 0.5%
 RISER KEIR DIAMETER: 12" x 6.54' PRECAST STR
 RISER KEIR CREST ELEVATION: 399.00
 RISER KEIR LENGTH: 32.00'
 RISER TRASH RACK/ANTI-VORTEX: N/A
 DENATERING DEVICE: 12" PERFORATED PVC WITH 12" PVC BARREL AT 0%
 DENATERING INVERT AT 12" RISER: 395.00
 INVERT FIRST PERFORATION: 395.00
 DENATERING PERFORATION CONFIGURATION:
 WITH 1" HOLES @ 2" C-C
 18 HOLES PER CIRCUMFERENTIAL ROW
 24 HOLES RUNNING VERTICALLY
 240 HOLES TOTAL
 EMERGENCY SPILLWAY ELEV.: NONE
 CLEANOUT ELEVATION: 395.00
 EMBANKMENT TOP WIDTH: 12'
 SIDE SLOPES: 3:1 INTERIOR - 3:1 EXTERIOR



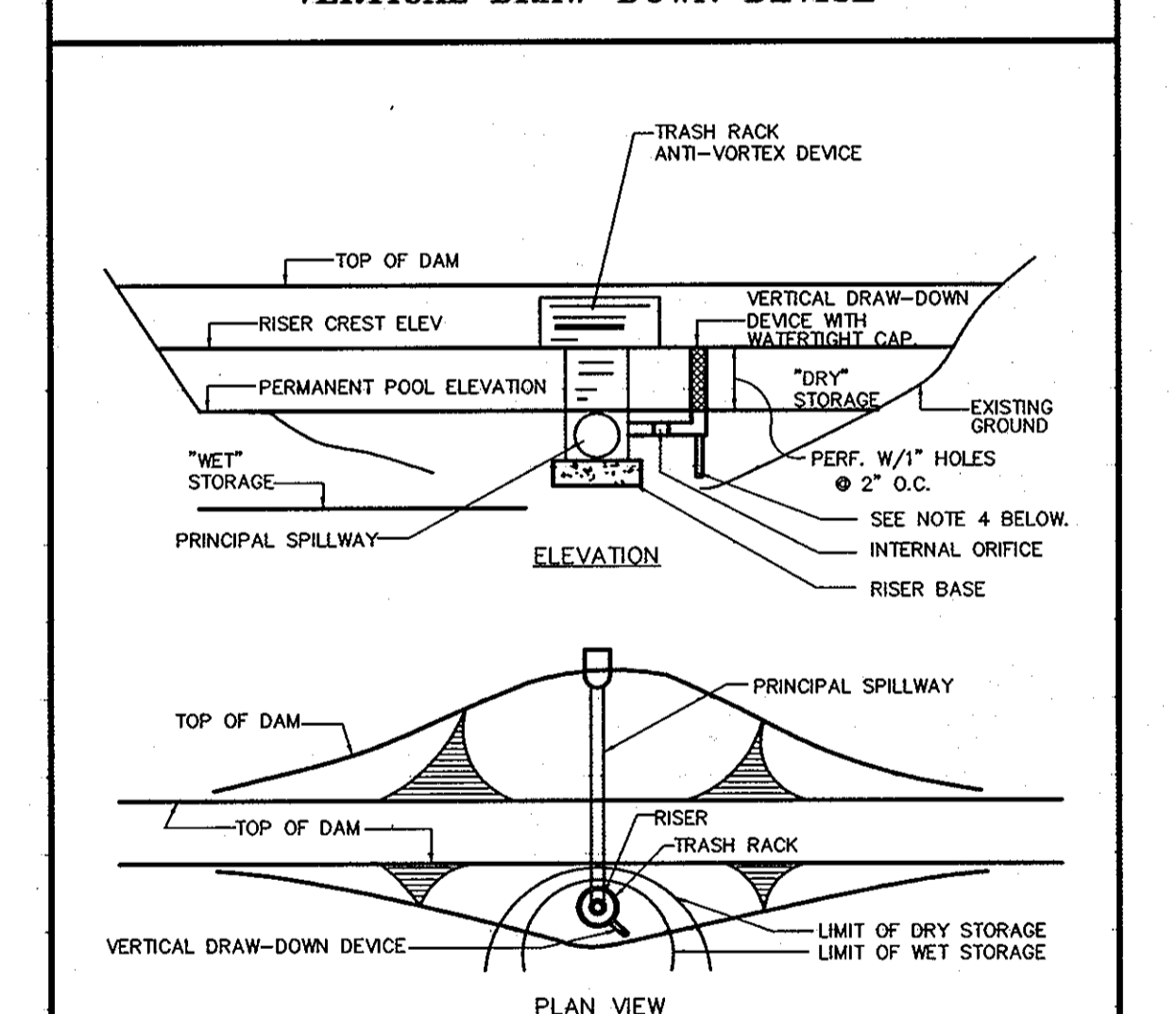
SEDIMENT BASIN E - PROFILE THROUGH PRINCIPLE SPILLWAY

SCALE: (H) 1" = 5'
(V) 1" = 5'

BASIN E ORIFICE DETAIL



BASIN DRAW-DOWN SCHEMATIC



- CONSTRUCTION SPECIFICATIONS**
- Perforations in the draw-down device may not extend into the wet storage.
 - The total area of the perforations must be greater than 4 times the area of the internal orifice.
 - The perforated portion of the draw-down device shall be wrapped with 1/2" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class E.
 - Provide support of draw-down device to prevent sagging and flotation. An acceptable preventative measure is to stake both sides of draw-down device with 1" steel angle, or 1" by 4" square or 2" round wooden posts set 3' minimum into the ground then joining them to the device by wrapping with 12 gauge minimum wire.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE C-10-30 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 2-5-07
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 [Signature] 2/1/07
 Chief, Division of Land Development

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
 [Signature] 2/1/07
 USDA - NATURAL RESOURCES CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] 2/1/07
 HOWARD SOIL CONSERVATION DISTRICT

DEVELOPER'S/BUILDER'S CERTIFICATE
 I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A 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.
 [Signature] 1-25-07
 SIGNATURE OF DEVELOPER/BUILDER

ENGINEER'S CERTIFICATE
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND ADEQUATE 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.
 [Signature] 1-25-07
 ENGINEER'S SIGNATURE



THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY!

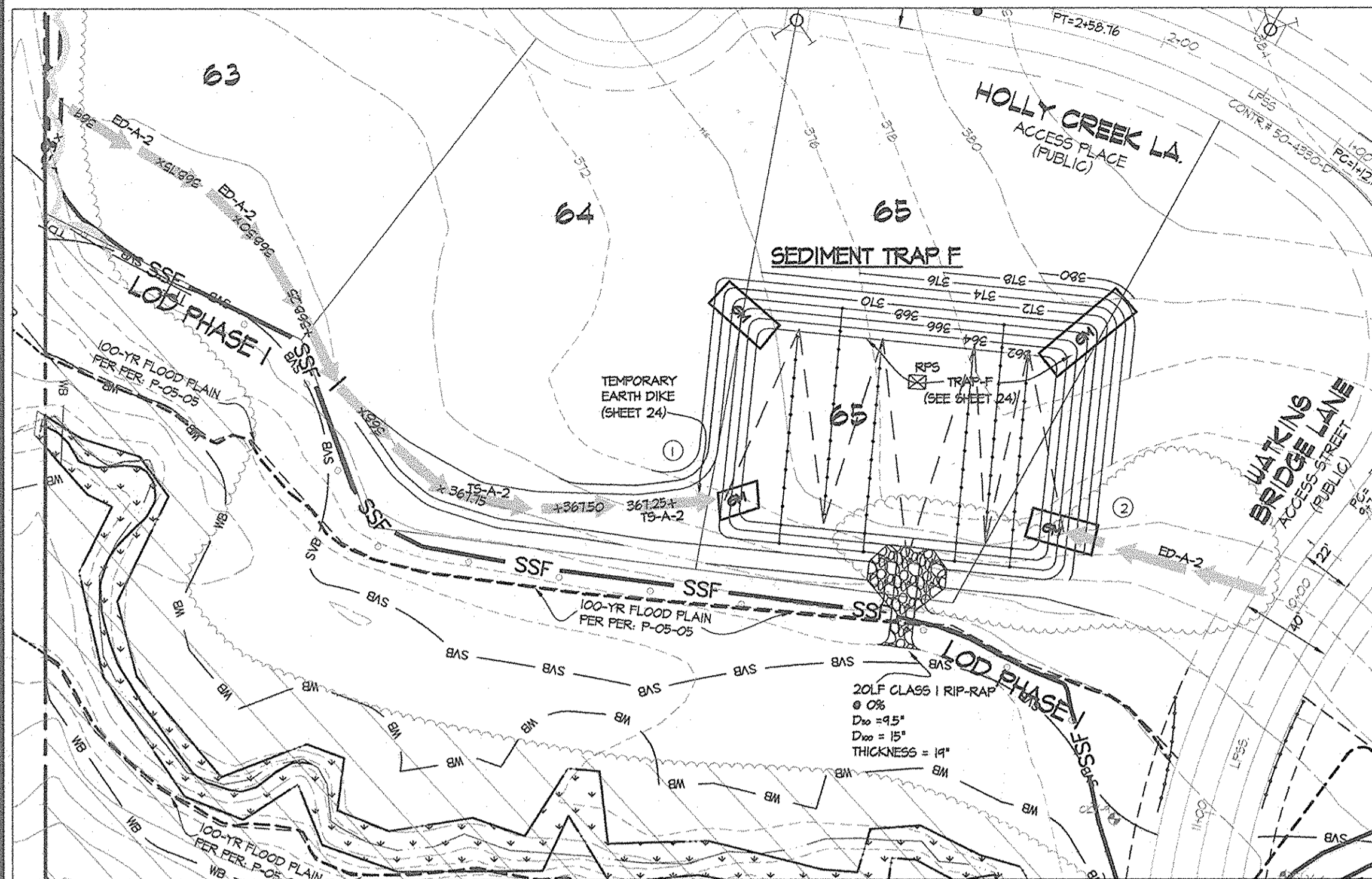
GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 FAX: 410-880-1820 DC/WA: 301-989-2524 FAX: 301-421-4188

| DATE | REVISION | BY | APPR. |
|------|----------|----|-------|
| | | | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, LLC.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYCE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

SEDIMENT CONTROL DETAILS
WALNUT GROVE
 LOTS 1 THRU 83, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' & 'M'
 NON-BUILDABLE BULK PARCEL 'J'
 L2927 F487
 HOWARD COUNTY, MARYLAND

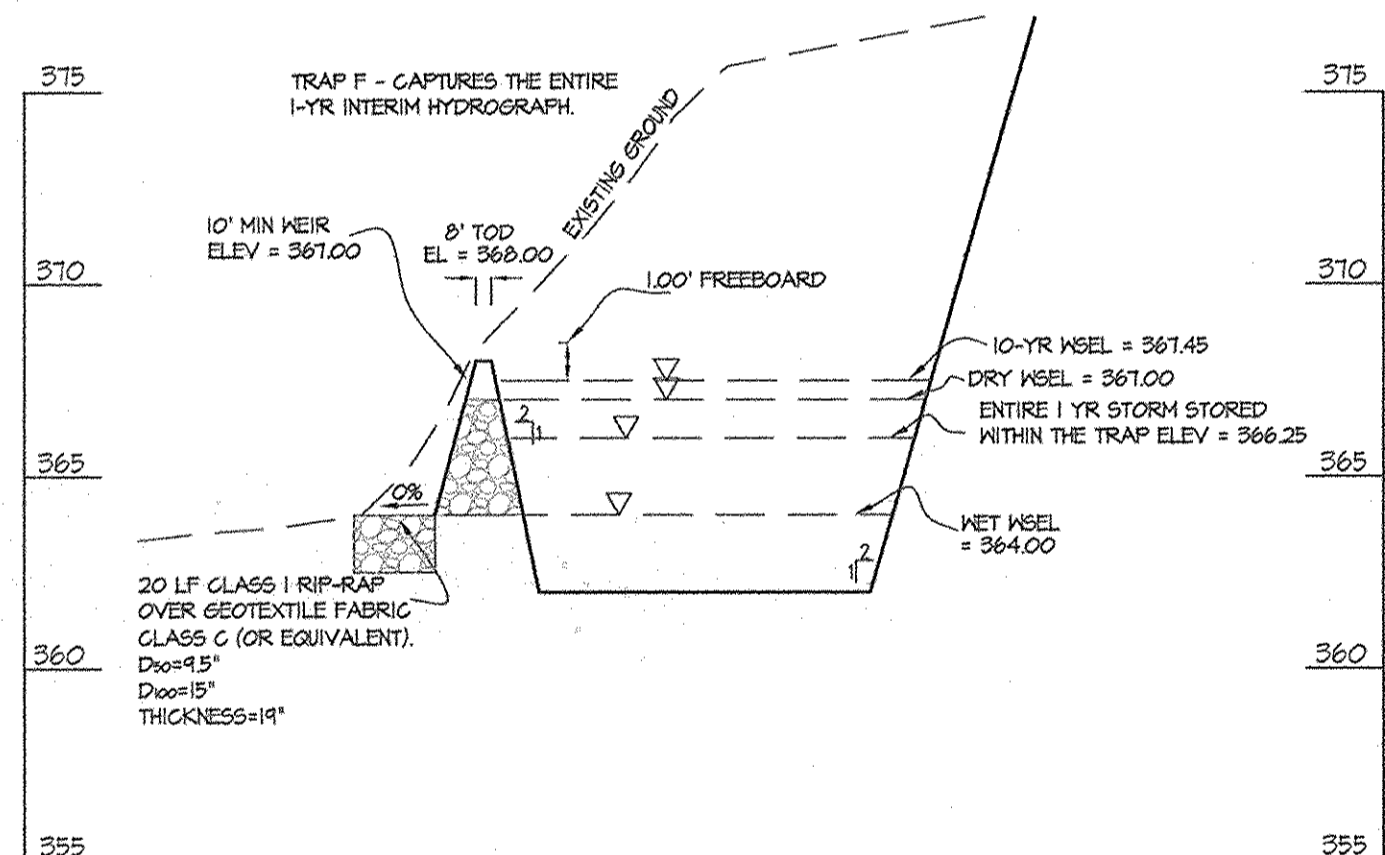
| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|---------------------------------|-------------------|
| NO SCALE | RC-DEO | 00153 |
| DATE | TAX MAP - GRID PARCEL | SHEET |
| JAN./2007 | MAP - GRID PARCEL 74 28 - 18,17 | 23 OF 78 |



SEDIMENT TRAP F PLAN VIEW
SCALE: 1" = 50'

SEDIMENT TRAP F DATA TABLE

SEDIMENT TRAP TYPE ST-IV
EXISTING DRAINAGE AREA: 6.21 AC (EX-F)
INTERIM DRAINAGE AREA: 6.21 AC (INT-F)
NET STORAGE VOL. REQUIRED: 0.26 AC-FT
NET STORAGE VOL. PROVIDED: 0.99 AC-FT
NET STORAGE ELEV.: 364.00
DRY STORAGE REQUIRED: 0.26 AC-FT
DRY STORAGE PROVIDED: 0.99 AC-FT
DRY STORAGE WEEL: 361.00
EXISTING Q-TYR = 0.28 cfs (STUDY POINT F)
INTERIM Q-TYR = 0.00 cfs (STUDY POINT F)
SAFE PASS OF 10-YR STORM PROVIDED
Q10 = 14.06 cfs
10-YR WEEL = 361.45H
BOTTOM ELEVATION: 362.00
TOP OF EMBANKMENT: 368.00
OUTFALL: 20 LF CLASS I RIP-RAP @ 0%
RISER/WEIR DIAMETER = N/A
WEIR CREST ELEVATION: 361.00
WEIR LENGTH: 10.00'
RISER TRASH RACK/ANTIVORTEX: N/A
EMERGENCY SPILLWAY ELEV.: NONE
CLEANOUT ELEVATION: 363.00
EMBANKMENT TOP WIDTH: 8'
SIDE SLOPES: 2:1



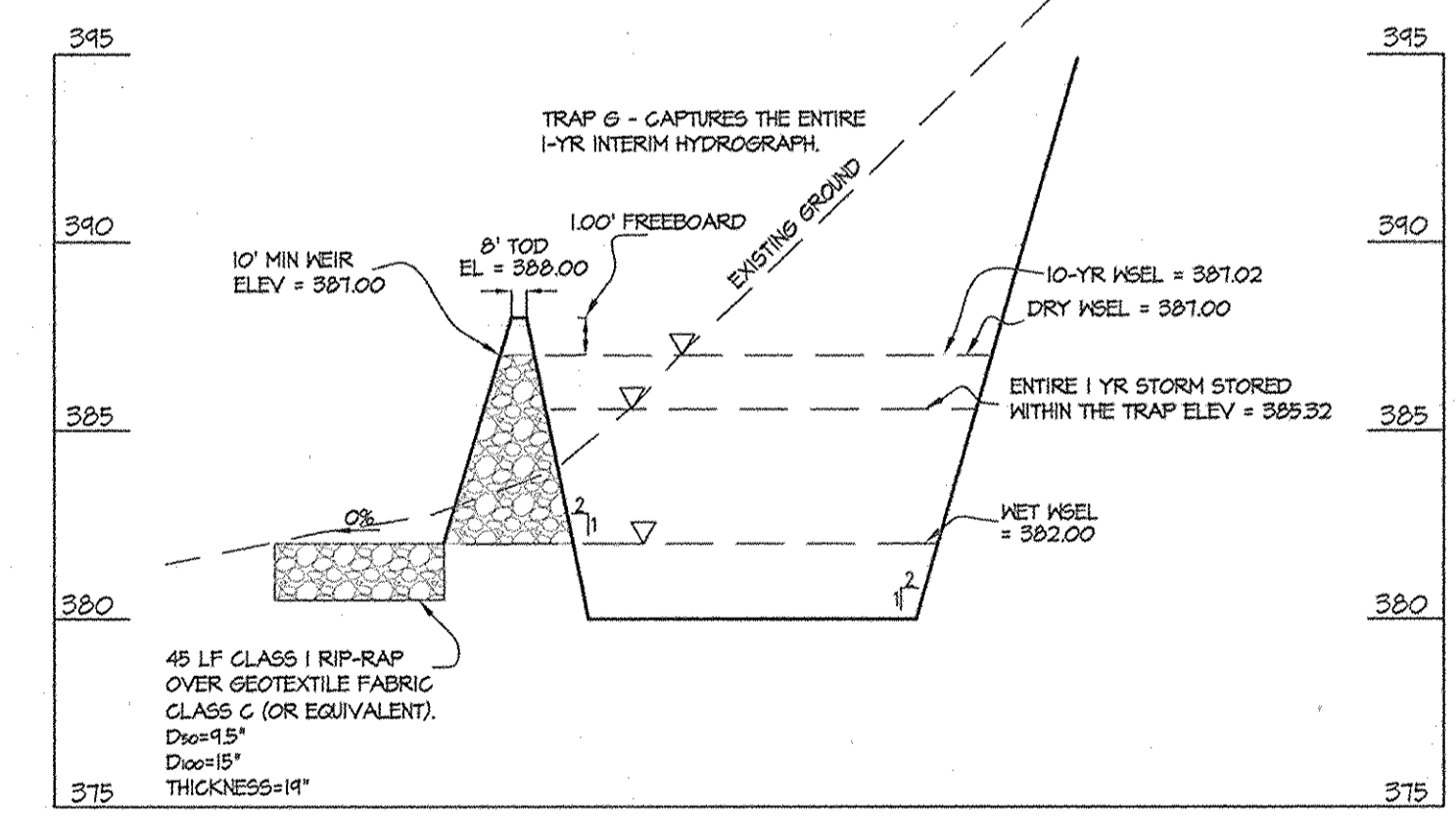
SEDIMENT TRAP F - PROFILE THROUGH PRINCIPLE SPILLWAY
SCALE(H) 1" = 50'
(V) 1" = 5'

BAFFLE COMPUTATION

- D = 24 FT.
A NET POOL = 12,825 SQFT
We = A/D = 144
Le = 2We = 288 FT REQUIRED
Le = 393 FT PROVIDED
- D = 14 FT.
A NET POOL = 12,825 SQFT
We = A/D = 173
Le = 2We = 346 FT REQUIRED
Le = 366 FT PROVIDED

SEDIMENT TRAP G DATA TABLE

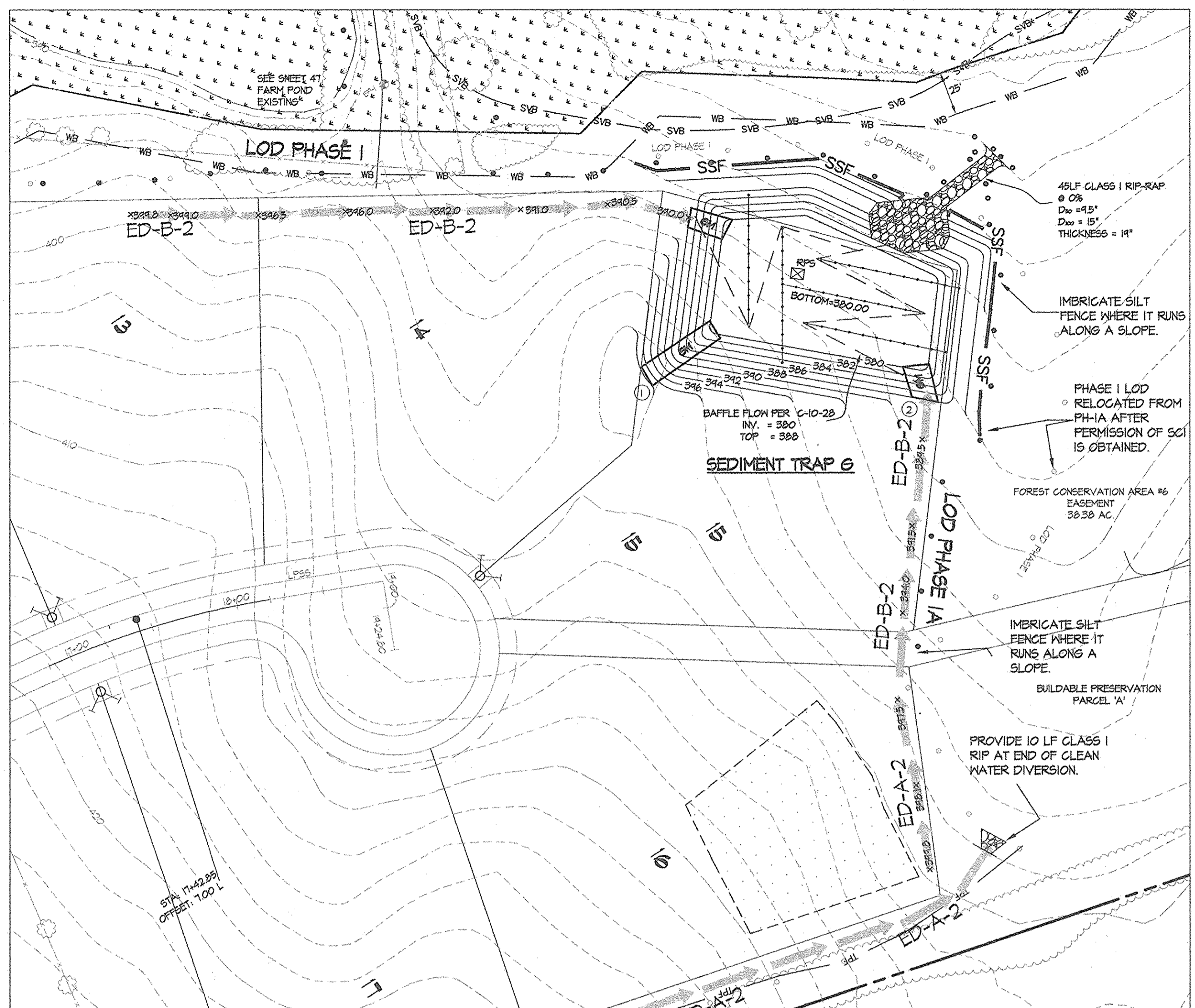
SEDIMENT TRAP TYPE ST-IV
EXISTING DRAINAGE AREA: 5.50 AC (EX-G)
INTERIM DRAINAGE AREA: 5.50 AC (INT-G)
NET STORAGE VOL. REQUIRED: 0.21 AC-FT
NET STORAGE VOL. PROVIDED: 0.92 AC-FT
NET STORAGE ELEV.: 382.00
DRY STORAGE REQUIRED: 0.21 AC-FT
DRY STORAGE PROVIDED: 1.41 AC-FT
DRY STORAGE WEEL: 381.00
EXISTING Q-TYR = 0.26 cfs (STUDY POINT G)
INTERIM Q-TYR = 0.00 cfs (STUDY POINT G)
SAFE PASS OF 10-YR STORM PROVIDED
Q10 = 0.12 cfs
10-YR WEEL = 381.02H
BOTTOM ELEVATION: 380.00
TOP OF EMBANKMENT: 388.00
OUTFALL: 45 LF CLASS I RIP-RAP @ 0%
RISER/WEIR DIAMETER = N/A
WEIR CREST ELEVATION: 381.00
WEIR LENGTH: 10.00'
RISER TRASH RACK/ANTIVORTEX: N/A
EMERGENCY SPILLWAY ELEV.: NONE
CLEANOUT ELEVATION: 380.00
EMBANKMENT TOP WIDTH: 8'
SIDE SLOPES: 2:1



SEDIMENT TRAP G - PROFILE THROUGH PRINCIPLE SPILLWAY
SCALE(H) 1" = 50'
(V) 1" = 5'

BAFFLE COMPUTATION

- D = 112 FT.
A NET POOL = 10,033 SQFT
We = A/D = 90
Le = 2We = 180 FT REQUIRED
Le = 190 FT PROVIDED
- D = 81 FT.
A NET POOL = 10,033 SQFT
We = A/D = 115
Le = 2We = 230 FT REQUIRED
Le = 260 FT PROVIDED



SEDIMENT TRAP G - PLAN
SCALE: 1" = 50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William T. ... 2-5-07
Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy ... 2/1/07
Chief, Division of Land Development

Chief, Development Engineering Division 2/1/07

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

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

USDA - NATURAL RESOURCES CONSERVATION SERVICE
Jim ... 2/1/07

HOWARD SOIL CONSERVATION DISTRICT
... 2/1/07

DEVELOPER'S/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.

... 1-25-07
SIGNATURE OF DEVELOPER/BUILDER 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.

... 1-25-07
ENGINEER'S SIGNATURE DATE



GLWGuttschick 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 FAX: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

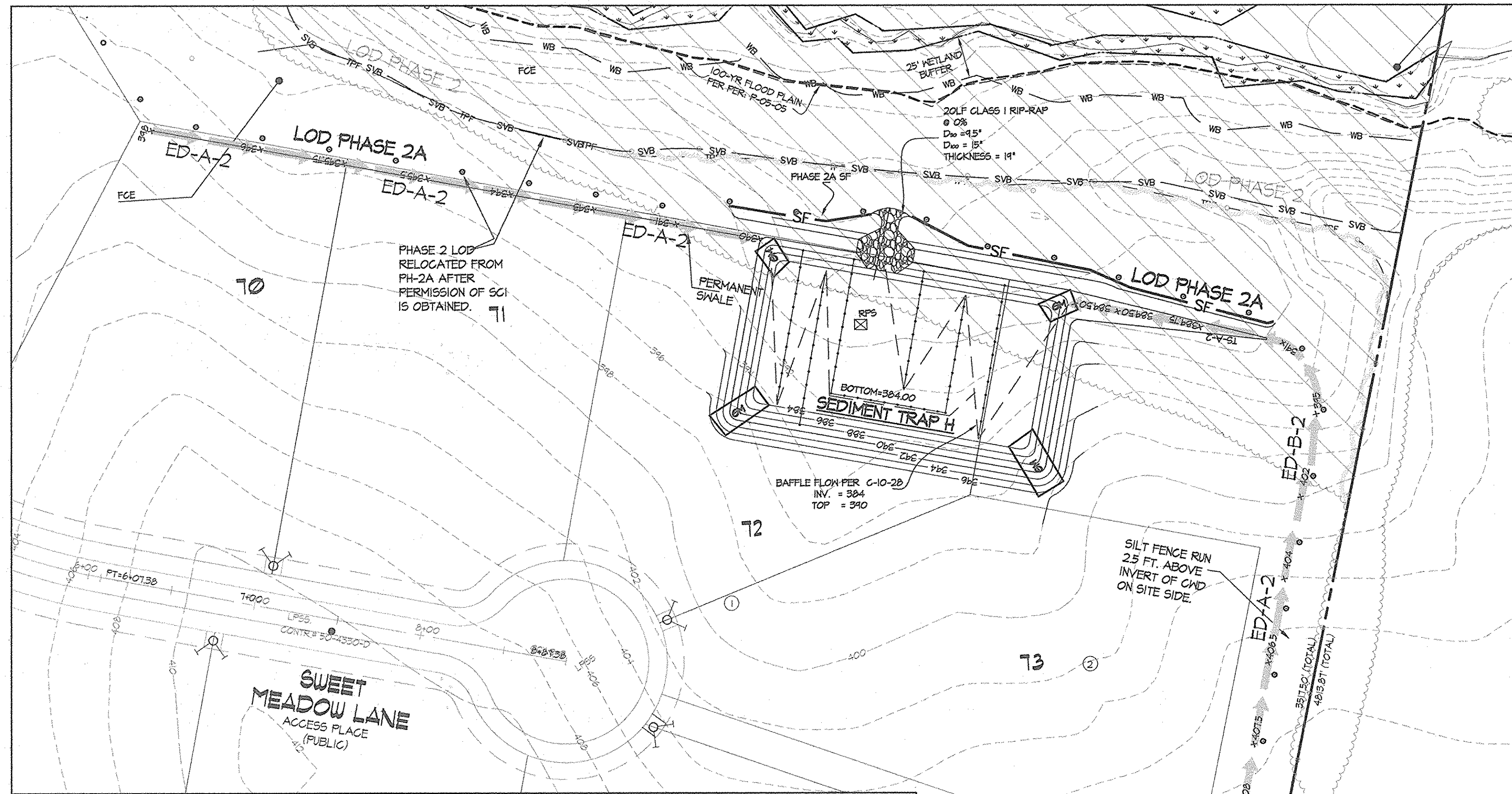
| DATE | REVISION | BY | APP'R. |
|------|----------|----|--------|
| | | | |
| | | | |

PREPARED FOR
OWNER
WALNUT GROVE HOLDING, LLC
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DYKE, PRESIDENT
10705 CHARTER DRIVE
SUITE 320
COLUMBIA, MARYLAND 21044

TEMPORARY SEDIMENT TRAP F & G DETAILS
WALNUT GROVE
LOTS 1 THRU 38, BUILDABLE PRESERVATION PARCEL "A",
NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
NON-BUILDABLE BULK PARCEL "J"
L.2927 R.487
ELECTION DISTRICT No. 5

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|--------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID PARCEL 74 | SHEET |
| JAN./2007 | 28 - 18,17 | 24 OF 78 |

HOWARD COUNTY, MARYLAND



SEDIMENT TRAP H - PLAN

SCALE: 1" = 50'

SEDIMENT TRAP H DATA TABLE

SEDIMENT TRAP TYPE 51-IV

EXISTING DRAINAGE AREA : 8.38 AC (EX-H)

INTERIM DRAINAGE AREA : 8.38 AC (INT-H)

NET STORAGE VOL. REQUIRED : 0.35 AC-FT

NET STORAGE VOL. PROVIDED : 0.70 AC-FT

NET STORAGE ELEV. : 384.00

DRY STORAGE REQUIRED : 0.35 AC-FT

DRY STORAGE PROVIDED : 1.54 AC-FT

DRY STORAGE KSEL = 384.00

EXISTING Q-1YR = 1.41 cfs (STUDY POINT G)

INTERIM Q-1YR = 0.00 cfs (STUDY POINT G)

SAFE PASS OF 10-YR STORM PROVIDED

Q10 = 16.92 cfs

10-YR KSEL = 384.55H

BOTTOM ELEVATION : 384.00

TOP OF EMBANKMENT : 390.00

OUTFALL : 20 LF CLASS I RIP-RAP @ 0% RISE/RISER DIAMETER = N/A

RISER KEIR CREST ELEVATION : 384.00

RISER KEIR LENGTH : 10.00'

RISER TRASH RACK/ANTIVORTEX : N/A

EMERGENCY SPILLWAY ELEV. : NONE

CLEANOUT ELEVATION : 389.00

EMBANKMENT TOP WIDTH : 8'

SIDE SLOPES : 2:1

BAFFLE COMPUTATION

1) D = 69 FT.

A NET POOL = 16349 SQFT

M₀ = A/D = 231

L₀ = 2M₀ = 474 FT REQUIRED

L₀ = 544 FT PROVIDED

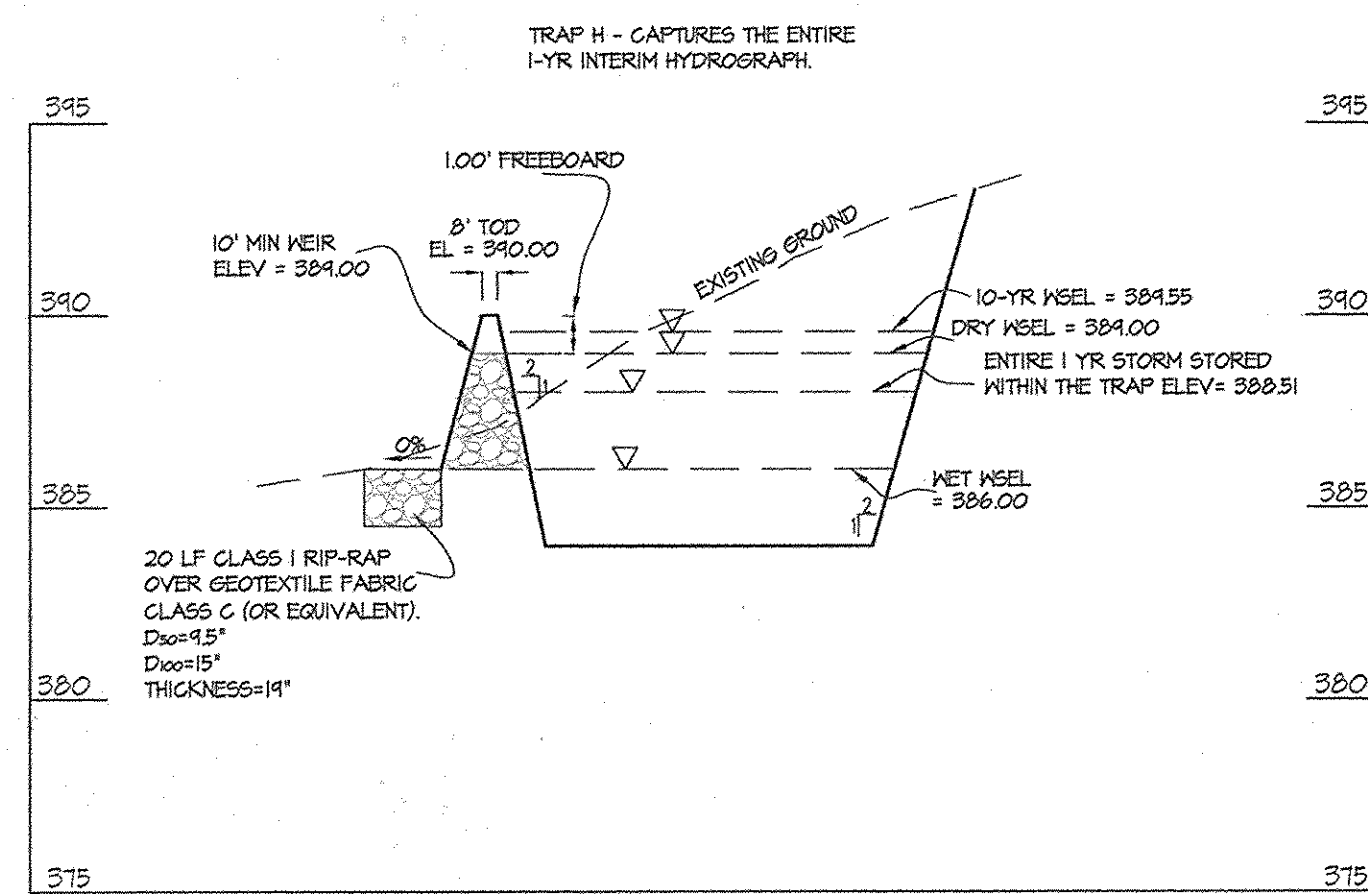
2) D = 104 FT.

A NET POOL = 16349 SQFT

M₀ = A/D = 150

L₀ = 2M₀ = 300 FT REQUIRED

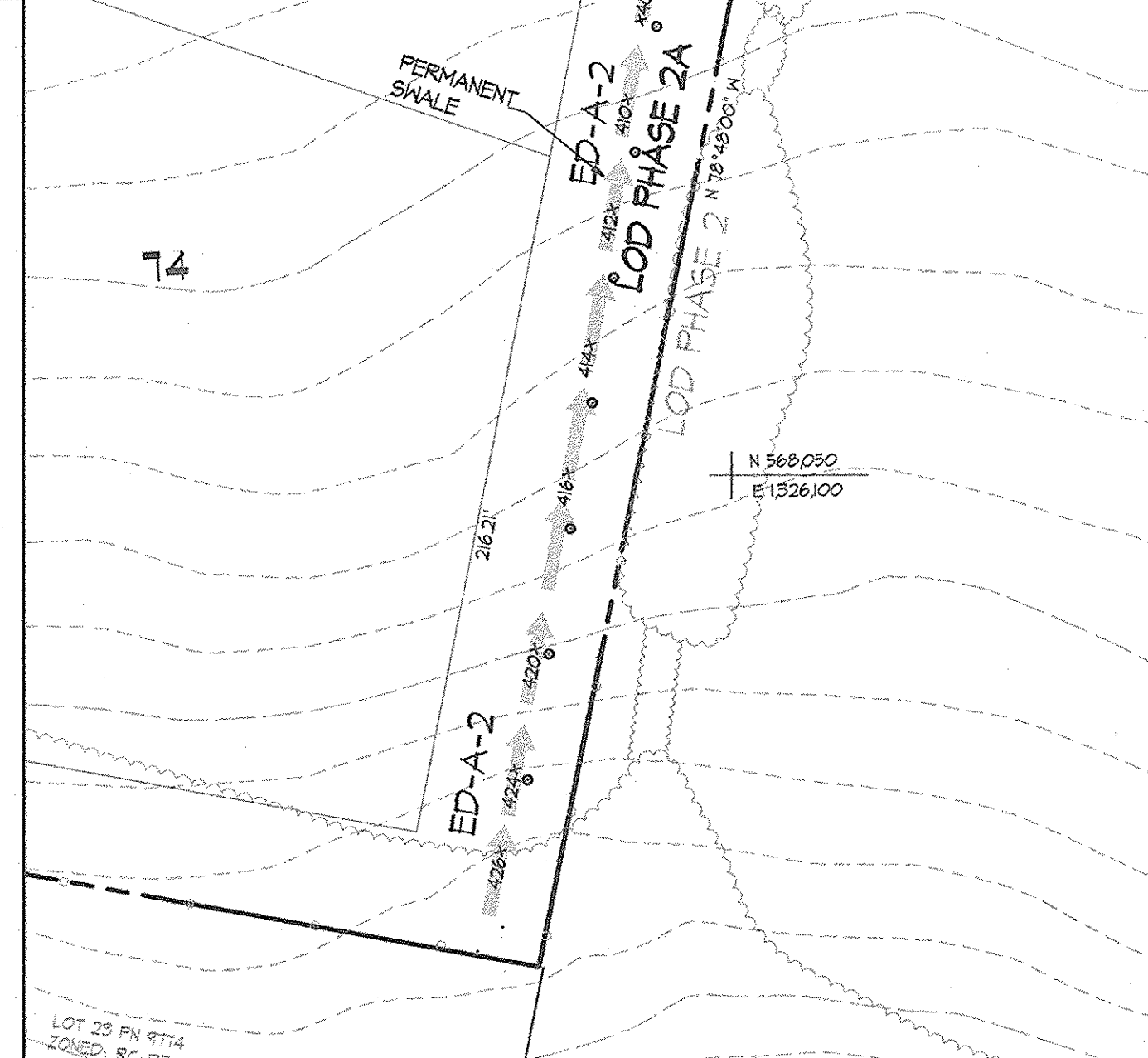
L₀ = 335 FT PROVIDED



SEDIMENT TRAP H - PROFILE THROUGH PRINCIPLE SPILLWAY

SCALE(H) 1" = 50'

(V) 1" = 5'



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

W. J. ... 2-5-07
Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

C. ... 2/5/07
Chief, Division of Land Development

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

M. ... 2/1/07
USDA - NATURAL RESOURCES CONSERVATION SERVICE

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

H. ... 2/1/07
HOWARD SOIL CONSERVATION DISTRICT

DEVELOPER'S/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.

R. ... 1-25-07
SIGNATURE OF DEVELOPER/BUILDER 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.

C. ... 1-25-07
ENGINEER'S SIGNATURE DATE



GLWGUTSCHICK 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 FAX: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4188

Drawings\00153\Final-Road\00153-SNE-TRAP-FGH.dwg DES. BJM DRN. MJP CHK. MJT

| DATE | REVISION | BY | APPR. |
|------|----------|----|-------|
| | | | |
| | | | |
| | | | |

PREPARED FOR
OWNER
WALNUT GROVE HOLDING, L.L.C.
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DYKE, PRESIDENT
10705 CHARTER DRIVE
SUITE 320
COLUMBIA, MARYLAND 21044

TEMPORARY SEDIMENT TRAP H DETAILS
WALNUT GROVE
LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL "A",
NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
NON-BUILDABLE BULK PARCEL "J"
L.2927 R.487

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 25 OF 78 |

ELECTION DISTRICT No. 5 HOWARD COUNTY, MARYLAND

MGWC 1.5: SANDBAG/STONE CHANNEL DIVERSION

Temporary measure for dewatering in-channel construction sites

DESCRIPTION

The work should consist of installing sandbag or stone flow diversions for the purpose of erosion control when construction activities occur within the stream channel.

EFFECTIVE USES & LIMITATIONS

Diversions are used to isolate work areas from flow during the construction of in-stream projects. Diversions which have an insufficient flow capacity can fail and severely erode the disturbed channel section under construction. Therefore, in-channel construction activities should occur only during periods of low rainfall. This temporary measure may not be practical in large channels.

MATERIAL SPECIFICATIONS

Materials for sandbag and stone stream diversions should meet the following requirements:

- Riprap:** Riprap should be washed and have a minimum diameter of 6 inches (0.15 meters).
- 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 the fill material (i.e., sand, fine gravel, etc.).
- Sheeting:** Sheeting should consist of polyethylene or other materials which are impervious and resistant to puncture and tearing.

INSTALLATION GUIDELINES

All erosion and sediment control devices, including dewatering basins, should be implemented 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 periods of low flow. If necessary, silt fence or straw bales should be installed around the perimeter of the work area.

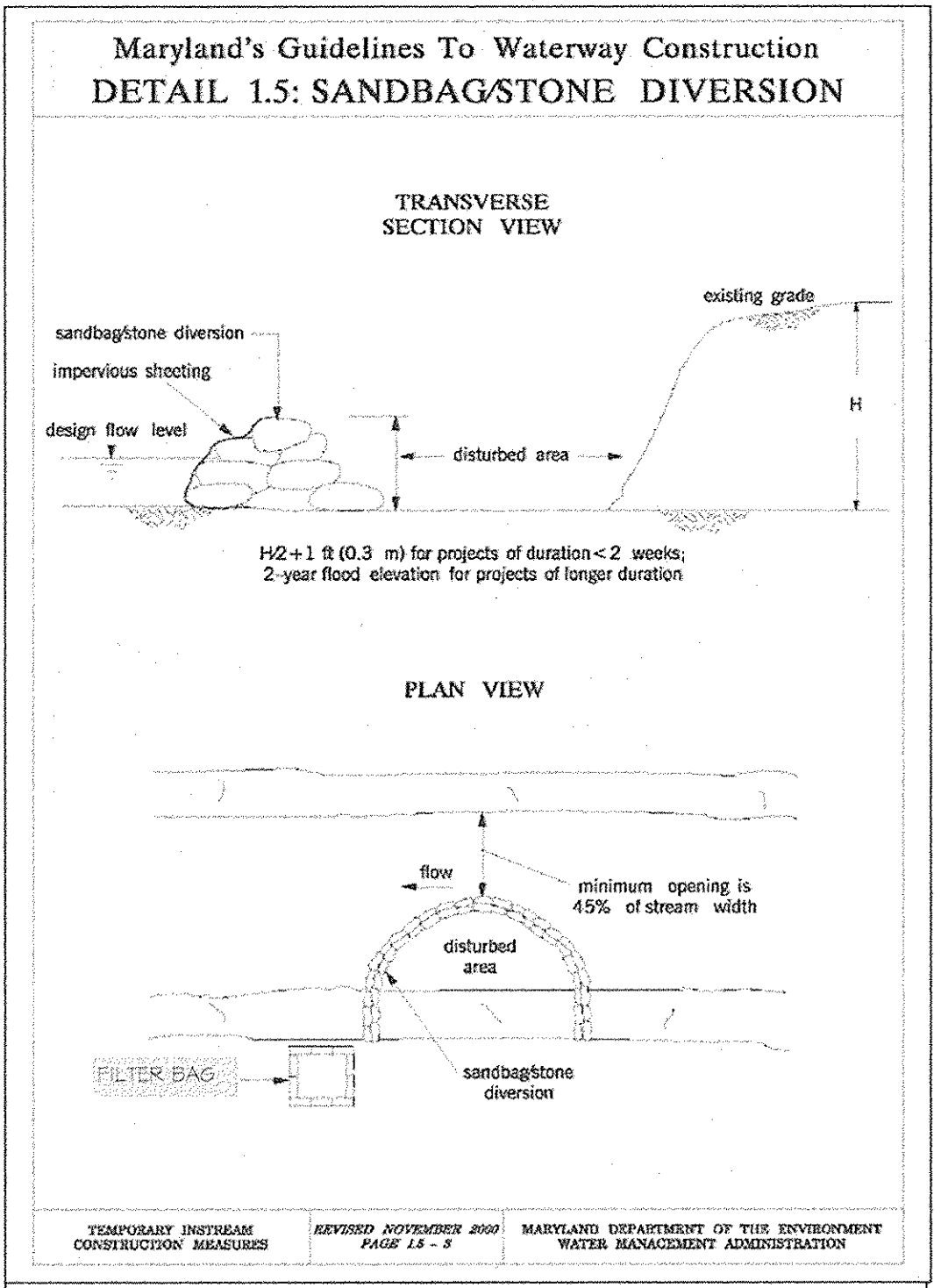
Sandbag/stone diversions can be used independently or as components of other stream diversion techniques. Installation of this measure should proceed as follows (refer to Detail 1.5):

- The diversion structure should be installed from upstream to downstream.
- The height of the sandbag/stone diversion should be a function of the duration of the project in the stream reach. For projects with a duration less than 2 weeks, the height of the diversion should be one half the streambank height, measured from the channel bed, plus 1 foot (0.3 meters) or bankfull height, whichever is greater. For projects of longer duration, the top of the sandbag or stone diversion should correspond to bankfull height. For diversion structures utilizing sandbags, the stream bed should be hand prepared prior to placement of the base layer of sandbags in order to ensure a water tight fit. Additionally, it may be necessary to prepare the bank in a similar fashion.
- All excavated material should be deposited and stabilized in an approved area outside the 100-year floodplain unless otherwise authorized by the WMA.
- Sediment-laden water from the construction area should be pumped to a dewatering basin.

TEMPORARY INSTREAM CONSTRUCTION MEASURES

MARYLAND DEPARTMENT OF THE ENVIRONMENT
WATERWAY CONSTRUCTION GUIDELINES
REVISED NOVEMBER 2000

PAGE 1.5 - 1



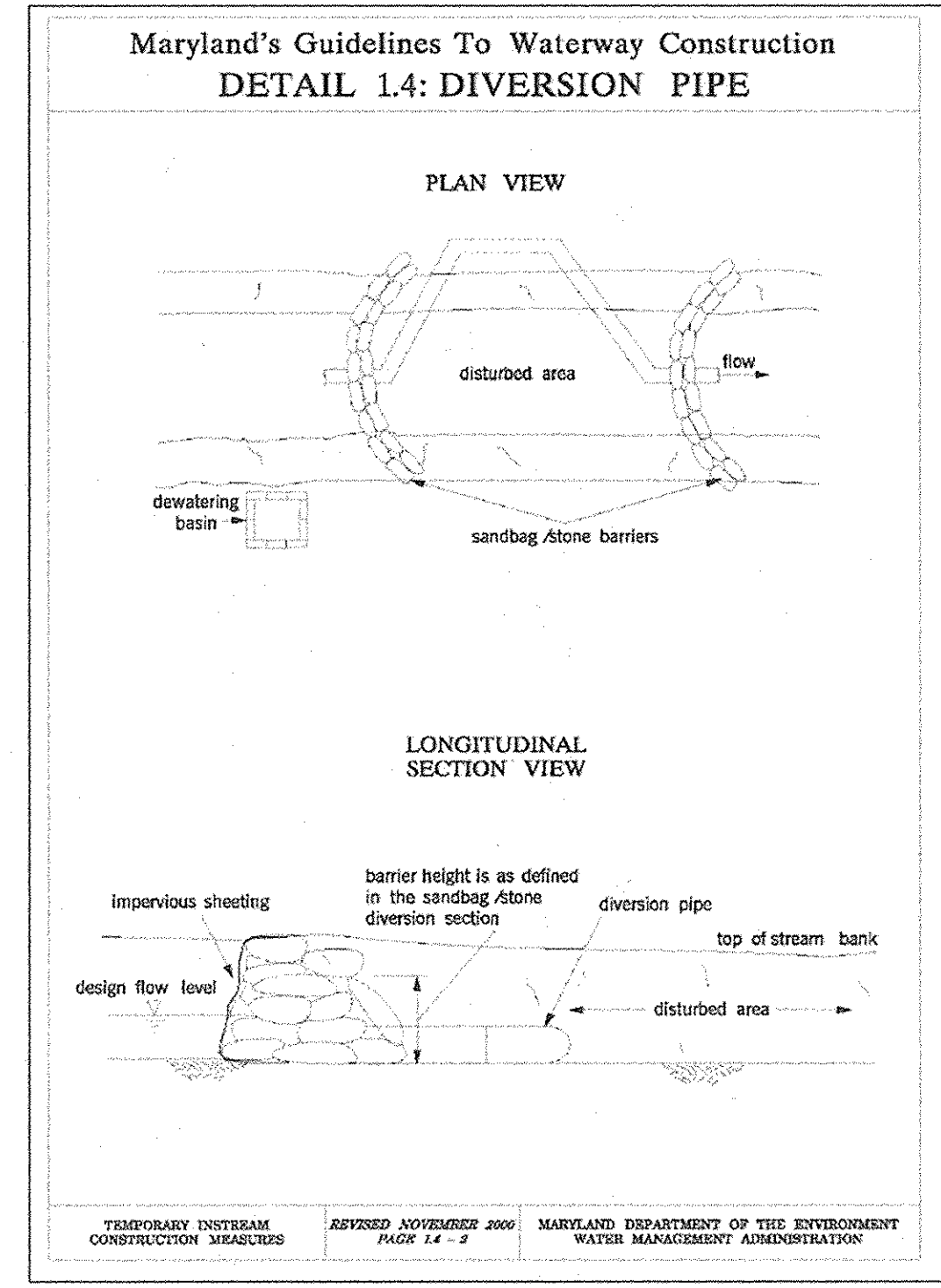
MGWC 1.5: SANDBAG/STONE CHANNEL DIVERSION

1. Sheeting on the diversion should be positioned such that the upstream portion covers the downstream portion with at least a 10-inch (0.25 meters) overlap.

2. Sandbag or stone diversions should not obstruct more than 45% of the stream width. Additionally, bank stabilization measures should be placed in the constricted section if accelerated erosion and bank wear are observed during the construction time or if project time is expected to last more than 2 weeks.

3. Prior to removal of these temporary structures, any accumulated sediment should be removed, deposited and stabilized in an approved area outside the 100-year floodplain unless otherwise authorized by the WMA.

4. Sediment control devices are to remain in place until all disturbed areas are stabilized in accordance with an approved sediment and erosion control plan and the inspecting authority approves their removal.



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

Diversions 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.

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

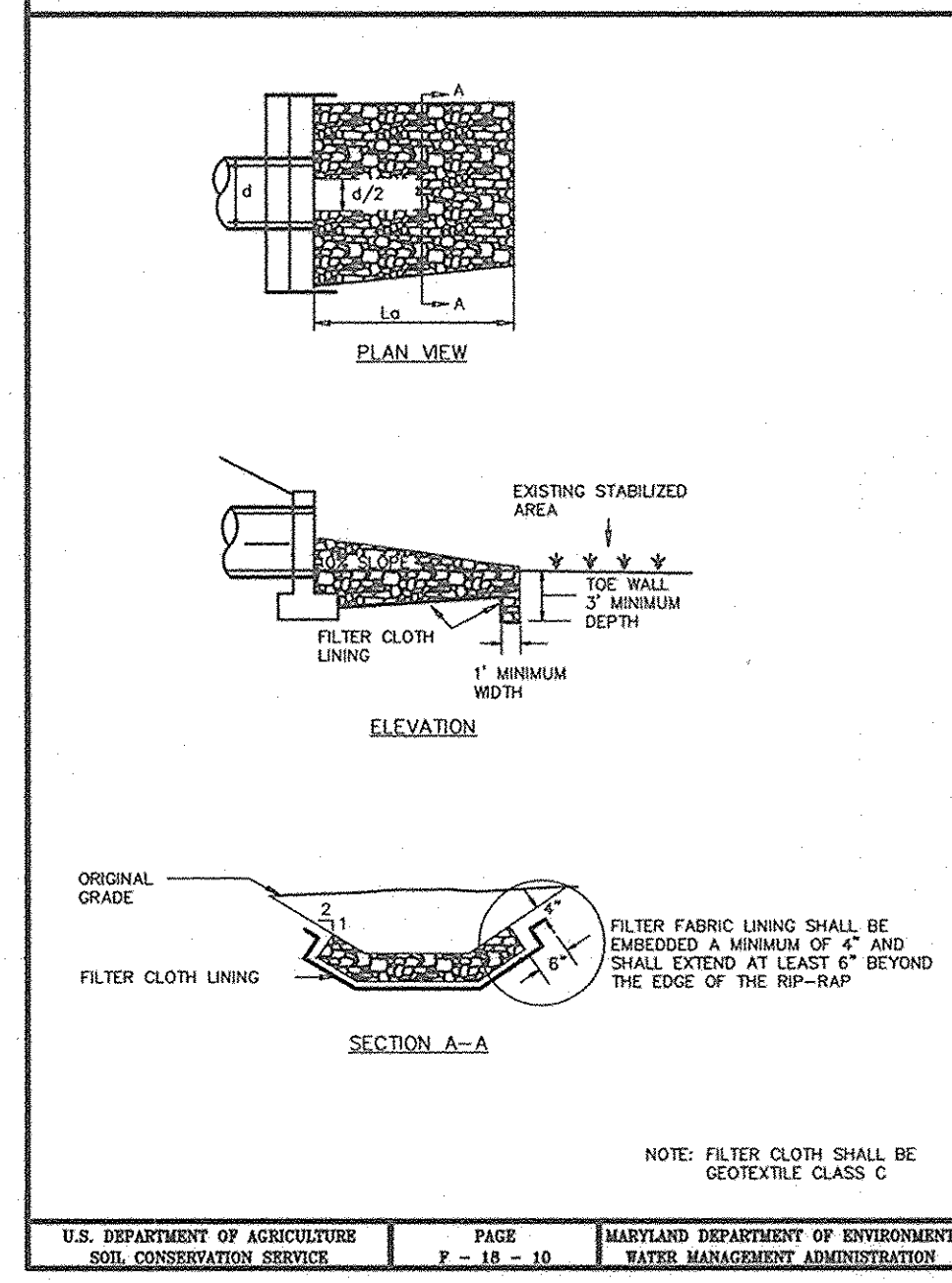
- Sandbag/stone barriers should be sized and installed as detailed in MGWC 1.5: Sandbag/Stone Diversion. The materials should be sized to withstand baseflow velocities.
- All excavated material should be deposited and stabilized in an approved area outside the 100-year floodplain unless otherwise authorized by the WMA.
- Sediment-laden water from the construction area should be pumped to a dewatering basin.
- 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.
- If necessary, silt fence or straw bales should be installed around the perimeter of the work area.
- Sediment control devices are to remain in place until all disturbed areas are stabilized and the inspecting authority approves their removal.

TEMPORARY INSTREAM CONSTRUCTION MEASURES

MARYLAND DEPARTMENT OF THE ENVIRONMENT
WATERWAY CONSTRUCTION GUIDELINES
REVISED NOVEMBER 2000

PAGE 1.4 - 1

DETAIL 27 - ROCK OUTLET PROTECTION III



ROCK OUTLET PROTECTION III

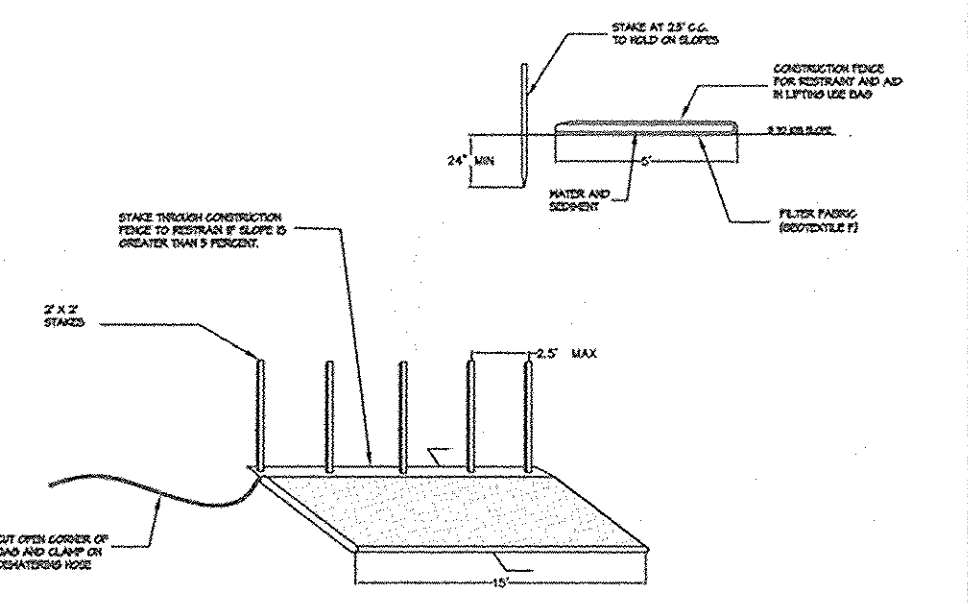
Construction Specifications

- The subgrade for the filter, riprap, or gabion shall be prepared to the required lines and grades. Any fill prepared in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.
- Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.
- Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.
- The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
PAGE 7 - 18 - 10A

MARYLAND DEPARTMENT OF THE ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

FILTER BAG Temporary Erosion Control Measure



- FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL WELL GRADED, STABILIZED SOIL SURFACE THAT WATER WILL FLOW AWAY FROM EDGE AND AWAY FROM AREA.
- HEIGHT AND LENGTH SHALL BE AS SHOWN.
- THE FILTER BAG MUST BE STAYED IN PLACE AND SECURED TO THE RAMP THROUGHOUT LIFE.
- FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 500 GPM.
- DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL BE SPREAD IN AN UPLAND AREA.
- FILTER FABRICS SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F:

| | | |
|----------------------|-------------------|------------------|
| Tensile Strength | 50 lbs/in (2) | Tens. Hght. 50ft |
| Tensile Max/Gals | 20 lbs/in (2) | Tens. Hght. 50ft |
| Flow Rate | 20 gpm (2/min/ft) | Tens. Hght. 50ft |
| Filtering Efficiency | 75% (2) | Tens. Hght. 50ft |

DEVELOPER'S/BUILDER'S CERTIFICATE

I HEREBY 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.

Robert Van Dyke 1-25-07
SIGNATURE OF DEVELOPER/BUILDER DATE

ENGINEER'S CERTIFICATE

I HEREBY 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.

Chris Harris 1-25-07
ENGINEER'S SIGNATURE DATE



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William J. Whitcomb, Jr. 2-5-07
Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chris Harris 2/1/07
Chief, Division of Land Development Date

John Mays 2/1/07
Chief, Development Engineering Division Date

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

John Mays 2/1/07
HOWARD SOIL CONSERVATION DISTRICT

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 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4166

| DATE | REVISION | BY | APP'R. |
|------|----------|----|--------|
| | | | |
| | | | |
| | | | |
| | | | |

PREPARED FOR OWNER
WALNUT GROVE HOLDING, L.L.C.
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DYKE, PRESIDENT
10705 CHARTER DRIVE
SUITE 320
COLUMBIA, MARYLAND 21044

SEDIMENT CONTROL DETAILS
WALNUT GROVE
LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL "A",
NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" & "M"
NON-BUILDABLE BULK PARCEL "J"
L2927 F487
ELECTION DISTRICT No. 5
HOWARD COUNTY, MARYLAND

| | | |
|-----------|----------------|-------------------|
| SCALE | ZONING | G. L. W. FILE NO. |
| NO SCALE | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | 28 - 18,17 | 26 OF 78 |

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREA NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE...

SEEDING PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING...

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

- 1) PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (42 LBS/1000 SQUARE FEET) AND 600 LBS PER ACRE 10-10-10 FERTILIZER...

- 2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (42 LBS/1000 SQ FT) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER...

SEEDING: FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (1/4 LBS/1000 SQ FT) OF KENTUCKY 31 TALL FESCUE...

MULCHING: APPLY 1/2 TO 2 TONS PER ACRE (70 TO 140 LBS/1000 SQ FT) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING...

MAINTENANCE: INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

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

SEEDING PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING...

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (1/4 LBS/1000 SQ FT)

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHES PER ACRE OF ANNUAL RYE (2.5 LBS/1000 SQ FT)...

MULCHING: APPLY 1/2 TO 2 TONS PER ACRE (70 TO 140 LBS/1000 SQ FT) OF UNROTTED KEEF-FREE SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING...

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

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...

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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL...

3. FOLLOWING INITIAL SOIL DISTURANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 1 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES AND PERIMETER SLOPES...

4. ALL SEDIMENT TRANSBASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.

5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1993 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL...

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

7. SITE ANALYSIS: TOTAL AREA OF SITE 202.44 ACRES; AREA DISTURBED 124.55 ACRES; AREA TO BE VEGETATIVELY STABILIZED 14.0 ACRES...

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

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

10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS...

CONSTRUCTION AND MATERIAL & TOPSOIL SPECIFICATIONS

I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE RESPECTIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENT STATION.

II. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING: A. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND, OTHER SOILS MAY BE USED IF RECOMMENDED BY A AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY...

B. TOPSOIL MUST BE FREE OF PLANT PARTS SUCH AS BERNARDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES: A. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 2.00 VEGETATIVE STABILIZATION - SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS (OR SEE SEEDING NOTES).

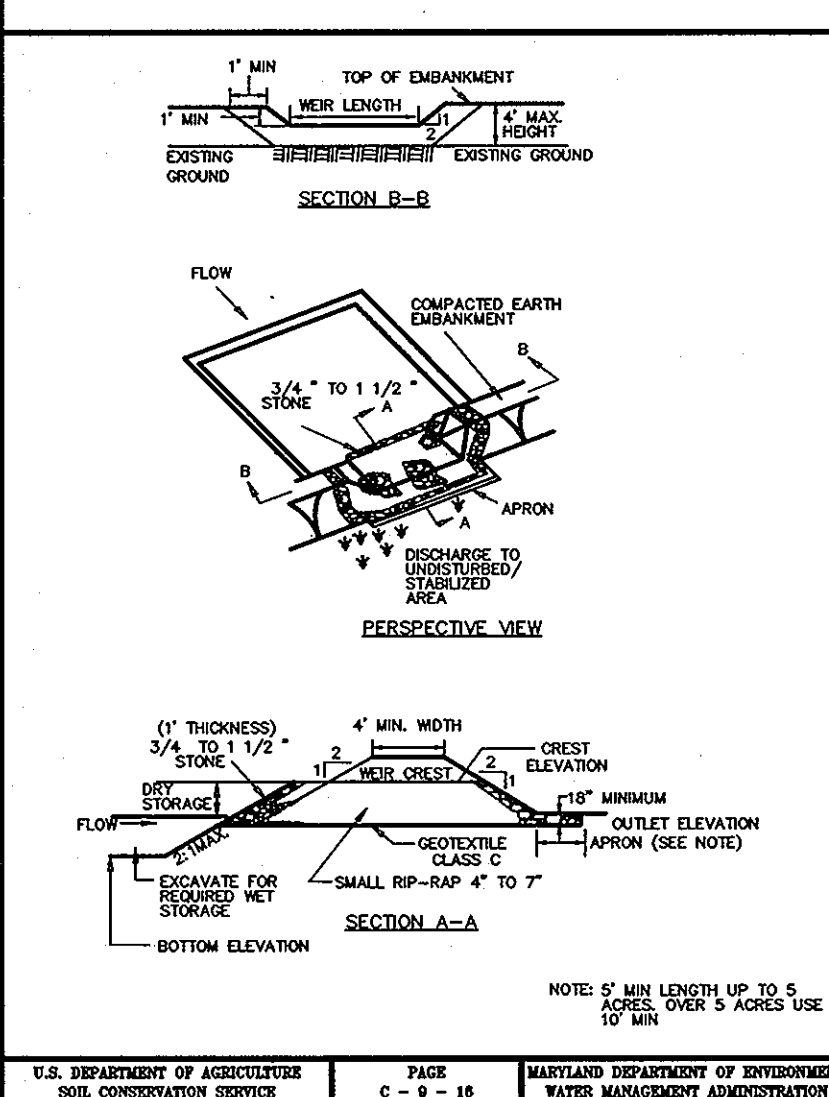
IV. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES: A. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS INDICATING FERTILIZER & LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:

- 1. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.

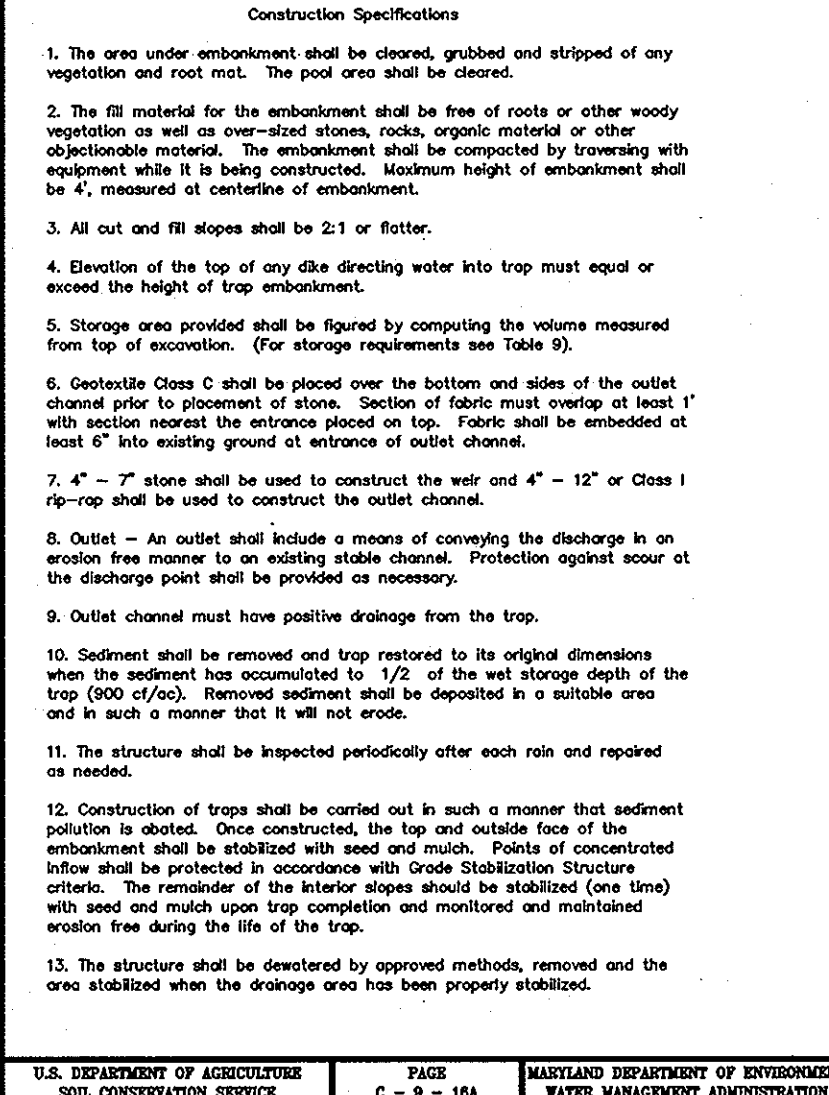
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

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

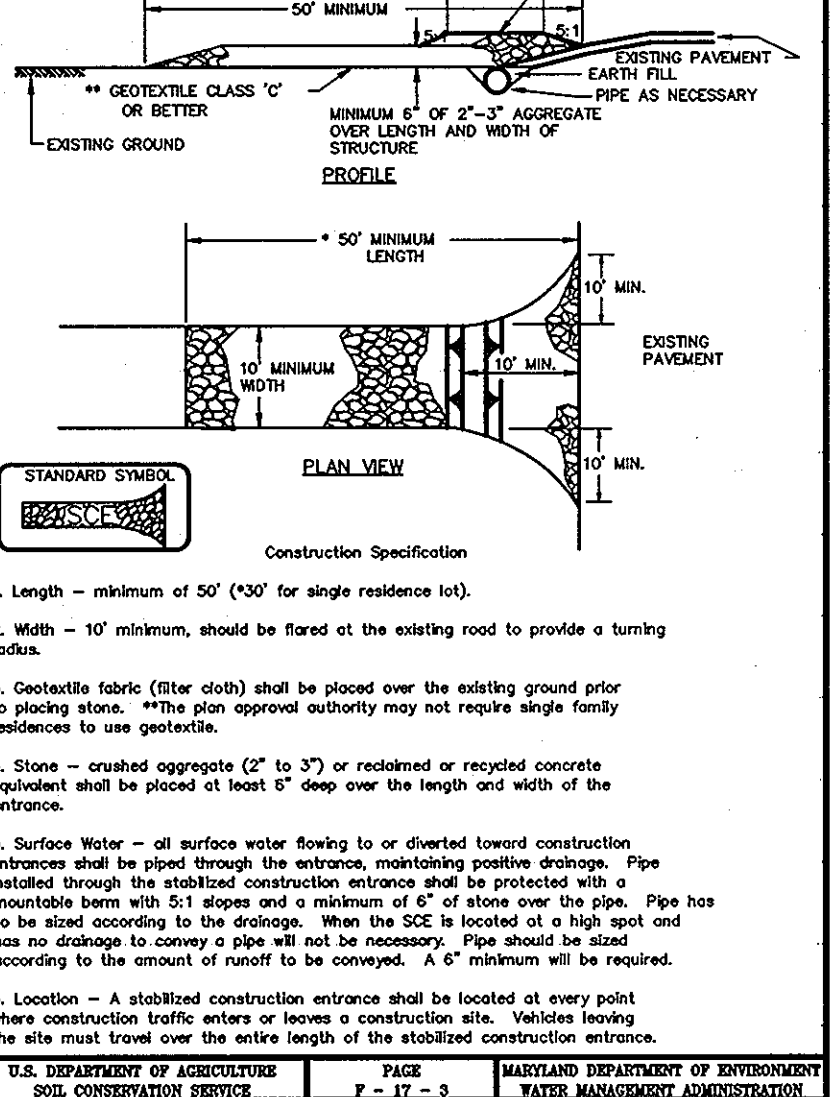
DETAIL 10A - STONE / RIP-RAP OUTLET SEDIMENT TRAP - ST IV



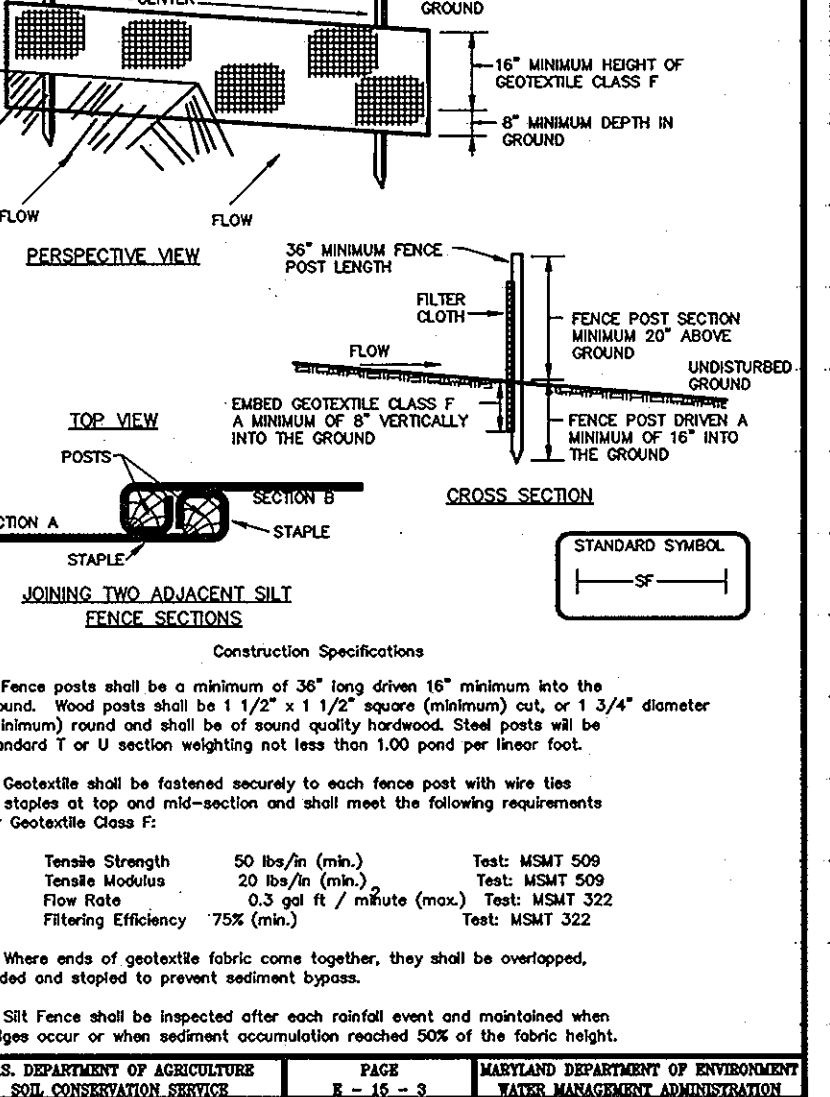
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



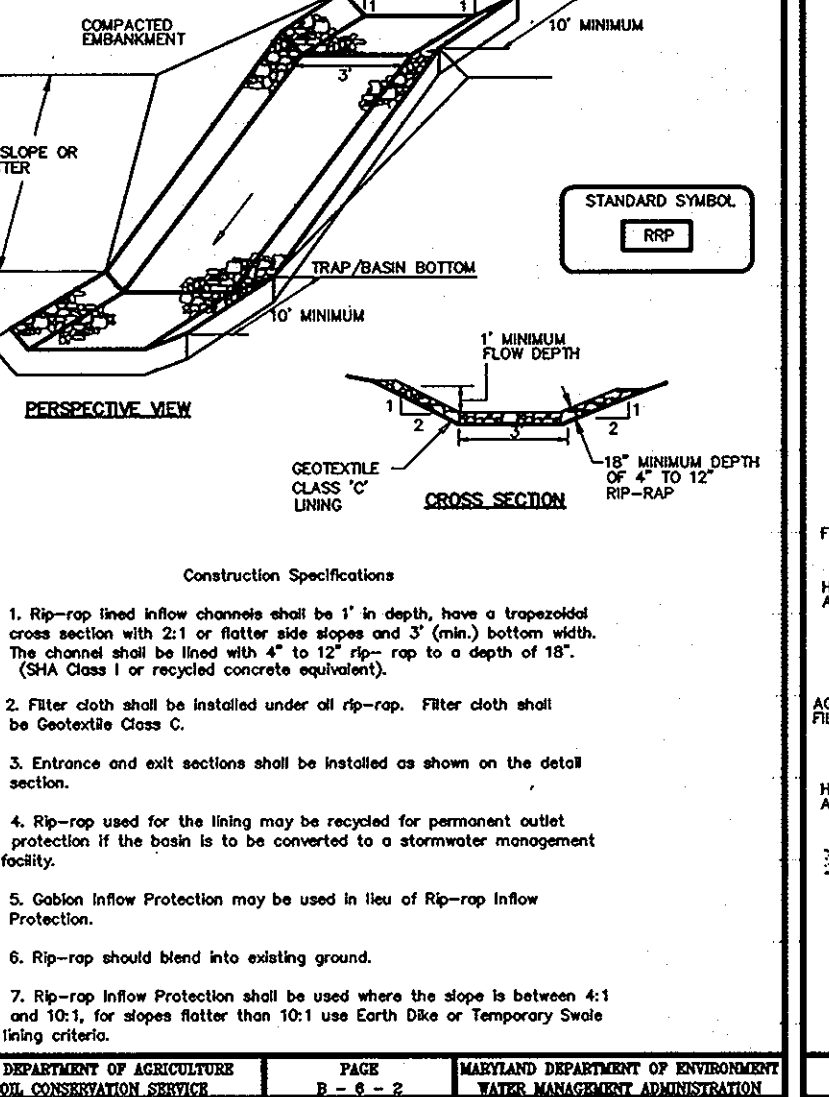
DETAIL 22 - SILT FENCE



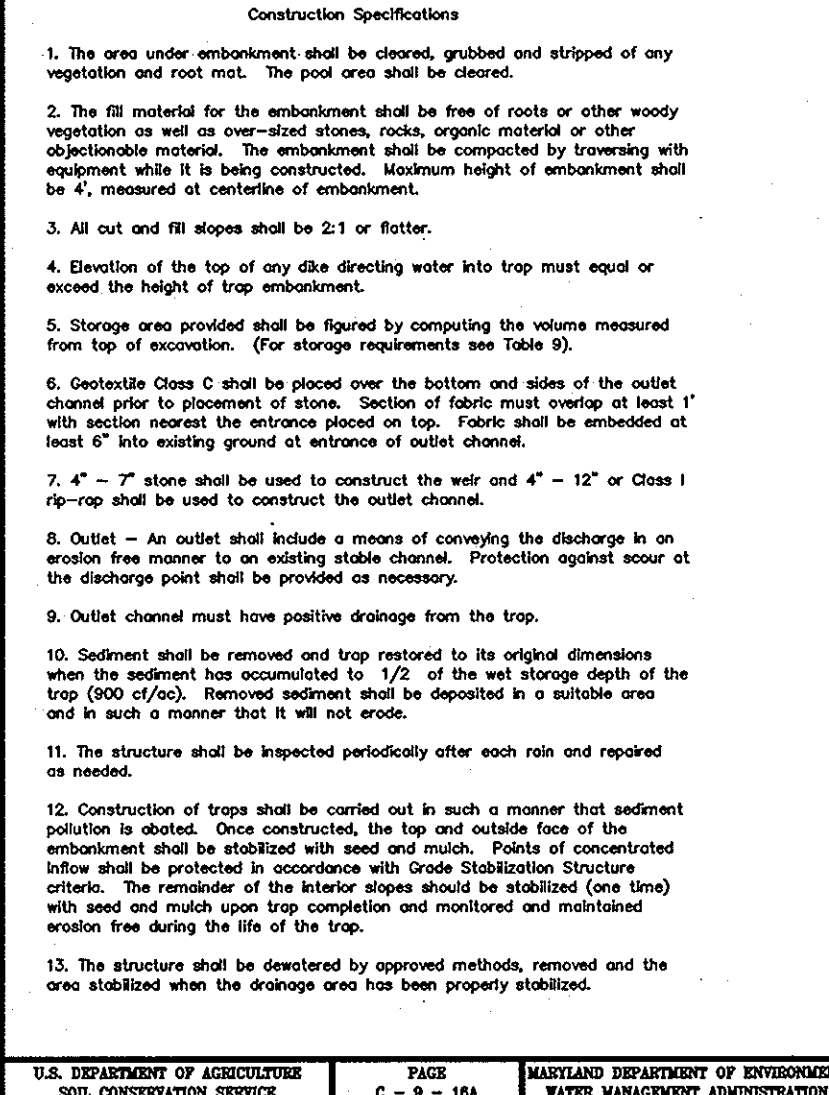
DETAIL 5 - RIP-RAP INFLOW PROTECTION



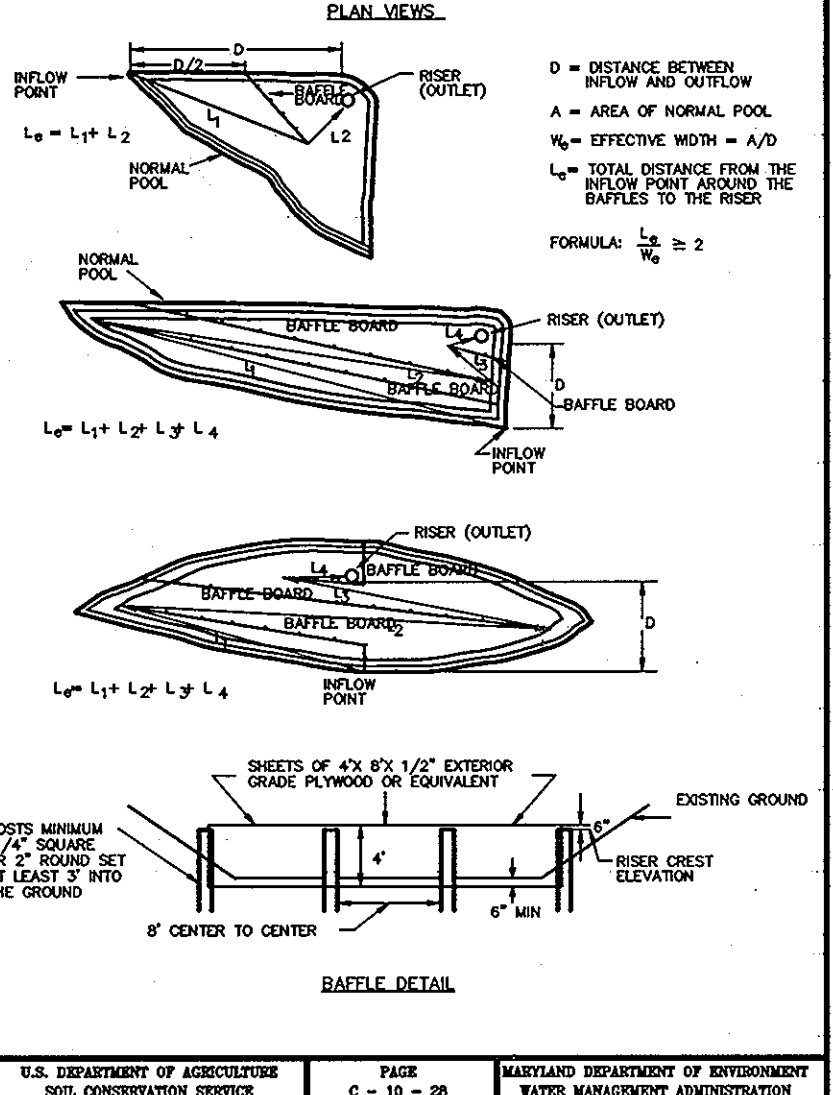
DETAIL 36 - TEMPORARY ACCESS CULVERT



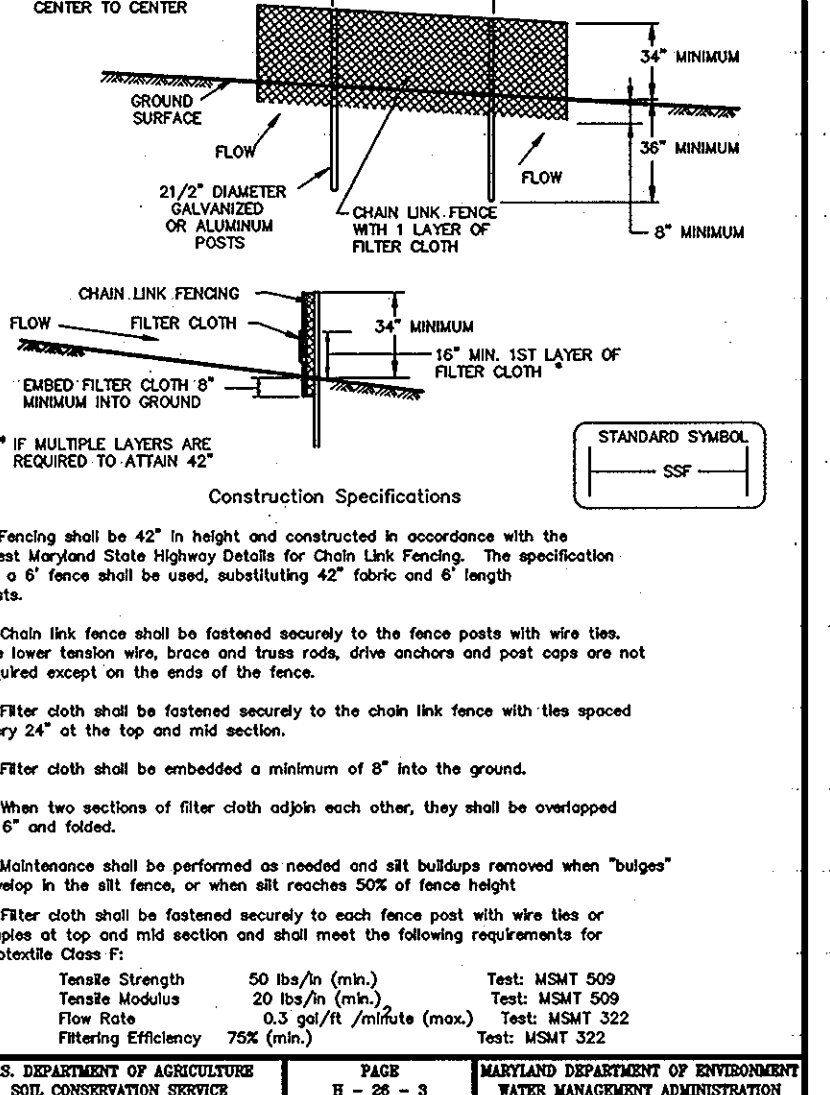
DETAIL 18 - SEDIMENT BASIN BAFFLES



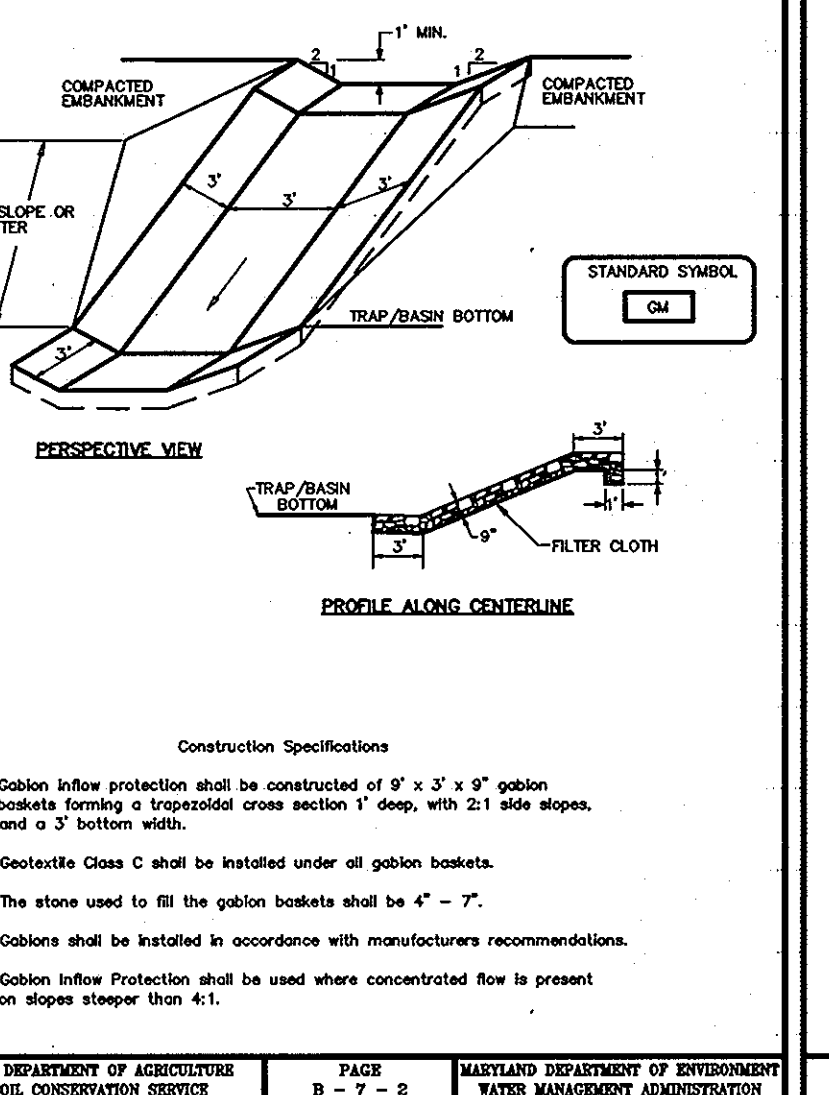
DETAIL 33 - SUPER SILT FENCE



DETAIL 6 - GABION INFLOW PROTECTION



TEMPORARY ACCESS CULVERT



DEVELOPER'S/BUILDER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONS INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM...

Signature: Robert V. ... Date: 1-25-07

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL, REPRESENTS A PRACTICAL AND ADEQUATE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS...

Signature: ... Date: 1-25-07

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. Chief, Bureau of Highways. Date: 2-5-07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING. Chief, Division of Land Development. Date: 2/10/07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING. Chief, Development Engineering Division. Date: 2/10/07

GLWGUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS. 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK, BURTONSVILLE, MARYLAND 20866

PREPARED FOR OWNER

WALNUT GROVE HOLDING, LLC. WALNUT GROVE DEVELOPMENT, INC. ROBERT VAN DUSE PRESENT, 10705 CHARTER DRIVE, SUITE 320, COLUMBIA, MARYLAND 21044

SEDIMENT CONTROL DETAILS

WALNUT GROVE LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A', NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'T', 'K' & 'L' AND NON-BUILDABLE BULK PARCEL 'J'. L.2927 F487

Drawings: 00153\Final-Road\00153SNE-DET.dwg DES. BJM DRN. BJM CHK. DSS

DATE: REVISION: BY: APPR.:

ELECTION DISTRICT No. 5

SCALE: NO SCALE ZONING: RC-DEO G. L. W. FILE NO.: 00153

DATE: JAN./2007 TAX MAP - GRID: PARCEL 74 28 - 18,17 SHEET: 27 OF 78

HOWARD COUNTY, MARYLAND

**S.D. Pipe Summary Table
PRIVATELY OWNED AND MAINTAINED**

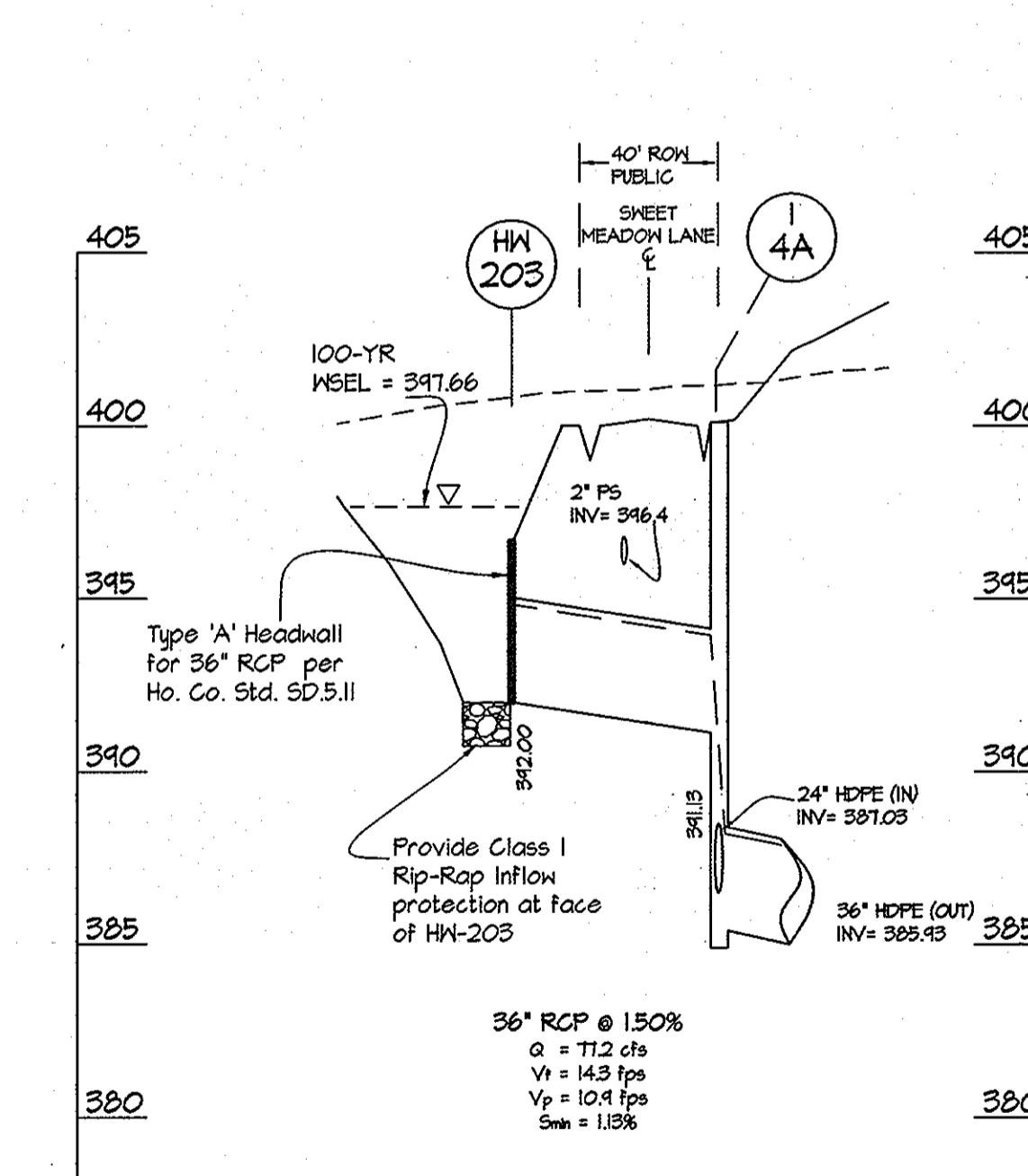
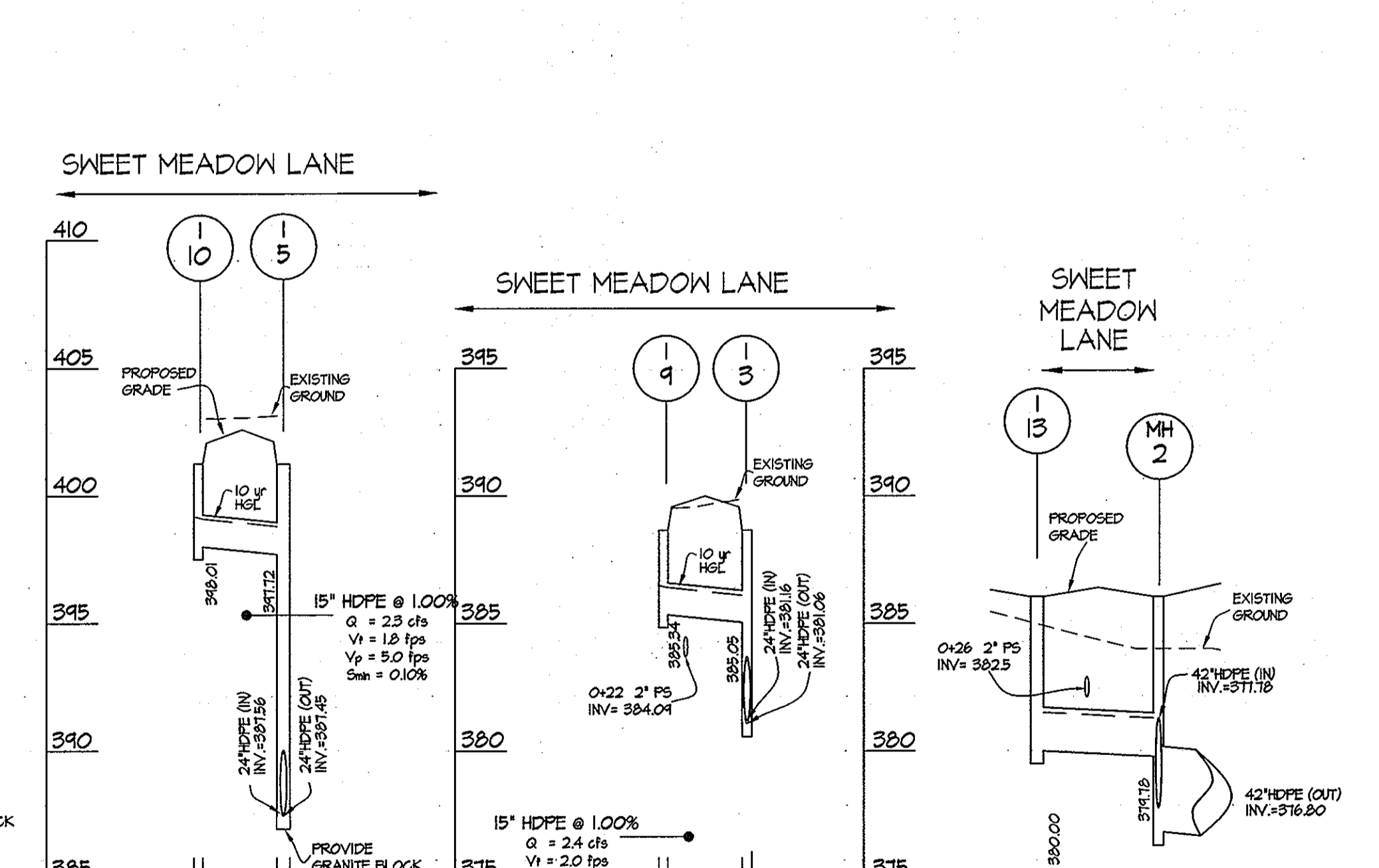
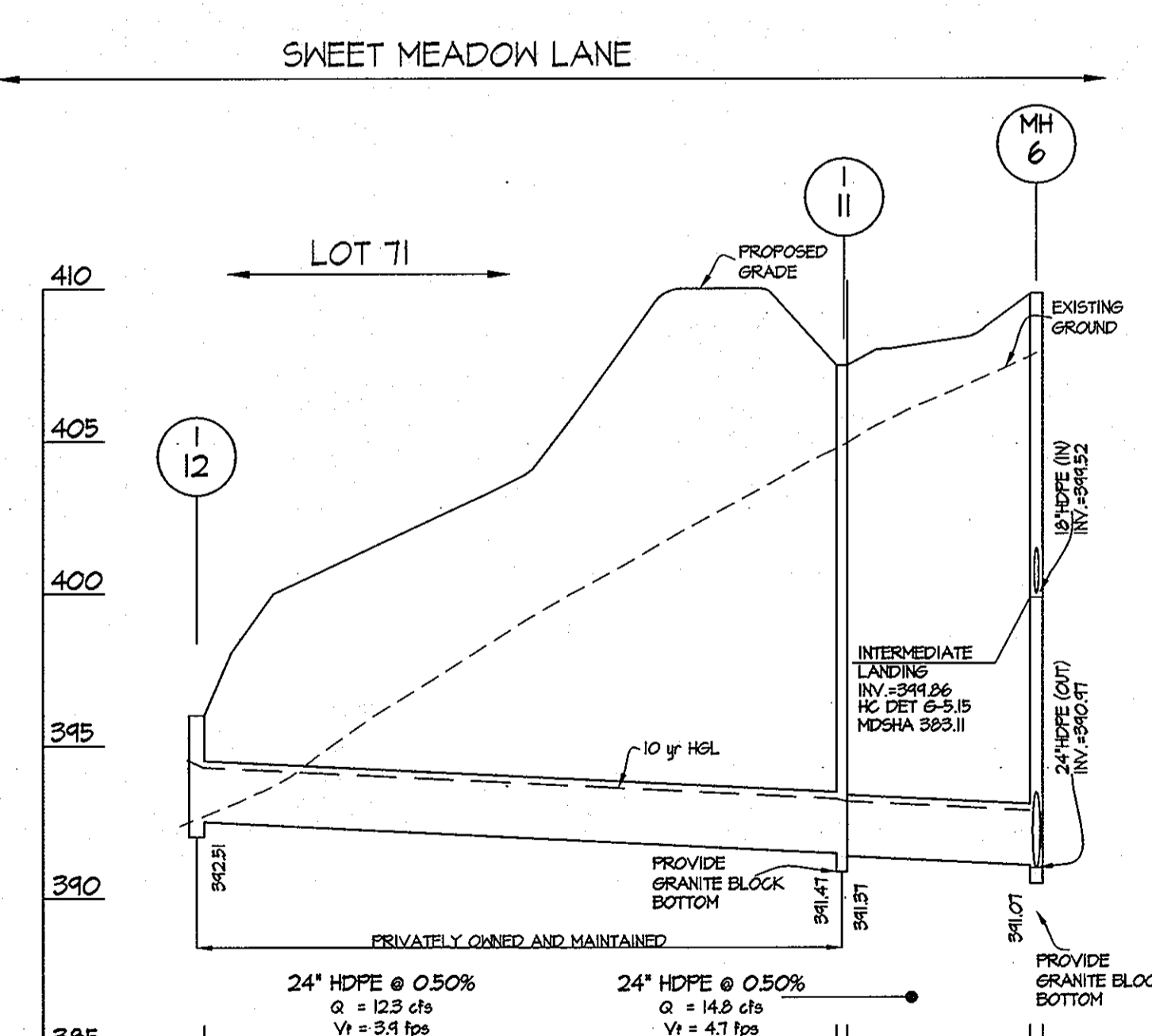
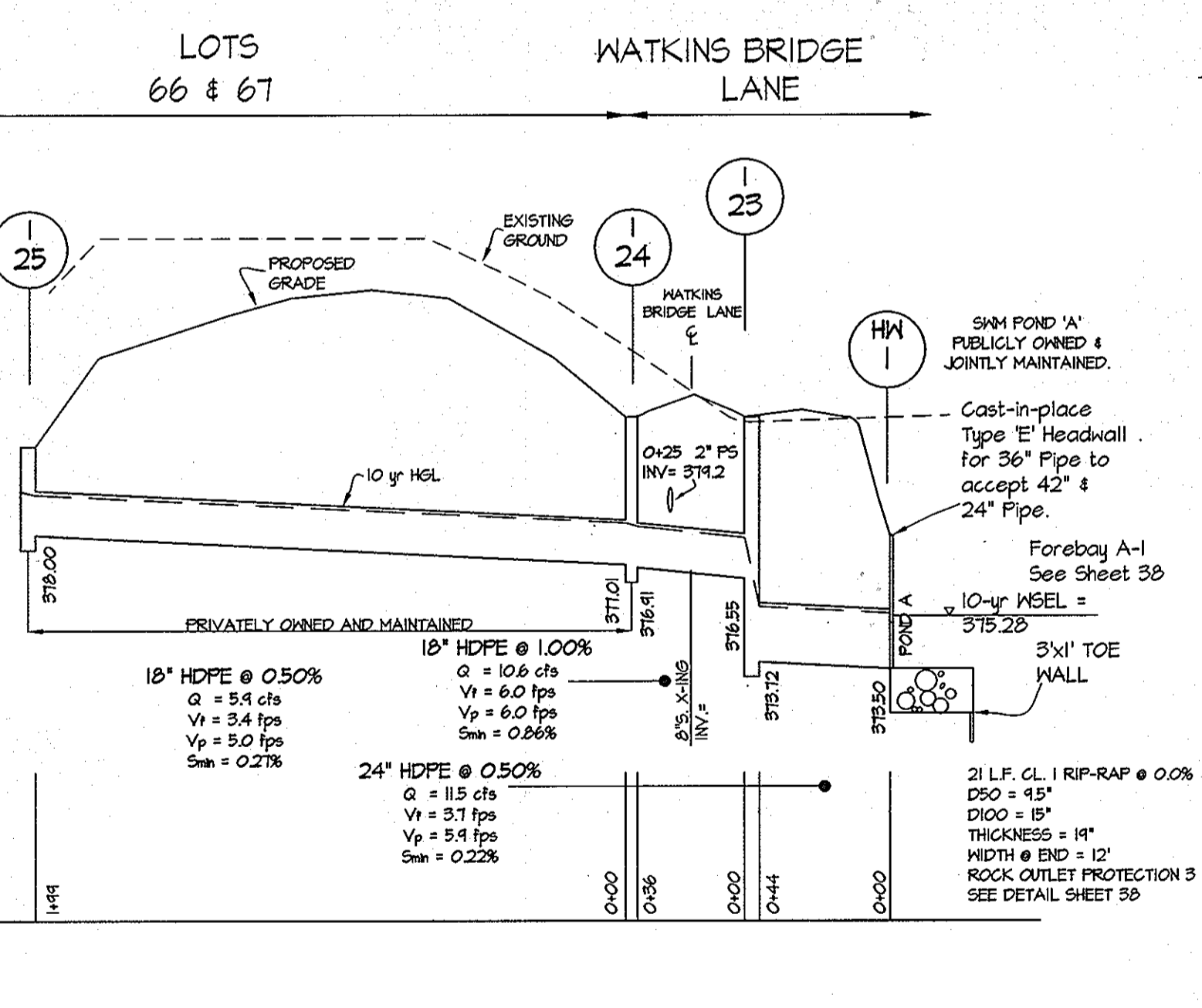
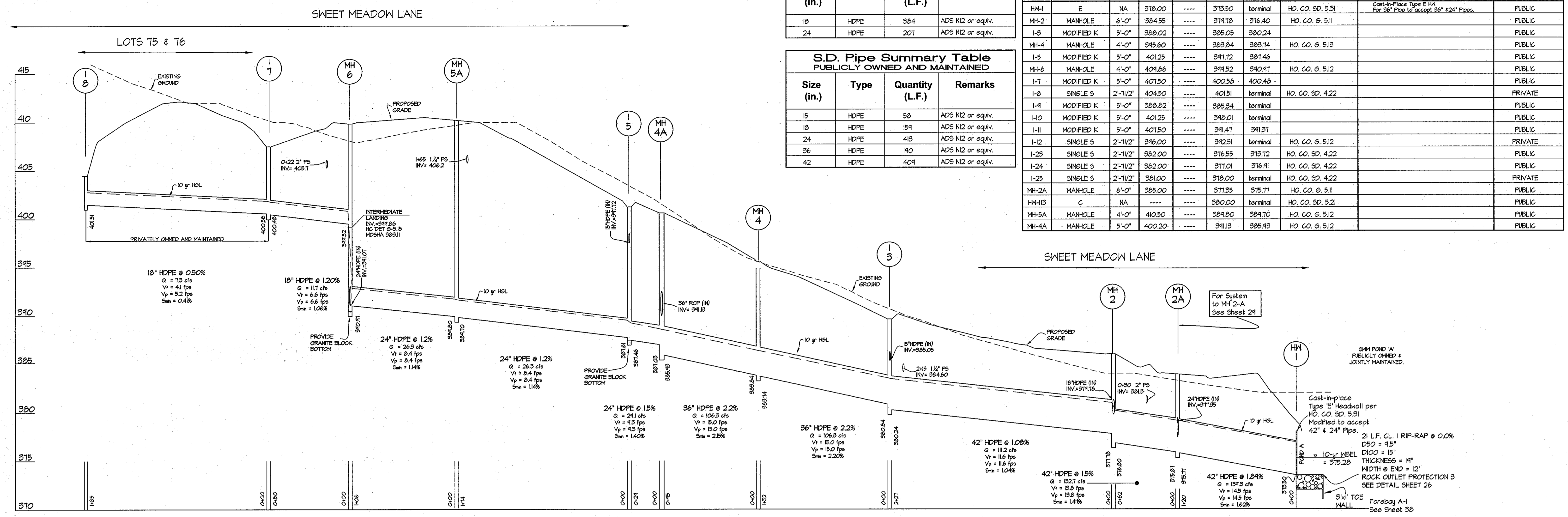
| Size (in.) | Type | Quantity (L.F.) | Remarks |
|------------|------|-----------------|-------------------|
| 18 | HDPE | 584 | ADS N12 or equiv. |
| 24 | HDPE | 207 | ADS N12 or equiv. |

**S.D. Pipe Summary Table
PUBLICLY OWNED AND MAINTAINED**

| Size (in.) | Type | Quantity (L.F.) | Remarks |
|------------|------|-----------------|-------------------|
| 15 | HDPE | 58 | ADS N12 or equiv. |
| 18 | HDPE | 154 | ADS N12 or equiv. |
| 24 | HDPE | 418 | ADS N12 or equiv. |
| 36 | HDPE | 140 | ADS N12 or equiv. |
| 42 | HDPE | 409 | ADS N12 or equiv. |

S.D. STRUCTURE SCHEDULE

| NO. | TYPE | WIDTH (INSIDE) | TOP ELEVATION | | INVERT ELEVATION | | STANDARD DETAIL | NOTES | OWNERSHIP & MAINTENANCE |
|-------|------------|----------------|---------------|-------|------------------|----------|------------------|---|-------------------------|
| | | | UPPER | LOWER | UPPER | LOWER | | | |
| MH-1 | E | NA | 378.00 | ---- | 373.50 | terminal | HO. CO. SD. 5.31 | Cast-in-Place Type E MH For 36" Pipe to accept 24" Pipes. | PUBLIC |
| MH-2 | MANHOLE | 6'-0" | 384.55 | ---- | 374.78 | 376.40 | HO. CO. G. 5.11 | | PUBLIC |
| I-3 | MODIFIED K | 5'-0" | 388.02 | ---- | 385.05 | 380.24 | | | PUBLIC |
| MH-4 | MANHOLE | 4'-0" | 345.60 | ---- | 383.84 | 383.14 | HO. CO. G. 5.13 | | PUBLIC |
| I-5 | MODIFIED K | 5'-0" | 401.25 | ---- | 397.72 | 387.46 | | | PUBLIC |
| MH-6 | MANHOLE | 4'-0" | 404.86 | ---- | 394.52 | 390.97 | HO. CO. G. 5.12 | | PUBLIC |
| I-7 | MODIFIED K | 5'-0" | 407.50 | ---- | 400.58 | 400.48 | | | PUBLIC |
| I-8 | SINGLE S | 2'-11/2" | 404.50 | ---- | 401.51 | terminal | HO. CO. SD. 4.22 | | PRIVATE |
| I-4 | MODIFIED K | 5'-0" | 388.82 | ---- | 385.34 | terminal | | | PUBLIC |
| I-10 | MODIFIED K | 5'-0" | 401.25 | ---- | 398.01 | terminal | | | PUBLIC |
| I-11 | MODIFIED K | 5'-0" | 407.50 | ---- | 391.47 | 391.57 | | | PUBLIC |
| I-12 | SINGLE S | 2'-11/2" | 346.00 | ---- | 392.51 | terminal | HO. CO. G. 5.12 | | PRIVATE |
| I-23 | SINGLE S | 2'-11/2" | 382.00 | ---- | 376.55 | 373.12 | HO. CO. SD. 4.22 | | PUBLIC |
| I-24 | SINGLE S | 2'-11/2" | 382.00 | ---- | 371.01 | 376.91 | HO. CO. SD. 4.22 | | PUBLIC |
| I-25 | SINGLE S | 2'-11/2" | 381.00 | ---- | 378.00 | terminal | HO. CO. SD. 4.22 | | PRIVATE |
| MH-2A | MANHOLE | 6'-0" | 385.00 | ---- | 371.35 | 375.71 | HO. CO. G. 5.11 | | PUBLIC |
| MH-1B | C | NA | ---- | ---- | 380.00 | terminal | HO. CO. SD. 5.21 | | PUBLIC |
| MH-5A | MANHOLE | 4'-0" | 410.50 | ---- | 384.80 | 384.70 | HO. CO. G. 5.12 | | PUBLIC |
| MH-4A | MANHOLE | 5'-0" | 400.20 | ---- | 391.13 | 385.93 | HO. CO. G. 5.12 | | PUBLIC |



PROFILES
 SCALES: 1" = 5' VERT.
 1" = 50' HORZ.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 2-5-07 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development
 2/18/07 Date

Chief, Development Engineering Division
 2/16/07 Date



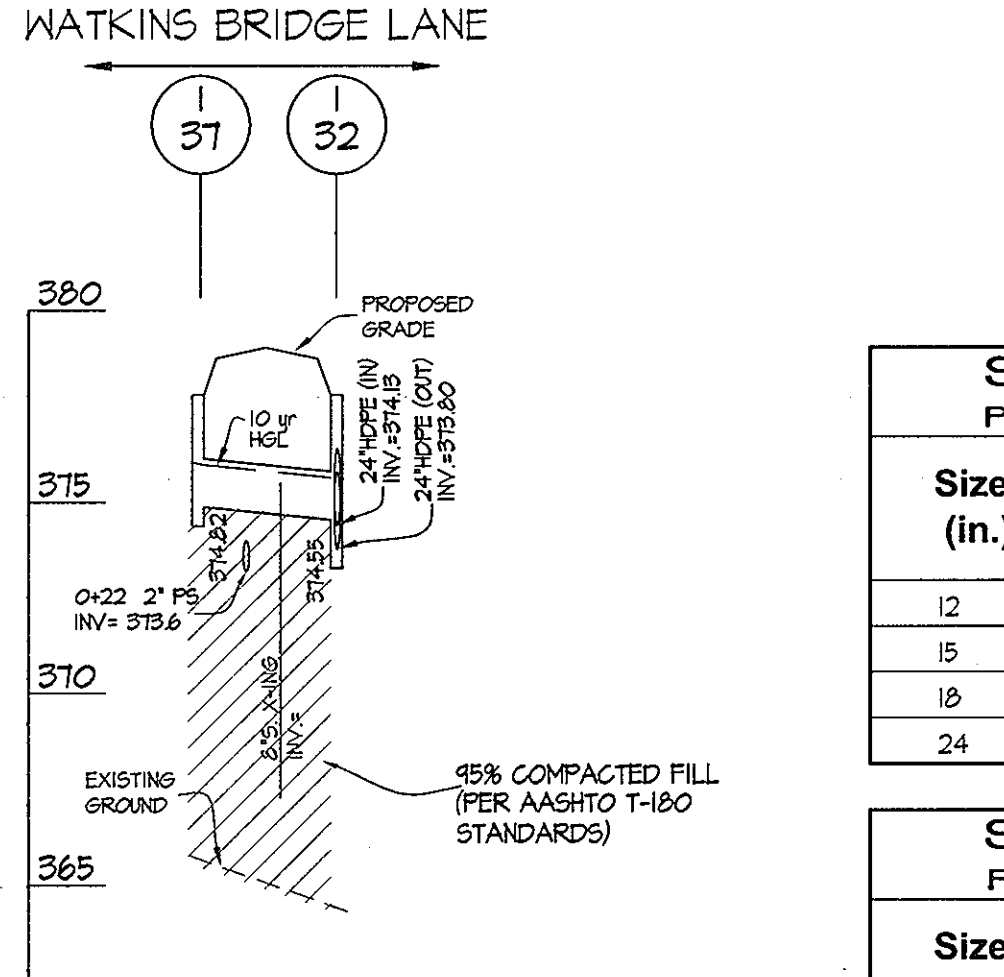
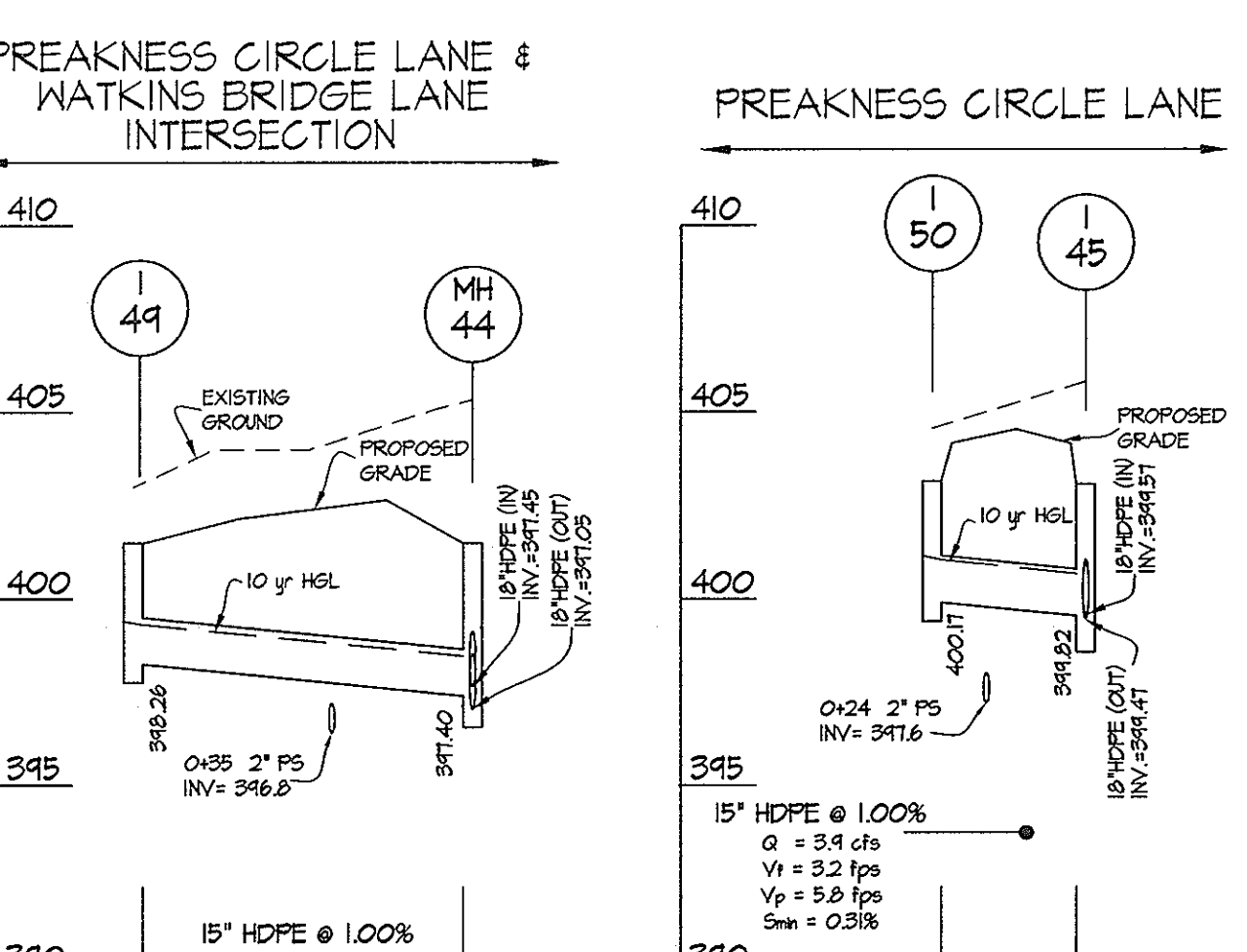
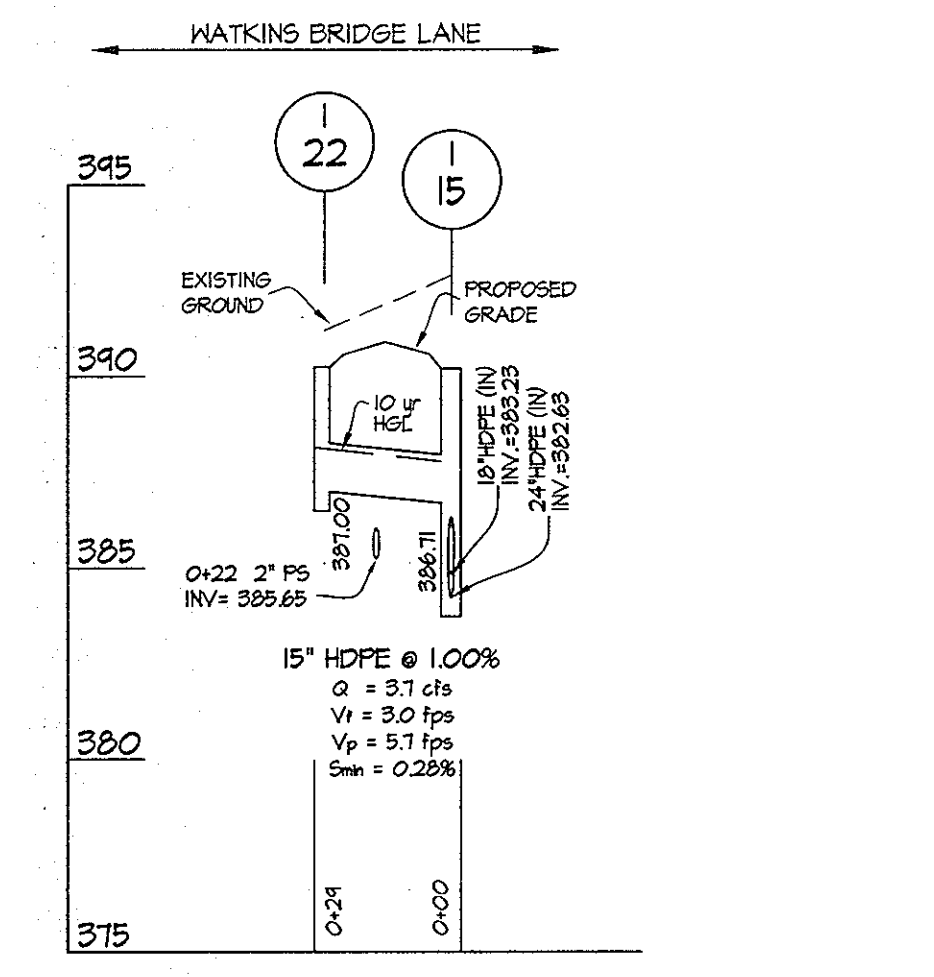
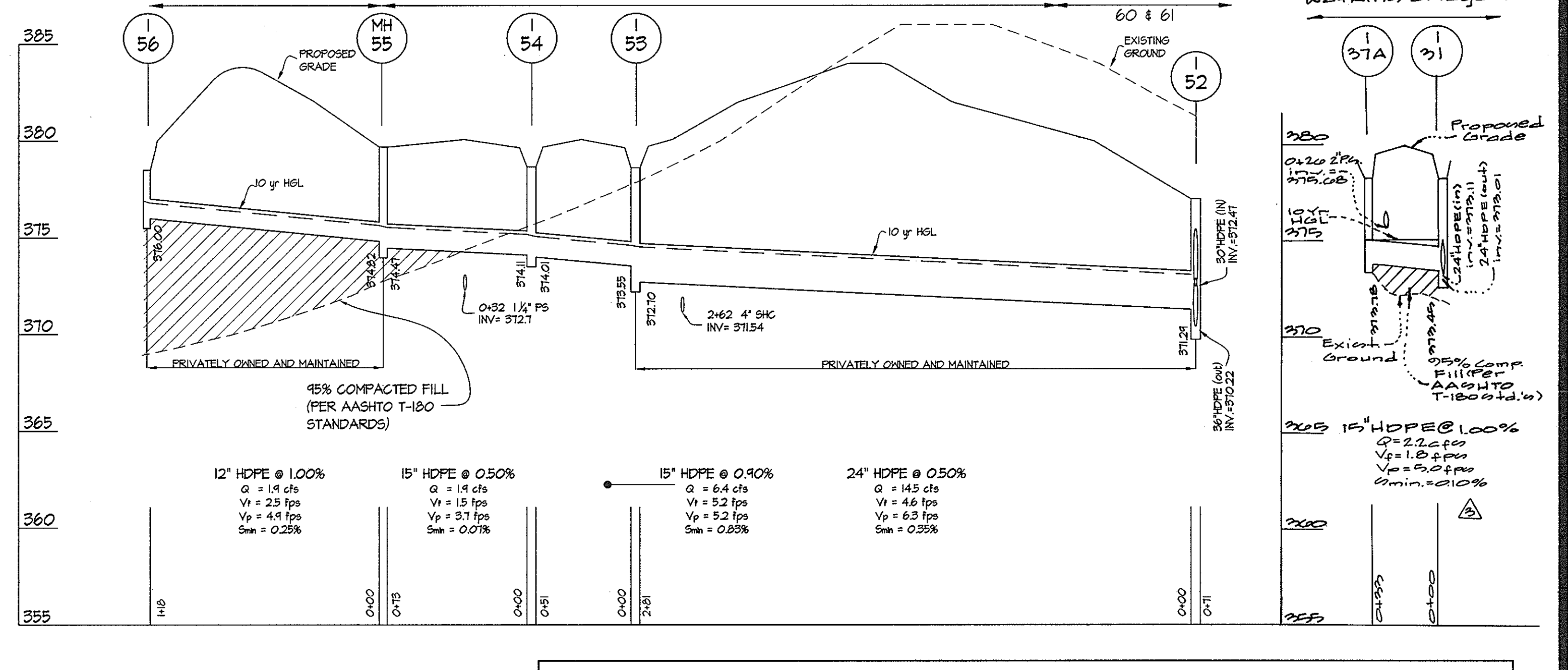
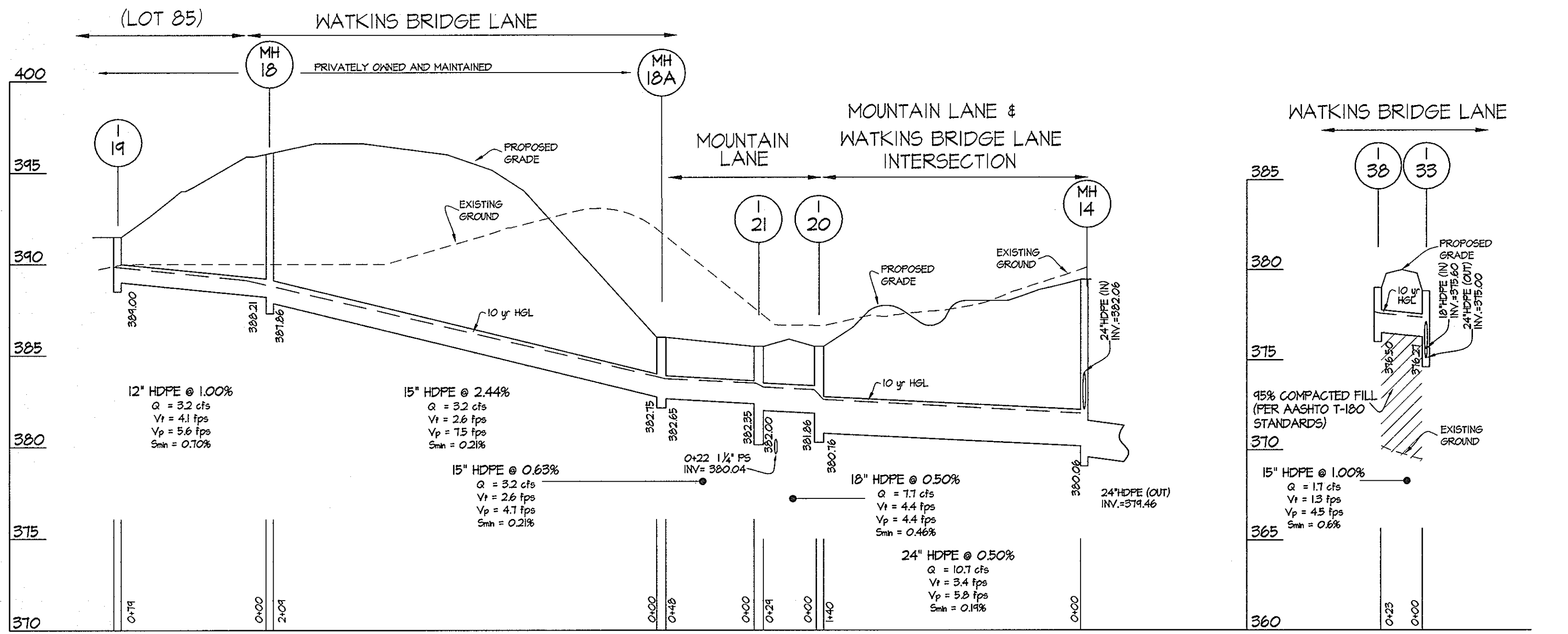
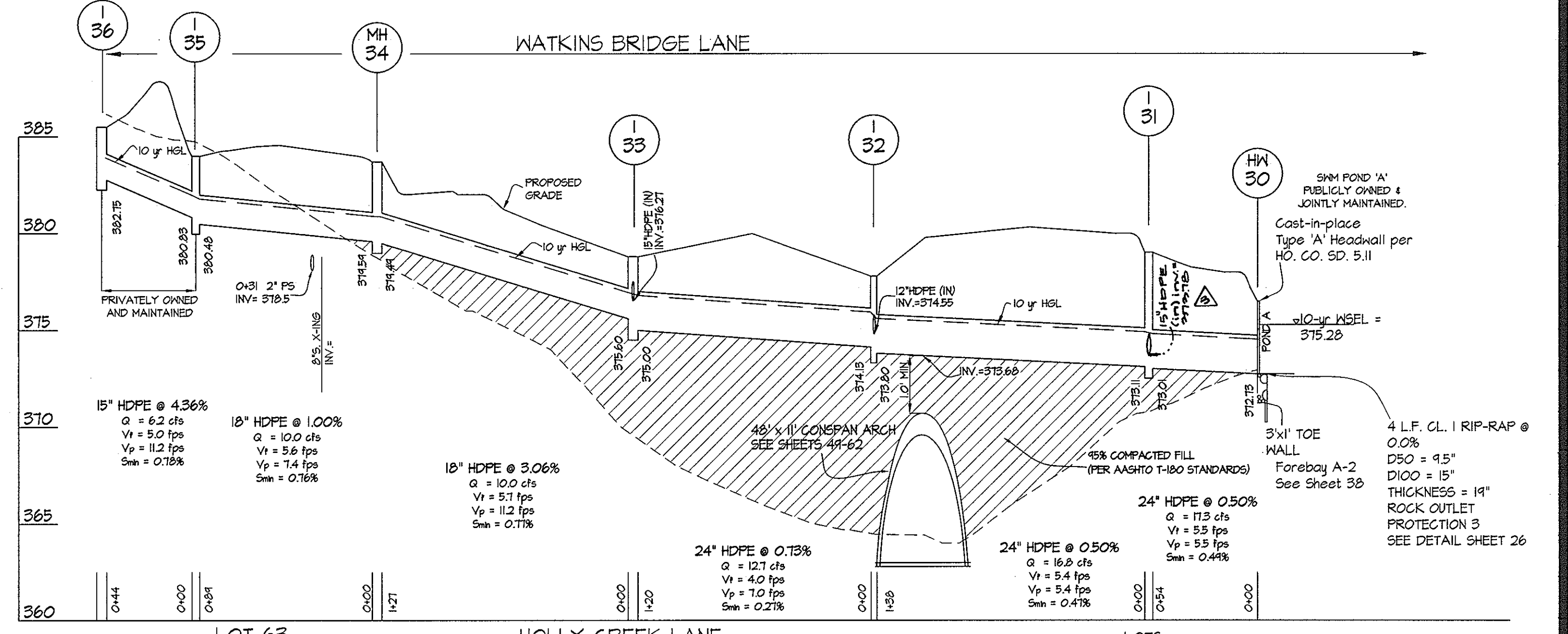
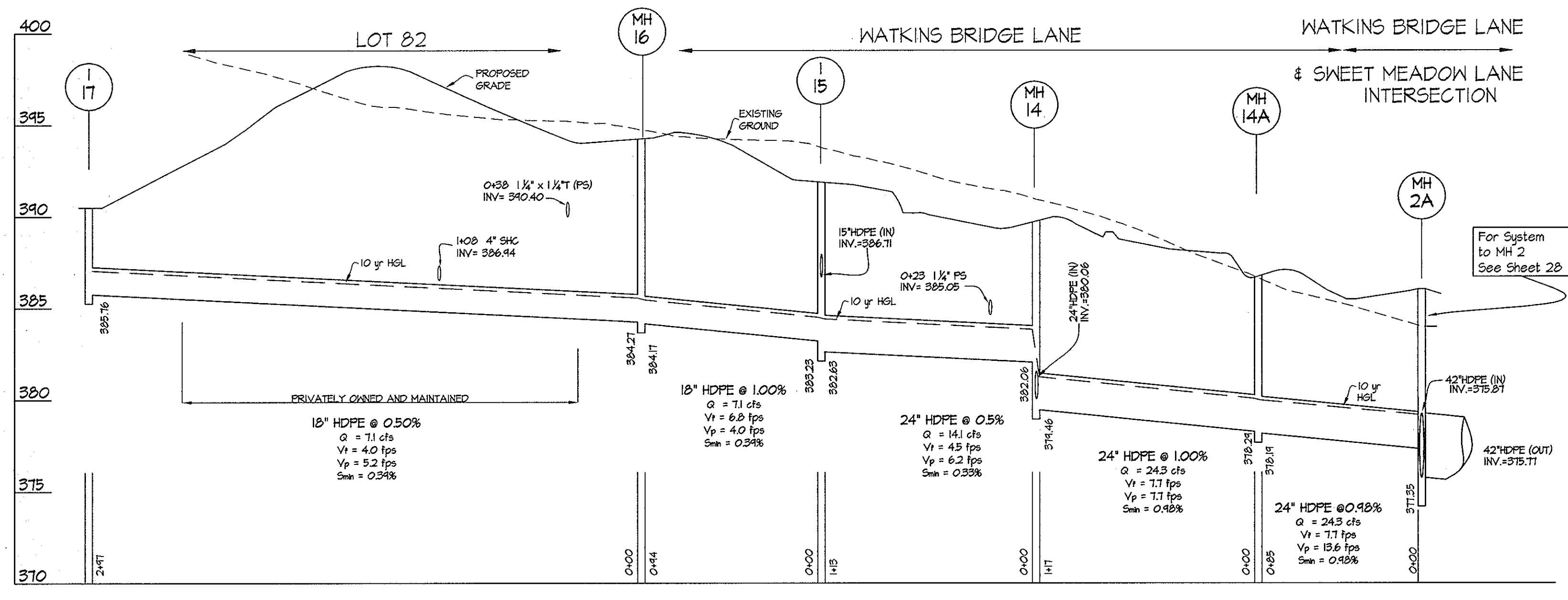
GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 FAX: 301-421-4186

| DATE | REVISION | BY | APP'R. |
|------|----------|----|--------|
| | | | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

**STORM DRAIN PROFILES
 WALNUT GROVE**
 LOTS 1 THRU 38, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L.2927 FA87

| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|-------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 28 OF 78 |



S.D. Pipe Summary Table
PRIVATELY OWNED AND MAINTAINED

| Size (in.) | Type | Quantity (L.F.) | Remarks |
|------------|------|-----------------|-------------------|
| 12 | HDPE | 141 | ADS N12 or equiv. |
| 15 | HDPE | 208 | ADS N12 or equiv. |
| 18 | HDPE | 241 | ADS N12 or equiv. |
| 24 | HDPE | 281 | ADS N12 or equiv. |

S.D. Pipe Summary Table
PUBLICLY OWNED AND MAINTAINED

| Size (in.) | Type | Quantity (L.F.) | Remarks |
|------------|------|-----------------|-------------------|
| 15 | HDPE | 440 | ADS N12 or equiv. |
| 18 | HDPE | 334 | ADS N12 or equiv. |
| 24 | HDPE | 161 | ADS N12 or equiv. |

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

S.D. STRUCTURE SCHEDULE

| NO. | TYPE | WIDTH (INSIDE) | TOP ELEVATION UPPER | TOP ELEVATION LOWER | INVERT ELEVATION UPPER | INVERT ELEVATION LOWER | STANDARD DETAIL | NOTES | OWNERSHIP & MAINTENANCE |
|--------|------------|----------------|---------------------|---------------------|------------------------|------------------------|------------------|-------|-------------------------|
| I-15 | MODIFIED K | 5'-0" | 384.55 | ---- | 380.00 | terminal | | | PUBLIC |
| MH-14 | MANHOLE | 4'-0" | 384.20 | ---- | 382.06 | 374.46 | HO. CO. G. 5.12 | | PUBLIC |
| I-15 | MODIFIED K | 5'-0" | 384.20 | ---- | 386.71 | 382.63 | | | PUBLIC |
| MH-16 | MANHOLE | 4'-0" | 383.90 | ---- | 384.21 | 384.11 | HO. CO. G. 5.12 | | PUBLIC |
| I-17 | SINGLE S | 2'-11/2" | 380.50 | ---- | 385.76 | terminal | HO. CO. SD. 4.22 | | PRIVATE |
| MH-18 | MANHOLE | 4'-0" | 385.84 | ---- | 388.21 | 381.86 | | | PRIVATE |
| I-19 | YARD | 2'-0" | 381.50 | ---- | 384.00 | terminal | HO. CO. SD. 4.14 | | PRIVATE |
| I-20 | MODIFIED K | 5'-0" | 384.64 | ---- | 381.86 | 380.76 | | | PUBLIC |
| I-21 | MODIFIED K | 5'-0" | 384.64 | ---- | 382.35 | 385.00 | | | PUBLIC |
| I-22 | MODIFIED K | 5'-0" | 384.20 | ---- | 381.00 | terminal | | | PUBLIC |
| I-31 | MODIFIED K | 4'-0" | 378.02 | ---- | 373.49 | 373.01 | HO. CO. G. 5.12 | | PUBLIC |
| I-32 | MODIFIED K | 5'-0" | 371.80 | ---- | 374.13 | 373.80 | | | PUBLIC |
| I-33 | MODIFIED K | 5'-0" | 378.82 | ---- | 375.60 | 375.00 | | | PUBLIC |
| MH-34 | MANHOLE | 4'-0" | 383.49 | ---- | 374.54 | 374.44 | HO. CO. G. 5.12 | | PUBLIC |
| I-35 | MODIFIED K | 5'-0" | 385.60 | ---- | 380.83 | 380.48 | | | PUBLIC |
| I-36 | SINGLE S | 2'-11/2" | 385.50 | ---- | 382.75 | terminal | HO. CO. SD. 4.22 | | PRIVATE |
| I-37 | MODIFIED K | 5'-0" | 371.80 | ---- | 374.82 | terminal | | | PUBLIC |
| I-38 | YARD | 2'-0" | 374.50 | ---- | 376.50 | terminal | HO. CO. SD. 4.14 | | PRIVATE |
| I-32 | MODIFIED K | 5'-0" | 371.00 | ---- | 372.41 | 372.22 | | | PUBLIC |
| I-53 | MODIFIED K | 5'-0" | 371.40 | ---- | 373.55 | 372.10 | | | PUBLIC |
| I-54 | MODIFIED K | 5'-0" | 371.40 | ---- | 374.11 | 374.01 | | | PUBLIC |
| MH-55 | MANHOLE | 4'-0" | 378.34 | ---- | 374.82 | 374.41 | HO. CO. G. 5.12 | | PUBLIC |
| I-56 | YARD | 2'-0" | 374.00 | ---- | 376.00 | terminal | HO. CO. SD. 4.14 | | PRIVATE |
| MH-44 | MANHOLE | 4'-0" | 402.50 | ---- | 394.45 | 394.05 | HO. CO. G. 5.12 | | PUBLIC |
| I-45 | MODIFIED K | 5'-0" | 403.02 | ---- | 394.51 | 394.41 | | | PUBLIC |
| I-49 | MODIFIED K | 5'-0" | 401.55 | ---- | 398.26 | terminal | | | PUBLIC |
| I-50 | MODIFIED K | 5'-0" | 403.02 | ---- | 400.11 | terminal | | | PUBLIC |
| MH-30 | A | NA | 373.50 | ---- | 372.75 | terminal | HO. CO. SD. 5.11 | | PUBLIC |
| MH-18A | MANHOLE | 4'-0" | 385.90 | ---- | 382.75 | 382.65 | HO. CO. SD. 5.12 | | PUBLIC |
| MH-14A | MANHOLE | 4'-0" | 386.00 | ---- | 378.24 | 378.14 | HO. CO. SD. 5.12 | | PUBLIC |

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William F. ... 2-5-07
 Chief, Bureau of Highways
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Carla ... 2/5/07
 Chief, Division of Land Development
 APPROVED: *...* 2/16/07
 Chief, Development Engineering Division

GLWGUTSCHICK 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 FAX: 301-421-4186

| NO. | DATE | DESCRIPTION | BY | APP'R. |
|-----|---------|-------------------|-----|--------|
| 001 | 1-27-07 | Inlet 1-77A Added | ... | ... |
| 002 | | | | |
| 003 | | | | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

STORM DRAIN PROFILES
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'J', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L.2927 F.487
 ELECTION DISTRICT No. 5

| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|-------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 29 OF 78 |

S.D. Pipe Summary Table
PRIVATELY OWNED AND MAINTAINED

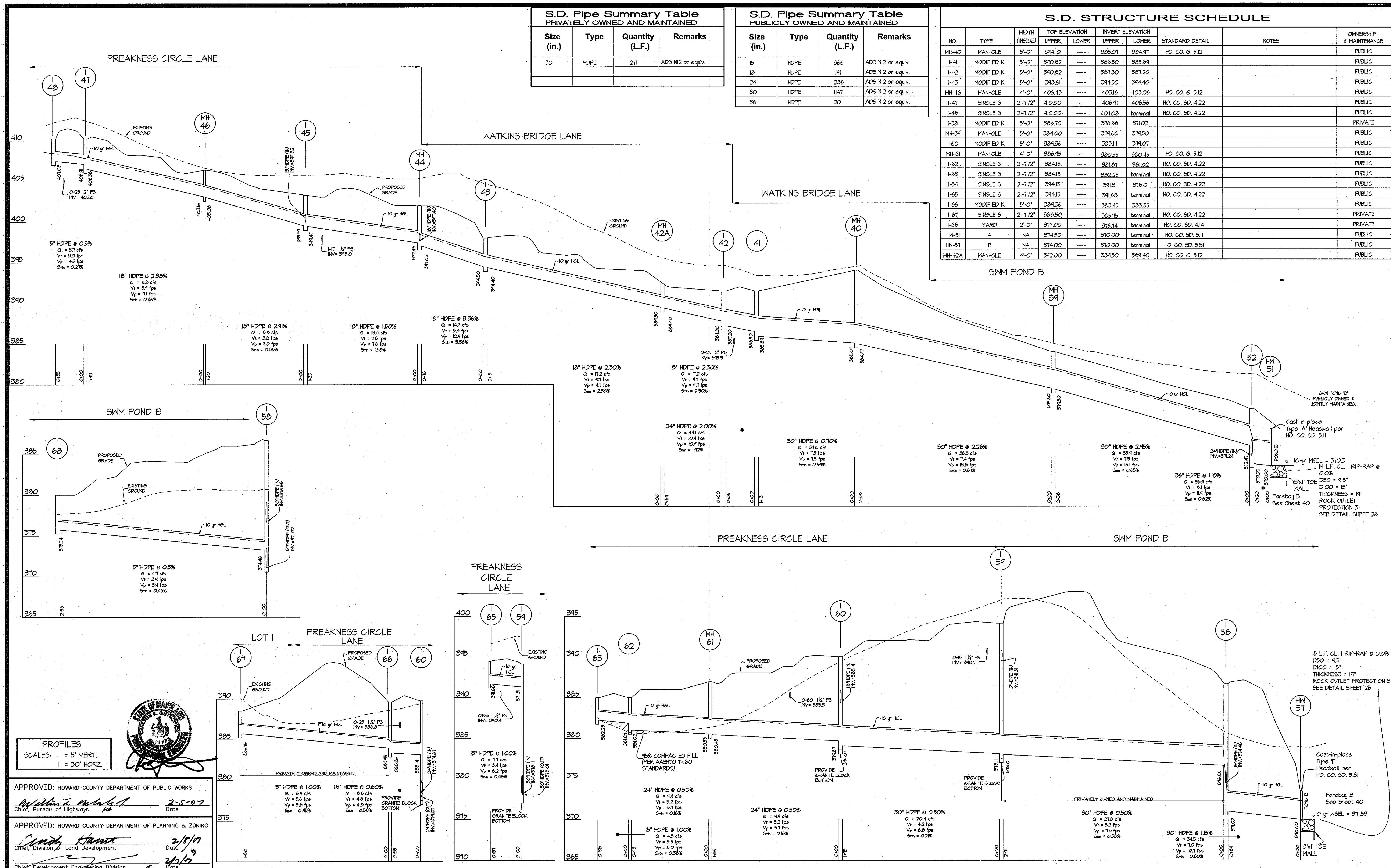
| Size (in.) | Type | Quantity (L.F.) | Remarks |
|------------|------|-----------------|-------------------|
| 30 | HDPE | 211 | ADS N12 or equiv. |

S.D. Pipe Summary Table
PUBLICLY OWNED AND MAINTAINED

| Size (in.) | Type | Quantity (L.F.) | Remarks |
|------------|------|-----------------|-------------------|
| 15 | HDPE | 366 | ADS N12 or equiv. |
| 18 | HDPE | 791 | ADS N12 or equiv. |
| 24 | HDPE | 286 | ADS N12 or equiv. |
| 30 | HDPE | 1147 | ADS N12 or equiv. |
| 36 | HDPE | 20 | ADS N12 or equiv. |

S.D. STRUCTURE SCHEDULE

| NO. | TYPE | WIDTH (INSIDE) | TOP ELEVATION | | INVERT ELEVATION | | STANDARD DETAIL | NOTES | OWNERSHIP & MAINTENANCE |
|--------|------------|----------------|---------------|-------|------------------|----------|------------------|-------|-------------------------|
| | | | UPPER | LOWER | UPPER | LOWER | | | |
| MH-40 | MANHOLE | 5'-0" | 344.10 | ---- | 385.07 | 384.97 | HO. CO. G. 5.12 | | PUBLIC |
| I-41 | MODIFIED K | 5'-0" | 340.82 | ---- | 386.50 | 385.84 | | | PUBLIC |
| I-42 | MODIFIED K | 5'-0" | 340.82 | ---- | 387.20 | 387.20 | | | PUBLIC |
| I-43 | MODIFIED K | 5'-0" | 348.61 | ---- | 394.50 | 394.40 | | | PUBLIC |
| MH-46 | MANHOLE | 4'-0" | 406.43 | ---- | 403.16 | 403.06 | HO. CO. G. 5.12 | | PUBLIC |
| I-47 | SINGLE S | 2'-11/2" | 410.00 | ---- | 406.91 | 406.56 | HO. CO. SD. 4.22 | | PUBLIC |
| I-48 | SINGLE S | 2'-11/2" | 410.00 | ---- | 407.08 | terminal | HO. CO. SD. 4.22 | | PUBLIC |
| I-50 | MODIFIED K | 5'-0" | 386.70 | ---- | 376.66 | 371.02 | | | PRIVATE |
| MH-39 | MANHOLE | 5'-0" | 384.00 | ---- | 379.60 | 379.50 | | | PUBLIC |
| I-60 | MODIFIED K | 5'-0" | 384.36 | ---- | 383.14 | 379.07 | | | PUBLIC |
| MH-61 | MANHOLE | 4'-0" | 386.95 | ---- | 380.55 | 380.45 | HO. CO. G. 5.12 | | PUBLIC |
| I-62 | SINGLE S | 2'-11/2" | 384.15 | ---- | 381.87 | 381.02 | HO. CO. SD. 4.22 | | PUBLIC |
| I-63 | SINGLE S | 2'-11/2" | 384.15 | ---- | 382.25 | terminal | HO. CO. SD. 4.22 | | PUBLIC |
| I-54 | SINGLE S | 2'-11/2" | 344.15 | ---- | 341.91 | 376.01 | HO. CO. SD. 4.22 | | PUBLIC |
| I-65 | SINGLE S | 2'-11/2" | 344.15 | ---- | 341.68 | terminal | HO. CO. SD. 4.22 | | PUBLIC |
| I-66 | MODIFIED K | 5'-0" | 384.36 | ---- | 383.95 | 383.35 | | | PUBLIC |
| I-67 | SINGLE S | 2'-11/2" | 388.50 | ---- | 385.75 | terminal | HO. CO. SD. 4.22 | | PRIVATE |
| I-68 | YARD | 2'-0" | 374.00 | ---- | 375.74 | terminal | HO. CO. SD. 4.14 | | PRIVATE |
| MH-51 | A | NA | 374.50 | ---- | 370.00 | terminal | HO. CO. SD. 5.11 | | PUBLIC |
| MH-57 | E | NA | 374.00 | ---- | 370.00 | terminal | HO. CO. SD. 5.31 | | PUBLIC |
| MH-42A | MANHOLE | 4'-0" | 342.00 | ---- | 384.50 | 384.40 | HO. CO. G. 5.12 | | PUBLIC |



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

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William T. McLaughlin 2-5-07
Chief, Bureau of Highways
Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Candy Hunt 2/5/07
Chief, Division of Land Development
Date

Chief, Development Engineering Division



GLWGUTSCHICK 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: 301-389-2524 FAX: 301-421-4186

| DATE | REVISION | DES. B.M. | DRN. B.M. | CHK. DDS | DATE | REVISION | BY | APP'R. |
|------|----------|-----------|-----------|----------|------|----------|----|--------|
| | | | | | | | | |

PREPARED FOR OWNER
WALNUT GROVE HOLDING, L.L.C.
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DYKE PRESIDENT
10705 CHARTER DRIVE
SUITE 300
COLUMBIA, MARYLAND 21044

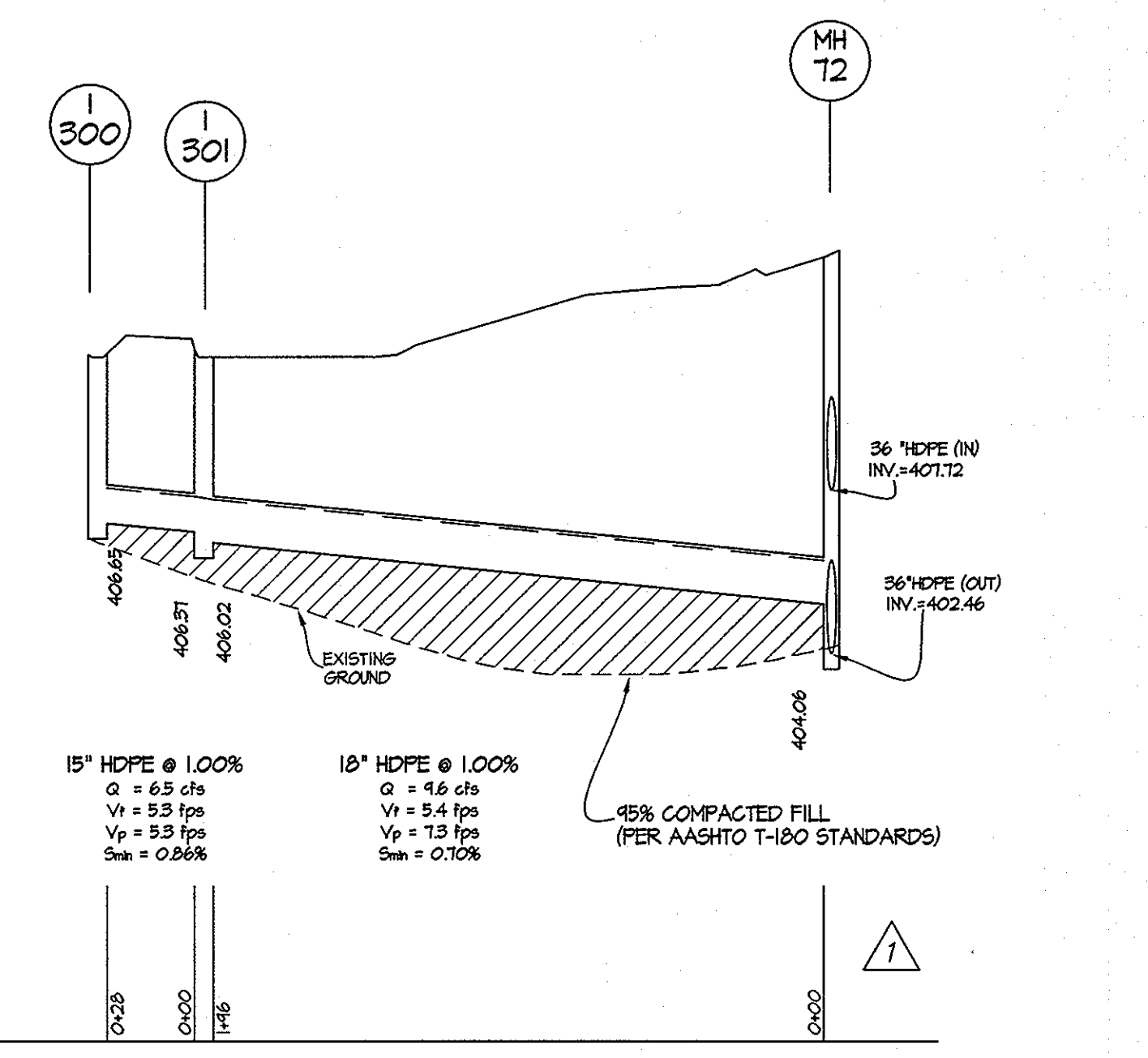
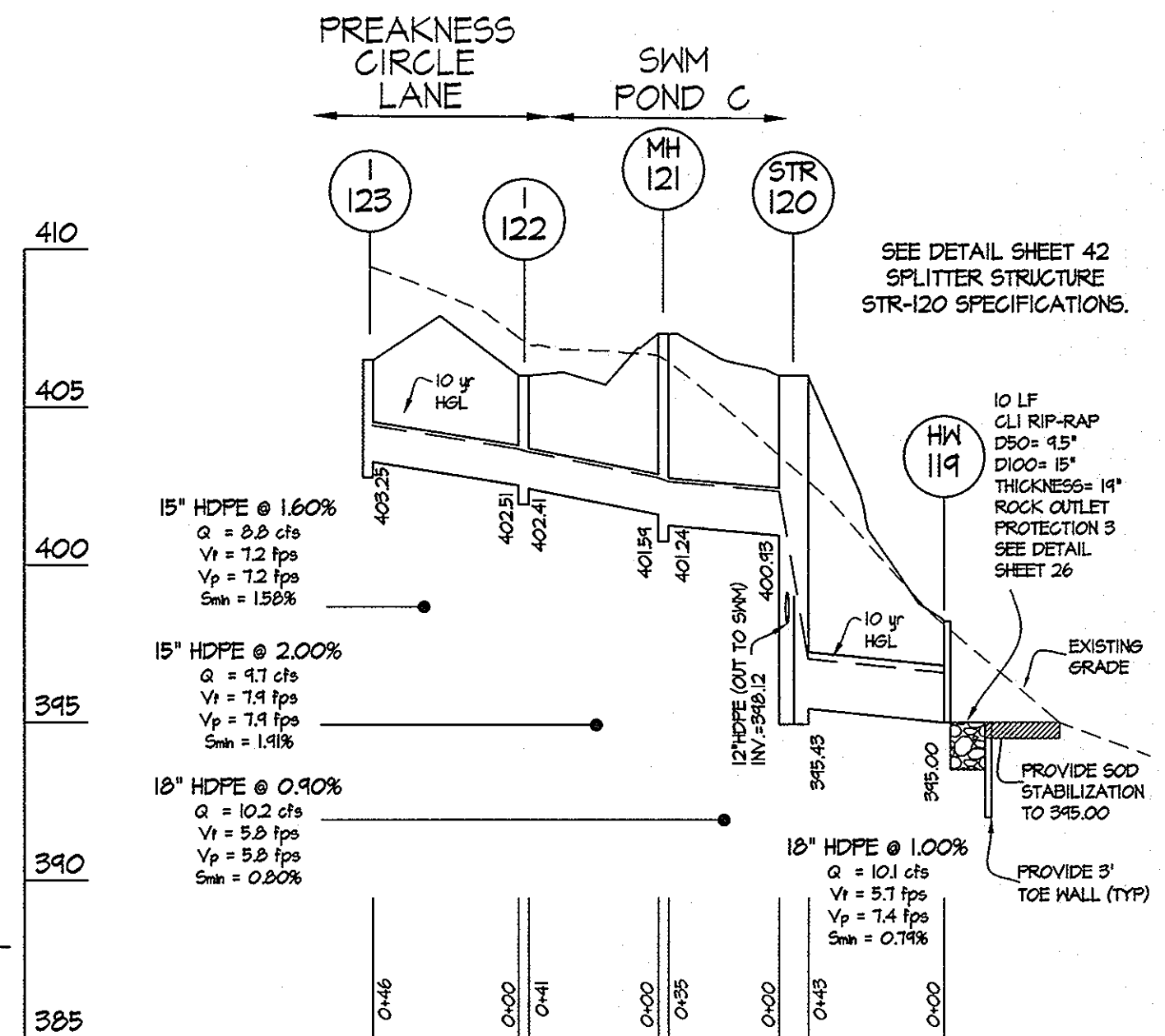
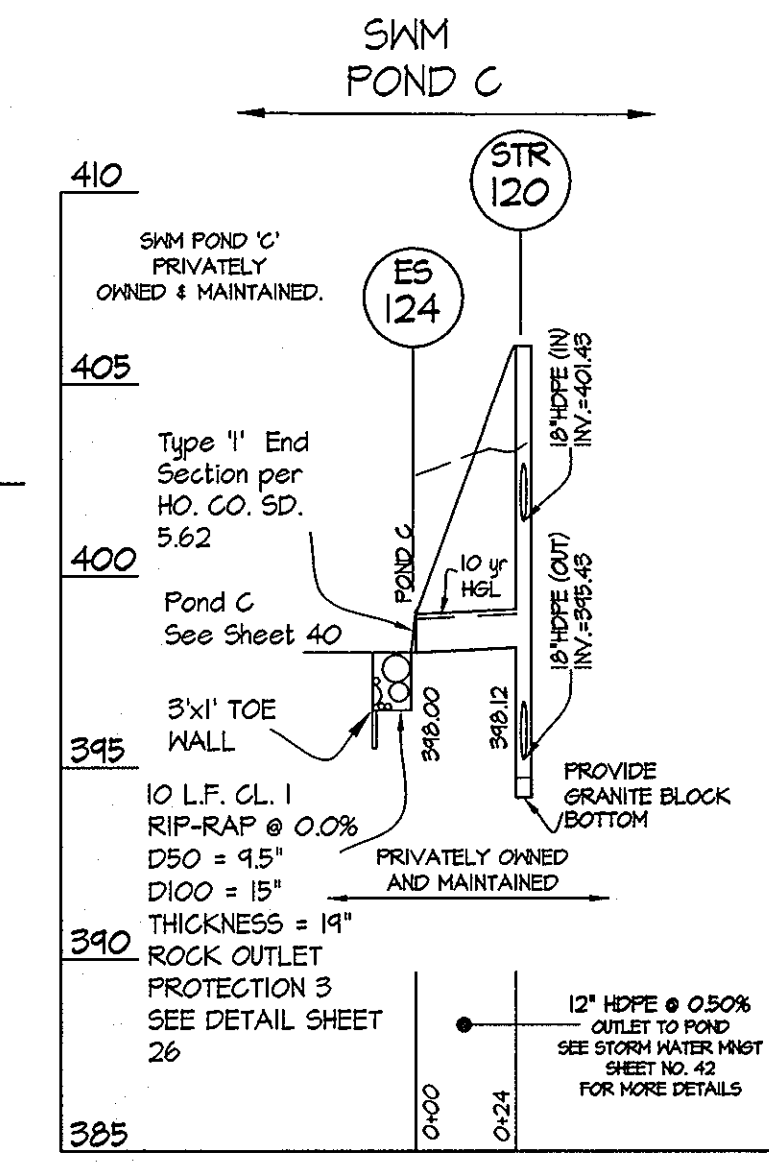
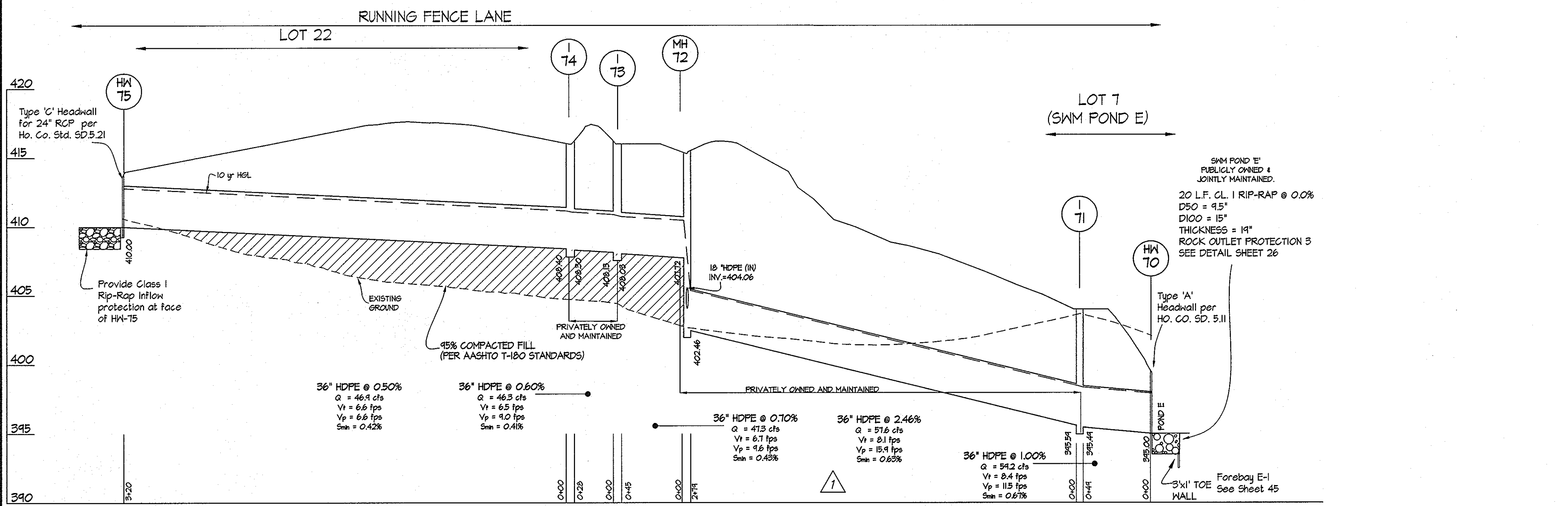
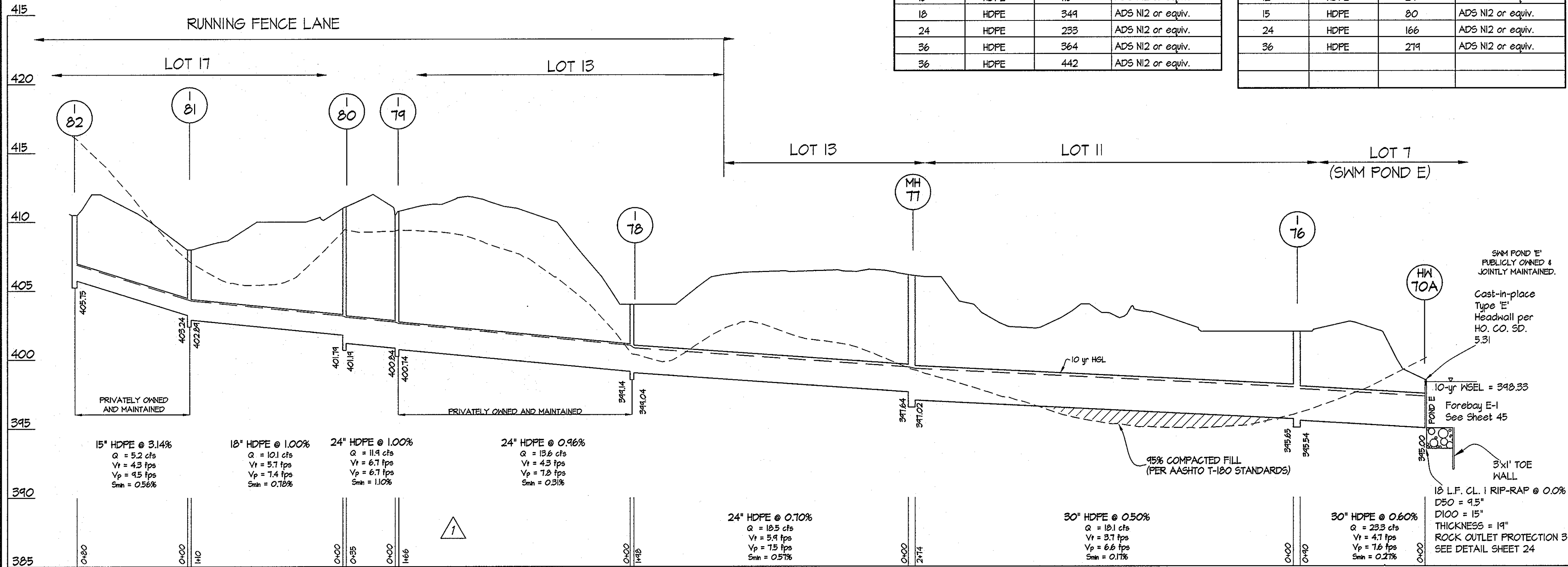
STORM DRAIN PROFILES
WALNUT GROVE
LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A';
NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' & 'I' AND
NON-BUILDABLE BULK PARCEL 'J'
L.2927 F.487

| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|-------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 30 OF 78 |

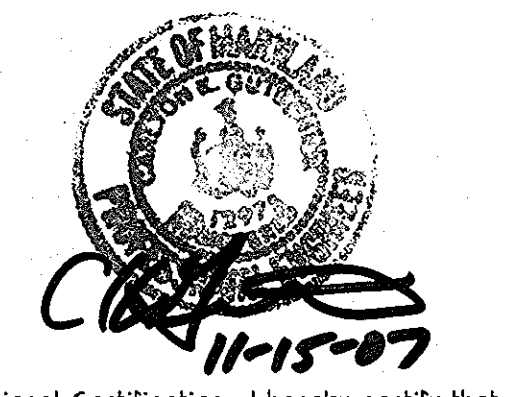
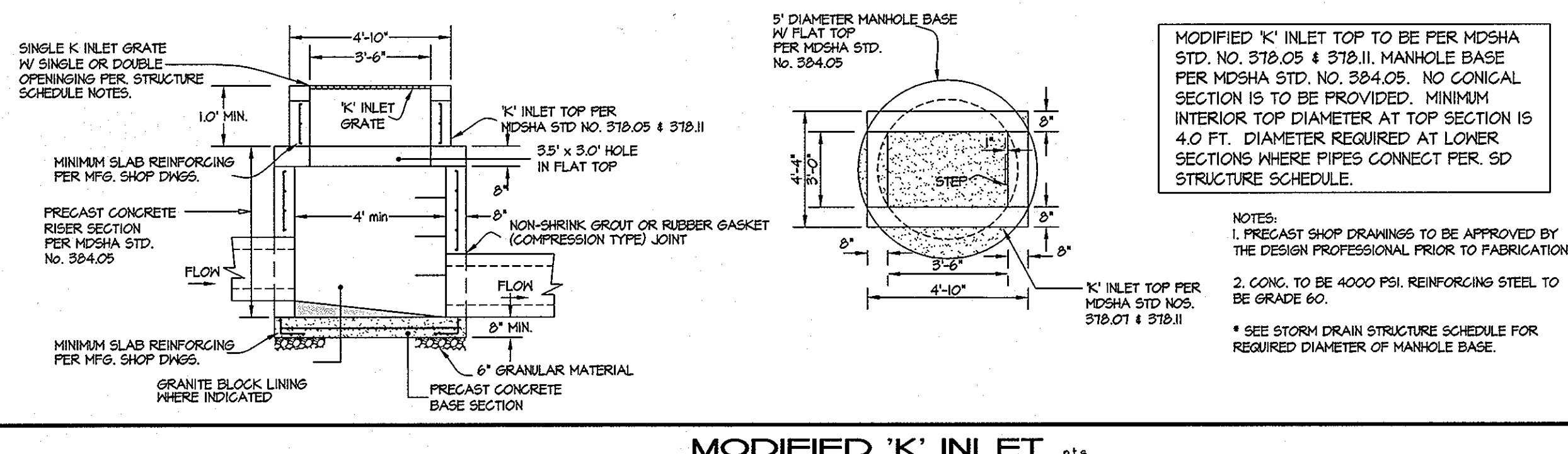
| S.D. Pipe Summary Table PUBLICLY OWNED AND MAINTAINED | | | |
|--|------|-----------------|-------------------|
| Size (in.) | Type | Quantity (L.F.) | Remarks |
| 15 | HDPE | 115 | ADS N12 or equiv. |
| 18 | HDPE | 344 | ADS N12 or equiv. |
| 24 | HDPE | 233 | ADS N12 or equiv. |
| 36 | HDPE | 364 | ADS N12 or equiv. |
| 36 | HDPE | 442 | ADS N12 or equiv. |

| S.D. Pipe Summary Table PRIVATELY OWNED AND MAINTAINED | | | |
|---|------|-----------------|-------------------|
| Size (in.) | Type | Quantity (L.F.) | Remarks |
| 12 | HDPE | 24 | ADS N12 or equiv. |
| 15 | HDPE | 80 | ADS N12 or equiv. |
| 24 | HDPE | 166 | ADS N12 or equiv. |
| 36 | HDPE | 214 | ADS N12 or equiv. |

| S.D. STRUCTURE SCHEDULE | | | | | | | | | |
|-------------------------|----------------------|----------------|---------------|-------|------------------|----------|------------------|--|-------------------------|
| NO. | TYPE | WIDTH (INSIDE) | TOP ELEVATION | | INVERT ELEVATION | | STANDARD DETAIL | NOTES | Ownership & Maintenance |
| | | | UPPER | LOWER | UPPER | LOWER | | | |
| I-71 | MODIFIED K | 5'-0" | 402.25 | ---- | 345.59 | 345.49 | | | Private |
| MH-T2 | MANHOLE | 5'-0" | 414.91 | ---- | 407.12 | 402.46 | HO. CO. G. 5.13 | | Public |
| I-73 | MODIFIED K | 5'-0" | 415.45 | ---- | 408.18 | 408.03 | | | Public |
| I-74 | MODIFIED K | 5'-0" | 415.96 | ---- | 408.40 | 408.30 | | | Public |
| MH-T5 | C | NA | ---- | ---- | 410.00 | terminal | HO. CO. SD. 5.21 | TYPE 'C' ENDWALL FOR CIRCULAR PIPE | Private |
| I-76 | MODIFIED K | 5'-0" | 400.65 | ---- | 345.65 | 345.54 | | | Public |
| MH-T7 | MANHOLE | 5'-0" | 406.25 | ---- | 341.64 | 341.02 | HO. CO. G. 5.13 | | Private |
| I-78 | SINGLE S | 2'-11/2" | 403.00 | ---- | 349.14 | 349.04 | HO. CO. SD. 4.22 | | Private |
| I-79 | SINGLE S | 2'-11/2" | 410.50 | ---- | 400.84 | 400.74 | HO. CO. SD. 4.22 | | Public |
| I-80 | SINGLE S | 2'-11/2" | 410.55 | ---- | 401.79 | 401.69 | HO. CO. SD. 4.22 | | Public |
| I-81 | SINGLE S | 2'-11/2" | 407.44 | ---- | 403.24 | 402.84 | HO. CO. SD. 4.22 | | Public |
| I-82 | SINGLE S | 2'-11/2" | 410.50 | ---- | 405.75 | terminal | HO. CO. SD. 4.22 | | Private |
| MH-I19 | C | NA | 348.50 | ---- | 345.00 | terminal | HO. CO. SD. 5.21 | | Public |
| STR-120 | PRECAST BOX | 5'-0" | 406.50 | ---- | 400.93 | 345.43 | CUSTOM | 17' x 5' PRECAST SPLITTER STRUCTURE BOX WITH INTERNAL KER - SEE DETAILS SHEET 40 | Public |
| MH-121 | MANHOLE | 4'-0" | 407.31 | ---- | 401.59 | 401.24 | HO. CO. G. 5.13 | | Public |
| I-122 | SINGLE S | 2'-11/2" | 406.00 | ---- | 402.51 | 402.41 | HO. CO. SD. 4.22 | | Public |
| I-123 | SINGLE S | 2'-11/2" | 406.00 | ---- | 403.25 | terminal | HO. CO. SD. 4.22 | | Public |
| ES-124 | TYPE 'I' END SECTION | NA | ---- | ---- | 348.00 | terminal | HO. CO. SD. 5.62 | | Private |
| MH-203 | A | NA | ---- | ---- | 342.00 | terminal | HO. CO. SD. 5.11 | | Public |
| MH-70 | A | NA | ---- | ---- | 345.00 | terminal | HO. CO. SD. 5.11 | | Public |
| MH-10A | E | NA | ---- | ---- | 345.00 | terminal | HO. CO. SD. 5.31 | | Public |
| I-300 | MODIFIED K | 5'-0" | 411.65 | ---- | 406.65 | terminal | | | Public |
| I-301 | MODIFIED K | 5'-0" | 411.65 | ---- | 406.31 | 406.02 | | | Public |



PROFILES
 SCALES: 1" = 5' VERT.
 1" = 50' HORIZ.



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. 12475, Expiration Date May 26, 2008.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 With 2. Mahan 12-3-07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Cindy Hanna 12/5/07
 Chief, Division of Land Development Date

APPROVED: HOWARD COUNTY DEPARTMENT OF ENGINEERING
 [Signature] 12/5/07
 Chief, Development Engineering Division Date

GLWGUTSCHICK 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: 301-988-2524 FAX: 301-421-4186

| DATE | REVISION | BY | APPR. |
|----------|---|-----|-------|
| 11/16/07 | RUNNING FENCE LANE LOWERED AND STORM DRAIN ADDED AT NEW LOW POINT | DDS | |

PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

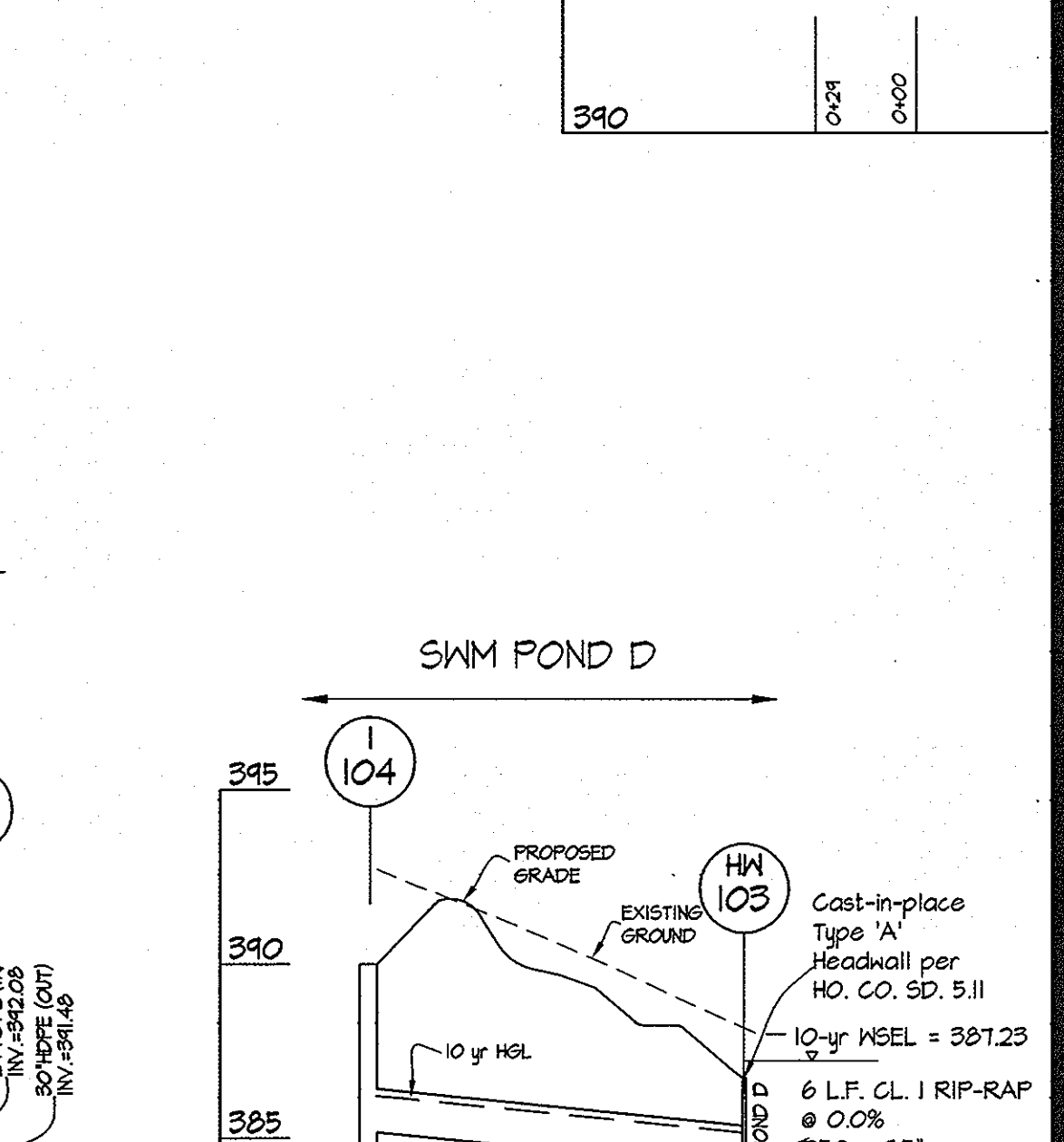
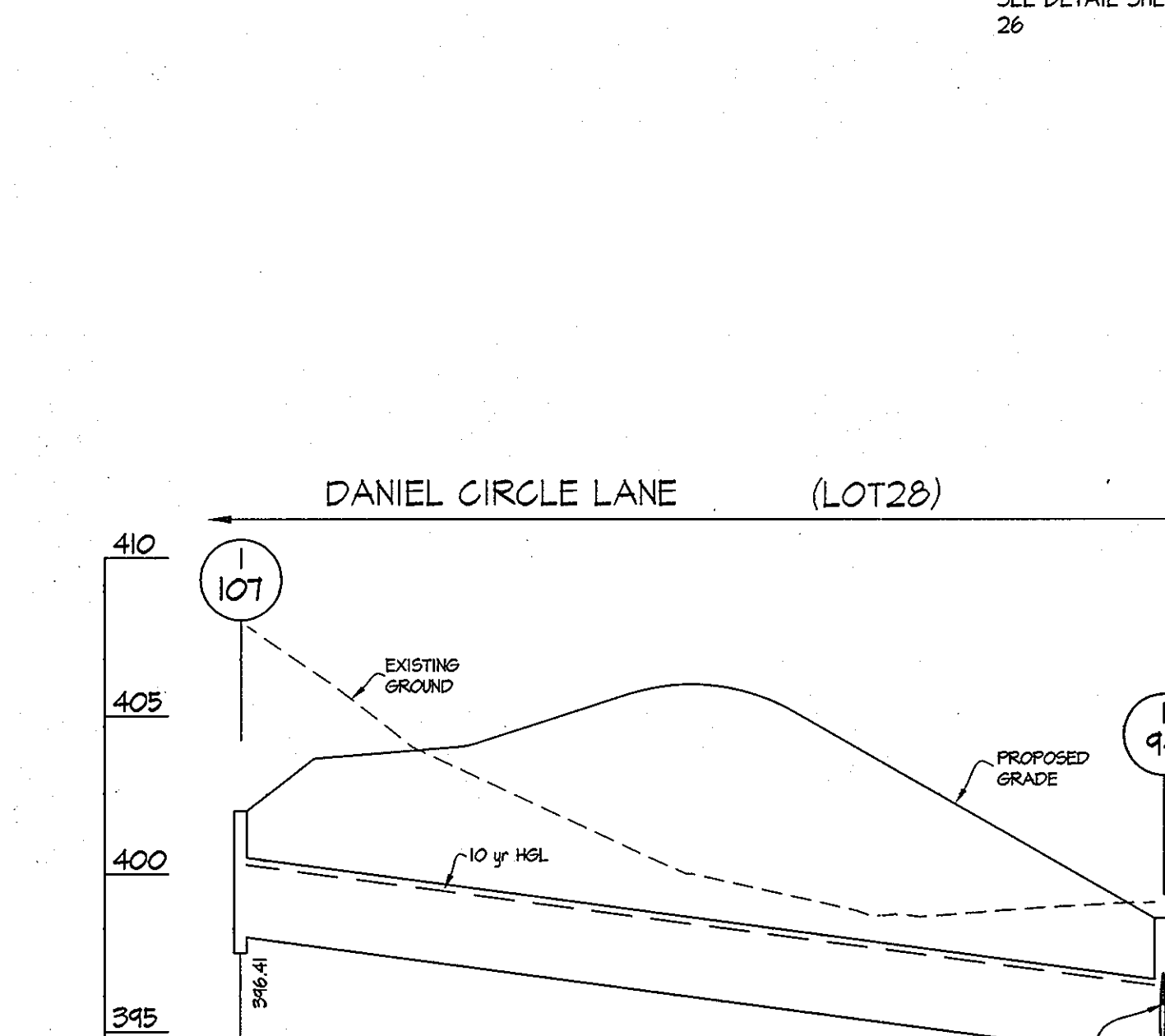
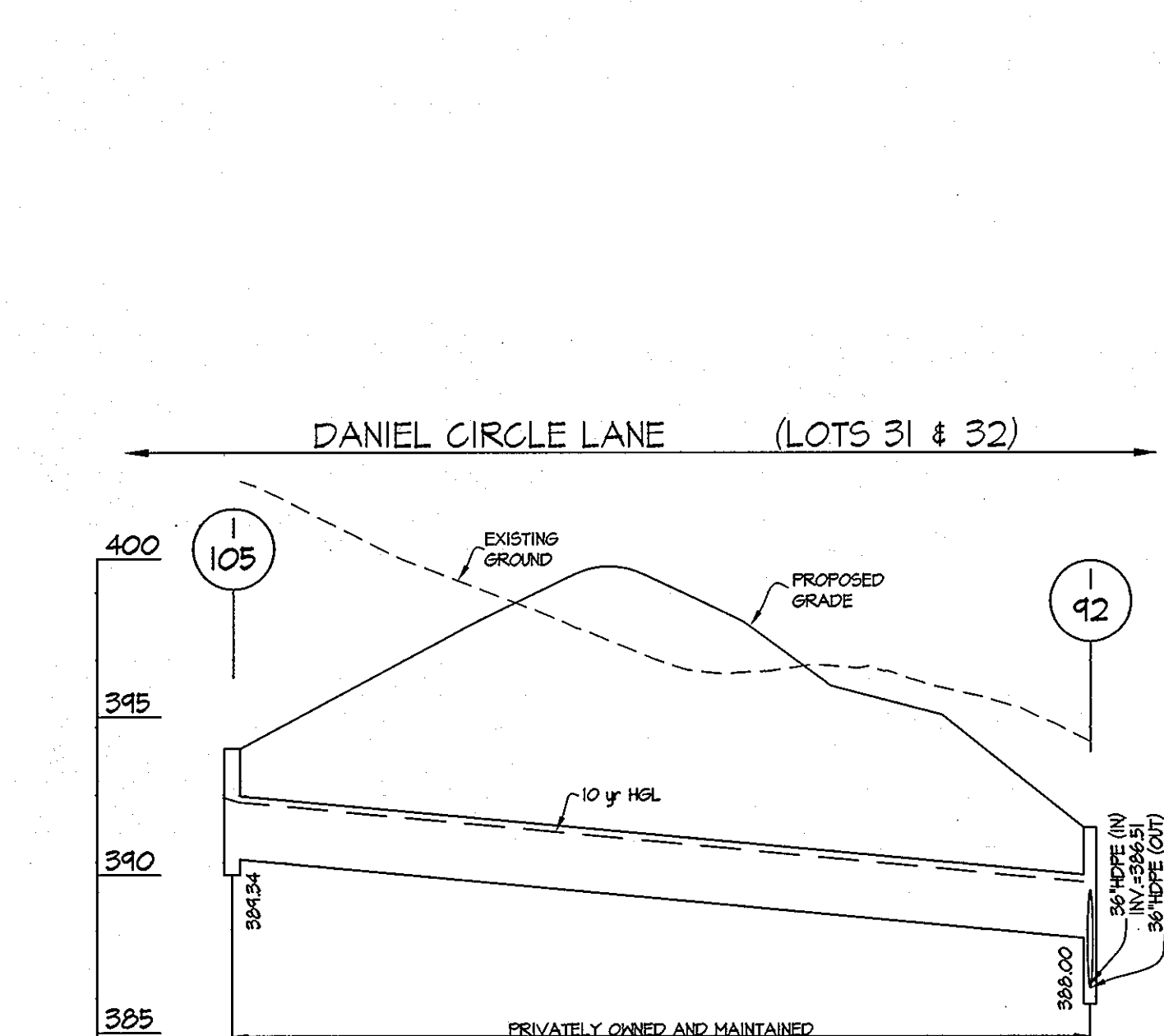
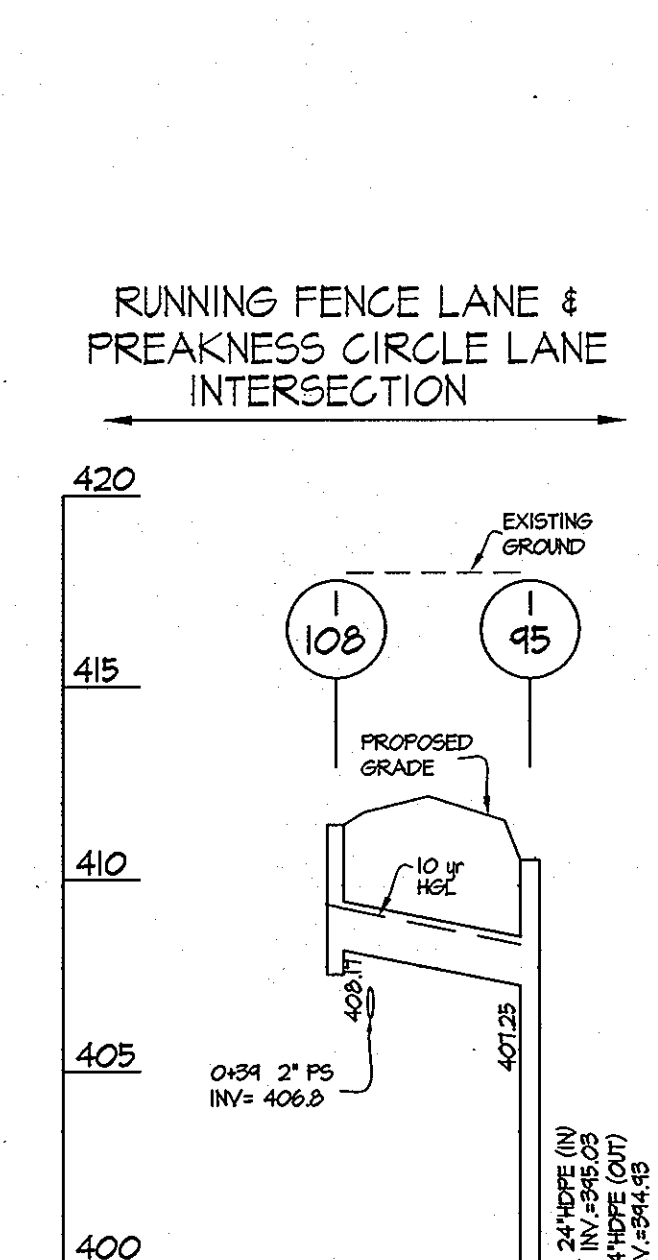
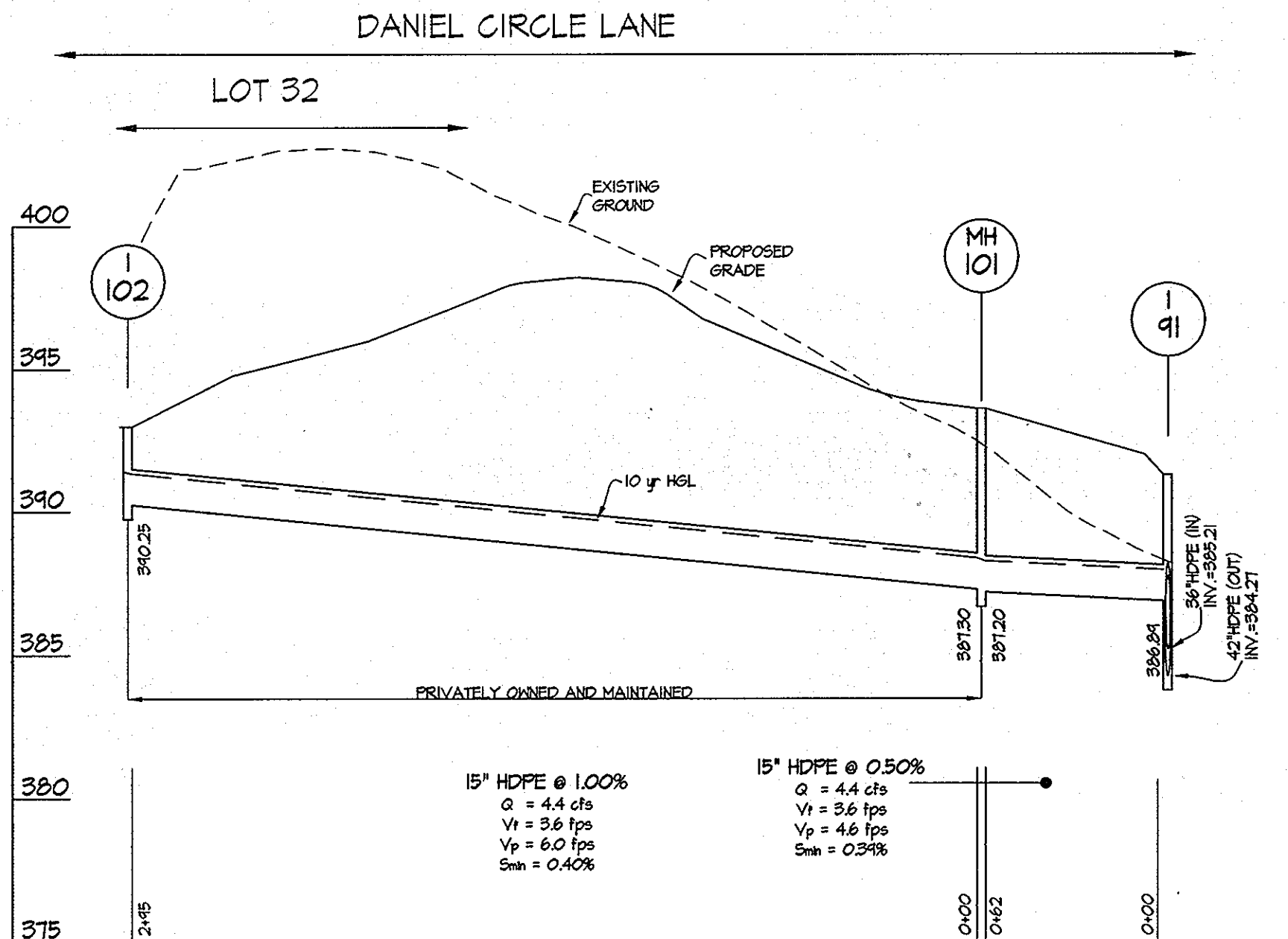
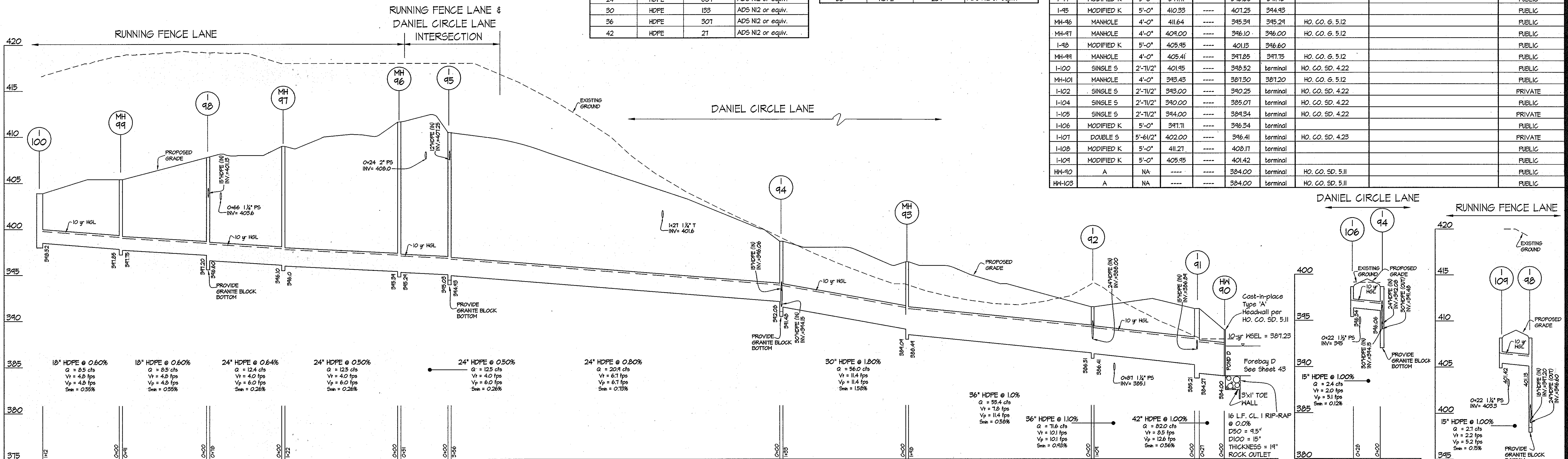
REVISED STORM DRAIN PROFILES
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L.2927 F.487
 HOWARD COUNTY, MARYLAND

| | | |
|-----------|----------------|-------------------|
| SCALE | ZONING | G. L. W. FILE NO. |
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| NOV./2007 | PARCEL 74 | 31 OF 78 |
| | 28 - 18.17 | |

| S.D. Pipe Summary Table PUBLICLY OWNED AND MAINTAINED | | | |
|--|------|-----------------|-------------------|
| Size (in.) | Type | Quantity (L.F.) | Remarks |
| 15 | HDPE | 212 | ADS N12 or equiv. |
| 18 | HDPE | 203 | ADS N12 or equiv. |
| 24 | HDPE | 607 | ADS N12 or equiv. |
| 30 | HDPE | 133 | ADS N12 or equiv. |
| 36 | HDPE | 307 | ADS N12 or equiv. |
| 42 | HDPE | 21 | ADS N12 or equiv. |

| S.D. Pipe Summary Table PRIVATELY OWNED AND MAINTAINED | | | |
|---|------|-----------------|-------------------|
| Size (in.) | Type | Quantity (L.F.) | Remarks |
| 15 | HDPE | 245 | ADS N12 or equiv. |
| 24 | HDPE | 267 | ADS N12 or equiv. |
| 30 | HDPE | 287 | ADS N12 or equiv. |

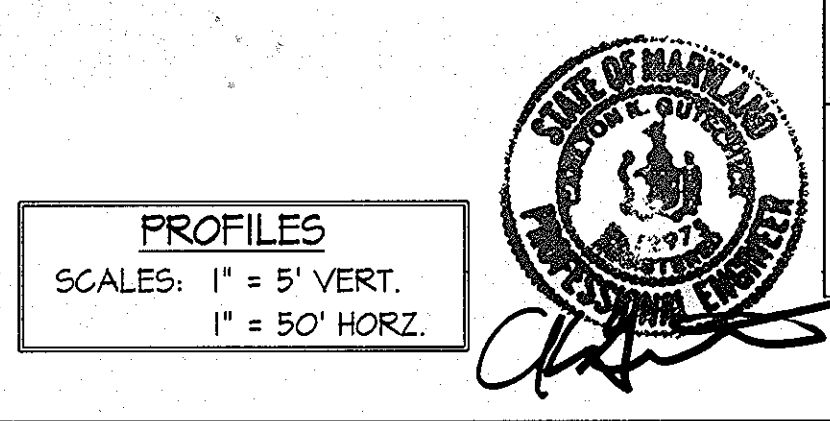
| S.D. STRUCTURE SCHEDULE | | | | | | | | | | |
|-------------------------|------------|----------------|---------------|-------|------------------|----------|------------------|-------|-------------------------|--|
| NO. | TYPE | WIDTH (INSIDE) | TOP ELEVATION | | INVERT ELEVATION | | STANDARD DETAIL | NOTES | OWNERSHIP & MAINTENANCE | |
| | | | UPPER | LOWER | UPPER | LOWER | | | | |
| I-91 | MODIFIED K | 6'-0" | 390.78 | ---- | 386.84 | 384.27 | ---- | ---- | PUBLIC | |
| I-92 | MODIFIED K | 5'-0" | 341.30 | ---- | 336.51 | 334.41 | ---- | ---- | PUBLIC | |
| MH-93 | MANHOLE | 5'-0" | 346.41 | ---- | 334.04 | 333.44 | HO. CO. G. 5.13 | ---- | PUBLIC | |
| I-94 | MODIFIED K | 5'-0" | 347.71 | ---- | 346.06 | 341.48 | ---- | ---- | PUBLIC | |
| I-95 | MODIFIED K | 5'-0" | 410.33 | ---- | 407.25 | 394.45 | ---- | ---- | PUBLIC | |
| MH-96 | MANHOLE | 4'-0" | 411.64 | ---- | 345.34 | 345.24 | HO. CO. G. 5.12 | ---- | PUBLIC | |
| MH-97 | MANHOLE | 4'-0" | 409.00 | ---- | 346.10 | 346.00 | HO. CO. G. 5.12 | ---- | PUBLIC | |
| I-98 | MODIFIED K | 5'-0" | 405.95 | ---- | 401.15 | 346.60 | ---- | ---- | PUBLIC | |
| MH-99 | MANHOLE | 4'-0" | 405.41 | ---- | 347.85 | 347.75 | HO. CO. G. 5.12 | ---- | PUBLIC | |
| I-100 | SINGLE S | 2'-11/2" | 401.95 | ---- | 348.52 | terminal | HO. CO. SD. 4.22 | ---- | PUBLIC | |
| MH-101 | MANHOLE | 4'-0" | 343.43 | ---- | 337.30 | 337.20 | HO. CO. G. 5.12 | ---- | PUBLIC | |
| I-102 | SINGLE S | 2'-11/2" | 343.00 | ---- | 340.25 | terminal | HO. CO. SD. 4.22 | ---- | PRIVATE | |
| I-104 | SINGLE S | 2'-11/2" | 340.00 | ---- | 335.07 | terminal | HO. CO. SD. 4.22 | ---- | PUBLIC | |
| I-105 | SINGLE S | 2'-11/2" | 344.00 | ---- | 339.34 | terminal | HO. CO. SD. 4.22 | ---- | PRIVATE | |
| I-106 | MODIFIED K | 5'-0" | 347.71 | ---- | 346.34 | terminal | ---- | ---- | PUBLIC | |
| I-107 | DOUBLE S | 5'-6 1/2" | 402.00 | ---- | 346.41 | terminal | HO. CO. SD. 4.23 | ---- | PRIVATE | |
| I-108 | MODIFIED K | 5'-0" | 411.27 | ---- | 408.17 | terminal | ---- | ---- | PUBLIC | |
| I-109 | MODIFIED K | 5'-0" | 405.95 | ---- | 401.42 | terminal | ---- | ---- | PUBLIC | |
| MH-109 | A | NA | ---- | ---- | 334.00 | terminal | HO. CO. SD. 5.11 | ---- | PUBLIC | |
| MH-103 | A | NA | ---- | ---- | 334.00 | terminal | HO. CO. SD. 5.11 | ---- | PUBLIC | |



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter K. ... 2-5-07
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Caroly Hamt 2/5/07
 Chief, Division of Land Development

Chief, Development Engineering Division 2/1/07



PROFILES
 SCALES: 1" = 5' VERT.
 1" = 50' HORZ.

GLWGUTSCHICK 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 FAX: 301-589-2524

| DATE | REVISION | BY | APP'R. |
|------|----------|----|--------|
| | | | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

STORM DRAIN PROFILES
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L.2927 F.487

| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|-------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 32 OF 78 |



| DRAINAGE No. | AREA (Ac) | PERV. (Ac) | IMP (Ac) | C |
|--------------|-----------|------------|----------|------|
| I-3 | 0.95 | 0.89 | 0.06 | 0.40 |
| I-5 | 0.44 | 0.39 | 0.05 | 0.43 |
| I-7 | 1.38 | 1.27 | 0.11 | 0.41 |
| I-8 | 2.39 | 2.39 | 0.00 | 0.36 |
| I-9 | 0.89 | 0.63 | 0.06 | 0.41 |
| I-10 | 0.85 | 0.60 | 0.05 | 0.41 |
| I-11 | 0.78 | 0.67 | 0.11 | 0.45 |
| I-12 | 4.02 | 4.02 | 0.00 | 0.36 |
| I-13 | 1.62 | 1.55 | 0.07 | 0.39 |
| I-15 | 1.17 | 1.06 | 0.11 | 0.42 |
| I-17 | 2.33 | 2.33 | 0.00 | 0.36 |
| I-19 | 1.06 | 1.06 | 0.00 | 0.36 |
| I-20 | 0.82 | 0.68 | 0.14 | 0.46 |
| I-21 | 1.32 | 1.17 | 0.15 | 0.43 |
| I-22 | 1.06 | 0.97 | 0.09 | 0.41 |
| I-25 | 0.2 | 0.12 | 0.08 | 0.60 |
| I-23 | 1.38 | 1.22 | 0.16 | 0.43 |
| I-24 | 1.94 | 1.94 | 0.00 | 0.36 |
| I-32 | 0.33 | 0.17 | 0.16 | 0.66 |
| I-33 | 0.29 | 0.21 | 0.08 | 0.53 |
| I-34 | 1.23 | 1.04 | 0.19 | 0.45 |
| I-35 | 1 | 0.86 | 0.14 | 0.45 |
| I-36 | 2.02 | 2.02 | 0.00 | 0.36 |
| I-37 | 0.78 | 0.55 | 0.23 | 0.54 |
| I-38 | 0.54 | 0.54 | 0.00 | 0.36 |
| I-41 | 0.76 | 0.59 | 0.17 | 0.50 |
| I-42 | 6.13 | 6.13 | 0.00 | 0.36 |
| I-43 | 0.82 | 0.50 | 0.12 | 0.48 |
| I-45 | 0.83 | 0.74 | 0.09 | 0.43 |
| I-47 | 0.8 | 0.65 | 0.15 | 0.47 |
| I-48 | 0.94 | 0.79 | 0.15 | 0.46 |
| I-49 | 0.46 | 0.39 | 0.07 | 0.45 |
| I-50 | 1.13 | 1.04 | 0.09 | 0.41 |
| I-52 | 2.98 | 2.98 | 0.00 | 0.36 |
| I-53 | 2.28 | 1.97 | 0.31 | 0.44 |
| I-54 | 1.23 | 1.04 | 0.19 | 0.45 |

| DRAINAGE No. | AREA (Ac) | PERV. (Ac) | IMP (Ac) | C |
|--------------|-----------|------------|----------|------|
| I-56 | 0.63 | 0.63 | 0.00 | 0.36 |
| I-58 | 1.27 | 1.27 | 0.00 | 0.36 |
| I-60 | 0.75 | 0.70 | 0.05 | 0.40 |
| I-62 | 1.28 | 0.94 | 0.34 | 0.52 |
| I-63 | 1 | 0.76 | 0.24 | 0.51 |
| I-64 | 0.87 | 0.72 | 0.15 | 0.47 |
| I-65 | 1.24 | 1.05 | 0.19 | 0.45 |
| I-66 | 0.55 | 0.50 | 0.05 | 0.42 |
| I-67 | 2.24 | 2.24 | 0.00 | 0.36 |
| I-68 | 1.55 | 1.55 | 0.00 | 0.36 |
| I-71 | 1.32 | 1.32 | 0.00 | 0.36 |
| I-74 | 0.32 | 0.28 | 0.05 | 0.45 |
| I-74 | 0.40 | 0.37 | 0.03 | 0.41 |
| HW-75 | 15.32 | 15.32 | 0.00 | 0.36 |
| I-76 | 2.11 | 2.11 | 0.00 | 0.36 |
| I-78 | 1.76 | 1.76 | 0.00 | 0.36 |
| I-79 | 0.44 | 0.40 | 0.04 | 0.42 |
| I-80 | 0.63 | 0.57 | 0.06 | 0.42 |
| I-81 | 1.23 | 1.00 | 0.23 | 0.47 |
| I-82 | 1.71 | 1.71 | 0.00 | 0.36 |
| I-91 | 2.31 | 2.07 | 0.24 | 0.42 |
| I-92 | 1.32 | 1.25 | 0.07 | 0.39 |
| I-94 | 1.04 | 0.96 | 0.08 | 0.41 |
| I-95 | 2 | 1.80 | 0.20 | 0.42 |
| I-98 | 0.44 | 0.39 | 0.05 | 0.43 |
| I-100 | 2.38 | 2.15 | 0.23 | 0.42 |
| I-102 | 1.45 | 1.45 | 0.00 | 0.36 |
| I-104 | 2.09 | 2.09 | 0.00 | 0.36 |
| I-105 | 4.88 | 4.88 | 0.00 | 0.36 |
| I-106 | 0.64 | 0.56 | 0.08 | 0.44 |
| I-107 | 11.2 | 11.20 | 0.00 | 0.36 |
| I-108 | 0.81 | 0.50 | 0.11 | 0.47 |
| I-109 | 0.8 | 0.75 | 0.05 | 0.40 |
| I-122 | 0.39 | 0.24 | 0.15 | 0.59 |
| I-123 | 2.41 | 2.14 | 0.27 | 0.43 |
| I-B6 | 1.50 | 1.50 | 0.00 | 0.21 |
| I-B9 | 3.03 | 3.03 | 0.00 | 0.21 |
| I-300 | 1.70 | 1.45 | 0.25 | 0.45 |
| I-301 | 0.90 | 0.82 | 0.08 | 0.41 |

NOTE: All areas not within a road have been modeled as 1/2 acre residential with C = 0.26. 1/2 acre residential has an inherent 25% impervious incorporated within its value. The impervious areas listed in above table are based up the actual/roadway impervious area and do not include the 25% inherent impervious area.

LEGEND

- PROPOSED STORM DRAIN DRAINAGE DIVIDE
- EXISTING STORM DRAIN DRAINAGE DIVIDE
- PROPOSED SWALE DRAINAGE DIVIDE
- TC PATH
- DRAINAGE AREA
- SOILS DELINEATION LINE
- B' SOIL
- C' SOIL
- D' SOIL

APPROVED EXISTING FLOOD INFORMATION PER HOWARD COUNTY CAPITAL PROJECT D-1028

CLYDES BRANCH 100-YR FREQUENCY WATER SURFACE ELEVATIONS

| X-SECTION | PRESENT | ULTIMATE |
|-----------|---------|----------|
| I07 | 554.54 | 361.02 |
| I08 | 561.44 | 361.56 |
| I5 | 552.40 | 355.66 |
| I4 | 558.04 | 358.55 |
| I9 | 562.14 | 363.35 |

NOTES:

- STARTING WATER SURFACE ELEVATION FOR THE PROPOSED STUDY, X-SECTION 0+00, SET EQUAL TO X-SECTION 14 (ULTIMATE) OF THE APPROVED HOWARD COUNTY STUDY PER CAPITAL PROJECT D-1028. STARTING XSEL=558.55 @ X-SECTION 0+00.
- THE ULTIMATE WATER SURFACE ELEVATION FROM THE APPROVED HOWARD COUNTY STUDY PER CAPITAL PROJECT D-1028 FOR X-SECTIONS I07 AND I08 HAS BEEN RE-DELIMITED ON THE LATEST AERIAL PHOTOGRAPHY.

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. 12475, Expiration Date May 26, 2008.

11-15-07

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 With 3.04.1.1
 Chief, Bureau of Highways
 Date: 12-3-07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development
 Chief, Development Engineering Division
 Date: 12/5/07

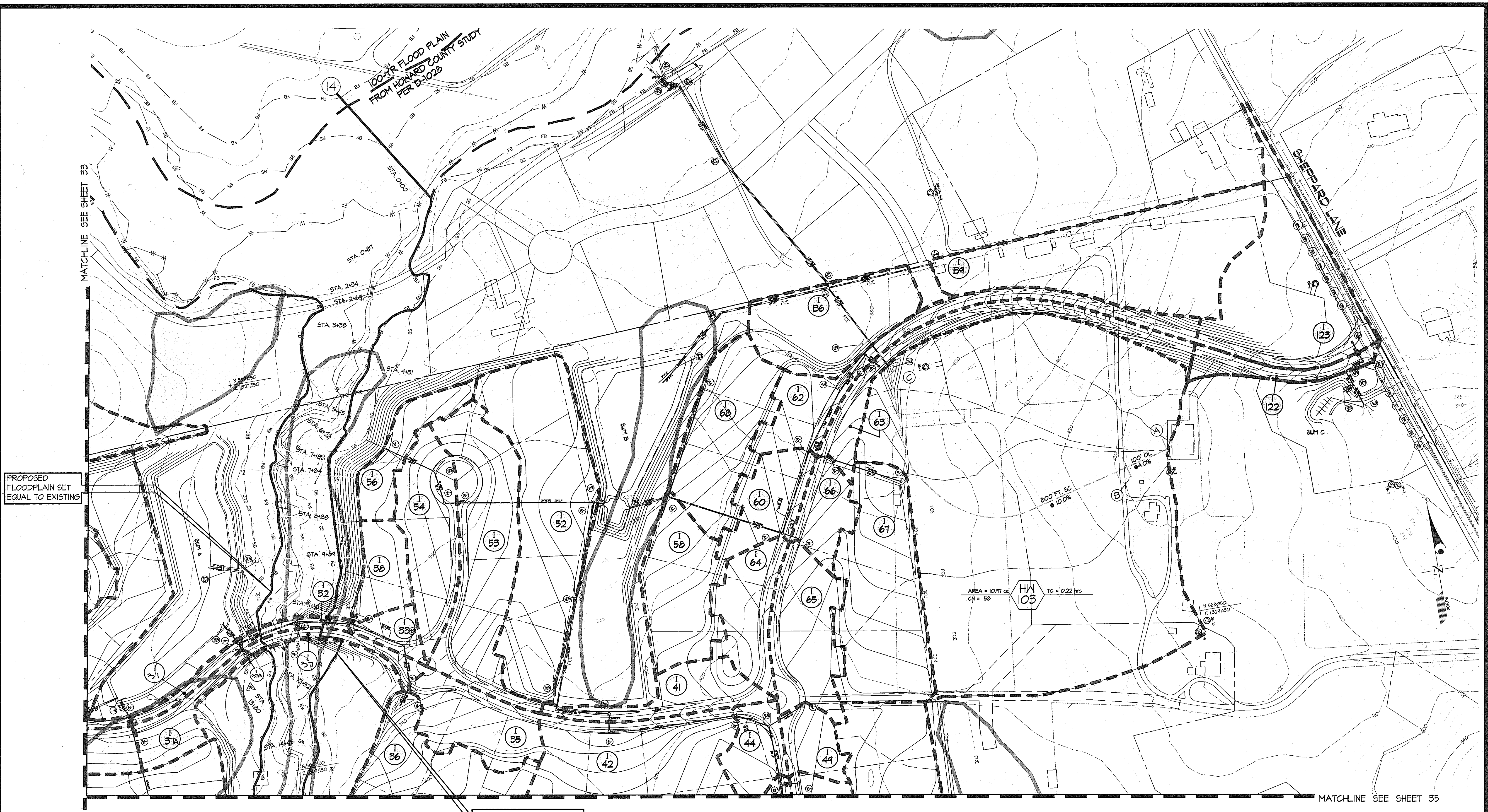
GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 5909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-988-2524 FAX: 301-421-4186

| DATE | REVISION | BY | APP'R. |
|----------|---|-----|--------|
| 11/16/07 | RUNNING FENCE LANE LOWERED AND STORM DRAIN ADDED AT NEW LOW POINT | DDS | |
| | | | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, LLC
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 300
 COLUMBIA, MARYLAND 21044

REVISED STORM DRAIN DRAINAGE AREA MAP
WALNUT GROVE
 LOTS 1 THRU 28, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'J', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L.2921 F.487
 ELECTION DISTRICT No. 5

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|----------------|-------------------|
| 1"=100' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| NOV./2007 | 28 - 18,17 | 33 OF 78 |



PROPOSED FLOODPLAIN SET EQUAL TO EXISTING

PROPOSED FLOODPLAIN DEVIATES FROM EXISTING

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William R. ... 2-5-07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Craig Hamer 2/8/07
 Chief, Division of Land Development Date

[Signature] 2/1/07
 Chief, Development Engineering Division Date



GLWGUTSCHICK 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

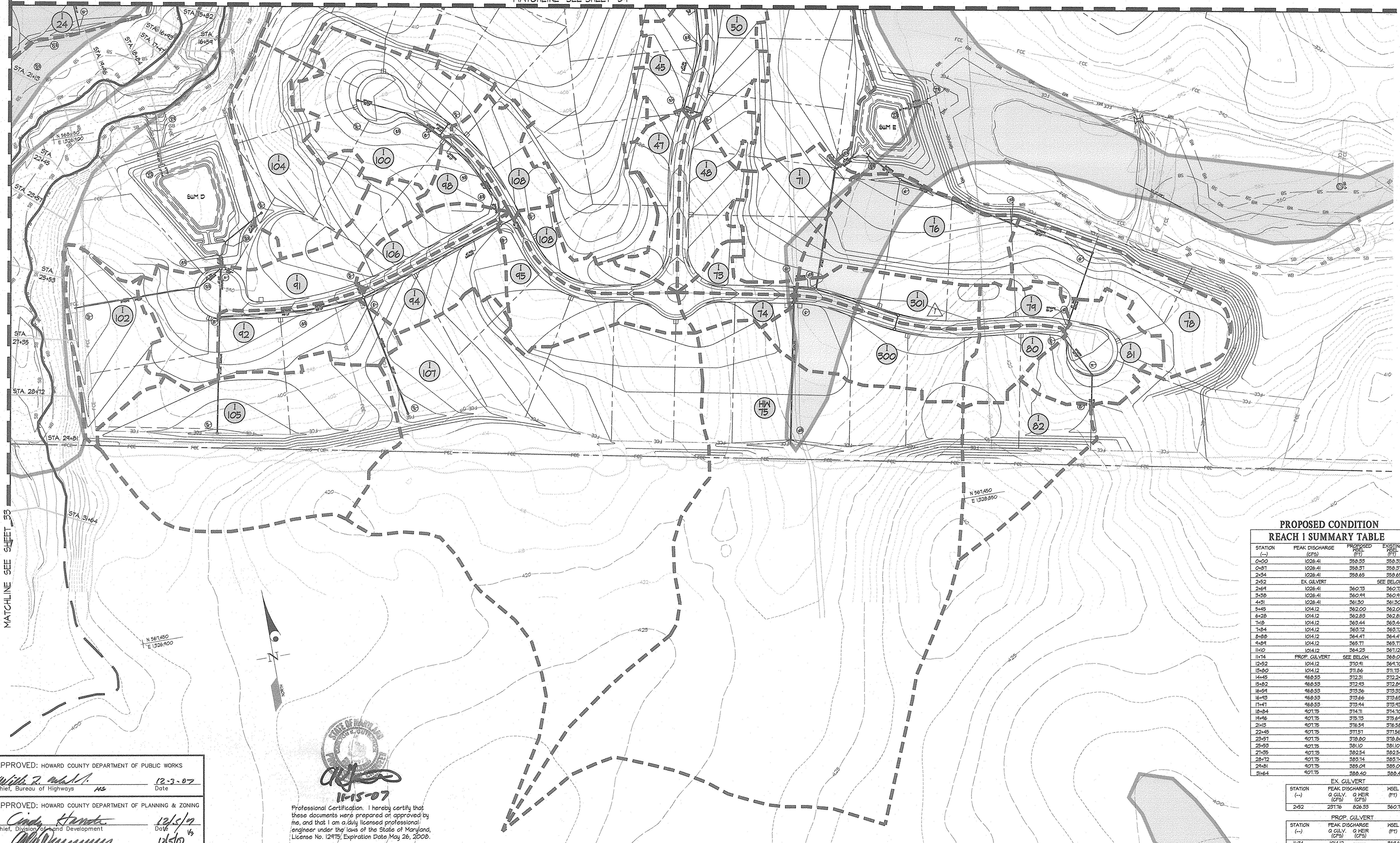
| DATE | REVISION | BY | APP'R. |
|----------|-------------------|-------|--------|
| 02-08-07 | Inlet 1-37A Added | Wes J | |

PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

STORM DRAIN DRAINAGE AREA MAP
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A';
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L.2927 F.487

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| 1"=100' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 34 OF 78 |

MATCHLINE SEE SHEET 34



**PROPOSED CONDITION
REACH I SUMMARY TABLE**

| STATION (-) | PEAK DISCHARGE (CFS) | PROPOSED VELOCITY (FT) | EXISTING VELOCITY (FT) |
|-------------|----------------------|------------------------|------------------------|
| 0+00 | 1026.41 | 350.33 | 350.33 |
| 0+81 | 1026.41 | 350.31 | 350.31 |
| 2+34 | 1026.41 | 350.65 | 350.65 |
| 2+52 | EX CULVERT | SEE BELOW | |
| 2+64 | 1026.41 | 360.73 | 360.73 |
| 3+38 | 1026.41 | 360.91 | 360.91 |
| 4+31 | 1026.41 | 361.30 | 361.30 |
| 5+45 | 1014.12 | 362.00 | 362.00 |
| 6+28 | 1014.12 | 362.23 | 362.23 |
| 7+18 | 1014.12 | 363.44 | 363.44 |
| 7+84 | 1014.12 | 363.12 | 363.12 |
| 8+88 | 1014.12 | 364.41 | 364.41 |
| 9+84 | 1014.12 | 365.71 | 365.71 |
| 11+10 | 1014.12 | 364.23 | 367.12 |
| 11+14 | PROP. CULVERT | SEE BELOW | 366.02 |
| 12+52 | 1014.12 | 370.11 | 364.10 |
| 15+80 | 1014.12 | 371.86 | 371.33 |
| 14+45 | 468.53 | 372.31 | 372.24 |
| 15+82 | 468.53 | 372.43 | 372.84 |
| 16+54 | 468.53 | 373.36 | 373.33 |
| 16+45 | 468.53 | 373.66 | 373.65 |
| 17+47 | 468.53 | 373.44 | 373.43 |
| 18+84 | 407.75 | 374.71 | 374.70 |
| 19+66 | 407.75 | 375.73 | 375.64 |
| 21+15 | 407.75 | 376.54 | 376.58 |
| 22+45 | 407.75 | 377.57 | 377.56 |
| 23+57 | 407.75 | 378.80 | 378.80 |
| 25+55 | 407.75 | 380.10 | 380.10 |
| 27+55 | 407.75 | 382.54 | 382.54 |
| 28+72 | 407.75 | 383.74 | 383.74 |
| 29+81 | 407.75 | 385.04 | 385.04 |
| 31+64 | 407.75 | 388.40 | 388.40 |

| STATION (-) | PEAK DISCHARGE (CFS) | VELOCITY (FT) |
|-------------|----------------------|---------------|
| 2+52 | 237.76 | 826.33 |
| 2+64 | 237.76 | 826.33 |

| STATION (-) | PEAK DISCHARGE (CFS) | VELOCITY (FT) |
|-------------|----------------------|---------------|
| 11+14 | 1014.12 | 367.12 |

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter P. Mahan 12-3-07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hande 12/5/07
 Chief, Division of Land Development Date

William J. ... 12/5/07
 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, 2008.

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3009 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

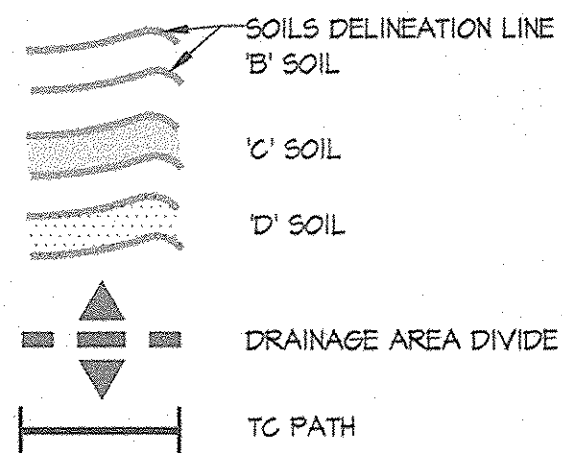
| DATE | REVISION | DESIGNED BY | CHECKED BY | APPROVED BY |
|----------|---|-------------|------------|-------------|
| 11/16/07 | RUNNING FENCE LANE LOWERED AND STORM DRAIN ADDED AT NEW LOW POINT | DDS | CHK. bjm | APPR. |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 300
 COLUMBIA, MARYLAND 21044

REVISED STORM DRAIN DRAINAGE AREA MAP
WALNUT GROVE
 LOTS I THRU 28, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L.2927 F.487
 ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

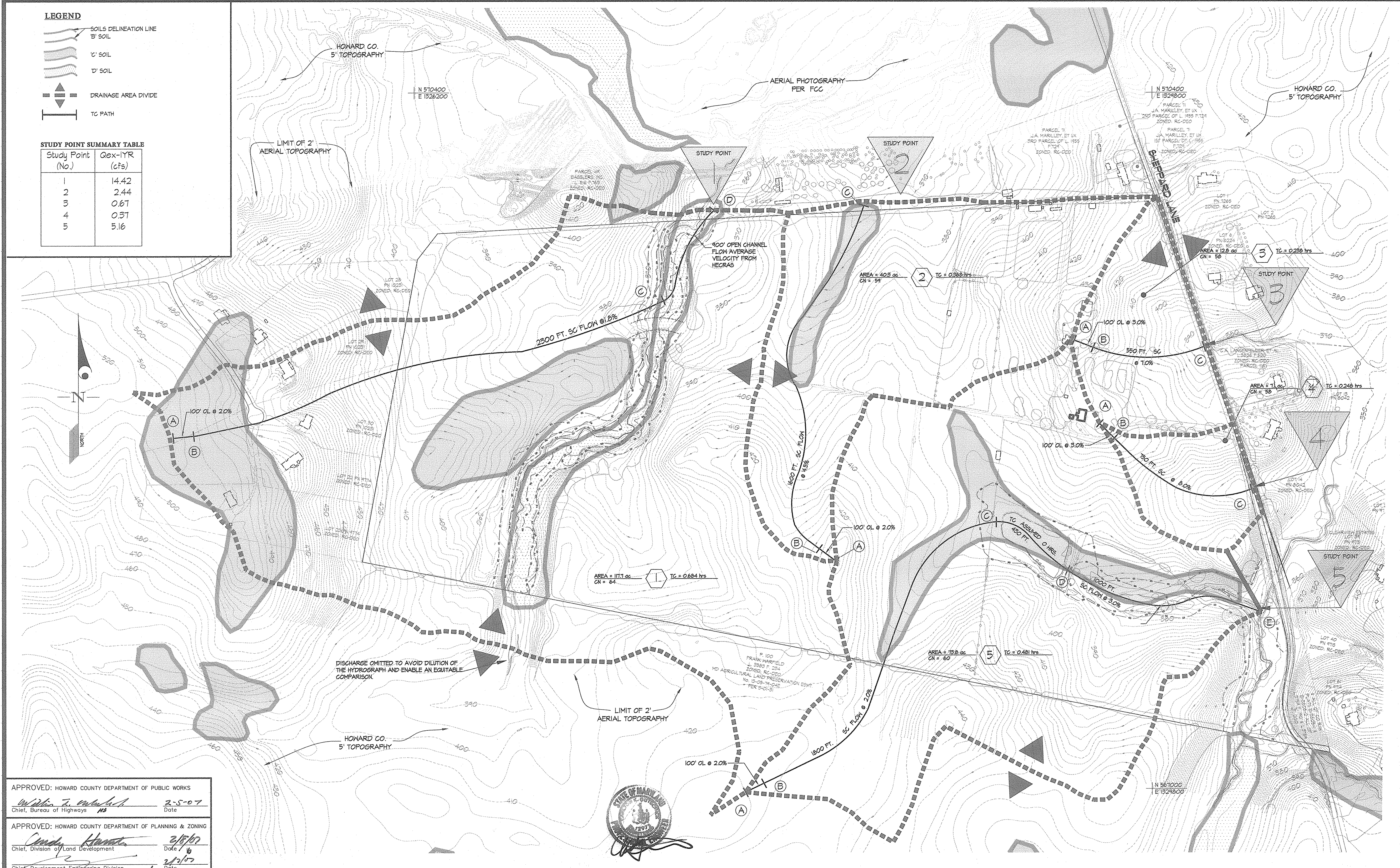
| SCALE | ZONING | G. L. W. FILE No. |
|-----------|--------------------------|-------------------|
| 1"=100' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID PARCEL 74 | SHEET |
| NOV./2007 | 28 - 18,17 | 35 OF 78 |

LEGEND



STUDY POINT SUMMARY TABLE

| Study Point (No.) | Qex-1YR (cfs) |
|-------------------|---------------|
| 1 | 14.42 |
| 2 | 2.44 |
| 3 | 0.67 |
| 4 | 0.37 |
| 5 | 5.16 |



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 2-5-07
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
[Signature] 2/5/07
 Chief, Division of Land Development

[Signature] 2/2/07
 Chief, Development Engineering Division



GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20886
 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

| DATE | REVISION | BY | APPR. |
|------|----------|----|-------|
| | | | |
| | | | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

EXISTING CONDITION STORMWATER MANAGEMENT DRAINAGE AREA MAP
WALNUT GROVE
 LOTS 1 THRU 38, BUILDABLE PRESERVATION PARCEL "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
 NON-BUILDABLE BULK PARCEL "J"
 L2927 F487
 HOWARD COUNTY, MARYLAND

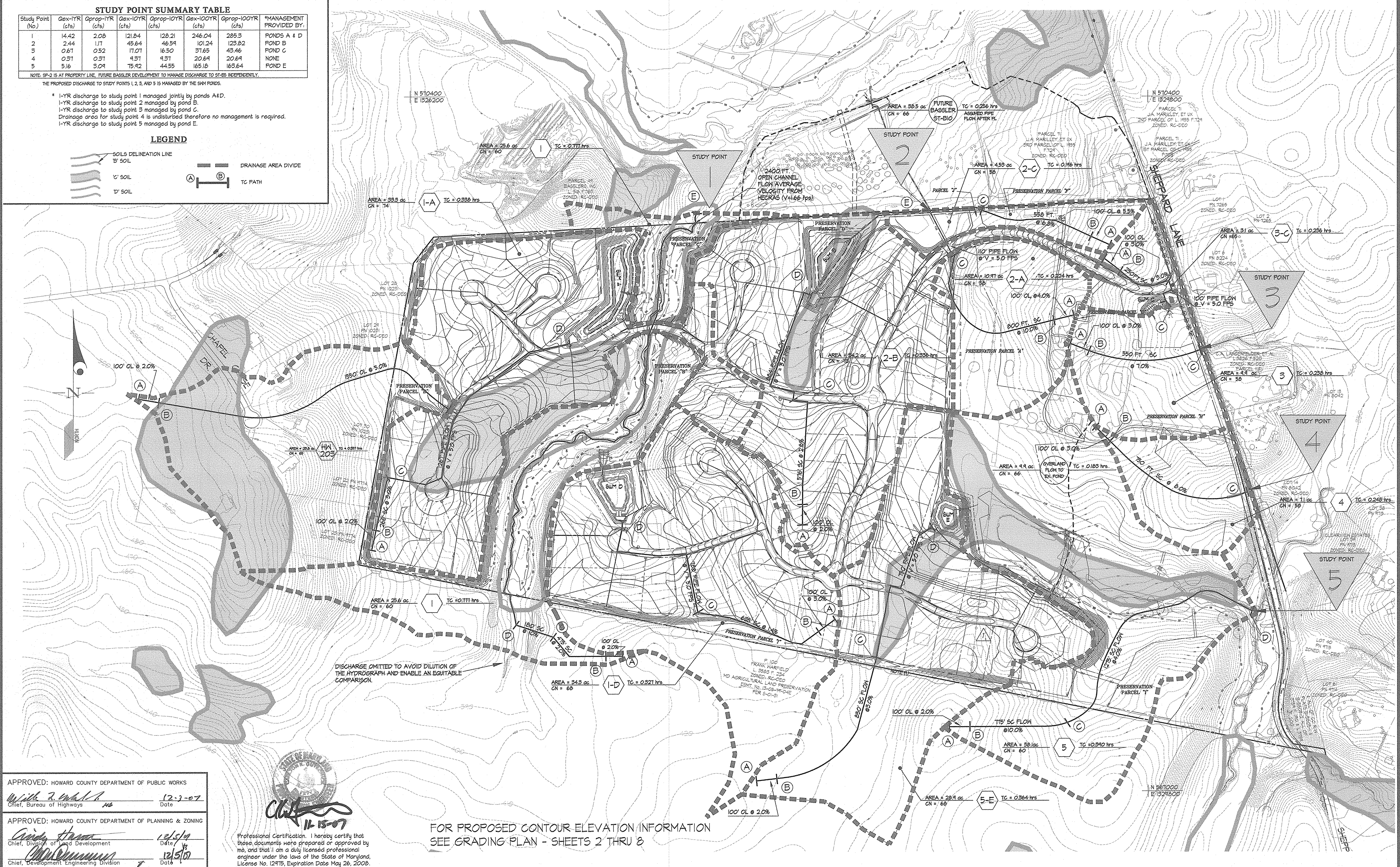
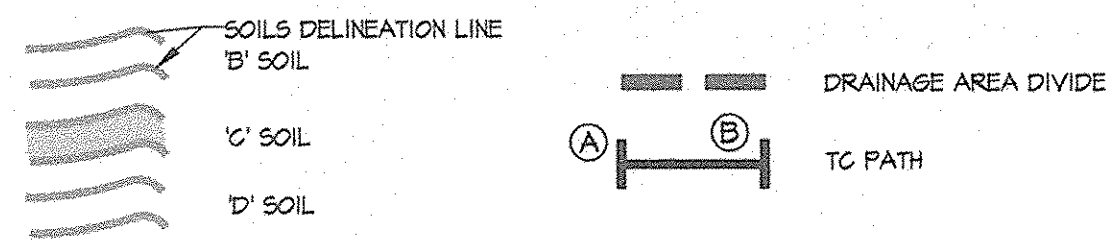
| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| 1"=200' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 36 OF 78 |

| Study Point (No.) | Q _{ex} -1YR (cfs) | Q _{prop} -1YR (cfs) | Q _{ex} -10YR (cfs) | Q _{prop} -10YR (cfs) | Q _{ex} -100YR (cfs) | Q _{prop} -100YR (cfs) | *MANAGEMENT PROVIDED BY: |
|-------------------|----------------------------|------------------------------|-----------------------------|-------------------------------|------------------------------|--------------------------------|--------------------------|
| 1 | 14.42 | 2.08 | 121.84 | 128.21 | 246.04 | 285.3 | PONDS A & D |
| 2 | 2.44 | 1.17 | 45.64 | 46.59 | 101.24 | 123.82 | POND B |
| 3 | 0.67 | 0.32 | 17.07 | 16.50 | 31.65 | 43.46 | POND C |
| 4 | 0.37 | 0.37 | 4.37 | 4.37 | 20.64 | 20.64 | NONE |
| 5 | 5.16 | 3.04 | 75.42 | 44.55 | 165.16 | 163.64 | POND E |

NOTE: SP-2 IS AT PROPERTY LINE. FUTURE BAGSLER DEVELOPMENT TO MANAGE DISCHARGE TO ST-B5 INDEPENDENTLY. THE PROPOSED DISCHARGE TO STUDY POINTS 1, 2, 3, AND 5 IS MANAGED BY THE SIX PONDS.

- * 1-YR discharge to study point 1 managed jointly by ponds A&D.
- * 1-YR discharge to study point 2 managed by pond B.
- * 1-YR discharge to study point 3 managed by pond C.
- * Drainage area for study point 4 is undisturbed therefore no management is required.
- * 1-YR discharge to study point 5 managed by pond E.

LEGEND



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
W. Z. ... 12-3-07
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy ... 12/5/07
 Chief, Division of Land Development

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. 12475, Expiration Date May 26, 2008.

FOR PROPOSED CONTOUR ELEVATION INFORMATION
 SEE GRADING PLAN - SHEETS 2 THRU 8

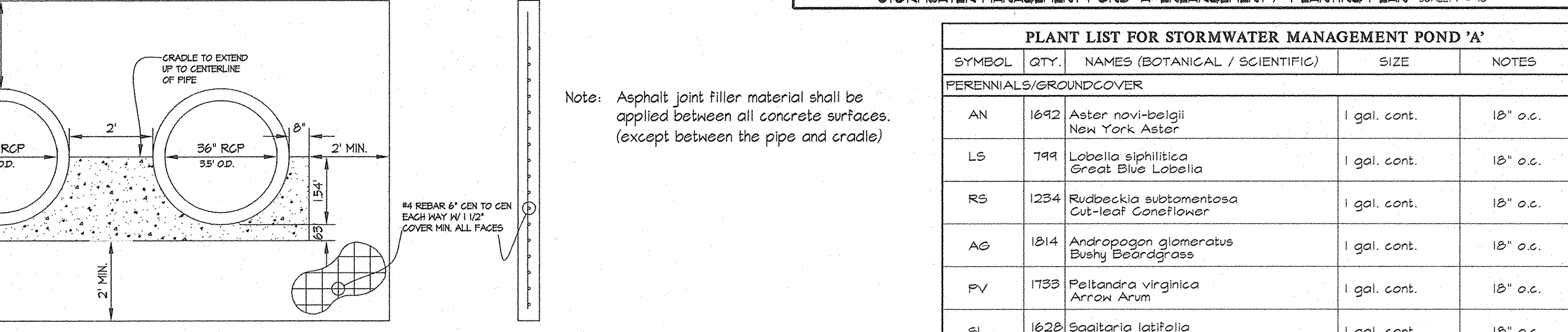
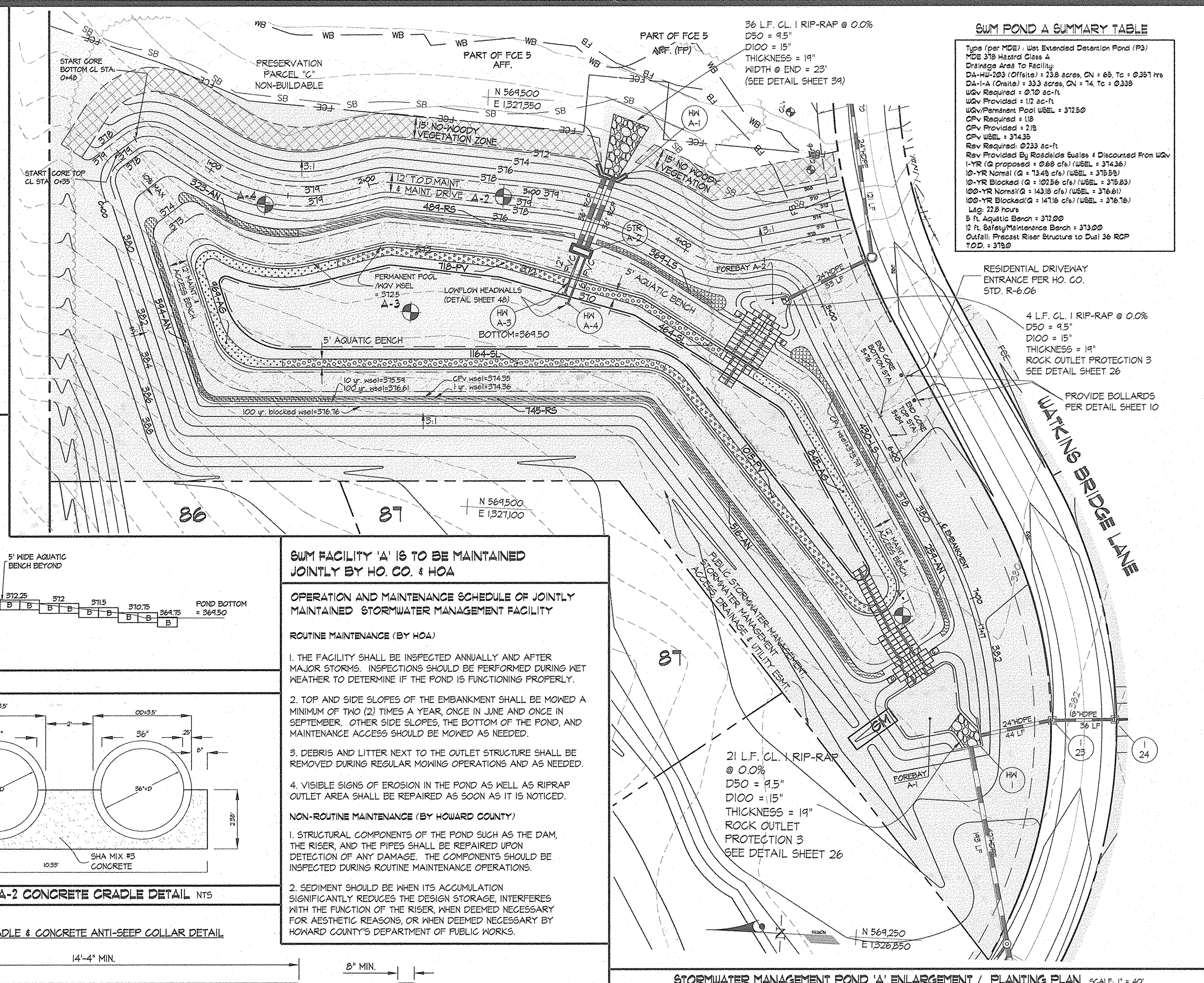
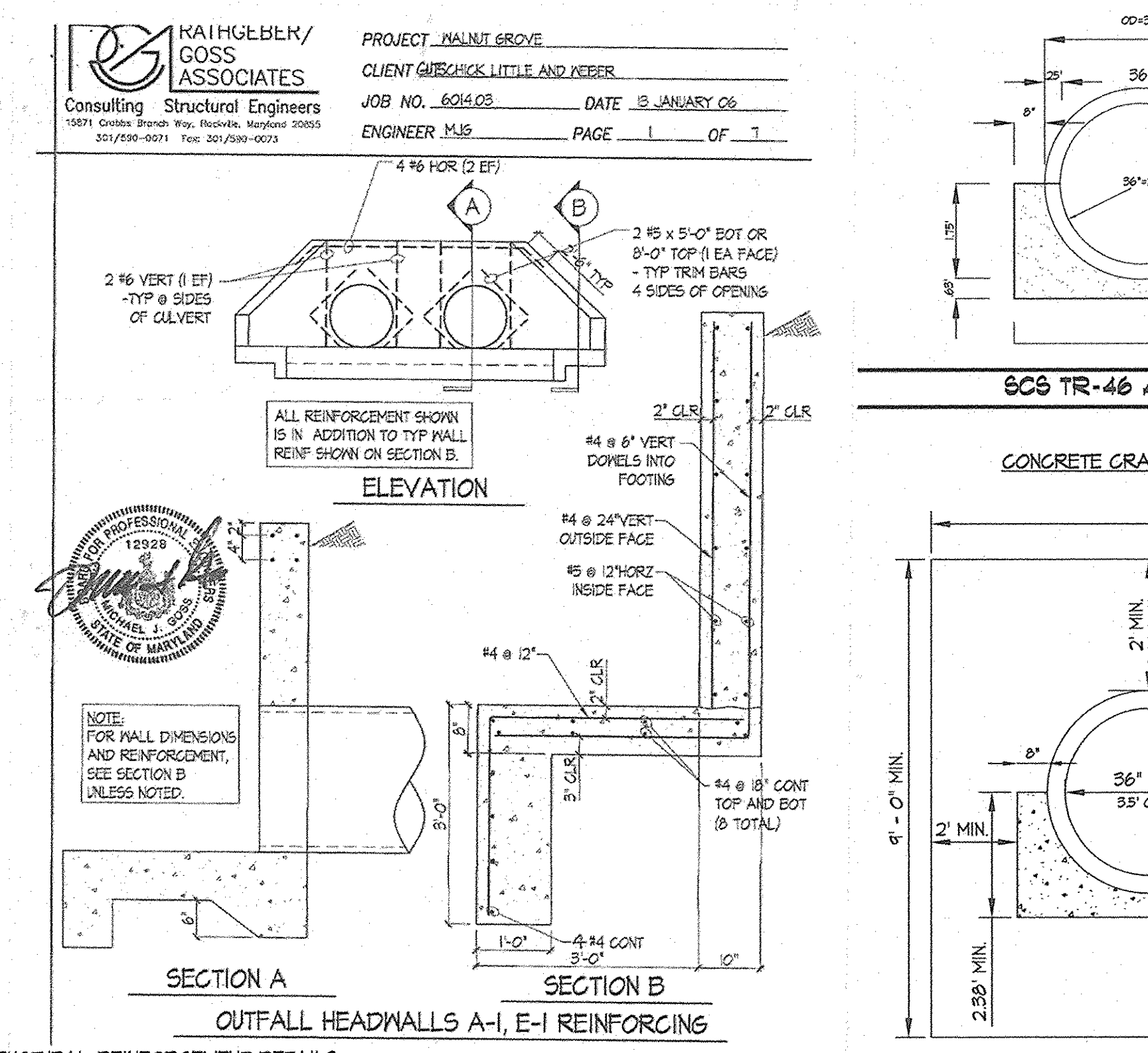
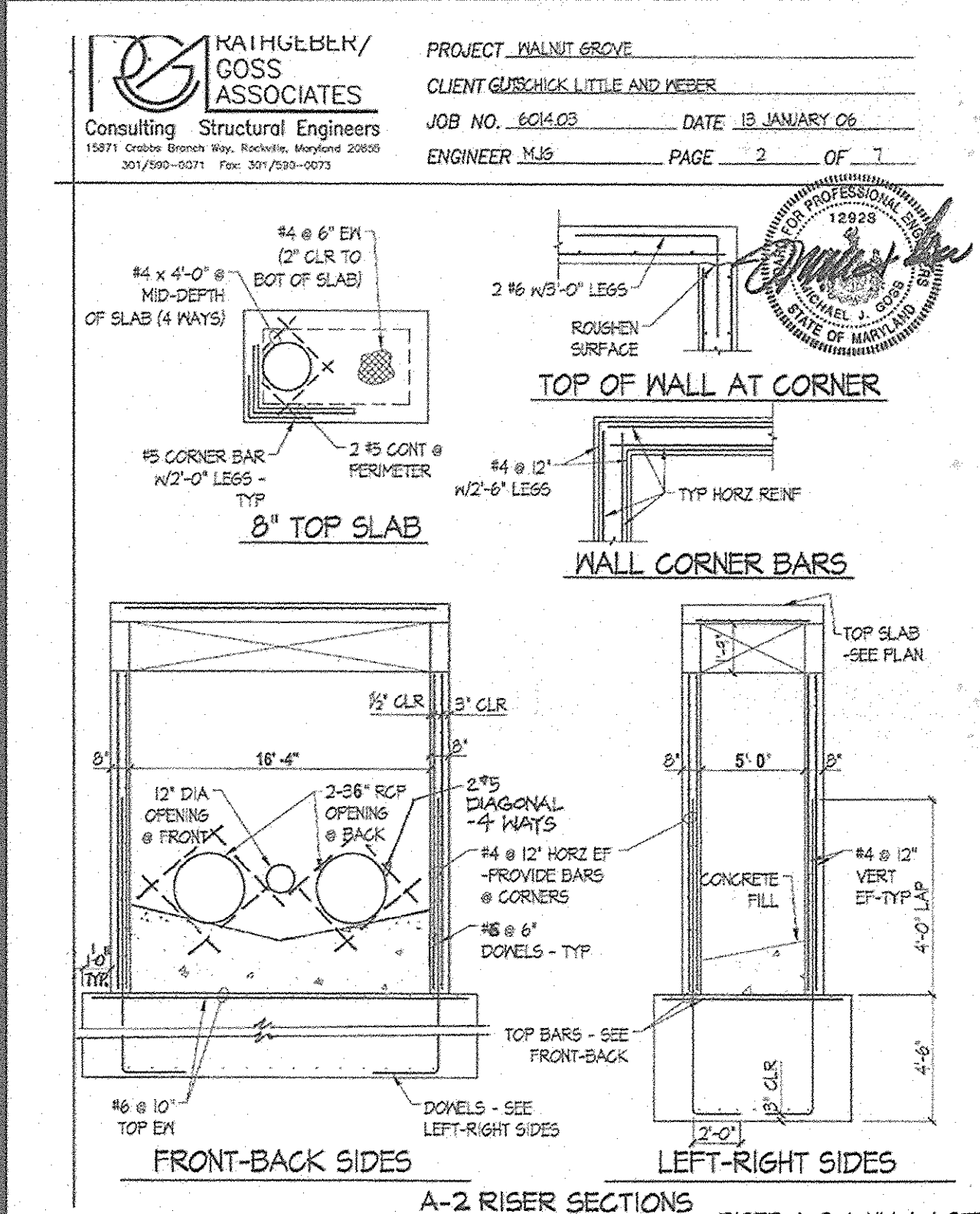
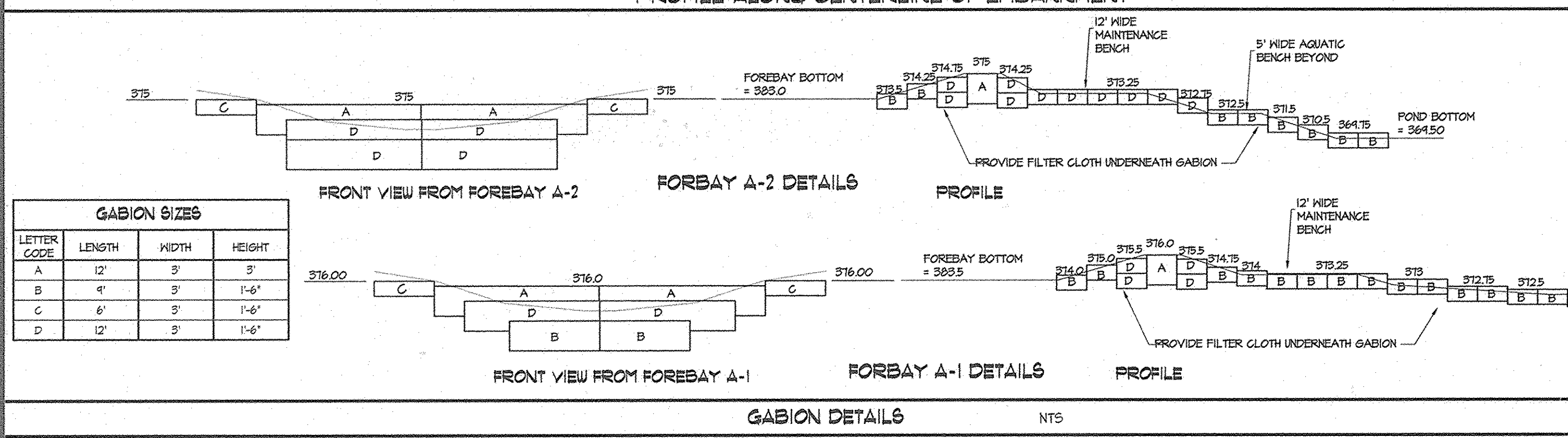
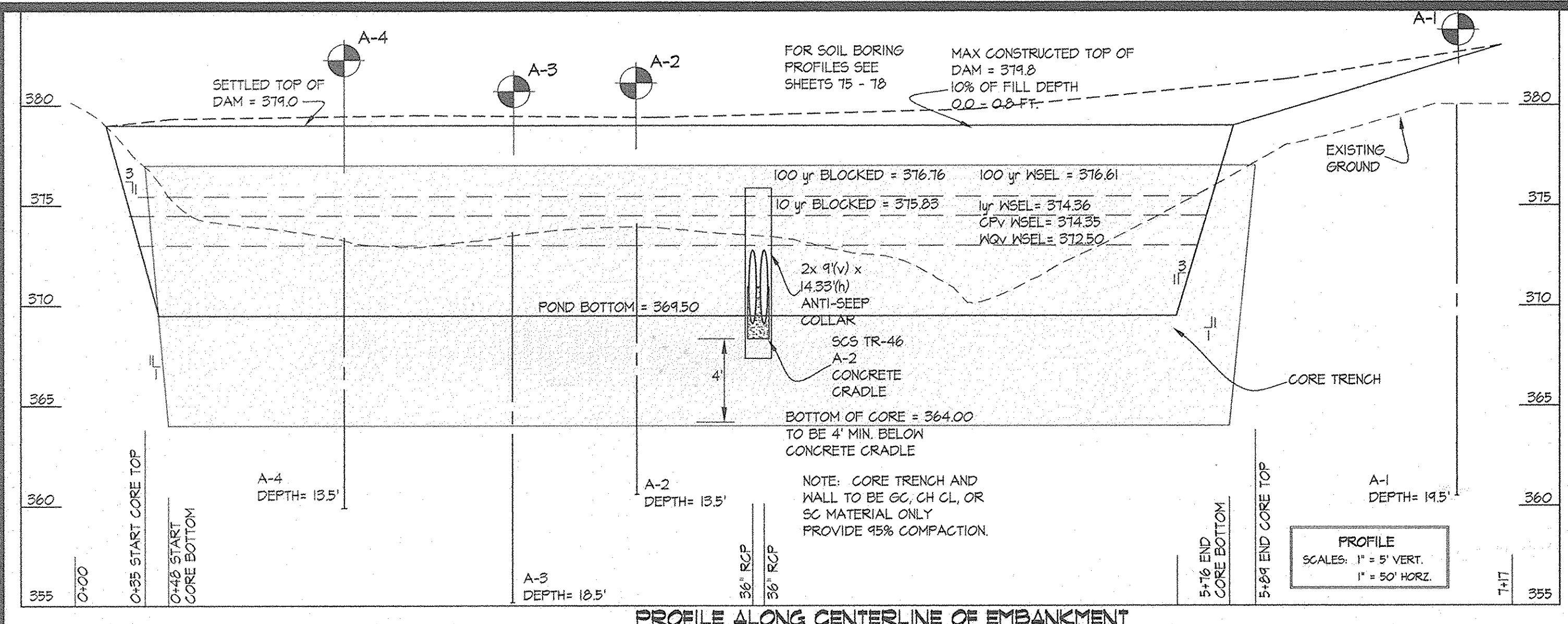
GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

| DATE | REVISION | BY | APP'R. |
|----------|---|-----|--------|
| 11/16/07 | RUNNING FENCE LANE LOWERED AND STORM DRAIN ADDED AT NEW LOW POINT | DDS | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

REVISED PROPOSED CONDITION STORMWATER MANAGEMENT DRAINAGE AREA MAP
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
 NON-BUILDABLE BULK PARCEL "J"
 L.2927 F487
 HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|-------------------------|-------------------|
| 1"=200' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| NOV./2007 | PARCEL 74 28 - 18,17 | 37 OF 78 |



PLANT LIST FOR STORMWATER MANAGEMENT POND 'A'

| SYMBOL | QTY. | NAMES (BOTANICAL / SCIENTIFIC) | SIZE | NOTES |
|--------|------|---|--------------|----------|
| AN | 1692 | Aster novi-belgii New York Aster | 1 gal. cont. | 18" o.c. |
| LS | 799 | Lobelia siphilitica Great Blue Lobelia | 1 gal. cont. | 18" o.c. |
| RS | 1234 | Rudbeckia subtomentosa Cut-leaf Coneflower | 1 gal. cont. | 18" o.c. |
| AG | 1814 | Andropogon glomeratus Bushy Beardgrass | 1 gal. cont. | 18" o.c. |
| PV | 1733 | Peltandra virginica Arrow Arum | 1 gal. cont. | 18" o.c. |
| SL | 1628 | Sagittaria latifolia Duck Potato | 1 gal. cont. | 18" o.c. |

NOTE: STORMWATER MANAGEMENT POND PLANTINGS ARE PER MDE 2000 REQUIREMENTS
PROVIDE WEILAND SEED MIX PER MDE APPENDIX A

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
W. William F. ... 2/5/07
Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy ... 2/1/07
Chief, Division of Land Development

DEVELOPER'S/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 PROFESSIONAL INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

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.

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

USDA - NATURAL RESOURCES CONSERVATION SERVICE
DATE: 2/1/07

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

HOWARD SOIL CONSERVATION DISTRICT
DATE: 2/1/07

HOWARD SOIL CONSERVATION DISTRICT
OPERATION, MAINTENANCE, AND INSPECTION NOTE

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN THE USDA/SCS STANDARDS AND SPECIFICATIONS FOR PONDS (MD-578). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

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

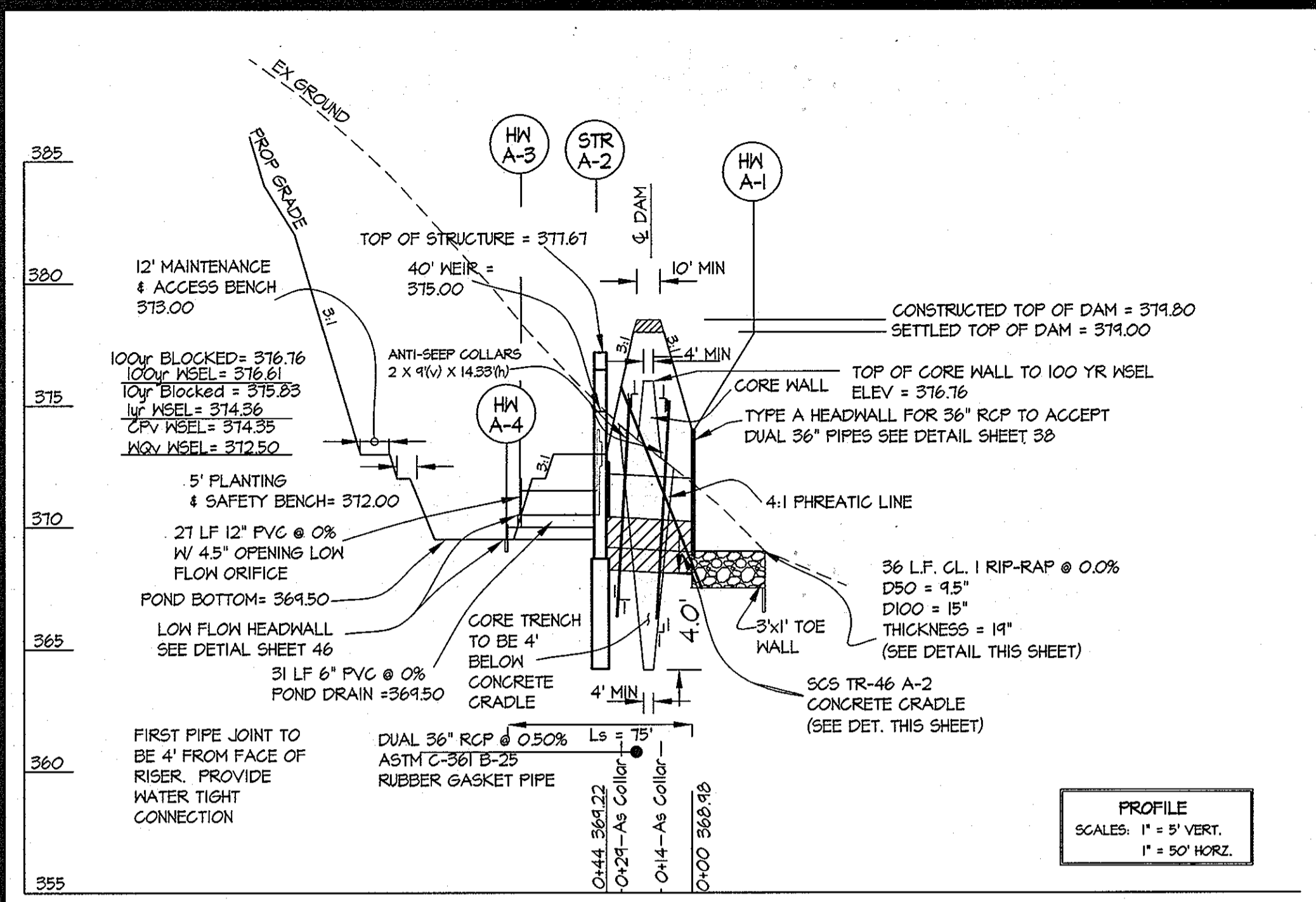
| DATE | REVISION | BY | APPR. |
|------|----------|----|-------|
| | | | |
| | | | |

PREPARED FOR OWNER
WALNUT GROVE HOLDING, L.L.C.
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DIKE PRESIDENT
10708 CHARTER DRIVE
SUITE 320
COLUMBIA, MARYLAND 21044

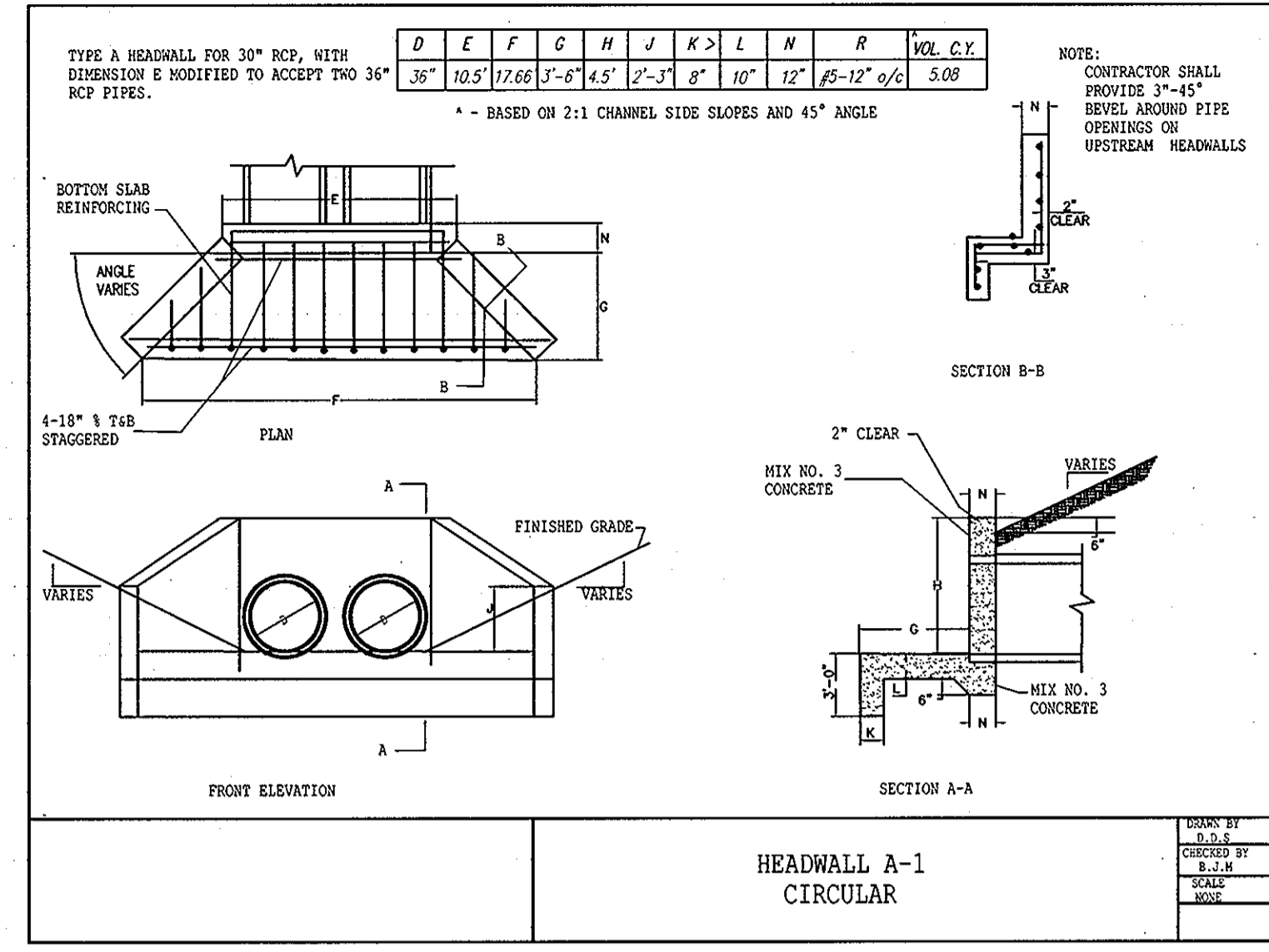
STORMWATER MANAGEMENT POND A DETAILS
WALNUT GROVE
LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A',
NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'T', 'K' & 'L' & 'I' AND
NON-BUILDABLE BULK PARCEL 'J'
L.2927 FA87

| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|-------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 38 OF 78 |

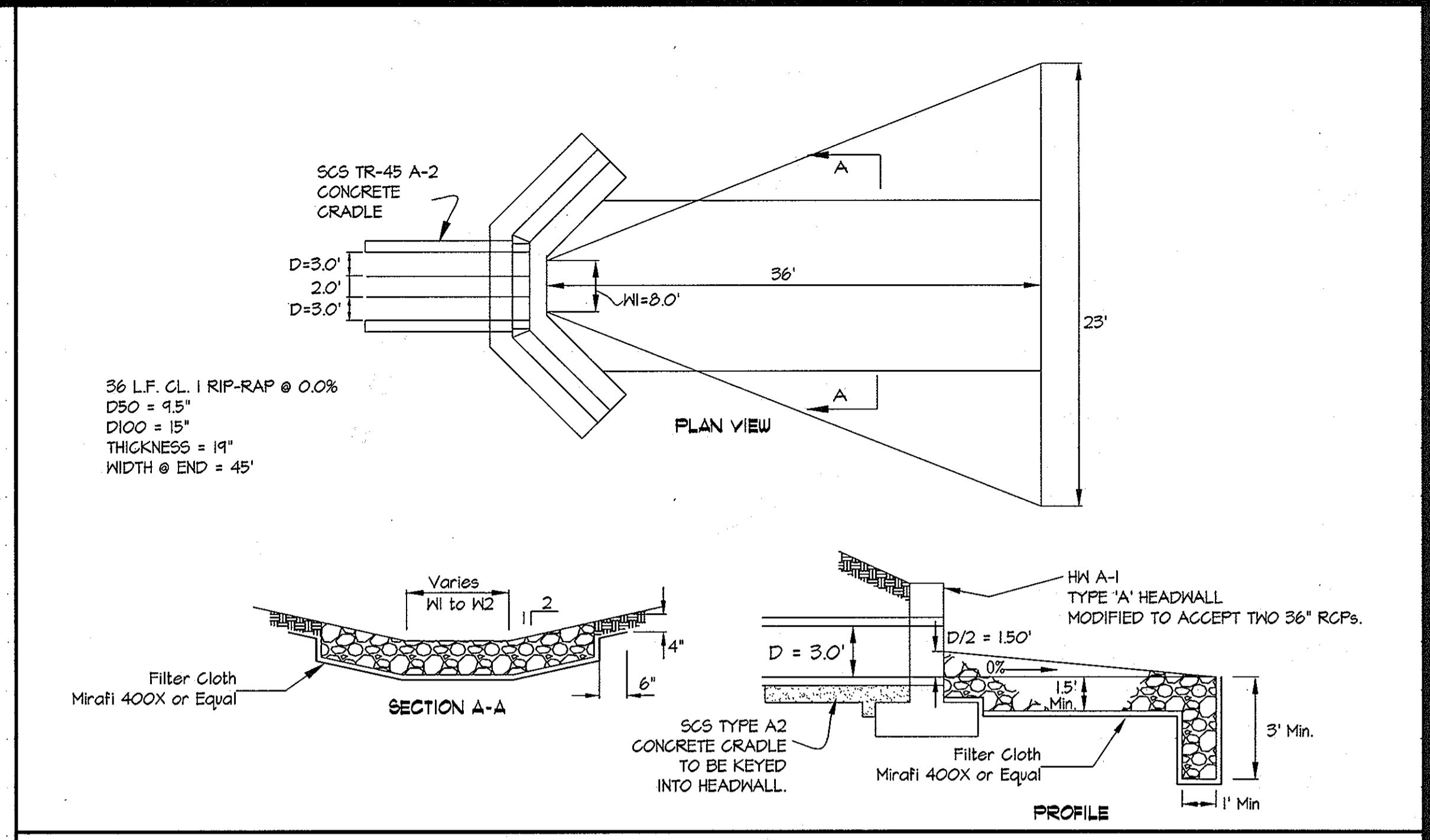
HOWARD COUNTY, MARYLAND



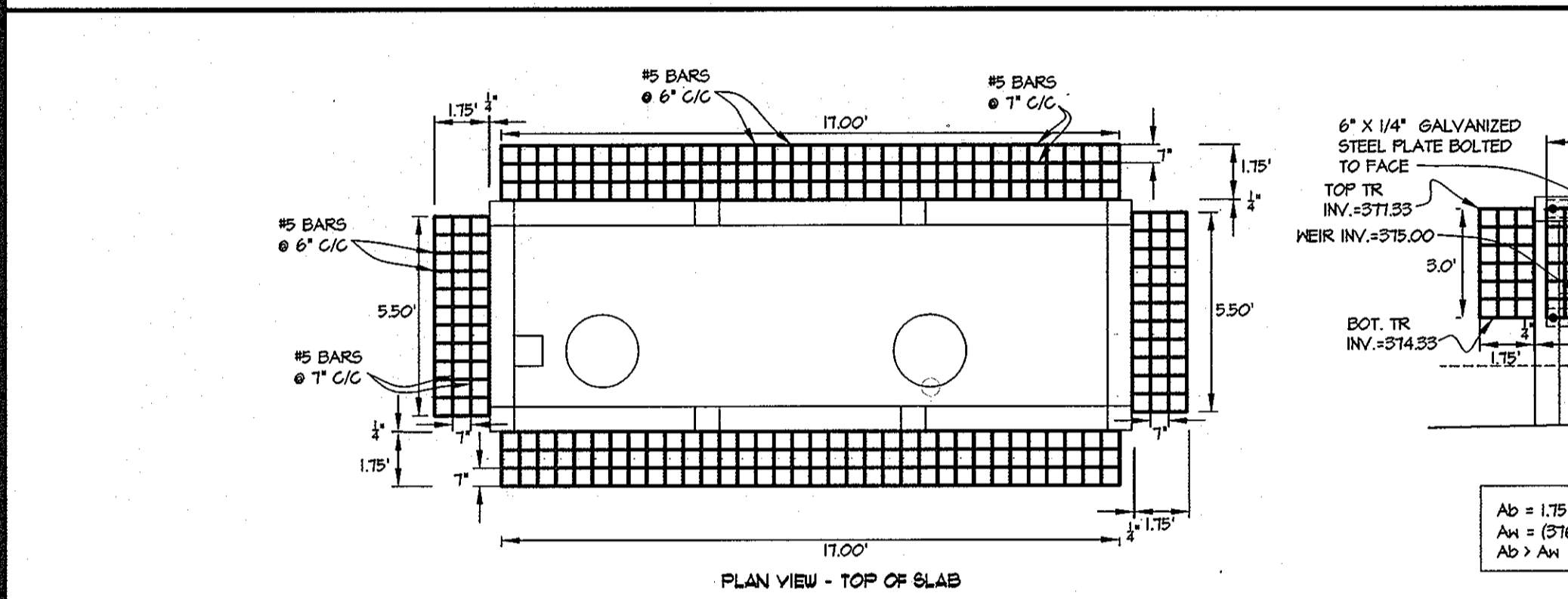
PROFILE THROUGH PRINCIPLE SPILLWAY



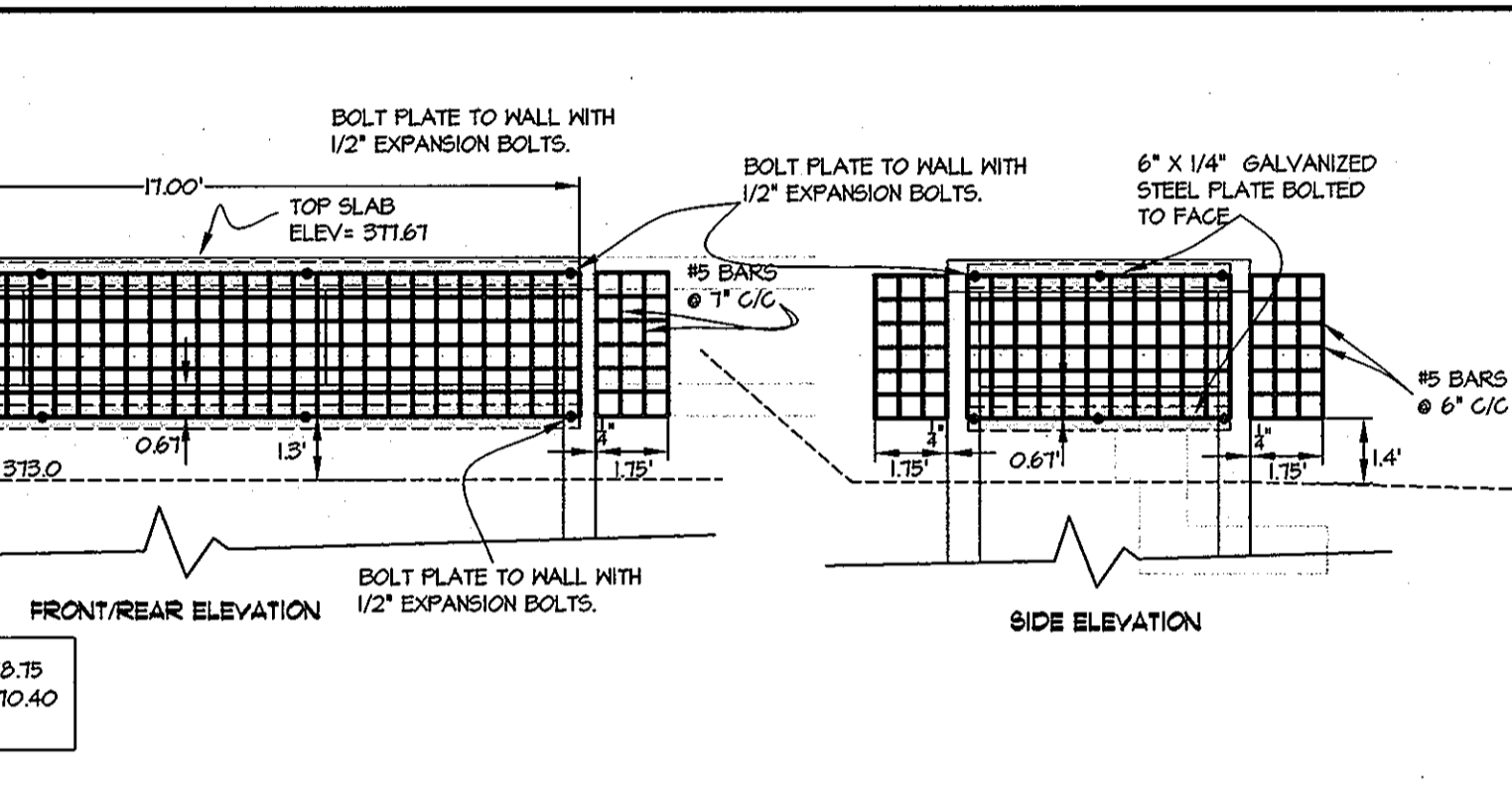
HEADWALL A-1 CIRCULAR



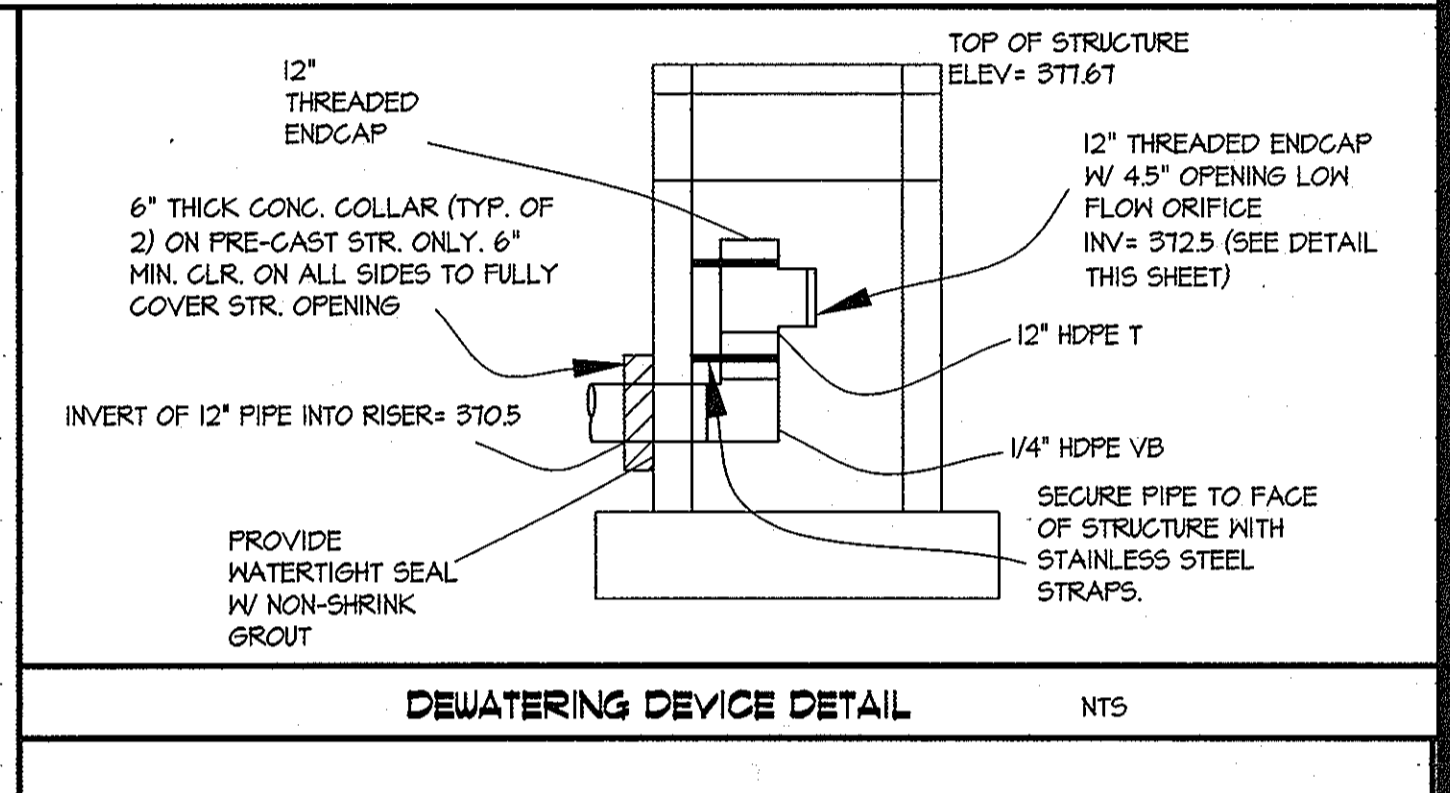
OUTLET PROTECTION DETAIL (EW A-1) NTS



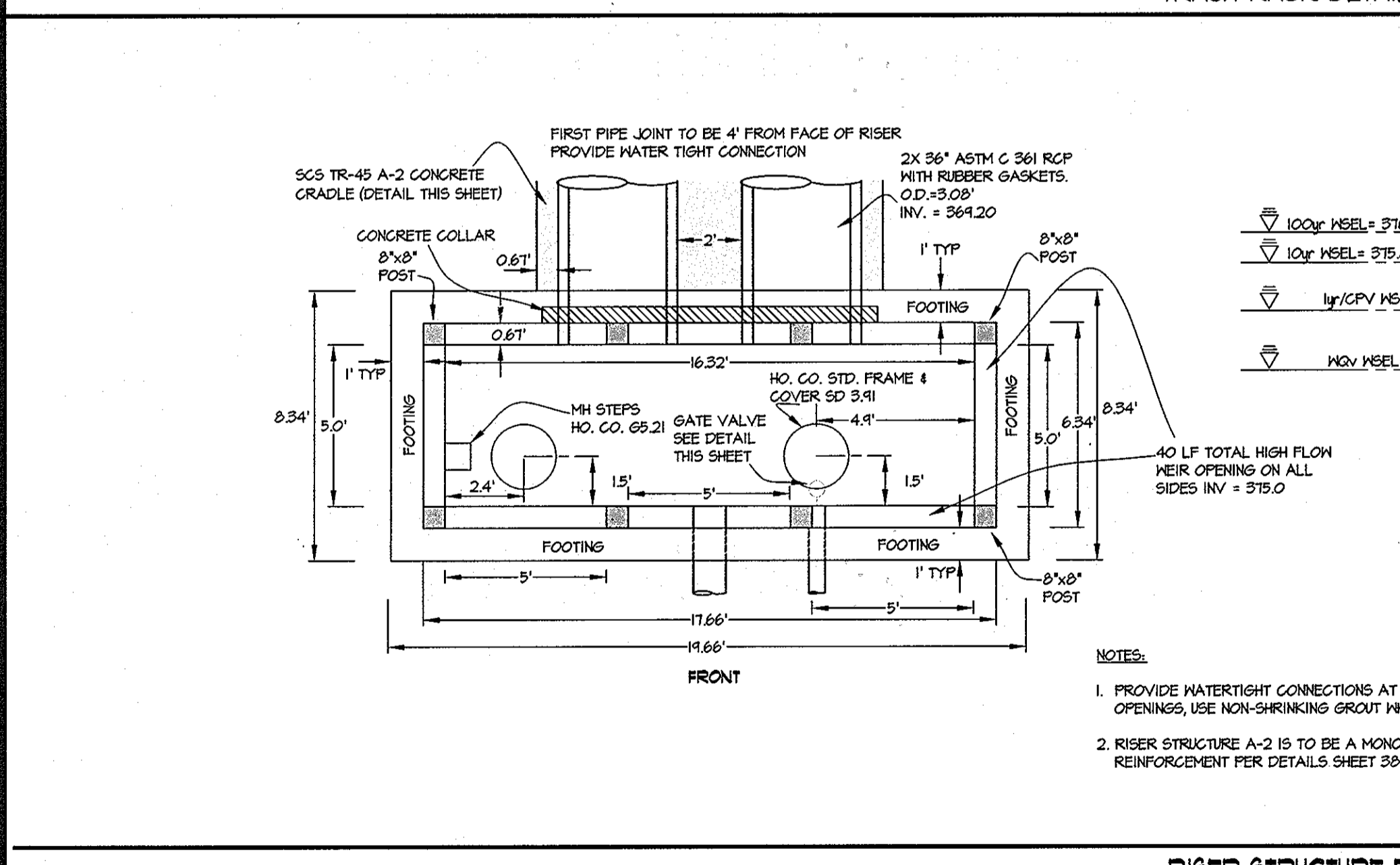
TRASH RACK DETAILS SCALE: 1" = 4'



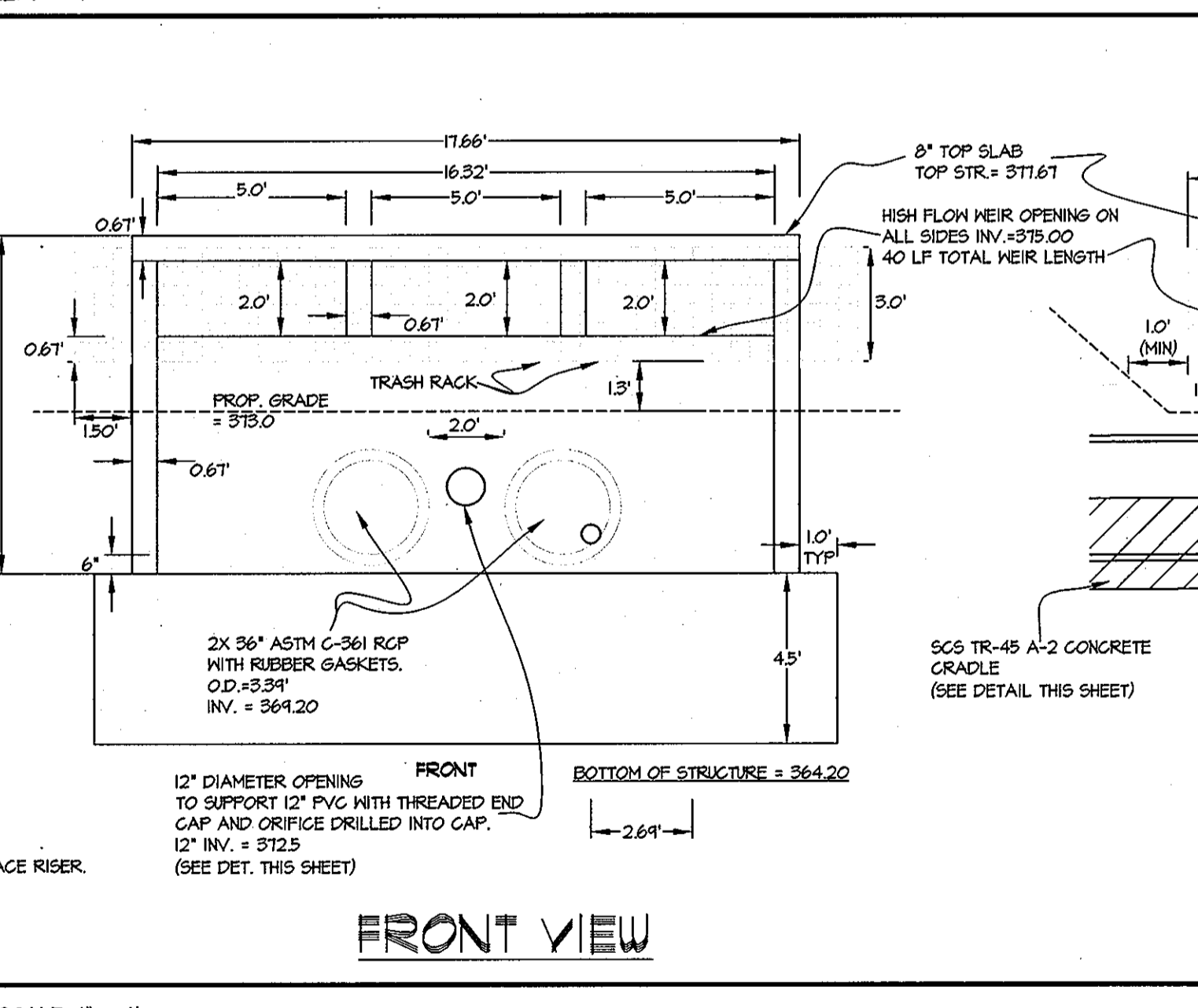
SUM LOW-FLOW ORIFICE DETAIL NTS



DEWATERING DEVICE DETAIL NTS

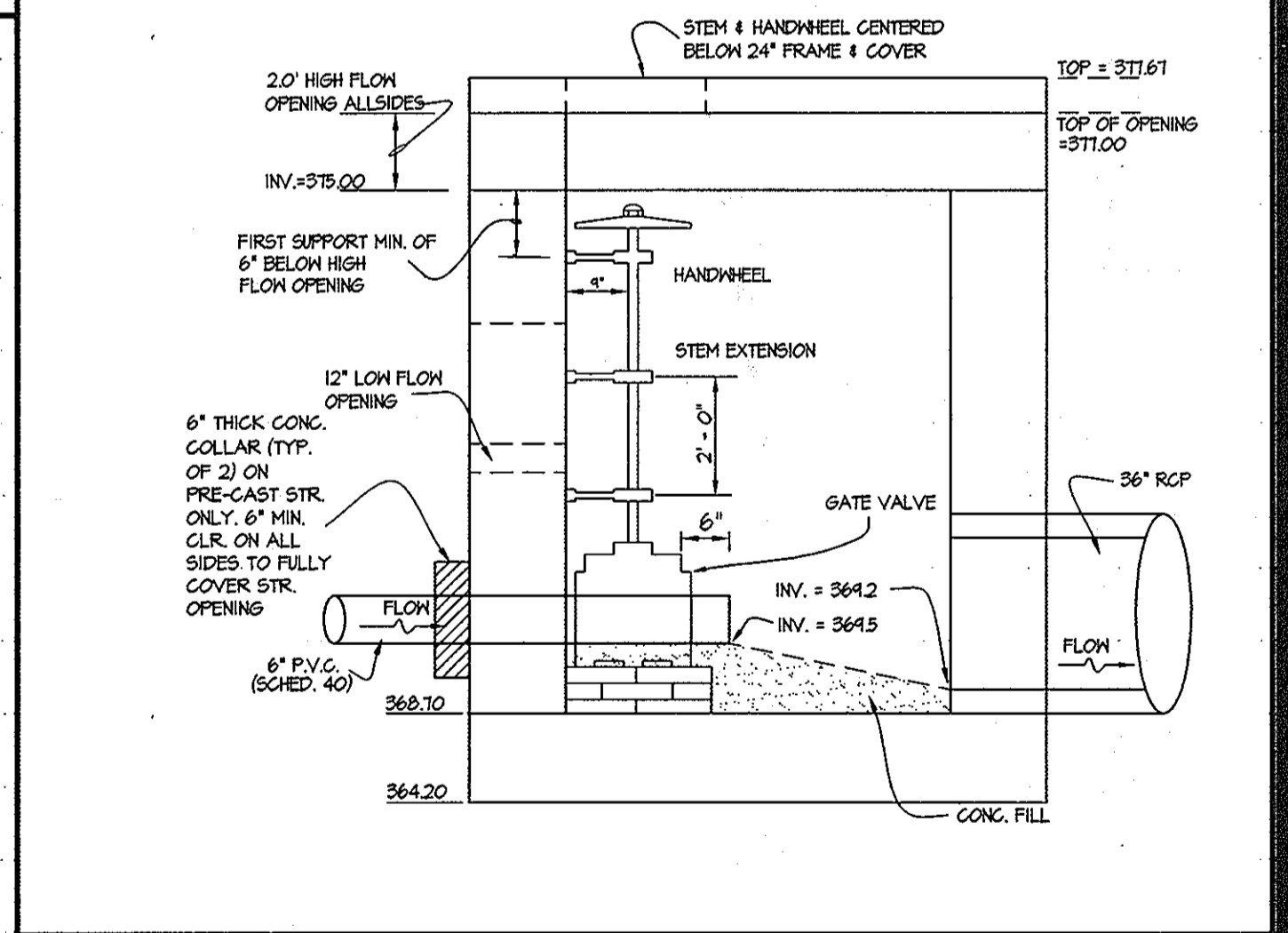


RISER STRUCTURE DETAILS SCALE: 1" = 4'



FRONT VIEW

SIDE VIEW



GATE VALVE DETAIL NTS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William F. Walsh 2-5-07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hammett 2/6/07
 Chief, Division of Land Development Date

Chief, Development Engineering Division Date

DEVELOPER'S/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."
Peter B. Vannoy 1-25-07
 SIGNATURE OF DEVELOPER/BUILDER 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."
Chad 1-25-07
 ENGINEER'S SIGNATURE DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
J. H. Hinkle 2/1/07
 USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
Chad 2/1/07
 HOWARD SOIL CONSERVATION DISTRICT DATE



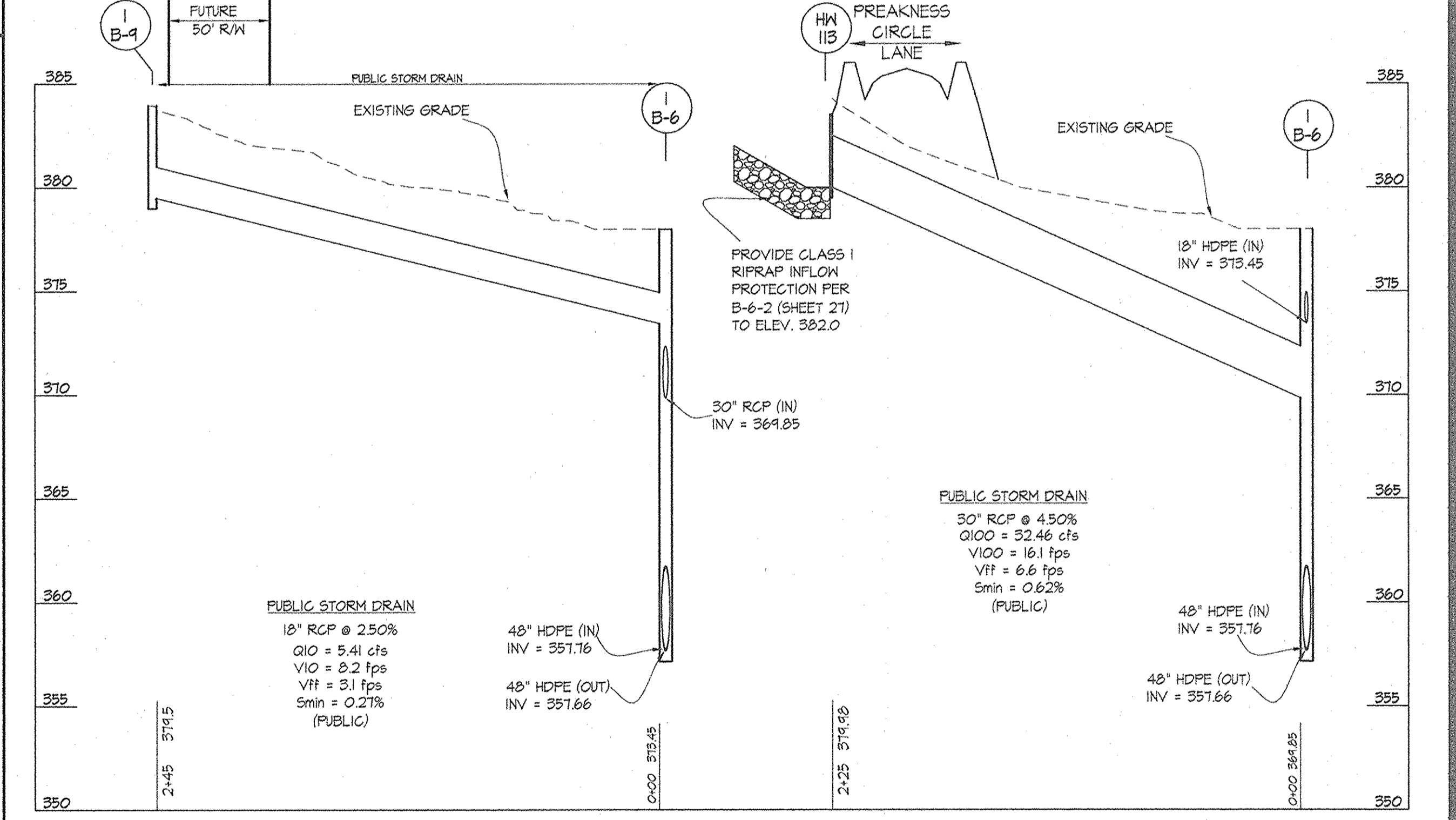
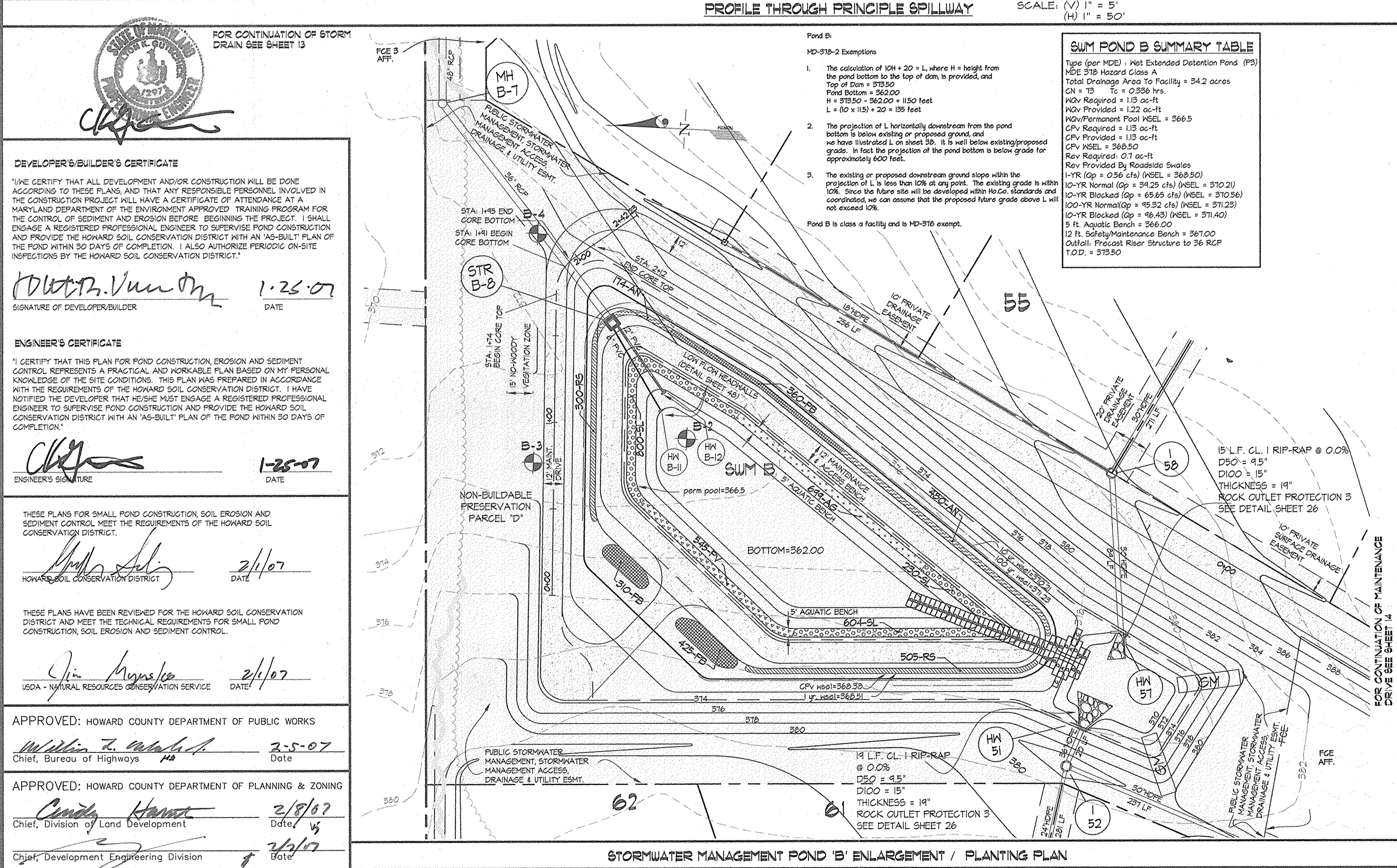
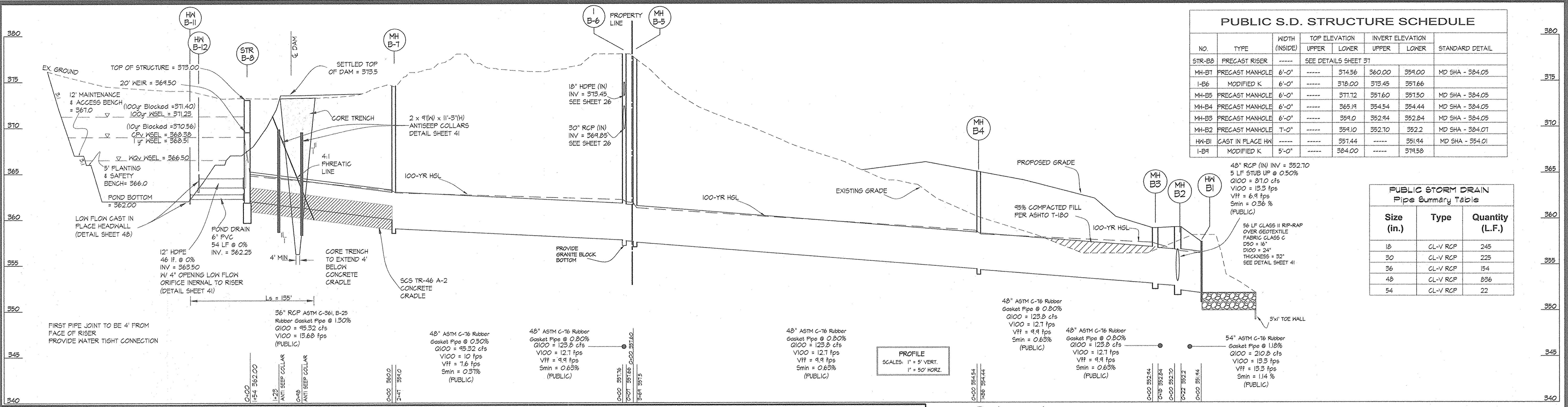
GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

| DATE | REVISION | BY | APP'R |
|------|----------|----|-------|
| | | | |
| | | | |
| | | | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE PRESIDENT
 10708 CHARTER DRIVE
 SUITE 300
 COLUMBIA, MARYLAND 21044

STORMWATER MANAGEMENT POND A DETAILS
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' & 'L' & 'L'
 NON-BUILDABLE BULK PARCEL 'J'
 L2927 F487
 HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|-----------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID PARCEL | SHEET |
| JAN./2007 | 28 - 18,17 | 39 OF 78 |



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 Date: 2-5-07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development
 Date: 2/8/07

GLWGUTSCHICK 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 BAL: 410-889-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

STORMWATER MANAGEMENT POND B ENLARGEMENT / PLANTING PLAN

PLANT LIST FOR STORMWATER MANAGEMENT POND 'B'

| SYMBOL | QTY | NAMES (BOTANICAL / SCIENTIFIC) | SIZE | NOTES |
|-------------------------------|------|---|--------------|----------|
| PERENNIALS/GROUNDCOVER | | | | |
| AG | 699 | Andropogon glomeratus Bushy Beardgrass | 1 gal. cont. | 18" o.c. |
| FV | 545 | Peltandra virginica Arrow Arum | 1 gal. cont. | 18" o.c. |
| SL | 1774 | Sagittaria latifolia Duck Potato | 1 gal. cont. | 18" o.c. |
| AN | 654 | Aster novi-belgii New York Aster | 1 gal. cont. | 18" o.c. |
| RS | 805 | Rudbeckia subtomentosa Cut-leaf Coneflower | 1 gal. cont. | 18" o.c. |
| PB | 1095 | Agrostis perennans Perennial Bentgrass | 1 gal. cont. | 18" o.c. |

NOTE: STORMWATER MANAGEMENT POND PLANTINGS ARE PER MDE 2000 REQUIREMENTS PROVIDE NETLAND SEED MIX PER MDE APPENDIX A

STORMWATER MANAGEMENT POND B DETAILS

WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' & 'N' AND
 NON-BUILDABLE BULK PARCEL 'J'

SCALE
 AS SHOWN

ZONING
 RC-DEO

G. L. W. FILE NO.
 00153

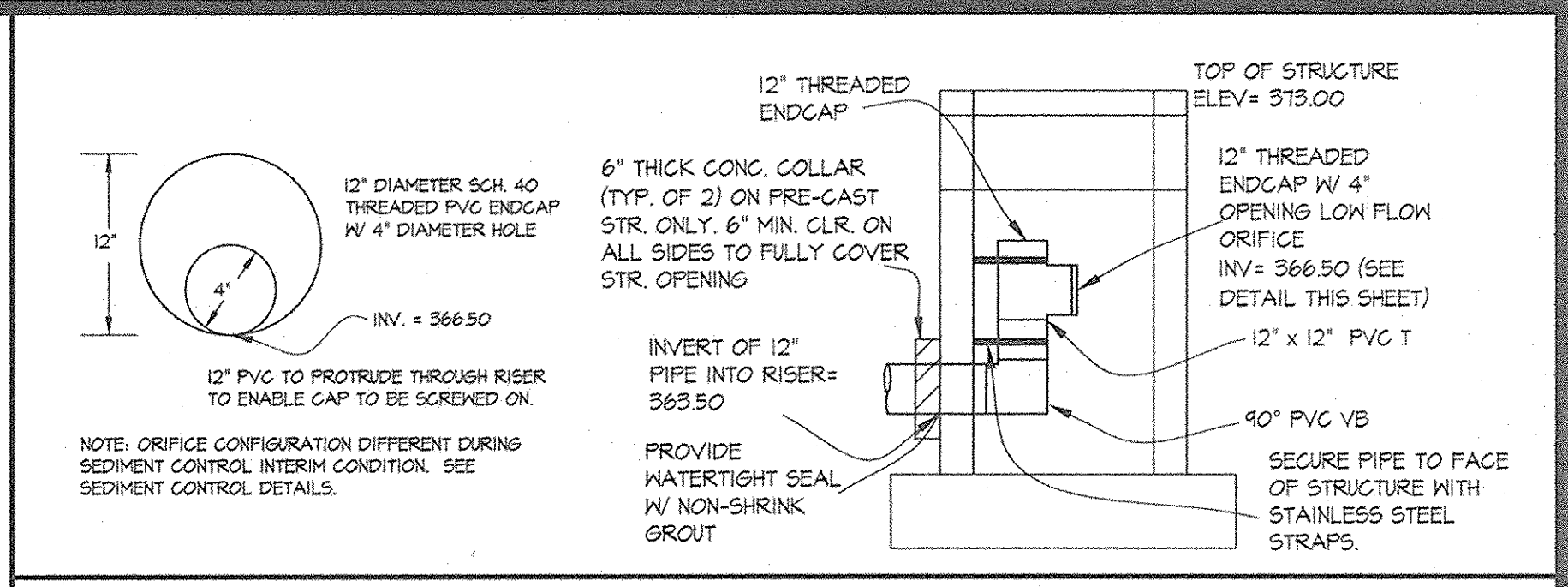
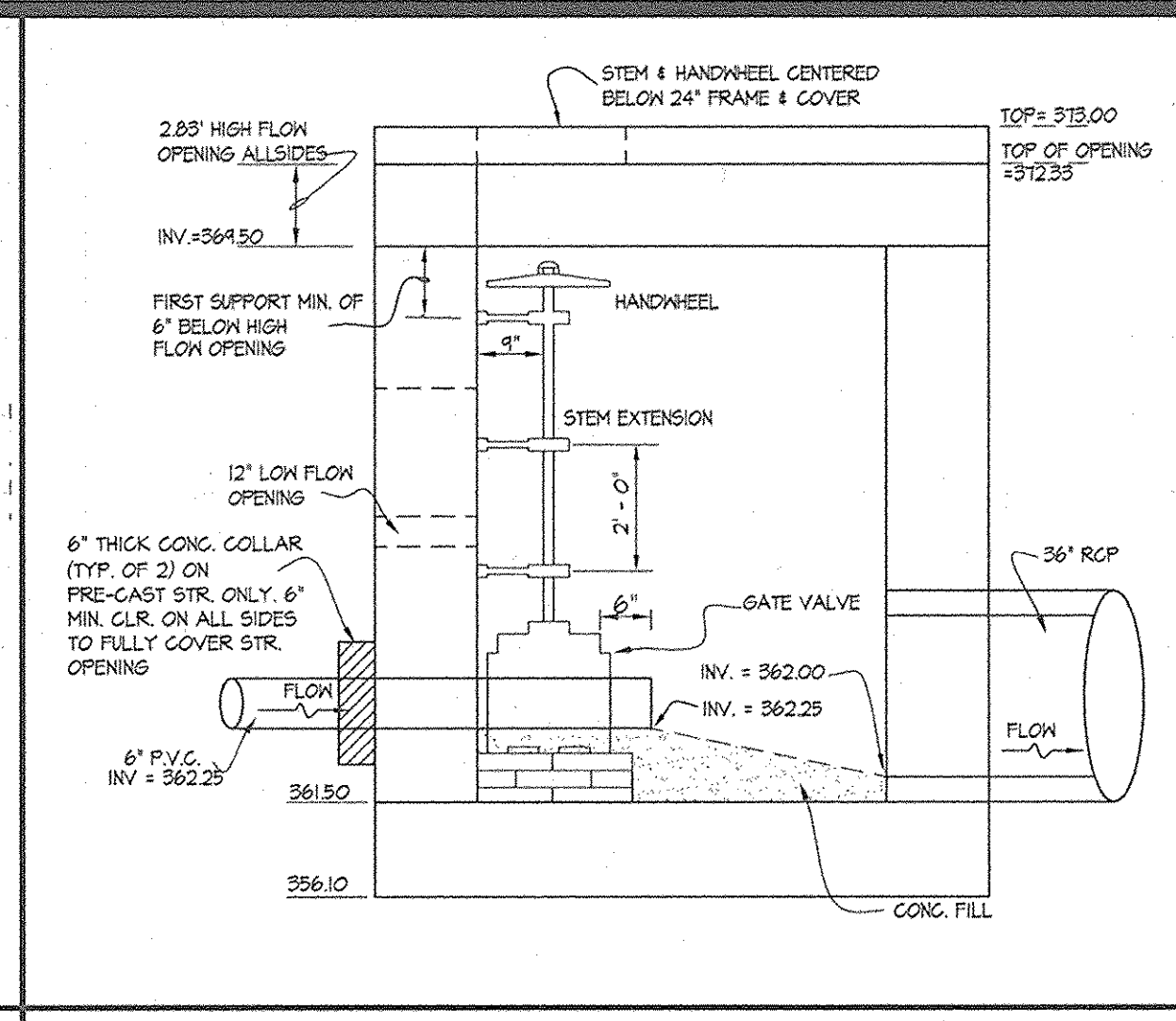
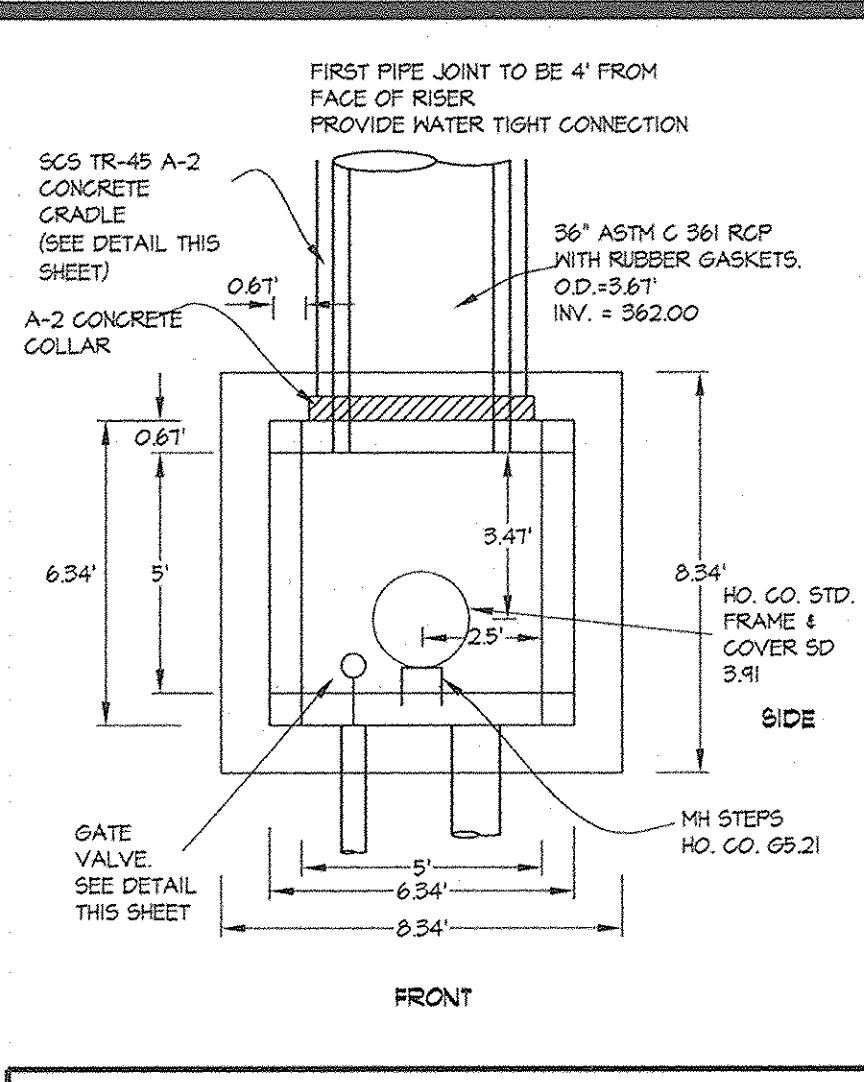
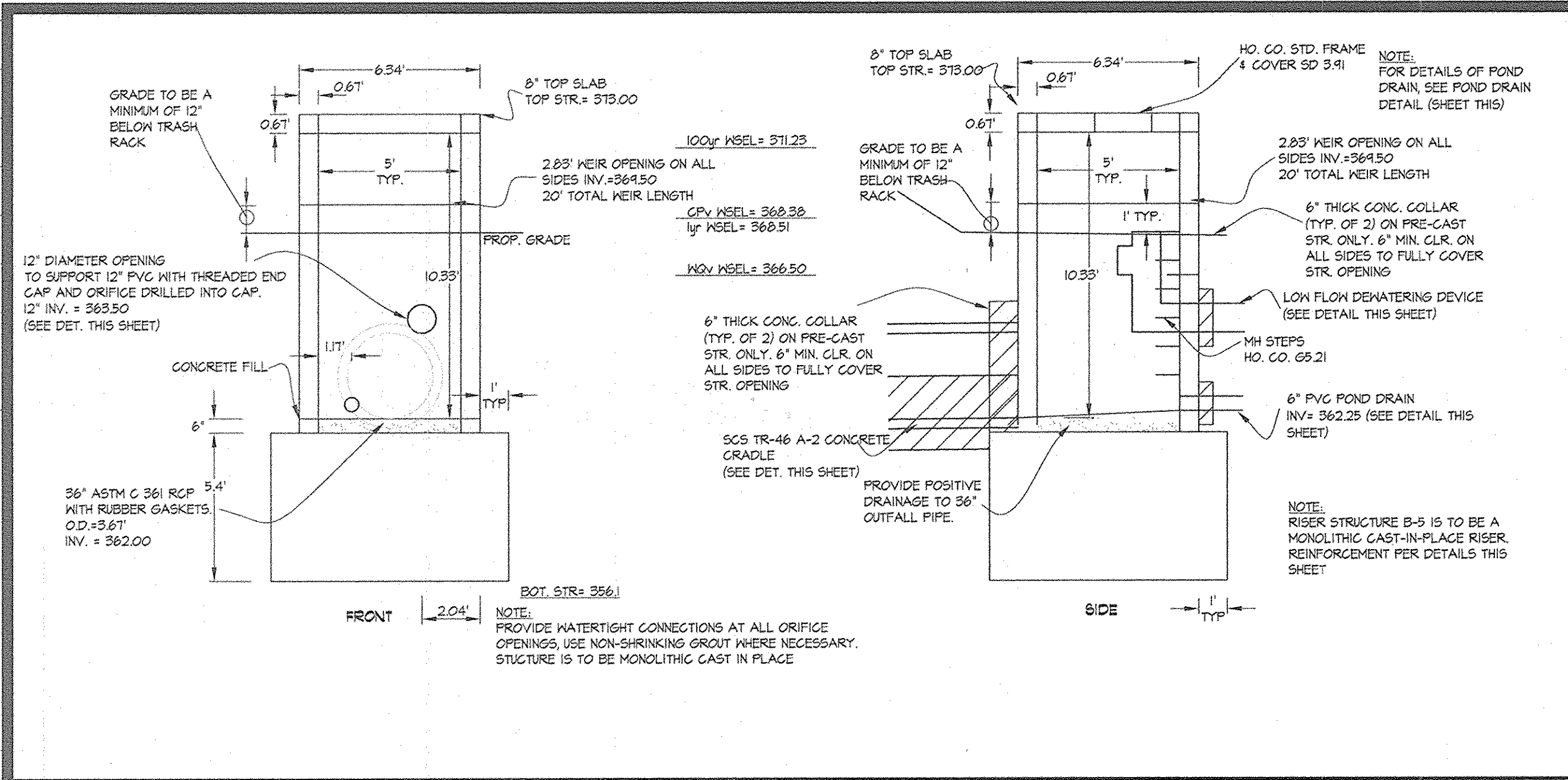
DATE
 JAN./2007

TAX MAP - GRID
 PARCEL 74
 28 - 18,17

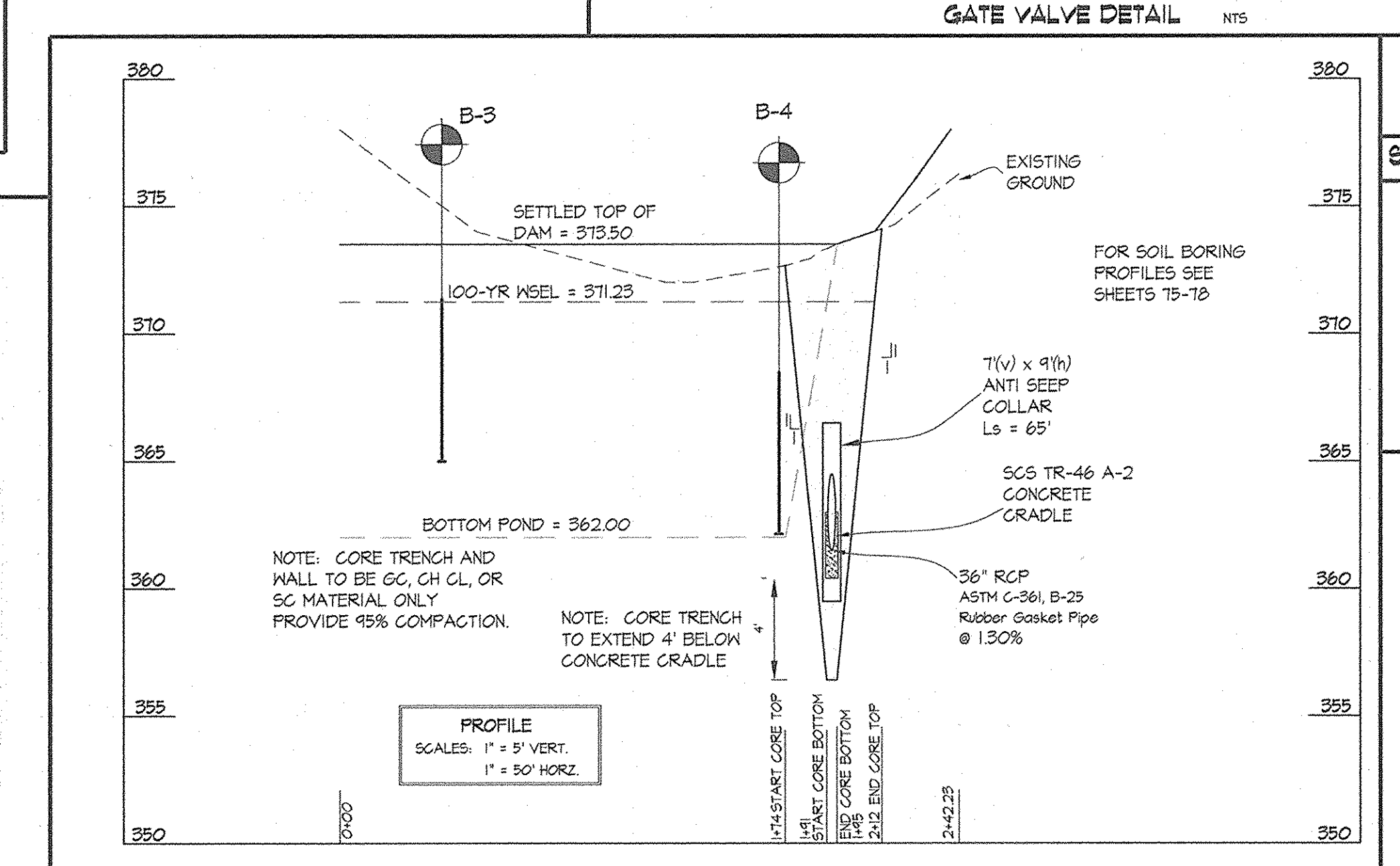
SHEET
 40 OF 78

ELECTION DISTRICT No. 5

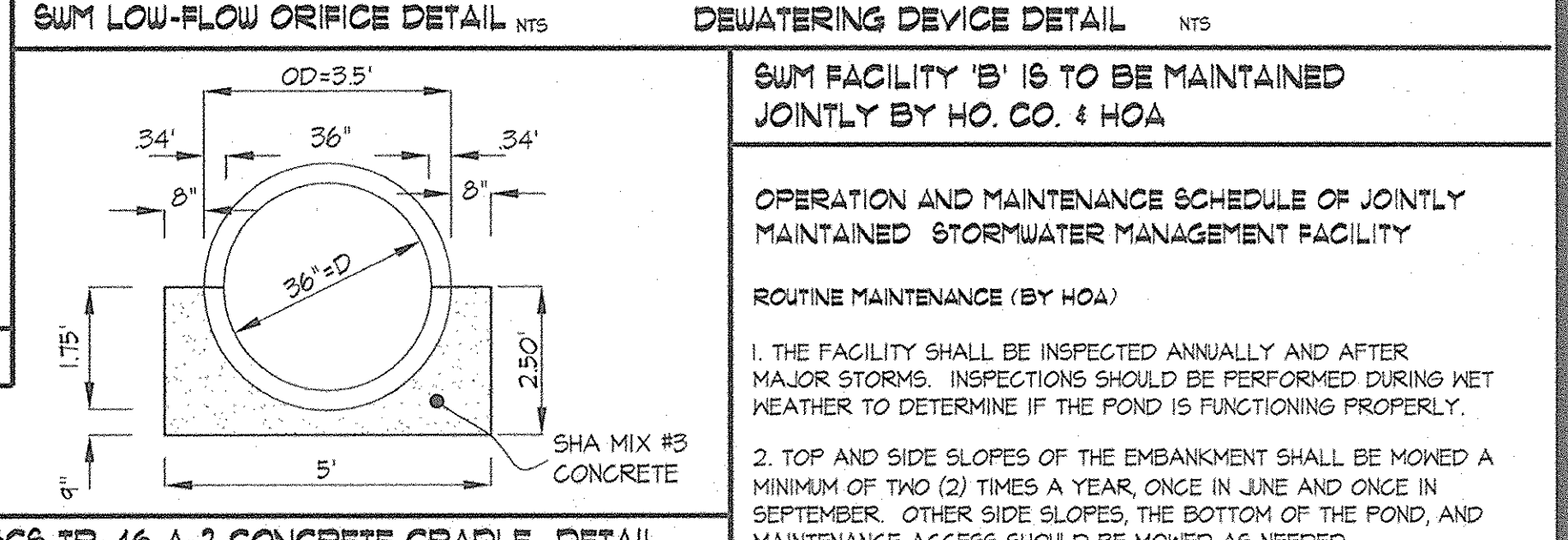
HOWARD COUNTY, MARYLAND



RISER STRUCTURE B-5 DETAILS



PROFILE ALONG CENTERLINE EMBANKMENT

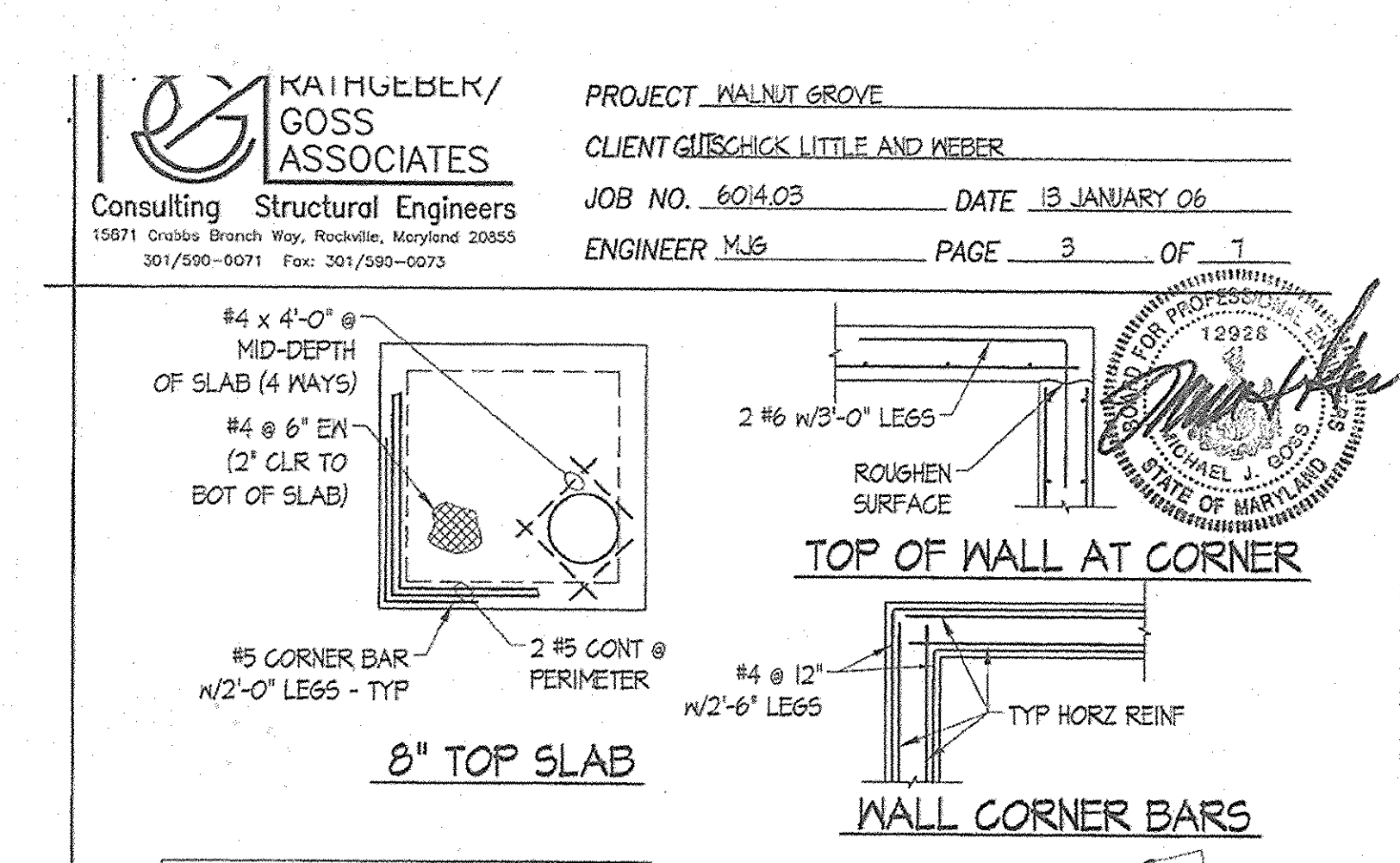


SC65 TR-46 A-2 CONCRETE CRADLE DETAIL

DEVELOPER'S/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.

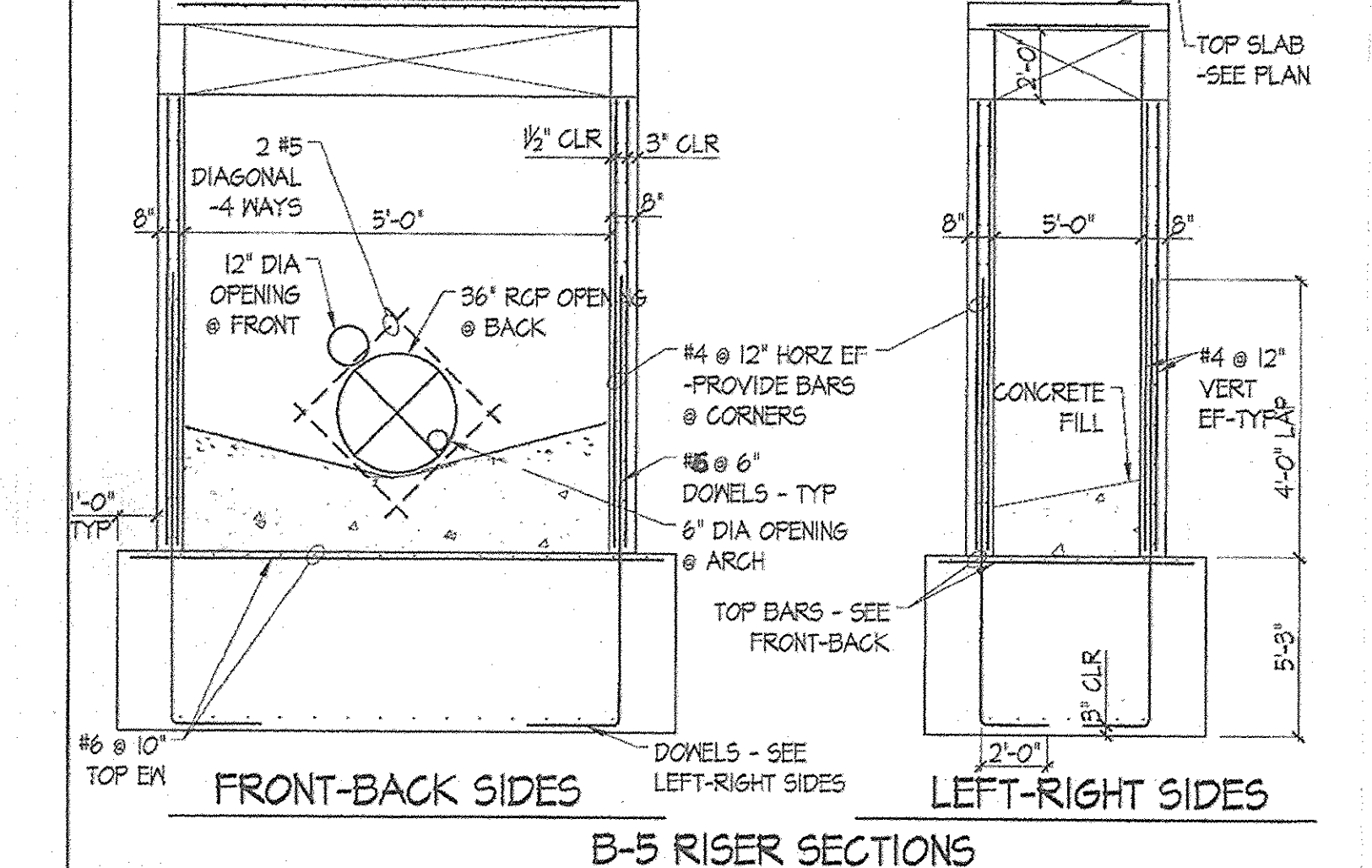
1-25-07
DATE



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 NOTICED THE DEVELOPER THAT HE 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.

1-25-07
DATE



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

2/1/07
DATE

RISER B-5 STRUCTURE REINFORCEMENT DETAILS

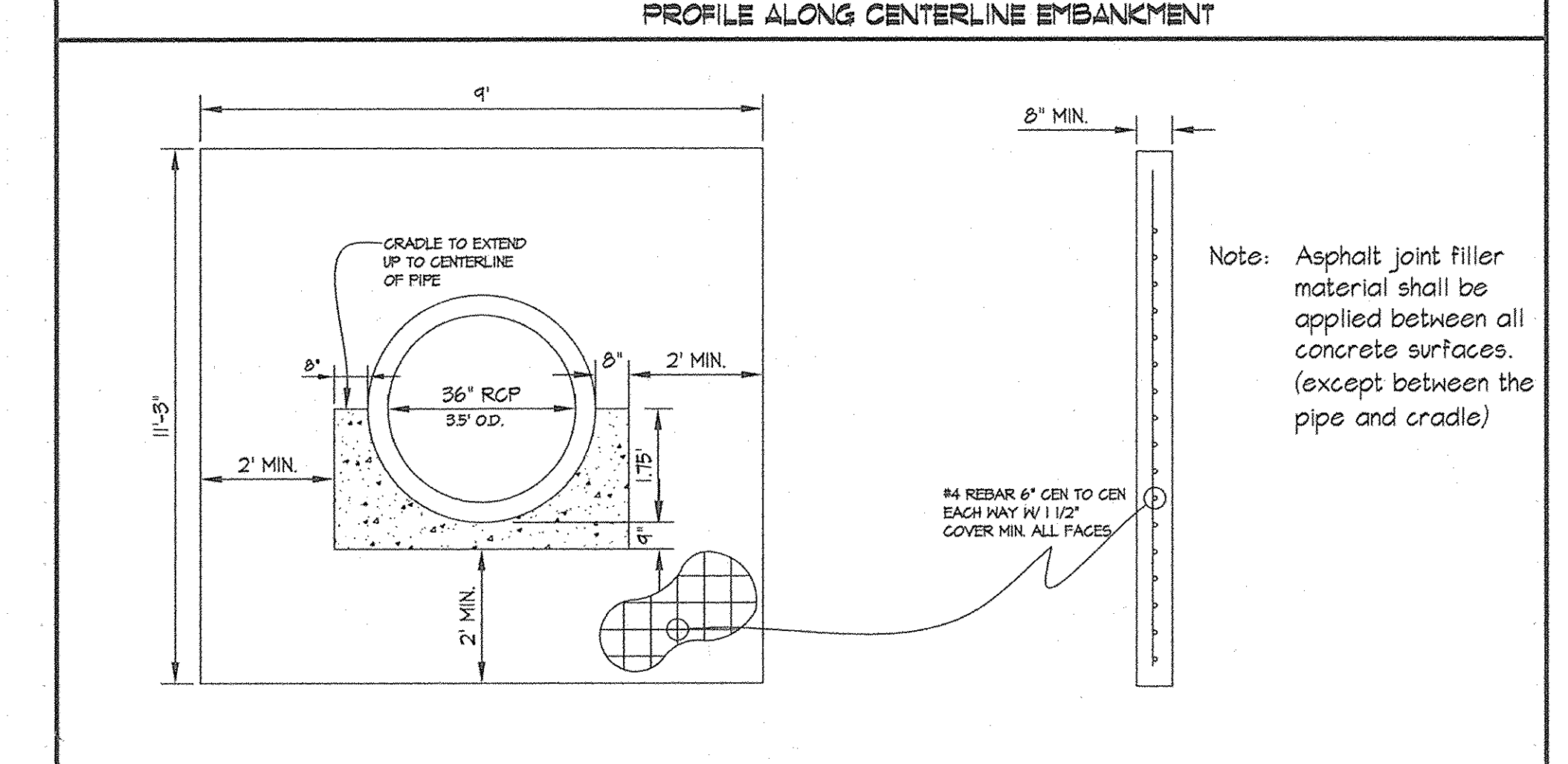
USDA - NATURAL RESOURCES CONSERVATION SERVICE

HOWARD SOIL CONSERVATION DISTRICT
OPERATION, MAINTENANCE, AND INSPECTION NOTE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
2-5-07
Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
2/1/07
Date

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN THE USDA/SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

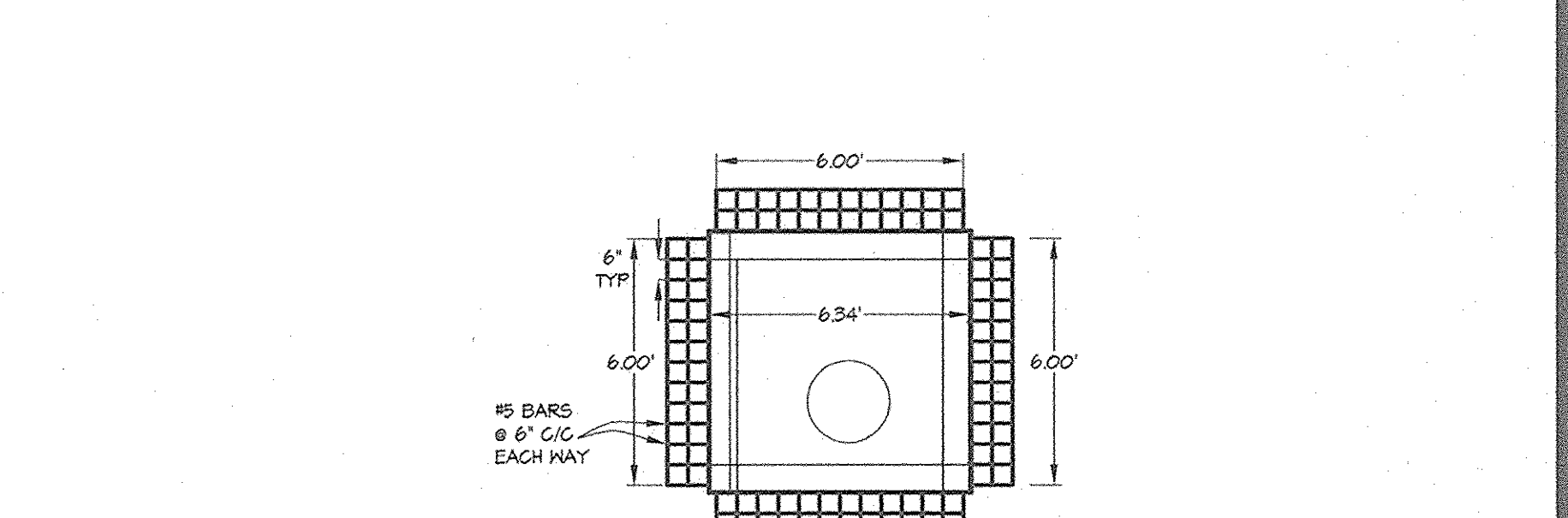


CONCRETE CRADLE & CONCRETE ANTI-SLEEP COLLAR DETAIL

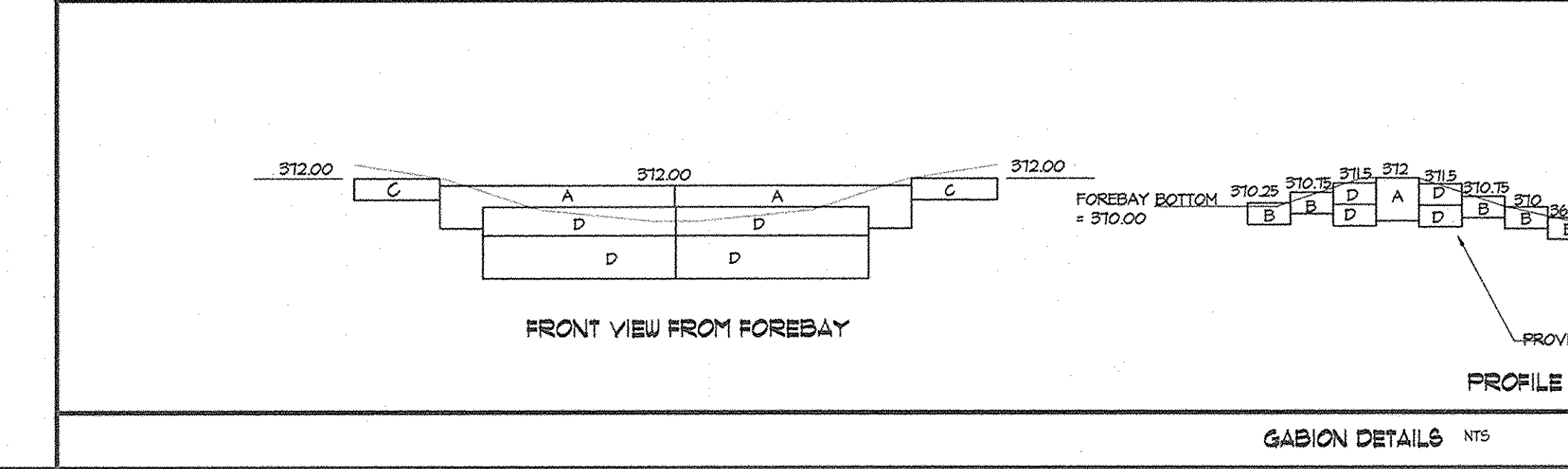
OPERATION AND MAINTENANCE SCHEDULE OF JOINTLY MAINTAINED STORMWATER MANAGEMENT FACILITY

ROUTINE MAINTENANCE (BY HOA)

- THE FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
- TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOVED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES, THE BOTTOM OF THE POND, AND MAINTENANCE ACCESS SHOULD BE MOVED AS NEEDED.
- DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOING OPERATIONS AND AS NEEDED.
- VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIPRAP OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NOTICED.



TRASH RACK DETAILS



GABION DETAILS

| GABION SIZES | | | |
|--------------|--------|-------|--------|
| LETTER CODE | LENGTH | WIDTH | HEIGHT |
| A | 12' | 3' | 3' |
| B | 4' | 3' | 1'-6" |
| C | 6' | 3' | 1'-6" |
| D | 12' | 3' | 1'-6" |

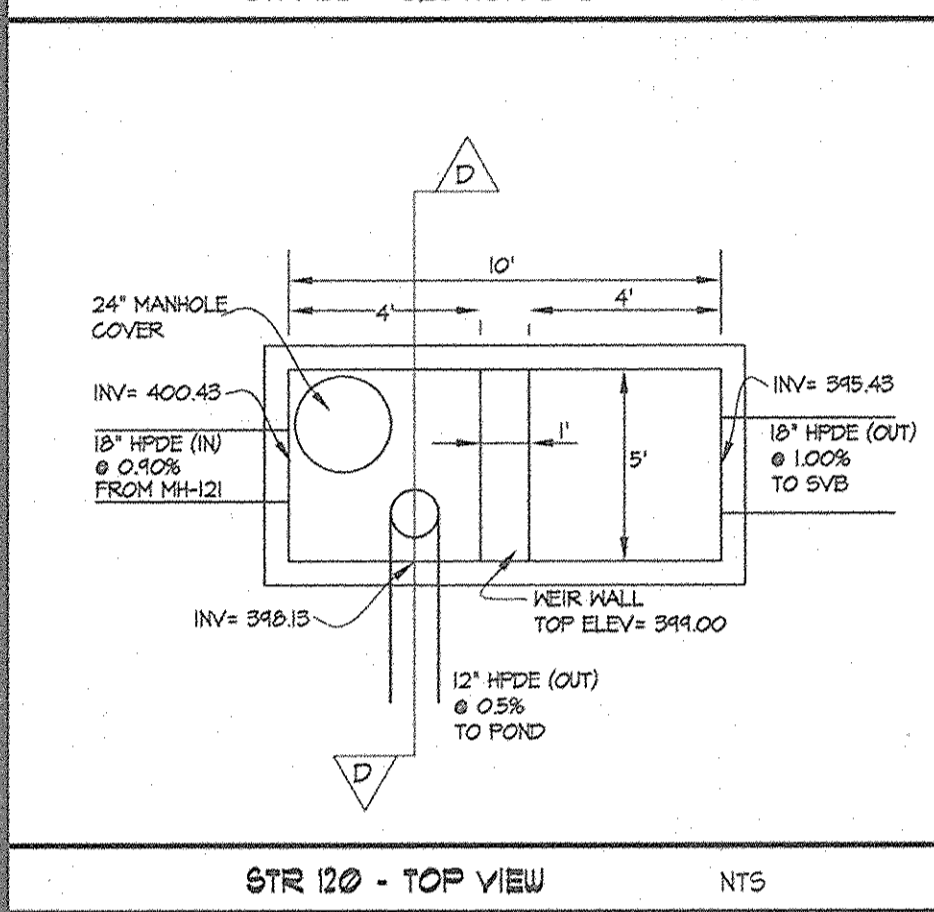
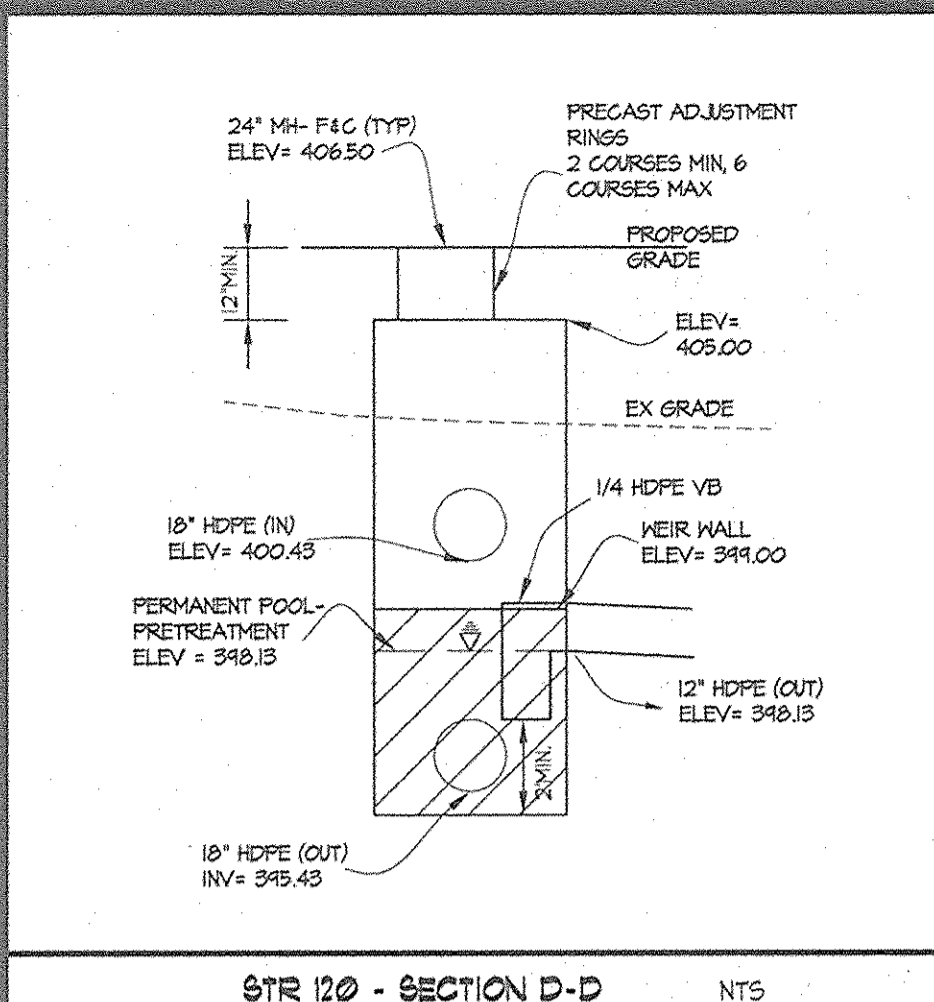
GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-589-2524 FAX: 301-421-4186

| DATE | REVISION | BY | APP'R. |
|------|----------|----|--------|
| | | | |

PREPARED FOR OWNER
WALNUT GROVE HOLDING, L.L.C.
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DYKE, PRESIDENT
10705 CHARTER DRIVE
SUITE 320
COLUMBIA, MARYLAND 21044

STORMWATER MANAGEMENT POND B DETAILS
WALNUT GROVE
LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A';
NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' & 'N' AND
NON-BUILDABLE BULK PARCEL 'J'
L.2927 F.487
ELECTION DISTRICT No. 5

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-----------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID PARCEL | SHEET |
| JAN./2007 | 28 - 18,17 | 41 OF 78 |



GENERAL NOTES

1. MATERIAL SPECIFICATIONS
THE ALLOWABLE MATERIALS TO BE USED IN BIORETENTION AREA ARE DETAILED IN TABLE B.3.2.

2. PLANTING SOIL
THE SOIL SHALL BE A UNIFORM MIX FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.

THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
PH RANGE 5.2 - 7.0
ORGANIC MATTER 15 - 4% (BY WEIGHT)
MAGNESIUM 15 LB/AC
PHOSPHORUS (PHOSPHATE - P2O5) 15 LB/AC
POTASSIUM (POTASH - K2O) 85 LB/AC
SOLUBLE SALTS NOT TO EXCEED 500 PPM

ALL BIORETENTION AREAS SHALL HAVE A MINIMUM OF ONE TEST. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, PHOSPHORUS, AND POTASSIUM AND ADDITIONAL TESTS OF ORGANIC MATTER AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOP SOIL HAS EXCAVATED.

SINCE DIFFERENT LABS CALIBRATE THEIR TESTING EQUIPMENT DIFFERENTLY, ALL TESTING RESULTS SHALL COME FROM THE SAME TESTING FACILITY. SHOULD THE PH FALL OUT OF THE ACCEPTABLE RANGE IT MAY BE MODIFIED (HIGHER) WITH LIME OR (LOWER) WITH IRON SULFATE FLUIS SULFUR.

3. COMPACTION
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF BIORETENTION APPENDIX B.3. CONSTRUCTION SPECIFICATIONS FOR SAND FILTERS, BIORETENTION AND OPEN CHANNELS B.3.3 ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH RUFF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL FLOW RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL FLOW RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY POINDED WATER BEFORE PREPARING (ROTOTILLING) BASE.

WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.

WHEN BACKFILLING THE BIORETENTION BASIN, PLACE SOIL IN LIFTS 12\"/>

4. PLANT MATERIAL
SEE PLANTINGS THIS SHEET

5. PLANT INSTALLATION
MULCH SHOULD BE PLACED TO A UNIFORM THICKNESS OF 2\"/>

ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.

TREES SHALL BE BRACED USING 2\"/>

GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.

THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AVOID THE SOIL ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

6. UNDERDRAINS
UNDERDRAINS ARE TO BE PLACED ON A 3'-0\"/>

THE MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).

7. MISCELLANEOUS
THE BIORETENTION FACILITY MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

DEVELOPER'S/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/WE 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.

David R. Vann 1-25-07
SIGNATURE OF DEVELOPER/BUILDER 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 NOTICED THE DEVELOPER THAT HE 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.

Chris 1-25-07
ENGINEER'S SIGNATURE DATE

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

John 2/1/07
HOWARD SOIL CONSERVATION DISTRICT DATE

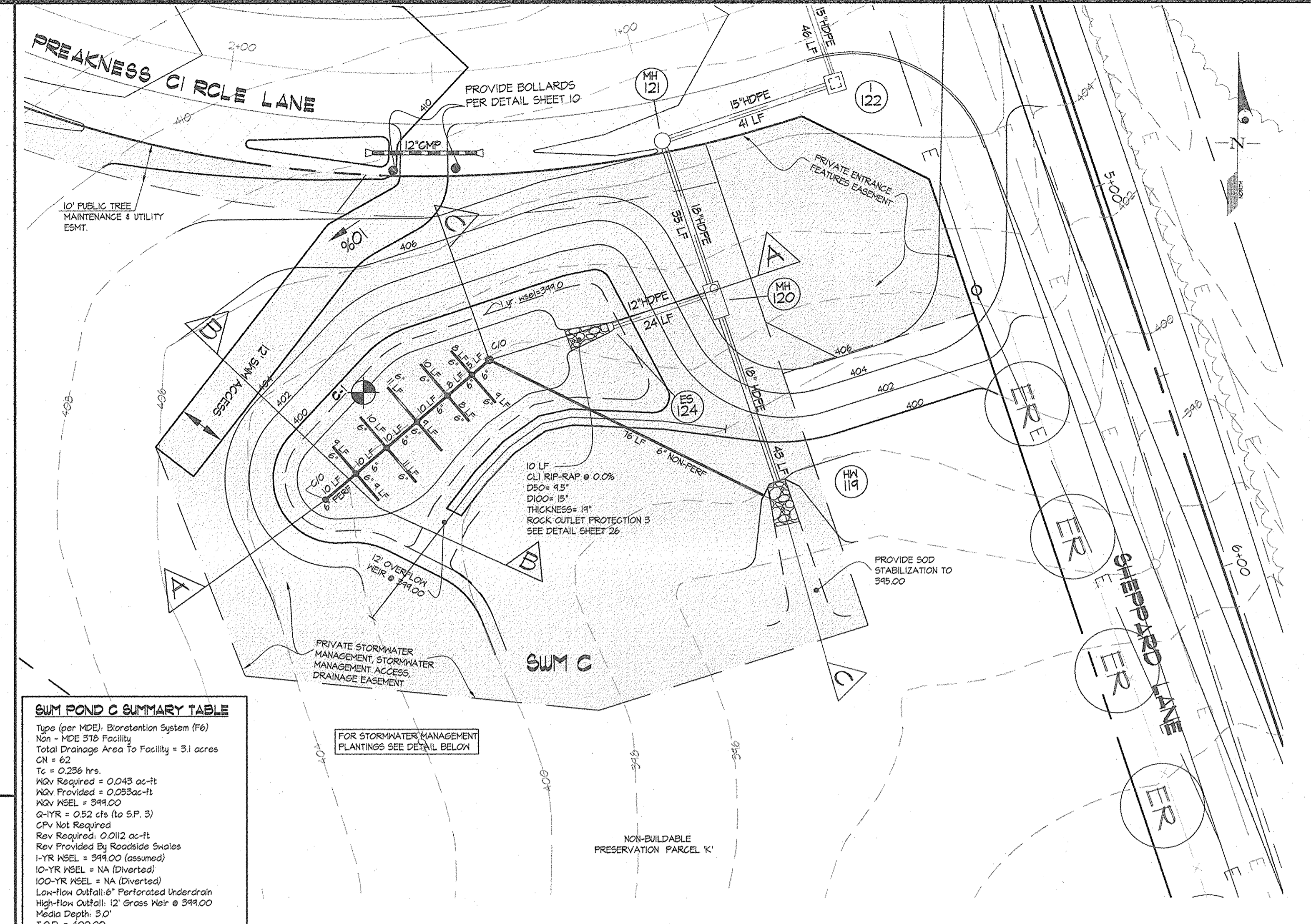
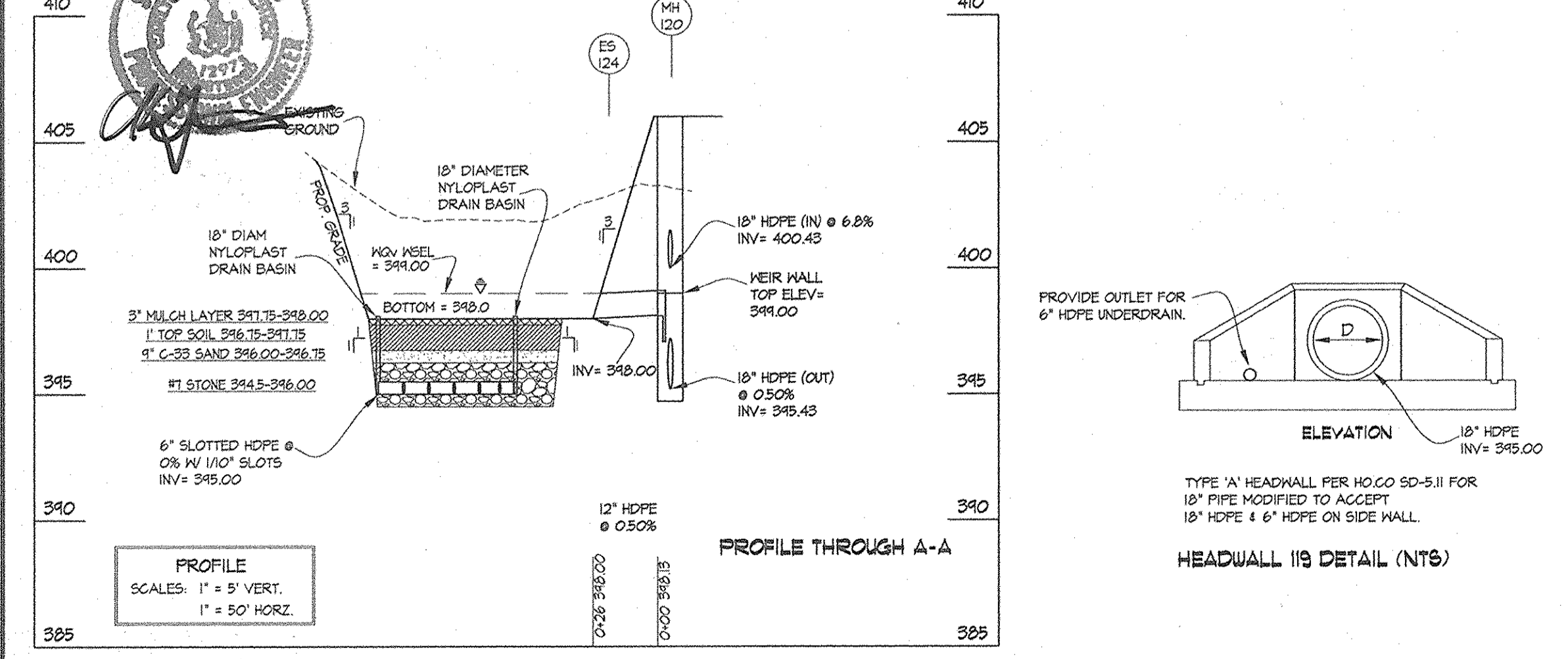
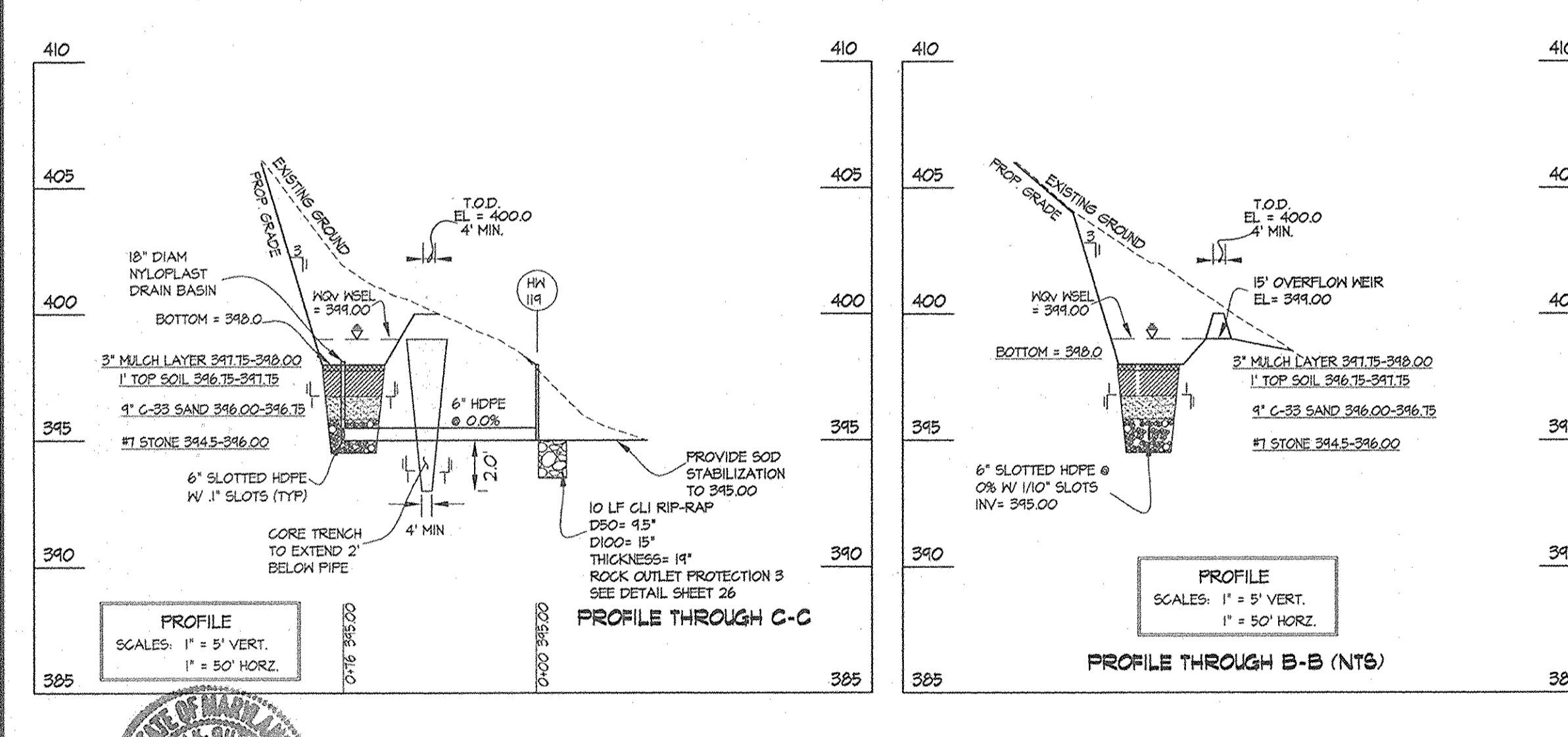
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

Jim 2/1/07
USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William F. ... 2-5-07
Chief, Bureau of Highways Date

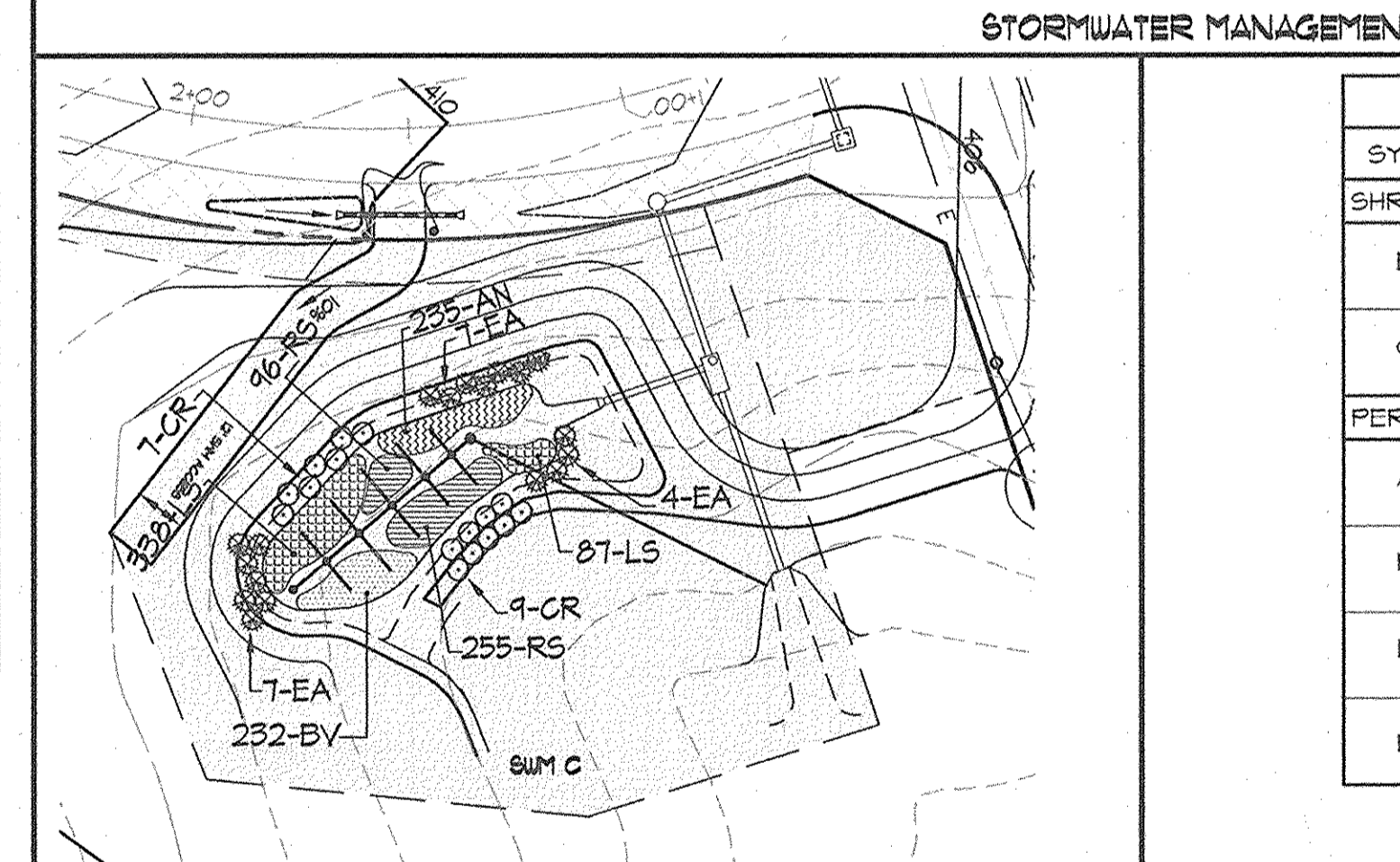
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Carol 2/5/07
Chief, Division of Land Development Date

... 2/1/07
Chief, Development Engineering Division Date



SUM POND C SUMMARY TABLE

Type (per MDE), Bioretention System (F6)
Non - MDE 310 Facility
Total Drainage Area To Facility = 31 acres
CA = 62
Tc = 0.236 hrs.
Mv Required = 0.043 ac-ft
Mv Provided = 0.0236 ac-ft
Mv NSEL = 394.00
0-YR = 0.52 cfs (to S.P. 3)
0-YR Required = 0.012 ac-ft
Rev Provided By Roadside Swales
1-YR NSEL = 394.00 (assumed)
10-YR NSEL = NA (diverted)
100-YR NSEL = NA (diverted)
Low-Flow Outfall: 6\"/>



PLANT LIST FOR STORMWATER MANAGEMENT POND C

| SYMBOL | QTY. | NAMES (BOTANICAL / SCIENTIFIC) | SIZE | NOTES |
|--------------------------------|------|---|--------------|--------|
| SHRUBS | | | | |
| EA | 18 | Elyonimus atropurpureus Eastern Burning Bush | 24\"/> | |
| CR | 16 | Cornus racemosa Gray Dogwood | 24\"/> | |
| PERENNIALS/GROUND COVER | | | | |
| AN | 235 | Aster novi-belgii New York Aster | 1 gal. cont. | 18\"/> |
| RS | 351 | Rudbeckia subtomentosa Cut-leaf Coneflower | 1 gal. cont. | 18\"/> |
| LS | 425 | Labella siphilitica Great Blue Lobelia | 1 gal. cont. | 18\"/> |
| BV | 232 | Verbena hastata Blue Vervain | 1 gal. cont. | 18\"/> |

NOTE: STORMWATER MANAGEMENT POND PLANTINGS ARE PER MDE 2000 REQUIREMENTS. PROVIDE WETLAND SEED MIX PER MDE APPENDIX A.

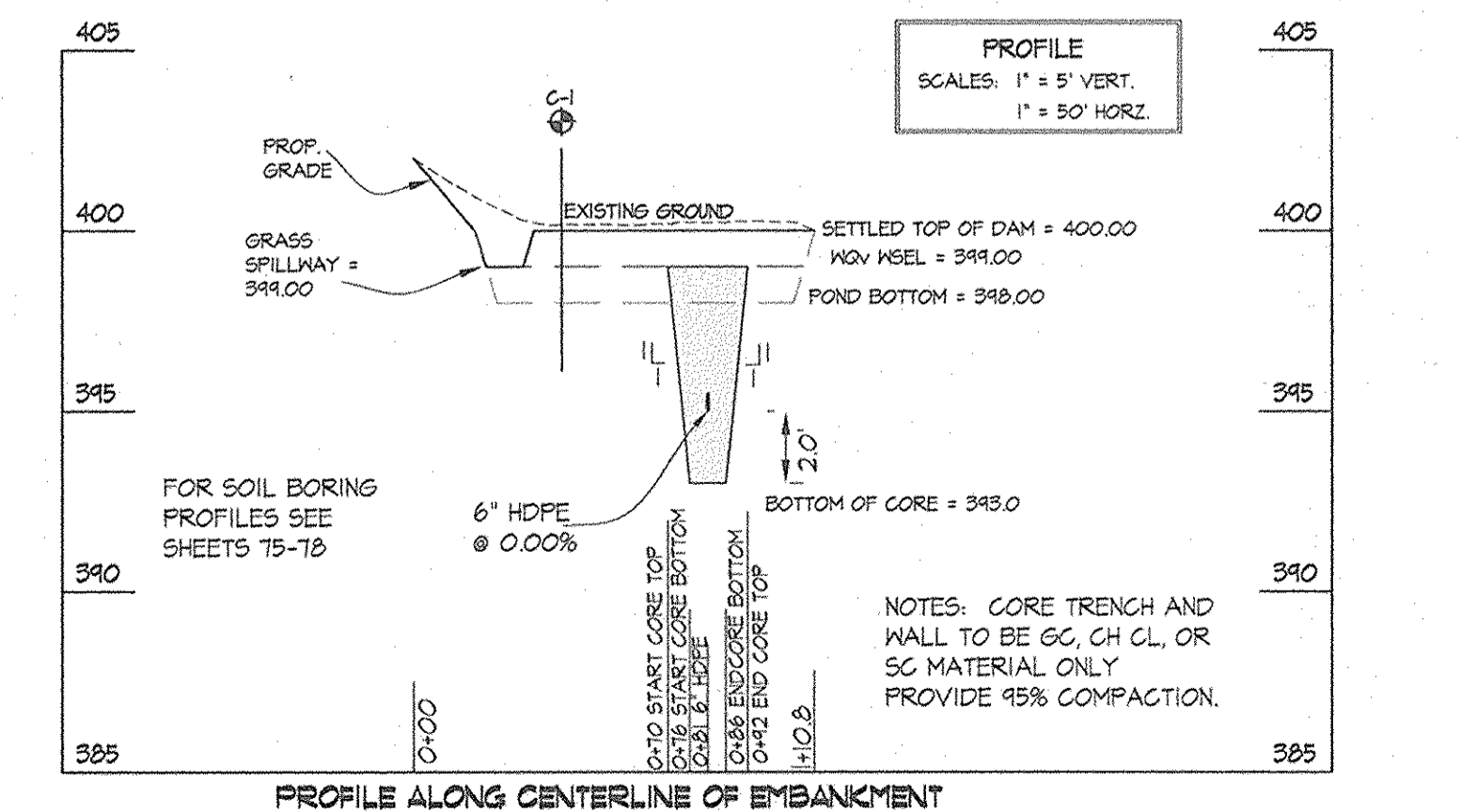
**OPERATION AND MAINTENANCE SCHEDULE
STORMWATER MANAGEMENT FACILITY
POND C**

ROUTINE MAINTENANCE (BY HOA)

- THE FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
- TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOVED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES, THE BOTTOM OF THE POND, AND MAINTENANCE ACCESS SHOULD BE MOVED AS NEEDED.
- DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOVING OPERATIONS AND AS NEEDED.

NON-ROUTINE MAINTENANCE (BY HOA)

- STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
- SEDIMENT SHOULD BE WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERES WITH THE FUNCTION OF THE RISER, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY.



GLWGUTSCHICK 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 BAL: 410-880-1820 DC/VA: 301-589-2524 FAX: 301-421-4186

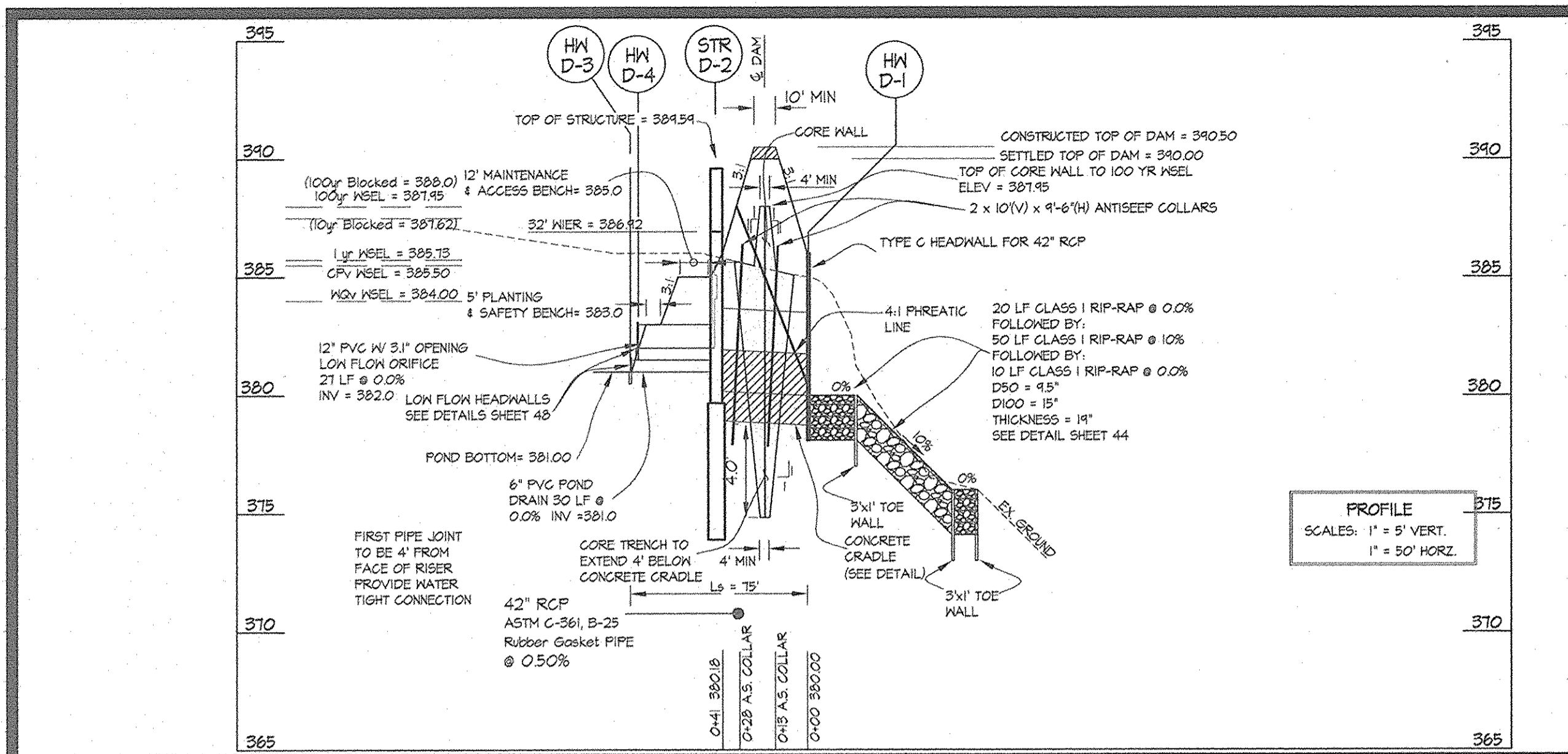
| DATE | REVISION | BY | APP'R. |
|------|----------|----|--------|
| | | | |
| | | | |

PREPARED FOR OWNER
WALNUT GROVE HOLDING, L.L.C.
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DYKE PRESIDENT
10705 CHARTER DRIVE
SUITE 320
COLUMBIA, MARYLAND 21044

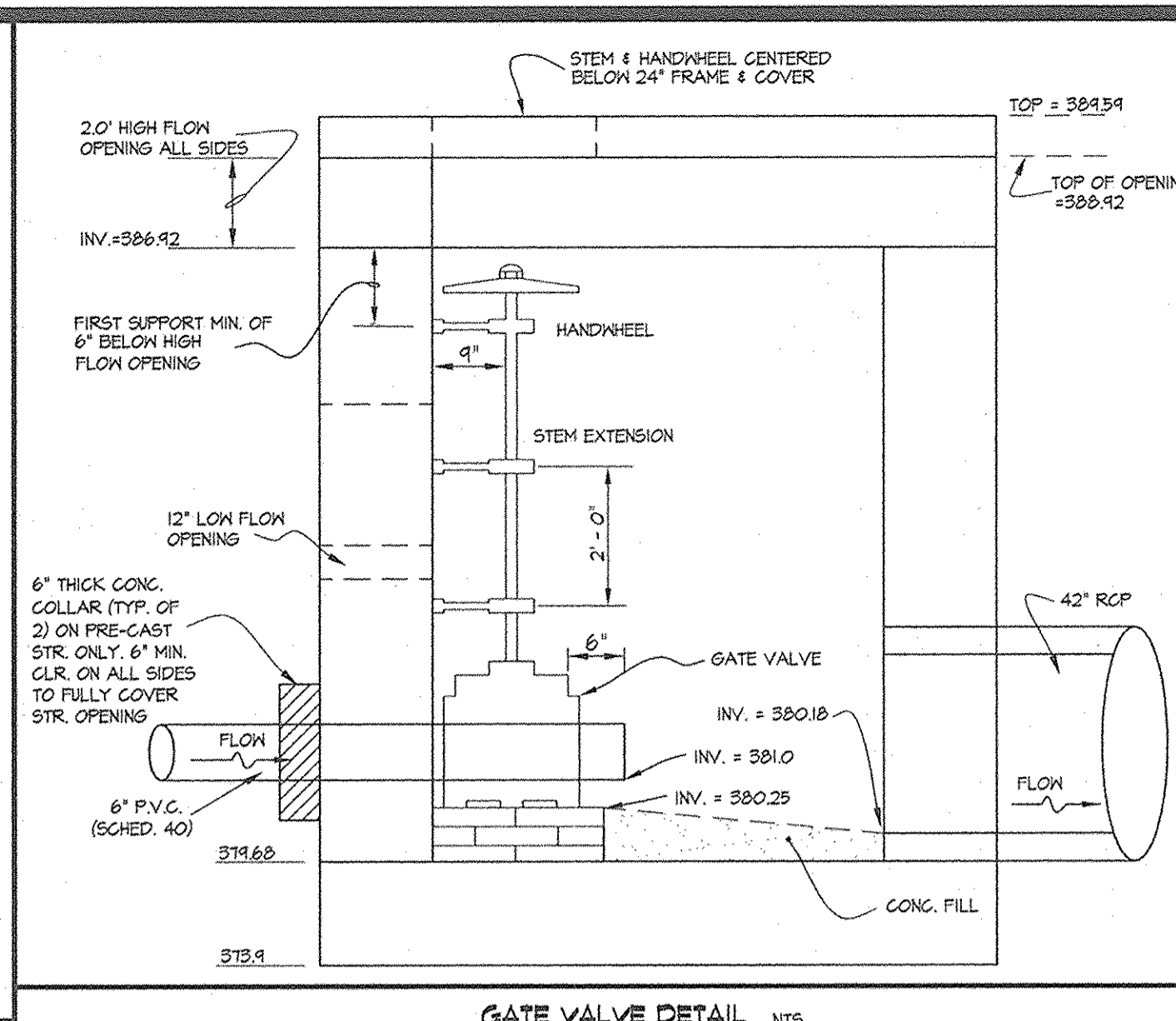
STORMWATER MANAGEMENT POND C DETAILS
WALNUT GROVE
LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A',
NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' & 'N' AND
NON-BUILDABLE BULK PARCEL 'J'
L.2927 FA87

| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|--------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID PARCEL 74 | SHEET |
| JAN./2007 | 28 - 18,17 | 42 OF 78 |

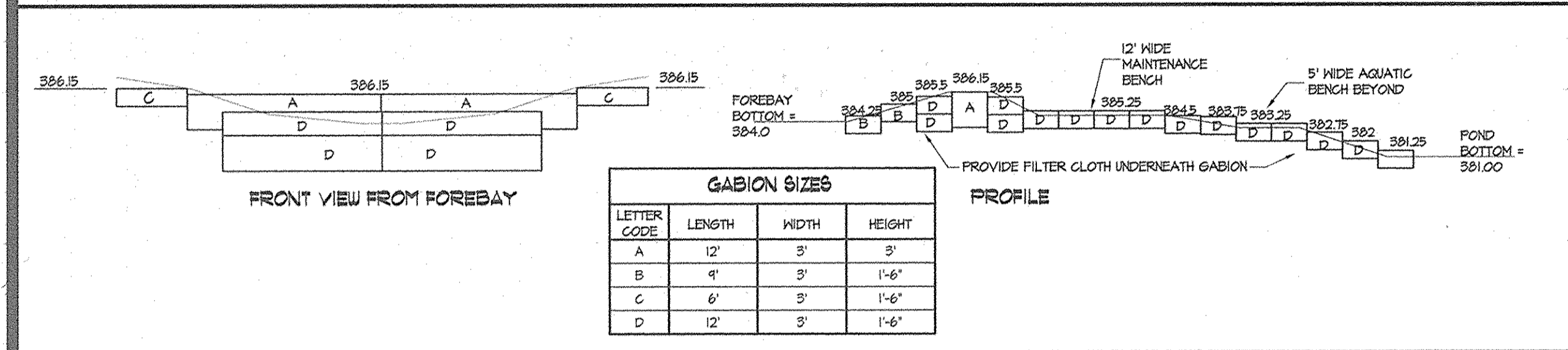
ELECTION DISTRICT No. 5
HOWARD COUNTY, MARYLAND



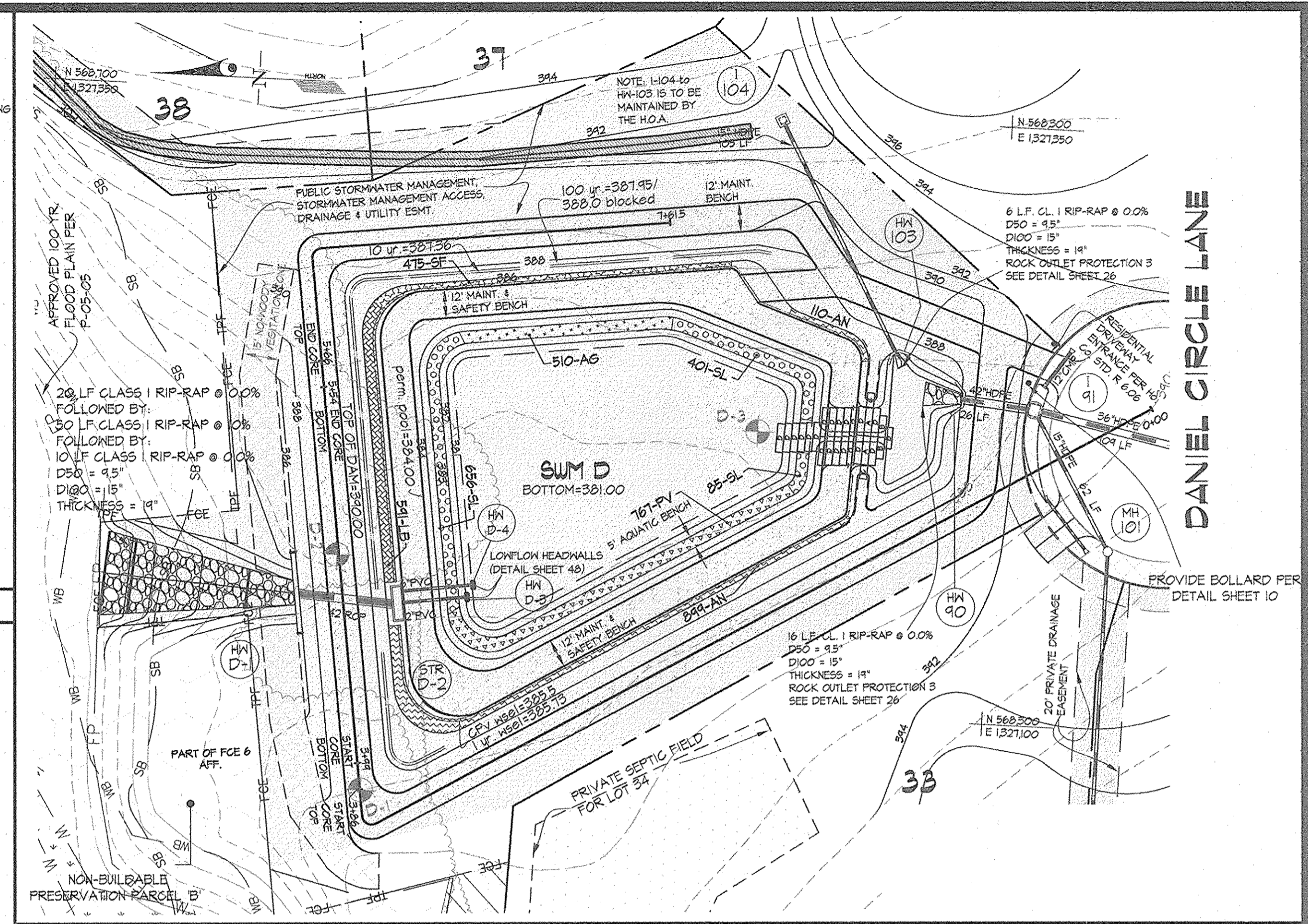
PROFILE THROUGH PRINCIPLE SPILLWAY



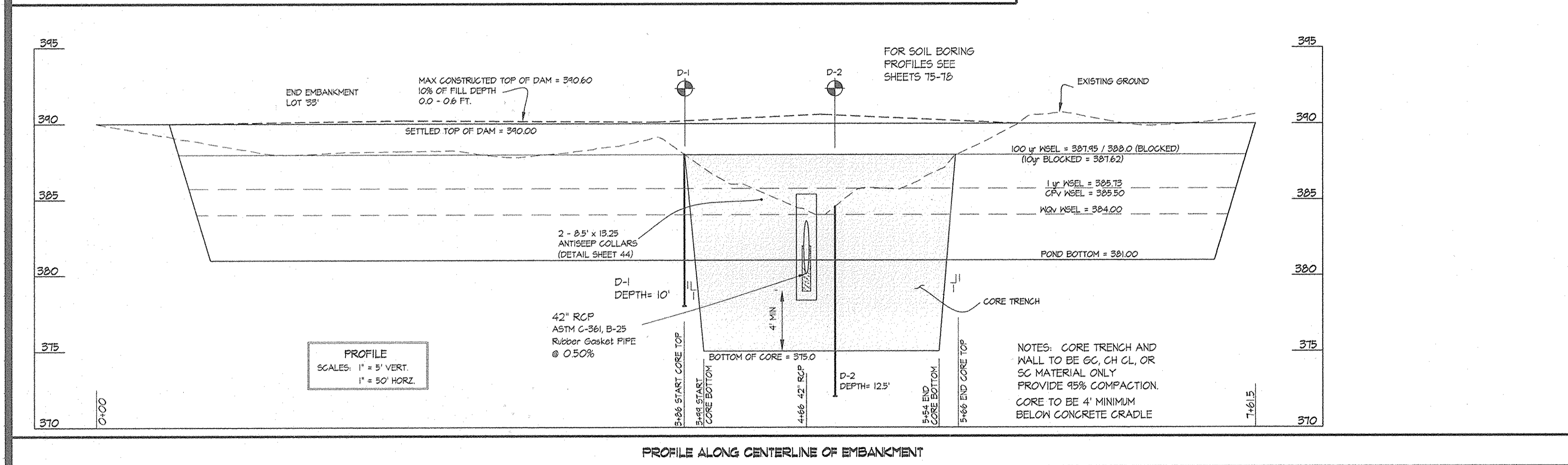
GATE VALVE DETAIL NTS



GABION DETAILS NTS



STORMWATER MANAGEMENT POND 'D' ENLARGEMENT / PLANTING PLAN SCALE: 1" = 40'



PROFILE ALONG CENTERLINE OF EMBANKMENT

SUM FACILITY 'D' IS TO BE MAINTAINED JOINTLY BY HO. CO. & HOA

OPERATION AND MAINTENANCE SCHEDULE OF JOINTLY MAINTAINED STORMWATER MANAGEMENT FACILITY

ROUTINE MAINTENANCE (BY HOA)

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

NON-ROUTINE MAINTENANCE (BY HOWARD COUNTY)

1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
2. SEDIMENT SHOULD BE WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERES WITH THE FUNCTION OF THE RISER, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY BY HOWARD COUNTY'S DEPARTMENT OF PUBLIC WORKS.

PLANT LIST FOR STORMWATER MANAGEMENT POND 'D'

| SYMBOL | QTY. | NAMES (BOTANICAL / SCIENTIFIC) | SIZE | NOTES |
|--------|------|---|--------------|----------|
| AG | 510 | Andropogon glomeratus Bushy Beardgrass | 1 gal. cont. | 18" o.c. |
| PV | 767 | Peltandra virginica Arrow Arum | 1 gal. cont. | 18" o.c. |
| SL | 1142 | Sagittaria latifolia Duck Potato | 1 gal. cont. | 18" o.c. |
| AN | 1009 | Aster novi-belgii New York Aster | 1 gal. cont. | 18" o.c. |
| SF | 475 | Cyperus filicinus Slender Flatsedge | 1 gal. cont. | 18" o.c. |
| LB | 591 | Poa alpigena Low Bluegrass | 1 gal. cont. | 18" o.c. |

NOTE: STORMWATER MANAGEMENT POND PLANTINGS ARE PER MDE 2000 REQUIREMENTS PROVIDE NETLAND SEED MIX PER MDE APPENDIX A.

SUM POND D SUMMARY TABLE

Type (per MDE) : Net Extended Detention Pond (P5)
 MDE 519 Hazard Class A
 Total Drainage Area to Facility = 34.3 acres
 Proposed Drainage Area Treated = 25.0 acres
 CN = 66 Tc = 0.327 hrs.
 MGV Required = 0.48 ac-ft
 MGV Provided = 1.01 ac-ft
 MGV/Permanent Pool (NSL) = 384.00
 CPV Required = 0.18 ac-ft
 CPV Provided = 0.80 ac-ft
 CPV (NSL) = 395.5
 Rev Required = 0.11 ac-ft
 Rev Provided By Roadside Swales & Discarded From MGV
 1-YR (Q proposed = 0.326 cfs) (NSL) = 385.73
 10-YR Normal (Qp = 59.25 cfs) (NSL) = 381.25
 10-YR Blocked (Qp = 60.0 cfs) (NSL) = 381.62
 100-YR Normal (Qp = 105.88 cfs) (NSL) = 381.45
 10-YR Blocked (Qp = 111.8) (NSL) = 388.00
 5 ft Aquatic Bench = 389.00
 2 ft Safety/Maintenance Bench = 389.00
 Outfall Precast Riser Structure to 42 RCP
 T.O.D. = 340.00

**HOWARD SOIL CONSERVATION DISTRICT
OPERATION, MAINTENANCE, AND INSPECTION NOTE**

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN THE US DASC'S "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-312). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William F. ... 3-5-07
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chris ... 2/10/07
 Chief, Division of Land Development

DEVELOPER'S/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.

Robert Van Dyke 1-25-07
 SIGNATURE OF DEVELOPER/BUILDER 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.

Jim ... 2/10/07
 SIGNATURE OF ENGINEER DATE

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

Jim ... 2/10/07
 USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

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

Jim ... 2/10/07
 HOWARD SOIL CONSERVATION DISTRICT DATE

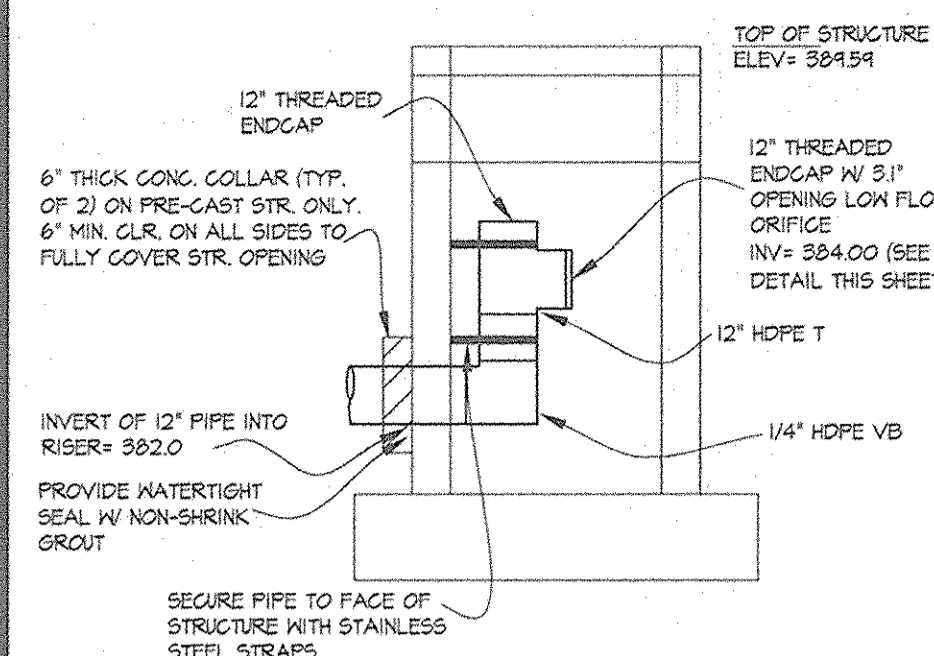
GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BAL: 410-880-1620 DC/VA: 301-989-2524 FAX: 301-421-4166

| DATE | REVISION | BY | APPR. |
|------|----------|----|-------|
| | | | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

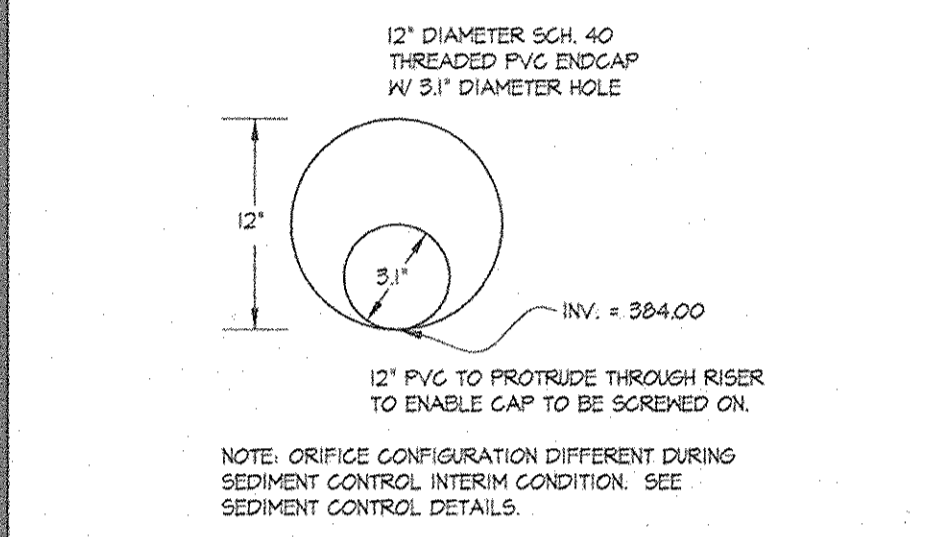
STORMWATER MANAGEMENT POND D DETAILS
WALNUT GROVE
 LOTS 1 THRU 88, BULDBLE PRESERVATION PARCEL 'A',
 NON-BULDBLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND
 NON-BULDBLE BULK PARCEL 'J'
 ELECTION DISTRICT No. 5
 L.2927 F.487
 HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 43 OF 78 |



DEWATERING DEVICE DETAIL

NTS



SUM LOW-FLOW ORIFICE DETAIL

NTS

DEVELOPER & 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."

William R. V... M... 1-25-07
SIGNATURE OF DEVELOPER/BUILDER 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."

CKG 1-25-07
ENGINEER'S SIGNATURE DATE

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

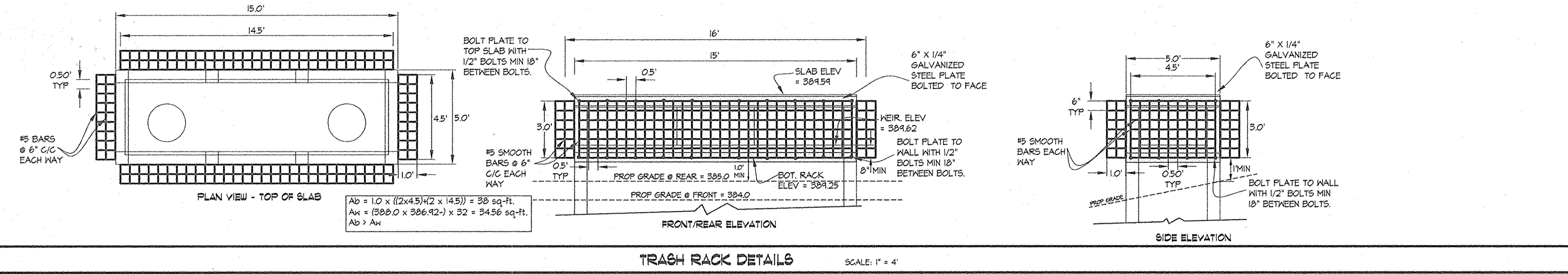
[Signature] 2/1/07
HOWARD SOIL CONSERVATION DISTRICT DATE

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

[Signature] 2/1/07
USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

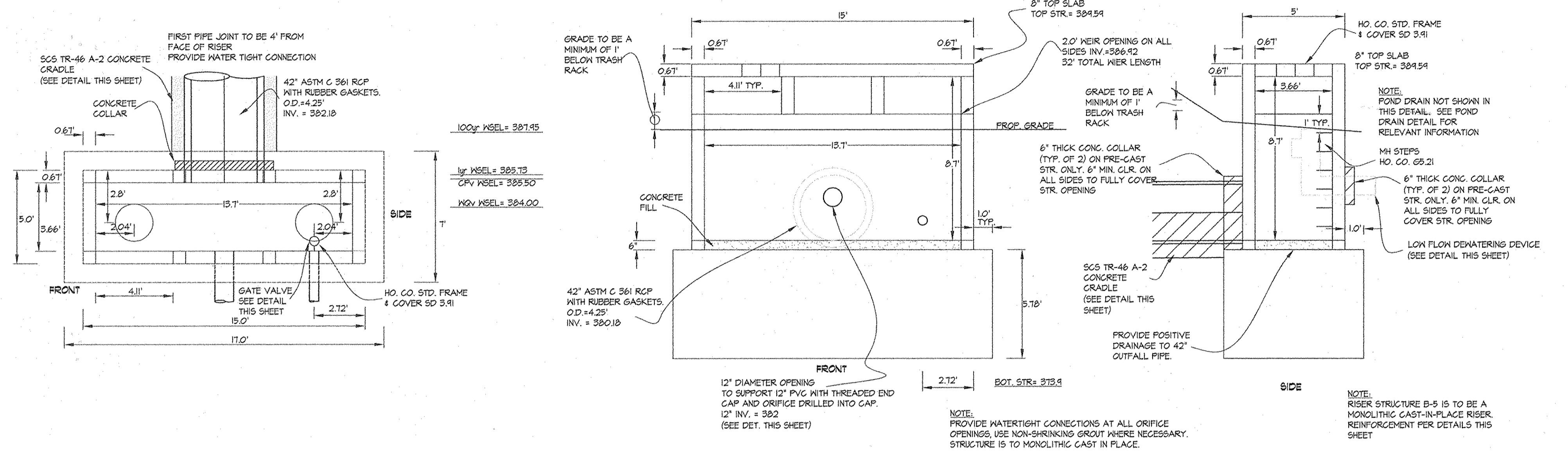
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William F. ... 2-5-07
Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Conda Hand 2/1/07
Chief, Division of Land Development Date



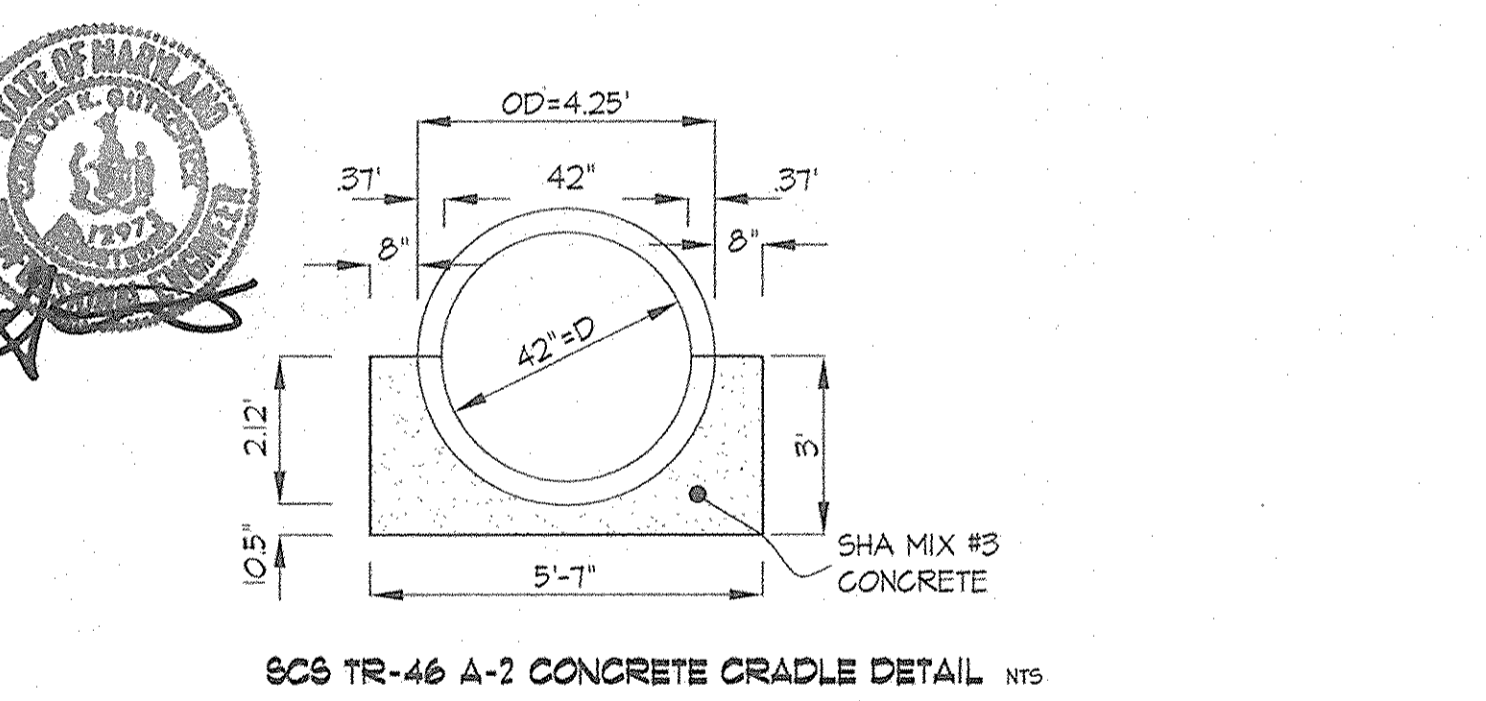
TRASH RACK DETAILS

SCALE: 1" = 4'



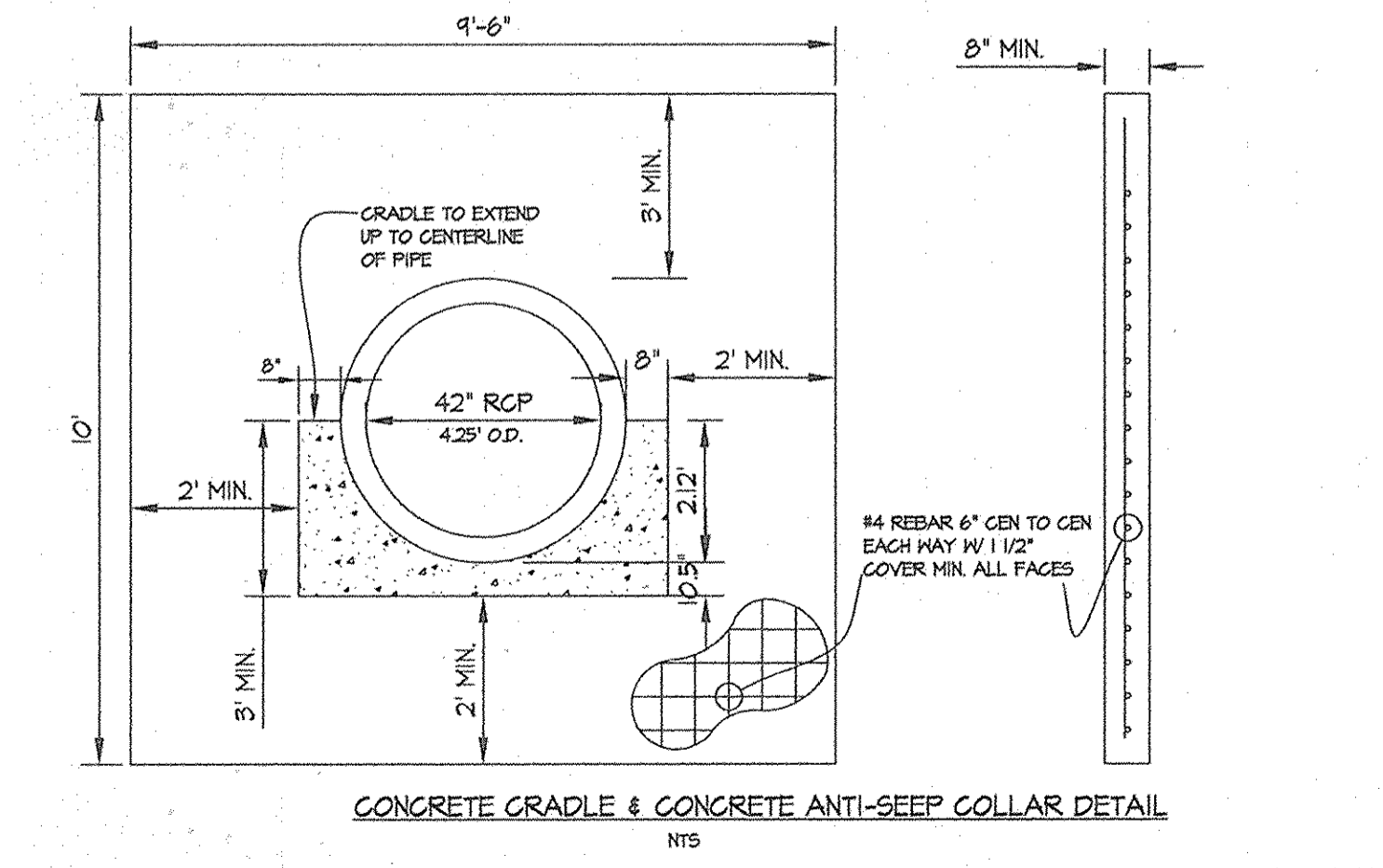
RISER STRUCTURE DETAILS

SCALE: 1" = 4'



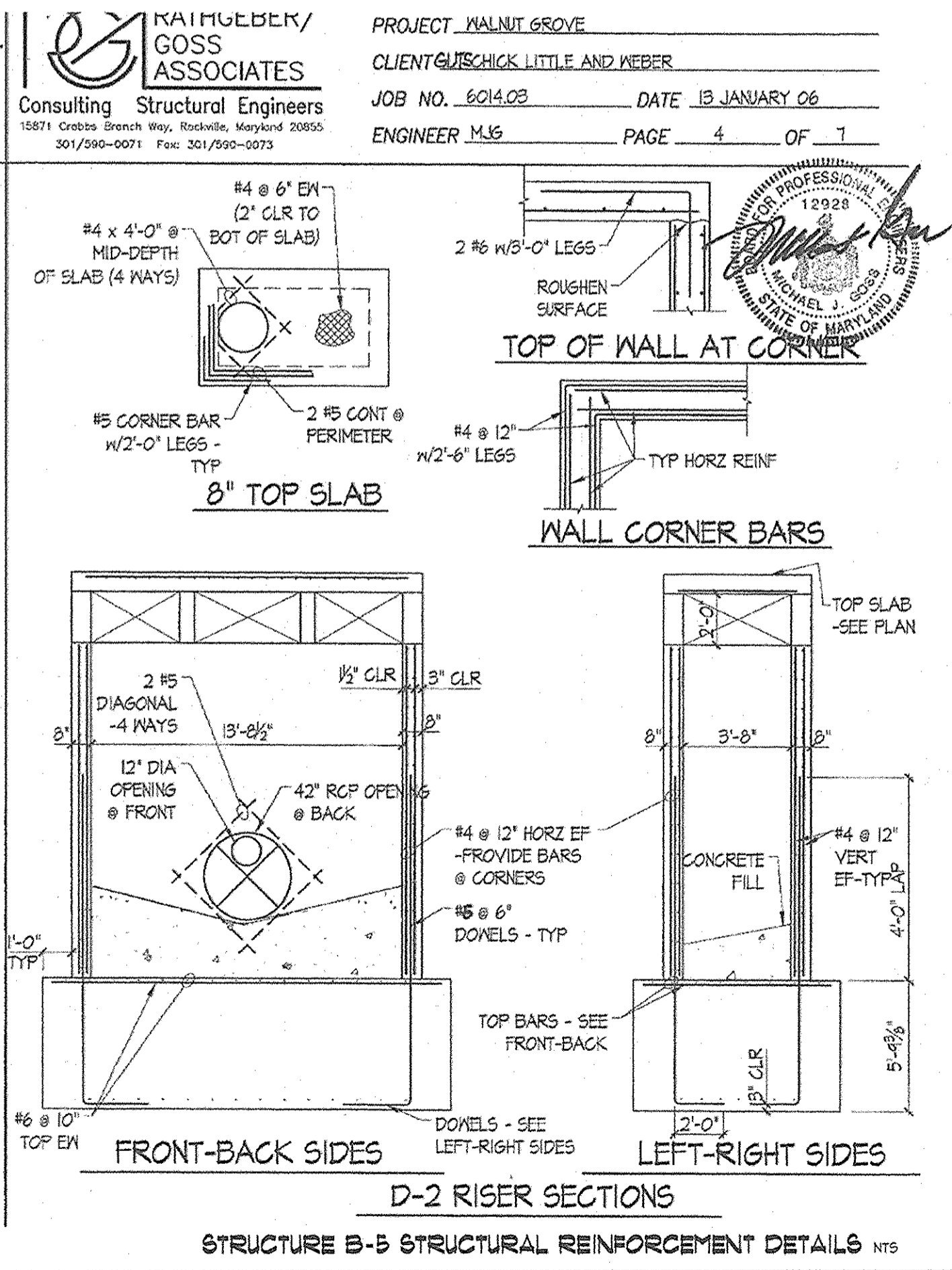
SCS TR-46 A-2 CONCRETE CRADLE DETAIL

Note: Asphalt joint filler material shall be applied between all concrete surfaces. (except between the pipe and cradle)



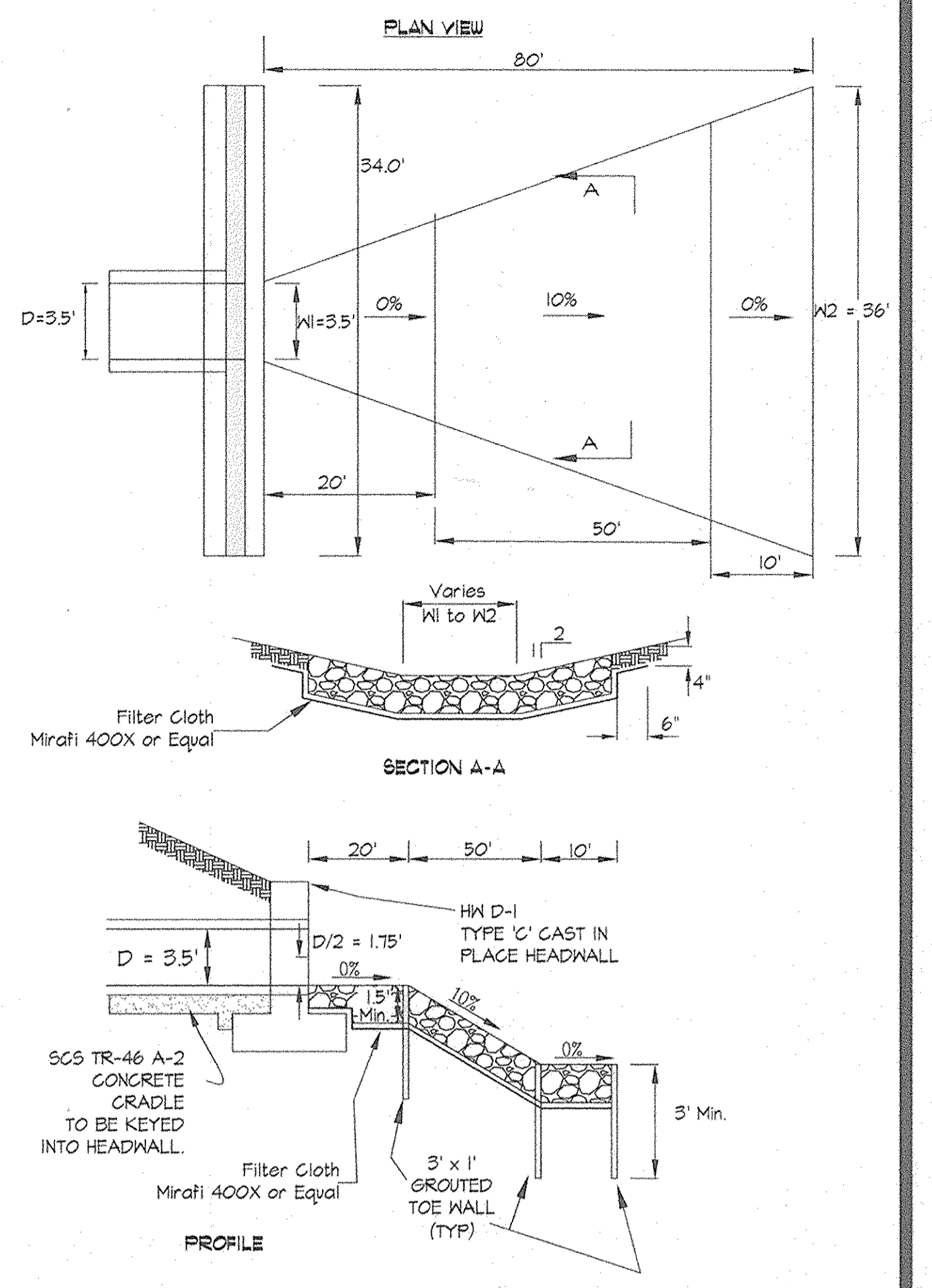
CONCRETE CRADLE & CONCRETE ANTI-SEEP COLLAR DETAIL

NTS



STRUCTURE B-5 STRUCTURAL REINFORCEMENT DETAILS

NTS

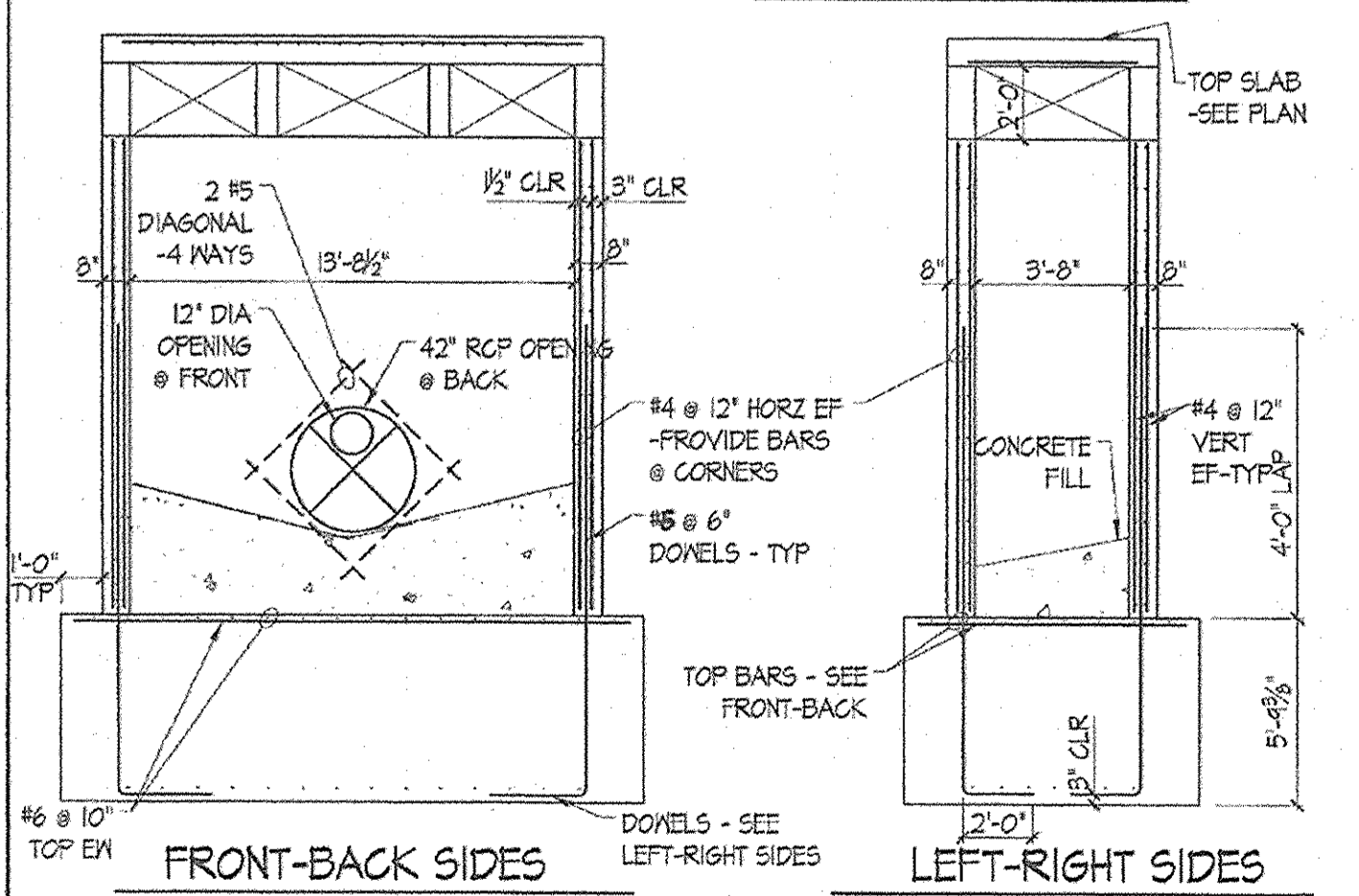
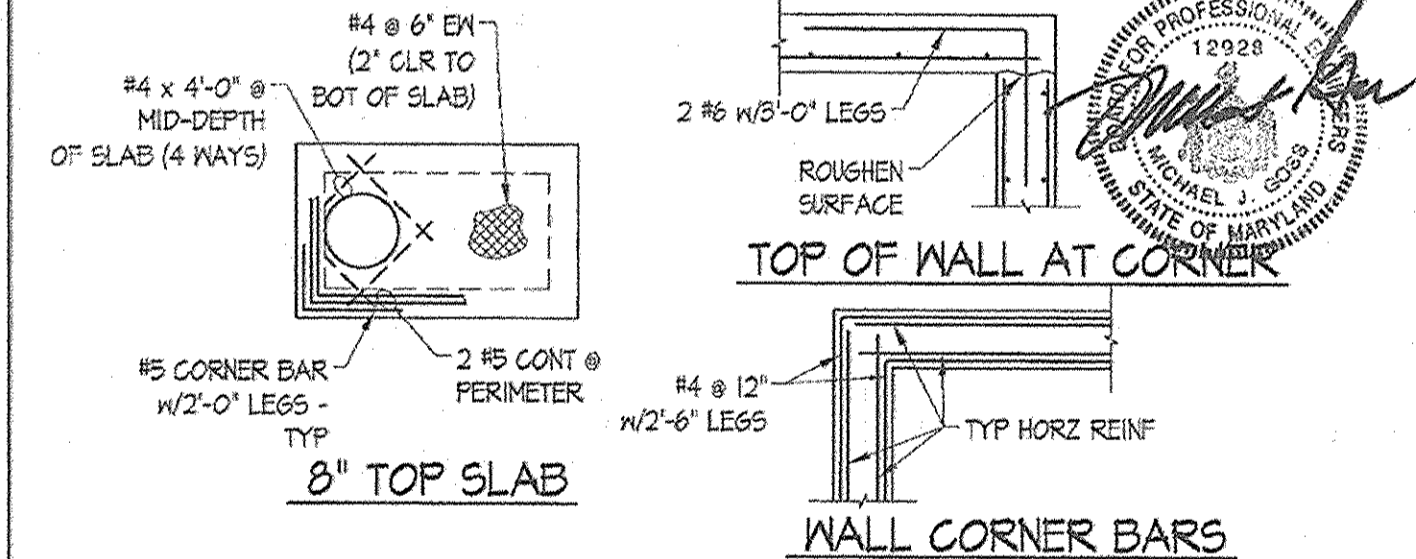


OUTLET PROTECTION DETAILS (HW D-1)

NTS

KATHGEBER/GOSS ASSOCIATES
Consulting Structural Engineers
18011 Crabo Branch Way, Rockville, Maryland 20850
301/590-0071 Fax: 301/590-0073

PROJECT: WALNUT GROVE
CLIENT: GUTSCHICK LITTLE AND WEBER
JOB NO. 6014.03 DATE 13 JANUARY 06
ENGINEER: MJS PAGE 4 OF 7



D-2 RISER SECTIONS

GLWGUTSCHICK 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 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

Drawings\00153\Final-Road\00153SW-det-D.dwg DES. BJM DRN. BJM CHK. DDS

| DATE | REVISION | BY | APP'R |
|------|----------|----|-------|
| | | | |

PREPARED FOR OWNER
WALNUT GROVE HOLDING, L.L.C.
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DYKE, PRESIDENT
10708 CHARTER DRIVE
SUITE 300
COLUMBIA, MARYLAND 21044

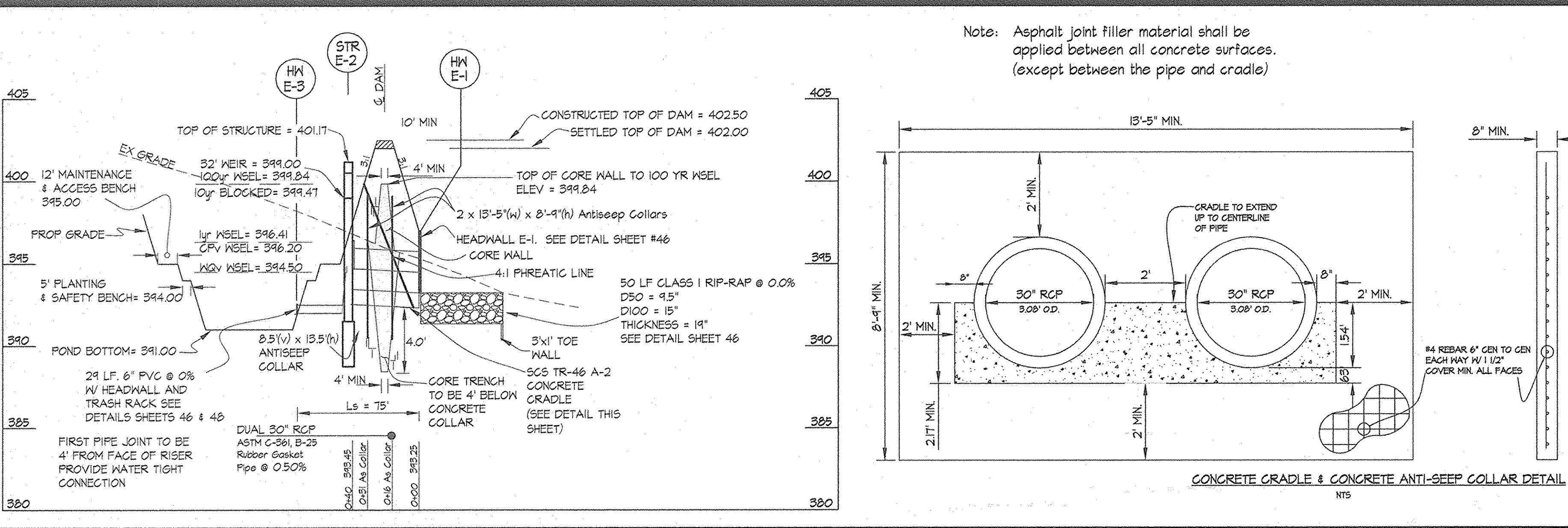
STORMWATER MANAGEMENT POND D DETAILS

WALNUT GROVE
LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A';
NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' & 'L' & 'L' & 'L'
NON-BUILDABLE BULK PARCEL 'J'

ELECTION DISTRICT No. 5

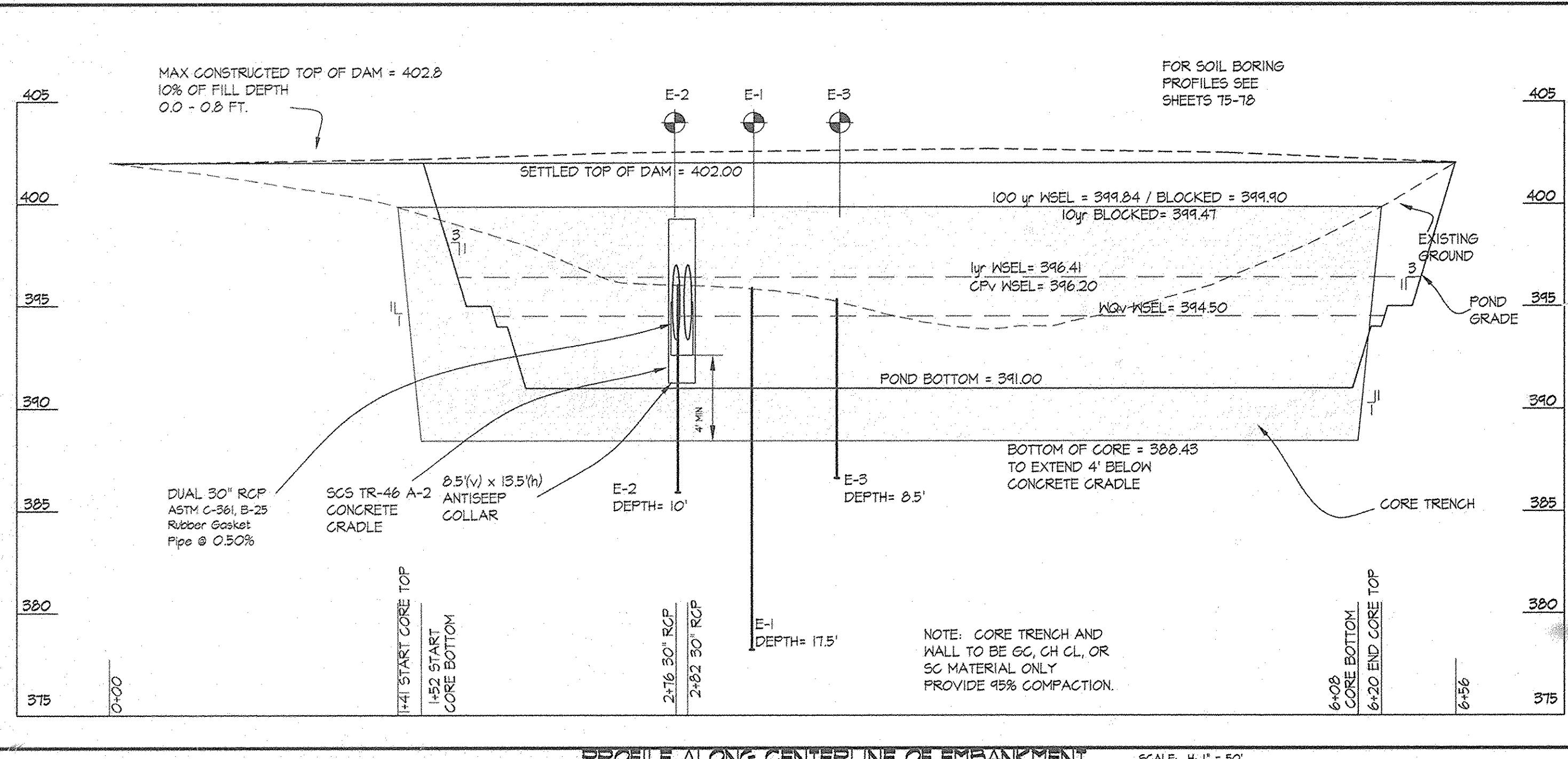
| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|-------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 44 OF 78 |

F-06-31



PROFILE THROUGH PRINCIPLE SPILLWAY

SCALE: H: 1" = 50'
V: 1" = 5'

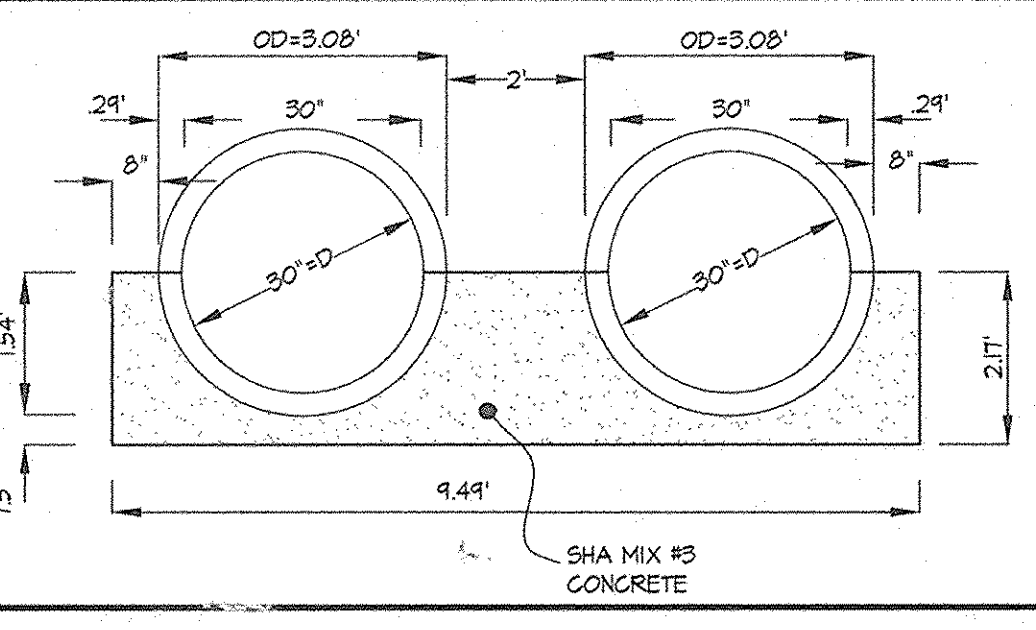


PROFILE ALONG CENTERLINE OF EMBANKMENT

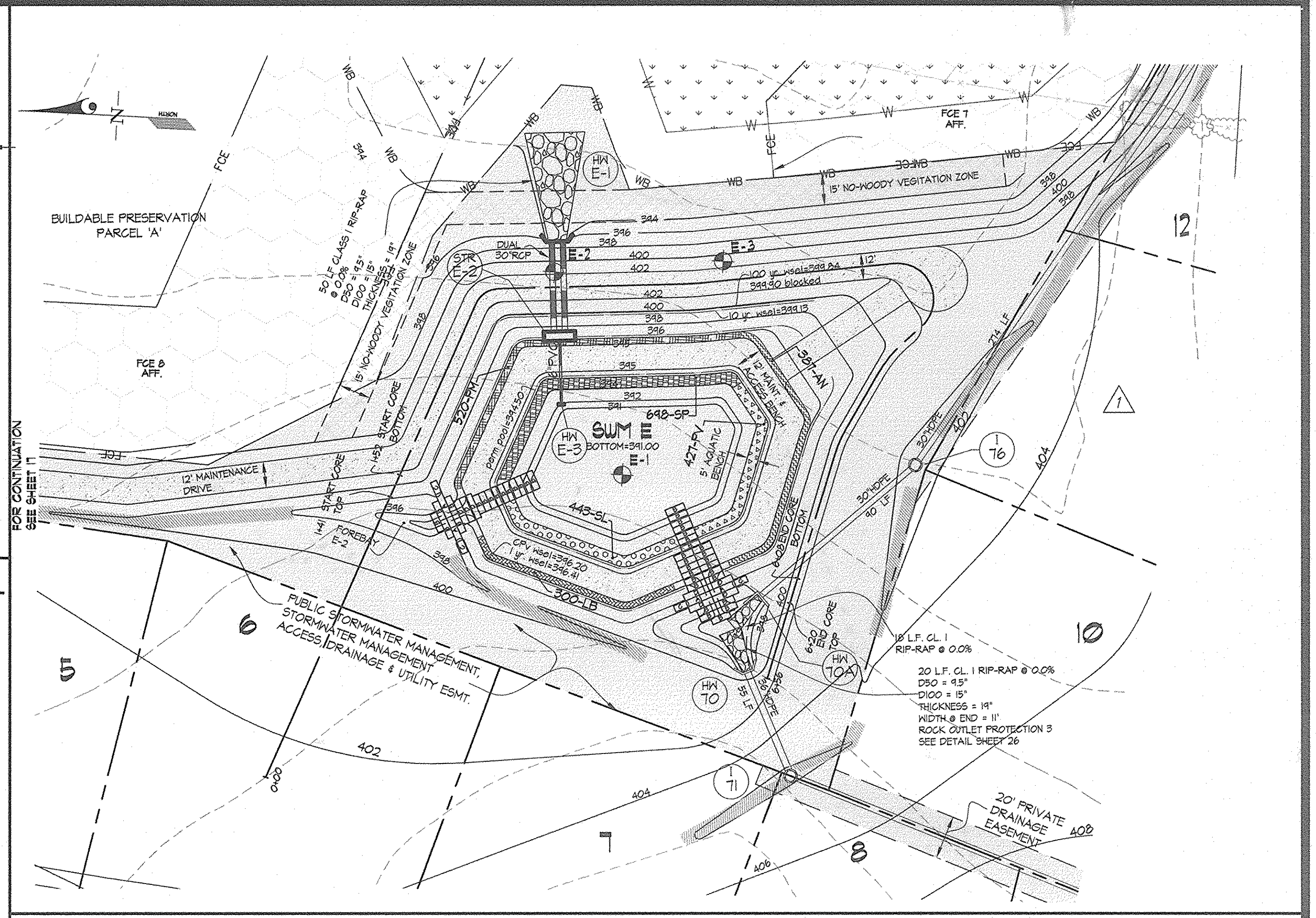
SCALE: H: 1" = 50'
V: 1" = 5'

SUM POND E SUMMARY TABLE

Type (per MDE): Wet Extended Detention Pond (WEDP)
MDE 37B Hazard Class A
Total Drainage Area to Facility = 28.9 acres
Proposed Drainage Area Treated = 16.6 acres
CN = 69
Tc = 0.364 hrs.
Mv Required = 0.32 ac-ft
Mv Provided = 0.48 ac-ft
Mv/Permanent Pool MSEL = 344.5
CPV Required = 0.35 ac-ft
CPV Provided = 0.78 ac-ft
CPV MSEL = 346.12
Rev Provided By Roadside Swales & Discounted From Mv
1-YR (Op = 0.28 cfs) (MSEL = 346.12)
10-YR Normal (Op = 19.31 cfs) (MSEL = 349.14)
100-YR Blocked (Op = 50.80 cfs) (MSEL = 349.51)
100-YR Normal (Op = 64.68 cfs) (MSEL = 349.90)
10-YR Blocked (Op = 45.01 cfs) (MSEL = 349.96)
5 ft. Aquatic Bench = 344.00
12 ft. Safety/Maintenance Bench = 345.00
Outfall: Precast Riser Structure dual to 30" RCP
T.O.P. = 402.00



SCS TR-46 A-2 CONCRETE CRADLE DETAIL



STORMWATER MANAGEMENT POND 'E' ENLARGEMENT / PLANTING PLAN

SCALE: 1" = 40'

HOWARD SOIL CONSERVATION DISTRICT
OPERATION, MAINTENANCE, AND INSPECTION NOTE

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN THE USDA/SCS STANDARDS AND SPECIFICATIONS FOR PONDS (MD-37B). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

SUM FACILITY 'E' IS TO BE MAINTAINED JOINTLY BY HO. CO. & HOA

OPERATION AND MAINTENANCE SCHEDULE OF JOINTLY MAINTAINED STORMWATER MANAGEMENT FACILITY

ROUTINE MAINTENANCE (BY HOA)

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

NON-ROUTINE MAINTENANCE (BY HOWARD COUNTY)

1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
2. SEDIMENT SHOULD BE WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERES WITH THE FUNCTION OF THE RISER, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY BY HOWARD COUNTY'S DEPARTMENT OF PUBLIC WORKS.

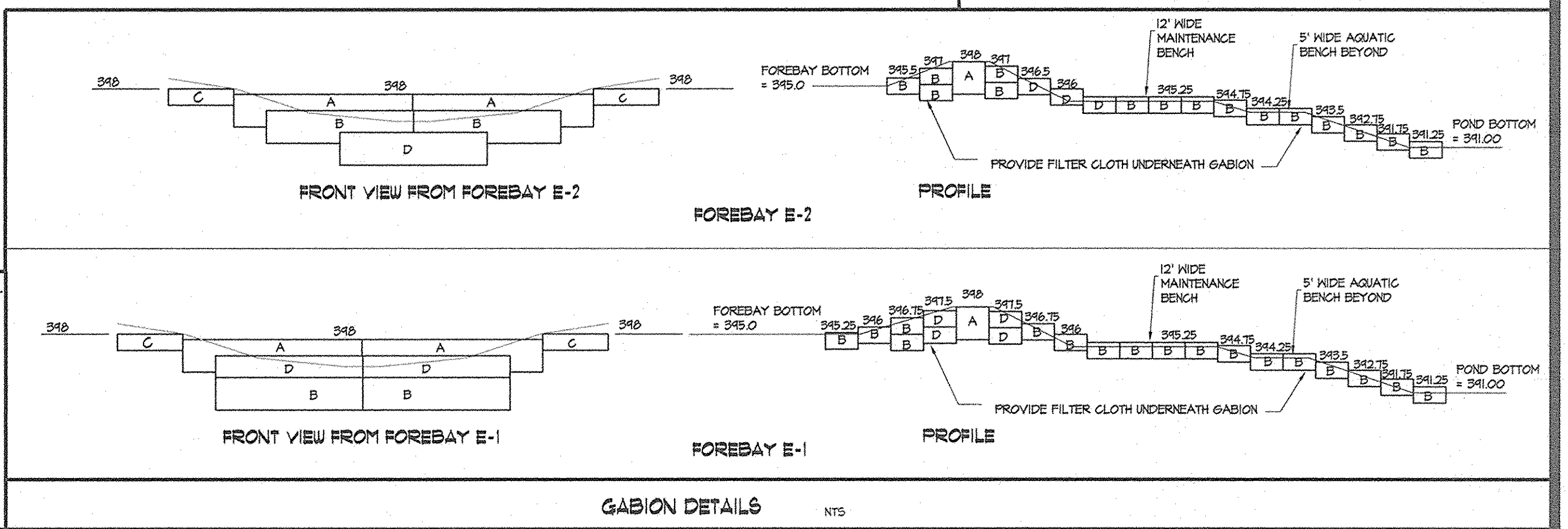
PLANT LIST FOR STORMWATER MANAGEMENT POND 'E'

| SYMBOL | QTY. | NAMES (BOTANICAL / SCIENTIFIC) | SIZE | NOTES |
|--------------------------------|------|---|--------------|----------|
| PERENNIALS/GROUND COVER | | | | |
| SP | 698 | Scirpus pungens Three-square Bulrush | 1 gal. cont. | 18" o.c. |
| PV | 427 | Peltandra virginica Arrow Arum | 1 gal. cont. | 18" o.c. |
| SL | 443 | Sagittaria latifolia Duck Potato | 1 gal. cont. | 18" o.c. |
| AN | 387 | Aster novi-belgii New York Aster | 1 gal. cont. | 18" o.c. |
| PM | 520 | Phlox maculata Meadow Phlox | 1 gal. cont. | 18" o.c. |
| LB | 300 | Poa alpigena Low Bluegrass | 1 gal. cont. | 18" o.c. |

NOTE: STORMWATER MANAGEMENT POND PLANTINGS ARE PER MDE 2000 REQUIREMENTS. PROVIDE WETLAND SEED MIX PER MDE APPENDIX A.

GABION SIZES

| LETTER CODE | LENGTH | WIDTH | HEIGHT |
|-------------|--------|-------|--------|
| A | 12' | 3' | 3' |
| B | 4' | 3' | 1'-6" |
| C | 6' | 3' | 1'-6" |
| D | 12' | 3' | 1'-6" |



REVISED STORMWATER MANAGEMENT POND E DETAILS

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|--------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID PARCEL 74 | SHEET |
| NOV./2007 | 28 - 18.17 | 45 OF 78 |

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. 12475, Expiration Date May 26, 2006.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 With 2.06.07
 Chief, Bureau of Highways
 Date: 12-3-07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Cindy Hunsat
 Chief, Division of Land Development
 Date: 12/5/07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Date: 12/5/07

DEVELOPER'S/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.

11/15/07
 SIGNATURE OF DEVELOPER/BUILDER

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.

11-14-07
 SIGNATURE OF ENGINEER

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

USDA - NATURAL RESOURCES CONSERVATION SERVICE

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

HOWARD SOIL CONSERVATION DISTRICT

4/29/07
 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: 301-589-2524 FAX: 301-421-4186

11/16/07
 DATE

11/16/07
 RUNNING FENCE LANE LOWERED AND STORM DRAIN ADDED AT NEW LOW POINT

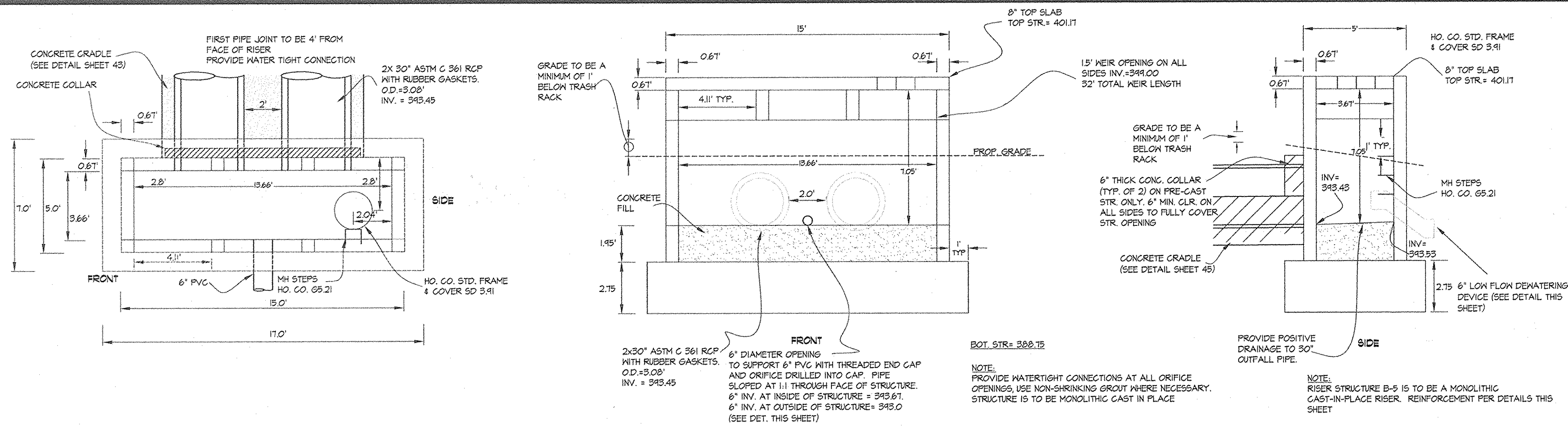
| DATE | REVISION | BY | APPR. |
|----------|---|-----|-------|
| 11/16/07 | RUNNING FENCE LANE LOWERED AND STORM DRAIN ADDED AT NEW LOW POINT | DDS | APPR. |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, LLC
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10755 QUARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

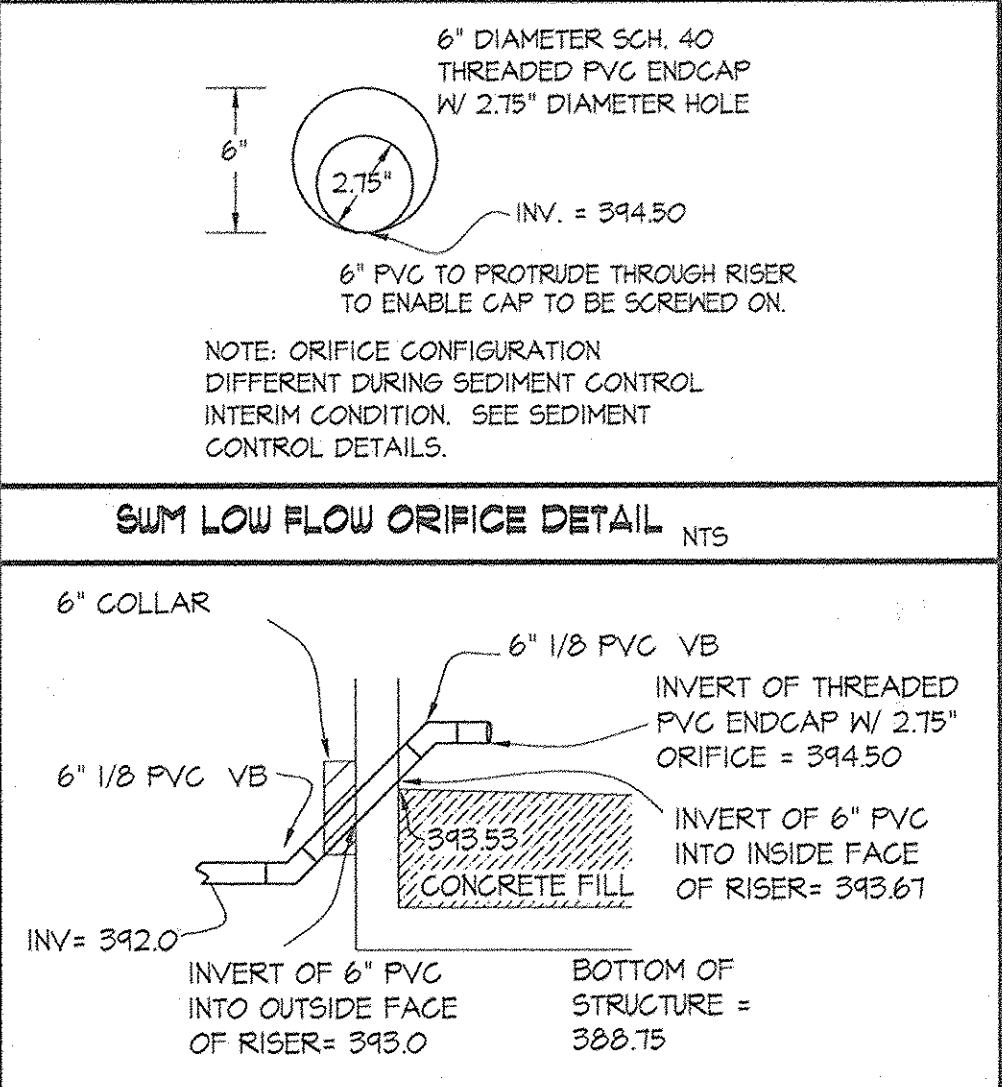
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L.2927 F.487

ELECTION DISTRICT No. 5

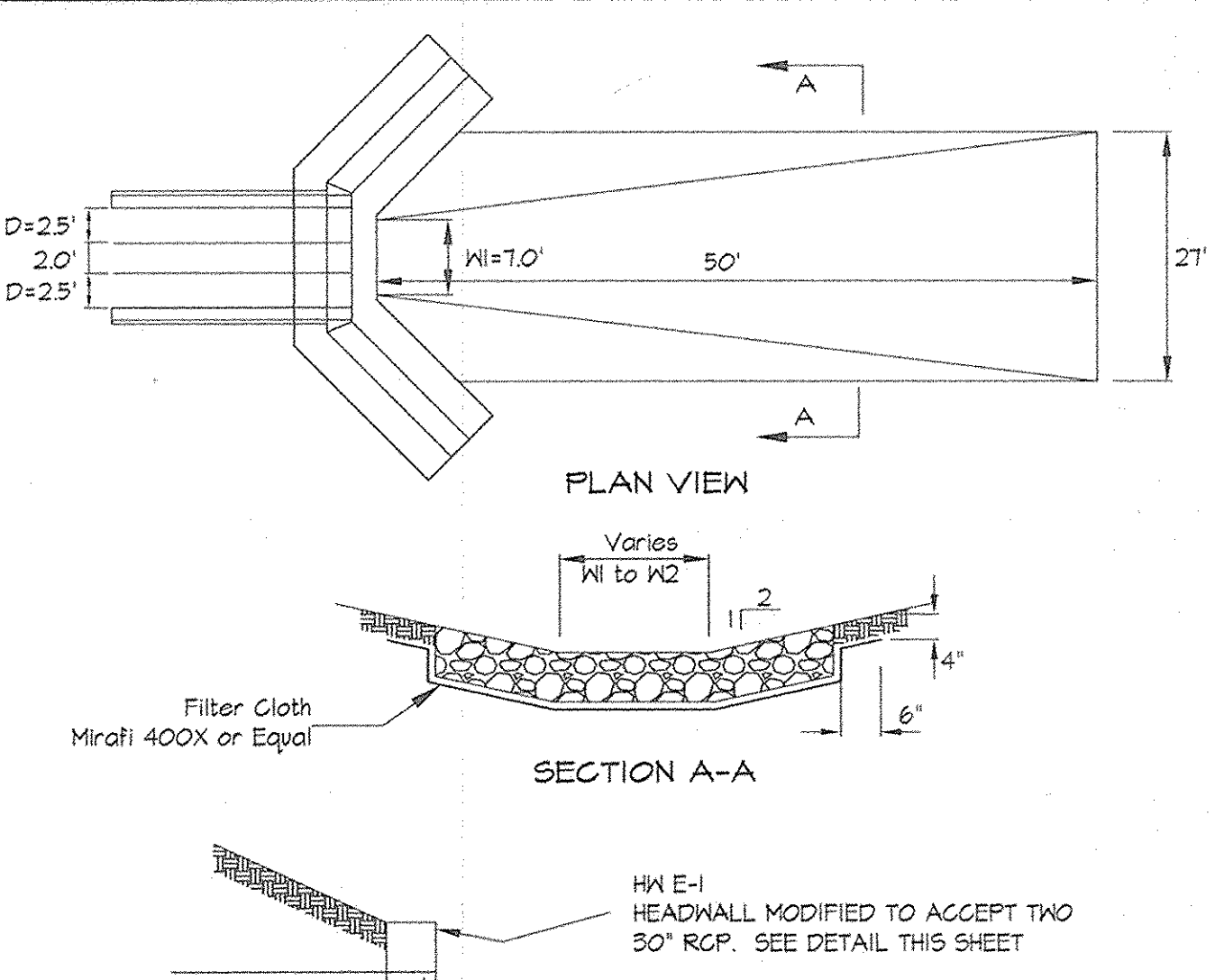
HOWARD COUNTY, MARYLAND



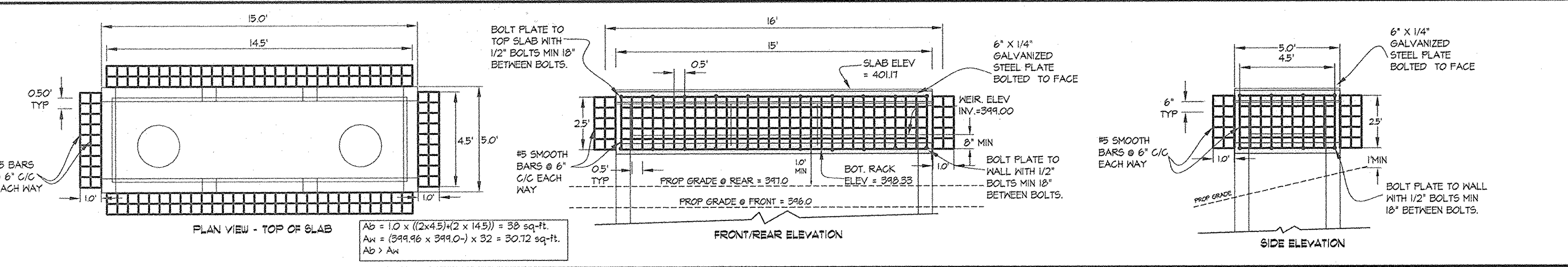
RISER STRUCTURE DETAILS SCALE: 1" = 4'



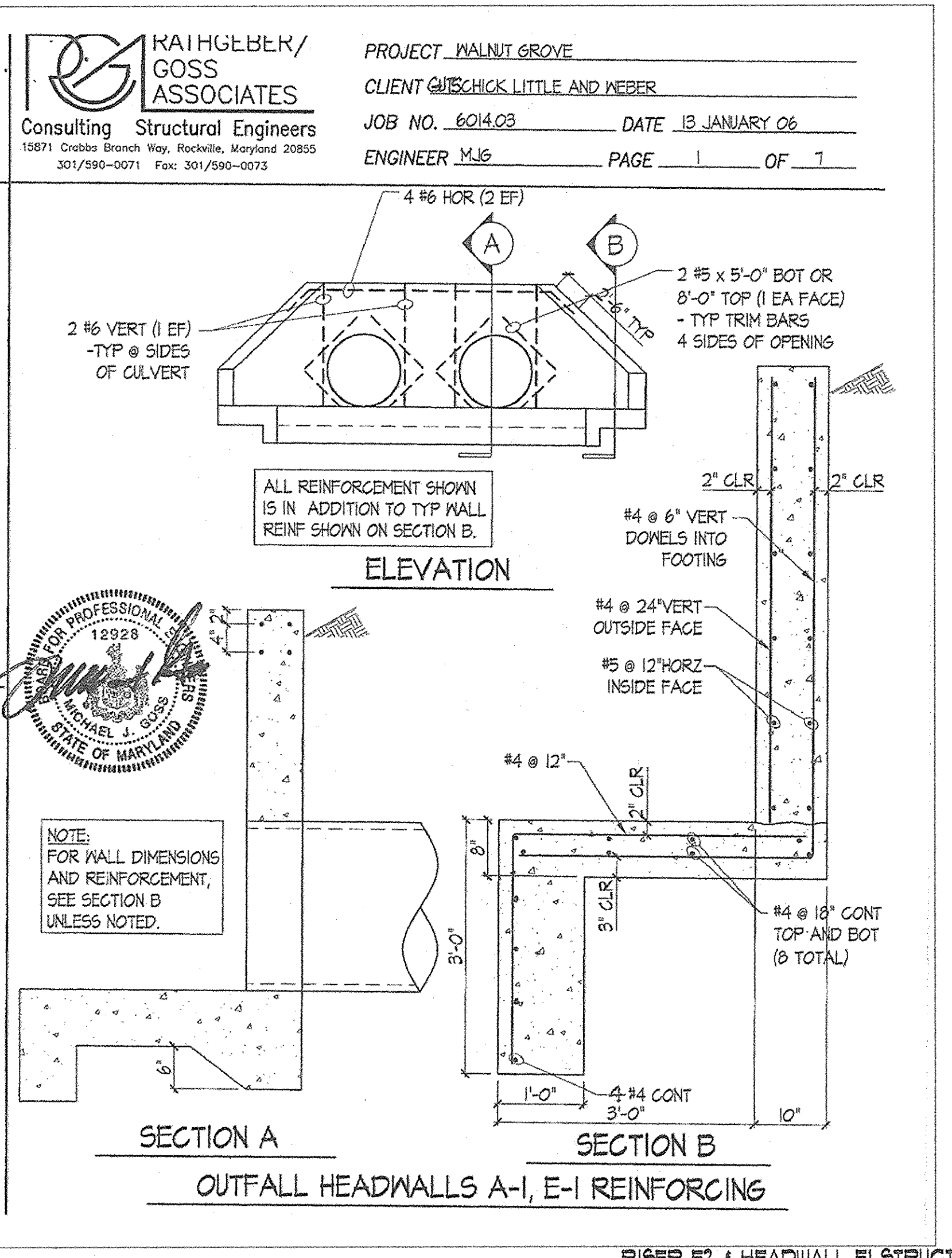
DEWATERING DEVICE DETAIL NTS



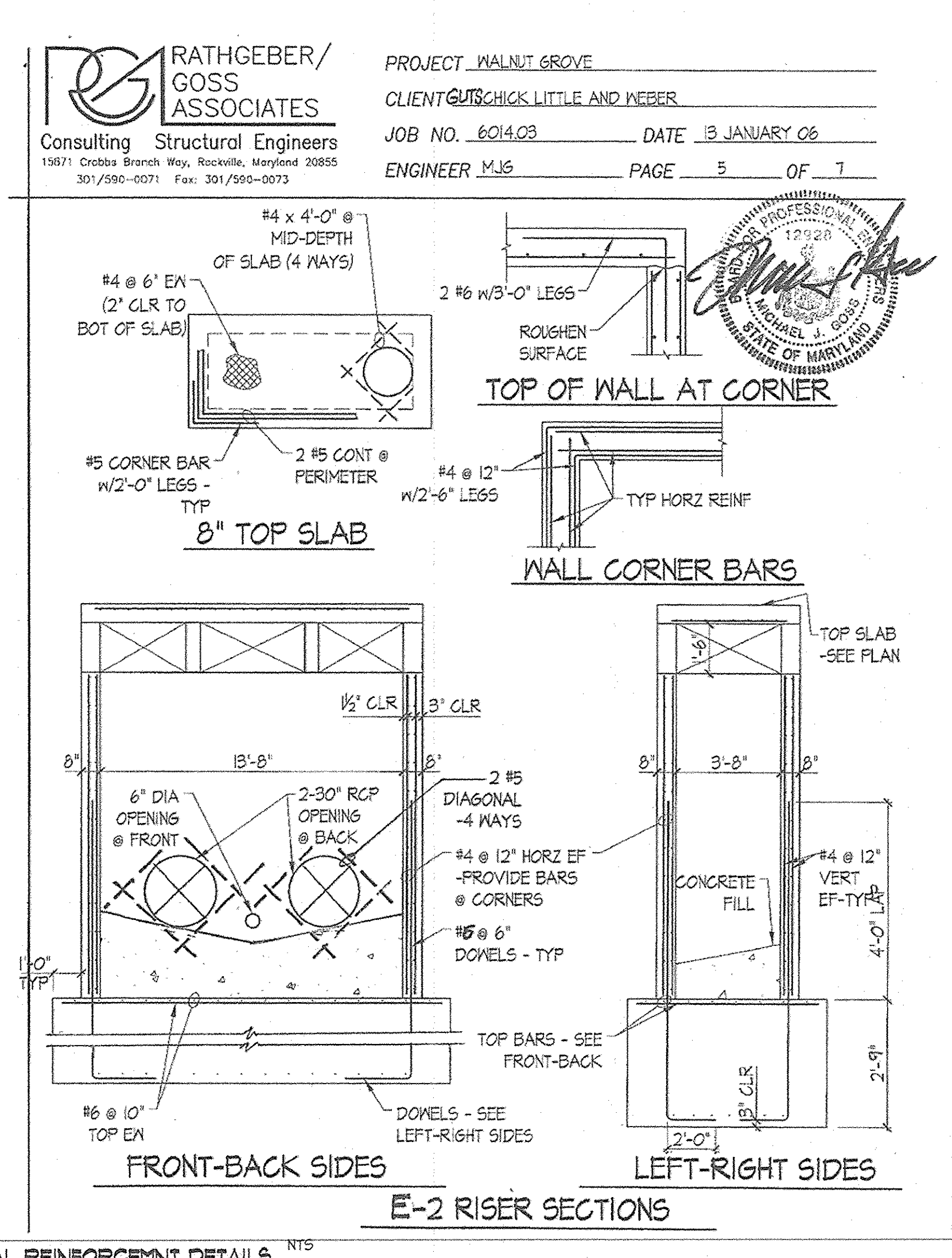
OUTFALL E-1 NTS



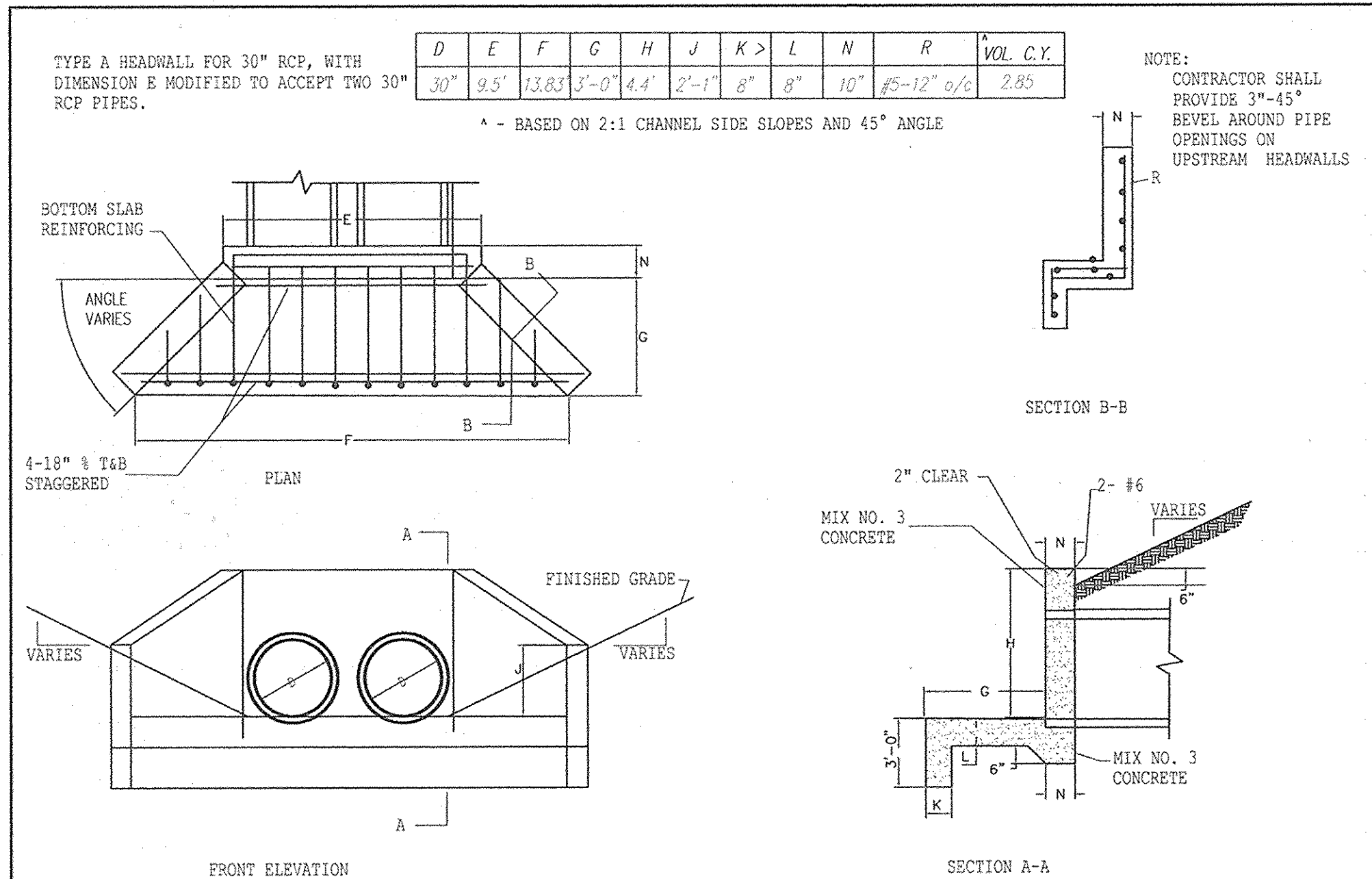
TRASH RACK DETAILS SCALE: 1" = 4'



RISER E2 & HEADWALL E1 STRUCTURAL REINFORCEMENT DETAILS NTS



E-2 RISER SECTIONS NTS



HEADWALL E-1 CIRCULAR



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

Jim Myrland 2/1/07
USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John A. Kelly 2/1/07
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William J. White 2-5-07
Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Condy Handa 2/6/07
Chief, Division of Land Development Date

John A. Kelly 2/6/07
Chief, Development Engineering Division Date

DEVELOPER'S/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.

Robert Van Dyke 1-25-07
SIGNATURE OF DEVELOPER/BUILDER 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.

Michael J. Goss 1-25-07
ENGINEER'S SIGNATURE 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: 301-421-4188

| DATE | REVISION | BY | APPR. |
|------|----------|----|-------|
| | | | |
| | | | |

PREPARED FOR OWNER
WALNUT GROVE HOLDING, L.L.C.
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DYKE, PRESIDENT
10705 CHARTER DRIVE
SUITE 320
COLUMBIA, MARYLAND 21044

STORMWATER MANAGEMENT POND E DETAILS
WALNUT GROVE
LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A',
NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' & 'N'
NON-BUILDABLE BULK PARCEL 'J'
L2927 F487
ELECTION DISTRICT No. 5

| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|-------------------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID PARCEL 74 28 - 18,17 | SHEET |
| JAN./2007 | | 46 OF 78 |

SOIL BORING SUMMARY TABLE

| BORING | LOCATION (N, E) |
|--------|-----------------------|
| EP-1 | N 568,266 E 1,329,038 |
| EP-2 | N 568,281 E 1,324,701 |
| EP-3 | N 568,066 E 1,324,281 |

DETAILS SHEETS 4.3 & 4.4

EXISTING FARM POND SUMMARY

DA Through Pond E
 A = 28.4 acres
 CN = 66
 Tc = 0.364 hrs

Overland Flow To Farm Pond
 CA = 4.4 acres
 CN = 63
 Tc = 0.183 hrs

Form Pond Hydraulic Summary
 Permanent Pool NEEL = 388.50
 Outlet to Low Rise Release Structure
 Invert = 388.50
 Q-2 YR = 4.74 cfs
 2-YR NEEL = 390.44
 Q-100 = 3177 cfs
 100-YR NEEL = 391.02

Embankment Material and Certification

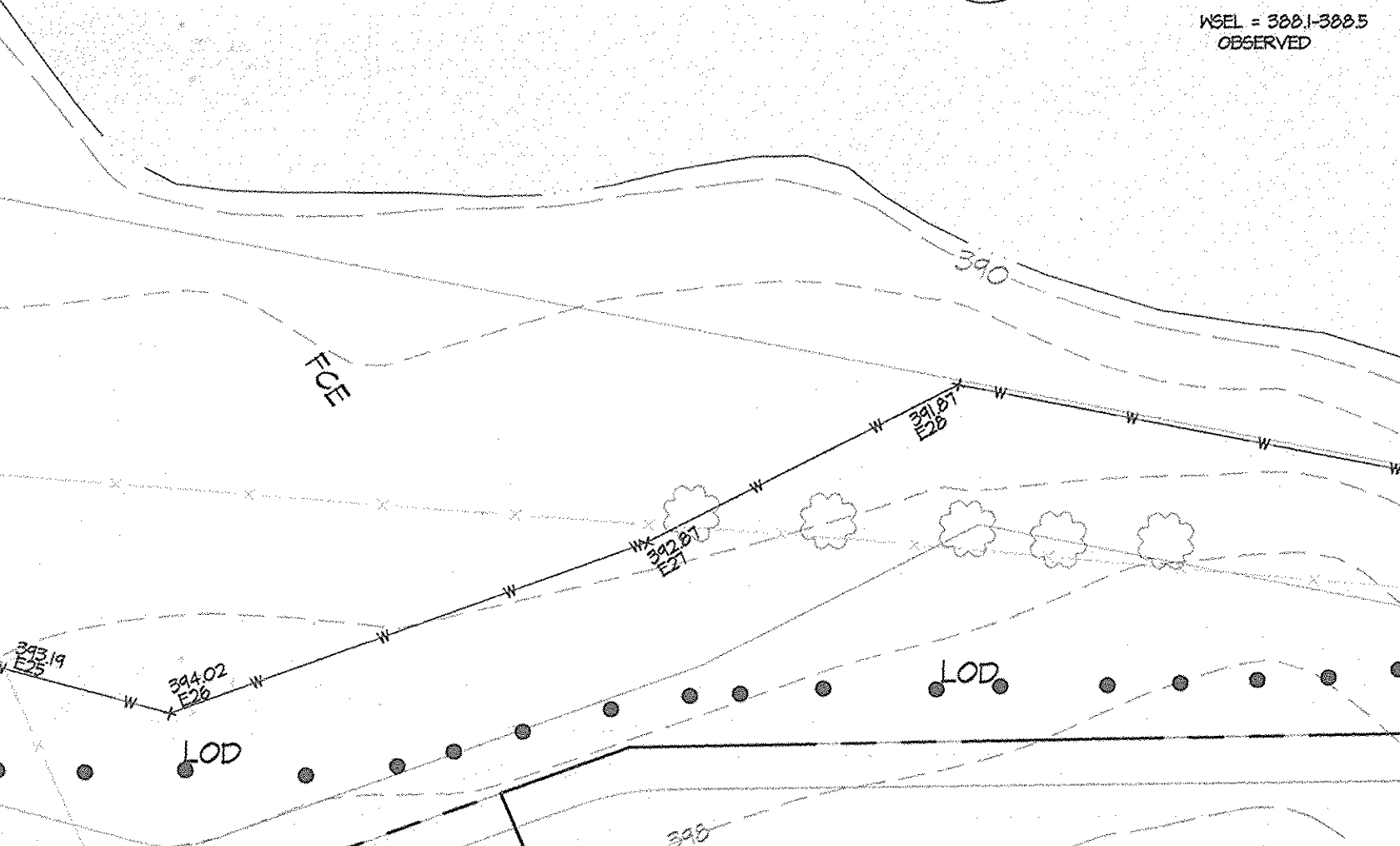
Evaluation of the embankment material is based upon soil borings EP-1, EP-2, EP-3, and the upon compaction test report at EP-2. The geotechnical report prepared by Hills Comes in August 1, 2005 concludes "that the geotechnical related aspects of the existing farm pond generally conform to MD-57B criteria." All existing woody vegetation along the embankment is to be removed per the recommendation of the geotechnical engineer.

FOR SOIL BORING INFORMATION SEE SHEETS 75-78

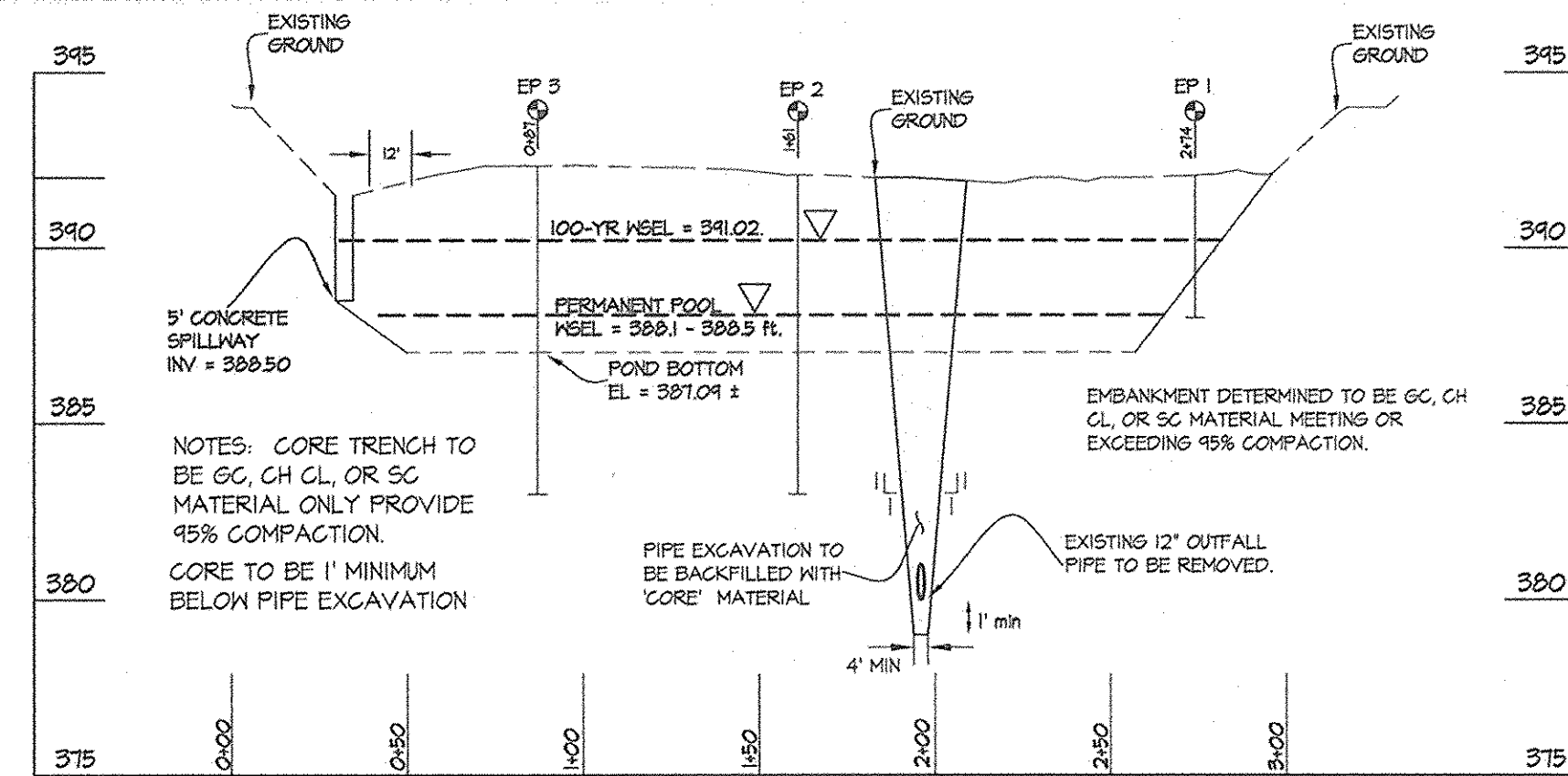
SEQUENCE OF CONSTRUCTION FOR EXISTING POND CONVERSION

1. CONSTRUCT TEMPORARY SAND BAG WALL (A) AND INSTALL SUPER SILT FENCE.
2. CONSTRUCT PERMANENT LOW RISE RELEASE STRUCTURE, GRADE, AND STABILIZE WITH SOD.
3. OBTAIN PERMISSION FROM THE SGI TO REMOVE TEMPORARY SAND BAG WALL (A) AND SUPER SILT FENCE.
4. CONSTRUCT TEMPORARY SAND BAG WALL (B).
5. EXCAVATE AND REMOVE EXISTING OUTFALL PIPE AND BACKFILL TRENCH WITH CORE MATERIAL.
6. STABILIZE DISTURBED AREAS.
7. OBTAIN PERMISSION FROM THE SGI TO REMOVE TEMPORARY SAND BAG WALL (B).

EXISTING FARM POND

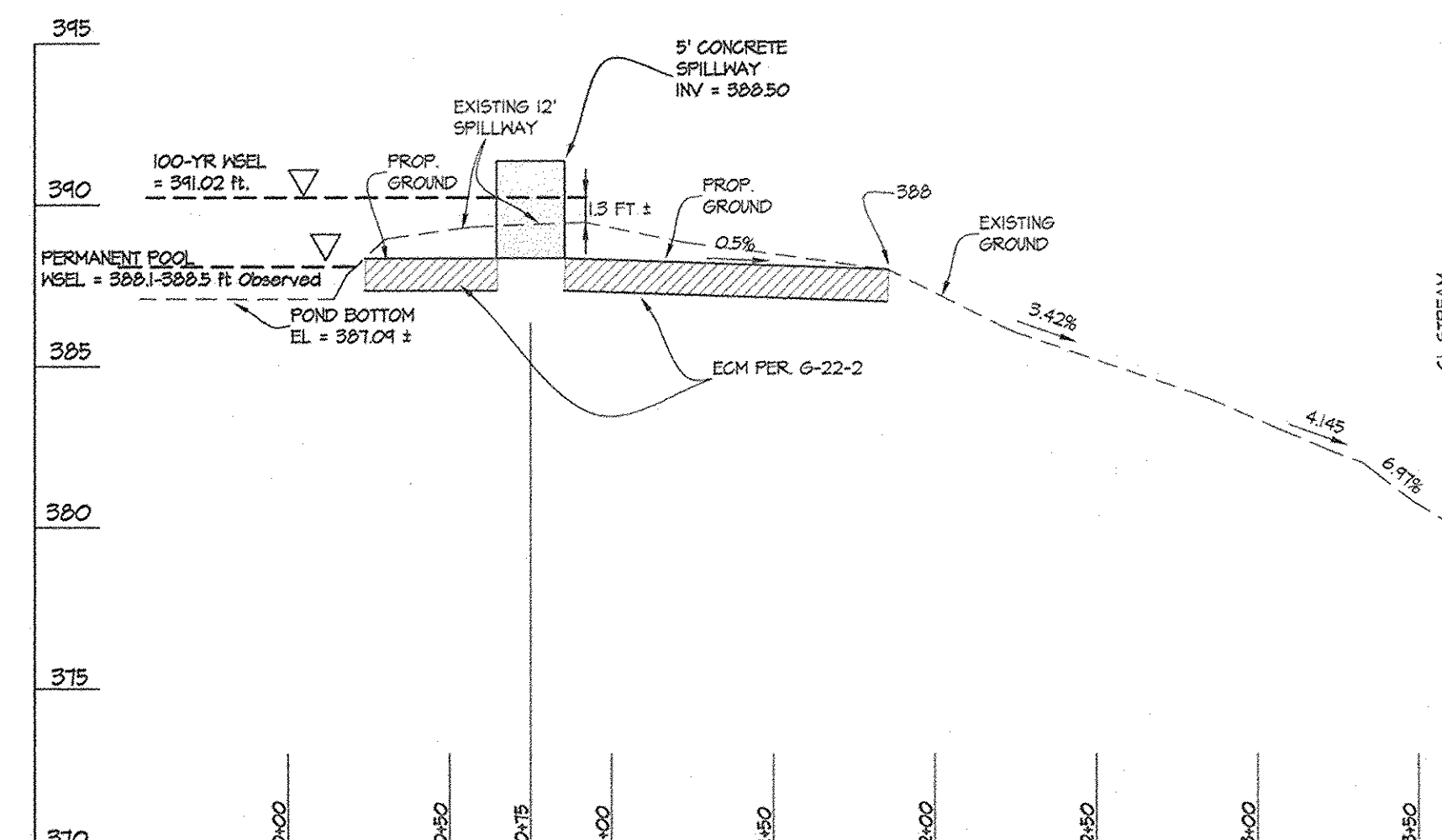


EXISTING FARM POND SCALE: 1" = 30'



CENTERLINE PROFILE EXISTING EMBANKMENT

SCALE: (H) 1" = 50'
(V) 1" = 5'



CENTERLINE PROFILE EXISTING 12\"/>

SCALE: (H) 1" = 50'
(V) 1" = 5'

Criteria and Recommendations for Stump and Root Mass Removal (TR-705)

A. Definition of Treatment Methods

Consideration of the factors previously listed was used to develop the appropriate treatment methods for stump and root mass removal on embankments. General recommendations are summarized in Table A.

Definitions of each of the treatment methods listed in this table are as follows:

- 1. Cut and Kill Stumps**
Trees should be cut approximately six inches below the ground surface to eliminate the hazard of any surface obstruction.
An approved silvicide should be applied to the stump surface, as recommended by the manufacturer, prior to backfilling and reseedling.
- 2. Cut and Grub Stumps and Root Mass to Specified Depth Uniformly**
In the area specified, a uniform cut will be made with appropriate equipment. The underlying root mass that remains will be disturbed as little as possible by using sharp cutting tools. Exposed root stumps will be treated with an appropriate silvicide to prevent reemergence.
- 3. Method of Placement and Backfill**
Where stumps and root mass removal is to a uniform depth over an accessible area, backfill should be placed in lifts no thicker than 6" and compacted at about optimum moisture by at least two passes if the tracks of the earth moving equipment.
Where stump and root mass removal is in confined areas, backfill should be compacted with hand directed power tampers. Backfill should be placed at a minimum of 90 percent maximum dry density (ASTM D-698A) and approximately optimum moisture. Lift thickness should be 4" - 6".

- 1. Selection of Soil Materials for Backfill**
The selection of soil for the backfilling of treated areas should be based primarily on the permeability characteristics of the backfill with respect to the surrounding embankment. Generally backfill materials in Zones 1 and 2 of the embankment should be of similar permeability to the adjacent embankment. In embankments of known dispersive clays care must be taken to find nondispersive clay borrow material or treat dispersive borrow material with hydrated lime.
For backfill in Zones 3 and 4, if the materials in the embankment are permeable shell type materials, it is important that borrow material be at least as permeable as and preferably more permeable than the adjacent fill material. At the same time, in critical locations, the borrow soils should satisfy filter design criteria to prevent any possible piping.

C. General Recommendations for Tree Removal

Table A contains general recommendations for tree removal.

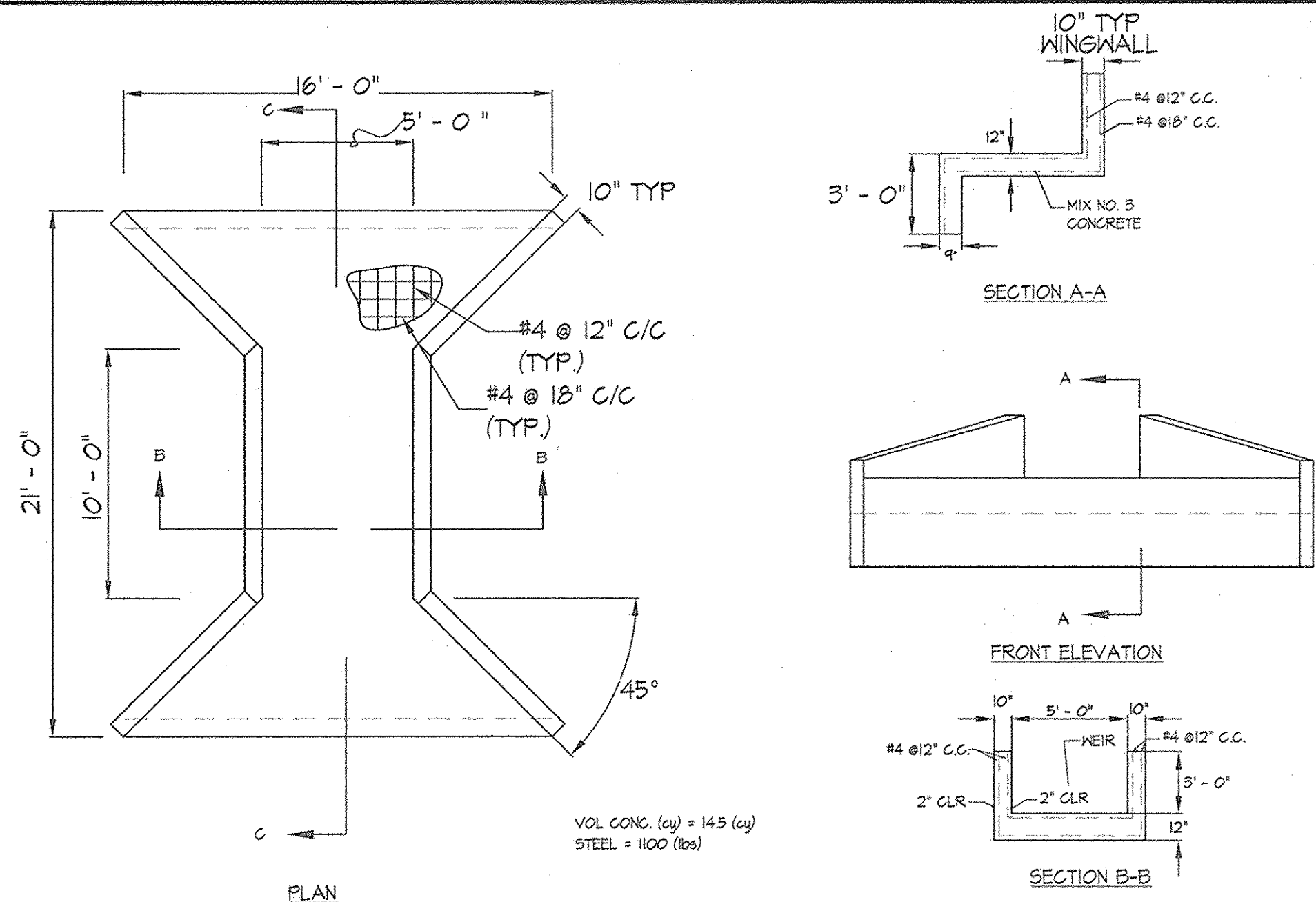
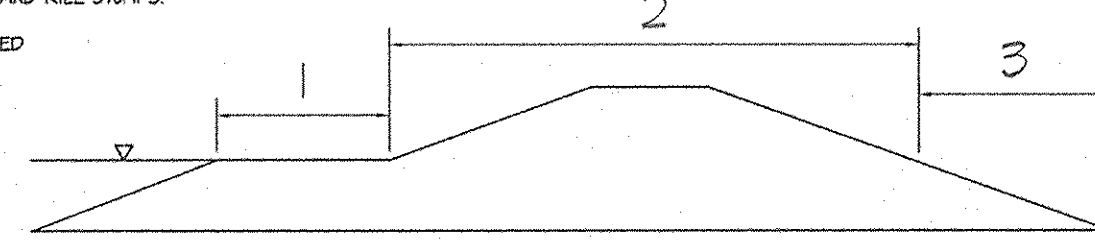
- 3. Cut and Grub Stumps to Depth and Diameter of Removal Dictated by Type and Size of Tree (See tables)**
For taprooted trees, the removal of this mass should create a roughly parabolic shaped hole with depth and diameter at the surface as specified in the tables. For spreading root trees, the depth of removal shown in the tables should be uniform over the diameter area specified in the tables.
- 4. Complete Removal of Stump and Root System**
It is anticipated that this treatment will be unusual and must be judged on an individual basis. Generally this would be an impractical solution and, in some cases, be detrimental to the structure. Some of the complications are as follows: (1) area of disturbance, (2) depth and slopes of excavation, (3) procedures for effective backfilling of the excavation, (4) timing and duration of the removal operation.
- 5. Partial Removal of Stumps and Root Systems and the Addition of a Filter.** (See backfill method 3, page 6.)
This treatment may be the most positive solution when there is concern for piping but treatment number 4 (complete removal) is not feasible.

- Types of Backfill and Methods of Backfilling After Removal of Stumps and Root Mass**
 - 1. Selection of Soil Materials for Backfill**
The selection of soil for the backfilling of treated areas should be based primarily on the permeability characteristics of the backfill with respect to the surrounding embankment. Generally backfill materials in Zones 1 and 2 of the embankment should be of similar permeability to the adjacent embankment. In embankments of known dispersive clays care must be taken to find nondispersive clay borrow material or treat dispersive borrow material with hydrated lime.
For backfill in Zones 3 and 4, if the materials in the embankment are permeable shell type materials, it is important that borrow material be at least as permeable as and preferably more permeable than the adjacent fill material. At the same time, in critical locations, the borrow soils should satisfy filter design criteria to prevent any possible piping.

TABLE A
GENERAL RECOMMENDATIONS FOR TREE REMOVAL 1/

| TREE LOCATION ZONE | TREE TYPE A (TAP ROOT) | | | | TREE TYPE B (SPREADING ROOTS) | | | |
|--------------------|-------------------------|---|---|---|-------------------------------|---|--|--|
| | LIGHT COVER | HEAVY COVER | LIGHT COVER | HEAVY COVER | LIGHT COVER | HEAVY COVER | LIGHT COVER | HEAVY COVER |
| 1/ | CUT AND KILL STUMPS. | CUT AND KILL STUMPS. | CUT AND KILL STUMPS. | CUT AND KILL STUMPS. | CUT AND KILL STUMPS. | CUT AND KILL STUMPS. | CUT AND KILL STUMPS. | CUT AND KILL STUMPS. |
| 2/ | CUT AND KILL STUMPS. 2/ | CUT AND GRUB STUMPS AND ROOT MASS TO 18" DEPTH UNIFORMLY. | CUT AND GRUB STUMPS AND ROOT MASS TO 24" DEPTH IN 1/2 CROWN WIDTH DIAMETER UNIFORMLY. | CUT AND GRUB STUMPS AND ROOT MASS TO 24" DEPTH UNIFORMLY. | CUT AND KILL STUMPS. 2/ | CUT AND GRUB STUMPS AND ROOT MASS TO 18" DEPTH IN 1/2 CROWN WIDTH DIAMETER UNIFORMLY. | CUT AND GRUB STUMPS AND ROOT MASS TO 18" DEPTH UNIFORMLY. | CUT AND GRUB STUMPS AND ROOT MASS TO 18" DEPTH UNIFORMLY. |
| 3/ | CUT AND KILL STUMPS. | CUT AND GRUB STUMPS AND ROOT MASS TO 18" DEPTH UNIFORMLY. | CUT AND GRUB STUMPS AND ROOT MASS TO 24" DEPTH IN 1/2 CROWN WIDTH DIAMETER AREA. | CUT AND GRUB STUMPS AND ROOT MASS TO 24" DEPTH UNIFORMLY. | CUT AND KILL STUMPS. 5/ | CUT AND GRUB STUMPS AND ROOT MASS TO 18" DEPTH IN 1/2 CROWN WIDTH DIAMETER AREA. 5/ | CUT AND GRUB STUMPS AND ROOT MASS TO 18" DEPTH UNIFORMLY. 6/ | CUT AND GRUB STUMPS AND ROOT MASS TO 18" DEPTH UNIFORMLY. 6/ |

- 1/ TREE GROWTH SMALLER THAN 2" DBH WILL BE REMOVED BY SPRAYING, INJECTION OR CUTTING AND STUMP KILLING. TREES AND SHRUBS PLANTED FOR SHORELINE PROTECTION IN ZONE 1 SHALL BE MAINTAINED AT HEIGHTS 4 FEET.
- 2/ IN EMBANKMENT TYPE (A) DISPERSED SOIL -- CUT STUMPS 12 INCHES BELOW SURFACE AND BACK FILL WITH COMPACTED SOIL.
- 3/ IN EMBANKMENT TYPE (D) EARTHFILL WITH LOW PIPING POTENTIAL -- CUT AND KILL STUMPS.
- 4/ IN RIP-RAPPED OR HEAVY ROCKFILL SECTIONS GREENING IS NOT REQUIRED.
- 5/ FOR WATER-LOVING TREES SUCH AS WILLOWS, REMOVE STUMPS AND ROOT MASS IN TWICE THE CROWN WIDTH AREA.
- 6/ FOR WATER-LOVING TREES SUCH AS WILLOWS, REMOVE STUMPS AND ROOT MASS TO 18" DEPTH UNIFORMLY.
- 7/ INDIVIDUAL LARGE TREES IN THIS ZONE MAY NEED THE SPECIAL TREATMENT AS DESCRIBED IN SECTION 5.



LOW RISE STORMWATER CONTROL STRUCTURE DETAILS

N.T.S.

- NOTES:**
1. ALL EXPOSED EDGES TO HAVE 3/4" X 3/4" CHAMFER OR AS DIRECTED.
 2. CONCRETE SHALL BE SHA MIX NO. 5 (FC - 3500 PSI @ 28 DAYS).
 3. REINFORCING STEEL SHALL BE ASTM A-615 GRADE 60.
 4. QUANTITIES IN TABLE FOR ESTIMATING ONLY.
 5. WEIR CONTROL SECTION SHALL BE SIZED FOR APPROPRIATE CONTROL OF DISCHARGE RATES. (WEIR SHOWN IS FOR ILLUSTRATION PURPOSES ONLY.)
 6. DETAIL SHOWN IS BASED UPON HOWARD COUNTY STD. 50-100.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 2-5-07
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 [Signature] 2/1/07
 Chief, Division of Land Development

APPROVED: [Signature] 1-25-07
 Chief, Development Engineering Division

DEVELOPER'S/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."
 [Signature] 1-25-07
 SIGNATURE OF DEVELOPER/BUILDER 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 HAS BEEN 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."
 [Signature] 2/1/07
 ENGINEER'S SIGNATURE DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
 [Signature] 2/1/07
 USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] 2/1/07
 HOWARD SOIL CONSERVATION DISTRICT DATE

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONTOWN OFFICE PARK
 BURTONTOWN, MARYLAND 20866
 TEL: 301-421-4024 BALT. 410-880-1820 DC/VA. 301-989-2524 FAX: 301-421-4188

| DATE | REVISION | BY | APP'R. |
|------|----------|----|--------|
| | | | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

| EXISTING FARM POND DETAILS and CERTIFICATION | | | SCALE | ZONING | G. L. W. FILE NO. |
|---|--|--|-----------|-------------------------|-------------------|
| WALNUT GROVE LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL "A"; NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND NON-BUILDABLE BULK PARCEL "J" L.2927 FA87 | | | 1" = 30' | RC-DEO | 00153 |
| | | | DATE | TAX MAP - GRID | SHEET |
| ELECTION DISTRICT No. 5 | | | JAN./2007 | PARCEL 74 28 - 18,17 | 47 OF 78 |

SUM CONSTRUCTION SPECIFICATIONS

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MD-31B. ALL REFERENCES TO ASTM AND AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.

SITE PREPARATION

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL. ALL TREES, VEGETATION, ROCKS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED. CHANNEL BANKS AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1. ALL TREES SHALL BE CLEARED AND GRUBBED WITHIN 15 FEET OF THE TOE OF THE EMBANKMENT.

AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS. FOR DRY STORE-WATER MANAGEMENT PONDS, A MINIMUM OF A 25-FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE CLEARED.

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. WHEN SPECIFIED, A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.

EARTH FILL

MATERIAL - THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, MOOD, RUBBISH, STONES GREATER THAN 6", FROZEN OR OTHER OBJECTIONABLE MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT AND CUT OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CL OR CH AND MUST HAVE AT LEAST 50% PASSING THE #200 SIEVE. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGNED BY A GEOTECHNICAL ENGINEER. SUCH SPECIAL DESIGNS MUST HAVE CONSTRUCTION SUPERVISED BY A GEOTECHNICAL ENGINEER. MATERIALS USED IN THE OUTER SHELL OF THE EMBANKMENT MUST HAVE THE CAPABILITY TO SUPPORT VEGETATION OF THE QUALITY REQUIRED TO PREVENT EROSION OF THE EMBANKMENT.

PLACEMENT - AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8-INCH THICK (BEFORE CONACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST FERREBLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT. THE PRINCIPAL SPILLWAY MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT.

COMPACTION - THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF HEAVY EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TIRE OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO A BALL IT WILL NOT CRUMBLE, YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT. WHEN REQUIRED BY THE REVIEWING AGENCY THE MINIMUM REQUIRED DENSITY SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN 2% OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99 (STANDARD PROCTOR).

CUT OFF TRENCH - THE CUT OFF TRENCH SHALL BE EXCAVATED INTO INFERNOS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE GOVERNED BY THE EQUIPMENT USED FOR EXCAVATION WITH THE MINIMUM WIDTH BEING FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE 1 TO 1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM FERREBLEITY.

EMBANKMENT CORE - THE CORE SHALL BE PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE CORE SHALL BE A MINIMUM OF FOUR FEET. THE HEIGHT SHALL EXTEND UP TO AT LEAST THE 10-YEAR WATER ELEVATION OR AS SHOWN ON THE PLANS. THE SIDE SLOPES SHALL BE 1 TO 1 OR FLATTER. THE CORE SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM FERREBLEITY. IN ADDITION, THE CORE SHALL BE PLACED CONCURRENTLY WITH THE OUTER SHELL OF THE EMBANKMENT.

STRUCTURE BACKFILL

BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL NEEDS TO FILL COMPLETELY ALL SPACES UNDER AND ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE OR PIPE UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE. STRUCTURE BACKFILL MAY BE FLOWABLE FILL MEETING THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIALS SECTION 518 AS MODIFIED. THE MIXTURE SHALL HAVE A 100-200 PSI, 28 DAY UNCONFINED COMPRESSIVE STRENGTH. THE FLOWABLE FILL SHALL HAVE A MINIMUM PH OF 4.0 AND A MINIMUM RESISTIVITY OF 2000 OHM-CM. MATERIAL SHALL BE PLACED SUCH THAT A MINIMUM OF 6" MEASURED PERPENDICULAR TO THE OUTSIDE OF THE PIPE OR FLOWABLE FILL SHALL BE UNDER (BEDDING) OVER AND ON THE SIDES OF THE PIPE. IT ONLY NEEDS TO EXTEND UP TO THE SPRING LINE FOR RIGID CONDUITS. AVERAGE SLUMP OF THE FILL SHALL BE 1" TO ASSURE FLOWABILITY OF THE MATERIAL. ADEQUATE MEASURES SHALL BE TAKEN (BAND BAGS, ETC) TO PREVENT FLOATING OF THE PIPE USING FLOWABLE FILL. ALL METAL PIPE SHALL BE BITUMINOUS COATED. ANY ADJOINING SOIL FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL SHALL COMPLETELY FILL ALL VOIDS ADJACENT TO THE FLOWABLE FILL ZONE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A STRUCTURE OR PIPE UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE. BACKFILL MATERIAL OUTSIDE THE STRUCTURE BACKFILL (FLOWABLE FILL) ZONE SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE CORE OF THE EMBANKMENT OR OTHER EMBANKMENT MATERIALS.

PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

CORRUGATED METAL PIPE

ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE:

1. MATERIALS - (POLYMER COATED STEEL PIPE) - STEEL PIPES WITH POLYMERIC COATINGS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (10 MIL) ON BOTH SIDES OF THE PIPE. THIS PIPE AND ITS AFFURTANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATIONS M-245 4 M-246 WITH WATER TIGHT COUPLING BANDS OR FLANGES. MATERIALS - (ALUMINUM COATED STEEL PIPE) - STEEL PIPES WITH ALUMINUM COATINGS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-424 WITH WATER TIGHT COUPLING BANDS OR FLANGES. ALUMINUM COATED STEEL PIPE, WHEN USED WITH FLOWABLE FILL OR WHEN SOIL AND/OR WATER CONDITIONS WARRANT THE NEED FOR INCREASED DURABILITY, SHALL BE FULLY BITUMINOUS COATED PER REQUIREMENTS OF AASHTO SPECIFICATION M-410 TYPE A. ANY ALUMINUM COATING DAMAGED OR OTHERWISE REMOVED SHALL BE COLD APPLIED BITUMINOUS COATING COMPOUND. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CARBONATE PRIMER OR TWO COATS OF ASPHALT. HOT DIP GALVANIZED BOLTS MAY BE USED FOR CONNECTIONS. THE PH OF THE SURROUNDING SOILS SHALL BE BETWEEN 4 AND 9.

2. COUPLING BANDS, ANTI-SEEP COLLARS, END SECTIONS, ETC., MUST BE COMPOSED OF THE SAME MATERIAL AND COATINGS AS THE PIPE. METALS MUST BE INSTALLED FROM DISSIMILAR MATERIALS WITH USE OF RUBBER OR PLASTIC INSULATING MATERIALS AT LEAST 24 MILS IN THICKNESS.

3. CONNECTIONS - ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATER TIGHT. THE DRAIN PIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL. ANTI-SEEP COLLARS SHALL BE CONNECTED TO THE PIPE IN SUCH A MANNER AS TO BE COMPLETELY WATER TIGHT. DIPLE BANDS ARE NOT CONSIDERED TO BE WATER TIGHT. ALL CONNECTIONS SHALL USE A RUBBER OR NEOPRENE GASKET WHEN JOINING PIPE SECTIONS. THE END OF EACH PIPE SHALL BE RE-ROLLED AN ADEQUATE NUMBER OF CORRUGATIONS TO ACCOMMODATE THE BANDWIDTH. THE FOLLOWING TYPE CONNECTIONS ARE ACCEPTABLE FOR PIPES LESS THAN 24 INCHES IN DIAMETER. FLANGES ON BOTH ENDS OF PIPE WITH A CIRCULAR 3/8 INCH CLOSED CELL NEOPRENE GASKET, PRENATED TO THE FLANGE BOLT CIRCLE. SANDWICHED BETWEEN ADJACENT FLANGES, A 12-INCH WIDE STANDARD LAP TYPE BAND WITH 12-INCH WIDE BY 3/8-INCH THICK CLOSED CELL CIRCULAR NEOPRENE GASKET AND A 12-INCH WIDE MESSER TYPE BAND WITH O-RING GASKETS HAVING A MINIMUM DIAMETER OF 1/2 INCH GREATER THAN THE CORRUGATION DEPTH. PIPES 24 INCHES IN DIAMETER AND LARGER SHALL BE CONNECTED BY A 24 INCH LONG ANNULAR CORRUGATED BAND USING A MINIMUM OF 4 (FOUR) ROPS AND LUGS, 2 ON EACH CONNECTING PIPE END. A 24-INCH WIDE BY 3/8-INCH THICK CLOSED CELL CIRCULAR NEOPRENE GASKET WILL BE INSTALLED WITH 12 INCHES ON THE END OF EACH PIPE. FLANGED JOINTS WITH 3/8 INCH CLOSED CELL GASKETS THE FILL WIDTH OF THE FLANGE IS ALSO ACCEPTABLE. HELICALLY CORRUGATED PIPE SHALL HAVE EITHER CONTINUOUSLY WELDED SEAMS OR HAVE LOCK SEAMS WITH INTERNAL CAULKING OR A NEOPRENE BED.

4. BEDDING - THE PIPE SHALL BE FIRMLY AND UNFORMALLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.

5. BACKFILLING SHALL CONFORM TO 'STRUCTURE BACKFILL'.

6. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC) SHALL BE AS SHOWN ON THE DRAWINGS.

REINFORCED CONCRETE PIPE

ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR REINFORCED CONCRETE PIPE:

1. MATERIALS - REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM C-361.

2. BEDDING - REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING/CRADLE FOR THEIR ENTIRE LENGTH. THIS BEDDING/CRADLE SHALL CONSIST OF HIGH SLUMP CONCRETE PLACED UNDER THE PIPE AND UP THE SIDES OF THE PIPE AT LEAST 20% OF ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 6 INCHES. WHERE A CONCRETE CRADLE IS NOT NEEDED FOR STRUCTURAL REASONS, FLOWABLE FILL MAY BE USED AS DESCRIBED IN THE 'STRUCTURE BACKFILL' SECTION OF THIS STANDARD. GRAVEL BEDDING IS NOT PERMITTED.

3. LAYING PIPE - BELL AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM. JOINTS SHALL BE MADE IN ACCORDANCE WITH RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL. AFTER THE JOINTS ARE SEALED FOR THE ENTIRE LINE, THE BEDDING SHALL BE PLACED SO THAT ALL SPACES UNDER THE PIPE ARE FILLED. CARE SHALL BE EXERCISED TO PREVENT ANY DEVIATION FROM THE ORIGINAL LINE AND GRADE OF THE PIPE. THE FIRST JOINT MUST BE LOCATED WITHIN 4 FEET FROM THE RISER.

4. BACKFILLING SHALL CONFORM TO 'STRUCTURE BACKFILL'.

PLASTIC PIPE

THE FOLLOWING CRITERIA SHALL APPLY FOR PLASTIC PIPE:

1. MATERIALS - PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D-1185 OR ASTM D-2241. CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) PIPE, COUPLINGS AND FITTINGS SHALL CONFORM TO THE FOLLOWING: 4"-10" INCH PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M252 TYPE 5, AND 12" THROUGH 24" INCH SHALL MEET THE REQUIREMENTS OF AASHTO M254 TYPE 5.

2. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATER TIGHT.

3. BEDDINGS - THE PIPE SHALL BE FIRMLY AND UNFORMALLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.

4. BACKFILLING SHALL CONFORM TO 'STRUCTURE BACKFILL'.

5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC) SHALL BE AS SHOWN ON THE DRAWINGS.

DRAINAGE DIAPHRAGMS - WHEN A DRAINAGE DIAPHRAGM IS USED, A REGISTERED PROFESSIONAL ENGINEER WILL SUPERVISE THE DESIGN AND CONSTRUCTION INSPECTION.

CONCRETE

CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 414, MIX NO. 5.

ROCK RIPRAP

ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 511. GEOTEXTILE SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 42104, CLASS C.

CARE OF WATER DURING CONSTRUCTION

ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DICES, LEVEES, COTTERDAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM VARIOUS PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATION, AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTION OF EACH PART OF THE WORK. AFTER HAVING SERVED THEIR PURPOSE, ALL TEMPORARY PROTECTIVE WORKS SHALL BE REMOVED OR LEVELED AND GRADED TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE FLOW OF WATER TO THE SPILLWAY OR OUTLET WORKS AND SO AS NOT TO INTERFERE IN ANY WAY WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE. STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PERMANENT WORKS. THE REMOVAL OF WATER FROM THE REQUIRED EXCAVATION AND THE FOUNDATION SHALL BE ACCOMPLISHED IN A MANNER AND TO THE EXTENT THAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPES AND BOTTOM REQUIRED EXCAVATIONS AND WILL ALLOW SATISFACTORY PERFORMANCE OF ALL CONSTRUCTION OPERATIONS. DURING THE PLACING AND COMPACTING OF MATERIAL IN REQUIRED EXCAVATIONS, THE WATER LEVEL AT THE LOCATIONS BEING REFILLED SHALL BE MAINTAINED BELOW THE BOTTOM OF THE EXCAVATION AT SUCH LOCATIONS WHICH MAY REQUIRE DRAINING THE WATER SHELPS FROM WHICH THE WATER SHALL BE PUMPED.

STABILIZATION

ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONDITION ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SOIL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING IN ACCORDANCE WITH THE NATURAL RESOURCES CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING (MD-342) OR AS SHOWN ON THE ACCOMPANYING DRAWINGS.

EROSION AND SEDIMENT CONTROL

CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED AND WATER AND AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED. CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES.

OPERATION AND MAINTENANCE

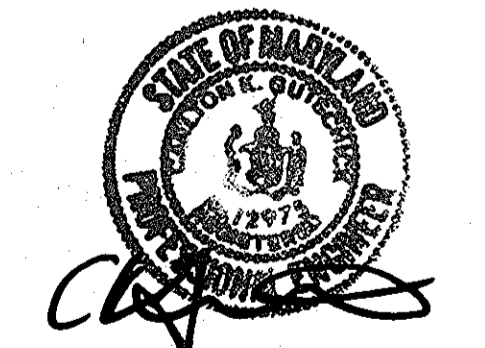
AN OPERATION AND MAINTENANCE PLAN IN ACCORDANCE WITH LOCAL OR STATE REGULATIONS WILL BE PREPARED FOR ALL PONDS. AS A MINIMUM, THE DAM INSPECTION CHECKLIST LOCATED IN APPENDIX A SHALL BE INCLUDED AS PART OF THE OPERATION AND MAINTENANCE PLAN AND PERFORMED AT LEAST ANNUALLY. WRITTEN RECORDS OF MAINTENANCE AND MAJOR REPAIRS NEEDS TO BE RETAINED IN A FILE. THE EVOLVE OF A MAINTENANCE AND REPAIR PERMIT FOR ANY REPAIRS OR MAINTENANCE THAT INVOLVES THE MODIFICATION OF THE DAM OR SPILLWAY FROM ITS ORIGINAL DESIGN AND SPECIFICATIONS IS REQUIRED. A PERMIT IS ALSO REQUIRED FOR ANY REPAIRS OR RECONSTRUCTION THAT INVOLVE A SUBSTANTIAL PORTION OF THE STRUCTURE. ALL INDICATED REPAIRS ARE TO BE MADE AS SOON AS PRACTICAL.

EMBANKMENT AND CUT-OFF TRENCH PER HILLIS CARNES JOB NO. 04223

The areas of the SWM facilities should be stripped of topsoil and any other unsuitable materials from the embankment or structure area in accordance with Soil Conservation Guidelines. After stripping operations have been completed, the exposed sub grade material should be proot rolled with a loaded dump truck or similar equipment in the presence of a geotechnical engineer or his representative. 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 proftrometer testing should be excavated to suitable firm soil, and then grades re-established by back-filling with suitable soil.

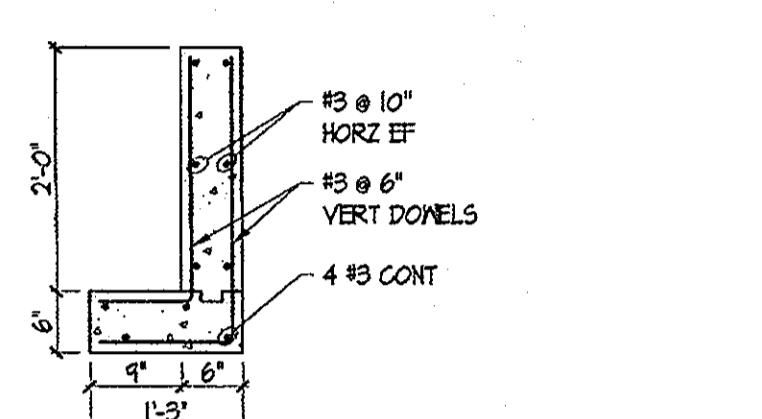
A representative of the Geotechnical Engineer should be present to monitor placement and compaction to fill for the embankment and cut off trench. In accordance with NRC3-MD Code No. 31B Pond Standards/Specifications, soils considered suitable for the center of the embankment and cut off trench shall conform to United Soil Classification GC, SC, CL or CH and have at least 30% passing the #200 sieve.

It is our professional opinion that in addition to the soil materials described above, a fine grained soil, including silt (ML-MH) with a plasticity index of 10 or more can be utilized for the center of the embankment and core trench. All fill materials must be placed and compacted in accordance with NRC3-MD Code No. 31B specifications.



PROJECT WALNUT GROVE
CLIENT GUTSCHICK LITTLE AND WEBER
JOB NO. 6014.02 DATE 15 JANUARY 06
ENGINEER M.J.G. PAGE 6 OF 11

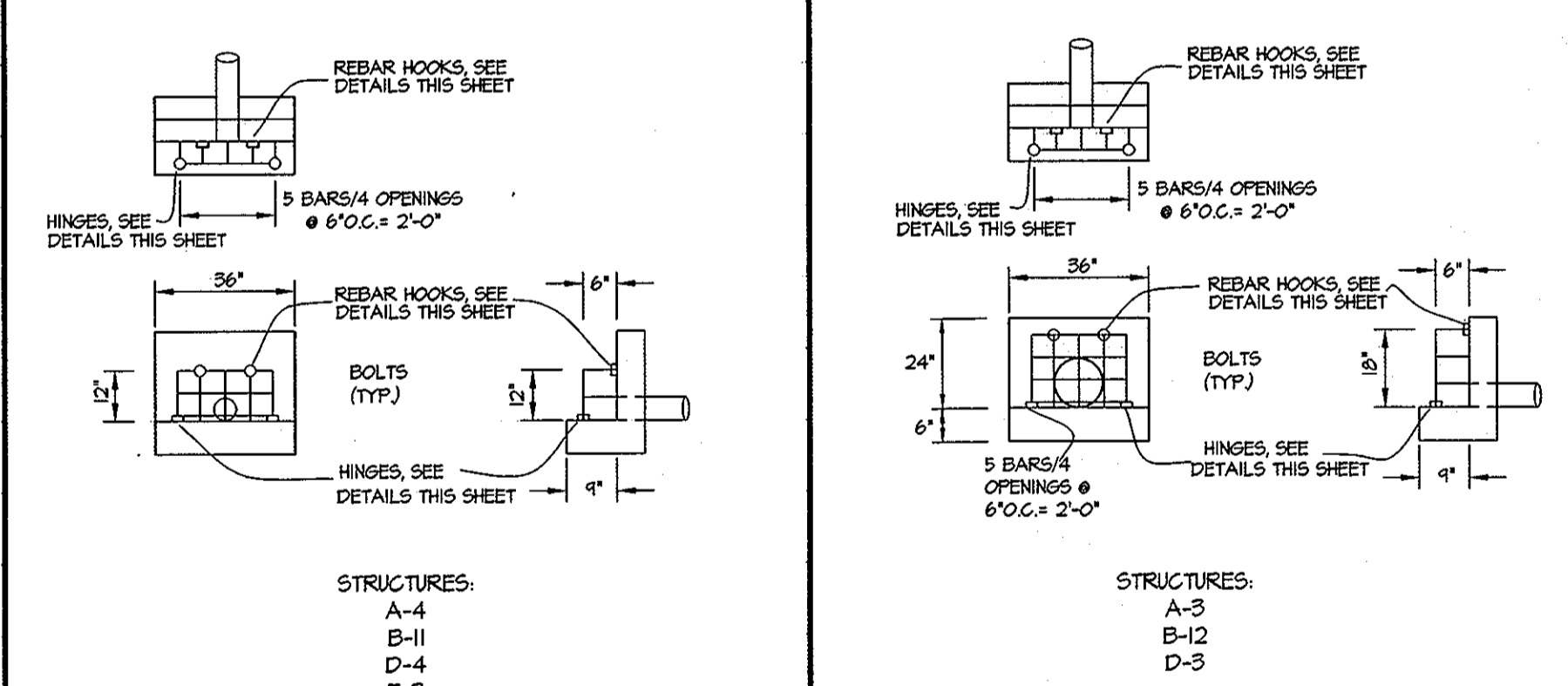
KATHLEEN GROSS ASSOCIATES
Consulting Structural Engineers
1871 Creston Branch Way, Rockville, Maryland 20855
301/980-0071 Fax: 301/980-0072



LOW-FLOW HEADWALL REINFORCING POND5 A, B, D, E

- STRUCTURES:
A-3 A-4
B-1 B-12
D-4 D-5
E-3

6" x 12" LOW FLOW HEADWALL STRUCTURAL REINFORCEMENT DETAILS NTS



6" LOW FLOW HEADWALL DETAILS NTS | 12" LOW FLOW HEADWALL DETAILS NTS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter Z. Melicki, Chief, Bureau of Highways, Date 2-5-07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hanrahan, Chief, Division of Land Development, Date 2/5/07

Chief, Development Engineering Division, Date 2/15/07

DEVELOPER'S/BUILDER'S CERTIFICATE
I HEREBY 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.

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/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. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: [Signatures and Dates: 1-28-07, 1-25-07, 2/1/07]

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

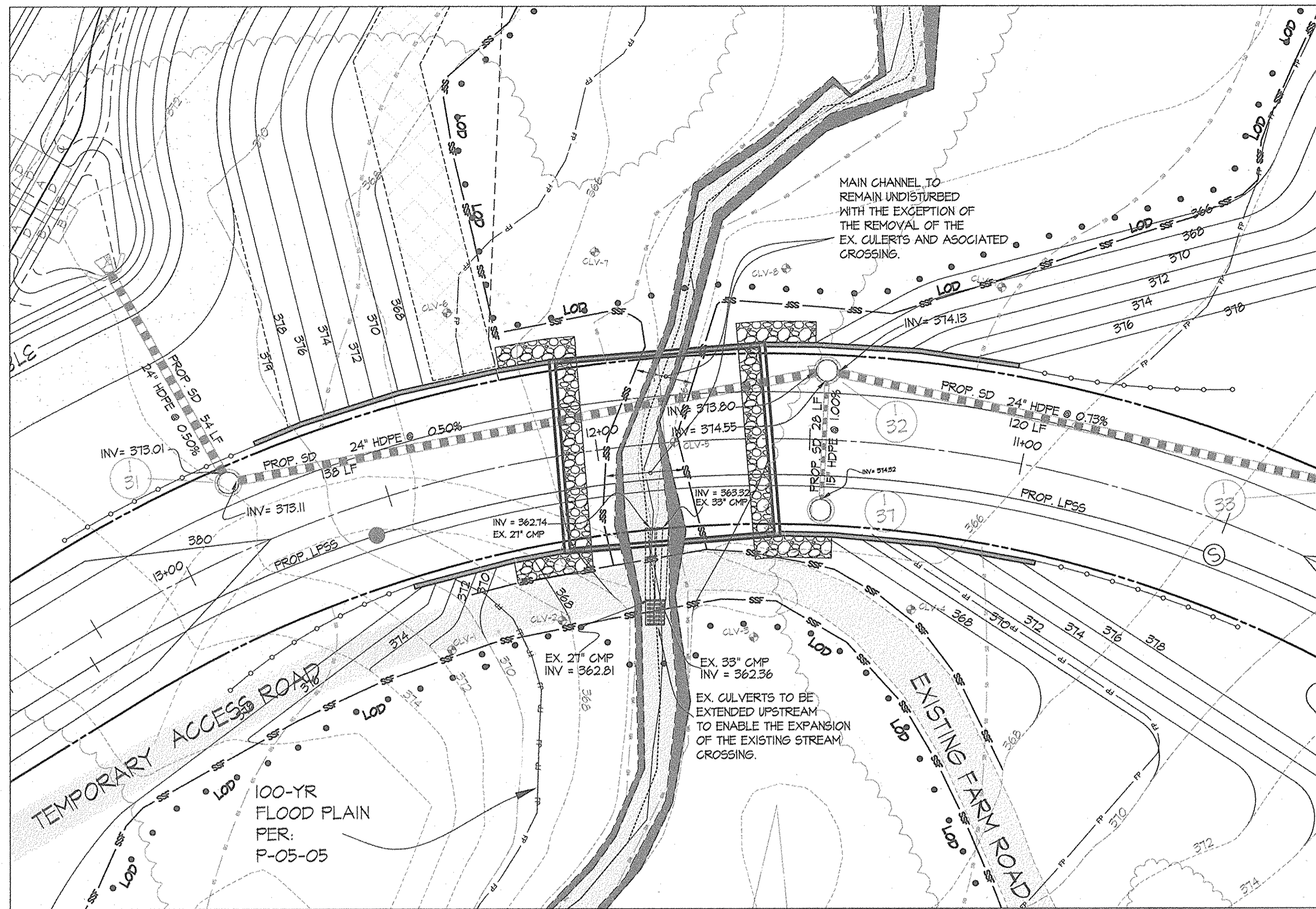
STORMWATER MANAGEMENT NOTES & DETAILS
WALNUT GROVE
LOTS 1 THRU 88, BUILDCABLE PRESERVATION PARCEL 'A',
NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'T', 'K' & 'L' AND
NON-BUILDABLE BULK PARCEL 'J'
L.2927 F.487

PREPARED FOR OWNER: WALNUT GROVE HOLDING, L.L.C., WALNUT GROVE DEVELOPMENT, INC., ROBERT W. DIKE, PRESIDENT, 10705 CHARTER DRIVE, SUITE 330, COLUMBIA, MARYLAND 21044

ELECTION DISTRICT No. 5

SCALE: NO SCALE | ZONING: RC-DEO | G. L. W. FILE No: 00153
DATE: JAN, /2007 | TAX MAP - GRID PARCEL 74 28 - 18,17 | SHEET: 48 OF 78

| NO. | DATE | REVISION | BY | APPR. |
|-----|------|----------|----|-------|
| | | | | |



SEDIMENT CONTROL AND ACCESS PLAN
SCALE: 1" = 20'

SEQUENCE OF CONSTRUCTION FOR STREAM CROSSING

- HOLD A PRECONSTRUCTION MEETING WITH THE HO. CO. SO, GLW DESIGN ENGINEER, GENERAL CONTRACTOR, MDE (BILL SIEGER) AND THE ARMY CORPS OF ENGINEERS (JOE DAVIA).
- EXTEND THE EXISTING CMP CULVERTS (21" AND 33") UPSTREAM AND EXPAND THE CROSSING WIDTH UPSTREAM SUFFICIENTLY TO A PROVIDE 12 FOOT WIDE ACCESS PATH.
- INSTALL SUPER SILT FENCE SHOWN.
- CONSTRUCT/INSTALL CONSPAN ARCH AND HEADWALL PER MANUFACTURERS RECOMENDATIONS.
- STABILIZE ALL DISTURBED AREAS WITH SOD PEGGED AT 2 FEET C-O-G.
- REMOVE THE EXISTING/EXPANDED CROSSING AND ASSOCIATED CMP CULVERTS.
- RESTORE THE 'NATURAL CHANNEL' CONFIGURATION BY GRADING THE STREAM CHANNEL TO MATCH THE EXISTING CHANNEL GEOMETRY UP AND DOWNSTREAM. PROVIDE A SMOOTH/GRADUAL TRANSITION BETWEEN UP AND DOWNSTREAM CROSS SECTIONS.

SOIL BORING SUMMARY TABLE

| BORING (-) | LOCATION (NE) | LOCATION WATKINS BRIDGE CL (STA, OFFSET (L-R)) |
|------------|------------------------|--|
| CLV-1 | N = 564222 E = 1321217 | STA: 12446.04, 38.91 L |
| CLV-2 | N = 564224 E = 1321243 | STA: 12455.40, 38.22 L |
| CLV-3 | N = 564225 E = 1321287 | STA: 11653.83, 46.54 L |
| CLV-4 | N = 564232 E = 1321424 | STA: 11213.91, 38.00 L |
| CLV-5 | N = 564271 E = 1321264 | STA: 1180.82, CL WB |
| CLV-6 | N = 564316 E = 1321250 | STA: 12421.17, 38.00 R |
| CLV-7 | N = 564316 E = 1321250 | STA: 11451.14, 46.21 R |
| CLV-8 | N = 564312 E = 1321245 | STA: 11556.15, 34.94 R |
| CLV-9 | N = 564328 E = 1321446 | STA: 11113.33, 34.94 R |



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William Z. Wada 2-5-07
Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Andy Hamilton 2/8/07
Chief, Division of Land Development

[Signature] 2/16/07
Chief, Development Engineering Division

DEVELOPER'S/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."

Robert Van Dyke 1-25-07
SIGNATURE OF DEVELOPER/BUILDER 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."

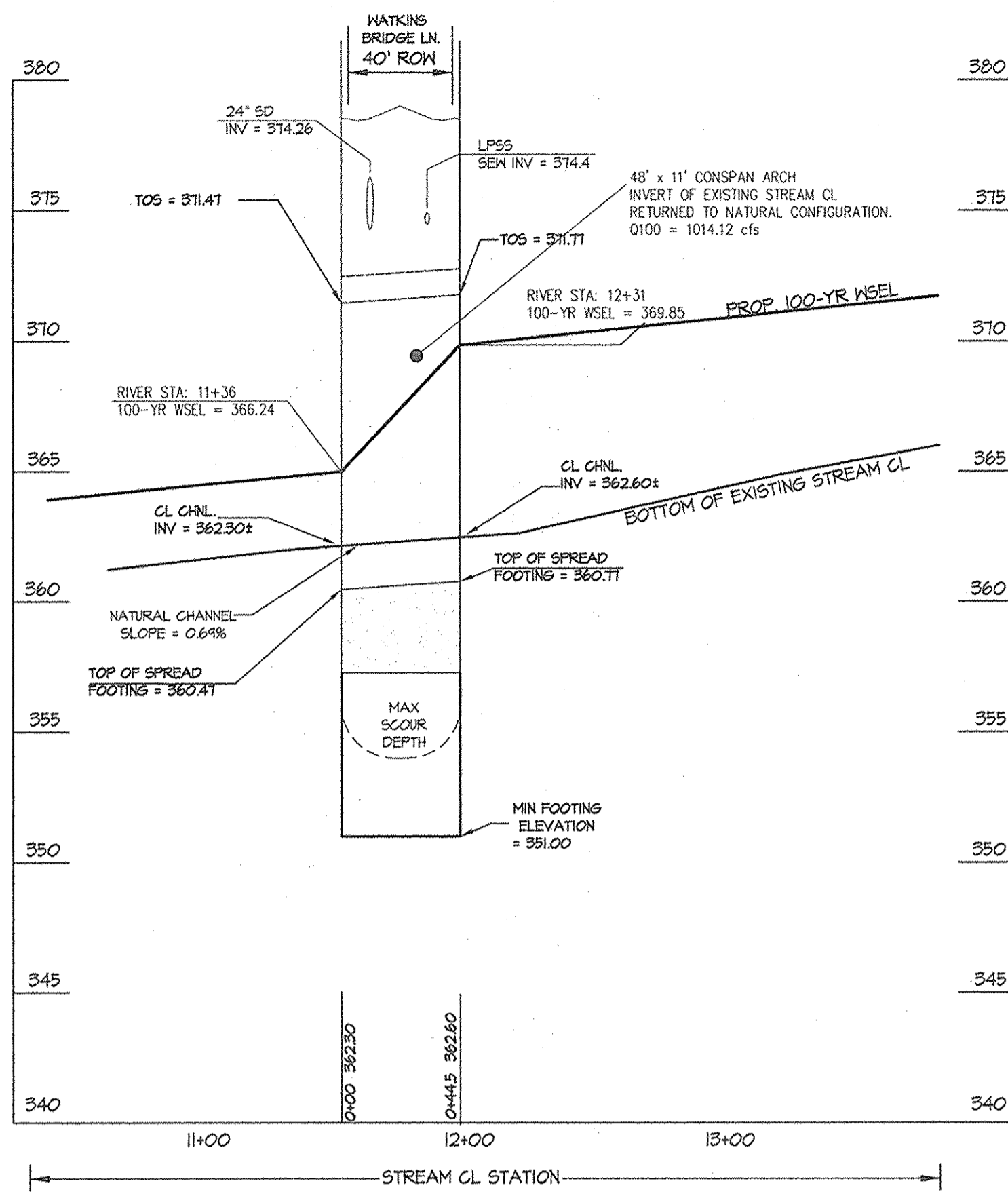
[Signature] 1-25-07
ENGINEER'S SIGNATURE DATE

GLWGUTSCHICK 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 FAX: 301-421-4188

D:\Drawings\00153\Final-Road\00153-BRIDGE-CE.dwg DES. BJM DRN. BJM CHK. MJT

DATE REVISION BY APPR.



Footing Depth Recommendations

HECRAS - Combined Scour Depths
Left abutment scour + contraction scour (ft): 6.25
Right abutment scour + contraction scour (ft): 11.10

ABSCOUR - Combined Scour Depths
116: Contraction scour depth (ys) (#15-#1030)(ft): Left: 8.286 Channel: 5.684 Right: 9.454

We have conservatively based our footing specifications upon the highest combined scour depth determined by ABSCOUR and HECRAS. The HECRAS determined combined scour depth of 11.10 ft will be countered by setting the bottom of all structural footings 14.5 feet below the lowest overbank elevation encountered along the inside face of structure. Field survey data shows that the lowest elevation where this occurs is 365.5 at the downstream inside face of structure. This equates to a minimum footing depth of 351.00 and effectively sets the footing over 3 feet below scour depth.

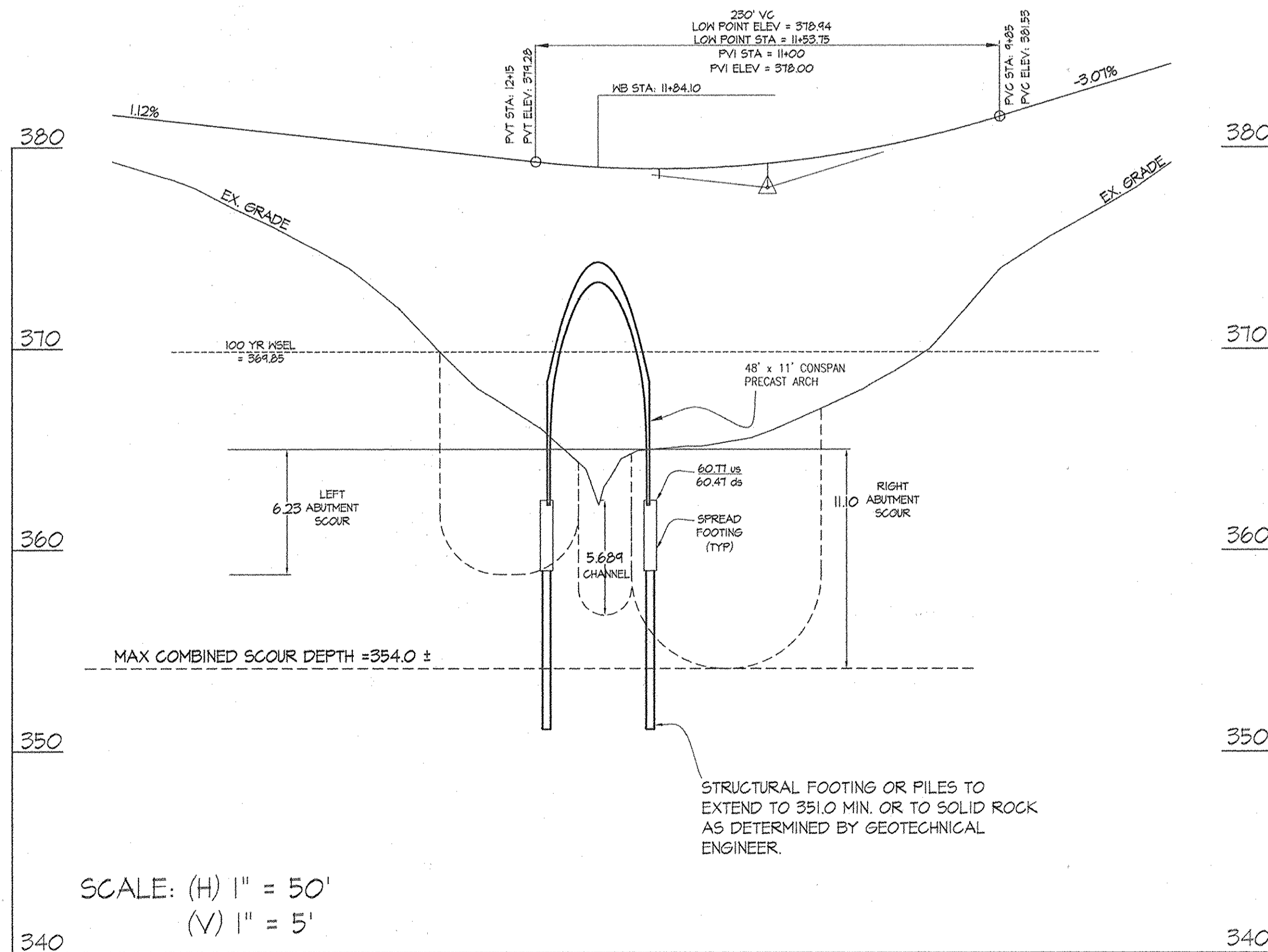
Geotechnical and Structural recommendations vary across the structure due to the presence of rock at numerous borings. Some portions of this structure are to be supported by H-piles and others by spread footings. Unless set into rock, both the H-pile and spread footings must extend to a minimum depth of 351.00 to protect the structure from scour and also eliminate the need to heavily armor the stream.

Provide 14.5' of footing depth below over bank elevation at outfall.

Lowest Over bank elevation along inside face of structure = 365.5
Top of footing = 360.41 ds / 360.77 vs
Required Invert of Footing = 351.00
Footing Depth Below Scour = 5.4 ft.

FOOTING SUPPORT RECOMMENDATIONS

- Foundation Support on Shallow Rock designed to a minimum allowable bearing pressure of 6000 psf. CONTECH's structural engineer has determined that no dowel or key joints are necessary for the footing on rock support condition. The limits of this support condition are to be determined by Hillis Carnes Inc. during construction.
- Deep Foundation Support is to extend to rock or refusal at approximate depths of up to 40' below existing grade, elev-325. Deep Foundation Support is to consist of HP-12x55 Piles driven to rock and designed to an allowable single pile capacity of 40 tons per pile. Hillis Carnes Inc. to recommend the hammer-tip and blow count during construction. The limits of this support condition are to be determined by Hillis Carnes Inc. during construction.



SCALE: (H) 1" = 50'
(V) 1" = 5'

BRIDGE SCOUR ANALYSIS AND RECOMENDATIONS
PROFILE THROUGH INTERNAL BRIDGE SECTION 11+87

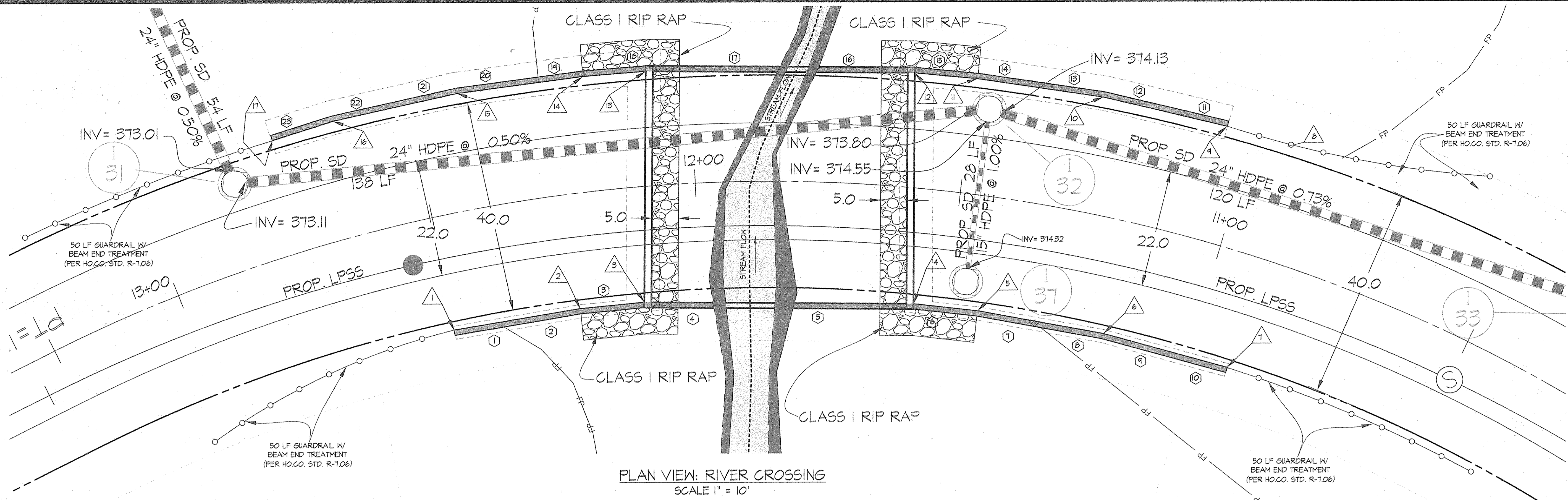
PREPARED FOR OWNER
WALNUT GROVE HOLDING, L.L.C.
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DYKE, PRESIDENT
1075 CHARTER DRIVE
SUITE 320
COLUMBIA, MARYLAND 21044

STREAM CROSSING PLAN & DETAILS
WALNUT GROVE
LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL "A",
NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
NON-BUILDABLE BULK PARCEL "J"
L.2927 F.487
ELECTION DISTRICT No. 5
HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 49 OF 78 |

WATKINS BRIDGE LANE WALL STATIONING

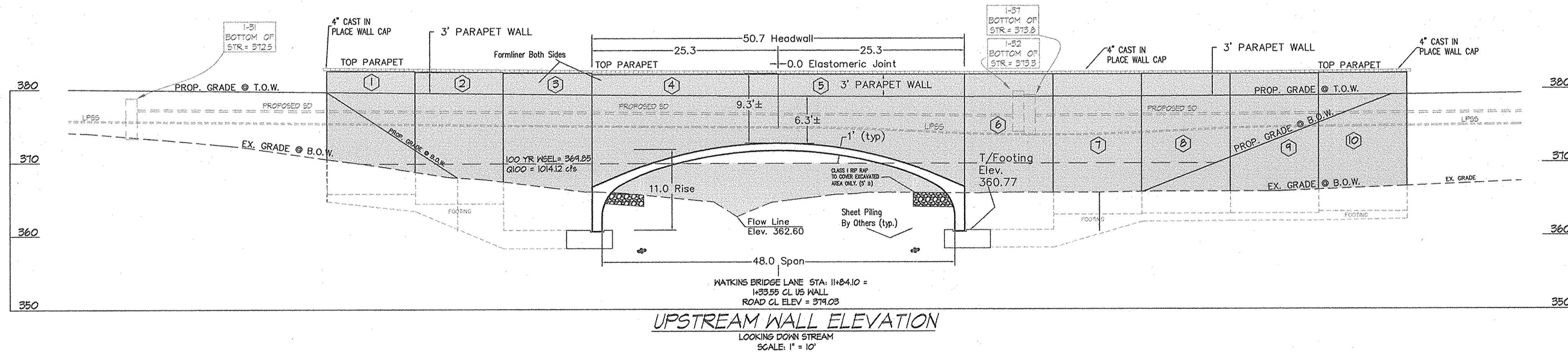
| ROAD & STATIONING | CL OFFSET |
|-------------------|-------------|
| 12+50.44 | 21.58 LEFT |
| 12+24.54 | 21.67 LEFT |
| 12+11.45 | 21.77 LEFT |
| 11+56.74 | 21.77 LEFT |
| 11+43.65 | 21.67 LEFT |
| 11+17.74 | 21.58 LEFT |
| 10+91.74 | 21.52 LEFT |
| 10+82.45 | 21.72 RIGHT |
| 11+04.76 | 22.02 RIGHT |
| 11+27.04 | 22.01 RIGHT |
| 11+49.35 | 21.69 RIGHT |
| 11+60.44 | 21.57 RIGHT |
| 12+07.75 | 21.57 RIGHT |
| 12+18.84 | 21.69 RIGHT |
| 12+41.15 | 22.01 RIGHT |
| 12+63.43 | 22.02 RIGHT |
| 12+74.57 | 21.64 RIGHT |



PLAN VIEW: RIVER CROSSING
SCALE 1" = 10'

UPSTREAM WALL SUMMARY TABLE

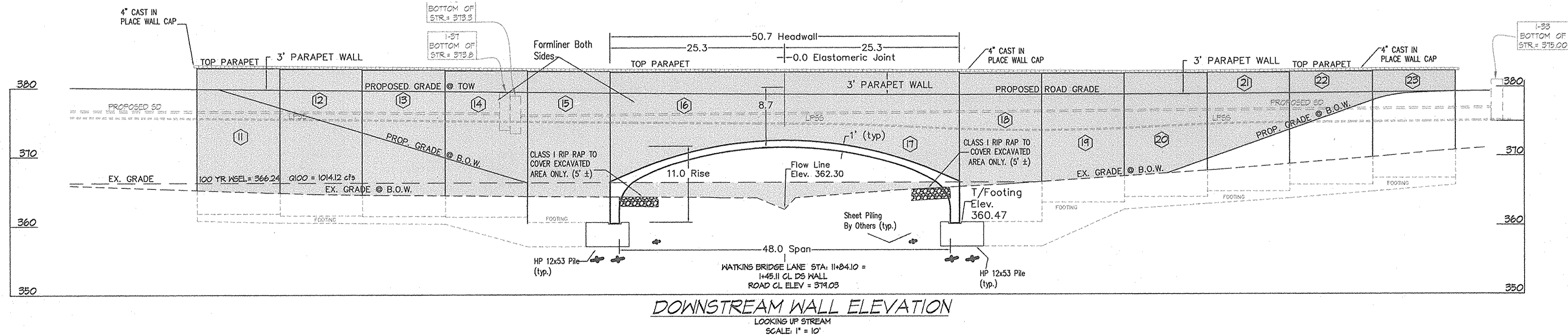
| PANEL # | TOP OF PANEL | BOTTOM OF PANEL | MAX GRADE @ TOP OF PANEL | MIN GRADE @ BOTTOM OF PANEL |
|---------|--------------|-----------------|--------------------------|-----------------------------|
| 1 | 382.41 | 368.73 | 374.44 | 368.73 |
| 2 | 382.36 | 364.38 | 374.36 | 367.88 |
| 3 | 382.22 | 360.77 | 374.22 | 366.00 |
| 4 | 382.00 | ARCH | 374.03 | ARCH |
| 5 | 382.00 | ARCH | 374.03 | ARCH |
| 6 | 382.00 | 360.77 | 374.44 | 365.80 |
| 7 | 382.00 | 362.88 | 374.45 | 365.88 |
| 8 | 382.03 | 362.97 | 374.47 | 365.91 |
| 9 | 382.03 | 363.00 | 374.03 | 366.00 |
| 10 | 382.11 | 363.25 | 374.11 | 366.25 |



UPSTREAM WALL ELEVATION
LOOKING DOWN STREAM
SCALE 1" = 10'

DOWNSTREAM WALL SUMMARY TABLE

| PANEL # | TOP OF PANEL | BOTTOM OF PANEL | MAX GRADE @ TOP OF PANEL | MIN GRADE @ BOTTOM OF PANEL |
|---------|--------------|-----------------|--------------------------|-----------------------------|
| 11 | 382.84 | 361.78 | 374.78 | 364.78 |
| 12 | 382.75 | 361.44 | 374.62 | 364.44 |
| 13 | 382.62 | 361.34 | 374.44 | 364.34 |
| 14 | 382.44 | 361.26 | 374.35 | 364.26 |
| 15 | 382.35 | 360.47 | 374.22 | 364.16 |
| 16 | 382.22 | ARCH | 374.03 | ARCH |
| 17 | 382.22 | ARCH | 374.03 | ARCH |
| 18 | 381.74 | 360.47 | 374.84 | 363.54 |
| 19 | 381.97 | 363.24 | 374.45 | 366.24 |
| 20 | 382.03 | 364.03 | 374.47 | 367.04 |
| 21 | 382.11 | 364.88 | 374.03 | 364.55 |
| 22 | 382.22 | 365.82 | 374.11 | 373.78 |
| 23 | 382.35 | 366.74 | 374.22 | 374.48 |

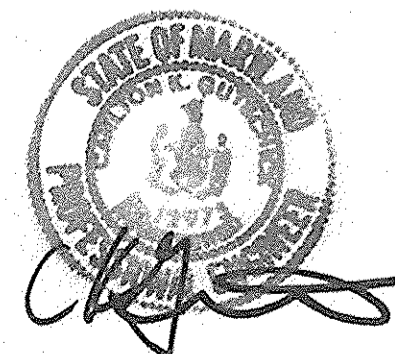


DOWNSTREAM WALL ELEVATION
LOOKING UP STREAM
SCALE 1" = 10'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Howard T. Mahoney, Jr. 2-5-07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Camille Kama 2/5/07
 Chief, Division of Land Development Date

Chris 2/5/07
 Chief, Development Engineering Division Date

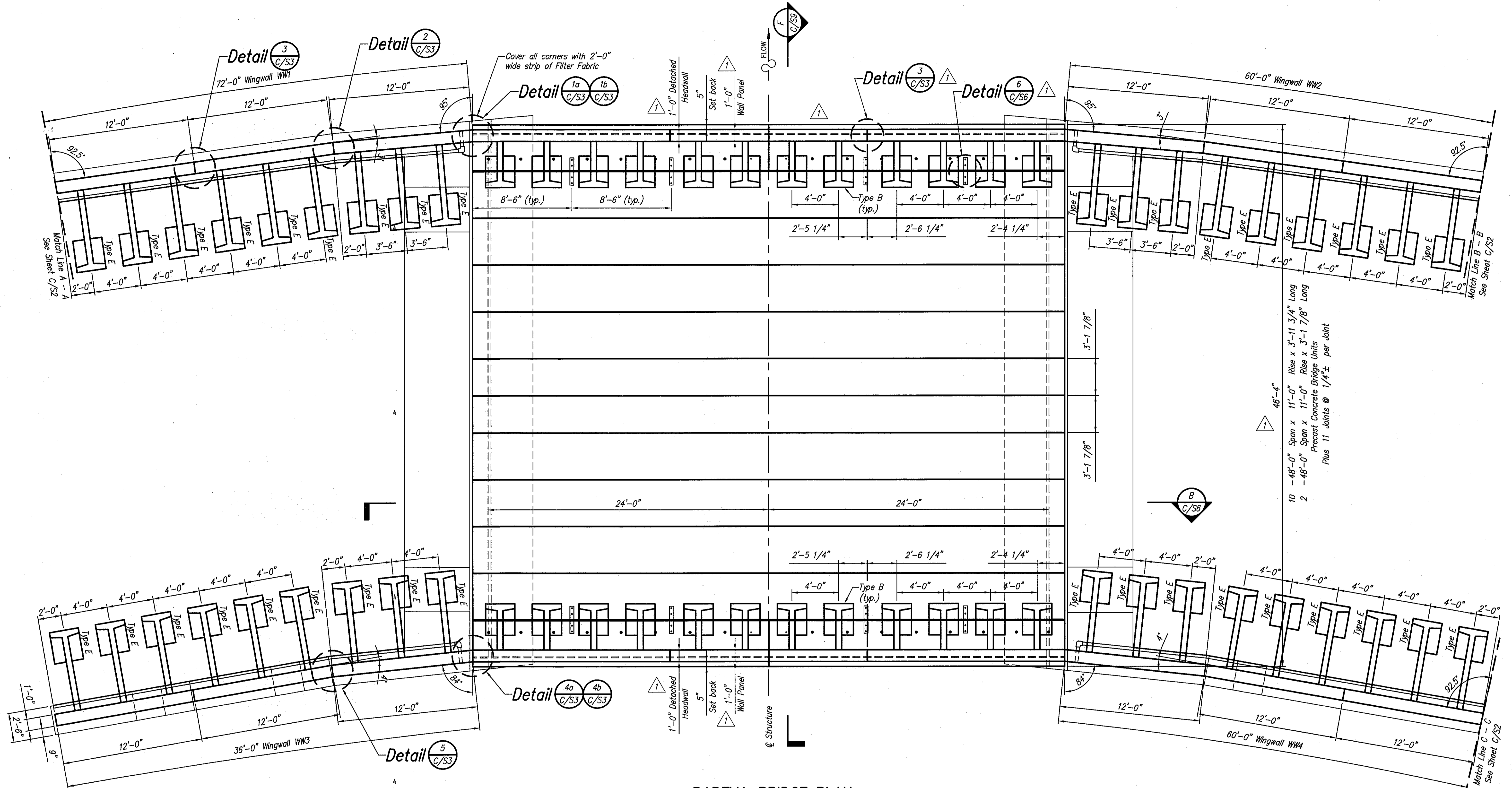


GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

STREAM CROSSING DETAILS-PLAN & PROFILE ALONG HEADWALLS
WALNUT GROVE
 LOTS 1 THRU 38, BUILDABLE PRESERVATION PARCEL "A";
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
 NON-BUILDABLE BULK PARCEL "J"
 L2927 F487
 HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 50 OF 78 |



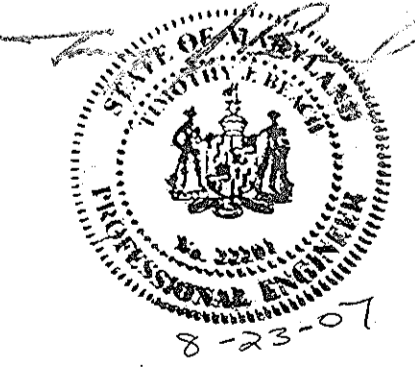
PARTIAL BRIDGE PLAN



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Willa T. Mott
 Chief, Bureau of Highways
 Date: 9-13-07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Harrold
 Chief, Division of Land Development
 Date: 9/15/07

Chief, Development Engineering Division
 Date: 9/15/07



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. 22201, Expiration Date: 12-22-07

| | | | |
|--|----------|-----|-----------------|
| | Designed | KTM | C/S Project No. |
| | Drawn | RPJ | 14679 |
| | Checked | JVP | Sheet No. |
| | Date | | C/S1 |

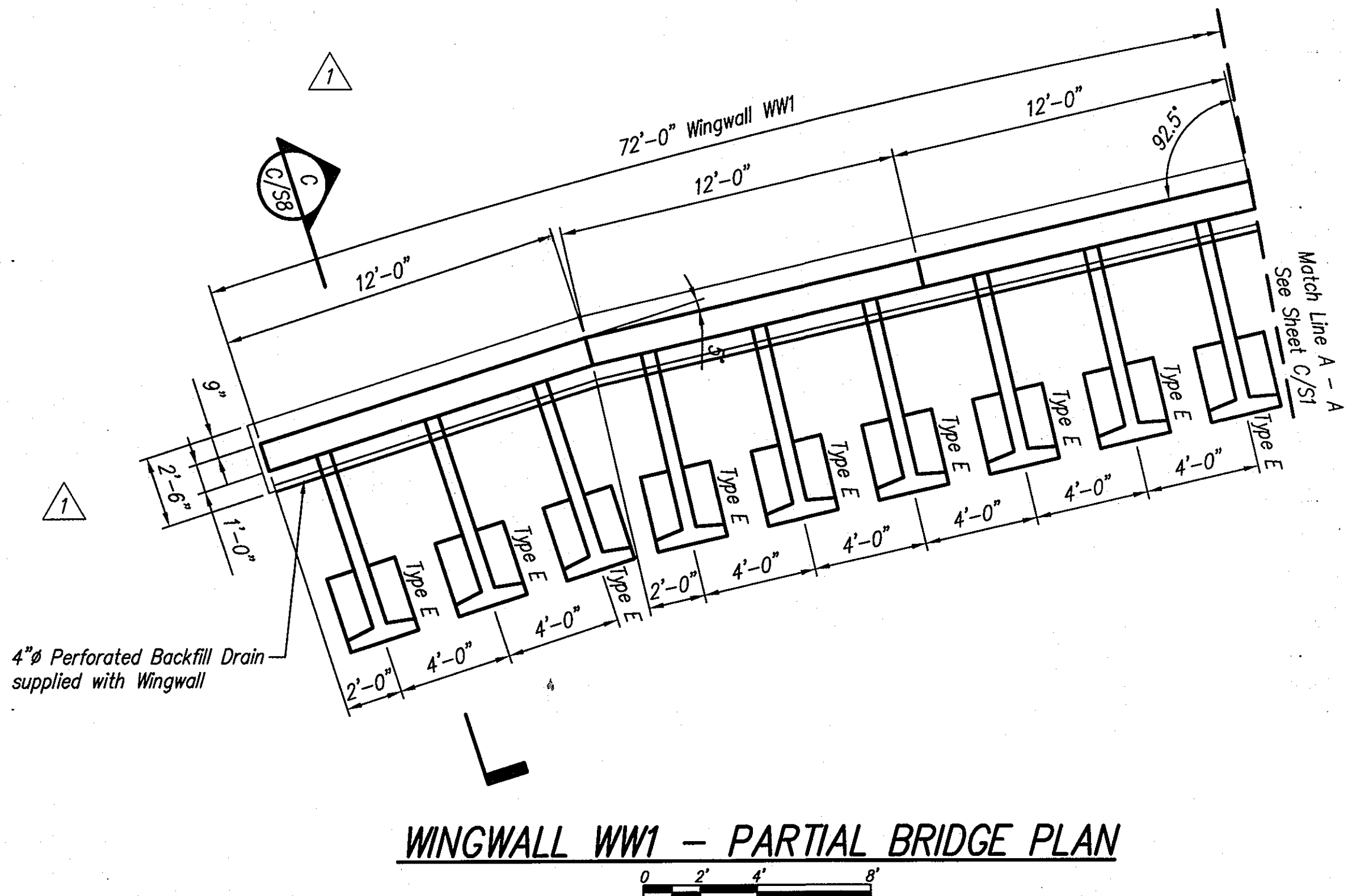
GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BAL: 410-880-1820 DC/WA: 301-989-2524 FAX: 301-421-4186

| DATE | REVISION #1) | REVISION | JCH | KTM |
|---------|--------------|--|-----|-------|
| 8/23/07 | | REVISED FOUNDATION ACCORDING TO NEW GEOTECH REPORT AND REVISED HEADWALLS | JCH | KTM |
| | | | BY | APPR. |

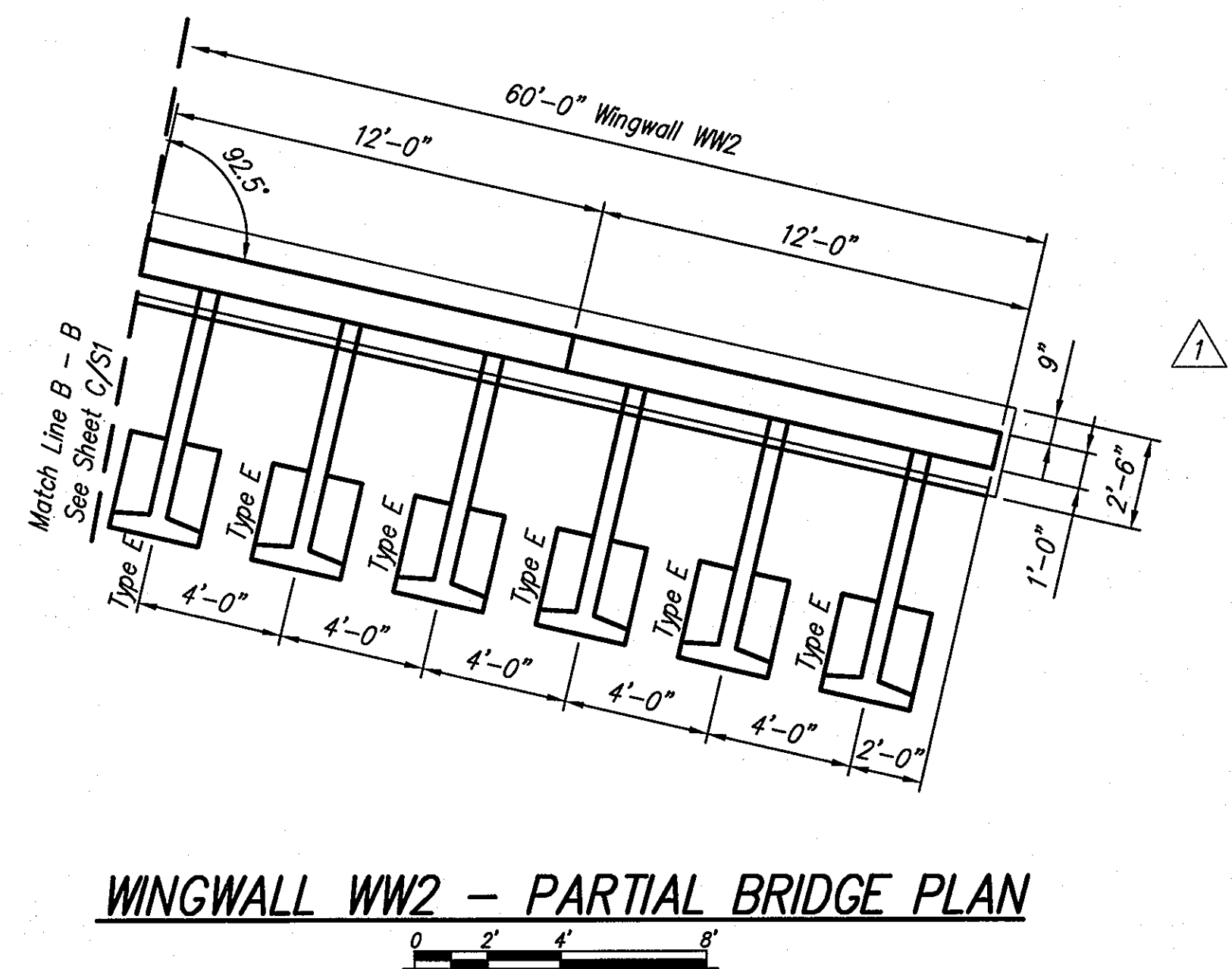
PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

Revised CONSPAN BRIDGE SYSTEM DETAILS
 WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCELS "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I" AND
 NON-BUILDABLE BULK PARCELS "J"
 L.2927 F.467

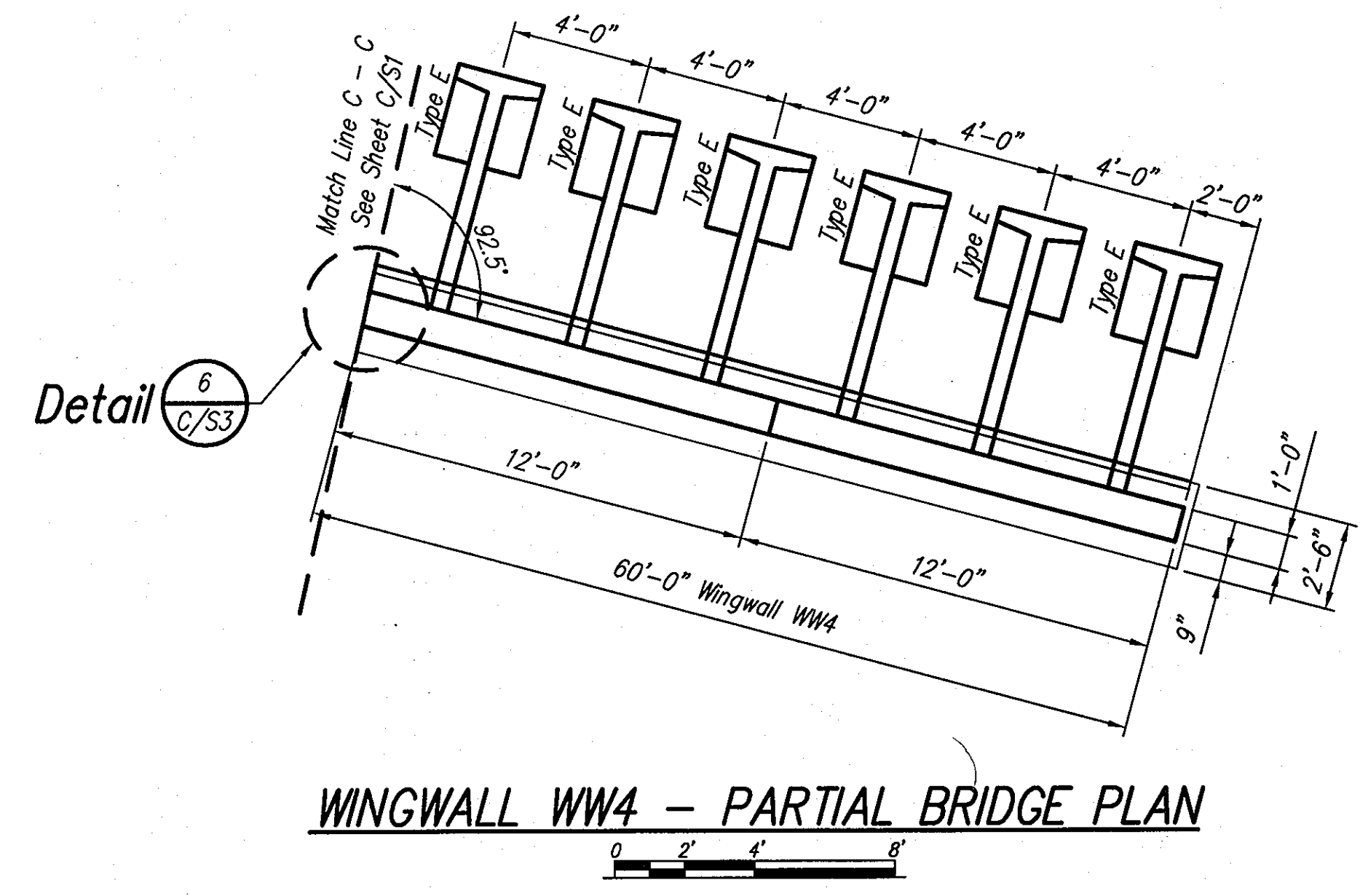
| | | |
|-------------|----------------|-------------------|
| SCALE | ZONING | G. L. W. FILE No. |
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| AUGUST/2007 | 28 - 18,17 | 51 OF 78 |



WINGWALL WW1 - PARTIAL BRIDGE PLAN



WINGWALL WW2 - PARTIAL BRIDGE PLAN



WINGWALL WW4 - PARTIAL BRIDGE PLAN



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter F. McCall 9-13-07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Harvath 9/15/07
 Chief, Division of Land Development Date

[Signature] 9/15/07
 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. 22201, Expiration Date: 12-22-08

CONSPAN
BRIDGE SYSTEMS

| | | | |
|----------|-----|-----------------|-------|
| Designed | KTM | C/S Project No. | 14679 |
| Drawn | RPU | Sheet No. | C/S2 |
| Checked | JVP | 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 BALI: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

| DATE | REVISION #1 | REVISION | BY | APP'R. |
|---------|-------------|--|-----|--------|
| 8/23/07 | | REVISED FOUNDATION ACCORDING TO NEW GEOTECH REPORT AND REVISED HEADWALLS | JCH | KTM |
| | | | | |

PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, LLC
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 300
 COLUMBIA, MARYLAND 21044

Revised CONSPAN BRIDGE SYSTEM DETAILS
 WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCELS "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I" AND
 NON-BUILDABLE BULK PARCELS "J"
 L.2927 F.487
 ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

| | | |
|-------------|----------------|-------------------|
| SCALE | ZONING | G. L. W. FILE No. |
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| AUGUST/2007 | 28 - 18,17 | 52 OF 78 |

NOTES

GENERAL NOTES:

- This bridge has been designed for general site conditions. The project engineer shall be responsible for the structure's suitability to the existing site conditions and for the hydraulic evaluation -- including scour and confirmation of soil conditions.
- Prior to construction, contractor must verify all elevations shown through the engineer.
- Only CONTECH Bridge Solutions Inc. the CON/SPAN® approved precaster in Maryland may provide the structure designed in accordance with these plans.
- The use of another precast structure with the design assumptions used for the CON/SPAN® structure may lead to serious design errors. Use of any other precast structure with this design and drawings voids any certification of this design and warranty. CONTECH Bridge Solutions Inc. assumes no liability for design of any alternate or similar type structures.
- Alternate structures may be considered, provided that signed and sealed design drawings (and calculations) are submitted to the engineer 2 weeks prior to the bid date for review and approval.
- Proposed alternates to a CON/SPAN® Bridge System must submit at least two (2) independently verified full scale load tests that confirm the proposed design methodology of the three sided/arch structure(s). The proposed alternate, upon satisfactory confirmation of design methodology, may be considered an acceptable alternate.

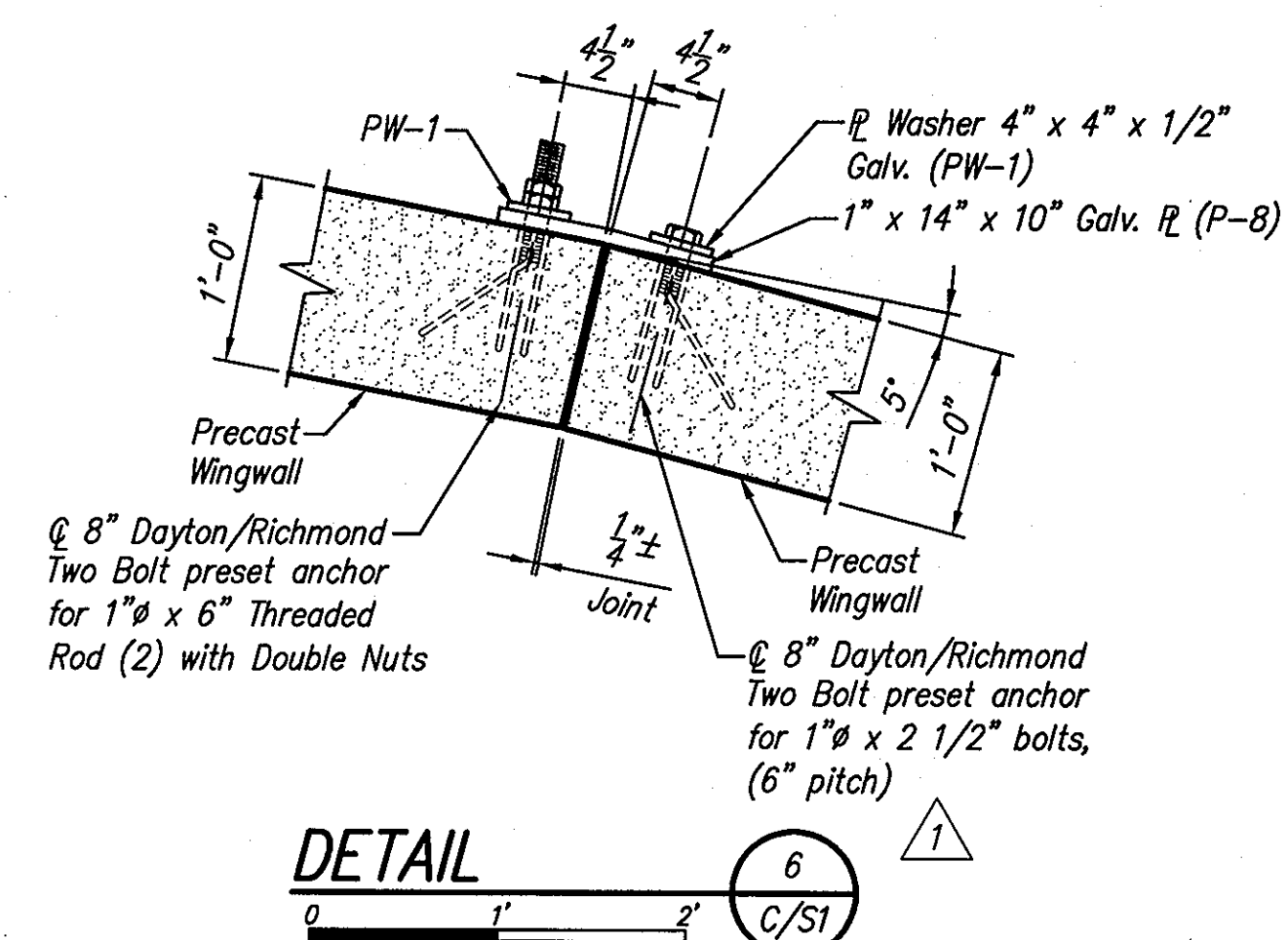
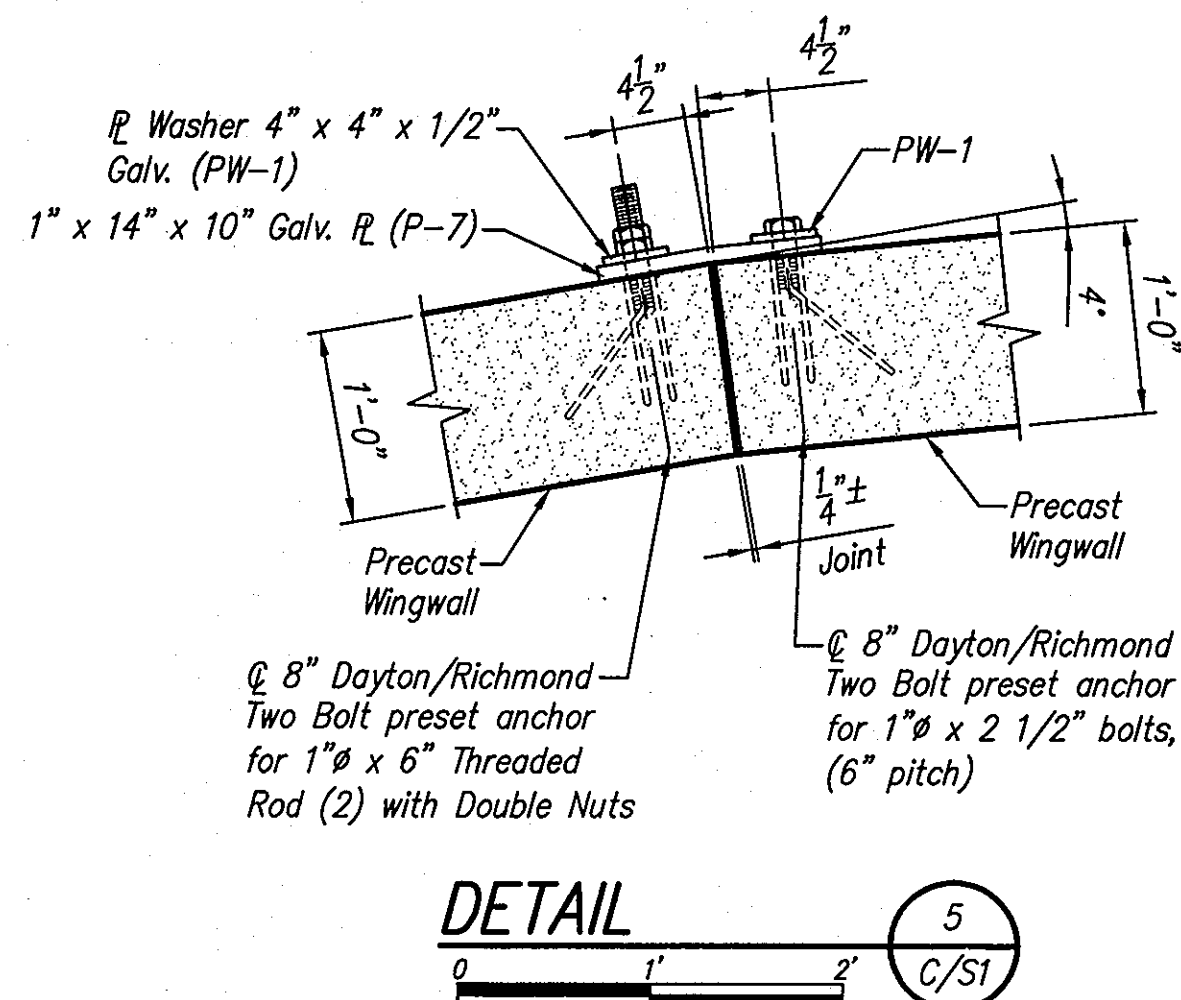
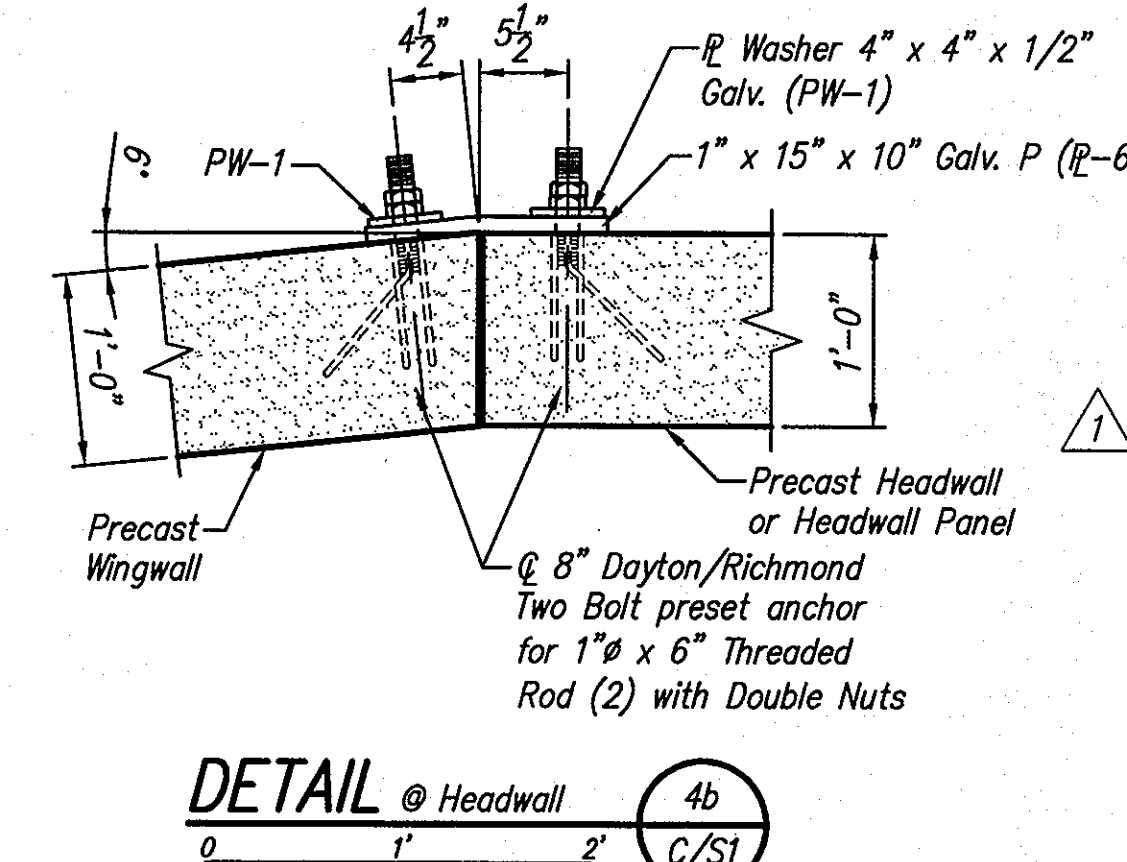
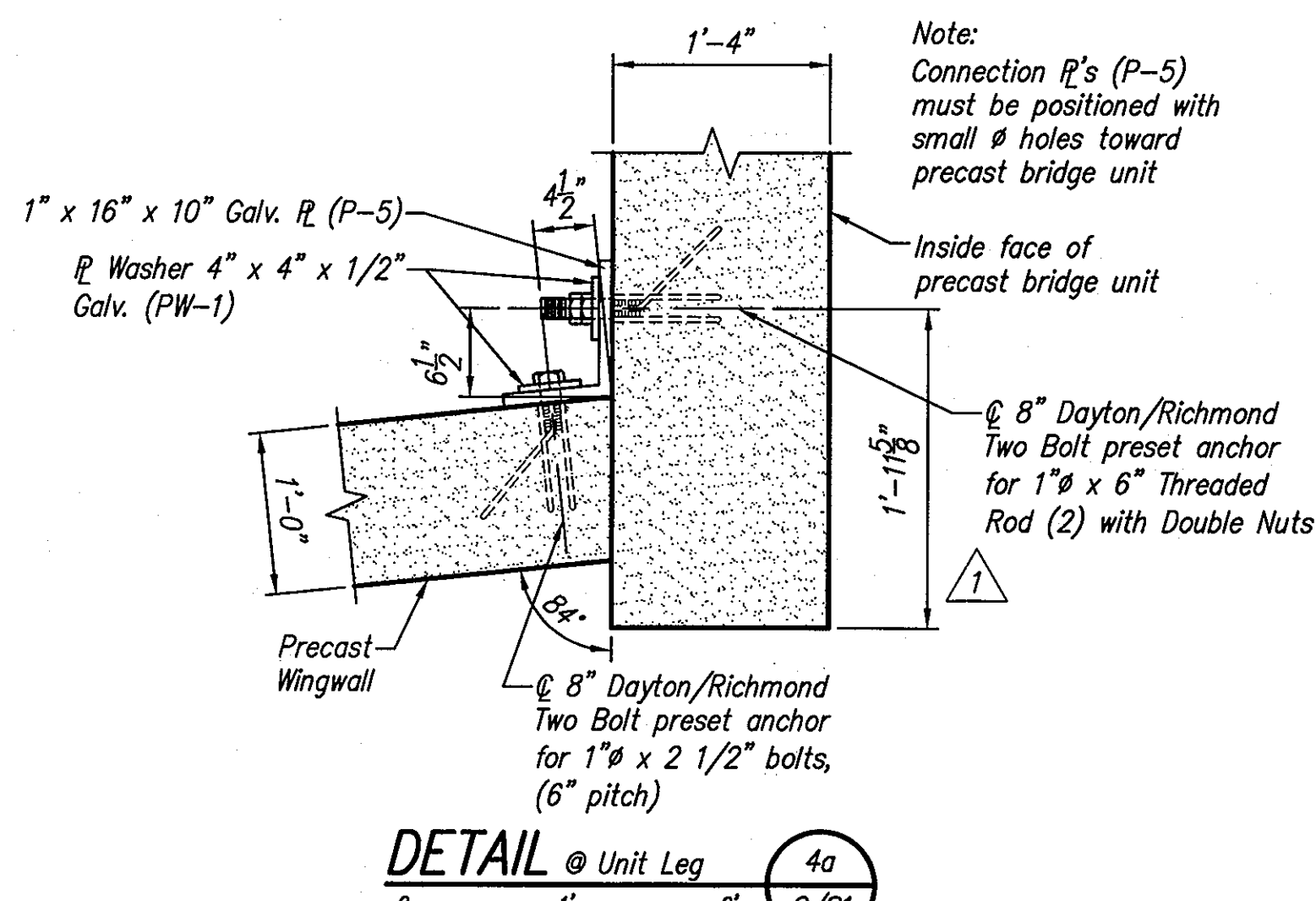
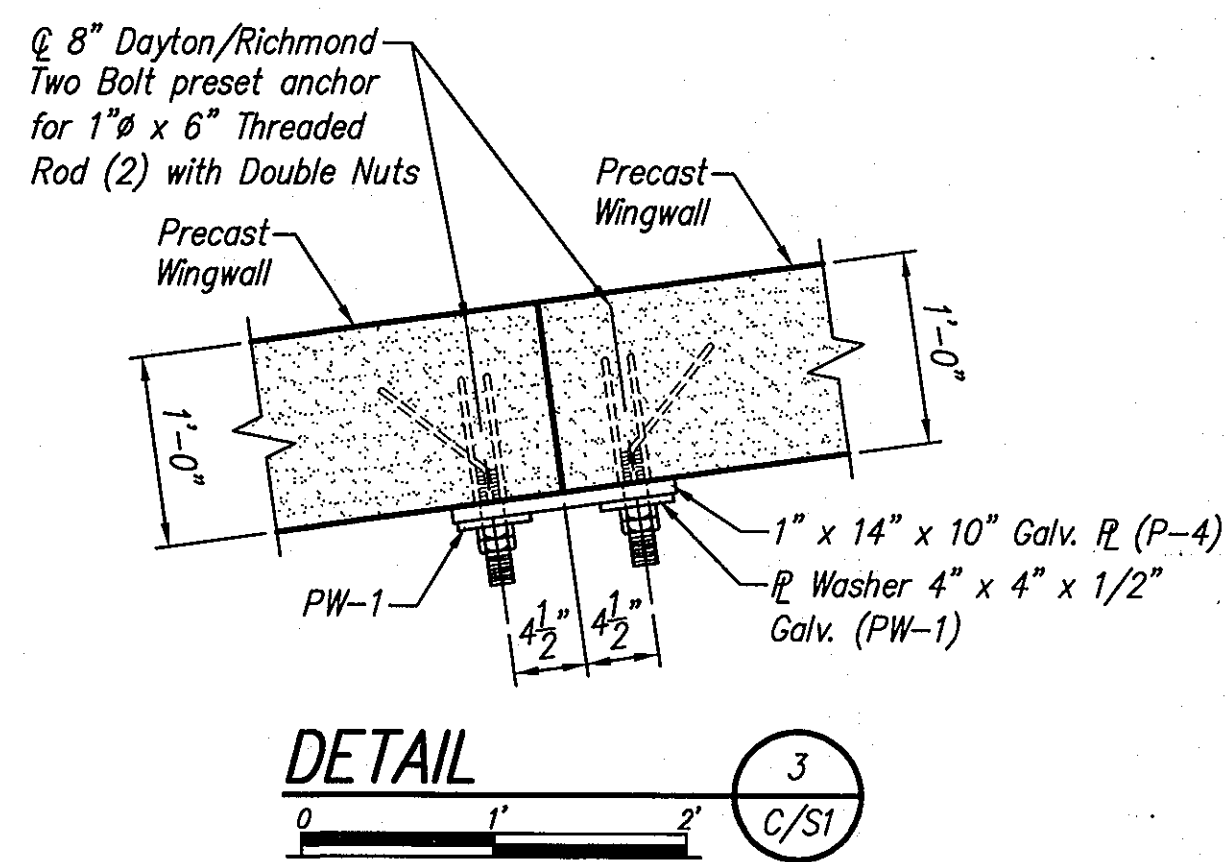
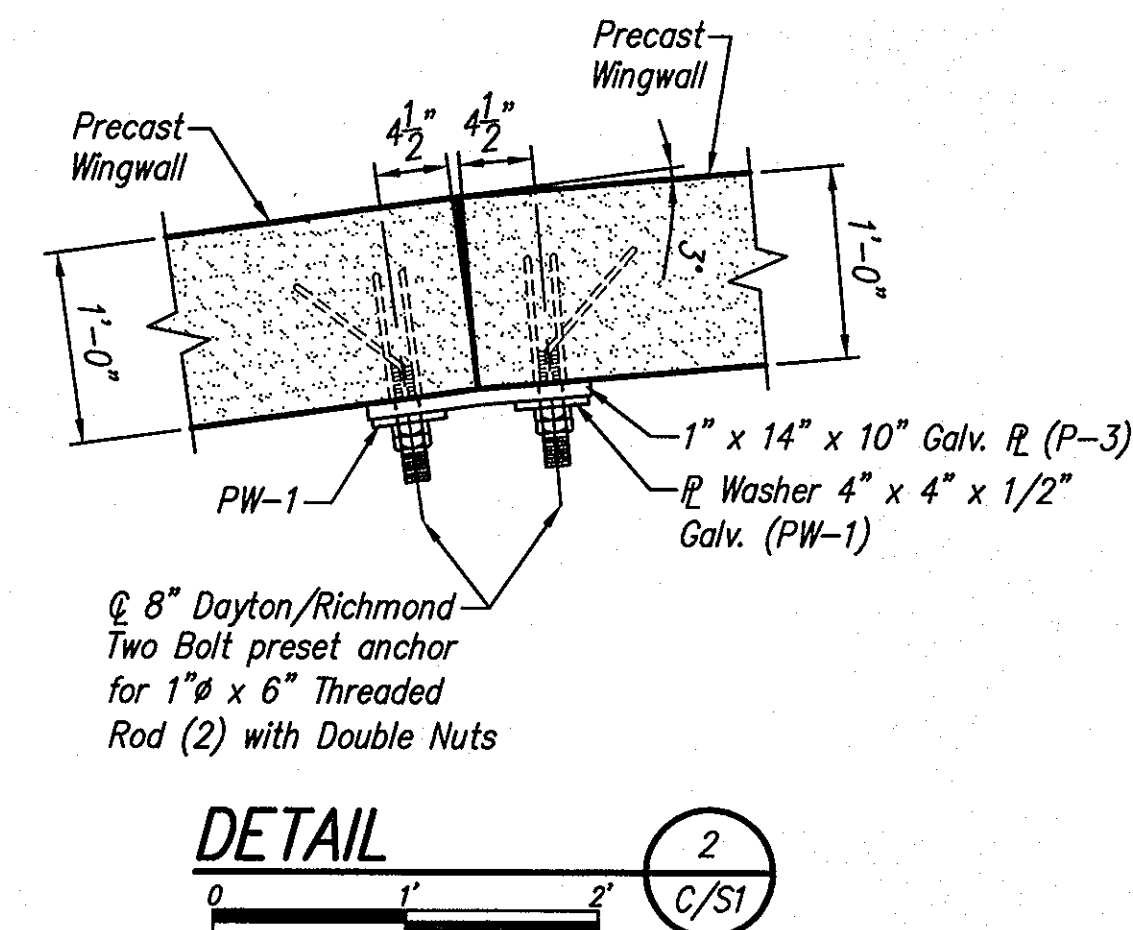
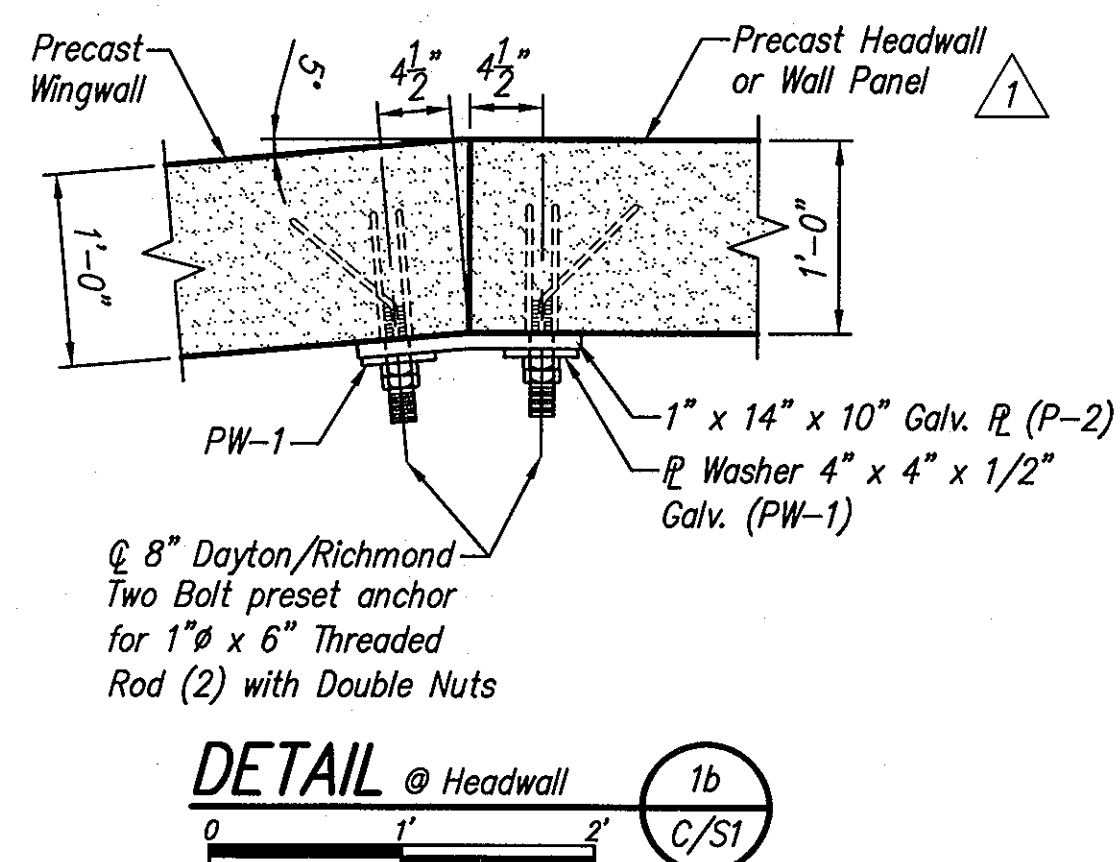
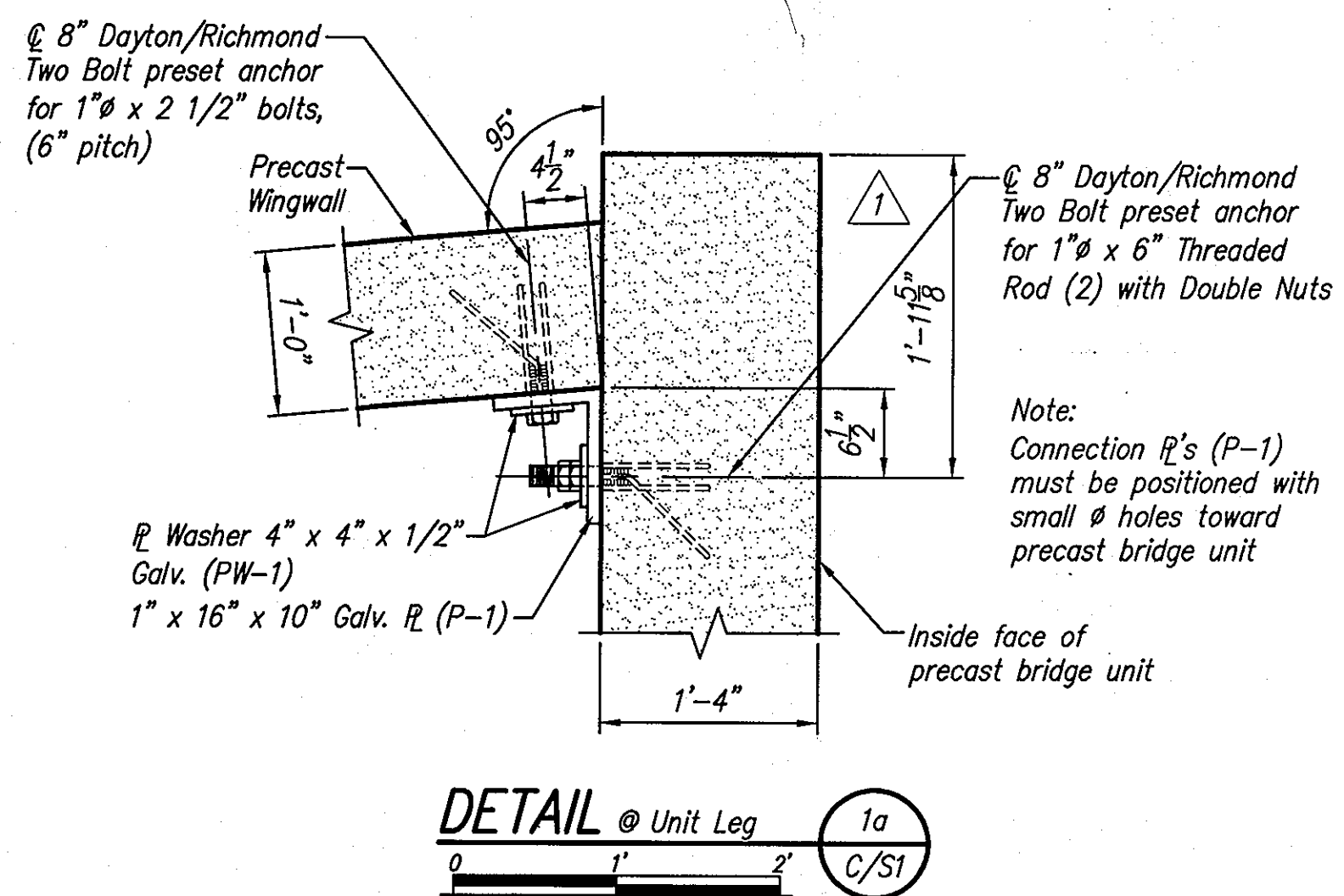
DESIGN DATA

Design Loading:
 Bridge Units: HS25-44
 Headwalls: Earth Pressure + Live Load Impact
 Wingwalls: Earth Pressure + Live Load Impact
 Design Fill Height: 2'-0" min. to 7'-0" max. from top of crown to top of pavement.
 Design Method: Load factor per AASHTO Specification
 Net allowable soil bearing pressure: 4000 PSF * Δ

*Foundation excavation and subgrade preparation shall be in accordance with the geotechnical report for this project prepared by Hillis-Carnes dated June 1, 2007.

MATERIALS

Precast units shall be constructed and installed in accordance with CON/SPAN® Specifications. Concrete for Footings shall have a minimum compressive strength of 4000 psi. Reinforcing steel for footings shall conform to ASTM A615 or A996-Grade 60.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 9-13-07
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 [Signature] 9/15/07
 Chief, Division of Land Development

GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONVILLE OFFICE PARK
 BURTONVILLE, MARYLAND 20866
 TEL: 301-421-4024 FAX: 301-421-4186

| DATE | REVISION #1 | REVISION | JCH | KTM |
|---------|-------------|--|-----|-------|
| 8/23/07 | | REVISED FOUNDATION ACCORDING TO NEW GEOTECH REPORT AND REVISED HEADWALLS | | |
| | | | BY | APPR. |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

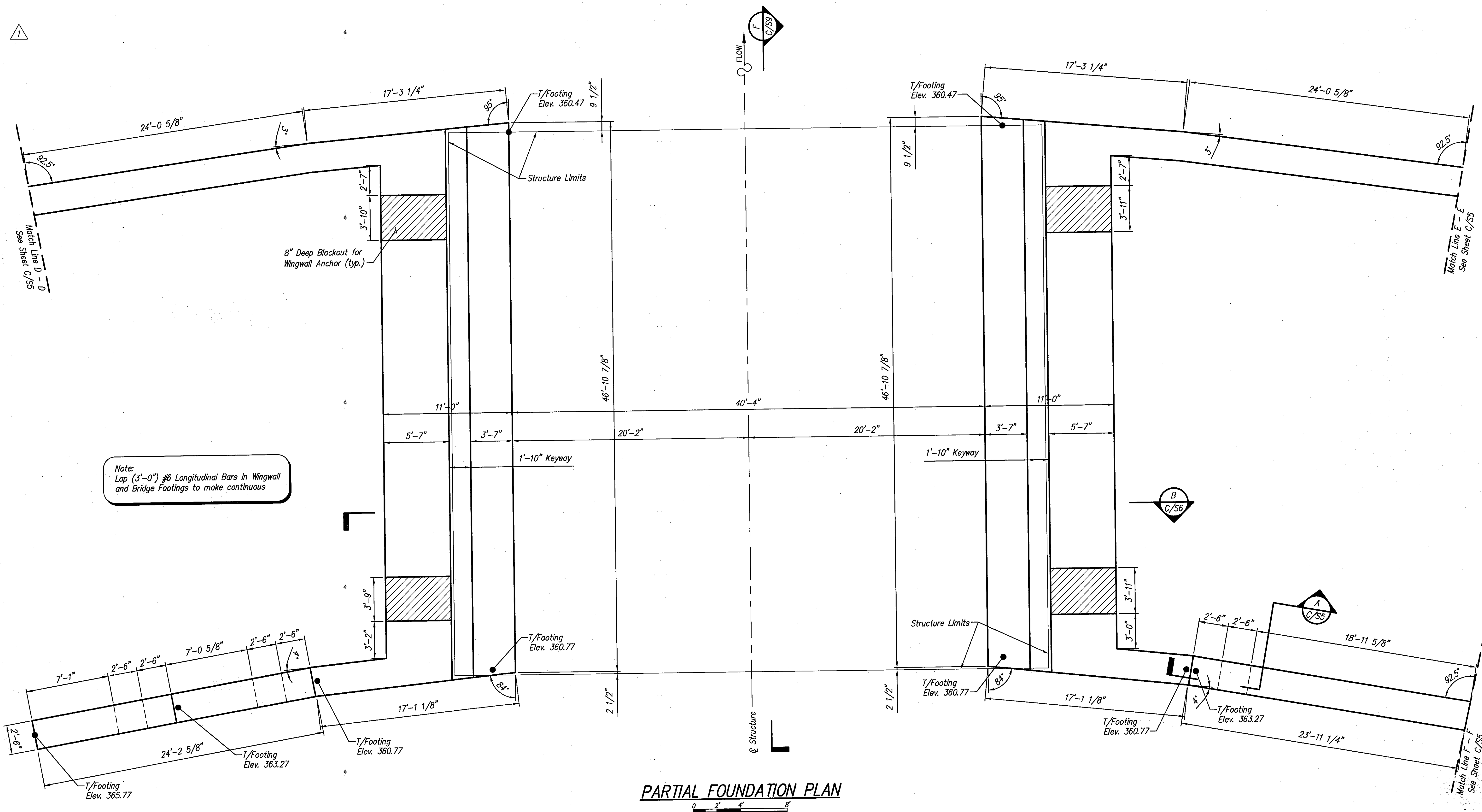
Revised CONSPAN BRIDGE SYSTEM DETAILS
 WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCELS "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I" AND
 NON-BUILDABLE BULK PARCELS "J"
 L.2927 F.487
 ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND



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. 22201, Expiration Date: 12-22-08

CONSPAN BRIDGE SYSTEMS
 Designed: KTM
 Drawn: RPU
 Checked: JVP
 Date: [Blank]
 C/S Project No. 14679
 Sheet No. C/S3

| SCALE | ZONING | G. L. W. FILE No. |
|-------------|----------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| AUGUST/2007 | PARCEL 74 28 - 18,17 | 53 OF 78 |



Note:
Lap (3'-0") #6 Longitudinal Bars in Wingwall
and Bridge Footings to make continuous

PARTIAL FOUNDATION PLAN

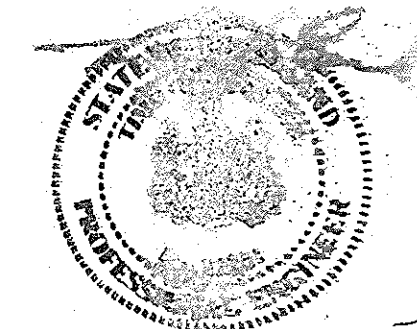


APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William J. ... 9-13-07
 Chief, Bureau of Highways
 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy ... 9/18/07
 Chief, Division of Land Development
 Date

Chief, Development Engineering Division

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. 32201, Expiration Date: 12-22-08



CONSPAN® BRIDGE SYSTEMS

| | | | |
|----------|-----|-----------------|-------|
| Designed | KTM | C/S Project No. | 14679 |
| Drawn | RPJ | Sheet No. | C/S4 |
| Checked | JVP | Date | |

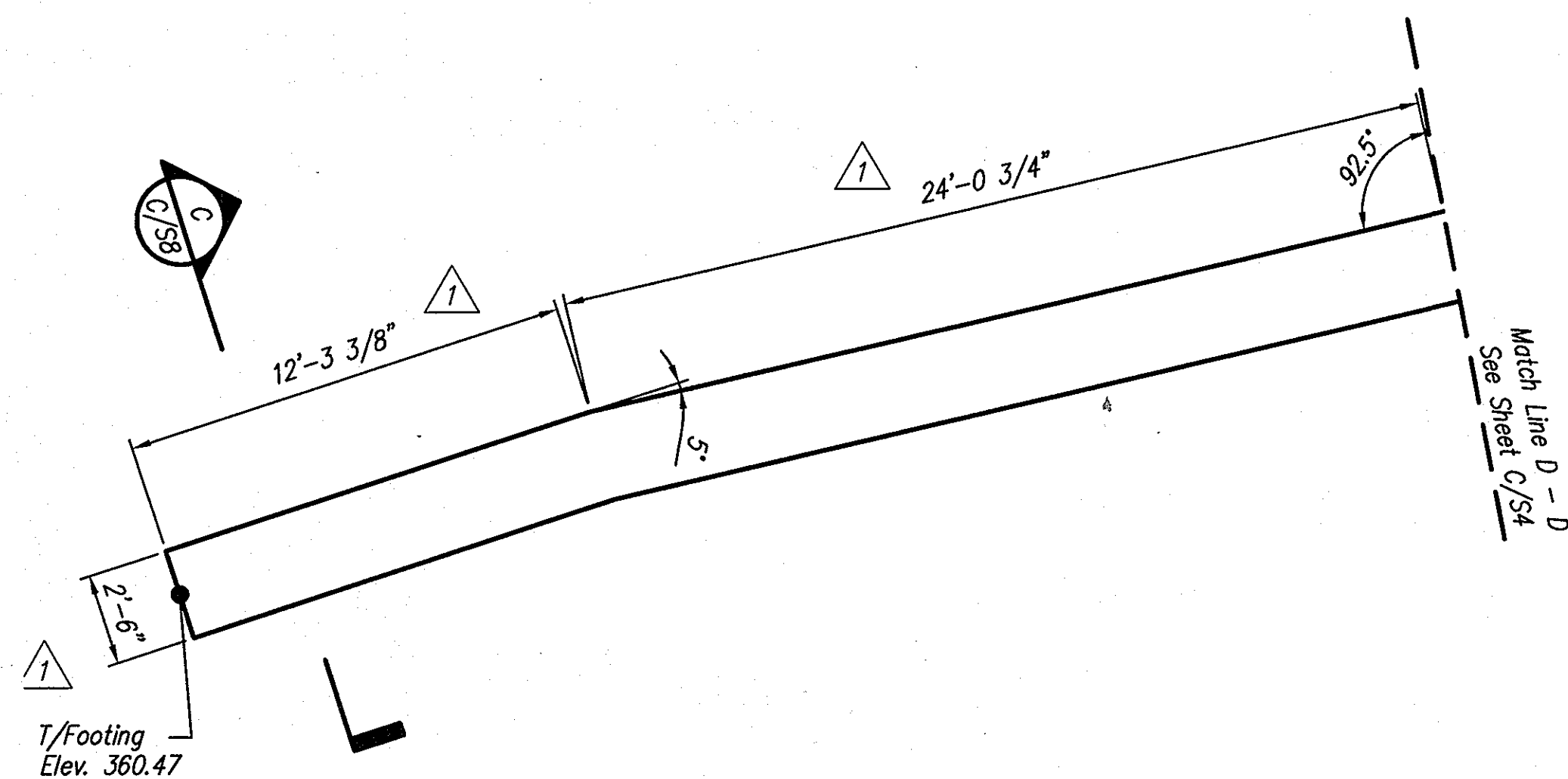
GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

| DATE | REVISION | BY | APPR. |
|---------|---|-----|-------|
| 8/23/07 | REVISION #1) REVISED FOUNDATION ACCORDING TO NEW GEOTECH REPORT AND REVISED HEADWALLS | JCH | KTM |

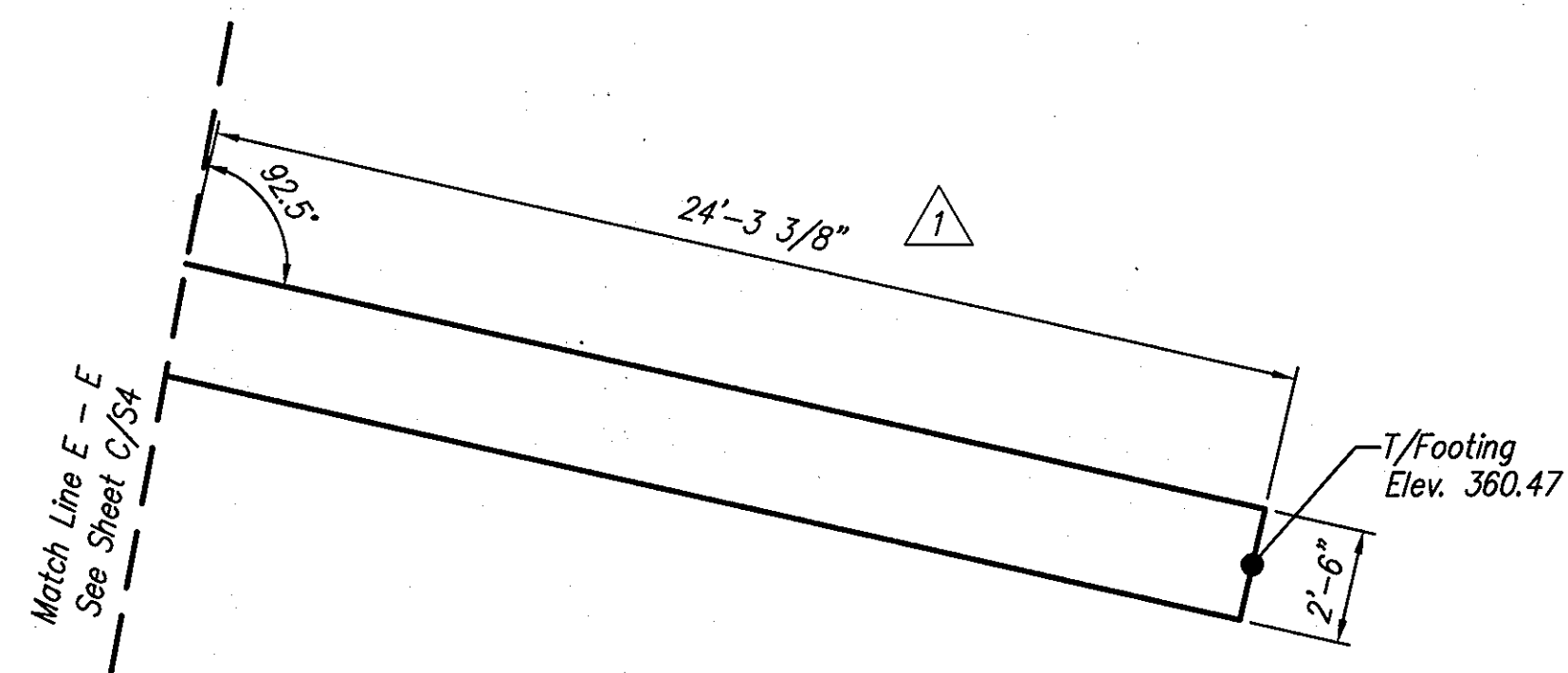
PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

| Revised CONSPAN BRIDGE SYSTEM DETAILS | | |
|---------------------------------------|----------------|-------------------|
| SCALE | ZONING | G. L. W. FILE No. |
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| AUGUST/2007 | 28 - 18,17 | 54 OF 78 |

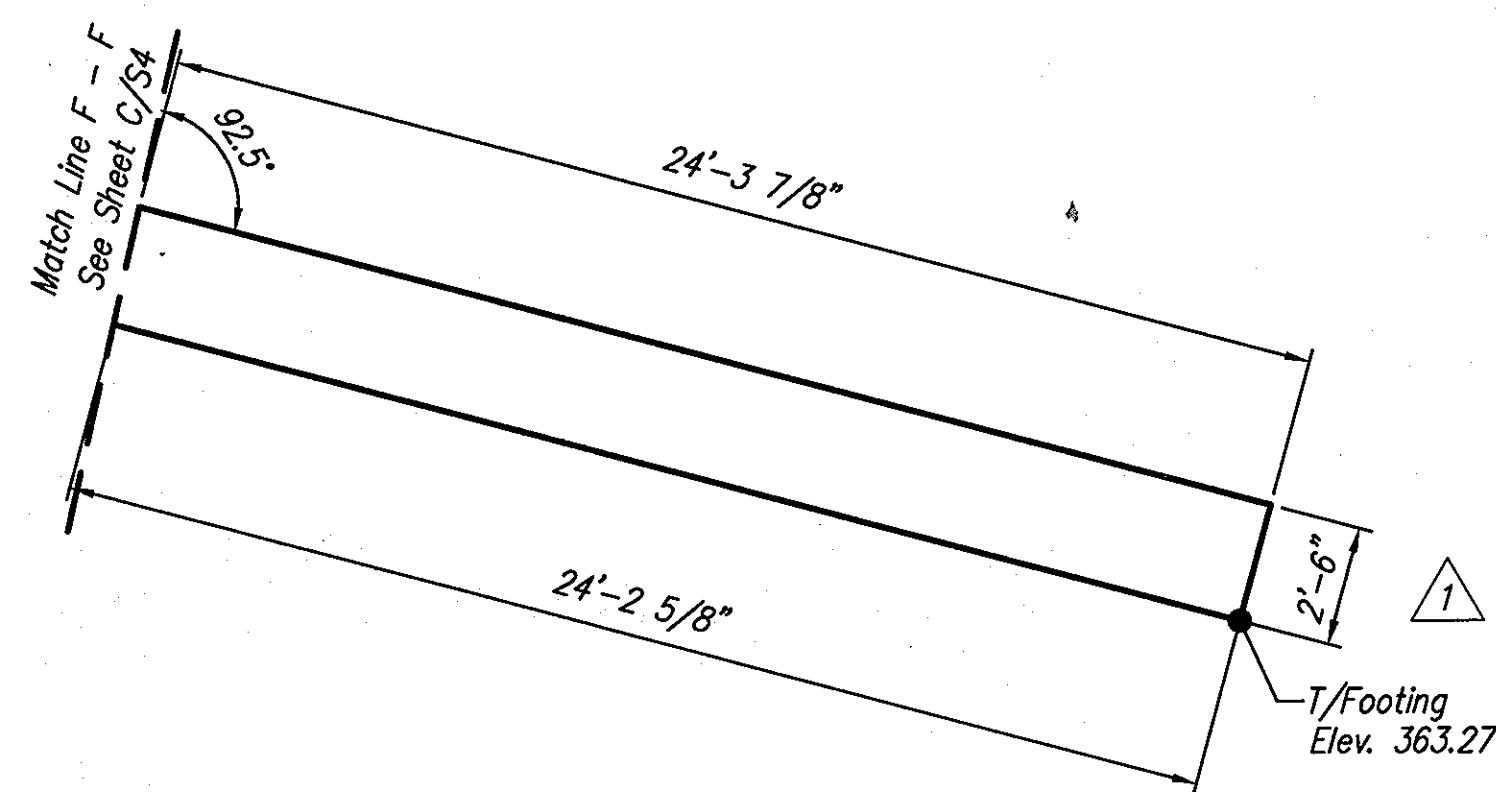
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCELS "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I" AND
 NON-BUILDABLE BULK PARCELS "J"
 L.2927 F.487 HOWARD COUNTY, MARYLAND



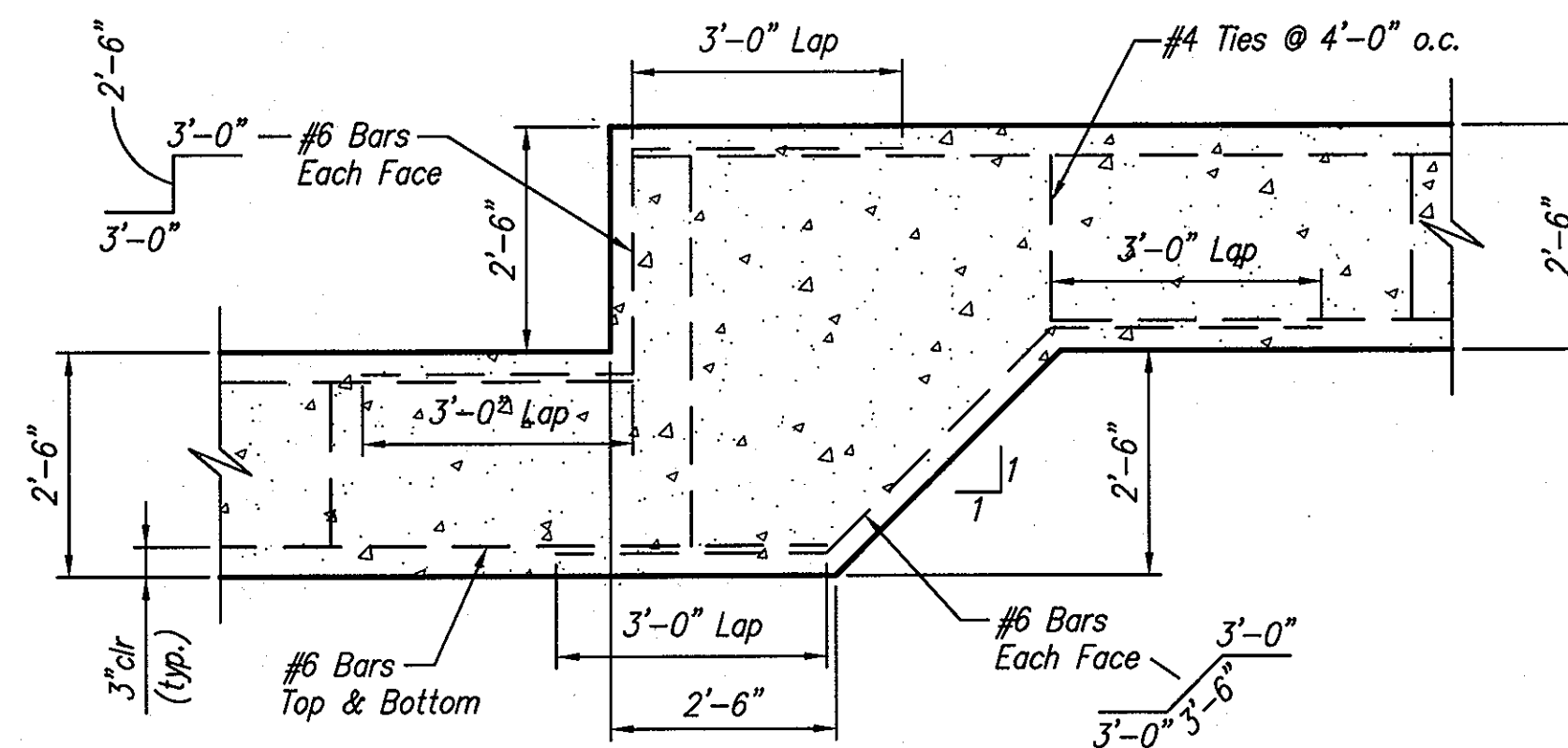
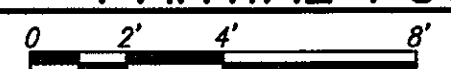
WINGWALL WW1 - PARTIAL FOUNDATION PLAN



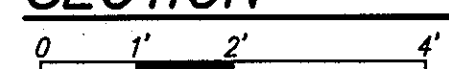
WINGWALL WW2 - PARTIAL FOUNDATION PLAN



WINGWALL WW4 - PARTIAL FOUNDATION PLAN



SECTION A-C/S4



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter Z. Enball 5-13-07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Harter 7/18/07
 Chief, Division of Land Development Date

[Signature] vs *[Signature]*
 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. 22251, Expiration Date: 12-22-08

CONSPAN® BRIDGE SYSTEMS

| | | | |
|----------|-----|----------------|-------|
| Designed | KTM | CS Project No. | 14679 |
| Drawn | RPU | Sheet No. | C/S5 |
| Checked | JVP | 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

| DATE | REVISION | BY | APP'R. |
|---------|---|-----|--------|
| 8/23/07 | REVISION #1) REVISED FOUNDATION ACCORDING TO NEW GEOTECH REPORT AND REVISED HEADWALLS | JCH | KTM |

PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, LLC
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

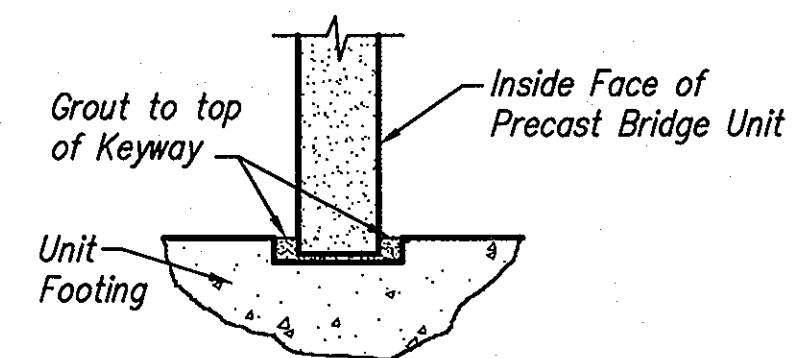
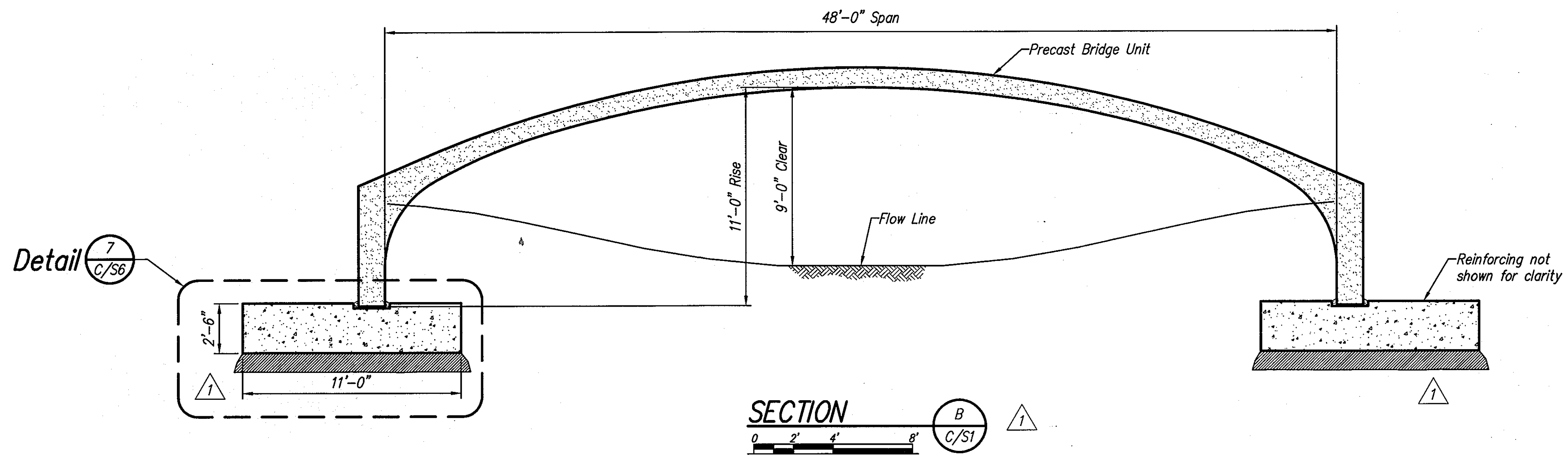
Revised CONSPAN BRIDGE SYSTEM DETAILS

WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCELS "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I" AND
 NON-BUILDABLE BULK PARCELS "J"
 L.2927 F.487

ELECTION DISTRICT No. 5

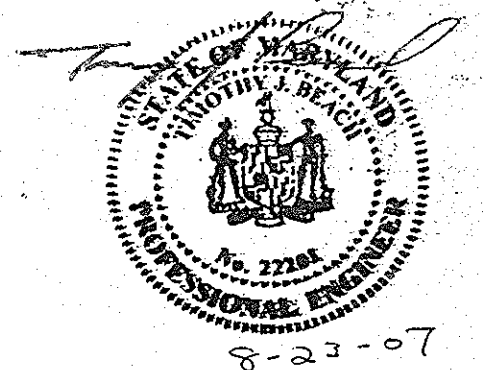
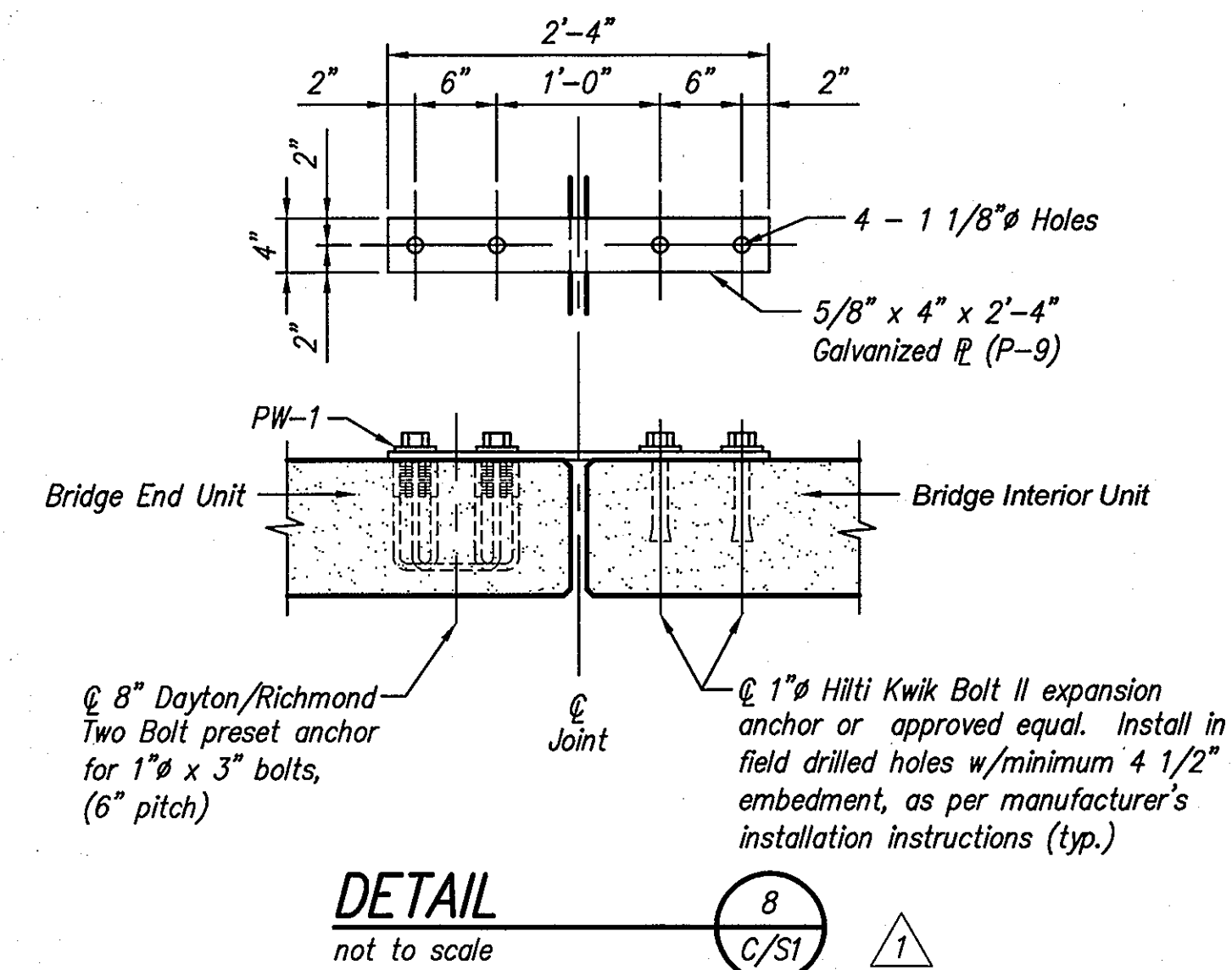
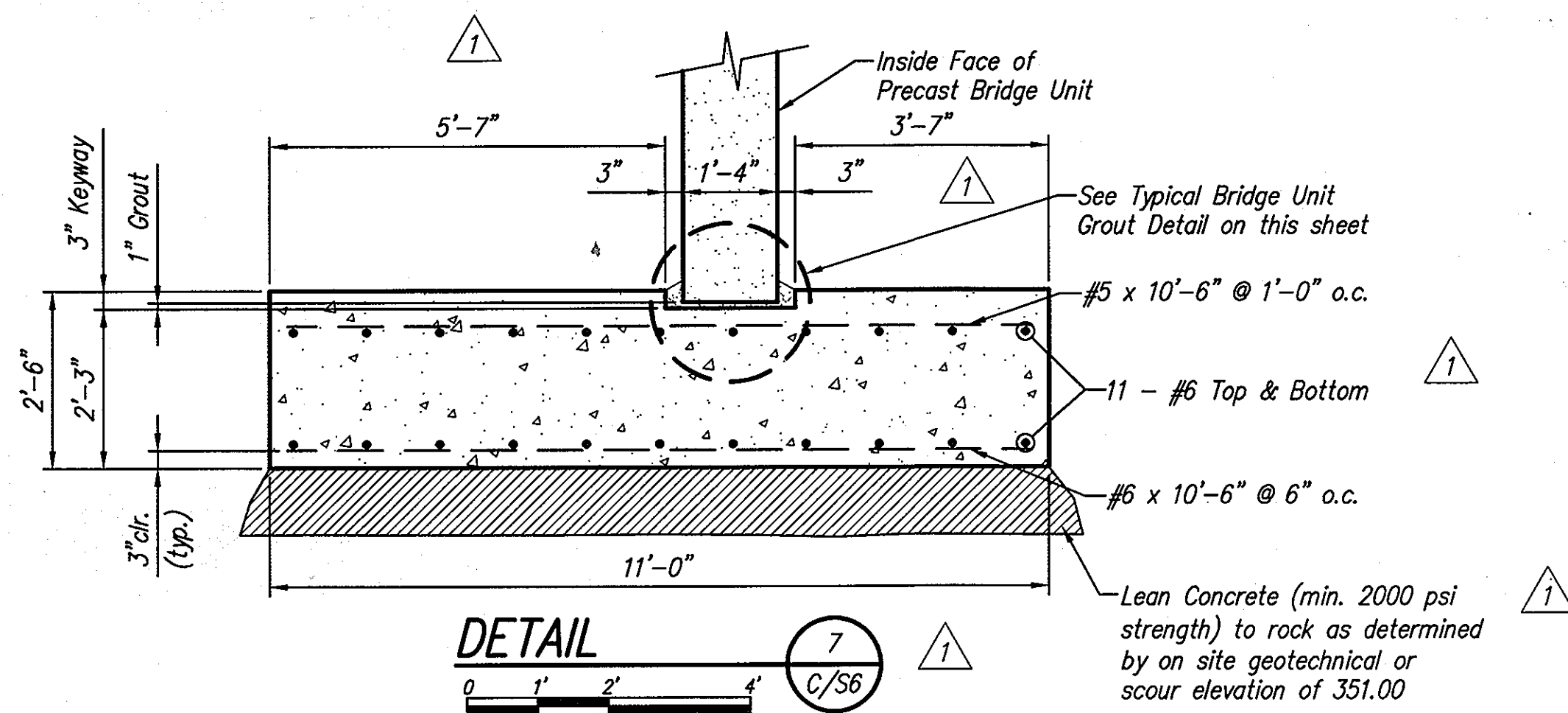
| | | |
|-------------|-------------------------|-------------------|
| SCALE | ZONING | G. L. W. FILE No. |
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| AUGUST/2007 | PARCEL 74 28 - 18,17 | 55 OF 78 |

W:\00Plots\14679-E-IN-F-ACT-A04.dwg DES. KTM DRN. RPU CHK. JVP



Note:
Fill entire keyway including nominal 1" void between bottom of keyway and bottom of precast bridge unit leg with grout.

TYPICAL BRIDGE UNIT GROUT DETAIL
not to scale



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter F. ... 9-13-07
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hamrick 9/18/07
 Chief, Division of Land Development

Chief, Development Engineering Division

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. 22201, Expiration Date: 12-22-08

| | | | |
|----------|-----|-----------------|-------|
| Designed | KTM | C/S Project No. | 14679 |
| Drawn | RPJ | Sheet No. | C/S6 |
| Checked | JVP | Date | |

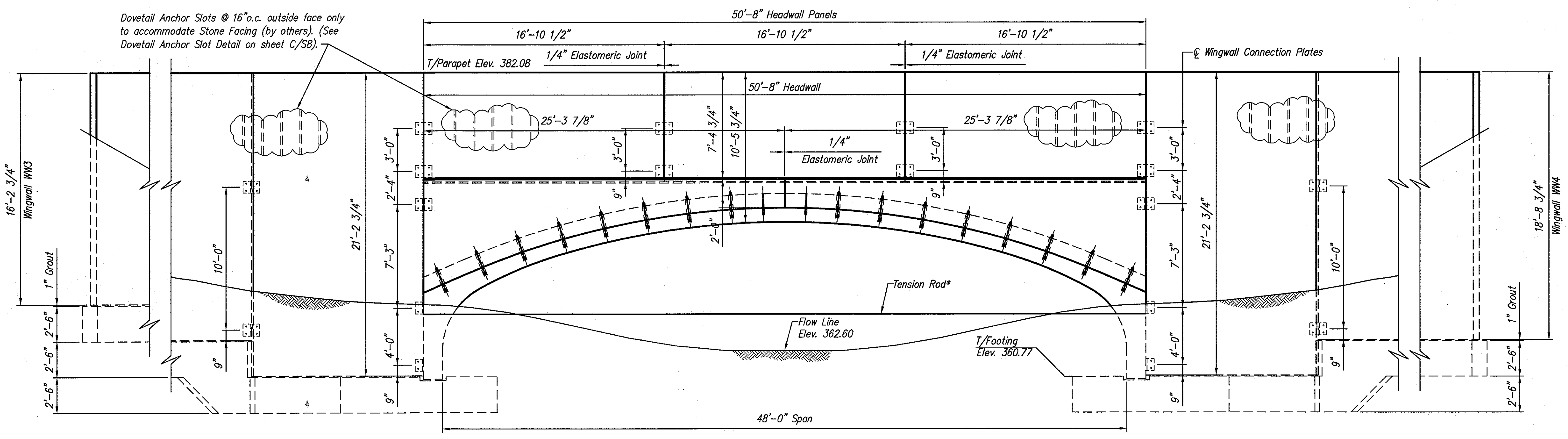
GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BAL: 410-880-1820 DC/WA: 301-989-2524 FAX: 301-421-4186

| DATE | REVISION #1 | REVISION | BY | APPR. |
|---------|-------------|--|-----|-------|
| 8/23/07 | | REVISED FOUNDATION ACCORDING TO NEW GEOTECH REPORT AND REVISED HEADWALLS | JCH | KTM |
| | | | BY | APPR. |

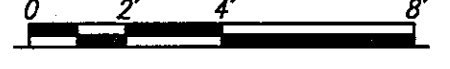
PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 300
 COLUMBIA, MARYLAND 21044

Revised CONSPAN BRIDGE SYSTEM DETAILS
 WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCELS "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I" AND
 NON-BUILDABLE BULK PARCELS "J"
 L.2927 F.487
 ELECTION DISTRICT No. 5

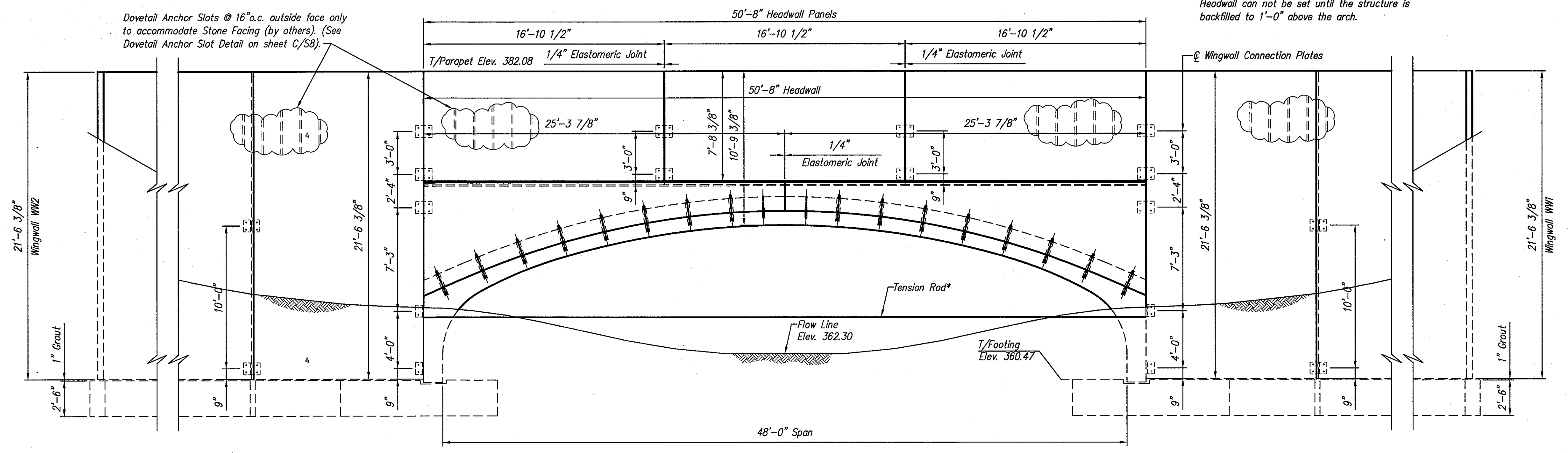
| | | |
|-------------|----------------|-------------------|
| SCALE | ZONING | G. L. W. FILE No. |
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| AUGUST/2007 | 28 - 18,17 | 56 OF 78 |



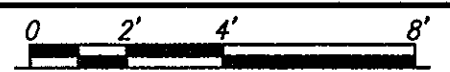
UPSTREAM END ELEVATION



*Tension Rods will come installed on the last two units on each end. The tension rods can not be removed until the structure is completely backfilled. The Panel on top of the Headwall can not be set until the structure is backfilled to 1'-0" above the arch.



DOWNSTREAM END ELEVATION



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter E. ...
 Chief, Bureau of Highways
 Date: 9-13-07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Judy ...
 Chief, Division of Land Development
 Date: 9/18/07

...
 Chief, Development Engineering Division
 Date: 9/18/07

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. 22261, Expiration Date: 12-22-08

Designed: KTM
 Drawn: RPU
 Checked: JVP
 Date: 8-23-07

CONSPAN BRIDGE SYSTEMS

CS Project No. 14679
 Sheet No. C/S7

GLWGUTSCHICK 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/WA: 301-989-2524 FAX: 301-421-4186

| DATE | REVISION #1) | REVISION | JCH | KTM |
|---------|--------------|--|-----|--------|
| 8/23/07 | | REVISED FOUNDATION ACCORDING TO NEW GEOTECH REPORT AND REVISED HEADWALLS | JCH | KTM |
| | | REVISION | BY | APP'R. |

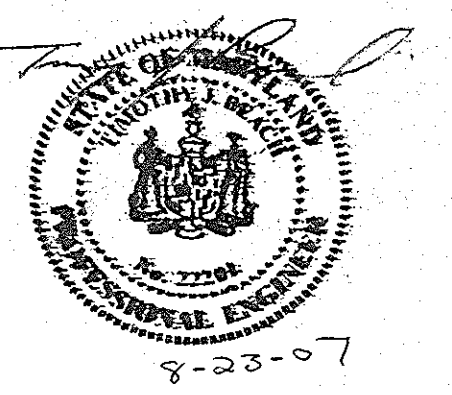
PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 300
 COLUMBIA, MARYLAND 21044

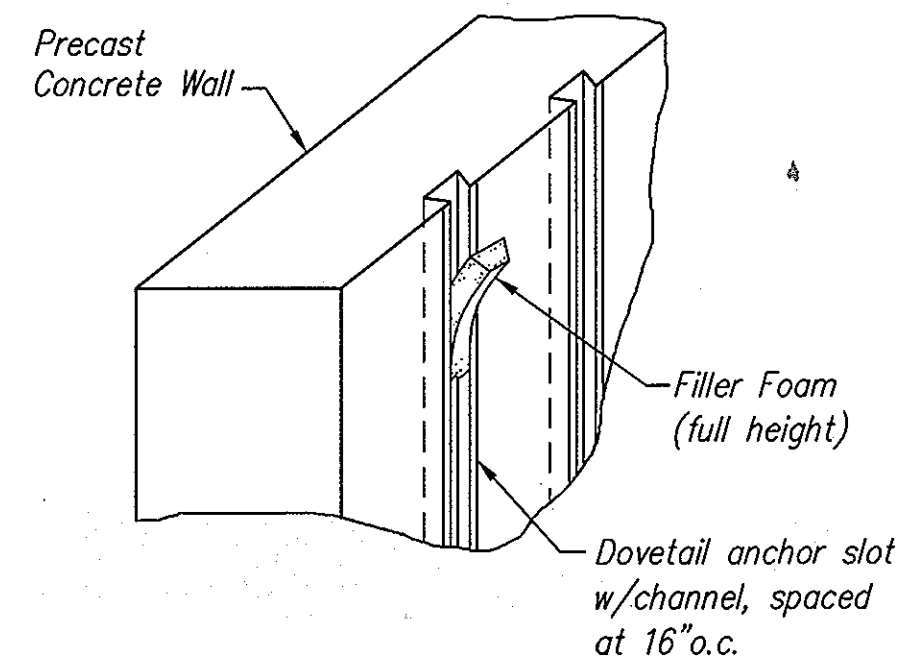
Revised CONSPAN BRIDGE SYSTEM DETAILS

WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCELS "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I" AND
 NON-BUILDABLE BULK PARCELS "J"
 L.2927 F.487

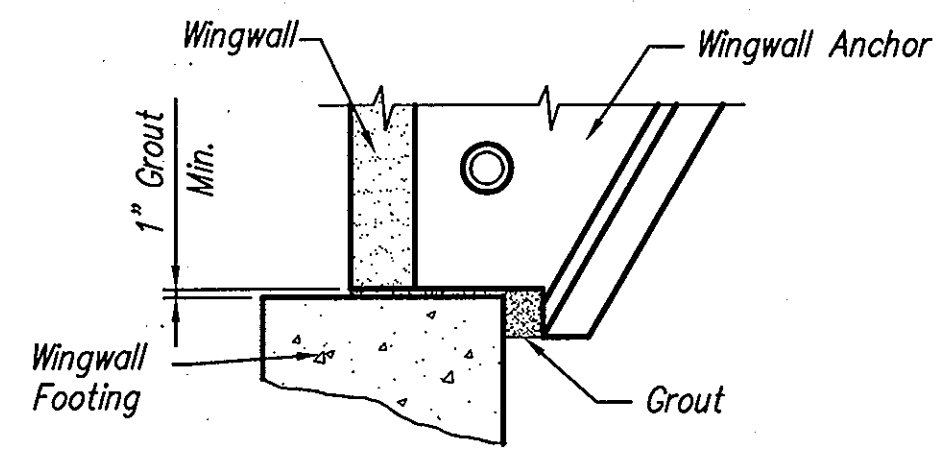
ELECTION DISTRICT No. 5

| SCALE | ZONING | G. L. W. FILE No. |
|-------------|----------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| AUGUST/2007 | 28 - 18,17 | 57 OF 78 |



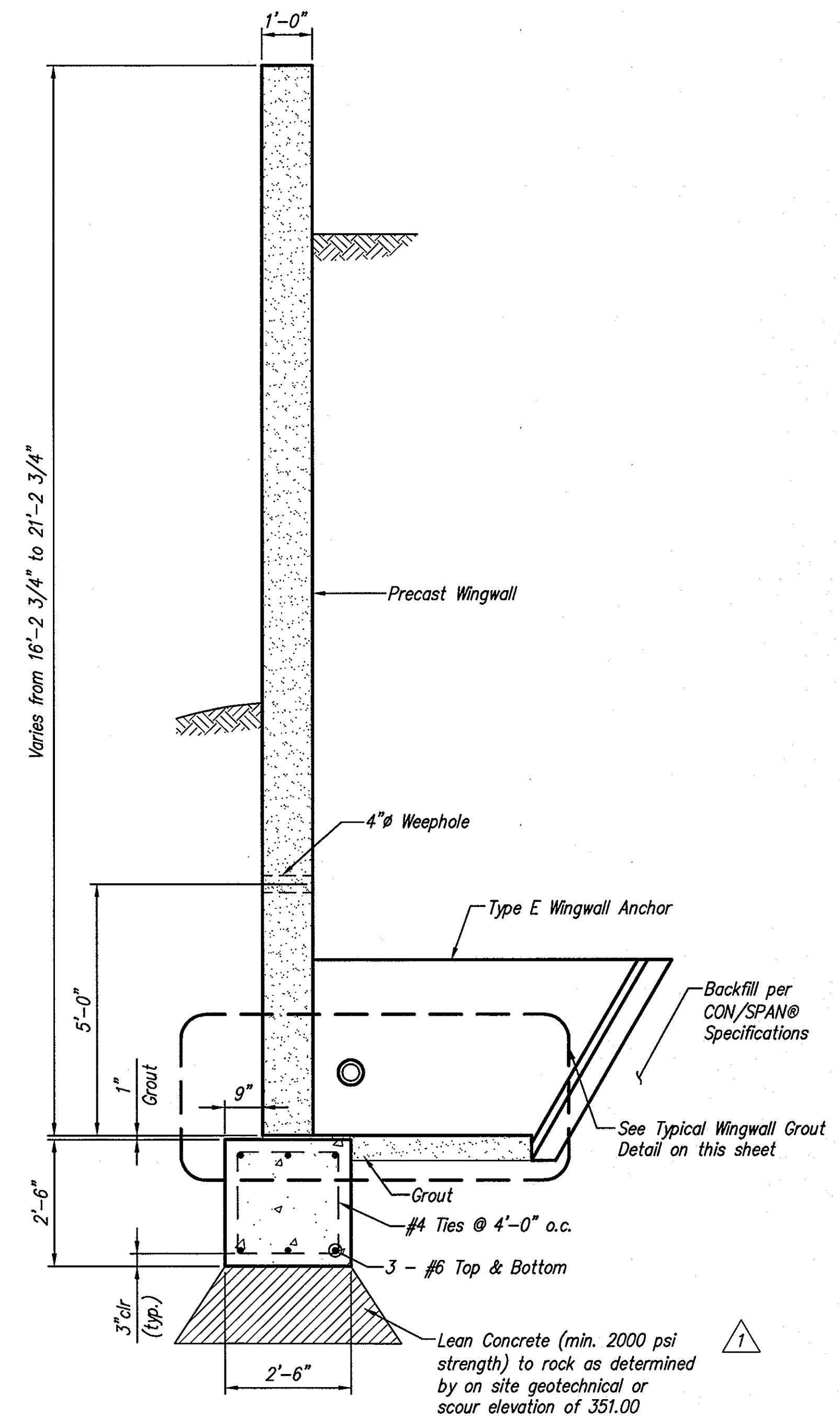


DOVETAIL ANCHOR SLOT DETAIL
not to scale

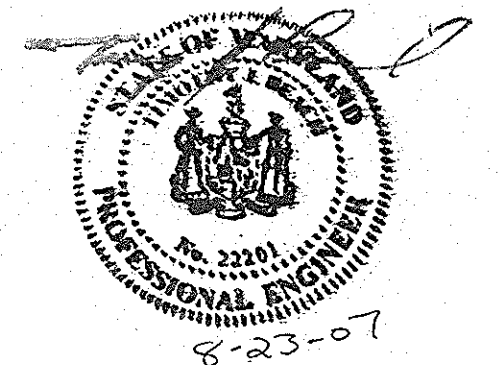


- Notes:
- Minimum 1" Grout under wingwall leg & anchor stem.
 - Area between wingwall footing and wingwall anchor shall be grouted solid before backfill.

TYPICAL WINGWALL GROUT DETAIL
not to scale



SECTION
0 1' 2' 4'



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter F. Melnik
 Chief, Bureau of Highways
 Date: 9-13-07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hann
 Chief, Division of Land Development
 Date: 9/18/07
shks
 Chief, Development Engineering Division

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. 22221, Expiration Date: 12-22-07

| | | | |
|--|----------|-----|----------------|
| | Designed | KTM | CS Project No. |
| | Drawn | RPU | 14679 |
| | Checked | JVP | Sheet No. |
| | Date | | C/S8 |

GLEW 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 BALI: 410-880-1820 DC/WA: 301-989-2524 FAX: 301-421-4186

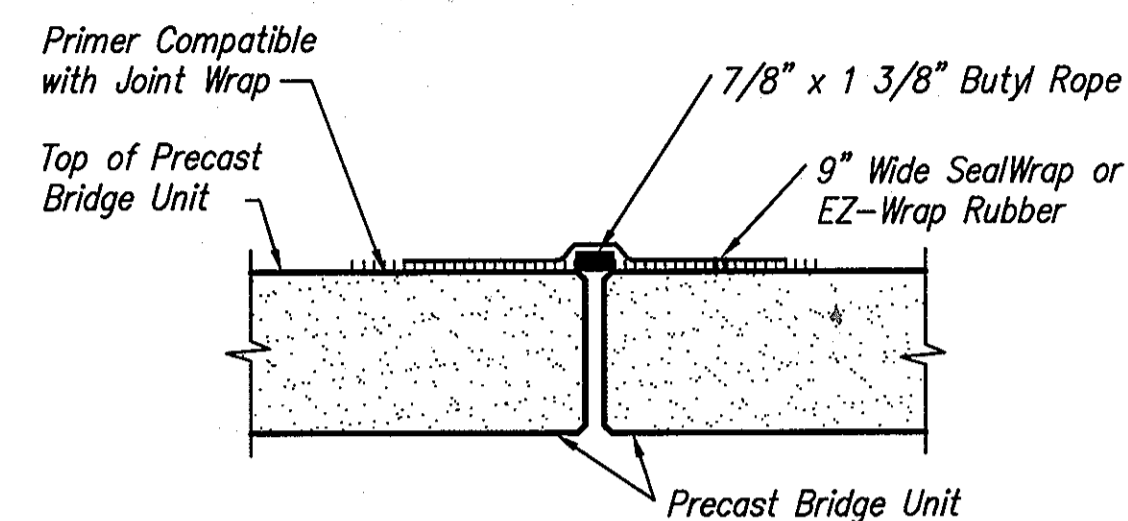
| DATE | REVISION #1 | REVISION | BY | APP'R. |
|---------|-------------|--|-----|--------|
| 8/23/07 | | REVISED FOUNDATION ACCORDING TO NEW GEOTECH REPORT AND REVISED HEADWALLS | JCH | KTM |
| | | | | |

PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 300
 COLUMBIA, MARYLAND 21044

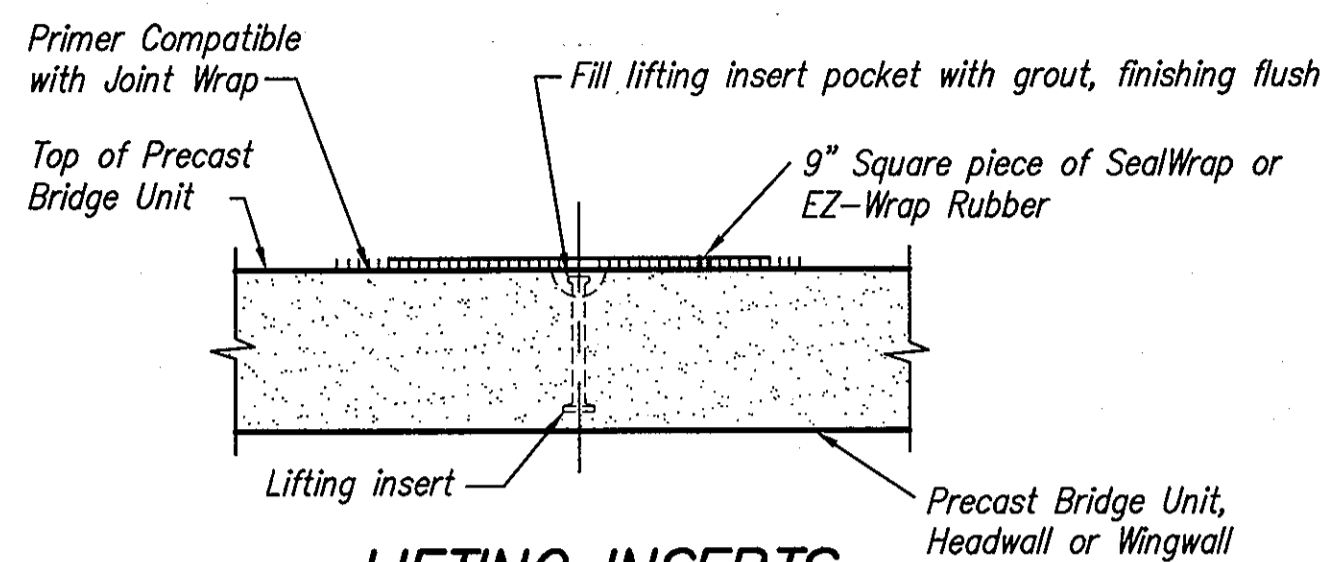
Revised CONSPAN BRIDGE SYSTEM DETAILS
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCELS "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I" AND
 NON-BUILDABLE BULK PARCELS "J"
 L.2927 F.487
 ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

| | | |
|-------------|-------------------------|-------------------|
| SCALE | ZONING | G. L. W. FILE No. |
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| AUGUST/2007 | PARCEL 74 28 - 18,17 | 58 OF 78 |

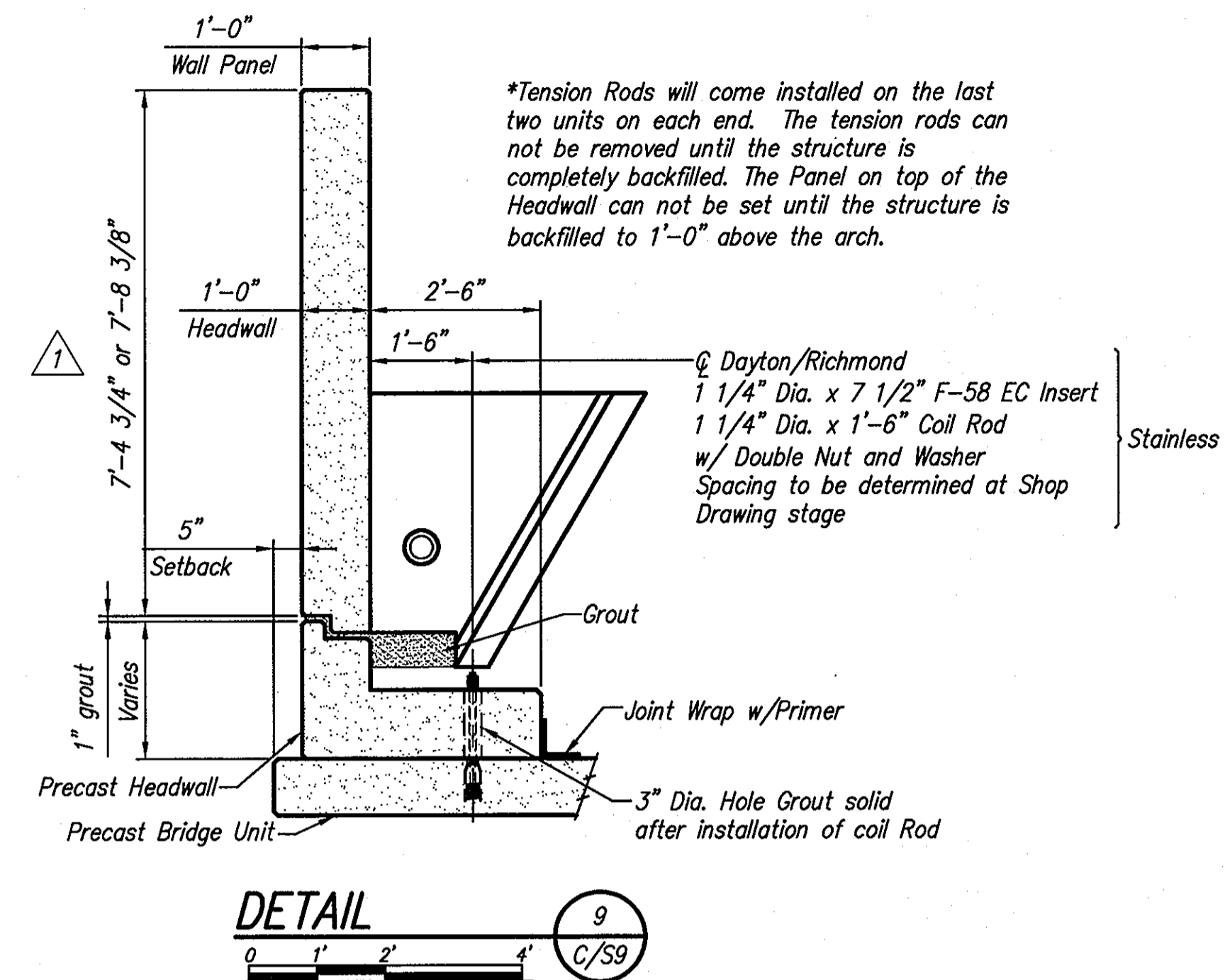
W:\00Plots\14679-E-IN-F-ACT-A04.dwg DES. KTM DRN. RPU CHK. JVP



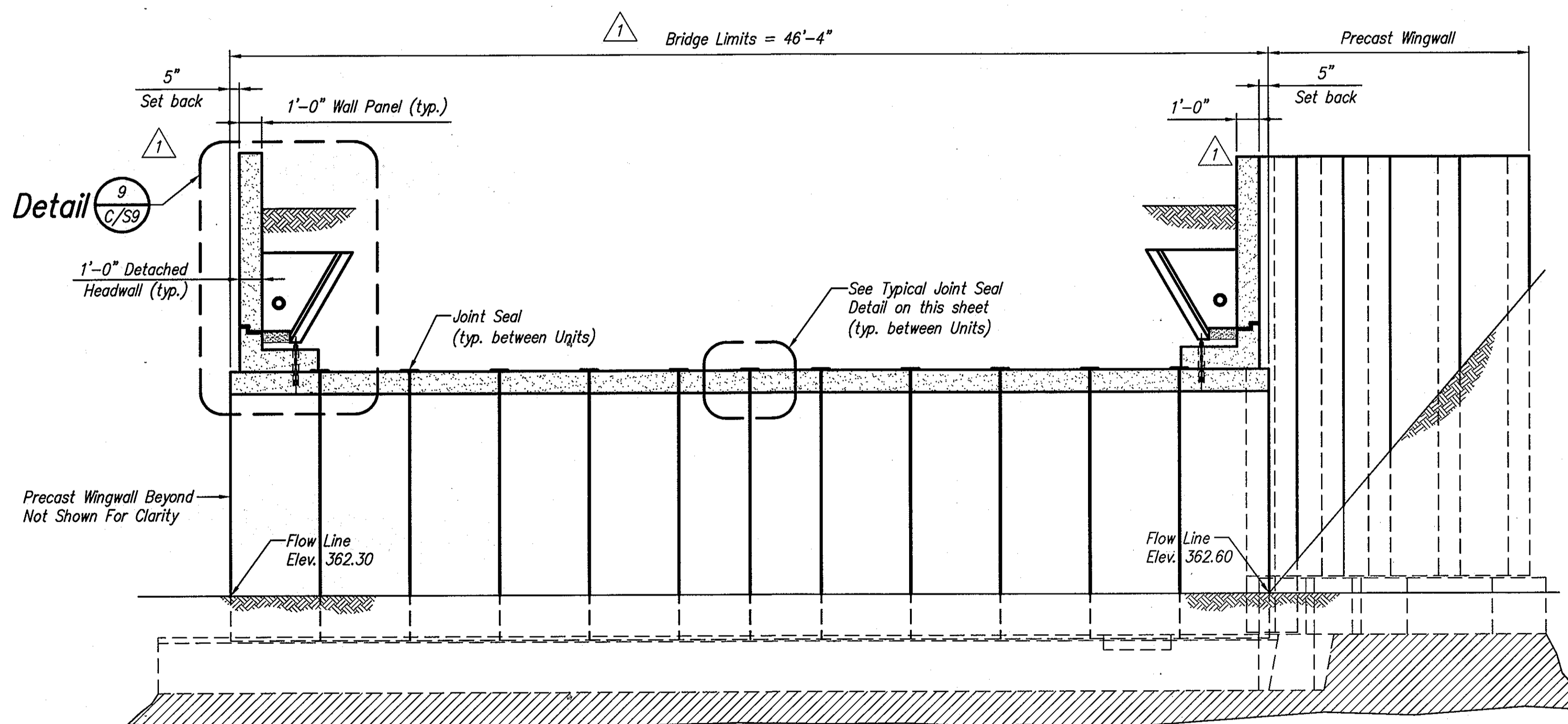
TYPICAL JOINT SEAL DETAIL
not to scale



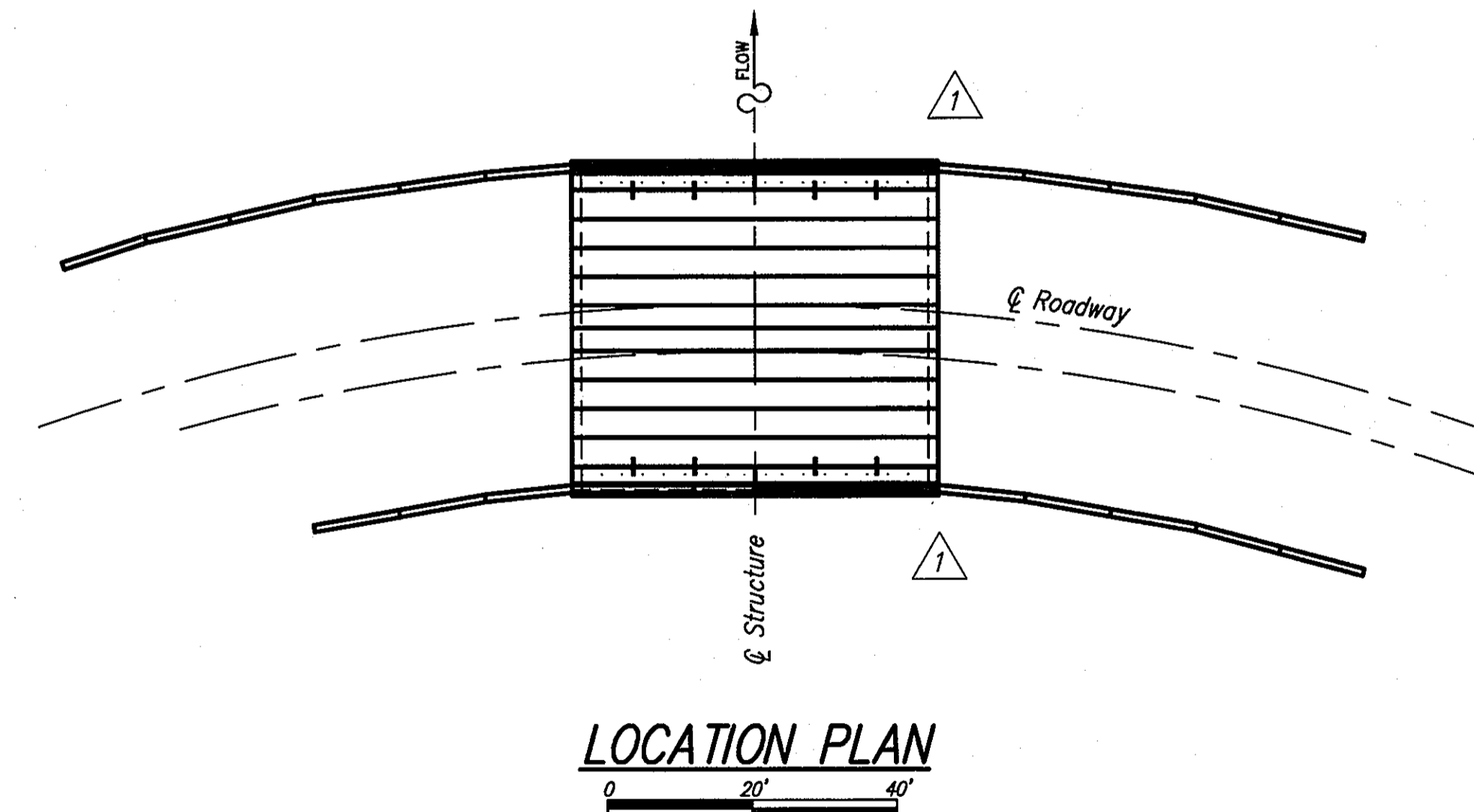
TYPICAL LIFT POINT SEALING DETAIL
not to scale



DETAIL 9
C/S9



SECTION D
C/S1



LOCATION PLAN

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter F. Marshall
 Chief, Bureau of Highways
 Date: 5-13-07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Harms
 Chief, Division of Land Development
 Date: 9/15/07

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. 22201, Expiration Date: 12-22-08

CONSPAN BRIDGE SYSTEMS

| | | | |
|----------|-----|-----------------|-------|
| Designed | KTM | C/S Project No. | 14679 |
| Drawn | RPU | Sheet No. | C/S9 |
| Checked | JVP | Date | |

GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3039 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4188

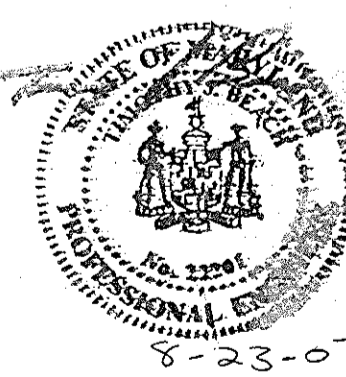
| DATE | REVISION | BY | APP'R. |
|---------|---|-----|--------|
| 8/23/07 | REVISION #1) REVISED FOUNDATION ACCORDING TO NEW GEOTECH REPORT AND REVISED HEADWALLS | JCH | KTM |
| | | BY | APP'R. |

PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 QUARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

Revised CONSPAN BRIDGE SYSTEM DETAILS
 WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCELS "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I" AND
 NON-BUILDABLE BULK PARCELS "J"
 L.2927 F.487
 HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE No. |
|-------------|-------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| AUGUST/2007 | PARCEL 74 28 - 18,17 | 59 OF 78 |

W:\00Plots\14679-E-IN-F-ACT-A04.dwg DES: KTM DRN: RPU CHK: JVP



SPECIFICATIONS FOR MANUFACTURE AND INSTALLATION OF CON/SPAN® BRIDGE SYSTEMS

1. DESCRIPTION

This work shall consist of constructing a CON/SPAN® bridge in accordance with these specifications and in reasonably close conformity with the lines, grades, design and dimensions shown on the plans or as established by the Engineer. In situations where two or more specifications apply to this work, the most stringent requirements shall govern.

2. TYPES

Precast reinforced concrete CON/SPAN® bridge units manufactured in accordance with this specification shall be designated by span and rise. Precast reinforced concrete CON/SPAN® wingwalls and headwalls manufactured in accordance with this specification shall be designated by length, height, and deflection angle.

3. MATERIALS - CONCRETE

The concrete for the culverts shall be air-entrained when installed in areas subject to freeze-thaw conditions, composed of portland cement, fine and coarse aggregates, admixtures and water. Air-entrained concrete shall contain 6 ± 2 percent air. The air entraining admixture shall conform to AASHTO M154.

- 3.1 Portland Cement - Shall conform to the requirements of ASTM Specifications C150-Type I, Type II, or Type III cement.
- 3.2 Coarse Aggregate - Shall consist of stone having a maximum size of 1 inch. Aggregate shall meet requirements for ASTM C33.
- 3.3 Water Reducing Admixture - The manufacturer may submit for approval by the Engineer, a water-reducing admixture for the purpose of increasing workability and reducing the water requirement for the concrete.
- 3.4 Calcium Chloride - The addition to the mix of calcium chloride or admixtures containing calcium chloride will not be permitted.

4. MATERIALS - STEEL REINFORCEMENT AND HARDWARE

All reinforcing steel for the culverts shall be fabricated and placed in accordance with the detailed shop drawings submitted by the manufacturer.

- 4.1 Steel Reinforcement - Reinforcement shall consist of welded wire fabric conforming to ASTM Specification A 185 or A 497, or deformed billet steel bars conforming to ASTM Specification A 615, Grade 60. Longitudinal distribution reinforcement may consist of welded wire fabric or deformed billet-steel bars.
- 4.2 Hardware:
 - Bolts and threaded rods for wingwall connections shall conform to ASTM A 307. Nuts shall conform to AASHTO M 292 (ASTM A 194) Grade 2H. All bolts, threaded rods and nuts used in wingwall connections shall be mechanically zinc coated in accordance with ASTM B 695 Class 50.
 - Structural Steel for wingwall connection plates and plate washers shall conform to AASHTO M 270 (ASTM A 709) Grade 36 and shall be hot dip galvanized as per AASHTO M 111 (ASTM A 123).
 - Inserts for wingwalls shall be 1" diameter Two-Bolt Prestressed Wingwall Anchors as manufactured by Dayton/Richmond Concrete Accessories, Miamisburg, Ohio, (800) 745-3700.
 - Ferrule Loop Inserts shall be F-64 Ferrule Loop Inserts as manufactured by Dayton/Richmond Concrete Accessories, Miamisburg, Ohio, (800) 745-3700.
 - Hook Bolts used in attached headwall connections shall be ASTM A 307.
 - Inserts for detached headwall connections shall be AISI Type 304 stainless steel, F-58 Expanded Coil Inserts as manufactured by Dayton/Richmond Concrete Accessories, Miamisburg, Ohio, (800) 745-3700. Coil rods and nuts used in headwall connections shall be AISI Type 304 stainless steel. Washers used in headwall connections shall be either AISI Type 304 stainless steel plate washers or AASHTO M 270 (ASTM A 709) Grade 36 plate washers hot dip galvanized as per AASHTO M 111 (ASTM A 123).
 - Reinforcing bar splices shall be made using the Dowel Bar Splicer System as manufactured by Dayton/Richmond Concrete Accessories, Miamisburg, Ohio, (800) 745-3700, and shall consist of the Dowel Bar Splicer (DB-SAE) and Dowel-In (DI).

5. MANUFACTURE

- 5.1 Mixture - The aggregates, cement and water shall be proportioned and mixed in a batch mixer to produce a homogeneous concrete meeting the strength requirements of this specification. The proportion of portland cement in the mixture shall not be less than 658 pounds (7 sacks) per cubic yard of concrete.
- 5.2 Curing - The precast concrete culvert units shall be cured for a sufficient length of time so that the concrete will develop the specified compressive strength in 28 days or less. Any one of the following methods of curing or combinations thereof shall be used:
 - 5.2.1 Steam Curing - The culverts may be low pressure, steam cured by a system that will maintain a moist atmosphere.
 - 5.2.2 Water Curing - The culverts may be water cured by any method that will keep the sections moist.
 - 5.2.3 Membrane Curing - A sealing membrane conforming to the requirements of ASTM Specification C 309 may be applied and shall be left intact until the required concrete compressive strength is attained. The concrete temperature at the time of application shall be within ± 10 degrees F of the atmospheric temperature. All surfaces shall be kept moist prior to the application of the compounds and shall be damp when the compound is applied.
- 5.3 Forms - The forms used in manufacture shall be sufficiently rigid and accurate to maintain the culvert dimensions within the permissible variations given in Section 7 of these specifications. All casting surfaces shall be of a smooth material.
- 5.4 Handling - Handling devices or holes shall be permitted in each culvert for the purpose of handling and setting.
- 5.5 Storage - The precast elements shall be stored in such a manner to prevent cracking or damage. The units shall not be moved until the concrete compressive strength has reached a minimum of 2500 psi, and they shall not be stored in an upright position until the concrete compressive strength is a minimum of 4,000 psi.

7. PERMISSIBLE VARIATIONS

- 7.1 Bridge Units
 - 7.1.1 Internal Dimensions - The internal dimension shall vary not more than 1% from the design dimensions nor more than 1-1/2 inches whichever is less. The haunch dimensions shall vary not more than 3/4 inch from the design dimension.
 - 7.1.2 Slab and Wall Thickness - The slab and wall thickness shall not be less than that shown in the design by more than 1/4 inch. A thickness more than that required in the design shall not be cause for rejection.
 - 7.1.3 Length of Opposite Surfaces - Variations in laying lengths of two opposite surfaces of the bridge unit shall not be more than 1/2 inch in any section, except where beveled ends for laying of curves are specified by the purchaser.
 - 7.1.4 Length of Section - The underrun in length of a section shall not be more than 1/2 inch in any bridge unit.
 - 7.1.5 Position of Reinforcement - The maximum variation in position of the reinforcement shall be $\pm 1/2$ inch. In no case shall the cover over the reinforcement be less than 1 1/2 inches for the outside circumferential steel or be less than 1 inch for the inside circumferential steel as measured to the external or internal surface of the bridge. These tolerances or cover requirements do not apply to mating surfaces of the joints.
 - 7.1.6 Area of Reinforcement - The areas of steel reinforcement shall be the design steel areas as shown in the manufacturer's shop drawings. Steel areas greater than those required shall not be cause for rejection. The permissible variation in diameter of any reinforcement shall conform to the tolerances prescribed in the ASTM Specification for that type of reinforcement.
- 7.2 Wingwalls and Headwalls
 - 7.2.1 Wall Thickness - The wall thickness shall not vary from that shown in the design by more than 1/2 inch.
 - 7.2.2 Length/Height of Wall Sections - The length and height of the wall shall not vary from that shown in the design by more than 1/2 inch.
 - 7.2.3 Position of Reinforcement - The maximum variation in the position of the reinforcement shall be $\pm 1/2$ inch. In no case shall the cover over the reinforcement be less than 1 1/2 inches.
 - 7.2.4 Size of Reinforcement - The permissible variation in diameter of any reinforcing shall conform to the tolerances prescribed in the ASTM Specification for that type of reinforcing. Steel area greater than that required shall not be cause for rejection.

8. TESTING AND INSPECTION

- 8.1 Type of Test Specimen - Concrete compressive strength shall be determined from compression tests made on cylinders or cores. For cylinder testing, a minimum of 4 cylinders shall be taken during each production run. For core testing, one core shall be cut from each of 3 precast elements selected at random from each production group. A production group shall be defined as 15 or fewer bridge units (of a particular size), wingwalls or headwalls in a continuous production run. For each continuous production run, each production group or fraction thereof shall be considered separately for the purpose of testing and acceptance. A production run shall be considered continuous if not interrupted for more than 3 consecutive days.
- 8.2 Compression Testing - Cylinders shall be made and tested as prescribed by the ASTM C 39 Specification. Cores shall be obtained and tested for compressive strength in accordance with the provisions of the ASTM C497 Specification.
- 8.3 Acceptability of Cylinder Tests - When the average compressive strength of all cylinders tested is equal to or greater than the design compressive strength, and not more than 10% of the cylinders tested have a compressive strength less than the design concrete strength, and no cylinder tested has a compressive strength less than 80% of the design compressive strength, then the lot shall be accepted. When the compressive strength of the cylinders tested does not conform to this acceptance criteria, the acceptability of the lot may be determined as described in section 8.4, below.
- 8.4 Acceptability of Core Tests - The compressive strength of the concrete in each production group as defined in 8.1 is acceptable when the average core test strength is equal to or greater than the design concrete strength. When the compressive strength of the core tested is less than the design concrete strength, the precast element from which that core was taken may be re-cored. When the compressive strength of the re-core is equal to or greater than the design concrete strength, the compressive strength of the concrete in that production group is acceptable.
 - 8.4.1 When the compressive strength of any re-core is less than the design concrete strength, the precast element from which that core was taken shall be rejected. Two precast elements from the remainder of the group shall be selected at random and one core shall be taken from each. If the compressive strength of both cores is equal to or greater than the design concrete strength, the compressive strength of the remainder of that group is acceptable. If the compressive strength of either of the two cores tested is less than the design concrete strength, the remainder of the group shall be rejected or, at the option of the manufacturer, each precast element of the remainder of the group shall be cored and accepted individually, and any of these elements that have cores with less than the design concrete strength shall be rejected.
 - 8.4.2 Plugging Core Holes - The core holes shall be plugged and sealed by the manufacturer in a manner such that the elements will meet all of the test requirements of this specification. Precast elements so sealed shall be considered satisfactory for use.
 - 8.4.3 Test Equipment - Every manufacturer furnishing culverts under this specification shall furnish all facilities and personnel necessary to carryout the test required.

9. JOINTS

The bridge units shall be produced with flat butt ends. The ends of the bridge units shall be such that when the sections are laid together they will make a continuous line of with a smooth interior free of appreciable irregularities, all compatible with the permissible variations in Section 7, above. The joint width shall not exceed 3/4 inches.

10. WORKMANSHIP AND FINISH

The bridge units, wingwalls, and headwalls shall be substantially free of fractures. The ends of the bridge units shall be normal to the walls and centerline of the bridge section, within the limits of the variations given in section 7, above, except where beveled ends are specified. The faces of the wingwalls and headwalls shall be parallel to each other, within the limits of variations given in section 7, above. The surface of the precast elements shall be a smooth steel form or troweled surface. Trapped air pockets causing surface defects shall be considered as part of a smooth, steel form finish.

11. REPAIRS

Precast elements may be repaired, if necessary, because of imperfections in manufacture or handling damage and will be acceptable if, in the opinion of the purchaser, the repairs are sound, properly finished and cured, and the repaired section conforms to the requirements of this specification.

12. INSPECTION

The quality of materials, the process of manufacture, and the finished culverts shall be subject to inspection by the purchaser.

13. REJECTION

The precast elements shall be subject to rejection on account of any of the specification requirements. Individual precast elements may be rejected because of any of the following:

- 13.1 Fractures or hairline cracks (widths less than 0.012") passing through the wall, except for a single end crack that does not exceed one half the thickness of the wall.
- 13.2 Defects that indicate proportioning, mixing, and molding not in compliance with Section 5 of these specifications.
- 13.3 Honeycombed or open texture.
- 13.4 Damaged ends, where such damage would prevent making a satisfactory joint.

14. MARKING

Each bridge unit shall be clearly marked by waterproof paint. The following shall be shown on the inside of the vertical leg of the bridge section:

- Bridge Span X Bridge Rise
- Date of Manufacture
- Name or trademark of the manufacturer

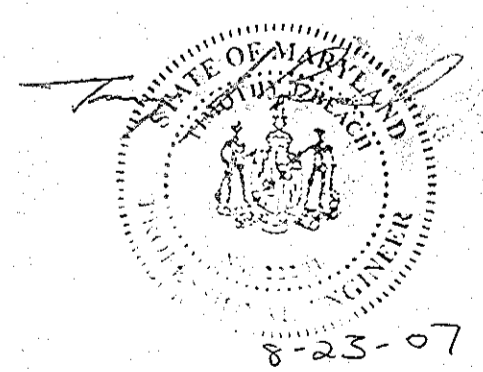
15. CONSTRUCTION REQUIREMENTS

- 15.1 Footings - The bridge units and wingwalls shall be installed on cast-in-place concrete footings. The design size and elevation of the footings shall be as determined by the Engineer. A three inch deep keyway shall be formed in the top surface of the bridge footing three inches clear of the inside and outside faces of the bridge units, unless specified otherwise on the plans. No keyway is required in the wingwall footings, unless otherwise specified on the plans. The footings shall be given a smooth float finish and shall reach a compressive strength of 2,000 psi before placement of the bridge and wingwall elements. The completed footing surface shall be constructed in accordance with grades shown on the plans. When tested with a 10 foot straight edge, the surface shall not vary more than 1/4 inch in 10 feet.
- 15.2 Placement of the Bridge Units, Wingwalls and Headwalls - The bridge units, wingwalls and headwalls shall be placed as shown on the Engineer's plan drawings. Special care shall be taken in setting the elements to the true line and grade. The bridge units and wingwalls shall be set on 6" x 6" masonry or steel shims. A minimum gap of 1/2 inch shall be provided between the footing and the bottom of the bridge's vertical legs or the wingwall. The gap shall be filled with cement grout (Portland cement and water or cement mortar composed of Portland cement, sand and water) with a minimum 28-day compressive strength of 3000 psi. If units have been set with temporary ties (cables, bars, etc.) grout must attain a minimum compressive strength of 1500 psi before ties may be removed.
- 15.3 External Protection of Joints - The butt joint made by two adjoining bridge units shall be covered with a 7/8" x 1 3/8" preformed bituminous joint sealant and a minimum of a 9 inch wide joint wrap. The surface shall be free of dirt before applying the joint material. A primer compatible with the joint wrap to be used shall be applied for a minimum width of nine inches on each side of the joint. The external wrap shall be either EZ-WRAP RUBBER by PRESS-SEAL GASKET CORPORATION, SEAL WRAP by MAR MAC MANUFACTURING CO. INC. or approved equal. The joint shall be covered continuously from the bottom of one bridge section leg, across the top of the arch and to the opposite bridge section leg. Any laps that result in the joint wrap shall be a minimum of six inches long with the overlap running downhill.

In addition to the joints between bridge units, the joint between the end bridge unit and the headwall shall also be sealed as described above. If precast wingwalls are used, the joint between the end bridge unit and the wingwall shall be sealed with a 2'-0" strip of filter fabric. Also, if lift holes are formed in the arch units, they shall be primed and covered with a 9" x 9" square of joint wrap.

During the backfilling operation, care shall be taken to keep the joint wrap in its proper location over the joint.

- 15.4 Backfill - Backfill shall be considered as all replaced excavation and new embankment adjacent to the CON/SPAN® bridge units, wingwalls, and headwalls. The project construction and material specifications which include the specifications for excavation for structures and roadway excavation and embankment construction, shall apply except as modified in this section. No backfill shall be placed against any structural elements until they have been approved by the Engineer. Backfill against a waterproofed surface shall be placed carefully to avoid damage to the waterproofing material.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 9-13-07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 [Signature] 9/18/07
 Chief, Division of Land Development Date
 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 20868
 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

W:\00Plots\14679-E-IN-F-CT-A04.dwg Desg. KTM DRN. RPU CHK. JVP

| DATE | REVISION #1 | REVISION | JCH | KTM |
|---------|-------------|--|-----|-------|
| 8/23/07 | | REVISED FOUNDATION ACCORDING TO NEW GEOTECH REPORT AND REVISED HEADWALLS | | |
| | | | BY | APPR. |

PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

Revised CONSPAN BRIDGE SYSTEM DETAILS
 WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCELS "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I" AND
 NON-BUILDABLE BULK PARCELS "J"
 L.2927 F.487
 ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE No. |
|-------------|-------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| AUGUST/2007 | PARCEL 74 28 - 18,17 | 60 OF 78 |

| | | |
|--|--------------|----------------|
| | Designed KTM | CS Project No. |
| | Drawn RPU | 14679 |
| | Checked JVP | Sheet No. |
| | Date | C/S10 |

SPECIFICATIONS FOR MANUFACTURE AND INSTALLATION OF CON/SPAN® BRIDGE SYSTEMS

16. QUALITY ASSURANCE

The Precaster shall demonstrate adherence to the standards set forth in the NPCA Quality Control Manual. The Precaster shall meet either Section 16.1 or 16.2.

16.1 Certification: The Precaster shall be certified by the Precast/Prestressed Concrete Institute Plant Certification Program or the National Precast Concrete Association's Plant Certification Program prior to and during production of the products covered by this specification.

16.2 Qualifications, Testing and Inspection

16.2.1 The Precaster shall have been in the business of producing precast concrete products similar to those specified for a minimum of three years. He shall maintain a permanent quality control department or retain an independent testing agency on a continuing basis. The agency shall issue a report, certified by a licensed engineer, detailing the ability of the Precaster to produce quality products consistent with industry standards.

16.2.2 The Precaster shall show that the following tests are performed in accordance with the ASTM standards indicated. Tests shall be performed for each 150 cubic yards of concrete placed, but not less frequently than once per production run, as defined in §8 of these specifications.

16.2.2.1 Air Content: C231 or C173

16.2.2.2 Compressive Strength: C39, C497

16.2.3 The Precaster shall provide documentation demonstrating compliance with this section to CON/SPAN® Bridge Systems at regular intervals or upon request.

16.2.4 The Owner may place an inspector in the plant when the products covered by this specification are being manufactured.

Mechanical tampers or approved compacting equipment shall be used to compact all backfill and embankment immediately adjacent to each side and over the top of each bridge unit until it is covered to a minimum depth of one foot, unless the design fill height is less than 1'-0". The backfill within the Critical Backfill Zone (shown in the diagrams below) shall be placed in lifts of eight inches or less (loose depth). Heavy compaction equipment shall not be operated in this area or over the bridge until it is covered to a depth of one foot, unless the design fill height is less than 1'-0".

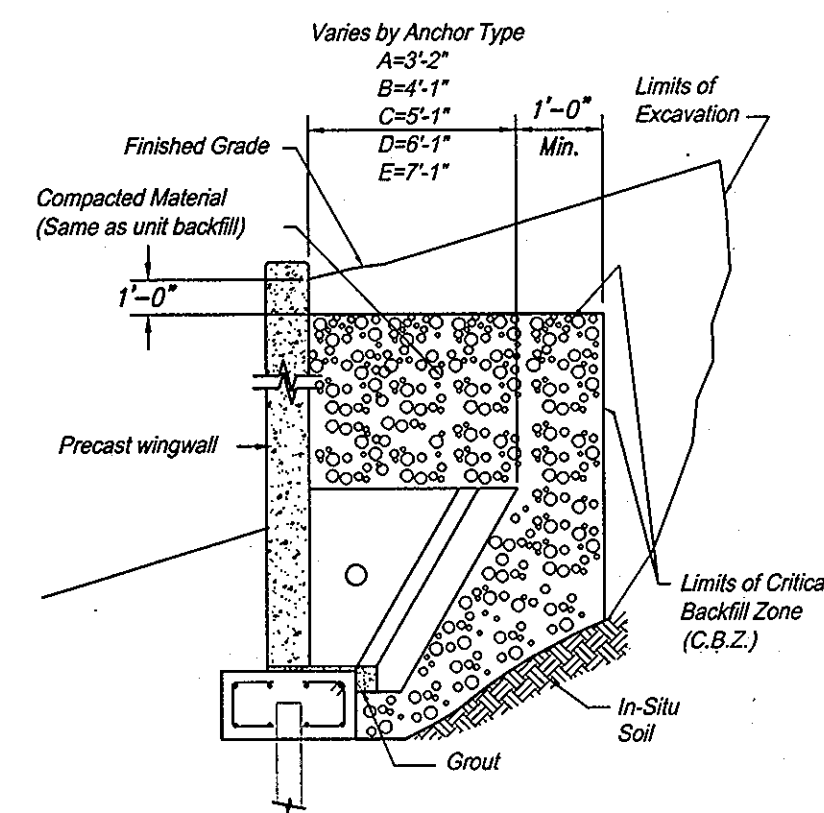
Lightweight dozers and graders may be operated over bridge units having one foot of compacted cover, but heavy earth moving equipment (larger than a D-4 Dozer weighing in excess of 12 tons and having track pressures of eight psi or greater) shall require two feet of cover unless the design cover is less than two feet. In no case shall equipment operating in excess of the design load (HS20 or HS25) be permitted over the bridge units unless approved by CON/SPAN®.

Any additional fill and subsequent excavation required to provide this minimum cover shall be made at no additional cost to the project.

As a precaution against introducing unbalanced stresses in the bridge, when placing backfill at no time shall the difference between the heights of fill on opposite sides of the bridge exceed 24".

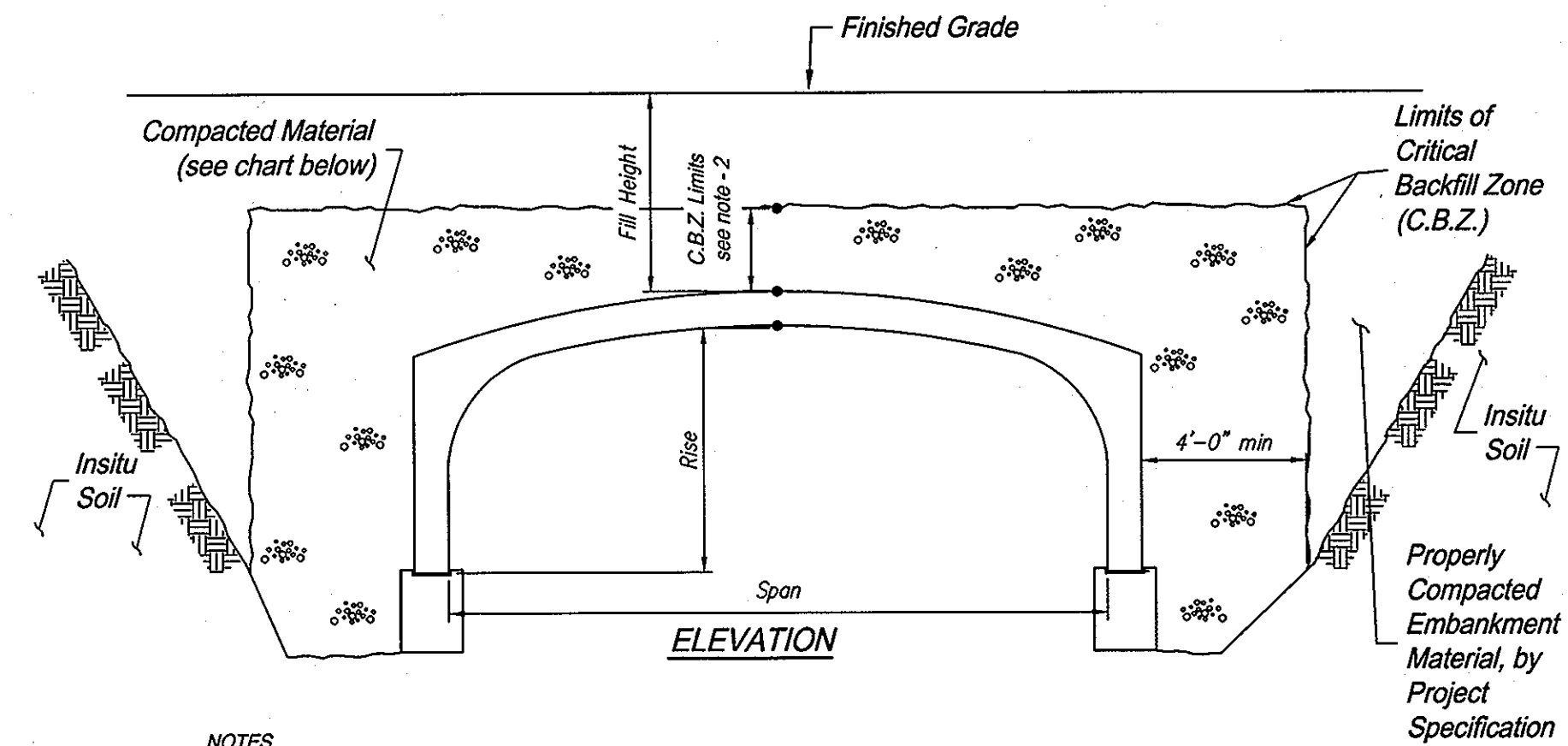
Backfill in front of wingwalls shall be carried to ground lines shown in the plans.

For fill heights over 12 feet, no backfilling may begin until a backfill compaction testing plan has been coordinated with and approved by CON/SPAN® Bridge Systems. Cost of the backfill compaction testing shall be included in the cost of the precast units. This included cost applies only to projects with fill heights over 12 feet (as measured from top crown of arch to finished grade).



WINGWALL BACKFILL REQUIREMENTS

| Group Classification | BACKFILL DESCRIPTION (AASHTO M 145-91) | | | | | | |
|---|--|---------|-----------|---------------------------------|---------|---------|--------------|
| | A-1 | | A-3 | A-2 | | | A-4 |
| | A-1-a | A-1-b | | A-2-4 | A-2-5 | A-2-6 | A-2-7 |
| Sieve Analysis, Percent Passing (100% Passing 3" Sieve) | | | | | | | |
| No. 10 | 50 max. | | 51 min. | 35 max. | 35 max. | 35 max. | 36 min. |
| No. 40 | 30 max. | 50 max. | 10 max. | | | | |
| No. 200 | 15 max. | 25 max. | | | | | |
| Characteristics of Fraction Passing | | | | | | | |
| No. 40 | | | | 40 max. | 41 min. | 40 max. | 41 min. |
| Liquid Limit | | | | | | | 40 max. |
| Plasticity Index | 6 max. | | N.P. | | | | 10 max. |
| Usual Types of Significant Constituent Materials | Stone Fragments, Gravel & Sand | | Fine Sand | Silty or Clayey Gravel and Sand | | | Silty Soils |
| General Rating as Subgrade | Excellent to Good | | | | | | Fair to Poor |



NOTES
 1. SEE CON/SPAN® SPECIFICATIONS SECTION 15.4 FOR BACKFILL SPECIFICATIONS.
 2. FOR FILL HEIGHTS GREATER THAN 2'-0", C.B.Z. LIMIT SHALL BE 2'-0" ABOVE ARCH CROWN. FOR FILL HEIGHTS LESS THAN 2'-0", THE FINISHED GRADE SHALL BE THE BOUNDARY LINE FOR THE C.B.Z.
 3. BACKFILLING OPERATIONS WITHIN THE C.B.Z. SHALL BE PERFORMED IN LIFTS OF 8" OR LESS (LOOSE DEPTH).
 4. MAXIMUM DRY DENSITY SHALL BE DETERMINED BY AASHTO T-99 OR OTHER APPROVED METHODS.
 5. BACKFILL SHALL BE COMPACTED IN LAYERS UNTIL THE DENSITY IS NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY.

| SPAN | FILL HEIGHT | ACCEPTABLE MATERIAL INSIDE C.B.Z. | ACCEPTABLE MATERIAL OUTSIDE C.B.Z. |
|----------|-------------|-----------------------------------|------------------------------------|
| ≤ 24'-0" | ≥ 12'-0" | A1, A3 | " |
| ≤ 24'-0" | < 12'-0" | A1, A2, A3, A4 | " |
| > 24'-0" | ALL | A1, A3 | " |

BACKFILL REQUIREMENTS

REVISED 8/1/03 SPEC'G
 REVISED 1/15/02 SPEC'G
 REVISED 6/12/01 SPEC'G
 REVISED 2/21/00 SPEC'G
 REVISED 7/14/97 SPEC'G
 REVISED 4/19/96 SPEC'G
 REVISED 3/29/96 SPEC'G
 REVISED 11/14/94 SPEC'G
 REVISED 5/25/94 SPEC'G
 REVISED 9/10/93 SPEC'G

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 9-13-07
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 [Signature] 9/18/07
 Chief, Division of Land Development

GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND, 20869
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

| DATE | REVISION #1 | REVISION | BY | APP'R. |
|---------|-------------|--|-----|--------|
| 8/23/07 | | REVISED FOUNDATION ACCORDING TO NEW GEOTECH REPORT AND REVISED HEADWALLS | JCH | KTM |
| | | REVISION | BY | APP'R. |

PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, LLC.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

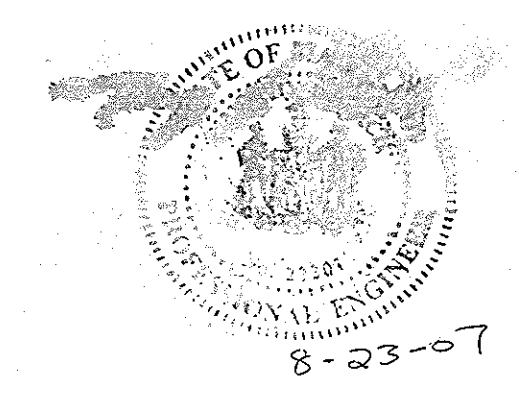
Revised CONSPAN BRIDGE SYSTEM DETAILS
 WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCELS "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I" AND
 NON-BUILDABLE BULK PARCELS "J"
 L.2927 F.487
 ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE No. |
|-------------|-------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| AUGUST/2007 | PARCEL 74 28 - 18,17 | 61 OF 78 |

CONSPAN® BRIDGE SYSTEMS

| | | | |
|----------|-----|----------------|-------|
| Designed | KTM | CS Project No. | 14679 |
| Drawn | RPU | Sheet No. | C/S11 |
| Checked | JVP | 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. 22261, Expiration Date: 12-22-08



HILLIS-CARNES

ENGINEERING ASSOCIATES, INC.

June 1, 2007

Heritage Land Development
15950 North Avenue
Lisbon, Maryland 21765

Attention: Mr. Jeremy Rutter

Re: Additional Geotechnical Engineering Evaluation
Walnut Grove Culvert
Howard County, Maryland
HCEA Job No. 05443E

10975 Guilford Road, Suite A
P.O. Box 241
Annapolis Junction, MD 20701
Bldg. 410-880-4788
DC Metro 301-470-4239
Fax 410-880-4098
www.hcea.com

Gentlemen:

Hillis-Carnes Engineering Associates, Inc. (HCEA) is pleased to submit this letter concerning the additional geotechnical evaluation for the proposed Walnut Grove culvert that is to be located in Howard County, Maryland.

Project Background

An original geotechnical study was previously performed for the project by HCEA (report dated August 1, 2005). During the subsurface exploration for the original report, auger refusals were encountered at shallow depths in Borings CLV-1 and CLV-2 (at depths of 9± ft and 5.5± ft, respectively). The remainder of the borings were typically extended to depths near 40± ft where auger refusal or more suitable materials were generally encountered. In our original report, HCEA recommended that the proposed culvert be supported on a shallow footing system designed utilizing an allowable soil bearing pressure of 2500 psf.

It was later requested that HCEA perform an additional evaluation to determine if an alternative method of foundation support could be developed because of potential foundation sizing, construction and permitting difficulties. HCEA reviewed the subsurface information provided in our original geotechnical report for the project and determined that two different foundation support conditions could be utilized for the project.

In the vicinity of Borings CLV-1 and CLV-2 (shown on the attached Boring Location Plan), the culvert and wing wall foundations could be supported directly on rock and designed for an allowable bearing pressure of 6000 psf. The limits of this support condition would need to be determined in the field during construction. In the remainder of the culvert and wingwall areas, it was recommended that foundations could be supported on a deep foundation system

Corporate Headquarters - Annapolis Junction, MD
Frederick, MD • Hagerstown, MD • Salisbury, MD • Waldorf, MD • State College, PA • Pittsburgh, PA • Chantilly, VA • Fredericksburg, VA • Dover, DE

WALNUT GROVE CULVERT - DILATOMETER TESTING
June 1, 2007

Page 3

stress (simulated load) and dilatometer constrained modulus data was input into a computer-generated elastic settlement program based on Schmertmann's Special Method. Stress distributions under applied loads were computed using the Boussinesq Solution.

Based on the dilatometer results, the following total settlements were predicted for the allowable soil bearing pressures evaluated:

| Allowable Soil Bearing Pressure (psf) | Predicted Total Settlement (in.) |
|---------------------------------------|----------------------------------|
| 4,000 | 1.06 |
| 5,000 | 1.21 |
| 6,000 | 1.35 |

It is therefore our professional opinion that the allowable soil bearing pressures outlined above can be utilized for foundation design, provided the structure can tolerate the anticipated settlements predicted for the bearing pressure utilized. The remaining recommendations that were outlined in our original geotechnical report remain valid for the proposed foundations.

Remarks

Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with generally accepted engineering principles and practices. This warranty is in lieu of all other warranties either implied or expressed. Hillis-Carnes Engineering Associates, Inc. assumes no responsibility for interpretations made by others based on work or recommendations made by HCEA.

Should any of the project characteristics, structural loading conditions, or required settlement criteria differ from those outlined above, then this office should be contacted for a re-evaluation of the site.

HCEA appreciates having had the opportunity to provide the geotechnical exploration services for this project. Should you have any questions concerning the contents of this report, or should you require additional consultation, design, inspection, or testing services, please contact our Office.

Very truly yours,
HILLIS-CARNES ENGINEERING ASSOCIATES, INC.

Michael P. Johnson
Michael P. Johnson, P.E.

HILLIS-CARNES ENGINEERING ASSOCIATES, INC.

WALNUT GROVE CULVERT - DILATOMETER TESTING
June 1, 2007

Page 2

consisting of driven steel H-piles extending to rock. The limits of the differing support conditions would need to be determined in the field during construction.

At a recent site meeting with the Client and the Civil Engineer (Gutschick, Little & Weber), discussion arose as to what could be done to better evaluate the subsurface conditions in the vicinity of the proposed culvert. It was determined that dilatometer testing would be performed to better define the subsurface conditions and to maximize the allowable soil bearing pressure that could be used for design.

Dilatometer Testing

In order to determine the general soil stress and types, two Flat Dilatometer Tests were performed. The dilatometer test locations generally correlated with the follow previous boring locations:

| Dilatometer Test | Previous Boring |
|------------------|-----------------|
| DMT-1 | CLV-7 |
| DMT-2 | CLV-3 |

The dilatometer is a state of the art in-situ testing tool which can be hydraulically advanced into soil without causing any disturbance. The test is best suited for materials finer than gravelly sands. Its suitability in loose sands is noted as one of the best applications of the device by experts in the DMT field.

To perform the test, a membrane on the side of the blade-shaped tool is expanded into the sidewall of the soil a distance of one point one millimeter. The pressure that is required to expand the membrane into the soil and the pressure prior to the expansion are noted (A and B pressures). The operator then deflates the membrane and records a third pressure (C pressure). The blade is then advanced to the next test depth and the test is repeated. A series of single dilatometer tests is referred to as a DMT sounding.

This abbreviated stress-strain test can be used to define many geotechnical parameters of soil including soil type, shear strength, constrained deformation modulus (that is, settlement), preconsolidation stress, in-situ pore water pressure and rate of consolidation. By coupling the reduced modulus data from the test with an elastic settlement program such as Schmertmann's Special Method, very accurate settlement predictions can be made for specific foundation load/size cases. Diagrams illustrating the dilatometer test are also attached to this report.

Results

Allowable bearing pressures ranging from 4,000 psf to 6,000 psf were considered for the design of foundations. Based on the available drawings, it was estimated that maximum foundation loads will be on the order of 36 kips/linear foot. Contact

HILLIS-CARNES ENGINEERING ASSOCIATES, INC.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William F. Mahall
Chief, Bureau of Highways
Date: 9-13-07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Cindy Hunt
Chief, Division of Land Development
Date: 9/10/07

[Signature]
Chief, Development Engineering Division
Date: 8/14/07

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

W:\00Plots\14679-E-IN-F-ACT-A04.dwg DES. KTM DRN. RPU CHK. JVP

| DATE | REVISION #1) | REVISION | BY | APP. |
|---------|--|----------|-----|------|
| 8/23/07 | REVISED FOUNDATION ACCORDING TO NEW GEOTECH REPORT AND REVISED HEADWALLS | | JCH | KTM |
| | | | BY | APP. |

PREPARED FOR
OWNER
WALNUT GROVE HOLDING, L.L.C.
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DYKE, PRESIDENT
10705 CHARTER DRIVE
SUITE 320
COLUMBIA, MARYLAND 21044

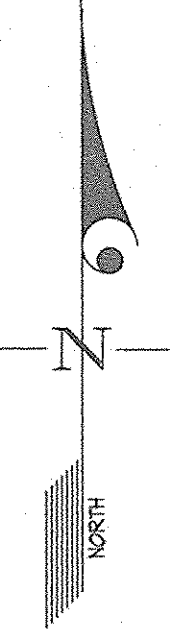
Revised CONSPAN BRIDGE SYSTEM DETAILS
WALNUT GROVE
LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCELS "A",
NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I" AND
NON-BUILDABLE BULK PARCELS "J"
L.2927 F.487
ELECTION DISTRICT No. 5
HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE No. |
|-------------|-------------------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| AUGUST/2007 | PARCEL 74 28 - 18,17 | 62 OF 78 |

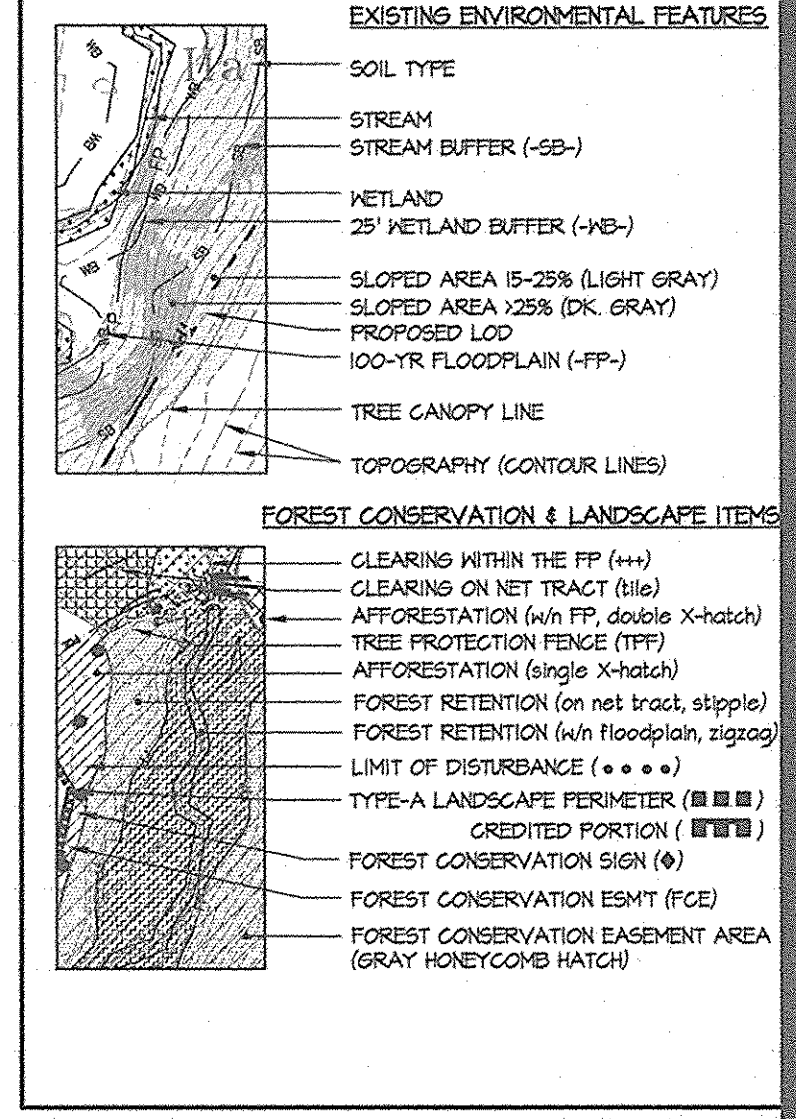
CONSPAN BRIDGE SYSTEMS
Designed JVP
Drawn RPU
Checked JVP
Date
G/S Project No. 14679
Sheet No. C/S12

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. 22201, Expiration Date: 12-22-08.

N 510500
E 1325400

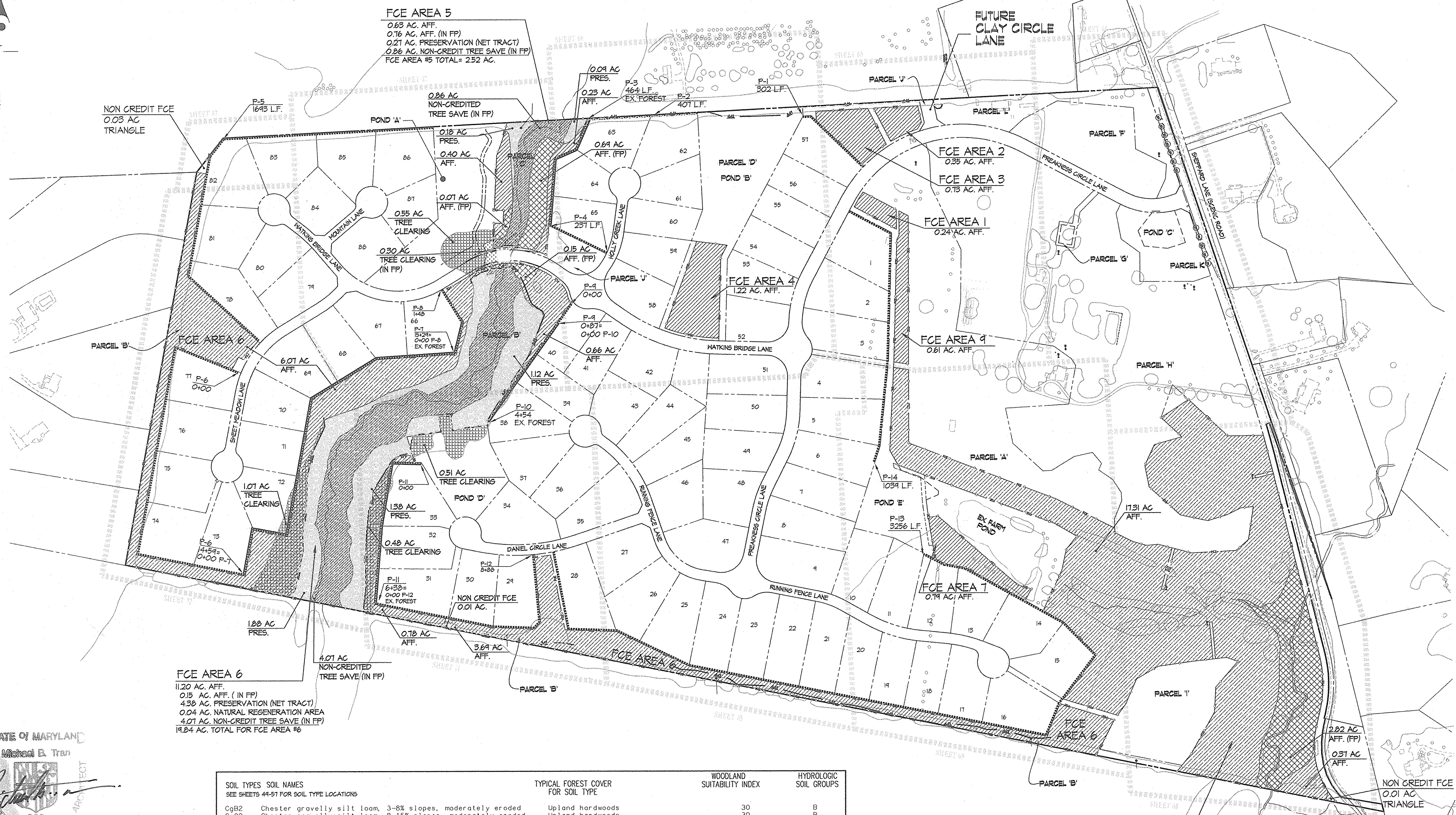


PLAN LEGEND



FOREST CONSERVATION NARRATIVE

MOST OF THE DEVELOPMENT IS PROPOSED ON THE PORTION OF THE SITE THAT IS CURRENTLY CULTIVATED/FARMED. ALL ENVIRONMENTALLY SENSITIVE AREAS THAT IS NOT HOODED WILL BE PLANTED AS AFFORESTATION. ALL FOREST CONSERVATION OBLIGATIONS WILL BE SATISFIED ON PRESERVATION PARCEL TO MINIMIZE THE LIKELIHOOD OF FUTURE ENFORCEMENT PROBLEMS.



FCE AREA 5
0.63 AC. AFF.
0.16 AC. AFF. (IN FP)
0.21 AC. PRESERVATION (NET TRACT)
0.66 AC. NON-CREDIT TREE SAVE (IN FP)
FCE AREA #5 TOTAL= 2.32 AC.

NON CREDIT FCE
0.03 AC
TRIANGLE

FCE AREA 6
11.20 AC. AFF.
0.19 AC. AFF. (IN FP)
4.39 AC. PRESERVATION (NET TRACT)
0.04 AC. NATURAL REGENERATION AREA
4.01 AC. NON-CREDIT TREE SAVE (IN FP)
14.84 AC. TOTAL FOR FCE AREA #6

FCE AREA 6
11.20 AC. AFF.
0.19 AC. AFF. (IN FP)
4.39 AC. PRESERVATION (NET TRACT)
0.04 AC. NATURAL REGENERATION AREA
4.01 AC. NON-CREDIT TREE SAVE (IN FP)
14.84 AC. TOTAL FOR FCE AREA #6

FUTURE CLAY CIRCLE LANE

FCE AREA 2
0.35 AC. AFF.

FCE AREA 3
0.15 AC. AFF.

FCE AREA 1
0.24 AC. AFF.

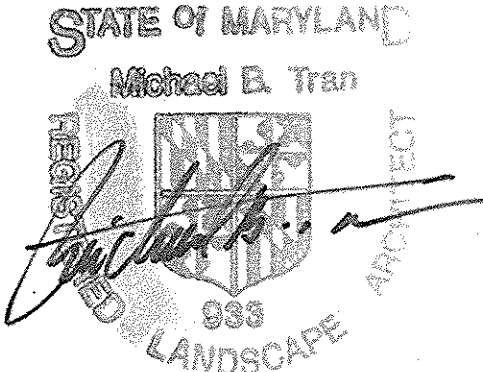
FCE AREA 4
1.22 AC. AFF.

FCE AREA 9
0.61 AC. AFF.

FCE AREA 7
0.14 AC. AFF.

FCE AREA 8
17.68 AC. AFF.
2.82 AC. AFF. (IN FP)
0.01 AC. NATURAL REGENERATION AREA
20.51 AC. TOTAL FOR FCE AREA #8

N 561000
E 1350300



N 561000
E 1325400

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William Z. ... 2-5-07
Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Candy ... 2/1/07
Chief, Division of Land Development Date

| SOIL TYPES | SOIL NAMES SEE SHEETS 44-51 FOR SOIL TYPE LOCATIONS | TYPICAL FOREST COVER FOR SOIL TYPE | WOODLAND SUITABILITY INDEX | HYDROLOGIC SOIL GROUPS |
|------------|---|---------------------------------------|-------------------------------|---------------------------|
| CgB2 | Chester gravelly silt loam, 3-8% slopes, moderately eroded | Upland hardwoods | 30 | B |
| CgC2 | Chester gravelly silt loam, 8-15% slopes, moderately eroded | Upland hardwoods | 30 | B |
| ChA | Chester silt loam, 0-3% slopes | Upland hardwoods | 30 | B |
| ChB2 | Chester silt loam, 3-8% slopes, moderately eroded | Upland hardwoods | 30 | B |
| ChC2 | Chester silt loam, 8-15% slopes, moderately eroded | Upland hardwoods | 30 | B |
| ChD2 | Chester silt loam, 15-25% slopes, moderately eroded | Upland hardwoods | 31 | B |
| Cs | Comus silt loam | Oak, Hickory, Beech, Locust and Maple | 4 | B |
| EKA | Eliok silt loam, 0-3% slopes | mixed hardwoods, mainly oaks | 30 | C |
| EKB2 | Eliok silt loam, 3-8% slopes, moderately eroded | mixed hardwoods, mainly oaks | 30 | C |
| EKC2 | Eliok silt loam, 8-15% slopes, moderately eroded | mixed hardwoods, mainly oaks | 30 | C |
| G1A | Glenelg loam, 0-3% slopes | mixed hardwoods, mainly oaks | 30 | B |
| G1B2 | Glenelg loam, 3-8% slopes, moderately eroded | mixed hardwoods, mainly oaks | 30 | B |
| G1C2 | Glenelg loam, 8-15% slopes, moderately eroded | mixed hardwoods, mainly oaks | 30 | B |
| G1D2 | Glenelg loam, 15-25% slopes, moderately eroded | mixed hardwoods, mainly oaks | 31 | B |
| GnA | Glenville silt loam, 0-3% slopes | water tolerant hardwoods | 12 | C |
| GnB2 | Glenville silt loam, 3-8% slopes, moderately eroded | water tolerant hardwoods | 12 | C |
| Ha | Hatboro silt loam | wetland oaks, holly and maple | 2 | D |
| MgB2 | Manor Grovelly loam, 3-8% slopes, moderately eroded | mixed upland hardwoods, mainly oaks | 43 | B |
| MgC2 | Manor Grovelly loam, 8-15% slopes, moderately eroded | mixed upland hardwoods, mainly oaks | 43 | B |
| M1A | Manor loam, 0-3% slopes | mixed upland hardwoods, mainly oaks | 43 | B |
| M1B2 | Manor loam, 3-8% slopes, moderately eroded | mixed upland hardwoods, mainly oaks | 43 | B |
| M1D2 | Manor loam, 15-25% slopes, moderately eroded | mixed upland hardwoods, mainly oaks | 44 | B |
| M1E | Manor loam, 25-45% slopes | mixed upland hardwoods, mainly oaks | 44 | B |
| MnD | Manor very stony loam, 3-25% slopes | mixed upland hardwoods, mainly oaks | 44 | B |
| MnF | Manor very stony loam, 25-60% slopes | mixed upland hardwoods, mainly oaks | 45 | B |

*Indicates a hydric soil or **hydric inclusions.

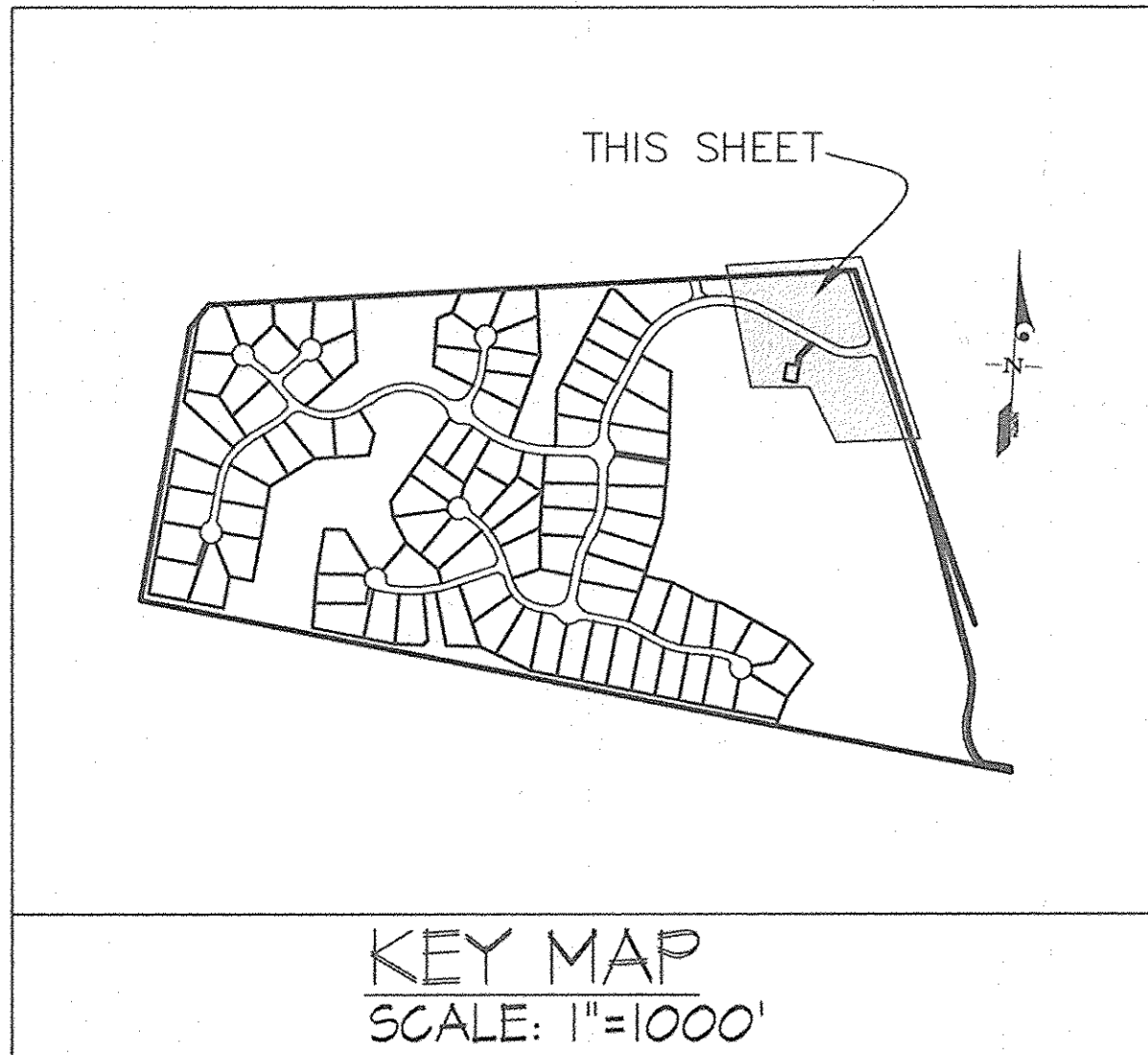
GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BAL: 410-880-1820 DC/V: 301-989-2524 FAX: 301-421-4186

| DATE | REVISION | BY | APP'R. |
|------|----------|----|--------|
| | | | |
| | | | |
| | | | |

PREPARED FOR
OWNER
WALNUT GROVE HOLDING, L.L.C.
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DIKE, PRESIDENT
10700 CHARTER DRIVE
SUITE 300
COLUMBIA, MARYLAND 21044

COMPOSITE FOREST CONSERVATION PLAN & LANDSCAPE BUFFER ANALYSIS
WALNUT GROVE
LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL "A";
NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
NON-BUILDABLE BULK PARCEL "J"
L.2927 FA87
ELECTION DISTRICT No. 5

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| 1"=200' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 63 OF 78 |



NOTE: FCE BEARING AND DISTANCE DESCRIPTIONS ARE PROVIDED AND ESTABLISHED ON THE FINAL PLAT.

PLAN LEGEND

EXISTING ENVIRONMENTAL FEATURES

- SOIL TYPE
- STREAM
- STREAM BUFFER (-SB-)
- KETLAND
- 25' KETLAND BUFFER (-KB-)
- SLOPED AREA 15-25% (LIGHT GRAY)
- SLOPED AREA 25% (DK. GRAY)
- PROPOSED LOD
- 100-YR FLOODPLAIN (-FP-)
- TREE CANOPY LINE
- TOPOGRAPHY (CONTOUR LINES)

FOREST CONSERVATION & LANDSCAPE ITEMS

- CLEARING WITHIN THE FP (---)
- CLEARING ON NET TRACT (Hatched)
- AFFORESTATION (with floodplain, double X-hatch)
- TREE PROTECTION FENCE (TPF)
- NEW TREE CANOPY LINE (---)
- AFFORESTATION (single X-hatch)
- FOREST RETENTION (on net tract, stipple)
- FOREST RETENTION (with floodplain, zigzag)
- LIMIT OF DISTURBANCE (.....)
- TYPE-A LANDSCAPE PERIMETER (|||||)
- CREDITED PORTION (|||||)
- FOREST CONSERVATION SIGN (●)
- FOREST CONSERVATION ESMT (FCSE)
- FOREST CONSERVATION EASEMENT AREA (GRAY HONEYCOMB HATCH)

THIS PLAN IS FOR PLANTING PURPOSES ONLY!

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William Z. ... 2/5/07
 Chief, Bureau of Highways MS Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Clayton Hunter 2/15/07
 Chief, Division of Land Development VE Date

Chief, Development Engineering Division Date

GLWGUTSCHICK 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 BALD: 410-850-1820 DC/VA: 301-989-2324 FAX: 301-421-4188

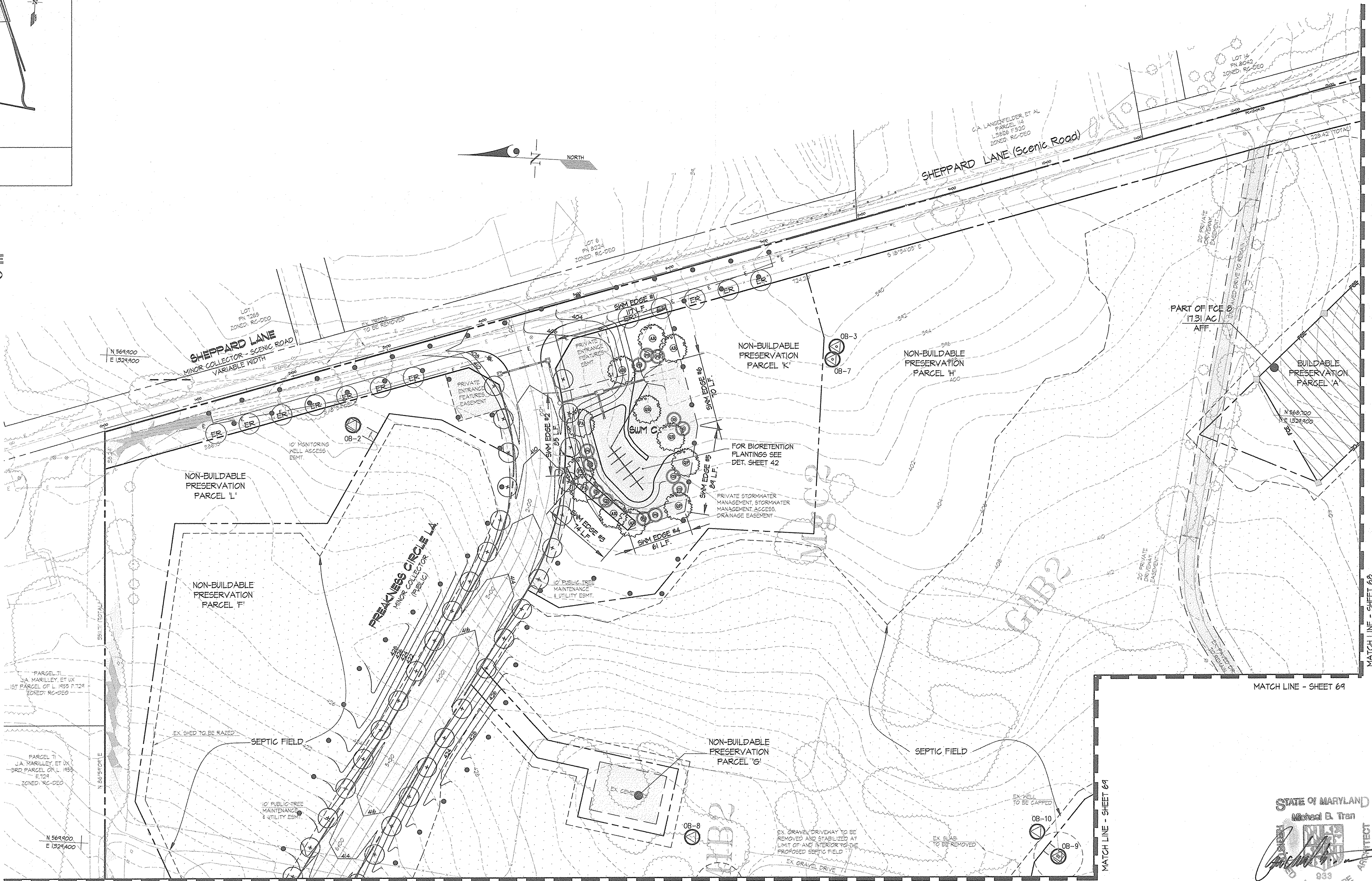
PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DIKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

LANDSCAPE & FOREST CONSERVATION & STREET TREE PLAN
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
 NON-BUILDABLE BULK PARCEL "J"
 L.2927 F.487

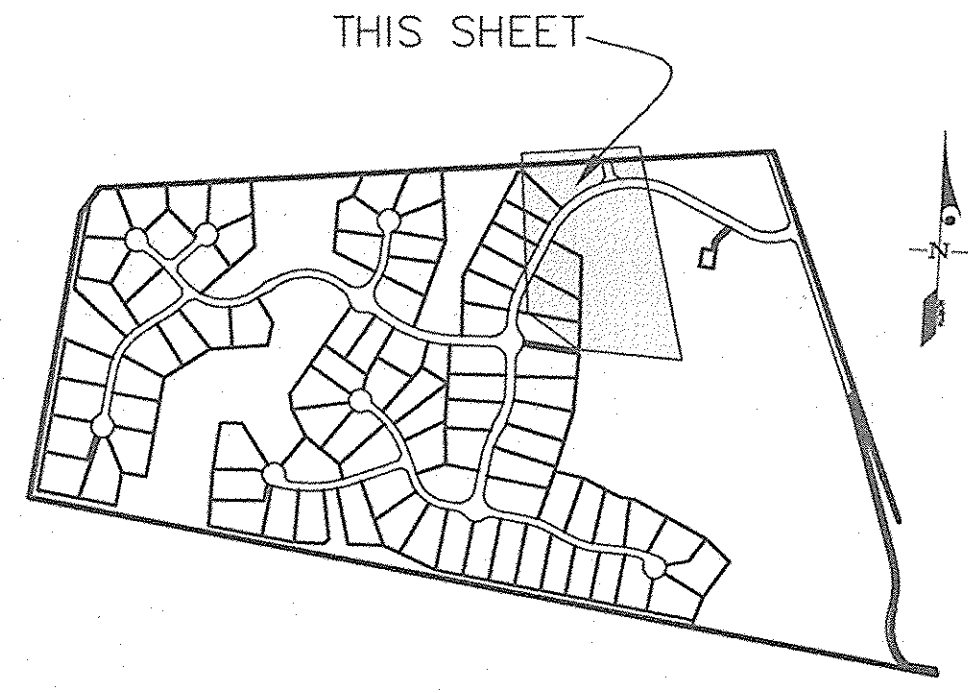
| | | |
|-----------|-------------------------|-------------------|
| SCALE | ZONING | G. L. W. FILE No. |
| 1" = 50' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 64 OF 78 |

Drawings\00153\Final-Road\00153LS.dwg DES. BJM DRN. KIP CHK. MUT

| DATE | REVISION | BY | APP'R. |
|------|----------|----|--------|
| | | | |
| | | | |
| | | | |



STATE OF MARYLAND
 Michael B. Tran
 933
 LANDSCAPE ARCHITECT



KEY MAP
SCALE: 1"=1000'

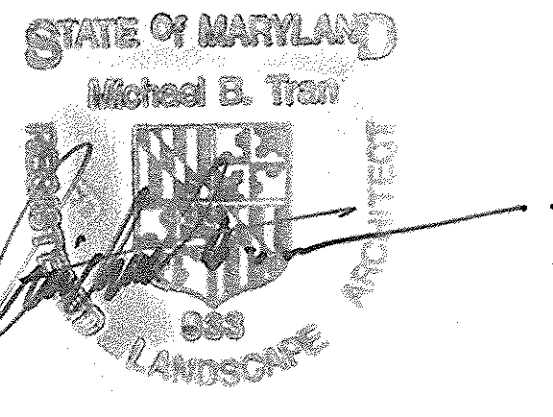
PLAN LEGEND

EXISTING ENVIRONMENTAL FEATURES

- SOIL TYPE
- STREAM
- STREAM BUFFER (-SB-)
- WETLAND
- 25' WETLAND BUFFER (-WB-)
- SLOPED AREA 15-25% (LIGHT GRAY)
- SLOPED AREA 25% (DK. GRAY)
- PROPOSED LOD
- 100-YR FLOODPLAIN (-FP-)
- TREE CANOPY LINE
- TOPOGRAPHY (CONTOUR LINES)

FOREST CONSERVATION & LANDSCAPE ITEMS

- CLEARING WITHIN THE TPF (+/-)
- CLEARING ON NET TRACT (N/A)
- AFFORESTATION (w/in Floodplain, double X-hatch)
- TREE PROTECTION FENCE (TPF)
- NEW TREE CANOPY LINE (---)
- AFFORESTATION (single X-hatch)
- FOREST RETENTION (on net tract, stipple)
- FOREST RETENTION (w/in Floodplain, zigzag)
- LIMIT OF DISTURBANCE (.....)
- TYPE-A LANDSCAPE PERIMETER (|||||)
- CREDITED PORTION (|||||)
- FOREST CONSERVATION SIGN (N)
- FOREST CONSERVATION EMT (FCE)
- FOREST CONSERVATION EASEMENT AREA (GRAY HONEYCOMB HATCH)

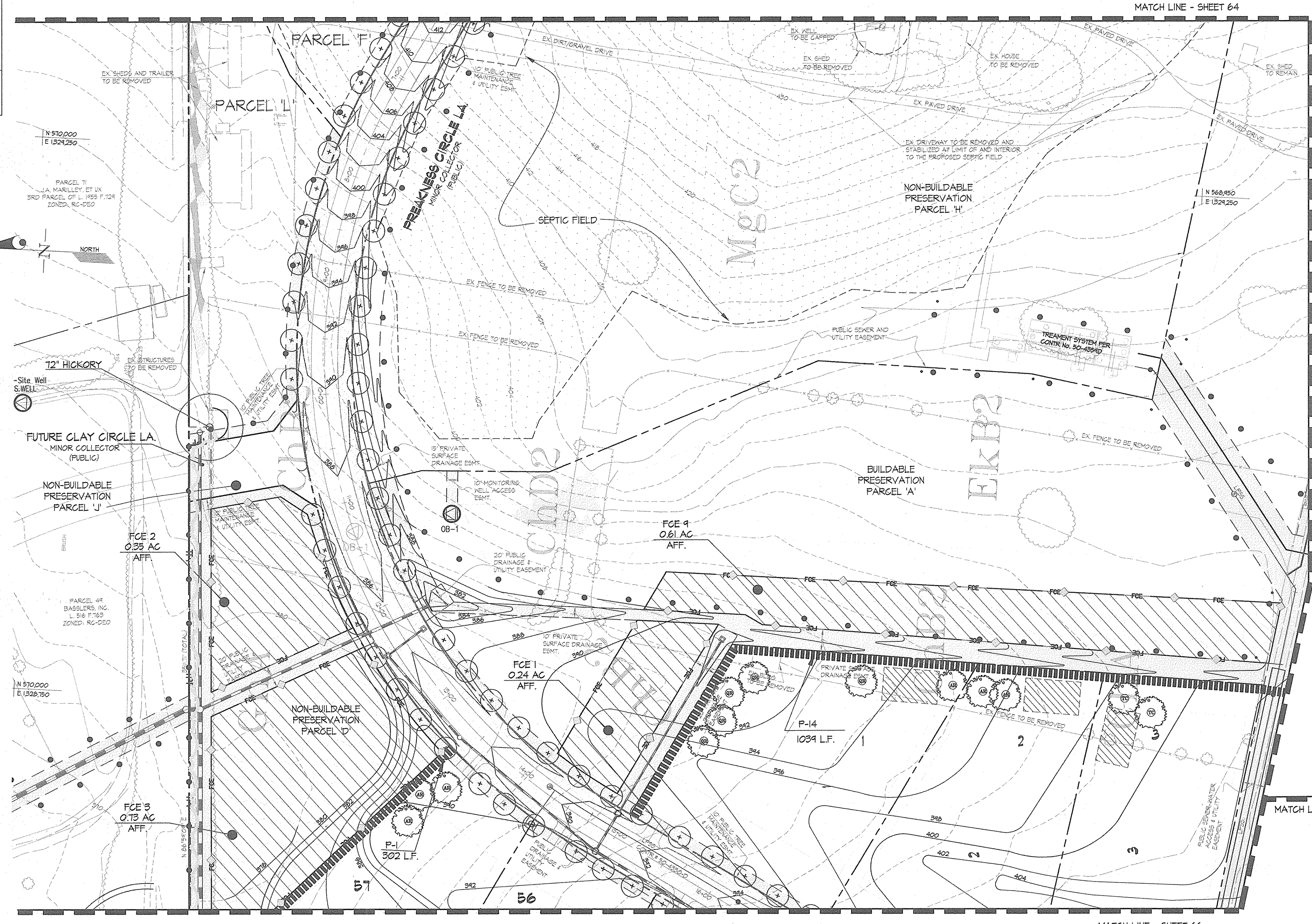


THIS PLAN IS FOR PLANTING PURPOSES ONLY!

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William J. ... 2-5-07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
... 2/15/07
 Chief, Division of Land Development Date

Chief, Development Engineering Division Date



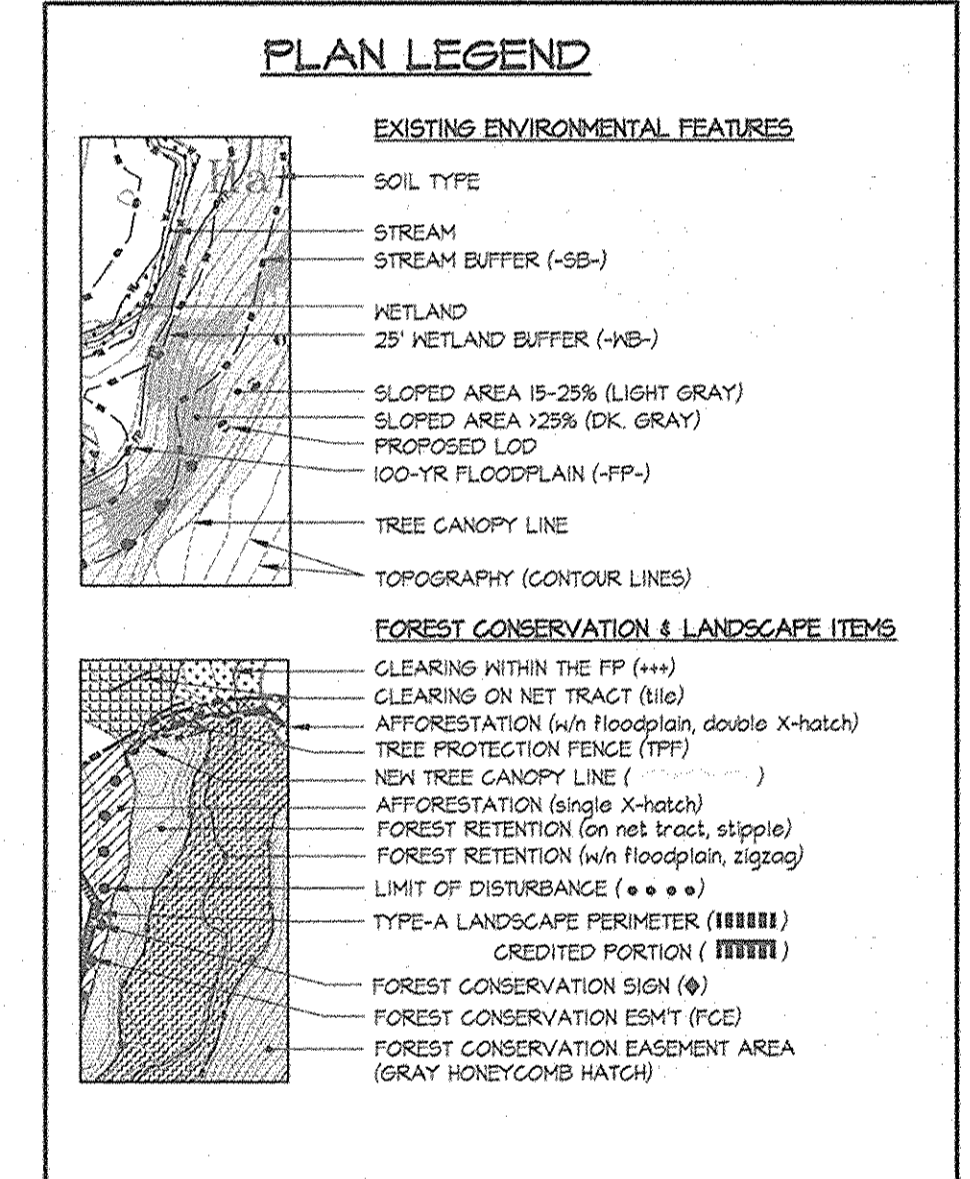
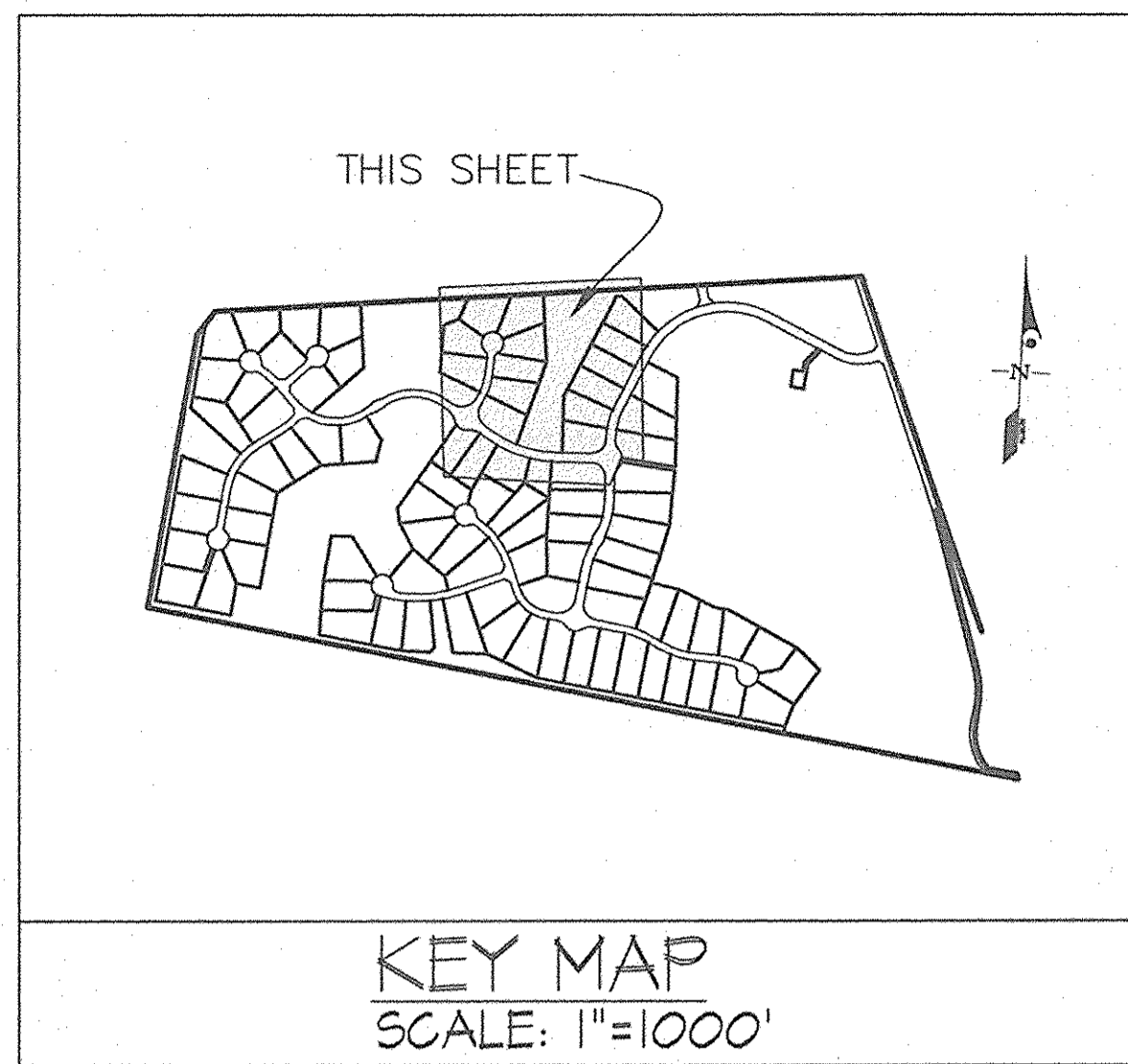
GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 FAX: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

| DATE | REVISION | BY | APPR. |
|------|----------|----|-------|
| | | | |
| | | | |

PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, LLC
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DIKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 300
 COLUMBIA, MARYLAND 21044

LANDSCAPE & FOREST CONSERVATION & STREET TREE PLAN
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
 NON-BUILDABLE BULK PARCEL "J"
 L.2927 F.487
 ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| 1" = 50' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 65 OF 78 |



STATE OF MARYLAND
Michael B. Tran
LANDSCAPE ARCHITECT
933 LANDSCAPE ARCHITECT

THIS PLAN IS FOR PLANTING PURPOSES ONLY!

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Michael B. Tran 2-5-07
Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Candy Hunter 2/8/07
Chief, Division of Land Development Date

Chief, Development Engineering Division Date

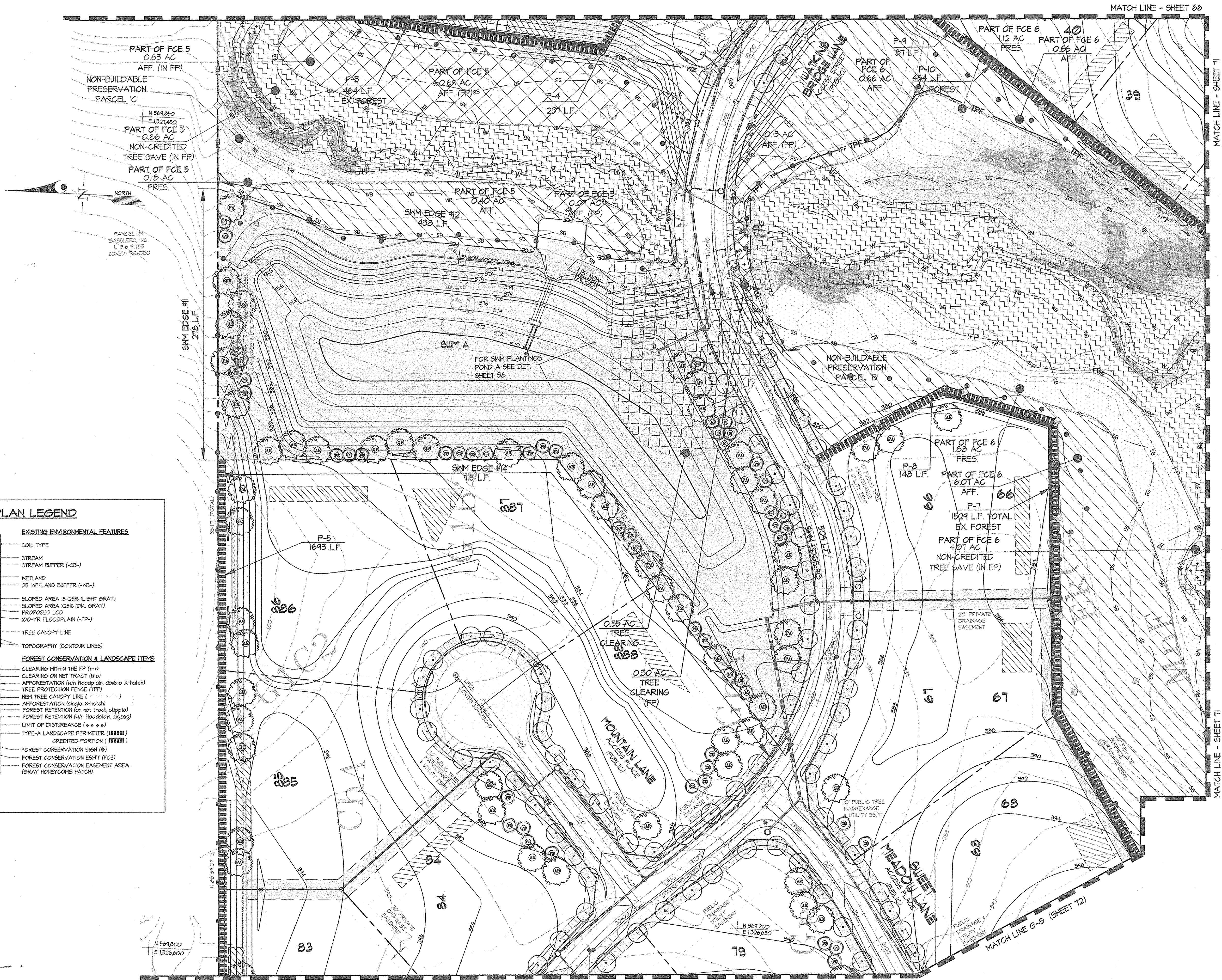
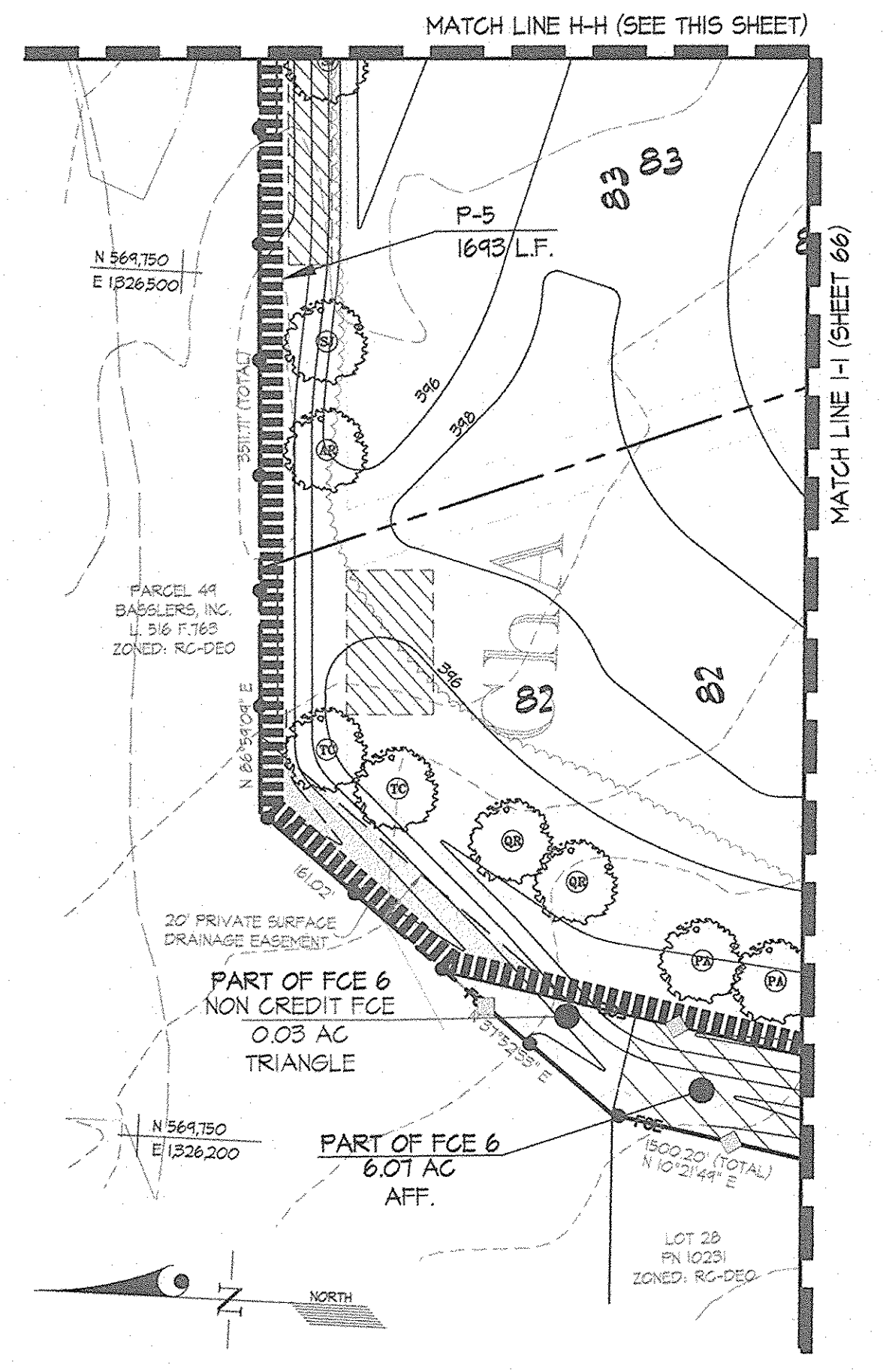
GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALTY: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

| DATE | REVISION | BY | APP'R. |
|------|----------|----|--------|
| | | | |
| | | | |
| | | | |
| | | | |

PREPARED FOR
OWNER
WALNUT GROVE HOLDING, L.L.C.
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DYKE, PRESIDENT
10705 CHARTER DRIVE
SUITE 320
COLUMBIA, MARYLAND 21044

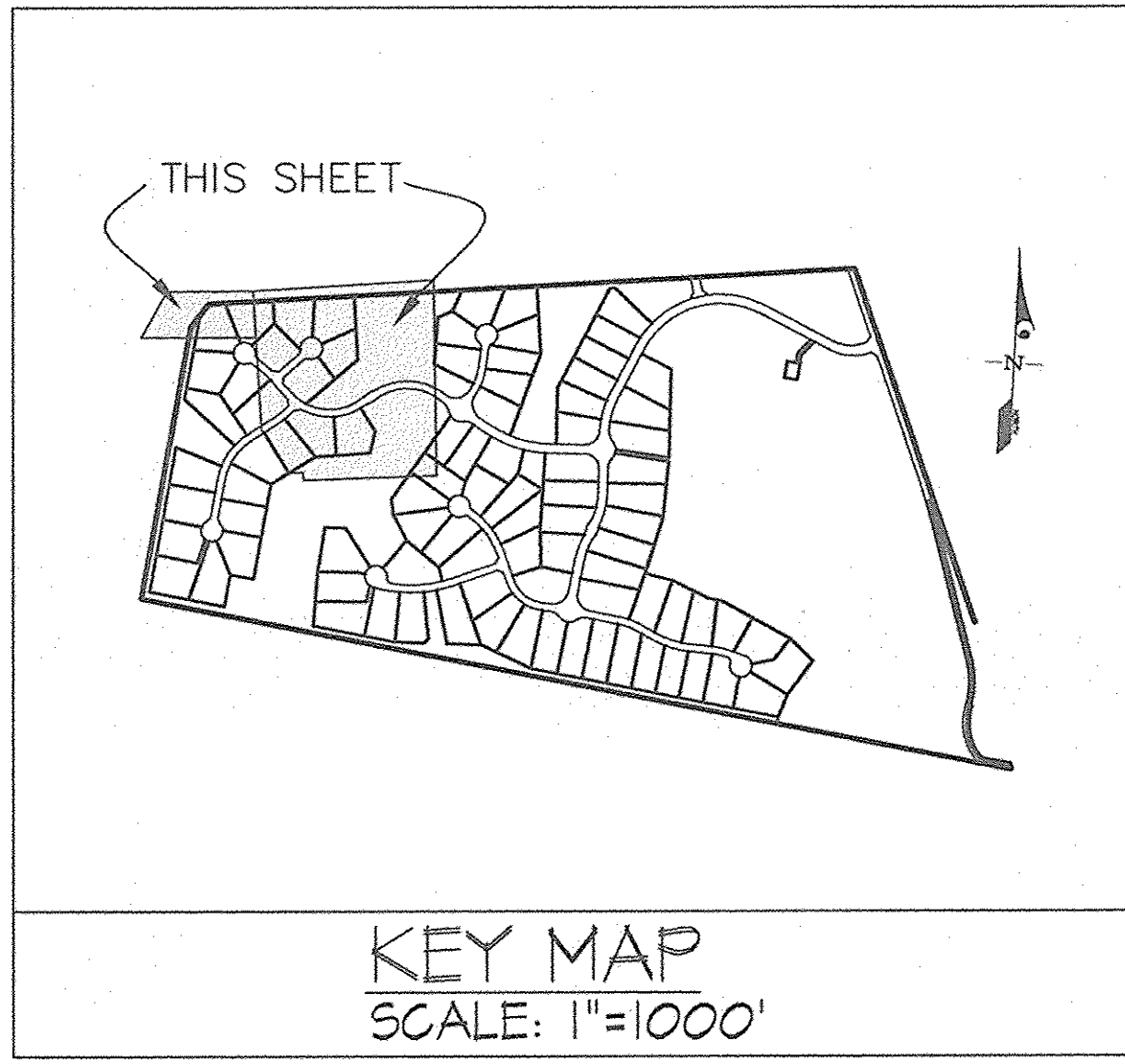
LANDSCAPE & FOREST CONSERVATION & STREET TREE PLAN
WALNUT GROVE
LOTS 1 THRU 38, BUILDABLE PRESERVATION PARCEL "A",
NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
NON-BUILDABLE BULK PARCEL "J"
L.2927 R.487
ELECTION DISTRICT No. 5
HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|-------------------------|-------------------|
| 1" = 50' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 66 OF 78 |



PLAN LEGEND

| EXISTING ENVIRONMENTAL FEATURES | |
|---------------------------------------|--|
| [Symbol] | SOIL TYPE |
| [Symbol] | STREAM |
| [Symbol] | STREAM BUFFER (-SB-) |
| [Symbol] | WETLAND |
| [Symbol] | 25' WETLAND BUFFER (-WB-) |
| [Symbol] | SLOPED AREA 15-25% (LIGHT GRAY) |
| [Symbol] | SLOPED AREA 25% (DK. GRAY) |
| [Symbol] | PROPOSED LOD |
| [Symbol] | 100-YR FLOODPLAIN (-FP-) |
| [Symbol] | TREE CANOPY LINE |
| [Symbol] | TOPOGRAPHY (CONTOUR LINES) |
| FOREST CONSERVATION & LANDSCAPE ITEMS | |
| [Symbol] | CLEARING WITHIN THE FP (---) |
| [Symbol] | CLEARING ON NET TRACT (hatch) |
| [Symbol] | AFFORESTATION (with floodplain, double X-hatch) |
| [Symbol] | TREE PROTECTION FENCE (TPF) |
| [Symbol] | NEW TREE CANOPY LINE (-) |
| [Symbol] | AFFORESTATION (single X-hatch) |
| [Symbol] | FOREST RETENTION (on net tract, stipple) |
| [Symbol] | FOREST RETENTION (with floodplain, zigzag) |
| [Symbol] | LIMIT OF DISTURBANCE (---) |
| [Symbol] | TYPE-A LANDSCAPE PERIMETER () |
| [Symbol] | CREDITED PORTION () |
| [Symbol] | FOREST CONSERVATION SIGN (●) |
| [Symbol] | FOREST CONSERVATION ESMT (FCE) |
| [Symbol] | FOREST CONSERVATION EASEMENT AREA (GRAY HONEYCOMB HATCH) |



THIS PLAN IS FOR PLANTING PURPOSES ONLY!

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Michael B. Tran 2/5/07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chris Harris 2/5/07
 Chief, Division of Land Development Date

Michael B. Tran 2/4/07
 Chief, Development Engineering Division Date

STATE OF MARYLAND
 Michael B. Tran
 LANDSCAPE ARCHITECT

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20869
 TEL: 301-421-4024 FAX: 410-850-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

| | | | |
|------|----------|----|--------|
| DATE | REVISION | BY | APP'R. |
| | | | |
| | | | |
| | | | |

PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

LANDSCAPE & FOREST CONSERVATION & STREET TREE PLAN
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
 NON-BUILDABLE BULK PARCEL "J"
 L.2927 F.487
 ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

| | | |
|-----------|-------------------------|-------------------|
| SCALE | ZONING | G. L. W. FILE No. |
| 1" = 50' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 67 OF 78 |



KEY MAP
SCALE: 1"=1000'

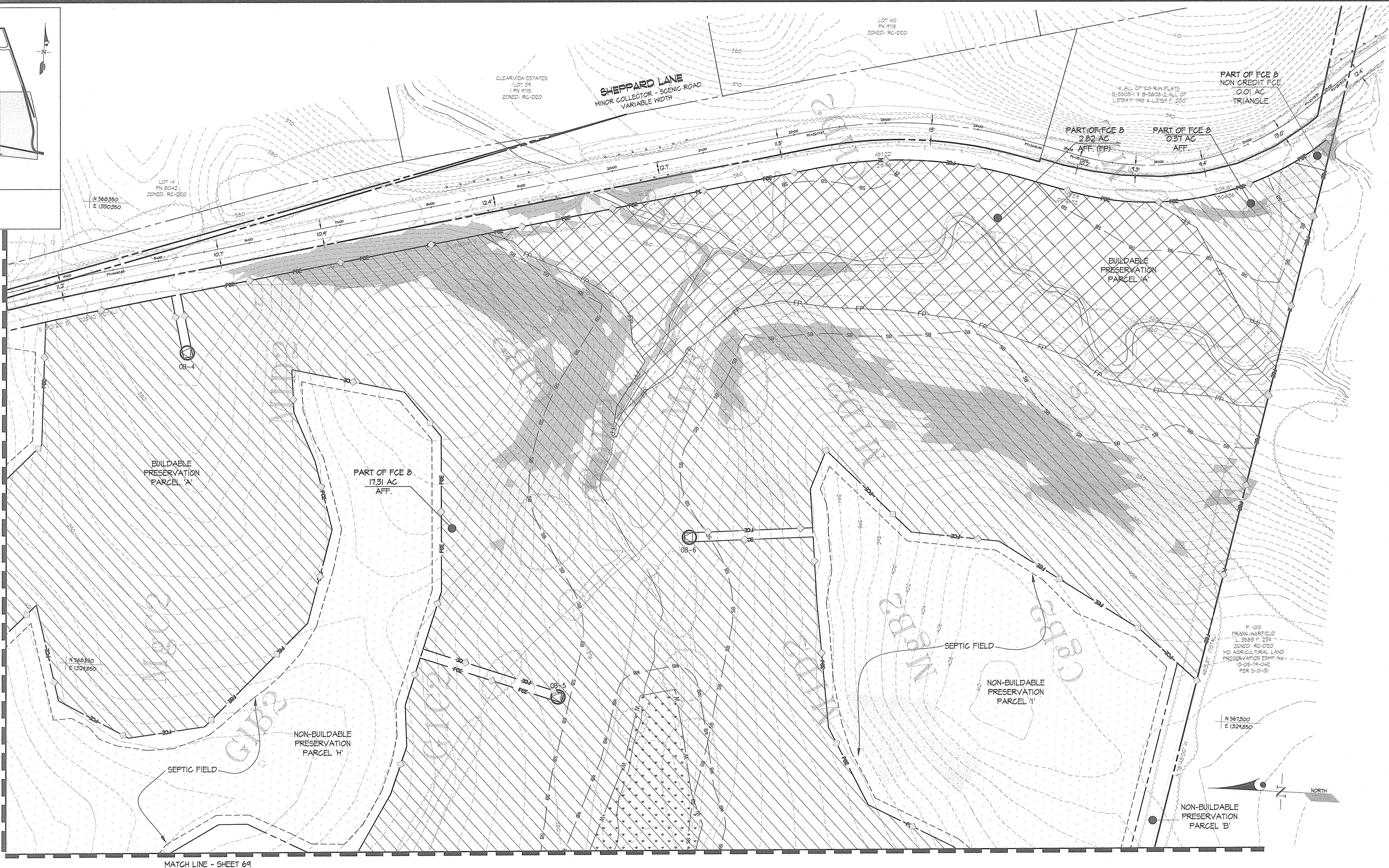
PLAN LEGEND

EXISTING ENVIRONMENTAL FEATURES

- SOIL TYPE
- STREAM
- STREAM BUFFER (-SB-)
- WETLAND
- 25' WETLAND BUFFER (-WB-)
- SLOPED AREA 15-25% (LIGHT GRAY)
- SLOPED AREA >25% (DK. GRAY)
- PROPOSED LOD
- 100-YR FLOODPLAIN (-FP-)
- TREE CANOPY LINE
- TOPOGRAPHY (CONTOUR LINES)

FOREST CONSERVATION & LANDSCAPE ITEMS

- CLEARING WITHIN THE FP (++)
- CLEARING ON NET TRACT (ble)
- AFFORESTATION (w/in FP, double X-hatch)
- TREE PROTECTION FENCE (TFP)
- NEW TREE CANOPY LINE ()
- AFFORESTATION (single X-hatch)
- FOREST RETENTION (on net track, stipple)
- FOREST RETENTION (w/in floodplain, zigzag)
- LIMIT OF DISTURBANCE (.....)
- TYPE-A LANDSCAPE PERIMETER (|||||)
- CREDITED PORTION (|||||)
- FOREST CONSERVATION SIGN (⊙)
- FOREST CONSERVATION ESMT (FCE)
- FOREST CONSERVATION BASEMENT AREA (GRAY HONEYCOMB HATCH)



STATE OF MARYLAND
Michael B. Tran
ARCHITECT
955
LANDSCAPE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter Z. ... 2-5-07
Chief, Bureau of Highways
Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Christy ... 2/5/07
Chief, Division of Land Development
Date

... 2/5/07
Chief, Development Engineering Division
Date

THIS PLAN IS FOR PLANNING PURPOSES ONLY!

GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20886
TEL: 301-421-4024 BAL: 410-800-1820 DC/VA: 301-999-2524 FAX: 301-421-4186

| DATE | REVISION | BY | APPR. |
|------|----------|----|-------|
| | | | |
| | | | |
| | | | |

PREPARED FOR
OWNER
WALNUT GROVE HOLDING, L.L.C.
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DYKE PRESIDENT
10705 CHARTER DRIVE
SUITE 320
COLUMBIA, MARYLAND 21044

LANDSCAPE & FOREST CONSERVATION & STREET TREE PLAN
WALNUT GROVE
LOTS 1 THRU 38, BUILDABLE PRESERVATION PARCEL "A",
NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
NON-BUILDABLE BULK PARCEL "J"
L.2927 F.487
ELECTION DISTRICT No. 5
HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| 1" = 50' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 68 OF 78 |

THIS PLAN IS FOR PLANTING PURPOSES ONLY!

MATCH LINE - SHEET 64 MATCH LINE - SHEET 68

MATCH LINE - SHEET 64

MATCH LINE - SHEET 65

STATE OF MARYLAND
Michael B. Tran
REGISTERED ARCHITECT
988 LANDSCAPE ARCHITECT
11-16-07

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William T. ... 12-3-07
Chief, Bureau of Highways
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
... 12/5/07
Chief, Division of Land Development
APPROVED: *...* 12-5-07
Chief, Development Engineering Division

GLWGUTSCHICK 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: 410-889-1820 DC/VA: 301-589-2524 FAX: 301-421-4186

MATCH LINE - SHEET 70

| DATE | REVISION | BY | APP'R. |
|----------|---|-----|--------|
| 11/16/07 | RUNNING FENCE LANE LOWERED AND STORM DRAIN ADDED AT NEW LOW POINT | DDS | |
| | | | |

PREPARED FOR OWNER
WALNUT GROVE HOLDING, L.L.C.
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DYKE PRESIDENT
10705 CHARTER DRIVE
SUITE 320
COLUMBIA, MARYLAND 21044

REVISED LANDSCAPE & FOREST CONSERVATION & STREET TREE PLAN
WALNUT GROVE
LOTS 1 THRU 38, BUILDABLE PRESERVATION PARCEL 'A',
NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND
NON-BUILDABLE BULK PARCEL 'J'
L.2927 F487

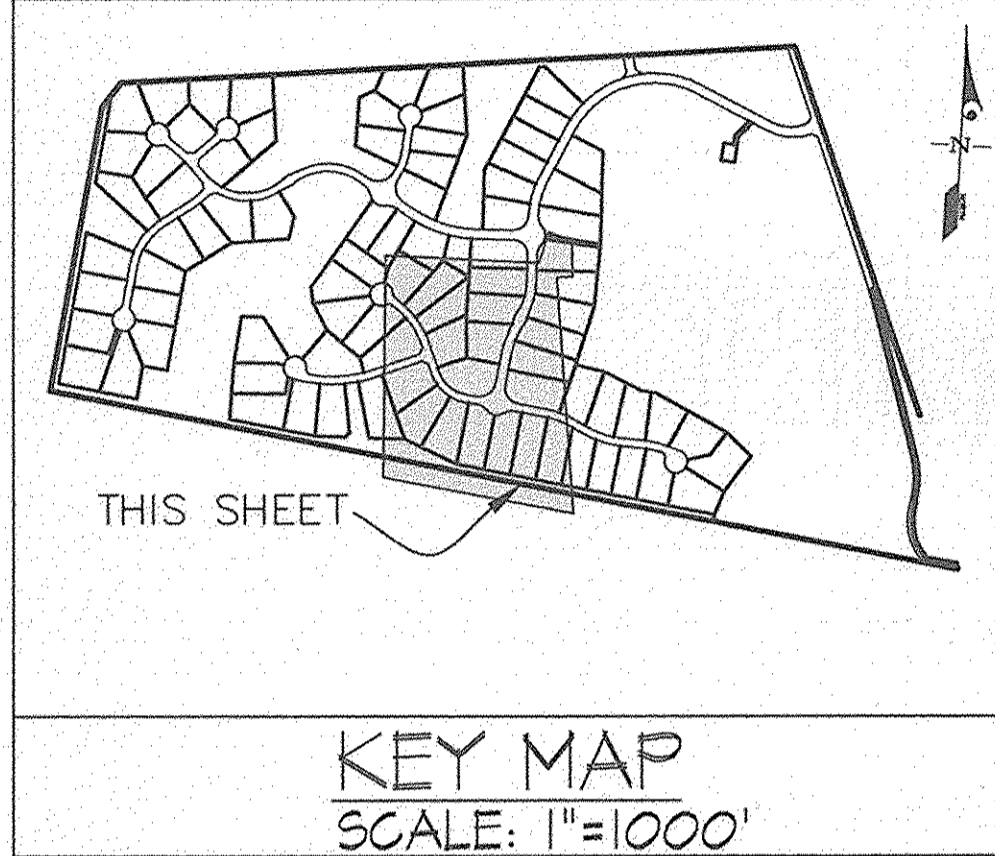
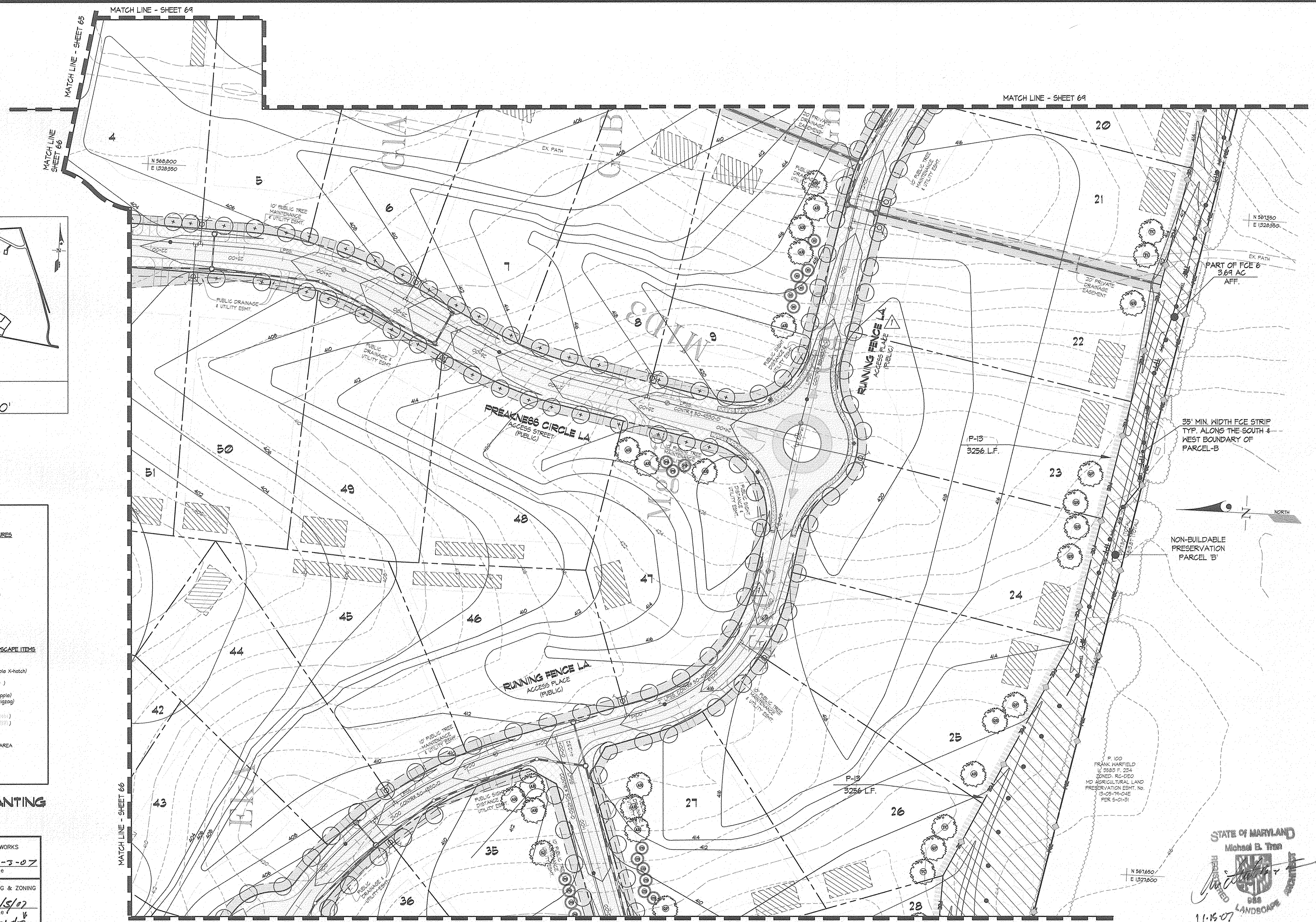
| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| 1" = 50' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| NOV./2007 | PARCEL 74 28 - 18,17 | 69 OF 78 |

PLAN LEGEND

- EXISTING ENVIRONMENTAL FEATURES**
- SOIL TYPE
 - STREAM
 - STREAM BUFFER (-SB-)
 - WETLAND
 - 25' WETLAND BUFFER (-WB-)
 - SLOPED AREA 15-25% (LIGHT GRAY)
 - SLOPED AREA 25% (DK. GRAY)
 - PROPOSED LOG
 - 100-YR FLOODPLAIN (AFF-)
 - TREE CANOPY LINE
 - TOPOGRAPHY (CONTOUR LINES)
- FOREST CONSERVATION & LANDSCAPE ITEMS**
- CLEARING WITHIN THE FP (Hatched)
 - CLEARING ON NET TRACT (Hatched)
 - AFFORESTATION (w/ in FP, double X-hatched)
 - TREE PROTECTION FENCE (TPF)
 - NEW TREE CANOPY LINE (---)
 - AFFORESTATION (single X-hatched)
 - FOREST RETENTION (on net tract, stipple)
 - FOREST RETENTION (w/ floodplain, zigzag)
 - LIMIT OF DISTURBANCE (.....)
 - TYPE-A LANDSCAPE PERIMETER (---)
 - FOREST CONSERVATION SIGN (---)
 - FOREST CONSERVATION EASEMENT (FCE)
 - FOREST CONSERVATION EASEMENT AREA (GRAY HONEYCOMB HATCH)



KEY MAP
SCALE: 1"=1000'



PLAN LEGEND

EXISTING ENVIRONMENTAL FEATURES

- SOIL TYPE
- STREAM
- STREAM BUFFER (-SB-)
- WETLAND
- 25' WETLAND BUFFER (-WB-)
- SLOPED AREA 15-25% (LIGHT GRAY)
- SLOPED AREA >25% (DK. GRAY)
- PROPOSED LOD
- 100-YR FLOODPLAIN (-FP-)
- TREE CANOPY LINE
- TOPOGRAPHY (CONTOUR LINES)

FOREST CONSERVATION & LANDSCAPE ITEMS

- CLEARING WITHIN THE FP (---)
- CLEARING ON NET TRACT (B/A)
- ATTORNESTATION (w/in floodplain, double X-hatch)
- TREE PROTECTION FENCE (TPF)
- NEW TREE CANOPY LINE (-)
- AFFORESTATION (single X-hatch)
- FOREST RETENTION (on net tract, stipple)
- FOREST RETENTION (w/in floodplain, zigzag)
- LIMIT OF DISTURBANCE (.....)
- TYPE-A LANDSCAPE PERIMETER (-----)
- CREDITED PORTION (-----)
- FOREST CONSERVATION SIGN (W)
- FOREST CONSERVATION ESMT (FCE)
- FOREST CONSERVATION EASEMENT AREA (GRAY HONEYCOMB HATCH)

THIS PLAN IS FOR PLANTING PURPOSES ONLY!

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter J. Wall 12-3-07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Windy Hamer 12/5/07
 Chief, Division of Community Development Date

W. Vanaman 12/5/07
 Chief, Development Engineering Division Date

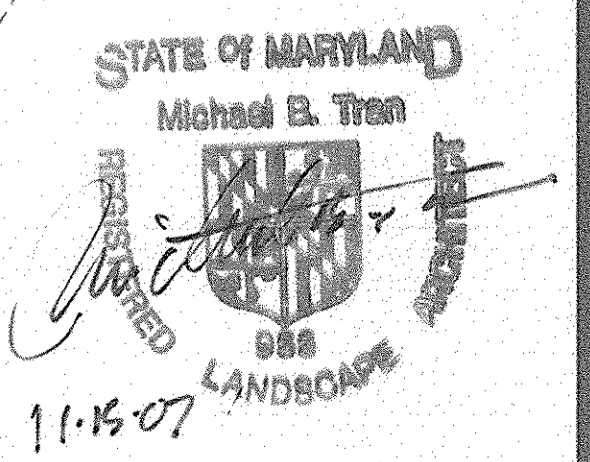
GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

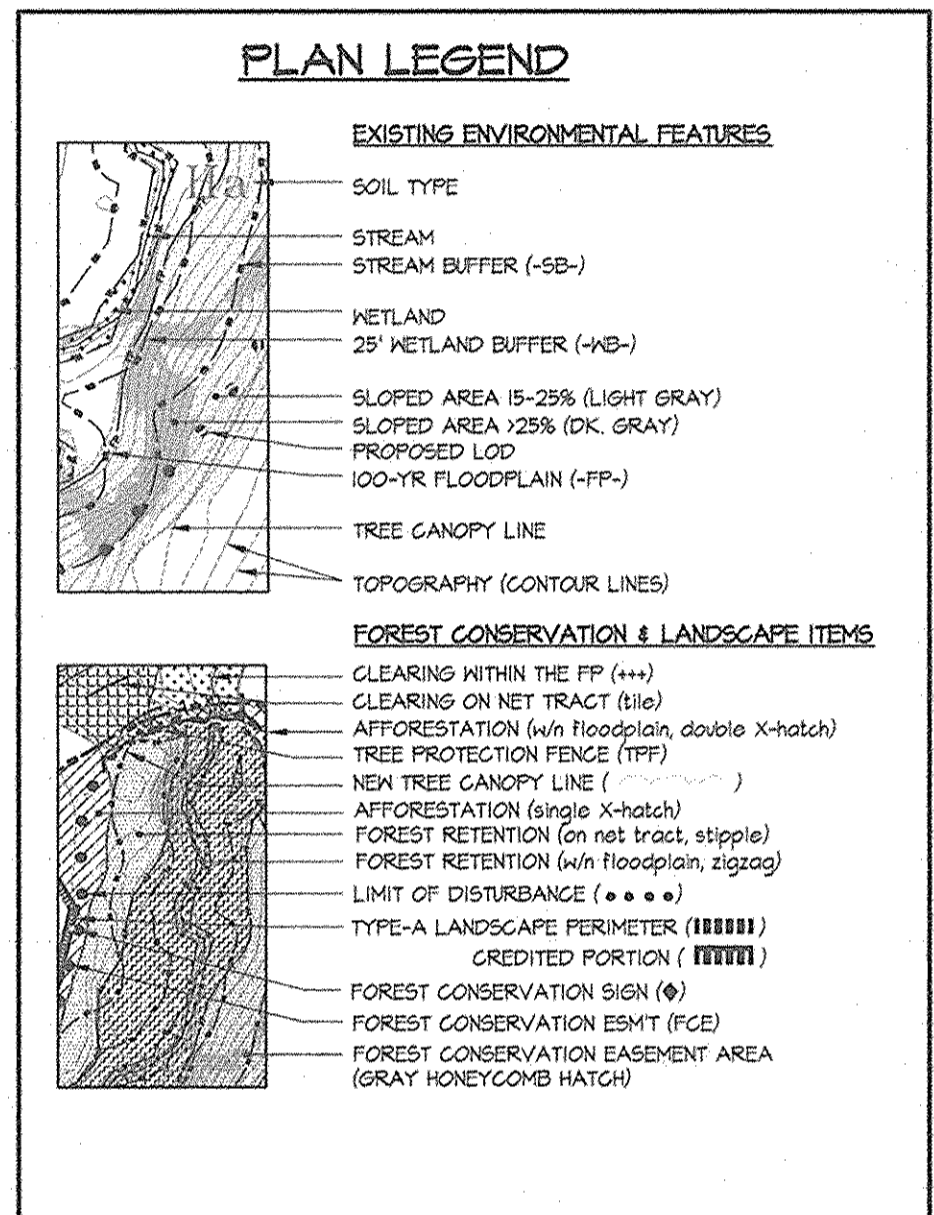
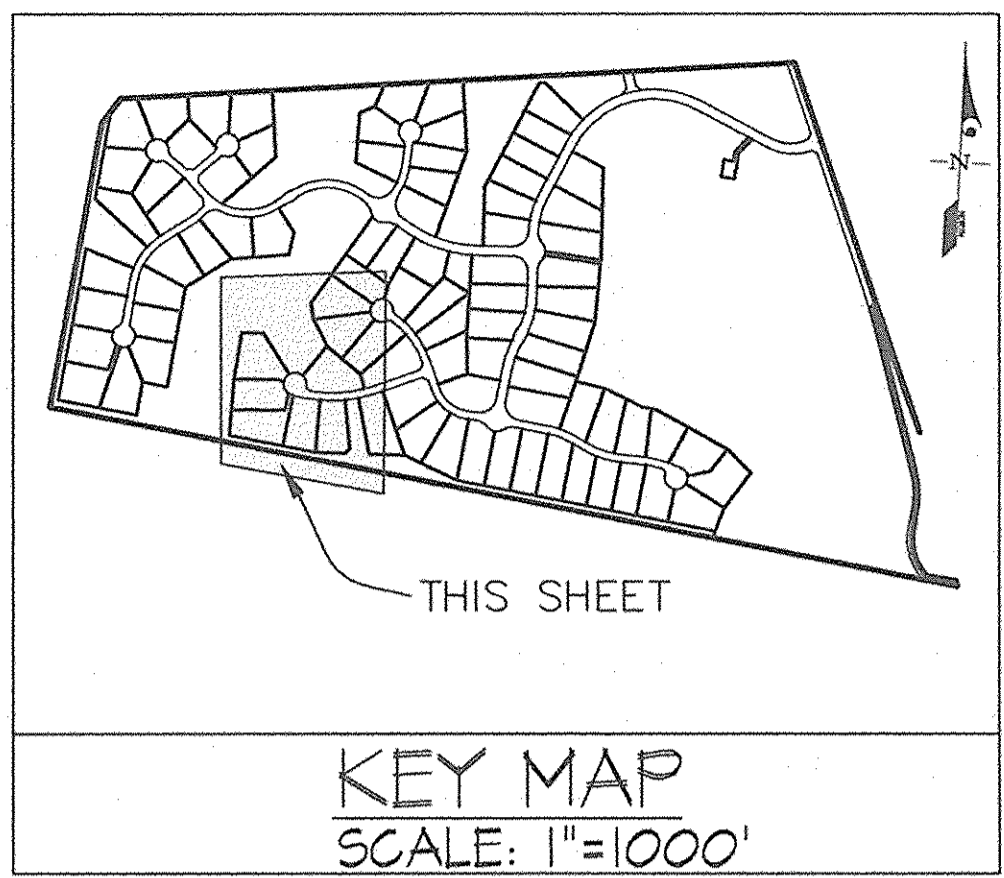
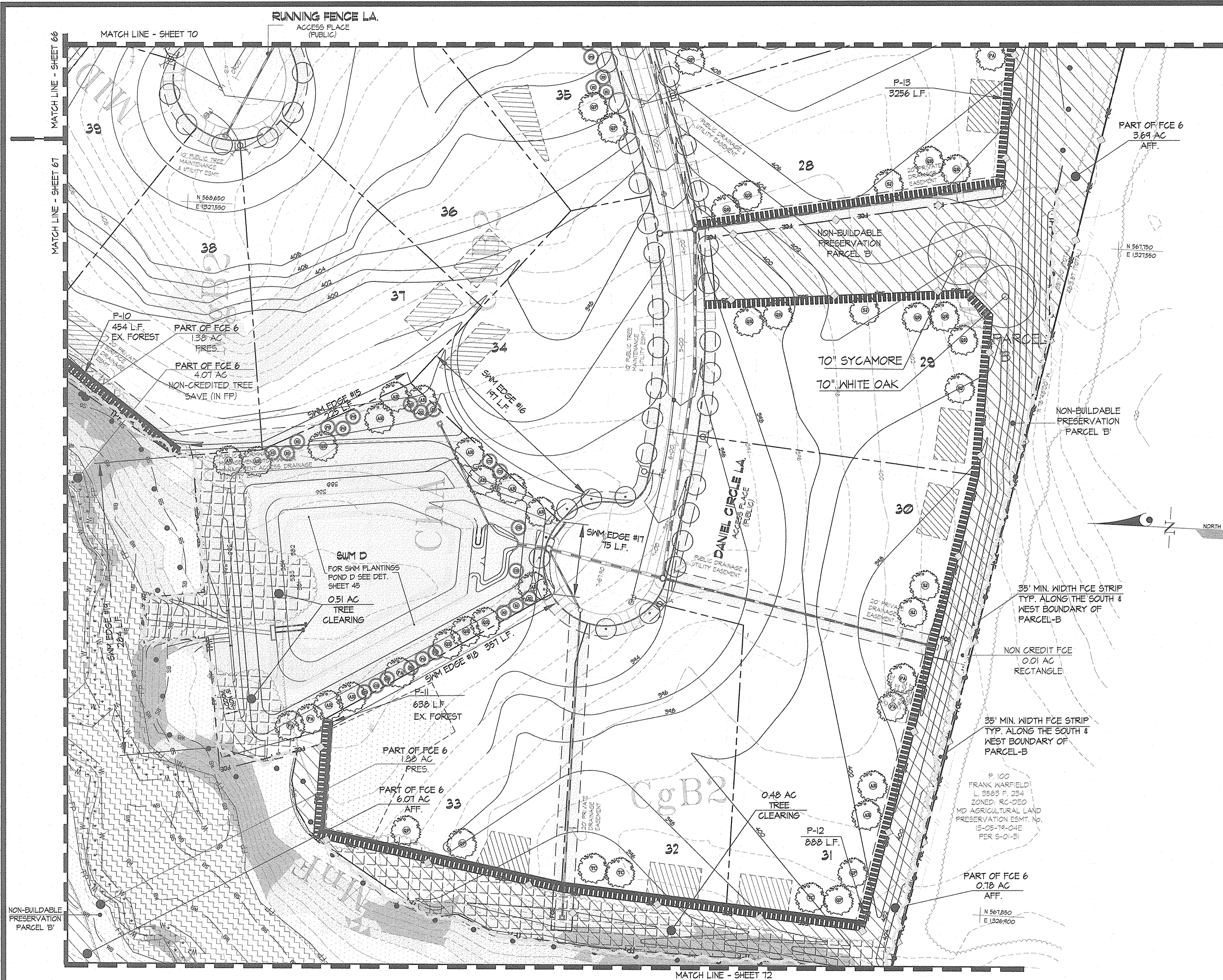
| DATE | REVISION | BY | APP'R. |
|----------|---|-----|--------|
| 11/15/07 | RUNNING FENCE LANE LOWERED AND STORM DRAIN ADDED AT NEW LOW POINT | DDS | |
| | | | |

PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

REVISED LANDSCAPE & FOREST CONSERVATION & STREET TREE PLAN
WALNUT GROVE
 LOTS 1 THRU 28, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L.2927 F487
 HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|-------------------------|-------------------|
| 1" = 50' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| NOV./2007 | PARCEL 74 28 - 18,17 | 70 OF 78 |





APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William T. Mahoney 2/5/07
 Chief, Bureau of Highways 16 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Candy Hansen 2/5/07
 Chief, Division of Land Development 6 Date

[Signature] 2/3/07
 Chief, Development Engineering Division 8 Date

THIS PLAN IS FOR PLANTING PURPOSES ONLY!

STATE OF MARYLAND
 Michael B. Tran
 LANDSCAPE ARCHITECT

GLWGUTSCHICK 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 FAX: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4188

| DATE | REVISION | BY | APP'R. |
|------|----------|----|--------|
| | | | |
| | | | |
| | | | |

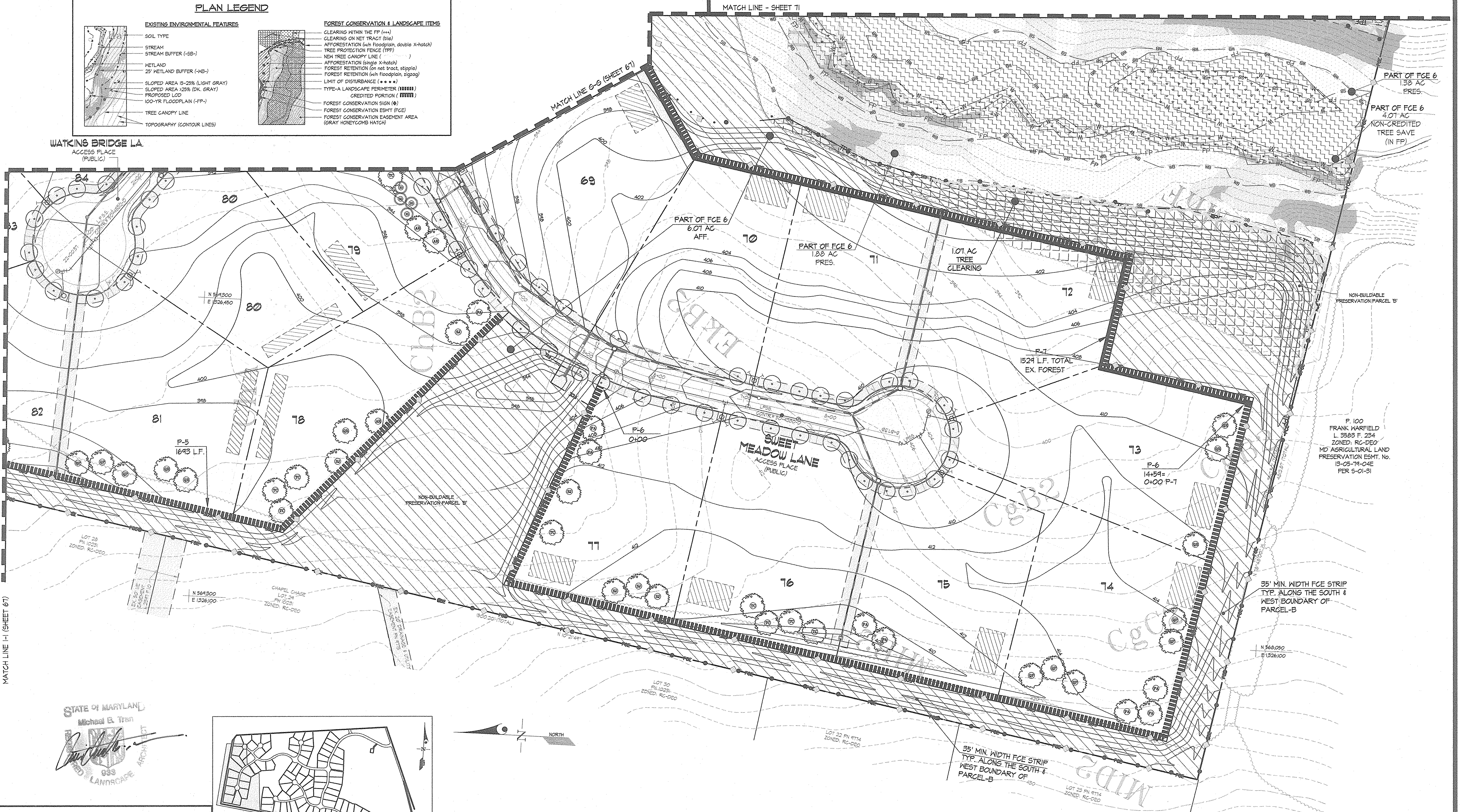
PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

LANDSCAPE & FOREST CONSERVATION & STREET TREE PLAN
WALNUT GROVE
 LOTS 1 THRU 38, BUILDABLE PRESERVATION PARCEL "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
 NON-BUILDABLE BULK PARCEL "J"
 L.2927 R.487

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| 1" = 50' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 71 OF 78 |

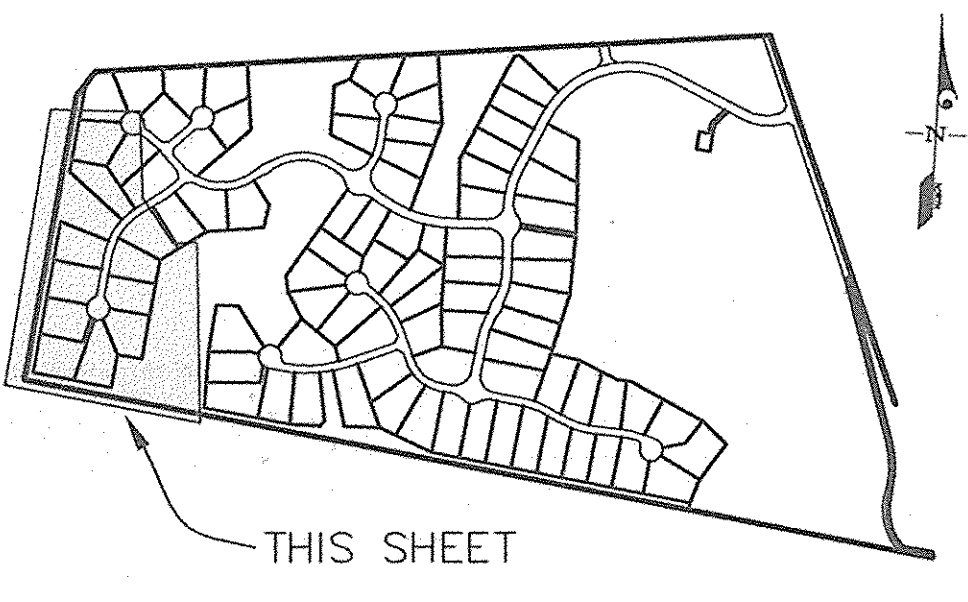
PLAN LEGEND

| EXISTING ENVIRONMENTAL FEATURES | FOREST CONSERVATION & LANDSCAPE ITEMS |
|---------------------------------|--|
| SOIL TYPE | CLEARING WITHIN THE FP (++) |
| STREAM | AFFORESTATION ON NET TRACT (Bla) |
| STREAM BUFFER (-SB-) | AFFORESTATION (w/ floodplain, double X-hatch) |
| KETLAND | TREE PROTECTION FENCE (TPF) |
| 25' KETLAND BUFFER (-KB-) | NEW TREE CANOPY LINE () |
| SLOPED AREA 15-25% (LIGHT GRAY) | AFFORESTATION (single X-hatch) |
| SLOPED AREA 25% (DK. GRAY) | FOREST RETENTION (w/ no track, stipple) |
| PROPOSED LOD | FOREST RETENTION (w/ floodplain, zigzag) |
| 100-YR FLOODPLAIN (-FP-) | LIMIT OF DISTURBANCE (.....) |
| TREE CANOPY LINE | TYPE-A LANDSCAPE PERIMETER () |
| TOPOGRAPHY (CONTOUR LINES) | CREDITED PORTION () |
| | FOREST CONSERVATION SIGN (S) |
| | FOREST CONSERVATION ESMY (FCE) |
| | FOREST CONSERVATION EASEMENT AREA (GRAY HONEYCOMB HATCH) |



STATE OF MARYLAND
 Michael B. Tran
 Chief, Bureau of Highways
 2-5-07
 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Andy Hunter
 Chief, Division of Land Development
 2/5/07
 Date



KEY MAP
 SCALE: 1"=1000'

THIS PLAN IS FOR PLANTING PURPOSES ONLY!

GLWGUTSCHICK 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 BALG: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

| DATE | REVISION | BY | APP'R. |
|------|----------|----|--------|
| | | | |
| | | | |
| | | | |

PREPARED FOR
 OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DIKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 300
 COLUMBIA, MARYLAND 21044

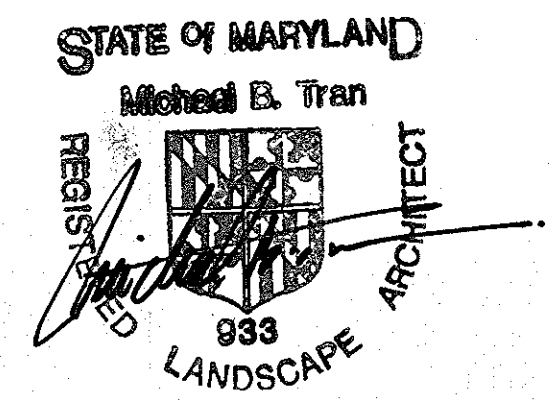
LANDSCAPE & FOREST CONSERVATION & STREET TREE PLAN
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL "A",
 NON-BUILDABLE PRESERVATION PARCELS "B" THRU "I", "K" & "L" AND
 NON-BUILDABLE BULK PARCEL "J"
 L.2927 F.487
 HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| 1" = 50' | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 72 OF 78 |

| PLANT LIST | | | | |
|------------------------|------|--|---|-------|
| SYMBOL | QTY. | NAMES (BOTANICAL / SCIENTIFIC) | SIZE | NOTES |
| SHADE TREES | | | | |
| AR | 109 | Acer rubrum 'October Glory' October Glory Red Maple | 2 1/2"-3" Cal. B&B 12' - 14' height 6' min. branching ht | |
| PA | 55 | Platanus x acerifolia 'Bloodgood' Bloodgood London Plane tree | 2 1/2"-3" Cal. B&B 12' - 14' height 6' min. branching ht | |
| QP | 44 | Quercus phellos Willow Oak | 2 1/2"-3" Cal. B&B 12' - 14' height 6' min. branching ht | |
| QR | 54 | Quercus rubra Red Oak | 2 1/2"-3" Cal. B&B 12' - 14' height 6' min. branching ht | |
| SJ | 34 | Sophora japonica Japanese Pagoda Tree | 2 1/2"-3" Cal. B&B 12' - 14' height 6' min. branching ht | |
| TC | 30 | Tilia cordata 'Greenspire' Greenspire Littleleaf Linden | 2 1/2"-3" Cal. B&B 12' - 14' height 6' min. branching ht | |
| EVERGREEN TREES | | | | |
| CD | 58 | Cedrus deodara Deodar Cedar | 8'-10' height | |
| IO | 67 | Ilex opaca American Holly | 7'-8' height 16 male and 51 female plants (1 male to 3 females) | |
| PS | 76 | Pinus strobus White Pine | 8'-10' height | |

| STREET TREE SCHEDULE | | | | |
|----------------------|------|-------------------------------------|--|-------|
| SYMBOL | QTY. | NAMES (BOTANICAL / SCIENTIFIC) | SIZE | NOTES |
| QP | 185 | Quercus phellos Willow Oak | 2 1/2"-3" Cal. B&B 12' - 14' height 6' min. branching ht | |
| QR | 150 | Northern Red Oak Quercus rubra | 2 1/2"-3" Cal. B&B 12' - 14' height 6' min. branching ht | |
| QC | 163 | Quercus coccinea Scarlet Oak | 2 1/2"-3" Cal. B&B 12' - 14' height 6' min. branching ht | |
| ER | 12 | Eastern Redbud Cercis canadensis | 2 1/2"-3" Cal. B&B 8'-10' height 4' min. branching ht | |

| STREET TREE TABLE | | | | |
|-----------------------|------------------------------|-------------------------------------|--------------------------|--|
| STREET NAME | LINEAR FEET (*BOTH SIDES) | REQUIRED STREET TREES (40' O.C.) | PROPOSED TREES - TYPE | |
| SHEPPARD LANE | 490 | 12 | 12 - ER | |
| PREAKNESS CIRCLE LANE | 5960* | 149 | 150 - QR | |
| RUNNING FENCE LANE | 3850* | 96 | 103 - QC | |
| DANIEL CIRCLE LANE | 1548* | 40 | 33 - QC & 7 - QP | |
| MATKINS BRIDGE LANE | 4402* | 110 | 110 - QP | |
| HOLLY CREEK LANE | 1025* | 26 | 27 - QC | |
| MOUNTAIN LANE | 647* | 16 | 20 - QP | |
| SWEET MEADOW LANE | 1902* | 48 | 48 - QP | |
| TOTALS | 19874 | 447 TREES | 510 TREES | |



DEVELOPER'S/BUILDER'S 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 HOWARD COUNTY LANDSCAPE MANUAL. 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.

William B. ... 1/8/07
NAME DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William J. ... 2-5-07
Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy ... 2/5/07
Chief, Division of Land Development Date

GLWGUTSCHICK 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. 410-680-1820 DC/VA 301-989-2524 FAX: 301-421-4186

STORM WATER MANAGEMENT AREA LANDSCAPING - SCHEDULE D

| SWM POND | SWM EDGE # | PROPOSED LAND USE | ADJACENT LAND USE | LINEAR FEET OF PERIMETER | CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) | # OF PLANTS REQUIRED | | | # OF PLANTS PROVIDED | | | CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) |
|---------------|------------|-------------------|-------------------|--------------------------|---|----------------------|-----------------|------------|----------------------|-----------------|------------|---|
| | | | | | | SHADE TREES | EVERGREEN TREES | ORN. TREES | SHADE TREES | EVERGREEN TREES | ORN. TREES | |
| C | 1 | POND | ROADWAY | 117' (B) | NO | 3 | 3 | — | 3 | 3 | — | NO |
| C | 2 | POND | ROADWAY | 85' (B) | NO | 2 | 2 | — | 2 | 2 | — | NO |
| C | 3 | POND | RESIDENTIAL | 74' (B) | NO | 2 | 2 | — | 2 | 2 | — | NO |
| C | 4 | POND | RESIDENTIAL | 61' (B) | NO | 1 | 2 | — | 1 | 2 | — | NO |
| C | 5 | POND | RESIDENTIAL | 89' (B) | NO | 2 | 2 | — | 2 | 2 | — | NO |
| C | 6 | POND | RESIDENTIAL | 70' (B) | NO | 2 | 2 | — | 2 | 2 | — | NO |
| B | 7 | POND | RESIDENTIAL | 395' (B) | NO | 8 | 10 | — | 8 | 10 | — | NO |
| B | 8 | POND | RESIDENTIAL | 508' (B) | NO | 12 | 15 | — | 12 | 15 | — | NO |
| B | 9 | POND | RESIDENTIAL | 162' (B) | NO | 4 | 4 | — | 4 | 4 | — | NO |
| B | 10 | POND | RESIDENTIAL | 490' (B) | NO | 10 | 13 | — | 10 | 13 | — | NO |
| A | 11 | POND | RESIDENTIAL | 278' (B) | NO | 6 | 7 | — | 6 | 7 | — | NO |
| A | 12 | POND | RESIDENTIAL | 438' (B) | YES, 438' | 0 | 0 | — | 0 | 0 | — | YES, 438' |
| A | 13 | POND | ROADWAY | 509' (B) | NO | 10 | 13 | — | 10 | 13 | — | NO |
| A | 14 | POND | RESIDENTIAL | 715' (B) | NO | 15 | 18 | — | 15 | 18 | — | NO |
| D | 15 | POND | RESIDENTIAL | 225' (B) | NO | 5 | 6 | — | 5 | 6 | — | NO |
| D | 16 | POND | RESIDENTIAL | 197' (B) | NO | 4 | 5 | — | 4 | 5 | — | NO |
| D | 17 | POND | ROADWAY | 75' (B) | NO | 2 | 2 | — | 2 | 2 | — | NO |
| D | 18 | POND | RESIDENTIAL | 357' (B) | NO | 8 | 9 | — | 8 | 9 | — | NO |
| D | 19 | POND | RESIDENTIAL | 284' (B) | YES, 284' | 0 | 0 | — | 0 | 0 | — | YES, 284' |
| E | 20 | POND | RESIDENTIAL | 175' (B) | NO | 4 | 5 | — | 4 | 5 | — | NO |
| E | 21 | POND | RESIDENTIAL | 316' (B) | NO | 7 | 8 | — | 7 | 8 | — | NO |
| E | 22 | POND | RESIDENTIAL | 328' (B) | NO | 7 | 9 | — | 7 | 9 | — | NO |
| E | 23 | POND | RESIDENTIAL | 258' (B) | NO | 6 | 7 | — | 6 | 7 | — | NO |
| TOTALS | | | | | | 120 | 144 | — | 120 | 144 | — | |

SCHEDULE 'D' REQUIRED SURETY: 120 SHADE TREES @ \$300/TREE = \$36,000.00
144 EVG. TREES @ \$150/TREE = \$21,600.00
TOTAL SURETY FOR SCHEDULE 'D' = \$57,600.00

| SCHEDULE A | LOT 9 | LOT 21 | LOT 35 | LOT 41 | LOT 51 | LOT 52 | LOT 59 | LOT 67 | LOT 74 | LOT 84 | LOT 88 |
|--|---|---|---|---|---|---|---|---|---|---|---|
| PERIMETER LANDSCAPE PERIMETER CATEGORY | BUFFER REAR/SIDE OF HOUSES FROM ROADWAY | BUFFER REAR/SIDE OF HOUSES FROM ROADWAY | BUFFER REAR/SIDE OF HOUSES FROM ROADWAY | BUFFER REAR/SIDE OF HOUSES FROM ROADWAY | BUFFER REAR/SIDE OF HOUSES FROM ROADWAY | BUFFER REAR/SIDE OF HOUSES FROM ROADWAY | BUFFER REAR/SIDE OF HOUSES FROM ROADWAY | BUFFER REAR/SIDE OF HOUSES FROM ROADWAY | BUFFER REAR/SIDE OF HOUSES FROM ROADWAY | BUFFER REAR/SIDE OF HOUSES FROM ROADWAY | BUFFER REAR/SIDE OF HOUSES FROM ROADWAY |
| LANDSCAPE BUFFER TYPE | B | B | B | B | B | B | B | B | B | B | B |
| LINEAR FEET OF ROADWAY/ PERIMETER FRONTAGE | 214' | 220' | 301' | 154' | 214' | 186' | 218' | 64' | 275' | 180' | 168' |
| CREDIT FOR EX. VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED) | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED) | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| NUMBER OF PLANTS REQUIRED | 5 | 5 | 6 | 3 | 4 | 4 | 5 | 1 | 6 | 4 | 4 |
| SHADE TREES | 6 | 6 | 8 | 3 | 5 | 5 | 6 | 2 | 7 | 5 | 4 |
| EVERGREEN TREES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SHRUBS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NUMBER OF PLANTS PROVIDED | 5 | 5 | 6 | 3 | 4 | 4 | 5 | 1 | 6 | 4 | 4 |
| SHADE TREES | 6 | 6 | 8 | 3 | 5 | 5 | 6 | 2 | 7 | 5 | 4 |
| EVERGREEN TREES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER TREES (21 SUBST.) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SHRUBS (10:1 SUBST.) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| SCHEDULE A-CONT. | P-1 | P-2 | P-3 | P-4 | P-5 | P-6 | P-7 | P-8 | P-9 | P-10 | P-11 | P-12 | P-13 | P-14 | TOTALS |
|---|-----------------------|-----------------------|------------------------------|-----------------------|-----------------------|-----------------------|-------------------------------|-----------------------|-----------------------|------------------------------|------------------------------|-----------------------|-----------------------|-----------------------|--|
| PERIMETER LANDSCAPE PERIMETER CATEGORY | PERIMETER PROPERTIES* | PERIMETER PROPERTIES* | PERIMETER PROPERTIES* | PERIMETER PROPERTIES* | PERIMETER PROPERTIES* | PERIMETER PROPERTIES* | PERIMETER PROPERTIES* | PERIMETER PROPERTIES* | PERIMETER PROPERTIES* | PERIMETER PROPERTIES* | PERIMETER PROPERTIES* | PERIMETER PROPERTIES* | PERIMETER PROPERTIES* | PERIMETER PROPERTIES* | |
| LANDSCAPE BUFFER TYPE | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 1280' |
| LINEAR FT. OF PERIMETER FRONTAGE | 302' | 407' | 464' | 297' | 168' | 1494' | 1524' | 148' | 87' | 454' | 638' | 888' | 3,256' | 1,034' | 12,801' |
| CREDIT FOR EX. VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED) | NO | NO | YES 464 LF. OF EX. FOREST | NO | NO | NO | YES 1524 LF. OF EX. FOREST | NO | NO | YES 454 LF. OF EX. FOREST | YES 638 LF. OF EX. FOREST | NO | NO | NO | 3,085 LF. ALONG PORTION OF LOTS 91-10 & 63-75 ABUTTING HOODED FLOODPLAIN |
| CREDIT FOR WALL, FENCE OR BERM | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO | NONE |
| NUMBER OF PLANTS REQUIRED | 5 | 7 | 0 | 4 | 28 | 24 | 0 | 3 | 2 | 0 | 0 | 15 | 54 | 17 | (FOR 436 LF.) 154 SHADE TREES |
| SHADE TREES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| EVERGREEN TREES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| NUMBER OF PLANTS PROVIDED | 6 | 7 | 0 | 5 | 31 | 24 | 0 | 3 | 2 | 0 | 0 | 5 | 15 | 54 | 164 |
| SHADE TREES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EVERGREEN TREES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

SCHEDULE 'A' NUMBER OF SHADE TREES FOR BONDING: 206 X \$500 = \$103,000
SCHEDULE 'A' NUMBER OF EVERGREEN TREES FOR BONDING: 57 X \$150 = \$8,550
TOTAL ESTIMATE FOR BONDING (SCHEDULE 'A'): \$111,550

* ALONG THE PERIMETER OF THE CLUSTER SUBDIVISION (IDENTIFIED AS THE "TYPE-A" LANDSCAPE PERIMETER" IN THE LEGEND).

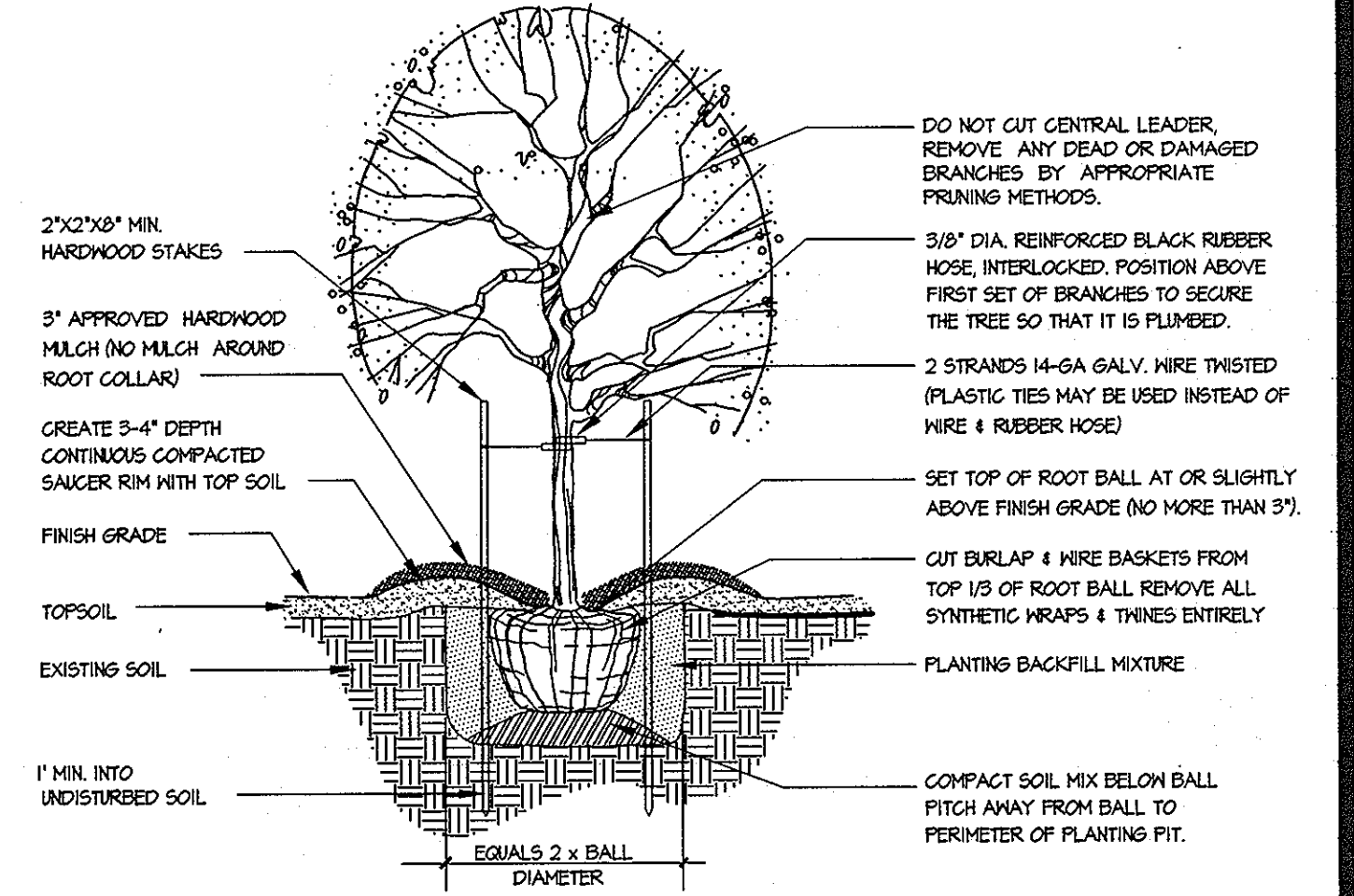
THE LANDSCAPE SURETY WILL BE INCLUDED IN THE DEVELOPER'S AGREEMENT

PREPARED FOR OWNER
WALNUT GROVE HOLDING, L.L.C.
WALNUT GROVE DEVELOPMENT, INC.
ROBERT VAN DYKE, PRESIDENT
10705 CHARTER DRIVE
SUITE 320
COLUMBIA, MARYLAND 21044

ELECTION DISTRICT No. 5

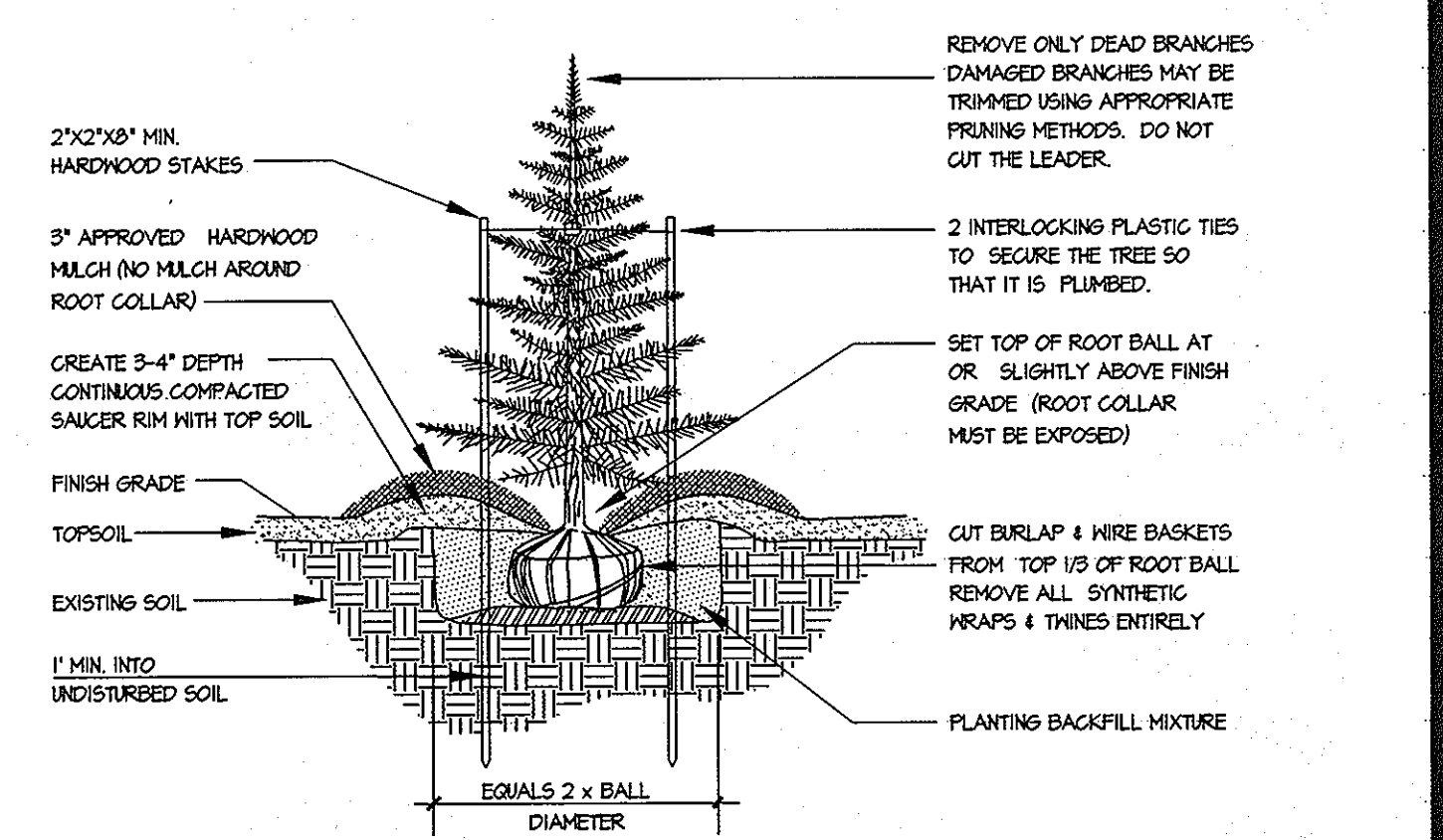
LANDSCAPE NOTES & DETAILS
WALNUT GROVE
LOTS 1 THRU 88, BUIDABLE PRESERVATION PARCEL 'A',
NON-BUIDABLE PRESERVATION PARCELS 'B' THRU 'T', 'K' & 'L' AND
NON-BUIDABLE BULK PARCEL 'J'
L2927 F487
HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|----------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | 28 - 18,17 | 73 OF 78 |



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

DECIDUOUS TREE PLANTING DETAIL
FOR PLANTING MATERIAL UP TO 3 1/2" CALIPER



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

EVERGREEN TREE PLANTING DETAIL

LANDSCAPING NOTES:

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE OF THE HOWARD COUNTY LANDSCAPE MANUAL. PLANT MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL.
- CONTRACTOR SHALL NOTIFY ALL UTILITIES AT LEAST (5) FIVE DAYS BEFORE STARTING WORK. ALL GENERAL NOTES, ESPECIALLY THOSE REGARDING UTILITIES, ON SHEET 1 SHALL APPLY.
- FIELD VERIFY UNDERGROUND UTILITY LOCATIONS AND EXISTING CONDITIONS BEFORE STARTING PLANTING WORK. CONTACT ENGINEER / LANDSCAPE ARCHITECT IF ANY RELOCATIONS ARE REQUIRED.
- PLANT QUANTITIES SHOWN ON PLANT LIST ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IF DISCREPANCIES EXIST BETWEEN QUANTITIES SHOWN ON THE PLAN AND THOSE SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN SHALL TAKE PRECEDENCE.
- ALL PLANT MATERIAL SHALL BE FULL, HEAVY, WELL FORMED, AND SYMMETRICAL, AND CONFORM TO THE A.A.N. SPECIFICATIONS, AND BE INSTALLED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
- NO SUBSTITUTION SHALL BE MADE WITHOUT WRITTEN CONSENT OF THE OWNER OR HIS REPRESENTATIVE AND DPZ.
- ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES BUT NOT OTHERWISE PLANTED, PAVED, OR MULCHED SHALL BE SEEDED OR SOCCED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING IF HE/SHE ENCOUNTERS SOIL DRAINAGE CONDITIONS WHICH MAY BE DETRIMENTAL TO THE GROWTH OF THE PLANTS.
- ALL EXPOSED EARTH WITHIN LIMITS OF PLANTING BEDS SHALL BE MULCHED WITH SHREDDED HARDWOOD MULCH PER PLANTING DETAILS.
- THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERS, 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 AND REPLACED.
- "SCHEDULE A - PERIMETER LANDSCAPE EDGE AND "SCHEDULE D - STORMWATER MANAGEMENT AREA LANDSCAPING" ARE PROVIDED FOR LANDSCAPE SURETY CALCULATION PURPOSES ONLY. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED WITH THE DPZ DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$121,850 FOR:
326 SHADE TREES @ \$500/TREE = \$163,000
201 EVG. TREES @ \$150/TREE = \$30,850
- NO LANDSCAPING WILL BE ALLOWED WITHIN STORM-DRAIN EASEMENTS.
- 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. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS 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 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.

FOREST CONSERVATION WORKSHEET

1. SITE DATA

GROSS SITE AREA
AREA WITHIN 100-YEAR FLOOD PLAIN
NET TRACT AREA*
LAND USE CATEGORY

202.44± AC
8.76± AC
193.66± AC
RESIDENTIAL-RURAL
MEDIUM DENSITY

2. INFORMATION FOR CALCULATIONS

A. NET TRACT AREA
B. REFORESTATION THRESHOLD (25% x A)
C. AFFORESTATION THRESHOLD (20% x A)
D. EXISTING FOREST ON NET TRACT AREA
E. FOREST AREAS ON NET TRACT TO BE CLEARED
F. FOREST AREAS ON NET TRACT TO BE RETAINED

193.66± AC
48.42±
38.73±
7.26±
2.61±
4.58±

3. AFFORESTATION CALCULATIONS

A. NET TRACT AREA
B. AFFORESTATION THRESHOLD (20% x A)
C. EXISTING FOREST ON NET TRACT AREA
D. FOREST AREAS ON NET TRACT TO BE CLEARED
E. FOREST AREAS ON NET TRACT TO BE RETAINED

193.66± AC
38.73±
7.26±
2.61±
4.65±

4. REQUIRED FOREST CONSERVATION

A. AFFORESTATION UP TO THRESHOLD (3B-3C)
B. REFORESTATION FOR CLEARING BELOW THRESHOLD (3D x 2)
C. TOTAL CONSERVATION PLANTING AREA REQUIRED (4A + 4B)
D. TOTAL FOREST CONSERVATION EASEMENT AREA REQUIRED (3E + 4C)

31.47± AC
5.22±
36.69±
41.34±

5. PROPOSED METHODS OF FULFILLING FOREST CONSERVATION OBLIGATIONS

RETENTION OF EXISTING FOREST ON NET TRACT
ON-SITE FOREST PLANTING

4.65± AC
36.69± AC

TOTAL MINIMUM AREA OF FOREST CONSERVATION EASEMENT TO BE RECORDED

41.34± AC

* NOTE: ALL PRESERVATION PARCELS ARE INCLUDED IN THE NET TRACT AREA FOR CALCULATION PURPOSES SINCE THERE IS A CHANGE-IN-USE (SHARED SEPTIC SYSTEM, SWM AND UTILITIES) ON ALL PARCELS. THIS SUBDIVISION IS COMPLYING WITH "RURAL CLUSTER OPTION B" OF APPENDIX L OF THE FOREST CONSERVATION MANUAL.

FOREST CONSERVATION SURETY

FOREST RETENTION AT \$0.20/SF X (4.65 AC X 43,560 SF/AC) = \$40,510.00
RE/AFFORESTATION AT \$0.50/SF X (36.69 AC X 43,560 SF/AC) = \$799,108.20
TOTAL FOREST CONSERVATION SURETY = \$839,618.20

FOREST CONSERVATION PROGRAM SEQUENCE
(TO BE PERFORMED AT FINAL PLAN STAGE)

- OBTAIN ALL NECESSARY PERMITS.
- STAKEOUT LIMITS OF DISTURBANCE.
- FIELD MEETING TO REVIEW AND VERIFY LIMIT OF DISTURBANCE FOR THE SITE GRADING AND CONSTRUCTION.
- INSTALL FOREST CONSERVATION SIGNS AND FOREST PROTECTION DEVICES (FENCES) ALONG THE PORTION OF THE LIMIT OF DISTURBANCE (THAT INVOLVES CLEARING AND/OR RETENTION OF TREES).
- COMMENCE SITE CONSTRUCTION.
- INSTALL FOREST PLANTING AND THE REMAINDER OF THE CONSERVATION SIGNS ALONG THE EDGE OF THE CONSERVATION EASEMENT. MOVE CONSERVATION SIGNS INSTALLED IN #4 (ABOVE) TO THE EDGE OF THE CONSERVATION EASEMENT.
- INSPECTION AND CERTIFICATION FOR THE RELEASE OF THE CONSTRUCTION PERIOD OBLIGATIONS; START OF POST-CONSTRUCTION MANAGEMENT PERIOD.
- POST-CONSTRUCTION MANAGEMENT FOR A PERIOD OF 2 YEARS (MIN.).
- FINAL INSPECTION AND CERTIFICATION FOR THE RELEASE OF THE OWNER'S FOREST CONSERVATION SURETY.

| FOREST CONSERVATION EASEMENT AREA TABULATION | | | | | | | | | | |
|---|------|------|------|------|------|-------|------|-------|------|-------|
| FOREST CONSERVATION EASEMENT (FCE) AREA | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | TOTAL |
| PARCEL WHERE FCE IS LOCATED | A | D | D | D | C | B | A | A | A | |
| CREDITED FOREST RETENTION AREA ON NET TRACT (IN AC.) | N/A | N/A | N/A | N/A | 0.27 | 4.38 | N/A | N/A | N/A | 4.85 |
| NON-CREDITED FOREST RETENTION AREA IN FLOODPLAIN (IN AC.) | N/A | N/A | N/A | N/A | 0.86 | 4.07 | N/A | N/A | N/A | 4.93 |
| FOREST PLANTING AREA (IN AC.) | 0.24 | 0.35 | 0.73 | 1.22 | 0.63 | 11.20 | 0.79 | 17.68 | 0.61 | 33.45 |
| FOREST PLANTING AREA WITHIN THE FLOODPLAIN (IN AC.) | N/A | N/A | N/A | N/A | 0.76 | 0.15 | N/A | 2.82 | N/A | 3.73 |
| NATURAL REGENERATION AREA (IN AC.) | N/A | N/A | N/A | N/A | N/A | 0.04 | N/A | 0.01 | N/A | 0.05 |
| MINIMUM TOTAL AREA IN CONSERVATION EASEMENT (IN AC.) | 0.24 | 0.35 | 0.73 | 1.22 | 2.52 | 19.84 | 0.79 | 20.51 | 0.61 | 46.81 |

| FOREST CONSERVATION PLANTING QUANTITY SCHEDULE | | | | | | | | | | |
|---|------|------|------|------|------|-------|------|-------|------|-------|
| FOREST CONSERVATION LOCATION | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | TOTAL |
| FOREST PLANTING AREA (IN AC.) | 0.24 | 0.35 | .73 | 1.22 | 0.63 | 11.20 | 0.79 | 17.68 | 0.61 | 33.45 |
| FOREST PLANTING AREA WITHIN THE FLOODPLAIN (IN AC.) | N/A | N/A | N/A | N/A | 0.76 | 0.15 | N/A | 2.82 | N/A | 3.73 |
| TOTAL ACRAGE OF AFFORESTATION PROVIDED (IN AC.) | 0.24 | 0.35 | 0.73 | 1.22 | 1.39 | 11.35 | 0.79 | 20.50 | 0.61 | 37.18 |
| BASE QUANTITY OF WHIP TREES REQUIRED (AT 350 TREES/AC.) | 84 | 123 | 256 | 427 | 487 | 3973 | 277 | 7175 | 214 | 13016 |
| REQUIRED QUANTITY OF WHIP TREES TO BE PLANTED | 84 | 123 | 256 | 427 | 487 | 3973 | 277 | 7175 | 214 | 13016 |

NOTE: THE QUANTITY SHOWN ABOVE IS FOR PLANTING WITH WHIP TREES AT 11' X 11' SPACING.

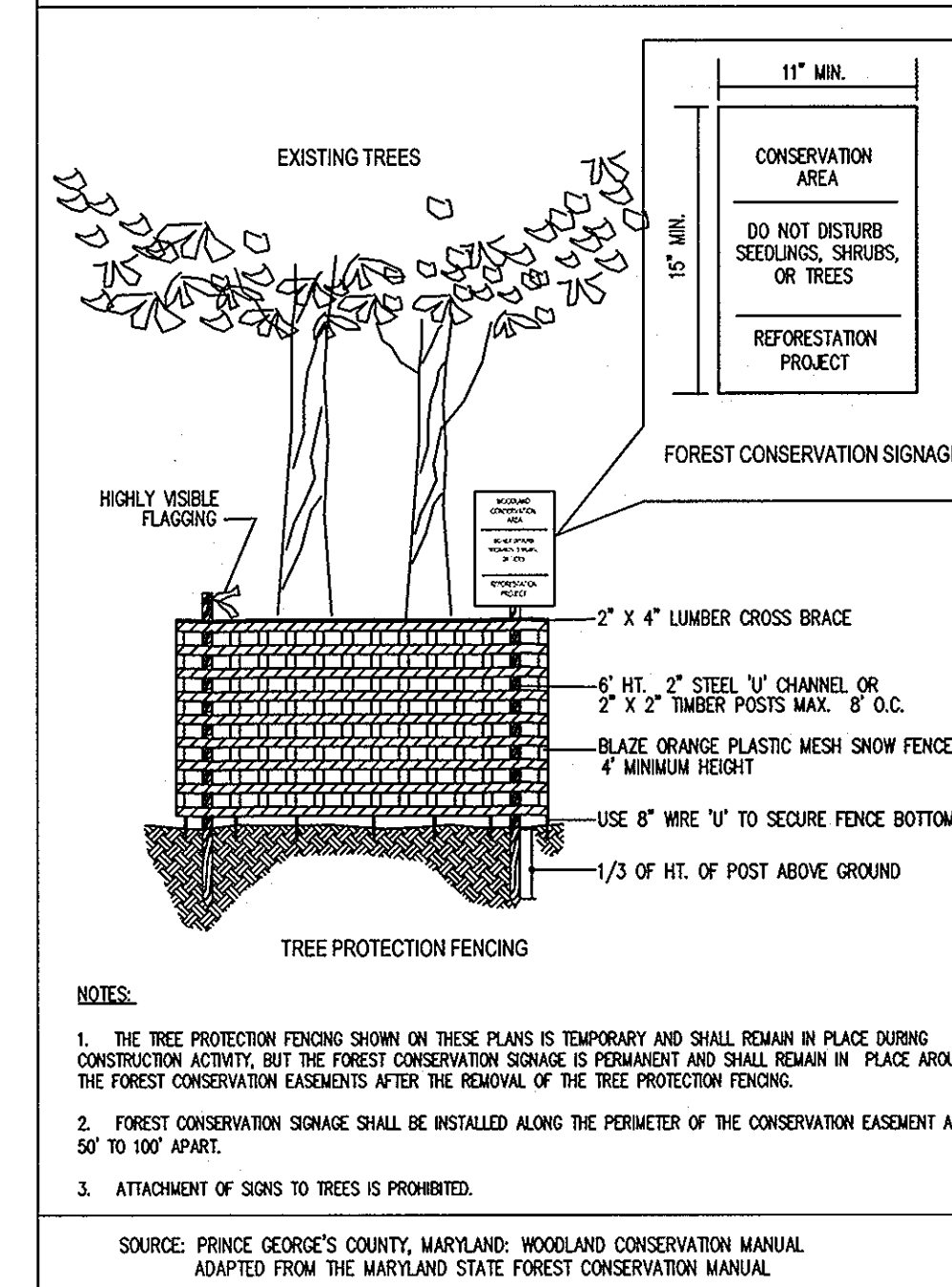
| PLANT NAME (BOTANICAL/COMMON) | FOREST CONSERVATION EASEMENT AREA | | | | | | | | | TOTAL |
|--|-----------------------------------|-----|-----|-----|-----|------|-----|------|-----|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| ACER RUBRUM/RED MAPLE (WHIP) | 16 | 25 | 51 | 85 | 98 | 794 | 56 | 1435 | 42 | 2602 |
| LIQUIDAMBAR STYRACIFLUA/SWEETGUM (WHIP) | 17 | 25 | 51 | 85 | 98 | 794 | 56 | 1435 | 43 | 2604 |
| LIRIODENDRON TULIPFERA/TULIP TREE (WHIP) | 17 | 25 | 51 | 86 | 97 | 795 | 55 | 1435 | 43 | 2604 |
| QUERCUS PALUSTRIS/PIN OAK (WHIP) | 17 | 24 | 51 | 86 | 97 | 795 | 55 | 1435 | 43 | 2603 |
| QUERCUS RUBRUM/RED OAK (WHIP) | 17 | 24 | 52 | 85 | 97 | 795 | 55 | 1435 | 43 | 2603 |
| TOTAL | 84 | 123 | 256 | 427 | 487 | 3973 | 277 | 7175 | 214 | 13016 |



GENERAL NOTES

- THIS REFORESTATION PLAN IS PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF SUBTITLE 12 "FOREST CONSERVATION" OF THE HOWARD COUNTY CODE.
- IMPLEMENTATION OF THIS PLAN MUST BE PERFORMED BY A CONTRACTOR THAT IS KNOWLEDGEABLE AND EXPERIENCED IN AFFORESTATION/REFORESTATION TECHNIQUES AND PRACTICES.
- AT FINAL PLAN STAGE, 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 AREA. 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.
- 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.
- THE DEVELOPER/BUILDER SHALL (IN WRITING) NOTIFY ALL LOT OWNERS OF THIS DEVELOPMENT OF THE EXISTENCE OF FOREST CONSERVATION AREAS AND THAT DISTURBANCE TO THE FOREST CONSERVATION AREAS OR THE REMOVAL OF FOREST CONSERVATION SIGNAGE IS PROHIBITED.
- THE PROPOSED FOREST CONSERVATION EASEMENTS (FCE) SHOWN ON THESE PLANS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE, FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FCE; HOWEVER, THE INITIAL GRADING TO DEVELOP THE SITES (AT SUBSEQUENT PLAN STAGES) AND FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED. TO FULFILL THE FOREST CONSERVATION OBLIGATION FOR THE DEVELOPMENT OF THIS SITE, AT LEAST 41.34± ACRES OF FOREST CONSERVATION EASEMENTS WHICH COMPRISES OF 4.65± AC. OF NET TRACT RETENTION AND 36.69± AC. OF REQUIRED SUPPLEMENTAL PLANTING (AFFORESTATION/REFORESTATION) MUST BE RECORDED AT FINAL PLAN STAGE. (31.47 AC. AFFORESTATION AND 5.22 AC. REFORESTATION)
- 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. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS 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 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.
- 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.
- REFORESTATION/AFFORESTATION TREE PLANTINGS SHOULD BE INSTALLED IN A CURVILINEAR PATTERN TO FACILITATE MAINTENANCE BUT AVOID A GRID APPEARANCE. EACH SPECIES OF TREE SHALL BE DISTRIBUTED EVENLY WITHIN EACH FOREST CONSERVATION EASEMENT AREA.

TREE PROTECTION FENCE & FOREST CONSERVATION SIGNAGE
NOT TO SCALE



TREE PLANTING AND MAINTENANCE CALENDAR

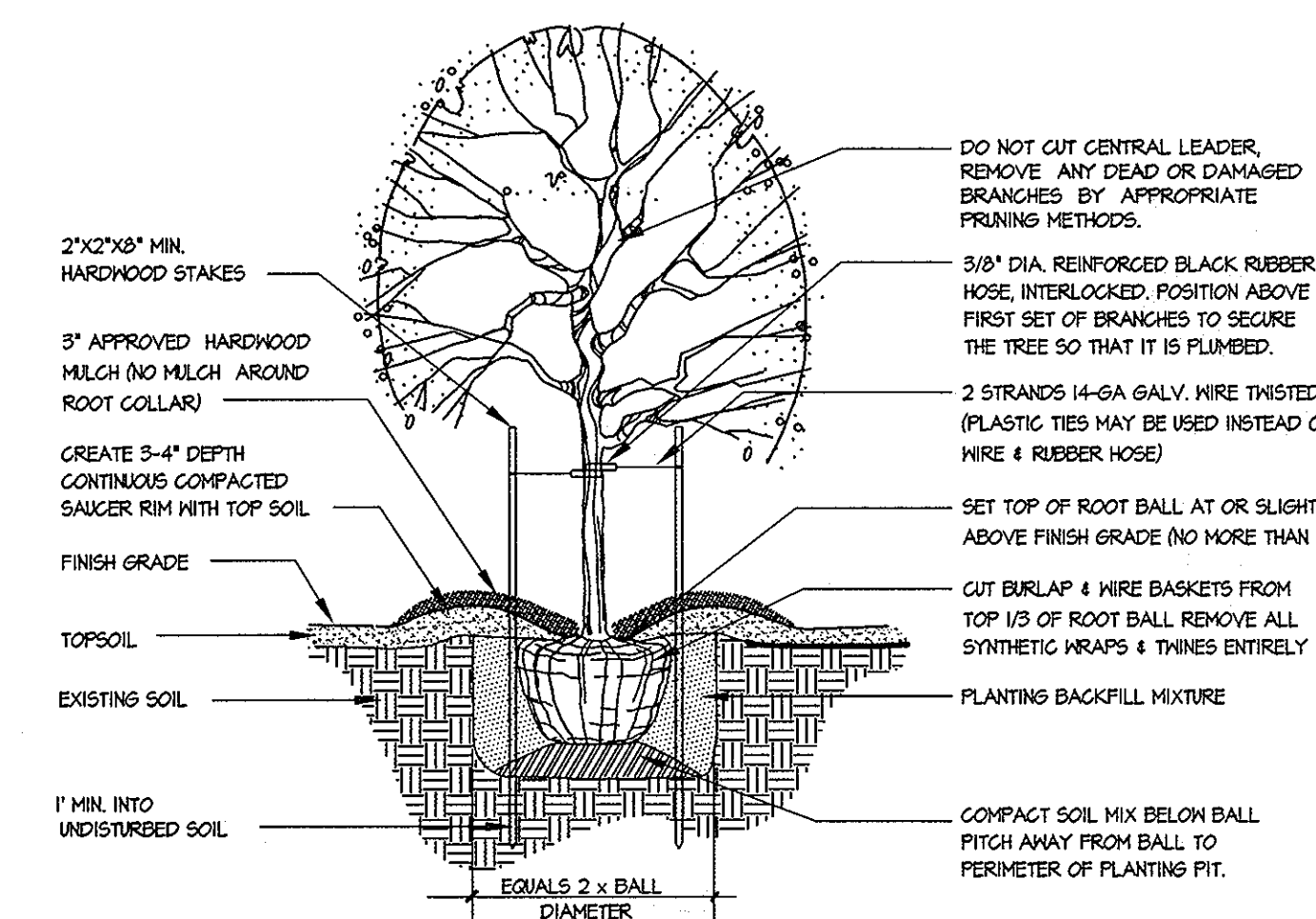
| TASKS | MONTHS | | | | | | | | | | | |
|---------------------------------|--------|-----|-----|-----|-----|------|------|-----|------|-----|-----|-----|
| | JAN | FEB | MAR | APR | MAY | JUNE | JULY | AUG | SEPT | OCT | NOV | DEC |
| TRANSPLANT OF 2" DBH OR GREATER | | | | | | | | | | | | |
| PLANTING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

KEY

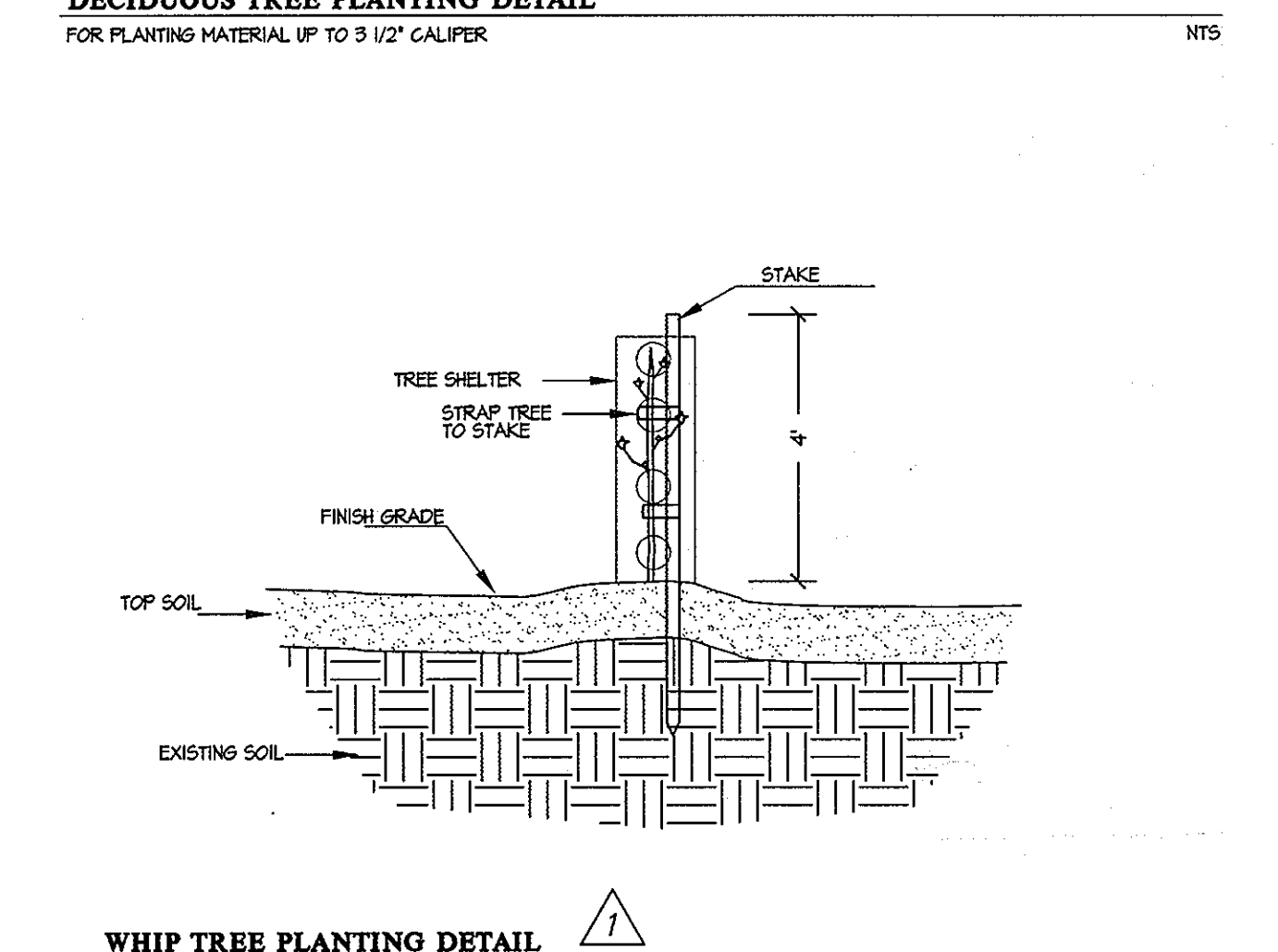
- * ACTIVITIES DURING THESE MONTHS ARE DEPENDENT UPON GROUND CONDITIONS
- GREATLY RECOMMENDED
- ▨ RECOMMENDED WITH ADDITIONAL CARE
- RECOMMENDED
- + DEPENDENT UPON SITE CONDITIONS
- ++ DEPENDENT UPON SITE CONDITIONS. WEEKLY WATERING IS GREATLY RECOMMENDED FROM MAY THROUGH OCTOBER UNLESS WEEKLY RAINFALL 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: ADAPTED FROM THE MARYLAND STATE FOREST CONSERVATION MANUAL



DECIDUOUS TREE PLANTING DETAIL
FOR PLANTING MATERIAL UP TO 3 1/2" CALIPER



WHIP TREE PLANTING DETAIL

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 12-3-07
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 [Signature] 12/3/07
 Chief, Division of Land Development

[Signature] 12/5/07
 Chief, Development Engineering Division

STATE OF MARYLAND
 Michael B. Tran
 ARCHITECT
 11-15-07

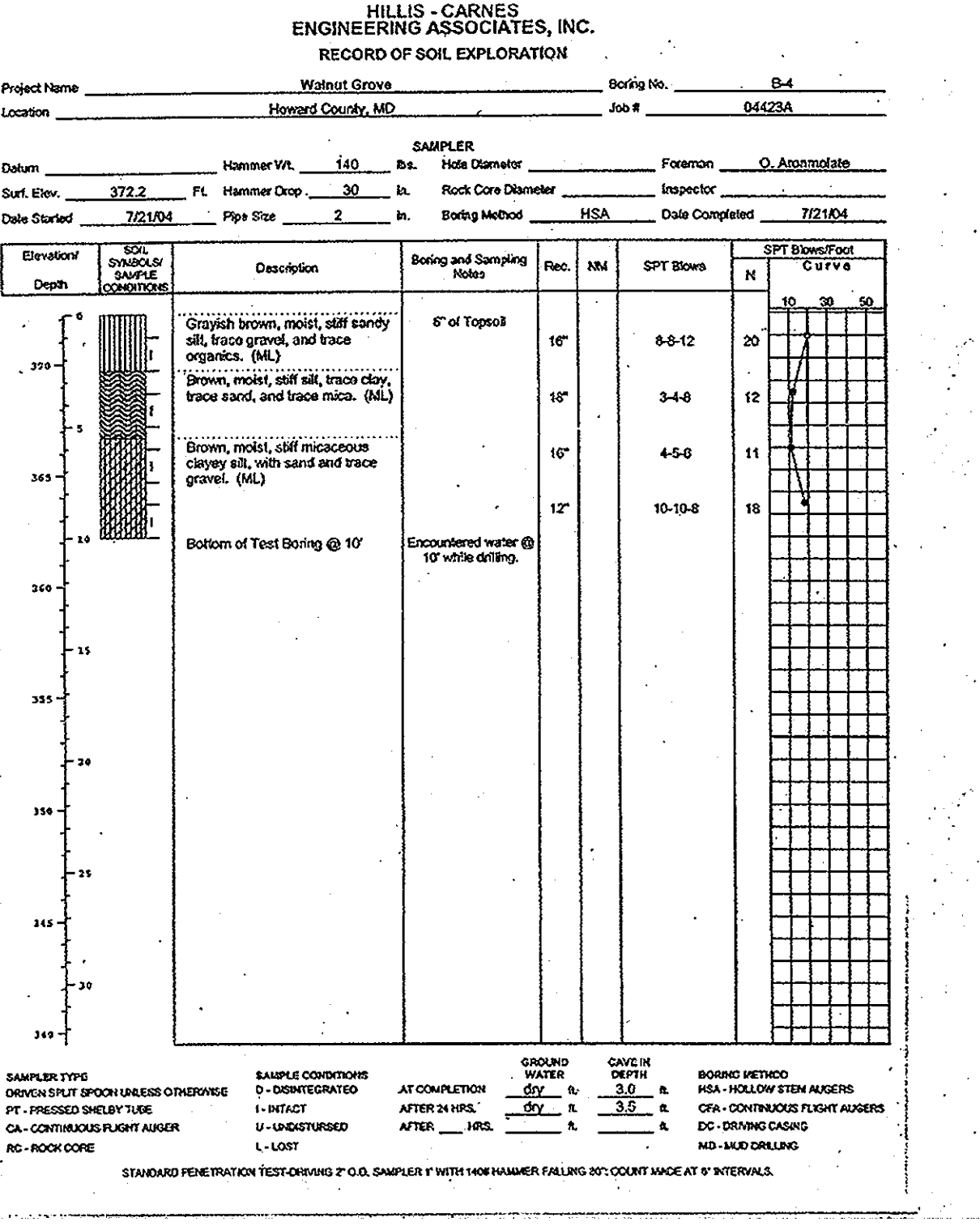
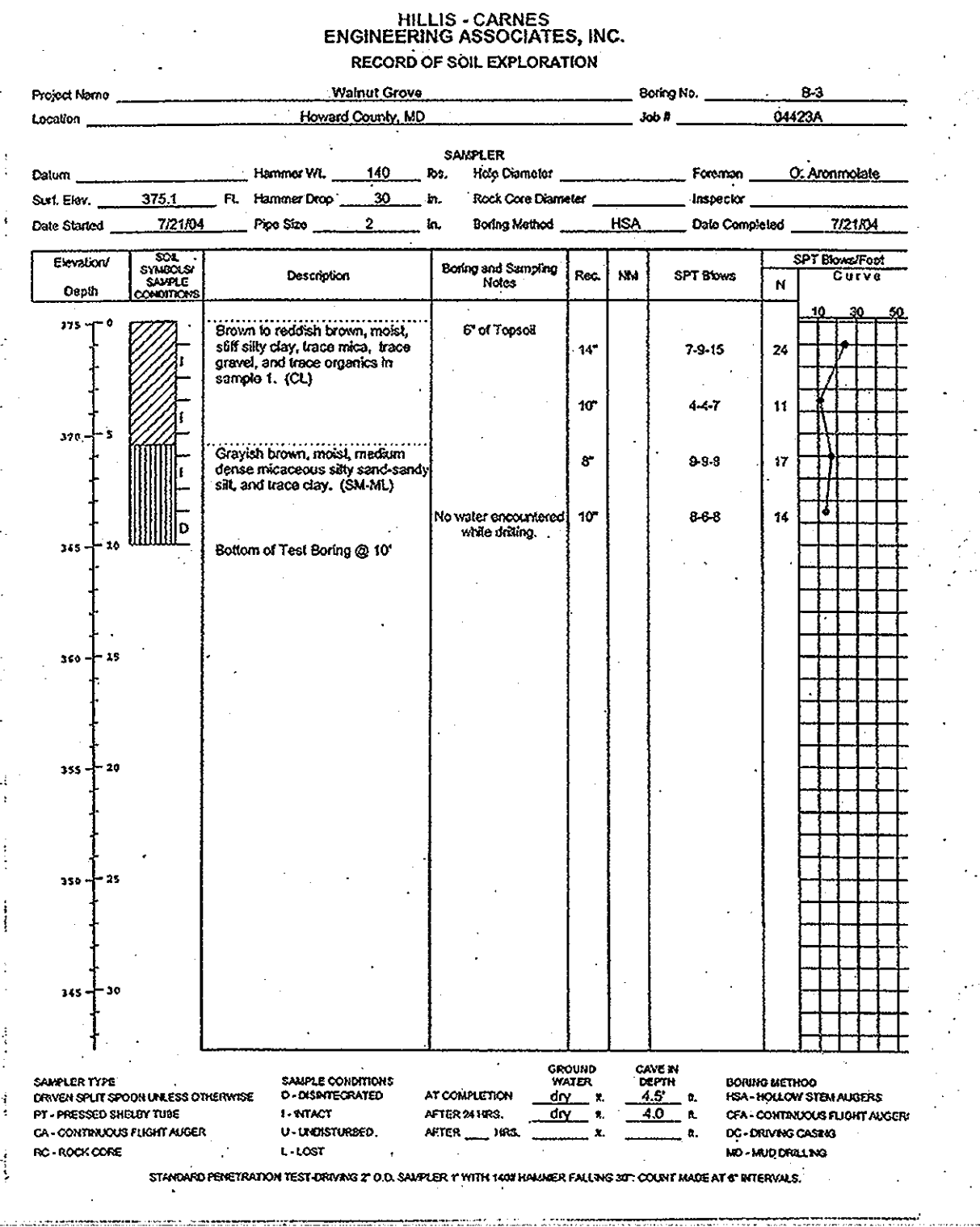
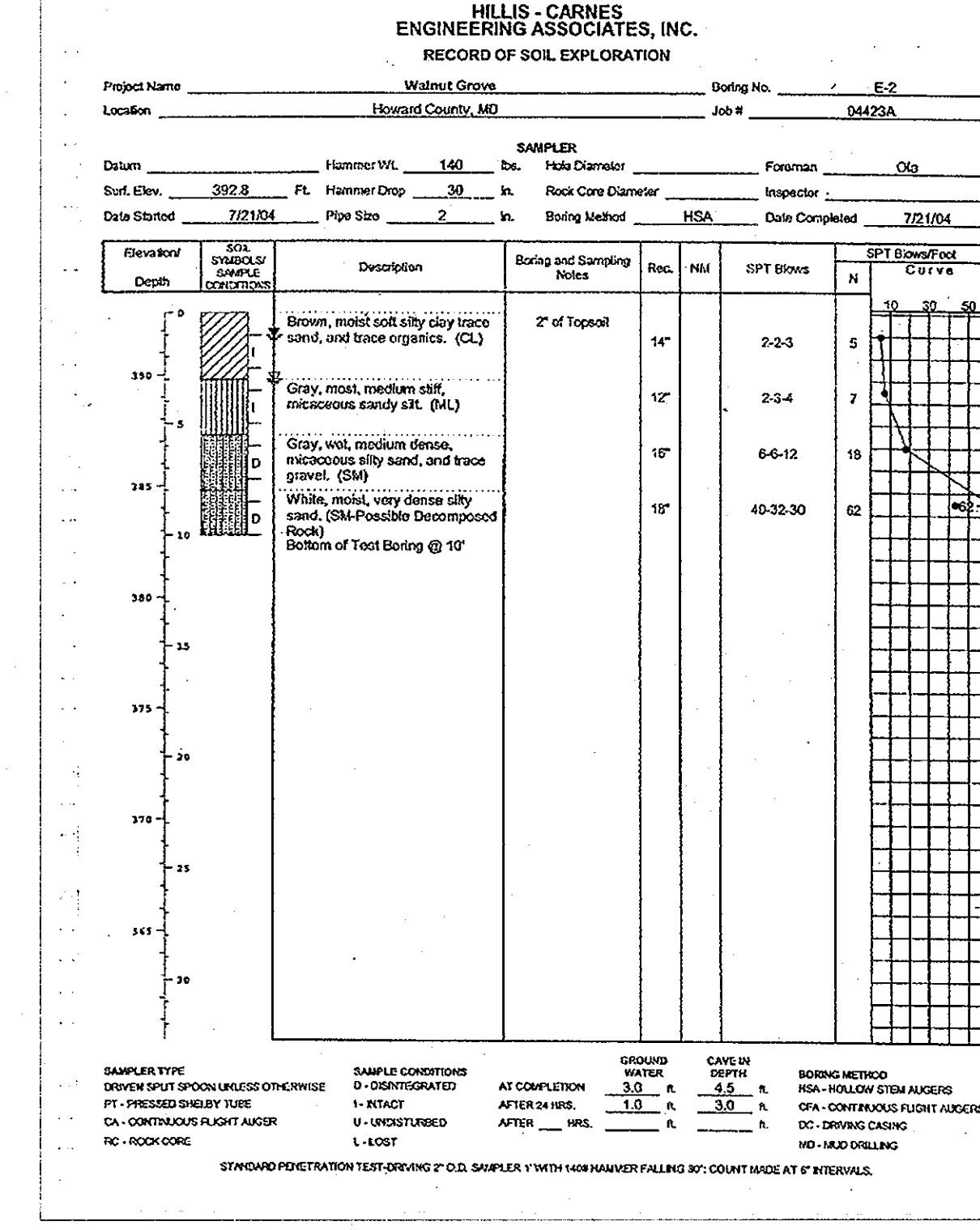
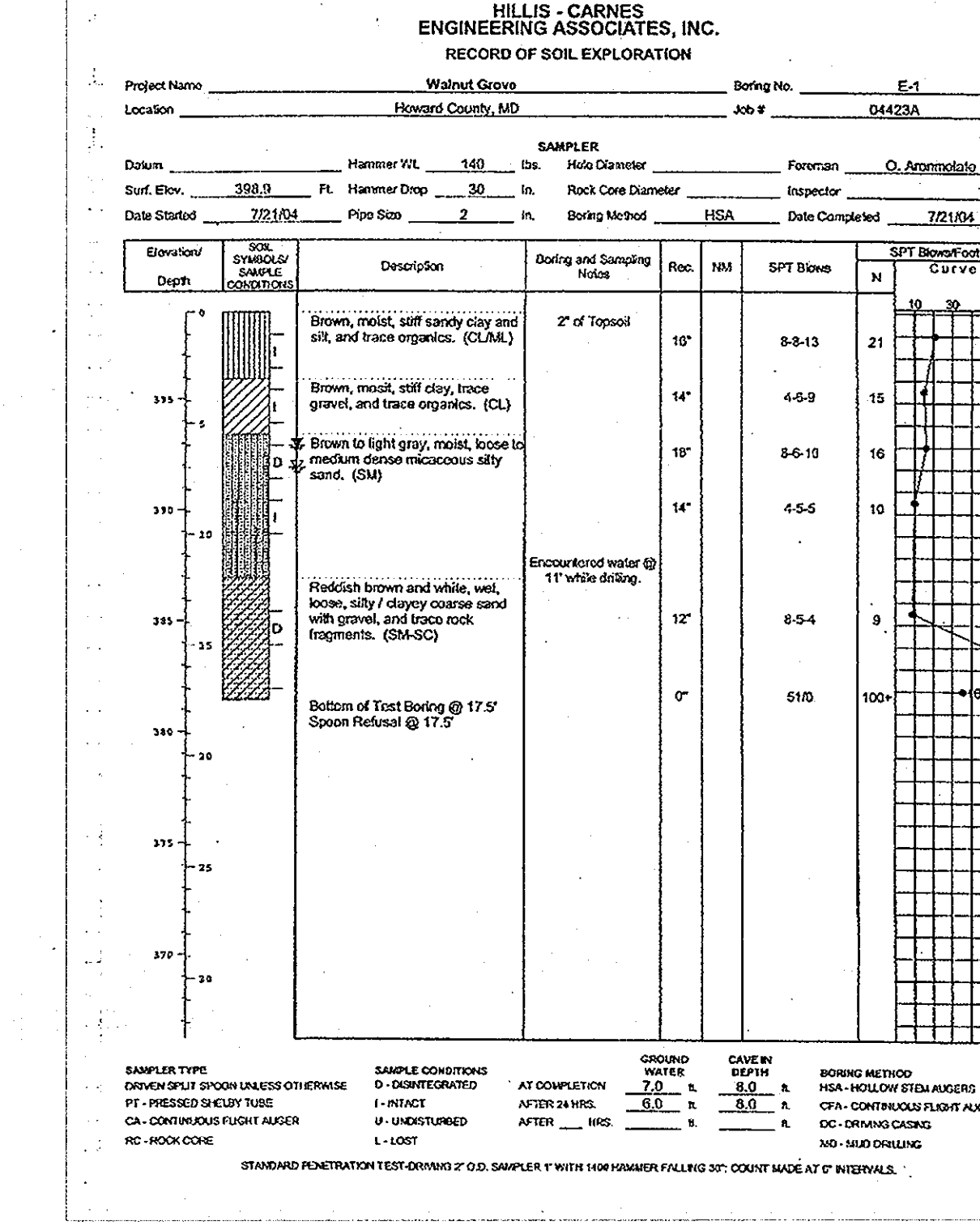
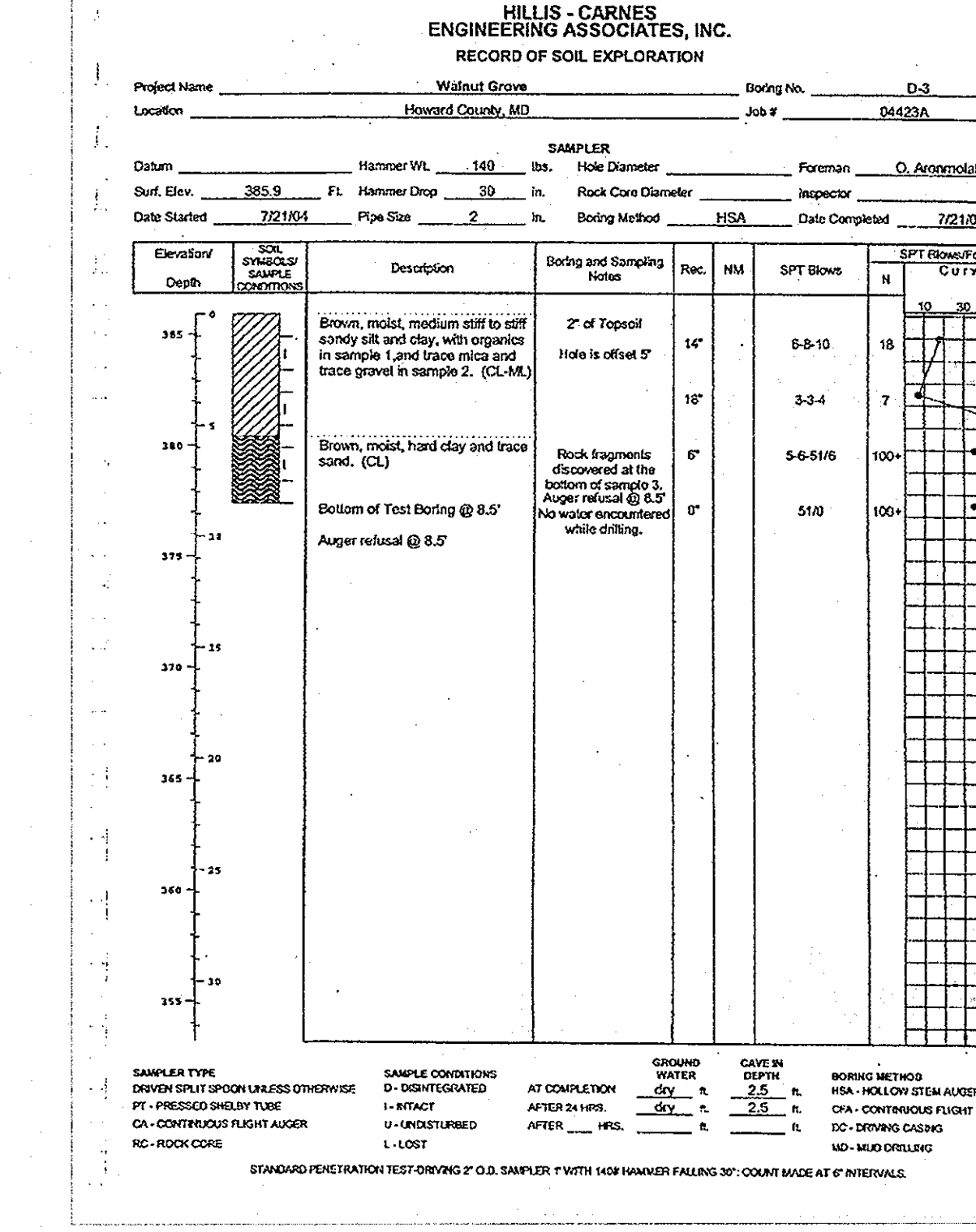
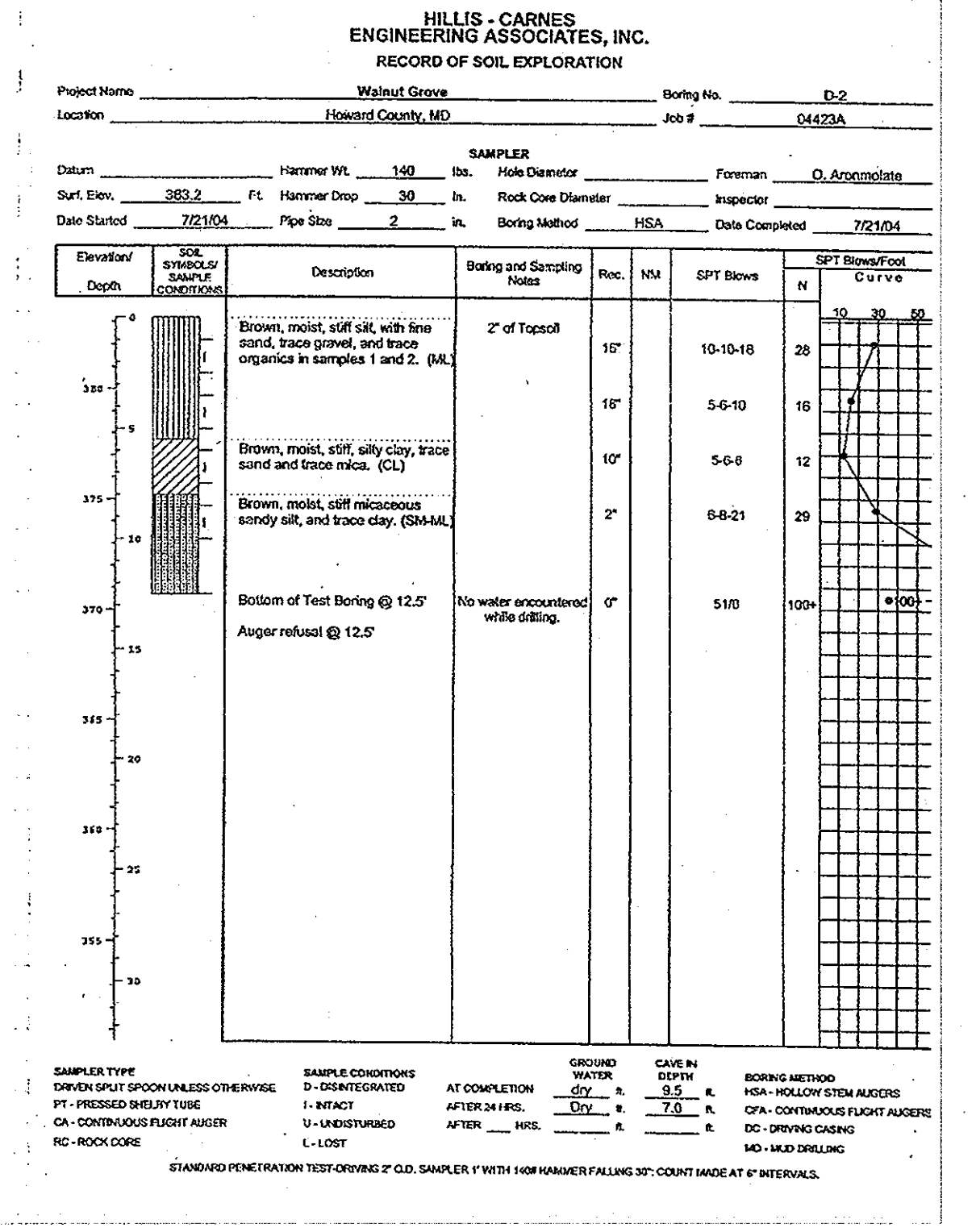
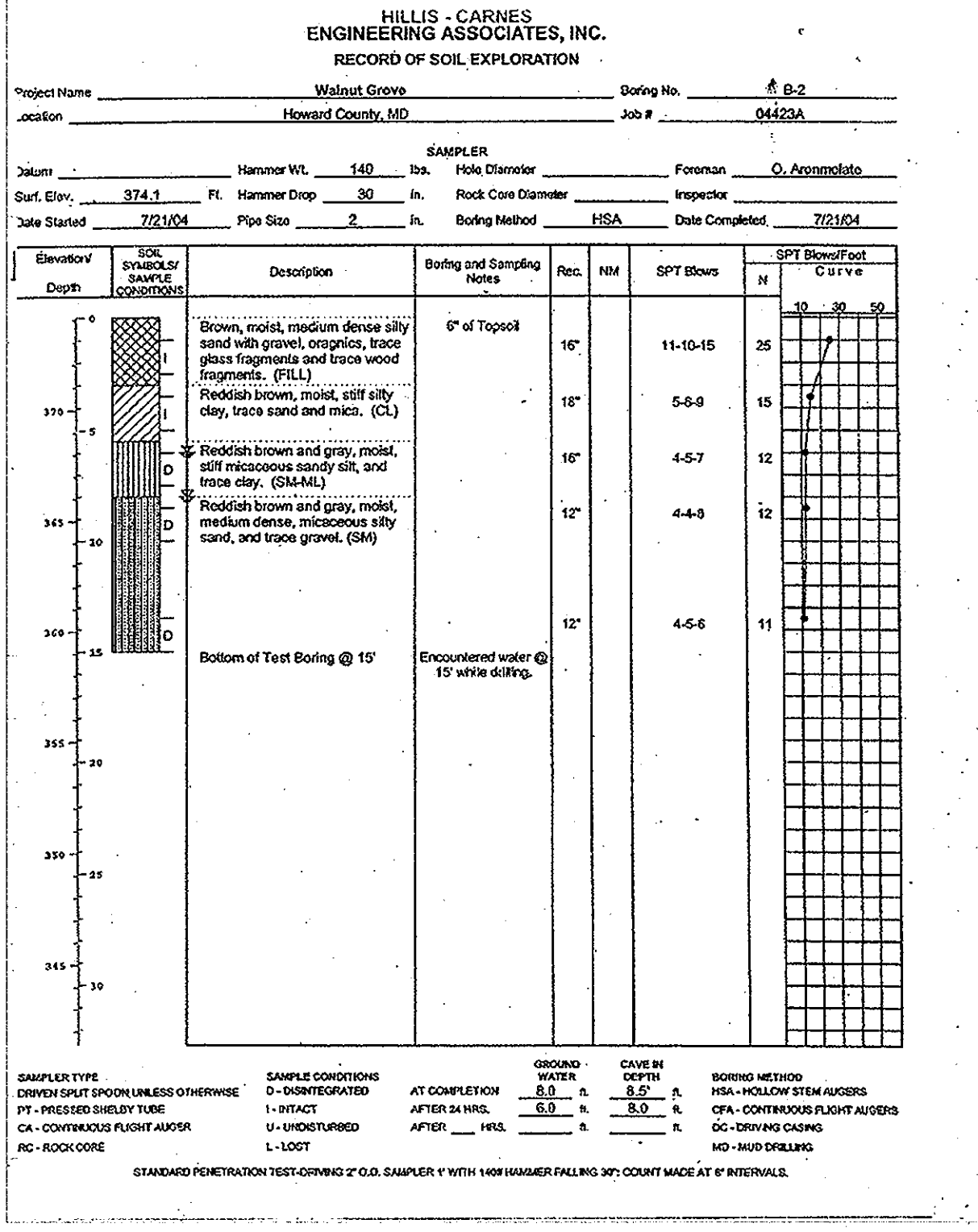
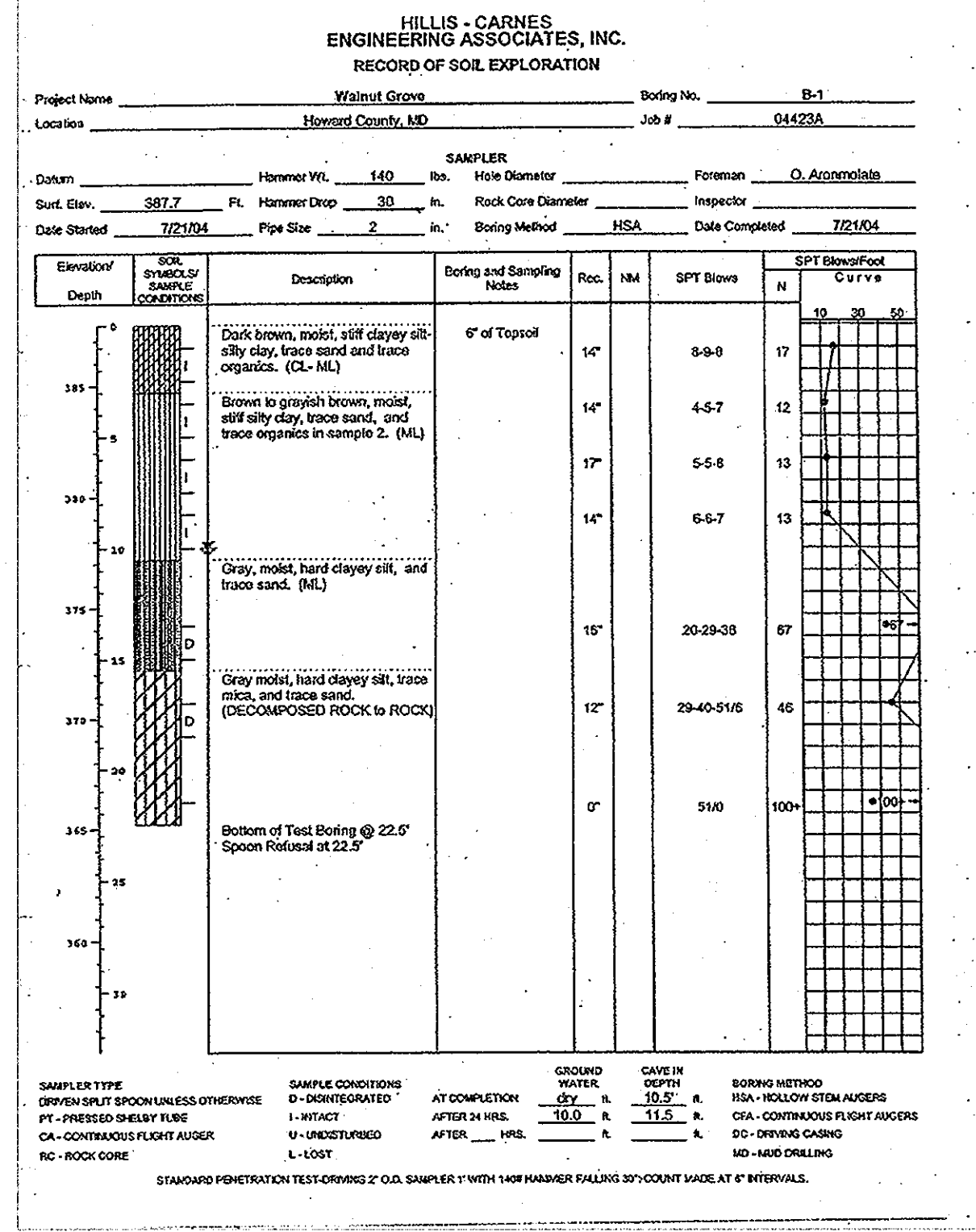
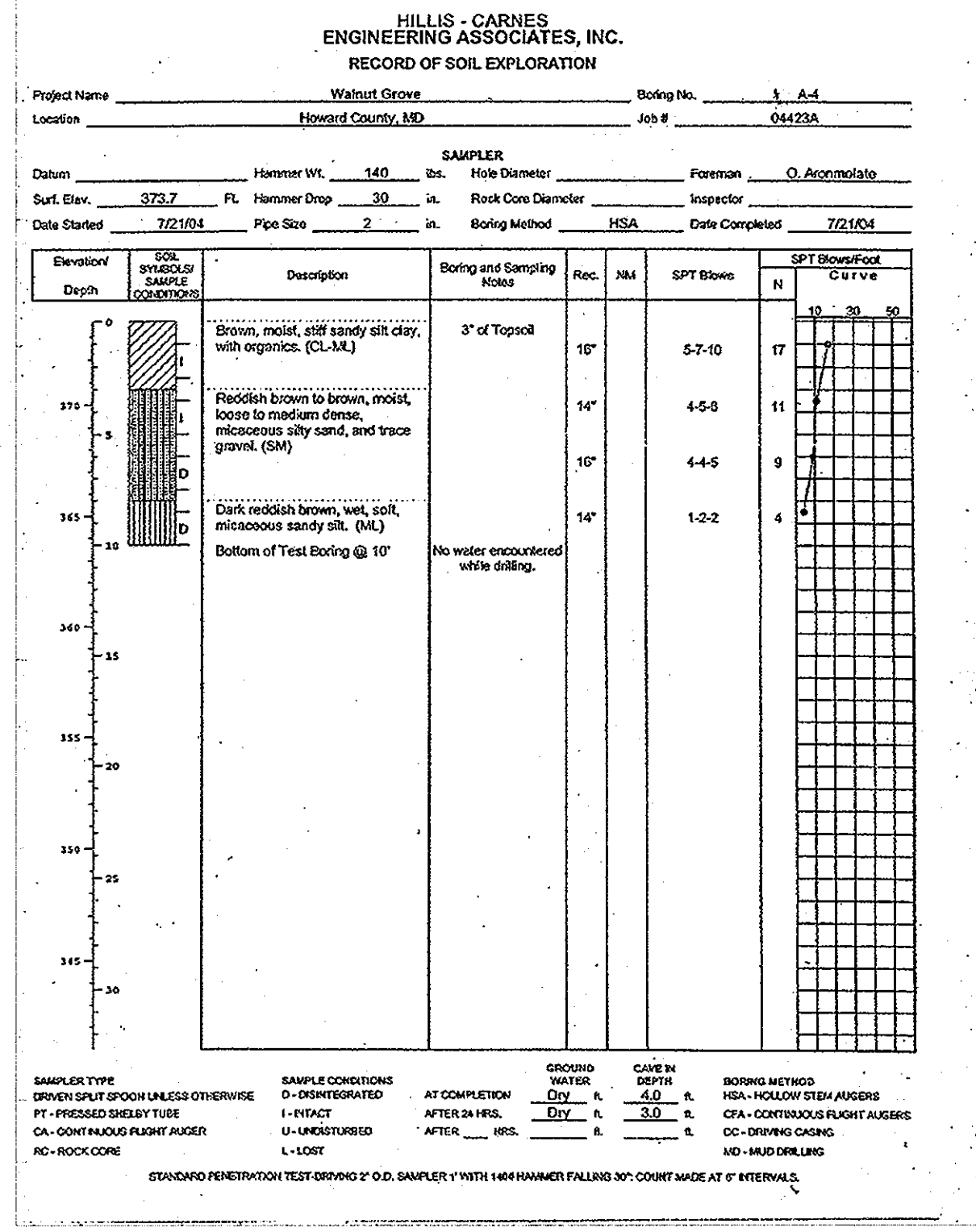
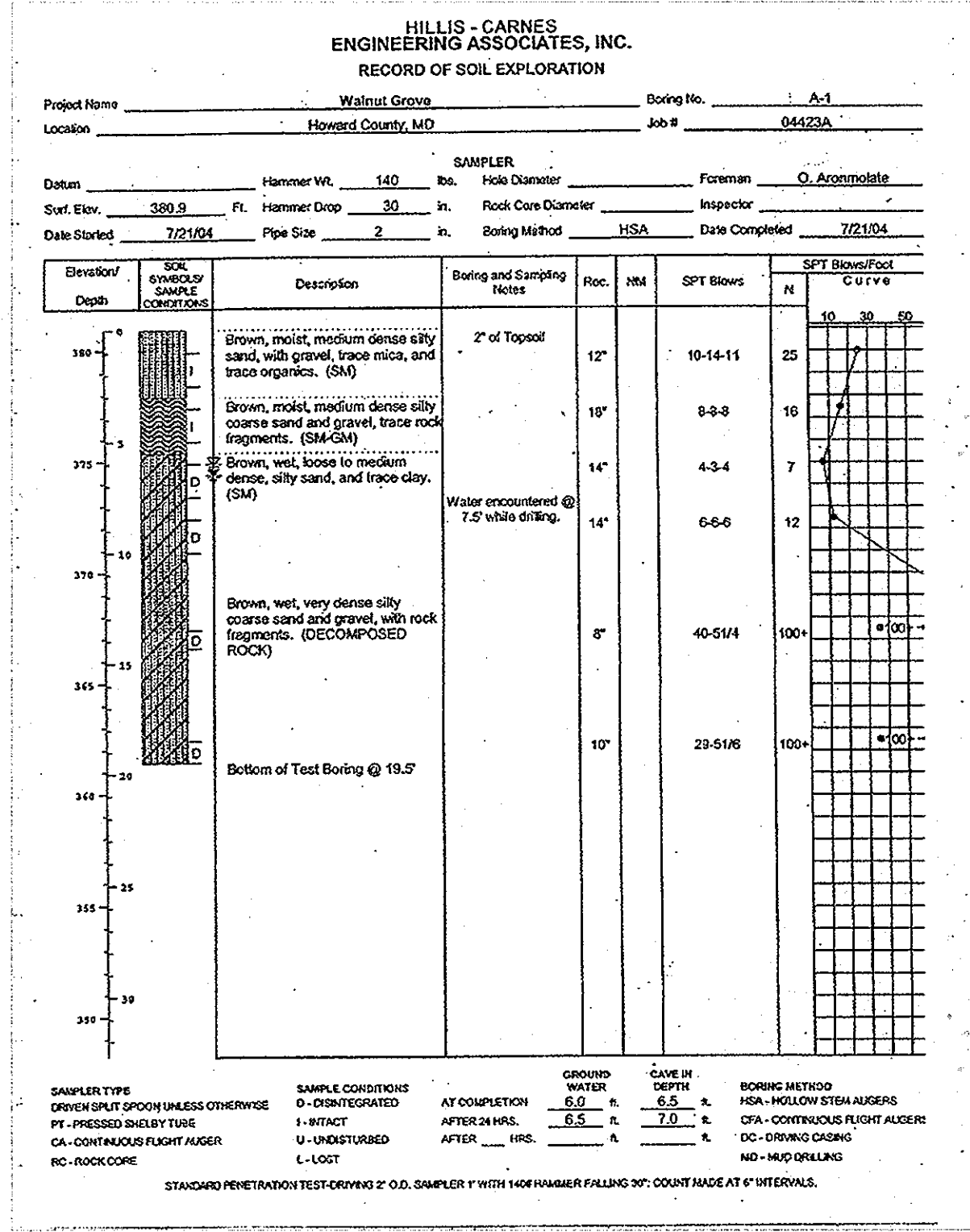
GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 220 - BIRTONSVILLE OFFICE PARK
 BIRTONSVILLE, MARYLAND 20886
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

| DATE | DESCRIPTION | BY | APPR. |
|----------|---|-----|-------|
| 11/16/07 | FCE REQUIREMENTS CHANGED FOR WHIP CALIPER TREES | DDS | |
| | REVISION | | APPR. |

PREPARED FOR OWNER
 WALNUT GROVE HOLDINGS, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

REVISED FOREST CONSERVATION NOTES & DETAILS
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'T', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L2927 F487
 HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|----------------|-------------------|
| AS SHOWN | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| NOV./2007 | 74 28 - 18,17 | 74 OF 78 |



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 William F. [Signature] 2-5-07
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Candy Hammett 2/6/07
 Chief, Division of Land Development

Chief, Development Engineering Division 2/7/07



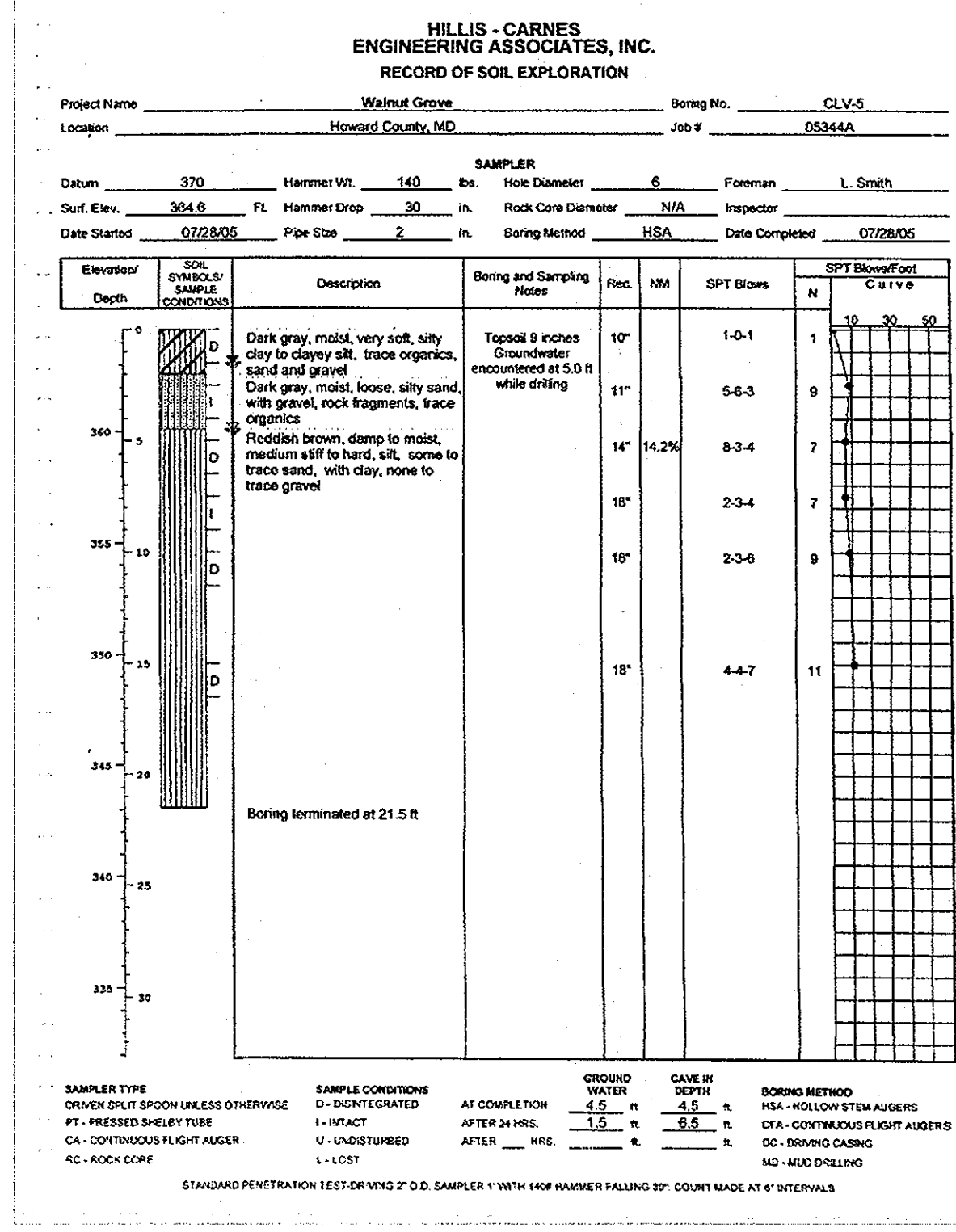
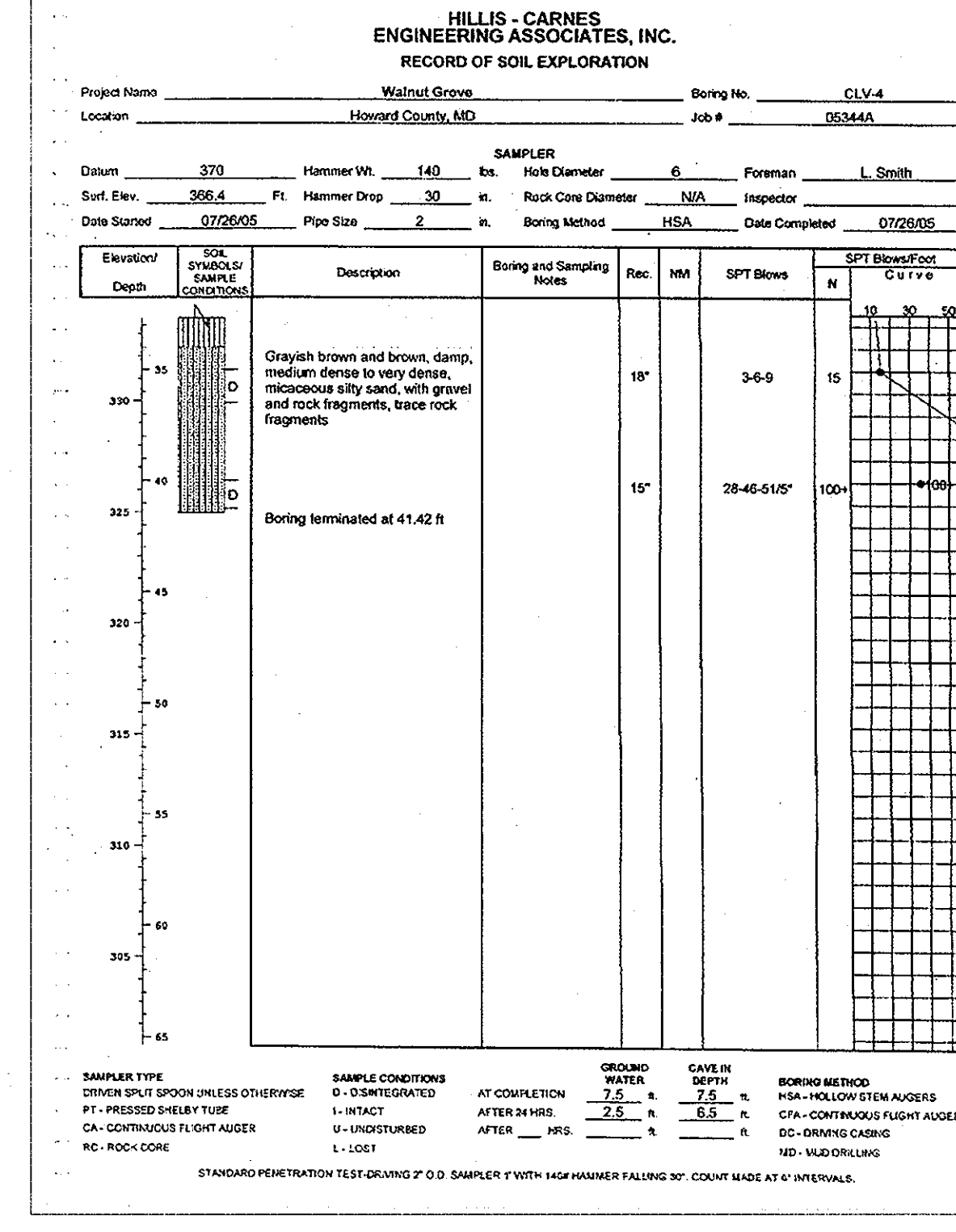
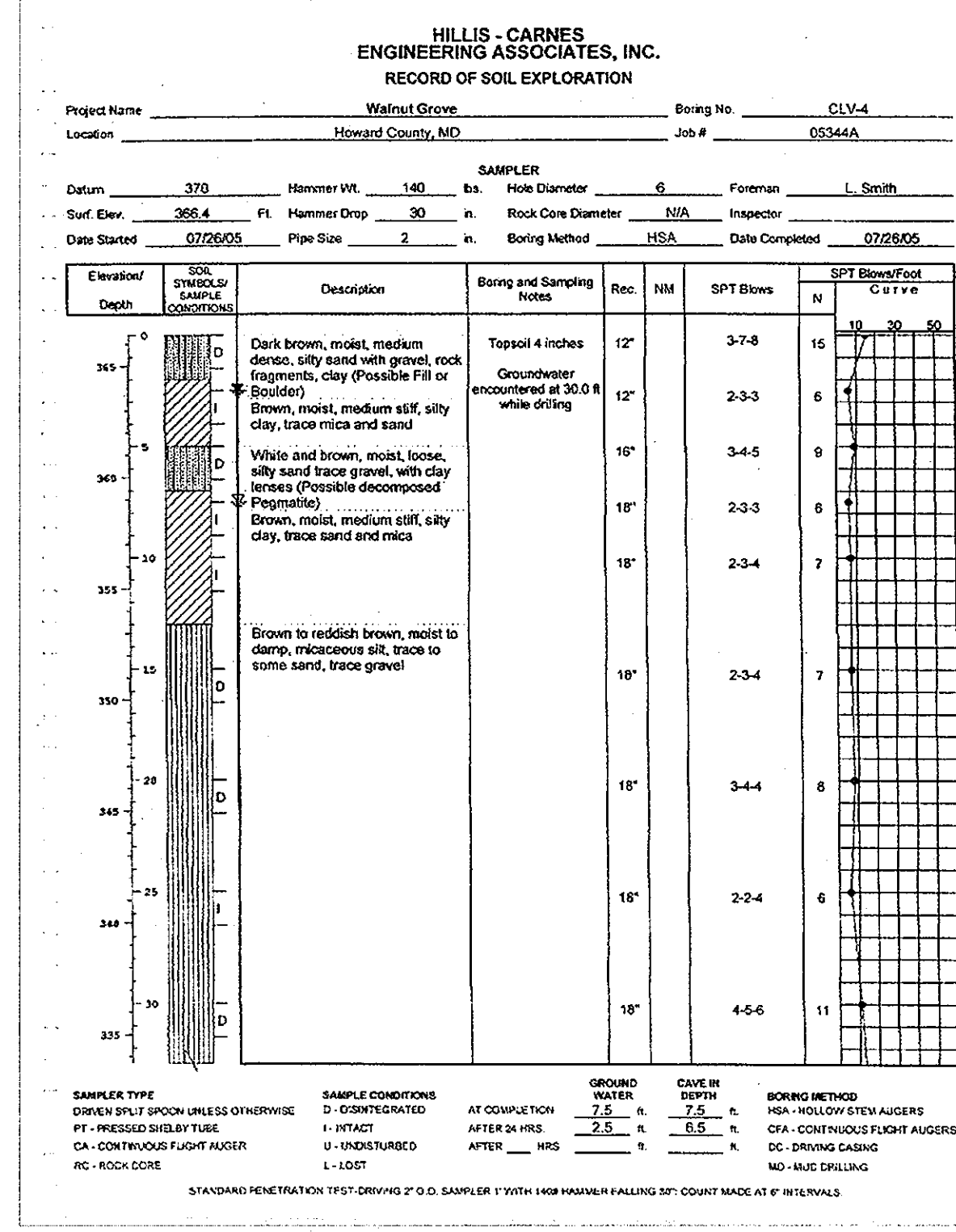
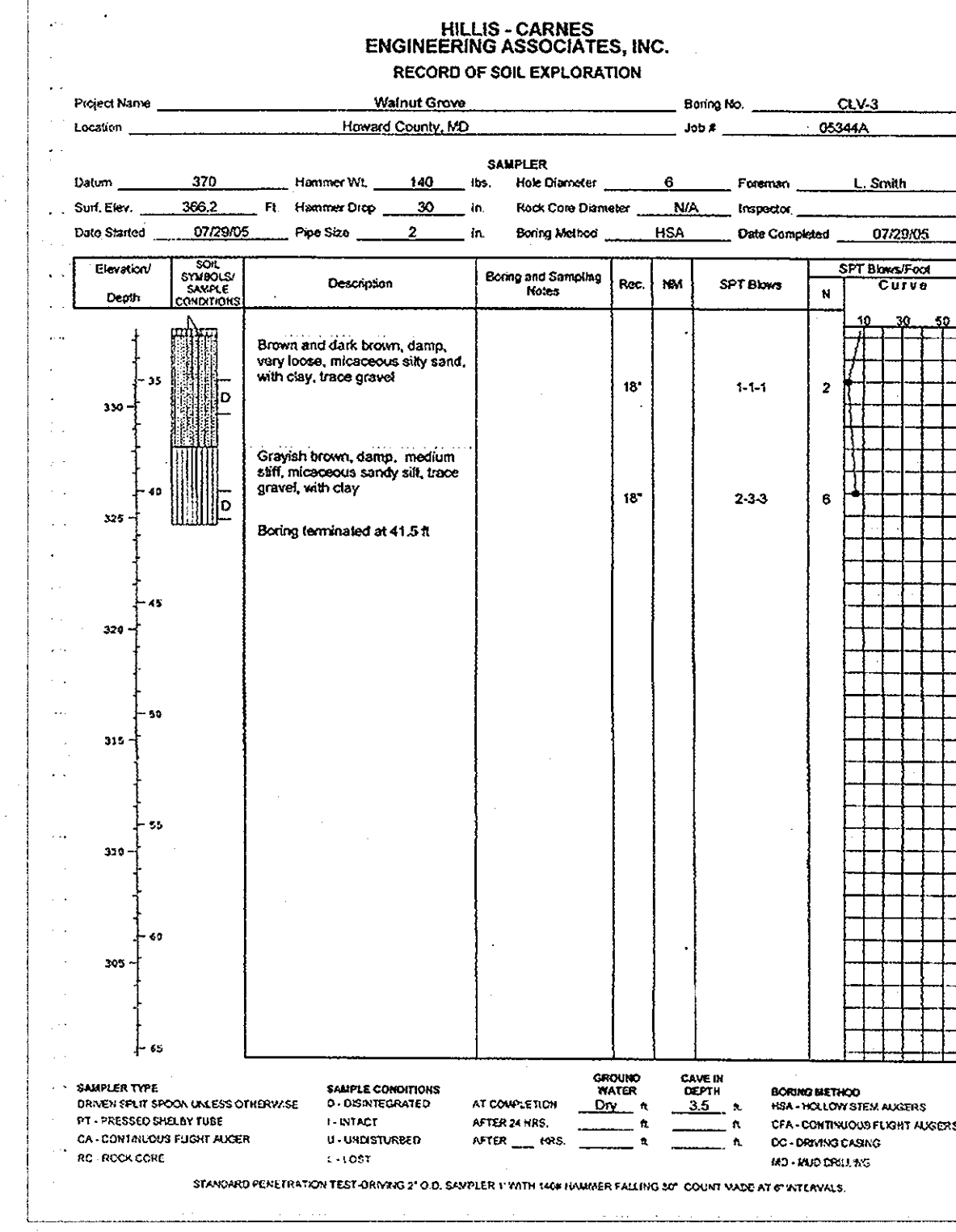
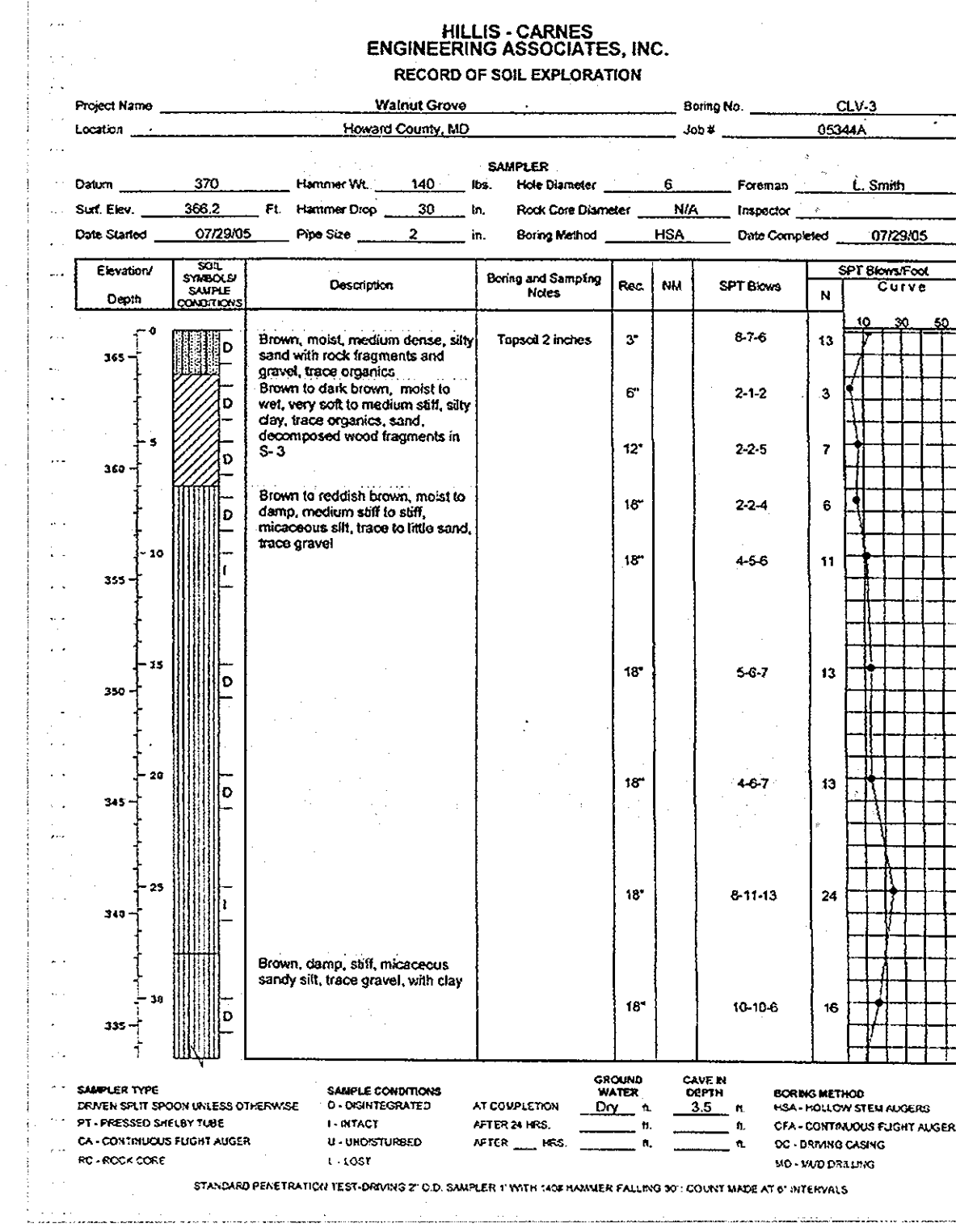
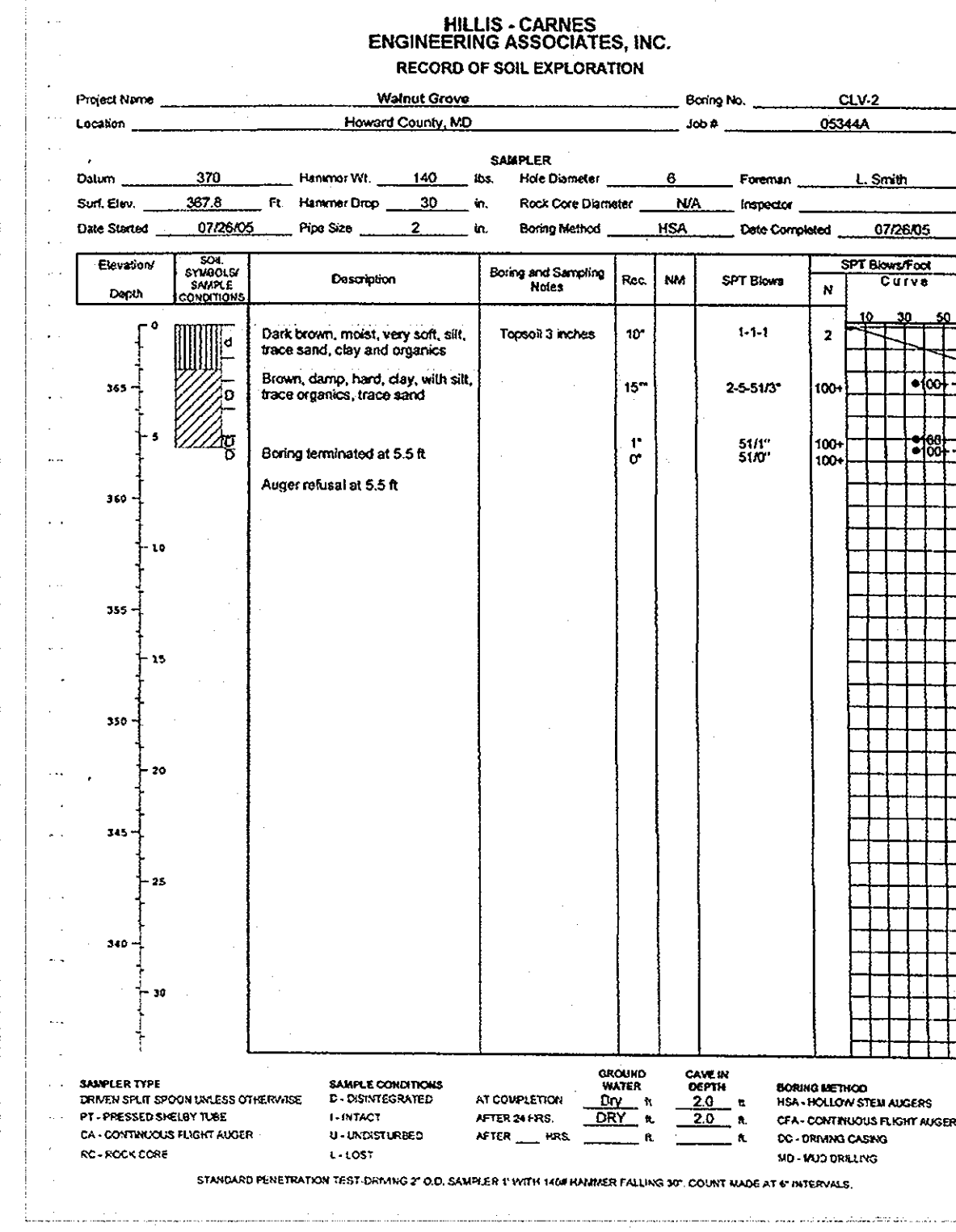
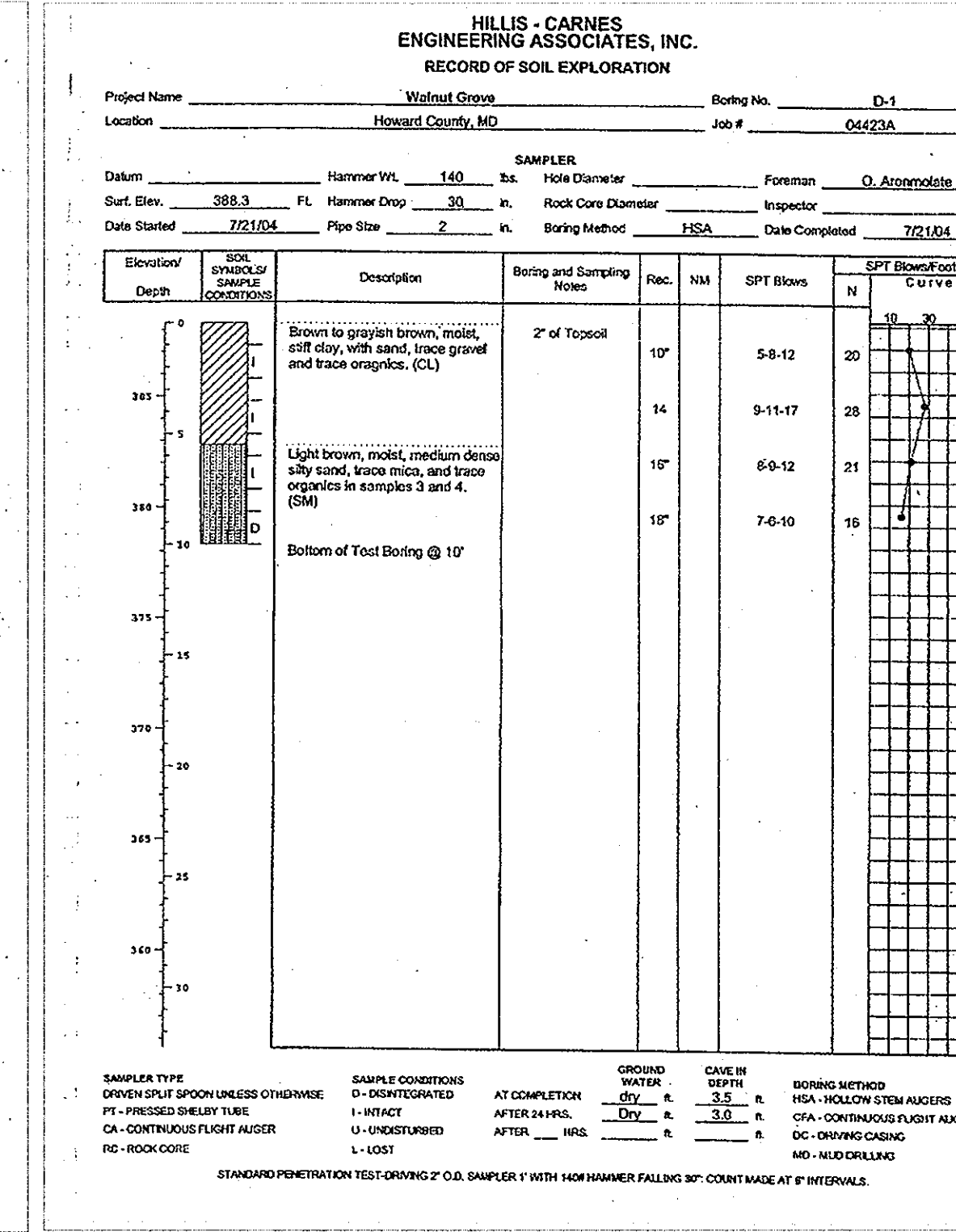
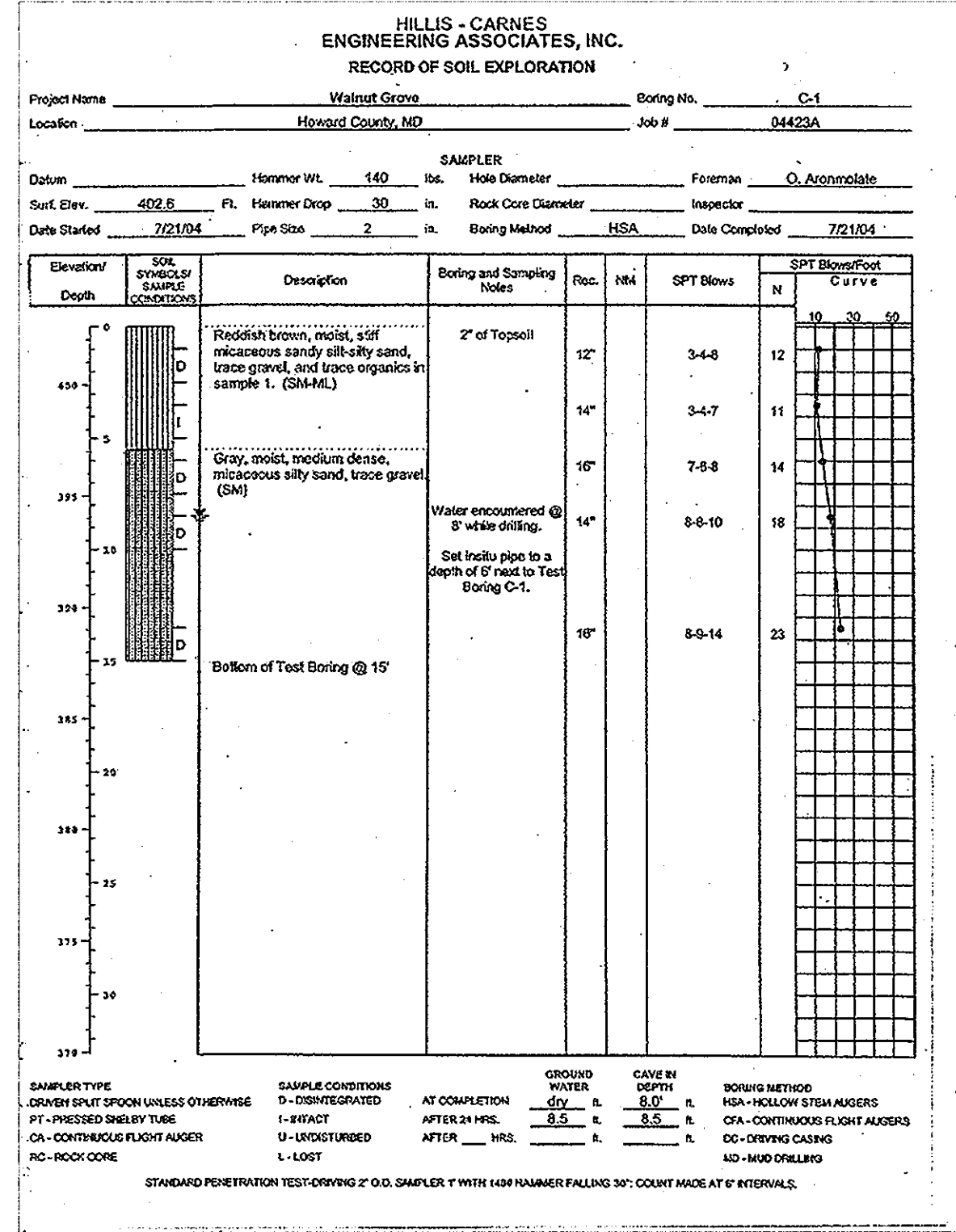
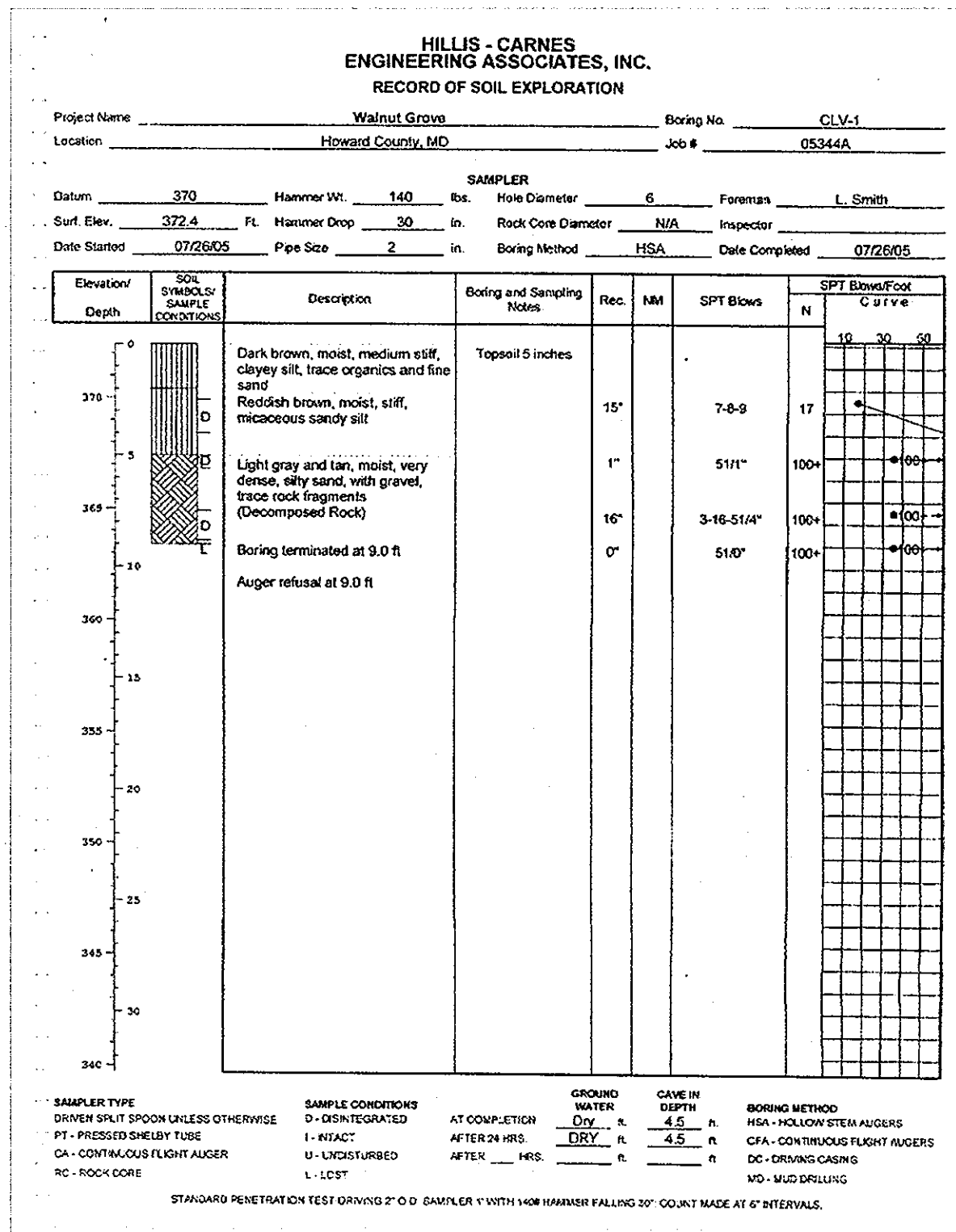
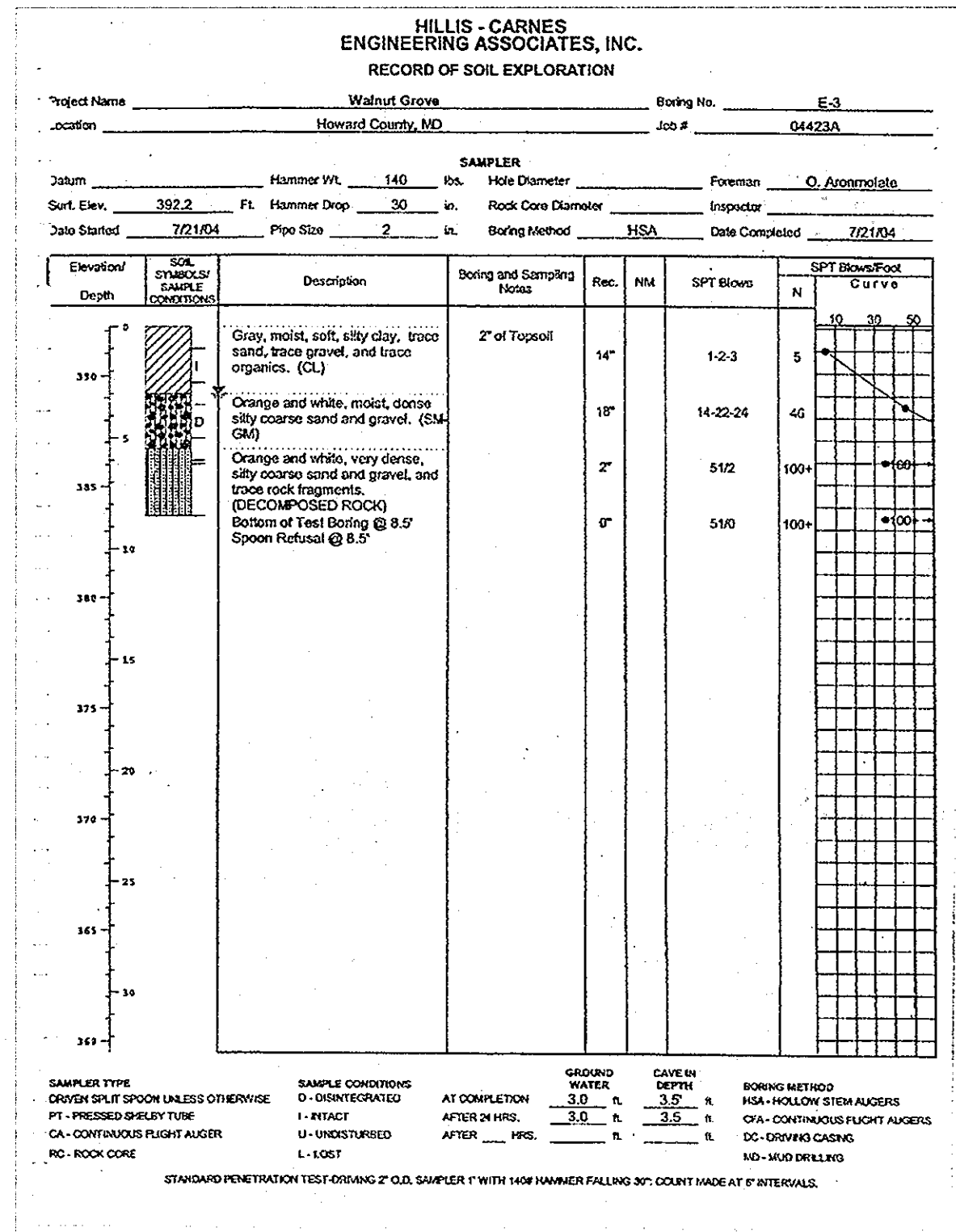
GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BAL: 410-880-1820 DCVA: 301-889-2524 FAX: 301-421-4186

| DATE | REVISION | BY | APP'R |
|------|----------|----|-------|
| | | | |
| | | | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10708 CHARTER DRIVE
 SUITE 300
 COLUMBIA, MARYLAND 21044

SOIL BORING LOGS
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L2927 F487

| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|-------------------------|-------------------|
| NO SCALE | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 75 OF 78 |



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 2-5-07
 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development
 2/8/07
 Date

Chief, Development Engineering Division
 2/10/07
 Date



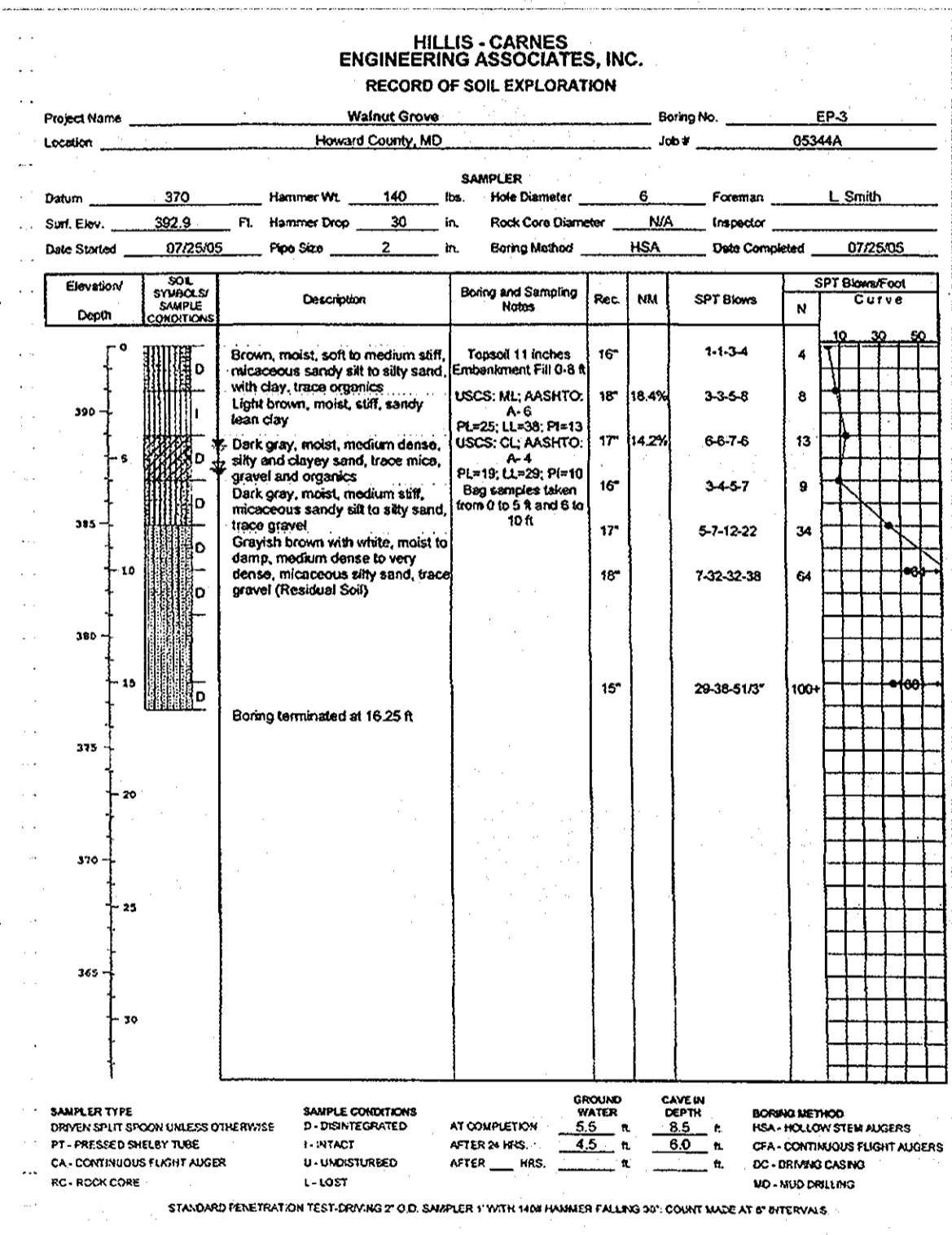
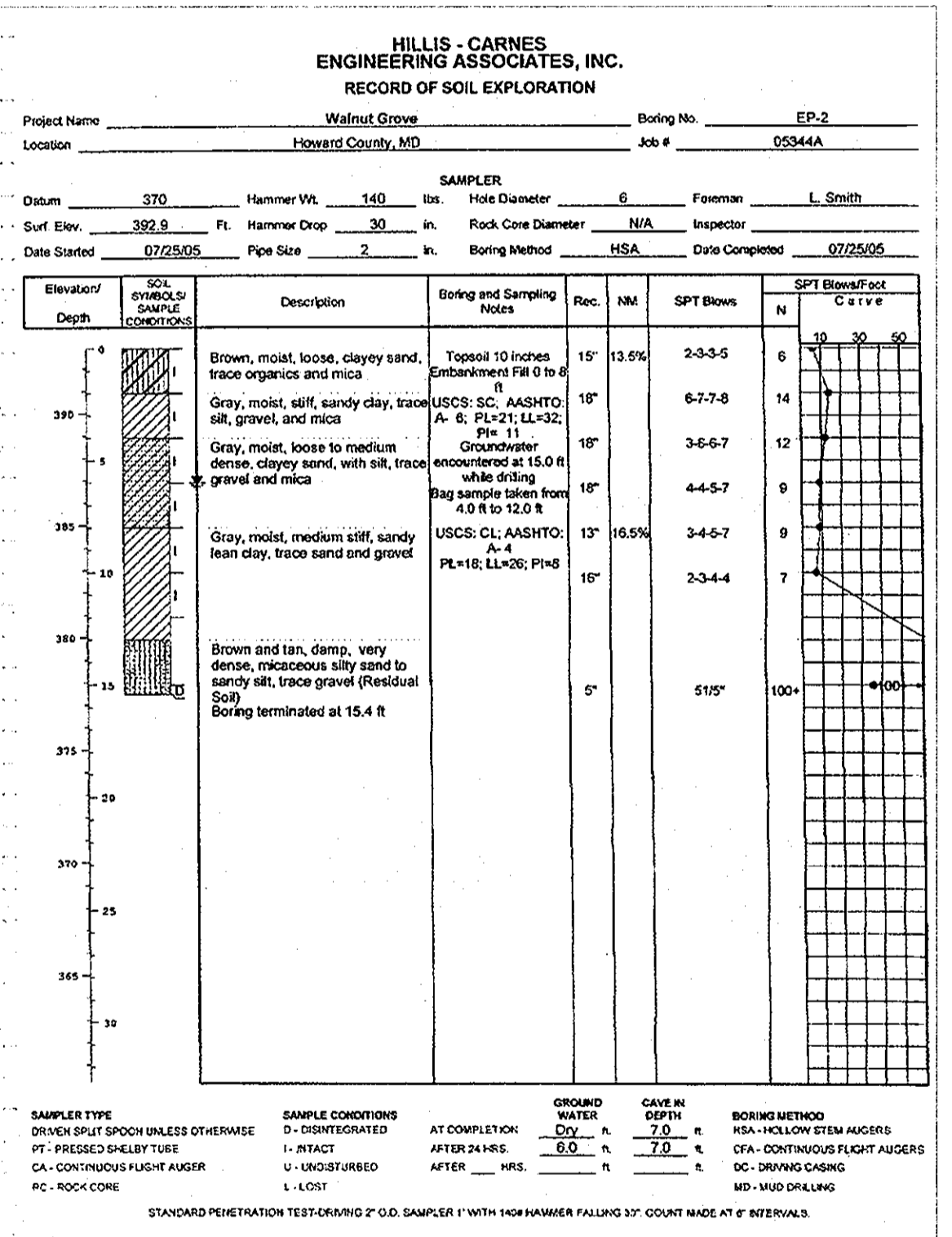
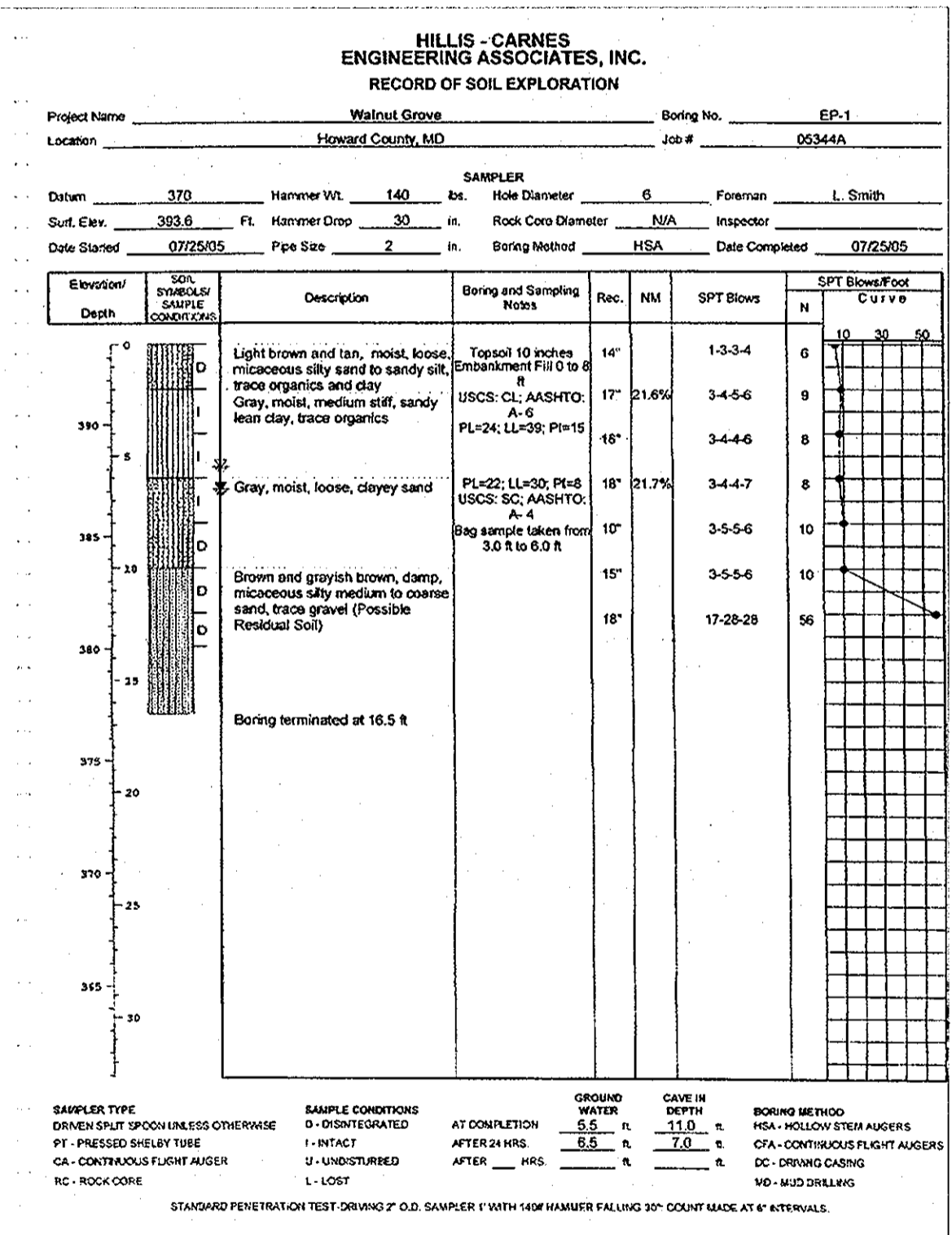
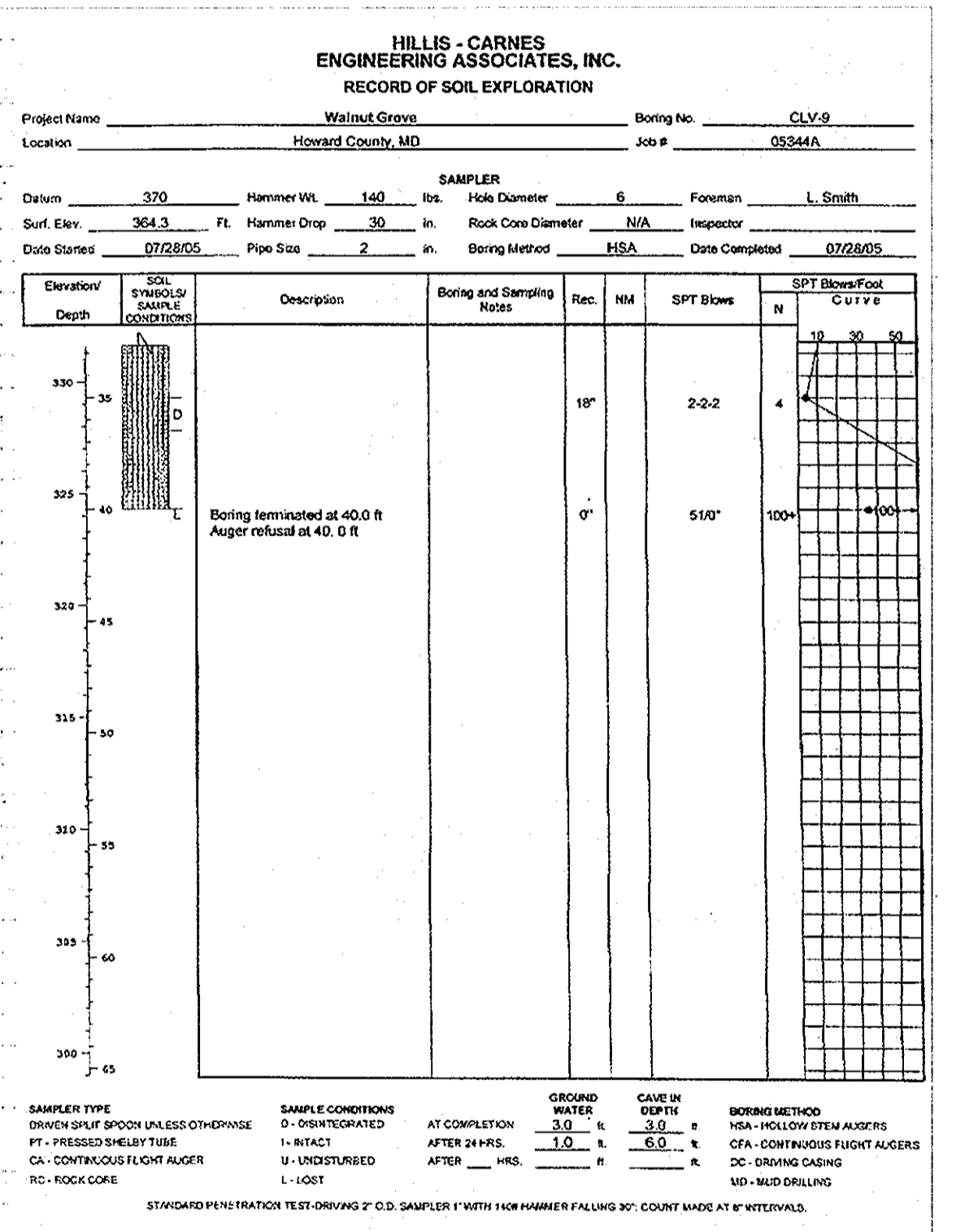
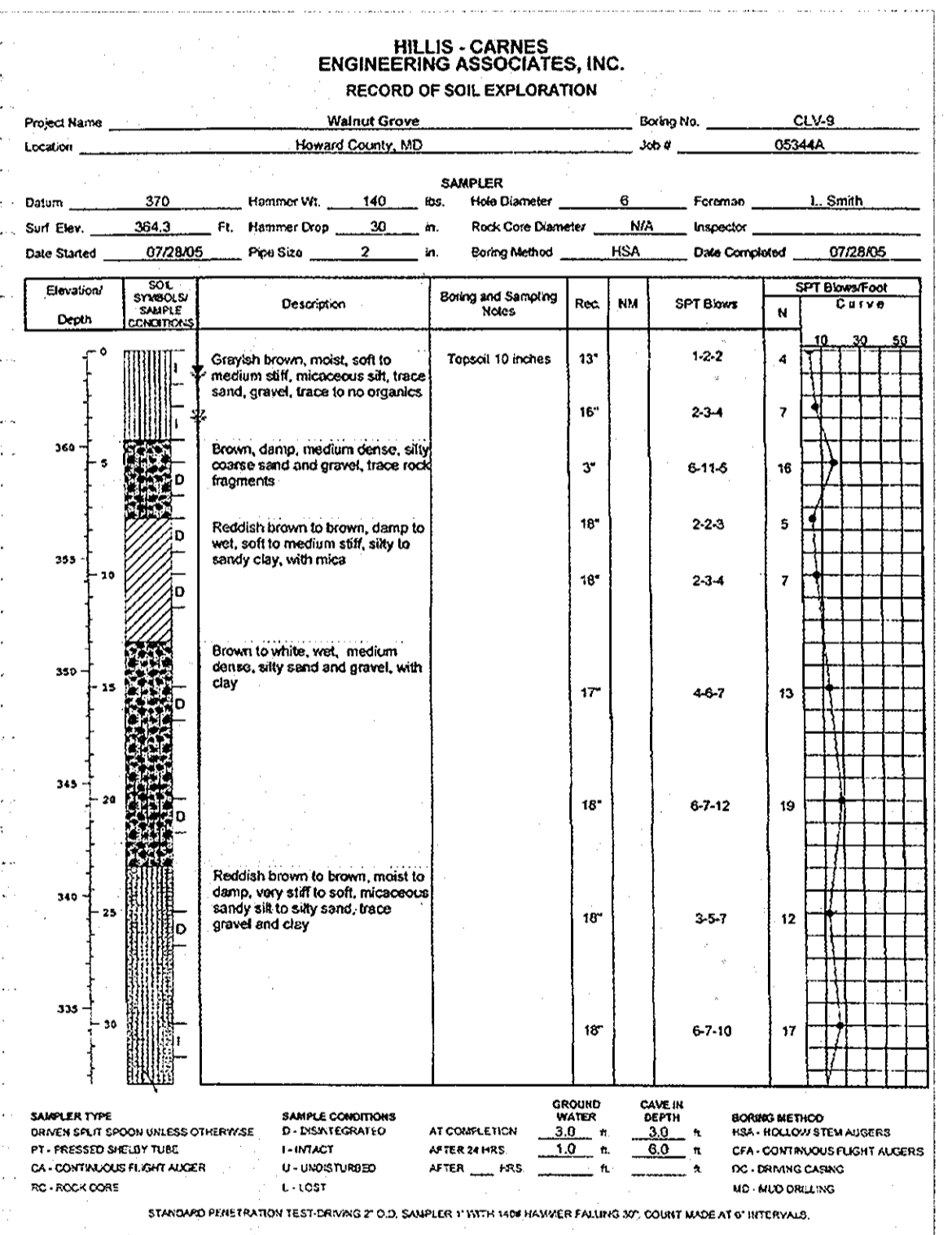
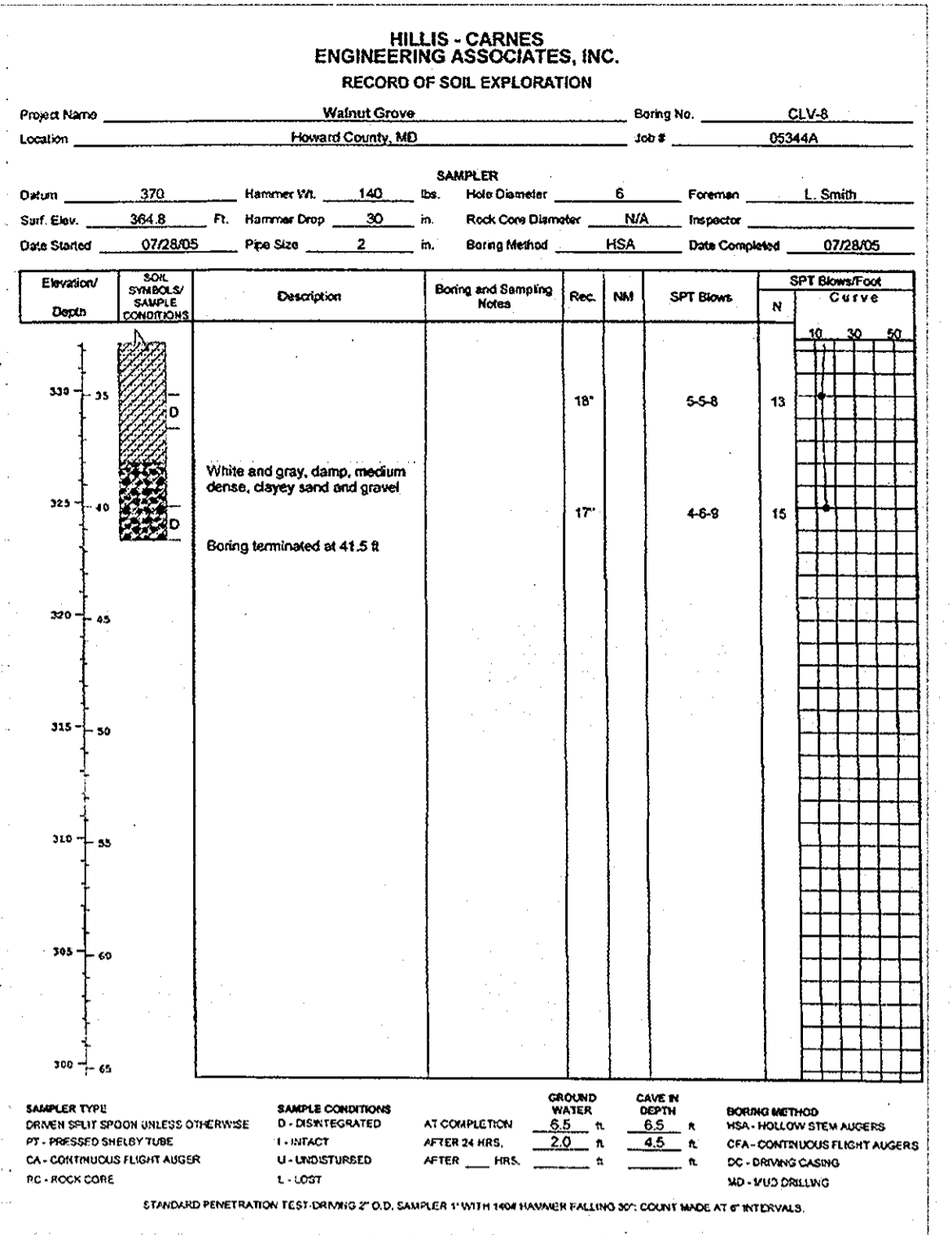
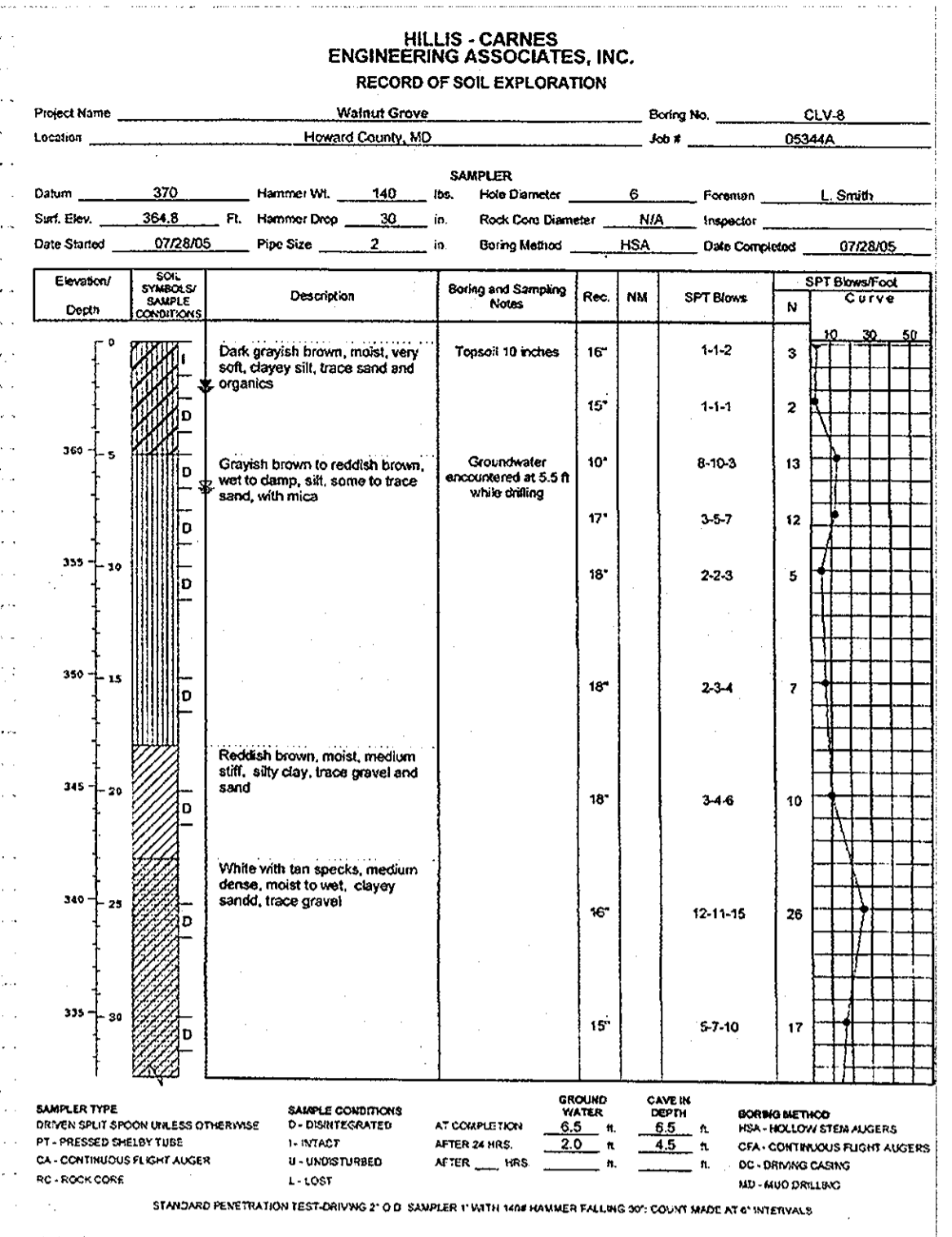
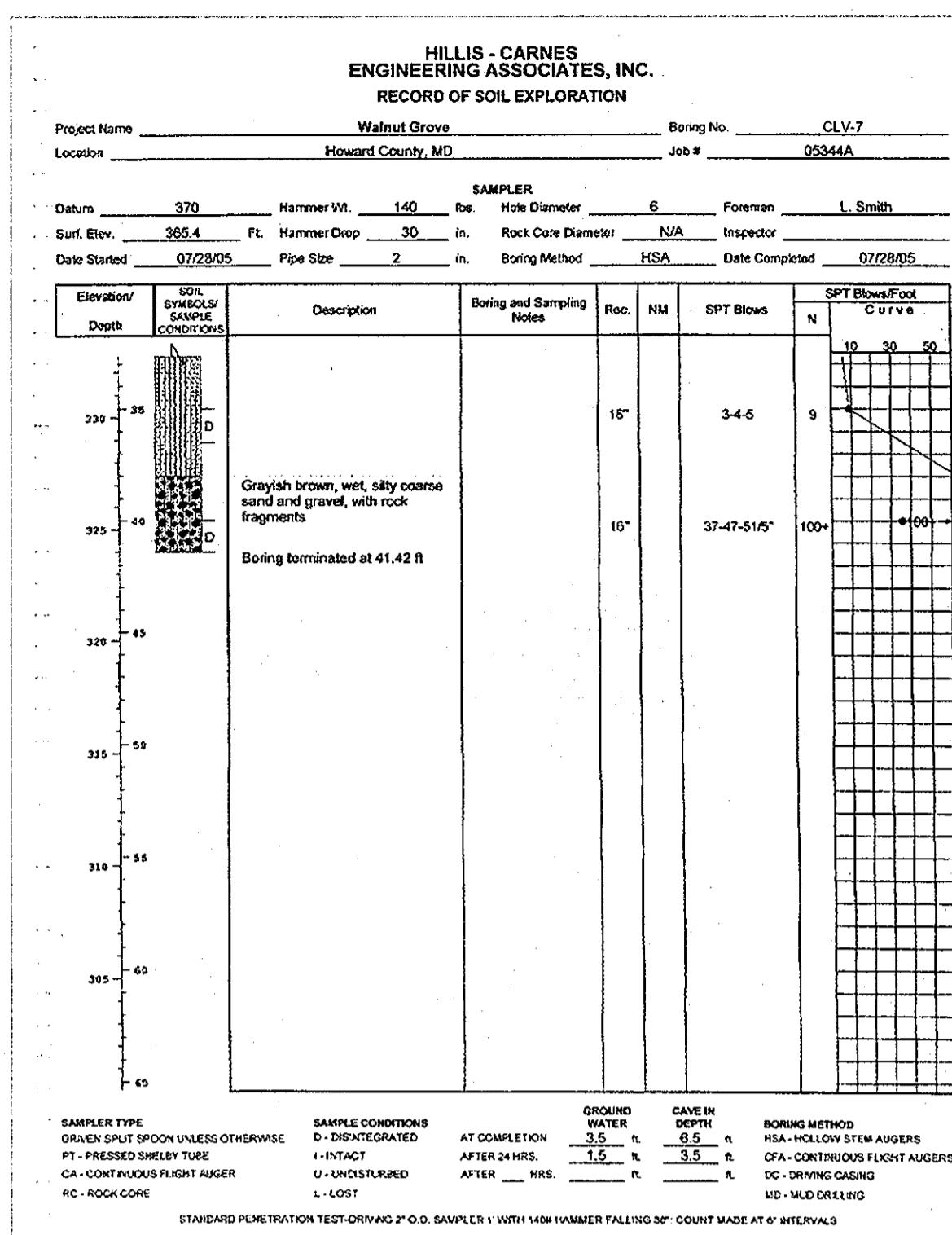
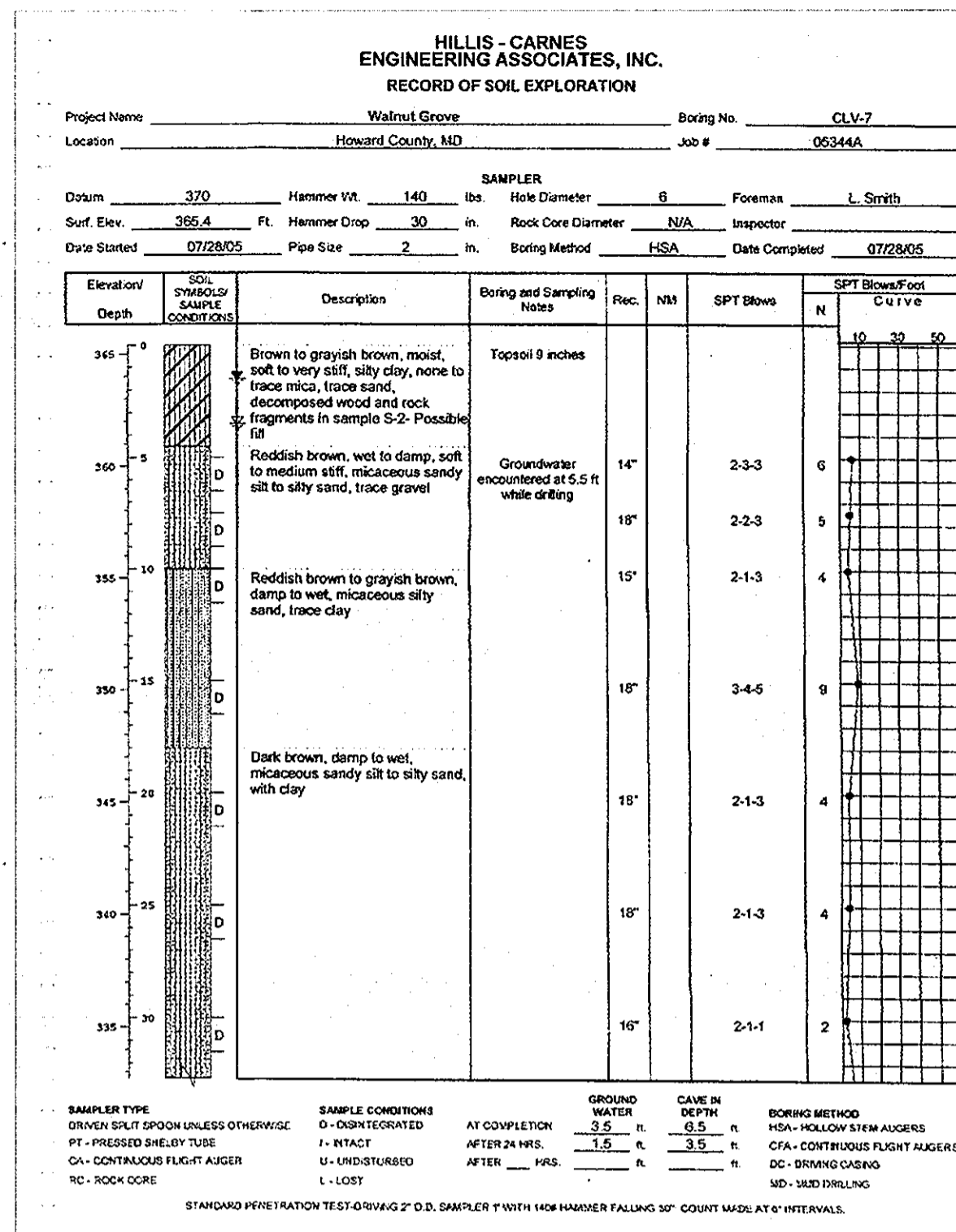
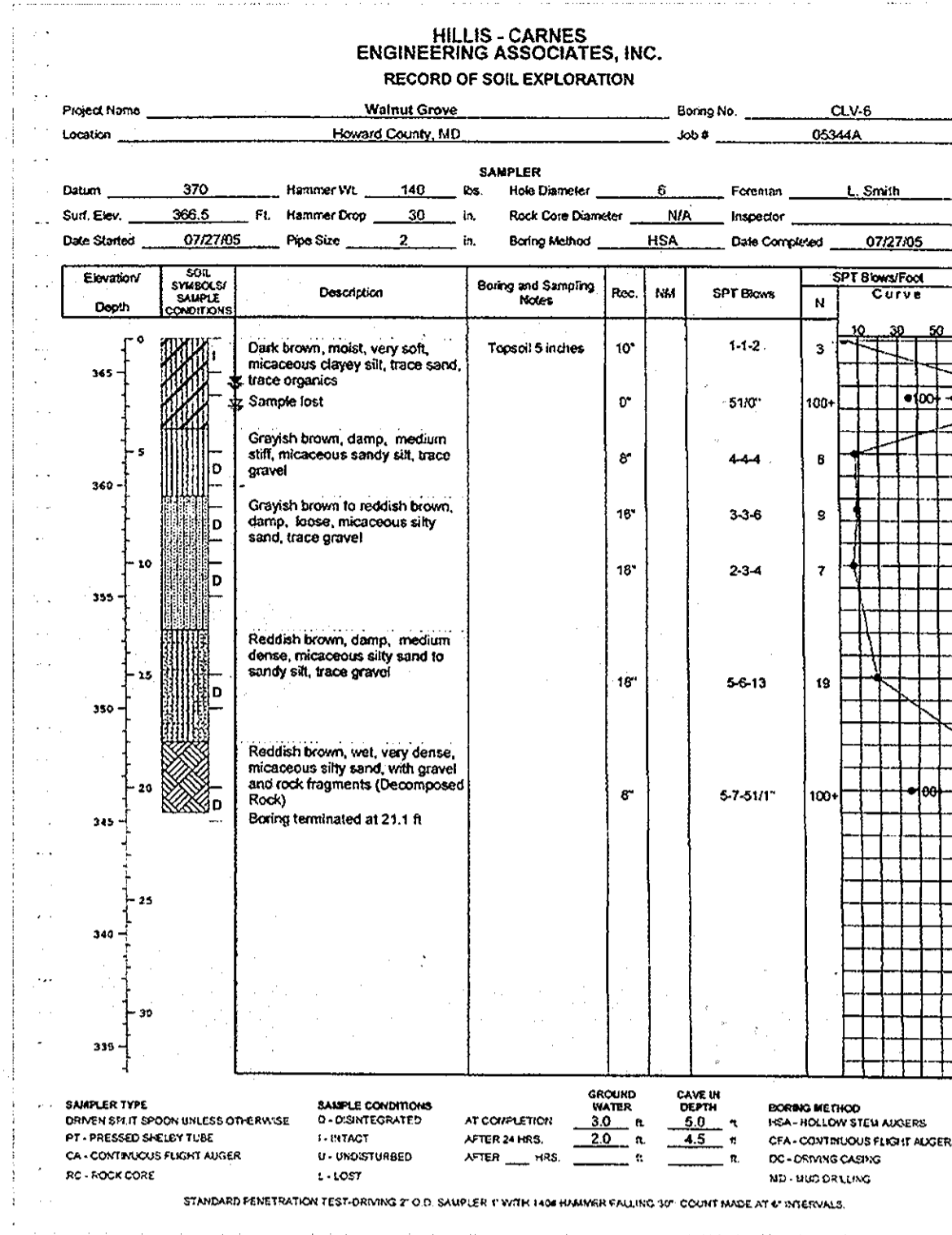
GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

| DATE | REVISION | BY | APP'R. |
|------|----------|----|--------|
| | | | |
| | | | |
| | | | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, LLC
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE PRESIDENT
 10705 CHARTER DRIVE
 SUITE 300
 COLUMBIA, MARYLAND 21044

SOIL BORING LOGS
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A';
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L2927 FA87
 ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

| SCALE | ZONING | G. L. W. FILE NO. |
|-----------|-------------------------|-------------------|
| NO SCALE | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 76 OF 78 |



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William Z. White 2-5-07
 Chief, Bureau of Highways 15 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Carolee Hammett 2/5/07
 Chief, Division of Land Development 15 Date

Chief, Development Engineering Division 4 Date



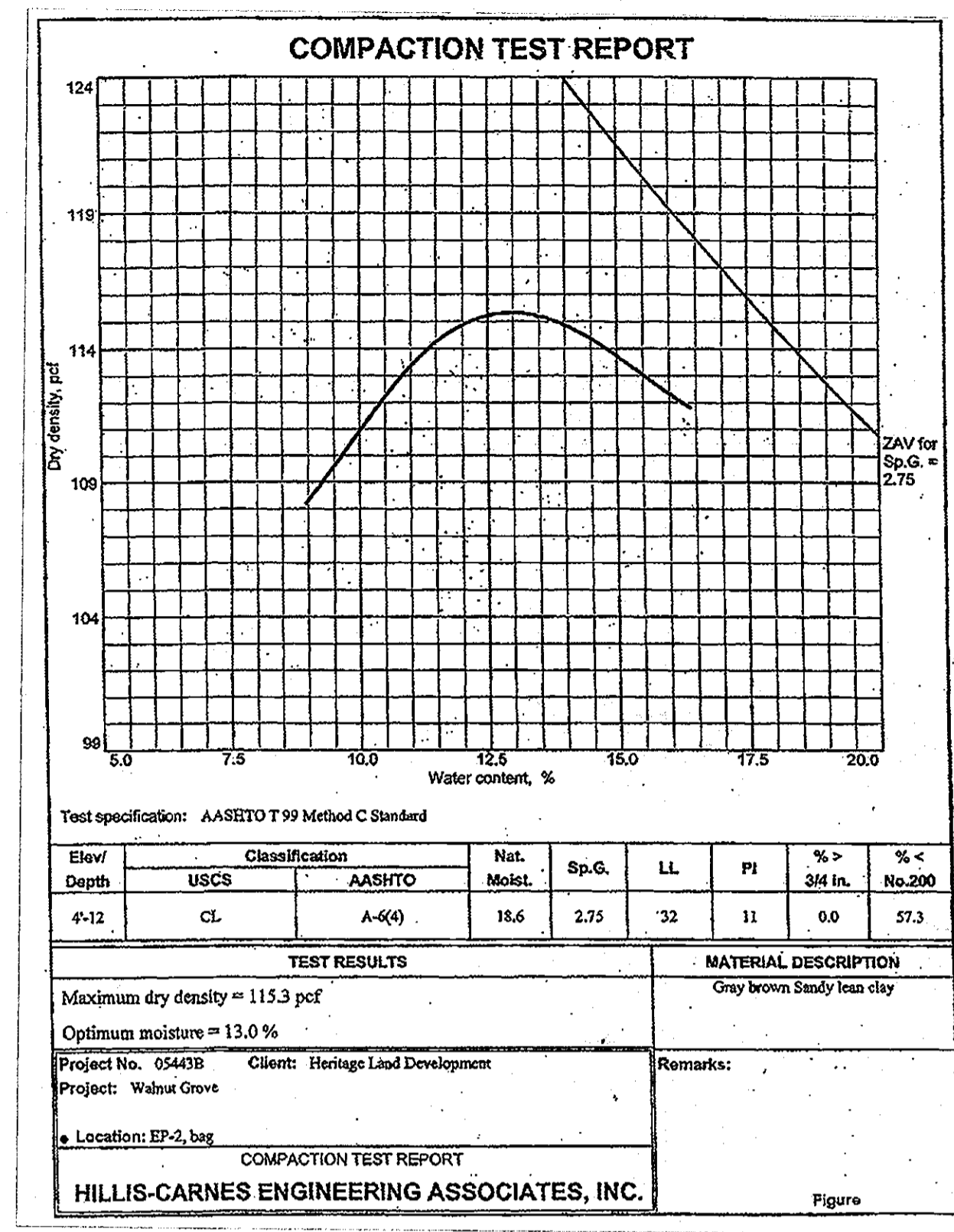
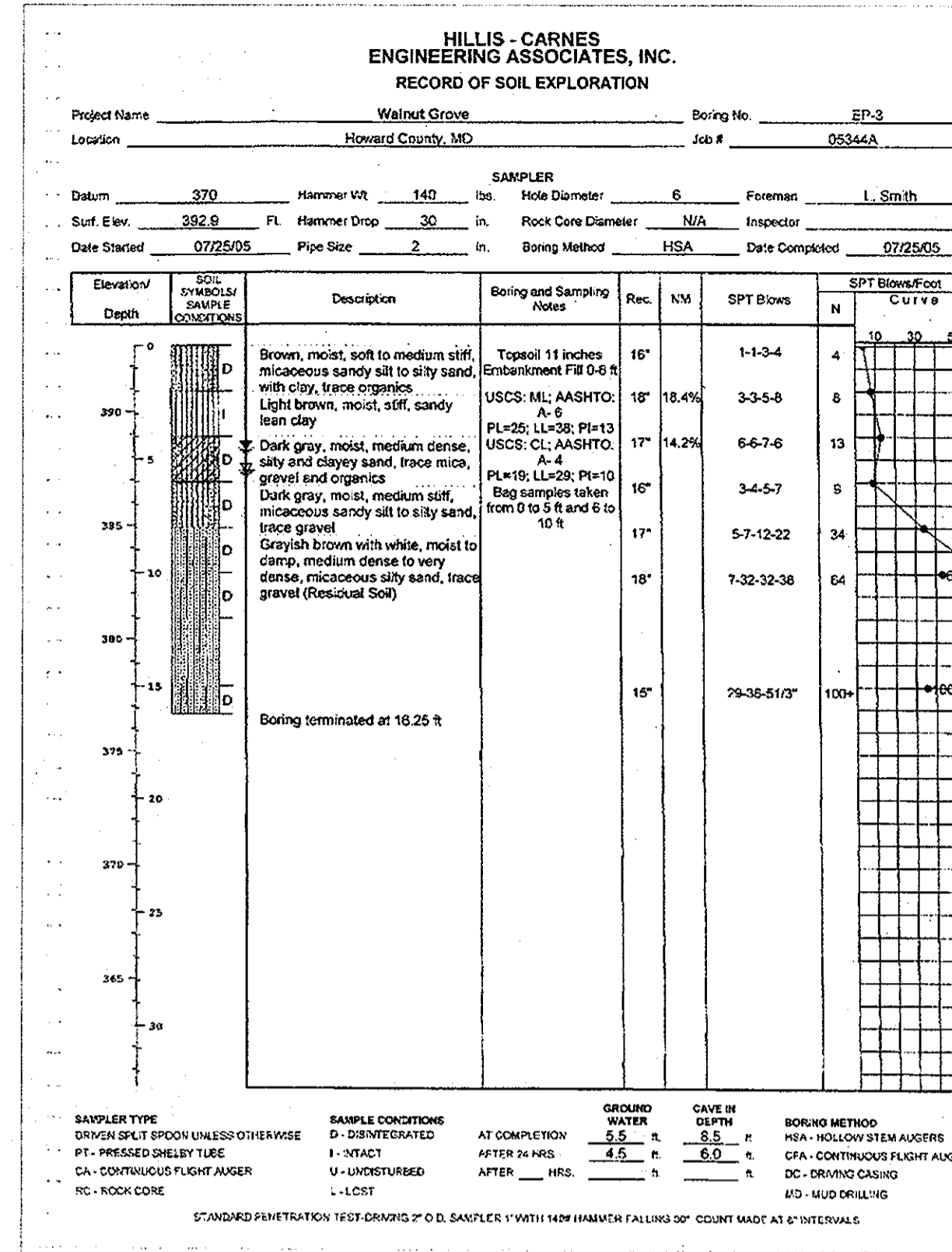
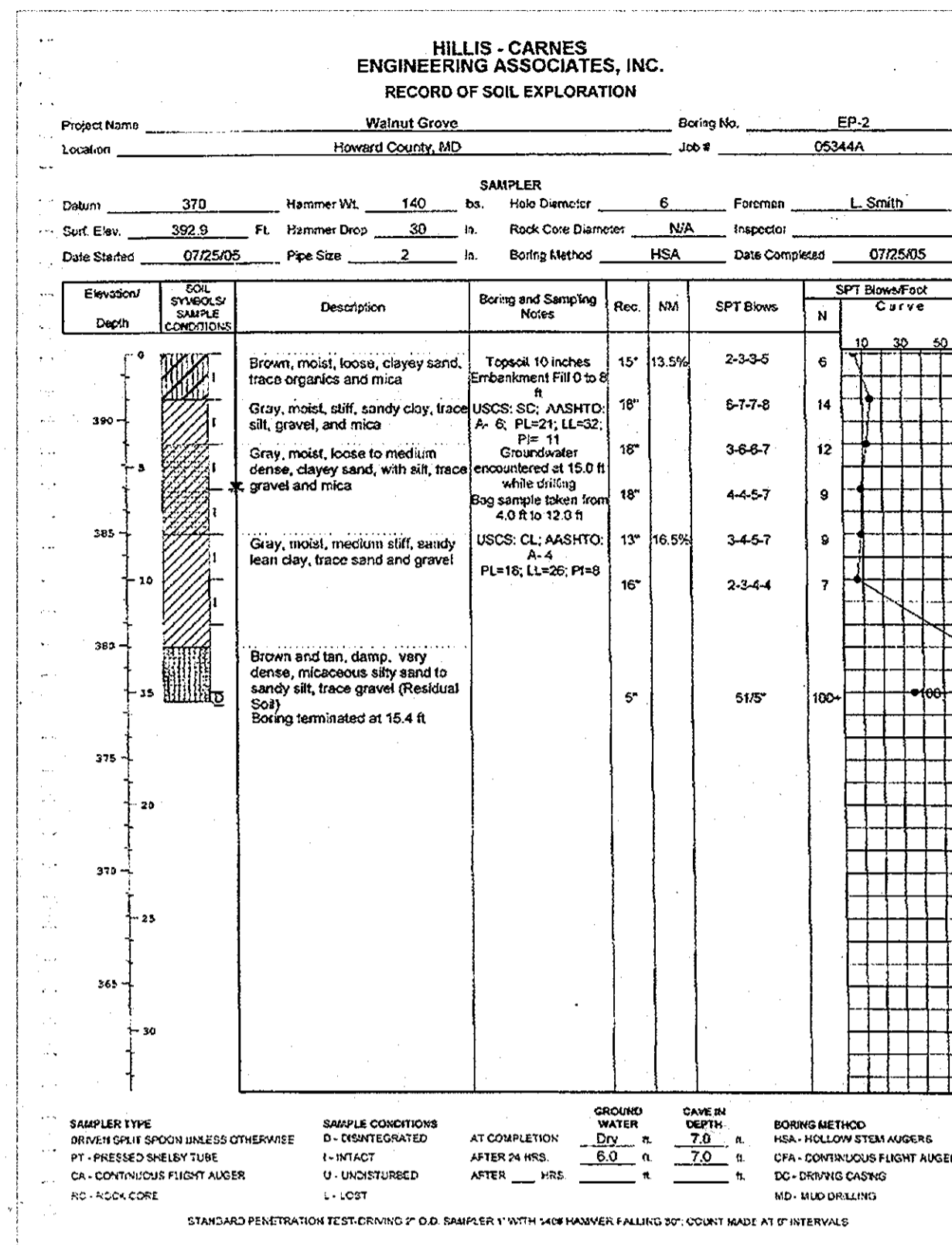
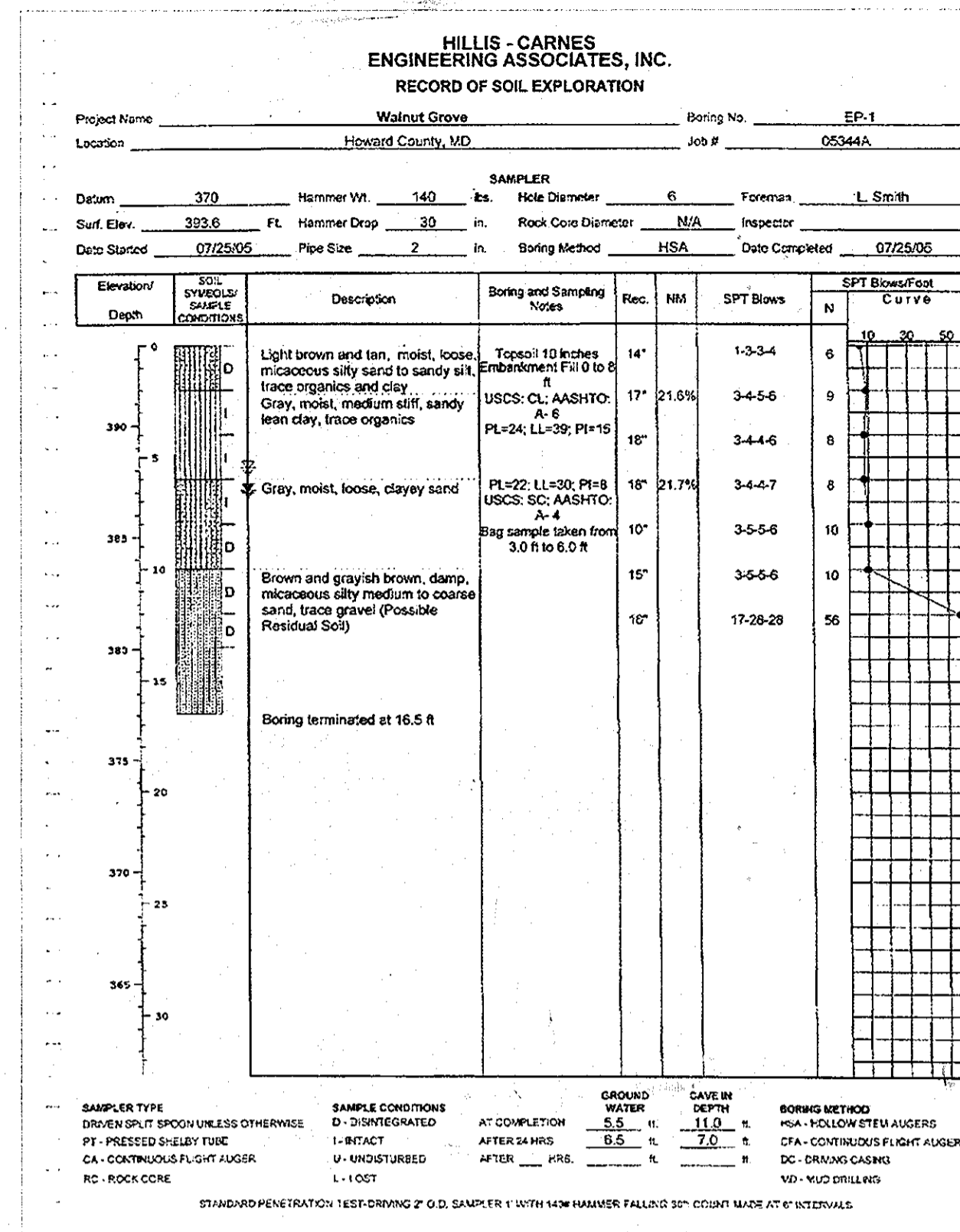
GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 FAX: 301-421-4166

| DATE | REVISION | BY | APP'R |
|------|----------|----|-------|
| | | | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE PRESIDENT
 10706 CHARTER DRIVE
 SUITE 300
 COLUMBIA, MARYLAND 21044

SOIL BORING LOGS
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'T', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L2927 F487

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| NO SCALE | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 77 OF 78 |



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William R. Mahan, Jr. 2-5-07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cathy Hamant 2/18/07
 Chief, Division of Land Development Date

[Signature] 2/16/07
 Chief, Development Engineering Division Date

GLWGUTSCHICK 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

| DATE | REVISION | BY | APP'R. |
|------|----------|----|--------|
| | | | |
| | | | |

PREPARED FOR OWNER
 WALNUT GROVE HOLDING, L.L.C.
 WALNUT GROVE DEVELOPMENT, INC.
 ROBERT VAN DYKE, PRESIDENT
 10705 CHARTER DRIVE
 SUITE 320
 COLUMBIA, MARYLAND 21044

SOIL BORING LOGS
WALNUT GROVE
 LOTS 1 THRU 88, BUILDABLE PRESERVATION PARCEL 'A',
 NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'I', 'K' & 'L' AND
 NON-BUILDABLE BULK PARCEL 'J'
 L.2927 FA87

ELECTION DISTRICT No. 5

| SCALE | ZONING | G. L. W. FILE No. |
|-----------|-------------------------|-------------------|
| NO SCALE | RC-DEO | 00153 |
| DATE | TAX MAP - GRID | SHEET |
| JAN./2007 | PARCEL 74 28 - 18,17 | 78 OF 78 |

