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ROADWAYS, STORM DRAINAGE AND STORMWATER MANAGEMENT VILLAGE OF CEDAR RIDGE 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

BENCH MARKS NAD 83

HO. CO. #418A NAD 83
STAMPED CONC. MONUMENT LOCATED AT THE
NORTHWEST CORNER OF PINDELL SCHOOL ROAD
AND SANNER LANE.
N 551789.4787 E 1340518.127

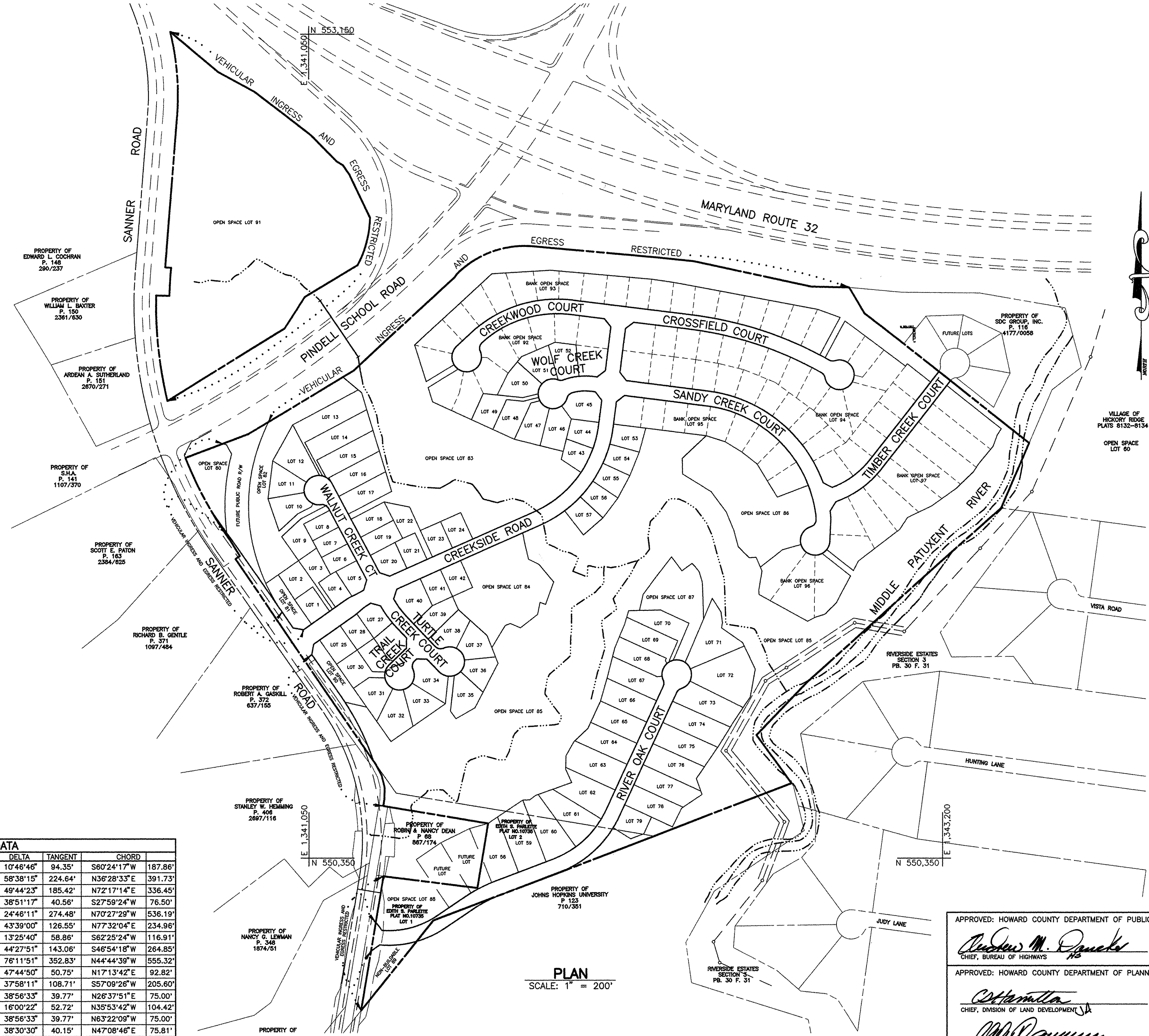
HO. CO. #35HA NAD 83
STAMPED CONC. MONUMENT LOCATED 3.5'±
BEHIND THE GUARD RAIL SOUTH OF MD RTE 32
500'± WEST OF PINDELL SCHOOL ROAD
N 553353.979 E 1340567.659

HO. CO. BM#R-109 ELEV. 405.389
USED FOR VEHICLE CONTROL.

VICINITY MAP
SCALE: 1" = 2000'

| CENTERLINE CONTROL DATA | | | |
|-------------------------|-------------|--------------|--------------|
| STREET NAME | STATION | NORTH | EAST |
| CREEKSIDE ROAD | 0+00 | 551064.2012 | 1340995.6189 |
| | PC=2+32.20 | 551197.3378 | 1341185.8639 |
| | PT=4+20.34 | 551290.1165 | 1341349.2158 |
| | PC=9+41.71 | 551503.8814 | 1341824.7433 |
| | PT=13+51.07 | 551818.8778 | 1342057.6228 |
| 17+35.24 | 552200.0538 | 1342105.4865 | |
| 0+00 | 552200.0538 | 1342105.4865 | |
| CREEKWOOD COURT | PC=1+65.22 | 552220.6391 | 1341941.5498 |
| | PCC=5+12.47 | 552118.2767 | 1341621.0523 |
| | PT=5+90.46 | 552050.7243 | 1341585.1492 |
| 0+00 | 552200.0538 | 1342105.4865 | |
| CROSSFIELD COURT | PC=2+41.05 | 552170.0216 | 1342344.6561 |
| | PT=7+81.44 | 551990.6676 | 1342849.9611 |
| 0+00 | 550089.1501 | 1341229.3031 | |
| RIVER OAK COURT | PC=0+40.00 | 550082.6450 | 1341268.7706 |
| | PT=2+80.74 | 550133.3618 | 1341498.1918 |
| | PC=3+90.51 | 550195.2064 | 1341588.8848 |
| | PT=5+07.69 | 550249.3286 | 1341692.5136 |
| | PC=7+17.97 | 550324.2150 | 1341889.0042 |
| PT=9+89.58 | 550505.1637 | 1342082.4048 | |
| 15+05.48 | 550973.9641 | 1342297.7616 | |
| 0+00 | 551952.0017 | 1342074.3390 | |
| SANDY CREEK COURT | PC=3+32.33 | 551910.5968 | 1342404.0780 |
| | PCC=9+30.78 | 551516.1790 | 1342794.9890 |
| | PT=10+26.34 | 551427.5247 | 1342767.4980 |
| 0+00 | 551571.8844 | 1342784.9142 | |
| TIMBER CREEK COURT | PC=0+14.44 | 551575.3439 | 1342798.9378 |
| | PT=2+23.86 | 551686.8482 | 1342971.6759 |
| 6+04.85 | 551986.3698 | 1343207.1435 | |
| TRAIL CREEK COURT | 0+00 | 551079.7658 | 1341433.6226 |
| | PC=0+59.53 | 551038.4864 | 1341390.7239 |
| | PT=1+36.00 | 550971.4429 | 1341357.1059 |
| 0+00 | 551261.8666 | 1341291.4197 | |
| TURTLE CREEK COURT | PC=0+33.58 | 551232.1896 | 1341307.1275 |
| | PT=1+36.34 | 551147.6008 | 1341368.3482 |
| | PC=2+71.25 | 551051.8261 | 1341460.5076 |
| PT=3+47.71 | 551018.2081 | 1341527.5511 | |
| 0+00 | 551261.8666 | 1341291.4197 | |
| WALNUT CREEK COURT | PC=3+25.00 | 551549.1118 | 1341139.3828 |
| | PT=4+02.26 | 551600.6743 | 1341083.8051 |
| 0+00 | 551952.0017 | 1342074.3390 | |
| WOLF CREEK COURT | PC=0+63.25 | 551959.8817 | 1342011.5851 |
| | PT=2+04.21 | 551926.7531 | 1341877.8215 |

| CENTER LINE CURVE DATA | | | | | | | | |
|------------------------|-------------|-------------|----------|---------|-----------|---------|-------------|---------|
| STREET NAME | STATION | RADIUS | ARC | DELTA | TANGENT | CHORD | | |
| CREEKSIDE ROAD | PC=2+32.20 | PT=4+20.34 | 1000.00' | 188.14' | 10°46'46" | 94.35' | S60°24'17"W | 187.86' |
| | PC=9+41.71 | PT=13+51.07 | 400.00' | 409.37' | 58°38'15" | 224.64' | N36°28'33"E | 391.73' |
| | PC=1+65.22 | PCC=5+12.47 | 400.00' | 347.25' | 49°44'23" | 185.42' | N72°17'14"E | 336.45' |
| CREEKWOOD COURT | PCC=5+12.47 | PT=5+90.46 | 115.00' | 77.99' | 38°51'17" | 40.56' | S27°59'24"W | 76.50' |
| | PC=2+41.05 | PT=7+81.44 | 1250.00' | 540.39' | 24°48'11" | 274.48' | N70°27'29"W | 536.19' |
| CROSSFIELD COURT | PC=0+40.00 | PT=2+80.74 | 316.00' | 240.74' | 43°39'00" | 126.55' | N77°32'04"E | 234.96' |
| | PC=3+90.51 | PT=5+07.69 | 500.00' | 117.18' | 13°25'40" | 58.86' | S62°25'24"W | 116.91' |
| RIVER OAK COURT | PC=7+17.97 | PT=9+89.58 | 350.00' | 271.62' | 44°27'51" | 143.06' | S46°54'18"W | 264.85' |
| | PC=3+32.33 | PCC=9+30.78 | 450.00' | 598.45' | 76°11'51" | 352.83' | N44°44'39"W | 555.32' |
| SANDY CREEK COURT | PCC=9+30.78 | PT=10+26.34 | 114.67' | 95.56' | 47°44'50" | 50.75' | N17°13'42"E | 92.82' |
| | PC=0+14.44 | PT=2+23.86 | 316.00' | 209.41' | 37°58'11" | 108.71' | S57°09'26"W | 205.60' |
| TIMBER CREEK COURT | PC=0+59.53 | PT=1+36.00 | 112.50' | 76.46' | 38°56'33" | 39.77' | N26°37'51"E | 75.00' |
| | PC=0+33.58 | PT=1+36.34 | 375.00' | 104.76' | 16°00'22" | 52.72' | N35°53'42"W | 104.42' |
| TRAIL CREEK COURT | PC=2+71.25 | PT=3+47.71 | 112.50' | 76.46' | 38°56'33" | 39.77' | N63°22'09"W | 75.00' |
| | PC=3+85.48 | PT=4+82.74 | 114.95' | 77.26' | 38°30'30" | 40.15' | N47°08'46"E | 75.81' |
| WOLF CREEK COURT | PC=0+63.25 | PT=2+04.21 | 191.68' | 140.96' | 42°08'05" | 73.84' | N76°05'23"E | 137.81' |



- GENERAL NOTES**
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENT HOWARD COUNTY DESIGN MANUAL VOL. IV, PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
 - THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST 24 HOURS PRIOR TO THE START OF WORK.
 - THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
 - PROJECT BACKGROUND :
LOCATION : TAX MAP 41 - PARCELS 43 & 44, AND P/O PARCEL 123
ZONING : 1 RD
TOTAL TRACT AREA : 100.58 AC.
NUMBER OF PROPOSED LOTS : 79 BULDBLE, 9 OPEN SPACE, PLUS 6 BANK OPEN SPACE LOT TO BE RESUBDIVIDED IN PHASE II: (94 TOTAL).
DATE PRELIMINARY PLAN APPROVED :
DPZ REFERENCE # : SP-97-02, WP-97-78, PB 312, F-93-70, WP-98-82
 - TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
 - TOPOGRAPHY TAKEN FROM FIELD RUN SURVEY BY TSA GROUP, INC., 5/95. CONTOUR INTERVAL IS 2 FEET.
 - HOWARD COUNTY MONUMENTS 418A AND 35HA USED FOR HORIZONTAL DATUM. HO. CO. BENCH MARK R-109 WAS USED FOR VERTICAL DATUM.
 - STREET LIGHT PLACEMENT, TYPE OF FIXTURE AND POLE SELECTION SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL, VOLUME III.
 - ALL ROAD FILLS SHALL BE COMPACTED TO 95% AS DETERMINED BY AASHTO T-180.
 - ALL SIDEWALKS AND SIDEWALK RAMPS SHALL BE IN CONFORMANCE WITH CURRENT ADA CRITERIA.
 - WATER AND SEWER FOR THIS SUBDIVISION IS PUBLIC. DRAINAGE AREA IS PATENT, CONTRACT NUMBERS 34-3652-D AND 34-3662-D.
 - WETLANDS DELINEATION COMPILED BY M.A. DIRKS AND ASSOC. DATED JANUARY 1995.
 - TRAFFIC STUDY COMPILED BY LEE CUNNINGHAM & ASSOC. DATED JANUARY 1995. REVISED AUGUST 20, 1997 TO ACCOMMODATE PHASING OF THE PROJECT. APPROVED FEBRUARY 14, 1997.
 - NOISE STUDY PREPARED BY POLYSONICS CORPORATION. APPROVED JUNE 16, 1997.
 - GEOTECHNICAL REPORT COMPILED BY HILLIS-CARNES ASSOC., INC.
 - EXISTING UTILITIES WERE LOCATED BY RECORD DRAWINGS AND/OR FIELD RUN SURVEY BY TSA GROUP, INC., 5/95. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION.
 - UNLESS NOTED AS "PRIVATE" ALL EASEMENTS ARE PUBLIC.
 - STORMWATER MANAGEMENT AND WATER QUALITY SHALL BE PROVIDED BY EXTENDED DETENTION STORMWATER MANAGEMENT FACILITIES. VEGETATED BUFFERS SHALL PROVIDE WATER QUALITY TREATMENT FOR ANY UNMANAGED AREAS. THESE FACILITIES ARE PRIVATELY OWNED AND MAINTAINED.
 - NO CLEARINGS, GRADING OR CONSTRUCTION IS PERMITTED WITHIN WETLANDS, WETLANDS BUFFERS, STREAM BUFFERS OR FOREST CONSERVATION AREAS EXCEPT FOR THE WORK ASSOCIATED WITH THE ROAD CROSSING OF CREEKSIDE ROAD AS REPRESENTED ON THESE PLANS.
 - THE FLOODPLAIN STUDY WAS PERFORMED BY THE TSA GROUP, INC. DATED 4/97.
 - A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN TREES AND STREET LIGHTS.

| NO. | DATE | REVISION |
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TSA GROUP, INC.
planning • architecture • engineering • surveying
6460 Baltimore National Pike • Ellicott City, Maryland 21043 • 410-465-6105

OWNERS:
TOLL MD LIMITED PARTNERSHIP,
A MARYLAND LIMITED PARTNERSHIP
3206 TOWER OAKS BOULEVARD
SUITE 310
ROCKVILLE, MARYLAND 20852

DEVELOPER:
TOLL MD LIMITED PARTNERSHIP,
A MARYLAND LIMITED PARTNERSHIP
3206 TOWER OAKS BOULEVARD
SUITE 310
ROCKVILLE, MARYLAND 20852

PROJECT: VILLAGE OF CEDAR RIDGE
A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY

LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: TITLE SHEET
SP-97-02 WP-97-78 PB 312 F-93-70 WP-98-82

DATE: OCTOBER, 1997
MAY, 1998

PROJECT NO.: 0518

SCALE: AS SHOWN

SHEET 1 OF 31

DESIGN: DAM **DRAFT:** DBT **CHECK:** DAM

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Andrew M. Daniels
CHIEF, BUREAU OF HIGHWAYS

6-15-98
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

William J. Hamilton
CHIEF, DIVISION OF LAND DEVELOPMENT

6/23/98
DATE

Chris R. ...
CHIEF, DEVELOPMENT ENGINEERING DIVISION

6/23/98
DATE

Acad Dwg: 7009501 - Plotted: May 26, 1998



| STREET LIGHT SCHEDULE | | |
|-----------------------|---|--|
| SYMBOL | LOCATION | DESCRIPTION |
| □ | CROSSFIELD COURT CL STA. 3+88 OFFS. 16' LEFT LP STA. 8+30.84 OFFS. 3' | 100 WATT HPS VAPOR TRICHOCHROME POST TOP MOUNTED ON 14" BLACK FIBERGLASS POLE |
| | SANDY CREEK COURT CL STA. 5+54 OFFS. 16' LEFT CL STA. 8+00 OFFS. 16' LEFT | |
| | TIMBER CREEK COURT CL STA. 3+50 OFFS. 16' RIGHT | |

VILLAGE OF
HICKORY RIDGE
PLATS 8132-8134

OPEN SPACE
LOT 60

RIVERSIDE ESTATES
SECTION 3
PB. 30 F. 31

NOTE: ALL ROADS ARE TO BE PUBLIC ROADS

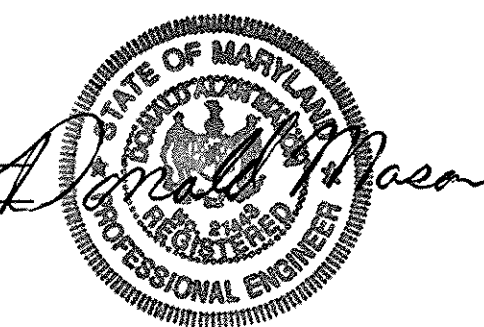
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Howard W. Danks 6-15-98
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
John A. ... 6/23/98
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mark ... 6/23/98
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

| NO. | DATE | REVISION |
|-----|------|----------|
| | | |

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 planning • architecture • engineering • surveying
 8480 Baltimore National Pike • Elliott City, Maryland 21045 • 410-465-6105



OWNERS:
 TOLL MD LIMITED PARTNERSHIP,
 A MARYLAND LIMITED PARTNERSHIP
 3206 TOWER OAKS BOULEVARD
 SUITE 310
 ROCKVILLE, MARYLAND 20852

JOHN HOPKINS UNIVERSITY
 11100 JOHNS HOPKINS ROAD
 LAUREL, MARYLAND 20723-6005

PROJECT: **VILLAGE OF CEDAR RIDGE**
 A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY

LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123
 5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

DEVELOPER:
 TOLL MD LIMITED PARTNERSHIP,
 A MARYLAND LIMITED PARTNERSHIP
 3206 TOWER OAKS BOULEVARD
 SUITE 310
 ROCKVILLE, MARYLAND 20852

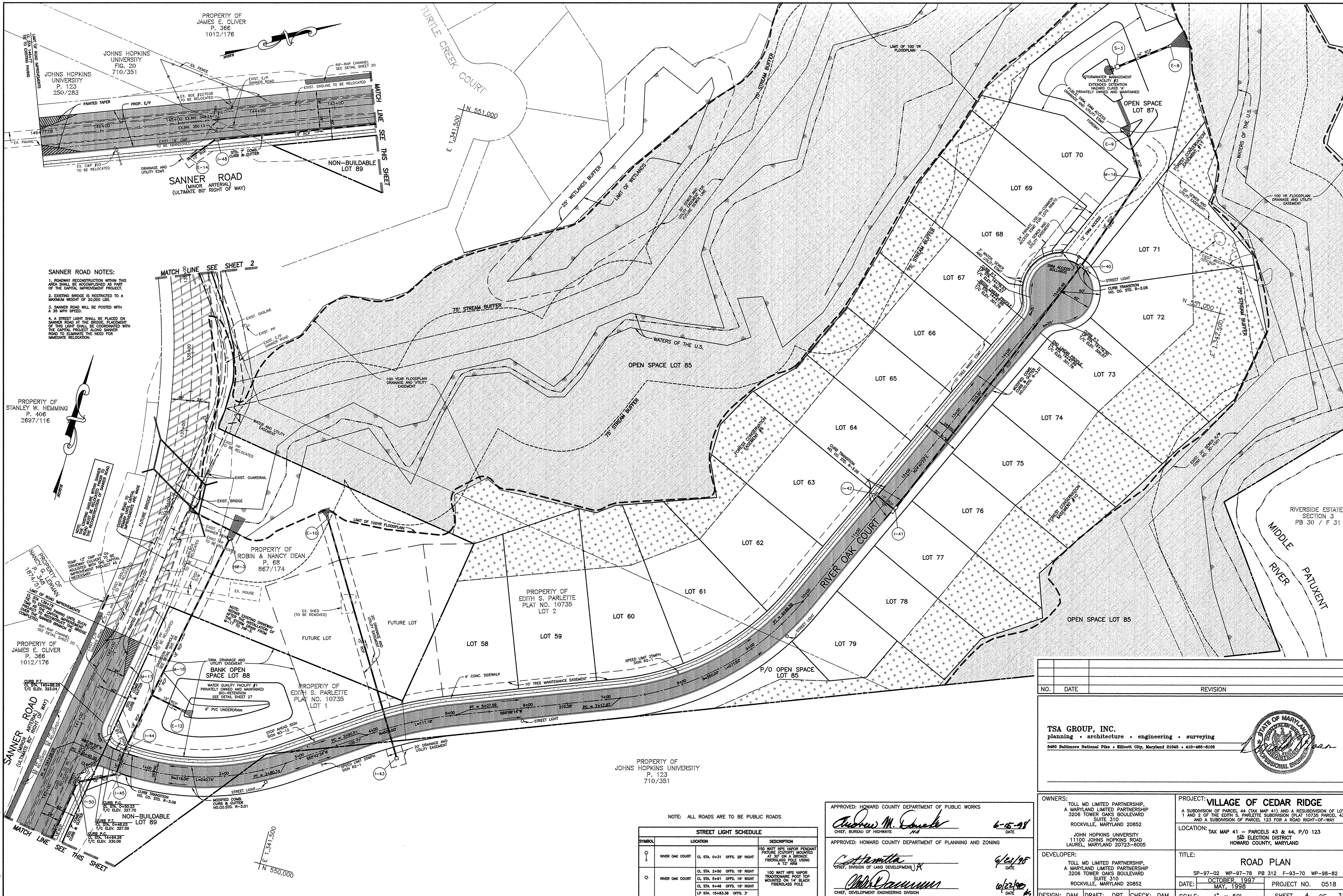
TITLE:
ROAD PLAN
 SP-97-02 WP-97-78 PB 312 F-93-70 WP-98-82

DATE: OCTOBER 1997
 MAY, 1998

PROJECT NO. 0518

DESIGN: DAM DRAFT: DBT CHECK: DAM SCALE: 1" = 50' SHEET 3 OF 31

Acad Dwg: 7070503 Plotfile: May 26, 1998



SANNER ROAD NOTES:

- ROADWAY RECONSTRUCTION WITHIN THIS AREA SHALL BE ACCOMPLISHED AS PART OF THE CAPITAL IMPROVEMENT PROJECT.
- EXISTING BRIDGE IS RESTRICTED TO A MAXIMUM WIDTH OF 30.00 LBS.
- SANNER ROAD WILL BE POSTED WITH A 35 MPH SPEED.
- A STREET LIGHT SHALL BE PLACED ON SANNER ROAD AT THE BRIDGE. PLACEMENT OF THIS LIGHT SHALL BE COORDINATED WITH THE CAPITAL PROJECT ALONG SANNER ROAD TO ELIMINATE THE NEED FOR IMMEDIATE RELOCATION.

MATCH LINE SEE SHEET 2

PROPERTY OF STANLEY W. HEMMING
P. 406
2697/116

PROPERTY OF JAMES E. OLIVER
P. 366
1012/176

PROPERTY OF ROBIN & NANCY DEAN
P. 68
867/174

PROPERTY OF EDITH S. PARLETTE
PLAT NO. 10735
LOT 2

PROPERTY OF EDITH S. PARLETTE
PLAT NO. 10735
LOT 1

PROPERTY OF JOHN HOPKINS UNIVERSITY
P. 123
710/351

| NO. | DATE | REVISION |
|-----|------|----------|
| | | |

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OWNERS: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP
3206 TOWER OAKS BOULEVARD SUITE 310 ROCKVILLE, MARYLAND 20852

DEVELOPER: JOHN HOPKINS UNIVERSITY, A MARYLAND LIMITED PARTNERSHIP
11100 JOHN HOPKINS ROAD LAUREL, MARYLAND 20723-6005

PROJECT: VILLAGE OF CEDAR RIDGE
A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY

LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: ROAD PLAN

SP-97-02 WP-97-78 PB 312 F-93-70 WP-98-82
DATE: OCTOBER 1997 PROJECT NO. 0518
MAY 1998
SCALE: 1" = 50' SHEET 4 OF 31

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels 6-15-98
CHIEF, BUREAU OF HIGHWAYS

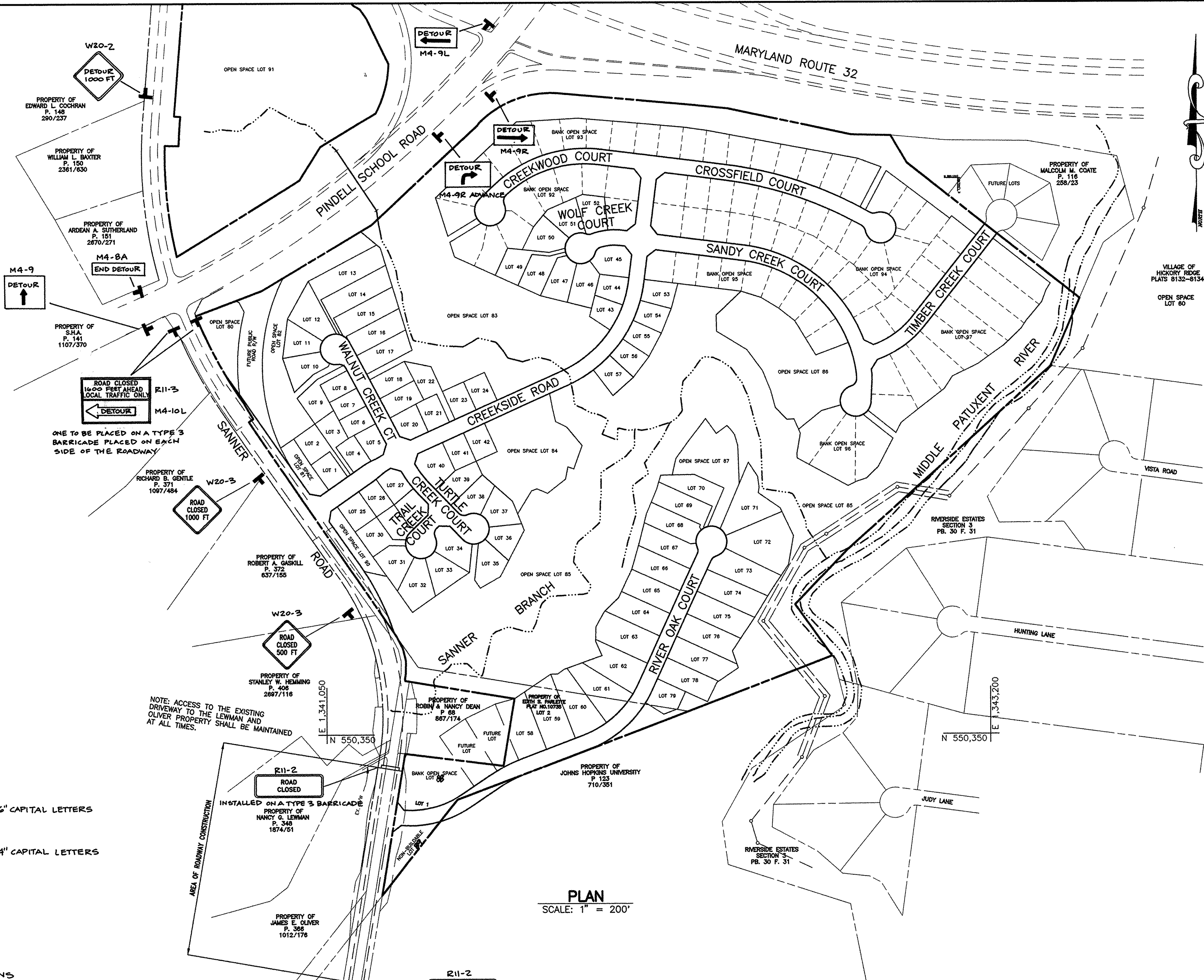
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Colanitta 6/21/98
CHIEF, DIVISION OF LAND DEVELOPMENT

John P. ... 10/22/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION

NOTE: ALL ROADS ARE TO BE PUBLIC ROADS

| STREET LIGHT SCHEDULE | | |
|-----------------------|--|---|
| SYMBOL | LOCATION | DESCRIPTION |
| ⊙ | RIVER OAK COURT CL STA. 0+31 OFFS. 28' RIGHT | 150 WATT HPS VAPOR PENDANT FIXTURE (GUY) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING A 12' ARM |
| ⊙ | RIVER OAK COURT CL STA. 2+50 OFFS. 16' RIGHT CL STA. 5+91 OFFS. 16' RIGHT CL STA. 9+46 OFFS. 16' RIGHT LP STA. 15+83.38 OFFS. 3' | 100 WATT HPS VAPOR TRADITIONAL POST TOP MOUNTED ON 14" BLACK FIBERGLASS POLE |

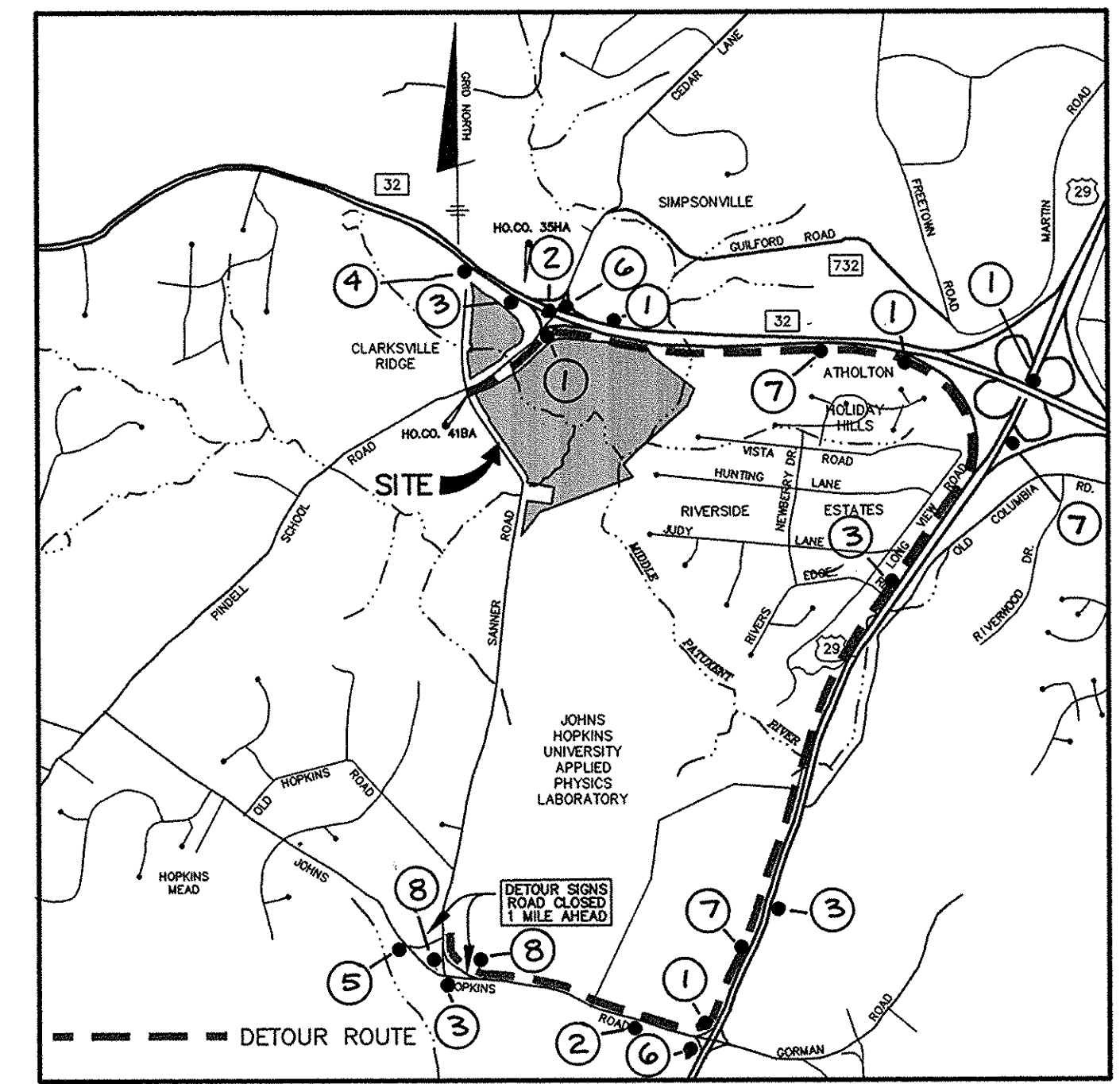
Acad Dwg: 70705024 Printed: May 26, 1998



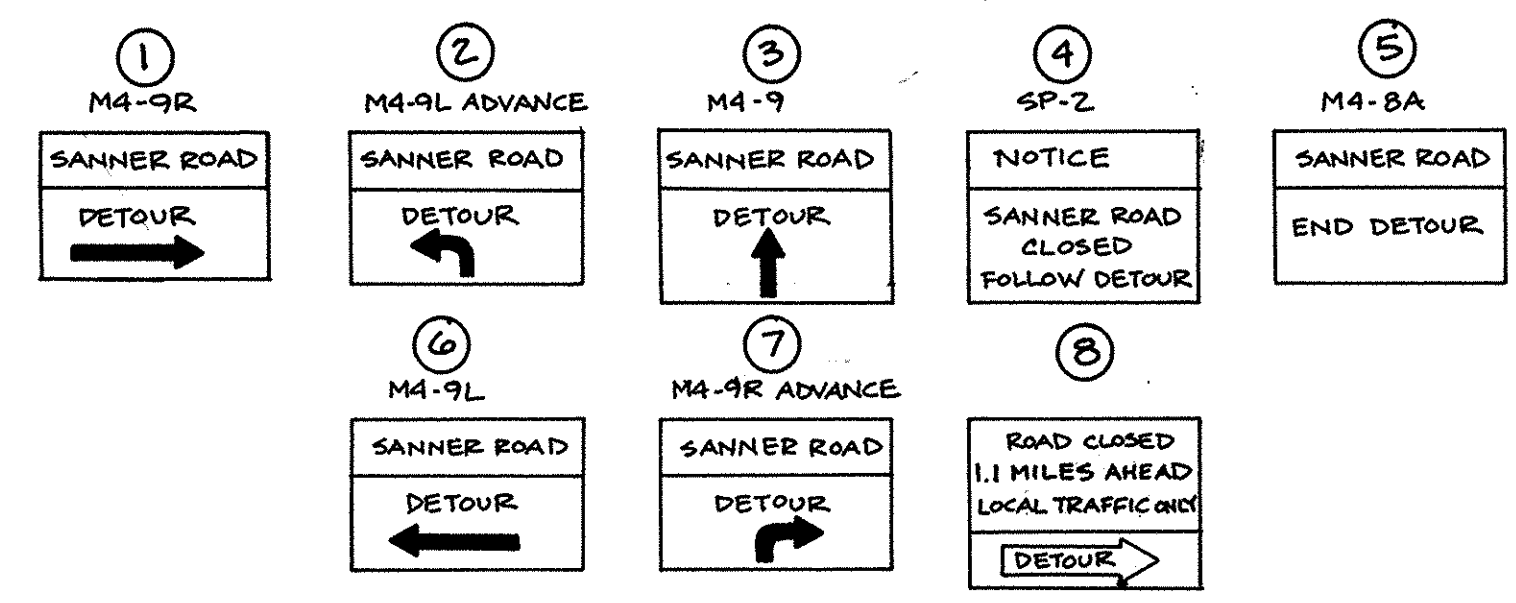
PLAN
SCALE: 1" = 200'

SEQUENCE OF ROAD CONSTRUCTION FOR SANNER ROAD

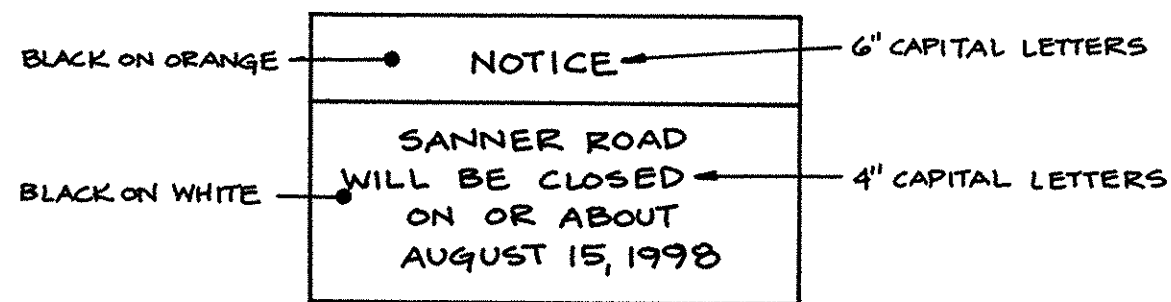
- 1) INSTALL ROAD CLOSING SIGNAGE.
- 2) CONTACT UTILITY COMPANIES AND COORDINATE RELOCATION OF THE EXISTING GAS, ELECTRIC, TELEPHONE AND ANY OTHER AFFECTED UTILITIES.
- 3) INSTALL SEDIMENT CONTROL FEATURES NECESSARY FOR ROAD IMPROVEMENTS.
- 4) REMOVE EXISTING PAVING AS NECESSARY AND BRING ROAD TO PROPOSED SUBGRADE.
- 5) COMPLETE INSTALLATION OF ANY UTILITIES.
- 6) COMPLETE ROADWAY CONSTRUCTION AND STABILIZE IN ACCORDANCE WITH PERMANENT SEEDBED NOTES.
- 7) REMOVE ROAD CLOSING SIGNAGE.



VICINITY MAP FOR DETOUR ROUTE
SCALE: 1" = 2000'



- NOTES:**
1. ALL DETOUR SIGNAGE SHALL HAVE SANNER ROAD NAME SIGN PLACED ABOVE.
 2. ALL SIGNAGE ON THE STATE ROADWAY SHALL BE APPROVED BY THE STATE HIGHWAY ADMINISTRATION.

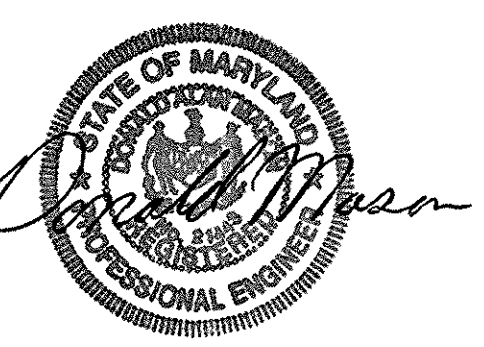


* THIS SIGN SHALL BE POSTED 2 WEEKS PRIOR TO CLOSING OF SANNER ROAD AND SHALL BE PLACED AT THE SAME LOCATIONS AS THE ROAD CLOSED R11-2 SIGNS ARE TO BE PLACED.

NOTE:
ROAD CLOSED SIGNAGE TO BE PLACED AT SANNER ROAD AND JOHNS HOPKINS ROAD WITH DETOUR SIGNAGE OUT TO U.S. ROUTE 29, SEE VICINITY MAP.

| NO. | DATE | REVISION |
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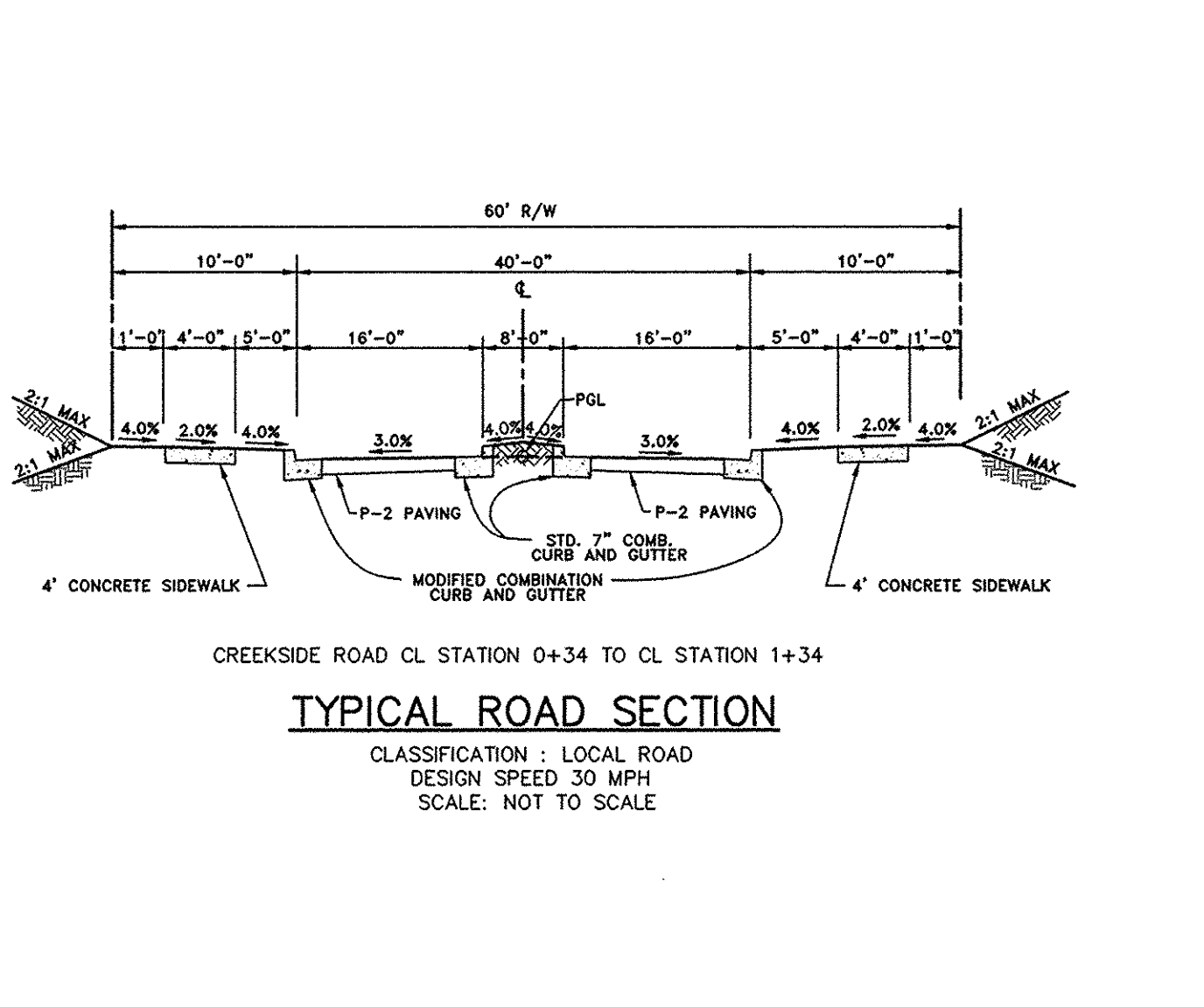
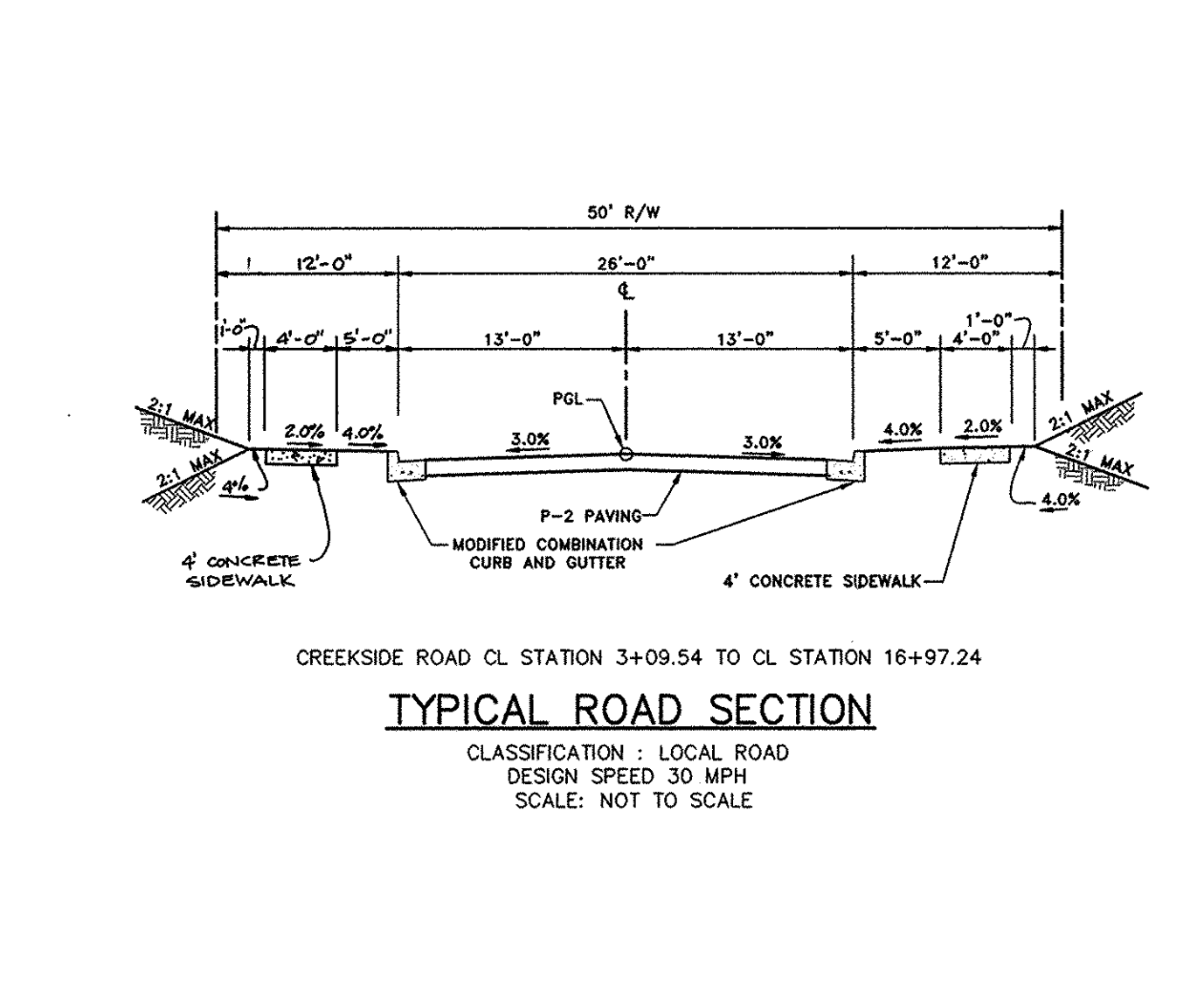
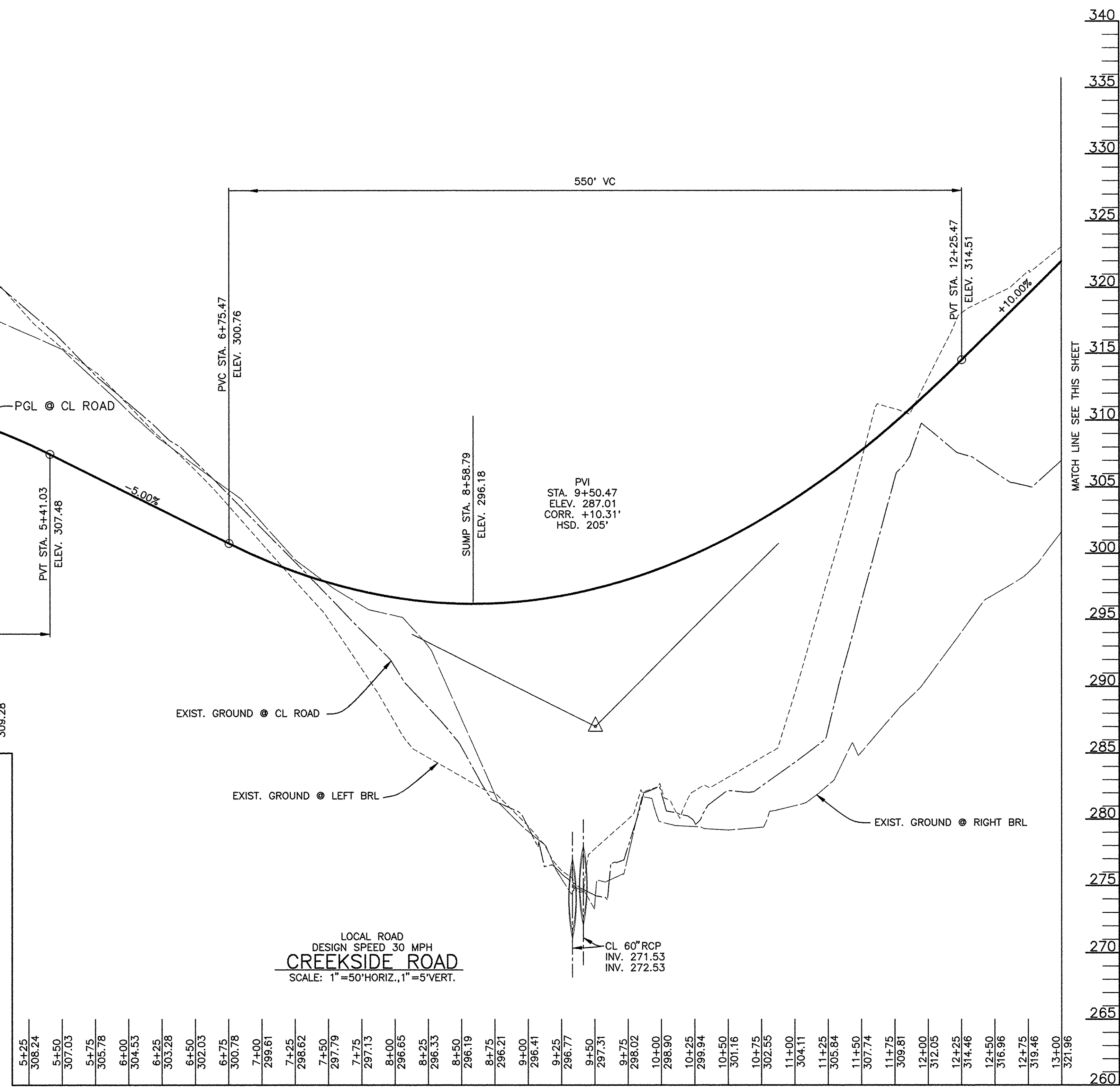
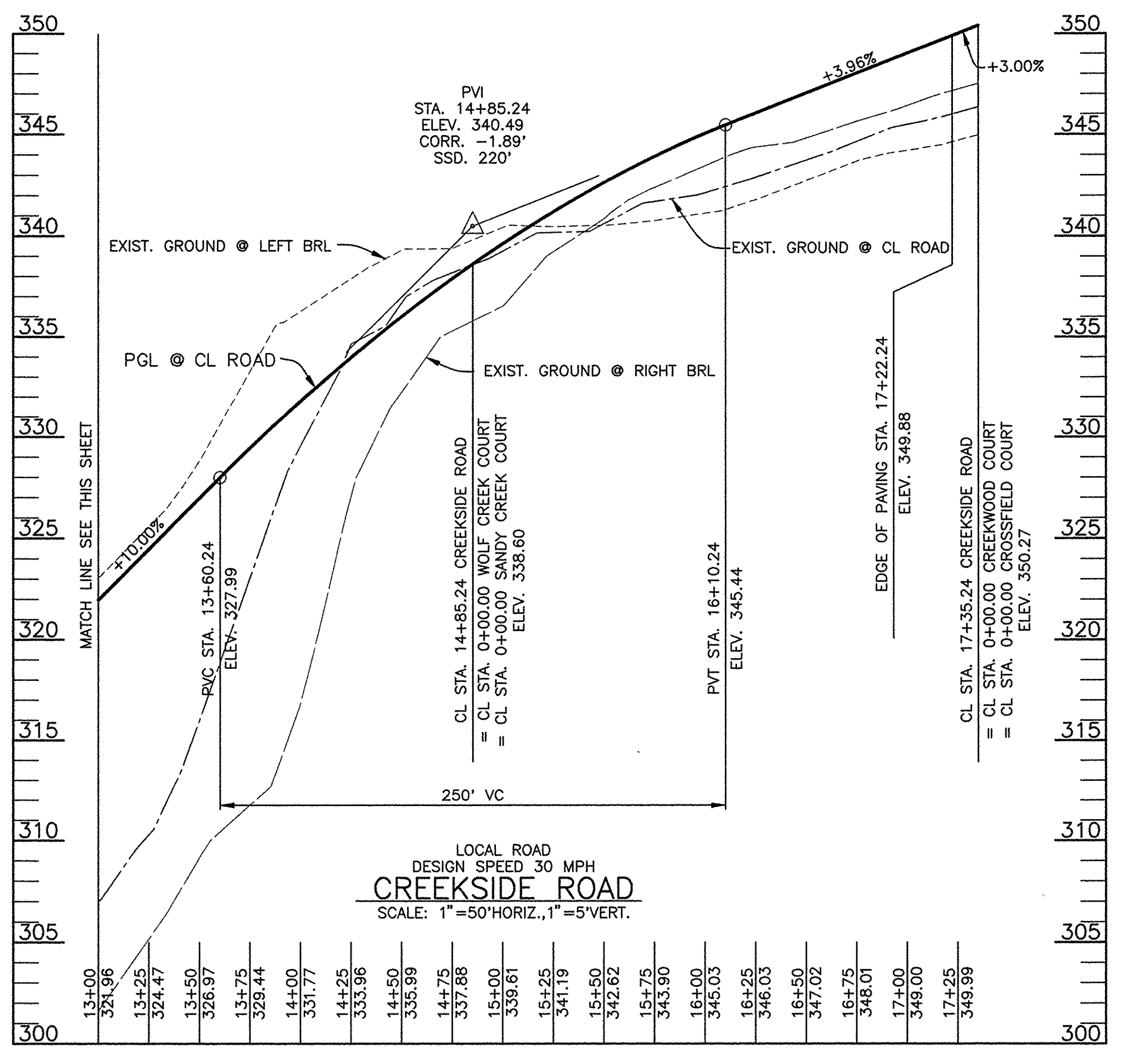
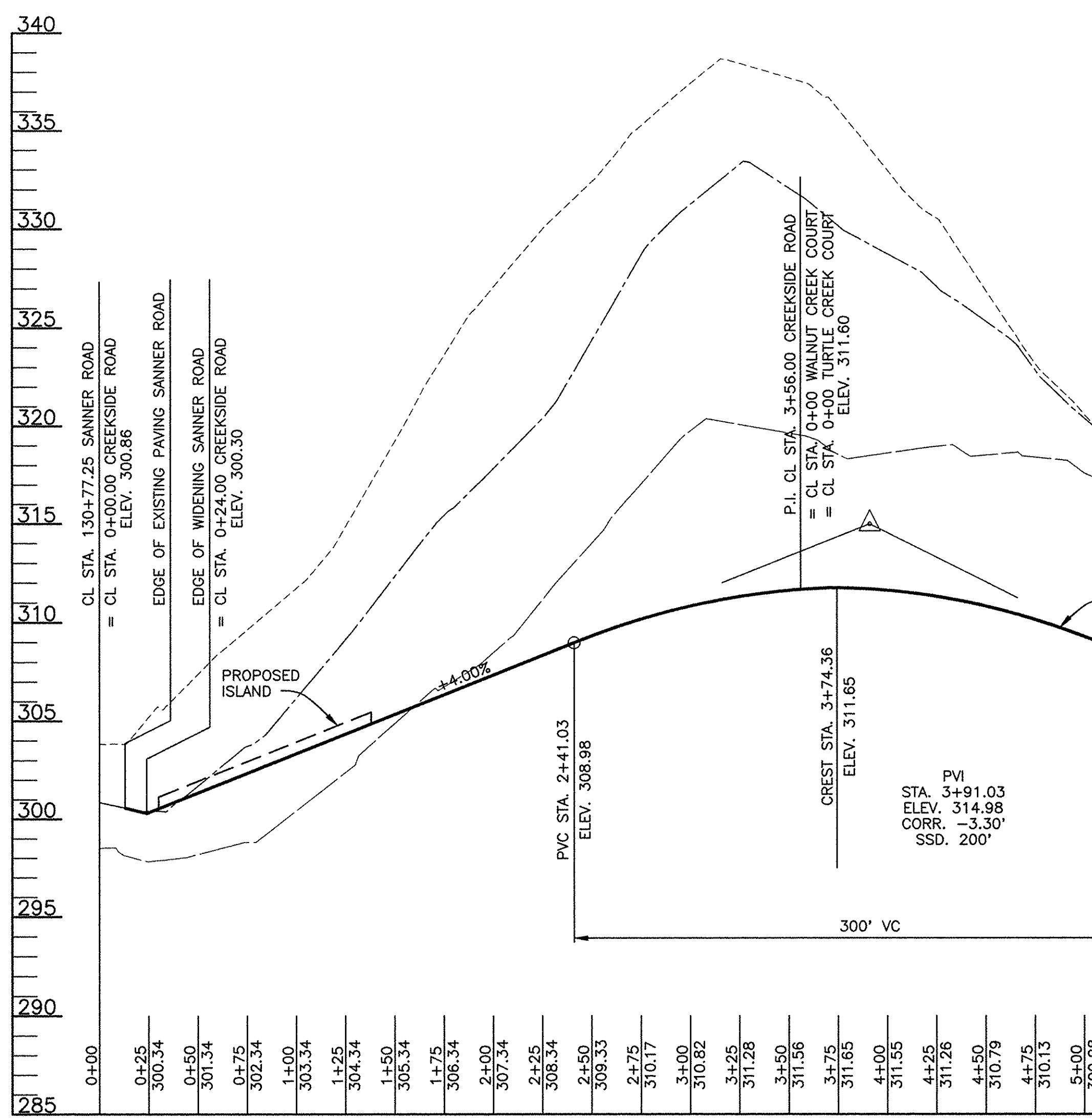


APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Howard M. Decker 6/15/98
CHIEF, BUREAU OF HIGHWAYS
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
C. Hamilton 6/23/98
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE

John D. ...
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE

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|--|---|
| OWNERS: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP 3206 TOWER OAKS BOULEVARD SUITE 310 ROCKVILLE, MARYLAND 20852 | PROJECT: VILLAGE OF CEDAR RIDGE A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY |
| DEVELOPER: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP 3206 TOWER OAKS BOULEVARD SUITE 310 ROCKVILLE, MARYLAND 20852 | LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND |
| TITLE: SANNER ROAD TRAFFIC CONTROL PLAN SP-87-02 WP-97-78 PB 312 F-93-70 WP-98-82 | DATE: OCTOBER 1997 MAY, 1998 |
| DESIGN: DAM DRAFT: DBT CHECK: DAM | PROJECT NO.: 0518 SHEET: 5 OF 31 |



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Drucker 6-15-98
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
William J. Hammit 6/23/98
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

William J. Hammit 6/22/98
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

| NO. | DATE | REVISION |
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OWNERS:
 TOLL MD LIMITED PARTNERSHIP,
 A MARYLAND LIMITED PARTNERSHIP
 3206 TOWER OAKS BOULEVARD
 SUITE 310
 ROCKVILLE, MARYLAND 20852

DEVELOPER:
 JOHN HOPKINS UNIVERSITY
 11100 JOHNS HOPKINS ROAD
 LAUREL, MARYLAND 20723-6005

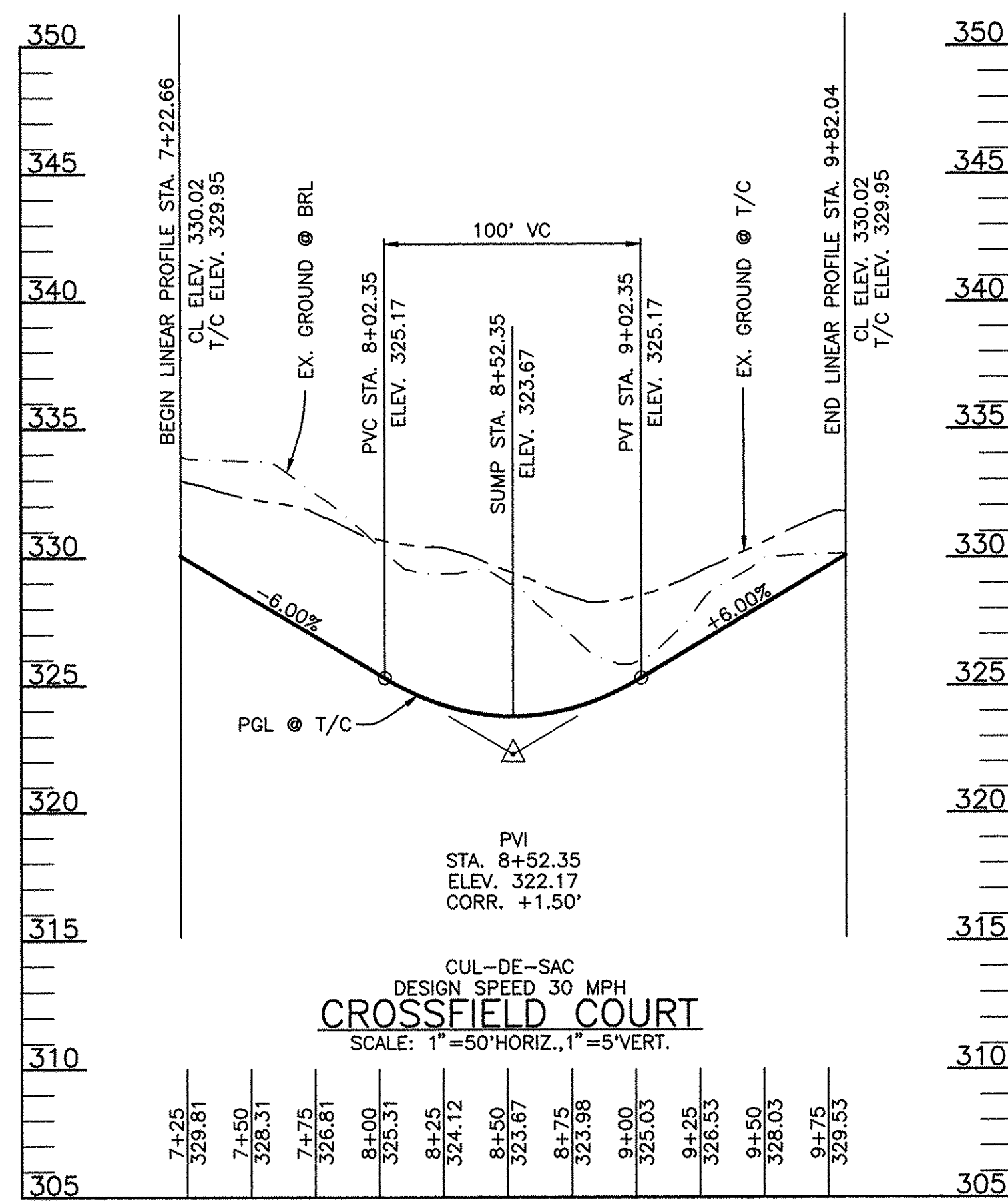
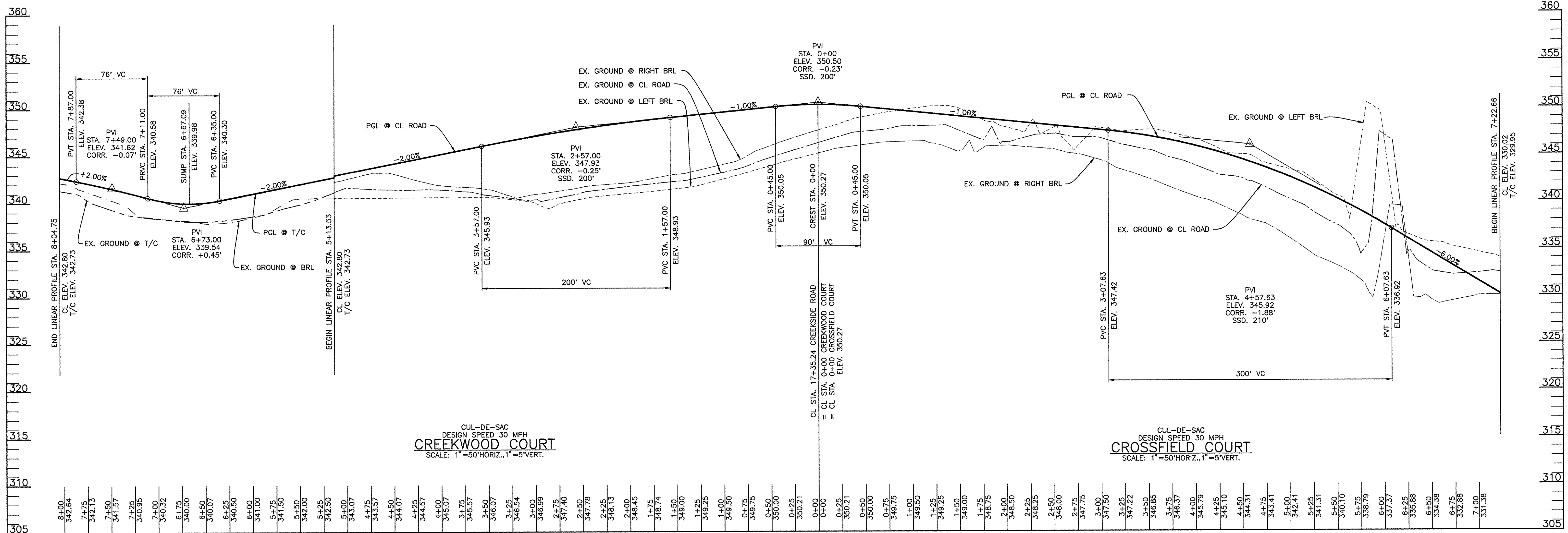
PROJECT: VILLAGE OF CEDAR RIDGE
 A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY

LOCATION:
 TAX MAP 41 - PARCELS 43 & 44, P/O 123
 5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: ROAD PROFILES

SP-97-02 WP-97-78 PB 312 F-93-70 WP-98-82
 DATE: OCTOBER, 1997 PROJECT NO. 0518
 MAY, 1998

DESIGN: DAM DRAFT: DBT CHECK: DAM SCALE: AS SHOWN SHEET 7 OF 31



| NO. | DATE | REVISION |
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APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Howard M. ... 6-15-98
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
... 6/23/98
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

OWNERS:
 TOLL MD LIMITED PARTNERSHIP,
 A MARYLAND LIMITED PARTNERSHIP
 3206 TOWER OAKS BOULEVARD
 SUITE 310
 ROCKVILLE, MARYLAND 20852

PROJECT:
VILLAGE OF CEDAR RIDGE
 A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PAKLETTE SUBDIVISION (TAX MAP 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY

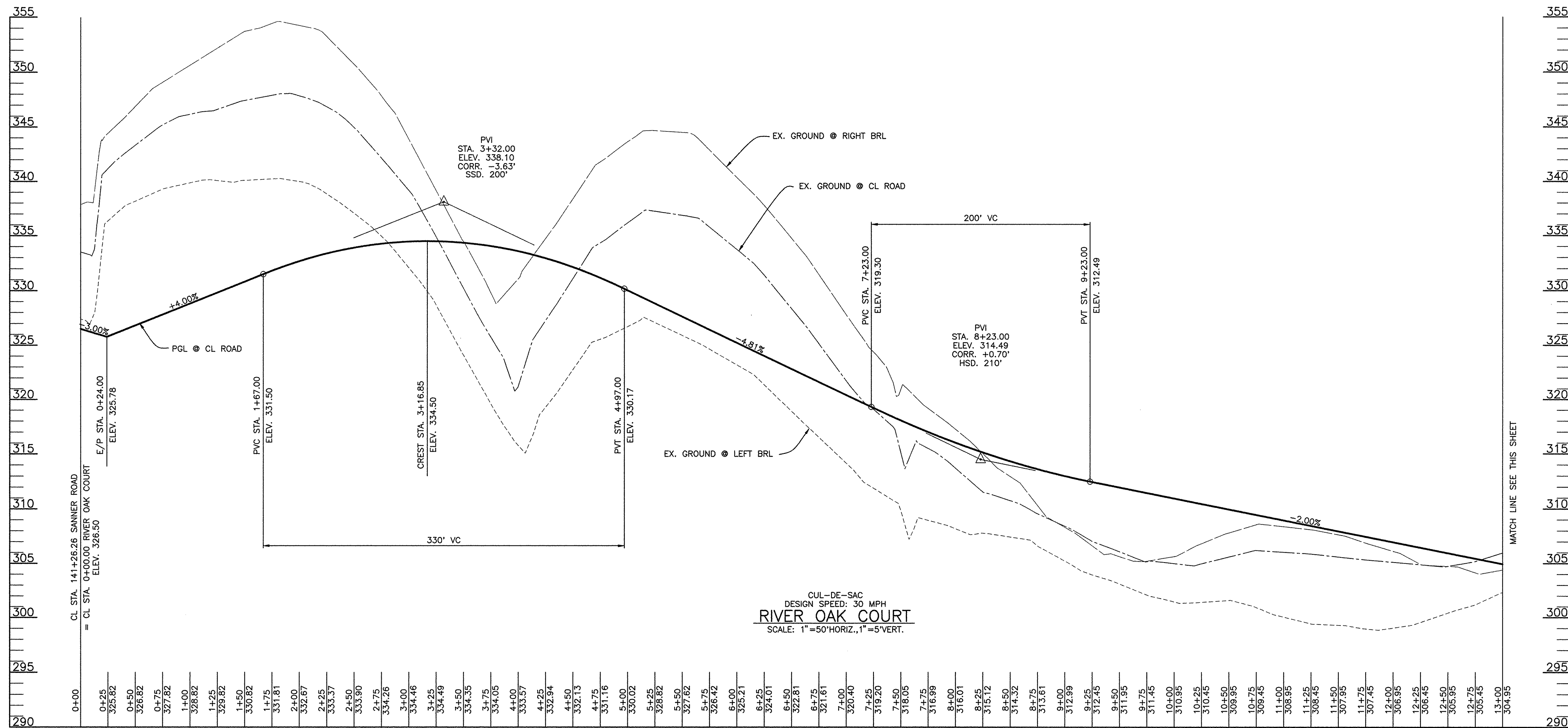
LOCATION:
 TAX MAP 41 - PARCELS 43 & 44, P/O 123
 5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

DEVELOPER:
 TOLL MD LIMITED PARTNERSHIP,
 A MARYLAND LIMITED PARTNERSHIP
 3206 TOWER OAKS BOULEVARD
 SUITE 310
 ROCKVILLE, MARYLAND 20852

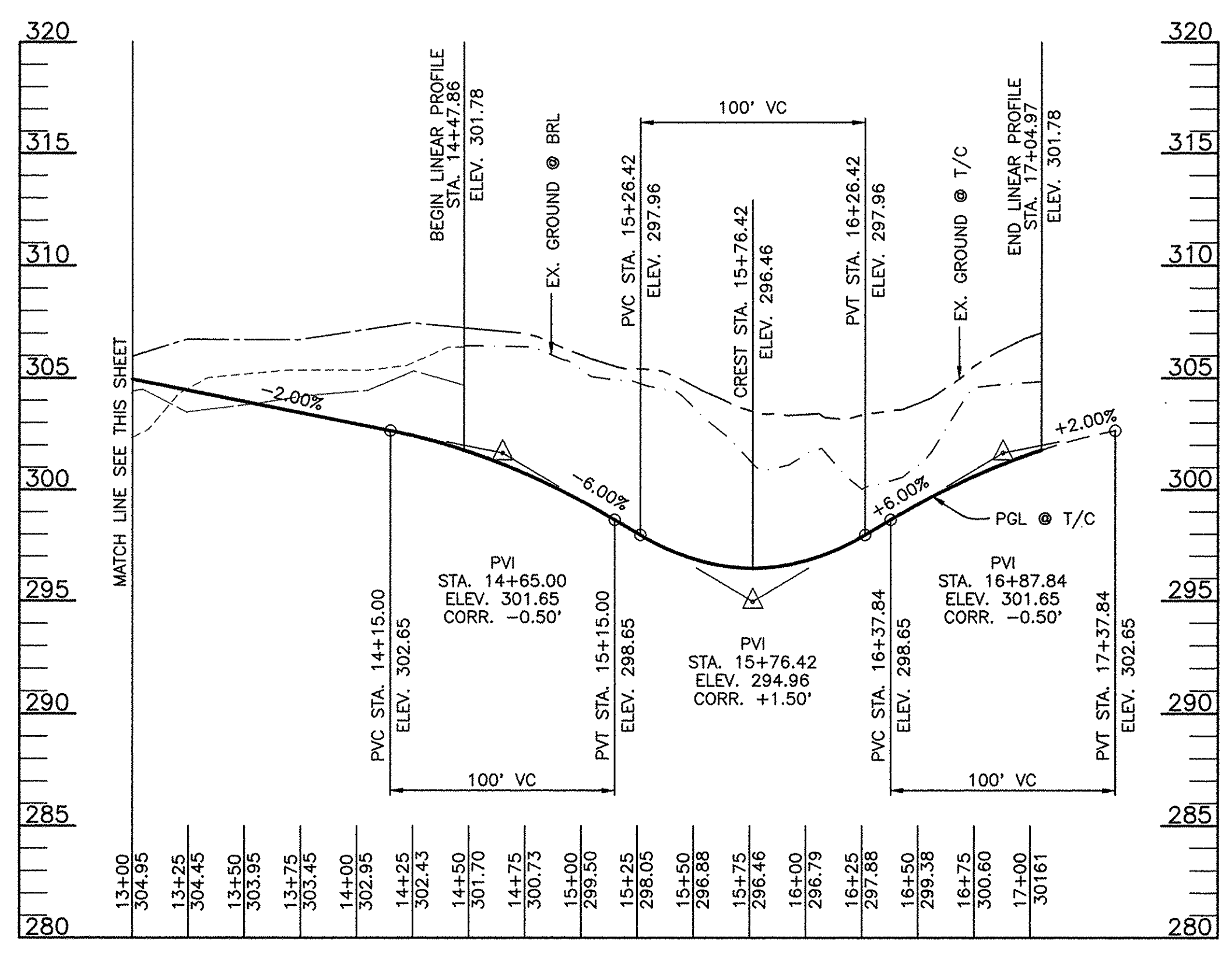
TITLE:
ROAD PROFILES

SP-97-02 WP-97-78 PB 312 F-93-70 WP-98-82
 DATE: OCTOBER, 1997
 MAY, 1998
 PROJECT NO. 0518

DESIGN: DAM DRAFT: DBT CHECK: DAM SCALE: AS SHOWN SHEET 10 OF 31



CUL-DE-SAC
DESIGN SPEED: 30 MPH
RIVER OAK COURT
SCALE: 1"=50'HORIZ., 1"=5'VERT.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Stephen M. Danek 6-15-98
CHIEF, BUREAU OF HIGHWAYS DATE

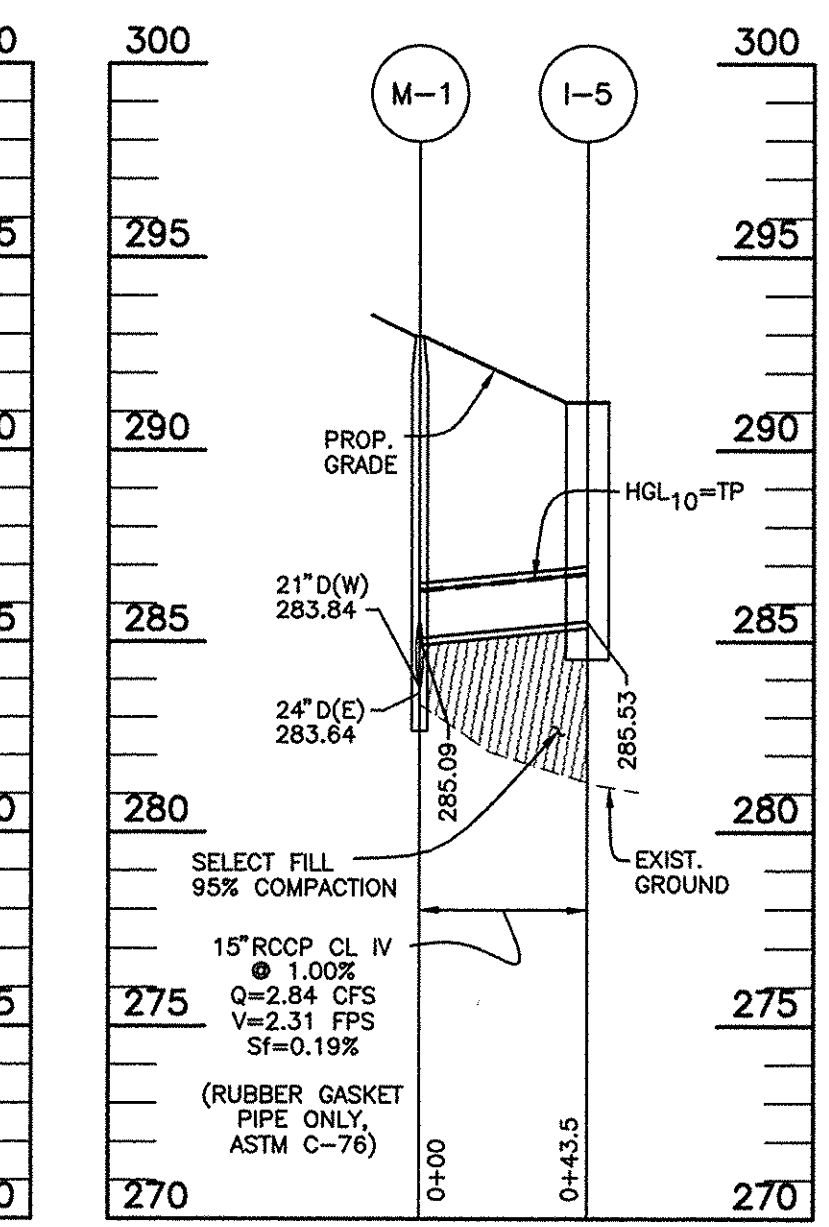
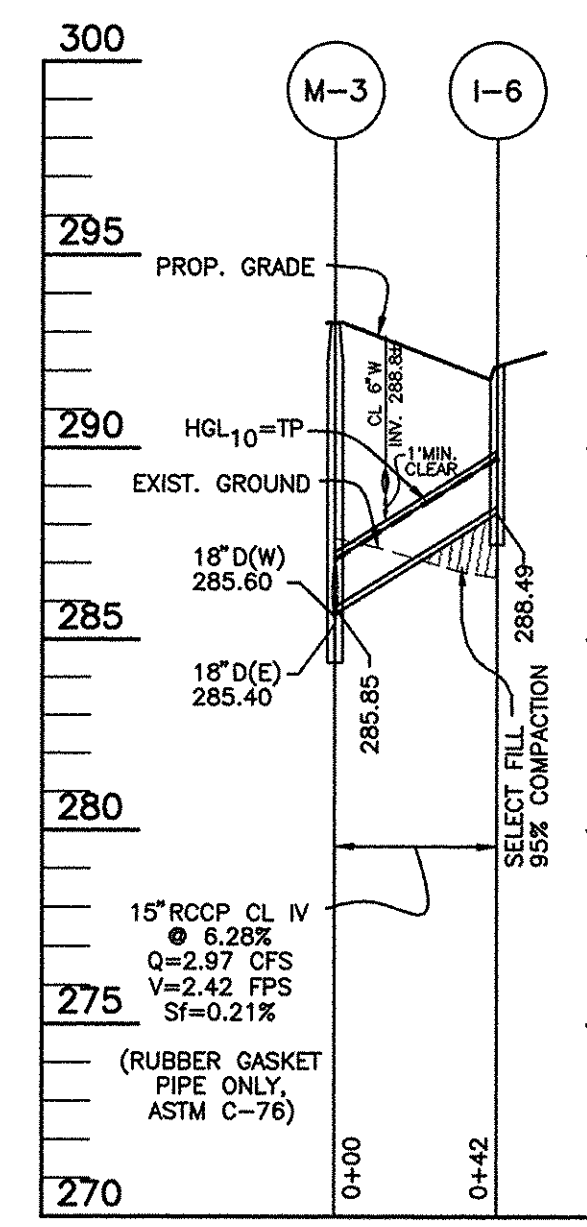
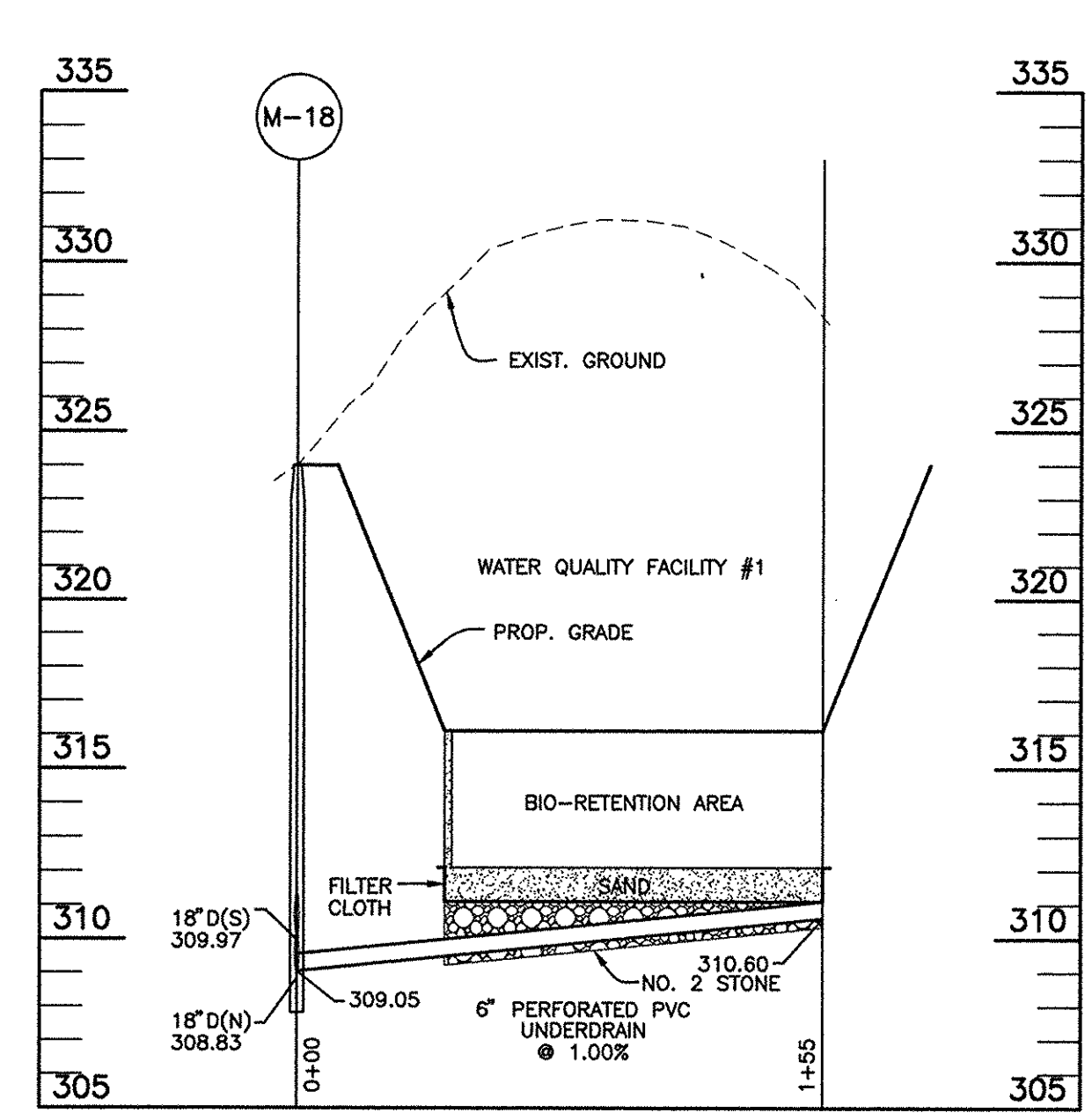
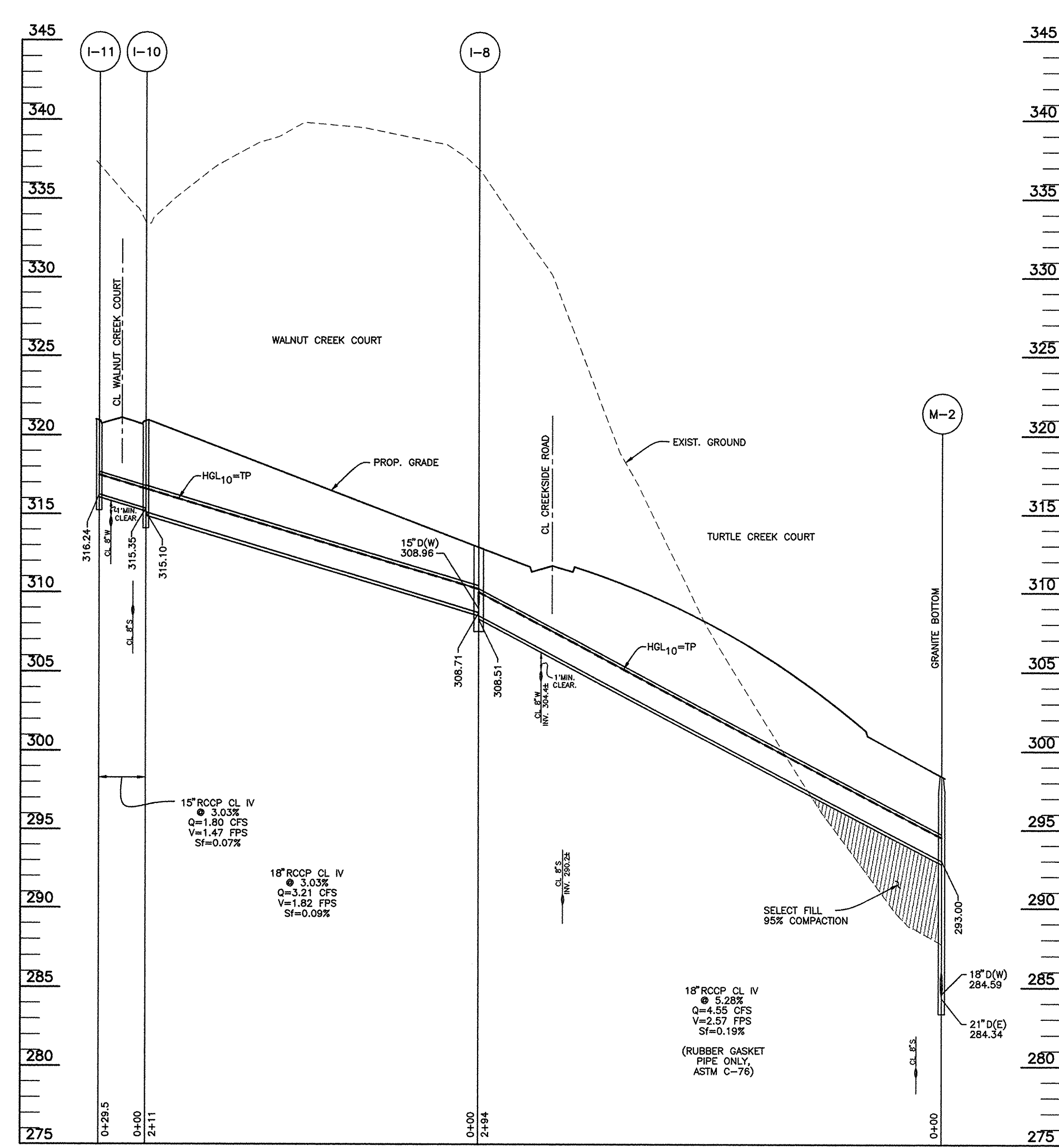
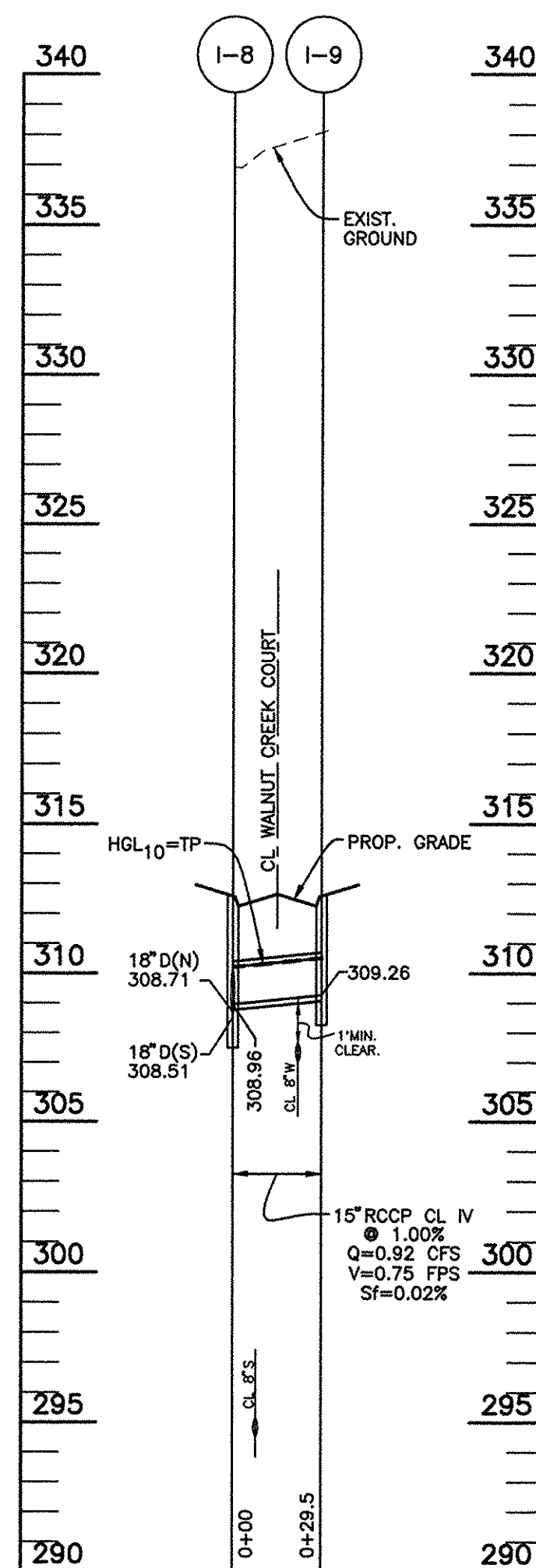
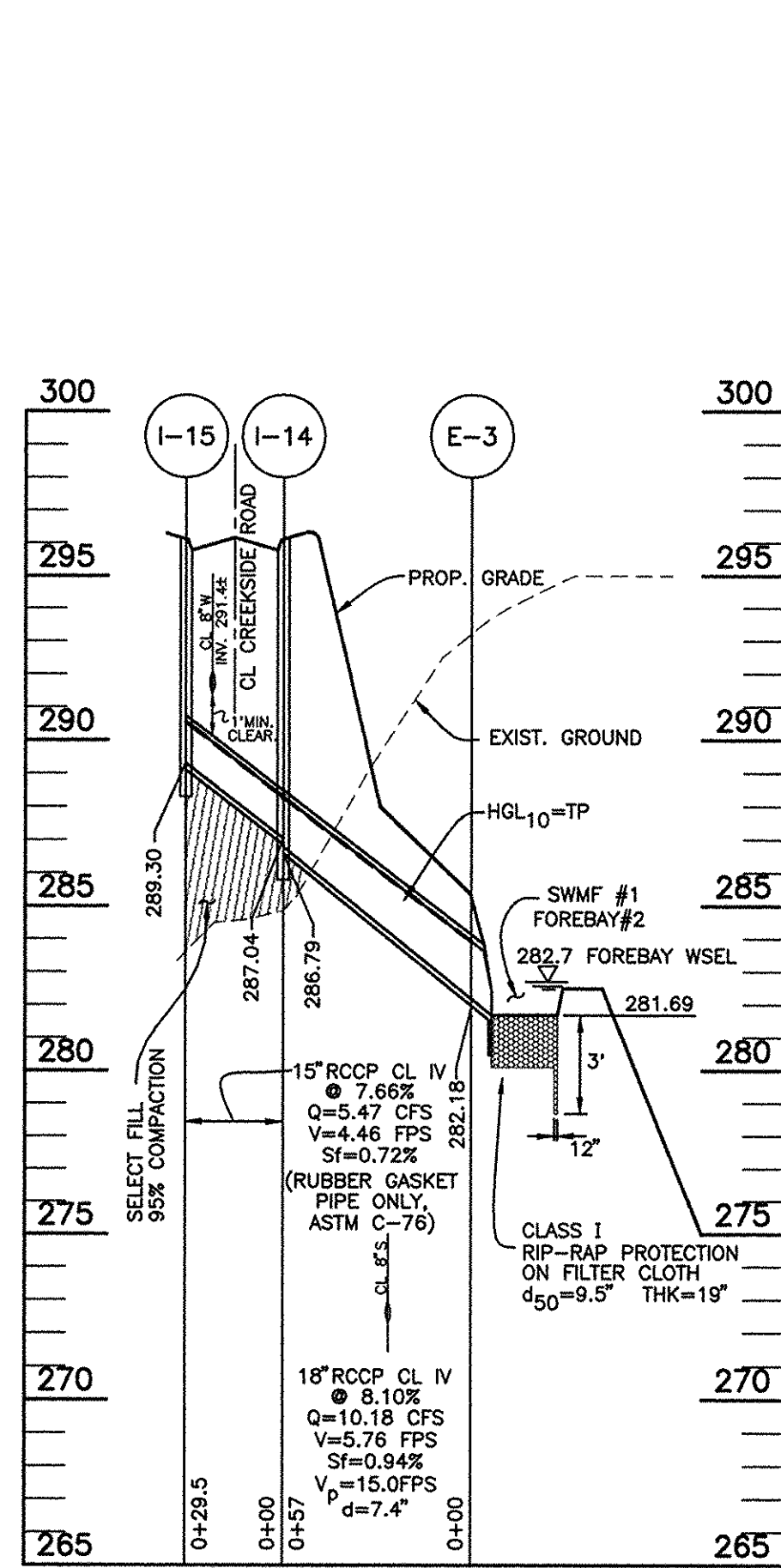
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
C. Hamilton 6/23/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Michael J. ... 6/22/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

| NO. | DATE | REVISION |
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| OWNERS: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP 3206 TOWER OAKS BOULEVARD SUITE 310 ROCKVILLE, MARYLAND 20852 | PROJECT: VILLAGE OF CEDAR RIDGE A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND |
| DEVELOPER: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP 3206 TOWER OAKS BOULEVARD SUITE 310 ROCKVILLE, MARYLAND 20852 | TITLE: ROAD PROFILES SP-97-02 WP-97-78 PB 312 F-93-70 WP-98-82 DATE: OCTOBER, 1997 MAY, 1998 PROJECT NO. 0518 |
| DESIGN: DAM DRAFT: DBT CHECK: DAM | SCALE: AS SHOWN SHEET 11 OF 31 |

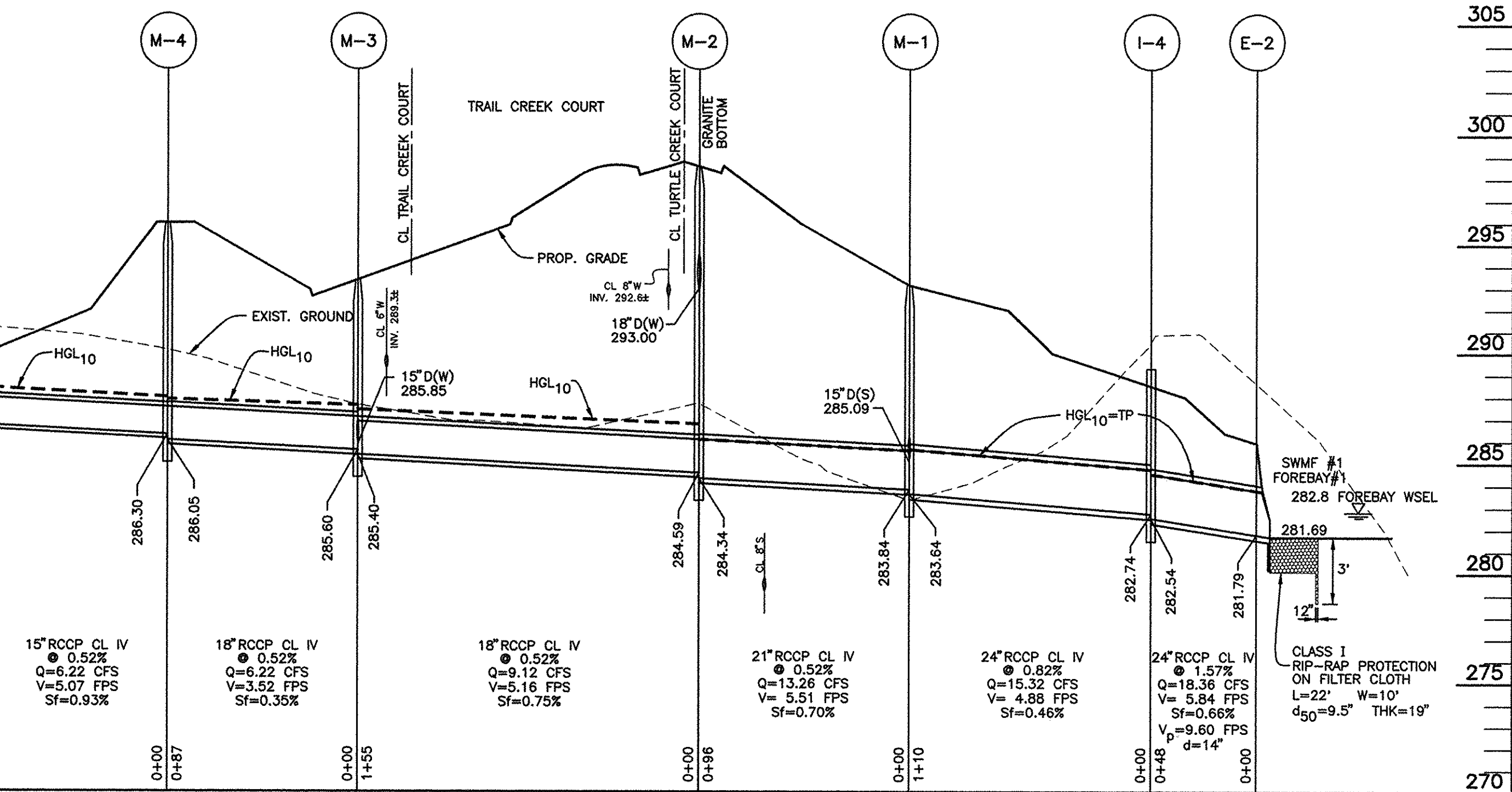
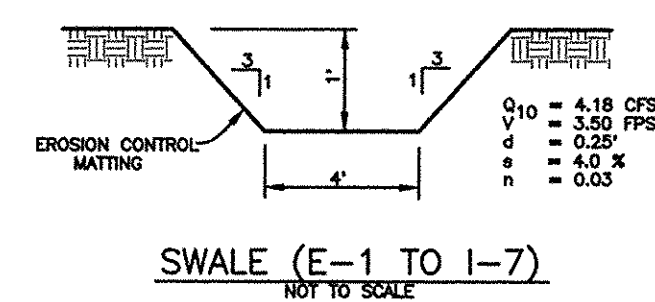
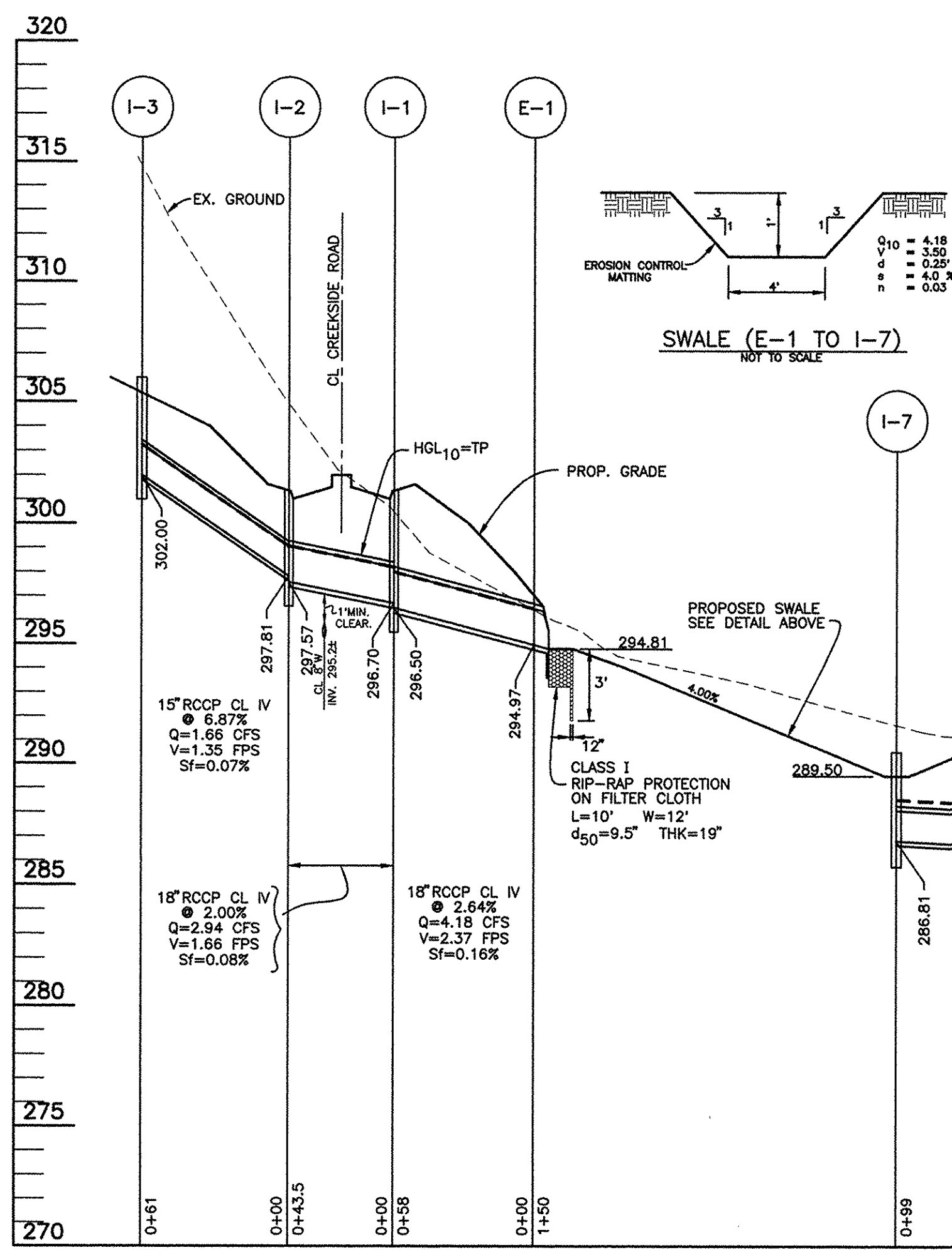


NOTE:
SEE SHEET 22 FOR OUTLET PROTECTION DETAIL

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Panicker 6-15-98
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Colanatta 6/23/98
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

M. Panicker 6/22/98
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



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OWNERS: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP, 3209 TOWER OAKS BOULEVARD, SUITE 310, ROCKVILLE, MARYLAND 20852

DEVELOPER: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP, 3209 TOWER OAKS BOULEVARD, SUITE 310, ROCKVILLE, MARYLAND 20852

PROJECT: **VILLAGE OF CEDAR RIDGE**
 A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY

LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123
 5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

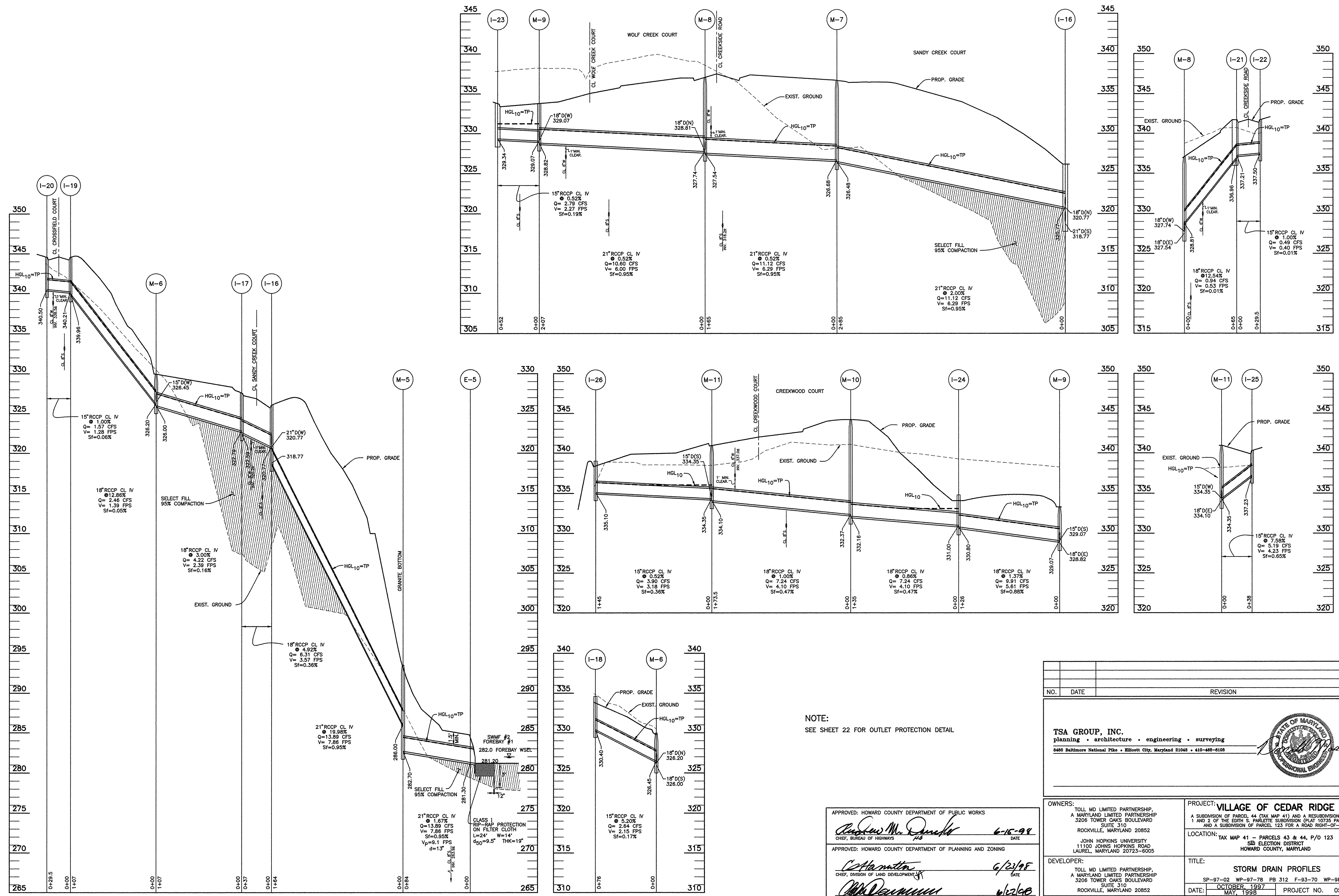
TITLE: **STORM DRAIN PROFILES**
 SP-97-02 WP-97-78 PB-312 F-93-70 WP-98-82

DATE: OCTOBER, 1997
 MAY, 1998

DES: MLV/DAM DRAFT: DBT CHECK: DAM

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

SHEET 13 OF 31



NOTE:
SEE SHEET 22 FOR OUTLET PROTECTION DETAIL

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Richard M. Dando 6-15-98
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
C. Hamilton 6/23/98
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

John P. Williams 6/23/98
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

| NO. | DATE | REVISION |
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OWNERS: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP, 3206 TOWER OAKS BOULEVARD, SUITE 310, ROCKVILLE, MARYLAND 20852

DEVELOPER: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP, 3206 TOWER OAKS BOULEVARD, SUITE 310, ROCKVILLE, MARYLAND 20852

DES: MLV/DAM DRAFT: DBT CHECK: DAM

PROJECT: **VILLAGE OF CEDAR RIDGE**
 A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY

LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123
 5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: **STORM DRAIN PROFILES**
 SP-97-02 WP-97-78 PB 312 F-93-70 WP-98-82

DATE: **OCTOBER 1997**
 1"=50' HORIZ.
 1"=5' VERT.

PROJECT NO. 0518 SHEET 14 OF 31

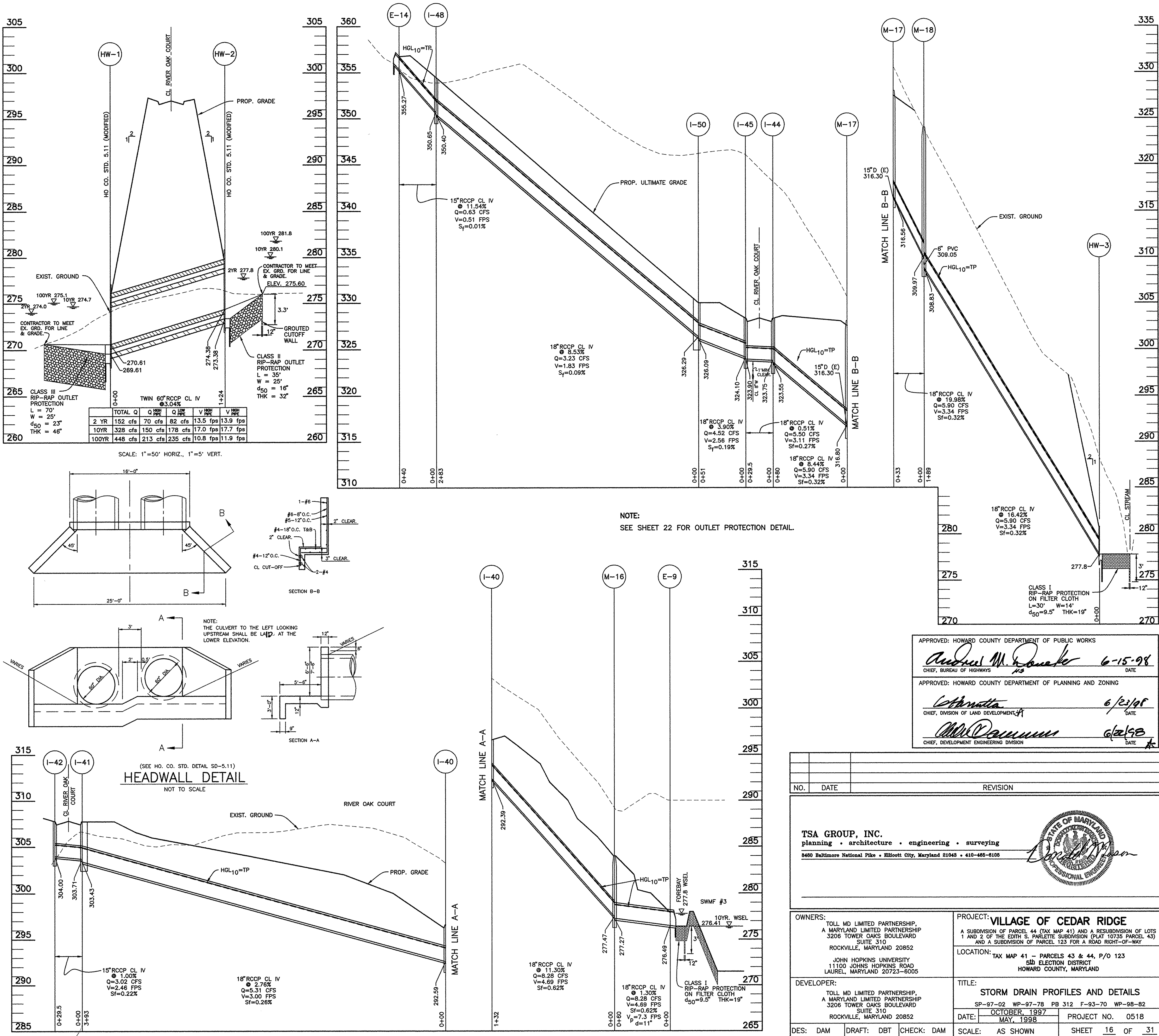
SEQUENCE OF CONSTRUCTION FOR CULVERT INSTALLATION

- (DAY 1) 1. INSTALL SEDIMENT CONTROL DEVICES AS SHOWN ON PLAN.
- (DAY 2-4) 2. CONSTRUCT A DIVERSION PIPE IN CONJUNCTION WITH WPD2.2.
- (DAY 4) 3. INSTALL FILTER BAG.
- (DAY 5) 4. CONSTRUCT A TEMPORARY SANDBAG DIVERSION UPSTREAM TO DIVERT WATER INTO THE PIPE. (EPD2.3).
- (DAY 5) 5. PLACE A SANDBAG DIKE DOWNSTREAM TO PREVENT THE STREAM FROM BACKWASHING INTO CONSTRUCTION AREA.
- (DAY 6-13) 6. UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, INSTALL NEW CULVERTS, DEPRESSING ONE OF THEM 1 FOOT BENEATH THE NATURAL STREAM INVERT TO ALLOW SILTATION FOR IMPROVED FISH PASSAGE. (WPD5.3)
- (DAY 14-16) 7. BACKFILL TO SUBGRADE AND CONSTRUCT THE NEW ROADWAY.
- (DAY 17) 8. STABILIZE THE STREAM BED WITH RIP-RAP PROTECTION. (WPD3.1)
- (DAY 18) 9. DEWATER THE AREA BY INSTALLING SLUMP PIT AND PUMP THROUGH FILEIR BAG. THEN, REMOVE THE TEMPORARY STREAM DIVERSION FROM DOWNSTREAM TO UPSTREAM.
- (DAY 19) 10. SEED AND MULCH ANY REMAINING DISTURBANCES.
- (DAY 19) 11. CLEAN UP THE CONSTRUCTION SITE.
- (DAY 19) 13. UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ANY SILT FENCES INSTALLED BEFORE CONSTRUCTION.

- NOTES:
1. A 5 DAY CLEAR WEATHER FORECAST SHALL BE PREDICTED PRIOR TO THE TEMPORARY DIVERSION PIPE INSTALLATION AND BEFORE THE REMOVAL OF THE TEMPORARY DIVERSION PIPE.
 2. THIS CULVERT IS BEING PLACED WITHIN A CLASS I TROUT STREAM. NO WORK SHALL BE PERFORMED WITHIN THIS STREAM FROM MARCH 1st THRU JUNE 15th.
 3. ANY CULVERT WORK-AREA DEWATERING MUST BE PUMPED THROUGH THE FILTER BAG.

| STRUCTURE SCHEDULE | | | | | | |
|--------------------|-----------------------|--|--------------|--------------|-----------|-------------------|
| NO. | TYPE | LOCATION | INV. IN | INV. OUT | TOP ELEV. | HO. CO. STD. |
| E-1 | 18" CONC. END SECTION | CL STA 0+55.00 OFFS. 79.75' RT CREEKSIDE ROAD | 294.97 | 294.81 | - | SD - 5.52 |
| E-2 | 24" CONC. END SECTION | N 551168.59 E 1341844.80 | 281.79 | 281.69 | - | SD - 5.52 |
| E-3 | 18" CONC. END SECTION | N 551398.55 E 1341747.02 | 282.18 | 281.69 | - | SD - 5.52 |
| E-4 | 36" CONC. END SECTION | N 551266.61 E 1341841.80 | 273.50 | 273.45 | - | SD - 5.52 |
| E-5 | 21" CONC. END SECTION | N 551666.90 E 1342510.95 | 281.30 | 281.20 | - | SD - 5.52 |
| E-6 | 24" CONC. END SECTION | N 551435.25 E 1342662.29 | 281.23 | 281.20 | - | SD - 5.52 |
| E-7 | 42" CONC. END SECTION | N 551416.51 E 1342536.86 | 266.08 | 266.00 | - | SD - 5.52 |
| E-8 | 24" CONC. END SECTION | N 551311.58 E 1342346.74 | 264.53 | 264.00 | - | SD - 5.52 |
| E-9 | 18" CONC. END SECTION | N 551185.51 E 1342331.29 | 276.49 | 276.41 | - | SD - 5.52 |
| E-10 | 15" CONC. END SECTION | N 550448.92 E 1341470.33 | 282.02 | 281.25 | - | SD - 5.52 |
| E-12 | 15" CONC. END SECTION | N 550164.92 E 1341349.55 | 316.13 | 316.10 | - | SD - 5.52 |
| E-14 | 15" CONC. END SECTION | CL STA 144+87.79 OFFS. 43.99' LT SANNER ROAD | 355.96 | 355.27 | - | SD - 5.52 |
| HW-1 | TYPE 'A' HEADWALL | CL STA 9+44.35 OFFS. 61.36' RT CREEKSIDE ROAD | 274.38 | 270.81 | - | SD - 5.11 |
| HW-2 | TYPE 'A' HEADWALL | CL STA 9+30.13 OFFS. 57.75' RT CREEKSIDE ROAD | 274.38 | - | - | SD - 5.11 |
| HW-3 | TYPE 'A' HEADWALL | N 550390.46 E 1341353.92 | 277.80 | - | - | SD - 5.11 |
| I-1 | A-10 | CL STA 0+55.00 OFFS. 20.43' RT CREEKSIDE ROAD | 296.70 | 297.57 | 301.52 | SD - 4.02 OR 4.41 |
| I-2 | A-10 | CL STA 0+45.00 OFFS. 20.43' LT CREEKSIDE ROAD | 297.81 | 302.00 | 306.00 | SD - 4.11 OR 4.39 |
| I-3 | TYPE 'D' INLET | N 551173.90 E 1341022.99 | - | 302.00 | 306.00 | SD - 4.11 OR 4.39 |
| I-4 | TYPE 'D' INLET | LP STA 3+51.23 OFFS. 115.55' TURTLE CREEK COURT | 282.74 | 282.54 | 289.30 | SD - 4.11 OR 4.39 |
| I-5 | A-10 | LP STA 3+491.63 OFFS. 0' TURTLE CREEK COURT | - | 285.53 | 291.63 | SD - 4.02 OR 4.41 |
| I-6 | A-5 | LP STA 1+73.57 OFFS. 0' TRAIL CREEK COURT | - | 288.49 | 292.57 | SD - 4.01 OR 4.39 |
| I-7 | TYPE 'D' INLET | N 550907.30 E 1341172.55 | - | 286.81 | 290.30 | SD - 4.11 OR 4.40 |
| I-8 | A-5 | CL STA 0+46.00 OFFS. 13.43' RT WALNUT CREEK COURT | 308.95 (15') | 308.51 | 312.72 | SD - 4.01 OR 4.40 |
| I-9 | A-10 | CL STA 0+46.00 OFFS. 13.43' LT WALNUT CREEK COURT | - | 309.26 | 312.72 | SD - 4.02 OR 4.41 |
| I-10 | A-5 | CL STA 2+57.30 OFFS. 13.43' RT WALNUT CREEK COURT | 315.35 | 310.10 | 321.17 | SD - 4.01 OR 4.40 |
| I-11 | A-10 | CL STA 2+57.30 OFFS. 13.43' LT WALNUT CREEK COURT | - | 316.24 | 321.17 | SD - 4.02 OR 4.41 |
| I-14 | A-5 | CL STA 8+58.79 OFFS. 13.43' RT CREEKSIDE ROAD | 287.04 | 286.79 | 296.37 | SD - 4.01 OR 4.40 |
| I-15 | A-10 | CL STA 8+58.79 OFFS. 13.43' LT CREEKSIDE ROAD | - | 289.30 | 296.37 | SD - 4.02 OR 4.41 |
| I-16 | A-5 | CL STA 4+39.06 OFFS. 13.43' RT SANDY CREEK COURT | 322.71 (15') | 318.77 | 326.28 | SD - 4.01 OR 4.40 |
| I-17 | A-5 | CL STA 4+17.49 OFFS. 13.43' LT SANDY CREEK COURT | 322.79 | 322.59 | 327.88 | SD - 4.01 OR 4.40 |
| I-18 | TYPE 'D' INLET | N 552028.55 E 1342440.28 | - | 330.40 | 334.60 | SD - 4.11 OR 4.39 |
| I-19 | A-5 | CL STA 4+41.86 OFFS. 13.43' RT CROSSFIELD COURT | 340.21 | 339.96 | 344.77 | SD - 4.01 OR 4.40 |
| I-20 | A-5 | CL STA 4+41.86 OFFS. 13.43' LT CROSSFIELD COURT | 340.50 | 344.77 | 344.77 | SD - 4.01 OR 4.40 |
| I-21 | A-10 | CL STA 15+35.00 OFFS. 13.43' RT CREEKSIDE ROAD | 337.21 | 336.96 | 344.77 | SD - 4.02 OR 4.41 |
| I-22 | A-5 | CL STA 15+35.00 OFFS. 13.43' LT CREEKSIDE ROAD | - | 337.50 | 341.97 | SD - 4.01 OR 4.40 |
| I-23 | A-5 | LP STA 2+57.50 OFFS. 0' WOLF CREEK COURT | - | 329.34 | 333.28 | SD - 4.01 OR 4.40 |
| I-24 | TYPE 'D' INLET | LP STA 3+18.53 OFFS. 122.01' WOLF CREEK COURT | 331.00 | 330.80 | 334.83 | SD - 4.11 OR 4.39 |
| I-25 | A-5 | LP STA 8+70.00 OFFS. 0' CREEKWOOD COURT | - | 337.23 | 340.28 | SD - 4.01 OR 4.40 |
| I-26 | TYPE 'D' INLET | LP STA 7+09.74 OFFS. 141.06' CREEKWOOD COURT | - | 335.10 | 339.00 | SD - 4.11 OR 4.39 |
| I-27 | A-5 | LP STA 11+07.37 OFFS. 0.00' SANDY CREEK COURT | 281.93 | 281.68 | 285.40 | SD - 4.01 OR 4.40 |
| I-28 | A-10 | CL STA 0+45.98 OFFS. 13.43' RT TIMBER CREEK COURT | 287.41 | 287.21 | 292.25 | SD - 4.02 OR 4.41 |
| I-29 | A-10 | CL STA 0+45.98 OFFS. 13.43' LT TIMBER CREEK COURT | 287.35 (15') | 287.75 | 292.25 | SD - 4.02 OR 4.41 |
| I-30 | A-5 | CL STA 3+35.25 OFFS. 13.43' LT SANDY CREEK COURT | 289.31 | 289.06 | 293.30 | SD - 4.01 OR 4.40 |
| I-31 | A-5 | CL STA 3+35.25 OFFS. 13.43' RT SANDY CREEK COURT | - | 289.60 | 293.30 | SD - 4.01 OR 4.40 |
| I-32 | A-5 | CL STA 2+38.84 OFFS. 13.43' LT TIMBER CREEK COURT | 295.39 (15') | 296.78 | 303.20 | SD - 4.01 OR 4.40 |
| I-33 | A-5 | CL STA 2+72.85 OFFS. 13.43' RT TIMBER CREEK COURT | - | 299.40 | 305.41 | SD - 4.01 OR 4.40 |
| I-34 | TYPE 'D' INLET | N 551761.40 E 1342871.28 | 300.87 | 300.40 | 306.30 | SD - 4.11 OR 4.39 |
| I-35 | TYPE 'D' INLET | N 551880.71 E 1342748.59 | - | 307.72 | 311.80 | SD - 4.11 OR 4.39 |
| I-36 | TYPE 'D' INLET | N 552027.46 E 1343080.44 | 305.23 | 305.03 | 317.50 | SD - 4.11 OR 4.39 |
| I-37 | A-10 | LP STA 8+53.58 OFFS. 0.00' CROSSFIELD COURT | 319.37 | 319.17 | 323.93 | SD - 4.02 OR 4.41 |
| I-38 | A-10 | CL STA 7+11.71 OFFS. 13.43' LT CROSSFIELD COURT | 326.25 | 326.00 | 330.87 | SD - 4.02 OR 4.41 |
| I-39 | TYPE 'D' INLET | N 552173.47 E 1342868.98 | - | 330.66 | 337.50 | SD - 4.11 OR 4.39 |
| I-40 | A-5 | LP STA 15+75.33 OFFS. 0.00' RIVER OAK COURT | 292.59 | 292.29 | 296.72 | SD - 4.01 OR 4.40 |
| I-41 | A-10 | CL STA 11+54.66 OFFS. 13.43' RT RIVER OAK COURT | 303.71 | 303.43 | 308.05 | SD - 4.02 OR 4.41 |
| I-42 | A-5 | CL STA 11+54.66 OFFS. 13.43' LT RIVER OAK COURT | - | 304.00 | 308.05 | SD - 4.01 OR 4.40 |
| I-43 | TYPE 'D' INLET | N 551818.79 OFFS. 40.00' RT RIVER OAK COURT | - | 322.60 | 330.63 | SD - 4.11 OR 4.39 |
| I-44 | A-10 | CL STA 0+45.00 OFFS. 13.43' LT RIVER OAK COURT | 323.75 | 323.55 | 327.61 | SD - 4.02 OR 4.41 |
| I-45 | A-10 | CL STA 0+45.00 OFFS. 13.43' RT RIVER OAK COURT | 324.10 | 323.90 | 327.61 | SD - 4.02 OR 4.41 |
| I-46 | A-5 | CL STA 5+58.85 OFFS. 13.43' LT TIMBER CREEK COURT | 295.35 (15') | 298.65 | 309.88 | SD - 4.01 OR 4.40 |
| I-48 | A-5 | CL STA 14+44.52.60 OFFS. 24.00' LT SANNER ROAD | 350.65 | 350.40 | 354.53 | SD - 4.01 OR 4.40 |
| I-50 | A-10 | CL STA 14+14.69.65 OFFS. 24.00' LT SANNER ROAD | 326.29 | 326.09 | 330.36 | SD - 4.02 OR 4.41 |
| M-1 | 4"-Ø MANHOLE | LP STA 3+51.23 OFFS. 5.55' LT TURTLE CREEK COURT | 285.09 (15') | 284.64 | 293.08 | G - 5.12 |
| M-2 | 4"-Ø MANHOLE | CL STA 2+52.82 OFFS. 6.50' LT TURTLE CREEK COURT | 283.00 (15') | 284.34 | 298.44 | G - 5.12 |
| M-3 | 4"-Ø MANHOLE | LP STA 2+25.93 OFFS. 20.81' RT TRAIL CREEK COURT | 285.85 (15') | 285.40 | 293.27 | G - 5.12 |
| M-4 | 4"-Ø MANHOLE | N 550964.23 E 1341253.91 | 286.30 | 286.05 | 296.20 | G - 5.12 |
| M-5 | 4"-Ø MANHOLE | CL STA 4+39.06 OFFS. 178.76' RT SANDY CREEK COURT | 286.00 | 282.70 | 292.50 | G - 5.12 |
| M-6 | 4"-Ø MANHOLE | N 552010.58 E 1342514.29 | 322.25 (15') | 326.00 | 330.00 | G - 5.12 |
| M-7 | 4"-Ø MANHOLE | CL STA 1+50.00 OFFS. 15.50' RT SANDY CREEK COURT | 326.68 | 326.48 | 336.85 | G - 5.12 |
| M-8 | 4"-Ø MANHOLE | CL STA 14+69.74 OFFS. 14.75' LT CREEKSIDE ROAD | 325.91 (15') | 327.54 | 337.05 | G - 5.12 |
| M-9 | 4"-Ø MANHOLE | LP STA 3+19.53 OFFS. 4.00' RT WOLF CREEK COURT | 328.07 (15') | 328.82 | 333.31 | G - 5.12 |
| M-10 | 4"-Ø MANHOLE | CL STA 4+29.97 OFFS. 15.50' LT CREEKWOOD COURT | 332.37 | 332.16 | 344.48 | G - 5.12 |
| M-11 | 4"-Ø MANHOLE | LP STA 7+09.74 OFFS. 4.00' CREEKWOOD COURT | 334.35 (15') | 334.10 | 340.62 | G - 5.12 |
| M-12 | 4"-Ø MANHOLE | CL STA 1+39.95 OFFS. 19.00' LT TIMBER CREEK COURT | 321.82 (15') | 291.61 | 296.52 | G - 5.12 |
| M-13 | 4"-Ø MANHOLE | CL STA 1+39.95 OFFS. 123.22' LT TIMBER CREEK COURT | 295.19 | 294.99 | 299.50 | G - 5.12 |
| M-14 | 4"-Ø MANHOLE | N 551835.91 E 1343008.47 | 311.98 | 311.75 | 317.50 | G - 5.12 |
| M-16 | 4"-Ø MANHOLE | N 551140.87 E 1342358.16 | 277.47 | 277.27 | 284.00 | G - 5.12 |
| M-17 | 4"-Ø MANHOLE | N 550172.78 E 1341310.33 | 316.80 | 315.59 (15') | 328.00 | G - 5.12 |
| M-18 | 4"-Ø MANHOLE | N 550205.13 E 1341316.81 | 309.25 (15') | 308.83 | 324.00 | G - 5.12 |
| S-1 | SEE DETAIL | N 551291.47 E 1341763.67 | 274.00 | 273.95 | 284.77 | - |
| S-2 | SEE DETAIL | N 551473.32 E 1342593.69 | 273.00 | 266.86 | 282.67 | - |
| S-3 | SEE DETAIL | N 551270.75 E 1342292.35 | 271.50 | 271.45 | 278.67 | - |

NOTE: 1) PRECAST STRUCTURES MEETING HS-20 LOADING MAY BE USED.
2) ALL STORM DRAINS SHALL BE CLASS IV REINFORCED CONCRETE PIPE UNLESS OTHERWISE NOTED.
3) TOP OF SLAB ELEVATION SHOWN FOR 'D' TYPE INLETS.
* INDICATES MODIFIED DESIGN, SEE SHEET 26



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

AS-BUILT CERTIFICATION
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

PE NO. _____ DATE _____
 DONALD A. MASON

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSTRUCTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

BY THE DEVELOPER:
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I 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.

DATE: 6-1-98
 DEVELOPER - TOLL MD LIMITED PARTNERSHIP

BY THE ENGINEER:
 I/WE 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.

DATE: 5/21/98
 ENGINEER - DONALD A. MASON, P.E. # 21443

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.

Chad Sims / CS 6/19/98
 NATURAL RESOURCES CONSERVATION SERVICE

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

Robert W. Zick / CS 6/19/98
 HOWARD SOIL CONSERVATION DISTRICT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Debra M. Ducker 6-15-98
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Charmata 6/23/98
 CHIEF, DIVISION OF LAND DEVELOPMENT

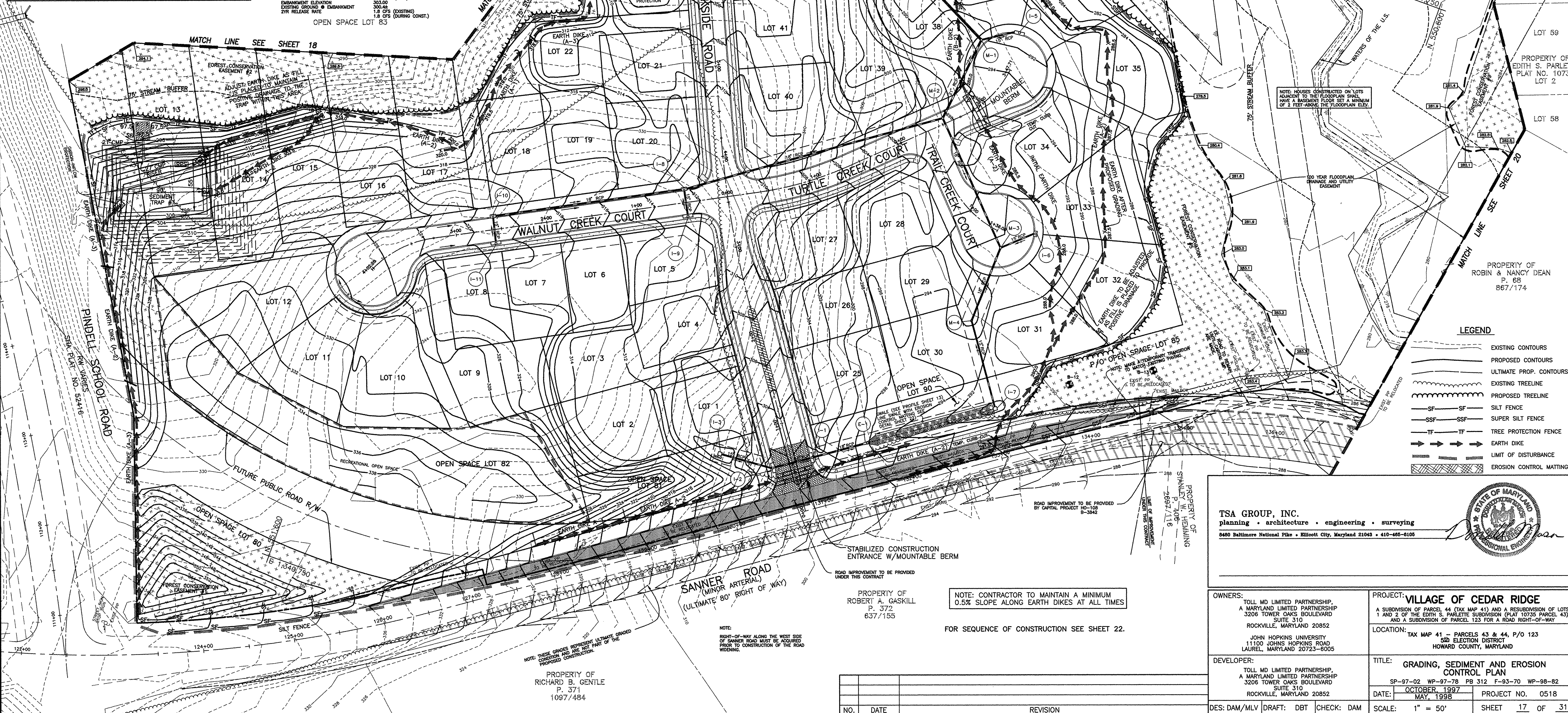
William Danner 6/24/98
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

STONE OUTLET SEDIMENT TRAP #2 (ST-II)
 EXIST. DRAINAGE AREA 1.89 AC±
 DEVELOPED DRAINAGE AREA 0.97 AC±
 STORAGE REQUIRED 4904 CF
 STORAGE PROVIDED 107
 HIGH LENGTH 3'
 STORAGE DEPTH BELOW OUTLET 298.55
 BOTTOM ELEVATION 298.00
 WET STORAGE 298.00
 WET STORAGE LIMIT 298.00
 RISKER CREST ELEVATION 298.00
 CLEANOUT ELEVATION 298.00
 RISKER CREST ELEVATION 298.00
 WET STORAGE LIMIT 298.00
 EXIST. GROUND @ OUTLET 70' X 36"

SEDIMENT BASIN #1 DATA
 EXIST. DRAINAGE AREA 7.73 AC±
 DEVELOPED DRAINAGE AREA 11.89 AC±
 STORAGE REQUIRED (TOTAL) 42502 CF
 WET STORAGE 21276 CF
 STORAGE PROVIDED 21276 CF
 WET STORAGE 21276 CF
 WET STORAGE 21276 CF
 BOTTOM ELEVATION 274.00
 WET STORAGE LIMIT 274.00 TO 277.52
 RISKER CREST ELEVATION 277.52 TO 278.84
 CLEANOUT ELEVATION 276.11
 RISKER CREST ELEVATION 278.84 (7' ORFICE)
 2.1 CFS (EXISTING)
 2.1 CFS (DURING CONST.)

NOTE:
 DELAY CONSTRUCTION ON LOT 24 UNTIL CONTRIBUTING DRAINAGE AREA POND SEDIMENT TRAP #2 HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR.

TMP. SWM/PIPE OUTLET SEDIMENT TRAP #1 (ST-I)
 EXIST. DRAINAGE AREA 3.64 AC±
 DEVELOPED DRAINAGE AREA 1.90 AC±
 STORAGE REQUIRED (TOTAL) 15104 CF
 WET STORAGE 6522 CF
 STORAGE PROVIDED 13104 CF
 WET STORAGE 6522 CF
 WET STORAGE 6522 CF
 BOTTOM DIMENSION 80' X 50'
 BOTTOM ELEVATION 298.00
 WET STORAGE LIMIT FROM 298.00 TO 298.18
 CLEANOUT ELEVATION FROM 298.18 TO 300.30
 RISKER CREST ELEVATION 298.80
 RISKER CREST ELEVATION 298.80
 BARREL SIZE 21" CMP (24LF)
 300.00
 EXISTING GROUND @ EMBANKMENT 300.48
 1.8 CFS (EXISTING)
 1.8 CFS (DURING CONST.)
 2YR RELEASE RATE



- LEGEND**
- EXISTING CONTOURS
 - PROPOSED CONTOURS
 - ULTIMATE PROP. CONTOURS
 - EXISTING TREELINE
 - PROPOSED TREELINE
 - SF - SF - SILT FENCE
 - SSF - SSF - SUPER SILT FENCE
 - TF - TF - TREE PROTECTION FENCE
 - EARTH DIKE
 - LIMIT OF DISTURBANCE
 - EROSION CONTROL MATTING

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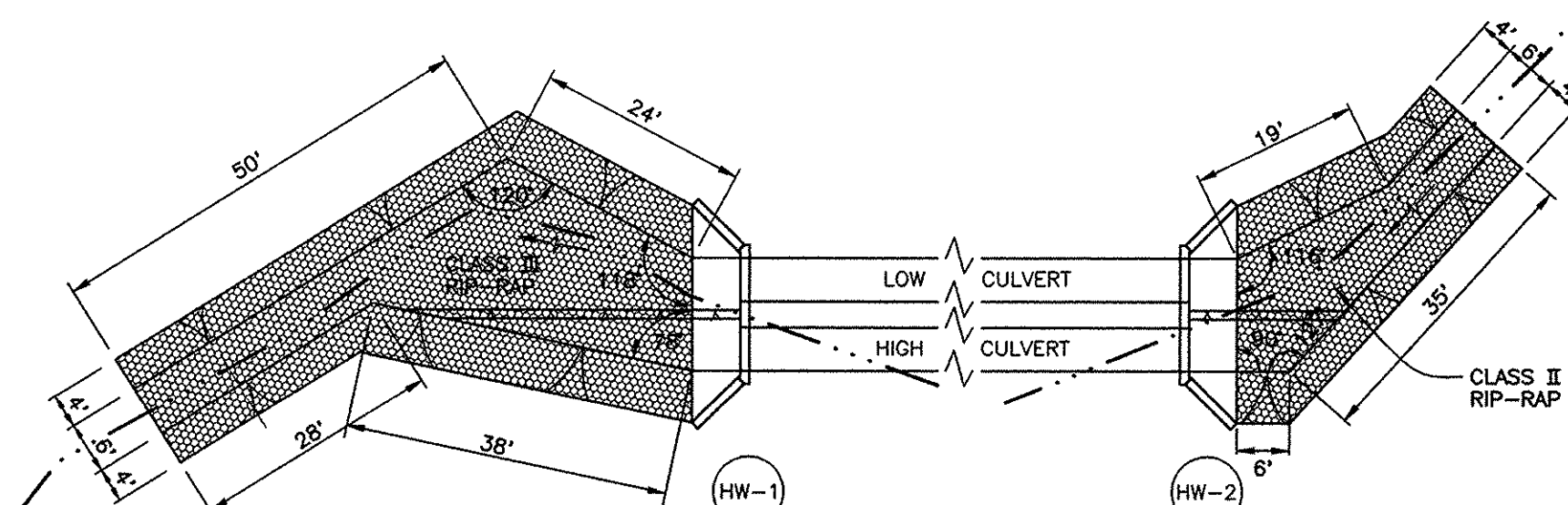
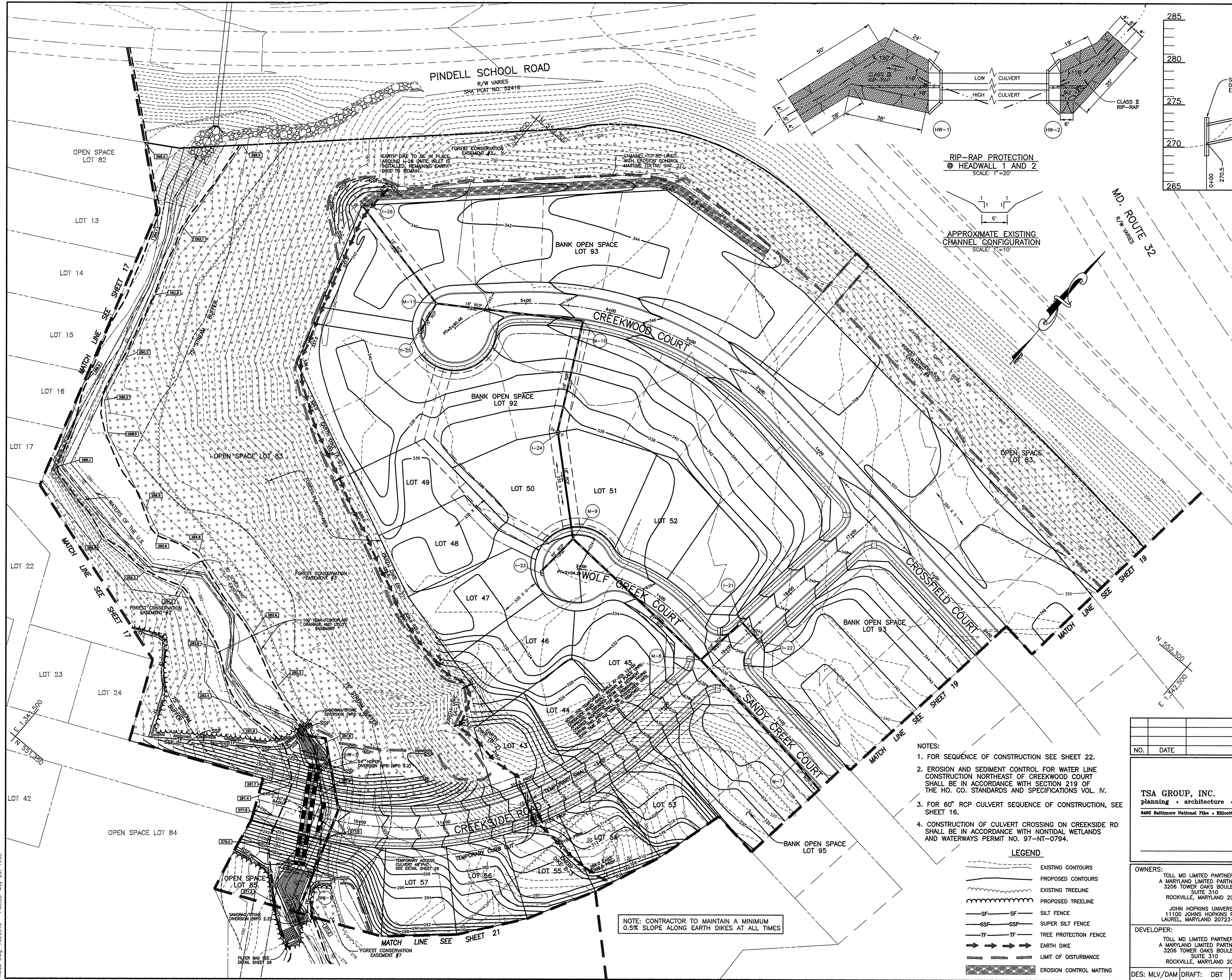
STATE OF MARYLAND
 PROFESSIONAL ENGINEER

| | |
|--|---|
| OWNERS: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP 3206 TOWER OAKS BOULEVARD SUITE 310 ROCKVILLE, MARYLAND 20852 | PROJECT: VILLAGE OF CEDAR RIDGE A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY |
| DEVELOPER: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP 3206 TOWER OAKS BOULEVARD SUITE 310 ROCKVILLE, MARYLAND 20852 | LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND |
| TITLE: GRADING, SEDIMENT AND EROSION CONTROL PLAN SP-97-02 WP-97-78 PB 312 F-93-70 WP-98-82 | DATE: OCTOBER 1997 MAY, 1998 |
| DES: DAM/MLV DRAFT: DBT CHECK: DAM | PROJECT NO. 0518 |
| SCALE: 1" = 50' | SHEET 17 OF 31 |

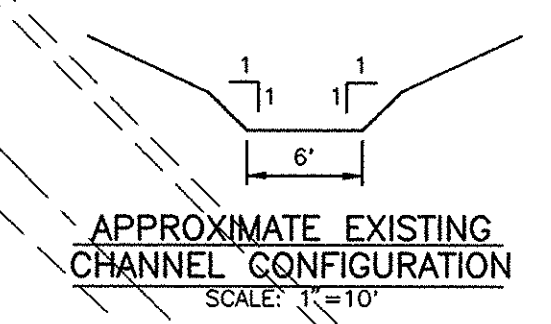
NOTE: CONTRACTOR TO MAINTAIN A MINIMUM 0.5% SLOPE ALONG EARTH DIKES AT ALL TIMES

FOR SEQUENCE OF CONSTRUCTION SEE SHEET 22.

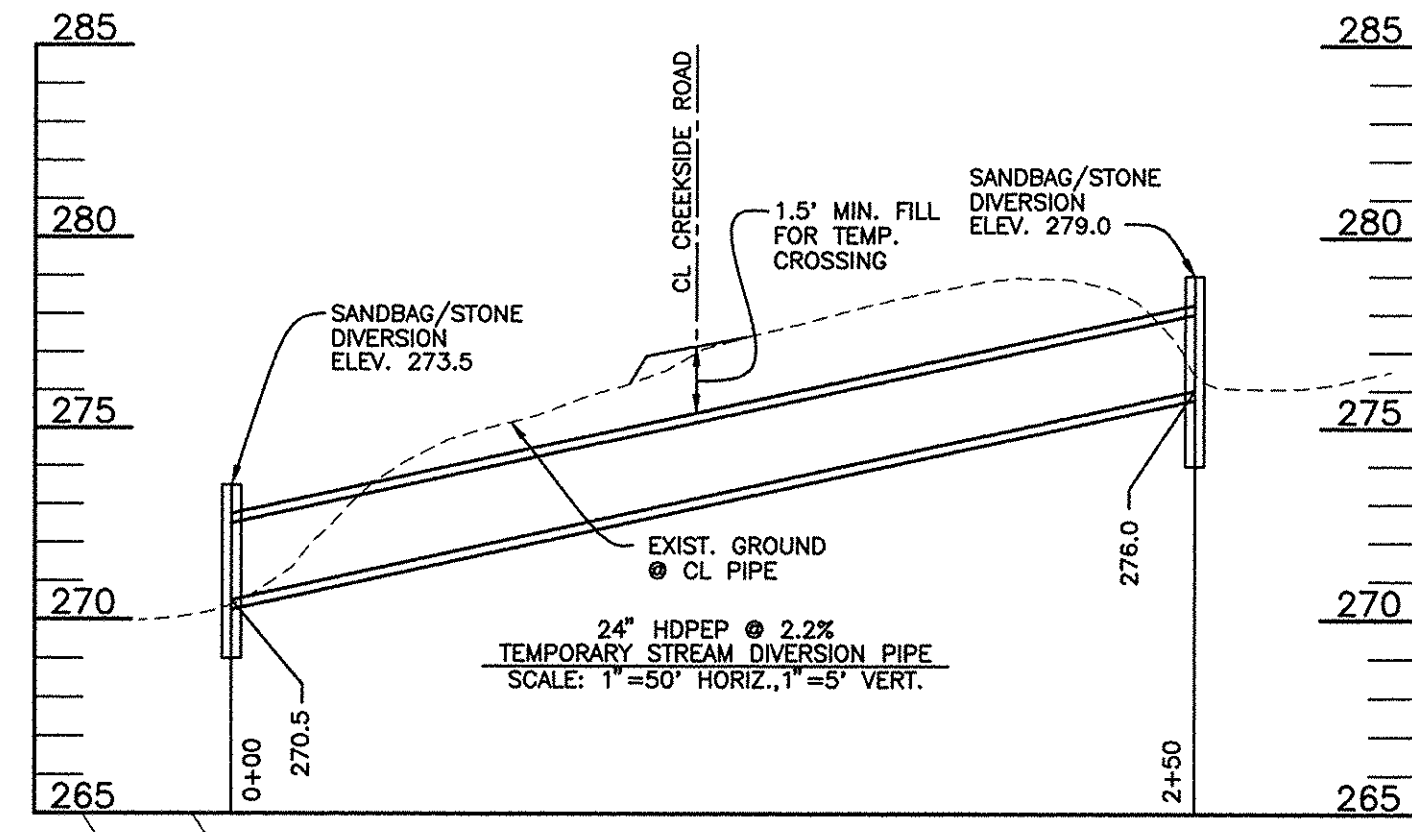
| NO. | DATE | REVISION |
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RIP-RAP PROTECTION
@ HEADWALL 1 AND 2
SCALE: 1"=20'



APPROXIMATE EXISTING
CHANNEL CONFIGURATION
SCALE: 1"=10'



BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I 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] 6-1-98
DEVELOPER - TOLL LIMITED PARTNERSHIP DATE

BY THE ENGINEER:
I/WE 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] 5/27/98
ENGINEER - DONALD A. MASON, P.E. # 21443 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] 6/9/98
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] 6/9/98
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[Signature] 6-15-98
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 6/23/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 6/22/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

- NOTES:
- FOR SEQUENCE OF CONSTRUCTION SEE SHEET 22.
 - EROSION AND SEDIMENT CONTROL FOR WATER LINE CONSTRUCTION NORTHEAST OF CREEKWOOD COURT SHALL BE IN ACCORDANCE WITH SECTION 219 OF THE HO. CO. STANDARDS AND SPECIFICATIONS VOL. IV.
 - FOR 60" RCP CULVERT SEQUENCE OF CONSTRUCTION, SEE SHEET 16.
 - CONSTRUCTION OF CULVERT CROSSING ON CREEKSIDE RD SHALL BE IN ACCORDANCE WITH NONTIDAL WETLANDS AND WATERWAYS PERMIT NO. 97-NI-0794.

LEGEND

| | |
|--|-------------------------|
| | EXISTING CONTOURS |
| | PROPOSED CONTOURS |
| | EXISTING TREELINE |
| | PROPOSED TREELINE |
| | SILT FENCE |
| | SUPER SILT FENCE |
| | TREE PROTECTION FENCE |
| | EARTH DIKE |
| | LIMIT OF DISTURBANCE |
| | EROSION CONTROL MATTING |

NOTE: CONTRACTOR TO MAINTAIN A MINIMUM 0.5% SLOPE ALONG EARTH DIKES AT ALL TIMES

| NO. | DATE | REVISION |
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| | | |

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| | |
|--|---|
| OWNERS: TOLL MD LIMITED PARTNERSHIP A MARYLAND LIMITED PARTNERSHIP 3206 TOWER OAKS BOULEVARD SUITE 310 ROCKVILLE, MARYLAND 20852 | PROJECT: VILLAGE OF CEDAR RIDGE A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10725 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY |
| DEVELOPER: TOLL MD LIMITED PARTNERSHIP A MARYLAND LIMITED PARTNERSHIP 3206 TOWER OAKS BOULEVARD SUITE 310 ROCKVILLE, MARYLAND 20852 | LOCATION: TAX MAP 41 - PARCELS 43 & 44, P.O. 123 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND |
| TITLE: GRADING, SEDIMENT & EROSION CONTROL PLAN SP-97-02 WP-97-78 PB 312 F-93-70 WP-98-82 | DATE: OCTOBER, 1997 MAY, 1998 |
| DES: MLV/DAM DRAFT: DBT CHECK: DAM | PROJECT NO. 0518 SCALE: 1" = 50' SHEET 18 OF 31 |



LEGEND

- EXISTING CONTOURS
- - - PROPOSED CONTOURS
- - - [Symbol] - - - TEMPORARY PROP. CONTOURS
- EXISTING TREELINE
- - - [Symbol] - - - PROPOSED TREELINE
- - - SF - - - SILT FENCE
- - - SSF - - - SUPER SILT FENCE
- - - TF - - - TREE PROTECTION FENCE
- - - [Symbol] - - - EARTH DIKE
- - - [Symbol] - - - LIMIT OF DISTURBANCE
- [Hatched Area] - - - EROSION CONTROL MATTING

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 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 INDICATORS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

AS-BUILT CERTIFICATION
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

PE NO. _____
 DATE _____
 DONALD A. MASON

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND LABORATORY TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

BY THE DEVELOPER:
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I 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."

DATE: 6-1-98
 DEVELOPER - TOLL MD LIMITED PARTNERSHIP

BY THE ENGINEER:
 "I/WE 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."

DATE: 5/27/98
 ENGINEER - DONALD A. MASON, P.E. # 21443

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.
 DATE: 6/9/98
 NATURAL RESOURCES CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 DATE: 6/9/98
 HOWARD SOIL CONSERVATION DISTRICT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 DATE: 6-15-98
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 DATE: 6/28/98
 CHIEF, DIVISION OF LAND DEVELOPMENT

VILLAGE OF HICKORY RIDGE
 PLATS 8132-8134

OPEN SPACE LOT 60

RIVERSIDE ESTATES
 SECTION 3
 PB. 30 P. 31

SEDIMENT BASIN #2 DATA

| | |
|--------------------------|-------------------------|
| EXIST. DRAINAGE AREA | 28.4 AC± |
| DEVELOPED DRAINAGE AREA | 27.2 AC ± |
| STORAGE REQUIRED (TOTAL) | 98280 CF |
| DRY STORAGE | 48140 CF |
| WET STORAGE | 48140 CF |
| STORAGE PROVIDED | 48140 CF |
| WET STORAGE | 48140 CF |
| DRY STORAGE | 271.00 |
| BOTTOM ELEVATION | FROM 271.00 TO 276.9 |
| WET STORAGE LIMIT | 276.8 TO 278.24 |
| DRY STORAGE LIMIT | 274.1 |
| RISER CREST ELEVATION | 274.8 (15' ORIFICE) |
| CLEANOUT ELEVATION | 264.2 |
| EMBANKMENT ELEVATION | 8.5 CFS (EXISTING) |
| 2YR RELEASE RATE | 8.3 CFS (DURING CONST.) |

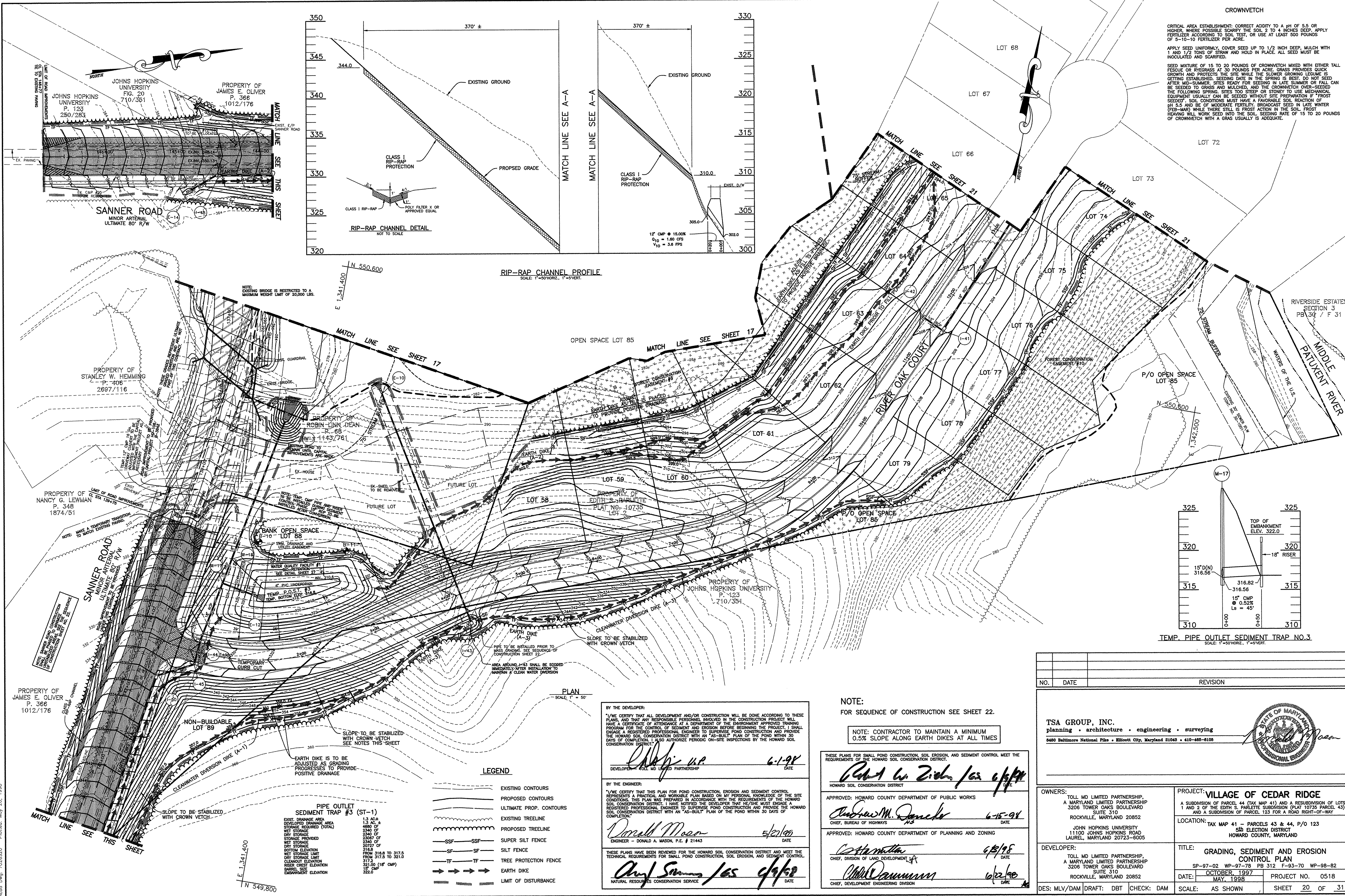
- NOTES:**
- FOR SEQUENCE OF CONSTRUCTION SEE SHEET 22.
 - EROSION AND SEDIMENT CONTROL FOR SEWER LINE CONSTRUCTION SOUTHEAST OF SANDY CREEK COURT SHALL BE IN ACCORDANCE WITH SECTION 219 OF THE HO. CO. STANDARDS AND SPECIFICATIONS VOL. IV.

NOTE: CONTRACTOR TO MAINTAIN A MINIMUM 0.5% SLOPE ALONG EARTH DIKES AT ALL TIMES

| NO. | DATE | REVISION |
|-----|------|----------|
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|--|--|
| OWNERS: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP 3206 TOWER OAKS BOULEVARD SUITE 310 ROCKVILLE, MARYLAND 20852 | PROJECT: VILLAGE OF CEDAR RIDGE A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY |
| DEVELOPER: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP 3206 TOWER OAKS BOULEVARD SUITE 310 ROCKVILLE, MARYLAND 20852 | LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND |
| TITLE: GRADING, SEDIMENT AND EROSION CONTROL PLAN | DATE: OCTOBER, 1997 MAY, 1998 |
| DES: MLV/DAM DRAFT: DBT CHECK: DAM | PROJECT NO.: 05-18 SHEET: 19 OF 31 |

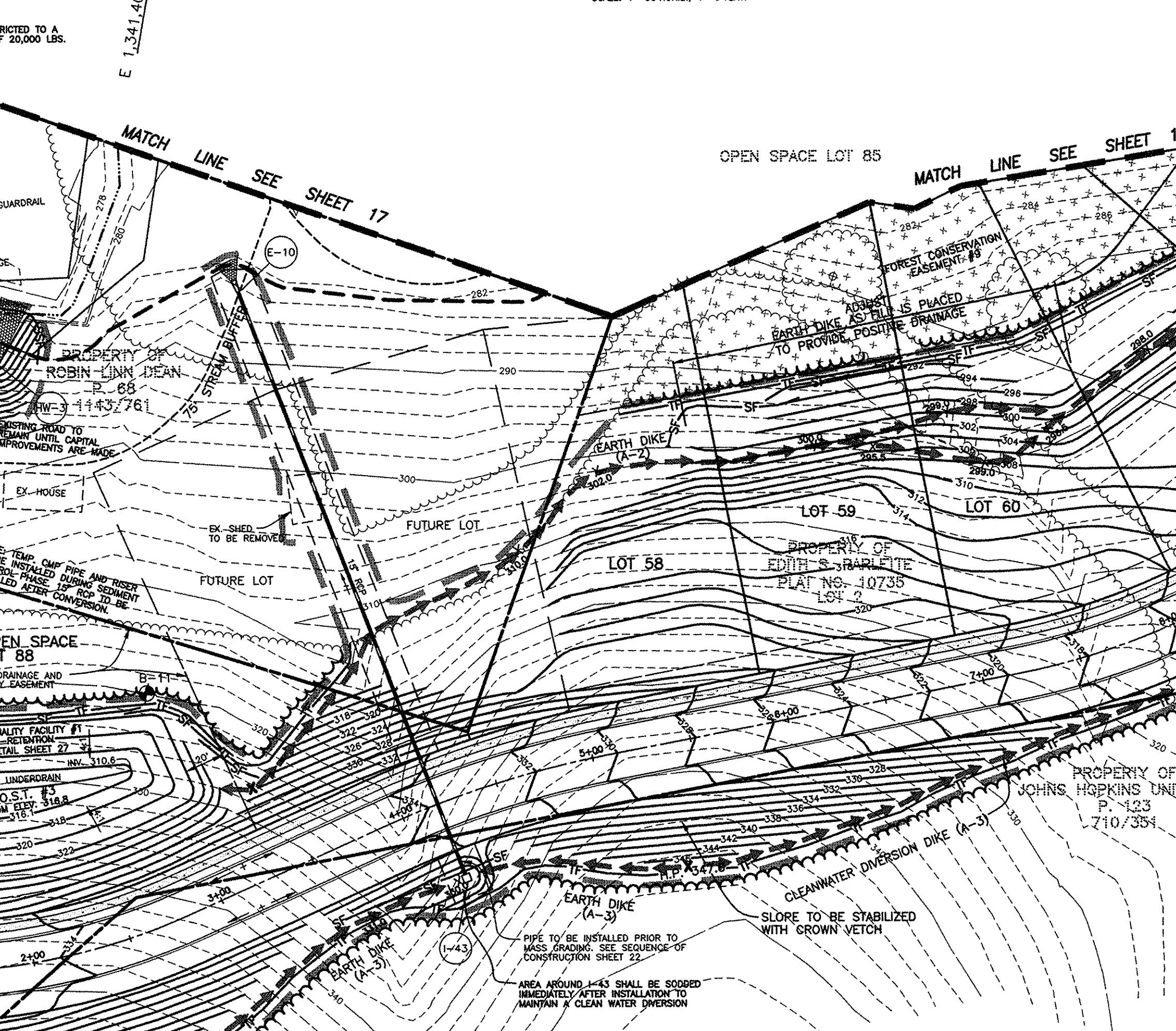
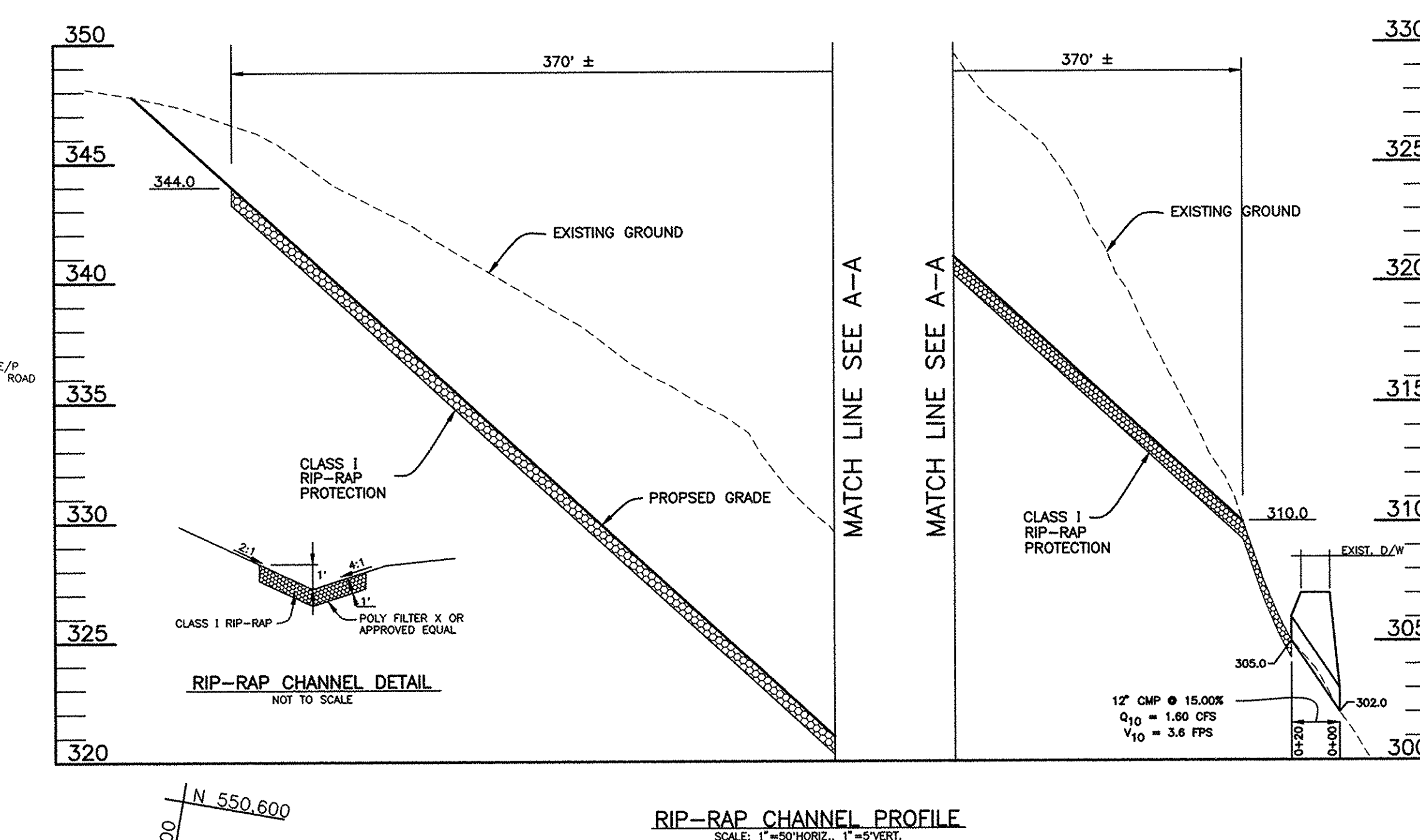


CROWN VETCH

CRITICAL AREA ESTABLISHMENT: CORRECT ACIDITY TO A PH OF 5.5 OR HIGHER. WHERE POSSIBLE SCARIFY THE SOIL 2 TO 4 INCHES DEEP. APPLY FERTILIZER ACCORDING TO SOIL TEST, OR USE AT LEAST 500 POUNDS OF 5-10-10 FERTILIZER PER ACRE.

APPLY SEED UNIFORMLY, COVER SEED UP TO 1/2 INCH DEEP. MULCH WITH 1 AND 1/2 TONS OF STRAW AND HOLD IN PLACE. ALL SEED MUST BE INOCULATED AND SCARIFIED.

SEED MIXTURE OF 15 TO 20 POUNDS OF CROWN VETCH MIXED WITH EITHER TALL FESCUE OR RYEGRASS AT 30 POUNDS PER ACRE. GRASS PROVIDES QUICK GROWTH AND PROTECTS THE SITE WHILE THE SLOWER GROWING LEGUMINE IS GETTING ESTABLISHED. SEEDING DATE IN THE SPRING IS BEST. DO NOT SEED AFTER MID-SUMMER. SITES READY FOR SEEDING IN LATE SUMMER OR FALL CAN BE SEED TO GRASS AND MULCHED. AND THE CROWN VETCH OVER-SEEDED THE FOLLOWING SPRING. SITES TOO STEEP OR STONEY TO USE MECHANICAL EQUIPMENT USUALLY CAN BE SEEDED WITHOUT SITE PREPARATION IF "FROST SEED" SOIL CONDITIONS MUST HAVE A FAVORABLE SOIL REACTION OF PH 5.5 AND BE OF MODERATE FERTILITY. BROADCAST SEED IN LATE WINTER (FEB-MAR) WHILE THERE IS STILL IS FROST ACTION IN THE SOIL. FROST HEAVING WILL WORK SEED INTO THE SOIL. SEEDING RATE OF 15 TO 20 POUNDS OF CROWN VETCH WITH A GRASS USUALLY IS ADEQUATE.



LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- ULTIMATE PROP. CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- SSP - SSP SUPER SILT FENCE
- SF - SF SILT FENCE
- TF - TF TREE PROTECTION FENCE
- EA - EA EARTH DIKE
- LD - LD LIMIT OF DISTURBANCE

PIPE OUTLET SEDIMENT TRAP #3 (ST-1)

| | |
|--------------------------|--------------------------|
| EXIST. DRAINAGE AREA | 1.3 AC ± |
| DEVELOPED DRAINAGE AREA | 1.3 AC ± |
| STORAGE REQUIRED (TOTAL) | 4800 CF |
| WET STORAGE | 2340 CF |
| DRY STORAGE | 2460 CF |
| STORAGE PROVIDED | 2340 CF |
| WET STORAGE | 2072 CF |
| DRY STORAGE | 336.8 CF |
| BOTTOM ELEVATION | 318.8 TO 317.5 |
| WET STORAGE LIMIT | 317.8 TO 321.0 |
| DRY STORAGE LIMIT | 317.2 TO 321.0 (18' CMP) |
| CLEANOUT ELEVATION | 321.0 (18' CMP) |
| BARREL SIZE | 12' CMP |
| EMBANKMENT ELEVATION | 322.0 |

BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I 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 W. Zickler 6-1-98 DATE
DEVELOPER - RLL MD LIMITED PARTNERSHIP

BY THE ENGINEER:

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

Donald A. Mason 5/27/98 DATE
ENGINEER - DONALD A. MASON, P.E. # 21443

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.

Andy Simms 6/9/98 DATE
NATURAL RESOURCES CONSERVATION SERVICE

NOTE:
FOR SEQUENCE OF CONSTRUCTION SEE SHEET 22.

NOTE: CONTRACTOR TO MAINTAIN A MINIMUM 0.5% SLOPE ALONG EARTH DIKES AT ALL TIMES

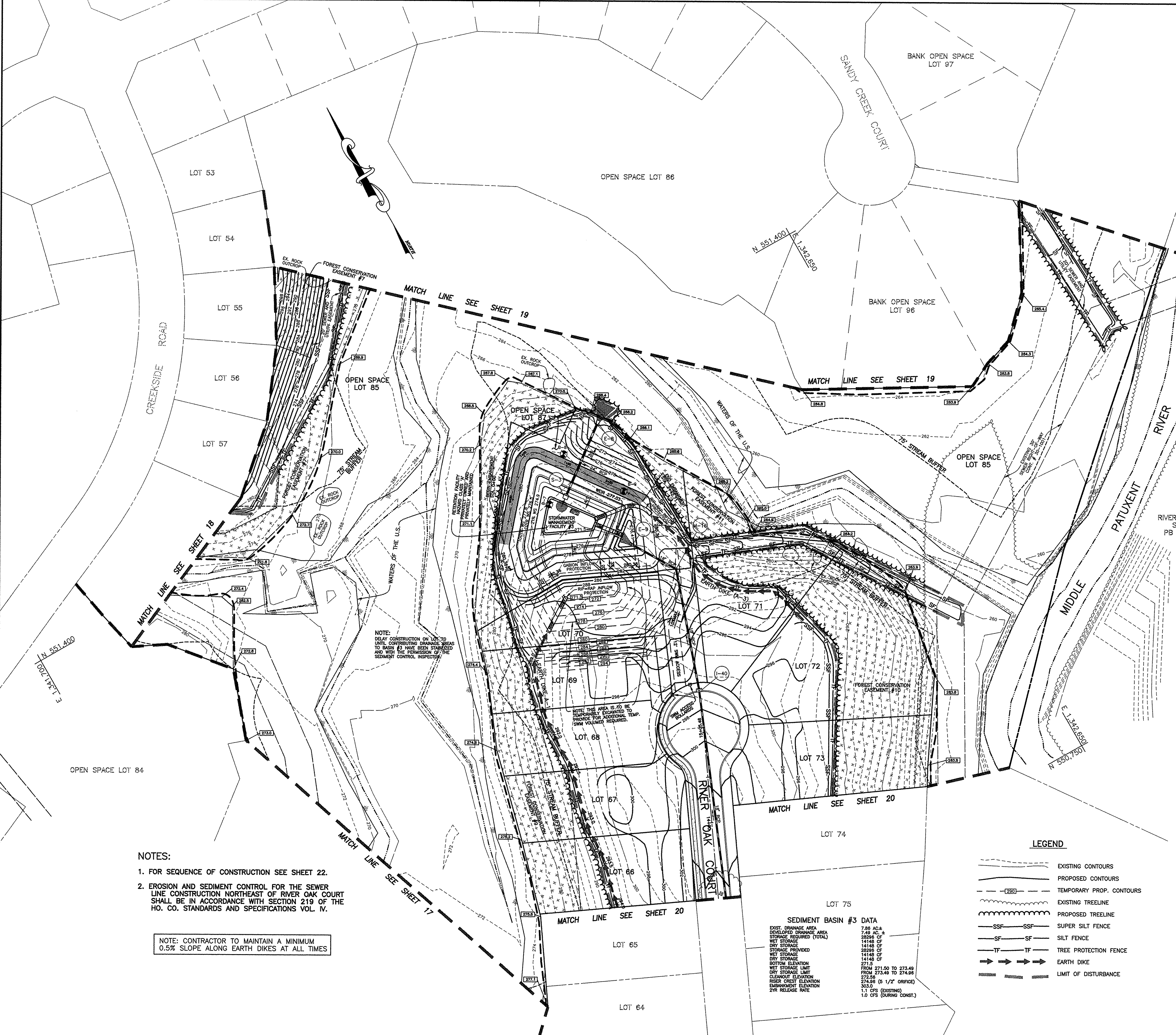
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Robert W. Zickler 6/15/98 DATE
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels 6-15-98 DATE
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
William M. ... 6/5/98 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

William M. ... 6/22/98 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION



STORMWATER MANAGEMENT SUMMARY TABLE

| STORM FREQUENCY | COMBINED AT THE DESIGN POINT PRE-DEVELOPMENT RUNOFF (CFS) | | | COMBINED AT THE DESIGN POINT POST-DEVELOPMENT RUNOFF (CFS) W/ SWM | | |
|-----------------|---|----|-----|---|----|-----|
| | 2 | 10 | 100 | 2 | 10 | 100 |
| 2 | 24.27 | | | 22.57 | | |
| 10 | 131.19 | | | 130.01 | | |
| 100 | 293.55 | | | N/A | | |

| YEARS | POND #1 | | | POND #2 | | | POND #3 | | |
|---------------------------------|---------|--------|--------|---------|--------|--------|---------|--------|--------|
| | 2 | 10 | 100 | 2 | 10 | 100 | 2 | 10 | 100 |
| INFLOW Q (cfs) | 22.52 | 48.61 | 79.07 | 39.58 | 87.69 | 144.44 | 8.35 | 18.27 | 29.89 |
| DISCHARGE Q (cfs) | 1.91 | 12.50 | 34.15 | 4.15 | 33.51 | 117.90 | 0.59 | 5.76 | 12.77 |
| ELEVATION | 279.33 | 281.69 | 283.67 | 278.72 | 280.85 | 282.01 | 274.94 | 276.46 | 277.82 |
| STORAGE VOLUME PROVIDED (AC FT) | 0.90 | 1.62 | 2.43 | 1.39 | 2.45 | 3.15 | 0.26 | 0.47 | 0.72 |

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 USGS STANDARDS AND SPECIFICATIONS FOR PONDS (MD-376). THE POND OWNERS (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 OWNERS SHALL PROMPTLY NOTIFY THE HOWARD SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATORS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

AS-BUILT CERTIFICATION
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

PE NO. _____
 DONALD A. MASON
 DATE _____

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

BY THE DEVELOPER:
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I 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."

Donal V.P. 6-1-98
 DEVELOPER - TOLL MD LIMITED PARTNERSHIP DATE

BY THE ENGINEER:
 "I/WE 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/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."

Donald A. Mason 5/27/98
 ENGINEER - DONALD A. MASON, P.E. # 211443 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.

Donal V.P. 6/1/98
 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.

Paul W. Zich 6/1/98
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels 6-15-98
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
William A. ... 6/23/98
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mark ... 6/23/98
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

| NO. | DATE | REVISION |
|-----|------|----------|
| | | |

TSA GROUP, INC.
 planning • architecture • engineering • surveying
 8480 Baltimore National Pike • Millcreek City, Maryland 21043 • 410-466-0105



OWNERS: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP, 3206 TOWER OAKS BOULEVARD, SUITE 310, ROCKVILLE, MARYLAND 20852
DEVELOPER: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP, 3206 TOWER OAKS BOULEVARD, SUITE 310, ROCKVILLE, MARYLAND 20852

PROJECT: VILLAGE OF CEDAR RIDGE
 A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY
LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123, 5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
TITLE: GRADING, SEDIMENT AND EROSION CONTROL PLAN
 SP-97-02 WP-97-78 PB 312 F-93-70 WP-98-82
DATE: OCTOBER, 1997 PROJECT NO. 0518
 MAY, 1998
SCALE: 1" = 50'
SHEET 21 OF 31

- NOTES:**
- FOR SEQUENCE OF CONSTRUCTION SEE SHEET 22.
 - EROSION AND SEDIMENT CONTROL FOR THE SEWER LINE CONSTRUCTION NORTHEAST OF RIVER OAK COURT SHALL BE IN ACCORDANCE WITH SECTION 219 OF THE HO. CO. STANDARDS AND SPECIFICATIONS VOL. IV.

NOTE: CONTRACTOR TO MAINTAIN A MINIMUM 0.5% SLOPE ALONG EARTH DIKES AT ALL TIMES

SEDIMENT BASIN #3 DATA

| | |
|--------------------------|-------------------------|
| EXIST. DRAINAGE AREA | 7.88 AC ± |
| DEVELOPED DRAINAGE AREA | 7.48 AC ± |
| STORAGE REQUIRED (TOTAL) | 28296 CF |
| WET STORAGE | 14148 CF |
| DRY STORAGE | 28296 CF |
| STORAGE PROVIDED | 14148 CF |
| WET STORAGE | 14148 CF |
| DRY STORAGE | 14148 CF |
| BOTTOM ELEVATION | 271.5 |
| WET STORAGE LIMIT | FROM 271.50 TO 273.49 |
| DRY STORAGE LIMIT | FROM 273.49 TO 274.96 |
| 273.5 | |
| RISE/crest ELEVATION | 274.96 (6 1/2" ORIFICE) |
| SUBWASHMENT ELEVATION | 303.0 |
| 2YR RELEASE RATE | 1.1 CFS (EXISTING) |
| | 1.0 CFS (DURING CONST.) |

- LEGEND**
- EXISTING CONTOURS
 - PROPOSED CONTOURS
 - TEMPORARY PROP. CONTOURS
 - EXISTING TREELINE
 - PROPOSED TREELINE
 - SSF - SSF SUPER SILT FENCE
 - SF - SF SILT FENCE
 - TF - TF TREE PROTECTION FENCE
 - EARTH DIKE
 - LIMIT OF DISTURBANCE

SEDIMENT CONTROL NOTES

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSING AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION, (313-1850).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, REVISIONS THERE TO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN A 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, BY 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, FOR PERMANENT SEEDINGS, (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:

| | | |
|------------------------------------|---------|-------|
| TOTAL AREA OF SITE | 100.58 | ACRES |
| AREA DISTURBED | 55.55 | ACRES |
| AREA TO BE ROOFED OR PAVED | 6.28 | ACRES |
| AREA TO BE VEGETATIVELY STABILIZED | 49.27 | ACRES |
| TOTAL CUT | 308,000 | CY |
| TOTAL FILL | 308,000 | CY |
| OFFSITE WASTE/BORROW AREA LOCATION | N/A | |
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE ALTERNATED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

TEMPORARY SEEDBED PREPARATIONS

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

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

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

SEEDING: FOR PERIOD MARCH 1 THROUGH APRIL 30 AND FROM AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT). FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (0.7 LBS/1000 SQ FT). FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE OF 5 GAL/1000 SQ FT OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES, 8 FT. OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

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

PERMANENT SEEDBED PREPARATIONS

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

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

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

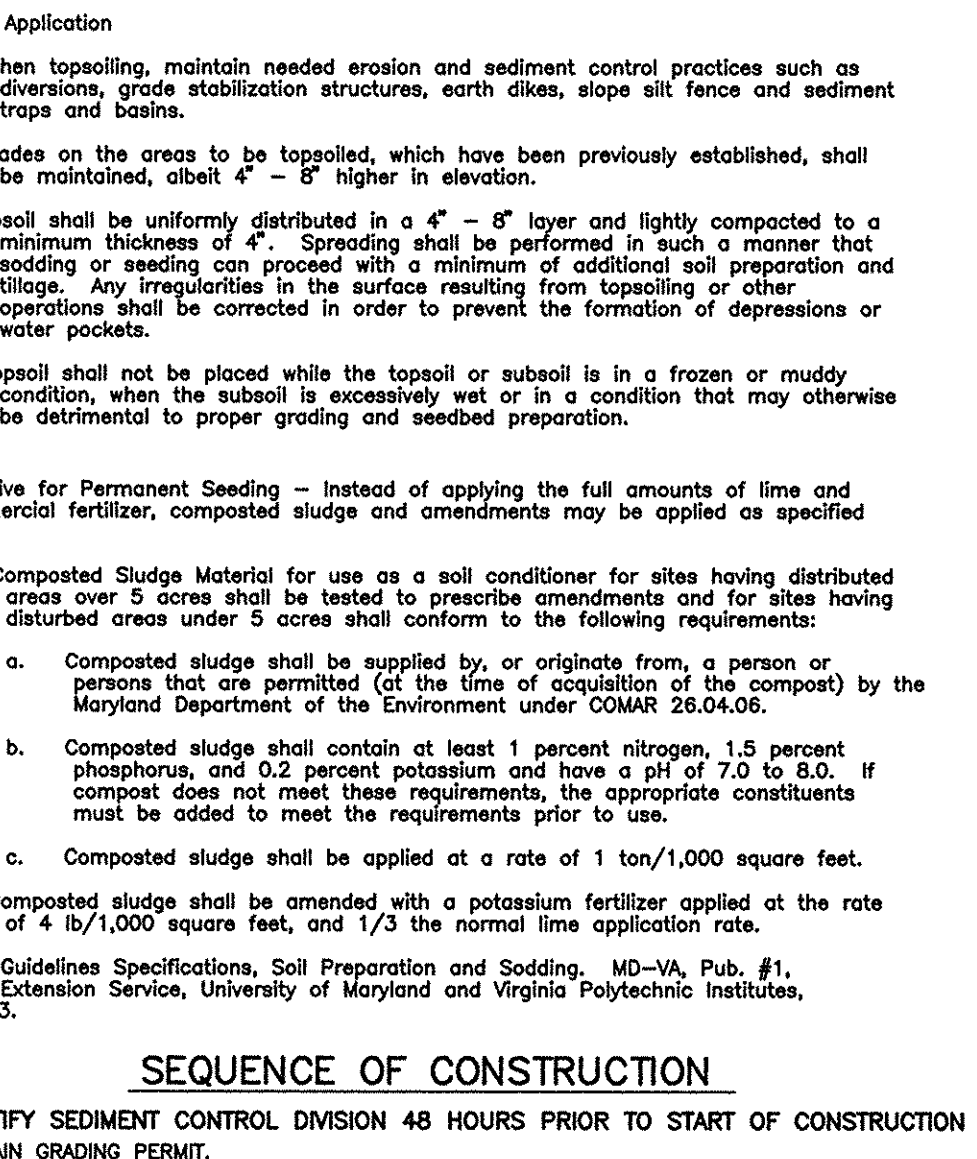
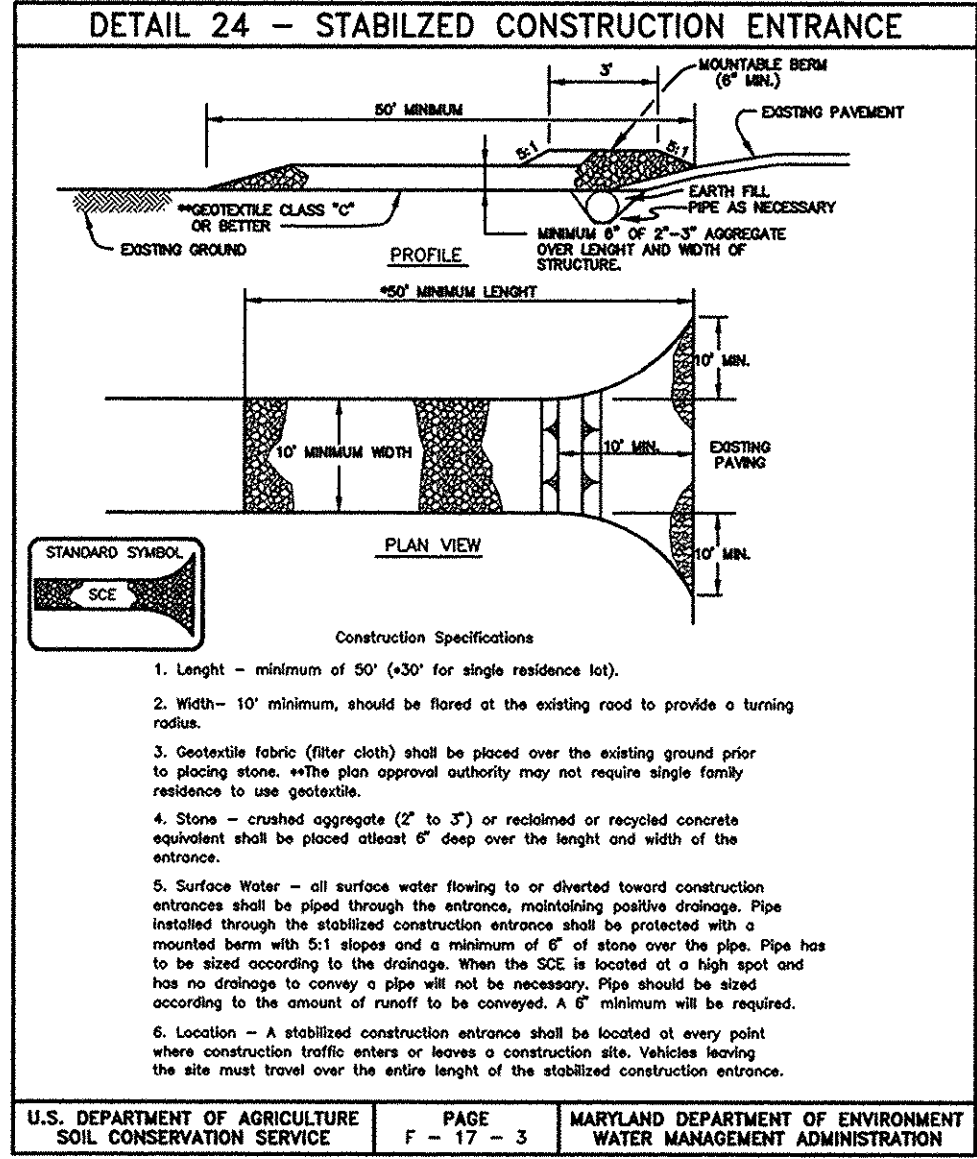
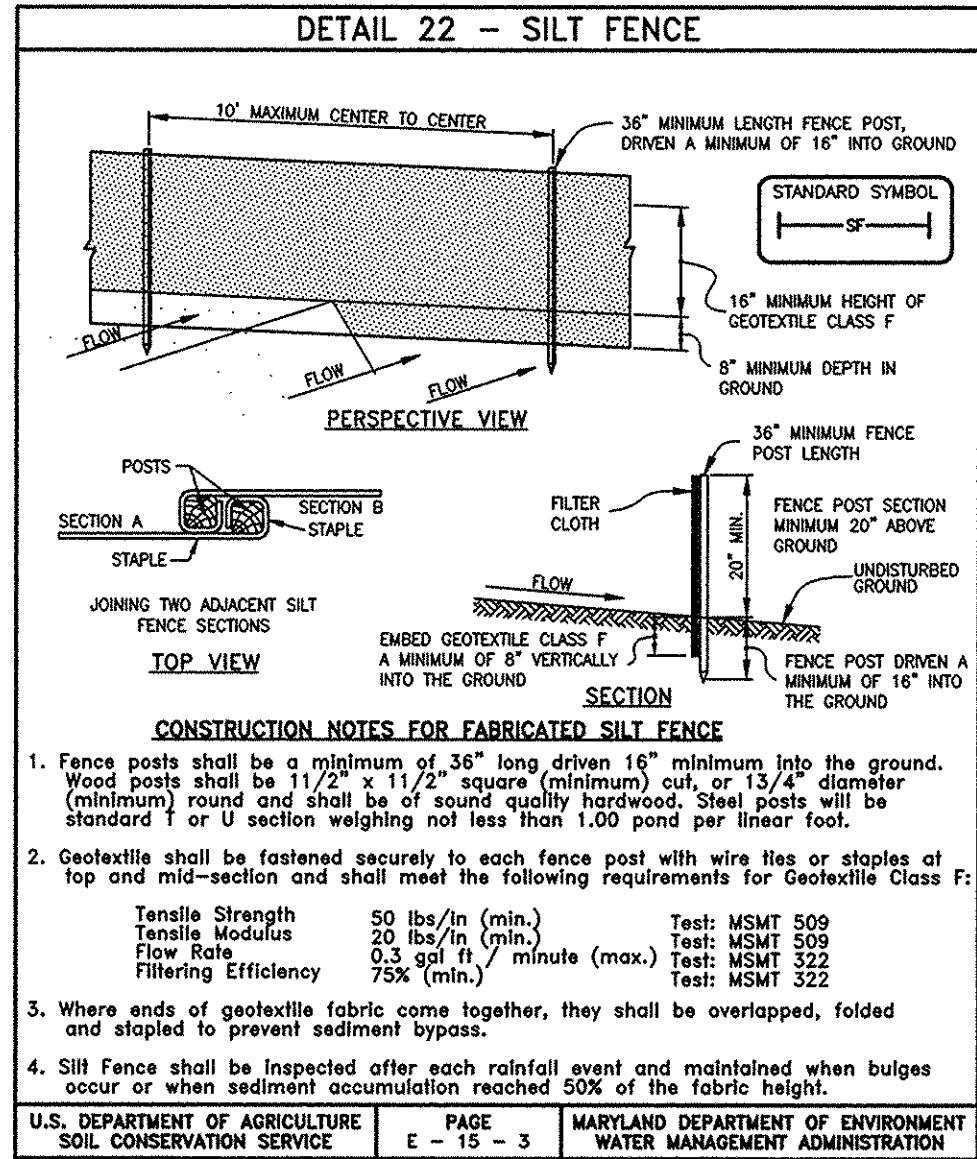
SEEDING: FOR THE PERIODS MARCH 1 THROUGH APRIL 30 AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ FT) OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (0.5 LBS/1000 SQ FT) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS PER ACRE OF KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE OF WELL ANCHORED STRAW.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

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

TOPSOIL SPECIFICATIONS

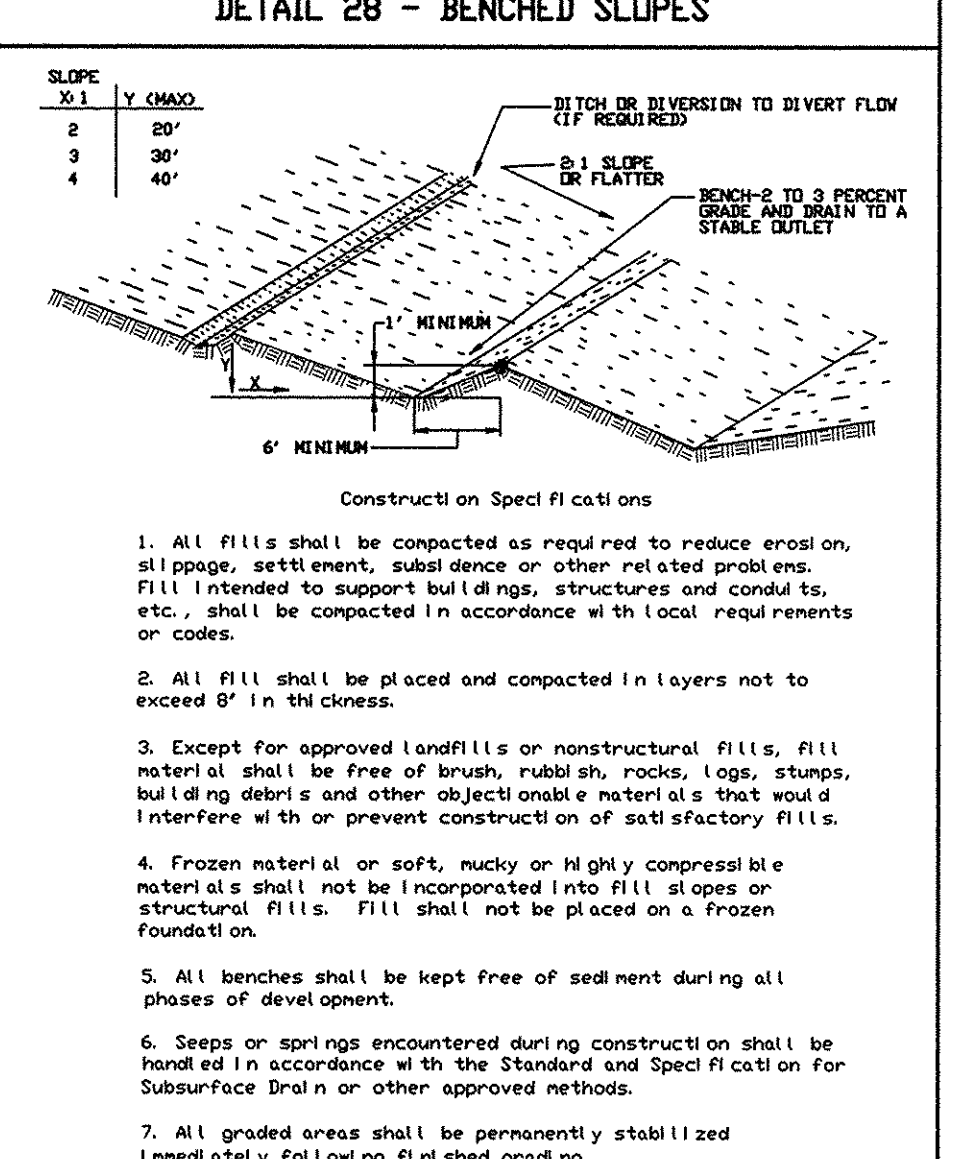
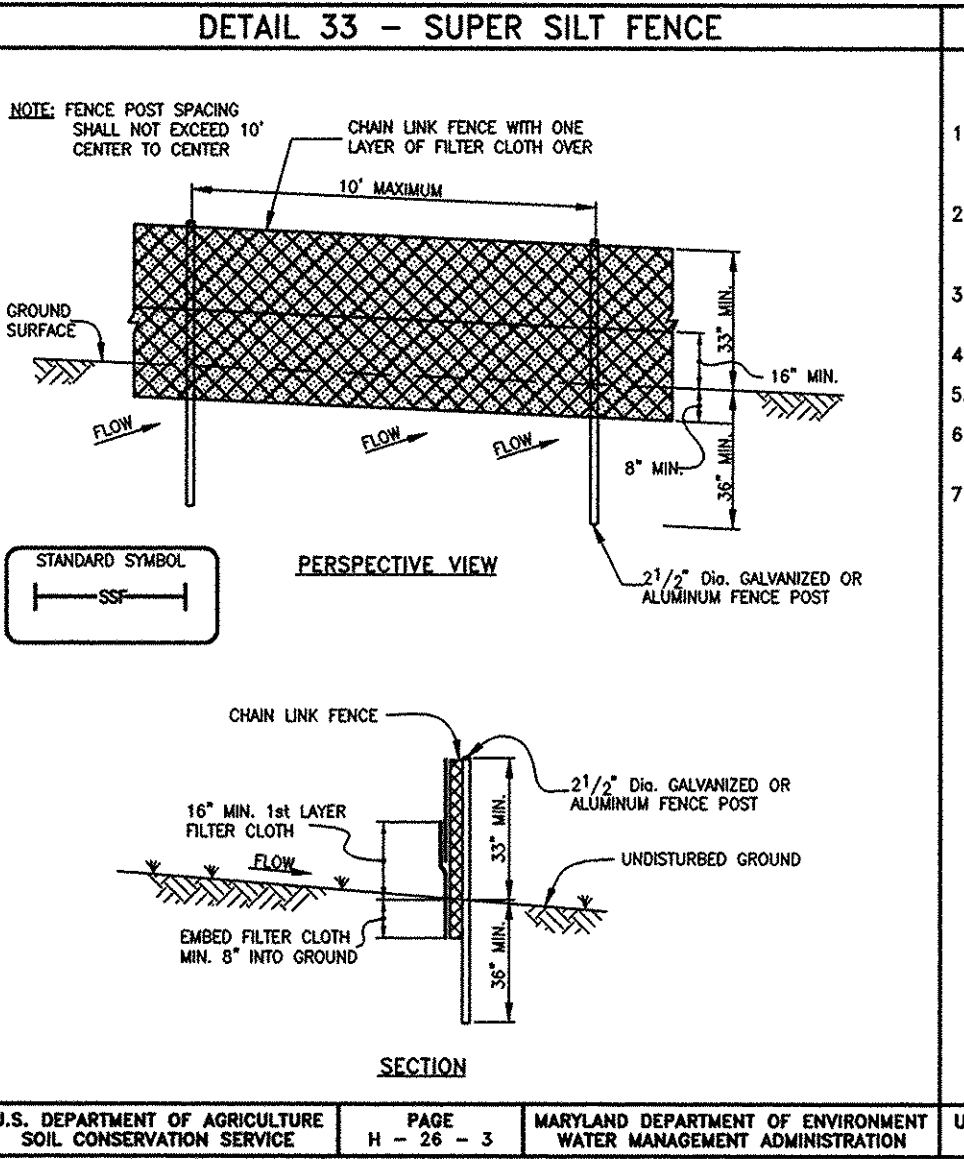
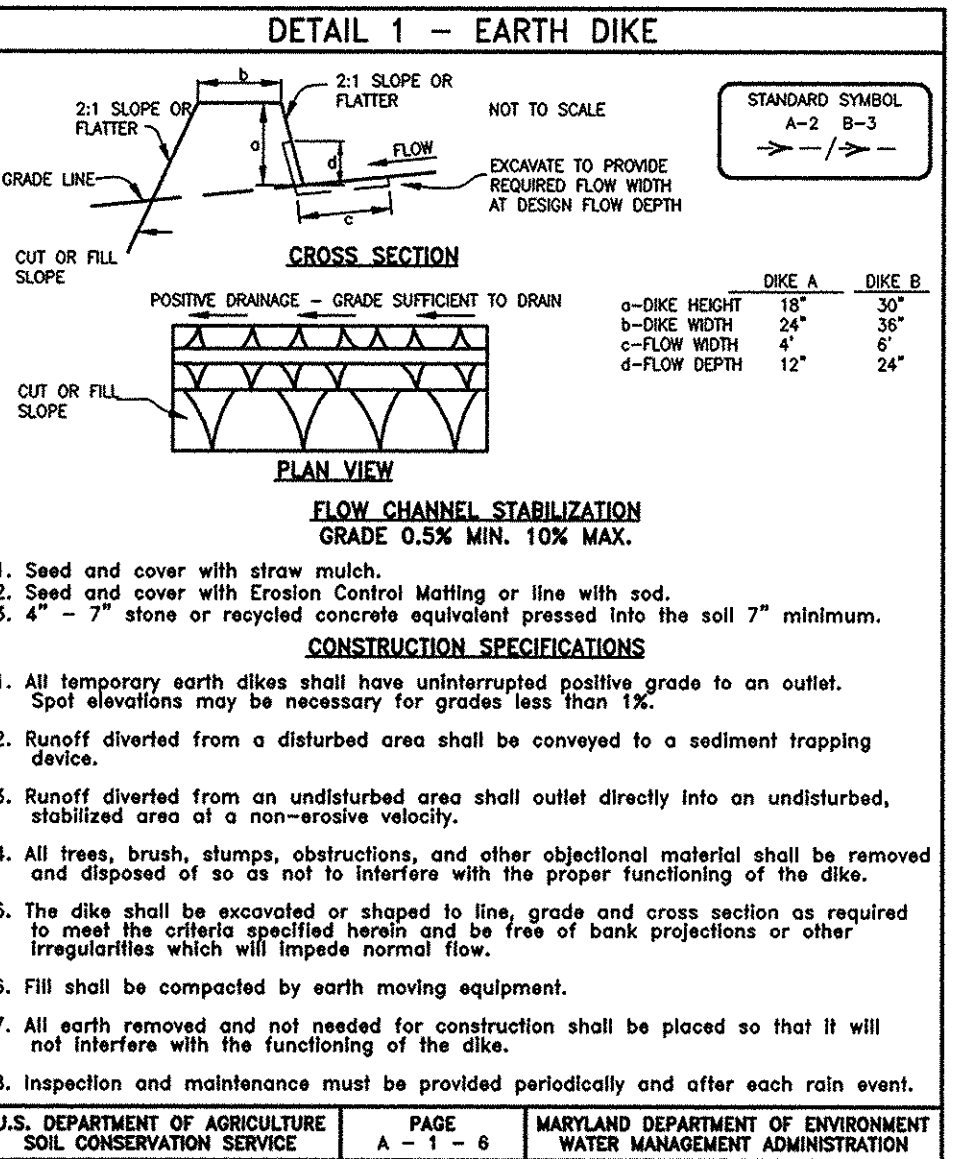
- Topsoil salvaged from the existing site may be used provided that it meets that standards set forth in these specifications. The depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experiment Station.
 - Topsoil Specifications - Soil to be used as topsoil must meet the following:
 - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil shall not be a mixture of contrasting texture subsoils and shall contain less than 5% by volume of clods, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1-1/2" in diameter.
 - Topsoil must be free of plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nutsedge, poison ivy, thistle, or others as specified.
 - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
 - For sites having disturbed areas under 5 acres:
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
 - For sites having disturbed areas over 5 acres:
 - On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - 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.
 - Organic content or topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
- Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.



SEQUENCE OF CONSTRUCTION

NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF CONSTRUCTION

- OBTAIN GRADING PERMIT.
- INSTALL STABILIZED CONSTRUCTION ENTRANCES, TREE PROTECTION FENCES, SILT FENCES, AND SUPER SILT FENCES. INSTALL TEMPORARY STORM CROSSING. (DAY 1-7).
- INSTALL TEMPORARY TSW/POST#1, SED. TRAP#2 AND SEDIMENT BASINS. INSTALL EARTH DIKES AND INSTALL STORM DRAIN FROM 1-43 TO E-10, HW-3 TO M-17 AND POST #3. (DAY 8-52).
- UPON APPROVAL OF THE HO. CO. SEDIMENT CONTROL INSPECTOR, COMMENCE ROAD AND SITE GRADING, STOCKPILE TOPSOIL ON SITE. SUBGRADE SHALL BE STABILIZED IN ACCORDANCE WITH TEMPORARY SEEDBED NOTES. (DAY 53-83)
- NOTES: GRADING, INSTALLATION OF THE STONE BENCH AND PLACEMENT OF SEED AND MULCH FOR THE SANNER ROAD IMPROVEMENTS FROM STA 139+7.75 TO 148+7.75 SHALL BE COMPLETED PRIOR TO COMMENCING GRADING ALONG RIVER COURSE. THE SANNER ROAD SHALL HAVE A STONE BASE AND SEED AND MULCH IN PLACE AND APPROVAL FROM THE HO. CO. SEDIMENT CONTROL INSPECTOR SHALL BE OBTAINED TO CONTINUE TO THE NEXT INTERVAL OF DISTURBANCE.
- UPON APPROVAL OF THE HO. CO. SEDIMENT CONTROL INSPECTOR, COMMENCE WITH CULVERT AND UTILITY CONSTRUCTION. (SEE CULVERT SEQUENCE OF CONSTRUCTION ON SHEET 16). (DAY 84-144).
- INSTALL CONCRETE CURB AND GUTTER. (DAY 145-152).
- INSTALL PAVING. (153-160).
- COMPLETE FINAL GRADING OF SITE (TO EXTENT POSSIBLE), REDISTRIBUTE TOPSOIL OVER SITE AND STABILIZE IN ACCORDANCE WITH PERMANENT SEEDBED NOTES, SEDIMENT CONTROL STD. AND SPEC. Q-21-1 FOR TOPSOIL SPECIFICATIONS. INSTALL EROSION CONTROL MATTING IN SWALES AS DESIGNATED ON PLANS. (DAY 160-170).
- UPON THE APPROVAL OF THE HO. CO. SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT TRAPS 1-3. COMPLETE FILL WITHIN THE TRAP AREAS, CONVERT TRAP NO.3 TO A BOREHOLEMONT FACILITY. INSTALL THE STORM DRAIN FROM M-17 TO E-12, AND STABILIZE IN ACCORDANCE WITH THE PERMANENT SEEDBED NOTES. (DAY 171-175).
- UPON APPROVAL OF THE HO. CO. SEDIMENT CONTROL INSPECTOR, CONVERT SEDIMENT BASINS 1,2, AND 3 TO STORMWATER STORAGE FACILITIES PER CONSTRUCTION PLANS AND EXCAVATE TO FINAL GRADE. CONTRACTOR MUST SECURE PERMISSION OF SEDIMENT CONTROL INSPECTOR BEFORE PROCEEDING. (DAY 176-190).
- UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, COMPLETE FINAL GRADING AND STABILIZE. REMOVE ALL SEDIMENT CONTROL DEVICES AND PERMANENTLY STABILIZE AS NEEDED. (DAY 191-200).



OUTLET PROTECTION DETAIL

NOT TO SCALE

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.

Raymond J. Jones 6/19/98
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.

Robert W. Zick 6/19/98
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Richard M. Danahy 6-15-98
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
William Hamilton 6/23/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

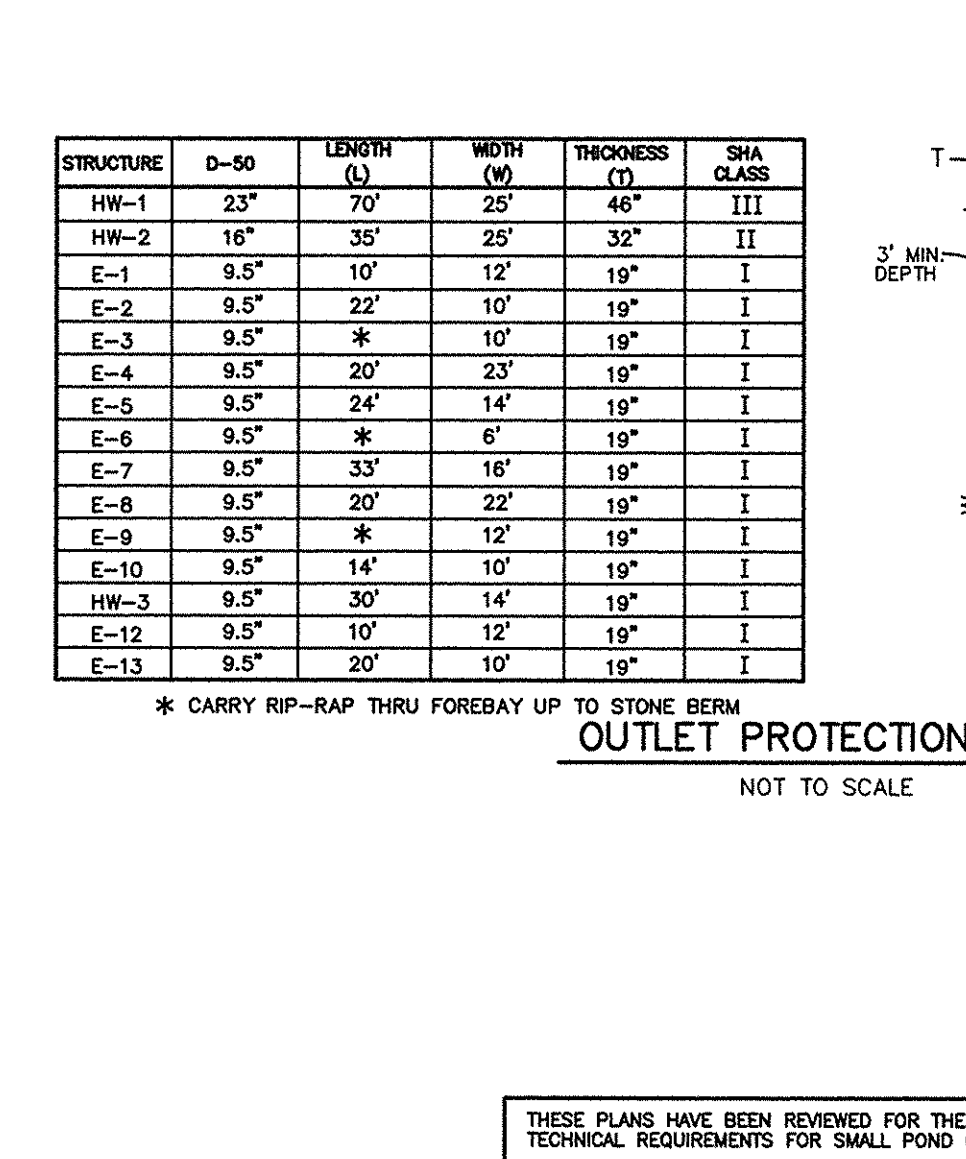
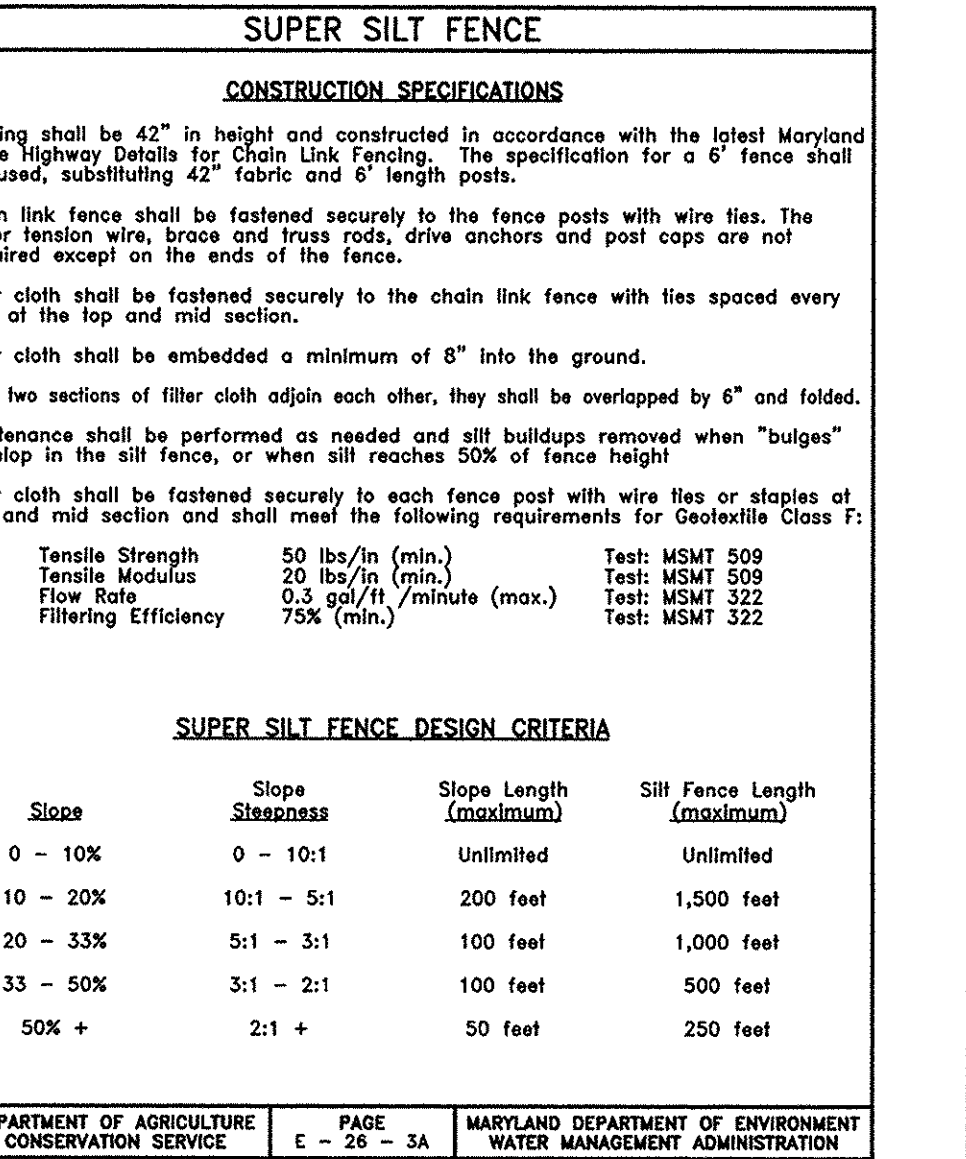
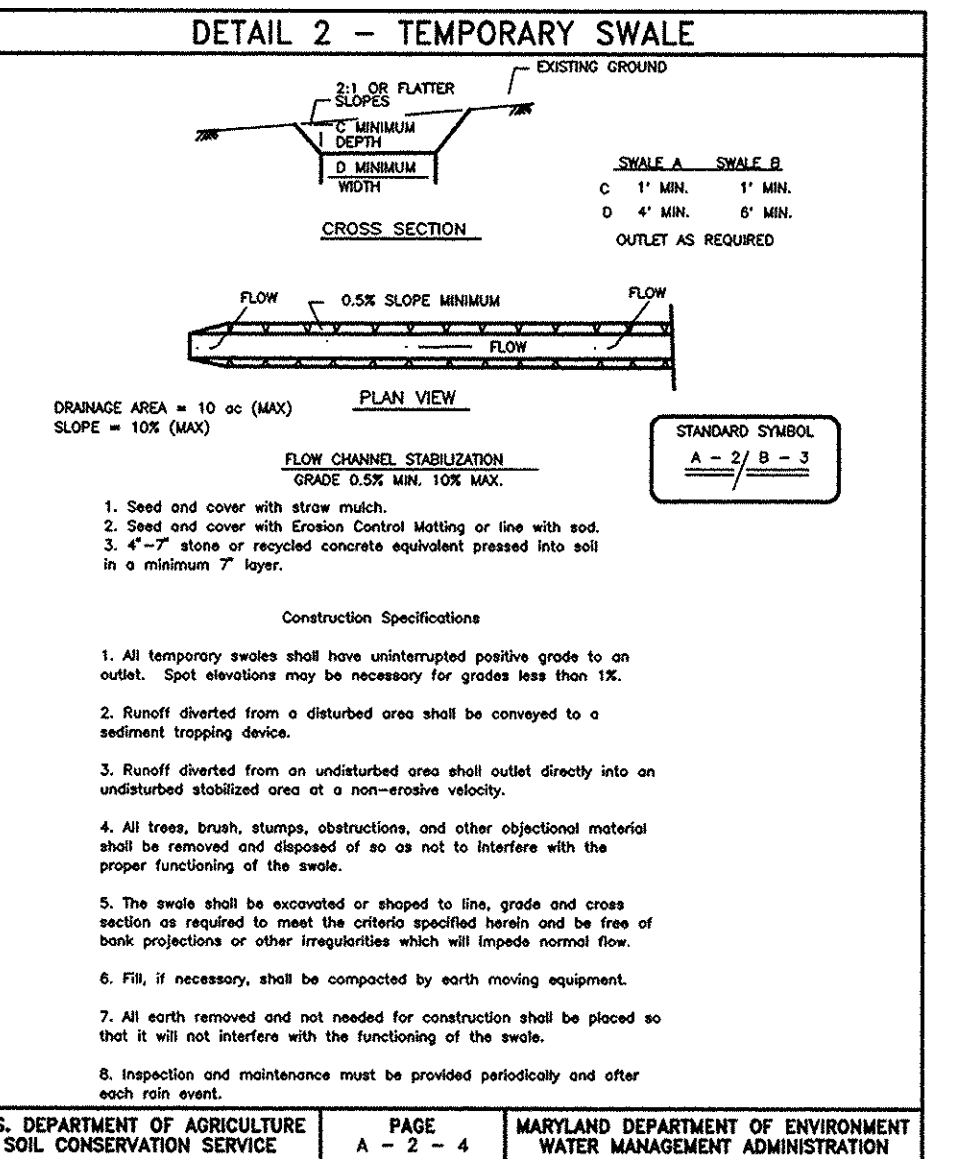
BY THE DEVELOPER:
*I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND STORMWATER BEGINS 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 AUTOMATICALLY PERFORM ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Donald M. Mason 5/28/98
DEVELOPER - TOLL MUD LIMITED PARTNERSHIP DATE

BY THE ENGINEER:
*I/WE 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.

William Hamilton 6/23/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

William Hamilton 6/23/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



OUTLET PROTECTION DETAIL

NOT TO SCALE

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.

Raymond J. Jones 6/19/98
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.

Robert W. Zick 6/19/98
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Richard M. Danahy 6-15-98
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
William Hamilton 6/23/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

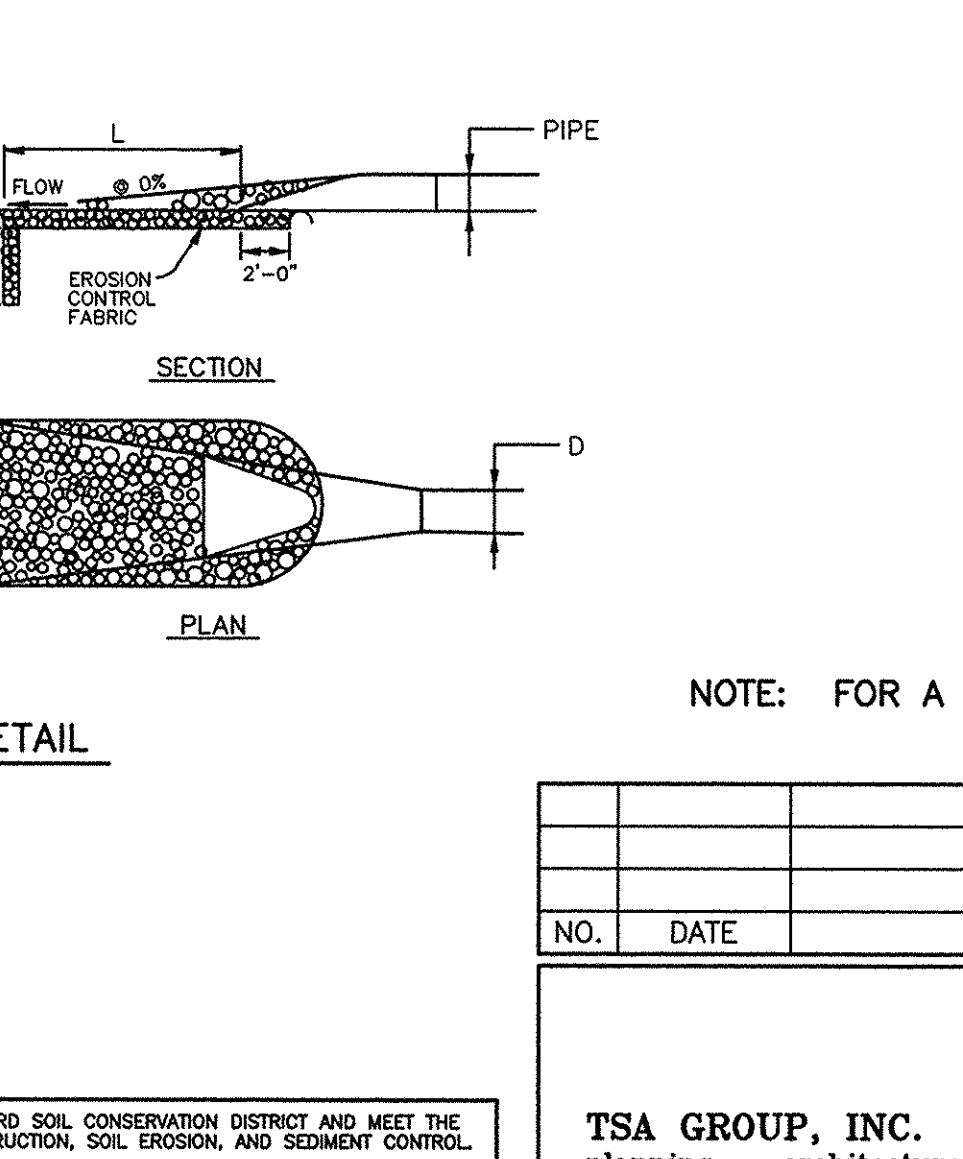
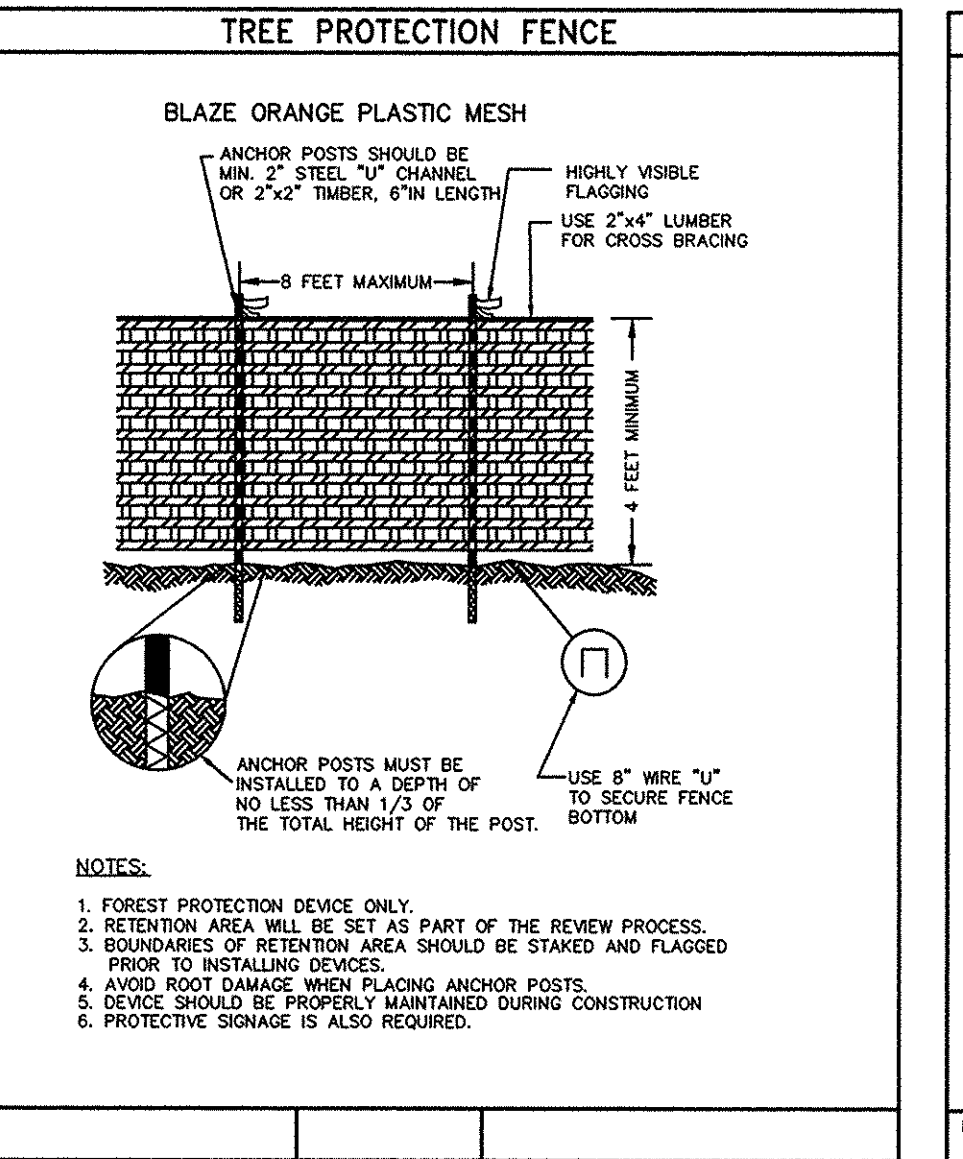
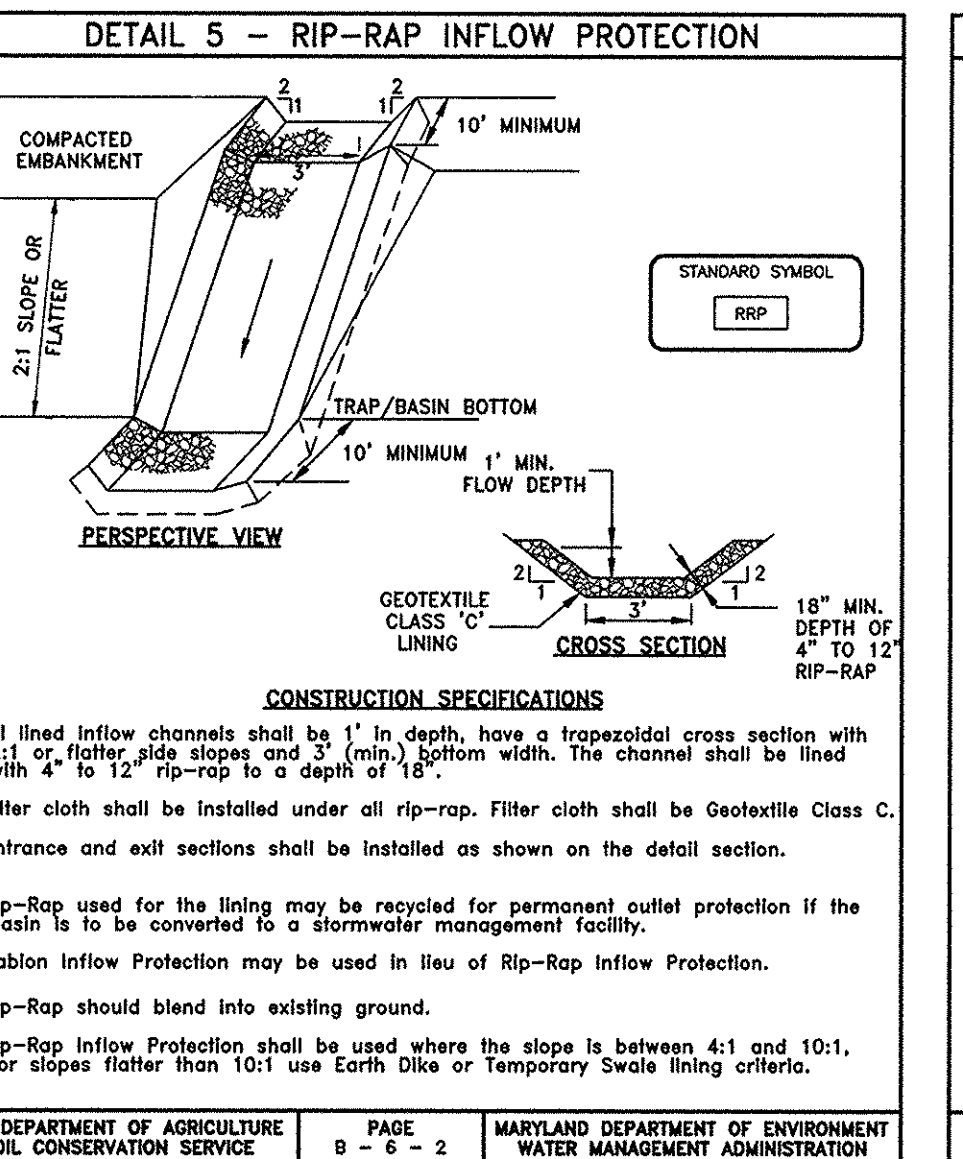
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Donald M. Mason 5/28/98
DEVELOPER - TOLL MUD LIMITED PARTNERSHIP DATE

BY THE ENGINEER:
*I/WE 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.

William Hamilton 6/23/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

William Hamilton 6/23/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



NOTE: FOR A STOCKPILE OR SPOIL AREA CONDITION SEE SHEET 30.

| NO. | DATE | REVISION |
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| | | |

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OWNERS: TOLL MUD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP, 3206 TOWER OAKS BOULEVARD, SUITE 310, ROCKVILLE, MARYLAND 20852

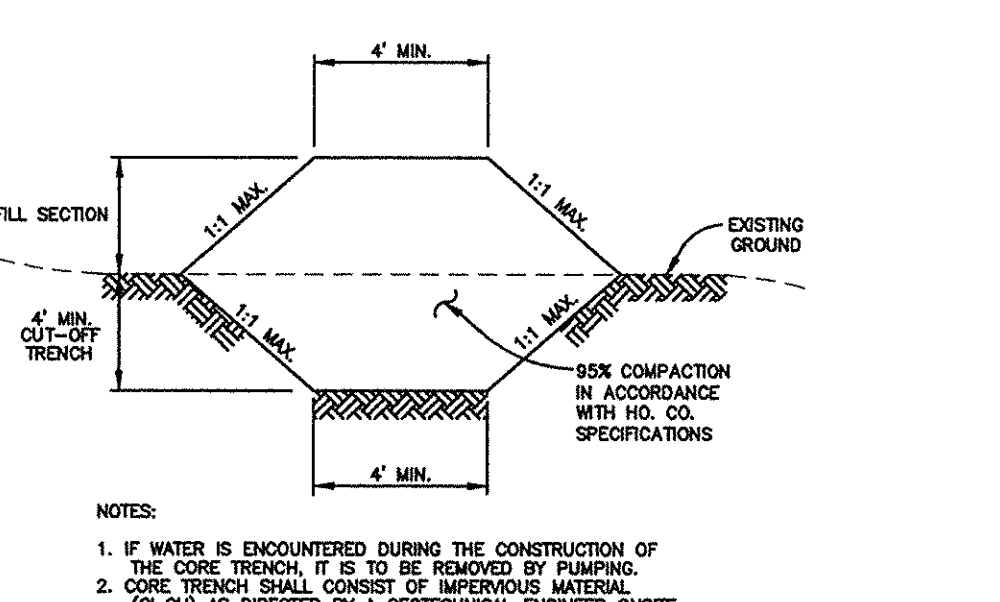
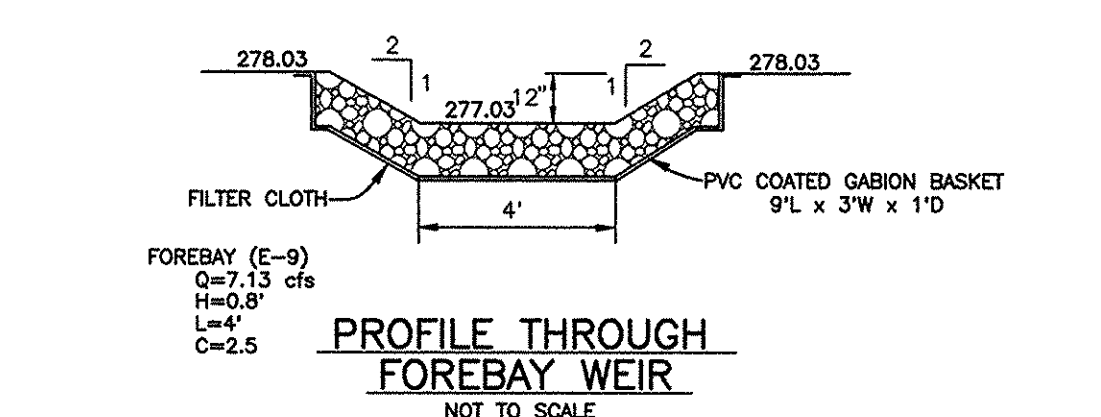
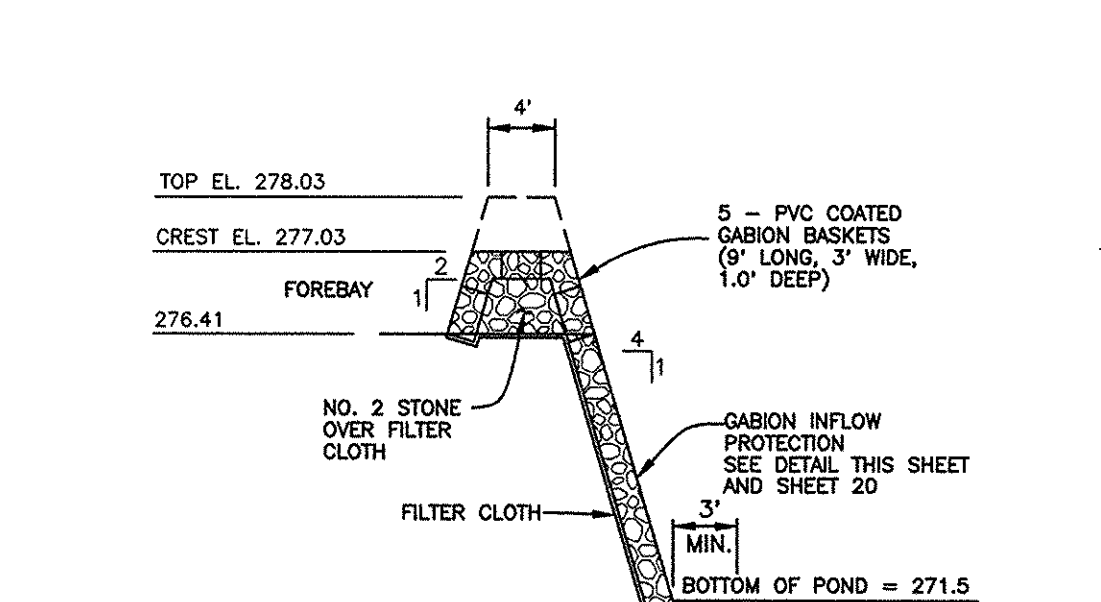
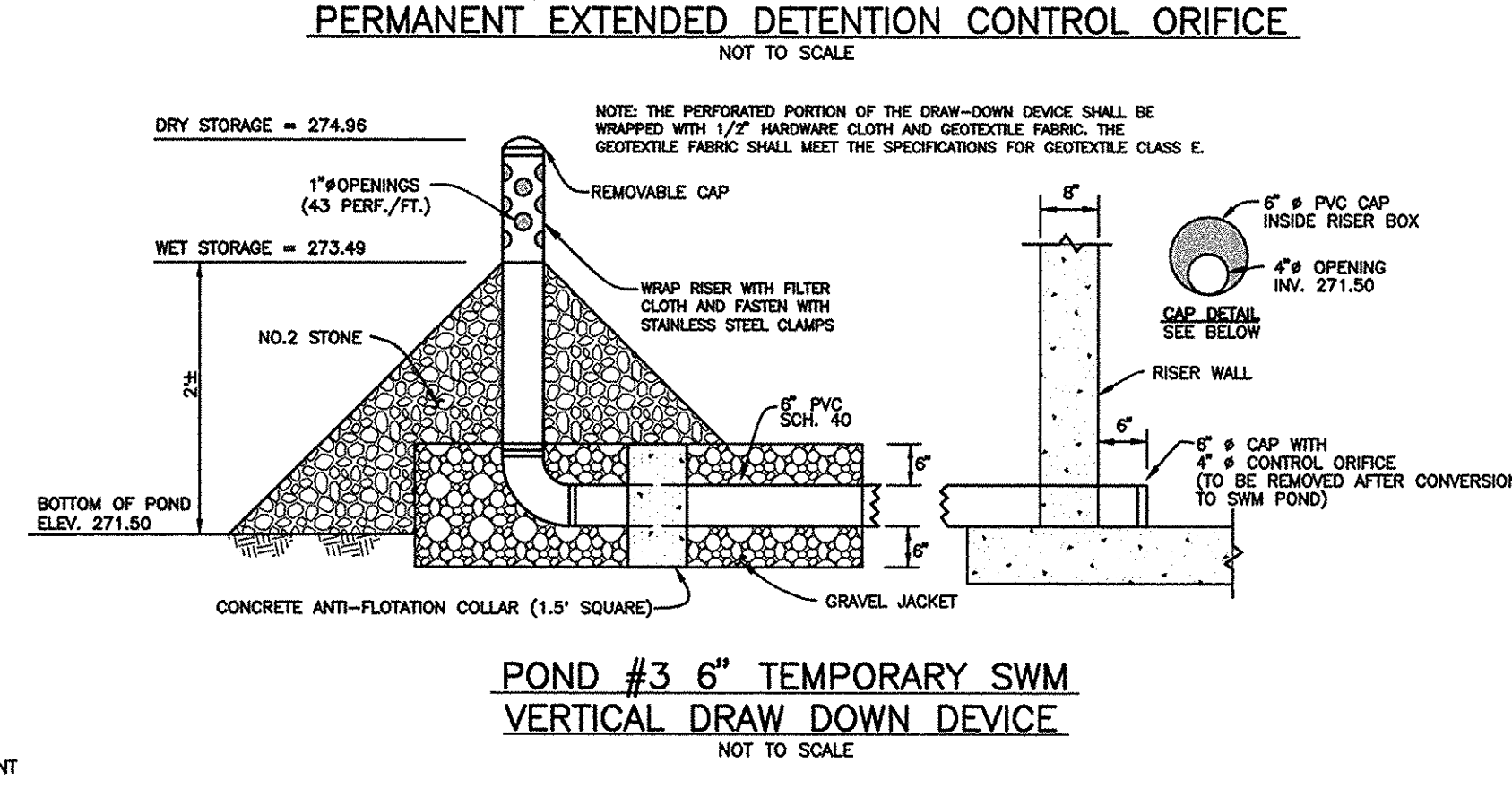
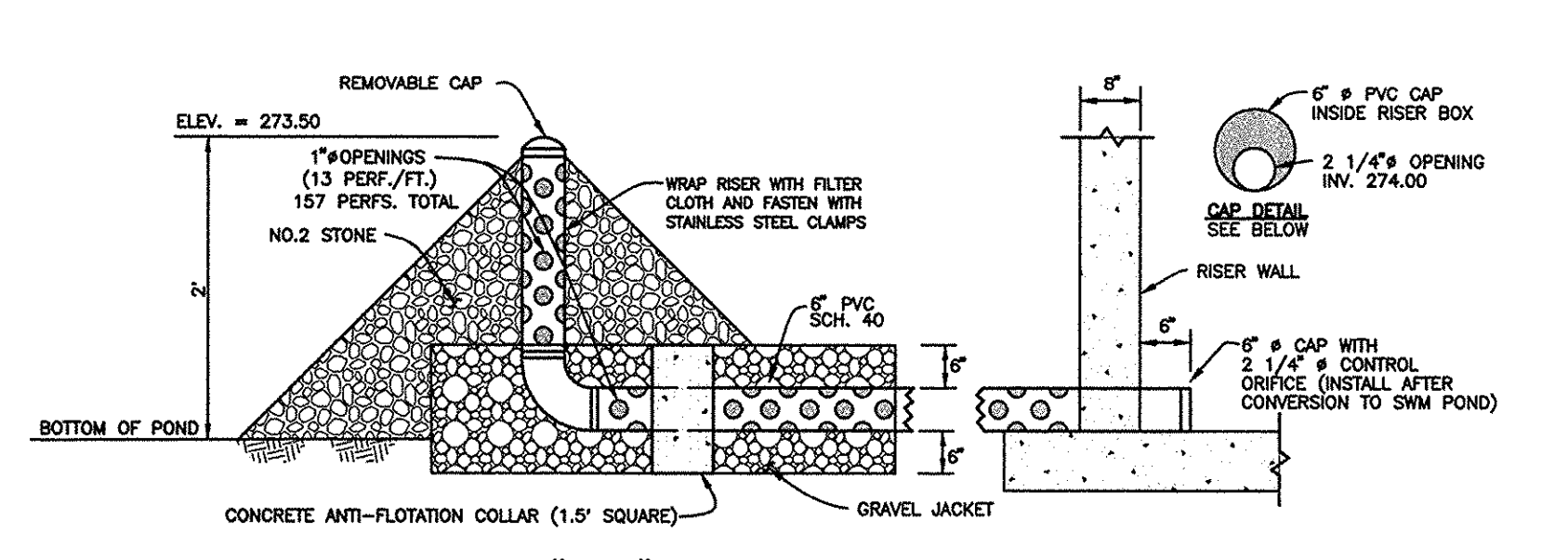
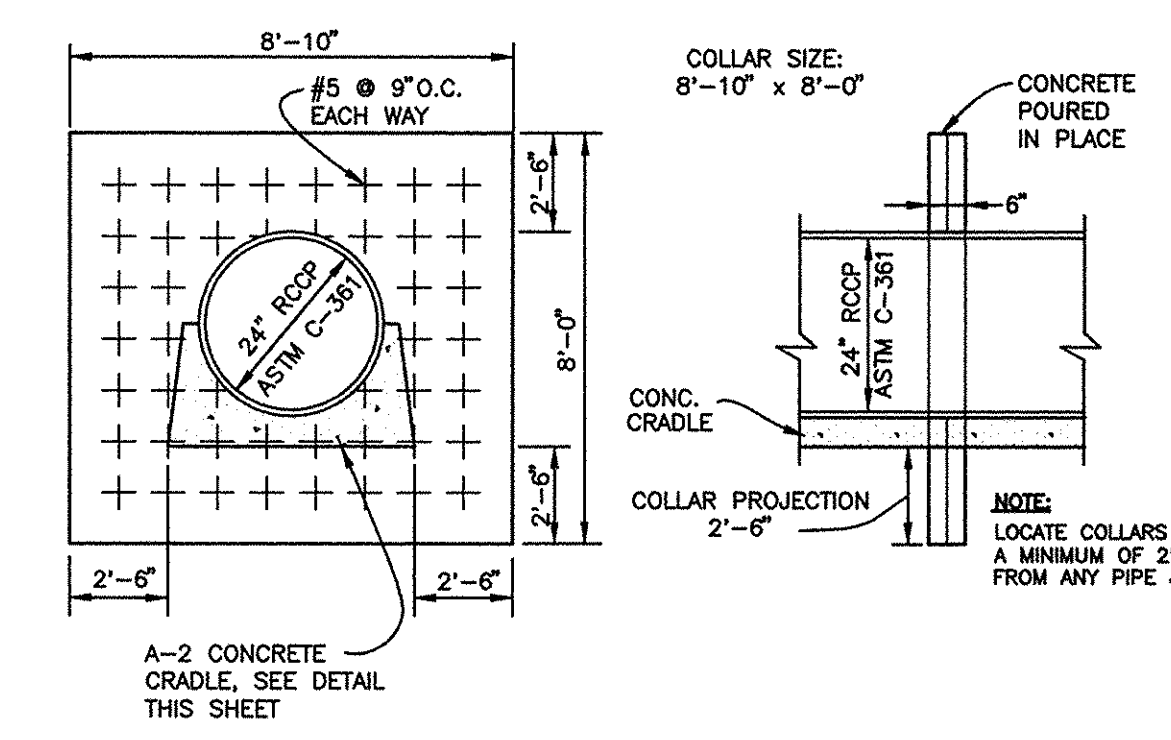
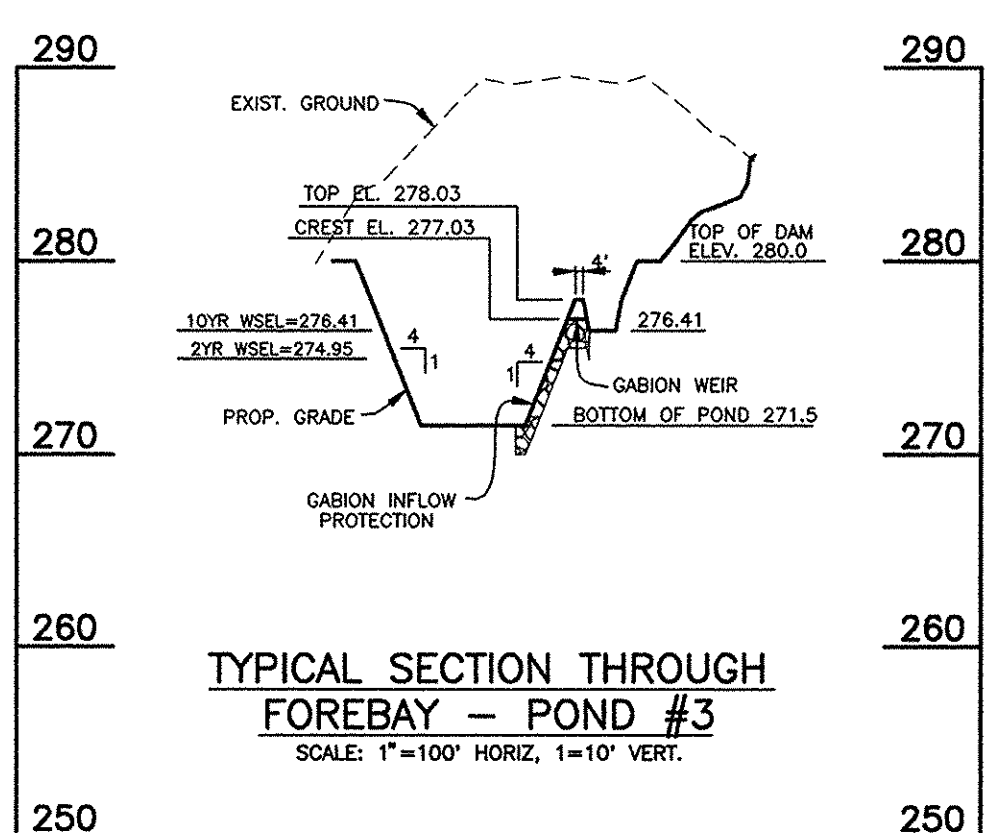
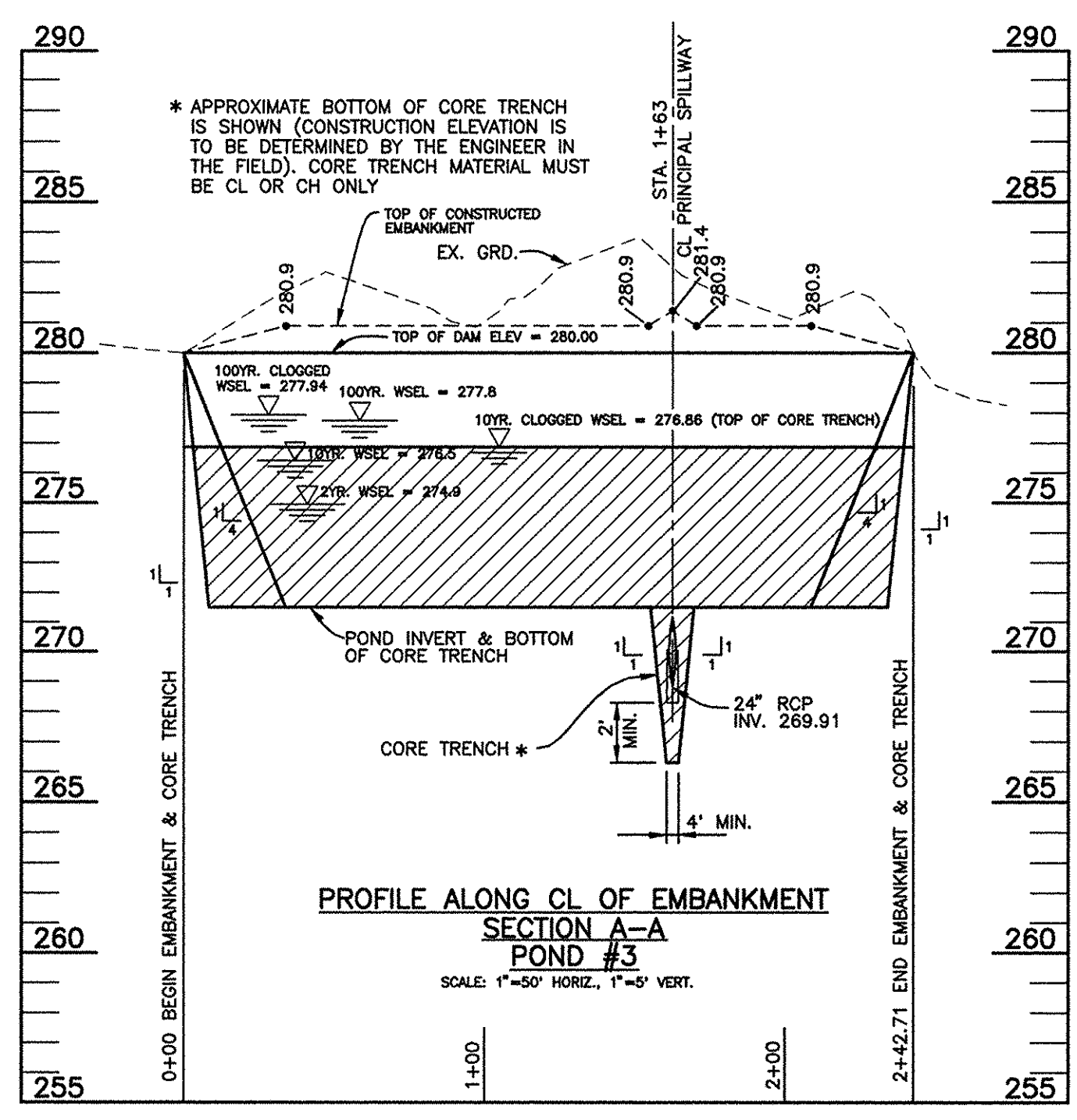
DEVELOPER: TOLL MUD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP, 3206 TOWER OAKS BOULEVARD, SUITE 310, ROCKVILLE, MARYLAND 20852

PROJECT: VILLAGE OF CEDAR RIDGE
A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY

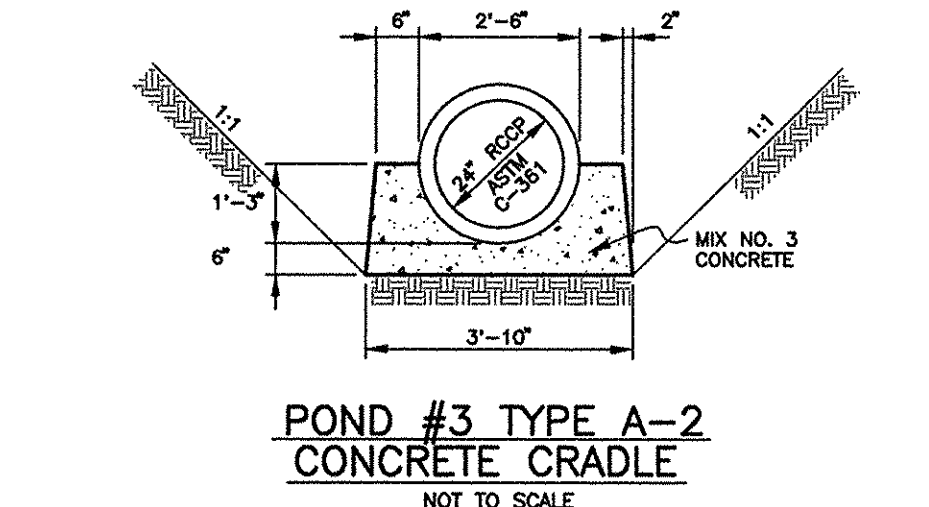
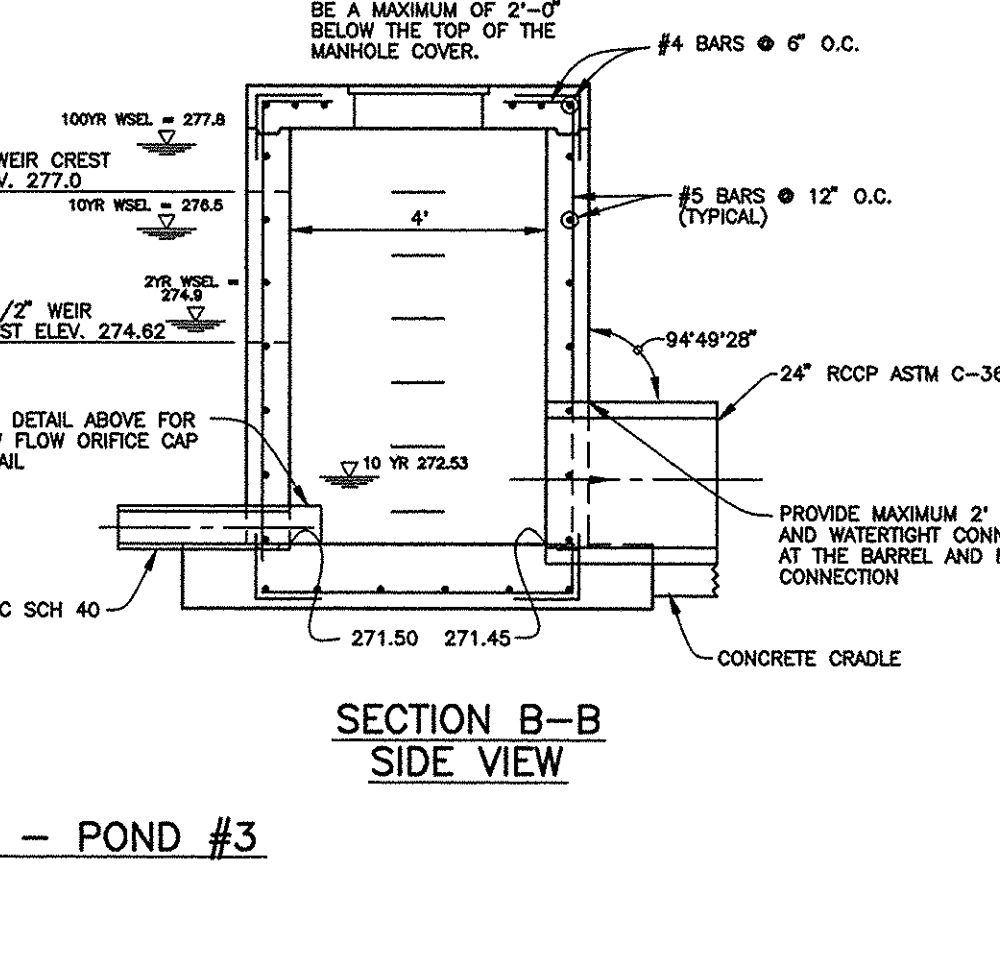
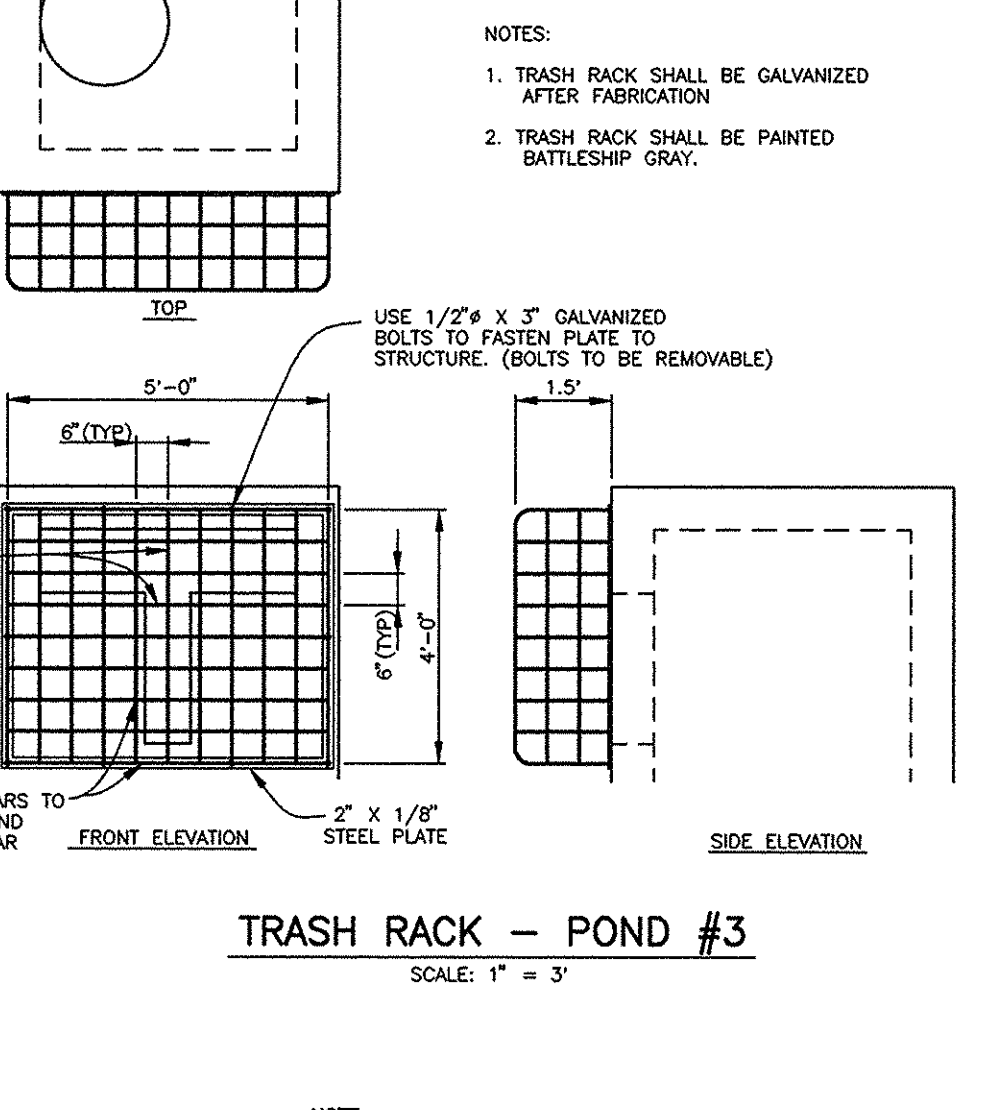
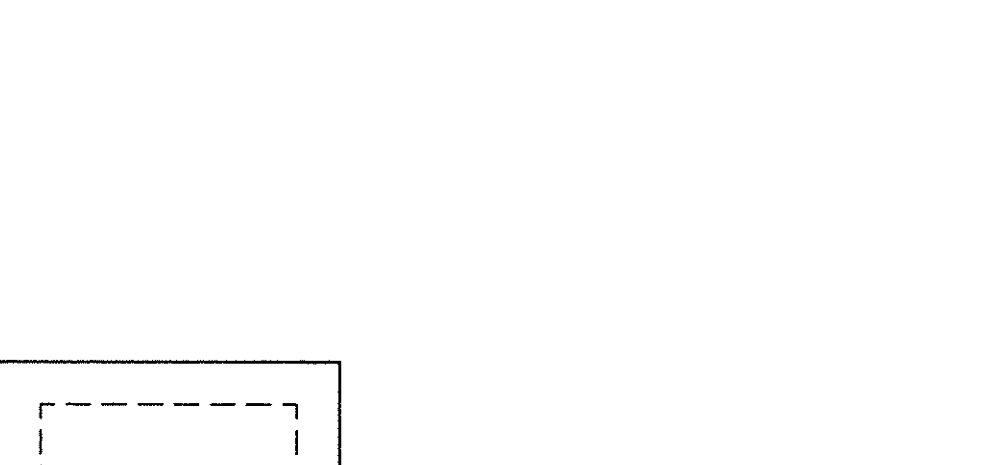
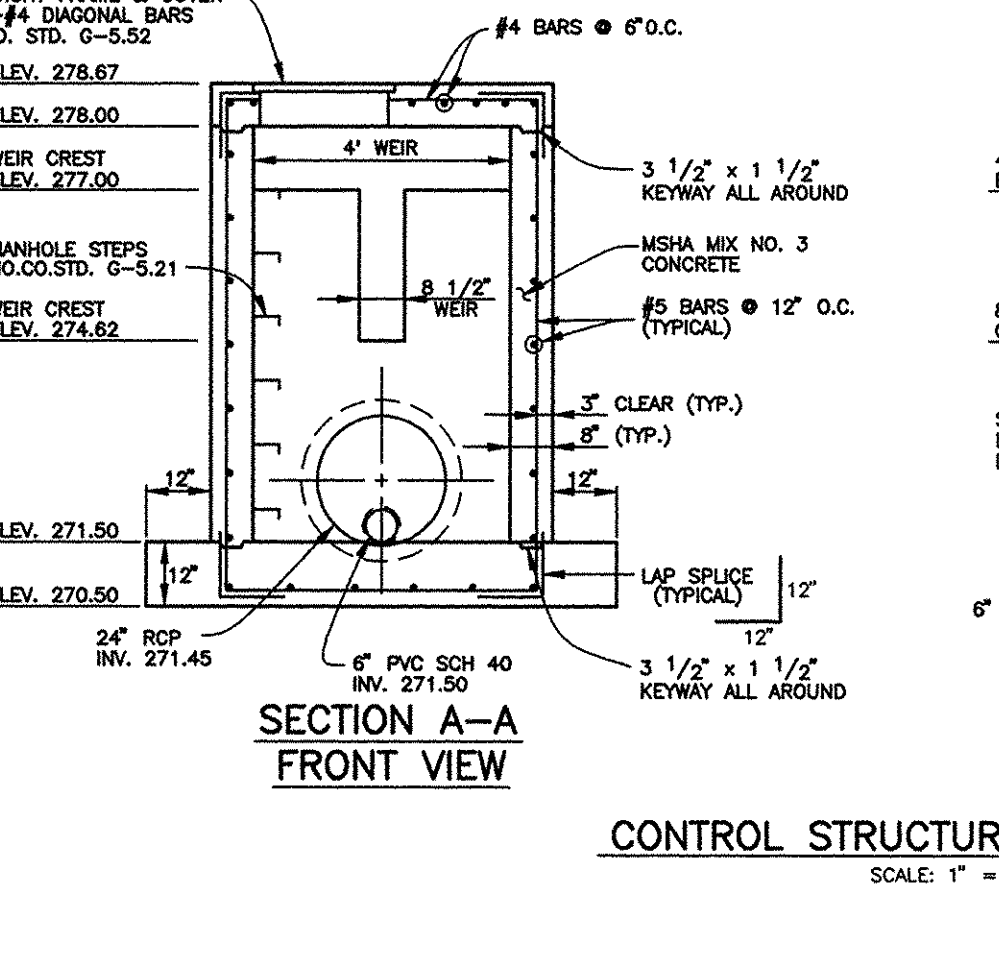
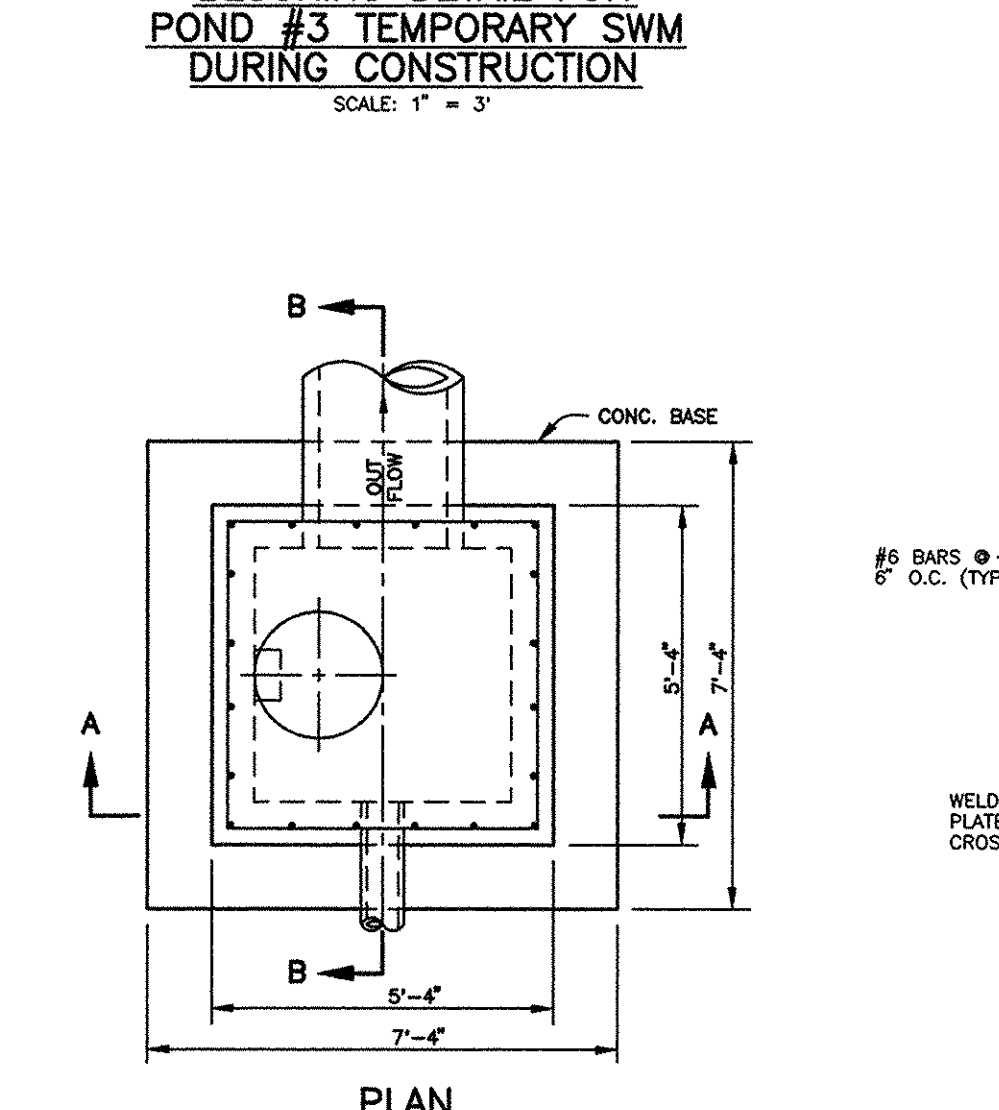
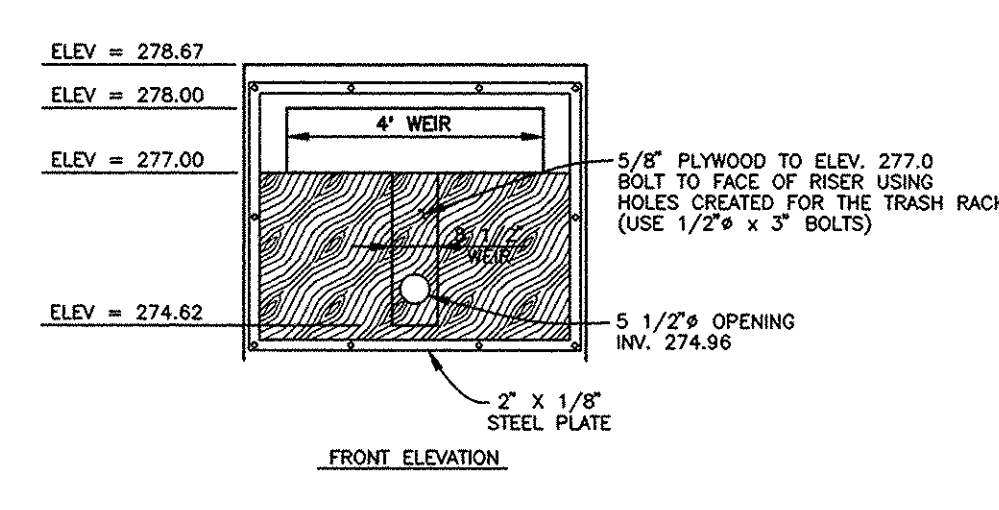
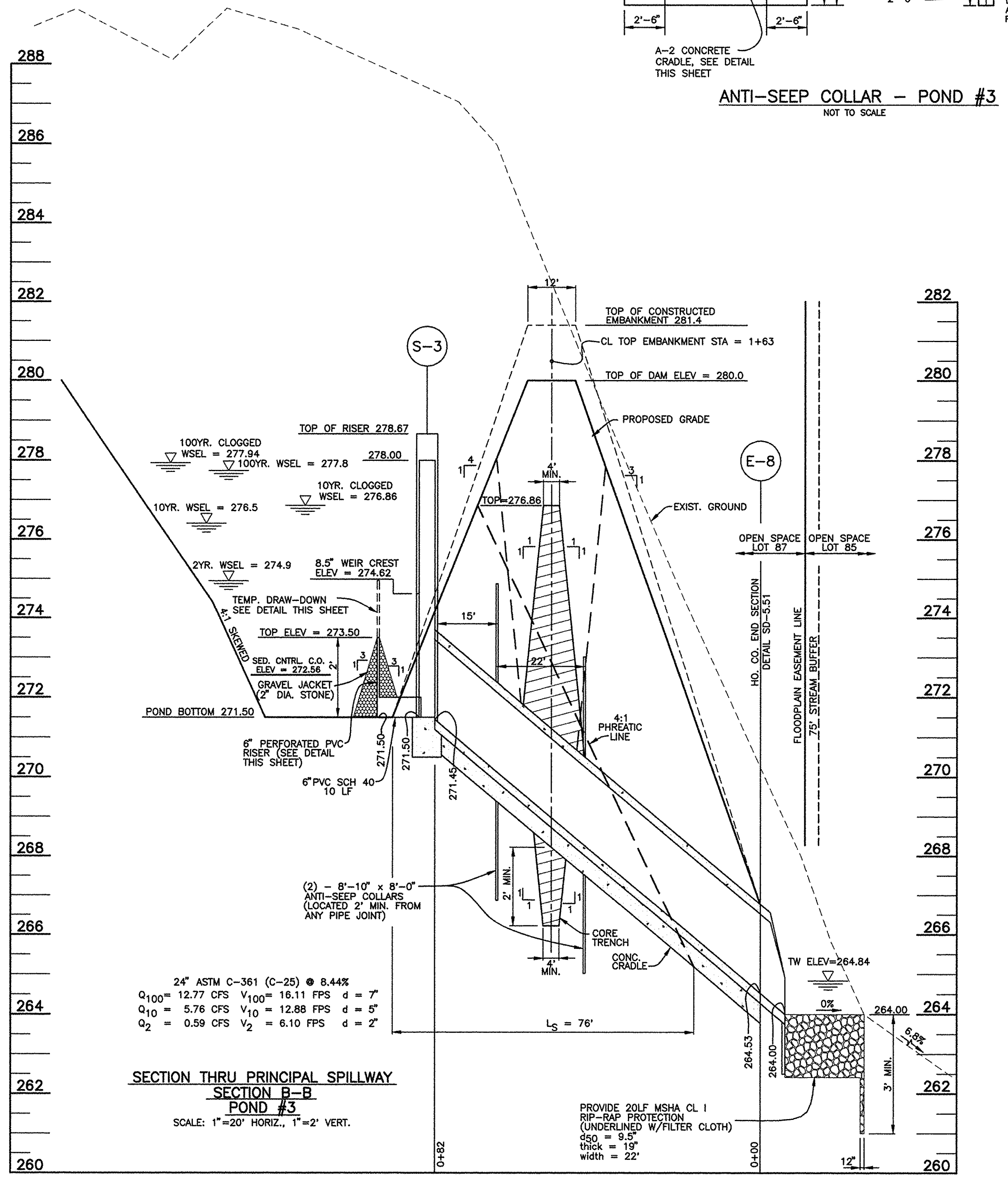
LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: SEDIMENT CONTROL NOTES AND DETAILS

SP-97-02 WP-97-78 PB 3



NOTES:
1. IF WATER IS ENCOUNTERED DURING THE CONSTRUCTION OF THE CORE TRENCH, IT IS TO BE REMOVED BY PUMPING.
2. CORE TRENCH SHALL CONSIST OF IMPROPER MATERIALS (CLCH) AS DIRECTED BY A GEOTECHNICAL ENGINEER ON-SITE AND MAY REQUIRE TO BE HAULLED FROM AN OPPOSITE LOCATION.



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 USCA SCS STANDARDS AND SPECIFICATIONS FOR POND(S) (MD-278). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, MAINTENANCE, INSPECTION AND MAINTENANCE OF IMPROPER MATERIALS (CLCH) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATORS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLOPPING.

AS-BUILT CERTIFICATION
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

FE NO. 21443
DATE 6-1-98
DEVELOPER - TOLL MD LIMITED PARTNERSHIP

BY THE ENGINEER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I 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.

5/10/98
ENGINEER - DONALD A. MASON, P.E. # 21443

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.

6/9/98
NATURAL RESOURCES CONSERVATION SERVICE

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

6-15-98
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS

6/23/98
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT

| NO. | DATE | REVISION |
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OWNERS:
TOLL MD LIMITED PARTNERSHIP
A MARYLAND LIMITED PARTNERSHIP
3206 TOWER OAKS BOULEVARD
SUITE 310
ROCKVILLE, MARYLAND 20852

DEVELOPER:
TOLL MD LIMITED PARTNERSHIP
A MARYLAND LIMITED PARTNERSHIP
3206 TOWER OAKS BOULEVARD
SUITE 310
ROCKVILLE, MARYLAND 20852

DESIGN: MLV **DRAFT:** DBT **CHECK:** DAM

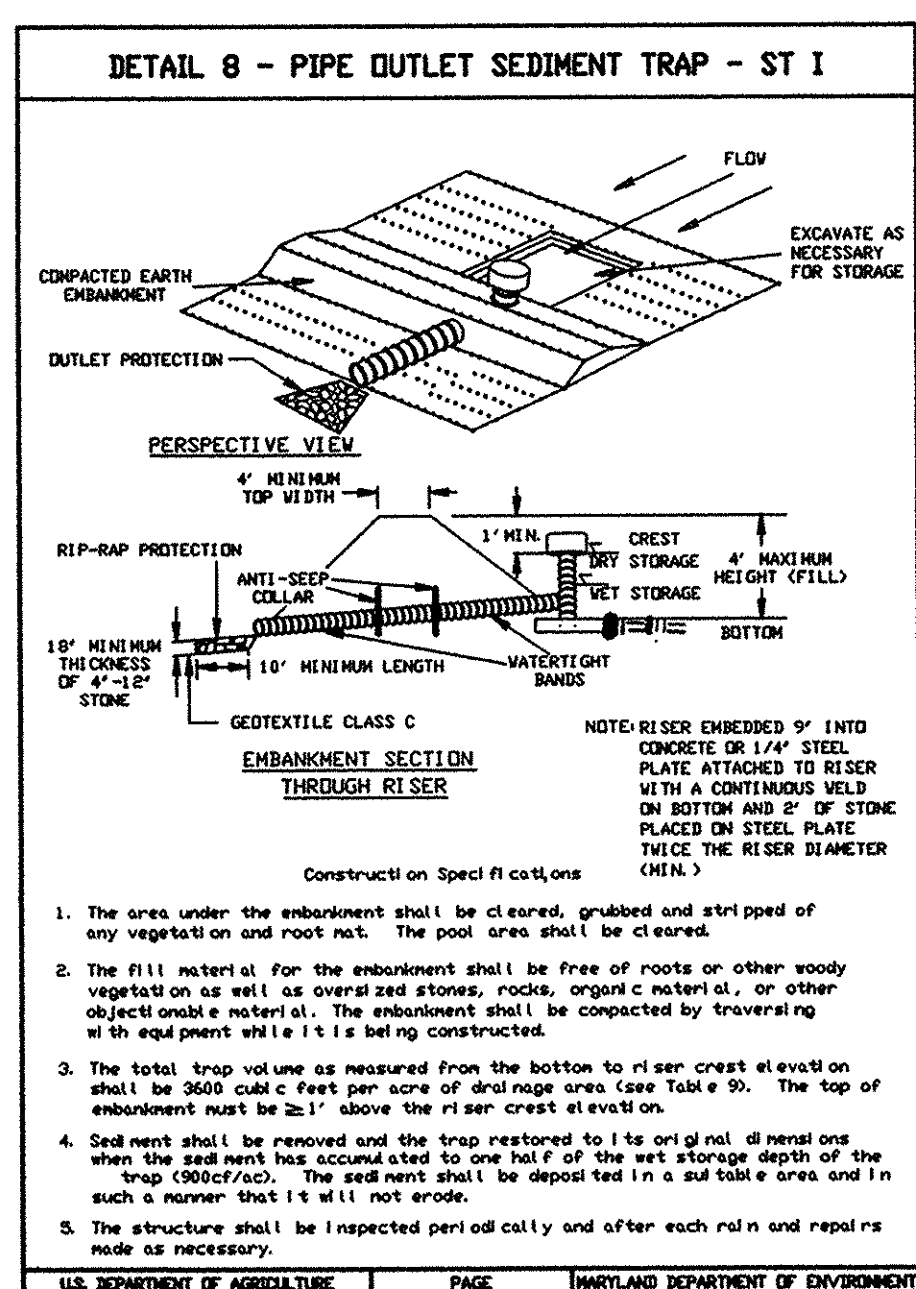
PROJECT: VILLAGE OF CEDAR RIDGE
A SUBDIVISION OF PARCEL 44 (TAX MAP #41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY

LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: STORMWATER MANAGEMENT DETAILS POND #3
SP-97-02 WP-97-78 PB 312 F-93-70 WP-98-82

DATE: OCTOBER, 1997
MAY, 1998

SCALE: AS SHOWN **SHEET 25 OF 31**



PIPE OUTLET SEDIMENT TRAP - ST I

6. Construction operations shall be carried out in such a manner that erosion and water pollution are avoided. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. For areas of concentrated inflow, the riser shall be protected in accordance with Grade Stabilization on Structures on Critical Areas. The remainder of the inflow or discharge should be stabilized (see Note 1) at seed and mulch upon trap completion and not tared and not installed on free during the life of the trap.

7. The structure shall be removed and area stabilized when the drainage area has been properly stabilized.

8. All cut and fill slopes shall be 3:1 or flatter.

9. All pipe connections shall be watertight.

10. Above the wet storage elevation, the riser shall be perforated with 1/2" x 1/2" x 1/2" Long x 1/2" x 1/2" spaced 6" vertically and horizontally. No perforations will be allowed within 6" of the horizontal barrel.

11. The riser shall be wrapped with 1/2" hardware cloth (wire) then wrapped with Geotextile Class C. The filter cloth shall extend 6" above the highest sill and 6" below the lowest sill. Where ends of filter cloth come together, they shall be overlapped, folded and fastened to prevent bypass. Filter cloth shall be replaced as necessary to prevent clogging.

12. Straps on connecting bands shall be used to hold the filter cloth and wire fabric in place. They shall be placed at the top and bottom of the cloth.

13. Fill material around the pipe shall be placed in 4" layers. A minimum of 2" of hand-compacted backfill shall be placed over the pipe spillway before crossing it in the construction equipment.

14. The riser shall be anchored at all times a concrete base or steel plate base to prevent flotation. Concrete bases shall be at least 12" x 12" x 12" and steel plate bases shall be at least 1/2" thick and 12" x 12" in plan. The concrete base shall be attached to the bottom of the riser by a continuous weld to form a watertight connection. Then place 2" of concrete, gravel or tamped earth on the plate.

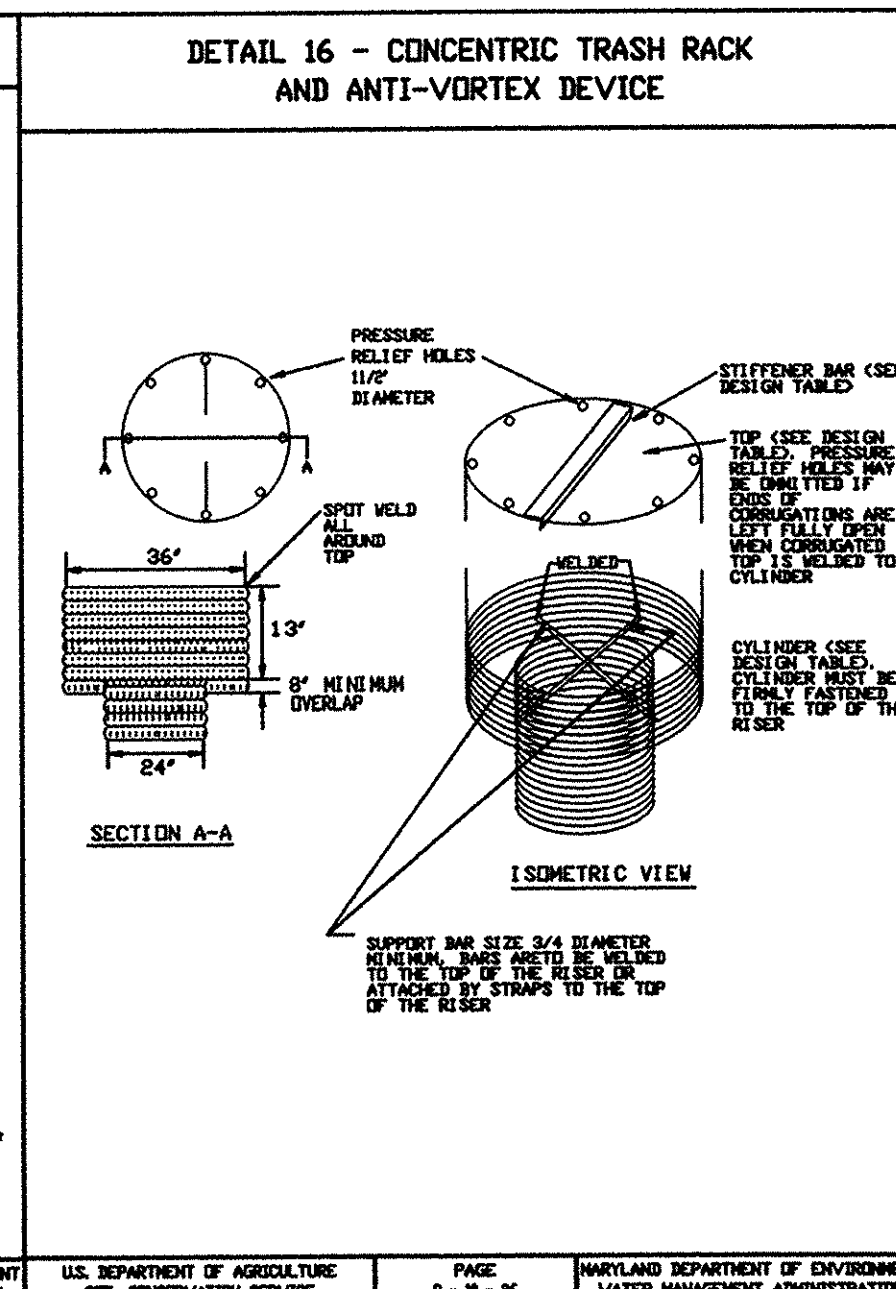
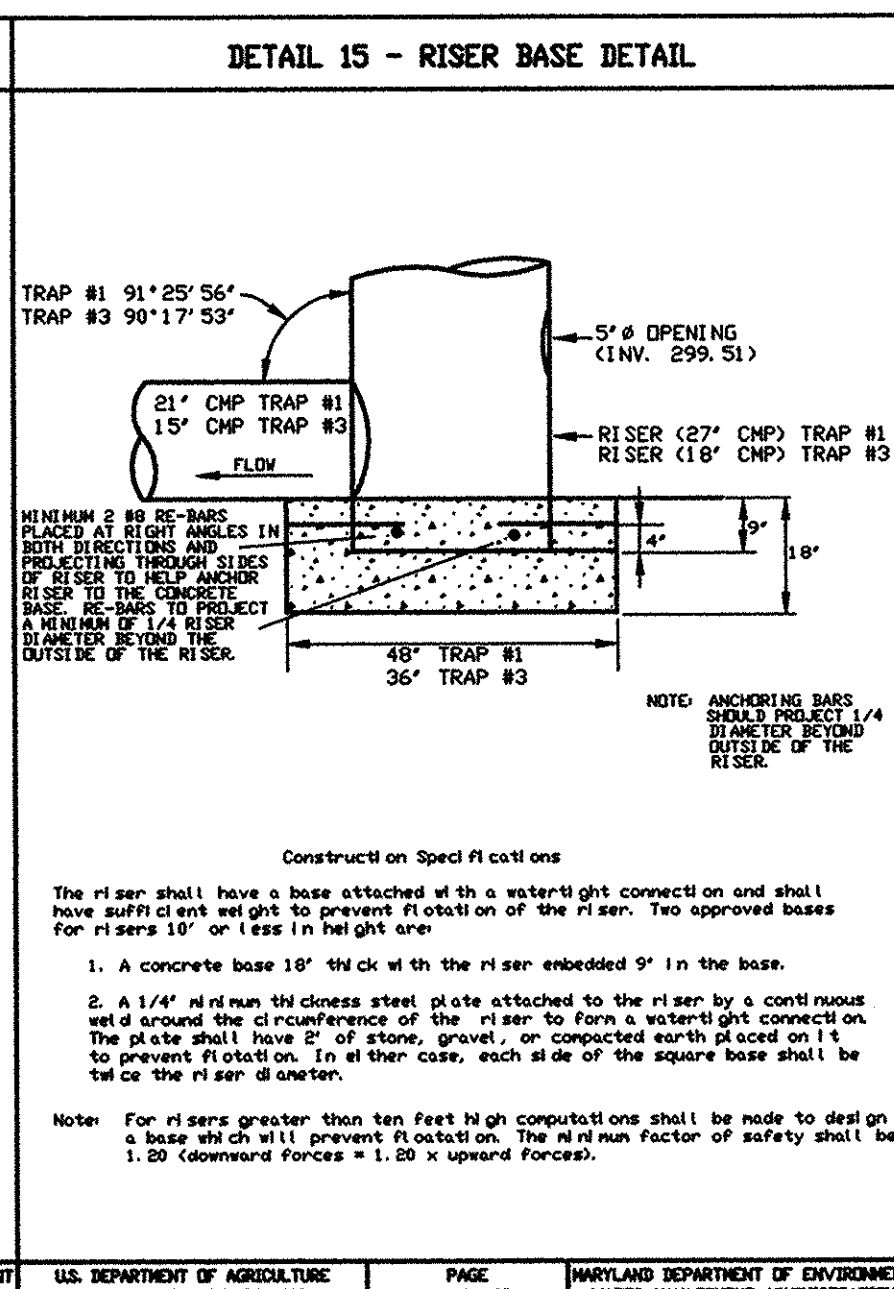
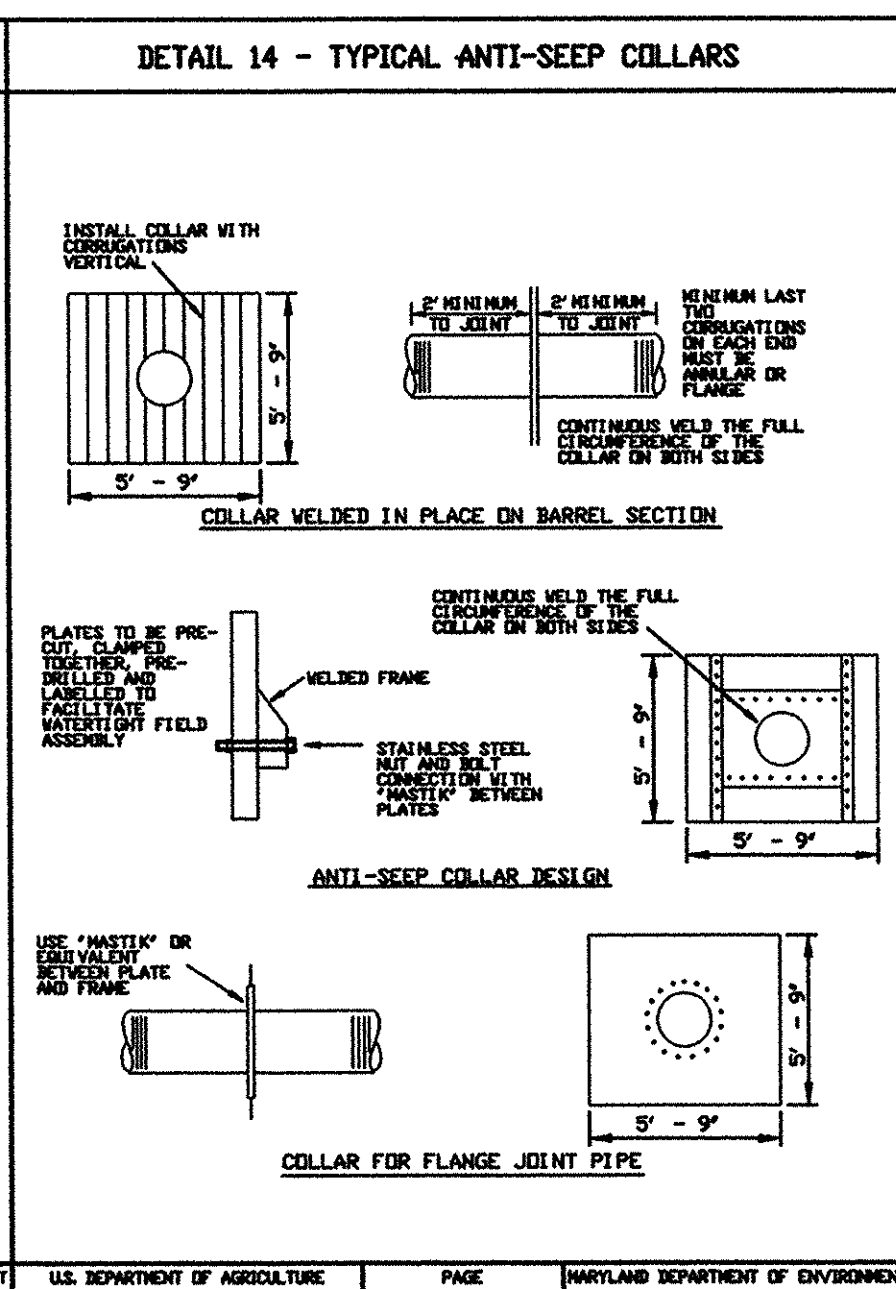
15. Anti seep collars shall be constructed in accordance with plans (ref. table 16 and Detail 13 and 14).

16. Concentric trash rack and anti-vortex device detail is on Detail 16.

17. Refer to Section B for detouring requirements of sediment traps.

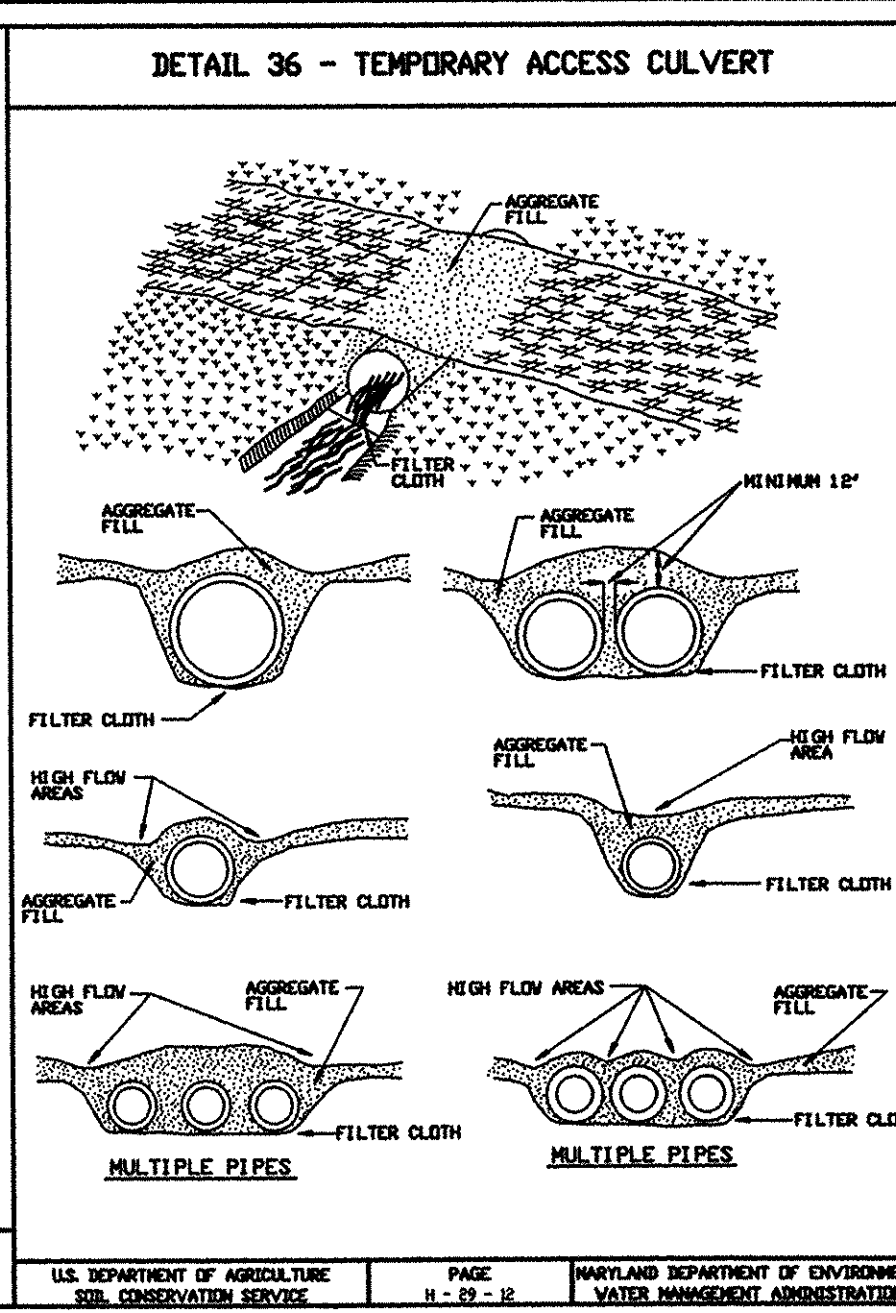
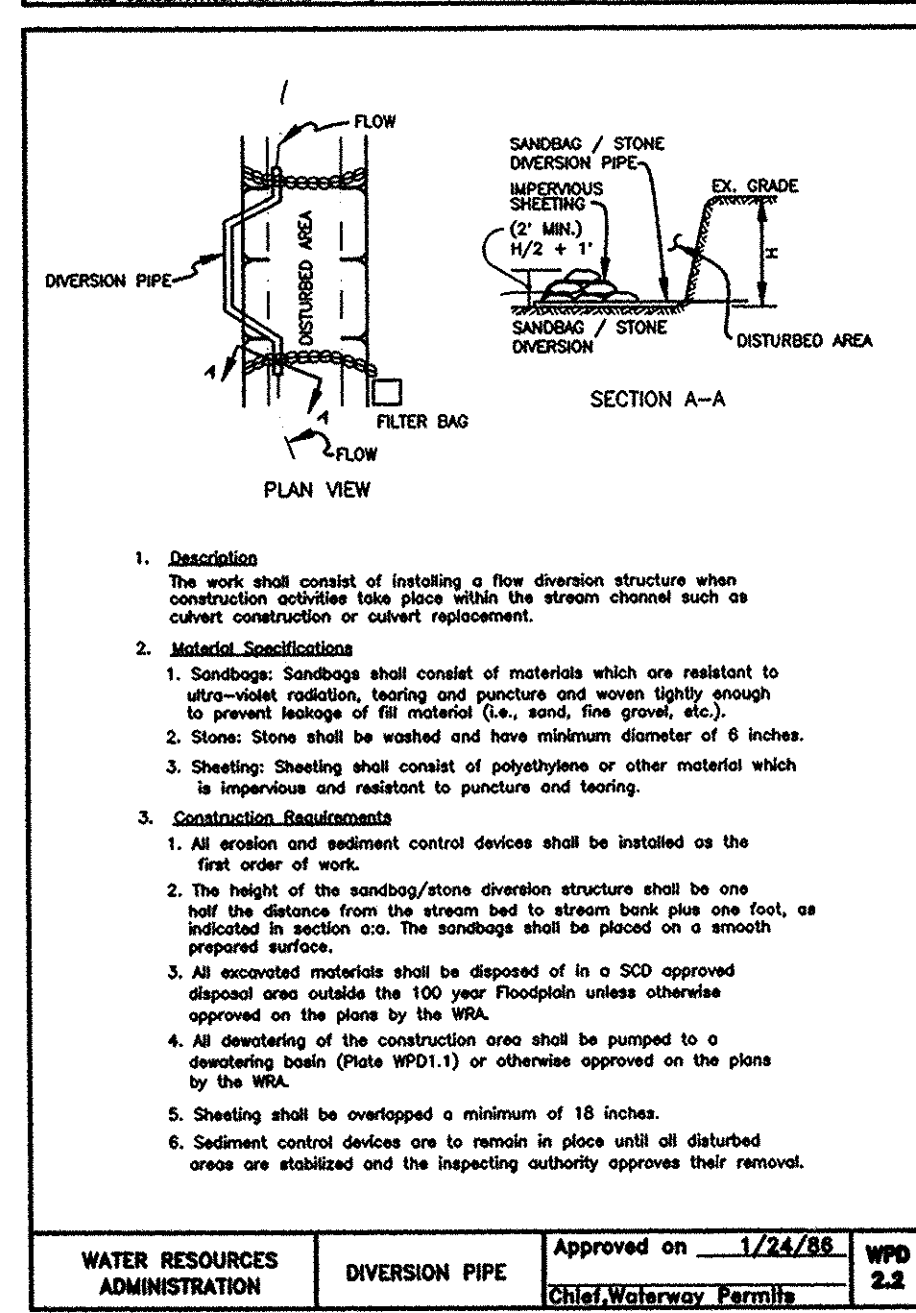
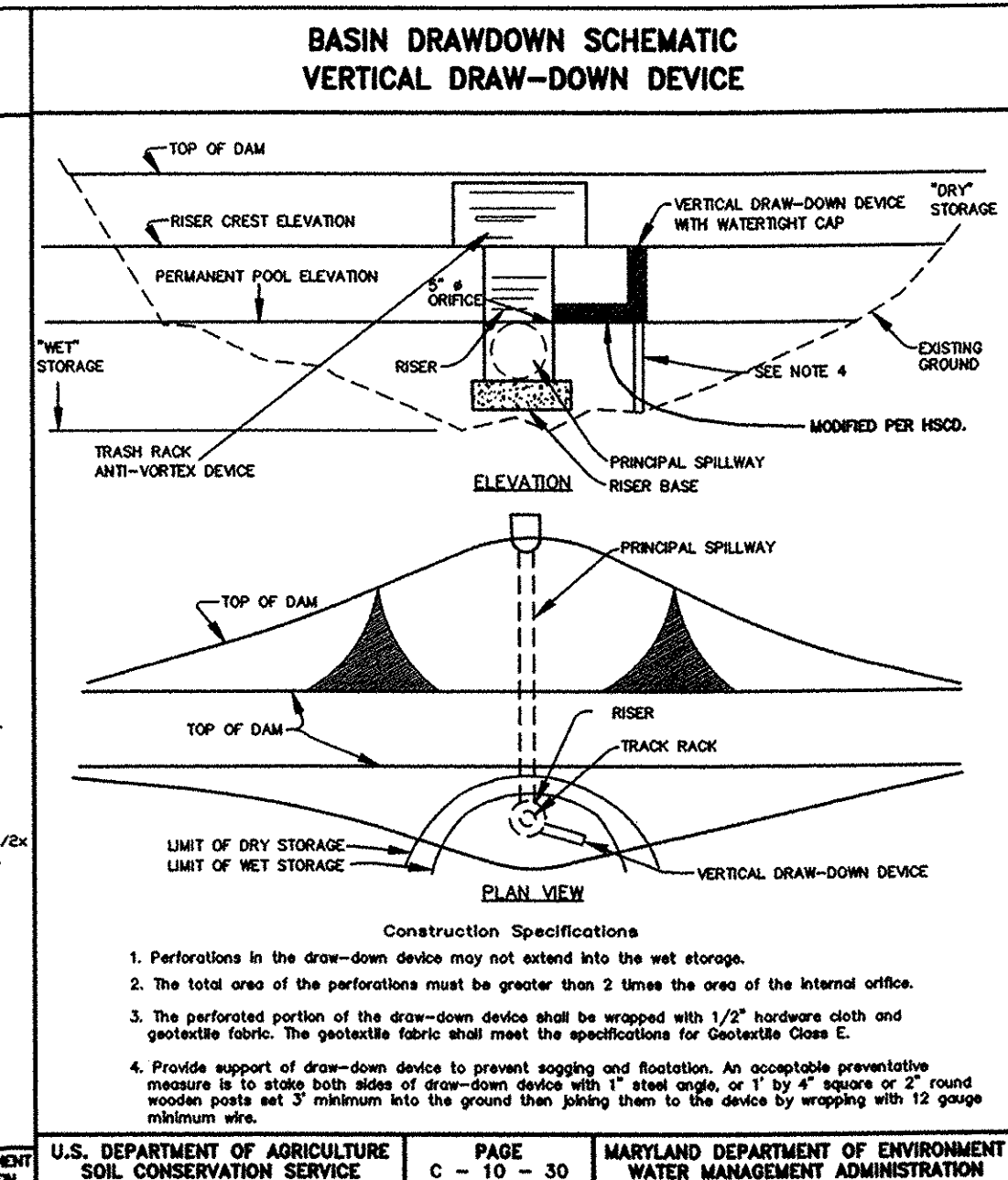
18. Outlet - An outlet shall be provided, which includes a means of conveying the discharge in an erosion free manner to an existing stable channel.

19. Where discharge occurs at the property line, local ordinances and drainage easement requirements shall be met.



DETAIL 16 CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE (continued)

| Riser ID | Trash Rack ID | Trash Rack Dia. (in.) | Trash Rack Ht. (in.) | Riser Dia. (in.) | Riser Ht. (in.) | Material | Notes |
|----------|---------------|-----------------------|----------------------|------------------|-----------------|----------|-------|
| 12 | 18 | 16 | 6 | 86 | Rebar | 16 ga. | |
| 15 | 21 | 16 | 7 | | | | |
| 18 | 27 | 16 | 8 | | | | |
| 21 | 30 | 16 | 11 | | | | |
| 24 | 36 | 16 | 13 | | | | |
| 27 | 42 | 16 | 15 | | | | |
| 36 | 54 | 14 | 17 | 80 | Rebar | 12 ga. | |
| 42 | 60 | 14 | 19 | | | | |
| 48 | 72 | 12 | 21 | 1-1/2\"/> | | | |



TEMPORARY ACCESS CULVERT

CONSTRUCTION SPECIFICATIONS

1. Restrictions - No construction or removal of a temporary access culvert will be permitted between October 1 through April 30 for Class III and Class IV Trout Waters or between March 1 through June 15 for non-trout waters.

2. Culvert Strength - All culverts shall be strong enough to support the cross section area under normal expected loads.

3. Culvert Size - The size of the culvert pipe shall be the largest pipe diameter that will fit into the existing channel without major excavation of the waterway channel or at least major approach fills. If a channel width exceeds 3 feet, additional pipes may be used until the cross section area of the pipe is greater than 60 percent of the cross section area of the existing channel. The minimum size culvert that may be used is a 12" diameter pipe. In all cases, the pipe shall be large enough to convey normal stream flows.

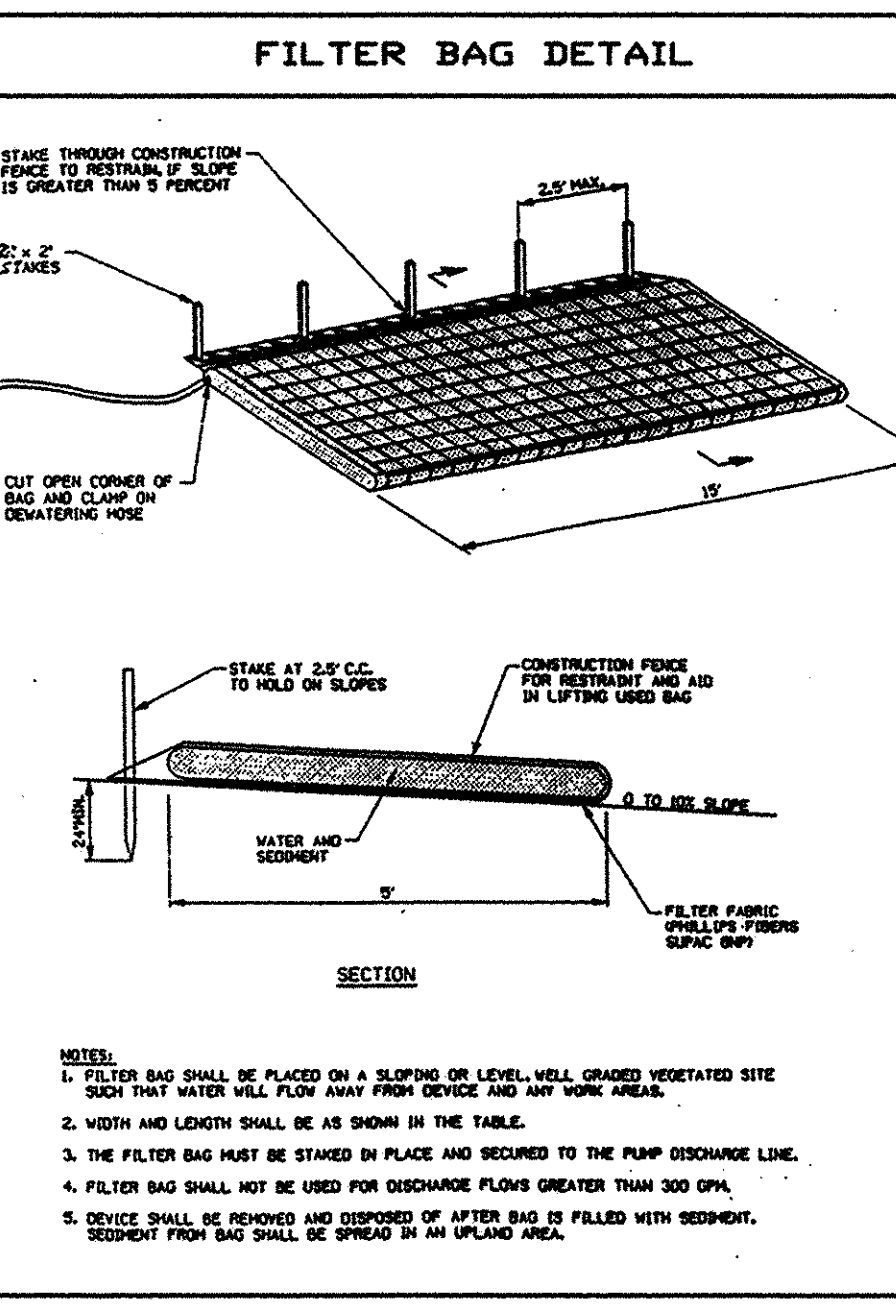
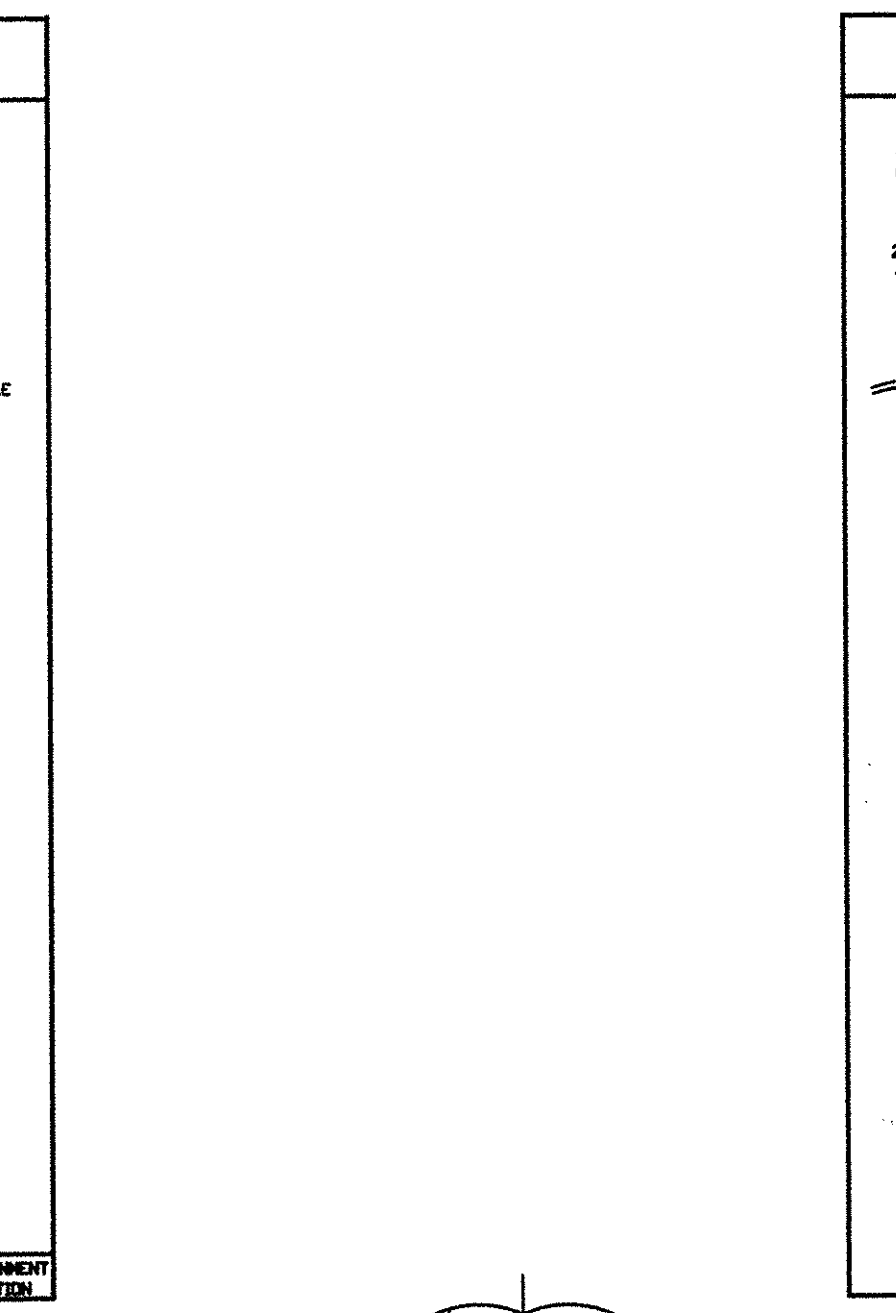
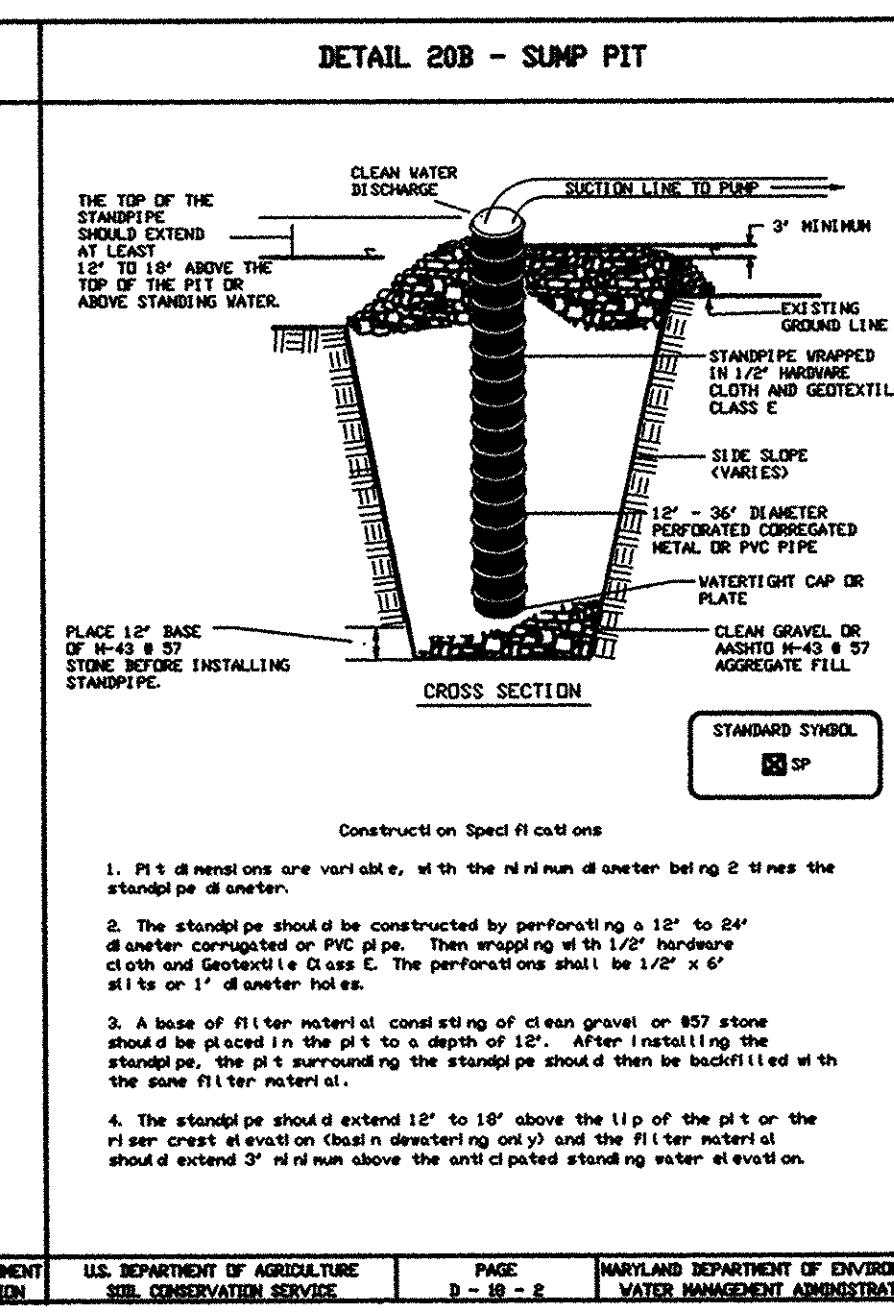
4. Culvert Length - The culvert shall extend a minimum of one foot beyond the upstream and downstream toe to the aggregate placed around the culvert. In no case shall the culvert exceed 40 feet in length.

5. Filter Cloth - Filter cloth shall be placed on the streambed and streambank prior to placement of the pipe culvert and aggregate. The filter cloth shall cover the streambed and extend a minimum of 12 inches and a minimum one foot beyond the end of the culvert and bedding material. Filter cloth reduces sediment and improves crossing stability.

6. Culvert Placement - The invert elevation of the culvert shall be installed on the natural streambed to a minimum of 12 inches interference with the stream (free passage of fish).

7. Culvert Protection - The culvert shall be covered with a minimum of one foot of aggregate. If multiple culverts are used they shall be separated by at least 12" of compacted aggregate fill.

8. Stabilization - All areas disturbed during culvert installation shall be stabilized in accordance with the Standard for "Disturbance Stabilization on Wet Permanent Seedings".



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

DEVELOPER - TOLL MD LIMITED PARTNERSHIP
DATE: 6-19-98

BY THE ENGINEER:
I/WE 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.

ENGINEER - DONALD A. MASON, P.E. # 21443
DATE: 5/10/98

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.

NATURAL RESOURCES CONSERVATION SERVICE
DATE: 6/9/98

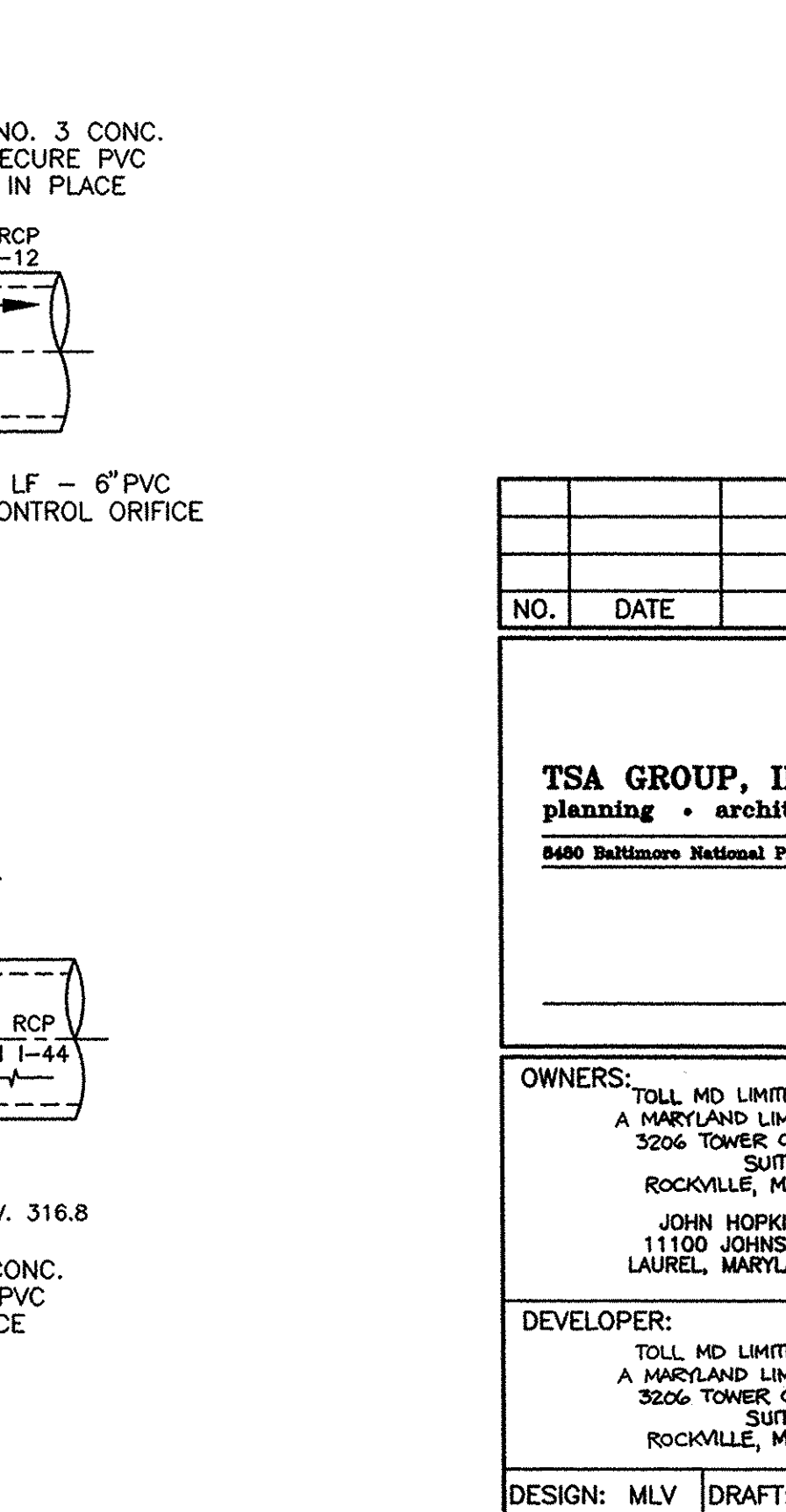
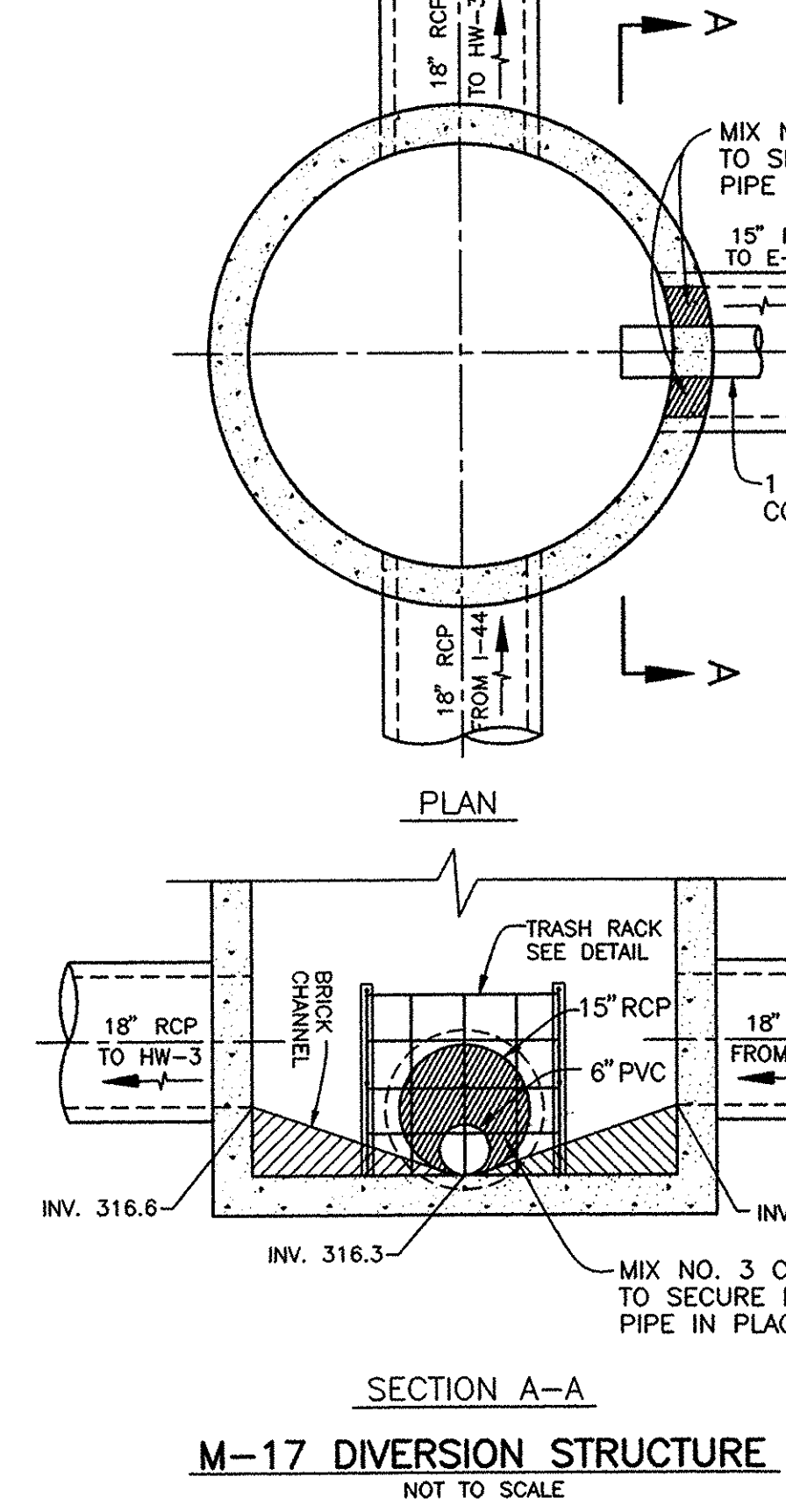
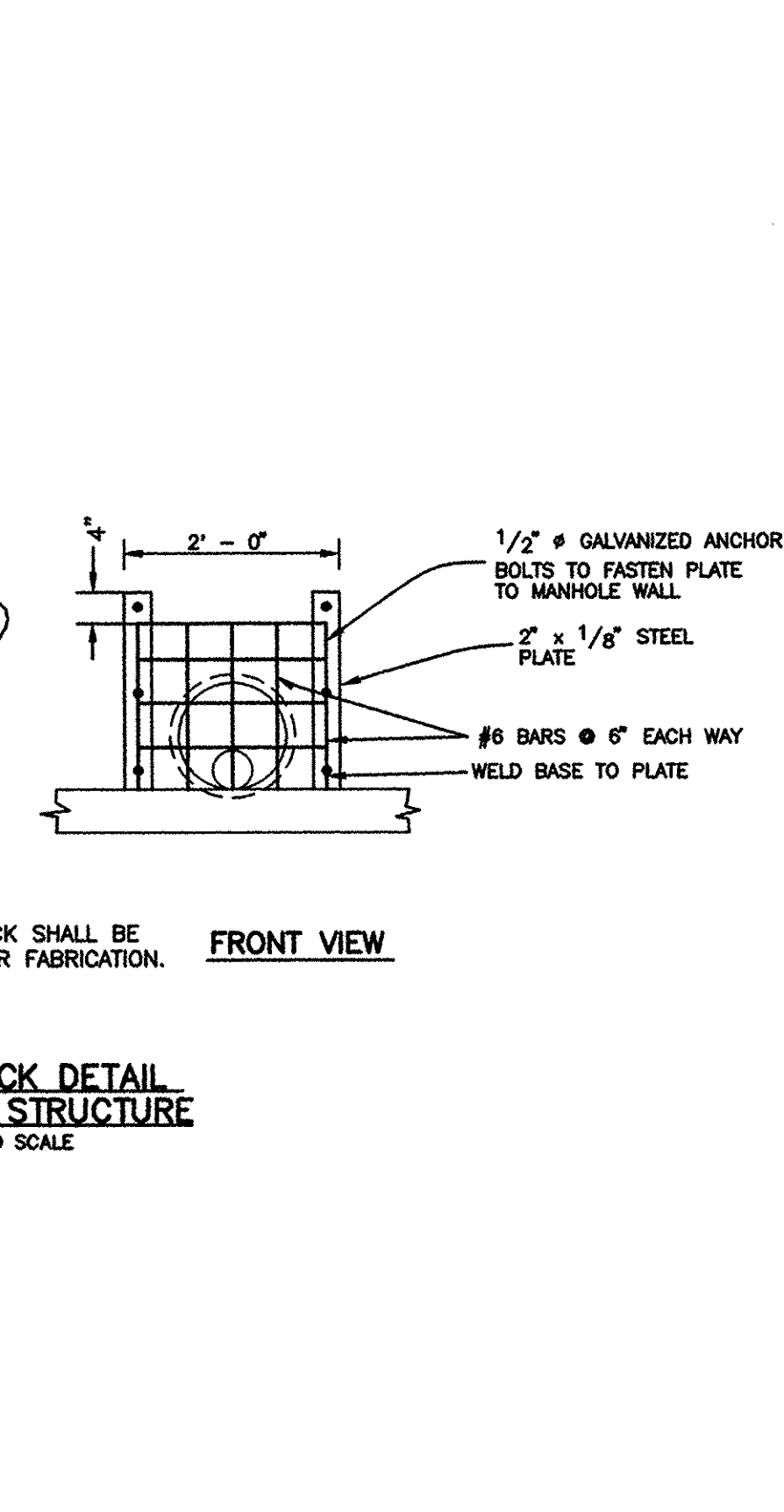
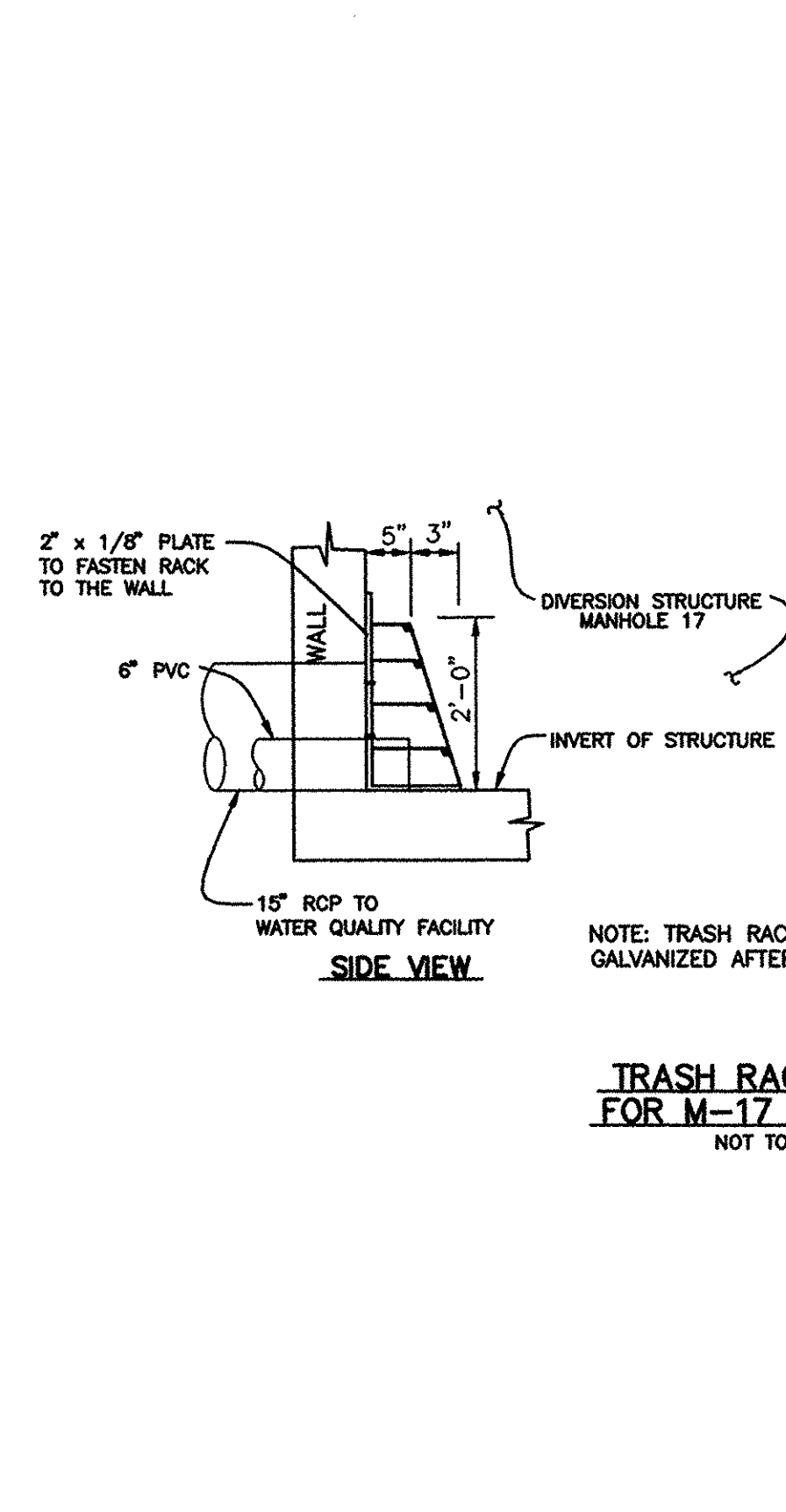
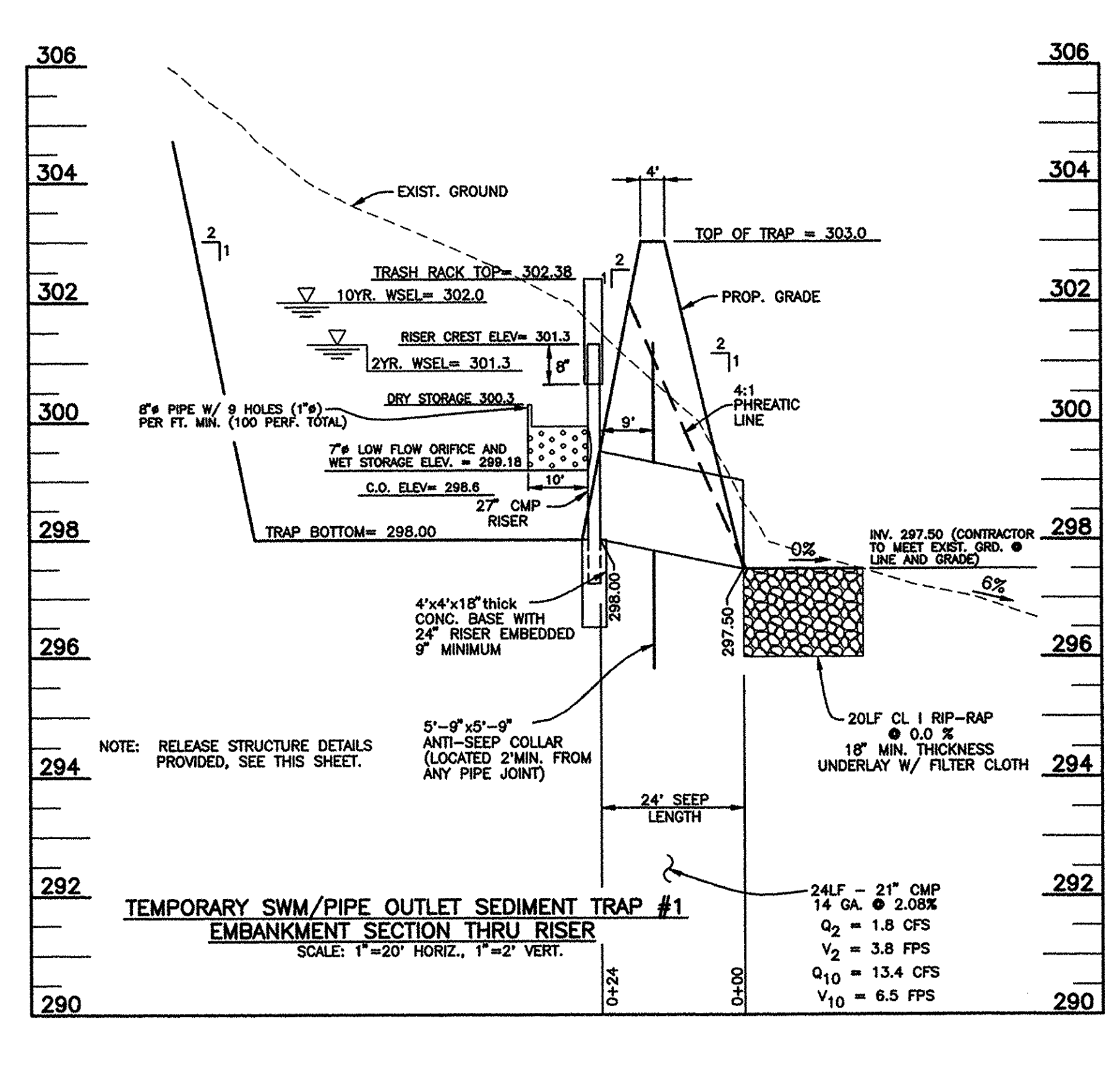
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT
DATE: 6/2/98

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DATE: 6-15-98

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DATE: 6/23/98

DATE: 6/22/98



NO. DATE REVISION

OWNERS: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP 3206 TOWER CHASE BOULEVARD SUITE 310 ROCKVILLE, MARYLAND 20852
JOHN HOPKINS UNIVERSITY 11100 JOHNS HOPKINS ROAD LAUREL, MARYLAND 20723-6005

PROJECT: VILLAGE OF CEDAR RIDGE
A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY

LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DEVELOPER: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP 3206 TOWER CHASE BOULEVARD SUITE 310 ROCKVILLE, MARYLAND 20852

TITLE: WATER QUALITY FACILITY AND TEMPORARY SWM NOTES AND DETAILS
SP-97-02 WP-97-78 PB 312 F-93-70 WP-98-82
DATE: OCTOBER 1997
MAY 1998
PROJECT NO. 0518

DESIGN: MLV DRAFT: DBT CHECK: DAM SCALE: AS SHOWN SHEET 26 OF 31

POND CONSTRUCTION SPECIFICATIONS

Site Preparation

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

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

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

Earth Fill

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment and cut-off trench shall conform to Unified Soil Classification GC, SC, CH, or CL. Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble yet not be so wet that water can be squeezed out.

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

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

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Pipe Conduits

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

- Materials - (Steel Pipe) - This pipe and its appurtenances shall be composed of the same material as the pipe. Metals must conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings or an approved equal may be used: Nepon, Plast-Coat, Baco-Flad, and Beth-Cu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.

Materials - (Aluminum Coated Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

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

- Coupling bands, anti-seep collars, and sections, etc., must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

- Connections - All connections with pipes must be completely watertight. The 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 manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled on an adequate number of corrugations to accommodate the band width. The following type connections are acceptable for pipes less than 48" in diameter: flanges on both ends of the pipe, a 12" wide standard lap type band with 12" wide by 3/8" thick closed cell circular neoprene gasket; and a 12" wide huggie type band with O-ring gaskets having a minimum diameter of 1/2" greater than the corrugation depth. Pipes 48" in diameter and larger shall be connected by a 24" long annular corrugated band using rods and lugs. A 12" wide by 3/8" thick closed cell circular neoprene gasket will be installed on the end of each pipe for a total of 24". Helically corrugated pipe shall have either continuously welded seams or have lock seams.

- Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

- Backfilling shall conform to "Structure Backfill."

- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

- Materials - Reinforced concrete pipe shall have ball and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361. An approved equivalent is AWWA Specification C-302.
- Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high strength concrete placed under the pipe and up the side of the pipe at least 10% of its outside diameter with a minimum thickness of 3 inches, or as shown on the drawings.

- Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the pipe is laid, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 feet from the riser.

- Backfilling shall conform to "Structure Backfill."

- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

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

- Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241.
- Joints and connections to anti-seep collars shall be completely watertight.
- Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- Backfilling shall conform to "Structure Backfill."
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Concrete

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

Rock Riprap

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

- Bulk specific gravity (saturated surface-dry basis) not less than 2.5.
- Absorption not more than three percent.
- Soundness: Weight loss in five cycles not more than 20 percent when sodium sulfate is used.

Bulk specific gravity and absorption shall be determined according to ASTM C 127. The test for soundness shall be performed according to ASTM C 88.

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

Care of Water during Construction

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of 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 filled shall be maintained below the bottom of the excavation at such locations which may require draining the water to ramps 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, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Maryland Soil 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 observed. The following type construction operations and sediment control measures to be employed during the construction process.

Embankment and Cut-off Trench Construction

The site 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 subgrade materials should be pre-treated with a loaded dumptruck 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 pre-treatment or penetrometer testing should be excavated to suitable firm soil, and then grades re-established by backfilling with suitable soil.

A representative of the geotechnical engineer shall be present to monitor placement and compaction of fill for each embankment and cut-off trench. In accordance with Maryland Soil Conservation Specification 378, soils considered suitable for the center of embankment and cut-off trench shall conform to Unified Soil Classification GC, SC, CH, or CL. A review of the site borings did not indicate the presence of suitable core or cut-off trench materials at the tested locations. All fill materials must be placed and compacted in accordance with MD SCS 378 specifications.

Record of Soil Exploration Boring No. 1

| SOIL DESCRIPTION | DEPTH (FT.) | REMARKS |
|---|-------------|--------------------------------|
| Very moist micaceous silty sand (SM) | 0.0 | 5' Topsoil |
| No groundwater encountered while excavating | | |
| Top very moist micaceous silty sand and quartz rock (very dense) (SM) | 7.5 | No infiltration test performed |
| Backfilled at completion. | | |

Record of Soil Exploration Boring No. 2

| SOIL DESCRIPTION | DEPTH (FT.) | REMARKS |
|--|-------------|--------------------------------|
| Very moist silty fine sand, some mica (SM) | 0.0 | 2' Topsoil |
| No groundwater encountered while excavating | | |
| Gray and tan moist fine sandy silt, some mica (ML) | 3.0 | No infiltration test performed |
| Backfilled at completion. | | |

Record of Soil Exploration Boring No. 3

| SOIL DESCRIPTION | DEPTH (FT.) | REMARKS |
|--|-------------|--|
| Very moist silty fine sand, some mica (SM) | 0.0 | 2'-4" Topsoil |
| Gray and tan moist fine sandy silt, some mica (ML) | 3.0 | No groundwater encountered at 9.0 while excavating |
| Top very moist micaceous silty sand and quartz rock fragments, some mica (SM-GM) | 5.0 | No infiltration test performed |
| Backfilled at completion. | | |

Record of Soil Exploration Boring No. 4

| SOIL DESCRIPTION | DEPTH (FT.) | REMARKS |
|--|-------------|--|
| Very moist silty fine sand, some mica (SM) | 0.0 | 2'-4" Topsoil |
| Gray and tan moist fine sandy silt, some mica (ML) | 3.0 | No groundwater encountered at 9.0 while excavating |
| Top very moist micaceous silty sand and quartz rock fragments, some mica (SM-GM) | 5.0 | No infiltration test performed |
| Backfilled at completion. | | |

Record of Soil Exploration Boring No. 5

| SOIL DESCRIPTION | DEPTH (FT.) | REMARKS |
|--|-------------|--------------------------------|
| Very moist micaceous silty sand, some mica (SM) | 0.0 | 5' Topsoil |
| Groundwater encountered at 2.0 while excavating | | |
| Top, brown very moist micaceous silty sand, some mica (SM) | 2.0 | No infiltration test performed |
| Backfilled at completion. | | |

Record of Soil Exploration Boring No. 6

| SOIL DESCRIPTION | DEPTH (FT.) | REMARKS |
|--|-------------|--------------------------------|
| Very moist micaceous silty sand, some mica (SM) | 0.0 | 4' Topsoil |
| Groundwater encountered at 2.0 while excavating | | |
| Top, brown very moist micaceous silty sand, some mica (SM) | 2.5 | No infiltration test performed |
| Backfilled at completion. | | |

Record of Soil Exploration Boring No. 7

| SOIL DESCRIPTION | DEPTH (FT.) | REMARKS |
|--|-------------|--------------------------------|
| Orange brown moist fine sandy silt (ML) | 0.0 | 6" Topsoil |
| Groundwater encountered while excavating | | |
| Orange brown moist fine sandy silt/very silty sand (SM-GM) | 1.5 | No infiltration test performed |
| Backfilled at completion. | | |

Record of Soil Exploration Boring No. 8

| SOIL DESCRIPTION | DEPTH (FT.) | REMARKS |
|---|-------------|--------------------------------|
| Orange brown moist fine sandy silt (ML) | 0.0 | 4" Topsoil |
| Groundwater encountered while excavating | | |
| Brown, tan moist silty sand with cobbles and rock fragments (SM-GM) | 2.0 | No infiltration test performed |
| Backfilled at completion. | | |

Record of Soil Exploration Boring No. 9

| SOIL DESCRIPTION | DEPTH (FT.) | REMARKS |
|---|-------------|--------------------------------|
| Orange brown, brown moist silty fine sand, some mica (SM) | 0.0 | 4'-6" Topsoil up to 10' depth |
| Groundwater encountered while excavating | | |
| Brown, tan moist micaceous silty sand, decomposing rock fragments (SM-GM) | 2.0 | No infiltration test performed |
| Backfilled at completion. | | |

Record of Soil Exploration Boring No. 10

| SOIL DESCRIPTION | DEPTH (FT.) | REMARKS |
|---|-------------|-----------------------------|
| Orange, tan moist silty sand, some mica (SM) | 0.0 | 4'-6" Topsoil |
| Groundwater encountered while excavating | | |
| Orange, tan moist silty sand and cobbles and decomposing rock fragments (SM-GM) | 5.0 | Bag sample from 0.0' - 5.0' |
| Backfilled at completion. | | |

Record of Soil Exploration Boring No. 11

| SOIL DESCRIPTION | DEPTH (FT.) | REMARKS |
|---|-------------|--------------------------------|
| Orange, tan moist silty fine sand and some mica (SM) | 0.0 | 4" Topsoil |
| Groundwater encountered while excavating | | |
| Orange, tan moist silty sand and cobbles and decomposing rock fragments (SM-GM) | 4.0 | No infiltration test performed |
| Backfilled at completion. | | |

Record of Soil Exploration Boring No. 12

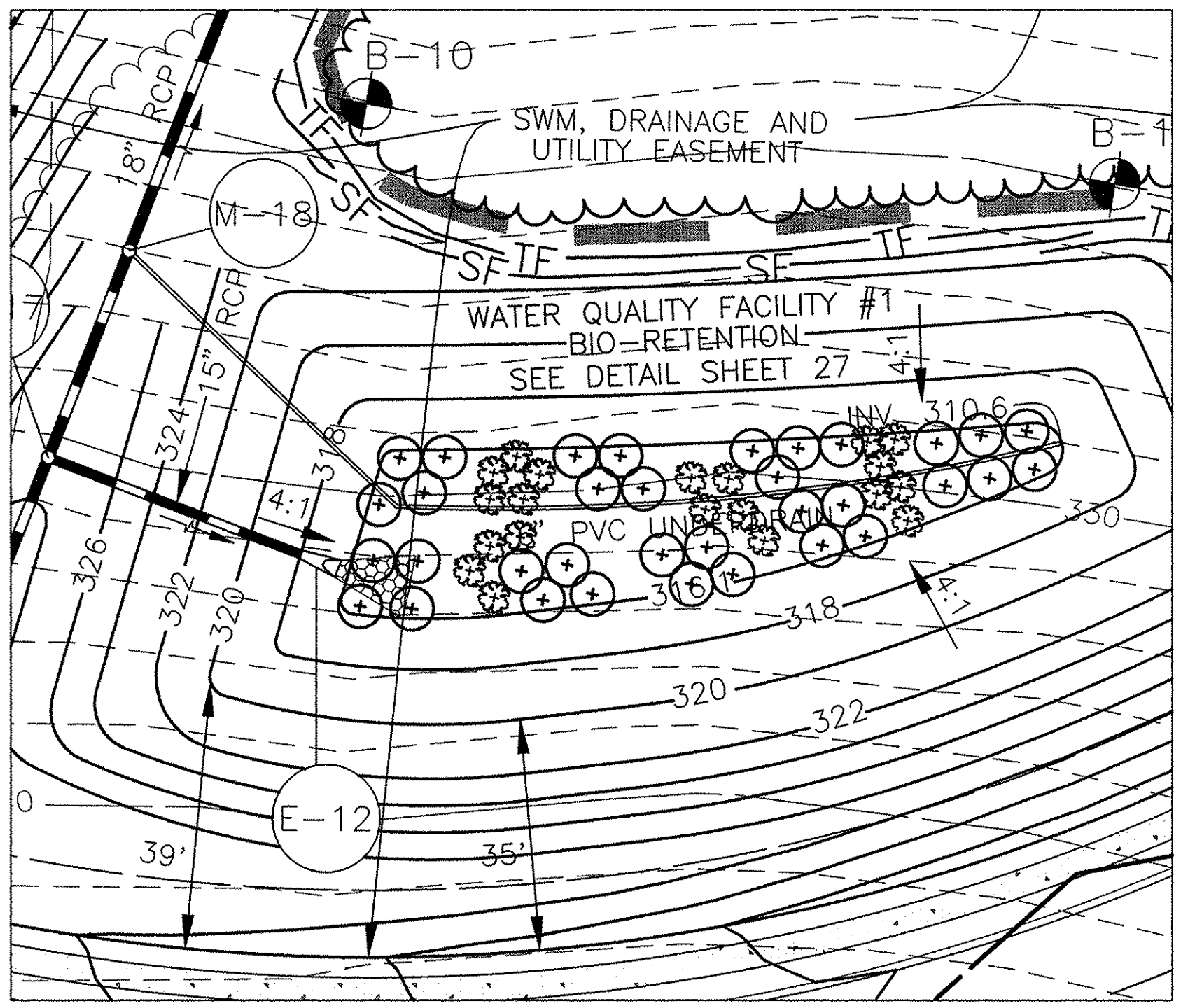
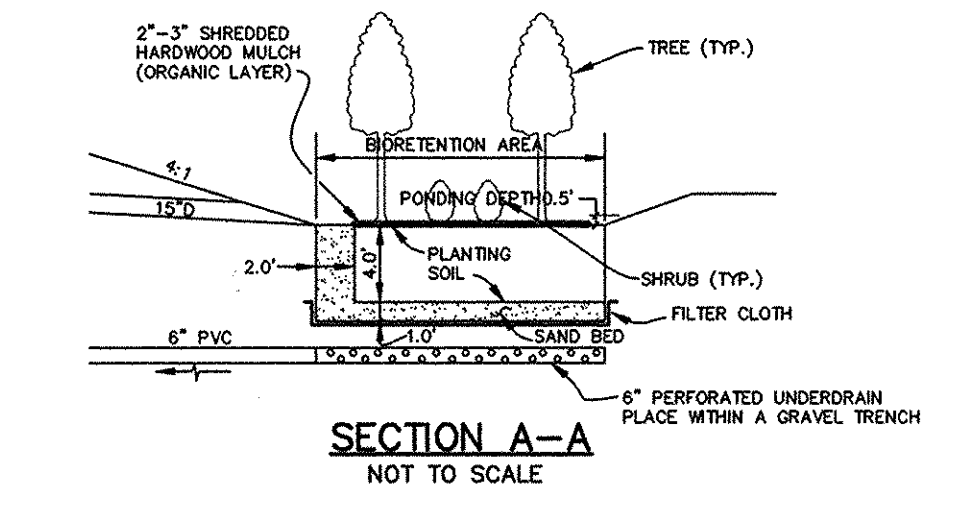
| SOIL DESCRIPTION | DEPTH (FT.) | REMARKS |
|--|-------------|--------------------------------|
| Tan moist fine sandy silt (ML) | 0.0 | 6'-9" Topsoil |
| Groundwater encountered at 0.0 while excavating | | |
| Tan moist sand and gravel, some silt and cobbles (SM-GM) | 3.0 | No infiltration test performed |
| Backfilled at completion. | | |

Record of Soil Exploration Boring No. 13

| SOIL DESCRIPTION | DEPTH (FT.) | REMARKS |
|--|-------------|--------------------------------|
| Tan moist sand and gravel, some silt and cobbles, trace mica (SM-GM) | 0.0 | 4'-4" Topsoil |
| Groundwater encountered while excavating | | |
| Orange/tan moist silty sand, trace mica (SM) | 6.0 | No infiltration test performed |
| Backfilled at completion. | | |

OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED BIORETENTION AREA

| Description | Method | Frequency | Time of the Year |
|--|-----------------------|---|--|
| Inspect and Repair | Visual | Monthly | Monthly |
| ORGANIC LAYER | | | |
| Remove previous mulch layer before applying new layer (optional) | By hand | Once a year | Spring |
| Any additional mulch added (optional) | By hand | Once a year | Spring |
| PLANTS | | | |
| Removal and replacement of all dead and diseased vegetation considered beyond treatment | See planting | Twice a year | 3/15 to 4/30 and 10/1 to 11/30 |
| Treat all diseased trees and shrubs | Mechanical or by hand | N/A | Varies, depends on insect or disease infestation |
| Watering of plant material shall take place at the end of each day for fourteen consecutive days after planting has been completed | By hand | Immediately after completion of project | N/A |
| Replace stakes after one year | By hand | Once a year | Only remove stakes in the spring |
| Replace any deficient stakes or wires | By hand | N/A | Whenever needed |



MATERIAL SPECIFICATIONS FOR BIORETENTION AREA PLANTING SOIL

The bioretention areas shall consist of a planting soil having a composition of at least 10 to 25 percent clay and shall be of a sandy loam or loamy sand texture. Loamy soils may be utilized for the planting soil but must consist of 25% sand. In addition, the furnished planting soil shall be of uniform composition, free of stones, stumps, roots or similar objects larger than one inch, brush, or any other material or substance which may be harmful to plant growth, or a hindrance to planting or maintenance operations.

The planting soil shall be free of plants or plant parts of Bermuda grass, Quack grass, Johnson grass, Mugwort, Nutgrass, Poison Ivy, Canadian Thistle or others as specified. It shall not contain toxic substances harmful to plant growth. The planting soil shall be tested and meet the following criteria:

- pH range 5.5 - 6.5
- Organic matter 1.5 - 3.0%
- Magnesium - Mg 35 lbs./acre
- Phosphorus - P₂O₅ 100lbs./acre
- Potassium - K₂O 85 lbs./acre
- Soluble salts not to exceed 500ppm

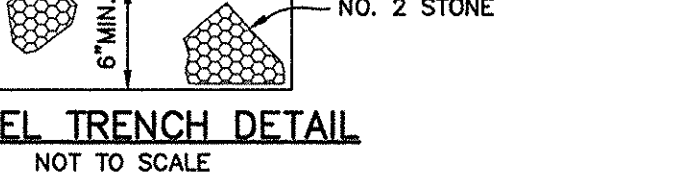
The following testing frequencies shall apply to the above soil constituents: PH, Organic Matter: 1 test per 90 cubic yards, but no more than 1 test per Bioretention area. Magnesium, Phosphorus, Potassium, Soluble Salts: 1 test per 500 cubic yards, but not less than 1 test per borrow source. One grain size analysis shall be performed per 90 cubic yards of planting soil, but no less than 1 test per Bioretention Area.

MULCH LAYER SPECIFICATIONS
A mulch layer approximately 2"-3" in depth shall be provided on top of the planting soil. An acceptable mulch layer shall include shredded hardwood or shredded wood chips.

Of the approved mulch products all must be well aged, uniform in color, and free of foreign material including plant material. Well aged mulch is defined as mulch that has been stockpiled or stored for at least twelve (12) months.

SAND SPECIFICATIONS
The sand shall be free of deleterious material and rocks greater than 1 inch in diameter.

COMPACTION
Soil shall be placed in lifts less than 18 inches and lightly compacted (minimal compactive effort) by tamping with a bucket from a dozer or a backhoe.



PLANTING LIST FOR THE BIORETENTION AREA

| SYMBOL | QUANTITY | NAME | REMARKS |
|--------|----------|---|-----------|
| (+) | 34 | ACER RUBRUM (RED MAPLE) | 2 1/2\"/> |
| (*) | 20 | JUNIPERUS HORIZONTALIS (CREEPING JUNIPER) | 18\"/> |

* PLANTING TABULATION:
TREES : (450-650/AC.) USE 550/AC (AVER.)x0.061 AC.=34 TREES
TREES PROVIDED: 34
SHRUBS : (200-450/AC.) USE 325/AC (AVER.)x0.061 AC.=20 SHRUBS
SHRUBS PROVIDED: 20

* - TABULATIONS BASED ON INFORMATION PROVIDED BY BIOHABITATS, INC.
BIORETENTION AREA PLANTING LAYOUT
SCALE 1"=10'

NOTE:
CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING APPROPRIATE CORE TRENCH MATERIAL FROM OFF-SITE IF ON-SITE MATERIAL CANNOT BE FOUND.

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I 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.

John J. V.P.
DEVELOPER - TOLL MD LIMITED PARTNERSHIP
DATE: 6-19-98

BY THE ENGINEER:
I/WE 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.

Donald Mason
ENGINEER - DONALD A. MASON, P.E. # 21443
DATE: 5/27/98

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.

Cheryl Simonson/ES
NATURE RESOURCES CONSERVATION SERVICE
DATE: 6/9/98

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

Robert W. Zickler/ES
HOWARD SOIL CONSERVATION DISTRICT
DATE: 6/9/98

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Danks
CHIEF, BUREAU OF HIGHWAYS
DATE: 6-15-98

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
John M. ...
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 6/23/98

...
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 6/22/98

| NO. | DATE | REVISION |
|-----|------|----------|
| | | |
| | | |

OWNERS:
TOLL MD LIMITED PARTNERSHIP
A MARYLAND LIMITED PARTNERSHIP
3206 TOWER OAKS BOULEVARD
SUITE 310
ROCKVILLE, MARYLAND 20852

DEVELOPER:
TOLL MD LIMITED PARTNERSHIP
A MARYLAND LIMITED PARTNERSHIP
3206 TOWER OAKS BOULEVARD
SUITE 310
ROCKVILLE, MARYLAND 20852

DESIGN: MLV DRAFT: DBT CHECK: DAM

PROJECT: **VILLAGE OF CEDAR RIDGE**
A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY

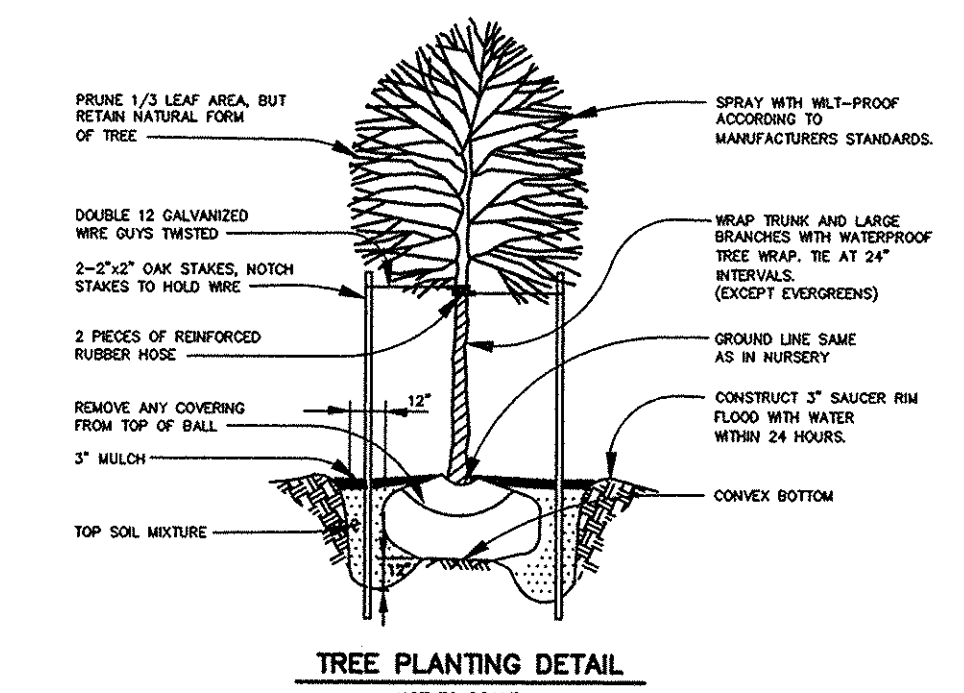
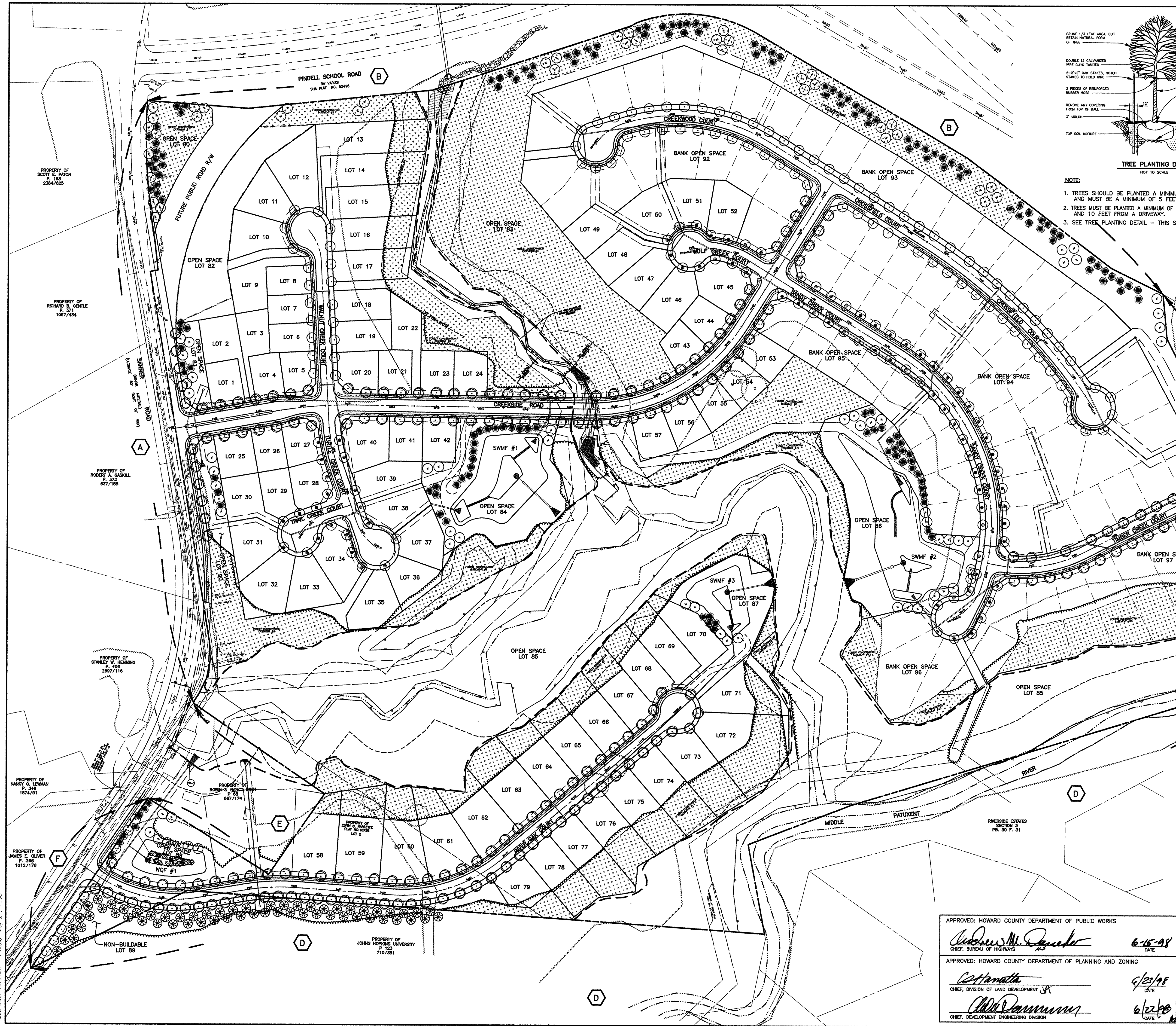
LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: **STORMWATER MANAGEMENT NOTES AND DETAILS**

DATE: **OCTOBER 1997**
MAY, 1998

SCALE: NONE SHEET 27 OF 31





- NOTE:**
- TREES SHOULD BE PLANTED A MINIMUM OF 6 FEET FROM THE EDGE OF PAVING AND MUST BE A MINIMUM OF 5 FEET FROM ANY STORM DRAIN.
 - TREES MUST BE PLANTED A MINIMUM OF 5 FEET FROM AN OPEN SPACE ACCESS STRIP AND 10 FEET FROM A DRIVEWAY.
 - SEE TREE PLANTING DETAIL - THIS SHEET.

| SCHEDULE A PERIMETER LANDSCAPE EDGE | | | | | | | | | | |
|--|----------------------|----------------|----------------|----------------|-----------------------------|----------------|---|---|---|---|
| CATEGORY | ADJACENT TO ROADWAYS | | | | ADJACENT TO PERIMETER PROP. | | | | | |
| | A | B | C | D | A | B | C | D | E | |
| LANDSCAPE TYPE | ① | ② | ③ | ④ | ⑤ | ⑥ | ⑦ | ⑧ | ⑨ | ⑩ |
| LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER | 1,371' | 2,400' | 466' | 810' | 3,481' | 802' | | | | |
| CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED) | ② YES, 400' | ② YES, 180' | ② YES, 290' | ② YES, 360' | ② YES, 2811' | ② YES, 500' | | | | |
| CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED) | NO | NO | NO | NO | NO | NO | | | | |
| NUMBER OF PLANTS REQUIRED | 971 L.F. | 2,300 L.F. | 218 L.F. | 450 L.F. | 870 L.F. | 402 L.F. | | | | |
| SHADE TREES | 20 | 46 | 4 | 8 | 15 | 7 | | | | |
| EVERGREEN TREES | 24 | 57 | 6 | 6 | — | — | | | | |
| OTHER TREES (2:1 SUBSTITUTE) | — | — | — | — | — | — | | | | |
| SHRUBS | — | — | — | — | — | — | | | | |
| NUMBER OF PLANTS PROVIDED | 20 | 34 | 0 | 8 | 0 | 7 | | | | |
| SHADE TREES | 20 | 34 | 0 | 8 | 0 | 7 | | | | |
| EVERGREEN TREES | 24 | 81 | 16 | — | 49 | — | | | | |
| OTHER TREES (2:1 SUBSTITUTE) | — | — | — | — | — | — | | | | |
| SHRUBS (10:1 SUBSTITUTE) | — | — | — | — | — | — | | | | |
| (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED) | | | | | | | | | | |

② EXISTING WOODS WITH WIDTH 20' OR GREATER.

| STREET TREE PLANTING LIST | | |
|---------------------------|----------|---|
| SYMBOL | QUANTITY | NAME |
| ⊙ | 85 | TILIA CORDATA 'GREENSPIRE' (Greenspire Littleleaf Linden) |
| ⊙ | 104 | ACER RUBRA (Red Maple) |
| ⊙ | 193 | ACER SACCHARUM (Sugar Maple) |

| LANDSCAPE PLANTING LIST | | |
|-------------------------|----------|--|
| SYMBOL | QUANTITY | NAME |
| ⊙ | 106 | PLATANUS ACERIFOLIA 'BLOODGOOD' (Bloodgood London Plane) |
| ⊙ | 168 | PINUS STROBUS (Eastern White Pine) |
| ⊙ | 59 | CUPRESSOCYPRUS LEYLANDII (Leyland Cypress) |

| SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING | | | | |
|---|------------|------------|------------|-----|
| | FACILITY 1 | FACILITY 2 | FACILITY 3 | WOF |
| LINEAR FEET OF PERIMETER | 980 | 1400 | 710 | |
| LINEAR FEET OF EXISTING WOODS LINE | 440 | 470 | 500 | |
| LINEAR FEET OF BUFFER LENGTH | 540 | 930 | 210 | |
| BUFFER TYPE | 19' | 19' | 19' | |
| NUMBER OF TREES REQUIRED | | | | |
| SHADE TREES | 11 | 19 | 4 | |
| EVERGREEN TREES | 13 | 23 | 5 | |
| CREDIT FOR EXISTING VEGETATION (NO, YES AND %) (DESCRIBE BELOW IF NEEDED) | NO | NO | NO | |
| CREDIT FOR OTHER LANDSCAPING (NO, YES AND %) (DESCRIBE BELOW IF NEEDED) | NO | NO | NO | |
| NUMBER OF TREES PROVIDED | 7 | 19 | 5 | |
| SHADE TREES | 7 | 19 | 5 | |
| EVERGREEN TREES | 21 | 23 | 5 | |
| OTHER TREES (2:1 SUBSTITUTE) | | | | |

| LANDSCAPE LEGEND | |
|------------------|---|
| SYMBOL | DESCRIPTION |
| ⊙ | STREET TREES TO BE PROVIDED BY THE DEVELOPER TO BE INCORPORATED ON FINAL PLANS. |
| ⊙ | SHADE TREES ALONG PERIMETER AND STORMWATER MANAGEMENT TO BE PROVIDED BY THE DEVELOPER AND INCORPORATED ON FINAL PLANS. |
| ⊙ | EVERGREEN TREES ALONG PERIMETER AND STORMWATER MANAGEMENT AREA TO BE PROVIDED BY THE DEVELOPER AND INCORPORATED ON FINAL PLANS. |

- LANDSCAPING NOTES**
- PERIMETER LANDSCAPING SHALL BE PROVIDED BY THE EXISTING VEGETATION TO REMAIN AND BY THE PLANTINGS AS SHOWN ON THESE PLANS.
 - THE DEVELOPER SHALL BE RESPONSIBLE FOR THE STREET TREES, STORMWATER MANAGEMENT POND PLANTING, THE PRESERVATION OF THE PERIMETER VEGETATION AS SHOWN ON THESE PLANS, AND FOR PERIMETER PLANTING ON PERIMETERS A,B,C,D & E. BONDING FOR PERIMETER PLANTING IS THE OBLIGATION OF THE DEVELOPER AS PART OF THE DEVELOPERS AGREEMENT.
 - A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN TREES AND STREET LIGHTS.

NOTE:
THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPING MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPE TREES IN THE AMOUNT OF \$26,800.00 MUST BE POSTED AS PART OF THE DEVELOPERS AGREEMENT.

| NO. | DATE | REVISION |
|-----|------|----------|
| | | |

TSA GROUP, INC.
planning • architecture • engineering • surveying
6480 Baltimore National Pike • Ellicott City, Maryland 21045 • 410-486-8105

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Sander 6/15/98
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
William H. Hamada 6/23/98
CHIEF, DIVISION OF LAND DEVELOPMENT

Alvin Dammeyer 6/23/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION

OWNERS:
TOLL MD LIMITED PARTNERSHIP,
A MARYLAND LIMITED PARTNERSHIP
3206 TOWER OAKS BOULEVARD
SUITE 310
ROCKVILLE, MARYLAND 20852

DEVELOPER:
TOLL MD LIMITED PARTNERSHIP,
A MARYLAND LIMITED PARTNERSHIP
3206 TOWER OAKS BOULEVARD
SUITE 310
ROCKVILLE, MARYLAND 20852

PROJECT: VILLAGE OF CEDAR RIDGE
A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY

LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
LANDSCAPE PLAN, NOTES AND DETAILS
SP-97-02 WP-97-78 PB 312 F-93-70 WP-98-82

DATE: OCTOBER, 1997
MAY, 1998

PROJECT NO. 0518

DESIGN: DAM [] DRAFT: DBT [] CHECK: DAM []

SCALE: 1" = 100'

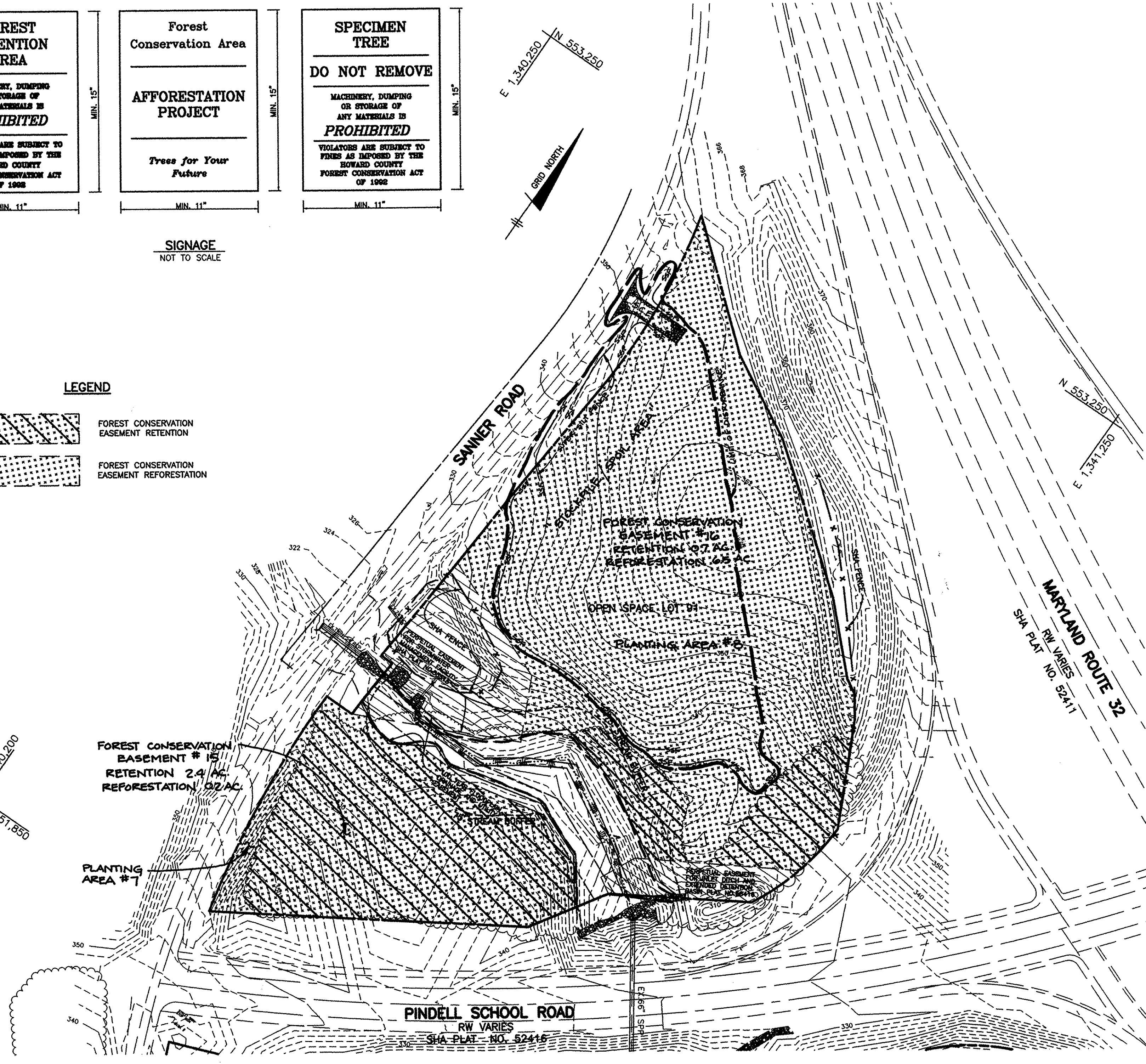
SHEET 28 OF 31

| | | |
|--|---|--|
| FOREST RETENTION AREA MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1992 | Forest Conservation Area AFFORESTATION PROJECT <i>Trees for Your Future</i> | SPECIMEN TREE DO NOT REMOVE MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1992 |
| MIN. 11" | MIN. 15" | MIN. 15" |

SIGNAGE
NOT TO SCALE

LEGEND

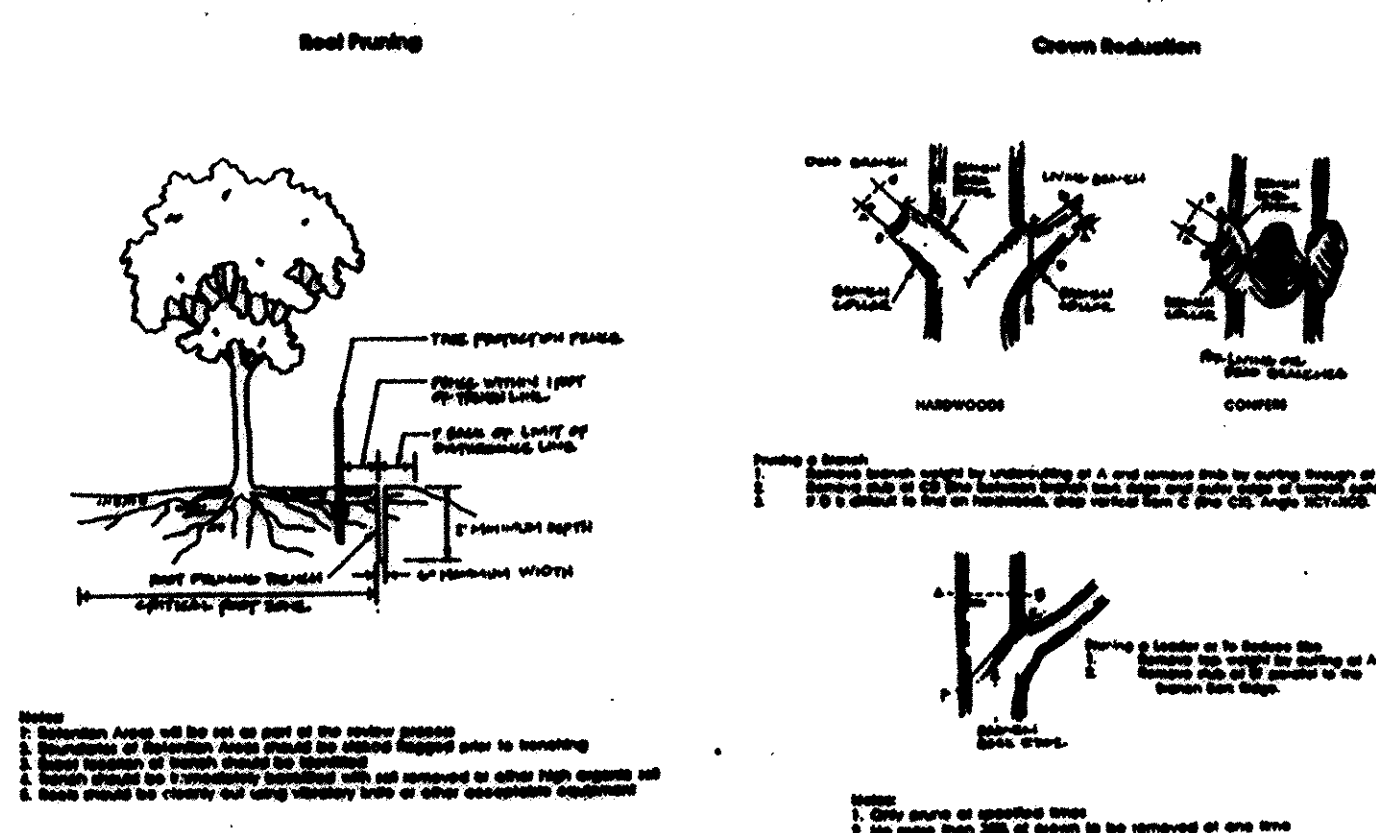
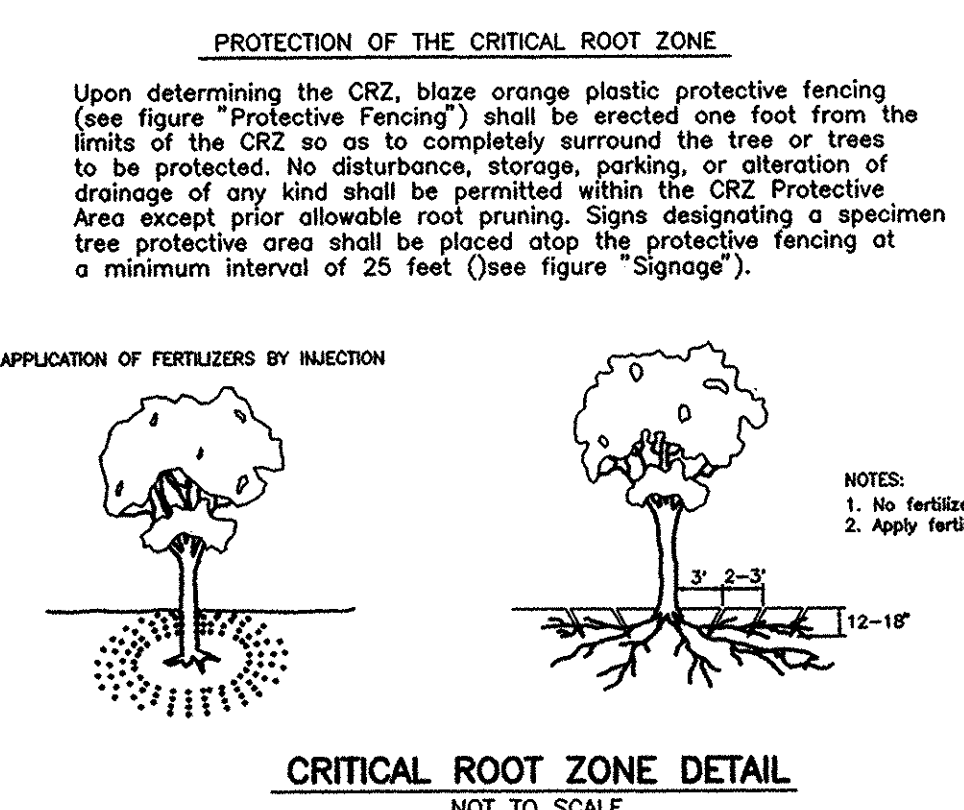
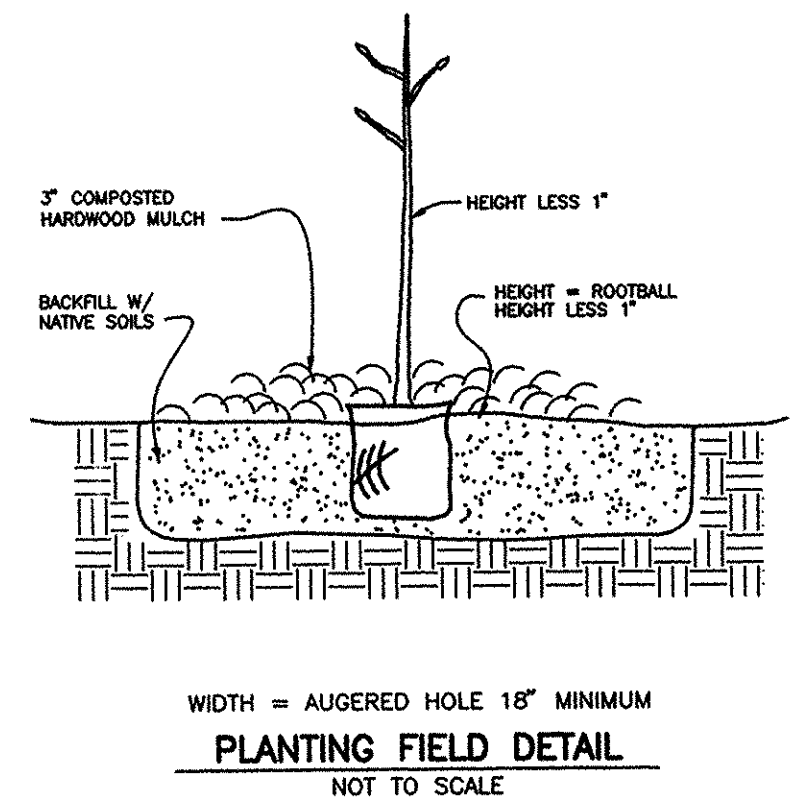
| | |
|--|--|
| | FOREST CONSERVATION EASEMENT RETENTION |
| | FOREST CONSERVATION EASEMENT REFORESTATION |



PLAN
SCALE: 1"=100'

RANDOM PLANTING DETAIL
NOT TO SCALE

| | | |
|---|--------------|--|
| ○ | SYCAMORE/OAK | } TO BE PLANTED IN RANDOM DISTRIBUTION PATTERN |
| ☆ | TULIP POPLAR | |
| △ | RED MAPLE | |
| ◇ | DOGWOOD | |
| □ | GREEN ASH | |



NOTE: SEE SHEET 22 FOR PROTECTIVE FENCING DETAIL.

APPENDIX G
FOREST CONSERVATION WORKSHEET

| | |
|---|----------------------|
| I. BASIC SITE DATA | ACRES (1/10 acre) |
| GROSS SITE AREA | 100.6 |
| AREA WITHIN 100 YEAR FLOODPLAIN | 18.9 |
| AREA WITHIN AGRICULTURAL USE OR PRESERVATION | N/A |
| PARCEL (IF APPLICABLE) | 81.7 |
| NET TRACT AREA | 81.7 |
| LAND USE CATEGORY (R-RLD, R-RMD, R-S, C/V/O, I) | R-ED |

| | |
|---|-------|
| II. INFORMATION FOR CALCULATIONS | ACRES |
| A. NET TRACT AREA | 81.7 |
| B. REFORESTATION THRESHOLD (20% x A) | 16.3 |
| C. AFFORESTATION MINIMUM (15% x A) | 12.3 |
| D. EXISTING FOREST ON NET TRACT AREA | 36.1 |
| E. FOREST AREAS TO BE CLEARED | 24.0 |
| F. FOREST AREAS TO BE RETAINED | 12.1 |

III. DETERMINING REQUIREMENTS: AFFORESTATION OR REFORESTATION

- Reforestation**
If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and clearing of forest areas is proposed, reforestation requirements may apply.
GO TO SECTION IV
If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and no clearing of existing forest resources is proposed, no reforestation is required. No further calculations are needed.
- Afforestation**
If existing forest areas are less than the afforestation minimum (if D is less than C), afforestation requirements apply.
GO TO SECTION V

IV. REFORESTATION CALCULATIONS (1/10 acre)

| | |
|--|------|
| A. NET TRACT AREA | 81.7 |
| B. REFORESTATION THRESHOLD (20% x A) | 16.3 |
| D. EXISTING FOREST ON NET TRACT AREA | 36.1 |
| E. FOREST AREAS TO BE CLEARED | 24.0 |
| F. FOREST AREAS TO BE RETAINED | 12.1 |
| G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD (D-F, if F equals or is greater than B, Alternate 1) (D-B, if F is less than B, Alternate 2) | 19.8 |
| H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD (B-F, if applicable) | 4.2 |
| I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD (F-B, Retention Credit, if applicable) | N/A |

SELECT THE ALTERNATE THAT APPLIES:

- Clearing above the threshold only**
If forest areas to be retained equal or are greater than the reforestation threshold (if F equals or is greater than B), the following calculations apply:

| | |
|--|----------------------|
| REFORESTATION FOR CLEARING ABOVE THRESHOLD | G x 1/4 |
| CREDIT FOR FOREST AREAS RETAINED ABOVE THRESHOLD | I = Retention Credit |
| TOTAL REFORESTATION REQUIRED | (G x 1/4) - I |

If the total reforestation requirement is equal to or less than 0, no reforestation is required.
- Clearing below the threshold**
If forest areas to be retained are less than the reforestation threshold (if F is less than B), the following calculations apply:

| | |
|--|------|
| REFORESTATION FOR CLEARING ABOVE THRESHOLD | 5.0 |
| REFORESTATION FOR CLEARING BELOW THRESHOLD | 8.4 |
| TOTAL REFORESTATION REQUIRED | 13.4 |

Since clearing occurs below the threshold, no forest retention credit is possible.

Figure 1.1.1 Tree Planting and Maintenance Calendar

| | | | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Month | J | F | M | A | M | J | J | A | S | O | N | D |
| Planting | | | | | | | | | | | | |
| Maintenance | | | | | | | | | | | | |

- PLANTING NOTES:**
- Planting stock should be 3' to 4' whip and 1 1/2 to 2 gallon container stock at a minimum, with 5' - 6' trees for the oaks, maple and white pine.
 - Only composted mulch may be used.
 - Whips should be planted on average of 11ft. on center with 5 ft. trees on average of 15 ft. (see random planting detail). Pines should be concentrated on the outside perimeter of Planting Area #2 (adjacent to the lots).
 - White oak, white pine and flowering dogwood should be planted outside of wetland limits and wetland buffer in Planting Area #1. Larger trees should be planted along the outside perimeter with a random planting scheme inside. Pines should be concentrated on the outside perimeter.

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL EMPLOYED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONSTRUCTION OF POND CONSTRUCTION AND SEDIMENT CONTROL. I/WE SHALL EMPLOY 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.

Chopje v.c. 6-1-98
DEVELOPER - TOLL MD LIMITED PARTNERSHIP DATE

BY THE ENGINEER:
I/WE CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL, REPRESENTS A FEASIBLE AND ACCURATE PLAN BASED ON MY PERSONAL EXAMINATION OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE ADVISED THE DEVELOPER THAT HE/SHE SHALL EMPLOY 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.

Donald Mason 5/18/98
ENGINEER - DONALD A. MASON, P.E. # 21448 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.

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.

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Danche 6-15-98
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Catherine 6/22/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mr. Dammann 6/22/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Mary A. Dircks
M.A. DIRCKS & CO., INC.
Environmental Consulting Services
15228 Old Hanover Road
Upperco, Maryland 21155
Phone/Fax: 410-526-7388

| NO. | DATE | REVISION |
|-----|------|----------|
| | | |

TSA GROUP, INC.
planning • architecture • engineering • surveying
6460 Baltimore National Pike • Ellicott City, Maryland 21043 • 410-466-6106

| | |
|--|--|
| OWNERS: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP 3206 TOWER OAKS BOULEVARD SUITE 310 ROCKVILLE, MARYLAND 20852 JOHN HOPKINS UNIVERSITY 11100 JOHN HOPKINS ROAD LAUREL, MARYLAND 20723-6005 | PROJECT: VILLAGE OF CEDAR RIDGE A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE 20TH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY |
| DEVELOPER: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP 3206 TOWER OAKS BOULEVARD SUITE 310 ROCKVILLE, MARYLAND 20852 | LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND |
| DESIGN: DAM DRAFT: DBT CHECK: DAM | TITLE: FOREST CONSERVATION PLAN, NOTES, AND DETAILS DATE: OCTOBER, 1997 MAY, 1998 PROJECT NO. 0518 |
| SCALE: AS SHOWN | SHEET 30 OF 31 |

FOREST RETENTION AREA
MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS **PROHIBITED**
VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1996

Forest Conservation Area
AFFORESTATION PROJECT
Trees for Your Future

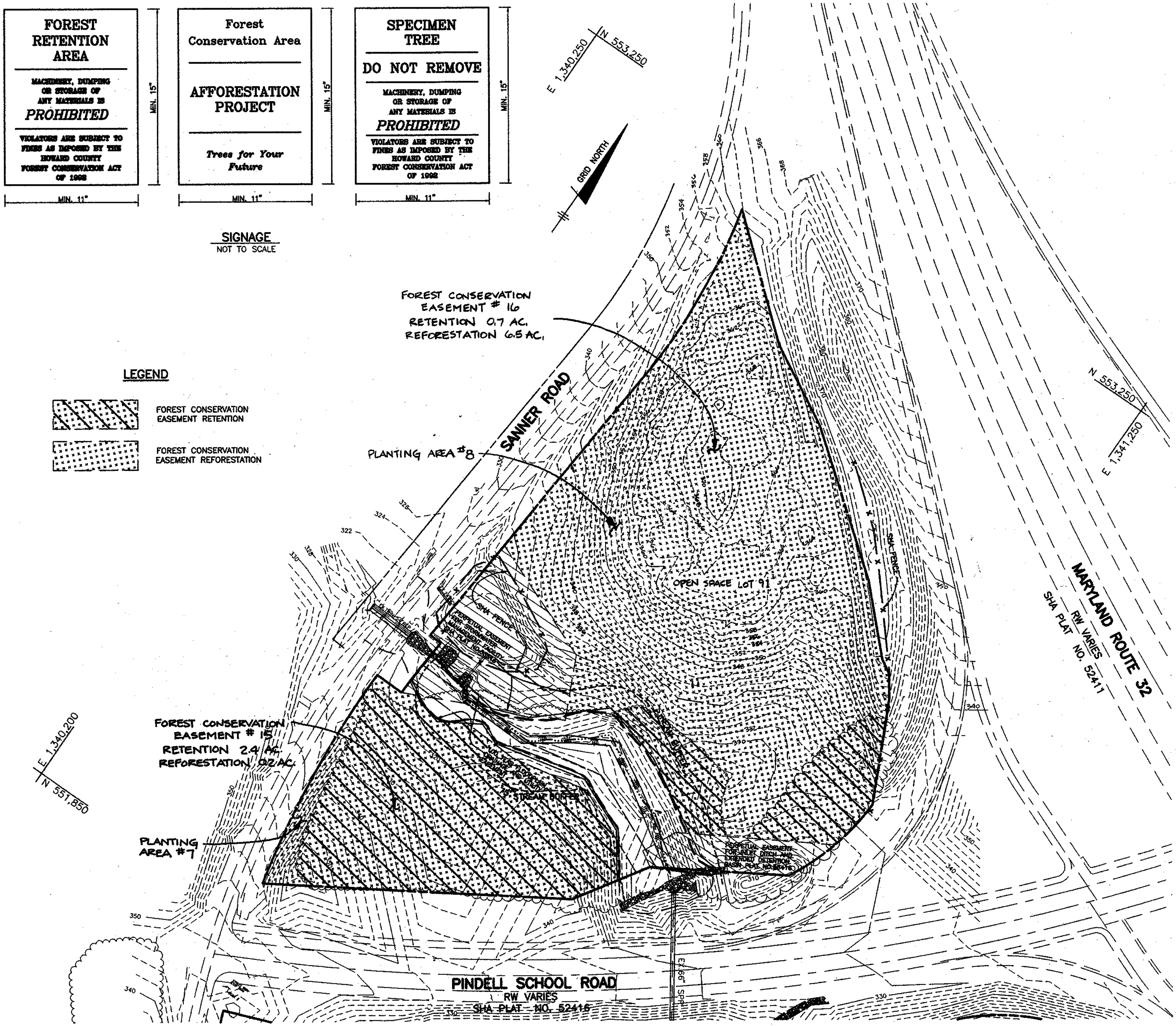
SPECIMEN TREE
DO NOT REMOVE
MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS **PROHIBITED**
VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1996

SIGNAGE
NOT TO SCALE

LEGEND

FOREST CONSERVATION EASEMENT RETENTION

FOREST CONSERVATION EASEMENT REFORESTATION

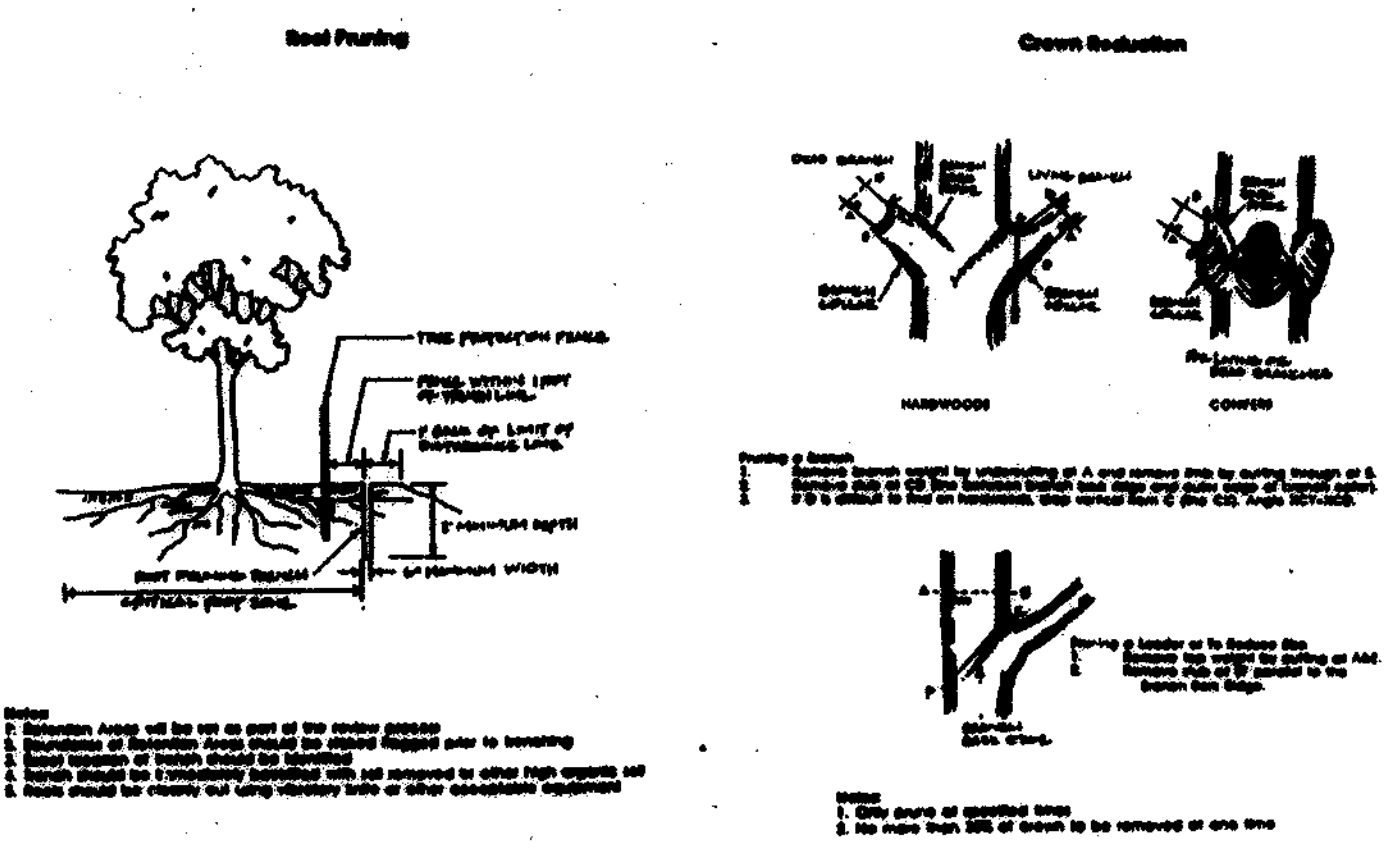
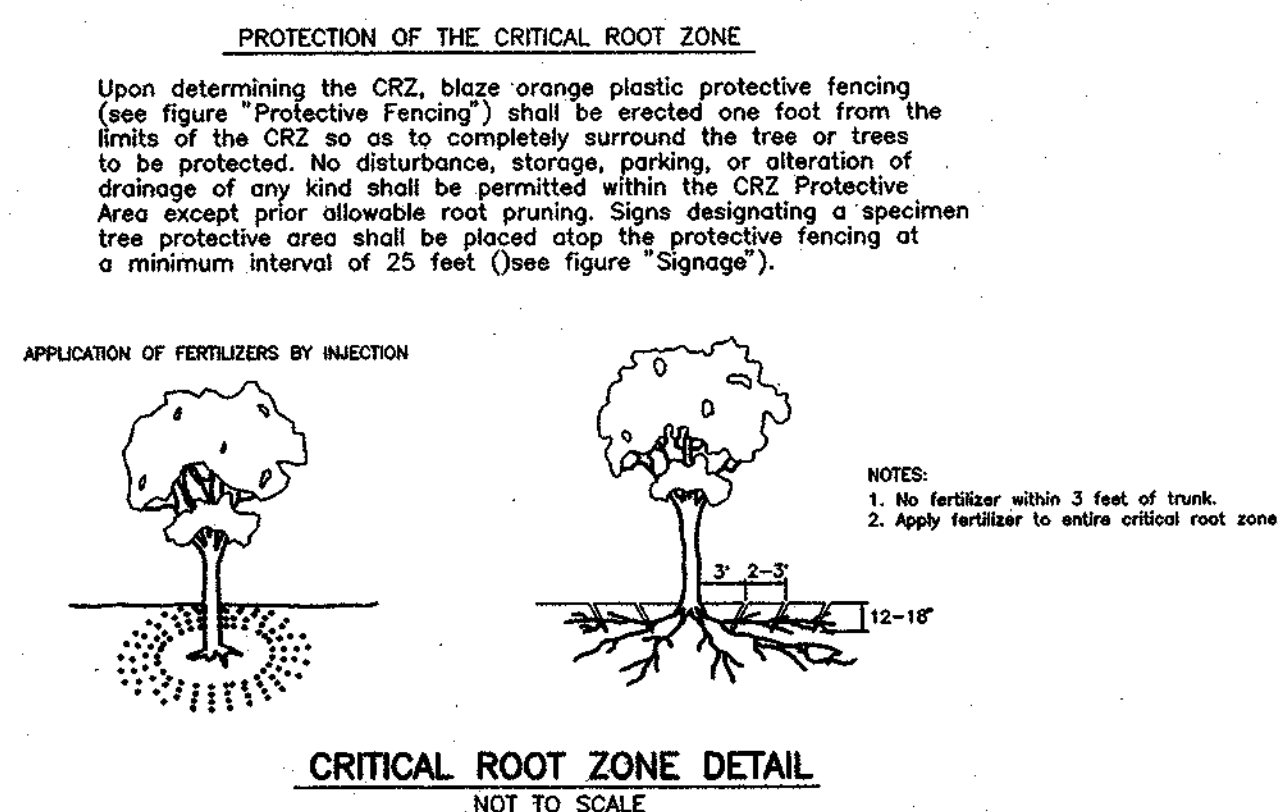
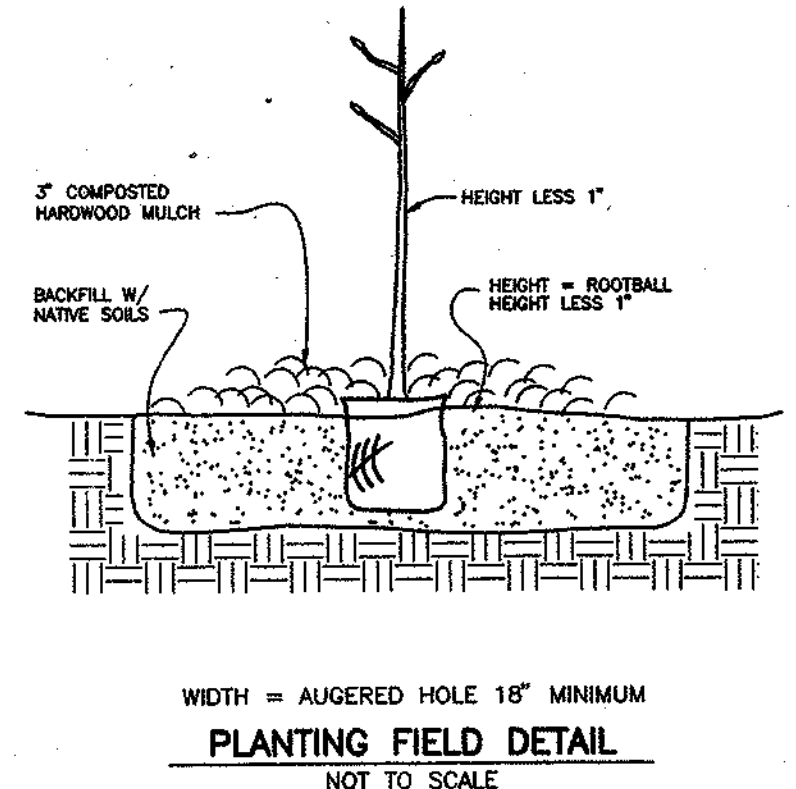


PLAN
SCALE: 1"=100'

RANDOM PLANTING DETAIL
NOT TO SCALE

○ SYCAMORE/OAK
★ TULIP POPLAR
△ RED MAPLE
◇ DOGWOOD
□ GREEN ASH

TO BE PLANTED IN RANDOM DISTRIBUTION PATTERN



NOTE: SEE SHEET 22 FOR PROTECTIVE FENCING DETAIL.

APPENDIX G
FOREST CONSERVATION WORKSHEET

I. BASIC SITE DATA

| | |
|---|-------|
| GROSS SITE AREA | 100.6 |
| AREA WITHIN 100 YEAR FLOODPLAIN | 18.9 |
| AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE) | N/A |
| NET TRACT AREA | 81.7 |
| LAND USE CATEGORY (R-RLD, R-RMD, R-S, C/I/O, I) | R-ED |

II. INFORMATION FOR CALCULATIONS

| | |
|--------------------------------------|------|
| A. NET TRACT AREA | 81.7 |
| B. REFORESTATION THRESHOLD (20% x A) | 16.3 |
| C. AFFORESTATION MINIMUM (15% x A) | 12.3 |
| D. EXISTING FOREST ON NET TRACT AREA | 36.1 |
| E. FOREST AREAS TO BE CLEARED | 24.0 |
| F. FOREST AREAS TO BE RETAINED | 12.1 |

III. DETERMINING REQUIREMENTS: AFFORESTATION OR REFORESTATION

1. Reforestation.
If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and clearing of forest areas is proposed, reforestation requirements may apply.
GO TO SECTION IV

If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and no clearing of existing forest resources is proposed, no reforestation is required. No further calculations are needed.

2. Afforestation.
If existing forest areas are less than the afforestation minimum (if D is less than C), afforestation requirements apply.
GO TO SECTION V

IV. REFORESTATION CALCULATIONS

| | |
|--|------|
| A. NET TRACT AREA | 81.7 |
| B. REFORESTATION THRESHOLD (20% x A) | 16.3 |
| D. EXISTING FOREST ON NET TRACT AREA | 36.1 |
| E. FOREST AREAS TO BE CLEARED | 24.0 |
| F. FOREST AREAS TO BE RETAINED | 12.1 |
| G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD (D-F, if F equals or is greater than B, Alternate 1) (D-F, if F is less than B, Alternate 2) | 19.8 |
| H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD (B-F, if applicable) | 4.2 |
| I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD (F-B, Retention Credit, if applicable) | N/A |

SELECT THE ALTERNATE THAT APPLIES:

1. Clearing above the threshold only.
If forest areas to be retained equal or are greater than the reforestation threshold (if F equals or is greater than B), the following calculations apply:

REFORESTATION FOR CLEARING ABOVE THRESHOLD $G \times 1/4$ _____

CREDIT FOR FOREST AREAS RETAINED ABOVE THRESHOLD I _____

TOTAL REFORESTATION REQUIRED $(G \times 1/4) - I$ _____

If the total reforestation requirement is equal to or less than 0, no reforestation is required.

2. Clearing below the threshold.
If forest areas to be retained are less than the reforestation threshold (if F is less than B), the following calculations apply:

REFORESTATION FOR CLEARING ABOVE THRESHOLD $G \times 1/4$ 5.0

REFORESTATION FOR CLEARING BELOW THRESHOLD $H \times 2$ 8.4

TOTAL REFORESTATION REQUIRED $(G \times 1/4) + (H \times 2)$ 13.4

Since clearing occurs below the threshold, no forest retention credit is possible.

Appendix J.1.1 Tree Planting and Maintenance Calendar

| Month | Planting | Maintenance |
|-------|----------|-------------|
| Jan | | |
| Feb | | |
| Mar | | |
| Apr | | |
| May | | |
| Jun | | |
| Jul | | |
| Aug | | |
| Sep | | |
| Oct | | |
| Nov | | |
| Dec | | |

- PLANTING NOTES:**
- Planting stock should be 3' to 4' whips and 1 1/2 to 2 gallon container stock at a minimum, with 5' - 6' trees for the oak, maple and white pine.
 - Only composted mulch may be used.
 - Whips should be planted on average of 11ft. on center with 5 ft. trees on average of 15 ft. (see random planting detail). Pines should be concentrated on the outside perimeter of Planting Area #2 (adjacent to the lots).
 - White oak, white pine and flowering dogwood should be planted outside of wetland limits and wetland buffer in Planting Area #1. Larger trees should be planted along the outside perimeter with a random planting scheme inside. Pines should be concentrated on the outside perimeter.

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT THE NECESSARY PERMITS, INCLUDING THE CONSTRUCTION PERMIT, WILL BE OBTAINED. I/WE CERTIFY THAT THE PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND FEASIBLE 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/WE MUST OBTAIN A REGISTERED PROFESSIONAL ENGINEER'S SUPERVISOR FOR CONSTRUCTION AND FINISH 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.

Chapman v.p. 6-1-98
DEVELOPER - TOLL MD LIMITED PARTNERSHIP DATE

BY THE ENGINEER:
I/WE CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND FEASIBLE 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/WE MUST OBTAIN A REGISTERED PROFESSIONAL ENGINEER'S SUPERVISOR FOR CONSTRUCTION AND FINISH THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Donald Mason 5/18/98
ENGINEER - DONALD A. MASON, P.E. # 21448 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.

MATERIAL REQUIREMENTS CONFORMANCE STATEMENT _____ DATE _____

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 _____

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Andrew M. Dancake 6-15-98
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Wanda 6/23/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Wanda 6/22/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Mary A. Dircks
M.A. DIRCKS & CO., INC.
Environmental Consulting Services
15228 Old Hanover Road
Upperco, Maryland 21155
Phone/Fax: 410-526-7388

| | | |
|-----|--------|--|
| NO. | DATE | REVISION |
| 1 | 7-2-04 | REVISE GRADES PER AS-BUILT CONDITIONS, REMOVE "TEMPORARY STOCKPILE" LABEL, LOD, AND ACCESS ROAD. |

TSA GROUP, INC.
planning • architecture • engineering • surveying
6480 Baltimore National Pike • Ellicott City, Maryland 21045 • 410-486-6106

OWNERS:
TOLL MD LIMITED PARTNERSHIP,
A MARYLAND LIMITED PARTNERSHIP
9206 TOWER OAKS BOULEVARD
SUITE 310
ROCKVILLE, MARYLAND 20852
JOHN HOPKINS UNIVERSITY
11100 JOHNS HOPKINS ROAD
LAUREL, MARYLAND 20723-6005

DEVELOPER:
TOLL MD LIMITED PARTNERSHIP,
A MARYLAND LIMITED PARTNERSHIP
9206 TOWER OAKS BOULEVARD
SUITE 310
ROCKVILLE, MARYLAND 20852

PROJECT: VILLAGE OF CEDAR RIDGE
A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY

LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123
8th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: FOREST CONSERVATION PLAN,
NOTES, AND DETAILS

DATE: OCTOBER 1997
MAY, 1998

PROJECT NO.: 0518

DESIGN: DAM **DRAFT:** DBT **CHECK:** DAM

SCALE: AS SHOWN **SHEET** 30 **OF** 31

FOREST RETENTION AREA
MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED
VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1992

Forest Conservation Area
AFFORESTATION PROJECT
Trees for Your Future

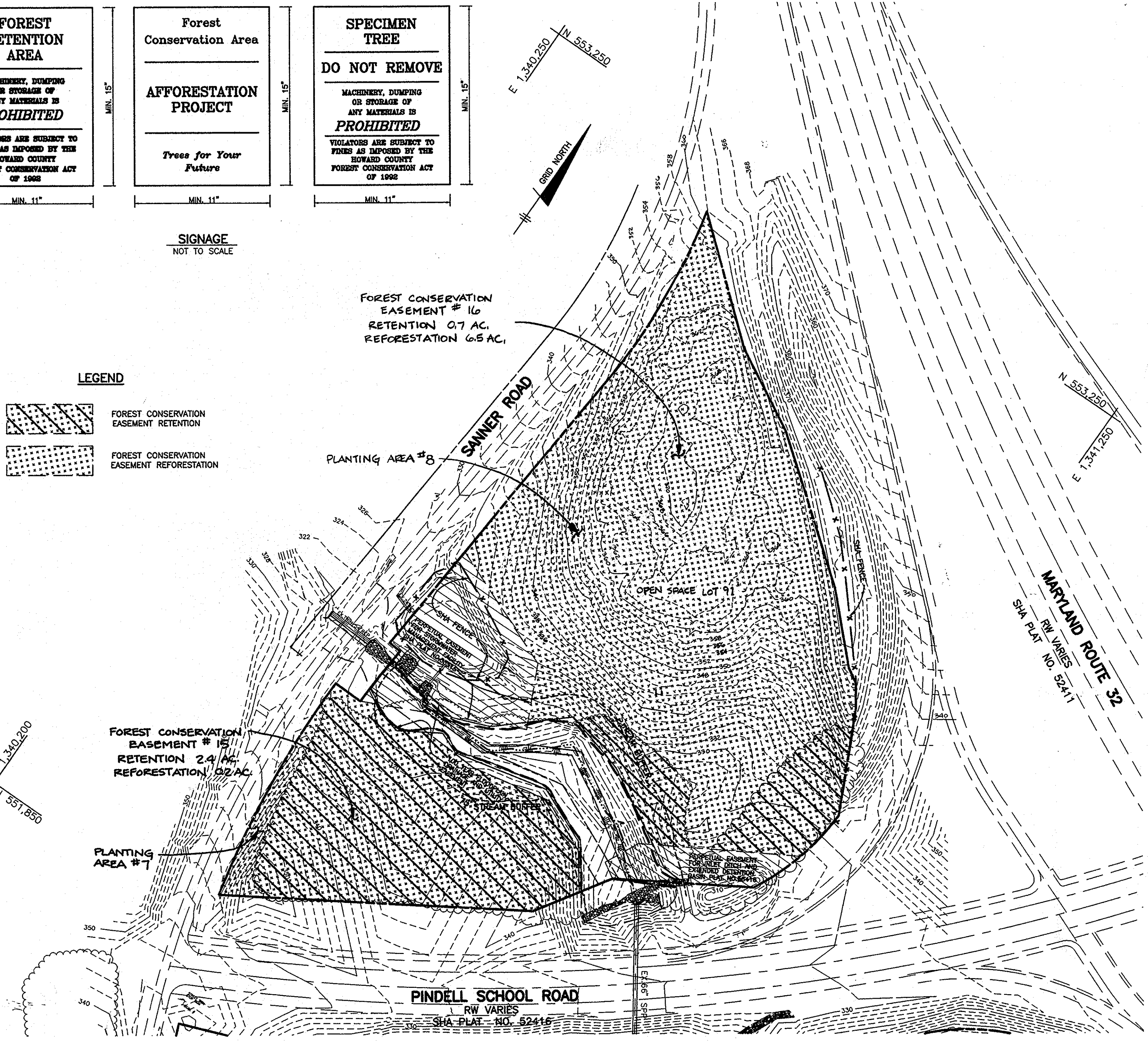
SPECIMEN TREE
DO NOT REMOVE
MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED
VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1992

SIGNAGE
NOT TO SCALE

LEGEND

FOREST CONSERVATION EASEMENT RETENTION

FOREST CONSERVATION EASEMENT REFORESTATION

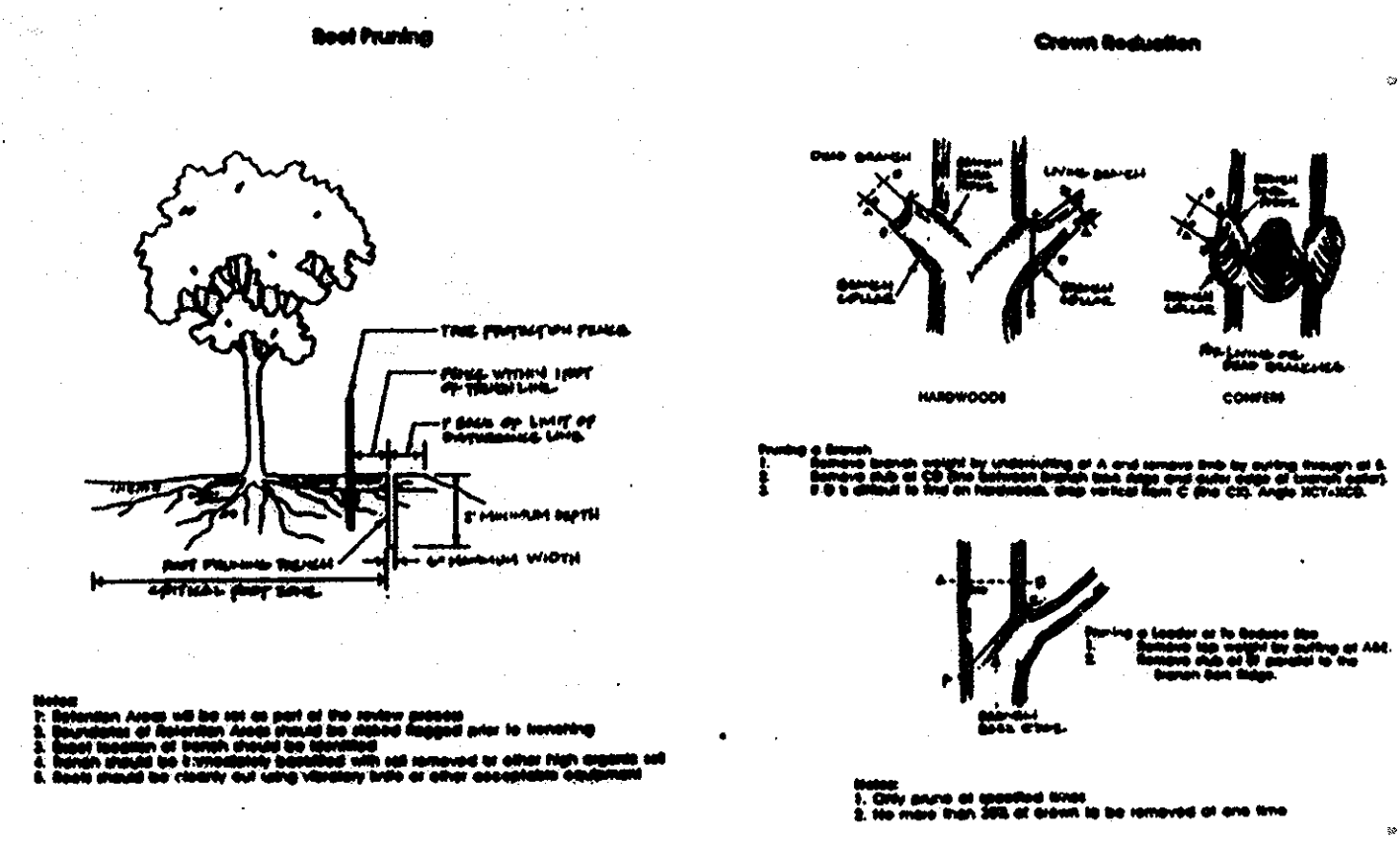
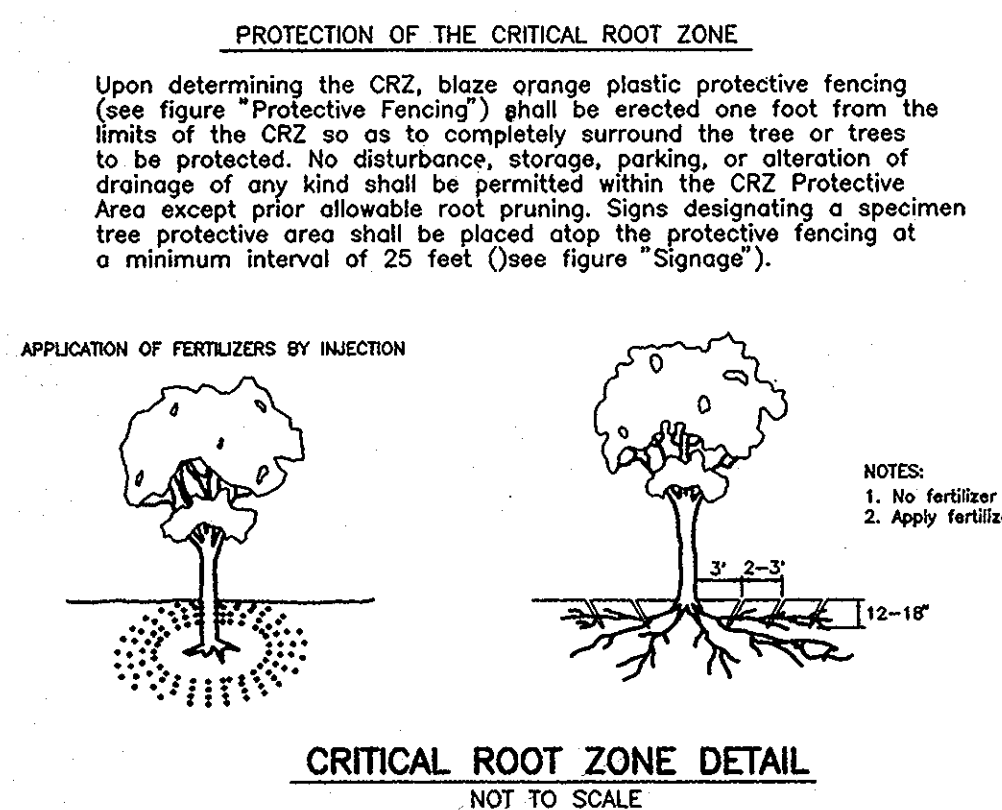
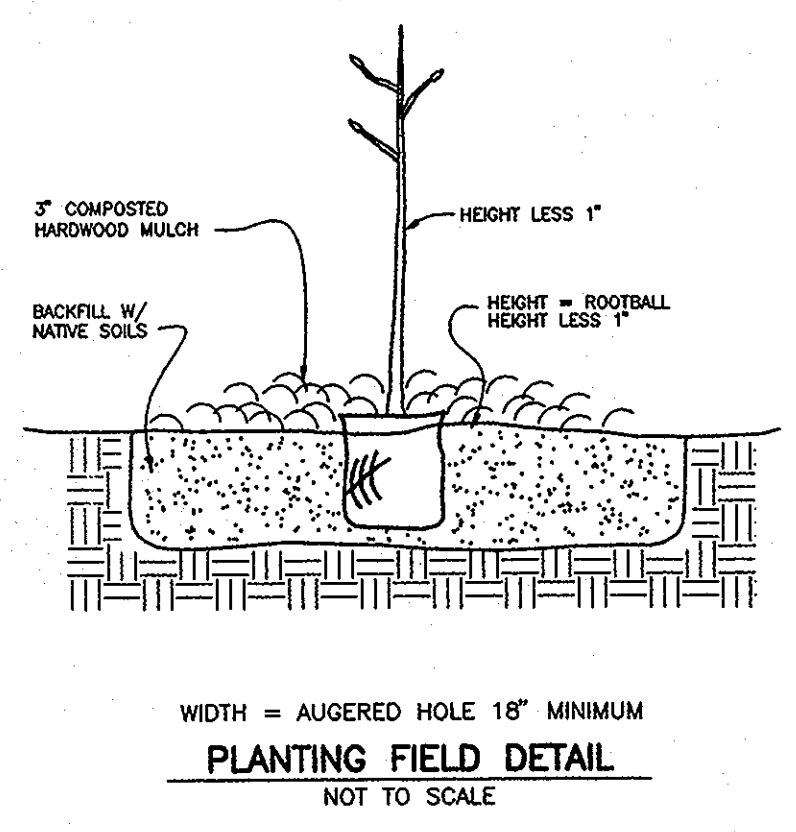


PLAN
SCALE: 1"=100'

RANDOM PLANTING DETAIL
NOT TO SCALE

○ SYCAMORE/OAK
☆ TULIP POPLAR
△ RED MAPLE
◇ DOGWOOD
□ GREEN ASH

TO BE PLANTED IN RANDOM DISTRIBUTION PATTERN



NOTE: SEE SHEET 22 FOR PROTECTIVE FENCING DETAIL.

APPENDIX G
FOREST CONSERVATION WORKSHEET

I. BASIC SITE DATA

| | |
|---|-------|
| GROSS SITE AREA | 100.6 |
| AREA WITHIN 100 YEAR FLOODPLAIN | 18.9 |
| AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE) | N/A |
| NET TRACT AREA | 81.7 |
| LAND USE CATEGORY (R-RD, R-RMD, R-S, C/V/O, I) | R-ED |

II. INFORMATION FOR CALCULATIONS

| | |
|--------------------------------------|------|
| A. NET TRACT AREA | 81.7 |
| B. REFORESTATION THRESHOLD (20% x A) | 16.3 |
| C. AFFORESTATION MINIMUM (15% x A) | 12.3 |
| D. EXISTING FOREST ON NET TRACT AREA | 36.1 |
| E. FOREST AREAS TO BE CLEARED | 24.1 |
| F. FOREST AREAS TO BE RETAINED | 12.0 |

III. DETERMINING REQUIREMENTS: AFFORESTATION OR REFORESTATION

1. Reforestation
If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and clearing of forest areas is proposed, reforestation requirements may apply.
GO TO SECTION IV

If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and no clearing of existing forest resources is proposed, no reforestation is required. No further calculations are needed.

2. Afforestation
If existing forest areas are less than the afforestation minimum (if D is less than C), afforestation requirements apply.
GO TO SECTION V

IV. REFORESTATION CALCULATIONS

| | |
|--|------|
| A. NET TRACT AREA | 81.7 |
| B. REFORESTATION THRESHOLD (20% x A) | 16.3 |
| D. EXISTING FOREST ON NET TRACT AREA | 36.1 |
| E. FOREST AREAS TO BE CLEARED | 24.1 |
| F. FOREST AREAS TO BE RETAINED | 12.0 |
| G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD (D-F, if F equals or is greater than B, Alternate 1) (D-F, if F is less than B, Alternate 2) | 19.8 |
| H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD (B-F, if applicable) | 4.2 |
| I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD (F-B, Retention Credit, if applicable) | N/A |

SELECT THE ALTERNATE THAT APPLIES:

1. Clearing above the threshold only
If forest areas to be retained equal or are greater than the reforestation threshold (if F equals or is greater than B), the following calculations apply:

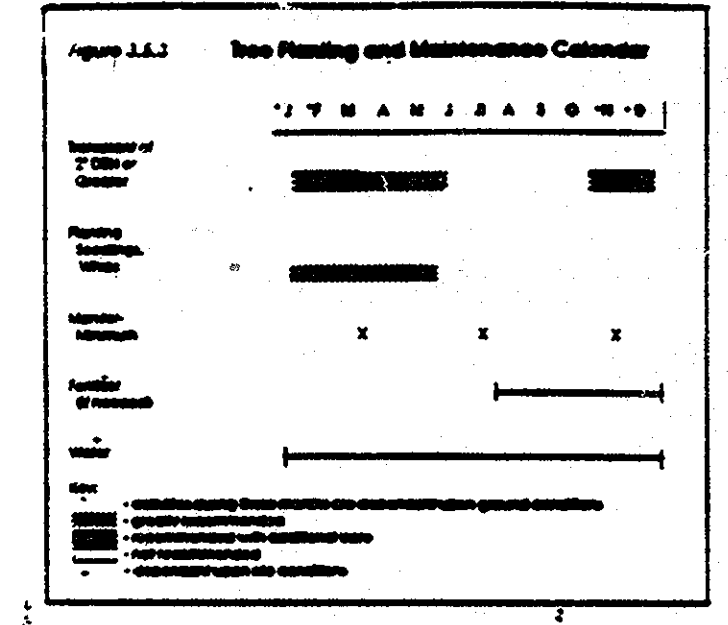
| | |
|---|-------|
| REFORESTATION FOR CLEARING ABOVE THRESHOLD (G x 1/4) | 14.85 |
| CREDIT FOR FOREST AREAS RETAINED ABOVE THRESHOLD (I = Retention Credit) | 0 |
| TOTAL REFORESTATION REQUIRED (G x 1/4) - I | 14.85 |

If the total reforestation requirement is equal to or less than 0, no reforestation is required.

2. Clearing below the threshold
If forest areas to be retained are less than the reforestation threshold (if F is less than B), the following calculations apply:

| | |
|--|------|
| REFORESTATION FOR CLEARING ABOVE THRESHOLD (G x 1/4) | 5.0 |
| REFORESTATION FOR CLEARING BELOW THRESHOLD (H x 2) | 8.4 |
| TOTAL REFORESTATION REQUIRED (G x 1/4) + (H x 2) | 13.4 |

Since clearing occurs below the threshold, no forest retention credit is possible.



- PLANTING NOTES:**
- Planting stock should be 3' to 4' whips and 1 1/2 to 2 gallon container stock at a minimum, with 5' - 6' trees for the oaks, maple and white pine.
 - Only composted mulch may be used.
 - Whips should be planted on an average of 11ft. on center with 5 ft. trees on an average of 15 ft. (see random planting detail). Pines should be concentrated on the outside perimeter of Planting Area #2 (adjacent to the lots).
 - White oak, white pine and flowering dogwood should be planted outside of wetland limits and wetland buffer in Planting Area #1. Larger trees should be planted along the outside perimeter with a random planting scheme inside. Pines should be concentrated on the outside perimeter.

BY THE DEVELOPER:
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 PROCESS WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROMISE 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.

Chopje v.p. 6-1-98
DEVELOPER - TOLL MD LIMITED PARTNERSHIP DATE

BY THE ENGINEER:
I/WE 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 PROMISE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Donald Mason 5/18/98
ENGINEER - DONALD A. MASON, P.E. # 21443 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.

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.

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

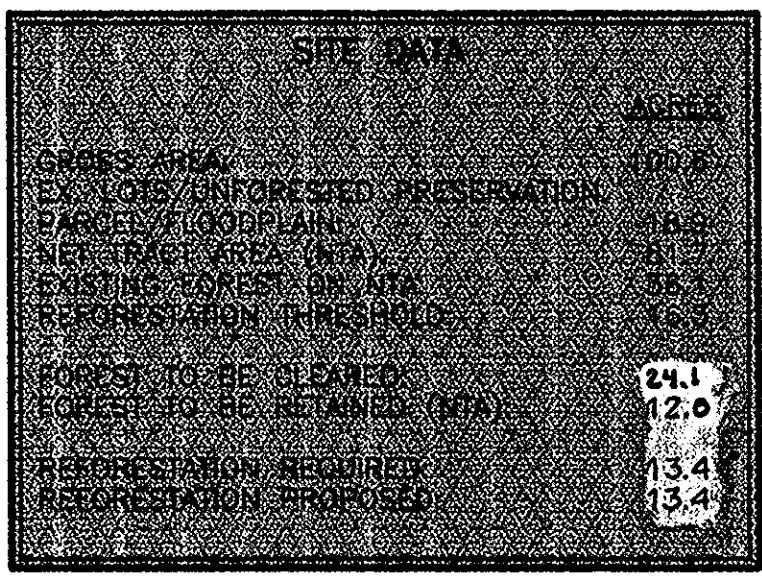
Andrew M. Dancke 6-15-98
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Catherine 6/23/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

John 6/22/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Mary A. Dircks
M.A. DIRCKS & CO., INC.
Environmental Consulting Services
15228 Old Hanover Road
Upperco, Maryland 21155
Phone/Fax: 410-526-7388



| NO. | DATE | REVISION |
|-----|---------|--|
| 2 | 1-18-07 | REVISE FOREST CONSERVATION TABULATIONS |
| 1 | 7-2-04 | REVISE GRADES PER AS-BUILT CONDITIONS, REMOVE "TEMPORARY STOCKPILE" LABEL, LOD, AND ACCESS ROAD. |

TSA GROUP, INC.
planning • architecture • engineering • surveying
6400 Baltimore National Pike • Ellicott City, Maryland 21045 • 410-466-6100

OWNERS:
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A MARYLAND LIMITED PARTNERSHIP
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SUITE 310
ROCKVILLE, MARYLAND 20852
JOHN HOPKINS UNIVERSITY
11100 JOHNS HOPKINS ROAD
LAUREL, MARYLAND 20723-6005

PROJECT: VILLAGE OF CEDAR RIDGE
A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY

LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123
3RD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

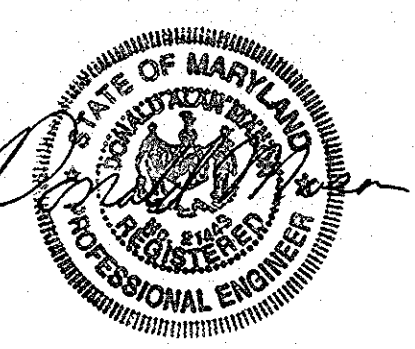
DEVELOPER:
TOLL MD LIMITED PARTNERSHIP,
A MARYLAND LIMITED PARTNERSHIP
3206 TOWER OAKS BOULEVARD
SUITE 310
ROCKVILLE, MARYLAND 20852

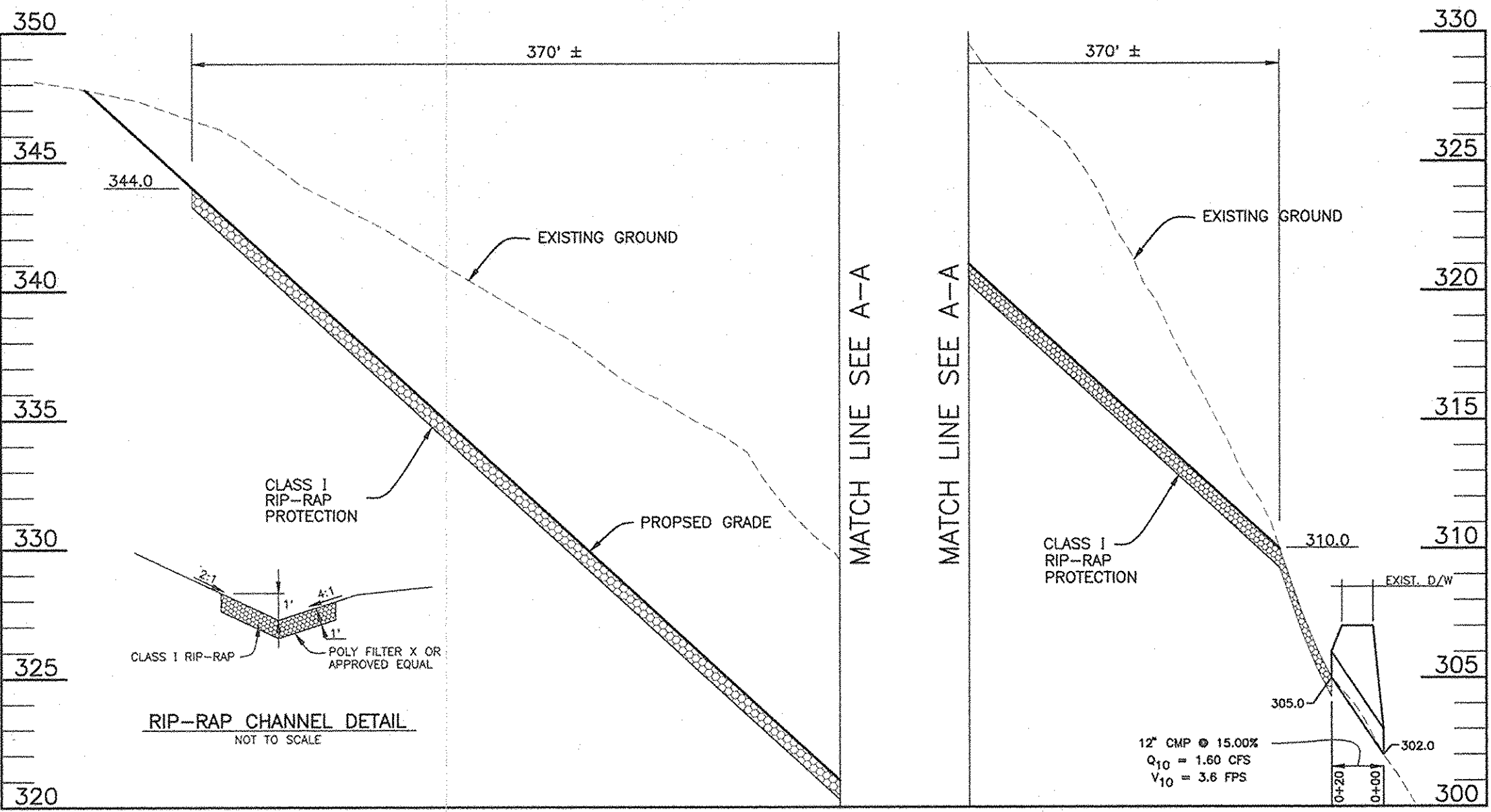
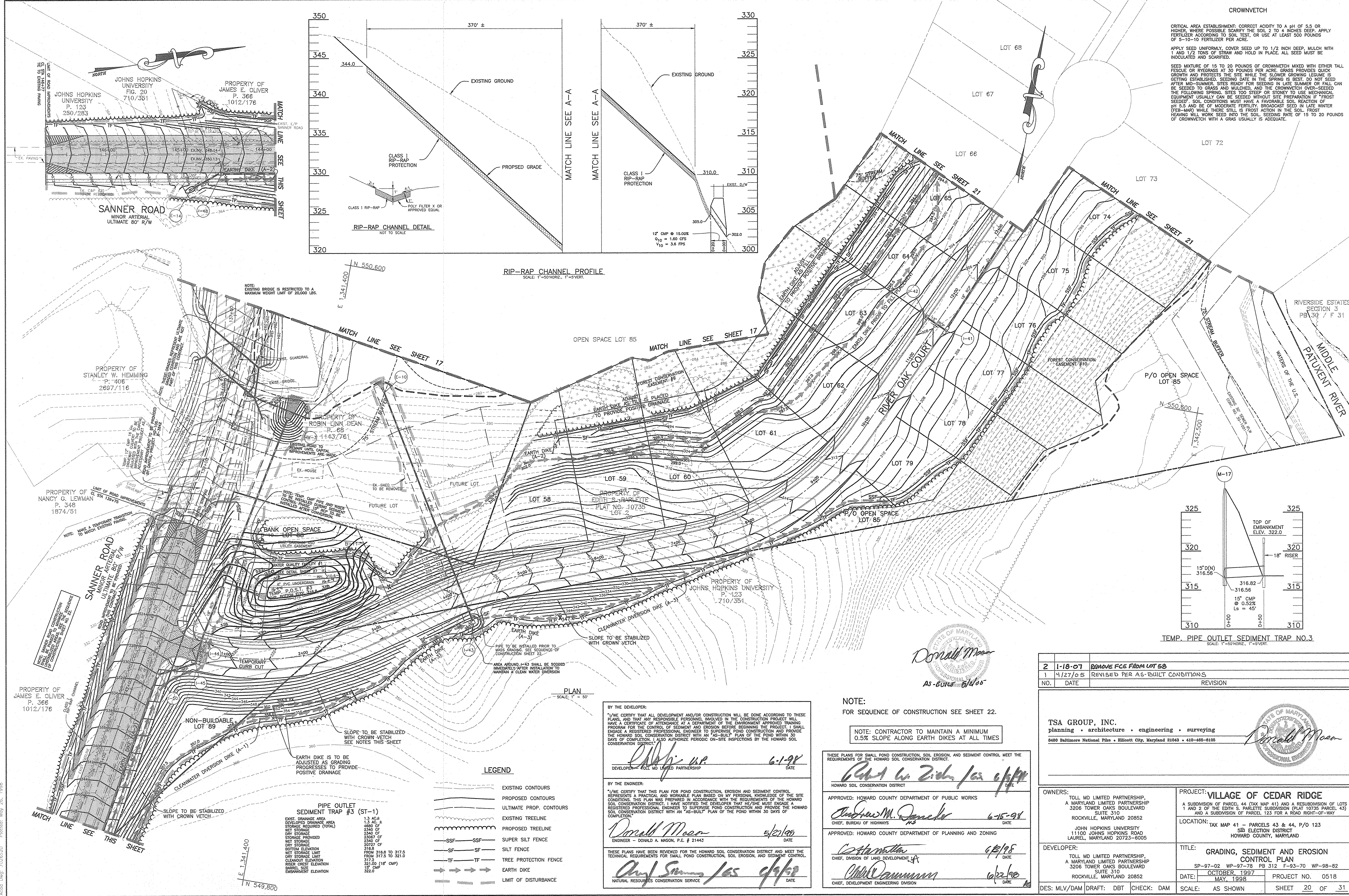
TITLE: FOREST CONSERVATION PLAN,
NOTES, AND DETAILS

DATE: OCTOBER, 1997
MAY, 1998

PROJECT NO. 0518

DESIGN: DAM **DRAFT: DBT** **CHECK: DAM** **SCALE: AS SHOWN** **SHEET 30 OF 31**



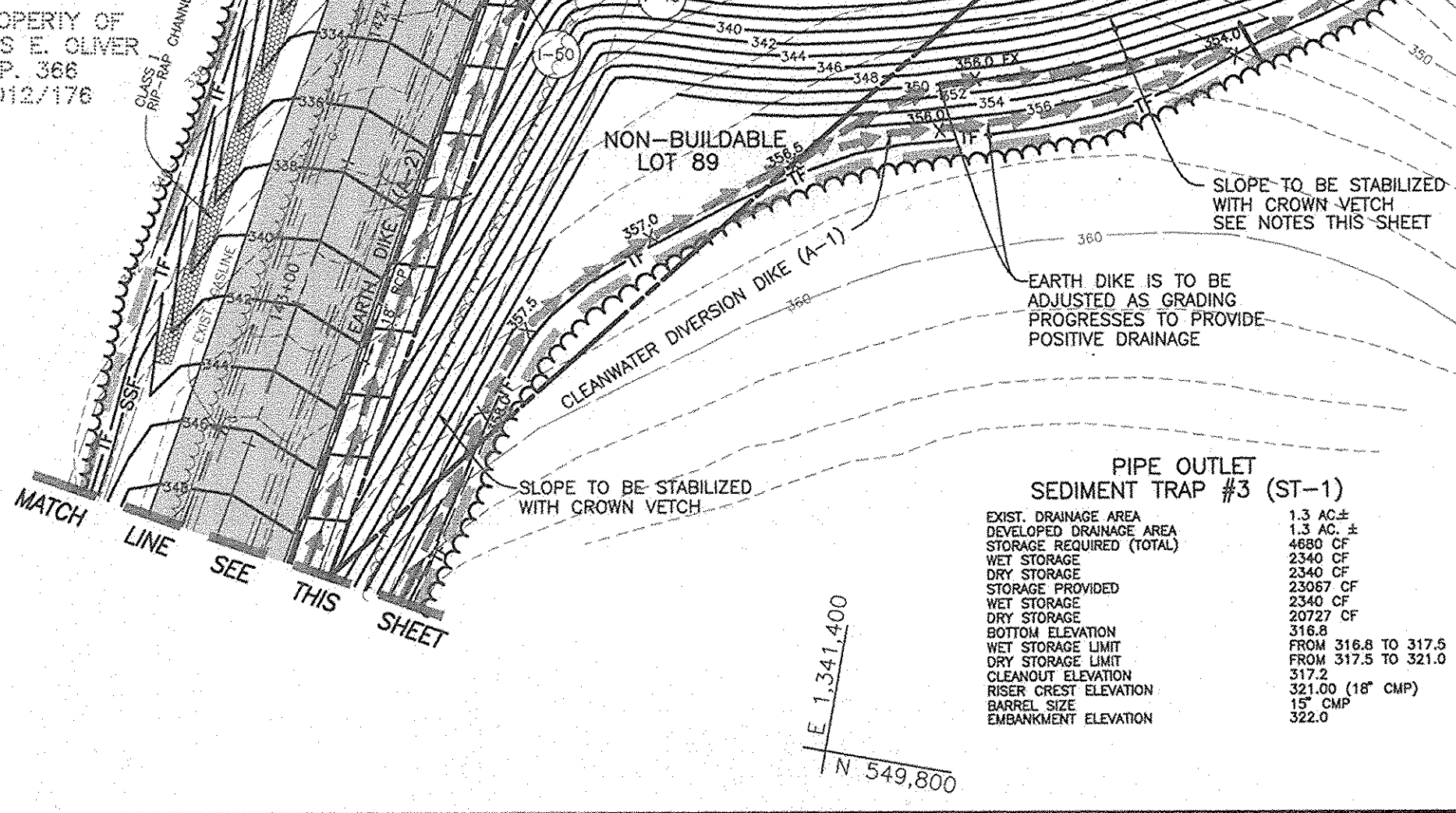
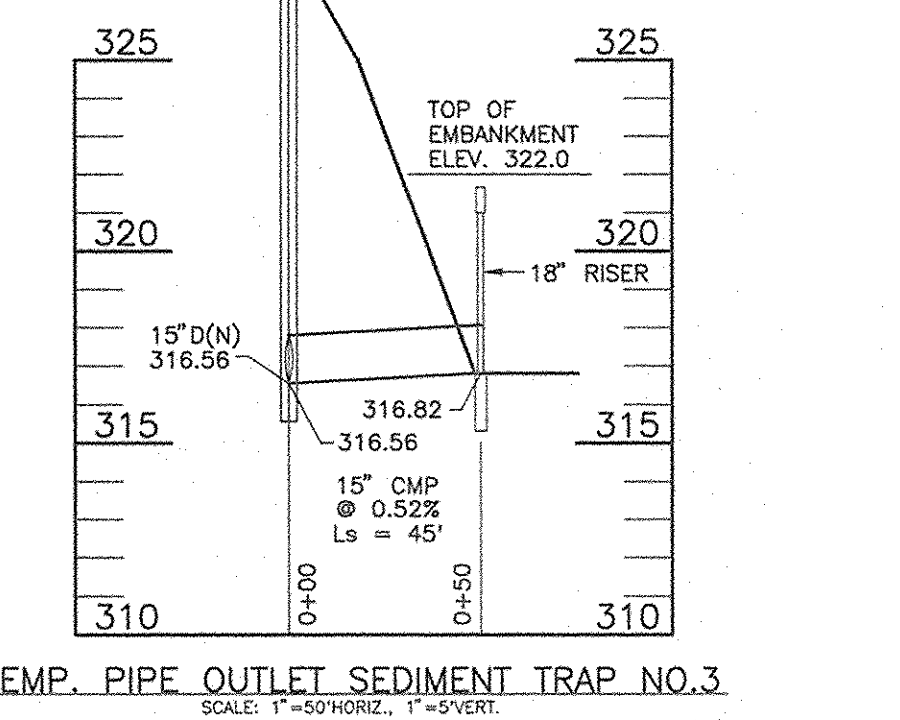


CROWN VETCH

CRITICAL AREA ESTABLISHMENT: CORRECT ACIDITY TO A pH OF 5.5 OR HIGHER, WHERE POSSIBLE SCARIFY THE SOIL 2 TO 4 INCHES DEEP, APPLY FERTILIZER ACCORDING TO SOIL TEST, OR USE AT LEAST 500 POUNDS OF 5-10-10 FERTILIZER PER ACRE.

APPLY SEED UNIFORMLY, COVER SEED UP TO 1/2 INCH DEEP, MULCH WITH 1 AND 1/2 TONS OF STRAW AND HOLD IN PLACE. ALL SEED MUST BE INOCULATED AND SCARIFIED.

SEED MIXTURE OF 15 TO 20 POUNDS OF CROWN VETCH MIXED WITH EITHER TALL FESCUE OR RYEGRASS AT 30 POUNDS PER ACRE. GRASS PROVIDES QUICK GROWTH AND PROTECTS THE SITE WHILE THE SLOWER GROWING LEGUME IS GETTING ESTABLISHED. SEEDING DATE IN THE SPRING IS BEST. DO NOT SEED AFTER MID-SUMMER. SITES READY FOR SEEDING IN LATE SUMMER OR FALL CAN BE SEED TO GRASS AND MULCHED, AND THE CROWN VETCH OVER-SEEDED THE FOLLOWING SPRING. SITES TOO STEEP OR STONEY TO USE MECHANICAL EQUIPMENT USUALLY CAN BE SEED WITHOUT SITE PREPARATION IF "FROST SEED". SOIL CONDITIONS MUST HAVE A FAVORABLE SOIL REACTION OF pH 5.5 AND BE OF MODERATE FERTILITY. BROADCAST SEED IN LATE WINTER (FEB-MAR) WHILE THERE STILL IS FROST ACTION IN THE SOIL. FROST HEAVING WILL WORK SEED INTO THE SOIL. SEEDING RATE OF 15 TO 20 POUNDS OF CROWN VETCH WITH A GRASS USUALLY IS ADEQUATE.



- LEGEND**
- EXISTING CONTOURS
 - PROPOSED CONTOURS
 - ULTIMATE PROP. CONTOURS
 - EXISTING TREELINE
 - PROPOSED TREELINE
 - SSF — SSF — SUPER SILT FENCE
 - SF — SF — SILT FENCE
 - TF — TF — TREE PROTECTION FENCE
 - EARTH DIKE
 - LIMIT OF DISTURBANCE

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I 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.

Chap. U.P.
DEVELOPER - TOLL MD LIMITED PARTNERSHIP
DATE: 6-1-98

BY THE ENGINEER:
I/WE 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.

Donald M. Mason
ENGINEER - DONALD A. MASON, P.E. # 21443
DATE: 5/27/99

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.

Chap. Sumner / JCS
NATURAL RESOURCES CONSERVATION SERVICE
DATE: 6/9/98

NOTE:
FOR SEQUENCE OF CONSTRUCTION SEE SHEET 22.

NOTE: CONTRACTOR TO MAINTAIN A MINIMUM 0.5% SLOPE ALONG EARTH DIKES AT ALL TIMES

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

Robert W. Zickler / JCS
HOWARD SOIL CONSERVATION DISTRICT
DATE: 6/1/98

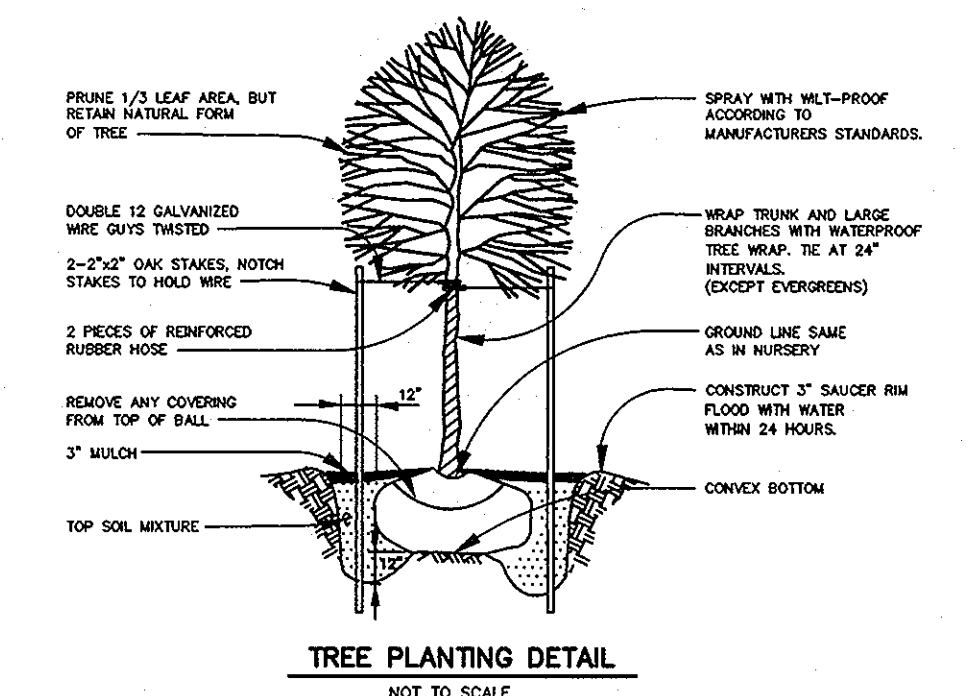
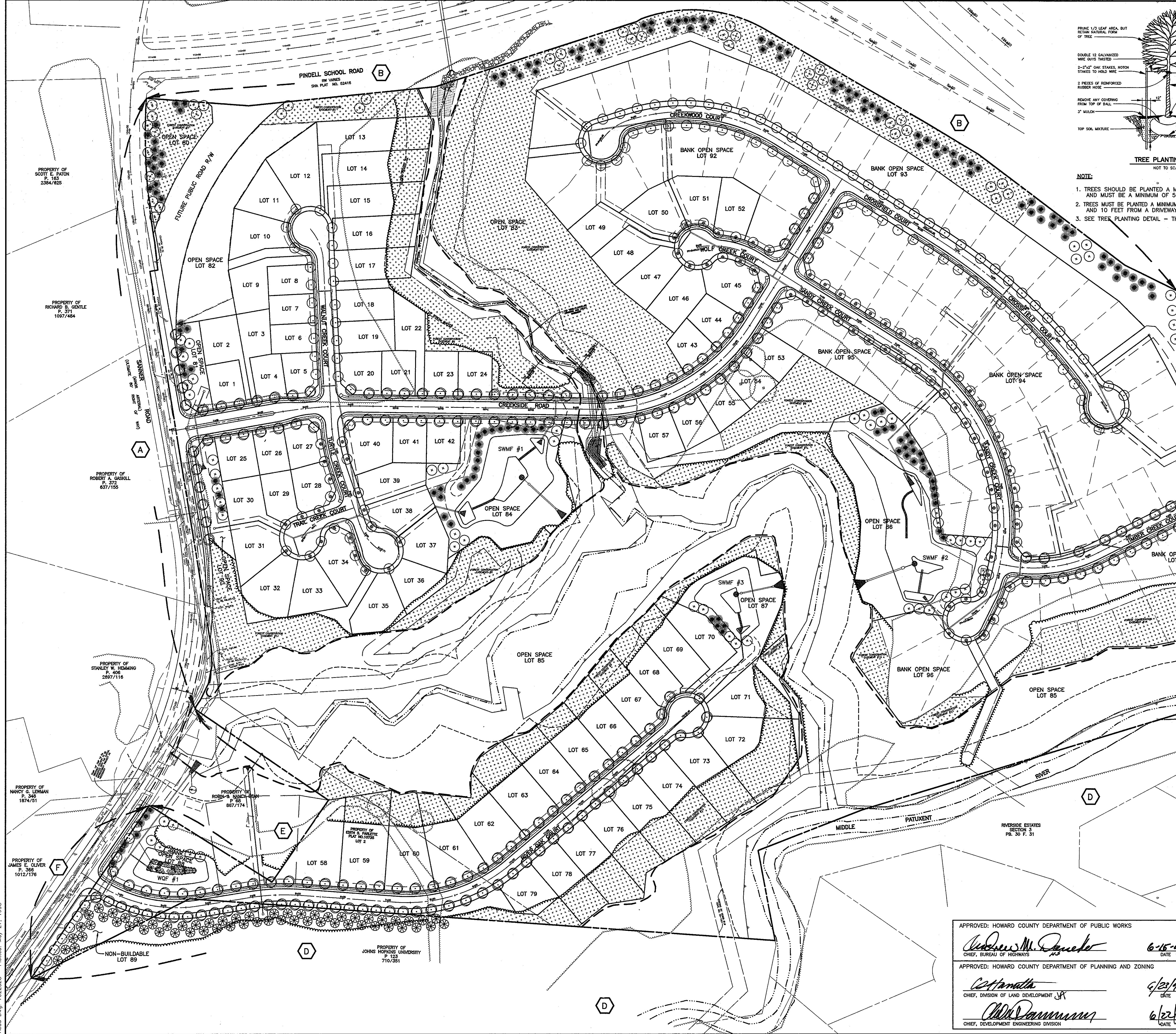
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels
CHIEF, BUREAU OF HIGHWAYS
DATE: 6-15-98

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
William M. ...
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 6/15/98

Chad ...
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 6/22/98

| 2 | 1-18-07 | REMOVE F.C.E. FROM LOT 58 |
|-----|---------|---------------------------------|
| 1 | 4/27/05 | REVISED PER AS-BUILT CONDITIONS |
| NO. | DATE | REVISION |

| | | | | |
|--|---|---|-----------------|----------------|
| TSA GROUP, INC. planning • architecture • engineering • surveying 6480 Baltimore National Pike • Ellicott City, Maryland 21045 • 410-465-8105 | | | | |
| OWNERS: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP 3206 TOWER OAKS BOULEVARD SUITE 310 ROCKVILLE, MARYLAND 20852 | PROJECT: VILLAGE OF CEDAR RIDGE A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY | | | |
| DEVELOPER: TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP 3206 TOWER OAKS BOULEVARD SUITE 310 ROCKVILLE, MARYLAND 20852 | LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND | TITLE: GRADING, SEDIMENT AND EROSION CONTROL PLAN SP-97-02 WP-97-78 PB 312 F-93-70 WP-98-82 DATE: OCTOBER, 1997 MAY, 1998 PROJECT NO. 0518 | | |
| DES: MLV/DAM | DRAFT: DBT | CHECK: DAM | SCALE: AS SHOWN | SHEET 20 OF 31 |



- NOTE:**
- TREES SHOULD BE PLANTED A MINIMUM OF 6 FEET FROM THE EDGE OF PAVING AND MUST BE A MINIMUM OF 5 FEET FROM ANY STORM DRAIN.
 - TREES MUST BE PLANTED A MINIMUM OF 5 FEET FROM AN OPEN SPACE ACCESS STRIP AND 10 FEET FROM A DRIVEWAY.
 - SEE TREE PLANTING DETAIL - THIS SHEET.

| CATEGORY | PERIMETER LANDSCAPE EDGE | | | | ADJACENT TO PERIMETER | | | |
|--|--------------------------|-----------|------|---------|-----------------------|---------|----|----|
| | A | B | C | D | A | B | C | D |
| LANDSCAPE TYPE | △ | □ | ○ | ◇ | △ | □ | ○ | ◇ |
| LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER | 1,371' | 2,480' | 465' | 810' | 3,461' | 902' | | |
| CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED) | ② | ② | ② | ② | ② | ② | ② | ② |
| CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED) | NO | NO | NO | NO | NO | NO | NO | NO |
| NUMBER OF PLANTS REQUIRED | 971 LF. | 2,000 LF. | 4 | 450 LF. | 870 LF. | 402 LF. | | |
| SHADE TREES | 20 | 46 | 8 | 16 | 49 | 7 | | |
| EVERGREEN TREES | 24 | 57 | 6 | — | — | — | | |
| OTHER TREES (2:1 SUBSTITUTE) | — | — | — | — | — | — | | |
| SHRUBS | — | — | — | — | — | — | | |
| NUMBER OF PLANTS PROVIDED | 20 | 34 | 0 | 8 | 0 | 7 | | |
| SHADE TREES | 24 | 81 | 16 | — | 49 | — | | |
| EVERGREEN TREES | — | — | — | — | — | — | | |
| OTHER TREES (2:1 SUBSTITUTE) | — | — | — | — | — | — | | |
| SHRUBS (10:1 SUBSTITUTE) | — | — | — | — | — | — | | |
| (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED) | | | | | | | | |

② EXISTING WOODS WITH WIDTH 20' OR GREATER.

| SYMBOL | QUANTITY | NAME | REMARKS |
|--------|----------|---|--------------------------------|
| ⊙ | 85 | TILIA CORDATA "GREENSPIRE" (Greenspire Littleleaf Linden) | 2 1/2" MIN. CAL. B&B FULL HEAD |
| ⊙ | 104 | ACER RUBRA (Red Maple) | 2 1/2" MIN. CAL. B&B FULL HEAD |
| ⊙ | 193 | ACER SACCHARUM (Sugar Maple) | 2 1/2" MIN. CAL. B&B FULL HEAD |

| SYMBOL | QUANTITY | NAME | REMARKS |
|--------|----------|--|--------------------------------|
| ⊙ | 106 | PLATANUS ACERIFOLIA "BLOODGOOD" (Bloodgood London Plane) | 2 1/2" MIN. CAL. B&B FULL HEAD |
| ⊙ | 168 | PINUS STROBUS (Eastern White Pine) | 5'-6" Ht. UNSHEARED |
| ⊙ | 59 | CUPRESSOCYPARIS LEYLANDII (Leyland Cypress) | 5'-6" HEIGHT |

| LINEAR FEET OF PERIMETER | STORMWATER MANAGEMENT AREA LANDSCAPING | | | WOF |
|--|--|------------|------------|-----|
| | FACILITY 1 | FACILITY 2 | FACILITY 3 | |
| 980 | 1,400 | 710 | | |
| 440 | 470 | 500 | | |
| 540 | 930 | 210 | | |
| BUFFER TYPE | "B" | "B" | "B" | |
| NUMBER OF TREES REQUIRED | | | | |
| SHADE TREES | 11 | 19 | 4 | |
| EVERGREEN TREES | 13 | 23 | 5 | |
| CREDIT FOR EXISTING VEGETATION (NO, YES AND %) | NO | NO | NO | |
| CREDIT FOR OTHER LANDSCAPING (NO, YES AND %) | NO | NO | NO | |
| NUMBER OF TREES PROVIDED | | | | |
| SHADE TREES | 7 | 19 | 5 | |
| EVERGREEN TREES | 21 | 23 | 5 | |
| OTHER TREES (2:1 SUBSTITUTE) | | | | |

| SYMBOL | DESCRIPTION |
|--------|---|
| ⊙ | STREET TREES TO BE PROVIDED BY THE DEVELOPER TO BE INCORPORATED ON FINAL PLANS. |
| ⊙ | SHADE TREES ALONG PERIMETER AND STORMWATER MANAGEMENT TO BE PROVIDED BY THE DEVELOPER AND INCORPORATED ON FINAL PLANS. |
| ⊙ | EVERGREEN TREES ALONG PERIMETER AND STORMWATER MANAGEMENT AREA TO BE PROVIDED BY THE DEVELOPER AND INCORPORATED ON FINAL PLANS. |

- LANDSCAPING NOTES**
- PERIMETER LANDSCAPING SHALL BE PROVIDED BY THE EXISTING VEGETATION TO REMAIN AND BY THE PLANTINGS AS SHOWN ON THESE PLANS.
 - THE DEVELOPER SHALL BE RESPONSIBLE FOR THE STREET TREES, STORMWATER MANAGEMENT POND PLANTING, THE PRESERVATION OF THE PERIMETER VEGETATION AS SHOWN ON THESE PLANS, AND FOR PERIMETER PLANTING ON PERIMETERS A,B,C,D & E. BONDING FOR PERIMETER PLANTING IS THE OBLIGATION OF THE DEVELOPER AS PART OF THE DEVELOPERS AGREEMENT.
 - A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN TREES AND STREET LIGHTS.

NOTE:
THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPING MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPE TREES IN THE AMOUNT OF \$26,600.00 MUST BE POSTED AS PART OF THE DEVELOPERS AGREEMENT.

| NO. | DATE | REVISION |
|-----|---------|------------------------|
| 1 | 1-18-07 | REMOVE FCE FROM LOT 58 |

TSA GROUP, INC.
planning • architecture • engineering • surveying
8480 Baltimore National Pike • Millersville City, Maryland 21068 • 410-465-6105

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Sanchez 6/15/98
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
William M. ... 6/23/98
CHIEF, DIVISION OF LAND DEVELOPMENT

William M. ... 6/23/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION

OWNERS:
TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP
3206 TOWER OAKS BOULEVARD
SUITE 310
ROCKVILLE, MARYLAND 20852

DEVELOPER:
TOLL MD LIMITED PARTNERSHIP, A MARYLAND LIMITED PARTNERSHIP
3206 TOWER OAKS BOULEVARD
SUITE 310
ROCKVILLE, MARYLAND 20852

PROJECT: VILLAGE OF CEDAR RIDGE
A SUBDIVISION OF PARCEL 44 (TAX MAP 41) AND A RESUBDIVISION OF LOTS 1 AND 2 OF THE EDITH S. PARLETTE SUBDIVISION (PLAT 10735 PARCEL 43) AND A SUBDIVISION OF PARCEL 123 FOR A ROAD RIGHT-OF-WAY.

LOCATION: TAX MAP 41 - PARCELS 43 & 44, P/O 123
3RD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
LANDSCAPE PLAN, NOTES AND DETAILS

SP-97-02 WP-97-78 PB 312 F-93-70 WP-98-82
DATE: OCTOBER, 1997
MAY, 1998
PROJECT NO. 0518

DESIGN: DAM DRAFT: DBT CHECK: DAM SCALE: 1" = 100' SHEET 28 OF 31