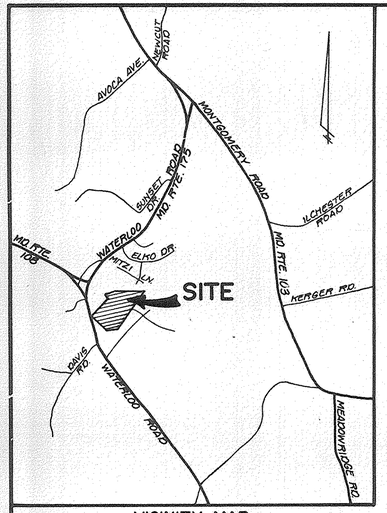
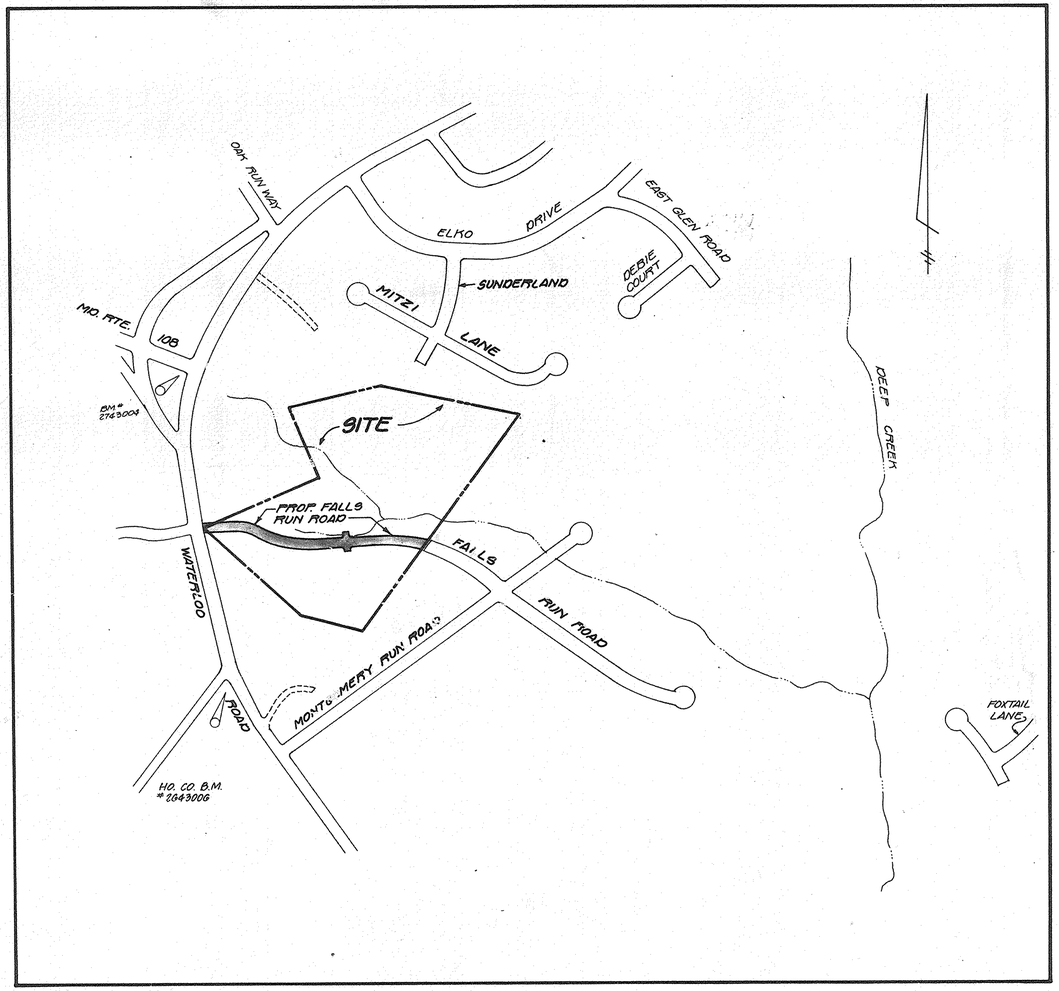
# ASHTON WOODS
## ROAD CONSTRUCTION PLANS
### TAX MAP # 31 PARCEL # 423




VICINITY MAP
SCALE 1"=2000'




SITE PLAN
SCALE 1"=400'

| INDEX OF SHEETS | |
|---|---|
| SHEET NO. | DESCRIPTION |
| 1 | TITLE SHEET |
| 2 | ROAD PLAN - FALLS RUN ROAD |
| 3 | ROAD PROFILE - " " " |
| 4 | ROAD PLAN & PROFILE - WATERLOO ROAD |
| 5 | DRAINAGE AREA MAP |
| 6 | STORM DRAIN PROFILES |
| 7 | SEDIMENT CONTROL PLAN |
| 8 | SEDIMENT CONTROL DETAILS & S.W.M. NOTES |
| 9 | S.W.M. POND |

BENCHMARKS :
HOWARD COUNTY B.M. NO. 2743006
CONC. MON. 0.1' BELOW SURFACE AT TOP OF BANK W. SIDE OF RTE. 108, 100' ± S. OF DAVIS RD.
EL. 515.054'
COORDINATE : N 604214.405
E 884626.430

HOWARD COUNTY B.M. NO. 2743004
3/4" REBAR 0.1' BELOW SURFACE 15'± FROM SW. COR. OF EDGE OF RTE. 108 & OLD RTE. 75
EL. 522.570'
COORDINATE : N 605512.302
E 894347.401

| ESTIMATE OF QUANTITIES | | | |
|---|---|---|---|
| ITEM | DESCRIPTION | UNIT | QUANTITY |
| 1 | STD. A-10 INLET WITH DEFLECTORS | EA. | 4 |
| 2 | STD. A-10 INLET WITHOUT DEFLECTORS | EA. | 2 |
| 3 | FLOW CONTROL INLET | EA. | 1 |
| 4 | STD. 4' MANHOLE | EA. | 4 |
| 5 | 36" B.C.C.M.P. 14 GA. | LF. | 64 |
| 6 | 15" R.C.C.P., CL. III | LF. | 55 |
| 7 | 18" R.C.C.P., CL. IV | LF. | 336 |
| 8 | 15" R.C.C.P., CL. IV | LF. | 307 |
| 9 | METAL END SECTION | EA. | 1 |
| 10 | CONC. END SECTION | EA. | 3 |

### GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS, SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
2. ALL UTILITY COMPANIES SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF CONSTRUCTION.
3. ALL INLETS SHALL BE HOWARD COUNTY STANDARDS UNLESS OTHERWISE NOTED.
4. CONTRACTOR TO NOTIFY THE HOWARD COUNTY DEPT. OF INSPECTIONS AND PERMITS AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS. TELEPHONE NO. 792-7272.
5. ALL DISTURBED SLOPE AREAS TO BE STABILIZED AS SOON AS GRADING IS COMPLETED.
6. ALL REINFORCED CONCRETE FOR STORM DRAIN STRUCTURES SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3500 P.S.I.
7. BOUNDARY SURVEY AND WETLANDS LIMITS PROVIDED BY DEWBERRY & DAVIS, 3300 NORTH RIDGE ROAD ELLICOTT CITY, MD. 21043 DATED: FEBRUARY 8, 1989. SHEET TITLE: BOUNDARY SURVEY "ASHTON WOODS" LOT 2 MONTGOMERY ROAD I.
8. FLOODPLAIN LIMITS PROVIDED BY STV/LYON, 21 GOVERNOR'S COURT BALTIMORE, MD. 21207.
9. STORM DRAIN TRENCHES WITHIN ROAD RIGHTS-OF-WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY ROAD CODE.
10. ALL SWALES AND SLOPES SHALL BE PERMANENTLY SEEDED. SEE THE SEED SPECIFICATIONS ON SHEET 7.
11. TRAFFIC CONTROL DEVICES AND THEIR INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 1984 REVISED EDITION OF THE MUTCD.
12. POLY FILTER-X (FILTER CLOTH BLANKET) OR EQUAL SHALL BE PLACED UNDER ALL STONE RIP-RAP (FULL WIDTH AND LENGTH OF STONE).
13. STONE SHALL BE MARYLAND S.H.A. CLASS 1 MEDIUM RIP-RAP. RIP-RAP SHALL BE UNPAVED UNLESS OTHERWISE NOTED.
14. STUBS FOR 6" PVC UNDERDRAIN PIPE TO BE INSTALLED AT CENTER OF EACH WALL OF A-10 INLETS.
15. 150 WATT HIGH PRESSURE SODIUM VAPOR LAMP PENDANT MOUNTED FIXTURES ON A 25-FOOT BRONZE ALUMINUM POLE.
16. WETLANDS MITIGATION OF 1.50 ACRES IN ACCORDANCE WITH WATER QUALITY CERTIFICATION 89-WQ-0577 WILL BE DONE OFFSITE AT A YET UNDETERMINED LOCATION. THE MITIGATION PLAN MUST BE SUBMITTED BY FEBRUARY 28, 1990.
17. ARMY CORP. OF ENGINEERS 404 PERMIT NO. 88-1967-4 HAS BEEN OBTAINED FOR THIS PROJECT.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE
CHIEF, BUREAU OF ENGINEERING — DATE 12-4-89
CHIEF, BUREAU OF HIGHWAYS — DATE 12/4/89
CHIEF, LAND DEVELOPMENT DIVISION — DATE 12/4/89

STV/LYON ASSOCIATES.
ENGINEERS, ARCHITECTS & PLANNERS.
21 GOVERNOR'S COURT
BALTIMORE, MARYLAND 21207-2722
301-944-9112

STATE OF MARYLAND — PATRICK C. RICHARDSON — No. 16557 — REGISTERED PROFESSIONAL ENGINEER — 6/28/89

| DES: E.A.S. | | | |
|---|---|---|---|
| DRN: W.K.C. | | | |
| CHK: P.C.R. | | | |
| DATE: 6/27/89 | BY | NO. | REVISION |

OWNER/DEVELOPER
SUMMIT PROPERTIES
203 KEY HIGHWAY
BALTIMORE, MARYLAND 21230
301-234-0070

HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

PLANNING DIRECTOR — DATE
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 12/5/89

ASHTON WOODS
TITLE SHEET
FALLS RUN ROAD
STA. 4+68 TO STA. 17+76.16

TAX MAP NO. 31
PARCEL NO. 423
HOWARD COUNTY, MARYLAND
1ST. ELECTION DISTRICT

SCALE AS SHOWN
SHEET 1 of 9

1506

F-90-11

**COORDINATE TABLE**

| STATION | NORTH | EAST | DESCRIPTION |
|---|---|---|---|
| 5+32 | 504,928.6821 | 855,757.3954 | ℄ RD. @ ℙ |
| 8+38.53 | 504,911.1849 | 855,454.2039 | ℄ PT. |
| 9+51.64 | 504,878.4678 | 855,345.9258 | ℄ POT. |
| 10+88.95 | 504,838.7511 | 855,214.4840 | ℄ PC. |
| 14+06.60 | 504,820.8376 | 854,901.2876 | ℄ PT. |
| 14+69.15 | 504,832.1625 | 854,838.7581 | ℄ PC. |
| 17+11.77 | 504,826.8595 | 854,597.8302 | ℄ PT. |
| 18+01.16 | 504,807.0741 | 854,510.6562 | ℄ /℄ 108 INTER. |

| CURVE NO. | DELTA | RADIUS | LENGTH | TANGENT | CHORD LENGTH | CHORD BEARING |
|---|---|---|---|---|---|---|
| 1 | 27°01'10.81" | 650.00' | 306.53' | 156.17 | 303.70' | S86°41'49.63" W |
| 2 | 27°04'42.26" | 670.00' | 316.65' | 161.34 | 313.71' | S86°43'35.36" W |
| 3 | 23°03'11.49" | 603.00' | 242.62' | 122.97 | 240.99' | S88°44'21. " W |

BOUNDARY CORNERS ARE 5/8" DIA. REINFORCING ROD W/ RED PLASTIC CAP MARKED THUS:

PROP. CORNER STV LYON 142

UNLESS SHOWN OTHERWISE.

| FALLS RUN ROAD | | |
|---|---|---|
| COORDINATE TABLE | | |
| NO. | NORTH | EAST |
| 300 | 504868.69 | 854565.40 |
| 301 | 504855.14 | 854586.91 |
| 302 | 504856.12 | 854591.19 |
| 303 | 504861.68 | 854844.10 |
| 304 | 504850.36 | 854906.63 |
| 305 | 504867.47 | 855205.81 |
| 306 | 504939.90 | 855445.53 |
| 307 | 504956.50 | 855771.84 |
| 308 | 504900.74 | 855742.89 |
| 309 | 504882.47 | 855462.88 |
| 310 | 504810.03 | 855223.16 |
| 311 | 504791.32 | 854895.94 |
| 312 | 504802.64 | 854833.41 |
| 313 | 504797.60 | 854604.47 |
| 314 | 504796.63 | 854600.19 |
| 70 | 504863.93 | 854559.28 |
| 89 | 504,766.72 | 854,581.34 |

## PLANTING NOTES

1. THIS PLAN FOR PLANTING LOCATIONS ONLY.
2. Contractor shall be solely responsible for all plant maintenance during construction and throughout the one year warrantee period.
3. All dimensions to be taken from back of curb typical.
4. Contractor to lay out and clearly stake all proposed improvements included on this plan.
5. Contractor responsible for contacting MISS UTILITY prior to beginning construction for location of all utility lines. Trees to be located a minimum of 5' from sewer/water connections.
6. Contractor to verify quantities shown on plant list with totals indicated on plan. Landscape Architect to be alerted by Contractor to any discrepancies prior to final bid negotiation. Unit prices for all material shall be supplied to the Owner at bidding time.
7. All materials shall be subject to approval by the Landscape Architect. Owner shall receive tag from each plant species and a list of plants suppliers. Where any requirements are omitted from the Plant List, the plants furnished shall meet the normal requirements for the variety per AAN standards. Plants shall be pruned prior to delivery only upon the approval of the Landscape Architect.
8. All plants shall be freshly dug, sound, healthy, vigorous, well branched, free of disease, insect eggs, and larvae, and shall have adequate root systems.
9. Where trees are planted in rows, they shall be uniform in size and shape.
10. Sizes specified in the plant list are minimum sizes to which the plants are to be judged. Failure to meet minimum size on any plant will result in rejection of that plant.
11. All container grown material shall be healthy, vigorous, well-rooted plants and established in the container in which they are sold. The plants shall have tops which are good quality and are in a healthy growing condition.
12. All plants shall conform to AAN standards and shall be full, healthy plants.
13. Groups of shrubs shall be placed in a continuous mulch bed with smooth continuous lines. All mulched bed edges shall be curvilinear in shape following the contour of the plant mass.
14. No existing trees shall be removed without written authorization from the Owner except where noted on plans.
15. Tree shall be located a minimum of 3' from walls and walks within the project. If conflicts arise between actual size of area and plans, Contractor to contact Landscape Architect for resolution. Failure to make such conflicts known to the Owner or Landscape Architect will result in Contractor's liability to relocate materials.
16. Tree staking and guying shall be done per details. Contractor shall be responsible for the tree's stability for the duration of the guarantee period.
17. All tree pits, shrub beds and prepared planting beds to be completely excavated in accordance with the planting details.
18. Mulch to be shredded hardwood bark for trees and shrubs. Fine Bark Mulch to be used for perennial beds. Shredded hardwood bark to be used at "existing trees to remain".
19. Crown of all plants shall be higher (after settling) than adjacent soil.
20. Tags and twine are to be removed and burlap is to be rolled back on all B&B plant material.
21. Shrubs and groundcovers shall be triangularly spaced at spacing shown on plant list.
22. Shade Trees: Height shall be measure from ground to the average height of canopy. Spread shall be measured to the end of branching equally around the crown from the center of the trunk. Measurements are not to include any terminal growth. Single trunk trees shall be free of "V" crotches that could be points of weak limb structure or disease infestation.

    Shrubs: Height shall be measured from the ground to the average point where mature plant growth stops. Spread shall be measured to the end of branching equally around the shrub mass. Measurements are not to include any terminal growth.
23. All bulbs to be planted with their roots down.
24. Contractor shall inspect all bulbs and bring any damaged material to the attention of the Owner prior to planting.
25. All seasonal color will be selected by the Landscape Architect prior to installation. All seasonal color shall be triangularly spaced at spacing shown on planting plans. One year (4 rotations) of Seasonal Color to be bid. Install the first rotation which is "in season" at time that adjacent plantings are installed.
26. Contractor is responsible for maintaining all shrubs and groundcover areas in a weed and debris-free condition throughout the guarantee period.
27. All substitutions of plant material are to be requested in writing to the Landscape Architect and approved in writing by the Owner. Failure to obtain substitution approval in writing may result in liability to the Contractor.
28. All Contractors shall be required to completely remove all trash debris and excess materials from the work area and the property (especially all curb and gutters) daily.
29. Large growing plants are not to be placed directly in front of windows, under building overhangs or in drainage swales. Adjust in field as necessary. All plants to be located off sight lines. No trees allowed within easements.

## TREE PLANTING

THE LOCATIONS, TYPE AND NUMBER OF TREES SHOWN ON THESE PLANS ARE TENTATIVE AND ARE USED FOR BOND PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMODATE FIELD CONDITIONS AND BUILDERS LANDSCAPE PROGRAM. BOND RELEASE IS CONTINGENT UPON SECTION 16.131 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS AS APPROVED BY THE OFFICE OF PLANNING AND ZONING.

| KEY | QTY. | BOTANICAL NAME | COMMON NAME |
|---|---|---|---|
| ⊗ | 4 | Quercus phellos | Willow Oak |
| ○ | 43 | Acer saccharum | Sugar Maple |

**TYPICAL TREE STAKING DETAIL**
N.T.S.

AS-BUILT

| DEPARTMENT OF PUBLIC WORKS<br>HOWARD COUNTY, MARYLAND | |
|---|---|
| ~~DIRECTOR OF PUBLIC WORKS DATE~~ | CHIEF, BUREAU OF ENGINEERING 12-4-89 DATE |
| CHIEF, BUREAU OF HIGHWAYS 11/30/89 DATE | CHIEF, LAND DEVELOPMENT DIVISION 12/4/89 DATE |

**STV/LYON ASSOCIATES.**
ENGINEERS, ARCHITECTS & PLANNERS.
21 GOVERNOR'S COURT
BALTIMORE, MARYLAND 21207-2722
301-944-9112

STATE OF MARYLAND — RICK CLIFFORD RICHARDSON, JR. — No. 16597 — REGISTERED PROFESSIONAL ENGINEER — 6/28/89

| DES: E.A.S. | | | | |
|---|---|---|---|---|
| DRN: W.K.C. | | | | |
| CHK: P.C.F. | T.L.S. | 2 | PROP. DRIVE REV. | 2-28-92 |
| DATE: 6/27/89 | MAR. | 1 | AS-BUILT | 2-20-92 |
| | BY | NO. | REVISION | |

OWNER/DEVELOPER
SUMMIT PROPERTIES
203 KEY HIGHWAY
BALTIMORE, MARYLAND 21230
301-234-0070

HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
~~PLANNING DIRECTOR~~ ~~DATE~~
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION 12/5/89 DATE J.B.

# ASHTON WOODS
## ROAD PLAN
## FALLS RUN ROAD
STA. 4+68 TO STA. 17+76.16

AS-BUILT

TAX MAP NO. 31
PARCEL NO. 423

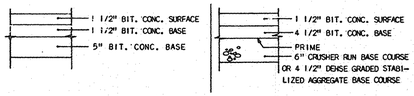
HOWARD COUNTY, MARYLAND
1ST. ELECTION DISTRICT

SCALE AS SHOWN

SHEET 2 of 9

F-90-11

1506




## PAVING SECTION TYPE P-3




## STANDARD CURB & GUTTER

NTS

HOWARD COUNTY STD. DETAIL R-301




STA. 10+01 TO STA. 17+27.37




STA. 7+50.64 TO STA. 9+00.64

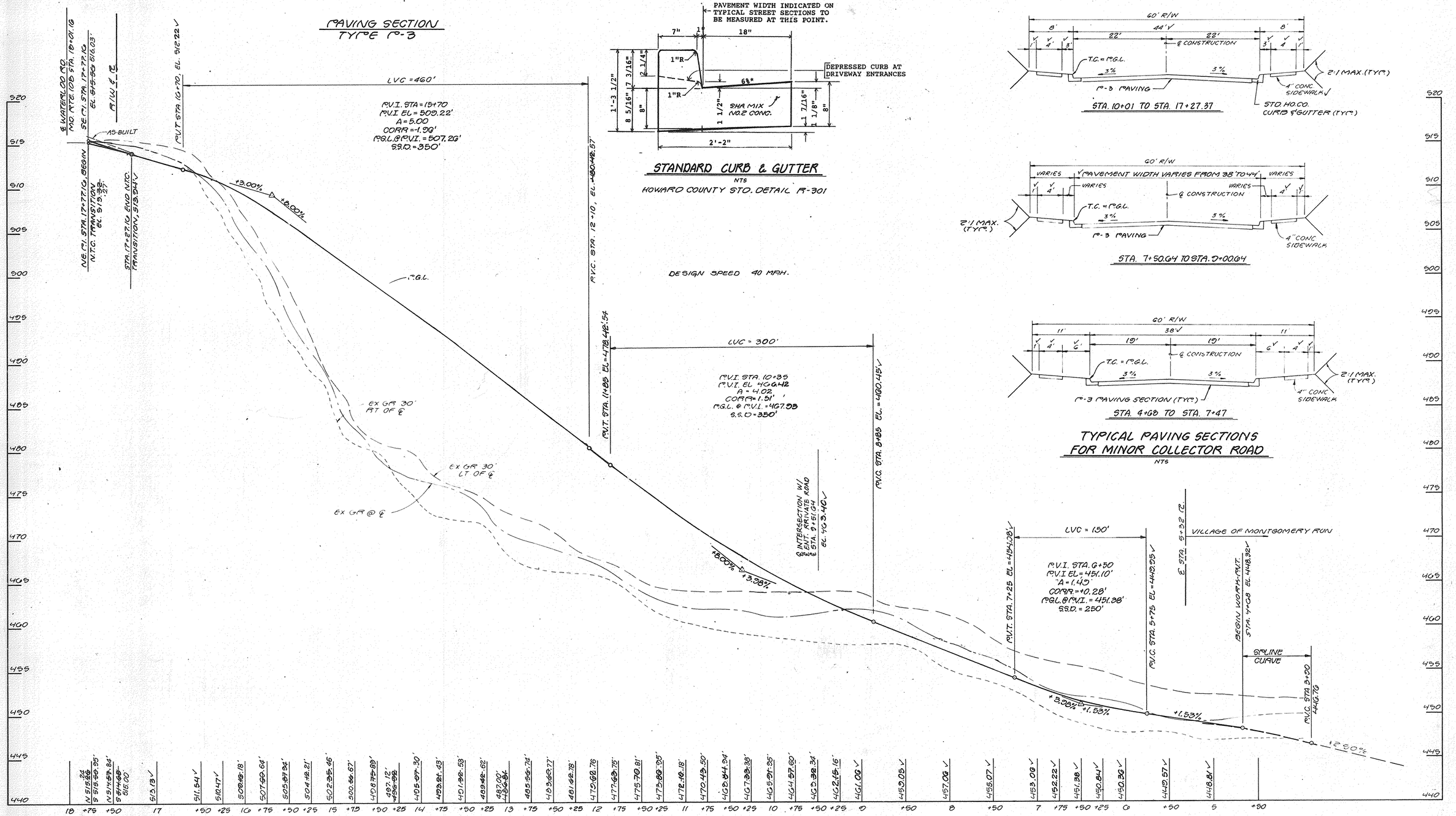



STA. 4+68 TO STA. 7+47

## TYPICAL PAVING SECTIONS FOR MINOR COLLECTOR ROAD

NTS

DESIGN SPEED 40 MPH.



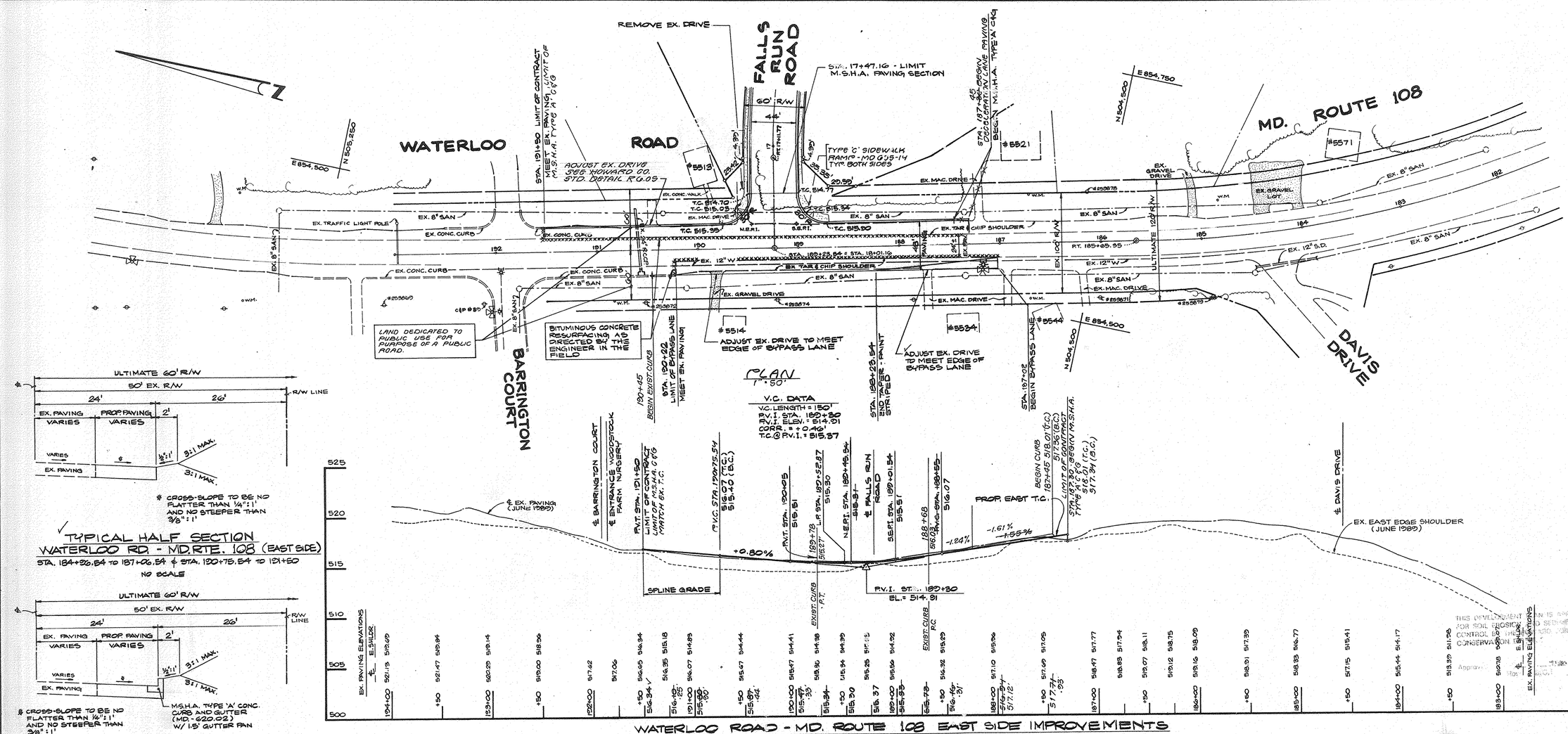

## PROFILE - FALLS RUN ROAD

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

| | | | |
|---|---|---|---|
| DEPARTMENT OF PUBLIC WORKS<br>HOWARD COUNTY, MARYLAND<br>~~DIRECTOR OF PUBLIC WORKS~~ DATE<br>CHIEF, BUREAU OF ENGINEERING — DATE 12-4-89<br>CHIEF, BUREAU OF HIGHWAYS — DATE 11/30/89<br>CHIEF, LAND DEVELOPMENT DIVISION — DATE 12/6/89 | STV/LYON ASSOCIATES.<br>ENGINEERS, ARCHITECTS & PLANNERS.<br>21 GOVERNOR'S COURT<br>BALTIMORE, MARYLAND 21207-2722<br>301-944 9112 | STATE OF MARYLAND — RICHARD C. RUTKOWSKI — 16591 — REGISTERED PROFESSIONAL ENGINEER — 4/21/89 | DES: E.A.S.<br>DRN: W.K.C.<br>CHK: P.C.R.<br>DATE: 6/27/89<br>MAR. 1 AS-BUILT 2-20-92<br>BY NO. REVISION |
| OWNER/DEVELOPER<br>SUMMIT PROPERTIES<br>203 KEY HIGHWAY<br>BALTIMORE, MARYLAND 21230<br>301-234-0070 | HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING<br>~~PLANNING DIRECTOR~~ DATE<br>CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 11/5/89 | ASHTON WOODS<br>ROAD PROFILE<br>FALLS RUN ROAD<br>STA. 4+68 TO STA. 17+76.16<br>AS-BUILT<br>TAX MAP NO. 31 PARCEL NO. 423<br>HOWARD COUNTY, MARYLAND 1 ST. ELECTION DISTRICT | SCALE AS SHOWN<br>SHEET 3 of 9 |

1506

F-90-11



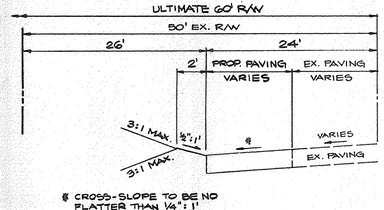




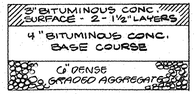
✓TYPICAL HALF SECTION
WATERLOO RD. - MD. RTE. 108 (EAST SIDE)
STA. 184+26.54 TO 187+06.54 & STA. 190+75.54 TO 191+50
NO SCALE




✓TYPICAL HALF SECTION
WATERLOO RD. - MD. RTE. 108 (EAST SIDE)
STA. 187+06.54 TO STA. 190+75.54
NO SCALE



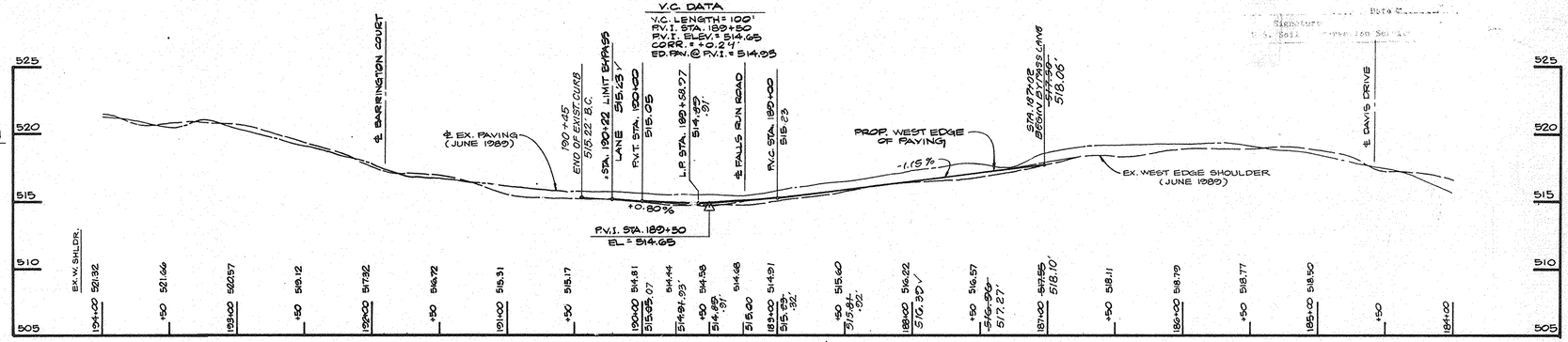

✓TYPICAL HALF SECTION
WATERLOO RD. - MD. RTE. 108 (WEST SIDE)
STA. 186+75.54 TO STA. 190+22
NO SCALE




M.S.H.A. PAVING SECTION
(12" THICK)
NO SCALE




WATERLOO ROAD - MD. ROUTE 108 EAST SIDE IMPROVEMENTS




WATERLOO ROAD - MD. ROUTE 108 WEST SIDE IMPROVEMENTS

PROFILES
SCALE: HOR: 1"=50'
VERT: 1"=5'

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE SOIL CONSERVATION DISTRICT.
Approved: _____ Date: _____

Reviewed for _____ Date: _____
and meets the Horizontal Alignment _____ Date: _____
Signature: _____
U.S. Soil Conservation Service

| | |
|---|---|
| DEPARTMENT OF PUBLIC WORKS<br>HOWARD COUNTY, MARYLAND | STV/LYON ASSOCIATES.<br>ENGINEERS, ARCHITECTS & PLANNERS.<br>21 GOVERNOR'S COURT<br>BALTIMORE, MARYLAND 21207-2722<br>301-944-9112 |
| DIRECTOR OF PUBLIC WORKS — DATE<br>CHIEF, BUREAU OF ENGINEERING — DATE 12-4-89<br>CHIEF, BUREAU OF HIGHWAYS — DATE 12/6/89<br>CHIEF, LAND DEVELOPMENT DIVISION — DATE 12/6/89 | STATE OF MARYLAND — CLIFFORD RAY SMITH — No. 16597 — REGISTERED PROFESSIONAL ENGINEER<br>5/6/89 |
| DES: MWK<br>DRN: MWK<br>CHK: PCR<br>DATE: 8-8-89 | MAR 1 AS-BUILT 2-20-92<br>BY NO. REVISION |
| OWNER / DEVELOPER<br>SUMMIT PROPERTIES<br>203 KEY HIGHWAY<br>BALTIMORE, MARYLAND 21230<br>301-234-0070 | HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING<br>PLANNING DIRECTOR — DATE<br>CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 12/5/89 |

ASHTON WOODS
ROAD PLAN AND PROFILES
WATERLOO ROAD - MD. ROUTE 108

TAX MAP NO. 31
PARCEL NO. 423

AS-BUILT

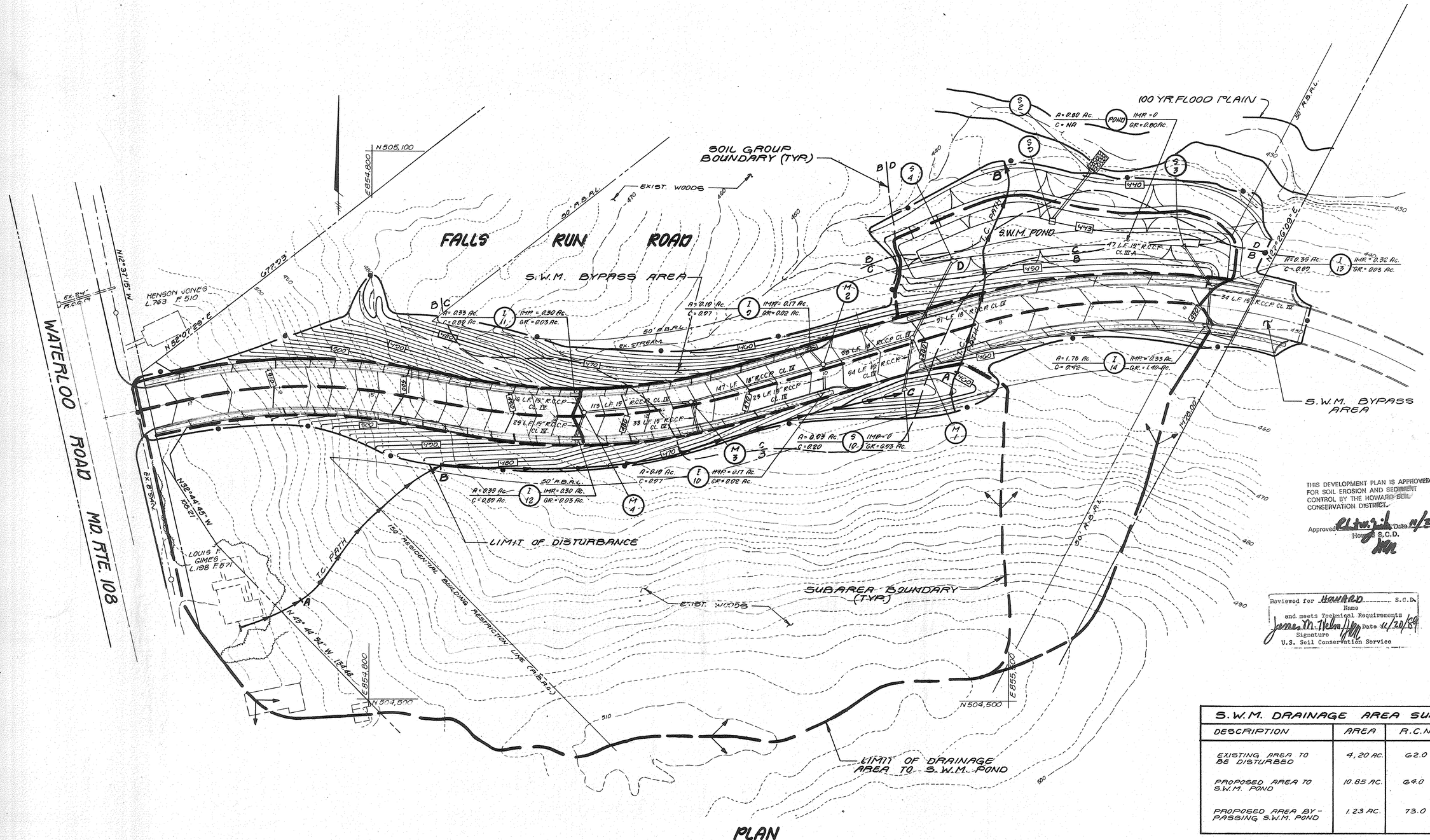
HOWARD COUNTY, MARYLAND
1ST. ELECTION DISTRICT

SCALE AS SHOWN

SHEET 4 of 9

1506

F-90-11




PLAN
SCALE: 1"=50'

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

Approved [signature] Date 11/30/89
Howard S.C.D.

Reviewed for HOWARD S.C.D.
Name
and meets Technical Requirements
James M. Helm [signature] Date 11/20/89
Signature
U.S. Soil Conservation Service

| S.W.M. DRAINAGE AREA SUMMARY | | | |
|---|---|---|---|
| DESCRIPTION | AREA | R.C.N. | T.C. |
| EXISTING AREA TO BE DISTURBED | 4.20 AC. | 62.0 | .12 HR. |
| PROPOSED AREA TO S.W.M. POND | 10.85 AC. | 64.0 | .20 HR. |
| PROPOSED AREA BY-PASSING S.W.M. POND | 1.23 AC. | 73.0 | .10 HR. |

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE
[signature] 12-4-89 — CHIEF, BUREAU OF ENGINEERING — DATE
[signature] 11/30/89 — CHIEF, BUREAU OF HIGHWAYS — DATE
[signature] 12/4/89 — CHIEF, LAND DEVELOPMENT DIVISION — DATE

STV/LYON ASSOCIATES.
ENGINEERS, ARCHITECTS & PLANNERS.
21 GOVERNOR'S COURT
BALTIMORE, MARYLAND 21207-2722
301-944-9112

STATE OF MARYLAND — CLIFFORD RICHARD — No. 16597 — REGISTERED PROFESSIONAL ENGINEER — 6/28/89

DES: E.A.S.
DRN: W.K.C.
CHK: P.C.R.
DATE: 6/27/89

| BY | NO. | REVISION |
|---|---|---|

OWNER/DEVELOPER
SUMMIT PROPERTIES
203 KEY HIGHWAY
BALTIMORE, MARYLAND 21230
301-234-0070

HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
~~PLANNING DIRECTOR~~ — ~~DATE~~
[signature] 12/5/89
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE

ASHTON WOODS
DRAINAGE AREA MAP
FALLS RUN ROAD
STA. 4+68 TO STA. 17+76.16

TAX MAP NO. 31
PARCEL NO. 423

HOWARD COUNTY, MARYLAND
1ST. ELECTION DISTRICT

SCALE AS SHOWN

SHEET 5 of 9

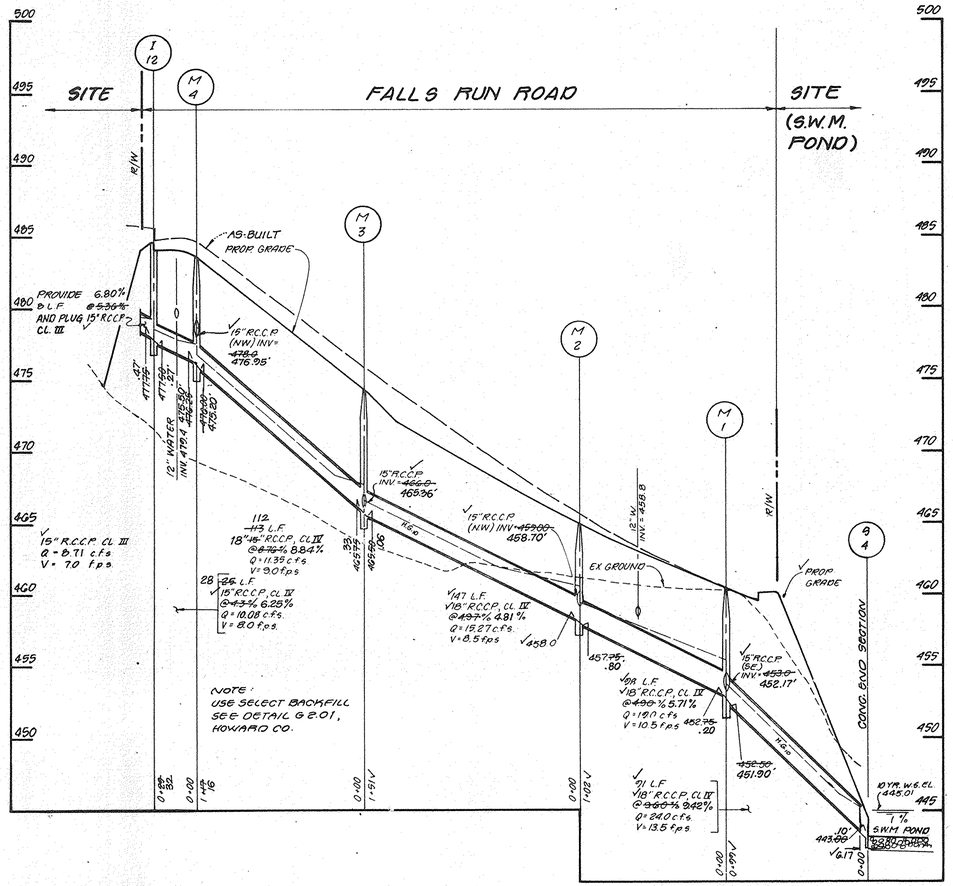
F-90-11

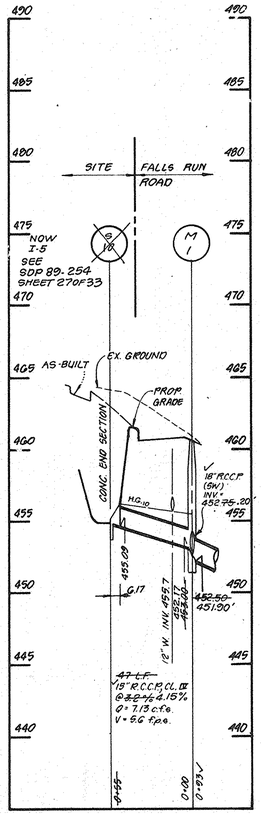
1506

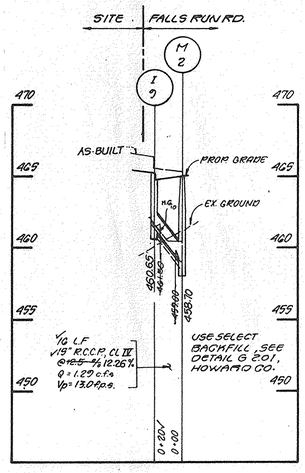
# STORM DRAIN STRUCTURE SCHEDULE

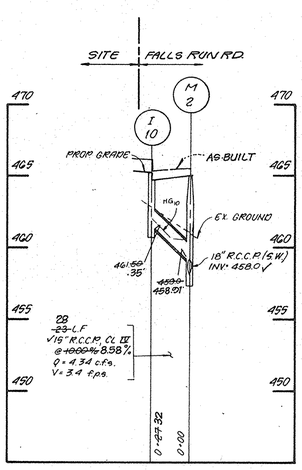
| No. | TYPE | TOP EL. | INV. IN | INV. OUT | LOCATION | REMARKS |
|---|---|---|---|---|---|---|
| I-9 | A-10 W/DEF. | 464.50 | – | 460.50 | STA. 10+08, 22' RT. | HO. CO. PL. STD. 4.02 |
| I-10 | A-10 W/DEF. | 464.90 | – | 460.90 | " ", 22' LT. | HO. CO. PL. STD. 4.02 |
| I-11 | A-10 W/DEF. | 482.75 | – | 478.50 | STA. 12+77, 22' RT. | HO. CO. PL. STD. 4.02 |
| I-12 | A-10 W/DEF. | 483.75 | 477.75 | 477.50 | " ", 22' RT. | HO. CO. PL. STD. 4.02 |
| I-13 | A-10 | 449.90 | 444.09 | 444.44 | STA. 9+74, 10' RT. | HO. CO. PL. STD. 4.02 |
| I-14 | A-10 | 449.90 | – | 445.07 | " ", 19' LT. | HO. CO. PL. STD. 4.02 |
| M-1 | STD. MANHOLE | 460.25 | 453.00 | 451.75 | STA. 8+98, 6' RT. | HO. CO. PL. G. 5.11 |
| M-2 | " " | 465.55 | 458.75 | 458.50 | STA. 10+00, 6' RT. | HO. CO. PL. G. 5.11 |
| M-3 | " " | 474.48 | 469.75 | 469.50 | STA. 11+51, 6' RT. | HO. CO. PL. G. 5.11 |
| M-4 | " " | 483.76 | 476.25 | 476.00 | STA. 12+67, 6' RT. | HO. CO. PL. G. 5.11 |
| S-2 | METAL END SEC. | – | – | 443.43 | STA. 0+05 43' RT. | HO. CO. PL. STD. 5.61 |
| S-3 | CONC. END SEC. | – | 443.16 | 443.00 | STA. 6+10, 94' RT. | HO. CO. PL. STD. 5.51 |
| S-4 | " " | – | 443.13 | 443.00 | STA. 8+33, 73' RT. | HO. CO. PL. STD. 5.51 |
| ~~S-10~~ | " " | – | – | ~~455.09~~ 454.50 | ~~STA. 9+22, 45 LT.~~ | ~~HO. CO. PL. STD. 5.51~~ |
| S-9 | FLOW CNTRL. INC. | 446.35 | 441.00 | 440.00 | STA. 7+31, 95' RT. | SEE DETAIL SHT. 8 |

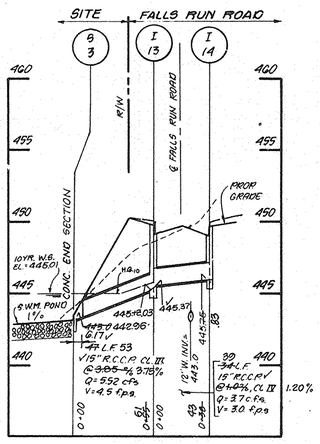
FOR AS-BUILT ELEVATIONS SEE SDP 89-254 SHEET 28 OF 33

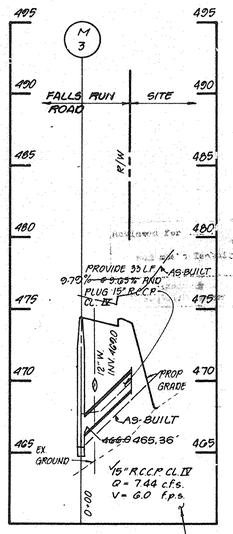


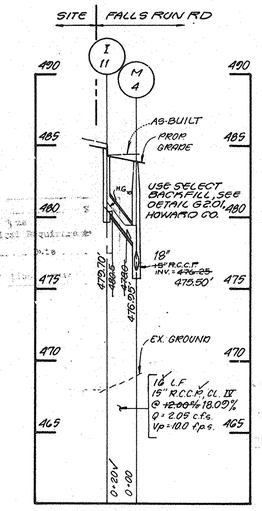




## STORM DRAIN PROFILES

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE
CHIEF, BUREAU OF ENGINEERING — DATE 12/26/89
CHIEF, BUREAU OF HIGHWAYS — DATE 11/30/89
CHIEF, LAND DEVELOPMENT DIVISION — DATE 12/6/89

STV/LYON ASSOCIATES.
ENGINEERS, ARCHITECTS & PLANNERS.
21 GOVERNOR'S COURT
BALTIMORE, MARYLAND 21207-2722
301-944-9112

STATE OF MARYLAND — PATRICK W. CHRISTIAN — No. 16597 — REGISTERED PROFESSIONAL ENGINEER — 6/26/89

| | | | |
|---|---|---|---|
| DES: E.A.S. | | | |
| DRN: W.K.C. | | | |
| CHK: P.C.R. | | | |
| DATE: 6/27/89 | MAR 1 | AS-BUILT | 2-20-92 |
| | BY NO. | REVISION | |

OWNER/DEVELOPER
SUMMIT PROPERTIES
203 KEY HIGHWAY
BALTIMORE, MARYLAND 21230
301-234-0070

HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

~~PLANNING DIRECTOR~~ — ~~DATE~~
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 1/25/90

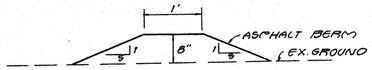
ASHTON WOODS
STORM DRAIN PROFILES
FALLS RUN ROAD
STA. 4+68 TO STA. 17+76.16

TAX MAP NO. 31
PARCEL NO. 423
AS-BUILT
HOWARD COUNTY, MARYLAND
1 ST. ELECTION DISTRICT

SCALE AS SHOWN
SHEET 6 of 9

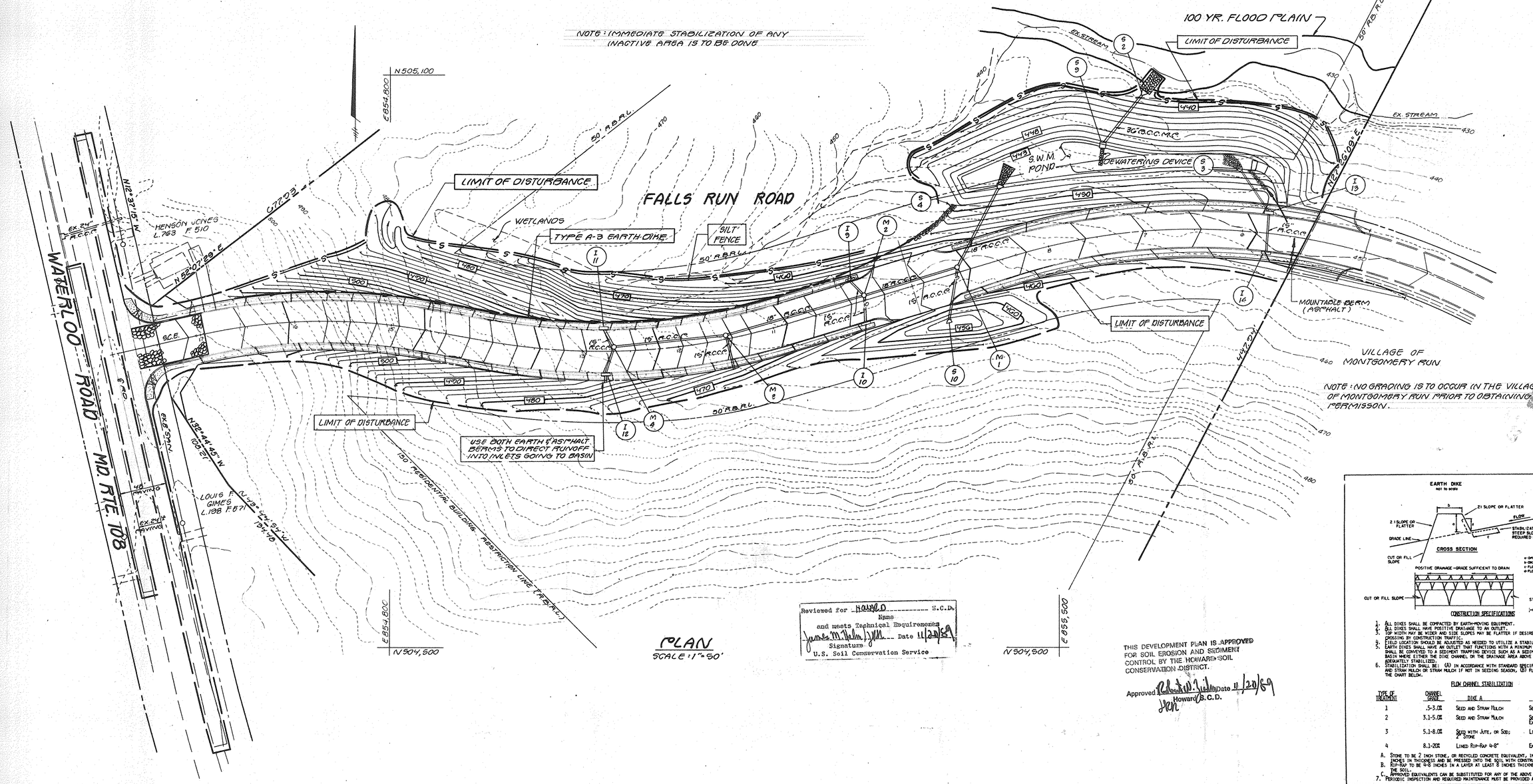
1506
F-90-11

| LEGEND | |
|---|---|
| 481 | EXISTING CONTOUR |
| 480 | PROP. CONTOUR |
| S | SILT FENCE |
| | STABILIZED CONSTRUCTION ENTRANCE |
| | LIMIT OF DISTURBANCE |
| | EARTH DIKE |




MOUNTABLE BERM
NO SCALE

NOTE: IMMEDIATE STABILIZATION OF ANY INACTIVE AREA IS TO BE DONE

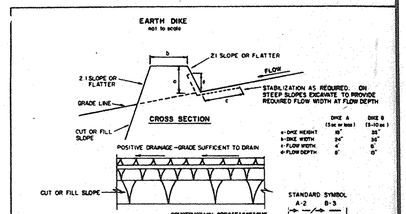



NOTE: NO GRADING IS TO OCCUR IN THE VILLAGE OF MONTGOMERY RUN PRIOR TO OBTAINING PERMISSON.

Reviewed for HOWARD S.C.D.
Name
and meets Technical Requirements
Signature
U.S. Soil Conservation Service
Date 11/20/89

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

Approved [signature] Date 11/20/89
Howard S.C.D.




| | DIKE A (Not to exceed) | DIKE B (5-10 ac.) |
|---|---|---|
| a- DIKE HEIGHT | 18" | 30" |
| b- DIKE WIDTH | 24" | 36" |
| c- FLOW WIDTH | 4' | 6' |
| e- FLOW DEPTH | 8" | 10" |

CONSTRUCTION SPECIFICATIONS

1. ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. RUNOFF SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
6. STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.

FLOW CHANNEL STABILIZATION

| TYPE OF TREATMENT | CHANNEL GRADE | DIKE A | DIKE B |
|---|---|---|---|
| 1 | .5-3.0% | SEED AND STRAW MULCH | SEED AND STRAW MULCH |
| 2 | 3.1-5.0% | SEED AND STRAW MULCH | SEED USING JUTE, OR EXCELSIOR; SOD; 2" STONE |
| 3 | 5.1-8.0% | SEED WITH JUTE, OR SOD; 2" STONE | LINED RIP-RAP 4-8" |
| 4 | 8.1-20% | LINED RIP-RAP 4-8" | ENGINEERING DESIGN |

A. STONE TO BE 2 INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
B. RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.
7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

| U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND | EARTH DIKE | STANDARD DRAWING EC-1 |
|---|---|---|

**DEPARTMENT OF PUBLIC WORKS**
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 12-4-89
CHIEF, BUREAU OF ENGINEERING — DATE
CHIEF, BUREAU OF HIGHWAYS — DATE 11/30/89
CHIEF, LAND DEVELOPMENT DIVISION — DATE 12/4/89

**STV/LYON ASSOCIATES.**
ENGINEERS, ARCHITECTS & PLANNERS.
21 GOVERNOR'S COURT
BALTIMORE, MARYLAND 21207-2722
301-944-9112

STATE OF MARYLAND — RICHARD CHARLES LYON — NO. 16597 — REGISTERED PROFESSIONAL ENGINEER
6/28/89

| DES: E.A.S. | | | |
|---|---|---|---|
| DRN: W.K.C. | | | |
| CHK: P.C.R. | | | |
| DATE: 6/27/89 | BY | NO. | REVISION |

OWNER/DEVELOPER
SUMMIT PROPERTIES
203 KEY HIGHWAY
BALTIMORE, MARYLAND 21230
301-234-0070

**HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING**

PLANNING DIRECTOR — DATE
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 12/5/89

# ASHTON WOODS
# SEDIMENT CONTROL PLAN
# FALLS RUN ROAD
## STA. 4+68 TO STA. 17+76.16

TAX MAP NO. 31
PARCEL NO. 423

HOWARD COUNTY, MARYLAND
1ST. ELECTION DISTRICT

SCALE AS SHOWN

SHEET 7 of 9

1506

F-90-11

CONSTRUCTION SPECIFICATIONS

1. Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length - As required, but not less than 50 ft. (except on a single residence lot where a 30 ft minimum length would apply).
3. Thickness - Not less than six (6) inches.
4. Width - Ten (10) ft. minimum, but not less than the full width at points where ingress or egress occurs.
5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.

| U. S. DEPARTMENT OF AGRICULTURE<br>SOIL CONSERVATION SERVICE<br>College Park, Md. | STABILIZED CONSTRUCTION ENTRANCE | Standard Drawing<br>SCE-1 |
|---|---|---|

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. High strength polypropylene netting or WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

POSTS: STEEL EITHER T OR U TYPE OR 1½"x1½" Min. (Actual) Hardwood

FENCE: WOVEN WIRE, 14½ GA. 6" MAX. MESH OPENING or high strength polypropylene netting

FILTER CLOTH: FILTER X, MIRAFI 100X, STABI-LINKA T140N OR APPROVED EQUAL

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

| U.S. DEPARTMENT OF AGRICULTURE<br>SOIL CONSERVATION SERVICE<br>COLLEGE PARK, MARYLAND | SILT FENCE | STANDARD DRAWING<br>SF-1 |
|---|---|---|

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

| U.S. DEPARTMENT OF AGRICULTURE<br>SOIL CONSERVATION SERVICE<br>COLLEGE PARK, MARYLAND | SEDIMENT BASIN DEWATERING DEVICE | STANDARD DRAWING<br>SB |
|---|---|---|

PERMANENT SEEDING NOTES

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

Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.

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

1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 600 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).

2) 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 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs/1000 sq ft) of weeping lovegrass. During the period of October 16 thru 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/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching - Apply 1½ to 2 tons per acre (70 to 90 lbs/1000 sq ft) of unrotted small grain 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.

TEMPORARY SEEDING NOTES

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

Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.

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

Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2½ bushel per acre of annual rye (3.2 lbs/1000 sq ft). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq ft). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: Apply 1½ to 2 tons per acre (70 to 90 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes, 8 ft or higher, use 348 gal per acre (8 gal/1000 sq ft) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

SEDIMENT CONTROL NOTES

1) A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (992-2437)
2) All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
3) 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, b) 14 days as to all other disturbed or graded areas on the project site.
4) All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chaper 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
5) All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 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.
6) All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector
7) Site Analysis:
   - Total Area of Site 26.35 Acres
   - Area Disturbed 4.3 Acres
   - Area to be roofed or paved 1.62 Acres
   - Area to be vegetatively stabilized 2.61 Acres
   - Total Cut 103,786 Cu. yds
   - Total Fill 86,899 Cu. yds
   - Offsite waste/borrow area location 17,087
8) Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9) Additional sediment controls must be provided, if deemed necessary by the Howard County DPW sediment control inspector.
10) On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.

ALL CUT/FILL QUANTITIES, AS SHOWN HEREON, ARE FOR INFORMATIONAL PURPOSES ONLY AS REQUIRED BY THE MUNICIPAL SEDIMENT CONTROL AUTHORITIES INVOLVED. THE CONTRACTOR SHALL VERIFY ALL SUCH CALCULATIONS TO THEIR SATISFACTION FOR BID/CONTRACT PURPOSES.

...essed for ... S.C.
Name
...and meets Technical Requirements
... Date ...
Signature
U.S. ... Conservation Service

BY THE DEVELOPER:
"I WILL 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.

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Natural Resources Approved Training Program for the Control of Seidment and Erosion before beginning the project."

DAVID F. TUFARO
[signature] 11/10/89
Signature of Developer Date

BY THE ENGINEER:
"I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

[signature] PATRICK C RICHARDSON JR 11/9/89 #16597
Signature of Engineer Date
Print name below signature

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

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] 11/20/89
U.S. Soil Conservation Service Date

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

[signature] 11/20/89
Howard S.C.D. Date

SOIL CONSERVATION SERVICE
MARYLAND
CONSTRUCTION SPECIFICATIONS
FOR
PONDS

These specifications are appropriate to ponds within the scope of the Standard for practice 378.

I. 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 pond or 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.

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.

II. EARTH FILL

Material

The fill material shall be taken from approved designated borrow area or areas. It shall be free of roots, stumps, wood, rubbish, oversize stones, frozen or other objectionable materials. The embankment shall be constructed to an elevation which provides for anticipated settlement to the design elevation. The fill height all along the length of the embankment shall be increased above the design elevation (including freeboard) as shown on the plans.

Placement

Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in 8-inch maximum thickness (before compaction) layers which are to be continuous over the entire length of the fill. The most porous borrow material shall be placed in the downstream portions of 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 can be obtained with the equipment used.

Where a minimum required density is specified, each layer of fill shall be compacted as necessary to obtain that density and is to be certified by the Engineer.

Cutoff Trench

Where specified, a cutoff trench shall be excavated along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be as shown on the drawings, with the minimum width being four feet. The depth shall be at least four feet or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill material for the cutoff trench shall be the most impervious material available and shall be compacted with equipment or rollers to assure maximum density and minimum permeability.

III. STRUCTURAL BACKFILL

Backfill material 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 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 twenty-four inches or greater over the structure or pipe.

IV. PIPE CONDUITS

All pipes shall be circular in cross section.

A. Corrugated Metal Pipe

1. Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

   Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings are commercially available: Nexon, Plasti-Cote, Blac-Klad, and Beth-Cu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.

   Materials - (Aluminized Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274-79I with watertight coupling bands or flanges.

   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. Coupling bands, anti-seep collars, end sections, etc. must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness. 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 pH of the surrounding soils shall be less than 9 and greater than 4.

2. 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. Watertight coupling bands or flanges shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to the completely watertight. Dimple bands are not considered to be watertight.

3. 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.

4. Laying pipe - The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides.

5. Backfilling shall conform to structural backfill as shown above.

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

B. Reinforced Concrete Pipe

1. Materials - Reinforced concrete pipe shall have a rubber gasket joint and shall equal or exceed ASTM Specification C-361. An approved equivalent is AWWA Specification C-301.

2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3", or as shown on the drawings.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe.

4. Backfilling shall conform to structural backfill as shown above.

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

C. For pipes of other materials, specific specifications shall be shown on the drawings.

V. CONCRETE

1. Materials

   a. Cement - Normal Portland cement shall conform to the latest ASTM Specification C-150.

   b. Water - The water used in concrete shall be clean, free from oil, acid, alkali, scales, organic matter or other objectionable substances.

   c. Sand - The sand used in concrete shall be clean, hard, strong and durable, and shall be well graded with 100 percent passing a one-quarter inch sieve. Limestone sand shall not be used.

   d. Coarse Aggregate - The coarse aggregate shall be clean, hard, strong and durable, and free from clay or dirt. It shall be well graded with a maximum size of one and one-half (1-1/2) inches.

   e. Reinforcing Steel - The reinforcing steel shall be deformed bars of intermediate grade billet steel or rail steel conforming to ASTM Specification A-615.

2. Design Mix - The concrete shall be mixed in the following proportions, measured by weight. The water-cement ratio shall be 5-1/2 to 6 U.S. Gallons of water per 94 pound bag of cement. The proportion of materials for the trial mix shall be 1:2:3-1/2. The combination of aggregates may be adjusted to produce a plastic and workable mix that will not produce harshness in placing or honeycombing in the structure.

3. Mixing - The concrete ingredients shall be mixed in batch mixers until the mixture is homogeneous and of uniform consistency. The mixing of each batch shall continue for not less than one and one-half minutes after all the ingredients, except the full amount of water, are in the mixer. The minimum mixing time is predicted on proper control of the speed of rotation of the mixer and of the introduction of the materials, including water, into the mixer. Water shall be added prior to, during, and following the mixer-charging operations. Excessive overmixing requiring the addition of water to preserve the required concrete consistency shall not be permitted. Truck mixing will be allowed provided that the use of this method shall cause no violation of any applicable provisions of the specifications given here.

4. Forms - The forms shall have sufficient strength and rigidity to hold the concrete and to withstand the necessary pressure, tamping, and vibration without deflection from the prescribed lines. They shall be mortar-tight and constructed so that they can be removed without hammering or prying against the concrete.

   The inside of forms shall be oiled with a non-staining mineral oil or thoroughly wetted before concrete is placed.

   Forms may be removed 24 hours after the placement of concrete. All wire ties and other devices used shall be recessed from the surface of the concrete.

5. Reinforcing Steel - All reinforcing material shall be free of dirt, rust, scale, oil, paint or any other coatings. The steel shall be accurately placed and securely tied and blocked into position so that no movement of the steel will occur during placement of concrete.

6. Consolidating - Concrete shall be consolidated with internal type mechanical vibrators. Vibration shall be suplemented by spading and hand tamping as necessary to insure smooth and dense concrete along form surfaces, in corners, and around embedded items.

7. Finishing - Defective concrete, honeycombed areas, voids left by the removal of tie rods, ridges on all concrete surfaces permanently exposed to view or exposed to water on the finished structure, shall be repaired immediately after the removal of forms. All voids shall be reamed and completely filled with dry-patching mortar.

8. Protection and Curing - Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least the first three (3) days. All concrete shall be kept continuously moist for at least ten (10) days after being placed. Moisture may be applied by spraying or sprinkling as necessary to prevent the concrete from drying. Concrete shall not be exposed to freezing during the curing period. Curing compunds may also be used.

9. Placing Temperature - Concrete may not be placed at temperatures below 37° F with the temperature falling, or 34° with the temperature rising.

VI. STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching (if required) in accordance with the vegetative treatment specifications or as shown on the accompanying drawings.

VII. EROSION AND SEDIMENT CONTROL

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.
2. NOTIFY THE HOWARD COUNTY, BUREAU OF LICENSES, INSPECTION AND PERMITS AT LEAST 48 HOURS BEFORE ANY WORK BEGINS.
3. CLEAR AND GRUB FOR SEDIMENT CONTROL MEASURES.
4. PLACE STONE CONSTRUCTION ENTRANCE AND SILT FENCE AS SHOWN ON PLAN.
5. CLEAR AND GRUB ONLY FOR INSTALLATION OF SEDIMENT BASIN.
6. INSTALL S.W.M. POND (USE AS SEDIMENT BASIN UNDER S.O.C. CONTRACT, INSTALL DEWATERING DEVICE.
7. ROUGH GRADE FOR ROAD INSTALLATION, INSTALL S-10 TO S-4 STABILIZATION OF ALL DISTURBED AREAS IS REQUIRED WITHIN 7 DAYS OF INITIAL DISTURBANCE.
8. INSTALL REMAINING UTILITIES.
9. PROVIDE EARTH AND ASPHALT BERMS TO DIRECT RUNOFF TO INLETS GOING TO SEDIMENT BASIN.
10. INSTALL BASE COURSE FOR PAVING TO SUBGRADE.
11. FINISH GRADING & INSTALL CURBS AND SIDEWALKS (STABILIZE ALL INACTIVE AREAS WITH PERMANENT SEEDING).
12. REMOVE SEDIMENT CONTROL DEVICES. CONVERT SEDIMENT BASIN INTO STORM-WATER MANAGEMENT POND. FLUSH OUT SYSTEM.
13. INSTALL FINISH COURSE OF BITUMINOUS PAVING, FINE GRADE AND STABILIZE REMAINING AREAS WITH PERMANENT SEEDING.
14. LANDSCAPE.
15. NOTIFY HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS FOR FINAL INSPECTION.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

~~DIRECTOR OF PUBLIC WORKS~~ ~~DATE~~ — [signature] 12-4-89 CHIEF, BUREAU OF ENGINEERING DATE

[signature] 11/30/89 CHIEF BUREAU OF HIGHWAYS DATE — [signature] 12/4/89 CHIEF, LAND DEVELOPMENT DIVISION DATE

STV/LYON ASSOCIATES.
ENGINEERS, ARCHITECTS & PLANNERS.
21 GOVERNOR'S COURT
BALTIMORE, MARYLAND 21207-2722
301-944-9112

STATE OF MARYLAND — CLIFFORD RICE — No. 1659 — REGISTERED PROFESSIONAL ENGINEER — 11/28/89

DES: E.A.S.
DRN: W.K.C.
CHK: P.C.R.
DATE: 6/27/89

| BY | NO. | REVISION |
|---|---|---|

OWNER/DEVELOPER
SUMMIT PROPERTIES
203 KEY HIGHWAY
BALTIMORE, MARYLAND 21230
301-234-0070

HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

~~PLANNING DIRECTOR~~ ~~DATE~~
[signature] 12/5/89
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE J.B.

ASHTON WOODS
SEDIMENT CONTROL DETAILS & SWM NOTES
FALLS RUN ROAD
STA. 4+68 TO STA. 17+76.16

TAX MAP NO. 31
PARCEL NO. 423

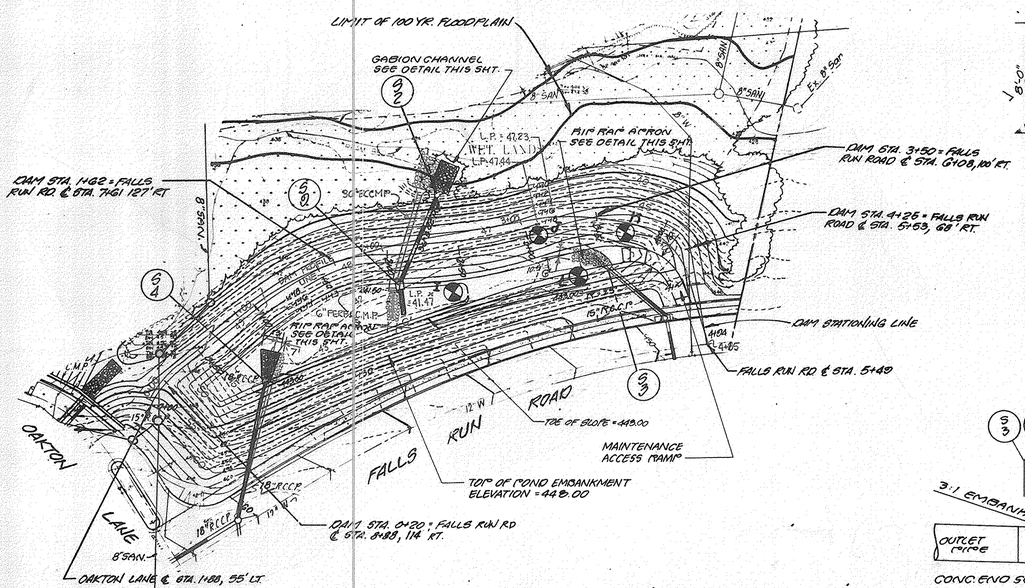
HOWARD COUNTY, MARYLAND
1ST. ELECTION DISTRICT

SCALE AS SHOWN

SHEET 8 of 9

F-90-11

1506

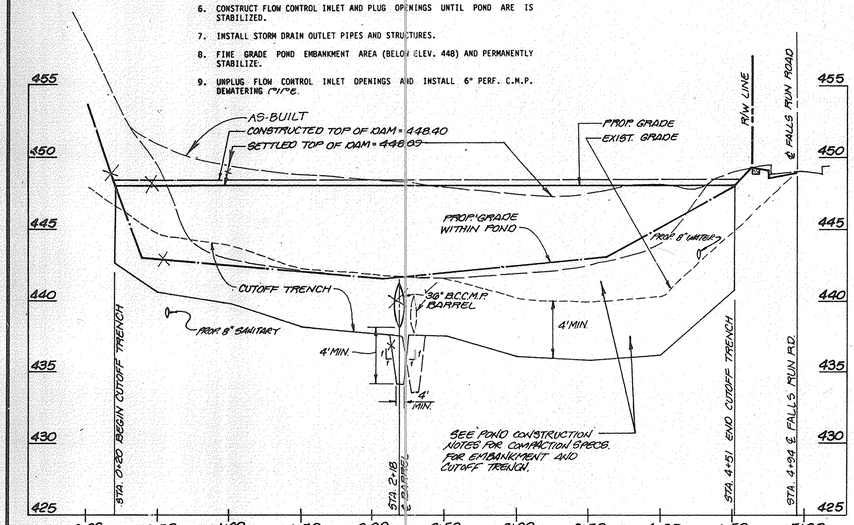



## PLAN - STORMWATER MANAGEMENT POND

SCALE : 1"=50'

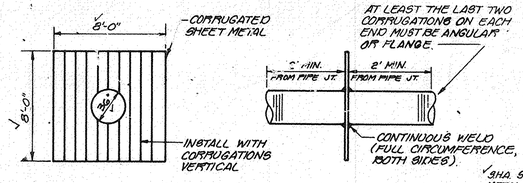
S.W.M. POND CONSTRUCTION SCHEDULE:

1. INSTALL ALL SEDIMENT CONTROL MEASURES AS PER SEDIMENT CONTROL PLAN.
2. EXCAVATE CUTOFF TRENCH AS SHOWN IN PROFILE ALONG CENTERLINE OF DAM.
3. INSTALL GABION OUTFALL CHANNEL AND 36" B.C.C.M.P. OUTLET PIPE W/ANTI SEEP COLLARS. PLUG OUTLET PIPE ENTRANCE TEMPORARILY.
4. BACKFILL CUTOFF TRENCH AND COMPACT AS PER CONSTRUCTION SPECS.
5. ROUGH GRADE POND AREA, USING EXCAVATED MATERIAL TO CONSTRUCT DAM. DAM MUST BE COMPACTED ACCORDING TO CONSTRUCTION SPECS.
6. CONSTRUCT FLOW CONTROL INLET AND PLUG OPENINGS UNTIL POND ARE IS STABILIZED.
7. INSTALL STORM DRAIN OUTLET PIPES AND STRUCTURES.
8. FINE GRADE POND EMBANKMENT AREA (BELOW ELEV. 448) AND PERMANENTLY STABILIZE.
9. UNPLUG FLOW CONTROL INLET OPENINGS AND INSTALL 6" PERF. C.M.P. DEWATERING PIPE.



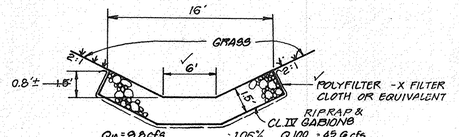

## PROFILE ALONG ℄ OF DAM

SCALE: HOR. 1"=50'
VER. 1"=5'



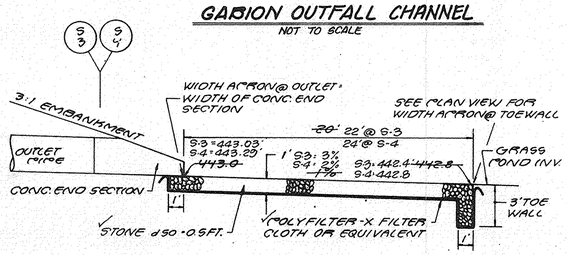

## ANTI-SEEP COLLAR

NOT TO SCALE




## GABION OUTFALL CHANNEL

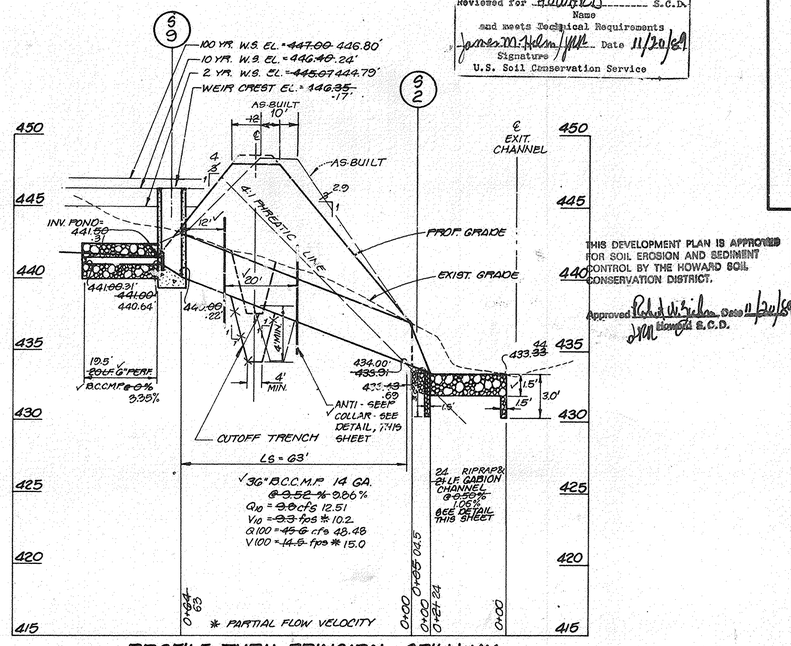
NOT TO SCALE




## RIP-RAP APRON @ OUTLET OF S-3, S-4

SCALE : 1" = 5'

Reviewed for HOWARD Name S.C.D.
and meets Technical Requirements
Signature
Date 11/20/89
U.S. Soil Conservation Service



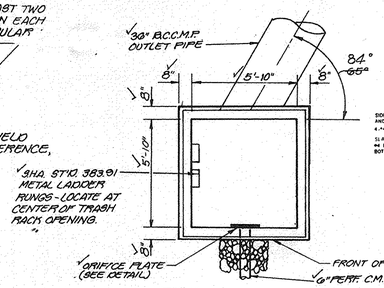

* PARTIAL FLOW VELOCITY

## PROFILE THRU PRINCIPAL SPILLWAY

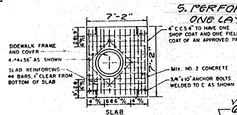
SCALE: HOR. 1"=20'
VER. 1"=5'

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Approved Richard W. Fisher, Sec. 11/20/89
Howard S.C.D.

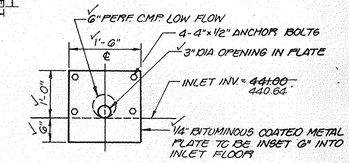
NOTES: 1. REBARS @ ORIFICE OPENINGS TO BE INSET INTO WALLS MINIMUM 3".
2. INLET TO BE CAST IN PLACE CONCRETE.
3. ALL REINFORCING TO BE #4 REBARS @ 6" c/c BOTH WAYS, 2" COVER.
4. SEE CONSTRUCTION SPECS. FOR CONCRETE DESIGN MIX AND REINF. STEEL SPECS.
5. PERFORATED PIPE IS TO BE WRAPPED WITH ONE LAYER OF WIRE MESH WITH FILTER FABRIC OVER THE WIRE MESH.




## TOP VIEW

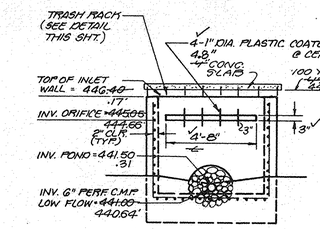



HO. CO. DETAIL SD. 4.01

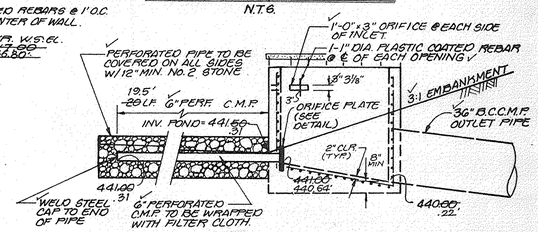



## ORIFICE PLATE DETAIL

N.T.S.




## FRONT ELEVATION




## SIDE ELEVATION

## FLOW CONTROL INLET DETAILS

SCALE : 1" = 4'

### DESIGN SUMMARY

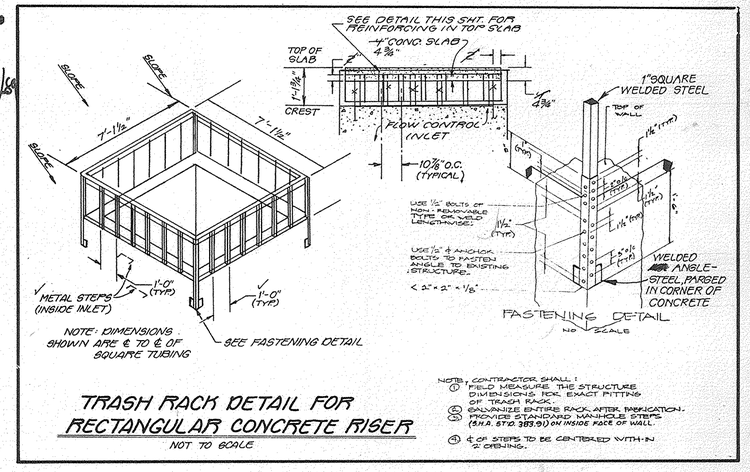
| Design Storm | Allowable Release Rate | Facility Inflow | Facility Discharge | Water Surface Elevation | Storage Volume (Ac.ft.) |
|---|---|---|---|---|---|
| 2 Year | 1.00 cfs | 14.33 cfs | 1.00 ~~1.01~~ cfs | ~~445.07~~ ft. 444.79 | ~~0.596~~ 0.550 Ac.ft. |
| 10 Year | 9.79 cfs | 32.54 cfs | 12.51 ~~9.83~~ cfs | 446.40 24 ft. | ~~1.005~~ 0.995 Ac.ft. |
| 100 Year | —— cfs | 54.22 cfs | 48.48 ~~45.55~~ cfs | ~~447.00~~ ft. 446.80 | ~~1.225~~ 1.180 Ac.ft. |

**Structure Classification:** FACILITY IS HAZARD CLASS (a) EXTENDED DETENTION (DRY) POND.

**Storage-Height Product:** ~~1.225~~ 1.180 ACRE FT. x ~~13.5'~~ 13.3' = ~~16.54~~ 15.69

**Watershed Area to Facility (Acres):** 11.29 ACRES

**Level of Management Provided by Facility:** 2+10 YEAR / 100 YEAR THRU PRINCIPAL SPILLWAY




## TRASH RACK DETAIL FOR RECTANGULAR CONCRETE RISER

NOT TO SCALE

NOTE: CONTRACTOR SHALL:
1. FIELD MEASURE THE STRUCTURE DIMENSIONS FOR EXACT FITTING OF TRASH RACK.
2. GALVANIZE ENTIRE RACK AFTER FABRICATION.
3. PROVIDE STANDARD MANHOLE STEPS (S.H.A. STD. 380.01) ON INSIDE FACE OF WALL.
4. ℄ OF STEPS TO BE CENTERED WITHIN 2 OPENING.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE
CHIEF, BUREAU OF ENGINEERING — DATE 12-4-89
CHIEF, BUREAU — DATE
CHIEF, LAND DEVELOPMENT DIVISION — DATE 12/4/89

STV/LYON ASSOCIATES.
ENGINEERS, ARCHITECTS & PLANNERS.
21 GOVERNOR'S COURT
BALTIMORE, MARYLAND 21207-2722
301-944-9112

STATE OF MARYLAND — FRANK C. RUPP — NO. 16597 — REGISTERED PROFESSIONAL ENGINEER — 11/1/89

| | | | |
|---|---|---|---|
| DES: L.P.B. | | | |
| DRN: W.K.C. | | | |
| CHK: P.C.R. | | | |
| DATE: 6/27/89 | MAR 1 | AS-BUILT | 2-20-02 |
| | BY NO. | REVISION | |

OWNER/DEVELOPER
SUMMIT PROPERTIES
203 KEY HIGHWAY
BALTIMORE, MARYLAND 21230
301-234-0070

HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

~~PLANNING DIRECTOR~~ — ~~DATE~~
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 12/5/89

ASHTON WOODS
STORMWATER MANAGEMENT POND
FALLS RUN ROAD
STA. 4+68 TO STA. 17+76.16

TAX MAP NO. 31 PARCEL NO. 423
AS-BUILT
HOWARD COUNTY, MARYLAND 1 ST. ELECTION DISTRICT

SCALE AS SHOWN
SHEET 9 of 9

1506

F-90-11