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1	TITLE SHEET
2	McCANN FARM ROAD PLAN AND PROFILE
3	SUSAN MARIE WAY PLAN AND PROFILE
4	OLD FREDERICK ROAD PLAN & PROFILE
5	OLD FREDERICK ROAD CROSS SECTION
6	STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
7	STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
8	SEDIMENT CONTROL PLAN AND DETAIL SHEET
9	STORM DRAIN PROFILES
10	DRAINAGE AREA MAP & LANDSCAPE PLAN
11	S.W.M. NOTES AND DETAILS
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FINAL ROAD CONSTRUCTION, GRADING AND STORMWATER MANAGEMENT PLANS

McCANN PROPERTY

LOTS 1 THRU 16 AND PRESERVATION PARCELS 'A' THRU 'E'

ZONING: RC-DEO

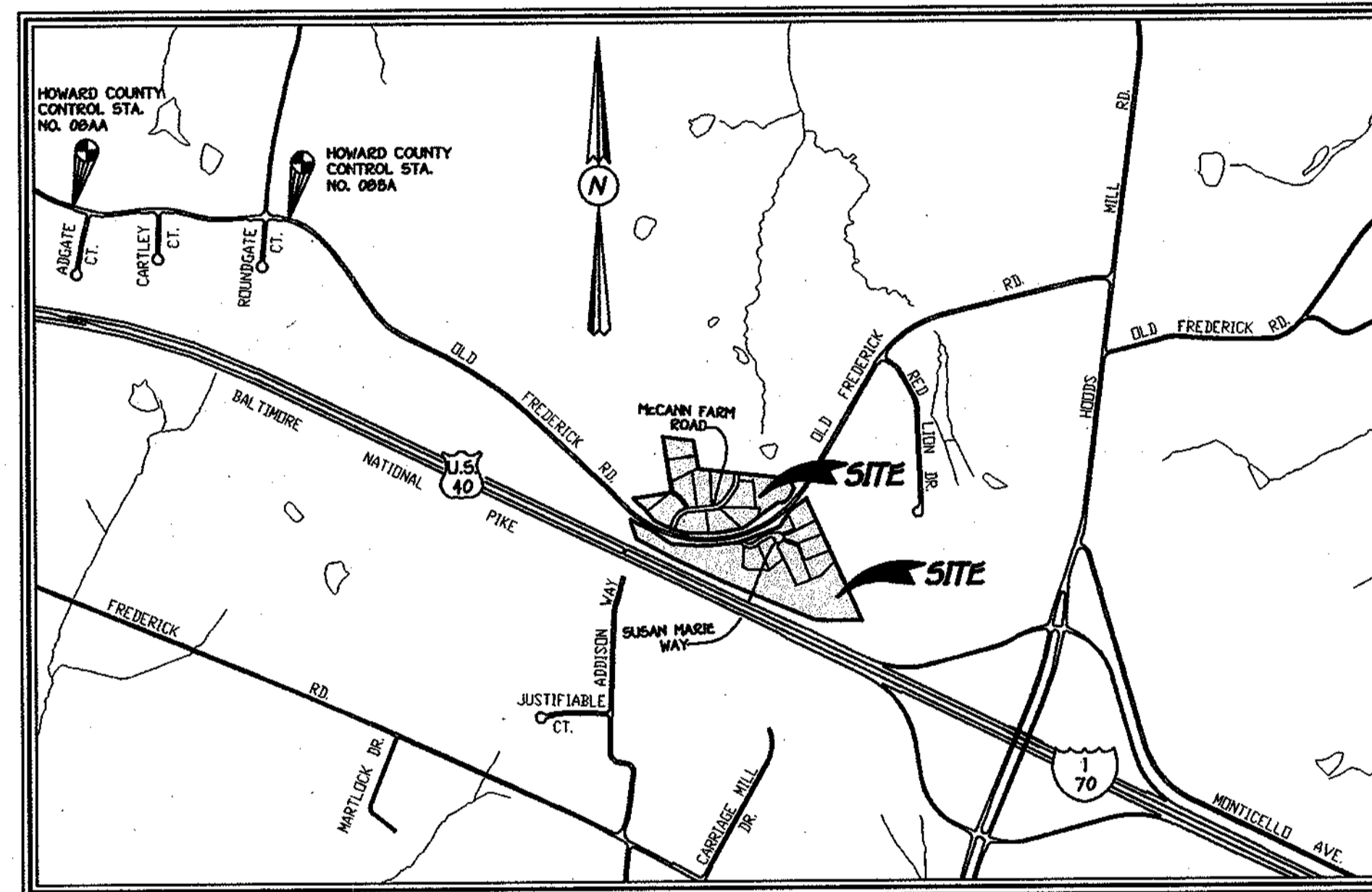
TAX MAP No. 8 PARCEL No. 78 GRID No. 16

APPROVED - DEPARTMENT OF PUBLIC WORKS
Richard M. [Signature] 3-21-02
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED - DEPARTMENT OF PLANNING AND ZONING
Andy [Signature] 3/28/02
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 3/25/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE

ROAD CLASSIFICATION CHART		
ROAD NAME	CLASSIFICATION	R/W WIDTH
McCANN FARM ROAD	PUBLIC ACCESS PLACE	40'
SUSAN MARIE WAY	PUBLIC ACCESS PLACE	40'



VICINITY MAP
SCALE: 1" = 1200'

FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST (3) WORKING DAYS 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 BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- 2 FOOT CONTOUR TOPOGRAPHY AND EXISTING CONDITIONS BASED ON FIELD SURVEY PREPARED BY FISHER, COLLINS & CARTER, INC. ON OR ABOUT JULY 1998 TOGETHER WITH HOWARD COUNTY AERIAL TOPOGRAPHY.
- THE COORDINATES SHOWN HEREON ARE BASED UPON HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NO. 08AA AND 08BA WERE USED FOR THIS PROJECT.
 08AA N 609,214,9069 E 1,299,547,5360
 08BA N 599,998,5311 E 1,301,409,1070
- WATER IS PRIVATE.
- SEWER IS PRIVATE.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC GROUP, INC. DATED SEPT. 1998 AND APPROVED BY HOWARD COUNTY ON 7/29/99 UNDER 5 99-03.
- UNMITIGATED 65 dba NOISE LINE DETERMINED BY WILDMAN ENVIRONMENTAL SERVICES DATED SEPT. 1998 AND APPROVED BY HOWARD COUNTY ON 7/29/99 UNDER 5 99-03.
- NOISE MITIGATION MEASURES AND THE MITIGATED 65 dba NOISE LINE SHOWN ON THIS PLAN WERE PREPARED BY WILDMAN ENVIRONMENTAL SERVICES AND WERE REVIEWED AND APPROVED BY HOWARD COUNTY ON 7/29/99 UNDER 5 99-03.
- BACKGROUND INFORMATION:
 A. SUBDIVISION NAME: McCANN PROPERTY
 B. TAX MAP NO.: 8
 C. PARCEL NO.: 78
 D. ZONING: RC-DEO
 E. ELECTION DISTRICT: FOURTH
 F. TOTAL TRACT AREA: 34.32 AC. +
 G. NO. OF BUILDABLE LOTS: 16
 H. NO. OF PARCELS: 5
 I. NO. OF OPEN SPACE LOTS: 0
 J. THE SKETCH PLAN WAS APPROVED ON 7/29/99.
 K. PRELIMINARY PLAN APPROVAL DATE: 9/1/00
 L. PREVIOUS FILE NO.: 5 99-03, P. 00-12
 M. NUMBER OF DWELLING UNITS ALLOWED WITHOUT IMPORTING DEVELOPMENT RIGHTS: 34.32 / 2 = 17 UNITS
 N. NUMBER OF DWELLING UNITS ALLOWED WITH IMPORTING DEVELOPMENT RIGHTS: 34.32 / 2 = 17 UNITS
 O. NUMBER OF DWELLING UNITS PROPOSED: 17
 P. NUMBER OF D.E.O. UNITS TO BE IMPORTED: 17 - 0 = 9 UNITS
- REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE TO BE PROVIDED AT THE JUNCTION OF THE PIPE / FLAG STEM AND THE ROAD R/W AND NOT ONTO THE PIPE / FLAG STEM DRIVEWAY.
- NO CEMETERIES EXIST ON THE PROPERTY.
- ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF ASTM T-180.
- THE WETLAND AND FOREST STAND DELINEATION WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED SEPT. 1998 AND APPROVED BY HOWARD COUNTY ON 7/29/99 UNDER 5 99-03.
- THE FOREST CONSERVATION EASEMENT(S) HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1202 OF THE HOWARD COUNTY FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, EXCEPT AS SHOWN ON AN APPROVED ROAD CONSTRUCTION DRAWING OR SITE DEVELOPMENT PLAN. HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
- STORMWATER MANAGEMENT FACILITY:
 STORMWATER MANAGEMENT IS PROVIDED BY A PUBLIC RETENTION POND AND A SHALLOW MARSH FACILITY. THE SHALLOW MARSH WAS APPROVED AS A DESIGN MANUAL WAIVER ON 3/7/2000.
- THIS FINAL PLAN IS PREPARED IN ACCORDANCE WITH THE APPROVED ZONING, SUBDIVISION AND DESIGN MANUAL GUIDELINES AS EXISTED AT THE TIME OF THE PRELIMINARY EQUIVALENT SKETCH PLAN SIGNATURE ON APRIL 4, 1996, UNLESS A WAIVER PETITION OR DESIGN MANUAL WAIVER HAS BEEN APPROVED BY THE DEPARTMENT OF PLANNING & ZONING. A WAIVER OF DESIGN MANUAL VOLUME 1 SECTION 16.127 G WAS APPROVED ON MARCH 7, 2000. THIS WAIVER ALLOWS FOR A CONTRIBUTING DRAINAGE AREA OF LESS THAN 5.0 ACRES FOR CONSTRUCTION UTILIZING A SHALLOW MARSH DESIGN BASED ON THE EXISTING HIGH GROUNDWATER TABLE AT THE PROPOSED FACILITY.
- MINIMUM AREA OF OPEN SPACE REQUIRED: 34.32 x 5% = 1.72 AC. REQUIRED OPEN SPACE IS SUBSTITUTED BY H.O.A. OWNED AND MAINTAINED NON-BUILDABLE PRESERVATION PARCELS 'A', 'C', 'D', AND 'E' WHICH CONSISTS OF 5.613 ACRES.
- A LANDSCAPE SURETY IN THE AMOUNT OF \$44,440.00 FOR PERIMETER LANDSCAPE REQUIREMENTS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL IS POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS SUBDIVISION.
- THE USE-IN-COMMON DRIVEWAY FOR LOTS 2 AND 3 MUST BE CONSTRUCTED AS FAR AWAY FROM THE PROJECT BOUNDARY LINE AS POSSIBLE IN ORDER TO PROTECT THE EXISTING TREES ALONG THAT PROPERTY LINE.

TRAFFIC CONTROL SIGNS				
STREET NAME	CL. STATION	OFFSET	POSTED SIGN	SIGN CODE
McCANN FARM ROAD	0+34	18'L	STOP	R1-1
McCANN FARM ROAD	2+00	11'R	SPEED LIMIT 25	R2-1
McCANN FARM ROAD	3+75	11'R	ROAD NARROWS	W5-1
McCANN FARM ROAD	4+55	11'L	ROAD NARROWS	W5-1
McCANN FARM ROAD	6+25	11'R	ROAD NARROWS	W5-1
McCANN FARM ROAD	7+05	11'L	ROAD NARROWS	W5-1
SUSAN MARIE WAY	0+34	18'L	STOP	R1-1
SUSAN MARIE WAY	1+05	11'R	SPEED LIMIT 25	R2-1

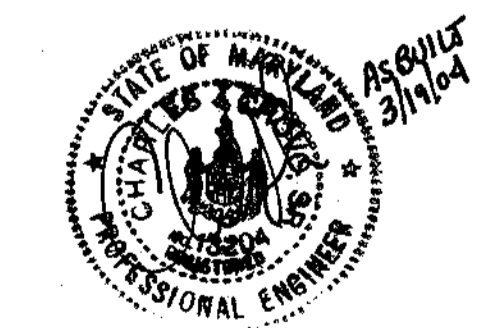
STREET LIGHT TABLE			
Street Name	Station	Off-Set	Fixture/ Pole Type
McCann Farm Rd.	0+35	Rt. 35'	*
Susan Marie Way	0+33	Rt. 37'	*

* = 250 Watt High Pressure Sodium (HPS) Vapor Pendant (SAP) Mounted on a 20' Bronze Fiberglass Pole Using a 12' Arm.

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10275 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21114
 (410) 461-2895

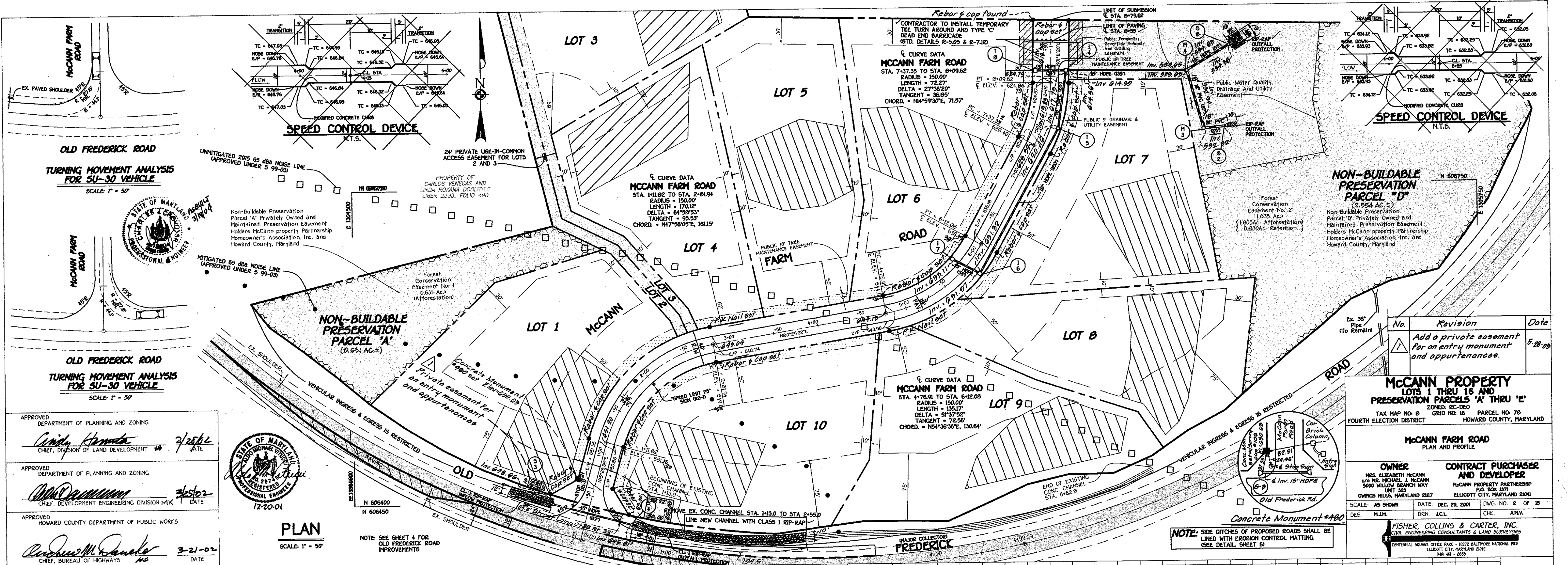
OWNER
 MRS. ELIZABETH MCCANN
 c/o MICHAEL J. MCCANN
 5000 WILLOW BRANCH WAY
 UNIT 303
 OWINGS MILLS, MARYLAND 21117

CONTRACT PURCHASER AND DEVELOPER
 McCANN PROPERTY PARTNERSHIP
 P.O. BOX 1371
 ELLICOTT CITY, MARYLAND 21041



No.	Revision	Date
1	Add a private easement for an entry monument & appurtenances	5-28-03

McCANN PROPERTY
 LOTS 1 THRU 16 AND
 PRESERVATION PARCELS 'A' THRU 'E'
 ZONING: RC-DEO
 TAX MAP No. 8 PARCEL No. 78 GRID No. 16
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: DECEMBER 20, 2001
 SHEET 1 OF 15



APPROVED
 DEPARTMENT OF PLANNING AND ZONING
Cindy Hanna 2/25/02
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED
 DEPARTMENT OF PLANNING AND ZONING
John DeMunn 3/25/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION M/K DATE

APPROVED
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Rudolph M. Davelle 3-21-02
 CHIEF, BUREAU OF HIGHWAYS DATE



No.	Revision	Date
1	Add a private easement for an entry monument and appurtenances.	5-28-09

McCann Property
 LOTS 1 THRU 16 AND
 PRESERVATION PARCELS 'A' THRU 'E'
 TAX MAP NO. 8 ZONED RC-120 PARCEL NO. 78
 FOURTH ELECTION DISTRICT GRID NO. 16 HOWARD COUNTY, MARYLAND

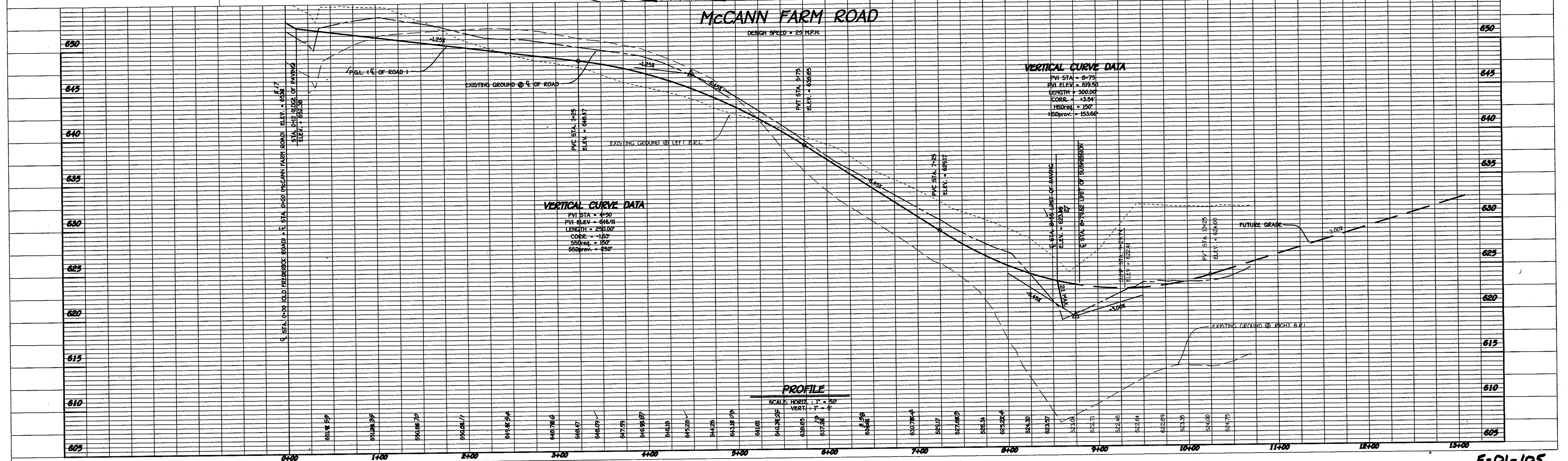
McCann Farm Road
 PLAN AND PROFILE

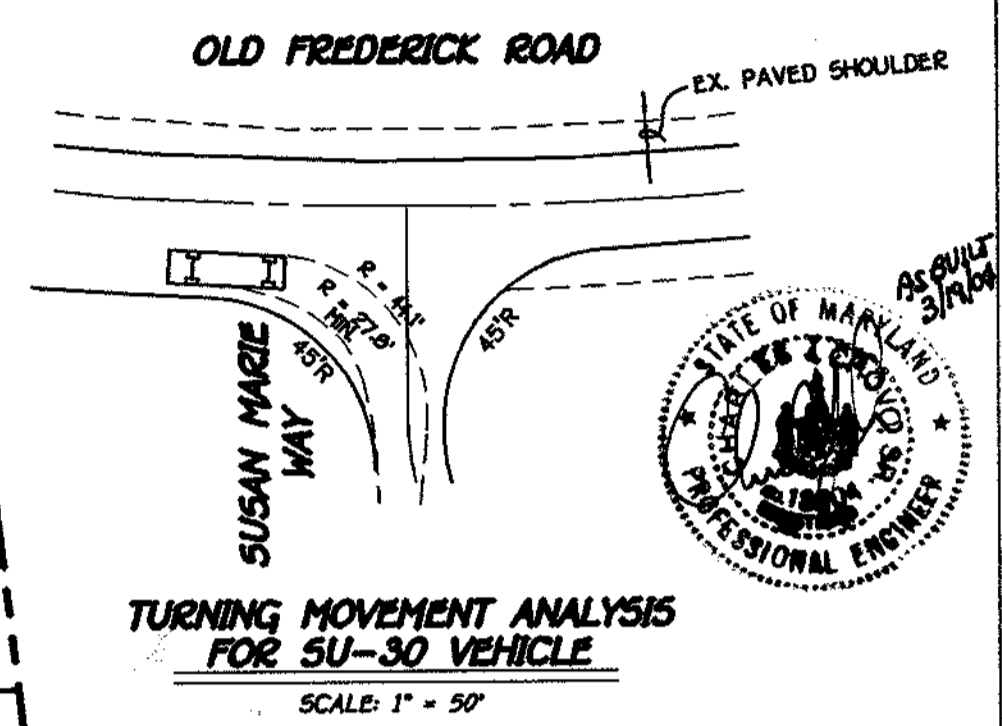
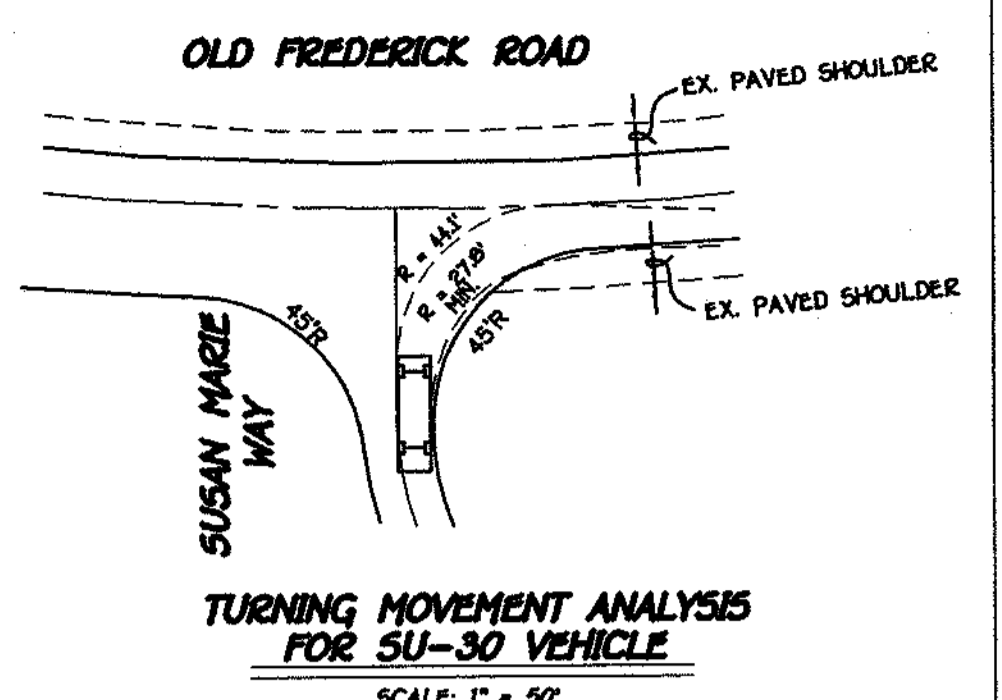
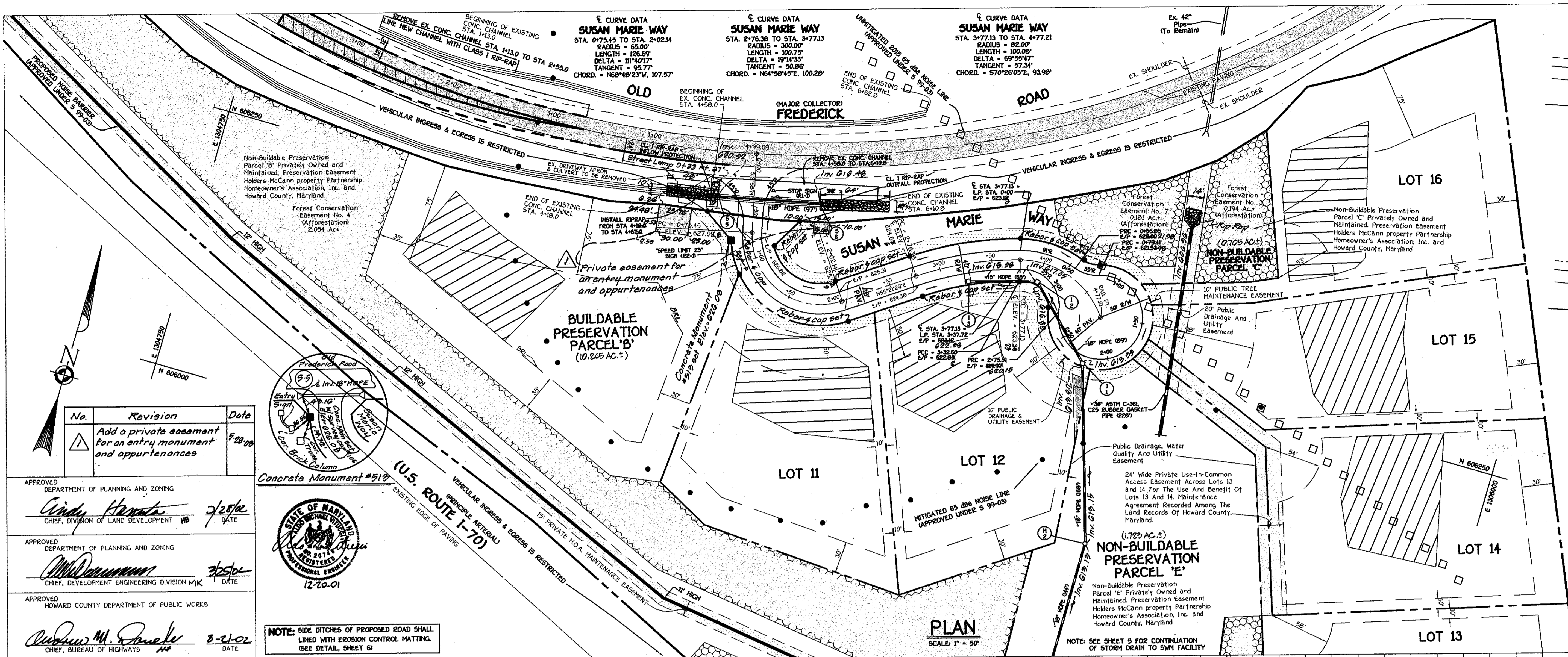
OWNER
 MRS. ELIZABETH MCCANN
 C/O MR. MICHAEL J. MCCANN
 5000 WILLOW BRANCH WAY
 UNIT 303
 OWINGS HILLS, MARYLAND 21117

CONTRACT PURCHASER AND DEVELOPER
 MCCANN PROPERTY PARTNERSHIP
 P.O. BOX 1371
 ELLICOTT CITY, MARYLAND 21101

SCALE: AS SHOWN DATE: DEC. 20, 2001 DWG. NO. 2 OF 15
 DES. M.J.H. DRN. J.C.L. CHK. A.M.V.

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL FREE
 ELLICOTT CITY, MARYLAND 21114
 (410) 461-0222





MCCANN PROPERTY
LOTS 1 THRU 16 AND PRESERVATION PARCELS 'A' THRU 'E'

TAX MAP NO. 8 GRID NO. 16 PARCEL NO. 78
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SUSAN MARIE WAY
PLAN AND PROFILE

OWNER	CONTRACT PURCHASER AND DEVELOPER
MRS. ELIZABETH MCCANN C/O MC MICHAEL J. MCCANN 3000 WILLOW BRANCH WAY UNIT 303 OWINGS MILLS, MARYLAND 21077	MCCANN PROPERTY PARTNERSHIP P.O. BOX 1371 ELLCOTT CITY, MARYLAND 21041

SCALE: AS SHOWN DATE: DEC. 20, 2001 DWG. NO. 3 OF 15
DES. HJM DRN. JCL. CHK. ANV.

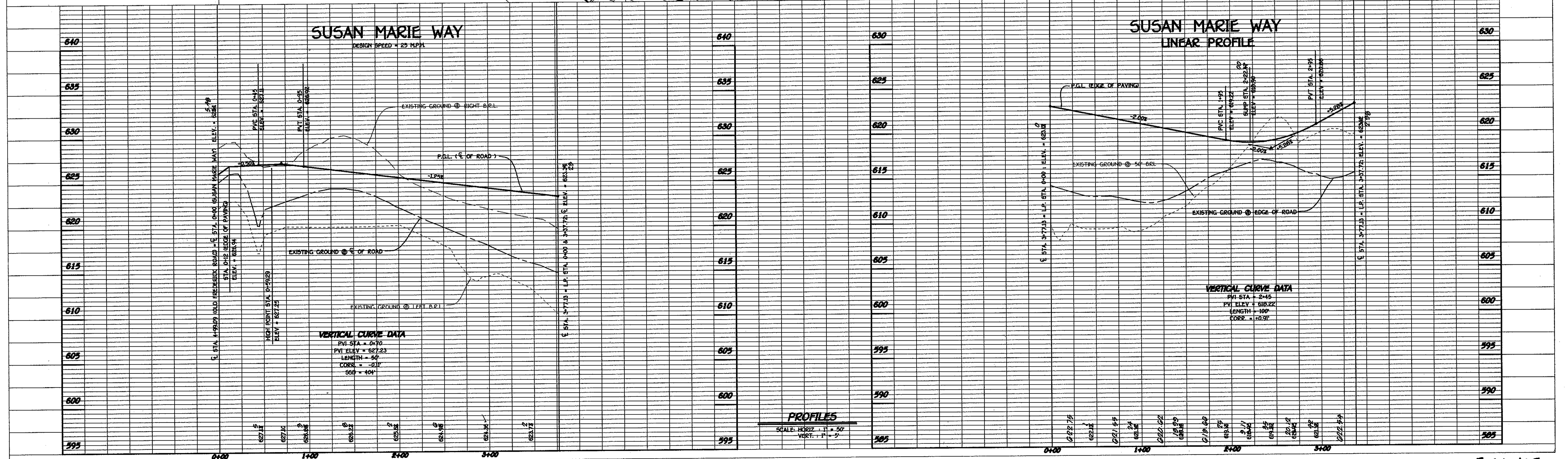
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10772 DALLHOPE NATIONAL PIKE
ELLCOTT CITY, MARYLAND 21042
410.481.2922

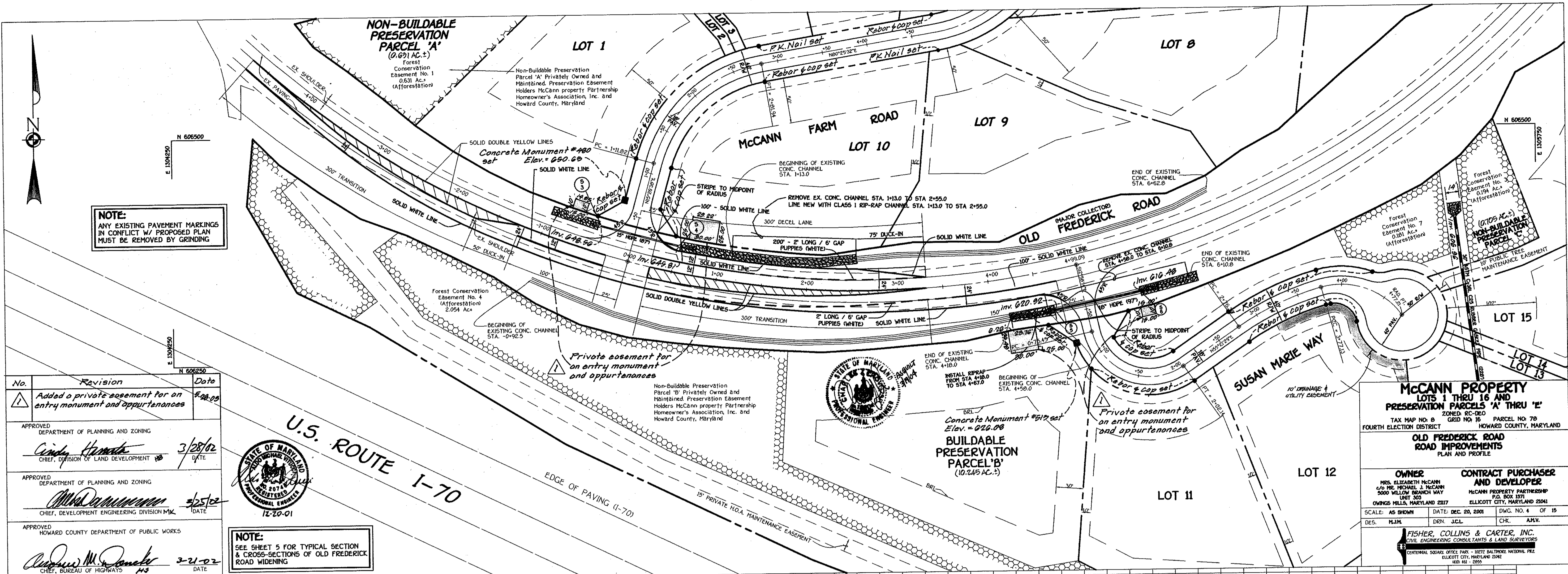
No.	Revision	Date
1	Add a private easement for an entry monument and oppurtunances	5-28-09

APPROVED DEPARTMENT OF PLANNING AND ZONING
Cindy Harsh 7/2/02
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED DEPARTMENT OF PLANNING AND ZONING
M. Dammann 7/2/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William M. Pucke 8-21-02
CHIEF, BUREAU OF HIGHWAYS





NOTE:
 ANY EXISTING PAVEMENT MARKINGS
 IN CONFLICT W/ PROPOSED PLAN
 MUST BE REMOVED BY GRINDING

No.	Revision	Date
1	Added a private easement for an entry monument and appurtenances	3/28/02

APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 Cindy Hamrick
 CHIEF, DIVISION OF LAND DEVELOPMENT
 3/28/02
 DATE

APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 [Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK
 3/25/02
 DATE

APPROVED
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature]
 CHIEF, BUREAU OF HIGHWAYS
 3-21-02
 DATE



NOTE:
 SEE SHEET 5 FOR TYPICAL SECTION
 & CROSS-SECTIONS OF OLD FREDERICK
 ROAD WIDENING

McCann Property
 Lots 1 thru 16 and
 Preservation Parcels 'A' thru 'E'

TAX MAP NO. 8 GRID NO. 16 PARCEL NO. 79
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

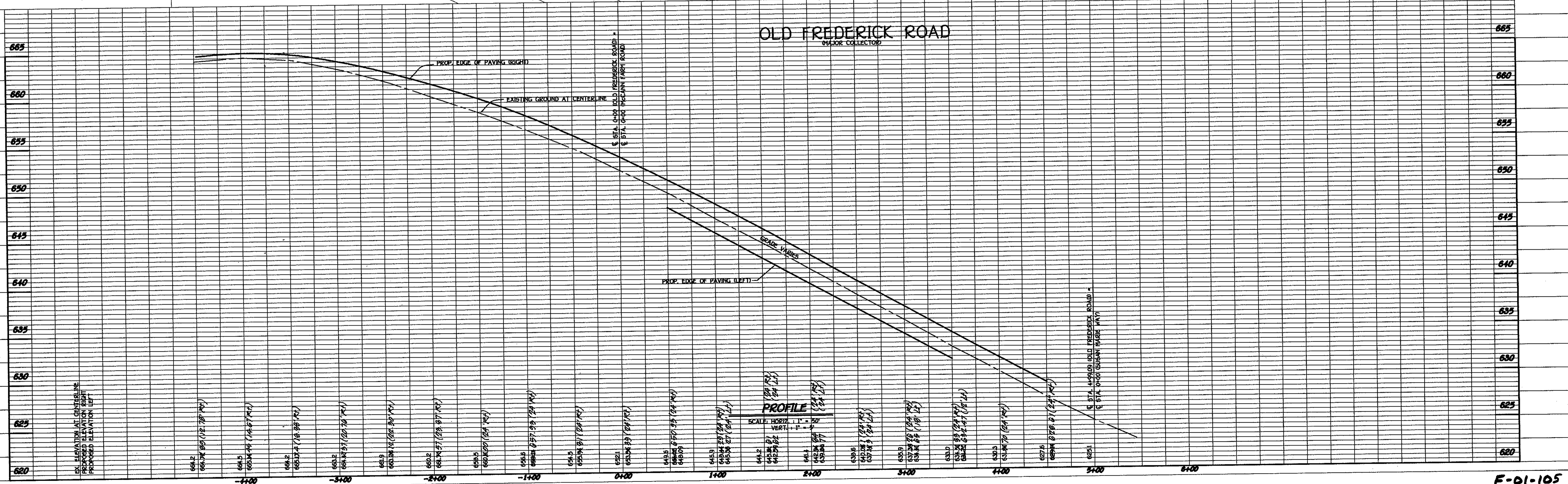
**OLD FREDERICK ROAD
 ROAD IMPROVEMENTS
 PLAN AND PROFILE**

OWNER
 MRS. ELIZABETH McCANN
 c/o MR. MICHAEL J. McCANN
 5000 WILLOW BRANCH WAY
 UNIT 303
 OWINGS HILLS, MARYLAND 21117

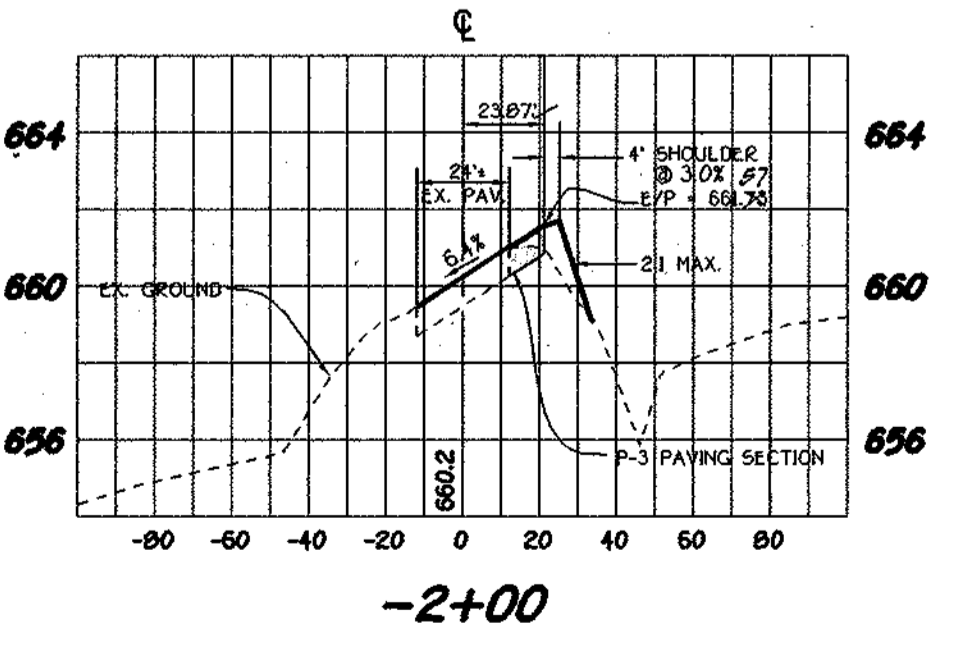
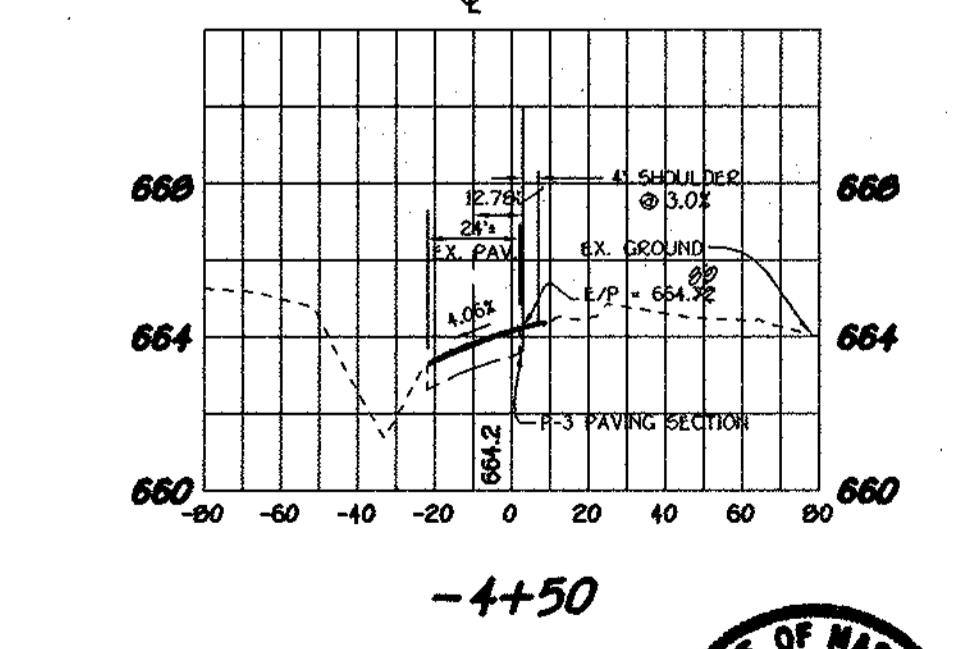
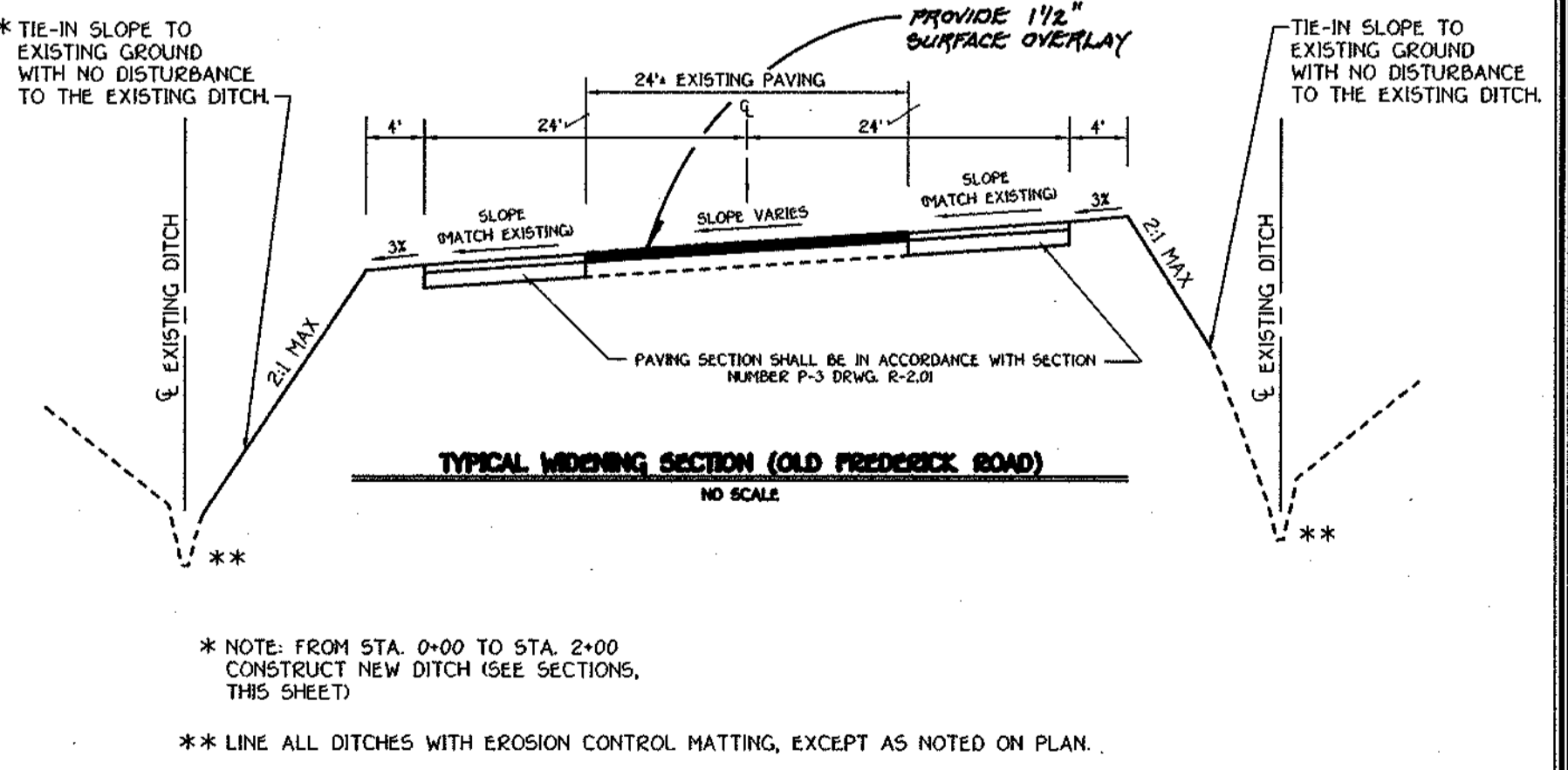
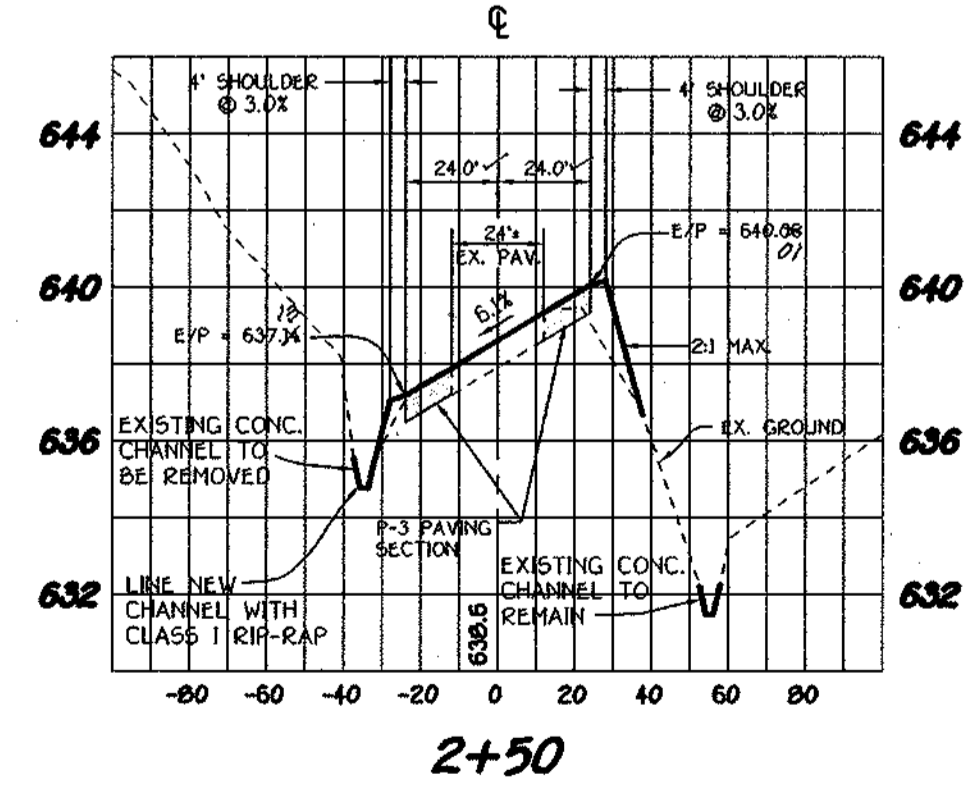
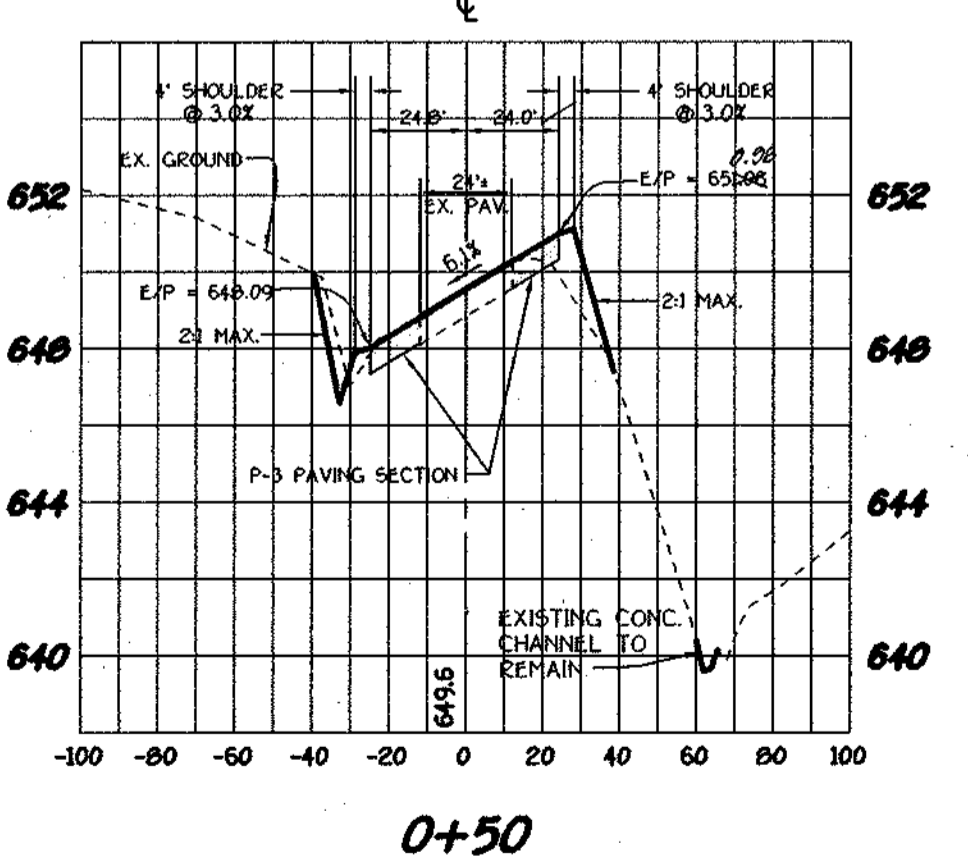
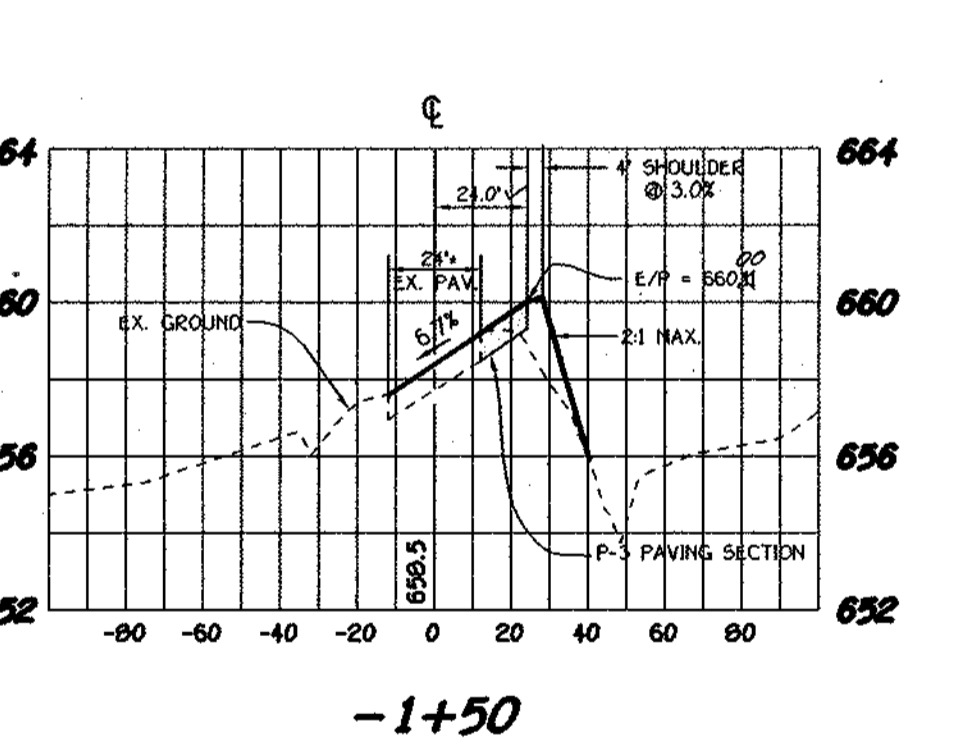
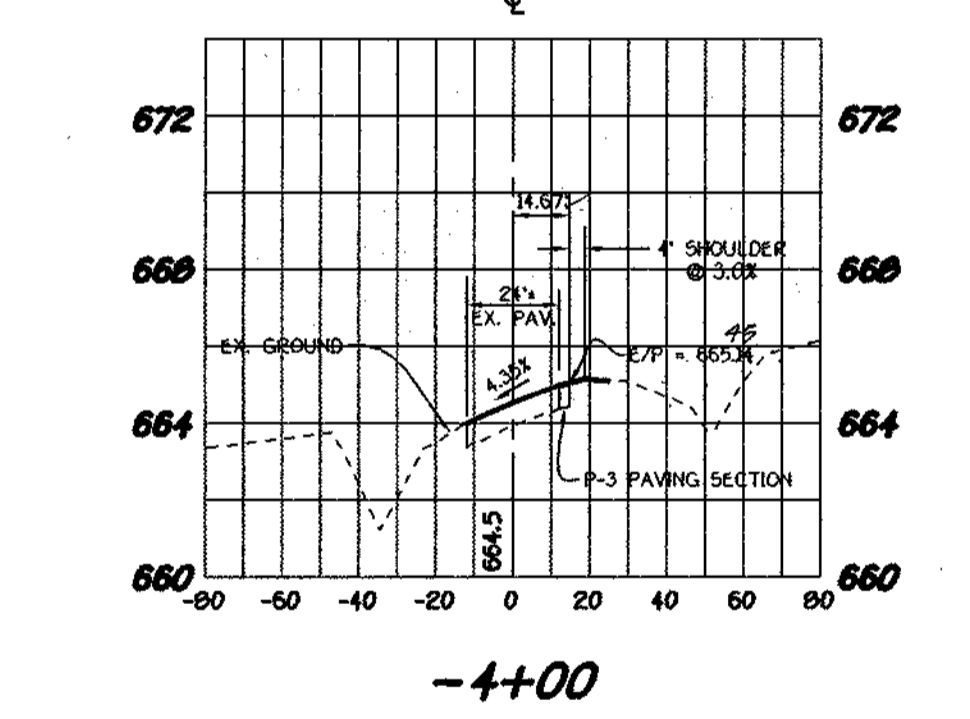
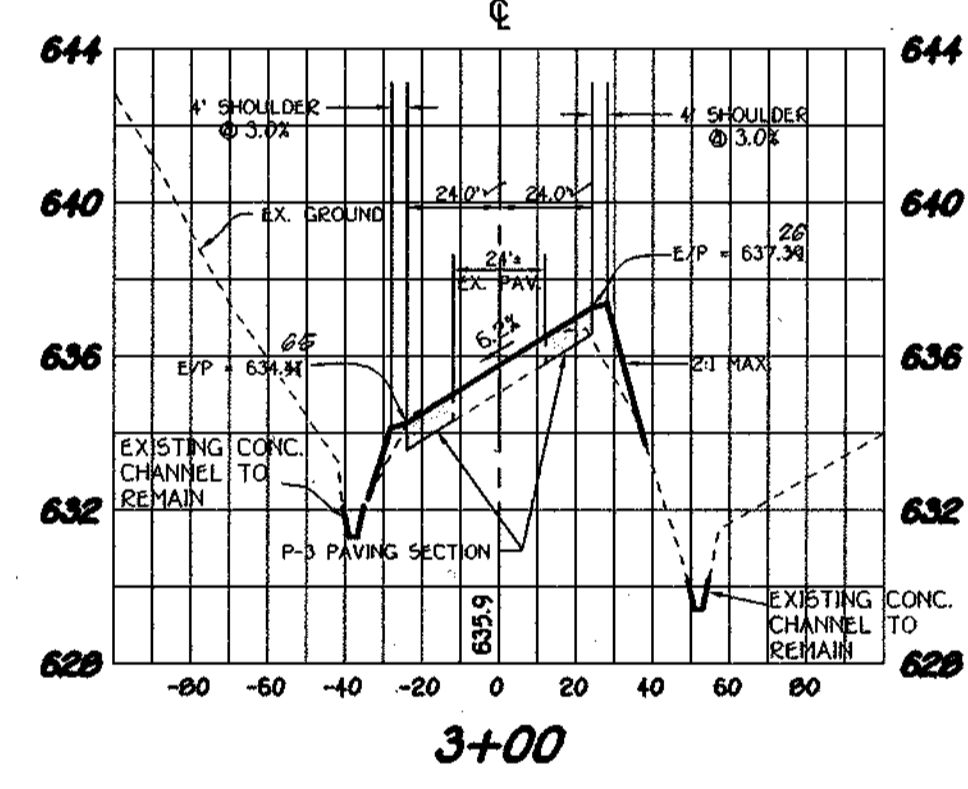
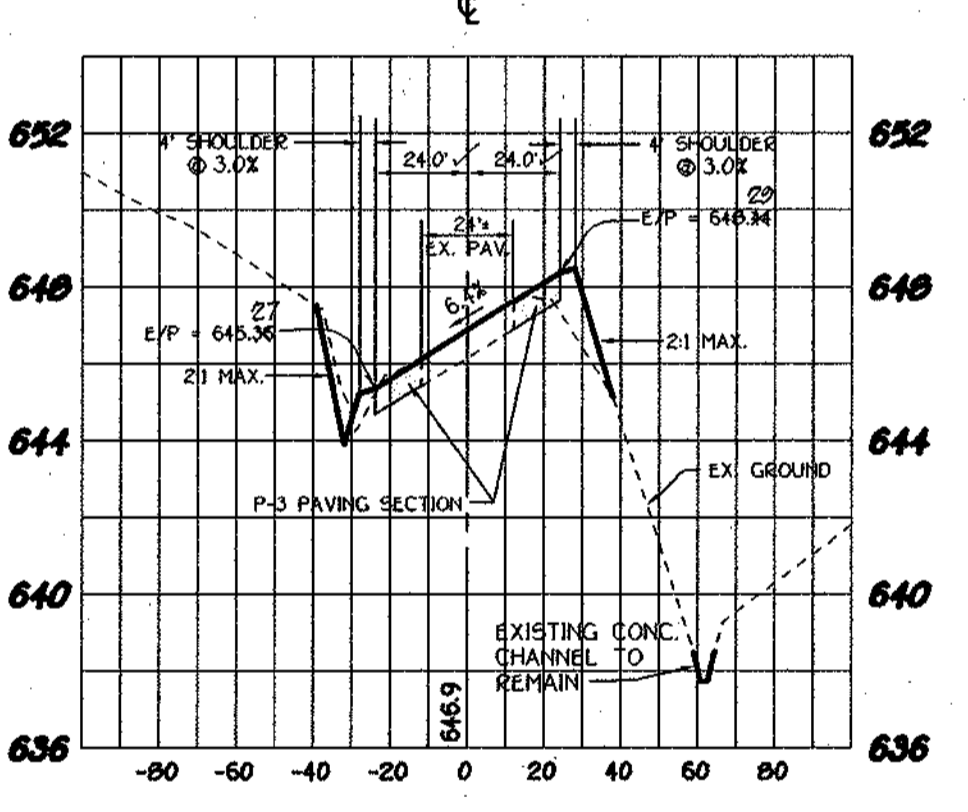
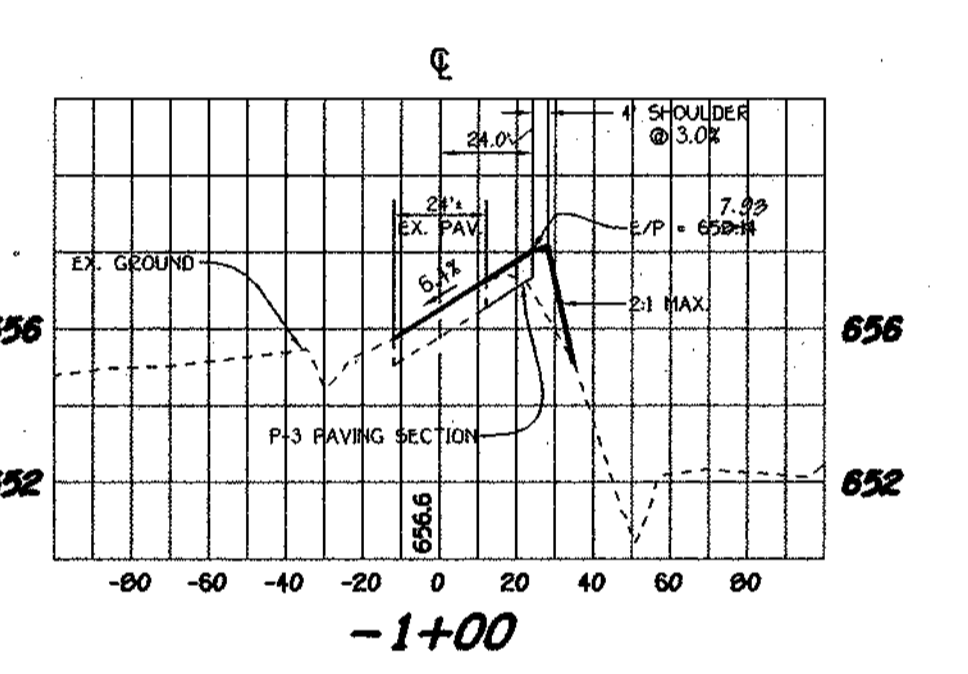
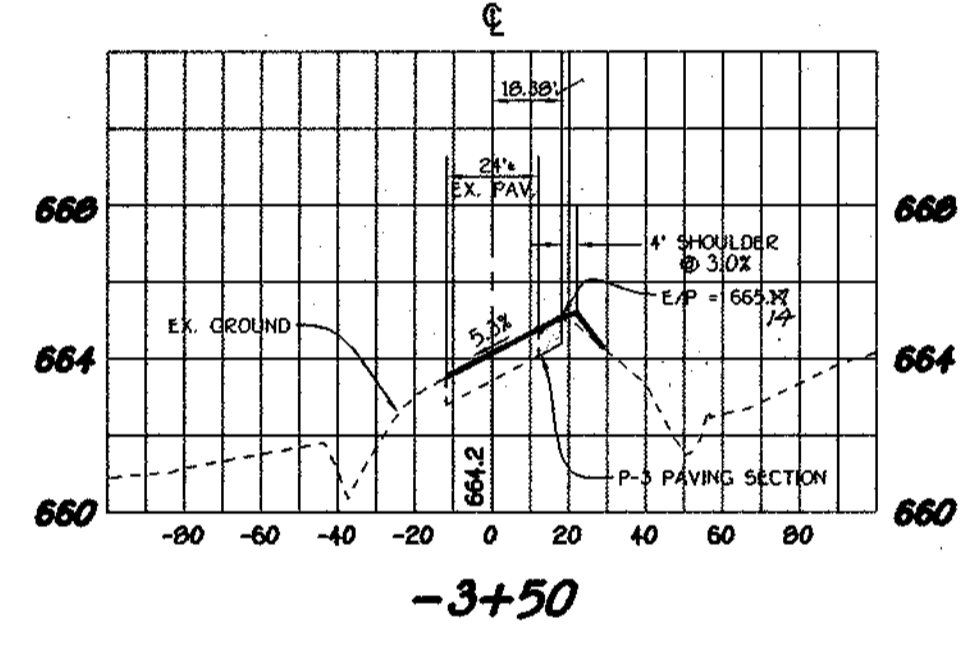
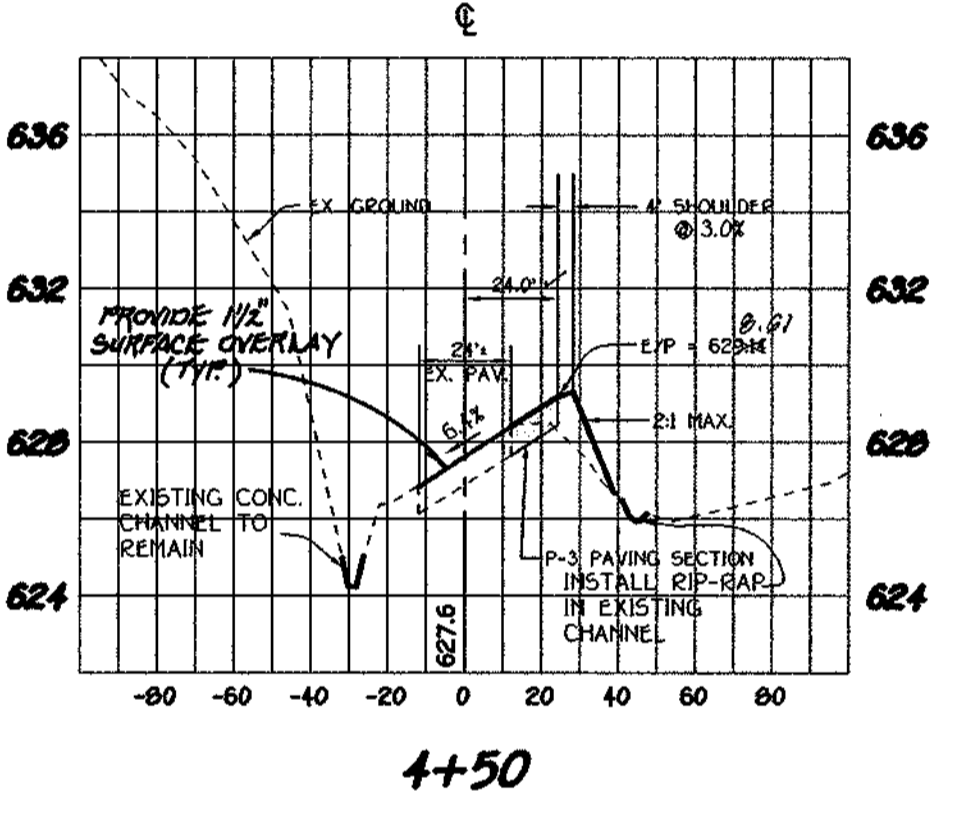
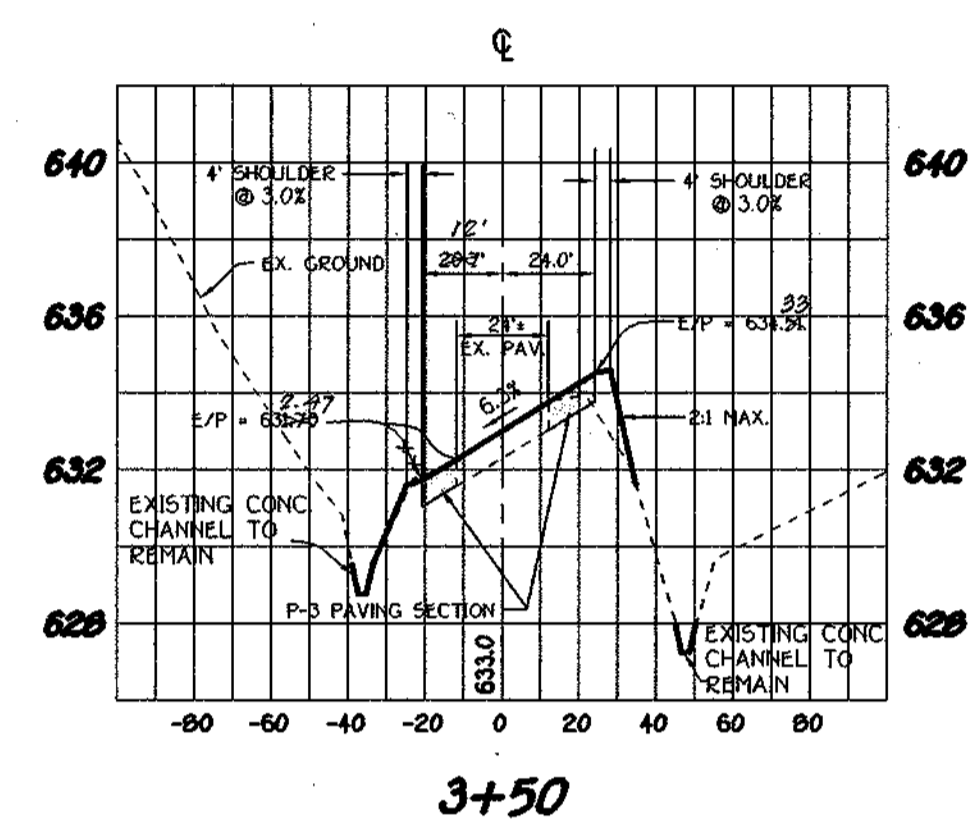
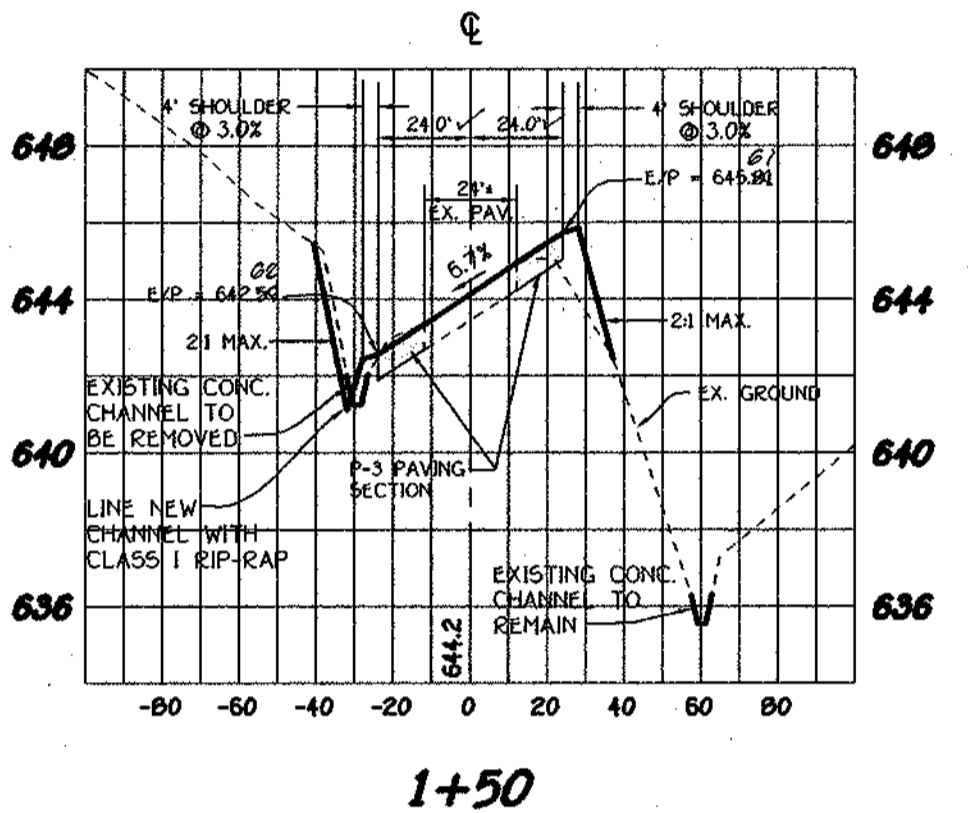
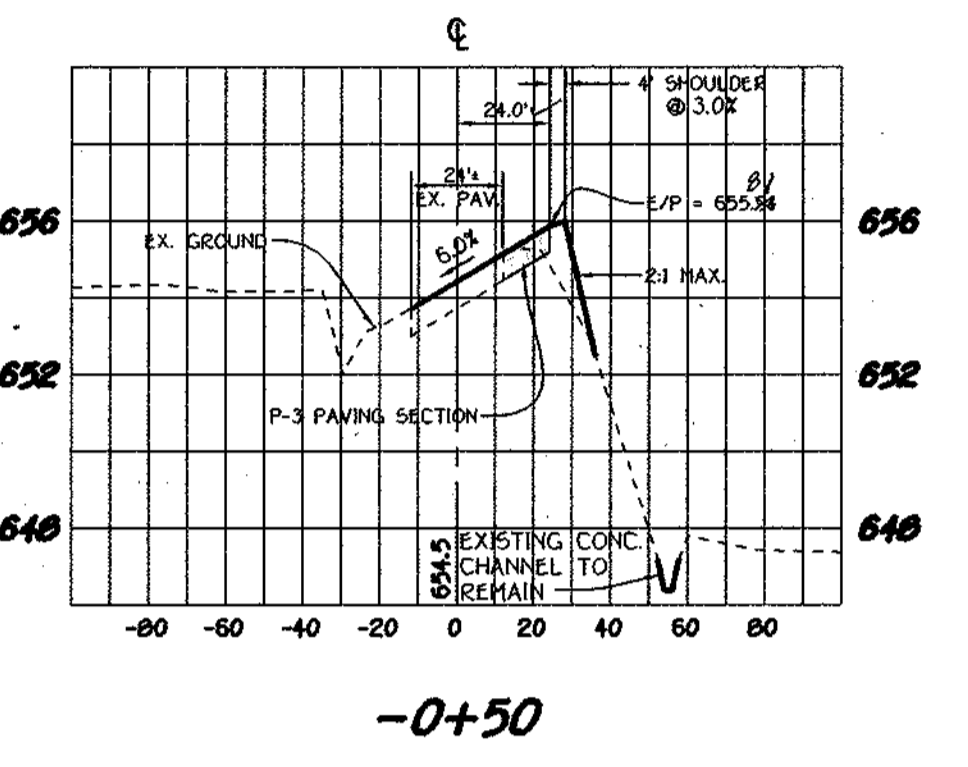
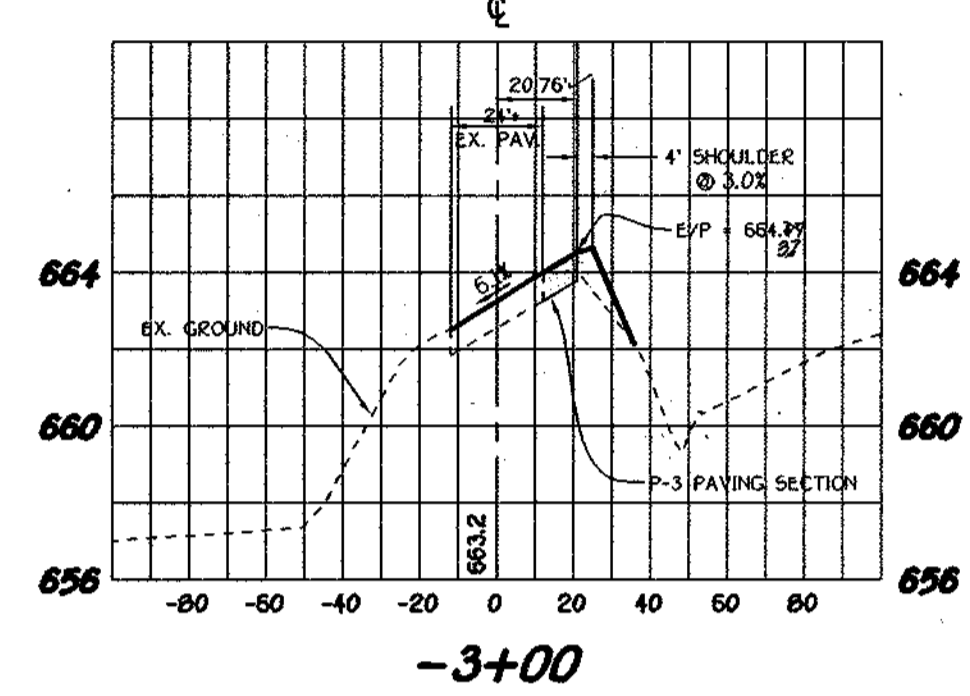
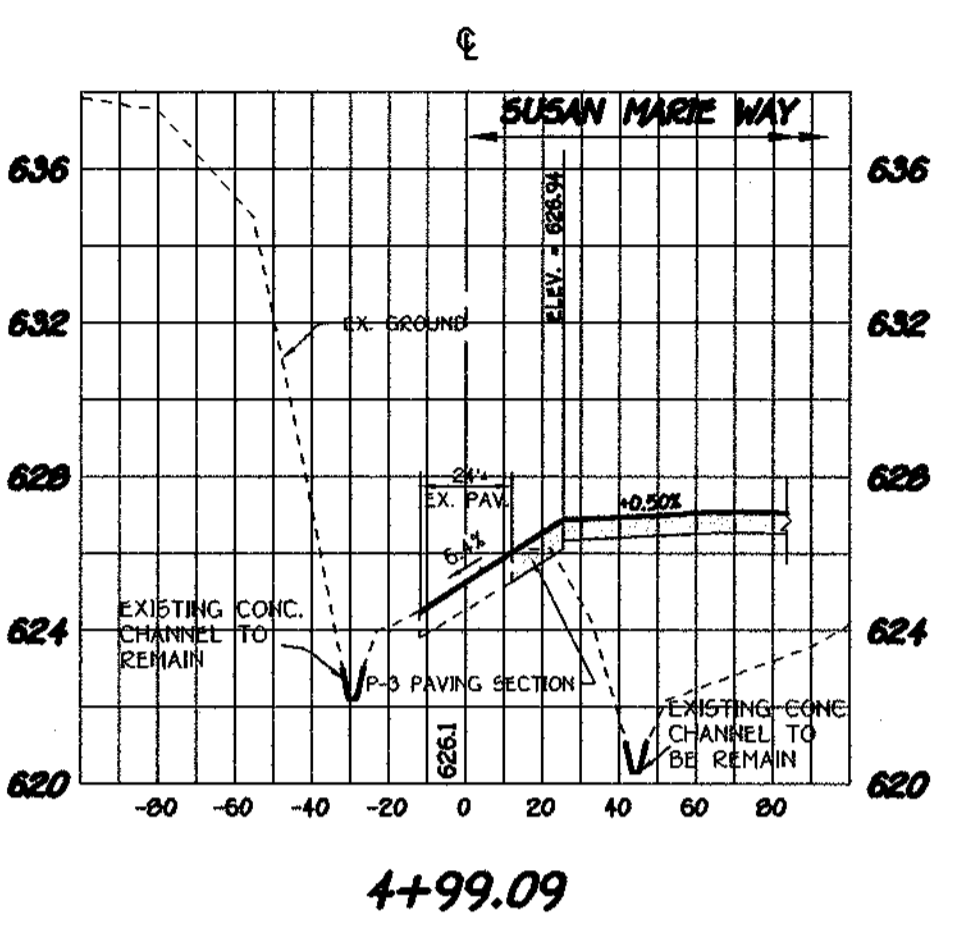
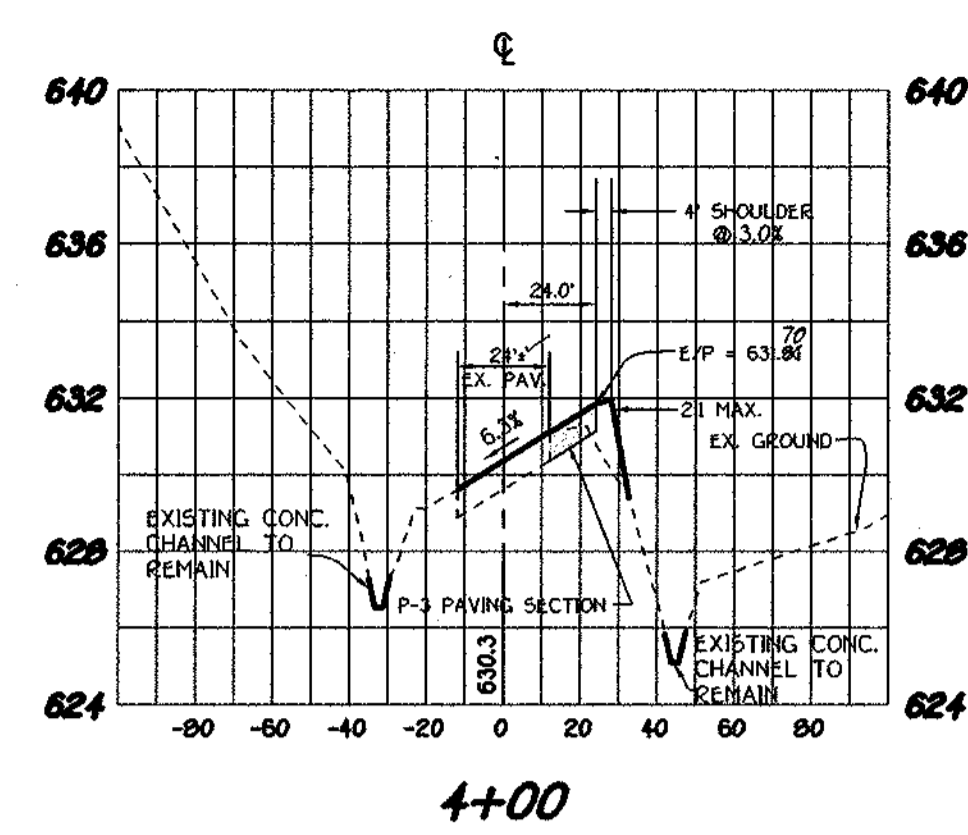
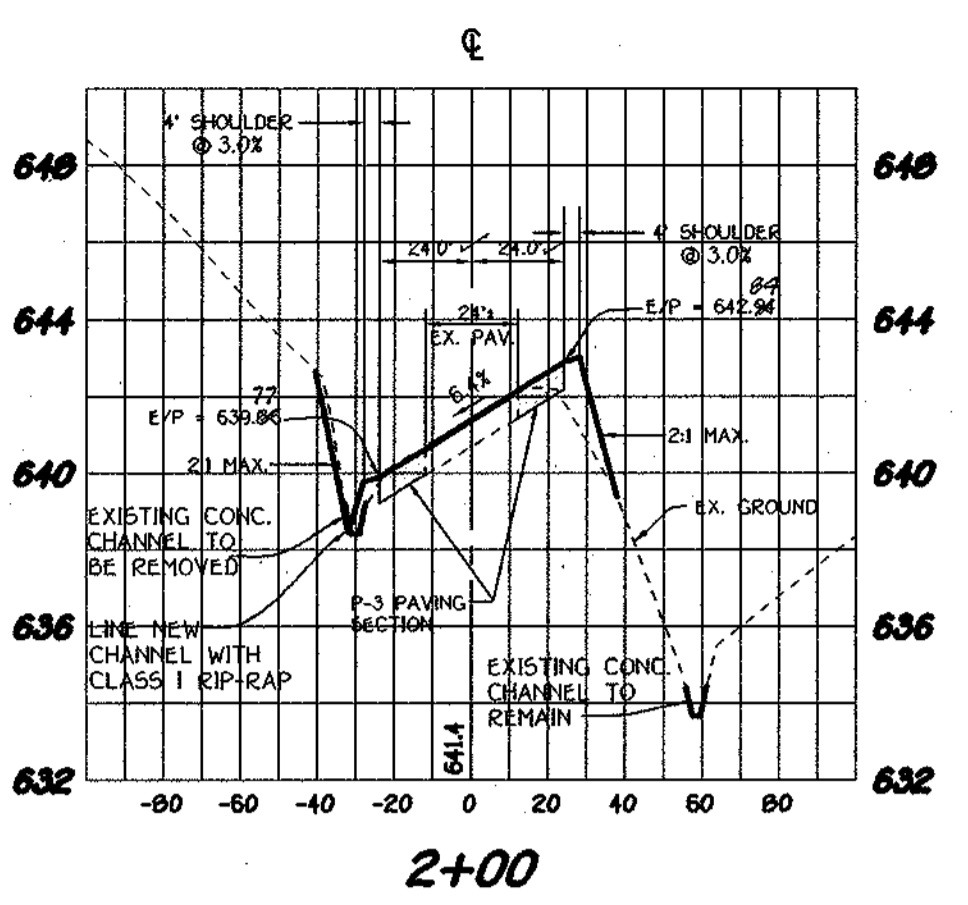
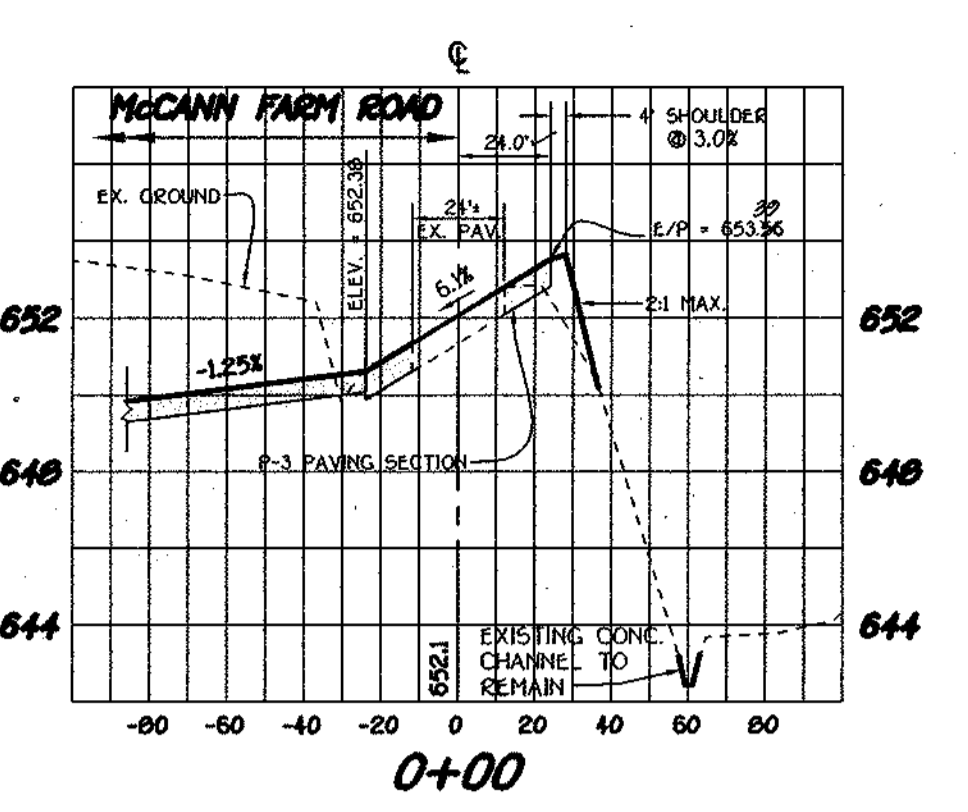
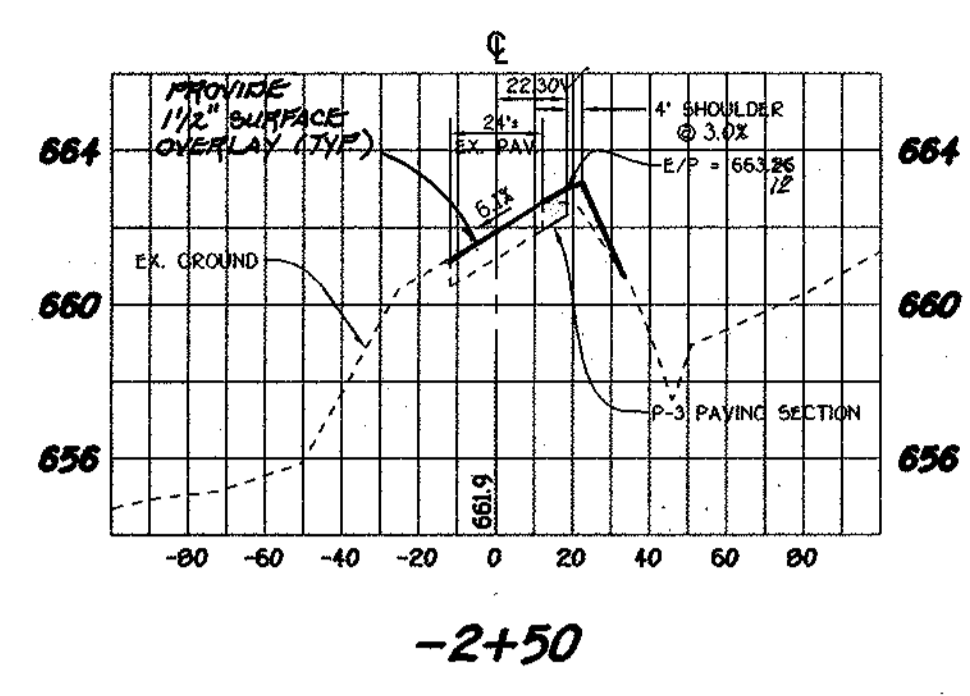
**CONTRACT PURCHASER
 AND DEVELOPER**
 McCANN PROPERTY PARTNERSHIP
 P.O. BOX 1871
 ELLICOTT CITY, MARYLAND 21041

SCALE: AS SHOWN DATE: DEC. 20, 2001 DWG. NO. 4 OF 15
 DES. H.J.H. DEN. J.C.L. CHK. A.H.W.

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10772 SALT PINE NATIONAL PRZ
 ELLICOTT CITY, MARYLAND 21041
 410.484.2020



APPROVED DEPARTMENT OF PUBLIC WORKS
Richard M. Decker 3-21-02
 CHIEF, BUREAU OF HIGHWAYS DATE
 APPROVED DEPARTMENT OF PLANNING AND ZONING
David H. Hunt 3/28/02
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
David J. ... 3/25/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE



CROSS-SECTIONS

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

OWNER
 MRS. ELIZABETH MCCANN
 c/o MICHAEL J. MCCANN
 5000 WILLOW BEACHWAY
 UNIT 303
 OWINGS MILLS, MARYLAND 21117

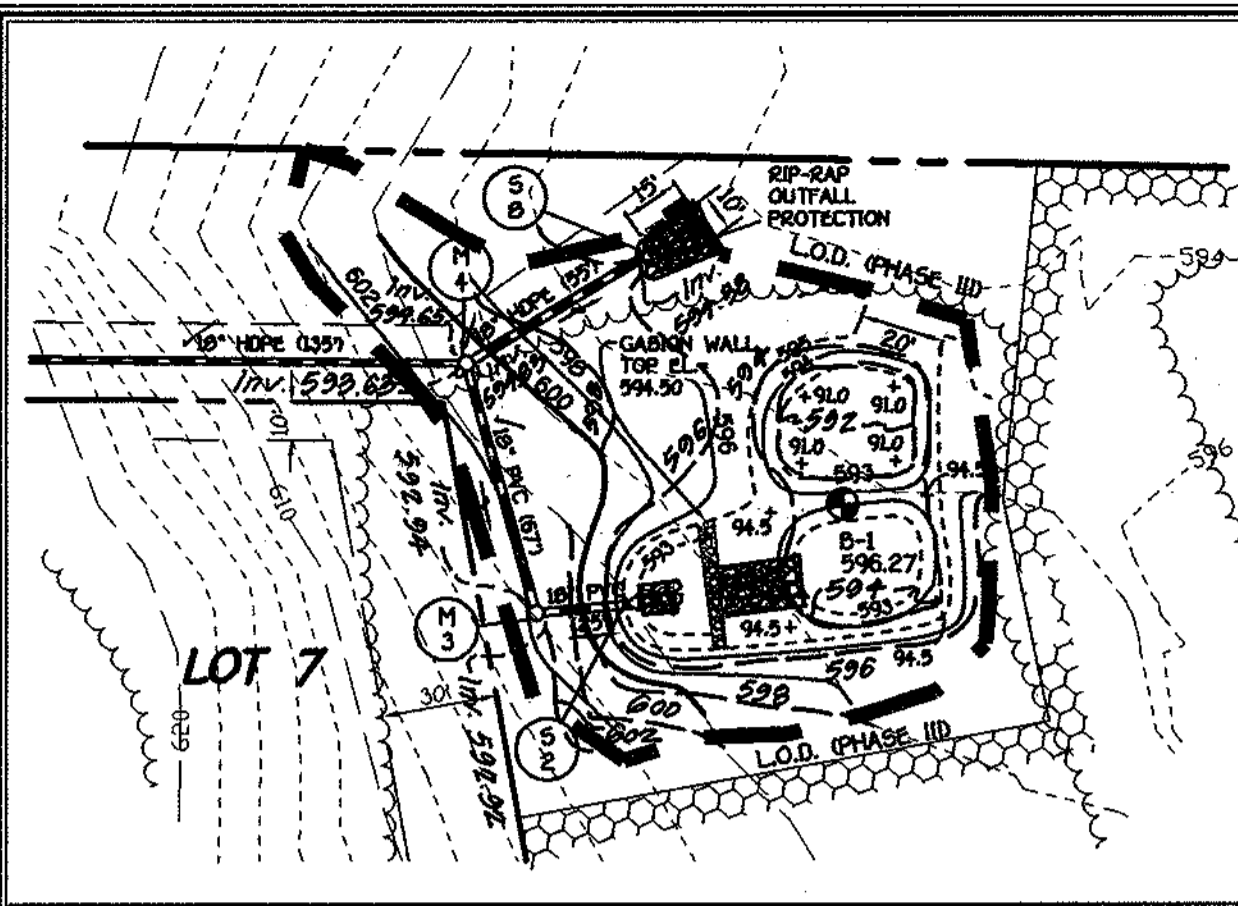
CONTRACT PURCHASER AND DEVELOPER
 MCCANN PROPERTY PARTNERSHIP
 P.O. BOX 1371
 ELLICOTT CITY, MARYLAND 21041



CROSS-SECTIONS (OLD FREDERICK ROAD)
McCANN PROPERTY
 LOTS 1 THRU 16 AND
 PRESERVATION PARCELS 'A' THRU 'E'
 ZONING: RC-DEO
 TAX MAP No. 8 PARCEL No. 78 GRID No. 16
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: DECEMBER 17, 2001
 SHEET 5 OF 15

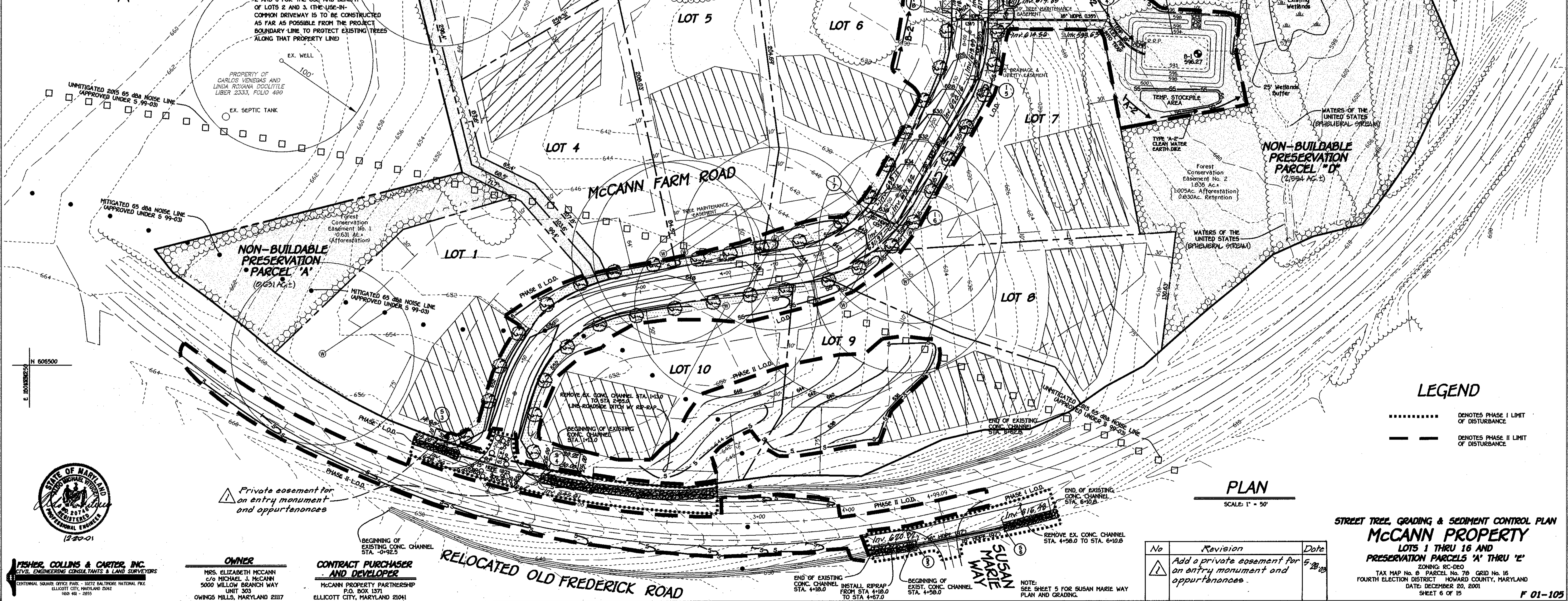
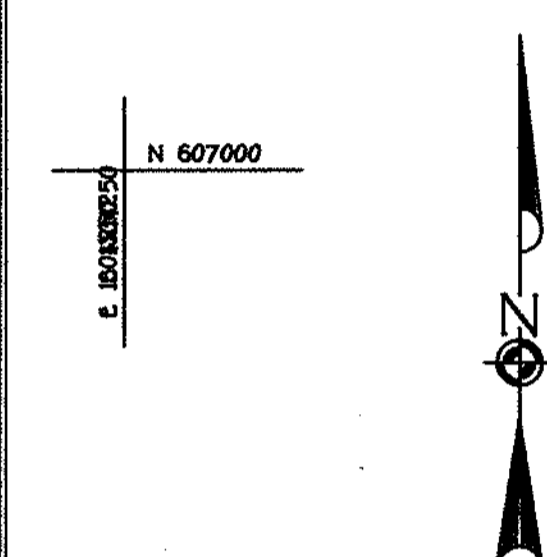
FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21117
 410-461-2555





SHALLOW MARSH GRADING PLAN

SCALE: 1" = 50'



NOTE: RECORDATION OF THE MCCANN PROPERTY PLAT WILL FORFEIT ANY RIGHT/USE TO THE EXISTING PRIVATE 40' R/W BY THE MCCANN PROPERTY.

STREET TREE SCHEDULE			
SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
(Symbol: Tree with 2 1/2" cal)	ACER PLATANOIDES HERALD QUEEN NORWAY MAPLE	2 1/2" - 3" CAL.	40' APART ON PUBLIC R/W
(Symbol: Tree with 2 1/2" cal)	PLATANUS X ACERIFOLIA BLOODGOOD LONDON PLANETREE	2 1/2" - 3" CAL.	40' APART ON PUBLIC R/W

NOTES: 1. STREET TREE TYPES ARE ONLY A RECOMMENDATION. THIS MAY BE REVISED TO A COUNTY ACCEPTABLE EQUIVALENT FROM THE LANDSCAPE MANUAL.
2. FINANCIAL SURETY FOR THE 40' REQUIRED STREET TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$85,600.00.

- 39 TREES MCCANN FARM ROAD
- 23 TREES SUSAN MARIE WAY



AS-BUILT CERTIFICATION
I Herby Certify That The Facility Shown On This Plan Was Constructed As Shown On The As-Built Plans And Meets The Approved Plans And Specifications.
Signature: _____
Date: 12/20/01

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not Mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Release Any Other Party From Meeting Requirements Imposed by Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

STONE OUTLET SEDIMENT TRAP No. 1

INITIAL DRAINAGE AREA = 140 AC.
FINAL DRAINAGE AREA = 2.00 AC.
WET STORAGE REQUIRED = 3,600 CUFT.
WET STORAGE PROVIDED = 5,400 CUFT.
WET STORAGE ELEVATION = 595.00
DRY STORAGE REQUIRED = 3,600 CUFT.
DRY STORAGE PROVIDED = 7,500 CUFT.
DRY STORAGE ELEVATION = 597.00
SIDE SLOPES: 3:1
BOTTOM ELEV. = 593.00
STORAGE DEPTH = 2.0'
WEIR LENGTH = 10'
TOP OF EMBANKMENT ELEV. = 598.00
SINCE D.A. ≤ 2.0 AC., NO TEMP. SWM REQUIRED
NOTE: SEE FINAL GRADING OF SHALLOW MARSH AND STORM DRAIN OUTFALLS, THIS SHEET

By The Developer:
I/We Certify That All Development And/Or Construction Will Be Done According To These Plans And That The 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 Licensed 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: _____
Date: 12/20/01

By The Engineer:
I Certify That This Plan For Pond Construction, Erosion And Sediment Control Represents A Practical And Feasible Solution 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 Supervised Construction And I Have/We Must Engage A Registered Professional Engineer To Provide The Howard Soil Conservation District With An "As-Built" Plan Within 30 Days Of Completion.
Signature: _____
Date: 12/20/01

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: _____
Date: 1/4/02

USDA Natural Resources Conservation Service
These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.
Signature: _____
Date: 1/4/02

Approved Department Of Public Works
Signature: _____
Date: 3/21/02

Approved Department Of Planning And Zoning
Signature: _____
Date: 3/28/02

Chief, Division Of Land Development
Signature: _____
Date: 3/25/02

Chief, Development Engineering Division

NON-BUILDABLE PRESERVATION PARCEL "D"
(2,354 AC. ±)

NON-BUILDABLE PRESERVATION PARCEL "A"
(6,631 AC. ±)

LEGEND
..... DENOTES PHASE I LIMIT OF DISTURBANCE
- - - - - DENOTES PHASE II LIMIT OF DISTURBANCE

PLAN
SCALE: 1" = 50'

No	Revision	Date
1	Add a private easement for an entry monument and appurtenances.	5/21/02

STREET TREE, GRADING & SEDIMENT CONTROL PLAN
MCCANN PROPERTY
LOTS 1 THRU 16 AND
PRESERVATION PARCELS "A" THRU "E"
ZONING: RC-DEO
TAX MAP No. 8, PARCEL No. 76, GRID No. 16
FOURTH ELECTRIC DISTRICT - HOWARD COUNTY, MARYLAND
DATE: DECEMBER 20, 2001
SHEET 6 OF 15
F 01-105

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10722 BALTIMORE NATIONAL PKE
ELICOTT CITY, MARYLAND 21042
(410) 481-2055

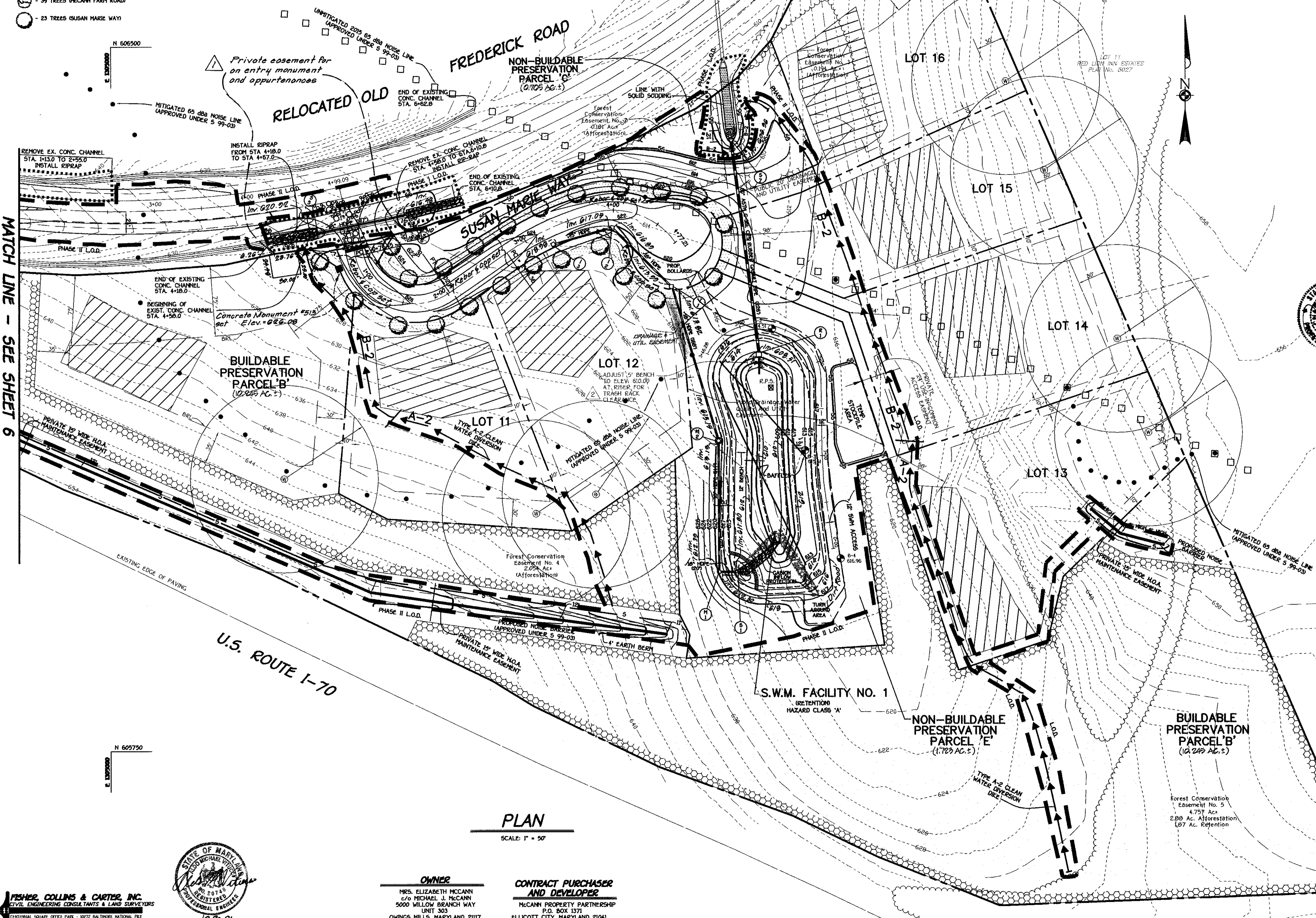
OWNER
MRS. ELIZABETH MCCANN
C/O MICHAEL J. MCCANN
5000 WILLOW BRANCH WAY
UNIT 303
OWINGS MILLS, MARYLAND 21117

CONTRACT PURCHASER AND DEVELOPER
MCCANN PROPERTY PARTNERSHIP
P.O. BOX 1371
ELICOTT CITY, MARYLAND 21041

STREET TREE SCHEDULE			
SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
①	ACER PLATANOIDES "EMERALD QUEEN" NORWAY MAPLE	2 1/2"-3" CAL.	40' APART ON PUBLIC R/W
②	PLATANUS X ACERIFOLIA "BLOODGOOD" LONDON PLANETREE	2 1/2"-3" CAL.	40' APART ON PUBLIC R/W

NOTES:
1. STREET TREE TYPES ARE ONLY A RECOMMENDATION. THIS MAY BE REVISED TO A COUNTY ACCEPTABLE EQUIVALENT FROM THE LANDSCAPE MANUAL.
2. FINANCIAL SURETY FOR THE 62 REQUIRED STREET TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$18,600.00.

- ③ - 39 TREES (McCANN FARM ROAD)
- ④ - 23 TREES (SUSAN MARIE WAY)



MATCH LINE - SEE SHEET 6

PLAN
SCALE: 1" = 50'

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 of Developer: *Charles O. Collins* Date: 12/20/01
Printed Name of Developer: CHARLES O. COLLINS

By The Engineer:
I Certify That This Pond Construction Erosion And Sediment Control Represents A Practical And Workable Plan, 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 Howard Soil Conservation District That 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.

Signature of Engineer: *Michael J. McCann* Date: 12/20/01
Printed Name of Engineer: MICHAEL J. MCCANN

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: *John A. ...* Date: 1/9/02
USDA-Natural Resources Conservation Service

Signature: *Richard M. ...* Date: 3/21/02
Approved Department of Public Works, Chief, Bureau of Highways

Signature: *...* Date: 3/21/02
Approved Department of Planning And Zoning, Chief, Division of Land Development

Signature: *...* Date: 3/25/02
Chief, Development Engineering Division

AS-BUILT CERTIFICATION
I Herby Certify That The Facility Shown On This Plan Was Constructed As/Shown On The "As-Built" Plans And Meets The Approved Plans And Specifications.

Signature: *...* Date: 3/16/04
P.E. No. 31164

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 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.

TEMPORARY SEDIMENT BASIN SCHEDULE

INITIAL D.A. = 8.89 AC.
FINAL D.A. = 9.43 AC.
STORAGE REQUIRED:
WET = 1800 x 943 = 16,974 CUFT.
DRY = 1800 x 943 = 16,974 CUFT.
STORAGE PROVIDED:
WET = 16,974 CUFT. AT ELEV. = 618.64
DRY = 20,000 CUFT. AT ELEV. = 613.20
BOTTOM ELEV. = 609.00
STORAGE DEPTH = 4.20'
SIDE SLOPES = 3:1
TOP OF EMBANKMENT = 617.00
CLEAN-OUT ELEV. = 610.63
TEMP. 2 YR. WEIR CREST = 613.20
TEMP. 10 YR. WEIR CREST = 614.20
Q2 EXISTING = 6.0 CFS
Q2 PROPOSED = 2.1 c.f.s AT ELEV. 613.37

No.	Revision	Date
1	Add a private easement for an entry monument and appurtenances	5/20/03
2	REMOVE HALF ROUND CMP PIPE HOOD AND EXTEND TRASH RACK TO COVER 12" LOW FLOW PIPE. ADJUST BENCH ELEV. AT RISK.	12/15/04

LEGEND

----- DENOTES PHASE I LIMIT OF DISTURBANCE

———— DENOTES PHASE II LIMIT OF DISTURBANCE

STREET TREE, GRADING & SEDIMENT CONTROL PLAN
McCANN PROPERTY
LOTS 1 THRU 16 AND PRESERVATION PARCELS 'A' THRU 'E'

ZONING RC-DEO
PARCEL No. 78 GRID No. 16
TAX MAP No. 14
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: DECEMBER 20, 2001
SHEET 7 OF 15

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 3072 BALTIMORE NATIONAL FILE
ELLCOTT CITY, MARYLAND 21117
410-461-2095



OWNER
MRS. ELIZABETH MCCANN
c/o MICHAEL J. MCCANN
5000 WILLOW BRANCH WAY
UNIT 303
OWINGS MILLS, MARYLAND 21117

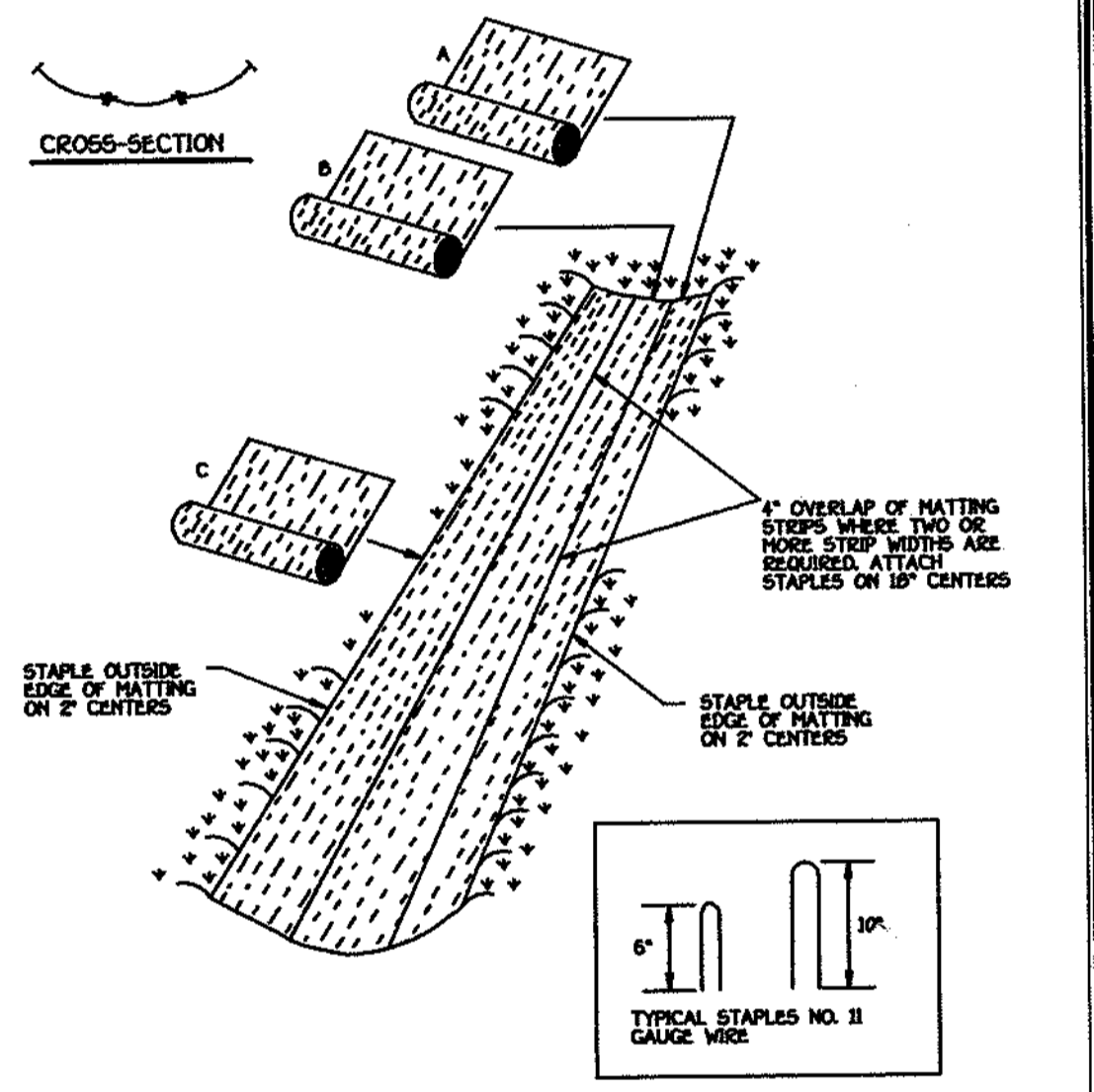
CONTRACT PURCHASER AND DEVELOPER
McCANN PROPERTY PARTNERSHIP
P.O. BOX 1371
ELLCOTT CITY, MARYLAND 21041

ENGINEER'S CERTIFICATE
 I Herewith Certify that this Plan for Erosion and Sediment Control Measures is a Reasonable Plan Based On My Personal Knowledge Of The Site and The Conditions Therein. It Was Prepared In Accordance With The Requirements of the Howard Soil Conservation District.
 Signature: [Signature] Date: 12-22-01

DEVELOPER'S CERTIFICATE
 I/We Certify That All Development And Construction Will Be Done According To This Plan Of Development And Plan For Erosion And Sediment Control And That All 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 Sediment And Erosion Before Beginning The Project. I Also Authorize Periodic On-Site Inspection By The Howard Soil Conservation District Or Their Authorized Agents, As Are Deemed Necessary.
 Signature Of Developer: [Signature] Date: [Blank]

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.
 U.S.D.A. Natural Resources Conservation Service: [Signature] 1/4/02 Date
 Approved This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.
 District Howard Soil Conservation Dist.: [Signature] 1/4/02 Date
 Approved Department Of Planning And Zoning: [Signature] 3/28/02 Date
 Chief, Division Of Land Development: [Signature] 3/25/02 Date
 Chief, Development Engineering Division: [Signature] MLC
 Approved Howard County Department Of Public Works: [Signature] 3-21-02 Date
 Chief, Bureau Of Highways: [Signature] MS

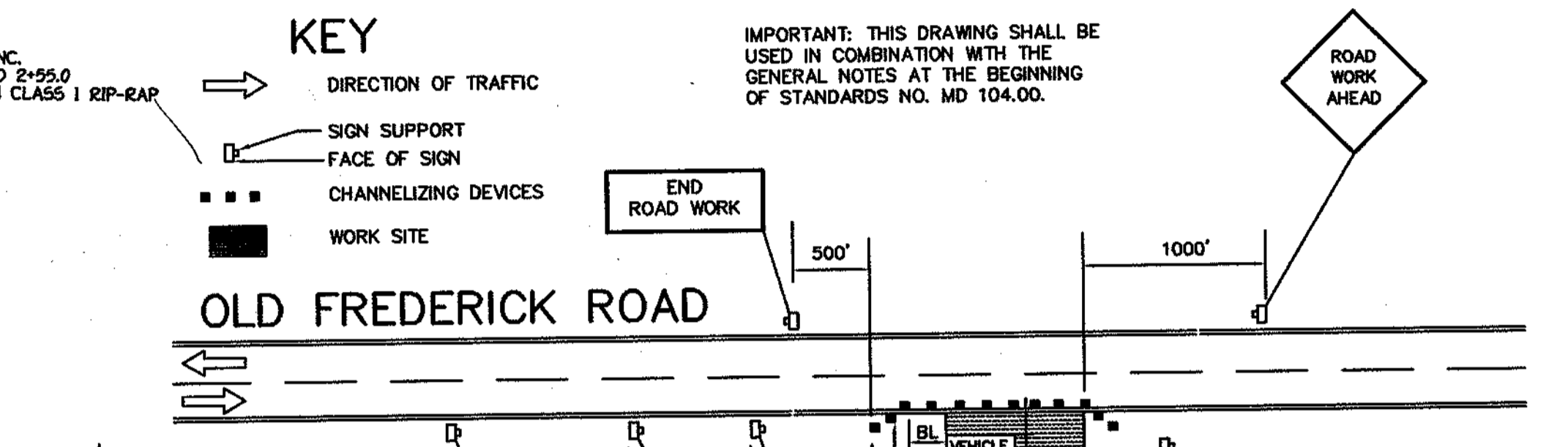
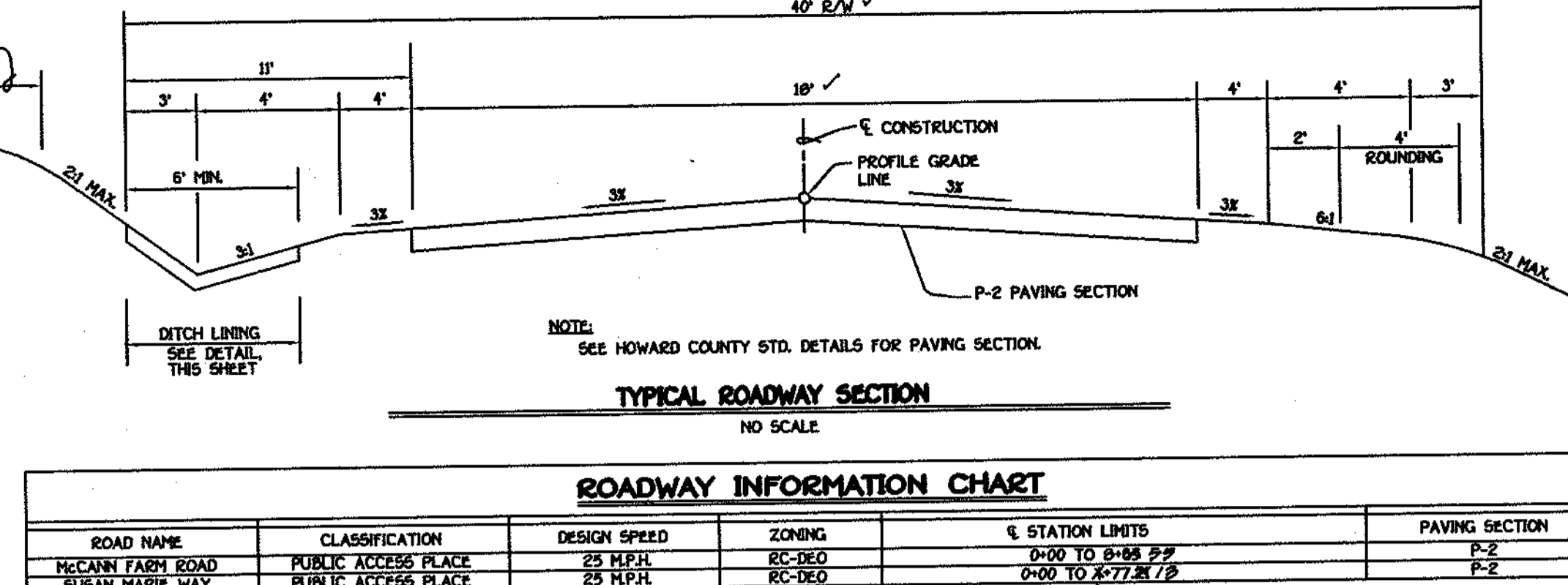
EROSION CONTROL MATTING



1. Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth, inside the trench and tamping firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".
 2. Staple the 4" overlap in the channel center using an 18" spacing between staples.
 3. Before slipping the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
 4. Staples shall be placed 2" apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.
 5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", slip-staple fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
 6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples.
- Note: If flow will enter from the edge of the matting then the area affected by the flow must be kept-in.

No.	Revisions	Date
1	Add a private easement for an entry monument and appurtenances	5-28-03

SEDIMENT CONTROL PLAN AND DETAIL SHEET
McCANN PROPERTY
 LOTS 1 THRU 16 AND PRESERVATION PARCELS 'A' THRU 'E'
 ZONING RC-20
 TAX MAP NO. 8 PARCEL NO. 78 GRID NO. 16
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATED: DECEMBER 20, 2001
 SHEET 8 OF 15
 F-01-105



GENERAL
 1. THE PURPOSE OF THIS PORTION OF THE SPECIAL PROVISION IS TO SET FOR THE TRAFFIC CONTROL REQUIREMENTS NECESSARY FOR THE SAFE AND EFFICIENT MAINTENANCE TO TRAFFIC WITHIN WORK AREAS AND TO MINIMIZE ANY INCONVENIENCES TO THE TRAVELING PUBLIC AND THE CONTRACTOR AND/OR PERMITTEE.
 2. PROPER TRAFFIC CONTROL THROUGH WORK AREAS IS ESSENTIAL FOR ENSURING THE SAFETY AND THAT OF HIGHWAY WORKERS HAS THE HIGHEST PRIORITY OF ALL TASKS WITHIN THIS PROJECT. THE PROPER APPLICATION OF THE APPROVED TRAFFIC CONTROL PLAN (TCP) WILL PROVIDE THE DESIRED LEVEL OF SAFETY.
 3. THROUGHOUT THESE SPECIAL PROVISIONS, ANY MENTION OF THE TCP SHALL BE IMPLIED TO INCLUDE ANY COMBINATION OF TYPICAL TRAFFIC CONTROL STANDARDS WHICH FORM THE OVERALL TCP FOR THIS PROJECT WHICH HAS BEEN APPROVED BY THE APPROPRIATE SHA TRAFFIC ENGINEER.
 4. THE CONTRACTOR AND/OR PERMITTEE SHALL BE REQUIRED TO ADHERE TO THE PROVISIONS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 1999 EDITION, ESPECIALLY PART VI, AND TO SECTION 614 OF THE MARYLAND DOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (JANUARY, 1998), INCLUDING ALL REVISIONS AND SUPPLEMENTS TO EACH.
 5. THE CONTRACTOR AND/OR PERMITTEE SHALL BE REQUIRED TO ADHERE TO THE REQUIREMENTS SET FORTH IN THE TCP AND THESE SPECIAL PROVISIONS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ANY REQUESTS TO MAKE WORK CHANGES TO THE TCP OR THE SPECIAL PROVISIONS WITH REGARD TO THE TRAFFIC CONTROL ITEMS SHALL BE MADE IN WRITING TO THE ENGINEER A MINIMUM OF THREE WORKING DAYS PRIOR TO THE PROPOSED SCHEDULING CHANGE. THE CONTRACTOR AND/OR PERMITTEE SHALL HAVE WRITTEN APPROVAL OF THE ENGINEER PRIOR TO THE IMPLEMENTATION OF ANY CHANGE.
 6. NO WORK SHALL BEGIN ON ANY WORK ACTIVITY OR WORK PHASE UNTIL ALL REQUIRED TRAFFIC CONTROL PATTERNS AND DEVICES INDICATED ON THE TCP FOR THAT ACTIVITY OR PHASE ARE COMPLETELY AND CORRECTLY IN PLACE TO HAVE BEEN CHECKED FOR APPROVED USAGE.
 7. GENERAL AND SPECIFIC WARNING SIGNS SHALL ONLY BE IN PLACE WHEN SPECIFIC WORK TASKS AND ACTIVITIES ARE ACTUALLY UNDERWAY OR CONDITIONS EXIST THAT POSE A POTENTIAL HAZARD TO THE PUBLIC AND ANY ADDITIONAL SIGNING HAS BEEN APPROVED BY THE APPROPRIATE SHA TRAFFIC ENGINEER. NOTE: THE PRACTICE OF PLACING SIGNING AND APPROPRIATE SHA TRAFFIC CONTROL DEVICES IN ADDITION TO THOSE INDICATED ON THE APPROVED TCP IS NOT PERMITTED.
 8. THE CONTRACTOR AND/OR PERMITTEE SHALL PROVIDE, MAINTAIN IN BEST CONDITION, AND MOVE WHEN NECESSARY, OR AS DIRECTED BY THE ENGINEER, ALL TRAFFIC CONTROL DEVICES USED FOR THE GUIDANCE AND PROTECTION OF MOTORISTS, PEDESTRIANS, AND WORKERS.
 9. ALL TRAFFIC CONTROL DEVICES REQUIRED BY THE TCP SHALL BE KEPT IN GOOD CONDITION, FULLY PERFORMING AS SPECIFIED IN THE TCP, THE MUTCD, AND/OR SECTION 614 OF THE SPECIFICATIONS. FOR REFLECTIVE DEVICES, A PARTICULAR DEVICE IS ASSIGNED TO HAVE FAILED TO MEET MINIMUM OPERATIONAL STANDARDS WHEN THE DEVICE NO LONGER HAS RETRO-REFLECTANCE CAPABILITY OF AT LEAST 50% OF THE SPECIFIED MINIMUM VALUE OVER AT LEAST 50% OF THE VISIBLE REFLECTIVE SURFACE.
 10. ALL TRAFFIC CONTROL DEVICES NOT REQUIRED FOR THE SAFE CONDUCT OF TRAFFIC SHALL BE PROMPTLY REMOVED, COMPLETELY COVERED, TURNED AWAY FROM TRAFFIC, OR OTHERWISE TAKEN OUT OF SERVICE. IT IS INTENDED THAT NO TRAFFIC CONTROL DEVICE IS TO BE IN SERVICE WHEN THERE IS NO CLEAR CUT REASON FOR THE DEVICE.
 11. THROUGHOUT THE PERIODS OF WORK ACTIVITIES, TRAFFIC SHALL BE MAINTAINED BY IMPLEMENTING THE APPROVED TCP. IN LIEU OF THE MUTCD AND/OR PRESCRIBED BY THE ADMINISTRATION, THE TCP DEVELOPED BY THE CONTRACTOR AND/OR PERMITTEE SHALL NOT BE IMPLEMENTED UNTIL ADVANCE WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. TCP'S MAY BE IMPLEMENTED WITHIN A SINGLE PROJECT OR CONJOINTLY IMPLEMENTED WITH TWO OR MORE PROJECTS. IN SITUATIONS WHERE TCP'S JOINTLY IMPLEMENTED, CARE SHALL BE EXERCISED TO PRESENT CORRECT AND NON-CONFLICTING GUIDANCE TO THE TRAVELING PUBLIC.
 12. THROUGHOUT THESE SPECIAL PROVISIONS, WHERE SPEED OF TRAFFIC IS NOTED, THIS MEANS THE POSTED SPEED OR PREVAILING TRAVEL SPEED, WHICHEVER IS HIGHER, UNLESS OTHERWISE NOTED.
 13. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT, WITH NO TRAVEL LANE CLOSURES OTHER THAN THOSE DESIGNATED FOR POSSIBLE CLOSURE IN THE TCP SHALL BE CLOSED WITHOUT OBTAINING PRIOR APPROVAL FROM THE ENGINEER. ALL WORK AND ACCESS TO THE WORK AREA BY THE CONTRACTOR AND/OR PERMITTEE SHALL BE PERFORMED WITH THE FLOW OF TRAFFIC.

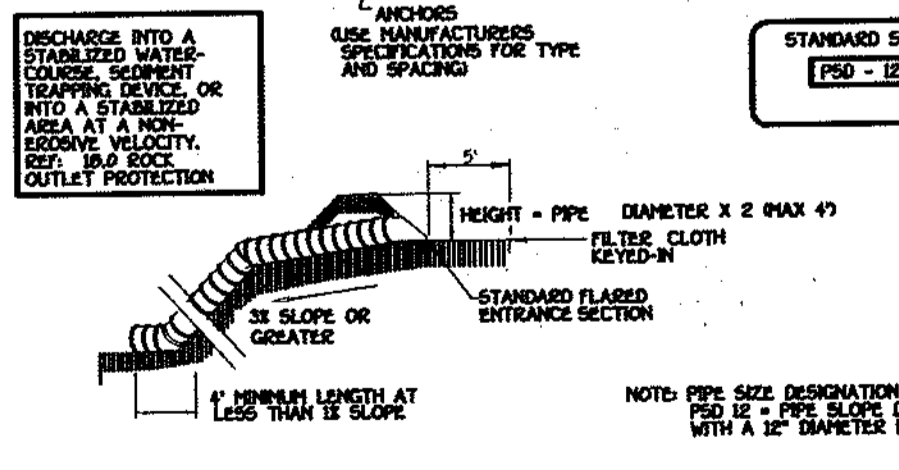
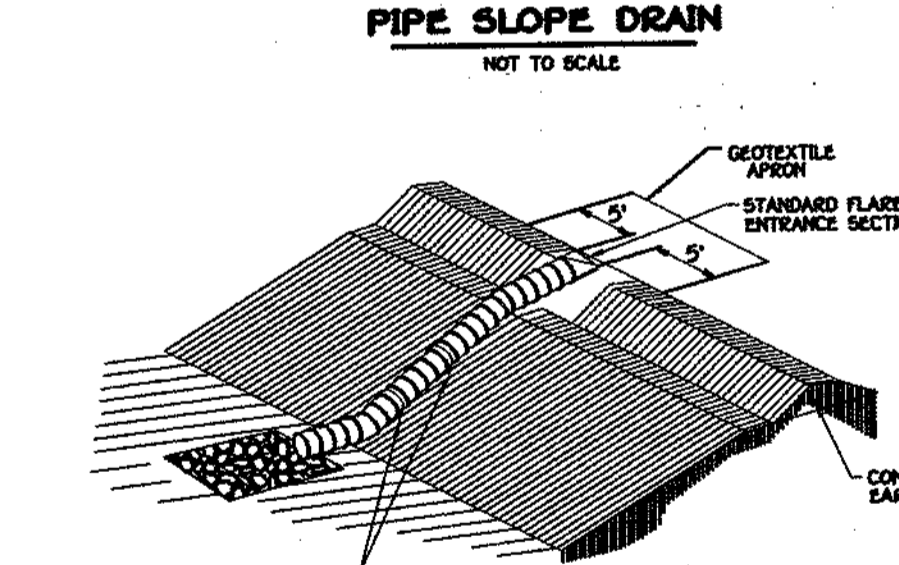
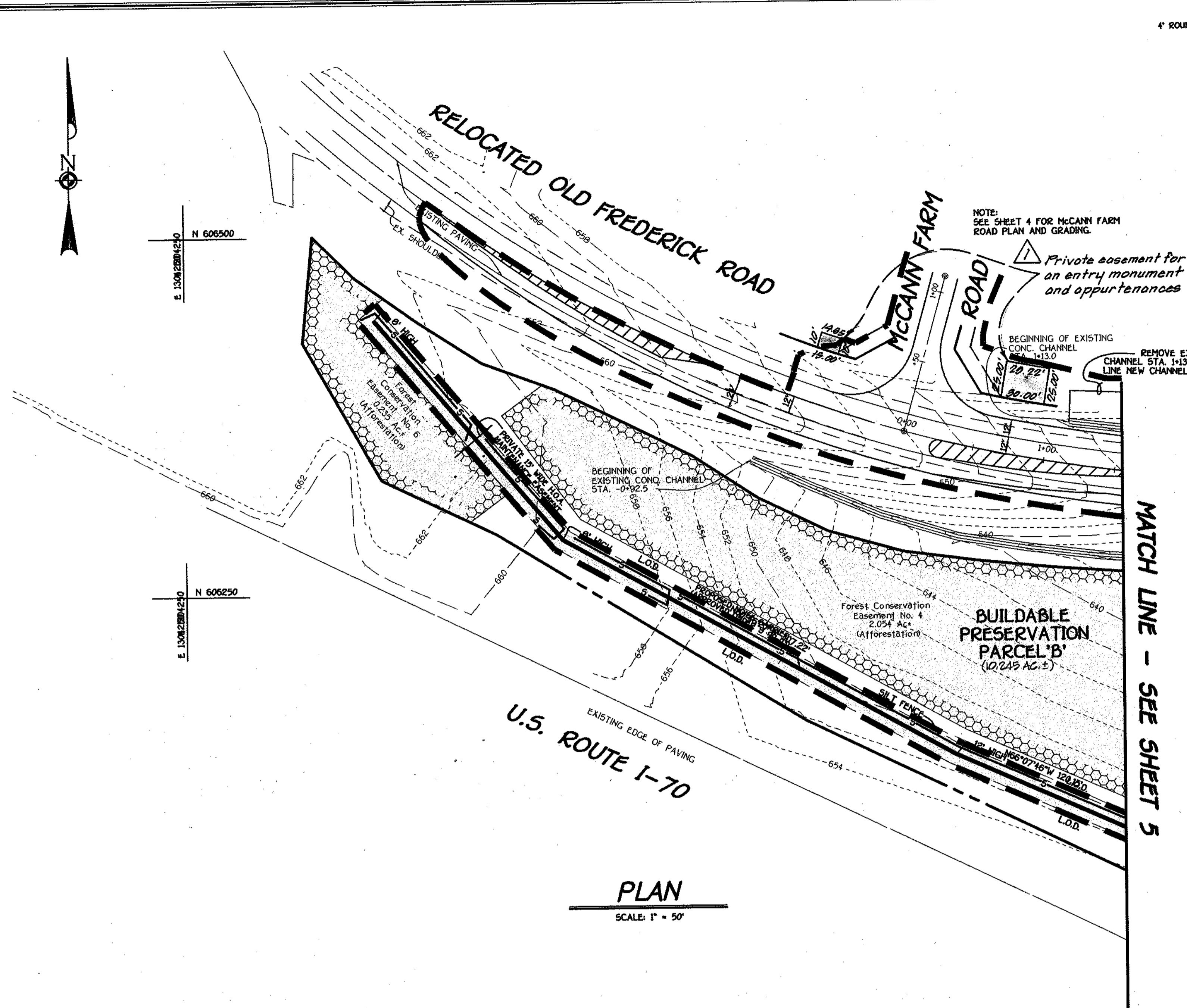
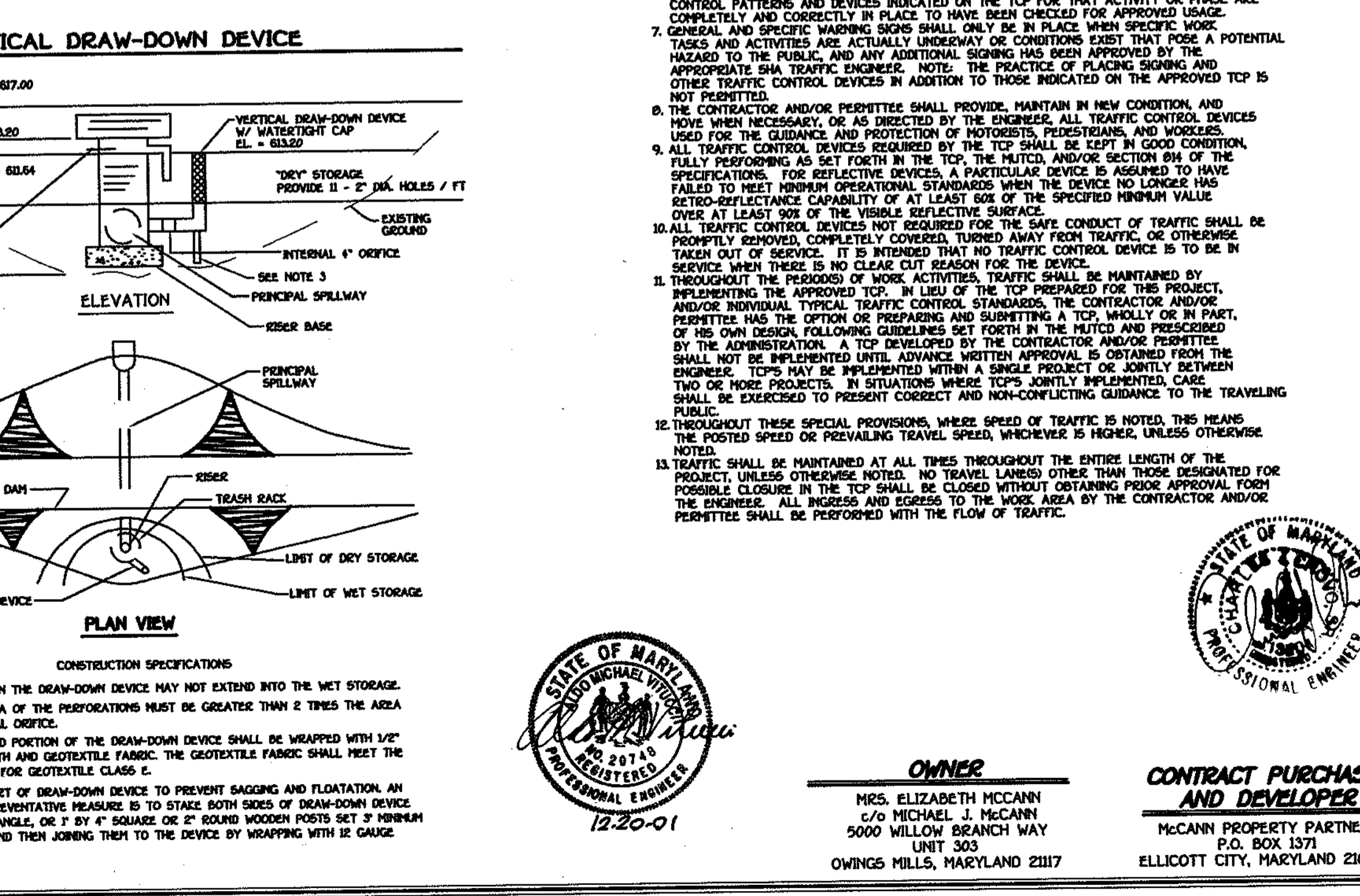
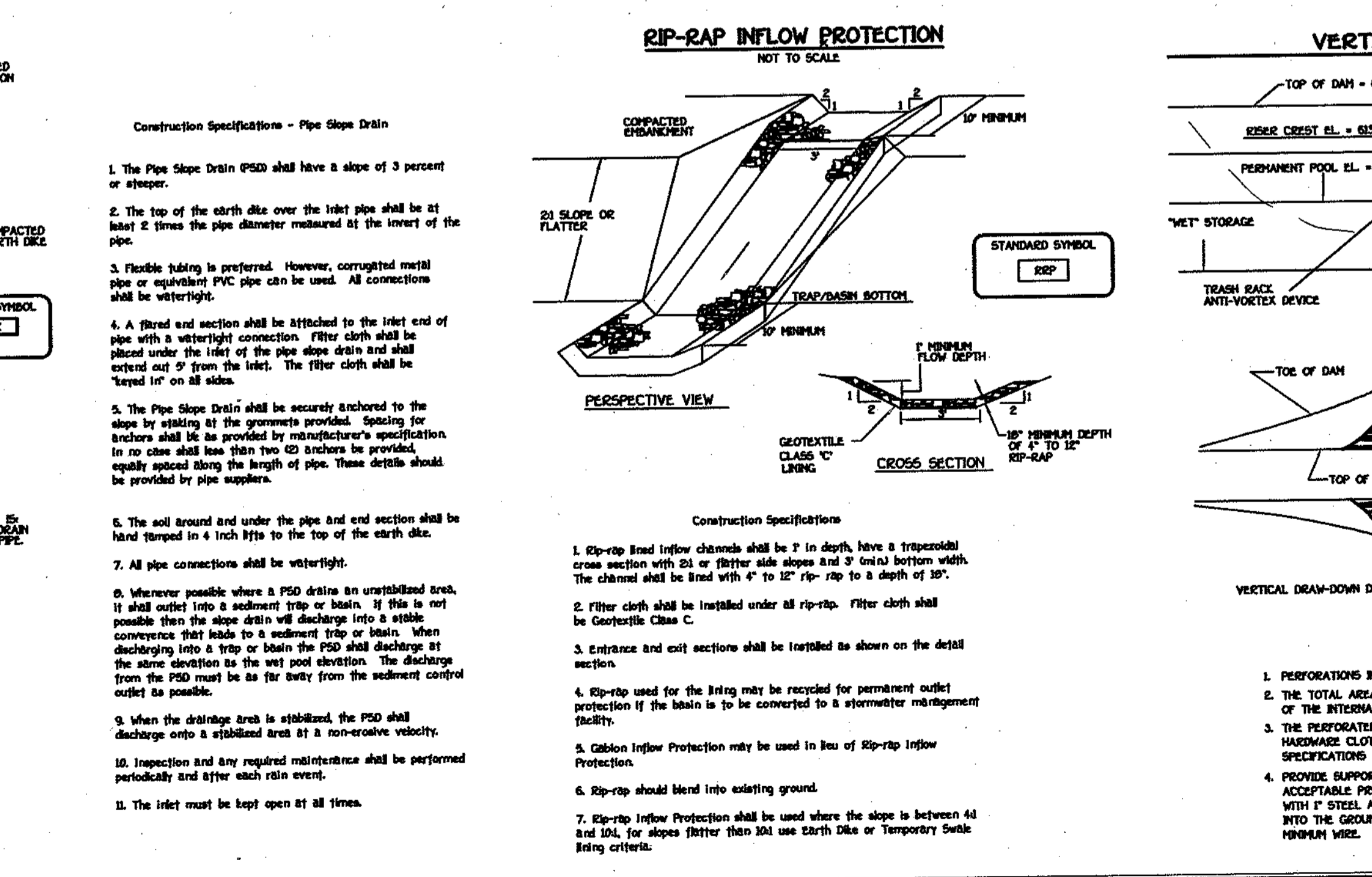


Table 6 Design Criteria for Pipe Slope Drain

Size	Pipe/Tubing Diameter (in)	Minimum Drainage Area (Acres)
PSD-1E	12	0.5
PSD-1D	16	1.5
PSD-2E	24	2.5
PSD-2D	24	5.0
PSD-24	24	5.0
PSD-24	24	5.0



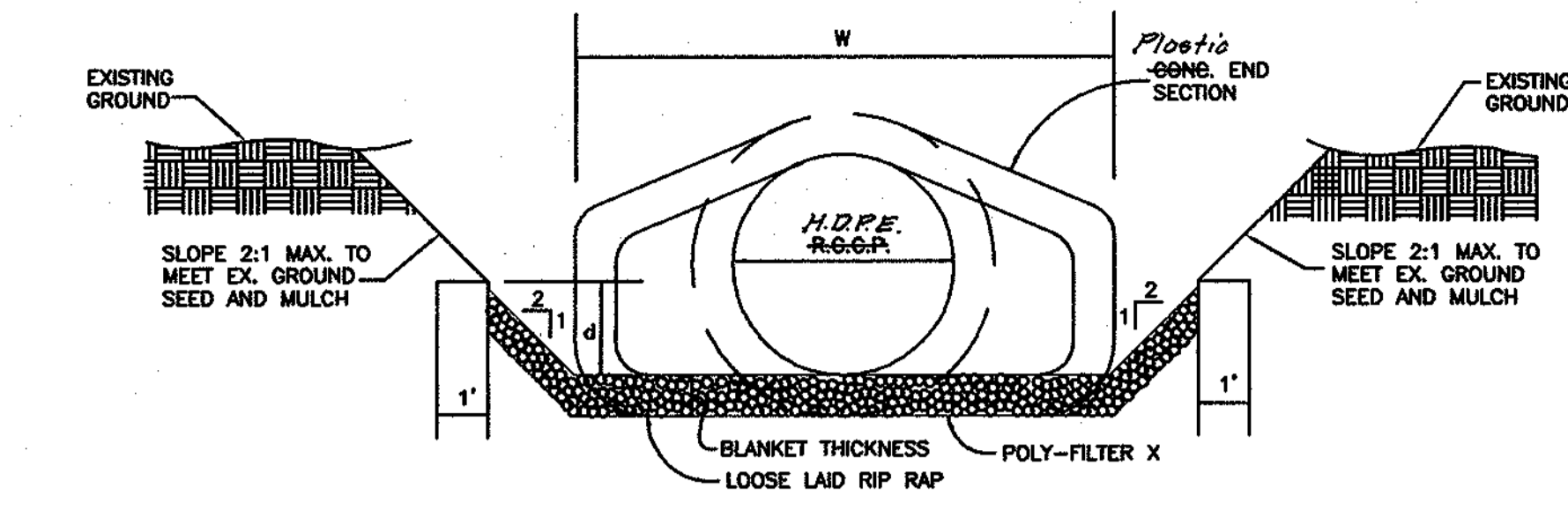
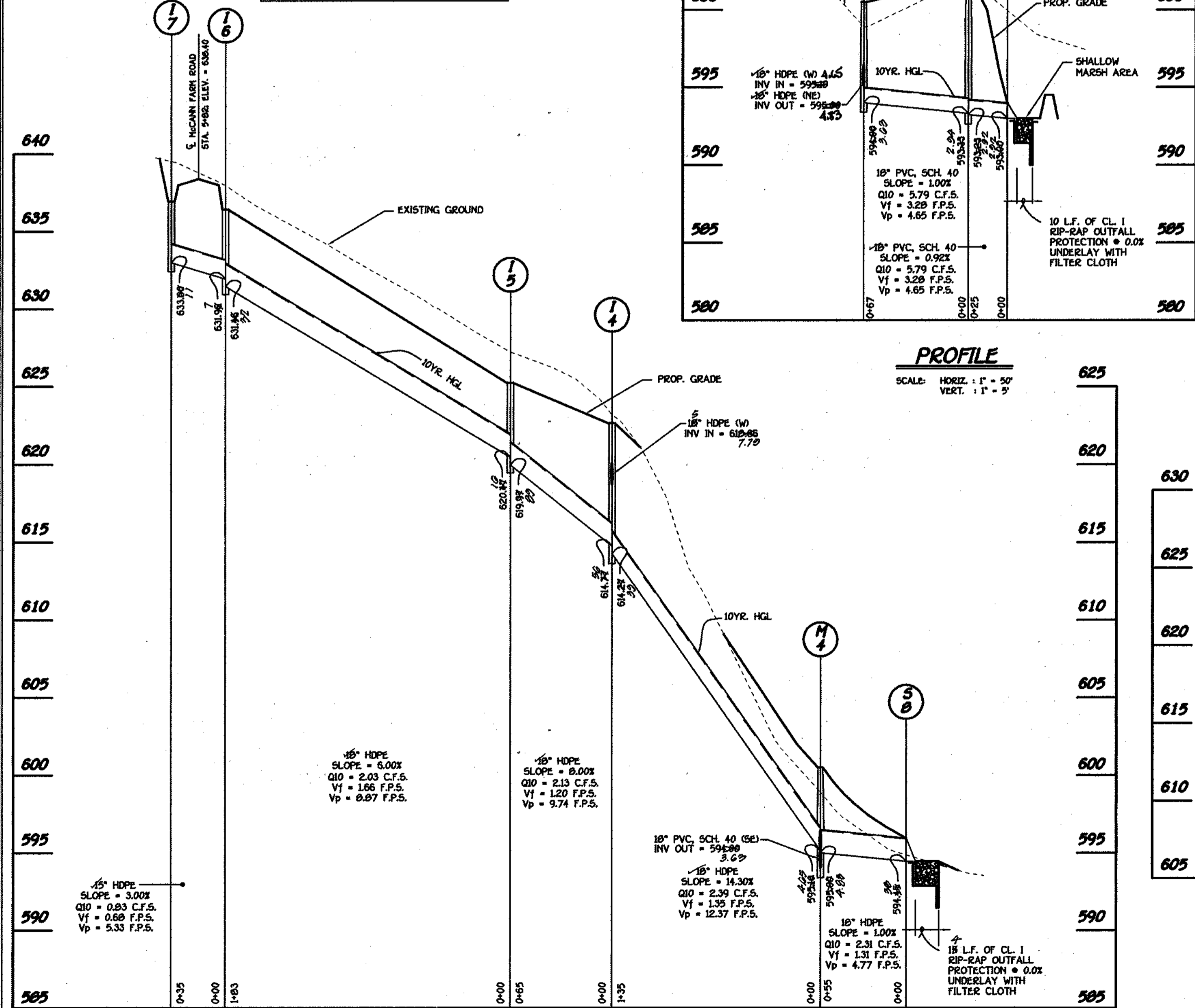
STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INV. IN	INV. OUT	ROAD NAME	ROAD STA.	OFFSET	TYPE	REMARKS
I-1	K 617.94 0.0	618.02 9.99	618.02 9.99	SUSAN MARIE WAY	L.P. STA. 2+22.80M	011.7	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
I-2	K 620.92 7.2	617.08 9	616.98 9	SUSAN MARIE WAY	L.P. STA. 3+16	011.7	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
I-3	K 622.32 0.7	619.00 8.98	619.00 8.98	SUSAN MARIE WAY	CL. STA. 3+25	17.0	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
I-4	K 622.65 9.09	614.72 618.95	614.82 9.9	MCCANN FARM ROAD	CL. STA. 0+23	17.0	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
I-5	K 622.85 0.8	620.97 1.0	619.97 0.9	MCCANN FARM ROAD	CL. STA. 7+63	17.0	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
I-6	K 636.42 7.04	631.98 7	631.98 7	MCCANN FARM ROAD	CL. STA. 5+06	17.0	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
I-7	K 636.94 7.71	633.00 7	633.00 7	MCCANN FARM ROAD	CL. STA. 5+70	17.0	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
I-8	K 619.00 9.06	619.00 9.06	619.00 9.06	MCCANN FARM ROAD	CL. STA. 0+23	17.0	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
M-1	618.00 9.2	612.96 9.0	612.96 0		N 100+99.99 9.77		STD. MANHOLE	G - 5.01
M-2	618.50 6.9	613.28 1.5	613.18 9		N 100+99.99 9.77		STD. MANHOLE	G - 5.01
M-3	602.00 9.0	593.00 2.94	593.00 2.94		N 100+99.99 9.77		STD. MANHOLE	G - 5.01
M-4	600.50 6.0	592.00 4.04	592.00 4.04		N 100+99.99 9.77		STD. MANHOLE	G - 5.01
R-1	64.30 0.4	609.00 6.0	608.78 5.1		N 100+99.99 9.77		CONC. RISER	
S-1	613.00 1.0	612.00 1.0	612.00 1.0		N 100+99.99 9.77		HOPE END SECTION	** A.D.S. FLARED END SECT.
S-2	594.00 4.2	593.00 2.92	593.00 2.92		N 100+99.99 9.77		HOPE END SECTION	** A.D.S. FLARED END SECT.
S-3	649.00 8.1	648.78 5.0	648.78 5.0	MCCANN FARM ROAD	CL. STA. 0+30	17.0	HOPE END SECTION	** A.D.S. FLARED END SECT.
S-4	647.85 0.6	648.00 5.81	648.00 5.81	MCCANN FARM ROAD	CL. STA. 0+30	17.0	HOPE END SECTION	** A.D.S. FLARED END SECT.
S-5	622.50 4.2	622.00 0.92	622.00 0.92	SUSAN MARIE WAY	CL. STA. 0+44	34.0	HOPE END SECTION	** A.D.S. FLARED END SECT.
S-6	618.42 7.08	616.84 4.0	616.84 4.0	SUSAN MARIE WAY	CL. STA. 0+44	34.0	HOPE END SECTION	** A.D.S. FLARED END SECT.
S-7	610.98 7.7	606.98 0	606.98 0		N 100+99.99 9.77		TYPE 'C' ENDWALL	S.D. 5.41
S-8	595.98 9.0	594.98 9.0	594.98 9.0		N 100+99.99 9.77		HOPE END SECTION	** A.D.S. FLARED END SECT.

* - DENOTES THROAT ELEVATION
 ** - A.D.S. - ADVANCED DRAINAGE SYSTEMS
 LONDON, OHIO
 1-800-733-9994

PIPE SCHEDULE

SIZE	CLASS	LENGTH
15"	HDPE	221'
18"	HDPE	956'
18"	PVC SCH. 40	92'
30"	ASTM C-308 CPVC RUBBER GASKET PIPE	226'



RIP-RAP CHANNEL DESIGN DATA

STRUCTURE	AREA	WETTED PERIMETER	R	R 2/3	S	S 1/2	W	d	N	V (F.P.S.)	Q (C.F.S.)	RIP-RAP SIZE	BLANKET THICKNESS	DIA.
S-1	3.19	6.21	0.5137	0.8414	0.005	0.0707	3.0	0.72	0.04	1.68	5.37	9.5" 14"	19"	18"
S-4	2.29	5.49	0.4171	0.5583	0.005	0.0707	3.0	0.56	0.04	1.47	3.35	9.5" 14"	19"	15"
S-6	4.46	7.12	0.6264	0.7321	0.005	0.0707	3.0	0.92	0.04	1.92	8.57	9.5" 14"	19"	18"
S-8	1.77	5.02	0.3526	0.4991	0.005	0.0707	3.0	0.45	0.04	1.31	2.31	9.5" 14"	19"	18"

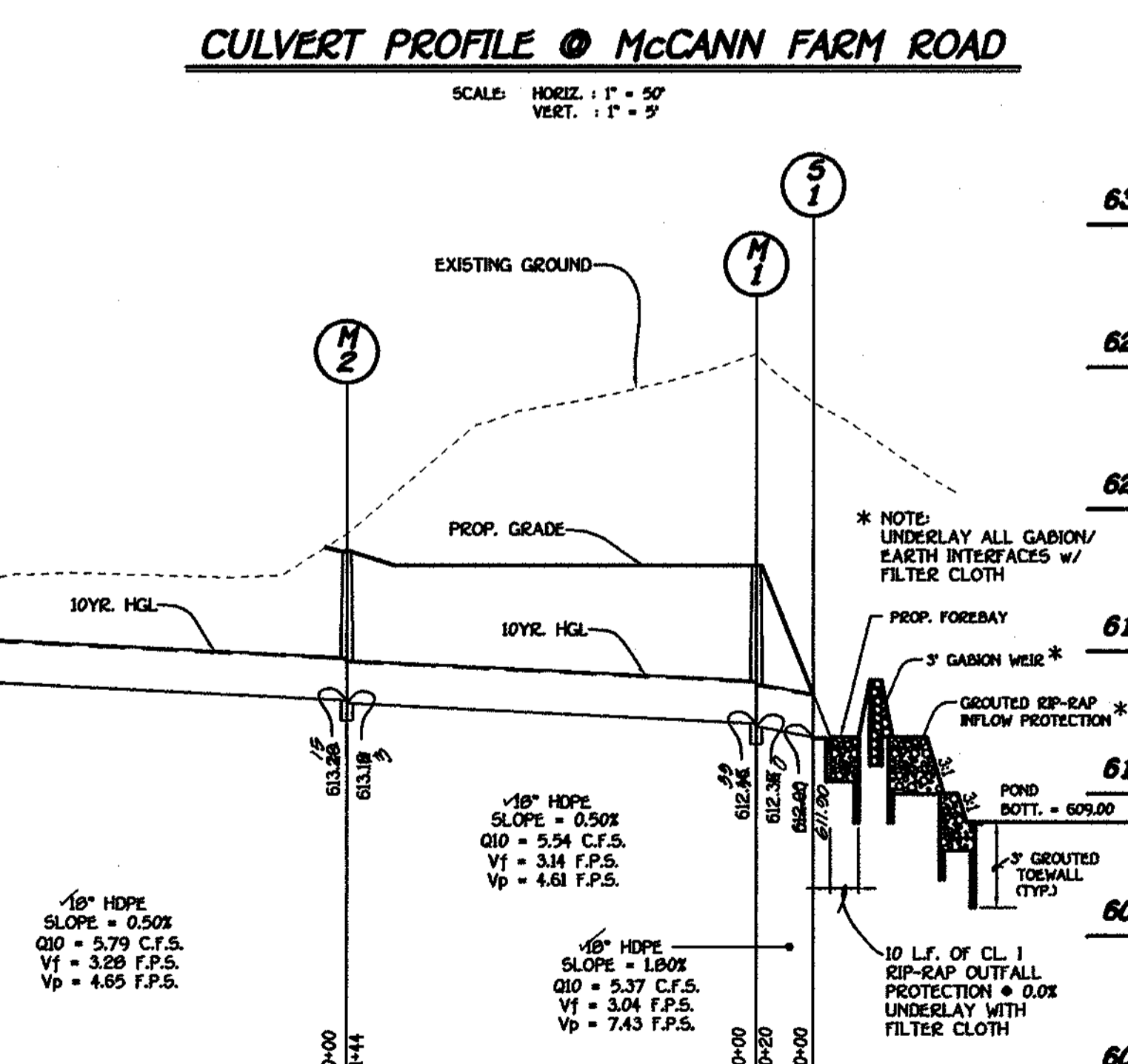
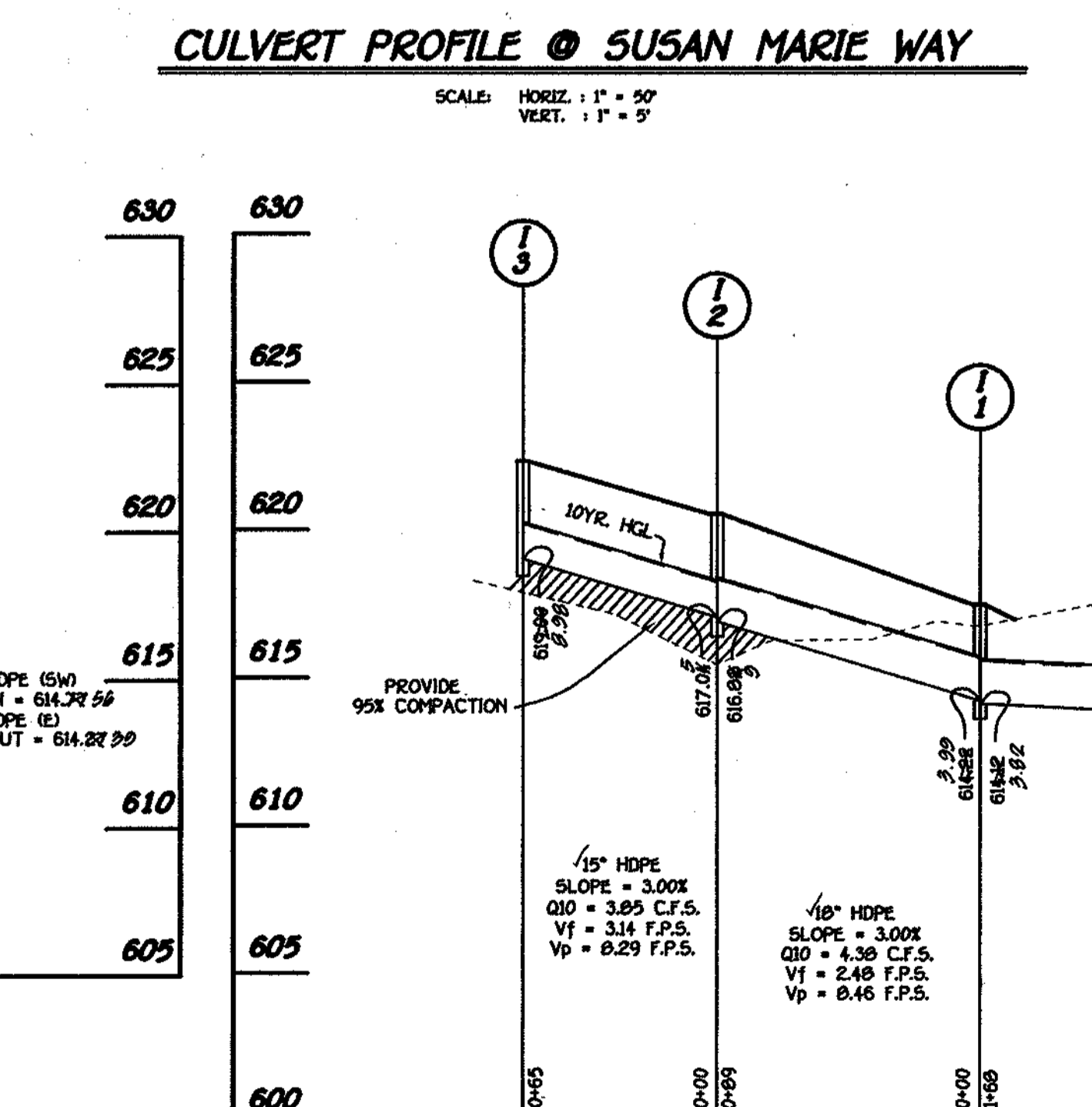
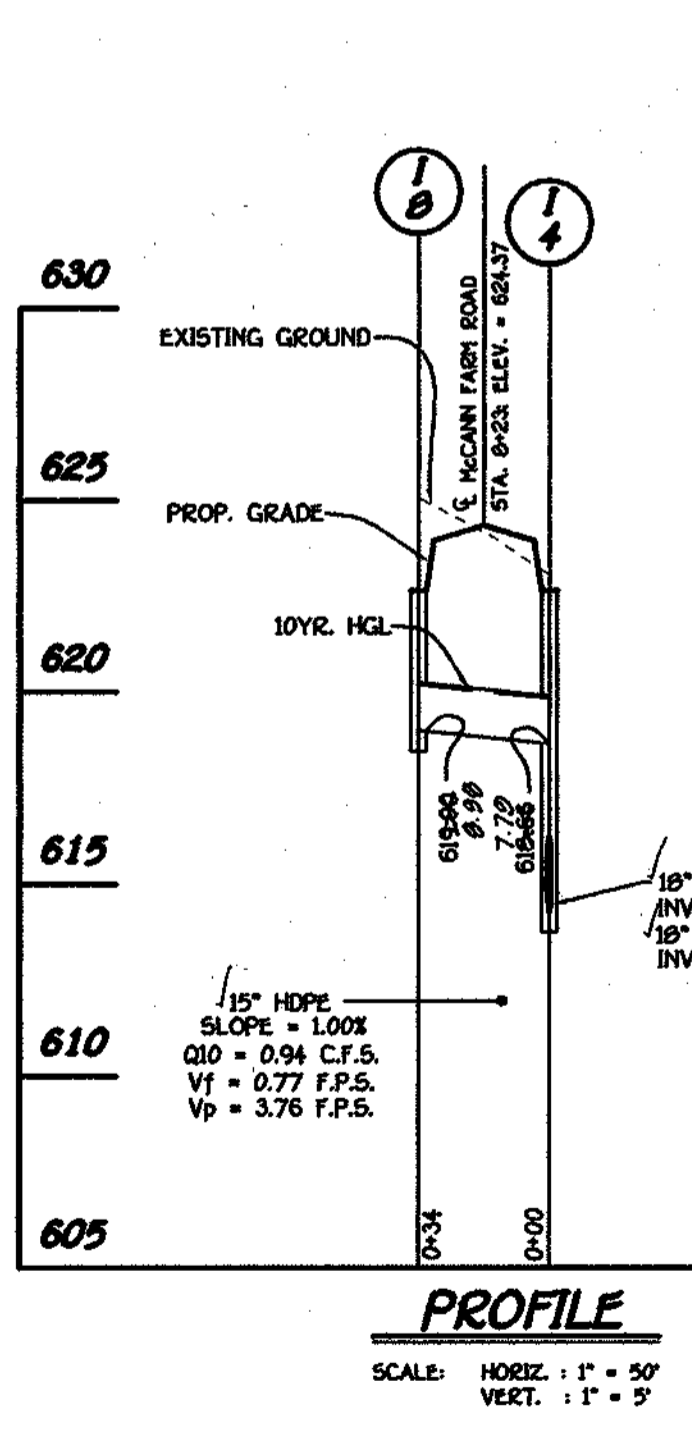
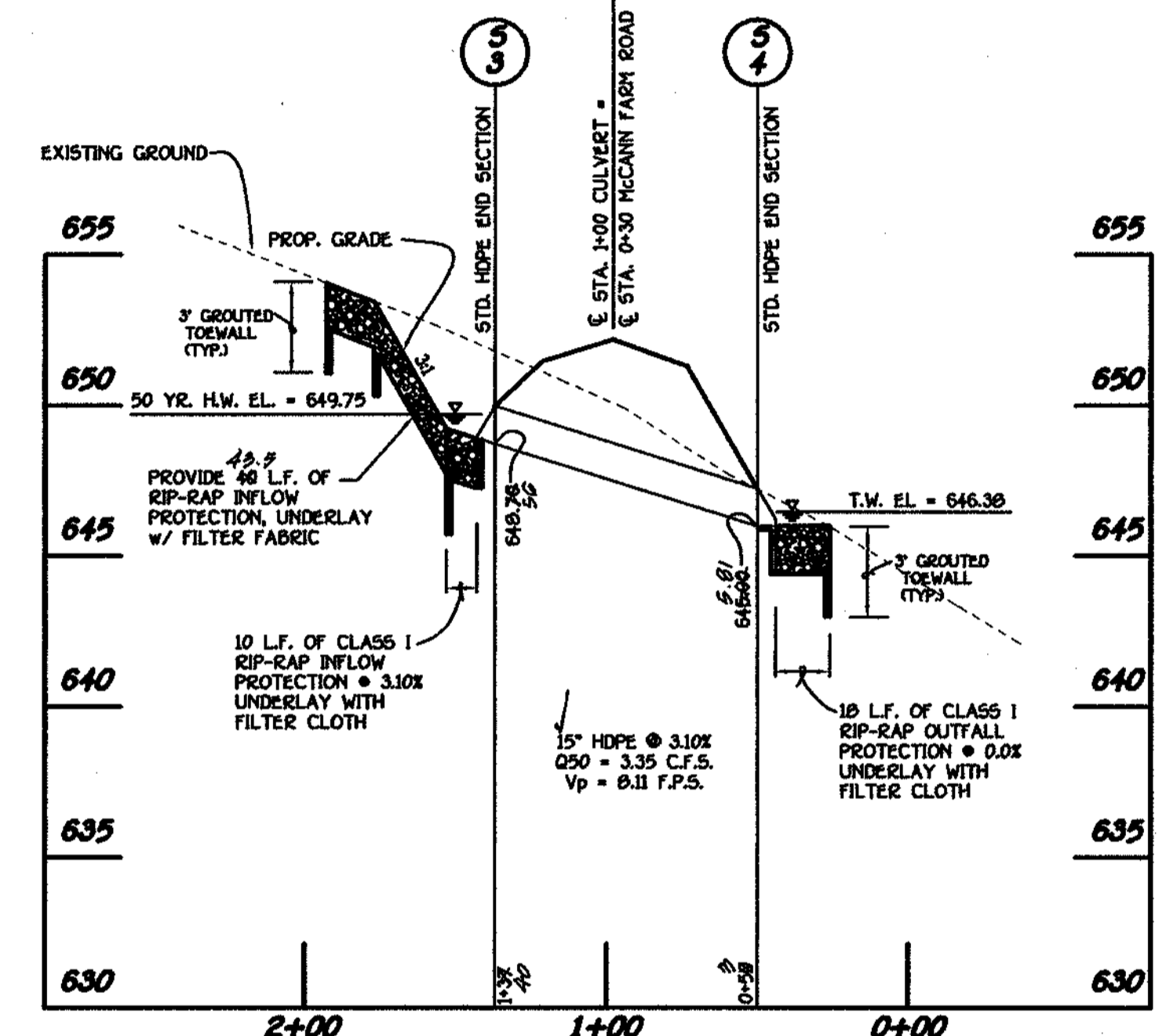
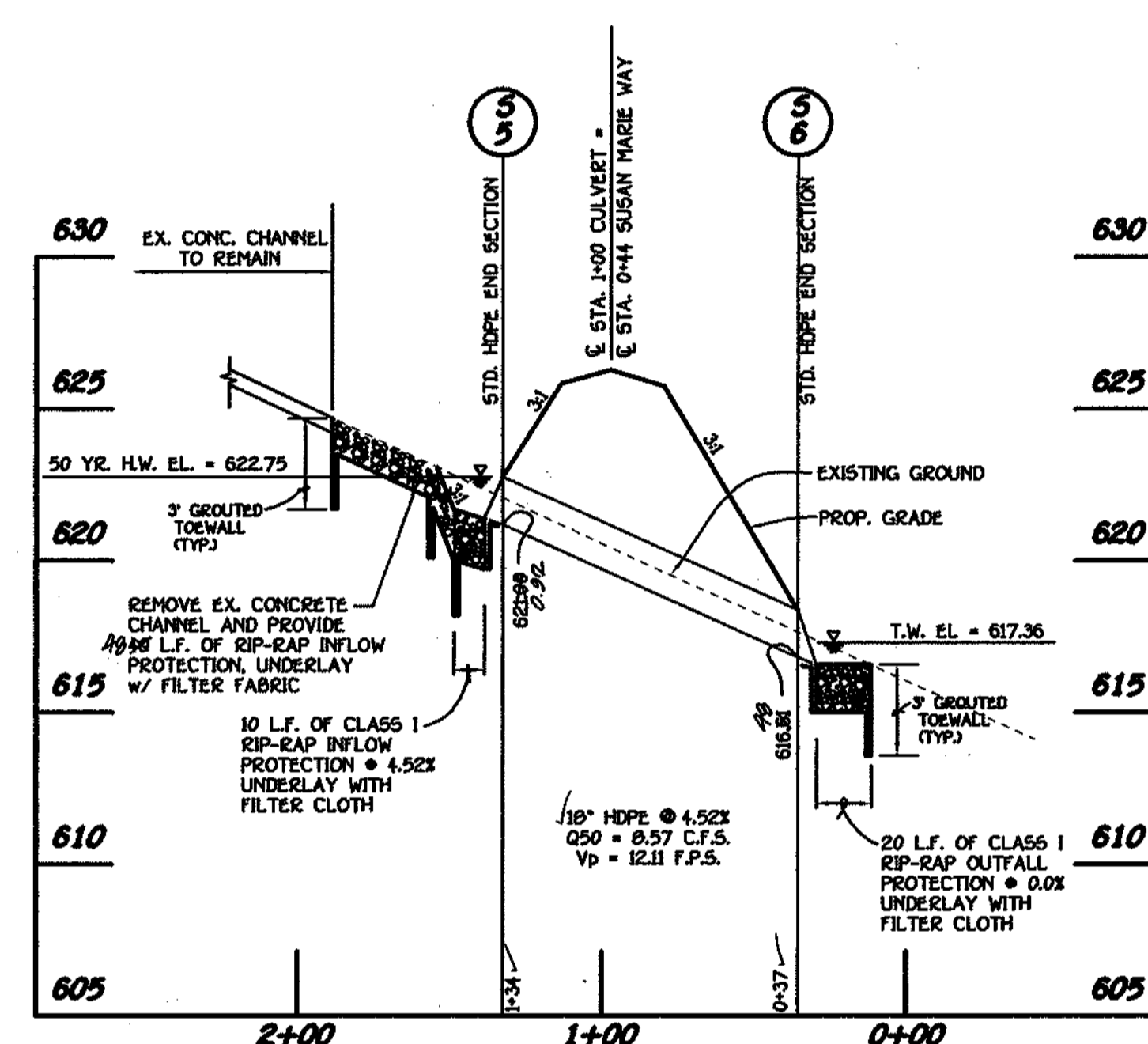
CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS

- The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
- Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
- Stones for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stones for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogenous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 3/21/02
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] 3/20/02
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 3/25/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 1072 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21114
 410-461-2095

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

OWNER
 MRS. ELIZABETH MCCANN
 c/o MICHAEL J. MCCANN
 5000 WILLOW BRANCH WAY
 UNIT 303
 OWINGS MILLS, MARYLAND 21117

CONTRACT PURCHASER AND DEVELOPER
 MCCANN PROPERTY PARTNERSHIP
 P.O. BOX 1371
 ELLICOTT CITY, MARYLAND 21014



STORM DRAIN PROFILES
MCCANN PROPERTY
 LOTS 1 THRU 16 AND
 PRESERVATION PARCELS 'A' THRU 'E'
 ZONING RC-DEO
 TAX MAP No. 8 PARCEL No. 78 GRID No. 16
 FOURTH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND
 DATE: DECEMBER 20, 2001
 SHEET 9 OF 15
F 01-105

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development
 DATE: 3/28/02

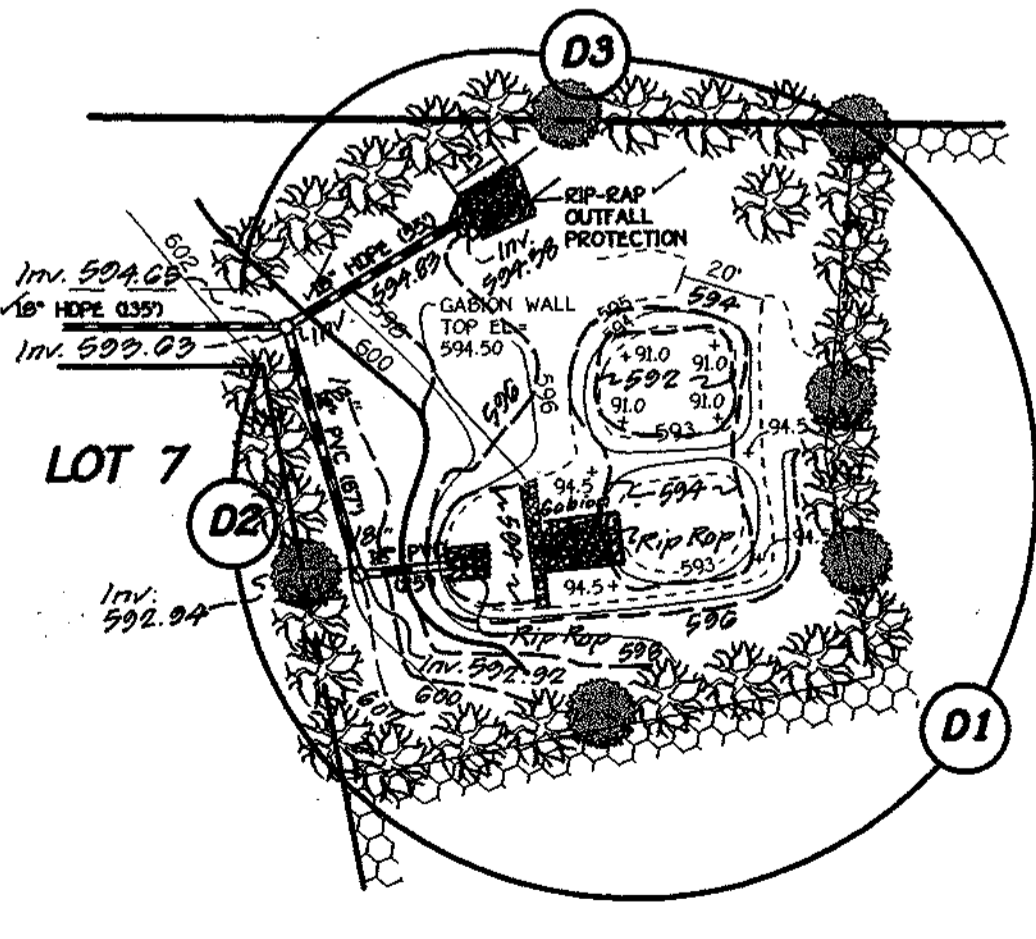
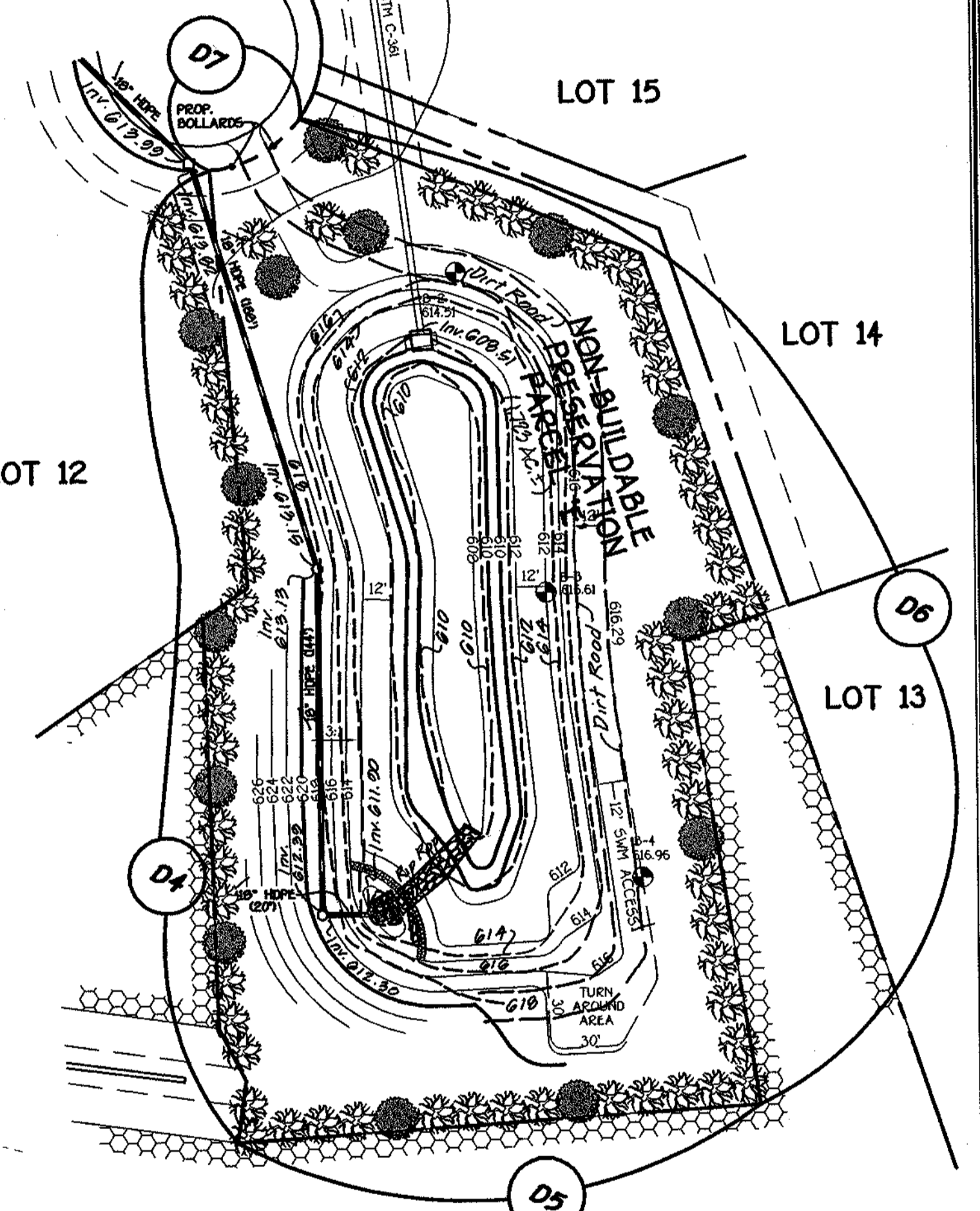
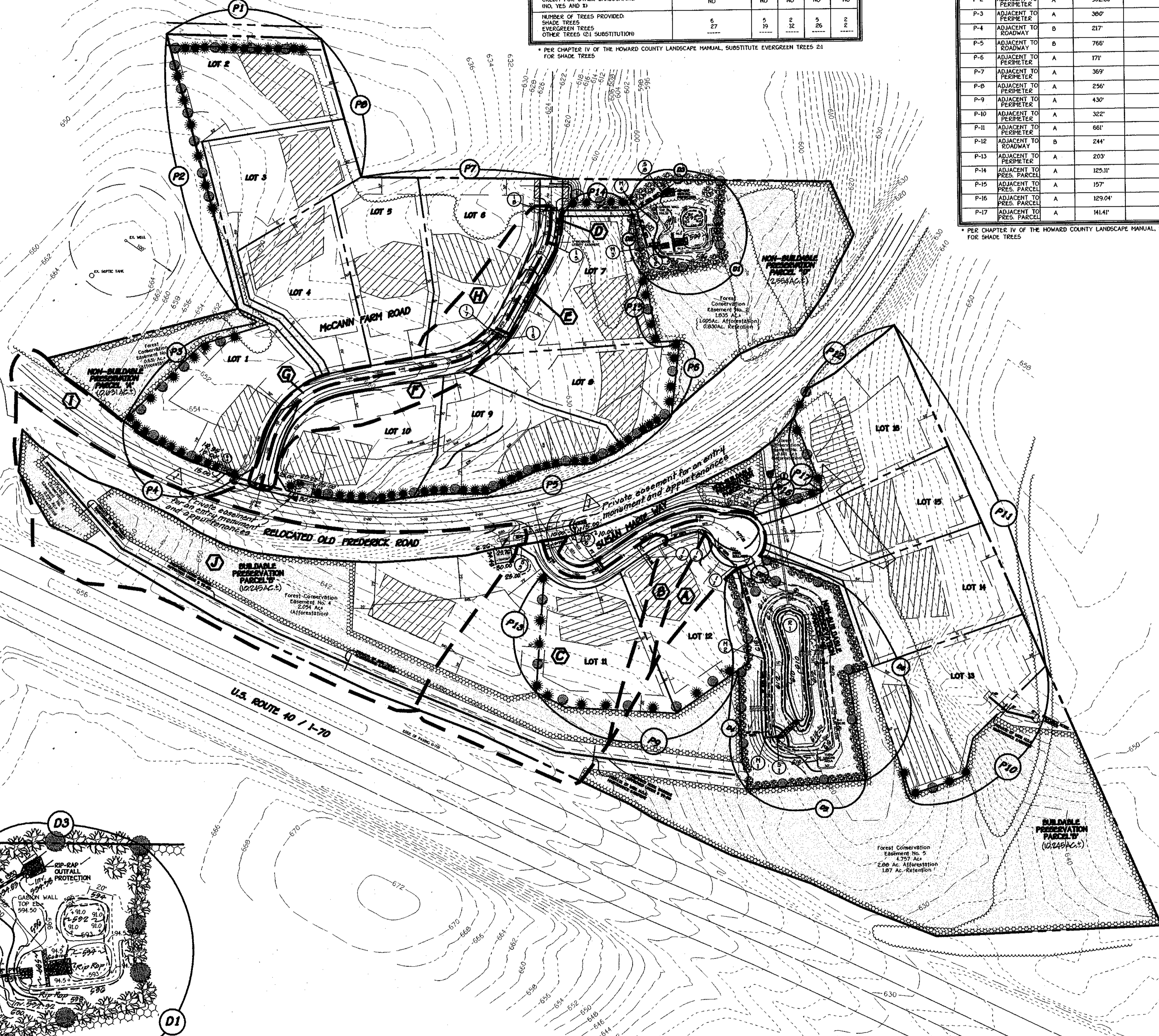
APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 DATE: 3/28/02

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 DATE: 3-21-02

DRAINAGE AREA DATA					
STRUCTURE NO.	DRAINAGE AREA	AREA	"C"	ZONED	X IMP.
I-1	A	0.58 AC.	0.44	RC-DEO	35%
I-2	B	0.36 AC.	0.24	RC-DEO	67%
I-3	C	2.57 AC.	0.23	RC-DEO	3%
I-4	D	0.03 AC.	0.53	RC-DEO	48%
I-5	E	0.11 AC.	0.37	RC-DEO	24%
I-6	F	0.56 AC.	0.35	RC-DEO	21%
I-7	G	0.24 AC.	0.53	RC-DEO	48%
I-8	H	0.55 AC.	0.26	RC-DEO	8%
S-3	I	0.69 AC.	0.56	RC-DEO	53%
S-5	J	4.72 AC.	0.21	RC-DEO	0%

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING					
LINEAR FEET OF PERIMETER	SHALLOW MARSH AREA (D1, D2 & D3) 560'	D1: 409'	D2: 211'	D3: 527'	D7: 50'
NUMBER OF TREES REQUIRED	12	9	5	11	2
SHADE TREES	12	9	5	11	2
EVERGREEN TREES	0	0	0	0	0
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	YES 90%	NO	NO	NO	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO	NO	NO	NO	NO
NUMBER OF TREES PROVIDED	6	5	2	5	2
SHADE TREES	6	5	2	5	2
EVERGREEN TREES	0	0	0	0	0
OTHER TREES (2:1 SUBSTITUTION)	0	0	0	0	0

SCHEDULE A PERIMETER LANDSCAPE EDGE												
PERIMETER	CATEGORY	LANDSCAPE TYPE	LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NUMBER OF PLANTS REQUIRED *			NUMBER OF PLANTS PROVIDED			
						SHADE TREES	EVERGREEN TREES	SHRUBS	SHADE TREES	EVERGREEN TREES	SHRUBS	
P-1	ADJACENT TO ROADWAY	B	273'	NO	NO	6	7	-	4	11	-	-
P-2	ADJACENT TO PERIMETER	A	502.60'	NO	NO	9	0	-	6	6	-	-
P-3	ADJACENT TO PERIMETER	A	380'	NO	NO	7	0	-	4	6	-	-
P-4	ADJACENT TO ROADWAY	B	217'	NO	NO	4	5	-	2	9	-	-
P-5	ADJACENT TO ROADWAY	B	765'	NO	NO	15	19	-	10	29	-	-
P-6	ADJACENT TO PERIMETER	A	171'	NO	NO	3	0	-	1	4	-	-
P-7	ADJACENT TO PERIMETER	A	369'	YES (369')	NO	0	0	-	0	0	-	-
P-8	ADJACENT TO PERIMETER	A	256'	YES (256')	NO	0	0	-	0	0	-	-
P-9	ADJACENT TO PERIMETER	A	430'	NO	NO	7	0	-	4	6	-	-
P-10	ADJACENT TO PERIMETER	A	382'	YES (382')	NO	3	0	-	1	4	-	-
P-11	ADJACENT TO PERIMETER	A	661'	YES (661')	NO	0	0	-	0	0	-	-
P-12	ADJACENT TO ROADWAY	B	244'	YES (244')	NO	1	1	-	1	1	-	-
P-13	ADJACENT TO PERIMETER	A	203'	NO	NO	4	0	-	2	4	-	-
P-14	ADJACENT TO PRES. PARCEL	A	125.11'	NO	NO	3	0	-	1	4	-	-
P-15	ADJACENT TO PRES. PARCEL	A	157'	NO	NO	3	0	-	1	4	-	-
P-16	ADJACENT TO PRES. PARCEL	A	129.04'	NO	NO	2	0	-	1	2	-	-
P-17	ADJACENT TO PRES. PARCEL	A	141.4'	NO	NO	2	0	-	1	2	-	-



LANDSCAPING PLANT LIST			
QTY.	KEY	NAME	SIZE
92	(Symbol)	PINUS STROBUS (EASTERN WHITE PINE)	6' - 8' HT.
86	(Symbol)	CEDRUS DEODORA (DEODAR CEDAR)	6' - 8' HT.
59	(Symbol)	ACER PLATANOIDES (EMERALD QUEEN) EMERALD QUEEN NORWAY MAPLE	2-1/2" - 3" CAL.

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 18124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE 188 REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$44,400.00.

DRAINAGE AREA MAP AND LANDSCAPE PLAN
MCCANN PROPERTY
 LOTS 1 THRU 16 AND
 PRESERVATION PARCELS 'A' THRU 'E'

ZONING: RC-DEO
 TAX MAP No. 8 PARCEL No. 78 GRID No. 16
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: DECEMBER 20, 2001
 SHEET 10 OF 15



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 1072 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21117
 (410) 451-2255

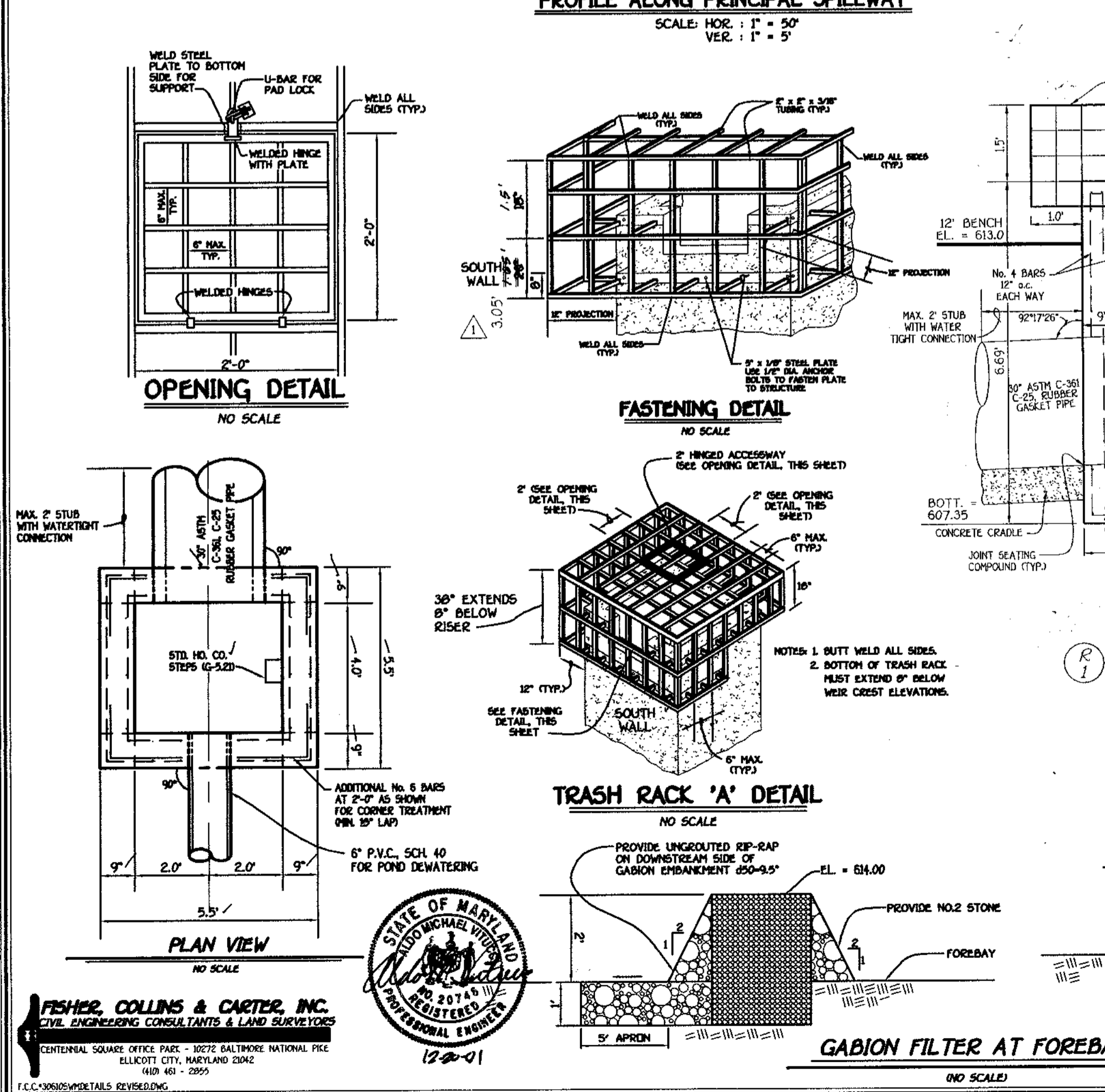
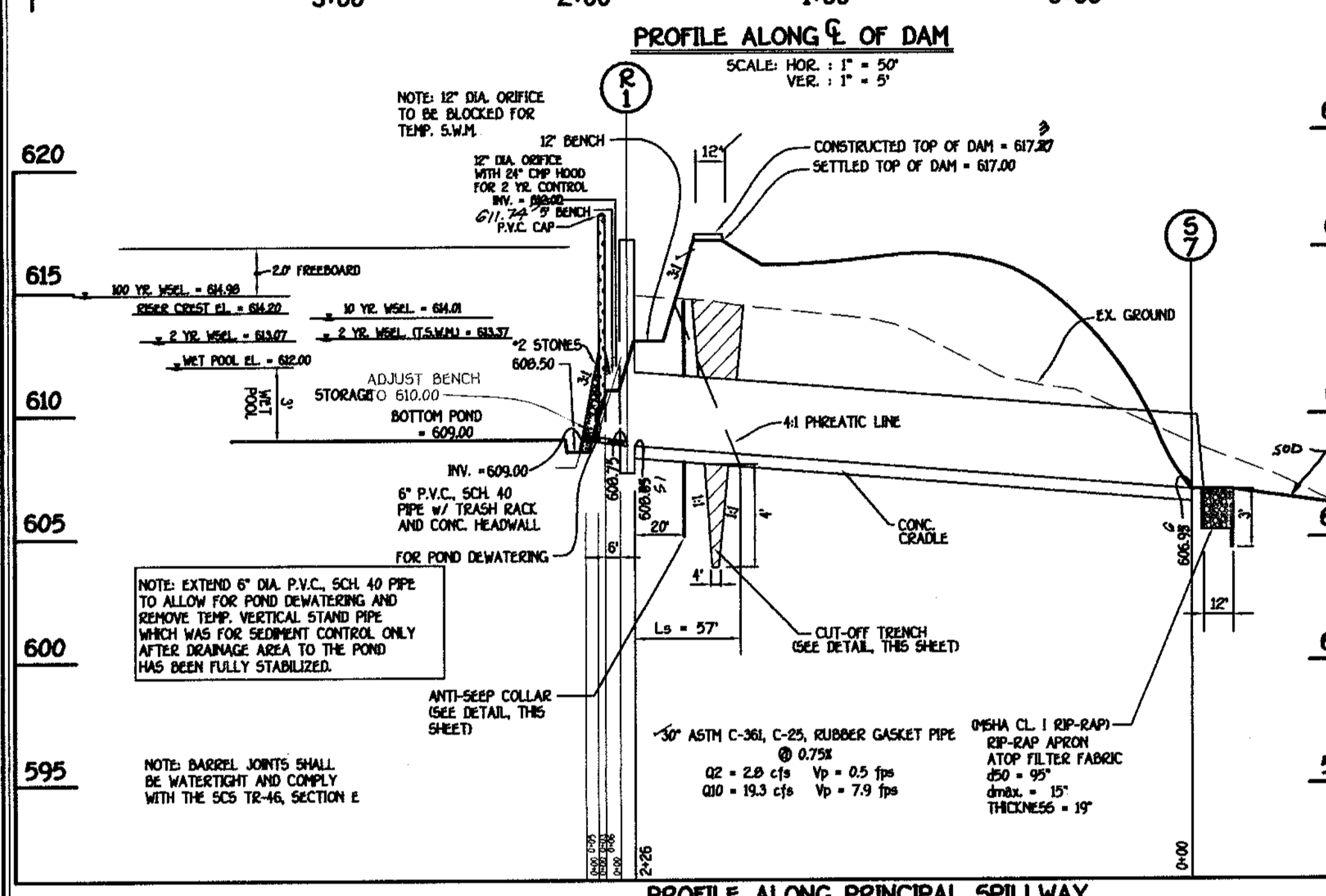
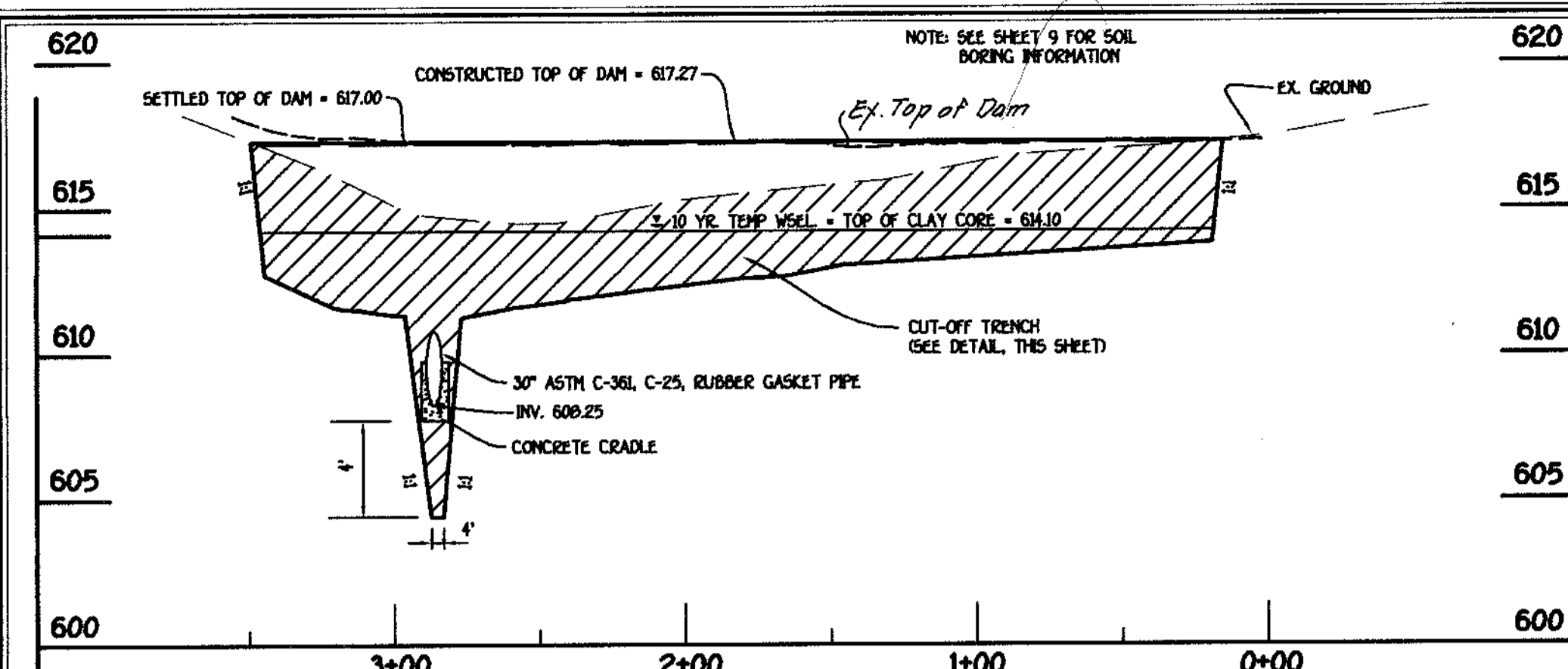
OWNER
 MRS. ELIZABETH MCCANN
 c/o MICHAEL J. MCCANN
 5000 WILLOW BRANCH WAY
 UNIT 303
 OWINGS HILLS, MARYLAND 21117

CONTRACT PURCHASER AND DEVELOPER
 MCCANN PROPERTY PARTNERSHIP
 P.O. BOX 1371
 ELLICOTT CITY, MARYLAND 21041

PLAN
 SCALE: 1" = 100'

No.	Revision	Date
1	Add a private easement for an entry monument and appurtenances, also repositioned several perimeter landscape trees as necessary to avoid easement areas.	5-28-02

NOTE: THIS PLAN IS FOR DRAINAGE AREA INFORMATION AND LANDSCAPE OBLIGATIONS ONLY.



STORM WATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard Specification for Storm Water Management Ponds, Section 290-270. All references to ASHTO and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stumped. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and slope breaks shall be skaped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, stumps, rocks 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 25-foot radius around the crest 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 to be stockpiled in a suitable location for use on the embankment and other designated areas.

EARTH FILL

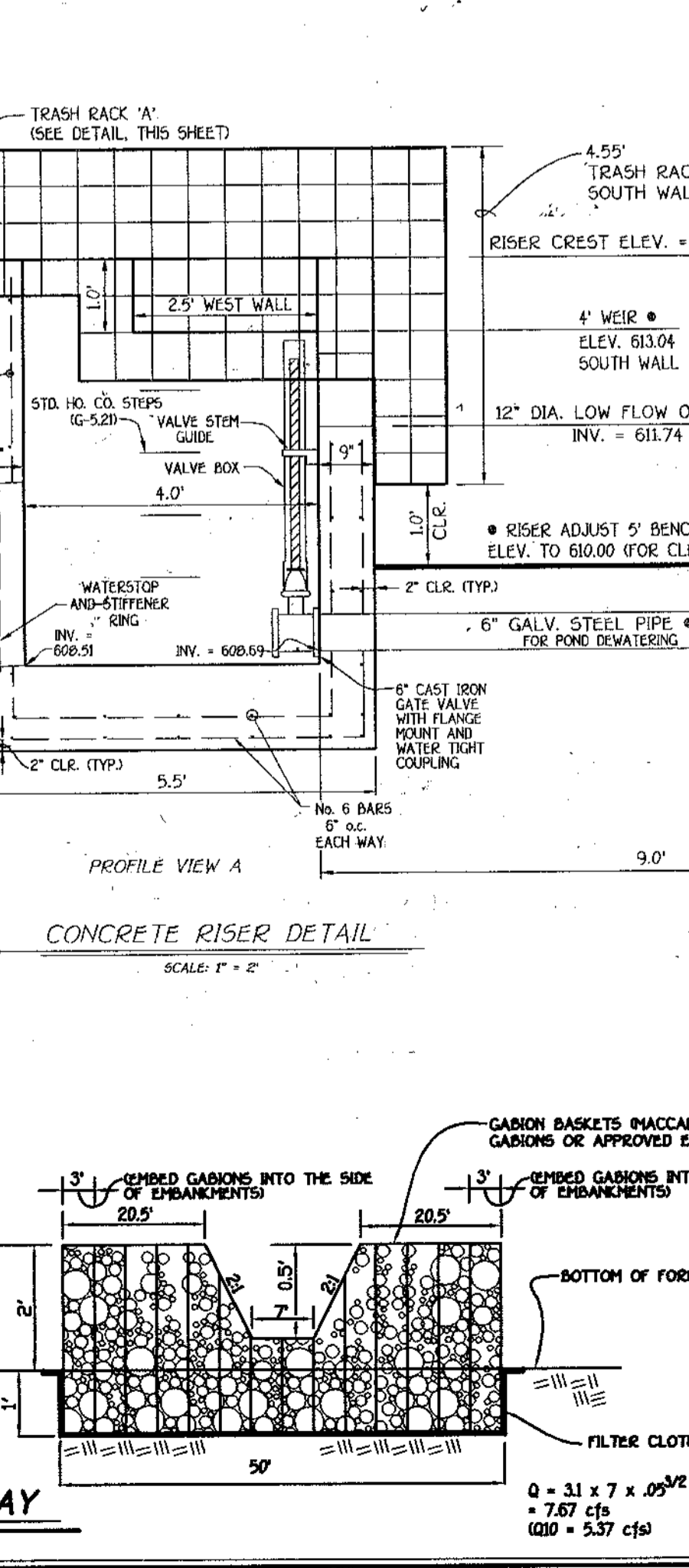
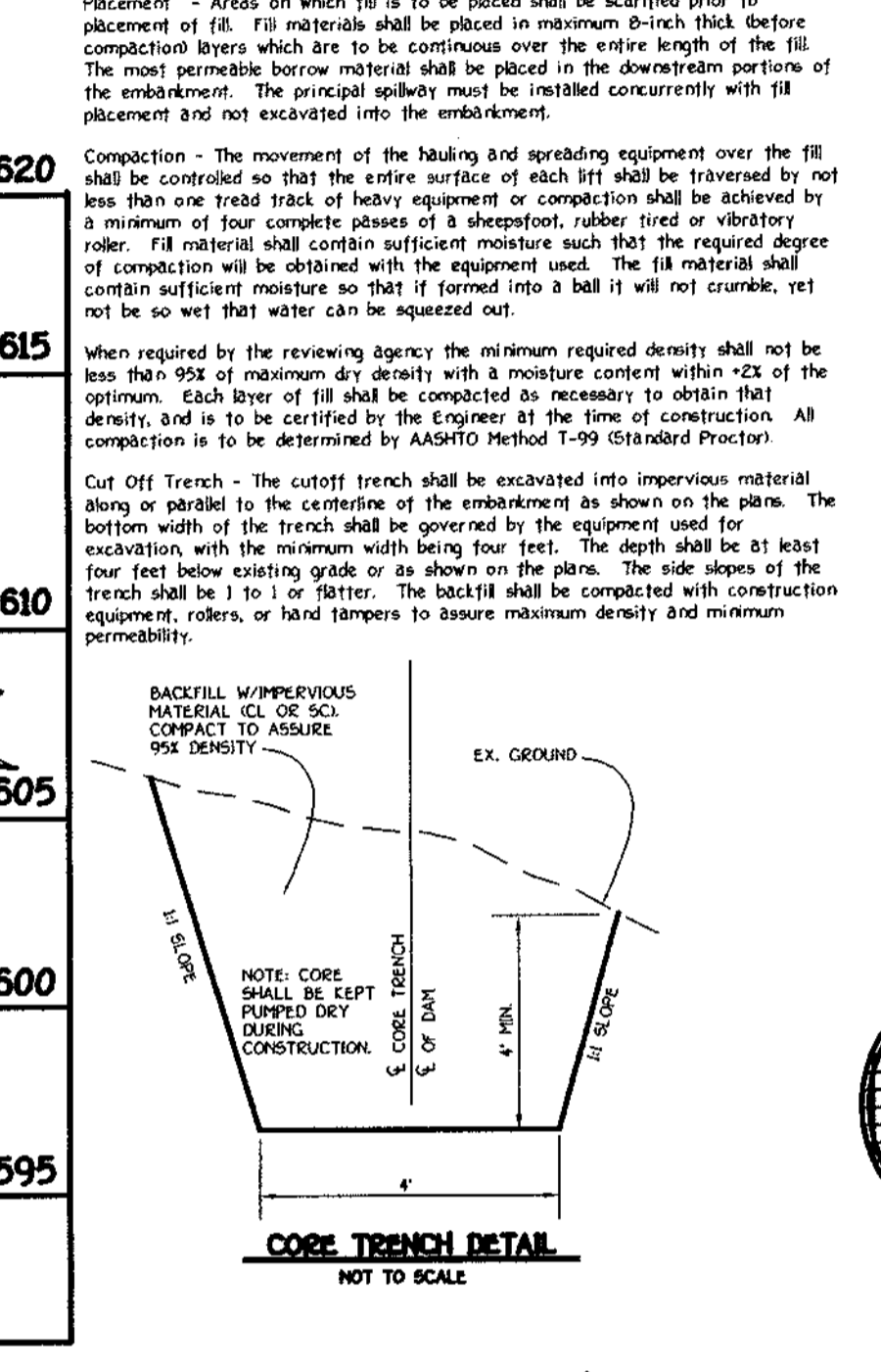
Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment and cut-off trench shall conform to Unified Soil Classification (SC, CL or CI) and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special design must have construction supervised by a geotechnical engineer. Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be described prior to placement of fill. Fill materials shall be placed in maximum 6-inch thick layers compacted in lifts which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portion of the embankment. The principal spillway must be installed concurrently with fill placement and not worked into the embankment.

Compaction - The movement of the haul 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 track of heavy 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 crumble, yet not be so wet that water can be squeezed out.

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

Cut Off Trench - The cut-off 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 its excavation with the minimum width being four feet. The sides of the trench shall be 1:1 or 1 1/2:1. 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 structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 303 as modified. The fill shall have a minimum unit weight of 120 pcf and a minimum relative density of 2,000 blow/cm. Material shall be placed such that a minimum of 6" unbound perpendicular to the outside of the pipe of flowable fill shall be under bedding, over and on the sides of the pipe. It may be extended up to the spring line for rigid conduits. Average slump of the fill shall be 7" to insure flowability of the material. Adequate measures shall be taken to prevent segregation and bleeding of the material. Adequate measures shall be taken to prevent voiding of the material. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to the specified for the core of the embankment or other embankment materials.

Pipe Conduits

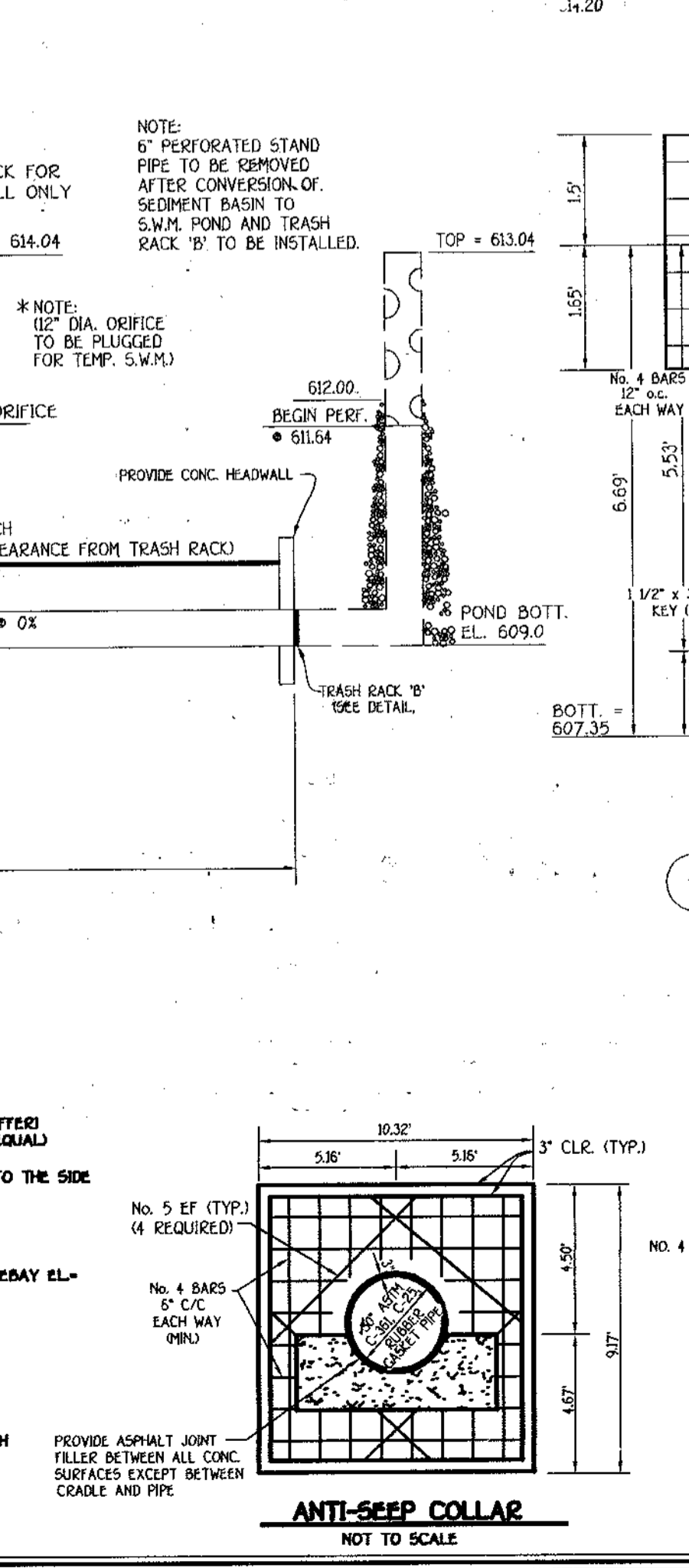
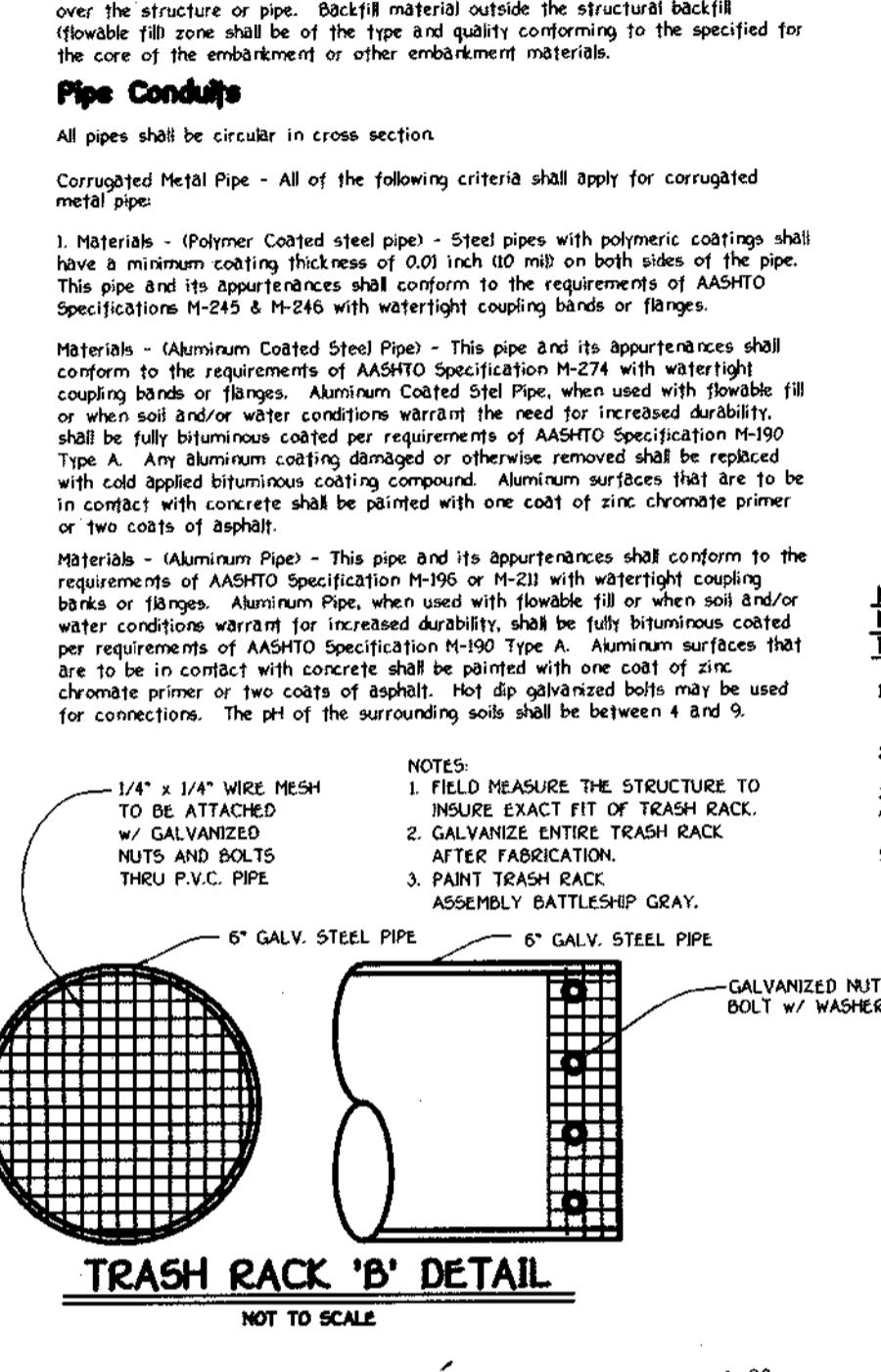
All pipes shall be circular in cross section.

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

- Materials - Polymer coated steel pipe - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch ID on both sides of the pipe. This pipe and its appearance shall conform to the requirements of AASHTO Specification M-245 & M-246 with watertight coupling bands or flanges.
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Aluminum Pipe - This pipe and its appearance shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum pipe shall be used with flowable fill or when soil and/or water conditions warrant the need for increased durability. It shall be fully biminiuum coated per requirements of AASHTO Specification M-270 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied biminiuum coating compound. Aluminum surfaces that are to be in contact with concrete shall be primed with one coat of zinc chromate primer or two coats of asphalt.

Aluminum Pipe - This pipe and its appearance shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum pipe shall be used with flowable fill or when soil and/or water conditions warrant the need for increased durability. It shall be fully biminiuum coated per requirements of AASHTO Specification M-270 Type A. Aluminum surfaces that are to be in contact with concrete shall be primed with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized both may be used for connections. The gap of the surrounding soil shall be between 4 and 5 inches.



Plastic Pipe

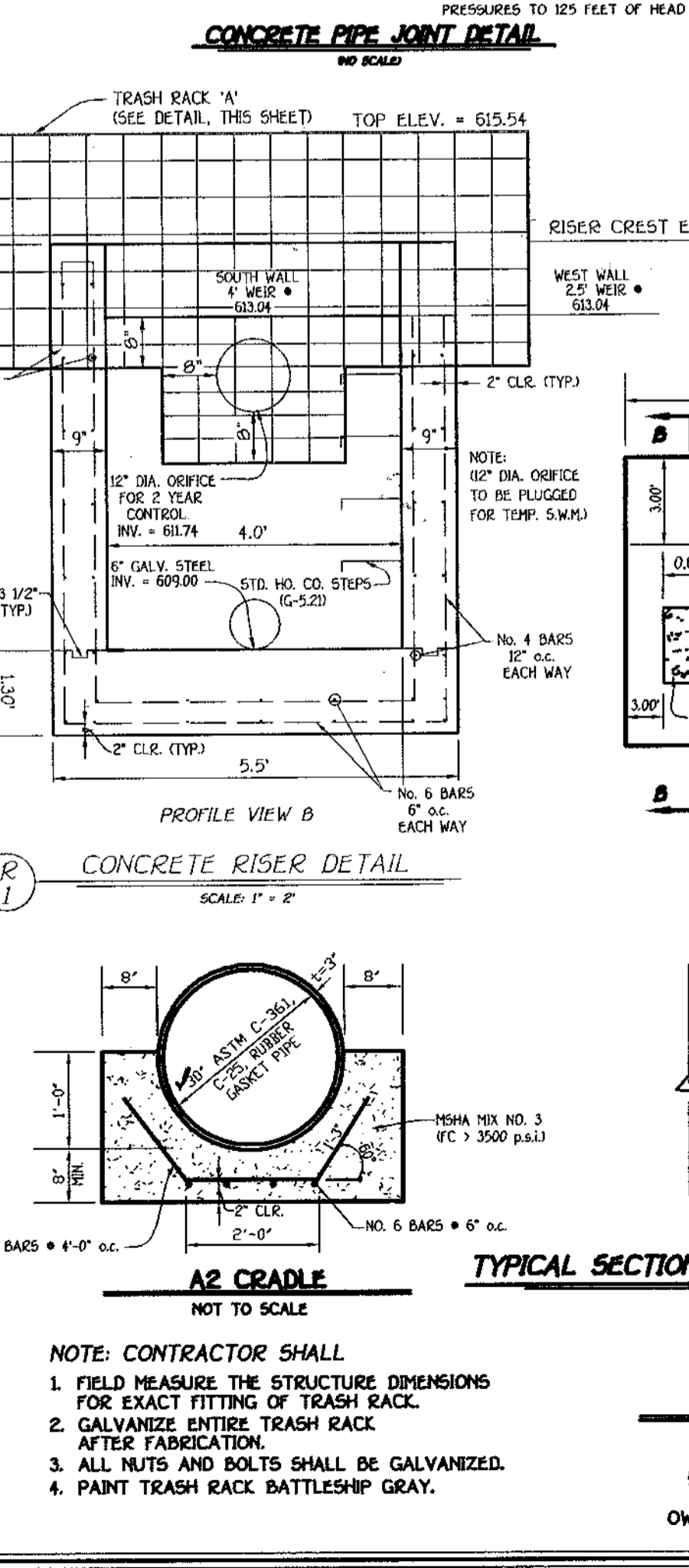
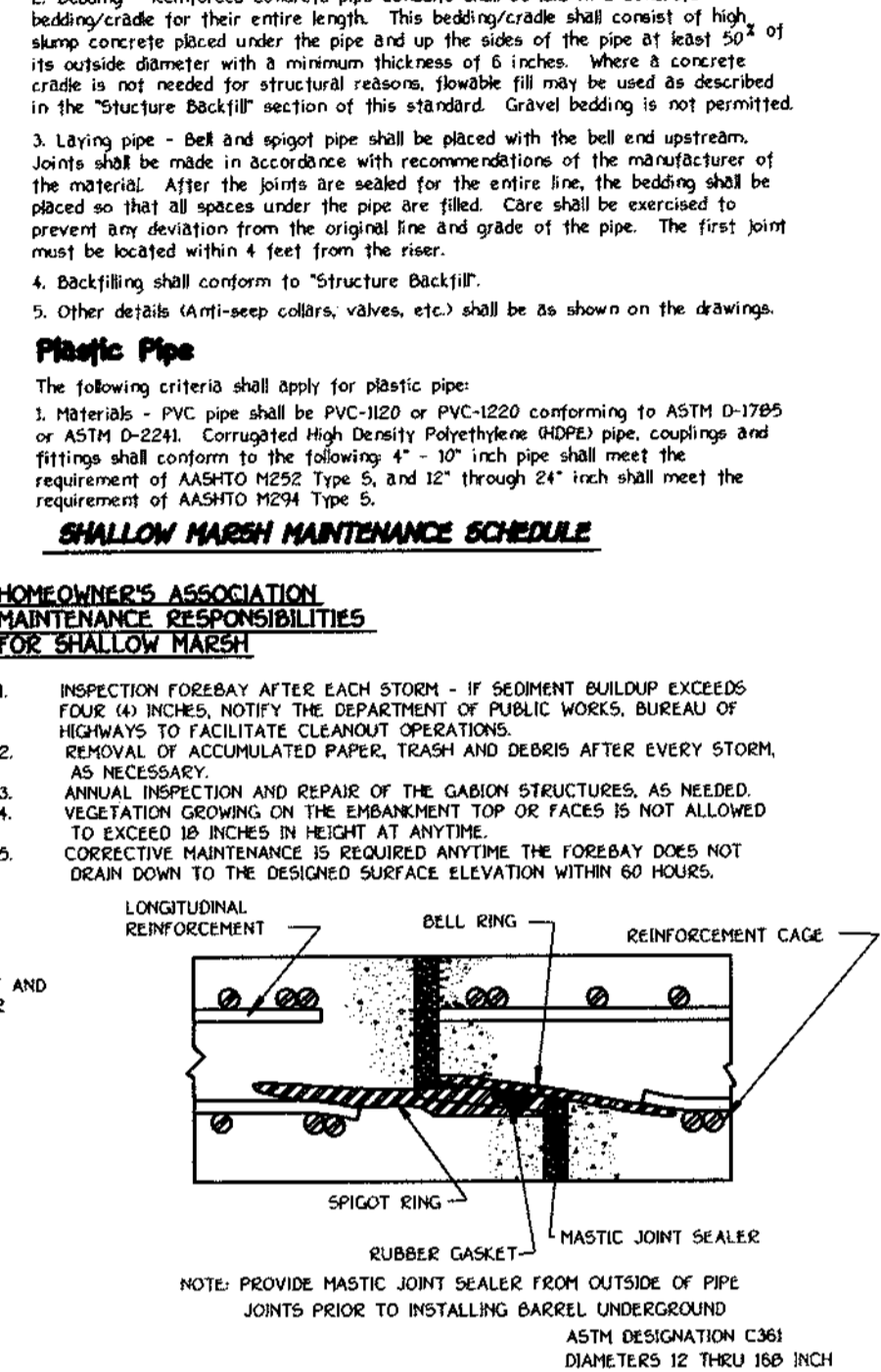
The following criteria shall apply for plastic pipe:

- Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, coupling and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirements of AASHTO M-252 Type 5, and 12" through 24" inch shall meet the requirements of AASHTO M-252 Type 5.
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

SHALLOW MARSH MAINTENANCE SCHEDULE

HOMEOWNER'S ASSOCIATION MAINTENANCE RESPONSIBILITIES FOR SHALLOW MARSH

- INSPECTION FORBIDDEN AFTER EACH STORM - IF SEGMENT BUILDUP EXCEEDS FOUR (4) INCHES, NOTIFY THE DEPARTMENT OF PUBLIC WORKS, BUREAU OF HIGHWAYS TO FACILITATE CLEANOUT OPERATIONS.
- REMOVAL OF ACCUMULATED DEBRIS, TRASH AND DEBRIS AFTER EVERY STORM, AS NECESSARY.
- ANNUAL INSPECTION AND REPAIR OF THE GABION STRUCTURES, AS NEEDED.
- VEGETATION GROWING ON THE EMBANKMENT TOP OR FACE IS NOT ALLOWED TO ACCUMULATE TO A HEIGHT OF 18 INCHES.
- EXCESSIVE MAINTENANCE IS REQUIRED ANYTIME THE FORBIDDEN DOES NOT DRAIN DOWN TO THE DESIGNED SURFACE ELEVATION WITHIN 60 HOURS.



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 temporary and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation and other parts of the work free from water as required or directed by the engineer for 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. Whichever of the flow of water to the spigot or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be installed in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavation and will allow satisfactory performance of all construction operations. During the placing and compaction of material in required excavations, the water level at the location being worked shall be maintained below the bottom of the excavation at such locations which may require draining the water sumps from which the water shall be pumped.

Drainage Ditch - When a drainage ditch is to be a registered professional engineer will supervise the design and construction inspection.

Concrete

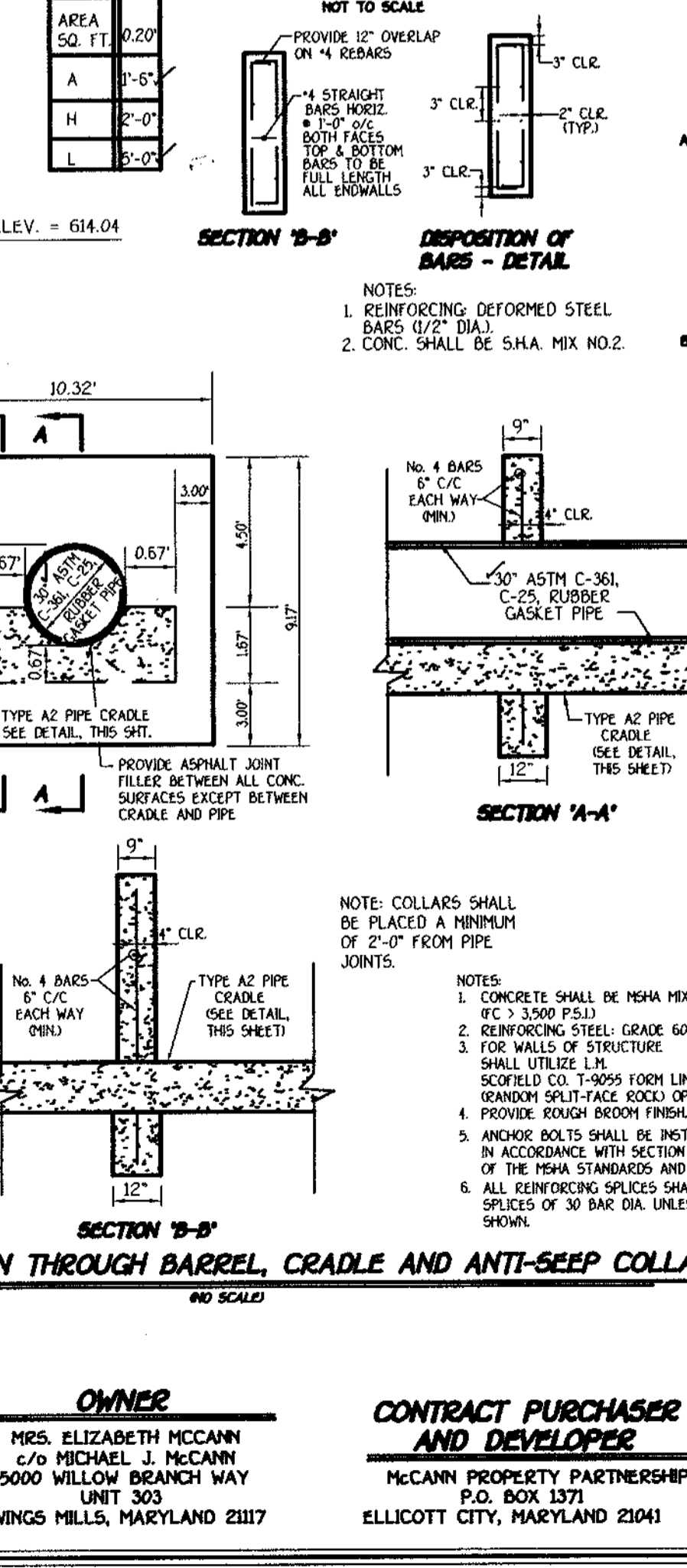
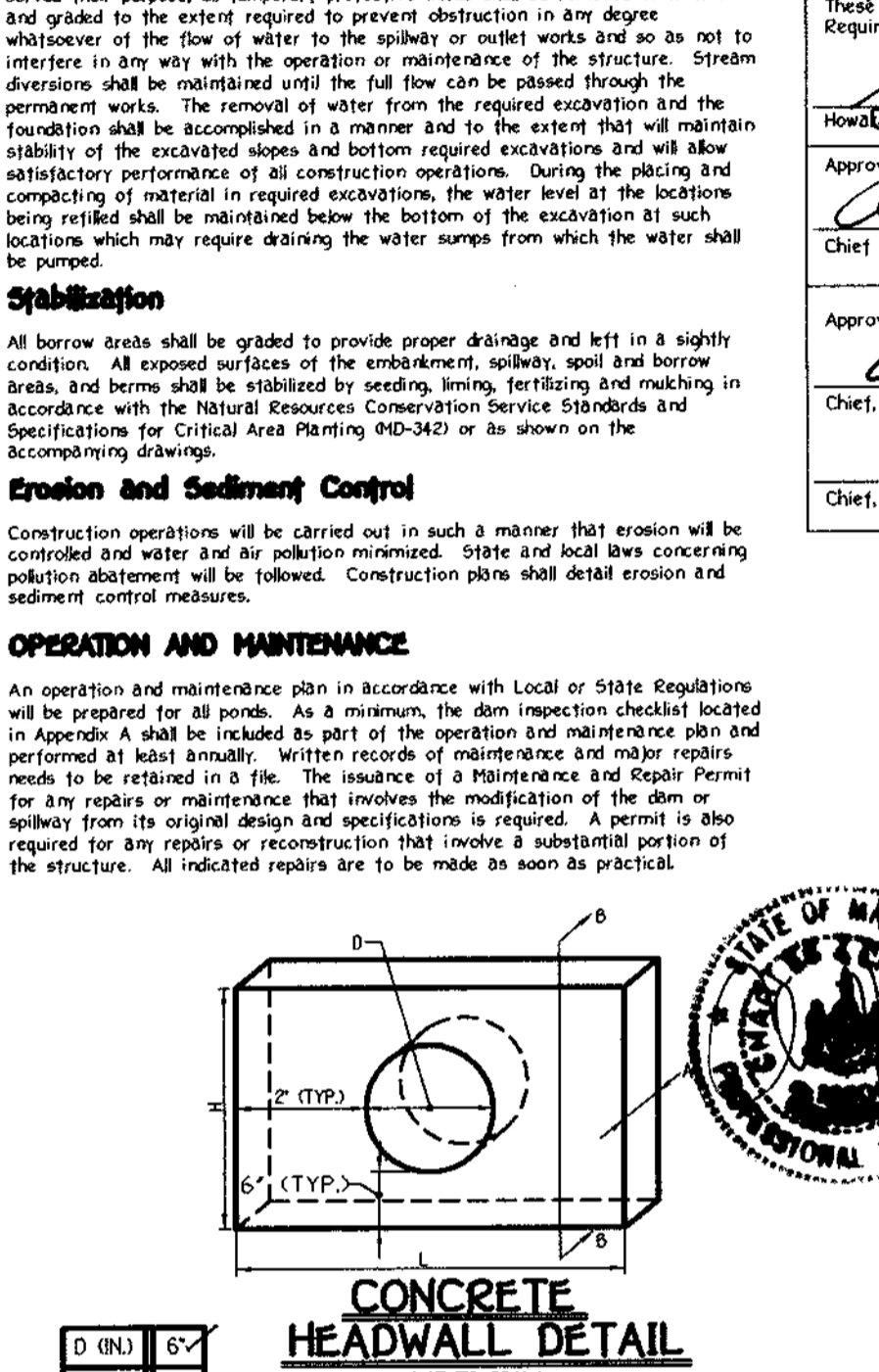
Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

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 temporary and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation and other parts of the work free from water as required or directed by the engineer for 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. Whichever of the flow of water to the spigot or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be installed in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavation and will allow satisfactory performance of all construction operations. During the placing and compaction of material in required excavations, the water level at the location being worked shall be maintained below the bottom of the excavation at such locations which may require draining the water sumps from which the water shall be pumped.



OPERATION AND MAINTENANCE

An operation and maintenance plan in accordance with Local or State Regulations will be prepared for all ponds. As a minimum, the plan (inspection checklist) located in Appendix A shall be included as part of the operation and maintenance plan and performed at least annually. Written records of maintenance and major repairs shall be maintained in a file. The issuance of a Maintenance and Repair Permit for any repairs or maintenance that involves the modification of the dam or embankment from its original design and specifications is required. A permit also required for any repairs or reconstruction that involve a substantial portion of the structure. All indicated repairs to be made as soon as practical.

STORMWATER MANAGEMENT POND MAINTENANCE SCHEDULE

ROUTINE MAINTENANCE

- Facility shall be inspected annually after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.
- Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes, the bottom of the pond, and maintenance areas shall be mowed as soon as it is practical.
- Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.
- Multiple areas of erosion in the pond as well as rip-rap outlet area shall be repaired as soon as it is practical.

NON-ROUTINE MAINTENANCE

- Structural components of the pond such as the dam, riser structure and the pipes shall be inspected during maintenance operations.
- Subsidence should be removed when the accumulation significantly reduces the design storage, interfere with the function of the riser, when deemed necessary for aesthetic reasons, or when deemed necessary by the Howard County Department of Public Works.

REVISIONS

NO.	DESCRIPTION	DATE
1	REMOVE HALF ROUND CMP PIPE HOOD AND EXTEND TRASH RACK TO COVER 12" LOW FLOW PIPE. MADE RISER DETAILS 1" = 2" SCALE	12/15/04

OPERATION, MAINTENANCE AND INSPECTION

Inspection of the pond shall be performed at least annually, in accordance with the checklist and requirements contained within USGS SCS Standards and Specifications for Ponds (MS-270). The pond owner shall be responsible for the safety of the pond and the continued operation, maintenance, inspection, and maintenance thereof. The pond owner shall promptly notify the Soil Conservation District of any unusual observations which may be indications of distress such as excessive seepage, turbid seepage, sliding or slumping.

STORMWATER MANAGEMENT POND MAINTENANCE SCHEDULE

ROUTINE MAINTENANCE

- Facility shall be inspected annually after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.
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- Multiple areas of erosion in the pond as well as rip-rap outlet area shall be repaired as soon as it is practical.

NON-ROUTINE MAINTENANCE

- Structural components of the pond such as the dam, riser structure and the pipes shall be inspected during maintenance operations.
- Subsidence should be removed when the accumulation significantly reduces the design storage, interfere with the function of the riser, when deemed necessary for aesthetic reasons, or when deemed necessary by the Howard County Department of Public Works.

STORMWATER MANAGEMENT DISCHARGE SUMMARY AT STUDY POINT

DESIGN STORM	EXISTING CONDITIONS (C & L)	PROPOSED CONDITIONS (C & L)
* 2 YEAR	5.6	2.9 @ 613.07
* 10 YEAR	24.0	19.3 @ 614.01
100 YEAR	50.5	48.6 @ 614.98

* 2 AND 10 YEAR MANAGEMENT IS REQUIRED

STORMWATER MANAGEMENT NOTES AND DETAILS

MCCANN PROPERTY
LOTS 1 THRU 16 AND PRESERVATION PARCELS 'A' THRU 'E'

OWNER
MRS. ELIZABETH MCCANN
C/O MICHAEL J. MCCANN
5000 HILLBROOK BRANCH WAY
LOT 30
OWINGS MILLS, MARYLAND 21117

CONTRACT PURCHASER AND DEVELOPER
MCCANN PROPERTY PARTNERSHIP
1101 BOST LST
ELLCOTT CITY, MARYLAND 21041

ZONING RC-120
TAX MAP No. 9, LOT No. 778, GRID No. 16
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: DECEMBER 20, 2001
SHEET 11 OF 15

F 01-105

PLYWALL SOUND BARRIER SPECIFICATIONS

1. DESCRIPTION: This work shall consist of the construction of sound barrier consisting of Plywall panels as manufactured by Hoover Treated Wood Products, Inc., supported by Parallam PSI posts as manufactured by Trus Joist MacMillan. Sound Barrier shall be designed to withstand a wind load of 25 psf, as specified by the Maryland State Highway Administration for noise barriers.

2. MATERIALS: Materials shall conform to the following:

2.1 SOUND BARRIER PANELS: Panels shall be fabricated as two-piece "Plywall" panels for the 8 ft. high barrier and three-piece "Plywall" panels for the 10 ft. and 12 ft. high barriers by 88, wide, as manufactured by Hoover Treated Wood Products, Inc. Panels design shall have been tested in accordance with ASTM E-90 and ASTM E-413 and shall result in a sound transmission class of 38 or better. Panels shall consist of a structurally sound frame of 2" by 4" (nominal) Southern Yellow Pine lumber, surfaced four sides, covered on both panel faces by ship-lap-jointed, APA-303 species siding, Southern Pine, exposure durability classification Exterior, Texture 1-11, 5-ply, 19/32" thick, grooves 8" o.c., wood patches. All wood used in panel construction shall be pressure preservative treated with CCA preservative to a minimum net retention of 0.60 pcf in accordance with American Wood Preservers Association C-2 and C-9. All plywood siding and 2" (nominal) lumber shall be kiln dried after treatment to a moisture content of 19 percent or less. All panel sections shall be fabricated prior to shipment. All panels shall have two nylon lifting webs, securely attached along the top.

2.2 SUPPORT POSTS: Posts shall be 4" x 4" x 12' long (from wind load/height chart), Parallam PSI Southern Pine Parallel Strand Lumber, 2.0 E, as manufactured by Trus Joist MacMillan. Minimum net retention of preservation shall be 0.60 pcf of CCA. Posts shall be bundled so that each layer is separated by wood spacers to allow drying after treatment. Note: See wind load/height chart below for the appropriate post dimensions. The design wind load is 35 psf. Post heights are 8 ft., 10 ft., and 12 ft.

2.3 CLEATS: Vertical cleats for attaching panels to posts shall be 4" x 4" (nominal) Southern Pine timbers, surfaced four sides. Minimum net retention shall be 0.60 pcf of CCA preservative.

2.4 FASTENERS: All nails or spikes shall be hot dip galvanized zinc coated per ASTM A-153.

2.5 SOURCING: All Wood Sound Barrier System Materials, including posts, panels and cleats shall be treated and fabricated at one location. The following is a list of known suppliers:

Hoover Treated Wood Products, Inc., 1-800-531-5558.

3. CONSTRUCTION:

3.1 MATERIAL UNLOADING AND STORAGE: Contractor shall provide suitable unloading equipment and storage space for Sound Barrier Materials. Sound Barrier Materials shall be kept off the ground and shall be protected from mud, splashing, staining, vandalism or physical damage.

3.2 POST HOLES: Post holes shall be augered to the required diameter and depth, which shall be determined by the owner's engineer. Spacing shall allow clear spans equal to the panel width plus one inch tolerance. Posts may shrink slightly after erection. The contractor shall take all measures and precautions necessary to prevent collapse of the hole sides. Actual post width shall be checked at delivery because treatment may cause some swelling. Actual panel width shall also be verified at delivery.

3.3 POST SETTING: Posts shall be set plumb and in precise position to accept panels and shall be braced in such a manner as to remain plumb and in the required lateral position during backfilling. Post spacing shall allow clear spans between posts equal to the panel width plus a maximum one-inch tolerance. In no case shall the erection tolerance between posts exceed 1 inch.

3.4 BACKFILLING: Posts shall be set in concrete footings.

3.5 ATTACHMENT OF REAR CLEATS: Prior to setting panels, the rear cleats shall be fully attached to each post to support the Sound Barrier panels during placement. Cleats shall be placed at an elevation that will insure support of the panel over the entire height. The rear edge of the cleats shall be flush with the rear face of the post. The cleats shall be attached with hot dip galvanized zinc coated spikes as shown. Note: Contractor may attach rear cleats prior to setting posts.

3.6 SETTING PANELS: Sound Barrier panels shall be lifted by the provided lift straps and seated firmly against the prefabricated rear cleats in a manner which maintains panel plumb and level while providing a maximum one inch tolerance between the posts. The panel will then be secured by attaching the front cleats to the posts along the unsecured panel face. Nails shall not be driven into the panel. Note: Front cleats shall be firmly and securely fixed to the post at both ends before releasing lifting straps.

3.7 PANEL BOTTOM EMBEDMENT: Bottom of panels shall be backfilled with crushed stone to prevent the passage of sound and to provide drainage.

3.8 FIELD TRIMMING OF POST TOPS: After panels have been set, the post tops shall be rough trimmed with a square cut 3" above the top of the panel.

3.9 DISPOSAL OF TREATED WOOD SCRAPS: Do not burn scraps. Dispose of scraps as ordinary trash. Landfilling is acceptable for CCA treated wood.

3.10 WOOD FINISH: No finish is required.

INSTALLATION INSTRUCTIONS FOR PLYWALL BARRIERS

PLYWALL is a panelized post and panel barrier system that is very simple to install. All components are made of pressure treated wood and can be installed by crew without heavy equipment.

SHIPPING: PLYWALL is panelized and ready to install when shipped. Shipment is by truck to the job site. Unloading requires a large forklift or a crane and slings. Bundles can weigh as much as 8,000 pounds. Panels are stacked flat in bundles 8 feet across, requiring long forklifts if a forklift is used. Posts are bundled in standard lumber bundles, about 3.5 feet across, which can be handled with standard 4-foot forks.

Shipping usually consists of posts on the first loads. Loads can be mixed with both posts and panels if desired. Staging of materials may be a problem on tight sites. Materials can be staged nearby at a lumberyard or other storage area and shuttled to the site as needed. This is helpful when space is limited at the site. It is important to store the bundles off the ground and to keep them clean.

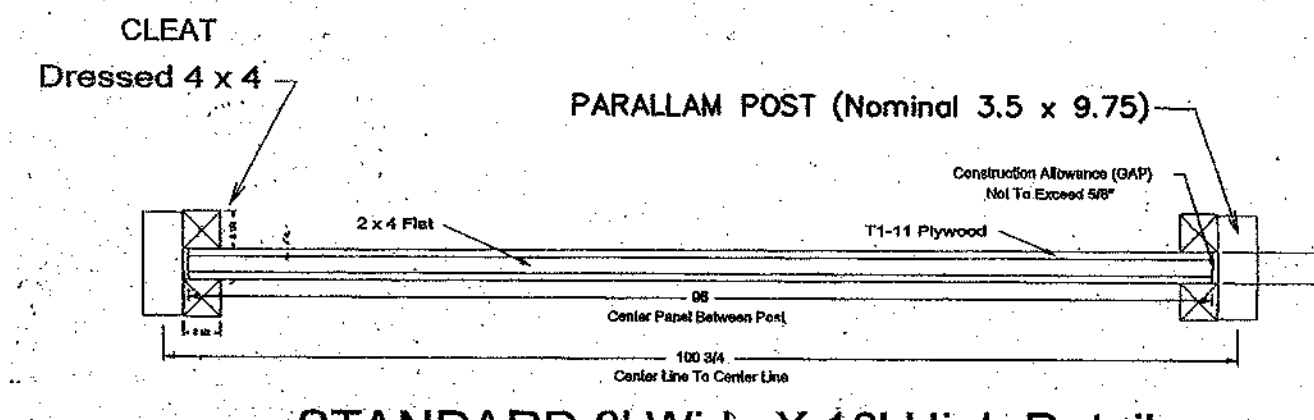
INSTALLATION - POSTS: Installation begins with laying out and boring the post holes. The Panel size will determine the depth and diameter of the footings. Recommendations are based on a minimum allowable soil load bearing capacity of 1500 psf and 1/2" to 3/4" clean and well graded stone backfill. Posts must be set accurately and plumb so that the panels will fit neatly between the posts with a construction allowance determined by the panel size (see drawing). Posts are supplied with one foot extra length so that they can be set without having to have the top at a precise elevation. They can be easily trimmed to the proper elevation later. Additional length can be supplied on request. **At this site, posts shall be set in concrete footings.**

INSTALLATION - PANELS: Panels are fabricated in modules that are a maximum of either 8 feet high or 8 feet wide. Two built-in nylon web lifting loops are provided at the top of each panel for lifting by crane with two hooks. Before lifting and positioning the panel between posts, attach the rear, pre-drilled, long 4x4 cleats vertically to each post, then swing the panel into position. When the panel is in position against the rear 4x4 cleats, spike or lag the front 4x4 cleats to the post through the pre-drilled holes in the 4x4's, "squeezing" the panel between the rear and front 4x4 attachment members. The panels are not nailed to the 4x4 attachment members or the posts, and they bear directly on earth at the bottom. After securing the panels, the lifting loops may be cut off with a sharp utility knife or folded and tacked to the top framing member for possible future use if the wall might need to be relocated.

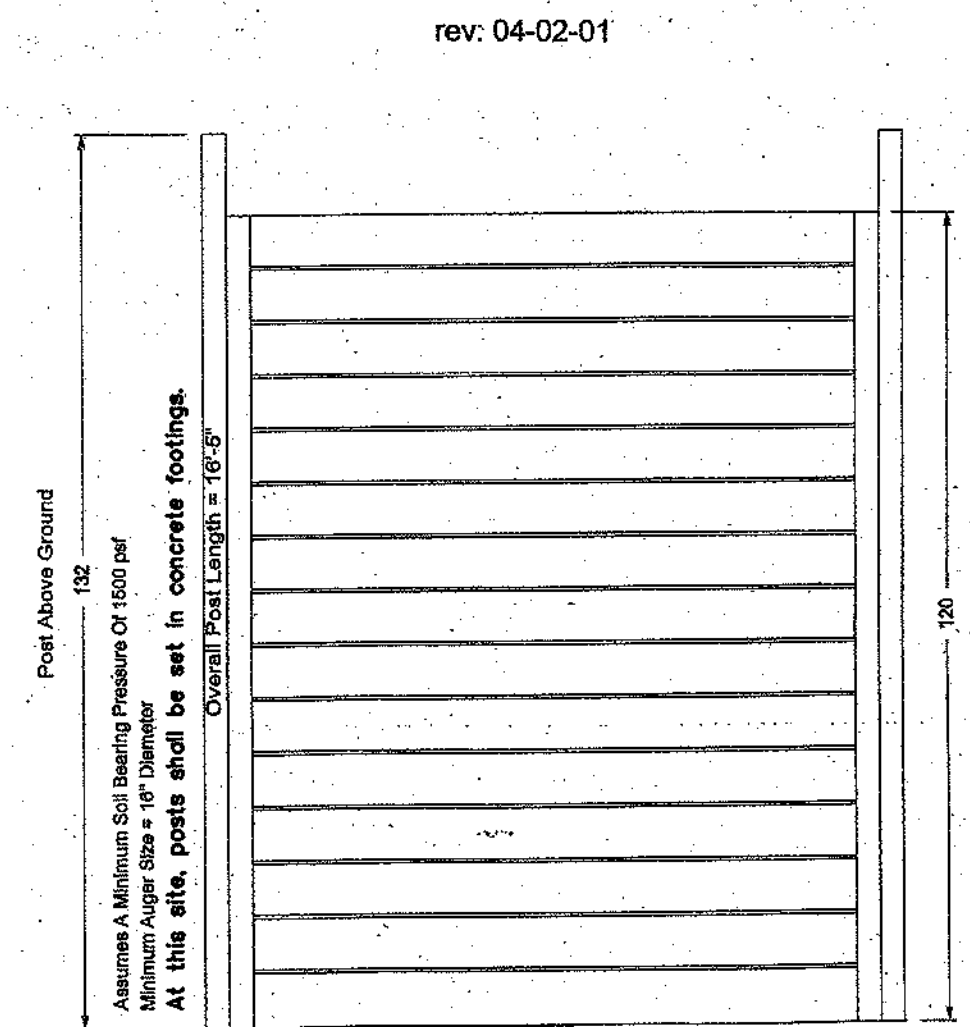
INSTALLATION - STACKABLE PANELS: Stacking panels between posts is accomplished by lowering the top panel down onto the lower panel, guiding the plywood edges over the protruding, beveled "tongue" formed by the lower panel's topmost framing member. It is not necessary to slide the panels all the way down from the top of the posts as would be the case with steel or concrete beams. After setting the panels, the lifting loops may be cut off with a sharp utility knife or folded and tacked to the top framing member for possible future use if the wall might need to be relocated. The horizontal panel joint is not designed for the plywood edges to meet due to the difficulty of assuring a perfect joint. A gap of about 1/4" is normal between the plywood butts.

Smaller panels are stacked on top to achieve the desired top elevation. The size and number of panels are determined in advance by the panel size.

To finish off the wall, trim the posts to the desired height, bevel, or slope with a chain saw after setting panels. Be sure to order extra post length if the normal one foot is determined inadequate for your desired post finishing method. No finishing or maintenance of the panels or posts is necessary.

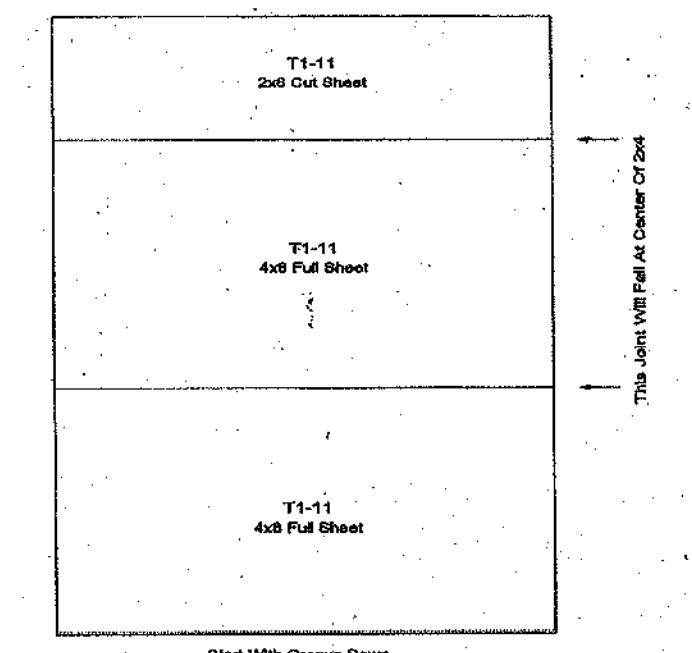


STANDARD 8' Wide X 10' High Detail

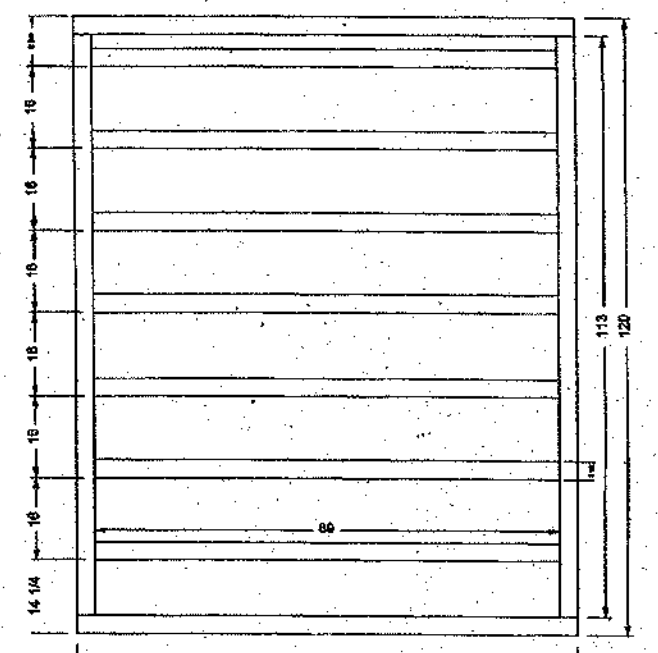


STANDARD 8' Wide X 10' High rev: 04-02-01

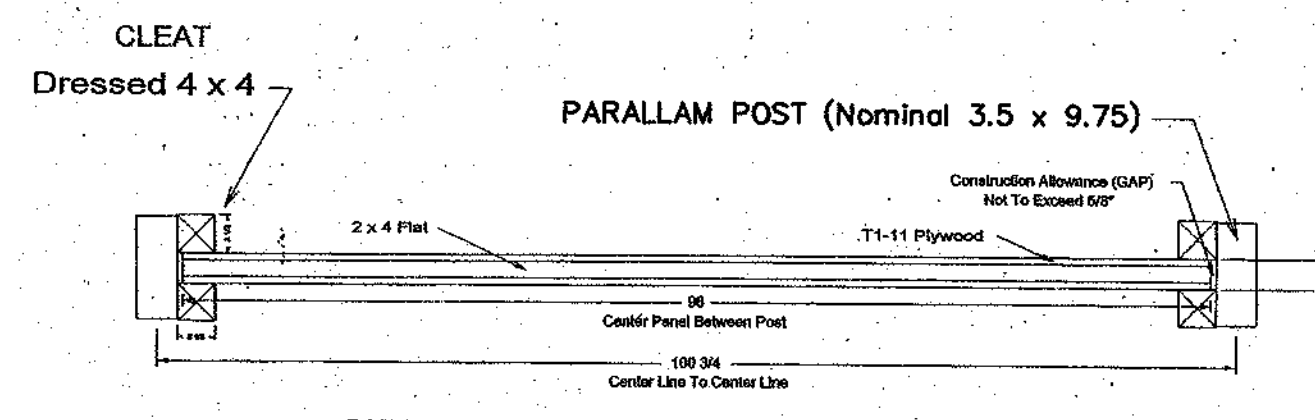
8' Wide X 10' High STANDARD DRAWING rev: 12-03-98



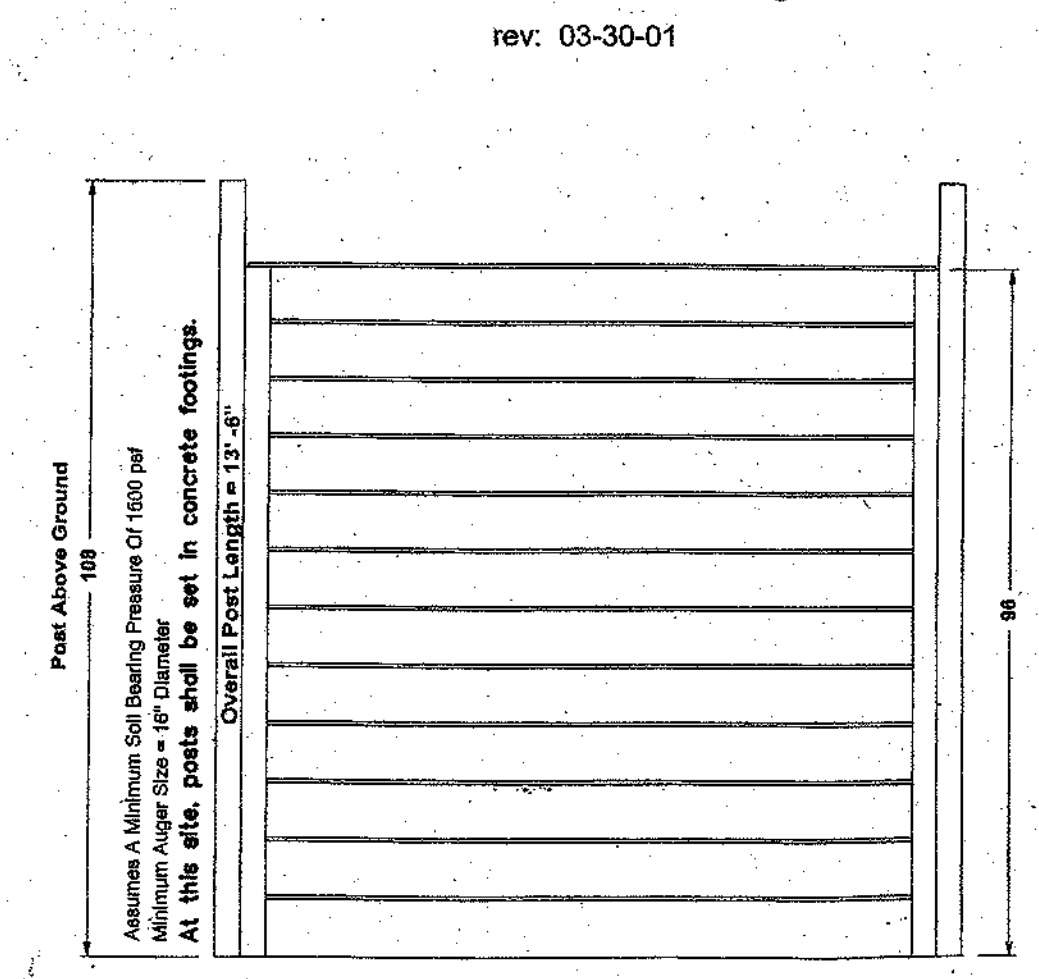
Plywood Scheme



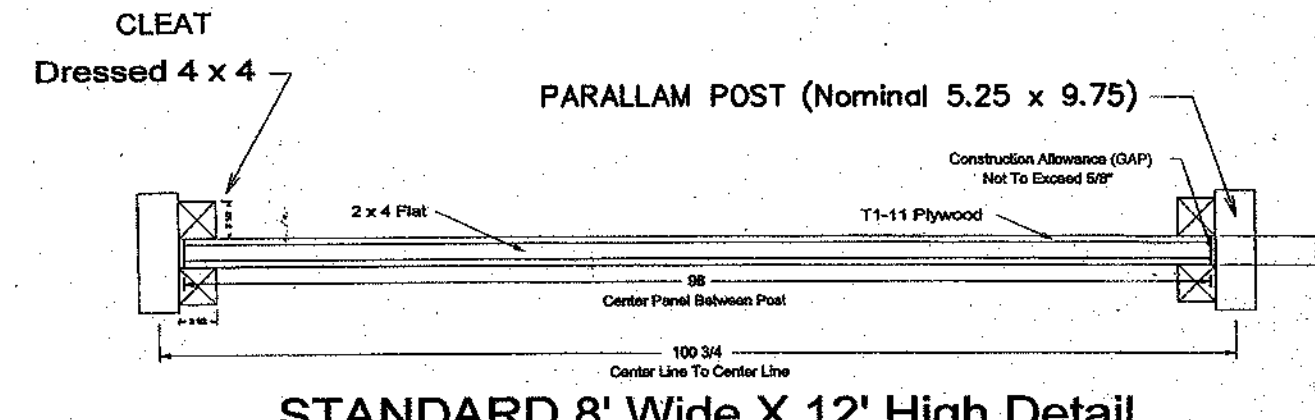
8 Wide by 10 High 2x4 Frame



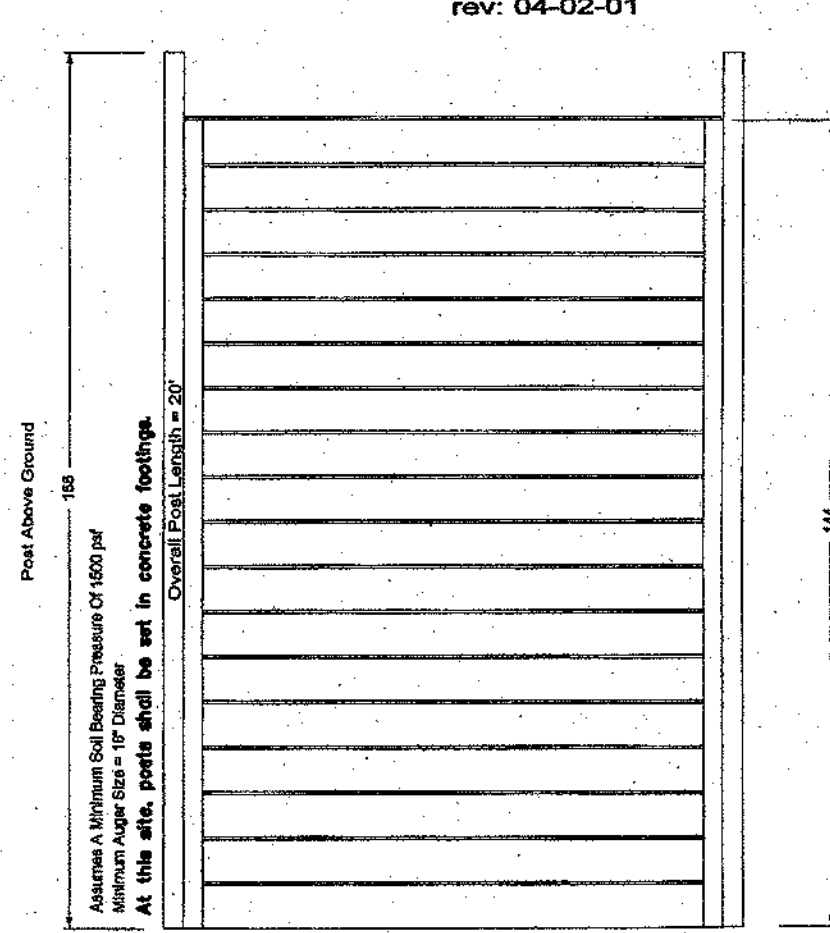
STANDARD 8' Wide X 8' High Detail



STANDARD 8' Wide X 8' High rev: 03-30-01

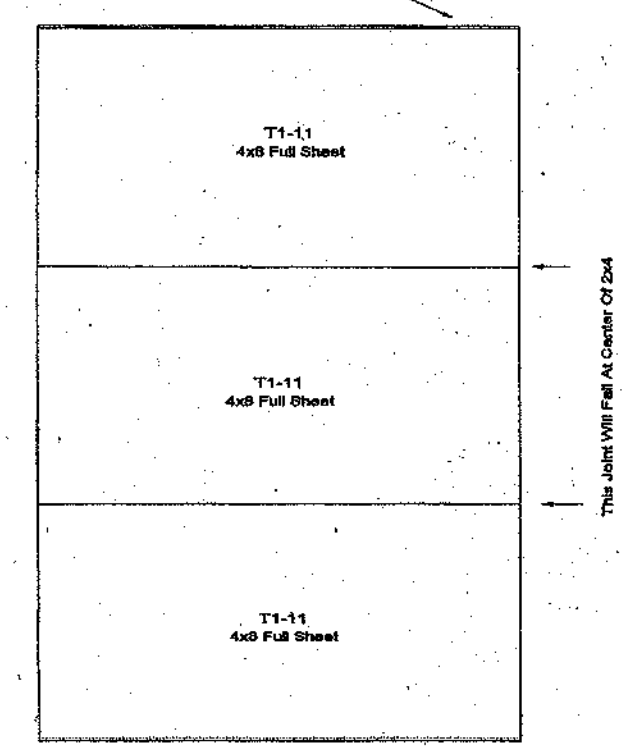


STANDARD 8' Wide X 12' High Detail

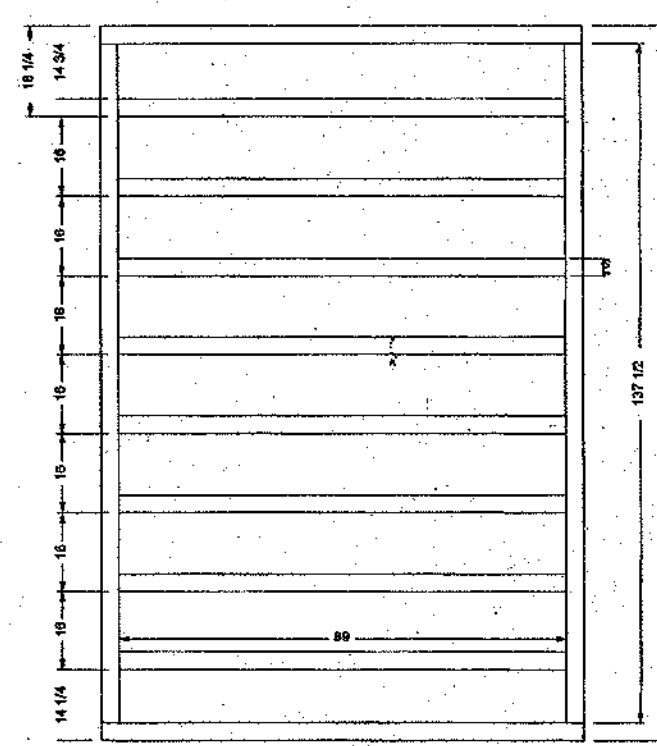


STANDARD 8' Wide X 12' High rev: 04-02-01

8' Wide X 12' High STANDARD DRAWING rev: 12-03-98



Plywood Scheme



8 Wide by 12 High 2x4 Frame

Height	Wind Load (PSF)							
	20	25	30	35	40	45	50	55
8'	3.5 x 9.75	3.5 x 9.75	3.5 x 9.75	3.5 x 9.75	3.5 x 9.75	3.5 x 9.75	3.5 x 9.75	3.5 x 9.75
10'	3.5 x 9.75	3.5 x 9.75	3.5 x 9.75	3.5 x 9.75	3.5 x 9.75	3.5 x 9.75	3.5 x 9.75	3.5 x 9.75
12'	5.25 x 12	5.25 x 12	5.25 x 12	5.25 x 12	5.25 x 12	5.25 x 12	5.25 x 12	5.25 x 12
14'	5.25 x 12	5.25 x 12	5.25 x 12	5.25 x 12	5.25 x 12	5.25 x 12	5.25 x 12	5.25 x 12
16'	5.25 x 14	5.25 x 14	5.25 x 14	5.25 x 14	5.25 x 14	5.25 x 14	5.25 x 14	5.25 x 14
18'	7 x 14	7 x 14	7 x 14	7 x 14	7 x 14	7 x 14	7 x 14	7 x 14
20'	7 x 14	7 x 14	7 x 14	7 x 14	7 x 14	7 x 14	7 x 14	7 x 14
22'	7 x 16	7 x 16	7 x 16	7 x 16	7 x 16	7 x 16	7 x 16	7 x 16
24'	11 x 12	11 x 12	11 x 14	11 x 14	11 x 14	11 x 14	11 x 14	11 x 14
26'	11 x 16	11 x 16	11 x 16	11 x 16	11 x 16	11 x 16	11 x 16	11 x 16
28'	11 x 19	11 x 19	11 x 19	11 x 19	11 x 19	11 x 19	11 x 19	11 x 19
30'	11 x 19	11 x 19	11 x 19	11 x 19	11 x 19	11 x 19	11 x 19	11 x 19

The design for post heights 8' through 12' assumes attachment to soil of gravel. Posts 14' or greater in height are assumed to be embedded in concrete. Post attachment depth to be determined by local engineer. Panel width 8'. Note: At this site, posts shall be set in concrete footings.



FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - SUITE 2000 WILLOW NATION, FEE
ELICOTT CITY, MARYLAND 21042
410-661-2555

By The Developer:
"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 Maryland Dept. of the Environment With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Authorize Periodic On-Site Inspections By The Maryland Dept. of the Environment."

Signature of Developer: *Earl O. Collins* Date: 12/20/01
Printed Name Of Developer: EARL O. COLLINS

By The Engineer:
"I Certify That This Stormwater Erosion And Sediment Control Represents A Practical And Feasible Best Management Practice For The Site Conditions. This Plan Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District. I Have Notified The District Of The Plans And Must Engage A Registered Professional Engineer To Supervise Construction."

Signature of Engineer: *Andrew M. Spaulde* Date: 3-21-02
Printed Name Of Engineer: ANDREW M. SPAULDE

Approved Department of Public Works: *Cindy Hamata* Date: 3/25/02
Chief, Bureau of Highways

Approved Department of Planning And Zoning: *Michael J. McCann* Date: 3/25/02
Chief, Division Of Land Development

Approved Department of Engineering: *Michael J. McCann* Date: 3/25/02
Chief, Development Engineering Division MK

LOG OF BORING NO. B-1

DEPTH (FEET)	DESCRIPTION	REMARKS
0.0 - 1.0	Red, brown, moist, loam, clayey SILT, some fine sand.	Typical 4 ft.
1.0 - 1.5	Red, brown, moist, loam, clayey SILT, some fine sand.	Wider and more irregular than above.
1.5 - 2.0	Red, brown, moist, loam, clayey SILT, some fine sand.	Bottom of hole at 16.0 ft.

LOG OF BORING NO. B-2

DEPTH (FEET)	DESCRIPTION	REMARKS
0.0 - 1.0	Red, brown, moist, loam, clayey SILT, some fine sand.	Typical 4 ft.
1.0 - 1.5	Red, brown, moist, loam, clayey SILT, some fine sand.	Wider and more irregular than above.
1.5 - 2.0	Red, brown, moist, loam, clayey SILT, some fine sand.	Bottom of hole at 16.0 ft.

LOG OF BORING NO. B-3

DEPTH (FEET)	DESCRIPTION	REMARKS
0.0 - 1.0	Red, brown, moist, loam, clayey SILT, some fine sand.	Typical 4 ft.
1.0 - 1.5	Red, brown, moist, loam, clayey SILT, some fine sand.	Wider and more irregular than above.
1.5 - 2.0	Red, brown, moist, loam, clayey SILT, some fine sand.	Bottom of hole at 16.0 ft.

LOG OF BORING NO. B-4

DEPTH (FEET)	DESCRIPTION	REMARKS
0.0 - 1.0	Red, brown, moist, loam, clayey SILT, some fine sand.	Typical 4 ft.
1.0 - 1.5	Red, brown, moist, loam, clayey SILT, some fine sand.	Wider and more irregular than above.
1.5 - 2.0	Red, brown, moist, loam, clayey SILT, some fine sand.	Bottom of hole at 16.0 ft.

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P.O. BOX 1371
ELICOTT CITY, MARYLAND 21041

STORMWATER MANAGEMENT NOTES AND DETAILS
MCCANN PROPERTY
LOTS 1 THRU 16 AND
PRESERVATION PARCELS 'A' THRU 'E'
ZONING RC-DEO
TAX MAP NO. B PARCEL NO. 79 GRID NO. 16
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: DECEMBER 20, 2001
SHEET 12 OF 15

STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Definition
Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose
To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

- This practice is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - The original soil to be vegetated contains materials toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
- For the purpose of these standards and specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

- Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the 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, silty loam, silty clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash or other materials larger than 1/2" in diameter.
 - Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnson grass, nutgrass, poison ivy, thistle, or others as specified.
 - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be applied at the rate of 4-8 tons/acre (500-4000 pounds per 1000 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 I - 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 of 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 soil or seed shall be placed on soil which has been treated with soil sterilants or other chemical control until sufficient time has elapsed (14 days min) to permit dissipation of phytotoxic materials.

Soil Testing

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.

- Place topsoil if required and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
- Topsoil Application
 - When topsoiling, maintain needed erosion and sediment control practices such as diversions, grade stabilization structures, earth dikes, slope silt fences and sediment traps and basins.
 - Grades on the areas to be topsoiled which have been previously established, shall be maintained about 4" - 6" higher in elevation.
 - Topsoil shall be uniformly distributed in a 4" - 6" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
 - Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is eroding or in a condition that may otherwise be detrimental to proper grading and seeded preparation.
- Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge amendments may be applied as specified below:
 - Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
 - Composted sludge shall be supplied by, or originate from a person or persons that are permitted at the time of acquisition of the compost by the Maryland Department of the Environment under COMAR 26.04.06.
 - Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
 - Composted sludge shall be applied at a rate of 1 ton/1000 square feet.
 - Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sodding, MD-VA, Pub. 47, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes, Revised 1973.

SEEDING CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
- 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 AND REVISIONS THERE TO.
- FOR ALL DISTURBED AREAS, DISTURBANCE PREVENTION, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
 - 7 CALENDAR DAYS FOR ALL PERMETER SEDIMENT CONTROL STRUCTURES, DICES, PERMETER SLODES AND ALL SLOPE SILT FENCES.
 - 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- FOR ALL DISTURBED AREAS, PERMANENT TRAP AND EARTH DIKES TO BE PERFORMED FIRST, REMAINDER OF THE GRADING TO BE PERFORMED AFTER STORM DRAINS, SEDIMENT TRAP AND EARTH DIKES ARE INSTALLED.
- ALL SEDIMENT TRAP/BASINS SHALL BE FIELD 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 SEEDING (SEE 20.0 SOIL, SOIL SUC. 24), TEMPORARY SEEDING (SEE 20.0 SOIL, SOIL SUC. 50), TEMPORARY STABILIZATION WITH MULCH ALONG CANALS ONLY OR 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 PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:

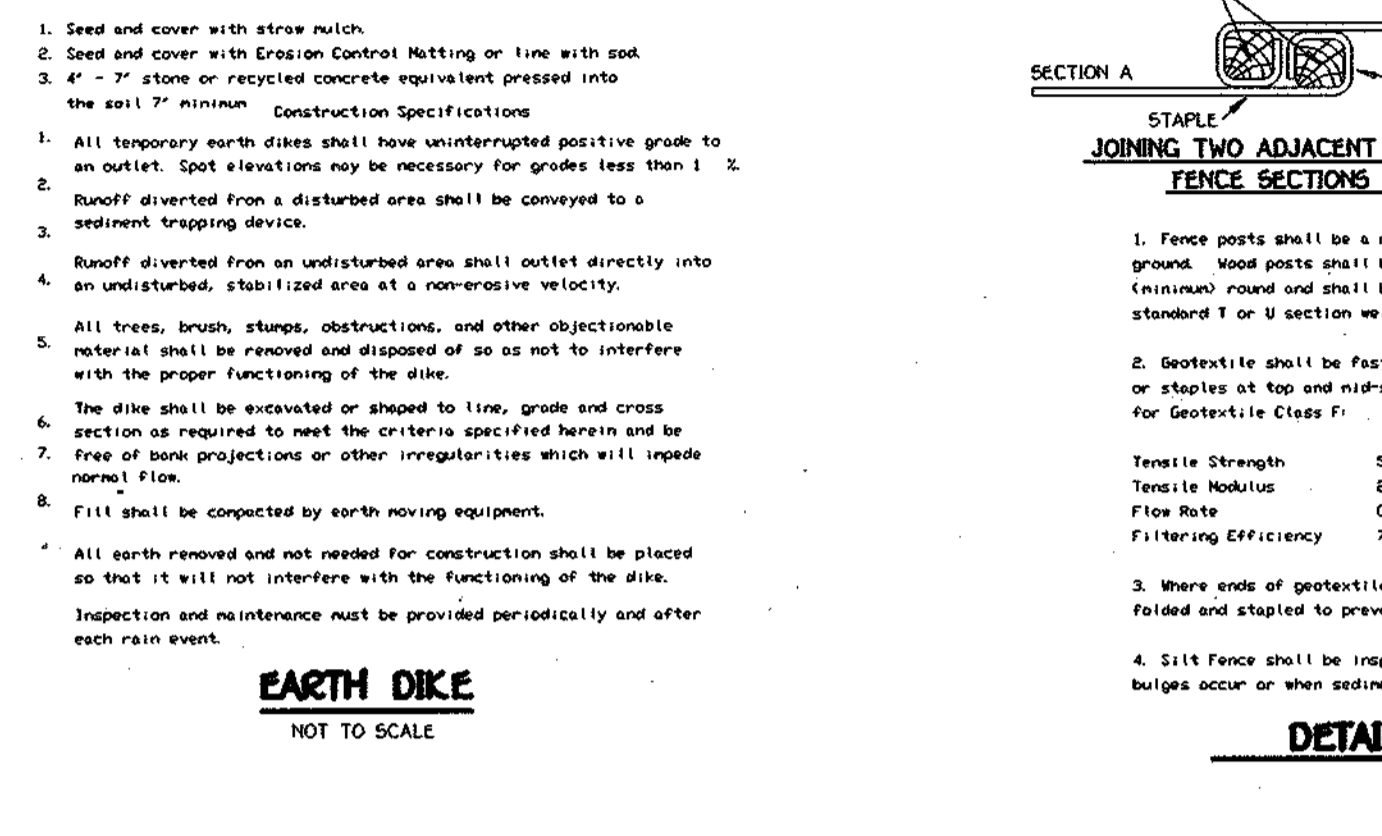
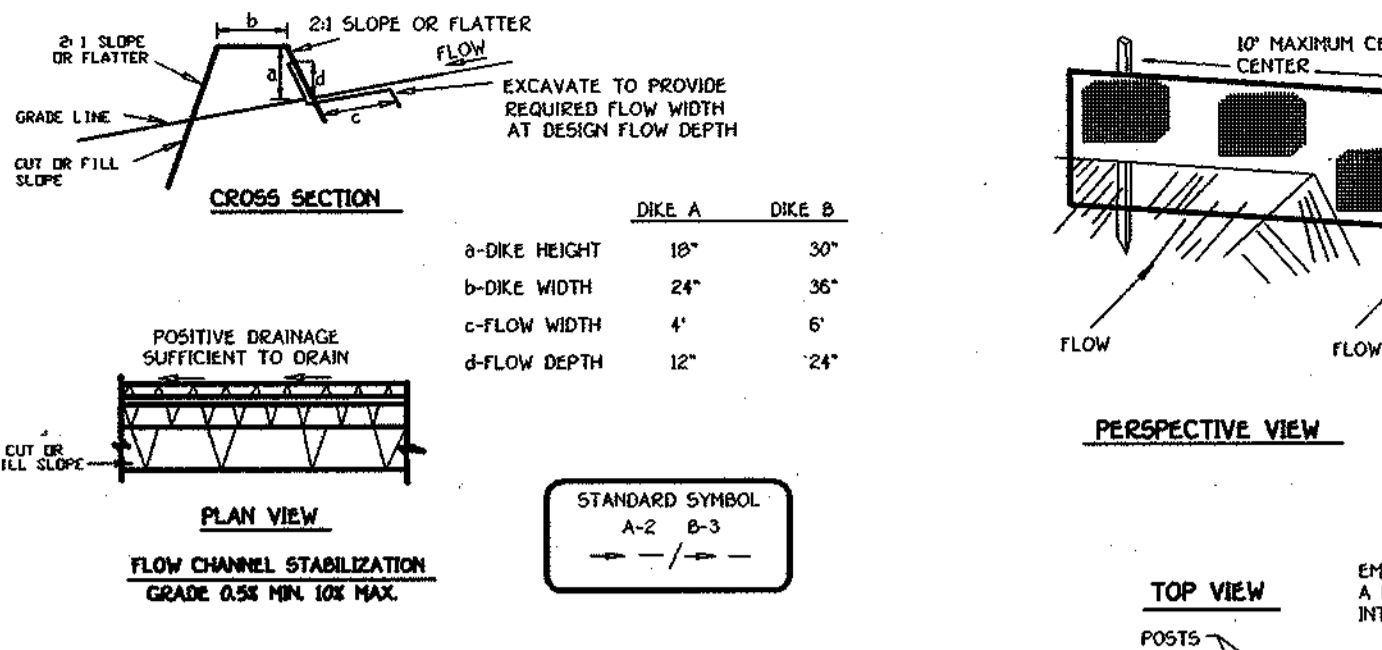
TOTAL AREA OF SITE	34.32 ACRES
AREA DISTURBED	0.11 ACRES
AREA TO BE ROOFED OR PAVED	0.36 ACRES
AREA TO BE VEGETATIVELY STABILIZED	8.75 ACRES
TOTAL CUT	2,490 CU.YD.
TOTAL FILL	2,400 CU.YD.
TOTAL CUT & FILL	1,114 CU.YD.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS 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 PERMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.



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PREPARED BY
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ENGINEERING CONSULTANTS & LAND SURVEYORS
1000 WASHINGTON BLVD., SUITE 200
BETHESDA, MARYLAND 20814
TEL: 301-461-1999
FAX: 301-461-1998



DETAIL 22 - SILT FENCE
NOT TO SCALE

20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION
Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas, and improving wildlife habitat.

CONDITIONS WHERE PRACTICE APPLIES
This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (Up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary soil stabilization, cleared areas during grading, seedbed preparation, seeding, mulching and other preparatory work. Permanent Seeding areas are lawn, dunes, and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY
Planting vegetation in disturbed areas will have an effect on the water budget, especially on volume and rate of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Vegetation over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

SEEDING CONTROL NOTES

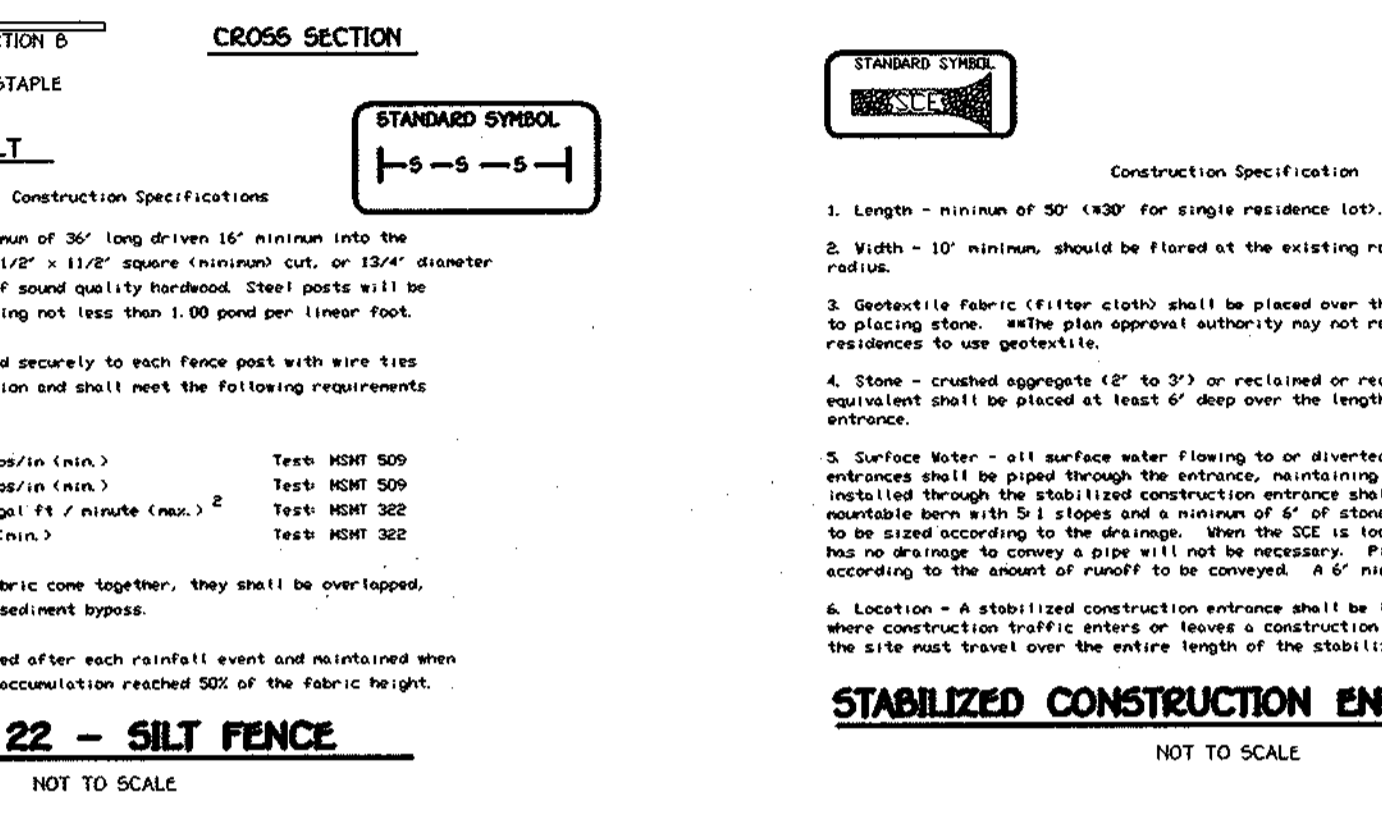
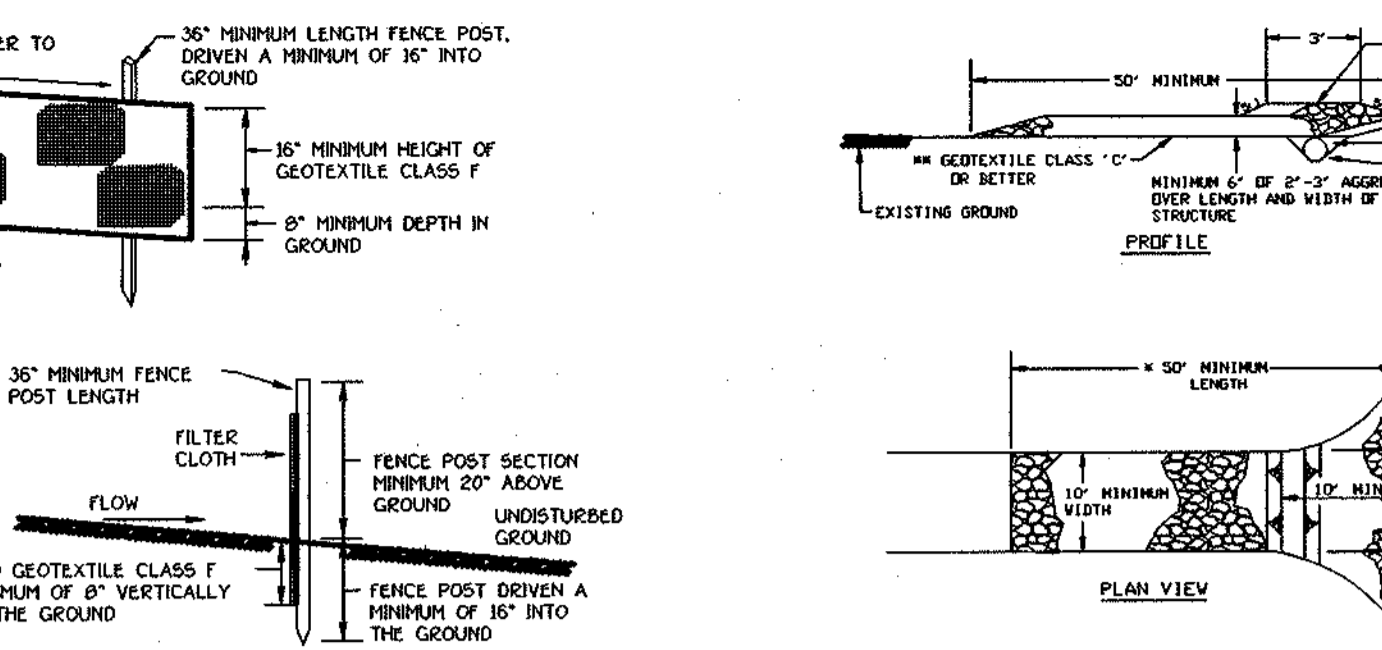
- Site Preparation
 - Final erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
 - Perform all grading operations at right angles to the slope. Final grading and staking is not usually necessary for temporary seeding.
 - Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.
- Soil Amendments (Fertilizer and Lime Specifications)
 - Soil tests must be performed to establish the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
 - Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Fertilizer may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warranty of the product.
 - Lime materials shall be ground limestone (hydrated or burnt lime may be substituted which contains at least 90% total oxides calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #20 mesh sieve and 90-100% will pass through a #30 mesh sieve.
- Seeded Preparation
 - Seeded preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dozed smooth, but left in the roughened condition. Sloped areas greater than 3:1 should be graded leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
 - Fill topsoil and fertilizer into the top 3-5" of soil by diking or other suitable means.
- Permanent Seeding
 - Seeding conditions required for permanent vegetative establishment:
 - Soil pH shall be between 6.0 and 7.2.
 - Soluble salts shall be less than 500 parts per million (ppm).
 - The soil shall contain less than 40% clay, but enough fine grained material (200 mesh plus clay) to provide the capability to hold a moderate amount of moisture (at least 10% by volume) in the soil.
 - If these conditions cannot be met by soil in place, adding topsoil is required in accordance with Section 21.0 Standard and Specification for Topsoil.
 - Areas of concern shall be identified and the seeding shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of seed to the soil. Seeding shall be done in the seedbed prepared in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of seed to the soil. Seeding shall be done in the seedbed prepared in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of seed to the soil.
 - Apply fertilizer and lime as prescribed on the plans.
 - Fill topsoil and fertilizer into the top 3-5" of soil by diking or other suitable means.

SEED MIXTURE - TEMPORARY SEEDING
Vegetation - Annual grasses or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

SEED MIXTURE - PERMANENT SEEDING
Seeding grasses and legumes to establish ground cover for a minimum of one year on disturbed areas generally receiving low maintenance.

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depth	Fertilizer Rate (00-10-20)	Lime Rate
1	BARLEY	92	3-1 - 5/15	1" - 2"	600 lb/ac	2 ton/ac
	OATS	36	8/15 - 10/15	1" - 2"	50 lb/1000sq ft	100 lb/1000sq ft
	RYE	140		1" - 2"		

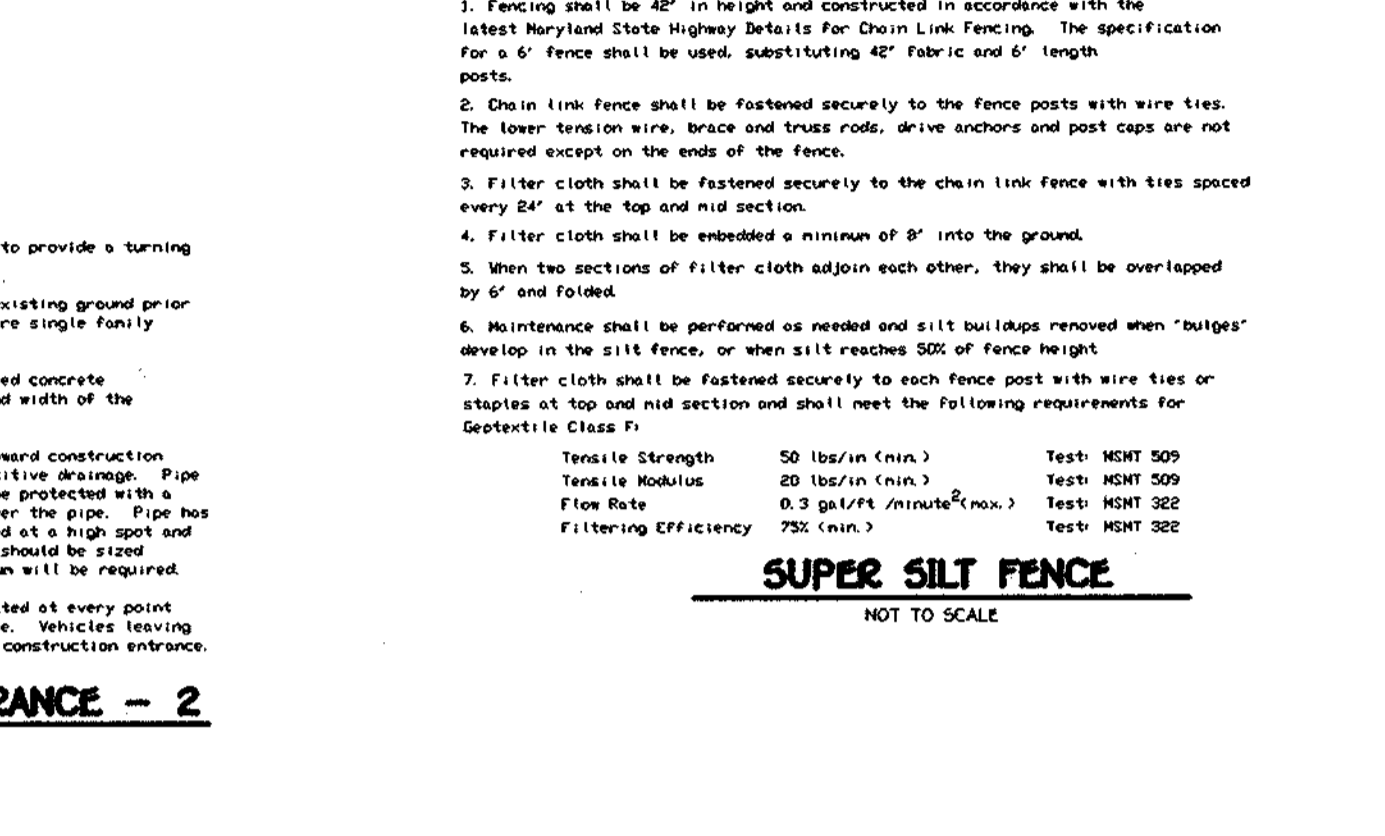
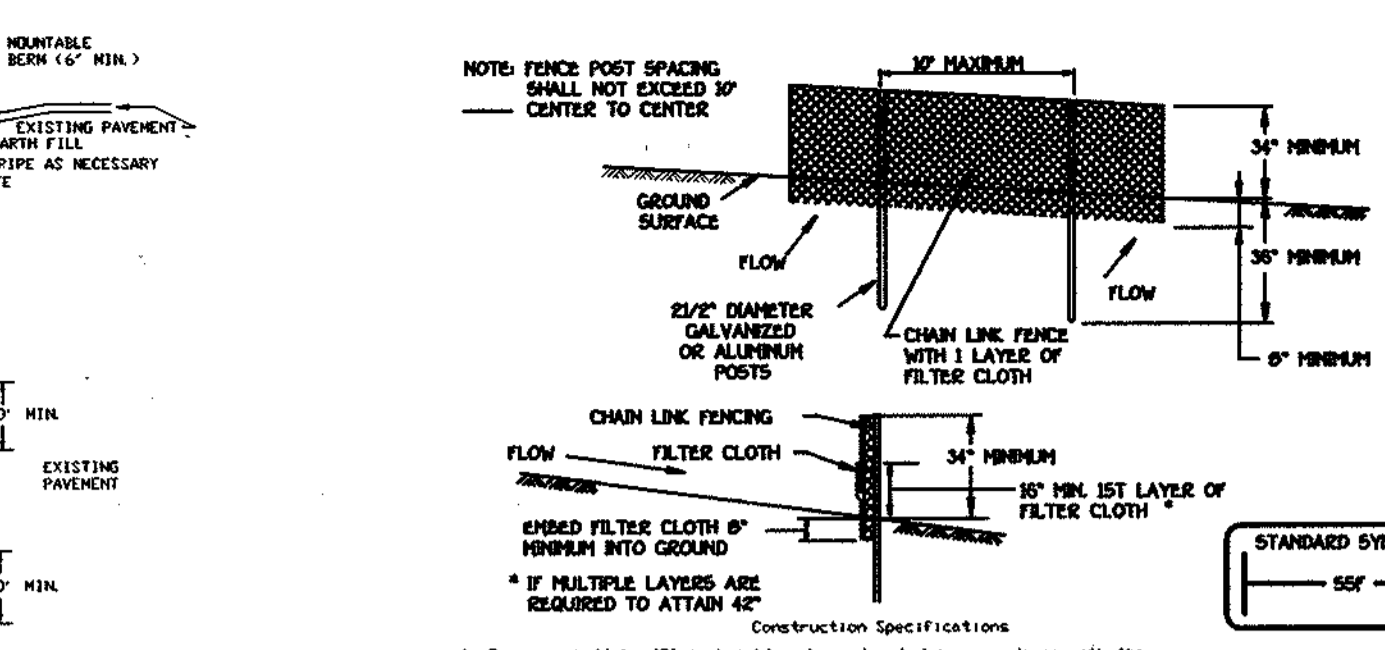
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depth	Fertilizer Rate (00-20-20)	Lime Rate
1	TALL FESCUE (053)	25	3/1 - 5/15	1" - 2"	90 lb/ac (2.0 lb/1000sq ft)	175 lb/ac (4.0 lb/1000sq ft)
2	PERENNIAL RYE GRASS (001)	15	8/15 - 10/15	1" - 2"	90 lb/ac (2.0 lb/1000sq ft)	175 lb/ac (4.0 lb/1000sq ft)
3	KENTUCKY BLUEGRASS (031)	10	3/1 - 5/15	1" - 2"	90 lb/ac (2.0 lb/1000sq ft)	175 lb/ac (4.0 lb/1000sq ft)
4	TALL FESCUE (001)	10	8/15 - 10/15	1" - 2"	90 lb/ac (2.0 lb/1000sq ft)	175 lb/ac (4.0 lb/1000sq ft)



STREET TREE PLANTING DETAIL
NOT TO SCALE

SEQUENCE OF CONSTRUCTION

- OBTAIN THE REQUIRED GRADING PERMIT. (1 DAY)
- NOTIFY "M&S UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK (8-200-7777). NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION 24 HOURS BEFORE STARTING ANY WORK (410-313-1870). (1 DAY)
- A 5 DAY CLEAR WEATHER FORECAST IS REQUIRED BEFORE BEGINNING THE PHASE I GRADING. REMOVE THE EXISTING CONCRETE CHANNELS AT THE PROPOSED ROAD ENTRANCES. INSTALL CULVERTS AND STABILIZED CONSTRUCTION ENTRANCES AT THE PROPOSED ROAD ENTRANCES. REMOVE THE EXISTING CONCRETE CHANNEL FROM STA. 143 TO STA. 25+00 AND NEW CHANNEL. ACCORDING TO ROAD IMPROVEMENT PLANS. COMPLETELY STABILIZE THE EXISTING ROADSIDE DITCHES WITH RIP-RAP AND SOLID SODDING. INSTALL THE EARTH DIKES DIRECTLY ABOVE 5-7' GRADING FROM 5-7' TO THE EXISTING CULVERT AND COMPLETELY STABILIZE WITH RIP-RAP AND SOLID SODDING. FOR THE SEDIMENT BASIN ONLY, INSTALL THE REQUIRED SEDIMENT AND EROSION CONTROL DEVICES AS INDICATED ON THE PLAN SHEETS. NO BLASTING WILL BE PERMITTED FOR THE EXCAVATION OF THE PROPOSED BASIN. WHERE NECESSARY, RIPPING AND JACK HAMMERING SHOULD BE UTILIZED IN THE EXCAVATION OF THE BASIN. (5 DAYS)
- OBTAIN PERMISSION OF THE SEDIMENT CONTROL INSPECTOR PRIOR TO PROCEEDING.
- INSTALL TREE PROTECTION FENCE AND FOREST RETENTION SIGNAGE. CLEAR AND GRUB FOR THE REMAINING SEDIMENT CONTROL MEASURES ONLY - PHASE II GRADING. (2 WEEKS)
- INSTALL THE REQUIRED SEDIMENT AND EROSION CONTROL DEVICES AS INDICATED ON THE PLAN SHEETS. NO BLASTING WILL BE PERMITTED FOR THE EXCAVATION OF THE PROPOSED TRAP. WHERE NECESSARY, RIPPING AND JACK HAMMERING SHOULD BE UTILIZED IN THE EXCAVATION OF EACH FACILITY. (2 WEEKS)
- OBTAIN PERMISSION OF THE SEDIMENT CONTROL INSPECTOR PRIOR TO PROCEEDING.
- CLEAR AND GRUB FOR THE REMAINDER OF THE SITE. (1 WEEK)
- GRADE SITE TO THE PROPOSED SUBGRADE. INSTALL THE STORM DRAIN SYSTEM EXCEPT FOR THE PIPE RUN FROM STA. 143 TO THE SHALLOW MARSH AND ITS BYPASS. INSTALL INLET PROTECTION AS INDICATED ON THE PLAN SHEETS. (2 WEEKS)
- THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON AFTER EACH RAINFALL AND ON A DAILY BASIS. REMOVE SEDIMENTS FROM ALL TRAPS WHEN CLEANOUT ELEVATIONS ARE REACHED. ALL SEDIMENTS MUST BE PLACED UPSTREAM OF AN APPROVED TRAP DEVICE.
- INSTALL ROAD BASE COURSE. (2 WEEKS)
- STABILIZE ALL DISTURBED AREAS AND OBTAIN PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED. (2 DAYS)
- APPLY TACK COAT TO SUB-BASE AND LAY SURFACE COURSE. (1 WEEK)
- FOLLOWING SUCCESSFUL STABILIZATION OF ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES, AND AFTER PERMISSION HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, ALL EROSION AND SEDIMENT CONTROL DEVICES MAY BE REMOVED AND/OR BACKFILLED AND THE REMAINING AREAS BROUGHT TO FINAL GRADE AFTER THE STORM DRAIN SYSTEM HAS BEEN FLUSHED TO REMOVE TRAPPED SEDIMENT. THIS WOULD ALSO INCLUDE THE REMOVAL OF TEMPORARY STORM DRAIN FLEX PIPES AT THE STORM DRAIN RUN CONNECTIONS. (2 WEEKS)
- INSTALL THE SHALLOW MARSH AND ASSOCIATED SEDIMENT CONTROL MEASURES - PHASE III GRADING. INSTALL THE STORM DRAIN RUN FROM STA. 143 TO THE SHALLOW MARSH IN CONJUNCTION WITH THE REMOVAL OF THE TEMP FLEX PIPE TO THE SEDIMENT TRAP. (1 WEEK)
- NOTIFY HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS FOR A FINAL INSPECTION OF THE COMPLETED PROJECT.



STONE OUTLET SEDIMENT TRAP - ST II
NOT TO SCALE

SEEDING CONTROL NOTES

- Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
- The fill material for the embankment shall be free of roots, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
- All cut and fill slopes shall be 2:1 or flatter.
- The stone used in the outlet shall be small rip-rap 4" to 7" in size with a 1" thick layer of 3/4" to 1/2" washed aggregate placed on the upstream face of the outlet. Stone facing shall be as necessary to prevent clogging. Geotextile Class C may be substituted for the stone facing by placing it on the inside face of the stone outlet.
- Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap. Sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- The structure shall be inspected periodically and after each rain and repairs made as needed.
- Construction of trap shall be carried out in such a manner that sedimentation is limited. Once constructed, the top and outside face of the embankment shall be established with seed and mulch. Points of concentration inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be established free (seed) with seed and mulch upon trap completion and maintained over the life of the trap.
- The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage trap has been properly stabilized.
- Refer to Section D for specifications concerning trap dewatering.
- Minimum trap depth shall be measured from the weir elevation.
- The elevation of the top of any pipe directing water into the trap must equal or exceed the elevation of the trap embankment.
- Geotextile Class C shall be placed over the bottom and sides of the outlet channel prior to the placement of stone. Sections of filter cloth must overlap at 6" with 6" overlap at the entrance of the outlet channel. The filter cloth shall be embedded at least 6" into existing ground at the entrance of the outlet channel.
- Outlet - An outlet shall be provided, including a means of conveying the discharge in an erosion free manner to an existing stable channel.

DEVELOPER'S CERTIFICATE

I, the undersigned, hereby certify that all development and construction will be done according to this plan of development and that any responsible certificate holder shall be held liable for any violations of the provisions of this plan of development and construction. I have prepared this plan of development and construction in accordance with the requirements of the HOWARD COUNTY SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS DEEMED NECESSARY.

SIGNATURE OF DEVELOPER: *Elizabeth McCann* DATE: 12-20-01

SIGNATURE OF ENGINEER: *Michael J. McCann* DATE: 12-20-01

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS. DATE: 1/9/02

USDA/NATURAL RESOURCES CONSERVATION SERVICE DATE: 1/9/02

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT. DATE: 1/9/02

APPROVED: *Michael J. McCann* DATE: 1/9/02

APPROVED: DEPARTMENT OF PLANNING AND ZONING DATE: 1/9/02

CHEF, DIVISION OF LAND DEVELOPMENT DATE: 1/9/02

APPROVED: DEPARTMENT OF PLANNING AND ZONING DATE: 1/9/02

CHEF, DEVELOPMENT ENGINEERING DIVISION DATE: 1/9/02

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS DATE: 1/9/02

CHIEF, BUREAU OF HIGHWAYS DATE: 3-21-02

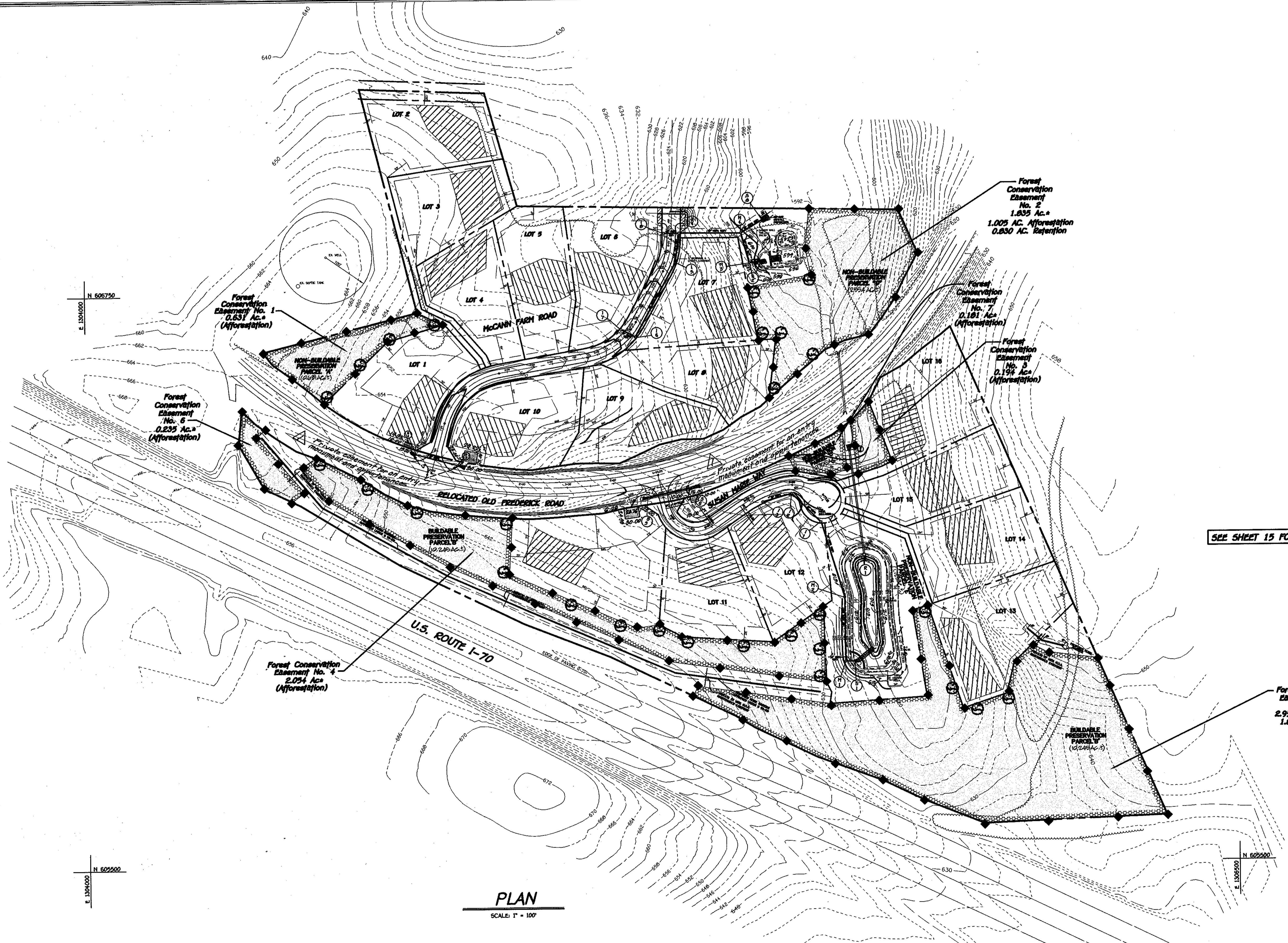
SEDIMENT CONTROL NOTES AND DETAILS

MCCANN PROPERTY
LOTS 1 THRU 16 AND PRESERVATION PARCELS 'A' THRU 'E'
ZONING RC-DEO
TAX MAP NO. 8 PARCEL NO. 78 GRID NO. 15
FOURTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
DATE: DECEMBER 20, 2001
SHEET 13 OF 15

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Linda Herron 3/28/02
 CHIEF, DIVISION OF LAND DEVELOPMENT JHB DATE

McDermott 3/25/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION JMK DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Richard M. Danks 3-21-02
 CHIEF, BUREAU OF HIGHWAYS JMS DATE



SEE SHEET 15 FOR FCE NOTES AND DETAILS

PLAN
 SCALE: 1" = 100'

Forest Conservation Easement No. 5
 4.025 Ac.
 2.95 Ac. Afforestation
 1.07 Ac. Retention



⊗ - DENOTES LOCATION OF PROPOSED 1" CALIBER TREES TO BE PLANTED WITHIN FOREST CONSERVATION EASEMENTS

FOREST CONSERVATION PLAN
McCANN PROPERTY
 LOTS 1 THRU 16 AND
 PRESERVATION PARCELS 'A' THRU 'E'
 ZONING RC-020
 TAX MAP No. 0 PARCEL No. 70 GRID No. 16
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: DECEMBER 20, 2001
 SHEET 14 OF 15 **F-01-105**

No.	Revision	Date
1	Add a private easement for an entry monument and appurtenances	5-28-03

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK • 10772 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21117
 (410) 461-2895

Eco-Science Professionals, Inc.
 CONSULTING ECOLOGISTS

MD DNR Qualified Professional
 USACE Wetland Delinator
 Certification # VDCP93ND06109448
J.P. Candless
JOHN P. CANDLESS



OWNER
 MRS. ELIZABETH MCCANN
 c/o MICHAEL J. MCCANN
 5000 WILLOW BRANCH WAY
 UNIT 303
 OWINGS HILLS, MARYLAND 21117

CONTRACT PURCHASER AND DEVELOPER
 McCANN PROPERTY PARTNERSHIP
 P.O. BOX 1371
 ELLICOTT CITY, MARYLAND 21041

AS BUILT 3-19-04

Planting Schedule

Forest Conservation Easement #1 - 0.63 acres

Qty.	Species	Size	Spacing
4	Acer rubrum - Red maple	1" CAL.	#
30	Acer rubrum - Red maple	2-3" WHIP	**
25	Cornus florida - Flowering dogwood	2-3" WHIP	**
40	Fraxinus pennsylvanica - Green ash	2-3" WHIP	**
20	Juniperus virginiana - Red cedar	2-3" WHIP	**
30	Liriodendron tulipifera - Poplar	2-3" WHIP	**
25	Prunus serotina - Black cherry	2-3" WHIP	**
25	Quercus rubra - Red Oak	2-3" WHIP	**
15	Sassafras albidum - Sassafras	2-3" WHIP	**
23	Viburnum prunifolium - Blackhaw	18-24" B.T.	**

Forest Conservation Easement #2 - 1.00 acres

Qty.	Species	Size	Spacing
6	Pinus strobus - White pine	6"-8"	#
40	Acer rubrum - Red maple	2-3" WHIP	**
35	Cornus florida - Flowering dogwood	2-3" WHIP	**
50	Fraxinus pennsylvanica - Green ash	2-3" WHIP	**
30	Juniperus virginiana - Red cedar	2-3" WHIP	**
50	Liriodendron tulipifera - Poplar	2-3" WHIP	**
35	Prunus serotina - Black cherry	2-3" WHIP	**
35	Quercus rubra - Red Oak	2-3" WHIP	**
35	Sassafras albidum - Sassafras	2-3" WHIP	**
30	Viburnum prunifolium - Blackhaw	18-24" B.T.	**

Forest Conservation Easement #3 - 0.19 acres

Qty.	Species	Size	Spacing
10	Acer rubrum - Red maple	2-3" WHIP	**
10	Cornus florida - Flowering dogwood	2-3" WHIP	**
15	Fraxinus pennsylvanica - Green ash	2-3" WHIP	**
15	Juniperus virginiana - Red cedar	2-3" WHIP	**
5	Viburnum prunifolium - Blackhaw	18-24" B.T.	**

Forest Conservation Easement #4 - 2.05 acres

Qty.	Species	Size	Spacing
14	Pinus strobus - White pine	6"-8"	#
90	Acer rubrum - Red maple	2-3" WHIP	**
75	Cornus florida - Flowering dogwood	2-3" WHIP	**
110	Fraxinus pennsylvanica - Green ash	2-3" WHIP	**
80	Juniperus virginiana - Red cedar	2-3" WHIP	**
110	Liriodendron tulipifera - Poplar	2-3" WHIP	**
60	Prunus serotina - Black cherry	2-3" WHIP	**
75	Quercus rubra - Red Oak	2-3" WHIP	**
60	Sassafras albidum - Sassafras	2-3" WHIP	**
60	Viburnum prunifolium - Blackhaw	18-24" B.T.	**

Forest Conservation Easement #5 - 2.95 acres

Qty.	Species	Size	Spacing
4	Pinus strobus - White pine	6"-8"	#
130	Acer rubrum - Red maple	2-3" WHIP	**
95	Cornus florida - Flowering dogwood	2-3" WHIP	**
145	Fraxinus pennsylvanica - Green ash	2-3" WHIP	**
90	Juniperus virginiana - Red cedar	2-3" WHIP	**
145	Liriodendron tulipifera - Poplar	2-3" WHIP	**
95	Prunus serotina - Black cherry	2-3" WHIP	**
135	Quercus rubra - Red Oak	2-3" WHIP	**
95	Sassafras albidum - Sassafras	2-3" WHIP	**
95	Viburnum prunifolium - Blackhaw	18-24" B.T.	**

Forest Conservation Easement #6 - 0.23 acres

Qty.	Species	Size	Spacing
14	Acer rubrum - Red maple	2-3" WHIP	**
20	Fraxinus pennsylvanica - Green ash	2-3" WHIP	**
10	Juniperus virginiana - Red cedar	2-3" WHIP	**
15	Liriodendron tulipifera - Poplar	2-3" WHIP	**
15	Prunus serotina - Black cherry	2-3" WHIP	**
10	Viburnum prunifolium - Blackhaw	18-24" B.T.	**

Forest Conservation Easement #7 - 0.18 acres

Qty.	Species	Size	Spacing
15	Acer rubrum - Red maple	2-3" WHIP	**
15	Cornus florida - Flowering dogwood	2-3" WHIP	**
15	Fraxinus pennsylvanica - Green ash	2-3" WHIP	**
10	Juniperus virginiana - Red cedar	2-3" WHIP	**
15	Viburnum prunifolium - Blackhaw	18-24" B.T.	**

KEY:
cal. - caliper whip - may be container grown or bareroot
b.t. branched transplant

- one inch caliper trees shall be planted within FCE in locations shown by

** - whips and shrubs shall be planted, on average, at a spacing of 11 feet on center. Grid pattern or row planting may be used to facilitate maintenance. Limited clumping of shrubs is permitted.

Planting/Soil Specifications

- Planting of nursery stock shall take place between March 15th and April 30th or September 15th - November 15th.
- A twelve (12) inch layer of topsoil shall be spread over all forestation areas impacted by site grading to assure a suitable planting area. Disturbed areas shall be seeded and stabilized as per general construction plan for project. Planting areas not impacted by site grading shall have no additional topsoil installed.
- All bareroot planting stock shall have their root systems dipped into an anti-desiccant gel prior to planting.
- Plants shall be installed so that the top of root mass is level with the top of existing grade. Backfill in the planting pits shall consist of 3 parts existing soil to 1 part pine fines or equivalent.
- Fertilizer shall consist of Agriform 22-8-2, or equivalent, applied as per manufacturer's specifications.
- A two (2) inch layer of hardwood mulch shall be placed over the root area of all plantings.
- Plant material shall be transported to the site in a tarped or covered truck. Plants shall be kept moist prior to planting.
- All non-organic debris associated with the planting operation shall be removed from the site by the contractor.

Sequence of Construction

- Sediment control and tree protection devices shall be installed in accordance with general construction plan for site. Site shall be graded in accordance with general construction plans.
- Proposed forestation areas impacted by site grading shall be topsoiled and stabilized as per #2 of Planting/Soil Specifications for project.
- Plants shall be installed as per Plant Schedule and the Planting/Soil Specifications for the project.
- Upon completion of the planting, signage shall be installed as per the Forest Protection Devices shown on the Forest Conservation Plan.
- Plantings shall be maintained and guaranteed in accordance with the Maintenance and Guarantee requirements for project.

Maintenance of Plantings

- Maintenance of plantings shall last for a period of 24 months.
- All plant material shall be watered twice a month during the 1st growing season. Watering may be more or less frequent depending on weather conditions. During second growing season, once a month during May-September, if needed.
- Invasive species and noxious weeds will be removed from forestation areas. Old field successional species will be retained.
- Plants will be examined a minimum two times during the growing season for serious plant pests and diseases. Serious problems will be treated with the appropriate agent.
- Dead branches will be pruned from plantings.

Guarantee Requirements

- A 75 percent survival rate of forestation plantings will be required at the end of the 24 month maintenance period. All plant material below the 75 percent threshold will be replaced at the beginning of the next growing season.

Surety for Forestation

- The developer shall post a surety (bond, letter of credit) to ensure that forestation plantings are completed. Upon acceptance of the plantings by the County, the bond shall be released.

Cost of Forestation Project

- The estimated cost of installation of the proposed planting plan is \$30,000.

Planting Notes:

- It is recommended that any multiflora rose colonization be removed and controlled prior to forestation. Existing native trees may be retained.
- The potential for deer and rodent damage on this forestation project is high. The planting contractor may utilize physical and chemical techniques to improve the success of the plantings. These techniques must be approved by the owner prior to initiation of work.

FOREST DATA	ACRES
GROSS AREA:	34.3
NET TRACT AREA (NTA):	34.3
EXISTING FOREST ON NTA:	6.9
AFFORESTATION THRESHOLD:	6.9
REFORESTATION THRESHOLD:	8.6
AFFORESTATION REQUIRED:	0.1
FOREST TO BE RETAINED (NTA) IN FCE:	2.7
FOREST TO BE CLEARED (NTA):	4.1
REFORESTATION REQUIRED:	8.2
FORESTATION AVAILABLE:	8.1
ONSITE FORESTATION AVAILABLE:	7.2
FEE-IN-LIEU PAYMENT:	0.9

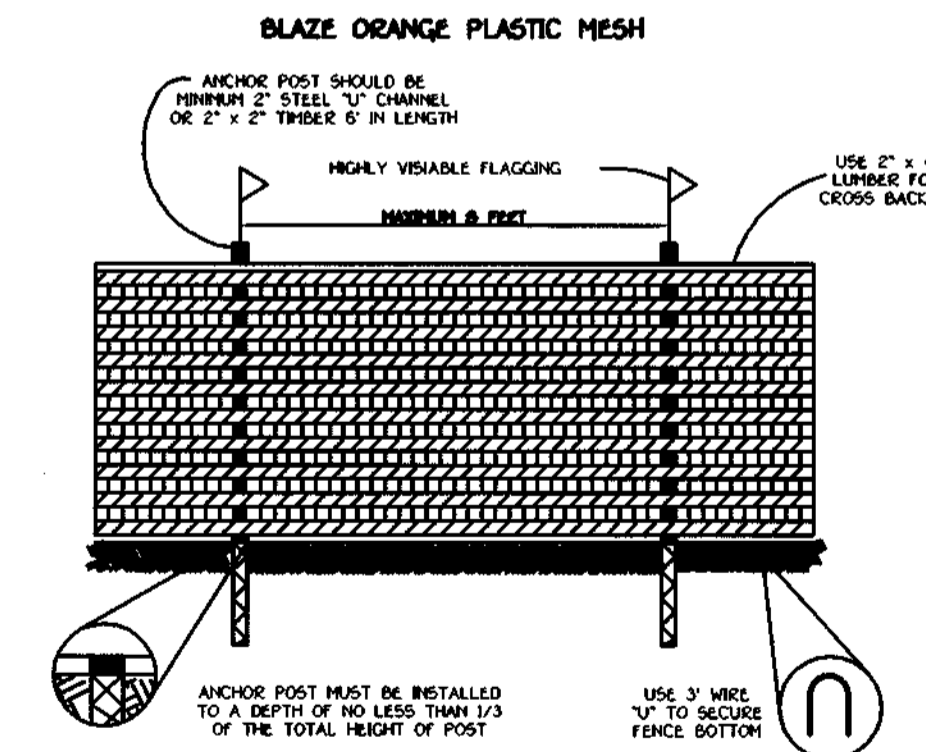
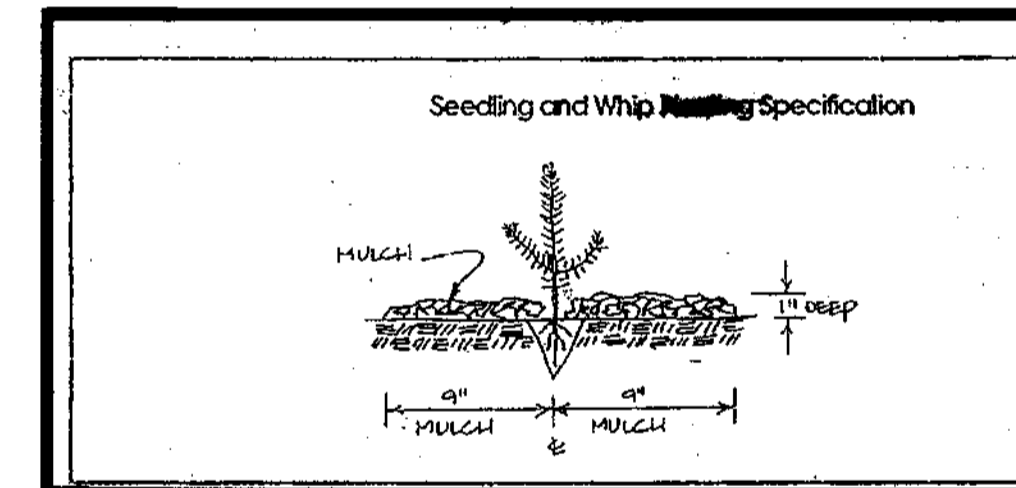
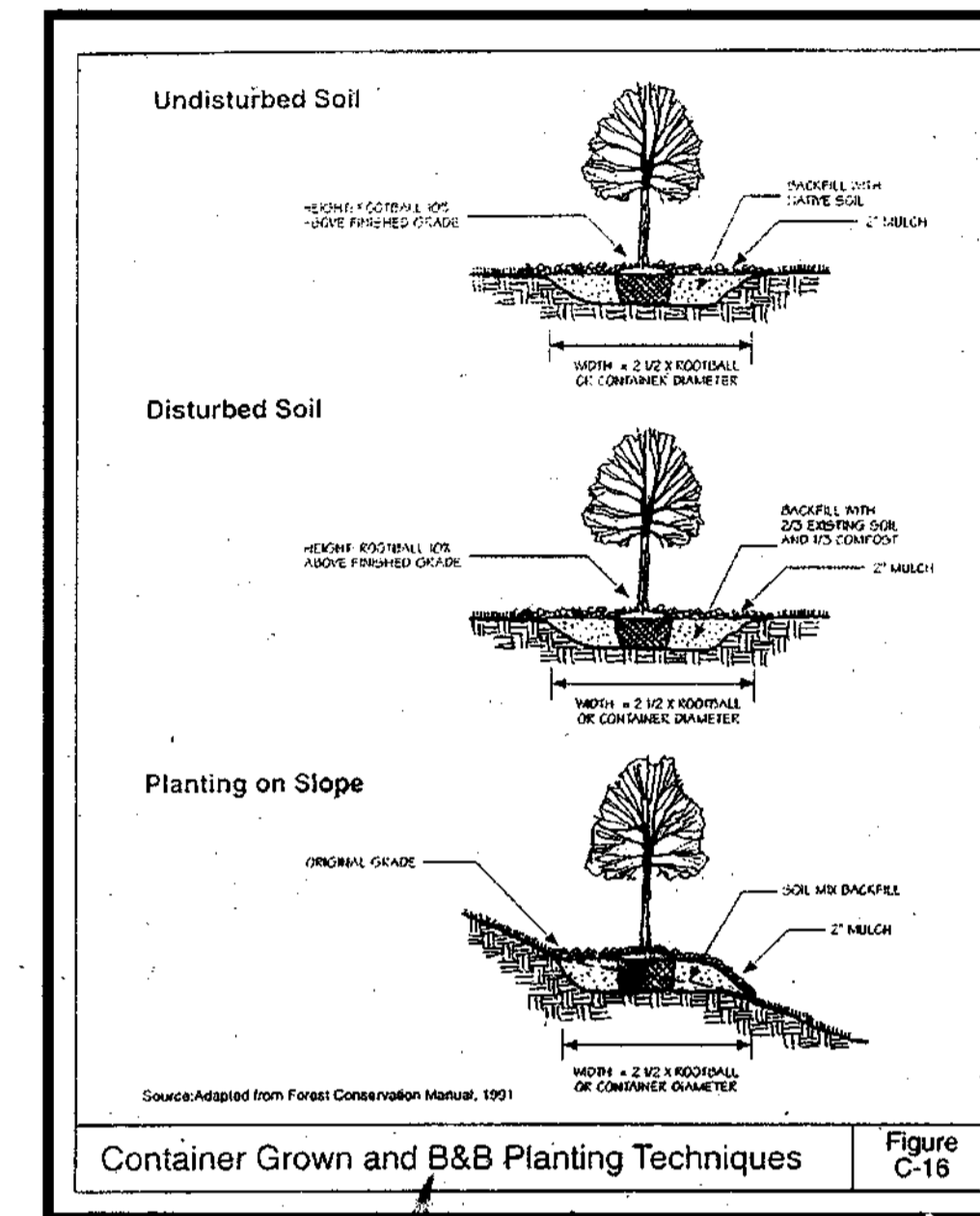
The Forest Conservation Easement Has Been Established To Fulfill The Requirements Of Section 16.1200 Of The Howard County Code Forest Conservation Act. The Forest Obligation Is Fulfilled By Providing 7.251 Acres Of Afforestation On-Site; 2.704 Acres Of Forest Retention And A Fee-In-Lieu Payment Of \$19,602 For The Balance Of 0.9 Acres Reforestation Obligation. No Clearing, Grading Or Construction Is Permitted Within The Forest Conservation Easement. However, Forest Management Practices As Defined In The Deed Of Forest Conservation Easement Are Allowed.

Surety Tabulation
7.251 Acres of On-Site Afforestation = \$157,927.00
2.704 Acres of On Site Retention = \$23,557.20
Total Surety = \$181,484.20

FCP NOTES

- Any Forest Conservation Easement (FCE) area shown hereon is subject to protective covenants which may be found in the Land Records of Howard County which restrict the disturbance and use of these areas.
- The forest Conservation Easements have been established to fulfill the requirements of Section 16.1200 of the Howard County Code, Forest Conservation Act. No clearing, grading, or construction is permitted within the Forest Conservation Easements; however, forest management practices as defined in the Deed of Forest Conservation Easement are allowed.
- There shall be no clearing, grading, construction or disturbance of vegetation in the Forest Conservation Easement, except as permitted by Howard County DPZ.
- No stockpiles, parking areas, equipment cleaning areas, etc. shall occur within areas designated as Forest Conservation Easements.
- Permanent signage shall be placed 50'-100' apart along the boundaries of all areas included in Forest Conservation Easements.
- The outstanding FCA obligation of 0.9 acres will be met using by payment into the County Fee-in-lieu fund. The cost of this payment will be \$19,602.
- The estimate cost of the proposed onsite forestation, including maintenance and monitoring will be \$30,000.00.

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development: *Andy Hamilton* 3/20/02
 Chief, Development Engineering Division: *Michael J. McCann* 3/25/02
 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways: *Andrew M. Quirk* 3-21-02



- NOTES:
- FOREST PROTECTION DEVICE ONLY.
 - RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
 - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
 - SOFT DRINKS SHOULD BE AVOIDED.
 - PROTECTIVE SIGNAGE MAY ALSO BE USED.
 - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL
NOT TO SCALE

FOREST CONSERVATION EASEMENT

UNAUTHORIZED DISTURBANCE OF VEGETATION IS PROHIBITED. VIOLATORS SUBJECT TO PENALTIES UNDER THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1992.

TREES FOR YOUR FUTURE

■ DENOTES SIGN LOCATION