

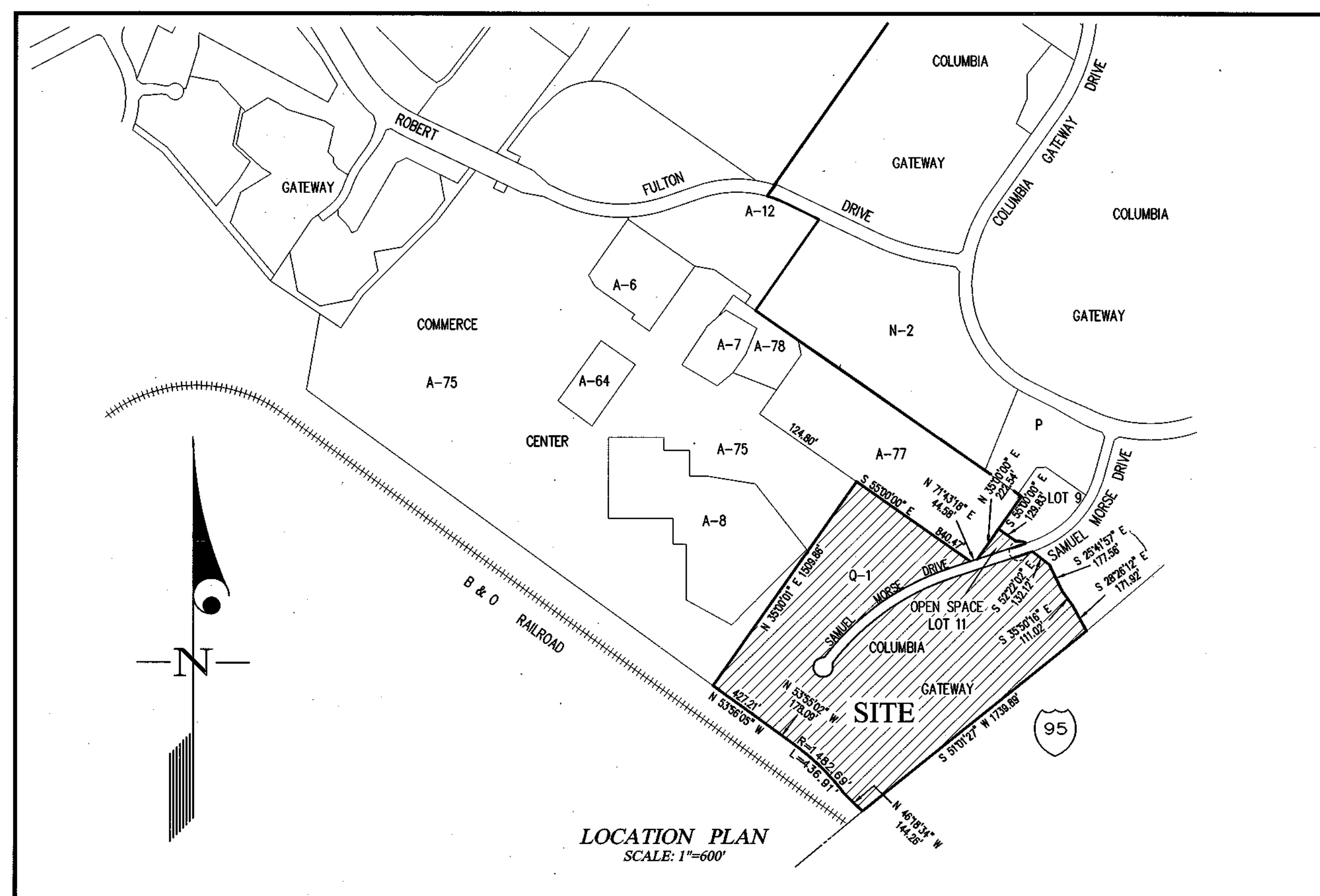
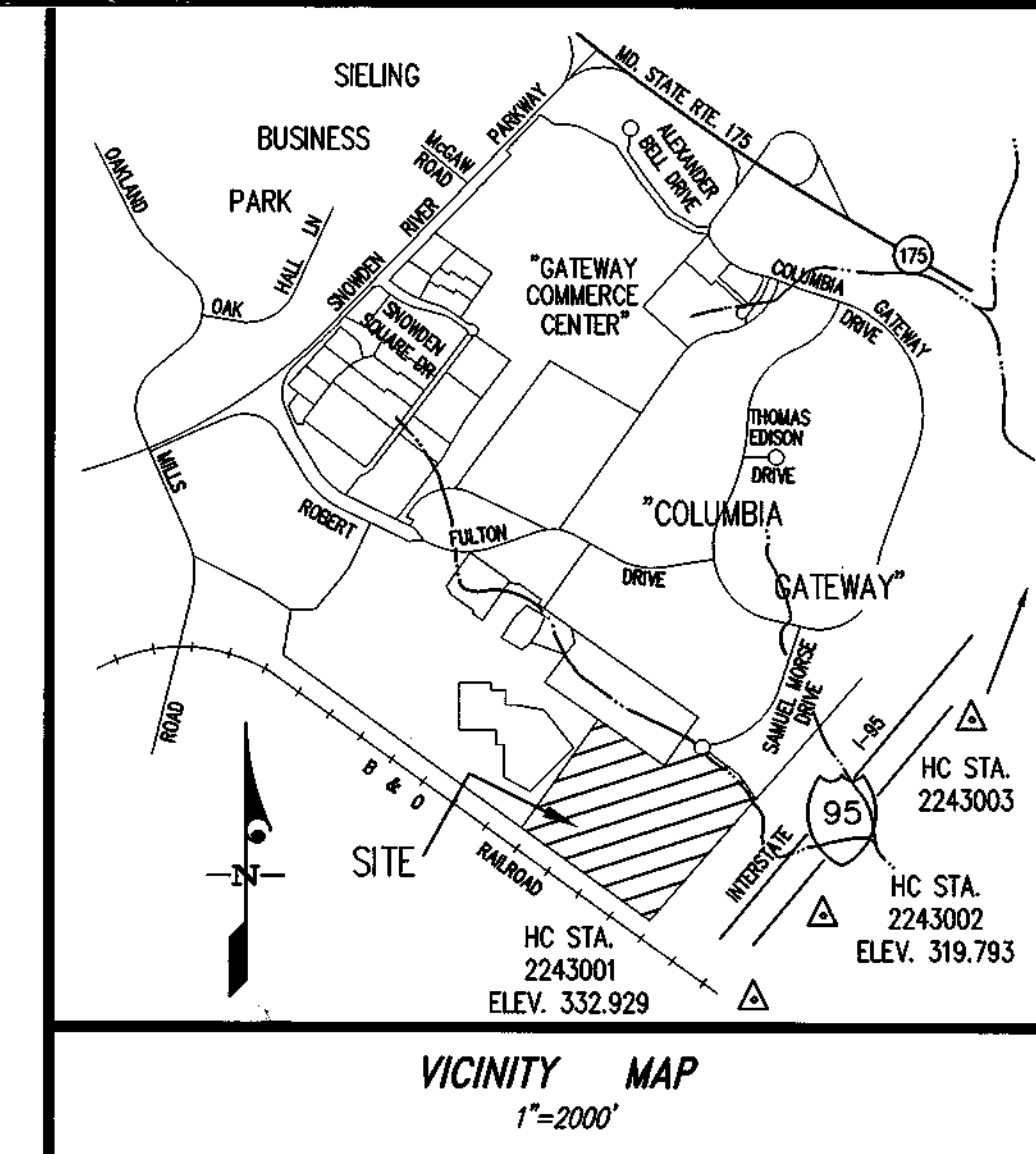
GENERAL NOTES

- All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standard and specifications if applicable.
- The contractor shall notify the Department of Public Works, Bureau of Engineering, Construction Inspection Division at (410) 313-1800 at least five (5) 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.
- The contractor shall notify the Howard County Department of Public Works, Bureau of Utilities at (410) 313-4900 at least five working days prior to starting any excavation work.
- Site area: 5.62 acres.
- All plan dimensions are to face of curb unless otherwise noted.
- Existing topography is shown per mass grading plans GP-99-15 prepared by Gutschick, Little & Weber, P.A.
- Coordinates and bearings are based upon the MD State plan system (NAD 27).
- Water and sewer shown is public.
- All existing water and sewer is per Contracts 24-1587-D and 20-1397-D.
- All existing public storm drain is per F-87-63.
- Use trench bedding class "C" for storm drains.
- Project background: See Dept. of Planning & Zoning File Numbers: FDP-40, F-68-30, WP-98-49.
- ~~Recessing references: Dist. Book - Plot No.~~
- Existing utilities are based on approved design plans for construction and field location by Gutschick, Little & Weber, P.A.
- There is no floodplain on this site.
- There are no wetlands on this site.

**COLUMBIA GATEWAY
PARCEL 'Q-1' AND OPEN SPACE LOT 11**

SAMUEL MORSE DRIVE

STATION 9+40 TO STATION 24+13.49



Legend

	Existing Contour
	Proposed Paving
	Existing Tree Line
	Proposed Tree Line
	Existing Street Light
	Proposed Street Light
	Top of Curb Elevation
	Existing Water Main
	Existing Sewer Main
	Existing Storm Drain
	Existing Curb & Gutter
	Existing Paving
	Existing Paving to be Removed
	Proposed Paving

Sheet Index

- Cover Sheet
- Plan & Profile
- Plan & Profile
- Typical Details
- Grading & SWM Plan
- Grading Plan
- Sediment Control
- Sediment Control
- Sediment Control Index
- Sediment Control Details
- SWM Details
- Sediment Control & SWM Notes
- Storm Drain Profiles
- Storm Drain Profiles
- Storm Drain Profiles
- Storm Drain D.A.M.
- SWM D.A.M.

NO AS-BUILT INFORMATION SHOWN ON THIS SHEET.

AS-BUILT

Sheets Labeled 1 thru 8 For Asbuilt Purposes Only.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Arthur M. Duszka 3-11-99
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hamilton 3/17/99
 Chief, Division of Land Development Date

[Signature] 3/12/99
 Chief, Development Engineering Division MK Date

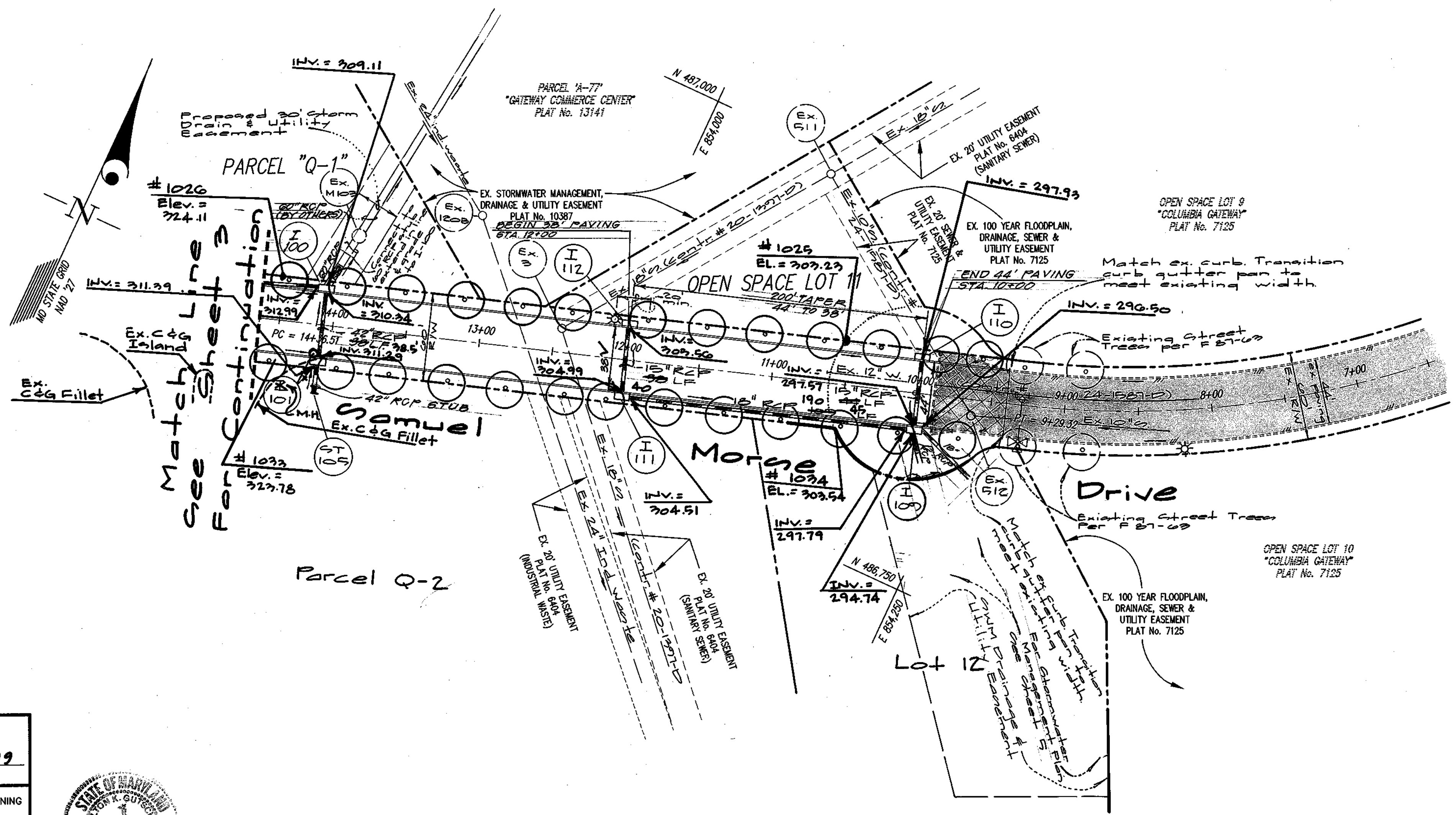
GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3809 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20886
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APPR.

PREPARED FOR:
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MD 21044
 PH: 410-992-6370
 ATTN: MR. GREG KLAR

COVER SHEET
COLUMBIA GATEWAY
 Parcels Q-1, Q-2, U and Lots 11 & 12
 PLAT No.

SCALE AS SHOWN	ZONING NT & M-1	G. L. W. FILE No. 97150
DATE AUGUST, 1998	TAX MAP - GRID 43 / 7 & 42 / 12 & 18	SHEET 1 OF 17



STREET TREE SCHEDULE				
SYMBOL	NAME (BOTANICAL/COMMON)	SIZE	QUANTITY	REMARKS
(C)	Acer Paeharum/Green Mountain Sugar Maple	2-2 1/2 cal.	75	B & B heavy heads

STREET LIGHT SCHEDULE			
LOCATION	LAMP TYPE	MOUNTING	POLE TYPE
12+00.00 E RT 25'	250 Watt Mercury Vapor	Pendant	30' aluminum post (brass finish)
15+00.00 E LT 25'			
20+00.00 E RT 25'			
15+00.00 LT 25'			
8+20.00 E LT 25'			

Sheets labeled 1 thru 8 for Asbuilt purposes only.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Stephen M. Parker 3-11-99
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hamilton 3/11/99
 Chief, Division of Land Development

MK 3/12/99
 Chief, Development Engineering Division

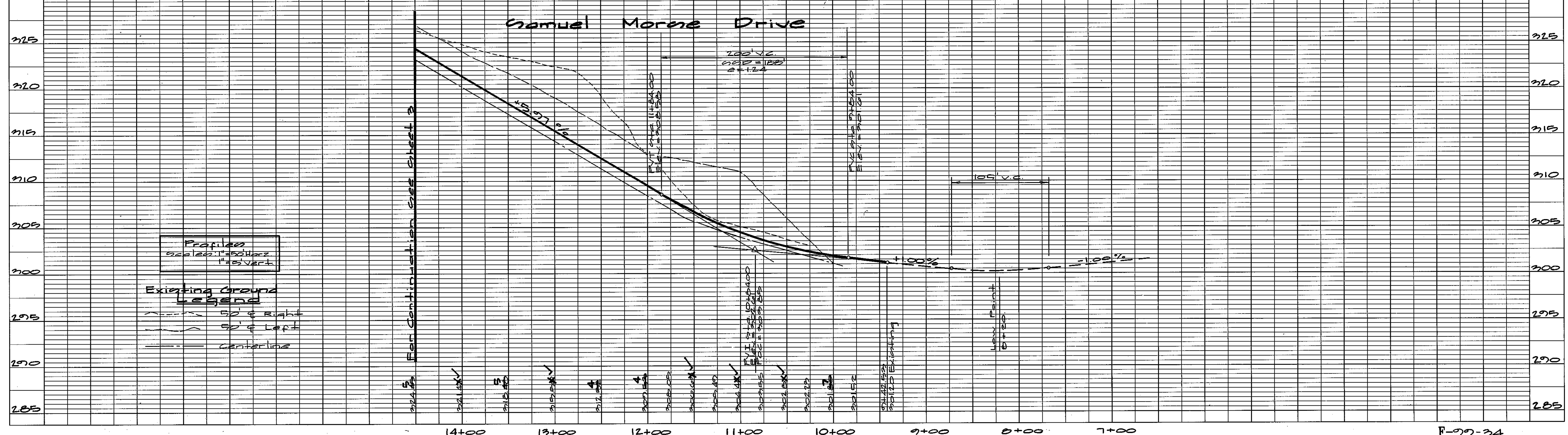


GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

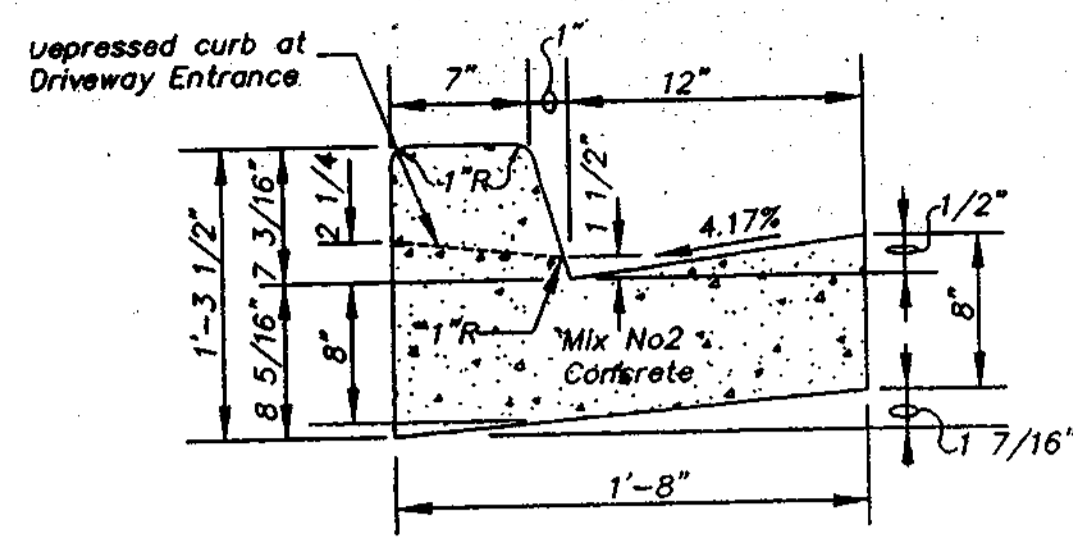
DESIGNED MJT	ROAD CONSTRUCTION PLANS COLUMBIA GATEWAY SAMUEL MORSE DRIVE STATION 9+40.00 TO STATION 14+50.00 GUILFORD ELECTION DISTRICT No. 6 HOWARD COUNTY, MARYLAND	SCALE 1"=50'
DRAWN GPM/CAD		DRAWING 2 OF 17
CHECKED MJT		ZONING NT/M-1
DATE August 1, 1992		JOB No. 97150

PREPARED FOR:
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MD 21044
 ATTN: MR. GREG KLAR
 PH: 410-992-6370

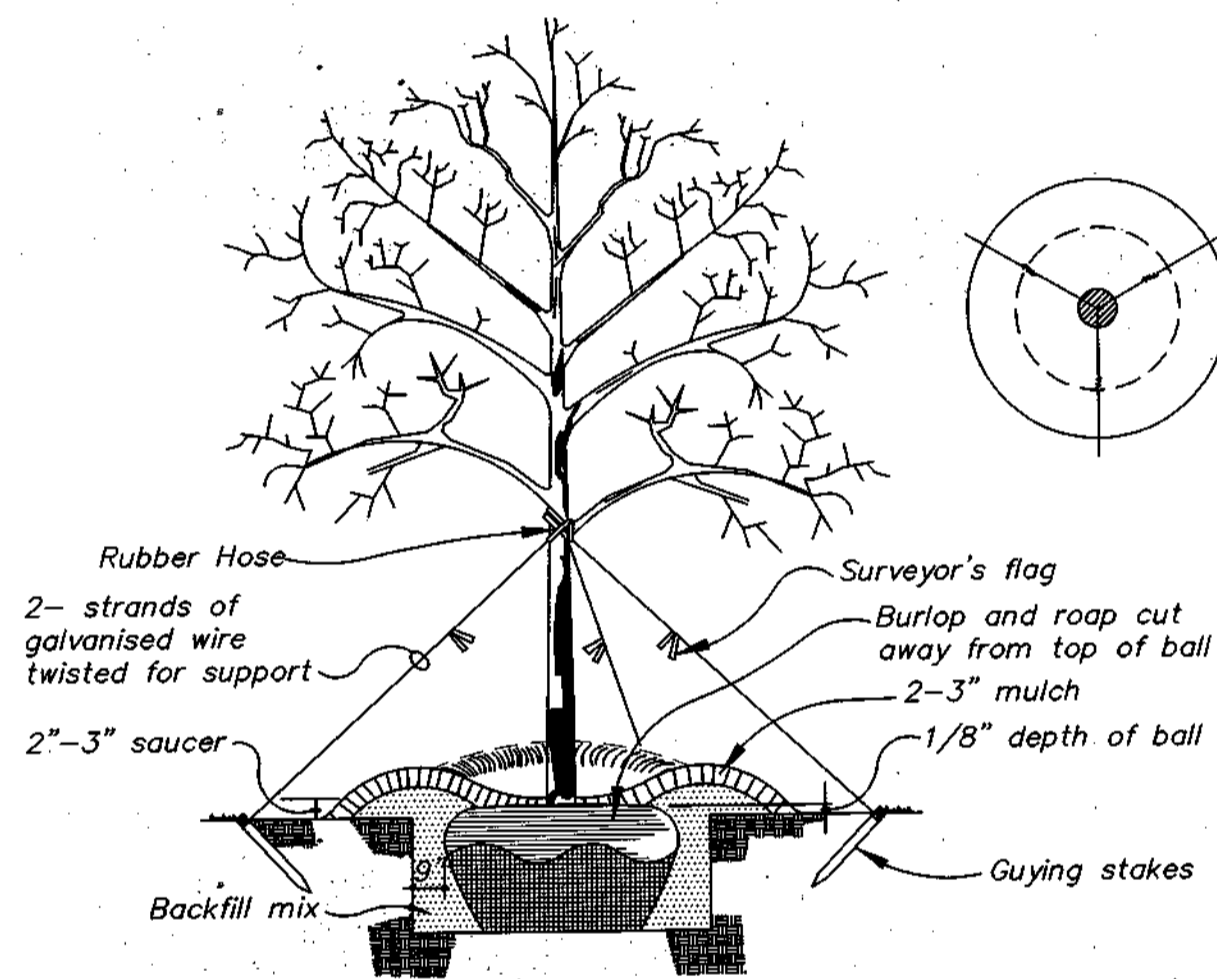
CURVE DATA									
STREET NAME	P.C. STA.	P.C.C. STA.	P.T. STA.	RADIUS	ARC	TANGENT	CHORD	BEARING	DELTA
SAMUEL MORSE DRIVE	14+36.51	27+34.47		1525.00'	87.70	402.42	885.04	334°51'11"W	33°24'14"
Samuel Morse Dr			24+04.37	110.00'	67.92	20.00	687.2	321°00'	33°27'57"



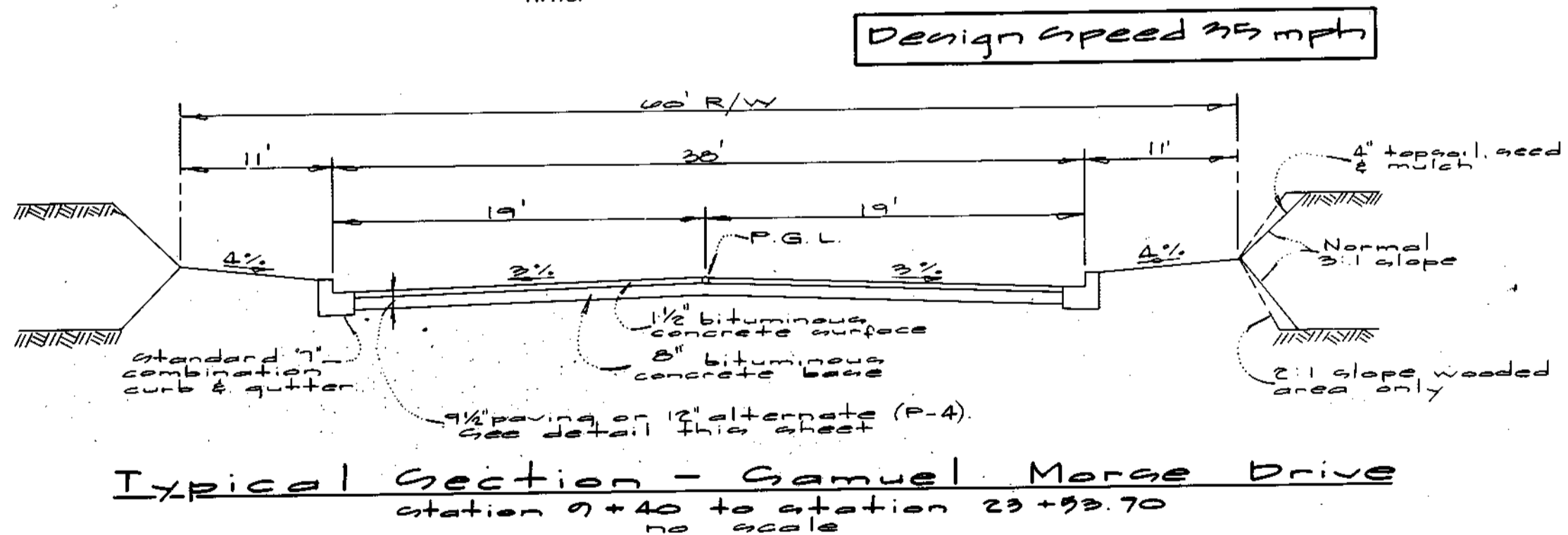
F-00-34



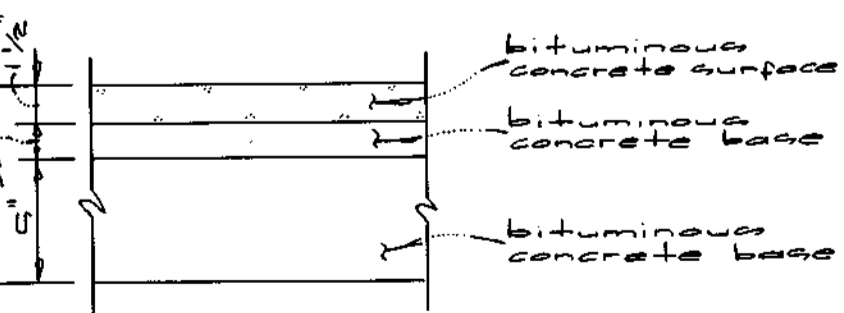
Standard 7" Combination Curb & Gutter
N.T.S.



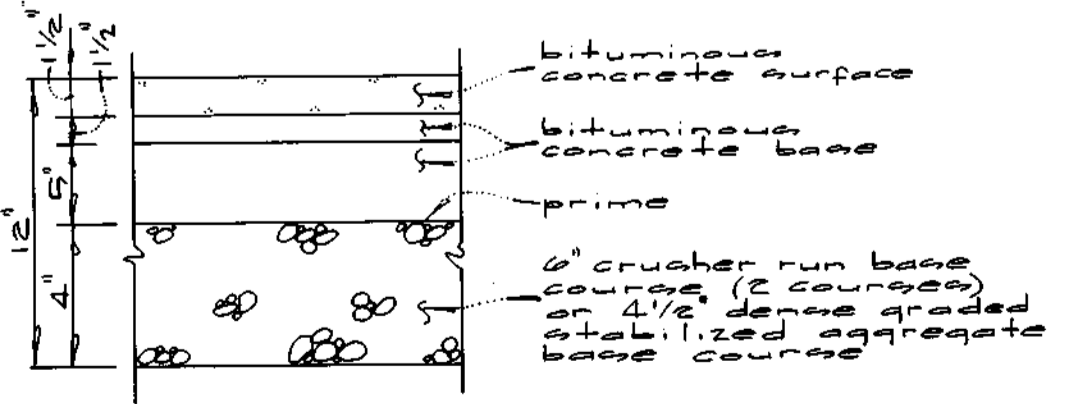
Typical Tree Guying Detail
N.T.S.



Design Speed 35 mph



P-4 Full Depth Bituminous Concrete



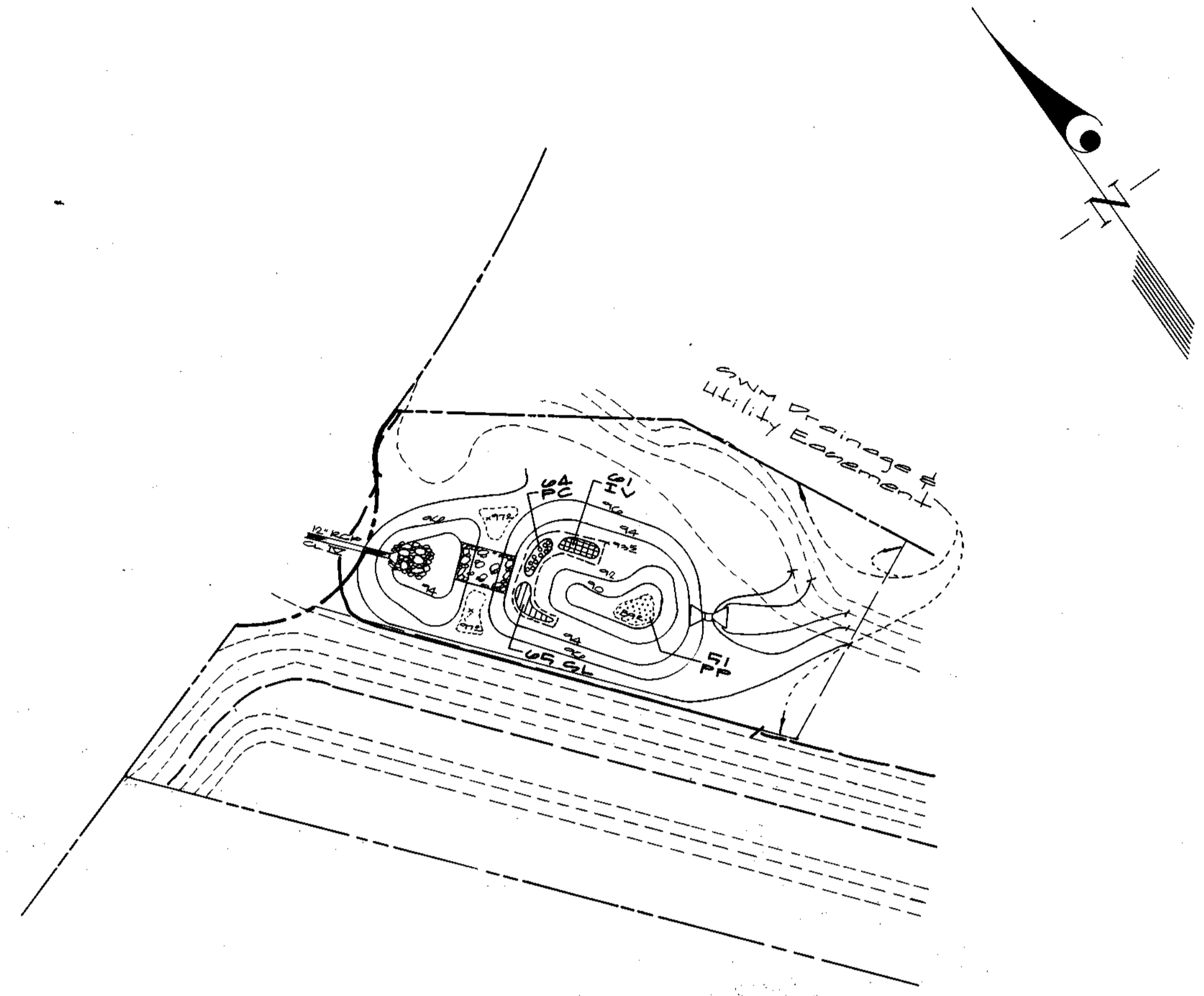
P-4 Granular Base (Alternate)

Wetland Planting Notes

- Upon conversion of sediment control ponds to Stormwater Management Pond, and rough grading, the contractor shall remove any stones, debris, or construction material larger than two inches (2") in any dimension. The contractor shall then spread 4"-6" of topsoil on the entire basin of Ponds 1 and 3, and on the planting basin of Ponds 2 and 4. The topsoil for Ponds 1 and 3 shall be the wetland topsoil "saved" and stockpiled during mass grading. The ponds shall be flooded and left undisturbed for a period of 10 days. Drain prior to planting.
- To install potted plants, make a hole in the topsoil layer wide and deep enough that after planting, the topsoil in the pot is at or slightly below the top of the topsoil planting area.
 - Peat pots must be torn in two or three places to allow for unrestricted root growth.
 - All pots other than peat pots are to be removed right before planting.
- Bare-root plants shall be planted in holes wide enough to allow their existing roots to be spread in a natural manner radially from the root crown without bending or twisting.
- One ounce of 18-6-25 slow release fertilizer shall be incorporated into soil for each plant at the time of planting.
- Soil shall be saturated with water after planting. The pond shall be slowly flooded by natural or artificial means to the outfall level.
- The source of all aquatic and emergent plants shall be approved by the owner or landscape architect prior to ordering. These plants shall be grown in pots (container specified) or nursery growing beds (bare root specified) for a minimum of 12 months prior to installation and shall have been wet cultivated during the entire period.
- All plant material shall be guaranteed for a period of one year after formal acceptance, and an 80% survival guarantee after 3 three years.
- Remove litter and debris as required during the first growing season and at the beginning of the second growing season.
- Wetland planting contractor shall submit resume and references of previous planting experience to owner or landscape architect for approval prior to planting.

WETLANDS PLANTING FOR FACILITY #3

Key	Qty	Botanical/Common Name	Size
IV	61	Iris versicolor/Blue Flag	Tuber
PC	64	Pontederia cordata/Pickerelweed	Tuber
PP	51	Potamogeton pectinatus/Pondweed	1 Pt.
SL	65	Sagittaria latifolia/Duck Potato	Tuber



Wetlands Planting Plan
1" = 50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Casale 3-11-99
 Chief, Bureau of Highways
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hamilton 3/11/99
 Chief, Division of Land Development
Chris Damman 3/12/99
 Chief, Development Engineering Division

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

DATE	REVISION	BY	APP'R.
1-26-99	REV. PAVING PLAN AND WETLANDS PLANTING PLAN		

PREPARED FOR:
 THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
 THE ROUSE BUILDING
 10275 LITTLE PATIENT PARKWAY
 COLUMBIA, MD. 21044
 (410) 392-6027

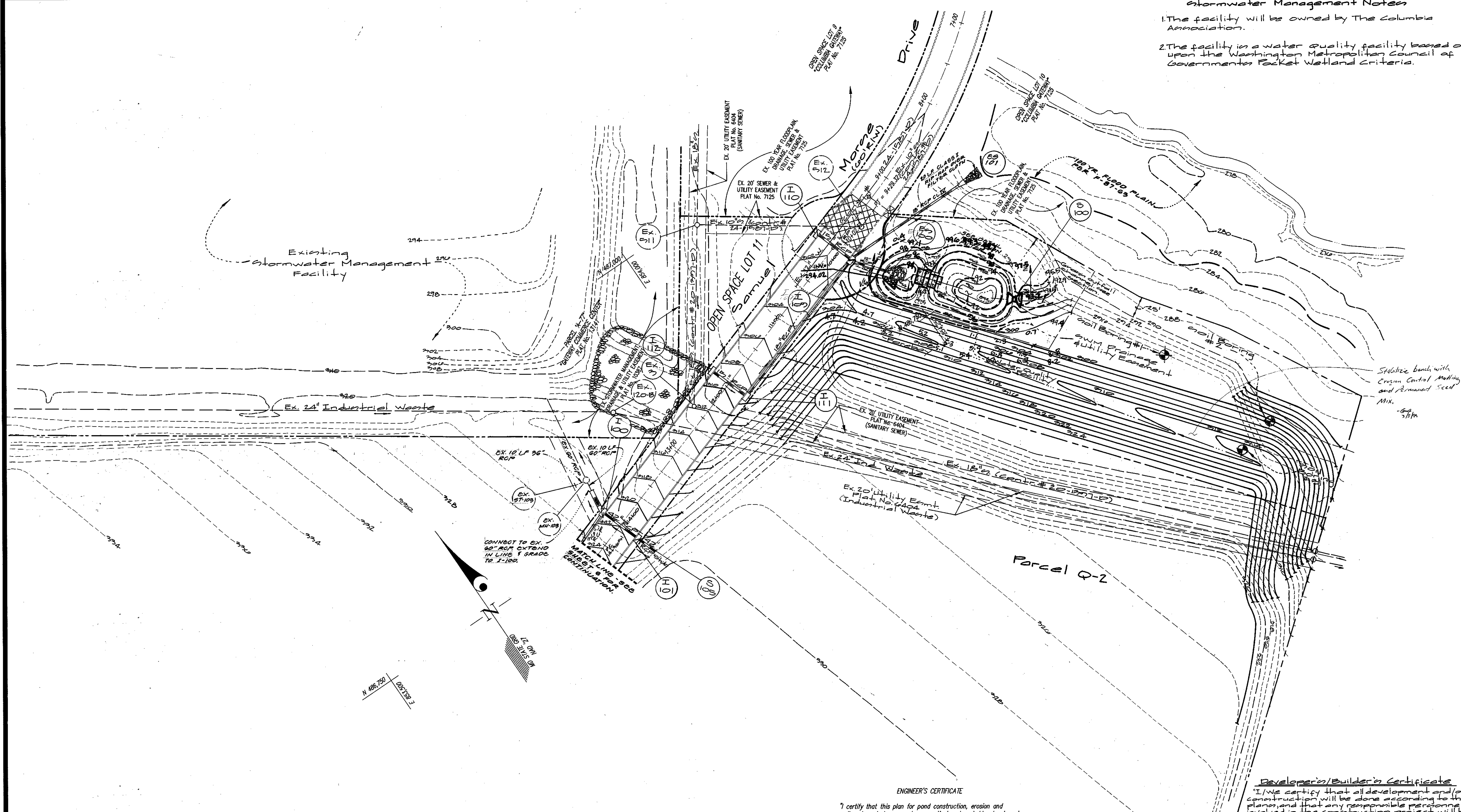
TYPICAL DETAILS
COLUMBIA GATEWAY
 Parcels Q-1, Q-2, U and Lots 11 & 12
 PLAT NO.
 ELECTION DISTRICT No. 6
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	NEW TOWN & M-1	97150
DATE	TAX MAP - GRID	SHEET
AUGUST 1998	43-7 42-12 & 18	4 OF 17



Stormwater Management Notes

1. The facility will be owned by The Columbia Association.
2. The facility is a water quality facility based on upon the Washington Metropolitan Council of Government's Pocket Wetland Criteria.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels 3-11-99
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hamilton 3/17/99
 Chief, Division of Land Development Date

Mark 3/12/99
 Chief, Development Engineering Division Date



These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.
Cheryl Simms/AS 3/3/99
 Natural Resources Conservation Service Date

These Plans for small pond construction soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.
Greg Klar 3/3/99
 Howard Soil Conservation District Date

ENGINEER'S CERTIFICATE
 I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.
Greg Klar 9-1-98
 Date

Developer's/Builder's Certificate
 I/We certify that all development and/or construction will be done according to these plans and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland Department of the Environment Approved Training Program for the control of sediment and Erosion before beginning the project. I shall engage a registered Professional Engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.
John 9-1-98
 Signature of Developer/Builder Date

Sheets labeled 1 thru 8 for Asbuilt purposes only.

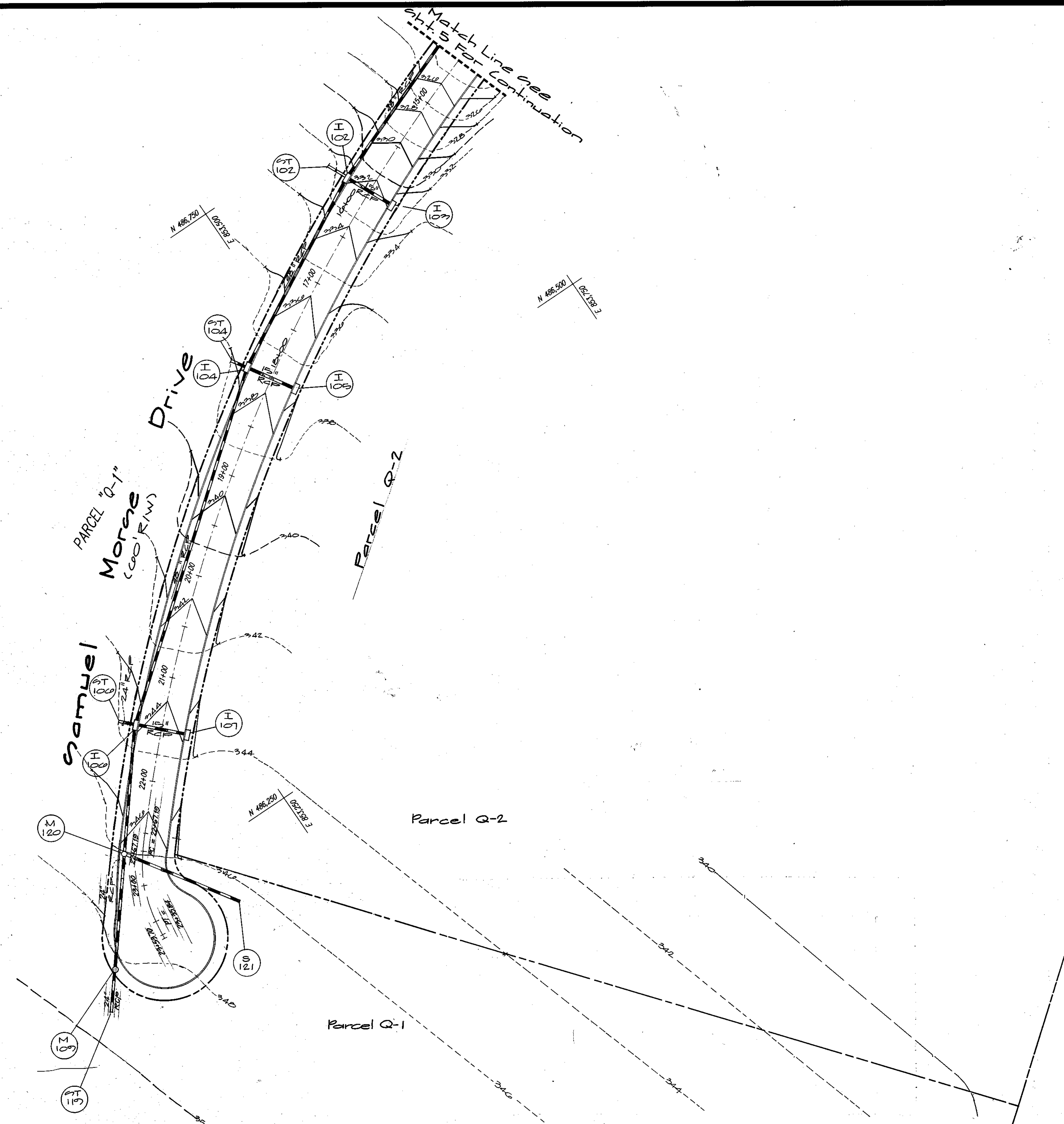
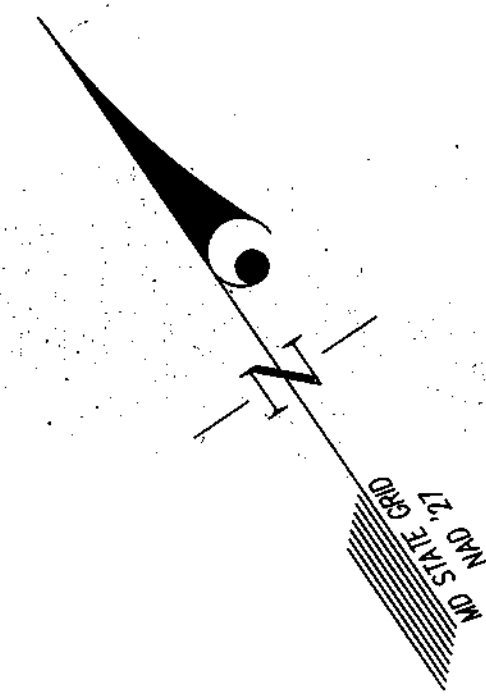
GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BALE: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4108

NO.	DESCRIPTION	DATE	BY	APPR.

PREPARED FOR:
 THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 ATTN: GREG KLAR
 PHONE: (410) 992-6370

Grading & stormwater Management Plan
Columbia Gateway
 Parcels Q-1, Q-2, 4 and Lots 11 & 12
 Plat No. _____
 ELECTION DISTRICT No. 6
 HOWARD COUNTY, MARYLAND

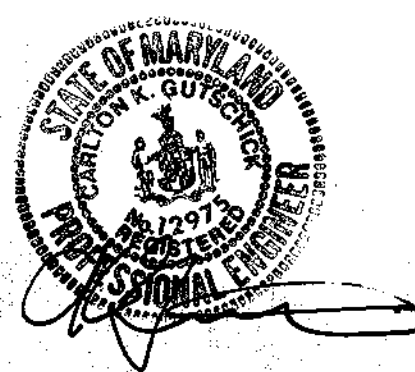
SCALE 1"=50'	ZONING NT/M1	G. L. W. FILE No. 97150
DATE 2002 AUGUST, 2002	TAX MAP - GRID 43-7 42-12&18	SHEET 4 Prof 17



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels 3-11-99
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chris Hunter 5/12/99
 Chief, Division of Land Development Date

Michael J. ... 5/12/99
 Chief, Development Engineering Division Date



GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20906
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

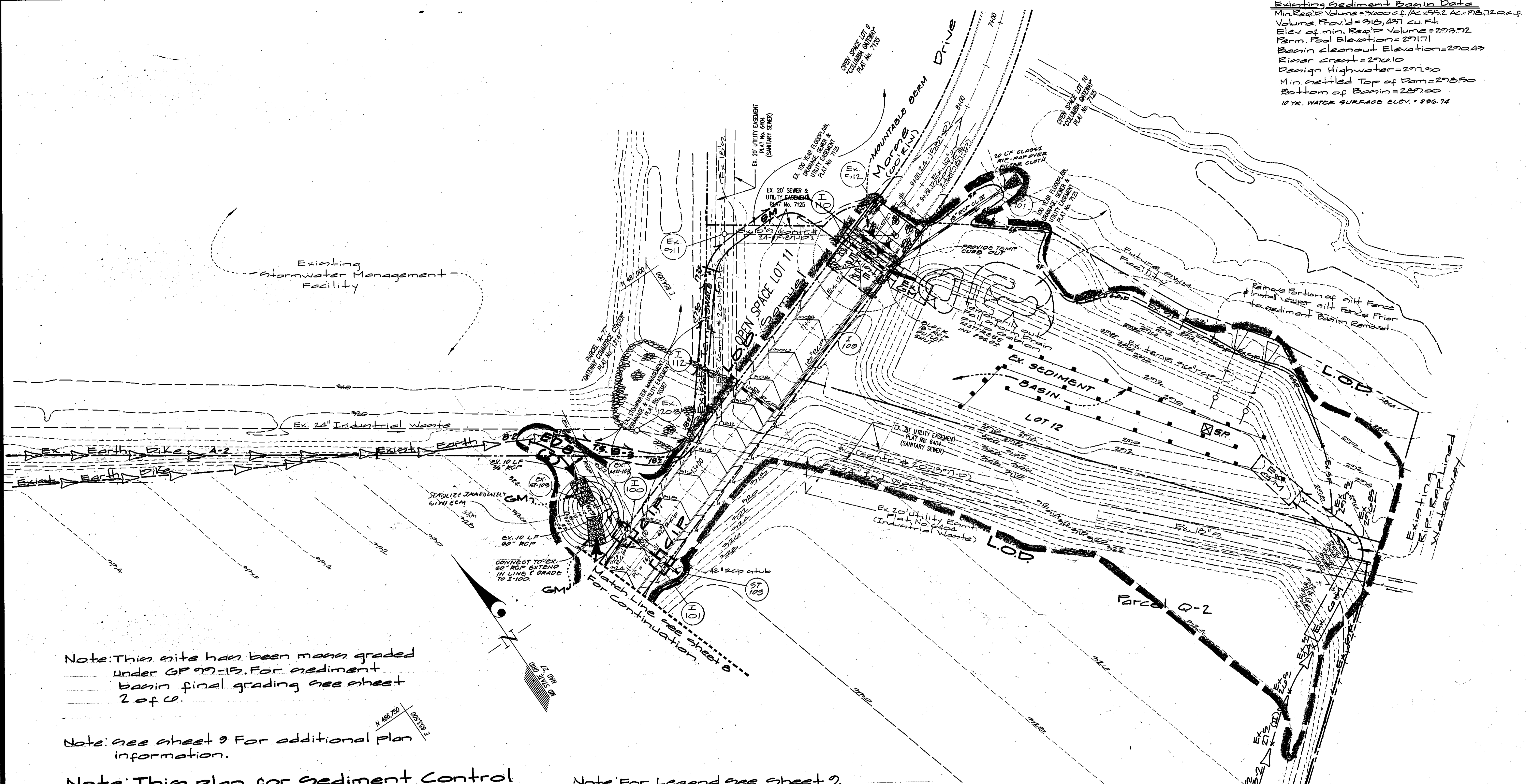
DES.	DRN.	W.J.	CHK.	DATE	REVISION	BY	APPR.

PREPARED FOR:
 THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 ATTN: GREG KLAR
 PHONE: (410) 992-6370

GRADING PLAN
Columbia Gateway
 Parcels Q-1, Q-2, U and Lots 11 & 12
 Plat No. _____
 ELECTION DISTRICT No. 6
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	NT/M1	97150
DATE	TAX MAP - GRID	SHEET
AUGUST, 1998	43-7 42-12&18	6 of 17

Existing Sediment Basin Data
 Min. Req'd Volume = 3000 cu ft./Ac x 55.2 Ac = 165,720 cu ft.
 Volume Prov'd = 310,437 cu ft.
 Elev. of min. Req'd Volume = 293.92
 Perm. Pool Elevations = 297.71
 Basin Cleanout Elevation = 290.43
 River Crest = 290.10
 Design Highwater = 297.30
 Min. Settled Top of Dam = 295.50
 Bottom of Basin = 287.00
 10 YR. WATER SURFACE ELEV. = 296.74



Note: This site has been mass graded under GP 97-15. For sediment basin final grading see sheet 2 of 4.

Note: See sheet 9 for additional plan information.

Note: This plan for sediment control purposes only!

Note: For Legend see sheet 2.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Christopher M. Daniels 3-11-99
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Carole Hanover 3/17/99
 Chief, Division of Land Development Date

Michael J. ... 3/12/99
 Chief, Development Engineering Division MK Date



These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

Cheryl ... 3/13/99
 Natural Resources Conservation Service Date

These Plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

[Signature] 3/3/99
 Howard Soil Conservation District Date

ENGINEER'S CERTIFICATE

I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

[Signature] 9-1-98
 Date

Developer's/Builder's Certificate

I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered Professional Engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

[Signature] 9-1-98
 Date

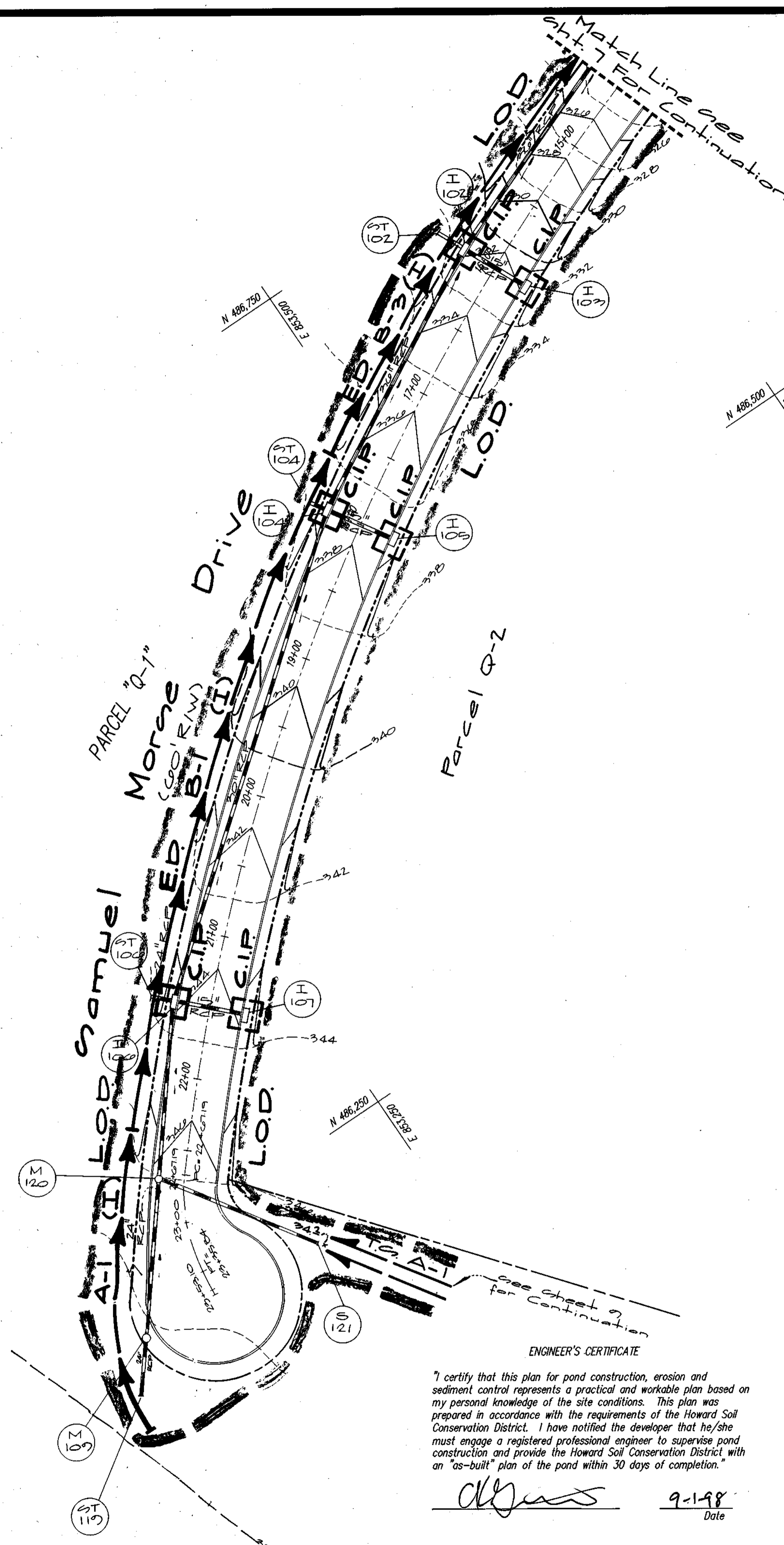
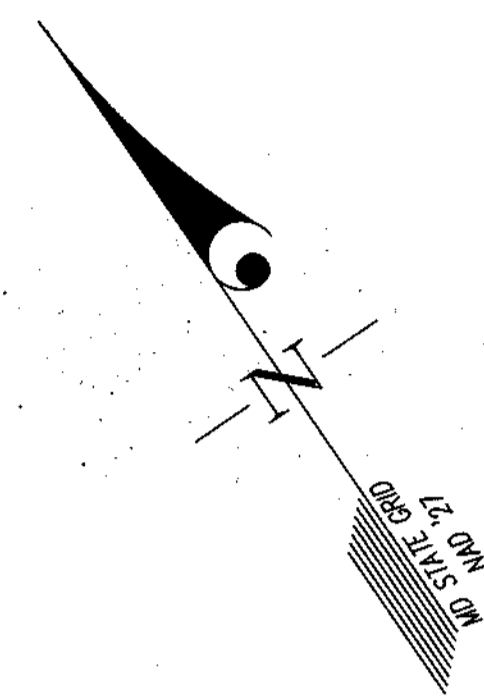
GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BAL: 410-680-1820 DC/VA: 301-959-2524 FAX: 301-421-4108

DATE	REV. BY	DESCRIPTION	BY	APPR.
1-26-99	REV. BY: DRN. J. 109-05101	SHOW EX. 60" RCP AND CONNECTION NEAR I-100, ADD 56D TRAP NEAR I-100		

PREPARED FOR:
 THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 ATTN: GREG KLAR
 PHONE: (410) 992-6370

Sediment Control Plan
Columbia Gateway
 Parcels Q-1, Q-2, U and Lots 11 & 12
 Plat No. _____
 ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE No.
1"=50'	NT/M1	97150
DATE	TAX MAP - GRID	SHEET
AUGUST, 1998	43-7 42-12&18	7 of 17



Note: For Legend See Sheet 9

Note: This site has been mass graded under GP 99-15.

Note: This plan for sediment control purposes only!!

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for sediment control, soil erosion and sediment control.

Cheryl Timmons / 65 3/3/99
Natural Resources Conservation Service Date

These Plans for sediment control soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

[Signature] 3/3/99
Howard Soil Conservation District Date

ENGINEER'S CERTIFICATE

"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."

[Signature] 9-1-98
Date

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered Professional Engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

[Signature] 9-1-98
Signature of Developer/Builder Date



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Canale 3-11-99
Chief, Bureau of Highways MS Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hamilton 3/1/99
Chief, Division of Land Development Date

[Signature] 3/12/99
Chief, Development Engineering Division MK Date

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20886
TEL: 301-421-4024 BALT: 410-980-1820 DC/VA: 301-988-2524 FAX: 301-421-4186

DATE	REVISION	BY	APPR.
1-25-99	add temp scale		

PREPARED FOR:
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
ATTN: GREG KLAR
PHONE: (410) 992-6370

sediment Control Plan
Columbia Gateway
Parcel Q-1, Q-2, U and Lots 11 & 12
Plat No. _____
ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	NT/M1	97150
DATE	TAX MAP - GRID	SHEET
AUGUST, 1998	43-7 42-12&18	8 of 17

Engineer's Certificate

"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an as-built plan of the pond within 30 days of completion."

[Signature]

9-1-98
Date

Developer's/Builder's Certificate

"I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a certificate of Attendance at a Maryland Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the Project. I shall engage a registered Professional Engineer to supervise pond construction and provide the Howard Soil Conservation District with an as-built plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

[Signature]

9-1-98
Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for erosion and sediment control.

[Signature]
Natural Resources Conservation Section

3/3/99
Date

These plans for erosion and sediment control meet the requirements of the Howard Soil Conservation District.

[Signature]
Howard Soil Conservation District

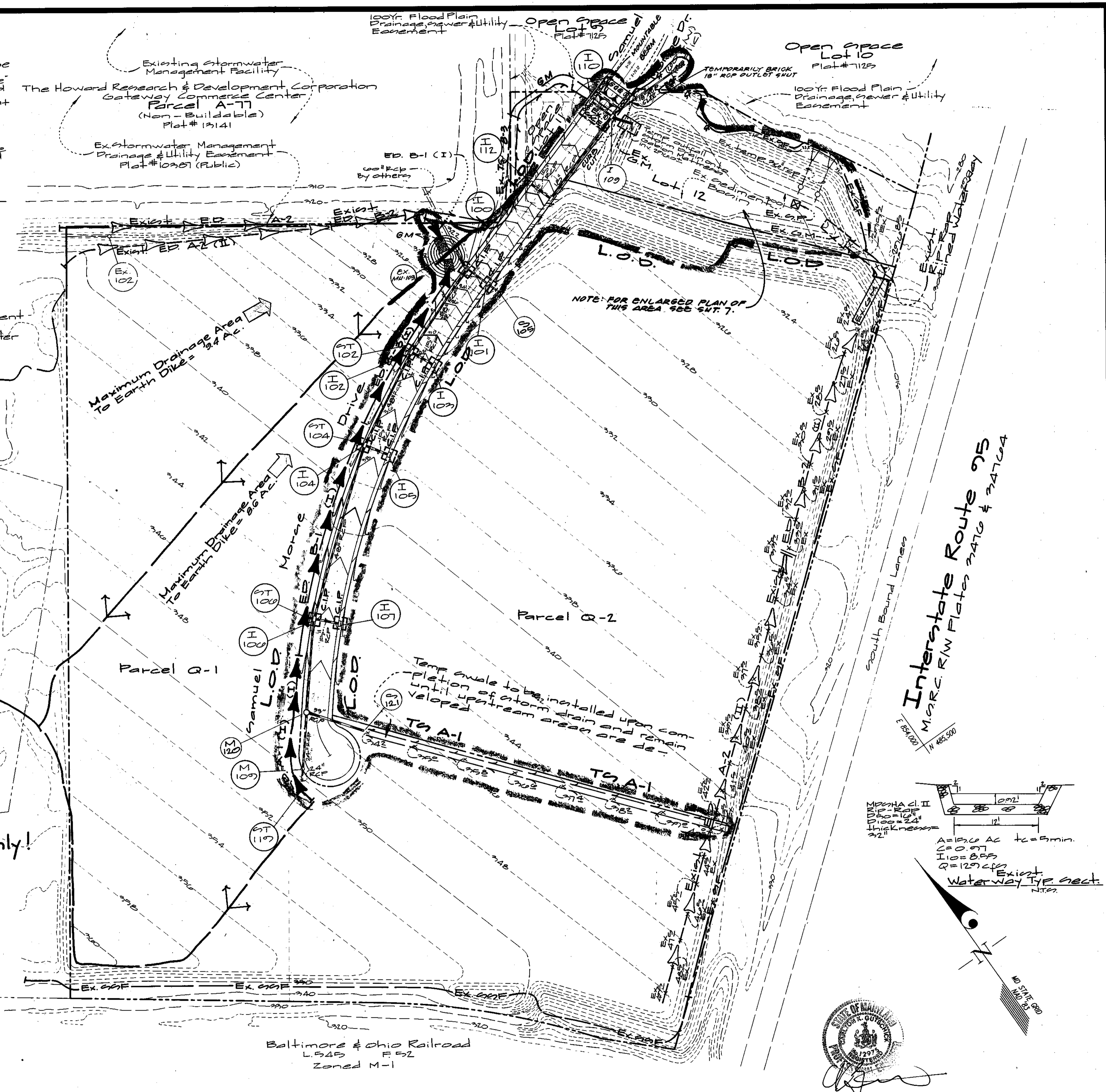
3/3/99
Date

Legend

- Existing Earth Dike
- Proposed Earth Dike
- Existing Super Silt Fence
- Existing Silt Fence
- Proposed Silt Fence
- Existing Temporary Swale
- Existing Gabion Mattress
- Proposed Gabion Mattress
- Proposed/Existing Stabilized Construction Entrance
- Limit of Disturbance
- Curb Inlet Protection

Note:
This Plan for Sediment Control Purposes Only!

Note: This site has been major graded under GP 97-15. For sediment basin final grading see sheet 2 of 6.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 3-11-99
Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
[Signature] 3/12/99
Chief, Division of Land Development

[Signature] 3/12/99
Chief, Development Engineering Division MK

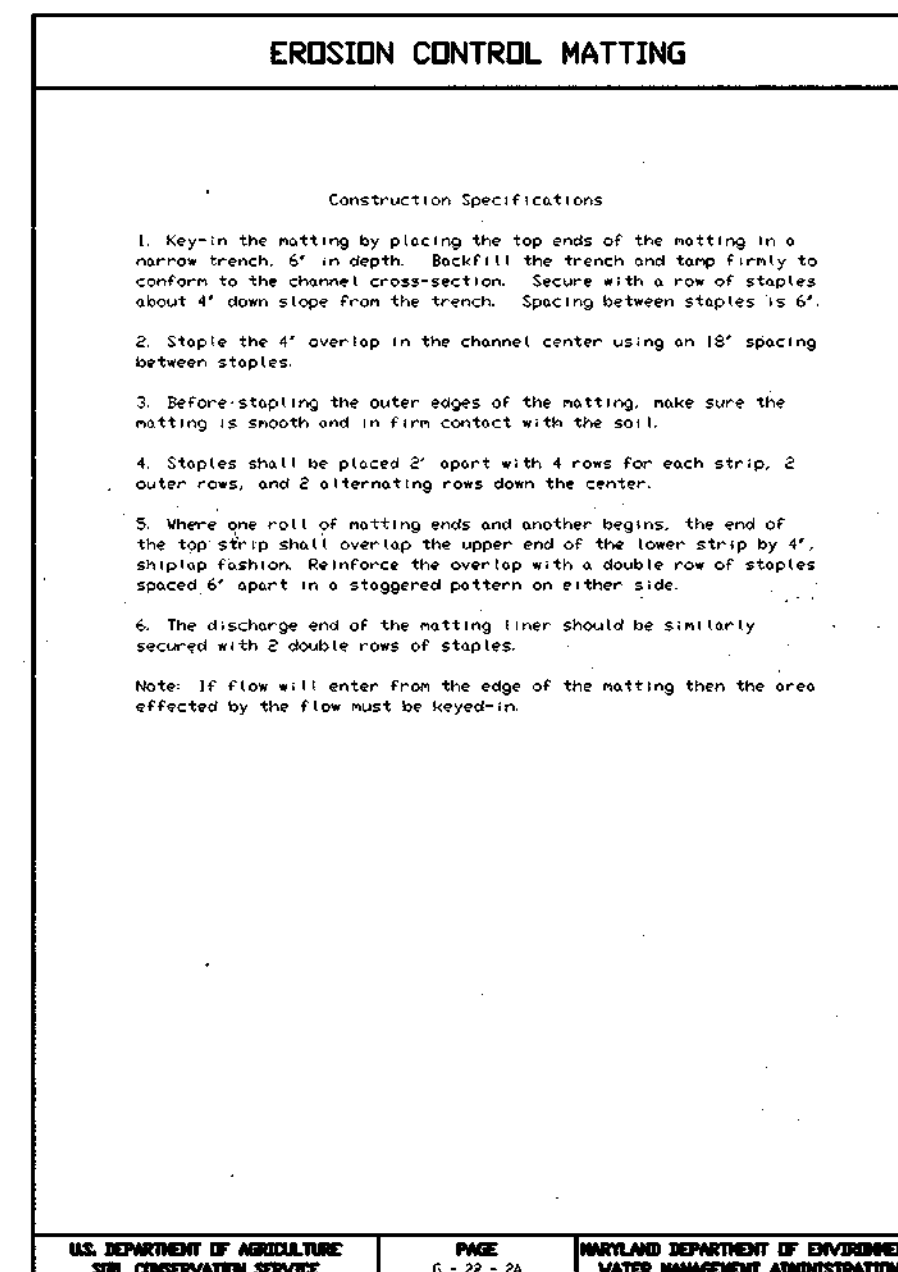
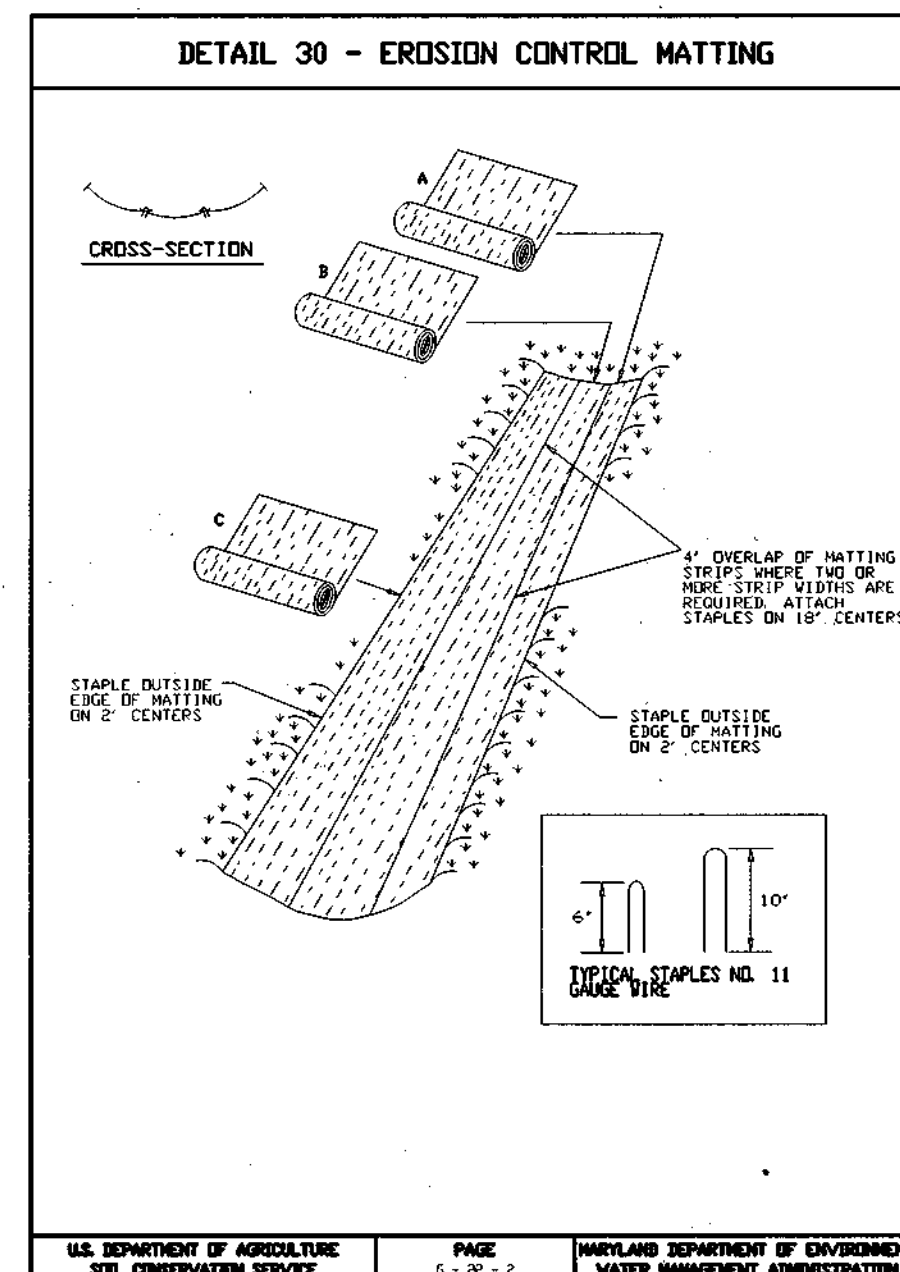
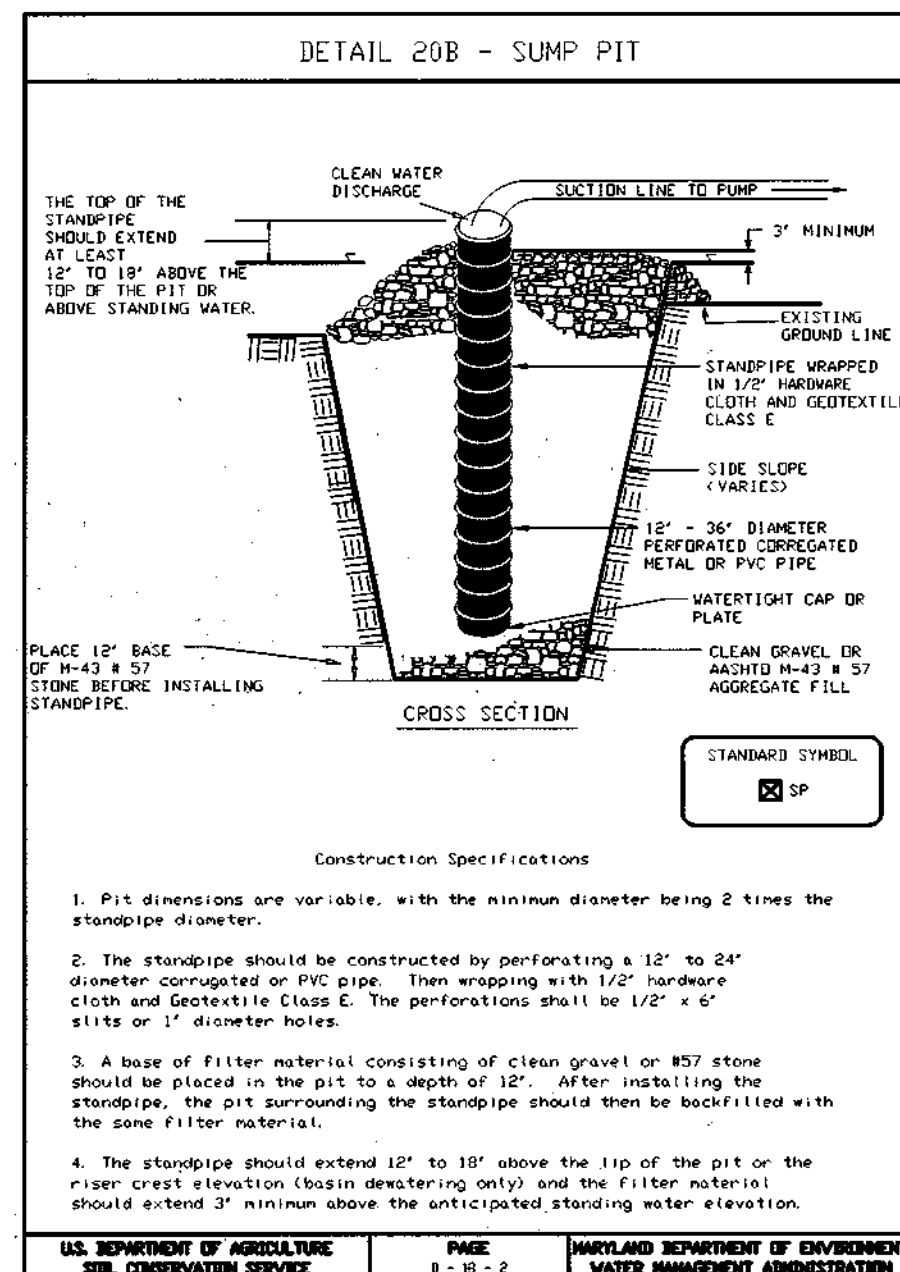
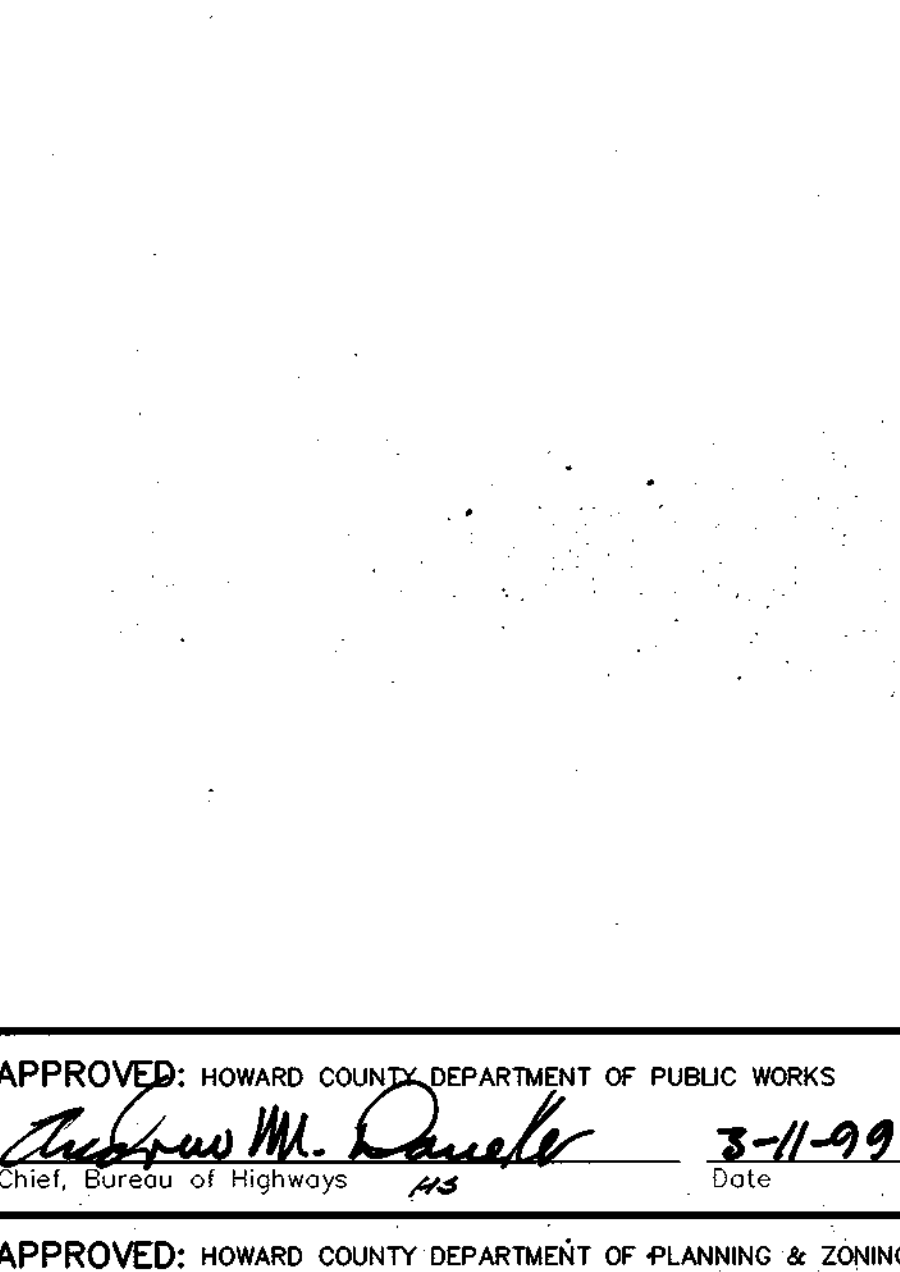
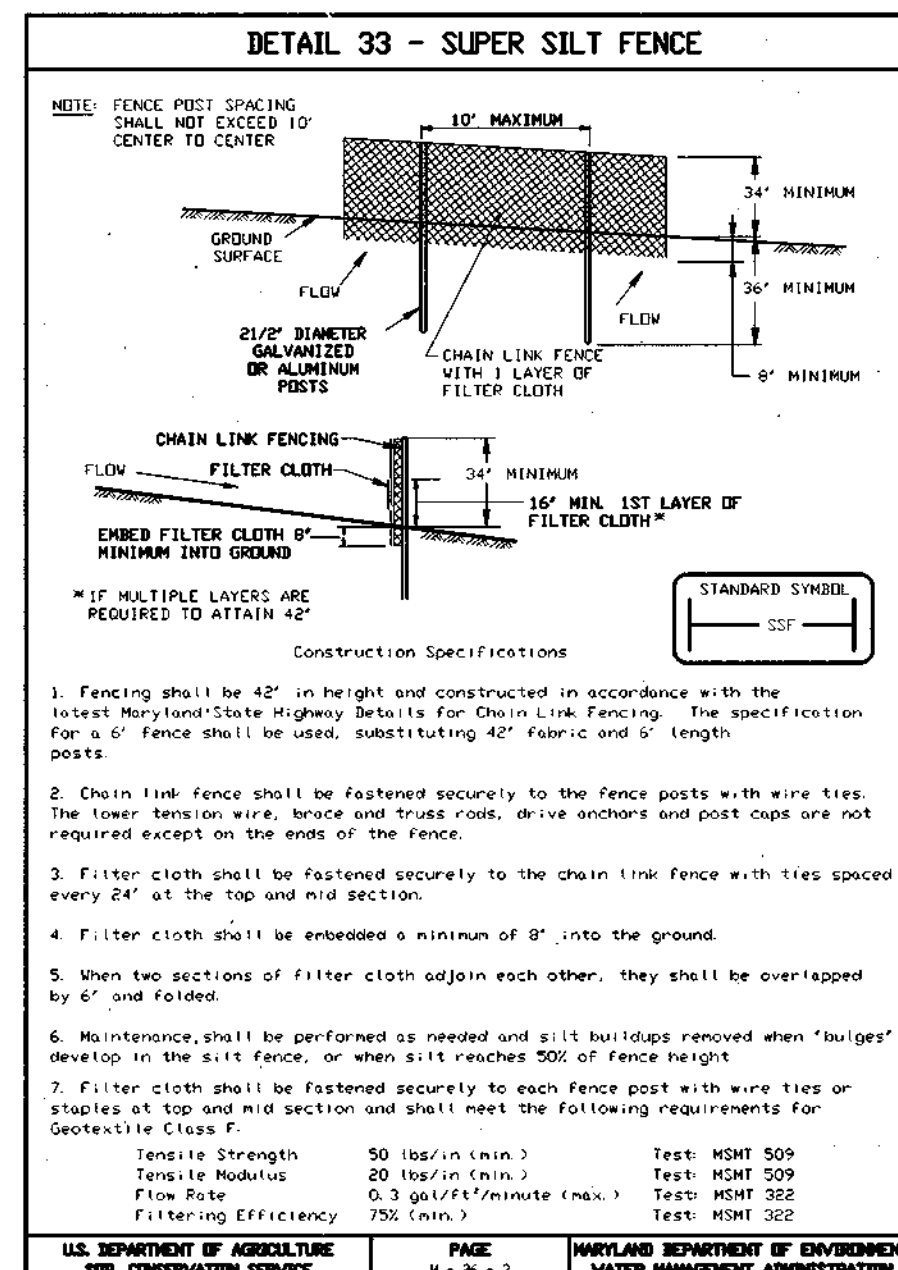
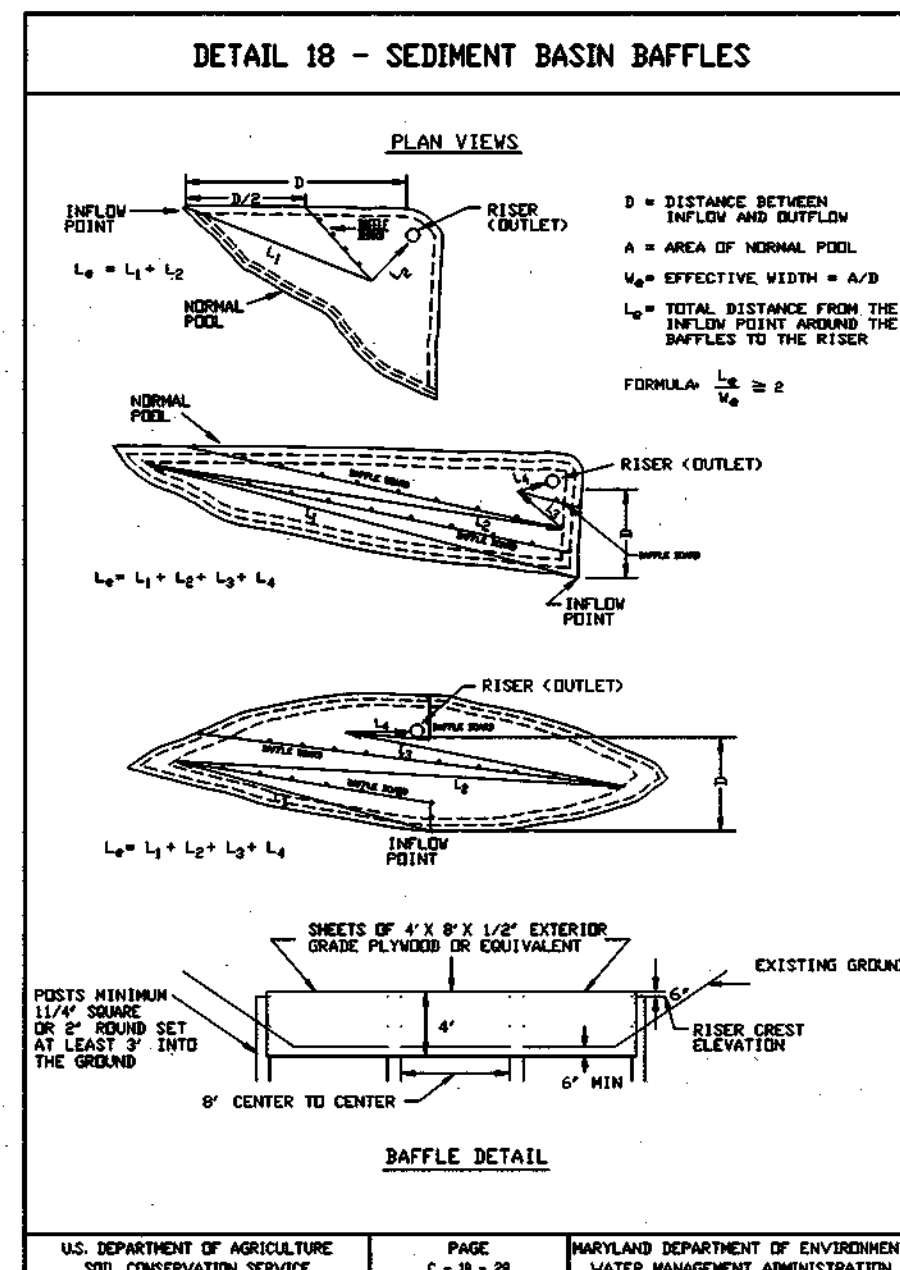
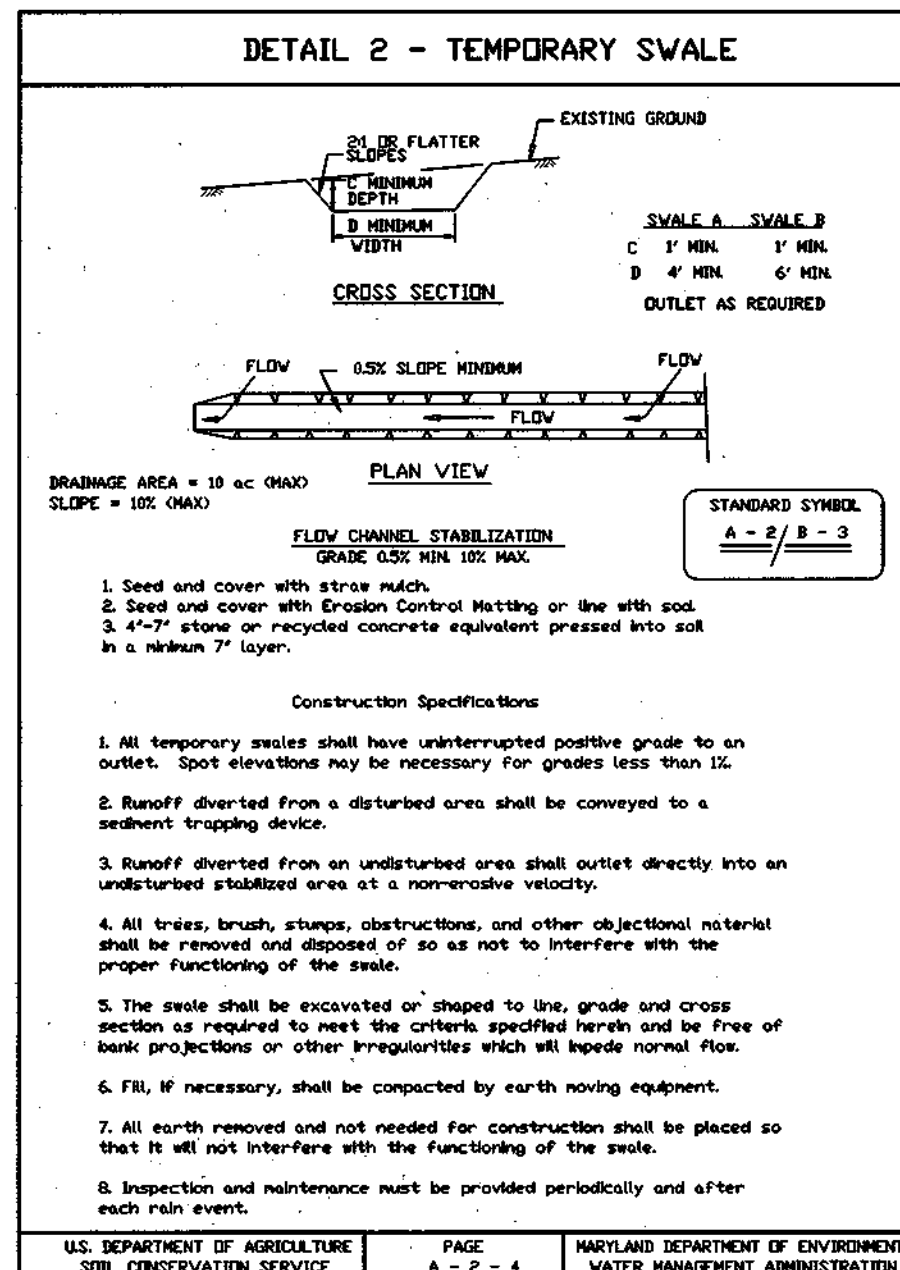
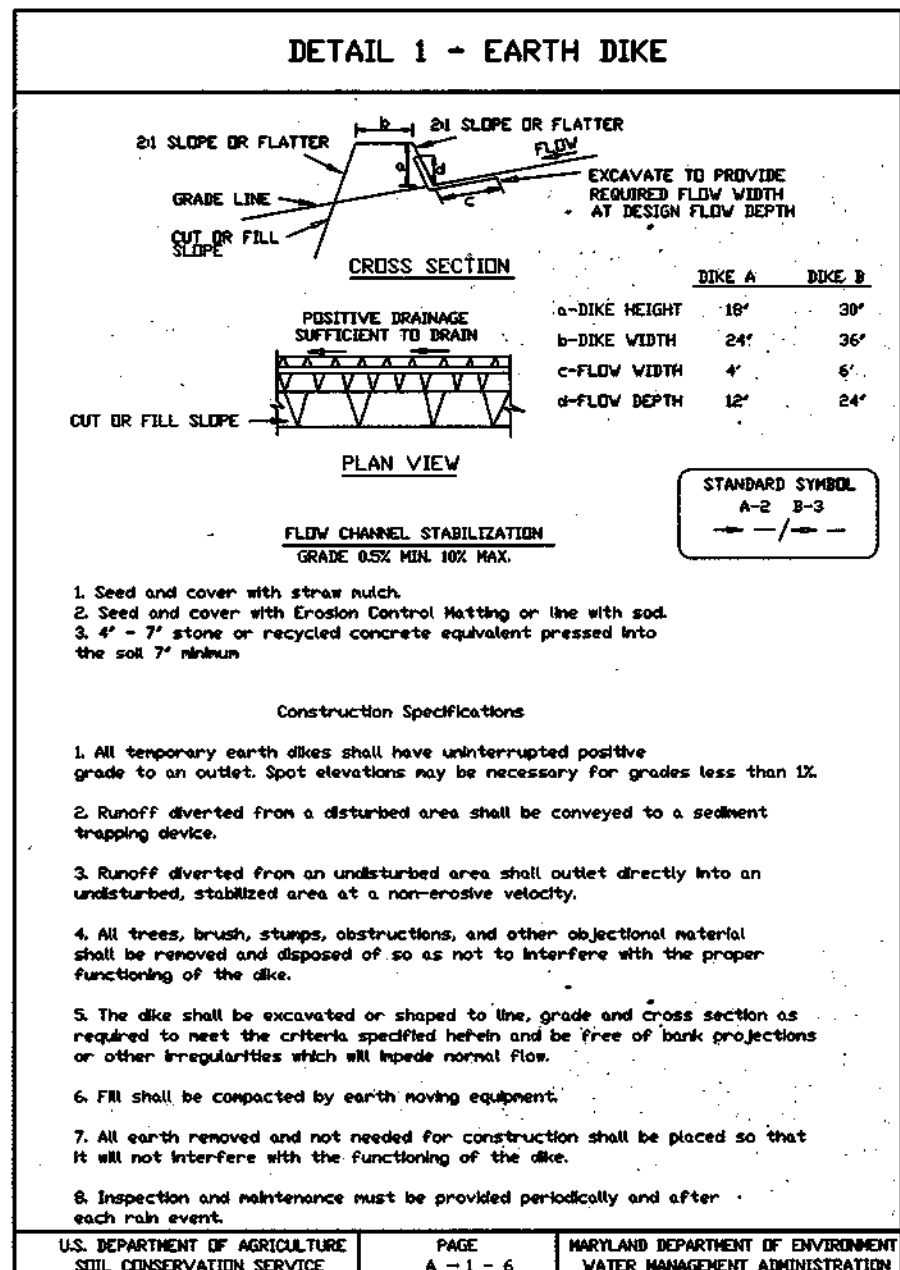
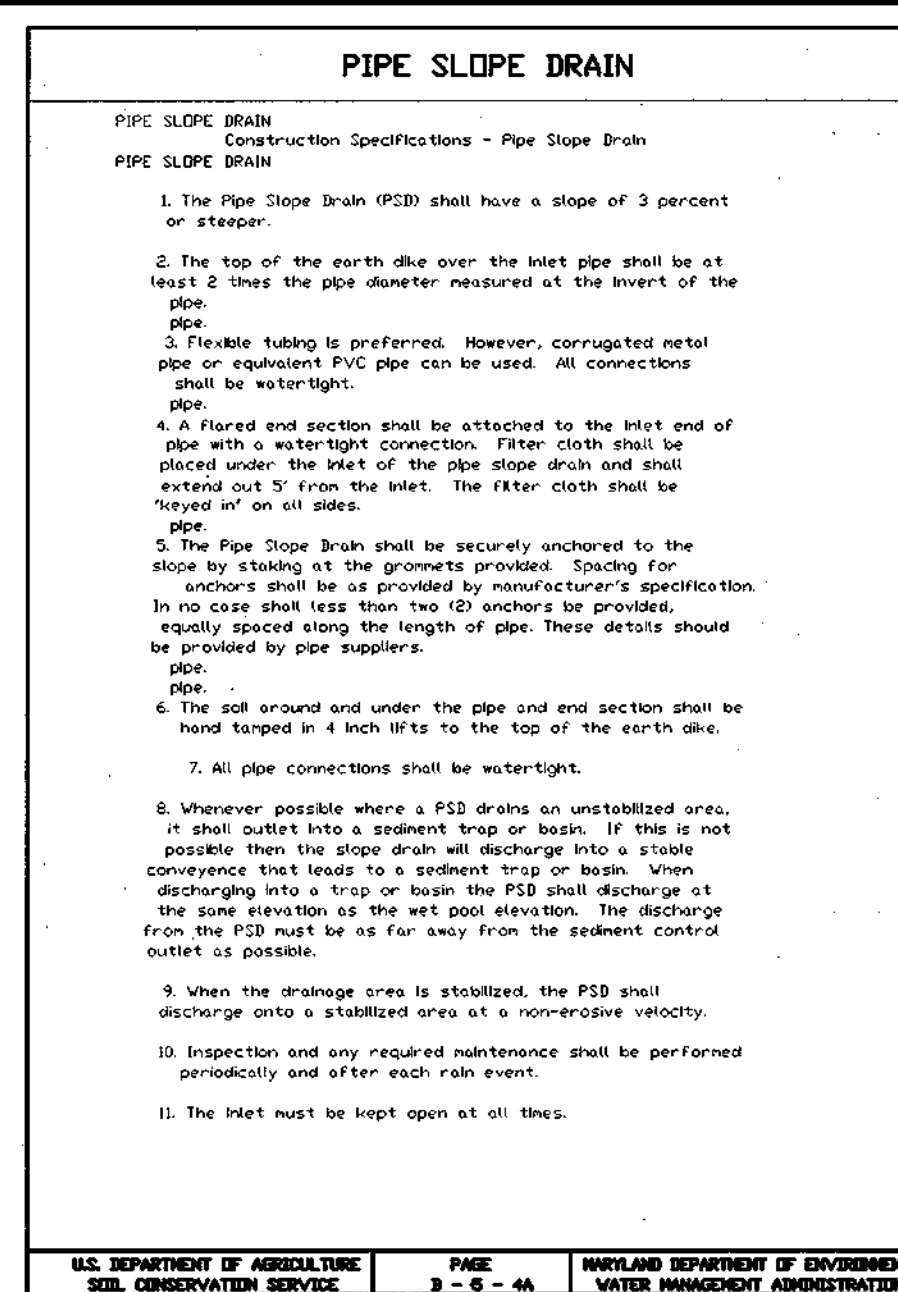
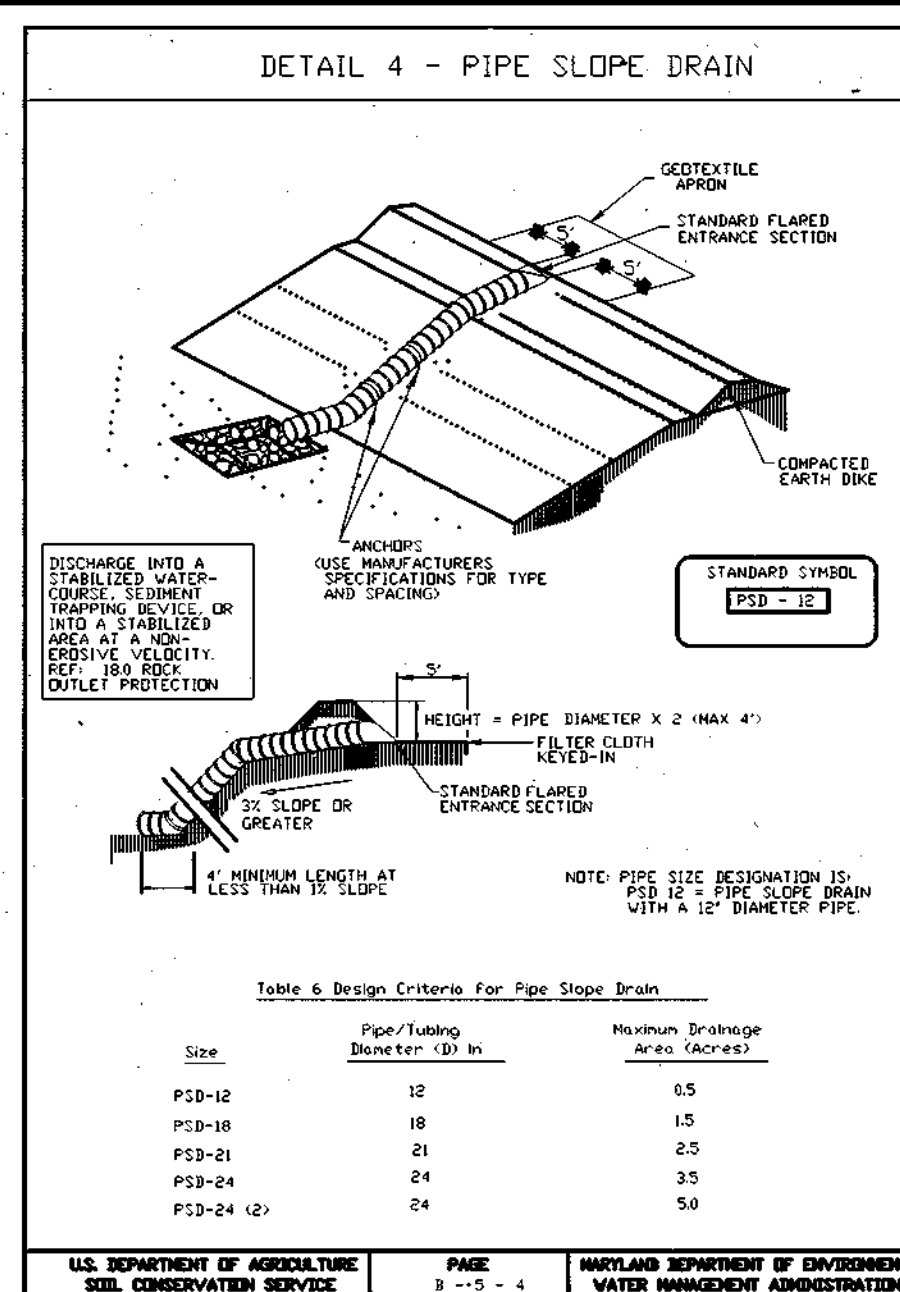
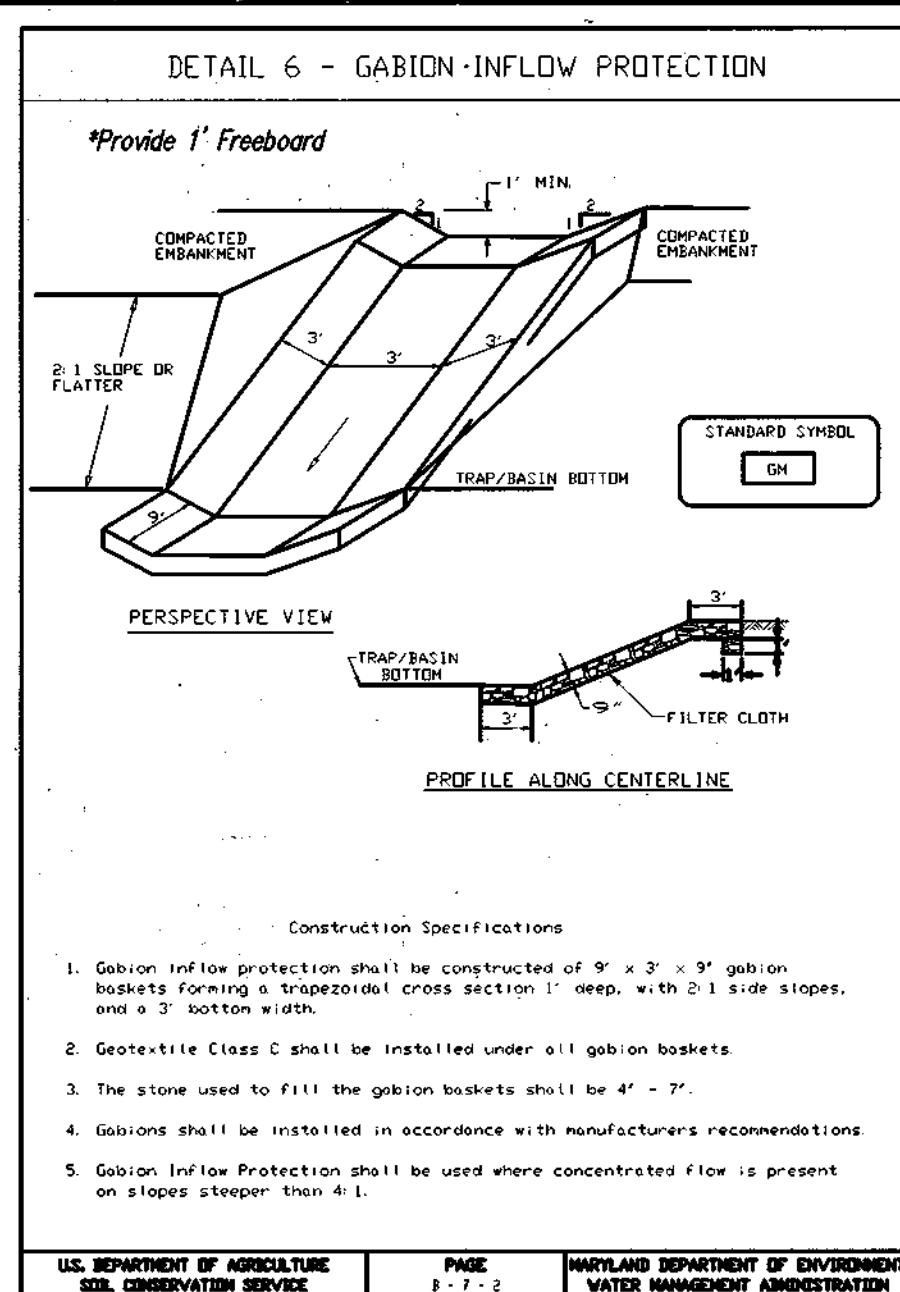
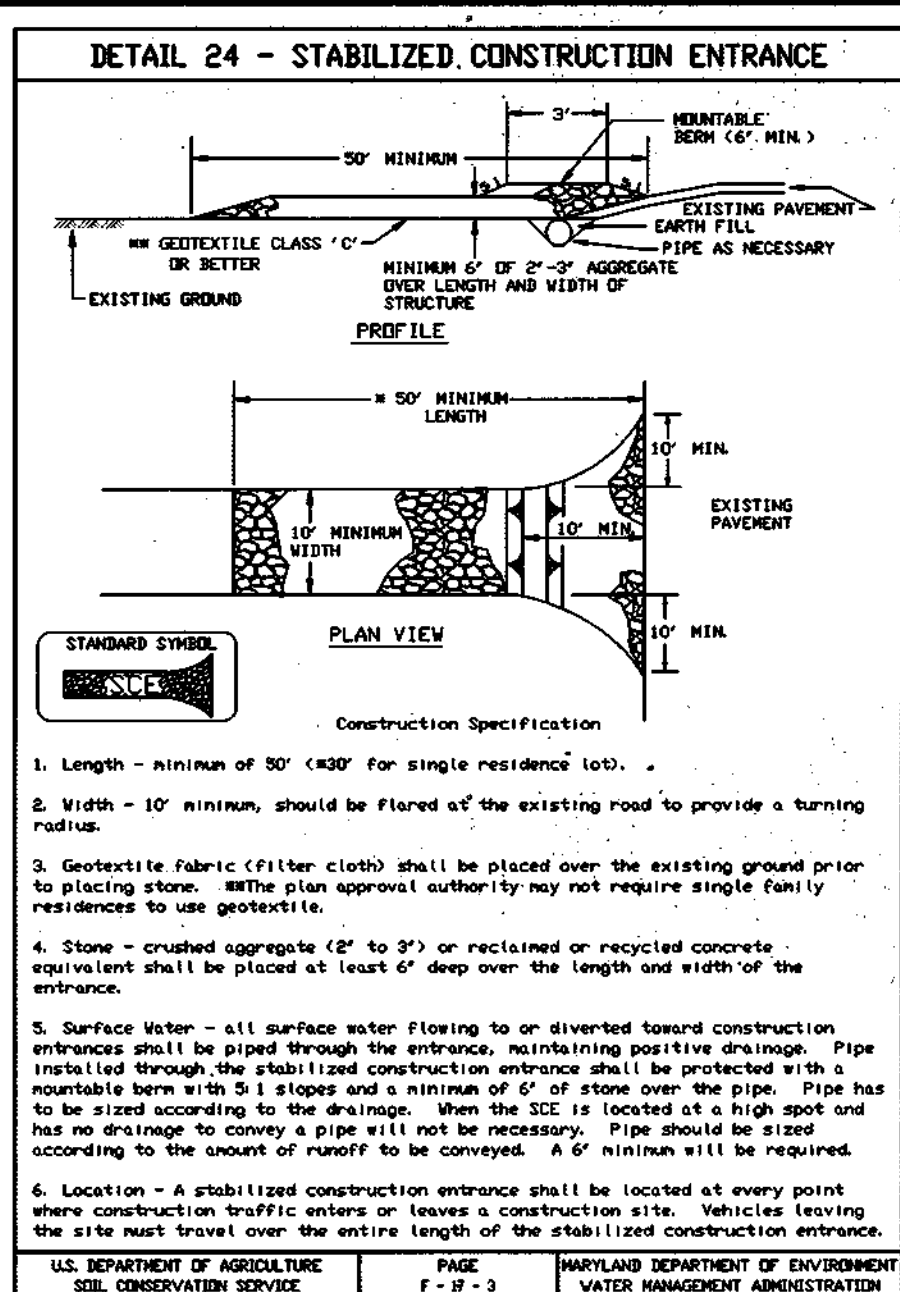
GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-680-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APPR.

PREPARED FOR:
The Howard Research & Development Corporation
Columbia Gateway
Parcel A-77
Attn: Greg Klar
(410) 972-0270

Sediment Control Plan (Overall)
Columbia Gateway
Parcels Q-1, Q-2, U and Lots 11 & 12
Plot No. _____
ELECTION DISTRICT No. 6

SCALE 1"=100'	ZONING New Town M-1	G. L. W. FILE No. 97150
DATE August, 1998	TAX MAP - GRID 42-7 42-12 & 13	SHEET 9 OF 17



These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements.

Cheryl Simmons 3/13/99
Natural Resources Conservation Service Date

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

Shelly Shy 3/13/99
Howard S.C.D. Date

ENGINEER'S CERTIFICATE

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

CKG 9-1-98
Date

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and/or construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the USGS."

Shelly Shy 9-1-98
Signature of Developer/Builder Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels 3-11-99
Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Carol Hamilton 3/17/99
Chief, Bureau of Land Development Date

Michael... 3/12/99
Chief, Development Engineering Division Date

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

NO.	DATE	REVISION	BY	APPR.

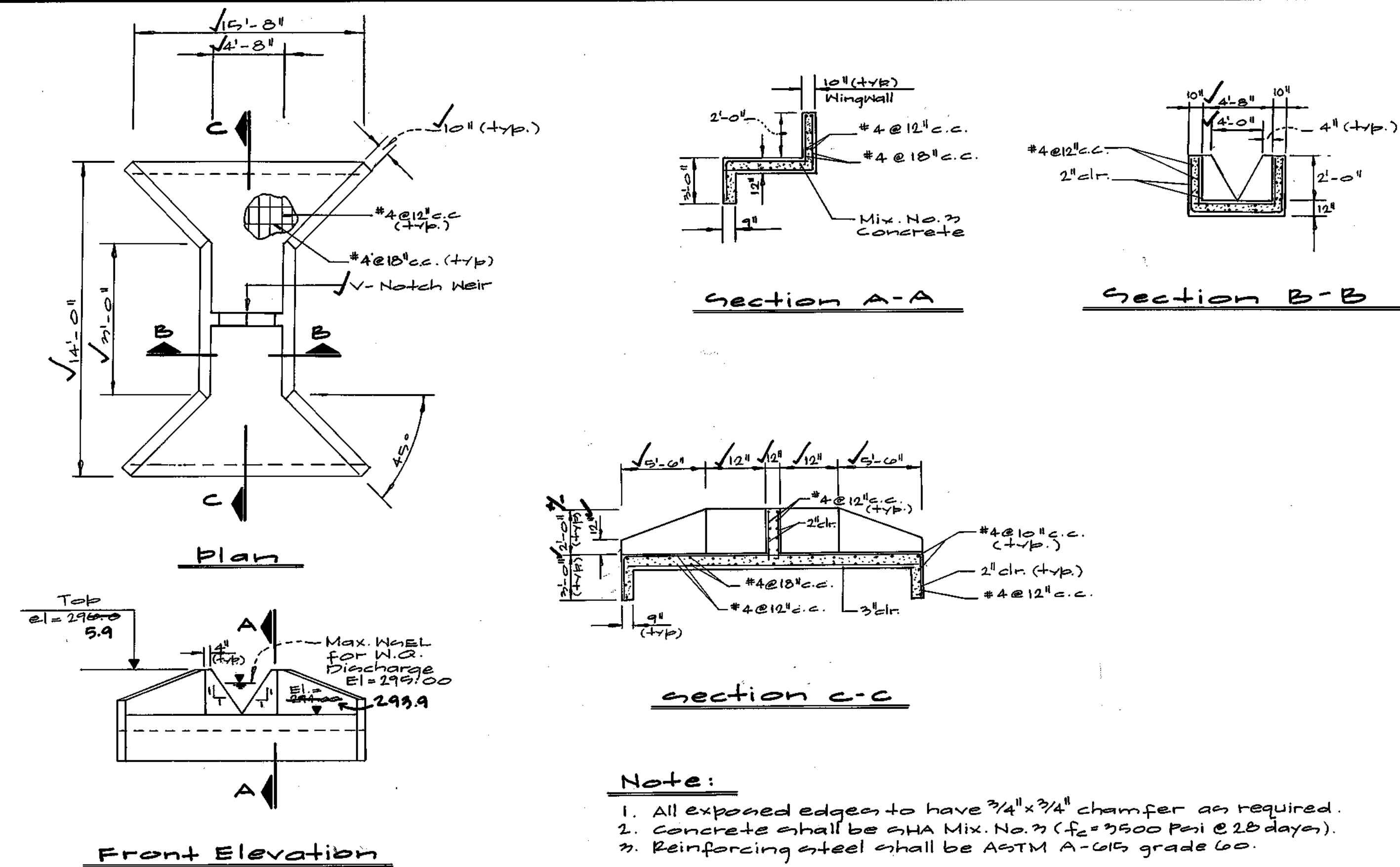
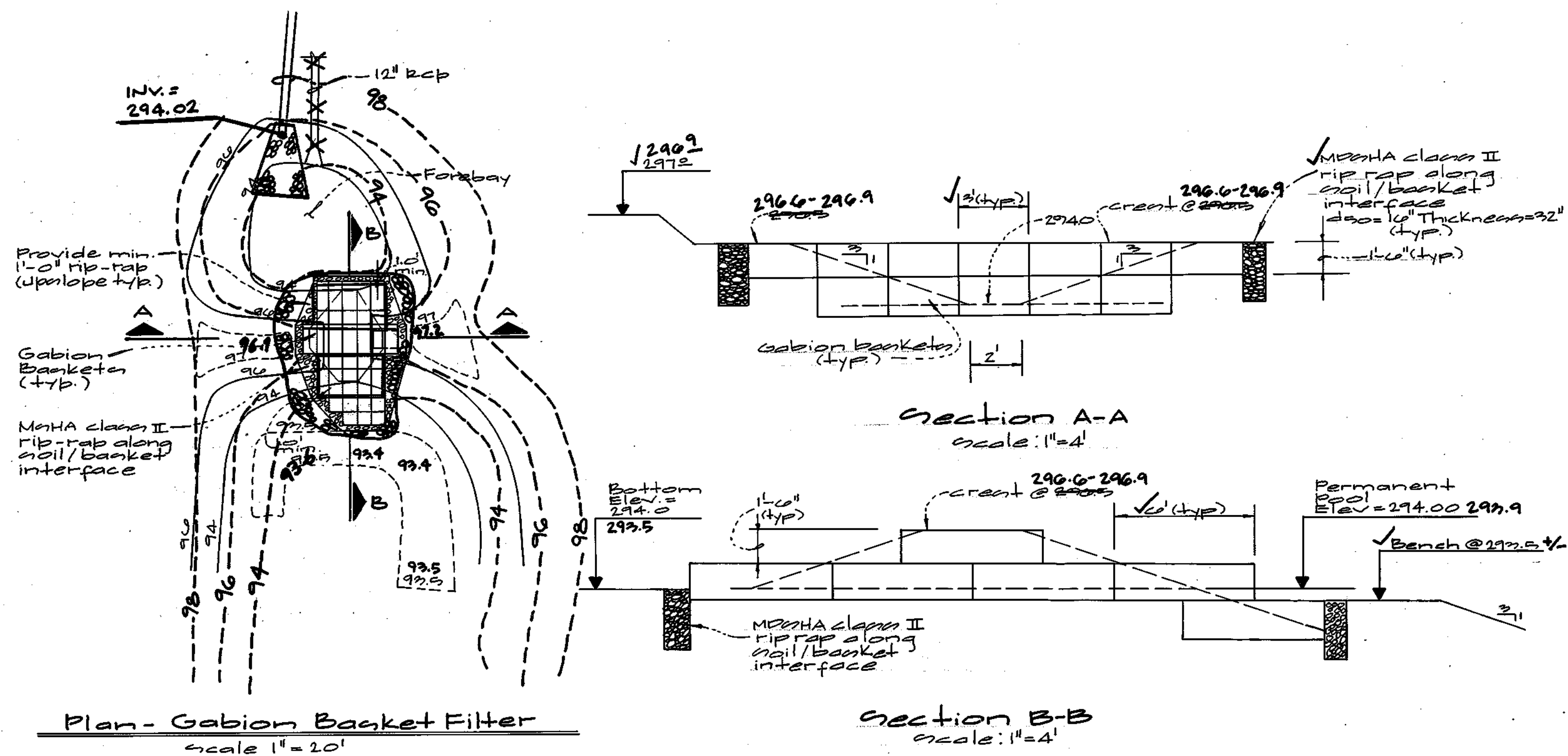
PREPARED FOR:
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MD. 21044
(410) 992-0370

SEDIMENT CONTROL NOTES & DETAILS

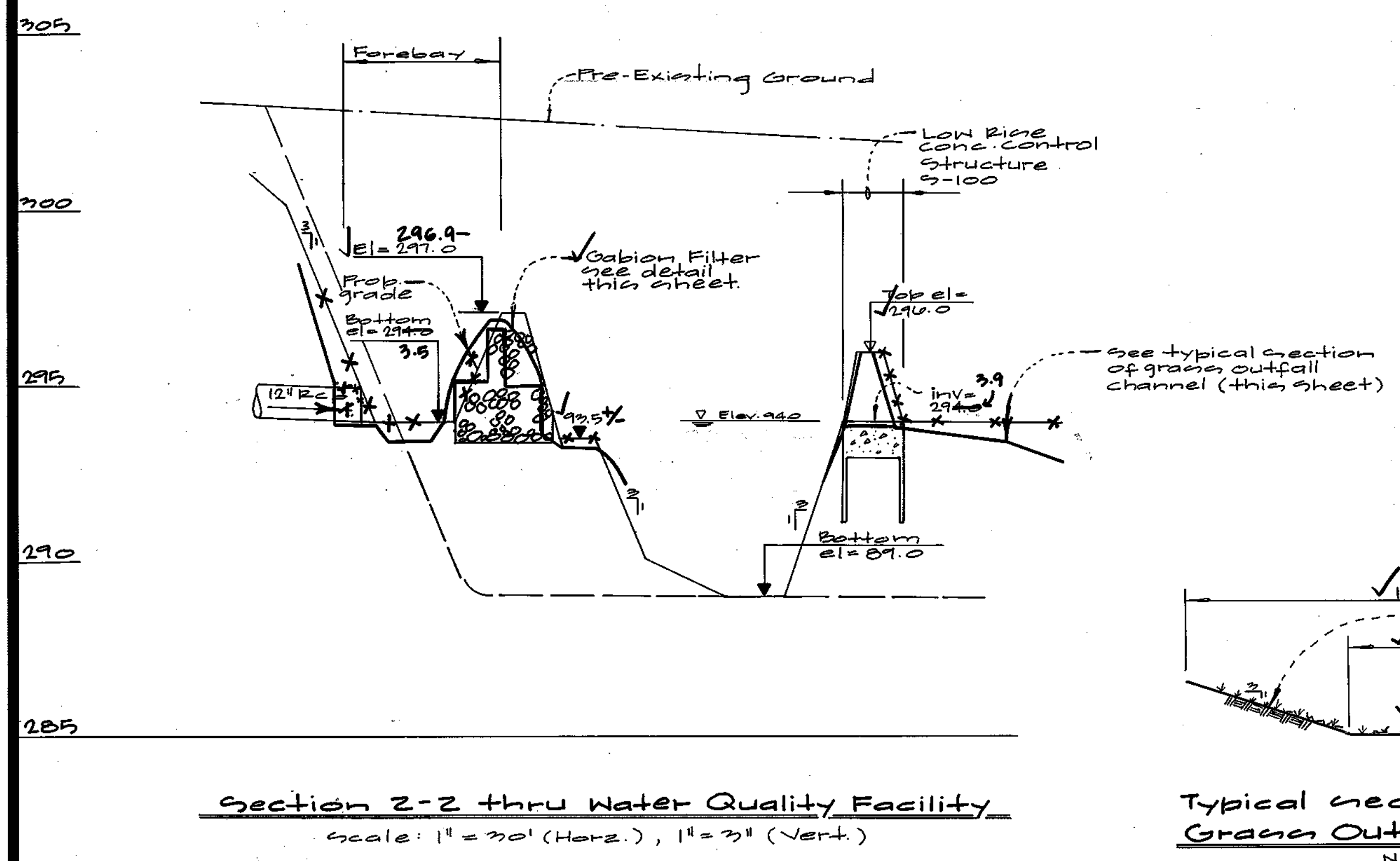
COLUMBIA GATEWAY
Parcels Q-1, Q-2, U and Lots 11 & 12
PLAT NO.

SCALE	ZONING	G. L. W. FILE NO.
N/A	NEW TOWN & M-1	97150
DATE	TAX MAP - GRID	SHEET
AUGUST 1998	43-7 42-12 & 18	10 OF 17

ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND



Details of Low Rise Concrete Control Structure
N.T.S.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels 3-11-99
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hammit 3/11/99
 Chief, Division of Land Development

Mike Deussen 3/12/99
 Chief, Development Engineering Division MK

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.

N/A
 Natural Resources Conservation Service

These Plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

N/A
 Howard Soil Conservation District

ENGINEER'S CERTIFICATE

I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

Greg Klar 9-1-98
 Date



DEVELOPER'S/BUILDER'S CERTIFICATE

I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered Professional Engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

Greg Klar 9-1-98
 Signature of Developer/Builder Date

Sheets labeled 1 thru 8 for As-built purposes only.

GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 FAX: 410-980-1820 DC/VA: 301-989-2524 FAX: 301-421-6186

NO.	DATE	REVISION	BY	APP'R.
1	3-11-99	Revised Water Quality Facility		

PREPARED FOR:
 THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 ATTN: GREG KLAR
 PHONE: (410) 992-6370

Stormwater Management Details & Soil Boring
Columbia Gateway
 Parcels Q-1, Q-2, U and Lots 11 & 12
 Plat No. _____
 ELECTION DISTRICT No. 6
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	NT/M1	97150
DATE	TAX MAP - GRID	SHEET
AUGUST, 1998	43-7 42-12&18	5 # of 17

POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots, and other objectionable material shall be removed.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans.

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.

Earth Fill

Material - The fill material shall be taken from approved designated borrow areas. Fill shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials.

Placement - Area on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each fill shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller.

Where a minimum required density is specified, it shall not be less than 95% of maximum dry density with a moisture content within +/- 2% of the optimum.

Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans.

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.

Pipe Conduits

All pipes shall be circular in cross section.

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

- 1. Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands.

Material - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-190 or M-211 with watertight coupling bands or flanges.

- 2. Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material as the pipe.

- 3. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe & riser are metal.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be rolled an adequate number of corrugations to accommodate the band width.

- 4. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length.

- 5. Backfilling shall conform to "Structure Backfill".

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

- 1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361.

- 2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length.

- 3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material.

- 4. Backfilling shall conform to "Structure Backfill".

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

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

- 1. Materials - PVC pipe shall be PVC - 1120 or PVC - 1220 conforming to ASTM D-1785 or ASTM D-2241.

- 2. Joints and connections to anti-seep collars shall be completely watertight.

- 3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length.

- 4. Backfilling shall conform to "Structure Backfill".

Concrete Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standards.

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 905.

The rip rap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the riprap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks.

Core 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.

Stabilization

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Maryland Soil Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed.

SEDIMENT CONTROL NOTES

- 1. A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (410) 313-1855

- 2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.

- 3. Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes and perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.

- 4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.

- 5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings, sod, temporary seedings and mulching (Sec. G).

- 6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.

- 7. Site Analysis: Total Area of Site: 56.00 Acres, Area Disturbed: 5.00 Acres, Area to be roofed or paved: 1.00 Acres, Area to be vegetatively stabilized: 4.20 Acres, Total Cut: 12,000 Cu. Yds., Total Fill: 12,000 Cu. Yds.

- 9. Additional sediment control must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.

- 10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading.

- 11. Trenches for the construction of utilities is limited to 3 pipe lengths or that which shall be backfilled and stabilized within 1 working day, whichever is shorter.

PERMANENT SEEDING NOTES

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

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

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

- 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 square feet) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding.

- 2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding.

Seeding: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 80 lbs per acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall Fescue.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of unrattled small grain straw immediately after seeding.

Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

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

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

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

Seeding: For periods March 1 thru April 30 and from August 15 thru October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq ft).

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of unrattled, weed-free, small grain straw immediately after seeding.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

OPERATION, MAINTENANCE AND INSPECTION

- 1. THE COUNTY SHALL REMOVE SILT WHEN ACCUMULATION EXCEEDS 6" IN FOREBAY.
- 2. DURING THE MINIMUM ANNUAL INSPECTION, THE COUNTY SHALL REMOVE ACCUMULATED PAPER, TRASH, AND DEBRIS AS NECESSARY.
- 3. THE COUNTY SHALL MOW VEGETATION GROWING IN EMBANKMENT TOP AND FACES OF THE FOREBAY OR BASIN AT LEAST ONCE PER YEAR.

SEQUENCE OF CONSTRUCTION

- 1. Obtain grading permit. Arrange pre-construction meeting with the Sediment Control Inspector (1 day).
- 2. Inspect all existing sediment controls and repair, as necessary. If required, remove sediment from existing basin (1 week).
- 3. DAYLIGHT EXISTING STUB 103 (CONSTRUCTED UNDER #97-08 REDLINE) (1 DAY).
- 4. When area draining to EXISTING STUB 16 stabilized, construct earth dike (1) to divert clean water away from construction area.

DEVELOPER'S/BUILDER'S CERTIFICATE

I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project.

ENGINEER'S CERTIFICATE

I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions.



Signature of Engineer: [Signature] Date: 9-1-98

Signature of Developer/Builder: [Signature] Date: 9-1-98

These Plans for [Project Name], soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Signature of Soil Conservation District: [Signature] Date: 3/3/99

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for [Project Name] soil erosion and sediment control.

Signature of Natural Resources Conservation Service: [Signature] Date: 3/3/99

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Caruso 3-11-99
Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Brantley 3/17/99
Chief, Division of Land Development

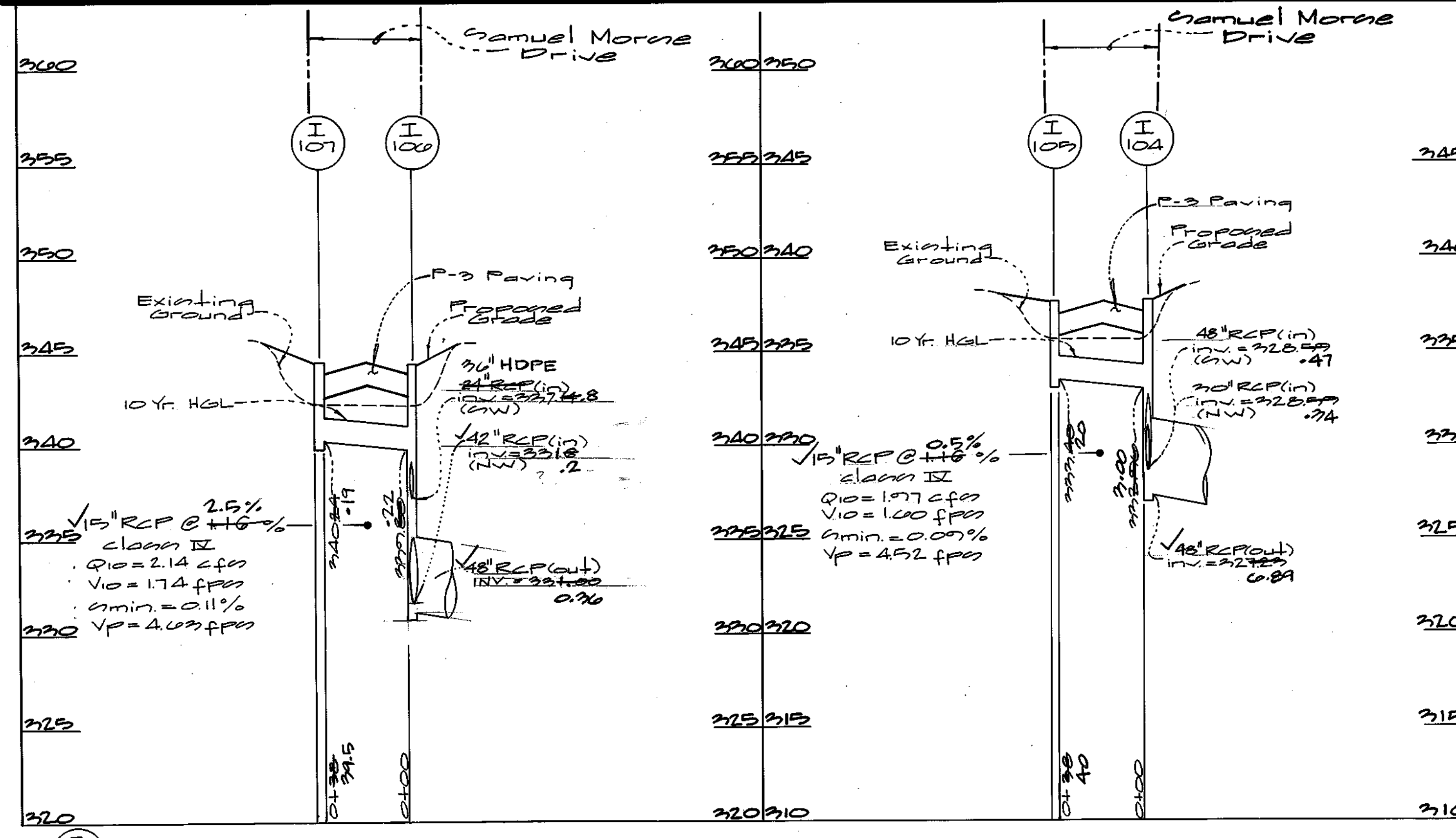
GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK

Table with columns: DATE, REVISION, BY, APPR. Row 1: 1-28-99 REVISED SEDIMENT CONTROL NOTES AND SEQUENCE OF CONSTRUCTION NOTES. Row 2: 11-16-98 REVISED SEQUENCE OF CONSTRUCTION TO ACCOMMODATE REVISED STORM DRAIN.

PREPARED FOR: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
THE ROUSE BUILDING
10275 LITTLE PATUENT PARKWAY
COLUMBIA, MD. 21044
(410) 392-6027

GENERAL NOTES
COLUMBIA GATEWAY
Parcels Q-1, Q-2, U and Lots 11 & 12
PLAT NO.
ELECTION DISTRICT No. 6

Table with columns: SCALE, ZONING, G. L. W. FILE No., DATE, TAX MAP - GRID, SHEET. Values: AS SHOWN, NEW TOWN & M-1, 97150, AUGUST 1998, 42-12 & 18, 12 OF 17.

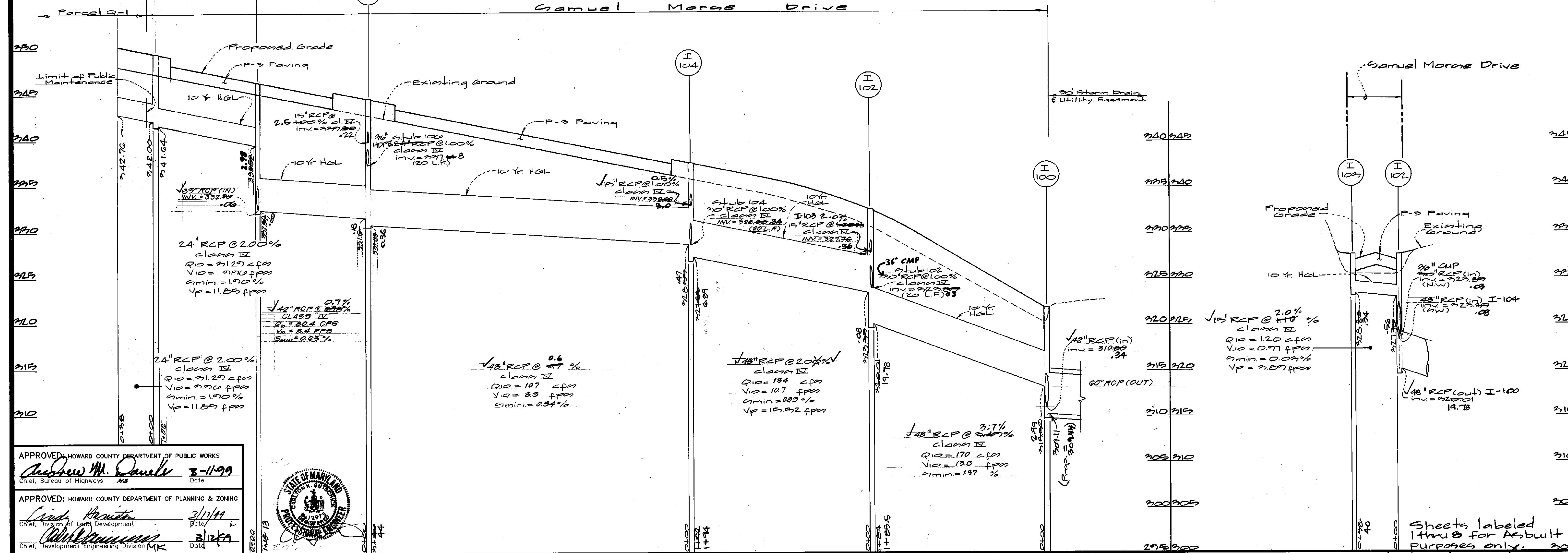


No.	Type	Width (inside)	Top Elevation Upper	Lower	Invert Elevation Upper	Lower	St'd Detail	Locations	Remarks
I-102	48" inlet	6'-0"	322.75	322.22	322.75	322.22	SD 4.4.1	± 16+00.00 LT 22.00	Mediated Std.
I-103								± 16+00.00 RT 22.00	none
I-104								± 18+00.00 LT 22.00	Mediated Std.
I-105								± 18+00.00 RT 22.00	none
I-106								± 21+50.00 LT 22.00	Mediated Std.
I-107								± 21+50.00 RT 22.00	none
M-100	manhole	4'-0"	321.70		321.00	321.04	S 5.12	See Plan	
M-120	MANHOLE	6'-0"	346.34		339.62	332.90	MD 384.05	± 22+68.00 RT 16.00'	

size	type	quantity (l.f.)	Remarks
15"	RCP CL IV	114	none
24"	RCP CL IV	720	
30"	RCP CL IV	480	
42"	RCP CL IV	715	
48"	RCP CL IV	722	

Removed w/ County permission.

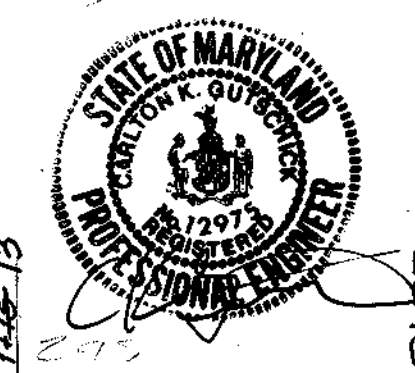
Profile scales:
Vertical: 1" = 5'
Horizontal: 1" = 50'



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels 3-11-99
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Harvath 3/11/99
 Chief, Division of Land Development

William J. ... 3/12/99
 Chief, Development Engineering Division MK



GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3009 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 FAX: 301-421-4186

PREPARED FOR:
 The Howard Research & Development Corporation
 10215 Little Patuxent Parkway
 Columbia, Maryland 21044
 Attn: Greg Klar
 (410) 992-0210

storm Drain Profiles & Schedules
Columbia Gateway
 Parcel Q-1, Q-2, Q-4 and Lots 11 & 12
 Plat No. _____

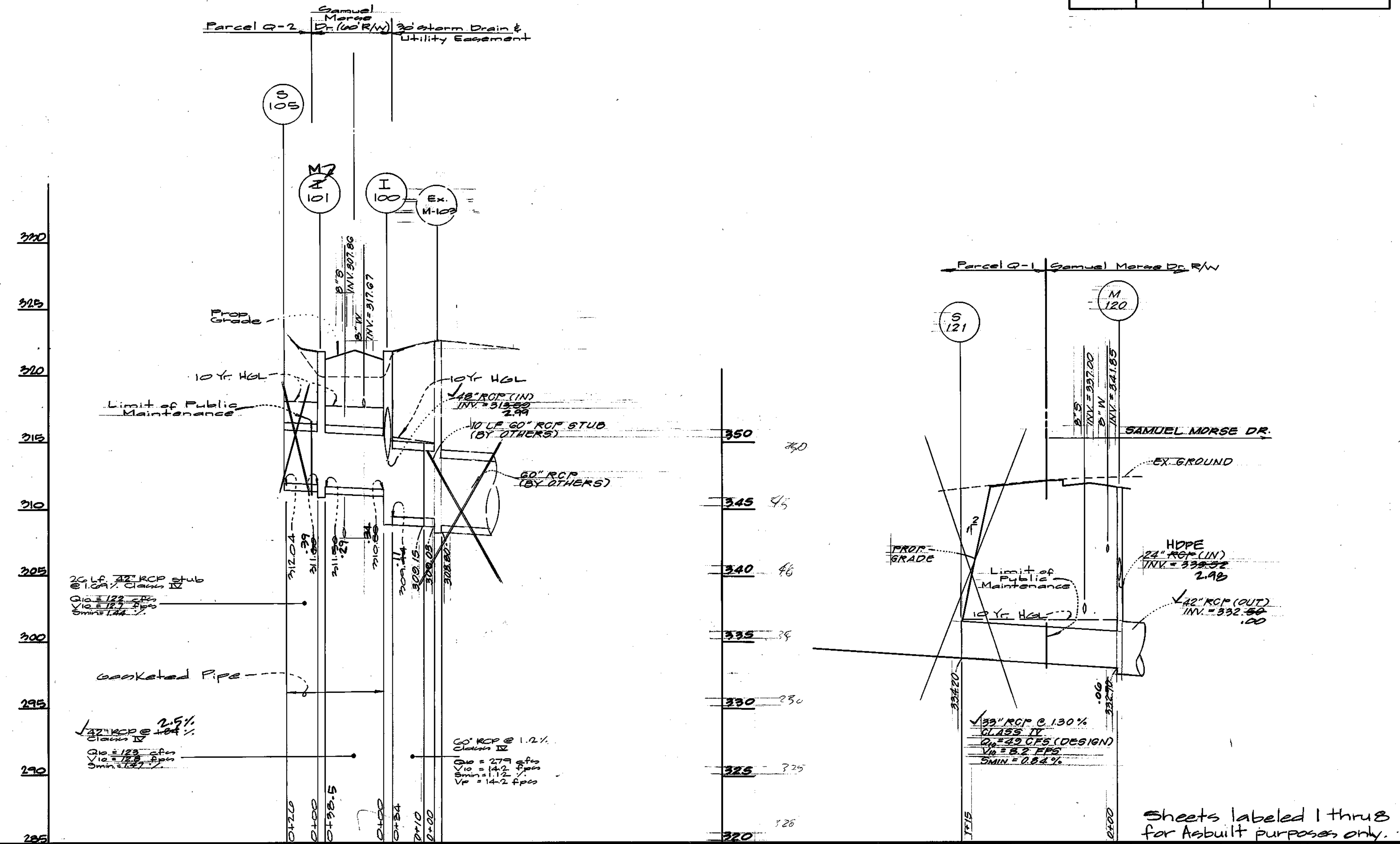
SCALE: AS SHOWN
 ZONING: M-1
 G. L. W. FILE No. 97150

DATE: 2002 AUGUST, 1998
 TAX MAP - GRID: 42-7 42-12 & 10
 SHEET: 8 OF 17

HOWARD COUNTY, MARYLAND

Structure Schedule									
No.	Type	Width (inside)	Top Elevation		Invert Elevation		St'd Detail	Locations	Remarks
			Upper	Lower	Upper	Lower			
I-100	A-10 inlet	5'-0"	226.26	221.57	212.23	209.41	SD 4.41	§ 14+07.00 RT 22'	None
I-101		5'-0"	226.26	221.57	212.23	209.41	SD 4.41	§ 14+07.00 LT 22'	
M-101		5'-0"	226.26	221.57	212.23	209.41	SD 4.41	§ 14+07.00 LT 22'	

Pipe Schedule ^(THIS SHEET)			
size	type	quantity (l.f.)	Remarks
42"	RCP CL IV	64	
60"	RCP CL IV	24	
33"	RCP CL II	115	



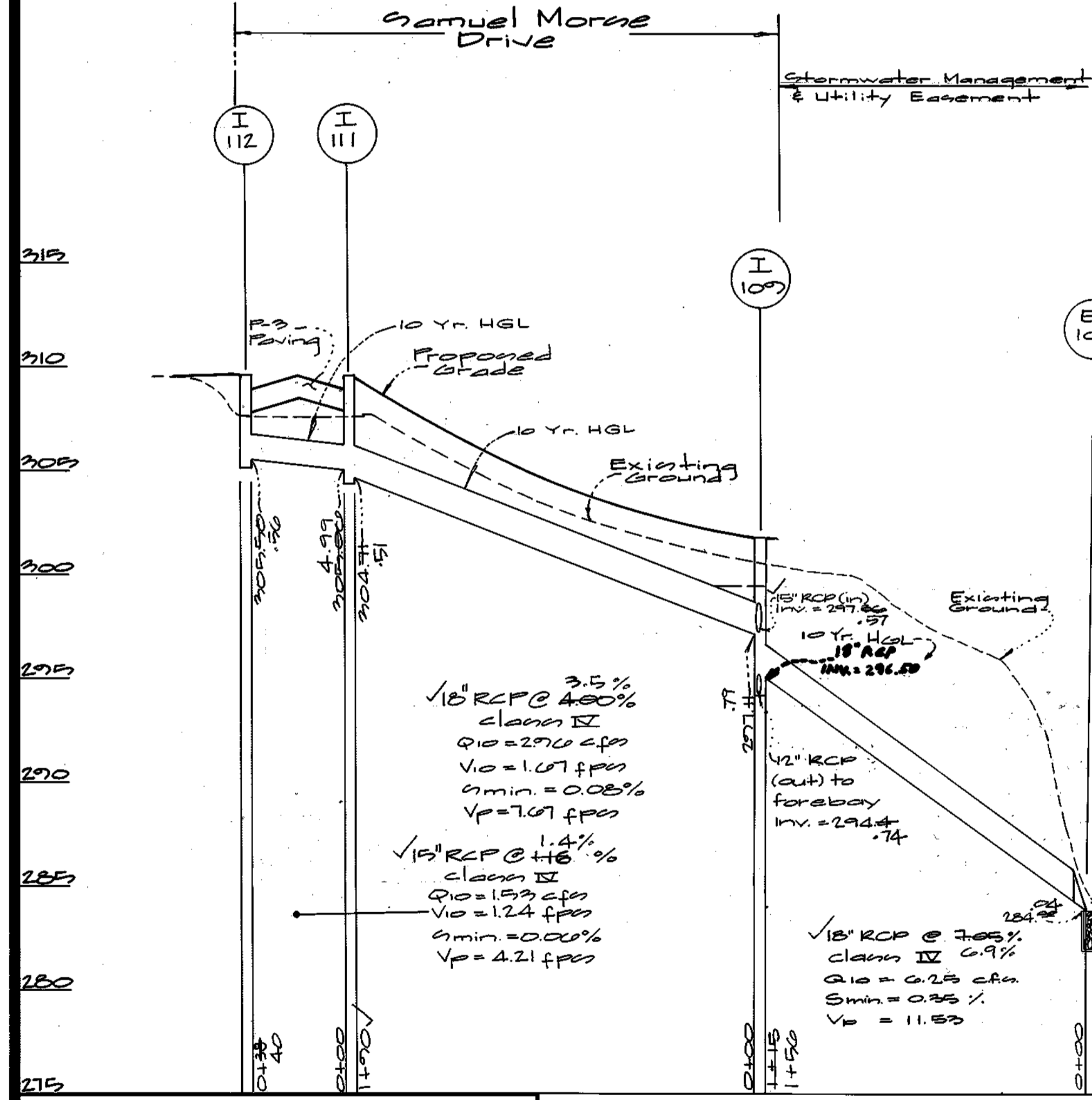
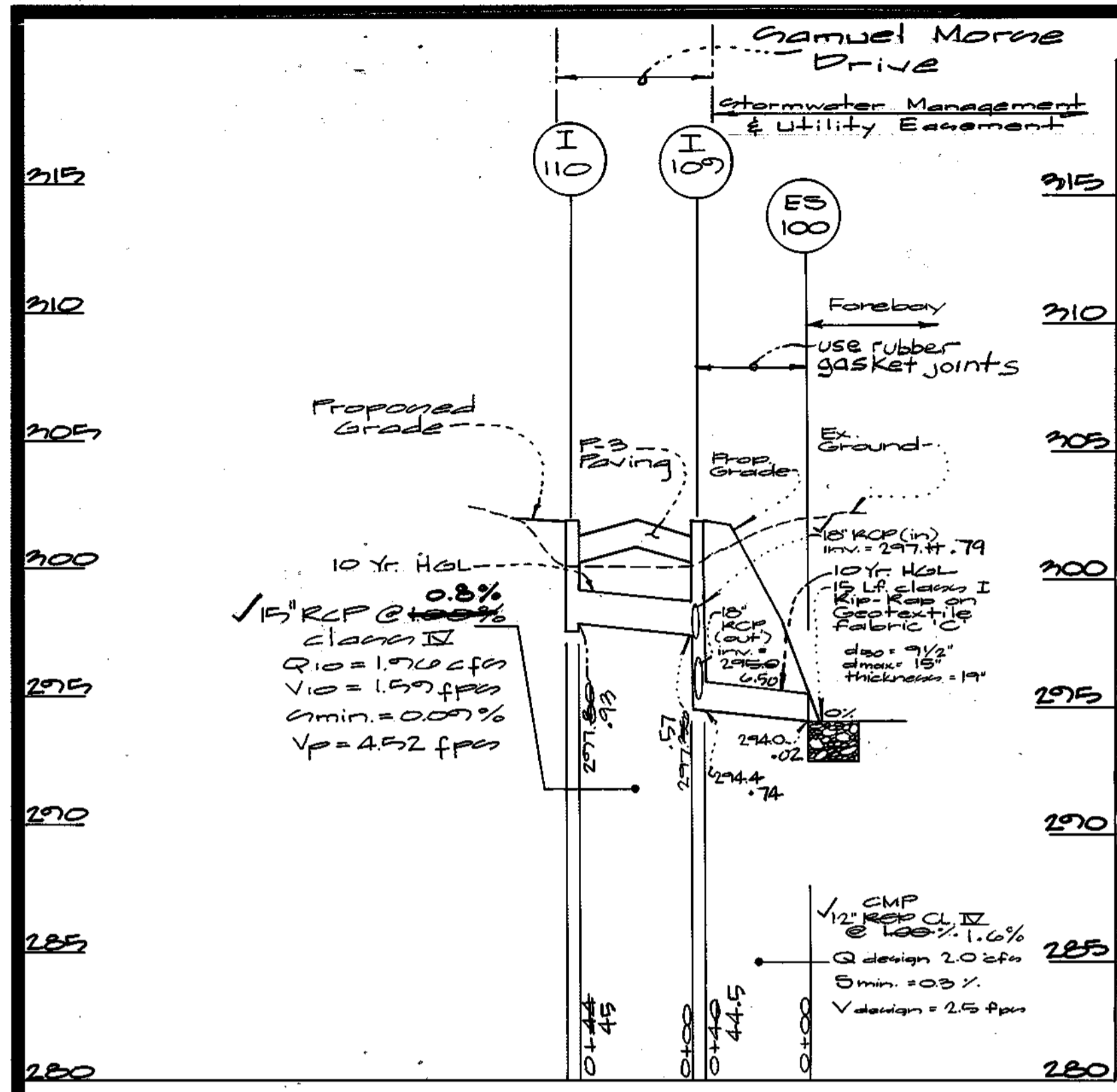
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels 3-11-99
 Chief, Bureau of Highways MS Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Krout 3/17/99
 Chief, Division of Land Development Date

Michael... 3/12/99
 Chief, Development Engineering Division MK Date



GLW GUTSCHICK LITTLE & WEBER, P.A. CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS 3009 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK BURTONSVILLE, MARYLAND 20866 TEL: 301-421-4024 BALT: 410-580-1820 DC/VA: 301-959-2524 FAX: 301-421-4186 \DRAWINGS\97150\DESIGN\97150RP4.DWG	PREPARED FOR: The Howard Research & Development Corporation 10275 Little Blukent Parkway Columbia, Maryland 21044 Attn: Greg Klar (410)992-6370	storm Drain Profiles & Schedules Columbia Gateway Parcel Q-1, Q-2, U and Lots 11 & 12 Plat No.	SCALE AS SHOWN	ZONING M-1	G. L. W. FILE No. 97150
	DATE AUGUST, 1999	TAX MAP - GRID 42-12 & 18	SHEET 7 OF 17	HOWARD COUNTY, MARYLAND	



Structure Schedule

No.	Type	Width (inside)	Top Elevation		Invert Elevation		St'd Detail	Locations	Remarks
			Upper	Lower	Upper	Lower			
I-109	A-15 inlet	4'-0"	207.72	207.01	207.57	207.74	SB 4.41	§ 10+00.00 LT 22.00	Multiplied Ctd.
I-110		4'-0"	207.84	207.70	207.93	207.93		§ 10+00.00 RT 22.00	none
I-111		4'-0"	207.80	207.24	207.49	207.51		§ 12+00.00 LT 22.00	
I-112		4'-0"	207.76	207.12	207.36	207.36		§ 12+00.00 RT 22.00	
ES-100	end section	12" Ø				207.02	SB 5.51	See Plan	Inv. @ 20' end
ES-101	end section	16" Ø				207.04	SB 5.51	See Plan	Inv. @ 20' end

Pipe Schedule (This sheet)

size	type	quantity (l.f.)	Remarks
12"	RCP CL II	70	USE RUBBER GASKET JOINTS
15"	RCP CL II	82	
18"	RCP CL II	240	

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Gavelle 3-11-99
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Brumitt 3/17/99
 Chief, Division of Land Development

Mike Brumitt 3/12/99
 Chief, Development Engineering Division



Profile scales:
 Vertical: 1" = 5'
 Horizontal: 1" = 50'

Sheets labeled 1 thru 8 for Asbuilt purposes only.

GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
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PREPARED FOR:
 The Howard Research & Development Corporation
 10215 Little Patuxent Parkway
 Columbia, Maryland 21044
 Attn: Greg Klor
 (410)992-0870

Storm Drain Profiles & Schedules
Columbia Gateway
 Parcel 9-1, 9-2 & U and Lots 11 & 12
 Plot No. _____
 ELECTION DISTRICT No. 6

SCALE AS SHOWN	ZONING M-1	G. L. W. FILE No. 97150
DATE 2002 AUGUST, 2002	TAX MAP - GRID 43-7 42-12 & 13	SHEET 8 15 OF 17

HOWARD COUNTY, MARYLAND



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels 3-11-99
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Andy Hamilton 3/17/99
 Chief, Division of Land Development

Michael... 3/12/99
 Chief, Development Engineering Division

GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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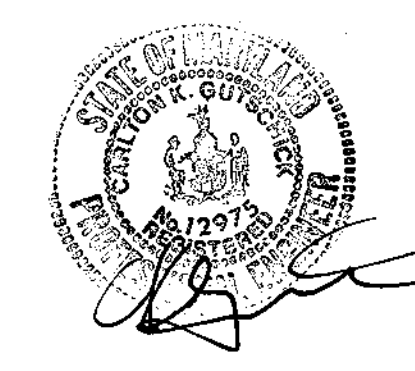
DATE	REVISION	BY	APPR.

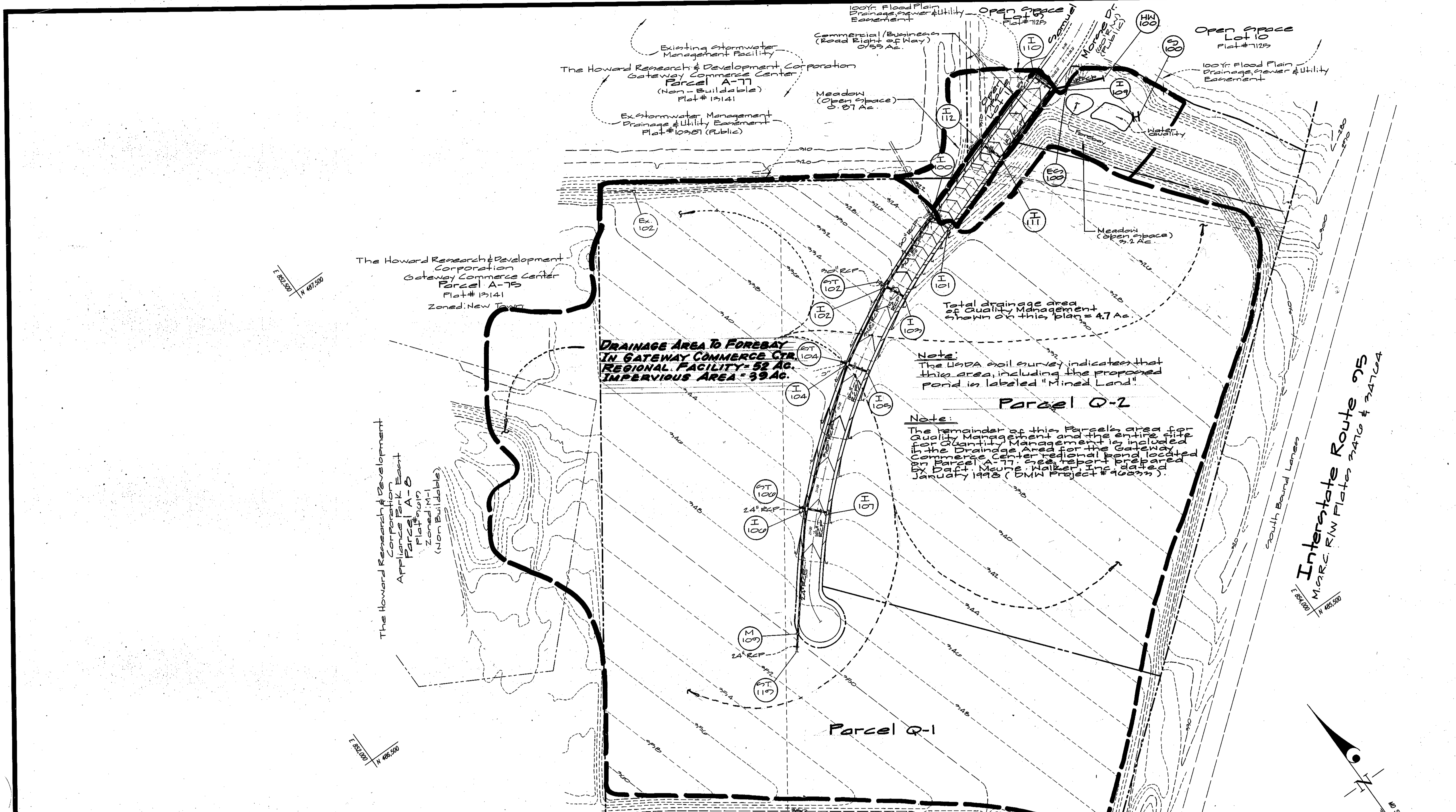
PREPARED FOR:
 The Howard Research & Development Corporation
 Columbia, Maryland 21044
 Attn: Greg Klar
 (410) 992-0210

storm Drain
DRAINAGE AREA MAP
Columbia Gateway
 Parcels Q-1, Q-2, U and Lots 11 & 12
 Plat No. _____
 ELECTION DISTRICT No. 6
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=100'	New Town/ M-1	97150
DATE	TAX MAP - GRID	SHEET
August 1, 1998	42-7	16 OF 17

Interstate Route 95
 M.D.C. RW Plats 2470 & 2470A
 E 684,000 N 488,500





APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Javelle 3-11-99
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hametta 3/17/99
 Chief, Division of Land Development Date

Mike 3/12/99
 Chief, Development Engineering Division Date



GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3000 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
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NO.	DATE	REVISION	BY	APPR.

PREPARED FOR:
 The Howard Research & Development Corporation
 Columbia, Maryland 21044
 Attn: Greg Klar
 (410) 992-6990

stormwater Management
DRAINAGE AREA MAP
Columbia Gateway
 Parcels Q-1, Q-2, U and Lots 11 & 12
 Plat No. _____
 ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE No.
1"=100'	New Towny M-1	97150
DATE	TAX MAP - GRID	SHEET
August, 1998	42-7 42-12 & 13	17 OF 17

Interstate Route 95
 M.G.R.C. RW Plates 7476 & 7476A
 E 885,000 N 485,500

