

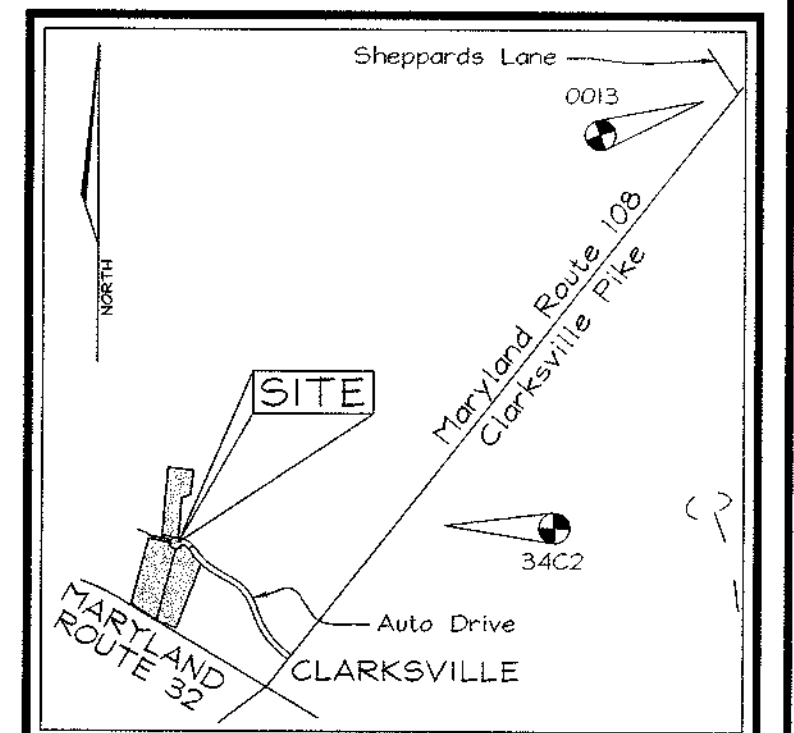
GENERAL NOTES

- 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 "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
- The contractor is to notify the following utilities or agencies at least five days before starting work on these drawings:
 - Miss Utility: 1-800-257-7777
 - Verizon Telephone Company: 1-410-954-6261
 - Howard County Bureau of Utilities: 313-2366
 - A&T Cable Location Division: 393-3553
 - B&E Co. Contractor Services: 850-4620
 - B&E Co. Underground Damage Control: 787-4620
 - State Highway Administration: 531-5533
- Site analysis:
 - Present zoning: B-2 & RC
 - Total number of lots/parcels: 5
 - Total area of parcels: 42,276.7 Ac.±
- Project background:
 - Location: Clarksville, MD - Tax Map #34, Lots 3 & 4, Parcels E-2, K-1 & L-1
 - Zoning: B-2 & RC
 - Subdivision: Holweck Subdivision
 - Section/Area: N/A
 - Site Area: 42,276.7 Acres
 - DWZ references: F-34-018; SP-93-14; WP-93-90; F-92-161; ZB-94711; ZB-100811
- The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection Division at (410) 313-1880 at least five (5) working days prior to start of work.
- Any damage to public right-of-ways, paving, or existing utilities will be corrected at the contractor's expense.
- Existing utilities located from Road Construction Plans, Field Surveys, Public Water and Sewer Extension Plans and available record drawings. Approximate location of existing utilities are shown for the contractor's information. Contractor shall locate existing utilities well in advance of construction activities and take all necessary precautions to protect the existing utilities and to maintain uninterrupted service. Any damage incurred due to contractor's operation shall be repaired immediately at the contractor's expense.
- All reinforced concrete for storm drain structures shall have a minimum of 28 days strength of 3,500 p.s.i.
- Traffic control devices, markings and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
- Estimates of earthwork quantities are provided solely for the purpose of calculating fees.
- Soil compaction specifications, requirements, methods and materials are to be in accordance with the recommendations of the project Geotechnical Engineer. Geotechnical Engineer to confirm acceptability of proposed paving section, based on soil test prior to construction.
- All storm drain pipe bedding shall be in conformance with Howard County requirements.
- The existing topography is taken from field run survey with two foot contour intervals prepared by Vogel & Associates, Inc. dated May 2000, an aerial survey prepared by Potomac Aerial Surveys dated December 1992 and Howard County 200 scale Topography. The coordinates shown hereon are based upon the Howard County Geodetic Control which is based upon the Maryland State Plane Coordinate System. Howard County Monument Nos. 0013 and 34C2 were used for this project.
- All paving to be P-4 per details sheet 2 of 7.
- All curb and gutter to be Howard County Standard concrete Curb and Gutter Detail 3.01 unless otherwise specified, see sheet 2 of 7 for details.
- Contractor responsible to construct all handicap ramps and handicap access in accordance with current ADA requirements.
- All elevations are to finished/bottom of curb unless otherwise noted.
- All dimensions are to face of curb unless otherwise noted.
- APFO traffic test prepared by Street Traffic Studies, Ltd. on June 23, 2000.
- Geotechnical report prepared by Herbst/Benson & Associates on July 11, 2000.
- Stormwater Management Facility #1 to be privately owned and maintained. Water Quality by Stormceptor. Pond Hazard Classification 'A'.
- Sediment Basin #1 to be privately owned and maintained. Pond Hazard Classification 'A'
- For Traffic Maintenance Plan see sheet 2 of 7.
- Street lights will be required in this development in accordance with the Design Manual. Street light placement and the type of fixture and pole selected shall be in accordance with the latest Howard County Design Manual, Volume III (1993) and as modified by "Guidelines for Street Lights in Residential Developments (June 1993)". The June 1993 policy includes guidelines for lateral and longitudinal placement. A minimum spacing of 20' shall be maintained between any street light and any tree.
- Forest Conservation obligations of 5.28 Acres will be fulfilled with the purchase of 5.28 Acres of afforestation credit at the Winkler Forest Mitigation Bank.

FINAL ROAD CONSTRUCTION PLAN AUTO PARK EXPANSION

LEGEND

- Existing Contour: - - - - - 382
- Proposed Contour: ———— 382
- Spot Elevation: +82.53
- Direction of Flow: →
- Existing Trees to remain: [Tree symbol]
- Existing Street Trees to be removed: [Tree symbol]
- Existing Street Trees to remain: [Tree symbol]
- Proposed Street Trees: [Tree symbol]
- Light Poles: [Pole symbol]

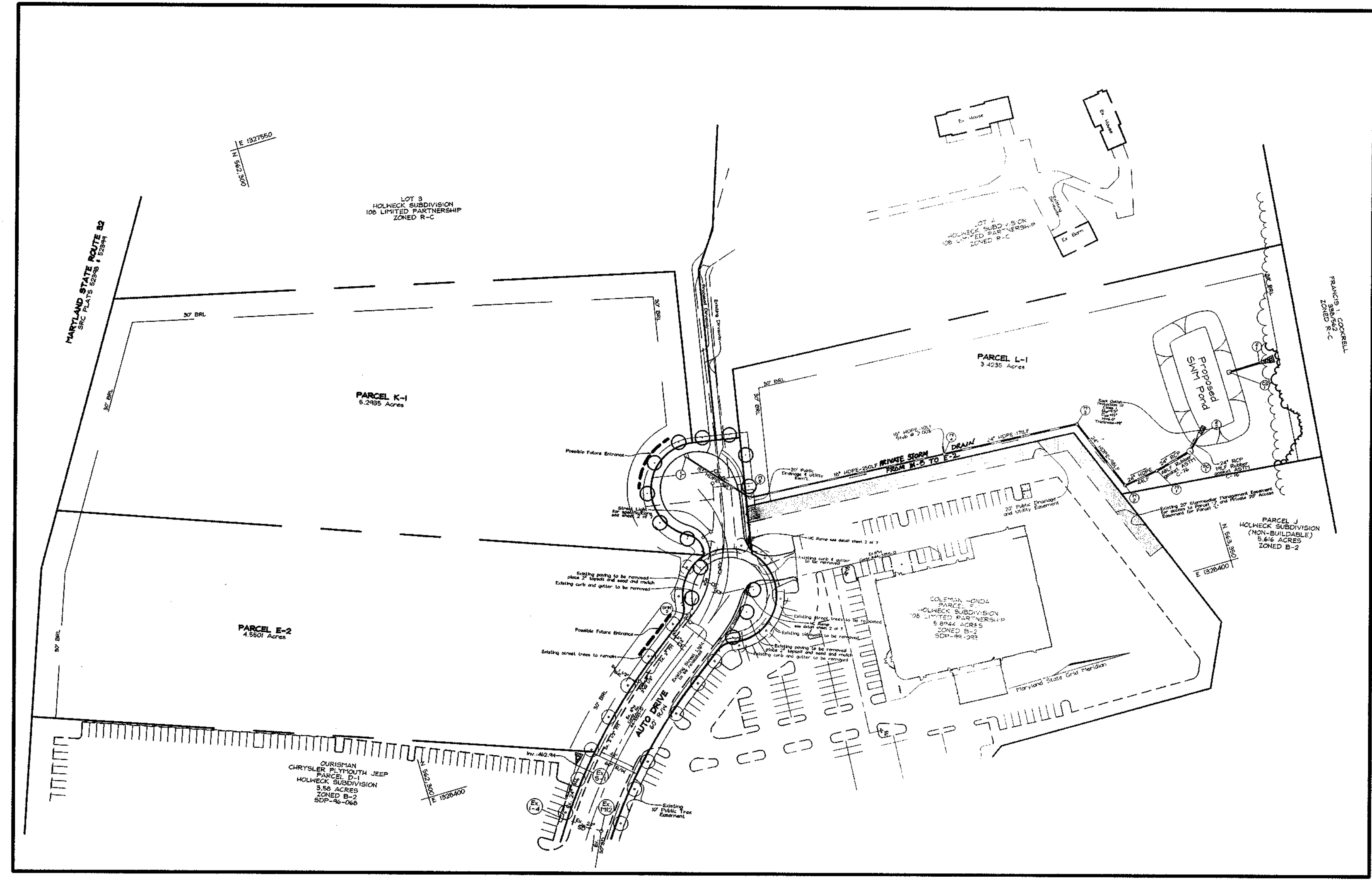


BENCHMARKS

Howard County Station 34C2	N 562,321.798	E 1,329,750.722
Howard County Station 0013	N 564,285.946	E 1,331,309.715

SHEET INDEX

DESCRIPTION	SHEET NO.
Cover Sheet	1 of 7
Road Plan and Profile	2 of 7
Grading, Sediment and Erosion Control Plan	3 of 7
Sediment and Erosion Control Details	4 of 7
Storm Drain Drainage Area Map and Profiles	5 of 7
Landscape Plan	6 of 7
Stormwater Management Notes and Details	7 of 7

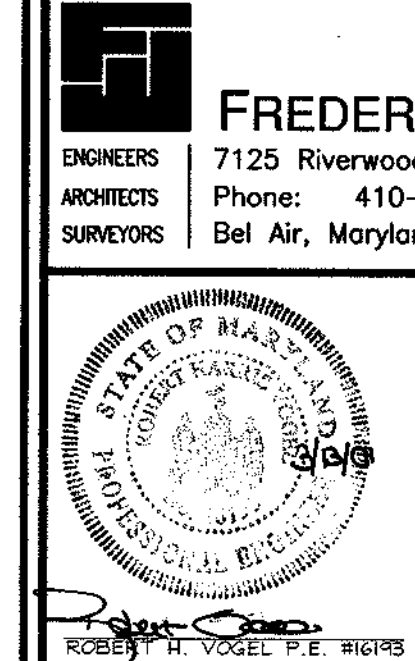


LOCATION MAP
SCALE: 1"=100'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Cindy Hamble 4/4/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Andrew M. Daniels 4-4-01
 CHIEF, BUREAU OF HIGHWAYS DATE

OWNER/DEVELOPER
 108 Limited Partnership
 c/o Win Kelly Chevrolet
 12421 Auto Drive
 Clarksville, MD 21201

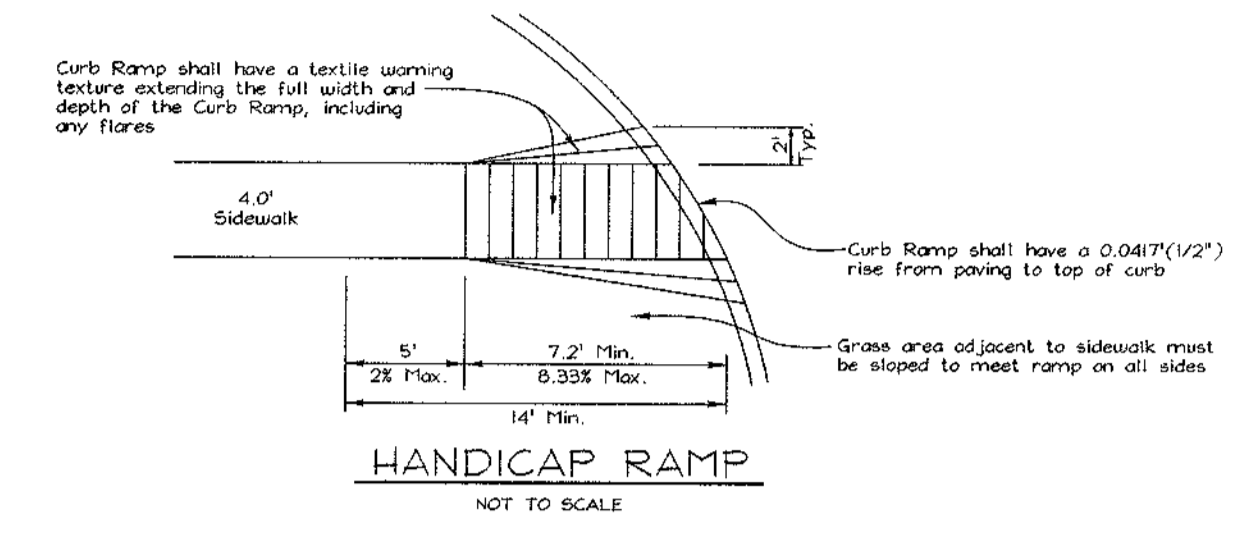
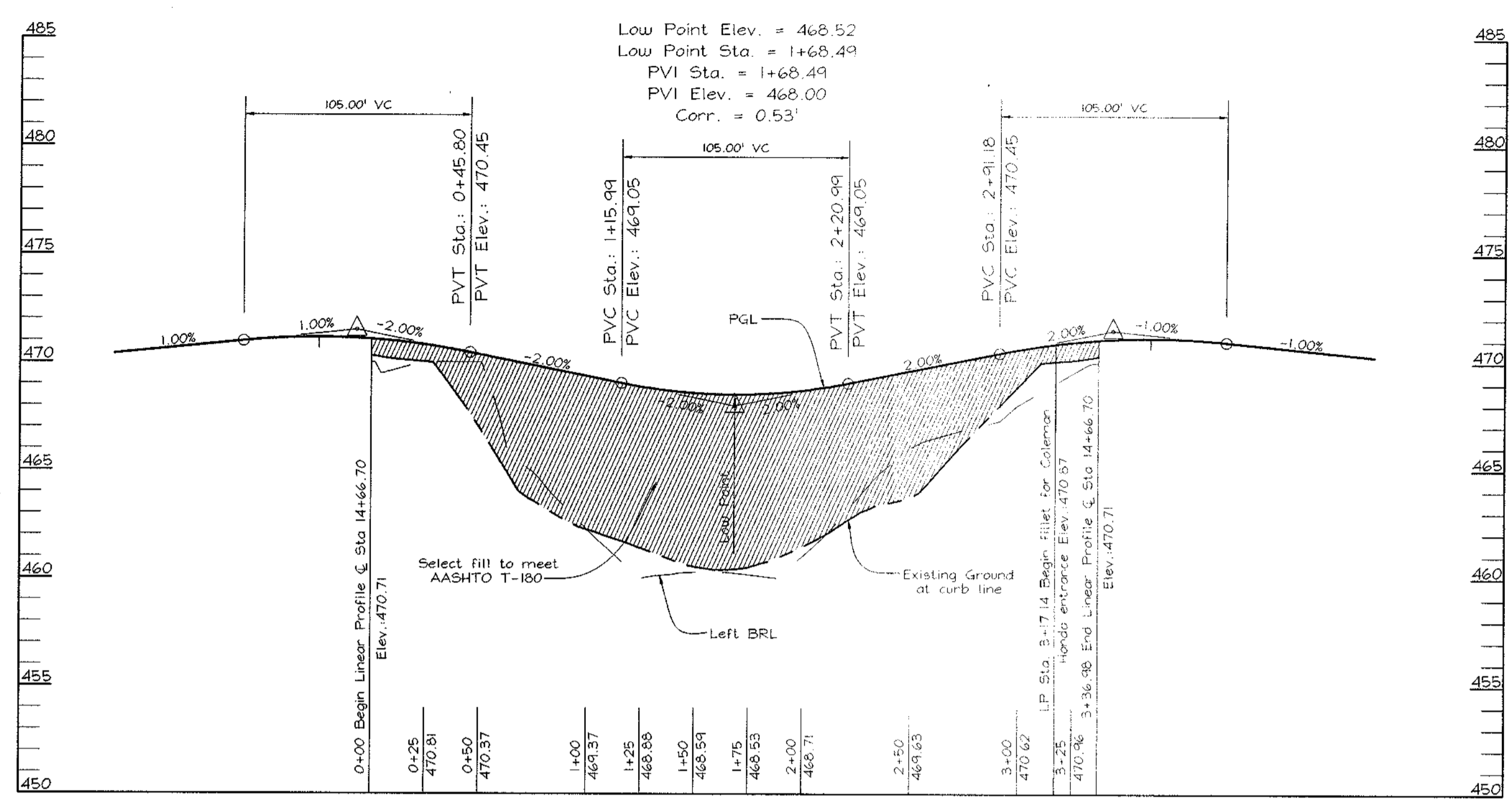
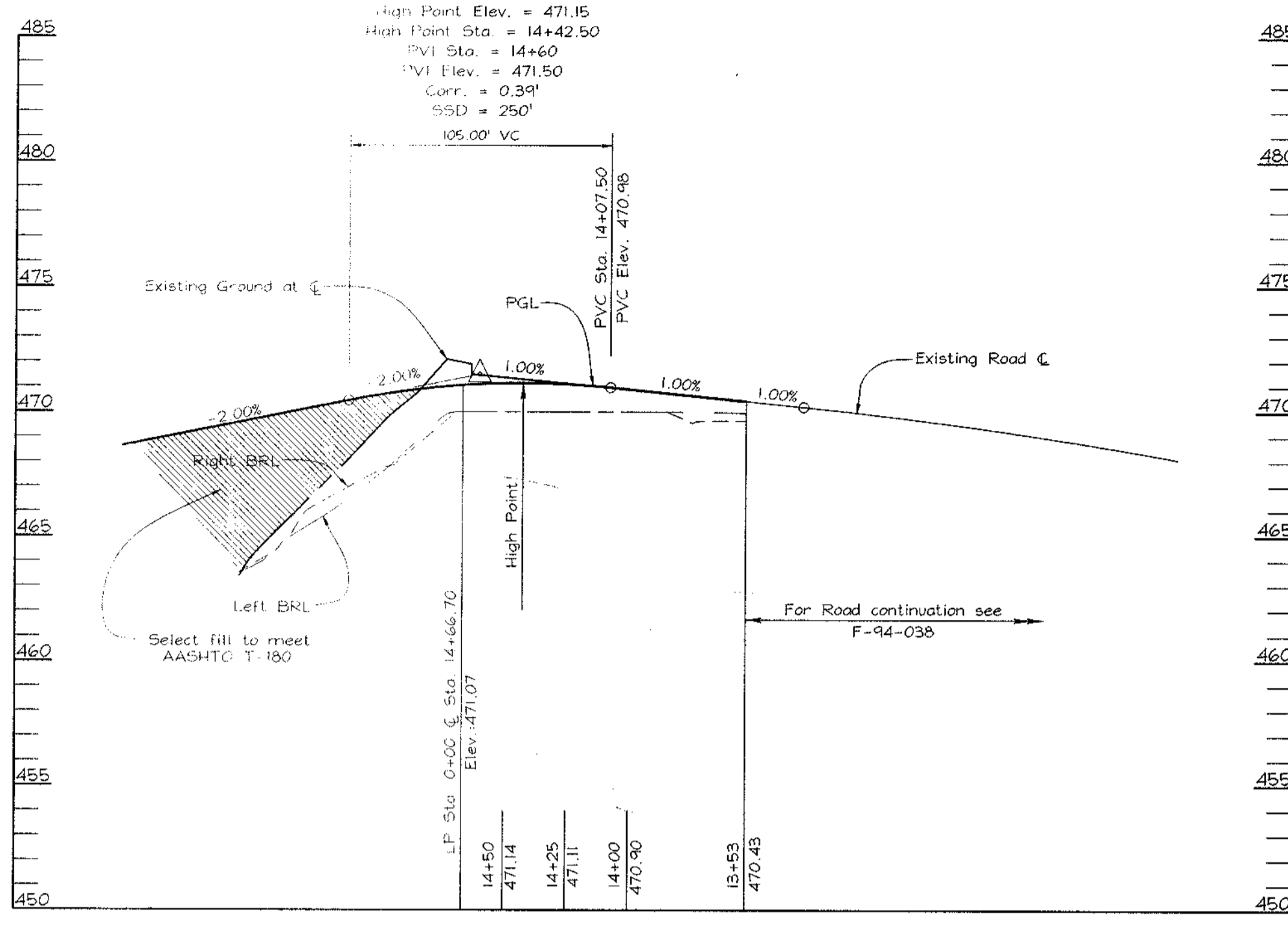


DESIGN BY: PS
 DRAWN BY: PS
 CHECKED BY: JCO
 DATE: Jan. 23, 2001
 SCALE: As Shown
 W.O. NO.: 99-158

1 SHEET OF 7

COVER SHEET
AUTO PARK EXPANSION
 HOWLECK SUBDIVISION
 TAX MAP #34 PARCEL E-2, K-1, L-1
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FREDERICK WARD ASSOCIATES, INC.
 ENGINEERS: 7125 Riverwood Drive Columbia, Maryland 21046-2354
 ARCHITECTS: Phone: 410-290-9550 Fax: 410-720-6226
 SURVEYORS: Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

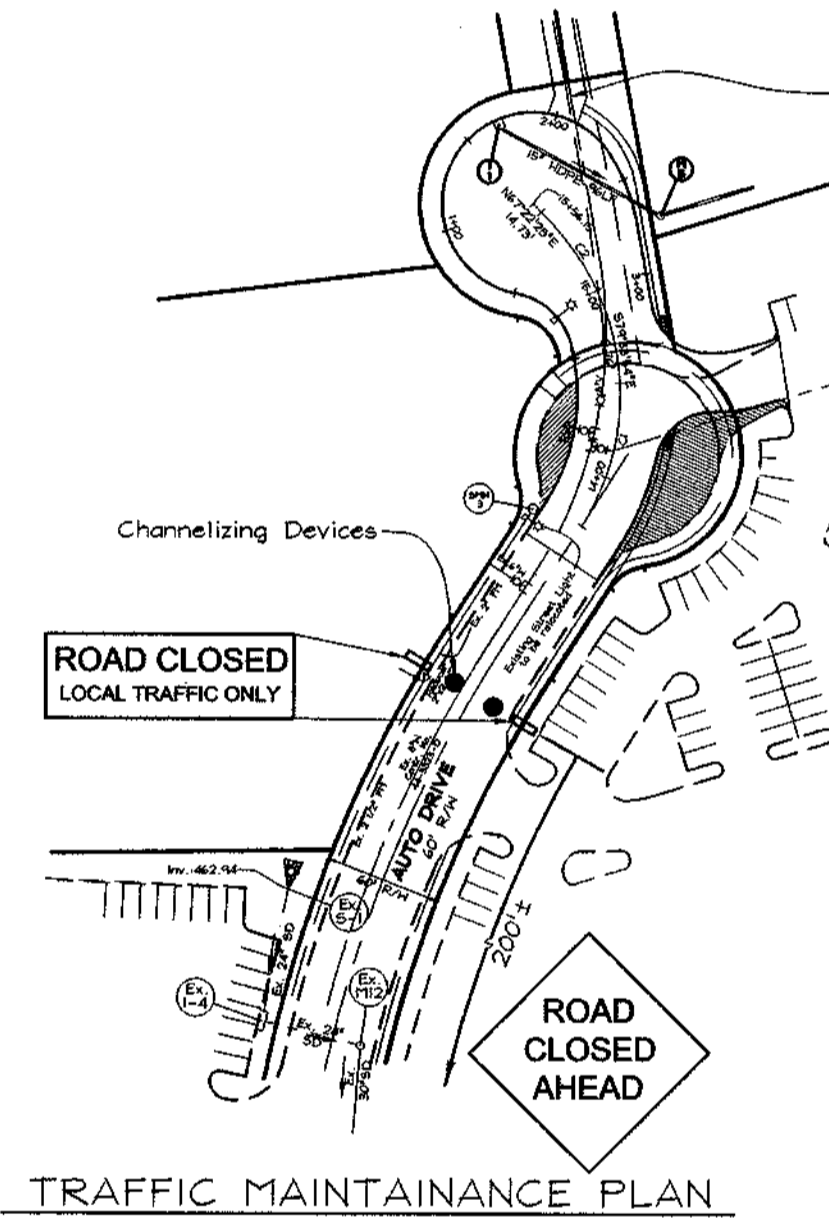


**ROAD PROFILE
AUTO DRIVE
DESIGN SPEED=35MPH**
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

**LINEAR PROFILE
AUTO DRIVE**
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

Computed by: [Name], Date: 8/21/00, Checked by: [Name], Date: []
Project name: Auto Drive Expansion, Basin #: 2
Location: Howard County, Maryland

- TEMPORARY SEDIMENT BASIN DESIGN DATA SHEET**
1. Min. required vol. = 3600 cu ft. (see 5.89, at drainage = 20000 cu ft.)
 2. Actual Volume of Basin = 2638 cu ft.
 3. Excavate 1062 cu ft. (485 cu ft.) to obtain required capacity.
 4. Vol. of detritus elev. = 1000 cu ft. (see 5.89) at = 10660 cu ft.
 5. Vol. of basin at crest = 900 cu ft. (see 5.89) at = 5220 cu ft.
 6. Elevation corresponding to min. required volume of basin (near crest elevation) = 456.26 ft.
 7. Permanent pool elevation = 453.70 ft.
 8. Distance from river crest elevation to permanent pool elevation = 2.6 ft.
 9. Basin crest elevation = 456.26 ft.
 10. Distance from river crest elevation to cleanout elevation = 3.5 ft.
 11. $Q_p = 1.48 C_d A \sqrt{2gH}$ (Peak discharge from 10 yr., 24 hr storm event, attach computations)
 12. Design Principal spillway (Barrel) discharge, Design $Q = 1.48 C_d A \sqrt{2gH}$ (cfs ex. peak)
 13. $H = 1.48 C_d A \sqrt{2gQ}$ (ft., Barrel length = 30.0 ft.)
 14. Barrel diam. = 24 in. Note: Q_p must equal or exceed design capacity.
 15. $Q_p = Q$ (from Table 13 or 14) $Q_p = 1.48 C_d A \sqrt{2gH}$ (length correction factor) $1.06 = 0.95 C_d$
 16. Riser Diameter = 24 in.; Riser Height = 5.3 ft.; Riser Head (h) = 1.30 ft.
 17. Trash Rack diam. = 24 in.; Trash Rack Height = 2 ft.
 18. Emergency spillway cap. $Q_e = Q_p - Q_{max} = 1.48 C_d A \sqrt{2gH} - 7.3$ cfs.
 19. Head in ft. $H_e = 0.3$ ft.
 20. Entrance channel slope = 4%
 21. Exit channel slope = 2%
 22. Use = 1:1 collars, 1:1 ft. dia. square projection = 3.0 ft.
 23. Riser Crest = 456.30 ft. 24. Design High Water = 457.60 ft.
 25. Emergency Spillway Crest = 457.30 ft. 26. Min. vert. top of dam = 456.60 ft.
 27. Permanent pool = 453.70 ft. 28. Bottom of Basin = 451.00 ft.
 29. Draw-down orifice invert = 453.70 ft.
 30. Min. basin surface area: $SA \geq 0.0035 \times Q_p \times 1.34$ cfs ≤ 0.05 ac
 31. Draw-down device orifice diameter = 24 in. (From Table 11)
 32. $A_o =$ Total area of perforations = 2.46 sq. ft. (From Table 11)
 - $A_o = (N \text{ of perforations/foot}) \times (\text{perforation area ft.}) \times (\text{perforated section length ft.})$
 - $A_o = (12 \text{ perforations/foot}) \times (0.005 \text{ sq. ft.}) \times (4 \text{ ft.})$
 - $A_o = 2.40 \text{ sq. ft.}$
 - $A_o =$ Internal orifice area (from Table 11 or computed) = 0.35 sq. ft.
 - $C = 10 \times 0.4 = 4$



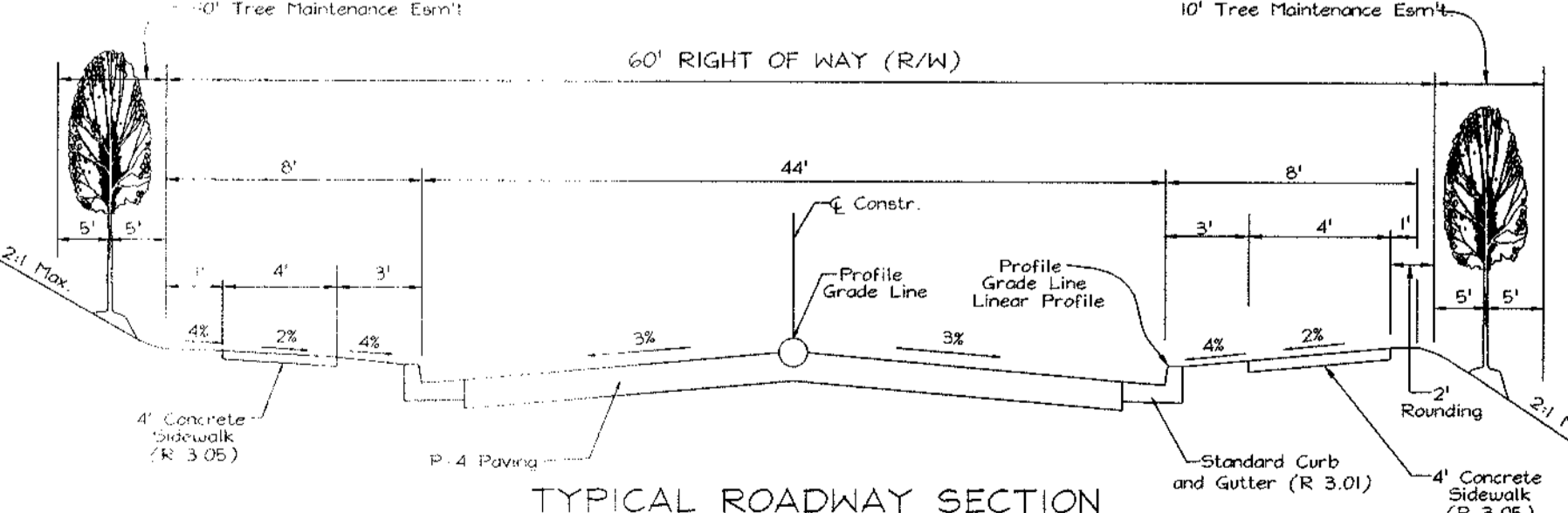
TRAFFIC MAINTENANCE PLAN
SCALE: 1"=100'

STREET LIGHT TABLE

FIXTURE TYPE	POLE TYPE	STATION	OFFSET	LOCATION	SYMBOL
150 Watt HPS vapor pendant	30" bronze	14+94.20	26.8' Left	N 562.722	□-□
mount (2" arm, radial to filed)	fiberglass pole			E 1328.041	□-□
Light Pole location given at center of base					



STANDARD COMBINATION CURB AND GUTTER
HOWARD COUNTY STANDARD R-3.01
NOT TO SCALE

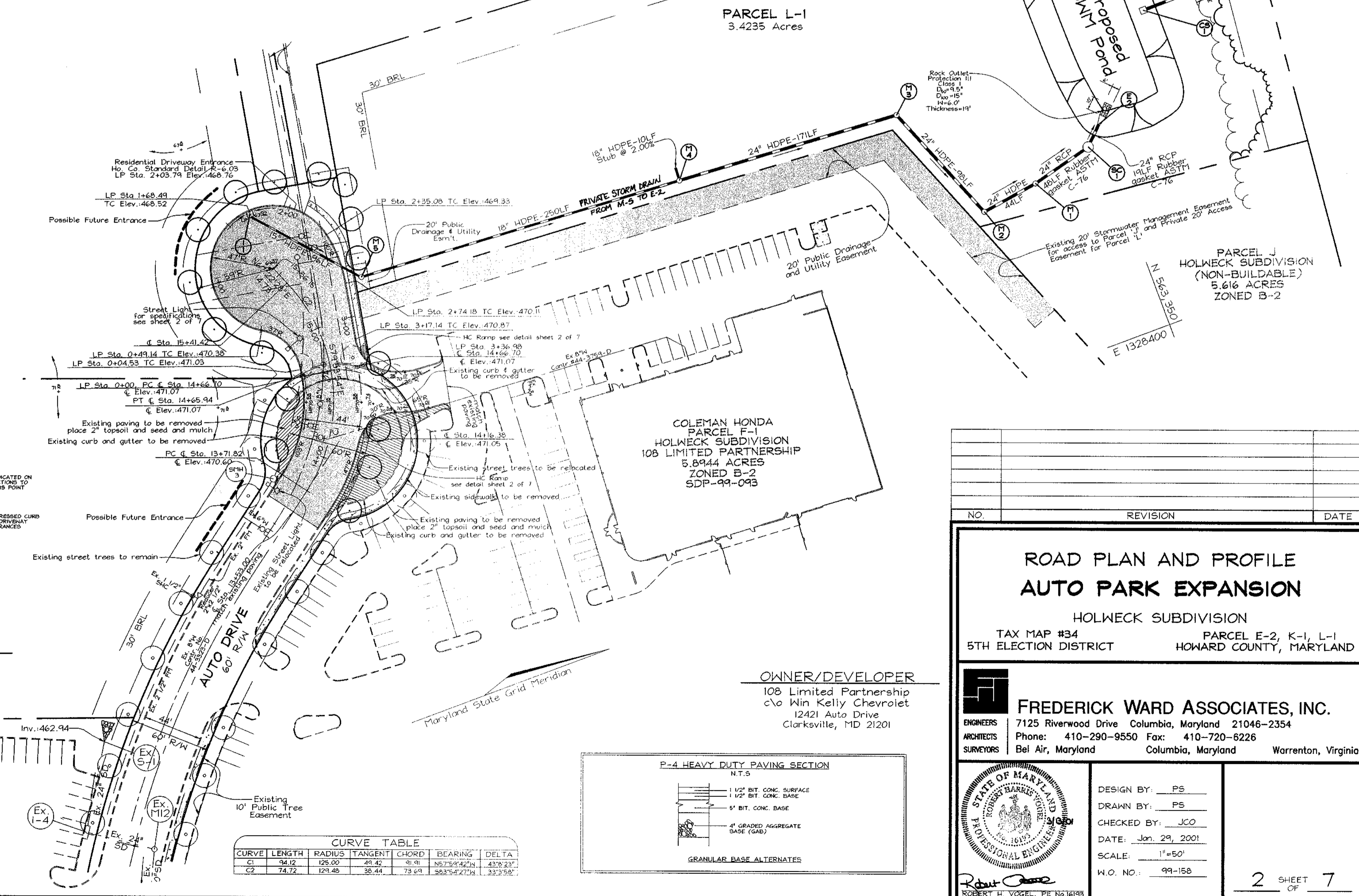


TYPICAL ROADWAY SECTION
DESIGN SPEED = 35 MPH
SECTION NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

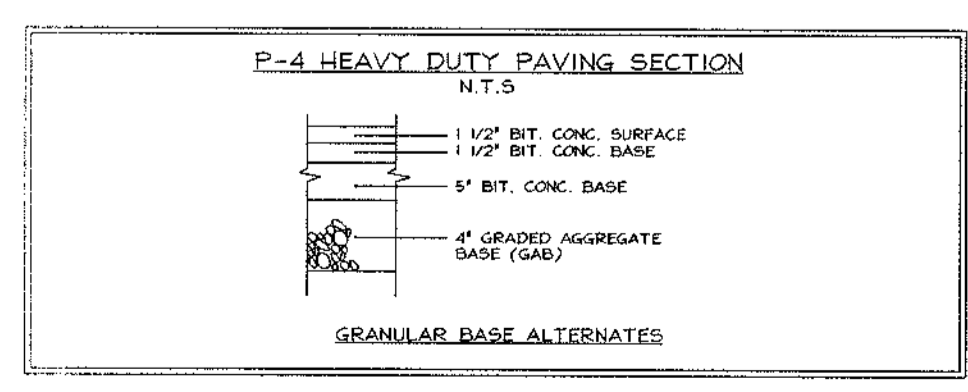
Cindy Hamstra 4/4/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Andrew M. Cawley 4-4-01
CHIEF, BUREAU OF HIGHWAYS DATE



CURVE TABLE

CURVE	LENGTH	RADIUS	TANGENT	CHORD	BEARING	DELTA
C1	149.42	125.00	48.42	81.91	135.76/424	43.237
C2	74.72	125.00	38.44	73.63	303.54/219	32.558



P-4 HEAVY DUTY PAVING SECTION
N.T.S.

**ROAD PLAN AND PROFILE
AUTO PARK EXPANSION**

HOLWECK SUBDIVISION
TAX MAP #34 5TH ELECTION DISTRICT
PARCEL E-2, K-1, L-1
HOWARD COUNTY, MARYLAND

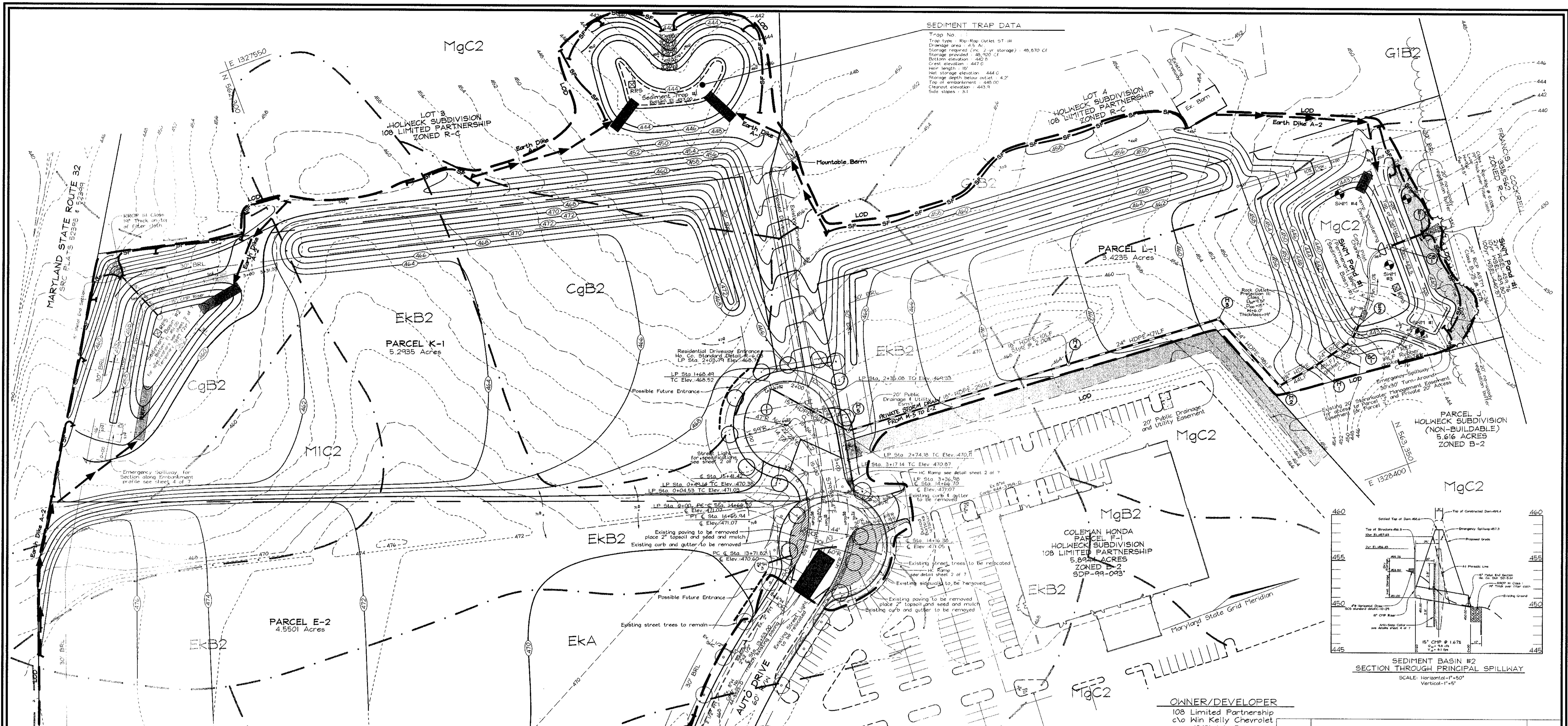
OWNER/DEVELOPER
108 Limited Partnership
c/o Win Kelly Chevrolet
12421 Auto Drive
Clarksville, MD 21201

FREDERICK WARD ASSOCIATES, INC.
7125 Riverwood Drive Columbia, Maryland 21046-2354
Phone: 410-290-9550 Fax: 410-720-6226
Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

DESIGN BY: PS
DRAWN BY: PS
CHECKED BY: JCO
DATE: Jan. 29, 2001
SCALE: 1"=50'
W.O. NO.: 99-158

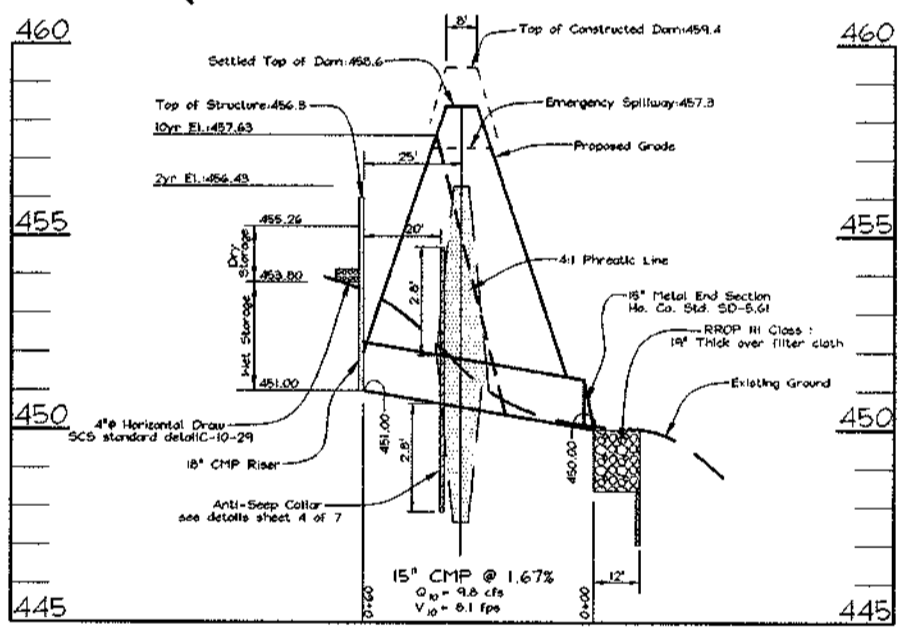
2 SHEET OF 7

F-01-029



SEDIMENT TRAP DATA

Trap No.	
Trap type	Rip-Rap Outlet 5' x 11'
Drainage area	43.4'
Storage required (no. 2" of storage)	46,870 Cf
Storage provided	46,920 Cf
Bottom elevation	442.0'
Crest elevation	447.0'
Net length	10'
Net storage elevation	444.0'
Storage depth below outlet	4.2'
Top of embankment	448.00'
Clearout elevation	443.5'
Side slopes	3:1



OWNER/DEVELOPER
108 Limited Partnership
c/o Kim Kelly Chevrolet
12421 Auto Drive
Clarksville, MD 21201

LEGEND

Existing Contour	---382---
Proposed Contour	---+8253---
Spot Elevation	382
Direction of Flow	→
Tree Protection Fence	~ ~ ~ ~ ~
Existing Trees to Remain	⊕
Light Poles	⊕ Overhead
Stabilized Construction Entrance	▨
Silt Fence	---SF---SF---
Super Silt Fence	---SSF---SSF---
Limit of Disturbance	---LOD---
Removable Pumping Station	⊕ RPS
At Grade Inlet Protection	⊕ AGIP
Rip-Rap Inflow Protection	▨ RRP

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
MgB2	MAJOR GRAVELLY LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
EKA	ELIOAK SILT LOAM, 0 TO 3 PERCENT SLOPES	B
MIB2	MAJOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
CgB2	CHESTER SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
MIA	MAJOR LOAM, 0 TO 3 PERCENT SLOPES	B
MIC2	MAJOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
CgB2	CHESTER GRAVELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
MgB2	MAJOR GRAVELLY LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
EKB2	ELIOAK SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
GIB2	GLENELG LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
GnB2	GLENELG SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C

GRADING, SEDIMENT AND EROSION CONTROL PLAN
AUTO PARK EXPANSION
HOLWECK SUBDIVISION
TAX MAP 434 PARCEL E-2, K-1, L-1
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FREDERICK WARD ASSOCIATES, INC.
7125 Riverwood Drive Columbia, Maryland 21046-2354
Phone: 410-290-9550 Fax: 410-720-6226
Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chris Kenna 4/4/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mike Deane 4/14/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Danek 4-4-01
CHIEF, BUREAU OF HIGHWAYS DATE

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
Jim Myers 3/26/01
SOIL-NATURAL RESOURCE CONSERVATION SERVICE DATE

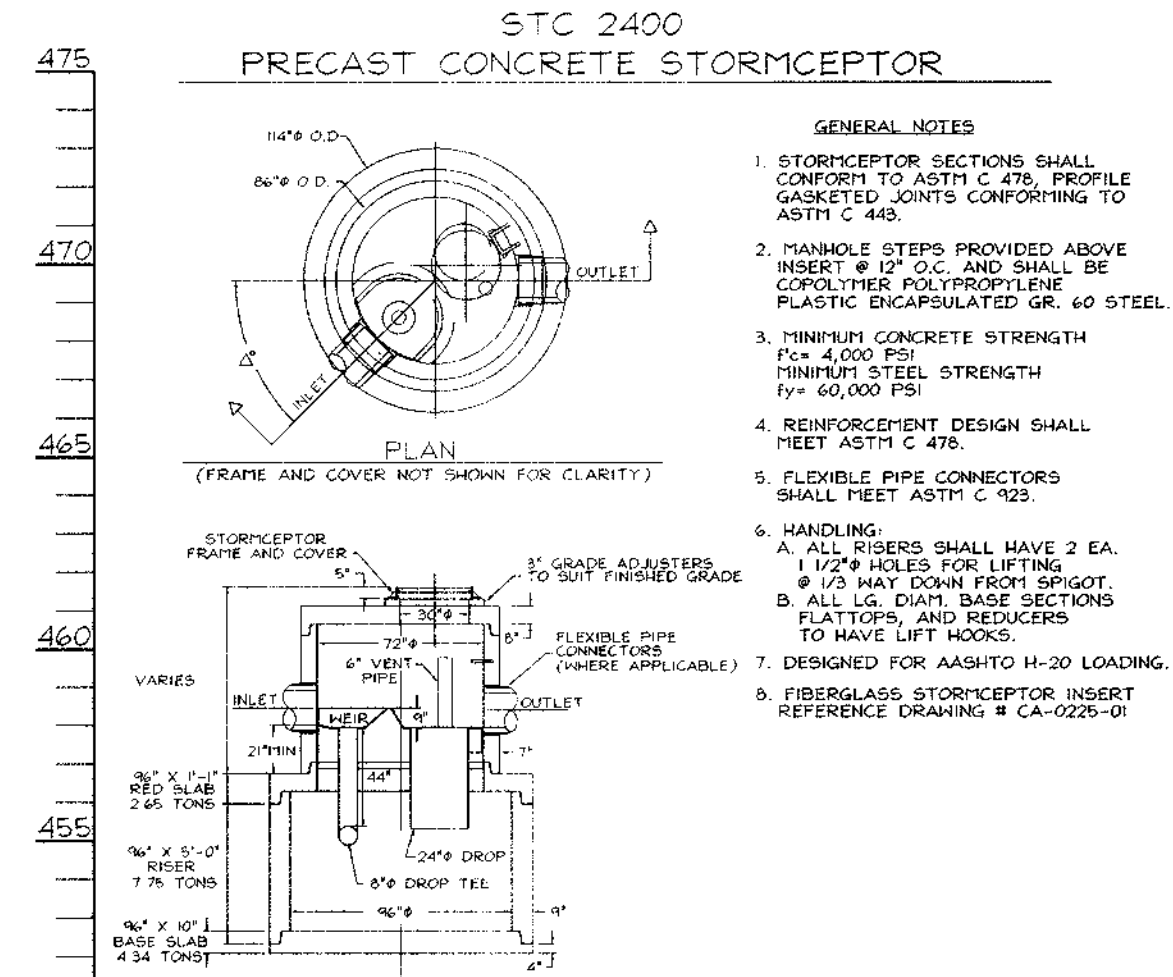
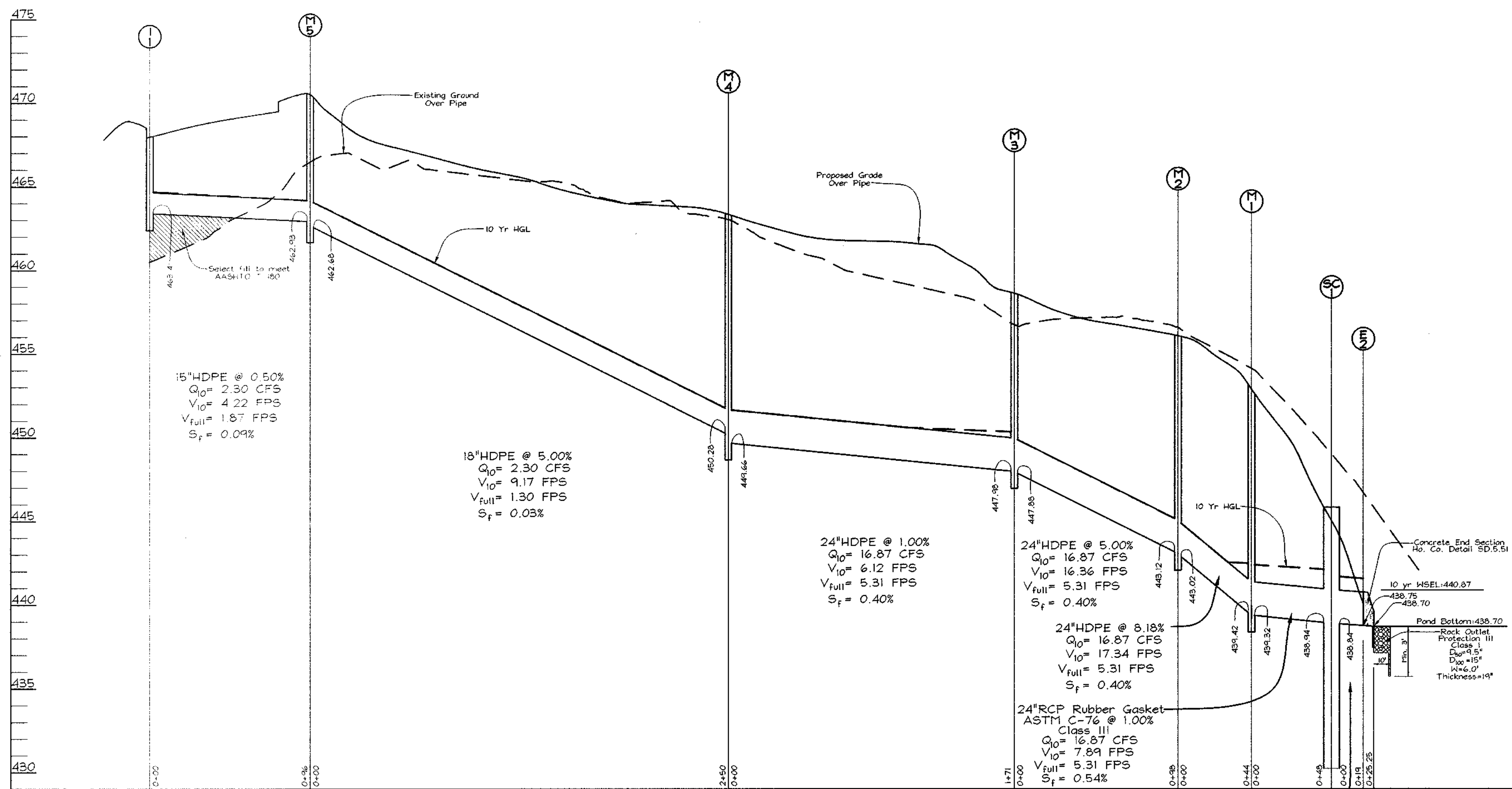
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
John Robertson 3/26/01
HOWARD SOIL CONSERVATION DISTRICT DATE

DEVELOPER'S CERTIFICATE
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE 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/WE SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
Kevin M. Zol 3/13/01
SIGNATURE OF DEVELOPER DATE

ENGINEER'S CERTIFICATE
I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
Robert H. Vogel 3/13/01
SIGNATURE OF ENGINEER DATE

DESIGN BY: PS
DRAIN BY: PS
CHECKED BY: JCO
DATE: Jan. 29, 2001
SCALE: 1"=50'
N.O. NO.: 99-158

3 SHEET OF 7



PIPE SCHEDULE		
SIZE	TYPE	LENGTH
15"	HDPE	96 LF
18"	HDPE	250 LF
24"	HDPE	313 LF
24"	RCP Rubber Gasket, ASTM C-76	67 LF
24"	RCP ASTM C-361 CL B-25	37 LF

STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	TOP ELEV.	INV. IN	INV. OUT	REMARKS
I-1	Type 'S' Combination Inlet	N 562,732 E 1,328,080	468.52	-	463.41	SD 4.34
M-1	Standard Manhole	N 563,294 E 1,328,276	452.90	439.42	439.32	SD 4.41
M-2	Standard Manhole	N 563,249 E 1,328,272	456.10	443.12	443.02	SD 4.41
M-3	Standard Manhole	N 563,213 E 1,328,180	458.60	447.98	447.88	SD 4.41
M-4	Standard Manhole	N 563,043 E 1,328,169	463.30	450.28	449.66	SD 4.41
M-5	Standard Manhole	N 562,794 E 1,328,153	470.50	462.93	462.68	SD 4.41
SC-1	Stormceptor STC 2400	N 563,043 E 1,328,169	445.84	438.94	438.84	-
E-2	24" Concrete End Section	N 562,794 E 1,328,153	-	438.75	438.70	SD 5.51
CS-1	Modified Type 'D'	N 563,415 E 1,328,172	442.50	-	-	#
E-1	24" Concrete End Section	N 563,454 E 1,328,172	-	437.22	437.12	SD 5.51

NOTE: Top elevations are to the center of the structure at top of curb for Type 'S' Comb. inlets, and top, center of grate for Standard Manholes and Stormceptor.
 * See details sheet 7 of 7

STORM DRAIN PROFILE
 SCALE: HORIZONTAL - 1"=50'
 VERTICAL - 1"=5'

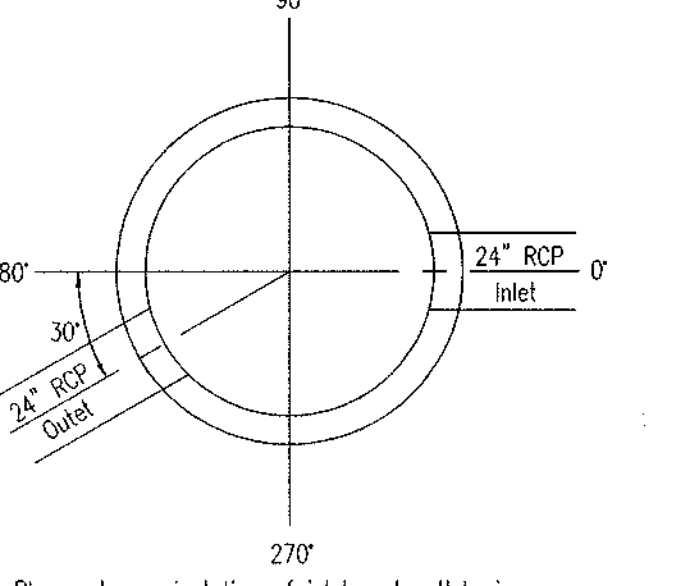
Precast Concrete Stormceptor® Order Request Form
 * TO BE INCLUDED ON SHIM PLAN BY DESIGNER

CONTRACTOR INFORMATION

Name: _____
 Address: _____
 City: _____
 State: _____
 Zip Code: _____
 Contact: _____
 Phone: _____
 Fax: _____

OWNER INFORMATION

Name: 108 Limited Partnership
 Phone: _____
 Fax: _____



Please draw orientation of inlet and outlet pipes on diagram along with the pipe inside diameter (ID), and invert elevation (ft). Clearly mark inlet pipes with an "I" and outlet pipes with an "O". Please provide the inlet/outlet pipe angle in degrees.

IMPERVIOUS DRAINAGE AREA FOR THIS UNIT: 1.81 Acres

Stormceptor® Model	Insert Size
STC	3600
900	4500
1200	4500
1800	5000
2400	7200

Manhole Number	SC-1
Top Elevation (ft)	445.84
Inlet Pipe Invert (ft)	438.24
Outlet Pipe Invert (ft)	438.14
Pipe Type	RCP CL IV
Inlet Pipe Inside Diameter (ID)	24"
Inlet Pipe Outside Diameter (OD)	24"
Outlet Pipe Inside Diameter (ID)	24"
Outlet Pipe Outside Diameter (OD)	24"

Project Name: Auto Park Expansion
 Approximate time frame of delivery (weeks): _____
 Delivery Address: Street _____
 City: _____ State: _____ Zip Code: _____
 Designer Company: Vogel & Associates, Inc.
 Designer Contact: Rob Vogel Phone: 410.461.5828 Fax: 410.465.3966

PLEASE FILL OUT COMPLETELY AND FAX TO: **CSR Hydro Conduit**
 ATTN: ED O'MALLEY FAX: (703)922-3659, PHONE: (703)313-6389
 FOR TECHNICAL ASSISTANCE PLEASE CALL MIKE BARG, PHONE (703)313-6399

OPERATION AND MAINTENANCE SCHEDULE FOR STORMCEPTOR WATER QUALITY STRUCTURE

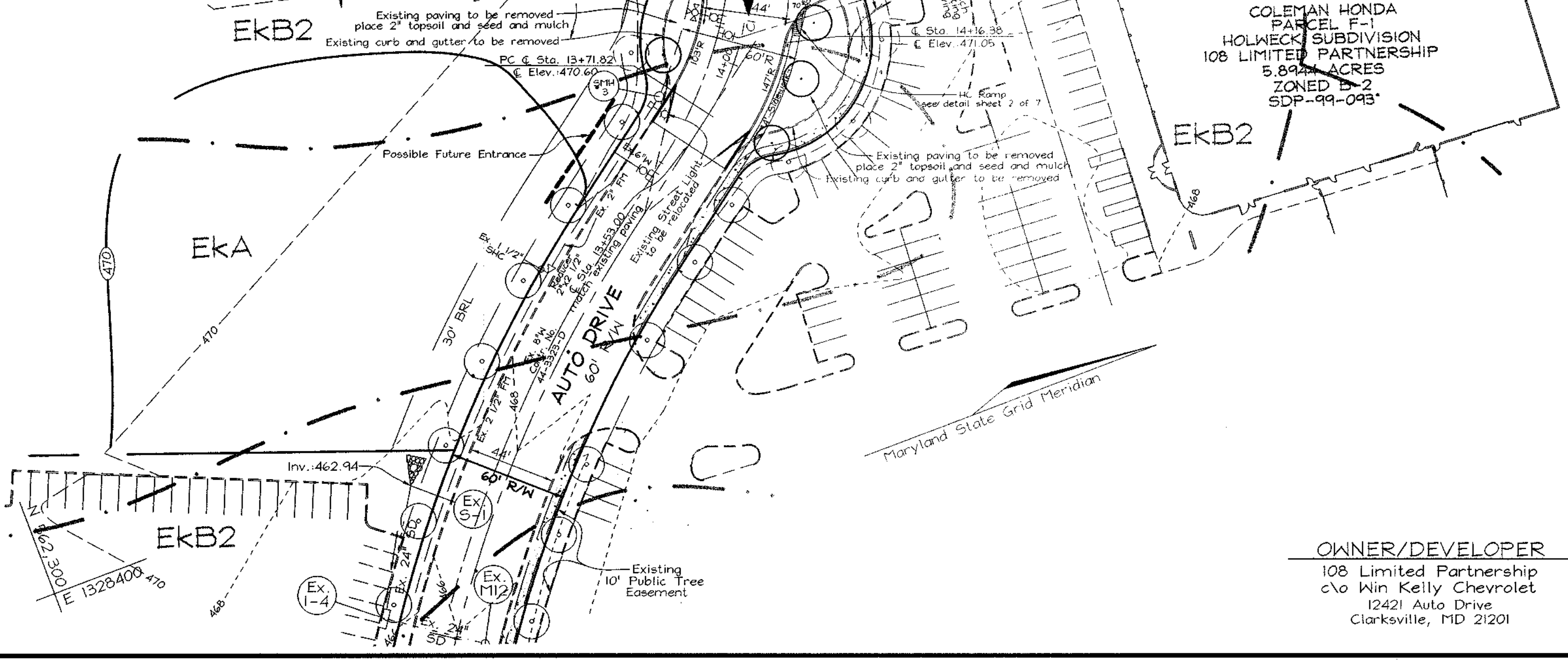
- The Stormceptor Water Quality structure shall be periodically inspected and cleaned to maintain operation and function. The owner shall inspect the Stormceptor unit yearly at a minimum utilizing the Stormceptor Inspection/Monitoring Form. Inspections shall be done by using a clear Plexiglas tube ("sludge judge") to extract a water column sample. When the sediment depth exceeds the level specified in table 6 of the Stormceptor Technical Manual, the unit must be cleaned.
- The Stormceptor water quality structure shall be checked and cleaned immediately after petroleum spills. The owner shall contact the appropriate regulatory agency.
- The maintenance of the Stormceptor unit shall be done using a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons and other materials in the unit. Proper cleaning and disposal of the removed materials and liquid must be followed by the owner.
- The inlet and outlet pipes shall be checked for any obstructions at least once every six months. If obstructions are found the owner shall have them removed. Structural parts of the Stormceptor unit shall be repaired as needed.
- The owner shall retain and make the Stormceptor Inspection/Monitoring Forms available to the Howard County officials upon their request.

STORMCEPTOR ORDER INFORMATION

STORMCEPTOR MODEL	2400
STRUCTURE	SC-1
TOP ELEVATION	445.84
INLET PIPE INVERT	438.24
OUTLET PIPE INVERT	438.14
PIPE SIZE	24" RCP

NOTE: SEE DRAINAGE AREA MAP FOR CONTRIBUTING IMPERVIOUS AREA TO STORMCEPTOR. AREAS: 1.81 Acres

Storm Drain Profile
 SCALE: HORIZONTAL - 1"=50'
 VERTICAL - 1"=5'



NO.	REVISION	DATE

STORM DRAIN DRAINAGE AREA MAP AND STORM DRAIN PROFILES
AUTO PARK EXPANSION
 HOLWECK SUBDIVISION
 TAX MAP #34 PARCEL E-2, K-1, L-1
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

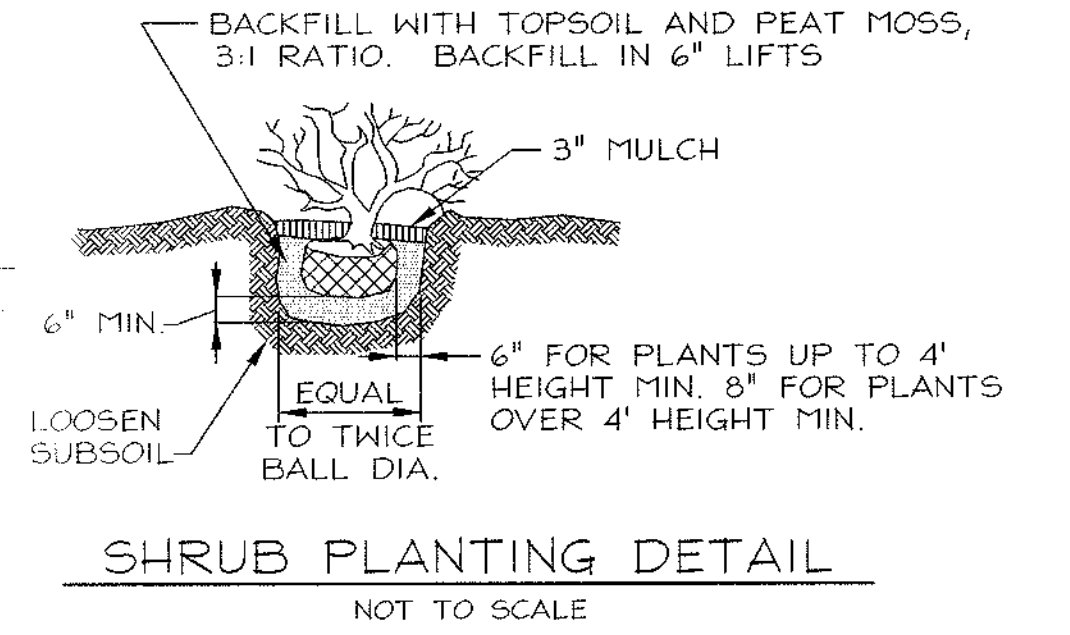
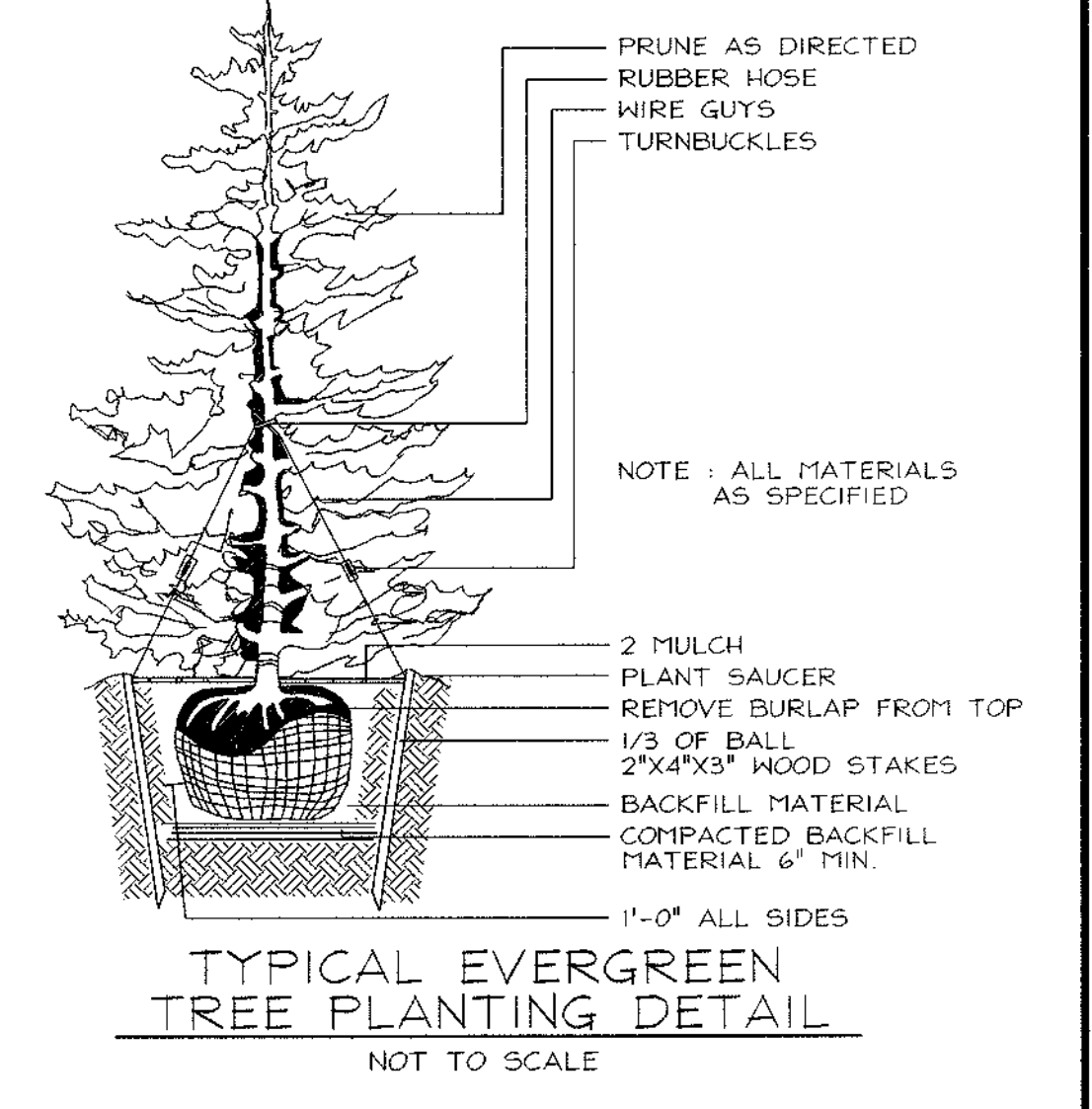
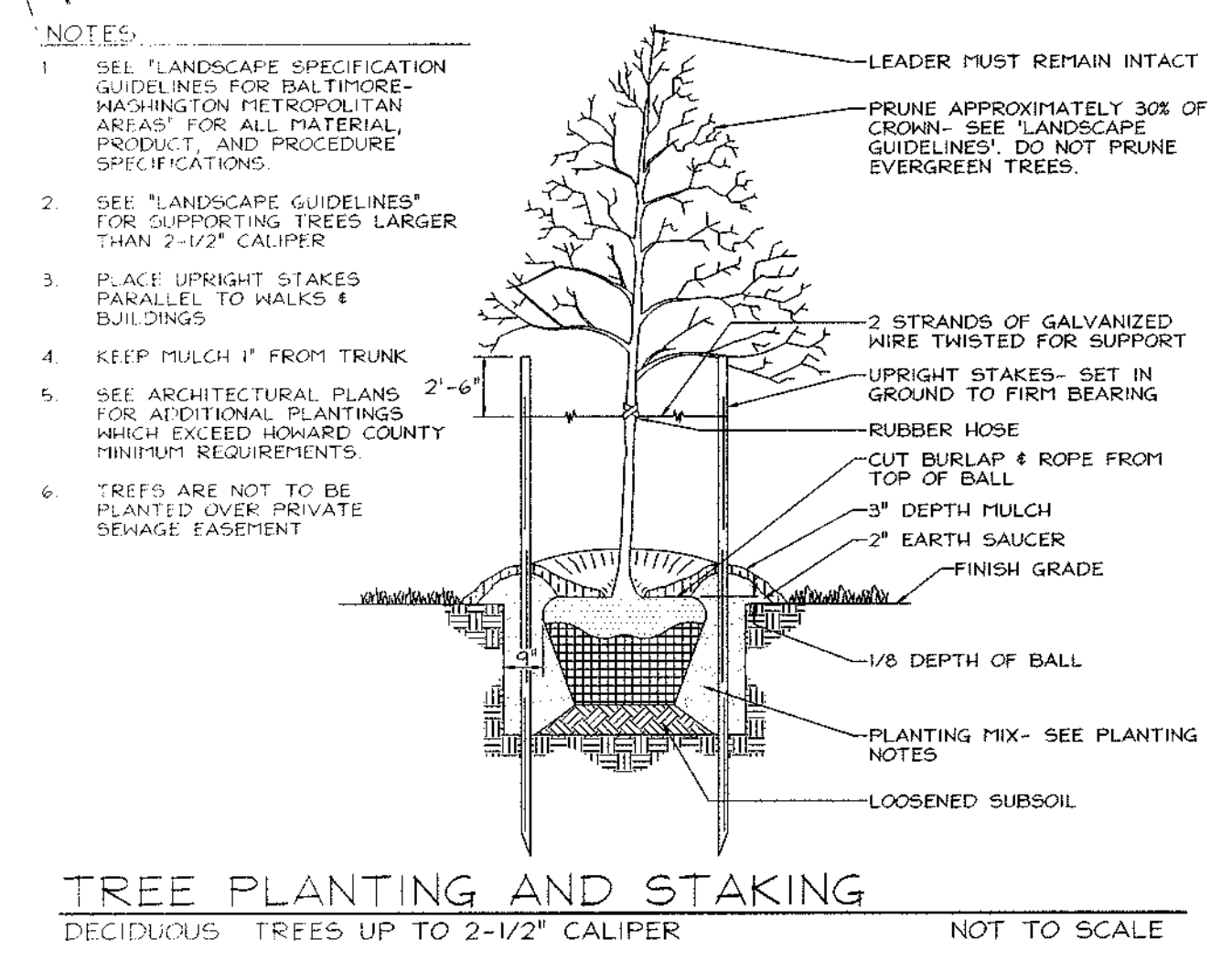
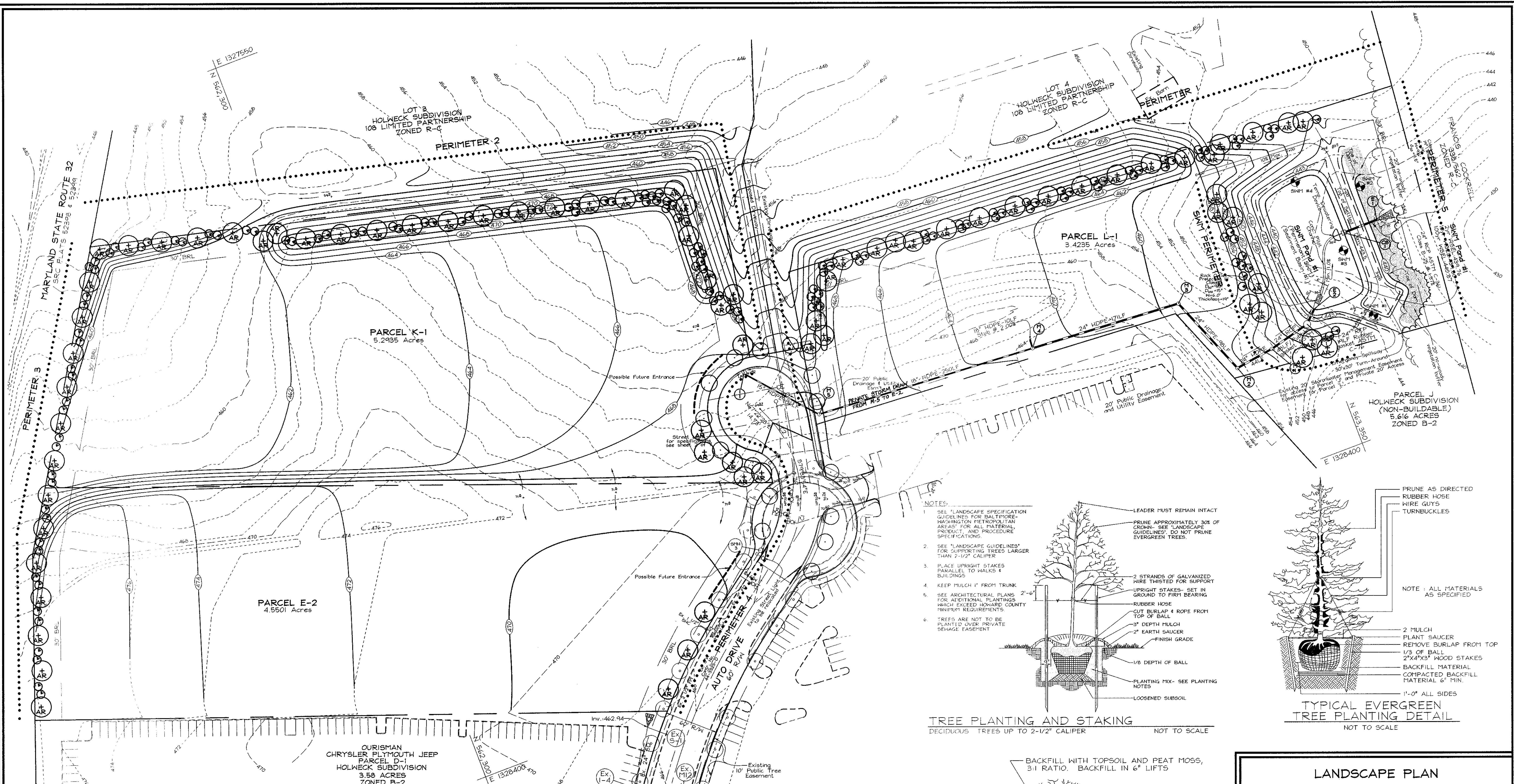
FREDERICK WARD ASSOCIATES, INC.
 ENGINEERS: 7125 Riverwood Drive Columbia, Maryland 21046-2354
 ARCHITECTS: Phone: 410-290-9550 Fax: 410-720-6226
 SURVEYORS: Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

DESIGN BY: PS	
DRAWN BY: PS	
CHECKED BY: JCO	
DATE: March 13, 2001	
SCALE: 1"=50'	
W.O. NO.: 99-158	5 SHEET OF 7

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development
 DATE: 4/1/01

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 DATE: 4-9-01

OWNER/DEVELOPER
 108 Limited Partnership
 c/o Min Kelly Chevrolet
 12421 Auto Drive
 Clarksville, MD 21201



- GENERAL NOTES**
- Existing Street Trees along Auto Drive Cut-de-sac to be removed.
 - Financial Surety for the required landscaping must be posted as part of the Developers Agreement.
Perimeter and SWM: \$47,400 for 82 shade & 152 evergreen.
Street: \$4,800 for 16 shade.
Total: \$52,200
 - The required evergreen trees along Perimeter 4 have been moved to Perimeter 2 for additional screening of Lots 3 and 4.

LANDSCAPE SCHEDULE

KEY	QUAN.	SYMBOL	BOTANICAL NAME	SIZE	CAT.
AR	75	(Symbol)	Aloc' Hibiscus	7 1/2" - 3" Cal.	B 4 B
AR	150	(Symbol)	October Glory Red Maple	6" - 8" Ht.	B 4 B
PS	150	(Symbol)	Phlox Striped		B 4 B
PS	150	(Symbol)	Eastern White Pine		B 4 B

STREET TREE SCHEDULE

R/W	LF	REQ.	PROV.	KEY	SYMBOL	BOTANICAL NAME	SIZE	CAT.
634	16	6	AR	(Symbol)	Aloc' Hibiscus	7 1/2" - 3" Cal.	B 4 B	
			AR	(Symbol)	October Glory Red Maple	2 1/2" - 3" Cal.	B 4 B	

SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	1	2	3	4	5	6	7	8	9	10
Perimeter/Frontage Designation	1	2	3	4	5	6	7	8	9	10
Linear Feet of Roadway	850	420	270	535	450					
Credit for Existing Vegetation (Yes, No, Linear Feet)	No	No	270	No	No					
Credit for Hill, Slope or Berm (Yes, No, Linear Feet)	No	No	No	No	No					
Number of Plants Required	140	21	140	7	140	130	140	130	140	11
Shade Trees	120	21	120	7	120	110	120	110	120	11
Evergreen Trees	20	0	20	0	20	20	20	20	20	0
Number of Plants Provided	21	21	0	15	9					
Evergreen Trees	43	46	0	27	41					
Other Trees (2:1 Substitution)	-	-	-	-	-					
Shade Trees (2:1 Substitution)	-	-	-	-	-					
Describe Plant Substitution Credits (Below, if needed)										

SCHEDULE D - STORMWATER MANAGEMENT AREA LANDSCAPING

LINEAR FEET OF PERIMETER	990LF
CREDIT FOR EXISTING VEGETATION (NO, YES AND LINEAR FEET)	YES, 300LF
CREDIT FOR OTHER LANDSCAPING (NO, YES AND 3)	YES, 240LF, 24% PART OF PERIMETER 1
NUMBER OF TREES REQUIRED	4 SHADE TREES 11 EVERGREEN TREES
NUMBER OF TREES PROVIDED	4 SHADE TREES 11 EVERGREEN TREES 0 TREES (0 SUBSTITUTION TREES)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Conch Karam 4/16
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Robert M. Cook 4-4-01
 CHIEF, BUREAU OF HIGHWAYS DATE

DEVELOPER'S/BUILDER'S CERTIFICATE
 I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE(1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
Kevin M. Zol 3/13/01
 SIGNATURE OF DEVELOPER DATE

OWNER/DEVELOPER
 108 Limited Partnership
 c/o Win Kelly Chevrolet
 12421 Auto Drive
 Clarksville, MD 21201

NO.	REVISION	DATE

LANDSCAPE PLAN
AUTO PARK EXPANSION
 HOLWECK SUBDIVISION

TAX MAP #34
 5TH ELECTION DISTRICT

PARCEL E-2, K-1, L-1
 HOWARD COUNTY, MARYLAND

FREDERICK WARD ASSOCIATES, INC.
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