

# HOENES PROPERTY

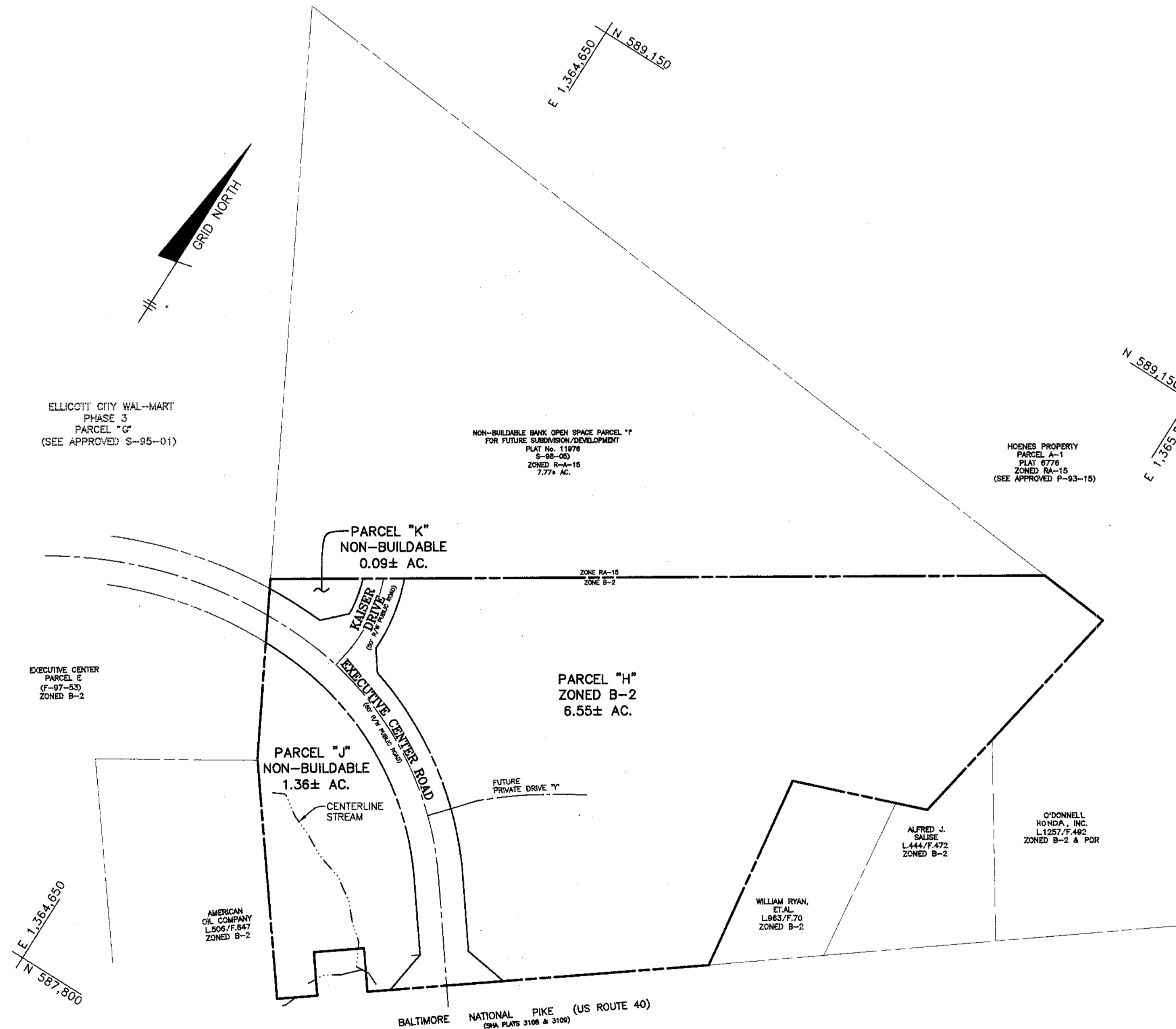
2nd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

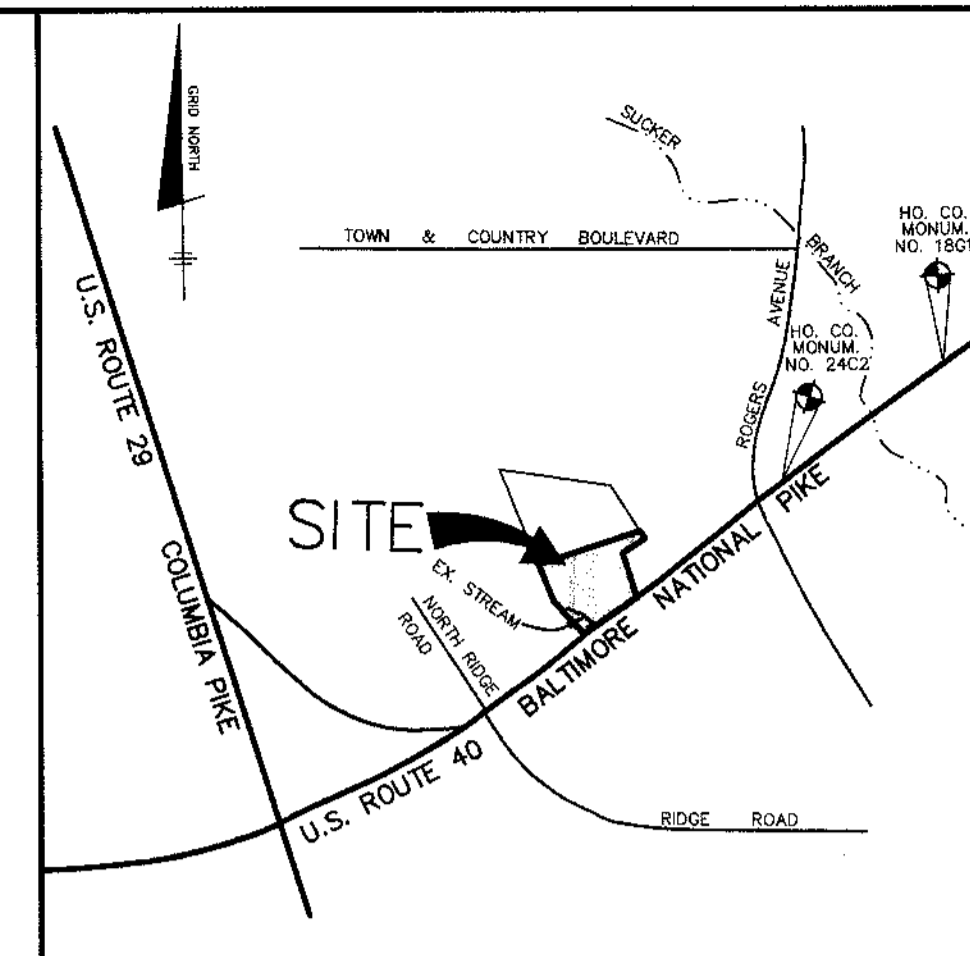
## ROAD, STORM DRAIN AND STORMWATER MANAGEMENT CONSTRUCTION PLANS

### 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 Construction Inspection Division at (410) 313-1880 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.
- Project Background:  
Location: Tax Maps 17 & 24 - P/O Parcel 848  
Zoning: B2  
Total Tract Area: 8.9 Ac.±  
Number of Proposed Parcels: 2 (Parcels "H" and "J", & "K").  
Date Sketch Plan Approved: Oct. 13, 1995.  
DPZ Reference #: S-95-01a  
Date Preliminary Plan Approved: Oct. 23, 1996.  
DPZ Reference #: P-97-02
- Traffic control devices, markings and signing shall be in accordance with the most current edition of the Manual on Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
- The contours shown hereon have been taken from field run topographic surveys at 2' interval. The topography was prepared by TSA Group, Inc. dated July, 1997. And supplemented with the topography as shown on F-97-53.
- The coordinates shown hereon are based upon the Howard County Geodetic Control which is based upon the Maryland State Plane Coordinate System. Howard County Monuments Nos. 18G1 and 24C2 were used for this project.
- Water and Sewer for this subdivision is public. Sewer & water Contract No. is #14-3622-D and its drainage area is the Potapscow watershed.
- Stormwater Management for a portion of the B-2 zoned area will be provided by an underground detention facility for water quantity control to be constructed under the SDP for Parcel "H". Quality control for the roads will be provided by a Stormceptor stormwater treatment facility, this facility will be privately owned and maintained. Stormwater quantity is not required for the road and portion of Parcel "H".
- There are no wetlands or floodplain within the area of this submission.
- Forest Conservation Plan was performed by ECO-SCIENCE PROFESSIONALS INC. dated August 19, 1996 and approved under P-97-02.
- A Traffic Study has been approved under S-95-01a for 55,000 sf convenience retail center and 114 garden style apartments for a build-out year of 1998.
- Geotechnical Report compiled by Hillis Carnes Engineering Associates.
- Existing utilities were located by record drawings and field locations.
- Unless noted as "private" all easements are public.
- The Forest Conservation requirements for parcels "H" and "J" have been met with partial forest retention on-site and the remaining forest conservation obligations shall be met by planting off-site at Ridge View Hunt subdivision (F-97-120). The Forest Conservation easement has 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 easement; forest management practices as defined in the Deed of Forest Conservation Easement are allowed.
- All existing buildings on the site are to be removed under this plan.
- Previous department of planning and zoning reference numbers include: S-95-01, S-95-01a, P-97-02, WP-95-84, F-96-91
- Contractor shall adjust all utilities and rim elevations as needed to match this plan.
- Street light placement and the type of fixture and pole shall be in accordance with the Howard County Design Manual, Volume III (1993).  
A minimum spacing of 20'(feet) shall be maintained between any street light and any tree.
- The Landscape Plan for the development of Parcel "H" shall be submitted with the SDP for Parcel "H".
- Street trees shall be planted by the Developer and shall be planted in accordance with this plan.
- Storm drain inlets 1-3, 1-4, WQ #1 and associated piping shall be privately owned and maintained.
- All handicap ramps shall be in accordance with Howard County Std. Detail R4.01 and all current ADA requirements.



LOCATION MAP  
SCALE: 1" = 100'



VICINITY MAP  
SCALE: 1" = 2000'

BENCH MARKS (NAD83)			
HO. CO. No. 18G1 CONC. MONUMENT AT SURFACE 4' N. OF MAC. SHOULDER OF RT. 40 WEST 18' W. OF YELLOW BLINKING SIGNAL N 589,984.9578 E 1,367,750.2376 ELEV. 408.542			
HO. CO. No. 24C2 CONC. MONUMENT AT SURFACE 5.5' S. OF LEFT TURN LANE OF RT. 40 WEST 14' E. OF EAST EDGE OF CROSSOVER TO RT. 99 S. N 589,648.3158 E 1,366,038.1347 ELEV. 354.930			

SHEET INDEX	
NO.	DESCRIPTION
1	TITLE SHEET
2	ROAD, STORM DRAIN AND LANDSCAPE PLAN
3	ROAD PROFILE AND DETAILS
4	GRADING PLAN, & SEDIMENT AND EROSION CONTROL PLAN
5	STORM DRAIN PROFILES AND DETAILS
6	STORM DRAINAGE AREA MAP
7	SEDIMENT & EROSION CONTROL NOTES AND DETAILS

NO.	DATE	REVISION
1	9/15/97	REVISED PER REVIEW COMMENTS.
2	9-24-98	REV. PRIVATE DRIVE & LOCATION & GEN'L NOTES

TSA GROUP, INC.  
planning • architecture • engineering  
8480 Baltimore National Pike • Ellicott City, Maryland 21045 • 410-465-6105



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Howard Smith for* 10-11-97  
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Candy Hanvitt* 2/4/98  
CHIEF, DIVISION OF LAND DEVELOPMENT

*Mike Danvers* 1/20/98  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

OWNER/DEVELOPER:  
LEONORA K. HOENES  
8668 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21043  
410-465-2321

PROJECT: HOENES PROPERTY  
A RESUBDIVISION OF HOENES PROPERTY, PARCEL A-4  
S-95-01a, P-97-02, WP-95-84, F-96-91

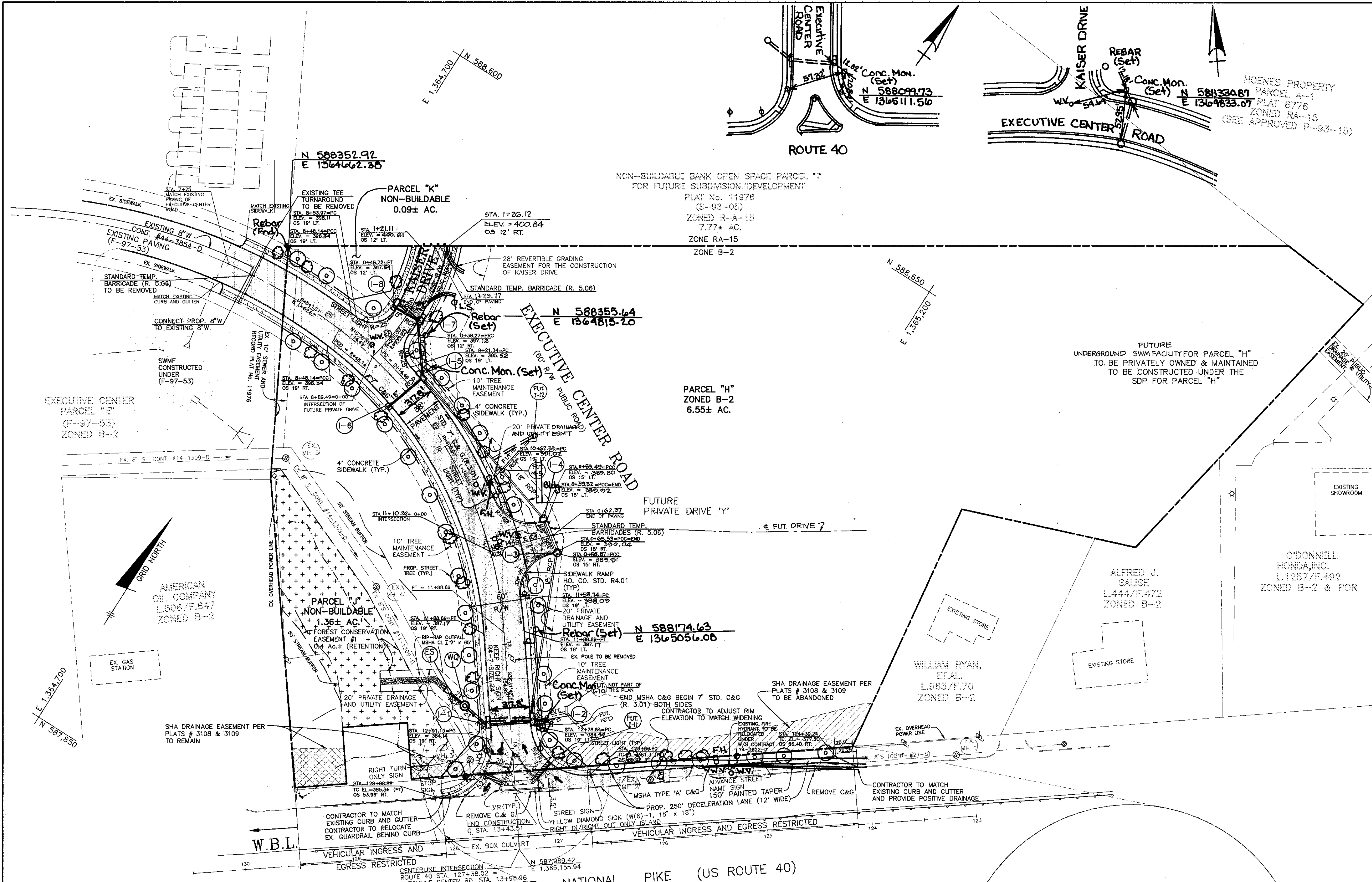
LOCATION: TAX MAP 24 - P/O PARCEL 848  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: COVER SHEET

DATE: JULY, 1997  
OCT., 1997

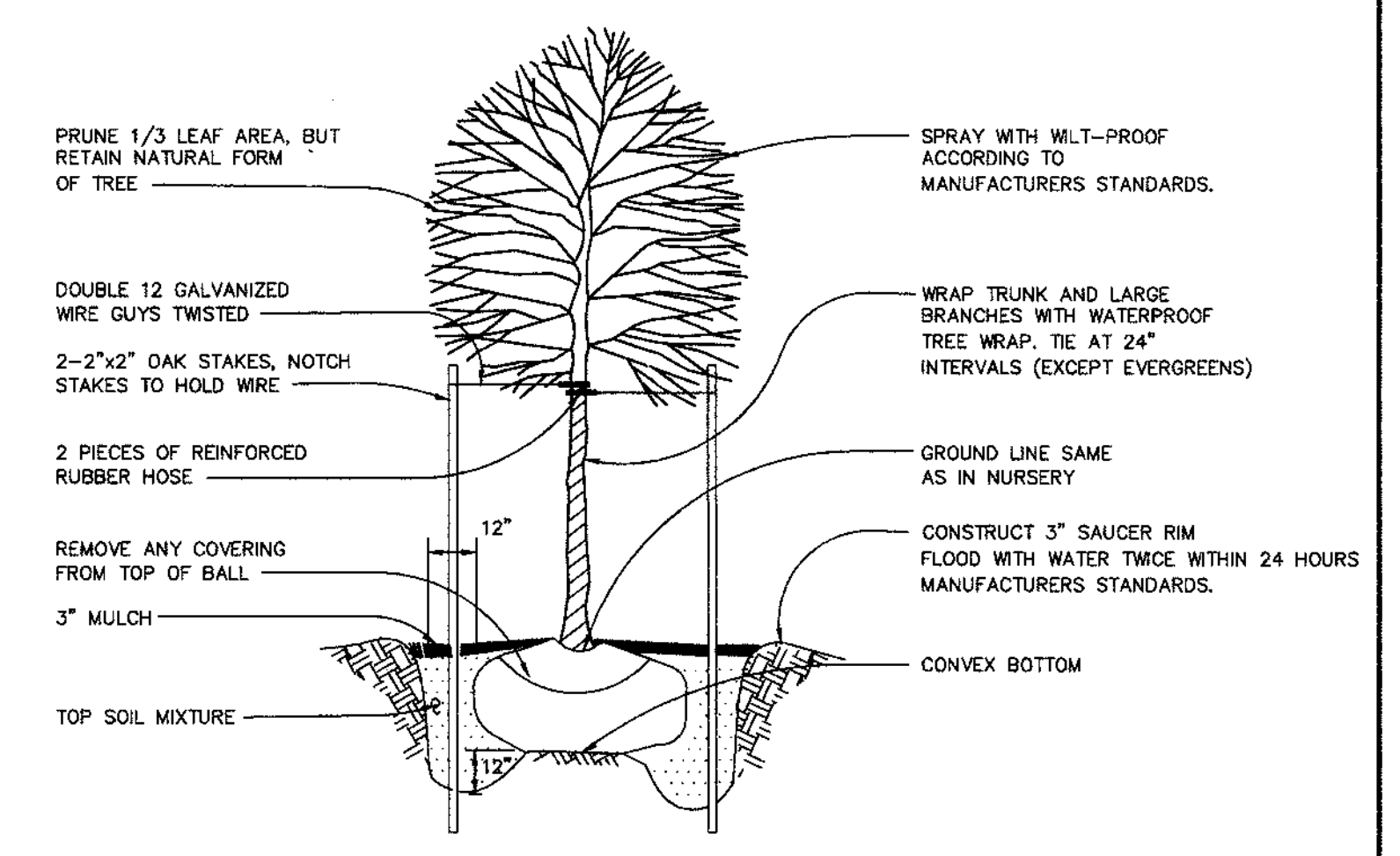
PROJECT NO. 1007

Design: CAM/JMC Draft: JMC SCALE: 1"=50' DRAWING 1 OF 7



**LEGEND**

STREET LIGHT-- 150 WATT HPS VAPOR PENDANT FIXTURE (CUT OFF) MOUNTED AT 30 FEET ON A GRAY FIBERGLASS POLE USING A 12 FOOT ARM. THE LIGHT SHOWN AT ROAD STATION 13+05 ( O/S 32' LT.) SHALL BE ON A 12 FOOT ARM. STREET LIGHTS SHALL BE CONSTRUCTED TO HOWARD COUNTY SPECIFICATIONS.



**TREE PLANTING DETAIL**  
NOT TO SCALE

STREET TREE PLANTING SCHEDULE			
SYMBOL	QUANTITY	NAME	REMARKS
○	34	ACER RUBRUM (RED SUNSET RED MAPLE)	2 1/2" MIN. CAL. B & B FULL HEAD

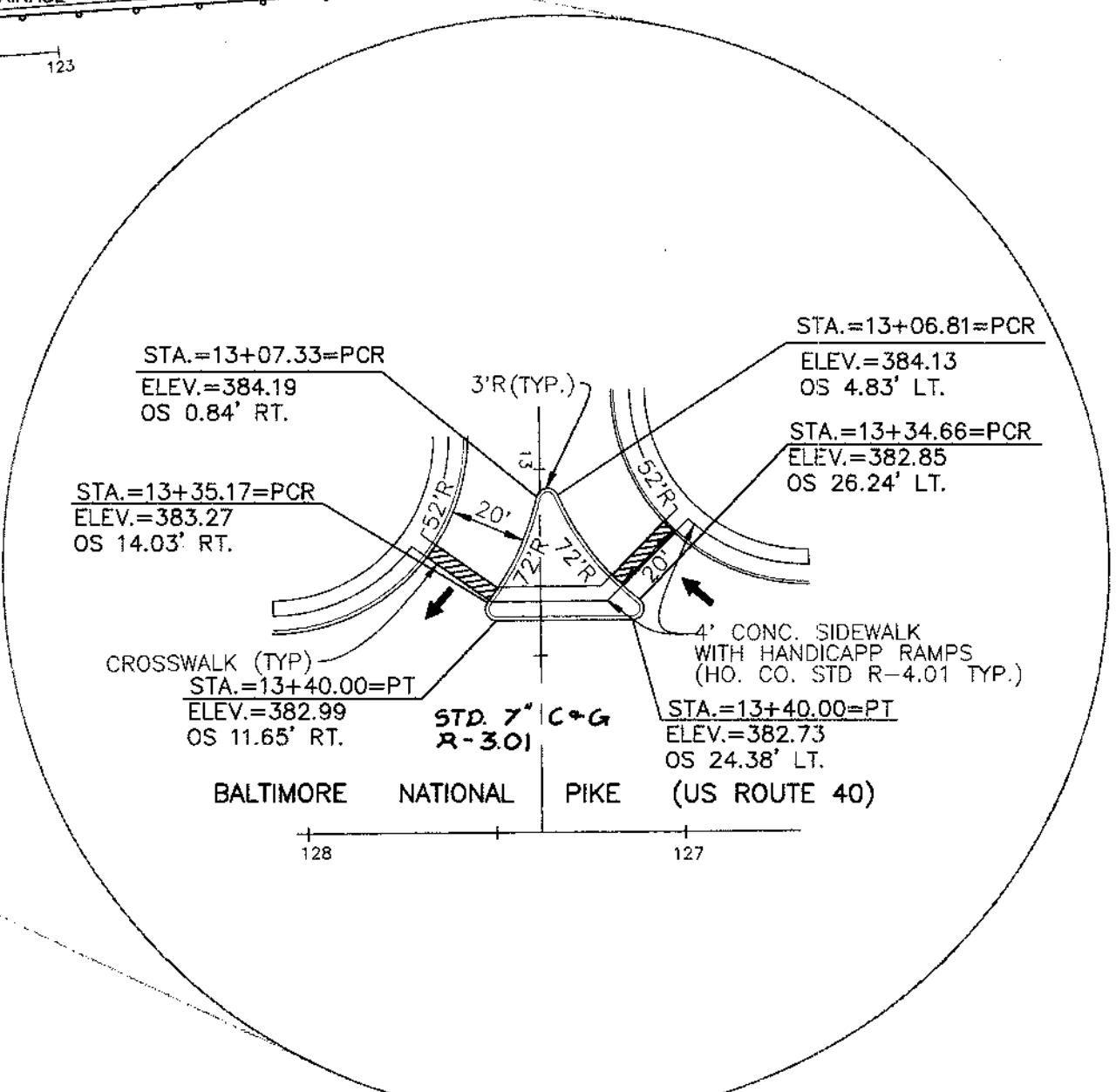
- NOTE: 1) TREES MUST BE PLANTED A MINIMUM OF 4 FEET FROM THE CURB OR SIDEWALK AND MUST BE A MINIMUM OF 5 FEET FROM ANY STORM DRAIN.  
 2) A MINIMUM DISTANCE OF 20 FEET SHALL BE MAINTAINED BETWEEN ANY TREES LOCATED ALONG THE CURB LINE AND ANY STREET LIGHTS.  
 3) TREES MUST BE PLANTED A MINIMUM OF 5 FEET FROM AN OPEN SPACE ACCESS STRIP AND 10 FEET FROM A DRIVEWAY  
 4) SEE TREE PLANTING DETAIL - THIS SHEET.

**AS-BUILT**  
SURVEY DATE: JANUARY 23, 2003

3	9-28-98	REVISED STORM DRAIN, PRIVATE DRIVE ENTR. LOC., & EXTEND KAISER DR.
NO.	DATE	REVISION
1	10/16/97	REVISED PER COUNTY COMMENTS.
2	12/24/97	REVISED EXECUTIVE CENTER ROAD CROSS SLOPE.

**TSA GROUP, INC.**  
 planning • architecture • engineering  
 8490 Baltimore National Pike • Ellicott City, Maryland 21043 • 410-465-8105

OWNER/DEVELOPER:	PROJECT: <b>HOENES PROPERTY</b>
LEONORA K. HOENES 8668 BALTIMORE NATIONAL PIKE ELlicOTT CITY, MARYLAND 21043 410-465-2321	A RESUBDIVISION OF HOENES PROPERTY, PARCEL A-4 S-95-01a, P-97-02, WP-95-84, F-96-91
LOCATION:	TAX MAP 24 - P/O PARCEL 848 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE:	<b>ROAD, STORM DRAIN AND LANDSCAPE PLAN</b>
DATE:	JULY, 1997 OCT., 1997
PROJECT NO.	1007
Design: JMC/CAM	Draft: JMC
SCALE:	1"=50'
	DRAWING 2 OF 7



**TRAFFIC ISLAND DETAIL**  
NOT TO SCALE

STREET LIGHT SCHEDULE			
STREET NAME	CL. STATION	OFFSET	NOTES
EXECUTIVE CENTER ROAD	8+82	23' LT.	12' ARM ANGLED TOWARD INT.
EXECUTIVE CENTER ROAD	10+62	23' LT.	12' ARM ANGLED TOWARD INT.
EXECUTIVE CENTER ROAD	13+05	32' RT.	12' ARM RADIAL TO FILLET
EXECUTIVE CENTER ROAD	13+10	46' LT.	12' ARM RADIAL TO FILLET

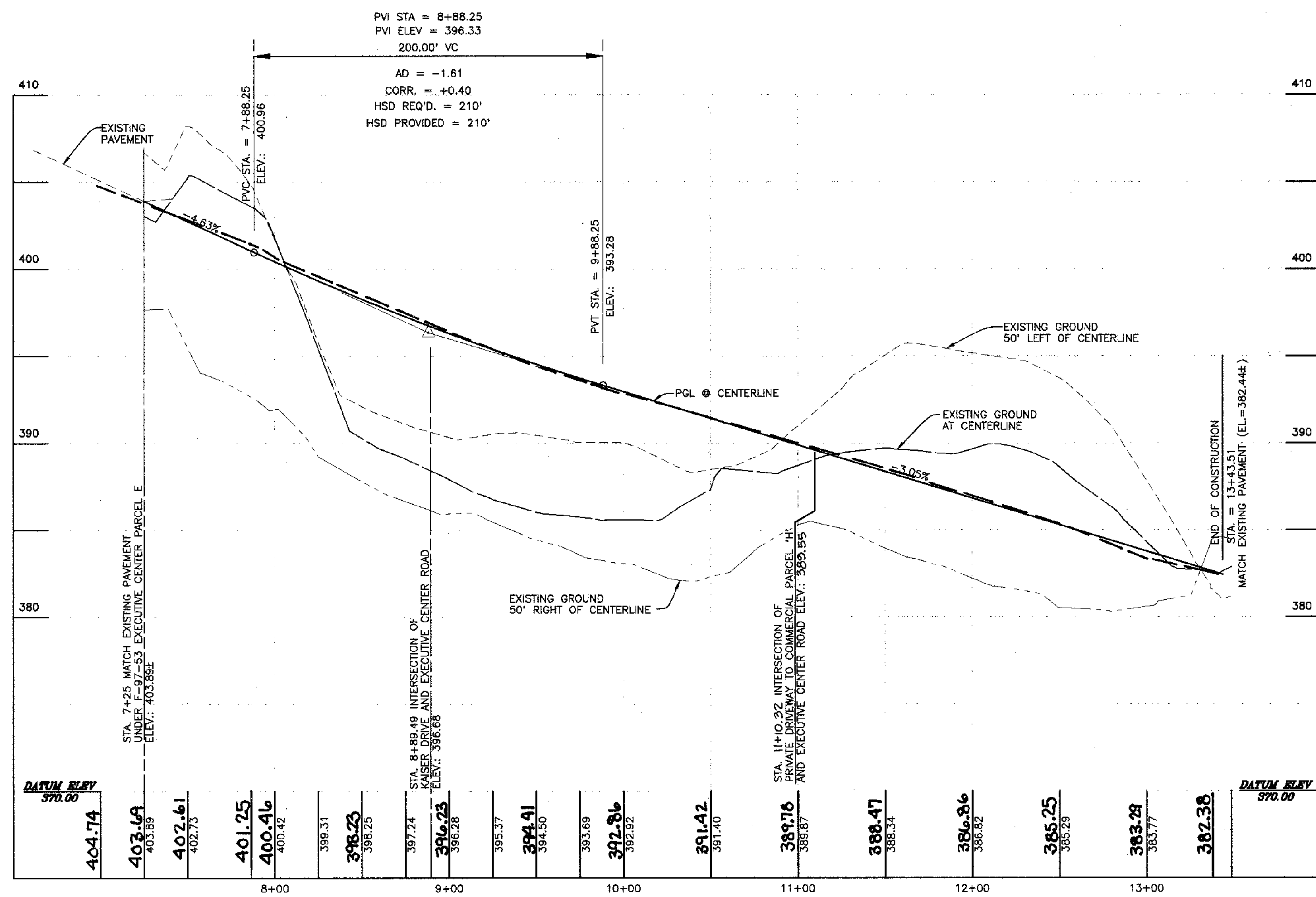
NOTE: STREET LIGHTS ARE TO BE 150 WATT HPS VAPOR PENDANT FIXTURE (CUT OFF) MOUNTED AT 30 FEET ON A GRAY FIBERGLASS POLE USING A 12 FOOT ARM. STREET LIGHTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL.

CENTERLINE CURVE DATA						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	541.01'	123.14'	61.84'	122.87'	S88°10'15"W	13°02'28"
C2	400.00'	340.55'	181.37'	330.36'	S60°55'07"E	48°46'49"
C3	200.00'	109.28'	56.04'	107.92'	S05°02'20"E	31°18'22"
C4	300.00'	21.06'	10.54'	21.06'	S44°19'25"W	04°01'21"

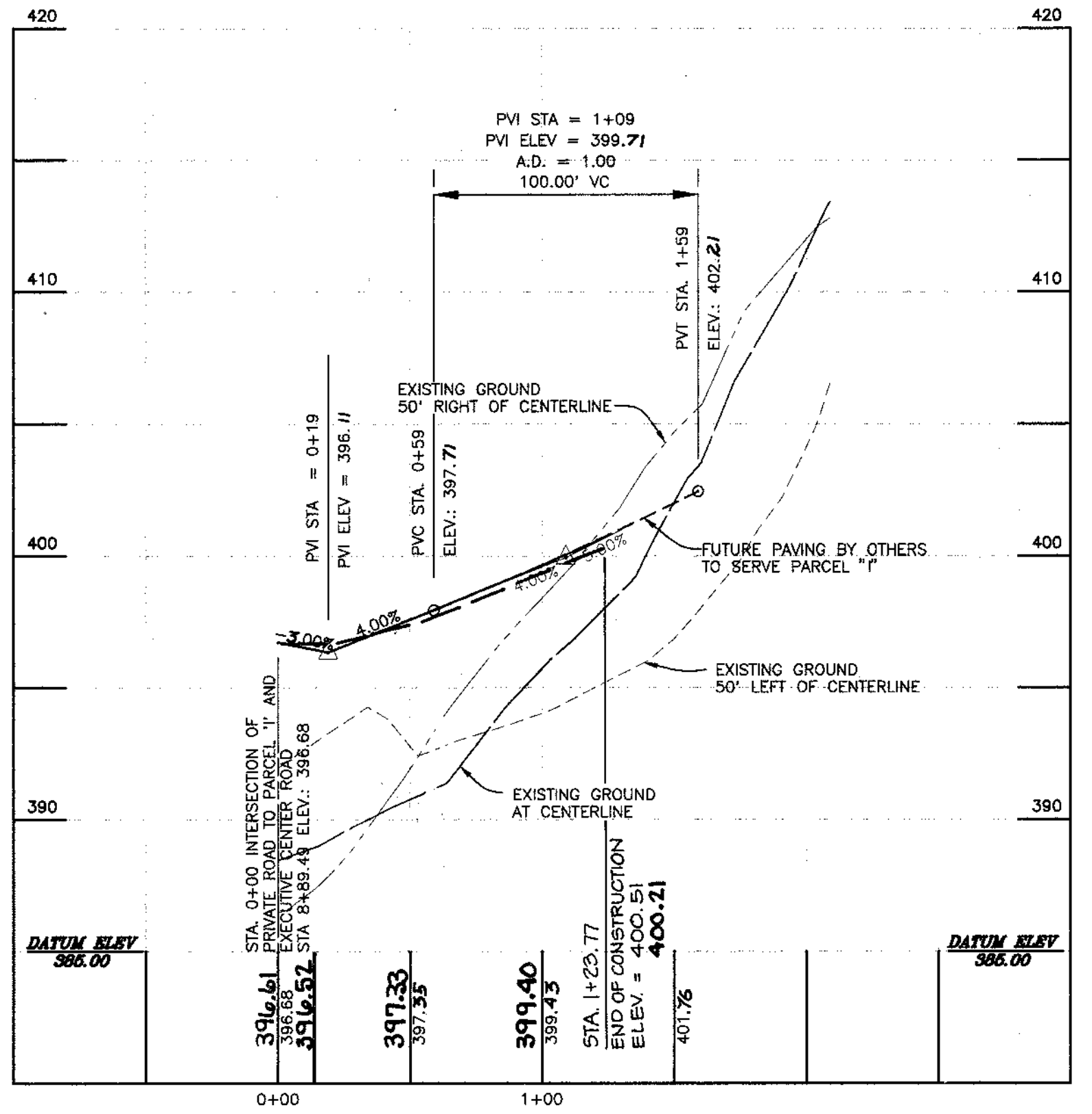
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Howard Shick* 10-11-97  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Andy Hanotta* 2/4/98  
 CHIEF, DIVISION OF LAND DEVELOPMENT

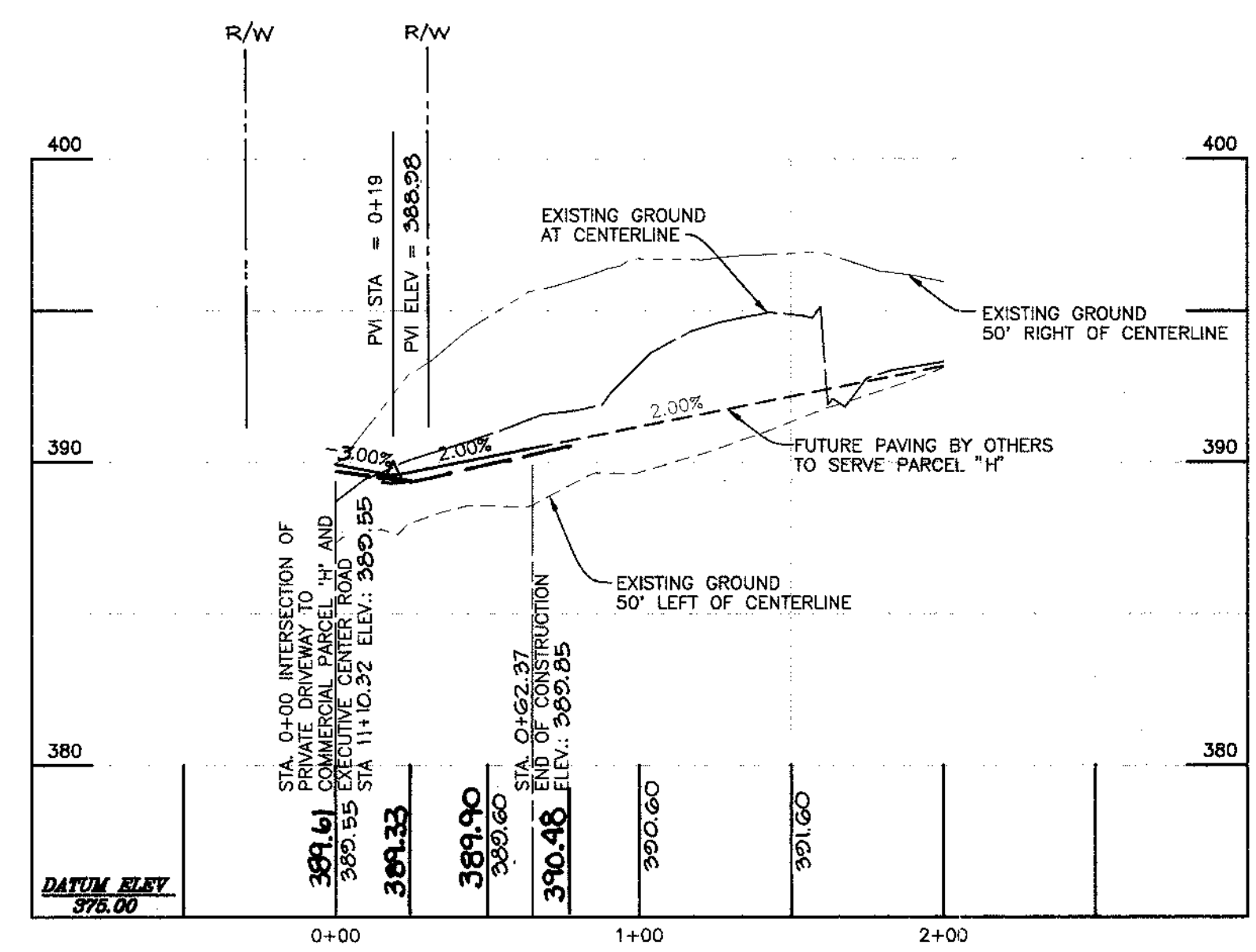
*Chris P... ..* 1/30/98  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION



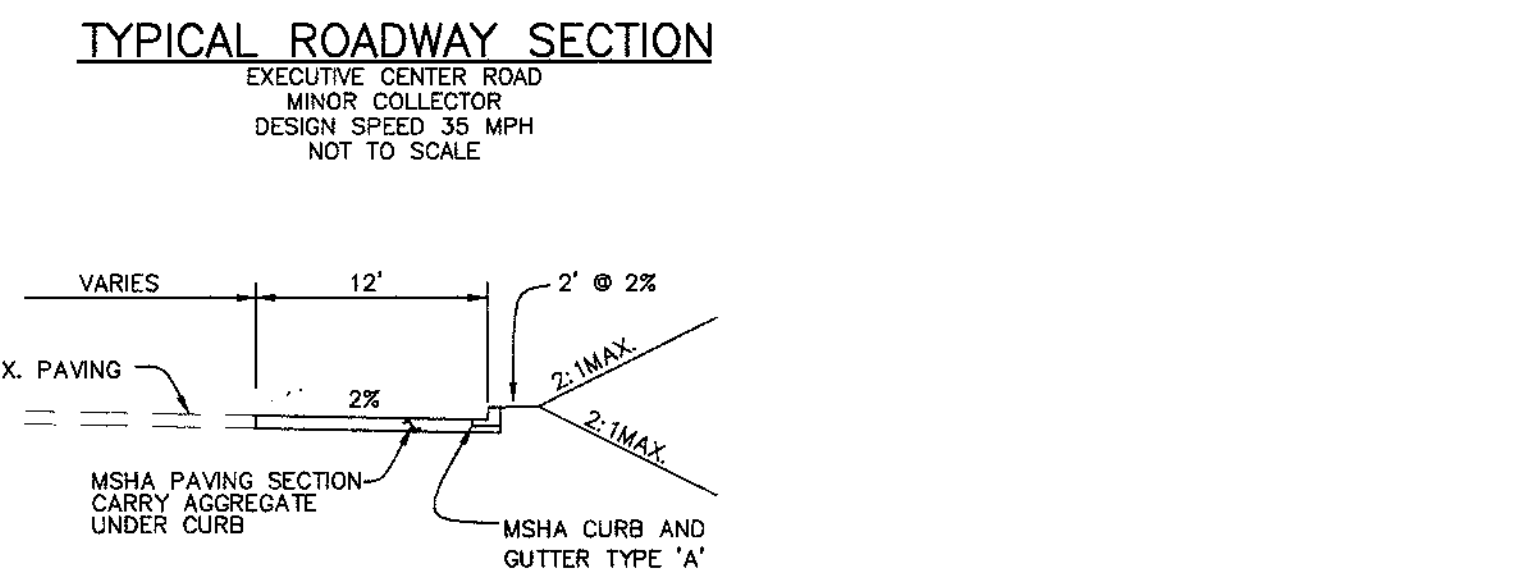
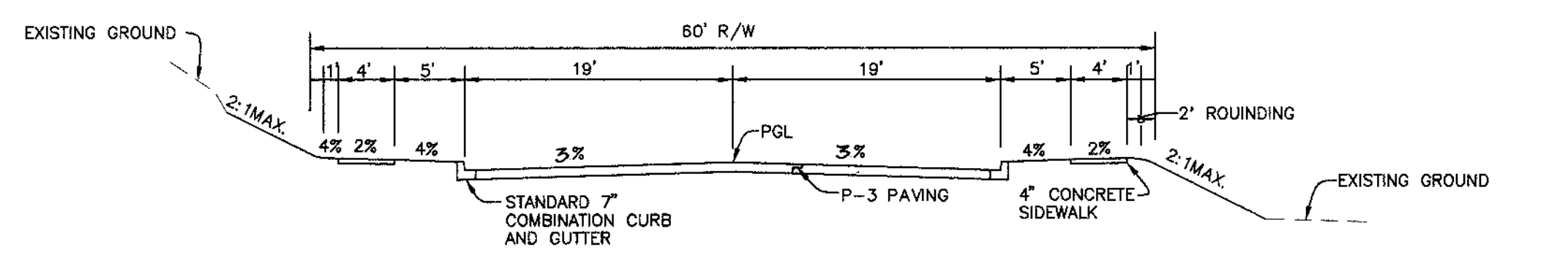
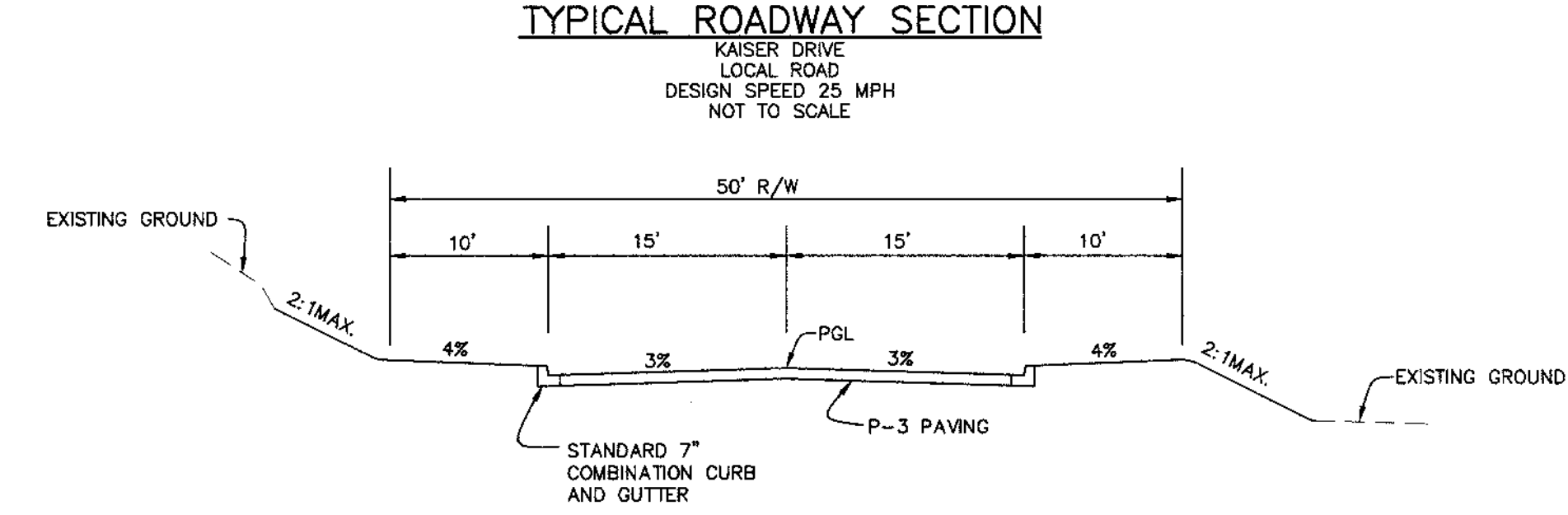
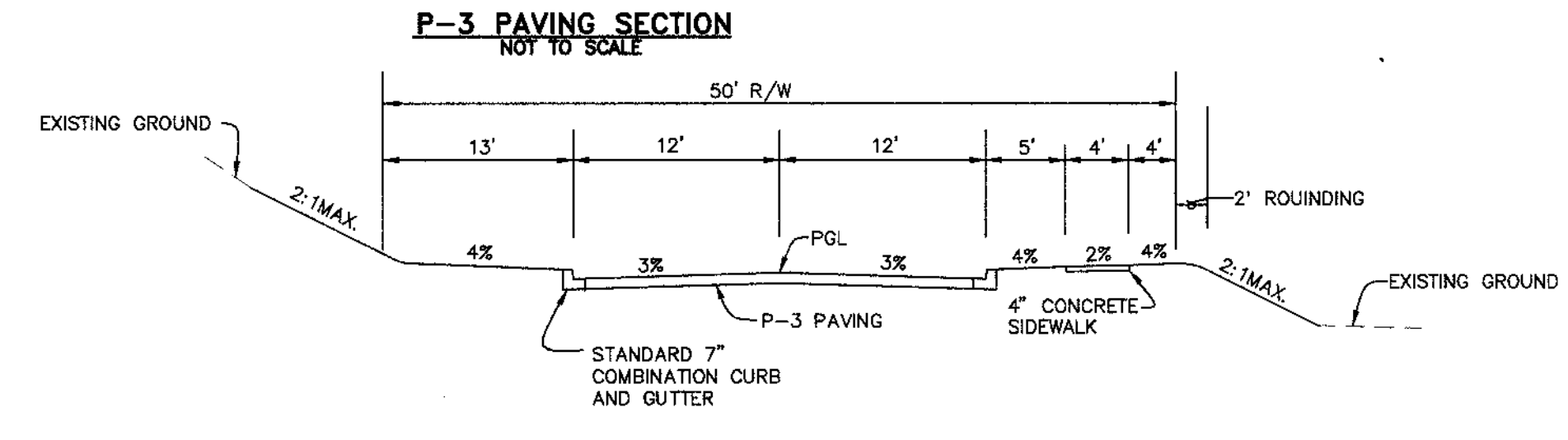
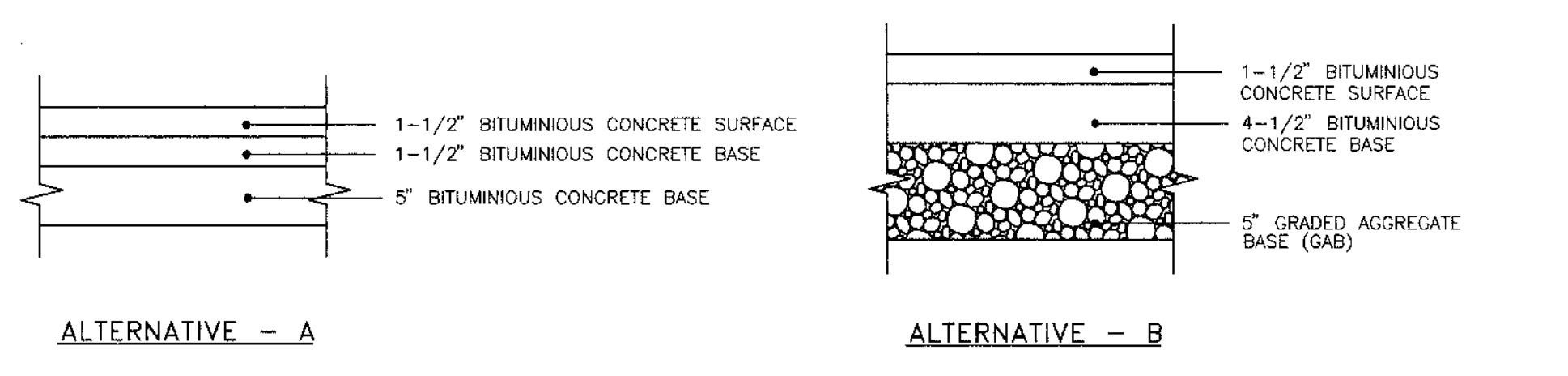
**EXECUTIVE CENTER ROAD PROFILE**  
(MINOR COLLECTOR - DESIGN SPEED: 35 MPH)  
SCALE: VERT. 1" = 5'  
HOR. 1" = 50'



**KAISER DRIVE PROFILE**  
(LOCAL ROAD - DESIGN SPEED: 25 MPH)  
SCALE: VERT. 1" = 5'  
HOR. 1" = 50'



**PRIVATE DRIVEWAY TO COMMERCIAL PARCEL 'H' PROFILE**  
SCALE: VERT. 1" = 5'  
HOR. 1" = 50'



**AS-BUILT**  
SURVEY DATE: JANUARY 23, 2003

3	9-28-98	REV. PRIVATE DRIVEWAY LOCATION & PROFILE & EXTENDED KAISER DRIVE	REVISION
1	10/16/97	REVISED PER COUNTY COMMENTS.	
2	12/24/97	REVISED EXECUTIVE CENTER ROAD CROSS SLOPE.	

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OWNER/DEVELOPER: LEONORA K. HOENES  
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ELLICOTT CITY, MARYLAND 21043  
410-465-2321

PROJECT: HOENES PROPERTY  
A RESUBDIVISION OF HOENES PROPERTY, PARCEL A-4  
S-95-01a, P-97-02, WP-95-84, F-96-91

LOCATION: TAX MAP 24 - P/O PARCEL 848  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: ROAD PROFILES AND DETAILS

DATE: JULY, 1997  
OCT., 1997  
PROJECT NO. 1007

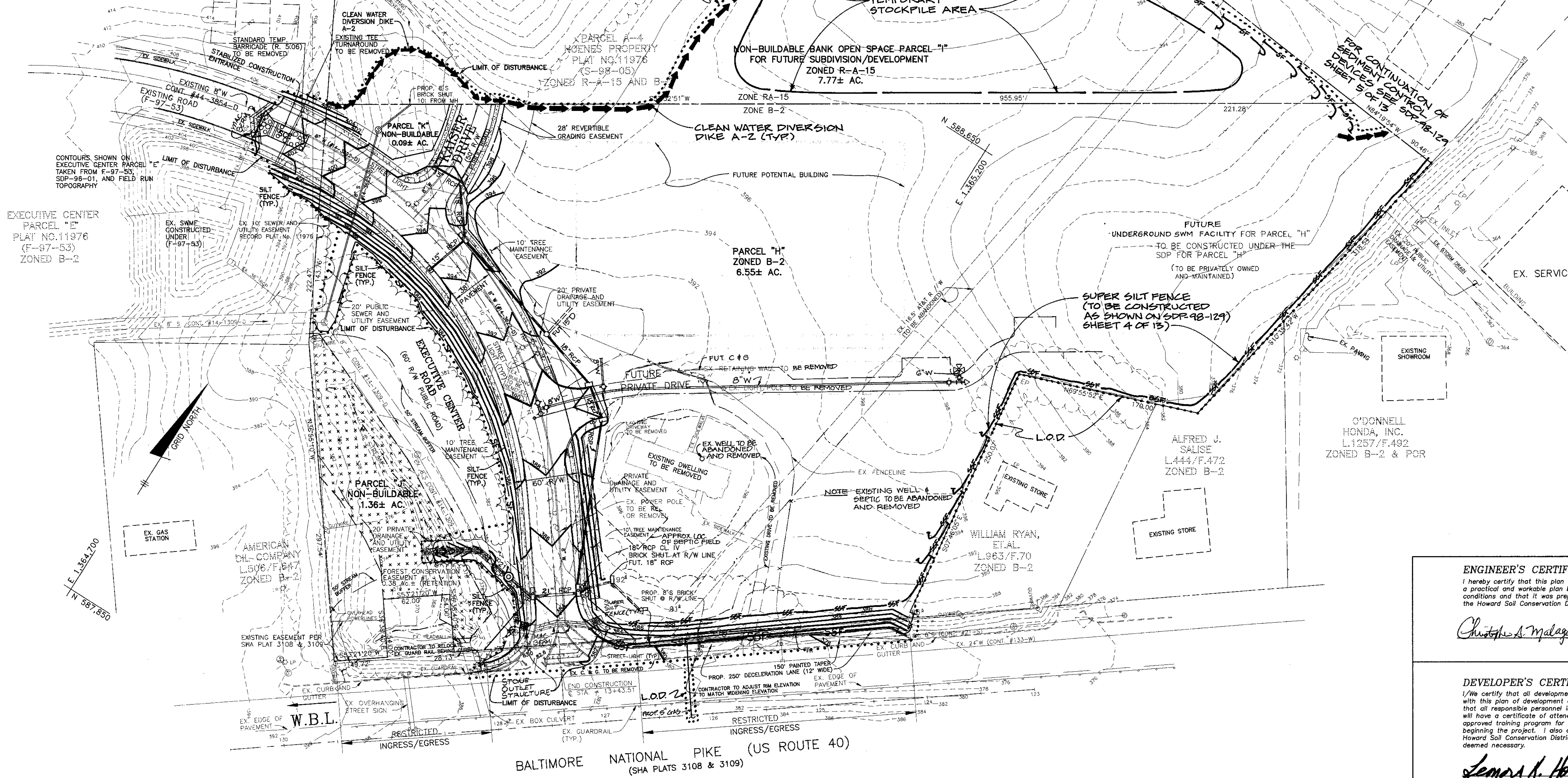
Design: JMC/CAM Draft: JMC  
SCALE: VERT.: 1" = 5'  
HOR.: 1" = 50'  
DRAWING 3 OF 7

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Howard Hill* 10/16/97  
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Cindy Hamilton* 2/4/98  
CHIEF, DIVISION OF LAND DEVELOPMENT

*Mike Damann* 1/30/98  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

ELLCOTT CITY WAL-MART  
PHASE 3  
PARCEL "G"



**LEGEND**

CONTOUR INTERVAL	2 FEET
EXISTING CONTOUR	200 220
PROPOSED CONTOUR	---
PROPOSED SEWER MAIN	---
PROPOSED WATER MAIN	---
PROPOSED STORM DRAIN	---
STABILIZED CONSTRUCTION ENTRANCE	---
PROPOSED EARTH DIKE	A-3
PROP. TEMP. SWALE	A-3
SILT FENCE	SF
STONE OUTLET STRUCTURE	SS
SUPER SILT FENCE	SSS
LIMIT OF DISTURBED AREA	.....
EXISTING TREE LINE	~~~~~
PROPOSED TREE LINE	~~~~~

**ENGINEER'S CERTIFICATE**  
I hereby 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.

*Christopher A. Malagan* 10/17/97  
Date

**DEVELOPER'S CERTIFICATE**  
I/We certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this 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 also authorize periodic onsite inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary.

*Leonora K. Hoenes* 10-16-97  
Signature of Developer Date

NO.	DATE	REVISION
1	10/16/97	REVISED PER COUNTY COMMENTS.
2	9-23-98	REV. SED. CTL. TO INCLUDE PROP. WATER MAIN
3	8-19-99	REVISE SEDIMENT CONTROL LIMITS

TSA GROUP, INC.  
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8668 Baltimore National Pike • Ellicott City, Maryland 21043 • 410-465-8105

OWNER/DEVELOPER: LEONORA K. HOENES  
8668 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21043  
410-465-2321

PROJECT: HOENES PROPERTY  
A RESUBDIVISION OF HOENES PROPERTY, PARCEL A-4  
S-95-01a, P-97-02, WP-95-84, F-96-91

LOCATION: TAX MAP 24 - P/S PARCEL 848  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: GRADING AND SEDIMENT CONTROL PLAN

DATE: JULY, 1997 PROJECT NO. 1007  
OCT., 1997

Design: JMC/CAM Draft: JMC SCALE: 1"=50' DRAWING 4 OF 7

**CENTERLINE CONTROL DATA**

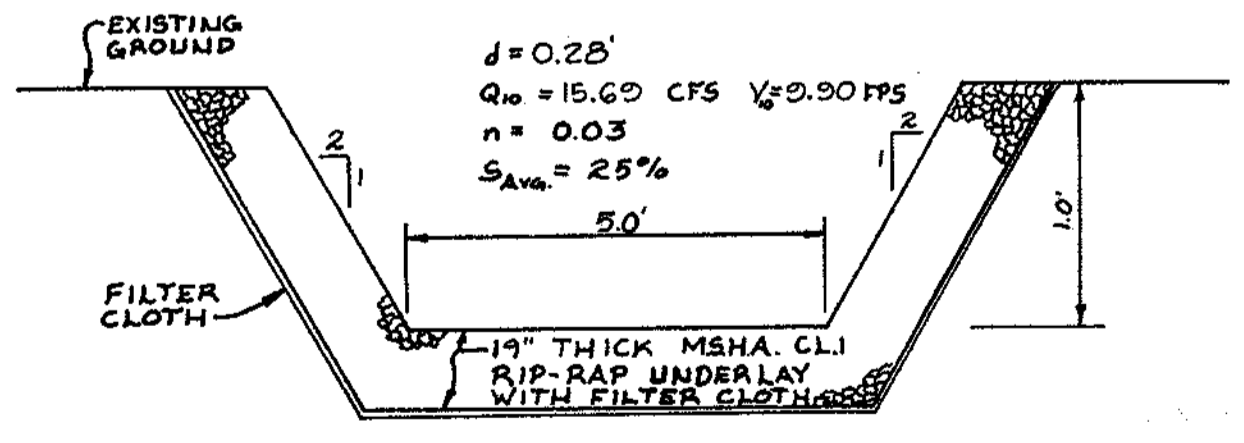
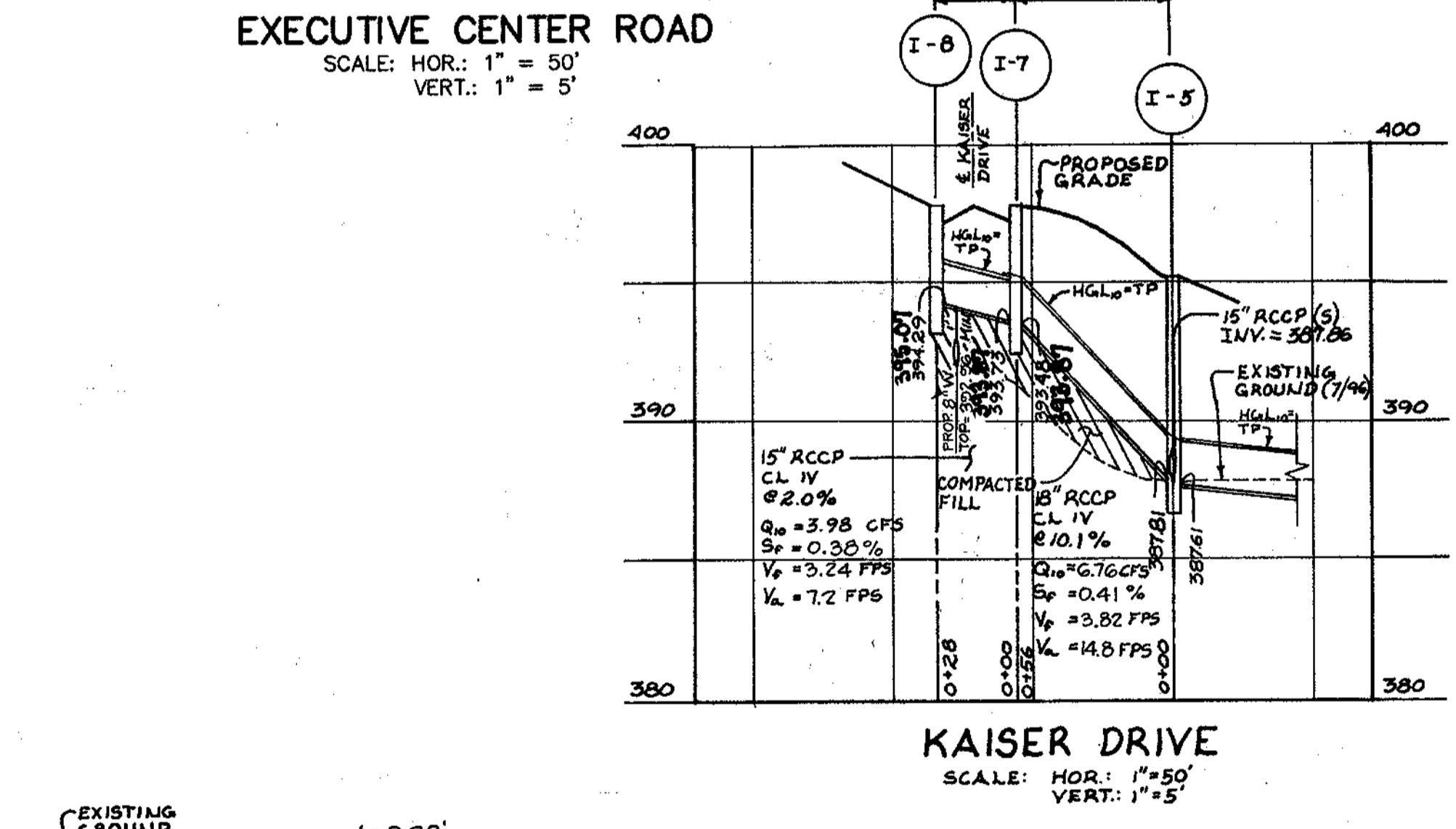
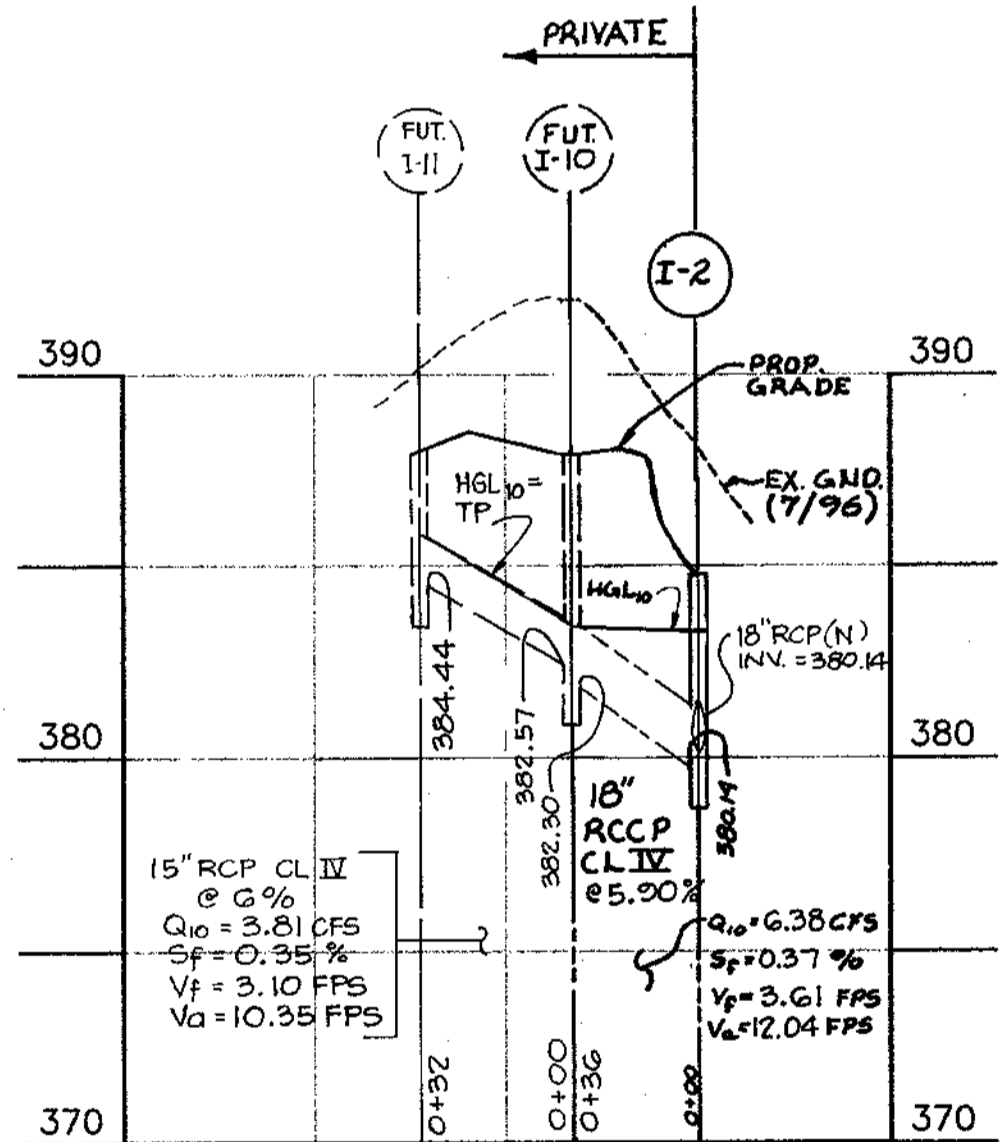
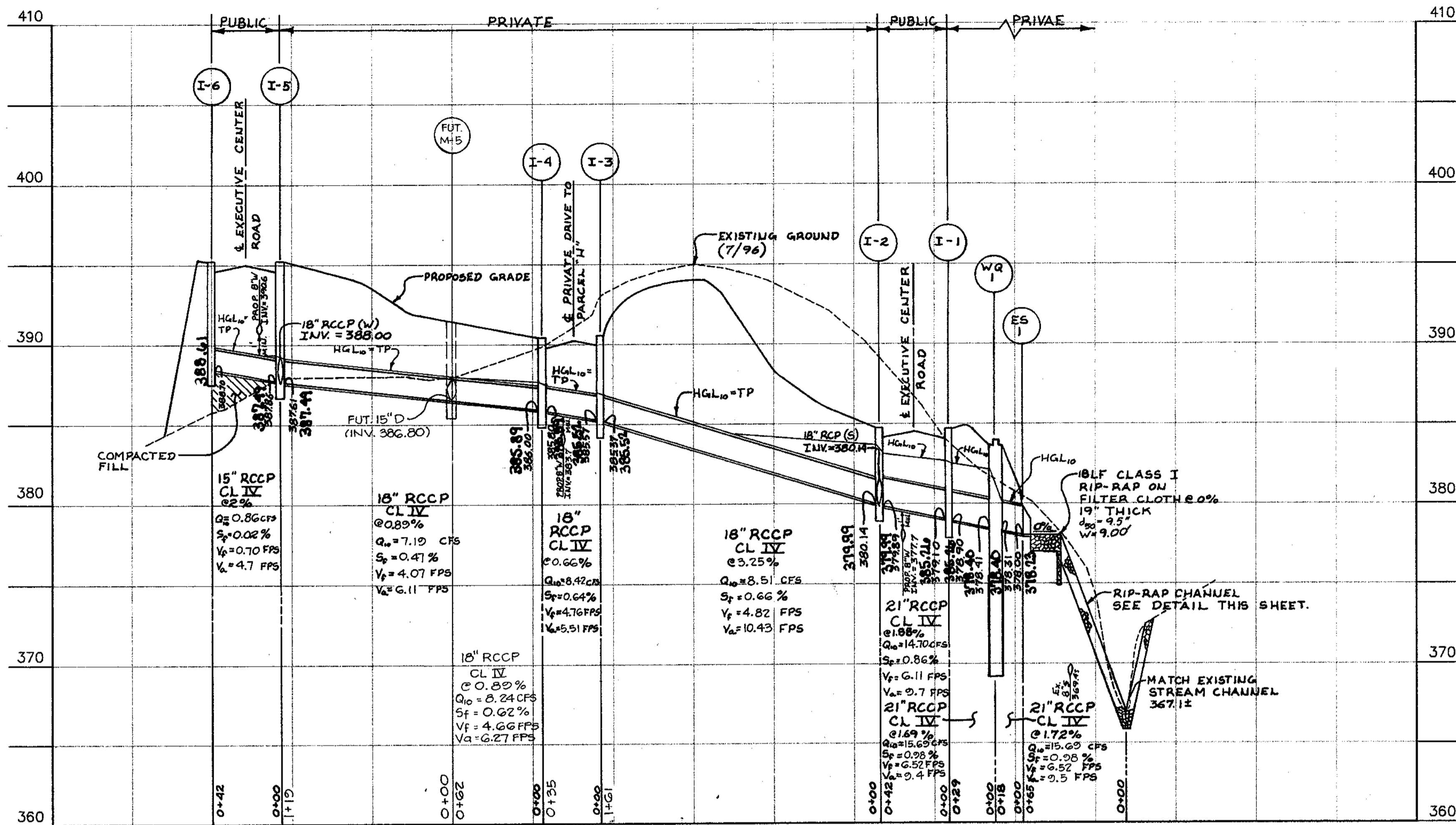
ROAD	STATION	NORTH	EAST
EXECUTIVE CENTER ROAD	7+85.52	588318.8509	1364680.6948
EXECUTIVE CENTER ROAD	8+48.14	588317.3487	1364743.2615
EXECUTIVE CENTER ROAD	11+88.69	588158.7776	1365031.9717
EXECUTIVE CENTER ROAD	13+96.96	587989.4179	1365155.9400
PRIVATE ROAD "Y"	0+00	588214.7957	1364979.4723
PRIVATE ROAD "Y"	0+41.26	588245.3765	1365007.2460
KAISER DRIVE	0+00	588311.8446	1364784.2255
KAISER DRIVE	0+14.49	588326.0852	1364786.8943
KAISER DRIVE	0+48.73	588360.1177	1364790.2967
PRIVATE ROAD "Y"	0+62.37	588260.4683	1365021.9416

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Howard Shick* 10-11-97  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Cathy Hamilton* 12/1/98  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: *John Simmons* 12/5/97  
NATURAL RESOURCES CONSERVATION SERVICE DATE

APPROVED: *John Roberts* 12/5/97  
HOWARD SOIL CONSERVATION DISTRICT DATE



FUT. M-5	N 586,287.0567	E 136,424.71402	393.00	386.00	386.55	386.53	MANHOLE	G-5.12
FUT. I-10	N 586,125.1612	E 136,5125.0982	387.25	382.57	---	382.30	S-COMB.	SD 4.32
FUT. I-11	N 588,117.0021	E 136,5158.5697	388.13	---	---	384.44	S-COMB.	SD 4.32

NUMBER	LOCATION	TOP ELEV.	INVERT IN	INVERT OUT	TYPE	NO. CO.	STANDARD	TOP ELEV.	INVERT
I-7	STA. 0+55.44 KAISER DR. O/S 12' RT.	397.81	393.73	---	A-10	SD.	4.02	397.84	393.87
I-8	STA. 0+54.76 KAISER DR. O/S 12' LT.	397.78	---	394.29	A-10	SD.	4.02	398.15	396.07
I-1	STA. 12+73.17 EXEC. CENTER RD. O/S 19' RT.	384.62	379.10	---	A-10	SD.	4.02	384.68	379.41
I-2	STA. 12+73.17 EXEC. CENTER RD. O/S 19' LT.	384.62	380.14	---	A-10	SD.	4.02	384.66	379.49
I-3	STA. 0+62.20 FUTURE COMM. DR. O/S 15' RT.	390.55	385.57	---	A-5	SD.	4.01	390.55	385.52
I-4	STA. 0+62.51 FUTURE COMM. DR. O/S 15' LT.	390.55	386.00	---	A-5	SD.	4.01	390.62	385.81
I-5	STA. 94+38.52 EXEC. CENTER RD. O/S 19' LT.	396.10	387.86	387.81	A-10	SD.	4.02	394.94	387.49
I-6	STA. 94+38.78 EXEC. CENTER RD. O/S 19' RT.	396.03	---	---	A-5	SD.	4.01	395.04	388.61
WQ-1	N 588,077.48 E 1,365,037.85	383.81	378.41	---	STORMCEPTOR	STC 2400	SEE DETAIL	383.58	378.40
ES-1	N 588,081.32 E 1,365,013.73	---	---	378.00	END SECTION	SD.	5.51	---	378.23

TOP ELEV. = TOP OF CURB AT MIDPOINT OF INLET AT FACE OF CURB.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Howard Hill* for 10-11-97  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Andy Hamilton* 7/4/97  
 CHIEF, DIVISION OF LAND DEVELOPMENT

*John D. ...* 1/30/98  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

**Installation Procedures** (PER STORMCEPTOR MANUAL - APRIL 1, 1995)  
 U.S. PATENT 4,985,148

**Concrete Stormceptor® Installation**

The installation of the concrete Stormceptor® should conform to state highway or local specifications for the construction of manholes. Selected sections of a general specification that are applicable are summarized in the following sections.

**Excavation**

The Stormceptor® should conform to state highway or local specifications. Topsoil that is removed during the excavation for the Stormceptor® should be stockpiled in designated areas and should not be mixed with subsoil or other materials. Topsoil stockpiles, and the general site preparation for the installation of the Stormceptor® should conform to state highway or local specifications.

The Stormceptor® should not be installed on frozen ground. Excavation should extend a minimum of 12 inches from the precast concrete surface plus an allowance for shoring and bracing where required. If the bottom of the excavation provides an unstable foundation additional excavation may be required.

In areas with a high water table, additional dewatering should be provided to ensure that the excavation is stable and free of water.

**Backfilling**

Backfill material should conform to state highway or local specifications. Generally, backfill material should be placed in uniform layers not exceeding 12 inches in depth. Each layer should be compacted to 95% of the maximum dry density. Backfill is not to contain topsoil.

**Stormceptor® Construction Sequence**

The concrete Stormceptor® is installed in sections in the following sequence:

1. Aggregate base
2. Base slab
3. Inlet chamber section(s)
4. Transition slab (if required)
5. By-pass section
6. Connect inlet and outlet pipes
7. Transition slab
8. Maintenance access way
9. Frame and access cover

The precast base should be placed level at the specified grade. The entire base should be in contact with the underlying compacted granular material. Subsequent sections, complete with joint seals, should be installed in accordance with the precast concrete manufacturer's recommendations.

Adjustment of the Stormceptor® can be performed by lifting the upper sections free of the excavated area, re-leveling the base, and re-installing the sections. Damaged sections and gaskets should be replaced. Once the Stormceptor® has been constructed, the lift holes should be plugged with mortar.

**Down Pipe and Riser Pipe**

Once the by-pass section has been attached to the treatment chamber the down pipe and riser pipe can be attached. To install these pipes a worker enters the treatment chamber through the central access way in the by-pass section.

The inlet pipe (pipe with the tee at the end) is installed by coating the outside of the end of the pipe with lubricant and pushing the pipe into the pressure coupling provided on the underside of the by-pass section. The tee must be oriented such that water which enters the treatment chamber is directed tangentially around the inside walls of the chamber.

The outlet riser pipe (straight pipe without the tee) is installed in a similar fashion using pipe lubricant and a pressure coupling provided underneath the by-pass section near the downstream pipe.

**Stormceptor® Construction Sequence**

The concrete Stormceptor® is installed in sections in the following sequence:

1. Aggregate base
2. Base slab
3. Inlet chamber section(s)
4. Transition slab (if required)
5. By-pass section
6. Connect inlet and outlet pipes
7. Transition slab
8. Maintenance access way
9. Frame and access cover

The precast base should be placed level at the specified grade. The entire base should be in contact with the underlying compacted granular material. Subsequent sections, complete with joint seals, should be installed in accordance with the precast concrete manufacturer's recommendations.

Adjustment of the Stormceptor® can be performed by lifting the upper sections free of the excavated area, re-leveling the base, and re-installing the sections. Damaged sections and gaskets should be replaced. Once the Stormceptor® has been constructed, the lift holes should be plugged with mortar.

**Down Pipe and Riser Pipe**

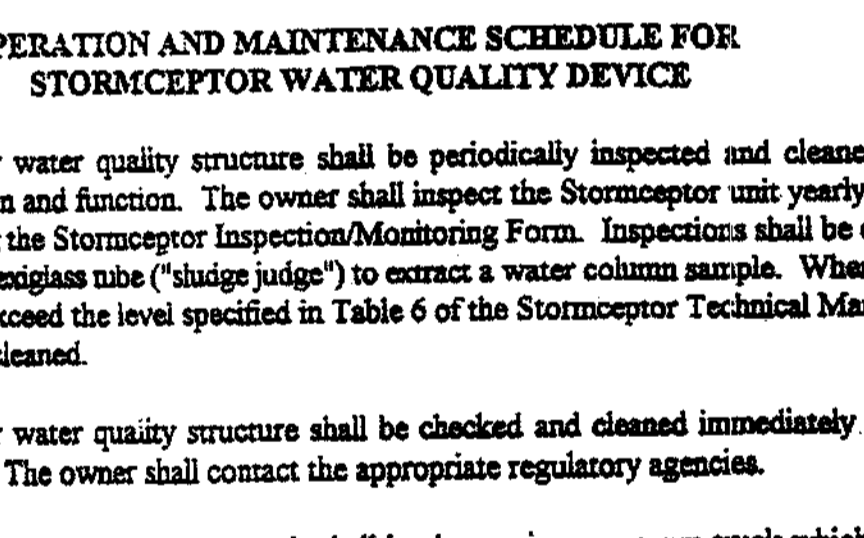
Once the by-pass section has been attached to the treatment chamber the down pipe and riser pipe can be attached. To install these pipes a worker enters the treatment chamber through the central access way in the by-pass section.

The inlet pipe (pipe with the tee at the end) is installed by coating the outside of the end of the pipe with lubricant and pushing the pipe into the pressure coupling provided on the underside of the by-pass section. The tee must be oriented such that water which enters the treatment chamber is directed tangentially around the inside walls of the chamber.

The outlet riser pipe (straight pipe without the tee) is installed in a similar fashion using pipe lubricant and a pressure coupling provided underneath the by-pass section near the downstream pipe.

**OPERATION AND MAINTENANCE SCHEDULE FOR STORMCEPTOR WATER QUALITY DEVICE**

- 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 Plexiglass tube ("sludge judge") to extract a water column sample. When the sediment depths exceed 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 agencies.
- 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.



**Hydro Conduit**

**PRECAST CONCRETE STORMCEPTOR**

**PLAN**  
(FRAME AND COVER NOT SHOWN FOR CLARITY)

**SECTION**

**REVISIONS**

NO.	DATE	REVISION
1	10-8-97	REVISED PER HOWARD COUNTY ENGINEERING COMMENTS.
2	12-24-97	REVISED EXECUTIVE CENTER ROAD CROSS SLOPE.

**Concrete Stormceptor® Order Request Form**

**Contractor Information**

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_  
 State: \_\_\_\_\_  
 Zip Code: \_\_\_\_\_  
 Contact: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_

**Owner Information**

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_  
 State: \_\_\_\_\_  
 Zip Code: \_\_\_\_\_  
 Contact: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_

**Stormceptor® Model**

900	3600
1200	4800
1800	6000
2400	7200

**Insert Size**

24"	32"
36"	48"
48"	60"
Custom	

**Manhole Number**

1000	1500
2000	2500
3000	3500
4000	4500
5000	5500

**Manhole Type**

1	2
3	4
5	6
7	8
9	10

**Manhole Material**

1	2
3	4
5	6
7	8
9	10

**Project Name** \_\_\_\_\_

**Approximate time frame** \_\_\_\_\_

**Delivery Address:** \_\_\_\_\_

**City:** \_\_\_\_\_ **State:** \_\_\_\_\_ **Zip Code:** \_\_\_\_\_

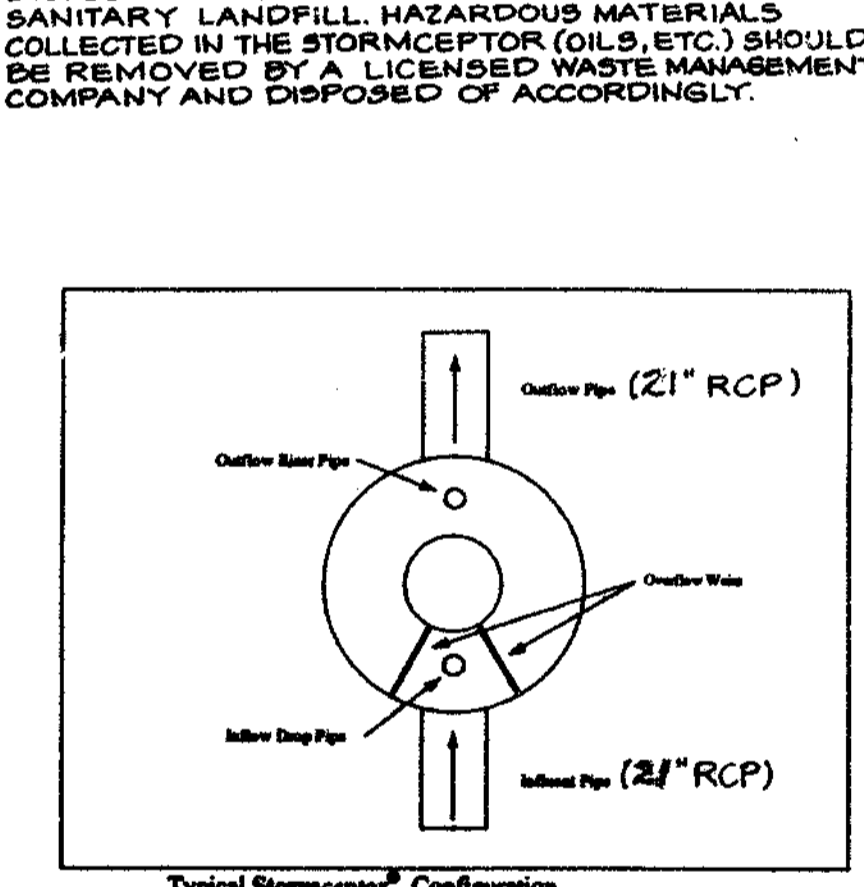
**Designer:** \_\_\_\_\_

**Designer Contact:** \_\_\_\_\_

Please refer to this sheet back to Hydro Conduit/Virginia Precast at (804) 798-3436  
 Attn: Dave Briner / Ed O'Malley (Phone: 1-800-999-2278)

For credit information/requirements contact Carol Brooks at (804) 798-6668  
 For Technical Assistance Please Call Stormceptor Corporation  
 at (801) 762-4361 or toll free at 1 (800) 762-4783

\* TO BE DECLINED ON SWIRL PLAN BY DESIGNER



**TSA GROUP, INC.**  
 planning • architecture • engineering  
 8680 Baltimore National Pike • Ellicott City, Maryland 21045 • (410) 465-8106

**STATE OF MARYLAND**  
 PROFESSIONAL ENGINEER  
 12-197

**OWNER/DEVELOPER:**

LEONORA K. HOENES  
 8668 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21043  
 410-465-2321

**PROJECT: HOENES PROPERTY**  
 A RESUBDIVISION OF HOENES PROPERTY, PARCEL A-4  
 S-95-01a, P-97-02, WP-95-84, F-96-91

**LOCATION:** TAX MAP 24 - P/O PARCEL 848  
 SECOND ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

**TITLE:** STORM DRAIN PROFILES

**DATE:** JULY, 1997 **PROJECT NO.:** 1007

**Design:** CAM/JMC **Draft:** JMC **SCALE:** 1" = 50' **DRAWING:** 5 OF 7

SOIL CLASSIFICATION

SYMBOL	DESCRIPTION	HYDROLOGIC GROUP
ChB2	CHESTER SILT LOAM, 3-8 % SLOPES, MODERATELY ERODED	B
GIB2	GLENELG LOAM, 3-8 % SLOPES, MODERATELY ERODED	B
GIC2	GLENELG LOAM, 8-15% SLOPES, MODERATELY ERODED	B
GIC3	GLENELG LOAM, 8-15% SLOPES, SEVERELY ERODED	B
GnB2	GLENVILLE SILT LOAM, 3-8% SLOPES, MODERATELY ERODED (HYDRIC)	C
MIC2	MANOR LOAM, 8-15% SLOPES, MODERATELY ERODED	B
MID2	MANOR LOAM, 8-15% SLOPES, SEVERELY ERODED	B

ELLCOTT CITY WAL-MART  
PHASE 3  
PARCEL "G"  
(SEE APPROVED S-85-01)



NO.	DATE	REVISION
1	10/14/97	REVISED PER NEW LAYOUT FOR FUTURE DEVELOPMENT OF PARCEL "I"
2	2-29-98	REV. PER NEW DRIVEWAY ENTRANCE AND ADDITIONAL INLET

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*John A. Metzger*  
10/11/97  
12-1-97

OWNER/DEVELOPER:  
LEONORA K. HOENES  
8668 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21043  
410-465-2321

PROJECT:  
**HOENES PROPERTY**  
A RESUBDIVISION OF HOENES PROPERTY, PARCEL A-4  
S-95-01a, P-97-02, WP-95-84, F-96-91

LOCATION:  
TAX MAP 24 - P/O PARCEL 848  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE:  
**STORM DRAIN DRAINAGE AREA MAP**

DATE: JULY, 1997 PROJECT NO. 1007  
OCT., 1997

Design: CAM/JMC Draft: JMC SCALE: 1"=50' DRAWING 6 OF 7

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Howard Shil* 10-14-97  
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Candy Hamilton* 2/4/98  
CHIEF, DIVISION OF LAND DEVELOPMENT

*Mr. [Signature]* 1/30/98  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

BALTIMORE NATIONAL PIKE (US ROUTE 40)  
(SHA PLATS 3108 & 3109)

**SEQUENCE OF CONSTRUCTION**

- DAY 1 OBTAIN GRADING PERMIT AND SHA ACCESS PERMIT.
- DAY 2-3 INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, SUPER SILT FENCE AND CLEANWATER DIVERSIONS.
- DAY 4-9 CLEAR AND GRUB SITE.
- DAY 10-30 COMMENCE ROAD GRADING.
- DAY 31-45 CONSTRUCT STORM DRAIN SYSTEM AND WATER MAIN.
- DAY 46-56 INSTALL TRAFFIC CONTROL DEVICES ALONG U.S. ROUTE 40 AND GRADE DECELERATION LANE AS INDICATED ON THE PLAN, INCLUDING SLOPE PARALLEL TO DECEL LANE. INSTALL SUPER SILT FENCE AT TOP OF SLOPE AS SHOWN ON PLAN.
- DAY 57-61 CONSTRUCT CURB AND GUTTER.
- DAY 62-65 CONSTRUCT PAVING FOR EXECUTIVE CENTER ROAD AND DECELERATION LANE ALONG U.S. ROUTE 40.
- DAY 66-68 FINAL GRADE SITE AND PERMANENTLY STABILIZE, INCLUDING REMOVAL OF TEMPORARY STOCKPILE ON OPEN SPACE PARCEL I.
- DAY 69-72 INSTALL REQUIRED LANDSCAPING AS SPECIFIED ON THE PLAN.
- DAY 73-74 UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES. PERMANENTLY STABILIZE AS REQUESTED.

**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. (If not previously loosened)

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

- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sf) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sf) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sf).
- Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sf) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sf) before seeding. Harrow or disc into upper three inches of soil.

Seeding: For the periods March 1 through April 30 and August 1 through October 15, seed with 60 lbs per acre (1.4 lbs/1000 sf) of Kentucky 31 Tall Fescue. For the period May 1 through July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (0.05 lbs/1000 sf) of Weeping Lovegrass. During the period of October 16 through February 28, protect site by: Option 1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2) use sod. Option 3) seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sf) of rotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.

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

**TEMPORARY SEEDING NOTES**

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

Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding. (If not previously loosened)

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

Seeding: For periods March 1 through April 30 and from August 15 through November 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sf). For the period May 1 through August 14, seed with 3 lbs per acre of Weeping Lovegrass (0.07 lbs/1000 sf). For the period November 16 through February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sf) of rotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.

Refer to the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control for rate and methods not covered.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Howard S. ...*  
CHIEF, BUREAU OF HIGHWAYS  
DATE: 12/1/97

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

*John P. ...*  
HOWARD SOIL CONSERVATION DISTRICT  
DATE: 12/1/97

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*Candy Hamilton*  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 2/14/98

APPROVED: REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

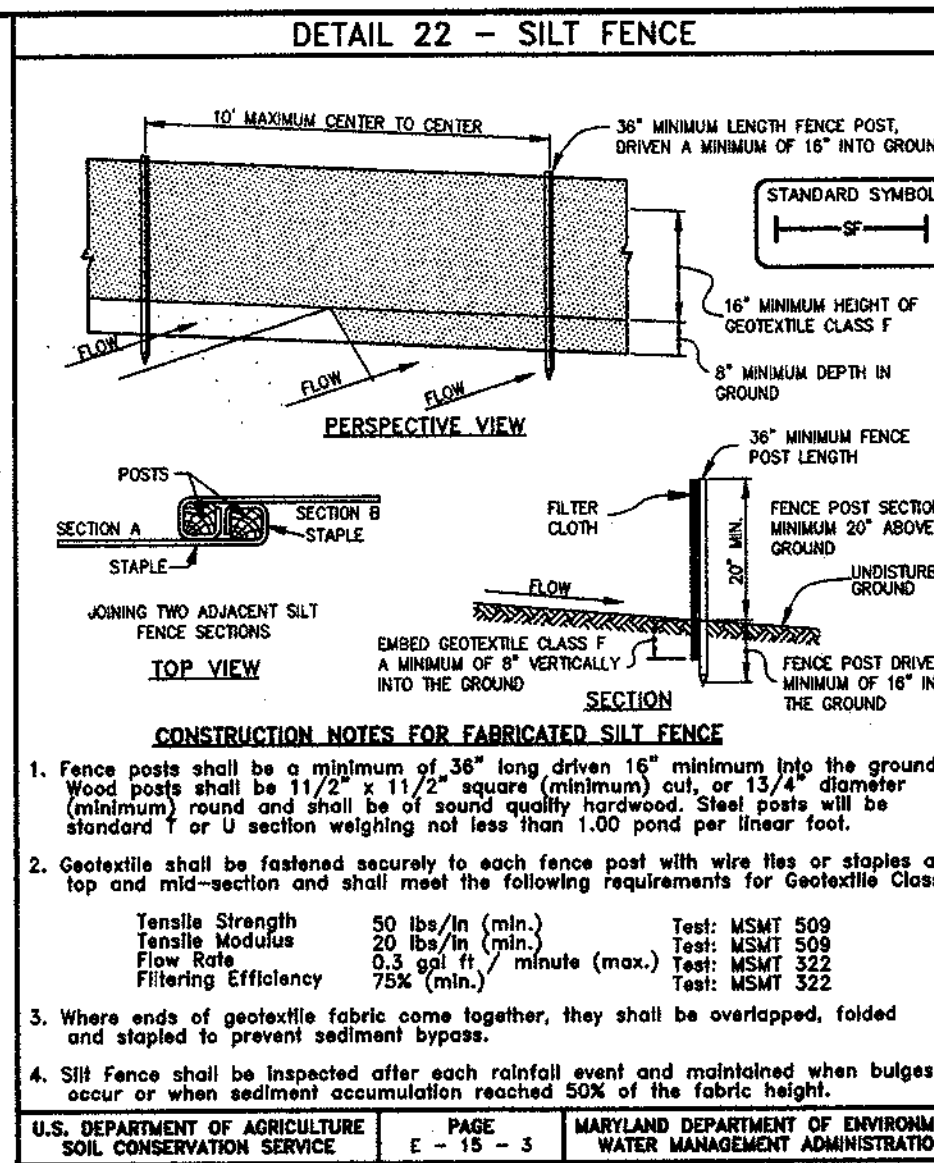
*Cheryl Simmons*  
NATURAL RESOURCES CONSERVATION SERVICE  
DATE: 12/15/97

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*Cheryl Simmons*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 1/20/98

APPROVED: REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

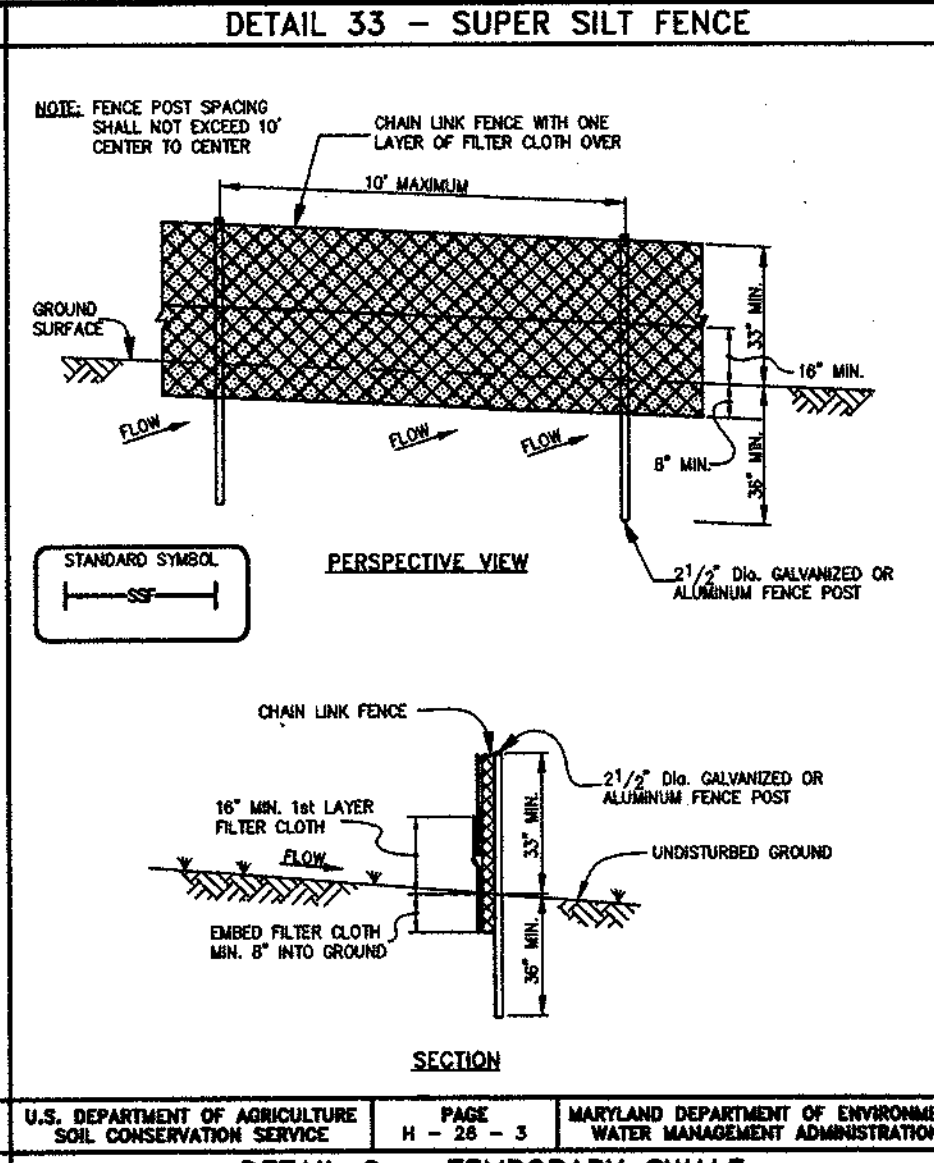
*Cheryl Simmons*  
NATURAL RESOURCES CONSERVATION SERVICE  
DATE: 12/15/97



**SILT FENCE DESIGN CRITERIA**

Slope Steepness	(Maximum) Silt Fence Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.



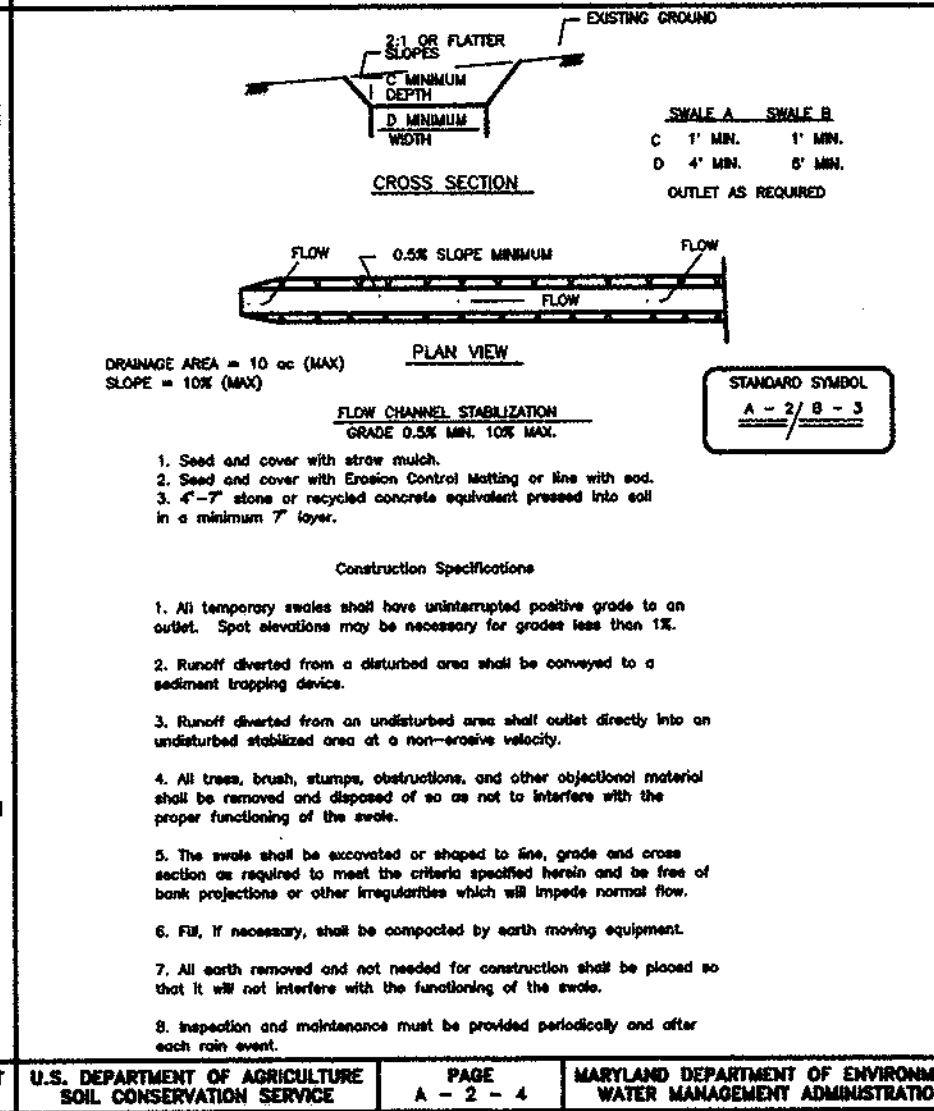
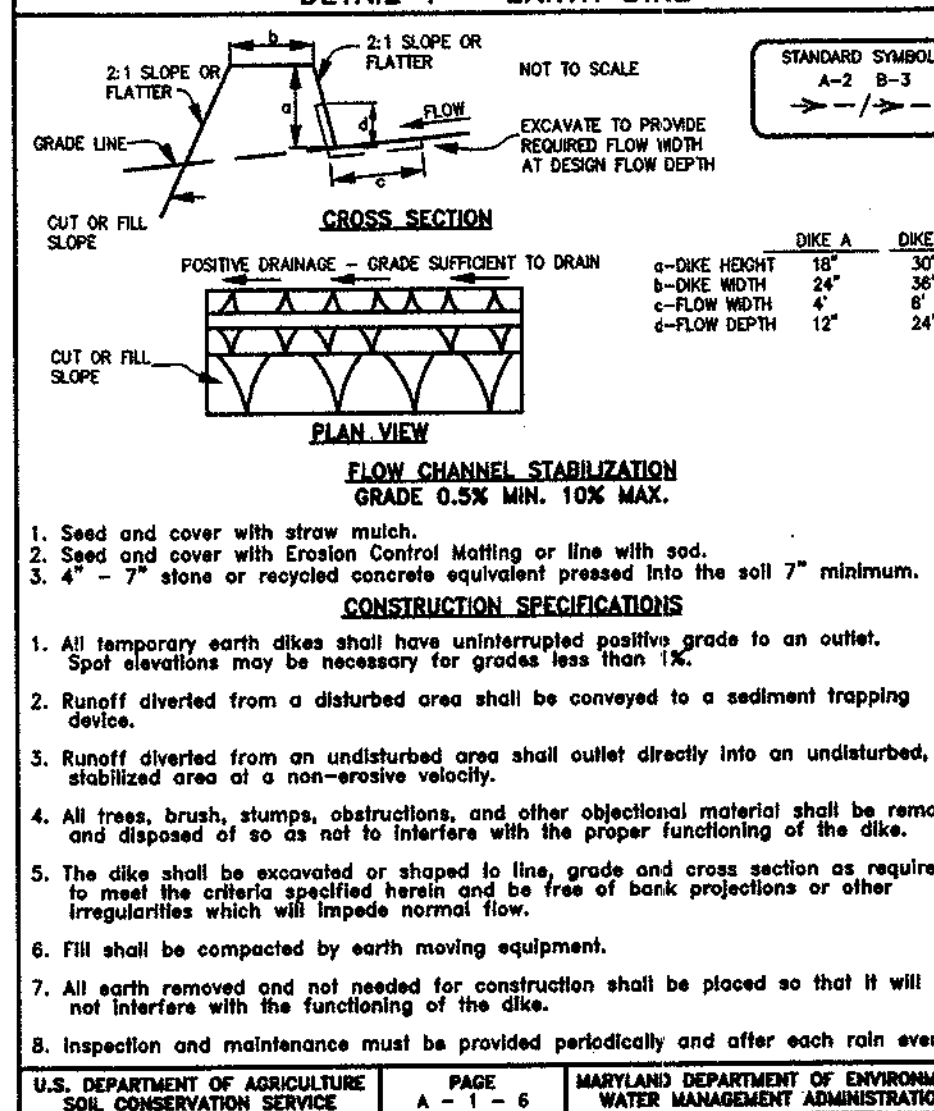
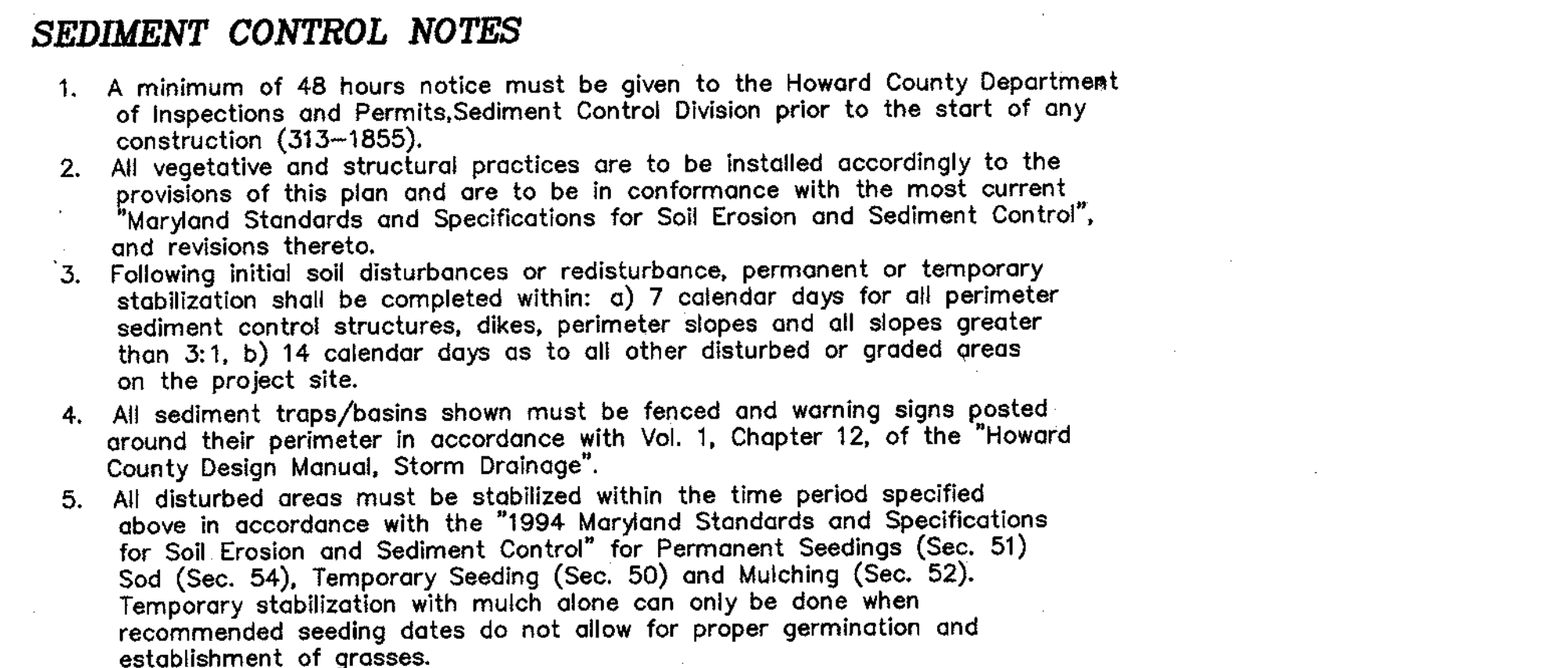
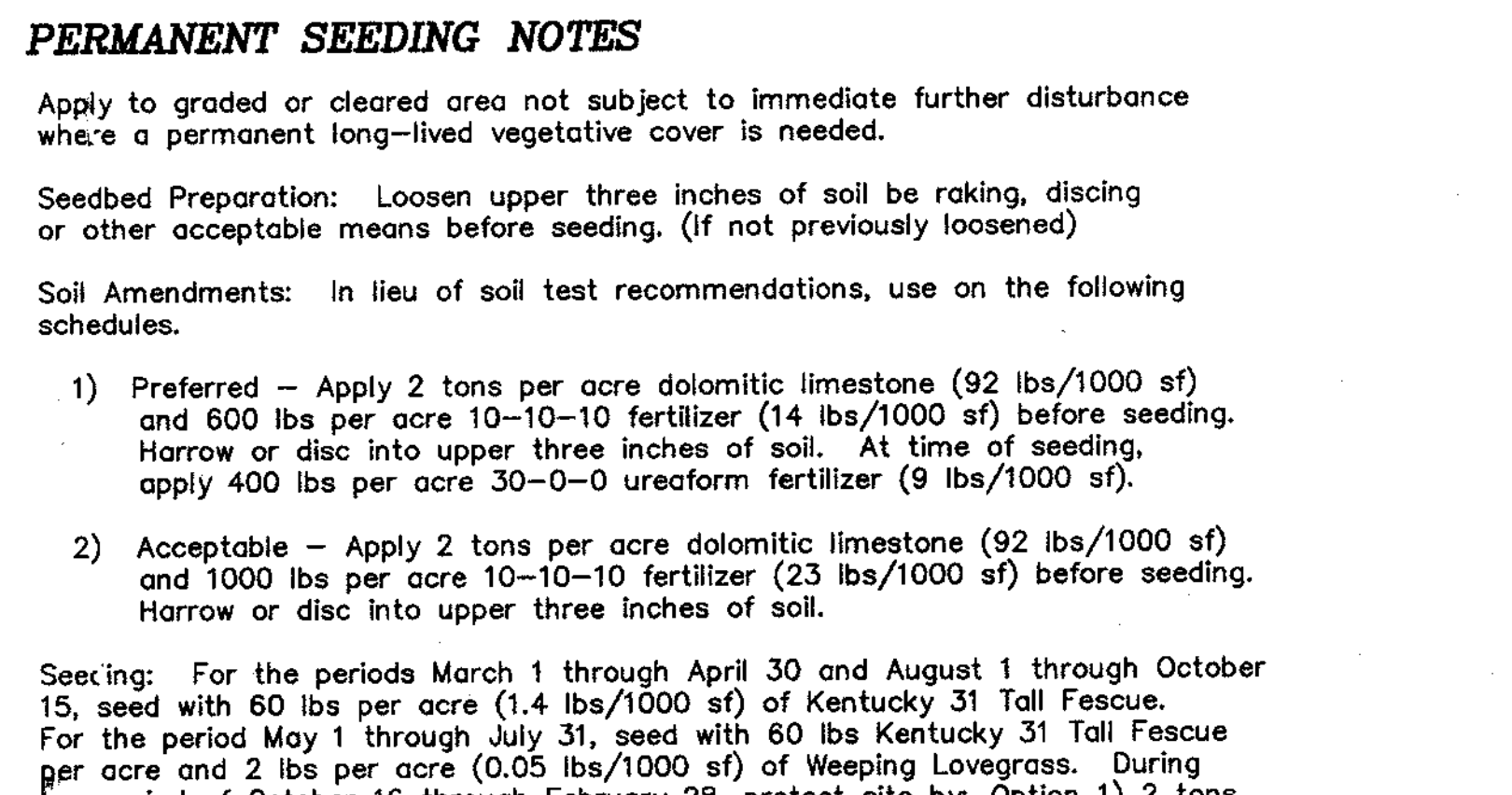
**SUPER SILT FENCE DESIGN CRITERIA**

Slope Steepness	Slope Length (Maximum)	Silt Fence Length (Maximum)
0 - 10%	0 - 10:1	Unlimited
10 - 20%	10:1 - 5:1	200 feet
20 - 30%	5:1 - 3:1	100 feet
33 - 50%	3:1 - 2:1	100 feet
50% +	2:1 +	50 feet

**CONSTRUCTION SPECIFICATIONS**

- Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6" fence shall be used, substituting 42" fabric and 6' length posts.
- Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace, or trim post shall be secured to the fence posts and not required except on the ends of the fence.
- Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" of the top and mid section.
- Filter cloth shall be embedded a minimum of 8" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and all bulges removed when "bulges" develop in the silt fence, or when soil reaches 50% of fence height.
- Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.5 gal/ft <sup>2</sup> /minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322



**SEDIMENT CONTROL NOTES**

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections and Permits, Sediment Control Division prior to the start of any construction (313-1855).
  - 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 thereto.
  - Following initial soil disturbances or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 calendar days as to all other disturbed or graded areas on the project site.
  - All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the "Howard County Design Manual, Storm Drainage".
  - All disturbed areas must be stabilized within the time period specified above in accordance with the "1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control" for Permanent Seedings (Sec. 51) Sod (Sec. 54), Temporary Seeding (Sec. 50) and Mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
  - All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
  - Site Analysis:  
Total Area of Site: 8.9± acres  
Area to be Disturbed: 6.73± acre  
Area to be roofed or paved: 0.11± acre  
Area to be vegetatively stabilized: 2.12± acre  
Total Cut: 30,631 C.Y.  
Total Fill: 29,108 C.Y.  
Offsite Waste/Borrow Area Location: \*
  - 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 DPW Sediment Control Inspector.
  - On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be 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 can be back filled and stabilized within one working day, whichever is shorter.
  - Quantities and estimates shown are for sediment control purposes only. Contractor shall prepare his/her own quantity estimates to his/her satisfaction.
- \* It is the responsibility of the contractor to identify the spoil/borrow site and notify and gain approval from the sediment control inspector of the site and it's grading permit number at the time of construction.

**ENGINEER'S CERTIFICATE**  
I hereby 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.

*Christopher J. Malagan* 12-1-97  
Date

**DEVELOPER'S CERTIFICATE**  
I/We certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this 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 also authorize periodic onsite inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary.

*Leonora K. Hoenes* 12-1-97  
Signature of Developer Date

NO.	DATE	REVISION
1	9-29-96	REV. DISTURBED AREA & SEQUENCE OF CONSTRUCTION
2	8-19-97	REVISED SEQ OF CONSTRUCTION & SITE ANALYSIS (NOTE #7)

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planning • architecture • engineering  
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LEONORA K. HOENES  
8668 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21043  
(410) 465-2321

OWNER/DEVELOPER: LEONORA K. HOENES  
8668 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21043  
(410) 465-2321

PROJECT: HOENES PROPERTY  
A RESUBDIVISION OF HOENES PROPERTY, PARCEL A-4  
S-95-01a, P-97-02, WP-95-84, F-96-91

LOCATION: TAX MAP 24 - P/O PARCEL 848  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

DATE: JULY, 1997 PROJECT NO. 1007

Design: JMC/CAM Draft: JMC SCALE: 1" = 50' DRAWING 7 OF 7

