OAKLAND MILLS ROAD IMPROVEMENTS

HOWARD COUNTY, MARYLAND

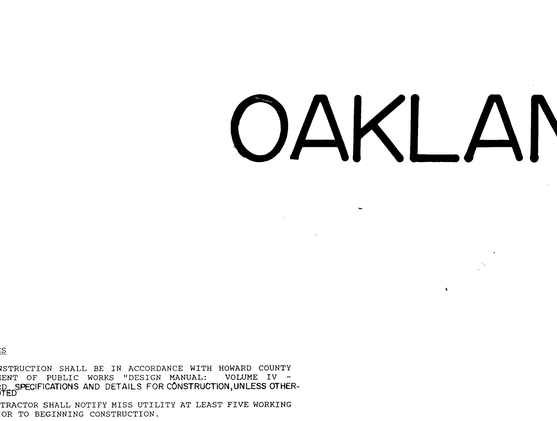
SNOWDEN RIVER PARKWAY TO OLD MONTGOMERY ROAD

CAPITAL PROJECT NO. J-4095

1989 ADT = 9,200
2010 ADT = 10,000
DESIGN SPEED = 40 MPH
LENGTH = 2.2 MILES

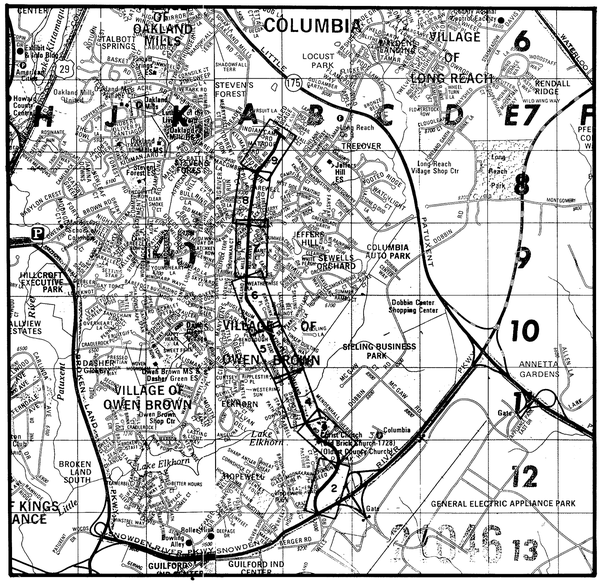
GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS "DESIGN MANUAL: VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT LEAST FIVE WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION.
3. EXISTING UTILITIES AND OBSTRUCTIONS SHOWN ARE FROM THE BEST AVAILABLE INFORMATION AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGED UTILITIES DUE TO THE CONSTRUCTION OPERATION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
4. AS PART OF THIS CONTRACT, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE ALL THE EXISTING CURB, REALIGN, AND RESURFACE AND WIDEN OAKLAND MILLS ROAD IN ACCORDANCE WITH THE PLANS, PROFILES AND CROSS SECTIONS SHOWN ON THESE DRAWINGS. AT ALL ROADWAY AND CURBED DRIVEWAY ENTRANCE INTERSECTIONS, CURB AND GUTTER WILL BE PLACED TO JOIN THE EXISTING CURB AT THE CURB RETURN. THE CONTRACTOR SHALL ESTABLISH THE EXISTING CURB RADIUS WHERE CURBS ARE TO BE REPLACED AT STREET INTERSECTIONS AND DRIVEWAYS; NEW CURB & GUTTER SHALL BE PLACED AT THE EXISTING RADIUS, UNLESS OTHERWISE SHOWN.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ADJUST ALL EXISTING VALVES, MANHOLES COVERS, ETC. LOCATED WITHIN THE PROPOSED PAVING AND SIDEWALK AREAS.
6. THE CONTRACTOR SHALL RELOCATE ALL UTILITIES AS REQUIRED FOR THE ROAD IMPROVEMENTS.
7. ALL BG&E AND C&P LINES SHOWN HEREON ARE APPROXIMATE IN LOCATION & DEPICTION OF SAME MAY BE INCOMPLETE. FIELD ADJUSTMENT OF THE SEDIMENT CONTROL MEASURES AS SHOWN MAY BE REQUIRED, BASED UPON FIELD LOCATION OF THE UTILITIES. SAID ADJUSTMENTS WILL BE PERFORMED AS DIRECTED BY THE ENGINEER.
8. THE CONTRACTOR SHALL PROVIDE HANDICAP RAMPS, PER HOWARD COUNTY STANDARDS R-4.01, AT ALL STREET INTERSECTIONS AND DRIVEWAYS WITH EXISTING AND PROPOSED SIDEWALKS RAMPS TO BE PROVIDED AT ALL CURBED DRIVEWAYS.
9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL EXISTING CURB /CURB AND GUTTER IS REMOVED AS REQUIRED AND THAT A FULL DEPTH PAVEMENT SECTION ABUTS THE GUTTER PAN ALONG THE ENTIRE ROADWAY SURFACE.



LOCATION MAP

SCALE : 1" = 21,120'
OR 1" = 4 miles



SITE LOCATION

SCALE: 1" = 2000'

DRAWING INDEX

1. COVER SHEET
2. PLAN AND PROFILE - STA.0+00 TO STA.14+00
3. PLAN AND PROFILE - STA.14+00 TO STA.29+00
4. PLAN AND PROFILE - STA. 29+00 TO STA. 44+00
5. PLAN AND PROFILE - STA. 44+00 TO STA. 59+00
6. PLAN AND PROFILE - STA. 59+00 TO STA. 74+50
7. PLAN AND PROFILE - STA. 74+50 TO STA. 90+00
8. PLAN AND PROFILE - STA. 90+00 TO STA. 105+50
9. PLAN AND PROFILE - STA. 105+50 TO STA. 117+81.72
10. TOP OF CURB PROFILE - STA. 0+00 TO STA. 29+00
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15. TYPICAL CROSS SECTIONS
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17. STORM DRAIN PROFILES
18. STORM DRAIN PROFILES
19. SEDIMENT CONTROL DETAILS & CONSTRUCTION SEQUENCES
20.- 27. LANDSCAPING PLANS

CONVENTIONAL SYMBOLS

SYMBOL	DESCRIPTION
	EXISTING CURB/CURB & GUTTER
	PROPOSED CURB AND GUTTER } NOTE: ALL CURB/CURB & GUTTER SHALL BE REPLACED. PROPOSED C&G IS NOT SHOWN AT SOME LOCATIONS FOR CLARITY.
	PROPERTY / LOT BOUNDARY }
	RIGHT-OF-WAY
	PROPOSED FULL DEPTH PAVEMENT
	UTILITY POLE
	GAS MAIN VALVE COVER
	ROADSIDE TREES (WITH DIAMETER)
	STORM DRAIN & MANHOLE (EXISTING)
	WATER MAIN VALVE COVER
SD	EXISTING STORM DRAIN THROAT INLET
	PROPOSED STORM DRAIN
	EXISTING STORM DRAIN GRATE INLET
U / B	BOXES FOR UNDERGROUND UTILITIES
	GUY WIRE
	FIRE HYDRANT
PP	TRANSFORMER BOX (POWER PLANT)
MP	METAL PLATE
	SIGNAL POLE
	LIGHT POLE
	WATER MAIN
	SEWER MAIN
	PAVEMENT & CURB TIE-IN AT CURB RETURNS
	REVERTIBLE GRADING EASEMENTS
	TRAVERSE POINT
	REMOVE EXISTING PAVEMENT & REPLACE FULL DEPTH BETWEEN PROPOSED CURBS.
B / C	BURIED C&P CABLE WITHOUT CONDUIT " " " WITH
BG&E	BALTIMORE GAS & ELECTRIC CABLE
	AREA FOR PAVEMENT RESURFACING
	PROPOSED CENTERLINE (BASE LINE OF CONSTRUCTION)
	PROPOSED SIDEWALK
	MILL EXISTING PAVEMENT (1 1/2" DEPTH)
TP	TEST PIT LOCATION
C	PAVEMENT CORING LOCATION
	INLET PROTECTION FOR SEDIMENT CONTROL (SEE SHT. 16 FOR DETAIL)

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

APPROVED _____ DATE 8/21/90
HOWARD S.C.D.

REVIEWED FOR Howard S.C.D. AND MEETS TECHNICAL REQUIREMENTS

_____ DATE 8/22/90
U.S. SOIL CONSERVATION SERVICE

CERTIFICATION BY THE ENGINEER

"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".

Michael N. Armstrong — 7/31/89
SIGNATURE — DATE

CERTIFICATION BY THE DEVELOPER

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT THE RESPONSIBLE PERSONAL INVOLVED IN THIS CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF NATIONAL RESOURCES APPROVED. TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT".

_____ 8-21-90
SIGNATURE OF DEVELOPER — DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/90
CHIEF, BUREAU OF HIGHWAYS — DATE Granville W. Weedland 8/22/90
CHIEF, BUREAU OF ENGINEERING — DATE
CHIEF, DIVISION OF ROADS BRIDGES AND STORM DRAINAGE — DATE

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS · PLANNERS · SURVEYORS
3468 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461 - 6820

STATE OF MARYLAND — MICHAEL N. ARMSTRONG — No. 21046 — REGISTERED PROFESSIONAL ENGINEER
Michael N. Armstrong

DES: KAP				
DRN: SGP				
CHK: MNA				
DATE: 8/90				
BY	NO.	REVISION	DATE	

600' SCALE MAP NO. _____ BLOCK NO. _____

COVER SHEET

OAKLAND MILLS ROAD IMPROVEMENTS
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

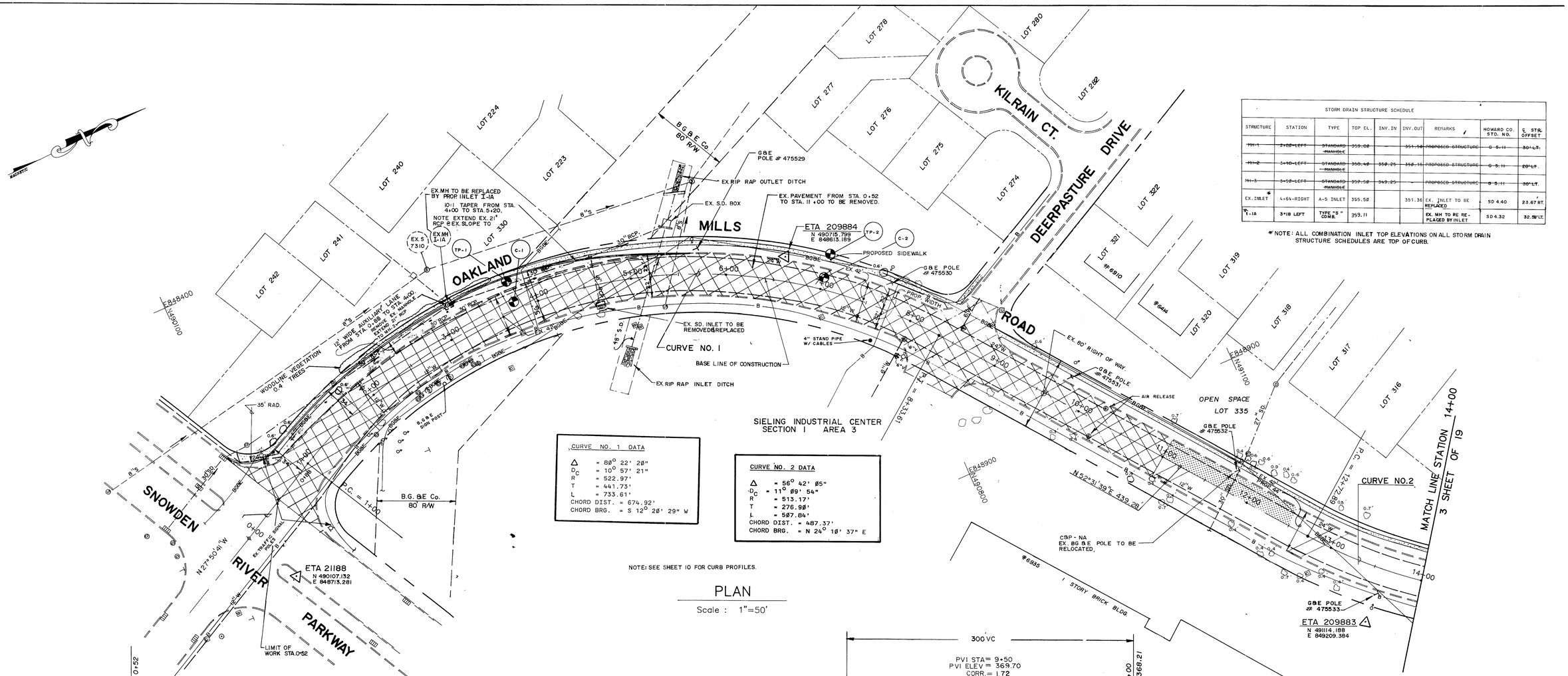
SCALE AS SHOWN

SHEET 1 OF 27

BRUNING 44-132-69150

STORM DRAIN STRUCTURE SCHEDULE								
STRUCTURE	STATION	TYPE	TOP EL.	INV. IN	INV. OUT	REMARKS	HOWARD CO. STD. NO.	℄ STR. OFFSET
~~MH-1~~	~~2+58 LEFT~~	~~STANDARD MANHOLE~~	~~359.08~~	~~—~~	~~351.58~~	~~PROPOSED STRUCTURE~~	~~G-5.11~~	~~30' LT.~~
~~MH-2~~	~~3+10 LEFT~~	~~STANDARD MANHOLE~~	~~350.49~~	~~350.25~~	~~348.15~~	~~PROPOSED STRUCTURE~~	~~G-5.11~~	~~20' LT.~~
~~MH-3~~	~~3+58 LEFT~~	~~STANDARD MANHOLE~~	~~359.58~~	~~349.25~~	~~—~~	~~PROPOSED STRUCTURE~~	~~G-5.11~~	~~30' LT.~~
EX. INLET *	4+64 RIGHT	A-5 INLET	355.58		351.36	EX. INLET TO BE REPLACED	SD 4.40	23.67' RT.
EX-1A	3+18 LEFT	TYPE "S" COMB.	359.11			EX. MH TO BE RE-PLACED BY INLET	SD 4.32	32.59' LT.

* NOTE: ALL COMBINATION INLET TOP ELEVATIONS ON ALL STORM DRAIN STRUCTURE SCHEDULES ARE TOP OF CURB.



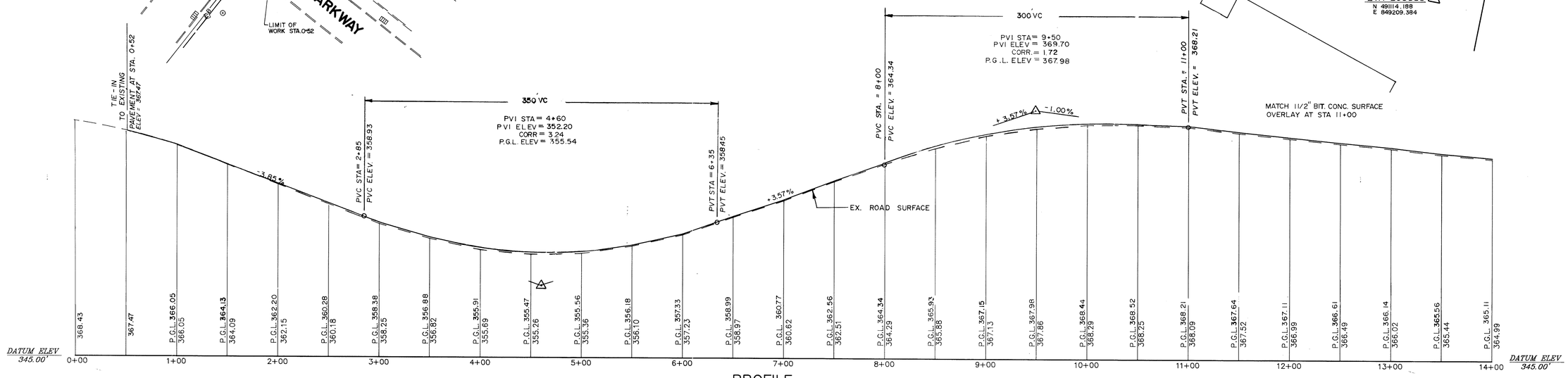
CURVE NO. 1 DATA
Δ = 80° 22' 28"
D_C = 10° 57' 21"
R = 522.97'
T = 441.73'
L = 733.61'
CHORD DIST. = 674.92'
CHORD BRG. = S 12° 28' 29" W

CURVE NO. 2 DATA
Δ = 56° 42' 05"
D_C = 11° 09' 54"
R = 513.17'
T = 276.98'
L = 507.84'
CHORD DIST. = 487.37'
CHORD BRG. = N 24° 18' 37" E

NOTE: SEE SHEET 10 FOR CURB PROFILES.

PLAN

Scale : 1"=50'



PROFILE

Scale : Horz. 1"=50'
Vert. 1"=5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/90
CHIEF, BUREAU OF HIGHWAYS — DATE* 8/22/90
CHIEF, BUREAU OF ENGINEERING — DATE 8-21-90
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE 8/21/90

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS · PLANNERS · SURVEYORS
3468 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461 - 9920

STATE OF MARYLAND — No. 10 — REGISTERED PROFESSIONAL ENGINEER
Michael N. Armstrong

DES: JVP.				
DRN: SGP.				
CHK: MNA.				
DATE: 8/90	BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

PLAN AND PROFILE - STA. 0+00 TO STA. 14+00

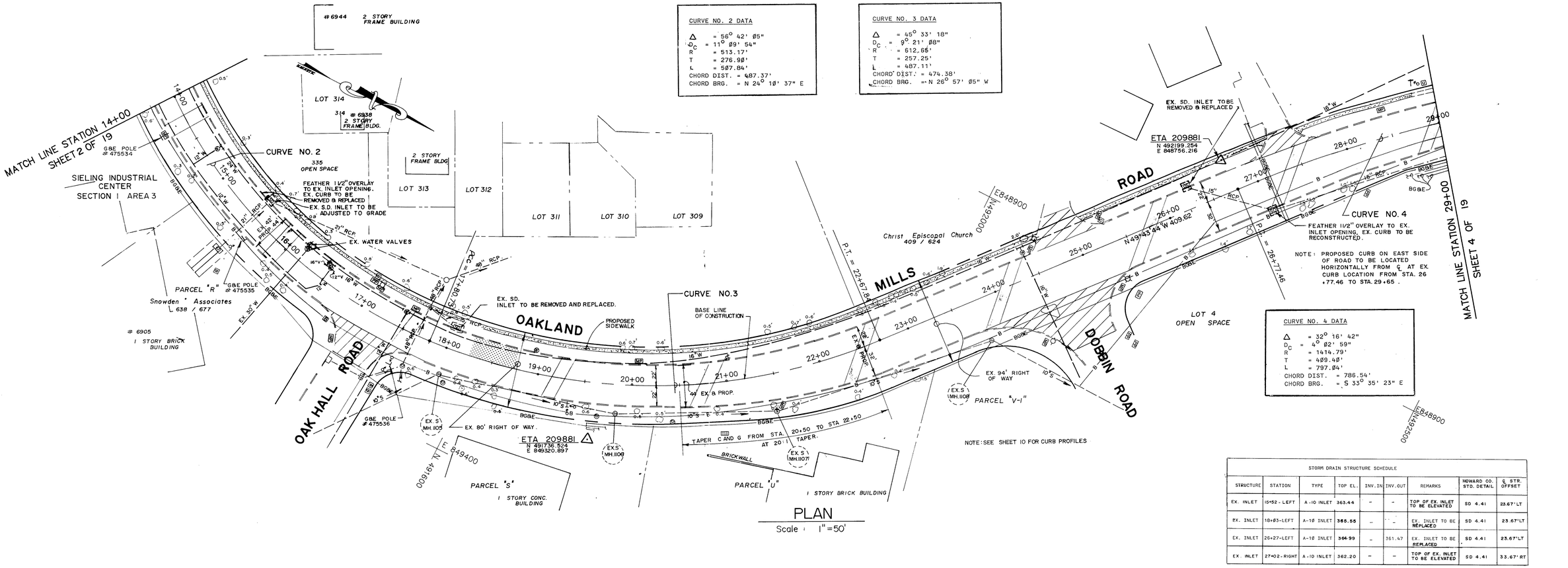
OAKLAND MILLS ROAD IMPROVEMENTS

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

SCALE AS SHOWN

SHEET 2 OF 27

BRUNING 44-132-69150



PLAN

Scale : 1"=50'

CURVE NO. 2 DATA

Δ	= 56° 42' 05"
D_C	= 11° 09' 54"
R	= 513.17'
T	= 276.98'
L	= 507.84'
CHORD DIST.	= 487.37'
CHORD BRG.	= N 24° 18' 37" E

CURVE NO. 3 DATA

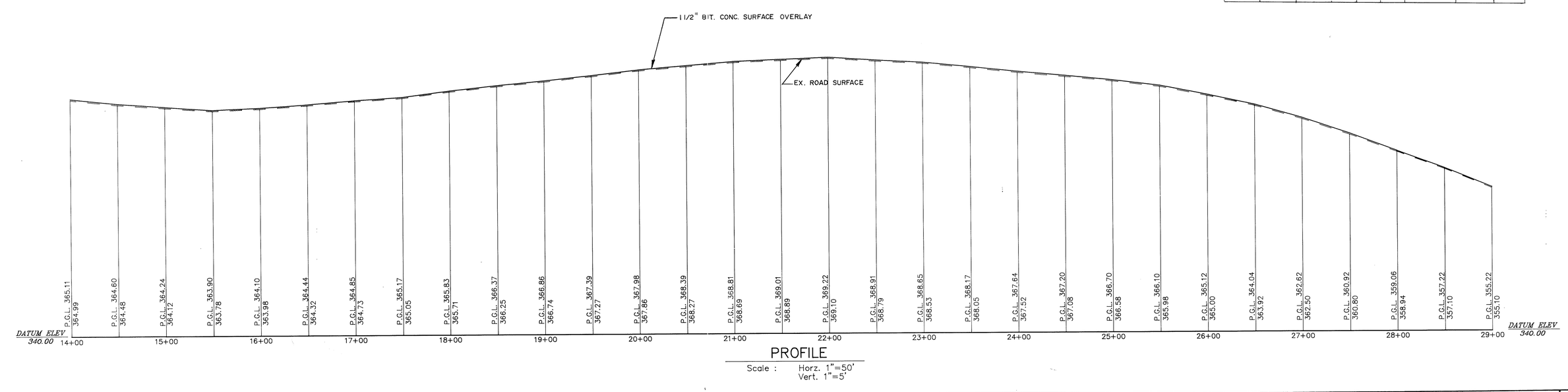
Δ	= 45° 33' 18"
D_C	= 9° 21' 08"
R	= 612.65'
T	= 257.25'
L	= 487.11'
CHORD DIST.	= 474.38'
CHORD BRG.	= N 26° 57' 05" W

CURVE NO. 4 DATA

Δ	= 32° 16' 42"
D_C	= 4° 02' 59"
R	= 1414.79'
T	= 489.48'
L	= 797.84'
CHORD DIST.	= 786.54'
CHORD BRG.	= S 33° 35' 23" E

STORM DRAIN STRUCTURE SCHEDULE

STRUCTURE	STATION	TYPE	TOP EL.	INV. IN	INV. OUT	REMARKS	HOWARD CO. STD. DETAIL	℄ STR. OFFSET
EX. INLET	15+52 - LEFT	A-10 INLET	363.44	–	–	TOP OF EX. INLET TO BE ELEVATED	SD 4.41	23.67' LT
EX. INLET	18+83-LEFT	A-10 INLET	365.55	–	–	EX. INLET TO BE REPLACED	SD 4.41	23.67' LT
EX. INLET	26+27-LEFT	A-10 INLET	364.99	–	361.47	EX. INLET TO BE REPLACED	SD 4.41	23.67' LT
EX. INLET	27+02-RIGHT	A-10 INLET	362.20	–	–	TOP OF EX. INLET TO BE ELEVATED	SD 4.41	33.67' RT



PROFILE

Scale : Horz. 1"=50'
Vert. 1"=5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/6/96

CHIEF, BUREAU OF ENGINEERING — DATE 8-21-96

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS · PLANNERS · SURVEYORS
3455 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043

DES: JVP.
DRN: S.G.D.
CHK: MNA.

PLAN AND PROFILE – STA. 14+00 TO STA. 29+00

OAKLAND MILLS ROAD IMPROVEMENTS

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

SCALE AS SHOWN

SHEET 3 OF 27

44-132-69150

CURVE NO. 4 DATA

Δ = 32° 16' 42"
D_C = 4° 02' 59"
R = 1414.79'
T = 409.40'
L = 797.84'
CHORD DIST. = 786.54'
CHORD BRG. = S 33° 35' 23" E

MATCH LINE STATION 29+00 SHEET 3 OF 19

MATCH LINE STATION 44+00 SHEET 5 OF 19

NORTH

LOT 4 LOT 3 LOT 2 LOT 1 LOT 51 LOT 50 LOT 49 LOT 48 LOT 47 LOT 46 LOT 45

DOWNDALE PLACE

DROWSY DAY

OAKLAND MILLS ROAD

HOWARD CO. 2442003
N 492868.984
E 848313.088
EL. 343.14

CONSTRUCT OVER EX. 18" RCP.

EX. 80' RIGHT OF WAY

EX. SIDEWALK

EX. GUARD RAIL

EX. SD. INLET TO BE REMOVED & REPLACED

100 YEAR FLOOD PLAIN AND DRAINAGE EASEMENT

George Dasher 482 / 504

AT&T MH #13

CAP MH #61

CURVE NO. 4

CURVE NO. 5

TREE LINE ALL 0.9'

LIMIT OF GRADING (TOP OF EX. SLOPE ALONG GUARD RAIL)

TYP. ROAD WIDENING (SEE SHEET 15 FOR CROSS SECTION)

REMOVE EX. I-2, EXTEND EX. PIPES AS REQ'D & PROVIDE MH-4

BASE LINE OF CONSTRUCTION

WOODLINE HEAVY VEGETATION SMALL 0.4' TREES

CENTERLINE OF PEDESTRIAN UNDERPASS

EX. GUARD RAIL ON PEDESTRIAN UNDERPASS HEADWALL TO BE REMOVED
PROP. GUARD RAIL BEAM TO BE ARCHORED IN WALL @ 3' 1 1/2" cc. (See Detail Sheet 11)

WOODLINE HEAVY VEGETATION 0.7' TREES

APPROXIMATE LIMIT OF WETLAND

TRIPLE 15'-4"x9'-3" CMP. ARCH CULVERTS

SEDIMENT TRAP # 1

20' WIDE EASEMENT FOR TEMPORARY PIPE DISCHARGE

LIMIT OF GRADING (TOP OF EX. SLOPE ALONG GUARD RAIL)

TYP. ROAD WIDENING (SEE SHEET 15 FOR CROSS SECTIONS)

PROVIDE TRAIL END ANCHORAGE PER HOWARD CO. STD. R-7.03

PROVIDE TYPE I END FLARE PER HOWARD CO. STD. R-7.13

INSTALL GUARD RAIL FROM STA. 31+00 TO STA. 43+00.

OPEN SPACE

LOT 513 OPEN SPACE

SIELING INDUSTRIAL CENTER
SECTION I AREA I
24 / 97

PARCEL "W-1"

PARCEL "X"

N 17° 52' W 344.09

N 493000 E 848000

N 493500 E 848500

N 492500 E 848000

PLAN
Scale : 1"=50'

NOTE: SEE SHEET 11 FOR CURB PROFILES.

SEDIMENT TRAP #1

TYPE	PIPE OUTLET TRAP
DRAINAGE AREA	0.98 AC
VOLUME REQUIRED	1764 C.F.
VOLUME PROVIDED	1800 C.F.
BOTTOM SIZE	92' X 6'
DEPTH	2'
BOTTOM ELEV.	315.0'
PIPE INVERT	315.5'

CURVE NO. 5 DATA

Δ = 12° 14' 00"
D_C = 1° 00' 00"
R = 5729.58'
T = 614.00'
L = 1223.33'
CHORD DIST. = 1221.01'
CHORD BRG. = N 29° 34' 02" W

STORM DRAIN STRUCTURE SCHEDULE

STRUCTURE	STATION	TYPE	TOP EL.	INV.IN	INV.OUT	REMARKS	HOWARD CO. STD. DETAIL	& STR. OFFSET
I-1	30+52-RIGHT	DOUBLE TYPE "S" COMB. INLET	350.79	346.16	346.10	EX. A-10 INLET TO BE REPLACED WITH DOUBLE TYPE "S" COMB. INLET	SD 4.34	20.92'RT
I-2	34+03-RIGHT	A-10 INLET	344.82	339.71	339.49	PROPOSED STRUCTURE TO BE CONSTRUCTED OVER EX 18" RCP	SD 4.41	23.67'RT.
MH-4	34+03-RIGHT	STANDARD MANHOLE	344.42	339.71	339.49	EX. INLET TO BE RE-PLACED WITH STANDARD MANHOLE	G 5.11	16' RT.
I-3	37+62-RIGHT	A-10 INLET	326.84	–	322.00	PROPOSED STRUCTURE	SD 4.41	23.67'RT
MH-5	37+62-RIGHT	STANDARD MANHOLE	326.38	321.58	321.39	EX. INLET TO BE REPLACED WITH STANDARD MH.	G 5.11	16' RT.
EX.INLET	39+02-LEFT	A-10 INLET	320.15	–	315.58	EX. INLET TO BE REPLACED	SD 4.41	23.67'LT.
EX.INLET	48+88-LEFT	A-10 INLET	316.90	–	–	EX. INLET TO BE REPLACED	SD 4.41	23.67'LT.
EX.INLET	42+67-LEFT	A-5 INLET	319.68	–	–	EX. INLET TO BE REPLACED	SD 4.40	23.67'LT
EX.INLET	42+92-LEFT	A-10 INLET	322.41	–	–	EX. INLET TO BE REPLACED	SD 4.41	23.67'LT

11/2" BIT. CONCRETE SURFACE OVERLAY

EX. ROAD SURFACE

STA.	P.G.L.	
29+00	355.22	355.10
	353.41	353.29
30+00	351.99	351.87
	351.00	350.88
31+00	350.45	350.33
	349.96	349.84
32+00	349.46	349.34
	348.81	348.69
33+00	347.81	347.69
	346.56	346.44
34+00	344.95	344.83
	343.00	342.88
35+00	340.89	340.77
	338.42	338.30
36+00	335.65	335.53
	332.73	332.61
37+00	329.82	329.70
	327.18	327.06
38+00	324.63	324.51
	322.26	322.14
39+00	320.22	320.10
	318.55	318.43
40+00	317.68	317.56
	317.04	316.92
41+00	317.04	316.92
	317.32	317.20
42+00	318.14	318.02
	319.28	319.16
43+00	320.74	320.62
	322.23	322.11
44+00	323.75	323.63

DATUM ELEV 310.00

DATUM ELEV 310.00

PROFILE
Scale : Horz. 1"=50'
Vert. 1"=5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/90

CHIEF, BUREAU OF ENGINEERING — DATE

CHIEF, BUREAU OF HIGHWAYS — DATE 8/22/90

CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE 8/21/90

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS · PLANNERS · SURVEYORS
3458 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461 - 9620

STATE OF MARYLAND — No. 6149 — REGISTERED PROFESSIONAL ENGINEER
Michael N. Armstrong

DES: JVP.
DRN: SGP.
CHK: MNA.
DATE: 8/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

PLAN AND PROFILE - STA. 29+00 TO STA. 44+00

OAKLAND MILLS ROAD IMPROVEMENTS

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

SCALE AS SHOWN

SHEET 4 OF 27

BRUNING 44-132 69150

STORM DRAIN STRUCTURE SCHEDULE								
STRUCTURE	STATION	TYPE	TOP EL.	INV.IN	INV.OUT	REMARKS	HOWARD CO. STD. DETAIL	& STR. OFFSET
I-4	51+22-RIGHT	S Comb INLET	347.88	–	343.88	PROPOSED STRUCTURE	SD. 4.40	23.67' RT.
I-5	52+58-RIGHT	A-10 INLET	354.62	–	349.82	PROPOSED STRUCTURE	SD. 4.41	23.67' RT.
MH-6	51+22-RIGHT	STANDARD MANHOLE	347.29	343.68	343.47	EX. INLET TO BE RE-PLACED WITH STANDARD MANHOLE	G 5.11	16' RT.
EX. INLET	52+58-LEFT	A-10 INLET	354.00	—	348.76	EX. INLET TO BE REPLACED	SD. 4.41	23.67' LT.

SEDIMENT TRAP #3

TYPE	STORM INLET TRAP
DRAINAGE AREA	Ø.57 AC.
VOLUME REQUIRED	1Ø26 C.F.
VOLUME PROVIDED	1Ø4Ø C.F.
BOTTOM SIZE	65' X 4'
DEPTH	2'
BOTTOM ELEV.	352.Ø'

SEDIMENT TRAP #2

TYPE	STONE OUTLET TRAP
DRAINAGE AREA	Ø.43 AC
VOLUME REQUIRED	774 C.F.
VOLUME PROVIDED	8ØØ C.F.
BOTTOM SIZE	4Ø' X 6'
DEPTH	2'
BOTTOM ELEV.	326.5'
4' STONE WINDOW CREST ELEV.	327.5'

CURVE NO. 5 DATA

Δ = 12° 14' ØØ"
D_C = 1° ØØ' ØØ"
R = 5729.58'
T = 614.ØØ'
L = 1223.33'
CHORD DIST. = 1221.Ø1'
CHORD BRG. = N 23° 34' Ø2" W

CURVE NO. 6 DATA

Δ = 2° 34' ØØ"
D_C = 1° ØØ' ØØ"
R = 5729.58'
T = 128.36'
L = 256.68'
CHORD DIST. = 256.86'
CHORD BRG. = N 3Ø° 58' Ø2" W

PLAN
Scale : 1"=50'

PROFILE
Scale : Horz. 1"=50'
Vert. 1"=5'

Note: Widened Oakland Mills Road to allow for turning Lane each side of Malindy Circle Relocated Inlets I-4 & I-5 appropriately. The road was widened 5' feet at intersection and transition over a distance of 150 feet

As Built 2/19/92 CP

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DIRECTOR OF PUBLIC WORKS — DATE 8/22/90
CHIEF, BUREAU OF ENGINEERING — DATE 8-21-90
CHIEF, BUREAU OF HIGHWAYS — DATE 8/22/90
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE 8/21/90

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS · PLANNERS · SURVEYORS
3458 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461 - 9920

Michael N. Armstrong

DES: JVP.
DRN: SGP.
CHK: MWA.
DATE: 8/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

PLAN AND PROFILE — STA. 44+00 TO STA. 59+00

OAKLAND MILLS ROAD IMPROVEMENTS

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

SCALE AS SHOWN

SHEET 5 OF 27

BRUNING 44 132 69150

STORM DRAIN STRUCTURE SCHEDULE

STRUCTURE	STATION	TYPE	TOP EL.	INV. IN	INV. OUT	REMARKS	HOWARD CO. STD. DETAIL	C STR. OFFSET
EX. INLET	60+37-LEFT	A-5 INLET	363.34	352.14	351.21	EX. INLET TO BE RE-PLACED	SD 4.01	24' LT.
I-6	60+37-RIGHT	A-5 INLET	363.46	"	354.14	PROPOSED STRUCTURE	SD.4.01	24' RT.
MH-9	62+01-RIGHT	STANDARD MANHOLE	364.21	353.88	353.91	EX. INLET TO BE RE-PLACED WITH STANDARD MANHOLE	G 5.11	16' RT.
I-7	62+01-RIGHT	A-1Ø INLET	364.60	"	353.58	PROPOSED STRUCTURE	SD 4.41	23.67'RT
I-8	70+11-RIGHT	A-1Ø INLET	372.18	362.88	361.75	PROPOSED STRUCTURE	SD 4.02	24' RT

Deleted

CURVE NO. 6 DATA

△ = 2° 34' ØØ"
D_C = 1° ØØ' ØØ"
R = 5729.58'
T = 128.36'
L = 256.68'
CHORD DIST. = 256.66'
CHORD BRG. = N 30° 58' Ø2" W

CURVE NO. 7 DATA

△ = 34° 25' ØØ"
D_C = 5° 38' 54"
R = 1Ø14.39'
T = 314.17'
L = 6Ø9.33'
CHORD DIST. = 6ØØ.21'
CHORD BRG. = S 15° Ø2' 32" E

SEDIMENT TRAP #6

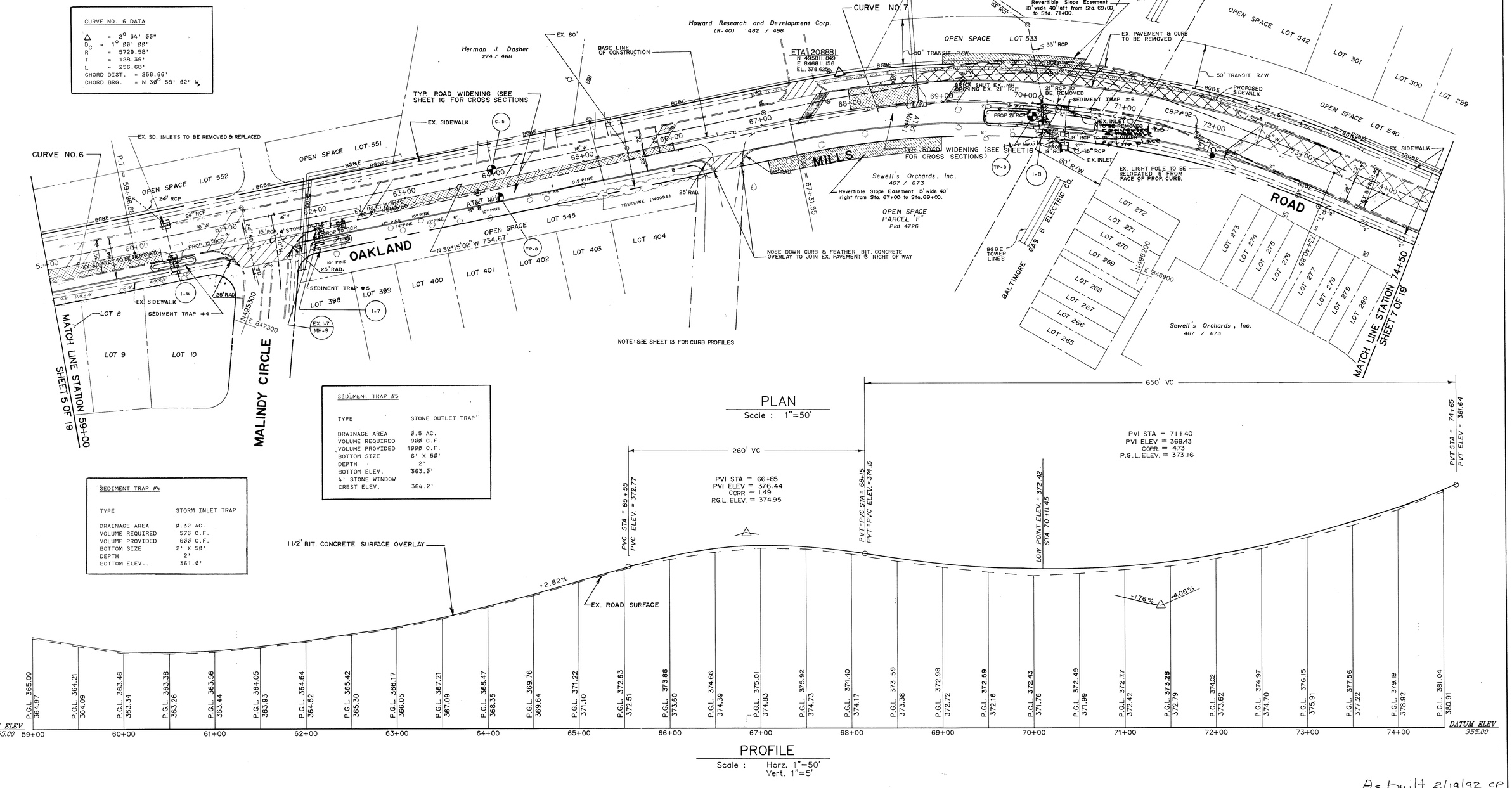
TYPE	STORM INLET TRAP
DRAINAGE AREA	2.2 AC.
VOLUME REQUIRED	396Ø C.F.
VOLUME PROVIDED	42ØØ C.F.
BOTTOM SIZE	12Ø'X15'
DEPTH	2'
BOTTOM ELEV.	37Ø'

SEDIMENT TRAP #5

TYPE	STONE OUTLET TRAP
DRAINAGE AREA	Ø.5 AC.
VOLUME REQUIRED	9ØØ C.F.
VOLUME PROVIDED	1ØØØ C.F.
BOTTOM SIZE	6' X 5Ø'
DEPTH	2'
BOTTOM ELEV.	363.Ø'
4' STONE WINDOW CREST ELEV.	364.2'

SEDIMENT TRAP #4

TYPE	STORM INLET TRAP
DRAINAGE AREA	Ø.32 AC.
VOLUME REQUIRED	576 C.F.
VOLUME PROVIDED	6ØØ C.F.
BOTTOM SIZE	2' X 5Ø'
DEPTH	2'
BOTTOM ELEV.	361.Ø'



NOTE: SEE SHEET 13 FOR CURB PROFILES

PLAN
Scale : 1"=50'

PROFILE
Scale : Horz. 1"=50'
Vert. 1"=5'

As built 2/19/92 CP

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/90
CHIEF, BUREAU OF ENGINEERING — DATE 8-21-90
CHIEF, BUREAU OF HIGHWAYS — DATE 8/24/90
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE 8/24/90

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS · PLANNERS · SURVEYORS
3458 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461 - 9920

Michael N. Armstrong

DES: JVP
DRN: SGP.
CHK: MNA
DATE: 8/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

PLAN AND PROFILE - STA. 59+00 TO STA. 74+50

OAKLAND MILLS ROAD IMPROVEMENTS

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

SCALE AS SHOWN

SHEET 6 OF 27

BRUNING 44 132 69150

STORM DRAIN STRUCTURE SCHEDULE								
STRUCTURE	STATION	TYPE	TOP EL.	INV.IN	INV.OUT	REMARKS	HOWARD CO. STD. DETAIL	C. STR. OFFSET
MH-10	83+82-LEFT	~~Yard Inlet~~ STANDARD MANHOLE	481.48	396.98	396.74	EX. INLET TO BE RE-PLACED WITH STANDARD MANHOLE	G 5.11	29' LT.
I-9	84+15-LEFT	A-10 INLET	481.23	–	397.23	PROPOSED STRUCTURE	SD 4.41	23.67' LT
I-10	84+15-RIGHT	A-5 INLET	481.23	–	396.58	PROPOSED STRUCTURE	SD 4.4c	23.67' RT.
MH-11	83+82-RIGHT	STANDARD MANHOLE	400.90	335.88	394.73	EX. INLET TO BE RE-PLACED WITH STANDARD MANHOLE	G 5.11	10' RT.

SEDIMENT TRAP #8

TYPE	STORM INLET TRAP
DRAINAGE AREA	1.00 AC
VOLUME REQUIRED	1800 C.F.
VOLUME PROVIDED	1800 C.F.
BOTTOM SIZE	10' × 5'
DEPTH	2'
BOTTOM ELEVATION	398.0'

CURVE NO. 8 DATA

Δ = 1° 46' 05"
D_C = 1° 25' 38"
R = 4015.98'
T = 61.97'
L = 123.92'
CHORD DIST. = 123.92'
CHORD BRG. = N 01° 16' 56" E

CURVE NO. 9 DATA

Δ = 2° 34' 23"
D_C = 1° 09' 24"
R = 4954.05'
T = 111.26'
L = 222.48'
CHORD DIST. = 222.46'
CHOR BRG. = S 01° 41' 05" W

CURVE NO. 10 DATA

Δ = 2° 25' 43"
D_C = 0° 45' 18"
R = 7598.29'
T = 160.89'
L = 321.73'
CHORD DIST. = 321.71'
CHORD BRG. = S 04° 11' 08" W

VILLAGE OF OWEN BROWN
SECTION 4 AREA I

BLUE DART PLACE

FAIRMEAD LANE

OAKLAND MILLS ROAD

LORING DR.

CONC MON

ETA 208882
N 496991.979
E 846704.008
EL. 403.095

N497000 E846625

N497800 E846650

N496700 E846900

N02°03'58"E 1090.08

N00°23'53"E 38.61'

N02°58'16"E 119.85

P.C. = 84+30.96

P.T. = 84+54.88

P.C. = 85+93.49

P.T. = 88+15.67

P.C. = 89+35.82

CURVE NO. 10

CURVE NO. 8

CURVE NO. 9

SEDIMENT TRAP #8

SEDIMENT TRAP #7

EX. PAVEMENT & CURB TO BE REMOVED

EX. SIDEWALK

OPEN SPACE

PARCEL "B" OPEN SPACE

LOT 540 OPEN SPACE

LOT 541 OPEN SPACE

LOT 298 OPEN SPACE Community Owned

LOT 297 OPEN SPACE Community Owned

LOT 207 OPEN SPACE

Sewell's Orchards, Inc. 467 / 673

EX. 80' RIGHT OF WAY

BASE LINE OF CONSTRUCTION

LOT 71 LOT 72 LOT 73 LOT 74 LOT 75 LOT 76 LOT 77 LOT 78 LOT 79 LOT 80 LOT 81 LOT 82 LOT 83 LOT 84 LOT 85 LOT 86 LOT 87 LOT 88 LOT 89 LOT 90

LOT 288 LOT 287 LOT 296 LOT 309 LOT 310 LOT 311 LOT 312 LOT 313 LOT 314 LOT 315

LOT 281 LOT 282 LOT 283 LOT 284 LOT 285 LOT 286 LOT 287 LOT 288

LOT 187 LOT 188 LOT 189 LOT 190 LOT 191 LOT 192 LOT 193 LOT 194 LOT 195 LOT 196 LOT 197 LOT 198

LOT 123 LOT 124 LOT 125 LOT 126 LOT 127 LOT 128 LOT 129 LOT 130 LOT 131 LOT 132 LOT 133

LOT 138 LOT 139 LOT 140 LOT 141 LOT 142 LOT 143 LOT 144 LOT 145

MATCH LINE STATION 74+50 SHEET 6 OF 19

MATCH LINE STATION 90+00 SHEET 8 OF 19

NOTE SEE SHEET 13 FOR CURB PROFILES.

PLAN

Scale : 1"=50'

PROFILE

Scale : Horz. 1"=50'
Vert. 1"=5'

380' VC
PVI STA. = 84 + 10
PVI ELEV. = 400.10
CORR. = 0.98
P.G.L. ELEV = 401.08
PVC STA. 82+20
PVC ELEV 402.18
LOW PT. ELEV. 401.07
STA. 84 + 14.63
PVT STA. = 86+00
PVT ELEV. = 402.00

160' VC
PVI STA = 88 + 20
PVI ELEV = 404.20
CORR. = 0.39
P.G.L. ELEV = 404.59
PVC STA. = 87+40
PVC ELEV = 403.40

100' VC
PVI STA = 89+70
PVI ELEV = 408.60
CORR. = 0.25
P.G.L. ELEV = 408.35
PVT STA. = 89 + 00
PVT ELEV. = 406.55
PVC ELEV. = 406.55
PVC STA. = 89 + 20
PVC ELEV. = 407.13
PVT STA. = 90+20
PVT ELEV = 409.10

1 1/2" BIT. CONC SURFACE OVERLAY

EX. ROAD SURFACE

-1.05%

+1.00%

+2.95%

	74+50	75+00	76+00	77+00	78+00	79+00	80+00	81+00	82+00	83+00	84+00	85+00	86+00	87+00	88+00	89+00	90+00
P.G.L.	381.04	383.25	385.39	387.77	389.95	392.12	394.14	396.52	398.71	400.53	401.94	402.77	403.18	403.16	402.83	402.31	401.80	401.43	401.19	401.08	401.11	401.27	401.57	402.00	402.50	403.00	403.51	404.22	405.23	406.55	407.93	408.86
	380.91	383.13	385.27	387.65	389.83	392.00	394.02	396.40	398.59	400.41	401.82	402.65	403.06	403.04	402.71	402.07	401.54	400.95	400.60	400.60	400.64	400.91	401.18	401.56	402.05	402.42	402.80	403.54	404.54	405.92	407.38	408.07

DATUM ELEV 375.00

DATUM ELEV 380.00

SEDIMENT TRAP #7

TYPE	STORM INLET TRAP
DRAINAGE AREA	1.19 AC
VOLUME REQUIRED	2152 C.F.
VOLUME PROVIDED	2248 C.F.
BOTTOM SIZE	70' X 12'
DEPTH	2'
BOTTOM ELEV.	398.5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/90

CHIEF, BUREAU OF ENGINEERING — DATE 8-22-90

CHIEF, BUREAU OF HIGHWAYS — DATE

CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE 8/21/90

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS · PLANNERS · SURVEYORS
3458 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461 - 9920

STATE OF MARYLAND — MICHAEL N. ARMSTRONG — No. 10,844 — REGISTERED PROFESSIONAL ENGINEER

Michael N. Armstrong

DES: JVP.
DRN: SGP.
CHK: MNA.
DATE: 8/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

PLAN AND PROFILE — STA. 74+50 TO STA 90+00

OAKLAND MILLS ROAD IMPROVEMENTS

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

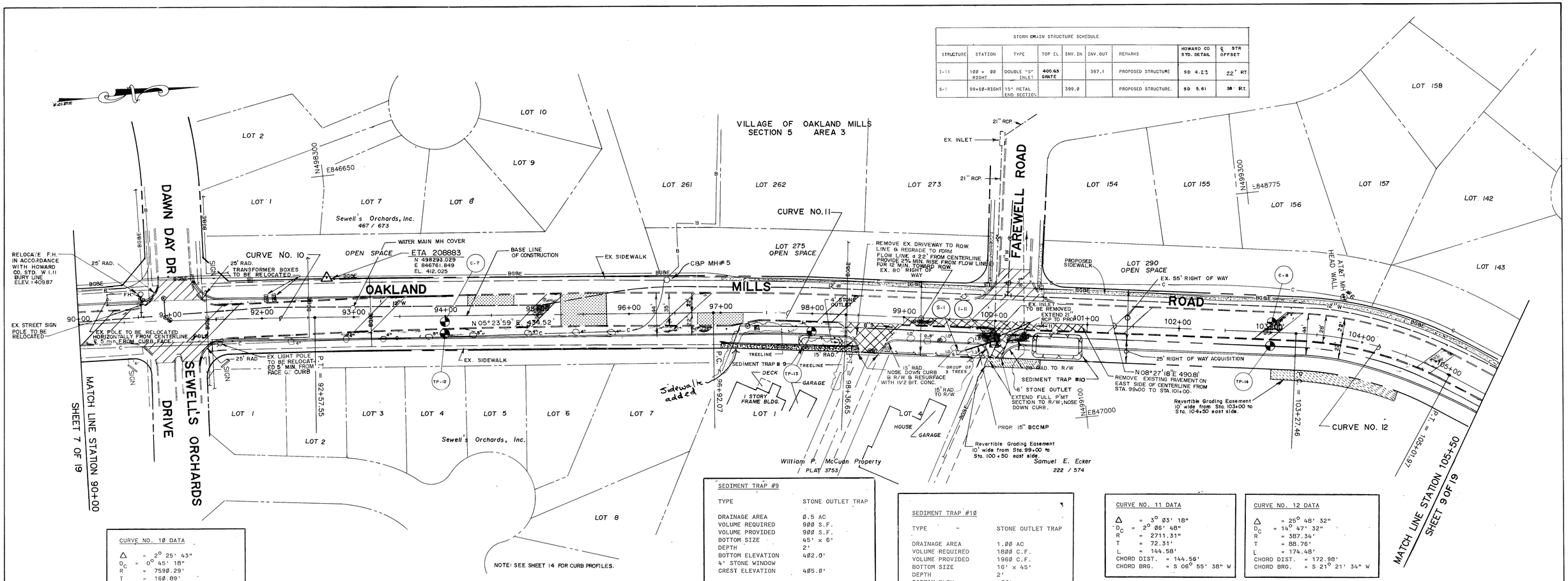
As built 2/19/92 CP

SCALE AS SHOWN

SHEET 7 OF 27

BRUNING 44-132-69150

STORM DRAIN STRUCTURE SCHEDULE								
STRUCTURE	STATION	TYPE	TOP EL.	INV.IN	INV.OUT	REMARKS	HOWARD CO STD. DETAIL	℄ STR OFFSET
I-11	100 + 00 RIGHT	DOUBLE "S" INLET	400.63 GRATE		397.1	PROPOSED STRUCTURE	SD 4.23	22' RT
S-1	99+68-RIGHT	15" METAL END SECTION		399.0		PROPOSED STRUCTURE.	SD 5.61	38' RT.



SEDIMENT TRAP #9	
TYPE	STONE OUTLET TRAP
DRAINAGE AREA	Ø.5 AC
VOLUME REQUIRED	9ØØ S.F.
VOLUME PROVIDED	9ØØ S.F.
BOTTOM SIZE	45' × 6'
DEPTH	2'
BOTTOM ELEVATION	402.0'
4' STONE WINDOW CREST ELEVATION	405.Ø'

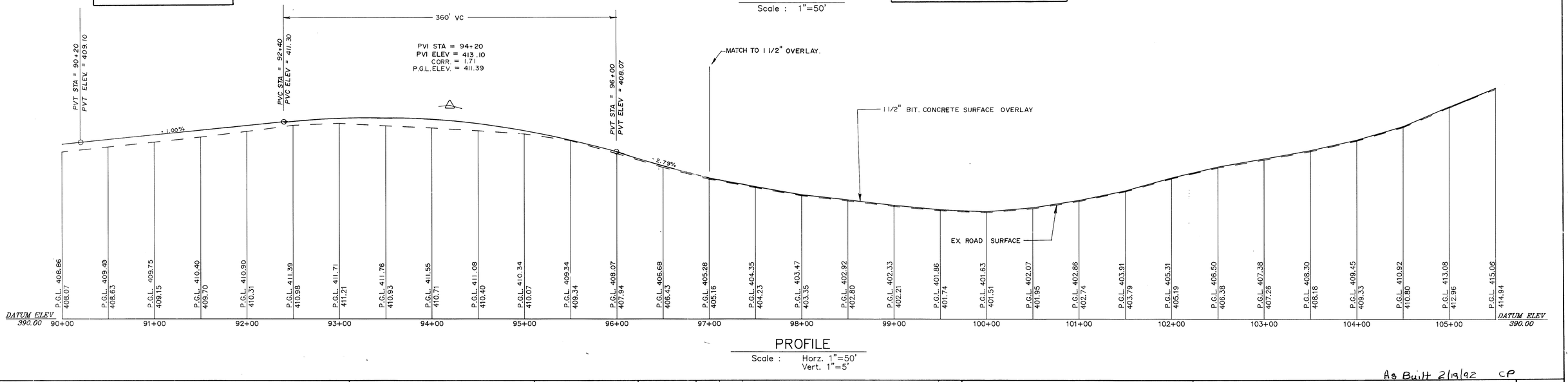
SEDIMENT TRAP #10	
TYPE	STONE OUTLET TRAP
DRAINAGE AREA	1.ØØ AC
VOLUME REQUIRED	18ØØ C.F.
VOLUME PROVIDED	196Ø C.F.
BOTTOM SIZE	16' × 45'
DEPTH	2'
BOTTOM ELEV.	4ØØ'
6' STONE WINDOW CREST ELEV.	4Ø1.5'

CURVE NO. 10 DATA	
Δ	= 2° 25' 43"
D_C	= 0° 45' 18"
R	= 7590.29'
T	= 160.89'
L	= 321.73'
CHORD DIST.	= 321.71'
CHORD BRG.	= S Ø4° 11' ØØ" W

CURVE NO. 11 DATA	
Δ	= 3° Ø3' 18"
D_C	= 2° Ø6' 48"
R	= 2711.31'
T	= 72.31'
L	= 144.58'
CHORD DIST.	= 144.56'
CHORD BRG.	= S 06° 55' 38" W

CURVE NO. 12 DATA	
Δ	= 25° 48' 32"
D_C	= 14° 47' 32"
R	= 387.34'
T	= 88.76'
L	= 174.48'
CHORD DIST.	= 172.98'
CHORD BRG.	= S 21° 21' 34" W

PLAN
Scale : 1"=50'



PROFILE
Scale : Horz. 1"=50'
Vert. 1"=5'

As Built 2/19/92 CP

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/90
CHIEF, BUREAU OF ENGINEERING — DATE 8-21-90
CHIEF, BUREAU OF HIGHWAYS — DATE 8/22/90
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE 8/21/90

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
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3458 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461 - 9920

Michael N. Armstrong

DES: JVP.
DRN: SGP.
CHK: MNA,
DATE: 8/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

PLAN AND PROFILE — STA. 90+00 TO STA. 105+50

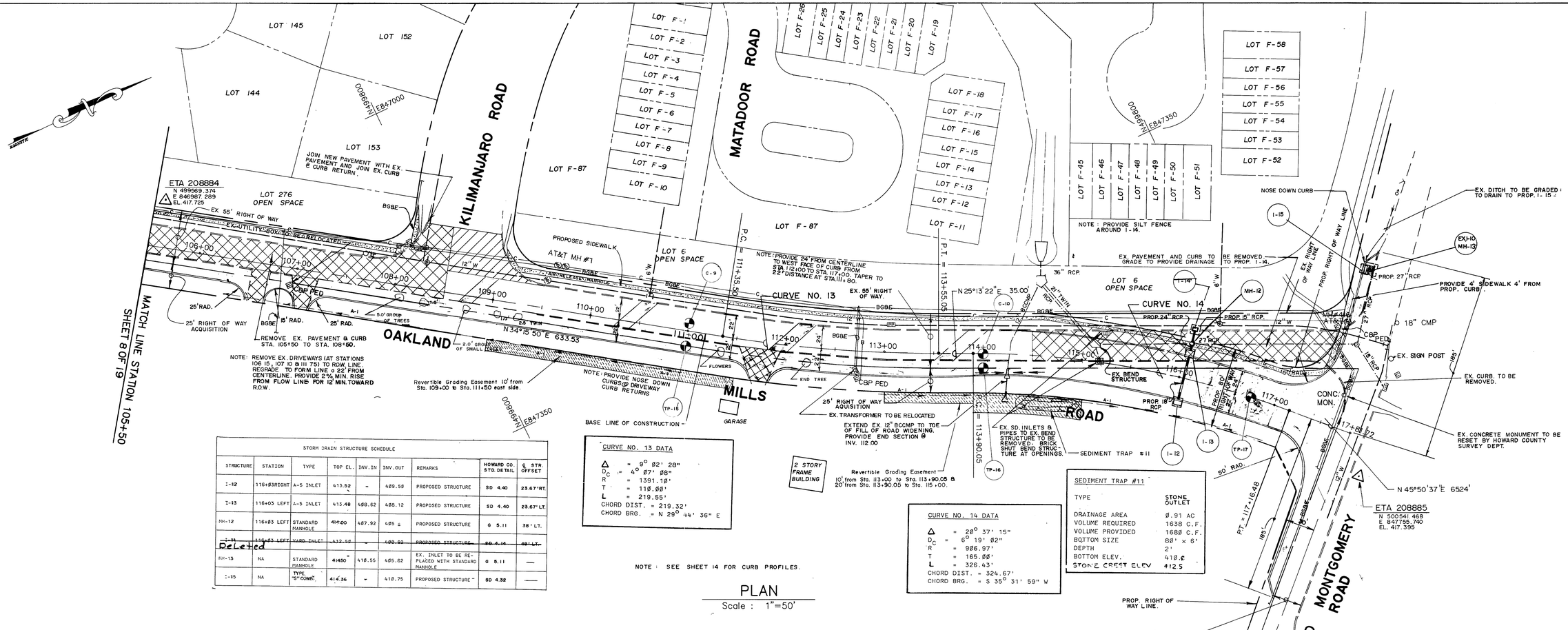
OAKLAND MILLS ROAD IMPROVEMENTS

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J - 4095

SCALE AS SHOWN

SHEET 8 OF 27

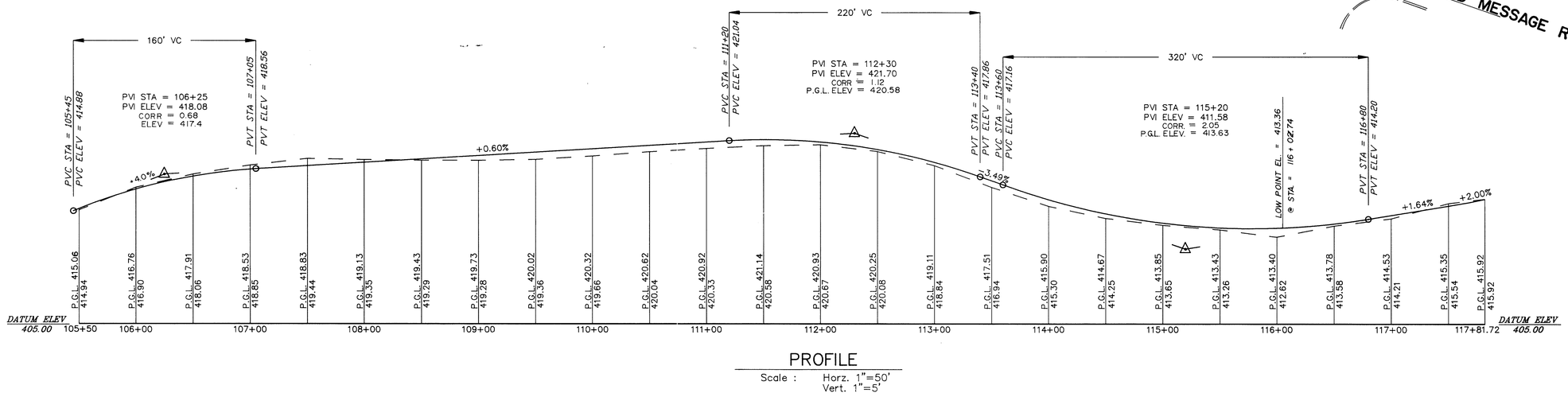
BRUNING 44-132 69150



STORM DRAIN STRUCTURE SCHEDULE

STRUCTURE	STATION	TYPE	TOP EL.	INV.IN	INV.OUT	REMARKS	HOWARD CO. STD. DETAIL	℄ STR. OFFSET
I-12	116+83RIGHT	A-5 INLET	413.52	-	409.58	PROPOSED STRUCTURE	SD 4.40	23.67'RT.
I-13	116+03 LEFT	A-5 INLET	413.48	408.62	408.12	PROPOSED STRUCTURE	SD 4.40	23.67' LT.
MH-12	116+83 LEFT	STANDARD MANHOLE	414.00	407.92	405 ±	PROPOSED STRUCTURE	G 5.11	38' LT.
I-14	116+83 LEFT	YARD INLET	413.58	-	408.92	PROPOSED STRUCTURE	SD 4.14	48' LT.
Deleted								
MH-13	NA	STANDARD MANHOLE	414.50	410.55	405.82	EX. INLET TO BE RE-PLACED WITH STANDARD MANHOLE	G 5.11	—
I-15	NA	TYPE "S" COMBI.	414.36	-	410.75	PROPOSED STRUCTURE	SD 4.32	—

PLAN
Scale : 1"=50'



PROFILE
Scale : Horz. 1"=50'
Vert. 1"=5'

As Built 2/19/92 CP

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/90
CHIEF, BUREAU OF ENGINEERING — DATE 8-21-90
CHIEF, BUREAU OF HIGHWAYS — DATE 8/22/90
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE 8/21/90

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS · PLANNERS · SURVEYORS
3458 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461-8920

Michael N. Armstrong

DES: JVP
DRN: BGP
CHK: MNA
DATE: 8/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

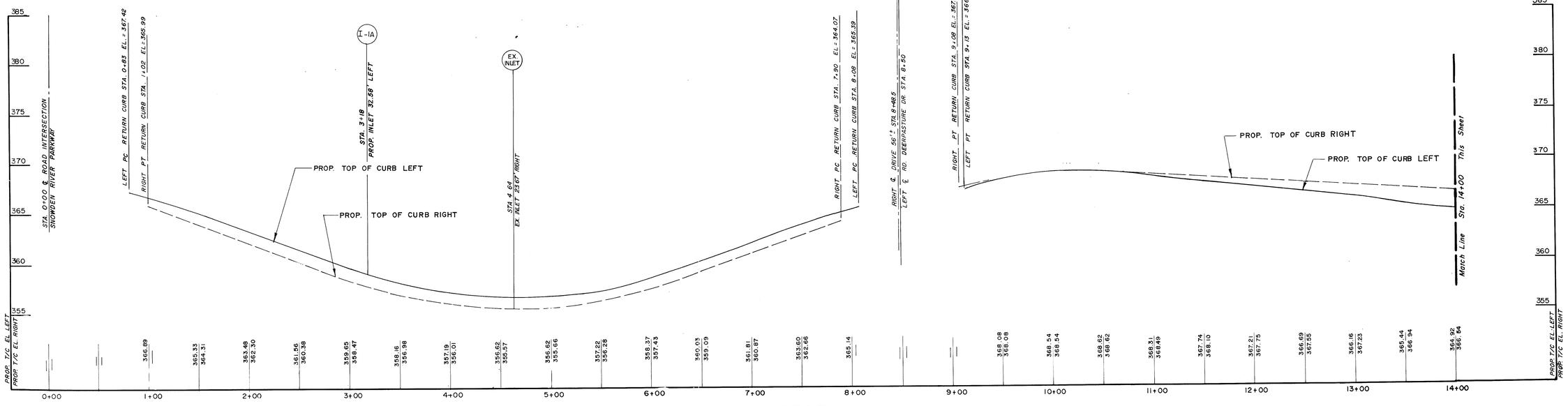
PLAN AND PROFILE - STA. 105+50 TO STA. 117+81.72

OAKLAND MILLS ROAD IMPROVEMENTS
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

SCALE AS SHOWN

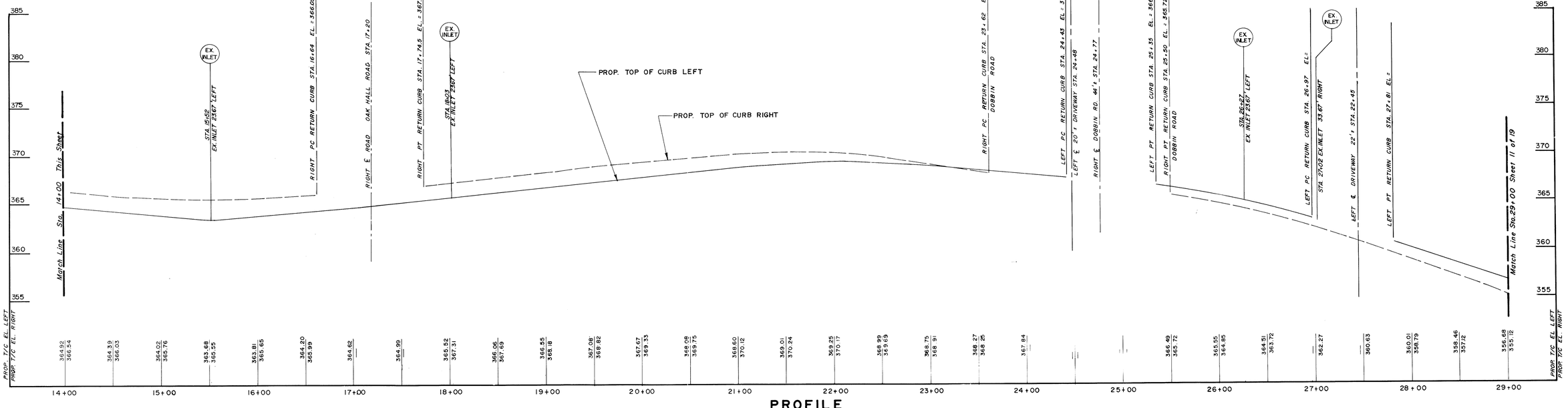
SHEET 9 OF 27

BRUNING 44-132-69150



PROFILE

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



PROFILE

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Ramon F. Klein 8/22/90
DIRECTOR OF PUBLIC WORKS DATE

J. Curtis B. Riley 8-21-90
CHIEF, BUREAU OF ENGINEERING DATE

Braxwell W. Wiseland 8/22/90
CHIEF, BUREAU OF HIGHWAYS DATE

CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE DATE

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
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(301) 461-9920

Michael N. Armstrong

DES:	KAP
DRN:	SGP
CHK:	MNA
DATE:	8/90

BY	NO	REVISION	DATE

600 SCALE MAP NO. _____ BLOCK NO. _____

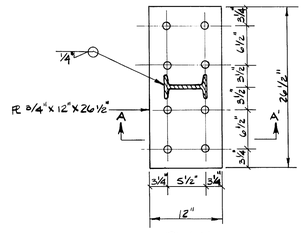
TOP OF CURB PROFILE — STA. 0+00 TO STA. 29+00

OAKLAND MILLS ROAD IMPROVEMENTS

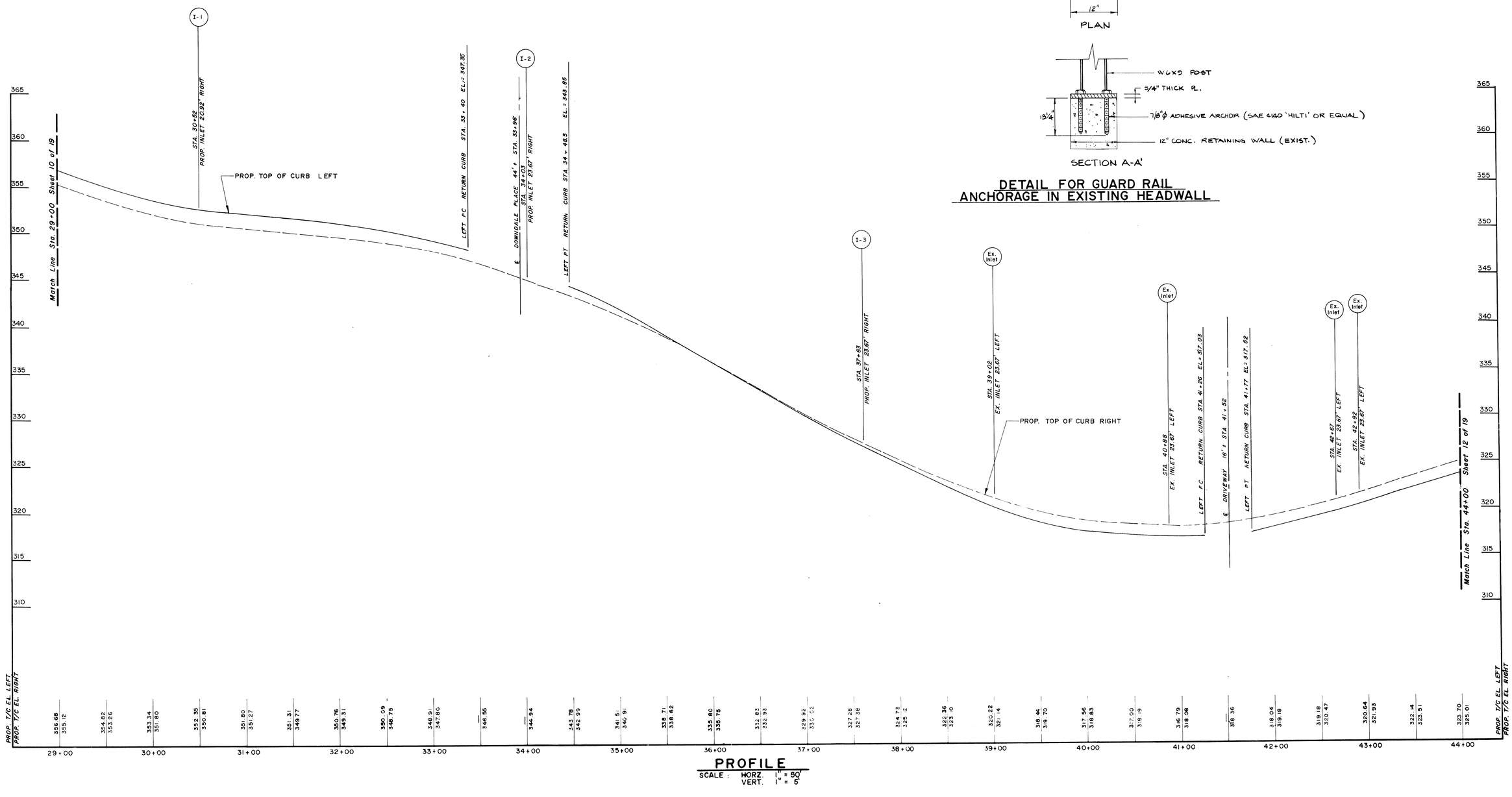
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. · J-4095

SCALE AS SHOWN

SHEET 10 OF 27



DETAIL FOR GUARD RAIL ANCHORAGE IN EXISTING HEADWALL



PROFILE

SCALE : HORZ. 1" = 80'
VERT. 1" = 8'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James M. Irvin — 8/22/90 — DIRECTOR OF PUBLIC WORKS — DATE
CHIEF, BUREAU OF ENGINEERING — DATE
Granville W. Wiedrund — 8/22/90 — CHIEF, BUREAU OF HIGHWAYS — DATE
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS · PLANNERS · SURVEYORS
3458, ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461 - 9920

Michael N. Armstrong

DES: KAP	
DRN: SGP	
CHK: MNA	
DATE: 8/90	

BY	NO	REVISION	DATE

600 SCALE MAP NO. _____ BLOCK NO. _____

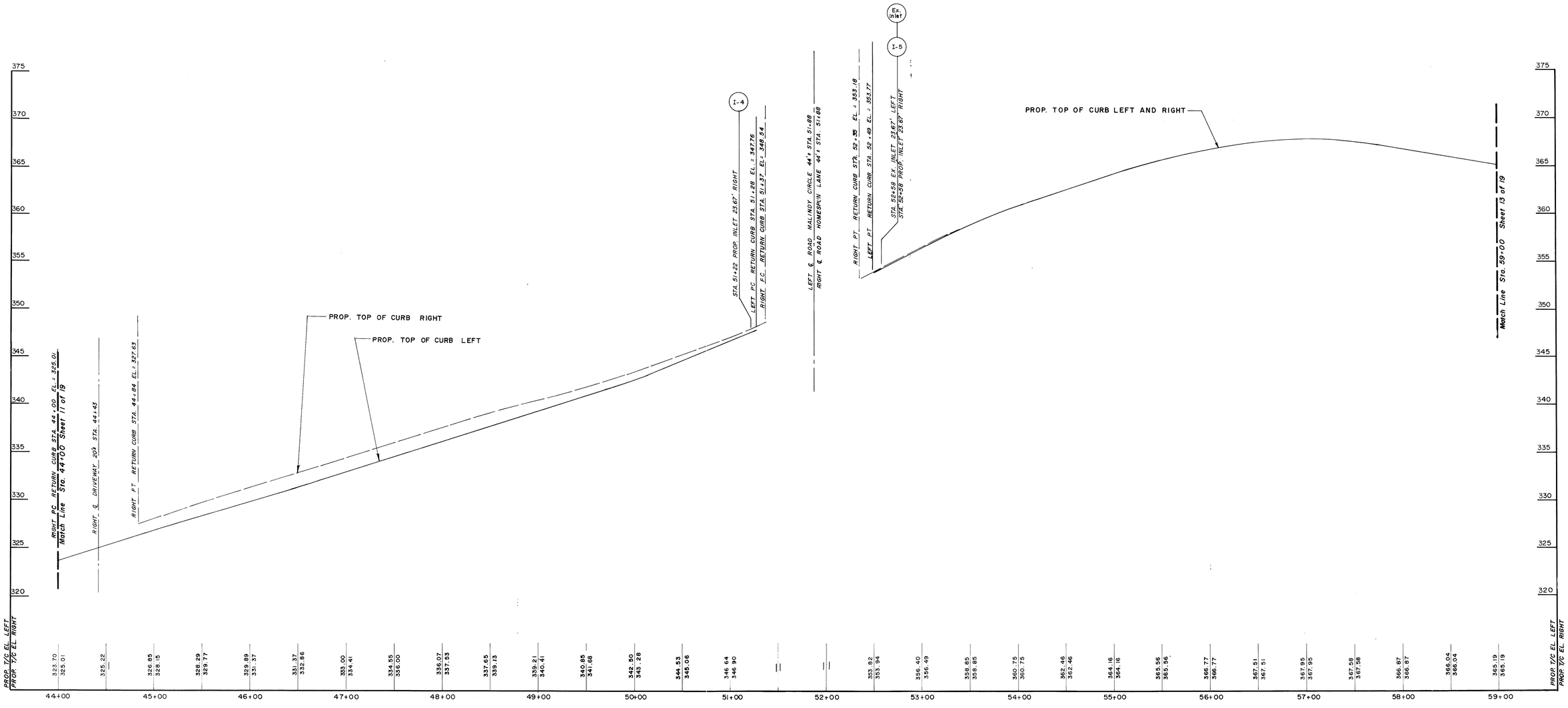
TOP OF CURB PROFILE — STA. 29+00 TO STA. 44+00

OAKLAND MILLS ROAD IMPROVEMENTS

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO.: J-4095

SCALE AS SHOWN

SHEET 11 OF 27



PROFILE

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/90
CHIEF BUREAU OF ENGINEERING — DATE 8-21-90
CHIEF, BUREAU OF HIGHWAYS — DATE 8/22/90
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE 8/1/90

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS · PLANNERS · SURVEYORS
2458 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461 - 9920

Michael N. Armstrong

DES: KAP
DRN: SAP
CHK: MNA
DATE: 8/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

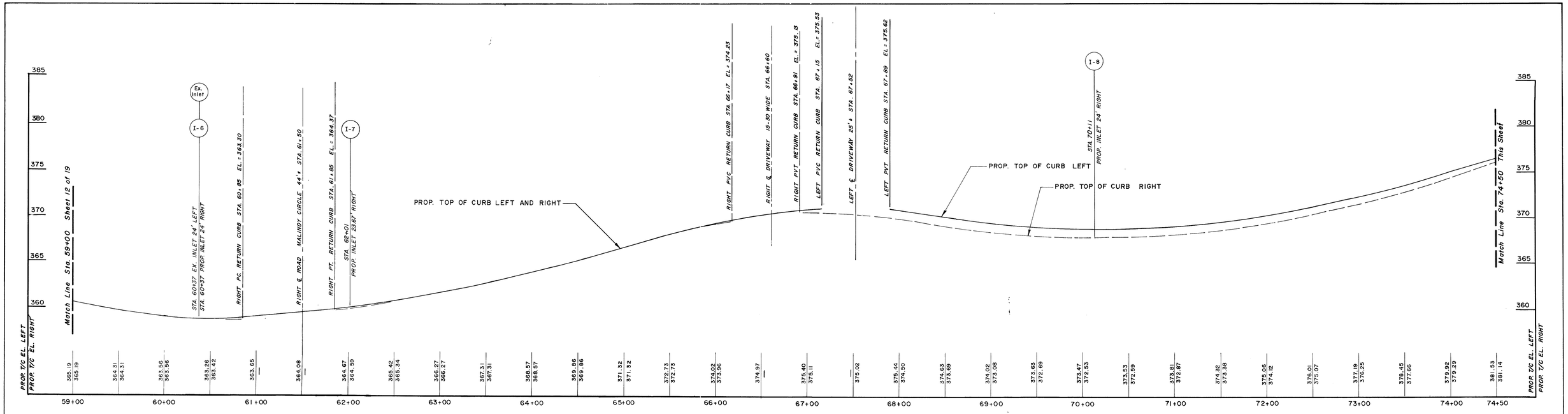
TOP OF CURB PROFILE — STA. 44+00 TO STA. 59+00

OAKLAND MILLS ROAD IMPROVEMENTS

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO.: J-4095

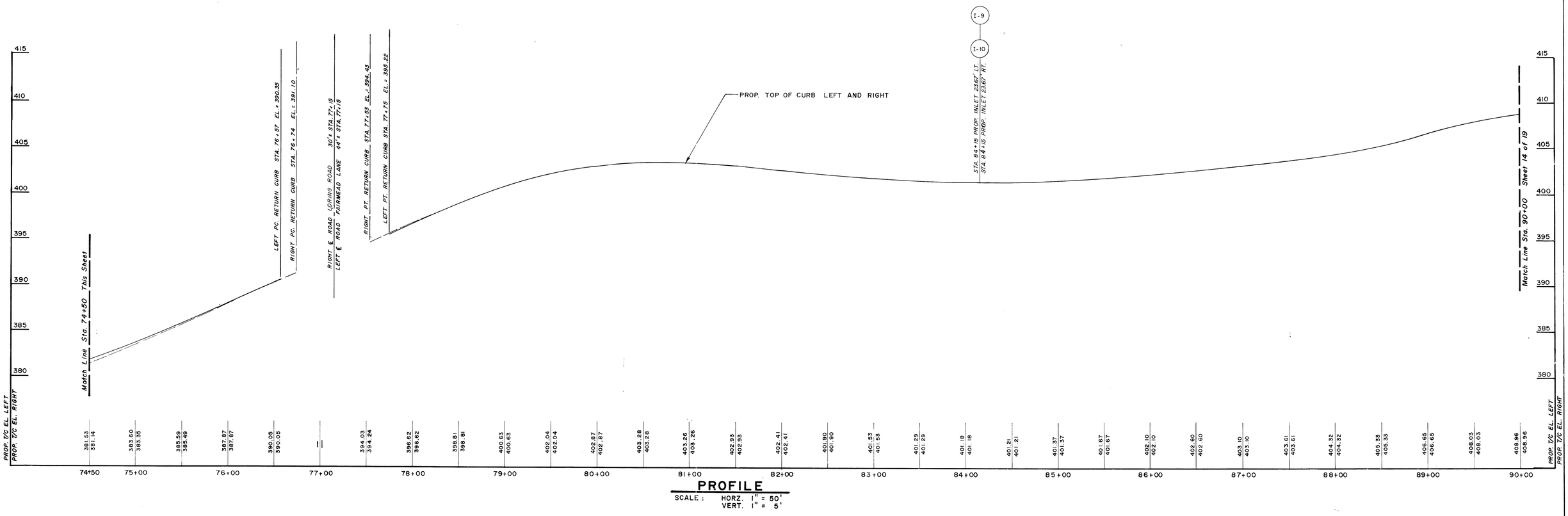
SCALE AS SHOWN

SHEET 12 OF 27



PROFILE

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



PROFILE

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/90
CHIEF, BUREAU OF ENGINEERING — DATE 8-21-90
CHIEF, BUREAU OF HIGHWAYS — DATE 8/22/90
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE 8/21/90

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS · PLANNERS · SURVEYORS
3458 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461 - 9920

Michael N. Armstrong

DES: KAP
DRN: SGP
CHK: MNA
DATE: 8/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

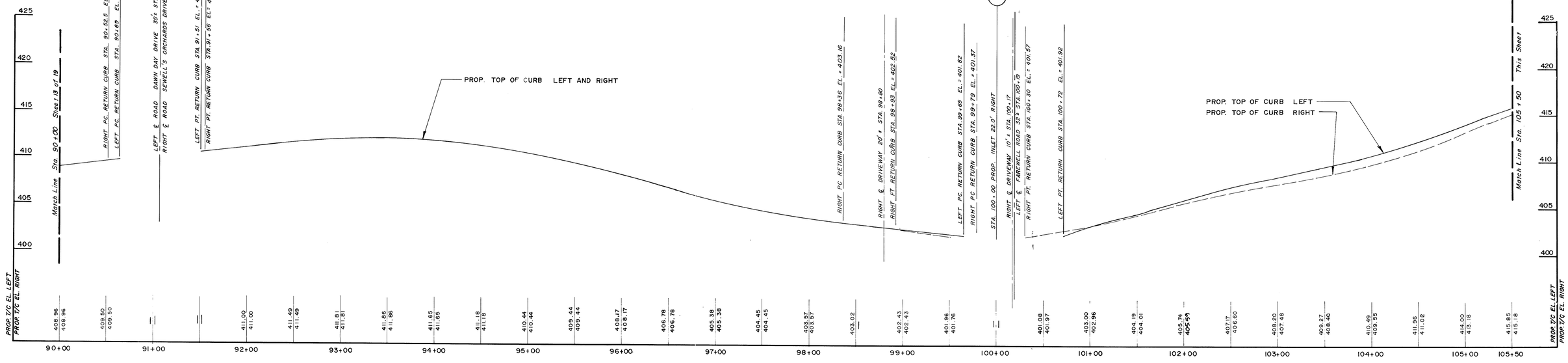
TOP OF CURB PROFILE — STA. 59+00 TO STA. 90+00

OAKLAND MILLS ROAD IMPROVEMENTS

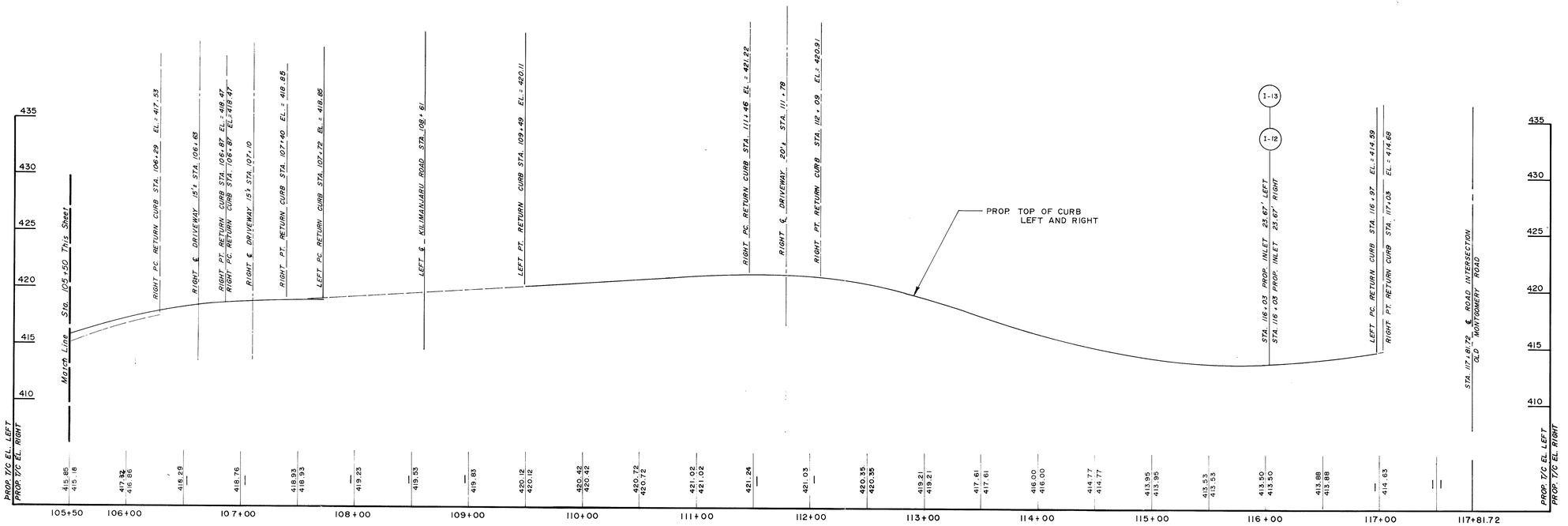
6 TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO.: J-4095

SCALE AS SHOWN

SHEET 13 OF 27



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



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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/90
CHIEF BUREAU OF ENGINEERING — DATE 8-21-90
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ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS · PLANNERS · SURVEYORS
3438 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461 - 9920

STATE OF MARYLAND — MICHAEL N. ARMSTRONG — No. 15157 — REGISTERED PROFESSIONAL ENGINEER

Michael N. Armstrong

DES: KAP
DRN: SGP
CHK: MWA,
DATE: 8/90

BY	NO.	REVISION	DATE

600 SCALE MAP NO. _____ BLOCK NO. _____

TOP OF CURB PROFILE — STA. 90+00 TO STA. 117+81.72

OAKLAND MILLS ROAD IMPROVEMENTS

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO.: J-4095

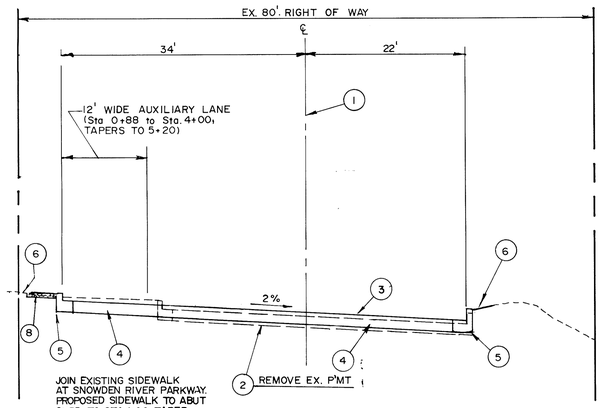
SCALE AS SHOWN

SHEET 14 OF 27

NOTES FOR SECTION FROM STA 0+52 TO STA. 11+00

NOTES:

1. MATCH EXISTING PAVEMENT AT SNOWDEN RIVER PARKWAY (STA 0+52). TRANSITION ROADWAY TO FULL SUPERELEVATION AT 2% CROSS SLOPE AT STA 2+00.
2. SUPERELEVATION RATES TO STA 2+00 AND FROM STA 7+50 TO STA 8+50 WILL BE PER EXISTING CONDITION. ROADWAY IS IN FULL SUPERELEVATION AT 2% CROSS SLOPE FROM STA 2+00 TO STA 7+50.
3. CROSS SLOPES AT STA 8+50 WILL BE AT CONSTANT GRADE FROM P.G.L. TO PAVEMENT MATCH AT DEERPASTURE DRIVE AND SIELING INDUSTRIAL CENTER CURB RETURNS.
4. CROSS SLOPES FROM STA 9+00 TO STA 11+00 WILL BE PER EXISTING CONDITION.



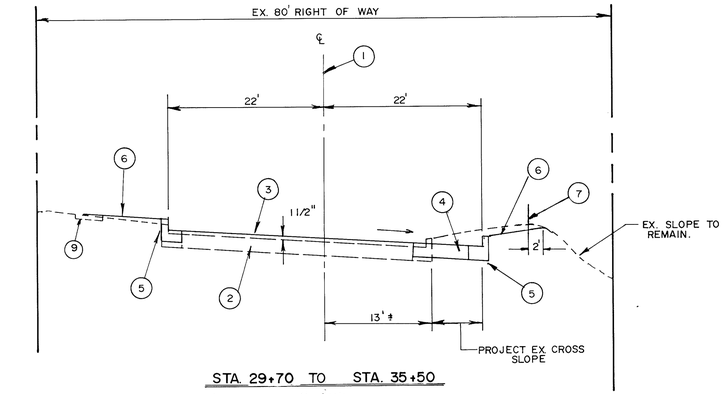
STA. 0+52 TO STA. 11+00

No Scale

NOTE: ALL EXISTING CURB & GUTTER (INCLUDING GUTTER PAN UNDER EXISTING RESURFACED AREAS) SHALL BE REMOVED. FULL PAVEMENT SECTION (PAVING SECTION P-3) SHALL BE PROVIDED BETWEEN PROPOSED CURB & GUTTER AND TIE-IN TO 1 1/2" SURFACE OVERLAY.

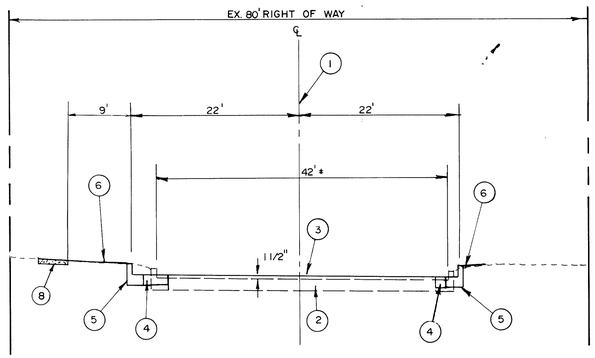
LEGEND

1. PROFILE GRADE LINE (P.G.L.)
2. EXISTING PAVEMENT SECTION
3. BITUMINOUS CONCRETE SURFACE OVERLAY
4. PAVING SECTION P-3
5. STANDARD COMB. CURB & GUTTER (HOWARD CO. STD. R-3.01)
6. 2" TOPSOIL, SEED & MULCH; TIE IN PROP. GRADE TO EX. GR @ 2% MIN. DOWN SLOPE TOWARD CURB.
7. GUARDRAIL PLACED AT TOP OF SLOPE.
8. PROPOSED 4' WIDTH, 4" SIDEWALK WITH THE EXCEPTION OF AREAS WHERE SIDEWALK ABUTS THE CURB, IN WHICH CASE IT SHOULD BE 5' WIDE.
9. EXISTING SIDEWALK.



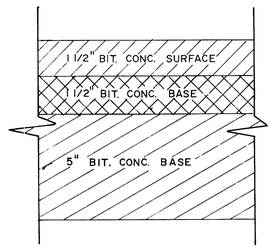
STA. 29+70 TO STA. 35+50

No Scale



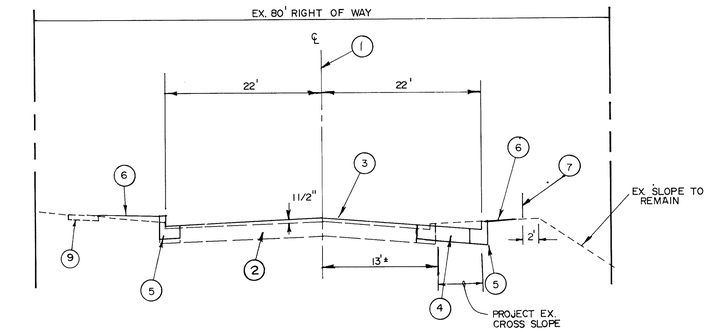
STA. 11+00 TO STA. 20+50

No Scale



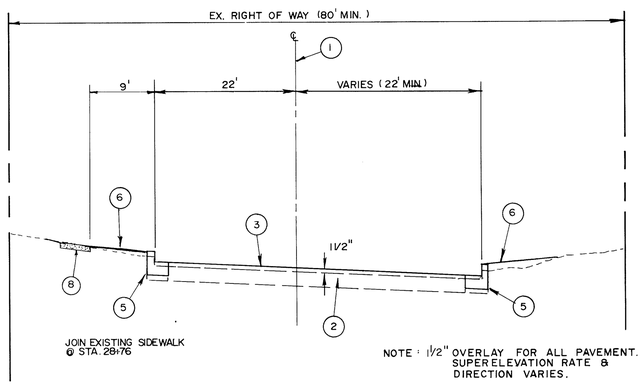
PAVING SECTION P-3

No Scale



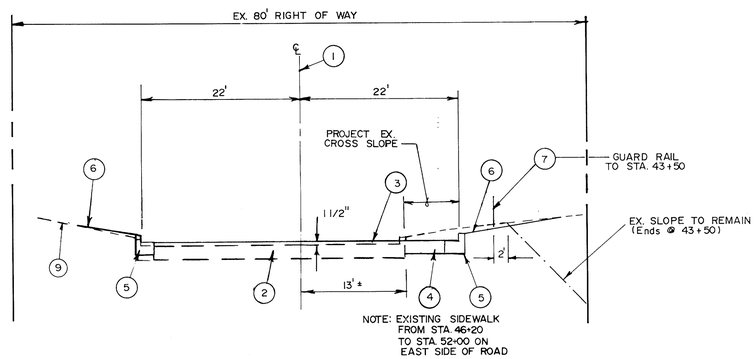
STA. 35+50 TO STA. 37+50

No Scale



STA. 20+50 TO STA. 29+70

No Scale



STA. 37+50 TO STA. 52+00

No Scale

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/90
CHIEF, BUREAU OF ENGINEERING — DATE
CHIEF, BUREAU OF HIGHWAYS — DATE 8/22/90
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE 8/22/90

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS · PLANNERS · SURVEYORS
2458 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461-9220

Michael N. Armstrong

DES: JYP
DRN: SGP.
CHK: MNA.
DATE: 8/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

TYPICAL CROSS SECTIONS

OAKLAND MILLS ROAD IMPROVEMENTS

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

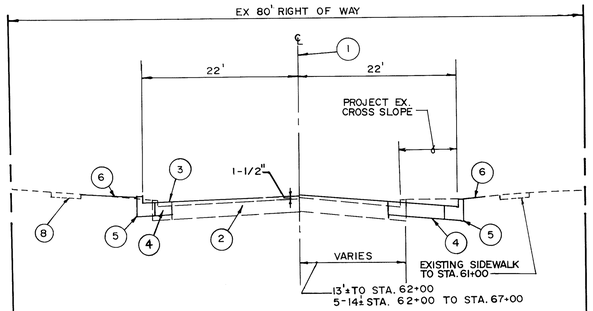
SCALE AS SHOWN

SHEET 15 OF 27

NOTE: ALL EXISTING CURB & GUTTER (INCLUDING GUTTER PAN UNDER EXISTING RESURFACED AREAS) SHALL BE REMOVED. FULL PAVEMENT SECTION (PAVING SECTION P-3) SHALL BE PROVIDED BETWEEN PROPOSED CURB & GUTTER AND TIE-IN TO 1 1/2" SURFACE OVERLAY.

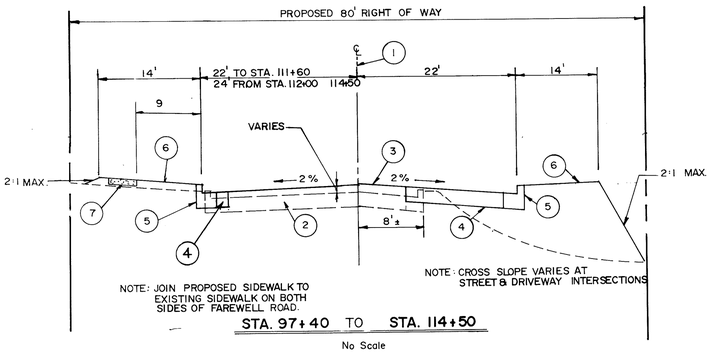
LEGEND

1. PROFILE GRADE LINE (P.G.L.)
2. EXISTING PAVEMENT SECTION
3. BITUMINOUS CONCRETE SURFACE OVERLAY
4. PAVING SECTION P-3
5. STANDARD COMB. CURB & GUTTER (HOWARD CO. STD. R 3.01)
6. 2" TOPSOIL, SEED & MULCH
   TIE IN PROPOSED GRADE TO EX. GR. @ 2% MIN. SLOPE TOWARD CURB.
7. PROPOSED 4 'WIDTH 4" SIDEWALK AS REQUIRED BY SUBDIVISION REGULATIONS
8. EXISTING SIDEWALK



STA. 52+00 TO STA. 67+00

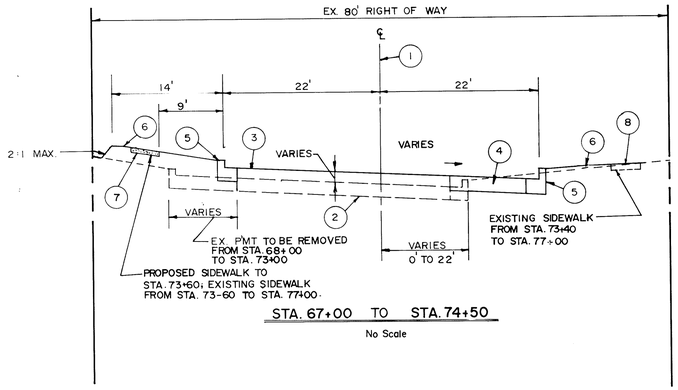
No Scale



STA. 97+40 TO STA. 114+50

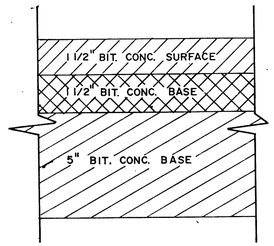
No Scale

NOTE: ROAD IS SUPERELEVATED FROM STA. 102+00 TO 106+00



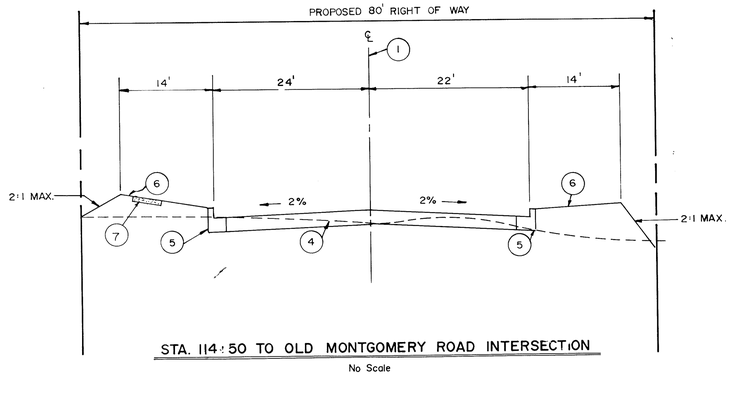
STA. 67+00 TO STA. 74+50

No Scale



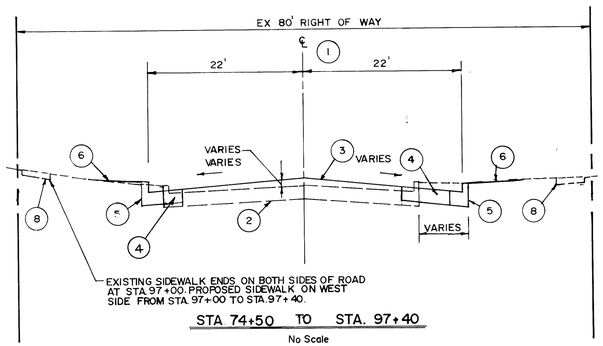
PAVING SECTION P-3

No Scale



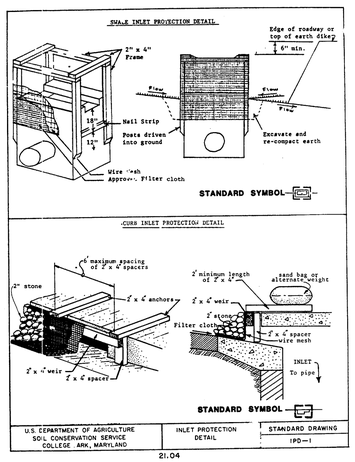
STA. 114+50 TO OLD MONTGOMERY ROAD INTERSECTION

No Scale



STA 74+50 TO STA. 97+40

No Scale



21.04

EARTHWORK COMPUTATIONS

SHEET NO.	STATION FROM	STATION TO	CUT (C.Y.)	FILL (C.Y.)	2" TOPSOIL IN EXCAVATION	CLASS 2 EXCAVATION	CLASS 1 ADJUSTMENT (C.Y.)
2	0+00	14+00	304	28	29	--	275
3	14+00	29+00	21	148	7	--	14
4	29+00	44+00	393	156	65	67	328
5	44+00	59+00	476	125	69	68	407
6	59+00	74+50	2260	303	173	215	2087
7	74+50	90+00	460	345	54	150	406
8	90+00	105+50	794	915	94	106	700
9	105+50	117+81.72	1020 / 5728	1521 / 3541	74 / 565	62 / 448	946 / 5163

EARTHWORK SUMMARY

Total Class 1 Excavation = 5,728 Cubic Yards
Total Class 1 Excavation Adjustment (Class 1 Excavation - 2" Topsoil) = 5,163 Cubic Yards
Total Topsoil In Excavation = 565 Cubic Yards
Total Class 2 Excavation = 668 Cubic Yards
Assuming 15% Shrinkage Factor, Total Material Available for fill = (668 + 5,163) (0.85) = 4,956 Cubic Yards

Total Fill = 3,541 Cubic Yards
Total Excess Material = 1,415 Cubic Yards

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/90
CHIEF, BUREAU OF ENGINEERING — DATE 8-21-90
CHIEF, BUREAU OF HIGHWAYS — DATE 8/22/90
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE 9/1/90

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS
3458 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MD. 21043
(301) 461 - 9920

Michael N. Armstrong

DES: JVP
DRN: SGP.
CHK: MNA.
DATE: 8/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

TYPICAL CROSS SECTIONS & EARTHWORK SUMMARY

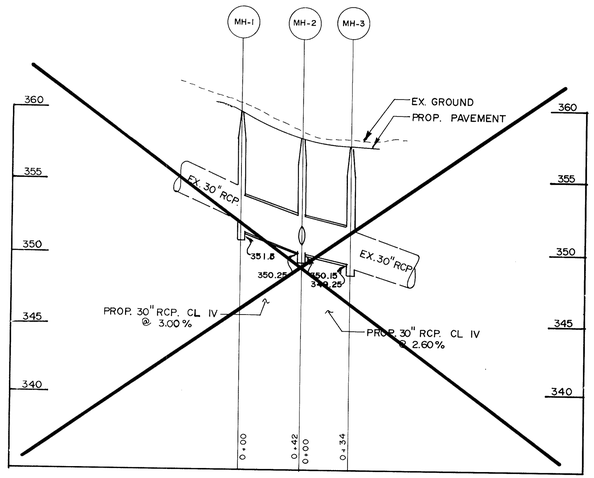
OAKLAND MILLS ROAD IMPROVEMENTS

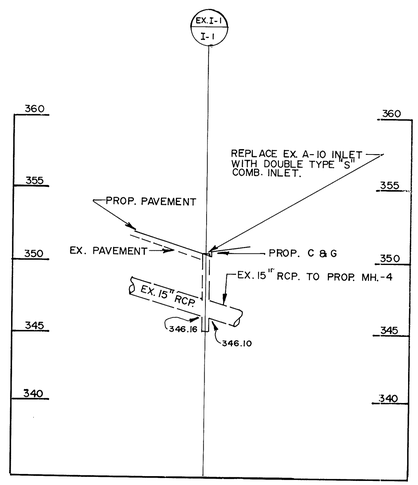
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

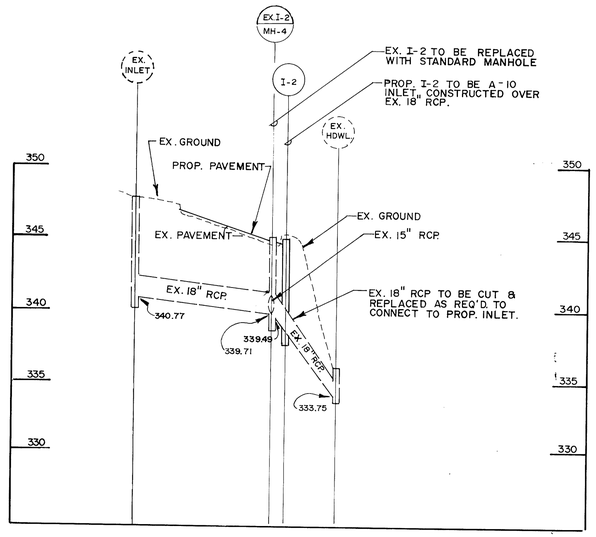
SCALE AS SHOWN

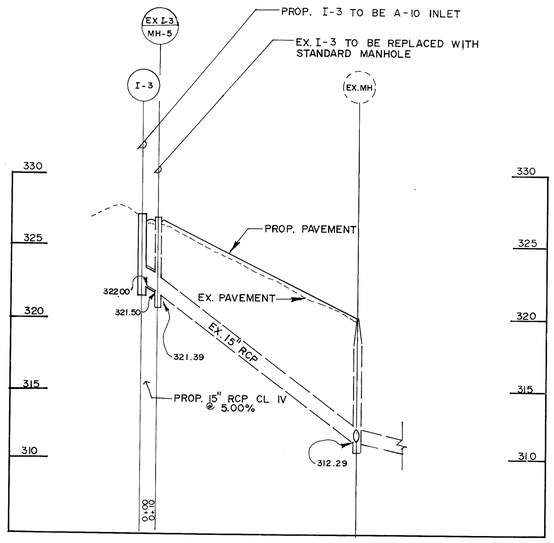
SHEET 16 OF 27

NAD 83
1901

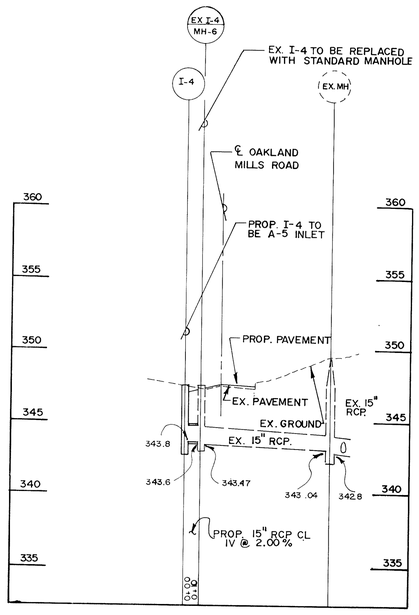


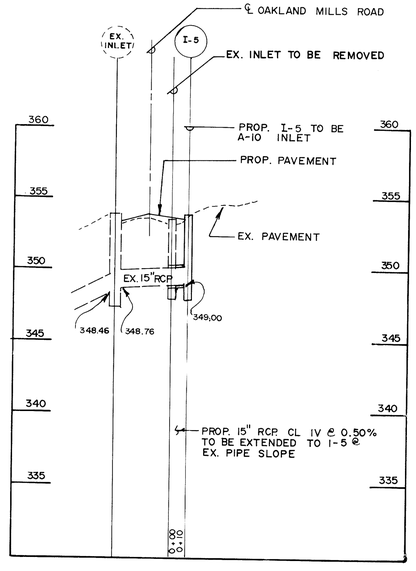


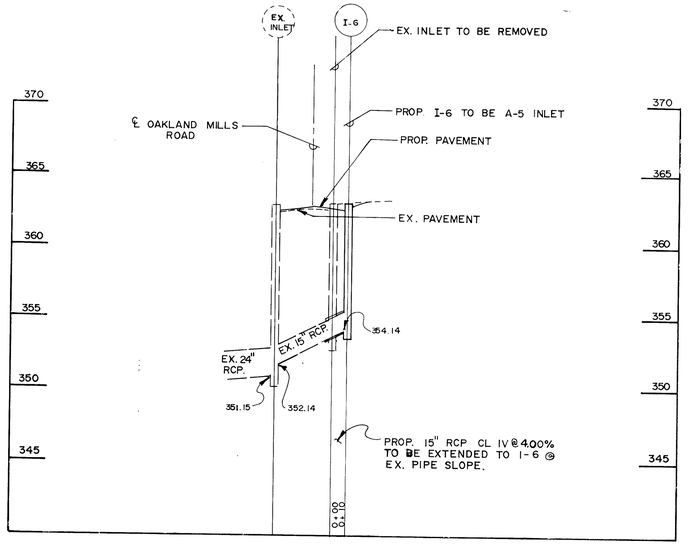


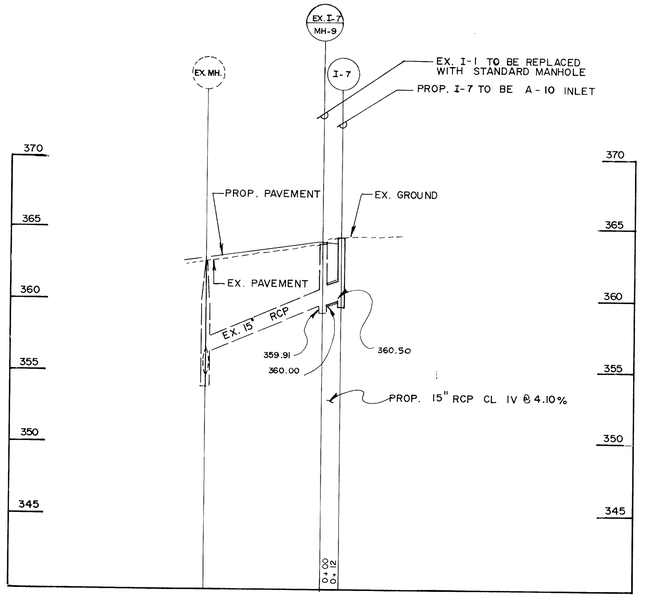


NOTES: 1) EXISTING PIPES TO BE EXTENDED SHALL BE EXTENDED FROM EXISTING PIPE AT JOINT AT SAME SLOPE AS EXISTING PIPE
2) AT SOME PROPOSED STRUCTURES TO BE PLACED OVER EXISTING STORM DRAIN PIPE, PIPE ALIGNMENT ADJUSTMENTS MAY BE REQUIRED IN ORDER TO ENSURE CONNECTION TO THE PROPOSED STRUCTURE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHEN THIS SITUATION EXISTS IN THE FIELD. THE CONTRACTOR WILL INSTALL A HORIZONTAL BEND IN THE PIPE AS DIRECTED BY THE ENGINEER.









DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/90

CHIEF, BUREAU OF ENGINEERING — DATE 8-21-90

CHIEF, BUREAU OF HIGHWAYS — DATE 8/22/90

CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE 8/21/90

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ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS
3456 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MD. 21043
(301) 461 - 9920

Michael N. Armstrong

DES: JVP
DRN: SAP
CHK: MNA.
DATE: 8/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

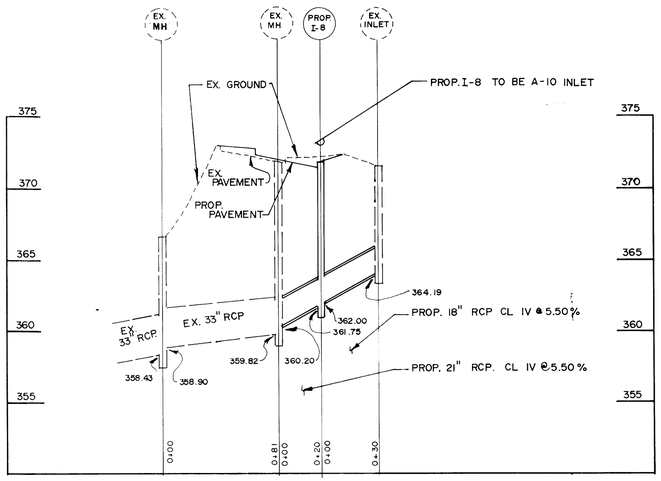
STORM DRAIN PROFILES

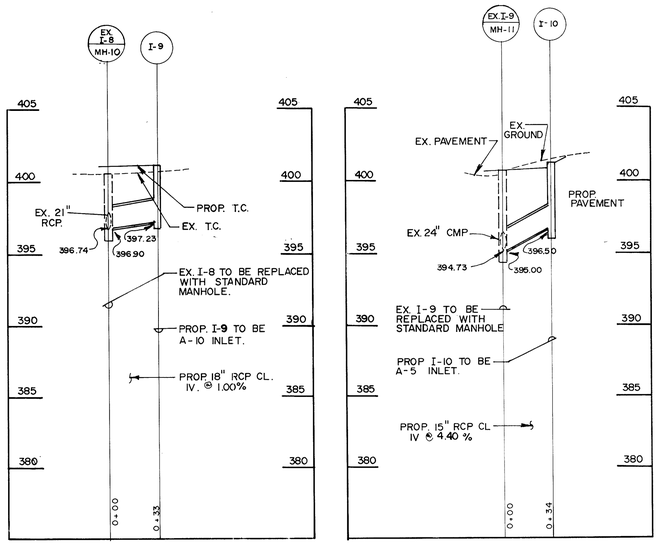
OAKLAND MILLS ROAD IMPROVEMENTS

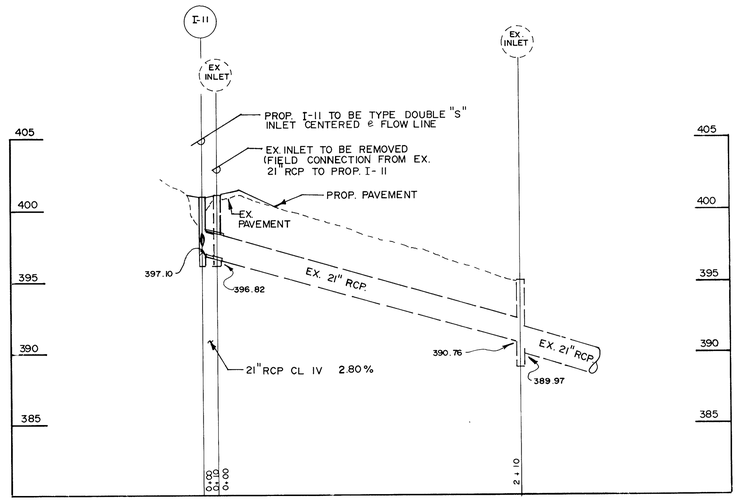
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

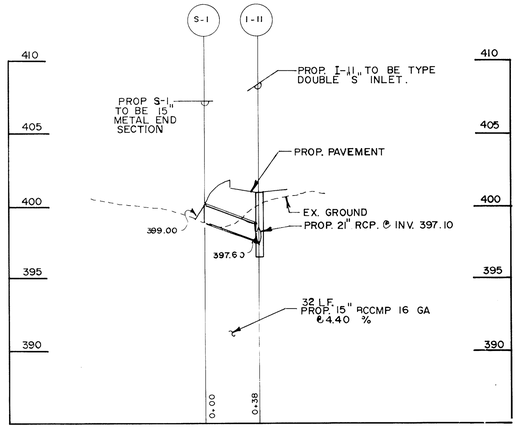
SCALE
Horz. 1"= 50'
Vert. 1"= 5'

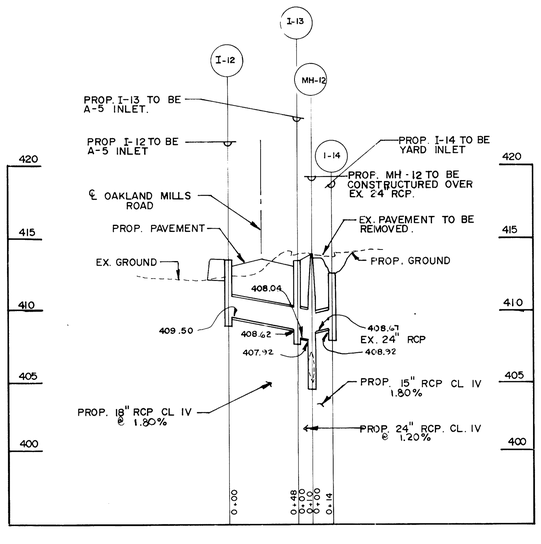
SHEET
17 OF 27

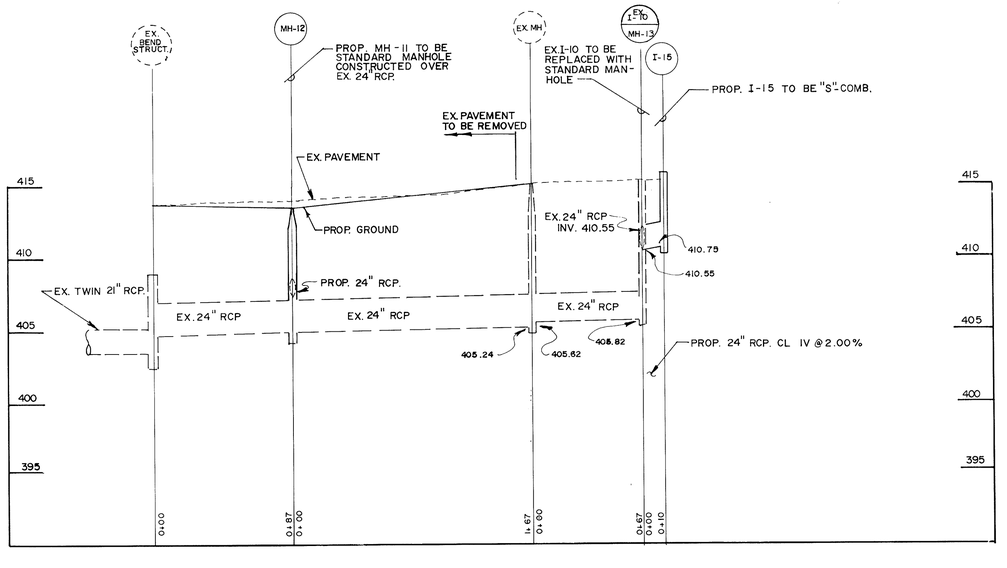












DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/90
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CHIEF, BUREAU OF HIGHWAYS — DATE 8/22/90
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(301) 461 - 9920

Michael N. Armstrong

DES: JVP
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CHK: MNA.
DATE: 8/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

STORM DRAIN PROFILES

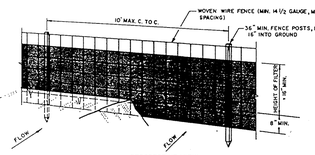
OAKLAND MILLS ROAD IMPROVEMENTS

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

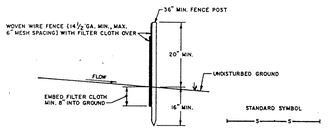
SCALE
HOR. 1"=50
VERT. 1"=5'

SHEET
18 OF 27

SILT FIXENCE



PERSPECTIVE VIEW



SECTION

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

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

POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD

FENCE: WOVEN WIRE, 14½ GA. 6" MAX. MESH OPENING

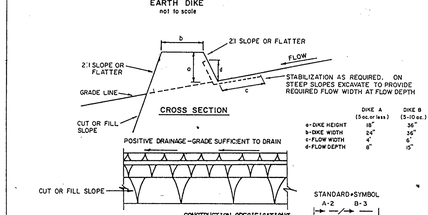
FILTER CLOTH: FILTER X, MIRAFI 100X, STABI-LINKA T140N OR APPROVED EQUAL

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

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

EARTH DIKE

NOT TO SCALE



	DIKE A (5 ac. or less)	DIKE B (5-10 ac.)
a-DIKE HEIGHT	18"	36"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	8"	15"

CONSTRUCTION SPECIFICATIONS

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

FLOW CHANNEL STABILIZATION

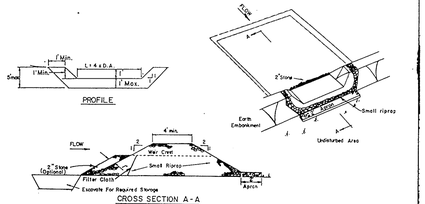
TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCELSIOR; SOD; 2" STONE
3	5.1-8.0%	SEED WITH JUTE, OR SOD; 2" STONE	LINED RIP-RAP 4-8"
4	8.1-20%	LINED RIP-RAP 4-8"	ENGINEERING DESIGN

A. STONE TO BE 2 INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
B. RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.

7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

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

STONE OUTLET SEDIMENT TRAP V



OPTION: A one foot layer of 2" stone may be placed on the upstream side of the riprap in place of the embedded filter cloth.

CONSTRUCTION SPECIFICATIONS FOR ST-V

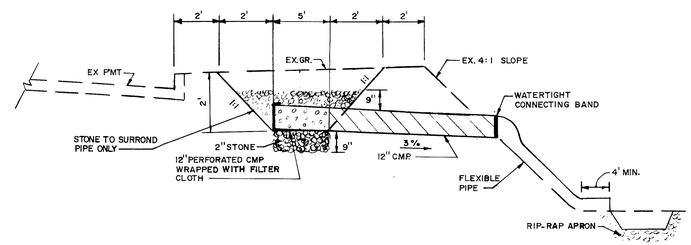
1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
2. The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
3. All cut and fill slopes shall be 2:1 or flatter.
4. The stone used in the outlet shall be small riprap 4"-8" along with a 1' thickness of 2" aggregate placed on the up-grade side on the small riprap on embedded filter cloth in the riprap.
5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to ½ the design depth of the trap.
6. The structure shall be inspected after each rain and repairs made as needed.
7. Construction operations shall be carried out in such a manner than erosion and water pollution is minimized.
8. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

Maximum Drainage Area: 5 Acres

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	STONE OUTLET SEDIMENT TRAP	STANDARD DRAWING ST-V

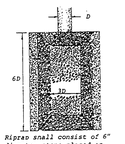
PIPE OUTLET TRAP

NO SCALE



Construction Specifications

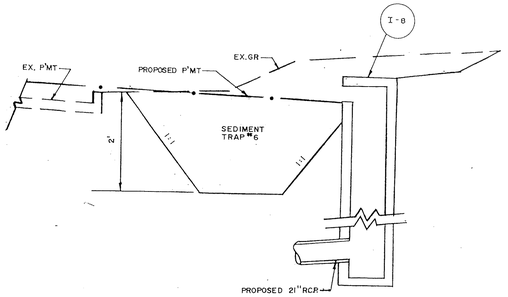
1. The inlet pipe shall have a slope of 3% or steaper.
2. The top of the earth dike over the inlet pipe and those dikes carrying water to the pipe shall be at least 1' higher at all points than the top of the inlet pipe.
3. The inlet pipe shall be corrugated metal pipe with watertight connecting bands.
4. The flexible tubing shall be the same diameter as the inlet pipe and shall be constructed of a durable material with hold-down grommets spaced 10' on centers.
5. The flexible tubing shall be securely fastened to the corrugated metal pipe with metal strapping or watertight connecting collars.
6. The flexible tubing shall be securely anchored to the slope by staking at the grommets provided.
7. A riprap apron shall be provided at the outlet. This shall consist of 6" diameter stone placed as shown on Standard Drawing GSS-3.
8. The soil around and under the inlet pipe and entrance sectiog shall be hand tamped in 4" lifts to the top of the earth dike.
9. Follow-up inspection and any needed maintenance shall be performed after each storm.



Riprap shall consist of 6" diameter stone placed as shown. Depth of apron shall equal the pipe diameter and riprap shall be a minimum of 12" in thickness.

RIPRAP APRON PLAN

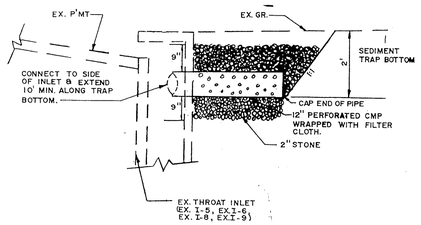
NOTE CONSTRUCT PROPOSED INLET B CONNECT 21" RCP TO EX. MH.; REMOVE EX. INLET B, PIPE AS SHOWN ON THE PLANS IN CONJUNCTION WITH SEDIMENT TRAP INSTALLATION.



STORM DRAIN INLET TRAP AT I-8

NO SCALE

NOTE: EXISTING INLETS ARE TO BE REPLACED WITH MANHOLES. PROPOSED PIPE CONNECTIONS AND PROPOSED INLETS, ALONG WITH THE REPLACEMENT MANHOLES SHALL NOT BE CONSTRUCTED UNTIL THE DRAINAGE AREA TO THE TRAP HAS UNDERGONE CONSTRUCTION TO THE EXTENT POSSIBLE.



STORM DRAIN INLET TRAP AT EXISTING INLETS

NO SCALE

SEDIMENT CONTROL NOTES

1) A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (992-2437)
2) All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
3) Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
4) All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chaper 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
5) All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51) and (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52.) Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
6) All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector
7) Site Analysis:

Total Area of Site	21.5 Acres
Area Disturbed	19 Acres
Area to be roofed or paved	12.5 Acres (INCLUDING SIDEWALK)
Area to be vegetatively stabilized	6.5 Acres
Total Cut	5500 Cu. yds
Total Fill	3400 Cu. yds
Offsite waste/borrow area location	

8) Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9) Additional sediment controls must be provided, if deemed necessary by the Howard County DPW sediment control inspector.
10) On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.

PERMANENT SEEDING NOTES

Seedbed Preparation: Loosen upper 3 inches of soil by raking, discing or other acceptable means before seeding.

Soil Amendments: Use one of the following schedules:

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

Seeding: For the periods March 1 through April 30, and August 1 through October 15, seed with 60 lbs. per acre (1.4 lbs./1000 sq. ft.) 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 (.05 lbs./1000 square ft.) 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) Sod as soon. Option (3) Seed with 60 lbs./acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

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

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

TEMPORARY SEEDING NOTES

Seedbed Preparation: Loosen upper 3 inches of soil by raking, discing or other acceptable means before seeding.

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

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

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

TRAFFIC MAINTENANCE SEQUENCE
(SEE SPECIFICATIONS FOR DETAILED INFORMATION)

FOR THE FOLLOWING SEQUENCE, IT SHALL BE UNDERSTOOD THAT ALL CONSTRUCTION AT INTERSECTIONS (ROADS AND DRIVEWAYS) SHALL BE DONE IN A MANNER WHICH ENSURES CONTINUOUS TRAFFIC ACCESS. IN ADDITION, STRICT ADHERENCE TO THE SEDIMENT CONTROL SEQUENCE OF CONSTRUCTION IS REQUIRED.

1. COMPLETE THE CONSTRUCTION FROM STATION 8+52 TO STATION 11+88.
   - A. DIVERT TRAFFIC TO PROVIDE TWO-WAY TRAFFIC ON NORTHBOUND LANES (SEE SPECIAL PROVISIONS).
   - B. CLOSE THE SOUTHBOUND LANES; REMOVE THE EXISTING PAVEMENT SECTION AND COMPLETE THE ROAD CONSTRUCTION TO THE CENTERLINE.
   - C. SWITCH TRAFFIC TO NORTHBOUND LANES & CLOSE SOUTHBOUND LANES (SEE SPECIAL PROVISIONS).
   - D. CLOSE THE NORTHBOUND LANES; REMOVE THE EXISTING PAVEMENT SECTION AND COMPLETE THE ROAD CONSTRUCTION.
2. * COMPLETE THE CONSTRUCTION FROM STATION 11+88 TO STATION 29+78:
   - A. PROVIDE MINIMUM LONGITUDINAL SOUTHBOUND LANE CLOSURES AND COMPLETE CONSTRUCTION AT THE OAK HALL ROAD AND DOBBIN ROAD INTERSECTIONS (SEE SPECIAL PROVISIONS).
   - B. PROVIDE SOUTHBOUND LANE CLOSURES AND COMPLETE THE CONSTRUCTION TO THE ROAD CENTERLINE.
   - C. PROVIDE NORTHBOUND LANE CLOSURES AND COMPLETE THE CONSTRUCTION TO THE ROAD CENTERLINE.
3. COMPLETE THE ROAD CONSTRUCTION FROM STATION 29+78 TO STATION 67+88:
   - A. PROVIDE SOUTHBOUND LANE CLOSURES FROM THECENTERLINE.
   - B. COMPLETE THE ROAD WIDENING CONSTRUCTION TO THE CENTERLINE.
   - C. PROVIDE NORTHBOUND LANE CLOSURES AND COMPLETE THE ROAD CONSTRUCTION.
4. COMPLETE THE ROAD CONSTRUCTION FROM STATION 67+88 TO STATION 73+88:
   - A. CLOSE THE EAST SIDE OF THE ROAD AT 22' FROM THE WEST EDGE OF PAVEMENT, AND COMPLETE THE ROAD CONSTRUCTION TO THE CENTERLINE.
   - B. CLOSE THE WEST SIDE OF THE ROAD FROM THE CENTERLINE; REMOVE THE EXISTING CURB AND PAVEMENT AS SHOWN ON THE PLANS AND COMPLETE THE ROAD CONSTRUCTION.
5. COMPLETE THE ROAD CONSTRUCTION FROM STATION 67+88 TO STATION 114+88:
   - A. ALTERNATE NORTHBOUND AND SOUTHBOUND LANE CLOSURES AND COMPLETE THE ROAD CONSTRUCTION TO STATION 81+88.
   - B. CLOSE THE EAST SIDE OF THE ROAD FROM THE CENTERLINE FROM STATION 81+88 TO STATION 85+58; COMPLETE THE ROAD CONSTRUCTION TO THE CENTERLINE.
   - C. CLOSE THE EAST SIDE OF THE ROAD AT 5' FROM THE CENTERLINE FROM STATION 85+58 TO STATION 87+88. REMOVE THE EXISTING CURB, CONSTRUCT CURB AND GUTTER AND PREPARE THE SUBGRADE FOR WIDENING. CLOSE THE ROAD FROM THE CENTERLINE AND COMPLETE THE CONSTRUCTION TO THE CENTERLINE.
   - D. CLOSE THE WEST SIDE OF THE ROAD FROM THE CENTERLINE FROM STATION 81+88 TO STATION 93+58. COMPLETE THE ROAD CONSTRUCTION TO STATION 87+88. (FROM STATION 87+88, COMPLETE THE CONSTRUCTION TO THE CENTERLINE.)
   - E. CLOSE THE EAST SIDE OF THE ROAD FROM THE CENTERLINE FROM STATION 87+88 TO STATION 105+58; COMPLETE THE ROAD CONSTRUCTION TO THE CENTERLINE.
   - F. CLOSE THE WEST SIDE OF THE ROAD FROM THE CENTERLINE FROM STATION 93+58 TO STATION 105+58; COMPLETE THE ROAD CONSTRUCTION.
   - G. CLOSE THE EAST SIDE OF THE ROAD FROM THE CENTERLINE FROM STATION 105+58 TO STATION 108+58. REMOVE THE EXISTING PAVEMENT TO THE CENTERLINE; CONSTRUCT THE ROAD TO THE CENTERLINE.
   - H. CLOSE THE WEST SIDE OF THE ROAD FROM THE CENTERLINE FROM STATION 105+58 TO STATION 108+58. REMOVE THE EXISTING PAVEMENT AND COMPLETE THE ROAD CONSTRUCTION.
   - I CLOSE THE EAST SIDE OF THE ROAD FROM THE CENTERLINE FROM STATION 108+58 TO STATION 114+88; COMPLETE THE ROAD CONSTRUCTION TO THE CENTERLINE.
   - J. CLOSE THE WEST SIDE OF THE ROAD FROM THE CENTERLINE FROM STATION 108+58 TO STATION 114+88. COMPLETE THE ROAD CONSTRUCTION.
6. COMPLETE THE ROAD CONSTRUCTION FROM STATION 114+88 TO OLD MONTGOMERY ROAD.
   - A. REMOVE THE EXISTING PAVEMENT FROM THE CENTERLINE ON THE EAST SIDE OF THE ROAD FROM STATION 114+58 TO 115+25. CONSTRUCT I-12 AND INSTALL THE 18" RCP TO A POINT BEYOND THE ROAD CENTERLINE. CONSTRUCT THE EAST SIDE OF THE ROAD FROM THE CENTERLINE FROM STATION 114+88 TO STATION 117+88. CLOSE THE EASTBOUND LANE OF OLD MONTGOMERY ROAD AS REQUIRED AND COMPLETE THE CONSTRUCTION OF THE EAST SIDE OF THE ROAD TO STATION 117+88.
   - B. OPEN THE NEWLY CONSTRUCTED ROAD SECTION TO TRAFFIC; CLOSE TRAFFIC ON THE ORIGINAL ROAD, AND COMPLETE THE STORM DRAINAGE CONSTRUCTION FROM I-12 TO MH-11.
   - C. REMOVE THE PAVEMENT SECTION OF THE ORIGINAL ROAD; COMPLETE CONSTRUCTION OF THE WEST SIDE OF THE NEW ROAD FROM STATION 114+88 TO OLD MONTGOMERY ROAD. CLOSE THE EASTBOUND LANE OF OLD MONTGOMERY ROAD AS REQUIRED TO COMPLETE CONSTRUCTION OF THE AUXILIARY LANE.

*NOTE: REFER TO SPECIAL PROVISIONS FOR TRAFFIC DIVERSION PATTERNS FOR ITEMS 2 THRU 6.

SEQUENCE OF CONSTRUCTION

NOTE: CONSTRUCTION OF THE ENTIRE LENGTH OF ROAD SHALL BE DIVIDED INTO VARIOUS SEGMENTS. EACH SEGMENT SHALL BE DEFINED BY THE DRAINAGE AREA TO A SPECIFIED SEDIMENT TRAP. ALL INLETS, EXISTING AND PROPOSED, SHALL BE PROTECTED FROM SEDIMENT PRIOR TO CONSTRUCTION.

1. COMPLETE THE INSTALLATION OF SEDIMENT CONTROL MEASURES FOR THE SEGMENT TO BE CONSTRUCTED PRIOR TO ANY DISTURBANCE.
2. GRADE THE ROAD TO SUBGRADE IN THE SEGMENT OF CONSTRUCTION. GRADING SHALL BE DONE IN A MANNER WHICH ENSURES POSITIVE DRAINAGE TO THE SEDIMENT TRAP. EXCESS EXCAVATION FOR THE ROAD SHALL BE REMOVED FROM THE AREA OF CONSTRUCTION.
3. CONSTRUCT CURB AND GUTTER AND PAVE THE ROAD ACCORDING TO THE TRAFFIC MAINTENANCE SEQUENCE. RELOCATE AND ADJUST EXISTING UTILITIES AS REQUIRED AND INSTALL STORM DRAIN SYSTEMS AND ALL ROADWAY APPURTENANCES. SEDIMENT TRAPS IN EACH SEGMENT SHALL REMAIN FUNCTIONAL UNTIL ALL OTHER AREAS OF THE SEGMENT HAVE BEEN PAVED.
4. VEGETATIVELY STABILIZE ALL DISTURBED AREAS IN EACH SEGMENT AFTER THE ROAD CONSTRUCTION FOR THE SPECIFIC SEGMENT HAS BEEN COMPLETED.
5. REMOVE SEDIMENT CONTROL MEASURES (UPON INSPECTOR'S APPROVAL) AFTER THE WORK FOR A SPECIFIC SEGMENT IS COMPLETE. STABILIZE THE AFFECTED AREAS IMMEDIATELY.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS	DATE 8/22/90	CHIEF, BUREAU OF ENGINEERING	DATE 8-21-90
CHIEF, BUREAU OF HIGHWAYS	DATE 8/22/90	CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE	DATE 8/21/90

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS
3458 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MD. 21043
(301) 461 - 9920

Michael N. Armstrong

DES: JVP
DRN: SGP
CHK: MNA
DATE: 8/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

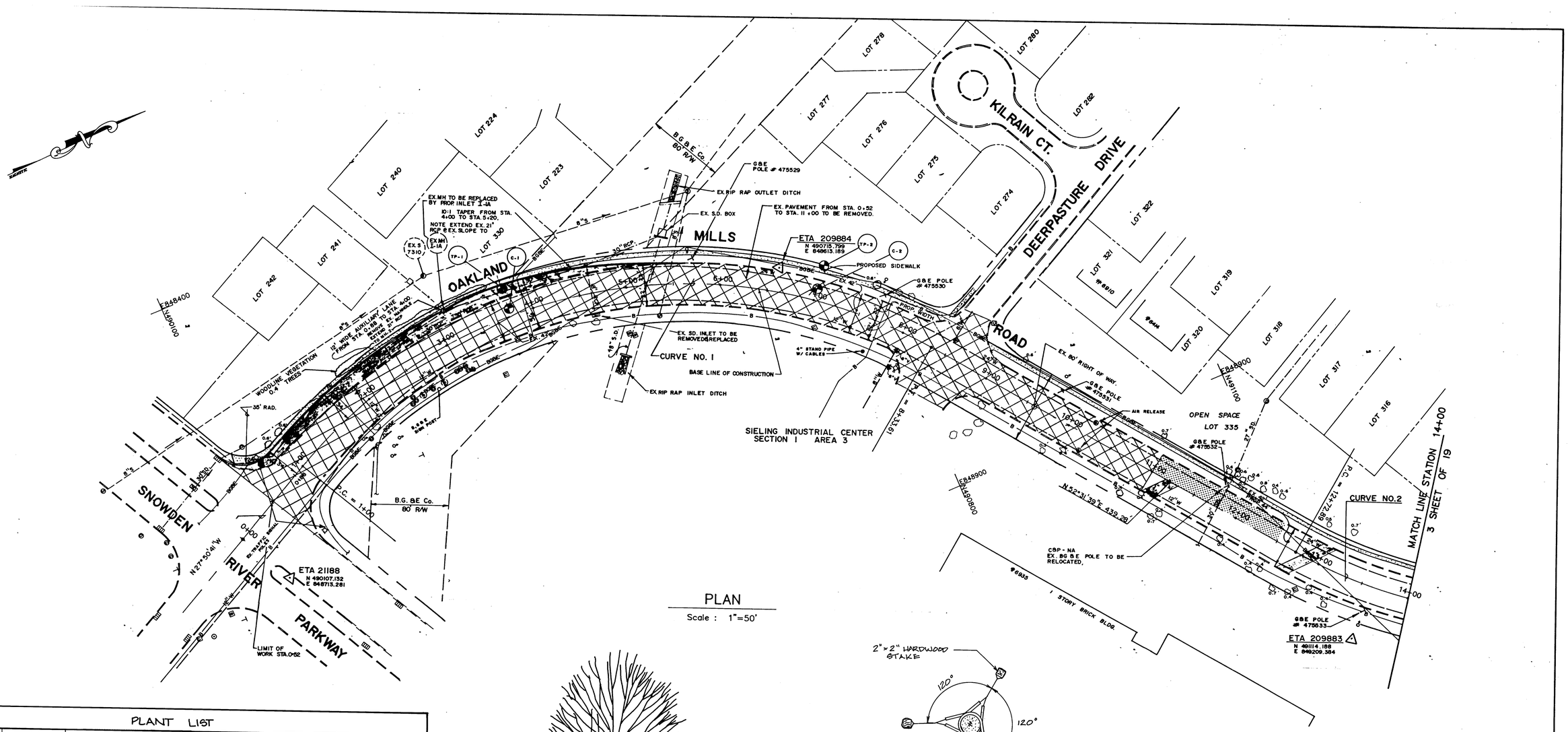
SEDIMENT CONTROL DETAILS & CONSTRUCTION SEQUENCES

OAKLAND MILLS ROAD IMPROVEMENTS

ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

SCALE AS SHOWN

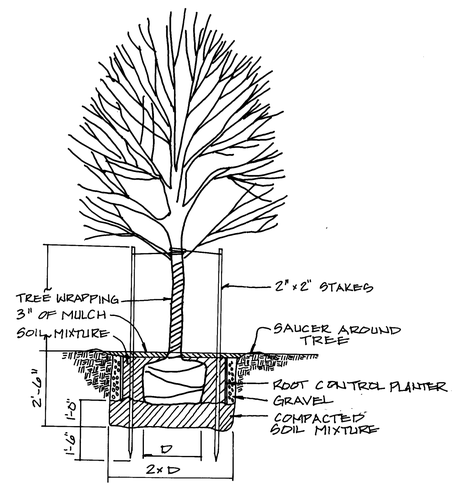
SHEET 19 OF 27



PLAN

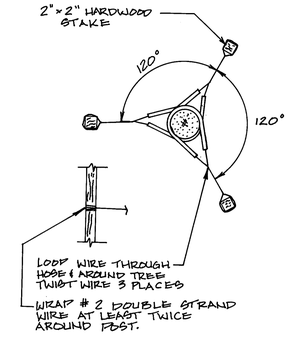
Scale : 1"=50'

PLANT LIST				
QTY.	SYMBOL	NAME	SIZE	REMARKS
53		CRATAEGUS FLOWERING HAWTHORNE	2½"-3" CAL.	B+B, FULL HEAD
32		SOPHORA JAPONICA JAPANESE PAGODA TREE	2½"-3" CAL.	B+B, FULL HEAD
67		ACER RUBRUM RED MAPLES	2½"-3" CAL 13'-15' HGT	B+B, FULL HEAD
67		GLEDITSIA TRIACANTHOS INERMIS THORNLESS HONEY LOCUST	2½"-3" CAL.	B+B, FULL HEAD
38		TRANSPLANTED		



TYPICAL TREE PLANTING DETAIL

NOT TO SCALE



BRACE DETAIL

NOT TO SCALE

LANDSCAPING NOTES

SHEET NO'S 20 THROUGH 27 ARE INTENDED TO CONVEY INFORMATION PERTINENT TO PLACEMENT OF STREET TREES AND LANDSCAPING DETAILS ONLY. SEE OTHER ROAD CONSTRUCTION PLANS FOR ALL OTHER INFORMATION RELATED TO CONSTRUCTION OF OAKLAND MILLS ROAD.

1. CONTRACTOR SHALL FIELD VERIFY EXISTING UNDERGROUND UTILITIES BEFORE DIGGING.
2. TREES SHALL BE PLANTED 7' BEHIND THE FACE OF CURB, HOWEVER ACTUAL LOCATIONS OF TREES MAY VARY TO ACCOMODATE FIELD CONDITIONS.
3. POLYETHYLENE ROOT CONTROL PLANTERS ARE REQUIRED FOR EACH TREE TO MINIMIZE ROOT SPREADING. ALL PLANTERS SHALL BE MANUFACTURED BY DEEP ROOT CORPORATION OF WESTMINISTER, CALIFORNIA (48" UNIVERSAL BARRIER, STOCK UB-48-2) OR APPROVED EQUAL AND SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
4. SEE SPECIFICATIONS FOR GENERAL PLANTING REQUIREMENTS.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/90
CHIEF, BUREAU OF ENGINEERING — DATE
CHIEF, BUREAU OF HIGHWAYS — DATE 8/22/90
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE 8/21/90

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS · PLANNERS · SURVEYORS
3468 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461-8820

DES: GMI
DRN: GMI
CHK: JN
DATE: 8/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

LANDSCAPING PLAN

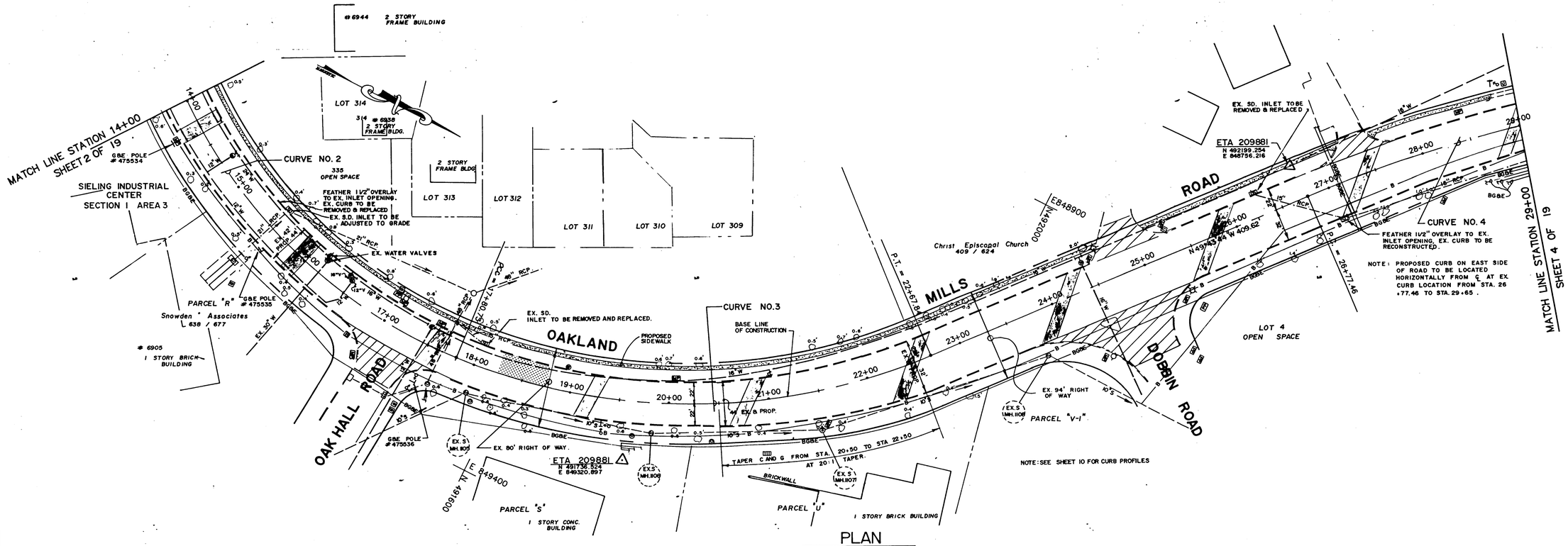
OAKLAND MILLS ROAD IMPROVEMENTS
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

SCALE AS SHOWN

SHEET 20 OF 27

BRUNING 44-132 69150

1601



PLAN

Scale : 1"=50'

NOTE: SEE SHEET 20 FOR LANDSCAPING GENERAL NOTES AND LANDSCAPING DETAILS.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/90
CHIEF, BUREAU OF ENGINEERING — DATE 8-21-90
CHIEF, BUREAU OF HIGHWAYS — DATE 8/22/90
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE 8/21/90

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS · PLANNERS · SURVEYORS
3468 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461 - 9620

DES: SMI
DRN: SMI
CHK: JJJ
DATE 8/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

LANDSCAPING PLAN

OAKLAND MILLS ROAD IMPROVEMENTS

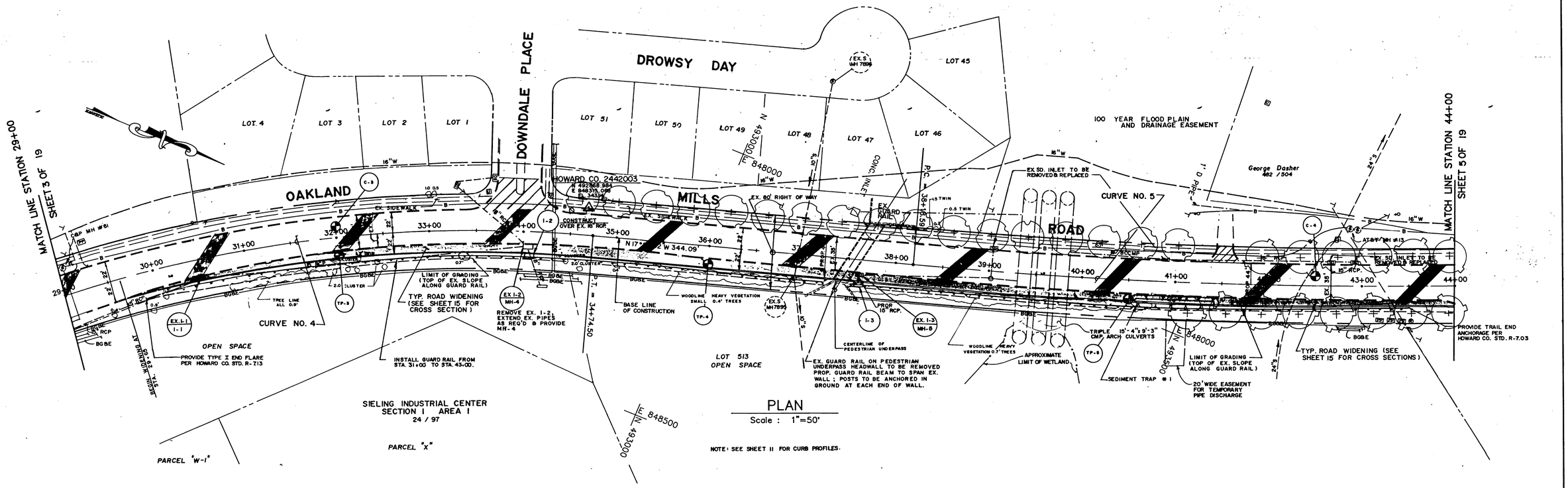
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

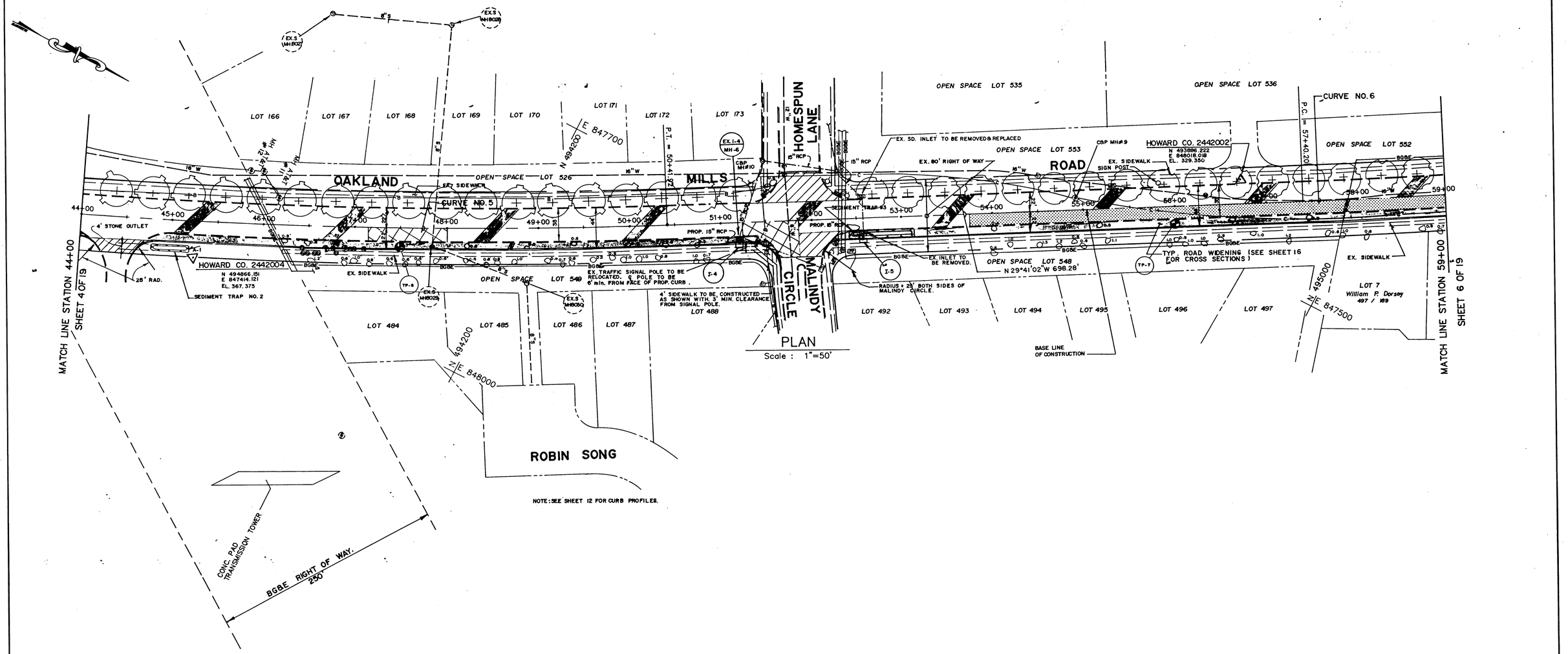
SCALE AS SHOWN

SHEET 21 OF 27

1601

BRUNING 44-132 69150


MATCH LINE STATION 29+00
SHEET 3 OF 19
OAKLAND MILLS ROAD
DOWNDALE PLACE
DROWSY DAY
LOT 4
LOT 3
LOT 2
LOT 1
LOT 51
LOT 50
LOT 49
LOT 48
LOT 47
LOT 46
LOT 45
HOWARD CO. 2442003
N 432168.954
E 848315.098
S 34°04'W
CURVE NO. 4
CURVE NO. 5
OPEN SPACE
LOT 513
OPEN SPACE
PARCEL "W-1"
PARCEL "X"
SIELING INDUSTRIAL CENTER
SECTION 1 AREA 1
24 / 97
100 YEAR FLOOD PLAIN
AND DRAINAGE EASEMENT
George Dasher
462 / 504
MATCH LINE STATION 44+00
SHEET 5 OF 19
N 432000
E 848000
N 432500
E 848500
N 433000
E 848000
N 17° 02' W 344.09'
P.T. = 34+74.50
LIMIT OF GRADING (TOP OF EX. SLOPE ALONG GUARD RAIL)
TYP. ROAD WIDENING (SEE SHEET 15 FOR CROSS SECTION)
INSTALL GUARD RAIL FROM STA. 31+00 TO STA. 43+00.
REMOVE EX. I-2, EXTEND EX. PIPES AS REQ'D & PROVIDE MH-4
CONSTRUCT OVER EX. 16" RCP.
BASE LINE OF CONSTRUCTION
EX. GUARD RAIL ON PEDESTRIAN UNDERPASS HEADWALL TO BE REMOVED PROP. GUARD RAIL BEAM TO SPAN EX. WALL ; POSTS TO BE ANCHORED IN GROUND AT EACH END OF WALL.
CENTERLINE OF PEDESTRIAN UNDERPASS
EX. SD. INLET TO BE REMOVED & REPLACED
TRIPLE 15'-4" x 9'-3" CMP. ARCH CULVERTS
SEDIMENT TRAP # 1
20' WIDE EASEMENT FOR TEMPORARY PIPE DISCHARGE
PROVIDE TRAIL END ANCHORAGE PER HOWARD CO. STD. R-7.03
PROVIDE TYPE I END FLARE PER HOWARD CO. STD. R-7.13
EX. SIDEWALK
EX. 80' RIGHT OF WAY
EX. GUARD RAIL
WOODLINE HEAVY VEGETATION 0.7' TREES
WOODLINE HEAVY VEGETATION 0.4' TREES
APPROXIMATE LIMIT OF WETLAND
TREE LINE ALL 0.9'
2.0 CLUSTER
PROP. 18" RCP.
EX. 16" RCP.
EX. 30" RCP.
EX. 36" RCP.
EX. 42" RCP.
EX. 44" RCP.
EX. 48" RCP.
EX. 54" RCP.
EX. 60" RCP.
EX. 66" RCP.
EX. 72" RCP.
EX. 78" RCP.
EX. 84" RCP.
EX. 90" RCP.
EX. 96" RCP.
EX. 102" RCP.
EX. 108" RCP.
EX. 114" RCP.
EX. 120" RCP.
EX.



PLAN
Scale : 1"=50'

NOTE: SEE SHEET 12 FOR CURB PROFILES.

NOTE: SEE SHEET 20 FOR LANDSCAPING GENERAL NOTES AND LANDSCAPING DETAILS.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/90
CHIEF, BUREAU OF ENGINEERING — DATE 8-21-90
CHIEF, BUREAU OF HIGHWAYS — DATE 8/22/90
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE 10/1/96

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS · PLANNERS · SURVEYORS
3468 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461 - 9620

STATE OF MARYLAND — ELIZABETH A. CHILE — No. 12089 — REGISTERED PROFESSIONAL ENGINEER

DES: SMI
DRN: SMI
CHK: JN
DATE: 8/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

LANDSCAPING PLAN

OAKLAND MILLS ROAD IMPROVEMENTS

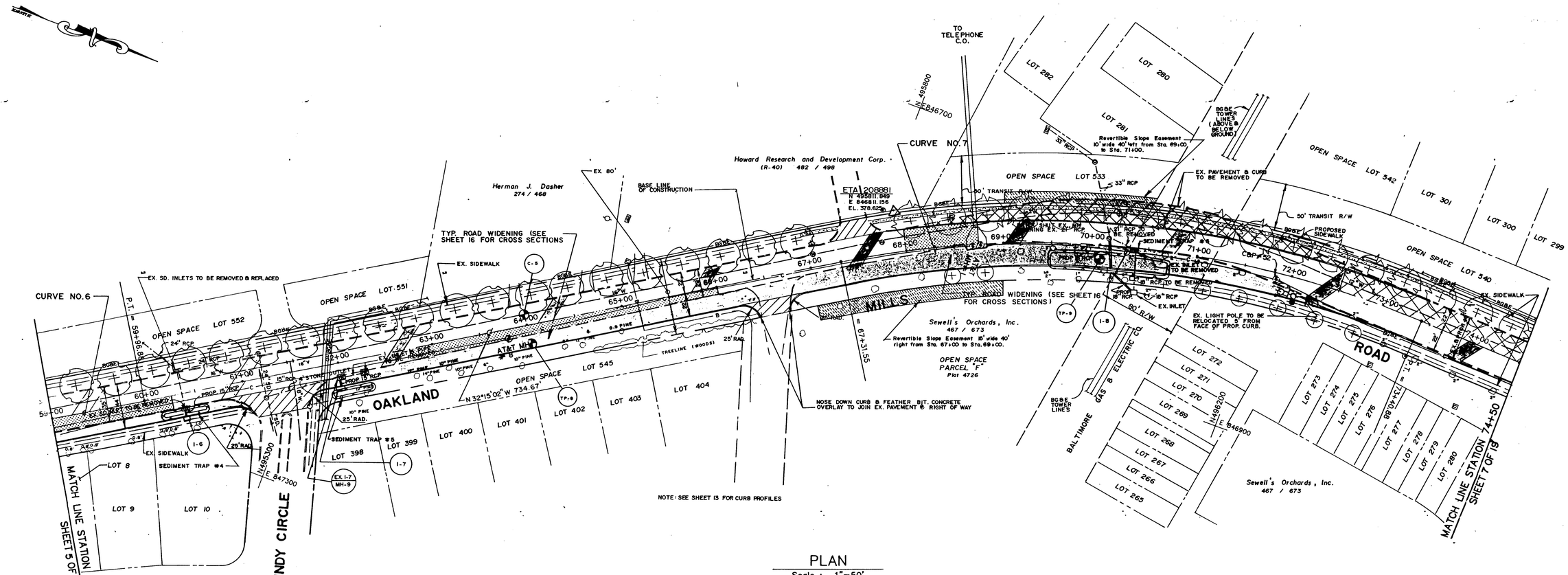
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

SCALE AS SHOWN

SHEET 23 OF 27

BRUNING 44-132 69150

1601



PLAN
Scale : 1"=50'

NOTE: SEE SHEET 20 FOR LANDSCAPING GENERAL NOTES AND LANDSCAPING DETAILS.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James ... 8/22/90
DIRECTOR OF PUBLIC WORKS — DATE

8-21-90
CHIEF, BUREAU OF ENGINEERING — DATE

Granville W. Wehland 8/22/90
CHIEF, BUREAU OF HIGHWAYS — DATE

8/21/90
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS · PLANNERS · SURVEYORS
3458 ELLICOTT CENTER DRIVE , SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461 - 9920

ELIZABETH A. CALIA
No. 11330

DES. SMI
DRN: SMI
CHK: JN
DATE: 8/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. ________ BLOCK NO. ________

LANDSCAPING PLAN

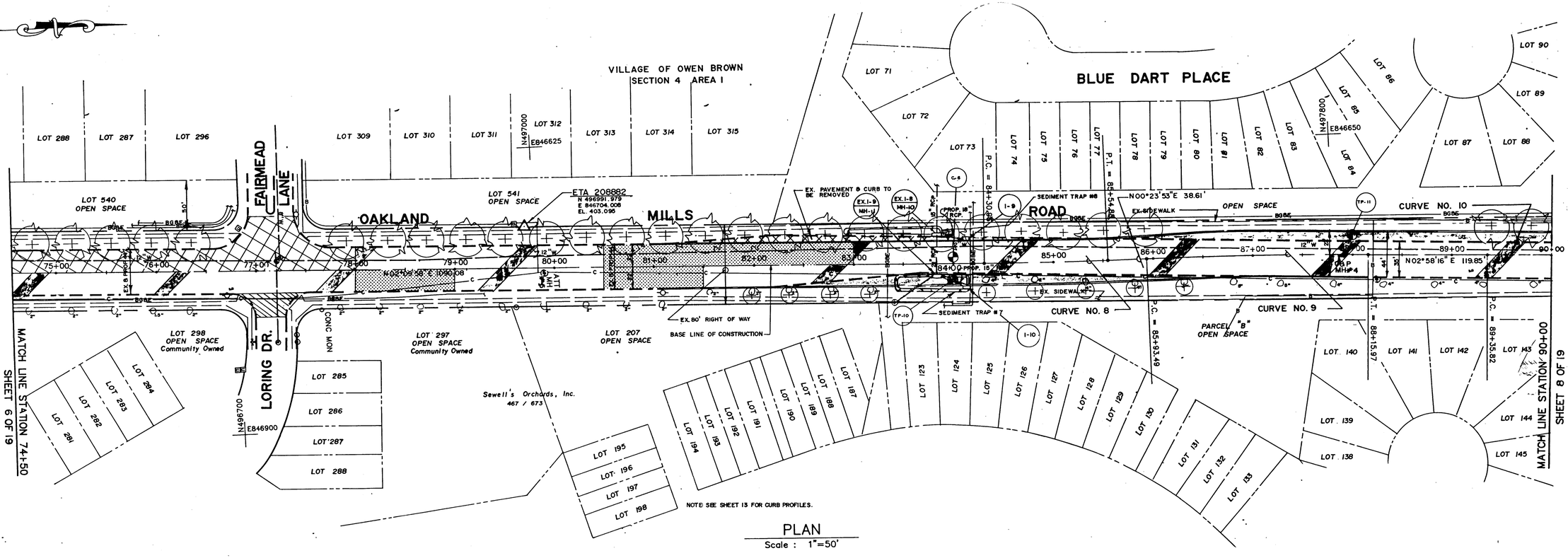
OAKLAND MILLS ROAD IMPROVEMENTS
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

SCALE AS SHOWN

SHEET 24 OF 27

BRUNING 44-132 69150

1001



NOTE: SEE SHEET 13 FOR CURB PROFILES.

PLAN
Scale : 1"=50'

NOTE: SEE SHEET 20 FOR LANDSCAPING GENERAL NOTES AND LANDSCAPING DETAILS.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/90
CHIEF, BUREAU OF ENGINEERING — DATE 8-21-90
CHIEF, BUREAU OF HIGHWAYS — DATE 8/22/90
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE 8/21/90

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
ENGINEERS · PLANNERS · SURVEYORS
3468 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461 - 9620

DES: SMI
DRN: SMI
CHK: JN
DATE: 8/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

LANDSCAPING PLAN

OAKLAND MILLS ROAD IMPROVEMENTS

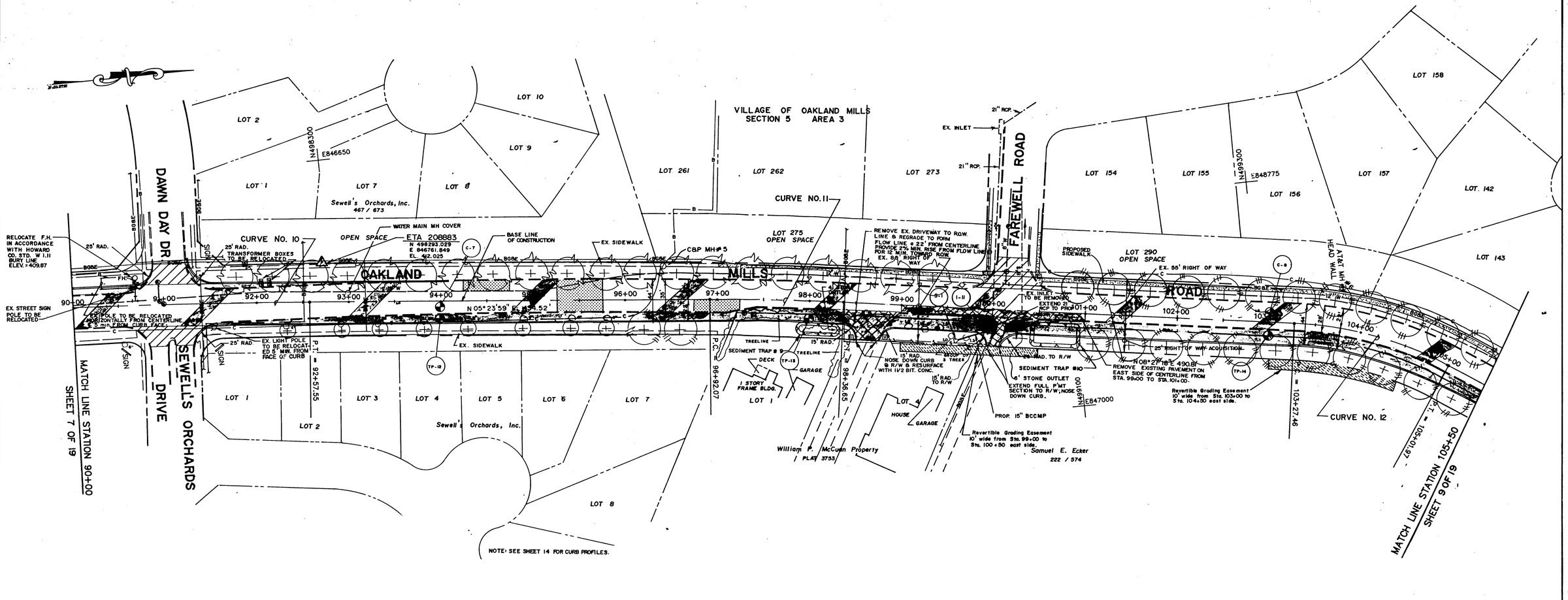
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

SCALE AS SHOWN

SHEET 25 OF 27

1001

BRUNING 44-132 69150



NOTE: SEE SHEET 20 FOR LANDSCAPING GENERAL NOTES AND LANDSCAPING DETAILS.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/90
CHIEF, BUREAU OF ENGINEERING — DATE
CHIEF, BUREAU OF HIGHWAYS — DATE 8/22/90
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE 8/21/91

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ENGINEERS · PLANNERS · SURVEYORS
3468 ELLICOTT CENTER DRIVE SUITE 101
ELLICOTT CITY, MARYLAND 21043
(301) 461 - 9920

DES: GMI
DRN: GMI
CHK: JN
DATE: 3/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

LANDSCAPING PLAN

OAKLAND MILLS ROAD IMPROVEMENTS

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J - 4095

SCALE AS SHOWN

SHEET 20 OF 27

BRUNING 44-1326150

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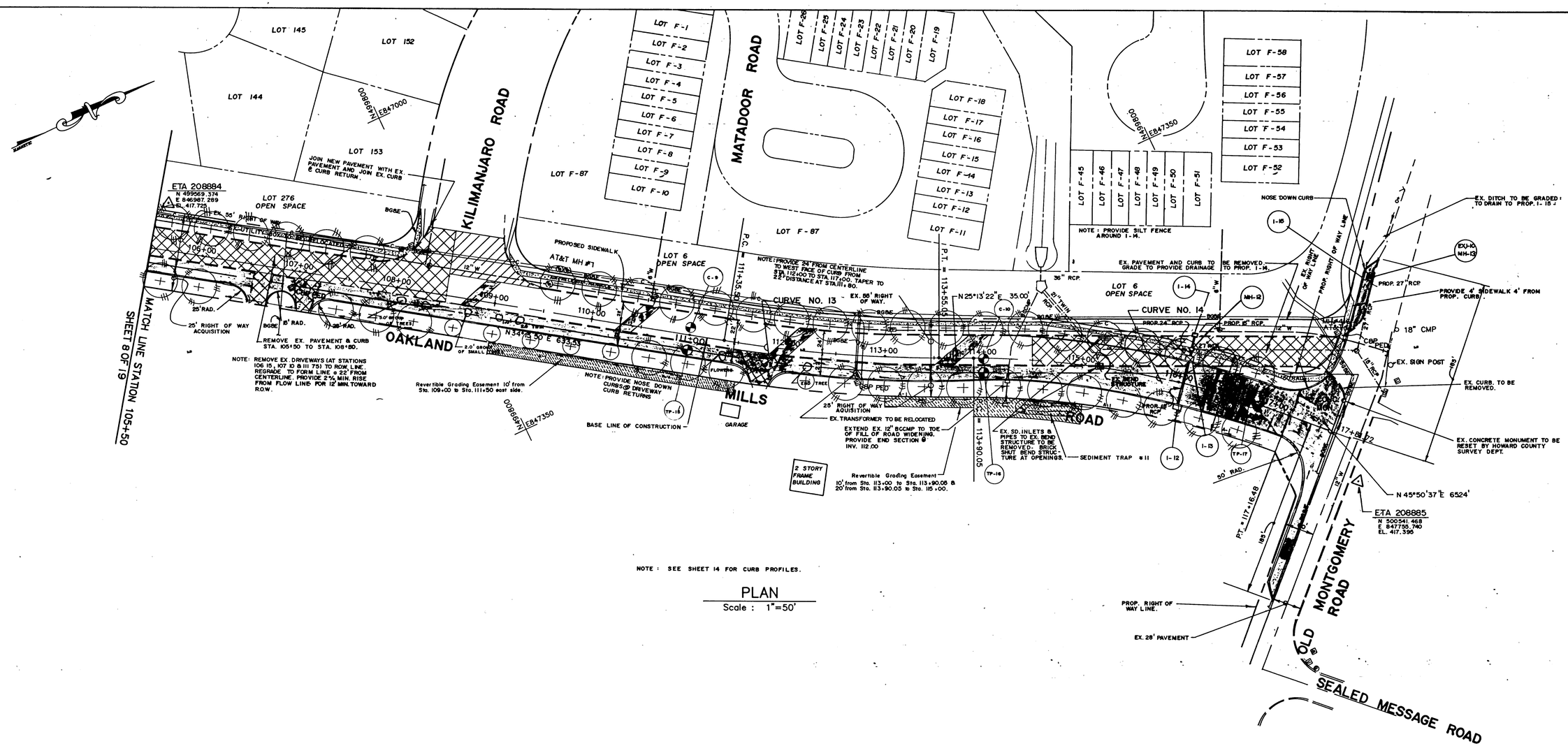

PLAN
Scale : 1"=50'

NOTE : SEE SHEET 14 FOR CURB PROFILES.

NOTE : SEE SHEET 20 FOR LANDSCAPING GENERAL NOTES AND LANDSCAPING DETAILS.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/22/96
CHIEF, BUREAU OF ENGINEERING — DATE 8-21-96
CHIEF, BUREAU OF HIGHWAYS — DATE 8/22/96
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE — DATE 8/21/96

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.
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ELLICOTT CITY, MARYLAND 21043
(301) 461 - 9920

DES: SMI
DRN: SMI
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DATE: 8/90

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

LANDSCAPING PLAN

OAKLAND MILLS ROAD IMPROVEMENTS

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. : J-4095

SCALE AS SHOWN

SHEET 27 OF 27

1601

BRUNING 44-132 69190