

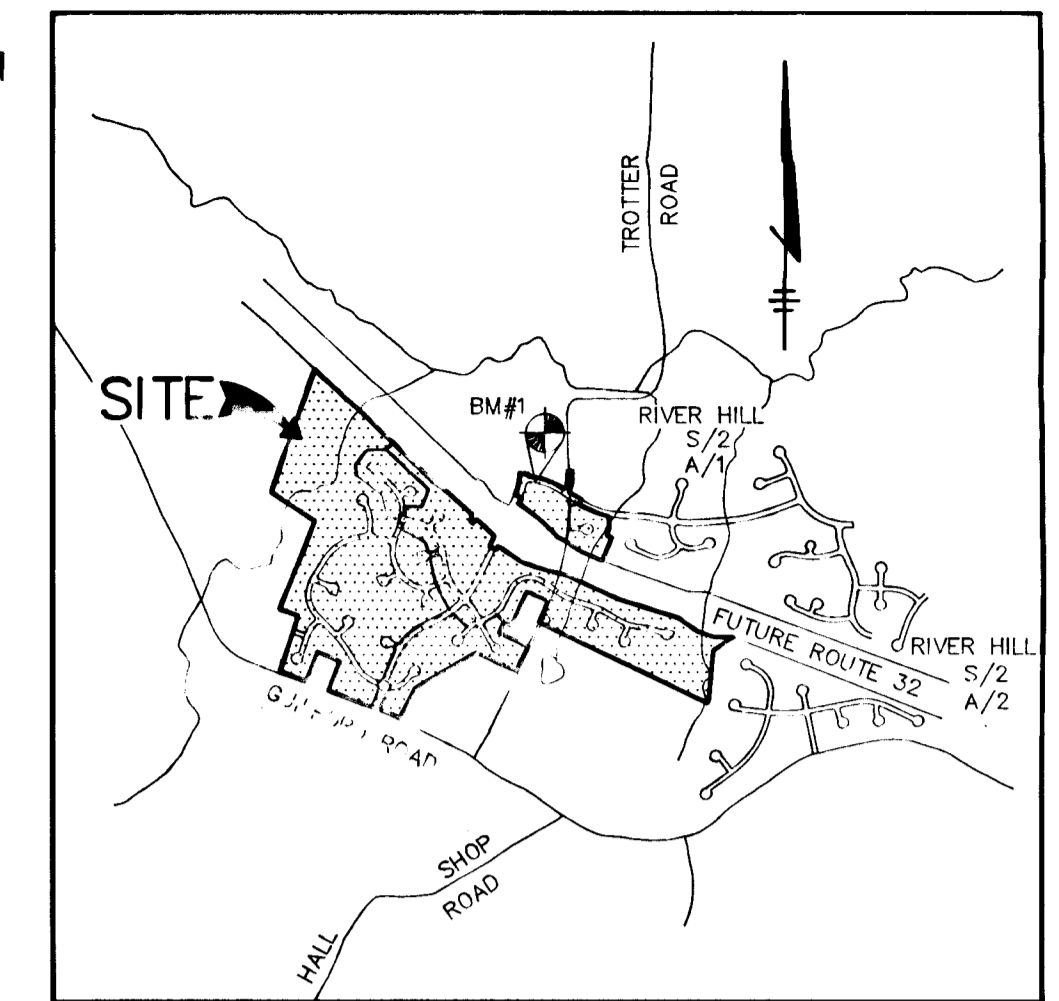
ROADWAYS, STORM DRAINS AND STORMWATER MANAGEMENT

VILLAGE OF RIVER HILL

SECTION 2 AREA 4

5th ELECTION DISTRICT

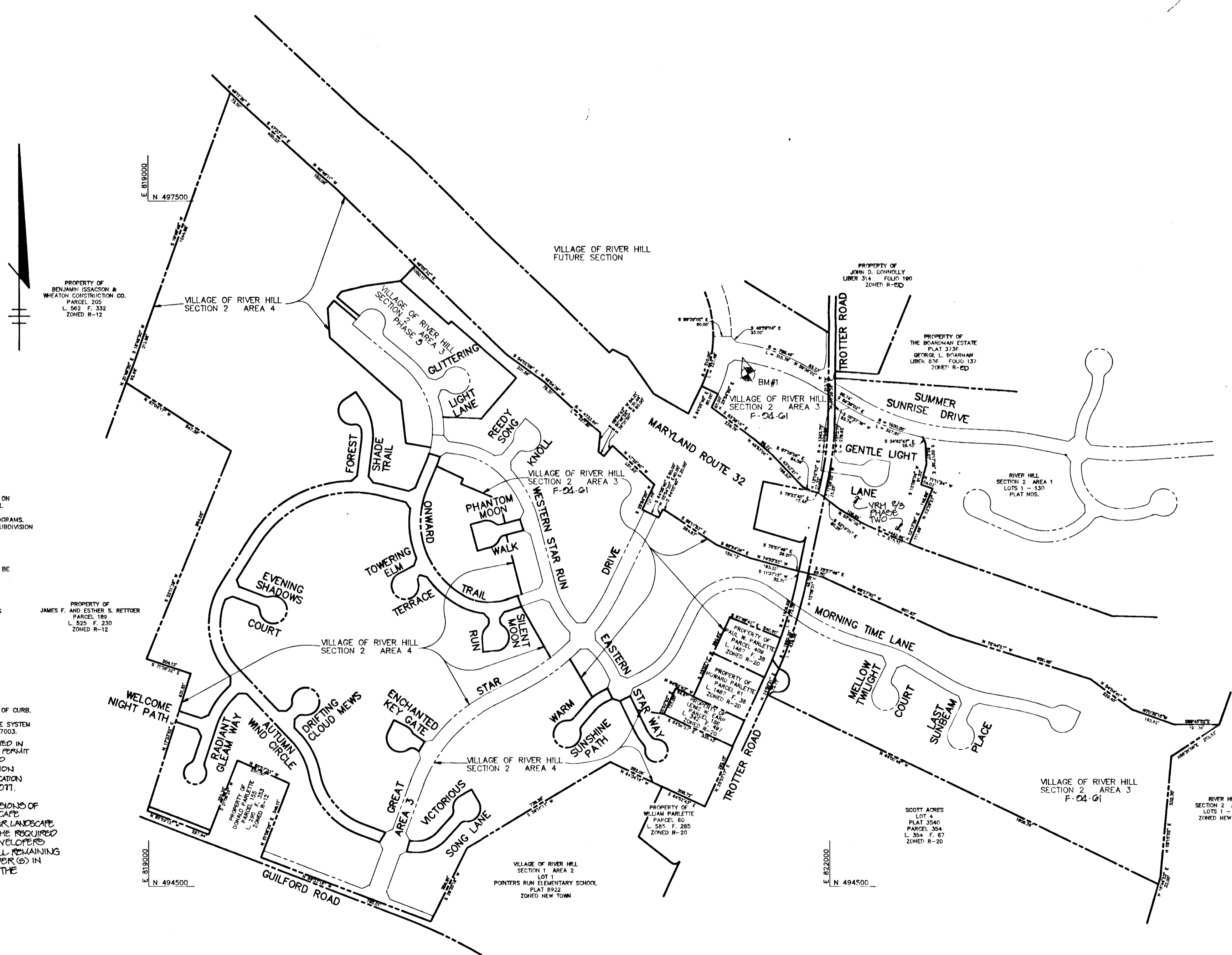
HOWARD COUNTY, MARYLAND



VICINITY MAP
DATE: 07-11-2007

BENCHMARKS
 BM#1 RAILROAD SPIKE IN POLE #525680
 TROTTER ROAD ELEV. 393.27
 N 496697.02 E 822026.81
 BM#2 RAILROAD SPIKE IN POPLAR
 ELEV. 438.92
 N 495551.90 E 820727.80

SHEET INDEX	
NO	DESCRIPTION
1	TITLE SHEET
2	PLAN AND PROFILE OF ENCHANTED KEY GATE VICTORIOUS SONG LANE AND AUTUMN WIND CIRCLE FROM STA 0+00.00 TO 2+00.00
3	PLAN AND PROFILE OF DRIFTING CLOUD MEWS AND AUTUMN WIND CIRCLE FROM STA 2+00.00 TO 11+00.00
4	PLAN AND PROFILE OF EVENING SHADOWS COURT AND AUTUMN WIND CIRCLE FROM STA 11+00.00 TO 18+50.00
5	PLAN AND PROFILE OF FOREST SHADE TRAIL AND AUTUMN WIND CIRCLE FROM STA 18+50.00 TO END
6	PLAN AND PROFILE OF RADIANT GLEAM WAY AND WELCOME NIGHT PATH
7	PLAN AND PROFILE OF SILENT MOON RUN, TOWERING ELM TERRACE AND ONWARD TRAIL FROM STA 0+00.00 TO 8+00.00
8	PLAN AND PROFILE OF PHANTOM MOON WALK AND ONWARD TRAIL FROM STA 8+00.00 TO 15+50.00
9	PLAN AND PROFILE OF WARM SUNSHINE PATH AND EASTERN STAR WAY FROM STA 3+30.00 TO END
10	DETAIL SHEET
11	DRAINAGE AREA MAP
12	GRADING AND SEDIMENT CONTROL PLAN
13	GRADING AND SEDIMENT CONTROL PLAN
14	GRADING AND SEDIMENT CONTROL PLAN
15	GRADING AND SEDIMENT CONTROL PLAN
16	SEDIMENT CONTROL DETAILS AND NOTES
17	STORM DRAIN PROFILES
18	STORM DRAIN PROFILES
19	STORM DRAIN PROFILES
20	STORM DRAIN PROFILES AND STRUCTURE SCHEDULE
21	STORMWATER MANAGEMENT PROFILES AND DETAILS
22	SHALLOW MARSH AREA PLANTING PLANS AND DETAILS



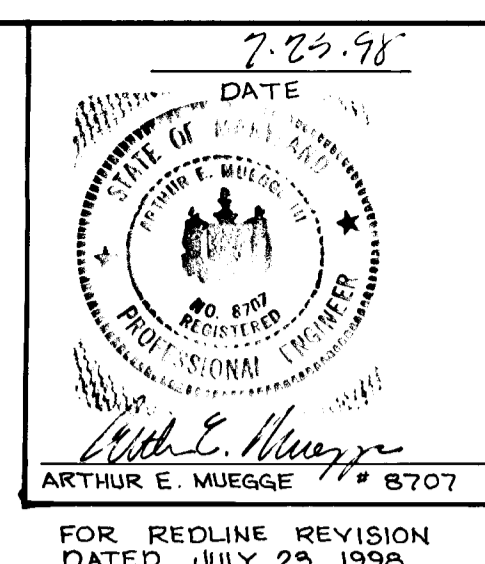
- GENERAL NOTES**
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
 - APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
 - THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
 - 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 "MESH UTILITY" AT 1-800-287-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
 BELL TELEPHONE SYSTEM 303-3649
 LONG-DISTANCE CABLE DIVISION 303-3553 OR 3554
 BALTIMORE GAS AND ELECTRIC CO. 539-8000
 HOWARD COUNTY BUREAU OF UTILITIES 313-4800
 COLORED PIPELINE 795-1395
 - TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
 - ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
 - ALL STREET CURB RETURNS SHALL HAVE 25" RADI UNLESS OTHERWISE NOTED.
 - STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, L.A. STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST AMENDMENTS.
 - PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
 - DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS:
 ALL 50' RIGHT OF WAYS 25 AND 30 M.P.H.
 - ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
 - ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF ASTM D-1557.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT "G" ELEVATIONS.
 - PROFILES AT STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
 - SUBJECT PROPERTY ZONED NEW TOWN PER 10-18-93 COMPREHENSIVE ZONING PLAN.
 - NO PIPE SHALL BE LAD UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
 - ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS "C" AS SHOWN IN FIG. 11.4, VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
 - SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S. S-91-03, P-94-01, F-94-01.

- GENERAL NOTES**
- STREET TREES (SEE TOTALS) THE LOCATION, TYPE AND NUMBER OF TREES SHOWN ON THIS PLAN ARE TENTATIVE AND ARE USED FOR BOND PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMMODATE FIELD CONDITIONS INCLUDING 30' CLEARANCE OF ANY STREET LIGHT AND BUILDERS LANDSCAPE PROGRAMS. BOND RELEASE IS CONTINGENT UPON SECTION 10.13 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS AS APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING.
 - TOPOGRAPHY SHOWN HEREON IS FROM AERIAL MAPS FLOWN IN 1989 BY MAPPING ASSOCIATES, INC.
 - PUBLIC WATER AND SEWER SYSTEMS AS PER CONTRACT NO. 34-5000-D ARE TO BE UTILIZED FOR THIS SITE. SEWER SERVICE DRAINAGE AREA: MIDDLE PATUXENT.
 - THE 100-YEAR FLOODPLAIN STUDY WAS PREPARED BY WYTHIAN BEJARIANT AND ASSOCIATES AND WAS APPROVED UNDER 9-91-03 ON 12-17-91.
 - WETLANDS DELINEATION IS PROVIDED BY GEO-TECHNOLOGY ASSOC., INC. AND WAS APPROVED BY ARMY CORPS OF ENGINEERS ON 9-20-93.
 - TRAFFIC STUDY WAS PREPARED BY GOROVE/SLADE ASSOCIATES AND WAS APPROVED UNDER 5-91-03 ON 12-17-91.
 - NOISE STUDY WAS PREPARED BY STAVANO ENGINEERING, INC. AND APPROVED UNDER P-92-15 AND P-92-15 ON 6-26-92 AND 1-8-93 RESPECTIVELY.
 - GEOTECHNICAL STUDY FOR STORMWATER MANAGEMENT FOR THIS PROJECT IS PROVIDED BY THE ROBERT BALTER COMPANY.
 - BOUNDARY SURVEY WAS PREPARED BY KGI, INC. AUGUST 28, 1991.
 - ALL STREET LIGHTS SHALL BE LOCATED BETWEEN 2'-0" AND 4'-0" BEHIND FACE OF CURB.
 - THE COORDINATES SHOWN HEREON ARE BASE ON NAD 27, MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY MONUMENT NO. 2337001, 2337002 AND 2437003.
 - WETLANDS DISTURBANCES SHOWN ON THESE PLANS TO BE PERFORMED IN ACCORDANCE WITH MARYLAND DEPARTMENT OF NATURAL RESOURCES PERMIT AND MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER QUALITY CERTIFICATION (WQC) APPLICATION. THE APPLICATION WAS APPLIED FOR ON AUGUST 2, 2003, WITH TRACKING # 1003-G001.
 - THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 10.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. THE DEVELOPER WILL INSTALL THE REQUIRED PERIMETER LANDSCAPE PLANTINGS ALONG GUILDFORD ROAD. FINANCIAL SURETY FOR THE REQUIRED 90 TREES, IN THE AMOUNT OF \$80,000.00 PART OF THE DEVELOPER'S AGREEMENT. THE LANDSCAPE PLANTINGS REQUIRED FOR ALL REMAINING PROPERTY PERIMETERS WILL BE INSTALLED BY THE BUILDER(S) IN CONJUNCTION WITH THE SITE DEVELOPMENT PLANS FOR THE RESIDENTIAL LOTS.

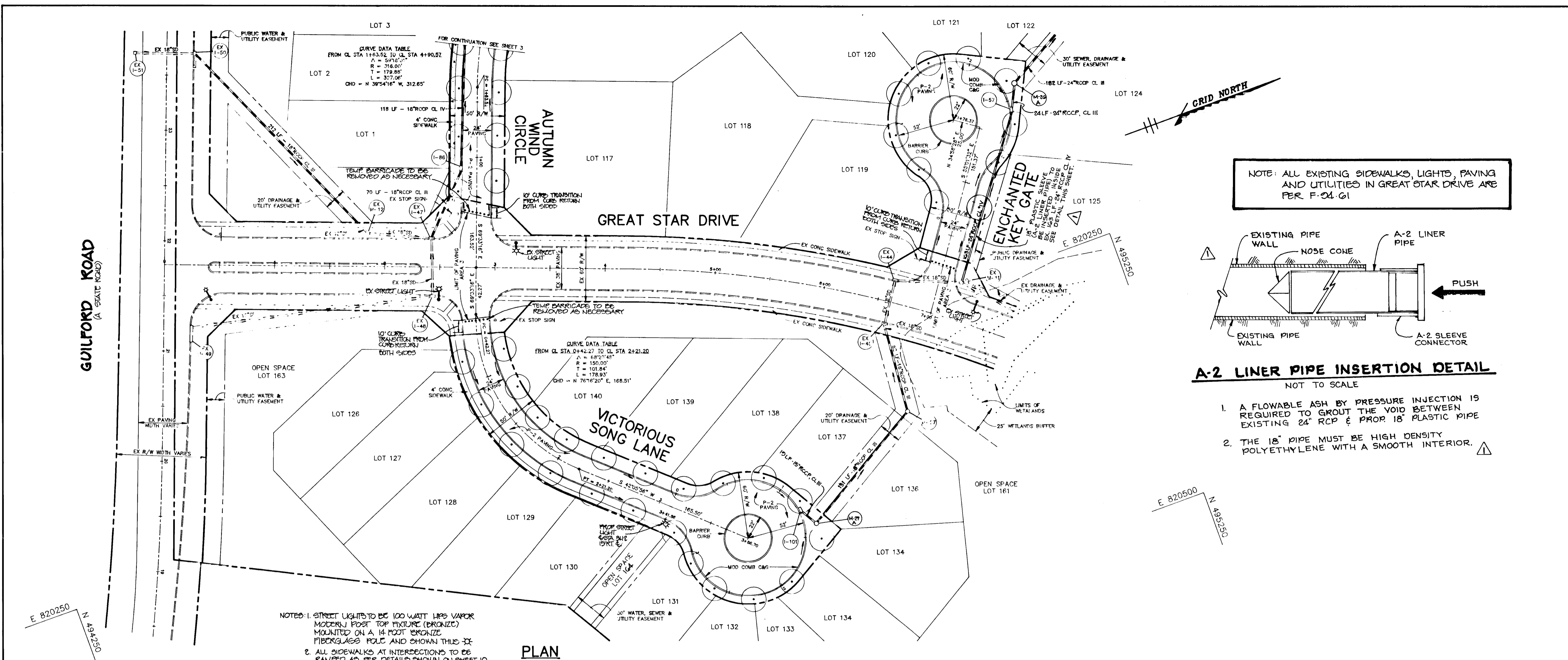
PLAN
SCALE: 1" = 300'

AS BUILT CERTIFICATE	
DATE	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Gina Summerville</i> CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH	9/23/04 DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	
<i>John D. Pappas</i> CHIEF, BUREAU OF HIGHWAYS	9/15/94 DATE
<i>John D. Pappas</i> CHIEF, BUREAU OF ENGINEERING	9/10/04 DATE
DATE	REVISION
OWNER / DEVELOPER	
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044	
PROJECT	VILLAGE OF RIVER HILL SECTION 2 AREA 4 LOTS 1 - 165
AREA	TAX MAP NO. 35 ZONEL NEW TOWN PART OF PARCELS 70 & 240 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE	TITLE SHEET
RIEMER MUEGGE & ASSOCIATES, INC. Planners • Engineers • Surveyors 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045 410-997-8900 FAX: 410-997-9282	
DATE	8.29.04
DESIGNED BY:	C.J.R.
DRAWN BY:	D.A.M.
PROJECT NO:	88103
DATE:	AUGUST 20, 2004
SCALE:	AS SHOWN
DRAWING NO.	1 OF 22

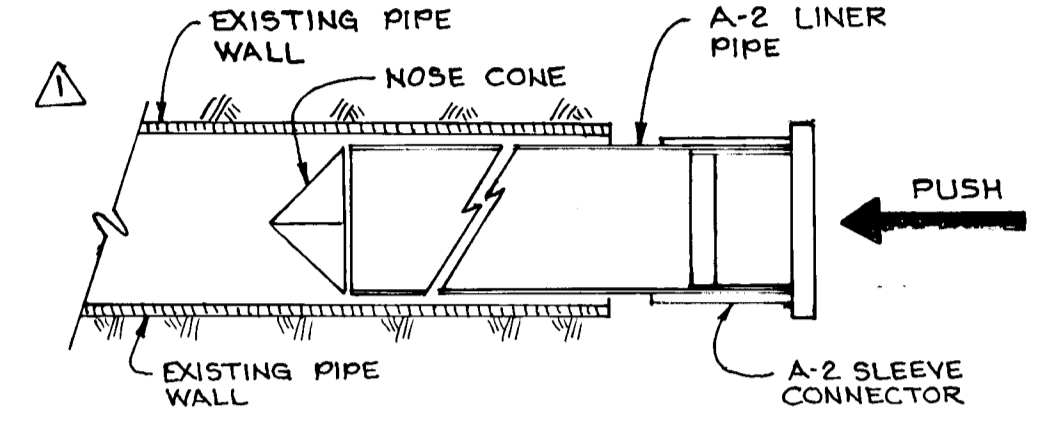
1487



FOR REDLINE REVISION DATED JULY 23, 1998



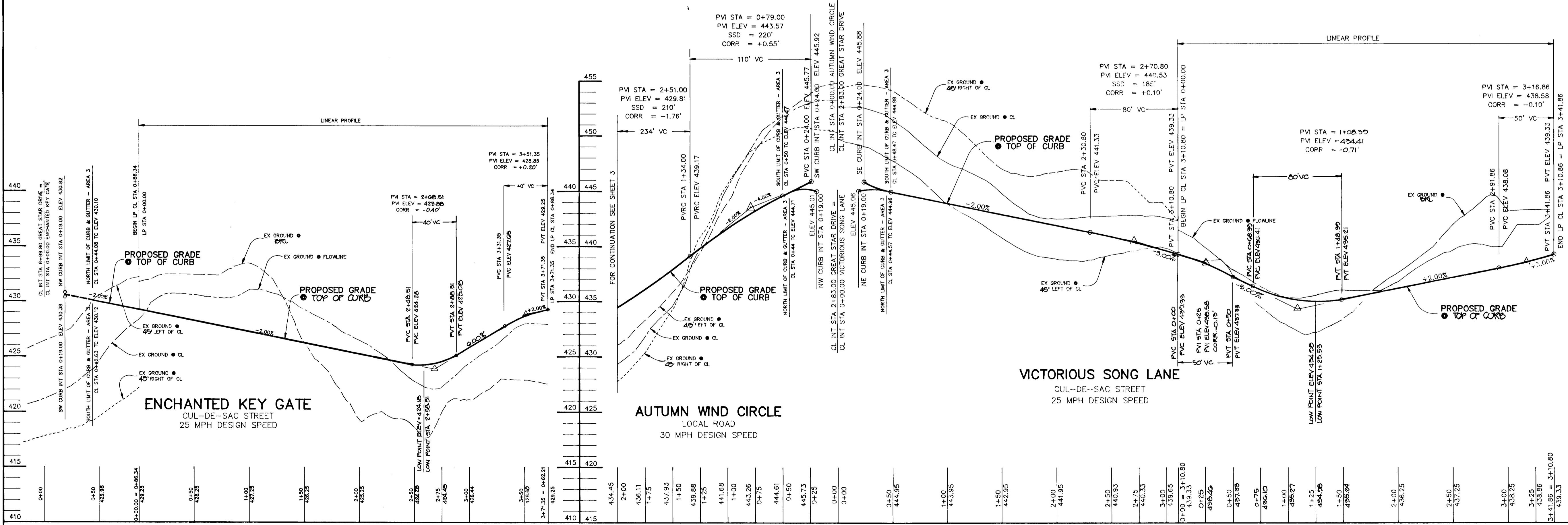
NOTE: ALL EXISTING SIDEWALKS, LIGHTS, PAVING AND UTILITIES IN GREAT STAR DRIVE ARE PER F-24-G1



A-2 LINER PIPE INSERTION DETAIL
NOT TO SCALE

1. A FLOWABLE ASH BY PRESSURE INJECTION IS REQUIRED TO GROUT THE VOID BETWEEN EXISTING 24" RCP & PROP 18" PLASTIC PIPE
2. THE 18" PIPE MUST BE HIGH DENSITY POLYETHYLENE WITH A SMOOTH INTERIOR.

NOTES: 1. STREET LIGHTS TO BE 100 WATT HPS VAPOR MODERN POST TOP FIXTURE (BRONZE) MOUNTED ON A 14 FOOT BRONZE FIBERGLASS POLE AND SHOWN THIS IS RAMPED UP PER DETAIL SHOWN ON SHEET 10.
SCALE: 1"=50'



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

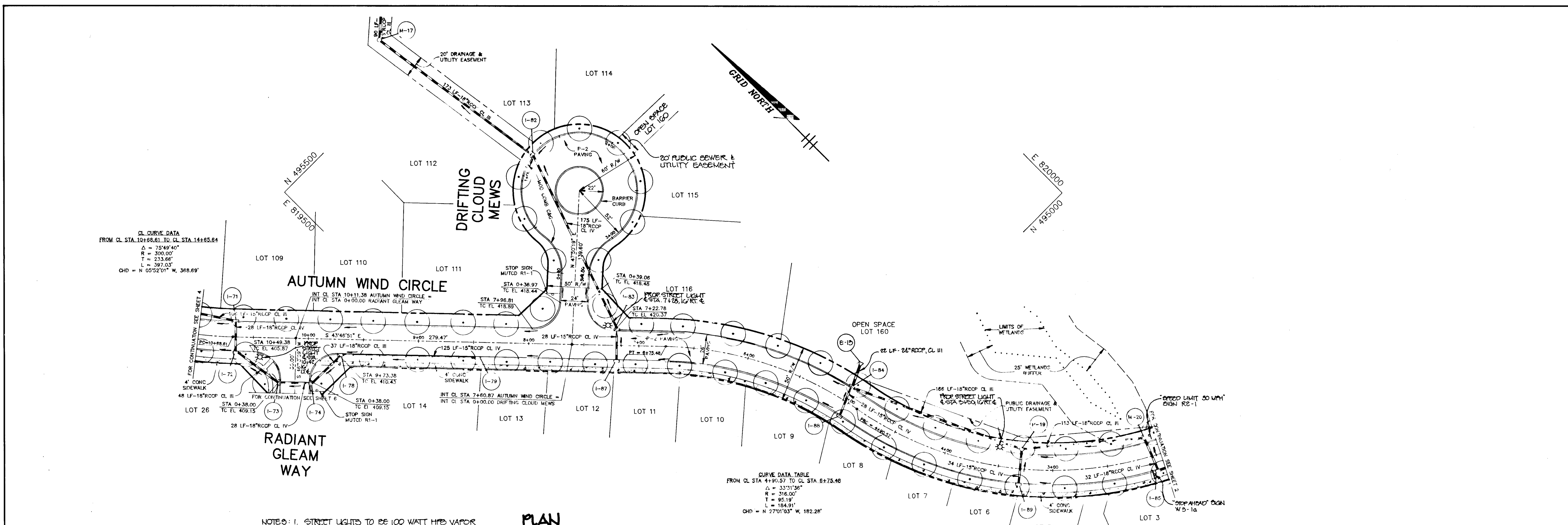
PROFILE
SCALE:
HOR. 1"=50'
VERT. 1"=5'

AS BUILT CERTIFICATE	
DATE	
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Gina Swinmancy</i>	9/23/94
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	
<i>Robert D. ...</i>	9/19/94
CHIEF, LAND DEVELOPMENT DIVISION	DATE
<i>Andrew M. ...</i>	9-15-94
CHIEF, BUREAU OF HIGHWAYS	DATE
<i>Robert ...</i>	9/19/94
CHIEF, BUREAU OF ENGINEERING	DATE
7/23/98	ADDED REFERRING TO PLACEMENT & DETAIL OF A-2 LINER PIPE
DATE NO.	REVISION
OWNER / DEVELOPER	
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044	
PROJECT: VILLAGE OF RIVER HILL SECTION 2 AREA 4 LOTS 1 - 165	
AREA: TAX MAP NO. 35 ZONING: NEW TOWN PART OF PARCELS 70 & 240 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE PLAN AND PROFILE OF ENCHANTED KEY GATE, VICTORIOUS SONG LANE AND AUTUMN WIND CIRCLE FROM STA 0+00.00 TO 2+00.00	
RIEMER MUEGGE & ASSOCIATES, INC. Planners • Engineers • Surveyors 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045 410-997-8900 FAX: 410-997-9282	
8-29-94	DATE
DESIGNED BY: C.J.R.	
DRAWN BY: D.A.M.	
PROJECT NO: 88103	
DATE: AUGUST 22, 1994	
SCALE: AS SHOWN	
DRAWING NO. 2 OF 22	



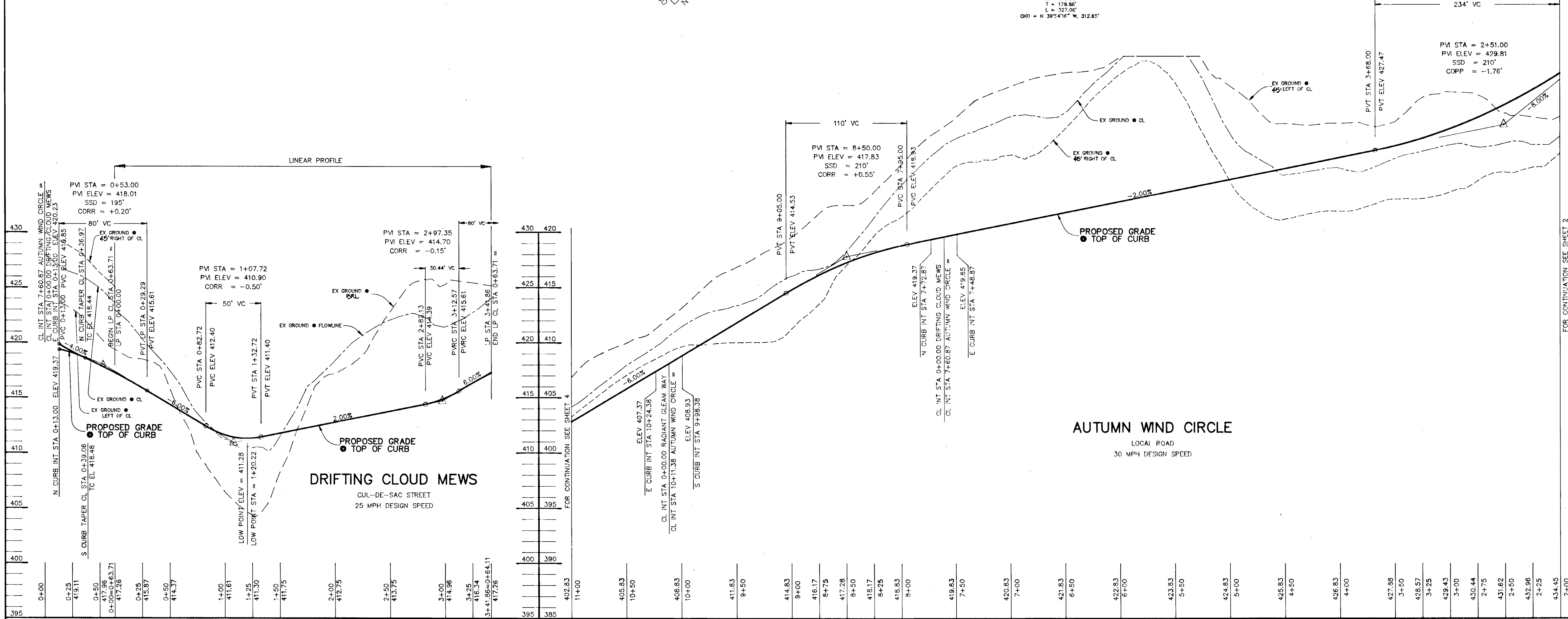
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NOTES: 1. STREET LIGHTS TO BE 100 WATT HPS VAPOR MODERN POSTS TOP FIXTURE (BRONZE) MOUNTED ON A 4 FOOT BRONZE TOWER. GLASS POST AND SHOWN THIS SIDE OF SHEET.
 2. ALL SIDEWALKS AT INTERSECTIONS TO BE RAISED AS PER DETAILS SHOWN ON SHEET 10.

PLAN
 SCALE: 1"=50'



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

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

AS BUILT CERTIFICATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. DATE: 9/23/94
Gina Swinomy
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. DATE: 9/19/94
William M. Ducker
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DATE: 9/10/94
Robert Sporn
 CHIEF, BUREAU OF ENGINEERING

OWNER / DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION, THE ROUSE BUILDING, 10275 LITTLE PATUXENT PARKWAY, COLUMBIA, MARYLAND 21044

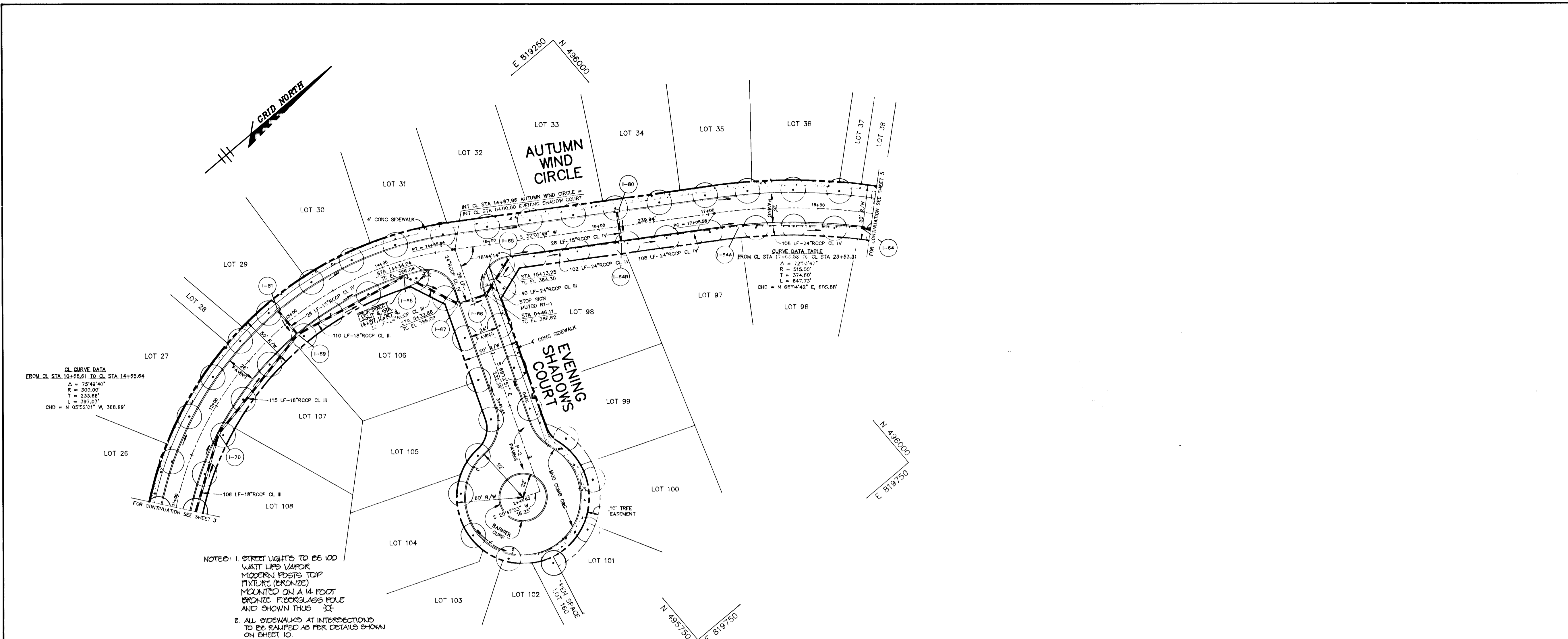
PROJECT: VILLAGE OF RIVER HILL SECTION 2 AREA 4 LOTS 1 - 165

AREA: TAX MAP NO. 35 ZONED NEW TOWN PART OF PARCELS 70 & 240 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: PLAN AND PROFILE OF DRIFTING CLOUD MEWS AND AUTUMN WIND CIRCLE FROM STA 2+00 TO 11+00

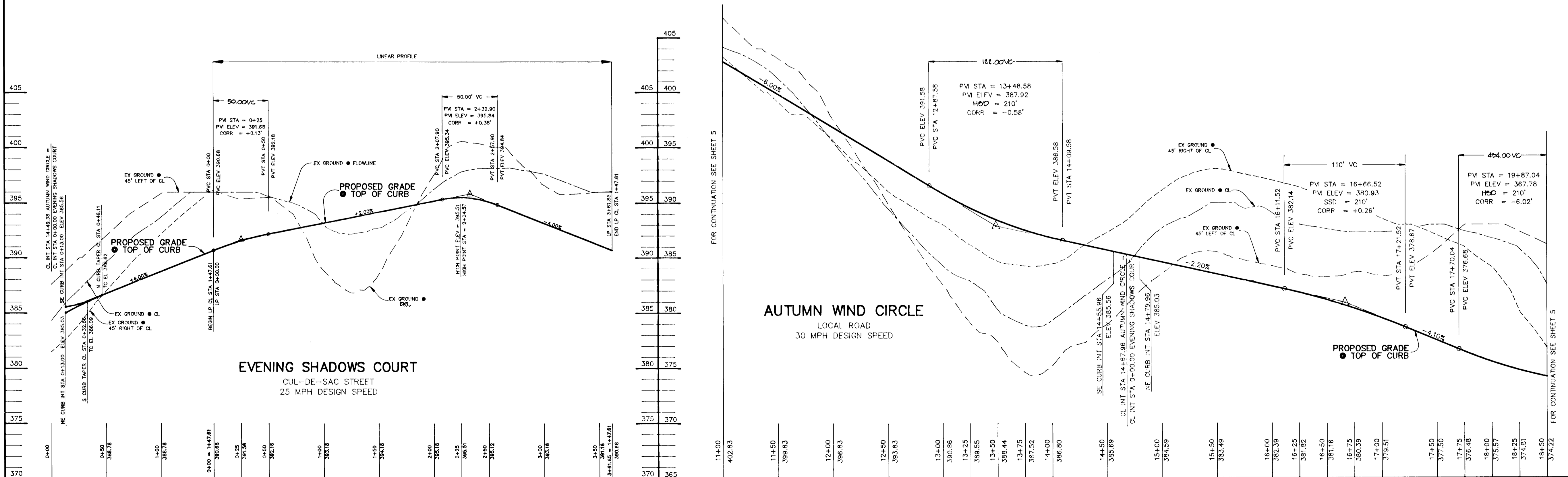
RIEMER MUEGGE & ASSOCIATES, INC.
 Planners • Engineers • Surveyors
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
 410-997-8900 FAX: 410-997-9282

DATE: 8.29.94
 DESIGNED BY: C.J.R.
 DRAWN BY: D.A.M.
 PROJECT NO: 88103
 DATE: AUGUST 22, 1994
 SCALE: AS SHOWN
 DRAWING NO. 3 OF 22



NOTES: 1. STREET LIGHTS TO BE 100 WATT LIPS VAPOR MODERN POSTS TOP MIXTURE (BRONZE) MOUNTED ON A 14 FOOT BRONZE FIBERGLASS POLE AND SHOWN THUS "X".
 2. ALL SIDEWALKS AT INTERSECTIONS TO BE RAISED AS PER DETAILS SHOWN ON SHEET 10.

PLAN
SCALE: 1"=50'



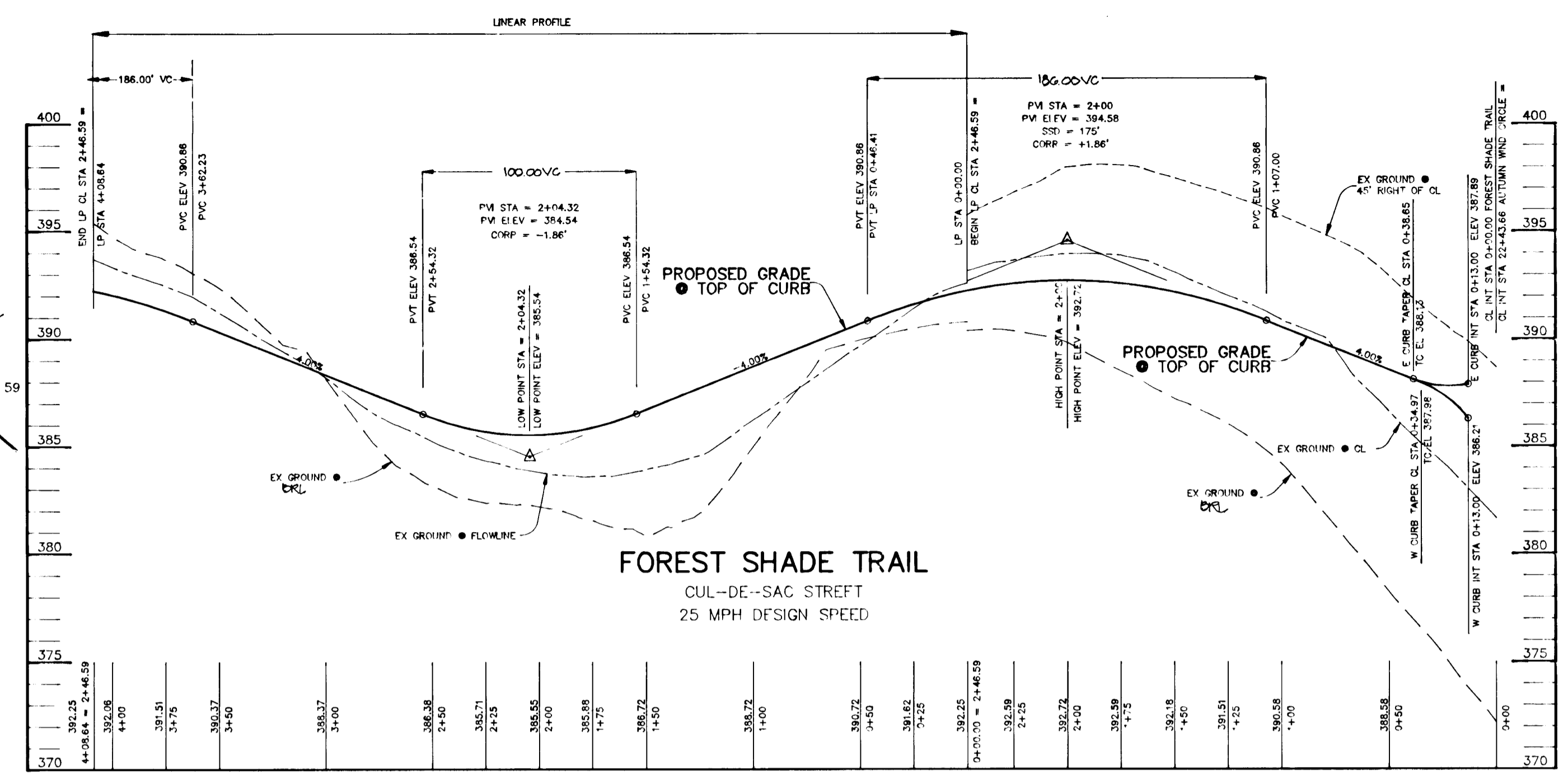
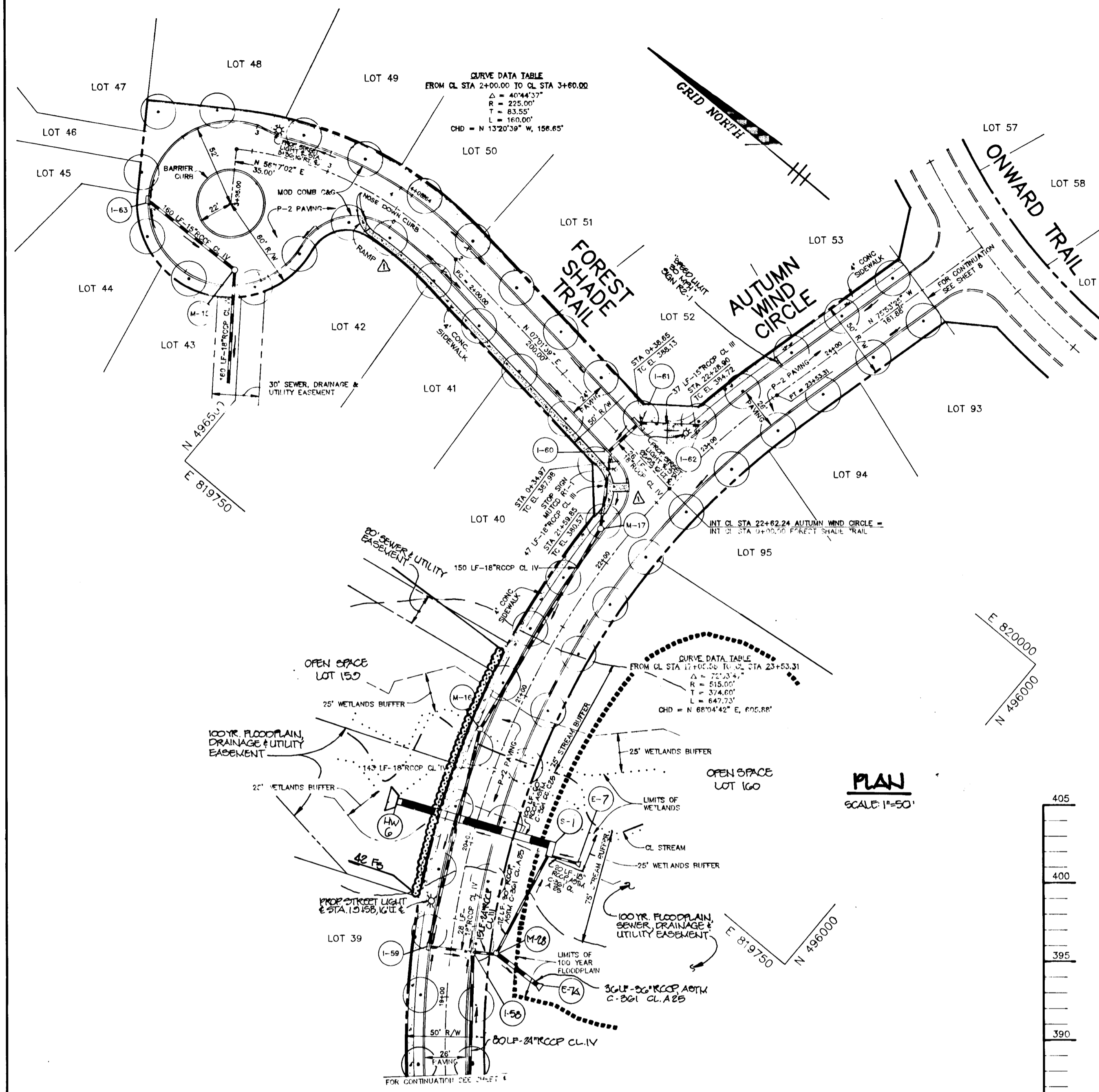
PROFILE
SCALE:
HOR. 1"=50'
VERT. 1"=5'

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

AS BUILT CERTIFICATE	
DATE	
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	DATE: 9/23/94
<i>Gina Swannonic</i> CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH	DATE: 9/23/94
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	DATE: 7/12/94
<i>Mr. Dammann</i> CHIEF, DEPARTMENT DIVISION	DATE: 7/12/94
<i>Andrew M. Decker</i> CHIEF, BUREAU OF HIGHWAYS HS	DATE: 9-15-94
<i>Richard J. Sporn</i> CHIEF, DIVISION OF PLANNING	DATE: 9/10/94
DATE NO.	REVISION
OWNER / DEVELOPER	THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044
PROJECT	VILLAGE OF RIVER HILL SECTION 2 AREA 4 LOTS 1 - 165
AREA	TAX MAP NO. 35 ZONED NEW TOWN PART OF PARCELS 70 & 240 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE	PLAN AND PROFILE OF EVENING SHADOWS COURT AND AUTUMN WIND CIRCLE FROM STA 11+00 TO 18+50
DESIGNED BY:	RIEMER MUEGGE & ASSOCIATES, INC. Planners • Engineers • Surveyors 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045 410-997-8900 FAX: 410-997-9282
DATE	8-29-94
DESIGNED BY:	C.J.R.
DRAWN BY:	D.A.M.
PROJECT NO.:	88103
DATE:	AUGUST 20, 1994
SCALE:	AS SHOWN
DRAWING NO.:	4 OF 82



1487



PLANT LIST

QUANTITY	KEY	NAME	SIZE	REMARKS
42	F5	FORSYTHIA X INTERMEDIA	18" - 24" HT.	CONT. 4%
		"SPECTABILIS"		
		SHOWY BORDER FORSYTHIA		

NOTES:
 1. STREET LIGHTS TO BE 100 WATT LIPS VAPOR MODERN POSTS TOP FIXTURE (BRONZE) MOUNTED ON A 14 FOOT BRONZE FIBROGLASS POST AND SHOWN THIS IS RAISED AS PER DETAILS SHOWN ON SHEET 10.
 2. ALL SIDEWALKS AT INTERSECTIONS TO BE RAISED AS PER DETAILS SHOWN ON SHEET 10.

AS BUILT CERTIFICATE

DATE: 9/23/94

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 Gina Trumony, Chief, Division of Land Development and Research

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 Robert Dammann, Chief, Division of Public Works
 Andrew M. Daner, Chief, Bureau of Highways
 Paul S. Szymon, Chief, Bureau of Engineering

3-26-96 RELOCATED SIDEWALK ALONG FOREST SHADE TRAIL.

OWNER / DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION, THE ROUSE BUILDING, 10275 LITTLE PATUXENT PARKWAY, COLUMBIA, MARYLAND 21044

PROJECT: VILLAGE OF RIVER HILL SECTION 2 AREA 4 LOTS 1 - 165

AREA: TAX MAP NO. 35 ZONED NEW TOWN PART OF PARCELS 70 & 240 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: PLAN AND PROFILE OF FOREST SHADE TRAIL AND AUTUMN WIND CIRCLE FROM STA 18+50.00 TO END

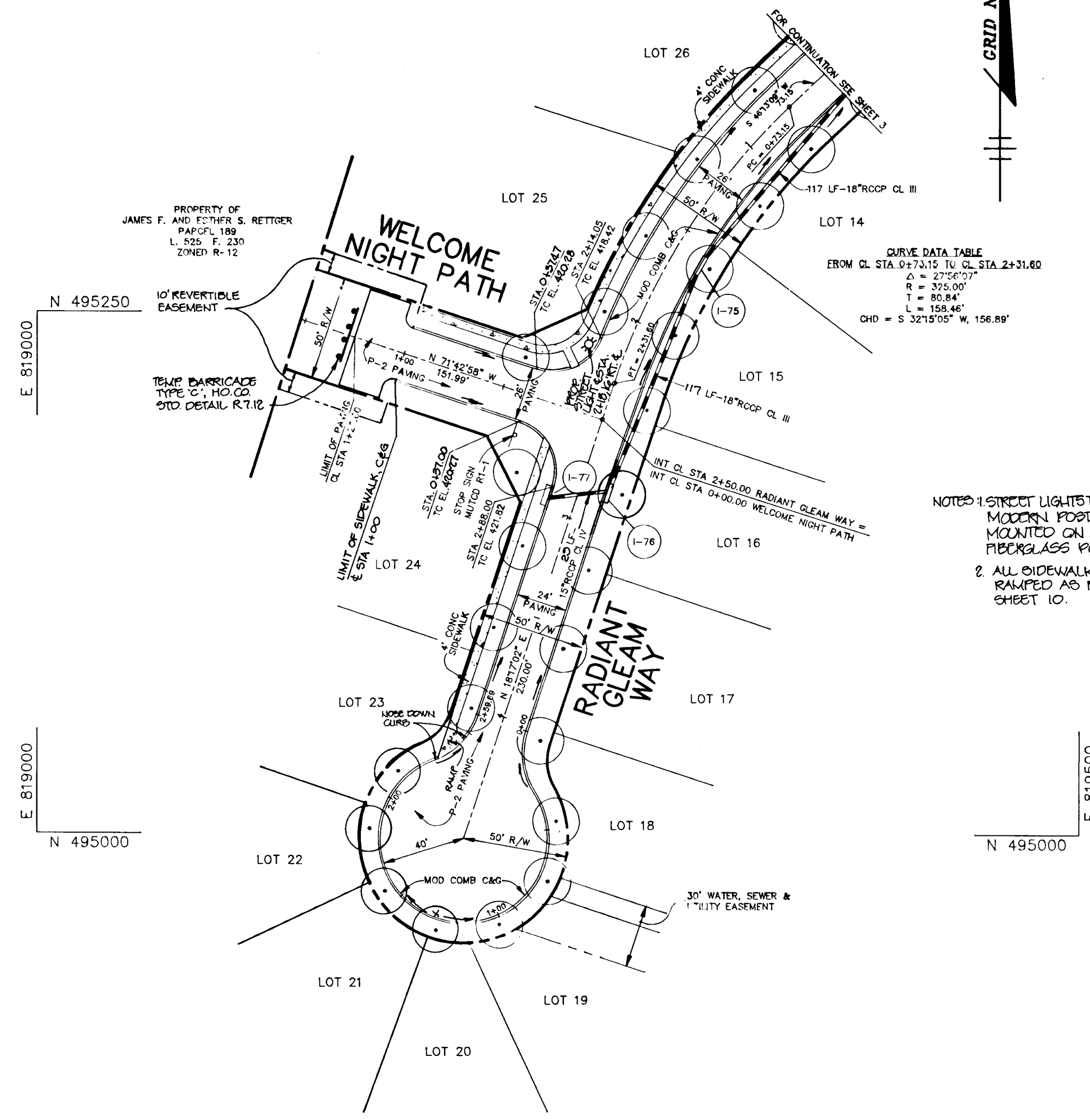
RIEMER MUEGGE & ASSOCIATES, INC. Planners • Engineers • Surveyors 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045 410-997-8900 FAX: 410-997-8282

DATE: 8-27-94

DESIGNED BY: C.J.R.
 DRAWN BY: D.A.M.
 PROJECT NO: 88103
 DATE: AUGUST 20, 1994
 SCALE: AS SHOWN
 DRAWING NO. 5 OF 22

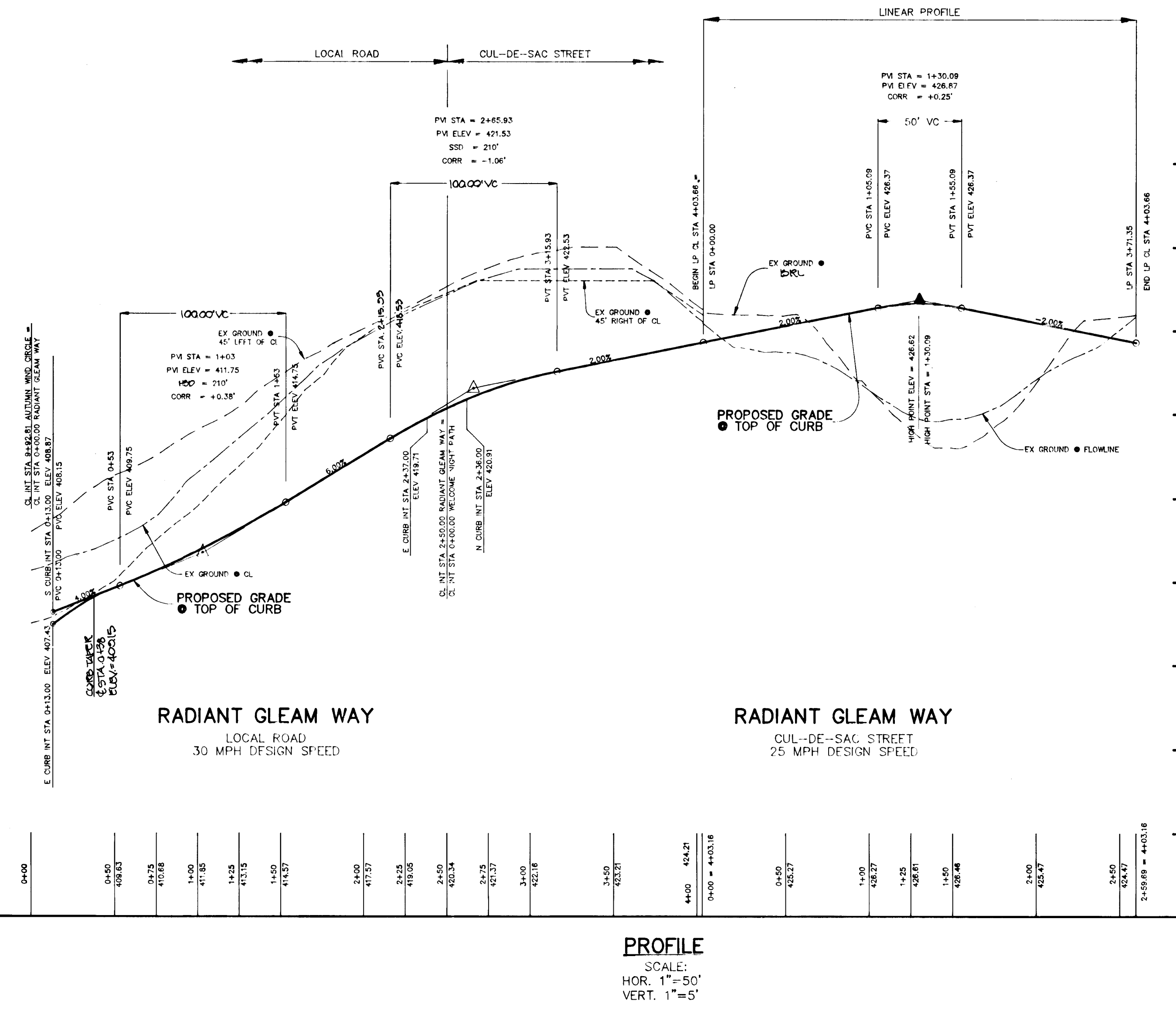
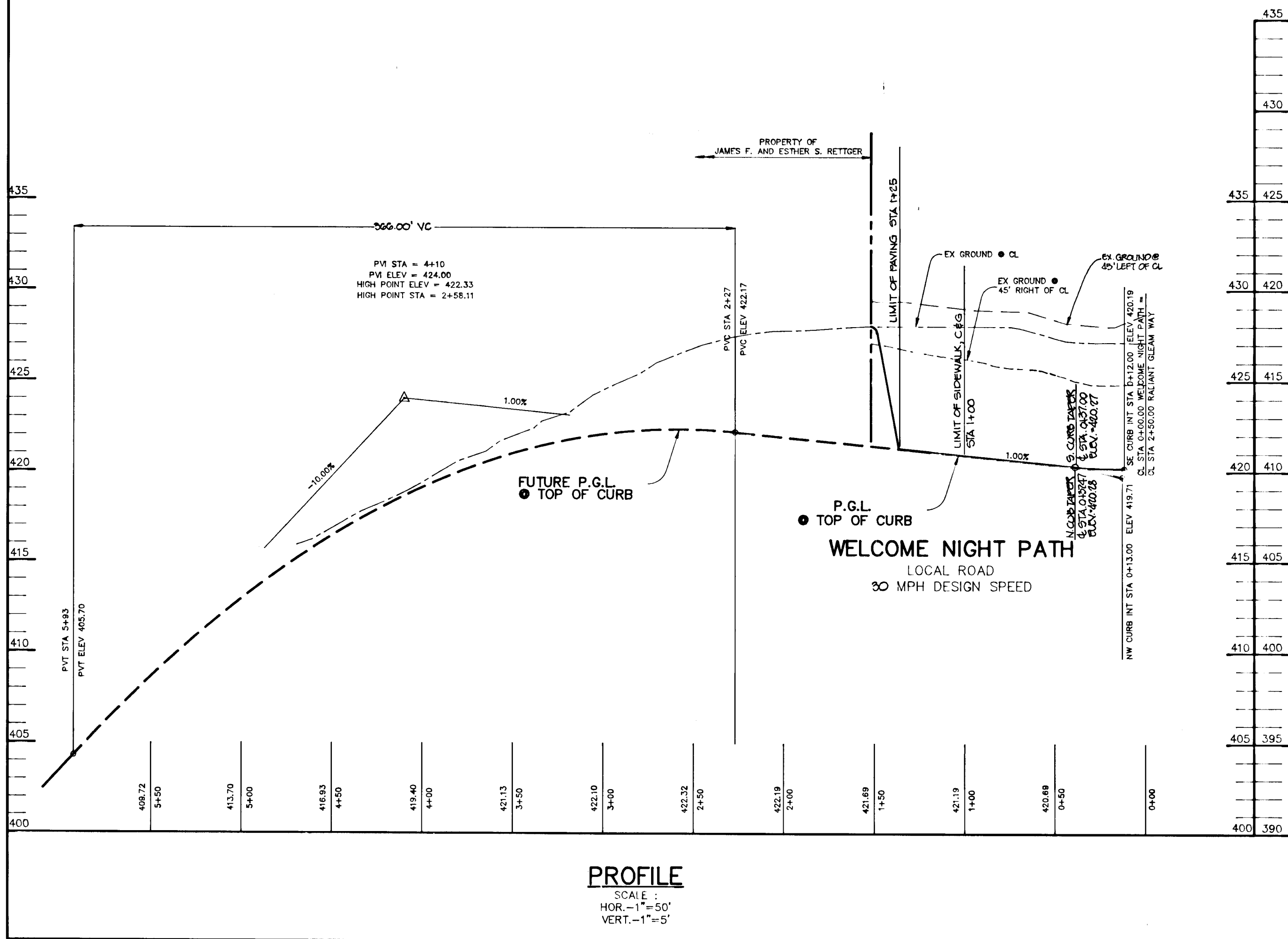
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NOTES: 1. STREET LIGHTS TO BE 100 WATT LIPS VAPOR MODERN POST TOP FIXTURE (BRONZE) MOUNTED ON A 14 FOOT BRONZE FIBERGLASS POLE AND SHOWN THUS: 2. ALL SIDEWALKS AT INTERSECTIONS TO BE RAMPED AS PER DETAILS SHOWN ON SHEET 10.

CURVE DATA TABLE
FROM CL STA 0+72.15 TO CL STA 2+31.60
D = 275.00'
R = 325.00'
T = 30.84'
L = 158.46'
CHD = S 32°15'05" W, 156.89'



AS BUILT CERTIFICATE

DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Gina Swimmorji 9/23/94
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
John Dammus 9/19/94
CHIEF, DIVISION OF PUBLIC WORKS

Andrew M. Danek 9-15-94
CHIEF, BUREAU OF HIGHWAYS

Paul Sapan 9/19/94
CHIEF, BUREAU OF ENGINEERING

4.0.05	1	RELOCATE E-716
DATE NO.	REVISION	

OWNER / DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

PROJECT
VILLAGE OF RIVER HILL
SECTION 2 AREA 4
LOTS 1 - 165

AREA
TAX MAP NO. 35 ZONED NEW TOWN
PART OF PARCELS 70 & 240
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
PLAN AND PROFILE OF
RADIANT GLEM WAY AND
WELCOME NIGHT PATH

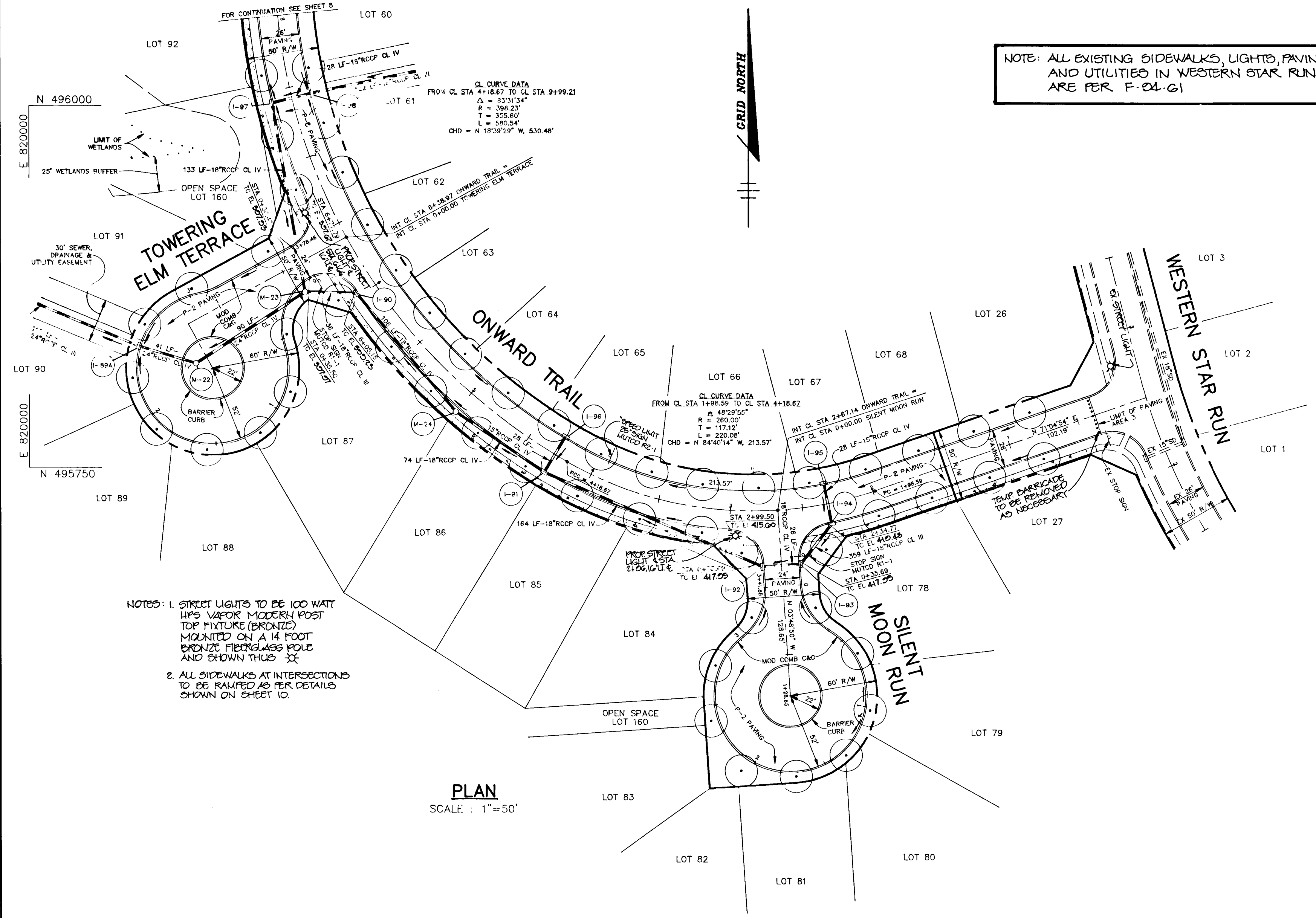
RIEMER MUEGGE & ASSOCIATES, INC.
Planners • Engineers • Surveyors
8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
410-997-8900 FAX: 410-997-9282

8-29-94
DATE

DESIGNED BY: C.J.R.
DRAWN BY: D.A.M.
PROJECT NO: 88103
DATE: AUGUST 20, 1994
SCALE: AS SHOWN
DRAWING NO. 6 OF 22

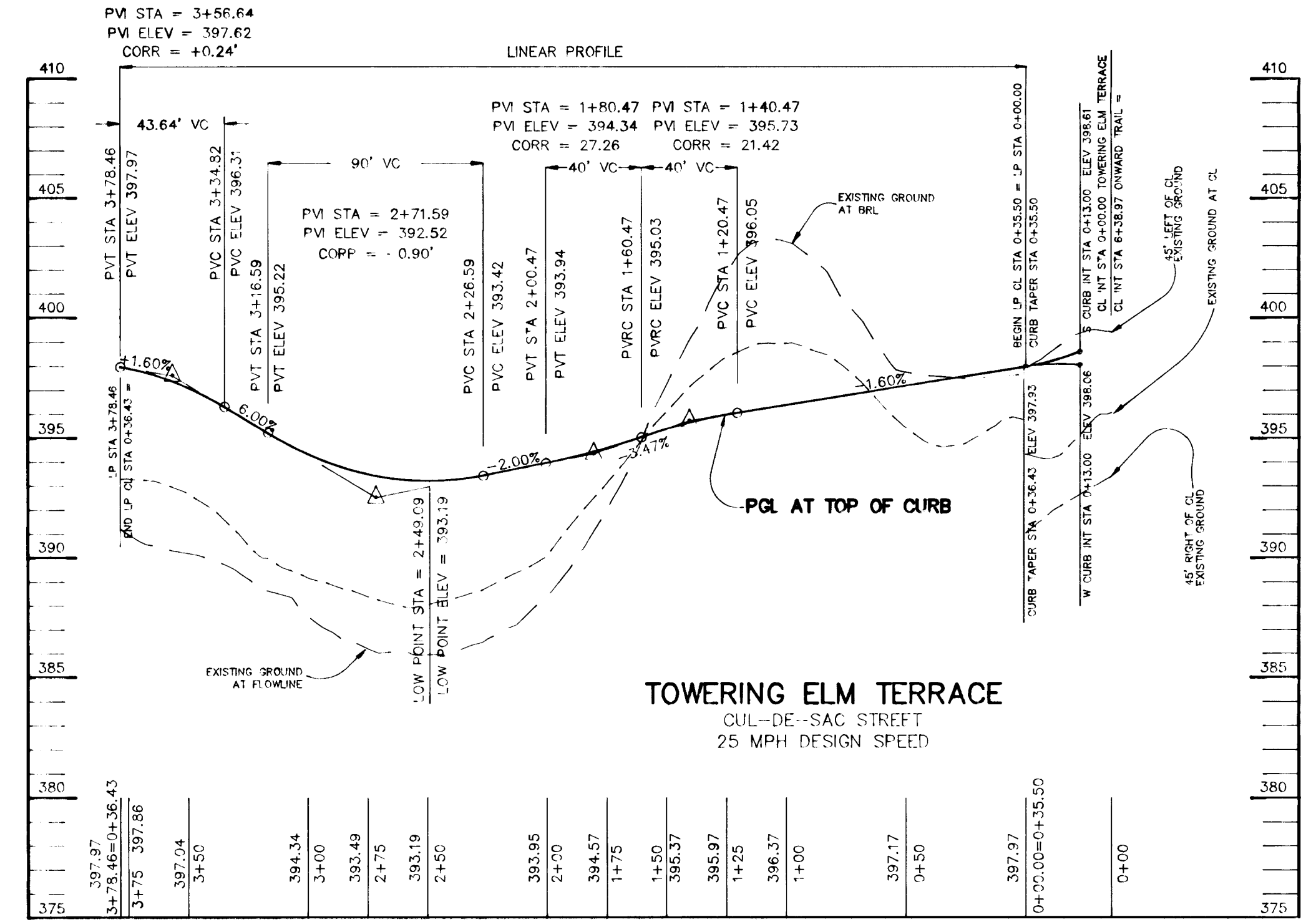
JAYKANT D. PATEKH #19148

NOTE: ALL EXISTING SIDEWALKS, LIGHTS, PAVING AND UTILITIES IN WESTERN STAR RUN ARE PER F-04-G1

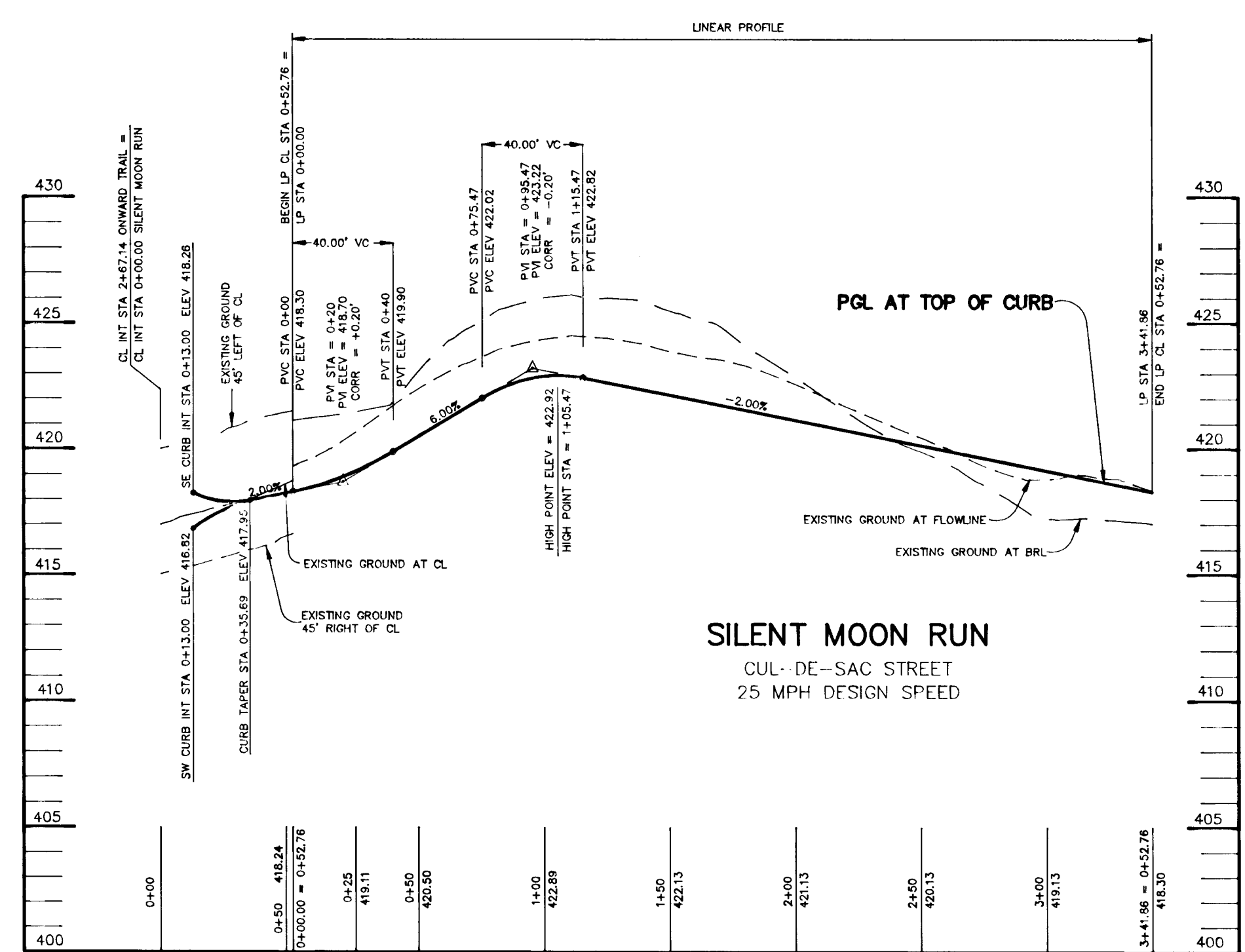


- NOTES:
1. STREET LIGHTS TO BE 100 WATT HPS VAPOR MODERN POST TOP FIXTURE (BRONZE) MOUNTED ON A 14 FOOT BRONZE FIBERGLASS POLE AND SHOWN THIS XX
 2. ALL SIDEWALKS AT INTERSECTIONS TO BE RAISED AS PER DETAILS SHOWN ON SHEET 10.

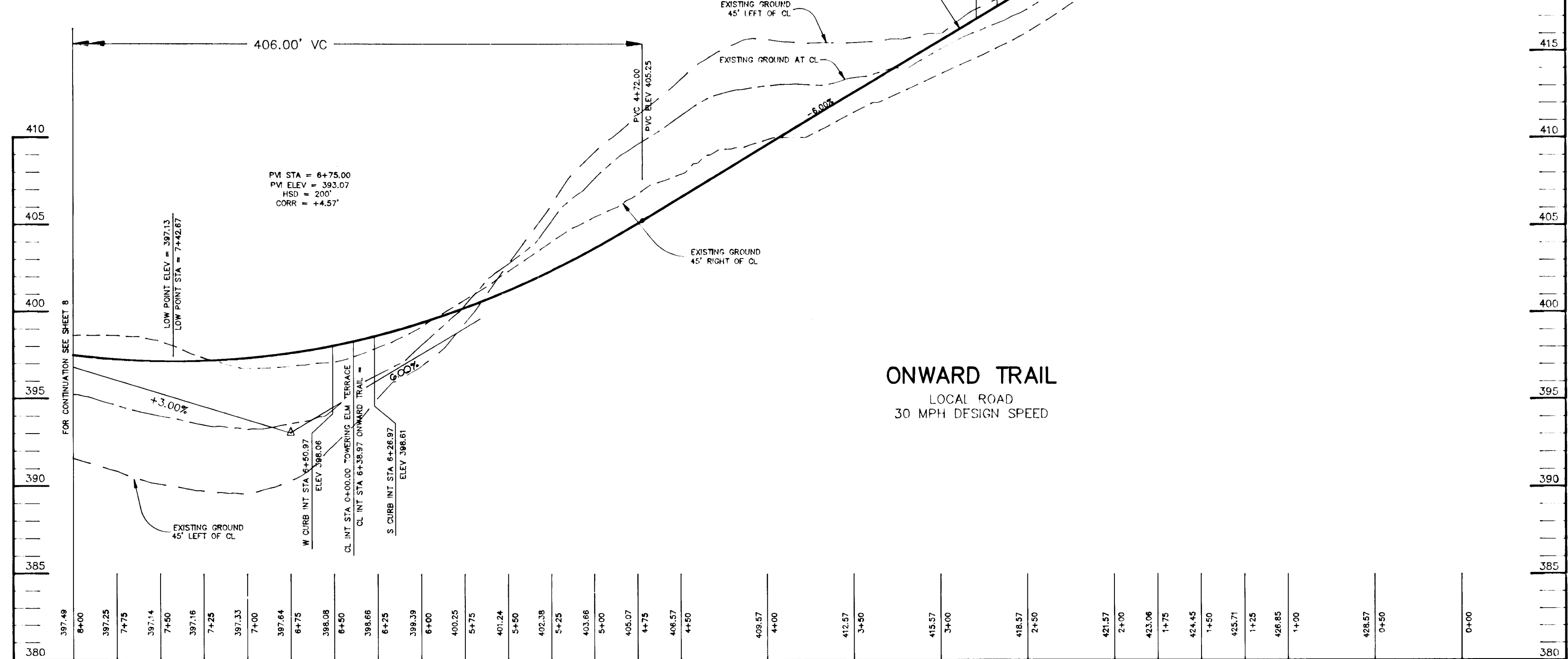
PLAN
SCALE: 1"=50'



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



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



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

AS BUILT CERTIFICATE

DATE: _____

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Gina Jaramany CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH 9/23/94 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Andrew M. Danek CHIEF, BUREAU OF HIGHWAYS HS 9-15-99 DATE

Paul Jefferson 9/19/94 DATE

DATE NO. REVISION

OWNER / DEVELOPER
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

PROJECT VILLAGE OF RIVER HILL
 SECTION 2 AREA 4
 LOTS 1 - 165

AREA TAX MAP NO. 35 ZONED NEW RW'N
 PART OF PARCELS 70 & 240
 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE PLAN AND PROFILE OF
 SILENT MOON RUN, TOWERING ELM TERRACE AND
 ONWARD TRAIL FROM STA 00+00.00 TO 8+00.00

RIEMER MUEGGEL & ASSOCIATES, INC.
 Planners • Engineers • Surveyors
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
 410-997-8900 FAX: 410-997-9282

8-29-94 DATE

DESIGNED BY: C.J.R.

DRAWN BY: D.A.M.

PROJECT NO: 88103

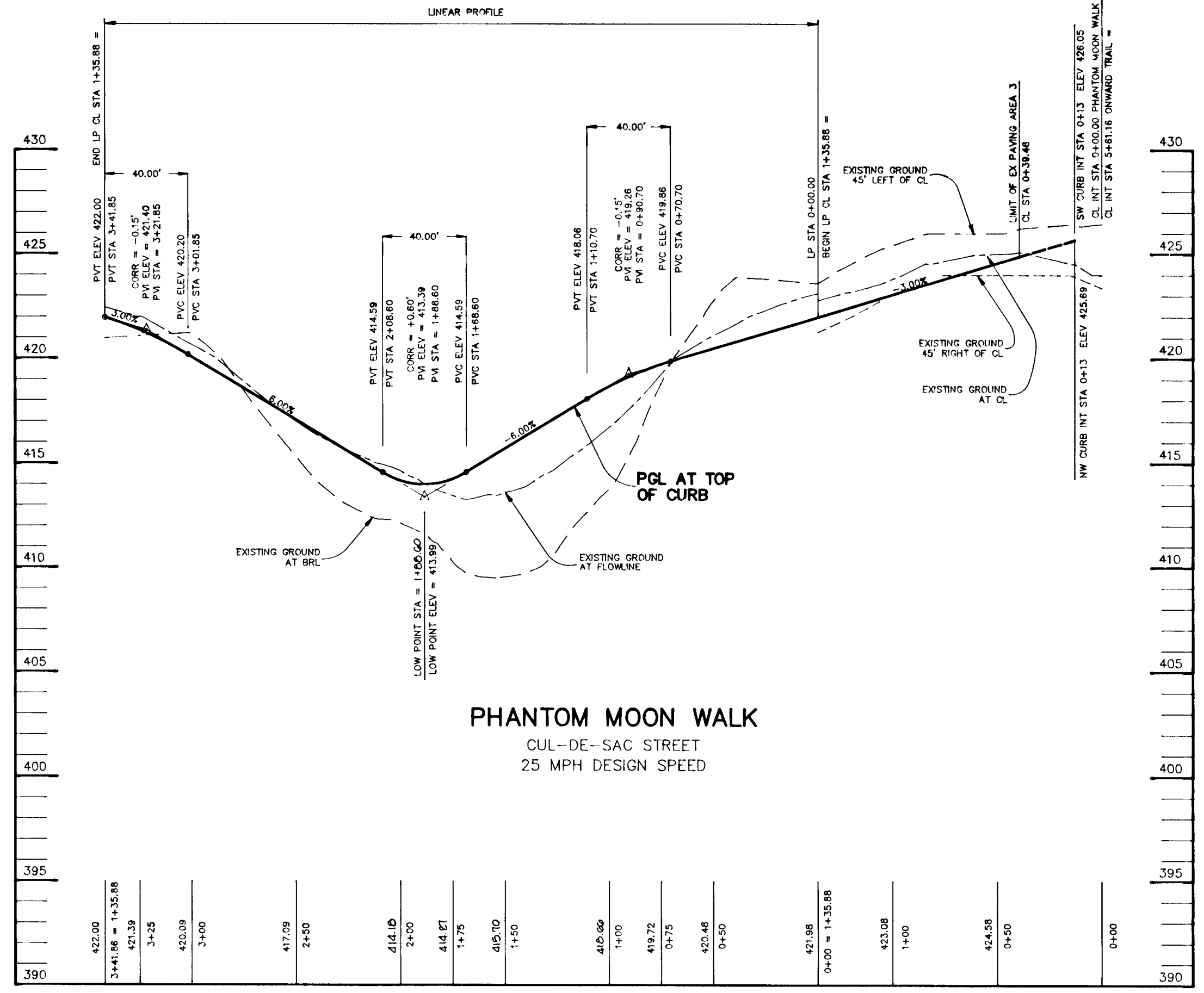
DATE: AUGUST 25, 1994

SCALE: AS SHOWN

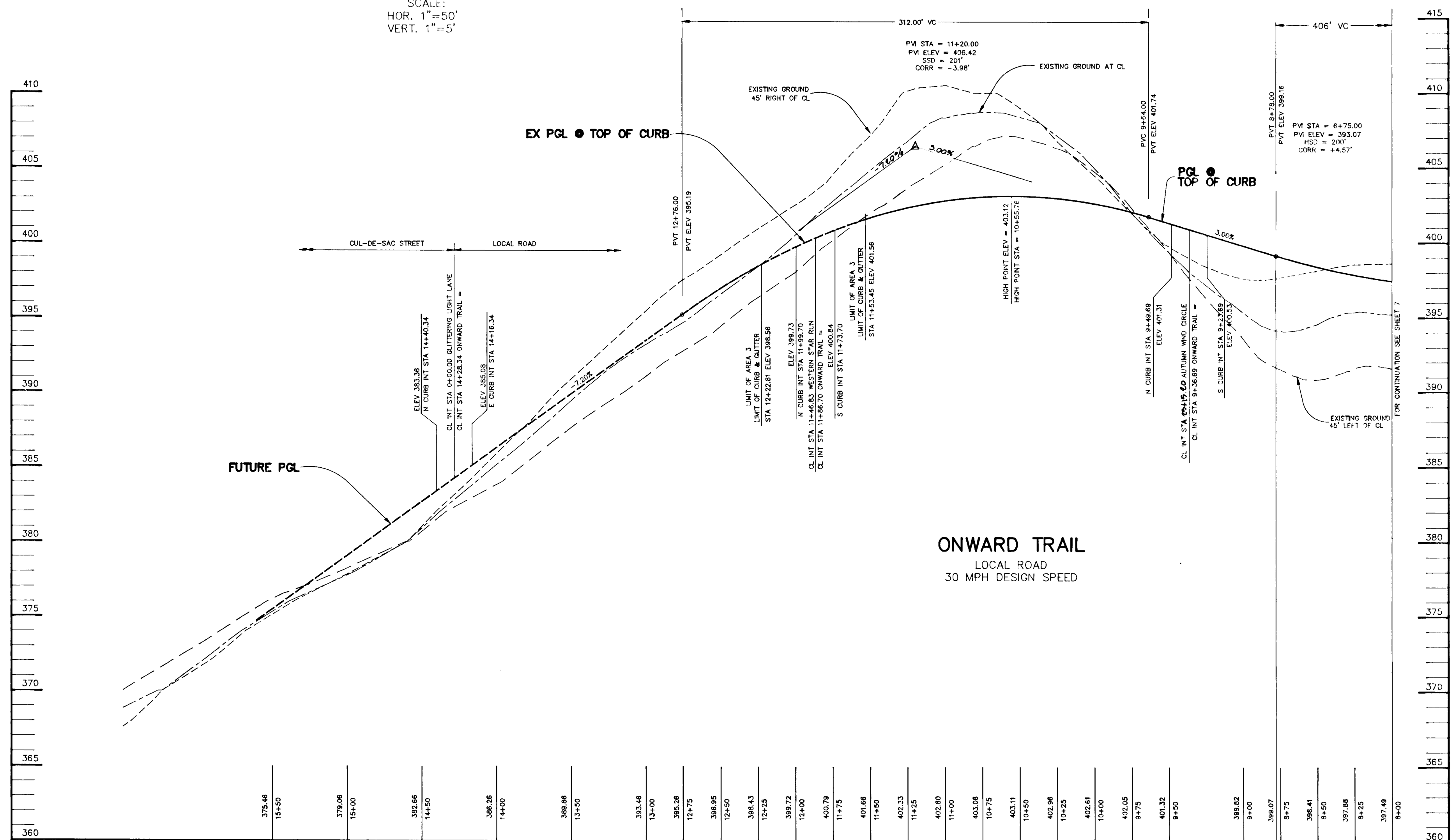
DRAWING NO. 7 OF 22

JAYKANT D. PAREKH #19148

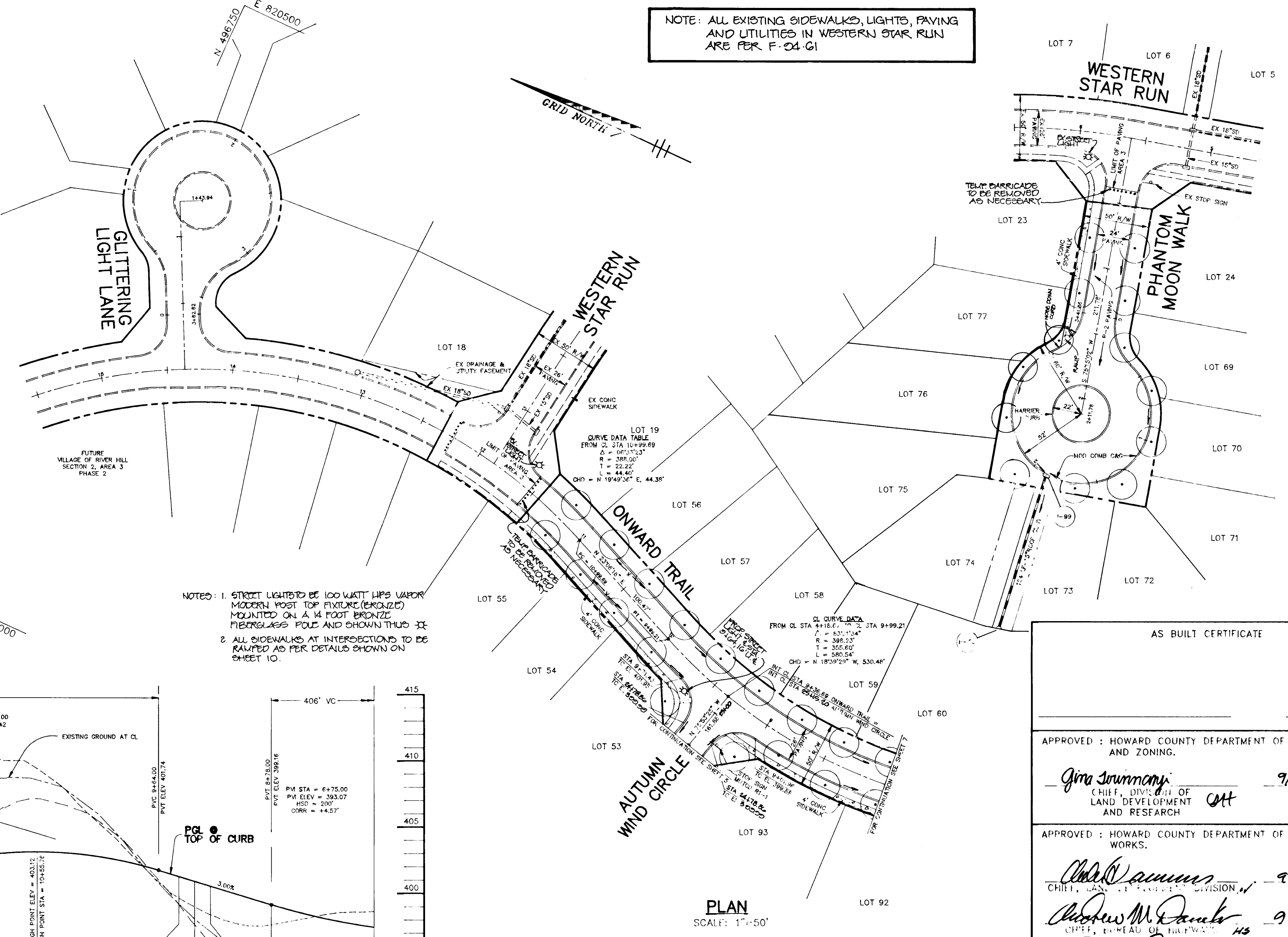
1487



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

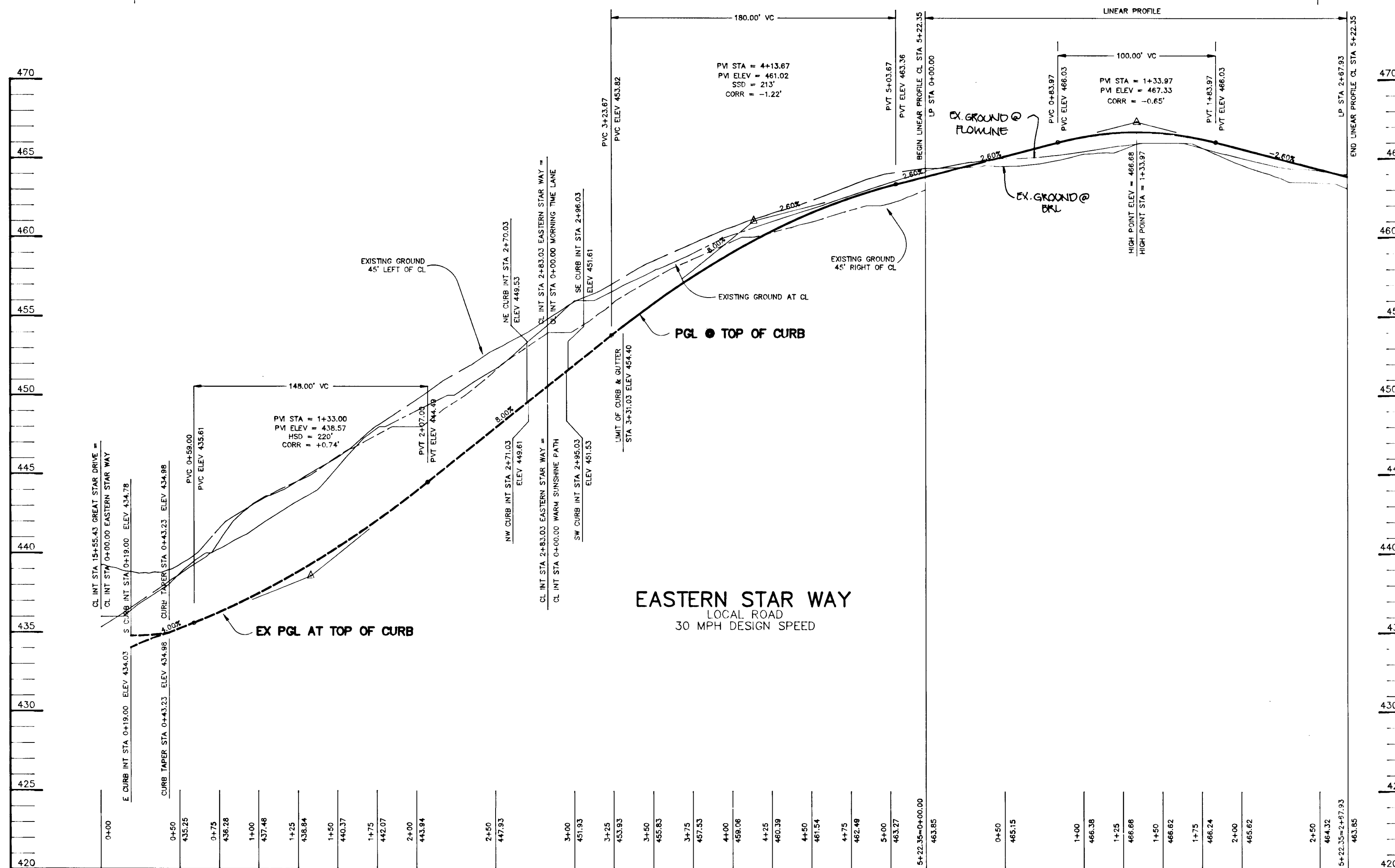
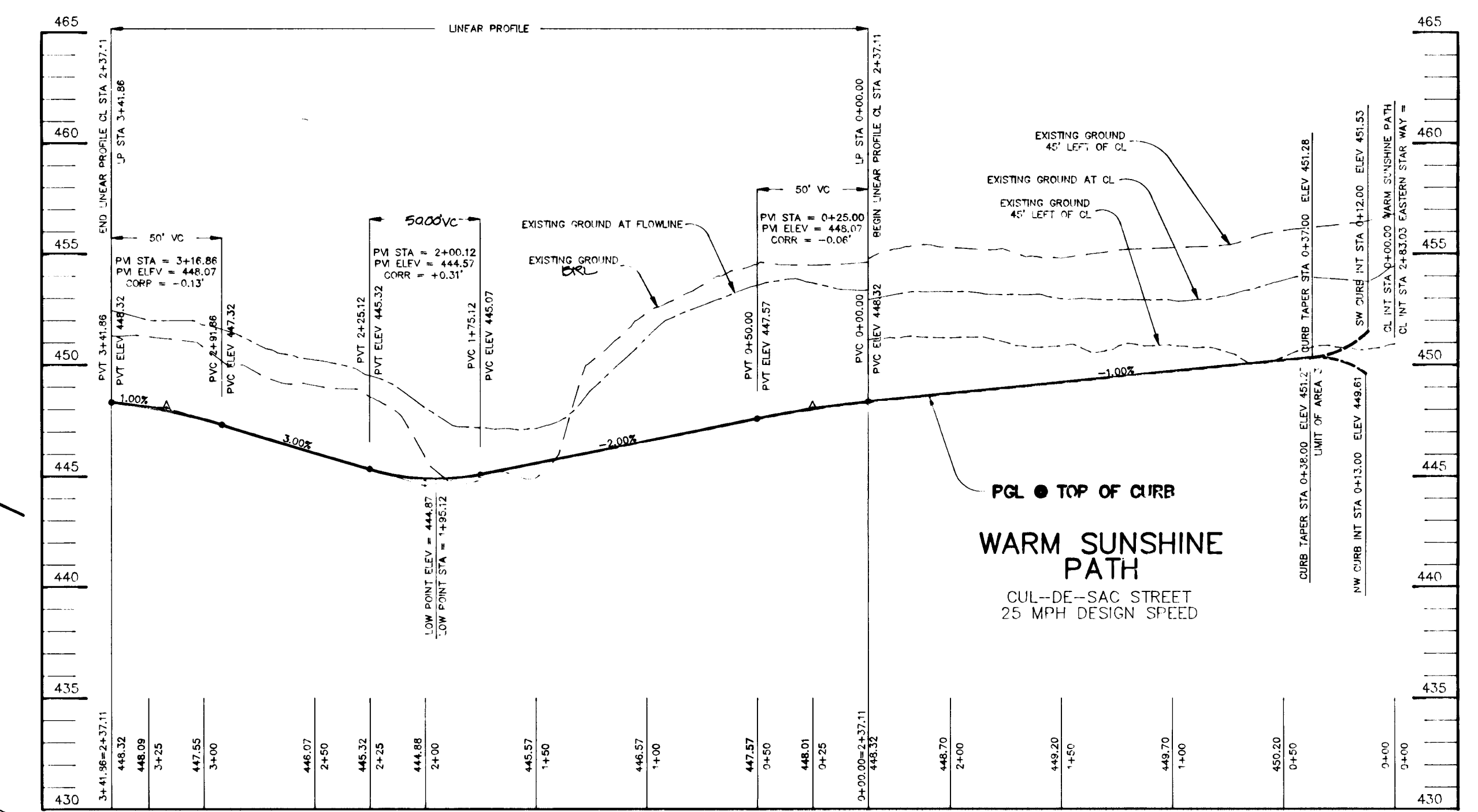
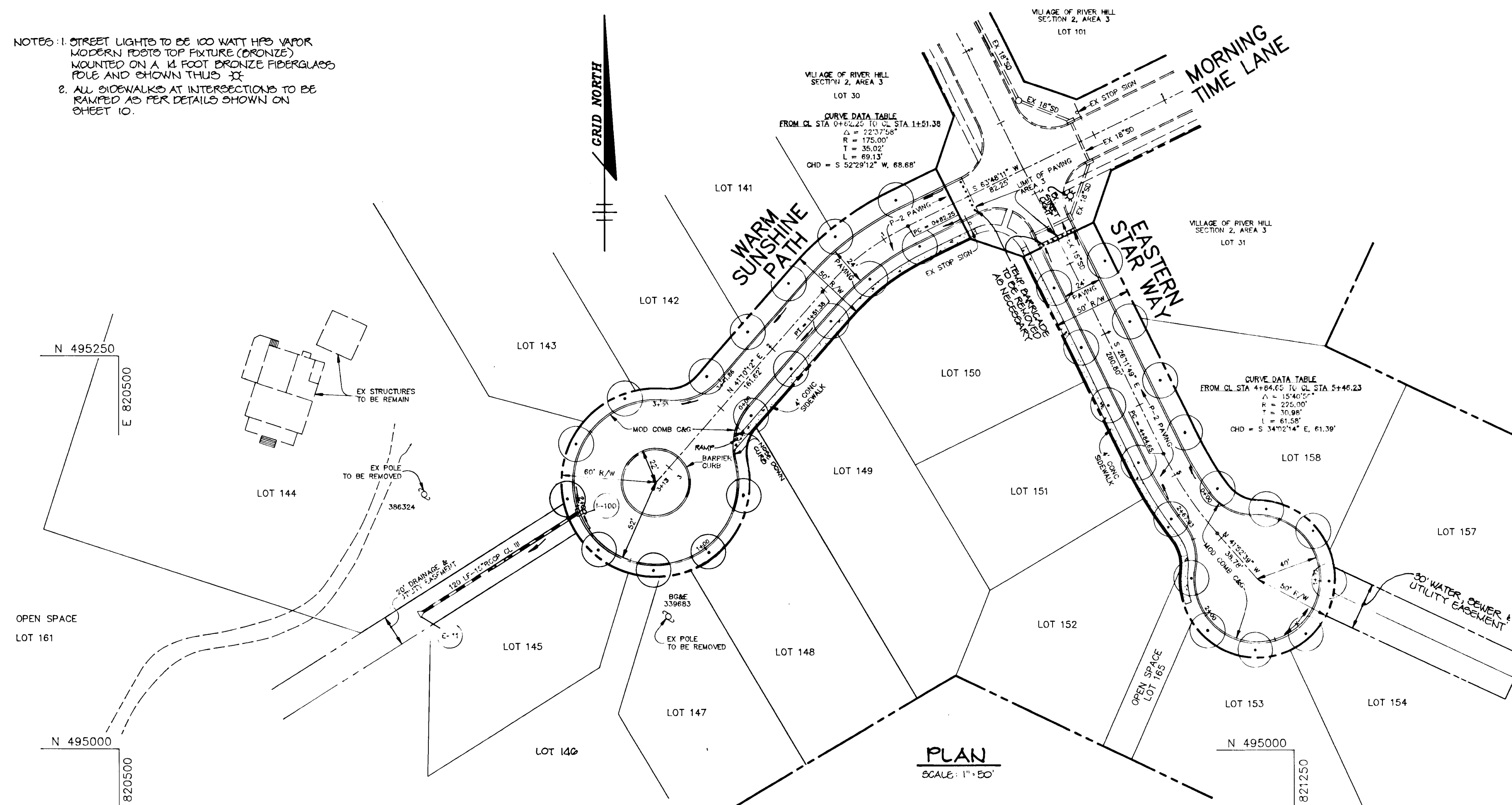


PROFILE
SCALE:
HOR. 1"=50'
VERT. 1"=5'



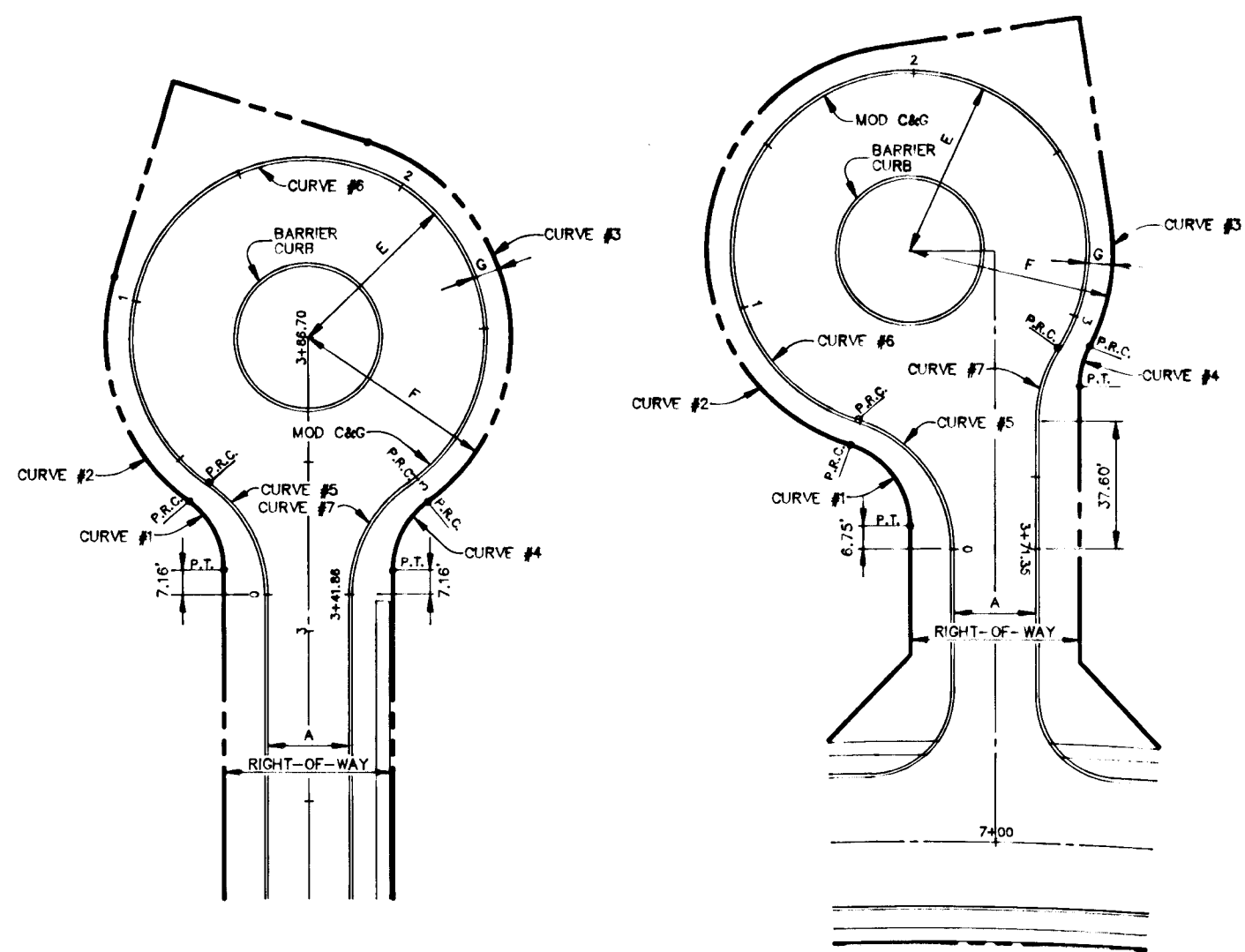
AS BUILT CERTIFICATE		
DATE		
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.		
<i>Gina Surrency</i> CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH	9/23/94 DATE	
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.		
<i>Chris Adams</i> CHIEF, DIVISION OF PUBLIC WORKS	9/19/94 DATE	
<i>Andrew M. Daulton</i> CHIEF, BUREAU OF HIGHWAYS	9-15-94 DATE	
<i>Paul M. Seppan</i> CHIEF, BUREAU OF ENGINEERING	9/10/94 DATE	
DATE	NO.	REVISION
OWNER / DEVELOPER THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044		
PROJECT VILLAGE OF RIVER HILL SECTION 2 AREA 4 LOTS 1 - 165		
AREA TAX MAP NO. 30 ZONED NEW TOWN PART OF PARCELS 70 & 240 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE PLAN AND PROFILE OF PHANTOM MOON WALK AND ONWARD TRAIL FROM STA 8+50.00 TO 15+50.00		
RIEMER MUEGGE & ASSOCIATES, INC. Planners • Engineers • Surveyors 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045 410-997-8900 FAX: 410-997-9282		
8-29-94 DATE		
DESIGNED BY: C.J.R.		
DRAWN BY: D.A.M.		
PROJECT NO: 88103		
DATE: AUGUST 20, 1994		
SCALE: AS SHOWN		
DRAWING NO. 8 OF 22		

NOTES: 1. STREET LIGHTS TO BE 100 WATT HPS VAPOR MODERN PHOTO TOP FIXTURE (BRONZE) MOUNTED ON A 14 FOOT BRONZE FIBERGLASS POLE AND CHOWNAI THUS 32.
2. ALL SIDEWALKS AT INTERSECTIONS TO BE RAMMED AS PER DETAILS SHOWN ON SHEET 10.



AS BUILT CERTIFICATE	
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	DATE: 9/23/94
<i>Gina Strummary</i> CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH	DATE: 9/19/94
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	DATE: 9-15-94
<i>Charles M. Dunkel</i> CHIEF, BUREAU OF HIGHWAY	DATE: 9/10/94
<i>Shirley S. Saper</i> BUREAU OF ENGINEERING	DATE:
DATE NO.	REVISION
OWNER / DEVELOPER THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044	
PROJECT VILLAGE OF RIVER HILL SECTION 2 AREA 4 LOTS 1 - 165	
AREA TAX MAP NO. 35 (ZONED) NEW TOWN PART OF PARCELS 70 & 240 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE PLAN AND PROFILE OF WARM SUNSHINE PATH AND EASTERN STAR WAY FROM STA 3+30.00 TO END	
RIEMER MUEGGE & ASSOCIATES, INC. Planners • Engineers • Surveyors 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045 410-997-8900 FAX: 410-997-8282	
DATE: 8-29-94	DESIGNED BY: C.J.R.
DRAWN BY: D.A.M.	PROJECT NO: 88103
DATE: AUGUST 20, 1994	SCALE: AS SHOWN
DRAWING NO. 9 OF 22	

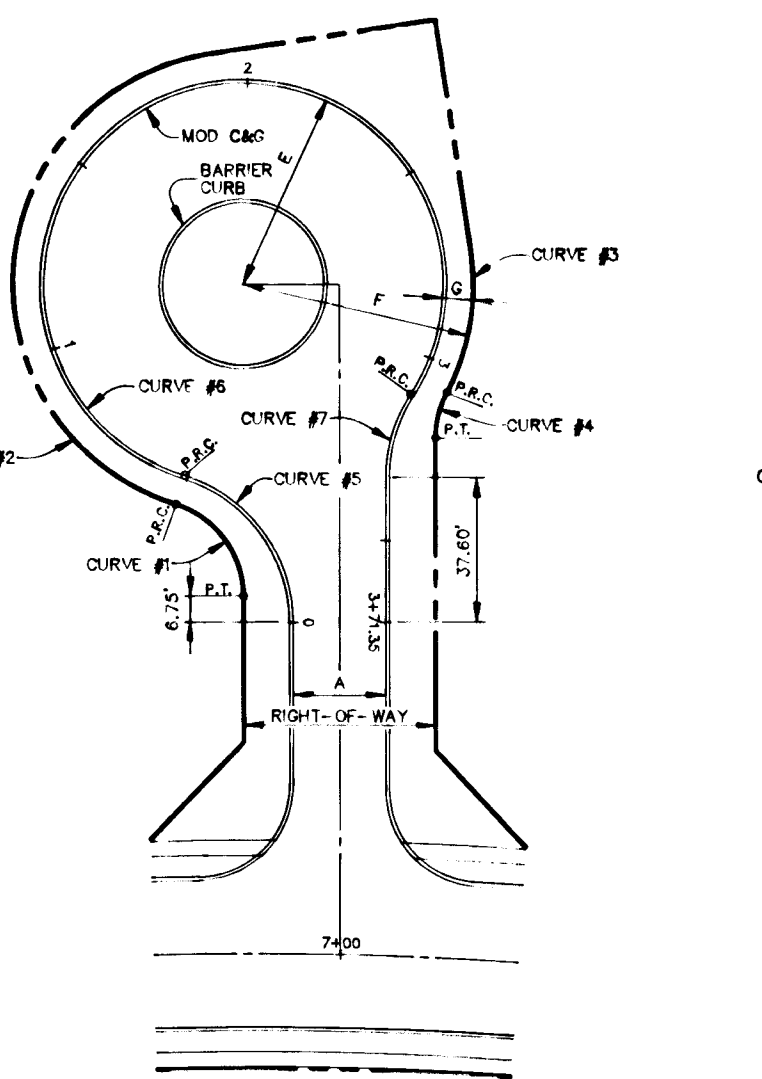
1487



ZONING DISTRICTS	E	F	G	H	R/W	A
RESIDENTIAL	52'	60'	5'	--	50'	24"

CURVE DATA	
RESIDENTIAL (24' APPROACH) L.P.=341.86'	
Δ	53°50'00"
R	25.00'
L	11.22'
L	13.50'
L	22.69'

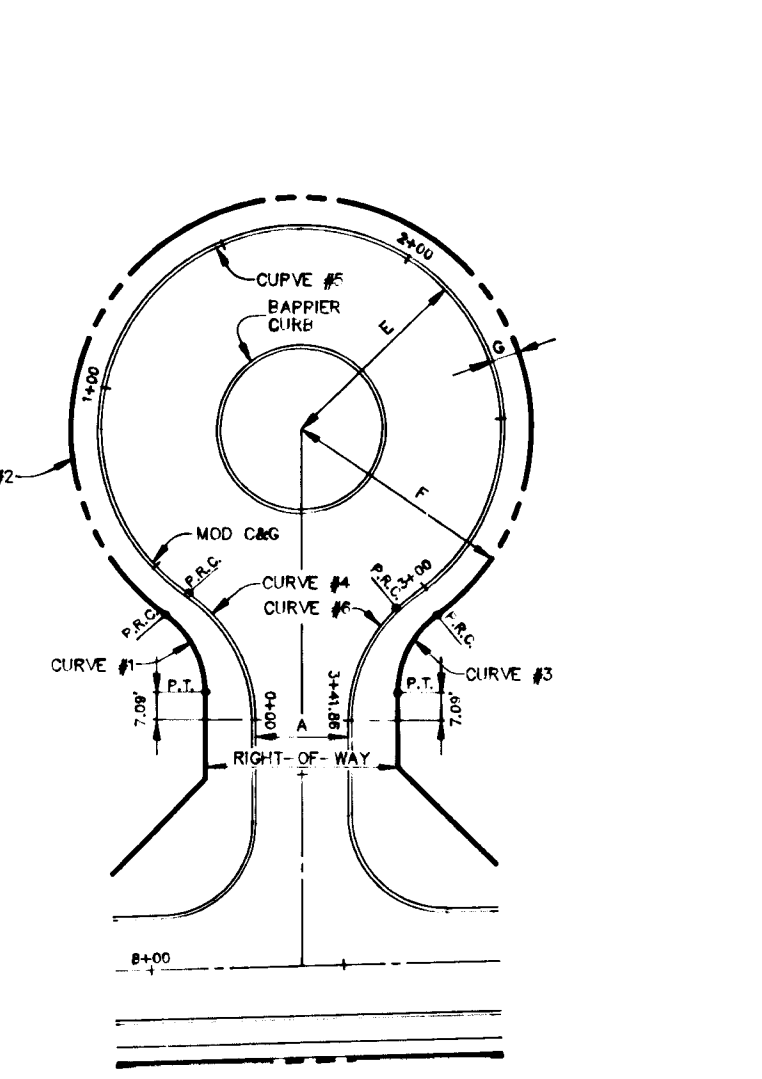
VICTORIOUS SONG LANE
CUL-DE-SAC DETAIL
NO SCALE



ZONING DISTRICTS	E	F	G	H	R/W	A
RESIDENTIAL	52'	60'	5'	--	50'	24"

CURVE DATA	
RESIDENTIAL (24' APPROACH) L.P.=371.35'	
Δ	72°53'41"
R	25.00'
L	18.44'
L	35.81'
L	29.70'

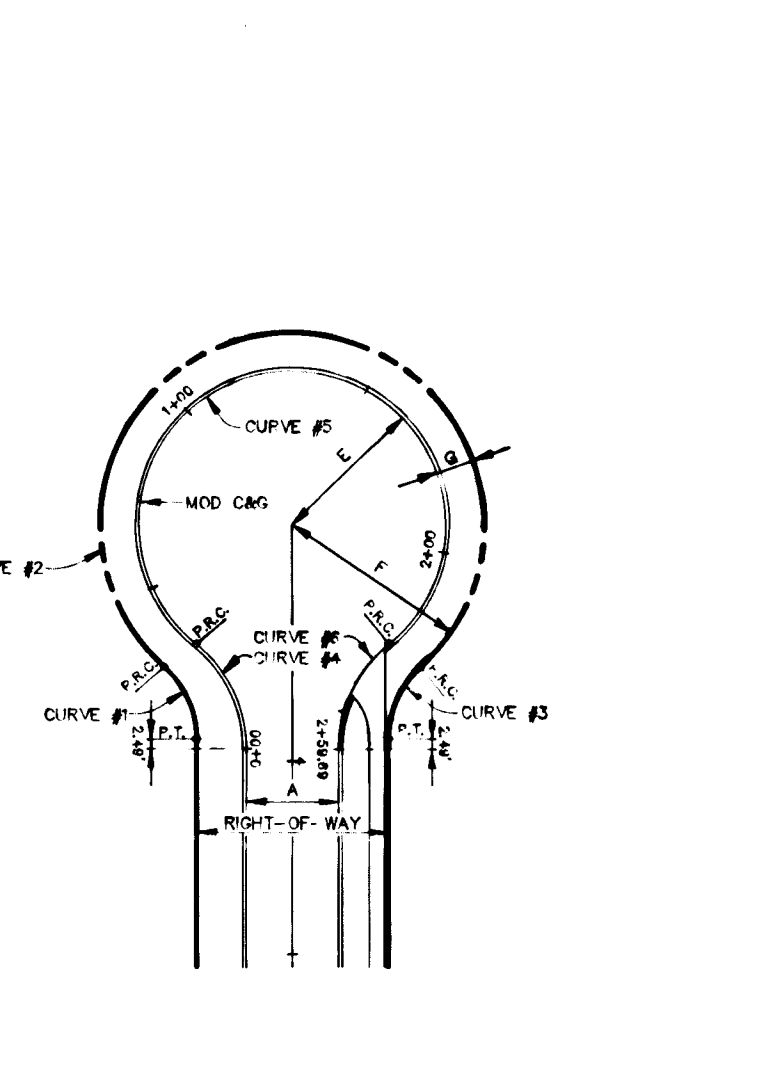
ENCHANTED KEY GATE
CUL-DE-SAC DETAIL
NO SCALE



ZONING DISTRICTS	E	F	G	H	R/W	A
RESIDENTIAL	52'	60'	5'	--	50'	24"

CURVE DATA	
RESIDENTIAL (24' APPROACH) L.P.=371.35'	
Δ	53°50'00"
R	25.00'
L	11.22'
L	13.50'
L	22.69'

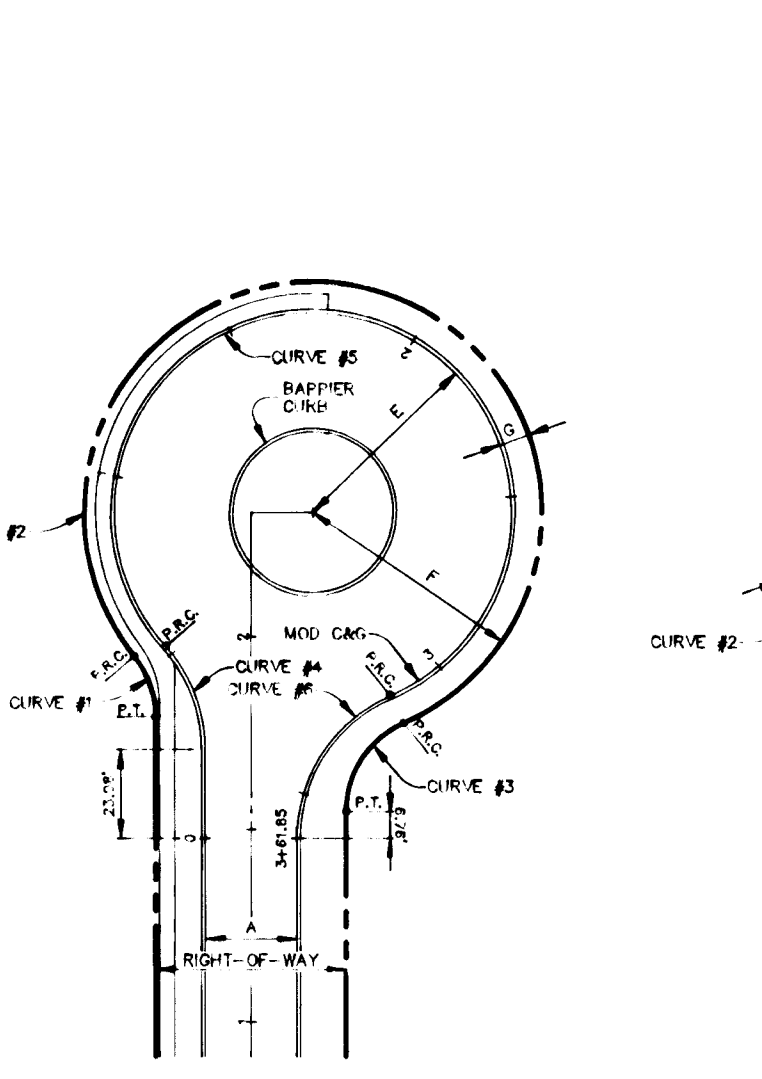
DRIFTING CLOUD MEWS
CUL-DE-SAC DETAIL
NO SCALE



ZONING DISTRICTS	E	F	G	H	R/W	A
RESIDENTIAL	40'	50'	10'	--	50'	24"

CURVE DATA	
RESIDENTIAL (24' APPROACH) L.P.=259.69'	
Δ	48°11'33"
R	25.00'
L	11.22'
L	13.50'
L	22.69'

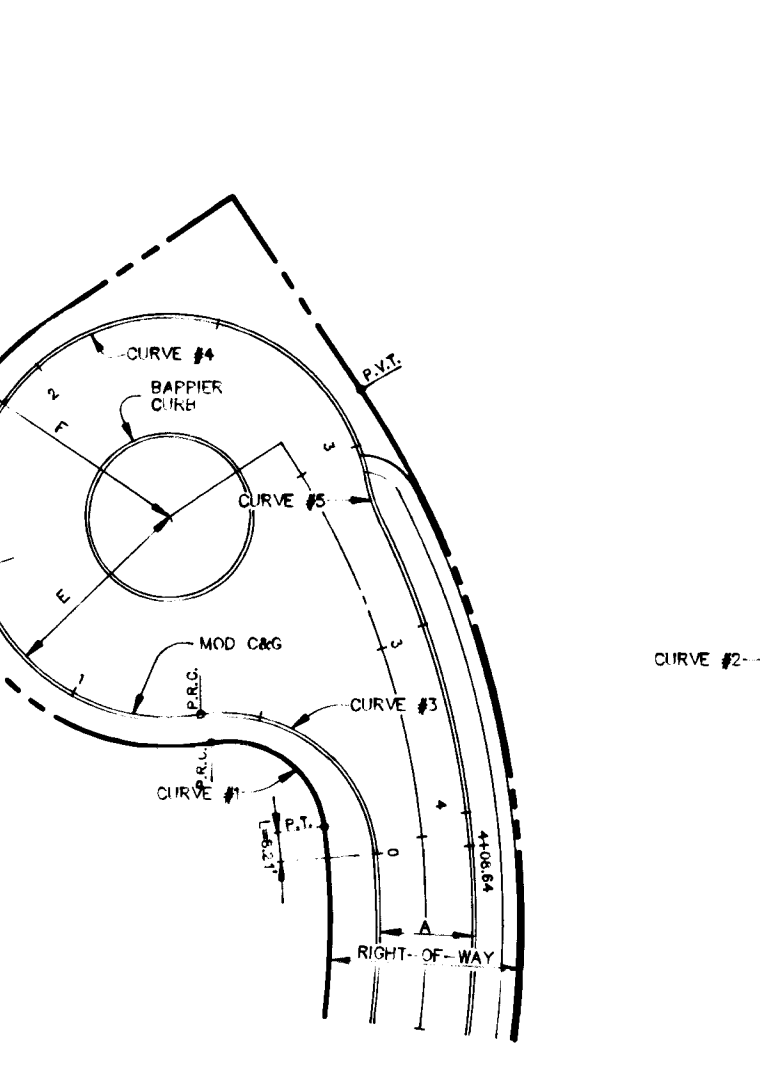
RADIANT GLEAM WAY
CUL-DE-SAC DETAIL
NO SCALE



ZONING DISTRICTS	E	F	G	H	R/W	A
RESIDENTIAL	52'	60'	5'	--	50'	24"

CURVE DATA	
RESIDENTIAL (24' APPROACH) L.P.=341.85'	
Δ	53°50'00"
R	25.00'
L	11.22'
L	13.50'
L	22.69'

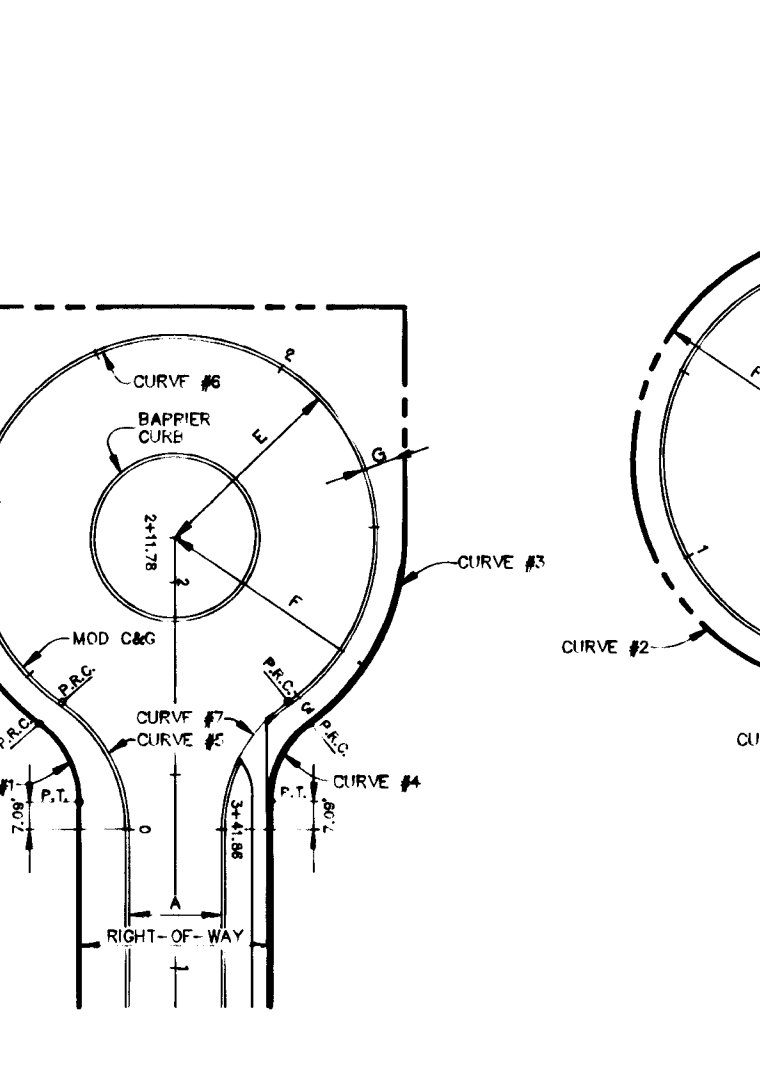
EVENING SHADOWS COURT
CUL-DE-SAC DETAIL
NO SCALE



ZONING DISTRICTS	E	F	G	H	R/W	A
RESIDENTIAL	52'	60'	5'	--	50'	24"

CURVE DATA	
RESIDENTIAL (24' APPROACH) L.P.=409.64'	
Δ	87°22'00"
R	25.00'
L	11.22'
L	13.50'
L	22.69'

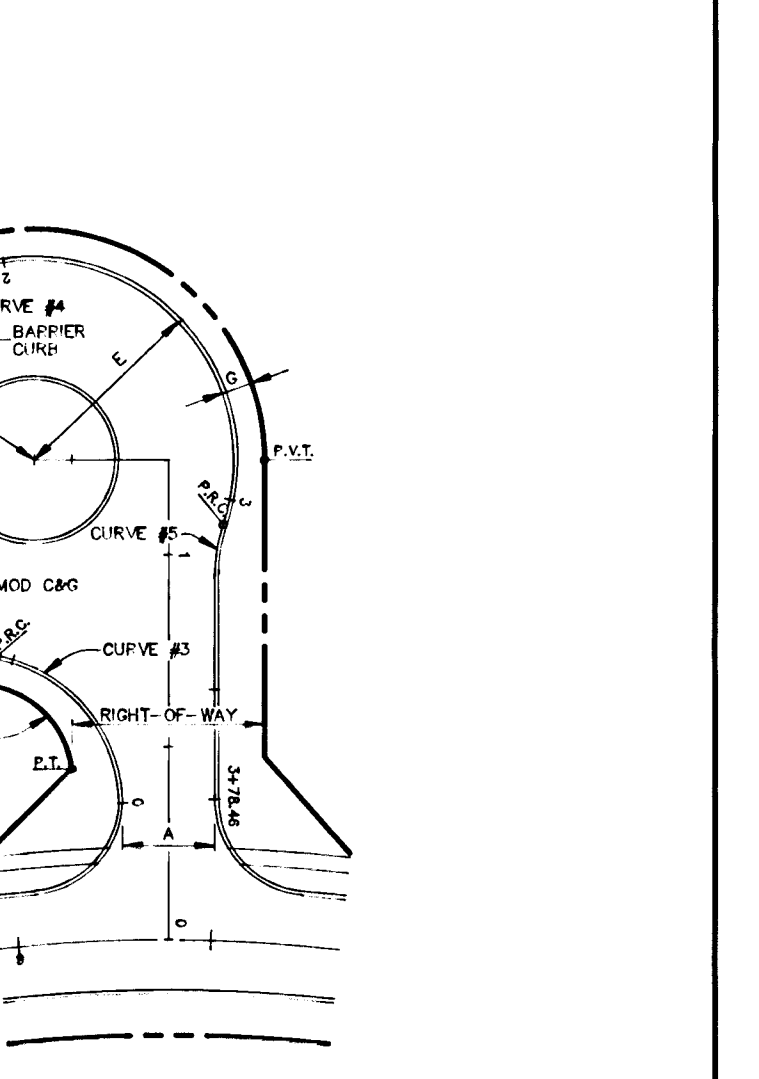
FOREST SHADE TRAIL
CUL-DE-SAC DETAIL
NO SCALE



ZONING DISTRICTS	E	F	G	H	R/W	A
RESIDENTIAL	52'	60'	5'	--	50'	24"

CURVE DATA	
RESIDENTIAL (24' APPROACH) L.P.=341.86'	
Δ	53°50'00"
R	25.00'
L	11.22'
L	13.50'
L	22.69'

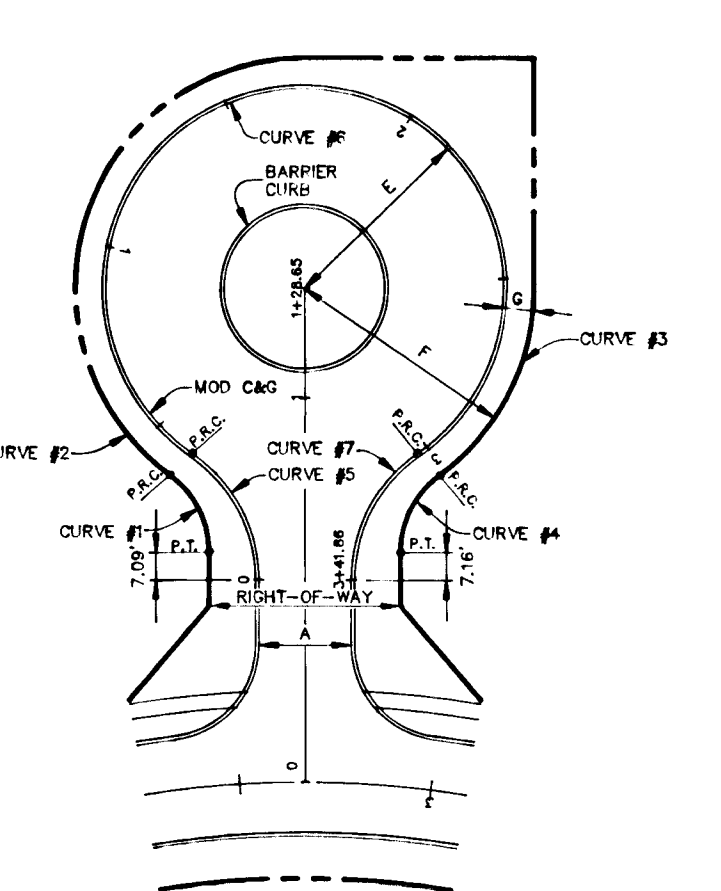
PHANTOM MOON WALK
CUL-DE-SAC DETAIL
NO SCALE



ZONING DISTRICTS	E	F	G	H	R/W	A
RESIDENTIAL	52'	60'	5'	--	50'	24"

CURVE DATA	
RESIDENTIAL (24' APPROACH) L.P.=371.35'	
Δ	72°53'41"
R	25.00'
L	18.44'
L	35.81'
L	29.70'

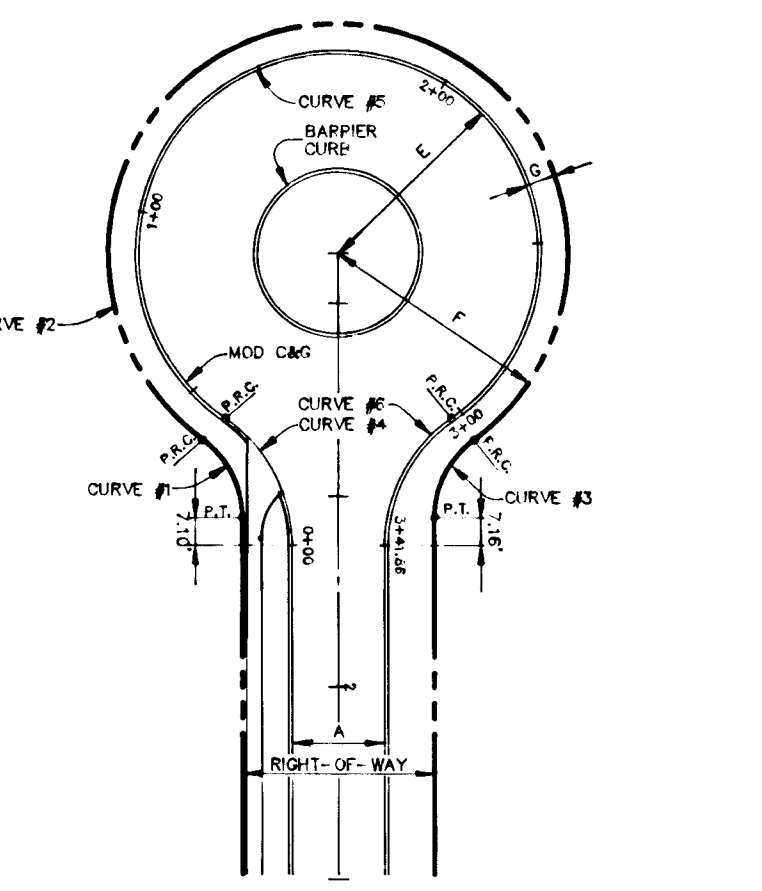
TOWERING ELM TERRACE
CUL-DE-SAC DETAIL
NO SCALE



ZONING DISTRICTS	E	F	G	H	R/W	A
RESIDENTIAL	52'	60'	5'	--	50'	24"

CURVE DATA	
RESIDENTIAL (24' APPROACH) L.P.=341.86'	
Δ	53°50'00"
R	25.00'
L	11.22'
L	13.50'
L	22.69'

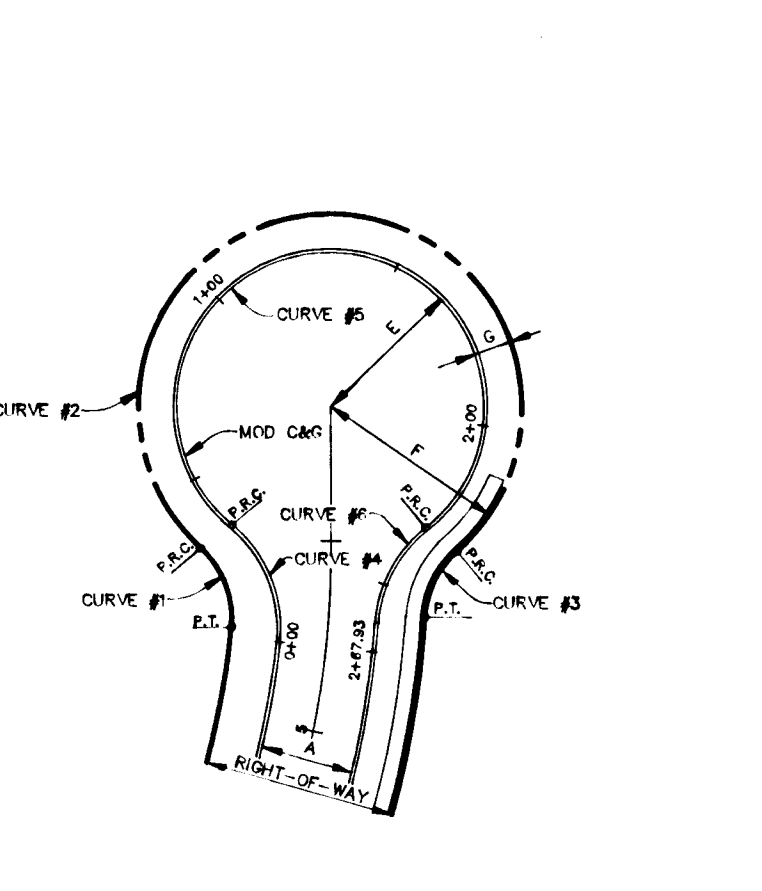
SILENT MOON RUN
CUL-DE-SAC DETAIL
NO SCALE



ZONING DISTRICTS	E	F	G	H	R/W	A
RESIDENTIAL	52'	60'	5'	--	50'	24"

CURVE DATA	
RESIDENTIAL (24' APPROACH) L.P.=341.86'	
Δ	53°50'00"
R	25.00'
L	11.22'
L	13.50'
L	22.69'

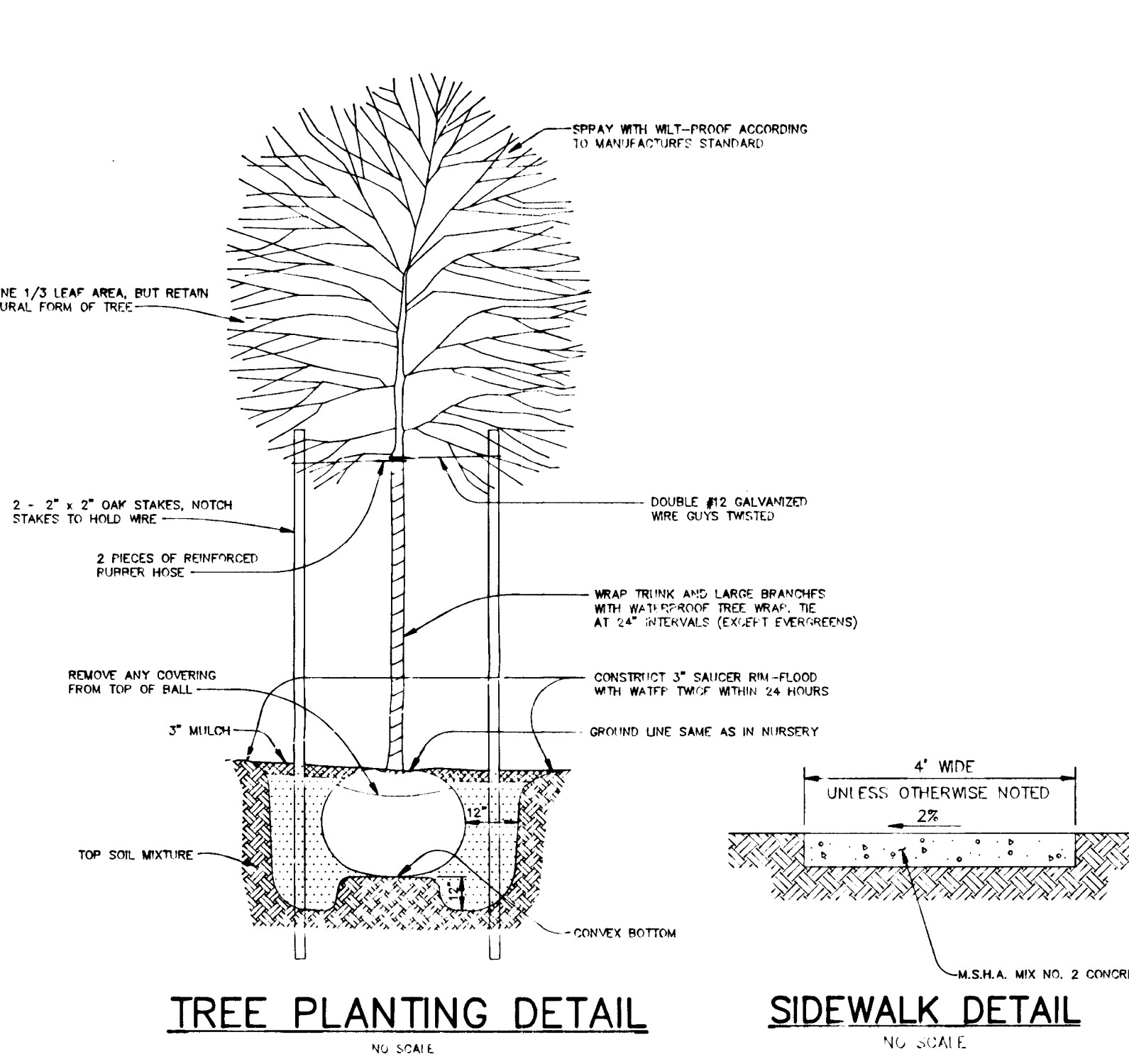
WARM SUNSHINE PATH
CUL-DE-SAC DETAIL
NO SCALE



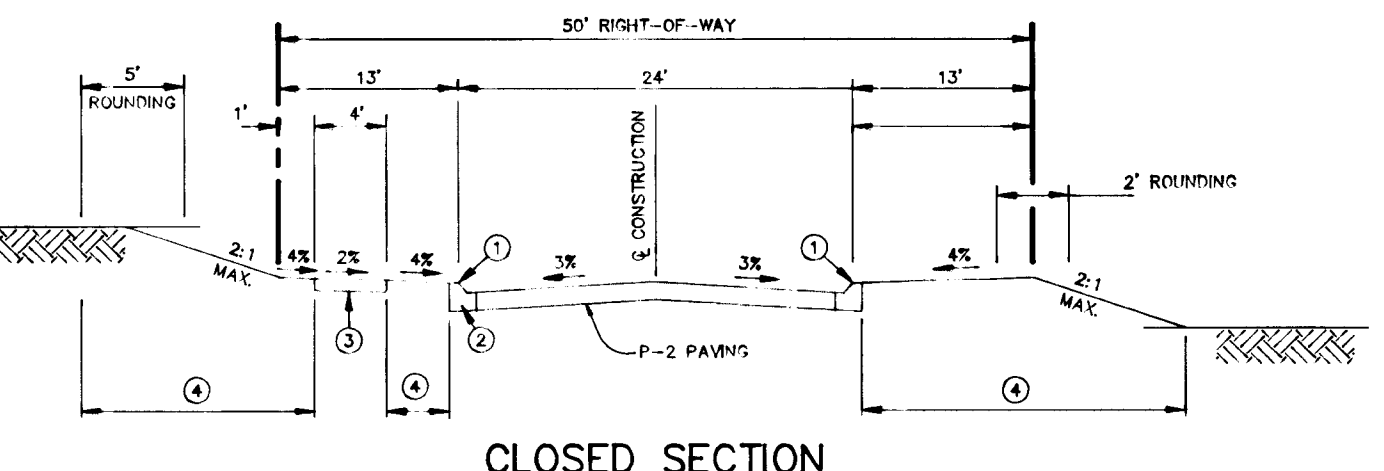
ZONING DISTRICTS	E	F	G	H	R/W	A
RESIDENTIAL	40'	50'	10'	--	50'	24"

CURVE DATA	
RESIDENTIAL (24' APPROACH) L.P.=262.93'	
Δ	52°48'30"
R	25.00'
L	11.22'
L	13.50'
L	22.69'

EASTERN STAR WAY
CUL-DE-SAC DETAIL
NO SCALE



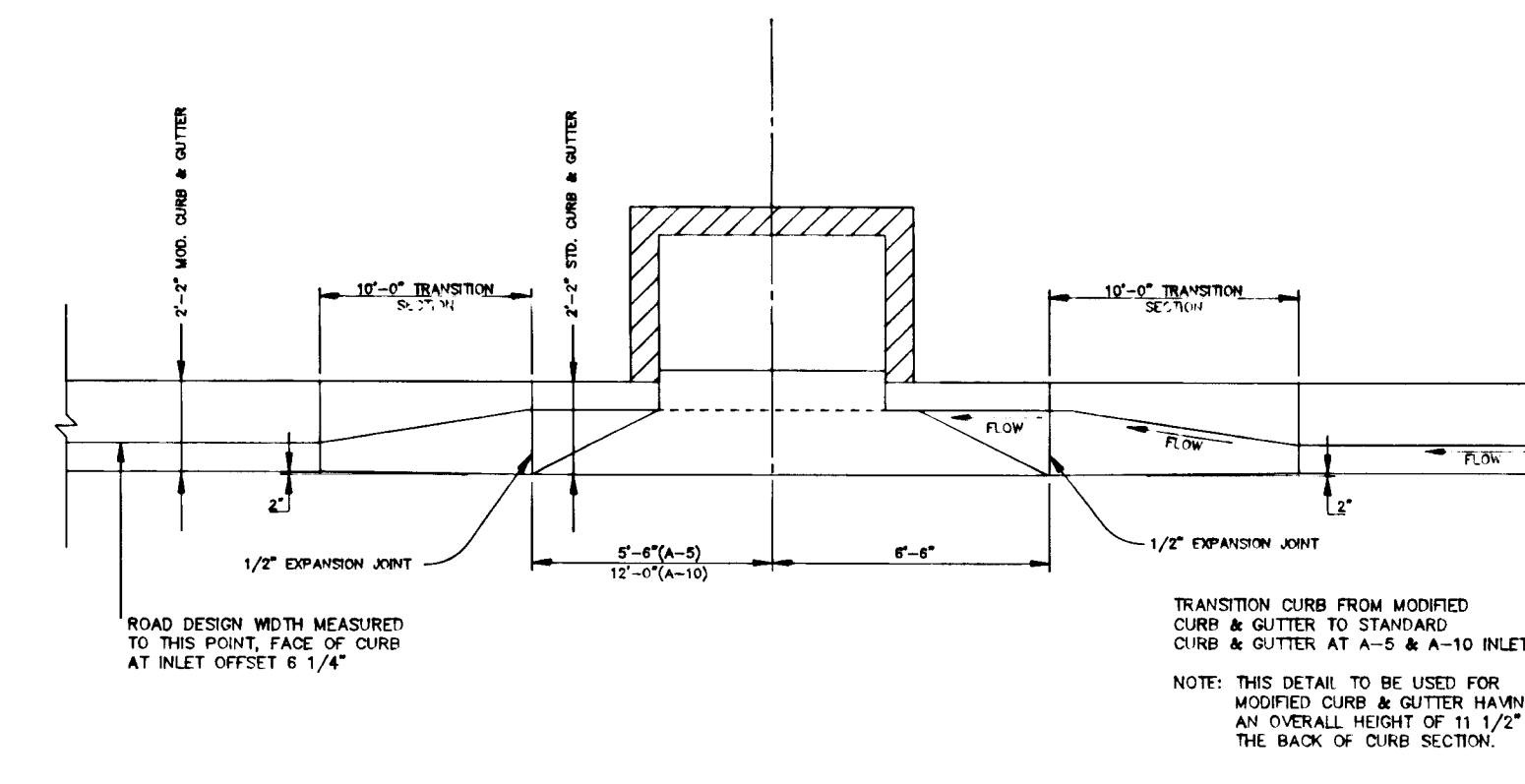
TREE PLANTING DETAIL
NO SCALE



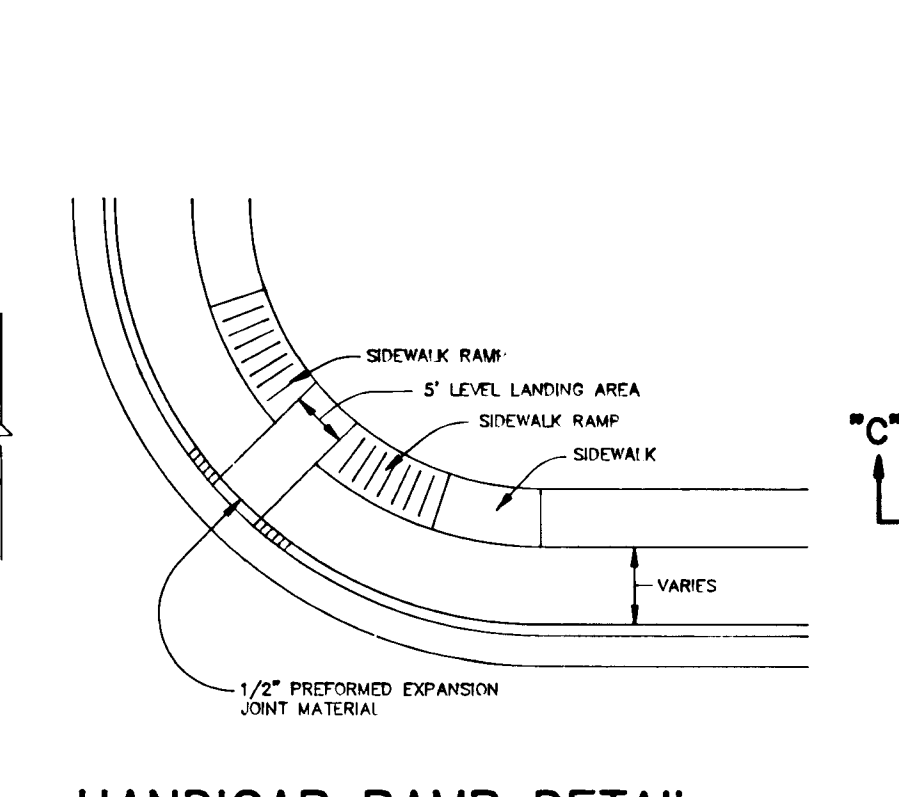
- CLOSED SECTION**
- PROFILE GRADE LINE (P.G.L.), SEE DESIGN MANUAL.
 - TYPE OF CURB VARIES (MOD. COMB. CURB & GUTTER OR STANDARD COMB. CURB & GUTTER - SEE ROAD PLAN).
 - 4" CONCRETE SIDEWALK AS REQUIRED BY SURVIVOR REGULATIONS.
 - INDICATES 2" TOPSOIL, SEED AND MULCH.
 - DESIGN SPEED = 25 MPH.

TYPICAL SECTION CUL-DE-SAC STREET

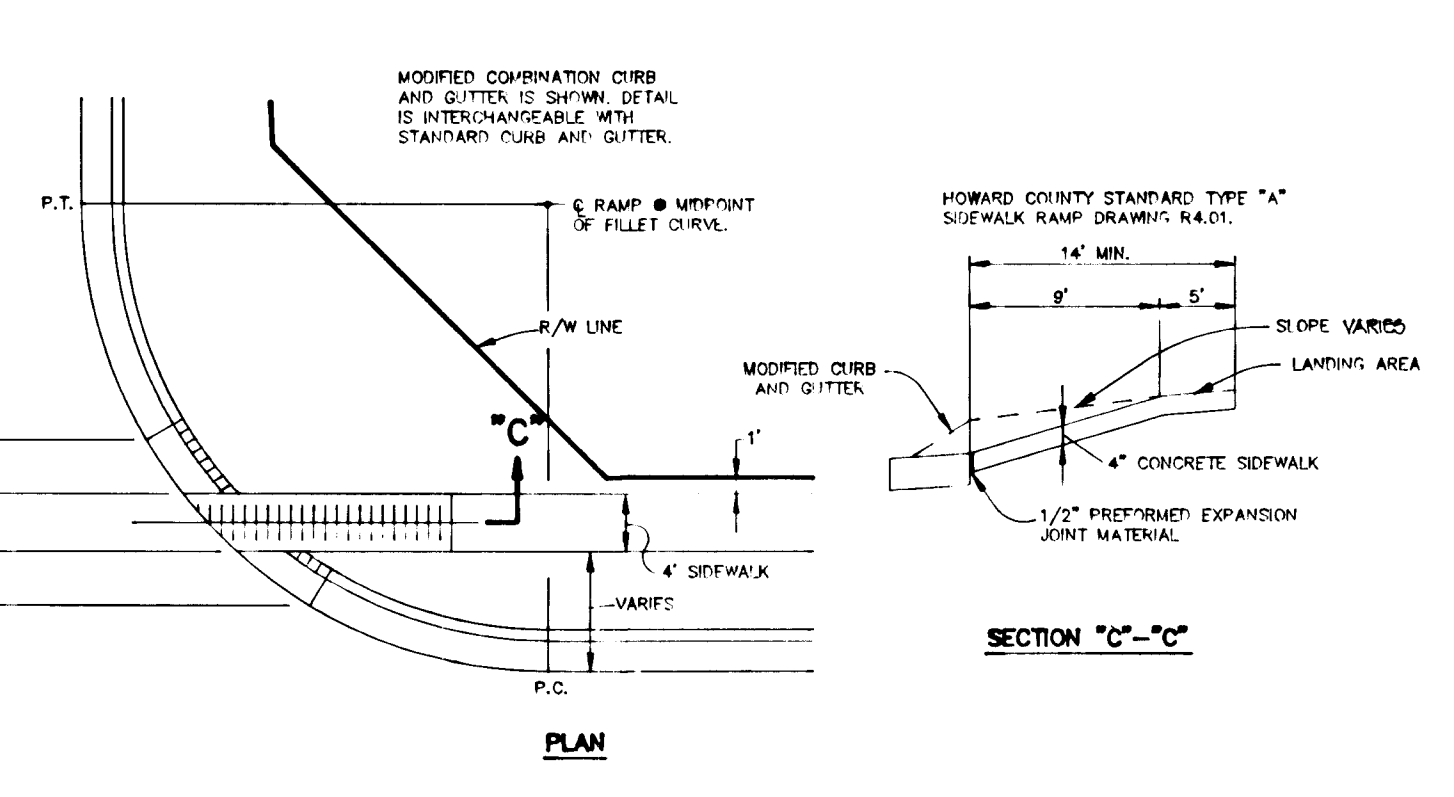
NO. 1	
DRIFTING CLOUD MEWS	RADIANT GLEAM WAY
FROM CL STA 0+39.06 TO CL STA 0+63.71	FROM CL STA 2+88.00 TO CL STA 4+03.16
EVENING SHADOWS COURT	FOREST SHADE TRAIL
FROM CL STA 0+46.11 TO CL STA 1+47.61	FROM CL STA 0+38.65 TO CL STA 2+46.50
SILENT MOON RUN	ENCHANTED KEY GATE
FROM CL STA 0+35.69 TO CL STA 0+52.76	FROM CL STA 0+44.08 TO CL STA 0+86.34
PHANTOM MOON WALK	WARM SUNSHINE PATH
FROM CL STA 0+39.48 TO CL STA 1+35.88	FROM CL STA 0+38.00 TO CL STA 2+37.11
EASTERN STAR WAY	
FROM CL STA 3+31.03 TO CL STA 5+22.36	
VICTORIOUS SONG LANE	
FROM CL STA 0+48.47 TO CL STA 3+10.80	



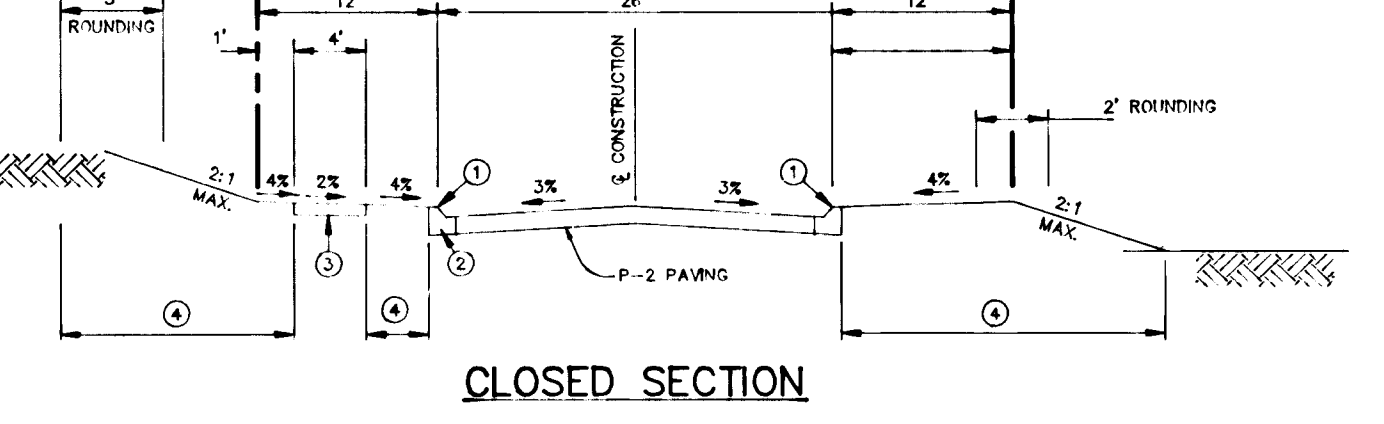
MODIFIED COMBINATION CURB AND GUTTER
TRANSITION CURB SECTION
AT "A" TYPE INLETS



HANDICAP RAMP DETAIL
NO SCALE



HANDICAP RAMP DETAIL
NO SCALE



- CLOSED SECTION**
- PROFILE GRADE LINE (P.G.L.), SEE DESIGN MANUAL.
 - TYPE OF CURB VARIES (MOD. COMB. CURB & GUTTER OR STANDARD COMB. CURB & GUTTER - SEE DESIGN MANUAL).
 - 4" CONCRETE SIDEWALK AS REQUIRED BY SURVIVOR REGULATIONS (ONE SIDE ONLY).
 - INDICATES 2" TOPSOIL, SEED AND MULCH.
 - DESIGN SPEED = 30 MPH.

TYPICAL SECTION LOCAL ROAD

NO. 1	
AUTUMN WIND CIRCLE	RADIANT GLEAM WAY
FROM CL STA 0+49.00 TO CL STA 2+48.85	FROM CL STA 0+38.00 TO CL STA 2+14.04
WELCOME NIGHT PATH	ONWARD TRAIL
FROM CL STA 0+37.47 TO CL STA 1+25.00	FROM CL STA 0+37.60 TO CL STA 1+53.45

AS BUILT CERTIFICATE

DATE: 9/23/94

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Gina Surinany, CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Chris Damm, CHIEF, DIVISION OF PUBLIC WORKS

DATE: 9/19/94

DATE: 9-15-94

DATE: 9/19/94

DATE NO. REVISION

OWNER / DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION, THE ROUSE BUILDING, 10275 LITTLE PATUXENT PARKWAY, COLUMBIA, MARYLAND 21044

PROJECT: VILLAGE OF RIVER HILL, SECTION 2 AREA 4, LOTS 1 - 165

AREA: TAX MAP NO. 35, ZONED NEW TOWN, PART OF PARCELS 70 & 240, 5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE: DETAIL SHEET

RIEMER MUEGGEL & ASSOCIATES, INC. Planners • Engineers • Surveyors, 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045, 410-997-8000, FAX: 410-997-9282

DATE: 8-29-94

DESIGNED BY: C.J.R.

DRAWN BY: D.A.M.

PROJECT NO: 88103

DATE: AUGUST 20, 1994

SCALE: AS SHOWN

DRAWING NO. 10 OF 22



NO.	AREA	'C'	% IMP
I-57	0.96	0.53	49
I-58	0.79	0.55	51
I-59	0.72	0.50	59
I-60	0.22	0.52	48
I-61	0.49	0.46	38
I-62	0.62	0.50	44
I-63	2.48	0.46	39
I-64	0.19	0.55	51
I-64A	0.19	0.55	51
I-64B	0.18	0.51	46
I-65	0.10	0.62	63
I-66	0.49	0.49	45
I-67	1.14	0.46	38
I-68	0.19	0.50	45
I-69	0.18	0.50	45
I-70	0.18	0.50	45
I-71	0.68	0.52	47
I-72	0.08	0.63	64
I-73	0.66	0.47	40
I-74	0.28	0.46	38
I-75	0.99	0.42	33
I-76	1.15	0.47	39
I-77	0.56	0.53	49
I-78	0.62	0.45	37
I-79	0.39	0.45	37
I-80	0.49	0.53	49
I-81	0.48	0.50	44
I-82	0.77	0.54	51
I-83	0.20	0.57	55
I-84	0.90	0.44	36
I-85	0.40	0.45	38
I-86	0.40	0.42	30
I-87	0.10	0.54	47
I-88	1.30	0.43	34
I-89	1.10	0.43	33
I-89A	0.78	0.54	51
I-90	0.33	0.51	45
I-91	0.33	0.53	49
I-92	0.72	0.42	49
I-93	0.69	0.45	36
I-94	0.46	0.50	44
I-95	0.55	0.48	41
I-96	0.65	0.46	38
I-97	0.29	0.52	47
I-98	2.76	0.45	36
I-99	1.61	0.50	43
I-100	2.43	0.48	42
I-101	2.98	0.46	39

AS BUILT CERTIFICATE

DATE _____

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Quinn Johnson 9/23/94
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Mike Damman 9/18/94
 CHIEF, LAND DEVELOPMENT DIVISION DATE

Andrew M. Janko 9-15-99
 CHIEF, BUREAU OF HIGHWAYS DATE

Donald Egan 9/19/94
 CHIEF, BUREAU OF ENGINEERING DATE

DATE NO. _____ REVISION _____

OWNER / DEVELOPER
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

PROJECT VILLAGE OF RIVER HILL
 SECTION 2 AREA 4
 LOTS 1 - 165

APP TAX MAP NO. 35 ZONED NEW TOWN
 PART OF PARCELS 70 & 240
 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE DRAINAGE AREA MAP

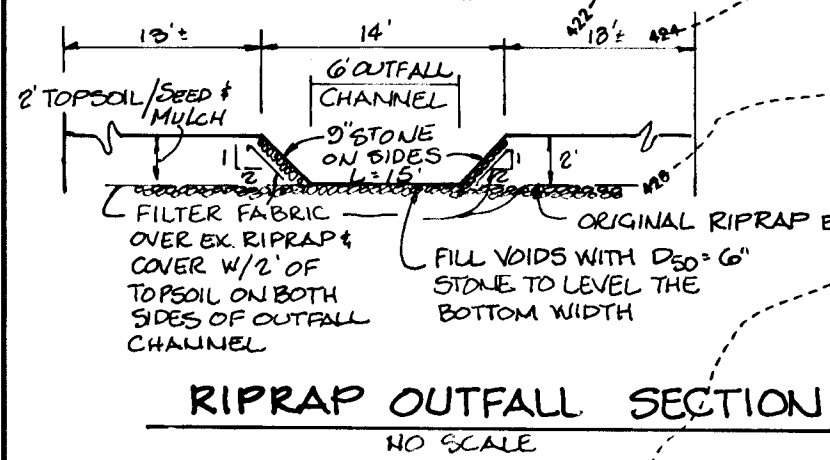
RIEMER MUEGGE & ASSOCIATES, INC.
 Planners • Engineers • Surveyors
 8618 Centre Park Drive • Suite 200 • Columbia, Md 21045
 410-997-8900 FAX: 410-997-8282

DATE _____

DESIGNED BY: C.J.R./rww
 DRAWN BY: D.A.M./jco
 PROJECT NO: 88103
 DATE: AUGUST 20, 2004
 SCALE: AS SHOWN
 DRAWING NO. 11 OF 22

PLAN
 SCALE = 1"=100'

1487



NOTE: SEE SHEET 15 FOR TRAP INFORMATION.

LEGEND

- LIMIT OF DISTURBANCE
- - - EARTH DIKE
- - - TEMPORARY GRADES (TRAPS)
- C.C.E. DEGRADED CONSTRUCTION ENTRANCE

PROPERTY OF JAMES F. AND ESTHER S. RETTGER
 PARCEL 189
 L. 525 F. 230
 ZONED R-12

PROPERTY OF DONALD PARLETTE
 PARCEL 155
 L. 290 F. 353
 ZONED R-12

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Reginald R. Han 8-30-94
 DEVELOPER DATE

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.

ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

John E. ... DATE

U.S. SOIL CONSERVATION SERVICE DATE

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

John P. ... DATE

HOWARD SOIL CONSERVATION DISTRICT DATE

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Angela ... 9/28/94
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

John ... 9/19/94
 CHIEF, LAND DEVELOPMENT DIVISION DATE

Richard M. ... 9-15-99
 CHIEF, BUREAU OF HIGHWAYS DATE

Michael ... 9/10/94
 CHIEF, BUREAU OF ENGINEERING DATE

DATE NO. REVISION

OWNER / DEVELOPER

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

PROJECT VILLAGE OF RIVER HILL
 SECTION 2 AREA 4
 LOTS 1 - 165

AREA TAX MAP NO. 35 ZONED NEW TOWN
 PART OF PARCELS 70 & 240
 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE GRADING AND SEDIMENT CONTROL PLAN

RIEMER MUEGGE & ASSOCIATES, INC.
 Planners • Engineers • Surveyors
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
 410-997-8900 FAX : 410-997-8282

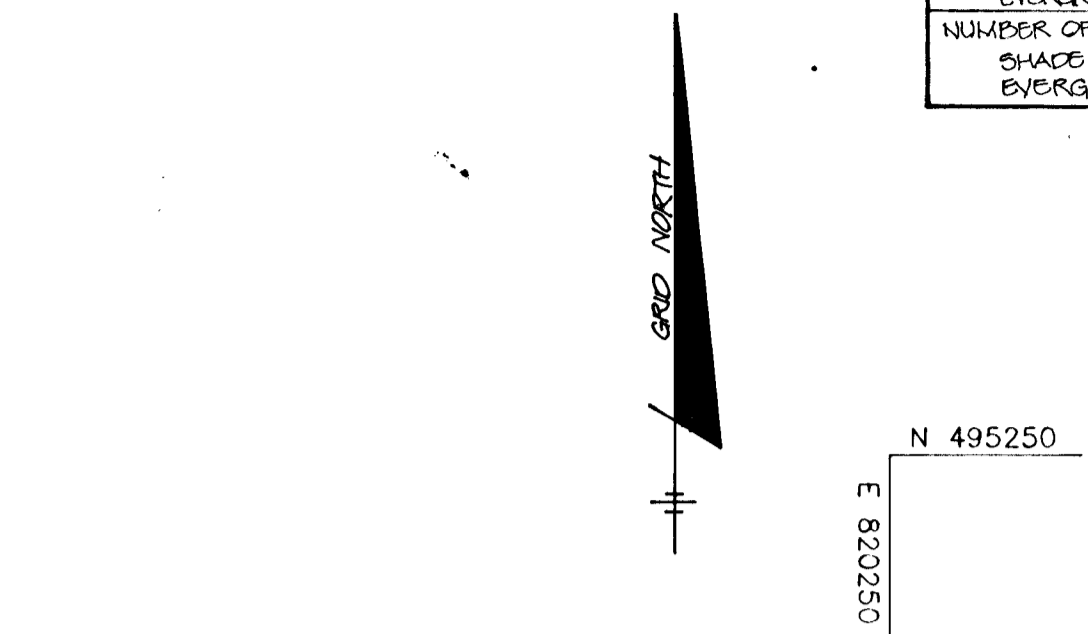
DATE DESIGNED BY : C.J.R.
 DRAWN BY : D.A.M.
 PROJECT NO : 88103
 DATE : AUGUST 22, 1994
 SCALE : AS SHOWN
 DRAWING NO. 12 OF 22

JAYKANT D. PAREKH #19148

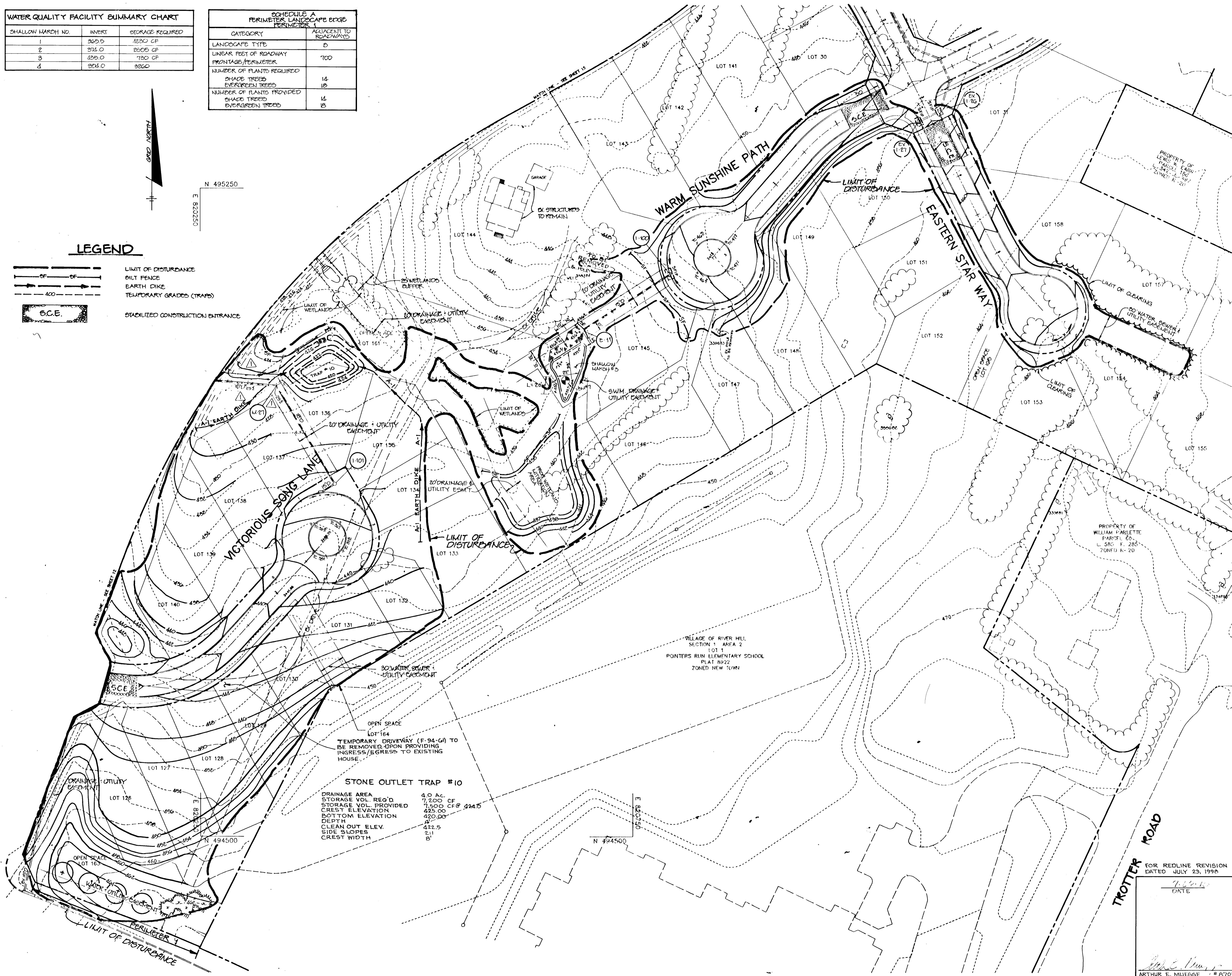
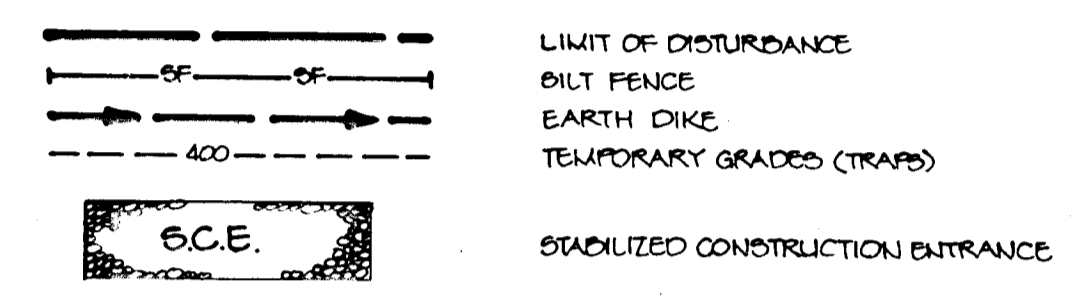
1487

WATER QUALITY FACILITY SUMMARY CHART		
SHALLOW HATCH NO.	INVERT	STORAGE REQUIRED
1	325.5	1220 CF
2	314.0	2505 CF
3	135.0	750 CF
4	204.0	2220 CF

SCHEDULE A PERIMETER LANDSCAPE EDGE PERIMETER	
CATEGORY	ADJACENT TO ROADWAYS
LANDSCAPE TYPE	D
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	700
NUMBER OF PLANTS REQUIRED	
SHADE TREES	14
EVERGREEN TREES	18
NUMBER OF PLANTS PROVIDED	
SHADE TREES	14
EVERGREEN TREES	18



LEGEND



STONE OUTLET TRAP #10	
DRAINAGE AREA	4.0 AC.
STORAGE VOL. REQ'D	7,200 CF
STORAGE VOL. PROVIDED	7,500 CF @ 424.5
CREST ELEVATION	425.00
BOTTOM ELEVATION	422.00
DEPTH	3'
CLEAN OUT ELEV.	422.5
SIDE SLOPES	2:1
CREST WIDTH	8'

BY THE DEVELOPER:
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
Gregory R. Han 8-30-94
 DATE

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.
J. S. Smith 8-29-94
 ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.
William S. ...
 U.S. SOIL CONSERVATION SERVICE DATE

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

AS BUILT CERTIFICATE
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Gina ... 9/23/94
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Cheri ... 9/19/94
 CHIEF, LAND DEVELOPMENT DIVISION DATE
Robert M. ... 9-15-94
 CHIEF, BUREAU OF HIGHWAYS DATE
Robert ... 9/13/94
 CHIEF, BUREAU OF ENGINEERING DATE

7/23/98 MODIFIED GRADING/GROUND ELEV'S NEAR M-27
 DATE NO. REVISION

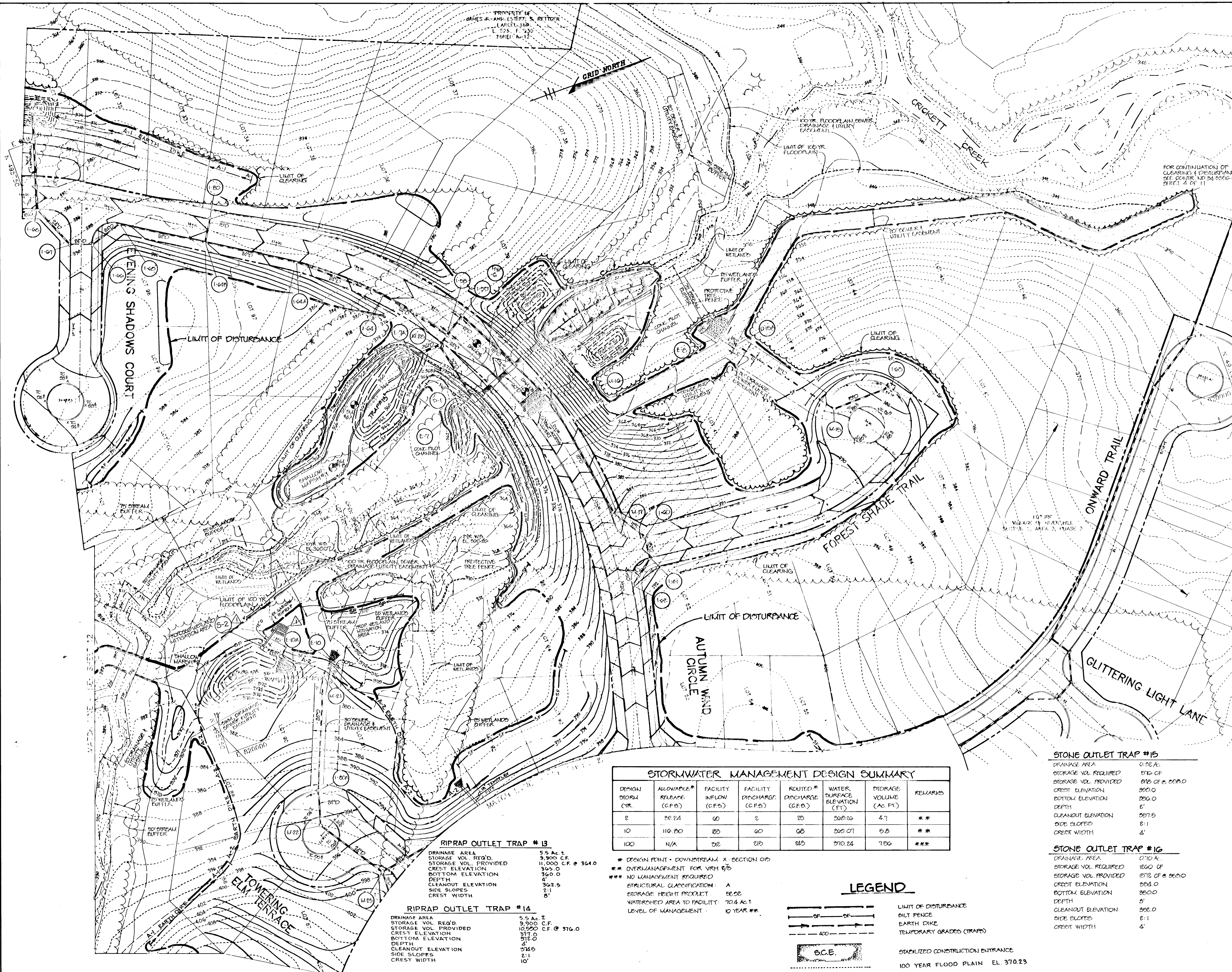
OWNER / DEVELOPER
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

PROJECT: VILLAGE OF RIVER HILL SECTION 2 AREA 4 LOTS 1 - 165
 AREA: TAX MAP NO. 35 ZONED R1W TOWN PART OF PARCELS 70 & 240 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 TITLE: GRADING AND SEDIMENT CONTROL PLAN

RIEMER MUEGGE & ASSOCIATES, INC.
 Planners • Engineers • Surveyors
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
 410-997-8800 FAX: 410-997-9282

FOR REDLINE REVISION DATED JULY 23, 1998
 DATE
Arthur E. Muegge
 ARTHUR E. MUEGGE #8707

DATE
 DESIGNED BY: C.J.R.
 DRAWN BY: D.A.M.
 PROJECT NO: 88103
 DATE: AUGUST 20, 1994
 SCALE: AS SHOWN
J. S. Smith
 JAYKANT D. PAREKH #19148
 DRAWING NO. 13 OF 22



BY THE DEVELOPER:
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
Gregory R. Khan 8-30-94
 DATE

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.
J. Ruckh 8-29-94
 ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.
Paul S. Selzer 9/1/94
 U.S. SOIL CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Paul S. Selzer 9/1/94
 HOWARD SOIL CONSERVATION DISTRICT DATE

AS BUILT CERTIFICATE
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Jim Timmings 9/28/94
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
John Dammus 9/19/94
 CHIEF, LAND DEVELOPMENT DIVISION DATE

Charles M. Dauter 9-15-94
 CHIEF, BUREAU OF HIGHWAYS DATE

Paul W. Seaman 9/10/94
 CHIEF, BUREAU OF ENGINEERING DATE

2-10-98 Δ ADDED OUTFALL PIPE FOR SHALLOW MARSH # 2
 DATE NO. REVISION
 OWNER / DEVELOPER
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

PROJECT: VILLAGE OF RIVER HILL SECTION 2 AREA 4
 LOTS 1-165

AREA: 2.66 MA. 170.32 AC. (STRIKED FROM 1991 PART OF PARCELS 75 & 240) 5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

1011 GRADING AND SEDIMENT CONTROL PLAN

RIEMER MUEGGE & ASSOCIATES, INC.
 Planners • Engineers • Surveyors
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
 410-897-8900 FAX: 410-897-8282
 DATE: AUGUST 20, 1994
 DESIGNED BY: C.J.R.
 DRAWN BY: D.A.M.
 PROJECT NO: 88103
 SCALE: AS SHOWN
 DRAWING NO. 14 OF 22

STORMWATER MANAGEMENT DESIGN SUMMARY

DESIGN STORM (YR)	ALLOWABLE* RELEASE (C.F.S.)	FACILITY INFLOW (C.F.S.)	FACILITY DISCHARGE (C.F.S.)	ROUTED* DISCHARGE (C.F.S.)	WATER SURFACE ELEVATION (FT)	STORAGE VOLUME (AC. FT.)	REMARKS
2	22.24	60	2	23	328.26	4.7	**
10	116.80	183	60	68	330.07	5.8	**
100	N/A	232	215	225	370.24	7.58	***

* DESIGN POINT - DOWNSTREAM X SECTION 015
 ** OVERMANAGEMENT FOR VSH 2/5
 *** NO MANAGEMENT REQUIRED
 STRUCTURAL CLASSIFICATION: A
 STORAGE HEIGHT PRODUCT: 22.02
 WATERSHED AREA TO FACILITY: 70.4 AC. ±
 LEVEL OF MANAGEMENT: 10 YEAR ***

LEGEND

- LIMIT OF DISTURBANCE
- - - - - DIRT FENCE
- EARTH DIKE
- TEMPORARY GRADES (TRAP)
- STABILIZED CONSTRUCTION ENTRANCE
- 100 YEAR FLOOD PLAIN EL. 370.23

STONE OUTLET TRAP #15

DRAINAGE AREA: 0.22 AC.
 STORAGE VOL. REQUIRED: 572 CF
 STORAGE VOL. PROVIDED: 818 CF @ 258.0
 CREST ELEVATION: 258.0
 BOTTOM ELEVATION: 256.0
 DEPTH: 2'
 CLEANOUT ELEVATION: 257.5
 SIDE SLOPES: 2:1
 CREST WIDTH: 4'

STONE OUTLET TRAP #16

DRAINAGE AREA: 0.70 AC.
 STORAGE VOL. REQUIRED: 1860 CF
 STORAGE VOL. PROVIDED: 1572 CF @ 258.0
 CREST ELEVATION: 258.0
 BOTTOM ELEVATION: 256.0
 DEPTH: 2'
 CLEANOUT ELEVATION: 257.5
 SIDE SLOPES: 2:1
 CREST WIDTH: 4'

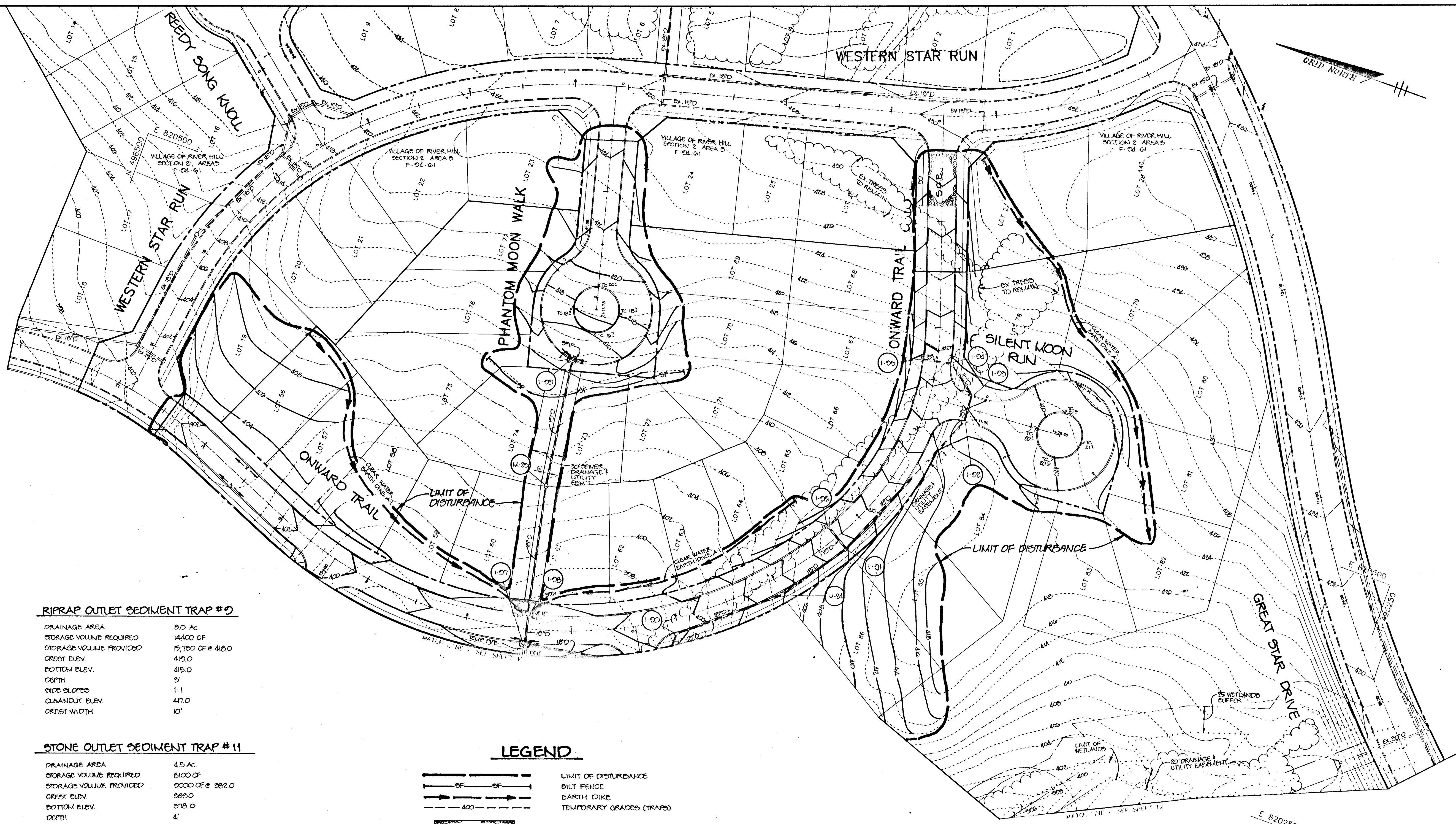
RIPRAP OUTLET TRAP #13

DRAINAGE AREA: 5.5 AC. ±
 STORAGE VOL. REQ'D: 9,900 C.F.
 STORAGE VOL. PROVIDED: 11,000 C.F. @ 364.0
 CREST ELEVATION: 365.0
 BOTTOM ELEVATION: 360.0
 DEPTH: 5'
 CLEANOUT ELEVATION: 362.5
 SIDE SLOPES: 2:1
 CREST WIDTH: 8'

RIPRAP OUTLET TRAP #14

DRAINAGE AREA: 5.5 AC. ±
 STORAGE VOL. REQ'D: 9,900 C.F.
 STORAGE VOL. PROVIDED: 10,950 C.F. @ 376.0
 CREST ELEVATION: 377.0
 BOTTOM ELEVATION: 372.0
 DEPTH: 5'
 CLEANOUT ELEVATION: 374.5
 SIDE SLOPES: 2:1
 CREST WIDTH: 10'

1487



RIPRAP OUTLET SEDIMENT TRAP #10

DRAINAGE AREA	0.0 AC.
STORAGE VOLUME REQUIRED	14,400 CF
STORAGE VOLUME PROVIDED	15,700 CF @ 418.0
CREST ELEV.	419.0
BOTTOM ELEV.	415.0
DEPTH	5'
SIDE SLOPES	1:1
CLEANOUT ELEV.	417.0
CREST WIDTH	10'

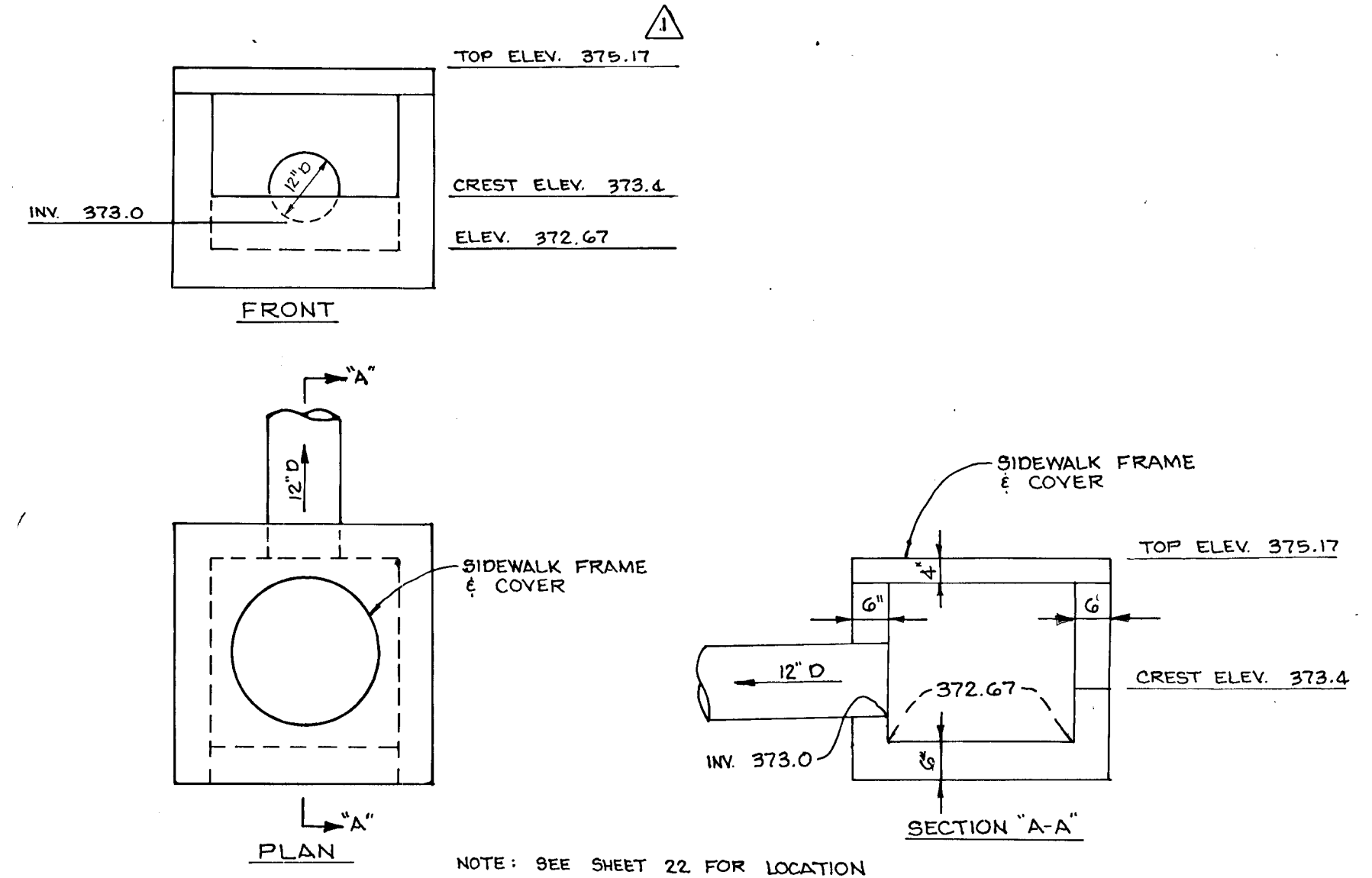
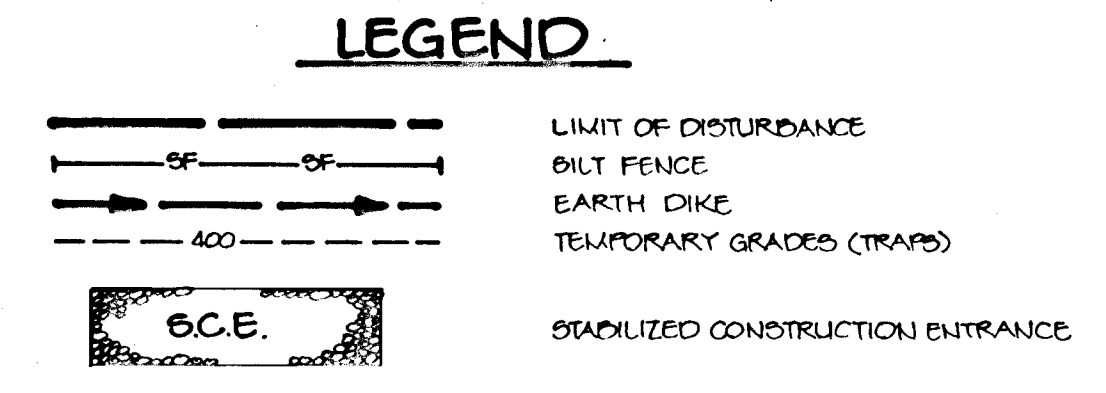
STONE OUTLET SEDIMENT TRAP #11

DRAINAGE AREA	4.5 AC.
STORAGE VOLUME REQUIRED	8100 CF
STORAGE VOLUME PROVIDED	9000 CF @ 582.0
CREST ELEV.	582.0
BOTTOM ELEV.	578.0
DEPTH	4'
SIDE SLOPES	2:1
CLEANOUT ELEV.	580.5
CREST WIDTH	10'

RIPRAP OUTLET SEDIMENT TRAP #12

DRAINAGE AREA	7.0 AC.
STORAGE VOLUME REQUIRED	12,600 CF
STORAGE VOLUME PROVIDED	13,400 CF @ 366.0
CREST ELEV.	367.0
BOTTOM ELEV.	360.0
DEPTH	6'
SIDE SLOPES	1:1
CLEANOUT ELEV.	363.5
CREST WIDTH	50'

NOTE: SEDIMENT TRAPS ARE SHOWN ON SHEET 12.



S-2 DETAIL - MODIFIED PRECAST 'D' INLET
SCALE 1" = 2'

BY THE DEVELOPER :
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Gregory K. Khan 8-30-94
DATE

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.

J. Lankel 8-29-94
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

[Signature] 8/28/94
U.S. SOIL CONSERVATION SERVICE DATE

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

[Signature] 8/28/94
HOWARD SOIL CONSERVATION DISTRICT DATE

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[Signature] 9/23/94
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

[Signature] 9/16/94
CHIEF, LAND DEVELOPMENT DIVISION DATE

[Signature] 9-15-99
CHIEF, BUREAU OF HIGHWAYS DATE

[Signature] 9/10/94
CHIEF, BUREAU OF ENGINEERING DATE

2-10-98 **ADDED S-2 DETAIL**

DATE NO. REVISION

OWNER / DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

PROJECT **VILLAGE OF RIVER HILL SECTION 2 AREA 4 LOTS 1 - 165**

AREA TAX MAP NO. 35 ZONING RHW TOWN PART OF PARCELS 70 & 240 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE **GRADING AND SEDIMENT CONTROL PLAN**

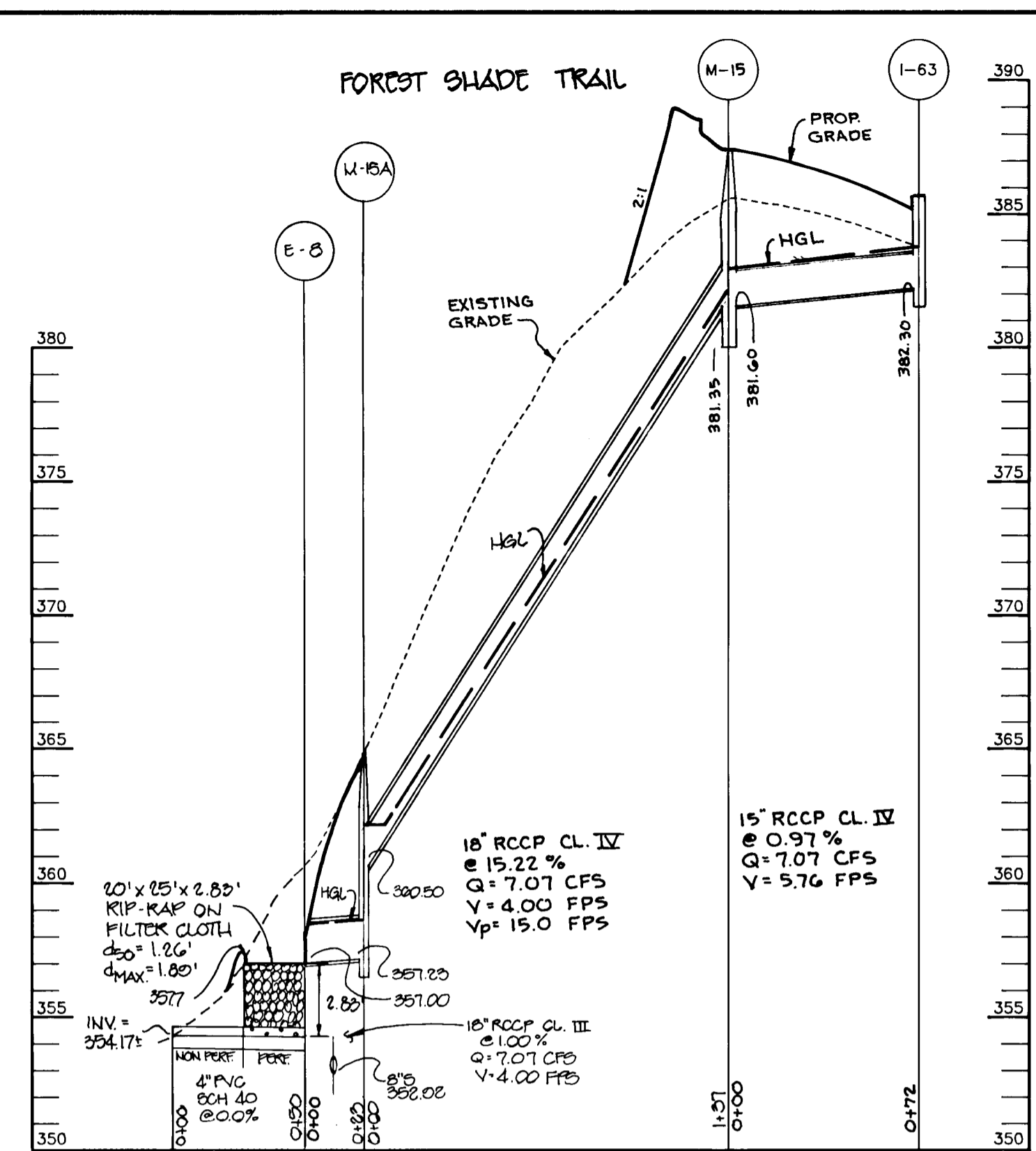
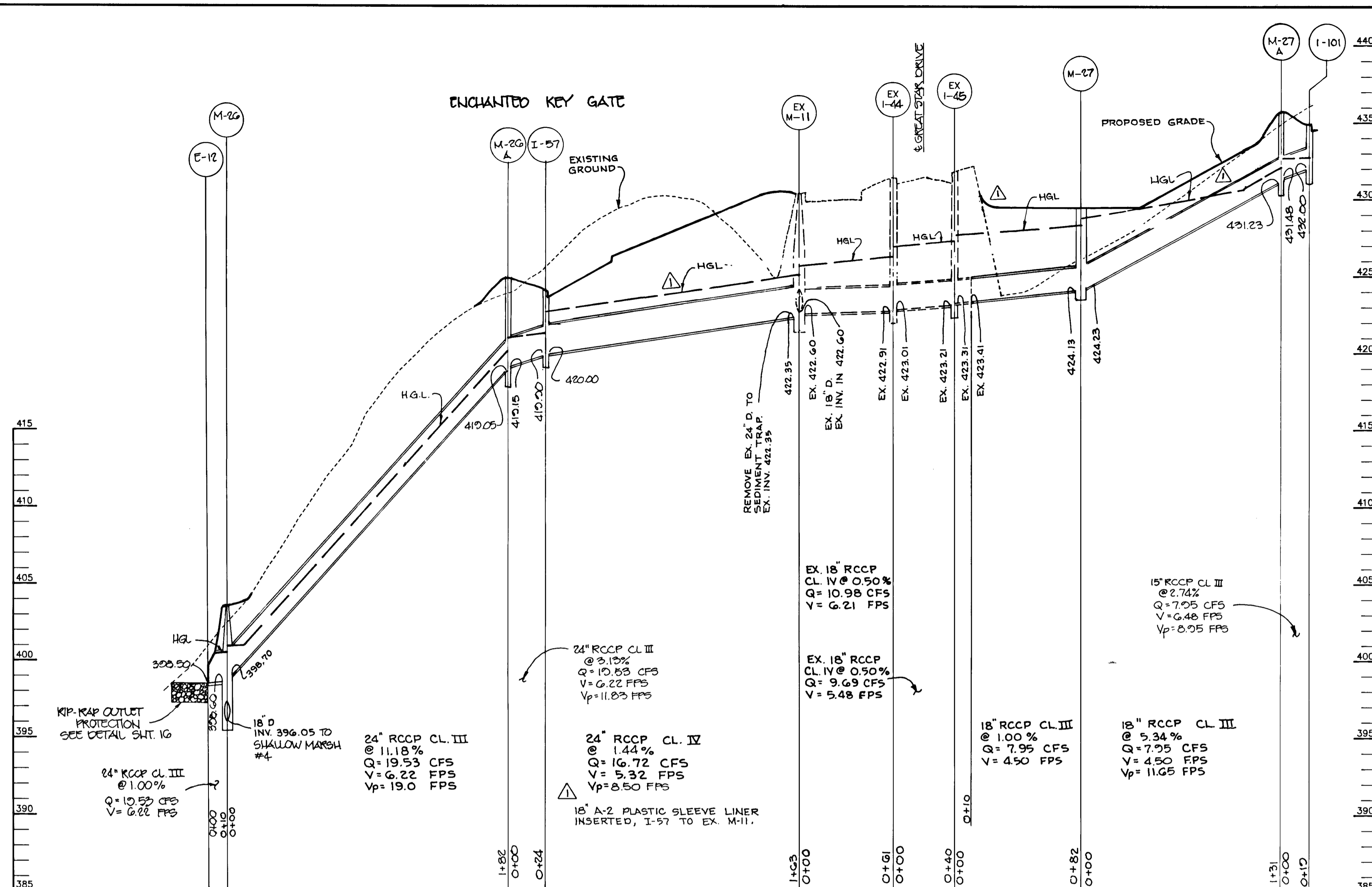
RIEMER MUEGGE & ASSOCIATES, INC.
Planners • Engineers • Surveyors
8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
410-997-8900 FAX : 410-997-8282

DATE

DESIGNED BY : C.J.R.
DRAWN BY : D.A.M.
PROJECT NO : 88103
DATE : AUGUST 20, 1994
SCALE : AS SHOWN
DRAWING NO. : 5 OF 22

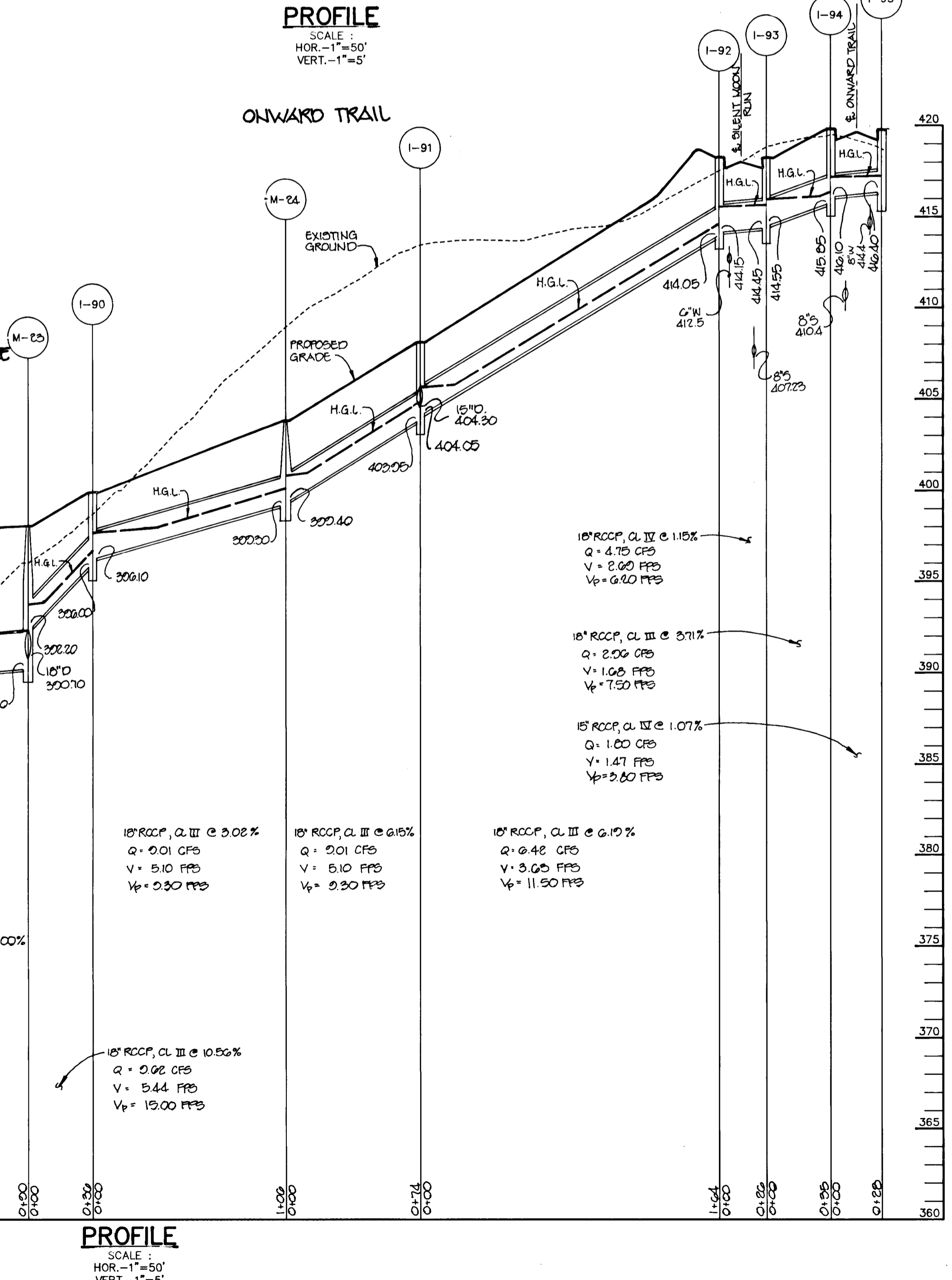
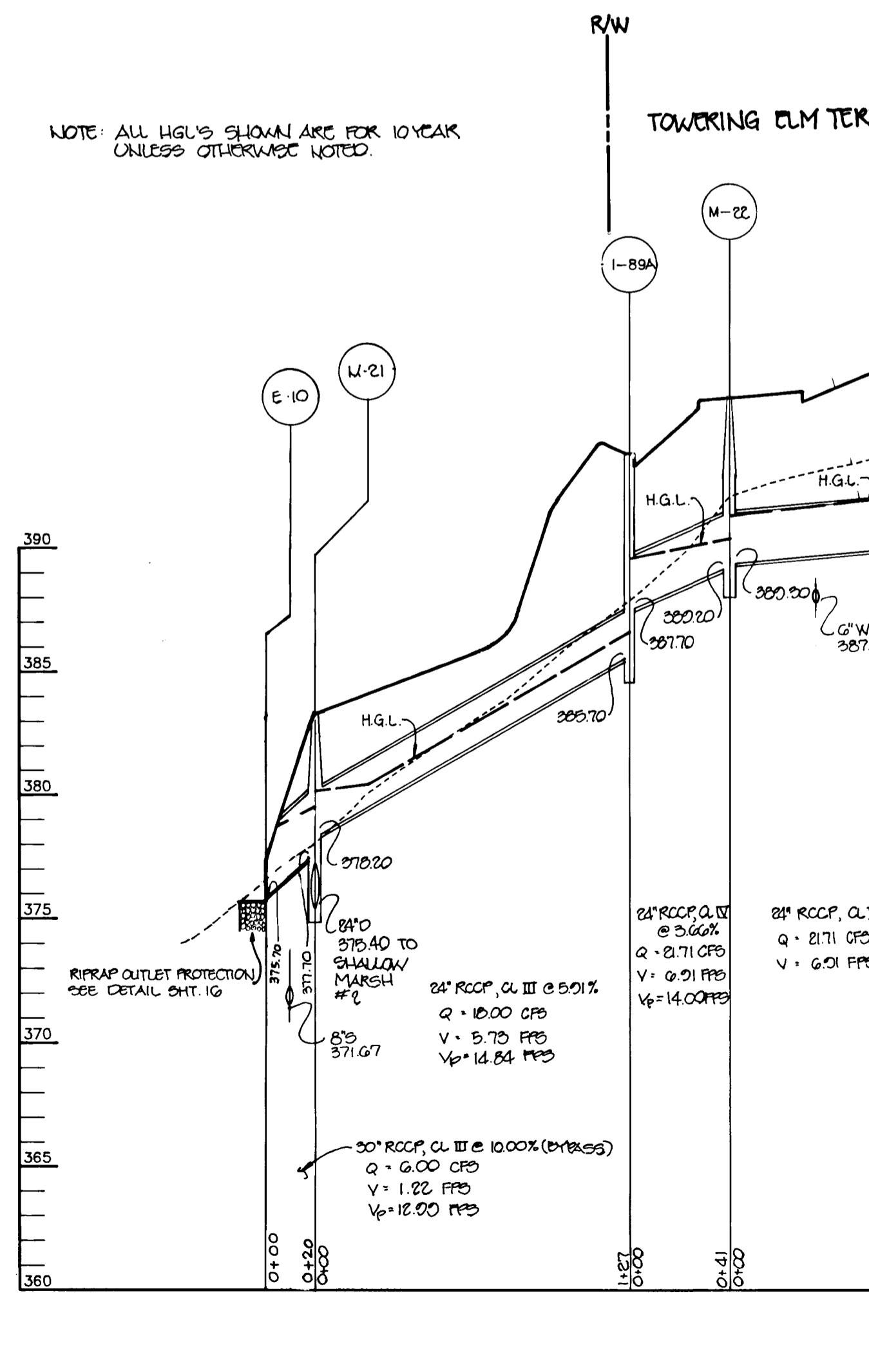
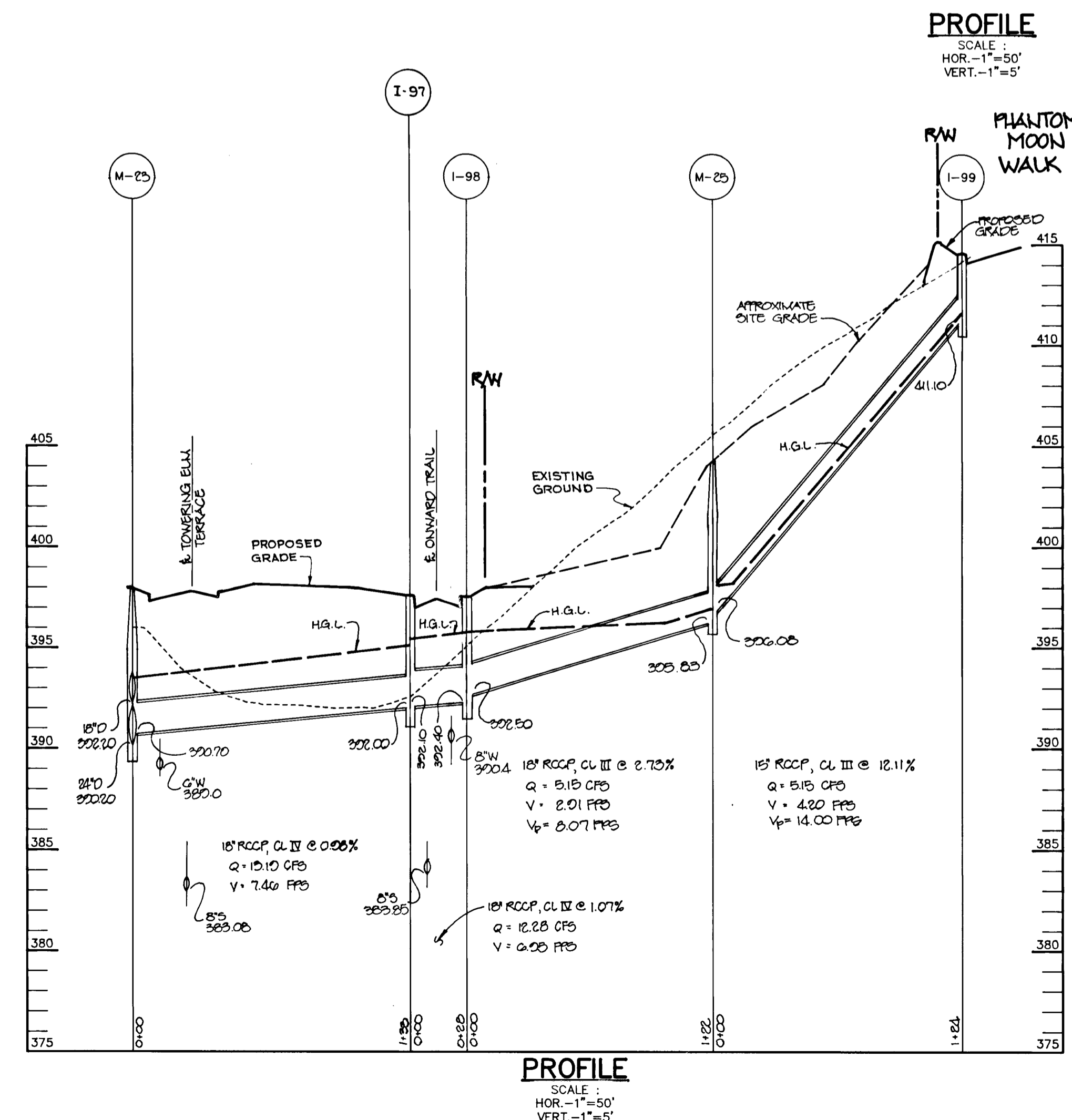
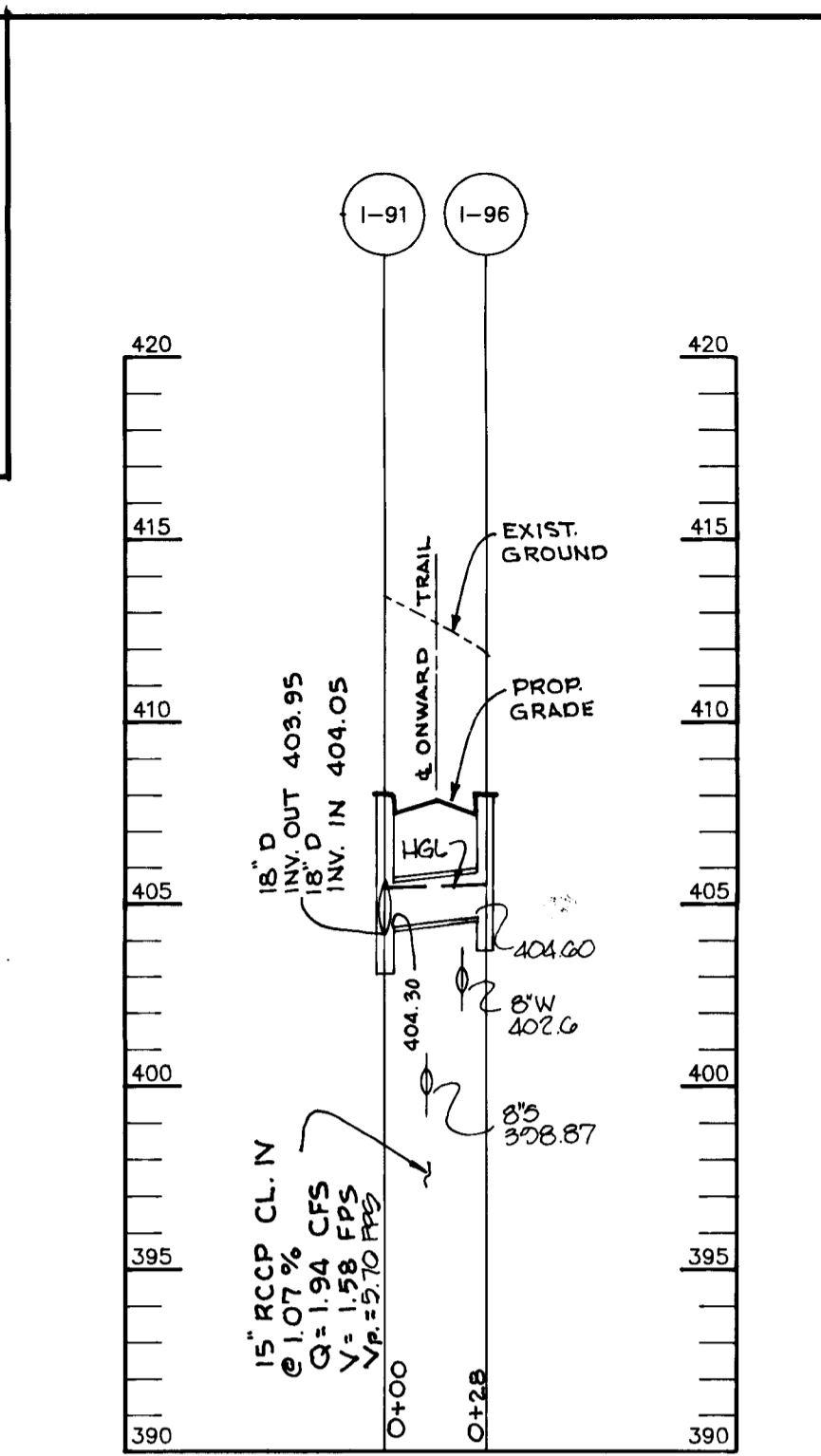
J. Lankel
JAYKANT D. PAREKH #19148

1487



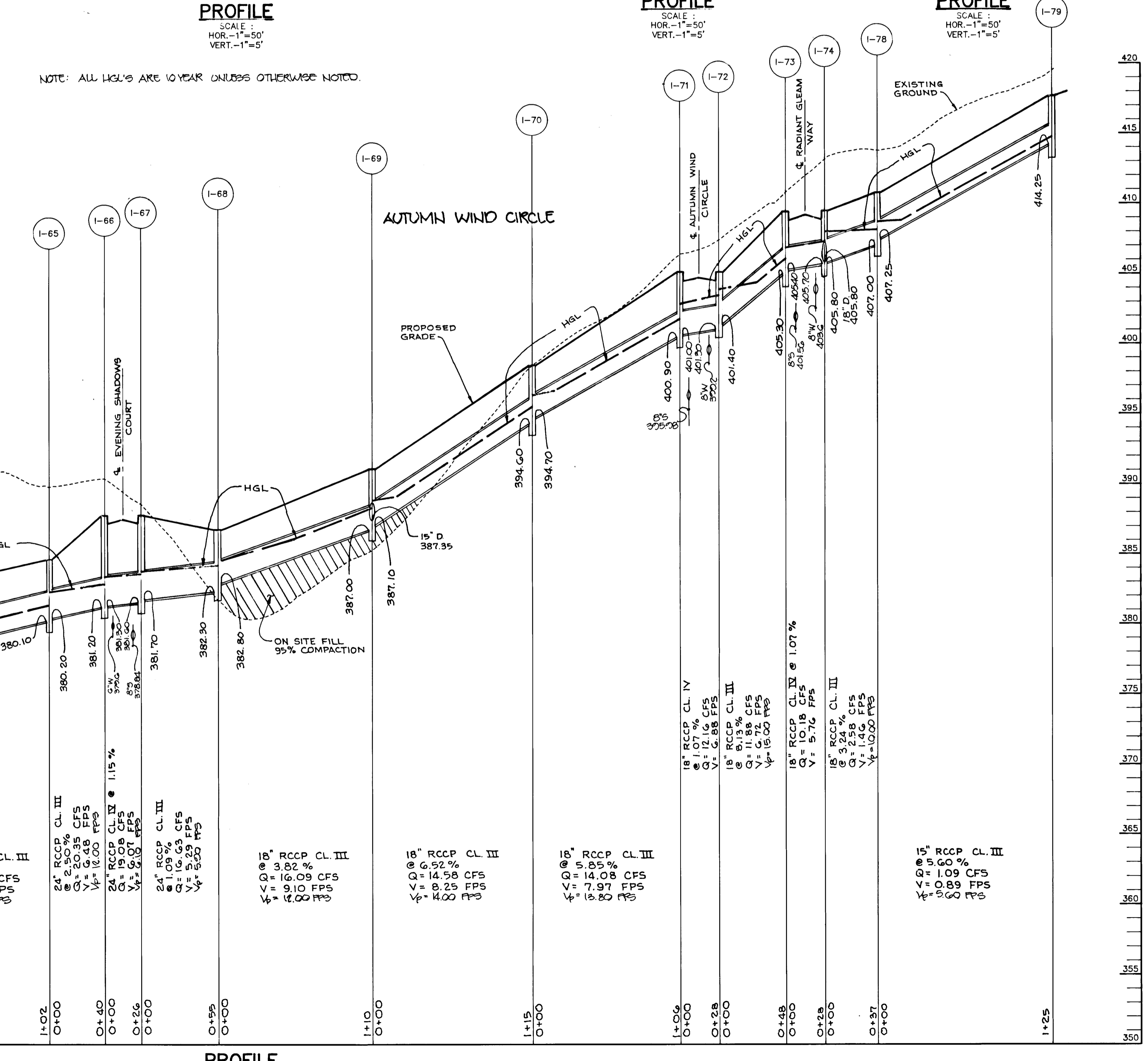
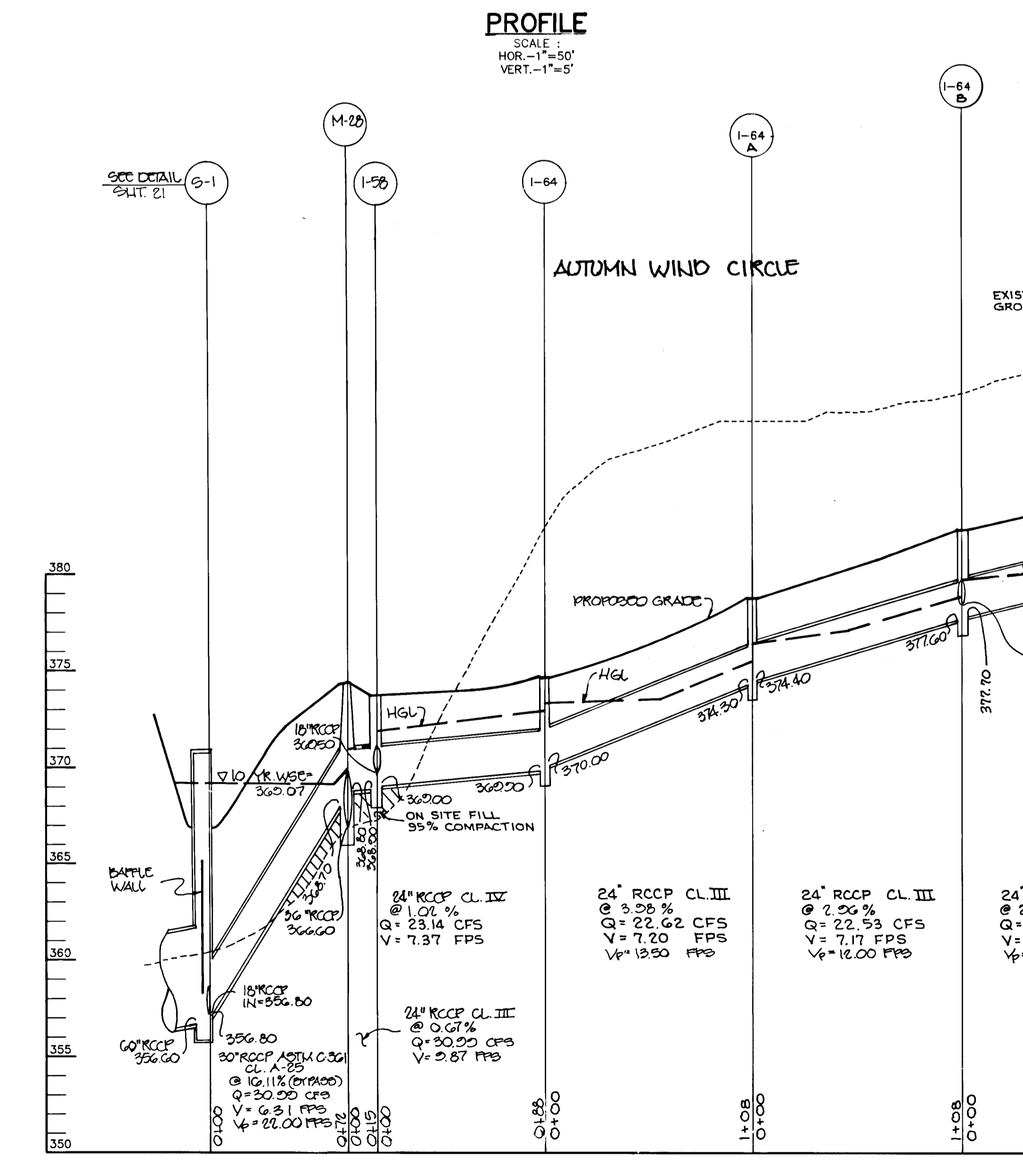
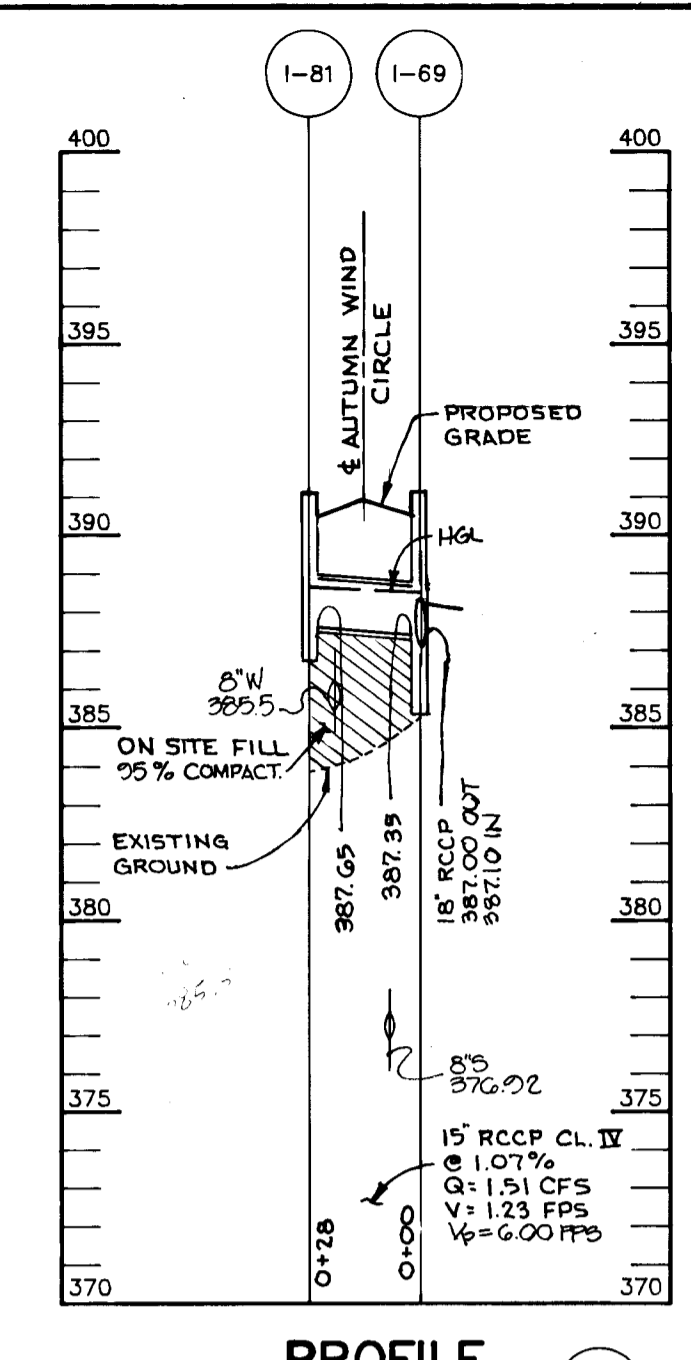
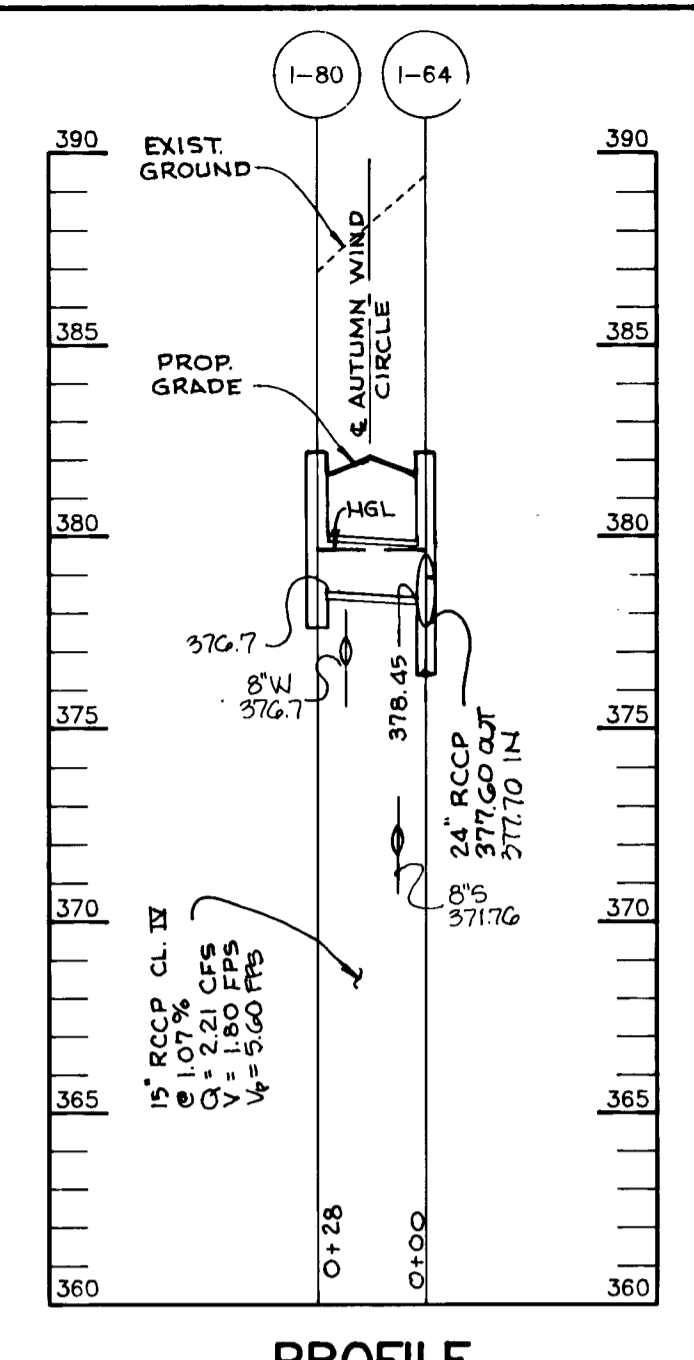
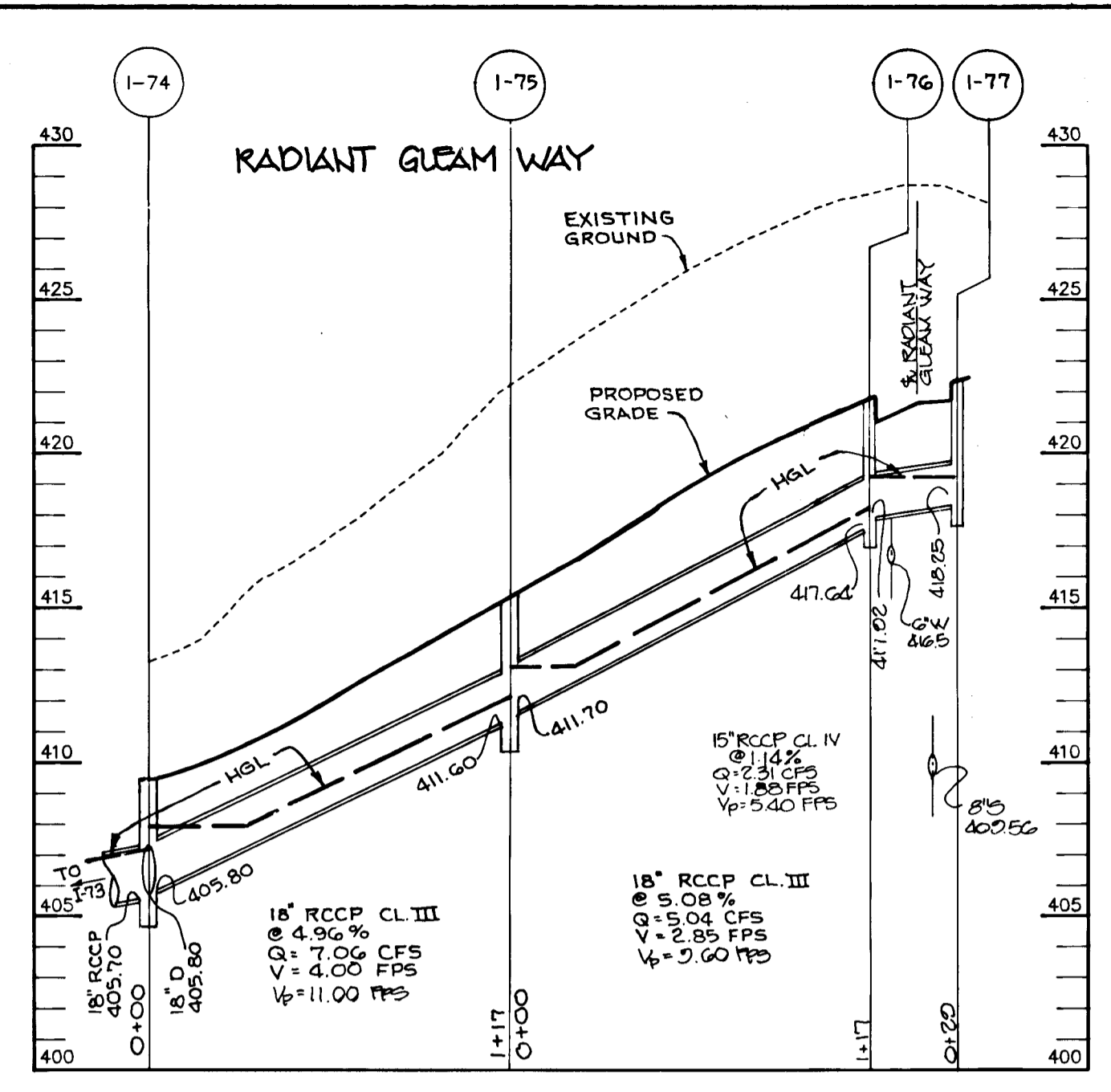
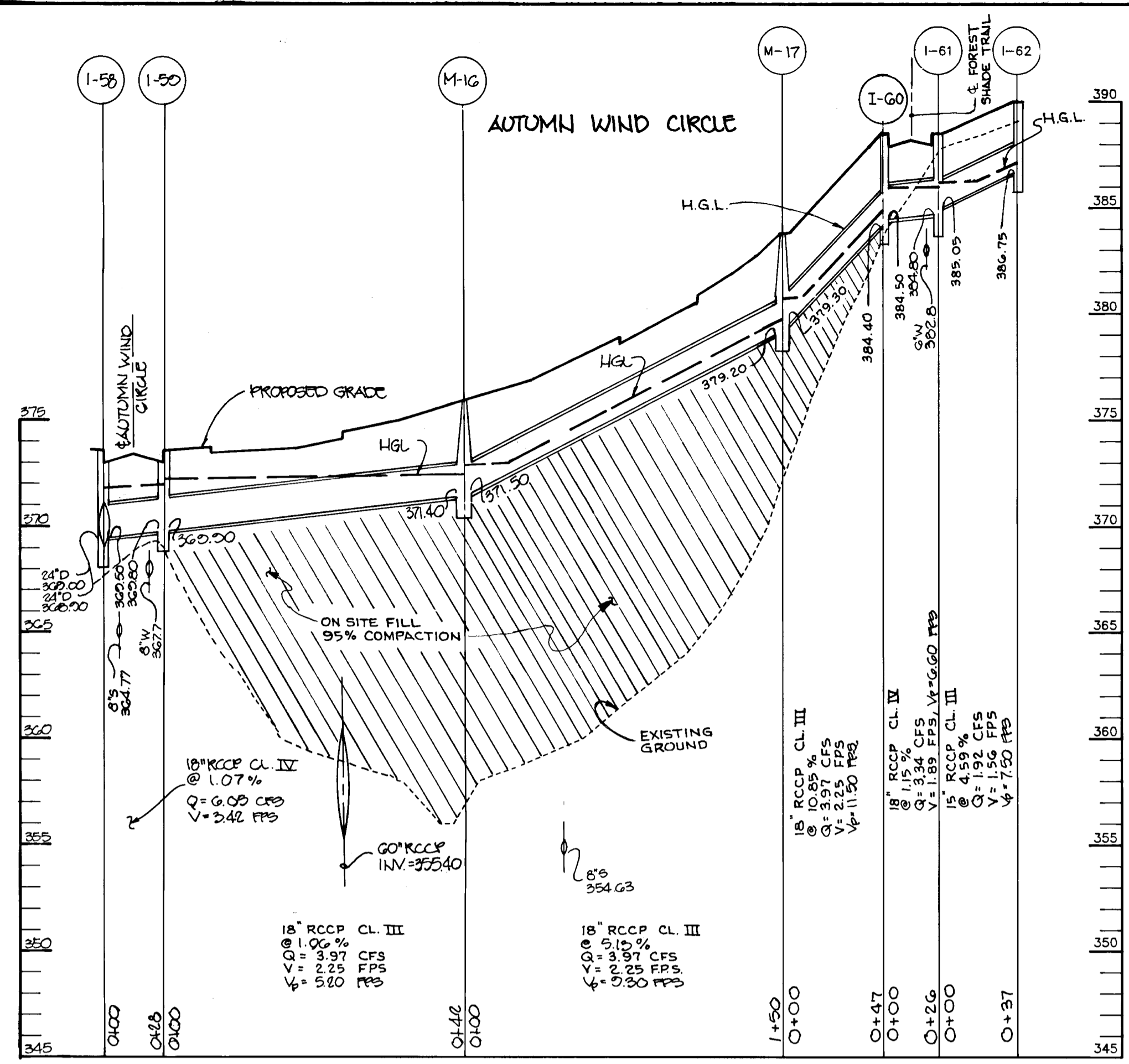
1.22.98
DATE

Arthur E. Muegge # 8707
FOR REDLINE REVISION
DATED JULY 25, 1998



AS BUILT CERTIFICATE	
APPROVED :	DATE
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
<i>Gina Trummey</i> CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH	9/23/94
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>Mike Dammann</i> CHIEF, LAND DEVELOPMENT DIVISION	9/14/94
<i>Andrew M. Daneker</i> CHIEF, BUREAU OF HIGHWAYS	9-15-99
<i>Paul J. Rapson</i> CHIEF, BUREAU OF ENGINEERING	2/12/98
7/23/98 Δ	REVISED PROP. GRADING NR. M-27, RAISED TOP EL. M-27, MODIFIED HGL'S, ADDED NOTE ABOUT 18" PLASTIC SLEEVE.
DATE / NO.	REVISION
OWNER / DEVELOPER	
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044	
PROJECT VILLAGE OF RIVER HILL SECTION 2 AREA 4 LOTS 1 - 165	
AREA TAX MAP NO. 35 ZONED NEW TOWN PART OF PARCELS 70 & 240 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE STORM DRAIN PROFILES	
RIEMER MUEGGE & ASSOCIATES, INC. Planners • Engineers • Surveyors 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045 410-997-8900 FAX: 410-997-9282	
8.29.94 DATE	S-91-03 P-24-01 F-24-01
<i>J. Parekh</i> JAYKANT, D. PAREKH #19148	DESIGNED BY : C.J.R. & R.W.R.
	DRAWN BY : D.A.M., R.J.C.
	PROJECT NO : 88103
	DATE : AUGUST 20, 1994
	SCALE : AS SHOWN
	DRAWING NO. 17 OF 22

1487

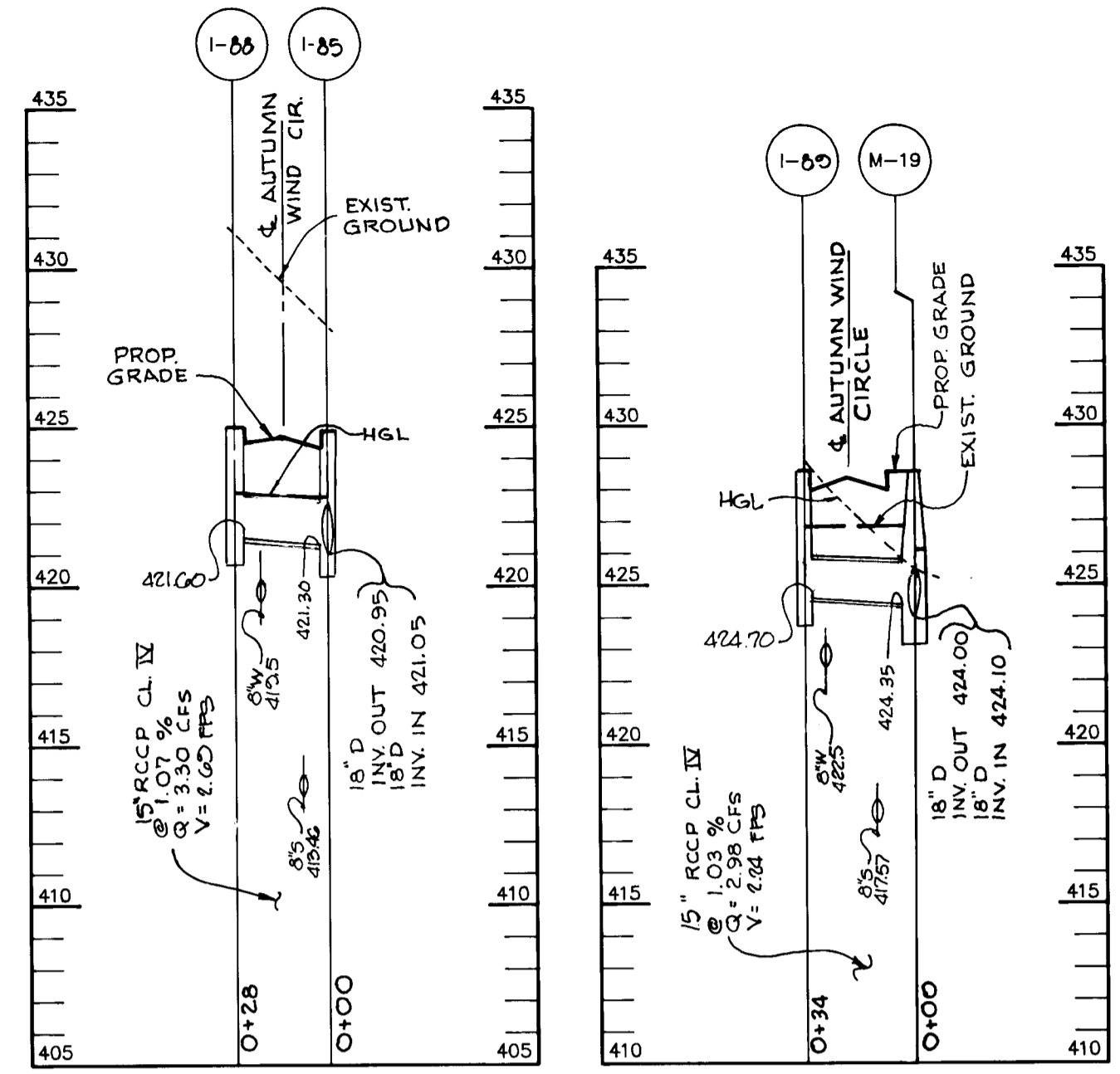


NOTE: ALL HGL'S ARE 10 YEAR UNLESS OTHERWISE NOTED.

AS BUILT CERTIFICATE	
DATE	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	9/23/94
<i>Gina Summary</i> CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	9/19/94
<i>John D. ...</i> CHIEF, LAND DEVELOPMENT DIVISION	DATE
<i>Andrew M. ...</i> CHIEF, BUREAU OF HIGHWAYS	9-15-94
<i>...</i> CHIEF, BUREAU OF ENGINEERING	9/12/94
4-6-95	RELOCATED I-76
DATE NO.	REVISION
OWNER / DEVELOPER	
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044	
PROJECT VILLAGE OF RIVER HILL SECTION 2 AREA 4 LOTS 1 - 165	
AREA TAX MAP NO. 35 ZONED NEW TOWN PART OF PARCELS 70 & 240 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE STORM DRAIN PROFILES	
RIEMER MUEGGE & ASSOCIATES, INC. Planners • Engineers • Surveyors 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045 410-997-8900 FAX: 410-997-9282	
DATE 8-27-94	DESIGNED BY: C.J.R. & R.W.R.
	DRAWN BY: D.A.M. & R.J.C.
	PROJECT NO: 88103
DATE: AUGUST 29, 1994	SCALE: AS SHOWN
JAYKANT D. PAREKH #19148	DRAWING NO. 18 OF 22

1487

1487

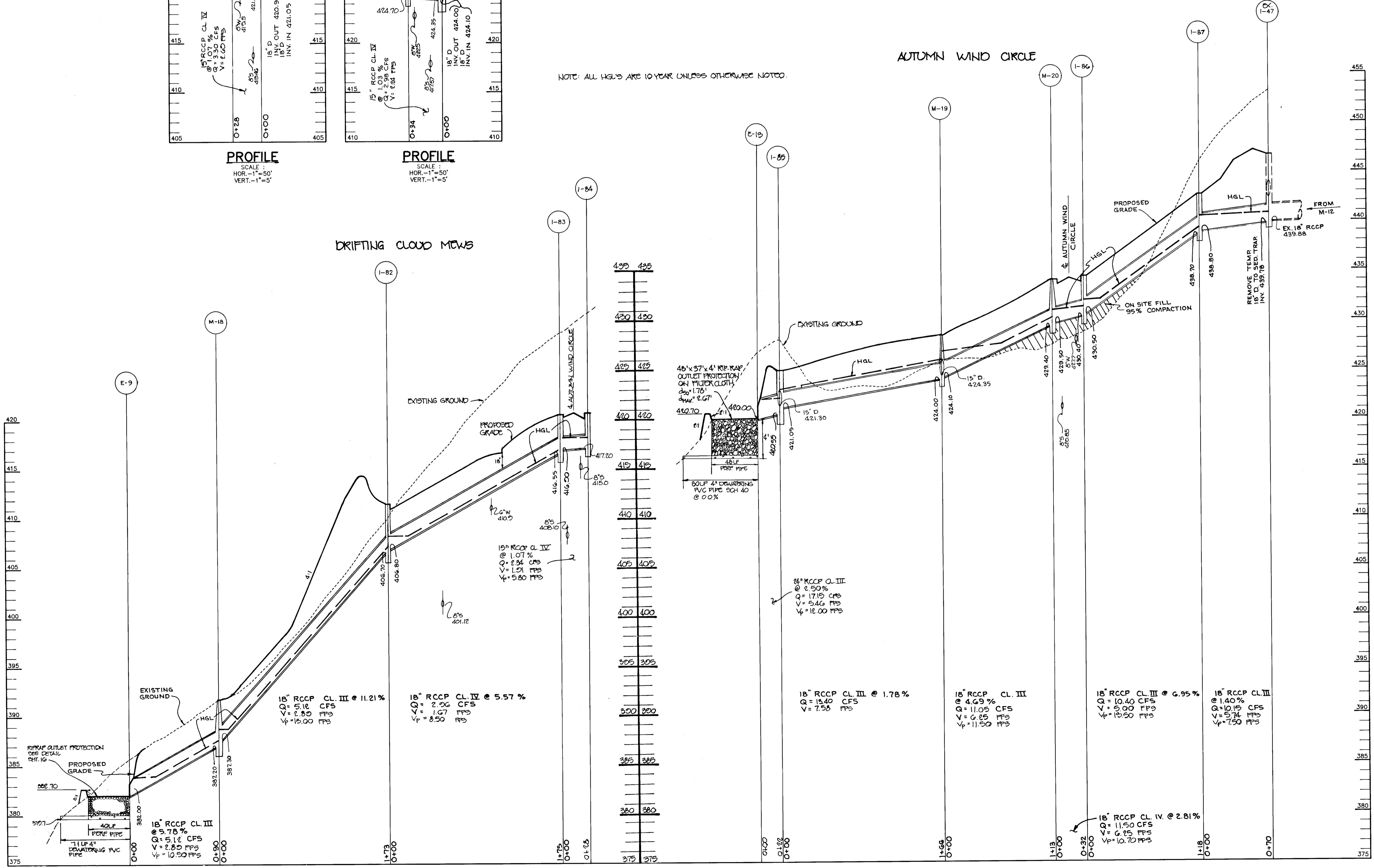


PROFILE
SCALE:
HOR. - 1" = 50'
VERT. - 1" = 5'

NOTE: ALL HGL'S ARE 10 YEAR UNLESS OTHERWISE NOTED.

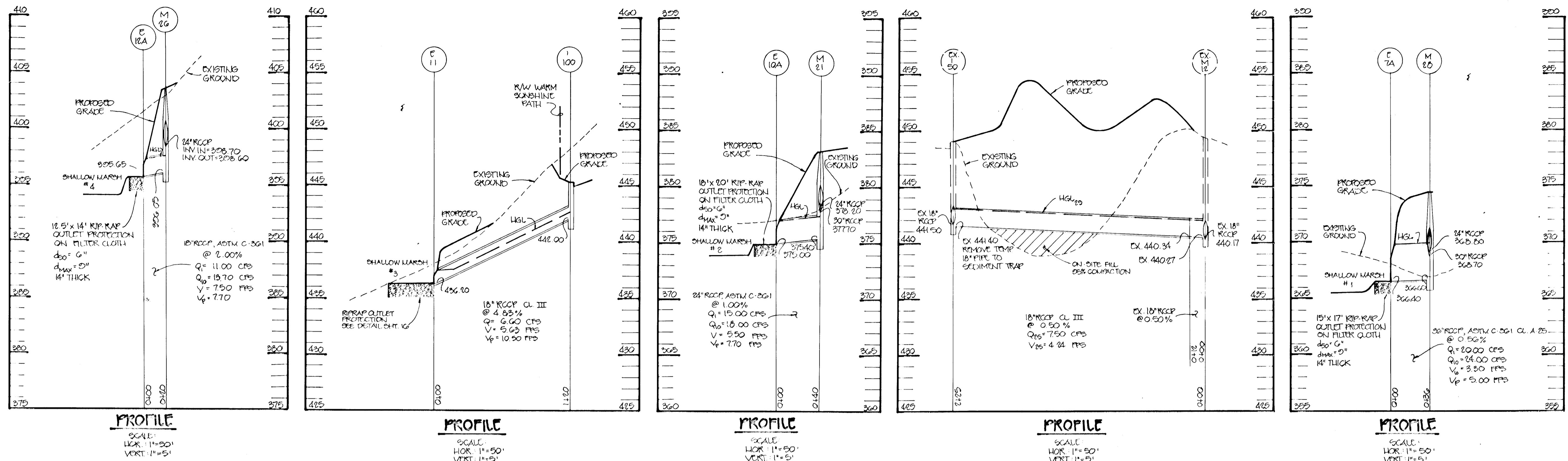
AUTUMN WIND CIRCLE

DRIFTING CLOUD MEWS



PROFILE
SCALE:
HOR. - 1" = 50'
VERT. - 1" = 5'

AS BUILT CERTIFICATE	
DATE	
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Jina Srivastava</i> CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH	9/23/94 DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	
<i>Andrew M. D... CHIEF, BUREAU OF HIGHWAYS</i>	9-15-94 DATE
<i>Samuel... CHIEF, BUREAU OF ENGINEERING</i>	9/19/94 DATE
DATE NO.	REVISION
OWNER / DEVELOPER THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044	
PROJECT VILLAGE OF RIVER HILL SECTION 2 AREA 4 LOTS 1 - 165	
AREA TAX MAP NO. 35 ZONED NEW TOWN PART OF PARCELS 70 & 240 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE STORM DRAIN PROFILES	
RIEMER MUEGGE & ASSOCIATES, INC. Planners • Engineers • Surveyors 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045 410-997-8900 FAX: 410-997-9282	
8.25.94 DATE	S-91-03 P-94-01 F-94-01
DESIGNED BY: C.J.R. & R.W.R.	DRAWN BY: D.A.M., R.J.C.
PROJECT NO: 88103	DATE: AUGUST 20, 1994
SCALE: AS SHOWN	DRAWING NO. 19 OF 22
JAYKANY D. PAREKH #19148	



1-23-94
DATE

Arthur E. Muegge
ARTHUR E. MUEGGE
FOR REDLINE REVISION
DATED JULY 28, 1994

STRUCTURE SCHEDULE

NO	TYPE	LOCATION	INV. IN	INV. OUT	TOP ELEV.	REMARKS	
1-57	A-5 INLET	LP STA 2+58.51	420.00	419.50	424.48	SEE HO CO STD DETAIL SD 4.01	
1-58	A-5 INLET	ENRICHMENT KEY GATE	18+369.5	368.90	373.64	SEE HO CO STD DETAIL SD 4.01	
1-59	A-5 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 19+30.34	369.8	373.64	SEE HO CO STD DETAIL SD 4.01	
1-60	A-5 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 19+30.34	369.8	373.64	SEE HO CO STD DETAIL SD 4.01	
1-61	A-5 INLET	AUTUMN WIND CIRCLE	12.52' LT OF STA 0+43.6	384.5	388.57	SEE HO CO STD DETAIL SD 4.01	
1-62	A-10 INLET	AUTUMN WIND CIRCLE	12.52' RT OF STA 0+43.6	385.05	388.57	SEE HO CO STD DETAIL SD 4.02	
1-63	A-5 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 2+03.54	-	386.75	SEE HO CO STD DETAIL SD 4.01	
1-64	A-5 INLET	AUTUMN WIND CIRCLE	12.52' RT OF STA 14+27.6	374.4	378.72	SEE HO CO STD DETAIL SD 4.01	
1-64A	A-5 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 18+38.9	370.0	360.0	SEE HO CO STD DETAIL SD 4.01	
1-64B	A-5 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 17+27.6	374.4	378.72	SEE HO CO STD DETAIL SD 4.01	
1-65	A-5 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 16+18.3	380.2	374.76	SEE HO CO STD DETAIL SD 4.01	
1-66	A-5 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 15+15.8	380.2	374.76	SEE HO CO STD DETAIL SD 4.01	
1-67	A-10 INLET	AUTUMN WIND CIRCLE	12.52' RT OF STA 0+50.3	381.3	381.2	SEE HO CO STD DETAIL SD 4.02	
1-68	A-5 INLET	AUTUMN WIND CIRCLE	12.52' RT OF STA 0+50.3	381.7	381.6	SEE HO CO STD DETAIL SD 4.02	
1-69	A-5 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 14+17.0	382.8	382.3	SEE HO CO STD DETAIL SD 4.01	
1-70	A-10 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 12+99.8	15+387.35	507.0	391.12	SEE HO CO STD DETAIL SD 4.02
1-71	A-10 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 11+78.1	394.7	398.40	SEE HO CO STD DETAIL SD 4.02	
1-72	A-10 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 10+65.9	403.0	400.9	SEE HO CO STD DETAIL SD 4.02	
1-73	A-10 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 10+65.9	403.4	403.13	SEE HO CO STD DETAIL SD 4.02	
1-74	A-10 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 0+43.0	405.4	405.37	SEE HO CO STD DETAIL SD 4.02	
1-75	A-10 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 0+43.0	405.4	405.37	SEE HO CO STD DETAIL SD 4.02	
1-76	A-10 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 1+40.0	411.74	411.00	SEE HO CO STD DETAIL SD 4.02	
1-77	A-10 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 2+09.0	-	415.00	SEE HO CO STD DETAIL SD 4.02	
1-78	A-10 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 9+70.9	407.25	400.83	SEE HO CO STD DETAIL SD 4.02	
1-79	A-10 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 8+45.9	414.25	417.70	SEE HO CO STD DETAIL SD 4.02	
1-80	A-10 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 16+18.3	-	378.75	SEE HO CO STD DETAIL SD 4.02	
1-81	A-10 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 12+99.8	-	387.65	SEE HO CO STD DETAIL SD 4.02	
1-82	A-5 INLET	L.P. STA. 1+21.2	406.8	406.7	411.53	SEE HO CO STD DETAIL SD 4.01	
1-83	A-5 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 7+20	416.9	416.55	SEE HO CO STD DETAIL SD 4.01	
1-84	A-5 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 7+20	417.20	420.68	SEE HO CO STD DETAIL SD 4.01	
1-85	A-10 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 5+05.3	15+421.3	420.55	SEE HO CO STD DETAIL SD 4.02	
1-86	A-10 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 2+06.7	430.5	430.4	SEE HO CO STD DETAIL SD 4.02	
1-87	A-10 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 0+90	438.0	438.7	SEE HO CO STD DETAIL SD 4.02	
1-88	A-5 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 5+00	-	421.6	SEE HO CO STD DETAIL SD 4.01	
1-89	A-5 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 3+30.1	428.7	428.67	SEE HO CO STD DETAIL SD 4.01	
1-89A	A-5 INLET	L.P. STA. 2+49.3	387.70	385.7	393.92	SEE HO CO STD DETAIL SD 4.02	
1-90	A-10 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 6+02.7	396.10	396.0	SEE HO CO STD DETAIL SD 4.02	
1-91	A-10 INLET	AUTUMN WIND CIRCLE	13.52' RT OF STA 4+28.6	15+404.3	403.95	SEE HO CO STD DETAIL SD 4.02	
1-92	A-5 INLET	AUTUMN WIND CIRCLE	12.52' RT OF STA 0+28.6	414.15	414.05	SEE HO CO STD DETAIL SD 4.01	
1-93	A-5 INLET	AUTUMN WIND CIRCLE	12.52' RT OF STA 0+38.20	414.55	414.45	SEE HO CO STD DETAIL SD 4.01	

STRUCTURE SCHEDULE

NO	TYPE	LOCATION	INV. IN	INV. OUT	TOP ELEV.	REMARKS
1-94	A-10 INLET	13.52' LT OF STA 2+29.9	416.1	415.85	419.88	SEE HO CO STD DETAIL SD 4.02
1-95	A-10 INLET	13.52' RT OF STA 2+29.9	-	416.40	419.88	SEE HO CO STD DETAIL SD 4.02
1-96	A-10 INLET	13.52' RT OF STA 4+28.6	404.60	408.1	408.1	SEE HO CO STD DETAIL SD 4.02
1-97	A-5 INLET	13.52' LT OF STA 1+42.67	392.10	392.00	397.38	SEE HO CO STD DETAIL SD 4.01
1-98	A-5 INLET	13.52' RT OF STA 7+42.67	392.50	392.40	397.38	SEE HO CO STD DETAIL SD 4.01
1-99	A-5 INLET	L.P. STA. 1+88.40	311.5	311.0	414.58	SEE HO CO STD DETAIL SD 4.01
1-100	A-5 INLET	L.P. STA. 1+95.12	-	422.00	445.12	SEE HO CO STD DETAIL SD 4.01
1-101	A-5 INLET	L.P. STA. 1+25.54	-	432.00	434.06	SEE HO CO STD DETAIL SD 4.01
M-15	4" DIAMETER	18' RT OF STA 1+16.2	381.6	381.35	387.43	SEE HO CO STD DETAIL GS.12
M-16	4" DIAMETER	7.13' LT OF STA 20+68	371.5	371.4	376.01	SEE HO CO STD DETAIL GS.12
M-17	4" DIAMETER	16.41' LT OF STA 22+14.7	379.30	379.20	383.90	SEE HO CO STD DETAIL GS.12
M-18	4" DIAMETER	SEE SHEET C	387.30	387.20	391.80	SEE HO CO STD DETAIL GS.12
M-19	4" DIAMETER	18' RT OF STA 3+30.1	15+424.35	424.00	428.62	SEE HO CO STD DETAIL GS.12
M-20	4" DIAMETER	17.91' RT OF STA 2+10.4	429.5	429.40	434.01	SEE HO CO STD DETAIL GS.12
M-21	4" DIAMETER	SEE SHEET V	378.3	30+377.7	380.20	SEE HO CO STD DETAIL GS.13
M-22	4" DIAMETER	8.65' RT OF STA 1+51.1	389.3	389.2	396.1	SEE HO CO STD DETAIL GS.12
M-23	4" DIAMETER	19.58' LT OF STA 0+43.2	18+390.7	390.20	398.05	SEE HO CO STD DETAIL GS.12
M-24	4" DIAMETER	16.92' LT OF STA 4+99.7	399.4	399.3	403.94	SEE HO CO STD DETAIL GS.12
M-25	4" DIAMETER	SEE SHEET G	390.0	390.85	403.5	SEE HO CO STD DETAIL GS.12
M-26	4" DIAMETER	SEE SHEET H	398.7	24+398.6	404.60	SEE HO CO STD DETAIL GS.12
M-27	4" DIAMETER	SEE SHEET I	424.25	424.13	429.40	SEE HO CO STD DETAIL GS.12
M-28	4" DIAMETER	18' RT OF STA 19+30.34	368.80	24+365.4	374.40	SEE HO CO STD DETAIL GS.13
E-7A	18" CONC. END SECTION	79' RT OF STA 19+30.34	357.0	-	-	SEE HO CO STD DETAIL SD 5.51
E-7B	30" CONC. END SECTION	60' RT OF STA 20+10.4	-	366.40	-	SEE HO CO STD DETAIL SD 5.51
E-8	18" CONC. END SECTION	79' RT OF STA 19+30.34	-	357.0	-	SEE HO CO STD DETAIL SD 5.51
E-9	18" CONC. END SECTION	79' RT OF STA 19+30.34	-	382.0	-	SEE HO CO STD DETAIL SD 5.51
E-10	30" CONC. END SECTION	60' RT OF STA 20+10.4	-	375.0	-	SEE HO CO STD DETAIL SD 5.51
E-10A	24" CONC. END SECTION	79' RT OF STA 19+30.34	-	375.0	-	SEE HO CO STD DETAIL SD 5.51
E-11	15" CONC. END SECTION	79' RT OF STA 19+30.34	-	436.20	-	SEE HO CO STD DETAIL SD 5.51
E-12	24" CONC. END SECTION	79' RT OF STA 19+30.34	-	398.50	-	SEE HO CO STD DETAIL SD 5.51
E-12A	18" CONC. END SECTION	79' RT OF STA 19+30.34	-	396.65	-	SEE HO CO STD DETAIL SD 5.51
E-13	24" CONC. END SECTION	79' RT OF STA 19+30.34	-	420.0	-	SEE HO CO STD DETAIL SD 5.51
E-14	18" CONC. END SECTION	79' RT OF STA 19+30.34	-	356.0	-	SEE HO CO STD DETAIL SD 5.51
H-1	4" DIAMETER PRECAST MANHOLE	18' RT OF STA 19+30.34	18+356.8	356.6	371.0	SEE HO CO STD DETAIL SD 4.02
H-1A	4" DIAMETER PRECAST MANHOLE	18' RT OF STA 19+30.34	30+356.8	-	-	AND DETAIL SHEET 21

SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard practice Manual with reference to ASTM and ASSTC specifications apply to the most recent revision.

SITE PREPARATION

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stumps shall be cut off approximately level with the ground surface. For dry obstruction material unless otherwise designated, any other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fence, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut off approximately level with the ground surface. For dry obstruction material unless otherwise designated, any other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

EARTH FILL

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of rocks, wood rubbish, stones greater than 6", frozen or other objectionable material. Fill material for the center of the embankment and all structural work shall be placed on the downstream portions of the embankment. The proposed spillway shall be installed concurrently with fill placed and not excavated into the embankment.

Placement - Areas on which fill is to be placed shall be accreted prior to placement of fill. Fill materials shall be placed in maximum 8-inch lifts (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed on the downstream portions of the embankment. The proposed spillway shall be installed concurrently with fill placed and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be troweled by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tire or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will crumble yet not be so wet that water can be squeezed out.

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

Outfill Trench - The outfill trench shall be excavated into the embankment along or parallel to the centerline of the embankment or across the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. Coated corrugated steel pipe shall be placed below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter.

The back fill shall be compacted with construction equipment, rollers, or hand tampers to ensure maximum density and minimum permeability.

STRUCTURE BACKFILL

Backfill adjacent to pipe or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four feet in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all space under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe.

PIPE CONDUITS

All pipe shall be circular in cross section.

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

- Material** - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with water tightening bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with polymer coatings shall have a minimum coating thickness of 0.01 inch (0.25 mil) on both sides of the pipe. The following conditions or an approved equal may be used: Heavy, Point-Cole, Coated; or, Double Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.
- Coupling bands, anti-seep collars, and sections, etc., must be composed of the same material as the pipe and shall be installed from dissimilar materials with use of rubber or plastic insulating materials at least 24" in thickness.**
- Connections** - All connections with pipe must be completely watertight. The drain pipe or bore connection to the pipe shall be welded all around where the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Simple boxes are not required to be watertight.
- All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be marked on adequate number of connections to accommodate the bond width. The following pipe connections are acceptable for pipe less than 48" in diameter:** Rings on both ends of the pipe, a 1/2" wide standard type bond with 1/2" wide by 3/8" thick closed cell circular neoprene gasket; and a 1/2" wide hanger type bond with O-ring gaskets having a minimum diameter of 1/2" greater than the connection depth. Pipes 48" in diameter and larger shall be connected by a 24" long smaller corrugated bond and neoprene gasket. A 1/2" wide by 3/8" thick closed cell circular neoprene gasket will be installed on the end of each pipe for a total of 24" length.
- Bedding** - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- Backfilling shall conform to "Structure Backfill."**
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.**

EROSION AND SEDIMENT CONTROL

All borrow areas shall be graded to provide proper drainage and left in a bare condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berm shall be stabilized by seeding, mulching, fertilizing and mucking in accordance with the Maryland Soil Conservation Service Standards and Specifications for Critical Area Planting (40-342) or as shown on the accompanying drawings.

CONSTRUCTION OPERATIONS

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.

AS BUILT CERTIFICATE

DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Gina Simonson 9/23/94
John C. H. H. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Robert D. ... 9/16/94
Andrew M. ... 9-15-94
Paul ... 9/15/94

9/23/98 REV. STRUCTURE SCHED. TOP ELEV. M-27
4-G-05 1 KEV. STRUCTURE SCHED. INN. I-76-I-T-17

DATE NO. REVISION

OWNER / DEVELOPER
THE HOWARD RESEARCH AND BUILDING CORPORATION
THE ROUSE DEVELOPMENT
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

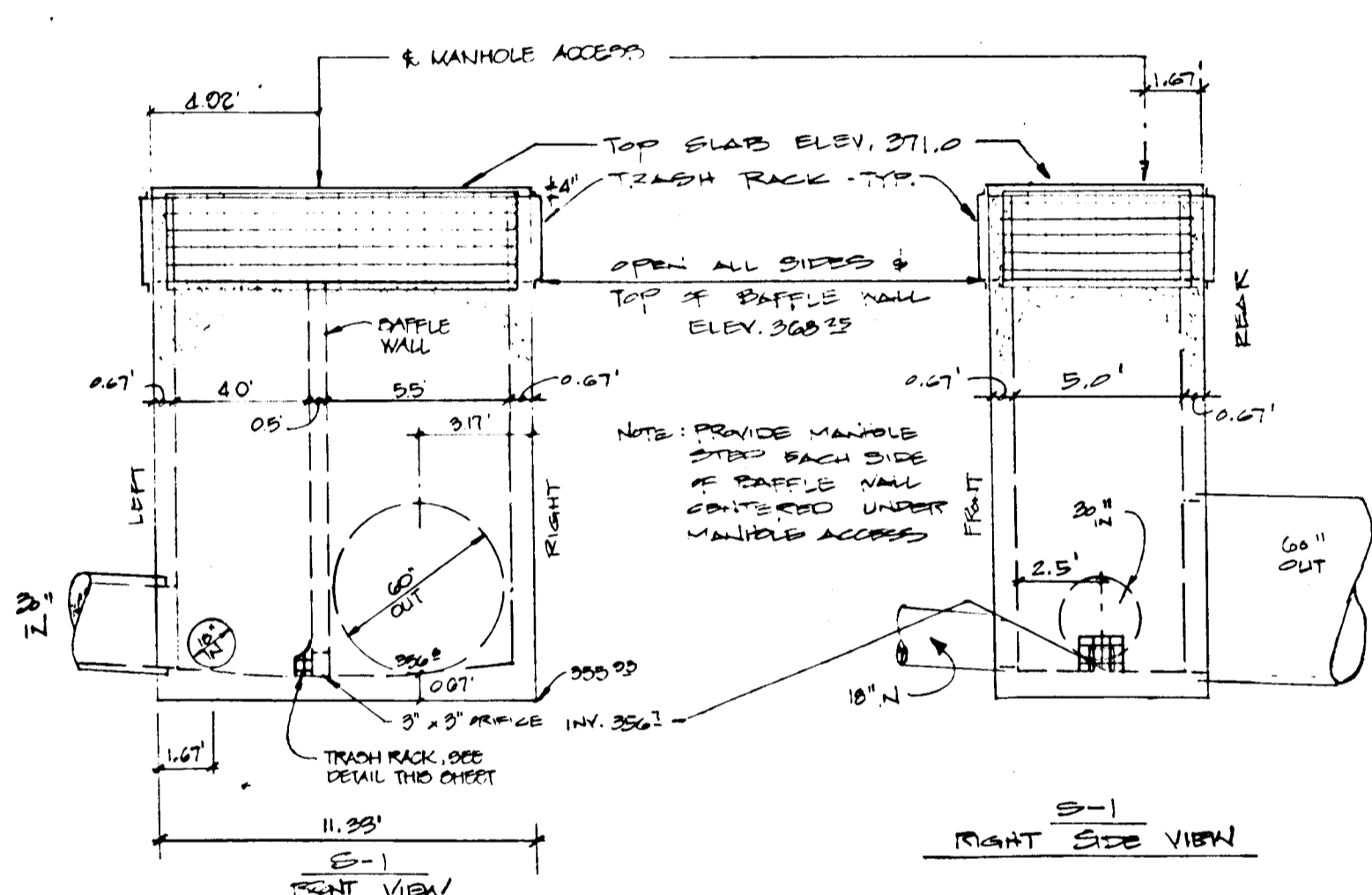
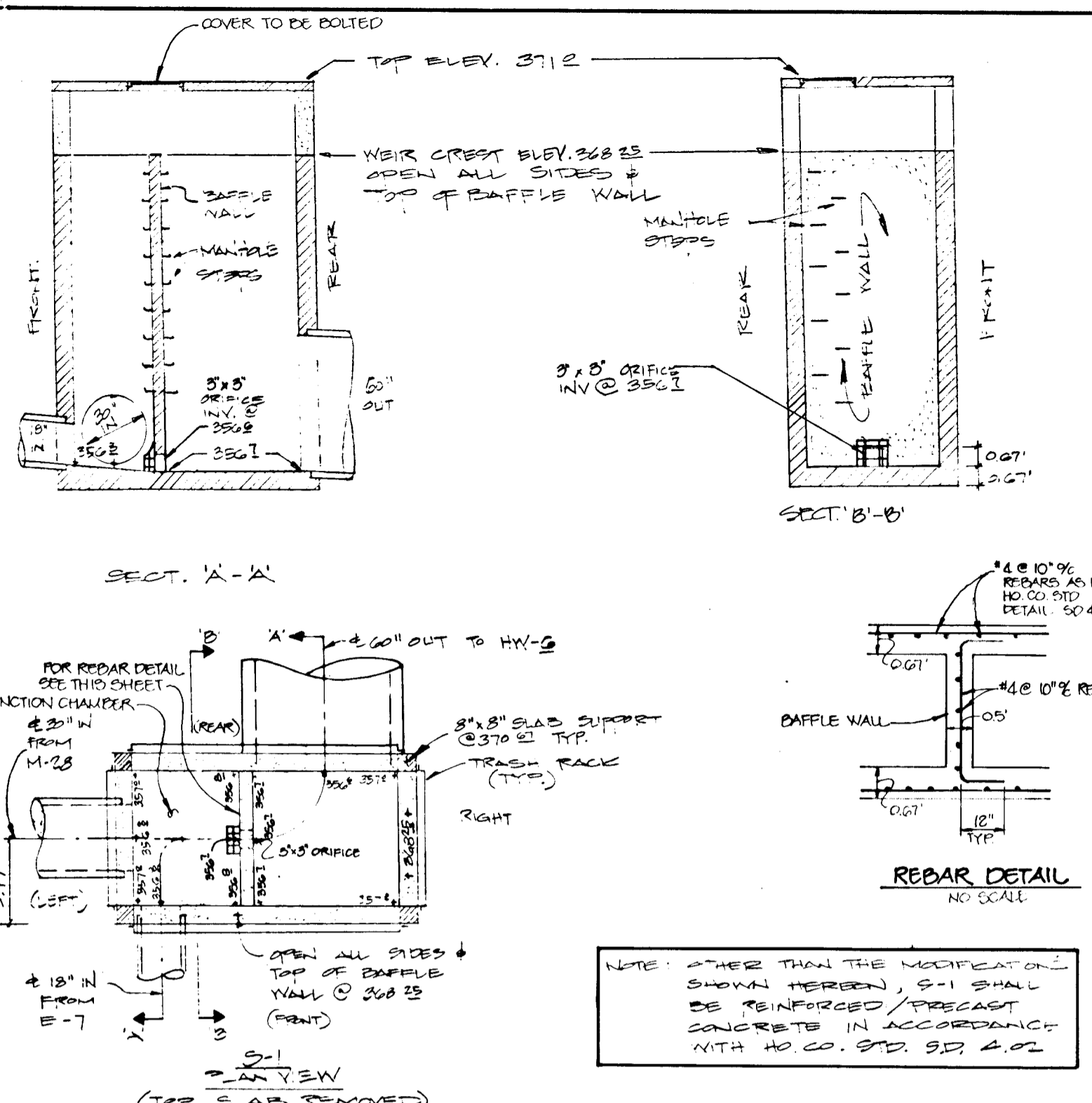
PROJECT: VILLAGE OF RIVER HILL
SECTION 2 AREA 4
LOTS 1 - 165

APPLICANT: TAX MAP # 02-23 1538180 13 R/W LINES
PART OF PARCELS 70 & 241
ELECTION DISTRICT: HOWARD COUNTY, MARYLAND

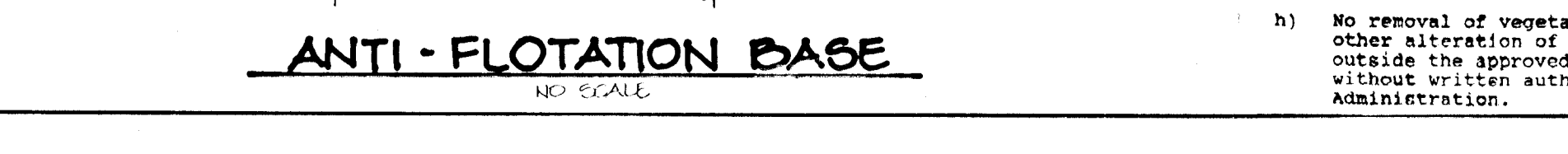
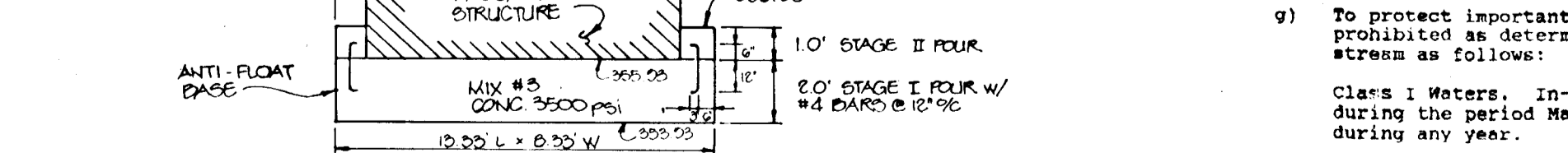
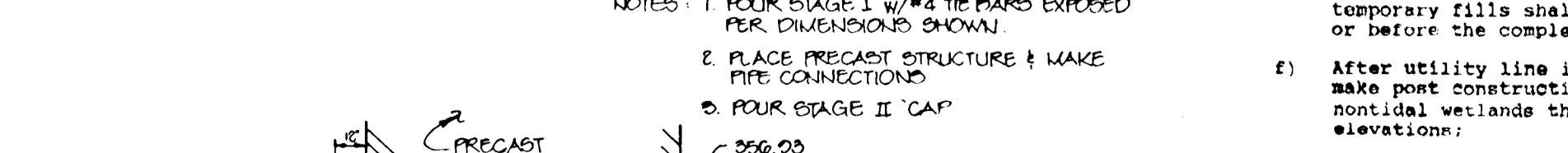
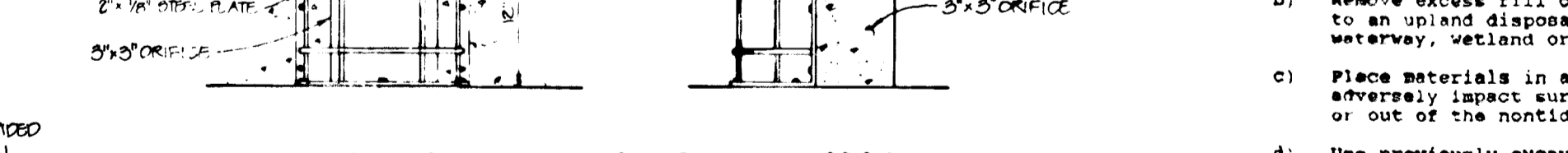
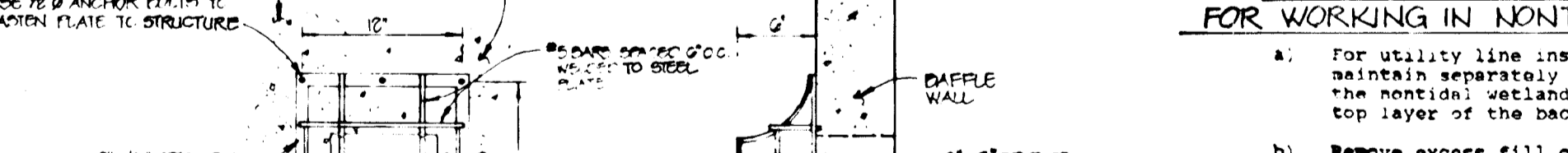
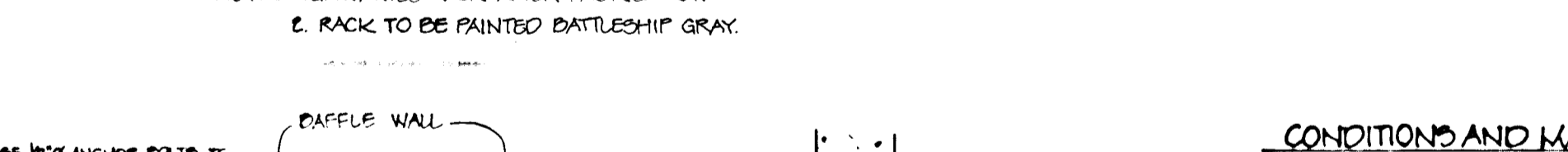
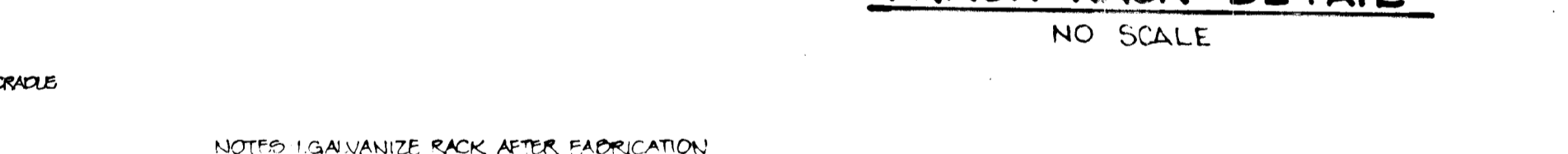
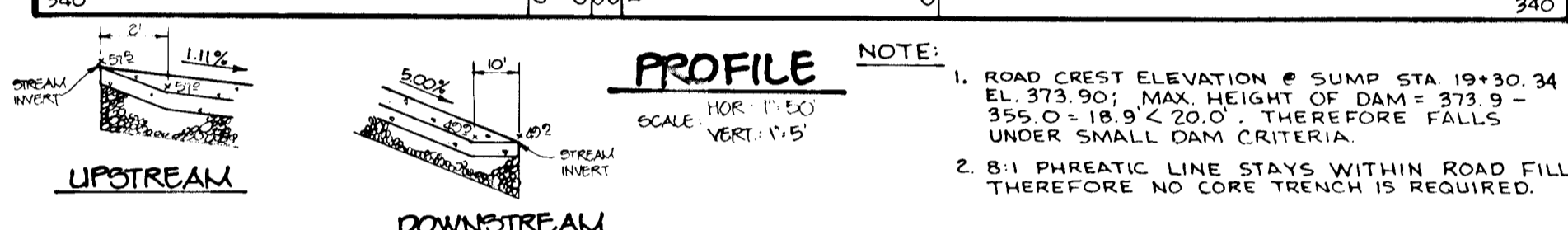
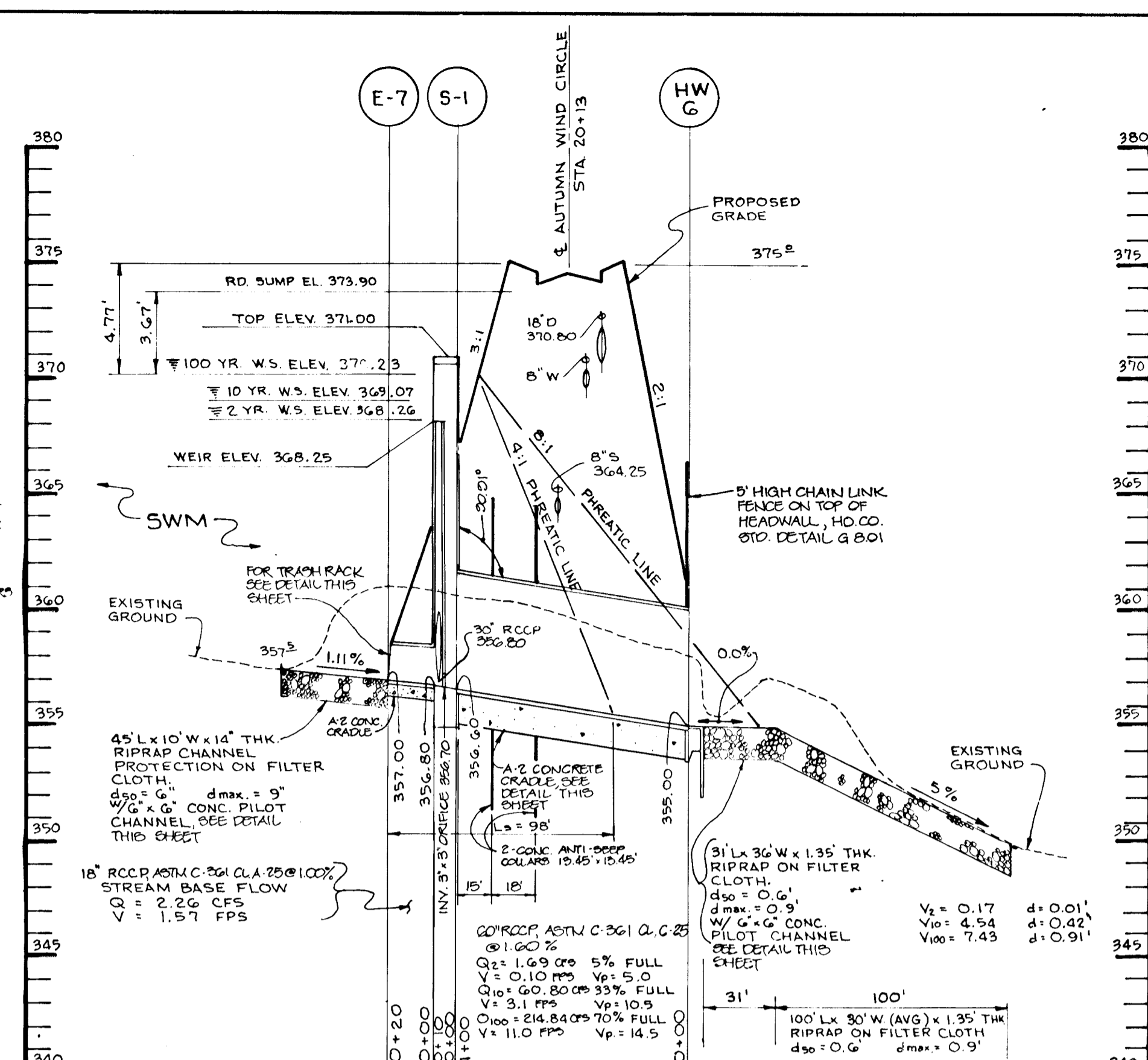
DATE: 8-21-94
DESIGNED BY: C.J.R./R.W.K.
DRAWN BY: D.A.M./J.C.O.
PROJECT NO: 88103
DATE: AUGUST 20, 1994
SCALE: AS SHOWN
DRAWING NO. 20 OF 22

F-94-108

1487



DETAILS FOR S-1
NOT TO SCALE

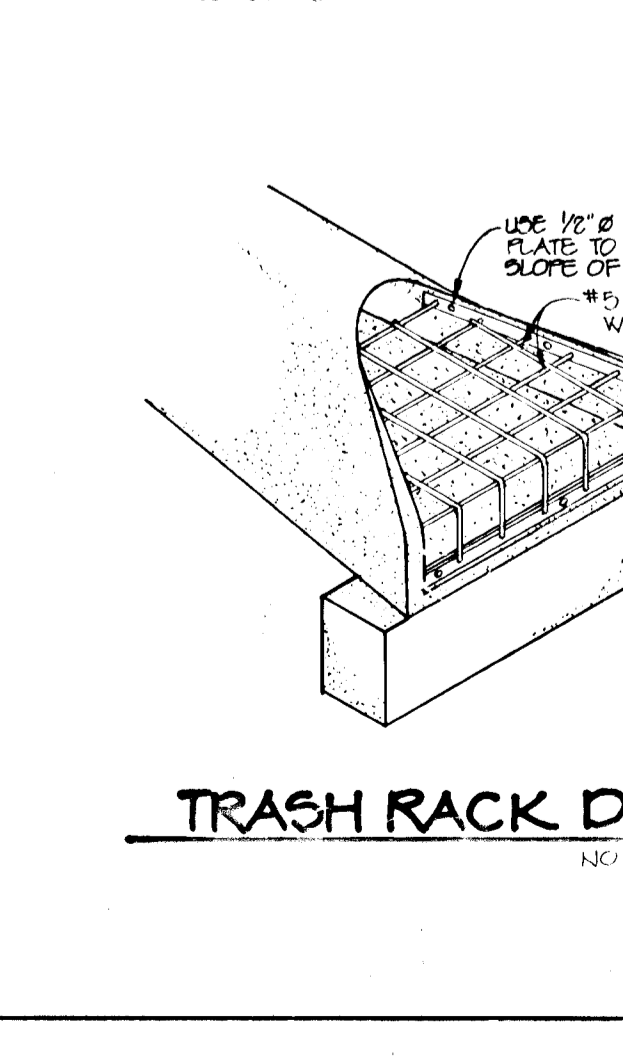


Depth From To	Soil Description	Depth From To	Soil Description	Depth From To	Soil Description
0.0 - 0.2	Topsoil	0.0 - 0.2	Topsoil	0.0 - 0.2	Topsoil
0.2 - 4.0	Brown moist micaceous SILT & CLAY, little of sand, or roots (Possible F113) [M] (Silt loam)	0.2 - 2.0	Brown moist micaceous Clayey SILT, some of sand, or roots (Possible F113) [M] (Silt loam)	0.2 - 2.0	Brown moist micaceous Clayey SILT, little of sand, little rock fragments, little roots (Possible F113) [M] (Silt loam)
4.0 - 8.0	Gray moist micaceous of SAND, little rock fragments (Quartz), little silt [SH] (loamy sand)	2.0 - 4.0	Brown moist micaceous of SAND, some silt, little fine rock fragments (Possible F113) [SH] (Sandy loam)	2.0 - 4.0	Brown and gray moist micaceous SILT & CLAY, little of sand [M] (Silt loam)
8.0 - 10.0	Multicolored moist SILT, some of sand [M] (Silt loam)	4.0 - 6.0	White and brown QUARTZ FRAGMENTS, little of sand, or silt, or roots [G] (Sand)	4.0 - 6.0	Multicolored moist micaceous SILT, some fine sand [M] (Silt loam)
At completion of boring, water at 3.3', hole caved at 6.3'		6.0 - 8.0	Multicolored moist micaceous of SAND, some silt [SH]	6.0 - 8.0	Multicolored moist micaceous SILT and fine SAND (Decomposed Rock) [M] (Silt loam)
96 hrs after completion, water at 3.3', hole caved at 3.0'		8.0 - 10.0	Multicolored moist micaceous SILT and of SAND [M]	8.0 - 10.0	Multicolored moist micaceous SILT and of SAND [M]
At completion of boring, hole dry and caved at 2.0'		At completion of boring, hole dry and caved at 1.9'		At completion of boring, hole dry and caved at 1.9'	
24 hrs after completion, water at 3.0', hole caved at 1.3'		96 hrs after completion, water at 3.0', hole caved at 3.8'		24 hrs after completion, water at 1.7', hole caved at 3.3'	

CONDITIONS AND MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS AND BUFFERS

- For utility line installation, strip, stockpile and maintain separately the top 6" of soil material from the nontidal wetlands and buffer, to be replaced as the top layer of the backfilled material.
- Remove excess fill or construction material or debris to an upland disposal area, outside of any floodplain, waterway, wetland or buffer.
- Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of the nontidal wetlands.
- Use previously excavated material as utility line backfill, unless it contains waste metal products, unsightly debris, toxic material or any other deleterious substance. Use a clean bottom commercial excavated material is not suitable for use as backfill.
- Rectify any nontidal wetlands and buffers temporarily impacted by any proposed repair and maintenance activity or installation of the utility line. All stabilization in the wetland and buffer shall be of the following recommended species: Annual Ryegrass (Lolium multiflorum), Millet (Setaria italica), Oats (Avena sativa), and/or Rye (Secale cereale). Other non-permanent vegetation may be acceptable, but must be approved by the Nontidal Wetlands Division, Kentucky 31 because shall not be utilized in the wetland or buffer. All temporary fills shall be removed in their entirety on or before the completion of construction.
- After utility line installation has been completed, make post construction grades and elevations of nontidal wetlands the same as the original grades and elevations.
- To protect important aquatic species, in-stream work is prohibited as determined by the classification of the stream as follows:
 - Class 1 Wetlands, in-stream work may not be conducted during the period March 1 through June 15, inclusive, during any year.
 - No removal of vegetation, grading, filling, draining or other alteration of the nontidal wetlands or buffer outside the approved limits of disturbance shall occur without written authorization from the Water Resources Administration.

SOIL BORINGS



TRASH RACK DETAIL FOR E-7
NO SCALE

BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Gregory R. Star 8-20-94
DATE

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.

J. Farrell 8-29-94
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

John R. Robertson 9/8/94
U.S. SOIL CONSERVATION SERVICE DATE

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

John R. Robertson 9/8/94
U.S. SOIL CONSERVATION DISTRICT DATE

AS BUILT CERTIFICATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Gina Swannick 9/23/94
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Chris Dammann 9/19/94
CHIEF, LAND DEVELOPMENT DIVISION DATE

Andrew M. Dwyer 9-15-94
CHIEF, FOREST AND OPEN SPACE DIVISION DATE

James H. Eason 9/12/94
DATE

DATE NO. REVISION

OWNER / DEVELOPER

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
10275 LITTLE PATKENT PARKWAY
COLUMBIA, MARYLAND 21044

PROJECT VILLAGE OF RIVER HILL
SECTION 2 AREA 4
LOT 1 & 105

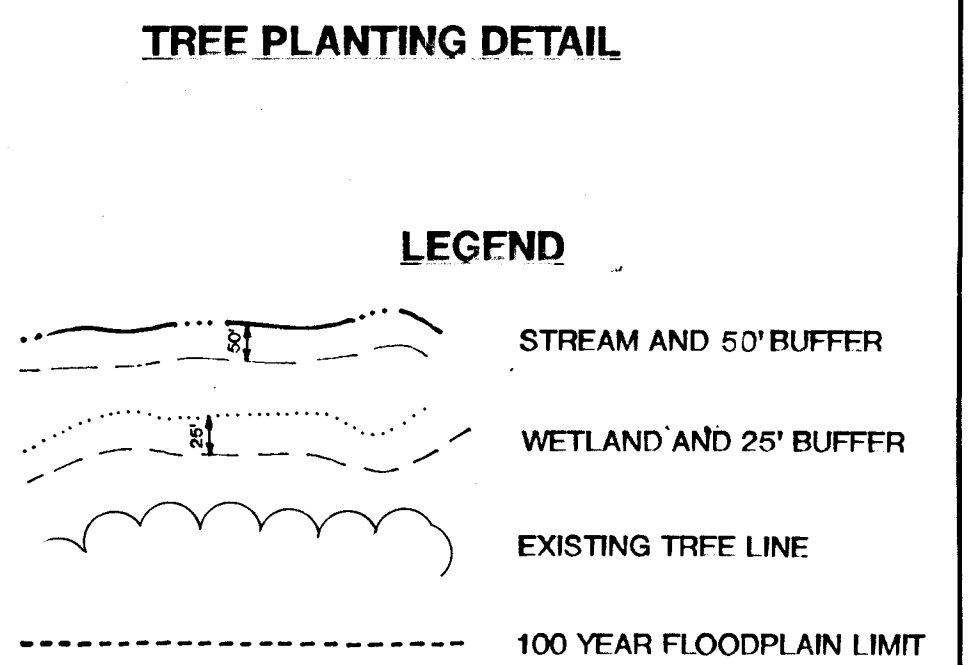
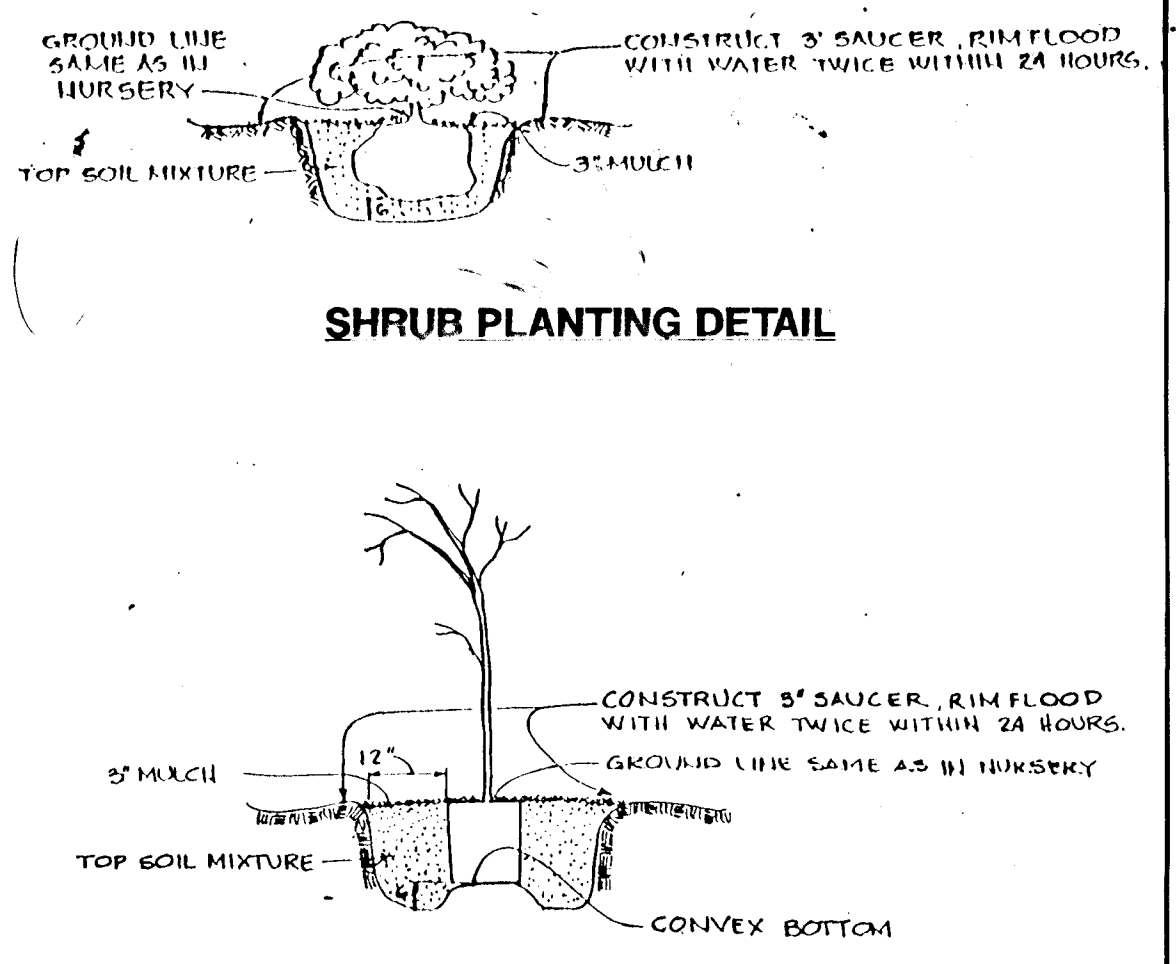
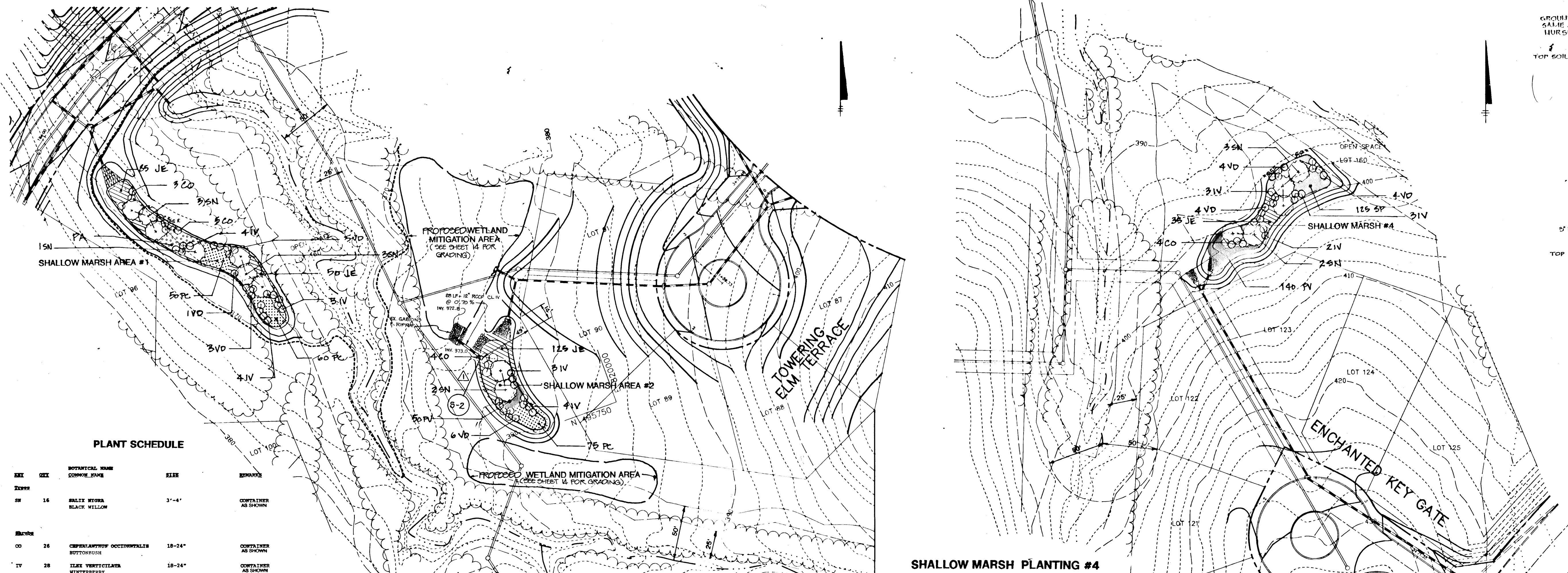
AREA TAX MAP 17.26 PART OF PARCELS 20 & 240
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE STORMWATER MANAGEMENT PROFILES & DETAILS

RIEMER MUEGGEL & ASSOCIATES, INC.
11111 RIVERCHURCH DRIVE
COLUMBIA, MARYLAND 21045
410-987-8800 FAX: 410-987-8282

DESIGNED BY: C.J.R./R.W.J.
DRAWN BY: D.A.M./R.J.C.
PROJECT NO: 88103
DATE: AUGUST 20, 1994
SCALE: AS SHOWN
DRAWING NO. 41 OF 22

1487



PLANT SCHEDULE

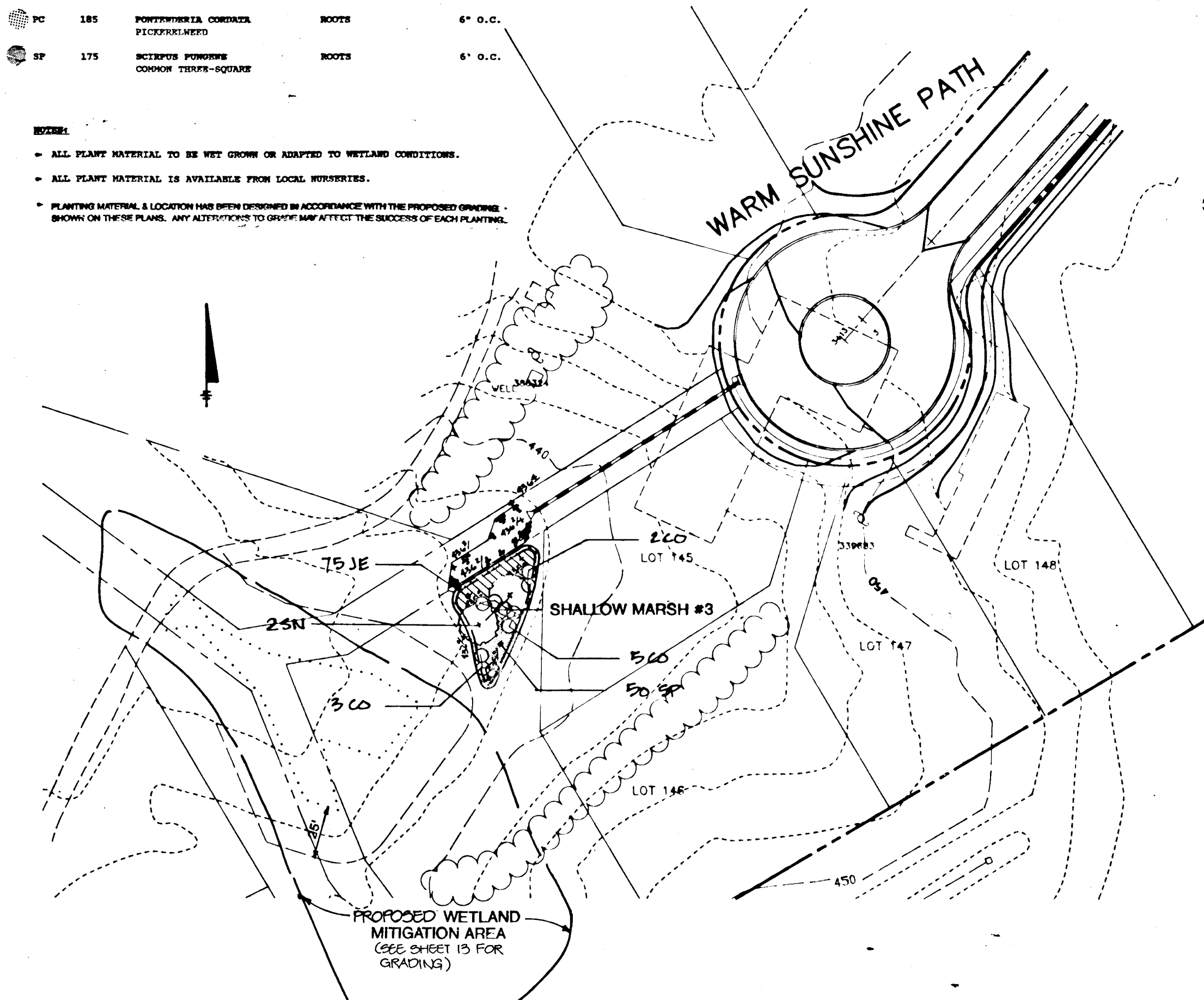
SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
SB	14	Salix nigra	Black Willow	3'-4'	CONTAINER AS SHOWN
CO	26	Cyperus tenuiflorus	Common Spikerush	18-24"	CONTAINER AS SHOWN
IV	28	Ilex verticillata	Winterberry	18-24"	CONTAINER AS SHOWN
VD	27	Viburnum dentatum	Arrowwood	18-24"	CONTAINER AS SHOWN

SHALLOW MARSH PLANTING #1 & #2
SCALE: 1"=50'

Seeding and Root Schedule

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
JS	370	Juncus effusus	Soft Rush	6" O.C.	
PA	1 LB.	Panicum virgatum	Switch Grass	8 LBS./AC.	
PV	190	Polygonum verticillatum	Arrow Aron	6" O.C.	
PC	185	Polygonum corniculatum	Pickeringweed	6" O.C.	
SP	175	Scirpus pumilus	Common Ticks-square	6" O.C.	

NOTES:
 - ALL PLANT MATERIAL TO BE SET GROWN OR ADAPTED TO WETLAND CONDITIONS.
 - ALL PLANT MATERIAL IS AVAILABLE FROM LOCAL NURSERIES.
 - PLANTING MATERIAL & LOCATION HAS BEEN DETERMINED IN ACCORDANCE WITH THE PROPOSED GRADING SHOWN ON THESE PLANS. ANY ALTERATIONS TO GRADING WILL AFFECT THE SUCCESS OF EACH PLANTING.



SHALLOW MARSH PLANTING #3
SCALE: 1"=50'

PART 1 GENERAL

1.01 DESCRIPTION: Work consists of all labor, materials, equipment and services necessary for and incidental to the excavation and completion of WETLAND PLANTINGS as indicated on the Drawings and specified herein.

1.02 RELATED WORK IN OTHER SECTIONS:
 A. Section 02215, FINISH GRADING.

1.03 QUALITY ASSURANCE:
 A. American Association of Nurserymen (A.A.N.): "American Standard for Nursery Stock" (A.A.S. 1260) as annotated herein.
 B. Nonmandatory: in accordance with HORTUS III by L. H. Bailey.
 C. United States Department of Agriculture: Textural Classification Diagram for Soils.

1.04 STANDARD OF COMPARISON:
 A. When the Drawings indicate a total quantity of five (5) or more of an individual plant (other than bulbs or perennials) the Contractor shall obtain approval of a standard of comparison prior to delivery on site. Assemble samples of all plants to be installed as "standards" at the principal business location of the Contractor. Notify Owner to schedule an inspection for approval of "standards" and to obtain record photographs. Photographs of each "standard" shall be used for comparison of all material subsequently installed on the site.

1.05 SUBMITTALS:
 A. Source: Notify the Owner, in writing, of source of all material before delivery.
 B. Laboratory test analysis of topsoil indicating gradation, organic content and pH.

1.06 DELIVERY, STORAGE AND HANDLING:
 A. Root stock of the plant material shall be kept moist during transport from the source to the job site and until planted.
 B. Transport and handle plants so that foliage, roots, or balls are protected from breakage, sun and wind. Two or more plants allowed to dry out or which have been damaged or detached root balls will be cause for rejection.

1.07 DRAWINGS:
 A. The Contractor shall use quantities of wetland plants noted on the plant list.

1.08 PROJECT CONDITIONS:
 A. Planting shall commence immediately after final grading of wetland area. All wetland plantings shall be installed between April 15 and June 30 or as directed by the Landscape Architect. Do not plant until ground is frozen. Do not use frozen planting soil at any time.

1.09 DEFINITIONS:
 A. Start of Planting: Installation of plant material into excavated pits or beds.
 B. Payment Release Inspection: Conducted monthly by the Owner or designated representative to verify quantity only for partial payment to the Contractor. Payment release inspection does not waive any requirements of the standards of comparison or initial acceptance clause.
 C. Initial Inspection: Conducted at the request of the Contractor and the Owner when 90% or more of all planting and related tasks are complete inspection to be by project landscape architect.
 D. Initial Acceptance: Occurs when all plant material is in place in accordance with the specifications and approved by the Owner and project landscape architect.
 E. Maintenance Period: From start of planting to final acceptance.
 F. Guarantee Period: From initial acceptance and continuing for 1 year thereafter, excluding the period from November 1 to April 15.
 G. Final Acceptance: Occurs after Contractor has completed all outstanding items, as determined by the Owner, at the end of the maintenance and guarantee period.

SHALLOW MARSH PLANTING #4
SCALE: 1"=50'

GENERAL NOTES

1.10 GUARANTEE AND REPLACEMENT:
 A. All plants in an impaired, dead or dying condition prior to final acceptance and prior to final acceptance shall be removed and replaced. Replacement material shall be the same size as other unimpaired material considering growth that has occurred since original installation. Methods of installation shall be identical to the original.
 B. Replacements shall be made between April 15 and June 30, the season following the initial planting, and shall conform to the planting specifications listed above.
 C. The contractor shall notify the Landscape Architect to arrange a site meeting to determine the replacement requirements, at the end of the guarantee period.

2.01 PLANTS:
 A. Bound healthy, vigorous, free from plant diseases, insect pests or their eggs.
 B. Herbaceous plants for shallow marsh planting areas shall be wet cultured for a period of no less than one year prior to planting.
 C. Plants out back from larger sizes or pruned prior to delivery will not be accepted.
 D. It is anticipated that these plants will need to be obtained from a nursery source. These plants are normally unavailable from standard landscape nursery sources. The contractor shall obtain these plants from an approved nursery within 150 miles of the project site.
 E. Shape and Form: Plant materials shall be symmetrical and typical for the variety and species.
 F. Container (Woody and Herbaceous): The soilroot masses shall be thoroughly moist upon delivery to the job site. Any dry and light weight plants shall be rejected. If not planted immediately after being delivered to the job site, the plants shall be stored out of direct exposure to the sun and wind and their root masses maintained moist through periodic watering until the time of planting.
 G. Fiber or Peat Pot: If not planted immediately after being delivered to the job site, the plants shall be stored out of direct exposure to the sun and wind and their pots and associated root masses maintained moist through periodic watering until the time of planting.
 H. The soilroot masses associated with the plugs shall be protected from direct exposure to the environment by the use of straw, peat moss, compost, or other suitable material and shall be maintained moist, through periodic watering, until the time of planting.
 I. Plug (Collected, Herbaceous and Woody): Plug (Herbaceous) shall be a minimum of five (5) square or in diameter and three inches (3") in thickness.
 J. Plug (Woody, Seedling): Shall have width that are at least the fib line of the seedlings and have depths that are at least 1/3 the height of the seedlings.
 K. If not planted immediately after delivery to the job site, the plugs shall be stored out of direct exposure to the sun and wind and shall be maintained moist through periodic watering, until the time of planting.

2.02 TOPSOIL FOR PLANTING SOIL:
 Topsoil to be added to the wetland creation area as directed by the project landscape architect.

2.03 FERTILIZER:
 A. Plant Fertilizer: Slow release fertilizer such as Osmocote 18-12 analysis (3-4 month release) or equal approved by the Landscape Architect.
 B. Slow release fertilizer shall be applied at the time of planting and at the following rate:
 All emergent plant material: planting pit application of 1 oz. per plant pot or bare root plant.
 C. Pre-soaked, herbaceous and fungicide will not be used unless approved by the Department of Agriculture. If applied, quantities recommended by the Department of Agriculture shall not be exceeded.
 D. Fertilizer shall be delivered to the site in the original unopened containers with formulas attached.
 Rhizome (stolon) sections shall provide a minimum of two shoots per section or Rhizome (stolon) sections containing at least a terminal shoot shall be a minimum of four inches (4") in length in order to ensure sufficient stored energy to support the new growth. Rhizome sections containing shoots that are soft or mushy or otherwise appear rotten shall not be accepted.

Suckers shall contain a terminal shoot and be a minimum of four inches (4") in length (in order to ensure sufficient stored energy to support the new growth).
 Growing Bare Root Plug (Herbaceous): The plants shall contain new roots that are clean and white in coloration.
 If not planted immediately after delivery to the job site, the plants shall be protected by the use of straw, peat moss, compost, or other suitable material and shall be maintained moist, through periodic watering, until the time of planting.
 The plants shall appear healthy with no foliar spots, discolorations, wilting, or other evidence of the presence of disease or insects.
 Plugs (Herbaceous, Woody Seedling, or Pruned Cutting): If not planted immediately after delivery to the job site, the plugs, in their growing units, shall be stored out of direct exposure to the sun and wind and maintained moist through periodic watering, until the time of planting. If the plugs are not contained in their growing units upon delivery and will not be planted immediately, they should be treated as above and also their root masses shall be protected by the use of straw, peat moss, compost, or other suitable material.
 Plugs shall have solid soilroot masses with the soil in place. Roots shall appear clean and white in coloration.
 If growing, the plants shall appear healthy with no foliar spots, discoloration, wilting, or other evidence of the presence of disease or insects.
 If dormant, new healthy shoots (for herbaceous) shall be apparent or stems (for woody) shall be pliable and exhibit healthy cambium. Plugs (herbaceous) containing shoots that are soft or mushy or otherwise appear rotten and plugs (woody) containing brittle stems having unhealthy cambium shall not be accepted.
 The soilroot masses associated with the plugs shall be protected from direct exposure to the environment by the use of straw, peat moss, compost, or other suitable material and shall be maintained moist, through periodic watering, until the time of planting.
 Plug (Collected, Herbaceous and Woody): Plug (Herbaceous) shall be a minimum of five (5) square or in diameter and three inches (3") in thickness.
 Plug (Woody, Seedling): Shall have width that are at least the fib line of the seedlings and have depths that are at least 1/3 the height of the seedlings.
 If not planted immediately after delivery to the job site, the plugs shall be stored out of direct exposure to the sun and wind and shall be maintained moist through periodic watering, until the time of planting.

PART 3 EXECUTION

3.01 PREPARATION:
 A. Plant Locations: As shown on the Drawings, to dimensions as shown, to scale if not dimensioned. Locations subject to review by the Landscape Architect before starting excavation.
 B. No plant material shall be installed until the Landscape Architect has approved the final grade of the planted area.

3.02 EXCAVATION:
 A. Undersized: Excavate and remove surplus materials encountered, without additional cost. Retain only sufficient soil to form soil wells if shown on the details. Discard shall be off site.
 B. Underground obstruction, rock or other obstructions too massive to remove: Notify Owner for further direction. Other locations will be accepted. Make such excavations without additional compensation.
 C. Clay encountered: Notify Owner for further direction. Payment for this effort will be made in accordance with the Contract provisions affecting changes in the Work.

3.03 PLANTING PROCEDURES:
 A. Set plants straight and plumb.
 B. Plant material shall be planted in existing soil with each planting pit excavated to a depth sufficient to contain the entire root stock or root mass without crowding.
 C. Planting Beds: All vegetative growth shall be removed to a sufficient depth to insure a weed free bed.
 D. Where water is not available on site, the Contractor shall furnish sufficient quantities to complete the Work at no additional cost to the Owner.
 E. The planting areas shown on the plan are approximate and may be varied due to field conditions, provided the relative area and acreage are maintained.

3.04 CLEAN UP:
 A. During planting operations, excess and waste materials shall be removed from the site on a daily basis.
 B. Repair surface areas and other existing conditions damaged during planting operations, including regressing, seed, mulch and fertilization to the satisfaction of the Owner.

3.05 MAINTENANCE:
 A. Watering of plant material shall take place at the end of each four footed (14) consecutive days after planting has been completed. The watering shall completely saturate the soil and partially immerse the plant material in water.
 B. During maintenance period, on approximately the 1st and 15th of each month, the Contractor shall provide sufficient supervision, equipment, materials and manpower to:
 1. Keep all plants in a healthy growing condition by watering, when necessary, removing dead or dying branches, controlling insect infestations, removing sprouts, weeding.
 2. Remove and replace dead or damaged plant material. Where replacement is not possible due to season, remove dead material, etc. and level pit until planting is possible.

AS BUILT CERTIFICATE

DATE: 9/23/94

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Gina Stumm
 CHIEF, LAND DEVELOPMENT DIVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
John O'Donnell
 CHIEF, LAND DEVELOPMENT DIVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Andrew M. Dauter
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Paul D. Sporn
 CHIEF, BUREAU OF ENGINEERING

2-11-98 ADDED PIPE OUTFALL FOR SHALLOW MARSH #2

OWNER / DEVELOPER:
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

PROJECT: VILLAGE OF RIVER HILL
 SECTION 2 AREA 4
 LOTS 1 - 165

AREA: TAX MAP NO. 35 ZONE D NEW TOWN
 PART OF PARCELS 70 & 240
 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: SHALLOW MARSH AREA
 PLANTING PLAN AND DETAILS

RIEMER MUEGGE & ASSOCIATES, INC.
 Planners • Engineers • Surveyors
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
 410-997-8900 FAX: 410-997-9282

8-23-94 DATE

DESIGNED BY: DK
 DRAWN BY: RR
 PROJECT NO: 88103
 DATE: AUGUST 20, 1994
 SCALE: AS SHOWN
 DRAWING NO. 22 OF 22

JAYKANT D. PREKH #19148

1487