

**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND CONSTRUCTION FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ONSITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY.

DATE: 2/21/86  
 CHARLES J. CROVO, SR.

**DEVELOPER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND CONSTRUCTION FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ONSITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY.

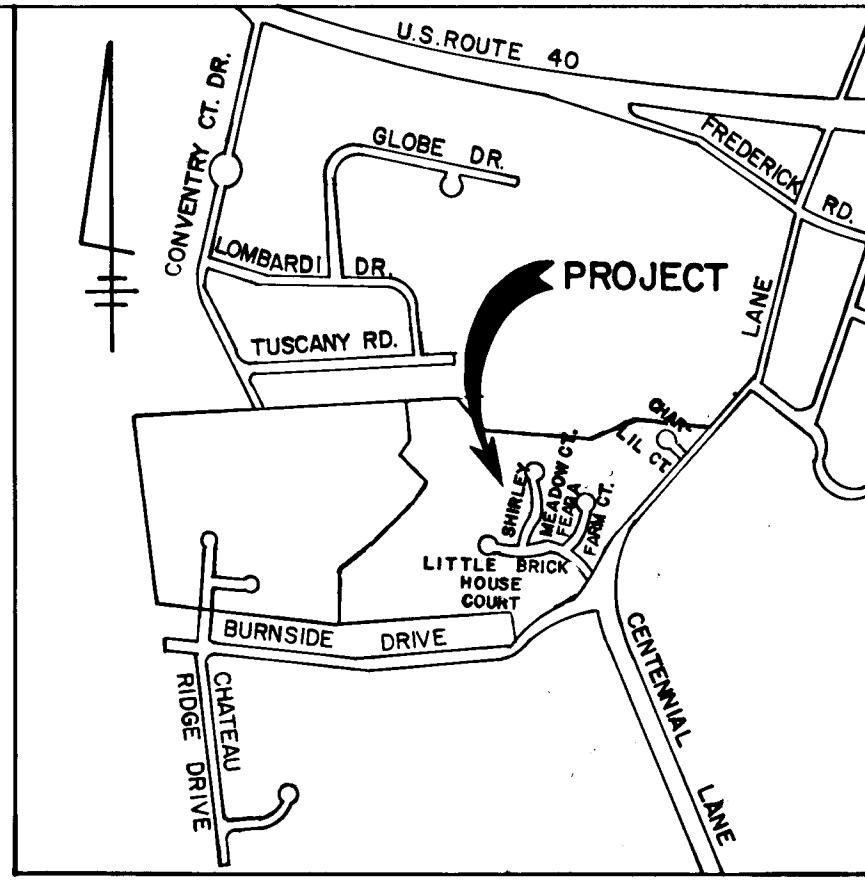
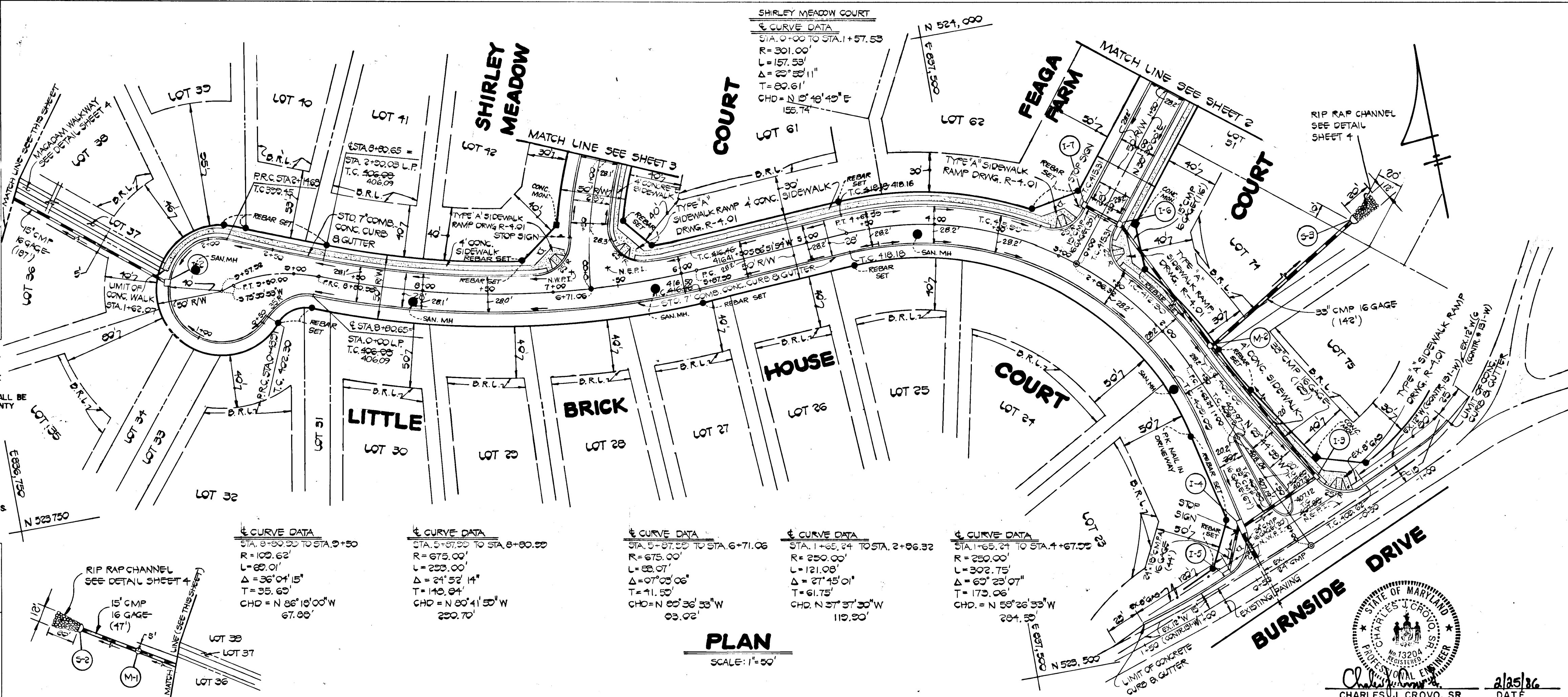
DATE: 3-1-86  
 CENTENNIAL GROUP

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
 DATE: 4-24-86  
 US SOIL CONSERVATION SERVICE  
 THIS DEVELOPMENT PLAN IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 DATE: 4/24/86

**GENERAL NOTES**  
 1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH HOWARD COUNTY STANDARDS, SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.  
 2. ALL UTILITY COMPANIES MUST BE NOTIFIED 24 HOURS IN ADVANCE OF ANY CONSTRUCTION.  
 3. STORM DRAINAGE TRENCHES WITHIN ROAD RIGHTS-OF-WAYS SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY ROAD CODE.  
 4. ANY DAMAGE TO PUBLIC RIGHT-OF-WAYS OR PAVING WILL BE CORRECTED AT THE CONTRACTORS EXPENSE.  
 5. CONTRACTOR TO NOTIFY THE HOWARD COUNTY INSPECTION AND SURVEY DIVISION AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS - TELEPHONE 792-7272.  
 6. ALL TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 1978 EDITION.  
 7. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO STARTING ANY WORK SHOWN ON THESE DRAWINGS. ANY DAMAGE TO EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

**APPROVED**  
 DEPARTMENT OF PUBLIC WORKS  
 DATE: 4-30-86  
 CHIEF, BUREAU OF ENGINEERING

**APPROVED**  
 OFFICE OF PLANNING AND ZONING  
 DATE: 4-25-86  
 AND ZONING ADMINISTRATION



**CENTENNIAL MANOR**  
 SECTION ONE AREA TWO  
 LOTS 23-84  
 SECOND ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

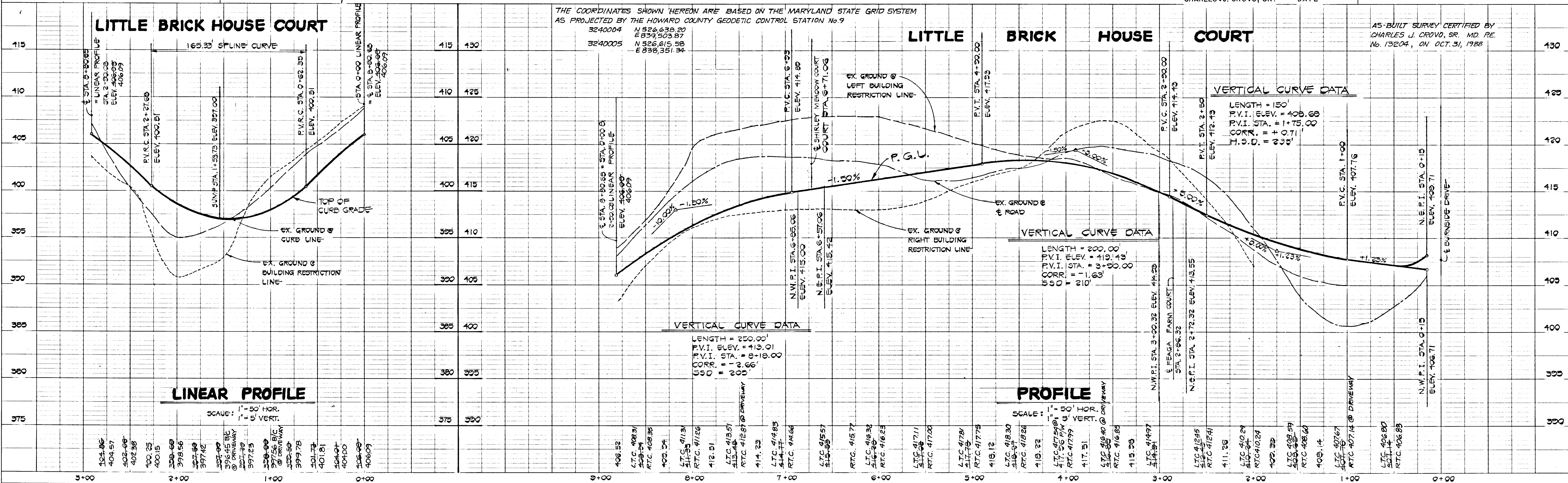
**LITTLE BRICK HOUSE COURT**  
 PLAN AND PROFILE

OWNER AND DEVELOPER  
 MRS. GERTRUDE FEAGA  
 1076 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21043

SCALE AS SHOWN DATE: FEB. 21, 1986 DWG. NO. 1 OF 7  
 DES. R. SHUMAKER DRN. J. O'DONNELL CHK. C. CROVO

FISHER, COLLINS AND CARTER, INC.  
 CIVIL ENGINEERS AND LAND SURVEYORS  
 8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043

AS-BUILT SURVEY CERTIFIED BY  
 CHARLES J. CROVO, SR. MD. PE.  
 No. 13204, ON OCT. 31, 1988



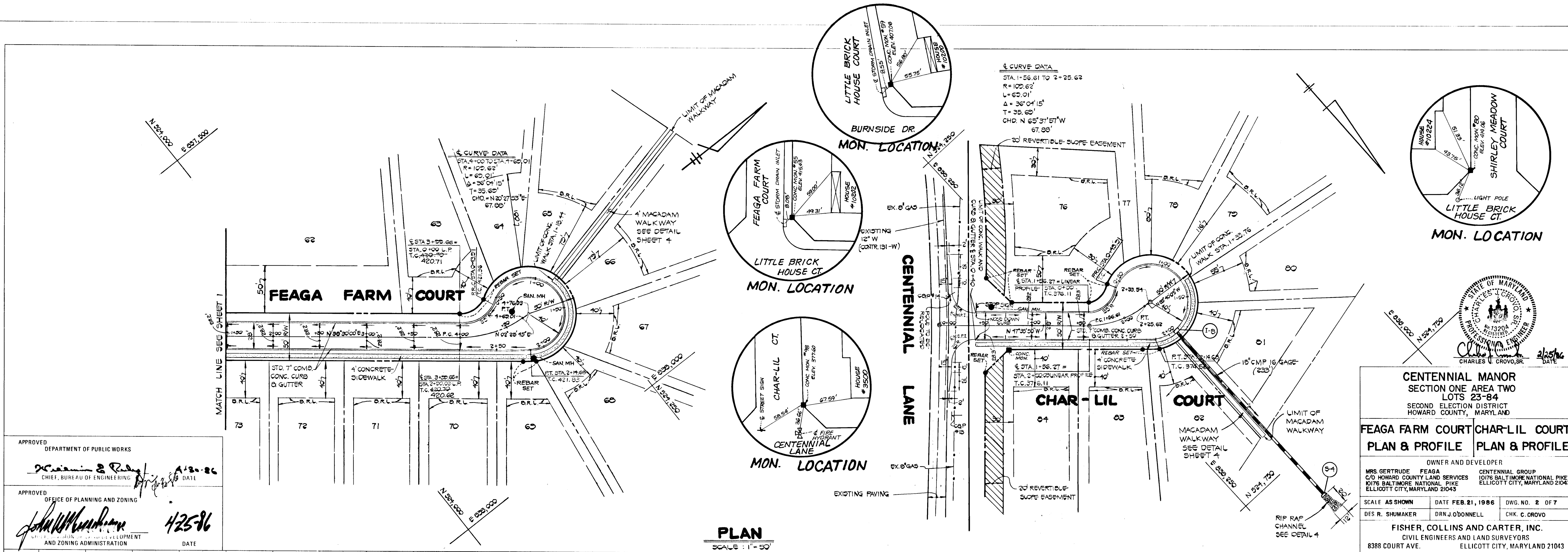
#1198



PLAN	DATE
SURVEYED	
ALIGNED	
CHECKED	
RT. OF WAY CHECKED	
NOTE BOOK NO.	

APPROVED  
DEPARTMENT OF PUBLIC WORKS  
*William E. Rader* 1/28/86  
CHIEF, BUREAU OF ENGINEERING

APPROVED  
OFFICE OF PLANNING AND ZONING  
*John W. ...* 4/25/86  
DATE



**CENTENNIAL MANOR**  
SECTION ONE AREA TWO  
LOTS 23-84  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

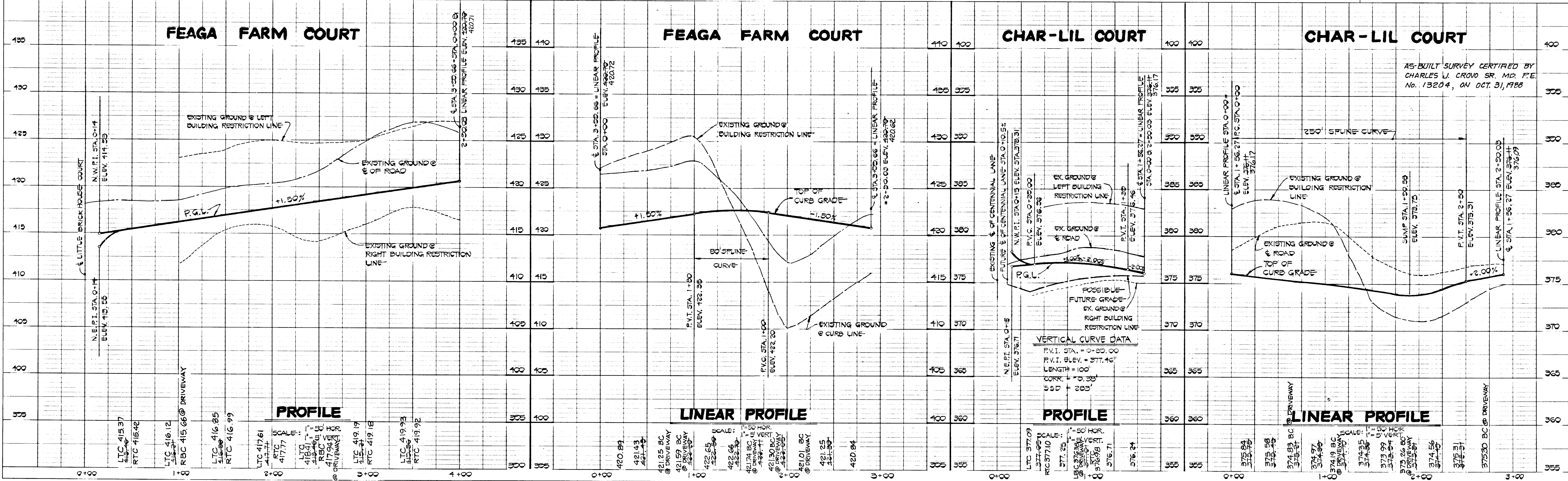
**FEAGA FARM COURT CHAR-LIL COURT**  
PLAN & PROFILE PLAN & PROFILE

OWNER AND DEVELOPER  
MRS. GERTRUDE FEAGA CENTENNIAL GROUP  
C/O HOWARD COUNTY LAND SERVICES 1076 BALTIMORE NATIONAL PIKE  
8176 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043

SCALE AS SHOWN DATE FEB. 21, 1986 DWG. NO. 2 OF 7  
DES. R. SHUMAKER DRN. J. O'DONNELL CHK. C. OROVO

**FISHER, COLLINS AND CARTER, INC.**  
CIVIL ENGINEERS AND LAND SURVEYORS  
8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043

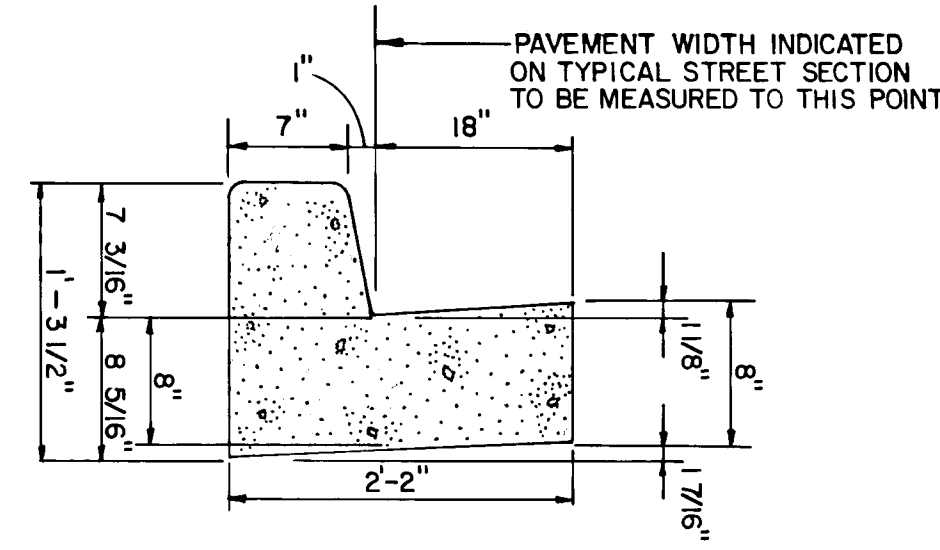
PROFILE	DATE
SURVEYED	
GRADES CHECKED	
B.M. NOTED	
STRUCTURE NOTATIONS CHK'D	
NOTE BOOK NO.	



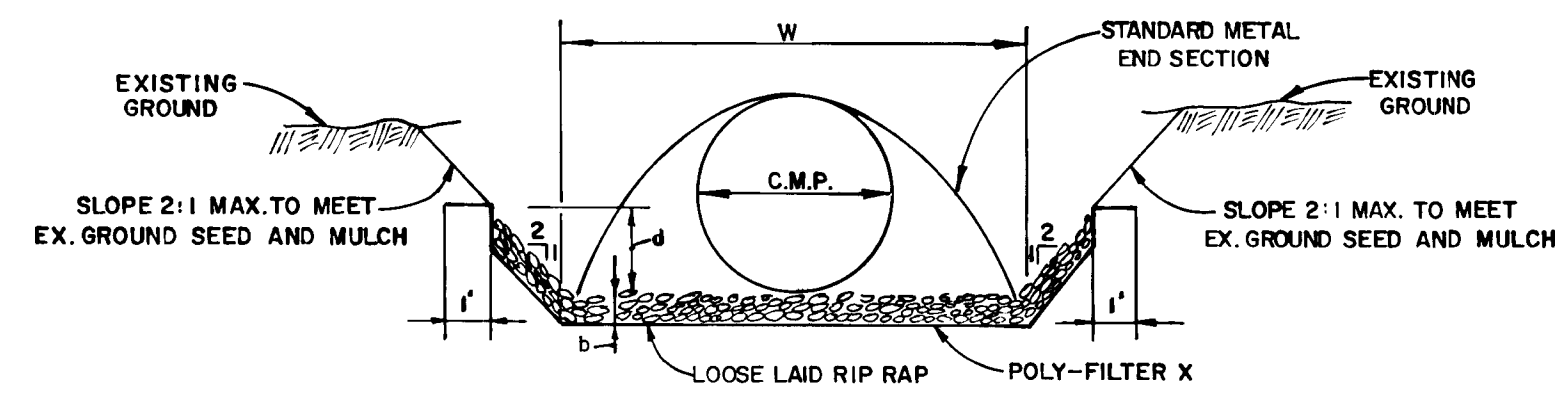
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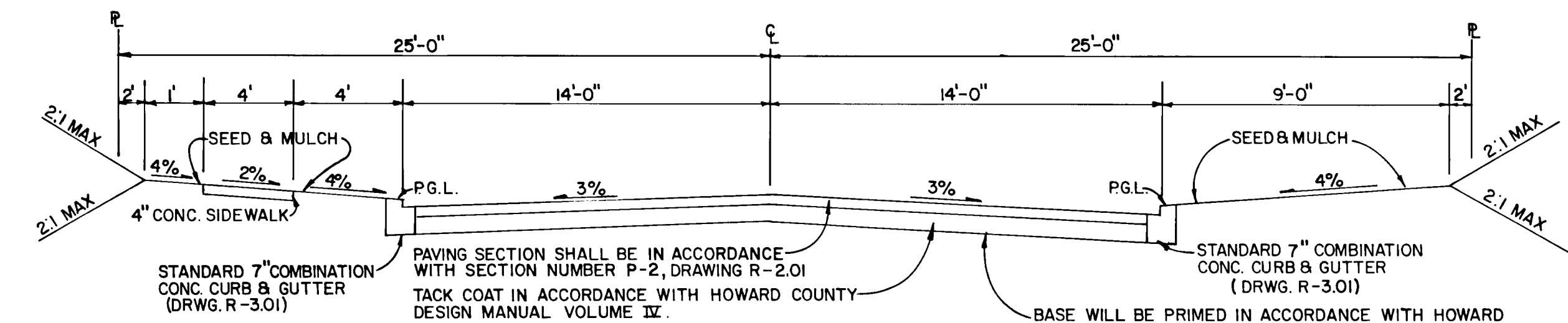
**STANDARD SLOPE 7" COMB. CONC. CURB & GUTTER**  
NO SCALE



**RIP RAP CHANNEL DETAIL**  
NO SCALE

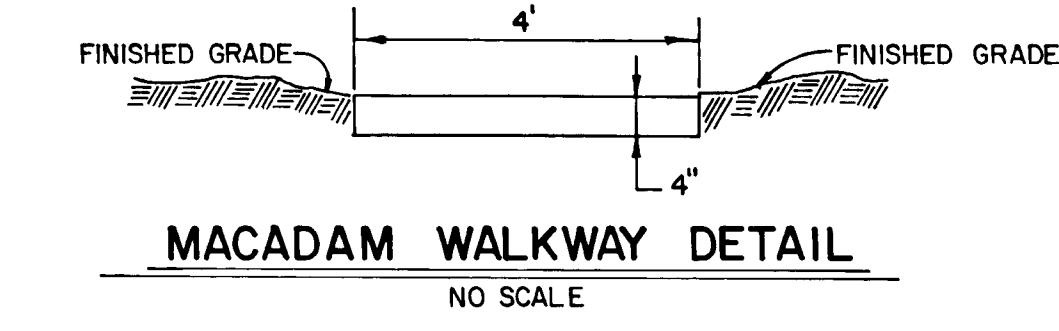
**RIP RAP CHANNEL DESIGN DATA**

Struct.	A <sup>2</sup>	P <sup>1</sup>	R	R <sup>2</sup> /3	S	S <sup>1</sup> /2	n	Q	V	d	w	Rip Rap Size 450	dmax	b
S-1	2.99	6.59	.4539	.59	1.00%	.10	.04	6.54 c.f.s.	2.19 f.p.s.	.58'	4.0'	6"	9"	14"
S-2	2.44	6.19	.3941	.54	1.00%	.10	.04	4.86 c.f.s.	1.99 f.p.s.	.49'	4.0'	6"	9"	14"
S-3	10.61	12.70	.8353	.89	1.00%	.10	.04	35.08 c.f.s.	3.31 f.p.s.	1.05'	8.0'	6"	9"	14"
S-4	1.98	5.83	.3388	.48	1.00%	.10	.04	3.56 c.f.s.	1.80 f.p.s.	.41'	4.0'	6"	9"	14"

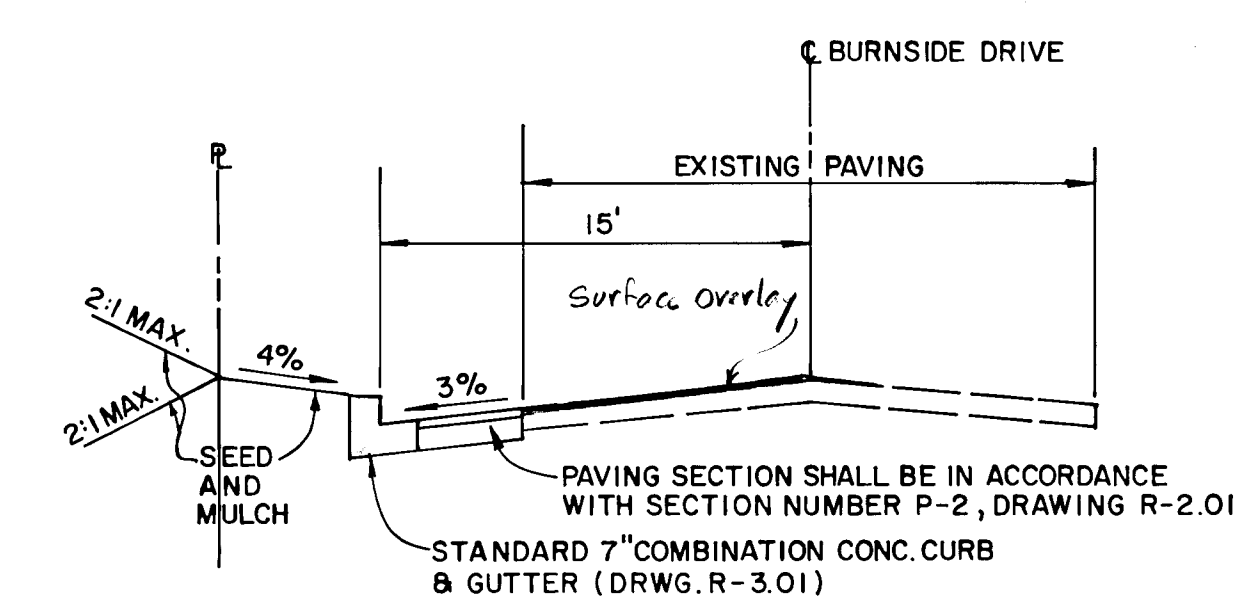


**TYPICAL ROADWAY SECTION**  
NO SCALE

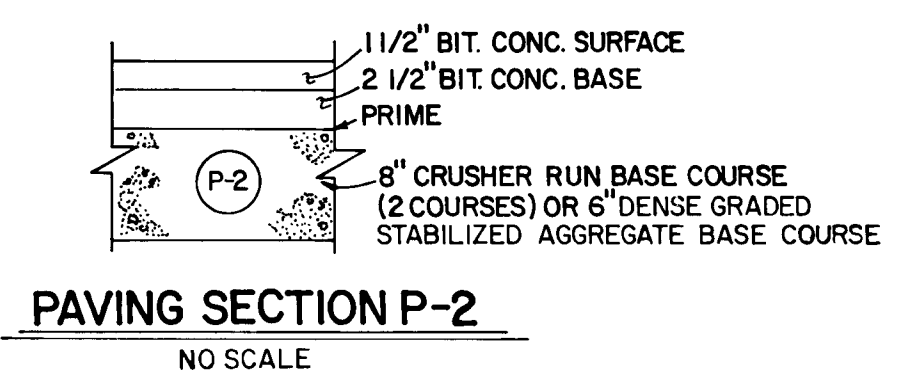
NOTE ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.



**MACADAM WALKWAY DETAIL**  
NO SCALE



**TYPICAL WIDENING SECTION ALONG BURNSIDE SIDE**  
NO SCALE



**PAVING SECTION P-2**  
NO SCALE

APPROVED  
DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 4-30-86  
CHIEF, BUREAU OF ENGINEERING

APPROVED  
OFFICE OF PLANNING AND ZONING  
*[Signature]* 4-25-86  
AND ZONING ADMINISTRATION

ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	STATION LIMITS
LITTLE BRICK HOUSE COURT	CULDESAC	30 MPH.	R-20	0+00 TO 8+80.65
FEAGA FARM COURT	CULDESAC	30 MPH.	R-20	0+00 TO 3+99.66
SHIRLEY MEADOW COURT	CULDESAC	30 MPH.	R-20	0+00 TO 5+69.46
CHAR-LIL COURT	CULDESAC	30 MPH.	R-20	0+00 TO 1+56.27

**CENTENNIAL MANOR**  
SECTION ONE AREA TWO  
LOTS 23-84  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

**ROAD SECTIONS, DETAILS AND STORM DRAIN PROFILES**

OWNER AND DEVELOPER  
MRS. GERTRUDE FEAGA & CENTENNIAL GROUP  
C/O HOWARD COUNTY LAND SERVICES 1076 BALTIMORE NATIONAL PIKE  
1076 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043

SCALE AS SHOWN DATE FEB. 21, 1986 DWG. NO. 4 OF 7  
DES. D. VANDE RYT DRN. J. O'DONNELL CHK. C. CROVO

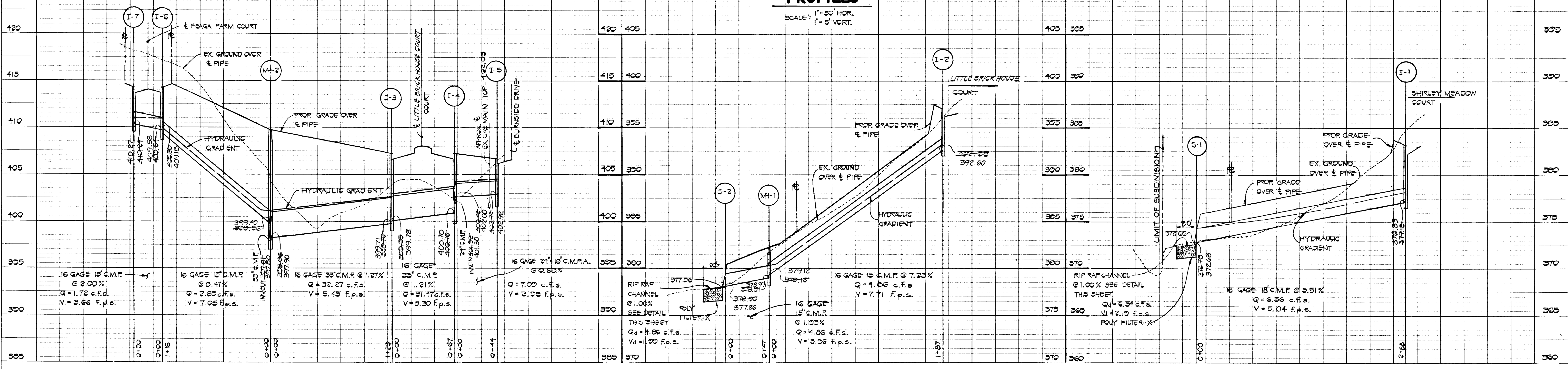
**FISHER, COLLINS AND CARTER, INC.**  
CIVIL ENGINEERS AND LAND SURVEYORS  
8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043

CHARLES J. CROVO, SR. 4/25/86

AS-BUILT SURVEY CERTIFIED BY  
CHARLES J. CROVO, MD. P.E. No. 13204, ON OCT 31, 1988

**PROFILES**

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

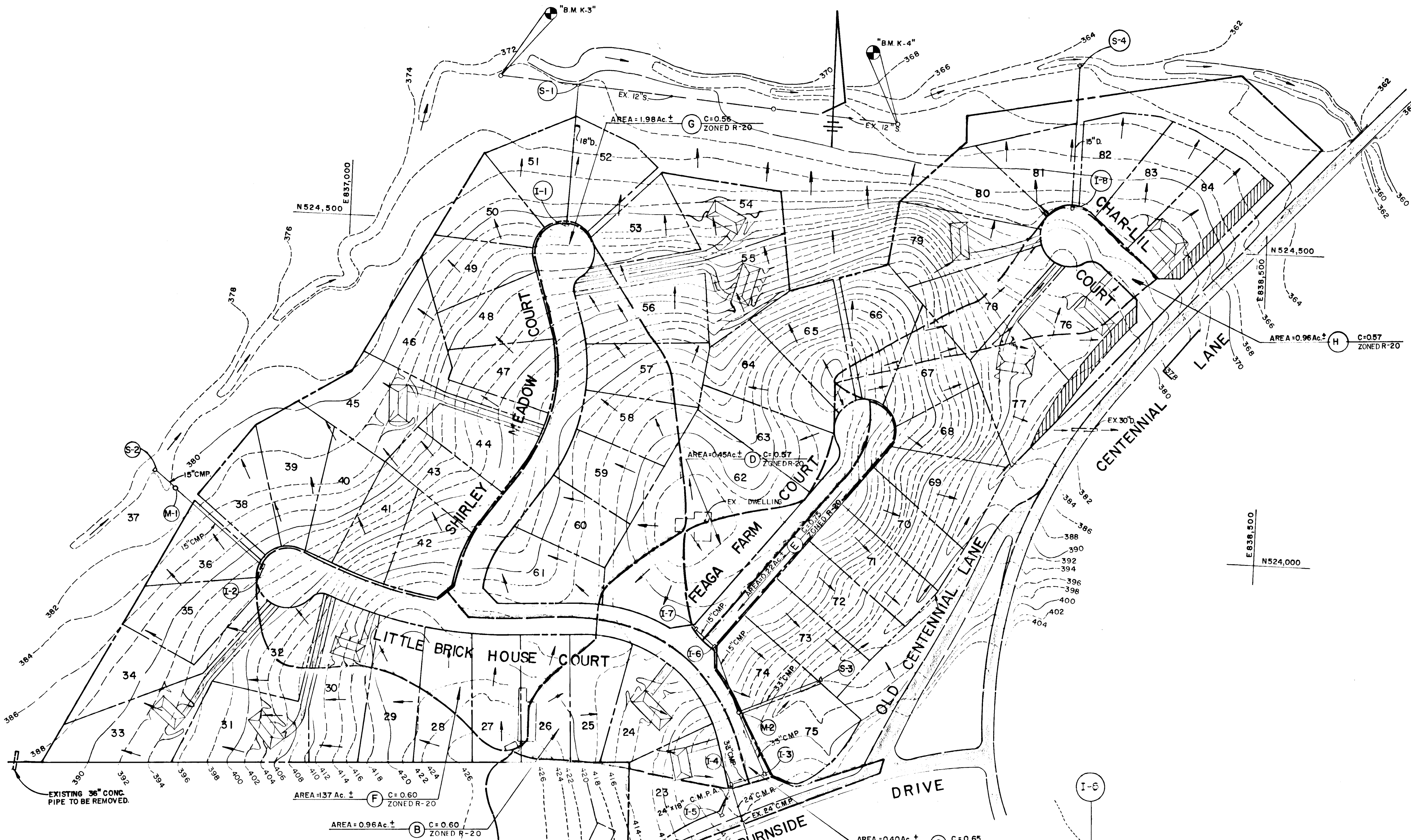


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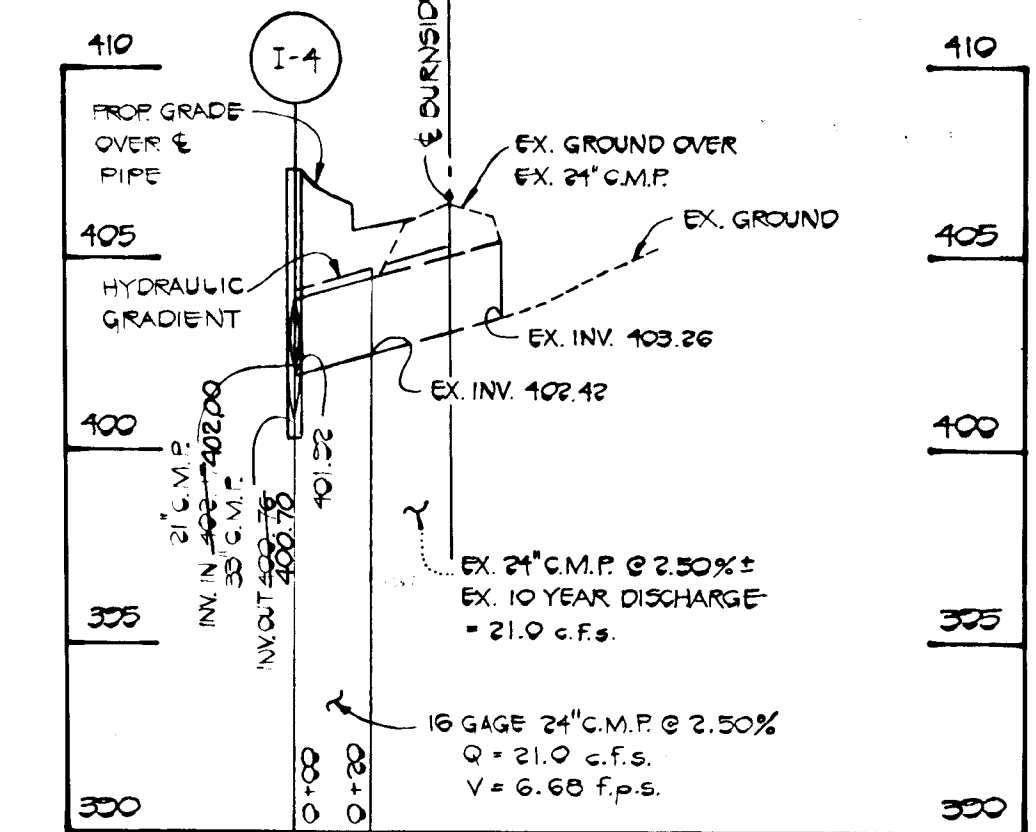


APPROVED  
DEPARTMENT OF PUBLIC WORKS  
*John W. Murchman*  
CHIEF, BUREAU OF ENGINEERING DATE

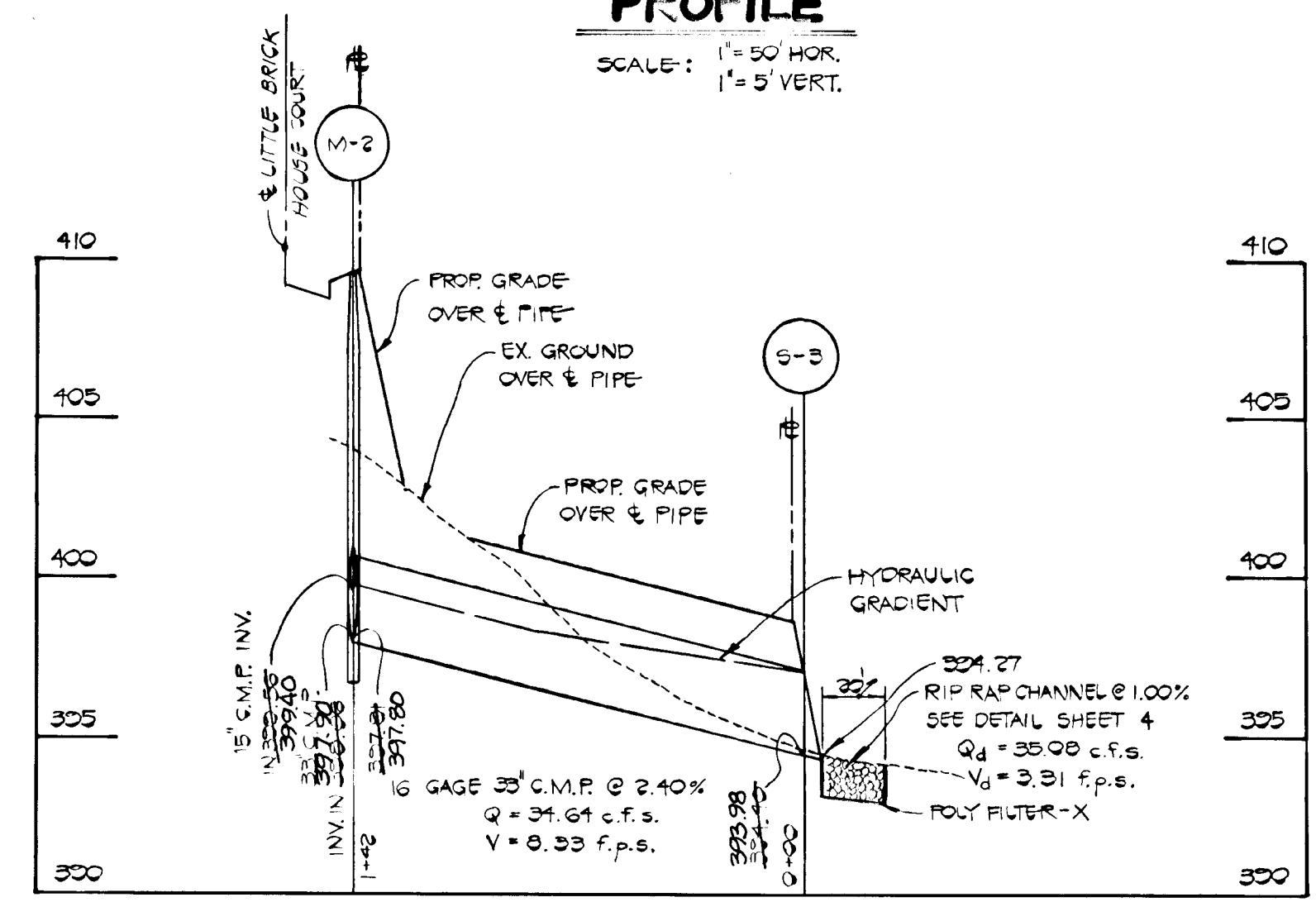
APPROVED  
OFFICE OF PLANNING AND ZONING  
*John W. Murchman* 4-25-86  
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE



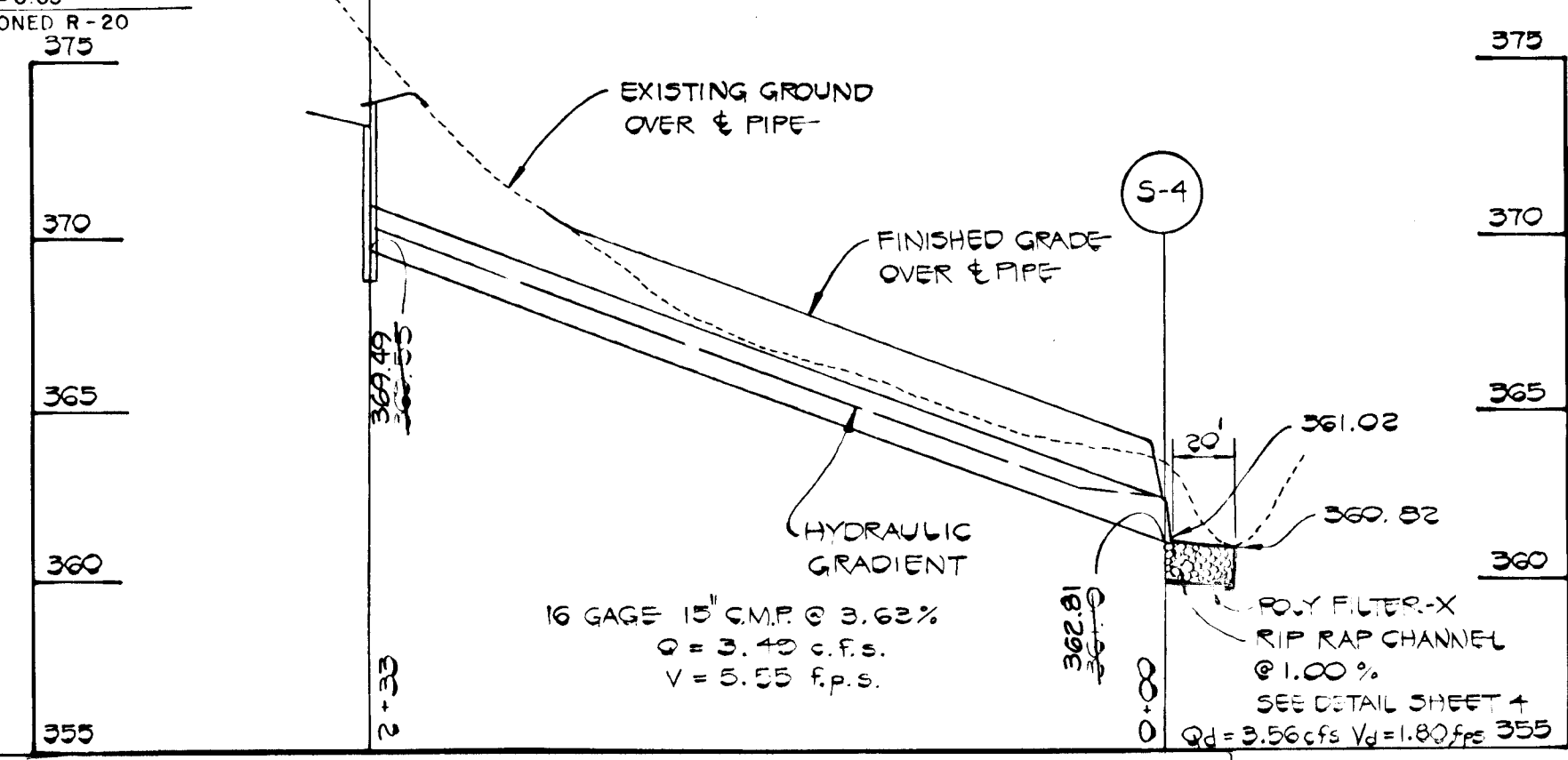
**DRAINAGE AREA MAP**  
SCALE: 1"=100'



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



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



AS-BUILT SURVEY CERTIFIED BY  
CHARLES J. CROVO, MD. P.E. No.  
13240, ON 10-31-88

**OWNER**  
MRS. GERTRUDE FEAGA  
C/O HOWARD COUNTY LAND SERVICES  
10176 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21043

**DEVELOPER**  
CENTENNIAL GROUP  
10176 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21043

**DRAINAGE AREA MAP AND  
STORM DRAIN PROFILES  
CENTENNIAL MANOR**

SECTION I AREA 2  
2ND. ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN FEBRUARY 21, 1986  
SHEET 5 OF 7

STRUCT.	TYPE	INVERT IN	INVERT OUT	TOP ELEV.	ROAD STATION	REMARKS
I-1	A-10	---	372.44 376.33	382.70 383.15	L.P. Sta. 1+43.27 Shirley Meadow Court	Dwg. S.D. 4.02
I-2	A-5	---	392.60 392.60	397.00	L.P. Sta. 1+53.73 LITTLE BRICK HOUSE COURT	Dwg. S.D. 4.01
I-3	A-5 w/ deflectors	399.95 399.75	399.70 399.71	407.87 406.85	Sta. 0+44 LITTLE BRICK HOUSE COURT	Dwg. S.D. 4.01 & S.D. 4.83
I-4	A-10	402.42 402.00	400.75 400.70	407.87 406.80	Sta. 0+44 LITTLE BRICK HOUSE COURT	Dwg. S.D. 4.02
I-5	A-5	---	402.72 402.35	406.87 406.22	Sta. 0+68 Burnside Drive	Dwg. S.D. 4.01
I-6	A-5	409.54	409.16	415.35 415.23	Sta. 0+42 Feaga Farm Court	Dwg. S.D. 4.01
I-7	A-5	409.58	410.27 410.27	415.35 415.27	Sta. 0+42 Feaga Farm Court	Dwg. S.D. 4.01
I-8	A-5	369.49	373.75 373.68	373.68	P. Sta. 1+90.58 Char-Lil Court	Dwg. S.D. 4.01
MH-1	Shallow Manhole	379.16 379.12	379.12 378.97	382.89	---	Dwg. G 5.05
MH-2	Standard Manhole	399.40	399.40	409.30	Sta. 1+70 LITTLE BRICK HOUSE COURT	Dwg. G 5.02
S-1	Standard Metal End Section	---	372.68	374.44 374.18	---	Dwg. S.D. 5.61
S-2	Standard Metal End Section	---	377.86	379.11	---	Dwg. S.D. 5.61
S-3	Standard Metal End Section	---	394.44 393.98	397.15 396.73	---	Dwg. S.D. 5.61
S-4	Standard Metal End Section	---	362.81	364.06	---	Dwg. S.D. 5.61

STATE OF MARYLAND  
PROFESSIONAL ENGINEER  
*Charles J. Crovo, Sr.*  
CHARLES J. CROVO, SR. DATE

#1198  
FISHER, COLLINS AND CARTER, INC.  
CONSULTING ENGINEERS AND LAND SURVEYORS  
8388 COURT AVENUE  
ELLCOTT CITY, MARYLAND 21043  
TELEPHONE: (301) 461-2855



REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

*James M. Adams* 4-24-86  
U.S. SOIL CONSERVATION SERVICE DATE

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

APPROVED: *Stephen L. Fisher* 4/24/86  
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PUBLIC WORKS.

*Richard S. Edley* 4-30-86  
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: OFFICE OF PLANNING AND ZONING

*John M. Wachsman* 4-25-86  
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Charles J. Crovo, Sr.* 4/24/86  
SIGNATURE DATE

**SEDIMENT TRAP #1**  
DRAINAGE AREA 1.2 AC. +  
VOLUME REQUIRED 80 CU. YDS.  
VOLUME PROVIDED 80 CU. YDS.  
TOP DIMENSIONS 45' x 20'  
BOTTOM DIMENSIONS 39' x 14'  
SIDE SLOPES 1:1  
DEPTH 3'  
WEIR CREST ELEVATION 406.0  
BOTTOM ELEVATION 402.0  
CLEANOUT ELEVATION 403.5

2. \*NOTE: PRIOR TO STORM DRAIN CONSTRUCTION THE CONTRACTOR SHALL PLACE STRAW BALE DIKES OR SILT FENCE DOWNGRADE OF THE PROPOSED STORM DRAIN CONSTRUCTION THAT HE HAS SCHEDULED FOR WORK THAT DAY.

- CONSTRUCTION SEQUENCE:**
1. OBTAIN GRADING PERMIT. 2 DAYS
  2. \*CONSTRUCT STORM DRAIN SYSTEM FROM THE EXISTING 24" CMP @ BURNSIDE DRIVE TO S-3. 4 DAYS
  3. CONSTRUCT STONE CONSTRUCTION ENTRANCES. 1 DAY
  4. CONSTRUCT EARTH DIKES AND STABILIZE WITH TEMPORARY SEEDING. 1 DAY
  5. CONSTRUCT STONE OUTLET TRAPS V. STABILIZE WITH TEMPORARY SEEDING. 3 DAYS
  6. INSTALL STRAW BALE DIKES OR SILT FENCE AS SHOWN ON PLAN. 1 DAY
  7. GRADE ROADS TO SUBGRADE STABILIZING SLOPE AREAS BETWEEN EXISTING GROUND AND BACK OF CURB USING PERMANENT SEEDING. 4 WEEKS
  8. CONSTRUCT STORM DRAIN SYSTEMS TO STONE OUTLET SEDIMENT TRAPS. 2 WEEKS DURING CONSTRUCTION OF THE STORM DRAIN SYSTEM THE CONTRACTOR SHALL PLACE STRAW BALE DIKES OR SILT FENCE DOWNGRADE OF ANY DISTURBED AREA AT THE END OF EACH WORKING DAY.
  9. INSTALL INLET PROTECTION DEVICES AT ALL STORM DRAIN INLETS. 2 DAYS
  10. CONSTRUCT CONCRETE CURB AND LAY BASE COURSE. 2 WEEKS
  11. UPON STABILIZATION OF GRADED AREAS, INLETS SHALL BE OPENED AND ALL ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE STORM DRAIN SYSTEM. 2 DAYS
  12. DURING CONSTRUCTION, SEDIMENT SHALL BE REMOVED FROM THE STONE OUTLET SEDIMENT TRAPS WHEN THE CLEANOUT ELEVATIONS HAVE BEEN REACHED. 2 DAYS
  13. DURING CONSTRUCTION AND AFTER EACH RAINFALL, THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON.
  14. REMOVE STONE CONSTRUCTION ENTRANCES. 1 DAY
  15. CLEAN BASE COURSE, APPLY TACK COAT TO BASE COURSES AND LAY SURFACE COURSE. STABILIZE ALL SHOULDERS USING PERMANENT SEEDING. 3 DAYS
  16. REMOVE SEDIMENT TRAPS AND EARTH DIKES ONCE DISTURBED AREAS HAVE BEEN STABILIZED. 3 DAYS
  17. ALL DISTURBED AREAS DUE TO REMOVAL OF SEDIMENT CONTROL MEASURES SHALL BE GRADED AND STABILIZED BY PERMANENT SEEDING. 1 DAY
  18. CONSTRUCT REMAINING STORM DRAIN SYSTEM FROM THE TRAPS AND INSTALL RIP RAP CHANNELS. STABILIZE ALL DISTURBED AREAS WITH PERMANENT SEEDING. 1 WEEK
  19. FOLLOWING INITIAL SOIL DISTURBANCE OR RESTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, SWALES, DITCH PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1; b) 14 DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS OR THE PROJECT SITE.

NOTE: SEE SHEET 7 FOR NOTES AND DETAILS

**OWNER**  
MRS. GERTRUDE FEAGA  
C/O HOWARD COUNTY LAND SERVICES  
10176 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21043

**DEVELOPER**  
CENTENNIAL GROUP  
10176 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21043

**STREET TREE, GRADING AND SEDIMENT CONTROL PLAN**

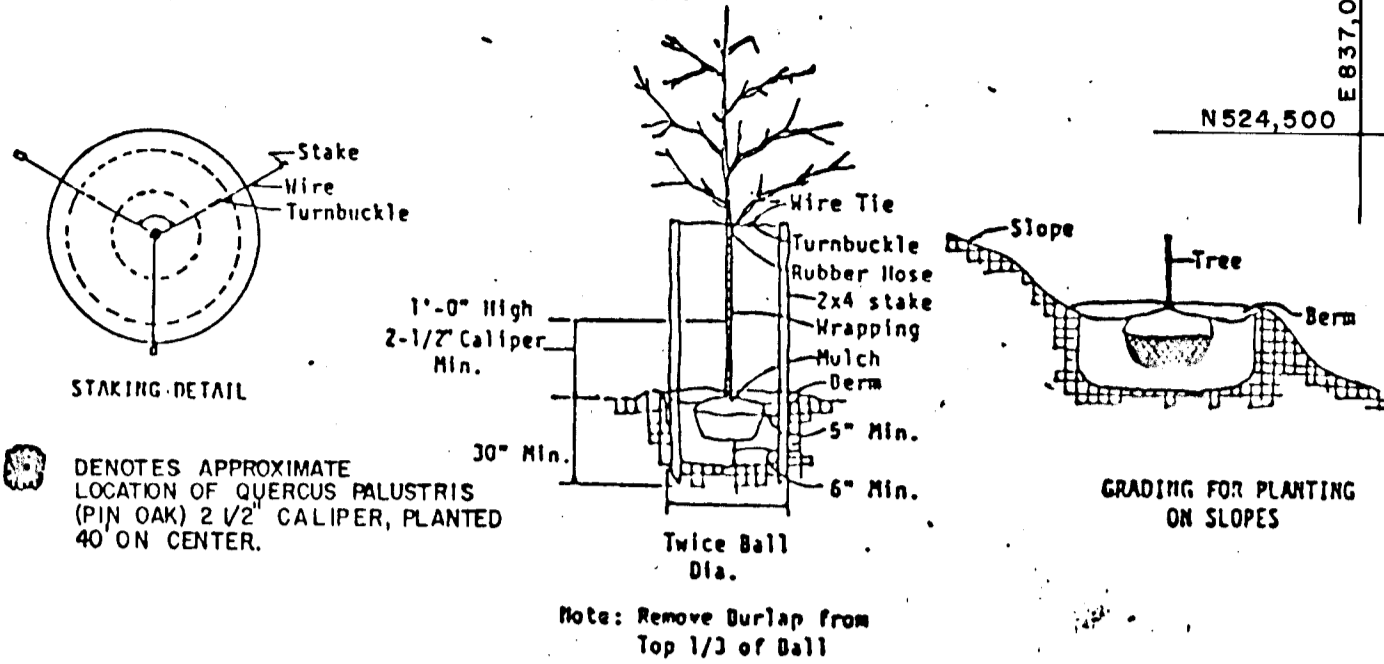
**CENTENNIAL MANOR**

SECTION 1 AREA 2  
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: 1"=50'  
FEBRUARY 21, 1986  
SHEET 6 OF 7

**SEDIMENT TRAP #2**  
DRAINAGE AREA 2.1 AC. +  
VOLUME REQUIRED 140 CU. YDS.  
VOLUME PROVIDED 140 CU. YDS.  
TOP DIMENSIONS 60' x 25'  
BOTTOM DIMENSIONS 54' x 19'  
SIDE SLOPES 1:1  
DEPTH 3'  
WEIR CREST ELEVATION 377.0  
BOTTOM ELEVATION 373.0  
CLEANOUT ELEVATION 374.5

**SEDIMENT TRAP #3**  
DRAINAGE AREA 2.3 AC. +  
VOLUME REQUIRED 153 CU. YDS.  
VOLUME PROVIDED 153 CU. YDS.  
TOP DIMENSIONS 65' x 25'  
BOTTOM DIMENSIONS 59' x 19'  
SIDE SLOPES 1:1  
DEPTH 3'  
WEIR CREST ELEVATION 393.0  
BOTTOM ELEVATION 299.0  
CLEANOUT ELEVATION 300.5

**SEDIMENT TRAP #4**  
DRAINAGE AREA 1.6 AC. +  
VOLUME REQUIRED 107 CU. YDS.  
VOLUME PROVIDED 108 CU. YDS.  
TOP DIMENSIONS 47' x 25'  
BOTTOM DIMENSIONS 41' x 19'  
SIDE SLOPES 1:1  
DEPTH 3'  
WEIR CREST ELEVATION 386.0  
BOTTOM ELEVATION 382.0  
CLEANOUT ELEVATION 383.5



NOTE: CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND UTILITIES PRIOR TO DIGGING. FINAL LOCATIONS OF TREES MAY BE ADJUSTED SLIGHTLY TO ACCOMMODATE FIELD CONDITIONS. PLANTING PROCEDURES SHALL COMPLY WITH "LANDSCAPE SPECIFICATIONS FOR BALTIMORE-WASHINGTON METROPOLITAN AREA". SUBSTITUTIONS TO THE ABOVE SPECIES MAY BE PERMITTED, PROVIDED THAT THE PLANTING IS IN ACCORDANCE WITH THE STREET TREE AND LANDSCAPE REQUIREMENTS AS SPECIFIED IN SECTION 16.131 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS.

**DEVELOPER'S CERTIFICATE**

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEMED NECESSARY."

*Charles J. Crovo, Sr.* 3-4-86  
DATE

CONTRACTOR SHALL GRADE LOTS 1 AND 2 TO PROVIDE POSITIVE DRAINAGE TO CENTENNIAL MANOR COURT

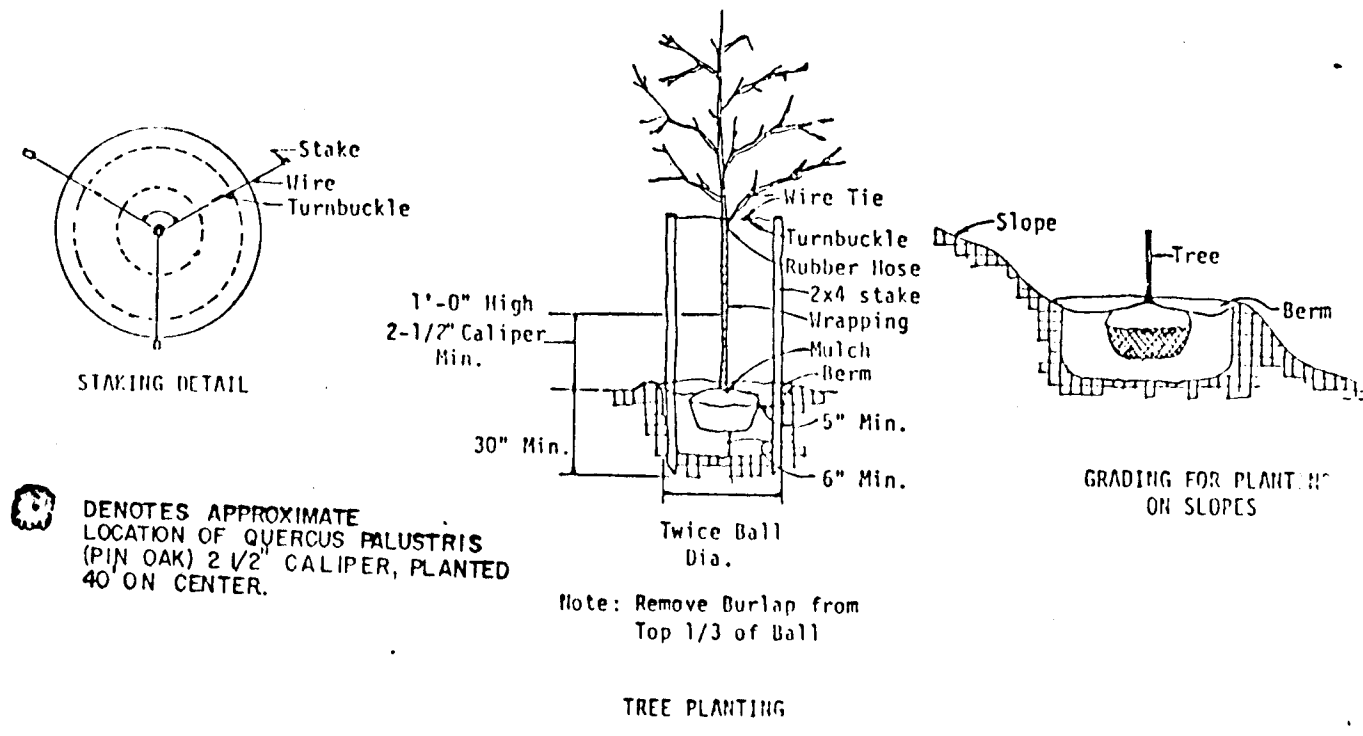
**PLAN**  
SCALE: 1"=50'

**FISHER, COLLINS AND CARTER, INC.**  
CONSULTING ENGINEERS AND LAND SURVEYORS  
8388 COURT AVENUE  
ELLICOTT CITY, MARYLAND 21043  
TELEPHONE: (301)461-2855



#1198





NOTE: CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND UTILITIES PRIOR TO DIGGING. FINAL LOCATIONS OF TREES MAY BE ADJUSTED SLIGHTLY TO ACCOMMODATE FIELD CONDITIONS. PLANTING PROCEDURES SHALL COMPLY WITH "LANDSCAPE SPECIFICATIONS FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS". SUBSTITUTIONS TO THE ABOVE SPECIES MAY BE PERMITTED, PROVIDED THAT THE PLANTING IS IN ACCORDANCE WITH THE STREET TREE AND LANDSCAPE REQUIREMENTS AS SPECIFIED IN SECTION 16.131 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS.

**PERMANENT SEEDING NOTES:**

APPLY TO GRADED OR CLEARED AREA NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE-INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULE.

- PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE-INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREA-FORM FERTILIZER (9 LBS/1000 SQ. FT.).
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE-INCHES OF SOIL.

SEEDING: FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (.05 LBS/1000 SQ. FT.) OF WEeping LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING: APPLY 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ. FT.) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

**TEMPORARY SEEDING NOTES:**

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

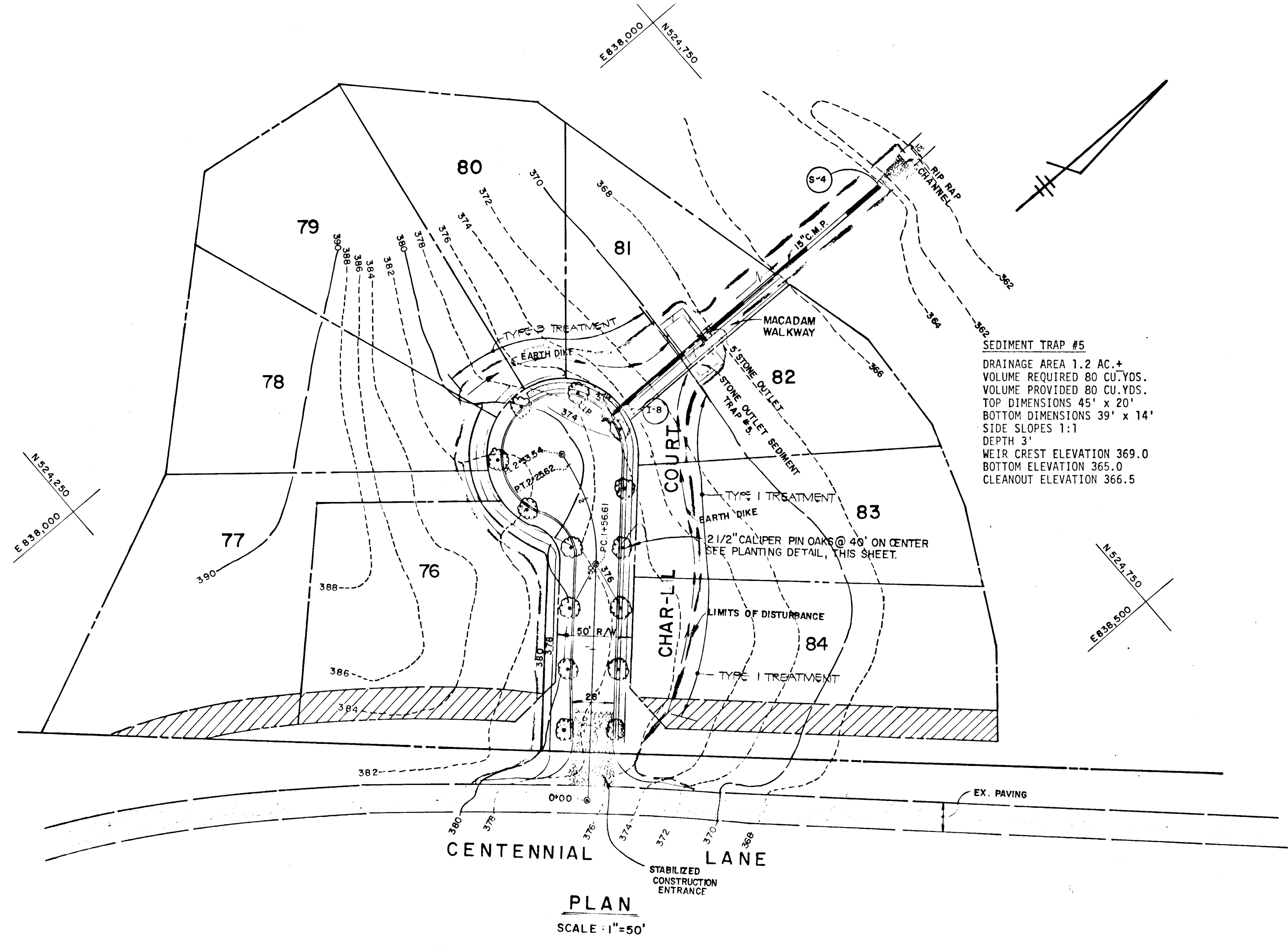
SEEDBED PREPARATION: LOOSEN UPPER THREE-INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.).

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2 1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ. FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEeping LOVEGRASS (.07 LBS/1000 SQ. FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: APPLY 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SQ. FT.) FOR ANCHORING.

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.



**SEDIMENT TRAP #5**

DRAINAGE AREA 1.2 AC. +  
VOLUME REQUIRED 80 CU.YDS.  
TOP DIMENSIONS 45' x 20'  
BOTTOM DIMENSIONS 39' x 14'  
SIDE SLOPES 1:1  
DEPTH 3'  
WEIR CREST ELEVATION 369.0  
BOTTOM ELEVATION 365.0  
CLEANOUT ELEVATION 366.5

**SEDIMENT CONTROL NOTES:**

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (892-2437).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1; b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:
 

TOTAL AREA OF SITE	40.20	ACRES
AREA DISTURBED	6.36	ACRES
AREA TO BE ROOFED OR PAVED	2.23	ACRES
AREA TO BE VEGETATIVELY STABILIZED	4.13	ACRES
TOTAL CUT		CU. YDS.
TOTAL FILL		CU. YDS.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY DPW SEDIMENT CONTROL INSPECTOR.

**ENGINEER'S CERTIFICATE**

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

Signature: *Charles J. ...* Date: 4/26/86

**DEVELOPER'S CERTIFICATE**

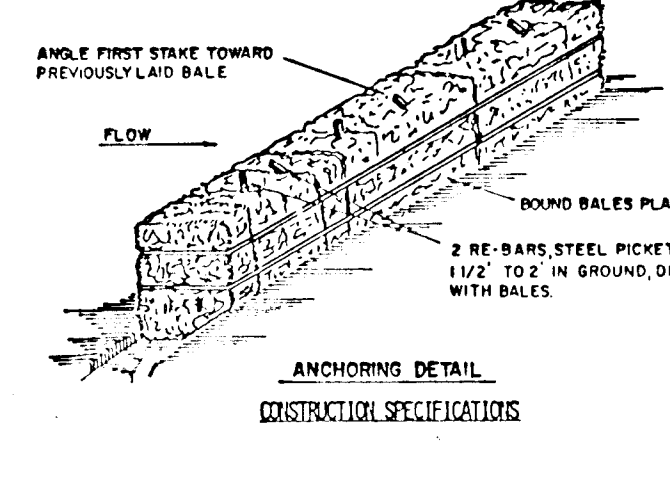
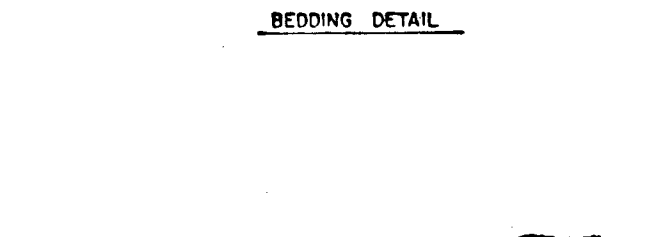
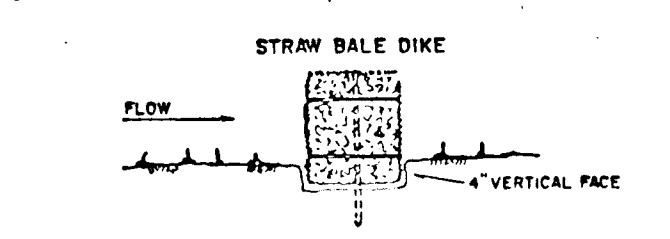
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

Signature: *James M. Hillen* Date: 4-24-86

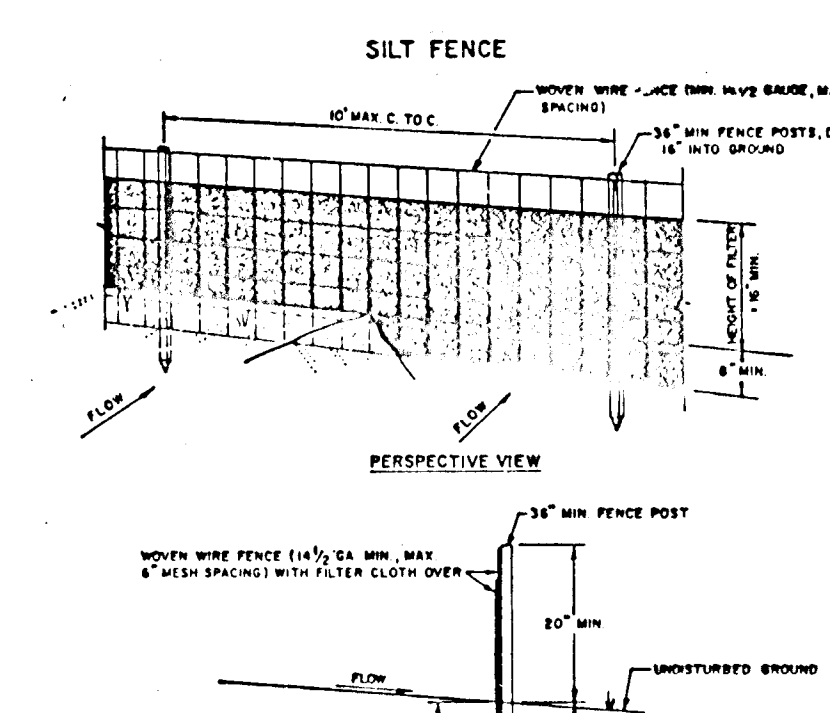
Signature: *Stephen L. Hillen* Date: 4/24/86

Signature: *William J. ...* Date: 4-30-86

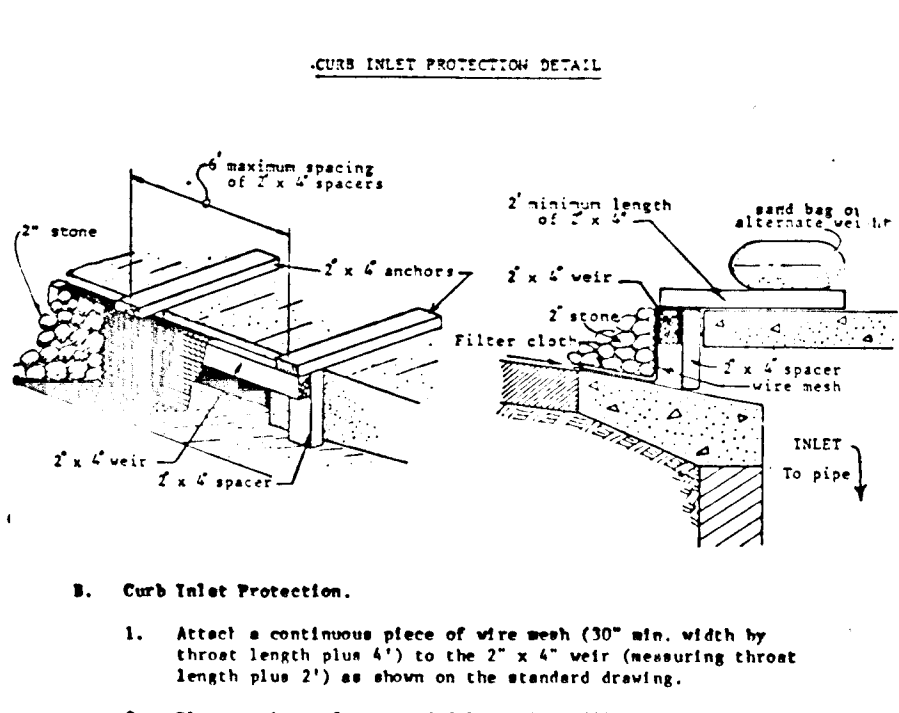
Signature: *Shawn M. ...* Date: 4-25-86



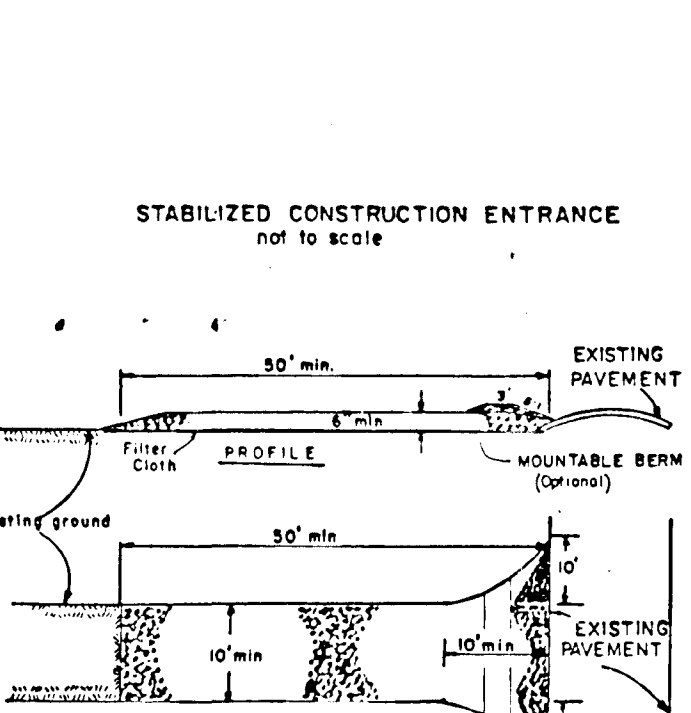
- Bales shall be placed at the toe of a slope or on the contour and in a row with ends tightly abutting the adjacent bales.
- Each bale shall be embedded in the soil a minimum of (4) inches, and placed so the bindings are horizontal.
- Bales shall be securely anchored in place by either two stakes or re-bars driven through the bale. The first stake in each bale shall be driven toward the previous laid bale at an angle to force the bales together. Stakes shall be driven flush with the bale.
- Inspection shall be frequent and repair/replacement shall be made promptly as needed.
- Bales shall be removed when they have served their usefulness so as not to block or impede storm flow or drainage.



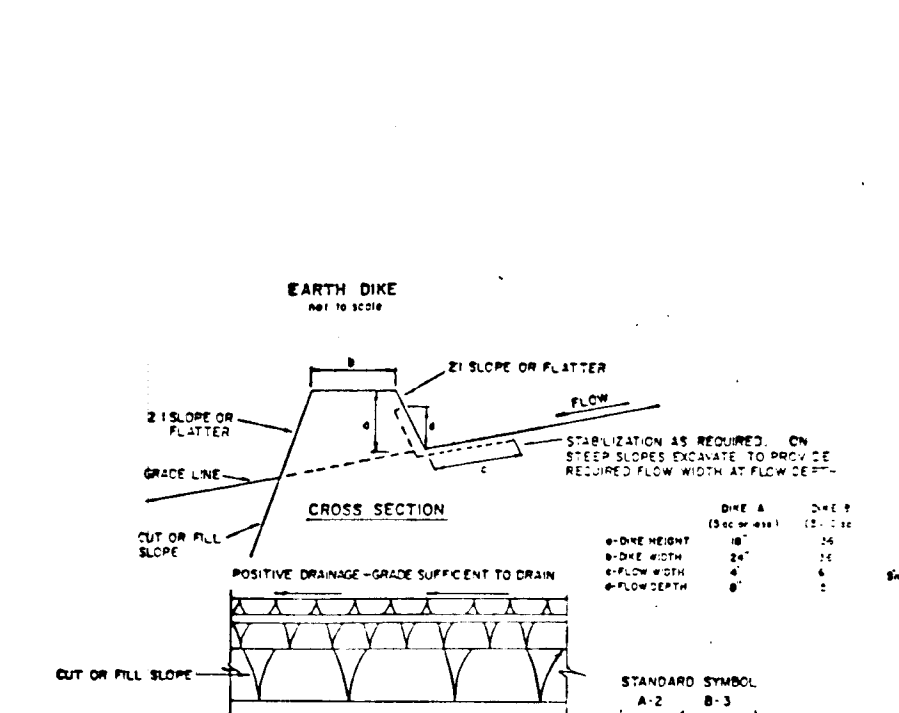
- CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**
- Woven wire fence to be fastened securely to fence posts with wire ties or staples.
  - Filter cloth to be fastened securely to woven wire fence with ties spaced every 4' at top and mid section.
  - When two sections of filter cloth abjoin each other they shall be overlapped by six inches and folded.
  - Maintenance shall be performed as needed and material removed when bales develop in the silt fence.
- POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD
- FENCES: WOVEN WIRE, 1/4" GA. 6" MAX. PUNCH OPENING
- FILTER CLOTH: FILTER X, MARFAC 1000, STAINLESS STEEL OR APPROVED EQUAL
- PREFABRICATED UNIT: GEOTEX, DOWRYFENCE, OR APPROVED EQUAL



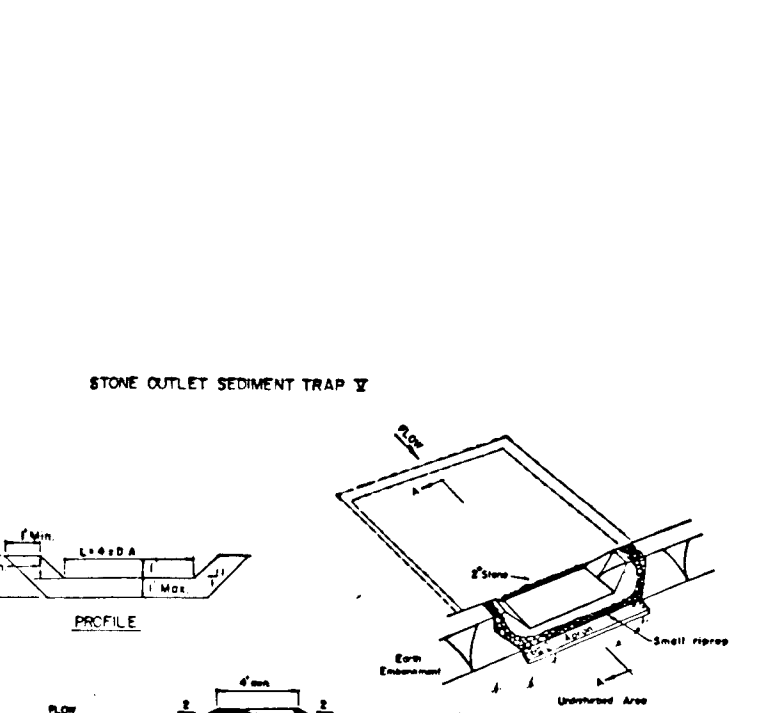
- Curb Inlet Protection.**
- Attach a continuous piece of wire mesh (30" min. width by throat length plus 4") to the 2" x 4" curb (measuring throat length plus 2") as shown on the standard drawings.
  - Place a piece of approved filter cloth (40-85 sieve) of the same dimensions as the wire mesh over the wire mesh and securely attach to the 2" x 4" curb.
  - Securely nail the 2" x 4" curb to 8" long vertical spacers to be located between the curb and inlet face (max. 4' apart).
  - Place the assembly against the inlet throat and nail (minimum 2" lengths of 2" x 4" to the top of the curb at regular intervals. Three 2" x 4" anchors shall extend across the inlet top and be held in place by neoprene or alternate weight.
  - The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
  - Form the wire mesh and filter cloth to the concrete gutter and against the face of curb on both sides of the inlet. Place clean 2" stone over the wire mesh and filter fabric in such a manner as to prevent water from entering the inlet under or around the filter cloth.
  - This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
  - Assure that storm flow does not bypass inlet by installing temporary curb or asphalt dike directing flow into inlet.



- CONSTRUCTION SPECIFICATIONS**
- Stone Size - Use 1" stone, or reclaimed or recycled concrete equivalent.
  - Length - As required, but not less than 30 feet (except on a single residence lot where a 20 foot minimum length would apply).
  - Thickness - Not less than six (6) inches.
  - Width - Two (2) foot minimum, but not less than the full width at points where ingress or egress occurs.
  - Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
  - Surface Water - All surface water flowing or directed toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 1:1 slopes will be permitted.
  - Maintenance - The entrance shall be maintained in a condition which will prevent tracking of flowing sediment onto public right-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanup of any areas used to trap sediment. All sediment spilled, decayed, washed or tracked onto public right-of-way may be removed immediately.
  - Washing - Vehicle shall be cleaned to remove sediment prior to entrance onto public right-of-way. When washing is required, it shall be done on a area stabilized with stone and which drains into an approved sediment trap (see device).
  - Periodic inspection and needed maintenance shall be provided after each rain.



- EROSION CONTROL SPECIFICATIONS**
- All sites shall be compacted by earth-moving equipment.
  - All sites shall have positive drainage to an outlet.
  - Top slopes may be mowed and side slopes may be planted if desired to facilitate erosion by construction traffic.
  - Each site shall be inspected and maintained in accordance with these specifications. Erosion shall be corrected to a sediment trapping device such as a silt trap or silt fence. Work must follow the site owner's or the contractor's plan for the site area.
  - Stabilization shall be: (A) IN ACCORDANCE WITH RECOMMENDED SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN RECOMMENDED SPECIFICATIONS FOR SEED AND STRAW MULCH.
- EROSION CONTROL STABILIZATION**
- | TYPE OF DISTURBANCE | COVER    | DIKE A                           | DIKE B                                       |
|---------------------|----------|----------------------------------|--|
| 1                   | 5-3.00   | SEED AND STRAW MULCH             | SEED AND STRAW MULCH                         |
| 2                   | 3.1-5.00 | SEED AND STRAW MULCH             | SEED USING MULCH OR EXCELSTON, SOD, 2" STAKE |
| 3                   | 5.1-8.00 | SEED WITH MULCH OR SOD, 2" STAKE | LINES 4" PIN-RAK 4-8"                        |
| 4                   | 8.1-200  | LINES 4" PIN-RAK 4-8"            | ENGINEERING DESIGN                           |
- A. SOD TO BE 2" HIGH, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3" THICK AND NOT LESS THAN 18" WIDE. SOD TO BE PLACED IN A LAYER AT LEAST 3" THICK AND NOT LESS THAN 18" WIDE IN A LAYER AT LEAST 3" THICK AND NOT LESS THAN 18" WIDE.
- C. THE SOD SHALL BE 8" 8" INCHES IN A LAYER AT LEAST 3" THICK AND NOT LESS THAN 18" WIDE.
- D. PERIODIC INSPECTION AND NEEDED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.



- CONSTRUCTION SPECIFICATIONS FOR TRAP**
- Area under sediment shall be cleared, graded and covered with vegetation and rock mat. The pool area shall be cleared.
  - The fill material for the sediment trap shall be free of roots and other debris vegetation as well as uncrushed stone, rocks, organic material or other objectionable material. The sediment trap shall be completed by installing wire equipment into it to trap sediment.
  - All cut and fill slopes shall be 1:1 or flatter.
  - The stone used in the outlet shall be small (1/2" to 1") with a thickness of 2" aggregate placed on the up-grade side on the small (1/2" to 1") standard filter cloth in the filter.
  - Outlet shall be removed and rock restored to the original condition when the sediment has accumulated to the depth of the trap.
  - The structure shall be inspected after each rain and repairs made as needed.
  - Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
  - The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

**STREET TREE, GRADING AND SEDIMENT CONTROL PLAN**

**GENTENNIAL MANOR**

SECTION I AREA 2

2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: 1"=50'

FEBRUARY 21, 1986

SHEET 7 OF 7



**OWNER**

MRS. GERTRUDE FEAGA  
CO. HOWARD COUNTY LAND SERVICES  
10176 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21043

**DEVELOPER**

CENTENNIAL GROUP  
10176 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21043

#1198

**FISHER, COLLINS AND CARTER, INC.**  
CONSULTING ENGINEERS AND LAND SURVEYORS  
8308 COURT AVENUE  
ELLICOTT CITY, MARYLAND 21043  
TELEPHONE: (301) 461-2855