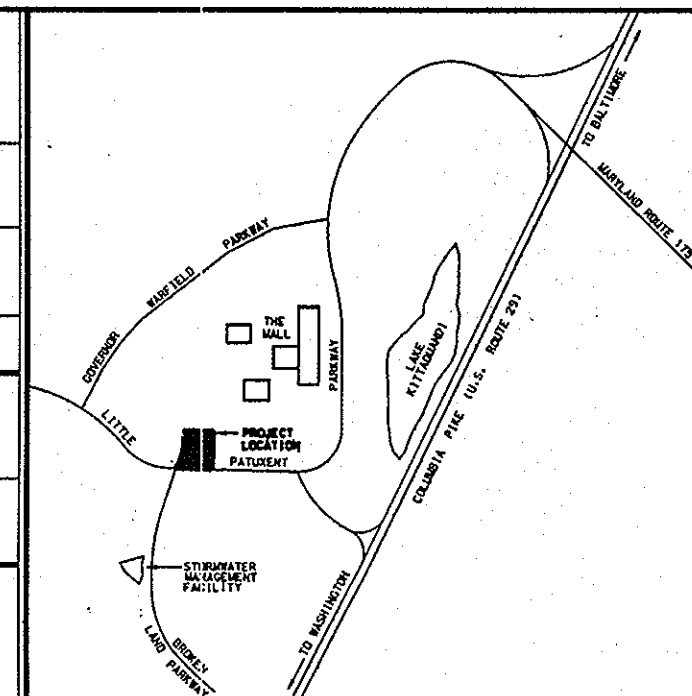


INDEX	
NO	DESCRIPTION
1	TITLE SHEET
2	BROKEN LAND PARKWAY PLAN AND PROFILE
3	STORM DRAIN PROFILES
4	DRAINAGE AREA MAP
5	ROAD-STORM DRAIN AND TREE PLANTING DETAILS
6	SEDIMENT CONTROL PLAN
7	SEDIMENT CONTROL DETAILS
8	WATER QUALITY STRUCTURE

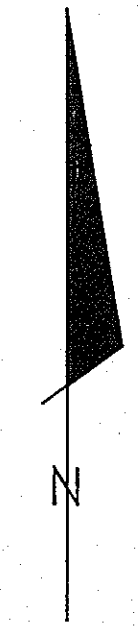
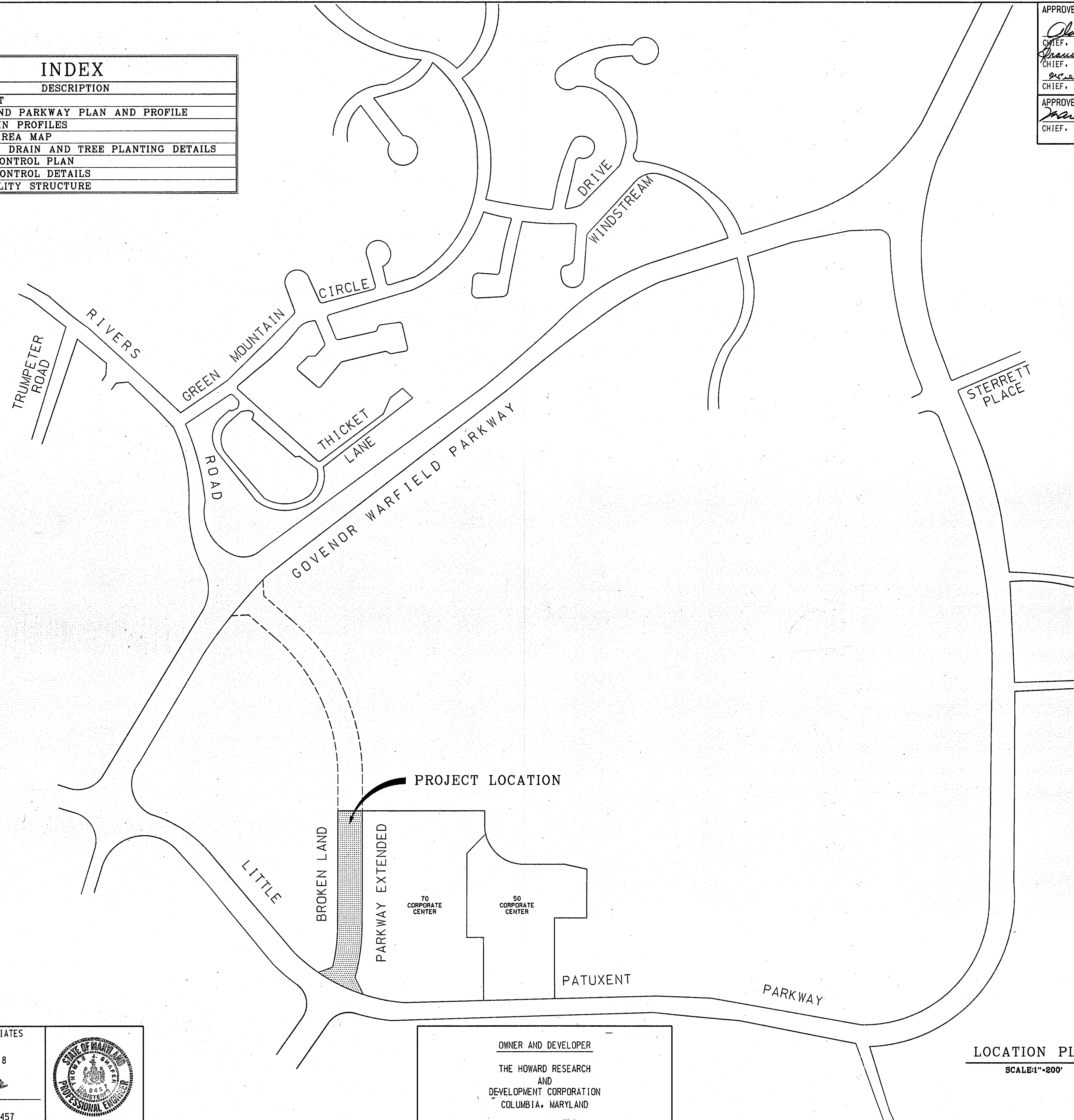
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Alan M. Perryman* 3/20/91  
 CHIEF, LAND DEVELOPMENT DIVISION MK DATE  
*Shawville W. Webeaud* 3/15/91  
 CHIEF, BUREAU OF HIGHWAYS DATE  
*William B. Reed* 3-21-91  
 CHIEF, BUREAU OF ENGINEERING DATE  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Mark S. J. ...* 3/21/91  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE



VICINITY MAP  
 SCALE: 1" = 2000'

**GENERAL NOTES**

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS, SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- ALL UTILITY COMPANIES SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF CONSTRUCTION.
- ALL INLETS SHALL BE HOWARD COUNTY STANDARD UNLESS OTHERWISE SHOWN.
- ALL STREET CURB RETURNS SHALL HAVE A 30' RADIUS UNLESS OTHERWISE NOTED.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHT-OF-WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY ROAD CODE.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES WHERE DIRECTED BY THE ENGINEER A MINIMUM OF TWO WEEKS IN ADVANCE OF ANY CONSTRUCTION.
- TEMPORARY COMPACTED 18" HIGH EARTH FILL DIVERSION DIKES SHALL BE CONSTRUCTED ABOVE THE LIPS OF FILL SLOPES ON THE R.O.W. CONCURRENTLY WITH THE INITIAL GRADING AND DIRECTED TO UNDISTURBED SOD AREAS AT THE END OF EACH DAY.
- CONTRACTOR TO NOTIFY THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS. TELEPHONE NO. 992-2436.
- ALL DISTURBED SLOPE AREAS TO BE STABILIZED AS SOON AS GRADING IS COMPLETED.
- ALL REINFORCED CONCRETE FOR STORM DRAIN STRUCTURES SHALL HAVE A MINIMUM OF 28 DAYS STRENGTH OF 3500 P.S.I.
- ALL SWALES AND SLOPES SHALL BE PERMANENTLY SEEDED. SEE THE SEED SPECIFICATIONS ON SHEET 7.
- TRAFFIC CONTROL DEVICES AND THEIR INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 1988 REVISED EDITION.
- STABILENKA (FILTER CLOTH T-100) OR EQUAL SHALL BE PLACED UNDER ALL STONE RIP-RAP (FULL WIDTH AND LENGTH OF STONE).
- STONE FOR RIP-RAP SHALL BE AS SPECIFIED ON THE DRAWINGS. ALL RIP-RAP SHALL BE UNPAVED.
- STUBS FOR 6" P.V.C. UNDERDRAIN PIPE TO BE INSTALLED AT CENTER OF EACH WALL OF EVERY INLET.
- LAMP POST - 150 WATT HIGH PRESSURE SODIUM VAPOR PENDANTS MOUNTED AT 30' HEIGHT ON STEEL POLES NO LESS THAN 6' FROM PAVEMENT EDGE.
- THE TYPE OF BEDDING USED FOR STORM DRAIN PIPE SHALL BE CLASS C, SHAPED SUBGRADE. IF ROCK IS ENCOUNTERED, THE TRENCH INVERT SHOULD BE OVER EXCAVATED 6" AND THE OVER EXCAVATION REFILLED WITH GRANULAR MATERIAL.



PROJECT LOCATION

LOCATION PLAN  
 SCALE: 1" = 200'

WHITMAN, REQUARDT AND ASSOCIATES  
 ENGINEERS  
 2315 SAINT PAUL STREET  
 BALTIMORE, MARYLAND 21218  
*Thomas J. Shafer*  
 THOMAS J. SHAFER  
 REGISTERED ENGINEER NO. 8457

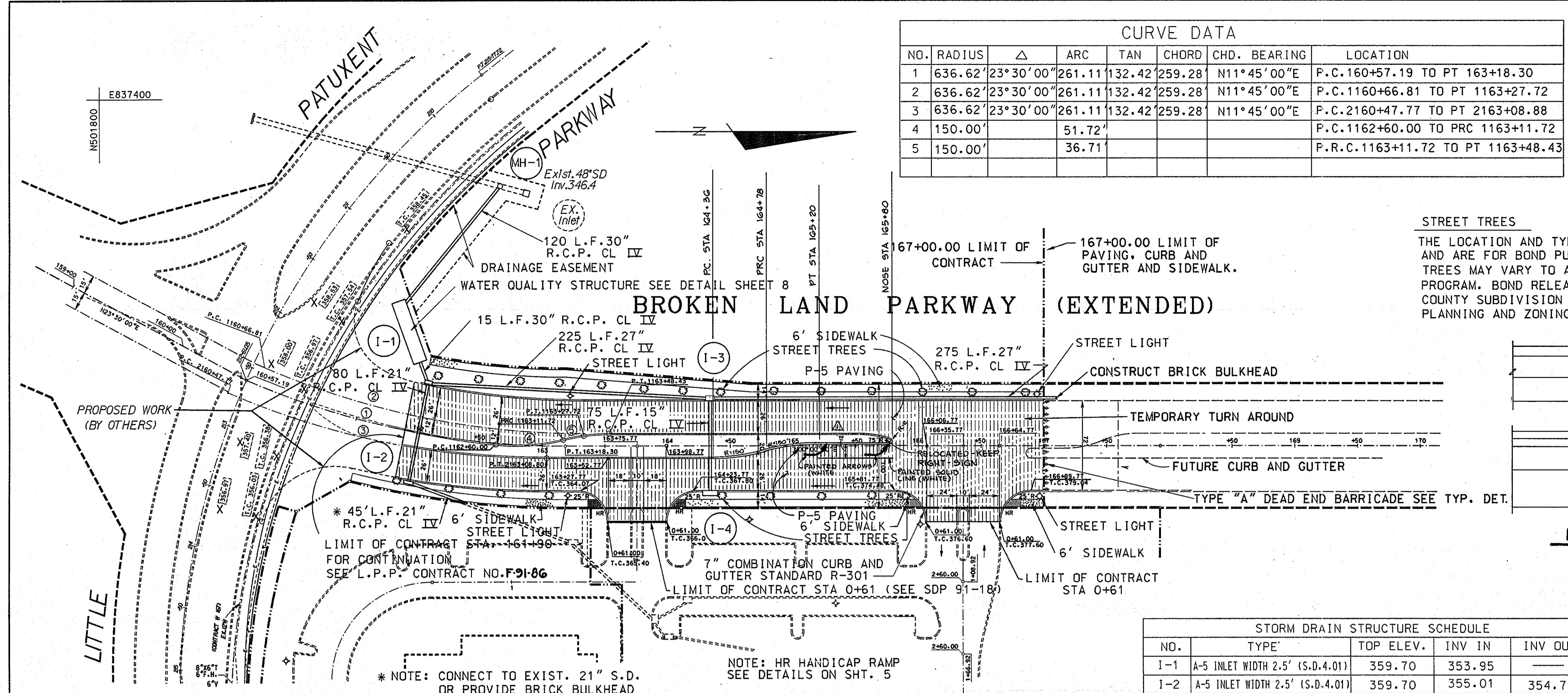
OWNER AND DEVELOPER  
 THE HOWARD RESEARCH  
 AND  
 DEVELOPMENT CORPORATION  
 COLUMBIA, MARYLAND

DATE	NO.	REVISION
<b>TOWN CENTER            BROKEN LAND PARKWAY            (EXTENDED)</b> SECTION 2 AREA 6 ROAD CONSTRUCTION PLANS OWNER AND DEVELOPER THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION COLUMBIA, MARYLAND 5TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND DATE: DEC. 5, 1990 SCALE: AS SHOWN		

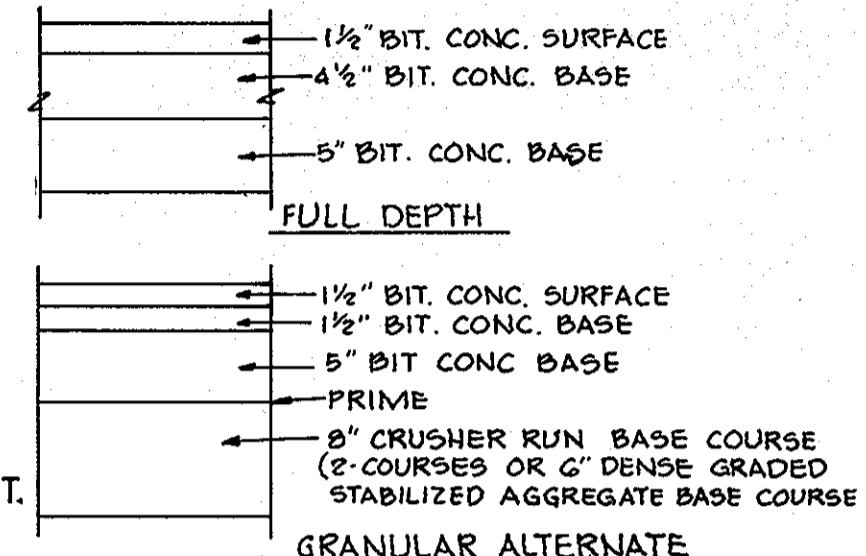
55

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Olaf M. Ferguson* 3/20/91  
 CHIEF, LAND DEVELOPMENT DIVISION MK DATE  
*Donald W. Weiland* 3/15/91  
 CHIEF, BUREAU OF HIGHWAYS DATE  
*William E. Ray* 3-21-91  
 CHIEF, BUREAU OF ENGINEERING DATE  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*David J. Campbell* 3/20/91  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

CURVE DATA							
NO.	RADIUS	Δ	ARC	TAN	CHORD	CHD. BEARING	LOCATION
1	636.62'	23°30'00"	261.11	132.42	259.28	N11°45'00"E	P.C.160+57.19 TO PT 163+18.30
2	636.62'	23°30'00"	261.11	132.42	259.28	N11°45'00"E	P.C.1160+66.81 TO PT 1163+27.72
3	636.62'	23°30'00"	261.11	132.42	259.28	N11°45'00"E	P.C.2160+47.77 TO PT 2163+08.88
4	150.00'		51.72'				P.C.1162+60.00 TO PRC 1163+11.72
5	150.00'		36.71'				P.R.C.1163+11.72 TO PT 1163+48.43



**STREET TREES**  
 THE LOCATION AND TYPE OF TREES SHOWN ON THESE PLANS ARE TENTATIVE AND ARE FOR BOND PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMMODATE FIELD CONDITIONS AND BUILDERS LANDSCAPE PROGRAM. BOND RELEASE IS CONTINGENT UPON SECTION 16.131 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS, AS APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING.



STORM DRAIN STRUCTURE SCHEDULE					
NO.	TYPE	TOP ELEV.	INV IN	INV OUT	LOCATION
I-1	A-5 INLET WIDTH 2.5' (S.D.4.01)	359.70	353.95	—	C/L INLET 27.92 LT. OF B/L 1162+00.00
I-2	A-5 INLET WIDTH 2.5' (S.D.4.01)	359.70	355.01	354.75	C/L INLET 27.92 RT. OF B/L 1162+00.00
I-3	A-5 INLET WIDTH 2.5' (S.D.4.01)	368.23	363.57	362.87	C/L INLET 37.92 LT. OF STA. 164+33.77
I-4	A-10 INLET WIDTH 2.5' (S.D.4.02)	368.23	—	364.32	C/L INLET 37.92 RT. OF STA. 164+33.77
MH1	STD 5'-0" BRICK MANHOLE	360.50	349.84	346.05	C/L MH 15.00' LT. OF R/W LINE

REV. DATE	REV. NO.	REVISION DESCRIPTION
2-3-98	1	ADDED LEFT TURN LANE @ STA 165+00+

**COLUMBIA**  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY MARYLAND

OWNER AND DEVELOPER  
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA:  
 BROKEN LAND PARKWAY EXTENDED SECTION 2 AREA 6

PROJECT TITLE:  
 BROKEN LAND PARKWAY STA.160+57.19 TO STA.167+92.77

SCALE: AS SHOWN DATE: 12-5-90

WHITMAN, REQUARDT AND ASSOCIATES  
 ENGINEERS  
 BALTIMORE, MARYLAND 21218

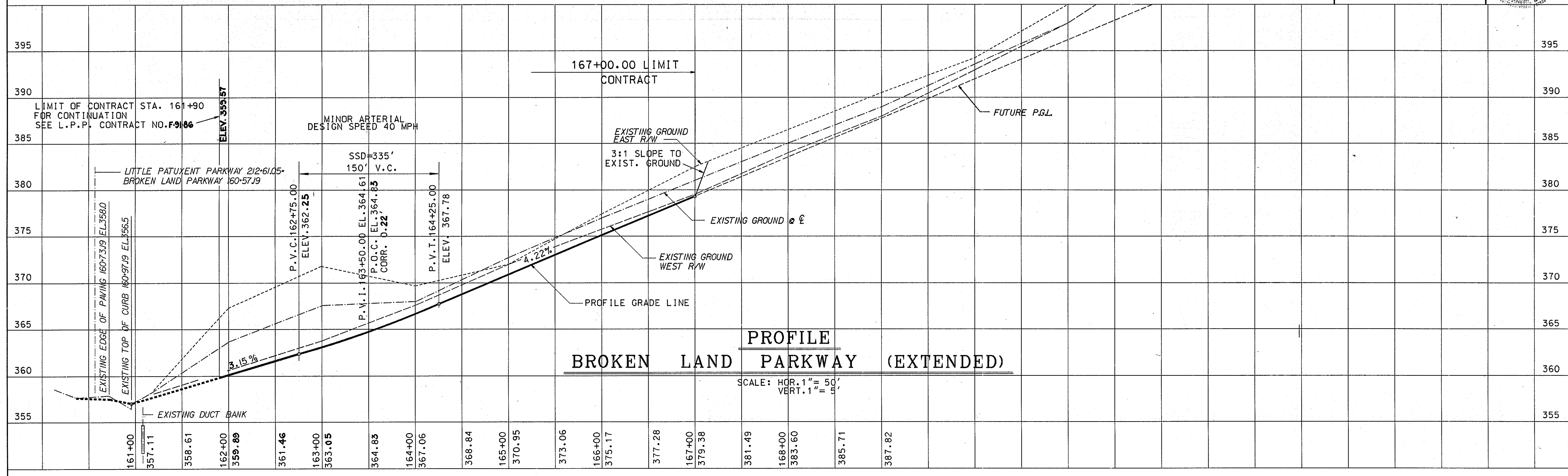
*Thomas J. Shafer*  
 THOMAS J. SHAFER  
 REGISTERED ENGINEER  
 NO. 8457

NOTE: FOR CONTINUATION OF SIDEWALK ALONG L.P.P. ROADWAY LANE WIDENING, SEE L.P.P. ROAD WIDENING PLAN

\* NOTE: CONNECT TO EXIST. 21" S.D. OR PROVIDE BRICK BULKHEAD

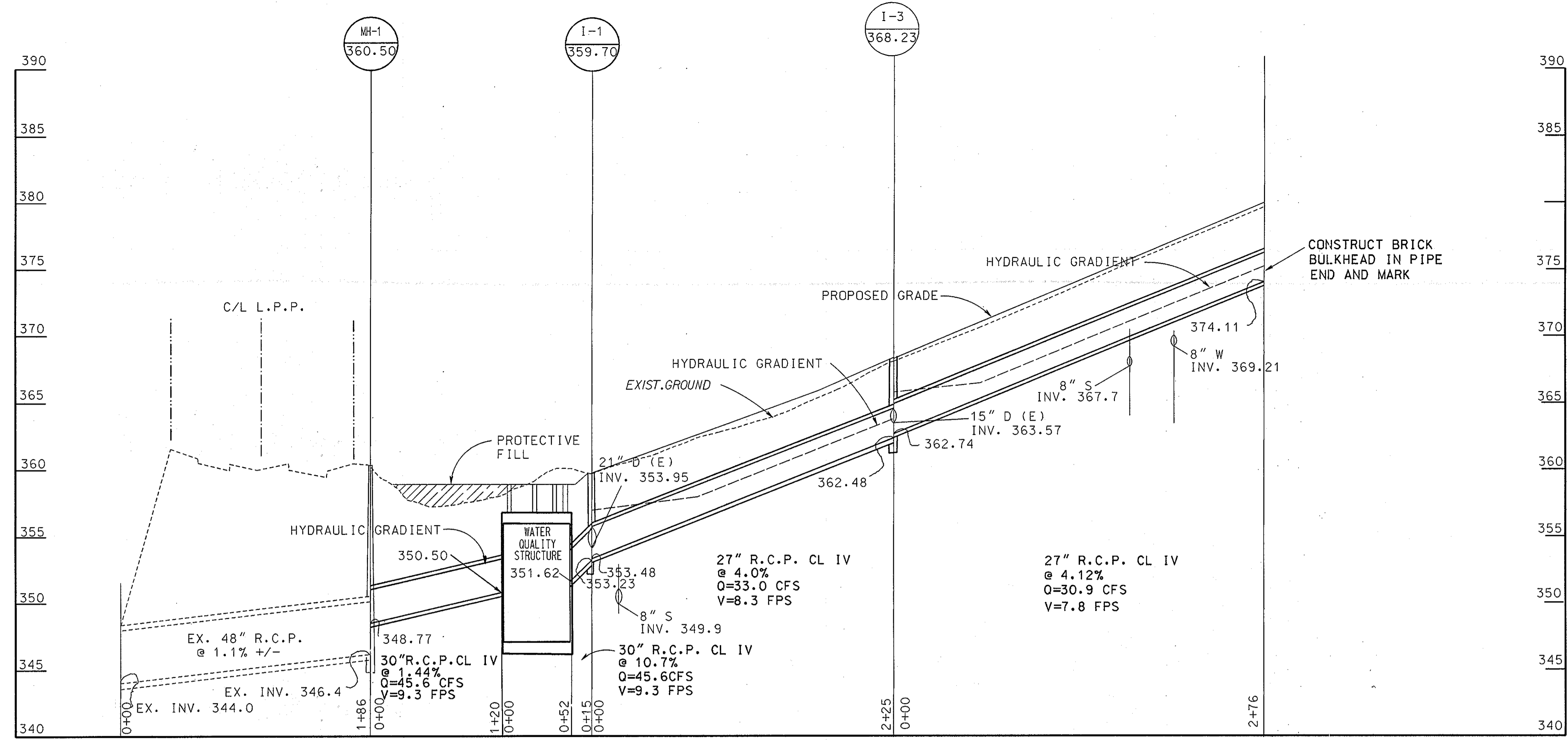
NOTE: HR HANDICAP RAMP SEE DETAILS ON SHT. 5

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

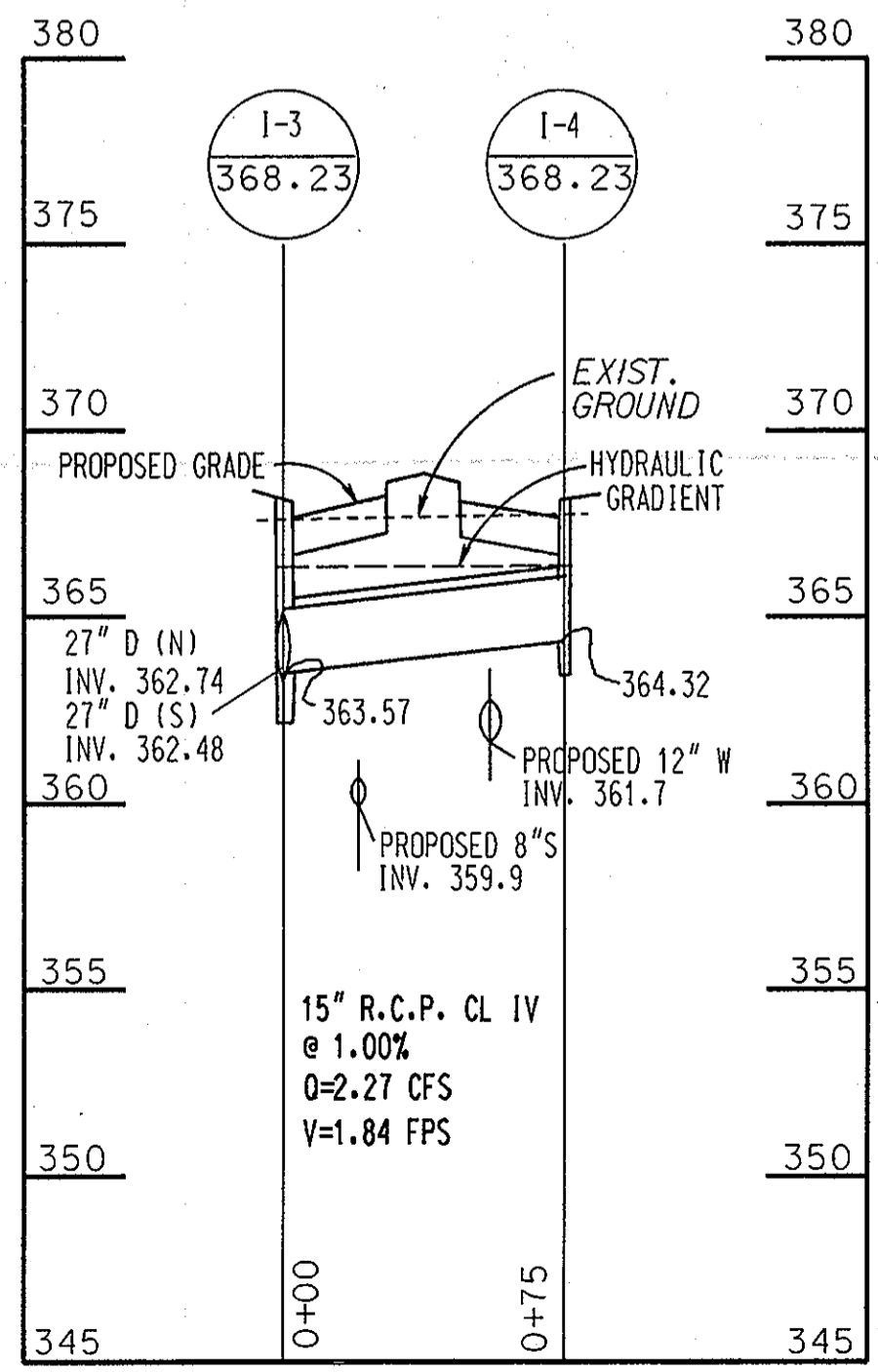
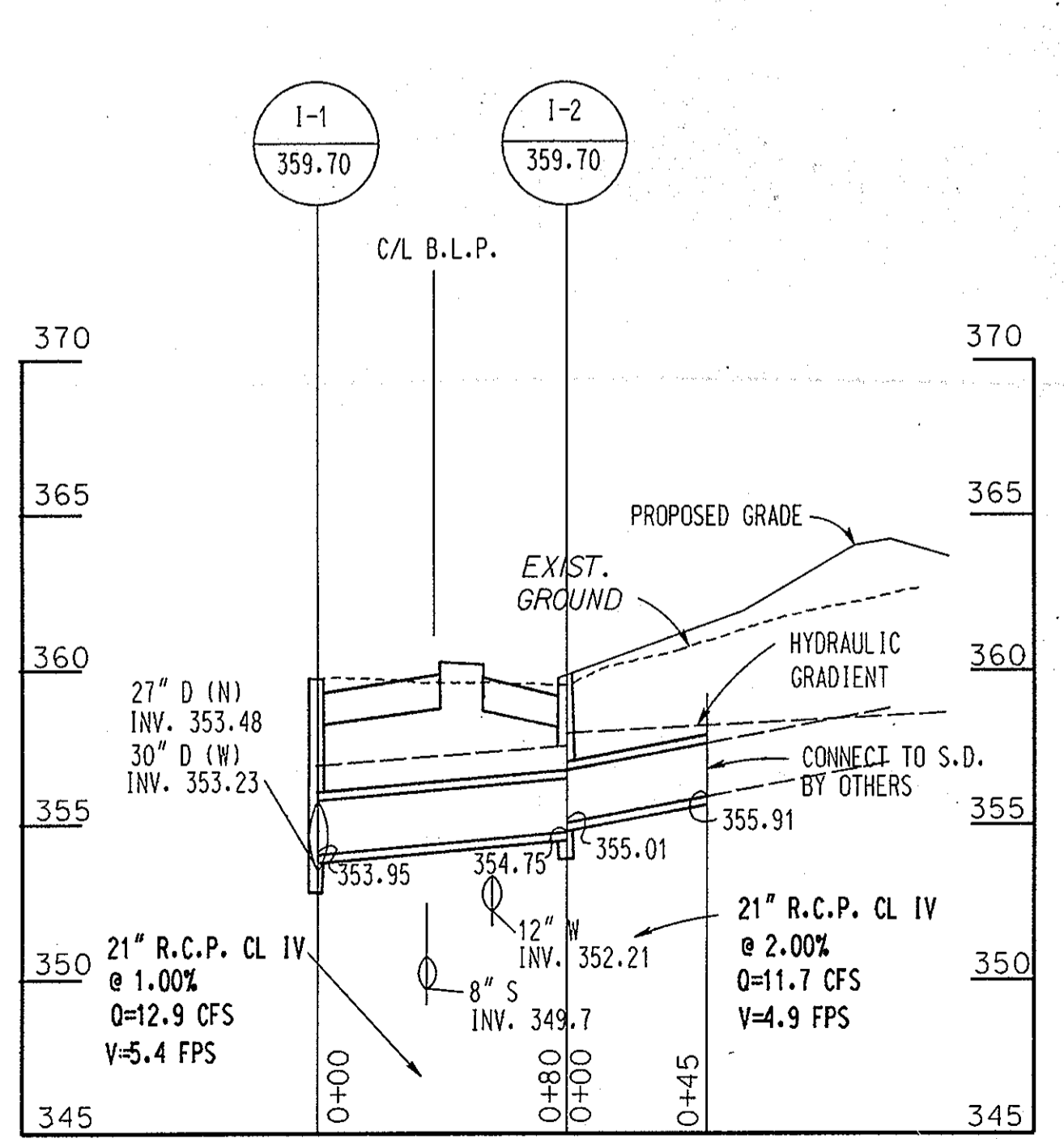


**PROFILE**  
 BROKEN LAND PARKWAY (EXTENDED)  
 SCALE: HOR. 1" = 50', VERT. 1" = 5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*John M. Tennyson* 3/20/91  
 CHIEF, LAND DEVELOPMENT DIVISION MK DATE  
*Dravelle W. Wehner* 3/15/91  
 CHIEF, BUREAU OF HIGHWAYS DATE  
*William E. Rouse* 3-21-91  
 CHIEF, BUREAU OF ENGINEERING DATE  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Mark J. Drayton* 3/21/91  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE  
 JS



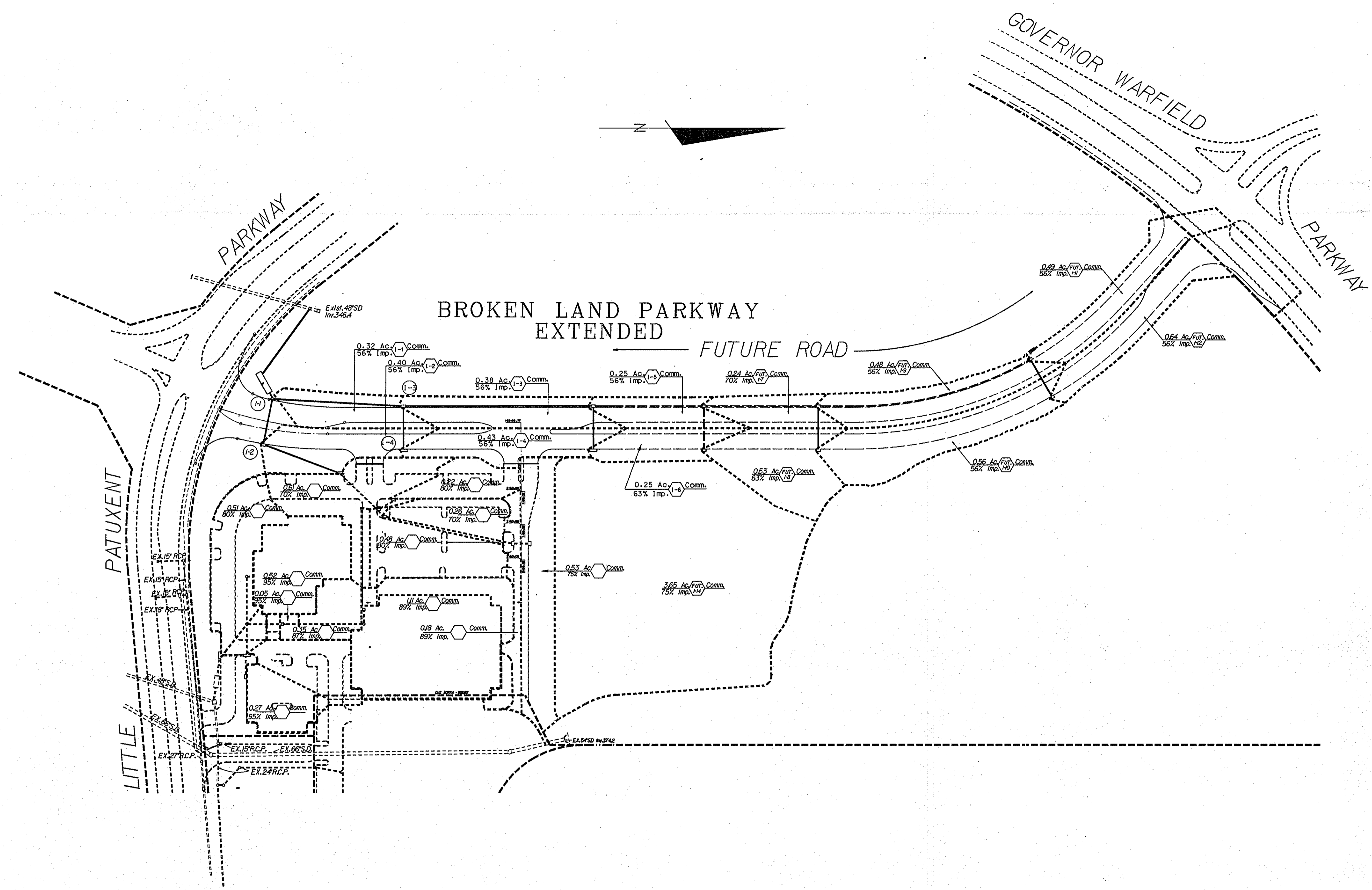
PROFILES  
 SCALE: HOR. 1" = 50'  
 VERT. 1" = 50'



REV. DATE	REV. NO.	REVISION DESCRIPTION
<b>COLUMBIA</b> 5TH ELECTION DISTRICT HOWARD COUNTY MARYLAND		
OWNER AND DEVELOPER THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION		
PROJECT AREA: BROKEN LAND PARKWAY EXTENDED SECTION 2 AREA 6		
PROJECT TITLE: STORM DRAIN PROFILES AND DETAILS		
SCALE: AS SHOWN		DATE: 12-5-90
WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS BALTIMORE, MARYLAND 21218		
<i>Thomas J. Shafer</i> THOMAS J. SHAFER REGISTERED ENGINEER NO. 8457		

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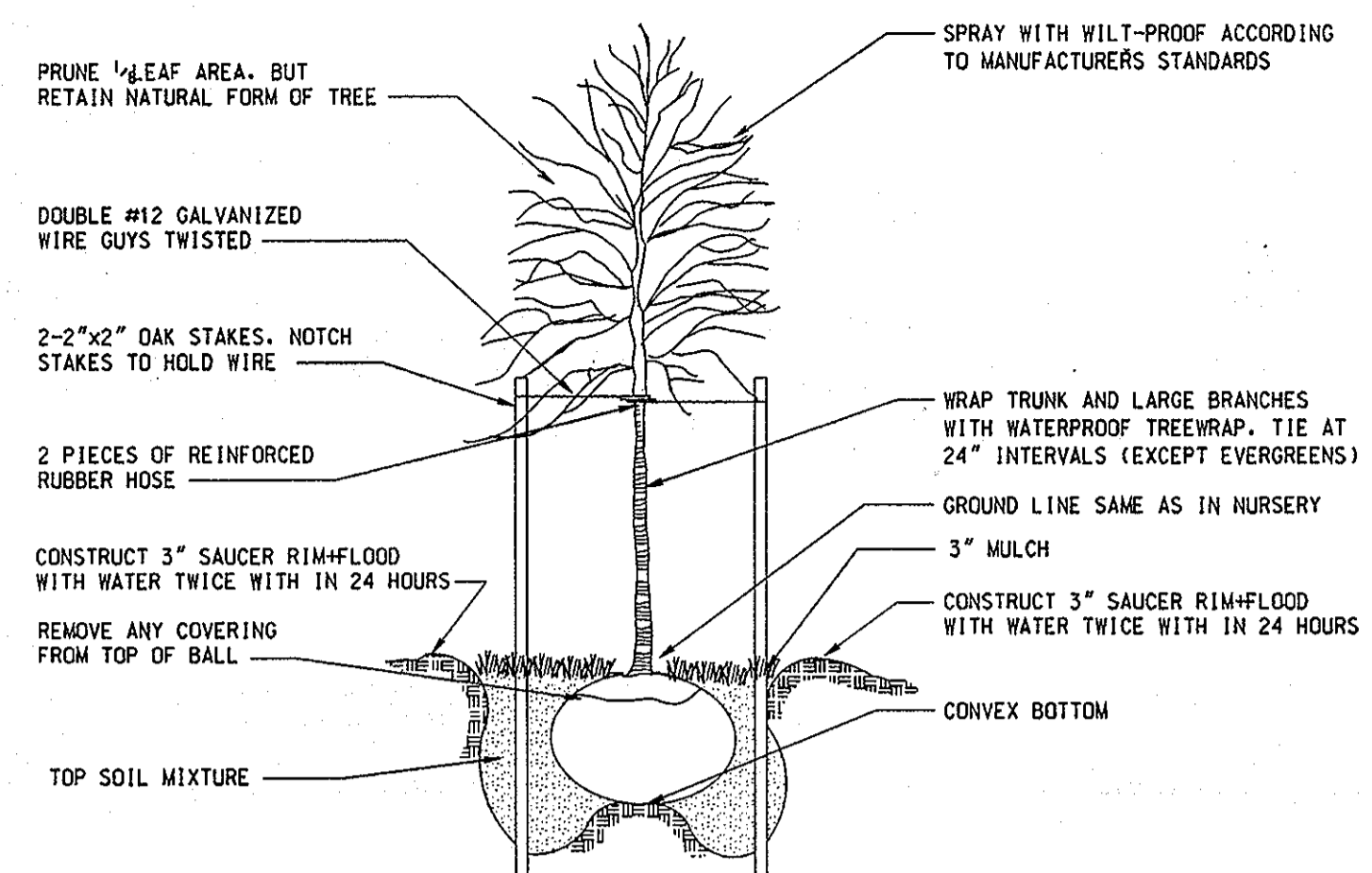
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Ch. M. Torgerson* 3/20/91  
 CHIEF, LAND DEVELOPMENT DIVISION MK DATE  
*Shawille W. Weiland* 3/15/91  
 CHIEF, BUREAU OF HIGHWAYS DATE  
*John J. Ryan* 3-21-91  
 CHIEF, BUREAU OF ENGINEERING DATE  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*John J. Ryan*  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE  
 JS



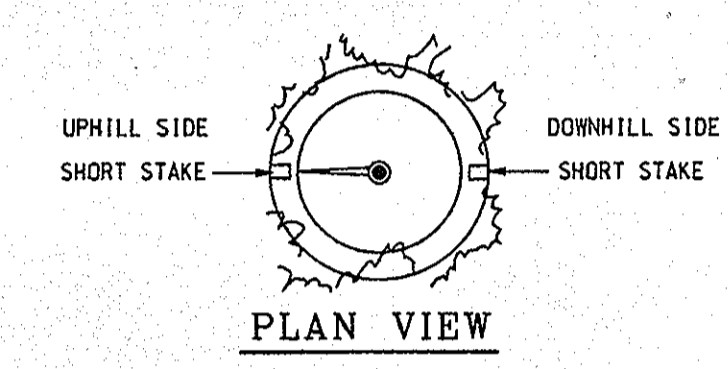
REV. DATE	REV. NO.	REVISION DESCRIPTION
<b>COLUMBIA</b> 5TH ELECTION DISTRICT HOWARD COUNTY MARYLAND		
OWNER AND DEVELOPER THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION		
PROJECT AREA: BROKEN LAND PARKWAY EXTENDED SECTION 2 AREA 6		
PROJECT TITLE: DRAINAGE AREA MAP		
SCALE: 1" = 100'		DATE: 12-5-90
WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS BALTIMORE, MARYLAND 21218		
<i>Thomas J. Shafer</i> THOMAS J. SHAFER REGISTERED ENGINEER NO. 8457		

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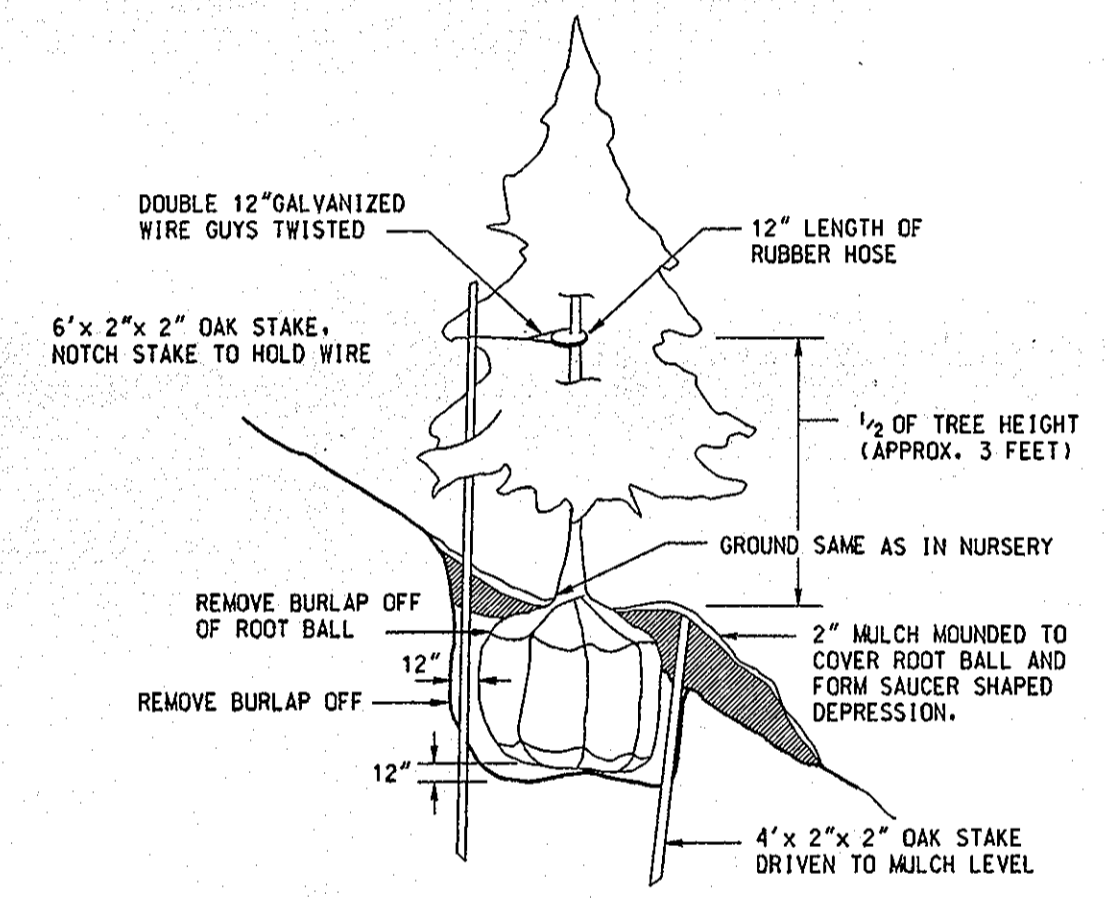
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*John M. Pennington* 3/20/91  
 CHIEF, LAND DEVELOPMENT DIVISION MK DATE  
*William W. Weiland* 3/15/91  
 CHIEF, BUREAU OF HIGHWAYS DATE  
*William S. Ray* 3-21-91  
 CHIEF, BUREAU OF ENGINEERING DATE  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Mark J. Kelly* 3/20/91  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE



**TREE PLANTING DETAIL**  
NO SCALE

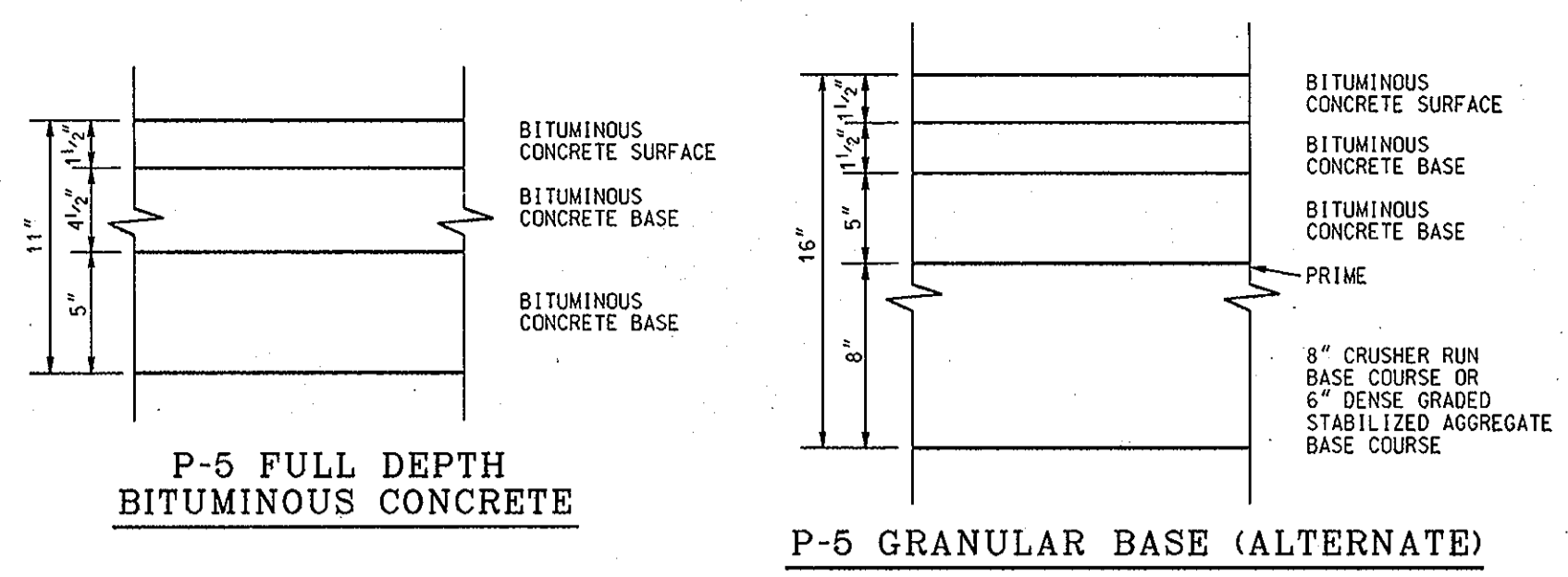


**PLAN VIEW**

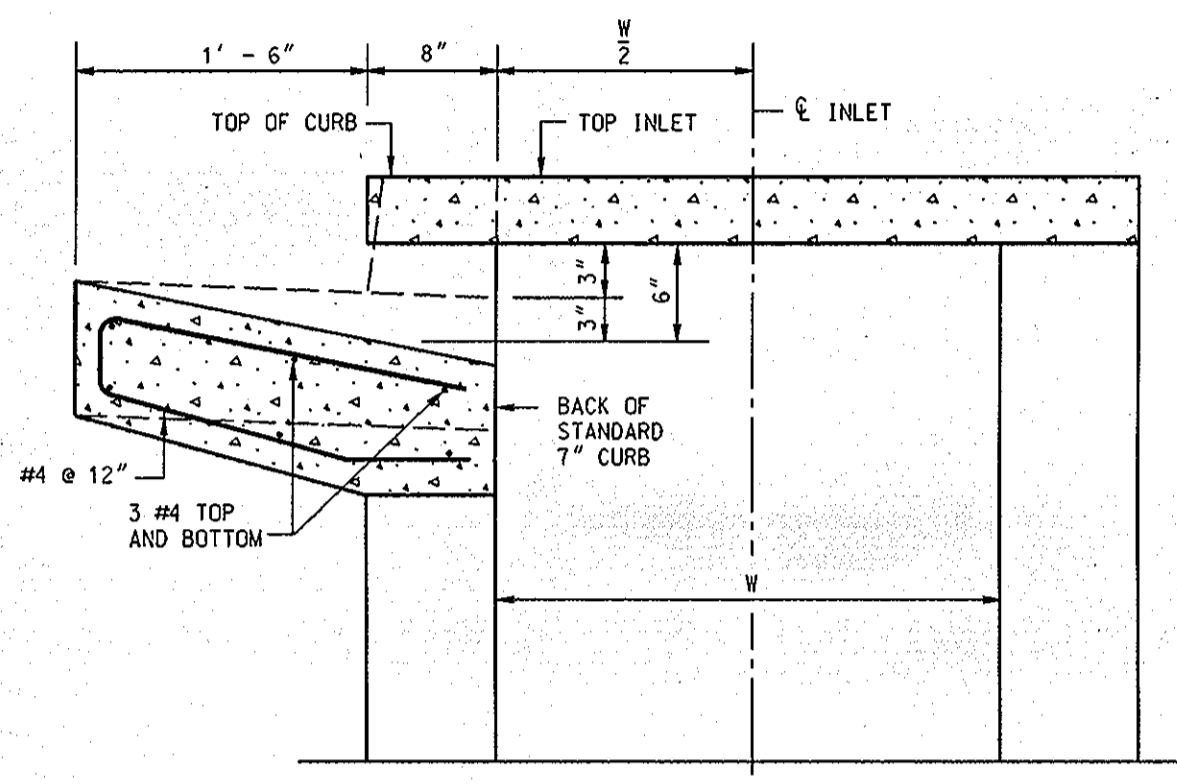


**PLANTING DETAIL FOR STEEP SLOPE**  
NO SCALE

QUANTITY OF TREES	COMMON NAME	BOTANICAL NAME	HEIGHT
23	PIN OAK	QUERCUS PALUSTRIS	10'

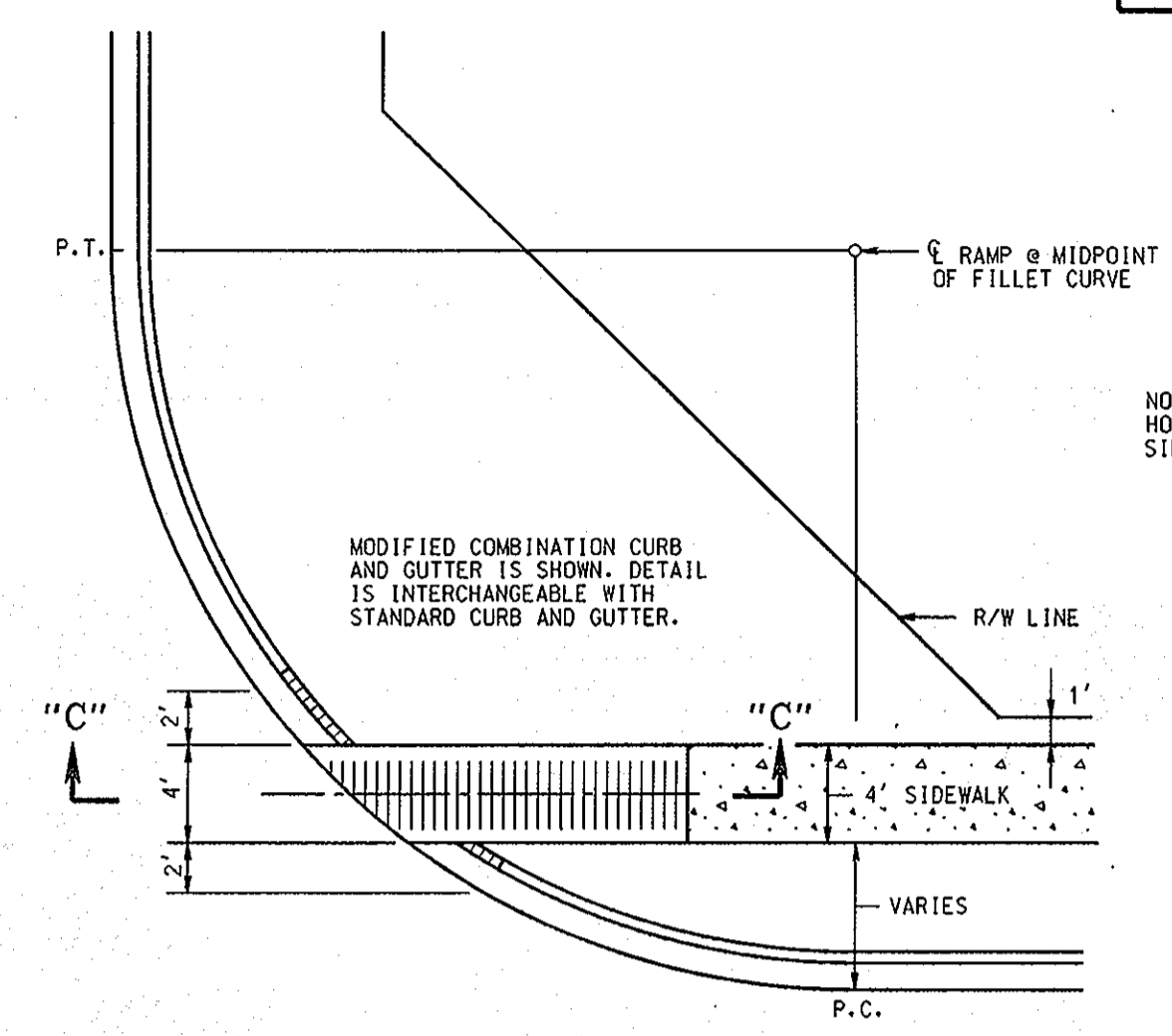


**TYPICAL PAVING SECTION**  
NO SCALE



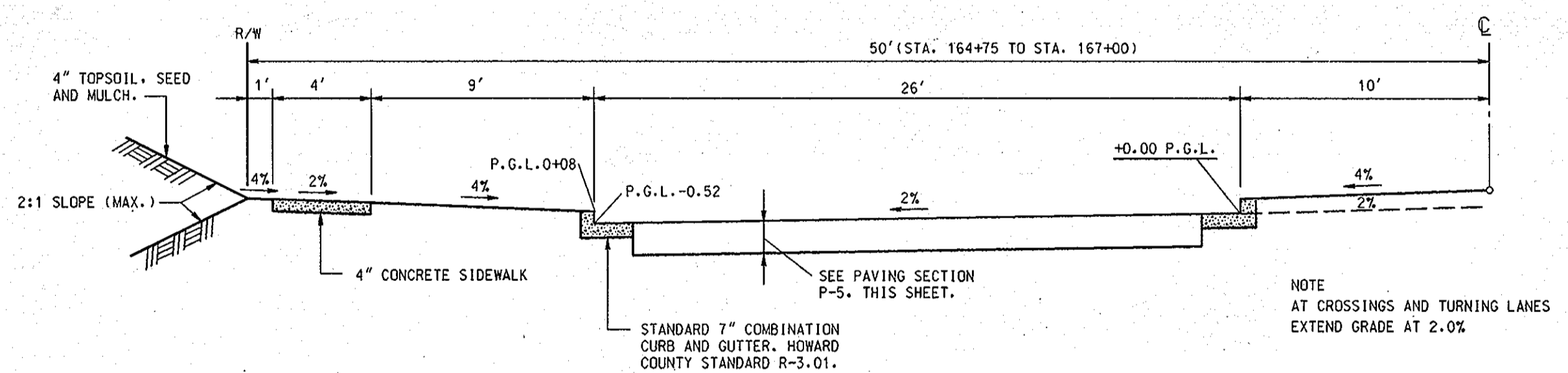
**SECTION \"A\"-\"A\"**

**STANDARD 7\" COMBINATION CURB AND GUTTER**  
NO SCALE

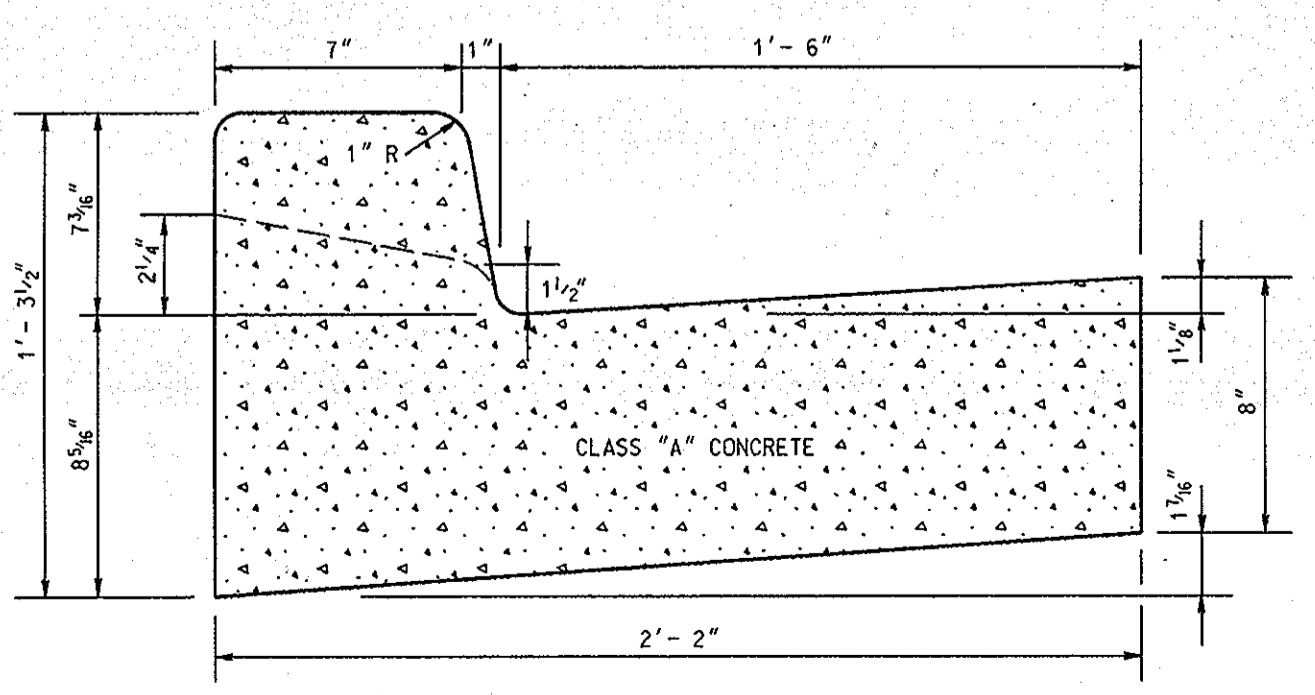


**PLAN**

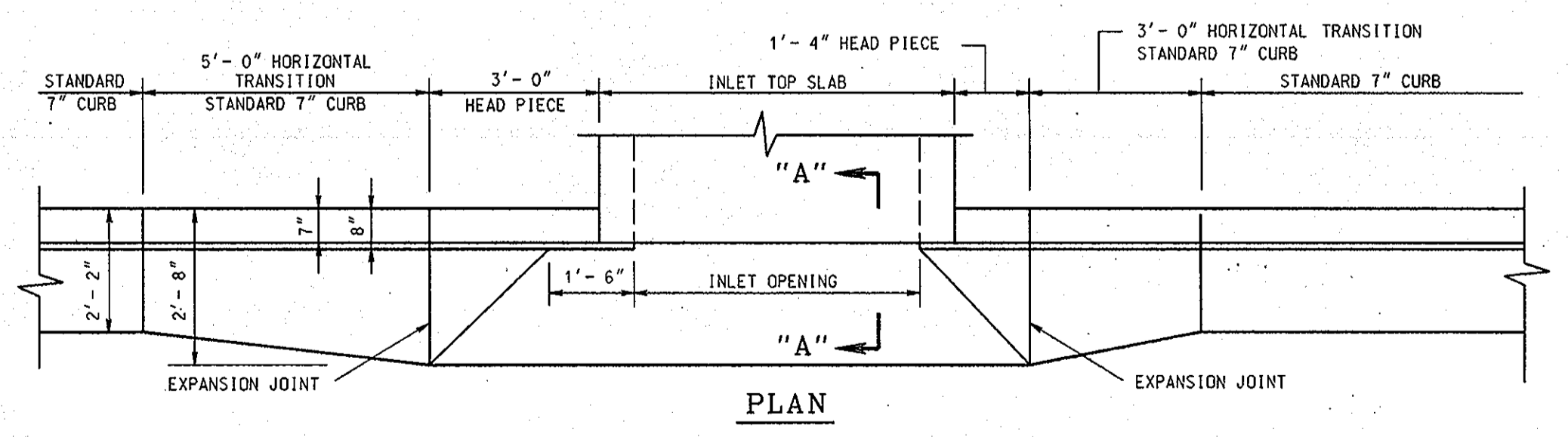
**HANDICAP RAMP DETAIL**  
NO SCALE



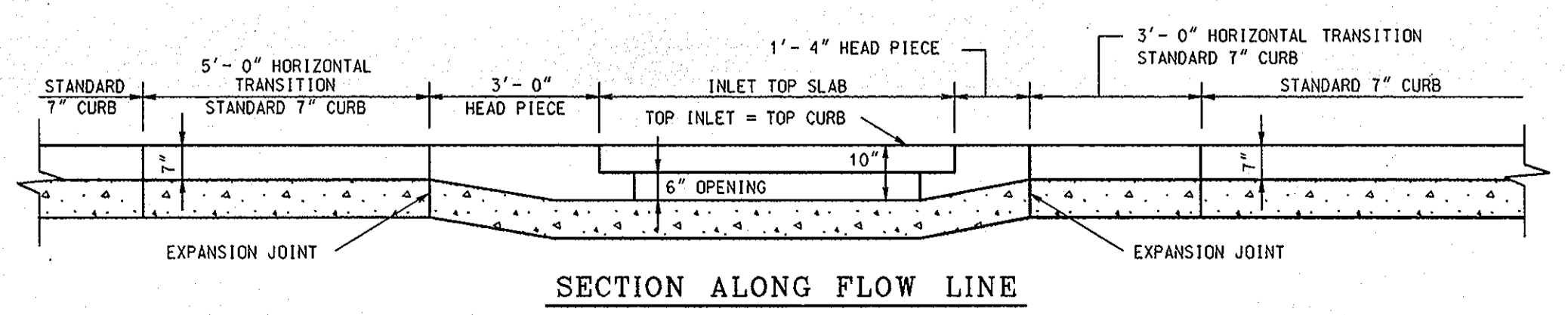
**TYPICAL HALF SECTION (100' R/W) BROKEN LAND PARKWAY**  
NO SCALE



**STANDARD 7\" COMBINATION CURB & GUTTER**  
NO SCALE



**PLAN**



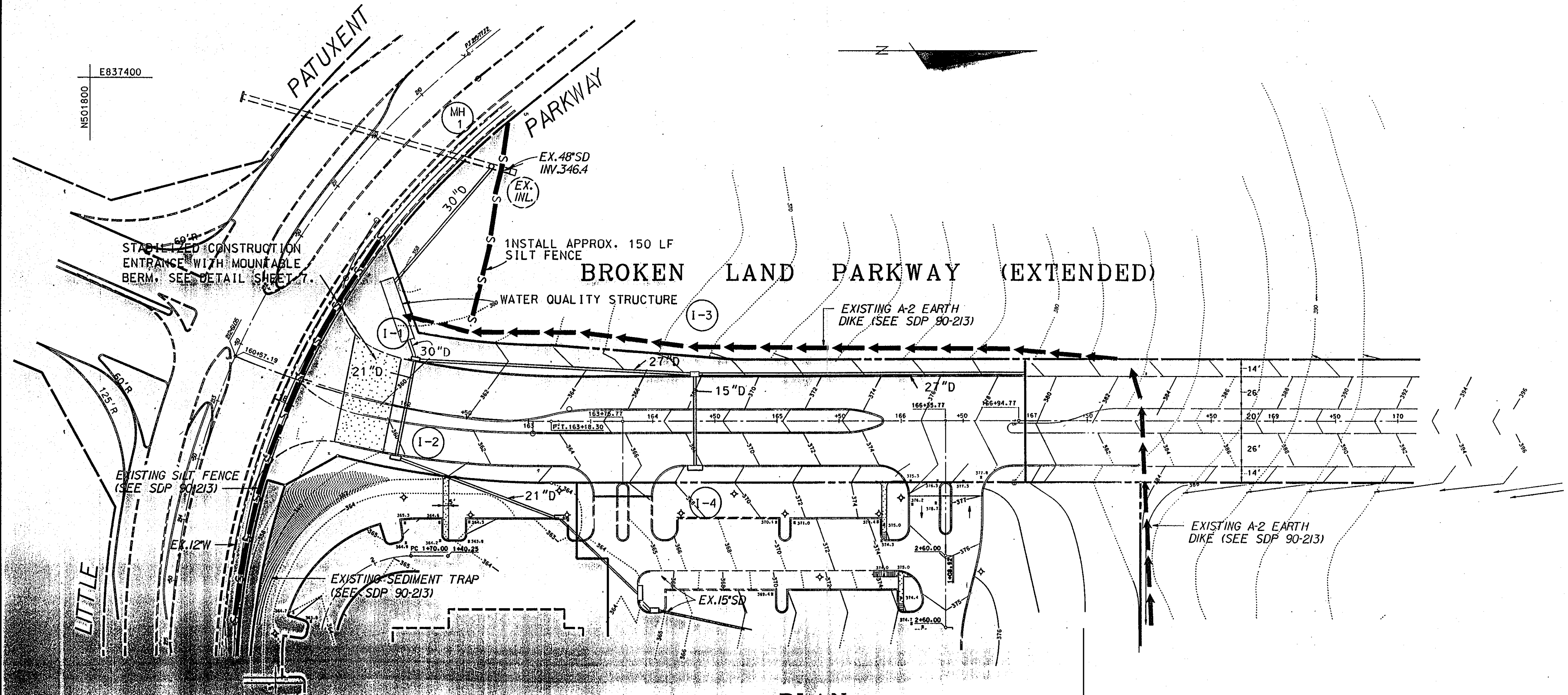
**SECTION ALONG FLOW LINE**

**\"A\" INLETS - STANDARD CURB**  
NO SCALE

REV. DATE	REV. NO.	REVISION DESCRIPTION
<b>COLUMBIA</b> 5TH ELECTION DISTRICT HOWARD COUNTY MARYLAND OWNER AND DEVELOPER THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION PROJECT AREA: BROKEN LAND PARKWAY EXTENDED SECTION 2 AREA 6 PROJECT TITLE: ROAD - STORM DRAIN AND TREE PLANTING DETAILS SCALE: AS SHOWN DATE: 12-5-90 WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS BALTIMORE, MARYLAND 21218 <i>Thomas J. Shafer</i> THOMAS J. SHAFER REGISTERED ENGINEER NO. 8457		



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*John M. Jorgensen* 3/20/91  
 CHIEF, LAND DEVELOPMENT DIVISION MK DATE  
*William W. Welland* 3/15/91  
 CHIEF, BUREAU OF HIGHWAYS DATE  
*James E. ...* 3-21-91  
 CHIEF, BUREAU OF ENGINEERING DATE  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Paul V. ...* 3/20/91  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE



PLAN  
 SCALE: 1" = 50'

SEDIMENT CONTROL NOTES

- 1) A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION. (1992-2457)
- 2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- 3) FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: (1) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES GREATER THAN 3:1; (2) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- 4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- 5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 7) SITE ANALYSIS:  
 TOTAL AREA OF SITE  
 AREA DISTURBED  
 AREA TO BE ROOFED OR PAVED  
 AREA TO BE VEGETATIVELY STABILIZED } SEE SDP 90-213  
 TOTAL CUT  
 TOTAL FILL  
 OFFSITE WASTE/BORROW AREA LOCATION
- 8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- 9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY HOWARD COUNTY DPW SEDIMENT CONTROL INSPECTOR.
- 10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

NOTE: EXISTING SEDIMENT CONTROL MEASURES INSTALLED UNDER SDP 90-213 SHALL BE MAINTAINED AND UTILIZED AS PART OF THE SEDIMENT CONTROL PLAN FOR B.L.P.. EXISTING SEDIMENT CONTROL MEASURES INCLUDE SEDIMENT BASIN ALONG L.P.P., EARTH DIKE ALONG WEST SIDE OF B.L.P. R/W.

CONSTRUCTION SEQUENCE

1. OBTAIN SEDIMENT CONTROL PERMIT.
2. CLEAR, GRUB AND STRIP AREA OF STABILIZED CONSTRUCTION ENTRANCE AT L.P.P..
3. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE WITH MOUNTABLE BERM.
4. INSPECT AND MAINTAIN IF NECESSARY ALL EXISTING SEDIMENT CONTROL MEASURES INSTALLED UNDER SDP 90-213 THAT WILL BE UTILIZED FOR THE DURATION OF B.L.P. ROAD CONSTRUCTION.
5. PROVIDE INLET PROTECTION AS SHOWN ON SHEET 7 AS INLET CONSTRUCTION IS COMPLETE.
6. UPON COMPLETION OF CONSTRUCTION STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES ON SHEET 7.
7. ALL SEDIMENT CONTROL DEVICES SHALL REMAIN IN SERVICE UNTIL REMOVAL IS APPROVED BY S.C.S. INSPECTOR.

REV. DATE	REV. NO.	REVISION DESCRIPTION
<b>COLUMBIA</b> 5TH ELECTION DISTRICT HOWARD COUNTY MARYLAND OWNER AND DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION PROJECT AREA: BROKEN LAND PARKWAY EXTENDED SECTION 2 AREA 6 PROJECT TITLE: SEDIMENT CONTROL PLAN SCALE: AS SHOWN DATE: 12-5-90 WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS BALTIMORE, MARYLAND 21218 <i>Thomas J. Shafer</i> THOMAS J. SHAFER REGISTERED ENGINEER NO. 8457		

REVIEWED FOR HOWARD S.C.D. AND MEETS THE TECHNICAL REQUIREMENTS.  
*John R. ...* 1/10/91  
 SOIL CONSERVATION SERVICE  
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 HOWARD S.C.D. DATE

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 ENVIRONMENT 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."  
*John R. ...* 1/10/91  
 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."  
*Thomas J. Shafer* 10-1-90  
 THOMAS J. SHAFER P.E. NO. 8457 DATE



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*John M. Tamm* 3/22/91  
 CHIEF, LAND DEVELOPMENT DIVISION MK  
*Manuelle W. Weland* 3/15/91  
 CHIEF, BUREAU OF HIGHWAYS  
*Gregory R. Alar* 3-21-91  
 CHIEF, BUREAU OF ENGINEERING  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*John J. Shafer* 3/24/91  
 CHIEF, DIVISION OF COMMUNITY PLANNING  
 AND LAND DEVELOPMENT DATE 85

**PERMANENT SEEDING**

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

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING. IF NOT PREVIOUSLY LOOSENED.

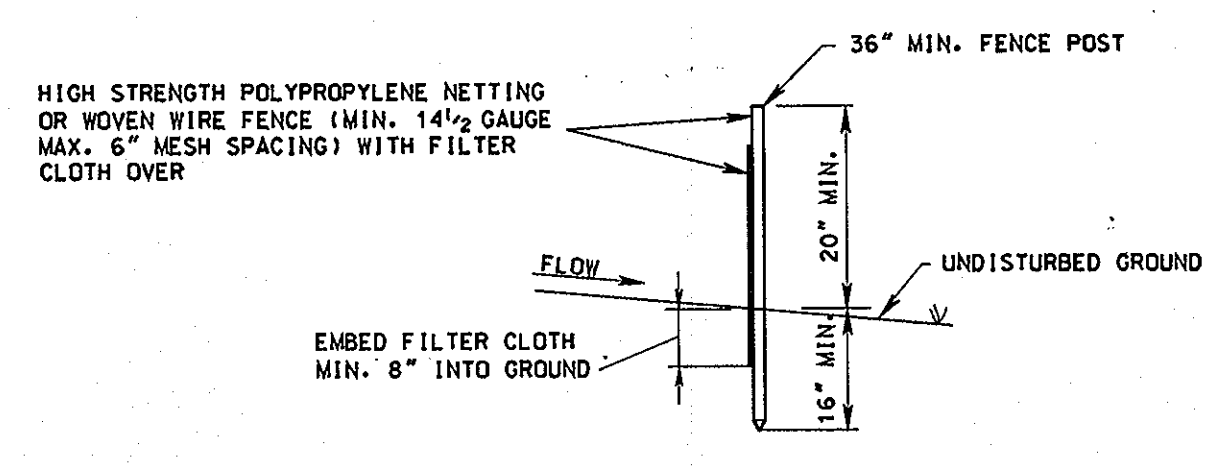
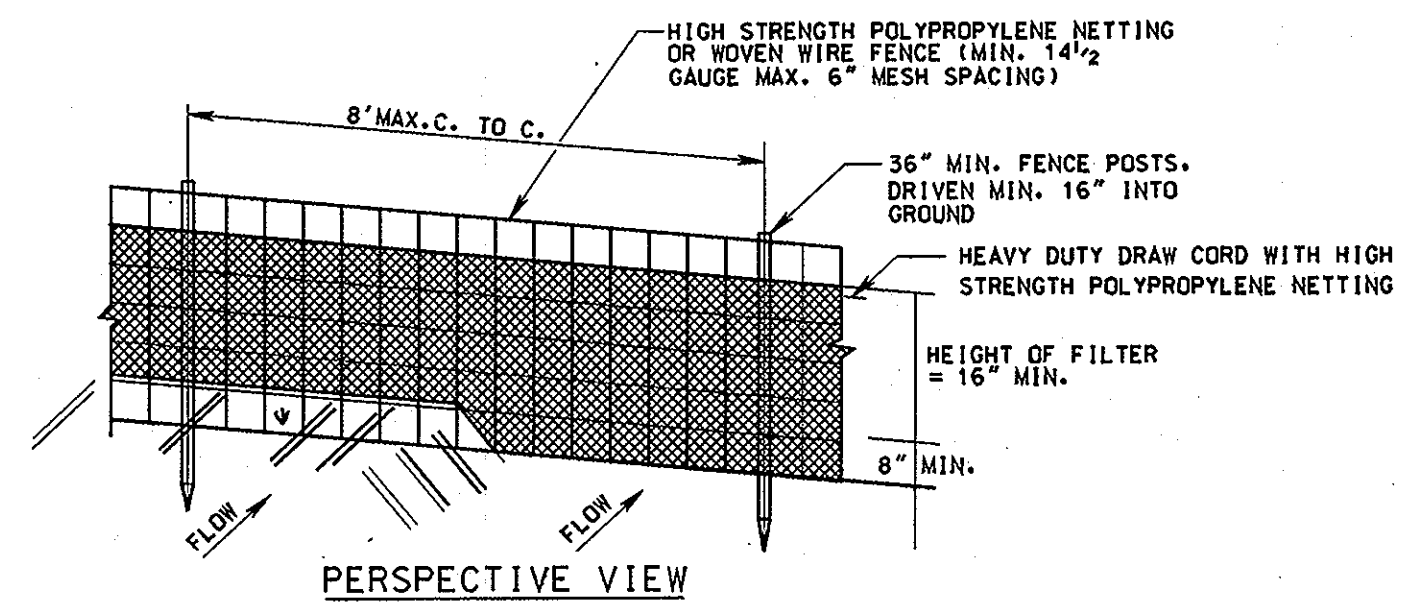
SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- 1) 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 UREAFORM FERTILIZER (9 LBS/1000 SQ FT).
- 2) 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 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.

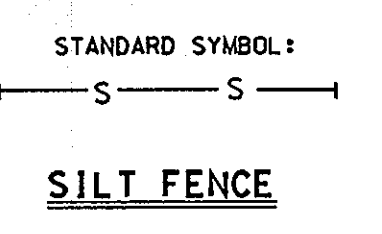
MULCHING - APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHTER,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

MAINTENANCE - INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.



**CONSTRUCTION SPECIFICATIONS**

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



**TEMPORARY SEEDING**

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

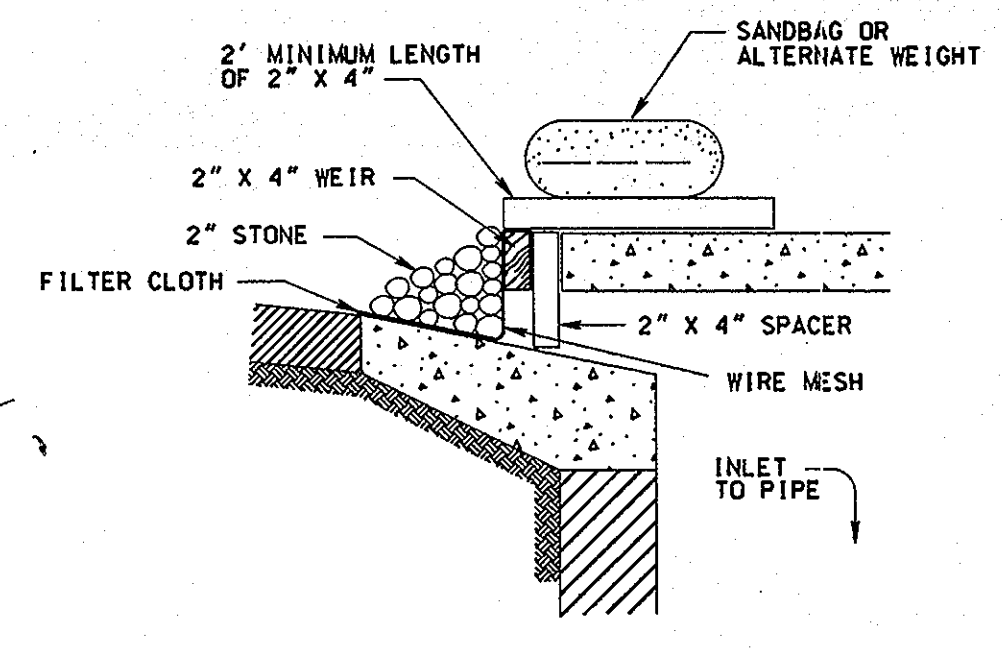
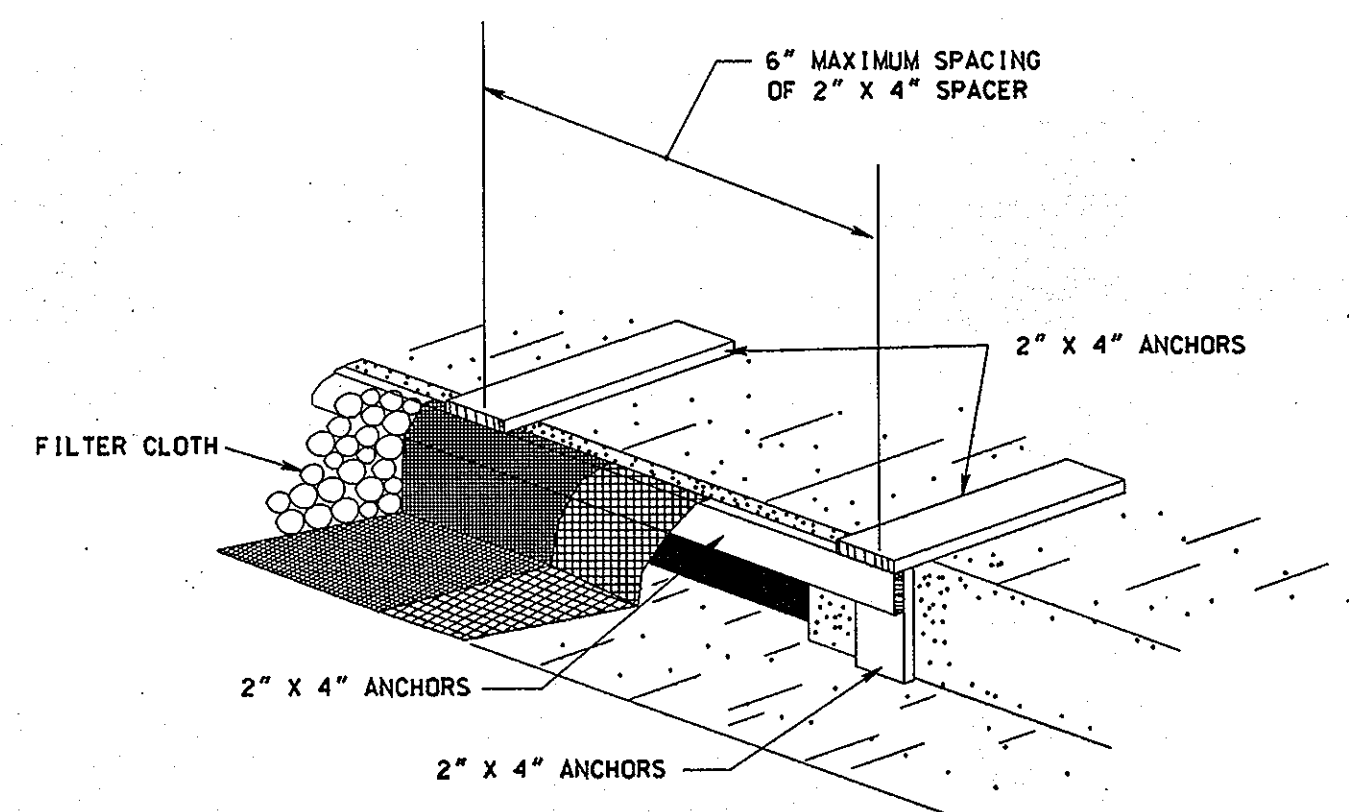
SEEDBED PREPARATION: LOOSEN UPPER THREE (3) INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING. IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER. (14LBS/1000 SQ FT) AND ONE TON PER ACRE OR 46LBS/1000 SQ FT OF DOLOMITIC LIMESTONE.

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 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 HIGHTER, 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 TEMPORARY SEEDING SPECIFICATIONS NOT COVERED.

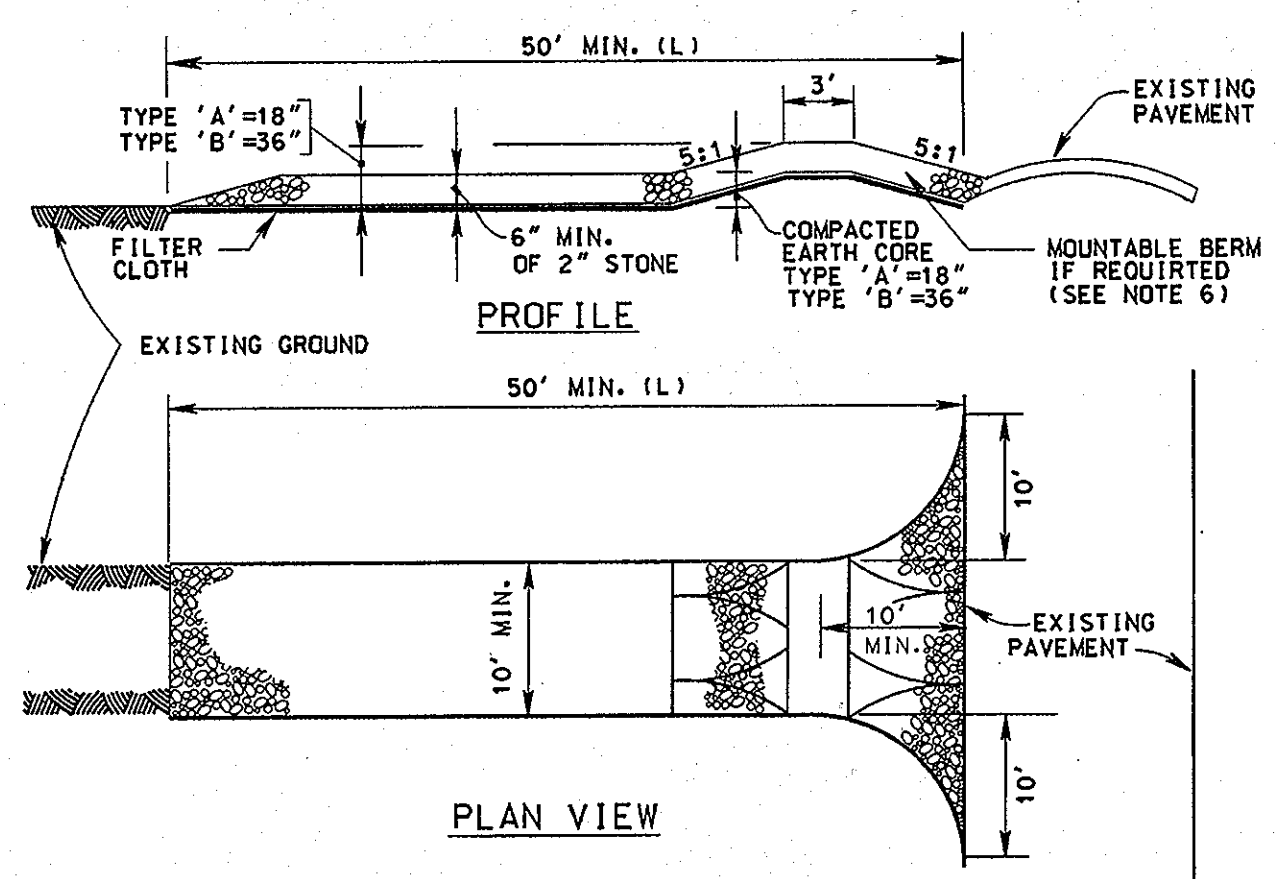


**PERSPECTIVE VIEW**

**CURB INLET PROTECTION**

1. ATTACH A CONTINUOUS PIECE OF WIRE MESH (30" MIN. WIDTH BY THROAT LENGTH PLUS 4") TO THE 2" X 4" WEIR (MEASURING THROAT LENGTH PLUS 2") AS SHOWN ON THE STANDARD DRAWING.
2. 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" WEIR.
3. SECURELY NAIL THE 2" X 4" WEIR TO 9" LONG VERTICAL SPACERS TO BE LOCATED BETWEEN THE WEIR AND INLET FACE (MAX. 6" APART).
4. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL (MINIMUM 2" LENGTHS OF 2" X 4" TO THE TOP OF THE WEIR AT SPACER LOCATIONS. THESE 2" X 4" ANCHORS SHALL EXTEND ACROSS THE INLET TOP AND BE HELD IN PLACE BY SANDBAGS OR ALTERNATE WEIGHT.
5. THE ASSEMBLY SHALL BE PLACED SO THAT THE END SPACERS ARE A MINIMUM 1" BEYOND BOTH ENDS OF THE THROAT OPENING.
6. 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.
7. THIS TYPE OF PROTECTION MUST BE INSPECTED FREQUENTLY AND THE FILTER CLOTH AND STONE REPLACED WHEN CLOGGED WITH SEDIMENT.
8. ASSURE THAT STORM FLOW DOES NOT BYPASS INLET BY INSTALLING TEMPORARY EARTH OR ASPHALT DIKES DIRECTING FLOW INTO INLET.

**CURB INLET PROTECTION**



**CONSTRUCTION SPECIFICATIONS**

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. 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.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING - WHEELS 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 A APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.



**STABILIZED CONSTRUCTION ENTRANCE**

REVIEWED FOR HOWARD S.C.D. AND MEETS THE TECHNICAL REQUIREMENTS.  
*John M. Tamm* 11/10/91  
 S.S. SOIL CONSERVATION SERVICE

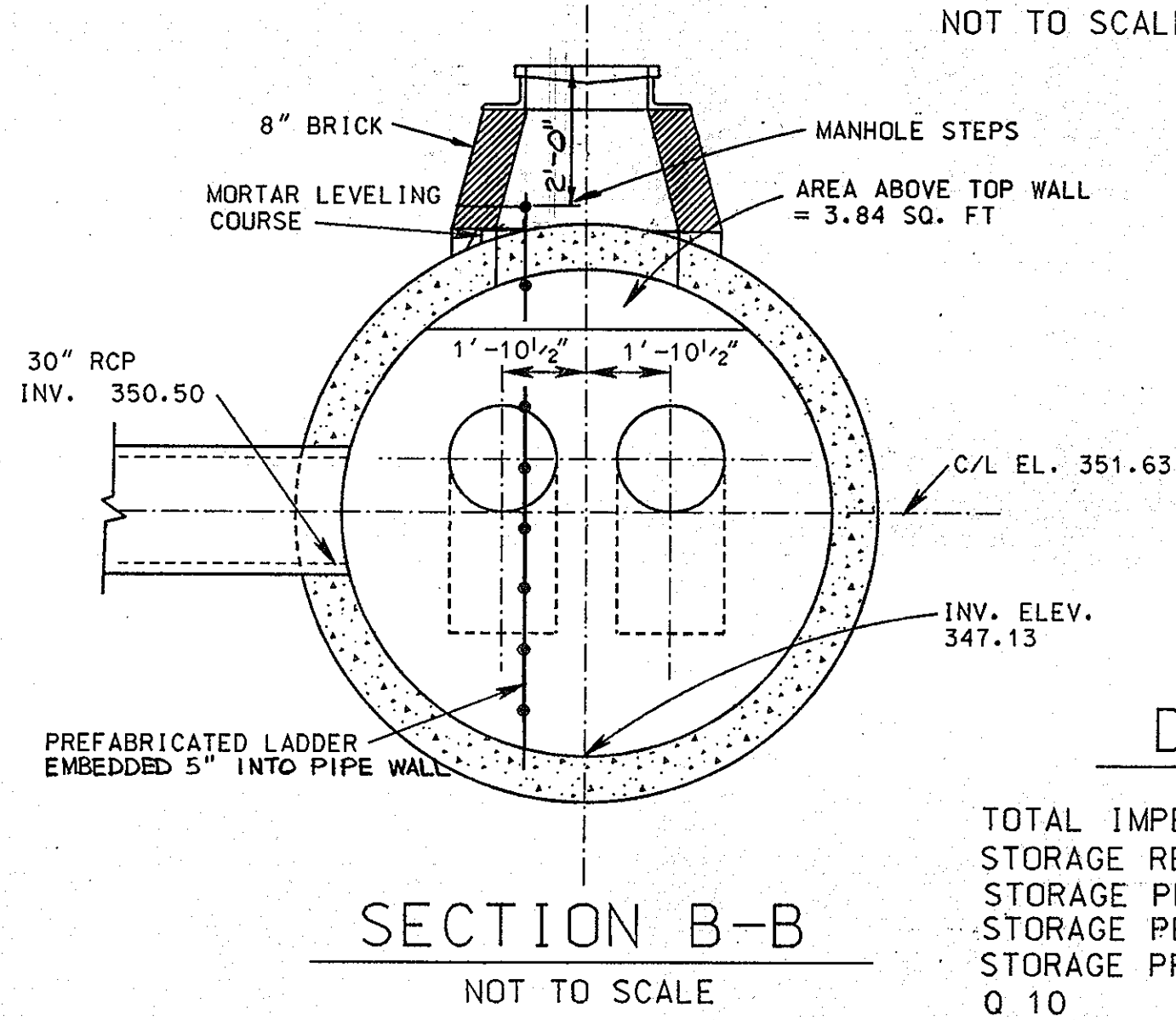
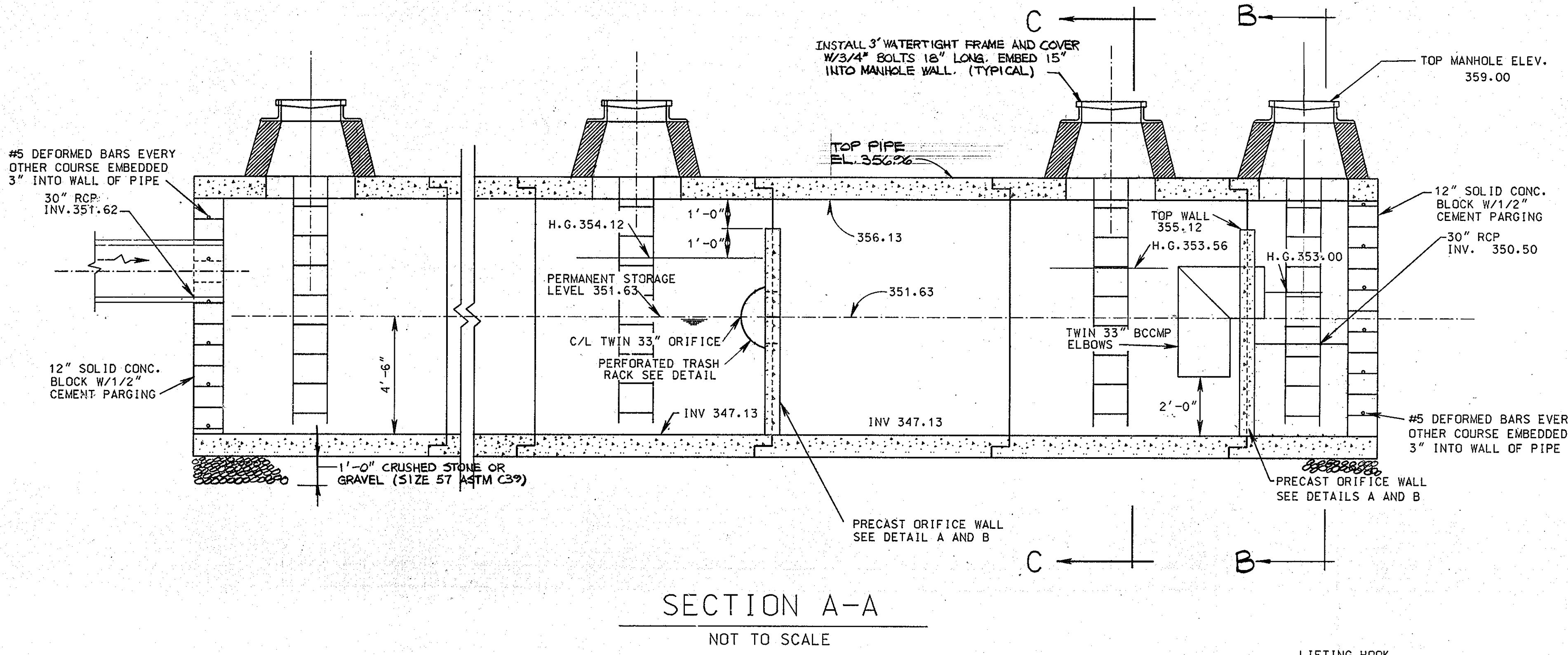
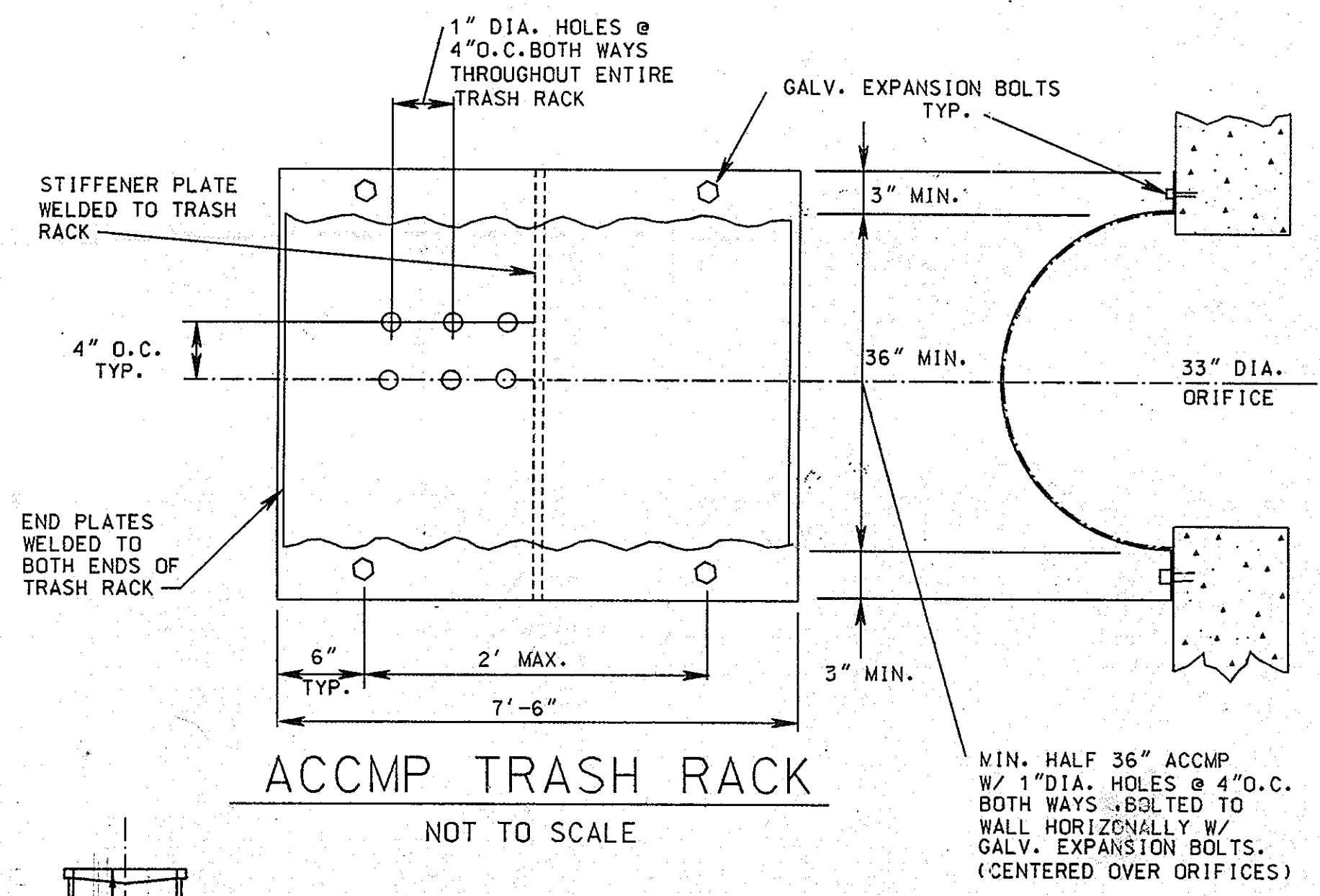
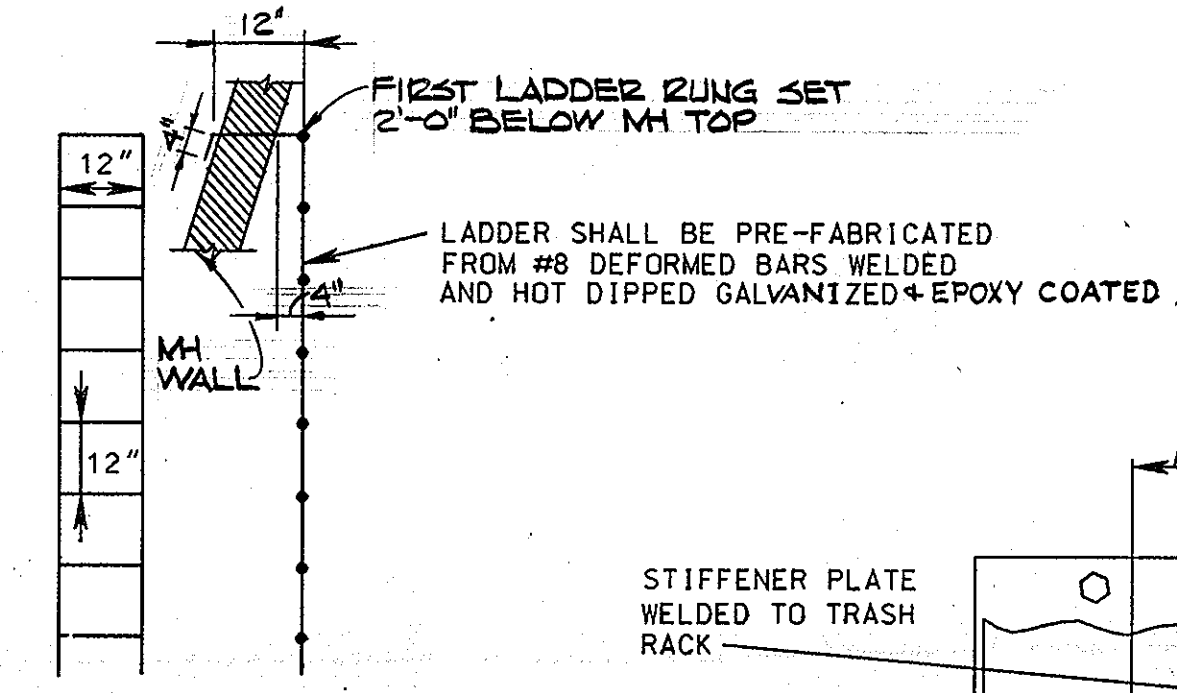
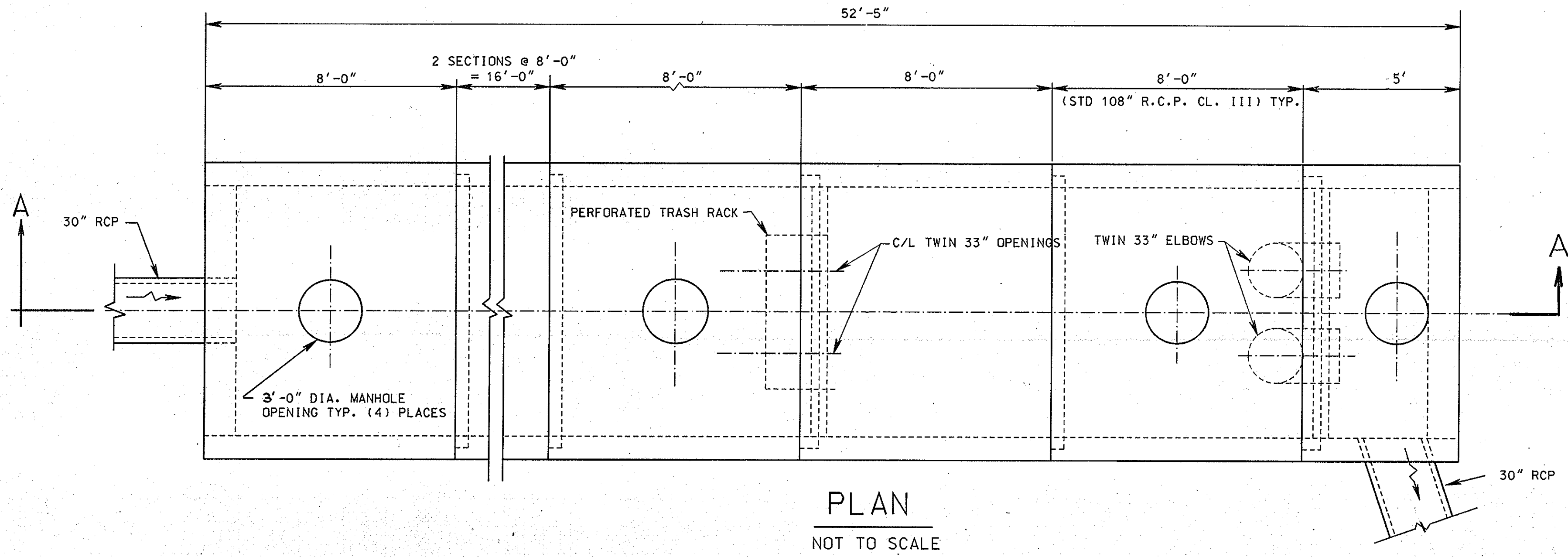
BY THE DEVELOPER:  
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."  
*Gregory R. Alar* 10/2/90  
 GREGORY R. ALAR 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."  
*Thomas J. Shafer* 10-1-90  
 THOMAS J. SHAFER P.E. NO.8457 DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*John M. Tamm* 11/10/91  
 HOWARD S.C.D. DATE

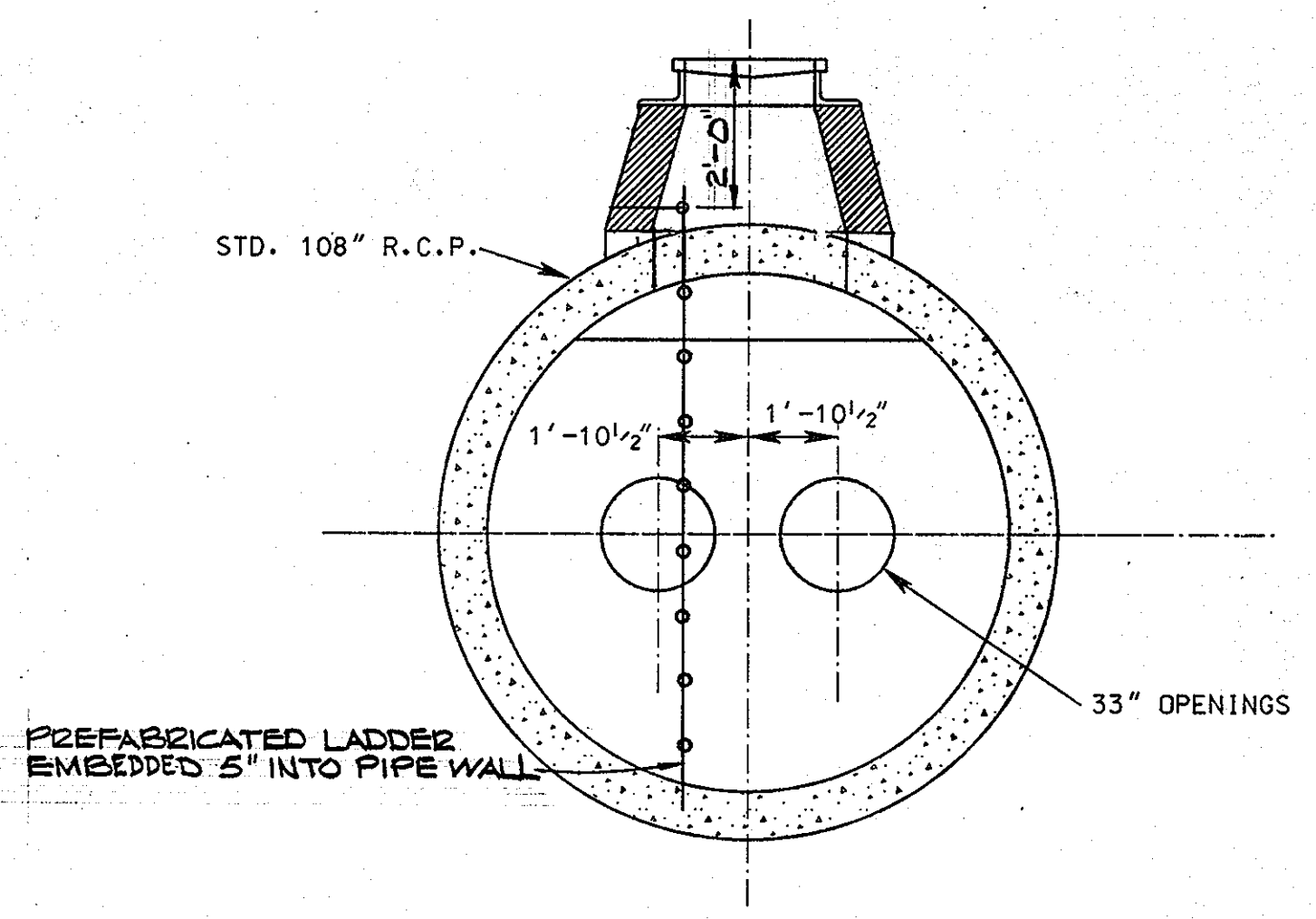
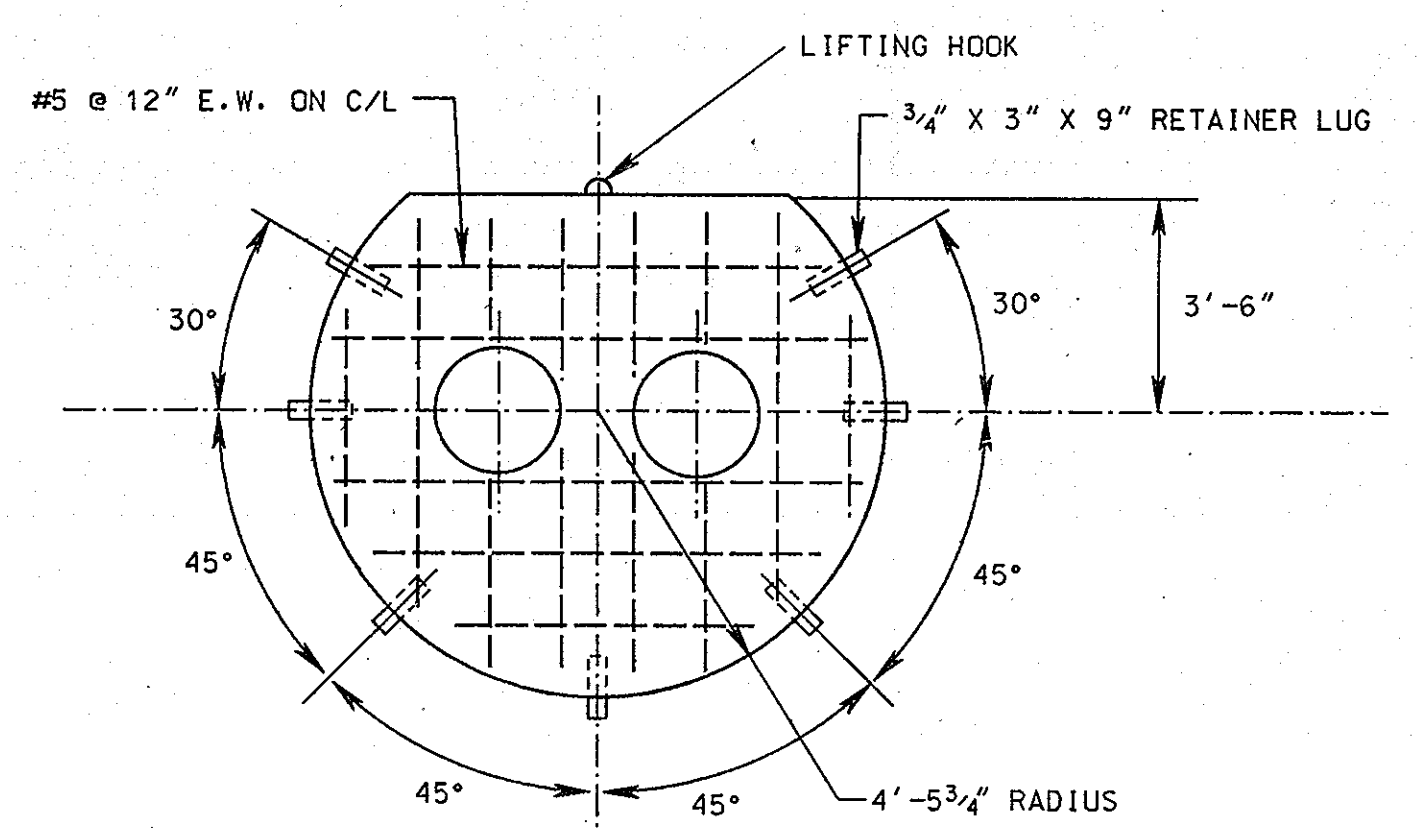
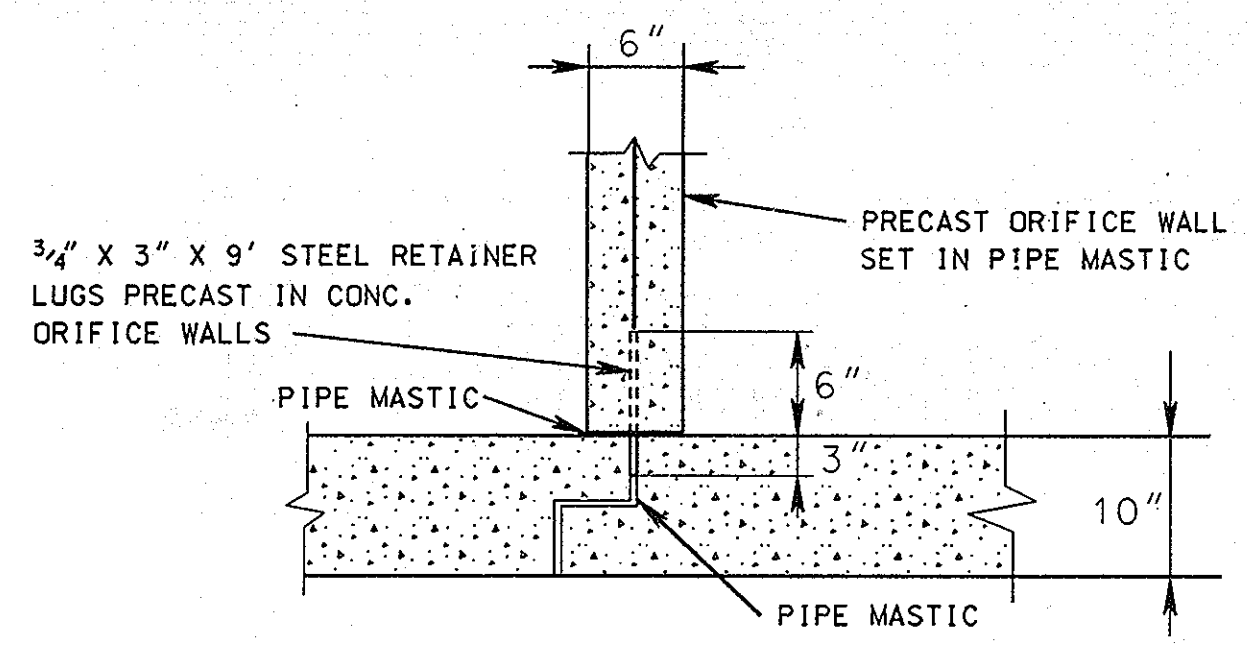
REV. DATE	REV. NO.	REVISION DESCRIPTION
<b>COLUMBIA</b> 5TH ELECTION DISTRICT HOWARD COUNTY MARYLAND		
OWNER AND DEVELOPER THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION		
PROJECT AREA: BROKEN LAND PARKWAY EXTENDED SECTION 2 AREA 6		
PROJECT TITLE: SEDIMENT CONTROL DETAILS		
SCALE: AS SHOWN	DATE: 12-5-90	
WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS BALTIMORE, MARYLAND 21218		
<i>Thomas J. Shafer</i>		
THOMAS J. SHAFER REGISTERED ENGINEER NO. 8457		

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Alan M. Tamm* 3/20/91  
 CHIEF, LAND DEVELOPMENT DIVISION  
*Annelle W. Weiland* 3/15/91  
 CHIEF, BUREAU OF HIGHWAYS  
*M. S. ...* 2-21-91  
 CHIEF, BUREAU OF ENGINEERING  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Thomas J. Shafer* 3/20/91  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT



**DESIGN DATA**

TOTAL IMPERVIOUS AREA = 7.39 ACRES  
 STORAGE REQUIRED 7.39AC X 200 C.F. = 1478 C.F.  
 STORAGE PROVIDED 1475 C.F.  
 STORAGE PROVIDED CHAMBER 1 = 979 C.F.  
 STORAGE PROVIDED CHAMBER 2 = 496 C.F.  
 Q 10 42.3 C.F.S.



REV. DATE	REV. NO.	REVISION DESCRIPTION
<b>COLUMBIA</b> 5TH ELECTION DISTRICT HOWARD COUNTY MARYLAND OWNER AND DEVELOPER THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION PROJECT AREA: BROKEN LAND PARKWAY EXTENDED SECTION 2 AREA 6 PROJECT TITLE: WATER QUALITY STRUCTURE AND DETAILS SCALE: AS SHOWN DATE: 12-5-90 WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS BALTIMORE, MARYLAND 21218 THOMAS J. SHAFER REGISTERED ENGINEER NO. 8457		