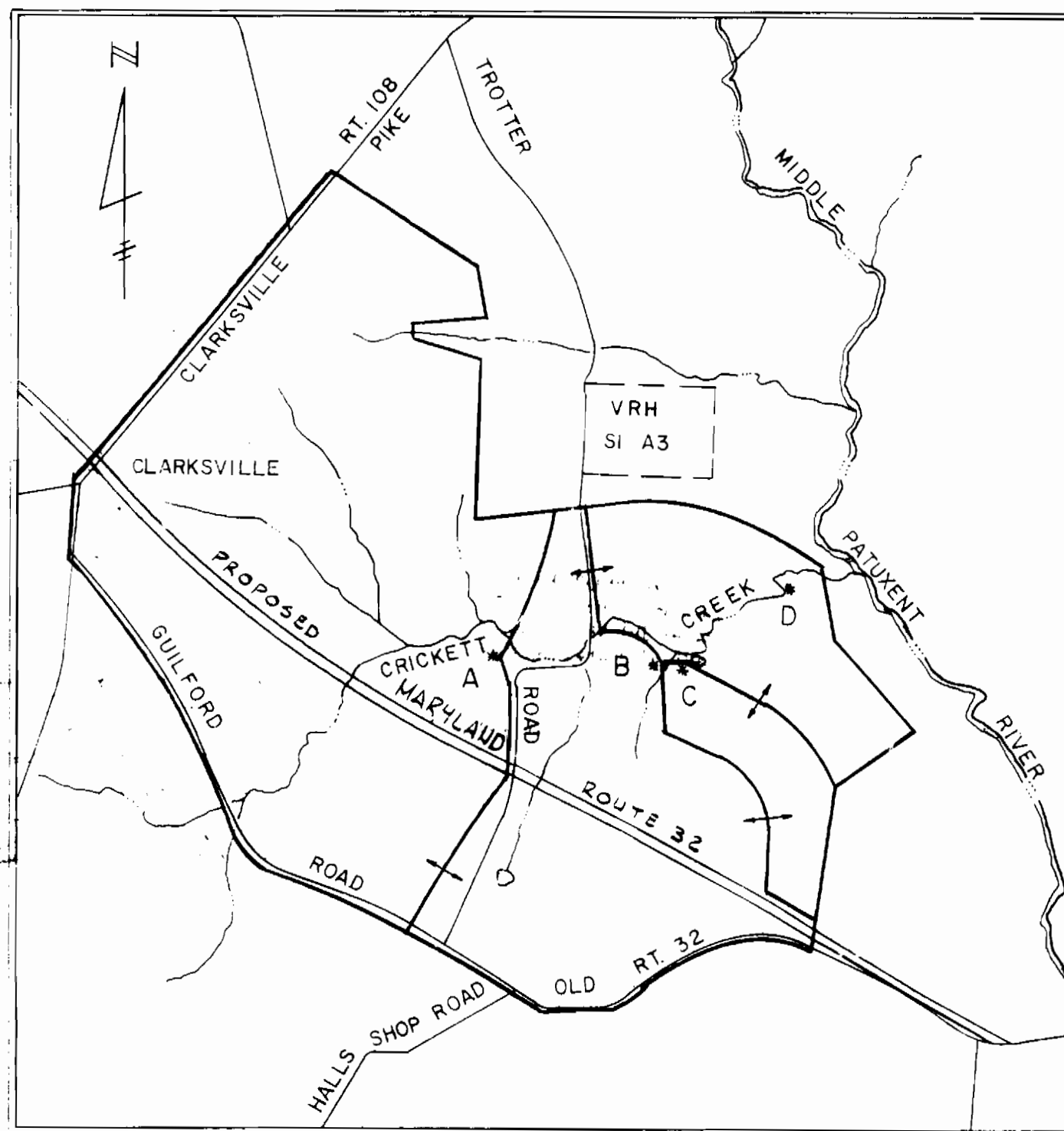


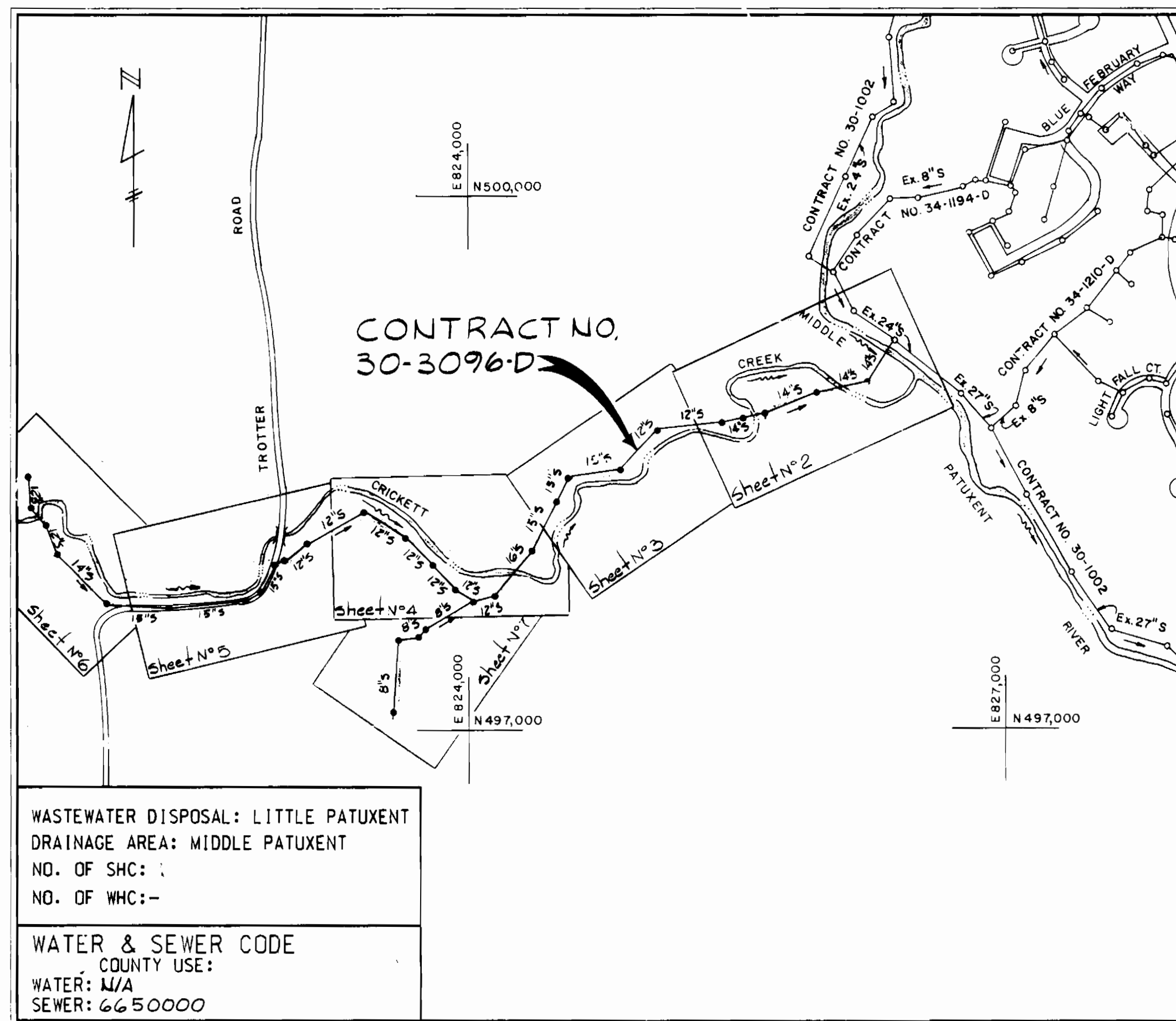
QUANTITIES			
ITEM	BID	AS-BUILT	MATERIAL/SUPPLIER
MANHOLE Ea.	31		
8" S (D.I.P) L.F	310		
8" SEWER L.F	610		
12" SEWER L.F	2380		
12" S (D.I.P) L.F	640		
14" S (D.I.P) L.F	1020		
15" SEWER L.F	1930		
16" S (D.I.P) L.F	300		
15" PVC or 14" DIP SEWER	310		
MH DROP CONN. TYPE A Ea	1		
MH DROP CONN. TYPE B Ea	1		



DRAINAGE AREA MAP

SCALE: 1" = 2000'

* = DESIGN POINT



VICINITY MAP

SCALE: 1" = 600'

WASTEWATER DISPOSAL: LITTLE PATUXENT
DRAINAGE AREA: MIDDLE PATUXENT
NO. OF SHC: -
NO. OF WHC: -

WATER & SEWER CODE
COUNTY USE:
WATER: M/A
SEWER: 6650000

GENERAL NOTES

- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS USED HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, 1989 ADDENDUM THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL [Symbol] AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION. ANY DAMAGE TO EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - STATE HIGHWAY ADMINISTRATION - 531-5533
 - BALTIMORE GAS AND ELECTRIC CO. - CONTRACTOR SERVICES - 850-4620
 - BALTIMORE GAS AND ELECTRIC CO. - UNDERGROUND DAMAGE CONTROL - 859-9004
 - BALTIMORE GAS AND ELECTRIC CO. - TROUBLE SHOOTING - 298-9001
 - MISS UTILITY - 1-800-257-7777
 - COLONIAL PIPELINE CO. - 795-1390/C&P TELEPHONE CO. - 1-800-257-7777
 - BUREAU OF UTILITIES HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 992-2366
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO A MAXIMUM EXTENT. TREES AND SHRUBS, LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION.
- ALL SEWER MAINS TO BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALL.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL 65-52, WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED SET TOP OF FRAME 1.5' ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON DRAWINGS.
- STRAW BALE DIKE AND SILT FENCE ARE INTERCHANGEABLE.
- FOR MANHOLES IN OPEN SPACE OR OUTFALL, SET TOP OF FRAME 1.5' ABOVE FINISHED GRADE UNLESS OTHERWISE SHOWN ON DRAWINGS.
- SEWER HOUSE CONNECTIONS SHALL BE 12" PIPE.
- IF D.I.P. IS USED AT LOCATIONS OTHER THAN SHOWN ON PROFILE, THE PIPE SIZE SHALL BE INCREASED BY ONE. IE: 12" TO 14"; 15" TO 16".
- SILT FENCE AND SEWER AND UTILITY EASEMENT LINES ARE LIMITS OF DISTURBANCE.

CONTRACT NO. 30-3096-D
VILLAGE OF RIVER HILL
CRICKETT CREEK INTERCEPTOR SEWER
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND WEETS TECHNICAL REQUIREMENT

[Signature] 9/12/91
U.S. SOIL CONSERVATION SERVICE DATE

This Development plan is approved for Soil Erosion and Sediment Control by the Howard County Conservation District APPROVED

[Signature] ER-92-08 9/12/91
HOWARD S.C.D. DATE

Sediment Control Measures for this Contract will be implemented in accordance with Section 219 of the Standard Specifications.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 9/19/91
DIRECTOR OF PUBLIC WORKS - DATE

[Signature] 9/18/91
CHIEF-BUREAU OF ENGINEERING - DATE

[Signature] 9/19/91
CHIEF-UTILITY DIVISION - DATE

[Signature] 9/18/91
CHIEF-LAND DEVELOPMENT DIVISION - DATE

WHITMAN, REQUARD AND ASSOCIATES ENGINEERS
2315 ST. PAUL ST.
BALTIMORE, MARYLAND

[Signature]

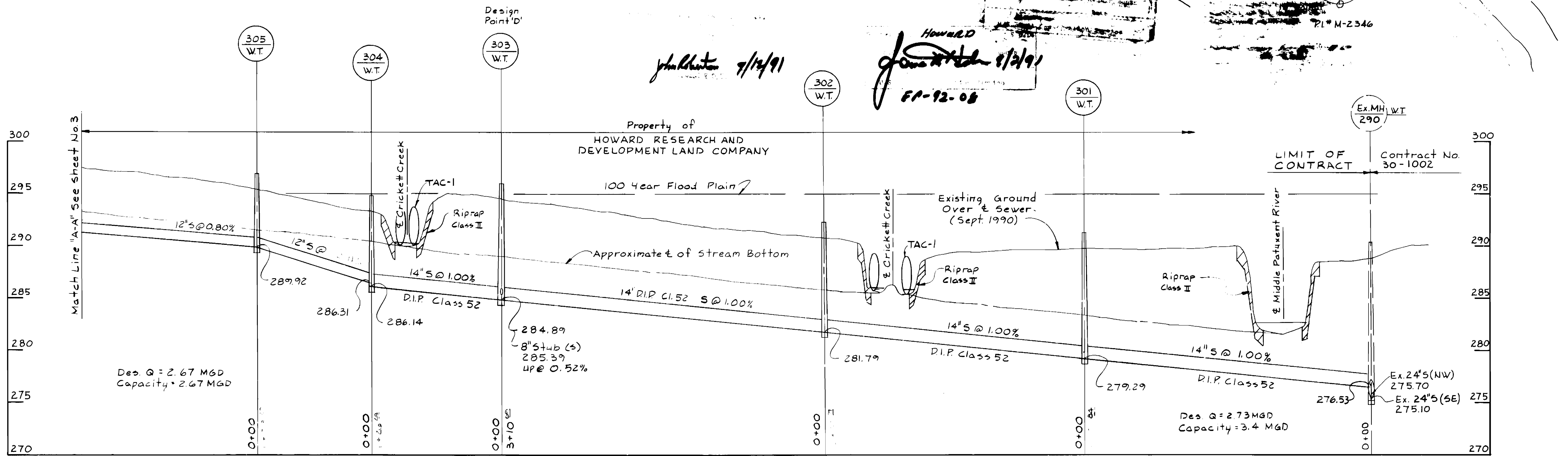
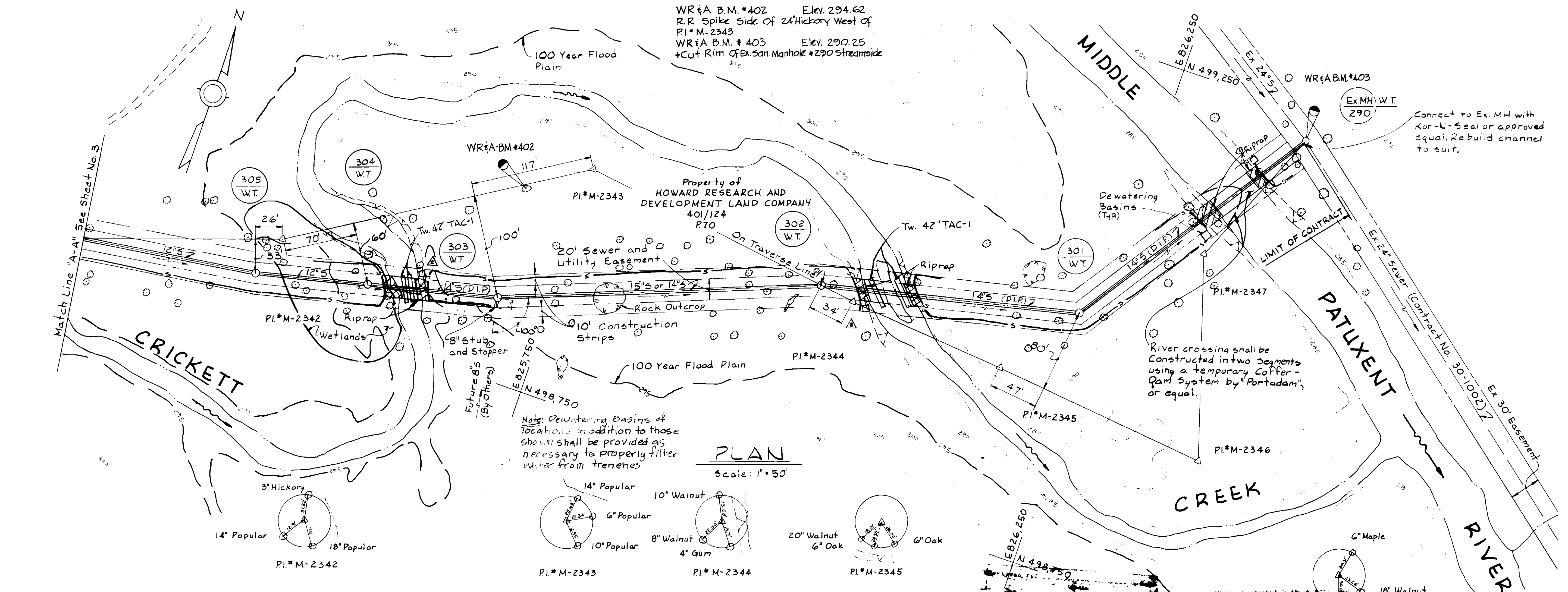
DESIGNER	
DRAWN	
CHECKED	
DATE: 6-20-91	
BY	NO.
REVISION	DATE

VICINITY MAP AND GENERAL NOTES

600' SCALE MAP NO. 35

COLUMBIA VILLAGE OF RIVER HILL
CRICKETT CREEK INTERCEPTOR SEWER
ELECTION DISTRICT NO. 5
CONTRACT NO. 30-3096-D

SCALE AS SHOWN
SHEET 1 OF 9



PROFILE
 Scale: H: 1" = 50'
 V: 1" = 5'

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director of Public Works - DATE
 Chief - Bureau of Engineering - DATE
 Chief - Bureau of Utilities - DATE
 Chief - Land Development Division - DATE

WHITMAN, REQUARDT
 AND ASSOCIATES
 ENGINEERS
 2315 ST. PAUL ST.
 BALTIMORE, MARYLAND

DATE 8-20-91
 BY NO. REVISION DATE

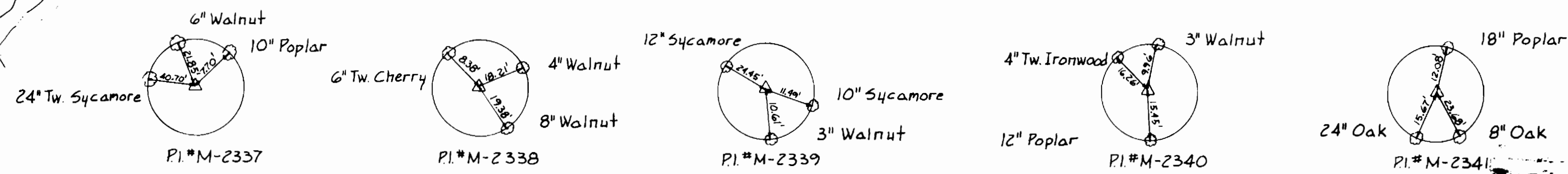
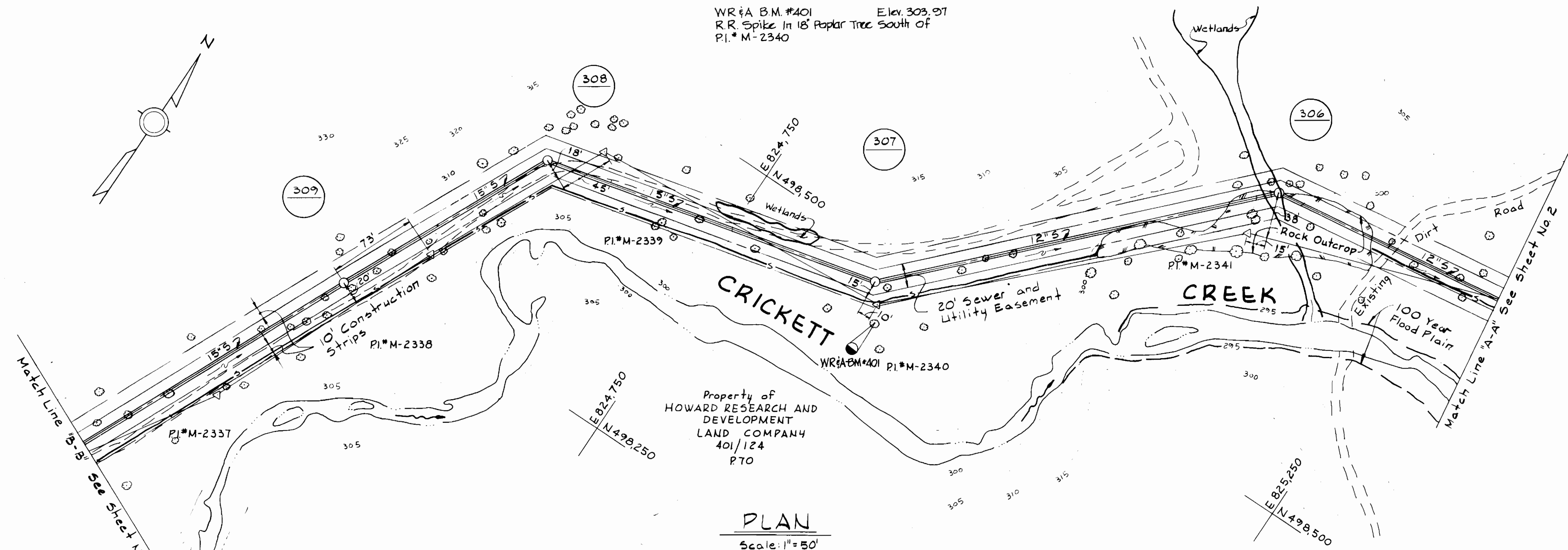
DRN - R.A.F.
 CHK - R.A.F.
 Add Dewatering Basins and Note

PLAN & PROFILE OF
 SEWER MAINS

600' SCALE MAP NO. 35 BLOCK NO.

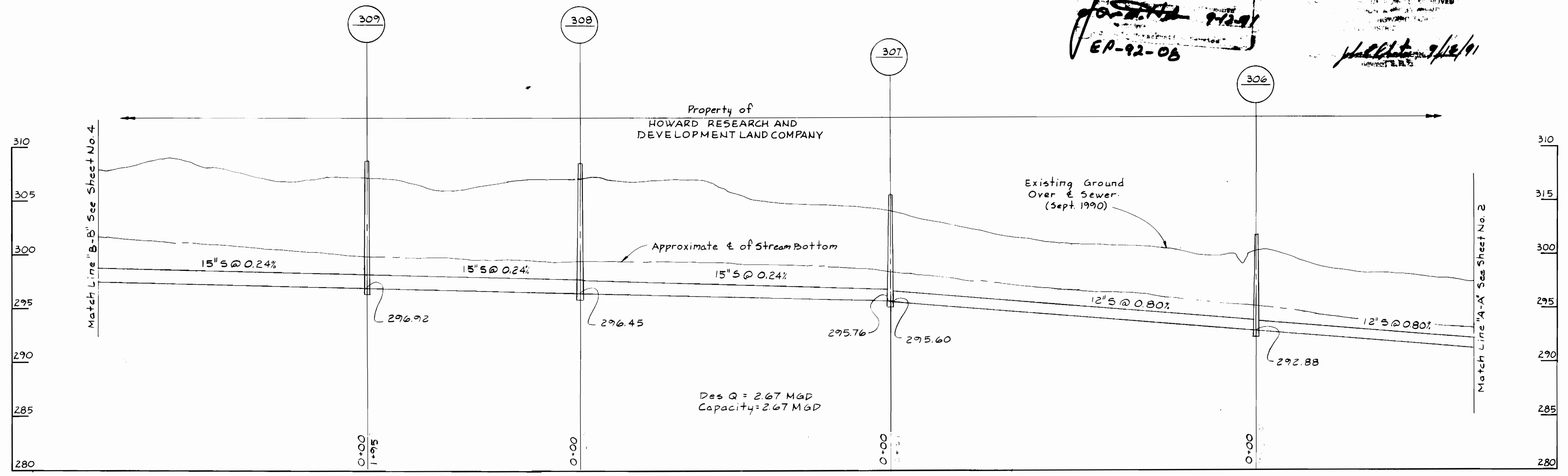
COLUMBIA
 VILLAGE OF RIVER HILL
 SECTION 2 AREA -
 ELECTION DISTRICT NO. 5
 CONTRACT NO. 30-3096-D

SCALE AS SHOWN
 SHEET 2 OF 9



HOWARD
S. Eng.
9-12-91
EP-92-06

checked 9/12/91
MURPHY, B. R. S.



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. [Signature] 9/12/91
DIRECTOR OF PUBLIC WORKS - DATE

James J. [Signature] 9/12/91
CHIEF - BUREAU OF ENGINEERS - DATE

James J. [Signature] 9/12/91
CHIEF - LAND DEVELOPMENT DIVISION - DATE

WHITMAN, REQUARDT
AND ASSOCIATES
ENGINEERS
2315 ST PAUL ST
BALTIMORE, MARYLAND



DES. RBN.	
DRN. RAF.	
CHK. RBN.	
DATE 8-20-91	

PLAN & PROFILE OF
SEWER MAINS

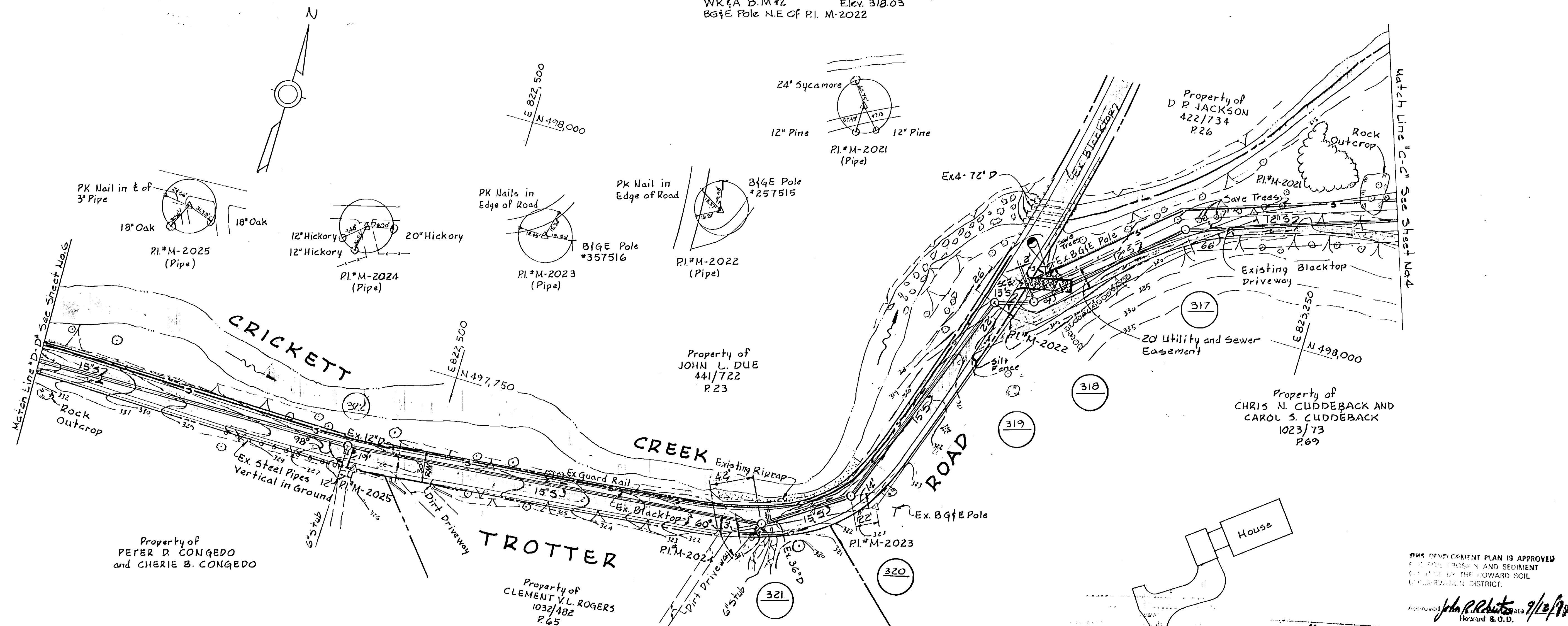
60' SCALE MAP NO. 35 BLOCK NO.

COLUMBIA
VILLAGE OF RIVER HILL
SECTION 2 AREA -
ELECTION DISTRICT NO. 5
CONTRACT NO. 30-3096-D

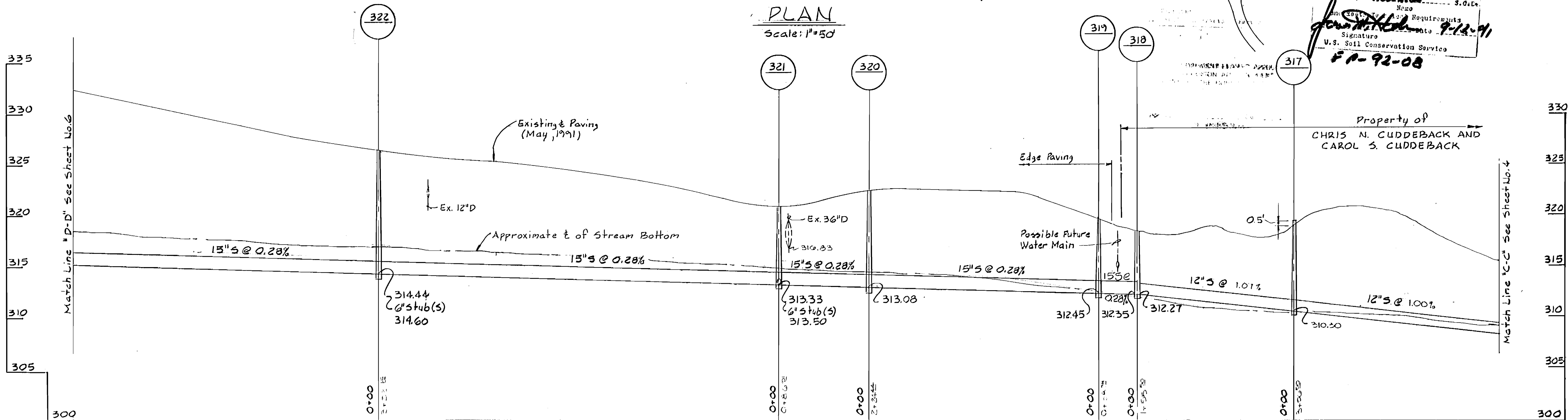
SCALE
AS
SHOWN

SHEET
3 OF 9

WR&A B.M.#2 Elev. 318.03
 B&E Pole N.E. of P.I. M-2022



PLAN
 Scale: 1"=50'



PROFILE
 Scale: H: 1"=50'
 V: 1"=5'

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

Approved: *John R. Phillips* 9/2/91
 Howard S.O.D.

Signature: *John R. Phillips* 9-12-91
 U.S. Soil Conservation Service
 #A-92-08

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James M. Wilson 9/16/91
 DIRECTOR OF PUBLIC WORKS - DATE

John M. Conroy 9/17/91
 CHIEF - BUREAU OF ENGINEERING - DATE

John M. Conroy 9/17/91
 CHIEF - LAND DEVELOPMENT DIVISION - DATE

WHITMAN, REQUARDT
 AND ASSOCIATES
 ENGINEERS

2315 ST. PAUL ST.
 BALTIMORE, MARYLAND

James M. Wilson

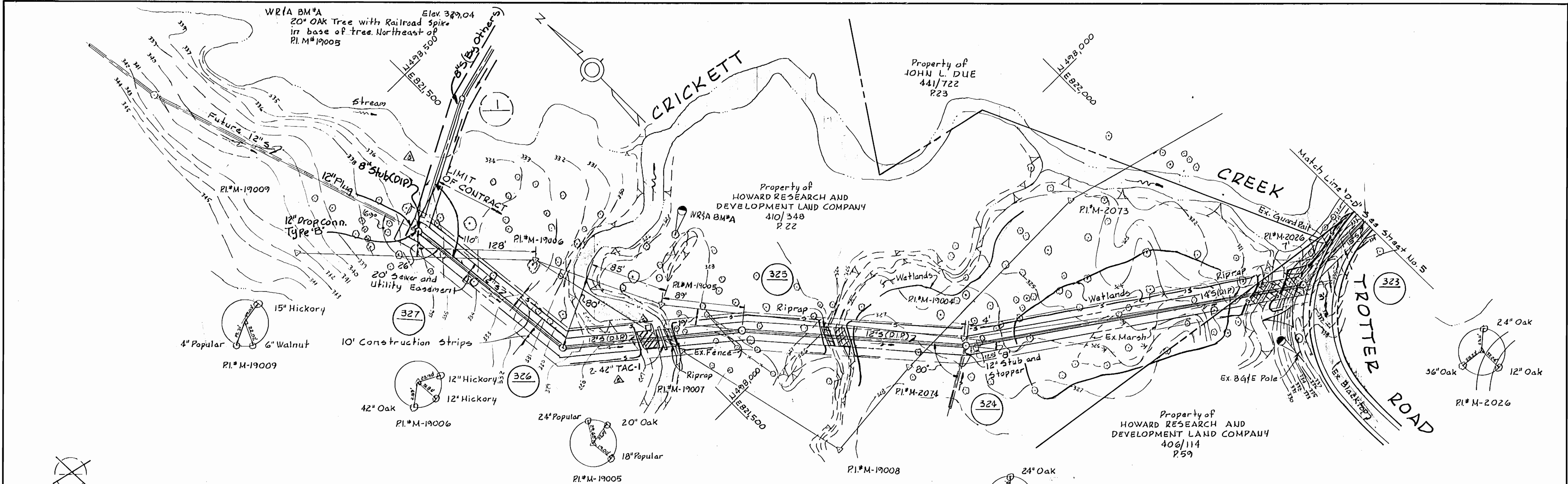
DES. R.B.N.	DRN. R.A.F.	CHK. R.B.N.	DATE 8-20-91	BY	NO.	REVISION	DATE

PLAN & PROFILE OF
 SEWER MAINS

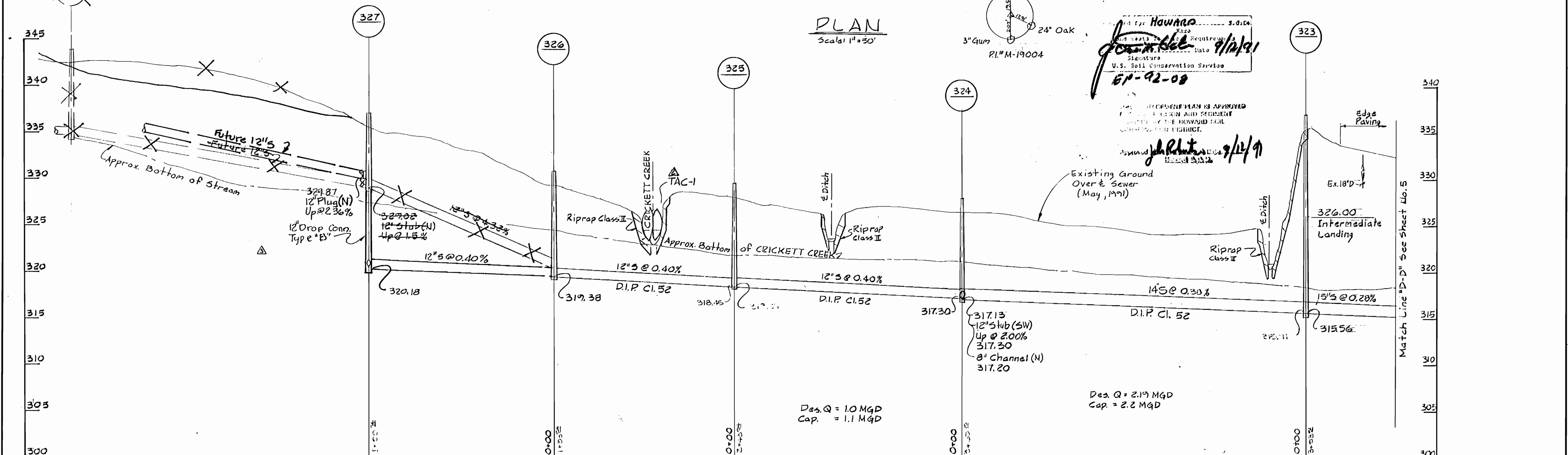
600' SCALE MAP NO. 35 BLOCK NO.

COLUMBIA
 VILLAGE OF RIVER HILL
 SECTION AREA
 ELECTION DISTRICT NO. 5
 CONTRACT NO. 30-3096-D

SCALE AS SHOWN
 SHEET 5 OF 9



Howards
9/12/91
Signature
U.S. Soil Conservation Service
EP-92-08



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

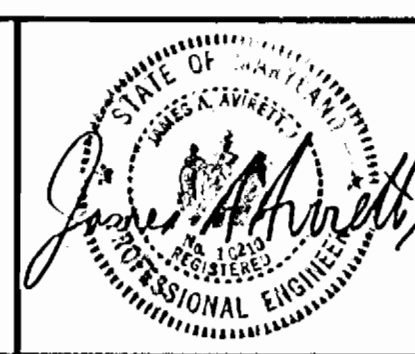
James J. [Signature] 9/12/91
DIRECTOR OF PUBLIC WORKS - DATE

John M. [Signature] 9/12/91
CHIEF - BUREAU OF ENGINEERING - DATE

John M. [Signature] 9/12/91
CHIEF - LAND DEVELOPMENT DIVISION - DATE

WHITMAN, REQUARDT
AND ASSOCIATES
ENGINEERS

2315 ST. PAUL ST.
BALTIMORE, MARYLAND



DES. R.B.N.					
DRN. R.A.F.					
CHK. R.B.F.	RLP	Added Lowered MH 327	8/5/91		
	RLP	Added Dewatering Basin and 2nd TAC	11/1/91		
DATE 8-20-91	BY NO.	REVISION	DATE	800' SCALE MAP NO. 35	BLOCK NO.

PLAN & PROFILE OF
SEWER MAINS

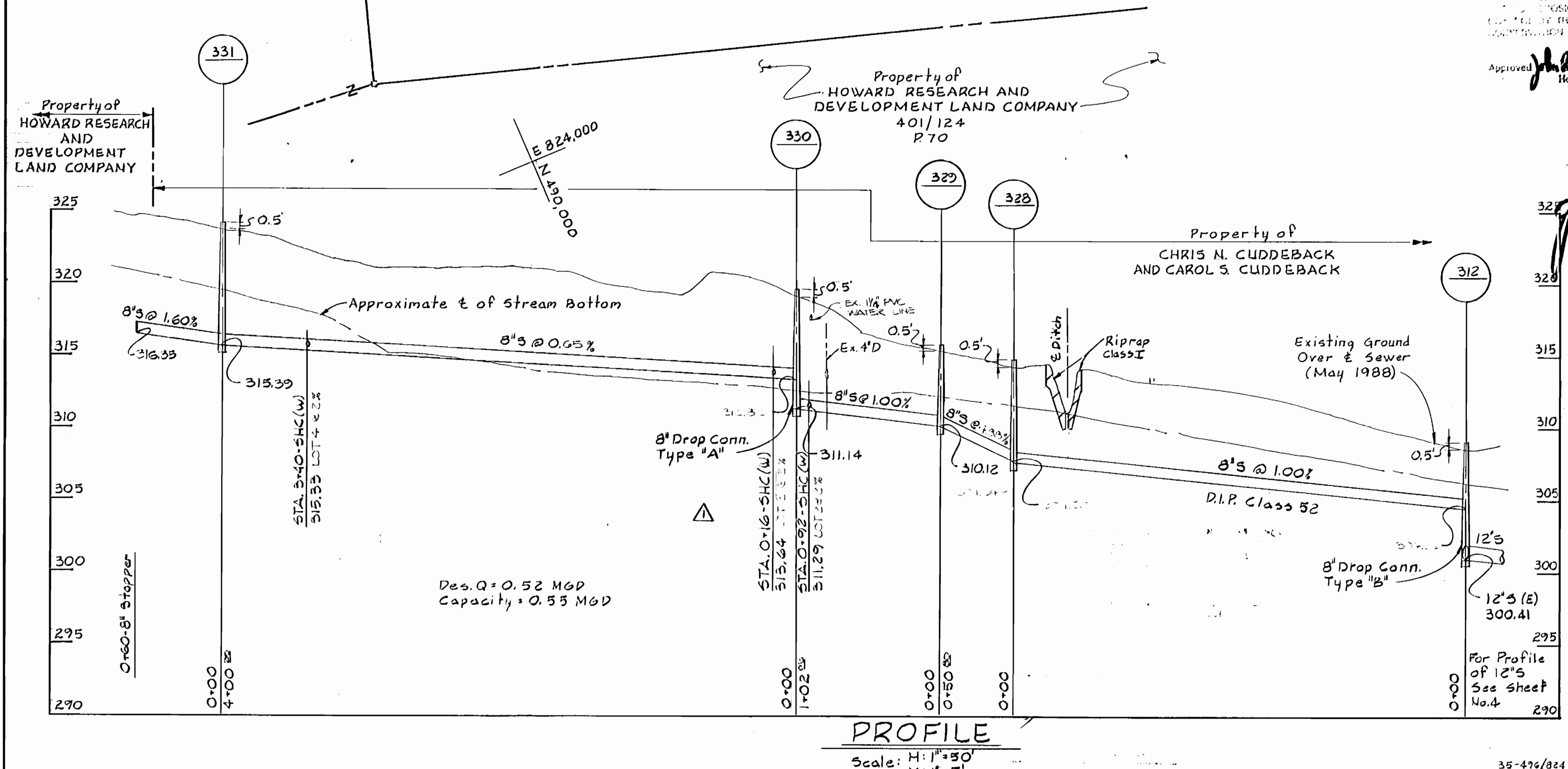
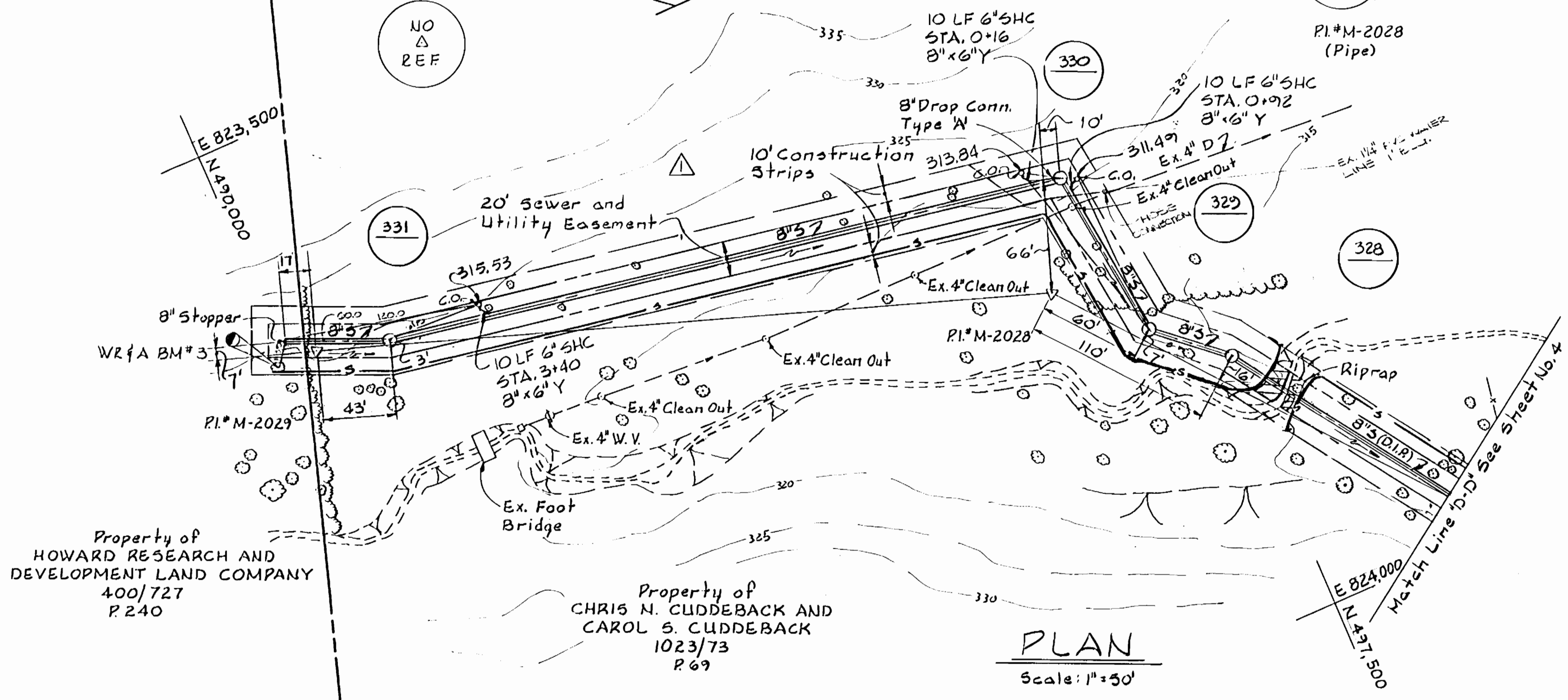
COLUMBIA
VILLAGE OF RIVER HILL
SECTION 2 AREA -
ELECTION DISTRICT NO. 5
CONTRACT NO. 30-3096-D

SCALE AS SHOWN
SHEET 6 OF 9

AS-BUILT 11-10-92 August 19, 1991

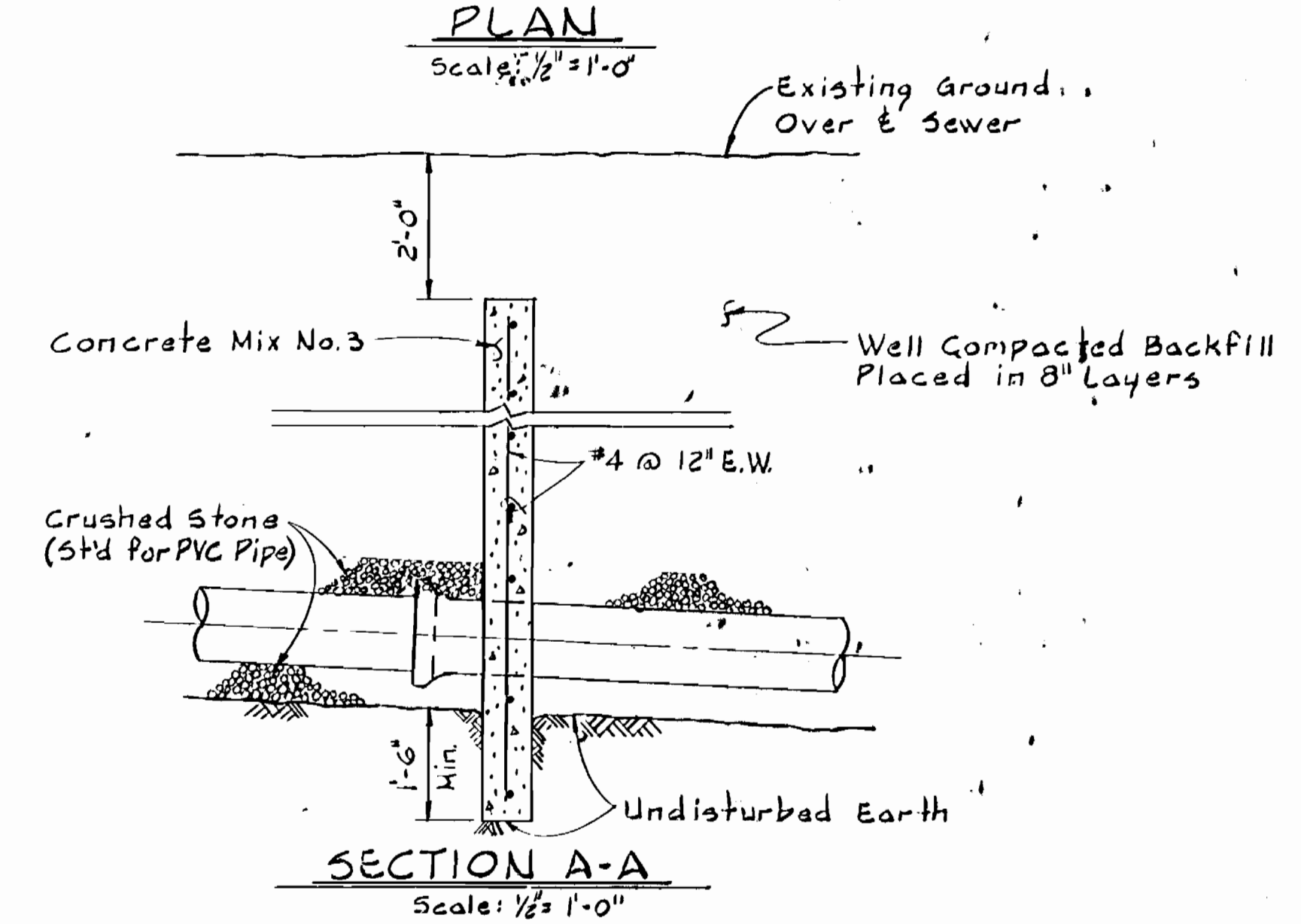
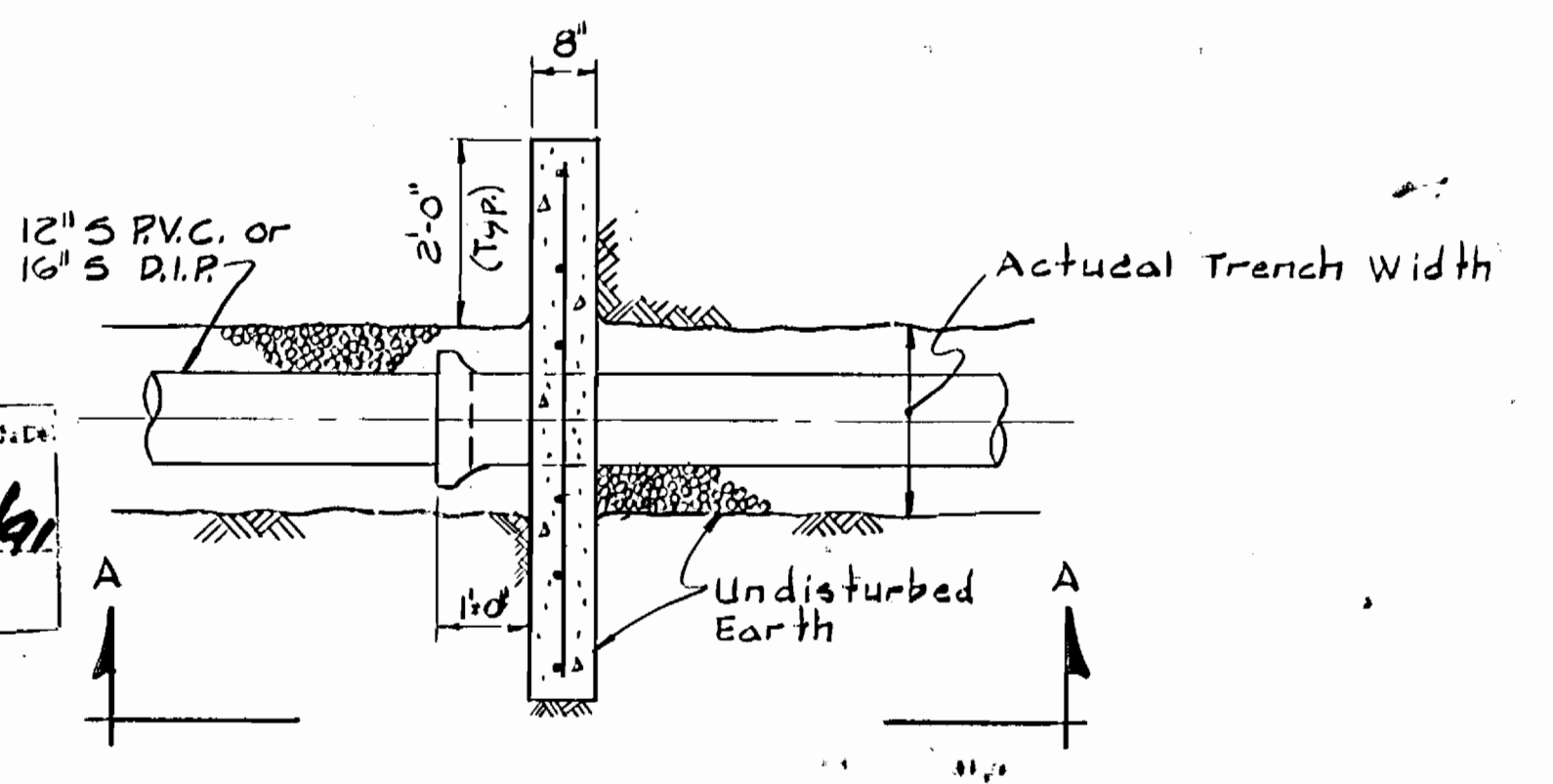
WRfA BM#3 Elev. 325.03
R.R. Spike in 20' Oak
25' South of P.I. M-2029

Pk nail in Tw. 12" Maple
Pk nail in 6" Maple
Pk nail in Tw. 12" Maple



APPROVED
FOR THE DISTRICT
DATE 9/12/91
HOWARD S.O.D.

Approved for HOWARD S.O.D.
Signature: [Signature]
Date: 11/19/91
EA 93-08



IMPERVIOUS DIKE

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director: James W. Wally Chief - Bureau of Engineering: [Signature] Chief - Bureau of Utilities: [Signature]		WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS 2315 ST. PAUL ST. BALTIMORE, MARYLAND Professional Engineer: [Signature]		DES RBN DRN R.A.F. CHK RBN DATE 8-20-91		PLAN & PROFILE OF SEWER MAINS REVISION: ADDED 3 SHC DATE 6/19/91		COLUMBIA VILLAGE OF RIVER HILL SECTION 2 AREA - ELECTION DISTRICT NO. 5 CONTRACT NO. 30-3096-D		SCALE AS SHOWN SHEET 7 OF 9	
---	--	--	--	--	--	---	--	--	--	--------------------------------	--

STRAW BALE DIKE

STANDARD SYMBOL
SBD-1

CONSTRUCTION SPECIFICATIONS

- BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ADJOINING THE ADJACENT BALES.
- EACH BALE SHALL BE IMBEDDED 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 PREVIOUSLY 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 IMPED STORM FLOW OR DRAINAGE.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

STRAW BALE DIKE

STANDARD DRAWING
SBD-1

Straw Bale Dike or Berm

PLAN VIEW

SECTION AA

CONSTRUCTION SPECIFICATIONS

- Description**
The work shall consist of the construction of a de-watering basin for the purpose of receiving sediment-laden water pumped from a construction site to allow filtration before the water re-enters the waterway.
- Material Specifications**
 - Rip-rap: Rip-rap shall consist of 4-8 inch washed stone or gravel.
 - Filter Fabric: The filter cloth shall be a woven or nonwoven fabric consisting only of continuous chain polymeric filaments of polypropylene or polyester. The fabric shall be inert to commonly encountered chemicals, hydrocarbons, aldehydes, and rot resistant. No. 8 Stone (ASTM D 37) may be used on the inner-face for filtration instead of fabric.
 - Strawbales: Strawbales shall meet the criteria as specified in the Maryland Standards and Specifications for Soil Erosion and Sediment Control.
- Construction Requirements**
 - The contractor shall install all sediment and erosion control devices as the first order of business.
 - Excavated materials shall be stored such that sediments are prevented from entering the waterway; i.e., sediment perimeter controls may be necessary.
 - Excavated subsoil and topsoil shall be kept separate and replaced in their natural order.
 - Any dewatering of the construction area shall be filtered through a de-watering basin prior to entering the waterway.
 - The de-watering basin shall be excavated to a minimum depth of 3 feet.
 - Once the de-watering basin becomes filled to 1/2 of the excavated depth, accumulated sediment shall be removed and disposed of in a 500 approved disposal area outside the 100-year floodplain unless otherwise approved on the plans by the SOA.
 - Sediment control devices are to remain in place until all disturbed areas are stabilized and the inspecting authority approves their removal. All ground contours shall be returned to their original condition unless specifically approved otherwise by the Administration.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

Dewatering Basins

Approved On 9/12/91
Howard R. D.D.
Chief, Waterway Permits

WPD 1.1

EARTH DIKE

CROSS SECTION

CONSTRUCTION SPECIFICATIONS

- ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
- ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
- TOP WIDTH MAY BE WIDER AND SLOPE FLATTER IF DESIRED TO FACILITATE CROSSINGS BY CONSTRUCTION TRAFFIC.
- FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
- EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. PUMP BASIN HEREIN EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
- STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRIP MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.

TYPE OF FLOOD	CHANNEL GRADE	DIVE A	DIVE B
1	5-5.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCELSTAY 500; 2" STONE
3	5.1-8.0%	SEED WITH JUTE, OR SOO; 2" STONE	LINED RIP-RAP 4-8"
4	8.1-20%	LINED RIP-RAP 4-8"	ENGINEERING DESIGN

A. STONE TO BE 2" INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
B. RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.
7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

EARTH DIKE

STANDARD DRAWING
ED-1

RIP-RAP DETAIL WPD 3.1

Notes:

- Erosion Control Fabric shall be Poly-Filler-X as manufactured by Gorham Mills, Inc., Erosion Control Division, 124 West 6th Street, Cincinnati, Ohio. Laurel Erosion Control Cloth as manufactured by Laurel Plastics Inc., Madison, Md. or covered equal.
- Rip-Rap shall be placed 6" each side & cover or as shown. Any disturbance to stream banks beyond these limits shall be protected with Rip-Rap at Contractor's expense.
- Gubions may be used in lieu of Rip-Rap.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

EARTH DIKE

STANDARD DRAWING
ED-1

SILT FENCE

PERSPECTIVE VIEW

SECTION

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 24" AT TOP AND MID SECTION.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "DUGS" DEVELOP IN THE SILT FENCE.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

SILT FENCE

STANDARD DRAWING
SF-1

STABILIZED CONSTRUCTION ENTRANCE

PROFILE

PLAN VIEW

CONSTRUCTION SPECIFICATIONS

- Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
- Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
- Thickness - Not less than six (6) inches.
- Width - Ten (10) 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 diverted toward construction entrance shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
- 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 clean-out of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
- Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
- Periodic inspection and needed maintenance shall be provided after each rain.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MD.

STABILIZED CONSTRUCTION ENTRANCE

Standard Drawing
SCE-1

SEQUENCE OF CONSTRUCTION: UTILITY CROSSING

- OBTAIN ALL REQUIRED PERMITS, APPROVALS, LICENSES FROM THE APPROPRIATE AGENCIES.
- NOTIFY THE ENFORCEMENT DIVISION AT LEAST FIVE DAYS PRIOR TO INITIATION OF CONSTRUCTION AND FIVE DAYS AFTER WORK ENDS. THE ANNAPOLIS OFFICE IS (301) 974-2641. NOTIFY HOWARD COUNTY S.C.S. CONTROL INSPECTORS (301) 465-3180.
- INSTALL PERIMETER CONTROLS CONSISTING OF STRAW BALE DIKES AND/OR SILT FENCING.
- INSTALL THE UTILITY APPROACHES TO THE STREAM.
- DIVERT THE STREAM (REFERENCE WPD 2.1 OR 2.3).
- DEWATER THE CONSTRUCTION AREA. ALL DEWATERING DISCHARGES SHALL BE DIVERTED TO A DEWATERING BASIN AS PER WPD 1.1 BEFORE RE-ENTERING THE STREAM.
- STABILIZE THE DISTURBED BANKS USING FILTER FABRIC AND RIPRAP OR GABIONS. RIPRAP MUST BE SIZED AND INSTALLED AS PER WPD 3.1.
- REMOVE THE DIVERSION FROM UPSTREAM TO DOWNSTREAM.
- STABILIZE ALL DISTURBED AREAS.
- NOTIFY S.C.S. INSPECTOR.
- REMOVE PERIMETER CONTROLS.

NOTES:

A. PROVIDE STABILIZED CONSTRUCTION ENTRANCE AT ALL ACCESS POINTS TO PAVED ROADS.

B. SEE PERMITS BOUND IN SPECIFICATIONS AS FOLLOWS:
WRA 199165898
COE _____

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

Approved 9/12/91
Howard R. D.D.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MD.

Culvert Pipe with Access Road

Approved On 9/12/91
Howard R. D.D.
Chief, Waterway Permits

WPD 2.1

TEMPORARY ACCESS CULVERT

PLAN & PROFILE

CONSTRUCTION SPECIFICATIONS

- Description**
The work shall consist of installing a flow diversion structure in conjunction with a temporary culvert crossing during in-stream construction such as utility crossings.
- Construction Requirements**
 - All erosion and sediment control devices shall be installed as the first order of business.
 - Pipes must be sized to accommodate normal stream flow.
 - The flow barrier shall be constructed of sandbags, washed riprap, or other approved material as per WPD 2.1. The materials shall be sized to withstand normal stream flow velocities.
 - All dewatering of the construction area shall be pumped to a de-watering basin (WPD 1.1) prior to re-entering the stream.
 - The temporary culvert crossing shall be constructed in accordance with Standard Detail (TAC-1), 1983 Maryland Standards and Specifications for Sediment and Erosion Control.
 - Sediment control devices shall remain in place until all disturbed areas have been stabilized in accordance with an approved sediment and erosion control plan and the inspecting authority approves their removal.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

Culvert Pipe with Access Road

Approved On 9/12/91
Howard R. D.D.
Chief, Waterway Permits

WPD 2.1

TEMPORARY ACCESS CULVERT

AGGREGATE FILL

FILTER CLOTH

TAC-1

CONSTRUCTION SPECIFICATIONS

- Restrictions** - No construction or removal of a temporary access culvert will be permitted between October 1 through April 30 for all Class III and Class IV Trout Waters or between March 15 through June 15 for non-trout waterways.
- Culvert Strength** - All culverts shall be strong enough to support their cross sectional area under maximum expected loads.
- Culvert Size** - The size of the culvert pipe shall be the largest pipe diameter that will fit into the existing channel without major excavation of the waterway channel or without major approach fills. If a channel width exceeds 3 feet, additional pipes may be used until the cross sectional area of the pipes is greater than 60 percent of the cross sectional area of the existing channel. The minimum size culvert that may be used is a 12" diameter pipe.
- Culvert Length** - The culvert(s) shall extend a minimum of one foot beyond the upstream and downstream toe of the aggregate placed around the culvert. In no case shall the culvert exceed 40 feet in length.
- Filter Cloth** - Filter cloth shall be placed on the streambed and streambanks prior to placement of the pipe culvert(s) and aggregate. The filter cloth shall cover the streambed and extend a minimum six inches and a maximum one foot beyond the end of the culvert and bedding material. Filter cloth reduces settlement and improves crossing stability.
- Culvert Placement** - The invert elevation of the culvert shall be installed on the natural streambed grade to minimize interference with fish migration (free passage of fish).
- Culvert Protection** - The culvert(s) shall be covered with a minimum of one foot of aggregate. If multiple culverts are used they shall be separated by at least 12" of compacted aggregate fill. At a minimum, the bedding and fill material used in the construction of the temporary access culvert crossings shall conform with the aggregate requirements cited in Section I.H. 1. above.
- Stabilization** - All areas disturbed during culvert installation shall be stabilized within 14 calendar days of the disturbance in accordance with the Standard for "Critical Area Stabilization With Permanent Seeding."

U.S. DEPARTMENT OF AGRICULTURE
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COLLEGE PARK, MARYLAND

Culvert Pipe with Access Road

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Chief, Waterway Permits

WPD 2.1

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James R. Sullivan
DIRECTOR OF PUBLIC WORKS - DATE

John M. Penner
CHIEF - BUREAU OF ENGINEERING - DATE

John M. Penner
CHIEF - LAND DEVELOPMENT DIVISION - DATE

WHITMAN, REQUARDT
AND ASSOCIATES
ENGINEERS

2315 ST. PAUL ST.
BALTIMORE, MARYLAND

Approved For HOWARD COUNTY S.C.D.
Name
Signature
Date
9/12/91

U.S. Soil Conservation Service
91-91-04

WPD 2.3

Material Specifications

- Sandbags: Sandbags shall consist of materials which are resistant to ultra-violet radiation, tearing and puncture and woven tightly enough to prevent leakage of fill material (i.e., sand, fine gravel, etc.).
- Stone: Stone shall be washed and have a minimum diameter of 6 inches.

DES: R.A.F.
DRN: R.A.F.
CHK: R.B.N.

DATE: 9-20-91

BY NO.

Revised Sequence of Construction

1/19/91

REVISION

DATE

600' SCALE MAP NO. 35 BLOCK NO.

SEDIMENT CONTROL
DETAILS

DATE

600' SCALE MAP NO. 35 BLOCK NO.

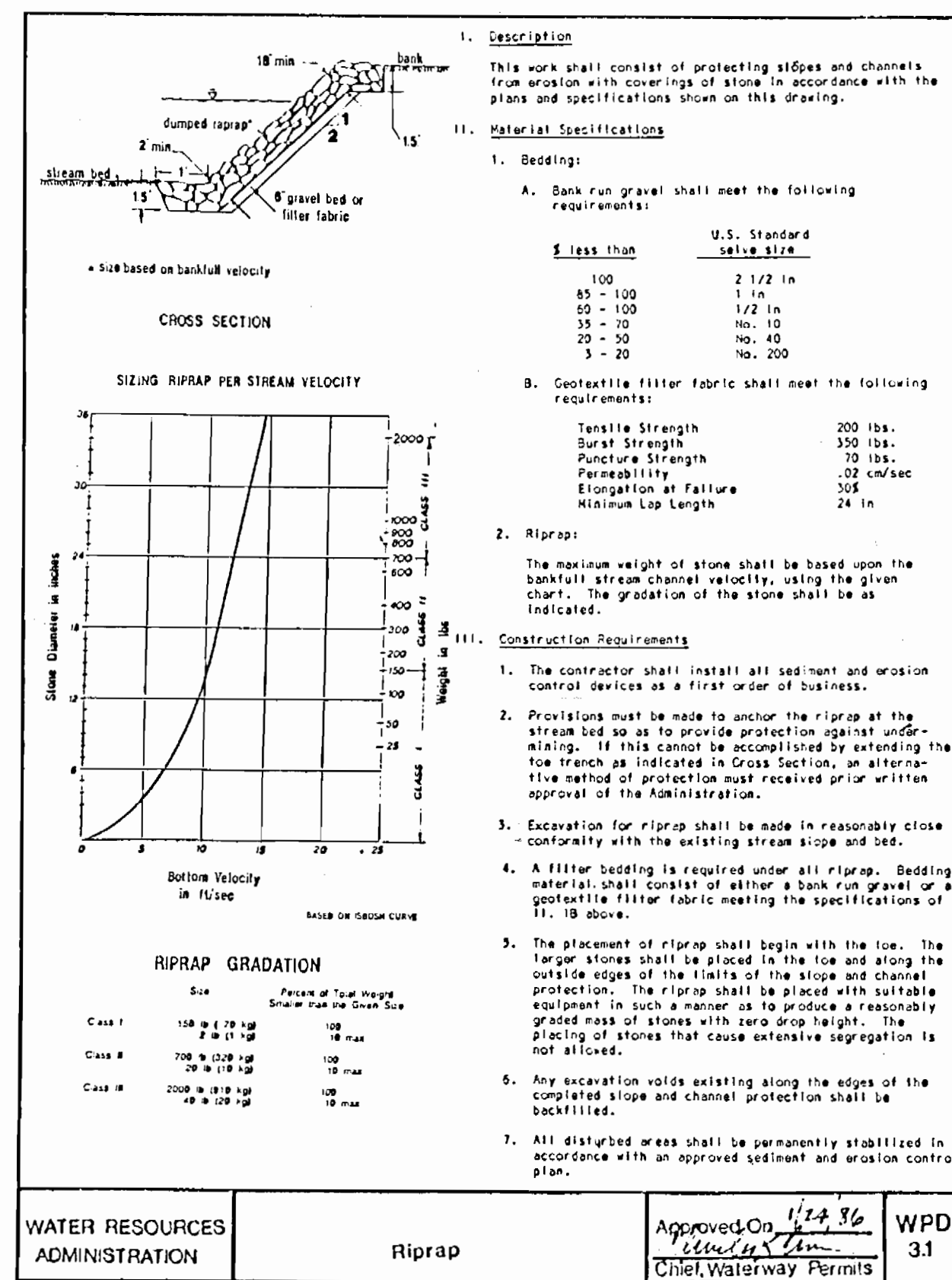
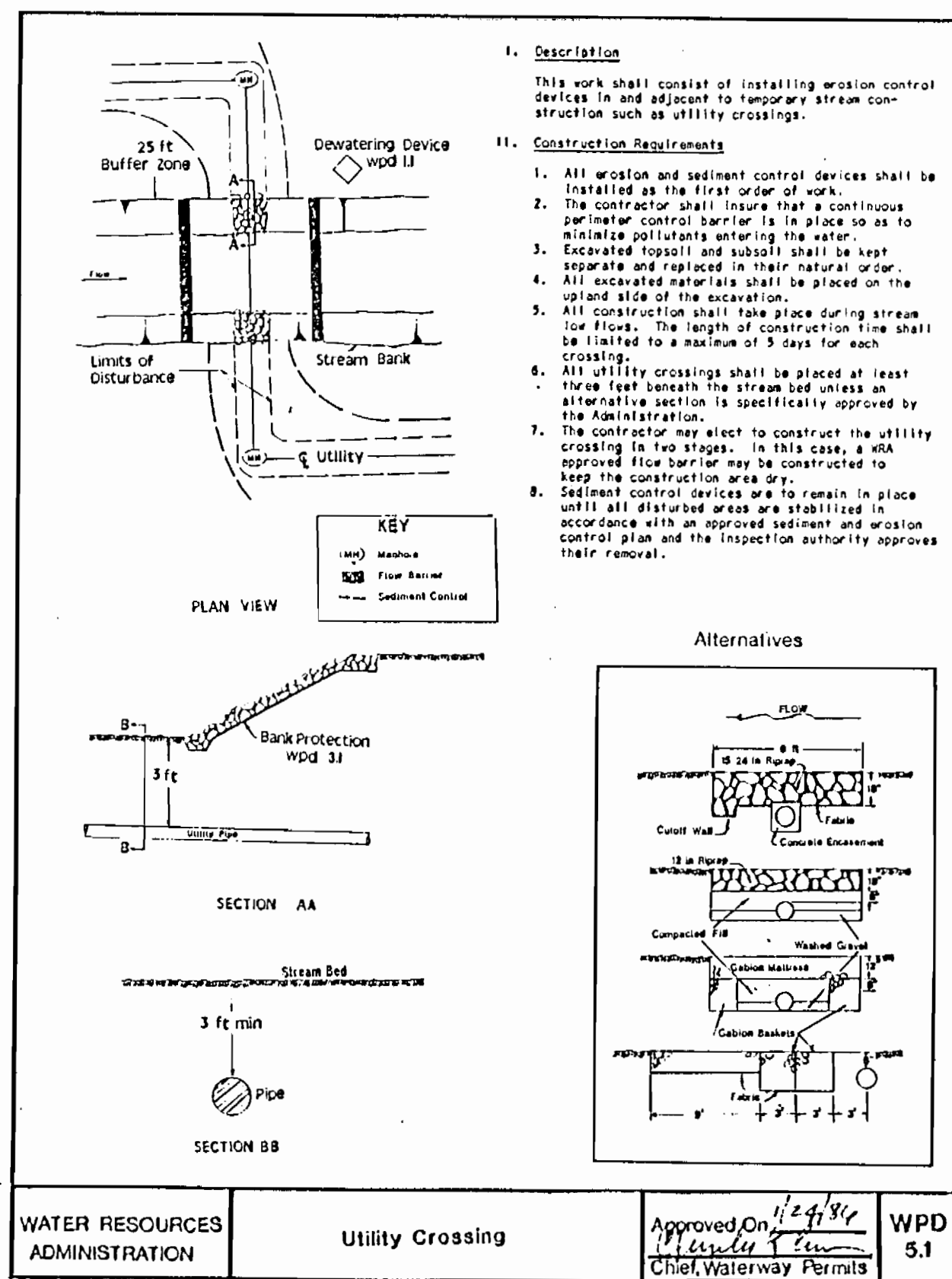
COLUMBIA
VILLAGE OF RIVER HILL
SECTION 2 AREA -
ELECTION DISTRICT NO. 5
CONTRACT NO. 30-3096-D

SCALE
AS SHOWN

SHEET
8 OF 9

AS-BUILT 11-20-91

August 19, 1991



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 (1.9 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, PROJECT 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 GALLONS/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ. FT.) FOR ANCHORING.

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

TEMPORARY SEEDING

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, (14 LBS/1000 SQ. FT.) AND ONE TON PER ACRE OR 46 LBS/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. PROJECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USED SOD.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/100 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 FT. OR HIGHER. USE 348 GALLON 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.

SEDIMENT CONTROL NOTES

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. (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 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 ALONG CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.

ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

SITE ANALYSIS:

TOTAL AREA OF SITE	3.4 ACRES
AREA DISTURBED	1.7 ACRES *
AREA TO BE ROOFED OR PAVED	NONE ACRES
AREA TO BE VEGETATIVELY STABILIZED	3.4 ACRES
TOTAL CUT	NONE CU. YDS.
TOTAL FILL	NONE CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION	

ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY HOWARD COUNTY DPM SEDIMENT CONTROL INSPECTOR.

ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

NOTE:

* SITE ANALYSIS IS FOR DISTURBED AREAS BEYOND THESE PROTECTED BY THE ROAD CONSTRUCTION.

CONDITIONS AND MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS

- a) Stockpile and maintain separately the top 6" of topsoil material, to be replaced as the top layer of the backfilled material.
- b) Remove excess fill or construction material or debris to an upland disposal area;
- c) Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of the nontidal wetland;
- d) Use previously excavated material as backfill, unless it contains waste metal products, unsightly debris, toxic material or any other deleterious substance. Use clean borrow material when excavated material is not suitable for use as backfill;
- e) Rectify any nontidal wetlands temporarily impacted by any proposed repair and maintenance activity or installation of the utility line. Wetlands and a 25 foot adjacent buffer within the right-of-way will not be moved or otherwise managed to preclude the reestablishment of the forest vegetation. Stabilization to temporarily impacted areas shall be annual rye or millet and mulch. All temporary fills shall be removed in their entirety on or before the completion of construction;
- f) After installation has been completed, make post construction grades and elevations of nontidal wetlands the same as the original grades and elevations;
- g) To protect important aquatic species, in-stream work is prohibited as determined by the classification of the stream as follows:
 - i) Class I Waters. In-stream work may not be conducted during the period March 1 through June 15, inclusive, during any year.

Howards Co. **HOWARD** S.O.D.
 Signature: *[Signature]*
 U.S. Soil Conservation Service
 8-1-92-08

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

Approved by: *[Signature]* 7/12/91
 HOWARD S.O.D.

PERMANENT SEED MIXTURE FOR WETLANDS ONLY

ANNUAL RYE	2-1/2 LBS./1000 SF
RICE CUTGRASS	2 OZ./1000 SF
DEERTONGUE	2 OZ./1000 SF
CAREX	2 OZ./1000 SF
SMARTWEED	4 OZ./1000 SF

1" MIN. OF NATURAL TOPSOIL FROM THE WETLANDS SHALL BE STOCKPILED ON SITE AND SPREAD OVER DISTURBED AREA. NO IMPORTED TOPSOIL WILL BE ALLOWED.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works - DATE: <i>[Signature]</i> 7/12/91 Chief - Bureau of Utilities - DATE: <i>[Signature]</i> 8/12/91		WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS 2315 ST. PAUL ST. BALTIMORE, MARYLAND Chief - Bureau of Engineering - DATE: <i>[Signature]</i> 7/12/91 Chief - Land Development Division - DATE: <i>[Signature]</i> 7/12/91		DES. R.A.F. DRN. R.A.F. CHK. R.A.B.M. DATE: 8-20-91		SEDIMENT CONTROL DETAILS RP Add Wetland Management Practices 8/5/91 RP Add Special Seed Mixture Note 11/4/91		COLUMBIA VILLAGE OF RIVER HILL SECTION 2 AREA - ELECTION DISTRICT NO. 5 CONTRACT NO. 30-3096-D		SCALE SHEET 9 OF 9
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