

SHEET INDEX

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TRAFFIC CONTROL NOTES

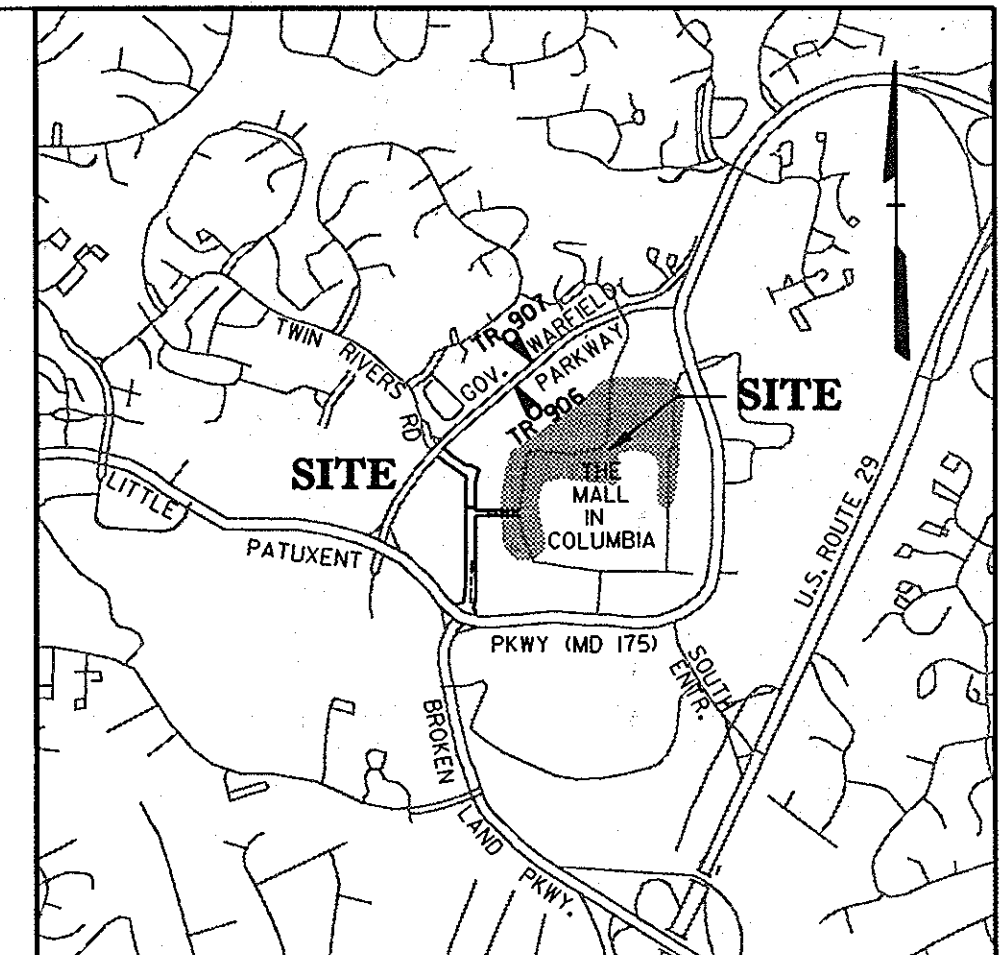
Traffic Sequencing

- The existing mall Ring Road from Governor Warfield Parkway to Brokenland Parkway will be left in place and functioning until the relocated Ring Road is constructed and temporarily connected to the existing Ring Road South of Brokenland Parkway extended.
- The existing mall connection off Brokenland Parkway will be left in place and functioning until Brokenland Parkway is extended and Twin Rivers Road has been constructed. At that time, the existing mall connection will be temporarily closed until construction of the new Ring Road and utilities is completed.
- The existing mall access opposite Sterrett Place will remain open during reconstruction of the Mall Ring Road and the existing access roads however, traffic will have to be directed into the current outbound lanes and be one lane each direction.
- Right turn only off Little Patuxent Parkway shall remain open however, it may be temporarily closed during construction of the relocated storm drainage.
- The reconstructed entrance opposite Sterrett Place and Ring Road and parking north of Hecht's shall be operational prior to relocation of the storm drain from ex M-C to M-100 to provide access to existing parking lot in front of Hecht's from Little Patuxent Parkway.
- Vehicular access to all parking areas, stores, and delivery areas will be maintained during hours when malls open.

Note:
A portion of this plan has been updated as a part of the revitalization of Downtown Columbia-Warfield Neighborhood, Blocks W-1, W-2 and W-3. These blocks are adjacent to the western limits of this site and the required infrastructure improvements overlap with the Columbia Mall Circle (Mall Ring Road) Roadbed. For details of these improvements, see F-1301a.

GENERAL NOTES

- All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications, if applicable.
- The contractor shall notify the Bureau of Engineering/Construction Inspection Division at (410) 313-1880 at least five (5) working days prior to the start of work.
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
- Traffic control devices, markings, and signing shall be in accordance with the latest edition of the Manual Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any sign.
- All plan dimensions are to the face of curb unless otherwise noted.
- Topography was field run surveyed by Daft-McCune-Walker, Inc. in July 1995, and Fisher, Collins & Carter in 1994.
- Coordinates and bearings shown hereon are referred to the Maryland Coordinate system (NAD 27) as projected from the following Whitman, Reardon & Assoc. traverse stations:
TR 101 N 503690.8580 E 83902.2760
TR 102 N 503690.7000 E 83834.2860
- Stormwater management is provided on-site by an underground detention facility for quantity, quality controls provided by stormceptors.
- Stormwater management facilities are privately maintained.
- No wetlands exist within the limits of disturbance.
- The existing utilities were located by actual field survey and by a survey prepared by Daft-McCune-Walker, Inc. The contractor must dig test pits, by hand, at utility crossings and connection points at least 5 days prior to starting work to verify exact location.
- The Soils analysis was prepared by R. Baiter Group.
- Handicap parking details shall be in accordance with the Maryland Building Code for the Handicapped, Section 5.01-7.05.
- Any damage to County owned right-of-way to be corrected at the contractor's expense.
- All sidewalks shall be cross sloped at 1/4" per foot.
- Trench bedding for storm drainage structures shall be in accordance with Howard County Standard 02.01.
- Department of Planning and Zoning reference file numbers:
FDP 47-A-VI, FDP Phase 224A, SDP 80-01, F-97-19, F-97-153, F-97-152, F-97-153, S-98-03
- All inlets shall be constructed in accordance with Howard County standards or MSHA Standards as specified on the structure schedule.
- All materials and construction is to be in accordance with the Howard County Design Manual Volume IV.
- The building setback restrictions from the property lines and right-of-way lines of any public road shall be in accordance with FDP Phase 47-A-VI.
- All on-site driveways and parking areas to be privately maintained.
- All curb radii are five foot radius unless otherwise labeled.
- All equipment and tools shall be placed as not to interfere with vehicular or pedestrian movement unless specified.
- The contractor shall be responsible for any damage to existing property which may occur as a result of his negligence in the execution of the work.
- All paving areas indicated are private.
- All proposed handicap ramps shall be in accordance with the current A.D.A. Standards.
- Existing lights in Phase IA to be relocated as necessary. See sheets 33 - 35 for proposed lights.
- There is no floodplain on this site.
- No traffic study is required for this site.
- Public Water and Sewer is utilized for this site.



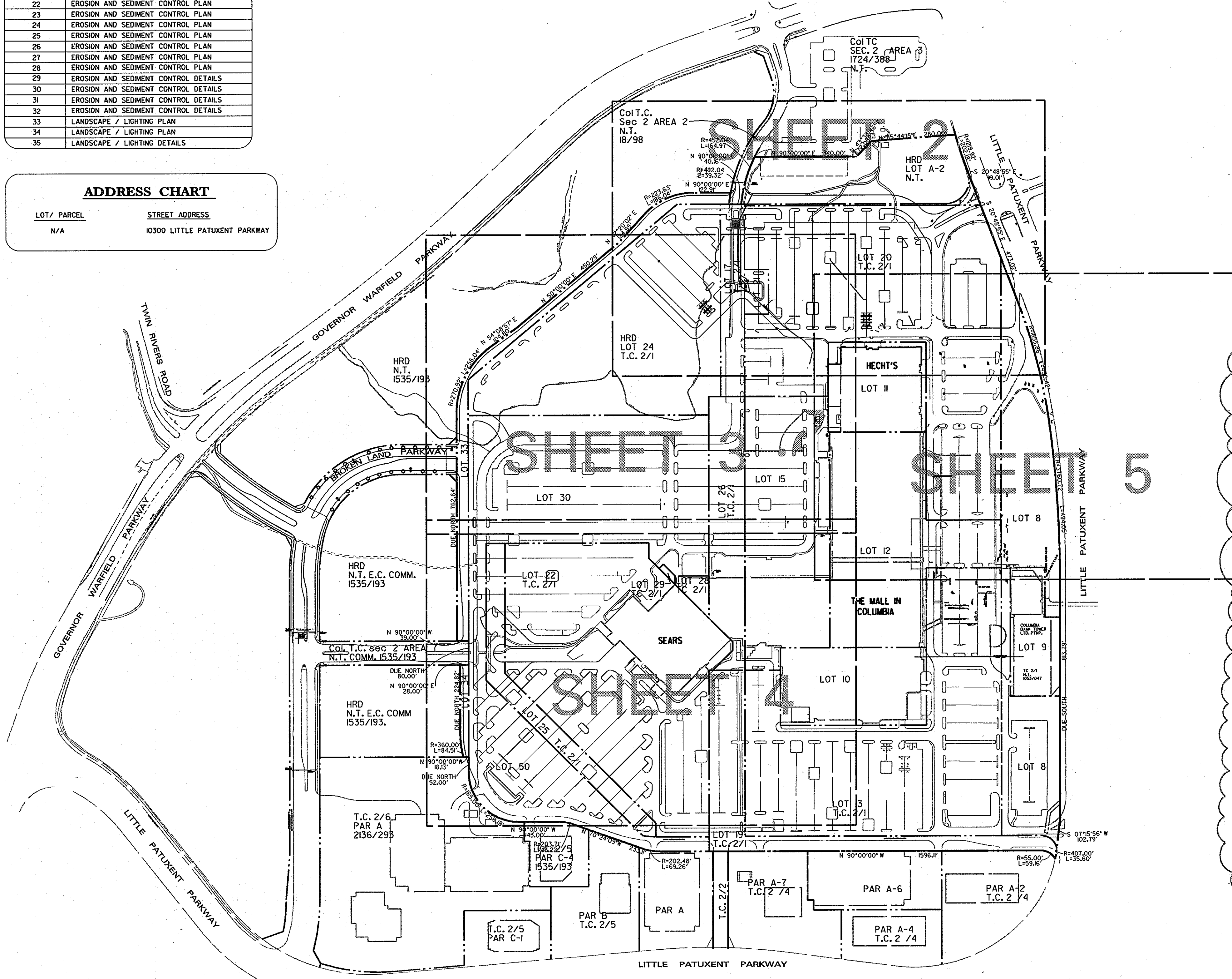
LOCATION MAP

SCALE: 1" = 200'

ELEVATIONS SHOWN HEREON ARE BASED ON THE FOLLOWING TRAVERSE STATIONS ESTABLISHED BY FISHER, COLLINS AND CARTER, INC. (INGVD 29 VERTICAL DATUM)
TR 906 N 504280.1630 E 838550.3680 ELEV. 381500
TR 907 N 504400.6701 E 838647.7701 ELEV. 394150

ADDRESS CHART

LOT / PARCEL	STREET ADDRESS
N/A	10300 LITTLE PATUXENT PARKWAY



SITE ANALYSIS

- Zoning: New Town - Commercial (Per FDP Ph. 47-A-VI)
 - Phase I Expansion Area/Limit of Disturbance = 27.0 Ac.
 - Proposed Use: Relocated Ring Road and Additional Parking
 - Parking Tabulation
- | | Proposed (a) Phase I Expansion | Existing Mall Parking | Total Proposed |
|-----------------|--------------------------------|-----------------------|----------------|
| Parking Spaces | 1216 | 5671-812(b) | 6,075 |
| Handicap Spaces | 11(4 VAN) | 75-4(b) = 71(7 VAN) | 82 (11 VAN) |
| Total | 1227 | 5746-816 (b) = 4930 | 6157 (c) |
- (a) Required parking does not increase due to the fact that there is no proposed building square footage proposed with Phase I.
(b) Parking spaces to be removed = 812 Sp. (4 HC)
(c) Parking spaces to be added = 368 Sp. (7 HC)
- Area Tabulation
 - Phase I Expansion Area/Limit of Disturbance: 27.0 Ac.
 - Proposed building area: N/A
 - Impervious area: 3.8 Ac.
 - Temporary green area in Phase I: 17.2 Ac.
 - Lot Tabulation
- | Lot | Owner | Area | Plot Reference |
|-----|----------------------------------|------------|----------------|
| 3 | Howard Research & Develop. Corp. | 0.656 AC. | 12803 |
| 8 | Howard Research & Develop. Corp. | 5.794 AC. | 18/39 |
| 10 | J.C. Penney | 2.906 AC. | 18/39 |
| 11 | Columbia Mall, Inc. (Hecht Co.) | 2.244 AC. | 18/39 |
| 12 | Columbia Mall, Inc. | 6.244 AC. | 18/39 |
| 13 | Columbia Mall, Inc. | 10.793 AC. | 18/39 |
| 15 | Columbia Mall, Inc. | 5.661 AC. | 18/39 |
| 17 | Columbia Mall, Inc. | 1.343 AC. | 21/19 |
| 19 | Columbia Mall, Inc. | 2.858 AC. | 21/19 |
| 20 | Columbia Mall, Inc. | 13.157 AC. | 3634 |
| 21 | Columbia Mall, Inc. (Hecht Co.) | 0.275 AC. | 3634 |
| 22 | Sears Roebuck and Company | 11.433 AC. | 4448 |
| 24 | Howard Research & Develop. Corp. | 8.81 AC. | 4448 |
| 25 | Columbia Mall, Inc. | 1.662 AC. | 4448 |
| 26 | Columbia Mall, Inc. | 2.328 AC. | 4448 |
| 28 | Columbia Mall, Inc. | 0.233 AC. | 4859 |
| 29 | Sears Roebuck and Company | 0.033 AC. | 4859 |
| 30 | Columbia Mall, Inc. | 12.479 AC. | 4859 |
| 33 | Columbia Mall, Inc. | 1.58 AC. | 12810 |
| 34 | Columbia Mall, Inc. | 0.267 AC. | 12810 |

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE: APRIL 23, 1997
RB

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK 1/14/98
CHIEF, DIVISION OF LAND DEVELOPMENT 1/21/98
DIRECTOR 1/21/98

Date	No.	Revision Description
4-3-98	4	REVISE PARKING TABULATION
1-5-98	2	REVISE TABULATION
1/1/98	1	ALL NOTE REFERENCES TO 19-016 (BY 01W)

THE MALL IN COLUMBIA
PHASE I EXPANSION TOWN CENTER SECTION 2 AREA 1
LOTS 8,10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

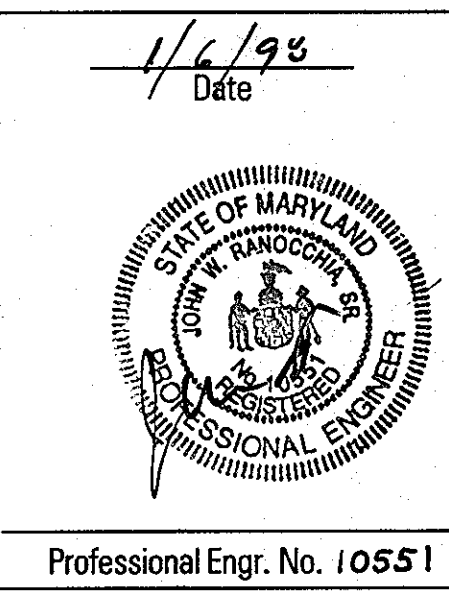
DMW
Daft-McCune-Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax 296-4705

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

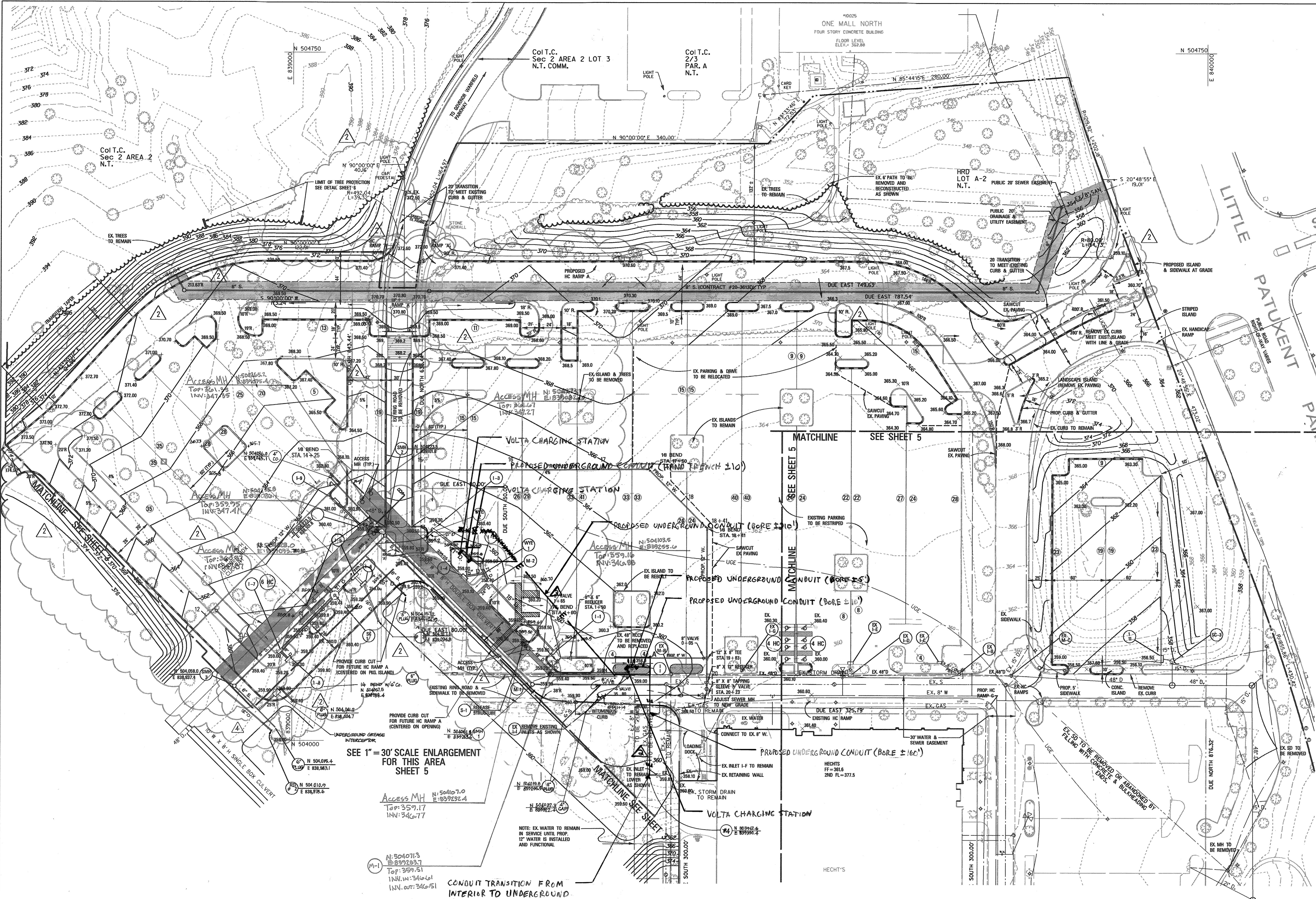
SUBDIVISION NAME: COLUMBIA TOWN CTR.	SECTION: 2/1	DATE: 1/16/98
PLAT OR L.P. NO.: 3054A-442	BLOCK # & DIST. CODE: 30,36	5TH
OWNER CODE:	SEE SITE ANALYSIS #6	6054

TITLE
PHASE 1A
REVISED SITE DEVELOPMENT PLAN
COVER SHEET

Des By	MJP	Scale	AS SHOWN	Proj. No.	95019B
Dm By	CLZ	Date	5/22/97		
Chk By	JWR	Approved			1 OF 35



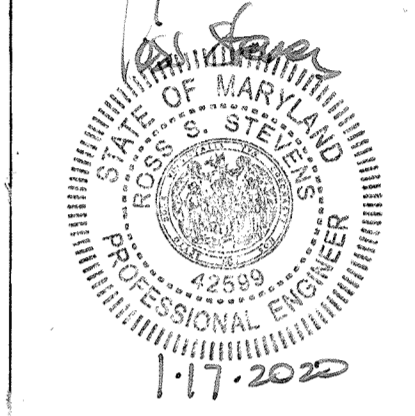
VICINITY MAP
1" = 200'



LEGEND

- EX. CONTOUR
- EX. WATER
- EX. SANITARY SEWER
- EX. STORM DRAIN
- EX. GAS
- EX. EDGE OF ROAD
- PROP. CONTOUR
- PROP. UTILITIES
- 6" STANDARD COMB. C&G
- 6" REV. COMB. C&G
- ◆ CONC. LIGHT POLE ISLAND

DATE	No.	DESCRIPTION
1/17/2020	5	ADDED ELEC. VEH. CHG. STATION



FOR REVISION No. 5 ONLY

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE April 23, 1992
RJB

Date	No.	Revision Description
1-5-98	2	REVISED ALL UTILITIES TO PROPOSED BLDG.
4-3-98	4	REVISED SD, SEWER, WATER AND CURBS & GUTTER

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

W. Dammann 1/14/98
CHIEF DEVELOPMENT ENGINEERING DIVISION MK DATE

C. Hamilton 1/21/98
CHIEF DIVISION OF LAND DEVELOPMENT DATE

David R. Smith 1/21/98
DIRECTOR DATE

THE MALL IN COLUMBIA
PHASE I EXPANSION
TOWN CENTER
SECTION 2 AREA 1 & 2 / 2
HOWARD COUNTY, MD
LOTS 3, 8, 10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34
OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

DMW
Darrin McCune-Walkers, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
410 296-3333
Fax 296-4705

A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals

COLUMBIA TOWN CTR.	SECTION 2 / 1 & 2 / 2	PARCEL #	SEE GEN. NOTE # 6
FOR 30544 - 442	ZONE NT	PLAT # 5 TH	GEN. TRACT 6054
WATER CODE	SEWER CODE		

TITLE: PHASE 1A
REVISED SITE DEVELOPMENT PLAN

Des By	MJP	Scale	1" = 50'	Proj. No.	95019B
Drn By	CLZ	Date	5/22/97		
Chk By	JWR	Approved			2 OF 35

Professional Engr. No. 10551

AS-BUILT

Scott Shanaberger 1/14/98
G. SCOTT SHANABERGER
PROFESSIONAL L.S. #10849

SHANABERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 104
ELLICOTT CITY, MARYLAND 21043

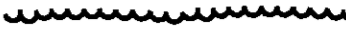


1-6-98
Date

Professional Engr. No. 10551

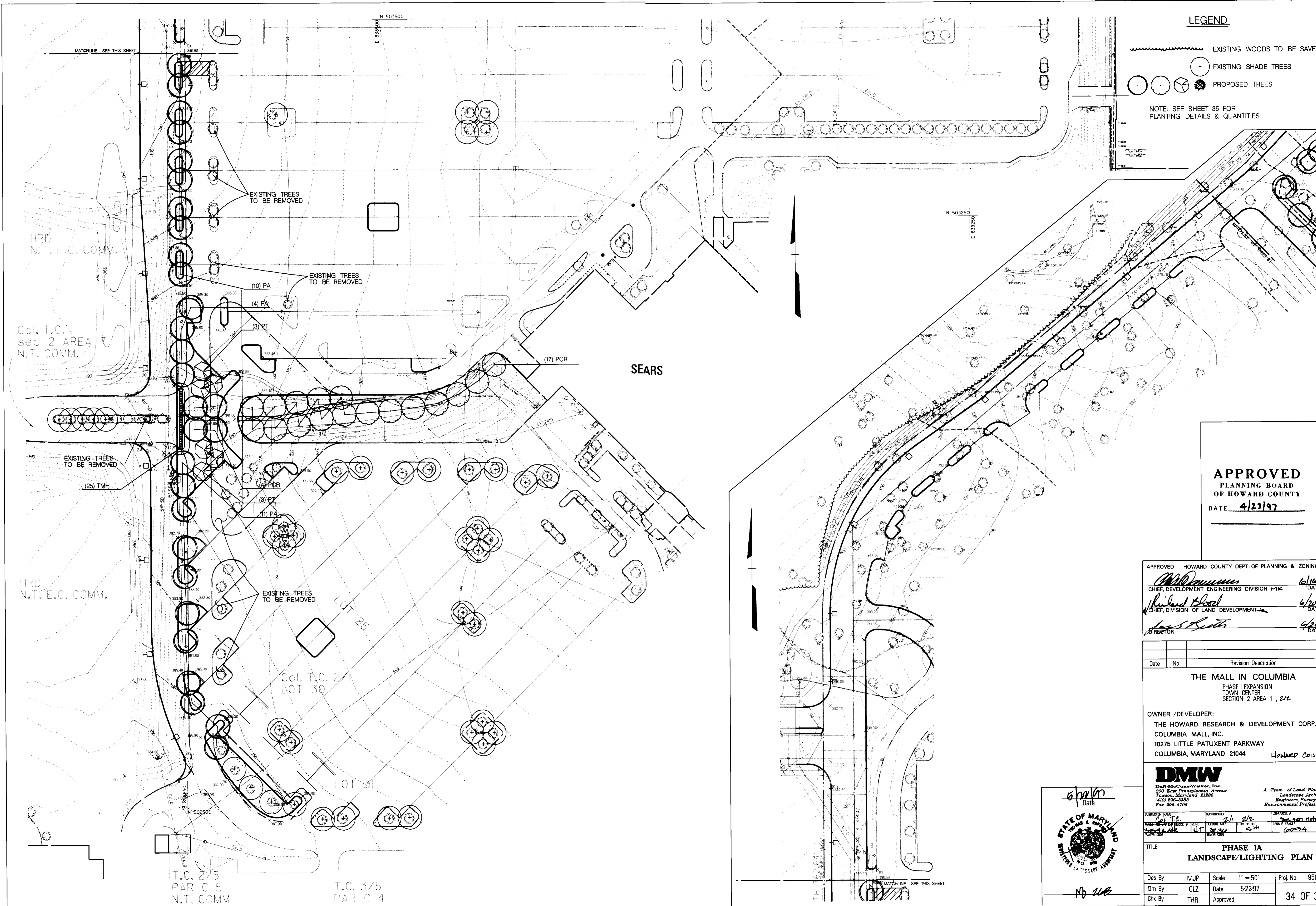
SEE 1" = 30' SCALE ENLARGEMENT FOR THIS AREA SHEET 5

CONDUIT TRANSITION FROM INTERIOR TO UNDERGROUND CONDUIT. CONTRACTOR TO PAINT CONDUIT TO MATCH BUILDING.

LEGEND

-  EXISTING WOODS TO BE SAVED
-  EXISTING SHADE TREES
-  PROPOSED TREES

NOTE: SEE SHEET 35 FOR PLANTING DETAILS & QUANTITIES



APPROVED
PLANNING BOARD
OF HOWARD COUNTY
 DATE 4/23/97

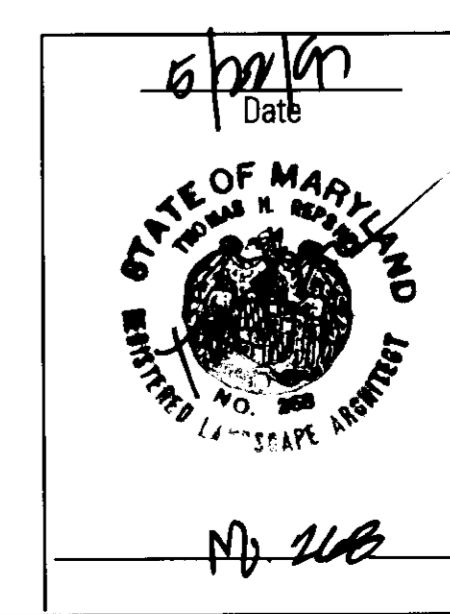
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
<i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	6/16/97 DATE
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT	6/20/97 DATE
<i>[Signature]</i> DIRECTOR	6/26/97 DATE

Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE I EXPANSION TOWN CENTER SECTION 2 AREA 1, 2/2

OWNER / DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 HOWARD COUNTY




DMW
 DaR-McCune-Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3833
 Fax 296-4706

A Team of Land Planners,
 Landscape Architects,
 Engineers, Surveyors &
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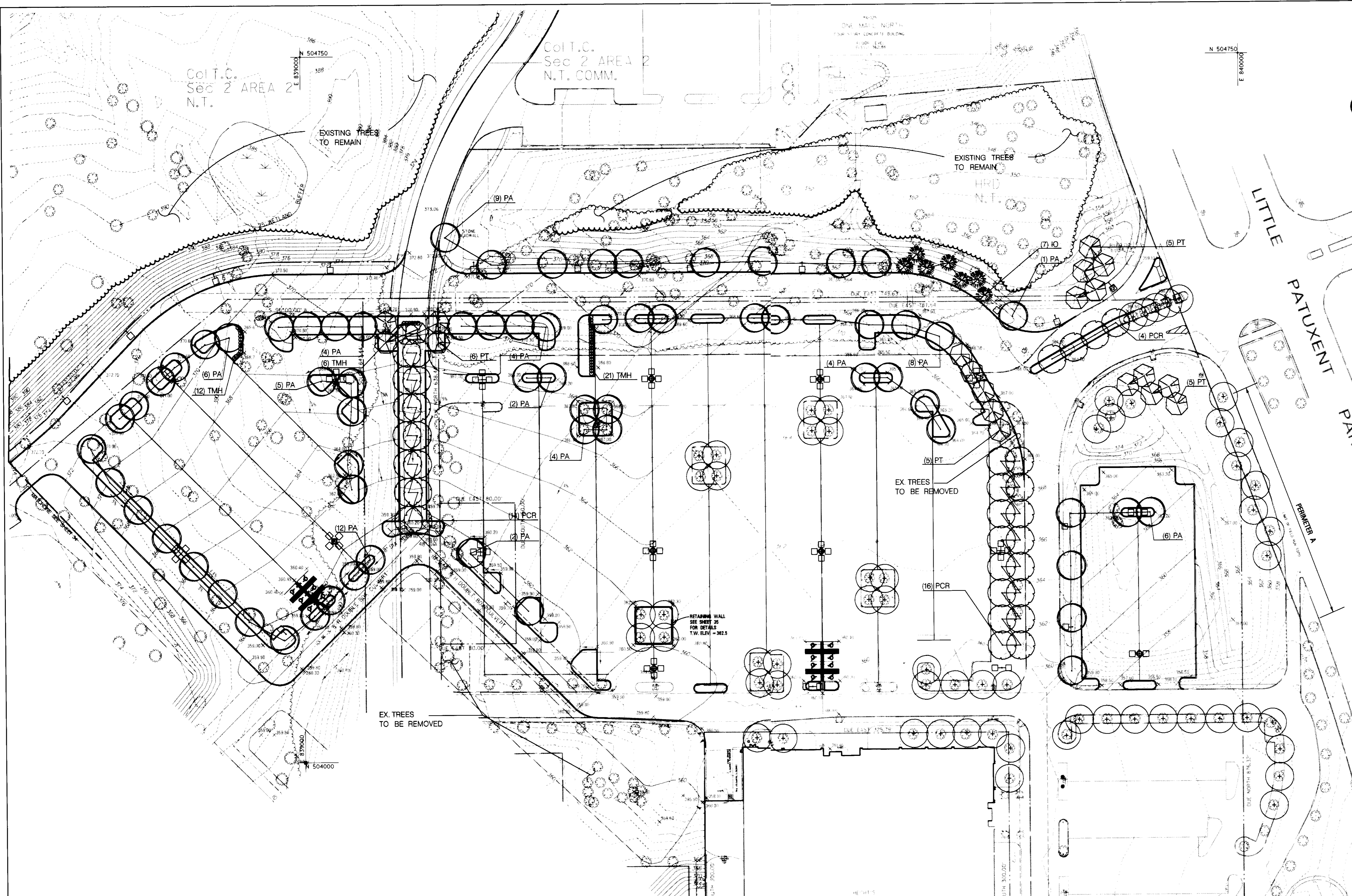


DESIGNED BY: MJP	SCALE: 1" = 50'	PROJECT NO.: 95019B
DRAWN BY: CLZ	DATE: 5/22/97	
CHECKED BY: THR	APPROVED:	34 OF 35

LEGEND

-  EXISTING WOODS TO BE SAVED
-  EXISTING SHADE TREES
-  PROPOSED TREES

NOTE: SEE SHEET 35 FOR PLANTING DETAILS & QUANTITIES



APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 4/23/97

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

<i>[Signature]</i>	4/16/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	DATE
<i>[Signature]</i>	4/20/97
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>[Signature]</i>	4/10/97
DIRECTOR	DATE

Date	No.	Revision Description

THE MALL IN COLUMBIA
PHASE I EXPANSION
TOWN CENTER
SECTION 2 AREA 1, 2/2

OWNER /DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
Howard County

DMW
Darr McCune-Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax 296-4708

[Signature]
Date 5/11/97

SUBDIVISION NAME Col T.C. Sec 2 Area 2 N.T.	SECTION # 2/1 2/2	DATE 5/11/97
PROJECT # 950198	DATE 5/22/97	SCALE 1" = 50'
TITLE PHASE 1A LANDSCAPE/LIGHTING PLAN		
Des By MP	Scale 1" = 50'	Proj. No. 950198
Dim By CLZ	Date 5/22/97	
Chk By THR	Approved	33 OF 35

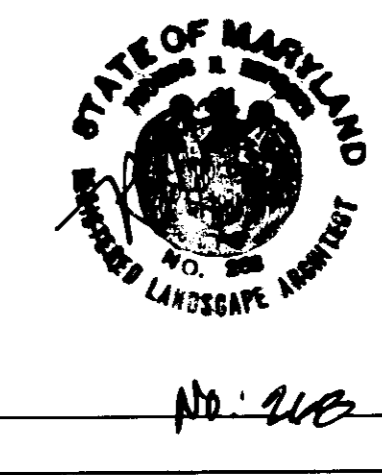


Table 28 Stone Size

	SIZE RANGE	D ₅₀	D ₁₀₀	AASHTO	WEIGHT
NUMBER 57*	3/8" - 1/2"	1/2"	1/2"	M-43	N/A
NUMBER 1	2" - 3"	2 1/2"	3"	M-43	N/A
RIP-RAP**	4" - 7"	5 1/2"	7"	N/A	N/A
CLASS I	N/A	9.5"	15"	N/A	150lb max.
CLASS II	N/A	16"	24"	N/A	700lb max.
CLASS III	N/A	23"	34"	N/A	2000lb max.

* This classification is to be used on the inside face of stone outlets and check dams.
 ** This classification is to be used when ever small rip-rap is required. The State Highway Administration designation for this stone is Stone For Gabions (905.0.04)

Stone For Gabion Baskets

BASKET THICKNESS		SIZE OF INDIVIDUAL STONES	
INCHES	MM	INCHES	MM
6	150	3 - 5	75 - 125
9	225	4 - 7	100 - 175
12	300	4 - 7	100 - 175
18	460	4 - 7	100 - 175
36	910	4 - 12	100 - 300

NOTE: Recycled concrete equivalent may be substituted for all stone classifications. Recycled concrete equivalent shall be concrete broken into the sizes meeting the appropriate classification, shall contain no steel reinforcement, and shall have a density of 150 pounds per cubic foot.

H - 24 - 1

MATERIALS SPECIFICATIONS

Table 27 Geotextile Fabrics

CLASS	APPARENT OPENING SIZE MM. MAX.	GRAB TENSILE STRENGTH LB. MIN.	BURST STRENGTH PSI. MIN.
A	0.30**	250	500
B	0.60	200	320
C	0.30	200	320
D	0.60	90	145
E	0.30	90	145
F (SILT FENCE)	0.40-0.80*	90	190

* US Std. Sieve CW-02215 ** .50 mm max. for Super Silt Fence

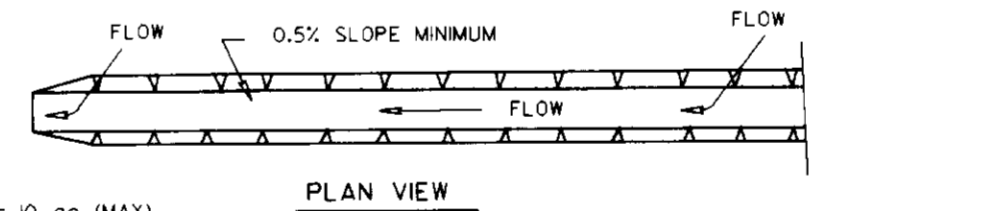
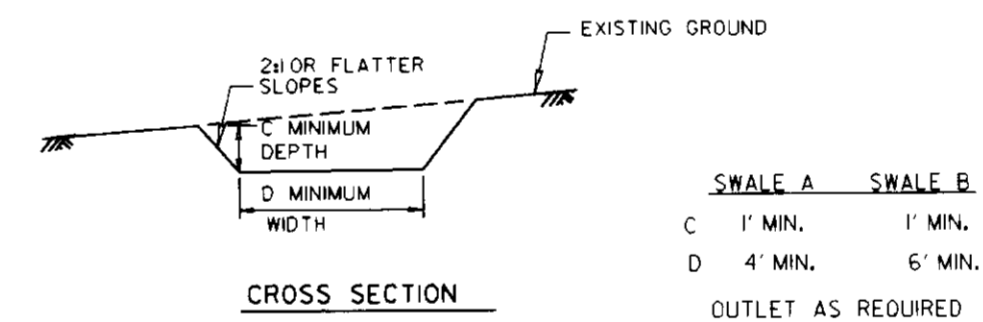
The properties shall be determined in accordance with the following procedures:
 - Apparent opening size MSMT 323
 - Grab tensile strength ASTM D 1682: 4x8" specimen, 1x2" clamps, 12"/min. strain rate in both principal directions of geotextile fabric. ASTM D 3786
 - Burst strength

The fabric shall be inert to commonly encountered chemicals and hydrocarbons, and will be rot and mildew resistant. It shall be manufactured from fibers consisting of long chain synthetic polymers, and composed of a minimum of 85% by weight of polyolefins, polyesters, or polyamides. The geotextile fabric shall resist deterioration from ultraviolet exposure.

In addition, Classes A through E shall have a 0.01cm/sec. minimum permeability when tested in accordance with MSMT 507, and an apparent minimum elongation of 20 percent (20%) when tested in accordance with the grab tensile strength requirements listed above.

Silt Fence
 Class F geotextile fabrics for silt fence shall have a 50 lb./in. minimum tensile strength and a 20 lb./in. minimum tensile modulus when tested in accordance with MSMT 509. The material shall also have a 0.3 gal./ft. /min. flow rate and seventy-five percent (75%) minimum filtering efficiency when tested in accordance with MSMT 322.

Geotextile fabrics used in the construction of silt fence shall resist deterioration from ultraviolet exposure. The fabric shall contain sufficient amounts of ultraviolet ray inhibitors and stabilizers to provide a minimum of 12 months of expected usable construction life at a temperature range of 0 to 120 degrees F.



STANDARD SYMBOL
 A - 2 / B - 3

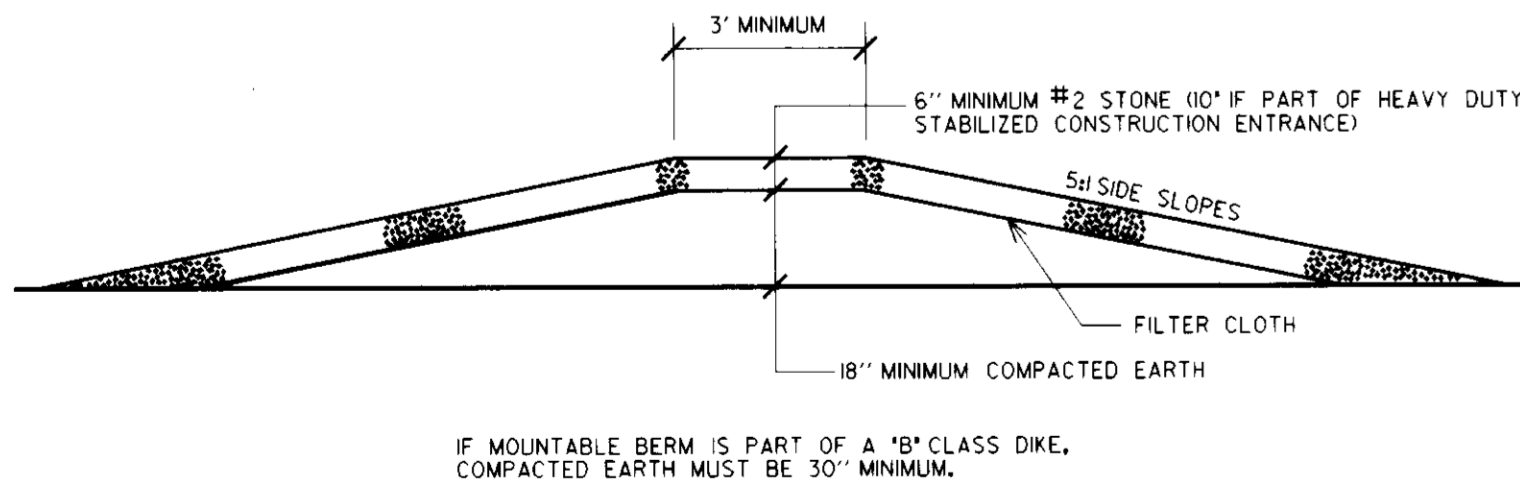
1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or lime with sod.
3. 4"-7" stone or recycled concrete equivalent pressed into soil in a minimum 7" layer.

Construction Specifications

1. All temporary swales shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed stabilized area at a non-erosive velocity.
4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the swale.
5. The swale shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
6. Fill, if necessary, shall be compacted by earth moving equipment.
7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the swale.
8. Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMENT
 SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

TEMPORARY SWALE NOT TO SCALE



IF MOUNTABLE BERM IS PART OF A 'B' CLASS DKE, COMPACTED EARTH MUST BE 30" MINIMUM.

MOUNTABLE BERM DETAIL

DEVELOPER'S CERTIFICATION
 I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I/We authorize the following on-site inspection by the Howard Soil Conservation District:

[Signature] 5/22/97
 Date

ENGINEER'S CERTIFICATION
 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.

[Signature] 5/24/97
 John W. Ranachia, Sr.
 Date

Reviewed for Howard Soil Conservation District and meets Technical Requirements.

[Signature] 5/30/97
 Cheryl Simmons
 Natural Resources Conservation Service
 Date

This Development Plan is Approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

[Signature] 5/30/97
 John R. Davis
 Howard Soil Conservation District
 Date

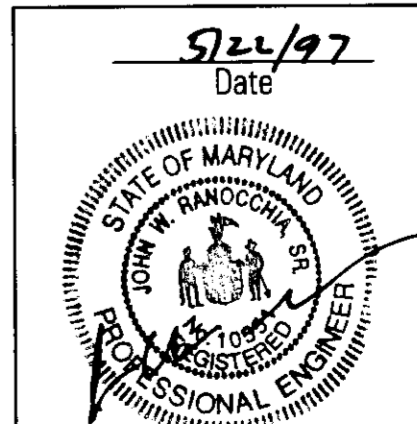
APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 4/23/97

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
[Signature] 6/16/97
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK
 DATE
[Signature] 6/20/97
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE
[Signature] 6/20/97
 DIRECTOR
 DATE

Date	No.	Revision Description

THE MALL IN COLUMBIA
 PHASE I EXPANSION
 TOWN CENTER
 SECTION 2 AREA 1, 2/2
 LOTS 8, 10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34, 35
 OWNER / DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044 HOWARD COUNTY

DMW
 Dan McCune-Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3333
 Fax: 296-4708
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

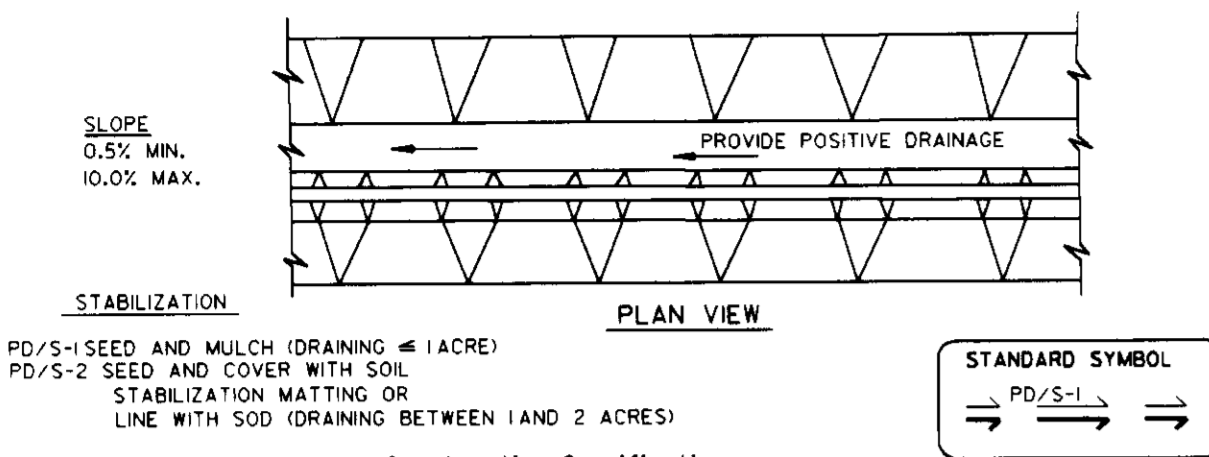
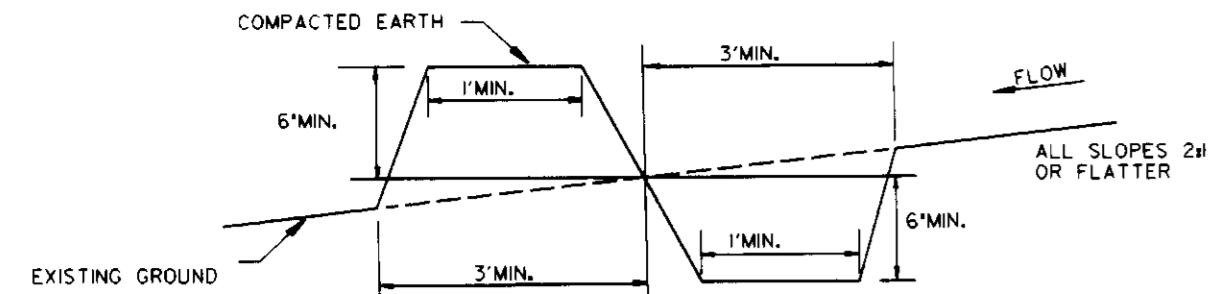


SUBDIVISION NAME	SECTION NAME	DATE
THE MALL IN COLUMBIA	PHASE I EXPANSION TOWN CENTER SECTION 2 AREA 1, 2/2	5/22/97

TITLE
 PHASE I A
 EROSION AND SEDIMENT CONTROL
 DETAIL SHEET

Des By CRW/JLS Scale AS SHOWN Proj. No. 95019B
 Dwn By JEF Date 5/22/97
 Chk By JWR Approved 32 OF 35

Professional Engr. No. 10557



- Construction Specifications**
1. All perimeter dikes/swales shall have an uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
 2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
 3. Runoff diverted from an undisturbed area shall outlet into an undisturbed stabilized area at a non-erosive velocity.
 4. The swale shall be excavated or shaped to line, grade, and cross-section as required to meet the criteria specified in the standards.
 5. Fill shall be compacted by earth moving equipment.
 6. Stabilization with seed and mulch or as specified of the area disturbed by the dike and swale shall be completed within 7 days upon removal.
 7. Inspection and required maintenance shall be provided after each rain event.
- Note: The maximum drainage area for this practice is 2 acres.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

A - 3 - 3

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

PERIMETER DIKE / SWALE

NOT TO SCALE

DUST CONTROL SPECIFICATIONS

- Temporary Methods**
1. Mulches - See standards for vegetative stabilization with mulches only. Mulch should be crimped or raked to prevent blowing.
 2. Vegetative Cover - See standards for temporary vegetative cover.
 3. Tillage - To roughen surface and bring clods to the surface. This is an emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart, spring-toothed harrows, and similar plows are examples of equipment which may produce the desired effect.
 4. Irrigation - This is generally done as an emergency treatment. Site is sprinkled with water until the surface is moist. Repeat as needed. At no time should the site be irrigated to the point the runoff begins to flow.
 5. Barriers - Solid board fences, snow fences, burlap fences, straw bales, and similar material can be used to control air currents and soil blowing. Barriers placed at right angles to prevailing currents at intervals of about 10 times their height are effective in controlling soil blowing.
 6. Calcium Chloride - Apply at a rate that will keep surface moist. May need retreatment.
- Permanent Methods**
1. Permanent Vegetation - See standards for permanent vegetative cover, and permanent stabilization with sod. Existing trees or large shrubs may afford usable protection if left in place.
 2. Topsoiling - Covering with less erosive soil materials. See standards for topsoiling.
 3. Stone - Cover surface with crushed stone or coarse gravel.

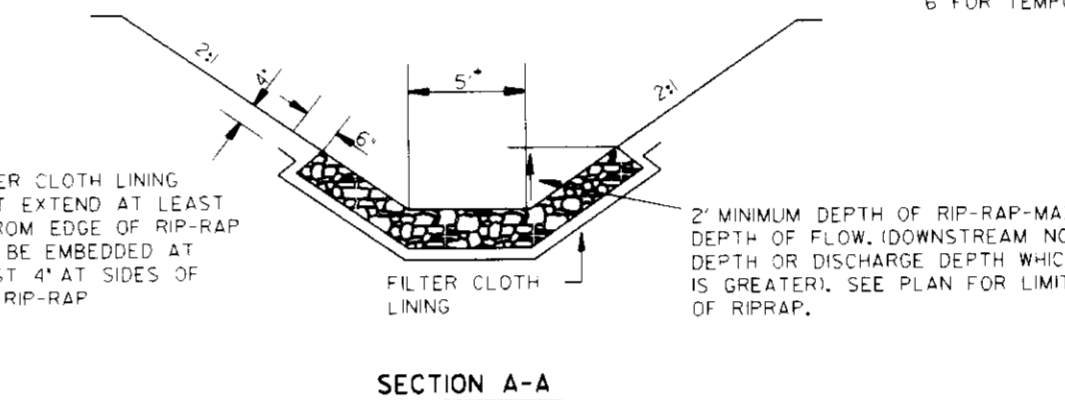
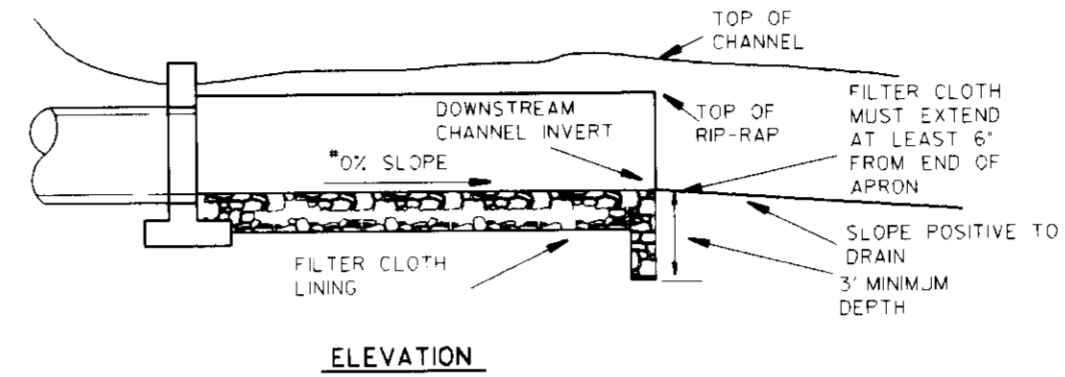
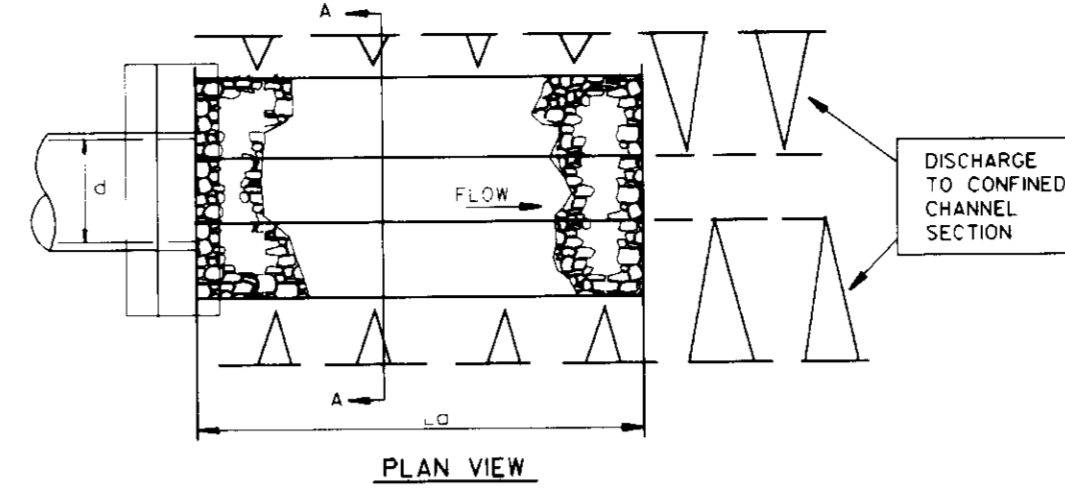
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

H - 30 - 1

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

DUST CONTROL SPECIFICATIONS

NOT TO SCALE



U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

F - 18 - 8A

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

ROCK OUTLET PROTECTION II

NOT TO SCALE

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

F - 18 - 8A, 9A, 10A

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

ROCK OUTLET PROTECTION SPECIFICATIONS

- Construction Specifications**
1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
 2. The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.
 3. Geotextile class C shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged spot or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.
 4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.
 5. The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS 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, DISKING 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 ACRES DOLOMITIC LIMESTONE (92 LBS./1000 SO.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SO.FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREA FORM FERTILIZER (9 LBS./1000 SO.FT.).
2. ACCEPTABLE - APPLY 2 TONS PER ACRES DOLOMITIC LIMESTONE (92 LBS./1000 SO.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SO.FT.) BEFORE SEEDING. HARROW OR DISK 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 (14 LBS./1000 SO.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 (0.5 LBS./1000 SO.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 SO.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 200 GALLONS PER ACRE (5 GAL./1000 SO.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1000 SO.FT.) FOR ANCHORING.

MAINTENANCE - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDING.

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, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

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

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 15 OCTOBER 15, SEED WITH 2 1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SO.FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS./1000 SO.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 SO.FT.) OF UNROTTED WEED FREE SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 200 GALLONS PER ACRE (5 GAL./1000 SO.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FT. OR HIGHER, USE 348 GAL. PER ACRE (8 GAL./1000 SO.FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

PERMANENT SEEDING NOTES

SEDIMENT CONTROL GENERAL NOTES

1. 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 (1992-2437).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
 - A. SEVEN CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1
 - B. FOURTEEN 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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS, SOD, TEMPORARY SEEDING, AND MULCHING (SECTION G). 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	19.8 ACRES
AREA TO BE ROOFED OR PAVED	9.8 ACRES
AREA TO BE VEGETATIVELY STABILIZED	10.0 ACRES
TOTAL CUT	407000 CUBIC YARDS
TOTAL FILL	900000 CUBIC YARDS
*OFF-SITE WASTE/BORROW AREA LOCATION	WASTE = 310000 CY
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY DPW SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
 - * EXCESS MATERIAL SHALL BE HAILED TO AN APPROVED SITE WITH A CURRENT GRADING PERMIT.

BITUMINOUS CURB DIVERSION

UTILITY CONSTRUCTION OUTSIDE SEDIMENT CONTROL PRACTICES

1. EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON UPSTREAM SIDE OF TRENCH.
2. IMMEDIATELY FOLLOWING PIPE INSTALLATION, THE TRENCH SHALL BE BACKFILLED, COMPACTED AND IMMEDIATELY STABILIZED (MULCHED, SEED, AND/OR SODDED MECHANICAL STABILIZATION) AT THE END OF EACH WORK DAY.
3. SILT FENCE SHALL BE PLACED IMMEDIATELY DOWN STREAM OF ANY DISTURBED AREA INTENDED TO REMAIN DISTURBED LONGER THAN ONE (1) WORKING DAY. (SILT FENCE AS PER SCS STANDARD DRAWING - E-15-3)
4. THE CONTRACTOR SHALL DISTURB AND OPEN TRENCH THE MINIMUM PRACTICAL AREA REQUIRED TO ACCOMPLISH THE WORK DESIGNATED FOR EACH DAY.
5. ALL SEDIMENT AND EROSION CONTROL PRACTICES AND VEGETATIVE STABILIZATION SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS. ANY EROSION AND SEDIMENT CONTROL PRACTICES DAMAGED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

UTILITY CONSTRUCTION OUTSIDE SEDIMENT CONTROL

DEVELOPERS CERTIFICATION:

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize on-site inspection by the Howard Soil Conservation District."

[Signature] 5/22/97
Date

ENGINEER'S CERTIFICATION:

"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."

[Signature] 5/22/97
John W. Rauscher, Sr. PE/NSP
Date

Reviewed for Howard Soil Conservation District and meets Technical Requirements.

[Signature] 5/22/97
Date

This Development Plan is Approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

[Signature] 5/22/97
Date

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 4/23/97

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

[Signature] 6/10/97
DATE
[Signature] 6/21/97
DATE
[Signature] 6/29/97
DATE

THE MALL IN COLUMBIA

PHASE EXPANSION
TOWN CENTER
SECTION 2 AREA 1, 2/2

LOTS 8,10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34, 35

OWNER / DEVELOPER:

THE HOWARD RESEARCH & DEVELOPMENT CORP.

COLUMBIA MALL, INC.

10275 LITTLE PATUXENT PARKWAY

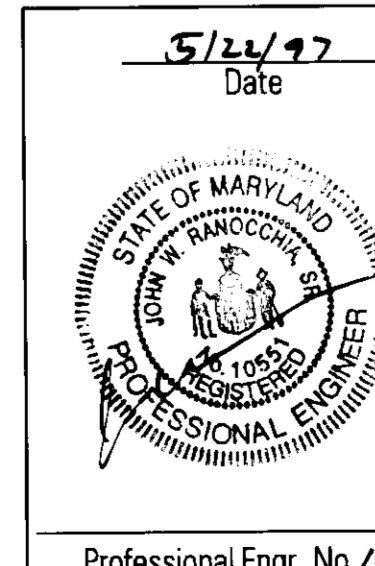
COLUMBIA, MARYLAND 21044

Howard County

DMW

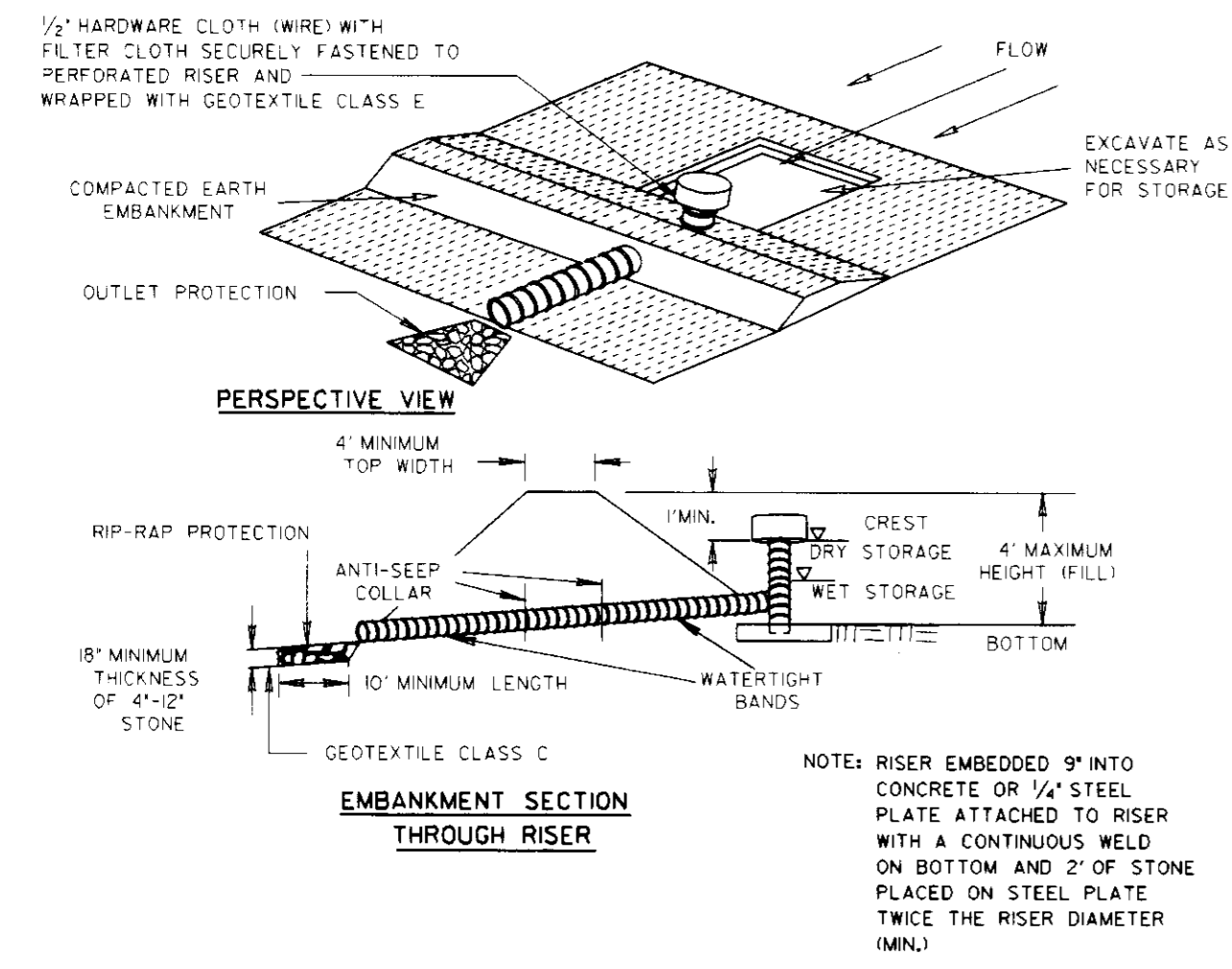
Dan McCune/Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
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Fax: 296-4708

A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals



PHASE IA
EROSION AND SEDIMENT CONTROL
DETAIL SHEET

Des By	CRW/JLS	Scale	AS SHOWN	Proj. No.	95019B
Dwn By	JEF	Date	5/22/97		
Chk By	JWR	Approved		31	OF 35

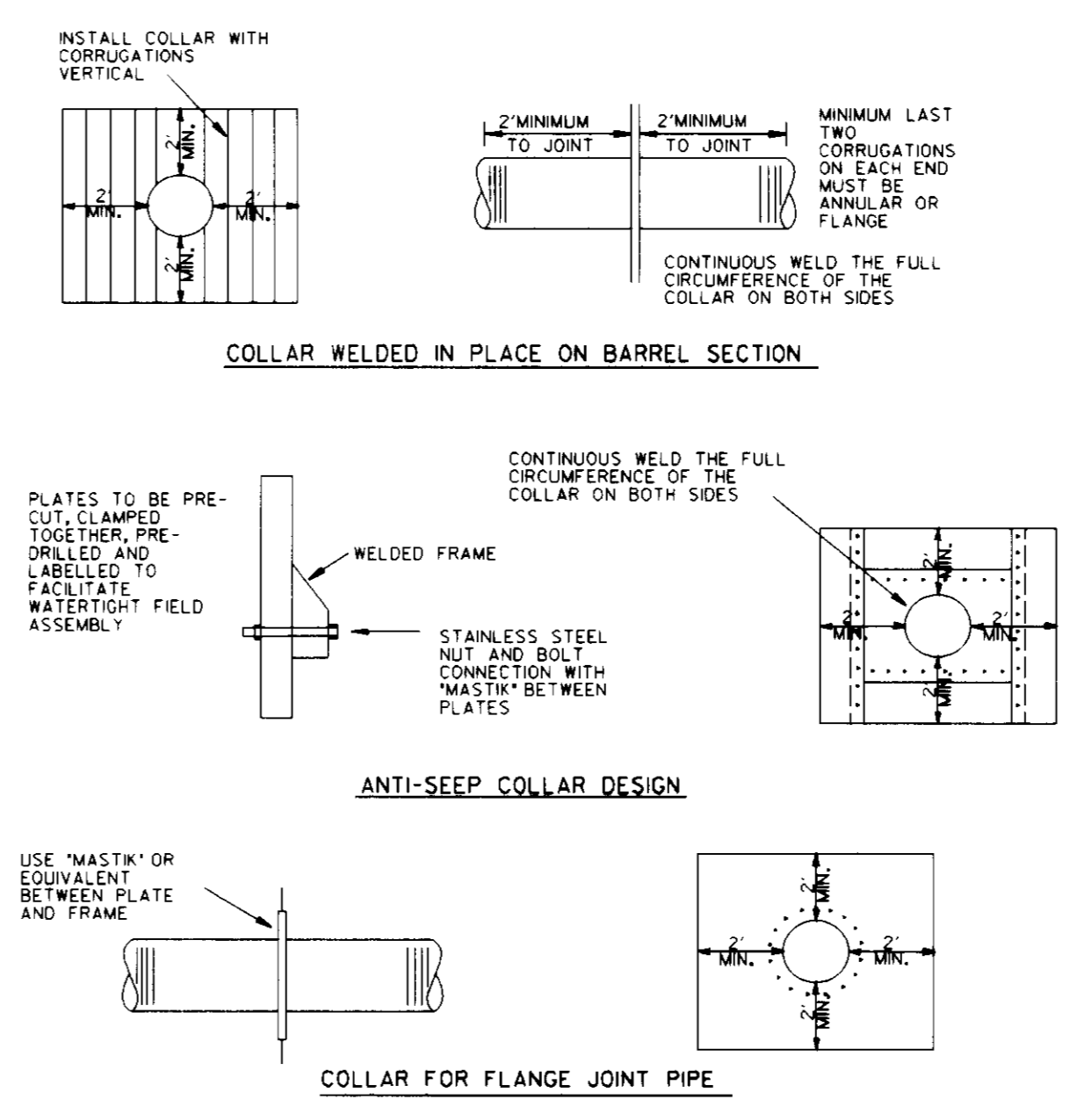


U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE C-9-7
 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
PIPE OUTLET SEDIMENT TRAP - ST I

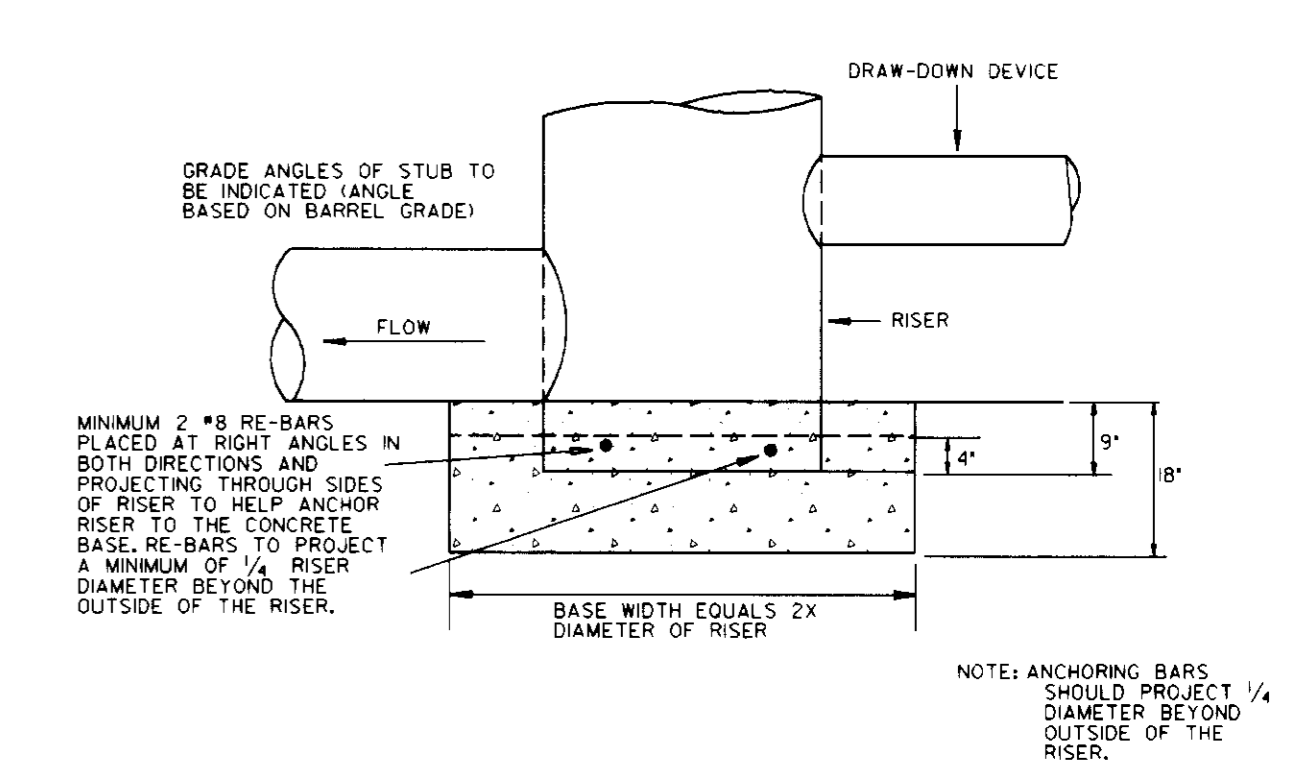
Construction Specifications

- The area under the embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
- The fill material for the embankment shall be free of roots or other woody vegetation as well as oversized stones, rocks, organic material, or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
- The total trap volume as measured from the bottom to riser crest elevation shall be 3600 cubic feet per acre of drainage area (see Table 9). The top of embankment must be 2' above the riser crest elevation.
- Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap (9000/acre). The sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- The structure shall be inspected periodically and after each rain and repairs made as necessary.
- Construction operations shall be carried out in such a manner that erosion and water pollution are abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentrated inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the trap completion and monitored and maintained erosion free during the life of the trap.
- The structure shall be removed and area stabilized when the drainage area has been properly stabilized.
- As cut and fill slopes shall be 2:1 or flatter.
- All pipe connections shall be watertight.
- Above the wet storage elevation, the riser shall be perforated with 1/2" wide by 6" long slits or 1" diameter holes spaced 6" vertically and horizontally. No perforations will be allowed within 6" of the horizontal barrel.
- The riser shall be wrapped with 1/2" hardware cloth (wire) then wrapped with Geotextile Class E. The filter cloth shall extend 6' above the highest slit and 6' below the lowest slit. Where ends of filter cloth come together, they shall be overlapped, folded and fastened to prevent bypass. Filter cloth shall be replaced as necessary to prevent clogging.
- Straps or connecting bands shall be used to hold the filter cloth and wire fabric in place. They shall be placed at the top and bottom of the cloth.
- Fill material around the pipe spillway shall be hand compacted in 4" layers. A minimum of 2" of hand-compacted back fill shall be placed over the pipe spillway before crossing it with construction equipment.
- The riser shall be anchored with either a concrete base or steel plate base to prevent flotation. Concrete bases shall be at least twice the riser diameter and 12" deep with the riser embedded 9". Steel plate bases shall be at least twice the riser diameter, 1/4" minimum thickness and attached to the bottom of the riser by a continuous weld to form a watertight connection. Then place 2" of stone, gravel or tamped earth on the plate.
- Anti-seep collars shall be constructed in accordance with plans (ref. table 16 and Details C-10-23 AND C-10-24).
- Concentric trash rack and anti-vortex device design details are on Detail C-10-26 and C-10-26A.
- Refer to Section D for dewatering requirements of sediment traps.
- Outlet - An outlet shall be provided, which includes a means of conveying the discharge in an erosion free manner to an existing stable channel.
- Where discharge occurs off the property line, local ordinances and drainage easement requirements shall be met.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE C-9-7A
 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
PIPE OUTLET SEDIMENT TRAP - ST I NOT TO SCALE



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE C-10-24
 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
TYPICAL ANTI-SEEP COLLARS NOT TO SCALE



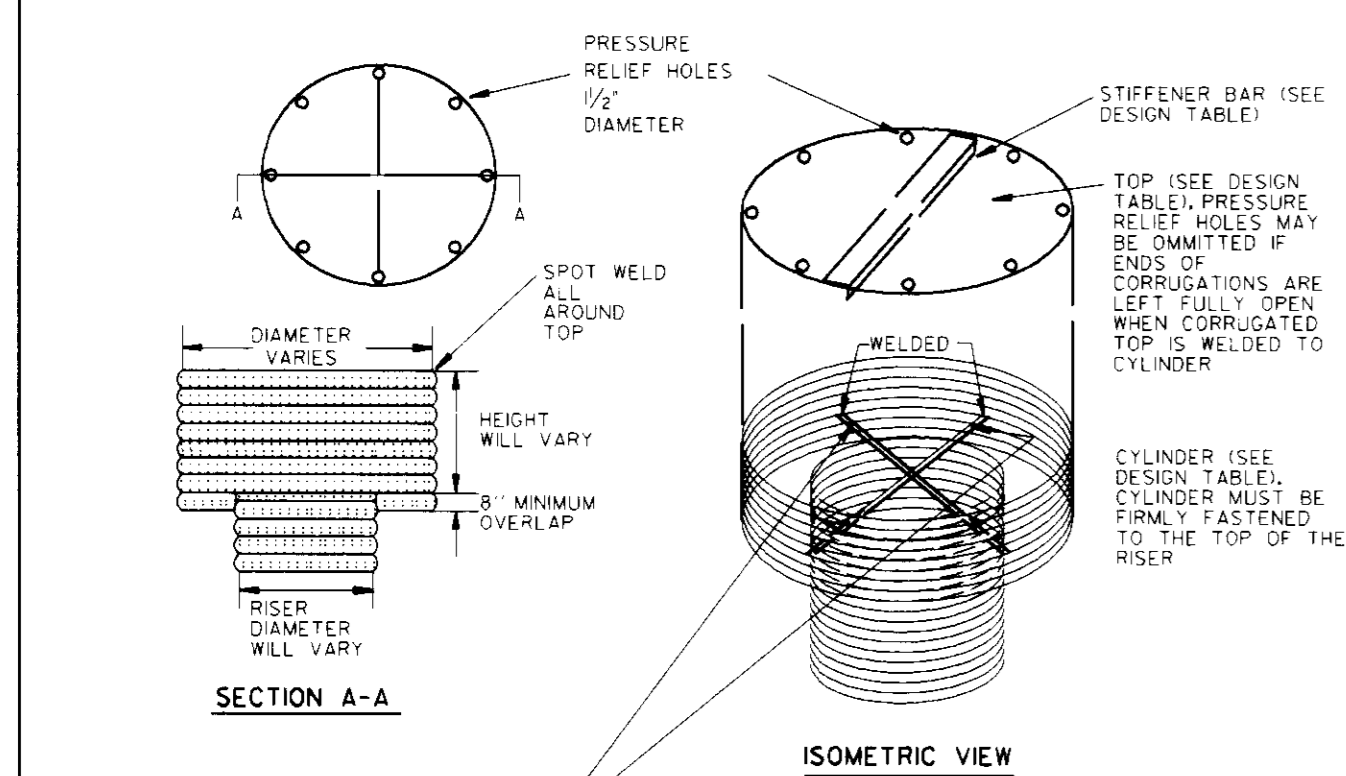
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE C-10-25
 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
RISER BASE DETAIL

Construction Specifications

The riser shall have a base attached with a watertight connection and shall have sufficient weight to prevent flotation of the riser. Two approved bases for risers 10' or less in height are:

- A concrete base 18" thick with the riser embedded 9" in the base.
- A 1/4" minimum thickness steel plate attached to the riser by a continuous weld around the circumference of the riser to form a watertight connection. The plate shall have 2" of stone, gravel, or compacted earth placed on it to prevent flotation, in either case, each side of the square base shall be twice the riser diameter.

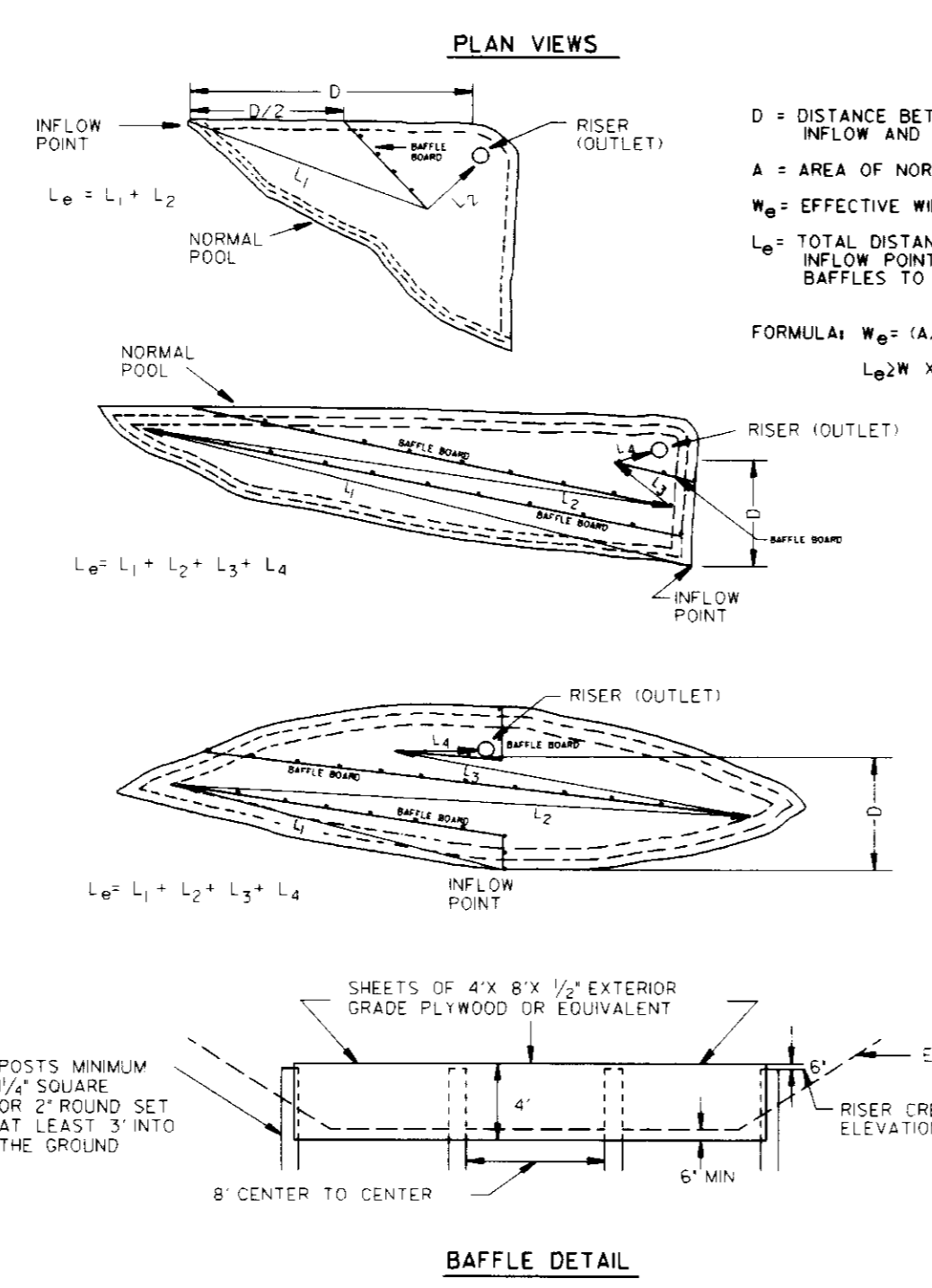
Note: For risers greater than ten feet high computations shall be made to design a base which will prevent flotation. The minimum factor of safety shall be 1.20 (downward forces = 1.20 x upward forces).



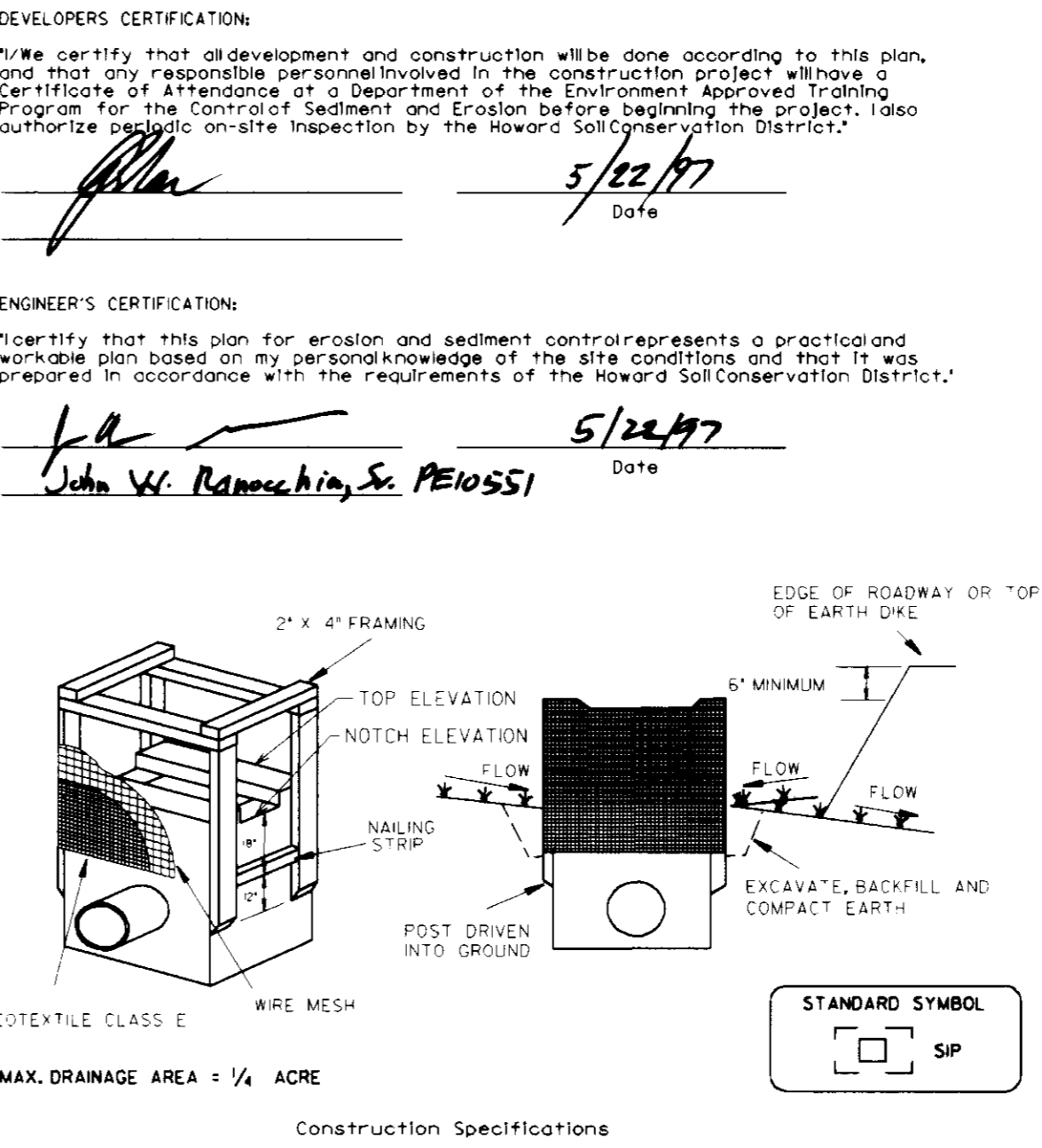
Notes: The trash rack and anti-vortex device information is only for corrugated metal pipe. Concrete risers must meet the requirements to MD 378.

Riser Diam., In.	Trash Rack Cylinder Diam., Thick., In.	Height, In.	Minimum Size Support Bar	Minimum Top Thickness, In.	Stiffener
12	18	16	#6 Rebar	16 ga.	--
15	21	16	"	"	--
18	27	16	"	"	--
21	30	16	"	"	--
24	36	16	"	14 ga.	--
27	42	16	"	12 ga.	--
36	54	14	#8 Rebar	12 ga.	--
42	60	14	"	"	--
48	72	12	1-1/4" pipe or 1-1/2" x 1/4" angle	10 ga.	--
54	78	12	"	"	--
60	90	12	1-1/2" pipe or 2x2x1/4 angle	8 ga.	--
66	96	10	"	8 ga.	2x2x1/4 w/stiffener
72	102	10	"	"	2-1/2x2-1/2 angle
78	114	10	"	"	"
84	120	10	2-1/2" pipe or 2-1/2x2-1/2x1/4 angle	"	3/4 angle

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE C-10-26
 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE NOT TO SCALE



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE C-10-28
 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
SEDIMENT BASIN BAFFLES NOT TO SCALE



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE E-16-5
 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
STANDARD INLET PROTECTION NOT TO SCALE

DEVELOPER'S CERTIFICATION
 We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize the on-site inspection by the Howard Soil Conservation District.

John W. Ramonchio, Sr. PEI/SSI 5/22/97
 Date

ENGINEER'S CERTIFICATION
 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.

John C. Dauter 5/30/97
 Date

Reviewed for Howard Soil Conservation District and meets Technical Requirements.
John C. Dauter 5/30/97
 Date

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 4/23/97

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
John C. Dauter 5/16/97
 CHIEF DEVELOPMENT ENGINEERING DIVISION
Richard B. Lord 6/26/97
 CHIEF, DIVISION OF LAND DEVELOPMENT
James S. Smith 6/26/97
 DIRECTOR

Date	No.	Revision Description

THE MALL IN COLUMBIA
 PHASE I EXPANSION
 TOWN CENTER
 SECTION 2 AREA 1, 2/2
 LOTS 8,10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34, 35
 OWNER / DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

DMW
 Darr McCona Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 286-3333
 Fax: 286-4708

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

5/22/97
 Date

Professional Engr. No. 14551

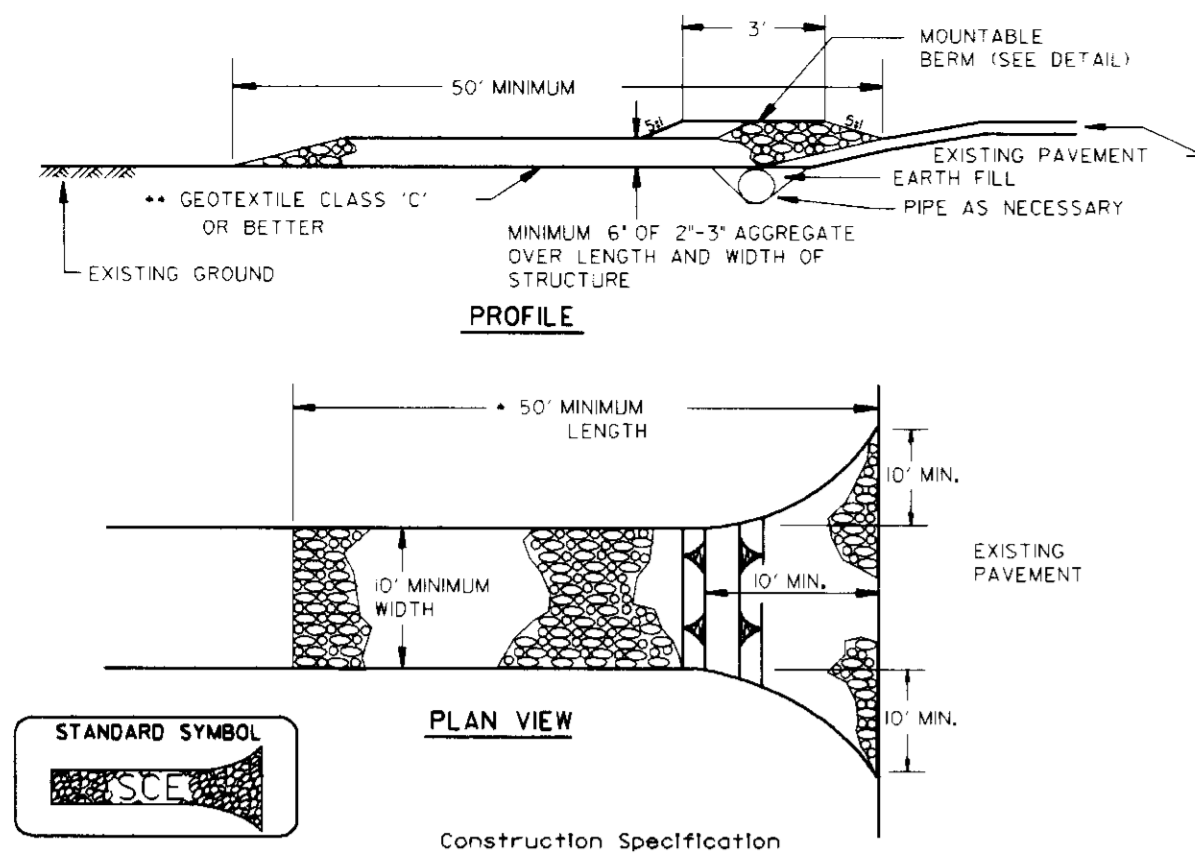
DATE	BY	REVISION
5/22/97	JWS	ISSUE FOR PERMIT
5/22/97	JWS	ISSUE FOR PERMIT
5/22/97	JWS	ISSUE FOR PERMIT

TITLE
**PHASE IA
 EROSION AND SEDIMENT CONTROL
 DETAIL SHEET**

Des By	CRW/JLS	Scale	AS SHOWN	Proj. No.	950198
Drn By	JEF	Date	5/22/97		
Chk By	JWR	Approved			

37 OF 35

5DP-97-107
 Wed May 21 12:42:33 1997 c:\950198\950198.dwg



- Construction Specifications
- Length - minimum of 50' (+30' for single residence lot).
 - Width - 10' minimum, should be placed over the existing road to provide a turning radius.
 - Geotextile fabric Class C (filter cloth) shall be placed over the existing ground prior to placing stone. The plan approval authority may not require single family residences to use geotextile.
 - Stone - crushed aggregate 1/2" to 3/4" or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
 - Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mounded berm with 5' slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
 - Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

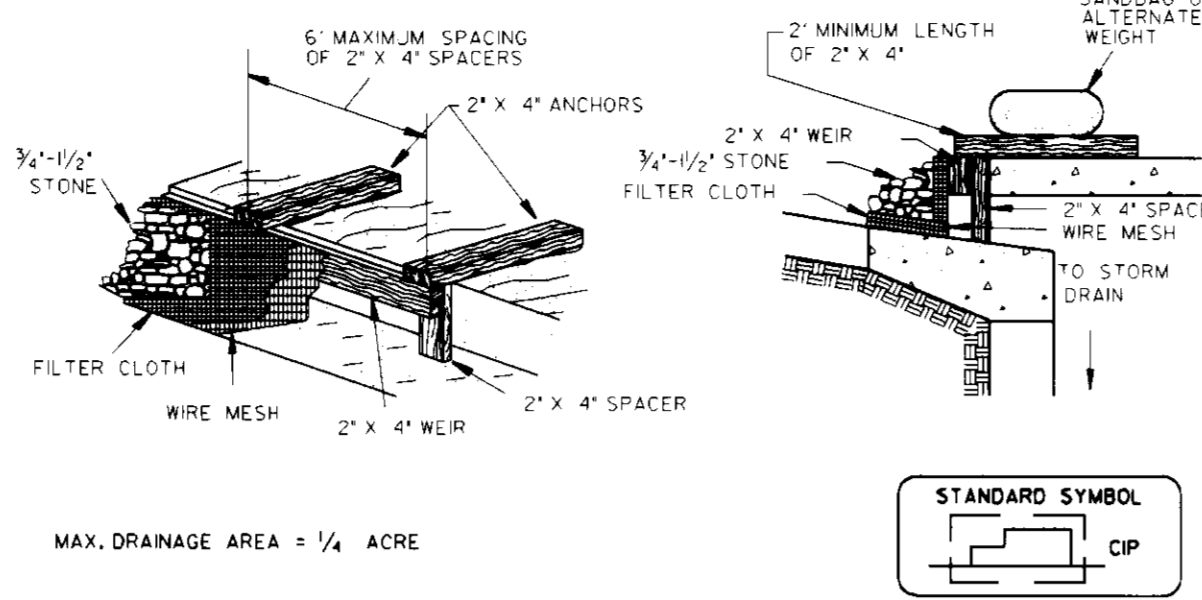
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

F - 17 - 3

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

- Attach a continuous piece of 1/2" x 1/2" wire mesh (throat length plus 2') to the 2' x 4' weir (measuring throat length plus 2') as shown on the standard drawing.
- Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach 1" to the 2' x 4' weir.
- Securely nail the 2' x 4' weir to a 9' long vertical spacer to be located between the weir and the 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 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.
- The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
- Form the 1/2" x 1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4" x 1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
- 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 the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

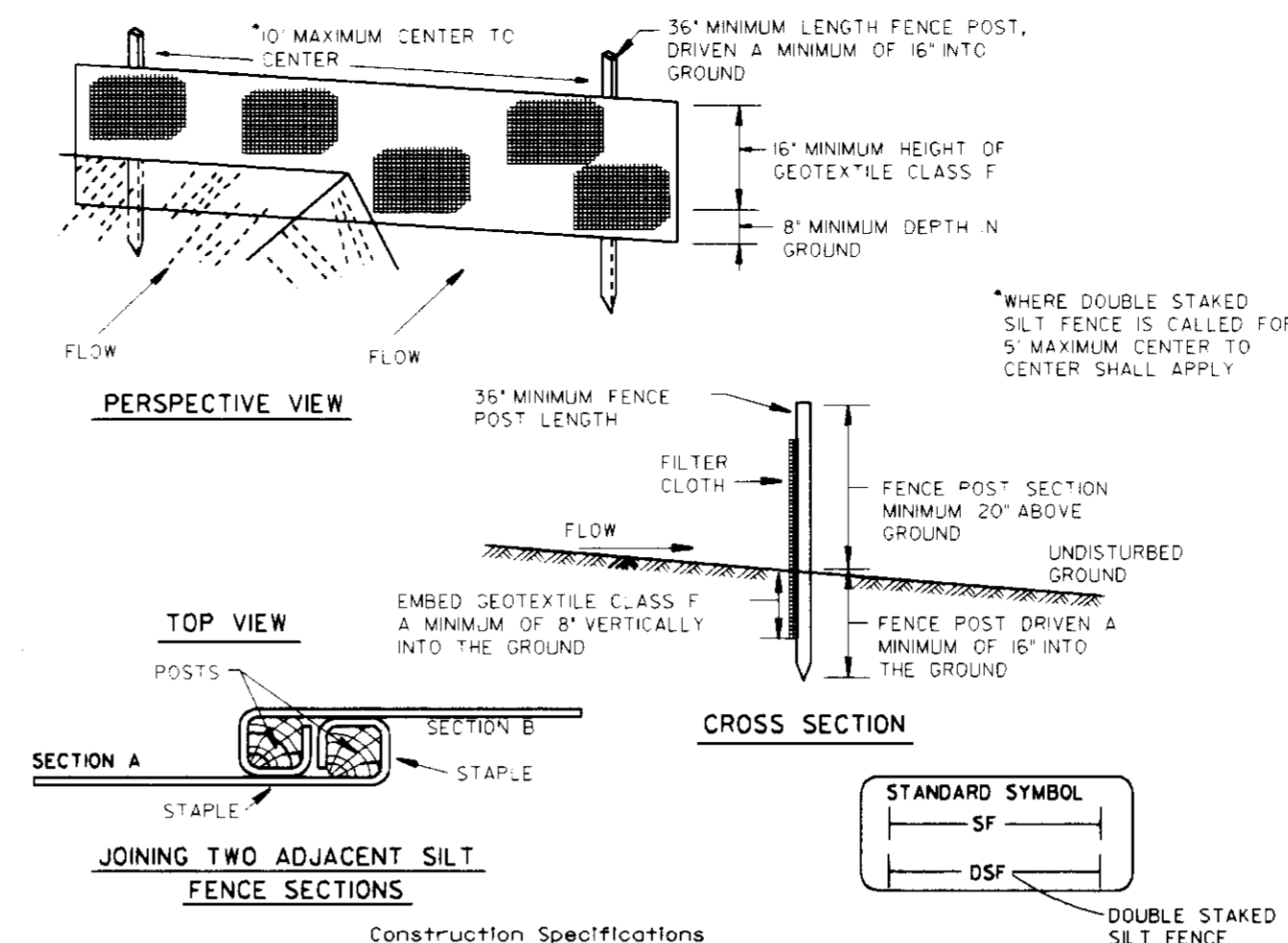
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

E - 16 - 6B

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

CURB INLET PROTECTION (COG OR COS INLETS)

NOT TO SCALE



- Construction Specifications
- Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1/2" x 1/2" square (minimum cut) or 1 3/4" diameter (minimum round) and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 100 pound per linear foot.
 - Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:
- | | | |
|----------------------|--------------------------|----------------|
| Tensile Strength | 50 lbs/in (min.) | Test: MSMT 509 |
| Tensile Modulus | 20 lbs/in (min.) | Test: MSMT 509 |
| Flow Rate | 0.3 gal/ft/minute (max.) | Test: MSTM 322 |
| Filtering Efficiency | 75% (min.) | Test: MSMT 522 |
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
 - Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

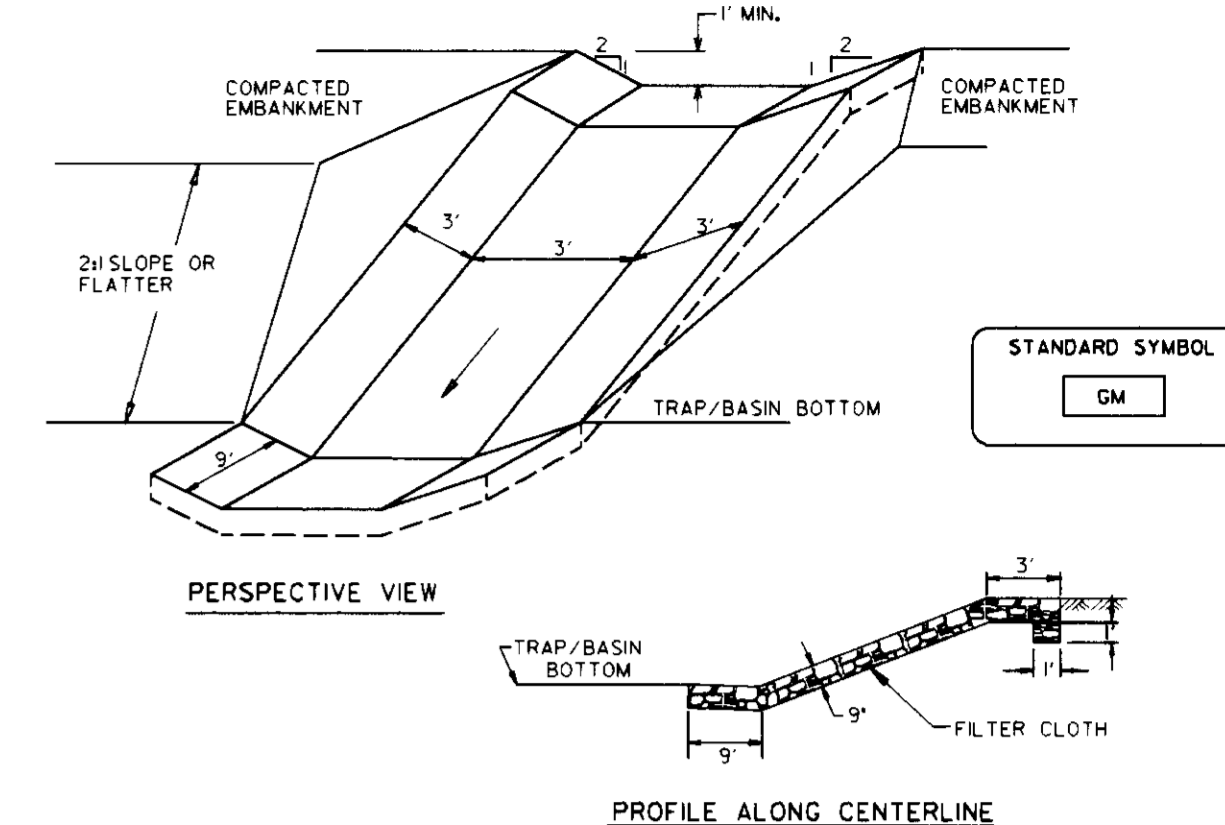
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

E - 16 - 3

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

SILT FENCE

NOT TO SCALE



- Construction Specifications
- Gabion inflow protection shall be constructed of 9' x 3' x 9' gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.
 - Geotextile Class C shall be installed under all gabion baskets.
 - The stone used to fill the gabion baskets shall be 4" - 7".
 - Gabions shall be installed in accordance with manufacturers recommendations.
 - Gabion Protection shall be used where concentrated flow is present on slopes steeper than 4:1.

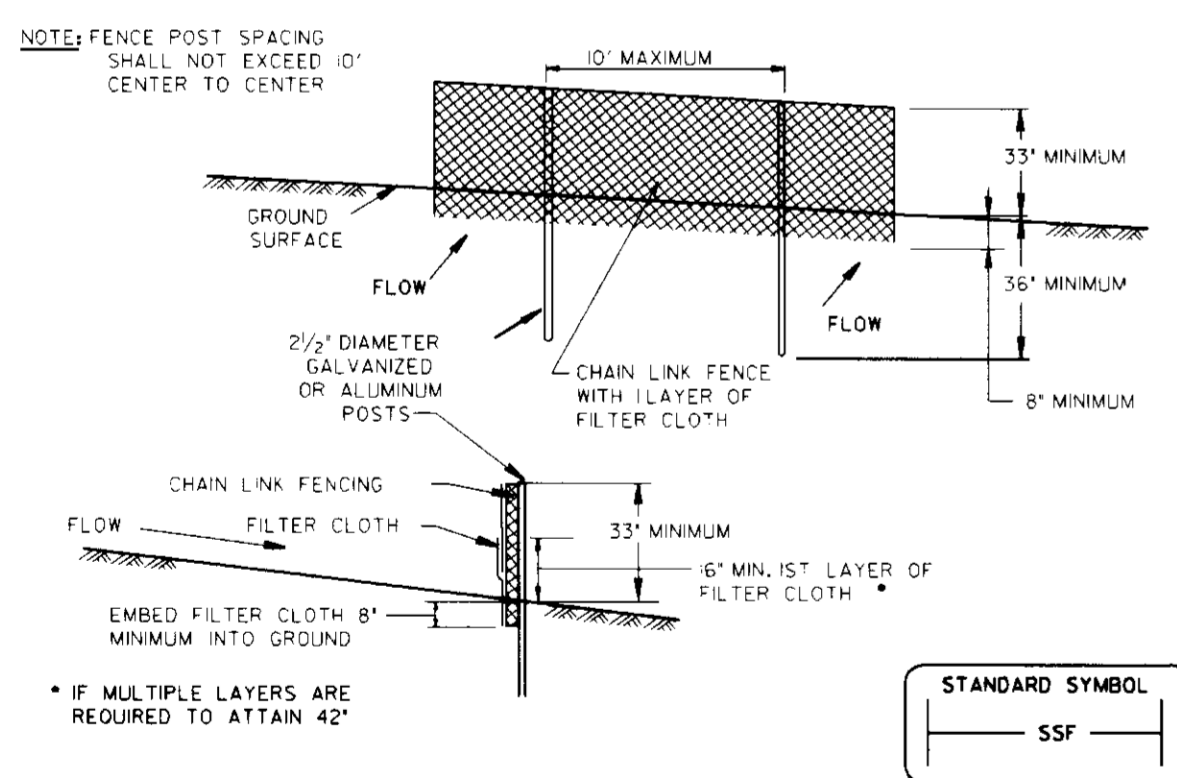
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

B - 7 - 2

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

GABION INFLOW PROTECTION

NOT TO SCALE



- Construction Specifications
- Fencing shall be 42 inches in height and constructed in accordance with the latest Maryland State Highway (SHA) Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
 - The posts do not need to be set in concrete.
 - Chain link fence shall be fastened securely to the fence posts with wire ties or staples. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence. The chain link fencing shall be six (6) gauge or heavier.
 - Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
 - When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
 - Maintenance shall be performed as needed and silt buildup removed when 'bulges' develop in the silt fence, or when silt reaches 50% of fence height.

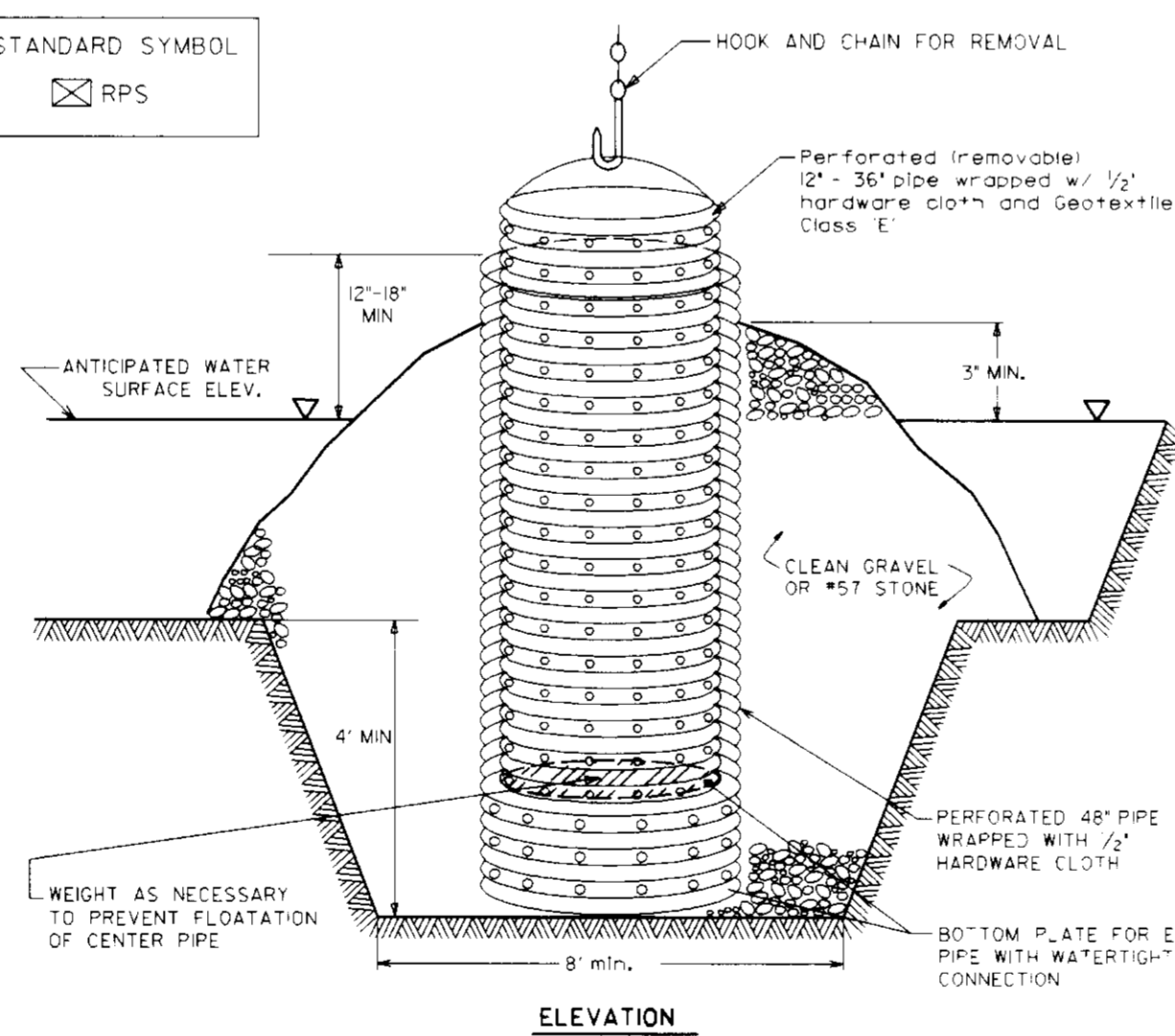
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

H - 26 - 3

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

SUPER SILT FENCE

NOT TO SCALE



- Construction Specifications
- The outer pipe shall be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth or 1/2" geotextile fabric.
 - After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
 - The inside stand pipe center shall be constructed by perforating a corrugated or PVC pipe between 12" and 36" diameter. The perforations shall be 1/2" x 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class E.
 - The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

D - 12 - 6

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

REMOVABLE PUMPING STATION

NOT TO SCALE

DEVELOPERS CERTIFICATION

I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a certificate of attendance at a Department of the Environment Approved Training Program for the control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

[Signature] 5/22/97
Date

ENGINEER'S CERTIFICATION

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.

[Signature] 5/22/97
John W. Ramech, Sr. PE/MSI
Date

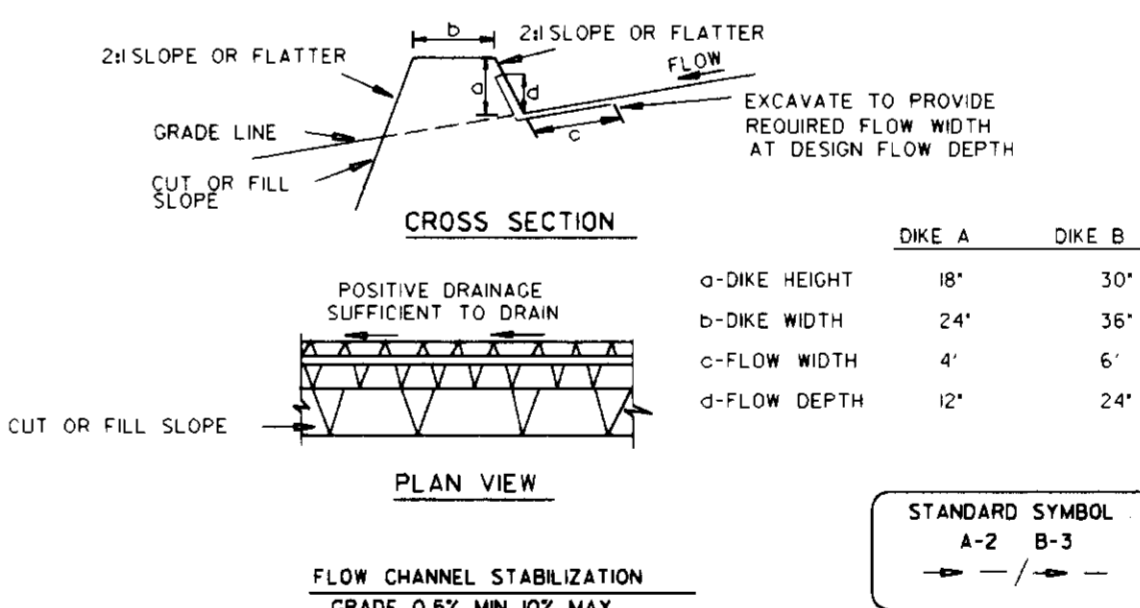
Reviewed for Howard Soil Conservation District and meets Technical Requirements.

[Signature] 5/23/97
Natural Resources Conservation Service
Date

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

[Signature] 5/30/97
Howard Soil Conservation District
Date

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 4/23/97



- Construction Specifications
- Seed and cover with straw mulch.
 - Seed and cover with Erosion Control Matting or lime with sod.
 - 4" - 7" stone or recycled concrete equivalent pressed into the soil? minimum
 - All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
 - Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
 - Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area of a non-erosive velocity.
 - All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
 - The dike shall be compacted or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
 - All shall be compacted by earth moving equipment.
 - All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
 - Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

A - 1 - 6

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

EARTH DIKE

NOT TO SCALE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

[Signature] 6/20/97
CHIEF DEVELOPMENT ENGINEERING DIVISION
[Signature] 6/20/97
DIRECTOR OF LAND DEVELOPMENT
[Signature] 6/20/97
DIRECTOR

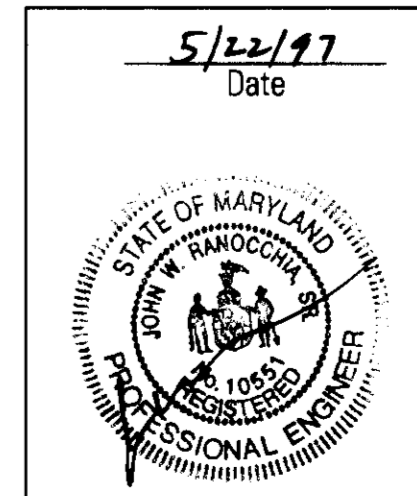
Date No. Revision Description

THE MALL IN COLUMBIA
PHASE I EXPANSION
TOWN CENTER
SECTION 2 AREA 1
LOTS 8-10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34, 35
OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044 HOWARD COUNTY

DMW
Duff McQuinn-Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3538
Fax: 410-296-4708
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

5/22/97
Date
BLOCK # 2/1 2/2
PAGE NO. 29/30
REVISIONS: 1
DATE: 5/22/97
BY: JWR

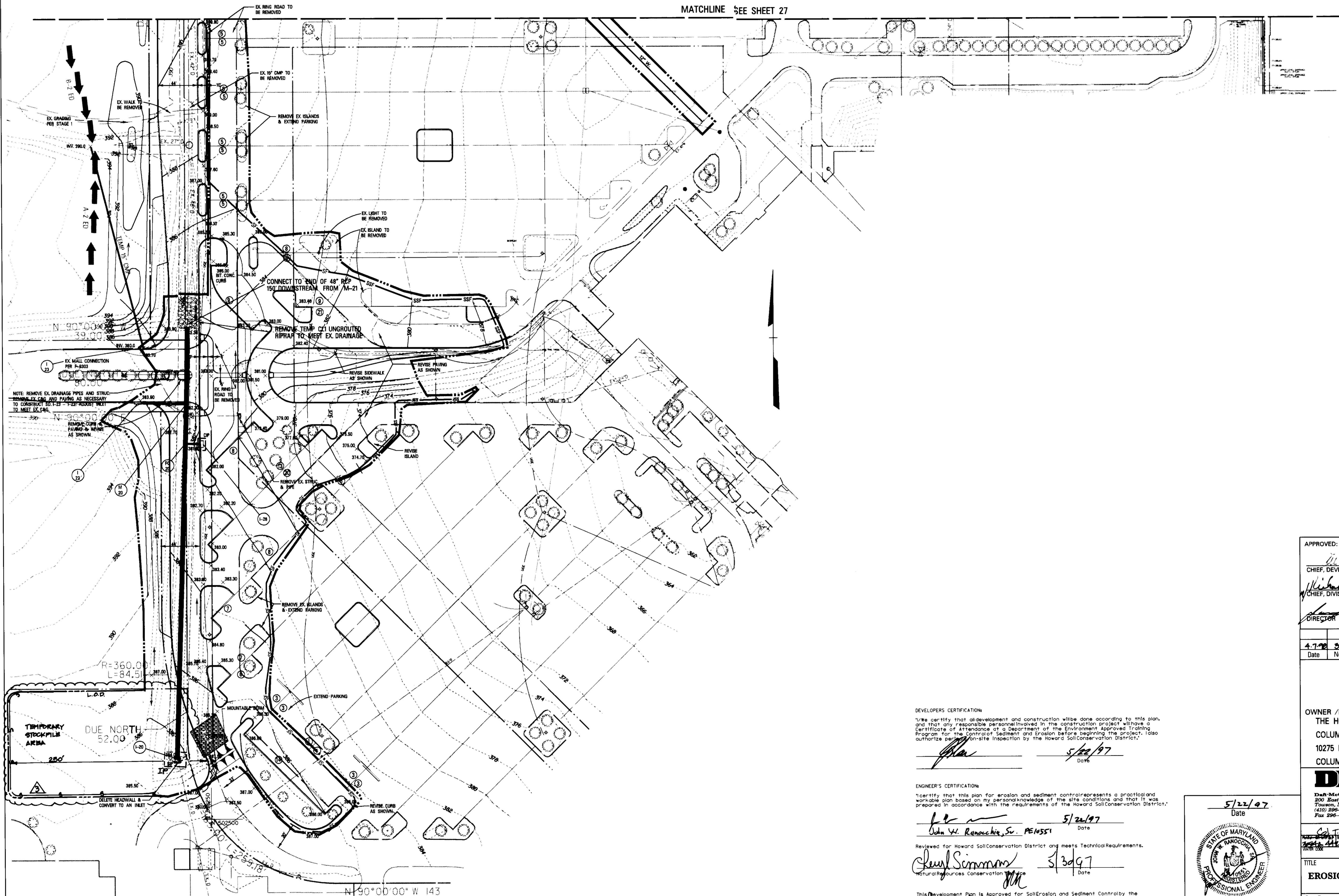
TITLE **PHASE IA EROSION AND SEDIMENT CONTROL DETAIL SHEET**
Des By CRW/JLS Date AS SHOWN
Dm By JEF Date 5/22/97
Chk By JWR Approved
Proj. No. 950198
29 OF 35
SDP-97-107



N 503500
E 839250

- LEGEND**
- EX. MAJOR CONTOUR
 - EX. MINOR CONTOUR
 - EX. WATER
 - EX. SANITARY SEWER
 - EX. STORM DRAIN
 - EX. GAS
 - EX. EDGE OF ROAD
 - PROP. UTILITIES
 - PROP. EDGE OF ROAD
 - SILT FENCE
 - SUPER SILT FENCE
 - INLET PROTECTION
 - STABILIZED CONSTRUCTION ENT.
 - MOUNTABLE BERM
 - TEMPORARY SWALE
 - EARTH DIKE
 - LIMIT OF DISTURBANCE
 - STAGE 1 SWALE TOPO
 - PROPOSED CONTOUR
 - × 866.70 SPOT ELEVATION

MATCHLINE SEE SHEET 27



APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE: 4/23/97

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

[Signature] 6/16/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE

[Signature] 4/20/97
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 6/20/97
DIRECTOR DATE

4-7-97 3 Add Temp Gravel Area
Date No. Revision Description

THE MALL IN COLUMBIA
PHASE I EXPANSION
TOWN CENTER
SECTION 2 AREA 1 2/2
LOTS 8, 10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34, 35

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044 Howard County

DMW
Dan McCune-Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-5533
Fax 296-4706

A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals

DEVELOPERS CERTIFICATION

"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 of a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize permission for on-site inspection by the Howard Soil Conservation District."

[Signature] 5/22/97
Date

ENGINEER'S CERTIFICATION

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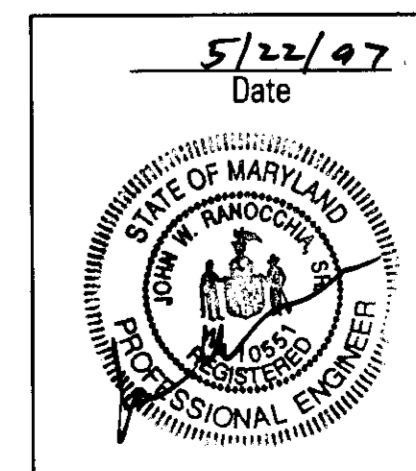
[Signature] 5/22/97
John W. Ranocchia, Sr. PE/0551 Date

Reviewed for Howard Soil Conservation District and meets Technical Requirements.

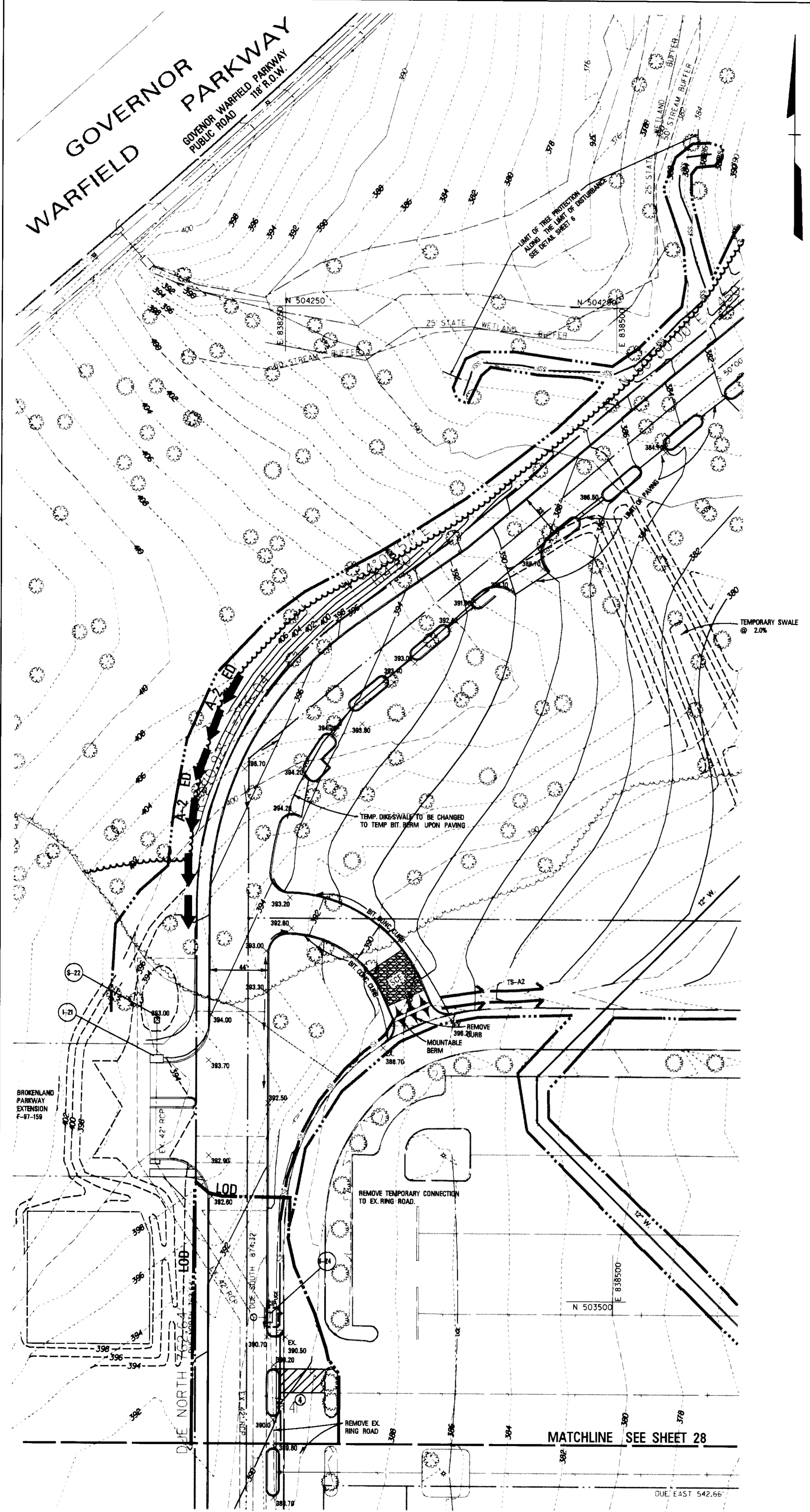
[Signature] 5/30/97
Natural Resources Conservation District Date

[Signature] 5/30/97
Howard Soil Conservation District Date

This Development Plan is Approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.



DATE	5/22/97	DATE	5/22/97
SECTION	2/1 2/2	DATE	5/22/97
SCALE	1" = 50'	DATE	5/22/97
TITLE	PHASE 1A EROSION AND SEDIMENT CONTROL PLAN STAGE 4		
DES BY	CRW/JLS	SCALE	1" = 50'
DRN BY	JEF	DATE	5/18/97
CHK BY	JWR	APPROVED	28 OF 35



DIXES AND SWALES TO BE ADJUSTED AT THE END OF EACH DAY TO MAINTAIN POSITIVE DRAINAGE TO TRAPS.

DEVELOPER'S CERTIFICATION:
 I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a certificate of attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic site inspection by the Howard Soil Conservation District.
 [Signature] 5/22/97
 Date

ENGINEER'S CERTIFICATION:
 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.
 [Signature] 5/22/97
 John W. Renschler, Sr. Date

Reviewed for Howard Soil Conservation District and meets Technical Requirements.

[Signature] 5/20/97
 Natural Resources Conservation Service Date

This Development Plan is Approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.
 [Signature] 5/30/97
 Howard Soil Conservation District Date

LEGEND

- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. WATER
- EX. SANITARY SEWER
- EX. STORM DRAIN
- EX. GAS
- EX. EDGE OF ROAD
- PROP. UTILITIES
- PROP. EDGE OF ROAD
- SILT FENCE
- SUPER SILT FENCE
- INLET PROTECTION
- STABILIZED CONSTRUCTION ENT.
- MOUNTABLE BERM
- TEMPORARY SWALE
- EARTH DIKE
- LIMIT OF DISTURBANCE
- TEMP DIKE/ SWALE
- STAGE 1 SWALE TOPO
- PROPOSED CONTOUR
- × 360.70 SPOT ELEVATION

5/22/97
 Date

Professional Engr. No. 10551

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 4/23/97

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

[Signature]	6/16/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	DATE
[Signature]	6/20/97
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
[Signature]	6/20/97
DIRECTOR	DATE

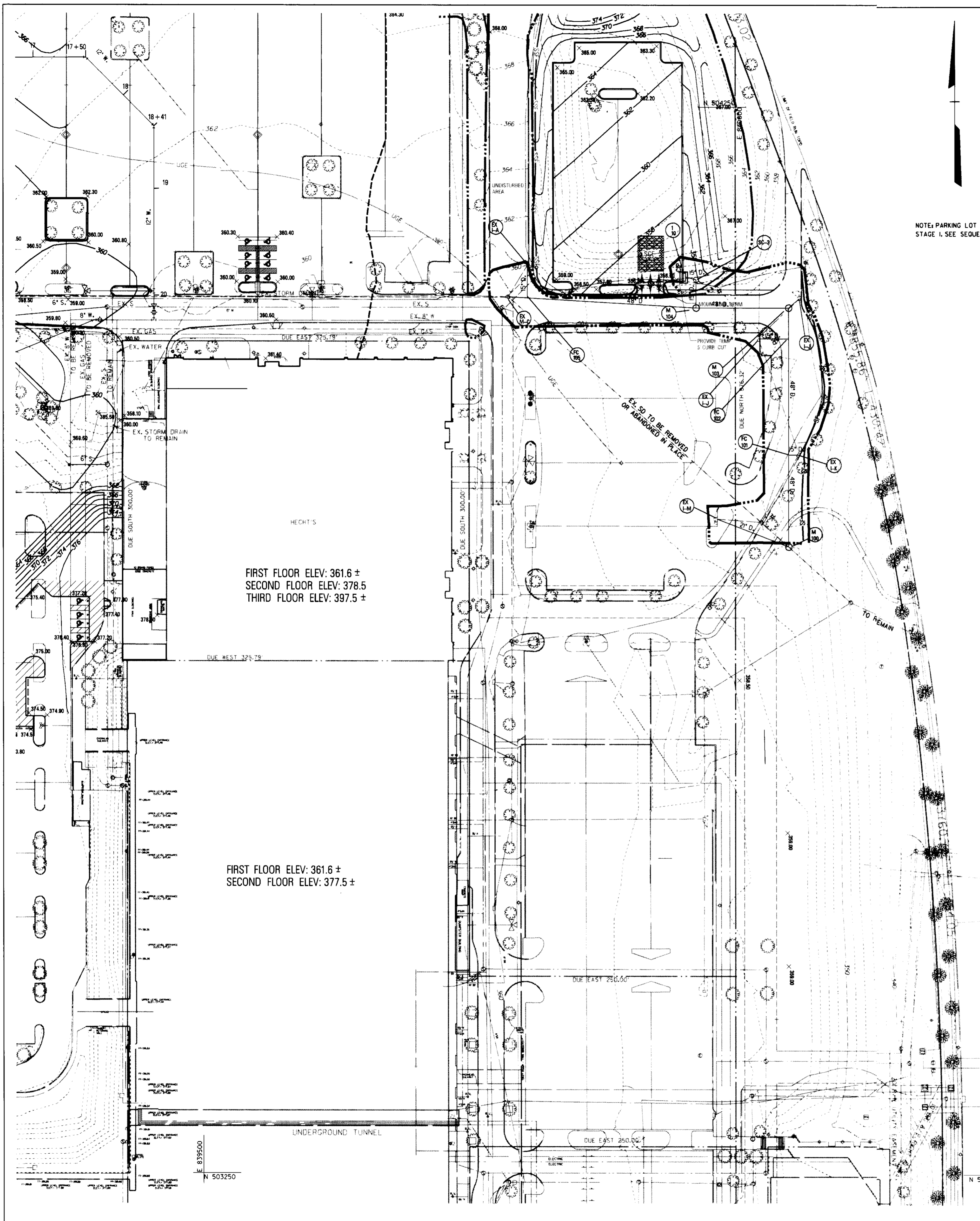
Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE I EXPANSION TOWN CENTER SECTION 2 AREA 1, 2, 3 LOTS 8, 10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34, 35 OWNER / DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORP. COLUMBIA MALL, INC. 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 HOWARD COUNTY

DMW
 DaR McCune-Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3553
 Fax 296-4706

A Team of Land Planners,
 Landscape Architects,
 Engineers, Surveyors &
 Environmental Professionals

REVISION NO.	SECTION	DATE	BY
1	1/1	5/21	JEF
2	1/1	5/21	JEF
3	1/1	5/21	JEF

TITLE			
PHASE IA EROSION AND SEDIMENT CONTROL PLAN STAGE 4			
Des By	CRWJLS	Scale	1" = 50'
Drn By	JEF	Date	5/22/97
Proj. No.	95019B	27	OF 35
Chk By	JWR	Approved	



NOTE: PARKING LOT CONSTRUCTED UNDER STAGE I. SEE SEQUENCE SHEET 22.

- LEGEND**
- EX. MAJOR CONTOUR
 - EX. MINOR CONTOUR
 - EX. WATER
 - EX. SANITARY SEWER
 - EX. STORM DRAIN
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 - TEMPORARY SWALE
 - EARTH DIKE
 - LIMIT OF DISTURBANCE
 - STAGE I SILT FENCE
 - STAGE I LIMIT OF DISTURBANCE
 - PROPOSED CONTOUR
 - × 360.70 SPOT ELEVATION

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 4/23/97

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Richard Blood 4/23/97
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE

Richard Blood 4/20/97
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Joseph S. ... 4/20/97
 DIRECTOR DATE

Date No. Revision Description

THE MALL IN COLUMBIA
 PHASE I EXPANSION
 TOWN CENTER
 SECTION 2 AREA 1, 2/B
 LOTS 8,10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34, 35

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044 HOWARD COUNTY

DMW
 Darin McCaskey Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3833
 Fax 296-4705

A Team of Land Planners,
 Landscape Architects,
 Engineers, Surveyors &
 Environmental Professionals

DESIGNER	DATE	SCALE	PROJECT NO.
Des By CRW/JLS	5/22/97	Scale 1" = 50'	Proj. No. 95019B
DRN By JEF	5/22/97		26 OF 35
CHK By JWR	Approved		

DEVELOPERS CERTIFICATION:
 "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 of a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

[Signature] 5/22/97
 Date

ENGINEER'S CERTIFICATION:
 "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."

[Signature] 5/22/97
 Date

John V. Rancocchia Sr. P.E. MS51

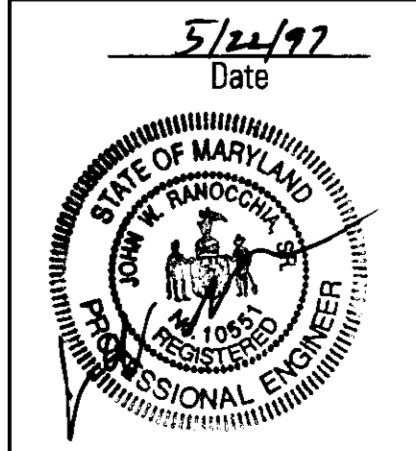
Reviewed for Howard Soil Conservation District and meets Technical Requirements.

[Signature] 5/30/97
 Date

[Signature] 5/30/97
 Date

This Development Plan is Approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

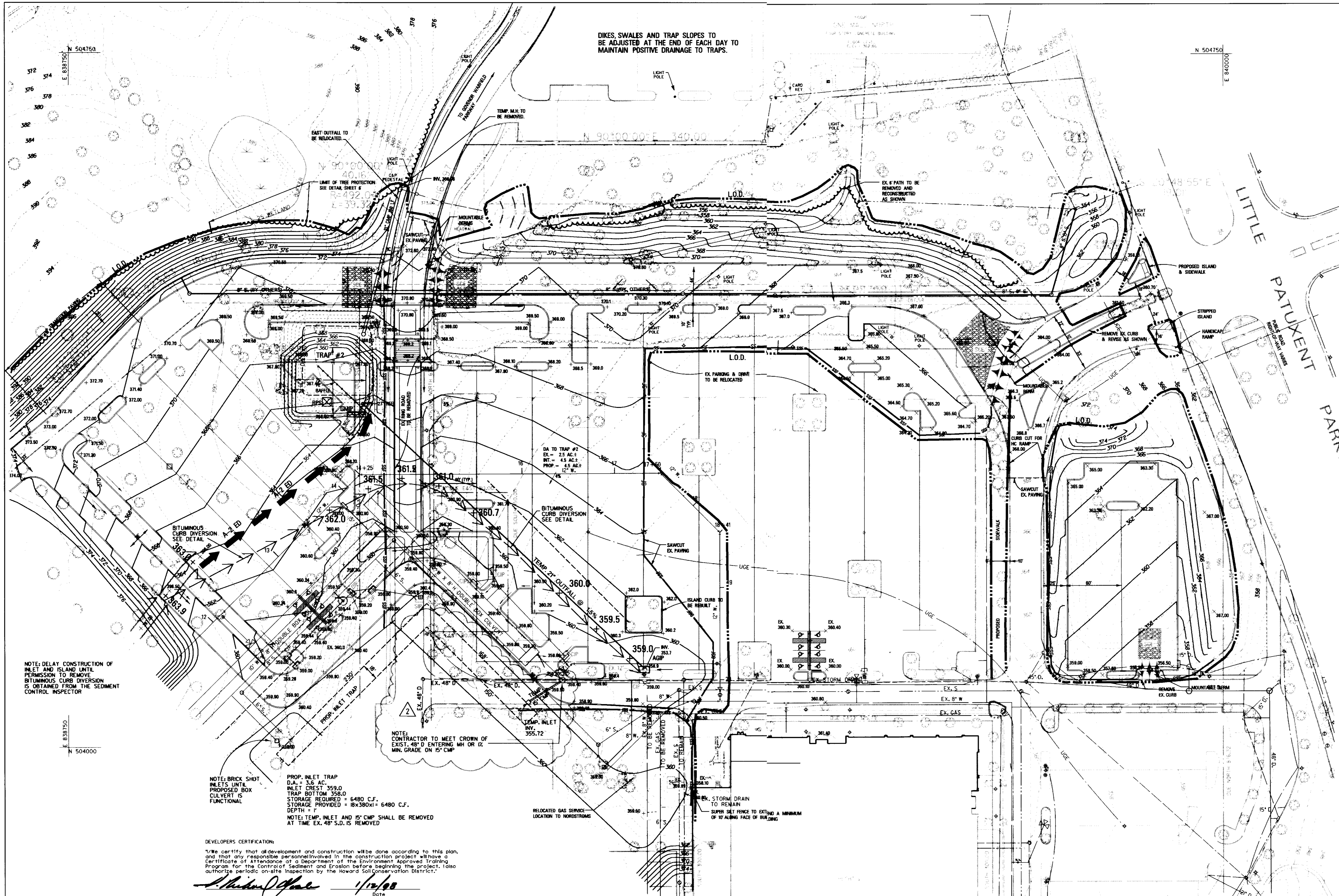
[Signature] 5/30/97
 Date



Professional Engr. No. 10255

DIKES, SWALES AND TRAP SLOPES TO BE ADJUSTED AT THE END OF EACH DAY TO MAINTAIN POSITIVE DRAINAGE TO TRAPS.

- LEGEND**
- EX. MAJOR CONTOUR
 - EX. MINOR CONTOUR
 - EX. WATER
 - EX. SANITARY SEWER
 - EX. STORM DRAIN
 - EX. GAS
 - EX. EDGE OF ROAD
 - PROP. UTILITIES
 - PROP. EDGE OF ROAD
 - SILT FENCE
 - SUPER SILT FENCE
 - INLET PROTECTION
 - INLET PROTECTION
 - STABILIZED CONSTRUCTION ENT.
 - MOUNTABLE BERM
 - TEMPORARY SWALE
 - A-2 ED
 - EARTH DIKE
 - LIMIT OF DISTURBANCE
 - PROPOSED CONTOUR
 - SPOT ELEVATION



NOTE: DELAY CONSTRUCTION OF INLET AND ISLAND UNTIL PERMISSION TO REMOVE BITUMINOUS CURB DIVERSION IS OBTAINED FROM THE SEDIMENT CONTROL INSPECTOR

BITUMINOUS CURB DIVERSION SEE DETAIL

NOTE: BRICK SHOT INLETS UNTIL PROPOSED BOX CULVERT IS FUNCTIONAL

PROP. INLET TRAP
INLETS UNIT
D.A. = 3.6 AC
INLET CREST 359.0
TRAP BOTTOM 358.0
STORAGE REQUIRED = 6480 C.F.
STORAGE PROVIDED = 18x380x1 = 6480 C.F.
DEPTH = 1'

NOTE: TEMP. INLET AND 15" CMP SHALL BE REMOVED AT TIME EX. 48" S.D. IS REMOVED

DEVELOPERS CERTIFICATION:

I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a certificate of attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project, also authorize periodic on-site inspection by the Howard Soil Conservation District.

[Signature] 1/12/98 Date

ENGINEER'S CERTIFICATION:

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.

[Signature] 1/9/98 Date

Reviewed for Howard Soil Conservation District and meets Technical Requirements.

[Signature] 1/9/98 Date

The Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

[Signature] 1/9/98 Date

SEDIMENT TRAP DATA

Trap Number	2 (STAGE 2)
Trap Type	POST
Existing Drainage Area Ac.	2.5
Interim Drainage Area Ac.	4.5
Proposed Drainage Area Ac.	8.100
Storage Required C.F.	Wet 8,100 Dry 16,200 TOTAL 24,300
Storage Provided C.F.	Wet 8,750 Dry 16,500 TOTAL 25,250
Existing Ground Elev.	363.0
Trap Embankment Elev.	363.0
Wet Storage / Outlet Elev.	361.6
Clearout Elev.	361.6
Bottom Elev.	360.0
Depth of Channel:	N/A
Outlet Width (ft)	N/A
Bottom Dimension	70" X 75"
Trap Slopes:	Wet 1:6 Dry 1:3
Trap Depth	2'
Barrel Diameter	24"
Riser Diameter	24"
Wet Storage Zone Elev.	360.0-361.6
Dry Storage Zone Elev.	361.6-363.0

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE April 23, 1997
RB

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

[Signature] 1/14/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE

[Signature] 1/21/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 1/21/98
DIRECTOR DATE

1-5-98	2	MOVED PIPE RELEASE FROM PROP. INLET TRAP & ADD BIT. CURB DIVERSION & PROP. INLET TRAP
Date	No.	Revision Description

THE MALL IN COLUMBIA
PHASE I EXPANSION
TOWN CENTER
SECTION 2 AREA 1 & 2/2
LOTS 8,10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34

OWNER /DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

DMW
Darr McCause Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3833
Fax 296-4706

A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals

1-2-98
Date

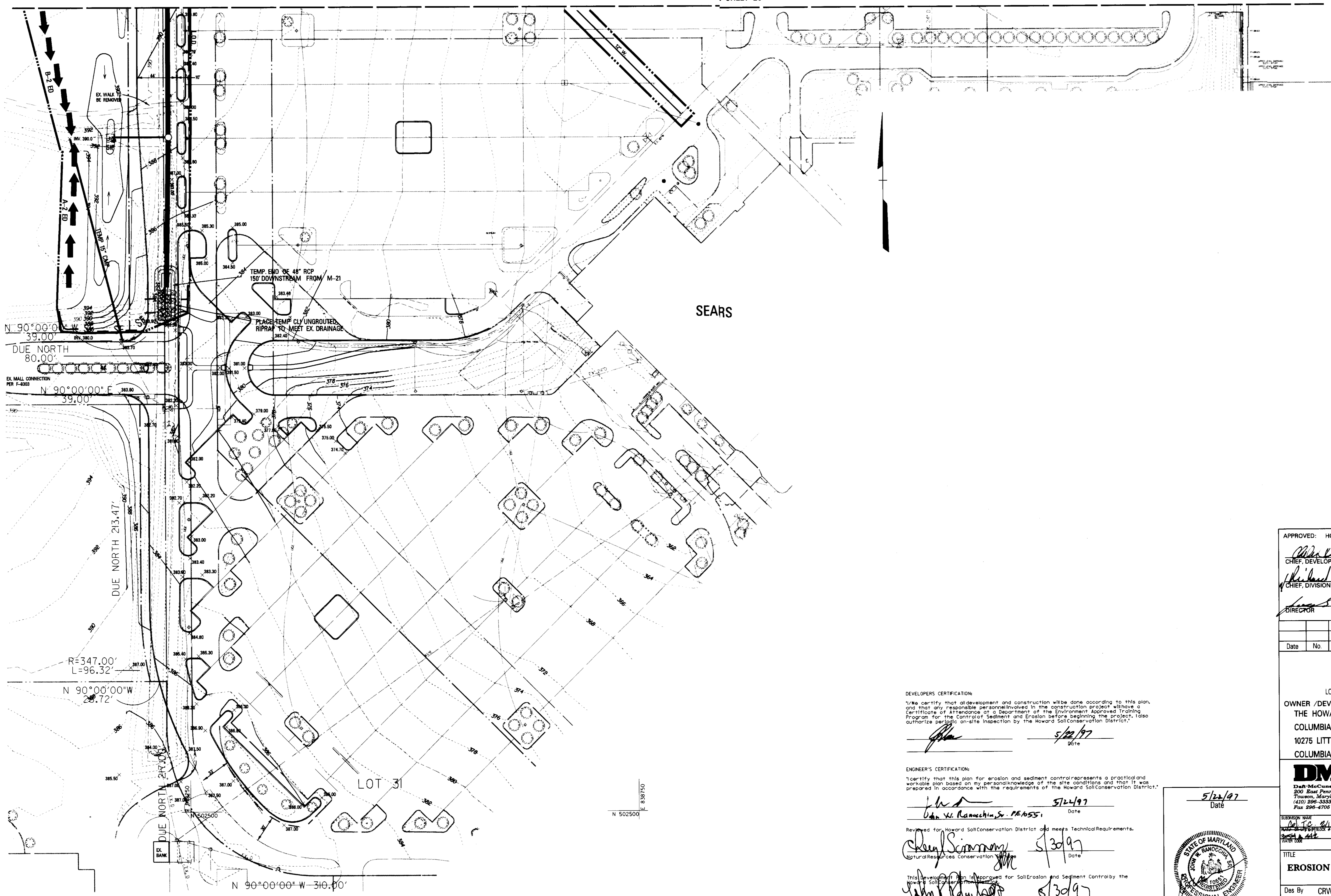
Professional Engr. No. 10561

PLAT	OR LF	BOOK #	DATE	EXEMPT MAP	ELECT. DISTRICT	SHADE TRACT
TITLE						
REVISED EROSION & SEDIMENT CONTROL PLAN STAGE 2						
Des By	CRW/JLS	Scale	1" = 50'	Proj. No.	95019B	
Drn By	JEF	Date	5/22/97	25 OF 35		
Chk By	JWR	Approved				

N 503500
E 839500

- LEGEND**
- EX. MAJOR CONTOUR
 - EX. MINOR CONTOUR
 - EX. WATER
 - EX. SANITARY SEWER
 - EX. STORM DRAIN
 - EX. GAS
 - EX. EDGE OF ROAD
 - PROP. UTILITIES
 - PROP. EDGE OF ROAD
 - SILT FENCE
 - SUPER SILT FENCE
 - INLET PROTECTION
 - INLET PROTECTION
 - STABILIZED CONSTRUCTION ENT.
 - MOUNTABLE BERM
 - TEMPORARY SWALE
 - EARTH DIKE
 - LIMIT OF DISTURBANCE
 - PROPOSED CONTOUR
 - × 388.70 SPOT ELEVATION

MATCHLINE SEE SHEET 23



SEARS

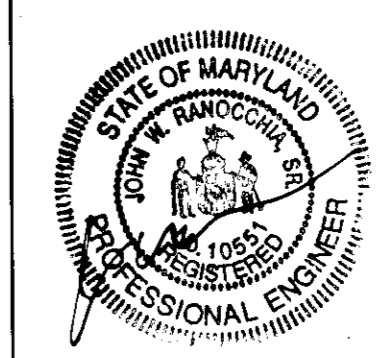
LOT 31

DEVELOPERS CERTIFICATION:
I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize people on-site inspection by the Howard Soil Conservation District.

ENGINEER'S CERTIFICATION:
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.

Reviewed for Howard Soil Conservation District and meets Technical Requirements.
John X. Ramachin Sr. PE/ASS. 5/22/97 Date
John X. Ramachin Sr. PE/ASS. 5/22/97 Date
John X. Ramachin Sr. PE/ASS. 5/22/97 Date
 Howard Soil Conservation District

5/22/97
Date



Professional Engr. No. 10551

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 4/23/97

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
John X. Ramachin Sr. 5/22/97
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MKK DATE
Richard Blom 4/23/97
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
John S. Miller 4/23/97
 DIRECTOR DATE

Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE I EXPANSION TOWN CENTER SECTION 2 AREA 1 & 2/2 LOTS 8,10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34, 3

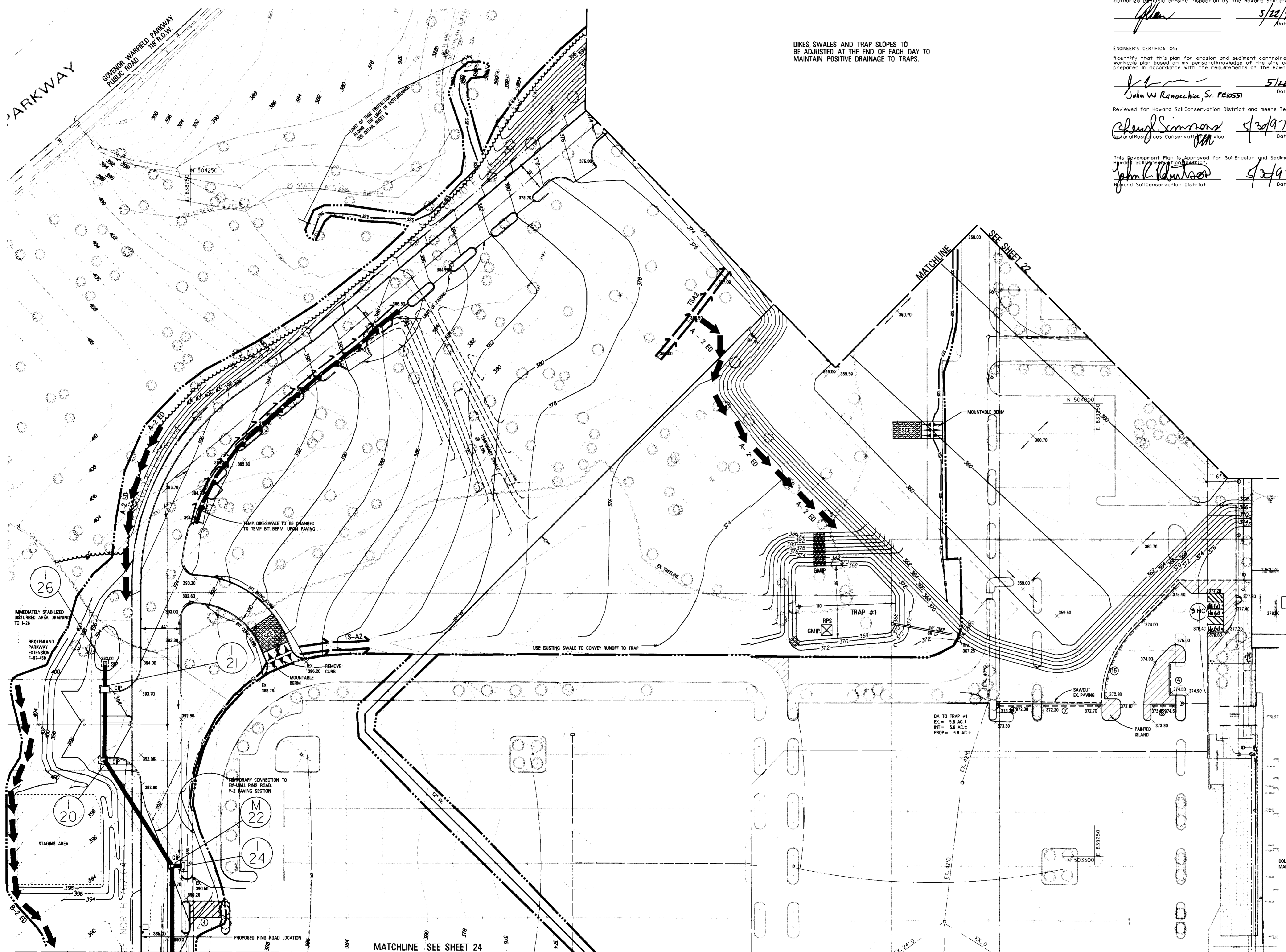
OWNER /DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044 HOWARD COUNTY

DMW
Darr McCune-Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3553
Fax 296-4706
A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals

DATE	BY	REVISION
5/22/97	JWR	PHASE I A
5/22/97	JWR	PHASE I A
5/22/97	JWR	PHASE I A
5/22/97	JWR	PHASE I A

TITLE: PHASE I A
EROSION AND SEDIMENT CONTROL PLAN
STAGE 1

Des By CRW/JLS Scale 1" = 50' Proj. No. 95019B
 Dwn By JEF Date 5/22/97
 Chk By JWR Approved 24 OF 35



DEVELOPER'S CERTIFICATION:
 "We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize a periodic on-site inspection by the Howard Soil Conservation District."
 _____ Date: 5/22/97

ENGINEER'S CERTIFICATION:
 "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."
 John W. Rancoskie, Sr. PE 10551 Date: 5/22/97

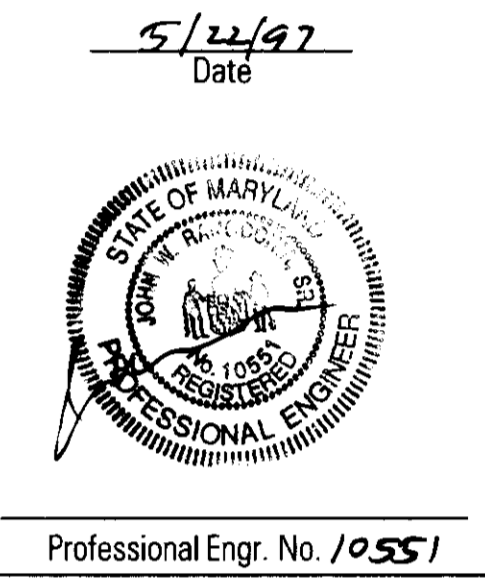
Reviewed for Howard Soil Conservation District and meets Technical Requirements.
 Charles Simmons Date: 5/20/97
 Natural Resources Conservation Officer

This Development Plan is Approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.
 John L. Dunbar Date: 5/20/97
 Howard Soil Conservation District

SEDIMENT TRAP DATA

Trap Number	Trap Type	POST
1	Existing	375
2	Existing	375
3	Proposed	375
4	Proposed	375
5	Proposed	375
6	Proposed	375
7	Proposed	375
8	Proposed	375
9	Proposed	375
10	Proposed	375
11	Proposed	375
12	Proposed	375
13	Proposed	375
14	Proposed	375
15	Proposed	375
16	Proposed	375
17	Proposed	375
18	Proposed	375
19	Proposed	375
20	Proposed	375
21	Proposed	375
22	Proposed	375
23	Proposed	375
24	Proposed	375
25	Proposed	375
26	Proposed	375
27	Proposed	375
28	Proposed	375
29	Proposed	375
30	Proposed	375
31	Proposed	375
32	Proposed	375
33	Proposed	375
34	Proposed	375
35	Proposed	375
36	Proposed	375
37	Proposed	375
38	Proposed	375
39	Proposed	375
40	Proposed	375
41	Proposed	375
42	Proposed	375
43	Proposed	375
44	Proposed	375
45	Proposed	375
46	Proposed	375
47	Proposed	375
48	Proposed	375
49	Proposed	375
50	Proposed	375
51	Proposed	375
52	Proposed	375
53	Proposed	375
54	Proposed	375
55	Proposed	375
56	Proposed	375
57	Proposed	375
58	Proposed	375
59	Proposed	375
60	Proposed	375
61	Proposed	375
62	Proposed	375
63	Proposed	375
64	Proposed	375
65	Proposed	375
66	Proposed	375
67	Proposed	375
68	Proposed	375
69	Proposed	375
70	Proposed	375
71	Proposed	375
72	Proposed	375
73	Proposed	375
74	Proposed	375
75	Proposed	375
76	Proposed	375
77	Proposed	375
78	Proposed	375
79	Proposed	375
80	Proposed	375
81	Proposed	375
82	Proposed	375
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84	Proposed	375
85	Proposed	375
86	Proposed	375
87	Proposed	375
88	Proposed	375
89	Proposed	375
90	Proposed	375
91	Proposed	375
92	Proposed	375
93	Proposed	375
94	Proposed	375
95	Proposed	375
96	Proposed	375
97	Proposed	375
98	Proposed	375
99	Proposed	375
100	Proposed	375

- LEGEND**
- EX. MAJOR CONTOUR
 - EX. MINOR CONTOUR
 - EX. WATER
 - EX. SANITARY SEWER
 - EX. STORM DRAIN
 - EX. GAS
 - EX. EDGE OF ROAD
 - PROP. UTILITIES
 - PROP. EDGE OF ROAD
 - SILT FENCE
 - SUPER SILT FENCE
 - INLET PROTECTION
 - STABILIZED CONSTRUCTION ENT.
 - MOUNTABLE BERM
 - TEMPORARY SWALE
 - EARTH DIKE
 - LIMIT OF DISTURBANCE
 - TEMP DIKE / SWALE
 - PROPOSED CONTOUR
 - SPOT ELEVATION



APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 4/23/97

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Richard Simmons, Chief Development Engineering Division MK, 6/16/97 DATE

Richard Blood, Chief Division of Land Development, 6/20/97 DATE

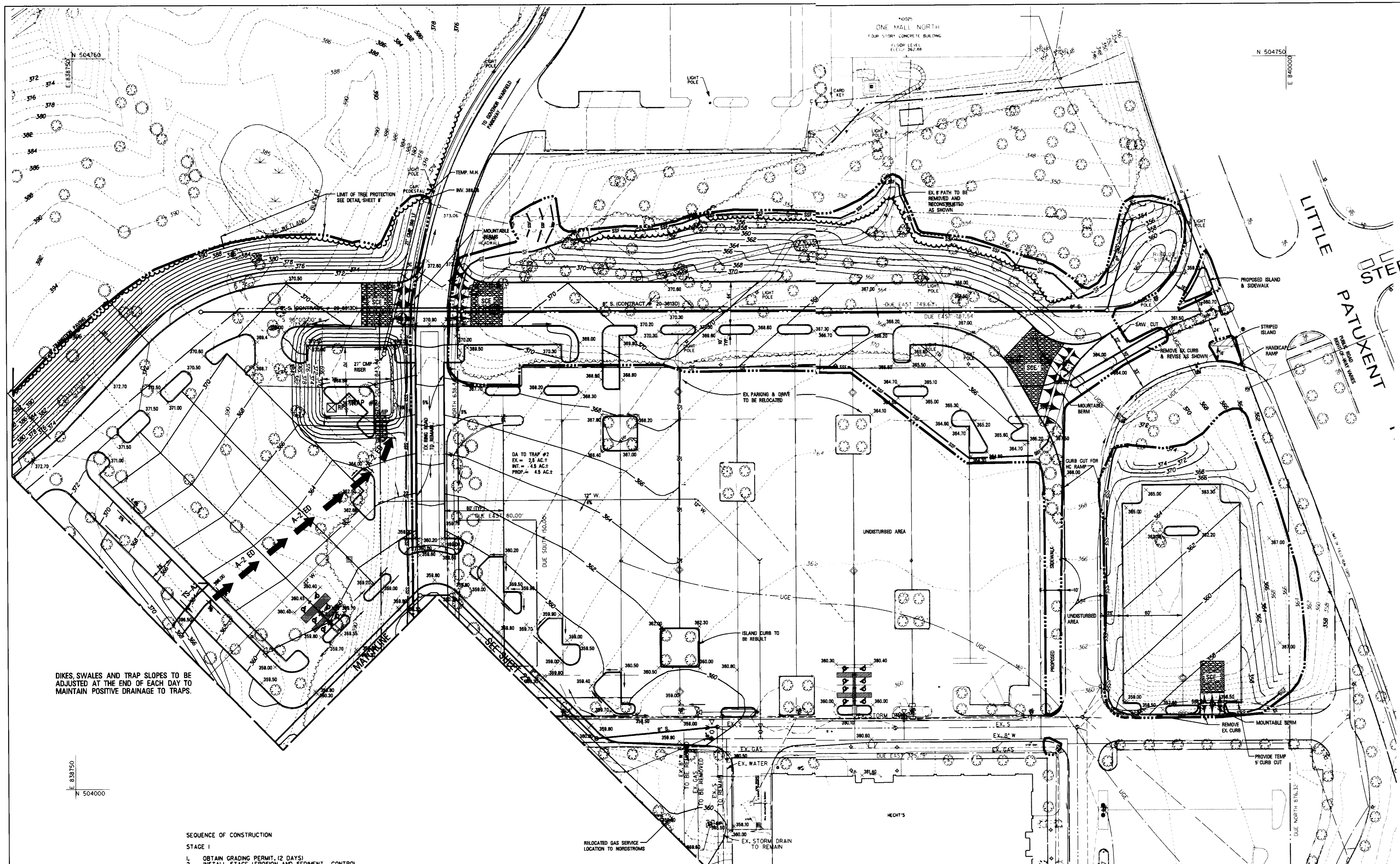
Joseph S. Smith, Director, 6/20/97 DATE

THE MALL IN COLUMBIA
 PHASE I EXPANSION
 TOWN CENTER
 SECTION 2 AREA 1, 2 & 3
 LOTS 8, 10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34, 35
 OWNER / DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA, MD, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044 HOWARD COUNTY

DMW
 Dan McCune Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3833
 Fax: 296-4708

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

DATE: 5/22/97
 DRAWN BY: JEF
 CHECKED BY: JWR
 SCALE: 1" = 50'
 SHEET NO: 23 OF 35
 PROJECT NO: 950198



LEGEND

- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. WATER
- EX. SANITARY SEWER
- EX. STORM DRAIN
- EX. GAS
- EX. EDGE OF ROAD
- PROP. UTILITIES
- PROP. EDGE OF ROAD
- SILT FENCE
- SUPER SILT FENCE
- INLET PROTECTION
- INLET PROTECTION
- STABILIZED CONSTRUCTION ENT.
- MOUNTABLE BERM
- TEMPORARY SWALE
- EARTH DIKE
- LIMIT OF DISTURBANCE
- PROPOSED CONTOUR
- × 300.70 SPOT ELEVATION

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 4/23/97

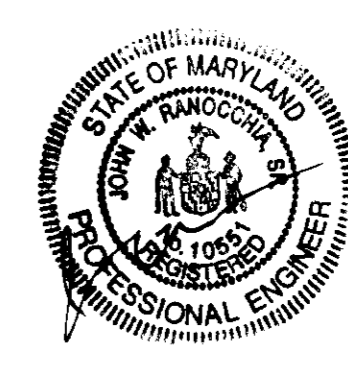
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 Chief, Development Engineering Division MK 6/10/97 DATE
 Chief, Division of Land Development 4/24/97 DATE
 Director 4/24/97 DATE

Date	No.	Revision Description

THE MALL IN COLUMBIA
 PHASE EXPANSION
 TOWN CENTER
 SECTION 2 AREA 1 2E
 LOTS 8,10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34, 5
 OWNER / DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044 HOWARD COUNTY

DMW
 Duff, McCune-Walker, Inc.
 300 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-8533
 Fax: 296-4705
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

5/22/97
 Date
 Reviewed for Howard Soil Conservation District and meets Technical Requirements.
Chief Simmons 5/30/97 Date
 Natural Resources Conservation Service
 Reviewed for Howard Soil Conservation District and meets Technical Requirements.
John W. Ranocchia, Jr. 5/22/97 Date
 Professional Engr. No. 10551



- SEQUENCE OF CONSTRUCTION**
- STAGE 1**
- OBTAIN GRADING PERMIT. (2 DAYS)
 - INSTALL STAGE 1 EROSION AND SEDIMENT CONTROL MEASURES, INCLUDING TEMPORARY (6" PIPE TO EXISTING STORM DRAIN ON EXISTING MALL ACCESS ROAD. (4 DAYS)
 - INSTALL STORM DRAINAGE 1-26 TO 150' DOWNSTREAM FROM M-21 INCLUDING TEMPORARY RIPRAP AND STABILIZE. INSTALL SUPER SILT FENCE IN SWALE AS SHOWN. (4 DAYS)
 - CLEAR AND GRUB SITE DRAINAGE TO STAGE 1 CONTROLS (4 DAYS)
 - CONSTRUCT PROPOSED SEWER TO MANHOLE IMMEDIATELY EAST OF EXISTING MALL RING ROAD. (7 DAYS)
 - ROUGH GRADE SITE DRAINING TO STAGE 1 CONTROLS. ADJUST EROSION AND SEDIMENT CONTROLS AS NECESSARY TO MAINTAIN POSITIVE FLOW TO TRAPS. CONSTRUCT UTILITIES AND PROPOSED MALL RING ROAD WITH TEMPORARY CONNECTION AND PARKING LOT ON EAST SIDE OF MALL AND STABILIZE SLOPES. PROVIDE TEMPORARY CURB CUT TO DRAIN PARKING LOT. (50 DAYS)
- STAGE 2**
- REMOVE EXISTING MALL RING ROAD AS NECESSARY TO COMPLETE GRADING OF PAD AREA. ADJUST SUPER SILT FENCE IN FIELD AS NECESSARY. (2 DAYS)
 - ROUGH GRADE PAD AREA. (4 DAYS)
 - CONSTRUCT UNDERGROUND SWM FACILITY ADJUST OUTFALLS FROM TRAPS AS NECESSARY TO CONNECT TO RELOCATED STORM DRAINAGE. REGRADE TRAP #2. (30 DAYS)
 - BEGIN STAGE 2 GRADING OF PROPOSED PARKING LOT WEST OF PAD AND REMOVE EXISTING PARKING AS NECESSARY TO MEET PROPOSED GRADING. (7 DAYS)
 - CONSTRUCT STORM DRAINAGE AND INSTALL INLET PROTECTION. (2 DAYS)
 - CONSTRUCT WATER, SEWER, AND UTILITIES. (30 DAYS)
 - FINE GRADE AND CONSTRUCT PROPOSED PARKING LOTS. REMOVE TRAP #2 WITH APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND COMPLETE PAVING. (7 DAYS)

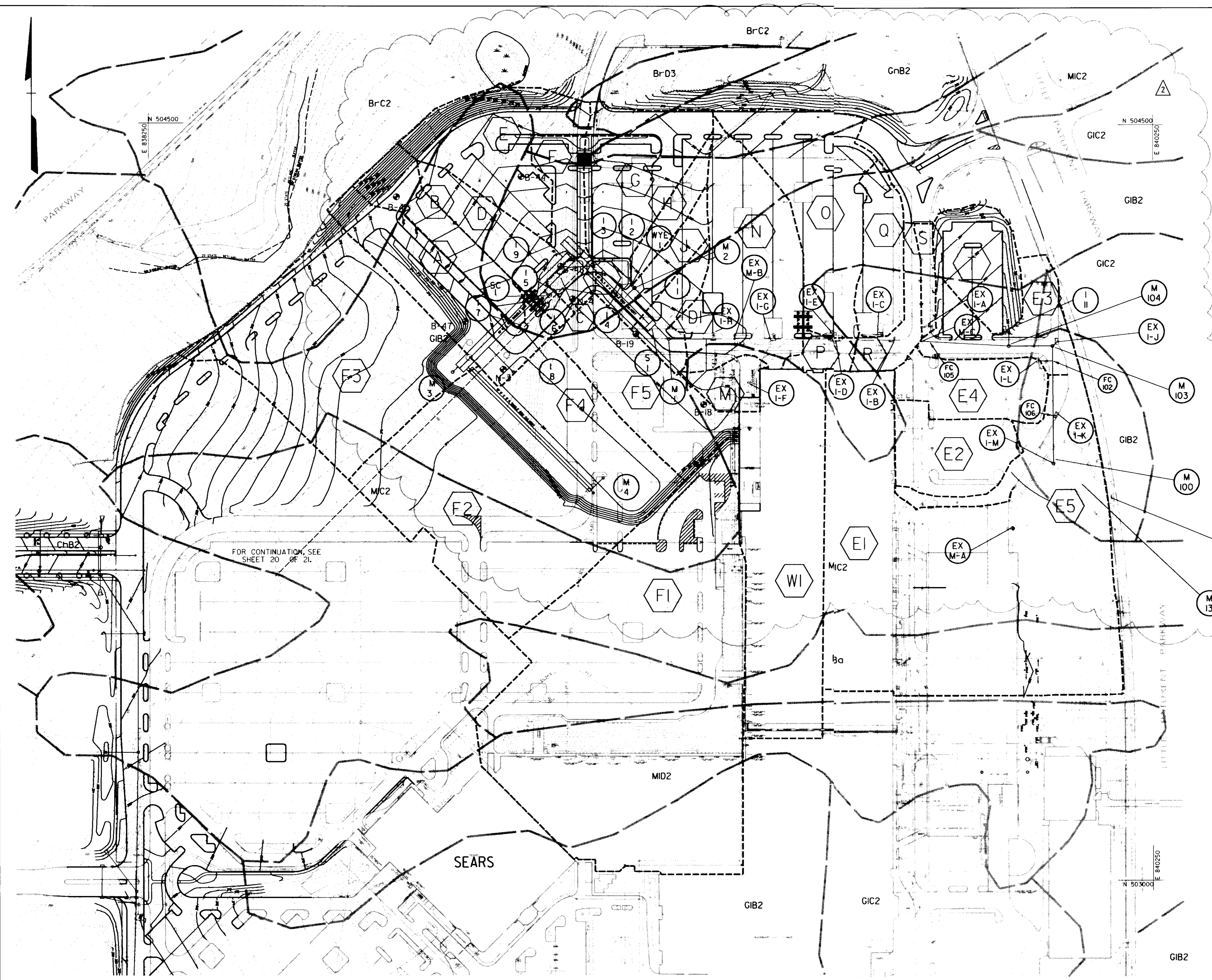
- STAGE 3**
- INSTALL STAGE 3 EROSION AND SEDIMENT CONTROL MEASURES. (7 DAYS)
 - FLUSH STORM DRAIN SYSTEM. (1 DAY)
 - CONSTRUCT RELOCATED STORM DRAINAGE M-C THRU M-100.
 - RESTORE AREAS DISTURBED DURING CONSTRUCTION TO ORIGINAL GRADES AND STABILIZE. (7 DAYS)
 - UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE EROSION AND SEDIMENT CONTROL MEASURES AND STABILIZE. (7 DAYS)
- STAGE 4**
- UPON COMPLETION OF THE CONNECTION OF BROKEN LAND PARKWAY EXTENDED WITH THE PROPOSED MALL RING ROAD COMMENCE STAGE 4.
 - INSTALL STAGE 4 EROSION AND SEDIMENT CONTROL MEASURES. (7 DAYS)
 - CONSTRUCT PROPOSED STORM DRAINAGE WORKING FORM DOWN STREAM TO UPSTREAM STABILIZING AREAS DISTURBED AT THE END OF EACH WORKING DAY. (4 DAYS)
 - FINE GRADE AND CONSTRUCT PROPOSED UTILITIES (30 DAYS)
 - CONSTRUCT PROPOSED PAVING AND ISLANDS. (4 DAYS)
 - UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE EROSION AND SEDIMENT CONTROL MEASURES AND STABILIZE. (4 DAYS)

DEVELOPERS CERTIFICATION:
 "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 of Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I/also authorize specific on-site inspection by the Howard Soil Conservation District."

ENGINEER'S CERTIFICATION:
 "I certify that this plan for erosion and sediment control represents a practical and workable plan based on my professional knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

SEDIMENT TRAP DATA

Trap Number	POST
Trap Type	2
Existing Drainage Area Ac.	2.5
Proposed Drainage Area Ac.	4.5
Interior Drainage Area Ac.	2.5
Storage Required C.F.	
Wet	8,000
Dry	8,000
Total	16,000
Storage Provided C.F.	
Wet	8,500
Dry	8,500
Total	17,000
Existing Ground Elev.	377.0
Top Embankment Elev.	376.0
Wet Storage / Outlet Elev.	372.0
Wet Storage / Inlet Elev.	370.8
Wet Storage / Bottom Elev.	369.0
Depth of Connection	1/2
Outlet Width (ft)	1/2
Bottom Dimension	70" X 70"
Trap Slopes	
Wet	1:6
Dry	1:4
Total	1:3
Trap Diameter	24"
Wet Storage Zone Elev.	369.0-370.8
Dry Storage Zone Elev.	370.8-372.0



AREA	C	% IMP
A	1.25	0.60 55
B	0.71	0.75 74
C	0.17	0.75 74
D	1.12	0.90 93
E	1.33	0.70 66
F	---	---
G	1.23	0.90 93
H	0.29	0.90 93
I	0.48	0.90 93
J	0.36	0.90 93
K	---	---
L	---	---
M	0.29	0.90 95
N	1.56	0.90 95
O	1.65	0.90 95
P	0.21	0.90 95
Q	0.62	0.77 80
R	0.36	0.66 60
S	0.62	0.77 80
T	0.78	0.68 60
WI	2.6	0.95 100
F1	7.0	0.90 95
F2	3.6	0.90 95
F3	3.3	0.90 95
F4	1.34	0.95 100
F5	1.34	0.95 100
E1	4.4	0.93 98
E2	0.9	0.90 95
E3	0.8	0.90 95
E4	0.82	0.90 95
E5	0.43	0.90 95

SOILS LEGEND			
HYDROLOGIC SOILS	KEY	NAME	SLOPE
D	Ba	BAILE SILT LOAM	
C	BrC2	BRANDYWINE LOAM	8 TO 15 PERCENT SLOPES, MODERATELY ERODED
C	BrD3	BRANDYWINE LOAM	15 TO 25 PERCENT SLOPES, SEVERELY ERODED
B	ChB2	CHESTER SILT LOAM	3 TO 8 PERCENT SLOPES, MODERATELY ERODED
B	GIB2	GLENELG LOAM	3 TO 8 PERCENT SLOPES, MODERATELY ERODED
B	GIC2	GLENELG LOAM	8 TO 15 PERCENT SLOPES, MODERATELY ERODED
C	GnB2	GLENVILLE SILT LOAM	3 TO 8 PERCENT SLOPES, MODERATELY ERODED
B	MIC2	MANOR LOAM	8 TO 15 PERCENT SLOPES, MODERATELY ERODED
B	MID2	MANOR LOAM	15 TO 25 PERCENT SLOPES, MODERATELY ERODED

SEE SOILS MAP 24

FOR CONTINUATION, SEE SHEET 20 OF 21.

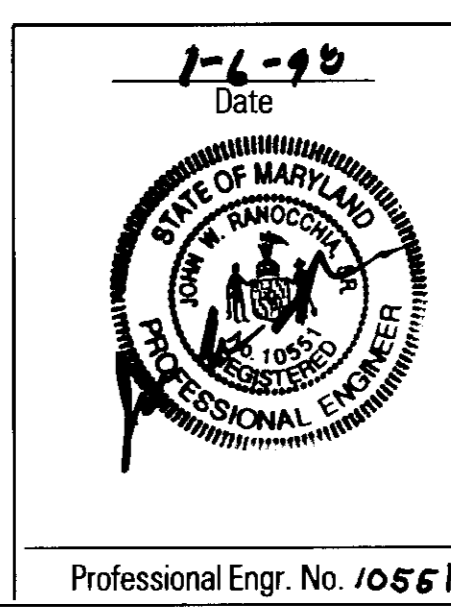
APPROVED
PLANNING BOARD
HOWARD COUNTY
DATE April 23, 1997
RB

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
ChD. Dammann 1/21/98
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE
Collanitta 1/21/98
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
Paul R. Smith 1/21/98
 DIRECTOR DATE

Date	No.	Revision Description
1-5-98	2	REVISE DRAINAGE AREA MAP

THE MALL IN COLUMBIA
 PHASE I EXPANSION
 TOWN CENTER
 SECTION 2 AREA 1 & 2 / 2
 LOTS 8,10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34
 OWNER / DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

Draft MacCune Walker, Inc.
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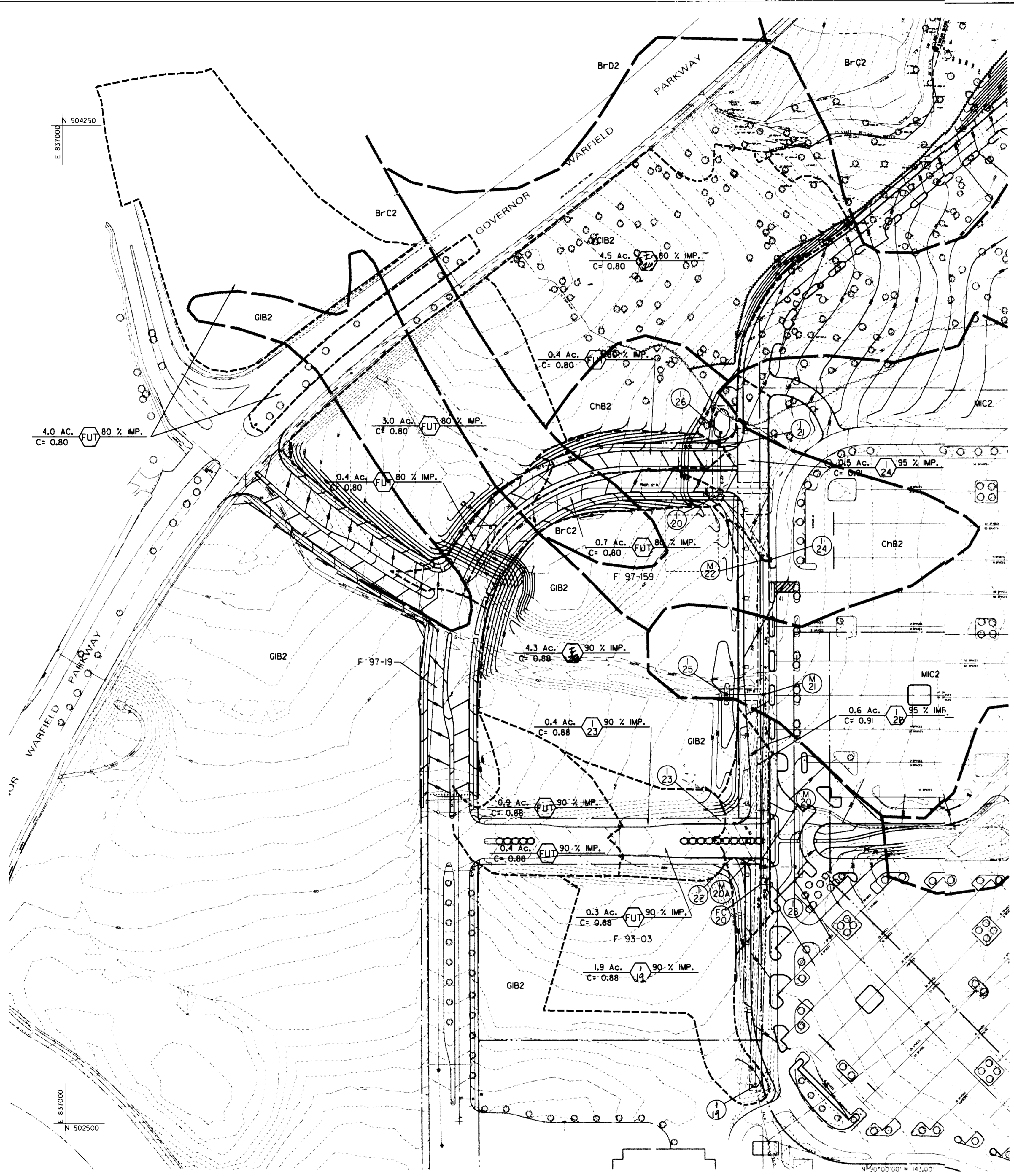


PLAT # OR LOT	BLOCK #	ZONE	TAXPONE MAP	ELECT DISTRICT	GENESIS TRACT

TITLE: **PHASE IA
REVISED STORM DRAIN
DRAINAGE AREA MAP & SOILS MAP**

Des By	RCJS	Scale	1" = 100'	Proj. No.	95019B
Drn By	JEF	Date	5/22/97		
Chk By	JWR	Approved			21 OF 35

Professional Engr. No. 10561



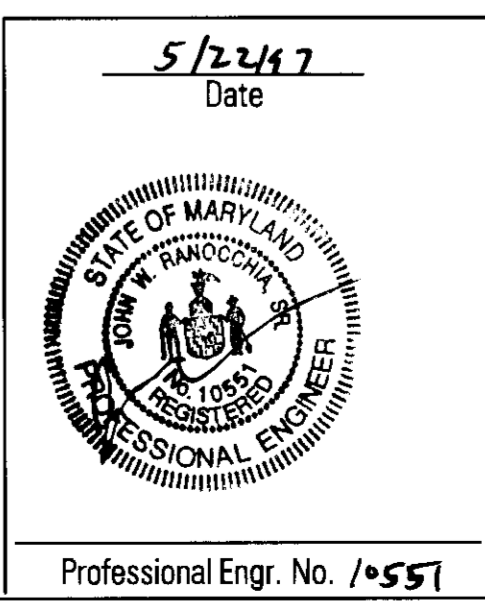
FOR CONTINUATION, SEE SHEET 21 OF 35

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE: 4/23/97

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
Richard Blood 6/16/97
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE
Richard Blood 6/24/97
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
James S. Smith 4/20/97
 DIRECTOR DATE

Date No. Revision Description
 THE MALL IN COLUMBIA
 PHASE I EXPANSION
 TOWN CENTER
 SECTION 2 AREA 1 & 2/2
 LOTS 8,10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34, 35
 OWNER / DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044 HOWARD COUNTY

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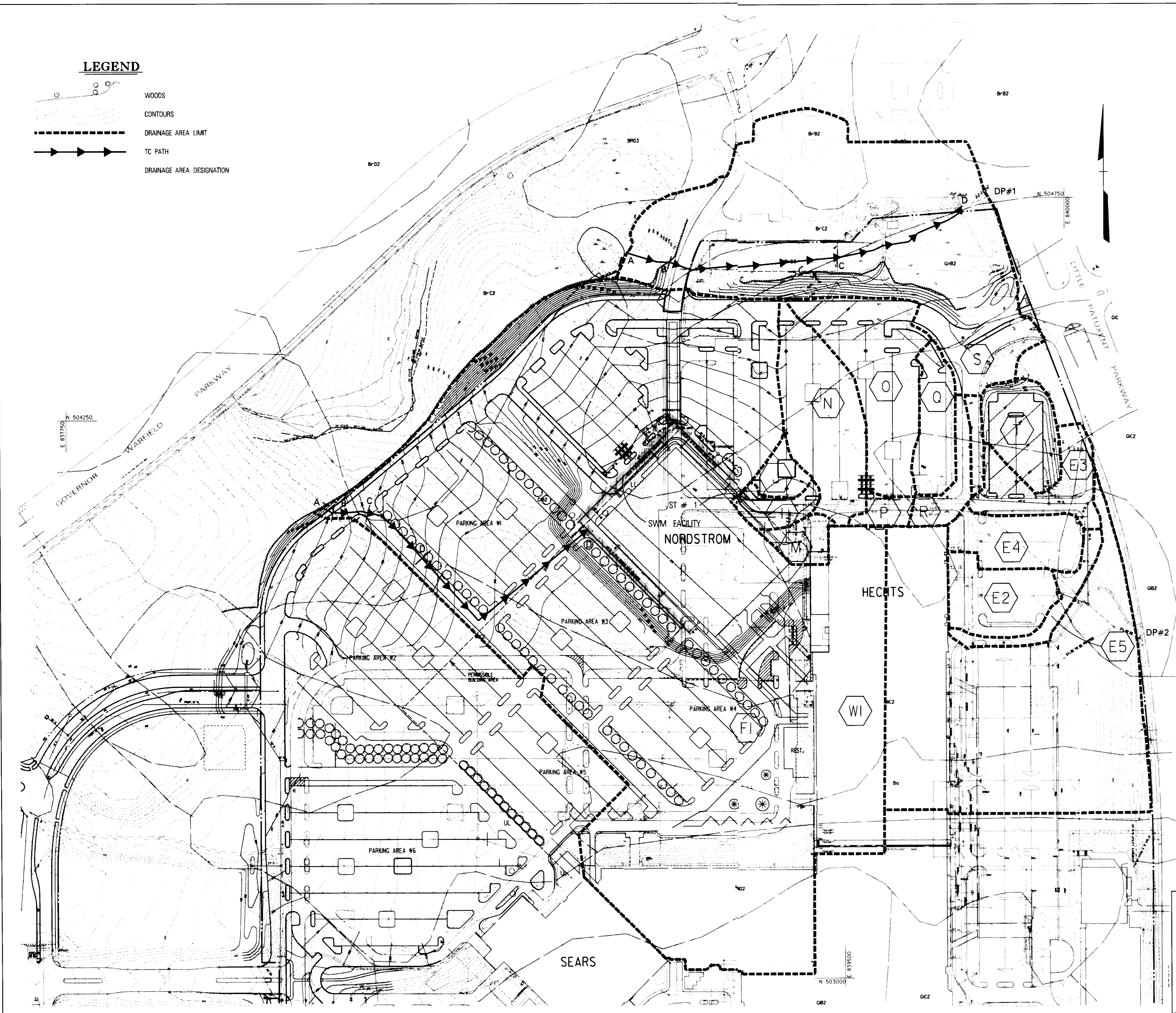
5/22/97
 Date
 Professional Engr. No. 15501

SUBMISSION NAME	PHASE I A	SECTION	2/1 2/2	DATE	5/22/97
DESIGNER	JEF	CHECKER	JWR	DATE	5/22/97
TITLE	PHASE 1A STORM DRAIN DRAINAGE AREA MAP				
Des By	JS	Scale	1" = 100'	Proj. No.	95019B
Drn By	JEF	Date	5/22/97		
Chk By	JWR	Approved			20 OF 35

LEGEND

- WOODS
- CONTOURS
- DRAINAGE AREA LIMIT
- TC PATH
- DRAINAGE AREA DESIGNATION

	AREA (ac)	AREA (sqm)	RCN	TC
I	0.26	0.0004	97	0.1
J	0.24	0.0004	97	0.1
WI	2.6	0.0041	98	0.1
M	0.29	0.0004	96	0.1
N	1.56	0.0024	96	0.1
O	1.65	0.0026	96	0.1
P	0.21	0.0003	96	0.1
Q	0.62	0.0010	89	0.1
R	0.36	0.0006	83	0.1
S	0.62	0.0010	96	0.1
T	0.78	0.0012	84	0.1
E1	5.31	0.0083	97	0.1
E2	0.90	0.0014	96	0.1
E3	0.80	0.0012	96	0.1
E4	0.82	0.0013	96	0.1
E5	0.43	0.0007	96	0.1



APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 4/23/97

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
Chris Williams 6/2/97
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE
Richard Blund 6/2/97
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
James Keith 6/2/97
 DIRECTOR DATE

Date No. Revision Description
THE MALL IN COLUMBIA
 PHASE I EXPANSION
 TOWN CENTER
 SECTION 2 AREA 1, & 2/2
 OWNER / DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044 HOWARD COUNTY

DMW
 Duff McCune Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3333
 Fax: 296-4706
 A Team of Land Planners,
 Landscape Architects,
 Engineers, Surveyors &
 Environmental Professionals

5/22/97
 Date

SUBMITTER NAME: *DMW* PROJECT: *1 & 2/2* SHEET NO.: *6 of 10*
 DATE: *5/22/97* DRAWN BY: *CLZ* CHECKED BY: *JWR*
 TITLE: **PHASE 1A
 STORM WATER MANAGEMENT
 PROPOSED DRAINAGE AREA MAP**
 Des By: REC/JLS Scale: 1" = 100' Proj. No.: 950198
 Dwn By: CLZ Date: 5/22/97
 Chk By: JWR Approved: 19 OF 35
 Professional Engr. No. 10551

LEGEND

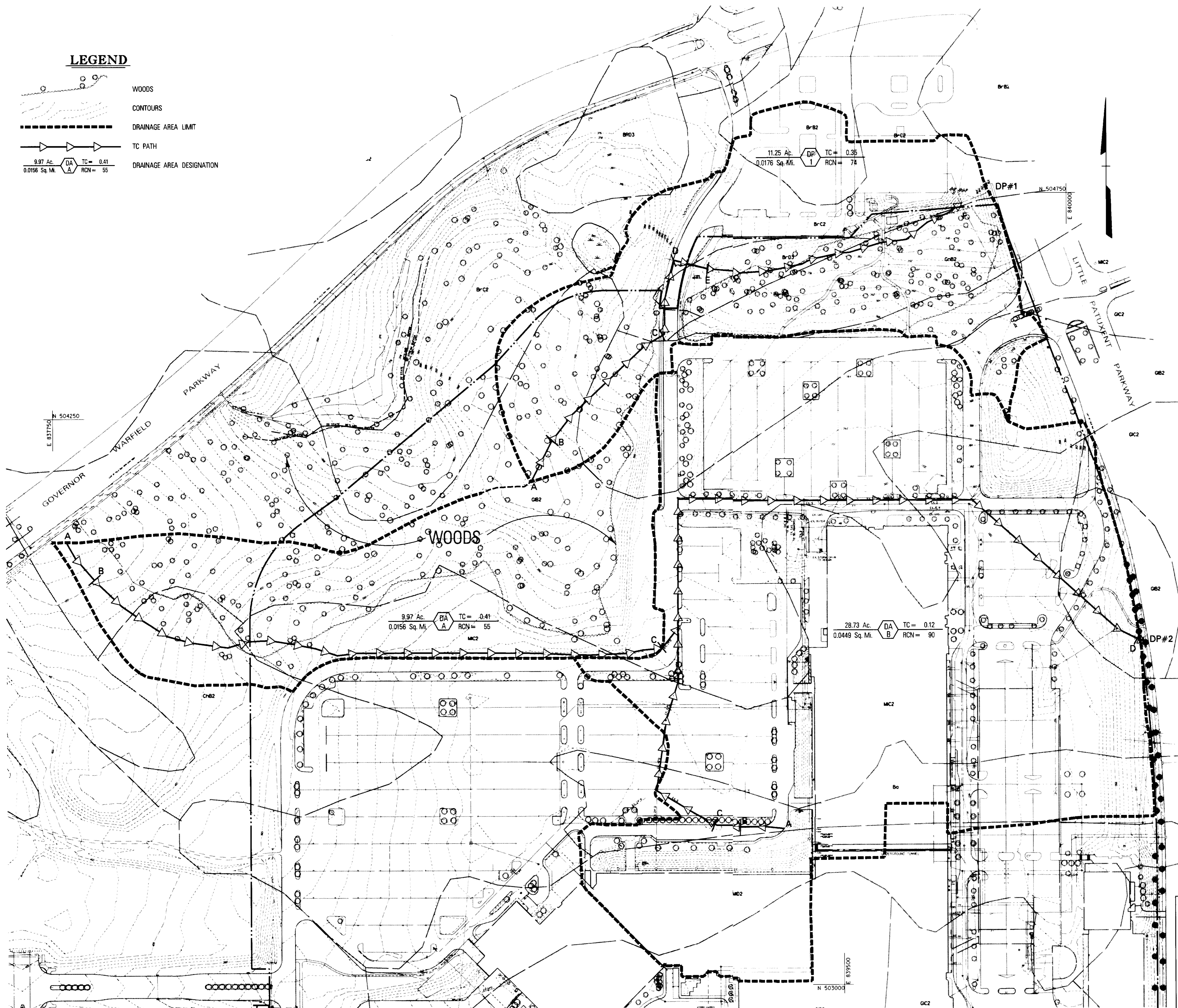
- WOODS
- CONTOURS
- DRAINAGE AREA LIMIT
- TC PATH
- DRAINAGE AREA DESIGNATION

9.97 Ac. DA TC = 0.41
0.0156 Sq. Mi. A RCN = 55

11.25 Ac. DP TC = 0.35
0.0176 Sq. Mi. I RCN = 74

9.97 Ac. DA TC = 0.41
0.0156 Sq. Mi. A RCN = 55

28.73 Ac. DA TC = 0.12
0.0449 Sq. Mi. B RCN = 90



APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 4/23/97

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

John J. ... 6/16/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE

Richard Blom 6/20/97
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

David Smith 6/20/97
DIRECTOR DATE

Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE I EXPANSION TOWN CENTER SECTION 2 AREA 1, 2, 2

OWNER /DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044 HOWARD COUNTY

DMW
Darr McCann-Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3033
Fax 296-4705

A Team of Land Planners,
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Environmental Professionals

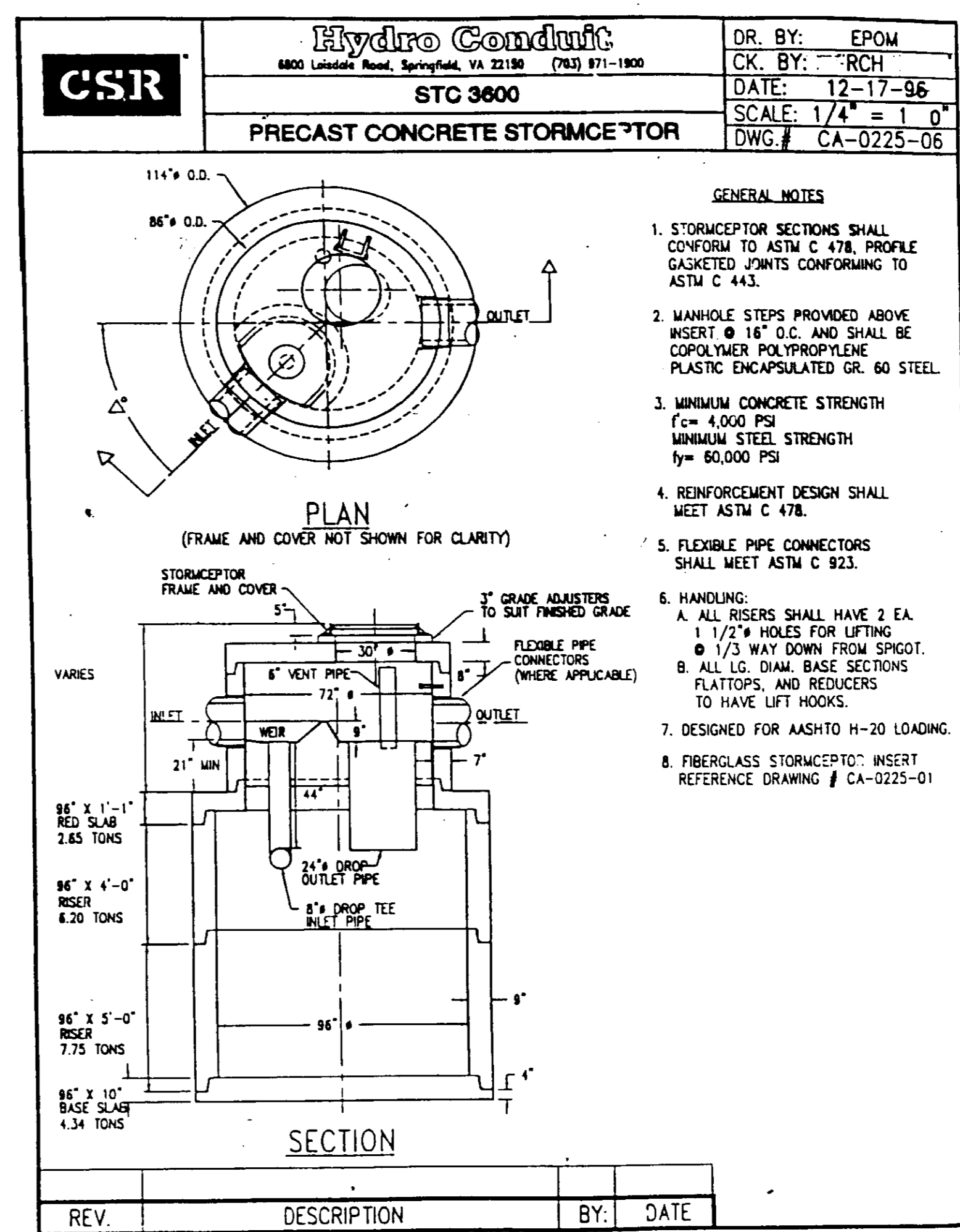
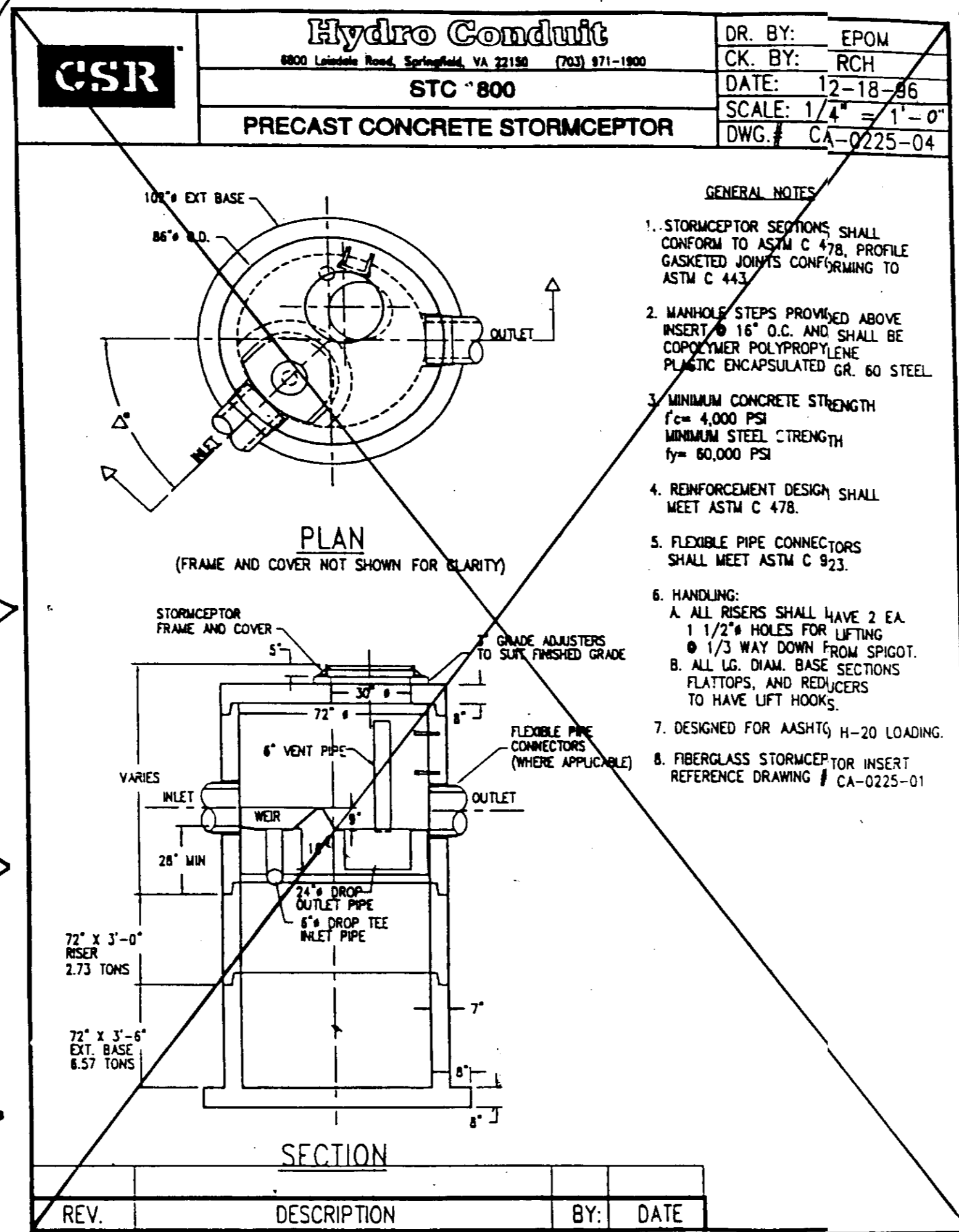
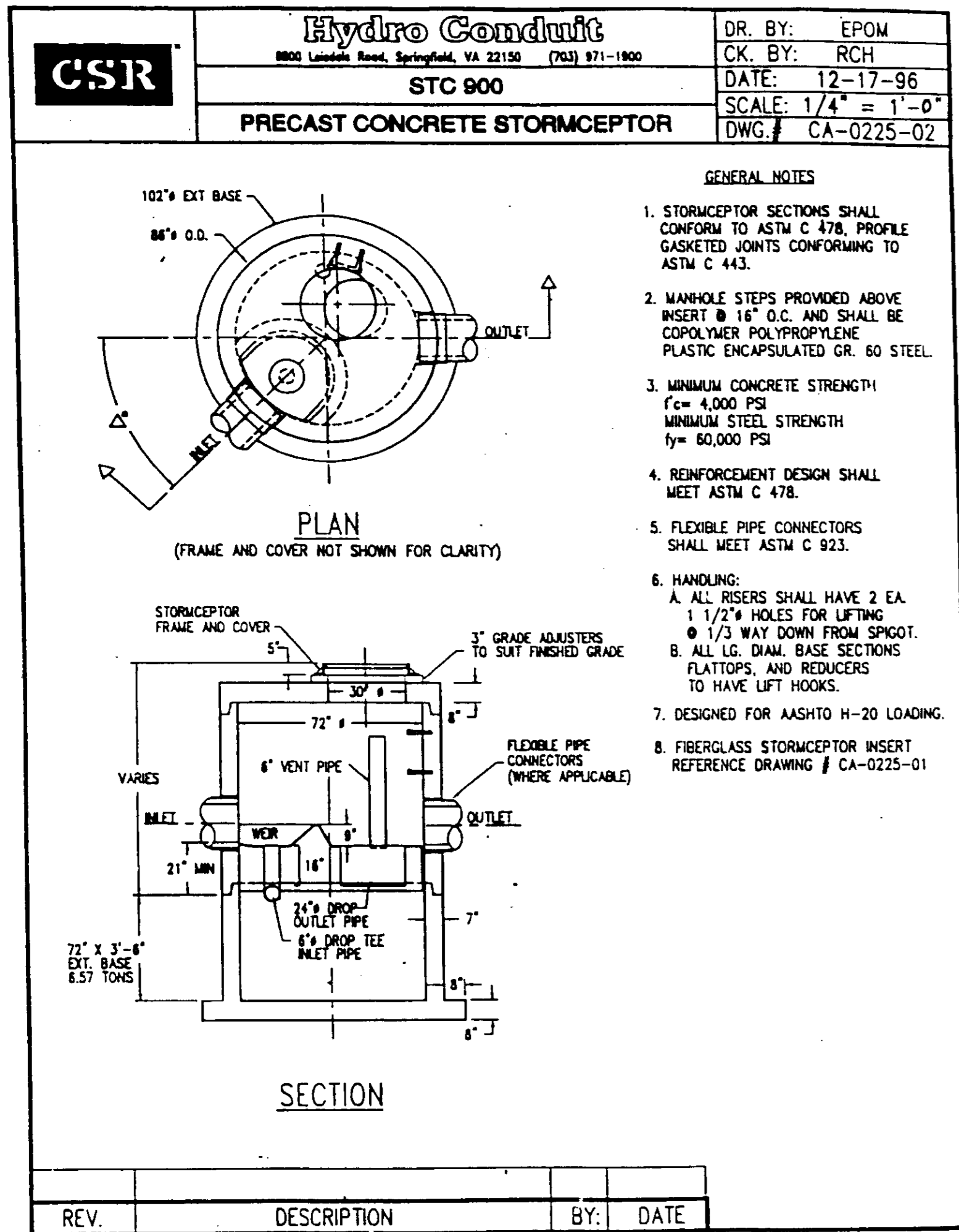
5/24/97
Date

Professional Engr. No. /0551

SUBDIVISION NAME	REVISIONS	DATE
DP#1	1/2	5/11/97
DP#2	1/1	5/11/97
DP#3	1/1	5/11/97
DP#4	1/1	5/11/97
DP#5	1/1	5/11/97
DP#6	1/1	5/11/97
DP#7	1/1	5/11/97
DP#8	1/1	5/11/97
DP#9	1/1	5/11/97
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DP#97	1/1	5/11/97
DP#98	1/1	5/11/97
DP#99	1/1	5/11/97
DP#100	1/1	5/11/97

TITLE: PHASE IA STORM WATER MANAGEMENT EXISTING DRAINAGE AREA MAP

Des By: REC/JLS Scale: 1" = 100' Proj. No. 950198
 Dwn By: CLZ Date: 5/22/97
 Chk By: JWR Approved



- OPERATION AND MAINTENANCE SCHEDULE FOR STORMCEPTOR WATER QUALITY DEVICE**
- The Stormceptor water quality structure shall be periodically inspected and cleaned to maintain operation and function. The owner shall inspect the Stormceptor unit yearly at a minimum, utilizing the Stormceptor Inspection/Monitoring Form. Inspections shall be done by using a clear Plexiglas tube ("sludge judge") to extract a water column sample. When the sediment depths exceed the level specified in Table 6 of the Stormceptor Technical Manual, the unit must be cleaned.
 - The Stormceptor water quality structure shall be checked and cleaned immediately after petroleum spills. The owner shall contact the appropriate regulatory agencies.
 - The maintenance of the Stormceptor unit shall be done using a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons and other materials in the unit. Proper cleaning and disposal of the removed materials and liquid must be followed by the owner.
 - The inlet and outlet pipes shall be checked for any obstructions at least once every six months. If obstructions are found the owner shall have them removed. Structural parts of the Stormceptor unit shall be repaired as needed.
 - The owner shall retain and make the Stormceptor Inspection/Monitoring Forms available to the Howard County officials upon their request.

APPROVED
PLANNING BOARD
HOWARD COUNTY
DATE: April 23, 1997
EA

Concrete Stormceptor® Order Request Form *

Contractor Information
Name: Whiting Turner (general)
Address: 300 East Joppa Road Suite 800
City: Towson, MD
State: MD
Zip Code: 21286
Contact: Robert Ryan
Phone: (410) 821-1100
Fax: (410) 337-5760

Owner Information
Name: Columbia Mall Inc.
Phone: (410) 992-6000
Fax: (410) 992-6147

Stormceptor® Model
900 3600
1200 4800
1800 6000
2400 7200

Insert Size
DISC 22"
32"
44"
Custom

Manhole Number
Finish Top Elevation (ft): 358.0
Top Slab Elevation (ft): 357.0
Inlet Pipe Invert (ft): 351.02
Outlet Pipe Invert (ft): 351.74
Pipe Type: RCCP
Pipe Inside Diam. (in) (ID): 15"
Pipe Outside Diam. (in) (OD): 19"

Stormceptor® Model
900 3600
1200 4800
1800 6000
2400 7200

Insert Size
DISC 22"
32"
44"
Custom

Manhole Number
Finish Top Elevation (ft): 359.78
Top Slab Elevation (ft): 358.75
Inlet Pipe Invert (ft): 352.35
Outlet Pipe Invert (ft): 352.10
Pipe Type: RCCP
Pipe Inside Diam. (in) (ID): 15.24
Pipe Outside Diam. (in) (OD): 19.30

Stormceptor® Model
900 3600
1200 4800
1800 6000
2400 7200

Insert Size
DISC 22"
32"
44"
Custom

Manhole Number
Finish Top Elevation (ft): 359.20
Top Slab Elevation (ft): 358.20
Inlet Pipe Invert (ft): 351.49
Outlet Pipe Invert (ft): 351.74
Pipe Type: RCCP
Pipe Inside Diam. (in) (ID): 24.21
Pipe Outside Diam. (in) (OD): 30.27

Project Name: The Mall in Columbia Phase 1 Expansion
Approximate time frame until required delivery (weeks): Mid July
Delivery Address: Street Columbia Mall
City Columbia State MD Zip Code 21044
Designer Company Draft McQuinn Walker Inc.
Designer Contact Robert Hurwitz Phone (410) 296-3333 Fax (410) 296-4702

Please fax this order to Stormceptor at (301) 762-4190
For Technical Assistance Please Call Stormceptor Corporation at (301) 762-8361 or toll free at 1 (800) 762-4703

ALL LIFTING APPARATUS TO BE PROVIDED BY THE INSTALLATION CONTRACTOR

* TO BE INCLUDED ON DESIGN PLAN BY DESIGNER

Concrete Stormceptor® Order Request Form *

Contractor Information
Name: Whiting Turner (general)
Address: 300 East Joppa Road Suite 800
City: Towson, MD
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Contact: Robert Ryan
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1800 6000
2400 7200

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DISC 22"
32"
44"
Custom

Manhole Number
Finish Top Elevation (ft): 359.78
Top Slab Elevation (ft): 358.75
Inlet Pipe Invert (ft): 352.35
Outlet Pipe Invert (ft): 352.10
Pipe Type: RCCP
Pipe Inside Diam. (in) (ID): 15.24
Pipe Outside Diam. (in) (OD): 19.30

Stormceptor® Model
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1200 4800
1800 6000
2400 7200

Insert Size
DISC 22"
32"
44"
Custom

Manhole Number
Finish Top Elevation (ft): 359.20
Top Slab Elevation (ft): 358.20
Inlet Pipe Invert (ft): 351.49
Outlet Pipe Invert (ft): 351.74
Pipe Type: RCCP
Pipe Inside Diam. (in) (ID): 24.21
Pipe Outside Diam. (in) (OD): 30.27

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1800 6000
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DISC 22"
32"
44"
Custom

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Outlet Pipe Invert (ft): 351.74
Pipe Type: RCCP
Pipe Inside Diam. (in) (ID): 24.21
Pipe Outside Diam. (in) (OD): 30.27

Stormceptor® Model
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1200 4800
1800 6000
2400 7200

Insert Size
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32"
44"
Custom

Manhole Number
Finish Top Elevation (ft): 359.20
Top Slab Elevation (ft): 358.20
Inlet Pipe Invert (ft): 351.49
Outlet Pipe Invert (ft): 351.74
Pipe Type: RCCP
Pipe Inside Diam. (in) (ID): 24.21
Pipe Outside Diam. (in) (OD): 30.27

Project Name: The Mall in Columbia Phase 1A Expansion
Approximate time frame until required delivery (weeks): OCT
Delivery Address: Street Columbia Mall
City Columbia State MD Zip Code 21044
Designer Company Draft McQuinn Walker Inc.
Designer Contact Robert Hurwitz Phone (410) 296-3333 Fax (410) 296-4702

Please fax this order to Stormceptor at (301) 762-4190
For Technical Assistance Please Call Stormceptor Corporation at (301) 762-8361 or toll free at 1 (800) 762-4703

ALL LIFTING APPARATUS TO BE PROVIDED BY THE INSTALLATION CONTRACTOR

* TO BE INCLUDED ON DESIGN PLAN BY DESIGNER

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Robert Ryan 1/14/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE

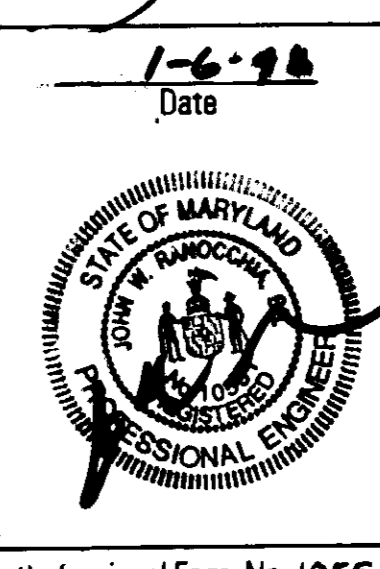
Robert Ryan 1/19/98
CHIEF, DIVISION OF LAND DEVELOPMENT & DATE

Robert Ryan 1/21/98
DIRECTOR DATE

11/5/98 2 REVISD SCI AND DELETED SC2
Date No. Revision Description

THE MALL IN COLUMBIA
PHASE 1 EXPANSION
TOWN CENTER
SECTION 2 AREA 1, 2 & 3

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044 HOWARD COUNTY



DMW
Draft-McQuinn-Walker, Inc.
300 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax 296-4706

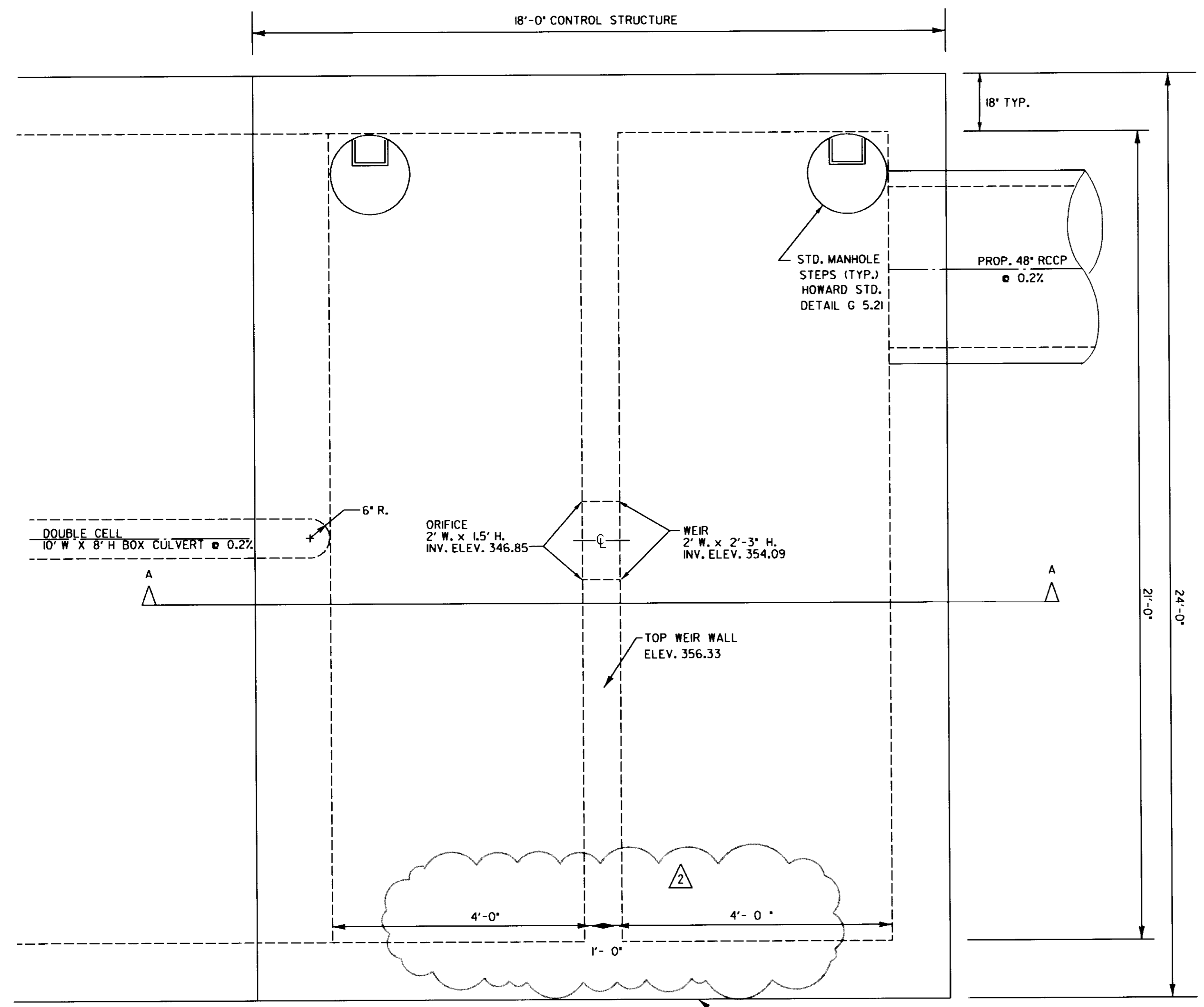
A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals

PROJECT NO. 10551
DATE 1/14/98
SCALE AS SHOWN
SHEET NO. 17 OF 35

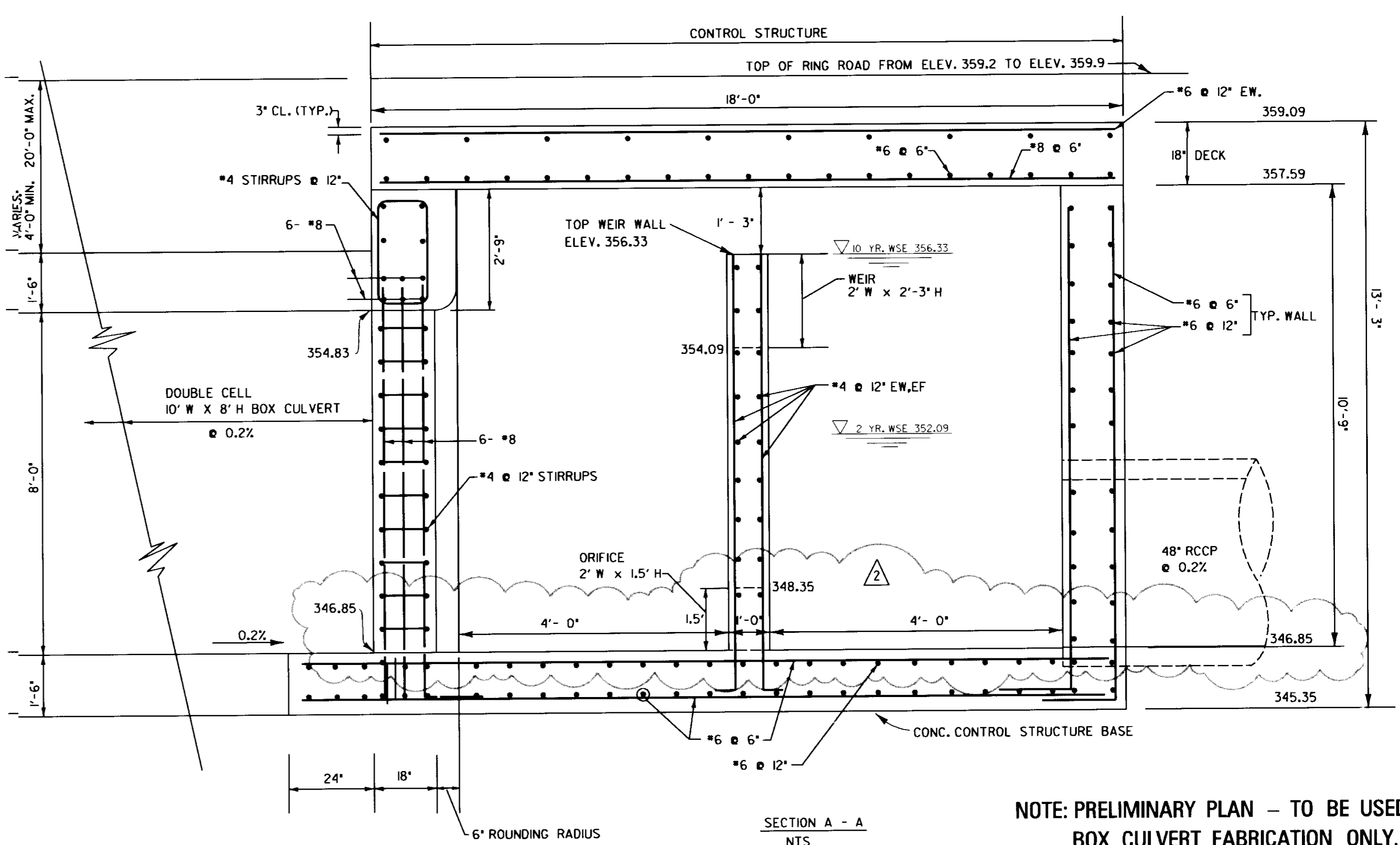
TITLE: **PHASE 1A STORMCEPTOR DETAILS**

Des By: MJP Scale: _____ Proj. No.: 95019 B
Dwn By: CLZ Date: 4/2/97
Chk By: JWR Approved: _____

Professional Engr. No. 10551



PLAN
NTS



SECTION A - A
NTS

NOTE: PRELIMINARY PLAN - TO BE USED FOR BOX CULVERT FABRICATION ONLY.

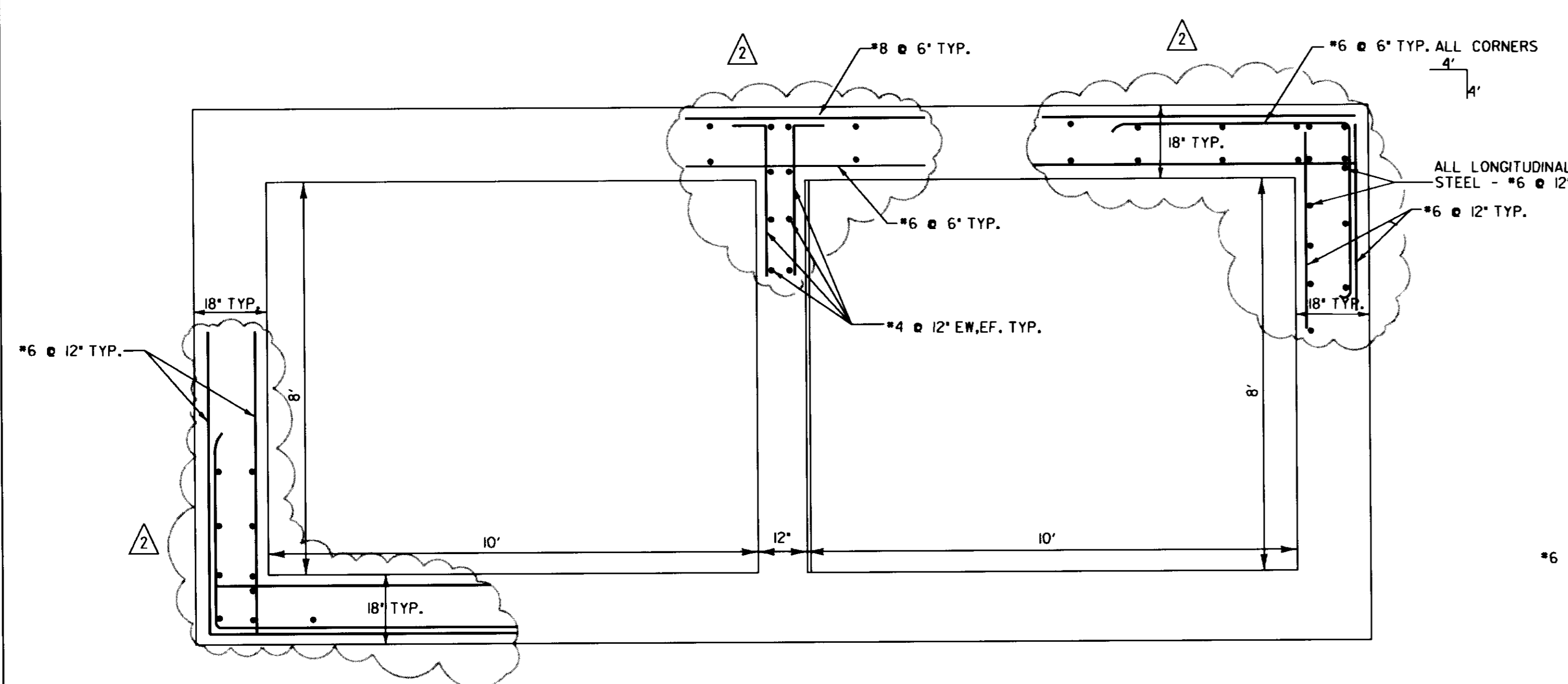
NOTE:
SHOP DRAWINGS AND DESIGN COMPUTATIONS SIGNED, SEALED AND DATED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MARYLAND, TO BE SUBMITTED BY CONTRACTOR AND APPROVED PRIOR TO FABRICATION.

LOADINGS:
1. AASHTO HS 27-44 AND MD. TYPE 3
2. ASSUMED SOIL PROPERTIES:
UNIT WEIGHT OF SOIL - 120 pcf
EQUIVALENT FLUID PRESSURE 35 pcf min.

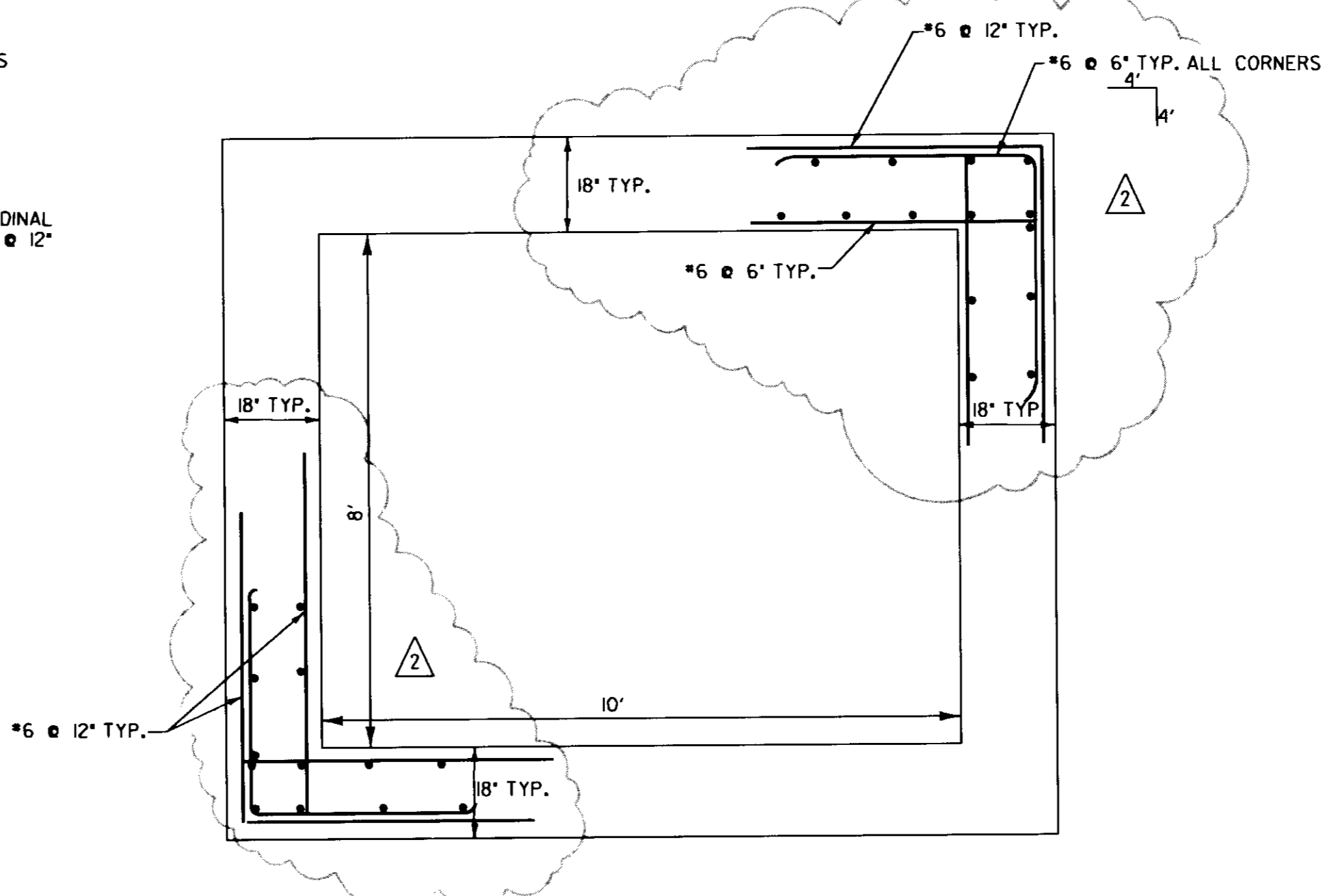
PROPOSED INFLOW (cfs) 75.23
ALLOWABLE RELEASE RATE (cfs) 25.67
PROPOSED OUTFLOW (cfs) 25.67
WATER SURFACE ELEVATION (ft.) 352.09
STORAGE PROVIDED (cc. ft.) 1.47

	2 YEAR	10 YEAR
INFLOW (cfs)	75.23	126.88
ALLOWABLE RELEASE RATE (cfs)	25.67	56.88
PROPOSED OUTFLOW (cfs)	25.67	56.88
WATER SURFACE ELEVATION (ft.)	352.09	356.33
STORAGE PROVIDED (cc. ft.)	1.47	2.62

THE DRAINAGE AREA TO THIS FACILITY IS 0.0360 SQ. MILES OR 23.03 ACRES +/-



DOUBLE CELL CONCRETE BOX CULVERT
NTS



SINGLE CELL CONCRETE BOX CULVERT
NTS

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE April 23, 1997
R.B.

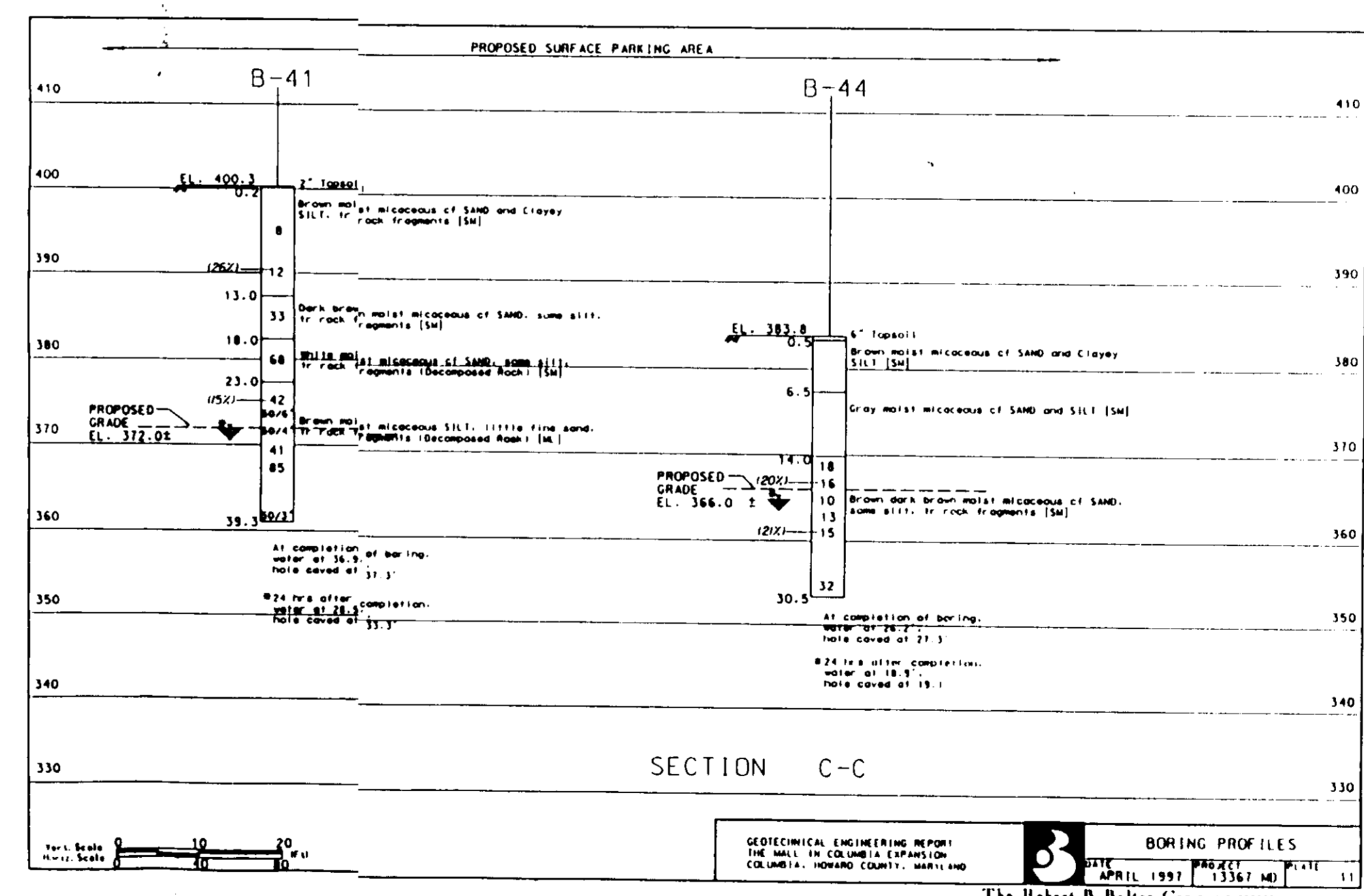
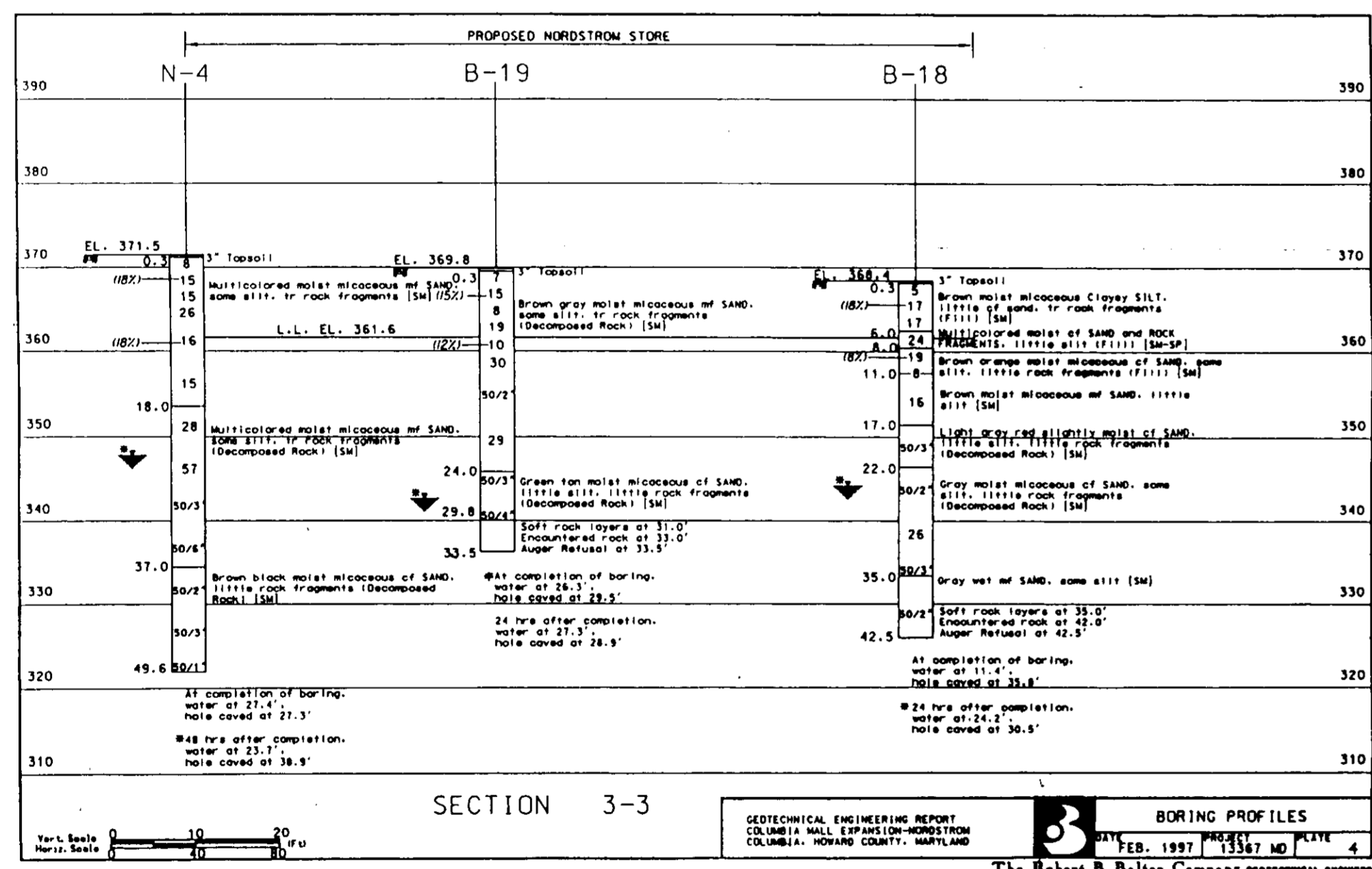
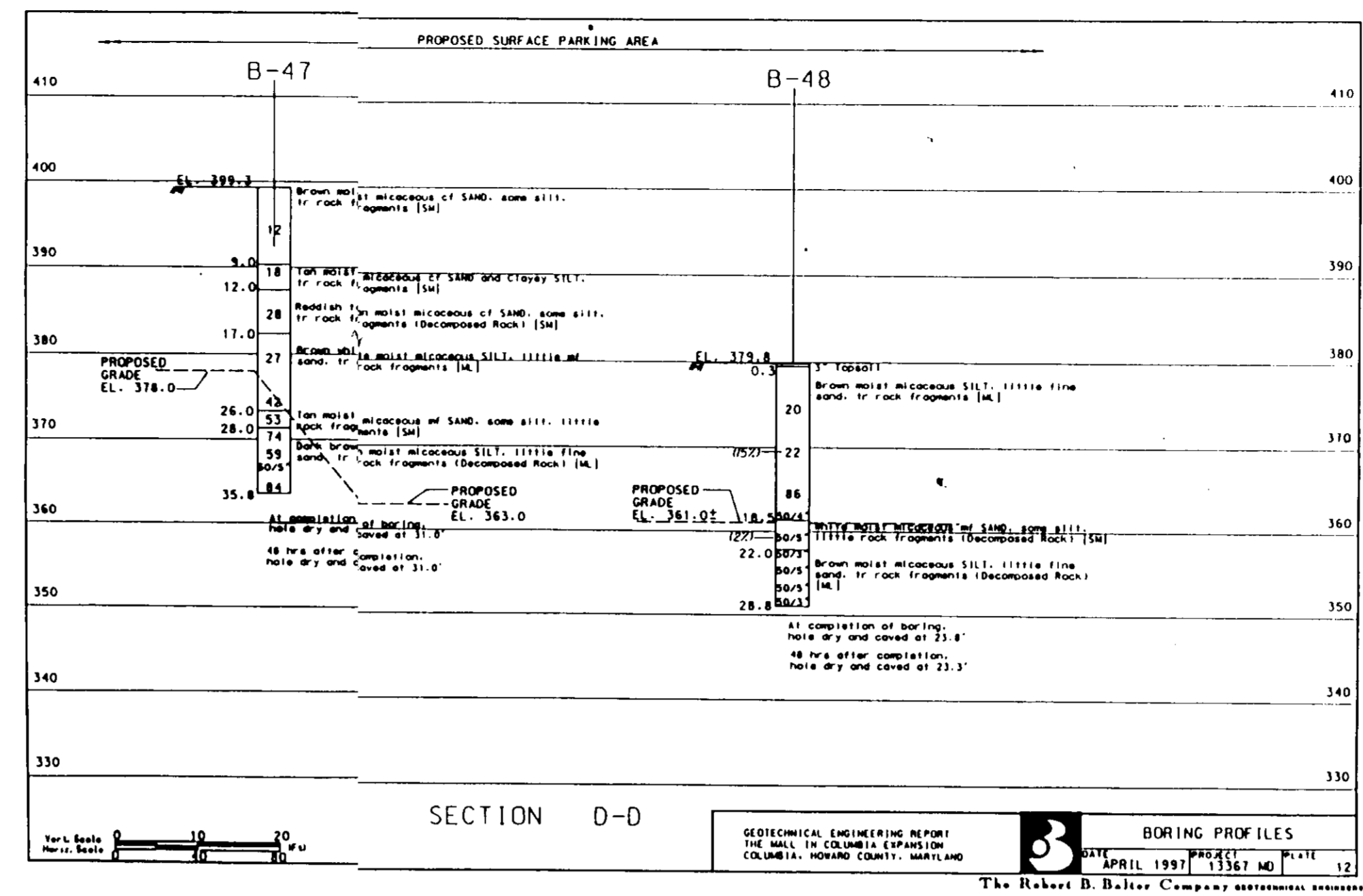
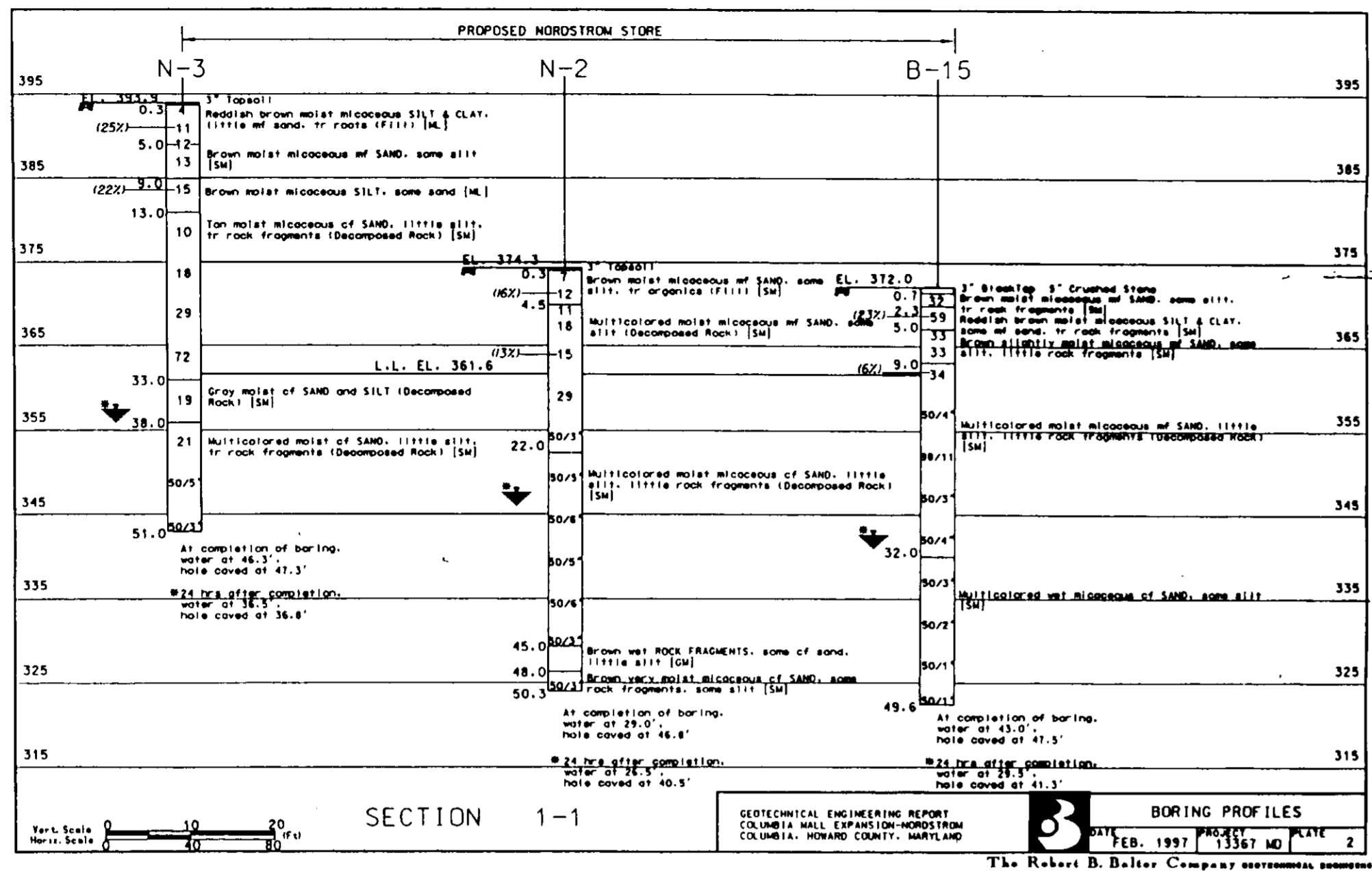
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
[Signature] 1/14/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE
[Signature] 1/21/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
[Signature] 1/21/98
DIRECTOR DATE

1-5-98 2 REVISED DETAILS
Date No. Revision Description
THE MALL IN COLUMBIA
PHASE I EXPANSION
TOWN CENTER
SECTION 2 AREA 1 & 2/2
LOTS 8,10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34
OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

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Fax 296-4705
A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals

1-6-98
Date
Professional Engr. No. 10551

PHASE 1A
REVISED SWM DETAILS
Des By MJP Scale 1" = 20' Proj. No. 95019 B
Dm By CLZ Date 5/22/97
Chk By JWR Approved
16 OF 35



4/23/97

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
William J. ...
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MKK 6/16/97
Richard ...
 CHIEF, DIVISION OF LAND DEVELOPMENT MKK 6/20/97
James S. ...
 DIRECTOR 6/20/97

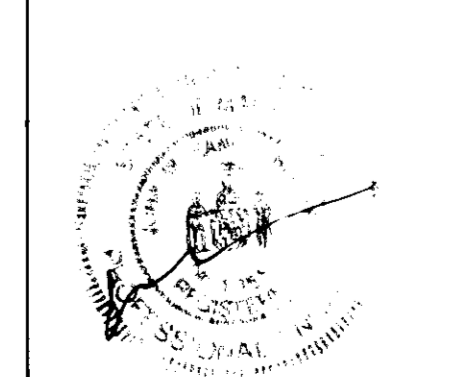
Date	No	Revision Description

THE MALL IN COLUMBIA
 PHASE I EXPANSION
 TOWN CENTER
 SECTION 2 AREA 1, 2/4
 LOTS 8,10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34, 35
 OWNER /DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044 HOWARD COUNTY

DMW
 David M. ...
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
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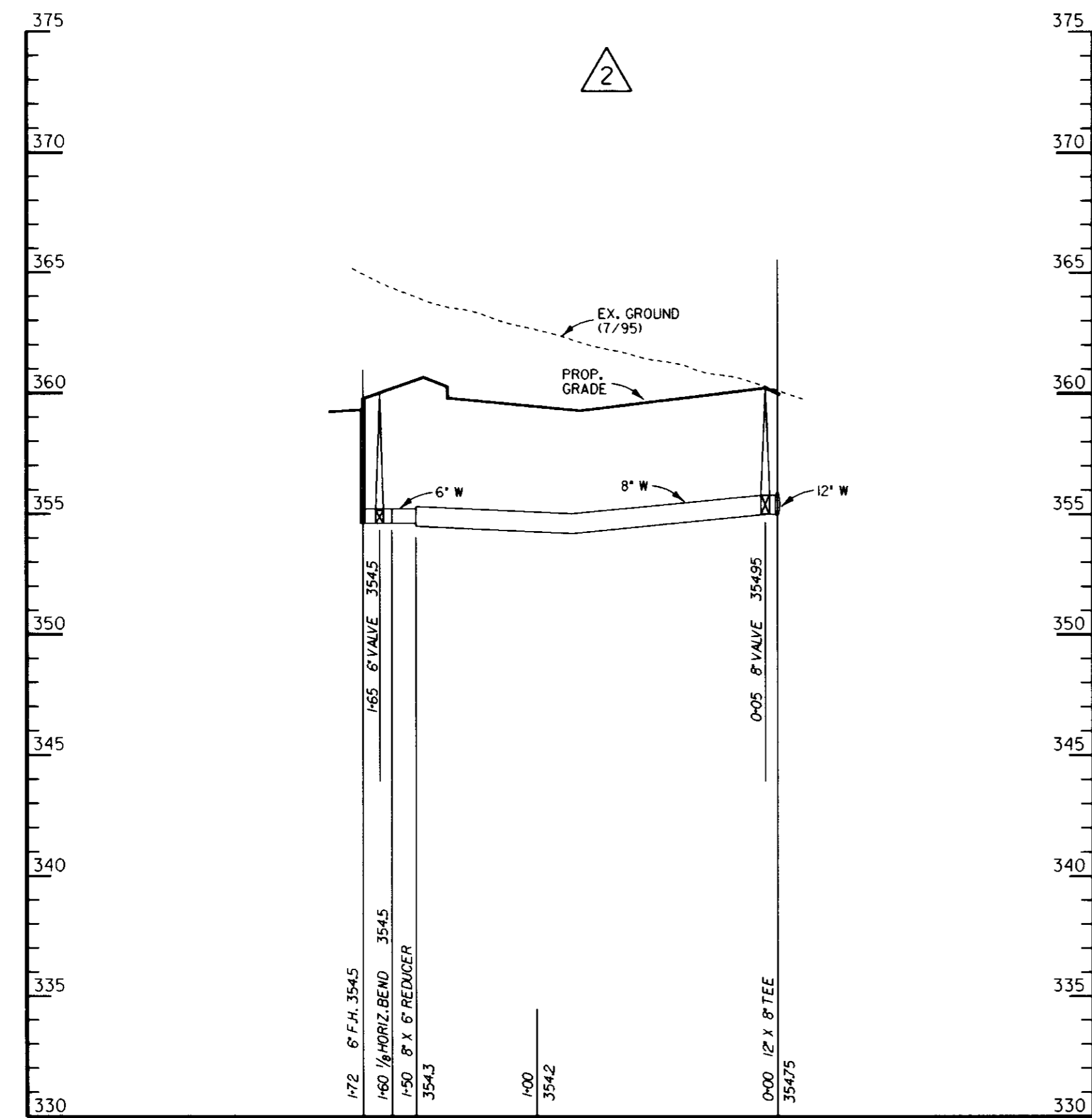
A Team of Land Planners,
 Landscape Architects,
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5/24/97
 Date

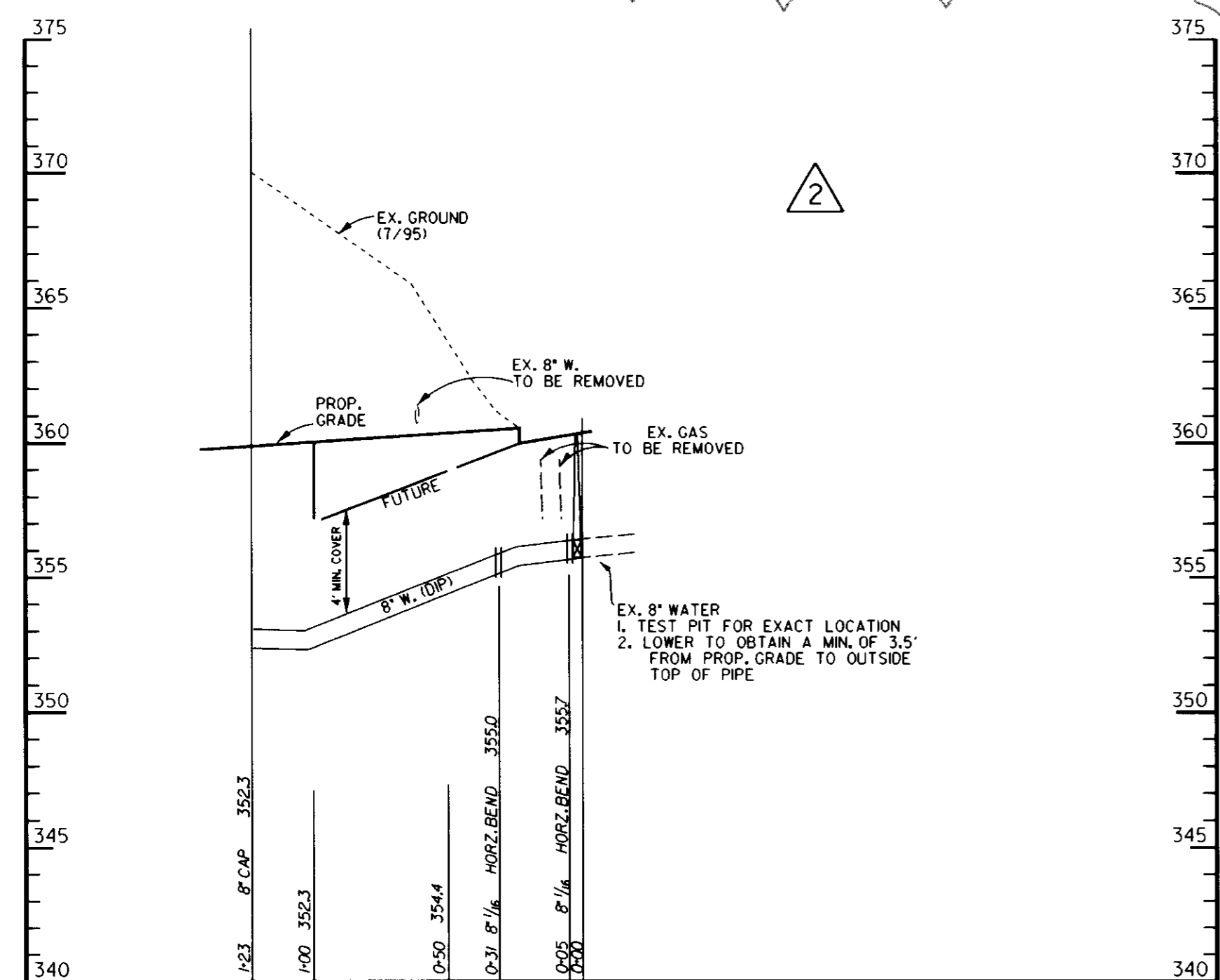


TITLE
**PHASE 1A
 SOIL BORINGS PLAN**

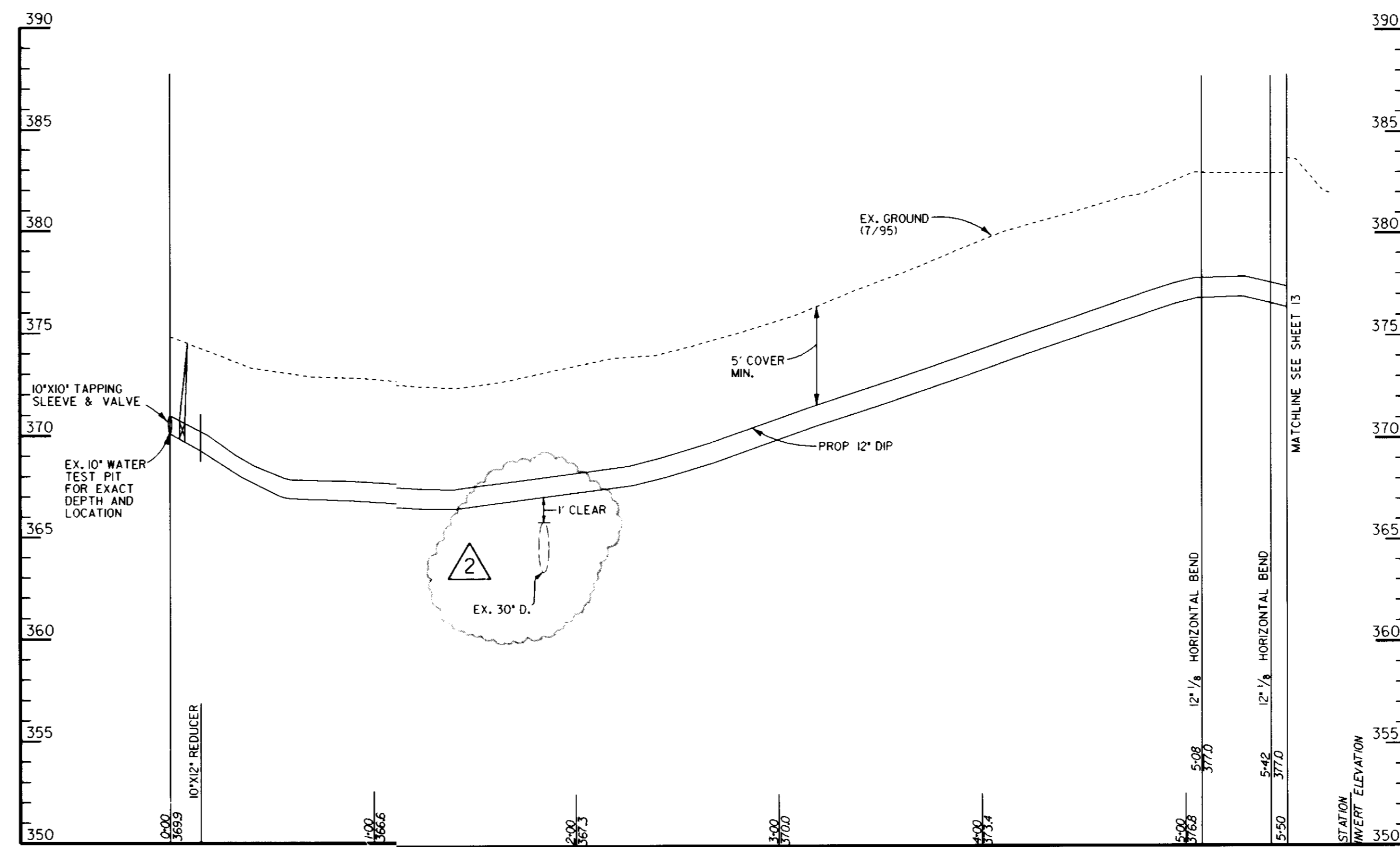
Des By RHJS Scale 1" = 50' Proj. No. 950198
 Dm By JEF Date 5/16/97
 Ck By JWR Approved 15 OF 35



FIRE HYDRANT CONNECTION



WATER CONNECTION TO FUTURE BUILDING



APPROVED
 PLANNING BOARD
 HOWARD COUNTY
 DATE April 23, 1997
RB

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
John Dammicus 11/4/96
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE
William Hamilton 1/2/97
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
James P. Rafter 1/2/98
 DIRECTOR DATE

1-5-98	2	REVISED WATER CONNECTION
Date	No.	Revision Description

THE MALL IN COLUMBIA
 PHASE I EXPANSION
 TOWN CENTER
 SECTION 2 AREA 1 # 2/2
 LOTS 8,10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34
 OWNER /DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

DMW
 David M. Walker, Inc.
 300 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3833
 Fax 296-4705
 A Team of Land Planners,
 Landscape Architects,
 Engineers, Surveyors &
 Environmental Professionals

1-6-98
 Date

Professional Engr. No. 10661

DATE	DATE	DATE	DATE
PLAT # OR LOT	BLOCK #	ZONE	SECTION
WATER CODE	SEWER CODE	PROJECT	TRACT
TITLE PHASE 1A REVISED PRIVATE WATER MAIN PROFILES			
Des By	RLH	Scale	1" = 50'
Drn By	JEF	Date	5/22/97
Proj. No.	95019B	14	OF 35
Chk By	JWR	Approved	



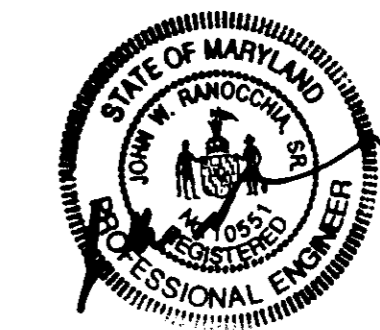
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
John S. Smith 1/14/98
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE
John S. Smith 1/21/98
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
John S. Smith 1/21/98
 DIRECTOR DATE

Date	No.	Revision Description
1-5-98	2	REVISED GRADING; ADJUST WATER LINE

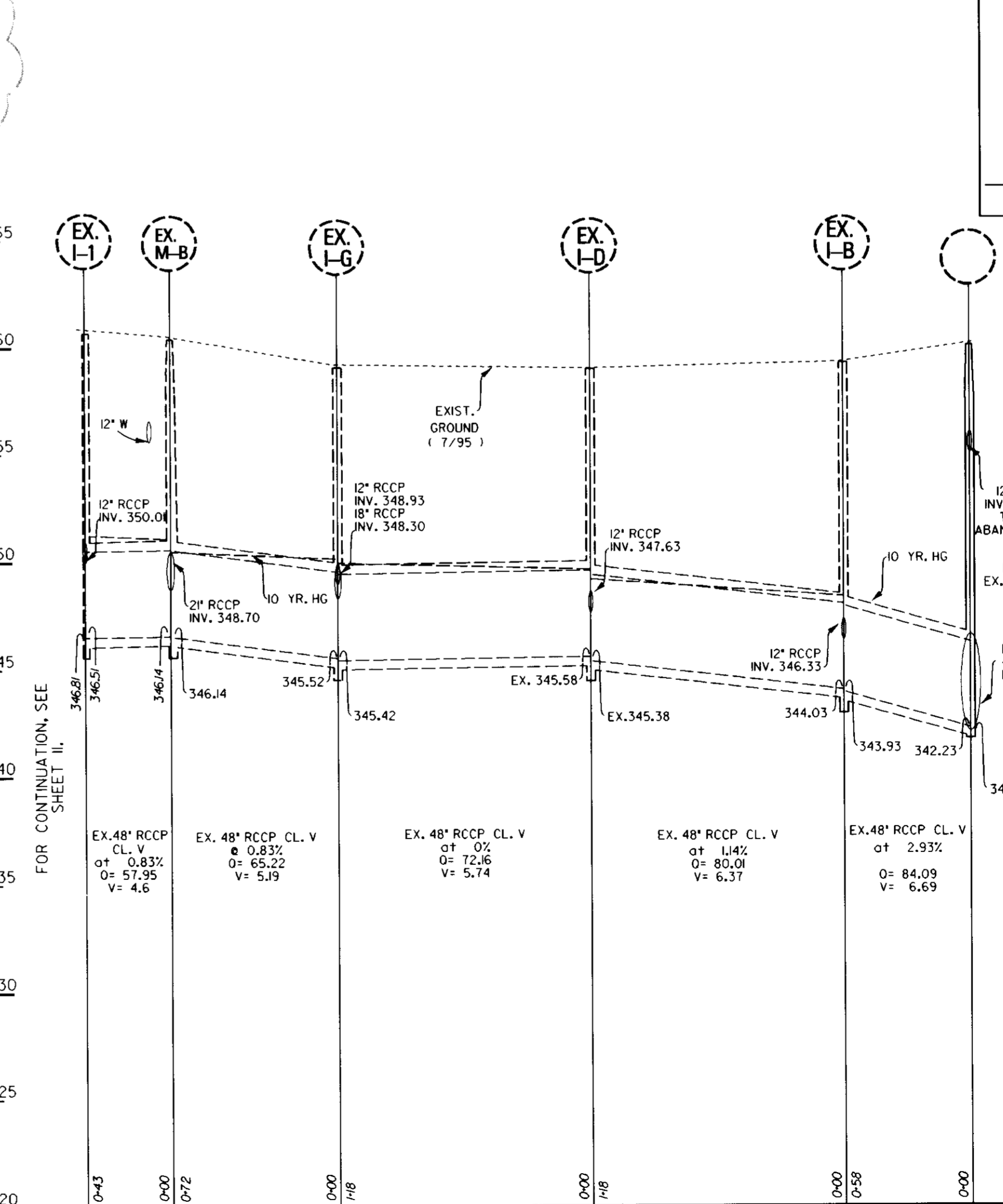
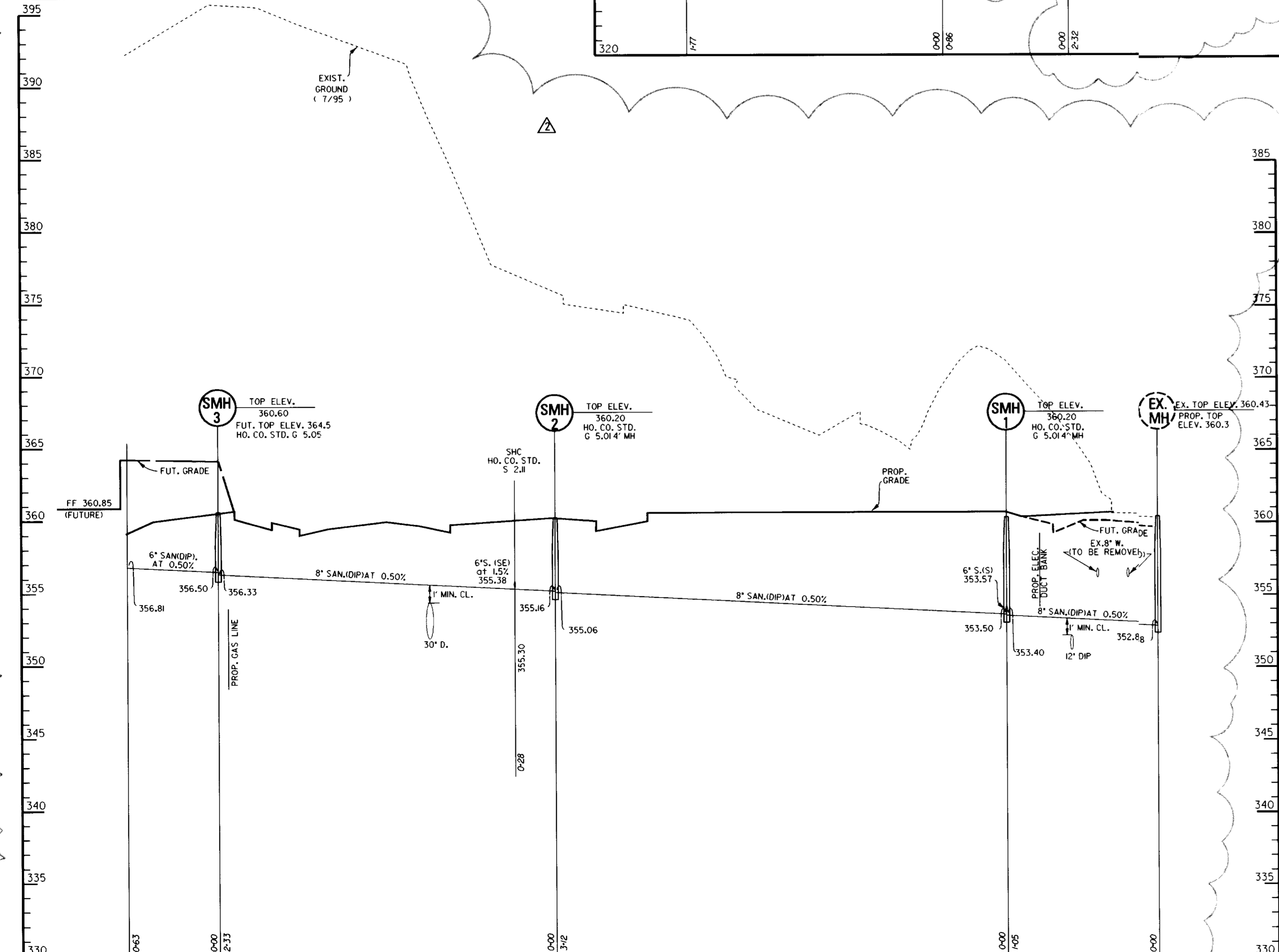
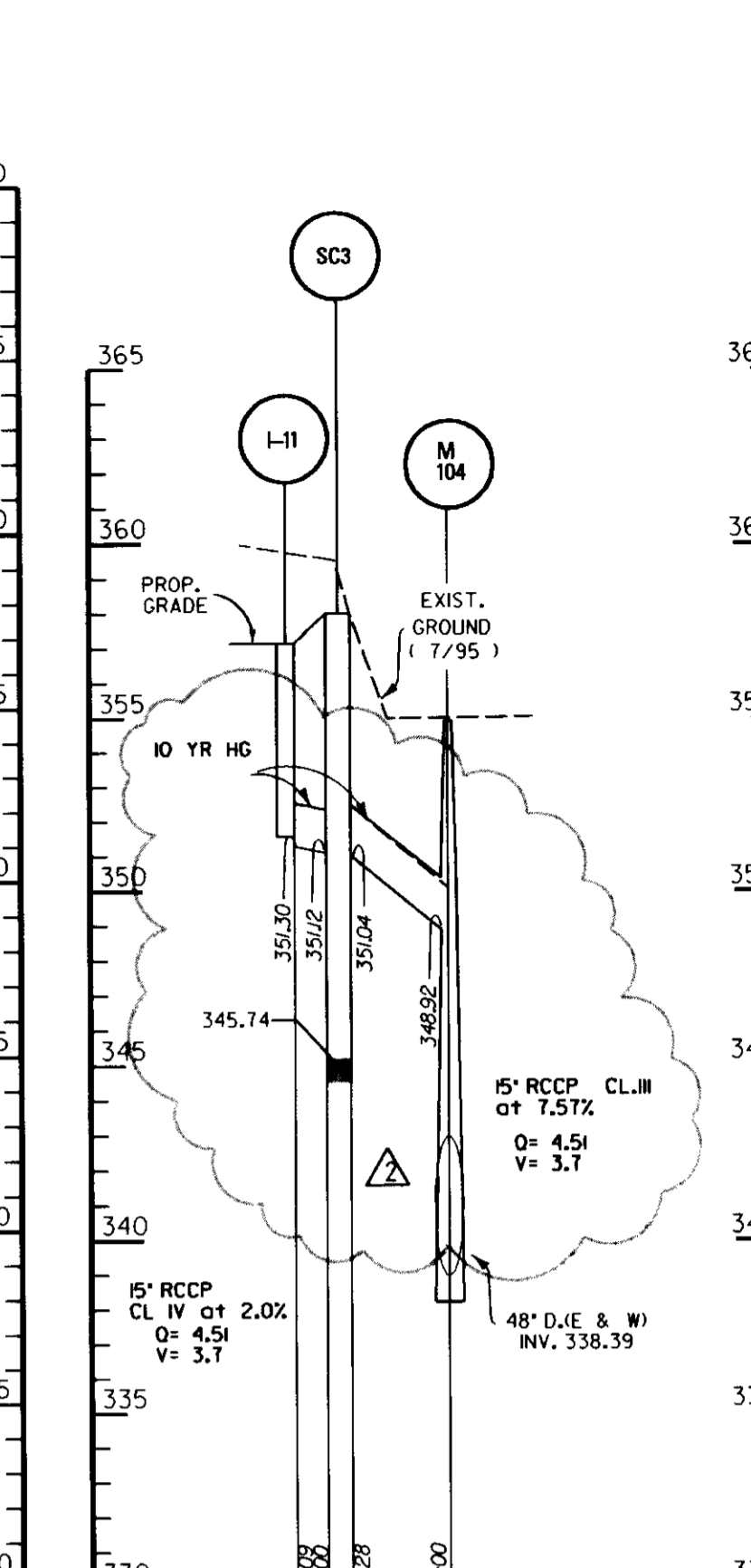
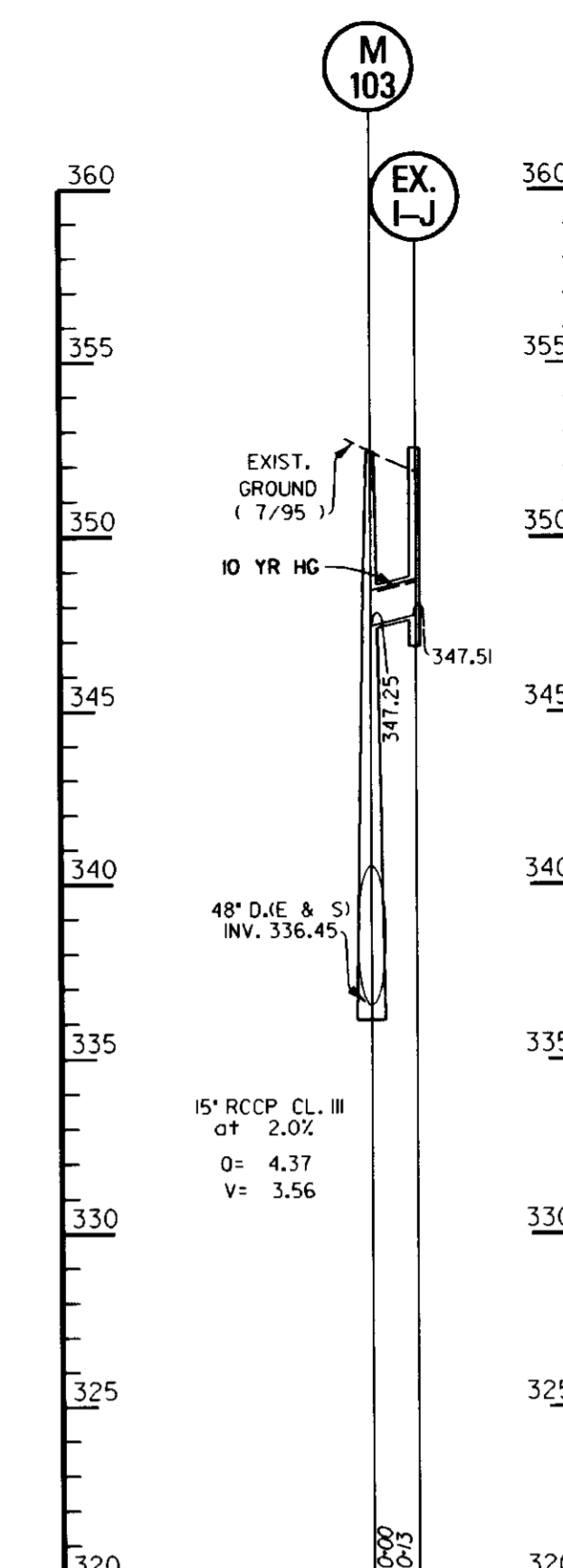
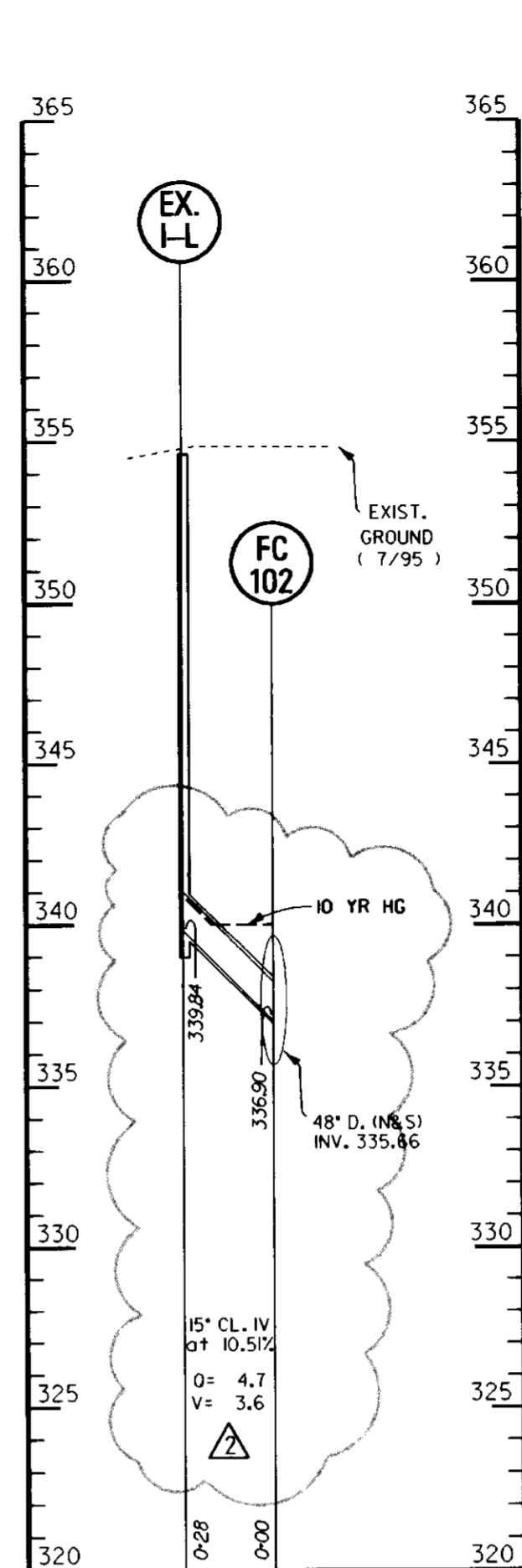
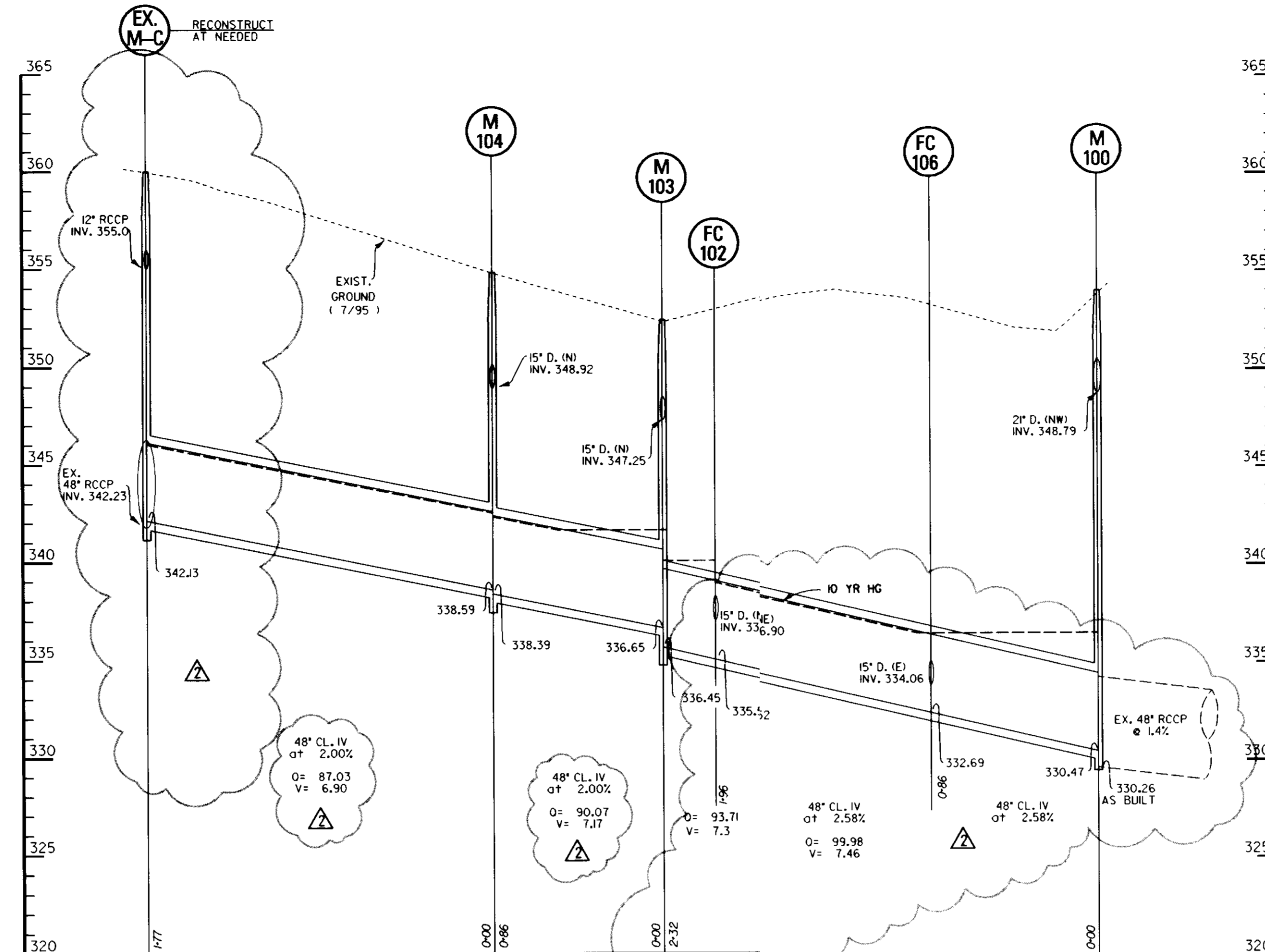
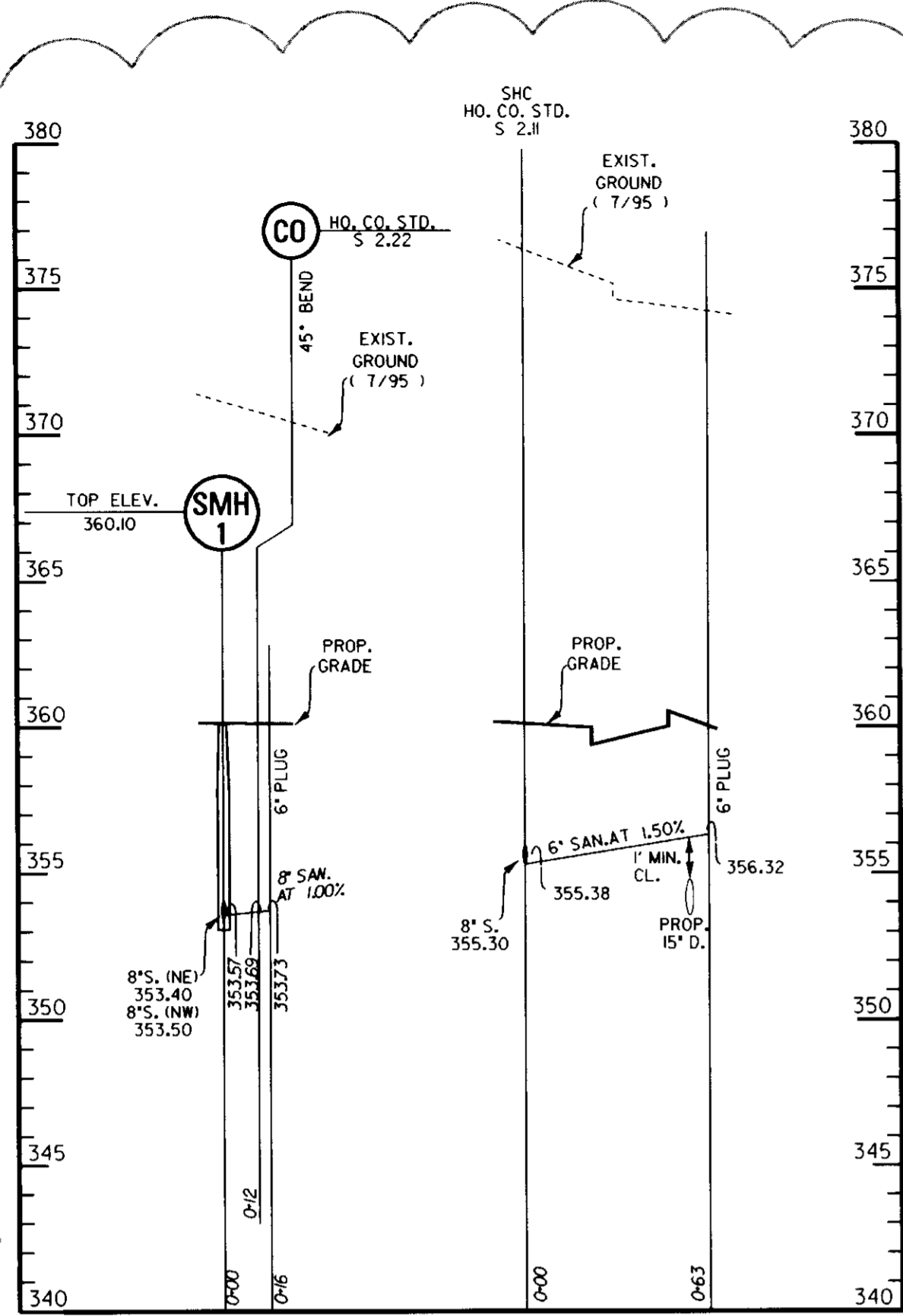
THE MALL IN COLUMBIA
 PHASE I EXPANSION
 TOWN CENTER
 SECTION 2 AREA 1 & 2 / 2
 HOWARD COUNTY, MD
 LOTS 3, 8, 10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34
 OWNER / DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

DMW
 Duff, McCase & Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3333
 Fax: 396-4705
 A Team of Land Planners,
 Landscape Architects,
 Engineers, Surveyors &
 Environmental Professionals

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE APRIL 23, 1997
RL

1-6-98
 Date

 Professional Engr. No. 10551

SUBDIVISION NAME COLUMBIA TOWN CTR.	SECTION/AREA 2 / 1 & 2 / 2	OFFSHOOT # SEE GENERAL NOTE # 6
BLK # 3054A-442	DATE NT	OWNER NAME 6054
WATER SIZE 30, 36	5TH	
TITLE PHASE 1A REVISED PRIVATE WATER MAIN PROFILES		
Des By RLH	Scale HORIZ. 1" = 50' VERT. 1" = 5'	Proj. No. 95019B
Dwn By JEF	Date 5/22/97	13 OF 35
Chk By JRW	Approved	



1-1-95
Date

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE April 23, 1997

Professional Engr. No. 10561

Date	No.	Revision Description
1-5-98	2	REVISED SANITARY PROFILES

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

John Dammann
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK (DATE)

Colleen Miller
CHIEF, DIVISION OF LAND DEVELOPMENT (DATE)

David K... ..
DIRECTOR (DATE)

THE MALL IN COLUMBIA
PHASE I EXPANSION
TOWN CENTER
SECTION 2 AREA 1 & 2/2
HOWARD COUNTY

OWNER /DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

DMW
Darr-MacCune-Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax 296-4706

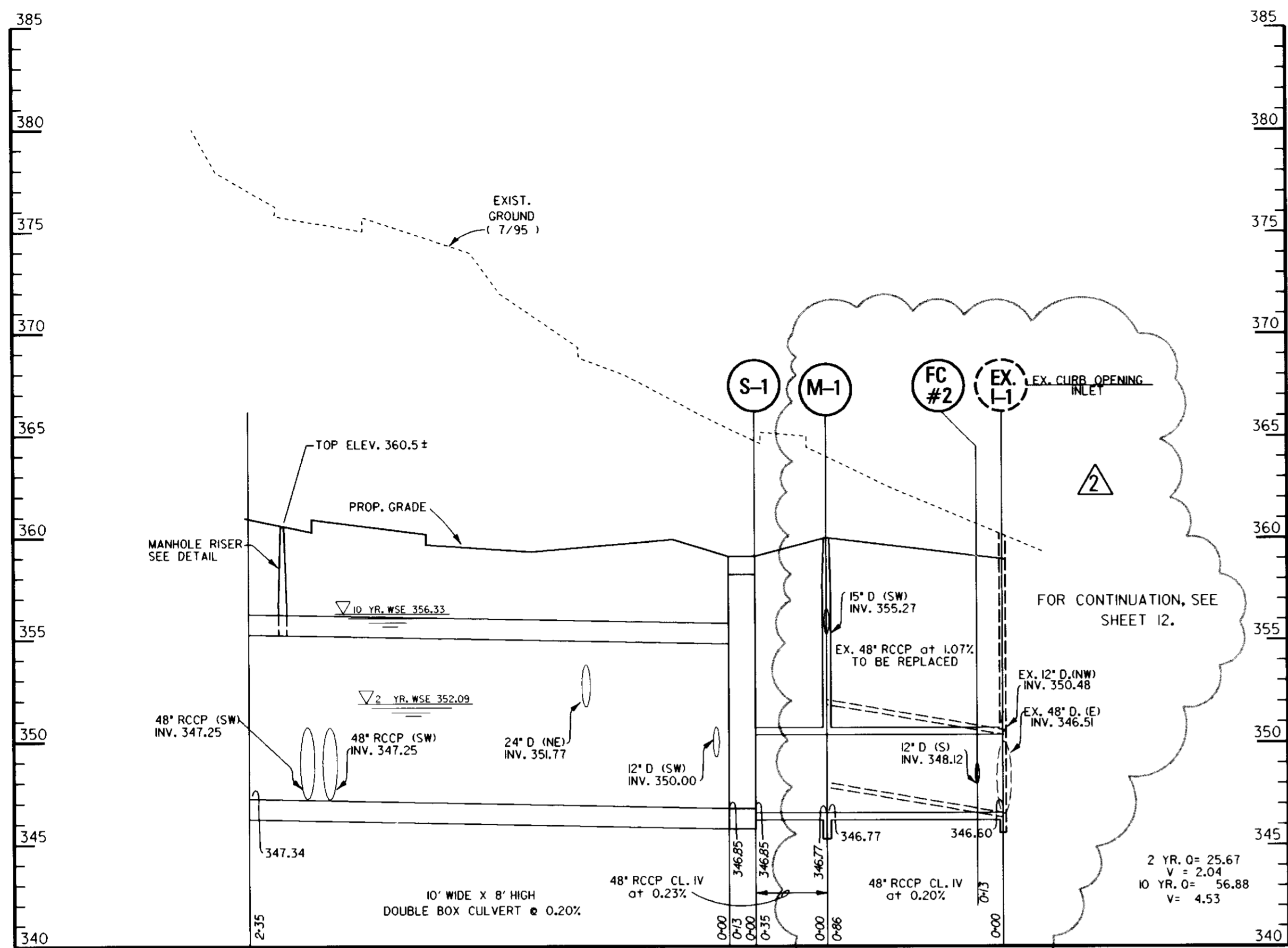
A Team of Land Planners,
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Engineers, Surveyors &
Environmental Professionals

SECTION NAME	SECTION NUMBER	DATE	BY
COLUMBIA TOWN CTR.	2/1 & 2/2		
TOWN CENTER	SECTION 2 AREA 1 & 2/2		
DATE	30, 36	DATE	5TH
NO. 3054A - 442	NT	NO. 3054	NT
DATE		DATE	

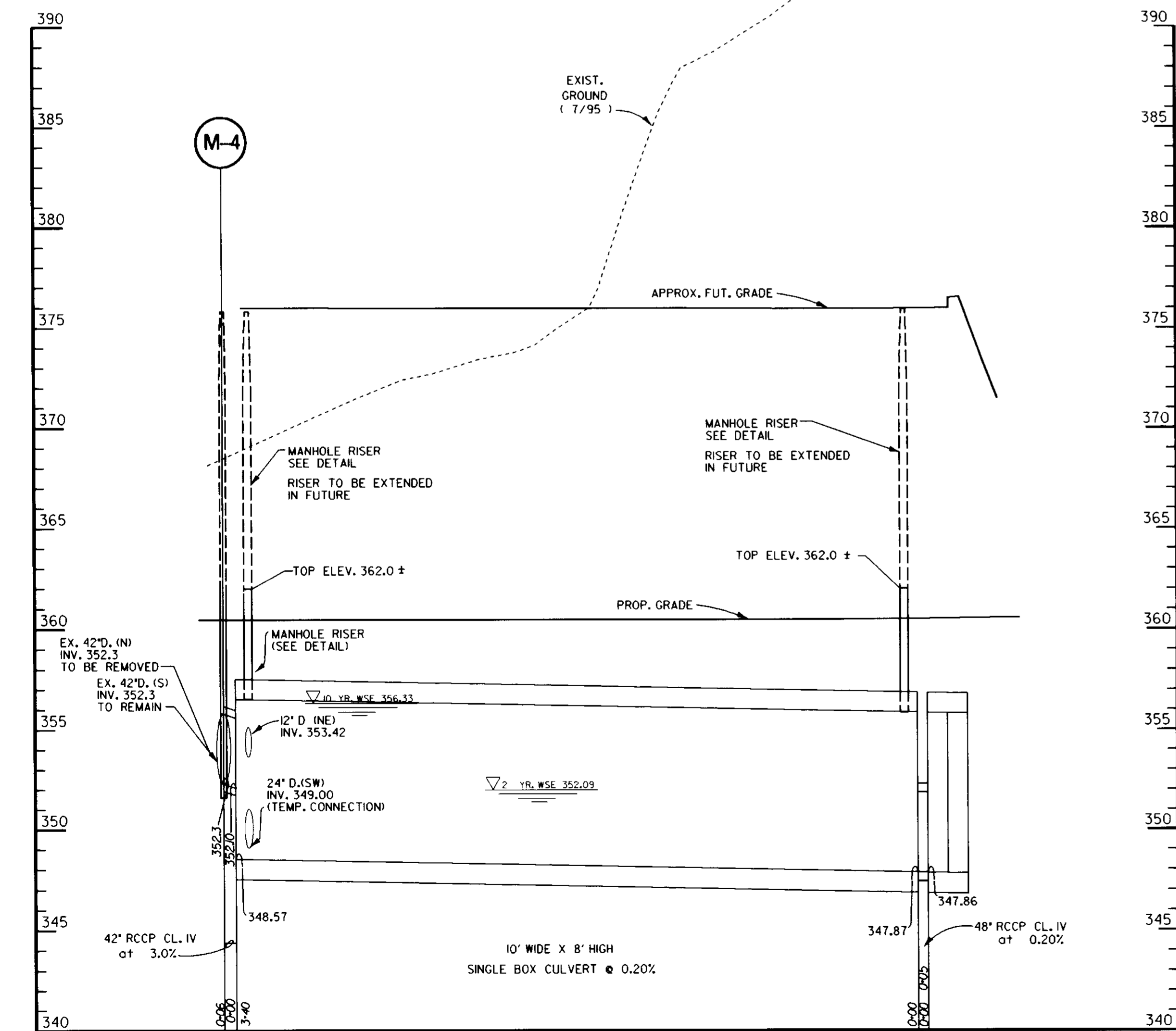
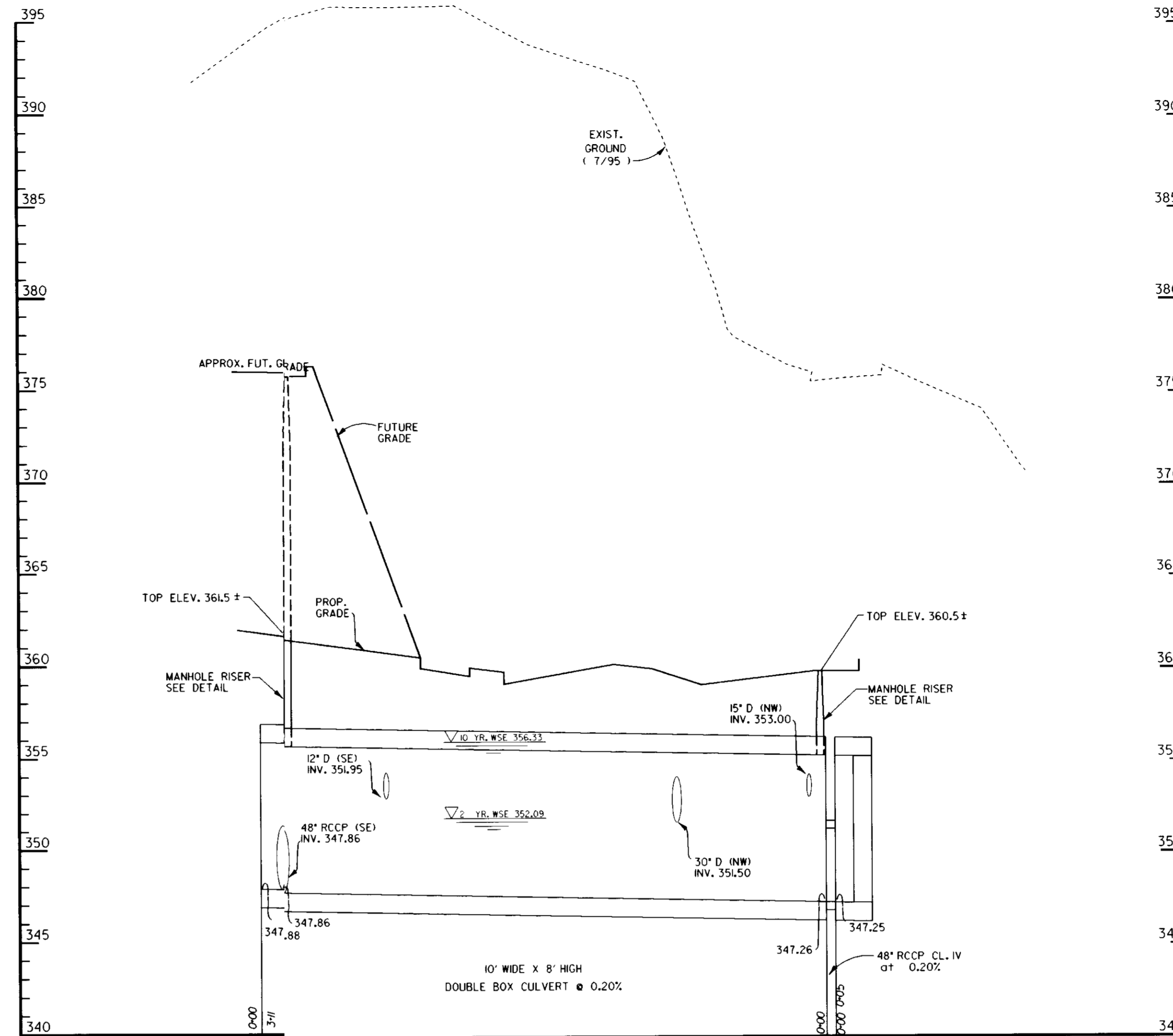
TITLE: **PHASE IA
REVISED STORM DRAIN
& SEWER PROFILES**

Des By: RLH Scale: 1" = 40'
 Dim By: KDE Date: 5/22/97
 Chk By: KDE Approved

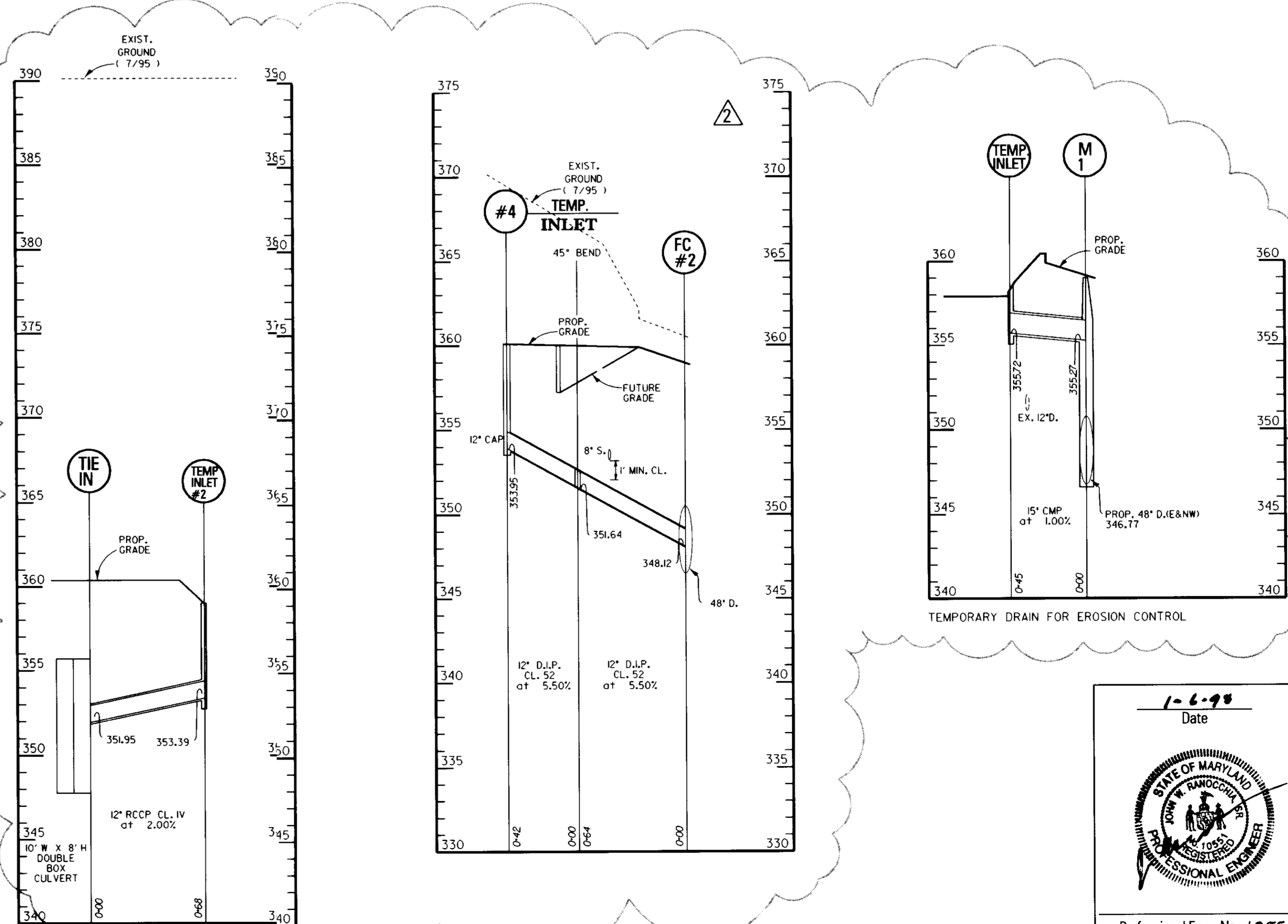
Proj. No. 95019 B
12 OF 35



PROFILE A-A



PROFILE C-C



- OPERATION AND MAINTENANCE SCHEDULE FOR STORMWATER MANAGEMENT
- 1) THE UNDERGROUND FACILITY SHALL BE INSPECTED YEARLY AT A MINIMUM. AT THE TIME THE SEDIMENT IS OVER 6" IN DEPTH THE SEDIMENT SHALL BE REMOVED.
 - 2) THE FACILITY SHALL BE INSPECTED AFTER EACH MAJOR STORM.
 - 3) TRASH SHALL BE REMOVED AS NEEDED.

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE April 23, 1997
RB

1-5-98	2	REVISED NORDSTROM ROOF CONNECTION #4 ADDED TEMP. DRAIN FOR EROSION CONTROL
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING		
<i>Michael Dammus</i>	<i>MK</i>	<i>1/14/98</i>
CHIEF, DEVELOPMENT ENGINEERING DIVISION		DATE
<i>Colleen Miller</i>		<i>12/1/97</i>
CHIEF, DIVISION OF LAND DEVELOPMENT		DATE
<i>David J. Miller</i>		<i>1/2/98</i>
DIRECTOR		DATE

Date No. Revision Description

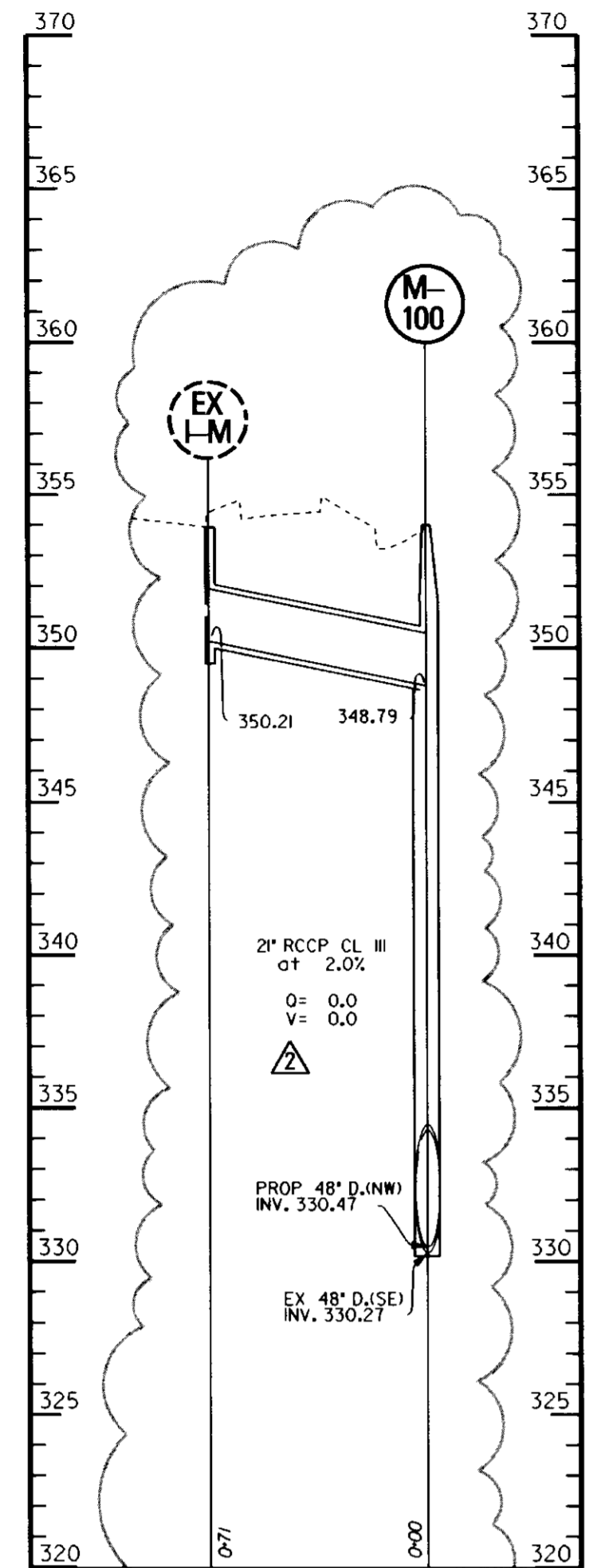
THE MALL IN COLUMBIA
PHASE I EXPANSION
TOWN CENTER
SECTION 2 AREA 1 & 2/E
LOTS 8,10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34
OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

DMW
Darrin McCusker-Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-5839
Fax: 296-4705
A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals

1-6-98
Date

Professional Engr. No. 10551

SECTION NAME	COLUMBIA TOWN CTR.	SECTION AREA	DATE
PLAT # OR LOT	BLOCK #	TOWNSHIP	SECTION
WATER CODE	SEWER CODE	PROJECT NO.	57H
TITLE			
PHASE IA REVISED SWM PROFILES & STORM DRAIN PROFILE			
Des By	RLH	Scale	HORIZ 1" = 50' VERT 1" = 5'
Drn By	JEF	Date	5/22/97
Proj. No.	95019B	Page	11 OF 35
Chk By	JWR	Approved	



MANHOLE SCHEDULE						
NO.	TYPE	SIZE	INV. OUT	TOP ELEV.	DETAIL NO.	COORDINATES
M-1	72" DIA		346.77	359.30	SHA MD 384.05	N504072.5, E839284.0
M-2	48" DIA		352.67	359.50	G 5.03	N504173.1, E839255.9
M-3	72" DIA		351.8	368.00	SHA MD 384.05	N504006.8, E838854.8
M-4	72" DIA		352.30	362.00	SHA MD 384.05	N503766.5, E83934.1
M-100	84" DIA		330.27	354.00	SHA MD 384.05	N503827.5, E840051.7
M-103	72" DIA		336.45	352.4	SHA MD 384.05	N504061.5, E840050.0
M-104	72" DIA		338.39	354.80	SHA MD 384.05	N504061.5, E839963.0

NOTE: PROVIDE GRANITE BLOCK BOTTOM.
 ** TEMP TOP ELEV. 367.00, ULTIMATE TOP ELEV. 374.00 ±
 *** TEMP TOP ELEV. 362.00, ULTIMATE TOP ELEV. 377.00 ±

STRUCTURE SCHEDULE						
NO.	TYPE	INV. IN	INV. OUT	TOP ELEVATION	REMARKS	
FC-102	FIELD CON.				HO.CO. STD. S.D.2.015"x48"	
FC-1	FIELD CON.				HO.CO. STD. S.D.2.015"x48"	
FC-106	FIELD CON.				HO.CO. STD. S.D.2.015"x48"	
WYE-1	WYE CON.		353.2		HO.CO. STD. S.D.2.015"x21"	
FC-2	FIELD CON.				HO.CO. STD. S.D.2.012"x48"	

WATER LINE COORDINATE TABLE			
STATION	BEND	COORDINATES	
PROPOSED 12" WATER			
0+00	EX. 10" W	N503275.2	E838806 ±
5+08	1/8	N503634.7	E838442.3
5+42	1/8	N503668.8	E838442.2
14+25	1/8	N504294.5	E839065.1
17+50	1/8	N504296.1	E839389.8
18+41	1/8	N504231.9	E839454.0
20+23	EX. 8" W	N504049.7	E839454.0 ±
PROPOSED 8" WATER - FIRE HYDRANT CONNECTION			
0+00/19+83	TEE	N504090.2	E839454.0
1+60	1/8	N504090.2	E839294.4
FH		N504082.0	E839286.3
NORDSTROM WATER SERVICE			
0+00	VALVE	N504049.7	E839426.0 ±
0+05	1/16	N504049.7	E839420.8
0+31	1/16	N504039.6	E839396.3
1+23	8" CAP	N503975.1	E839331.8

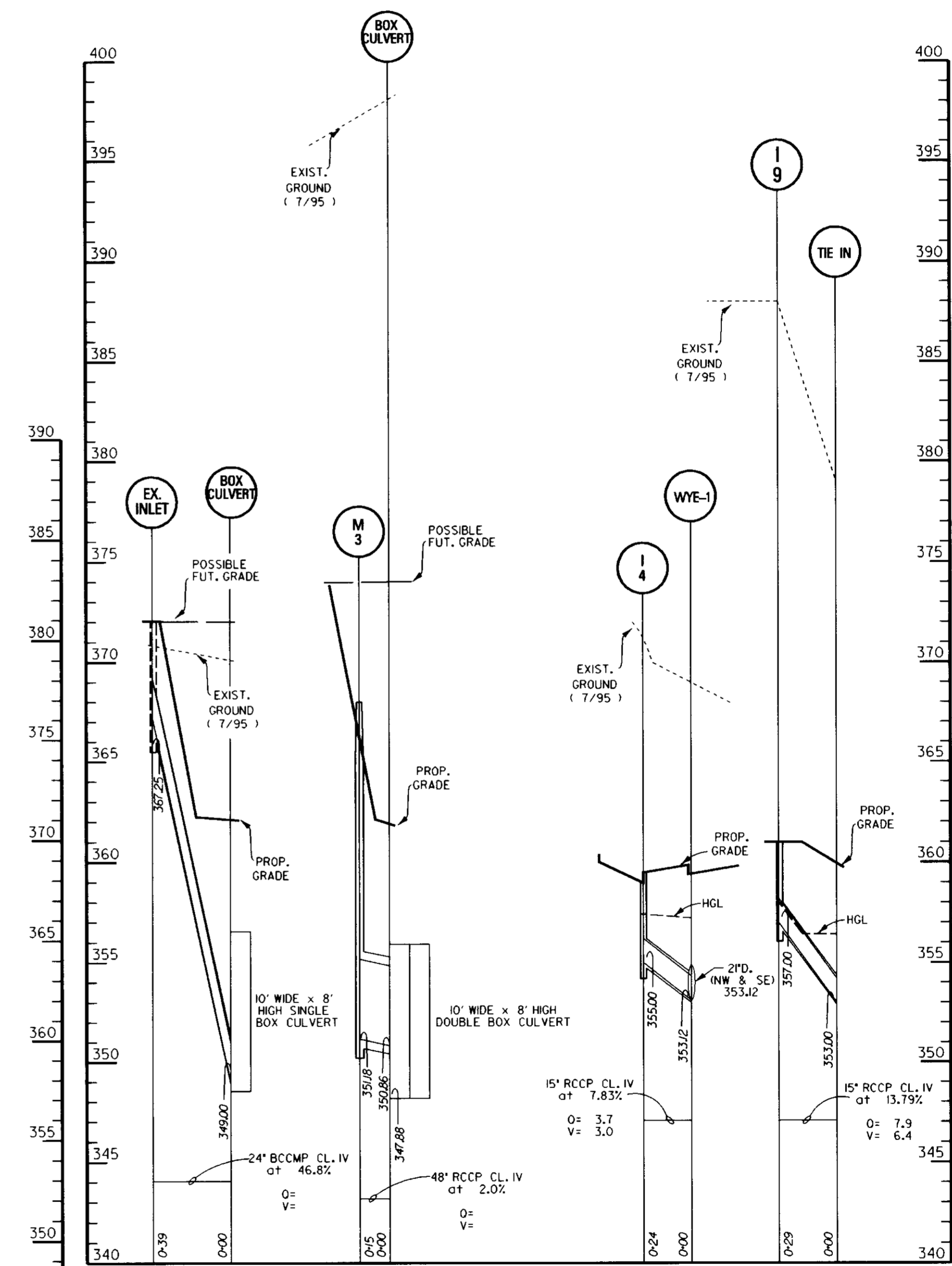
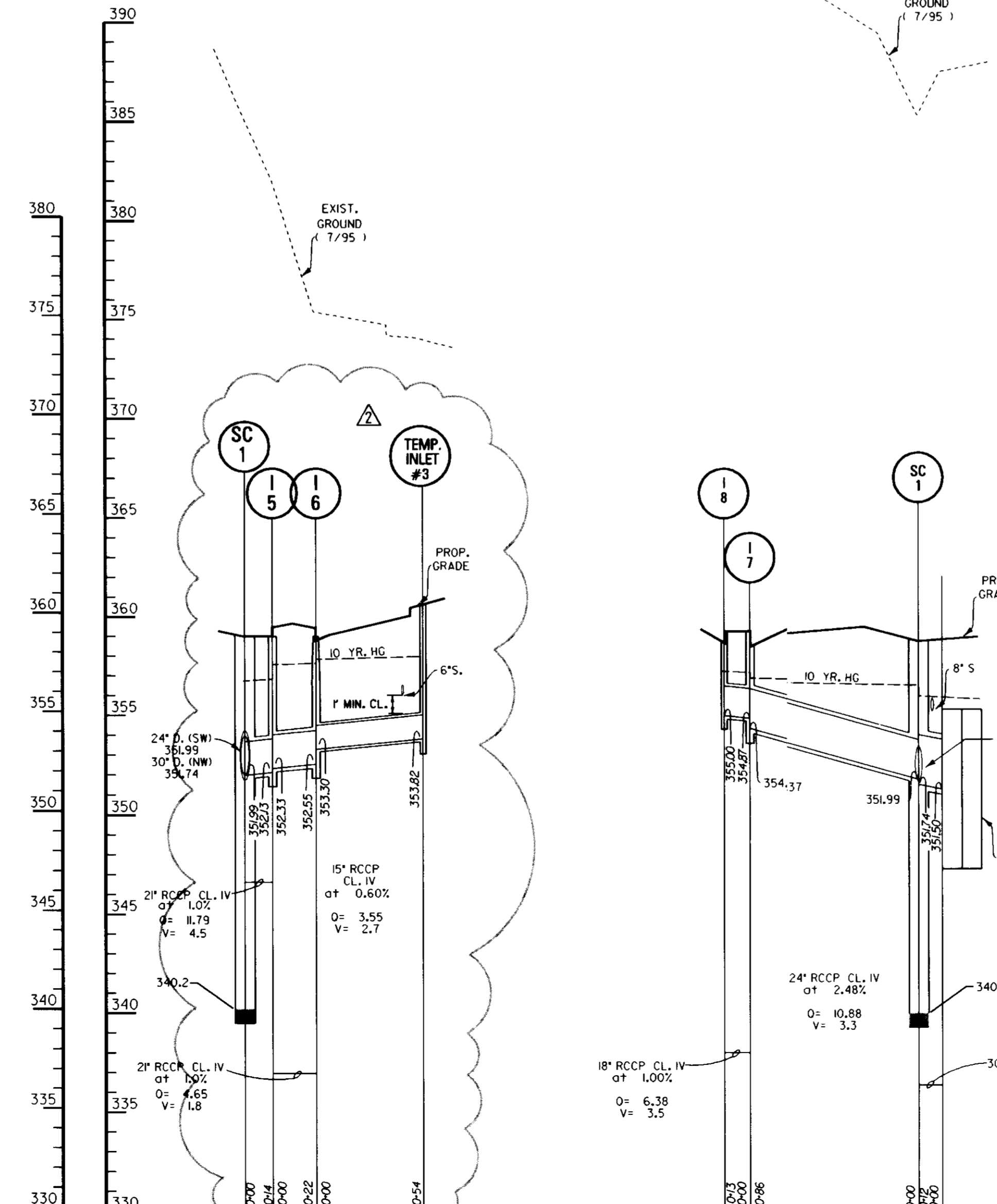
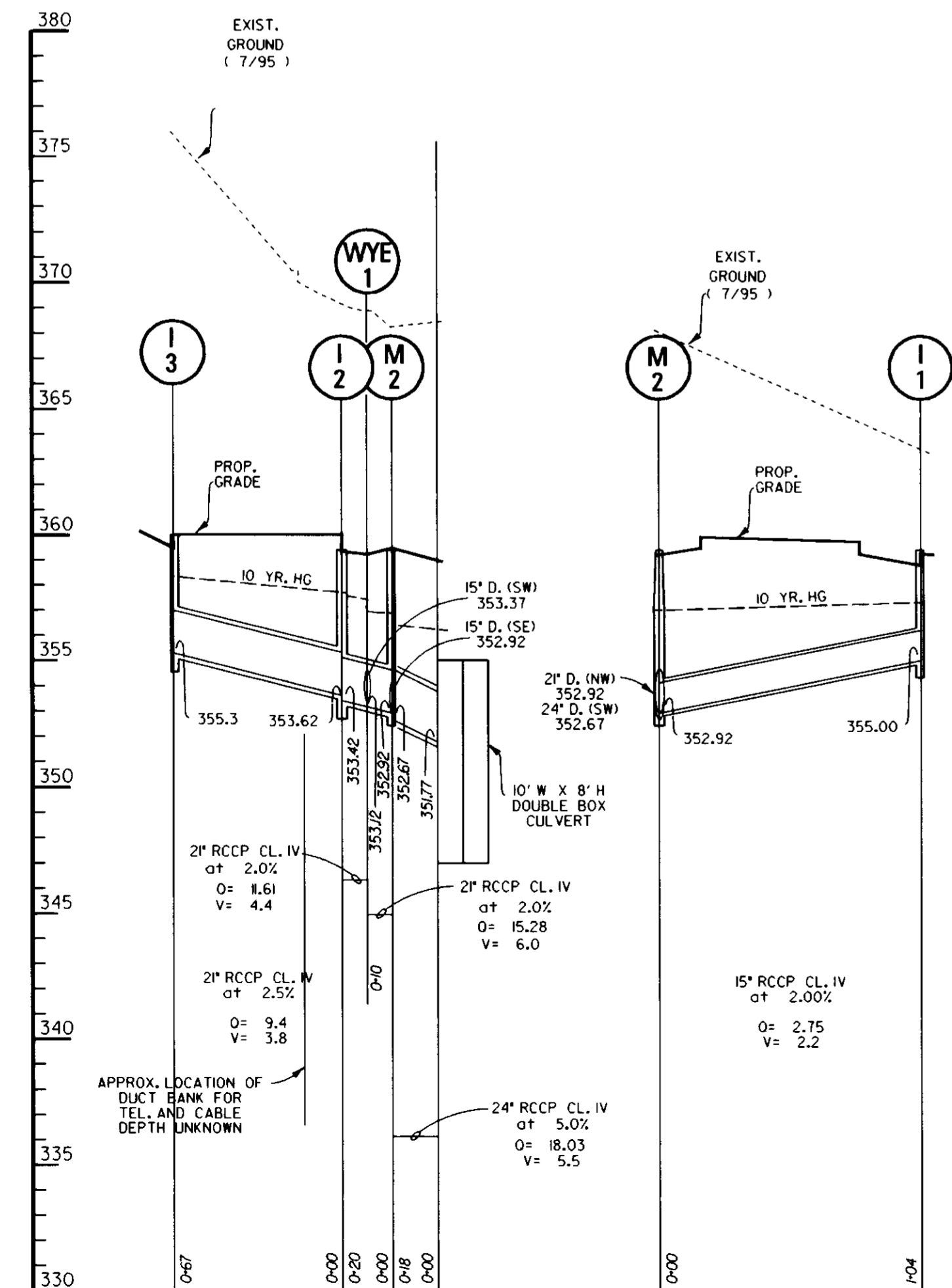
* TEST PIT FOR EXACT LOCATION

STORMCEPTOR STRUCTURE SCHEDULE					
NO.	TYPE	SIZE	INV. OUT	TOP ELEV.	DETAIL NO.
SC1	STC 3600		351.74	359.20	
SC3	STC 900		351.04	358.00	

ALL STORMCEPTORS WILL BE MADE OF CONCRETE AND USE THE DISK INSERT. SEE SHEET 17 FOR THE DETAIL AND ORDER FORM.

INLET SCHEDULE						
NO.	TYPE	Q 10YR	INV. OUT	TOP ELEV.	DETAIL	WIDTH
I-1	A-10	2.7	355.00	359.60	SD 4.02	2'-6"
I-2	A-10	2.2	353.42	360.10	SD 4.02	3'-0"
I-3	A-10	9.4	355.30	359.90	SD 4.02	2'-6"
I-4	A-10	3.7	355.00	359.60	SD 4.02	2'-6"
I-5	A-5	7.1	352.13	359.60	SD 4.01	2'-6"
I-6	A-10	1.1	352.55	359.60	SD 4.02	2'-6"
I-7	A-10	4.5	354.37	359.60	SD 4.02	2'-6"
I-8	A-10	6.4	355.00	359.60	SD 4.02	2'-6"
I-9	A-10	7.9	357.00	361.60	SD 4.02	2'-6"
I-1	DBL. S INLET	-	344.98	358.9	SD 4.23	2'-7 1/2"

NOTE: TRANSITION FROM 6" C & G TO HEADPIECE ON BOTH SIDES OF INLET.
 * NOTES: ELEVATIONS REPRESENT TOP OF HEADPIECE FOR ALL INLETS @ 1/2" OF INLET
 *** NOTE: TOP OF GRATE



APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE April 23, 1997
 RJS

1-5-98 2 REVISED SD FROM I-6 TO TEMP. INLET, NORDSTROM WATER LINE COORDINATE TABLE, ADDED FC-2.

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK 11/1/98 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT 1/2/98 DATE
 DIRECTOR 1/2/98 DATE

Date No. Revision Description
THE MALL IN COLUMBIA
 PHASE I EXPANSION
 TOWN CENTER
 SECTION 2 AREA 1 & 2 / 2
 HOWARD COUNTY
 LOTS 3, 8, 10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34
 OWNER / DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

DMW
 Daft-McCune-Walker, Inc.
 300 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3333
 Fax 296-4705
 A Team of Land Planners,
 Landscape Architects,
 Engineers, Surveyors &
 Environmental Professionals

TITLE
**PHASE 1A
 REVISED STORM DRAIN PROFILES**

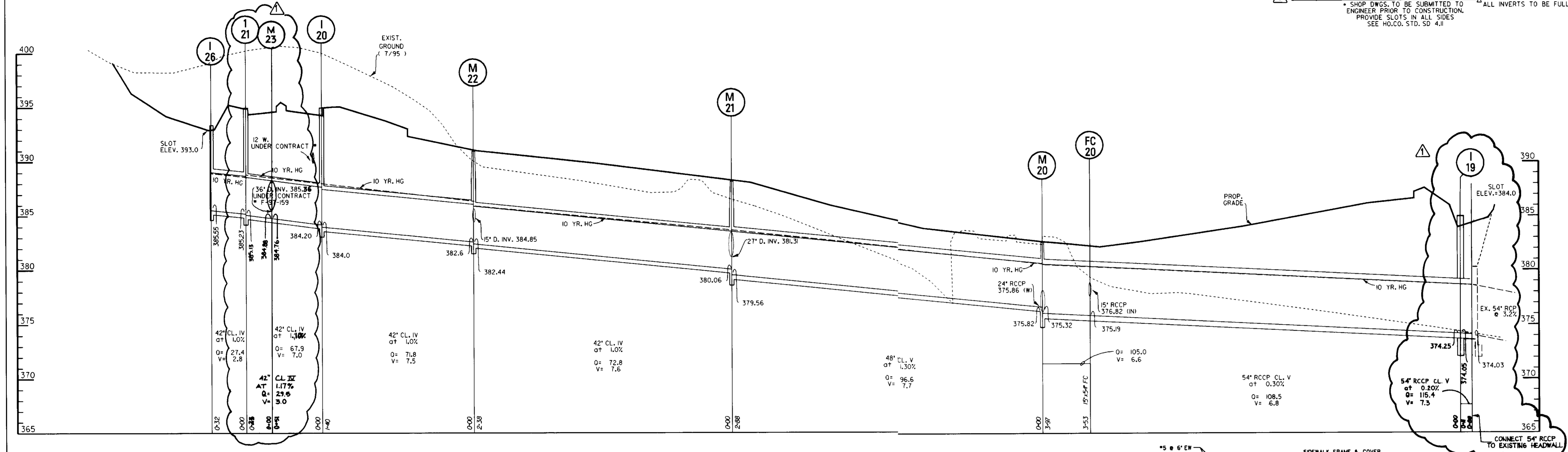
Des By RLN Scale HORZ 1" = 50'
 VERT 1" = 5'
 Dm By JEF Date 5/22/97
 Chk By JWR Approved
 Proj. No. 95019.B
 10 OF 35

Tue Jan 6 14:48 1998 d:\95019\95019b.dwg S:\P-97-107

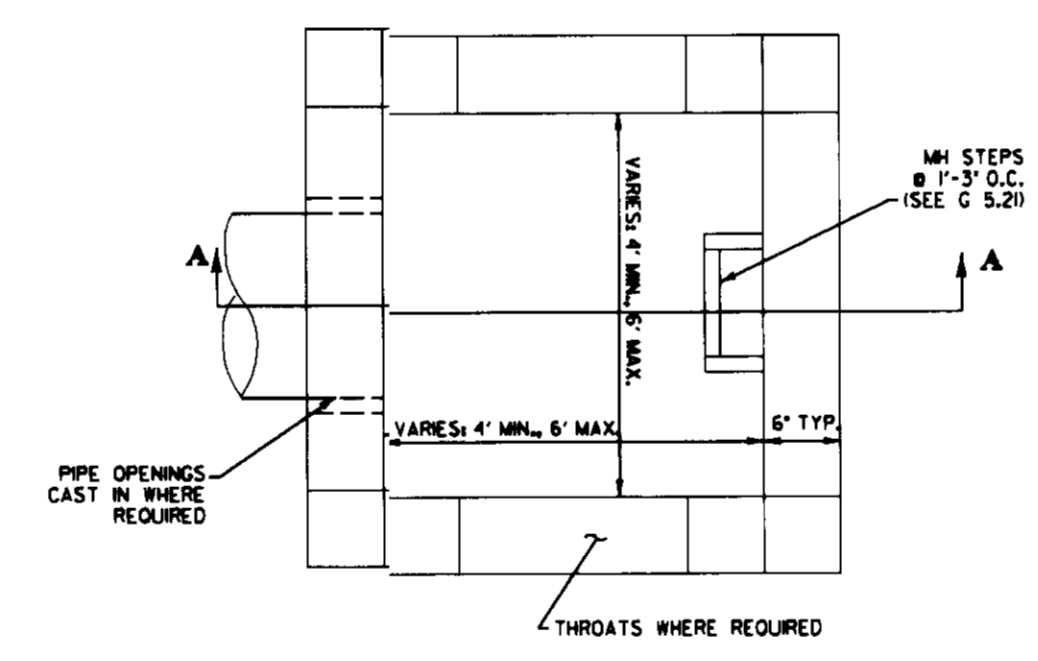
STRUCTURE SCHEDULE

NO.	TYPE	INV. IN	INV. OUT	TOP ELEVATION		REMARKS
				UPPER	LOWER	
I-19	MOD. "D" INLET	374.13	EX. 374.03	384.83	384.83	SEE DETAIL THIS SHEET 6" SO
I-28	A-10 INLET	---	378.0	382.4	384.4	HO.CO. STD. S.D.4.02 W=2'-6"
I-22	A-10 INLET	EX. 376.7	378.2	384.73	384.41	HO.CO. STD. S.D.4.02 W=2'-6"
I-24	A-10 INLET	---	385.15	391.45	391.34	HO.CO. STD. S.D.4.02 W=2'-6"
M-20	PRECAST MANHOLE	375.82	---	375.32	382.5	SHA MD 384.07
M-20A	60" DIAMETER	377.05	---	376.05	382.7	HO.CO. STD. S.D.5.02
I-21	A-10 INLET	EX. 375.2	---	385.13	395.0	HO.CO. STD. S.D.4.02 W=2'-6"
I-20	A-10 INLET	---	384.20	---	395.0	HO.CO. STD. S.D.4.02 W=2'-6"
M-22	PRECAST MANHOLE	382.55	---	382.44	391.0	SHA MD 384.05
M-21	PRECAST MANHOLE	380.06	---	379.56	388.2	SHA MD 384.05
I-25	MOD. "D" INLET	---	382.55	---	387.83	SEE DETAIL THIS SHEET 6" SO
I-26	MOD. "D" INLET	---	385.55	---	393.83	SEE DETAIL THIS SHEET 6" SO
FC-20	FIELD CON.	---	---	---	---	HO.CO. STD. S.D.2.015'X54"
M-23	PRECAST MANHOLE	382.55	---	384.73	394.73	SHA MD 384.07 60" DIA.

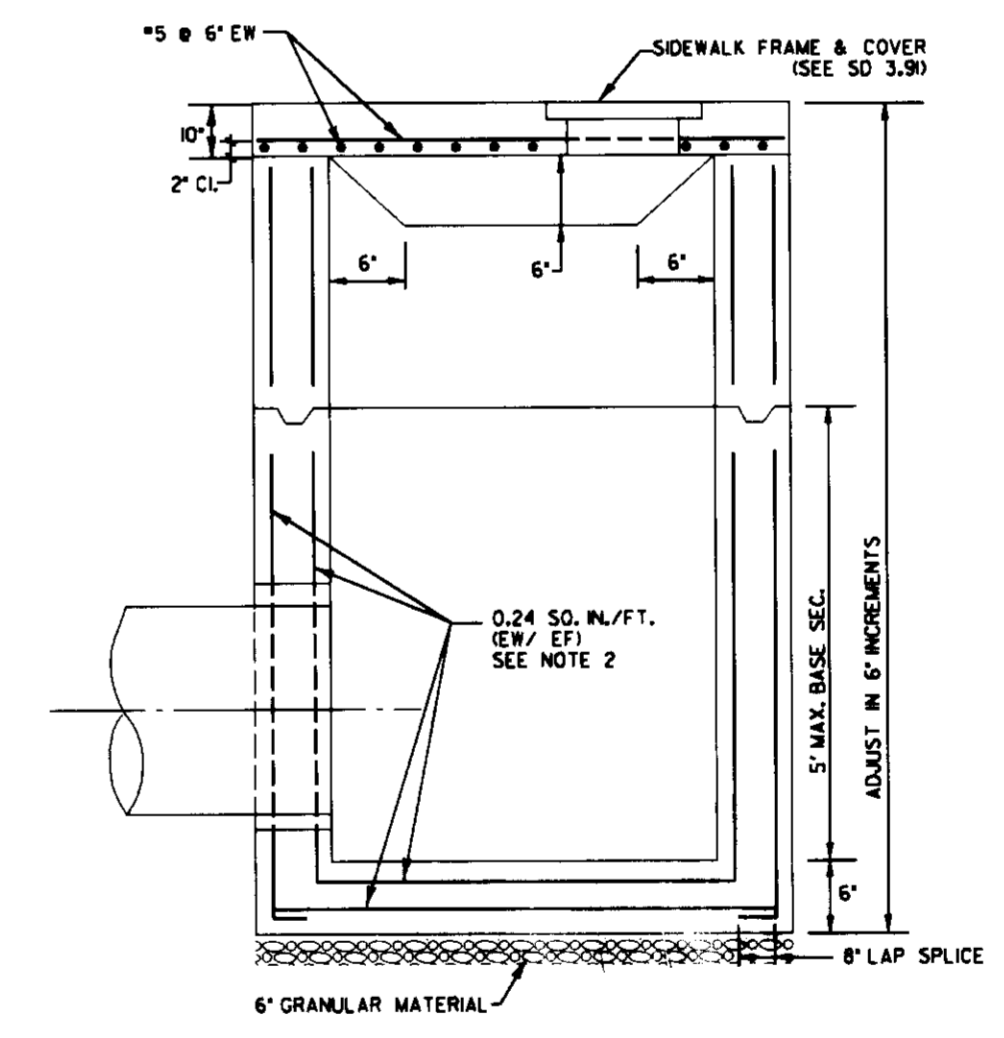
△ SHOP DWGS. TO BE SUBMITTED TO ENGINEER PRIOR TO CONSTRUCTION. PROVIDE SLOTS IN ALL SIDES. SEE HO.CO. STD. SD 4.11
 △ ALL INVERTS TO BE FULLY DEVELOPED.



APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 4/23/97

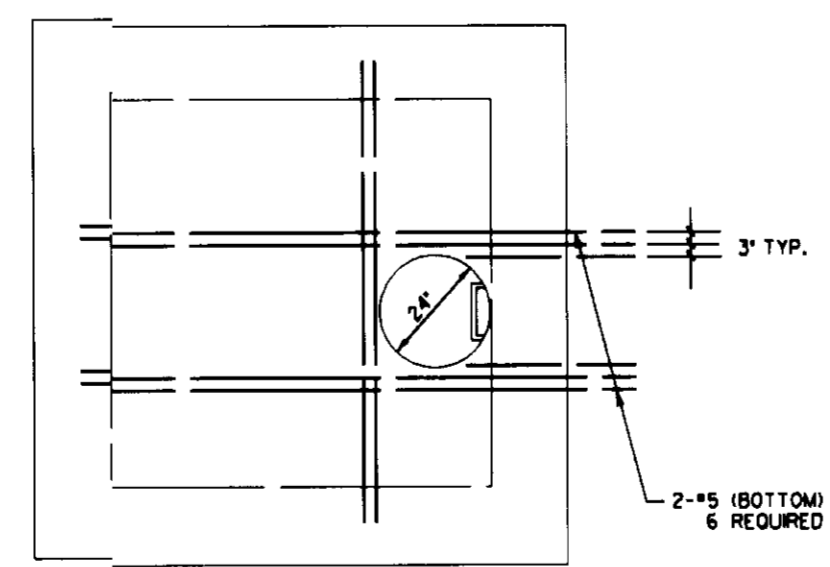


PLAN - BELOW SLAB
 N.T.S.



SECTION A-A
 N.T.S.

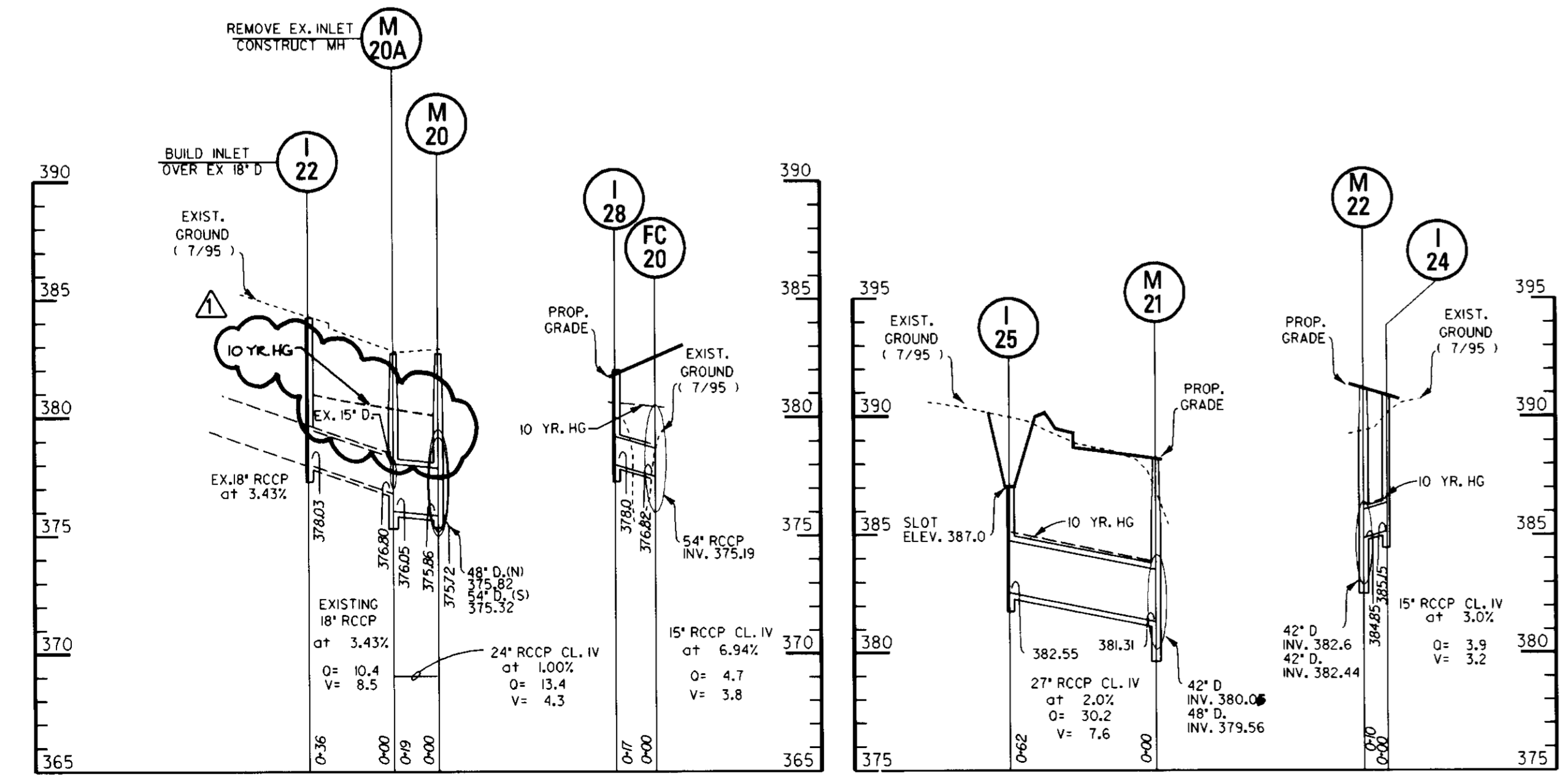
NOTES:
 1. CONCRETE SHALL CONFORM TO THE MARYLAND D.O.T. S.H.A. STANDARD SPECS FOR CONSTRUCTION AND MATERIALS, 1992 MIX NO.8 EXCEPT THAT TY. # CEMENT & ASTM C 33 NO.8 COARSE AGG. SHALL BE USED.
 2. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-85. LAP SPICES SHALL BE A MIN. OF 1-1/2 TRANSVERSE WIRE SPACES. WIRE CAGES SHALL BE TACK WELDED TO PRODUCE A RIGID UNIT.
 3. OVERALL HEIGHT OF PRECAST IS ADJUSTABLE IN 6" INCREMENTS. FINAL GRADE ADJUSTMENTS SHALL BE MADE BY CONTRACTOR WITH BRICK AND MORTAR.



TOP SLAB
 N.T.S.

1. MIX NO.3 CONCRETE
 2. ASTM A65 GRADE 60 REINFORCING

MODIFIED "D" INLET
 N.T.S.



APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Richard Blum 6/16/97
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE

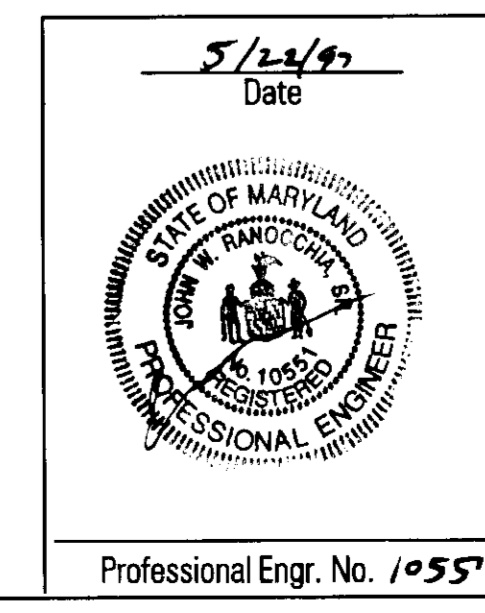
David Smith 6/20/97
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

David Smith 6/20/97
 DIRECTOR DATE

9-18-97 1 ADD MH23 TO PROFILE & REV. PROFILES

Date	No.	Revision Description

THE MALL IN COLUMBIA
 PHASE I EXPANSION
 TOWN CENTER
 SECTION 2 AREA 1 & 2
 LOTS 8,10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34, 37
 OWNER /DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044



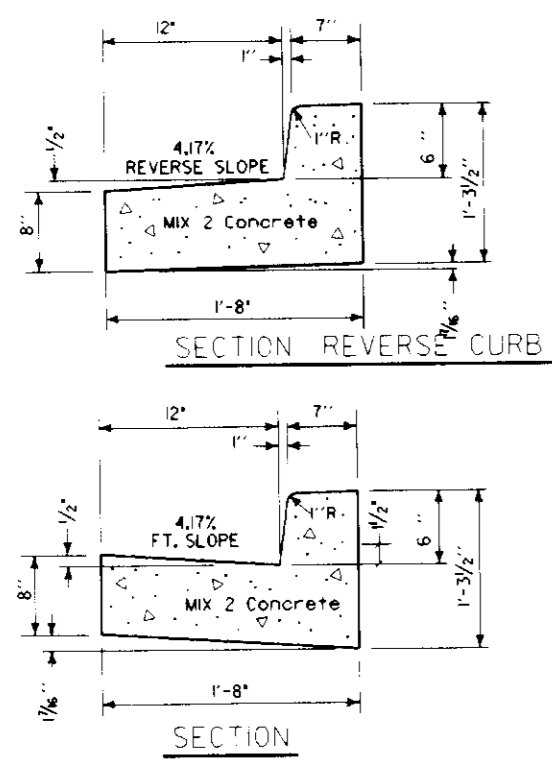
DMW
 Dan McCusker-Walkes, Inc.
 300 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3839
 Fax 296-4705
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

DATE: 5/24/97

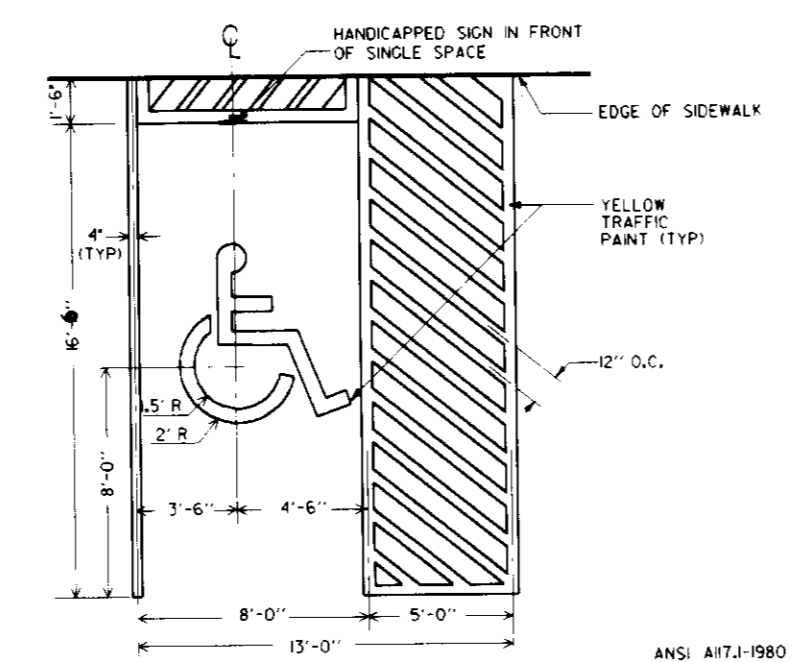
NO.	DATE	BY	REVISION
1	5/24/97	JWS	ISSUE FOR PERMIT

TITLE: **PHASE 1A STORM DRAIN PROFILES**

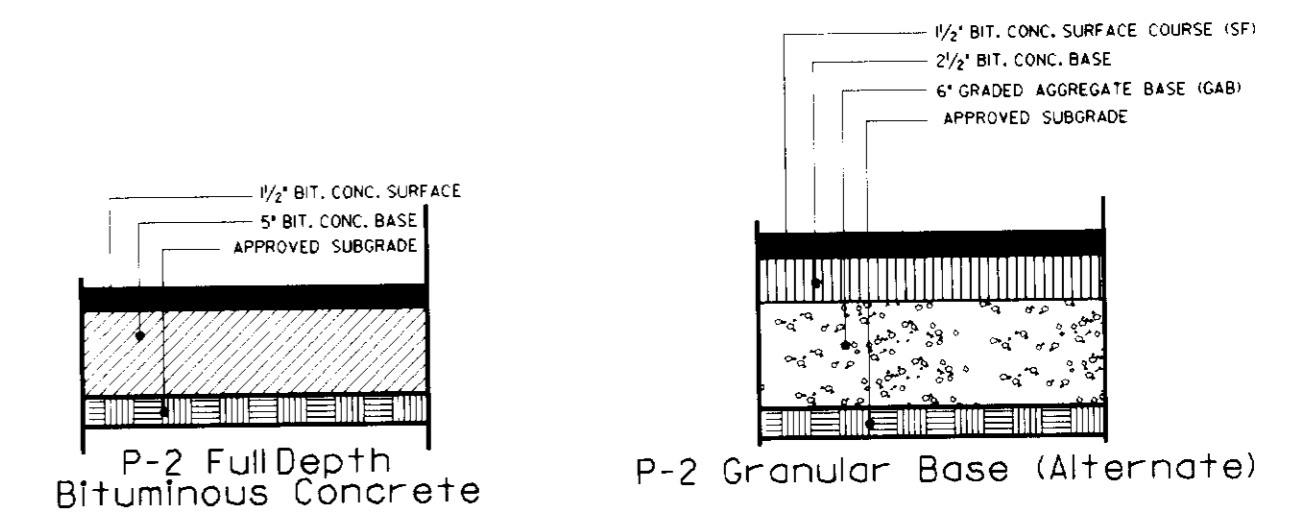
Des By: CRW/JLS Scale: HORIZ. 1" = 50' VERT. 1" = 5' Proj. No. 95019B
 Dwn By: KDE Date: 5/22/97
 Chk By: JWR Approved: 9 OF 35



Concrete Curb, Typ.
Not To Scale

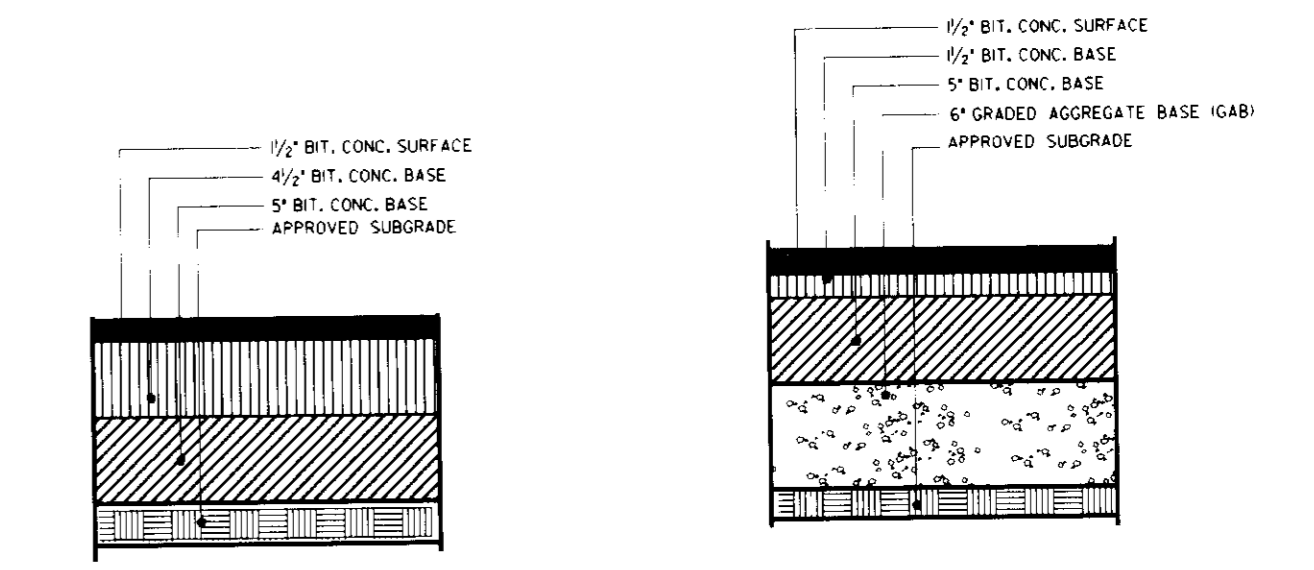


Handicapped Parking Space
Not To Scale



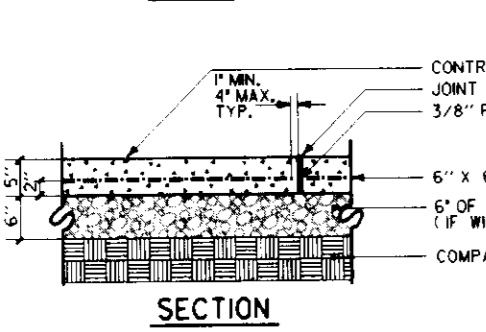
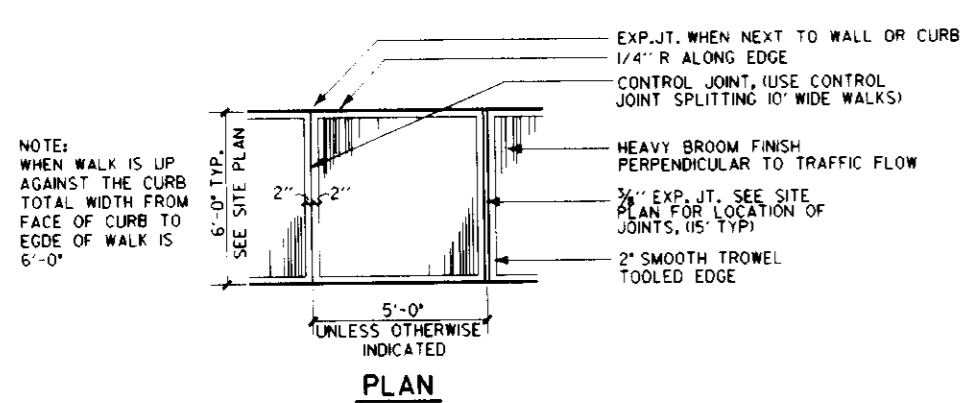
Typical Paving Section (P-2)
Not To Scale

See Sheet 8 For Paving Legend

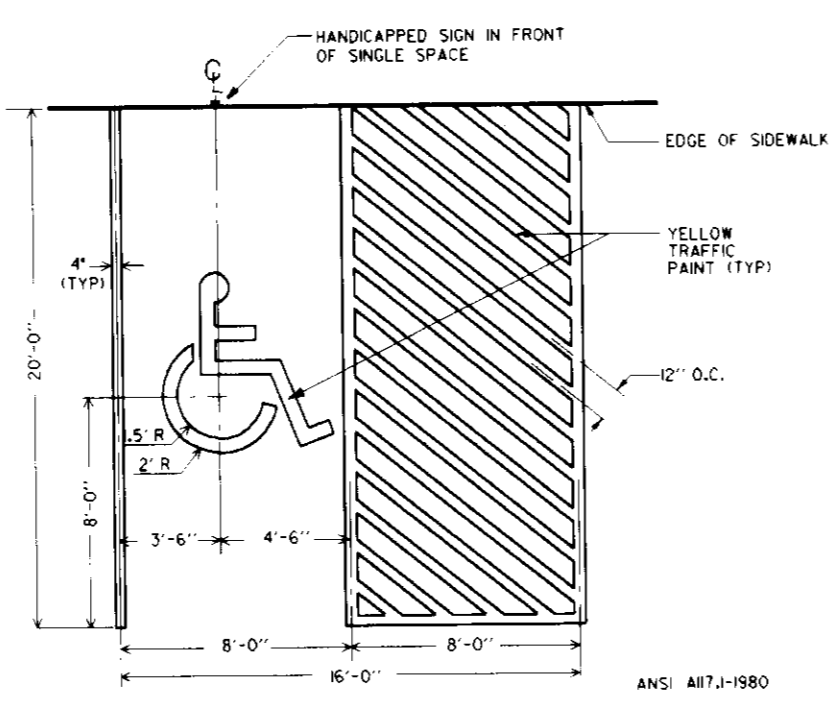


Typical Paving Section (P-5)
Not To Scale

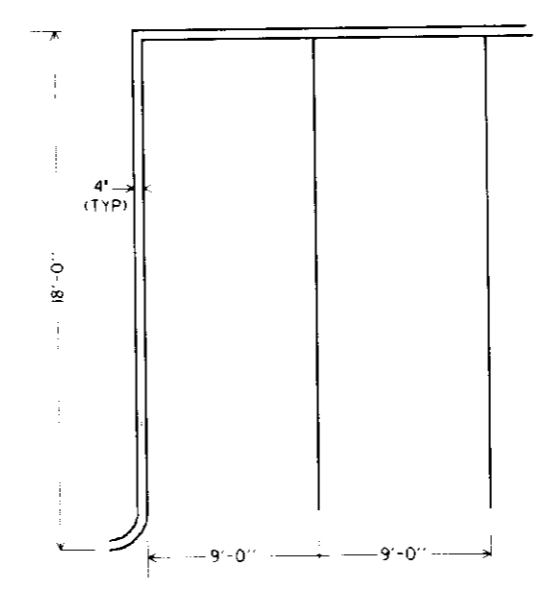
- NOTES:
- 1/2" PREFORMED BITUMINOUS EXPANSION MATERIAL IN EXPANSION JOINTS TO BE KEPT 1/4" BELOW SURFACE OF SIDEWALK
 - CONCRETE TO BE MIX NO. 2
 - WHEN SIDEWALK ADJUTS CURB WALK SHALL BE 1/4" ABOVE CURB WITH 1/2" PREFORMED BITUMINOUS EXPANSION MATERIAL BETWEEN SIDEWALK AND CURB
 - CONCRETE WALK WITHIN 6' OF BUILDING SHALL HAVE 6" OF #4 STONE OR APPROVED EQUAL AS A BASE COURSE



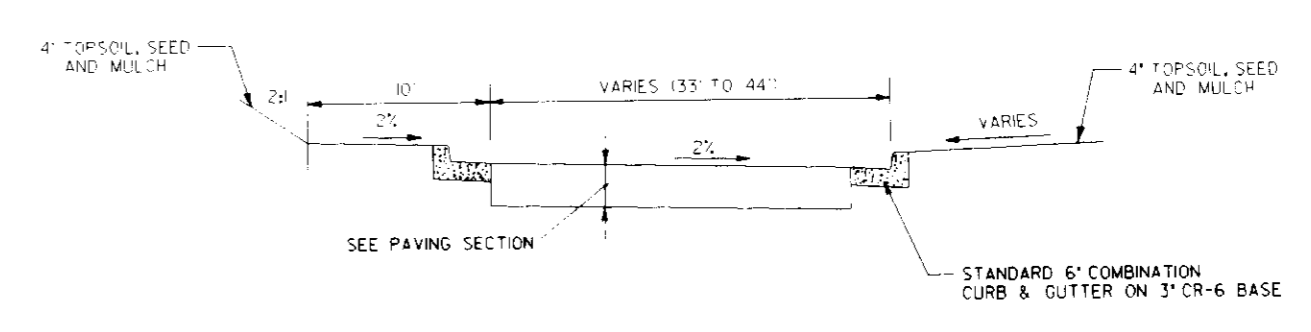
Concrete Walk
Not To Scale



Handicapped Van Parking Space
Not To Scale

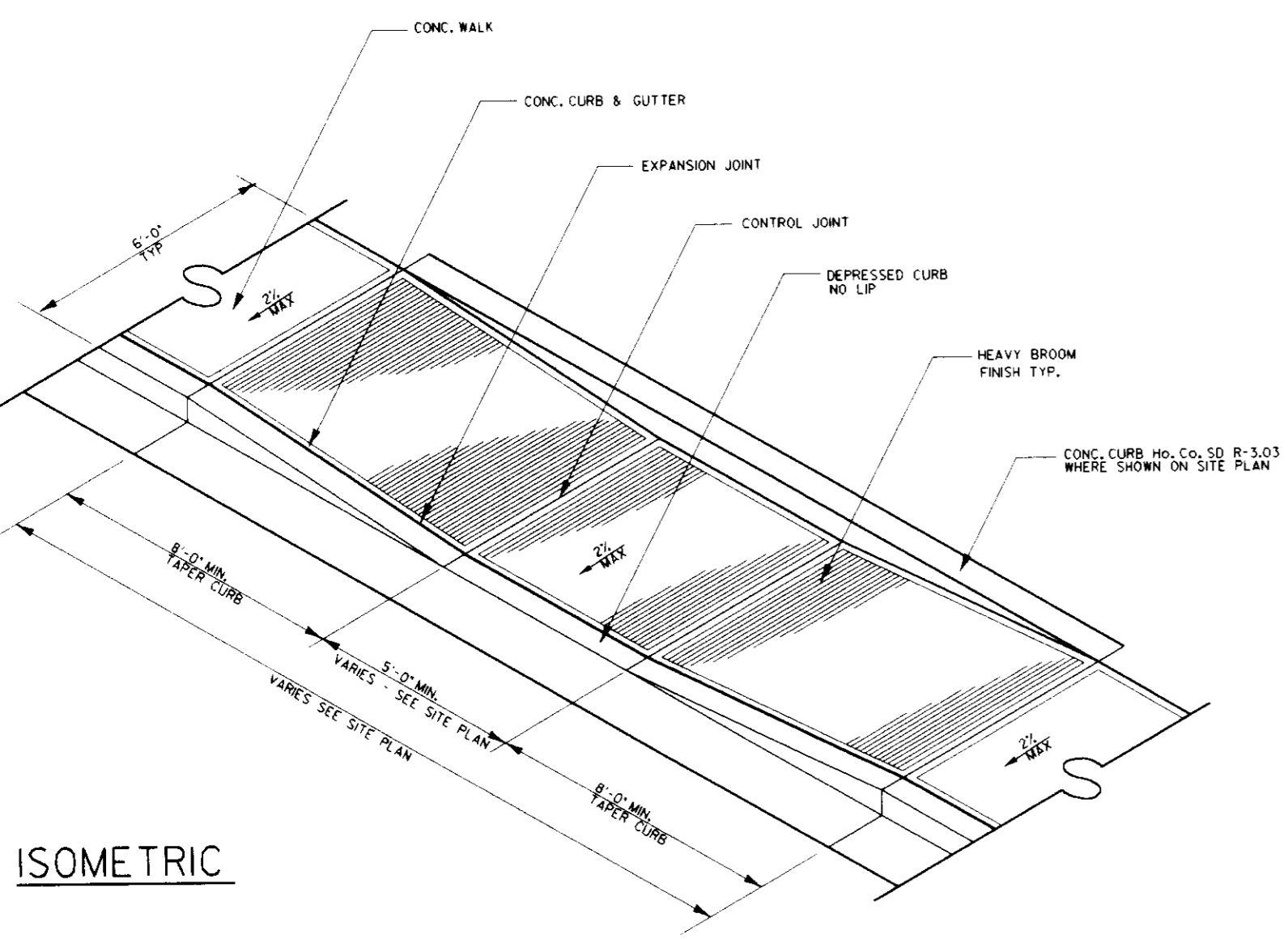


Standard Parking Space
Not To Scale

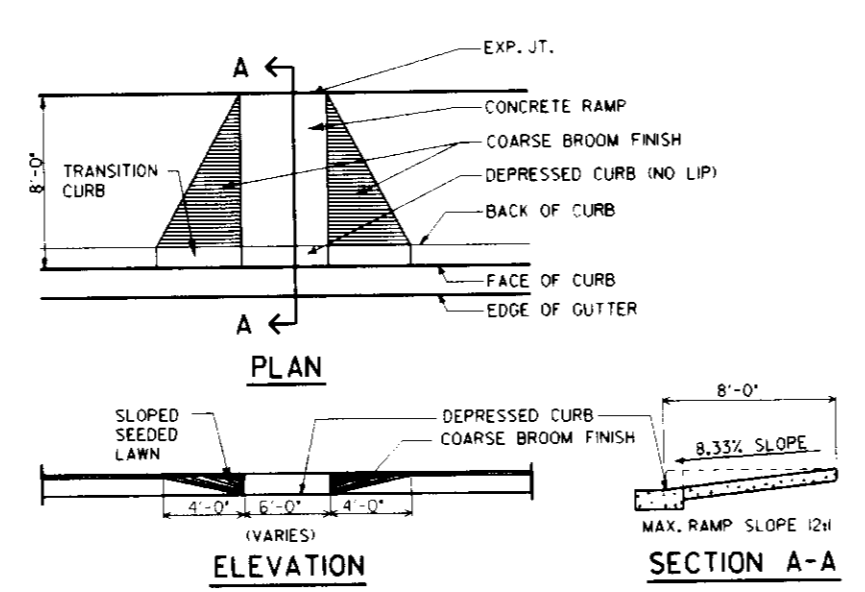


Typical Section
Ring Road (Private Drive)
Not To Scale

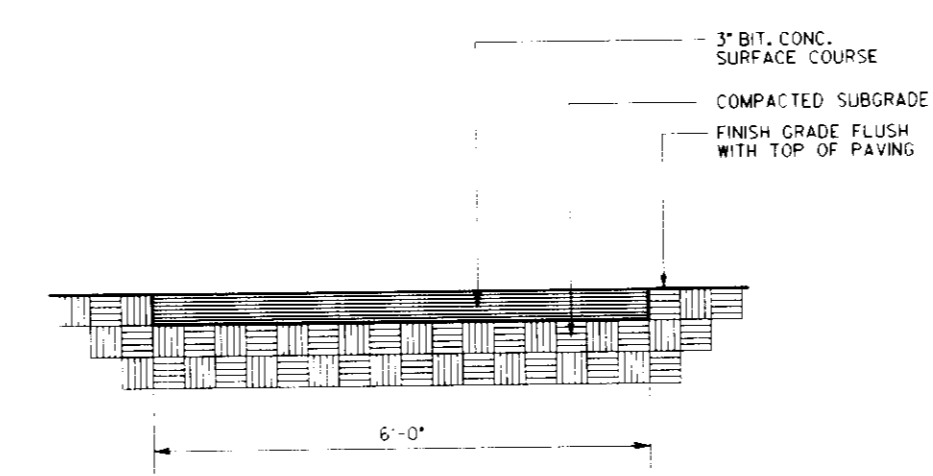
APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 4/23/97



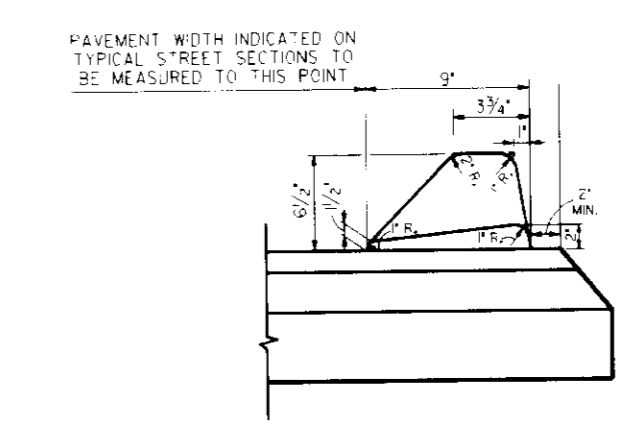
Handicapped Ramp - A
Not To Scale



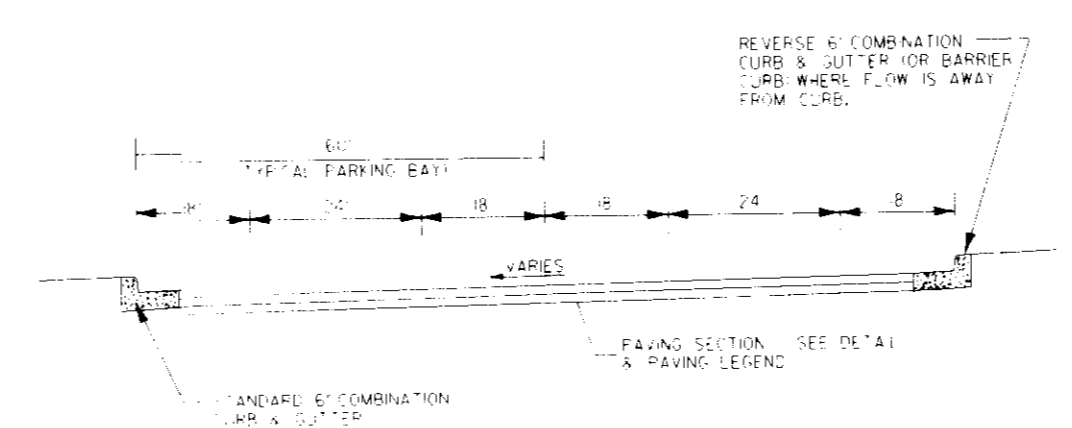
Handicapped Ramp - C
Not To Scale



Light Duty Bit. Conc. Walk
Not To Scale



Standard Bituminous Curb
Not To Scale



Typical Section
Private Parking
Not To Scale

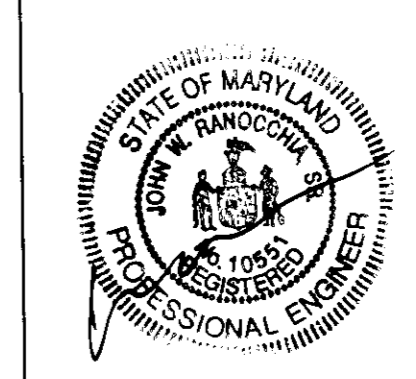
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 Chief, Development Engineering Division MKC 6/16/97
 Chief, Division of Land Development 6/20/97
 Director 6/20/97

Date	No.	Revision Description

THE MALL IN COLUMBIA
 PHASE I EXPANSION
 TOWN CENTER
 SECTION 2 AREA 1 & 2
 OWNER / DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044 Howard County

DMW
 Dawn McCune-Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 286-3030
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

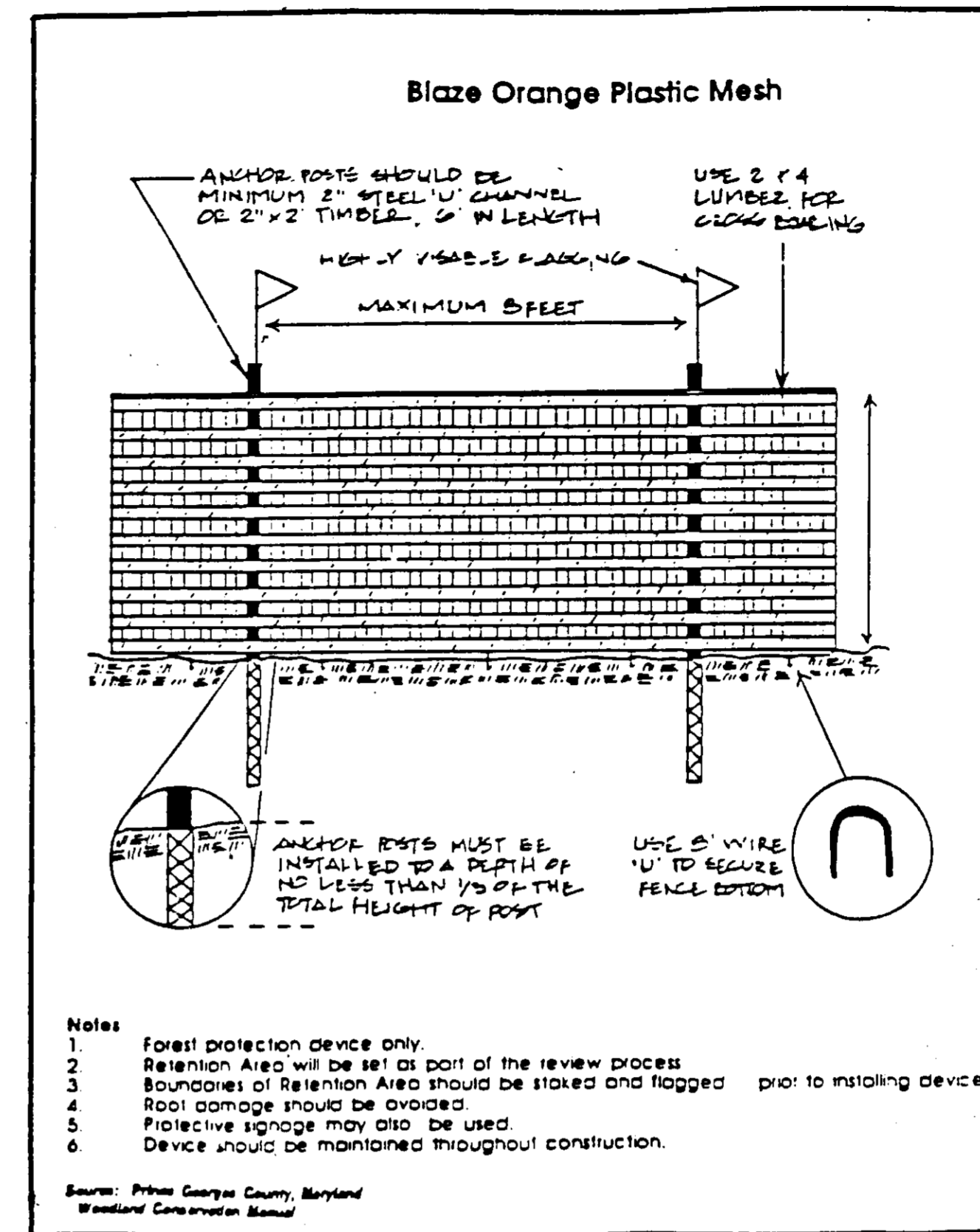
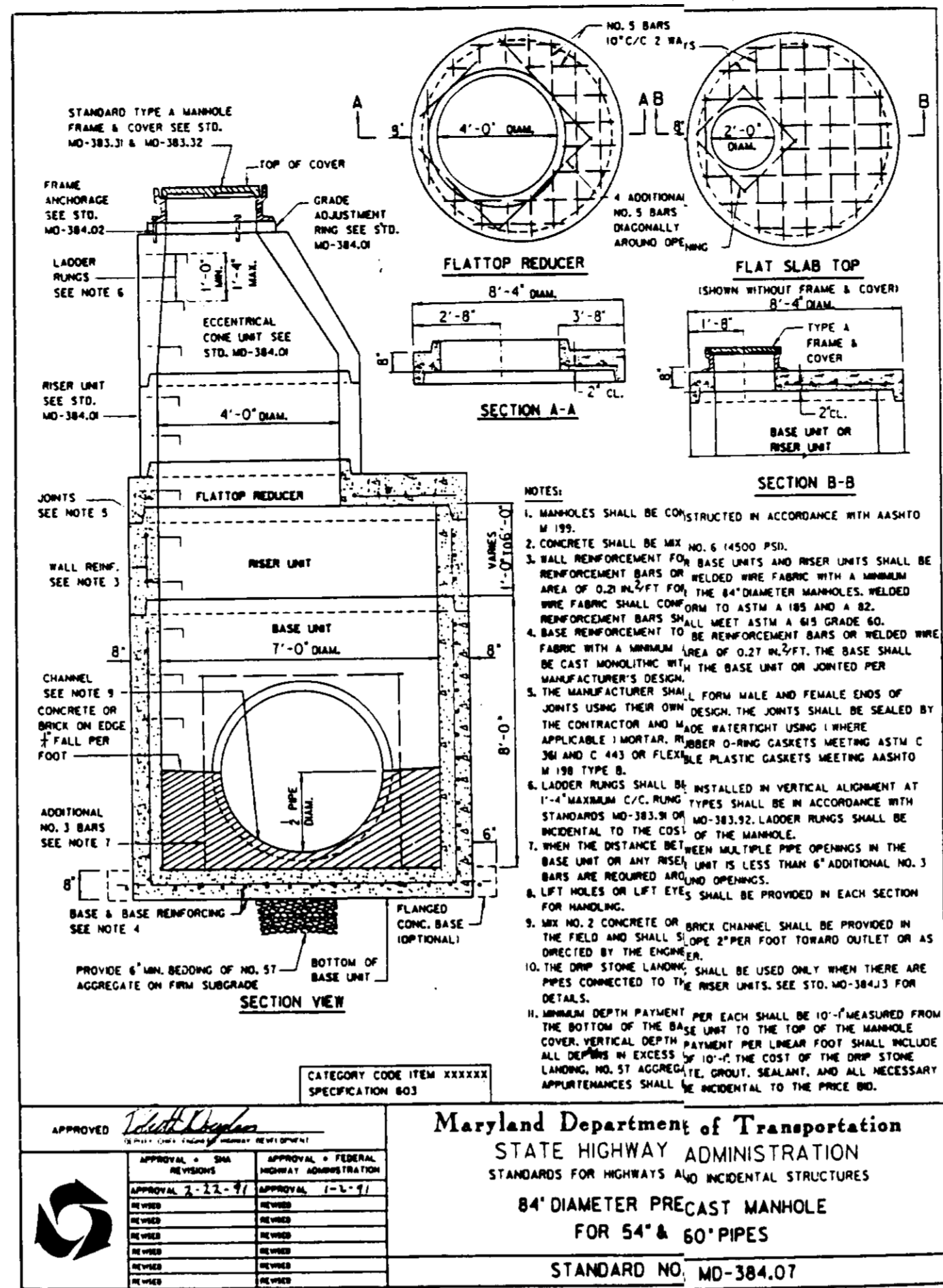
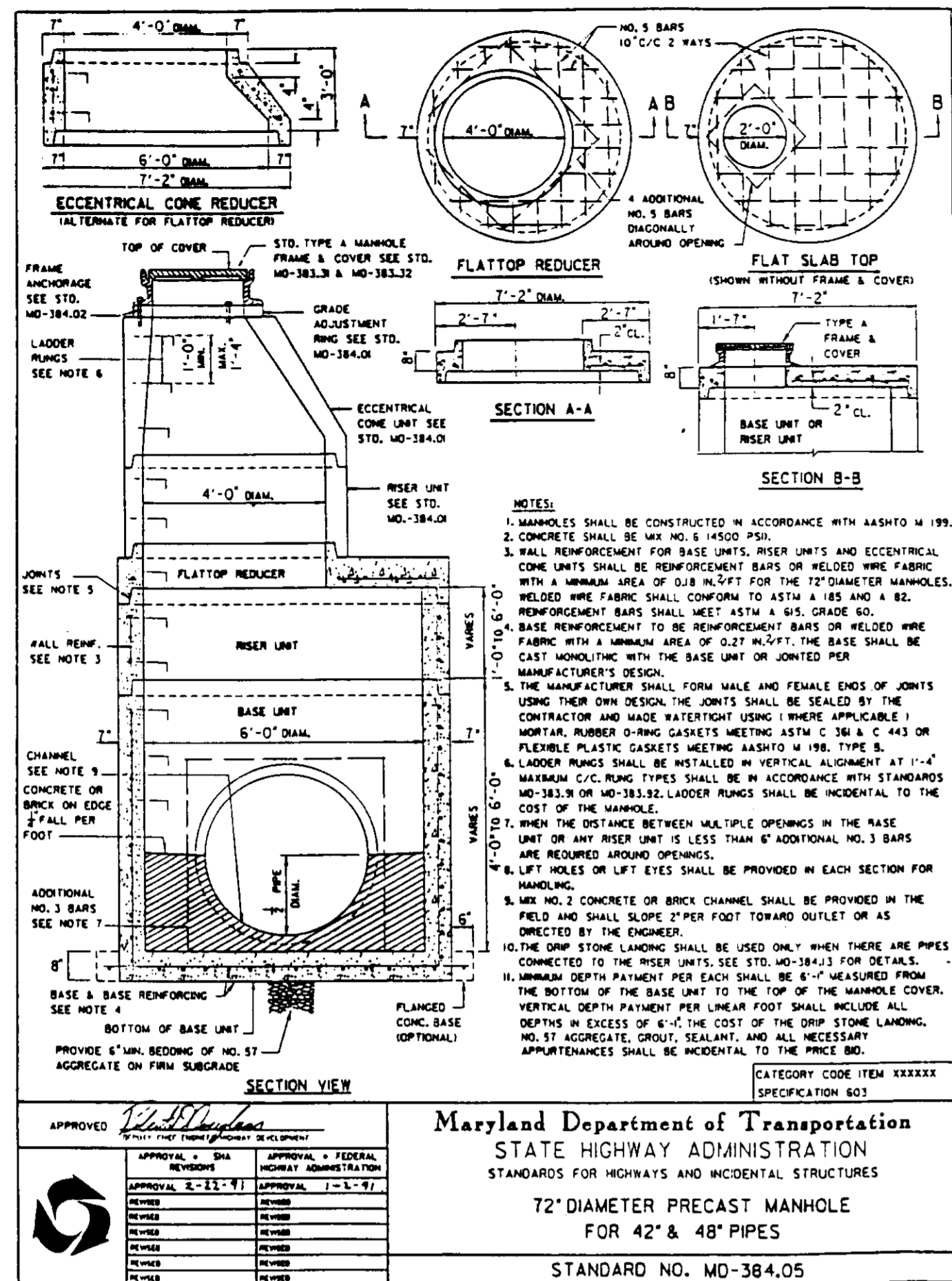
5/24/97
Date



SUBMITTAL NAME	DATE	REVISIONS	BY	DATE
PHASE I A SITE DETAILS	5/24/97	1	CLZ	5/24/97

TITLE: **PHASE I A SITE DETAILS**

Des By	MJP	Scale	AS SHOWN	Proj. No.	95019 B
Drn By	CLZ	Date	5/22/97		
Chk By	JWR	Approved			7 OF 35



4/23/97

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 [Signature] 6/16/97
 CHIEF DEVELOPMENT ENGINEERING DIVISION MK DATE
 [Signature] 6/22/97
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
 [Signature] 6/29/97
 DIRECTOR DATE

Date No. Revision Description

THE MALL IN COLUMBIA
 PHASE I EXPANSION
 TOWN CENTER
 SECTION 2 AREA 1 & 2/2

OWNER / DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA, MARYLAND, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044 HOWARD COUNTY

DMW
 Dan McCune-Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3333
 Fax 296-4708

A Team of Land Planners,
 Landscape Architects,
 Engineers, Surveyors &
 Environmental Professionals

5/22/97
 Date

Professional Engr. No. 10991

REVISION NAME DATE SECTION NO. DRAWN BY CHECKED BY DATE

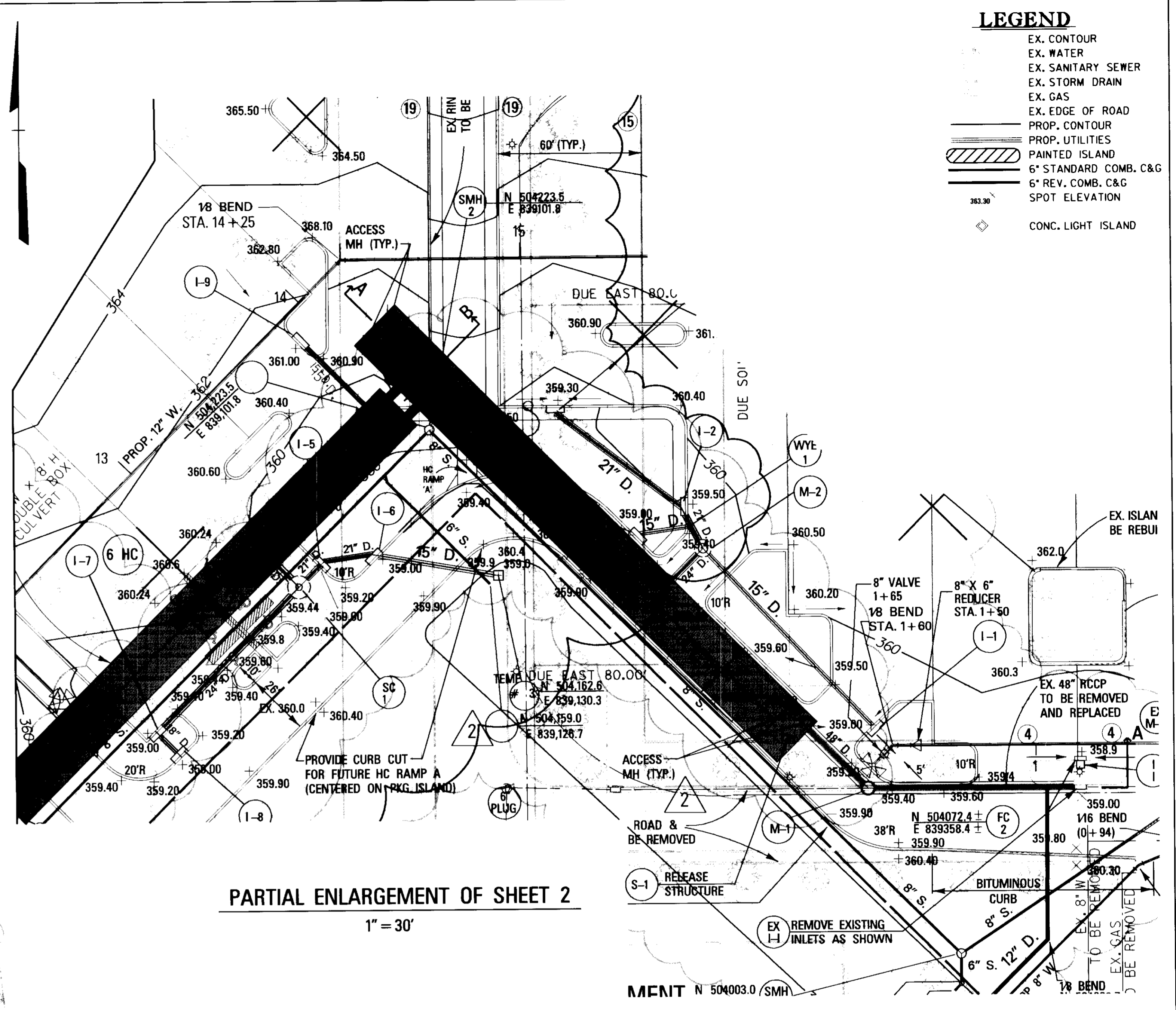
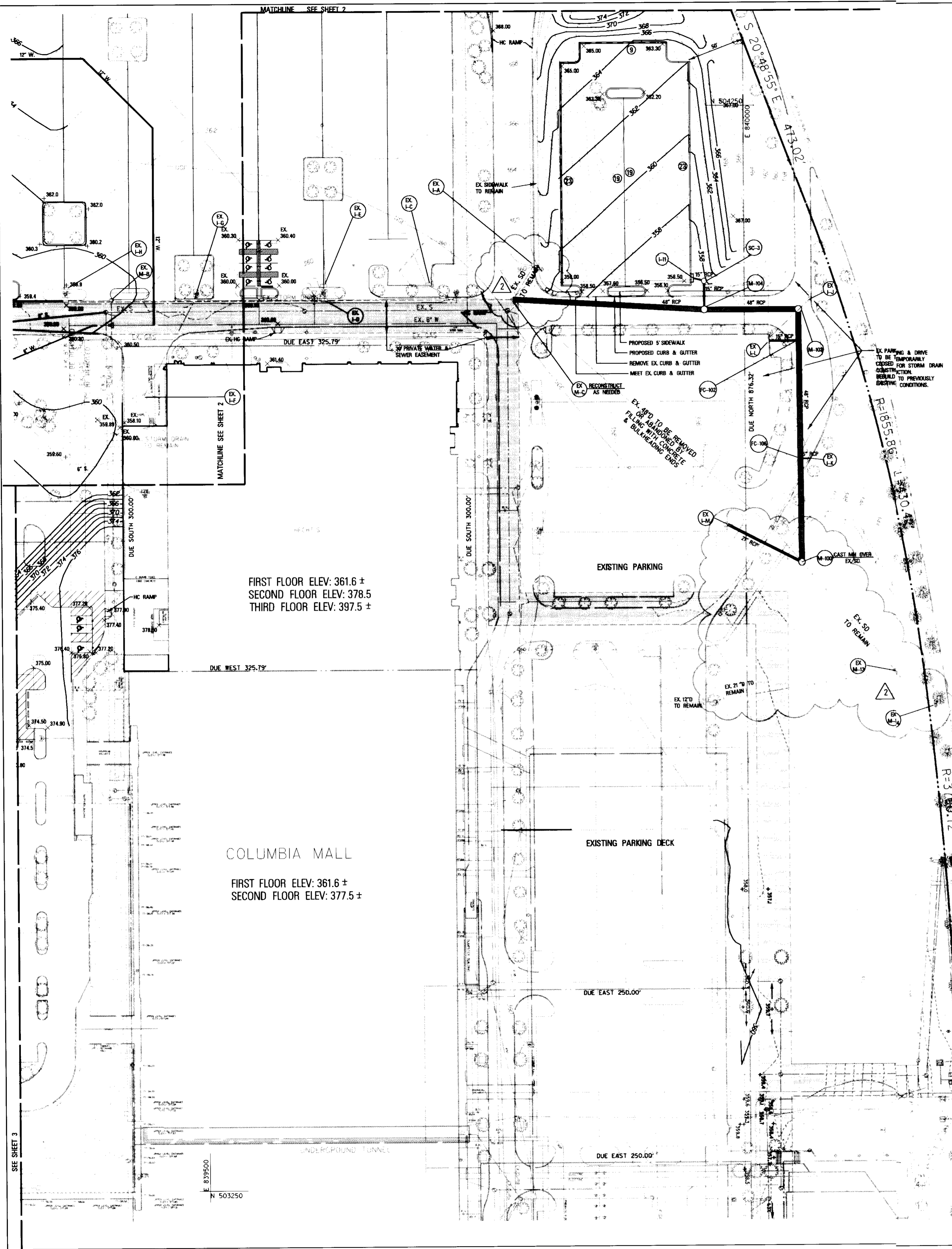
1. 2/1/97 2/1/97 202/10/97 202/10/97 202/10/97

2. 5/16/97 5/16/97 202/10/97 202/10/97 202/10/97

3. 5/16/97 5/16/97 202/10/97 202/10/97 202/10/97

TITLE: **PHASE 1A SITE DETAILS**

Des By: MJP Scale: N/A Proj. No.: 95019 B
 Dim By: CLZ Date: 5/16/97
 Chk By: JWR Approved: 6 OF 35



LEGEND

- EX. CONTOUR
- EX. WATER
- EX. SANITARY SEWER
- EX. STORM DRAIN
- EX. GAS
- EX. EDGE OF ROAD
- PROP. CONTOUR
- PROP. UTILITIES
- PAINTED ISLAND
- 6" STANDARD COMB. C&G
- 6" REV. COMB. C&G
- SPOT ELEVATION
- CONC. LIGHT ISLAND

COLUMBIA MALL
 FIRST FLOOR ELEV: 361.6 ±
 SECOND FLOOR ELEV: 377.5 ±

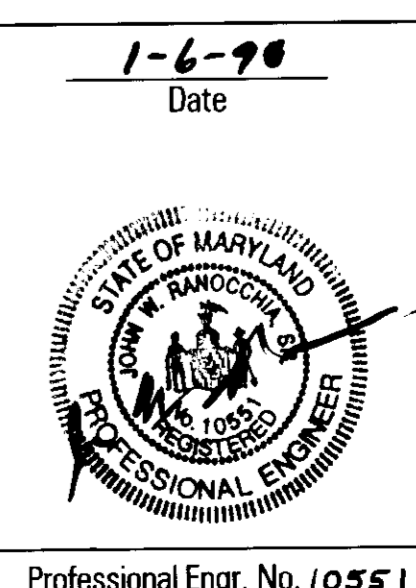
PARTIAL ENLARGEMENT OF SHEET 2
 1" = 30'

Date	No.	Revision Description
1-5-98	2	ADJUSTED C & G, GRADES & UTILITIES

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE: April 23, 1997
 RB

Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE EXPANSION TOWN CENTER SECTION 2 AREA 1 & 2 / 2 HOWARD COUNTY, MD LOTS 8, 10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34

OWNER / DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044



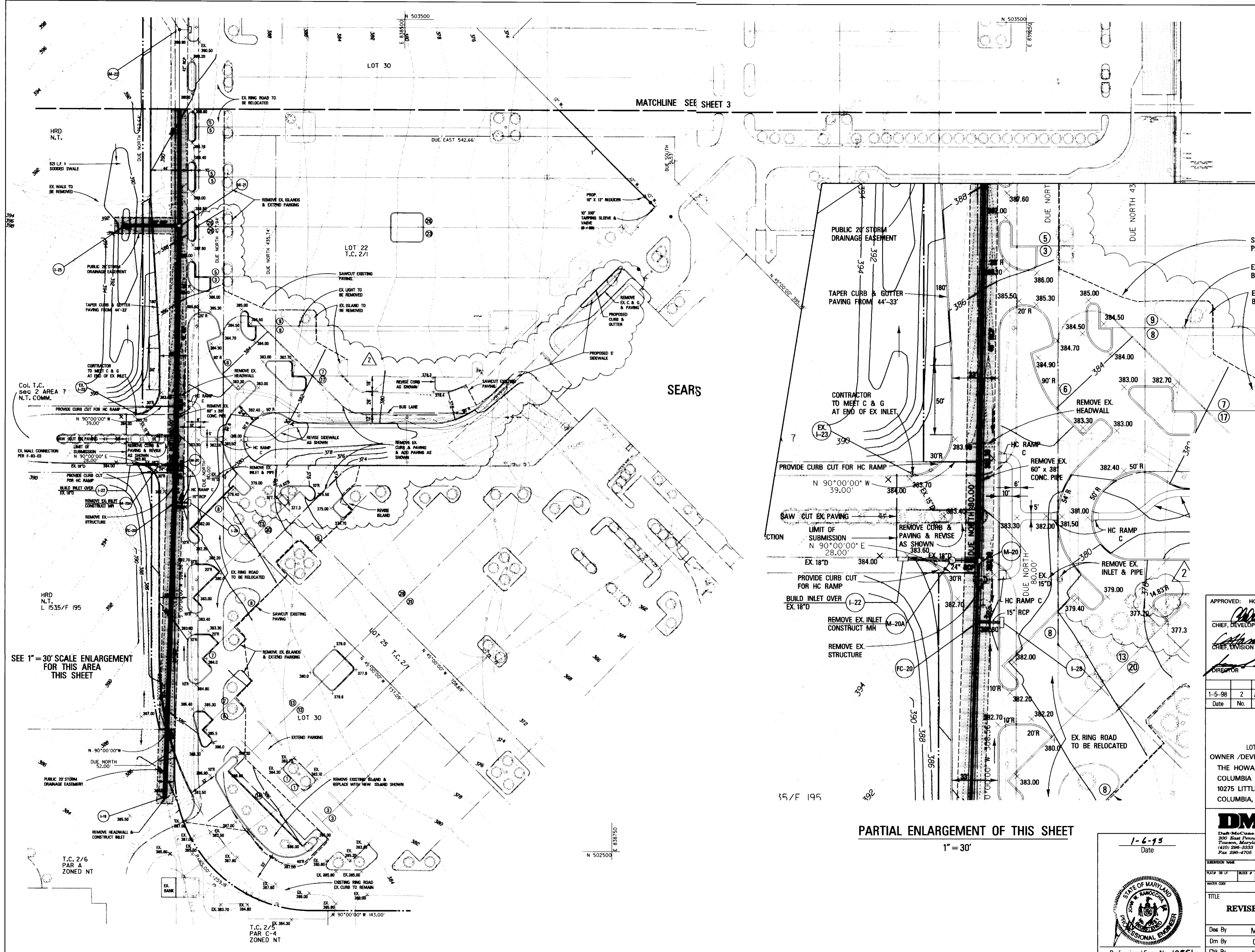
DMW
 Don McCune-Walker, Inc.
 300 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3333
 Fax: 296-4705

A Team of Land Planners,
 Landscape Architects,
 Engineers, Surveyors &
 Environmental Professionals

SUBDIVISION NAME	COLUMBIA TOWN CTR.	SHEET NUMBER	2/1 & 2/2	TOWN CENTER	SEE GENERAL NOTE # 8
SECTION	30, 38	DATE	5/22/97	PROJECT NO.	6054
DATE	5/22/97	SCALE	1" = 50'	PROJECT NO.	95019B
DESIGNED BY	MJP	DATE	5/22/97	CHECKED BY	CLZ
DRAWN BY	CLZ	DATE	5/22/97	APPROVED BY	JWR
CHECKED BY	JWR	DATE	5/22/97	PROJECT NO.	95019B
APPROVED BY	JWR	DATE	5/22/97	SHEET NO.	5 OF 35

LEGEND

- EX. CONTOUR
- EX. WATER
- EX. SANITARY SEWER
- EX. STORM DRAIN
- EX. GAS
- EX. EDGE OF ROAD
- PROP. CONTOUR
- PROP. UTILITIES
- PAINTED ISLAND
- 6" STANDARD COMB. C&G
- 6" REV. COMB. C&G
- SPOT ELEVATION



MATCHLINE SEE SHEET 3

SEARS

SEE 1" = 30' SCALE ENLARGEMENT FOR THIS AREA THIS SHEET

PARTIAL ENLARGEMENT OF THIS SHEET
1" = 30'

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE April 23, 1997
RB

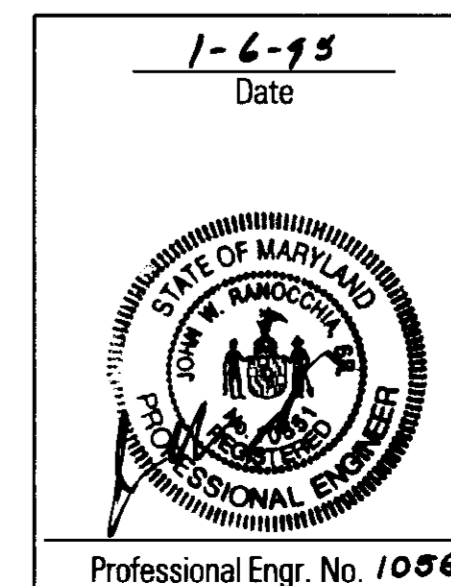
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
Michael M. K... 1/14/98
 CHIEF DEVELOPMENT ENGINEERING DIVISION MK (DATE)
John... 1/21/98
 CHIEF DIVISION OF LAND DEVELOPMENT (DATE)
... 1/21/98
 DIRECTOR (DATE)

1-5-98	2	ADD BUS DROP OFF, REV. ISLANDS, ADD HC CURB CUTS
Date	No.	Revision Description

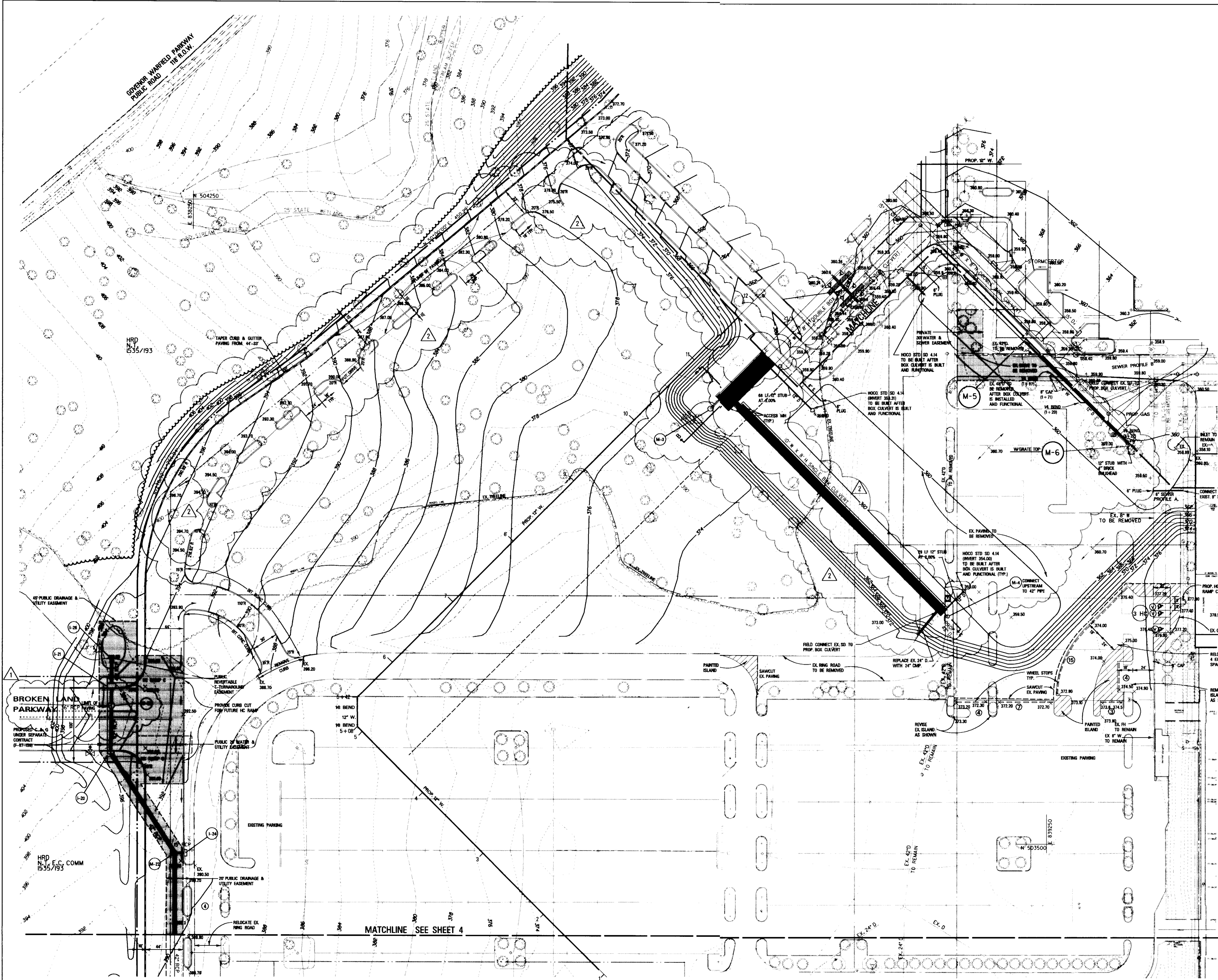
THE MALL IN COLUMBIA
 PHASE I EXPANSION
 TOWN CENTER
 SECTION 2 AREA 1 & 22
 LOTS 8,10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34
 OWNER /DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

DMW
 DaR McCune-Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3333
 Fax 296-4700
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

DESIGNER NAME	SECTION AREA	DATE
DATE	SCALE	PROJECT NO.
PHASE 1A REVISED SITE DEVELOPMENT PLAN		
Des By	MJP	Scale 1" = 50'
Dim By	CLZ	Date 5/22/97
Chk By	JWR	Approved
		Proj. No. 95019.B
		4 OF 35



Professional Engr. No. 10561



LEGEND

- EX. CONTOUR
- EX. WATER
- EX. SANITARY SEWER
- EX. STORM DRAIN
- EX. GAS
- EX. EDGE OF ROAD
- PROP. CONTOUR
- PROP. UTILITIES
- PAINTED ISLAND
- 6" STANDARD COMB. C&G
- 6" REV. COMB. C&G
- CONC. LIGHT POLE ISLAND

1-6-96
Date

Professional Engr. No. 10551

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE April 23, 1997
RB

Date	No.	Revision Description
1-5-98	2	ADJUSTED GRADING, C & G, & UTILITIES

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

John D. Williams 1/14/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE

Costantino 1/21/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Joseph B. Smith 1/21/98
DIRECTOR DATE

10/2/97 1 REV. 36" RCP IN BROKEN LAND PKWY.

Date No. Revision Description

THE MALL IN COLUMBIA
PHASE I EXPANSION
TOWN CENTER
SECTION 2 AREA 1 & 2 / 2
HOWARD COUNTY, MD

LOTS 3, 8, 10-13, 15, 17, 19-22, 24-26, 28-30, 33, 34

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

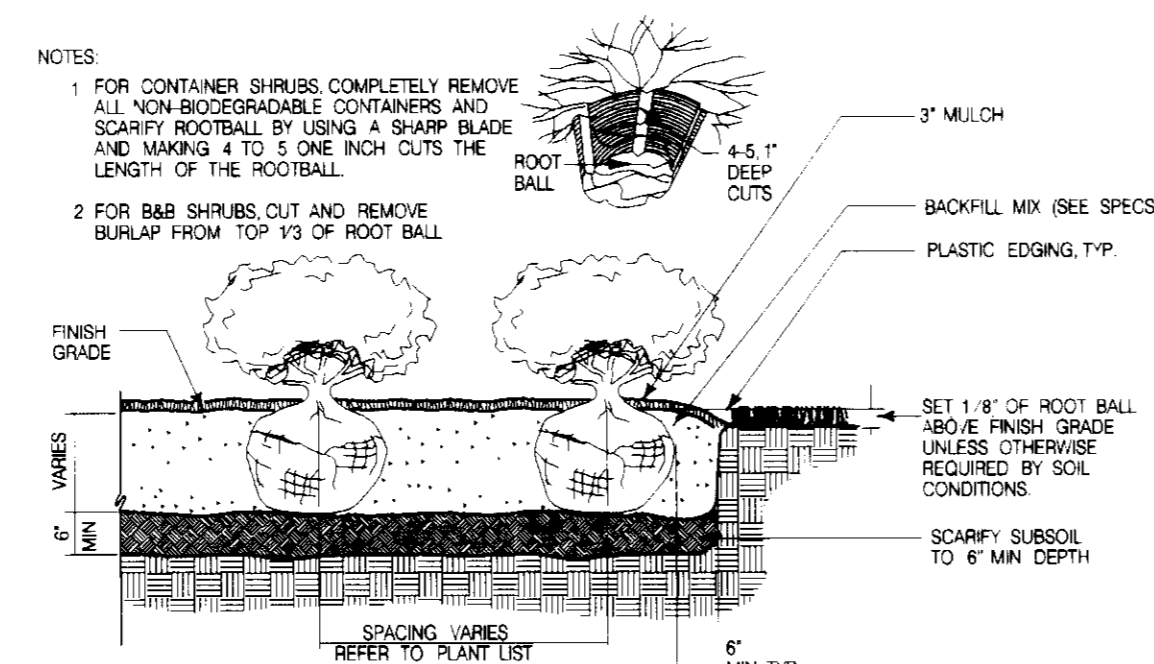
DMW
Darr-McCune-Walkers, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3859
Fax 296-4706

A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals

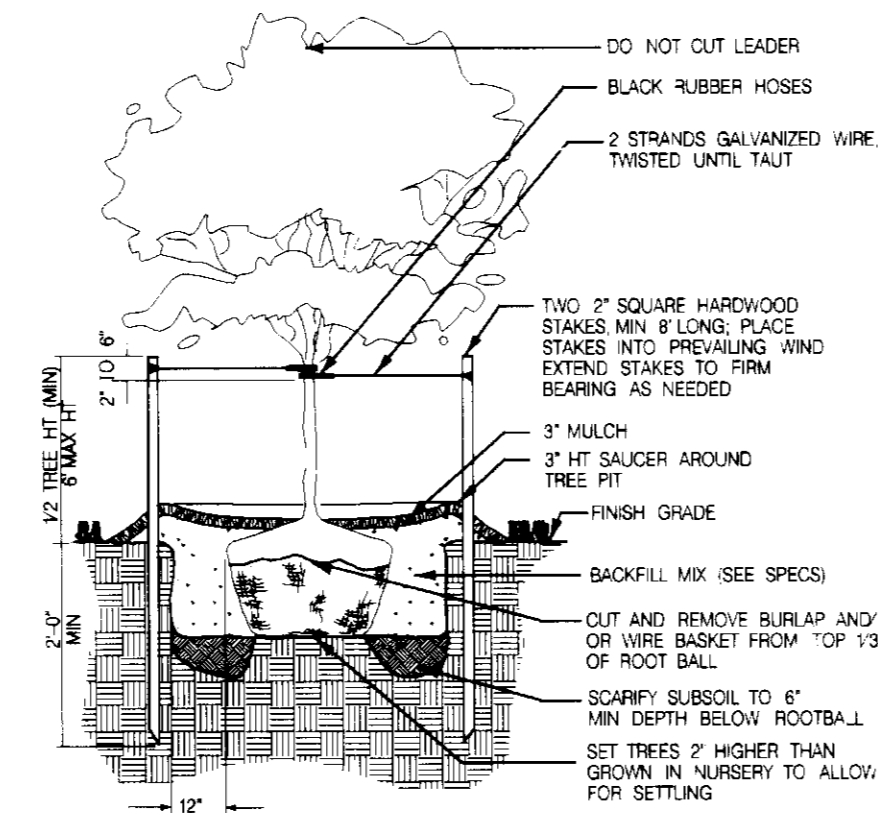
SUBMISSION NAME COLUMBIA TOWN CENTER	SECTION/AREA 2/1 & 2/2	DATE 2/1/97	PROJECT # SEE GENERAL NOTE # 6
NO. 3054A - 442	TAX MAP 30, 36	GRID REF. 5TH	FRAME NO. 8054
TITLE PHASE 1A REVISED SITE DEVELOPMENT PLAN			
Des By MJP	Scale 1" = 50'	Proj. No. 95019B	
Dim By CLZ	Date 5/22/97		
Chk By JWR	Approved		3 OF 35

LANDSCAPE NOTES

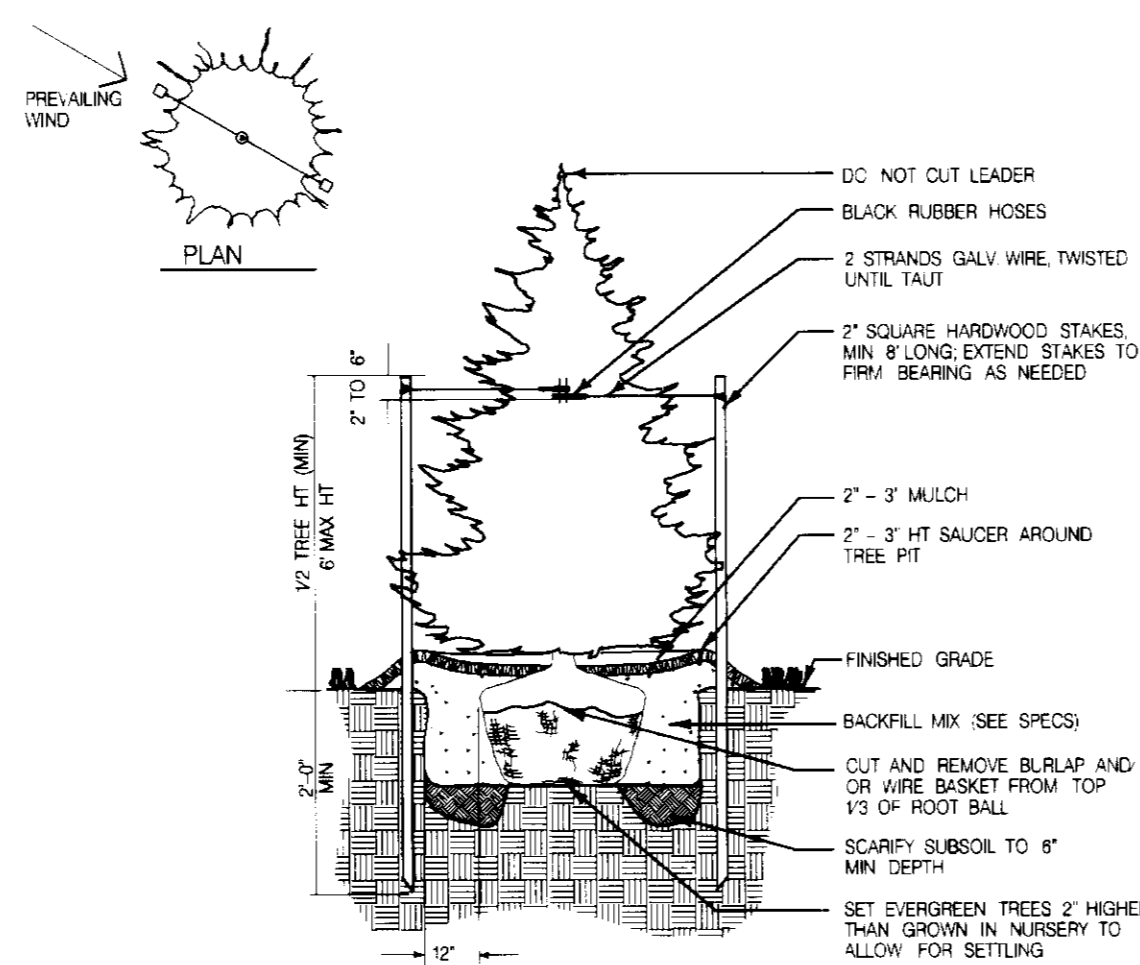
- The contractor shall review architectural/engineering plans to become thoroughly familiar with grading and surface utilities.
- All equipment and tools shall be placed so as not to interfere or hinder the pedestrian and vehicular traffic flow.
- The contractor shall coordinate with lighting and irrigation contractors regarding timing of installation of plant material.
- The contractor shall insure that his work does not interrupt established or projected drainage patterns.
- During planting operations, excess waste materials shall be promptly and frequently removed from the site.
- Call Miss Utility a minimum of three days prior to any excavation. The contractor is advised of the existence of underground utilities on the site. Their exact location shall be verified in the field with the owner or general contractor prior to the commencement of any digging operations. In the event they are uncovered the contractor shall be held responsible for all damage to utilities and such damage shall not result in any additional expenses to the owner. Any damage of unreported lines shall not be the responsibility of the contractor.
- If utility lines are encountered in excavation of tree pits, other locations for trees shall be made by the contractor without additional compensation. No changes of location shall be made without approval by the landscape architect.
- Maintain positive drainage out of planting beds at a minimum 2% slope. All grades, dimensions, and existing conditions shall be verified by the contractor on site before construction begins. Any discrepancies shall be brought to the attention of the landscape architect or owner.
- Every possible safeguard shall be taken to protect building surfaces, equipment, and furnishings. The contractor shall be responsible for any damage or injury to person or property which may occur as a result of his negligence in the execution of the work.
- In the event of variation between quantities shown on the plant list and the plans, the plans shall control. The contractor is responsible for verifying all plant quantities prior to the commencement of work. Seed quantity take-offs are the responsibility of the contractor. All discrepancies shall be reported to the landscape architect for clarification prior to bidding. The contractor shall furnish plant material in sizes as specified in plant list.
- Plants shall be located as shown on the drawings or as designated in the field. The contractor shall stake all material located on the site for review and/or adjustment by the landscape architect prior to planting. All locations are to be approved by the landscape architect before excavation.
- Plants shall conform to current "American Standards for Nursery Stock" by American Association of Nurserymen (AAN), particularly with regard to size, growth, size of ball, and density of branch structure. Plant material shall be tagged at the source by the landscape architect unless this requirement is specifically waived.
- All plants (B&B or container) shall be properly identified by weather-proof labels securely attached thereto before delivery to project site. Labels shall identify plants by name, species, and size. Labels shall not be removed until the final inspection by the landscape architect or agent in charge.
- Any material and/or work may be rejected by the landscape architect if it does not meet the requirements of the specifications. All rejected materials shall be removed from the site by the contractor.
- No substitutions shall be made without written consent of the owner or landscape architect.
- The landscape architect or owner shall have the right, at any stage of the operations, to reject any and all work and material which, in his opinion, does not meet the requirements of these plans and specifications.
- The contractor shall be wholly responsible for stability and conditions of all trees and shrubs and shall be legally liable for any damage caused by instability of any plant materials. Staking of all trees shall be done utilizing a method agreed upon by the landscape architect as indicated on the documents.
- All proposed trees to be installed either entirely on or entirely out of planting beds. Planting bed lines are not to be obstructed. All shrubs and ground cover areas shall be planted in continuous prepared bed and top dressed with 3-inch shredded hardwood mulch. Mulch shall have been shredded within the last six months.
- Spade edge all planting beds.
- Maintenance shall begin after each plant has been installed and shall continue until 90 days after final acceptance by the architect or owner representative. Maintenance includes watering, pruning, weeding, fertilizing, mulching, replacement of sick or dead plants, and any other care necessary for the proper growth of the plant material. The contractor must be able to provide continued maintenance if requested by the owner.
- Upon completion of all landscaping, an acceptance of work shall be held. The contractor shall notify the landscape architect or owner for scheduling the inspection at least seven (7) days prior to the anticipated inspection date.
- All trees shall be guaranteed for 12 months from the date of acceptance. All shrubs and ground covers shall be guaranteed for 12 months from the date of acceptance. Replacement plants used shall be guaranteed for an additional 90 days.
- The contractor is responsible for testing project soils. The contractor is to provide a certified soils report to the owner. The contractor shall verify that the soils on site are acceptable for the proper growth of the proposed plant material. Should the contractor find poor soil conditions, the contractor shall be required to provide soil amendments as necessary. These amendments shall include, but not be limited to, fertilizers, lime, and topsoil. Proper planting soils must be verified prior to planting of materials.
- The contractor shall dispose of stumps and major roots of all plants to be removed. Any depressions caused by removal operations shall be refilled with fertile, friable soil placed and compacted so as to reestablish proper grade for new planting and/or lawn areas.
- The contractor shall insure adequate vertical drainage in all plant beds.
- All disturbed areas of the site not planted with shrubs or ground cover shall be fine graded and seeded. See Sediment & Erosion Control Plans for details.



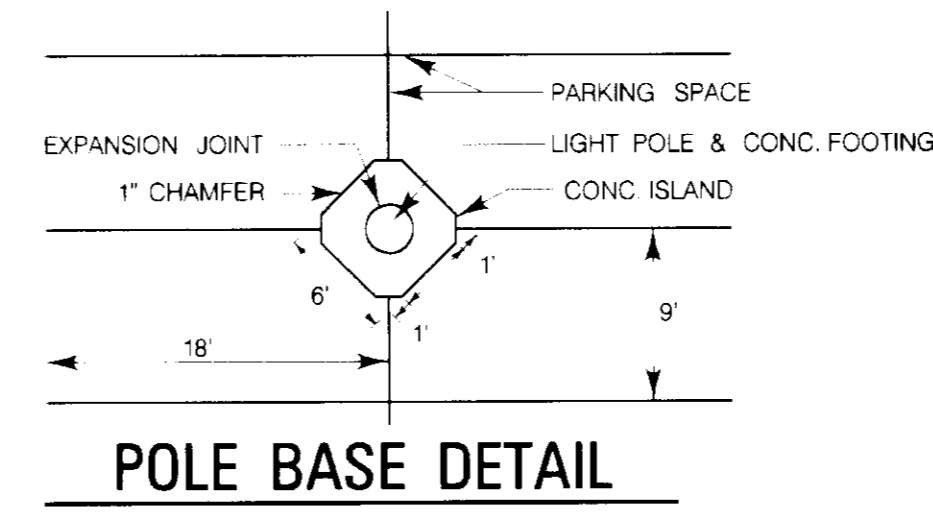
SHRUB BED PLANTING
NOT TO SCALE



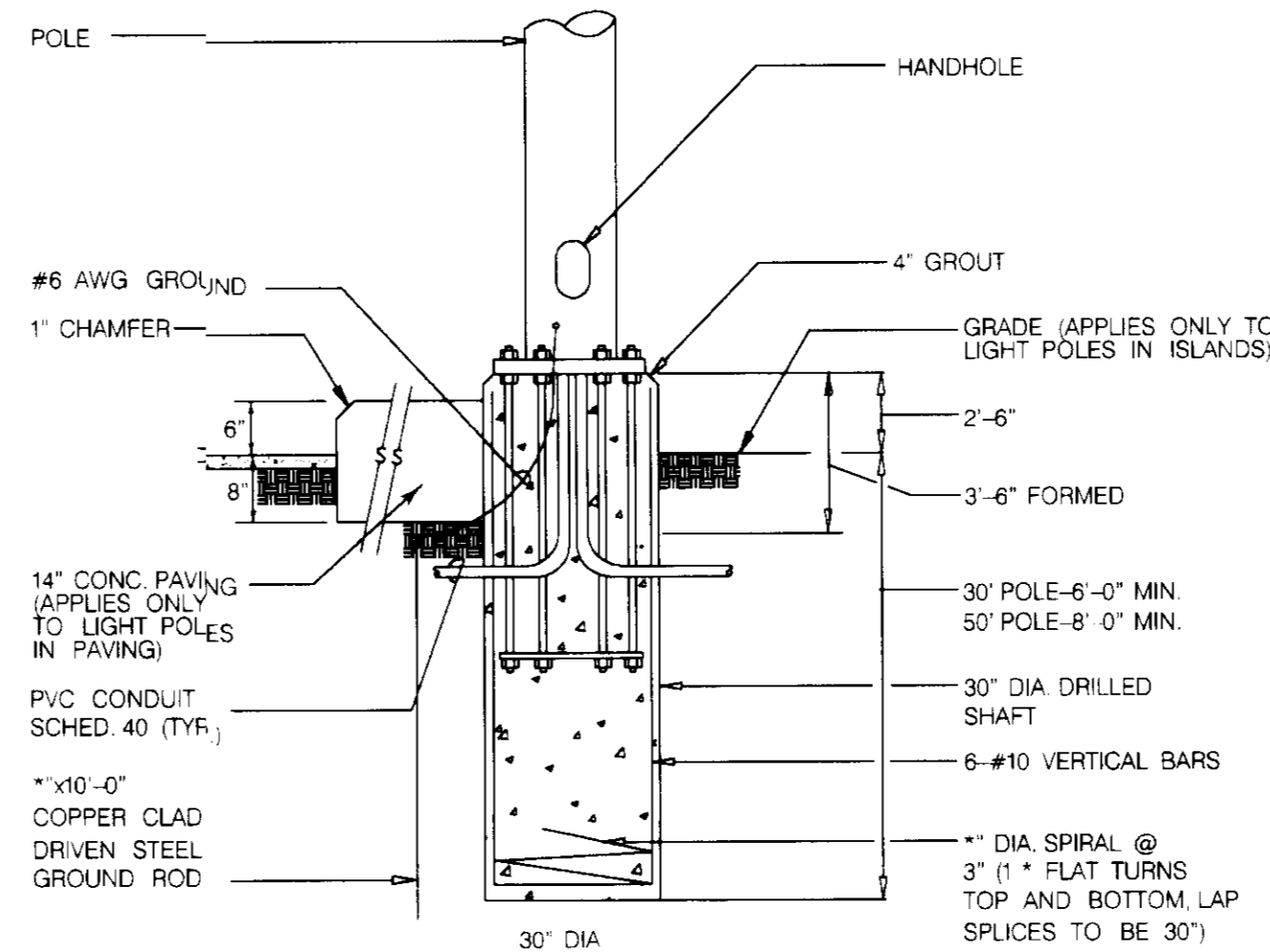
TREE PLANTING - LESS THAN 3" CALIPER
NOT TO SCALE



EVERGREEN TREE PLANTING
NOT TO SCALE

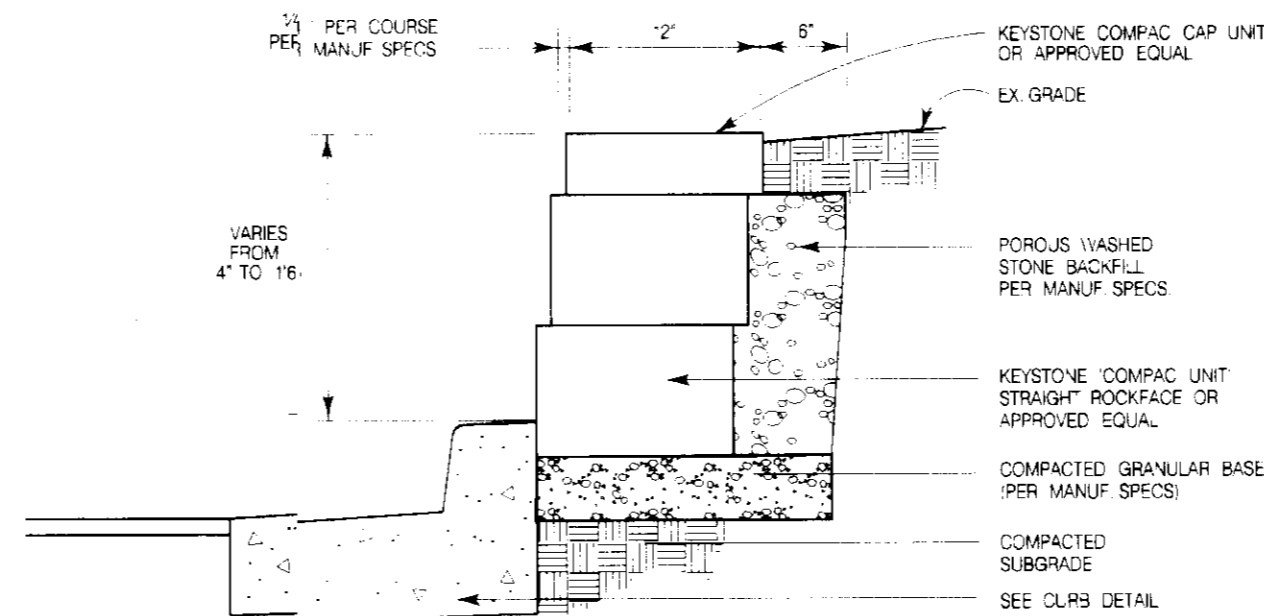


POLE BASE DETAIL
N.T.S.



POLE BASE DETAIL (RAISED)
N.T.S.

- DETAIL NOTES
- CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI IN 28 DAYS
 - REINFORCING STEEL SHALL BE ASTM A-615 GRADE 60
 - ALL REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 3"



RETAINING WALL DETAIL
N.T.S.

PLANT LIST

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	REMARKS
SHADE TREES PA	92	Platanus x acerifolia	London Planetree	2 12-3\" cal. 12-14\" ht.	B&B	Full Head
FLOWERING TREES PCR PT	55 27	Pyrus calleryana Prunus cerasera	Redspire Pear Purpleleaf Flowering Plum	2-2 12\" cal. 2-10\" ht. 2-2 12\" cal. 2-10\" ht.	B&B B&B	Full Head Full Head
EVERGREEN TREES EO	7	Ilex opaca	American Holly	6-8\" ht.	B&B	Unsheared
SHRUBS TMH	39	Taxus media	Hicks Yew	2 12-3\" cal. 12-14\" ht.	B&B	3.0\" OC

LIGHT FIXTURE SCHEDULE

SYMBOL	FIXTURE TYPE	DESCRIPTION
⊕	S1	50' POLE WITH (4) 1000W. METAL HALIDE HEADS
⊙	S2	50' POLE WITH (2) 1000W. METAL HALIDE HEADS
⊖	S3	30' POLE WITH (1) 400W. METAL HALIDE HEADS

SCHEDULE A

LANDSCAPE REQUIREMENTS:

	ADJACENT TO ROADWAYS
PERIMETER	1
• LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	240 LF
• CREDIT FOR EXISTING VEGETATION	+ 240 LF
• CREDIT FOR WALL, FENCE OR BERM	** 240 LF
• NUMBER OF PLANTS REQUIRED	
SHADE TREES	0
EVERGREEN TREES	0
SHRUBS	0
• NUMBER OF PLANTS PROVIDED	
SHADE TREES	0
EVERGREEN TREES	0
OTHER TREES (2:1 SUB.)	0
SHRUBS (10:1 SUB.)	0

- CREDIT FOR EXISTING TREES LOCATED ALONG LITTLE PATUXENT PARKWAY ALONG PERIMETER 1
- CREDIT FOR PROPOSED 3 HIGH BERM

SCHEDULE B

PARKING LOT INTERNAL LANDSCAPING

• NUMBER OF PARKING SPACES	397
• NUMBER OF TREES REQUIRED @ 120 SPACES	20
• NUMBER OF TREES PROVIDED	
SHADE TREES	20+
OTHER TREES (2:1 SUB.)	
• PARKING ISLANDS REQUIRED @ 120 SPACES	20
• PARKING ISLANDS PROVIDED	20+

NOTE: THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD CO. LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$2,000.00

APPROVED
PLANNING BOARD
OF HOWARD COUNTY

DATE 4/23/97

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Michael Blom 6/16/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE

Richard Blom 6/20/97
CHIEF, DIVISION OF LAND DEVELOPMENT & RESEARCH DATE

James R. Butler 6/20/97
DIRECTOR DATE

Date	No.	Revision Description

THE MALL IN COLUMBIA

PHASE I EXPANSION
TOWN CENTER
SECTION 2 AREA 1, 2/2

OWNER / DEVELOPER:

THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044 HOWARD COUNTY

DMW
Dan McCune Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax 296-4705
A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals

SUBMISSION NAME: *PHASE I A* DATE: *6/16/97*
DRAWN BY: *CLZ* CHECKED BY: *CLZ* DATE: *6/20/97*
SCALE: *N.T.S.* SHEET NO.: *5TH* OF *5TH*

TITLE: **PHASE I A
LANDSCAPE/LIGHTING DETAILS**

Des By: MJP Scale: AS SHOWN Proj. No.: 95019B
Dwn By: CLZ Date: 5/22/97
Chk By: THR Approved

Professional Engr. No. *51-116*
35 OF 35