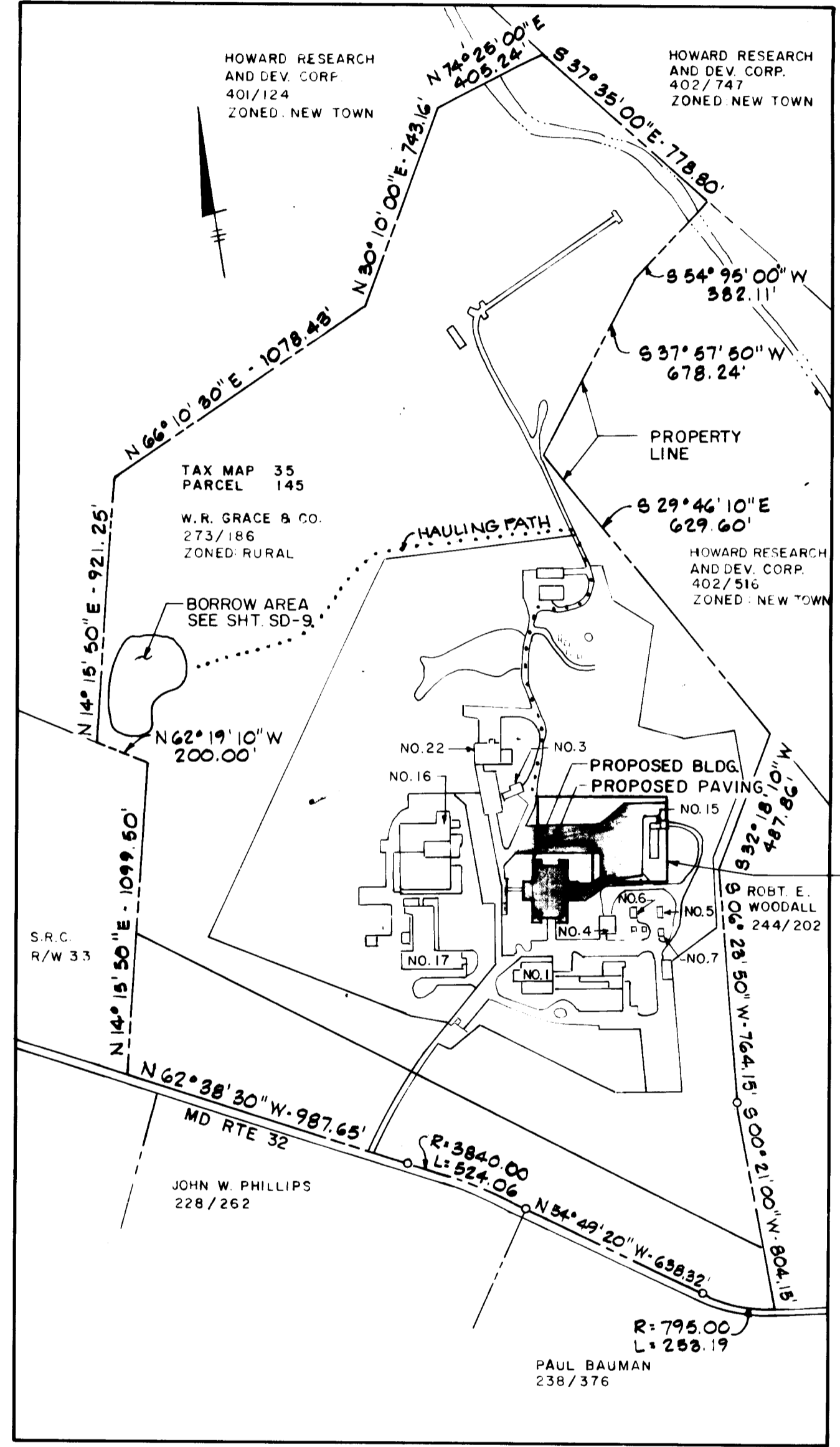
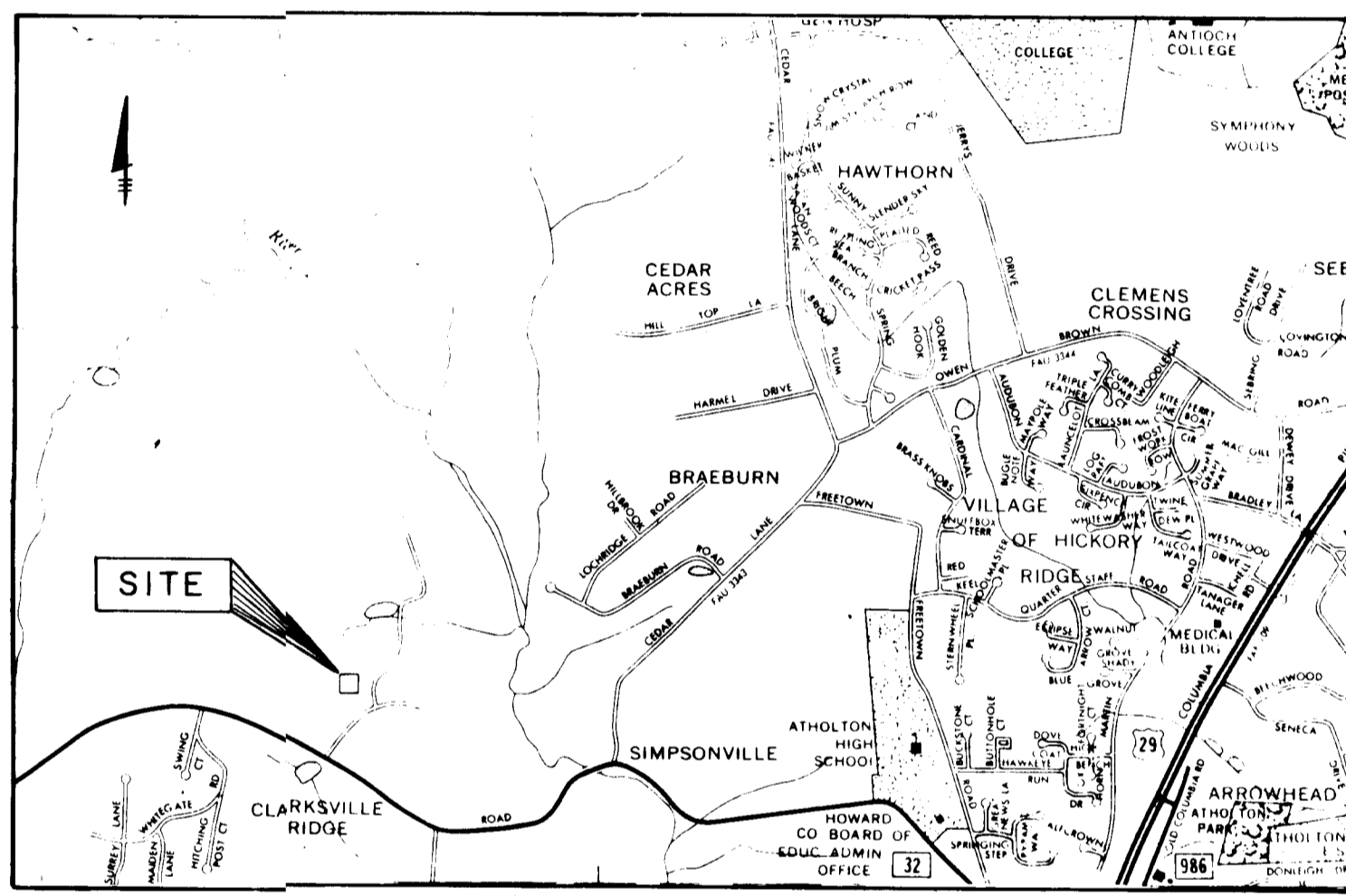


SHEET	TITLE
SD-1	LOCATION MAP & GENERAL NOTES
SD-2	EX. CONDITIONS & DEMOLITION PLAN
SD-3	LAYOUT PLAN
SD-4	UTILITY PLAN
SD-5	UTILITY PROFILE
SD-6	UTILITY PROFILE
SD-7	GRADING PLAN
SD-8	SEDIMENT CONTROL PLAN
SD-9	SEDIMENT CONTROL BORROW AREA & DETAILS
SD-10	STORM WATER MANAGEMENT PLAN
SD-11	DETAILS



LOCATION MAP
SCALE 1"=400'



VICINITY MAP
SCALE 1"=2000'

ADDRESS CHART	
LOT NUMBER	STREET ADDRESS
P 145	7379 MD. RTE. 32

- SITE ANALYSIS**
1. LOCATION: FIFTH ELECTION DISTRICT HOWARD CO. MARYLAND
TAX MAP 35 PARCEL 145
 2. PRESENT ZONING: RURAL
 3. FLOOR AREA : 20,500 SQ. FT.
 4. EMPLOYEES : 22
 5. PARKING REQUIRED : (7 SPACES PER 10 EMPLOYEES) * 15 SPACES
 6. PARKING PROVIDED : 23 SPACES (TO BE PROVIDED ON SITE DEVELOPMENT PLAN FOR NEW RESEARCH BUILDING)
 7. PROPOSED USE : RESEARCH BLDG.

- A. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT TELEPHONE NO. (301) 599-0100 AT LEAST 72 HOURS PRIOR TO STARTING EXCAVATION TO VERIFY ALL LOCATIONS OF EXISTING UTILITIES.
- B. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT TELEPHONE NO. (301) 599-0100 AT LEAST 72 HOURS PRIOR TO STARTING EXCAVATION TO VERIFY ALL LOCATIONS OF EXISTING UTILITIES.
- C. ALL CONSTRUCTION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH HOWARD COUNTY, DEPARTMENT OF PUBLIC WORK STANDARDS, SPECIFICATIONS AND REQUIREMENTS.
- D. THE INFORMATION SHOWN ON THESE PLANS IS FOR THE CONVENIENCE OF THOSE CONCERNED ONLY. THE CORRECTNESS OR COMPLETENESS OF THE INFORMATION SHOWN IS NOT WARRANTED OR GUARANTEED. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS OWN SATISFACTION.
- E. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- F. ALL DISTURBED AREAS NOT STABILIZED WITH PAVING, BUILDING, SODDING OR MULCH IN PLANTING AREAS SHALL BE SEEDED AND MULCHED (BY THE OWNER)

APPROVED
DIVISION OF LAND DEVELOPMENT &
ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 8-14-84
M. LUM

SUBDIVISION NAME		SECT./AREA	LOT/PARCEL #
W.R. GRACE		-	P145
PLAT #	BLOCK #	TAX/ZONE MAP	ELEC. DIST.
273/186	22	35	5TH
WATER CODE		SEWER CODE	
N/A		N/A	
APPROVED FOR STORM DRAINAGE SYSTEMS AND ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS			
<i>Joseph N...</i>		8-9-84	
DIRECTOR		DATE	
<i>...</i>		8-28-84	
CHIEF, BUREAU OF ENGINEERING		DATE	
APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT			
<i>...</i>		9-6-84	
COUNTY HEALTH OFFICER		DATE	
APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING			
<i>...</i>		9-6-84	
PLANNING DIRECTOR		DATE	
<i>...</i>		9-6-84	
PLANNING DIRECTOR		DATE	
<i>...</i>		9-6-84	
PLANNING DIRECTOR		DATE	

OTHER PLANNING AND ZONING CASES RELATED TO W.R. GRACE & CO., ARE:
CASE NO. 168C, CASE NO. VP-81-86, CASE NO. VP-82-31E, CASE NO.
82-92, CASE NO. 83-50E, AND CASE NO. 83-54E

WHITNEY BAILEY FOX MAGNANI CONSULTING ENGINEERS
Suite 311 Green Spring Station
2360 West Joppa Road
Lutherville, Maryland 21093
301-296-4200

OWNER:
W.R. GRACE & CO.
7379 ROUTE 32
COLUMBIA, MD. 21044

NO.	DATE	DESCRIPTION
REVISIONS		



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DESIGNED	PD
DRAWN	CC
CHECKED	FEC

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COLUMBIA, MARYLAND

NEW RESEARCH BUILDING

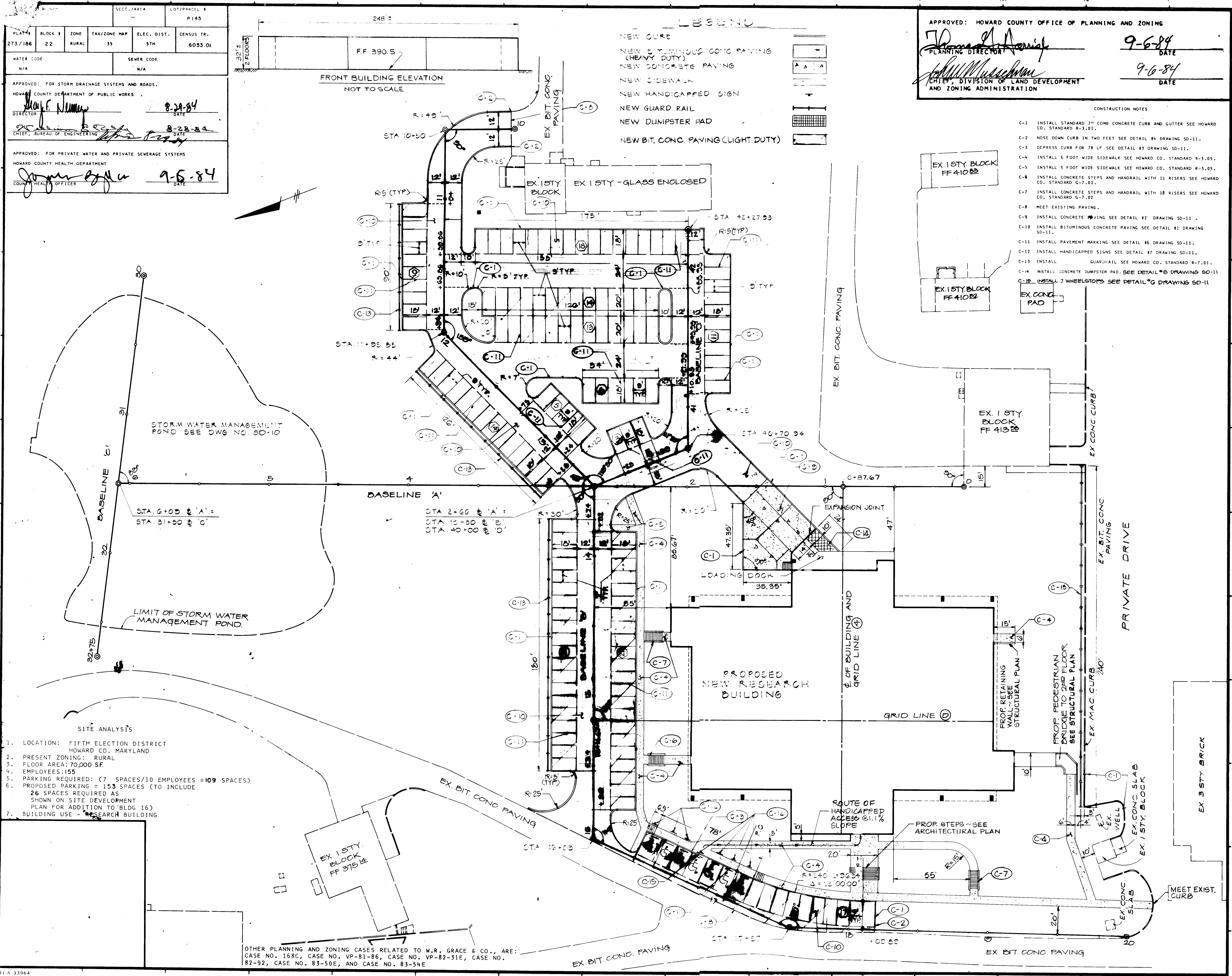
LOCATION MAP,
VICINITY MAP,
AND GENERAL NOTES

JOB NO	8405	DRAWING	SD-1
SCALE	AS NOTED		
DATE	5/30/84		

WBCM NO. 88405 SDP-84-256

PLAT/BLK	273/188	BLOCK	22	ZONE	RURAL	TAX/ZONE MAP	35	ELEC. DIST.	5TH	CENSUS TR.	6053.01
WATER CODE	N/A	SEWER CODE	N/A								
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS <i>Mark E. Nunn</i> 8-28-84 DIRECTOR											
APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT <i>John E. Miller</i> 9-5-84 COUNTY HEALTH OFFICER											

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
Donald A. Davis 9-6-84
 PLANNING DIRECTOR
William M. Muschman 9-6-84
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION



- NEW CURB
- NEW BITUMINOUS CONC PAVING (HEAVY DUTY)
- NEW CONCRETE PAVING
- NEW SIDEWALK
- NEW HANDICAPPED SIGN
- NEW GUARD RAIL
- NEW DUMPSTER PAD
- NEW BIT. CONC. PAVING (LIGHT DUTY)

- CONSTRUCTION NOTES
- C-1 INSTALL STANDARD 7" COMB CONCRETE CURB AND GUTTER SEE HOWARD CO. STANDARD R-3.01.
 - C-2 MOSE DOWN CURB IN TWO FEET SEE DETAIL #4 DRAWING SD-11.
 - C-3 DEPRESS CURB FOR 78 LF SEE DETAIL #3 DRAWING SD-11.
 - C-4 INSTALL 6 FOOT WIDE SIDEWALK SEE HOWARD CO. STANDARD R-3.05.
 - C-5 INSTALL 5 FOOT WIDE SIDEWALK SEE HOWARD CO. STANDARD R-3.05.
 - C-6 INSTALL CONCRETE STEPS AND HANDRAIL WITH 11 RISERS SEE HOWARD CO. STANDARD G-7.02.
 - C-7 INSTALL CONCRETE STEPS AND HANDRAIL WITH 18 RISERS SEE HOWARD CO. STANDARD G-7.02.
 - C-8 MEET EXISTING PAVING.
 - C-9 INSTALL CONCRETE PAVING SEE DETAIL #2 DRAWING SD-11.
 - C-10 INSTALL BITUMINOUS CONCRETE PAVING SEE DETAIL #1 DRAWING SD-11.
 - C-11 INSTALL PAVEMENT MARKING SEE DETAIL #6 DRAWING SD-11.
 - C-12 INSTALL HANDICAPPED SIGNS SEE DETAIL #7 DRAWING SD-11.
 - C-13 INSTALL GUARDRAIL SEE HOWARD CO. STANDARD R-7.01.
 - C-14 INSTALL CONCRETE DUMPSTER PAD. SEE DETAIL #8 DRAWING SD-11.
 - C-15 INSTALL 7 WHEELSTOPS SEE DETAIL #9 DRAWING SD-11.

- SITE ANALYSIS
1. LOCATION: FIFTH ELECTION DISTRICT HOWARD CO., MARYLAND
 2. PRESENT ZONING: RURAL
 3. FLOOR AREA: 70,000 SF
 4. EMPLOYEES: 155
 5. PARKING REQUIRED: (7 SPACES/10 EMPLOYEES = 109 SPACES)
 6. PROPOSED PARKING = 153 SPACES (TO INCLUDE 26 SPACES REQUIRED AS SHOWN ON SITE DEVELOPMENT PLAN FOR ADDITION TO BLDG 16)
 7. BUILDING USE - RESEARCH BUILDING

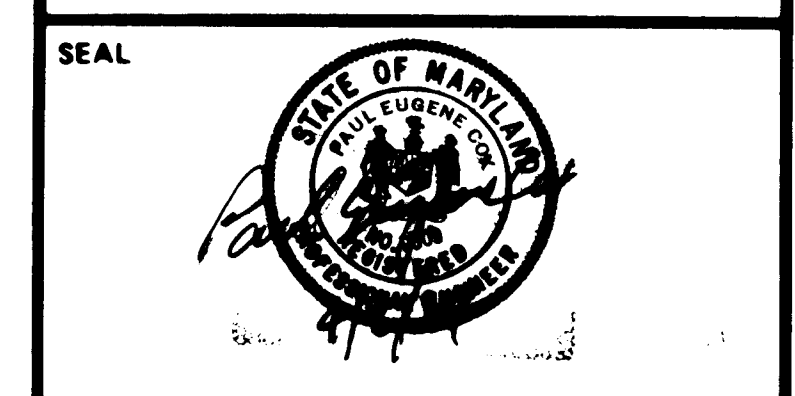
OTHER PLANNING AND ZONING CASES RELATED TO W.R. GRACE & CO., ARE:
 CASE NO. 168C, CASE NO. VP-81-86, CASE NO. VP-82-31E, CASE NO. 82-92, CASE NO. 83-50E, AND CASE NO. 83-54E

WHITNEY CONSULTING ENGINEERS
 BAILEY Suite 311 Green Spring Station
 FOX 2360 West Joppa Road
 MAGNANI Lutherville, Maryland 21093
 301-296-4200

OWNER:
 W.R. GRACE & CO.
 7379 ROUTE 32
 COLUMBIA, MD. 21044

APPROVED
 DIVISION OF LAND DEVELOPMENT &
 ZONING ADMINISTRATION
 HOWARD COUNTY, MARYLAND
 DATE 8-14-84

NO.	DATE	DESCRIPTION

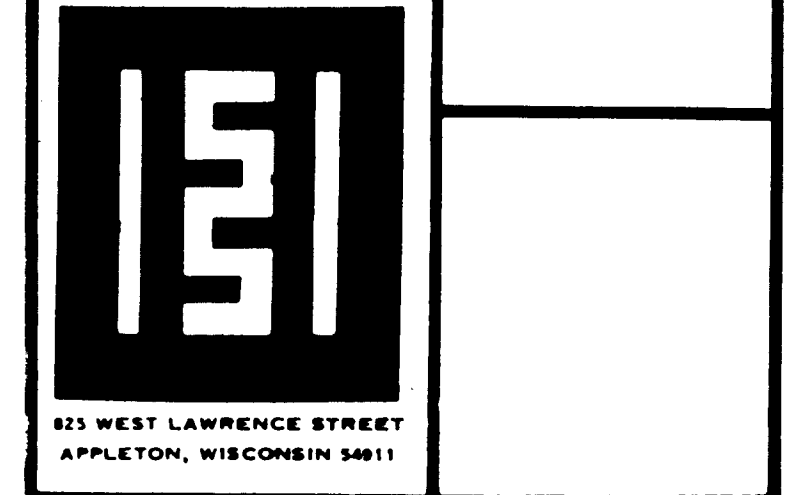


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DESIGNED	PD
DRAWN	CC
CHECKED	PEC

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 COLUMBIA, MARYLAND
 NEW RESEARCH BUILDING

LAYOUT PLAN

JOB NO.	8405	DRAWING	SD-3
SCALE	1"=30'		
DATE	5/30/84		3 OF 11

WBCM NO. 88405251 SDP-84-256

APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS.
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 DISTRICT ENGINEER: *Joseph F. Nemmy* DATE: 8-29-84
 CHIEF, BUREAU OF ENGINEERING: *William R. ...* DATE: 8-23-84
 APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
 HOWARD COUNTY HEALTH DEPARTMENT
 HEALTH OFFICER: *Joan Boyer* DATE: 7-6-87

CLEANING SCHEDULE

NO	INV. IN	INV. OUT	TOP ELEV.	REMARKS
CO-1	384.00	383.90	380.25	SEE DETAIL 'O' SD-11
CO-2	382.60	382.50	380.00	" " " "
CO-3	383.00	382.90	380.25	" " " "
CO-4	384.00	383.90	380.00	" " " "
CO-5	384.50	384.40	380.25	" " " "

NOTE: ADJUST ALL EX. MANHOLE INLETS, ETC. FRAMES DOWN TO FINISH GRADE.

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
 PLANNING DIRECTOR: *Thomas G. Harris*
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION: *Thomas G. Harris* DATE: 9-6-84

INLET SCHEDULE

NO.	TYPE	INV. OUT	TOP ELEV.	Ho. Co. DETAIL NO.
I-1	'8' COMBINATION	383.00	386.50	SD-4.32
I-2	'K'	381.72	387.50	SD-4.13
I-3	'K'	386.15	391.00	SD-4.13
I-4	'8' COMBINATION	376.30	379.88	SD-4.32
I-5	'8' COMBINATION	377.08	380.76	SD-4.32
I-6	'8' COMBINATION	378.00	381.55	SD-4.32
I-7	'K'	378.44	381.00	SD-4.13
I-8	'8' COMBINATION	377.80	381.31	SD-4.32
I-9	'8' COMBINATION	377.70	381.42	SD-4.32
I-10	'8' COMBINATION	376.86	380.64	SD-4.32
I-11	'K'	378.40	381.80	SD-4.13
I-12	'K'	400.00	405.00	SD-4.22
I-13	'8' COMBINATION	387.59	391.67	SD-4.32

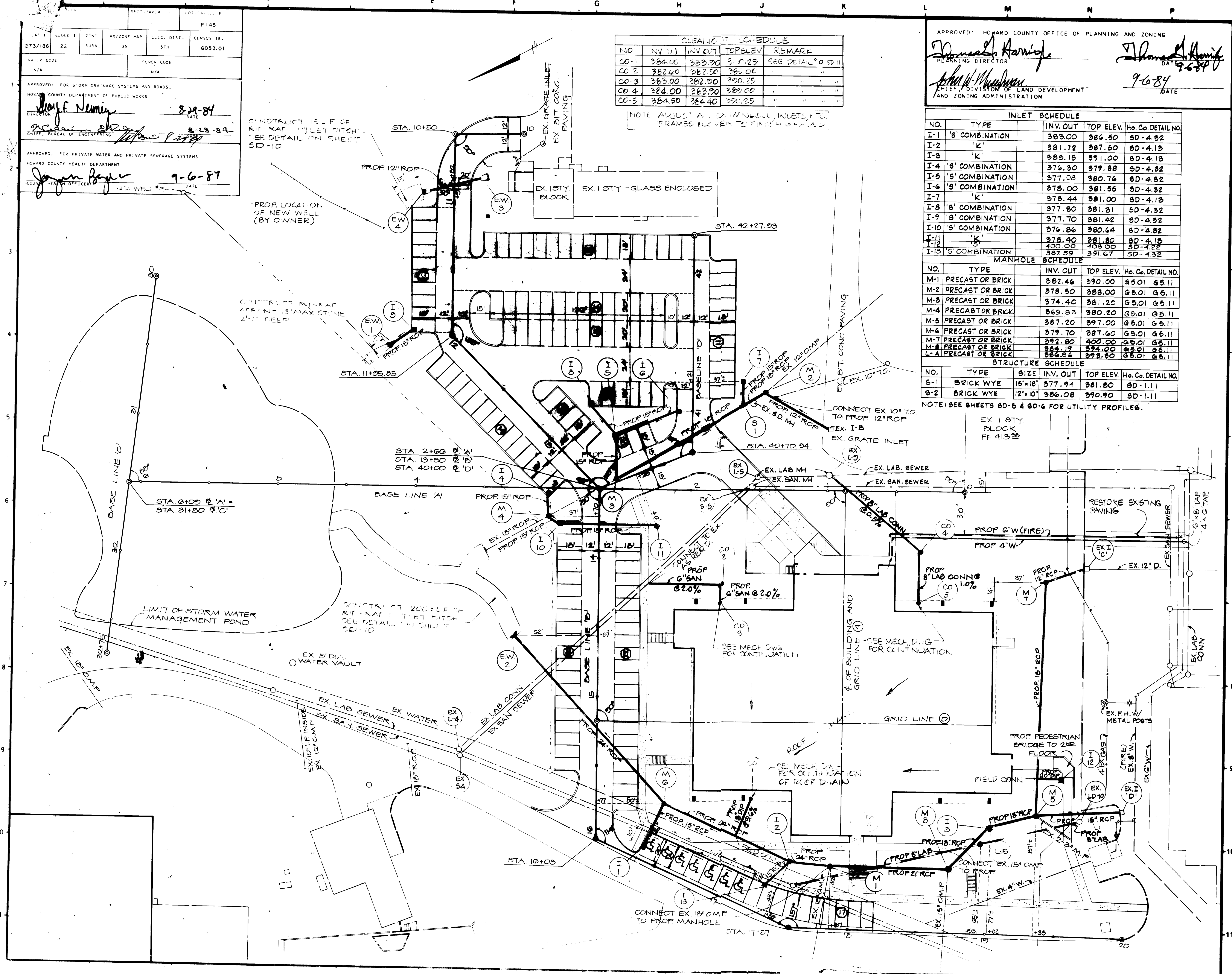
MANHOLE SCHEDULE

NO.	TYPE	INV. OUT	TOP ELEV.	Ho. Co. DETAIL NO.
M-1	PRECAST OR BRICK	382.46	390.00	G5.01 G5.11
M-2	PRECAST OR BRICK	378.50	388.00	G5.01 G5.11
M-3	PRECAST OR BRICK	374.40	381.20	G5.01 G5.11
M-4	PRECAST OR BRICK	369.83	380.20	G5.01 G5.11
M-5	PRECAST OR BRICK	387.20	397.00	G5.01 G5.11
M-6	PRECAST OR BRICK	379.70	387.60	G5.01 G5.11
M-7	PRECAST OR BRICK	392.80	400.00	G5.01 G5.11
M-8	PRECAST OR BRICK	384.12	394.00	G5.01 G5.11
M-9	PRECAST OR BRICK	389.56	399.80	G5.01 G5.11

STRUCTURE SCHEDULE

NO.	TYPE	SIZE	INV. OUT	TOP ELEV.	Ho. Co. DETAIL NO.
S-1	BRICK WYE	15" x 18"	377.94	381.80	SD-1.11
S-2	BRICK WYE	12" x 10"	386.08	390.90	SD-1.11

NOTE: SEE SHEETS SD-5 & SD-6 FOR UTILITY PROFILES.



HITNEY CONSULTING ENGINEERS
 BAILEY Suite 311 Green Spring Station
 FOX 2360 West Joppa Road
 MAGNANI Lutherville, Maryland 21093
 301-296-4200

OWNER:
 W.R. GRACE & CO.
 7379 ROUTE 32
 COLUMBIA, MD. 21044

APPROVED
 DIVISION OF LAND DEVELOPMENT &
 ZONING ADMINISTRATION
 HOWARD COUNTY, MARYLAND
 DATE 8-14-84

NO.	DATE	DESCRIPTION
1	4-1-85	ADD EX. I-5 J.D.

REVISIONS
 SEAL

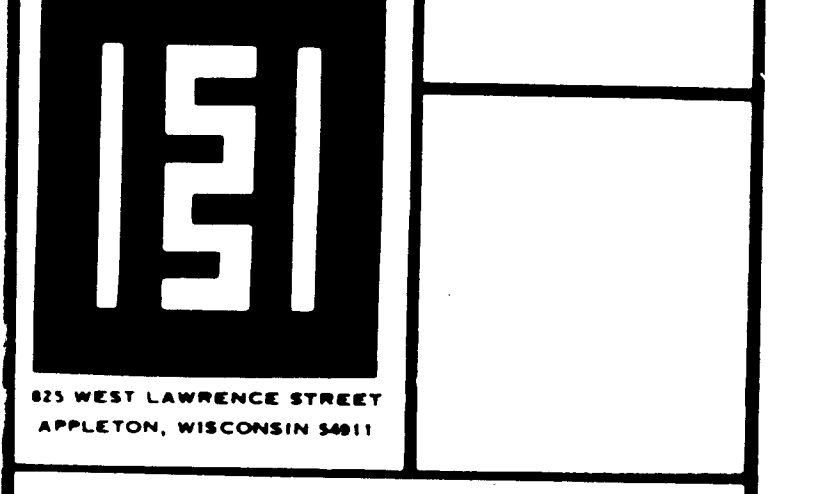


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 DESIGNED: PD
 DRAWN: CC
 CHECKED: PEC

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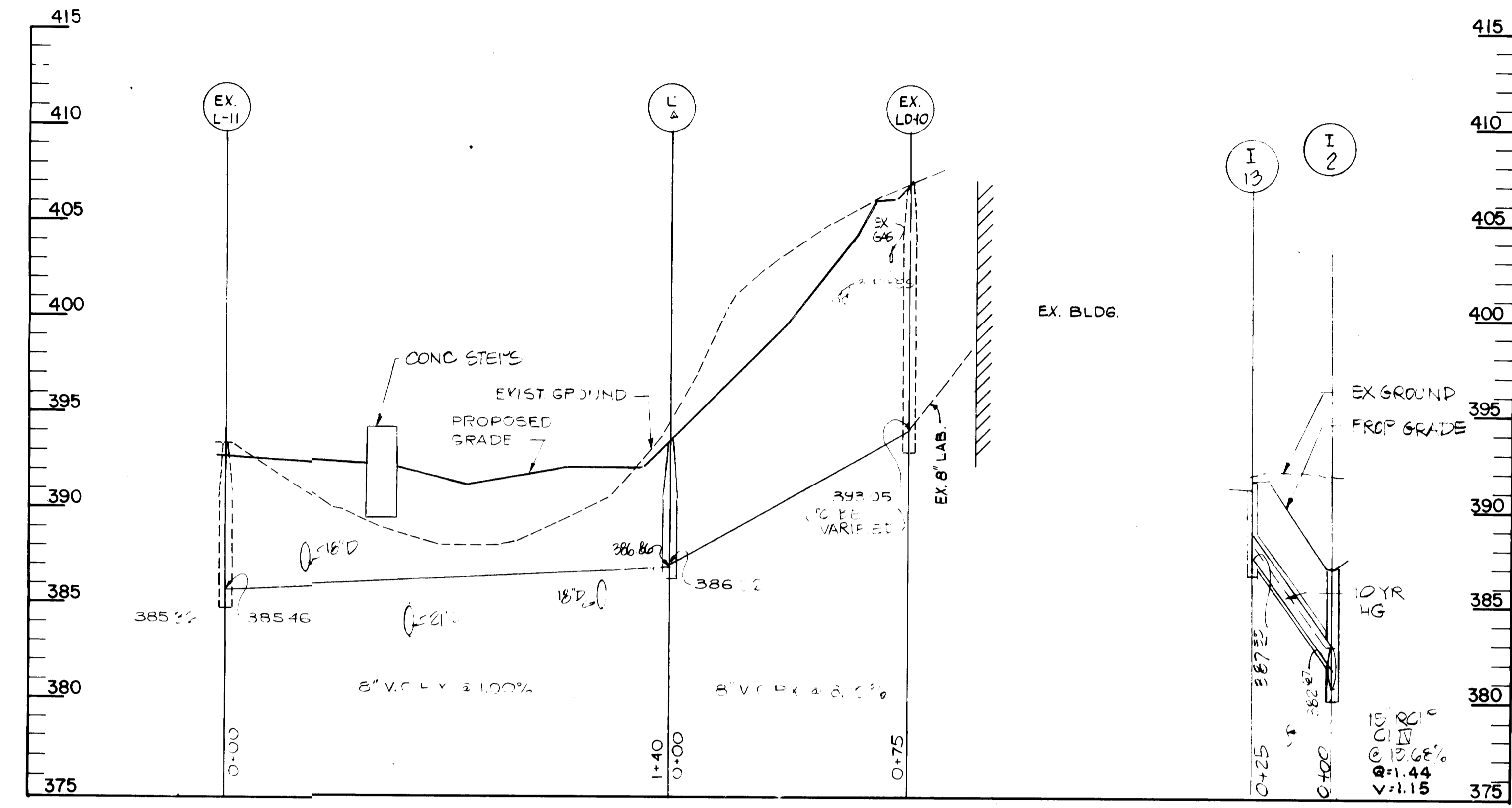
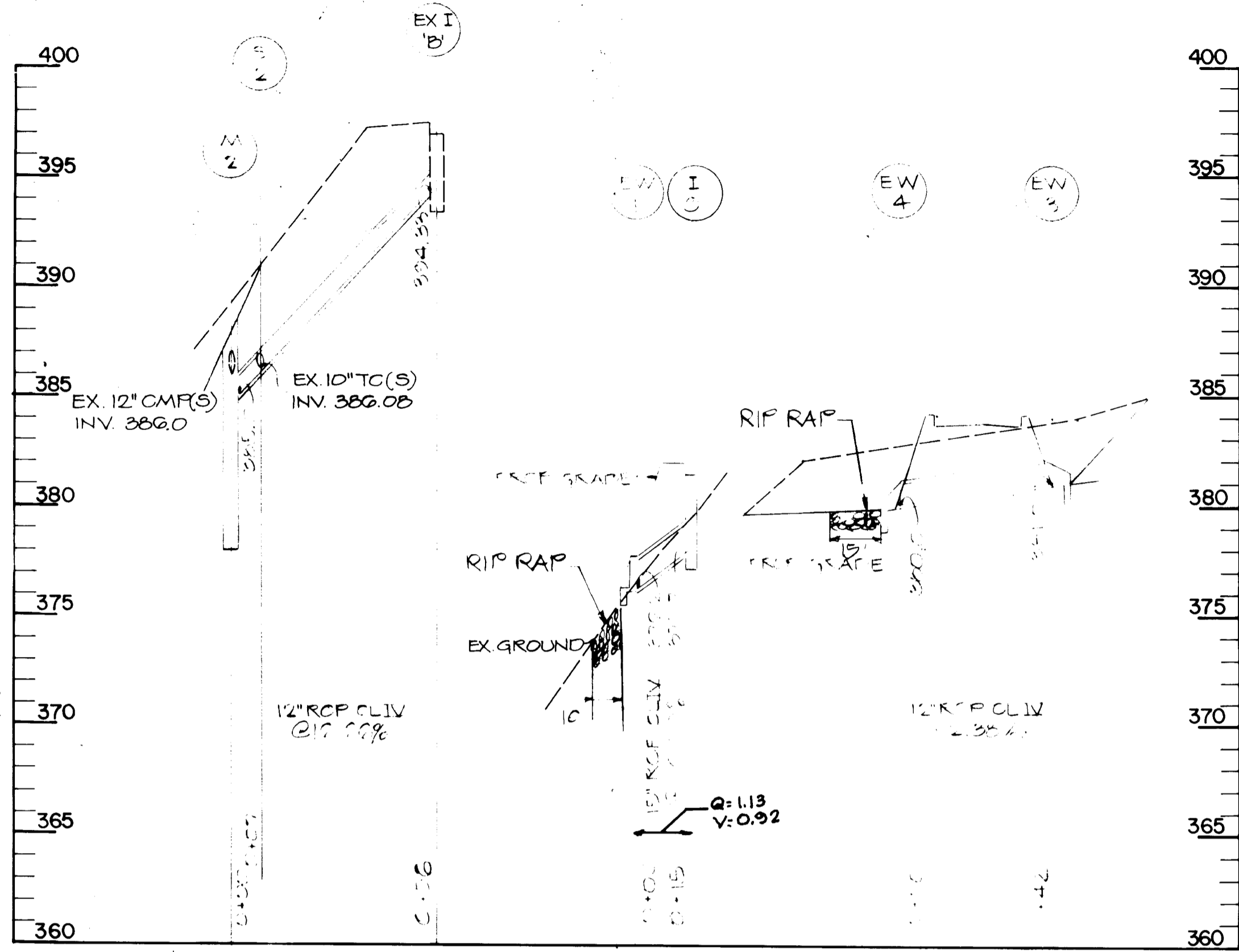


W.R. GRACE & CO.
 WASHINGTON RESEARCH CTR.
 COLUMBIA, MARYLAND
 5th Elect. Dist. Ct.
 Parcel 145 Tax Map 95
 Howard Co. Md.
 NEW RESEARCH BUILDING

UTILITY PLAN

JOB NO. 8405
 SCALE: 1"=30'
 DATE: 8-14-84
 DRAWING: SD-4

NOTE
FOR INLET, MANHOLE AND STRUCTURE
SCHEDULES SEE SHEET SD-4



PROFILE 4012 190
JEN 11/81

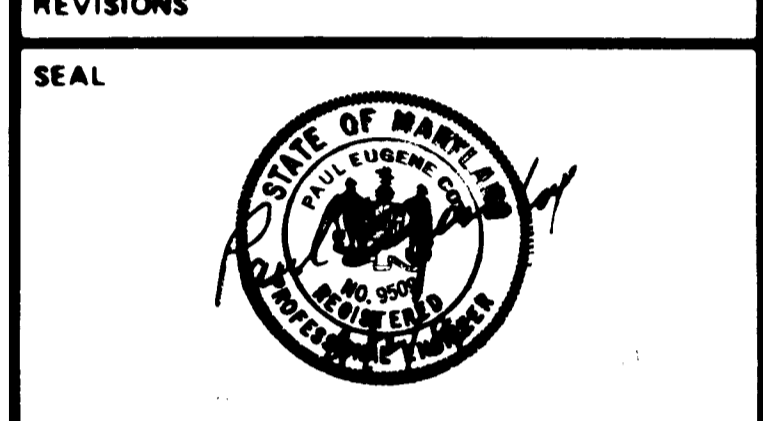
SUBDIVISION NAME W.R. GRACE		SECT./AREA -	LOT/PARCEL # P145
PLAT # 273/186	BLOCK # 22	ZONE RURAL	TAX/ZONE MAP 35
ELEC. DIST. 5TH		CENSUS TR. 6053.01	
WATER CODE N/A		SEWER CODE N/A	
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS DIRECTOR: <i>[Signature]</i> DATE: 8-24-84			
CHIEF, BUREAU OF ENGINEERING: <i>[Signature]</i> DATE: 8-28-84			
APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT COUNTY HEALTH OFFICER: <i>[Signature]</i> DATE: 9-6-84			
APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING PLANNING DIRECTOR: <i>[Signature]</i> DATE: 9-6-84 DIRECTOR, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION: <i>[Signature]</i> DATE: 9-6-84			

WHITNEY BAILEY FOX MAGNANI CONSULTING ENGINEERS
Suite 311 Greer Spring Station
2360 West Joppa Road
Lutherville, Maryland 21093
301-296-4200

OWNER:
W.R. GRACE & CO.
7379 ROUTE 32
COLUMBIA, MD. 21044

APPROVED
DIVISION OF LAND DEVELOPMENT &
ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 8-14-84
[Signature]

NO	DATE	DESCRIPTION
1	4.1-85	Storm Drain Connections J.D.



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DESIGNED	PD
DRAWN	CC
CHECKED	FEC

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COLUMBIA, MARYLAND
34th Election District
Parcel 45 of Lot 33
Howard County, Md.
NEW RESEARCH BUILDING

UTILITY PROFILES

JOB NO	8405	DRAWING	SD-6
SCALE	A - SHOWN		
DATE	5/30/84	1 OF 1	

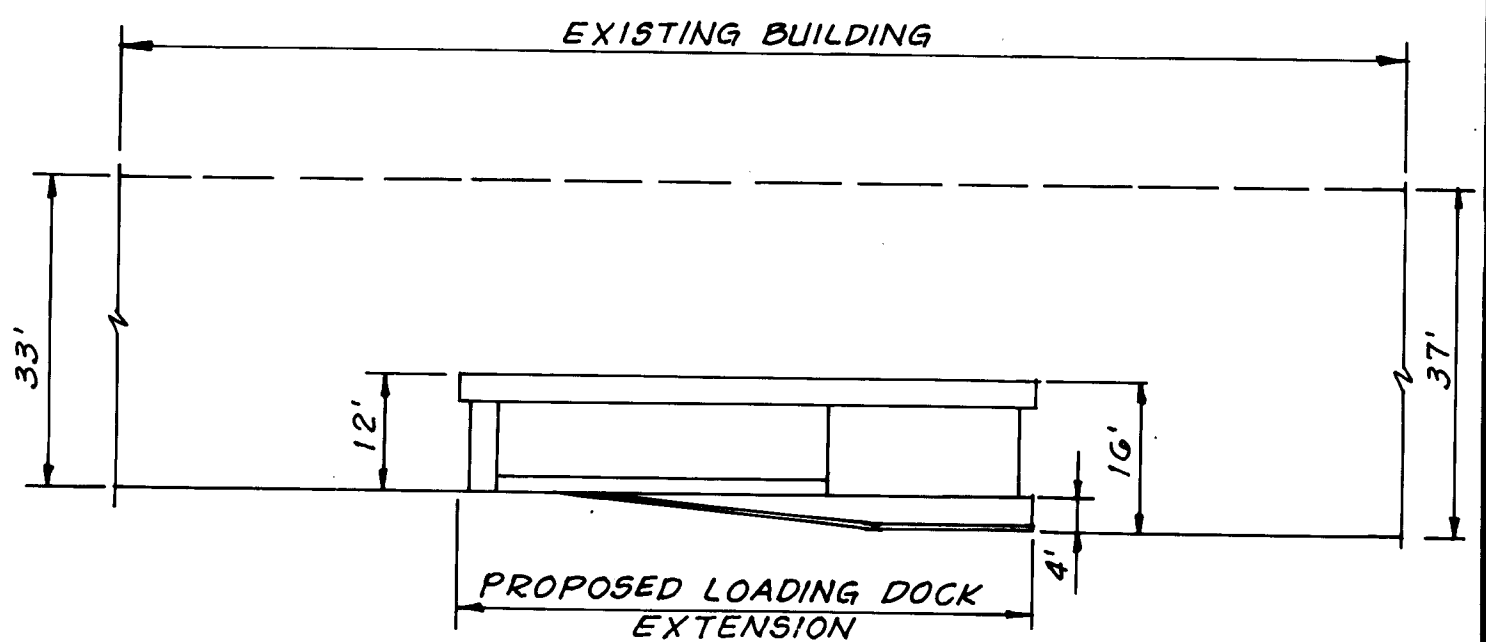
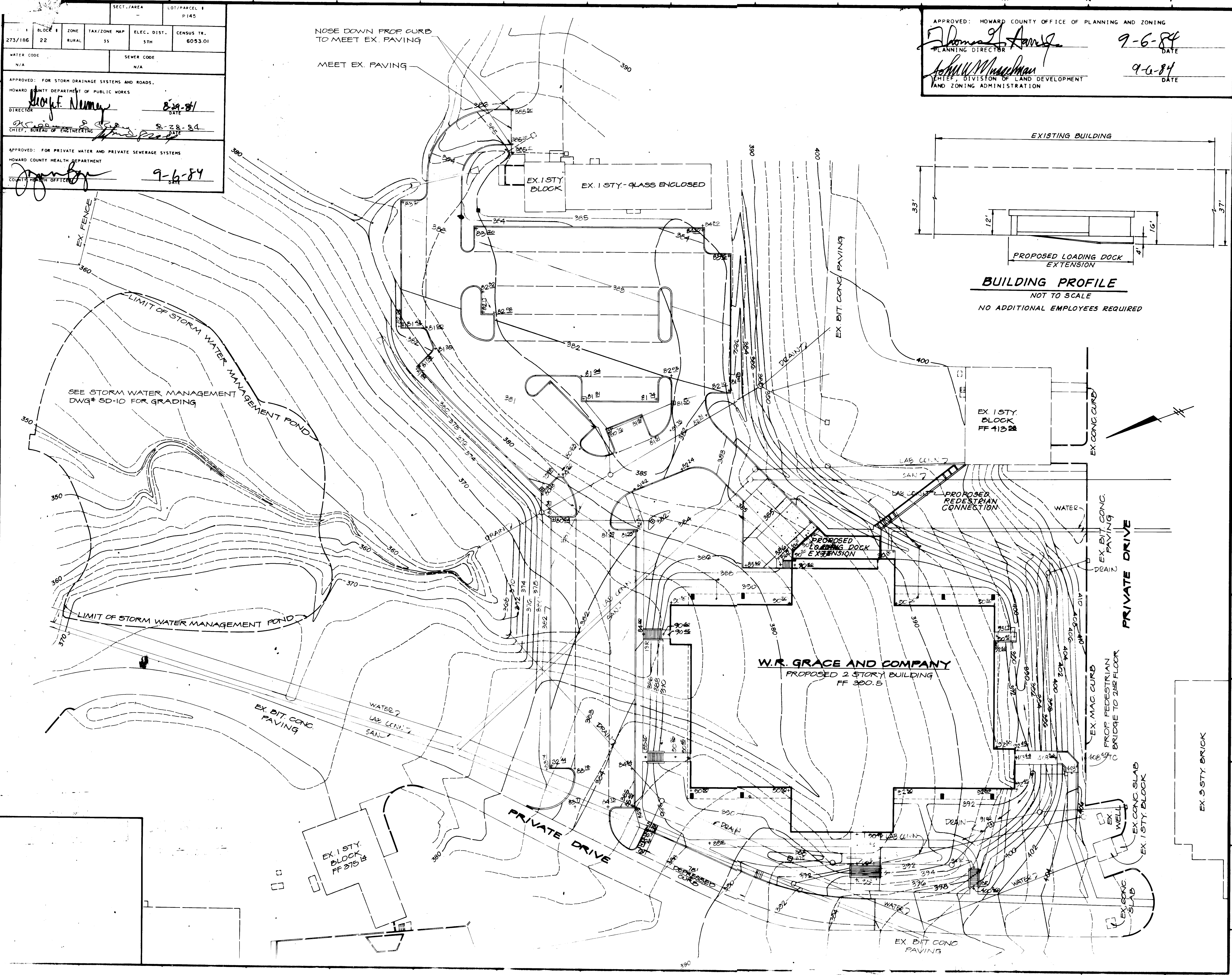
SDP-84-256

SECT./AREA		LOT/PARCEL #	
273/186		P145	
BLOCK #	ZONE	TAX/ZONE MAP	ELEC. DIST.
22	RURAL	35	5TH
WATER CODE		SEWER CODE	
N/A		N/A	
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS.			
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS			
DIRECTOR		DATE	
<i>Richard F. Nummy</i>		8-29-84	
APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS			
HOWARD COUNTY HEALTH DEPARTMENT			
COUNTY HEALTH OFFICER		DATE	
<i>[Signature]</i>		9-6-84	

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

Thomas J. Smith 9-6-84
PLANNING DIRECTOR DATE

John W. Mansman 9-6-84
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE



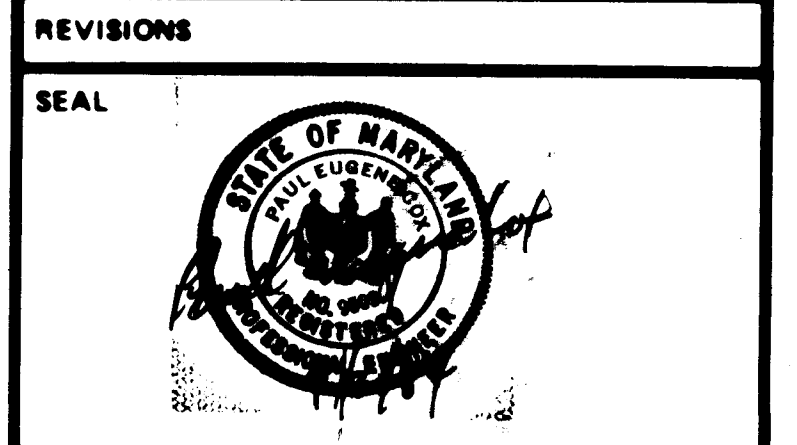
BUILDING PROFILE
NOT TO SCALE
NO ADDITIONAL EMPLOYEES REQUIRED

WHITNEY CONSULTING ENGINEERS
BAILEY Suite 311 Green Spring Station
2360 West Joppo Road
OX Lutherville, Maryland 21093
MAGNANI 301-296-4200

OWNER:
W.R. GRACE & CO.
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COLUMBIA, MD. 21044

APPROVED
DIVISION OF LAND DEVELOPMENT &
ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 8-14-84
[Signature]

2-5-88	BUILDING ADDITION	
NO	DATE	DESCRIPTION



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CHECKED	PEC

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COLUMBIA, MARYLAND
5th Election District
Parcel 145 Tax Map 35
Howard Co Md.
NEW RESEARCH BUILDING

GRADING PLAN

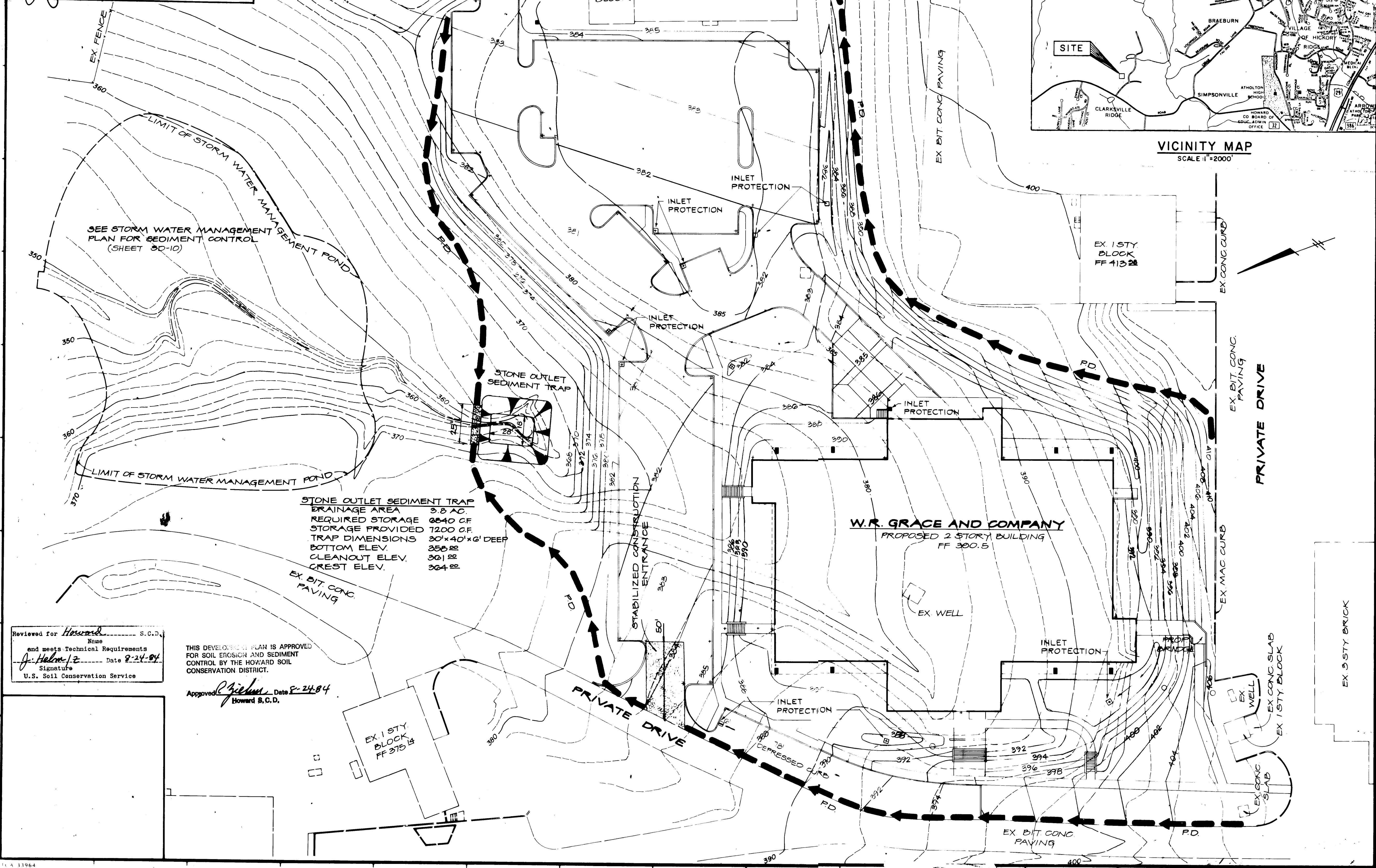
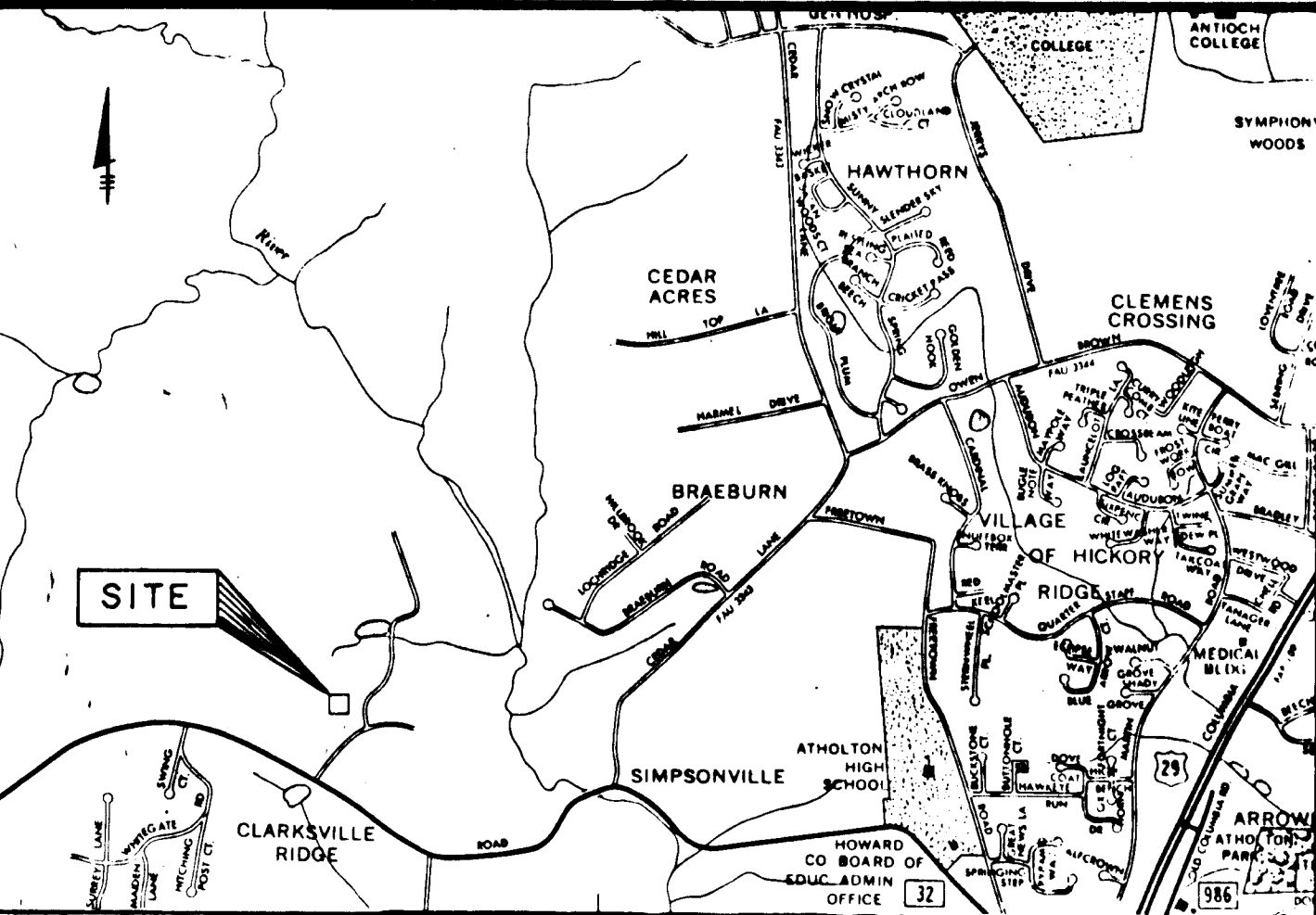
JOB NO.	8405	DRAWING	SD-7
SCALE	1"=30'		
DATE	9-6-84		

SDP-84-256

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELEC. DIST.	CENSUS TR.
273/186	22	RURAL	35	5TH	6053.01
WATER CODE			SEWER CODE		
N/A			N/A		
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS.					
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS					
DIRECTOR			DATE		
<i>[Signature]</i>			9-29-84		
APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS					
HOWARD COUNTY HEALTH DEPARTMENT					
COUNTY HEALTH OFFICER			DATE		
<i>[Signature]</i>			9-6-84		

NOTE:
 1. FOR SEDIMENT CONTROL DETAILS, GENERAL NOTES, SEQUENCE OF OPERATIONS, APPROVAL AND CERTIFICATIONS, SEE SEDIMENT CONTROL DETAILS SHEET
 2. FOR FINAL GRADING SEE SHEET SD-7
 3. PERMANENT AND TEMPORARY SEEDING SHALL BE IN ACCORDANCE WITH PAGE 30.01 - 31.08 OF THE STANDARDS AND SPECIFICATION FOR EROSION CONTROL & SEDIMENT CONTROL IN DEVELOPING AREAS, USDA.

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
[Signature] PLANNING DIRECTOR DATE 9-6-84
[Signature] CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE 9-6-84



STONE OUTLET SEDIMENT TRAP
 DRAINAGE AREA 3.8 AC
 REQUIRED STORAGE 6540 CF
 STORAGE PROVIDED 7200 CF
 TRAP DIMENSIONS 30'x40'x6' DEEP
 BOTTOM ELEV. 355.82
 CLEANOUT ELEV. 361.82
 CREST ELEV. 364.82

Reviewed for *[Signature]* S.C.D.
 Name
 and meets Technical Requirements
[Signature] Date 9-24-84
 Signature
 U.S. Soil Conservation Service

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

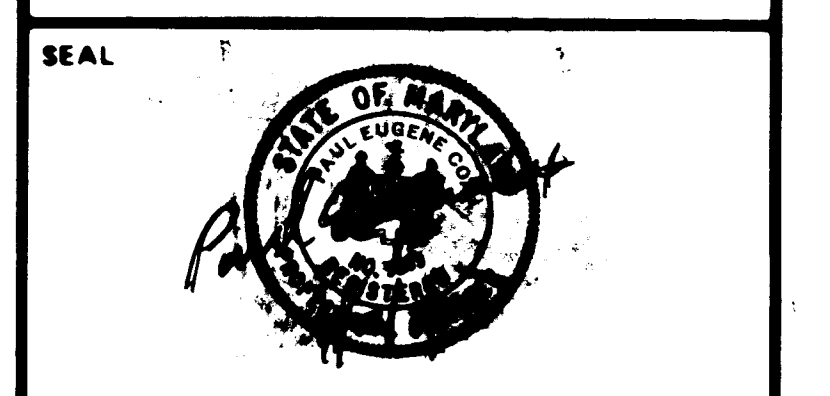
Approved: *[Signature]* Date 9-24-84
 Howard S.C.D.

WHITNEY BAILEY FOX MAGNANI CONSULTING ENGINEERS
 Suite 311 Green Spring Station
 2360 West Joppo Road
 Lutherville, Maryland 21093
 301-296-4200

OWNER:
W.R. GRACE & CO.
 7379 ROUTE 32
 COLUMBIA, MD 21044

APPROVED
 DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
 HOWARD COUNTY, MARYLAND
 DATE 8-14-84

NO	DATE	DESCRIPTION



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DESIGNED	PD
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CHECKED	PEC

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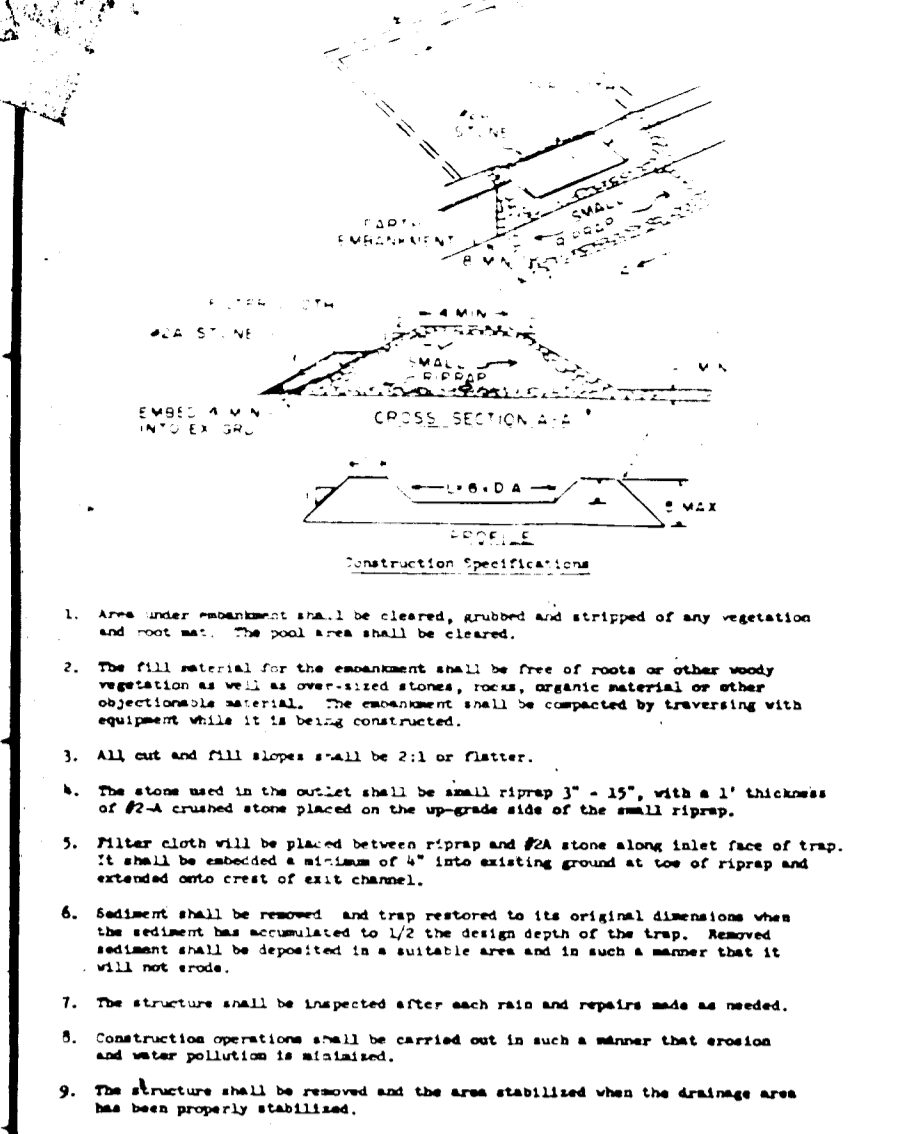
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 823 WEST LAWRENCE STREET
 APPLETON, WISCONSIN 54911

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 COLUMBIA, MARYLAND
 5th Election District
 Parcel 145 Tax Map 35
 Howard Co Md

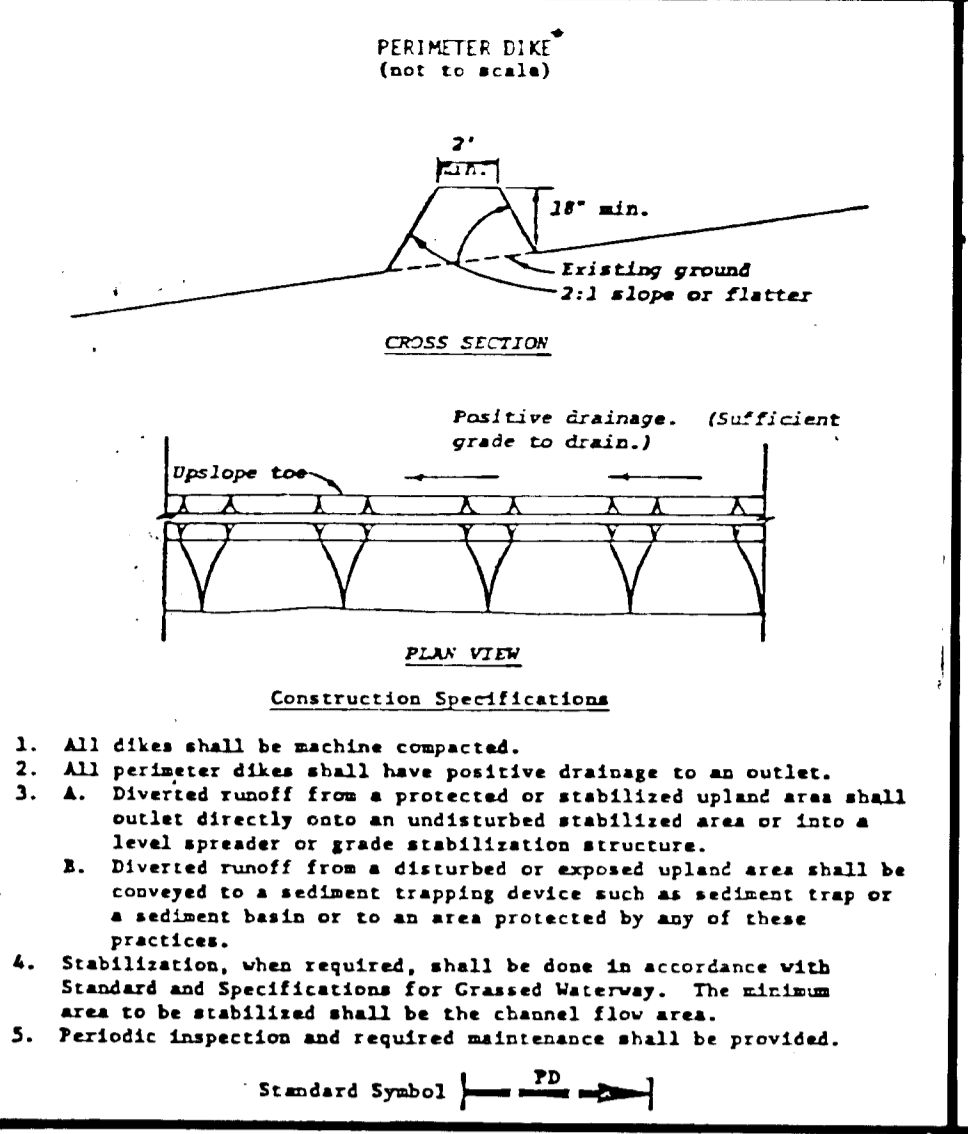
NEW RESEARCH BUILDING

SEDIMENT CONTROL PLAN

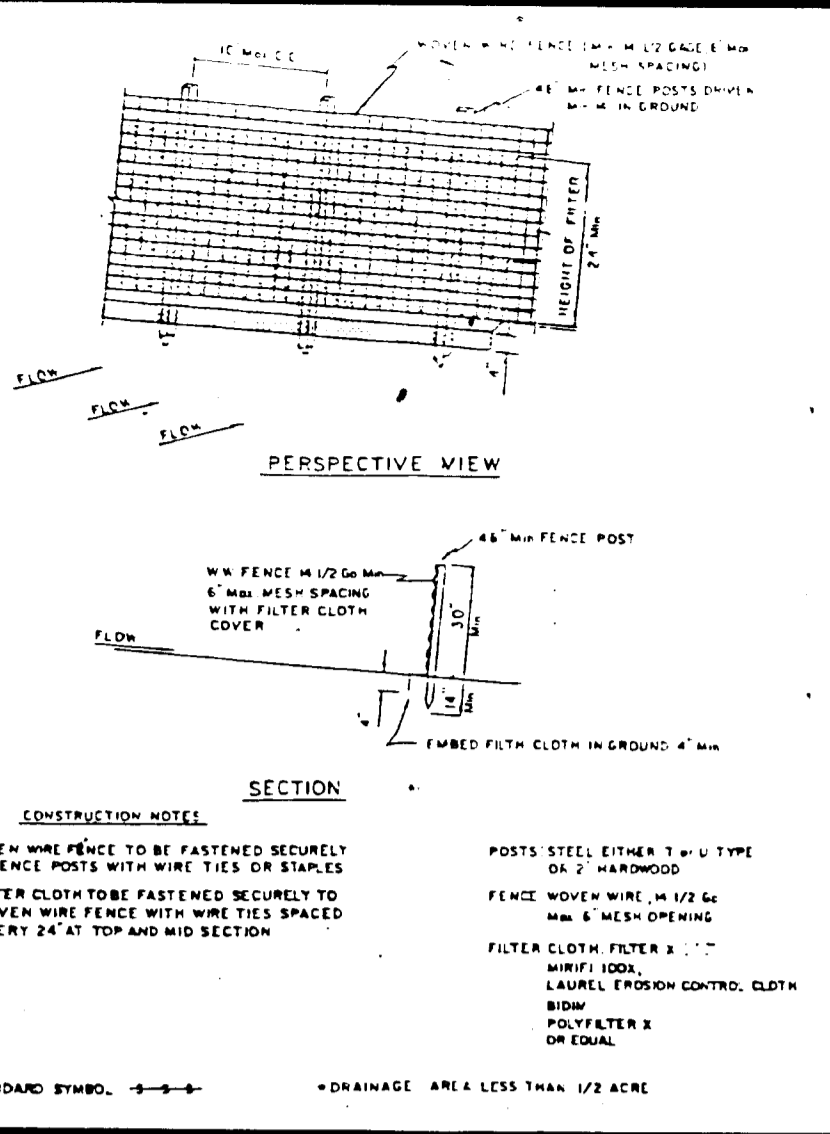
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SCALE	1" = 30'	DATE	5/30/84
8 OF 11		SDP-84-256	



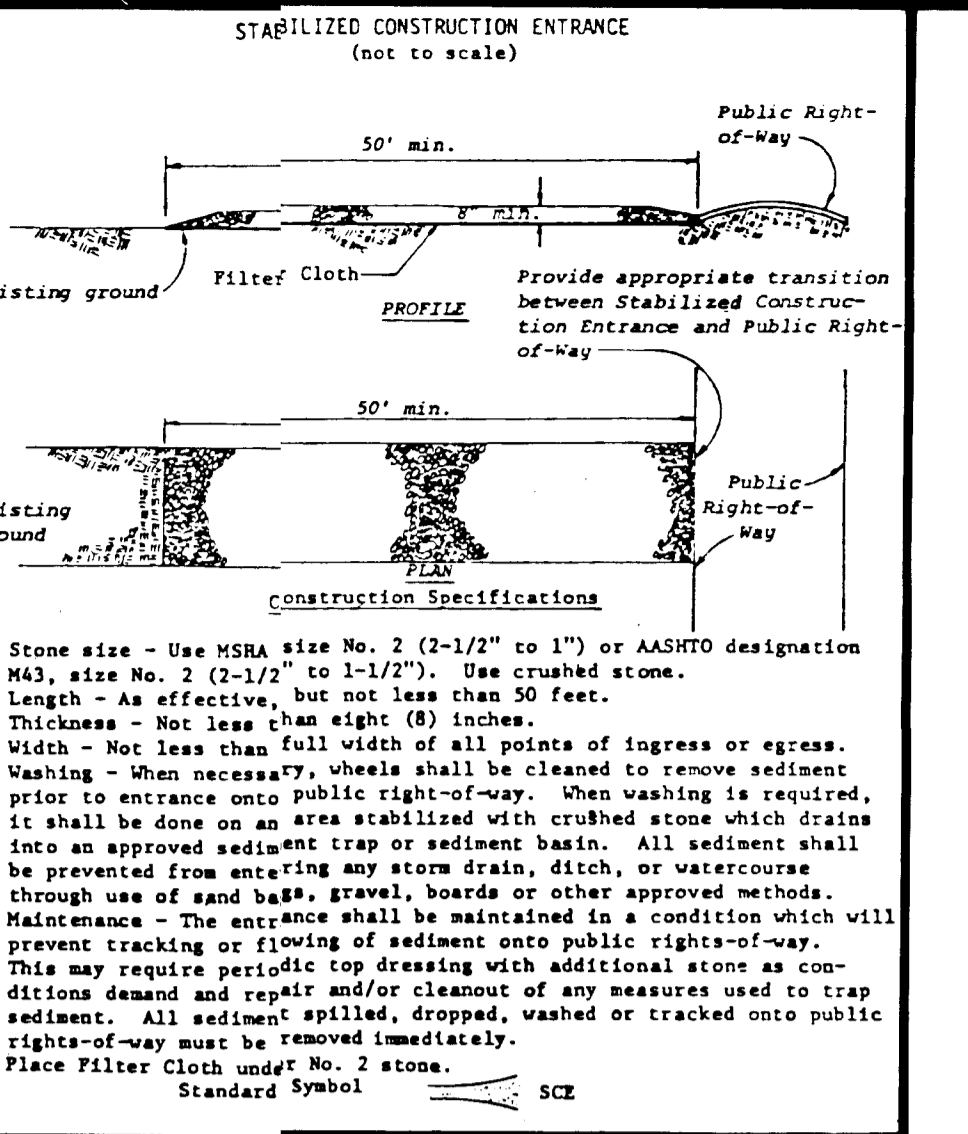
1 STONE OUTLET TRAP



2 PERIMETER DIKE



3 SILT FENCE

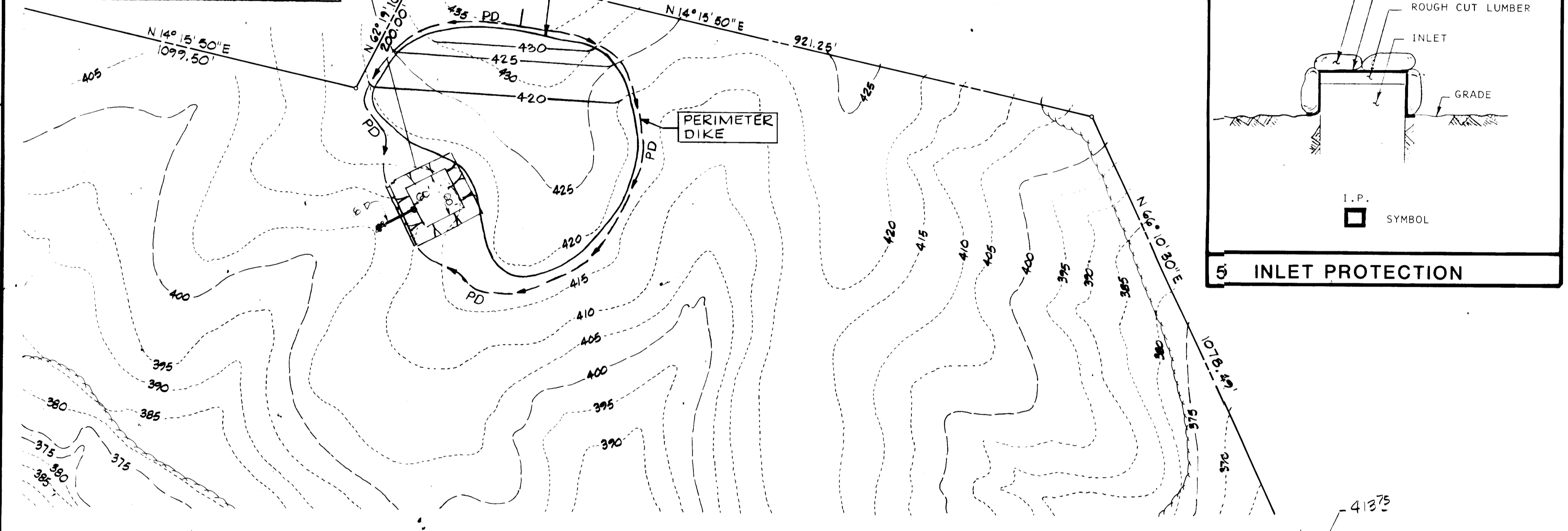


4 STABILIZED CONST. ENTR.

GENERAL NOTES:

- REFER TO USDA-SOIL CONSERVATION SERVICE "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS" FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED HEREIN.
- WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, MINOR FIELD ADJUSTMENTS CAN AND WILL BE MADE TO INSURE THE CONTROL OF ANY SEDIMENT. CHANGES IN SEDIMENT CONTROL PRACTICES REQUIRE PRIOR APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
- AT THE END OF EACH WORKING DAY, ALL SEDIMENT CONTROL PRACTICES WILL BE INSPECTED AND LEFT IN OPERATIONAL CONDITION.
- ANY DISTURBED EARTH LEFT FOR PERIODS EXCEEDING 30 DAYS SHALL BE STABILIZED ACCORDING TO TEMPORARY STABILIZATION SPECIFICATIONS.
- ANY CHANGE TO THE GRADING PROPOSED ON THIS PLAN REQUIRES RE-SUBMISSION TO HOWARD COUNTY SOIL CONSERVATION DISTRICT FOR APPROVAL.
- DUST CONTROL WILL BE PROVIDED FOR ALL DISTURBED AREAS. REFER TO USDA-SOIL CONSERVATION SERVICE "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS", PP 62.01 AND 62.02 FOR ACCEPTABLE METHODS AND SPECIFICATIONS FOR DUST CONTROL.
- ANY VARIATION FROM THE SEQUENCE OF OPERATIONS STATED ON THIS PLAN REQUIRES THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE HOWARD COUNTY SOIL CONSERVATION DISTRICT PRIOR TO THE INITIATION OF THE CHANGE.

PIPE OUTLET TRAP DATA
 DRAINAGE AREA = 2.5 AC.
 REQ'D STORAGE = 4500 C.F. + 21,144 C.F.
 PROP. STORAGE = 66,190 C.F. (60' x 60' x 7.25')
 BOT. ELEV. = 405.00
 CLEAN OUT ELEV. = 406.25'
 CREST ELEV. = 413.75'



BORROW AREA PLAN
 SCALE 1"=100'

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

J. Helms
 U.S. SOIL CONSERVATION SERVICE
 DATE 8-24-84

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

Robert W. Zich
 HOWARD SOIL CONSERVATION DISTRICT
 DATE 8-24-84

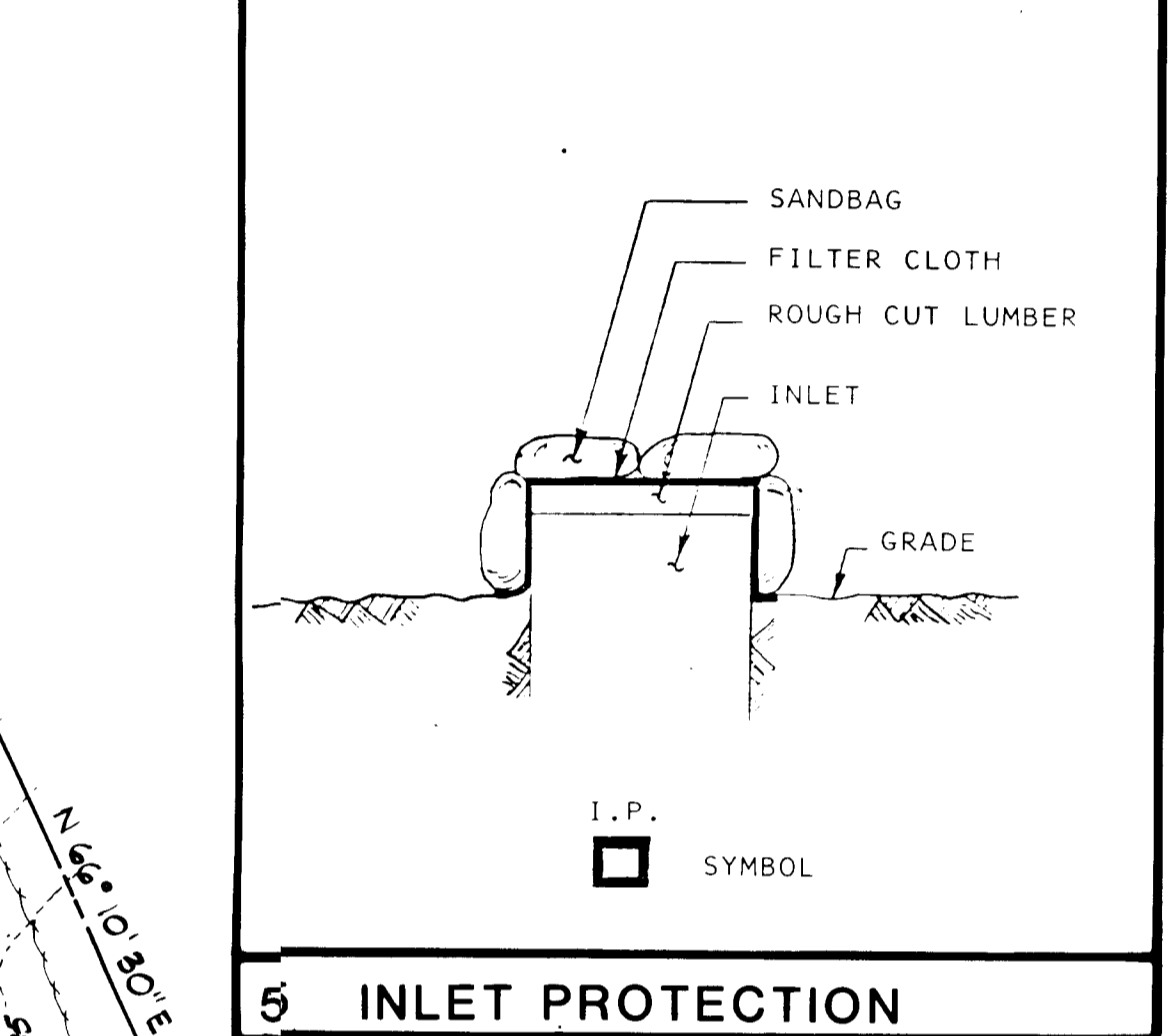
SEDIMENT CONTROL & POND CONSTRUCTION

BY THE DEVELOPER:
 "I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

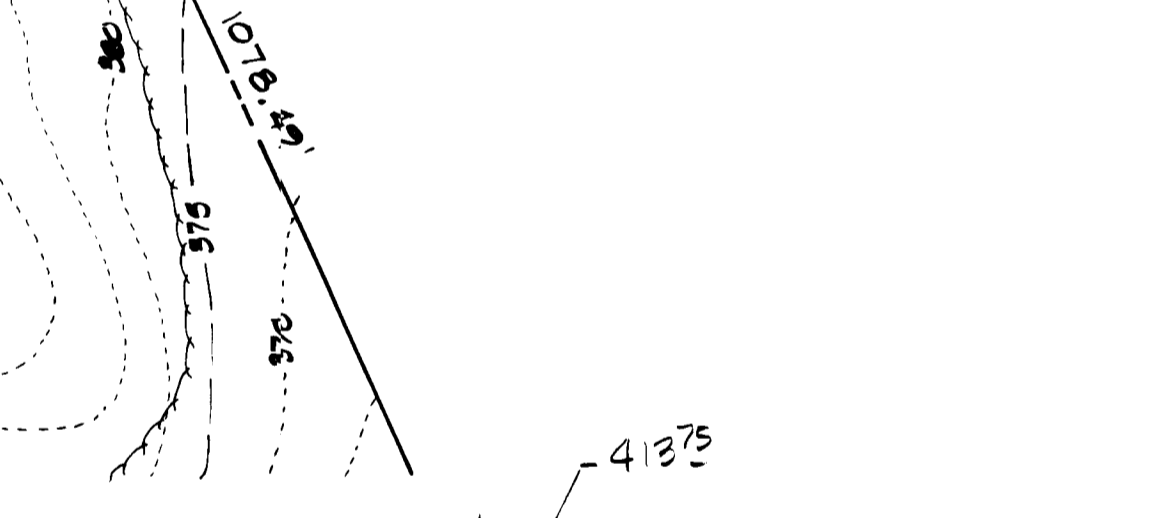
Frank Dubacov
 DATE April 2, 1984

BY THE ENGINEER:
 "I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD COUNTY SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

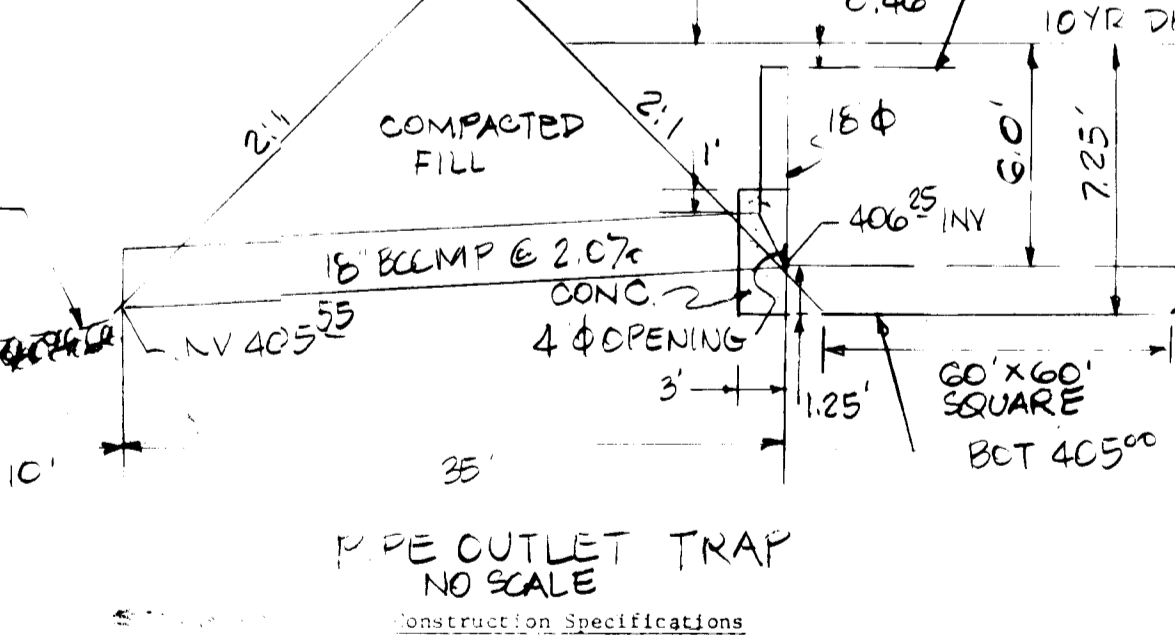
Paul Ingold
 ENGINEER
 DATE April 2, 1984



5 INLET PROTECTION



PIPE OUTLET TRAP
 NO SCALE



CONSTRUCTION SPECIFICATIONS

- Area under 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.
- Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- The structure shall be inspected after each rain and repairs made as needed.
- Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
- The structure shall be removed and area stabilized when the drainage area has been properly stabilized.
- All out and fill slopes shall be 2:1 or flatter.
- All pipe construction shall be as specified.
- At least one pipe shall be protected with 1/2 inch diameter rods spaced 2 inches apart and 4 inches horizontally.
- Fill material around the pipe shall be hand compacted in vertical layers. A minimum of two layers shall be placed over the pipe. The top layer shall be placed over the pipe and shall be hand compacted.

SEQUENCE OF OPERATIONS FOR EROSION AND SEDIMENT CONTROL

NO.	DESCRIPTION	TIME FOR COMPLETION
1.	NOTIFY HOWARD COUNTY SEDIMENT CONTROL INSPECTOR TWO WORKING DAYS PRIOR TO BEGINNING ANY WORK.	
2.	BEGIN MINOR CLEARING OPERATIONS FOR CONSTRUCTION OF SEDIMENT CONTROL MEASURES.....	2 DAYS
3.	BEGIN MINOR GRADING AS REQUIRED FOR SEDIMENT CONTROL.....	3 DAYS
4.	INSTALL SILT TRAPS, STABILIZED CONSTRUCTION ENTRANCE AND PERIMETER DIKES.....	1 WEEK
5.	CLEAR & GRUB SITE, STRIP TOPSOIL.....	2 WEEKS
6.	INSTALL STORM DRAINS AND INLET PROTECTION.....	2 WEEKS
7.	GRADE SITE.....	2 WEEKS
8.	CONSTRUCTION.....	6 MONTHS
9.	SEED AND MULCH OR SOD ALL DISTURBED AREAS OUTSIDE BUILDING AND PAVING AREAS, UNLESS NOTED OTHERWISE ON THE PLANS.....	3 DAYS
10.	UPON APPROVAL OF SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL MEASURES PRIOR TO SUBSTANTIAL COMPLETION....	1 WEEK
11.	ALL TIMES FOR COMPLETION ARE SUBJECT TO MODIFICATION.	

SUBDIVISION NAME W.R. GRACE	SECT./AREA -	LOT/PARCEL # P145
PLAT # 273/186	BLOCK # 22	ZONE RURAL
TAX/ZONE MAP 35	ELEC. DIST. 5TH	CENSUS TR. 6053.01
WATER CODE N/A	SEWER CODE N/A	

APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS.
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Wayne Nunn
 DIRECTOR
 DATE 8-29-84

W. R. Grace
 CHIEF, BUREAU OF ENGINEERING
 DATE 8-28-84

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
 HOWARD COUNTY HEALTH DEPARTMENT
John B. ...
 DATE 9-6-84

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
 PLANNING DIRECTOR
Thomas H. ...
 DATE 9-6-84

John M. ...
 DATE 9-6-84

WHITNEY BAILEY FOX MAGNANI CONSULTING ENGINEERS
 Suite 311 Green Spring Station
 2360 West Joppa Road
 Lutherville, Maryland 21093
 301-296-4200

OWNER:
 W.R. GRACE & CO.
 7379 ROUTE 32
 COLUMBIA, MD. 21044

APPROVED
 DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
 HOWARD COUNTY, MARYLAND
 DATE 8-14-84

NO.	DATE	DESCRIPTION

REVISIONS

SEAL
 STATE OF MARYLAND
 PROFESSIONAL ENGINEER
Wayne Nunn
 4/2/84

mb
 FIRM WBCM
 DESIGNED PD
 DRAWN CC
 CHECKED PEC

mark beck associates inc.
 architects . interior designers
 planners . space planning

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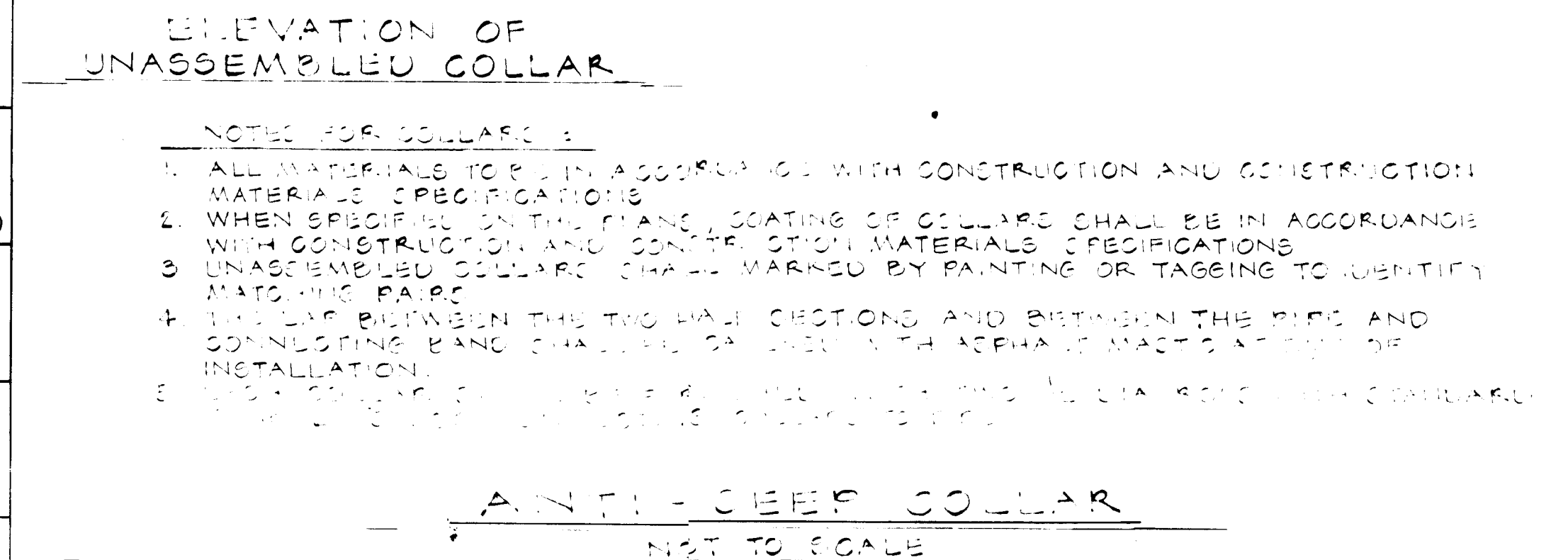
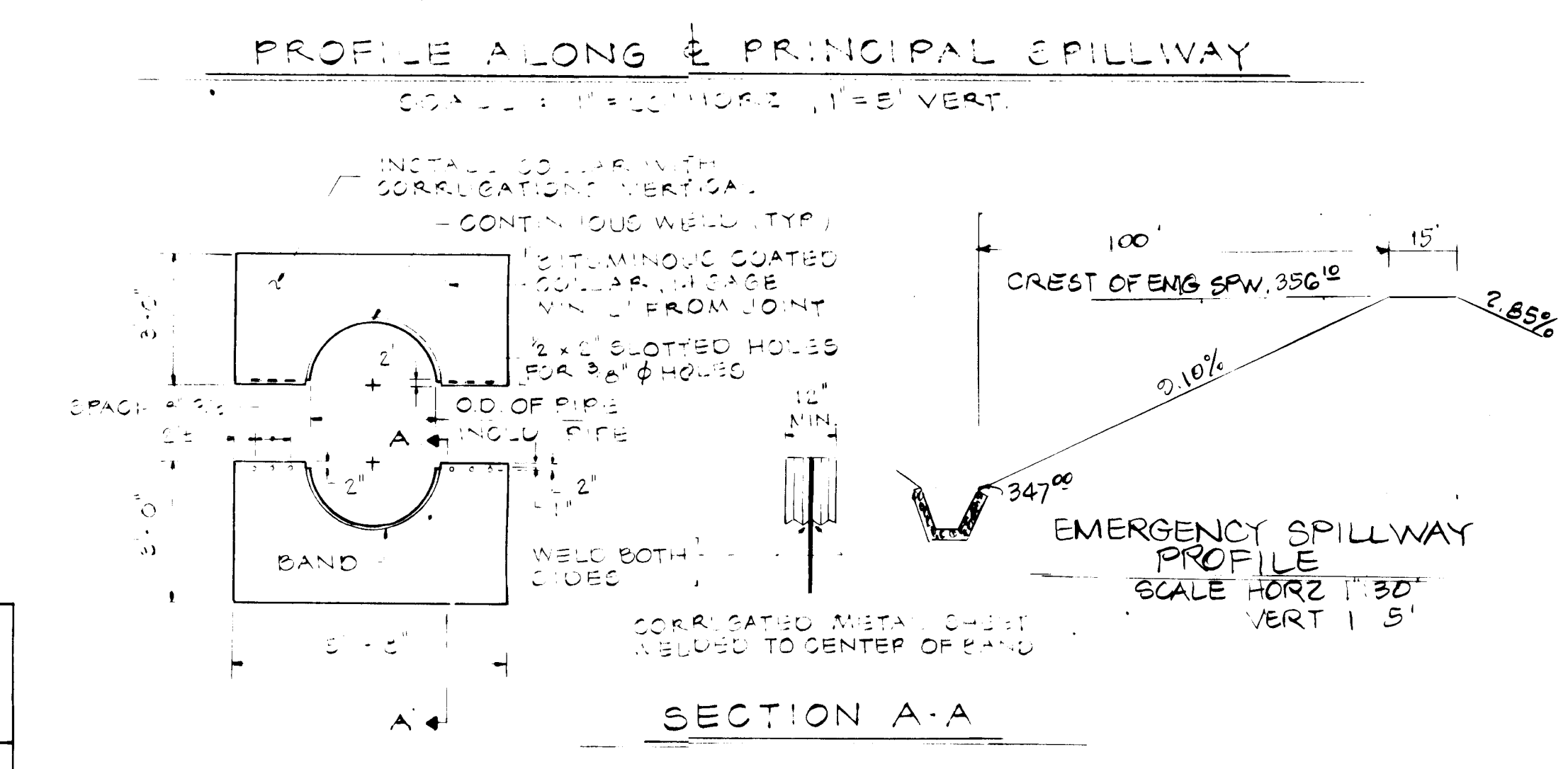
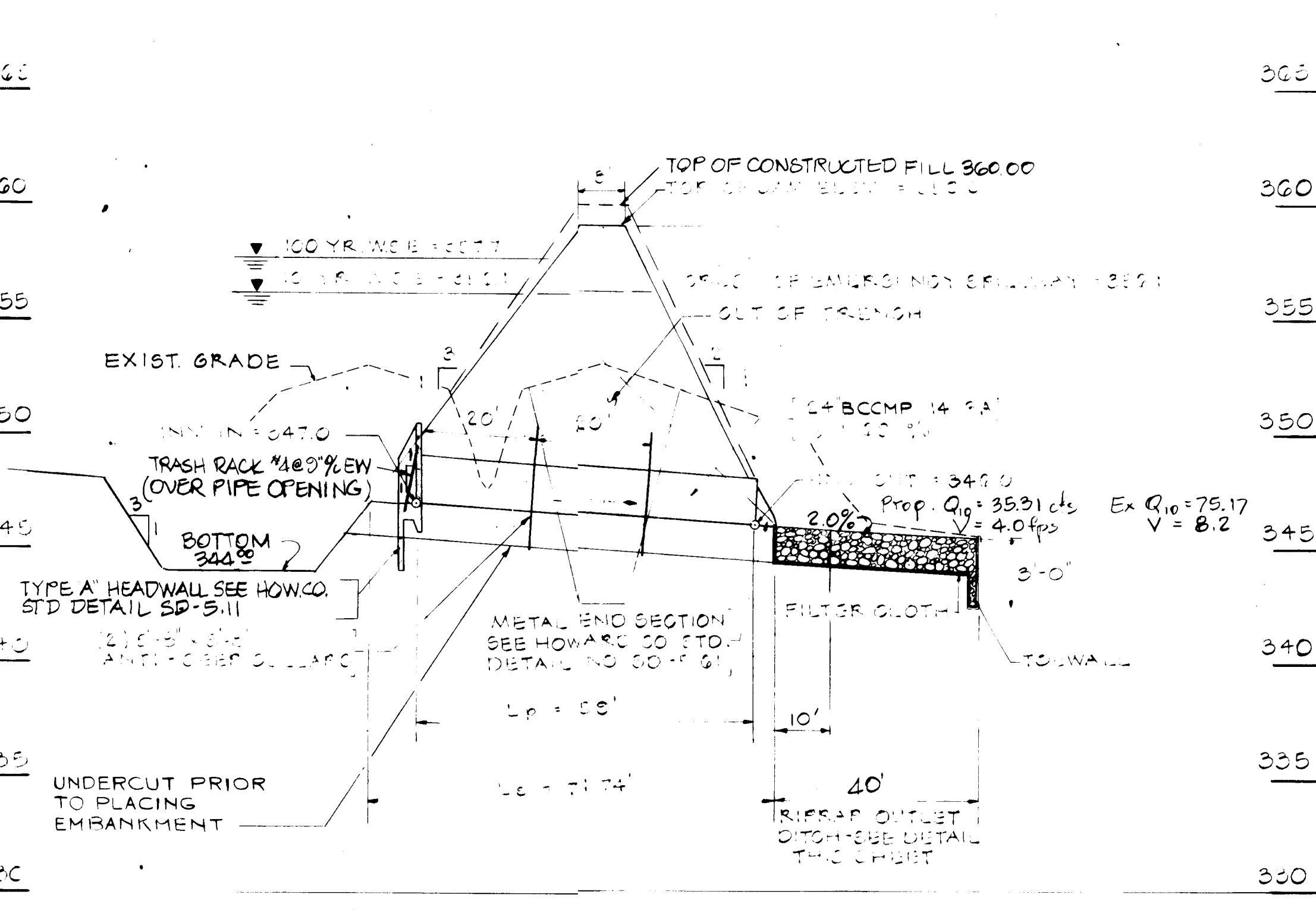
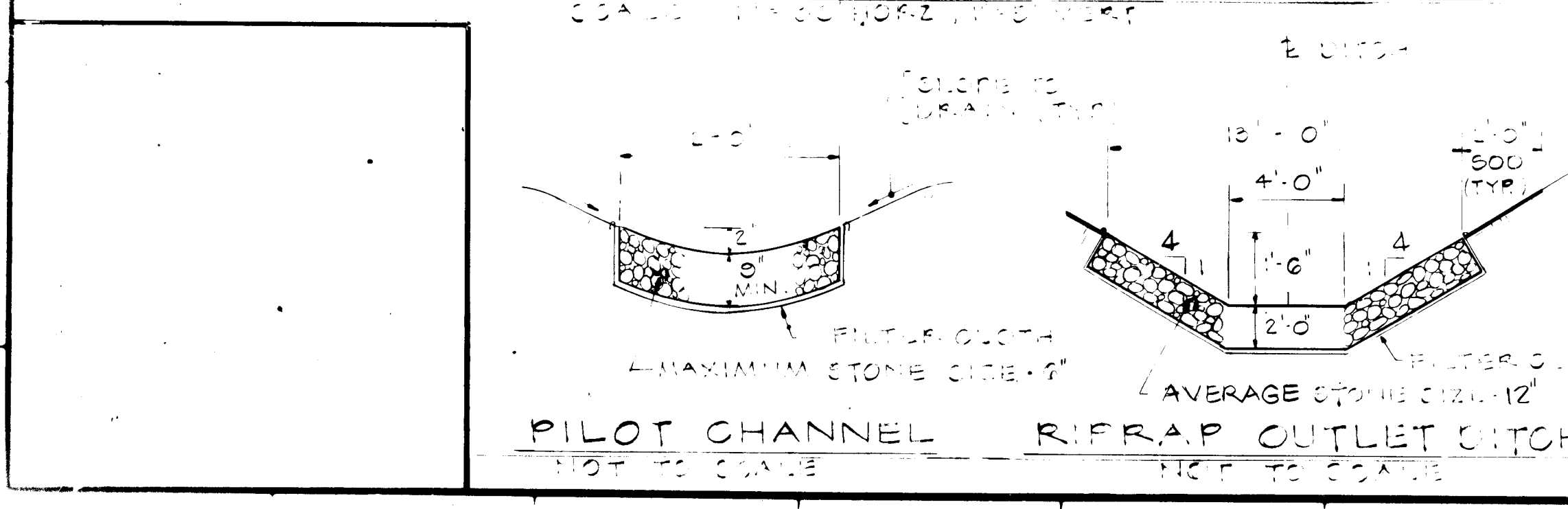
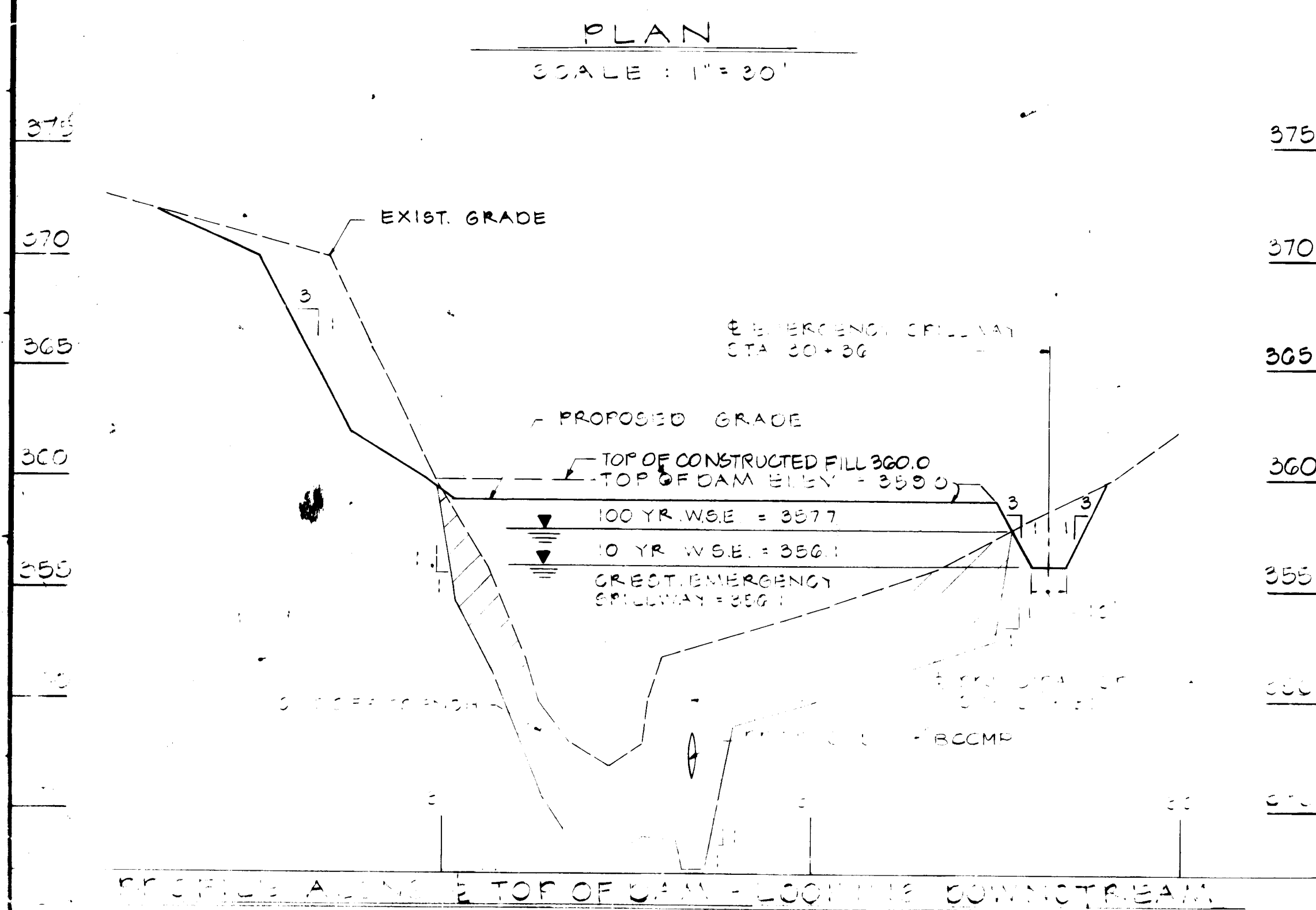
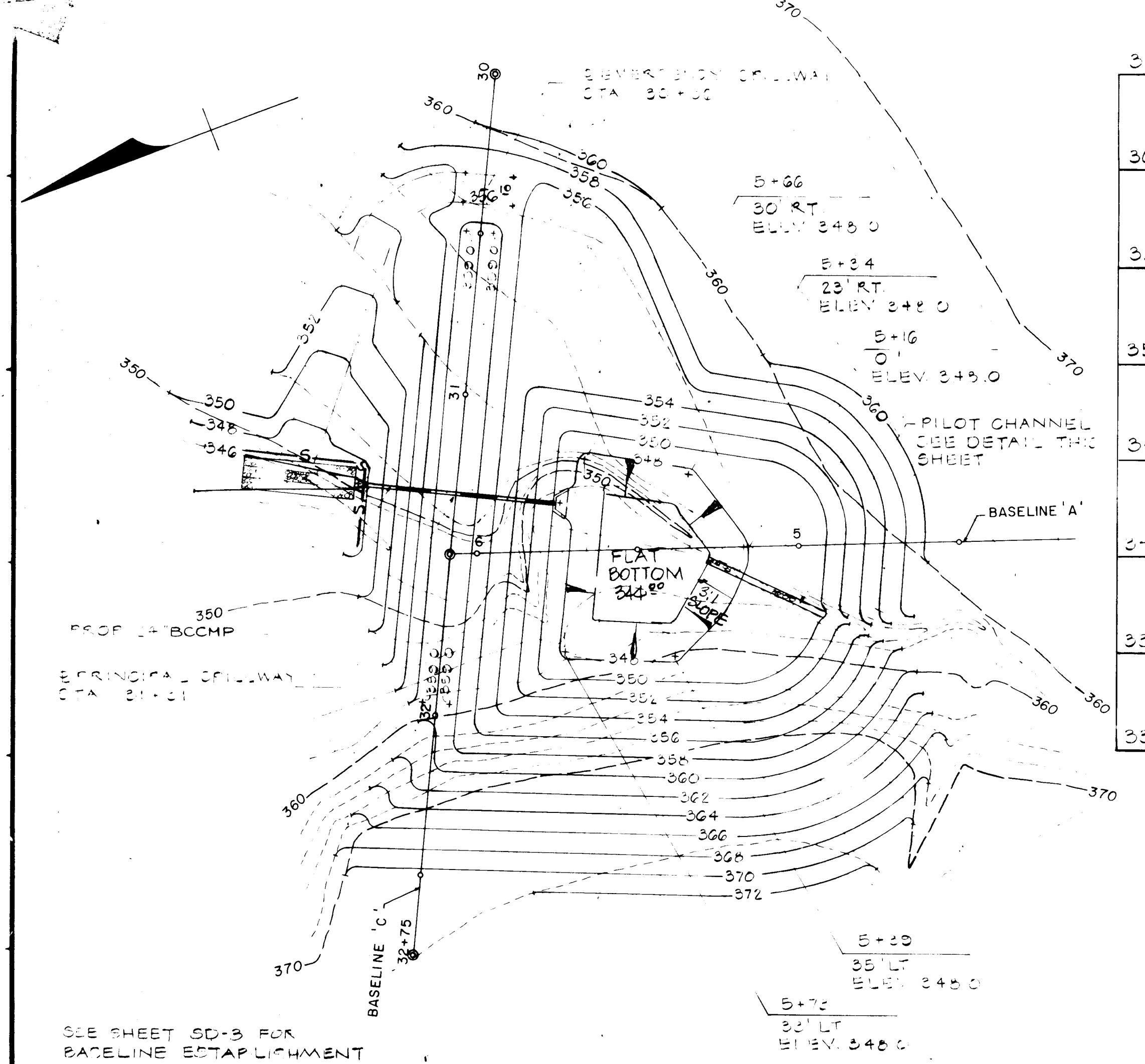
W.R. GRACE & CO.
 WASHINGTON RESEARCH CTR.
 COLUMBIA, MARYLAND
 5th Elect. Dist.
 Parcel 45, Block 22
 Joppa Rd. 10

NEW RESEARCH BUILDING

SEDIMENT CONTROL FOR BORROW AREA AND DETAILS

JOB NO 8405
 SCALE NO SCALE
 DATE 5/30/84
 DRAWING SD-9
 9 OF 11

SDP-84-256



<p>APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS</p> <p>HOWARD COUNTY HEALTH DEPARTMENT</p> <p>DATE: 9-6-84</p>	<p>BY THE DEVELOPER:</p> <p>"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD COUNTY SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."</p> <p>DATE: April 2, 1984</p>
<p>APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING</p> <p>DATE: 9-6-84</p>	<p>BY THE ENGINEER:</p> <p>"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND Viable PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD COUNTY SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."</p> <p>DATE: April 2, 1984</p>
<p>APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS</p> <p>DATE: 8-28-84</p>	<p>THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.</p> <p>DATE: 8-21-84</p>

SITE PREPARATION

AREAS UNDER THE EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED AND GRUBBED. THE TOPSOIL SHALL BE STRIPPED TO REMOVE ALL TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIAL. CHANNEL BANKS AND STEEP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1.

AREAS COVERED BY THE POND WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS.

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE DAM AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.

EARTH FILL

MATERIAL - THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREA OR AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, OVERSIZE STONES, FROZEN OR OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE CONSTRUCTED TO AN ELEVATION WHICH PROVIDES FOR ANTICIPATED SETTLEMENT TO THE DESIGN ELEVATION. THE FILL HEIGHT ALL ALONG THE LENGTH OF THE EMBANKMENT SHALL BE INCREASED ABOVE THE DESIGN ELEVATION (INCLUDING FREEBOARD) AS SHOWN ON THE PLANS. RELATIVELY PERVIOUS MATERIALS SUCH AS SAND AND GRAVEL CONFINED SOIL CLASSES OR SW-6 AND SW-7 SHALL NOT BE PLACED IN THE EMBANKMENT.

PLACEMENT - AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN 8-INCH MAXIMUM THICKNESS (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST POROUS MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT.

COMPACTION - THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE EXPOSED SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF THE EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TIED OR TIRE-TRACKED ROLLER. THE REQUIRED DEGREE OF COMPACTION SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION CAN BE OBTAINED WITH THE EQUIPMENT USED.

CUTOFF TRENCH AND CORE WALL - WHERE SPECIFIED, A CUTOFF TRENCH SHALL BE EXCAVATED ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE SIX FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE 1 TO 1 OR FLATTER. THE BACKFILL MATERIAL FOR THE CUTOFF TRENCH AND CORE WALL SHALL BE THE MOST IMPROVISED MATERIAL AVAILABLE AND SHALL BE COMPACTED WITH EQUIPMENT OR ROLLERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY. TRENCH SHALL BE WATERED DURING BACKFILLING/COMPACTION OPERATIONS.

CONCRETE

MATERIALS

- CEMENT - NORMAL PORTLAND CEMENT SHALL CONFORM TO THE LATEST ASTM SPECIFICATION C-150.
- WATER - THE WATER USED IN CONCRETE SHALL BE CLEAN, FREE FROM OIL, ACID, ALKALI, SCALES, ORGANIC MATTER OR OTHER OBJECTIONABLE SUBSTANCES.
- SAND - THE SAND USED IN CONCRETE SHALL BE CLEAN, HARD, STRONG AND DURABLE, AND SHALL BE WELL GRADED WITH 100 PERCENT PASSING A ONE-QUARTER INCH SIEVE. LIMESTONE SAND SHALL NOT BE USED.
- COARSE AGGREGATE - THE COARSE AGGREGATE SHALL BE CLEAN, HARD, STRONG AND DURABLE, AND FREE FROM CLAY OR DIRT. IT SHALL BE WELL GRADED WITH A MAXIMUM SIZE OF ONE AND ONE-HALF (1-1/2) INCHES.
- REINFORCING STEEL - THE REINFORCING STEEL SHALL BE DEFORMED BARS OF INTERMEDIATE GRADE AND WIRE FABRIC CONFORMING TO ASTM SPECIFICATION A-815.

DESIGN MIX - THE CONCRETE SHALL BE MIXED IN THE FOLLOWING PROPORTIONS, MEASURED BY WEIGHT. THE WATER-CEMENT RATIO SHALL BE 5-1/2 TO 6 U.S. GALLONS OF WATER PER 94 POUND BAG OF CEMENT. THE PROPORTION OF MATERIALS FOR THE TRIAL MIX SHALL BE 1:2:3 1/2. THE COMBINATION OF AGGREGATES MAY BE ADJUSTED TO PRODUCE A PLASTIC AND WORKABLE MIX THAT WILL NOT PRODUCE WASHES IN PLACING OR HONEYCOMBING IN THE STRUCTURE.

MIXING - THE CONCRETE INGREDIENTS SHALL BE MIXED IN BATCH MIXERS UNTIL THE MIXTURE IS HOMOGENEOUS AND OF UNIFORM CONSISTENCY. THE MIXING OF EACH BATCH SHALL CONTINUE FOR NOT LESS THAN ONE AND ONE-HALF (1 1/2) MINUTES AFTER ALL THE INGREDIENTS, EXCEPT THE FULL AMOUNT OF WATER, ARE IN THE MIXER. THE MINIMUM MIXING TIME INDICATED ON PROPER CONTROL OF THE SPEED OF ROTATION OF THE MIXER AND OF THE INTRODUCTION OF THE MATERIALS, INCLUDING WATER, INTO THE MIXER. WATER SHALL BE ADDED PRIOR TO, DURING, AND FOLLOWING THE MIXER-CHARGING OPERATIONS. EXCESSIVE OVERMIXING REQUIRING THE ADDITION OF WATER TO PRESERVE THE REQUIRED CONCRETE CONSISTENCY SHALL NOT BE PERMITTED. TRUCK MIXING WILL BE ALLOWED PROVIDED THAT THE USE OF THIS METHOD SHALL CAUSE NO VIOLATION OF ANY APPLICABLE PROVISIONS OF THE SPECIFICATIONS GIVEN HERE.

REINFORCING STEEL - ALL REINFORCING MATERIAL SHALL BE FREE OF DIRT, RUST, SCALE, OIL, PAINT OR ANY OTHER COATINGS. THE STEEL SHALL BE ACCURATELY PLACED AND SECURELY TIED AND BLOKED INTO POSITION SO THAT NO MOVEMENT OF THE STEEL WILL OCCUR DURING PLACEMENT OF CONCRETE.

CONSOLIDATING - CONCRETE SHALL BE CONSOLIDATED WITH INTERNAL TYPE MECHANICAL VIBRATORS. VIBRATION SHALL BE SUPPLEMENTED BY SPADING AND HAND TAMPING AS NECESSARY TO INSURE SMOOTH AND DENSE CONCRETE ALONG FOM SURFACES, IN CORNERS, AND AROUND EMBEDDED ITEMS.

FINISHING - DEFECTIVE CONCRETE, HONEYCOMBED AREAS, VOIDS LEFT BY THE REMOVAL OF THE RODS, RIDGES ON ALL CONCRETE SURFACES PERMANENTLY EXPOSED TO VIEW OR EXPOSED TO WATER ON THE FINISHED STRUCTURE, SHALL BE REPAIRED IMMEDIATELY AFTER THE REMOVAL OF FORMS. ALL VOIDS SHALL BE REAMED AND COMPLETELY FILLED WITH DRY-PACKING MIXTURE.

PROTECTION AND CURING - EXPOSED SURFACES OF CONCRETE SHALL BE PROTECTED FROM THE DIRECT RAYS OF THE SUN FOR AT LEAST THE FIRST THREE (3) DAYS. ALL CONCRETE SHALL BE KEPT CONTINUOUSLY MOIST FOR AT LEAST TEN (10) DAYS AFTER BEING PLACED. MOISTURE MAY BE APPLIED BY SPRAYING OR SPRINKLING AS NECESSARY TO PREVENT THE CONCRETE FROM DRYING. CONCRETE SHALL NOT BE EXPOSED TO FREEZING DURING THE CURING PERIOD. CURING COMPOUNDS MAY ALSO BE USED.

PLACING TEMPERATURE - CONCRETE MAY NOT BE PLACED AT TEMPERATURE BELOW DEGREES F WITH THE TEMPERATURE FALLING, OR 34 DEGREES WITH THE TEMPERATURE RISING.

STRUCTURAL BACKFILL

BACKFILL MATERIAL SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER COMPACTION EQUIPMENT. THE MATERIAL NEEDS TO FILL COMPLETELY ALL SPACES UNDER AND ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR DRIVE EQUIPMENT OVER ANY PART OF A CONCRETE STRUCTURE OR PIPE UNLESS THERE IS A COMPACTED FILL OF TWENTY-FOUR INCHES OR GREATER OVER THE STRUCTURE OR PIPE.

STABILIZATION

ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY SLOPED CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPOIL AND BORROW AREAS AND BERMS SHALL BE STABILIZED BY SEEDING, FERTILIZING AND MULCHING (IF REQUIRED) IN ACCORDANCE WITH THE VEGETATIVE TREATMENT SPECIFICATIONS SHOWN ON OR ACCOMPANYING THE DRAWINGS.

CORROGATED METAL PIPE:

MATERIALS: (STEEL PIPE) - THIS PIPE AND ITS APPURTENANCES SHALL BE GALVANIZED AND PAINTED BITUMINOUS COATED AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATIONS M-158 TYPE A WITH WATER TIGHT COUPLING BANDS. ANY BITUMINOUS COATING DAMAGED OR OTHERWISE REMOVED SHALL BE REPLACED WITH COOL APPLIED BITUMINOUS COATING COMPOUND.

CONNECTIONS: ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATER TIGHT. THE DRAIN PIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL. WATER TIGHT COUPLING BANDS SHALL BE USED AT ALL JOINTS. ANTI-DEEP COLLARS SHALL BE CONNECTED TO THE PIPE IN SUCH A MANNER AS TO BE COMPLETELY WATER TIGHT. COUPLING BANDS ARE NOT CONSIDERED A WATER TIGHT CONNECTION.

BEDDING: THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH IN A SPOKE LENGTH IN WHERE ROCK OR OTHER TABULAR SOIL IS ENCOUNTERED. ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.

WHITNEY CONSULTING ENGINEERS
SAILEY
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MAGNANI
 Suite 311 Green Spring Station
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 Lutherville, Maryland 21093
 301-296-4200

OWNER:
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 7379 ROUTE 32
 COLUMBIA, MD. 21044

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 8-14-84

NO	DATE	DESCRIPTION
1	4/25/84	RIP RAP OUTFALL

REVISIONS

SEAL

STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
 PAUL J. GRACE
 8/17

FIRM
 WBCM
DESIGNED
 PD
DRAWN
 CC
CHECKED
 PEC

mark beck associates inc.
 architects . interior designers
 planners . space planning

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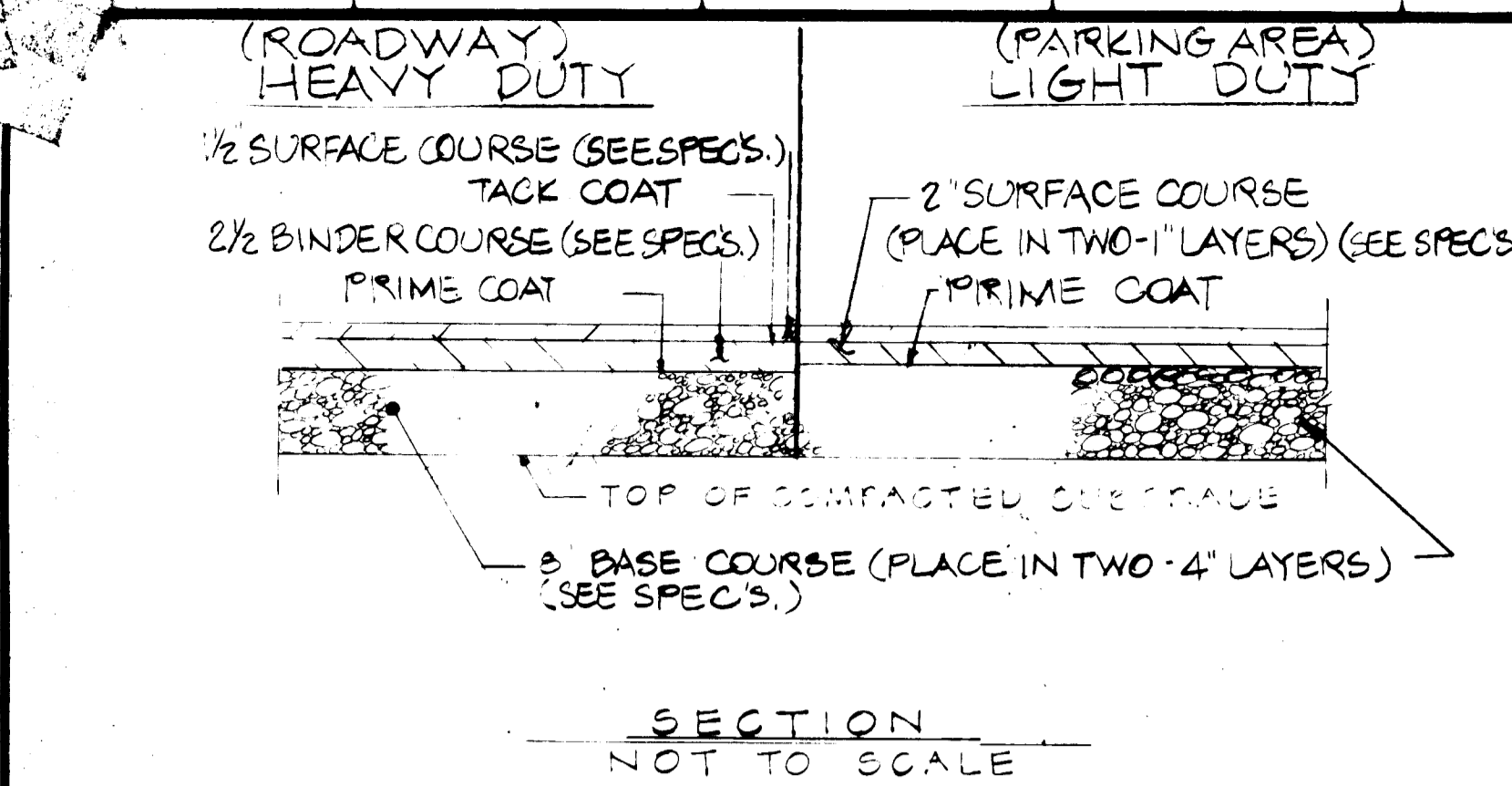
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ARCHITECTS, LTD.

W.R. GRACE & CO.
WASHINGTON RESEARCH CTR.
COLUMBIA, MARYLAND
 5th Election District
 Parcel 145 Tax Map 25
 Howard Co Md
NEW RESEARCH BUILDING

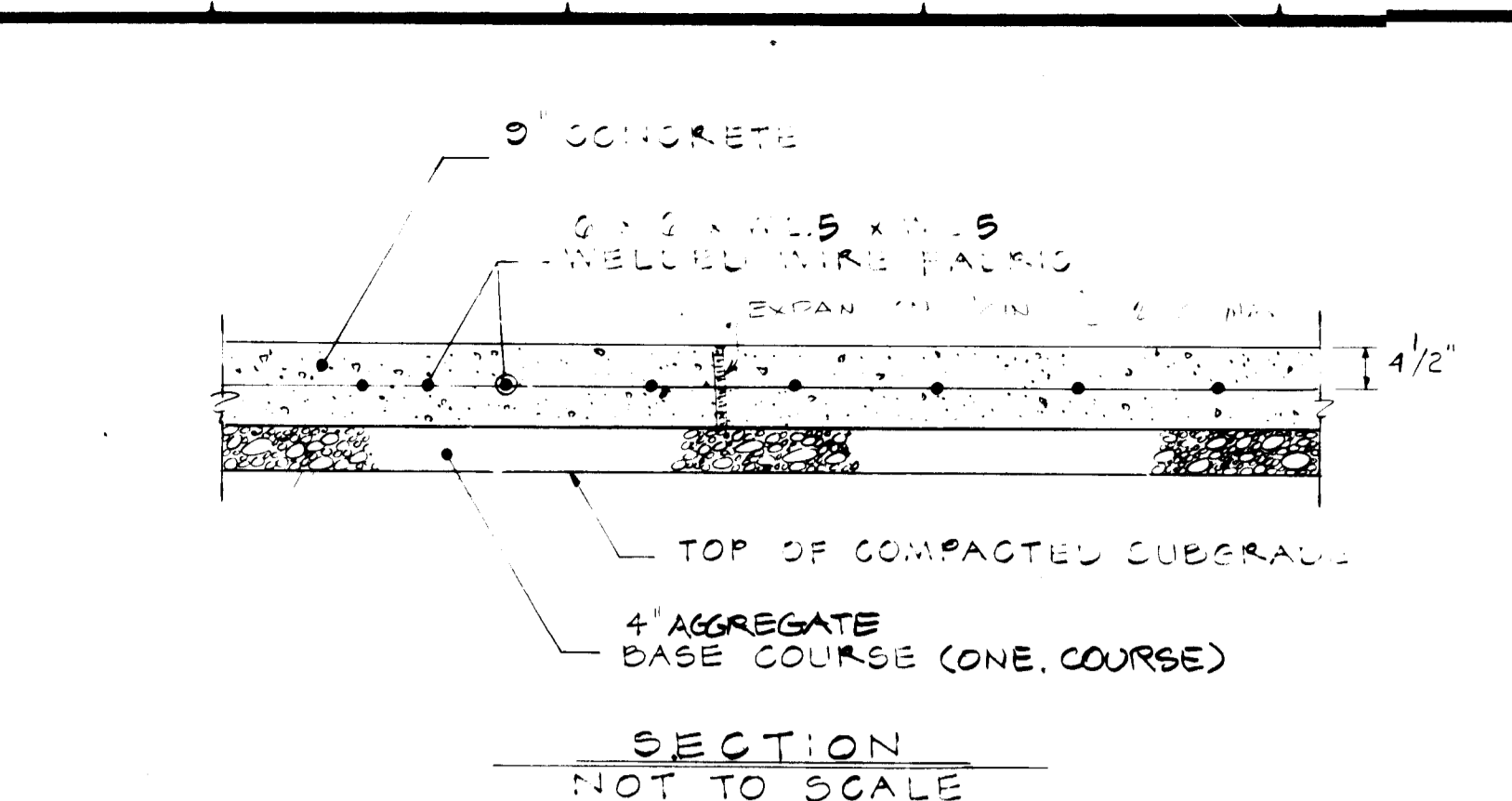
STORM WATER MANAGEMENT PLAN
SDP-84-256

JOB NO 8405
SCALE AS NOTED
DATE 5/30/84

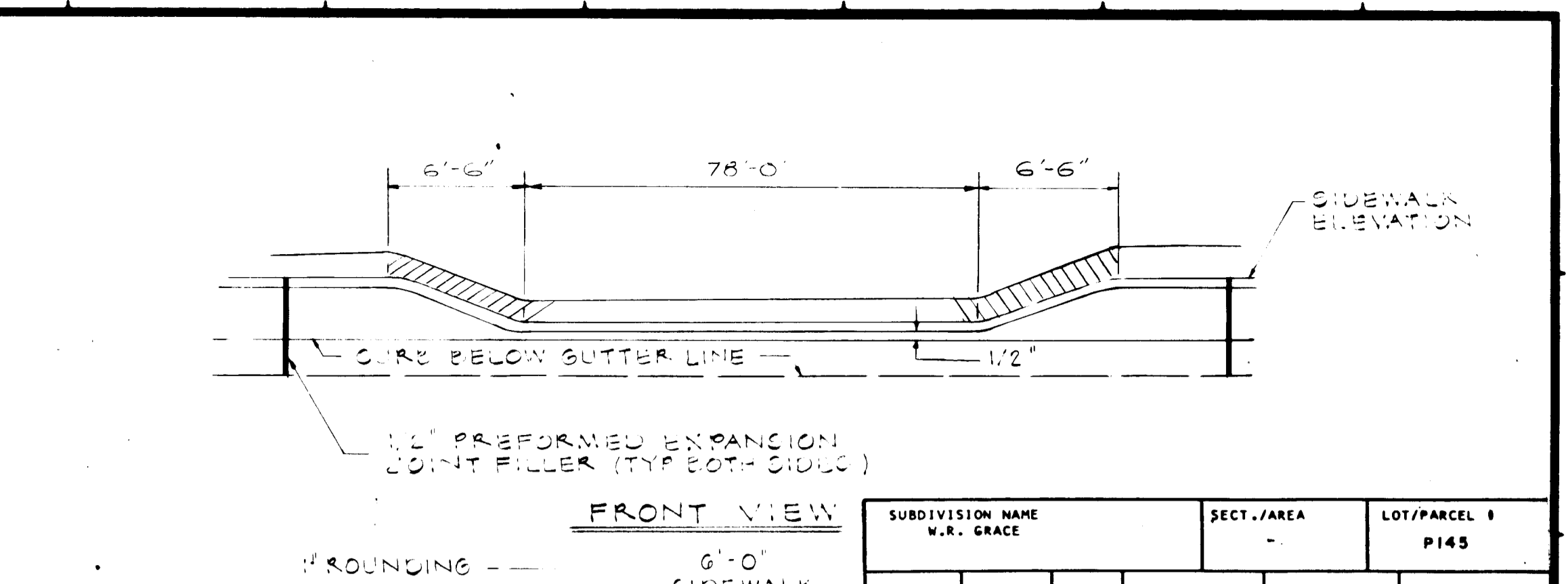
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SD-10
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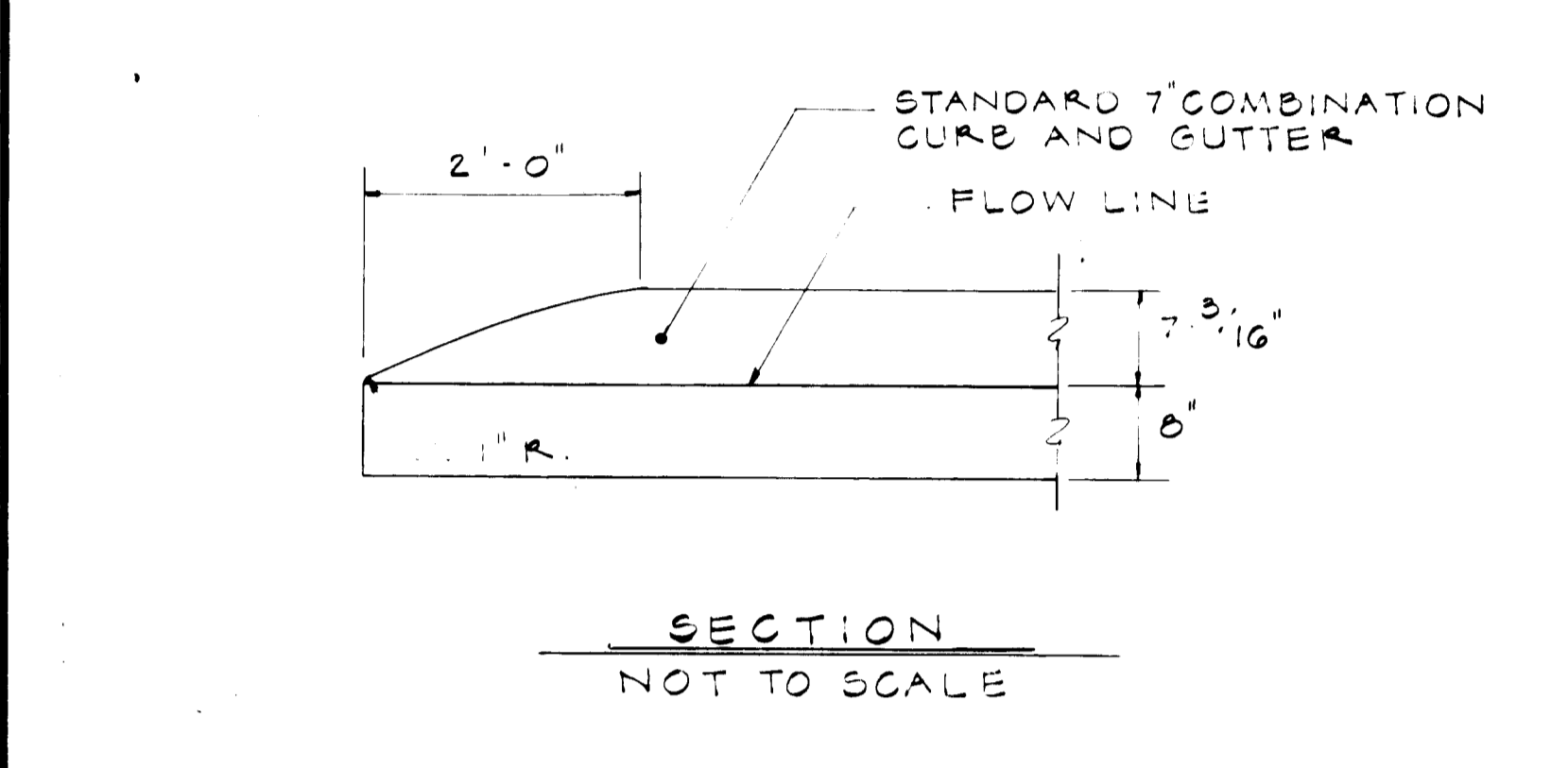
1. BITUMINOUS CONCRETE PAVING



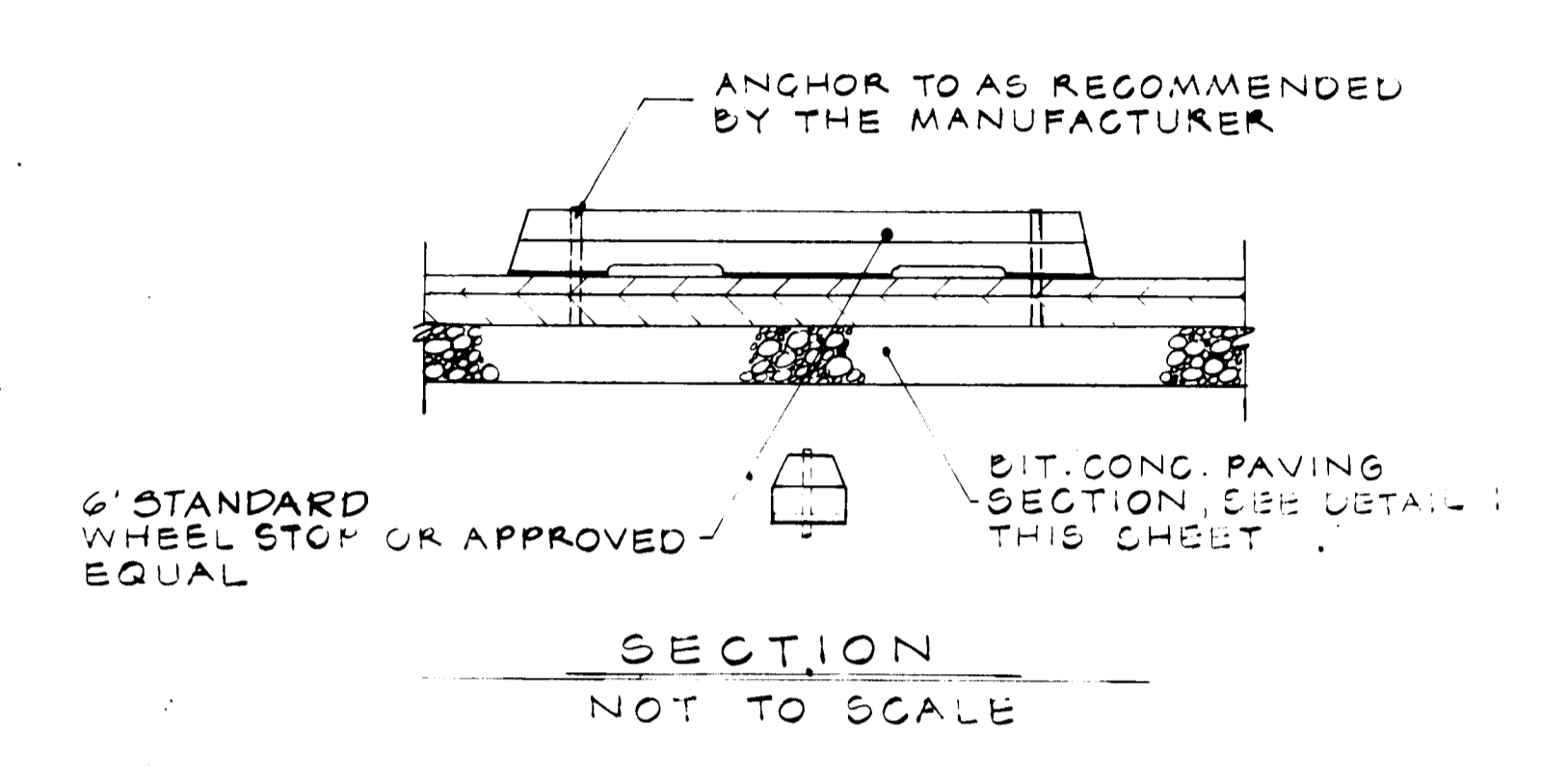
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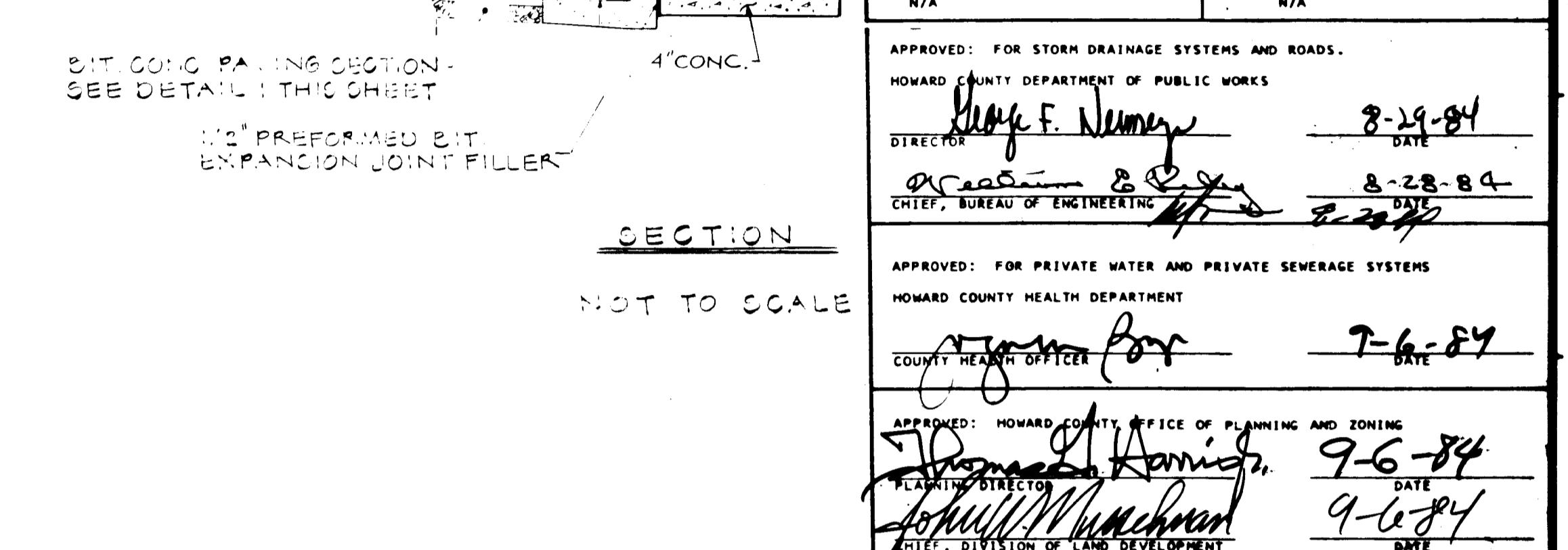
3. DEPRESSED CURB DETAIL



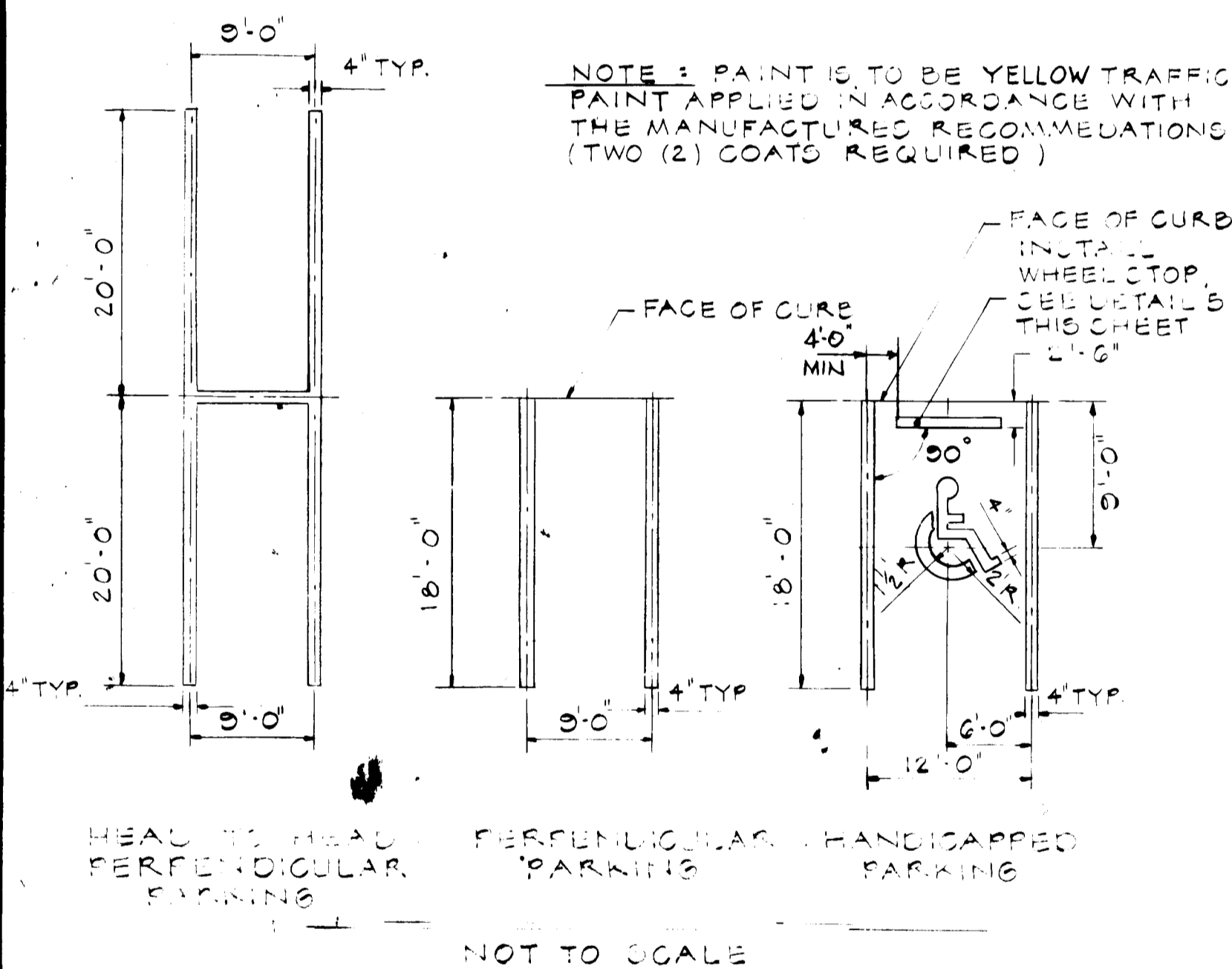
4. NOSE DOWN CURB DETAIL



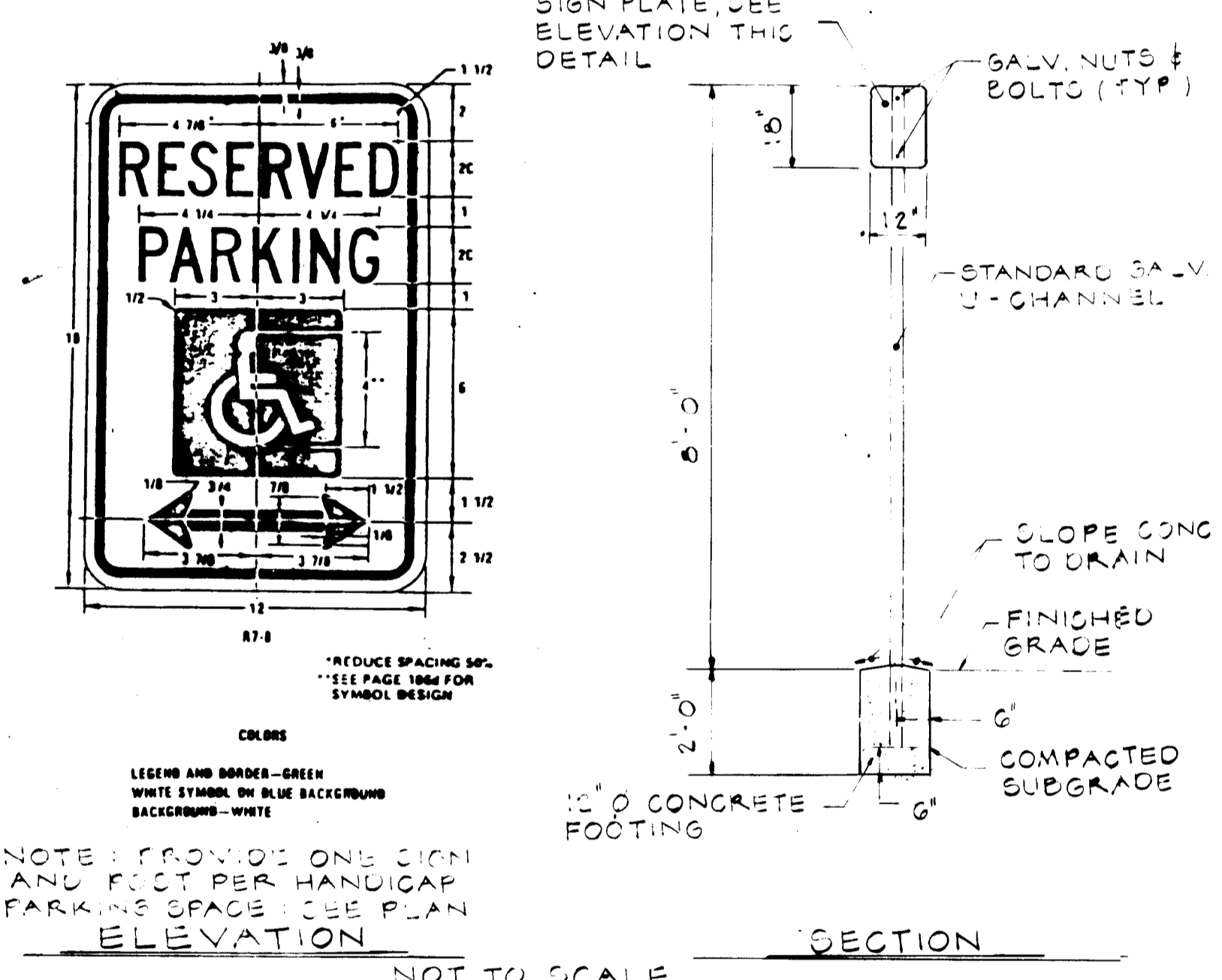
5. WHEEL STOP DETAIL



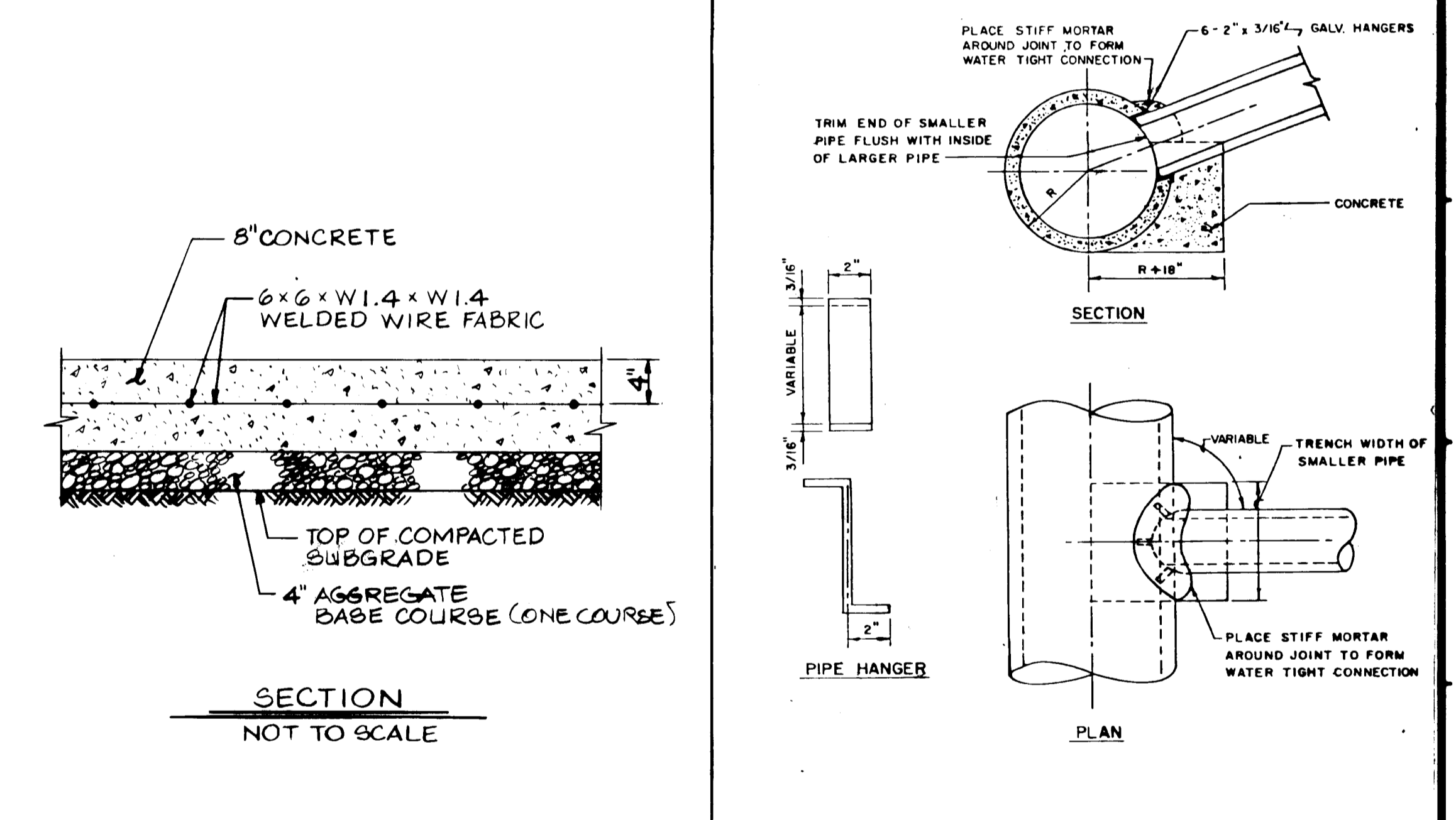
3. DEPRESSED CURB DETAIL



6. PAVEMENT MARKINGS



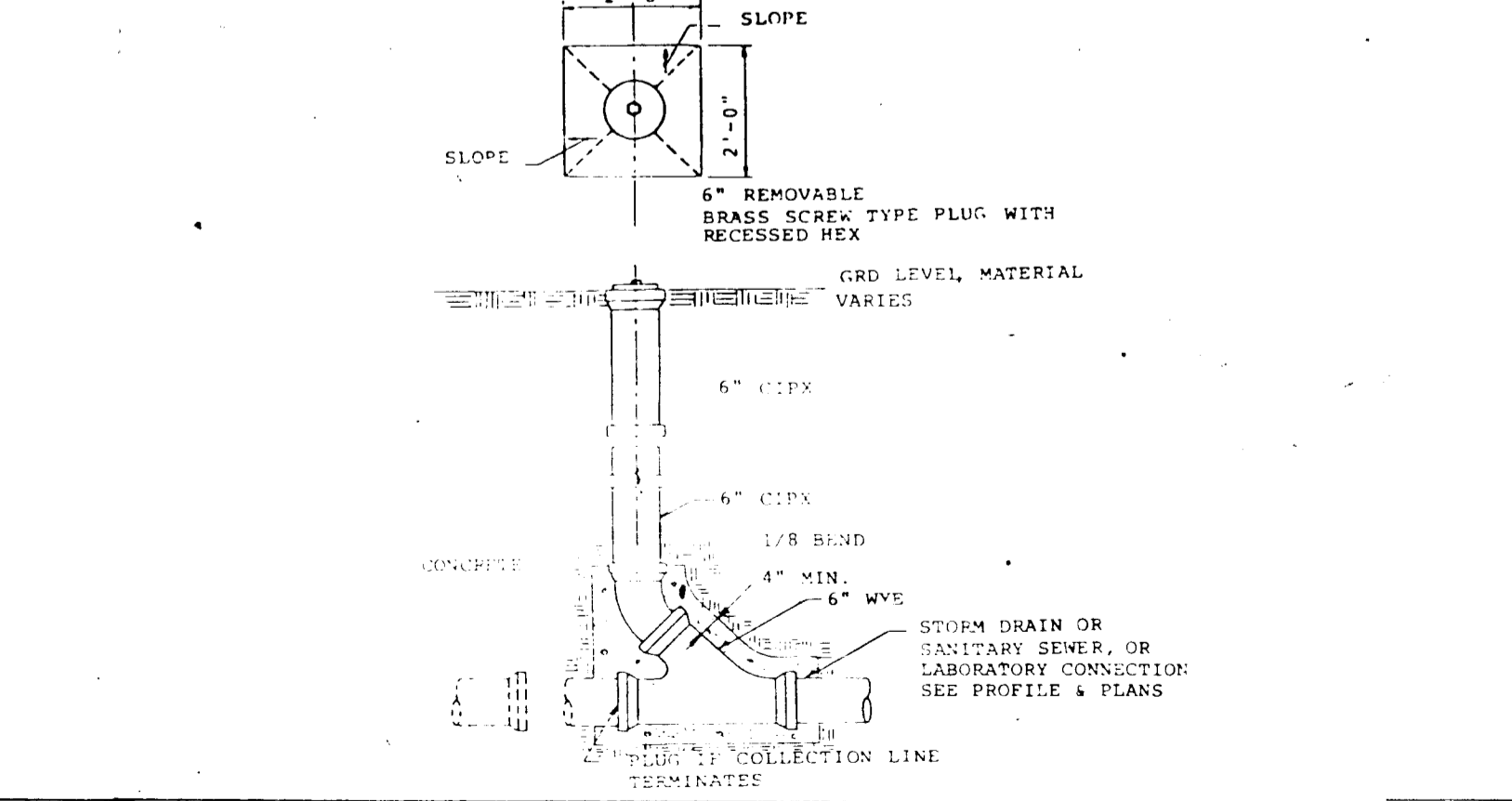
7. HANDICAPPED SIGN AND POST



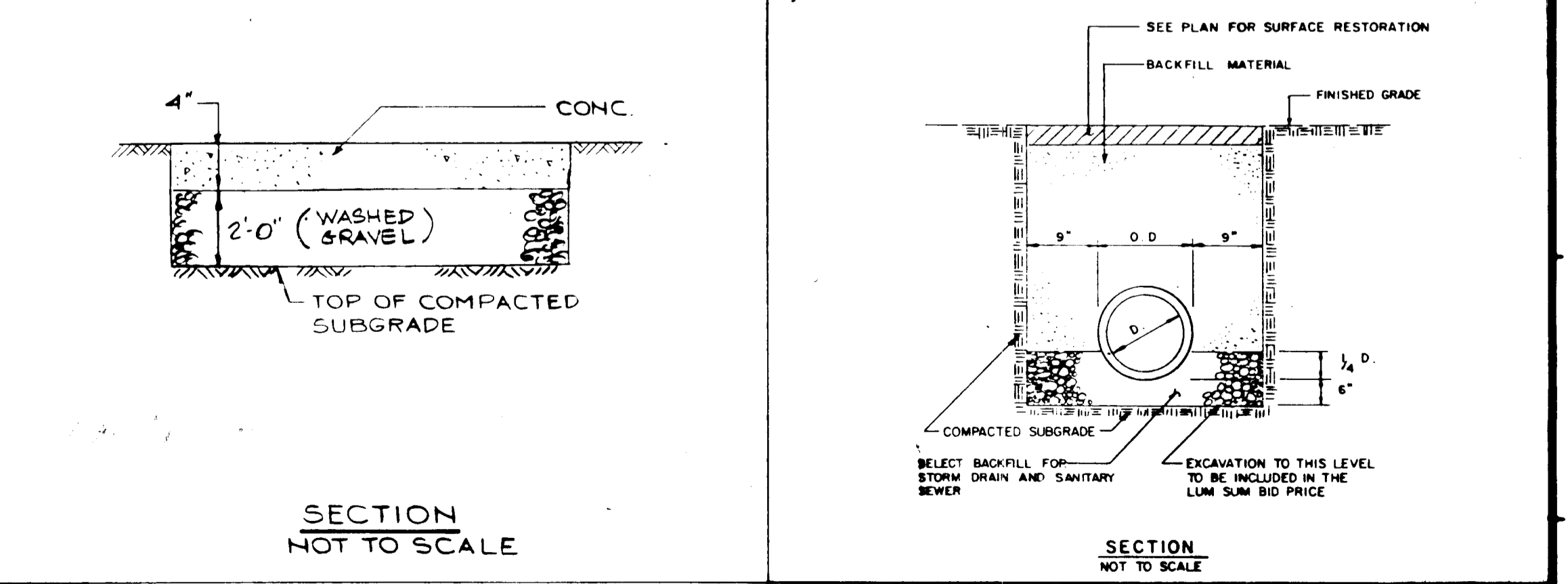
8. DUMPSTER PAD



10. CLEANOUT DETAIL



11. CONCRETE SIDEWALK DETAIL



12. TRENCH DETAIL

SUBDIVISION NAME W.R. GRACE		SECT./AREA		LOT/PARCEL # P145	
PLAT # 273/186	BLOCK # 22	ZONE RURAL	TAX/ZONE MAP 35	ELEC. DIST. 5TH	CENSUS TR. 6053.01
WATER CODE N/A			SEWER CODE N/A		
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS DIRECTOR: <i>George F. Nemy</i> DATE: 8-19-84 CHIEF, BUREAU OF ENGINEERING: <i>John J. ...</i> DATE: 8-28-84					
APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT COUNTY HEALTH OFFICER: <i>John ...</i> DATE: 7-6-84					
APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING PLANNING DIRECTOR: <i>John ...</i> DATE: 9-6-84 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION: <i>John ...</i> DATE: 9-6-84					

WHITNEY BAILEY FOX MAGNANI CONSULTING ENGINEERS
Suite 311 Green Spring Station
2360 West Joppa Road
Lutherville, Maryland 21093
301-296-4200

OWNER:
W.R. GRACE & CO.
7379 ROUTE 32
COLUMBIA, MD. 21044

APPROVED
DIVISION OF LAND DEVELOPMENT &
ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 8-14-84

NO. DATE DESCRIPTION
REVISIONS
SEAL
STATE OF MARYLAND
OFFICE OF ENGINEERING
AND SURVEYING
Professional Engineer
No. 10000
Name: *John ...*

FIRM: WBCM
DESIGNED: PP
DRAWN: CC
CHECKED: PEC

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APPLETON, WISCONSIN 54911

W.R. GRACE & CO.
WASHINGTON RESEARCH CTR.
COLUMBIA, MARYLAND
5th Election District
Parcel 25 on Map
Howard Co. Md.
NEW RESEARCH BUILDING

DETAILS

JOB NO. 8405
SCALE: NO SCALE
DATE: 5/30/84
DRAWING: SD-11
11 OF 11

WBCM NO. 88405251 SDP-84-256