

**GENERAL NOTES**

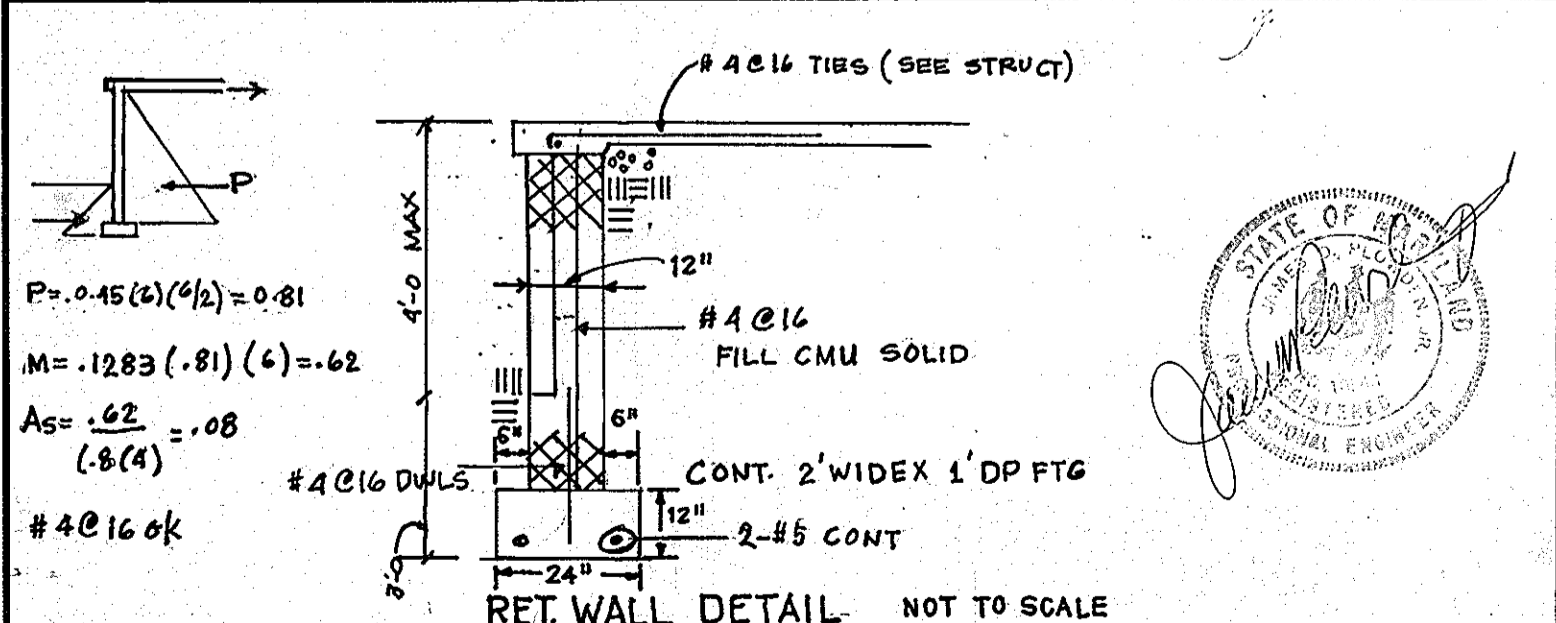
- PRIOR TO THE START OF ANY OPERATIONS, THE CONTRACTOR SHALL STAKE OUT THE BASELINES OF CONSTRUCTION, PROPOSED BUILDING AND VERIFY SETBACKS AND OFFSET DIMENSIONS.
- THE CONTRACTOR SHALL NOTIFY THE OWNER AT (301-531-4240) AT LEAST 72 HRS. PRIOR TO STARTING EXCAVATION TO VERIFY ALL LOCATIONS OF EXISTING UTILITIES.
- ADJUTING PROPERTIES TO BE PROTECTED FROM DAMAGE, REPAIRS ARE AN OBLIGATION OF THE CONTRACTOR. ACCESS TO AREAS OUTSIDE THE LIMIT OF CONTRACT WITHIN THE PROPERTY LINE IS PROHIBITED. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE TO EXISTING VEGETATION AND ANY VIOLATIONS OF THE PROTECTED AREAS.
- ALL CONSTRUCTION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE LATEST HOWARD COUNTY VOLUME IV - STANDARD SPECIFICATION AND DETAILS.
- THE INFORMATION 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.
- THE LOCATION 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 OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- ALL DISTURBED AREAS NOT STABILIZED WITH PAVING, SHALL BE SEEDED AND MULCHED IN ACCORDANCE WITH THE SPECIFICATIONS AND SEDIMENT CONTROL PLAN, PRIOR TO CONTRACT COMPLETION.
- CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES.
- TOPOGRAPHIC SURVEY PURDUM & JESCHKE DATED JULY 26, 1989 & LORRA ENGINEERING ON JUNE 1993.
- ALL PIPE ELEVATION SHOWN ARE INVERT ELEVATIONS.
- ALL WATER MAINS SHALL BE DUCTILE IRON CLASS 52.
- ALL SANITARY SEWER MAINS SHALL BE HOWARD COUNTY SCHEDULE 35 PVC UNLESS OTHERWISE NOTED.
- THE CONTRACTOR OR THE DEVELOPER SHALL CONTACT THE CONSTRUCTION INSPECTION DIVISION, 24 HRS. IN ADVANCE OF COMMENCEMENT OF WORK.
- TOP OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3 1/2 FT. OF COVER UNLESS OTHERWISE NOTED.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWING.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES 2'-0" MINIMUM OR TUNNEL IS REQUIRED.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEMS.
- THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALL.
- THE BUILDING PROPOSED IS OFFICE & LABORATORY.
- THERE ARE NO WETLANDS WITHIN THE LIMITS OF DISTURBANCE SHOWN. THEREFORE SECTION 404 AND SECTION 401 DO NOT APPLY AND PERMITS ARE NOT REQUIRED.
- AN EXISTING WET POND WILL PROVIDE STORMWATER MANAGEMENT FOR WATER QUALITY AND WATER QUANTITY FOR THIS DEVELOPMENT.
- ALL ON-SITE WATER AND SEWER SYSTEM ARE PRIVATE.
- DEPARTMENT OF PLANNING AND ZONING FILES PB CASE No. 168, VP 82-92, BA CASE No. 85-30 E, BA CASE No. 83-54 E, PB CASE No. 212, VP 84-32, VP 84-70, S-87-36, 88-287, FDP-PEC-1A, S 90-37, SDP-90-116 & SDP-88-193 SDP 91-92.
- ANY LANDSCAPING WILL BE DONE BY WRGRACE AFTER BUILDING IS COMPLETED.

HOWARD RESEARCH AND DEVELOPMENT CORP.  
401/124  
ZONED NEW TOWN

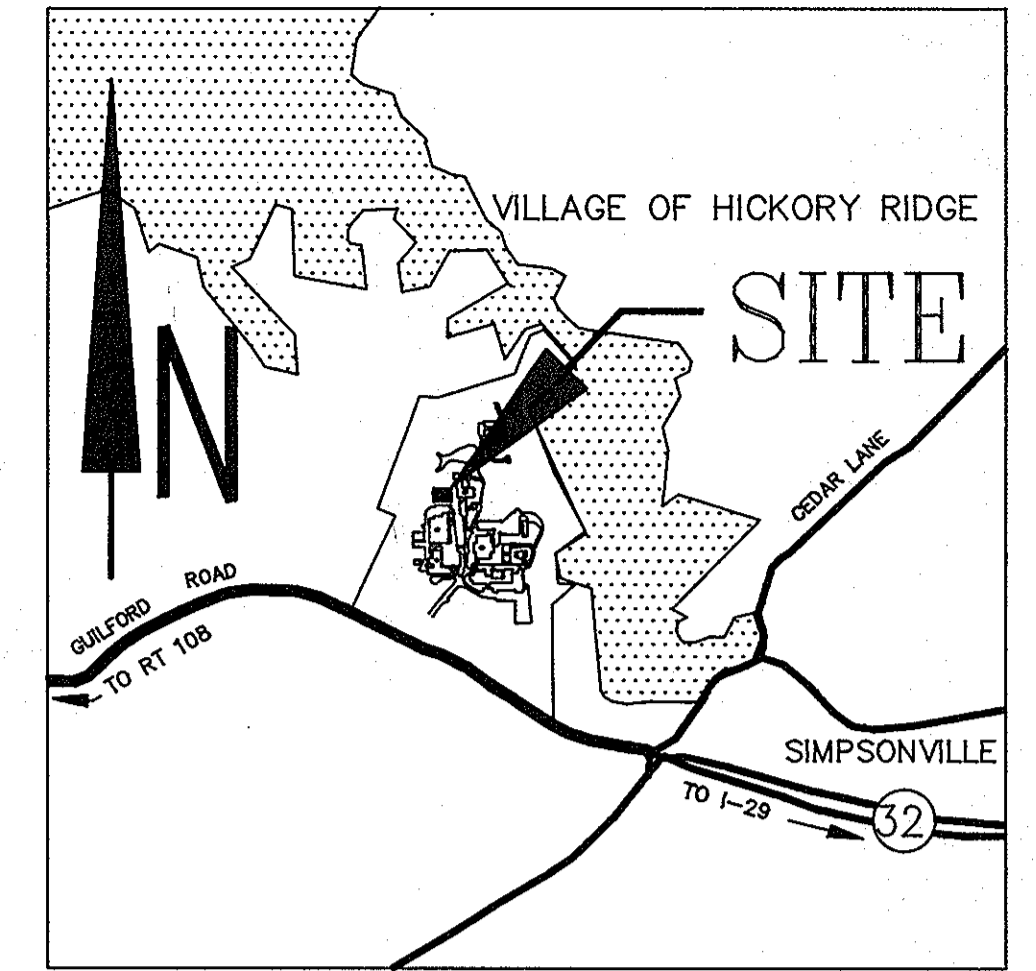
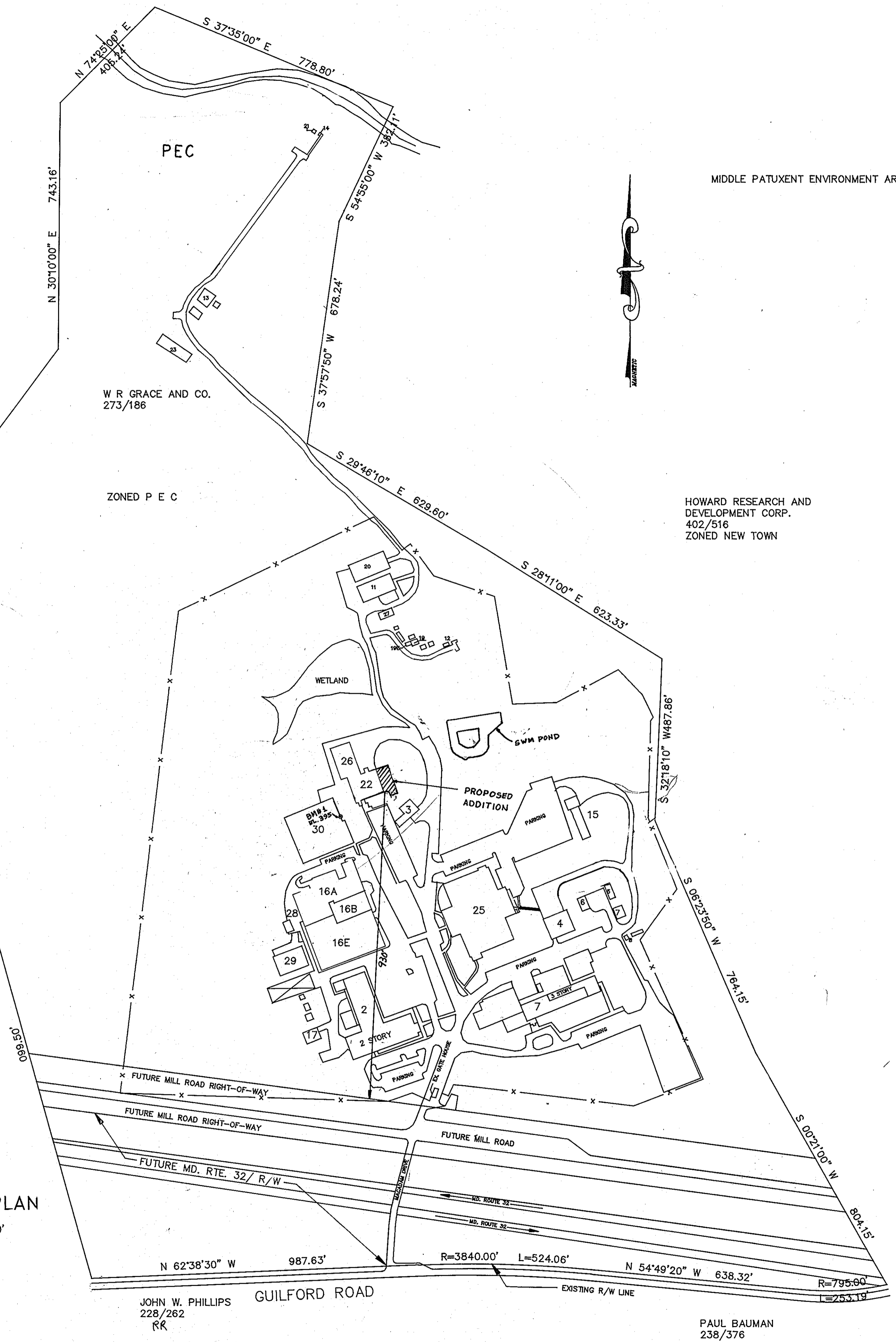
SRC R/W 33

**SITE ANALYSIS**

PRESENT ZONING	PEC	
AREA OF PROPERTY	147.40 ACRES	
AREA OF SUBMISSION	0.40 ACRES	
BUILDING COVERAGE		
EXISTING	225,892 S.F. = 5.19 ACRES	3.88%
PROPOSED	2,948 S.F. = .07 ACRES OFFICE & LAB.	.05%
TOTAL FLOOR SPACE	5,890 S.F. =	
TOTAL	228,837 S.F. = 5.26 ACRES	3.91%
NUMBER OF EMPLOYEES		
EXISTING	501	
PROPOSED	7	
TOTAL	508	
NUMBER OF PARKING SPACES		
EXISTING	541 Includes 5 handicapped parking spaces	
PROPOSED	52(7/10 x 7)	
TOTAL PARKING SPACES	541	
TOTAL REQUIRED	419	
OPEN SPACE		
EXISTING	40.41 ACRES	30.10% of PEC AREA
PROPOSED	46.34	30.05% of PEC AREA



**LOCATION PLAN**  
SCALE 1" = 200'



**VICINITY MAP**  
SCALE: 1"=2000'

**INDEX**

SHEET	DESCRIPTION
1	COVER SHEET
2	SITE DEVELOPMENT PLAN
3	SEDIMENT CONTROL PLAN DETAILS
4	SEDIMENT CONTROL NOTES

ADDRESS CHART			
PARCEL NUMBER	STREET ADDRESS		
P 145	7379 GUILFORD ROAD		
	SUBDIVISION NAME	SECTION/AREA	LOT / PARCEL
	W. R. GRACE & COMPANY		P 145
PLAT NUMBER	BLOCK NUMBER	ZONE	TAX/ZONE MAP
273/186	22	P. E. C.	35
		ELECTION DISTRICT	GENSIS TRAC
		5th	6083.01
WATER CODE		SEWER CODE	
NA		6440000	

APPROVED: FOR PRIVATE WATER AND PUBLIC SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT  
*John B. ...* 11-12-93  
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Mark ...* 12/10/93  
PLANNING DIRECTOR DATE

*Gina ...* 12/18/93  
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

APPROVED: FOR DRAINAGE SYSTEM AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*James ...* 12/6/93  
DIRECTOR DATE

*Paul ...* 12/6/93  
CHIEF, BUREAU OF ENGINEERING M.K. DATE



**oria engineering inc.**  
CONSULTING ENGINEERS & LAND PLANNERS & SURVEYORS  
3230 BETHANY LANE, SUITE 4  
ELLCOTT CITY, MARYLAND 21043  
TEL. (301) 465-0400

**GRACE**

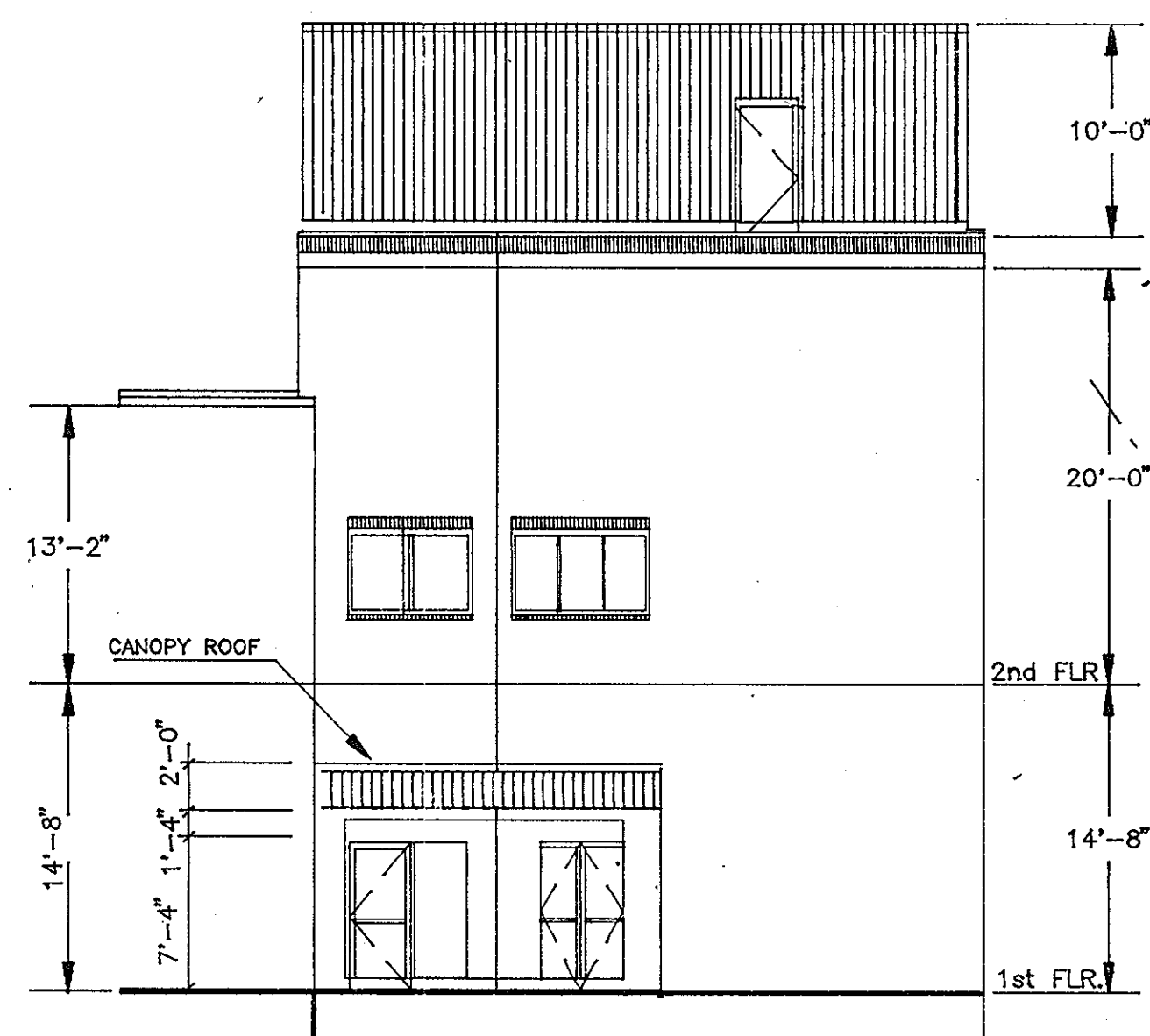
W.R. GRACE & CO. - CONN.  
WASHINGTON RESEARCH CENTER  
7379 ROUTE 32  
COLUMBIA, MARYLAND 21044

**COVER SHEET**

W.R. GRACE, BUILDING ADDITION FOR BLDG. 22

REVISIONS			SCALE: AS SHOWN	SHEET NUMBER
DATE	BY	DESCRIPTIONS	DATE: 10.22.93 81D	1 of 4

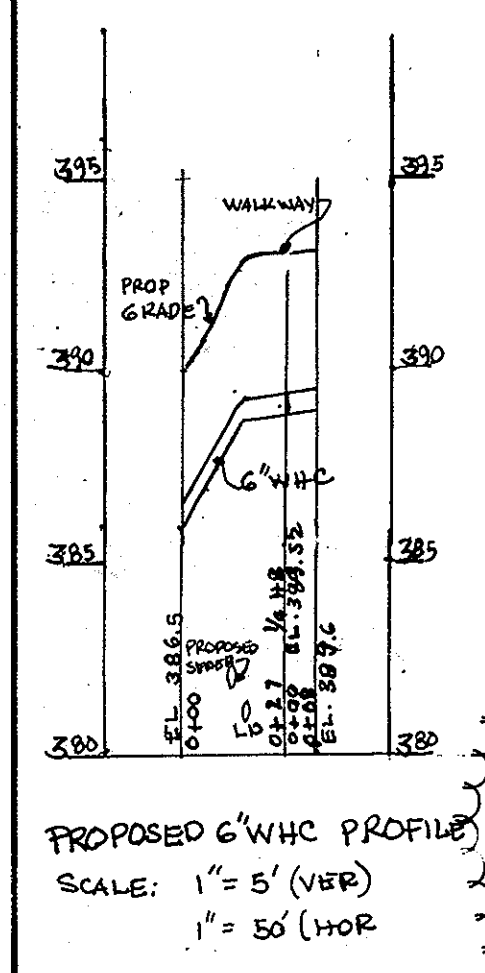
CLEAN OUT SCHEDULE		
DESCRIPTION	TOP ELEV.	INV. ELEV.
CO-1	387.00	378.50
CO-2	392.35	383.00
CO-3	378.02	376.00
CO-4	388.02	386.60



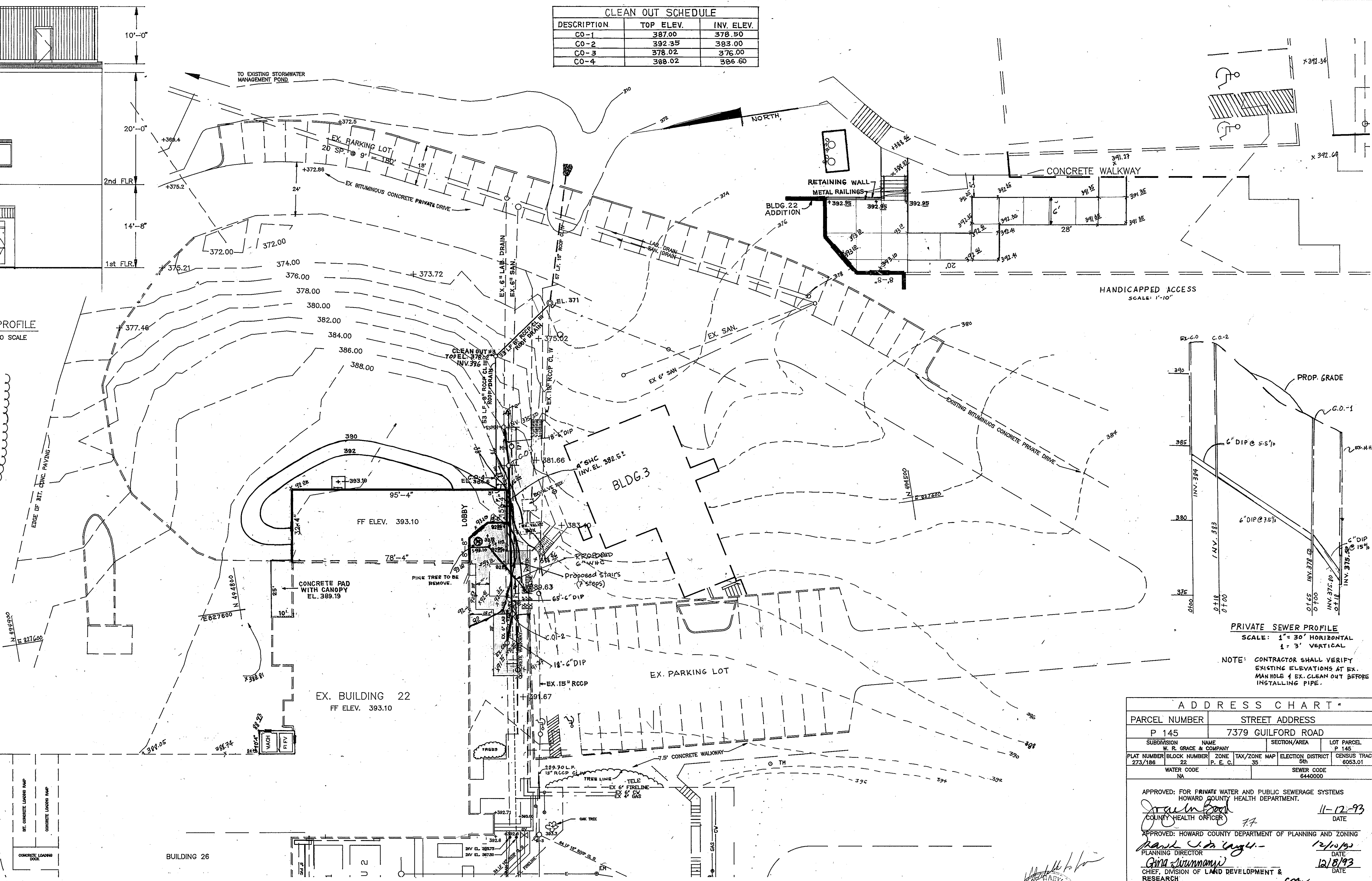
**BUILDING PROFILE**  
DRAWN NOT TO SCALE

**LEGEND:**

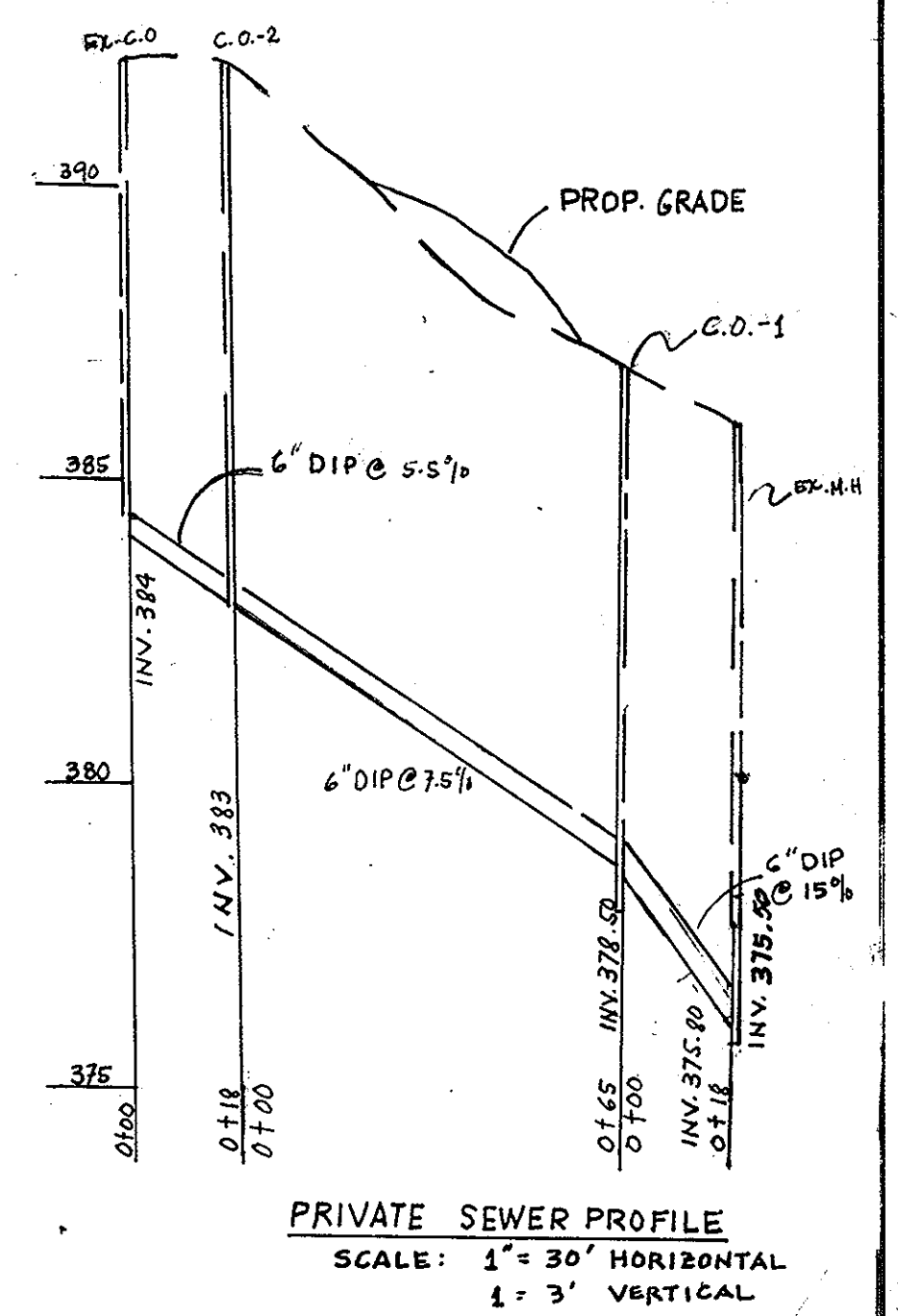
EXISTING	PROPOSED
GRADES	--- 390 --- 390
SPOT ELEV.	393.10 393.62
SIDEWALKS	=====



**PROPOSED 6" WWC PROFILE**  
SCALE: 1" = 5' (VERT)  
1" = 50' (HOR)



**HANDICAPPED ACCESS**  
SCALE: 1" = 10'



**PRIVATE SEWER PROFILE**  
SCALE: 1" = 30' HORIZONTAL  
1" = 3' VERTICAL

NOTE: CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS AT EX. MANHOLE & EX. CLEAN OUT BEFORE INSTALLING PIPE.

ADDRESS CHART			
PARCEL NUMBER	STREET ADDRESS		
P 145	7379 GUILFORD ROAD		
SUBDIVISION	NAME	SECTION/AREA	LOT PARCEL
W. R. GRACE & COMPANY			P 145
PLAT NUMBER/BLOCK NUMBER	ZONE	TAX/ZONE MAP	ELECTION DISTRICT CENSUS TRAC
273/186	22	P. E. C. 35	5th 6053.01
WATER CODE	22	SEWER CODE	6440000

APPROVED: FOR PRIVATE WATER AND PUBLIC SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT.  
*James B. ...* COUNTY HEALTH OFFICER 11-12-93 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Paul ...* PLANNING DIRECTOR 12/10/93 DATE

*Gina ...* CHIEF, DIVISION OF LAND DEVELOPMENT & RESEARCH 12/18/93 DATE

APPROVED: FOR PUBLIC SEWERAGE, STORM DRAINAGE SYSTEM AND PUBLIC ROADS  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
*John ...* DIRECTOR 12/6/93 DATE

*Charles ...* CHIEF, BUREAU OF ENGINEERING M.K. 12/6/93 DATE



BM#1 Entrance to Bldg.30, Elev.39500

**PLAN**  
Scale 1" = 20'

**loria Engineering Inc.**  
CONSULTING ENGINEERS-LAND PLANNERS-SURVEYORS  
3230 BETHANY LANE, SUITE 4, ELLICOTT CITY, MD.  
410-465-0400

**GRACE** W.R. GRACE & CO. - CONN.  
WASHINGTON RESEARCH CENTER  
7379 ROUTE 32  
COLUMBIA, MARYLAND 21044

**W.R. GRACE, BUILDING ADDITION FOR BLDG. 22**

**SITE DEVELOPMENT PLAN**

DATE	BY	DESCRIPTIONS
02-24-94	JER	NEW PROFILE

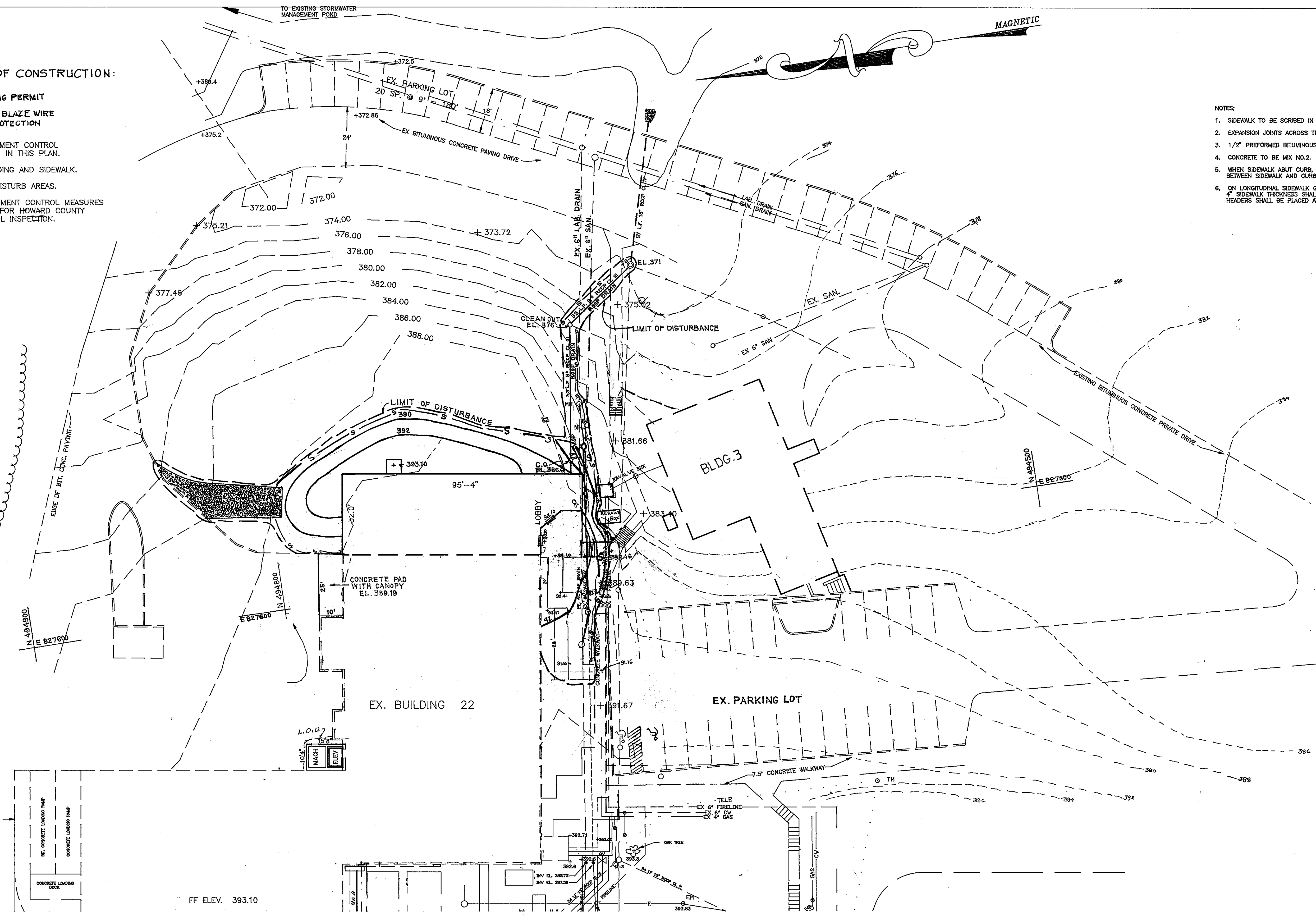
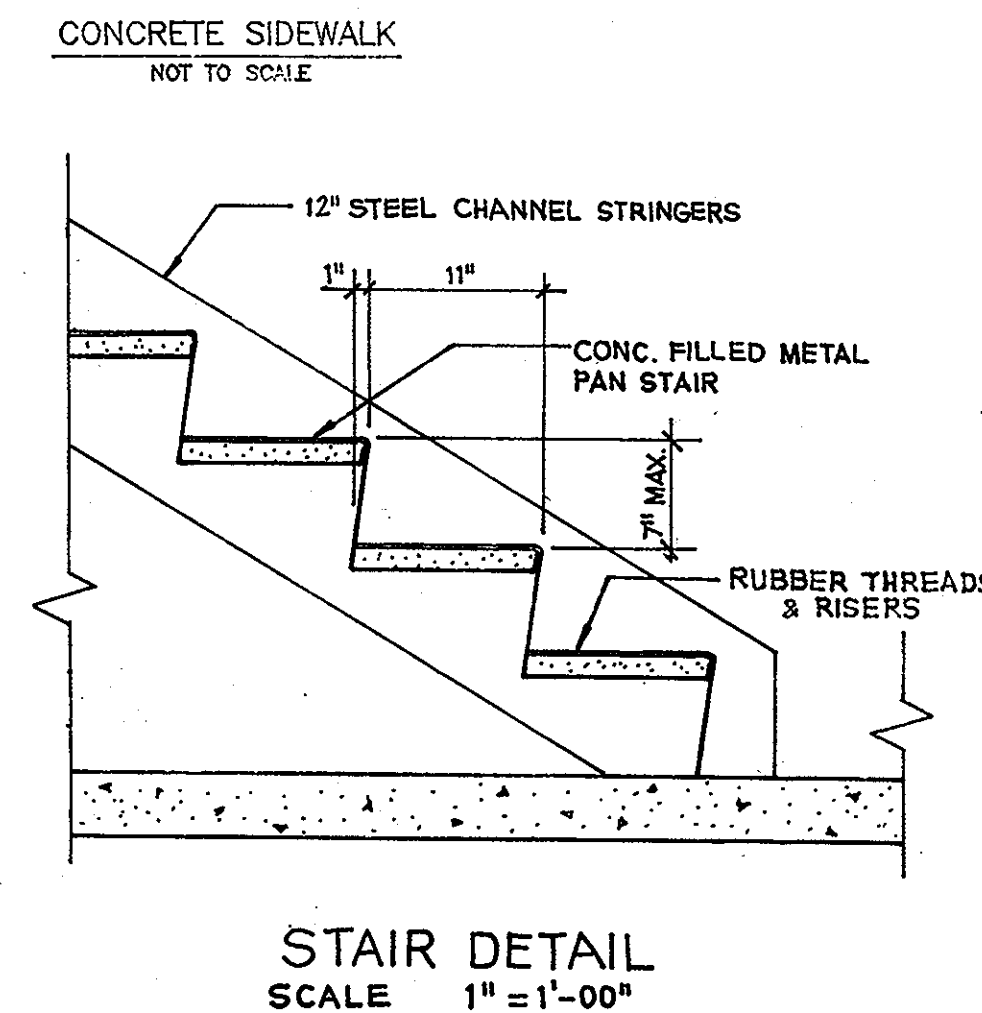
SCALE: 1" = 20'	SHEET NUMBER
DATE: 10.22.93 BID	2 of 4
DRAWN: JCS	

SDP.94.29

**SEQUENCE OF CONSTRUCTION:**

1. OBTAIN GRADING PERMIT
2. INSTALL ORANGE BLAZE WIRE MESH TREE PROTECTION
3. INSTALL ALL SEDIMENT CONTROL MEASURES SHOWN IN THIS PLAN.
4. CONSTRUCT BUILDING AND SIDEWALK.
5. STABILIZED ALL DISTURB AREAS.
6. REMOVE ALL SEDIMENT CONTROL MEASURES AFTER APPROVAL FOR HOWARD COUNTY SEDIMENT CONTROL INSPECTION.

- NOTES:
1. SIDEWALK TO BE SCRIBED IN 5' MAXIMUM SQUARES.
  2. EXPANSION JOINTS ACROSS THE SIDEWALK NOT TO BE MORE THAN 15' APART.
  3. 1/2" PREFORMED BITUMINOUS EXPANSION MATERIAL IN EXPANSION JOINTS TO BE KEPT 1/4" BELOW SURFACE OF SIDEWALK.
  4. CONCRETE TO BE MIX NO.2.
  5. WHEN SIDEWALK ABUT CURB, WALK SHALL BE 1/4" ABOVE CURB WITH 1/2" PREFORMED BITUMINOUS EXPANSION MATERIAL BETWEEN SIDEWALK AND CURB AND RESTING ON A COMPACTED CRUSHED STONE BASE. SEE DETAIL A THIS SHEET.
  6. ON LONGITUDINAL SIDEWALK GRADES OF 5% OR GREATER, A CONCRETE HEADER, 6" THICK AND 6" DEEP BELOW THE NORMAL 4" SIDEWALK THICKNESS SHALL BE CONSTRUCTED FOR THE FULL WIDTH OF THE SIDEWALK AT INTERVALS OF 40 FEET. THE HEADERS SHALL BE PLACED AT EXPANSION JOINT LOCATIONS AND SHALL BE MONOLITHIC WITH THE SIDEWALK.



PLAN  
Scale 1" = 20'

APPROVED: FOR PRIVATE WATER AND PUBLIC SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT

*[Signature]* 11-12-93  
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 12/10/93  
PLANNING DIRECTOR DATE

*[Signature]* 12/18/93  
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

APPROVED: FOR PUBLIC SEWERAGE, DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

*[Signature]* 12/6/93  
DIRECTOR DATE

*[Signature]* 12/6/93  
CHIEF, BUREAU OF ENGINEERING DATE

oria engineering inc.  
CONSULTING ENGINEERS \* LAND PLANNERS \* SURVEYORS  
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COLUMBIA, MARYLAND 21044

**W.R. GRACE, BUILDING ADDITION FOR BUILDING 22**

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for the soil and sediment control

*[Signature]* 1/4/93  
J.S. Soil Conservation Service  
These plans for soil and sediment control meet the requirements of the Howard Soil Conservation District.

*[Signature]* 1/4/93  
John R. Robertson  
Howard Soil Conservation District

**ENGINEER'S CERTIFICATE**

I hereby certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site and conditions and it was prepared in accordance with the requirements of Howard Soil Conservation District.

*[Signature]*  
SIGNATURE OF ENGINEER

9-15-93  
DATE

**DEVELOPER'S/BUILDER'S CERTIFICATE**

I/we certify that all development and construction will be done in accordance with this plan, and that any responsible personnel involved in the construction will have a Certificate of Attendance at the Department of Natural Resources Approved Training Program for the Control of Sediment before beginning the project. I also authorize periodic inspection by the Howard Soil Conservation Service.

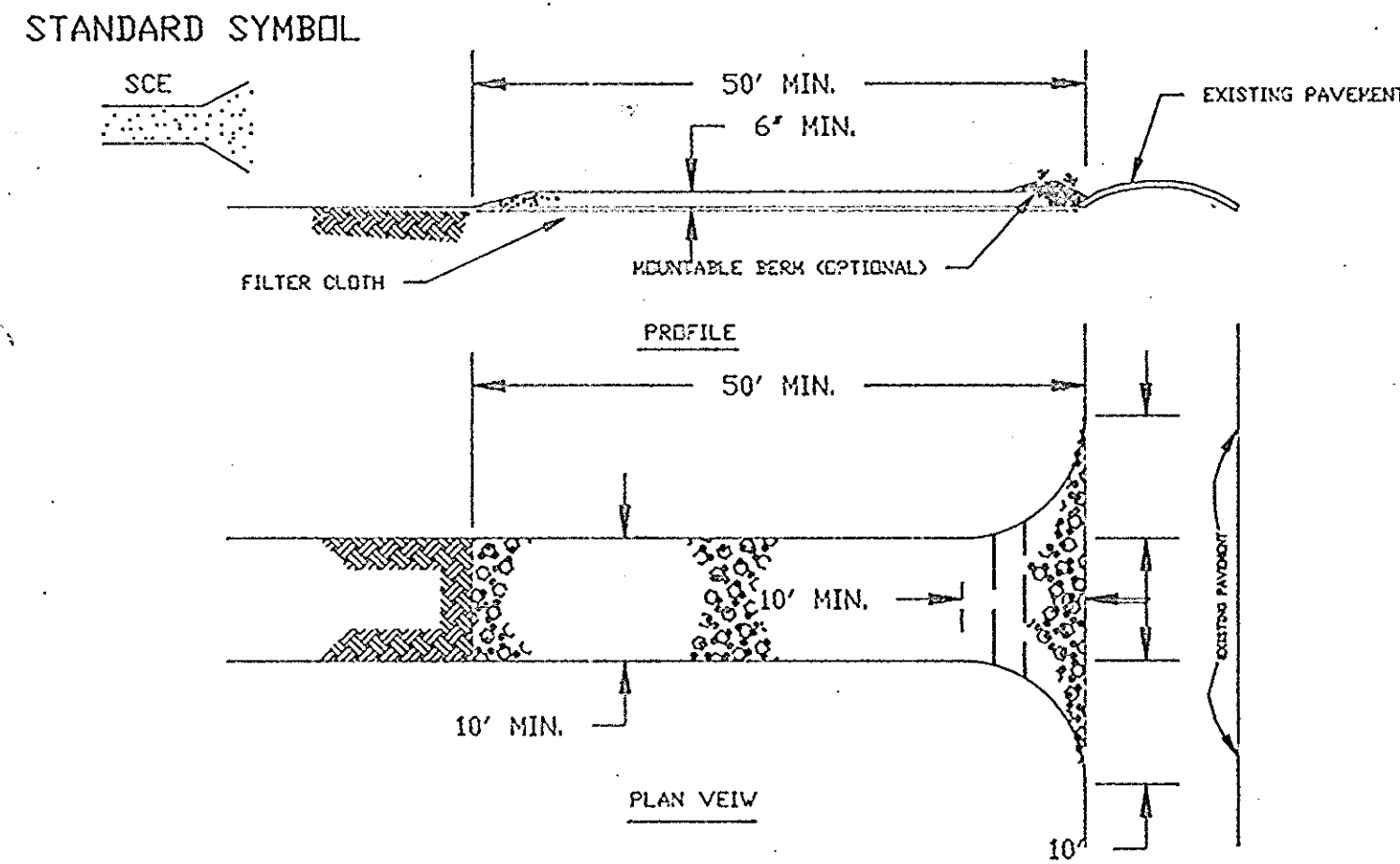
*[Signature]* 9/14/93  
BUILDER/DEVELOPER

**GRADING AND SEDIMENT CONTROL PLAN**

SCALE: 1"=20' DATE: 10.22.93-BID SHEET 3 of 4  
DESIGNED: JCS DRAWN: JCS CHECKED: MLL

SDP.94.29

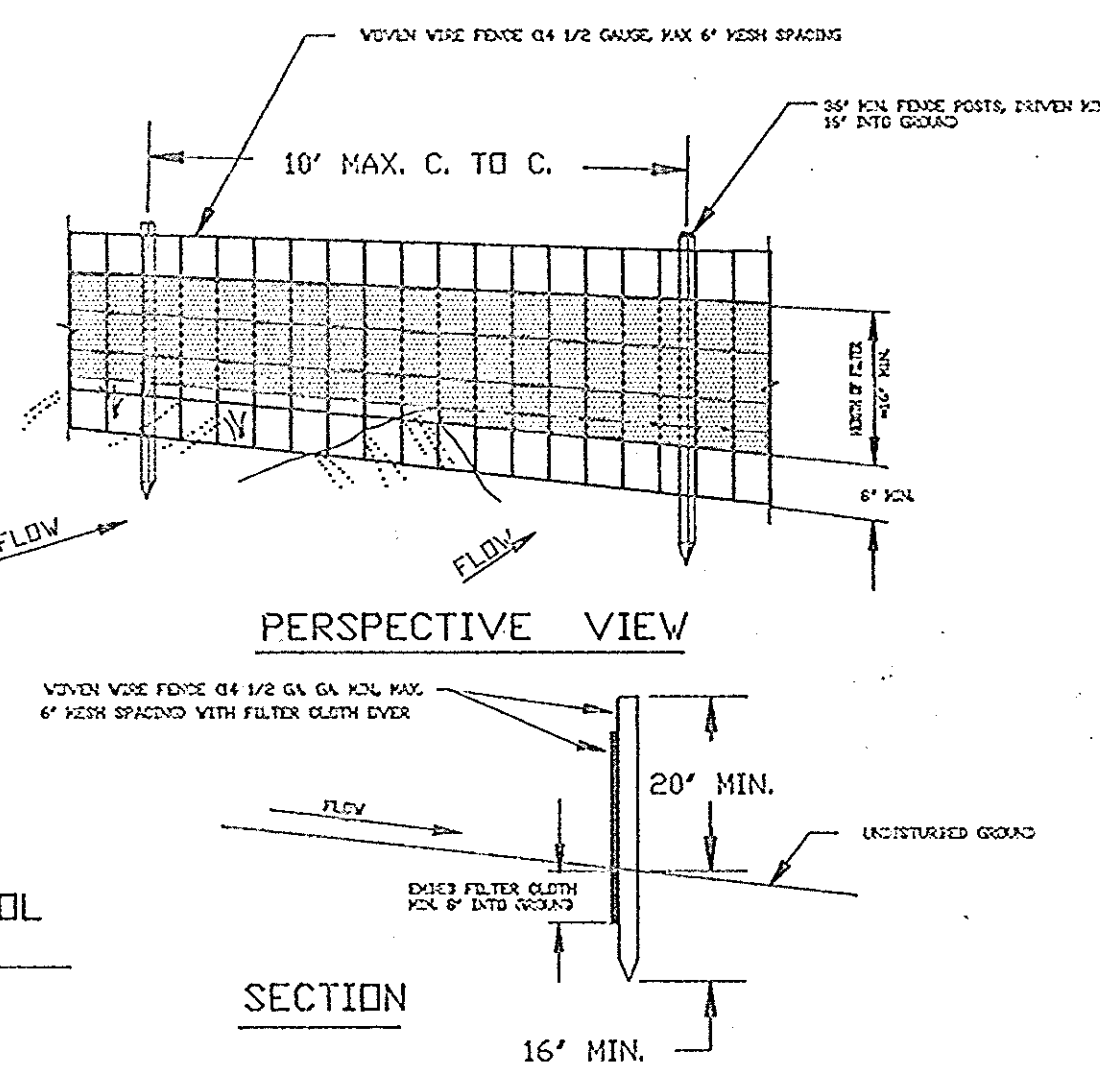
**STABILIZED CONSTRUCTION ENTRANCE**  
NOT TO SCALE



**CONSTRUCTION SPECIFICATION**

1. STONE SIZE - USE 3" STONE OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - 12" (10" FOR MINOR) BUT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. FILTER WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS - OF - WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIRS AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS - OF - WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS - OF - WAY. WHEN AS REQUIRED, IT SHALL BE DONE IN AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

**SILT FENCE**



**STANDARD SYMBOL**

S S

**CONSTRUCTION NOTES FOR FABRICATION SILT FENCE**

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

**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, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, UNLESS PREVIOUSLY LOOSENED.

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

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

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ FT) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (0.5 LBS/1000 SQ FT) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY OPTION (1) 2 TONS PER ACRE OF WELL-ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL-ANCHORED STRAW.

MULCHING - APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/100 SQ FT) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

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

**TEMPORARY SEEDING NOTES**

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

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

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

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2 1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (0.7 LBS/1000 SQ FT). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL-ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OR USE SOD.

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

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

**STANDARD AND SPECIFICATION FOR VEGETATIVE STABILIZATION WITH SOD**

1. CLASS OF TURFGRASS SOD SHALL BE MARYLAND OR VIRGINIA STATE CERTIFIED, OR MARYLAND OR VIRGINIA STATE APPROVED SOD.
2. SOD SHALL BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS SHALL EXCLUDE TOP GROWTH AND THATCH.
3. STANDARD SIZE SECTIONS OF SOD SHALL BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
4. INDIVIDUAL PIECES OF SOD SHALL BE CUT TO THE SUPPLIER'S WIDTH AND LENGTH. MAXIMUM ALLOWABLE DEVIATION FROM STANDARD WIDTHS AND LENGTHS SHALL BE 5 PERCENT. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
5. SOD SHALL NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
6. SOD SHALL BE HARVESTED, DELIVERED AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD SHALL BE INSPECTED AND APPROVED PRIOR TO ITS INSTALLATION.

**1. SITE PREPARATION**

FERTILIZER AND LIME APPLICATION RATES SHALL BE DETERMINED BY SOIL TESTS. UNDER UNUSUAL CIRCUMSTANCES WHERE THERE IS INSUFFICIENT TIME FOR A COMPLETE SOIL TEST, FERTILIZER AND LIME MATERIALS MAY BE APPLIED IN AMOUNTS SHOWN UNDER B, BELOW.

A. PRIOR TO SODDING, THE SURFACE SHALL BE CLEARED OF ALL TRASH, DEBRIS, AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKES, AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING, FERTILIZING OR MAINTENANCE OPERATIONS.

B. WHERE THE SOIL IS ACID OR COMPOSED OF HEAVY CLAYS, GROUND LIME SHALL BE SPREAD AT THE RATE OF 2 TONS/ACRE OR 100 POUNDS PER 1000 SQUARE FEET. IN ALL SOILS 1000 POUNDS PER ACRE OR 25 POUNDS PER 1000 SQUARE FEET OF 10-10-10 FERTILIZER OR EQUIVALENT SHALL BE UNIFORMLY APPLIED AND MIXED INTO THE TOP 3 INCHES OF SOIL WITH THE REQUIRED LIME.

C. ALL AREAS RECEIVING SOD SHALL BE UNIFORMLY FINE GRADED. HARD-PACKED EARTH SHALL BE SCAREFIED PRIOR TO PLACEMENT OF SOD.

1) A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION. (992-2437)

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 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

3) FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, BY 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN-MANUAL, STORM DRAINAGE.

5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.

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	147.40 ACRES
AREA DISTURBED	10 ACRES
AREA TO BE ROOFED OR PAVED	0.8 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.8 ACRES
TOTAL CUT	200 CU. YDS
TOTAL FILL	200 CU. YDS
OFFSITE WASTE/BORROW AREA LOCATION	

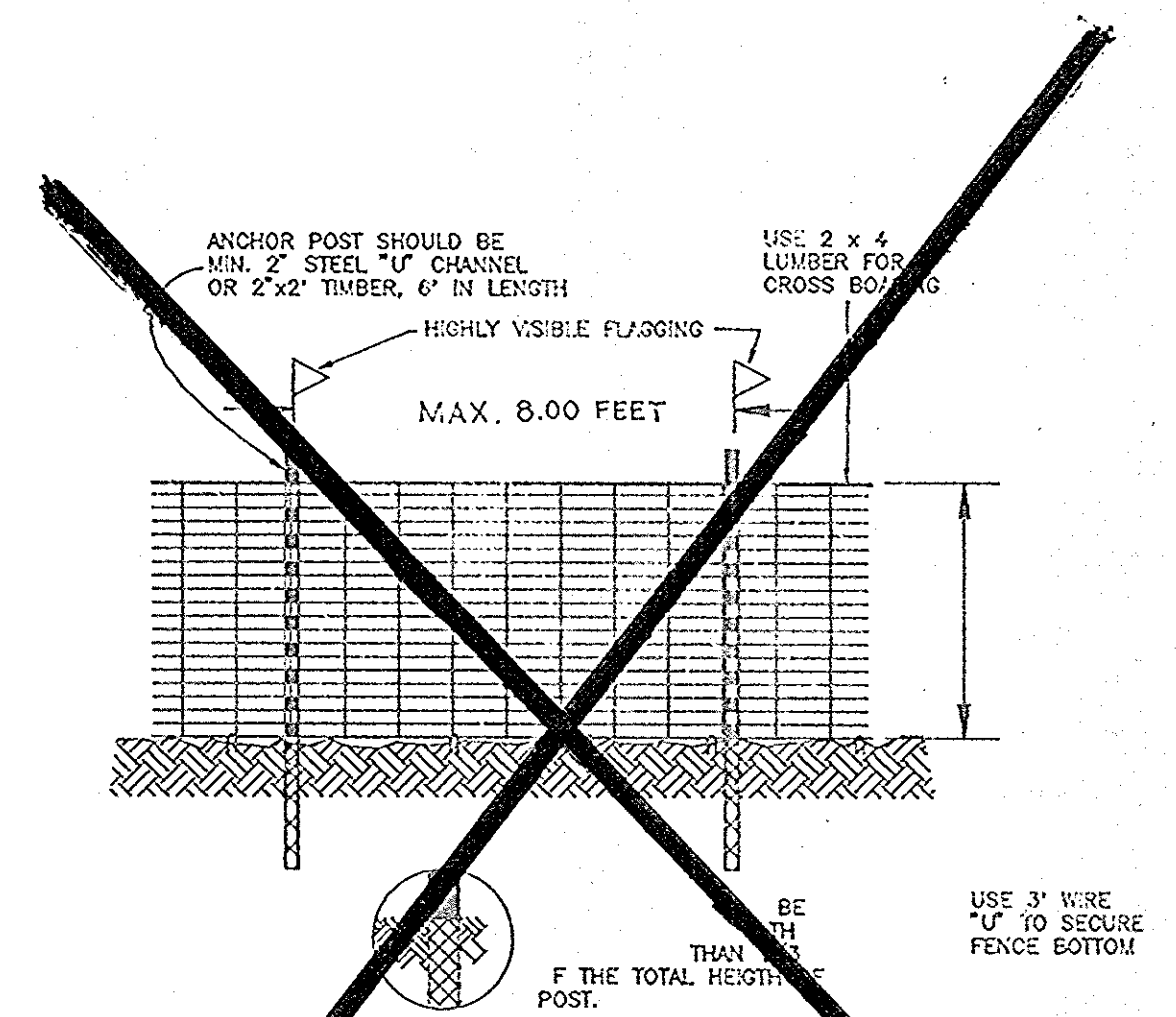
8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY 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.

**GENERAL NOTES**

- 1) REFER TO 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED HEREIN.
  - 2) 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 COUNTY SOIL CONSERVATION DISTRICT.
  - 3) AT THE END OF EACH WORKING DAY, ALL SEDIMENT CONTROL PRACTICES WILL BE INSPECTED AND LEFT IN OPERATIONAL CONDITION.
  - 4) FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN A) SEVEN CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, VERTICES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND B) FOURTEEN DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
  - 5) ANY CHANGE TO THE GRADING PROPOSED ON THIS PLAN REQUIRES RE-SUBMISSION TO COUNTY SOIL CONSERVATION DISTRICT FOR APPROVAL.
  - 6) DUST CONTROL WILL BE PROVIDED FOR ALL DISTURBED AREAS. REFER TO 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, PP 62.01 AND 62.02 FOR ACCEPTABLE METHODS AND SPECIFICATIONS FOR DUST CONTROL.
  - 7) ANY VARIATION FROM THE SEQUENCE OF OPERATIONS STATED ON THIS PLAN REQUIRES THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE COUNTY SOIL CONSERVATION DISTRICT PRIOR TO THE INITIATION OF THE CHANGE.
  - 8) EXCESS CUT OR BORROW MATERIAL SHALL GO TO OR COME FROM, RESPECTIVELY, A SITE WITH AN APPROVED SEDIMENT CONTROL PLAN.
- THE FOLLOWING ITEM MAY BE USED AS APPLICABLE:
- 9) REFER TO 'MARYLAND'S GUIDELINES TO WATERWORKS CONSTRUCTION' BY THE WATER RESOURCES ADMINISTRATION (WRA), DATED JANUARY, 1986 FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED HEREIN FOR WATERWAY CONSTRUCTION.



- NOTE:
1. FENCE PROTECTION DEVICE ONLY
  2. PERIMETER AREA WILL BE SETAS PART OF THE REVIEW PROCESS
  3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKE AND FLAG PRIOR TO INSTALLING DEVICE
  4. ROOT DAMAGE SHOULD BE AVOIDED
  5. PROTECTIVE SIGNAGE MAY ALSO BE USED
  6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

**BLAZE ORANGE PLASTIC MESH**  
NOT TO SCALE

APPROVED: FOR PRIVATE WATER AND PUBLIC SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT

*[Signature]* 11-12-93 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*[Signature]* 12/1/93 DATE

APPROVED: CHIEF, DIVISION OF LAND DEVELOPMENT & RESEARCH

*[Signature]* 12/18/93 DATE

APPROVED: FOR PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*[Signature]* 12/16/93 DATE

*[Signature]* 12/16/93 DATE

**oria engineering inc.**  
CONSULTING ENGINEERS \* LAND PLANNERS \* SURVEYORS  
3230 BETHANY LAKE, SUITE 4  
ELICOTT CITY, MARYLAND 21043  
TEL. (301) 465-0400

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for soil and sediment control

*[Signature]* 1/1/93 DATE

These plans for soil and sediment control meet the requirements of the Howard Soil Conservation District.

*[Signature]* 1/1/93 DATE

Howard Soil Conservation District

**ENGINEER'S CERTIFICATE**

I hereby certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site and conditions and it was prepared in accordance with the requirements of Howard Soil Conservation District.

*[Signature]* 1/1/93 DATE

SIGNATURE OF ENGINEER

**DEVELOPER'S/BUILDER'S CERTIFICATE**

I/We certify that all development and construction will be done in accordance with this plan, and that any responsible personnel involved in the construction will have a Certificate of Attendance of the Department of the Environment, Approved Training Program for the Control of Sediment before beginning the project. I also authorize periodic inspection by the Howard Soil Conservation Service.

*[Signature]* 1/1/93 DATE

BUILDER/DEVELOPER

**GRACE** W.R. GRACE & CO. - CONN. WASHINGTON RESEARCH CENTER 7379 ROUTE 32 COLUMBIA, MARYLAND 21044  
W.R. GRACE, BLDG. ADDITION FOR BLDG. # 22

**SEDIMENT AND EROSION CONTROL NOTES**

owner: **W.R. GRACE**  
7379 GUILFORD RD.  
COLUMBIA, MD. 21044

SCALE: AS SHOWN DATE: 10-22-92 BID SHEET 4 of 4  
DESIGNED: JCS DRAWN: JCS CHECKED: MLL  
SDP: 94-29