

SEDIMENT CONTROL NOTES

- 1) A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (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, b) 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	18.8 Acres
Area Disturbed	7.4 Acres
Area to be roofed or paved	2.1 Acres
Area to be vegetatively stabilized	5.3 Acres
Total Cut	1350 Cu.Yds.
Total Fill	1500 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.

7-29-86

QUANTITY	SYMBOL	COMMON NAME	SIZE	SP. GR.
10	○	PROPOSED 6" DIA. PIPES	6" DIA.	1.0
10	⊗	PROPOSED 12" DIA. PIPES	12" DIA.	1.0

FOR REVISION BLOCK SEE DRAWING 30P-4

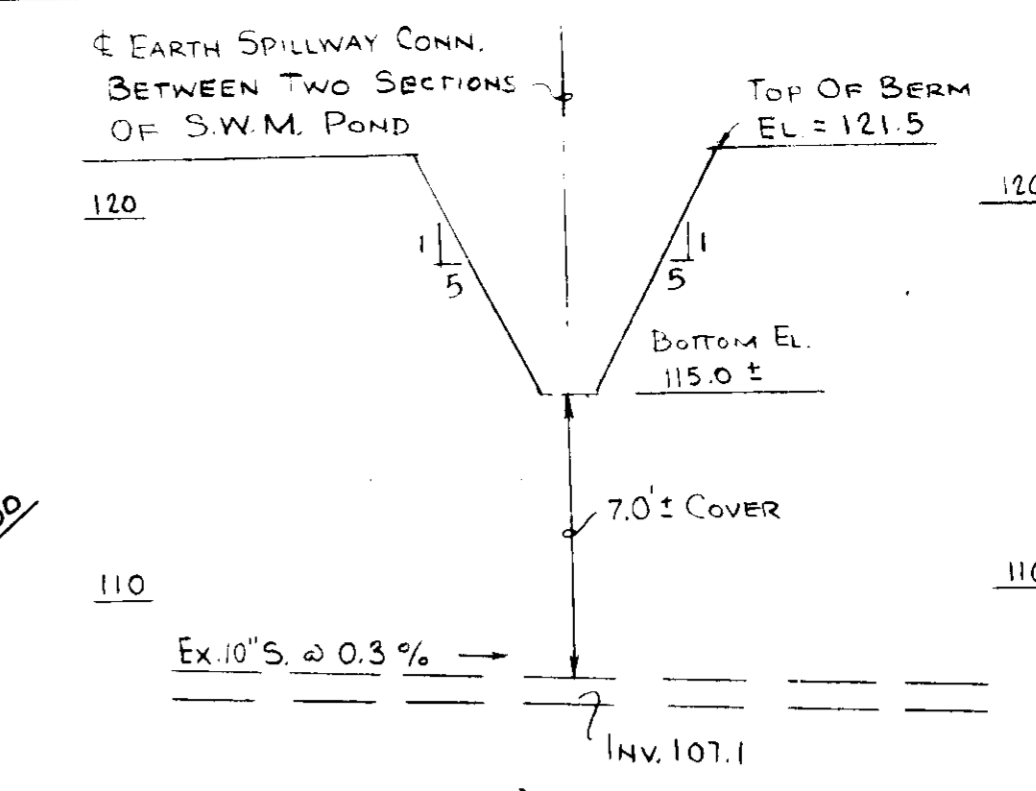
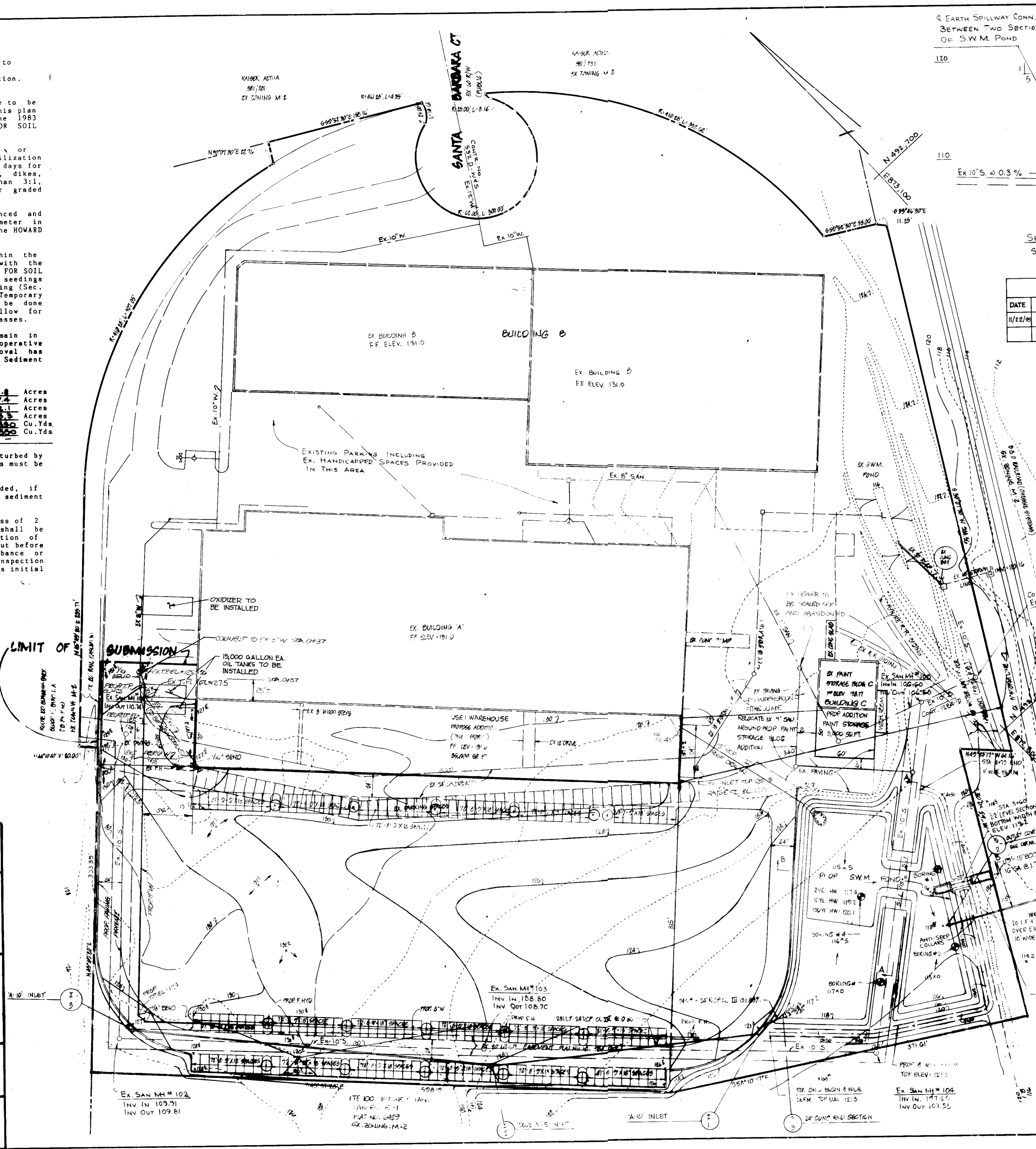
APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS:
 HOWARD COUNTY HEALTH DEPARTMENT.
 DATE: 9/19/86

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.
 DATE: 9-22-86

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND PUBLIC ROADS:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 DATE: 9-12-86

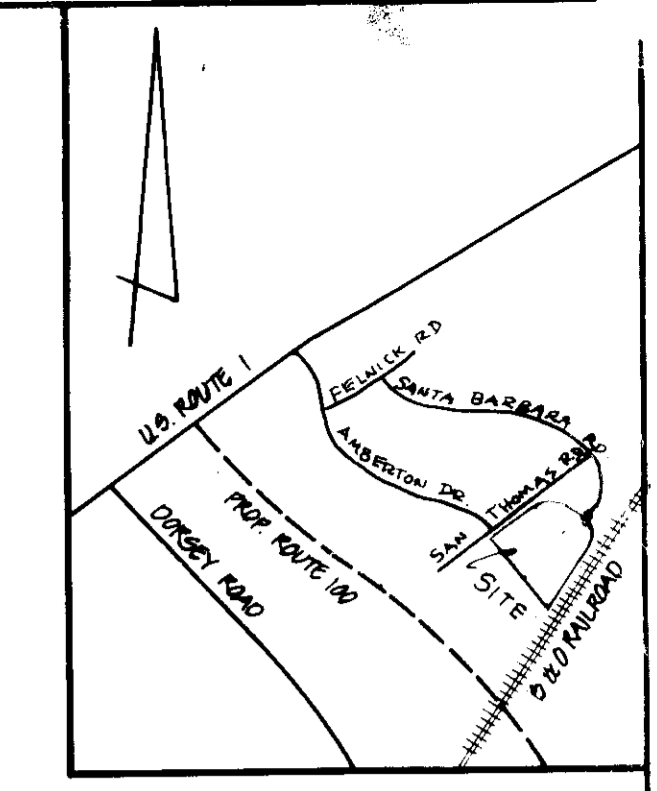
APPROVED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.
 U.S. SOIL CONSERVATION SERVICE.
 DATE: 9-7-86

THIS DEVELOPMENT IS APPROVED SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 DATE: 9-23-86



SECTION A-A
 SCALES: HOR 1" = 50'
 VERT 1" = 5'

REVISIONS		
DATE	DESCRIPTION	BY
11/22/86	ADDED OXIDIZER & OIL TANKS	WCB



VICINITY MAP
 SCALE: 1" = 200'

- GENERAL NOTES
1. TAX MAPS, PARCEL: PART OF PARCELS 281, 601, AND 855
 2. DEED REFERENCE: 932/182, 932/189, 730/546 AND 656/527
 3. EX-ZONING: M-2
 4. PROPOSED SITE USE: STORAGE FACILITY ONLY
 5. PUBLIC WATER AND PUBLIC SEWERAGE ARE TO BE UTILIZED.
 6. ALL ON-SITE PARKING AREAS AND DRIVEWAYS ARE PRIVATE
 7. TOTAL AREA OF SITE: 18.889 AC. AREA OF SUBMISSION: 7.1 AC
 8. SANTA BARBARA ROAD IS AN EXISTING PUBLIC ROAD
 9. ANY DAMAGE TO THE COUNTY OWNED RIGHT-OF-WAYS SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
 10. CONTRACTOR TO VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
 11. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS.
 12. CONTRACTOR TO NOTIFY MISS UTILITY AT 1-555-0100 AT LEAST FIVE DAYS PRIOR TO BEGINNING CONSTRUCTION.
 13. THE CONTRACTOR OR DEVELOPER SHALL CONTACT THE CONSTRUCTION INSPECTION/SURVEY DIVISION, 24 HOURS IN ADVANCE OF COMMENCEMENT OF WORK AT 792-7272.
 14. ALL PARKING LOT RADIUS ARE 5' EXCEPT AS SHOWN HEREON.
 15. PARKING REQUIREMENTS:

EXISTING PARKING TO BE RE-ALIGNED	= 51 SPACES
35,000 S.F. MANUFACTURING	= 1 PER 500 S.F. = 70 SPACES
3,000 S.F. PAINT STORAGE	= 1 PER 500 S.F. = 6 SPACES
TOTAL PARKING REQUIRED: 127	
 16. PARKING PROVIDED: 146 SPACES
 17. EXISTING OPEN SPACE ON SITE = 9.26 AC OR 50.7%
 PROPOSED OPEN SPACE ON SITE = 8.44 AC OR 44.6%
 18. PROPOSED PARKING AREA = 17,000 S.F. = 3847 S.F. OR 5.32%
 PROPOSED DRIVEWAY ISLANDS = 17,000 S.F. = 3847 S.F. OR 5.32%
 19. PROPOSED BUILDING COVERAGE = 4.46 AC OR 23.7%
 PROPOSED BUILDING COVERAGE = 5.26 AC OR 27.9%



DEVELOPER'S CERTIFICATE

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 THIRTY DAYS OF COMPLETION.

Dennis M. Ruhl
 SIGNATURE OF DEVELOPER
 DATE: 7-29-86

ENGINEER'S CERTIFICATE

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 COUNTY SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN THIRTY DAYS OF COMPLETION.

William J. Ruhl
 SIGNATURE OF ENGINEER
 DATE: 9-3-86

SUBDIVISION NAME		SECTION	LOT/ PARCEL
RT. 100 BUSINESS PARK		Block F	Parcel B-1
PLAT # OR LOT BLOCK	ZONE	TAX MAP NO.	ELEC. DIST. CONUS. TR.
PD. NO. F. S.	M. E.	NO.	19T
WATER CODE		SEWER CODE	
A - 04		2151500	
ADDRESS CHART			
LOT NUMBER	STREET ADDRESS		
PARCEL B-1	6750 SANTA BARBARA COURT		

OWNER & DEVELOPER
 CHICAGO METALLIC CORP.
 4601 AUSTIN AVE. N.W.
 CHICAGO, ILLINOIS 60640

BUILDING ADDITION TO SDP-83-70

TITLE: **SITE DEVELOPMENT PLAN**

PROJECT: **ROUTE 100 BUSINESS PARK BLOCK F, PARCEL B-1**

LOCATION: 127 ELECTION DISTRICT TAX MAP NO. HOWARD CO., MD.

SCALE: 1" = 50'

DESIGNED BY: DRAWN BY: CHECKED BY: DATE: JUNE, 1986

FIELD BOOK: PAGE NO.: JOB NO.: 85140 DRAWING NO.: 1 OF 4

boender & associates
 inc.
 consulting engineers
 land surveyors
 land planners

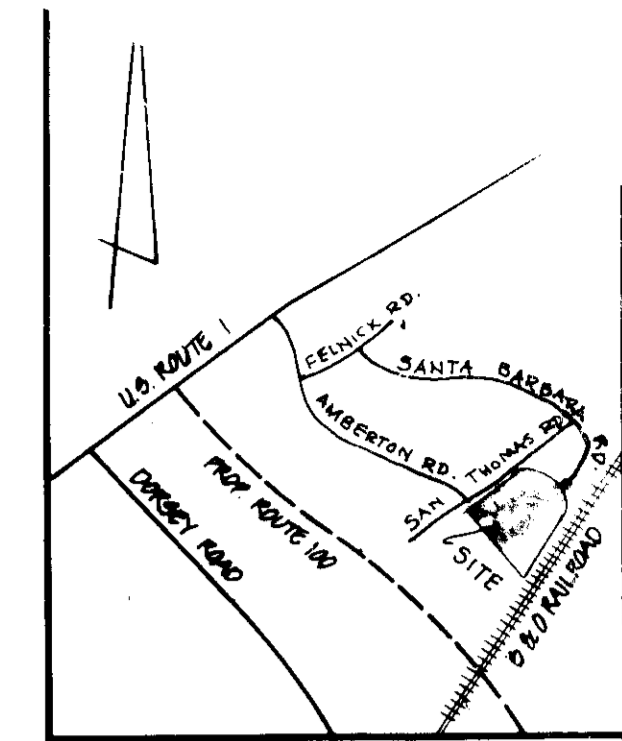
COURTHOUSE SQUARE
 3565 ELLICOTT MILLS DRIVE
 ELLICOTT CITY, MD. 21043
 13011 485-7177

SEDIMENT CONTROL NOTES

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- 7) Site Analysis:

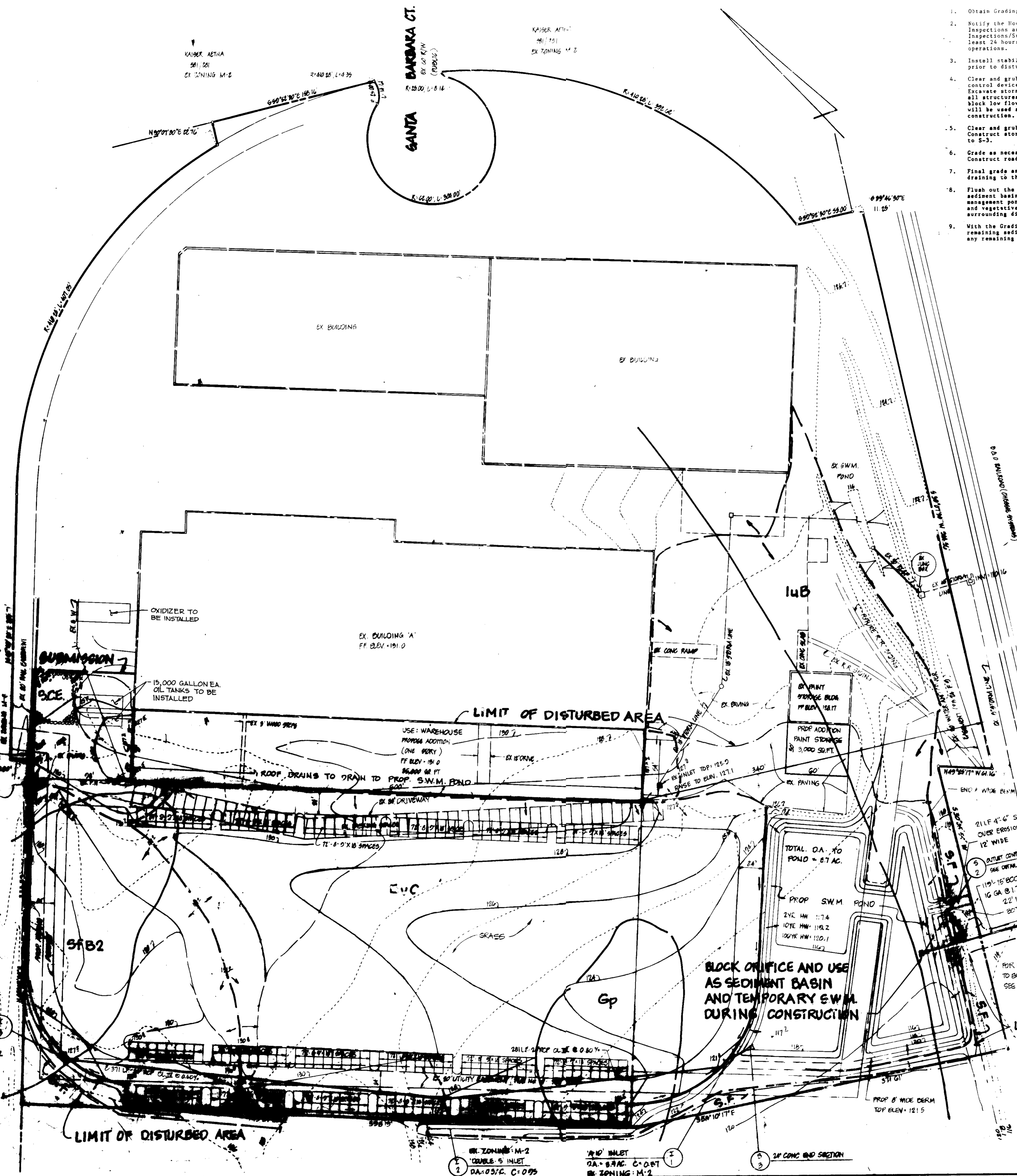
Total Area of Site	10.8 Acres
Area Disturbed	7.4 Acres
Area to be roofed or paved	2.1 Acres
Area to be vegetatively stabilized	5.3 Acres
Total Cut	5550 Cu.Yds.
Total Fill	5550 Cu.Yds.
Offsite waste/borrow area location	

- SEQUENCE OF CONSTRUCTION
1. Obtain Grading Permit. 1 day
 2. Notify the Howard County Bureau of Licenses, Inspections and Permits and the Construction Inspections/Survey Division at 792-7272 at least 24 hours prior to beginning grading operations.
 3. Install stabilized construction entrance (S.C.E.) prior to disturbing site. 1 day
 4. Clear and grub for installation of sediment control devices. Install silt fence (S.F.). Excavate stormwater management pond and provide all structures such as pipes, manholes, etc. but block low flow orifice at this time. The pond will be used as a sediment basin during construction. 1 week
 5. Clear and grub remaining areas to be disturbed. Construct storm drain system complete from 1-3 to 5-3. 2 weeks
 6. Grade as necessary. Construct warehouse addition. Construct roads and parking areas. 3 months
 7. Final grade and vegetatively stabilize areas draining to the storm drain system. 1 week
 8. Flush out the storm drain system. Clean out the sediment basin and establish the stormwater management pond by opening the low flow orifice and vegetatively stabilizing the pond and all surrounding disturbed areas. 1 week
 9. With the Grading Inspector's approval, remove all remaining sediment control devices and stabilize any remaining disturbed areas. 1 week



REVISIONS

1-8-87	ADD DRAINAGE LINES FROM EXISTING TO NEWLY	HPG
11-22-95	ADD OXIDIZER & 2 15,000 GAL. OIL TANKS	WCB



DEVELOPER'S CERTIFICATE

I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION SHALL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY CORRECTIONS RECOMMENDED BY THE ENGINEER OR THE DEPARTMENT OF NATURAL RESOURCES WILL BE MADE IMMEDIATELY. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN THIRTY DAYS OF COMPLETION.

Quinn M. Auhl
SIGNATURE OF DEVELOPER

7/1/86
DATE

ENGINEER'S CERTIFICATE

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 COUNTY SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN THIRTY DAYS OF COMPLETION.

Walter F. Aulich
SIGNATURE OF ENGINEER

7-3-86
DATE

APPROVED
DIVISION OF LAND DEVELOPMENT
ZONING ADMINISTRATOR
HOWARD COUNTY, MARYLAND
DATE: 7-29-86
BY: HMM

APPROVED FOR PUBLIC HEALTH, FIRE, AND SAFETY
DATE: 9-22-86
BY: [Signature]

APPROVED FOR PUBLIC HEALTH, FIRE, AND SAFETY
DATE: 9-12-86
BY: [Signature]

APPROVED FOR PUBLIC HEALTH, FIRE, AND SAFETY
DATE: 9-12-86
BY: [Signature]

APPROVED FOR PUBLIC HEALTH, FIRE, AND SAFETY
DATE: 9-12-86
BY: [Signature]

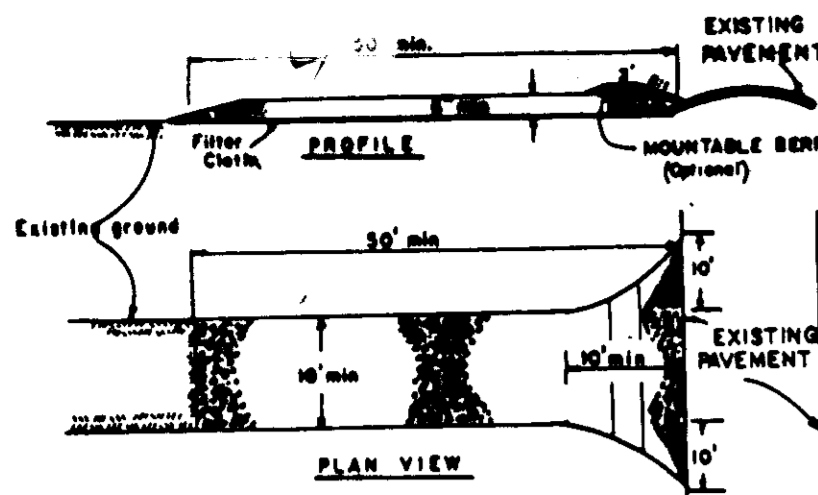
SUBDIVISION NAME	ROUTE 100 BUSINESS PARK
PLAT # OR L.P. BLOCK	10
SECTION	M-2
WATER CODE	

OWNER & DEVELOPER
CHICAGO METALLIC CORP
4047 NORTON AVENUE
CHICAGO, ILLINOIS 60630

boender associates inc.
consulting engineers
land surveyors
land planners

COURTHOUSE SQUARE
3565 ELLICOTT MILLS DRIVE
ELLICOTT CITY, MD 21043
(301) 465-7777

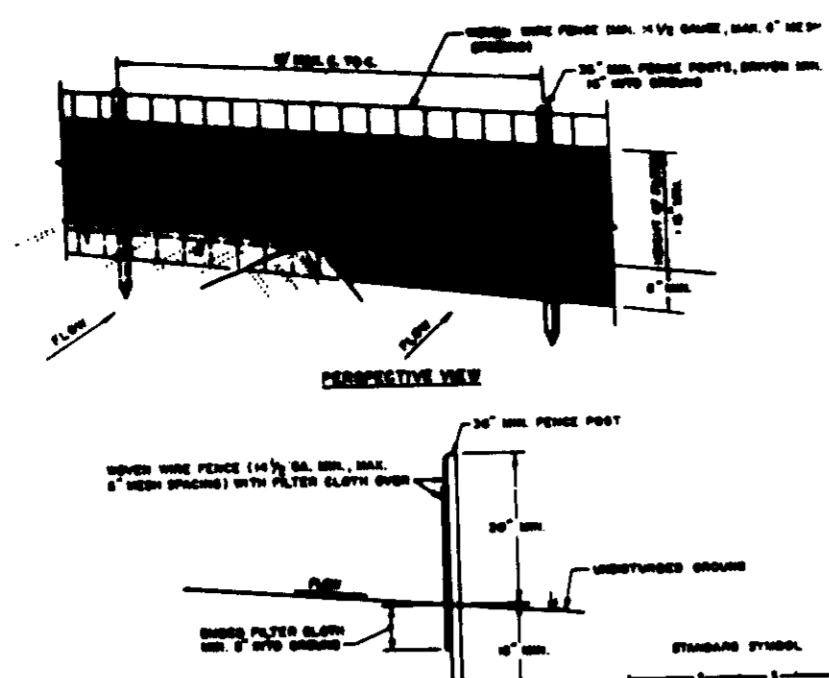
TITLE: SEDIMENT CONTROL, DRAINAGE AREA & SOILS MAP
PROJECT: ROUTE 100 BUSINESS PARK, BLOCK F, PARCEL B-1
LOCATION: ELECTION DISTRICT TAX MAP # HOWARD CO. MD.
SCALE: 1"=50'
DESIGNED BY: JJB
DRAWN BY: CJP
CHECKED BY: [Signature]
DATE: JUNE 1986
FIELD BOOK: [Blank]
PAGE NO.: [Blank]
JOB NO.: 88147
DRAWING NO.: 2 OF 4



- CONSTRUCTION SPECIFICATION**
- Stone size - Use 1" stone, or crushed concrete equivalent.
 - Length - As required, but not less than 30 feet (except on a single residential lot where a 20 foot minimum length would apply).
 - Thickness - Not less than six (6) inches.
 - Width - The (18) inch minimum, but not less than the full width at plain where ingress or egress occurs.
 - Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be replaced on a single family residential lot.
 - Surface Water - All surface water flowing or directed toward construction entrance shall be piped across the entrance. If piping is impractical, a manhole with 1/2 slope will be provided.
 - Maintenance - All entrances shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic sweeping with additional stone or conditions demand and require and/or placement of any entrance used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
 - Marking - Markers shall be placed to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
 - Periodic inspection and needed maintenance shall be provided after each rain.

STABILIZED CONSTRUCTION ENTRANCE E.C.E.

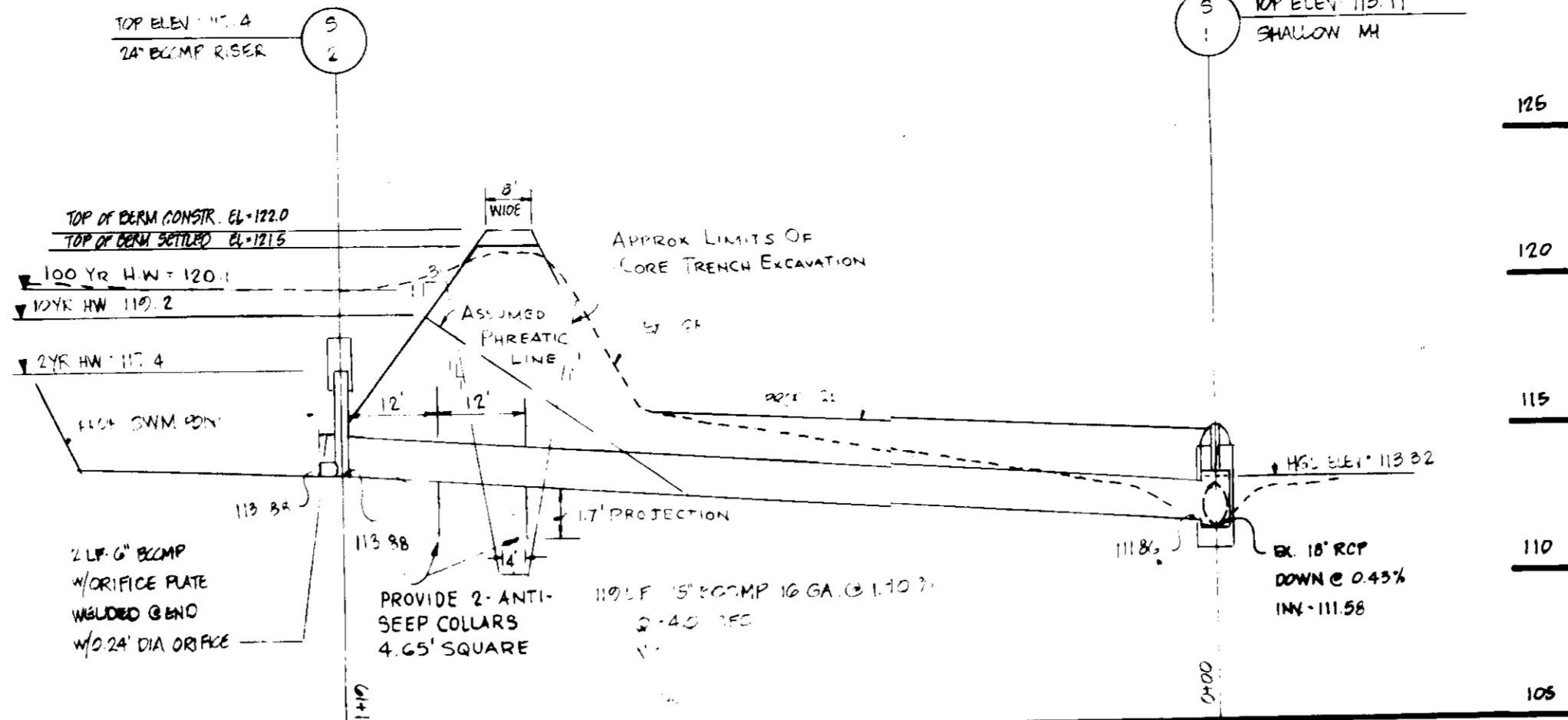
NOT TO SCALE



- CONSTRUCTION SPECIFICATION FOR STABILIZED ENTRANCE**
- Stone size shall be 1/2" to 1" in size, but not less than 3/8" in size.
 - Filter cloth shall be placed over the entire area prior to placing of stone.
 - Surface water shall be piped across the entrance.
 - Periodic inspection and needed maintenance shall be provided after each rain.

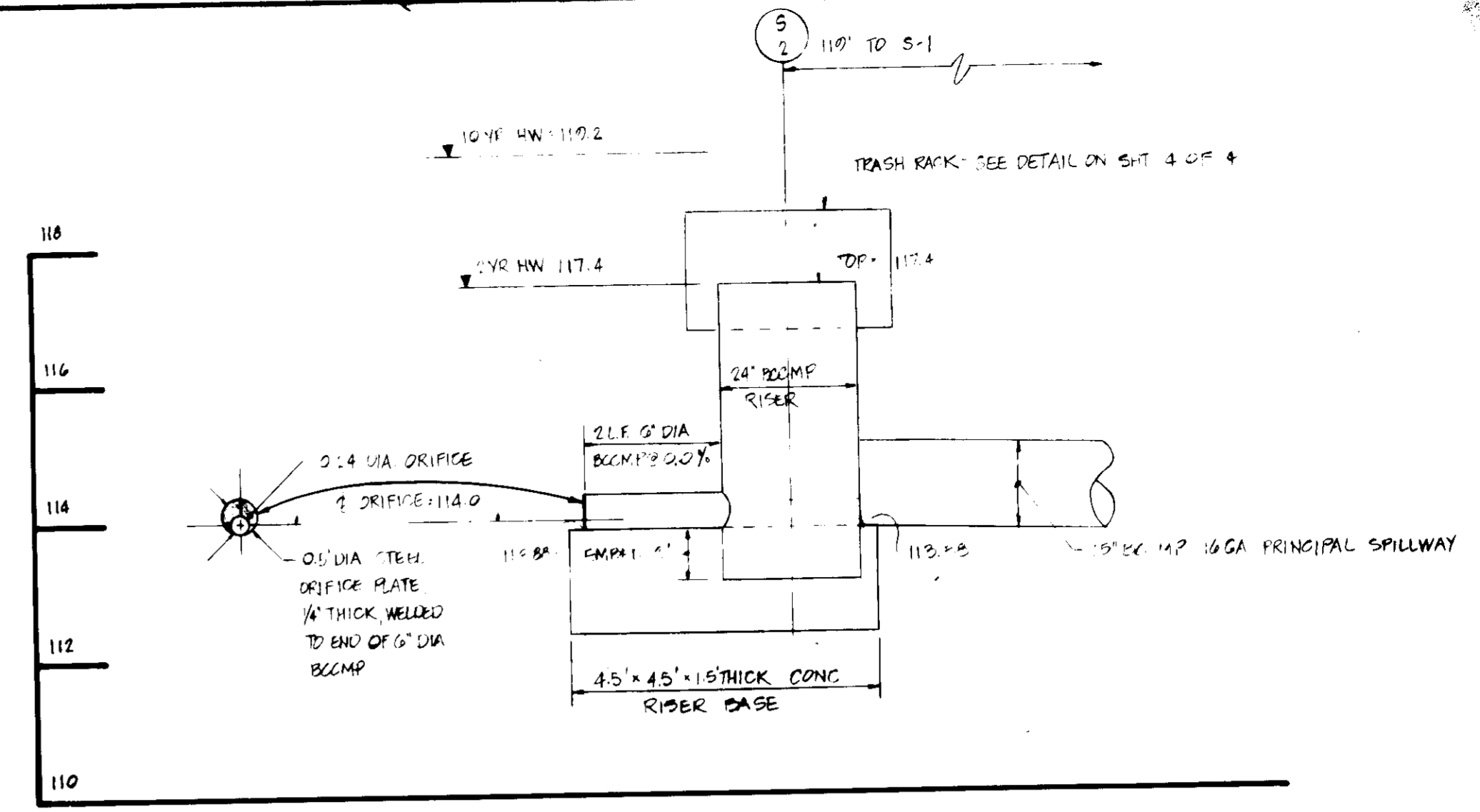
SILT FENCE - S.F.

NOT TO SCALE



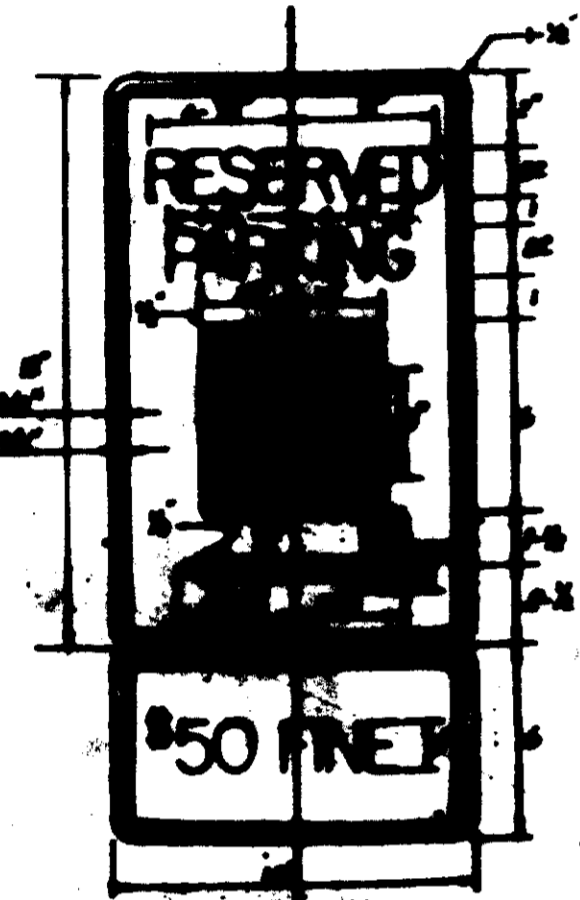
PROFILE: PRINCIPAL SPILLWAY

SCALE: HORIZ. 1" = 20' VERT. 1" = 5'

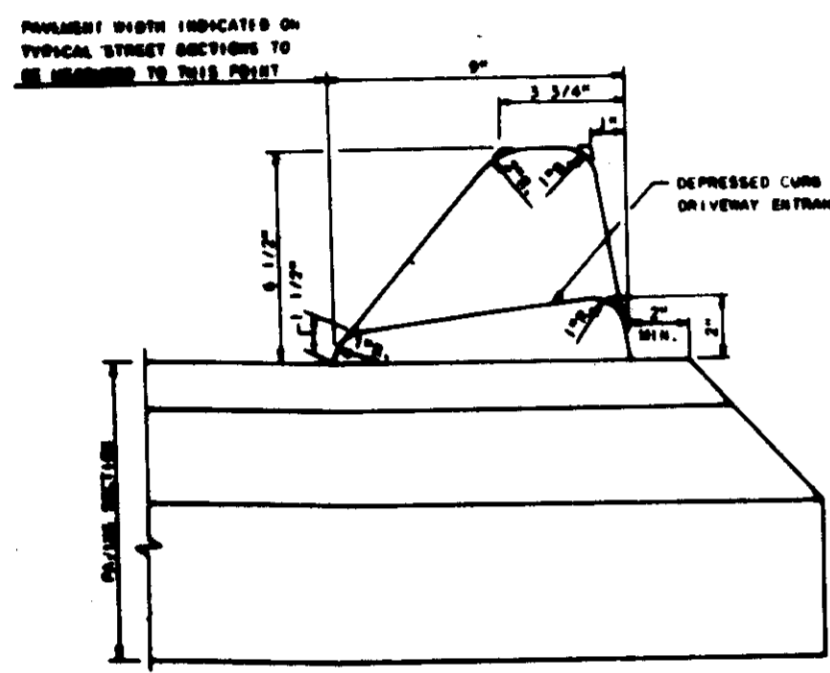


OUTLET CONTROL STRUCTURE - S-2

SCALE: HORIZ. 1" = 2' VERT. 1" = 2'

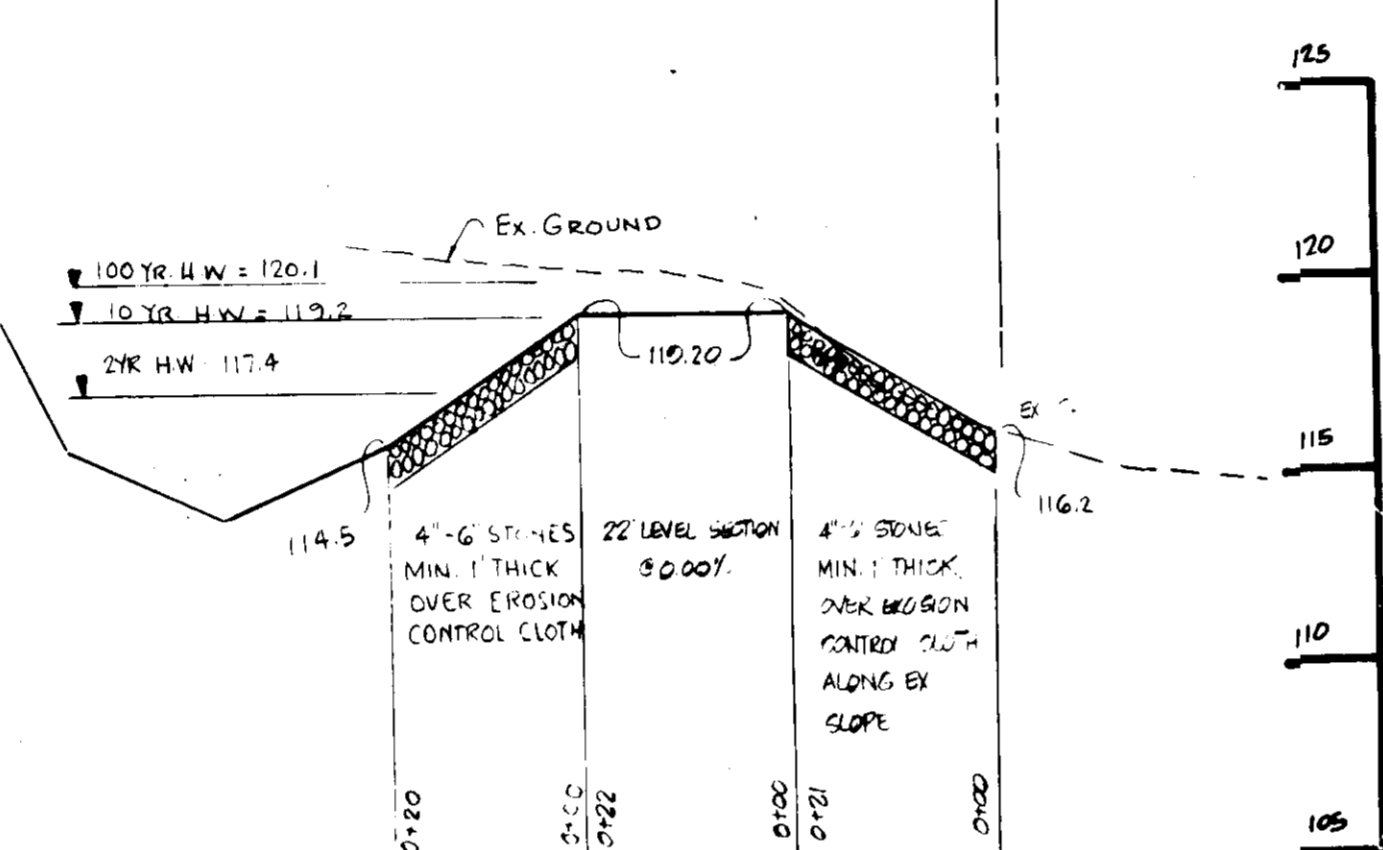


RESERVED PARKING
50 FEET



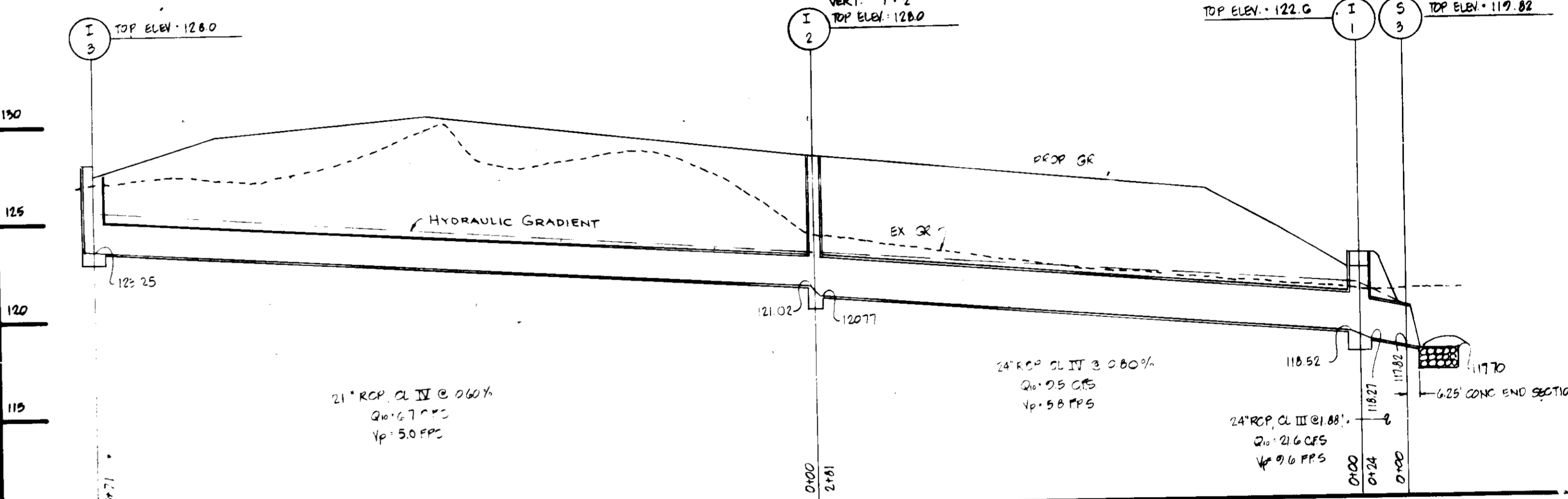
STD BITUMINOUS CURB

NOT TO SCALE



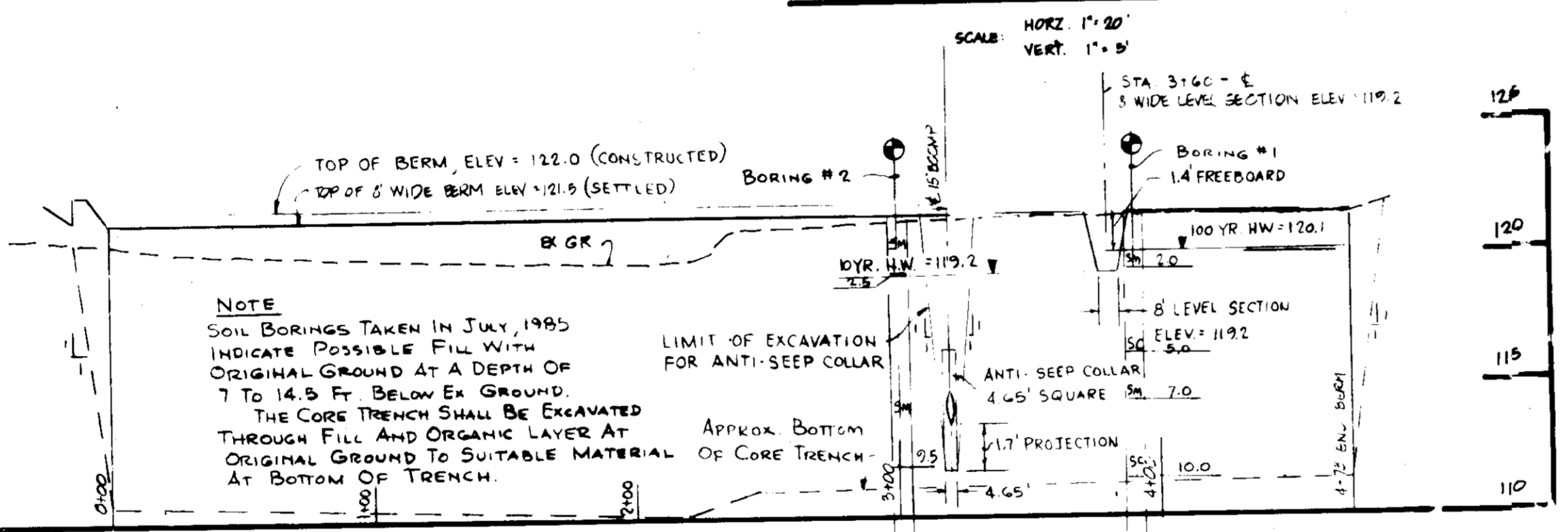
PROFILE: EMERGENCY SPILLWAY

SCALE: HORIZ. 1" = 20' VERT. 1" = 5'



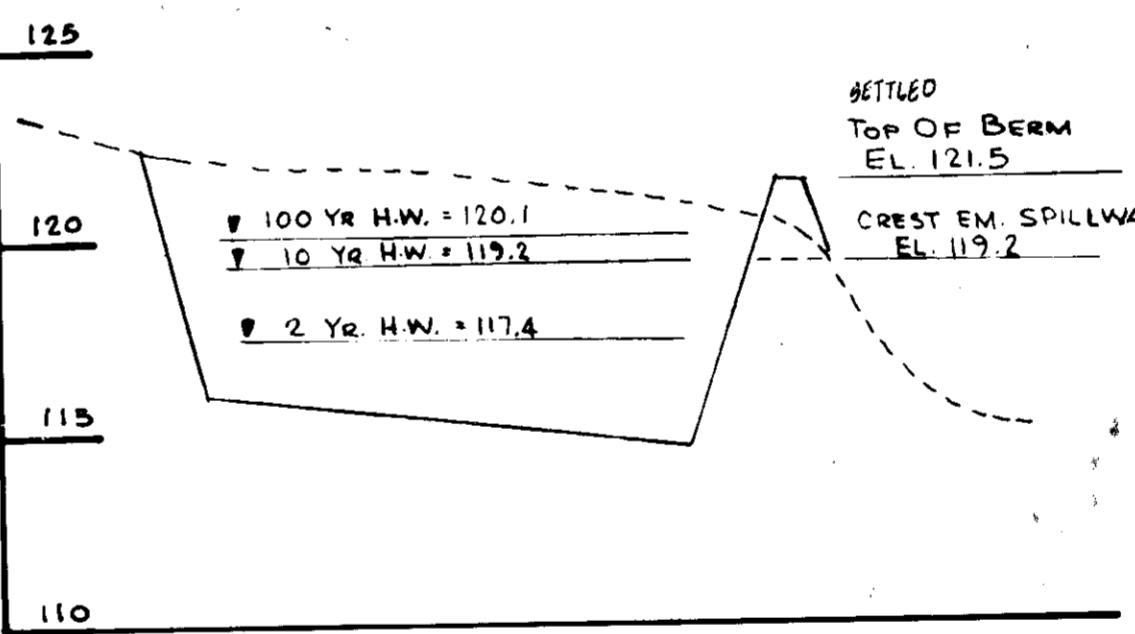
PROFILE

SCALE: HORIZ. 1" = 50' VERT. 1" = 5'



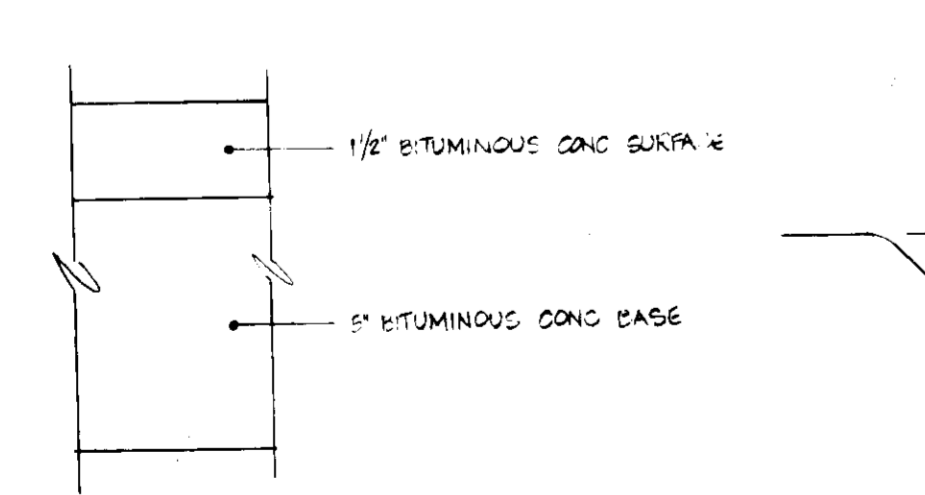
PROFILE: 8' WIDE BERM

SCALE: HORIZ. 1" = 50' VERT. 1" = 5'



SEC. B-B - X-SECTION OF S.W.M. PONDS

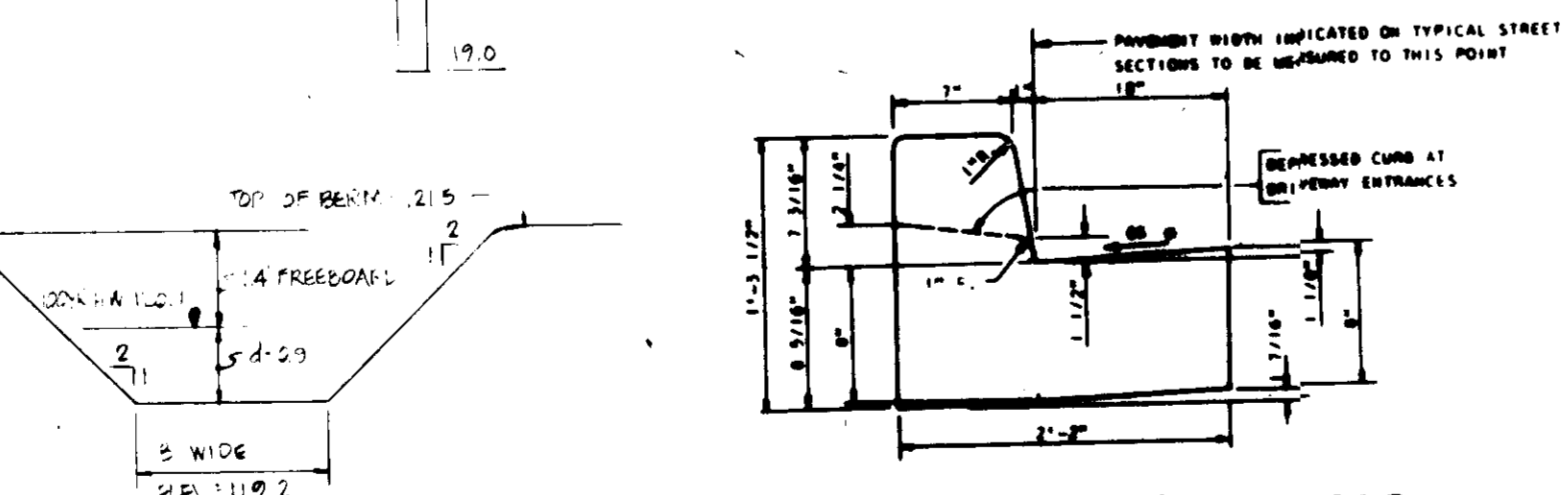
SCALE: HORIZ. 1" = 50' VERT. 1" = 5'



PAVING SECTION - P 2

1/2" STD. R-2.1

NOT TO SCALE



STD 1' CONC CURB & GUTTER

NOT TO SCALE

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David A. Rapp
SIGNATURE OF DEVELOPER
DATE: 7/1/86

ENGINEER'S CERTIFICATE
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Walter Arnold
SIGNATURE OF ENGINEER
DATE: 9-3-86

OWNER & DEVELOPER
CHICAGO METALLIC CORP
1049 ARDIN AVENUE
CHICAGO, ILLINOIS, 60638

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
James M. Bond 9/12/86
COUNTY HEALTH OFFICER
DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.
Thomas J. Hamilton 9-22-86
PLANNING DIRECTOR
DATE

William W. Marchman 9-22-86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION
DATE

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
W. F. Nimmer 9-22-86
DIRECTOR
DATE

James E. Rapp 9-12-86
CHIEF, BUREAU OF ENGINEERING
DATE

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.
James M. Nelder 9-7-86
U.S. SOIL CONSERVATION SERVICE
DATE

THIS DEVELOPMENT IS APPROVED SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Walter Arnold 9-7-86
SOIL CONSERVATION DISTRICT
DATE

DIVISION
7-29-86

boender associates inc. consulting engineers land surveyors land planners COURTHOUSE SQUARE 3565 ELLICOTT MILLS DRIVE ELLICOTT CITY, MD. 21043 1201 486-7777	
TITLE: SDP-86-126 PROJECT: ROUTE 100 BUSINESS PARK BLOCK F, PARCEL B-1 LOCATION: 1ST ELECTION DISTRICT TAX MAP 88 HOWARD CO. MD. SCALE: AS SHOWN DESIGNED BY: AG SHOWN DRAWN BY: AG SHOWN CHECKED BY: AG SHOWN DATE: 1/16/1985 FIELD BOOK: 3074 PAGE NO.: 3 OF 4 JOB NO.: 8510 DRAWING NO.: 3074	BUILDING ADDITION TO SDP-83-70 TITLE: DET/14 PROJECT: ROUTE 100 BUSINESS PARK BLOCK F, PARCEL B-1 LOCATION: 1ST ELECTION DISTRICT TAX MAP 88 HOWARD CO. MD. SCALE: AS SHOWN DESIGNED BY: AG SHOWN DRAWN BY: AG SHOWN CHECKED BY: AG SHOWN DATE: 1/16/1985 FIELD BOOK: 3074 PAGE NO.: 3 OF 4 JOB NO.: 8510 DRAWING NO.: 3074

SDP-86-126

SITE PREPARATION

Areas under the borrow areas, embankment, and structures shall be cleared, grubbed and the topsoil stripped to a depth of 6 inches. All trees, vegetation, roots or other objectionable material shall be removed. Areas covered by the pond or reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and logs shall be cut approximately level with the ground surface.

All cleared and grubbed material shall be disposed of outside the limits of the dam and reservoir as directed by the owner or his representative. When specified, 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 areas or areas. It shall be free of roots, stumps, wood, rubbish, over-size 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.

Placement

Areas on which fill is to be placed shall be scarified prior to placement. 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 borrow 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 entire surface of each lift shall be covered by not less than two road trucks of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction can be obtained with the equipment used.

Cutoff Trench

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 governed by the equipment used for excavation, with the minimum width being four 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 shall be the most impervious material available and shall be compacted with equipment or rollers to assure maximum density and minimum permeability.

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.

PIPE CONDUITS

A. Corrugated Metal Pipe

1. Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of ASTM Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of ASTM Specification M-194 or M-211 with watertight coupling bands. Coupling bands, anti-seep collars, and sections, etc. must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer. Hot dip galvanizing shall be used for connections. The pH of the surrounding soils shall be less than 9 and greater than 4.

Helically corrugated pipe in addition to the requirements above shall have either continuously welded seams or have lock seams which are caulked, during fabrication, with a neoprene bead.

2. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around with the pipe and riser are metal. Watertight coupling bands shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable soil compacted to provide adequate support.

4. Laying pipe - The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides.

5. Backfilling shall conform to structural backfill as shown above.

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

B. Reinforced Concrete Pipe

1. Materials - Reinforced concrete pipe shall have a rubber gasket joint and shall equal or exceed ASTM Specification C-361. Approved equivalents are AWWA Specification C-300, 301, and 302.
2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 1/8" of its diameter with a minimum thickness of 3", or as shown on the drawings.
3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire length of the pipe, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe.
4. Backfilling shall conform to structural backfill as shown above.
5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

C. For pipes of other materials, specific specifications shall be shown on the drawings.

CONCRETE

1. Materials

- a. Cement - Normal Portland cement shall conform to the latest ASTM Specification C-150.
- b. Water - The water used in concrete shall be clean, free from oil, acid, alkali, scales, organic matter or other objectionable substances.
- c. 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.
- d. 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.
- e. Reinforcing Steel - The reinforcing steel shall be deformed bars of intermediate grade billet steel or rail steel conforming to ASTM Specification A-615.

2. 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 harshness in placing or honeycombing in the structure.

3. 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 minutes after all the ingredients, except the full amount of water, are in the mixer. The minimum mixing time is predicated 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.

4. Forms - The forms shall have sufficient strength and rigidity to hold the concrete and to withstand the necessary pressure, tamping, and vibration without deflection from the prescribed lines. They shall be mortar-tight and constructed so that they can be removed without hammering or prying against the concrete.

The inside of forms shall be oiled with a non-staining mineral oil or thoroughly wetted before concrete is placed. Forms may be removed 24 hours after the placement of concrete. All wire ties and other devices used shall be recessed from the surface of the concrete.

5. 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 blocked into position so that no movement of the steel will occur during placement of concrete.

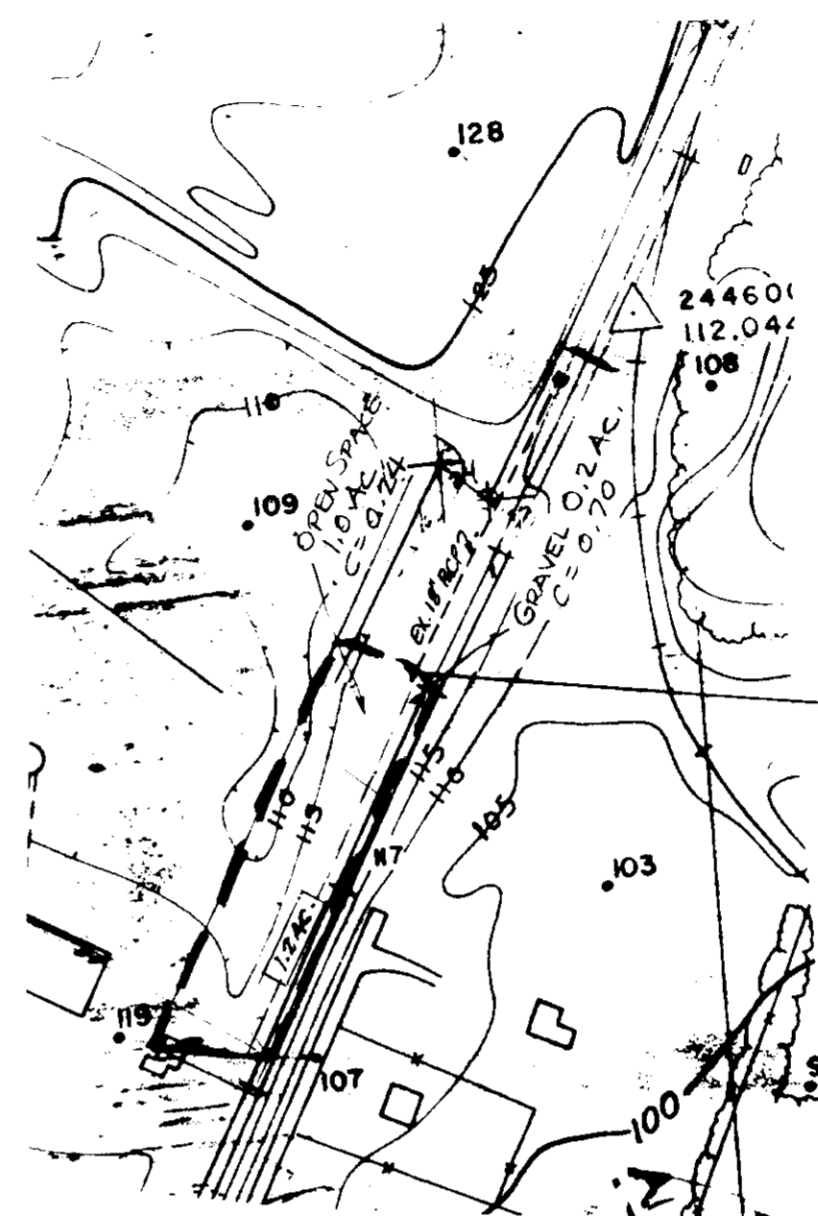
6. Consolidating - Concrete shall be consolidated with internal type mechanical vibrators. Vibration shall be supplemented by spading and hand tamping as necessary to insure smooth and dense concrete along form surfaces, in corners, and around embedded items.

7. Finishing - Defective concrete, honeycombed areas, voids left by the removal of tie 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-patching mortar.

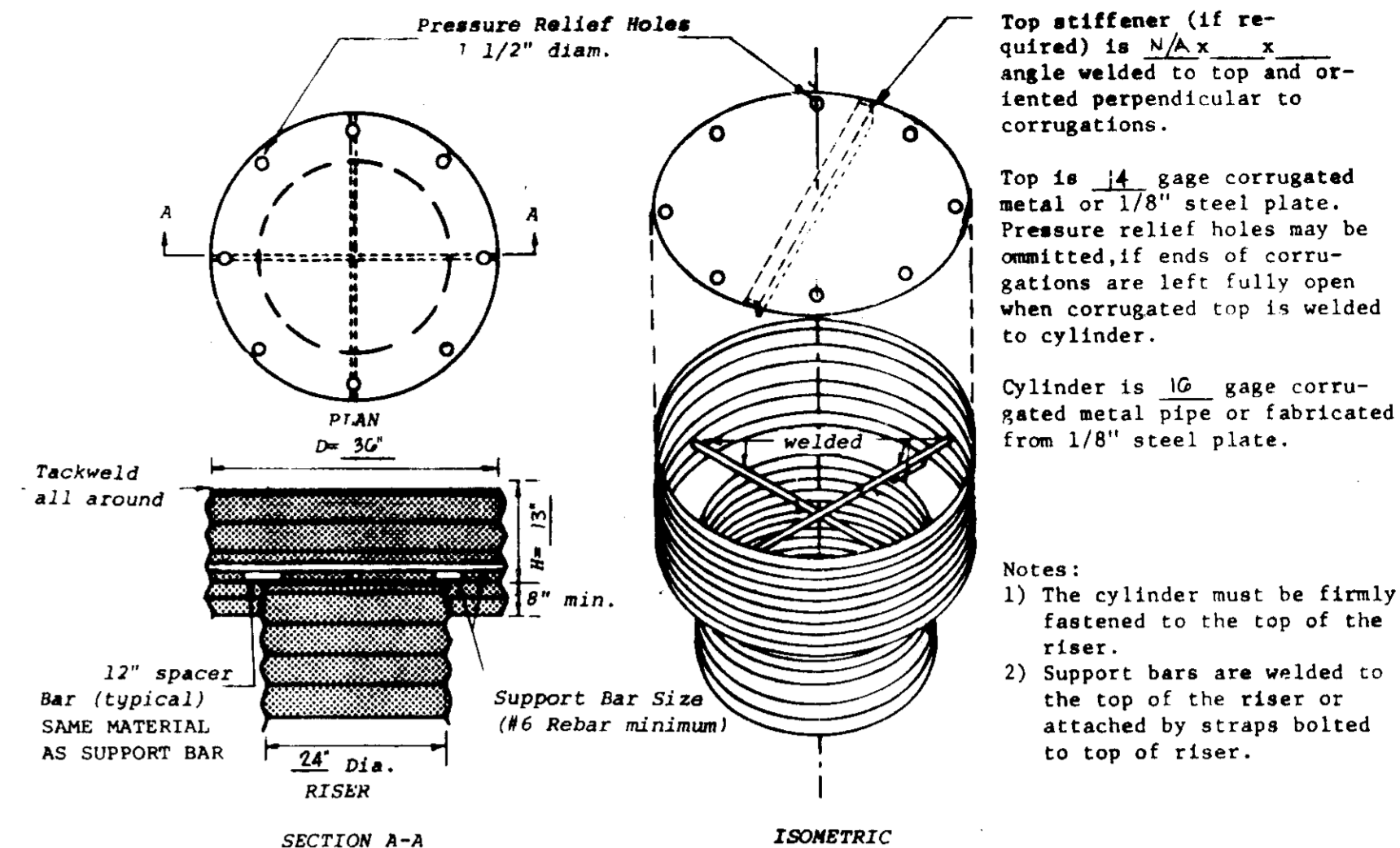
8. Protection and Curing - Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least the first three (3) days. All concrete shall be kept continuously moist for at least ten (10) days after being placed. Moisture may be applied by spraying or sprinkling as necessary to prevent the concrete from drying. Concrete shall not be exposed to freezing during the curing period. Curing compounds may also be used.
9. Placing Temperature - Concrete may not be placed at temperatures below 37° F with the temperature falling, or 34° with the temperature rising.

VI. STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a slightly 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.



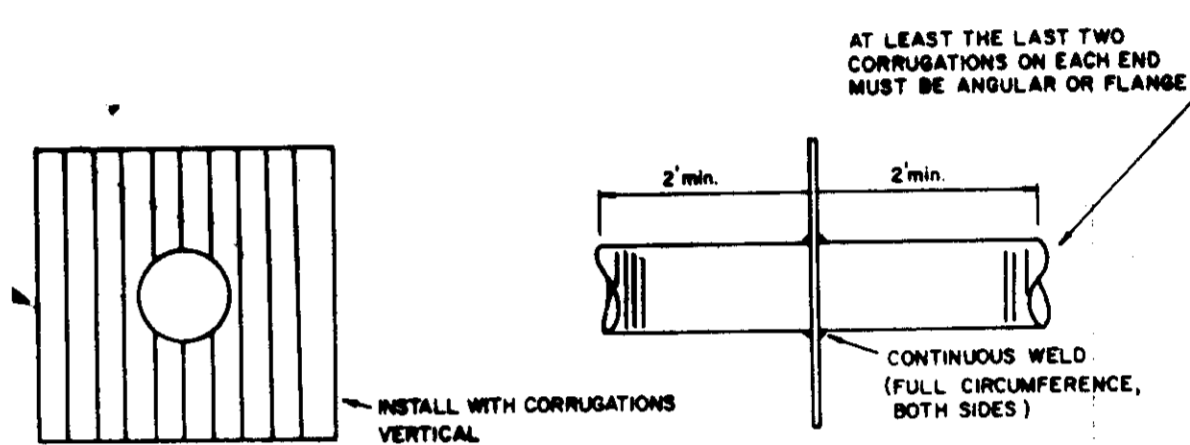
DRAINAGE AREA MAP TO EX. ENDWALL-E-1
SCALE 1" = 200'



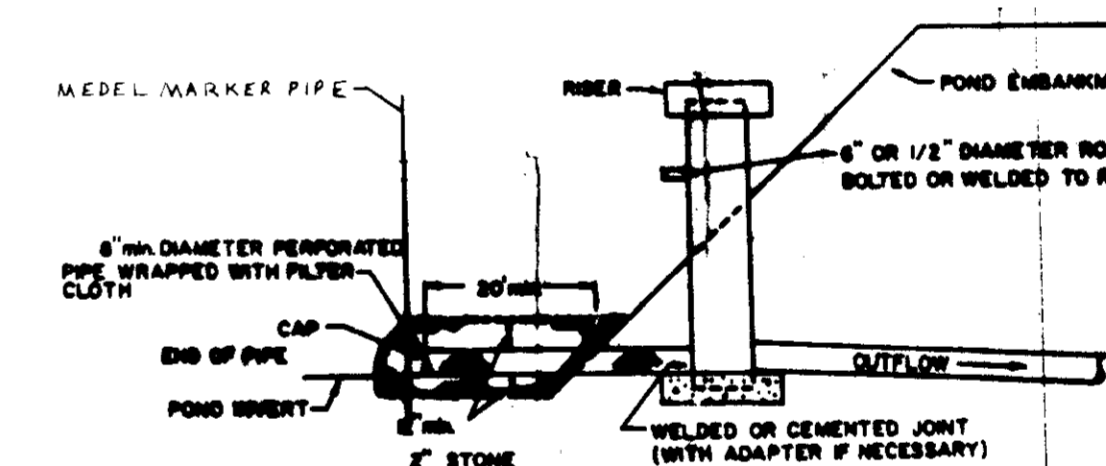
TRASH RACK & ANTI-VORTEX DEVICE

S.C.S. MAN. PG. 18-30 NOT TO SCALE

APPROVED FOR ZONING
HOWARD COUNTY
DATE 4-29-86
[Signature]



ANTI-SEEP COLLAR DETAIL
NOT TO SCALE



LOW FLOW ORIFICE BLOCKING DETAIL
NOT TO SCALE

DEVELOPER'S CERTIFICATE
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 INVOLVEMENT 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 THIRTY DAYS OF COMPLETION.

[Signature] DATE 7/1/86
SIGNATURE OF DEVELOPER

ENGINEER'S CERTIFICATE
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 COUNTY SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN THIRTY DAYS OF COMPLETION.

[Signature] DATE 7-3-86
SIGNATURE OF ENGINEER

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.	[Signature] DATE 9/10/86
APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.	[Signature] DATE 9-22-86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION	[Signature] DATE 9-22-86
APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	[Signature] DATE 9-10-86
DIRECTOR	[Signature] DATE 9-12-86
CHIEF, BUREAU OF ENGINEERING	[Signature] DATE 9-12-86
REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.	
U.S. SOIL CONSERVATION SERVICE	DATE
THIS DEVELOPMENT IS APPROVED SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.	
SOIL CONSERVATION DISTRICT	DATE

OWNER & DEVELOPER
CHICAGO METALLIC CORP.
4849 AUSTIN AVE
CHICAGO, ILLINOIS 60630

BUILDING ADDITION TO SDP-83-70	
TITLE	POND SPECIFICATIONS
PROJECT	ROUTE 100 BUSINESS PARK BLOCK F, PARCEL B-1
LOCATION	1ST ELECTION DISTRICT HOWARD CO. MD.
SCALE:	DESIGNED BY: DRAWN BY: CHECKED BY: DATE: OCT 1985
FIELD BOOK:	PAGE NO. JOB NO. DRAWING NO. 4 OF 4

boender associates
INC
consulting engineers
land surveyors
land planners
COURTHOUSE SQUARE
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ELLICOTT CITY, MD 21043
(301) 486-1773

SDP-86-12.6