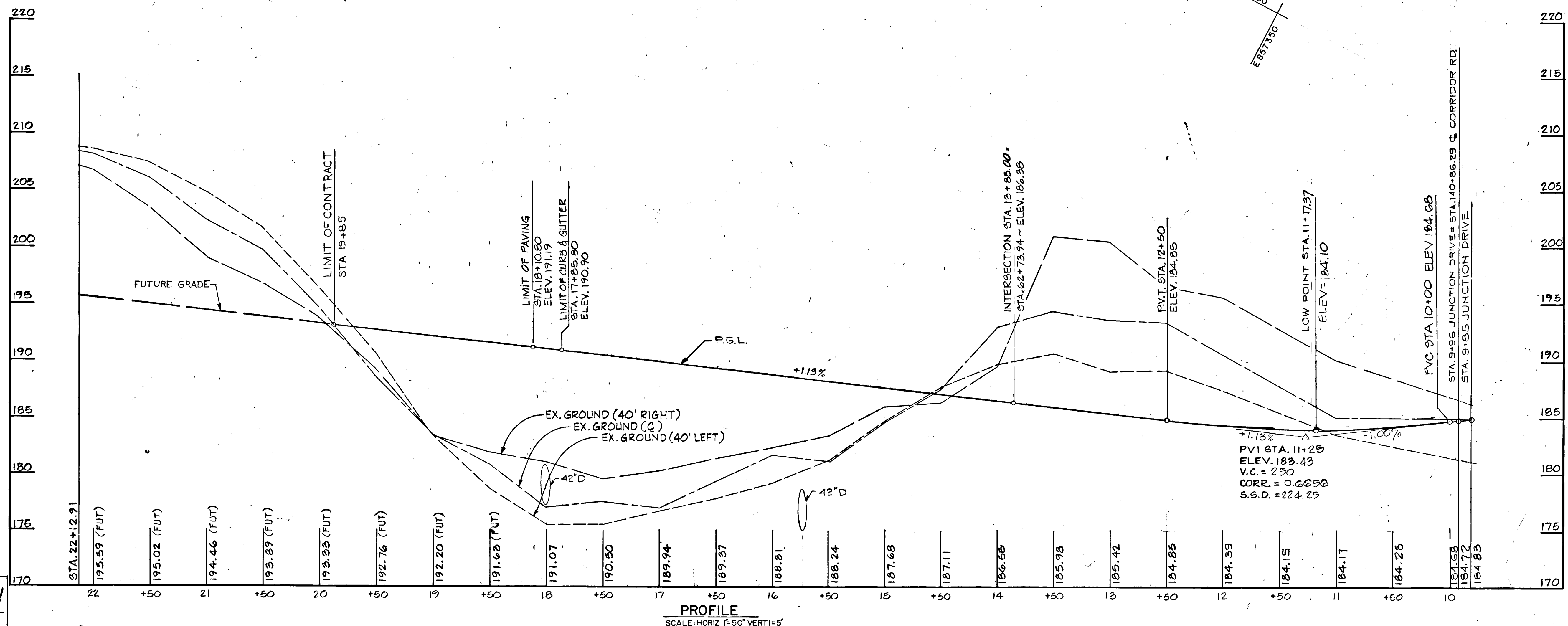


INLET SCHEDULE				
NO.	TYPE	Q	INV. IN.	TOP ELEV.
I-1	A-5 W/DEFLECT	1.92	177.58	187.27
I-2	A-5	1.75	179.81	184.13
I-3	A-5	2.88	180.08	184.13

MANHOLE SCHEDULE				
NO.	TYPE	SIZE	INV. IN.	TOP ELEV.
M-2	HO.CO.STD.GS.II	60"	177.12(176.20)	188.54
M-3	HO.CO.STD.GS.IB	60"	179.22(178.30)	186.16
M-10	HO.CO.STD.GS.II	60"	175.60(174.68)	191.83

STRUCTURE SCHEDULE				
NO.	TYPE	SIZE	INV. IN.	TOP ELEV.
S-2	METAL END SECTION WITH TOE PLATE	42"	170.60	174.30
S-3	TYPE 'A' HEADWALL	42"	181.10	186.10
S-4	CONC. END SECTION	42"	170.20	178.90



OFFICE OF PLANNING & ZONING  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 CHIEF, BUREAU OF ENGINEERING  
 DATE: 12-17-84

**WHITNEY MAILEY FOX MAGNANI**  
 CONSULTING ENGINEERS  
 1850 York Road  
 Timonium Md. 21093  
 301-252-6060



DES. J.K.			
DRN. R.G.	WBCM	BEARING CHANGE	
CHK. P.D.	WBCM	PIPE SIZE AND/OR TYPE CHANGED	4/21/85
	WBCM	PIPE TYPE & INVERTS CHANGED, SHADING ADDED	2/20/86
DATE: 11-1-84	WBCM	STATION NO. CHANGED	2/9/85
	BY NO.	REVISION	DATE

**PLAN AND PROFILE**  
**JUNCTION DRIVE**  
 STA. 10+00 TO STA. 18+10

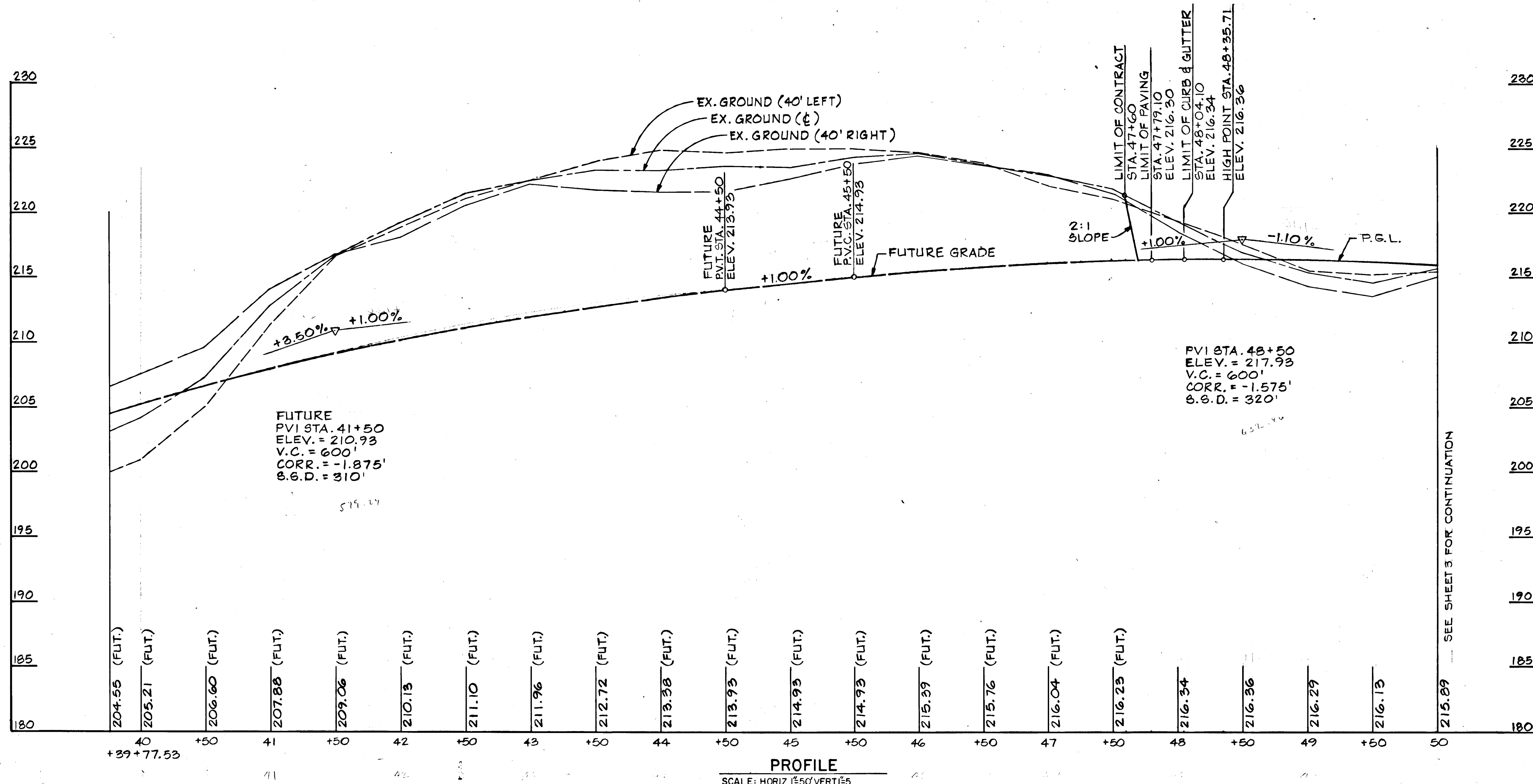
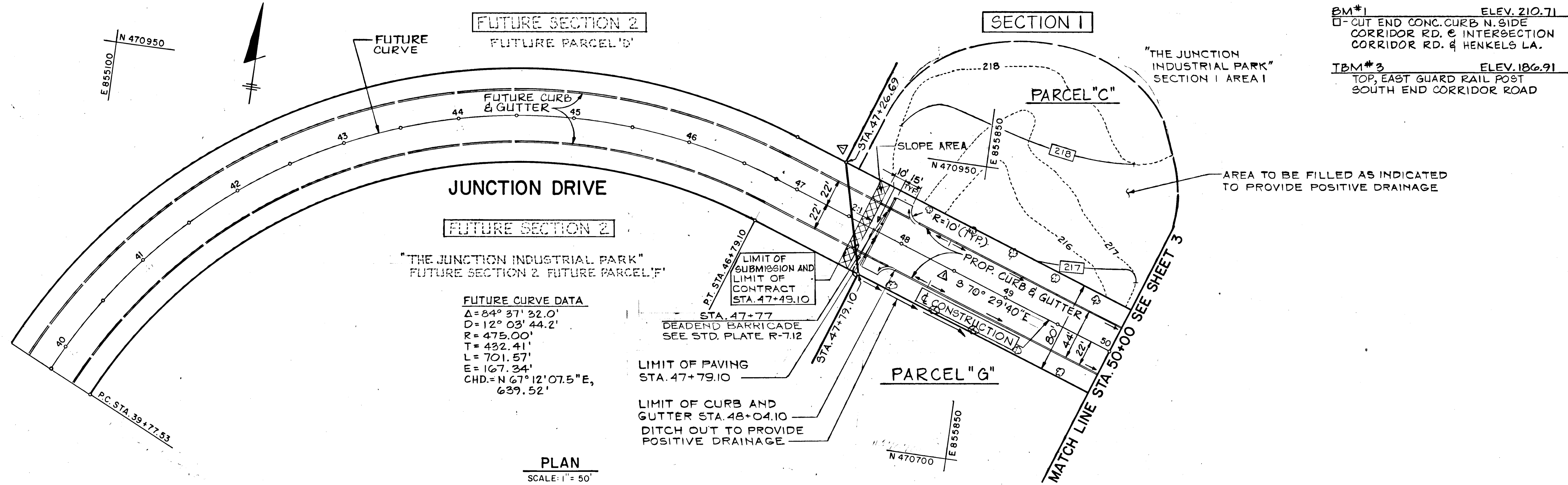
**JUNCTION INDUSTRIAL PARK SECTION I**  
**ELECTION DISTRICT GILFORD NO. 6**  
 OWNER: JUNCTION LIMITED PARTNERSHIP P.O. BOX  
 GLEN ARM, MARYLAND 21057

SCALE AS SHOWN  
 SHEET 2 OF 15

F-84-204



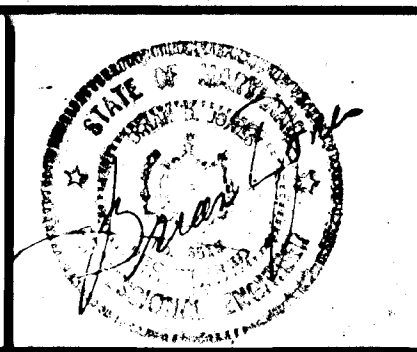




OFFICE OF PLANNING & ZONING  
 CHIEF - DIVISION OF LAND DEVELOPMENT - DATE AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 CHIEF, BUREAU OF ENGINEERING

**HITNEY AILEY OX MAGNANI**  
 CONSULTING ENGINEERS  
 1850 York Road  
 Timonium Md. 21093  
 301-252-6060



DES: J.K.  
 DRN: R.G.  
 CHK: P.D.  
 DATE: 11-1-84

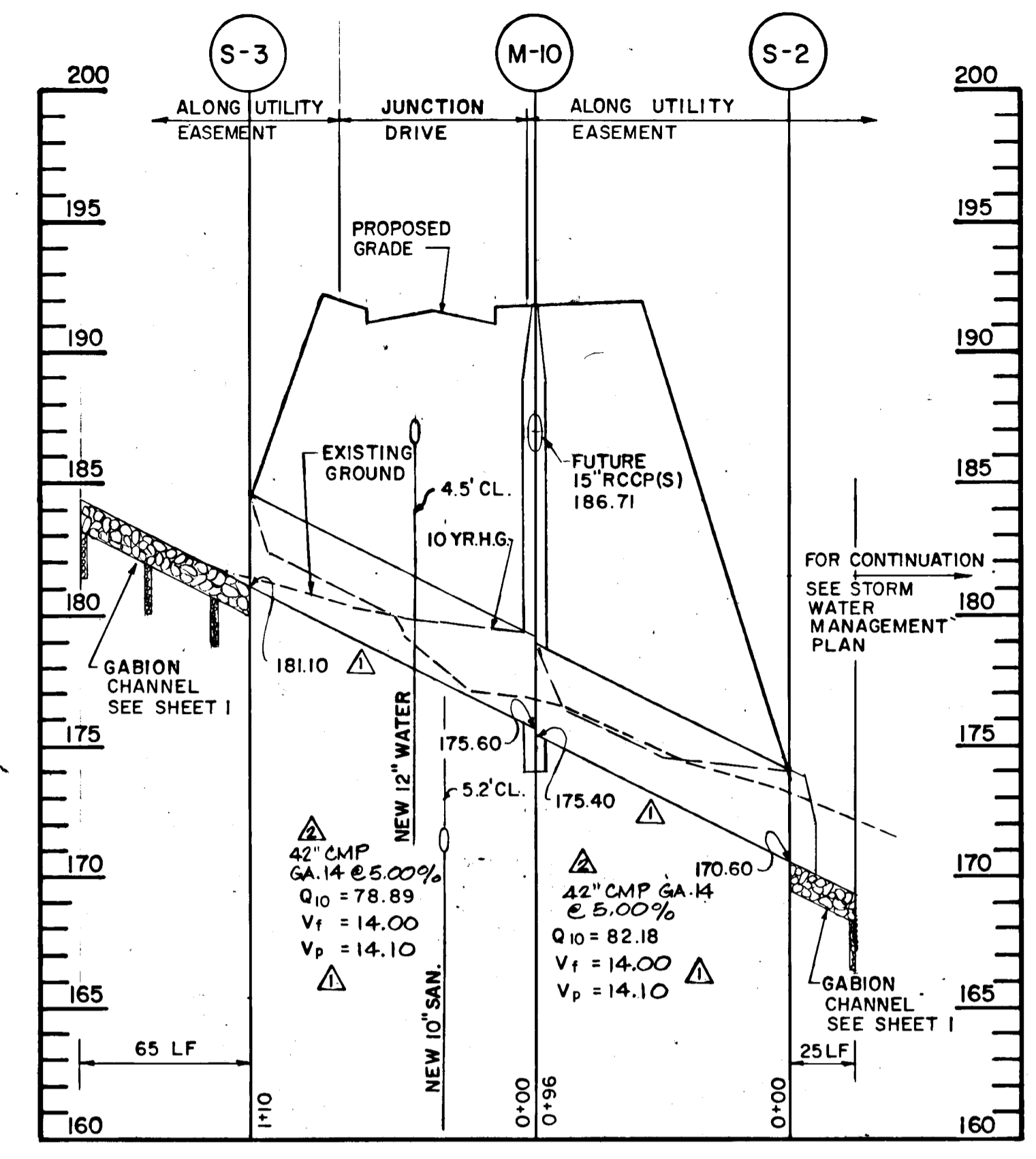
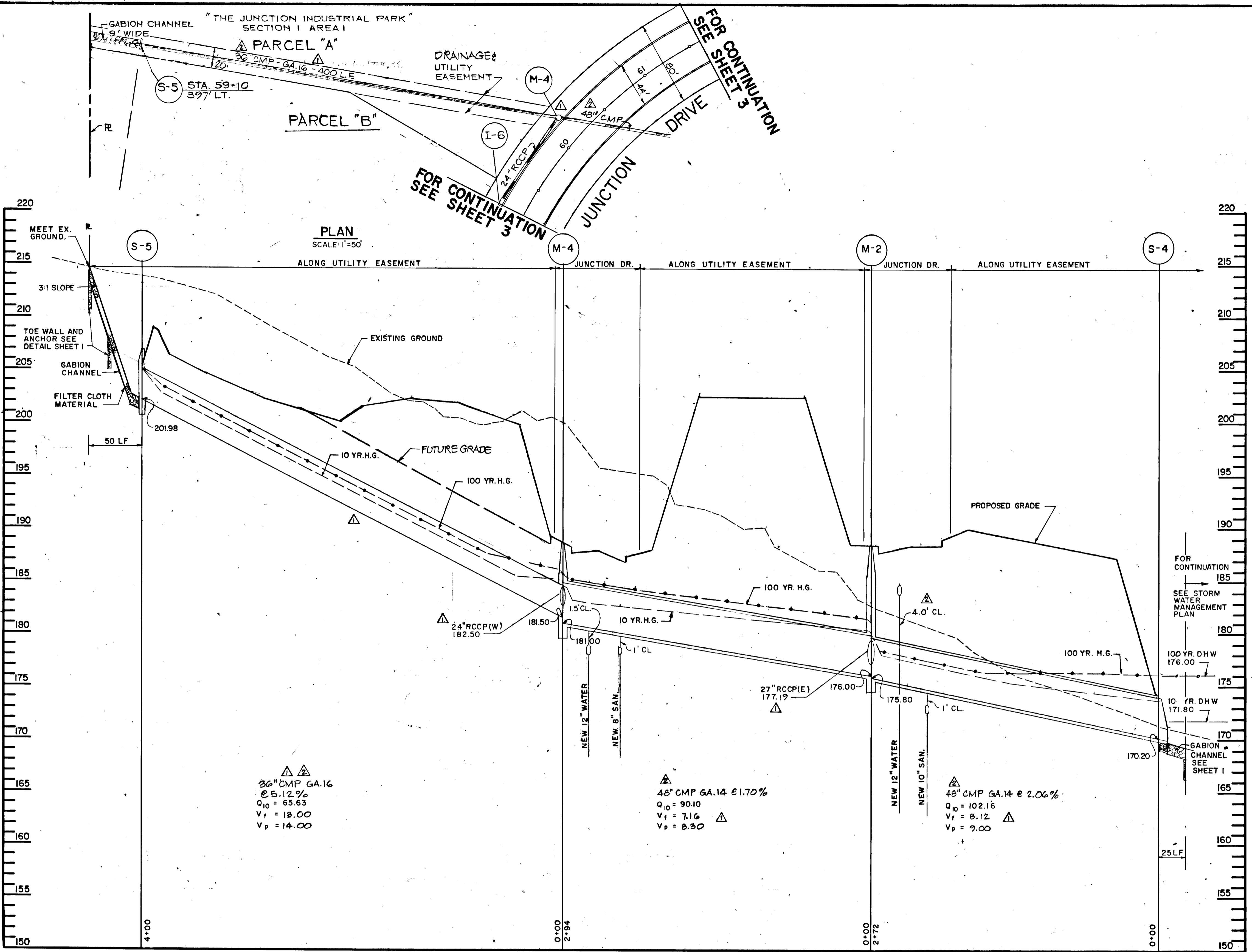
**PLAN AND PROFILE**  
**JUNCTION DRIVE**  
**STA. 47+60 TO STA. 50+00**

**JUNCTION INDUSTRIAL PARK SECTION 1**  
**ELECTION DISTRICT GILFORD NO. 6**

OWNER: JUNCTION LIMITED PARTNERSHIP P.O. BOX 125  
 GLEN ARM, MARYLAND 21057

SCALE AS SHOWN  
 SHEET 4 OF 15

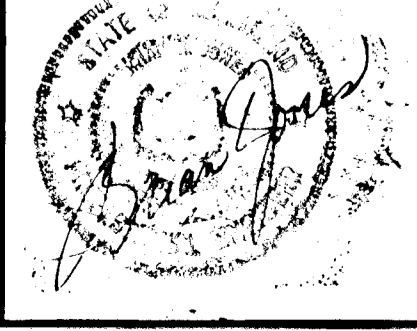
F-84-204



OFFICE OF PLANNING & ZONING  
*William M. ...*  
 CHIEF, DIVISION OF LAND DEVELOPMENT - DATE AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*William M. ...*  
 CHIEF, BUREAU OF ENGINEERING  
 DATE: 12-17-84

**WHITNEY BAILEY FOX MAGNANI**  
 CONSULTING ENGINEERS  
 1850 York Road  
 Timonium, Md. 21093  
 301-252-6060



DES: E.B.			
DRN: G.G.			
CHK: P.D.	WBCM	PIPE TYPE AND/OR SIZE CHANGED	4/25/84
	WBCM	PIPE TYPE & VELOCITIES CHANGED	2/28/84
DATE: 11-1-84	BY: NO.	REVISION	DATE

**STORM DRAIN PLAN AND PROFILES**

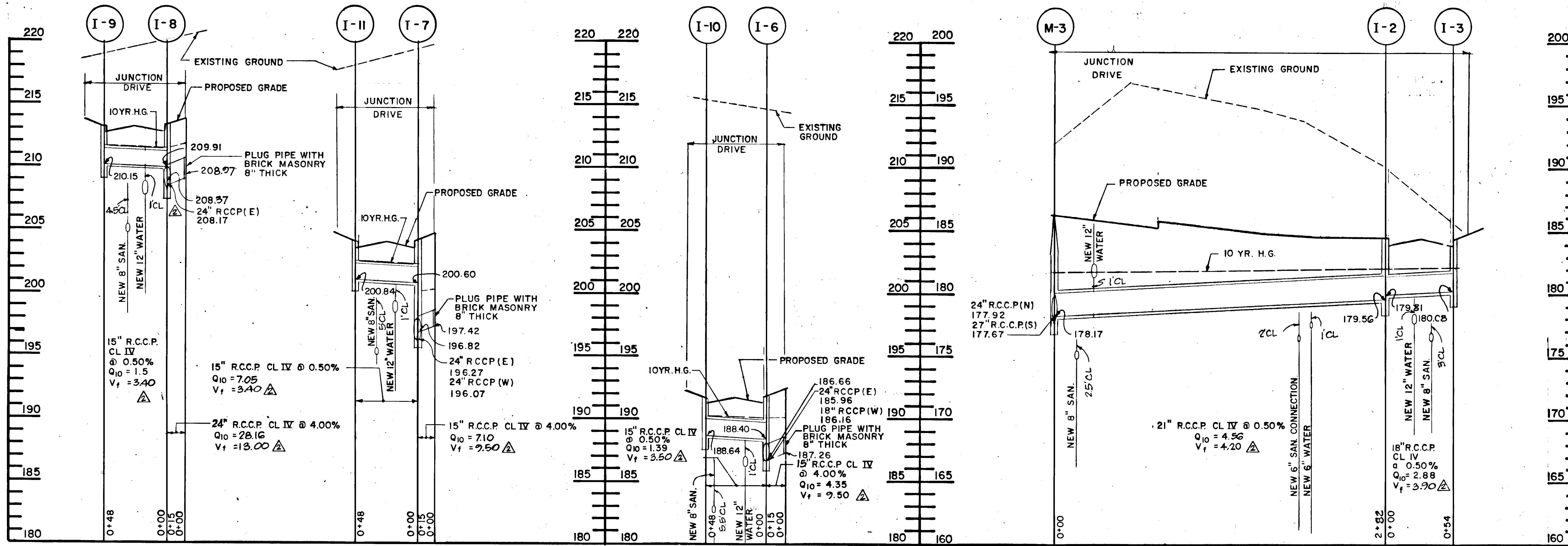
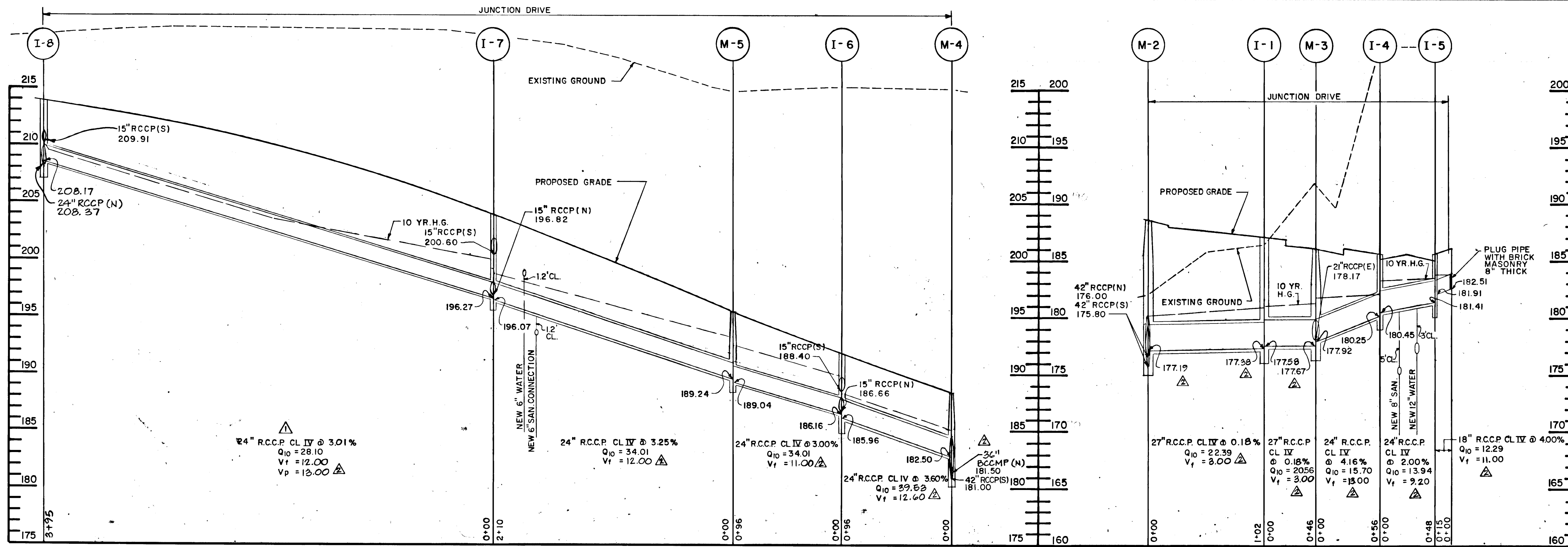
600' SCALE MAP NO. 48 BLOCK NO. 19

**JUNCTION INDUSTRIAL PARK SECTION I  
 ELECTION DISTRICT GILFORD NO. 6**

OWNER: JUNCTION LIMITED PARTNERSHIP P.O. BOX 125  
 GLEN ARM, MARYLAND 21057

SCALE AS SHOWN  
 SHEET 5 OF 15

F-5, F-B4-204



**STORM DRAIN PROFILES**

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

OFFICE OF PLANNING & ZONING  
*Howard County* 12-14-84  
 CHIEF - DIVISION OF LAND DEVELOPMENT - DATE AND ZONING ADMINISTRATION

OFFICE OF PLANNING & ZONING  
 CHIEF - DIVISION OF LAND DEVELOPMENT - DATE AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Howard County*  
 CHIEF, BUREAU OF ENGINEERING

**WHITNEY AILEY** CONSULTING ENGINEERS  
 1850 York Road  
 Timonium Md. 21093  
 301-252-6060



DES:	E. B.		
DRN:	G. G.		
CHK:	P. D.	WBCM	INVERTS & VELOCITIES CHANGED, STUB REMOVED 2/28/85
DATE:	11-1-84	WBCM	REVISE PROFILE I-7 TO I-8 2/19/85
BY:	NO.		REVISION

**STORM DRAIN PROFILES**

DATE: 600' SCALE MAP NO. 48 BLOCK NO. 19

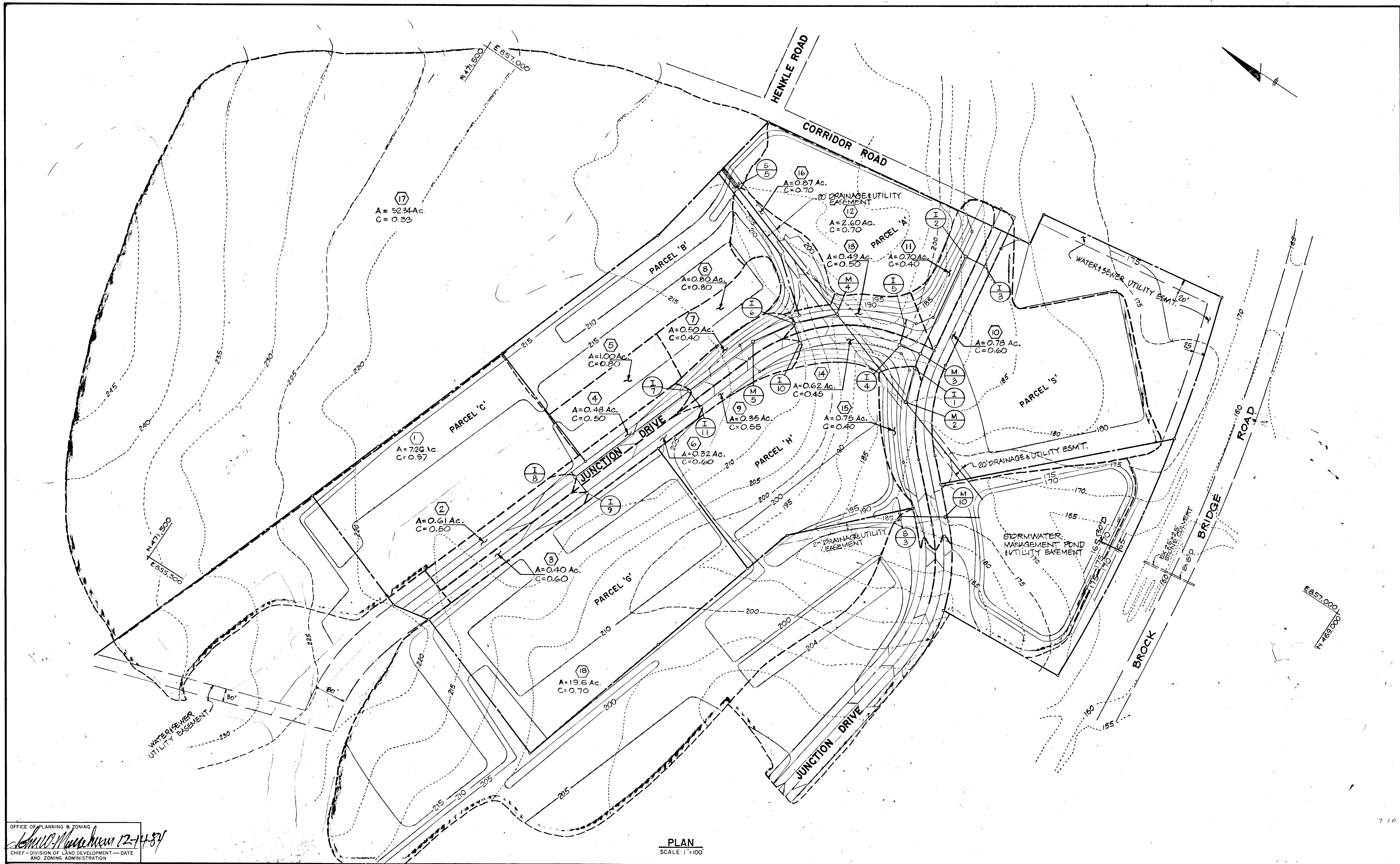
**JUNCTION INDUSTRIAL PARK SECTION I  
 ELECTION DISTRICT GILFORD NO. 6**

OWNER: JUNCTION LIMITED PARTNERSHIP P.O. BOX 125  
 GLEN ARM, MARYLAND 21037

SCALE AS SHOWN  
 SHEET 6 OF 15

F-84-204





PLAN  
SCALE: 1"=100'

OFFICE OF PLANNING & ZONING  
*William M. ...* 12-14-84  
 CHIEF - DIVISION OF LAND DEVELOPMENT - DATE  
 AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*...*  
 CHIEF, BUREAU OF ENGINEERING

**HITNEY AILEY OX AGNANI** CONSULTING ENGINEERS  
 1850 York Road  
 Timonium Md 21093  
 301-252-6060



DES: J.J.K.			
DRN: G.G.			
CHK: P.D.			
DATE: 11-1-84	BY NO.	REVISION	DATE

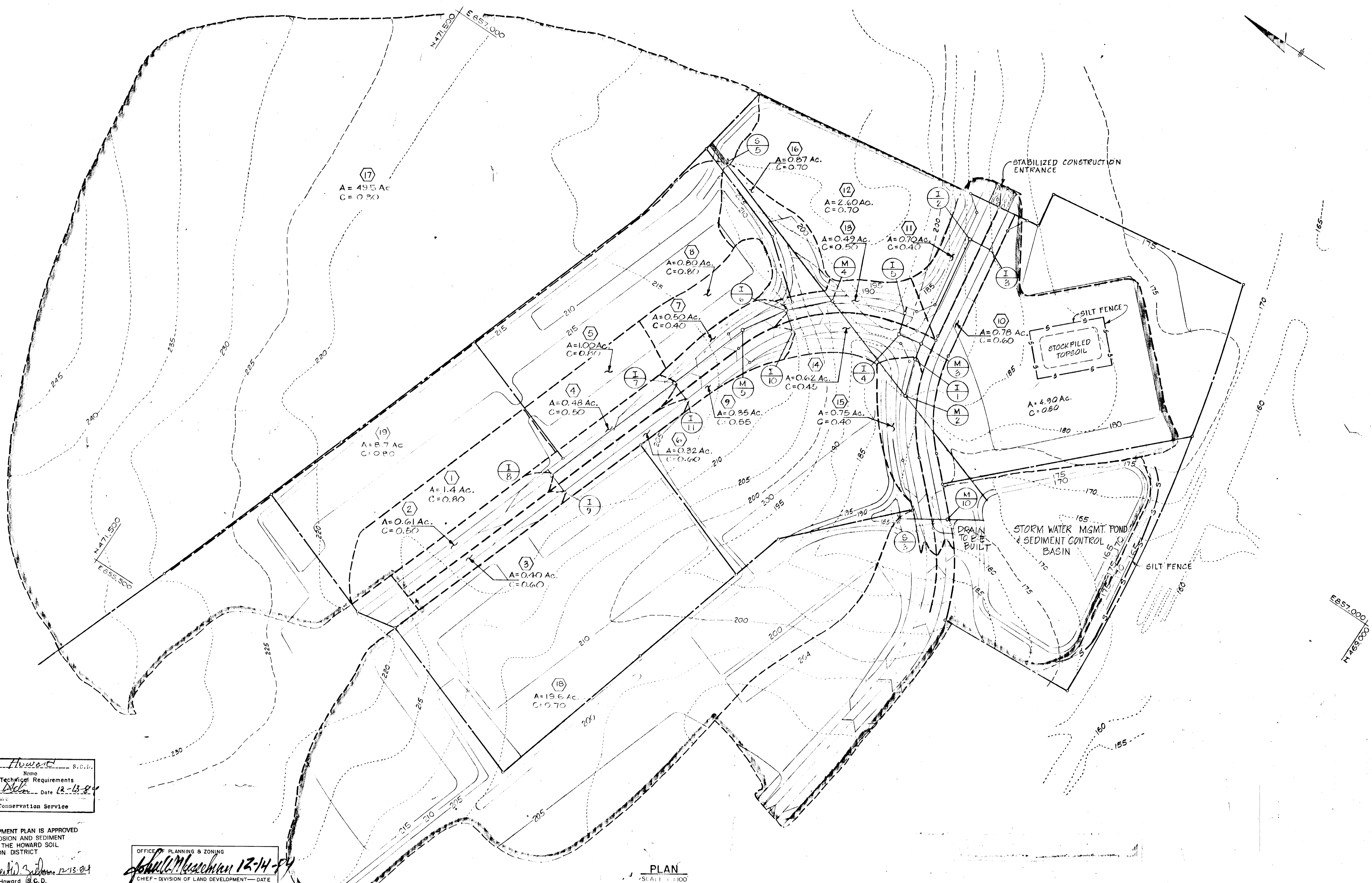
DRAINAGE AREA MAP

JUNCTION INDUSTRIAL PARK SECTION I  
 ELECTION DISTRICT GILFORD NO. 6

OWNER: JUNCTION LIMITED PARTNERSHIP P.O. BOX 125  
 GLEN ARM, MARYLAND 21037

SCALE AS SHOWN  
 SHEET 7 OF 15

F-84-204



Reviewed for Howard S.C.D.  
 Name  
 and meets Technical Requirements  
Chris M. Bell Date 12-13-04  
 U.S. Soil Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED  
 FOR SOIL EROSION AND SEDIMENT  
 CONTROL BY THE HOWARD SOIL  
 CONSERVATION DISTRICT  
 Approved by Howard Date 12-13-04  
 S.C.D.

OFFICE OF PLANNING & ZONING  
John M. Macchian 12-14-04  
 CHIEF - DIVISION OF LAND DEVELOPMENT - DATE  
 AND ZONING ADMINISTRATION

PLAN  
 SCALE 1" = 100'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
William B. Ray 12-17-04  
 CHIEF, BUREAU OF ENGINEERING

**WHITNEY FAILEY** CONSULTING ENGINEERS  
 1850 York Road  
 Timonium Md. 21093  
 301-252-6060

Chris M. Bell

DES: J.J.K.			
DRN: G.G.			
CHK: P.D.			
DATE: 10-22-04	BY: NO.	REVISION	DATE

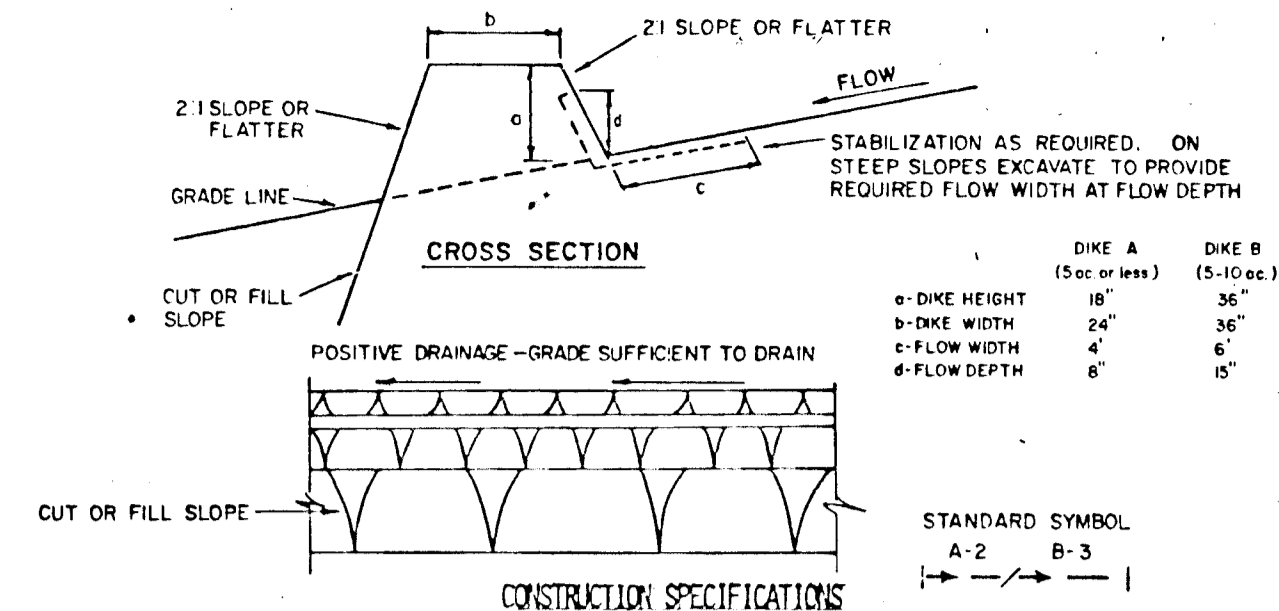
**DRAINAGE AREA MAP  
 FOR SEDIMENT CONTROL BASIN**  
 600' SCALE MAP NO. 48 BLOCK NO. 19

**JUNCTION INDUSTRIAL PARK SECTION I  
 ELECTION DISTRICT GILFORD NO. 6**  
 OWNER: JUNCTION LIMITED PARTNERSHIP

SCALE AS SHOWN  
 SHEET 8 OF 15

F-84-204



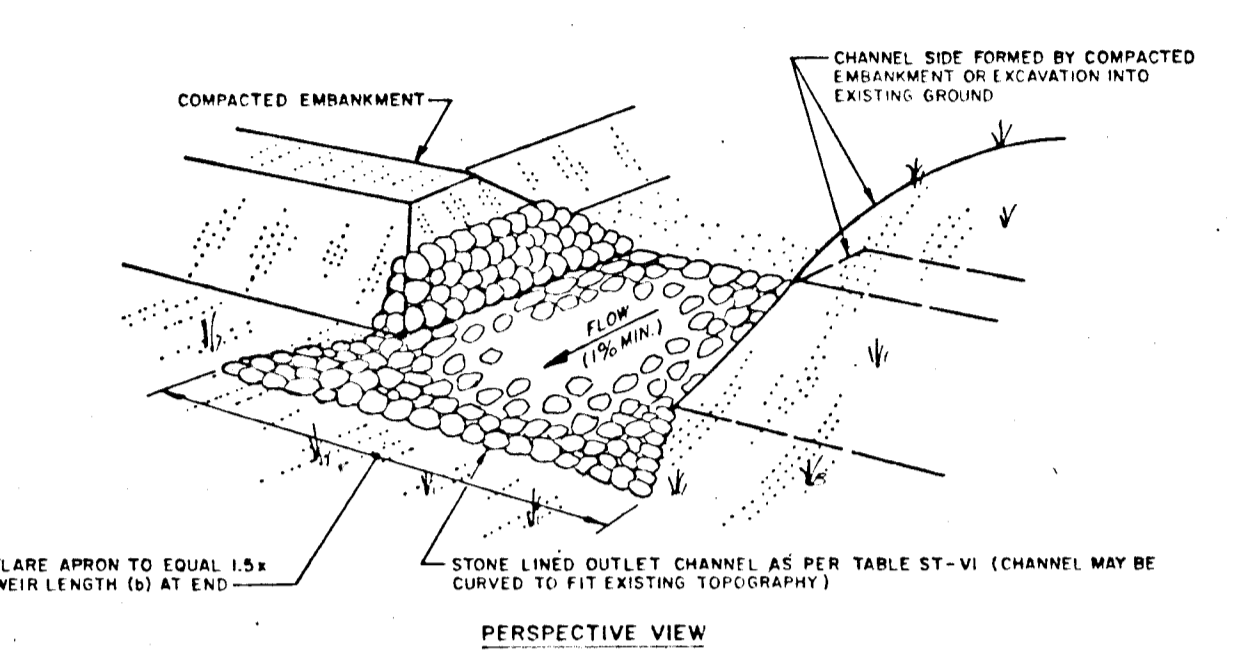
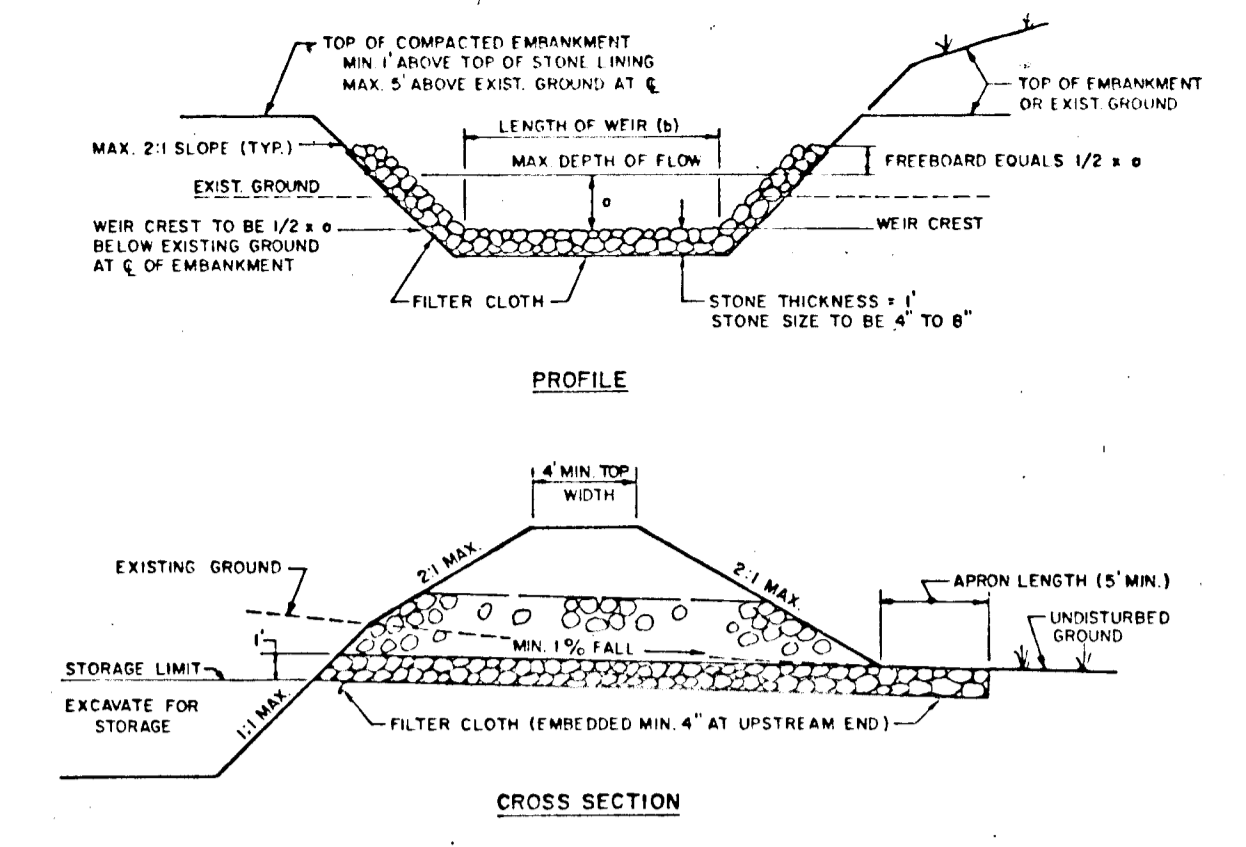


**ELONG CHANNEL STABILIZATION**

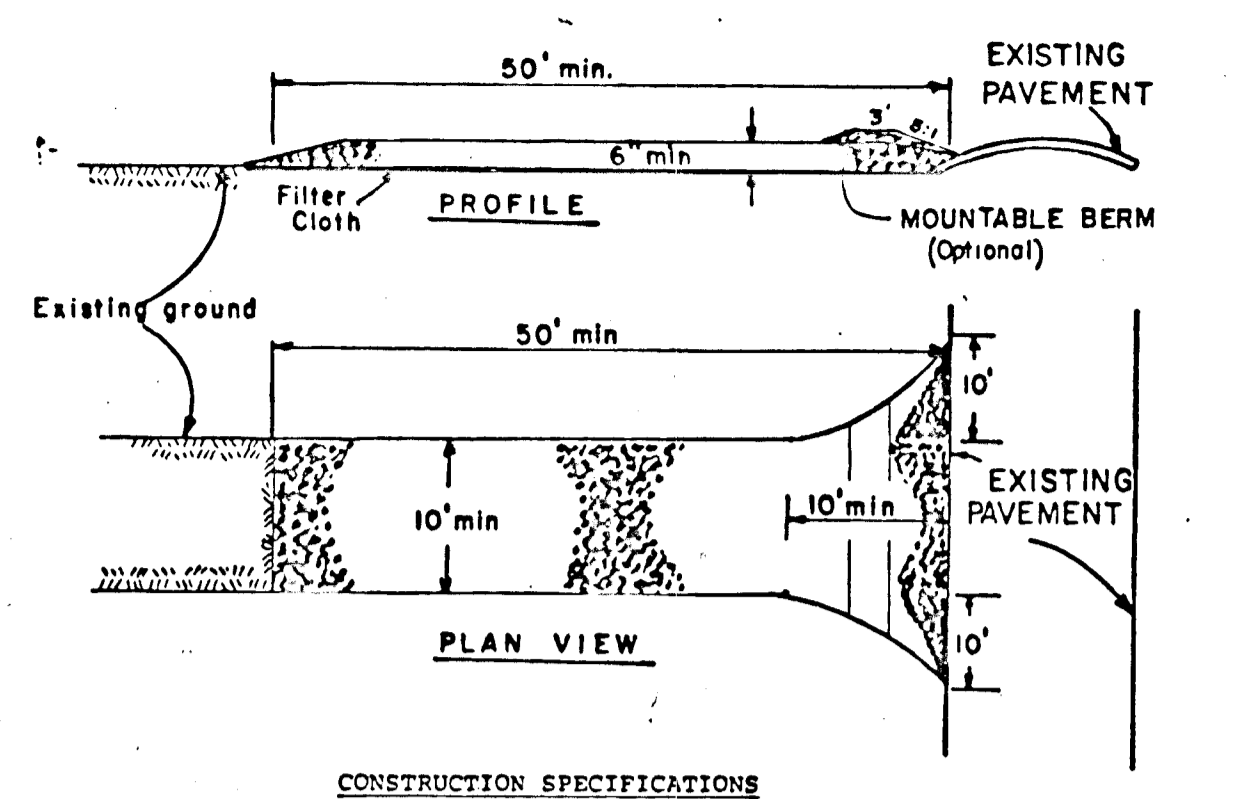
TYPE OF TREATMENT	CHANNEL WIDTH	DIKE A	DIKE B
1	5-3.0'	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0'	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCELSDOR, SOD, 2" STONE
3	5.1-8.0'	SEED WITH JUTE, OR SOD, 2" STONE	LINED RIP-RAP 4-8"
4	8.1-20'	LINED RIP-RAP 4-8"	ENGINEERING DESIGN

A. Stone to be 2 inch stone, or recycled concrete equivalent, in a layer at least 3 inches in thickness and be pressed into the soil with construction equipment.  
 B. Rip-rap to be 4-8 inches in a layer at least 8 inches thickness and pressed into the soil.  
 C. Approved equivalents can be substituted for any of the above materials.  
 7. Periodic inspection and required maintenance must be provided after each rain event.

**EARTH DIKE**



**RIPRAP OUTLET SEDIMENT TRAP**



- CONSTRUCTION SPECIFICATIONS**
- Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
  - Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
  - Thickness - Not less than six (6) inches.
  - Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
  - Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
  - Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
  - Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
  - Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
  - Periodic inspection and needed maintenance shall be provided after each rain.

**STABILIZED CONSTRUCTION ENTRANCE**

**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.

**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."

*Lee A. Koehn* 10/18/84  
 Lee A. Koehn, General Partner

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 Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."

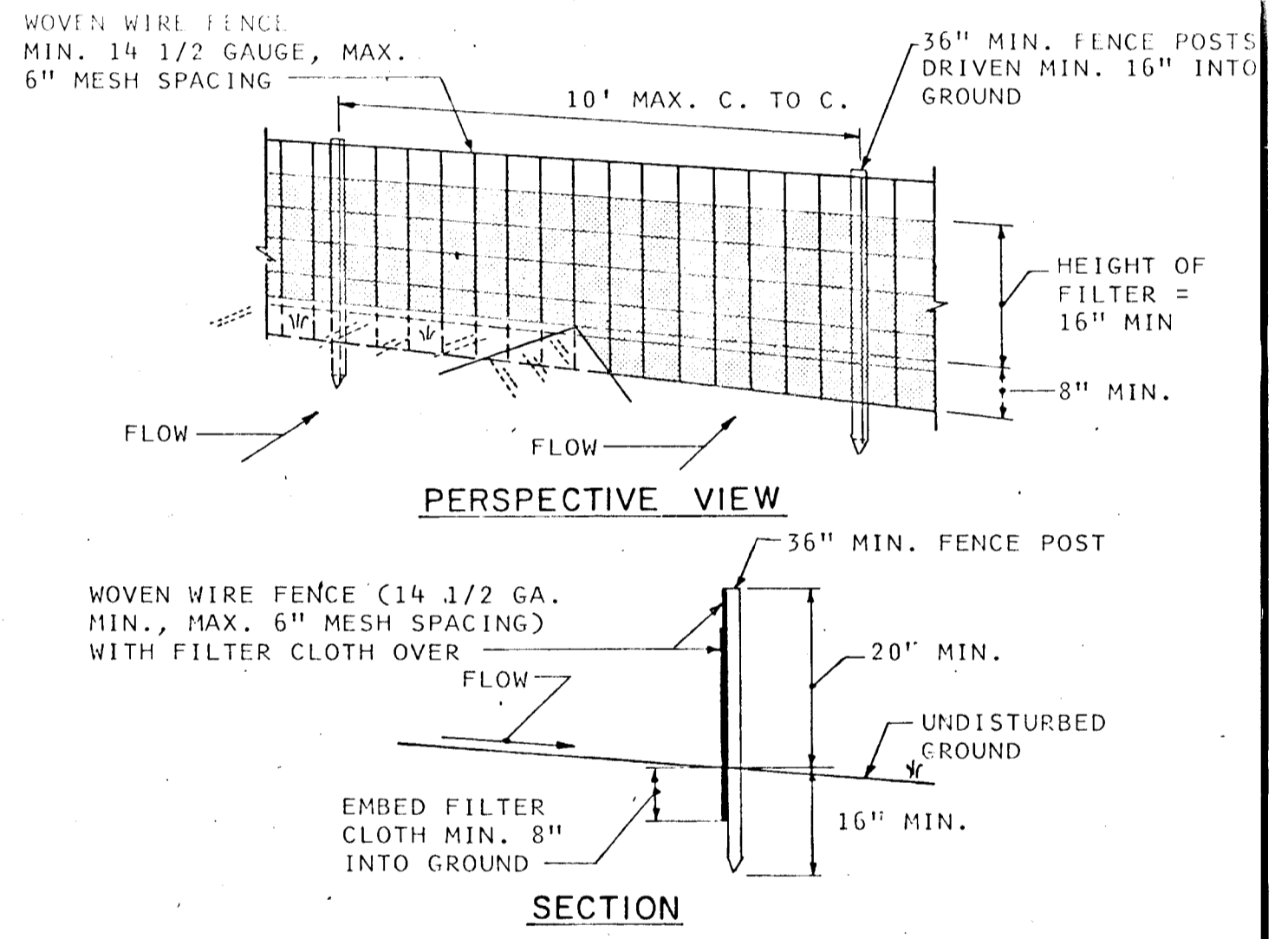
*Brian Jones* 10/22/84  
 Brian Jones DATE

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.

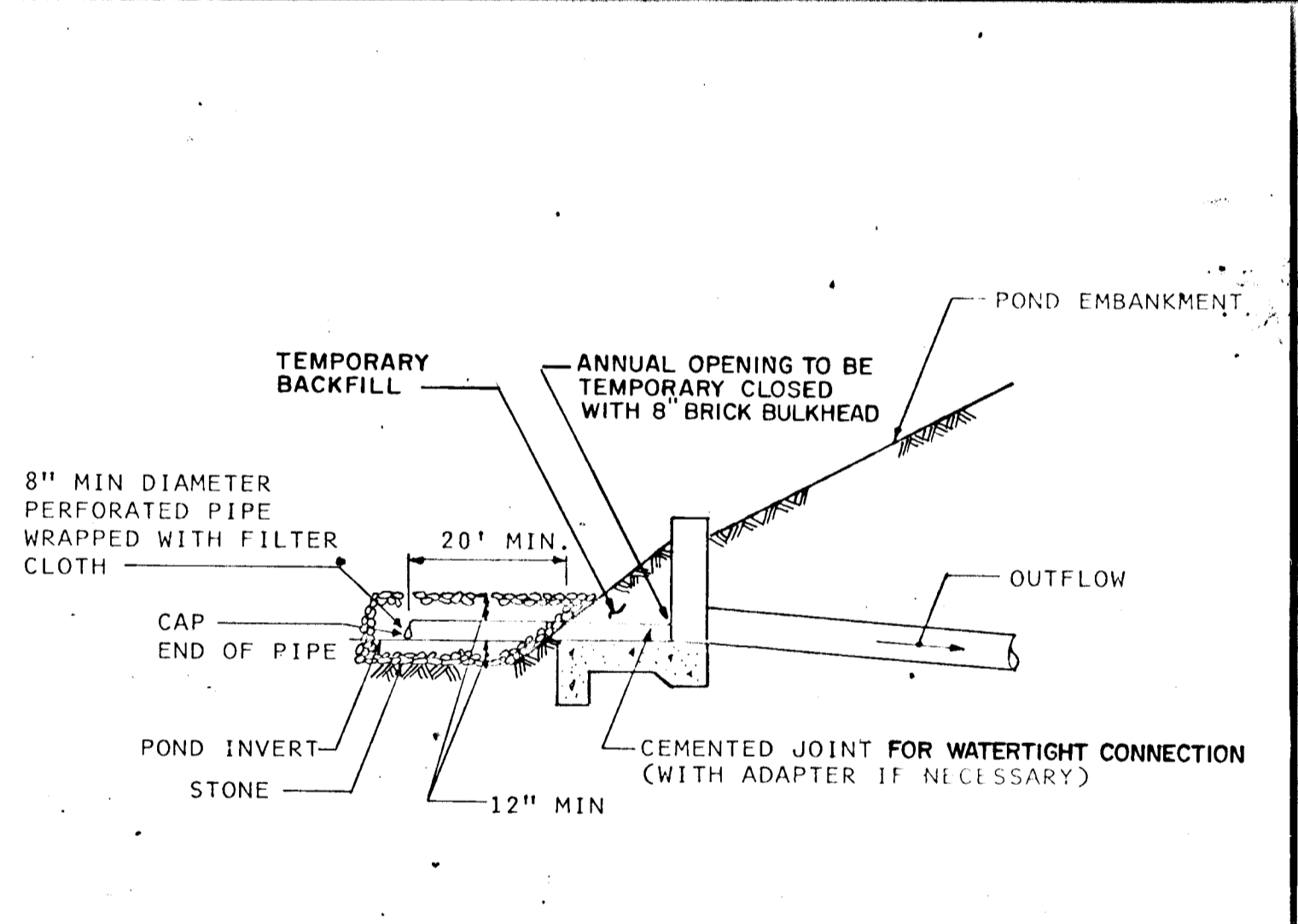
*James M. Nelson* 12-13-84  
 U.S. SOIL CONSERVATION SERVICE DATE

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

*Robert J. Nelson* 12-13-84  
 HOWARD SOIL CONSERVATION DISTRICT DATE



**SILT FENCE**



**SEDIMENT BASIN DEWATERING DEVICE**

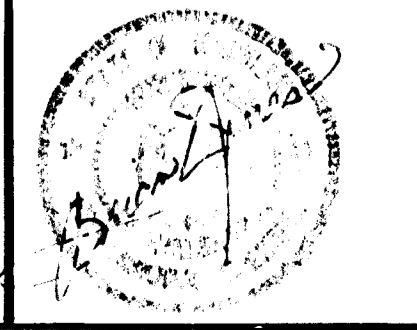
**SEQUENCE OF OPERATIONS FOR EROSION AND SEDIMENT CONTROL**

- | 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 BASIN.....  | 2 DAYS              |
| 3. INSTALL SEDIMENT BASIN, SILT FENCE, AND STABILIZED CONSTRUCTION ENTRANCE, EARTH BERM AND STONE OUTLET SEDIMENT TRAP.....               | 1 WEEK              |
| 4. CLEAR & GRUB REMAINDER OF SITE AND STRIP TOPSOIL.....  | 2 WEEKS             |
| 5. GRADE SITE AND INSTALL STORM DRAINS.....   | 4 WEEKS             |
| 6. SEED AND MULCH OR SOD ALL DISTURBED AREAS UNLESS NOTED OTHERWISE ON THE PLANS.....   | 1 WEEK              |
| 7. REMOVE COLLECTED SILT AND SEDIMENT FROM BASIN AND REMOVE DEWATERING DEVICE AFTER RECEIVING APPROVAL BY SEDIMENT CONTROL INSPECTOR..... | 1 WEEK              |
| 8. INSTALL AND STABILIZE STORM WATER MANAGEMENT FACILITY.....   | 1 WEEK              |
| 9. ALL TIMES FOR COMPLETION ARE SUBJECT TO MODIFICATION.  |                     |

OFFICE OF PLANNING & ZONING  
*John M. ...* 12-14-84  
 CHIEF, DIVISION OF LAND DEVELOPMENT—DATE AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*John M. ...* 12-17-84  
 CHIEF, BUREAU OF ENGINEERING

**WHITNEY AILEY** CONSULTING ENGINEERS  
 1850 York Road  
 Timonium Md. 21093  
 301-252-6060



DES: J.J.K.	
DRN: G.G.	
CHK: P.D.	
DATE: 10-22-84	
BY NO.	REVISION

MISCELLANEOUS DETAILS  
 600' SCALE MAP NO. 48 BLOCK NO. 19

JUNCTION INDUSTRIAL PARK SECTION I  
 ELECTION DISTRICT GILFORD NO. 6  
 OWNER: JUNCTION LIMITED PARTNERSHIP  
 SCALE AS SHOWN  
 SHEET 9 OF 15

F-84-201

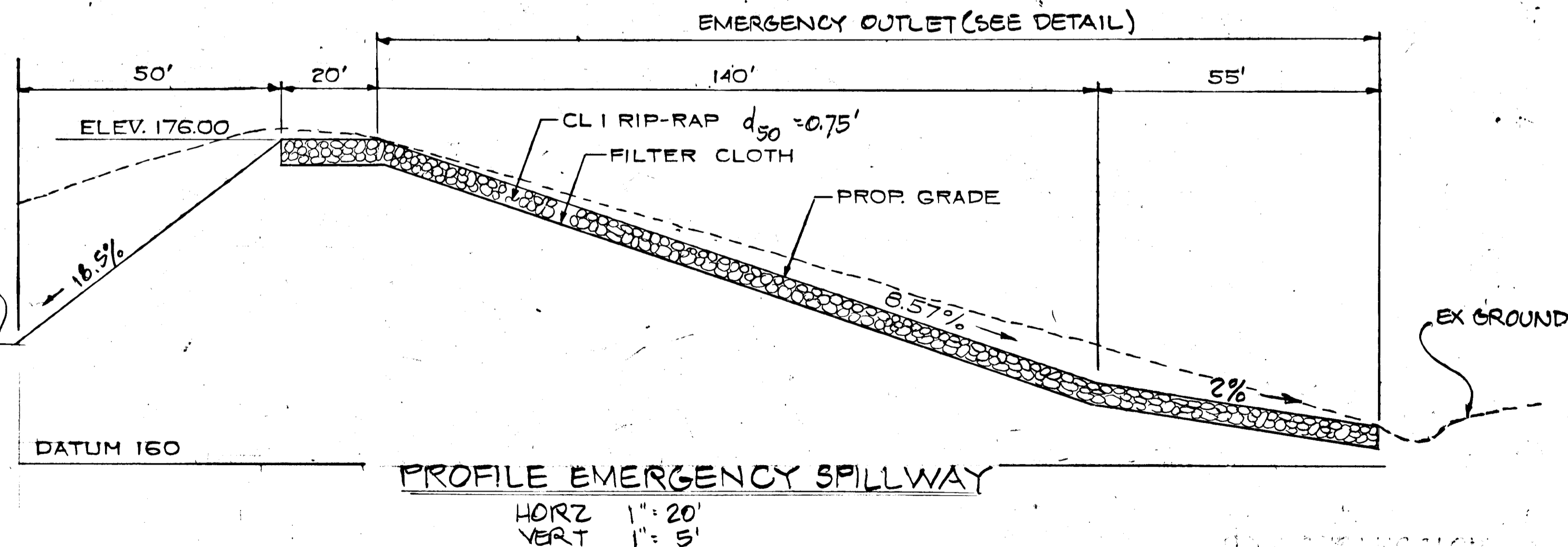
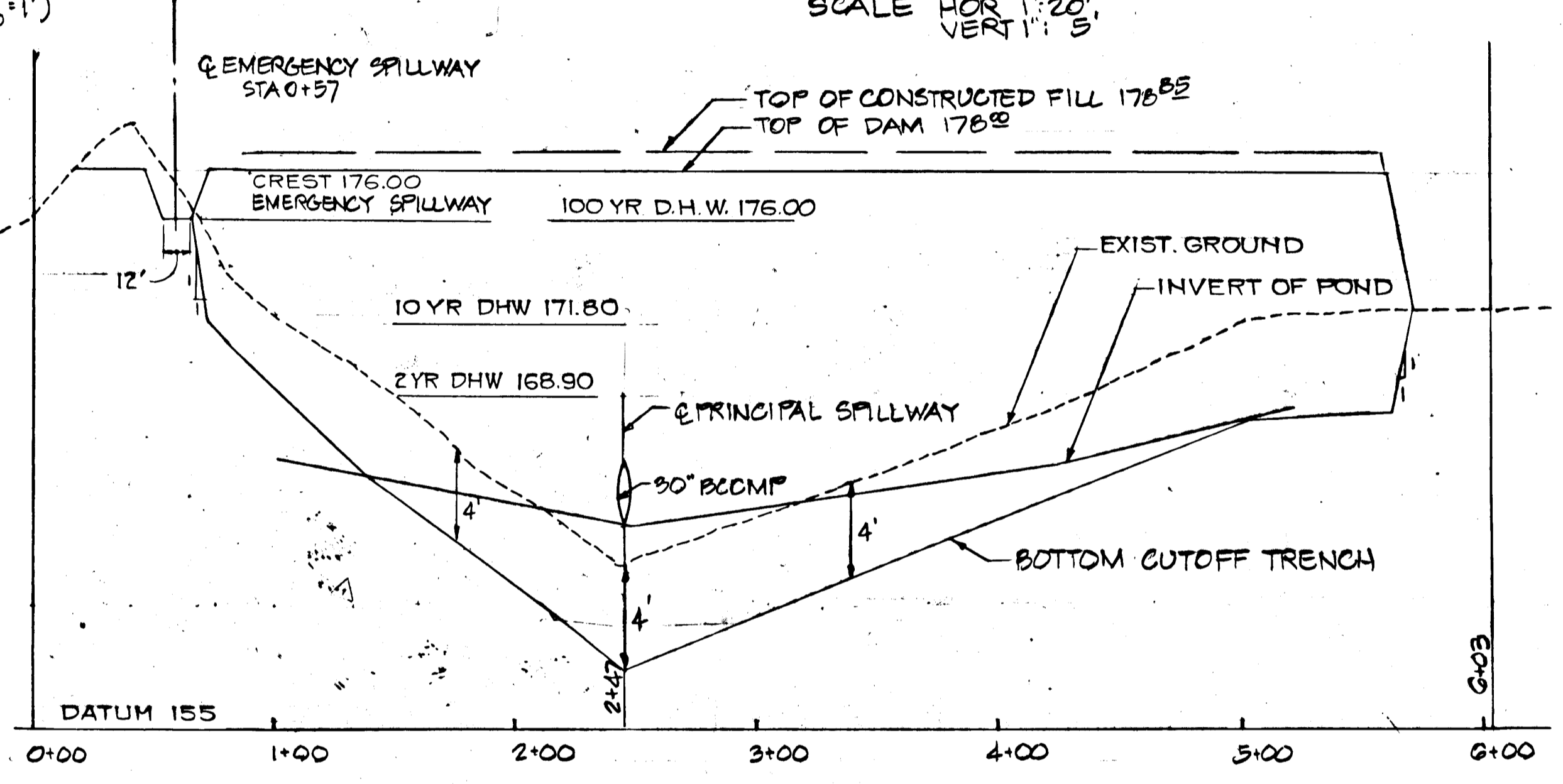
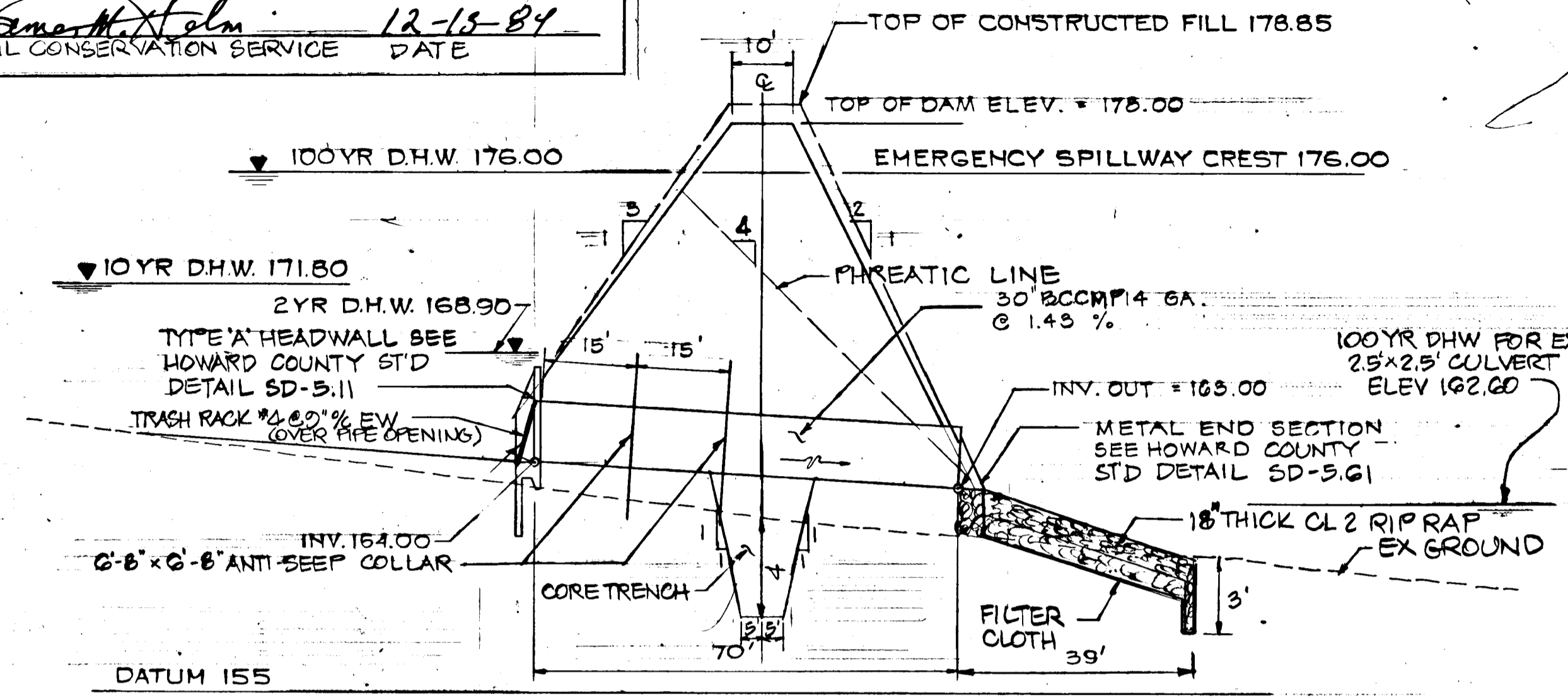
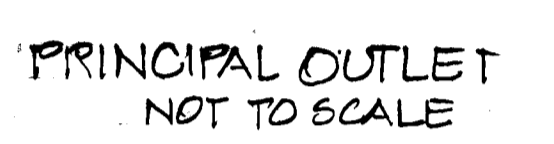
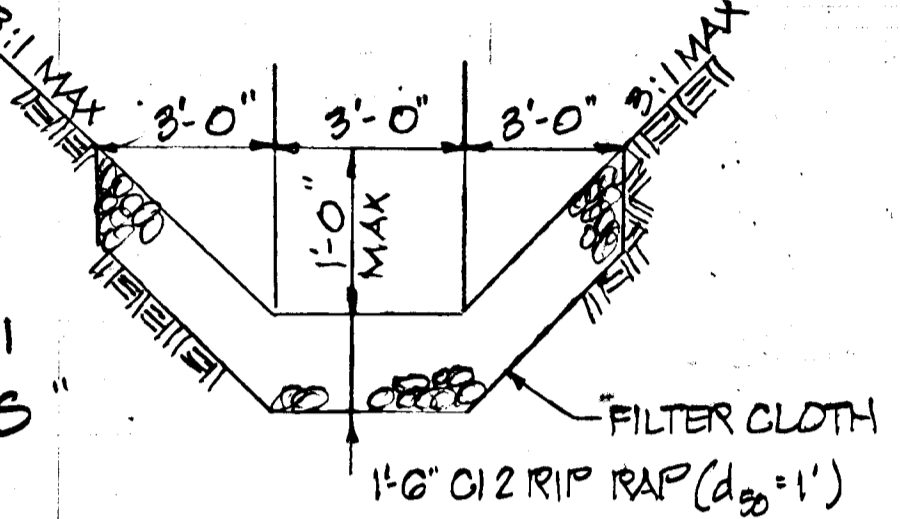
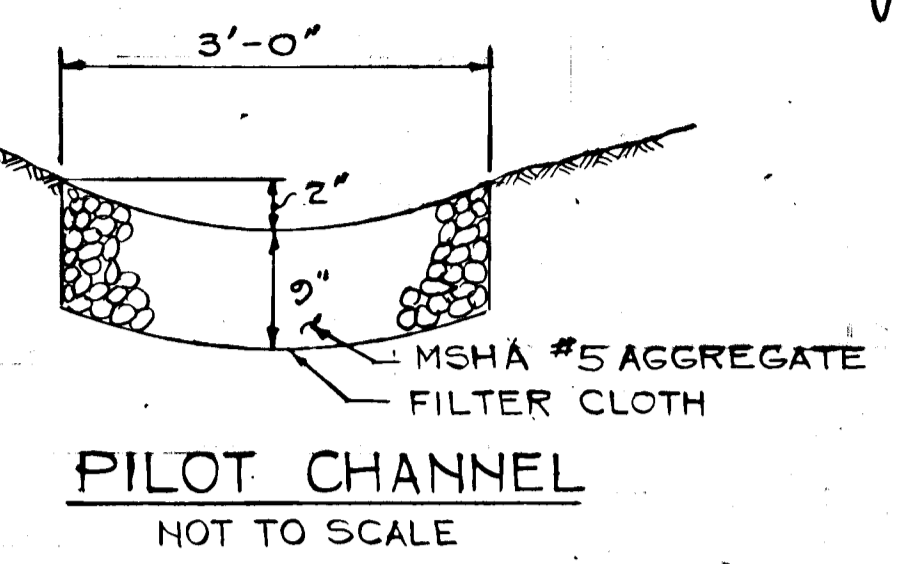
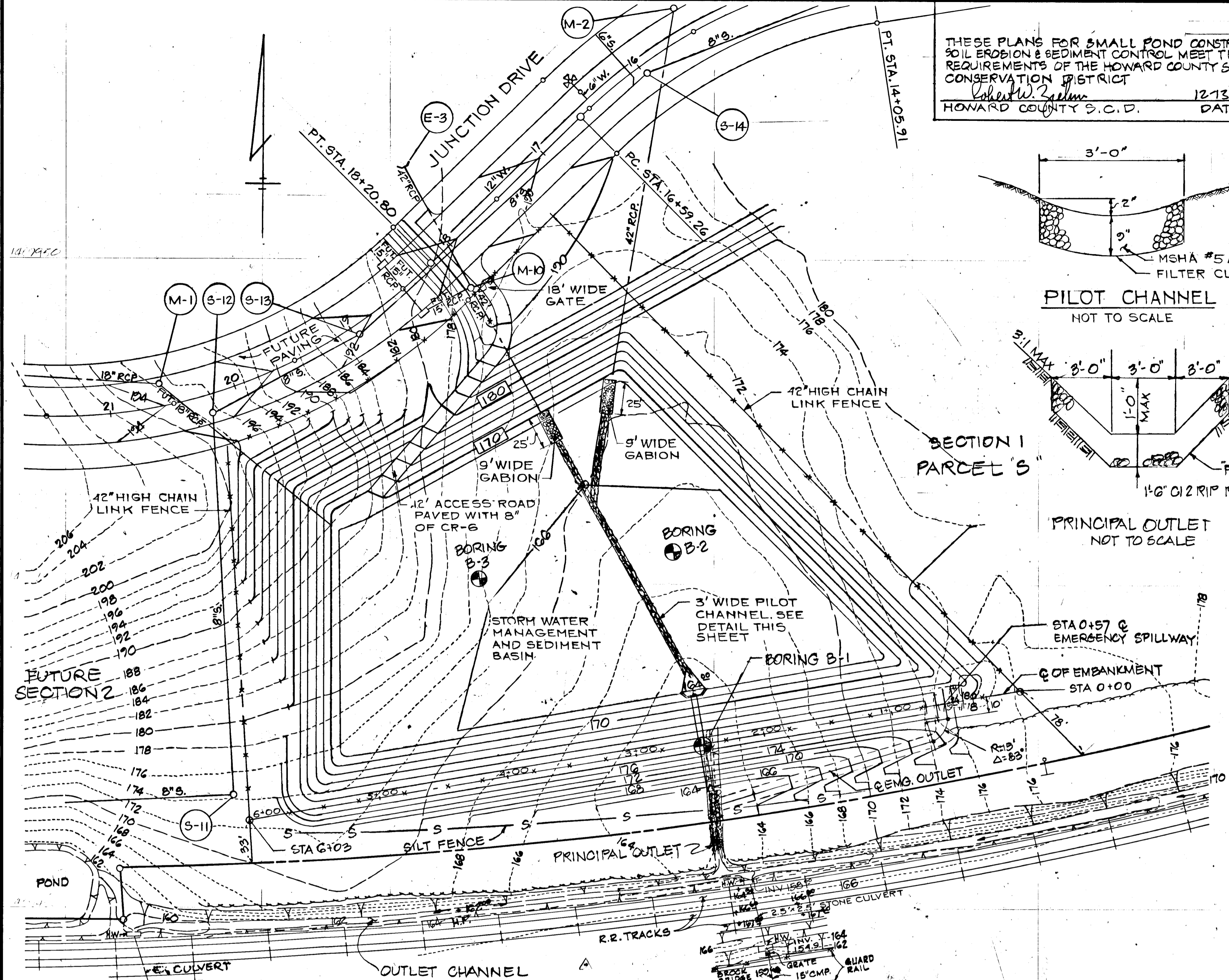






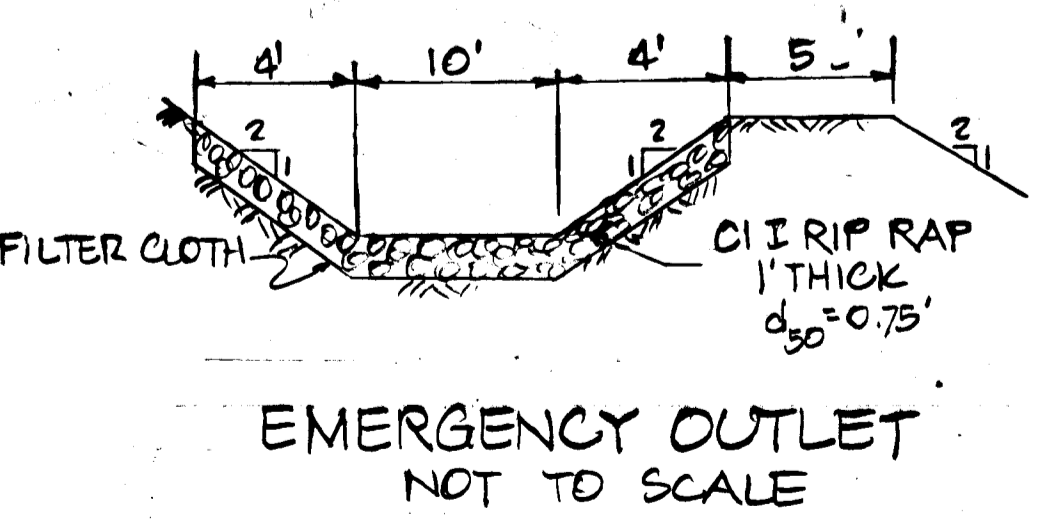
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION & SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT  
 Robert W. Zuelmer 12-13-84  
 HOWARD COUNTY S.C.D. DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION & SEDIMENT CONTROL  
 Robert W. Zuelmer 12-15-84  
 U.S. SOIL CONSERVATION SERVICE DATE



BORING LOG

B-1	0.7' TOPSOIL	B-2	0.4' TOPSOIL
1.3' SILT AND CF SAND (ML)	BROWN WET TO MOIST SILT & CLAY SOME MF SAND (ML)	8.5' BROWN WET TO MOIST SAND AND CLAYEY SILT TRACE GRAVEL (SM)	
6.6' BROWN WET SILT AND CF SAND TRACE GRAVEL (ML)	BROWN MOIST TO WET CF SAND SOME GRAVEL LITTLE CLAYEY SILT (SM)	15.0' BROWN TAN MOIST OF SAND, SOME GRAVEL (SM)	
6.0' BROWN GRAY MOIST SILT & CLAY, SOME M SAND, LITTLE GR. (ML)	11.5' CLAYEY SILT, LITTLE ROCK FRAG. (CL)		
8.5' BROWN MOIST SAND, LITTLE GRAVEL, LITTLE SILT (SM)	13.0' WHITE MOIST MF SAND SOME SILT (SM)		
15.0' 14 DAYS AFTER COMPLETION WATER @ 2.0'	15.0' 6 DAYS AFTER COMPLETION WATER @ 2.0'		



OFFICE OF PLANNING & ZONING  
 Robert W. Zuelmer 12-14-84  
 CHIEF, DIVISION OF LAND DEVELOPMENT - DATE AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Robert W. Zuelmer 12-14-84  
 CHIEF, BUREAU OF ENGINEERING

WHITNEY BAILEY CONSULTING ENGINEERS  
 1850 York Road  
 Timonium Md. 21093  
 301-252-6060



DES: J.J.K.	
DRN: P.D.	
CHK: P.D.	
DATE: 12-14-84	
BY: NO.	
REVISION	

STORM WATER MANAGEMENT PLAN

JUNCTION INDUSTRIAL PARK SECTION I  
 ELECTION DISTRICT GILFORD NO. 6  
 OWNER: JUNCTION LIMITED PARTNERSHIP

SCALE AS SHOWN  
 SHEET 11 OF 15

F-84-204



**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 AND OTHER OBJECTIONABLE MATERIAL. CHANNEL BANKS AND SHARP 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, OVERSIZED 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 (UNIFIED SOIL CLASSES GW, GP, SW, SP) 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 HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE 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 TIRE 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 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 IMPERVIOUS MATERIAL AVAILABLE AND SHALL BE COMPACTED WITH EQUIPMENT OR ROLLERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY. TRENCH SHALL BE DEWATERED DURING BACKFILLING-COMPACTION OPERATIONS.

**CONCRETE :**

**MATERIALS :**

1. CEMENT - NORMAL PORTLAND CEMENT SHALL CONFORM TO THE LATEST ASTM SPECIFICATION C-150.
2. WATER - THE WATER USED IN CONCRETE SHALL BE CLEAN, FREE FROM OIL, ACID, ALKALI, SCALES, ORGANIC MATTER OR OTHER OBJECTIONABLE SUBSTANCES.
3. 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. LIME-STONE SHALL NOT BE USED.
4. COARSE AGGREGATE - THE COARSE AGGREGATE USED 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.
5. REINFORCING STEEL - THE REINFORCING STEEL SHALL BE DEFORMED BARS OF INTERMEDIATE GRADE BILLET STEEL 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 50 POUND BAG OF CEMENT. THE PROPORTIONS 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.

**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 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 SPECIFICATION GIVEN HERE.

OFFICE OF PLANNING & ZONING

*Shull* 12-14-84

CHIEF, DIVISION OF LAND DEVELOPMENT - DATE AND ZONING ADMINISTRATION

**CONCRETE (CONTINUED) :**

**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 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 FORM 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-PATCHING MORTAR.

**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 37 DEGREES F. WITH THE TEMPERATURE FALLING, OR 34 DEGREES F. 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 SIGHTLY 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.

**CORRUGATED METAL PIPE :**

**MATERIALS :** (STEEL PIPE) - THIS PIPE AND ITS APPURTEANCES SHALL BE GALVANIZED AND FULLY BITUMINOUS COATED AND SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. SPECIFICATIONS M-100 TYPE A WITH WATERTIGHT COUPLING BANDS. ANY BITUMINOUS COATING DAMAGED OR OTHERWISE REMOVED SHALL BE REPLACED WITH COLD APPLIED BITUMINOUS COATING COMPOUND.

**CONNECTIONS :** ALL CONNECTIONS WITH PIPE MUST BE COMPLETELY WATERTIGHT. THE DRAIN PIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL. WATERTIGHT COUPLING BANDS SHALL BE USED AT ALL JOINTS. ANTISEEP COLLARS SHALL BE CONNECTED TO THE PIPE IN SUCH A MANNER AS TO BE COMPLETELY WATERTIGHT. (Dimple bands are not considered a watertight connection).

**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 EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.

**CHAIN LINK FENCE**

**MATERIALS :** FABRIC SHALL CONFORM TO ASTM-491. IT SHALL BE GALVANIZED 96A WIRE WITH 2" SQUARE WOVEN MESH. TOTAL HEIGHT OF FENCE TO BE 3'-6". FENCE POSTS, RAILS, GATES AND ACCESSORIES SHALL BE IN ACCORDANCE WITH FEDERAL SPEC. RR-F-191.

**EXECUTION :** ALL FENCING SHALL BE INSTALLED BY PROPERLY TRAINED CREW, TO LINE AND GRADE AS INDICATED. FENCE INSTALLATION SHALL BE IN ACCORDANCE WITH THE FENCE MANUFACTURER.

**BY THE DEVELOPER :**

I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN 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.

**JUNCTION LIMITED PARTNERSHIP**  
DEVELOPER *[Signature]* DATE 10/18/84  
L.L.D. K. GILFORD, GENERAL PARTNER  
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 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.

*[Signature]* 10-22-84  
ENGINEER - BRIAN JONES DATE

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.

*[Signature]* 12-13-84  
U.S. SOIL CONSERVATION SERVICE DATE

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

*[Signature]* 12-13-84  
HOWARD COUNTY S.C.D. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*[Signature]* 12-14-84

CHIEF, BUREAU OF ENGINEERING

**HITNEY AILEY** CONSULTING ENGINEERS

1850 York Road  
Timonium Md. 21093  
301-252-6060



DES: J.J.K.					
DRN: J.J.K.					
CHK: P.D.					
DATE: 10-22-84	BY: NO.	REVISION	DATE	600' SCALE MAP NO. 48	BLOCK NO. 19

STORM WATER MANAGEMENT NOTES & DETAILS

JUNCTION INDUSTRIAL PARK SECTION I  
ELECTION DISTRICT GILFORD NO. 6

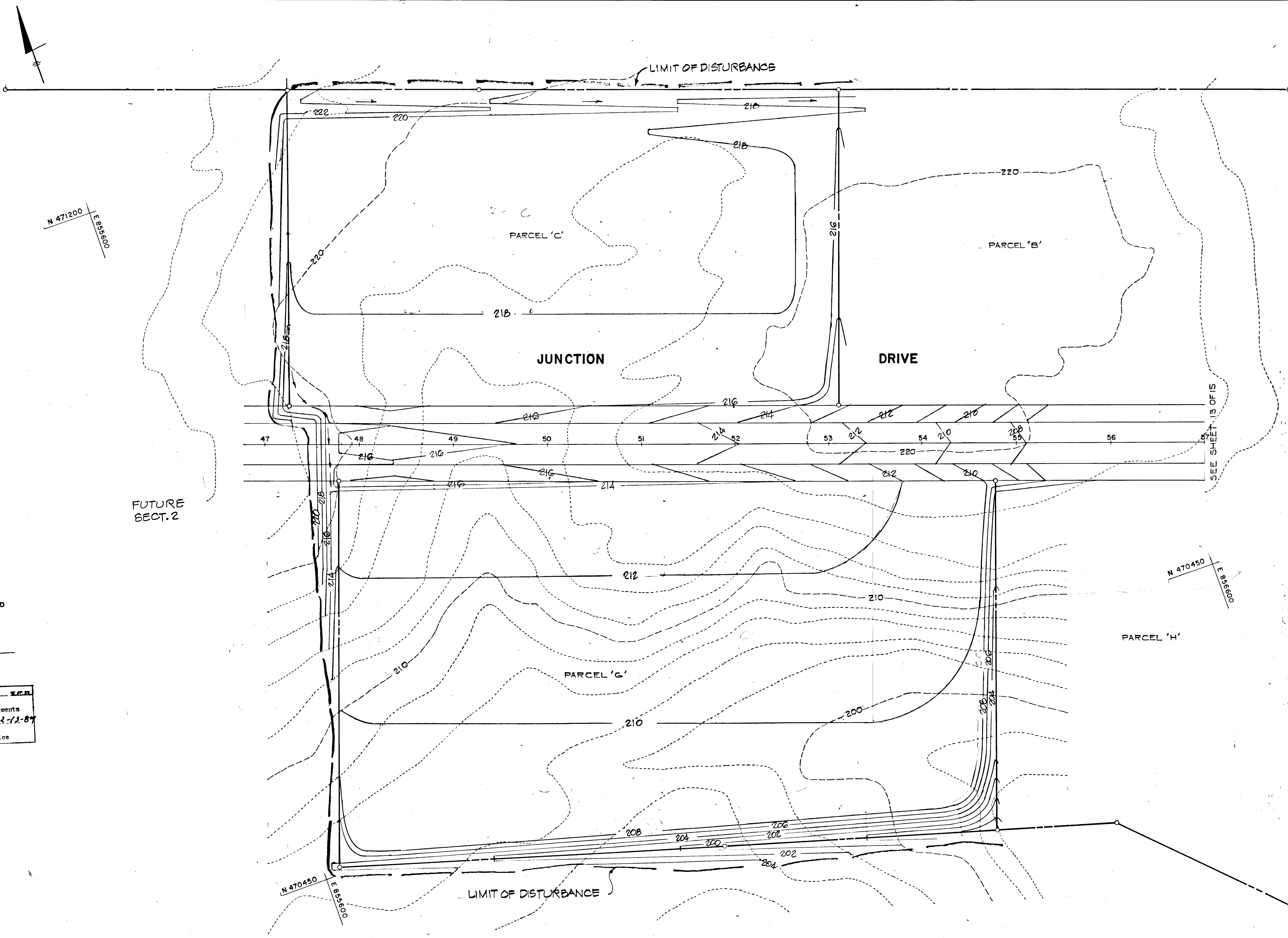
OWNER: JUNCTION LIMITED PARTNERSHIP

SCALE AS SHOWN  
SHEET 12 OF 15

F-84-204







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

Approved \_\_\_\_\_ Date \_\_\_\_\_  
Howard S. C. D.

Reviewed for Howard S.C.D.  
Name  
and meets Technical Requirements  
[Signature] Date 12-12-84  
Signature  
U.S. Soil Conservation Service

OFFICE OF PLANNING & ZONING  
[Signature] 12-14-84  
CHIEF - DIVISION OF LAND DEVELOPMENT - DATE AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[Signature]  
CHIEF, BUREAU OF ENGINEERING

12-12-84  
DATE

**HITNEY AILEY OX AGNANI**  
CONSULTING ENGINEERS  
1850 York Road  
Timonium Md. 21093  
301-252-6060



DES: P.D.			
DRN: P.D.			
CHK: B.D.J.			
DATE 10-22-84	BY	NO.	REVISION

**ROUGH GRADING PLAN FOR JUNCTION INDUSTRIAL PARK**

6.00' SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

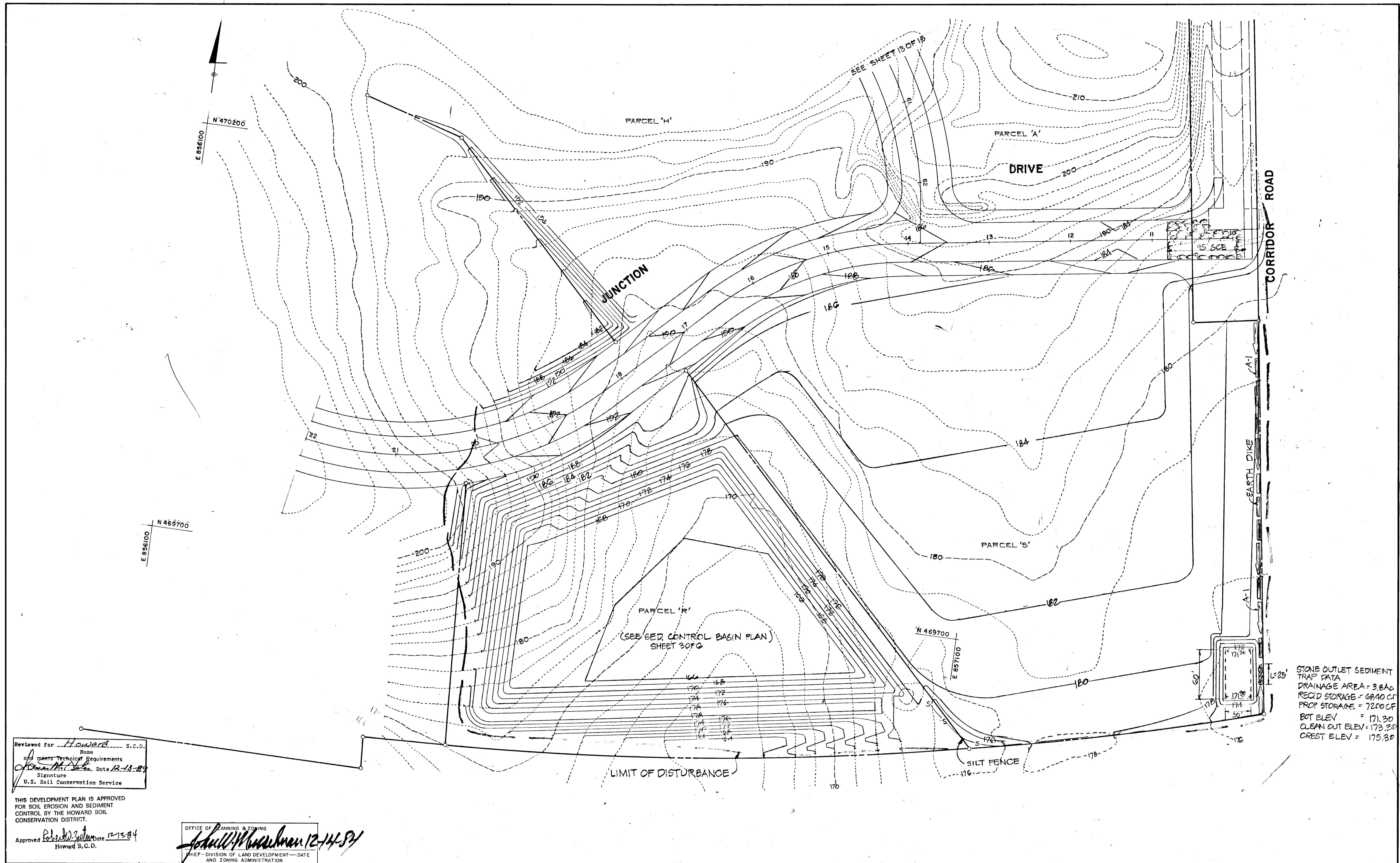
**JUNCTION INDUSTRIAL PARK SECTION I  
ELECTION DISTRICT GILFORD NO. 6**

OWNER: JUNCTION LIMITED PARTNERSHIP

SCALE AS SHOWN  
SHEET 14 OF 15

F-84-204





Reviewed for Howard S.C.D.  
Name  
and meets Technical Requirements  
Howard Date 12-13-89  
Signature  
U.S. Soil Conservation Service

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

Approved Howard Date 12-13-89  
Howard S.C.D.

OFFICE OF PLANNING & ZONING  
John W. Manschman 12-14-89  
CHIEF, DIVISION OF LAND DEVELOPMENT—DATE  
AND ZONING ADMINISTRATION

APPROVED - HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William E. Rouse 12-17-89  
CHIEF, BUREAU OF ENGINEERING

12-17-89  
DATE

**HITNEY  
BAILEY  
FOX  
MAGNANI**  
CONSULTING ENGINEERS  
1850 York Road  
Timonium, Md. 21093  
301-252-6060



DES: P.D.				
DRN: P.D.				
CHK: B.D.J.				
DATE: 12-27-84	BY	NO.	REVISION	DATE

ROUGH GRADING PLAN FOR  
JUNCTION INDUSTRIAL PARK

600 SCALE MAP NO. BLOCK NO.

JUNCTION INDUSTRIAL PARK SECTION I  
ELECTION DISTRICT GILFORD NO. 6

OWNER: JUNCTION LIMITED PARTNERSHIP

SCALE  
AS  
SHOWN

SHEET  
15 OF 15

F-84-204