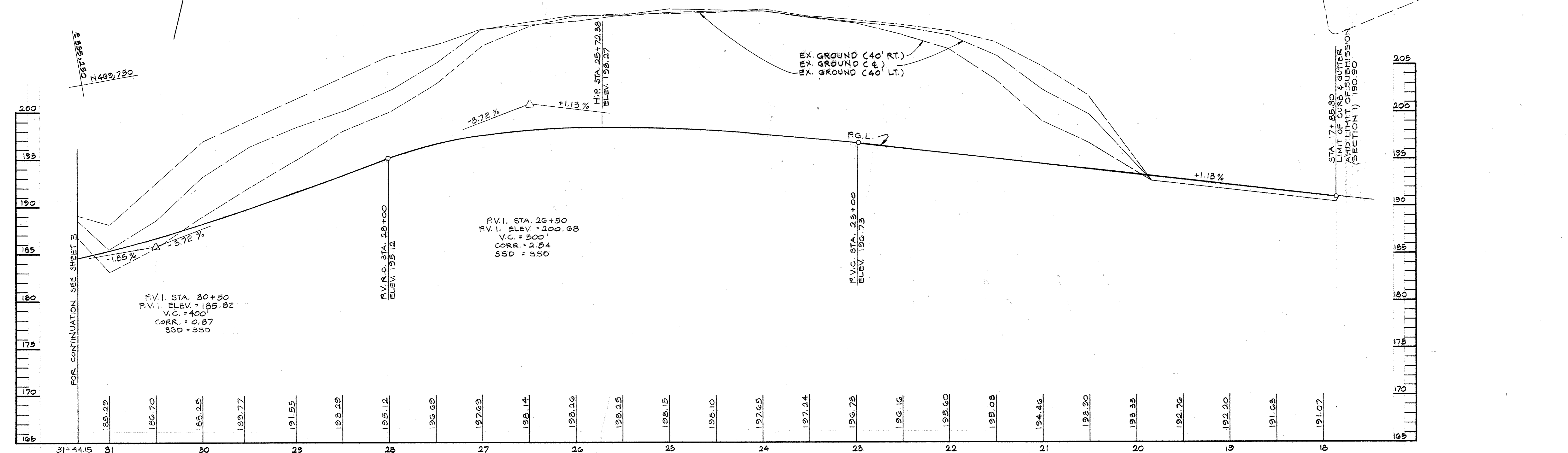
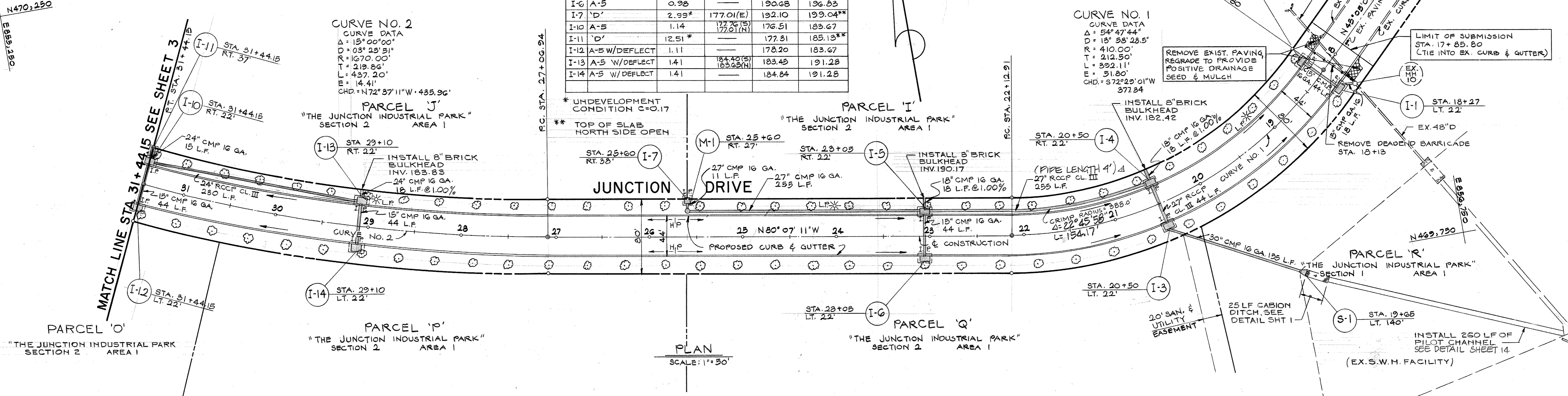


MANHOLE SCHEDULE				
NO.	TYPE	SIZE	INV. IN	INV. OUT TOP ELEV.
M-1	HOWARD CO. STD. 65.13	60"	191.99	191.79 198.58

STRUCTURE SCHEDULE				
NO.	TYPE	INV. IN	INV. OUT	TOP ELEV.
S-1	METAL END SECTION WITH TOP PLATE		168.00	

INLET SCHEDULE					
NO.	TYPE	Q	INV. IN	INV. OUT	TOP ELEV.
I-1	A-5	0.93	183.92	183.72	191.48
I-2	A-5	1.00		184.96	191.48
I-3	A-5	1.14	185.85	185.60	194.00
I-4	A-5	1.14	186.49	186.29	194.00
I-5	A-5	0.98	189.24	189.04	196.83
I-6	A-5	0.98		190.68	196.83
I-7	'D'	2.99*	177.01(E)	192.10	199.04**
I-10	A-5	1.14	177.01(N)	176.51	183.67
I-11	'D'	12.51*		177.31	185.13**
I-12	A-5 W/DEFLECT	1.11		178.20	183.67
I-13	A-5 W/DEFLECT	1.41	184.40(S)	183.45	191.28
I-14	A-5 W/DEFLECT	1.41	183.68(N)		191.28

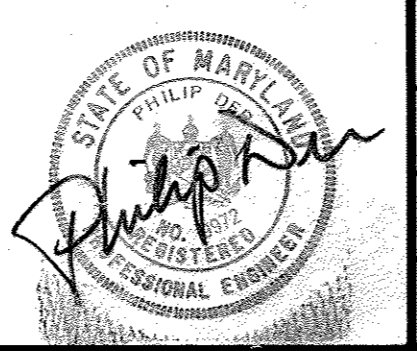
B.M. #1 ELEV 210.71
 CUT END CONC. CURB N. SIDE CORRIDOR RD. @ INTERSECTION CORRIDOR RD. & HENKELS LA.
 B.M. #24 ELEV 199.19
 OUT NAIL IN POLE # J-5 ON N. SIDE BROOK RIDGE RD. 200' S.W. OF Δ 204



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

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 DATE: 8-18-86
 CHIEF, BUREAU OF ENGINEERING

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



DES: P.D.	RZB Δ	ADD PIPE LENGTH	8/18
DRN: J.L.B.			
CHK: P.D.			
DATE: 1/31/86	BY NO.	REVISION	DATE

PLAN AND PROFILE
 JUNCTION DRIVE
 STA. 17+85.80 TO STA. 31+44.15

JUNCTION INDUSTRIAL PARK SECTION 2
 ELECTION DISTRICT GILFORD NO. 6
 OWNER: JUNCTION I LIMITED PARTNERSHIP
 P.O. BOX 125 GLEN ARM MD. 21057

SCALE AS SHOWN
 SHEET 2 OF 17

F-86-126

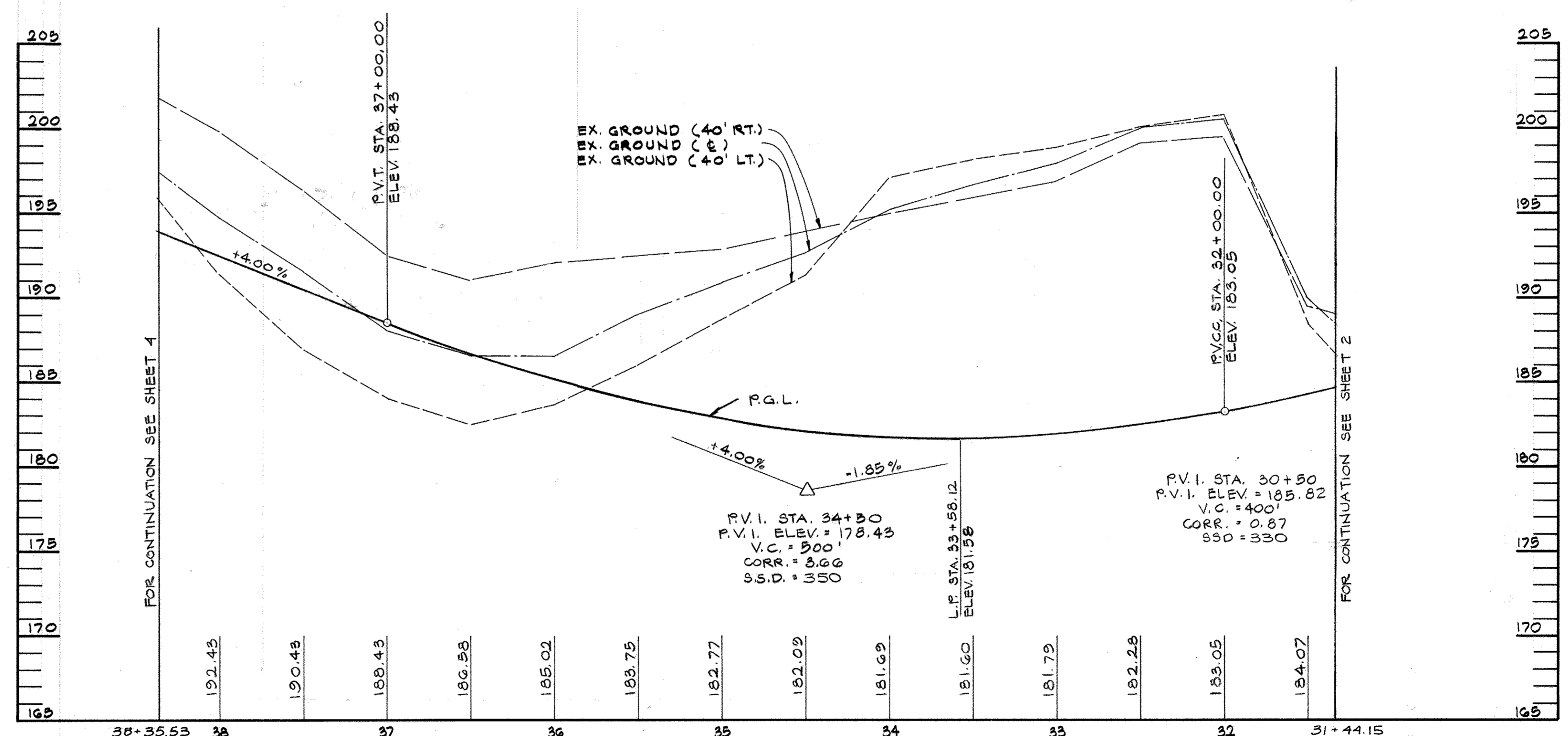
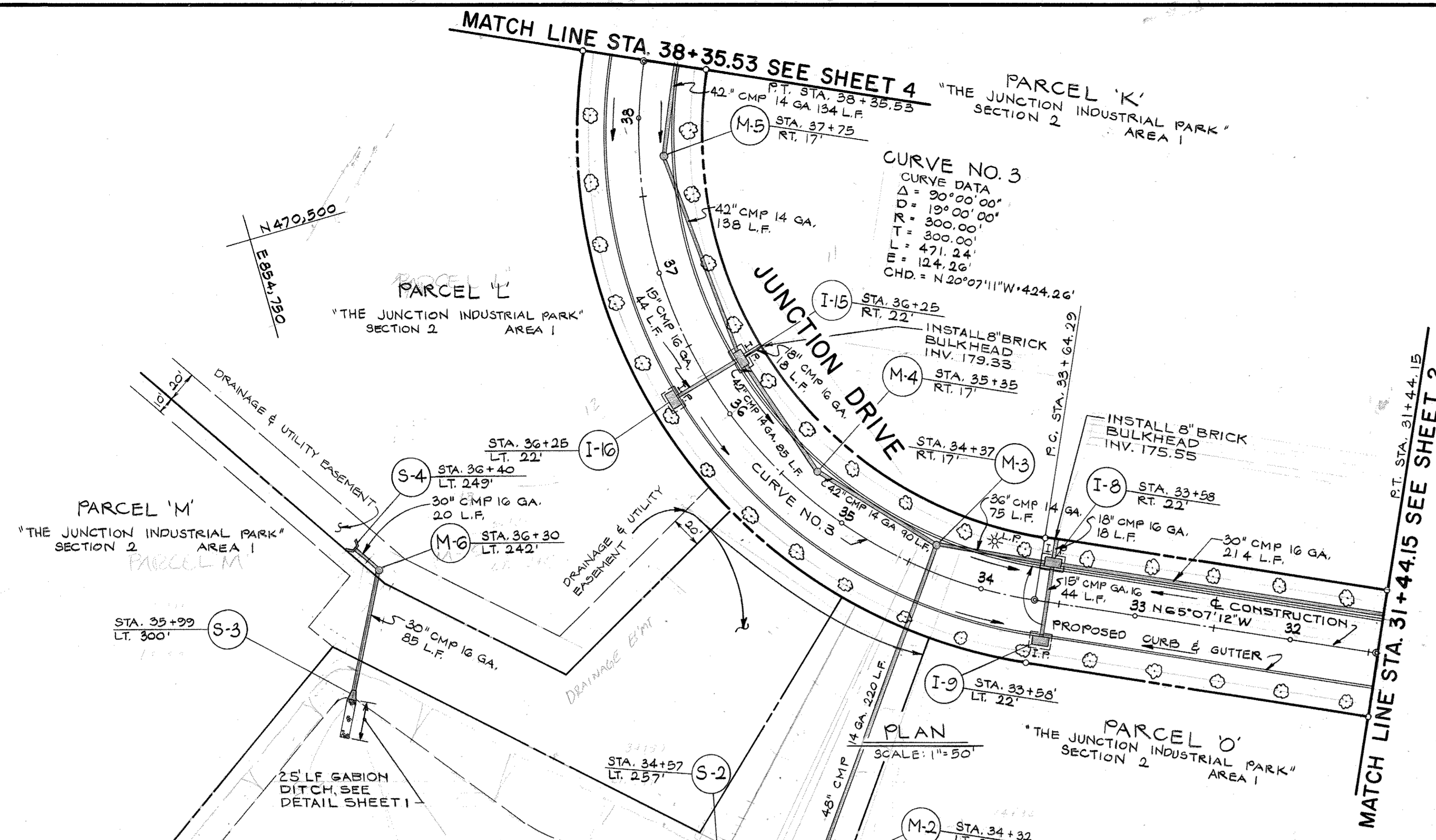
B.M. #1 ELEV. 210.71
 □ CUT END CONC. CURB N. SIDE
 CORRIDOR RD. @ INTERSECTION
 CORRIDOR RD. & HENKELS LA.

B.M. #24 ELEV. 189.19
 CUT NAIL IN POLE # J-5 ON N.
 SIDE BROOK RIDGE RD. 200' ±
 S.W. OF Δ 204

STRUCTURE SCHEDULE				
NO.	TYPE	INV. IN	INV. OUT	TOP ELEV.
S-2	METAL END SECT. WITH TOE PLATE	---	155.00	---
S-3	"	---	155.00	---
S-4	"	163.50	---	---

INLET SCHEDULE					
NO.	TYPE	Q	INV. IN	INV. OUT	TOP ELEV.
I-8	A-5	2.20	174.87	173.87	181.68
I-9	A-5	2.13	---	175.19	181.68
I-15	A-5 W/DEFLECT	0.99	176.43 (H) 178.43 (E)	176.23	185.86
I-16	A-5 W/DEFLECT	0.99	---	179.12	185.86

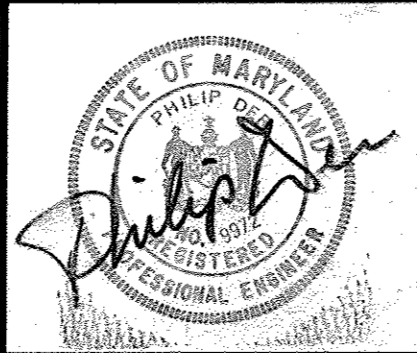
MANHOLE SCHEDULE					
NO.	TYPE	SIZE	INV. IN	INV. OUT	TOP ELEV.
M-2	HOWARD CO. STD G 5.03	---	162.50	162.30	173.00
M-3	HOWARD CO. STD G 5.03	---	173.00	172.50	181.68
M-4	HOWARD CO. STD G 5.03	---	174.10	173.90	182.84
M-5	HOWARD CO. STD G 5.03	---	182.15	181.95	191.08
M-6	HOWARD CO. STD G 5.03	60"	163.20	163.00	171.50



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

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature]
 CHIEF, BUREAU OF ENGINEERING

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



DES: P.D.
 DRN: J.L.B.
 CHK: P.D.
 DATE: 1-31-86

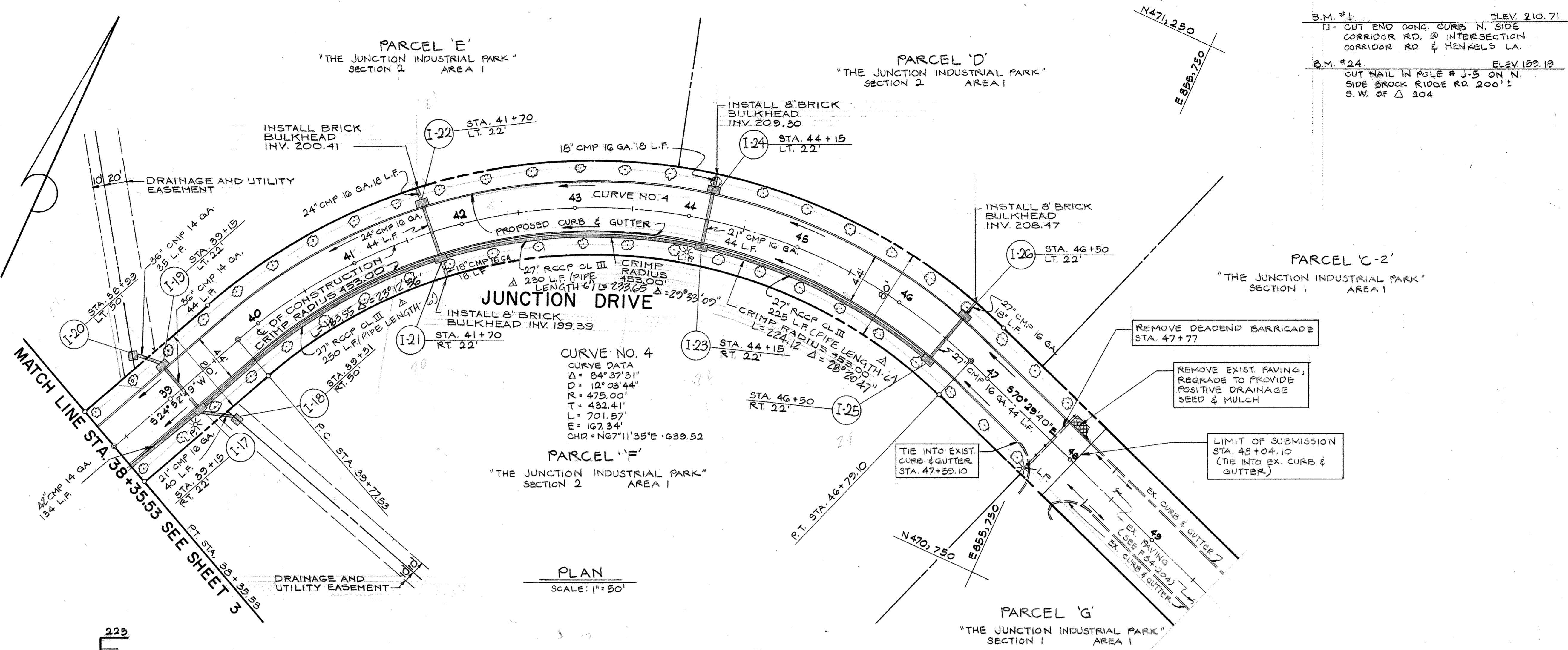
PLAN AND PROFILE
 JUNCTION DRIVE
 STA. 31+44.15 TO STA. 38+35.53

SCALE AS SHOWN
 SHEET 3 OF 17
 OWNER: JUNCTION I LIMITED PARTNERSHIP
 P.O. BOX 125 GLEN ARM MD. 21057

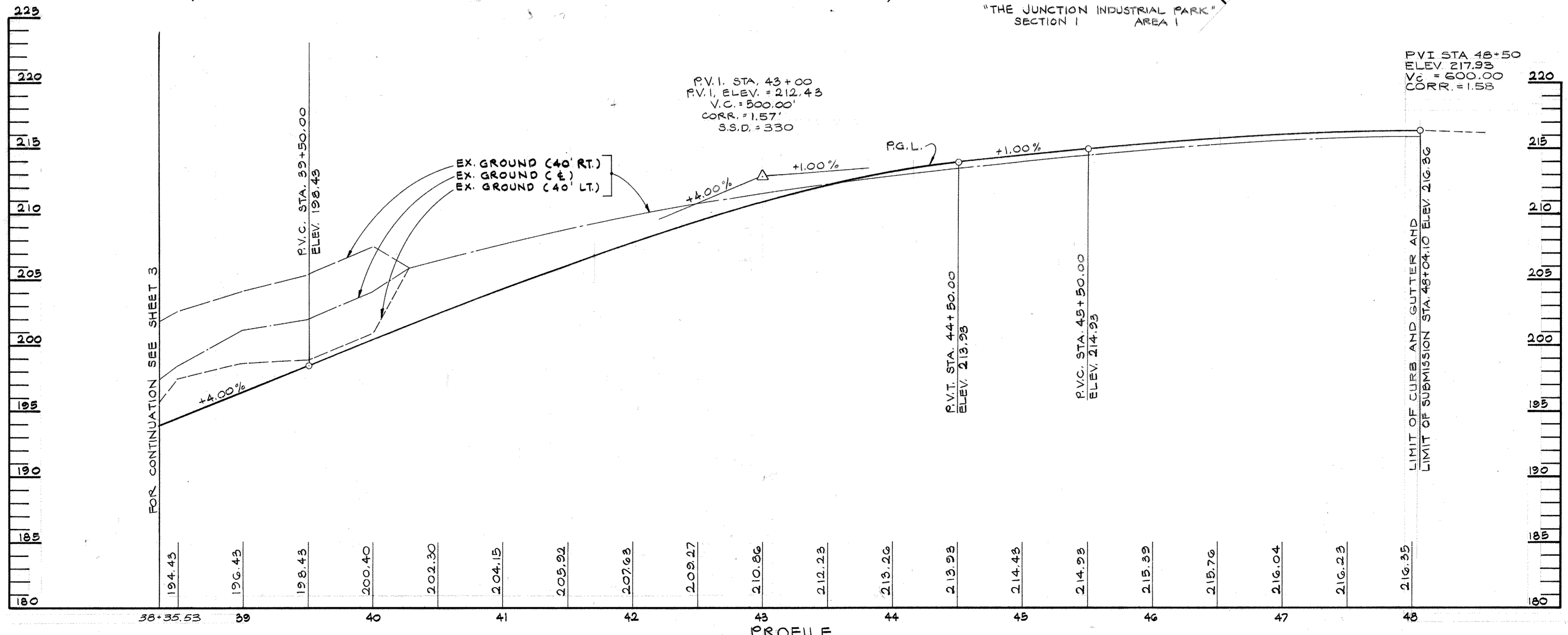
F-86-126

INLET SCHEDULE					
NO.	TYPE	Q	INV. IN	INV. OUT	TOP ELEV.
I-17	A-B W/DEFLECT	1.01	187.15 (H)	187.90	197.13
I-18	D	2.19 *	188.25 (H)	190.05	199.43 *
I-19	A-B W/DEFLECT	0.99	188.82	188.62	197.13
I-20	D	4.99 *		188.99	198.06 *
I-21	A-B W/DEFLECT	1.27	188.15 (H)	197.90	206.71
I-22	A-B W/DEFLECT	1.25	193.87	199.67	206.71
I-23	A-B	1.15	208.16 (H)	209.00	213.59
I-24	A-B	1.15	209.03	208.83	213.59
I-25	A-B	0.78	207.65	207.45	215.85
I-26	A-B	0.78	208.29	208.09	215.85

* UNDEVELOPMENT CONDITION C=0.17
 * TOP OF SLAB, ONE SIDE OPEN AWAY FROM STREET.



PLAN
SCALE: 1"=50'

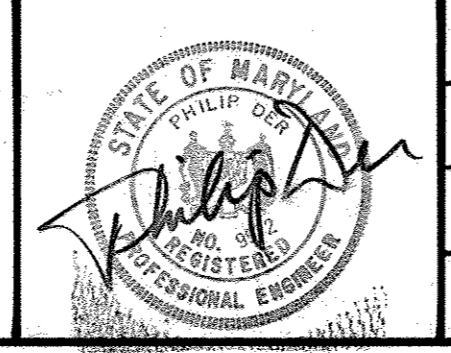


PROFILE
SCALE: HOR. 1"=50' VERT. 1"=5'

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

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 DATE: 8-18-86

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



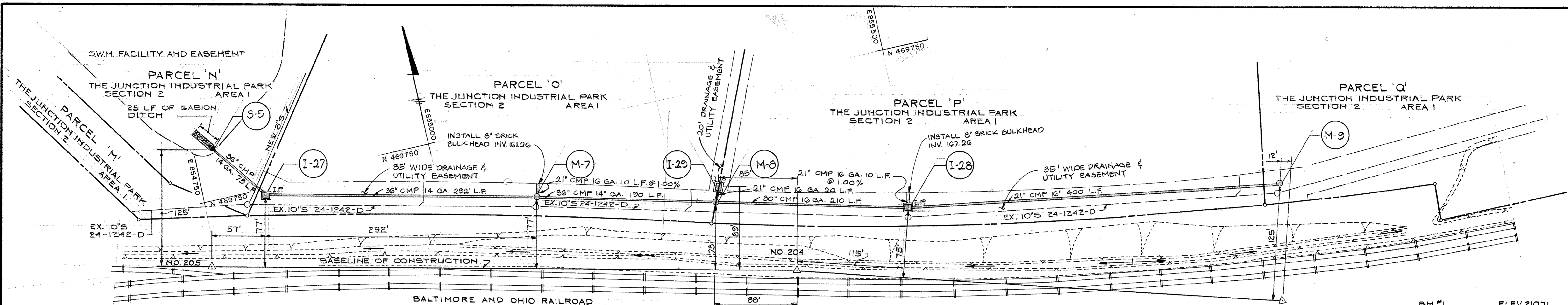
DES: P.D.	RZB	ADD PIPE LENGTH	8/18
DRN: J.L.B.			
CHK: P.D.			
DATE: 1/31/86	BY NO.	REVISION	DATE

PLAN AND PROFILE
 JUNCTION DRIVE
 STA. 38+35.53 TO STA. 48+04.10

JUNCTION INDUSTRIAL PARK SECTION 2
 ELECTION DISTRICT GILFORD NO. 6
 OWNER: JUNCTION I LIMITED PARTNERSHIP
 P.O. BOX 125 GLEN ARM MD. 21057

SCALE AS SHOWN
 SHEET 4 OF 17

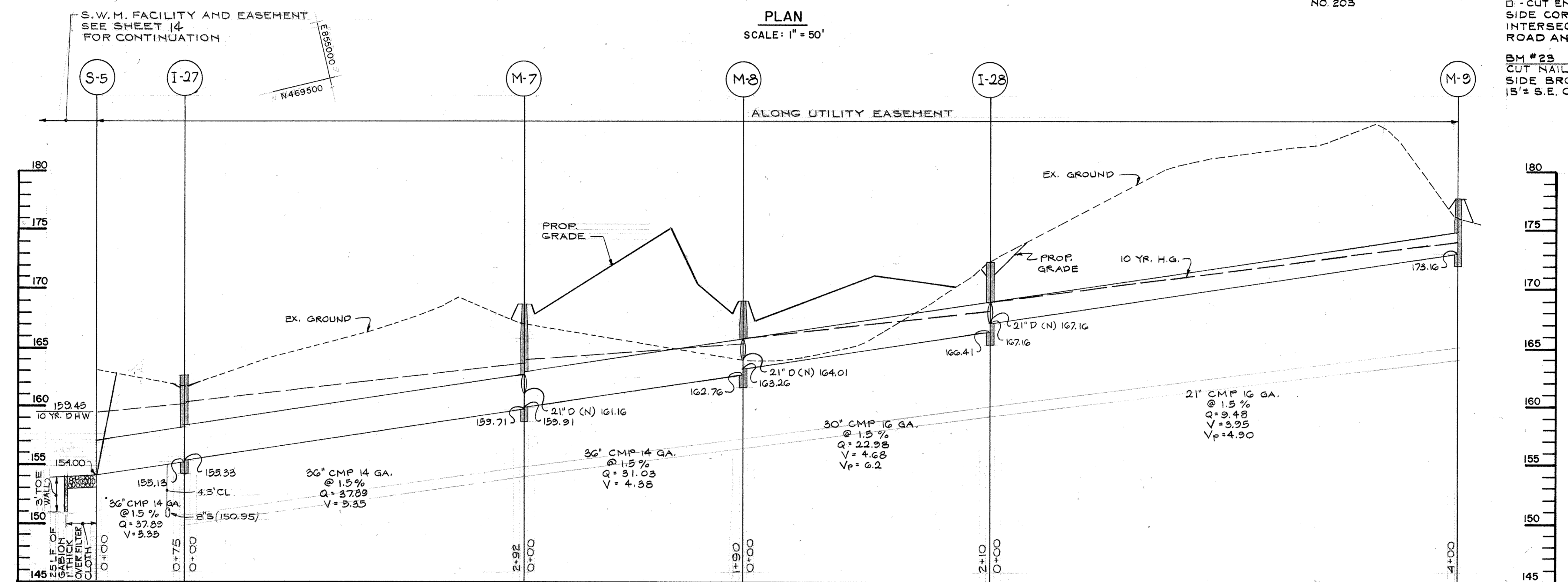
F-86-126



PLAN
SCALE: 1" = 50'

BM #1 ELEV. 210.71
D-CUT END CONC. CURB W. SIDE CORRIDOR ROAD AT INTERSECTION CORRIDOR ROAD AND HENKLE ROAD

BM #23 ELEV. 162.72
CUT NAIL IN POLE #N SIDE BROCK BRIDGE RD. 15' ± S.E. OF Δ 203



PROFILE
SCALE: HORZ. 1" = 50'
VERT. 1" = 5'

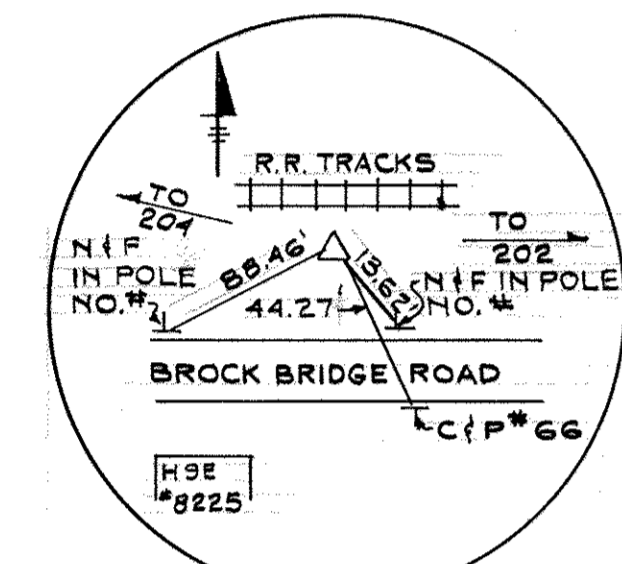
MANHOLE SCHEDULE					
NO.	TYPE	SIZE	INV. IN	INV. OUT	TOP ELEV.
M-7	HOWARD CO. ST'D.	60"	161.16 (N) 159.91 (E)	159.71	168.50
M-8	HOWARD CO. ST'D.	60"	164.01 (N) 163.26 (E)	162.76	169.00
M-9	HOWARD CO. ST'D.	48"	---	173.16	178.00

INLET SCHEDULE					
NO.	TYPE	Q	INV. IN	INV. OUT	TOP ELEV.
I-27	TYPE 'D' HOW. CO. STD. SD 4.11	---	155.33	155.13	162.50
I-28	" " " " " " " "	---	162.16 (N) 162.16 (E)	166.41	172.50
I-29	" " " " " " " "	2.45*	---	164.21	170.83

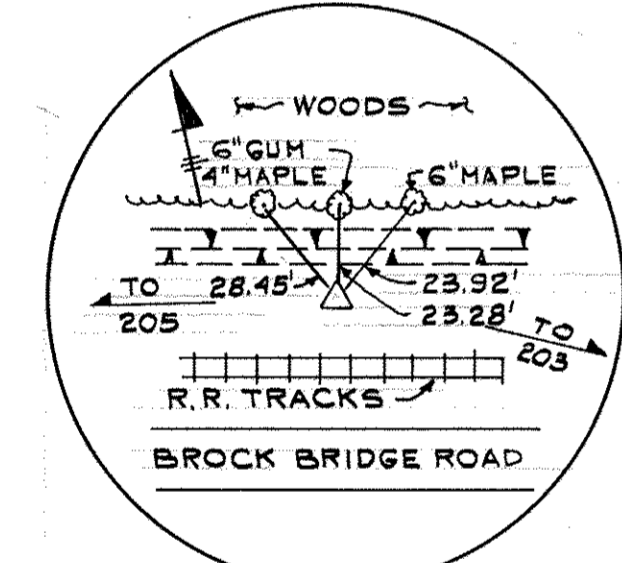
* UNDEVELOPED CONDITION C=0.17

STRUCTURE SCHEDULE				
NO.	TYPE	INV. IN	INV. OUT	TOP ELEV.
S-3	METAL END SECT. SD 5.61 WITH TOE PLATE	---	154.00	---

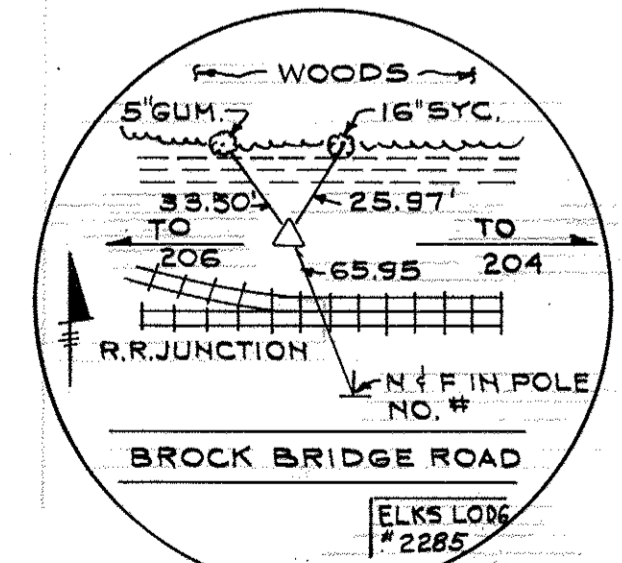
TOP SLAB (OPEN TO THE EAST & WEST)
TOP SLAB (OPEN TO THE EAST ONLY)
TOP SLAB (OPEN TO THE NORTH ONLY)



TRAVERSE PT. STA. 203
REBAR 1 CAP. 20'
BELOW SURFACE
N 469397, 6103
E 855860, 9632



TRAVERSE PT. STA. 204
REBAR 1 CAP. 10'
BELOW SURFACE
N 469541, 6079
E 855357, 3762



TRAVERSE PT. STA. 205
REBAR 1 CAP. 10'
BELOW SURFACE
N 469681, 9571
E 854746, 5118

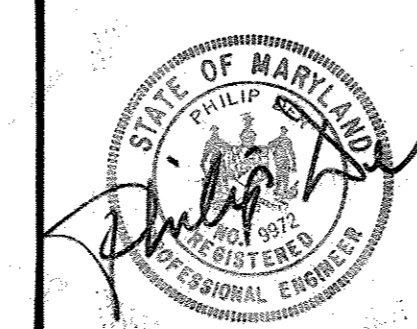
OFFICE OF PLANNING & ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

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

MOX MAGNANI

DATE: 1/31/86



DES: P.D.
DRN: G.G./J.L.B.
CHK: P.D.
DATE: 1/31/86

STORM DRAIN PLAN AND PROFILE
WITHIN 20' UTILITY EASEMENT
PARCELS N, O, P, Q

DATE: 1/31/86

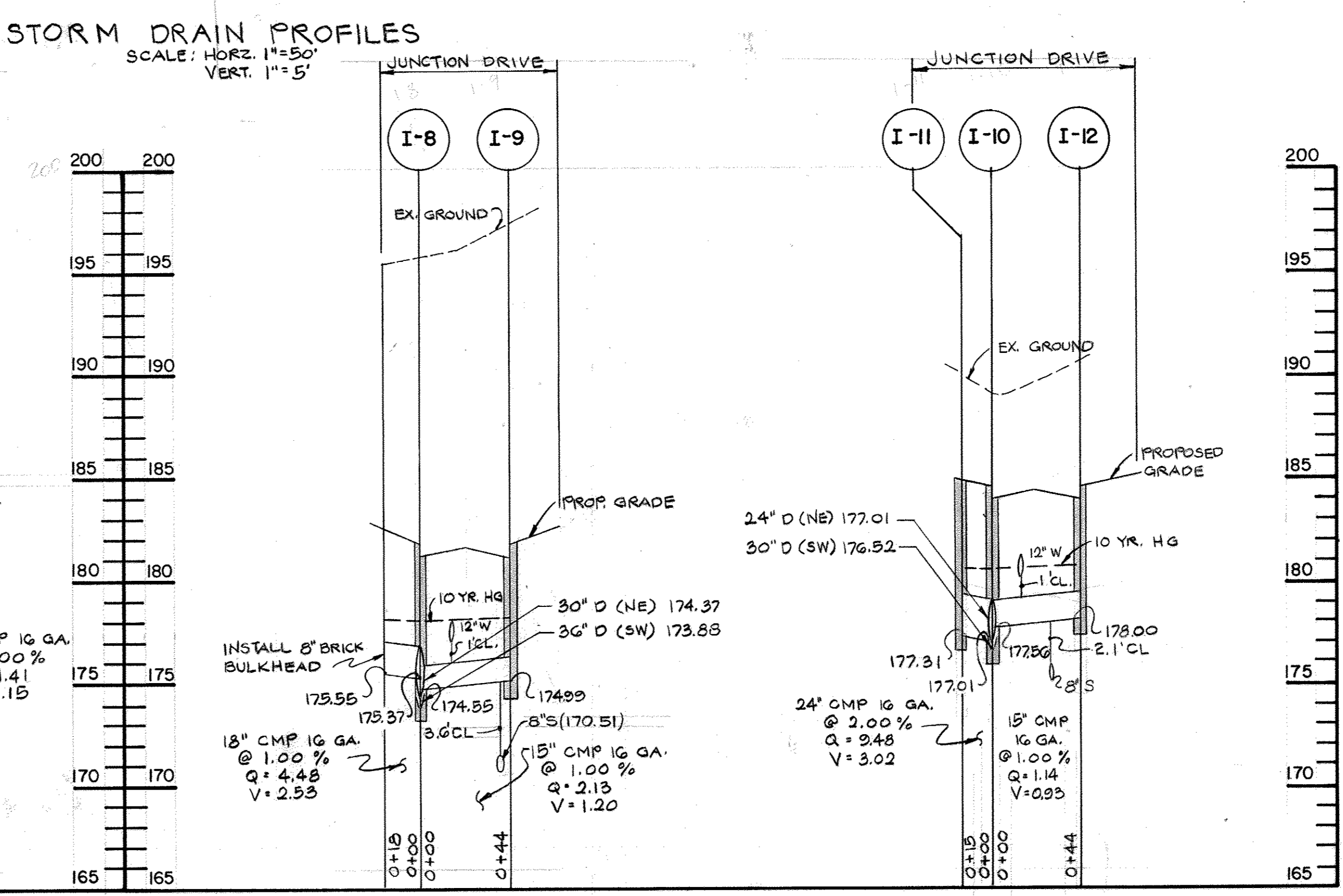
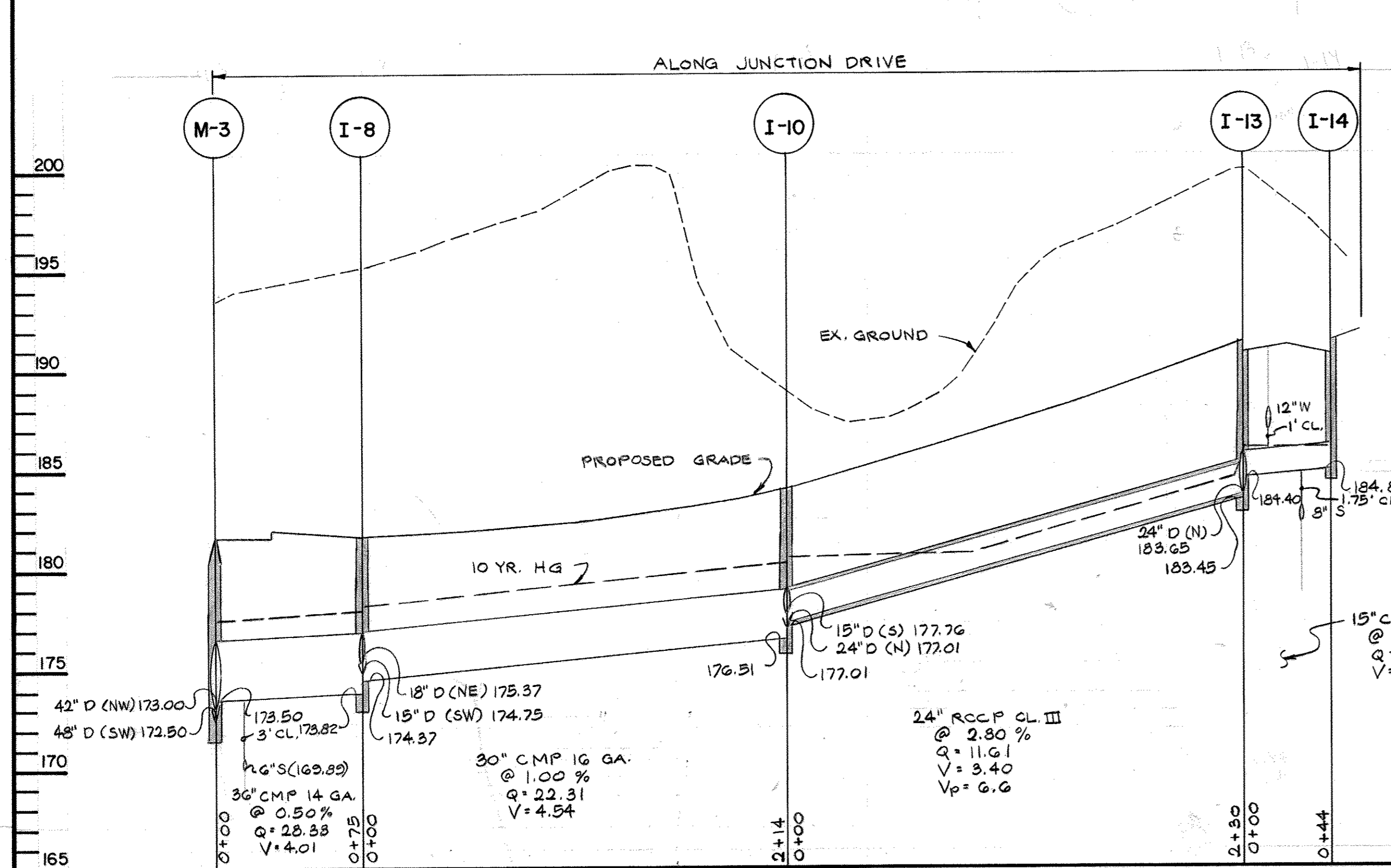
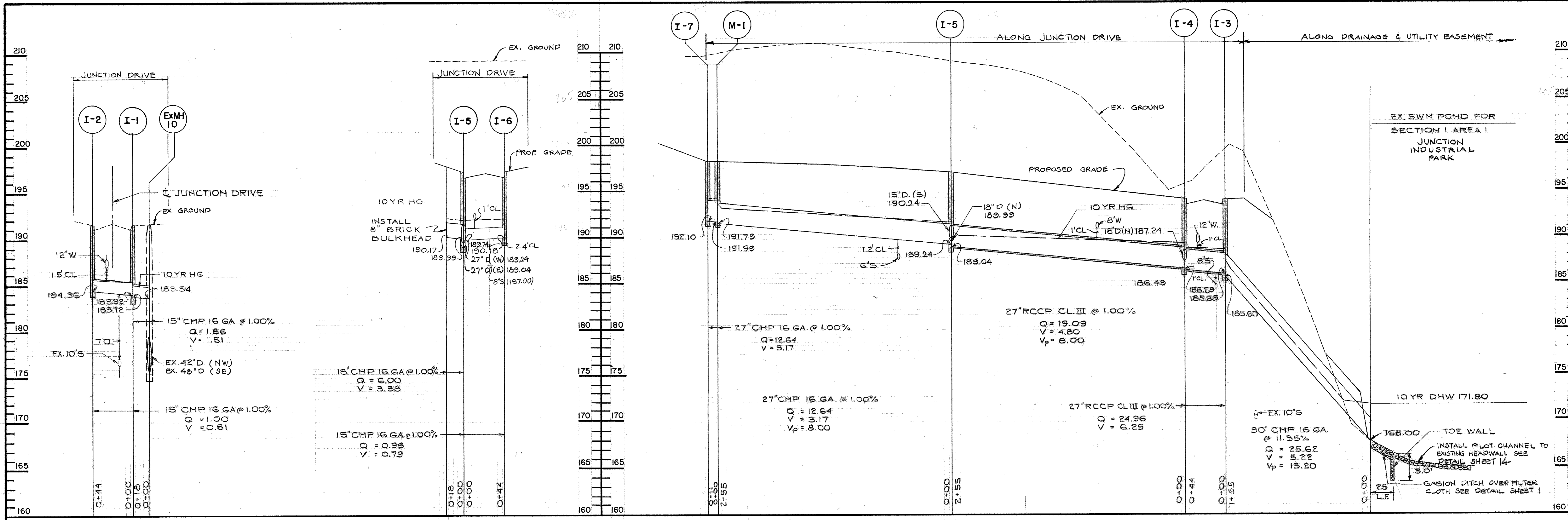
JUNCTION INDUSTRIAL PARK SECTION 2
ELECTION DISTRICT GILFORD NO. 6

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

SCALE AS SHOWN

SHEET 5 OF 17

F-86-126

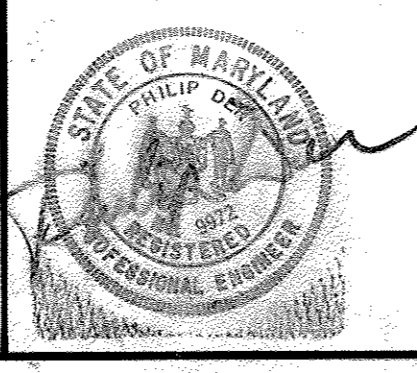


STORM DRAIN PROFILES
SCALE: HORIZ. 1"=50'
VERT. 1"=5'

OFFICE OF PLANNING & ZONING
8-12-86
CHIEF, DIVISION OF LAND DEVELOPMENT
AND ZONING ADMINISTRATION

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
8-18-86
CHIEF, BUREAU OF ENGINEERING

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

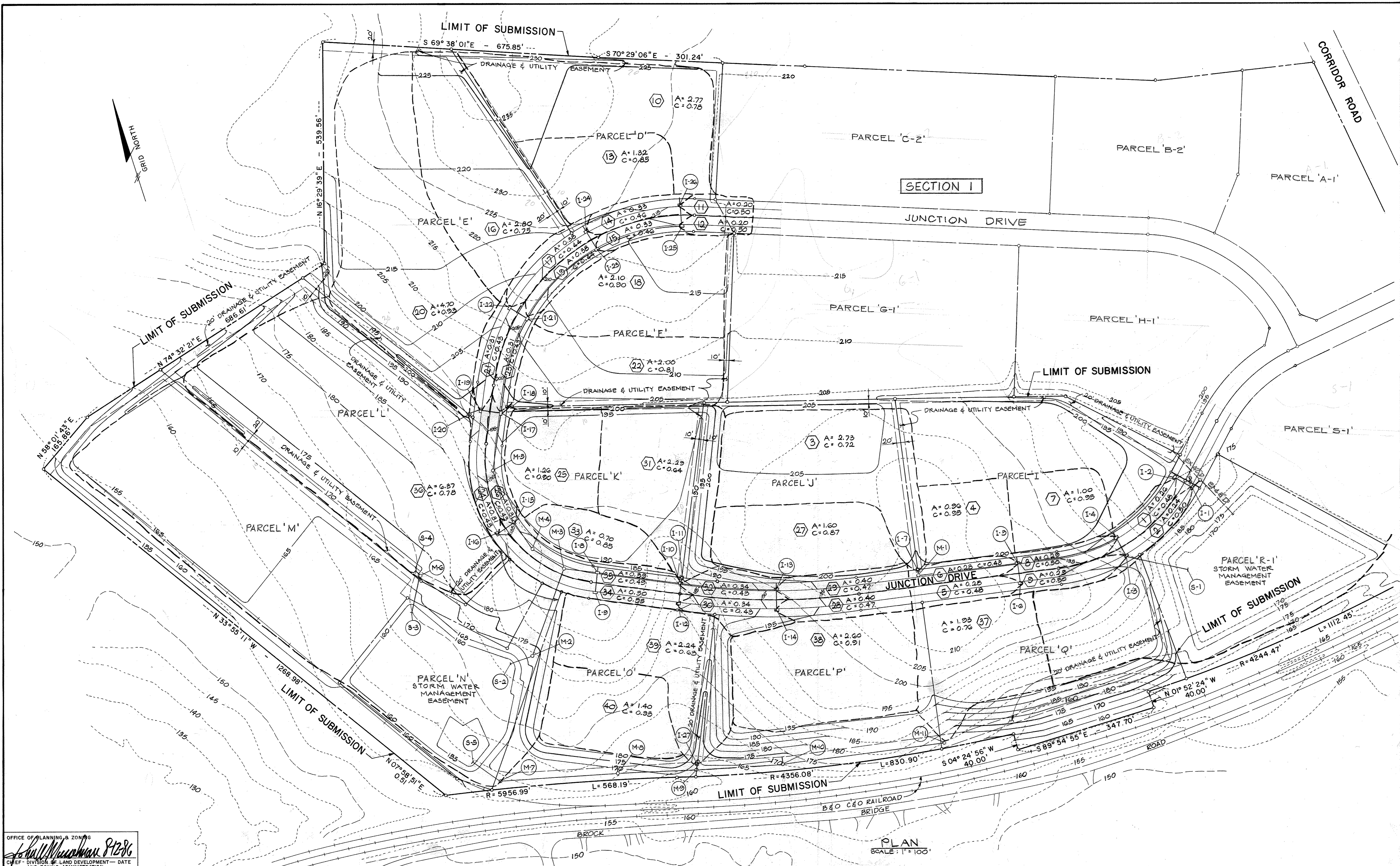


DES: P.D.	
DRN: G.A./J.L.B.	
CHK: P.D.	
DATE: 1-31-86	
BY: NO.	
REVISION	
DATE	

STORM DRAIN PROFILES
600' SCALE MAP NO. 46 BLOCK NO. 19

JUNCTION INDUSTRIAL PARK SECTION 2
ELECTION DISTRICT GILFORD NO. 6
OWNER: JUNCTION I LIMITED PARTNERSHIP P.O. BOX 125
GLEN ARM, MARYLAND 21057
SCALE AS SHOWN
SHEET 6 OF 17

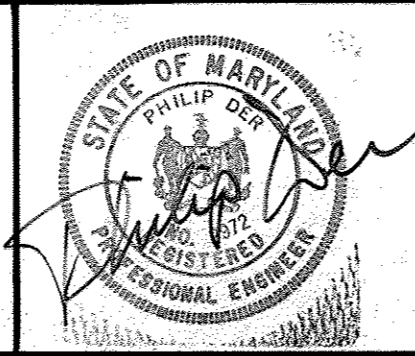
F-86-126



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: 2-18-86

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



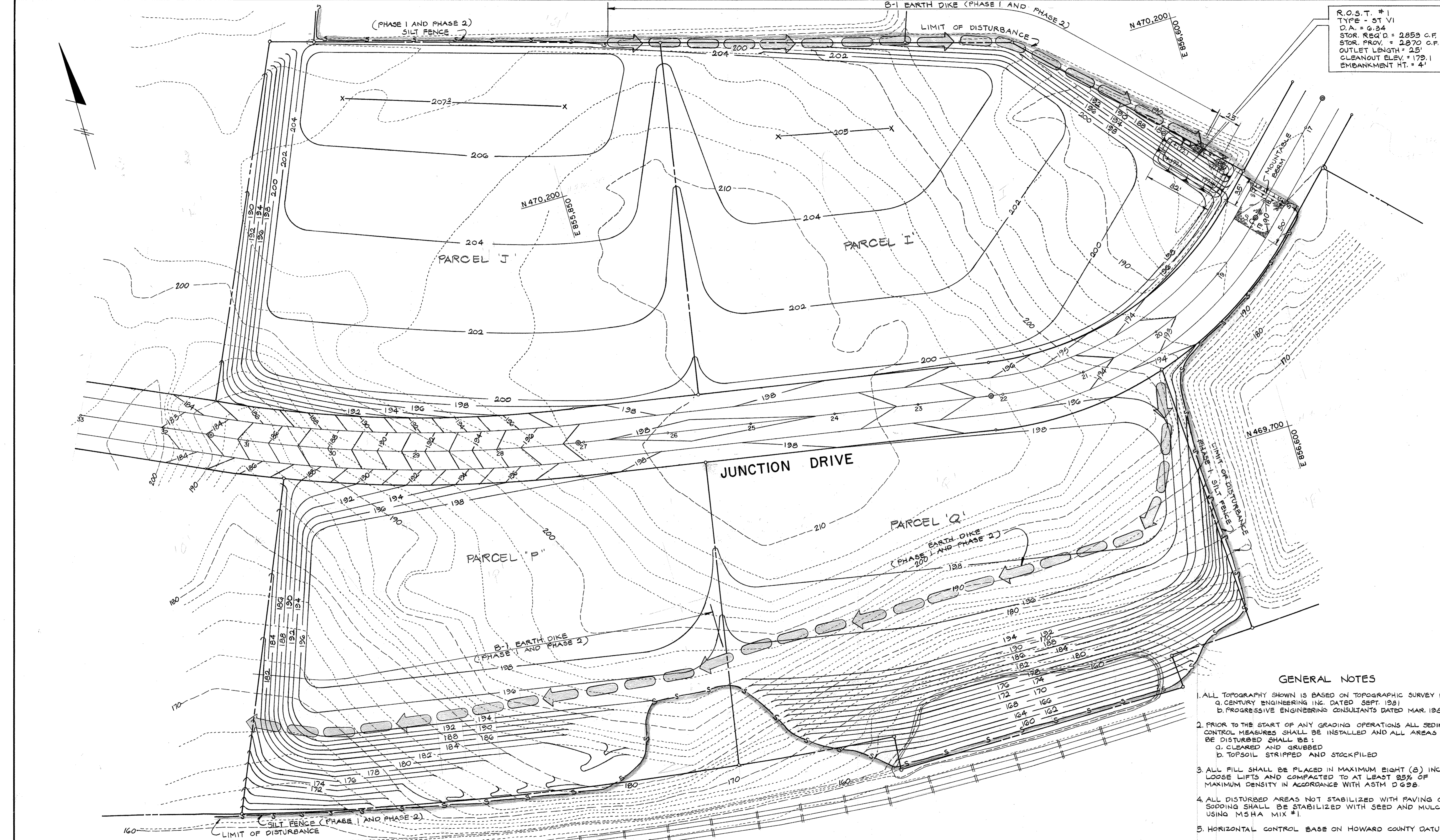
DES: P.D.	
DRN: GJLB	
CHK: P.D.	
DATE: 1/31/86	
BY: NO.	
REVISION	
DATE	

PLAN SCALE: 1"=100'
 DRAINAGE AREA MAP
 600' SCALE MAP NO. 48 BLOCK NO. 19

JUNCTION INDUSTRIAL PARK SECTION 2
 ELECTION DISTRICT GILFORD NO. 6
 OWNER: JUNCTION I LIMITED PARTNERSHIP P.O. BOX 125
 GLEN ARM, MARYLAND 21057

SCALE AS SHOWN
 SHEET 8 OF 17

F-86-126



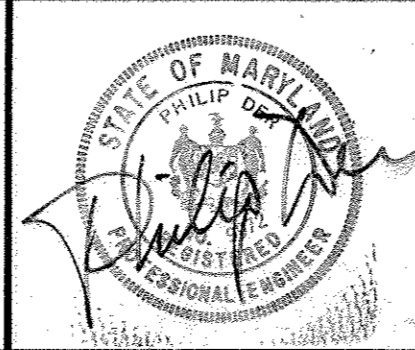
GENERAL NOTES

1. ALL TOPOGRAPHY SHOWN IS BASED ON TOPOGRAPHIC SURVEY BY:
 - a. CENTURY ENGINEERING INC. DATED SEPT. 1981
 - b. PROGRESSIVE ENGINEERING CONSULTANTS DATED MAR. 1984
2. PRIOR TO THE START OF ANY GRADING OPERATIONS ALL SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND ALL AREAS TO BE DISTURBED SHALL BE:
 - a. CLEARED AND GRUBBED
 - b. TOPSOIL STRIPPED AND STOCKPILED
3. ALL FILL SHALL BE PLACED IN MAXIMUM EIGHT (8) INCH LOOSE LIFTS AND COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.
4. ALL DISTURBED AREAS NOT STABILIZED WITH PAVING OR SODDING SHALL BE STABILIZED WITH SEED AND MULCH USING MSHA MIX #1.
5. HORIZONTAL CONTROL BASE ON HOWARD COUNTY DATUM.
6. ALL UNPAVED SWALES AND UNPAVED AREAS OF CONCENTRATED FLOWS SHALL BE SODDED WITH TALL RESCUE SEED IN ACCORDANCE WITH MSHA SECTION 920.04.04.
7. ALL EARTH DIKES ARE TYPE A-1 EXCEPT AS NOTED.

NOTE: ALL SEDIMENT CONTROL MEASURES HAVE BEEN CERTIFIED BY THE DEVELOPER AND ENGINEER SEE SHEET 13 OF 17

OFFICE OF PLANNING & ZONING
 [Signature] 8-12-86
 CHIEF - DIVISION OF LAND DEVELOPMENT - DATE AND ZONING ADMINISTRATION

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



DES: J.L.B.				
DRN: J.L.B.				
CHK: P.D.				
DATE: 1-31-86	BY	NO.	REVISION	DATE

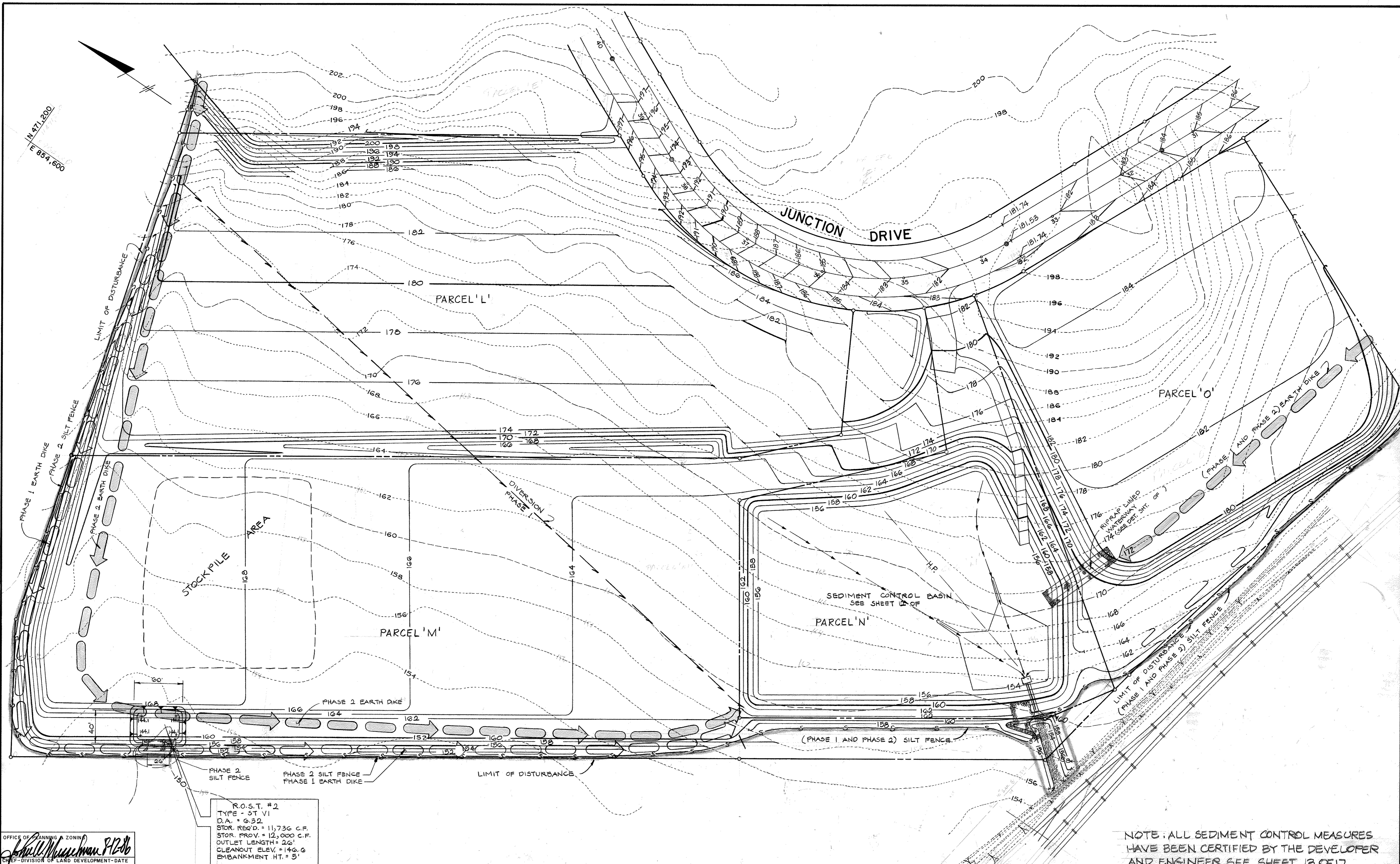
SEDIMENT CONTROL & GRADING PLAN FOR PARCELS J, I, P & Q

JUNCTION INDUSTRIAL PARK SECTION 2
 ELECTION DISTRICT GILFORD NO. 6
 OWNER: JUNCTION I LIMITED PARTNERSHIP P.O. BOX 125
 GLEN ARM, MARYLAND 21057

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 8-18-86
 CHIEF, BUREAU OF ENGINEERING DATE

SCALE AS SHOWN
 SHEET 9 OF 17

F-86-126



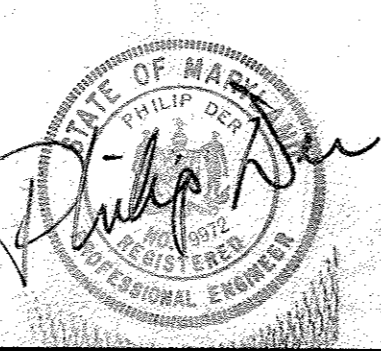
RO.S.T. #2
 TYPE - ST VI
 D.A. = 0.32
 STOR. REQ'D. = 11,736 C.F.
 STOR. PROV. = 12,000 C.F.
 OUTLET LENGTH = 26'
 CLEANOUT ELEV. = 146.0
 EMBANKMENT HT. = 5'

NOTE: ALL SEDIMENT CONTROL MEASURES
 HAVE BEEN CERTIFIED BY THE DEVELOPER
 AND ENGINEER SEE SHEET 13 OF 17

OFFICE OF PLANNING & ZONING
Shall Murchman 8/28/86
 CHIEF, DIVISION OF LAND DEVELOPMENT-DATE
 AND ZONING ADMINISTRATION

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William E. Ray 8/18/86
 CHIEF, BUREAU OF ENGINEERING
 DATE 8-18-86

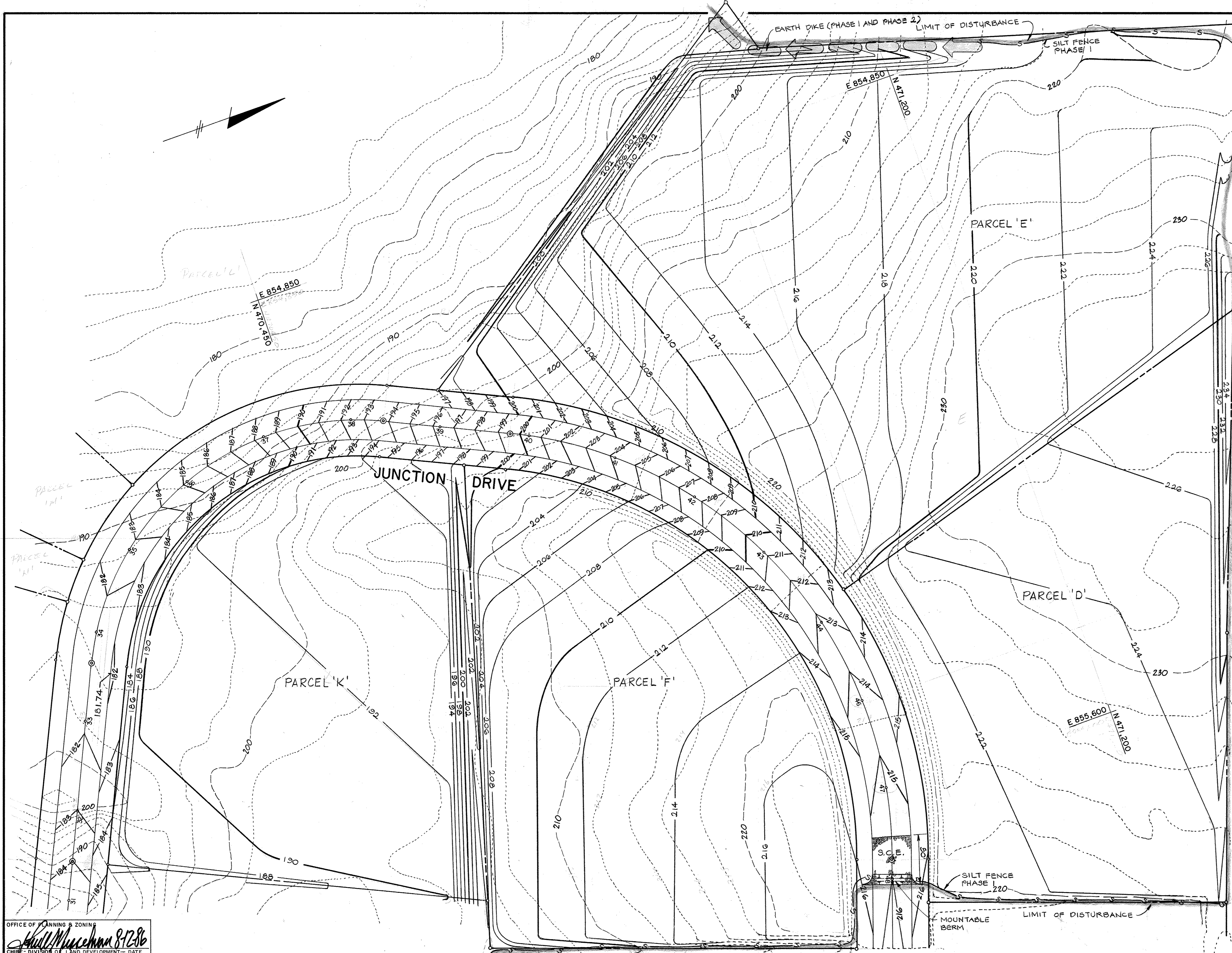
WHITNEY BAILEY
FOX MAGNANI
 CONSULTING ENGINEERS
 1850 York Road
 Timonium Md. 21093
 301-252-6060



DES: J.L.B.				
DRN: J.L.B.				
CHK: P.D.				
DATE: 1-31-86	BY NO.	REVISION	DATE	

SEDIMENT CONTROL &
 GRADING PLAN FOR
 PARCELS L, M, N & O

SCALE AS SHOWN
 SHEET 10 OF 17
 OWNER: JUNCTION I LIMITED PARTNERSHIP P.O. BOX 125
 GLEN ARM, MARYLAND 21057
F-86-126

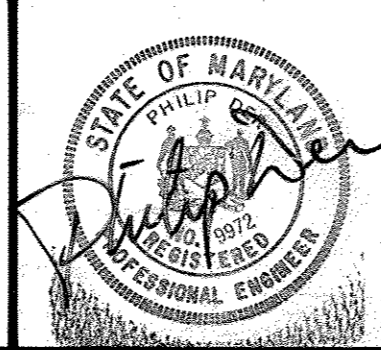


NOTE: ALL SEDIMENT CONTROL MEASURES HAVE BEEN CERTIFIED BY THE DEVELOPER AND ENGINEER SEE SHEET 13 OF 17

OFFICE OF PLANNING & ZONING
Michael M. ... 8-18-86
 CHIEF, DIVISION OF LAND DEVELOPMENT - DATE
 AND ZONING ADMINISTRATION

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Michael M. ...
 CHIEF, BUREAU OF ENGINEERING

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



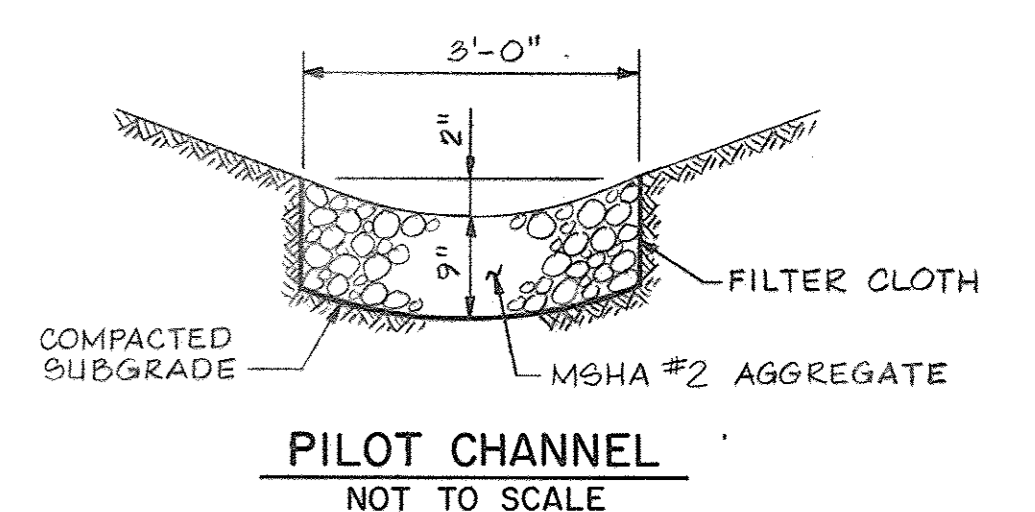
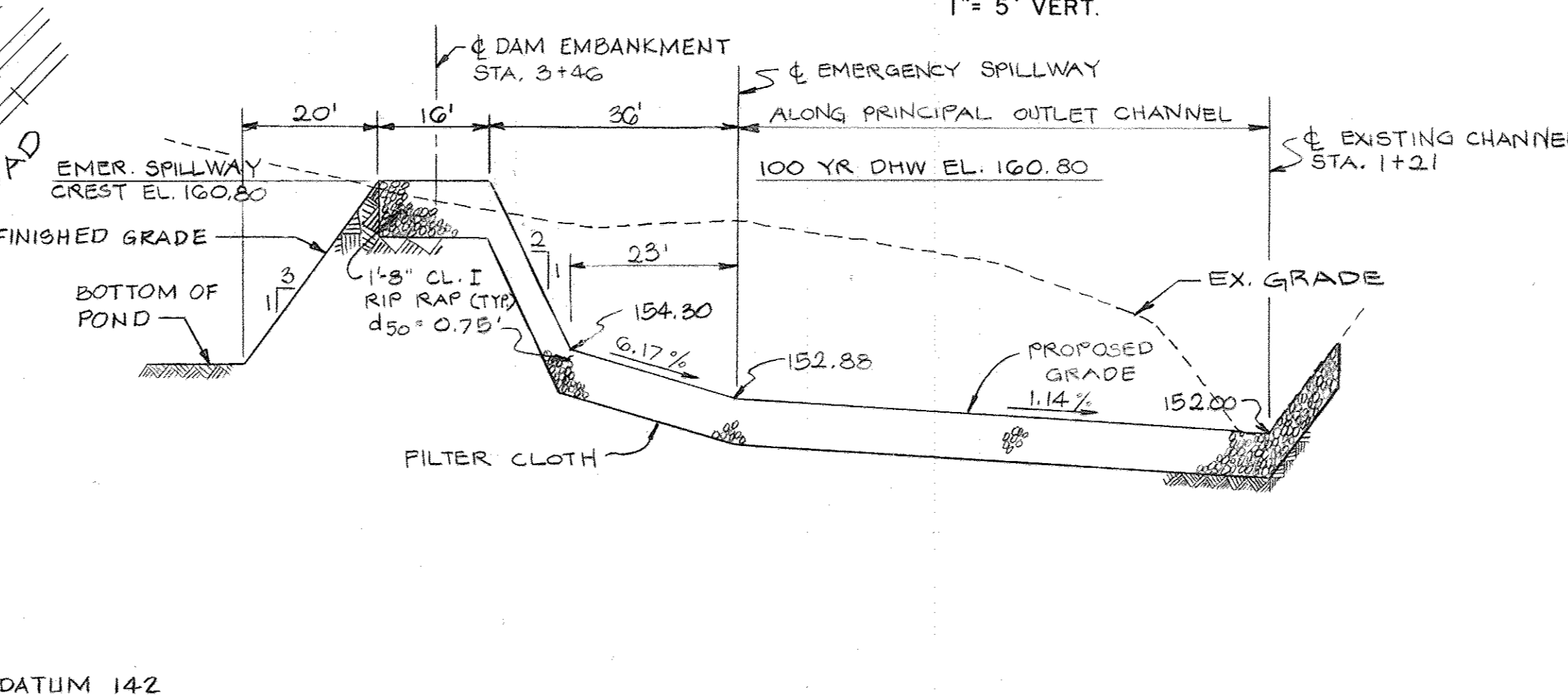
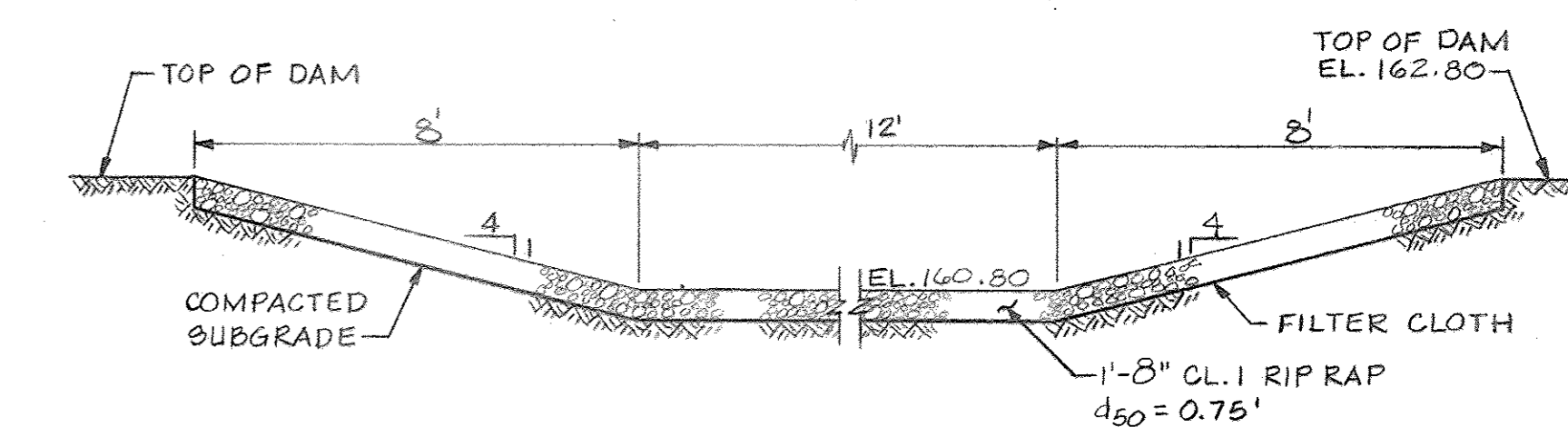
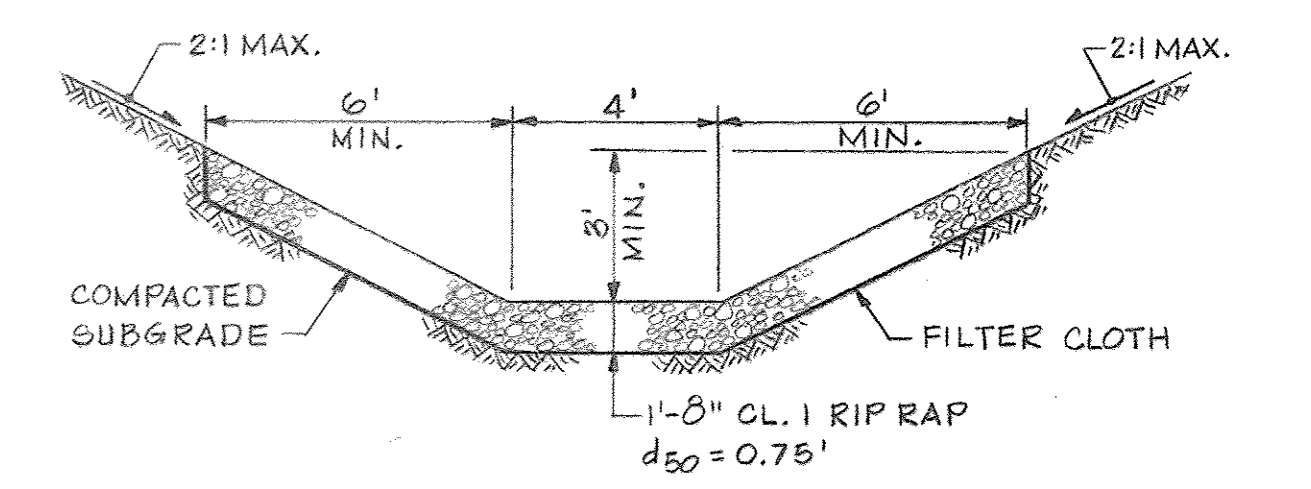
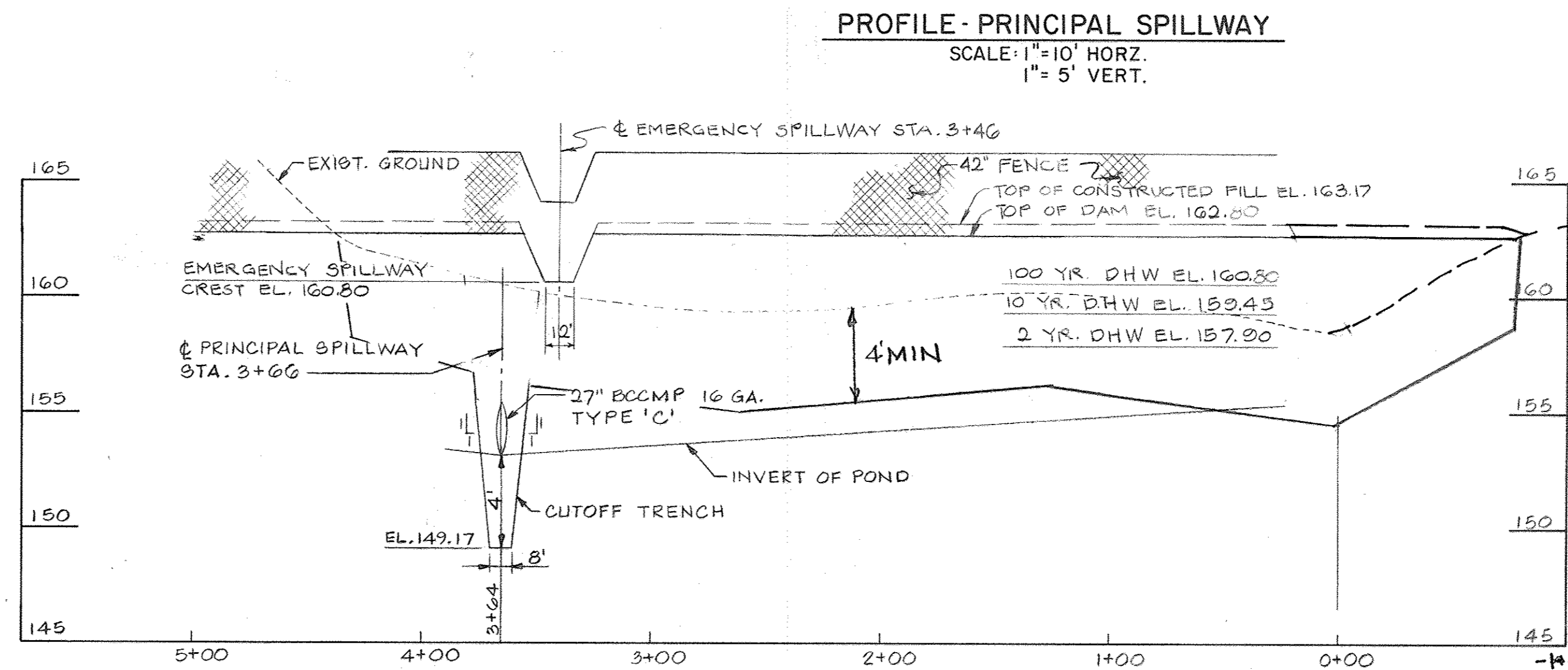
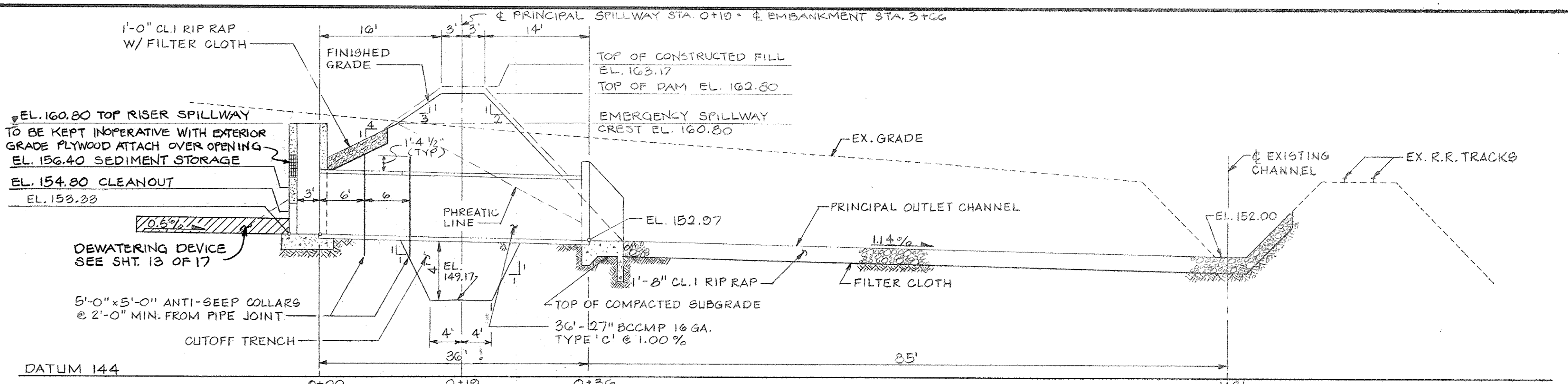
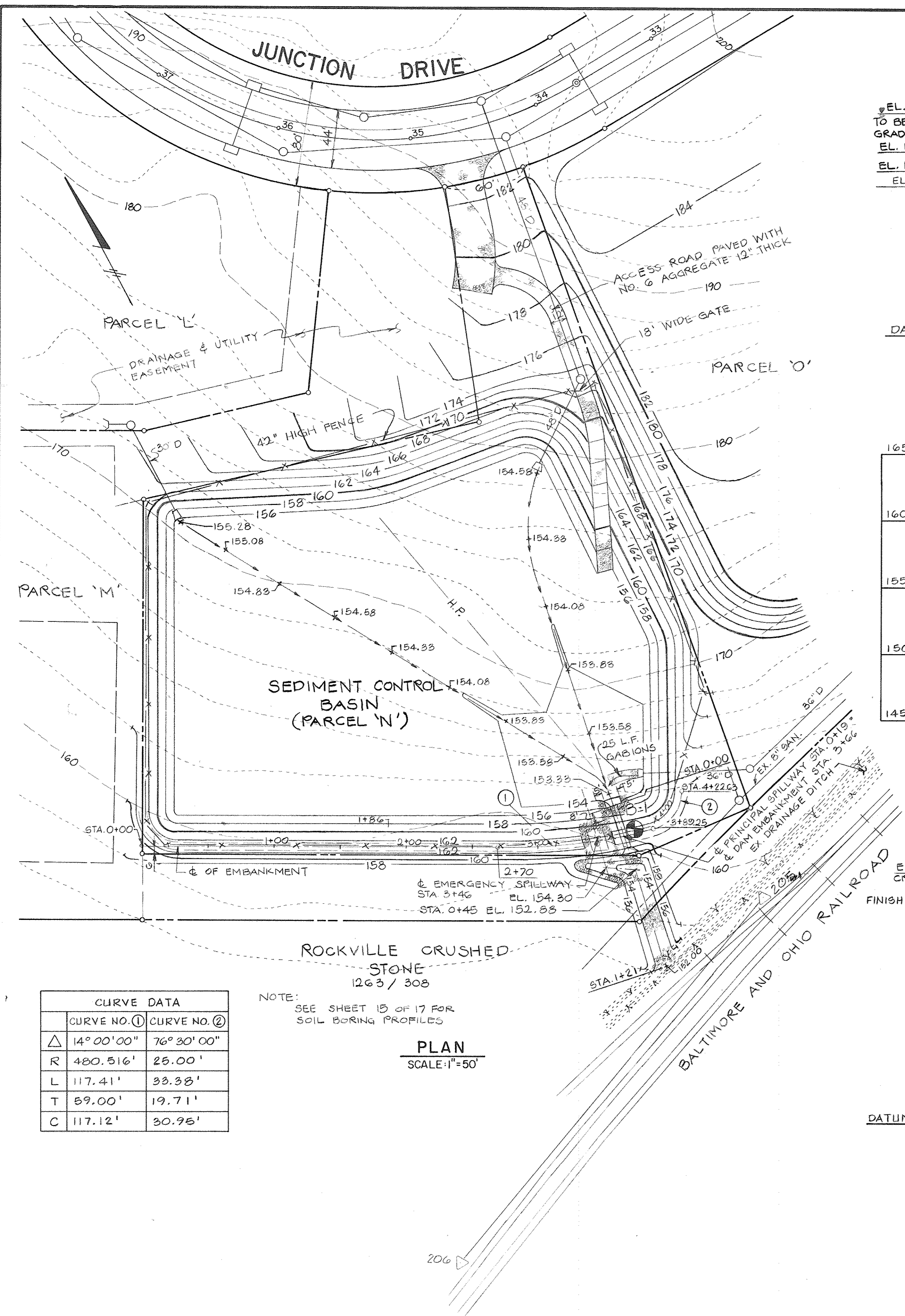
DES: J.L.B.			
DRN: J.L.B.			
CHK: P.D.			
DATE: 1-31-86	BY	NO.	REVISION

SEDIMENT CONTROL & GRADING PLAN FOR PARCELS D, E, F & K
 600' SCALE MAP NO. 45 BLOCK NO. 10

JUNCTION INDUSTRIAL PARK SECTION 2
 ELECTION DISTRICT GILFORD NO. 6
 OWNER: JUNCTION I LIMITED PARTNERSHIP P.O. BOX 125
 GLEN ARM, MARYLAND 21057

SCALE AS SHOWN
 SHEET 11 OF 17

F-86-126



CURVE DATA	
CURVE NO. ①	CURVE NO. ②
Δ 14° 00' 00"	76° 30' 00"
R 480.516'	25.00'
L 117.41'	33.38'
T 59.00'	19.71'
C 117.12'	30.98'

NOTE: SEE SHEET 13 OF 17 FOR SOIL BORING PROFILES

PLAN
SCALE: 1" = 50'

PROFILE EMERGENCY SPILLWAY
SCALE: 1" = 20' HORIZ.
1" = 5' VERT.

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.

J. Helms 8/4/86
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.

Robert J. Zehn 8/4/86
HOWARD COUNTY (S.C.D.) DATE

NOTE: ALL SEDIMENT CONTROL MEASURES HAVE BEEN CERTIFIED BY THE DEVELOPER & ENGINEER SEE SHEET 13 OF 17

OFFICE OF PLANNING & ZONING
Shelley Marchant 8/28/86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William J. Ray
CHIEF, BUREAU OF ENGINEERING DATE 8-19-86

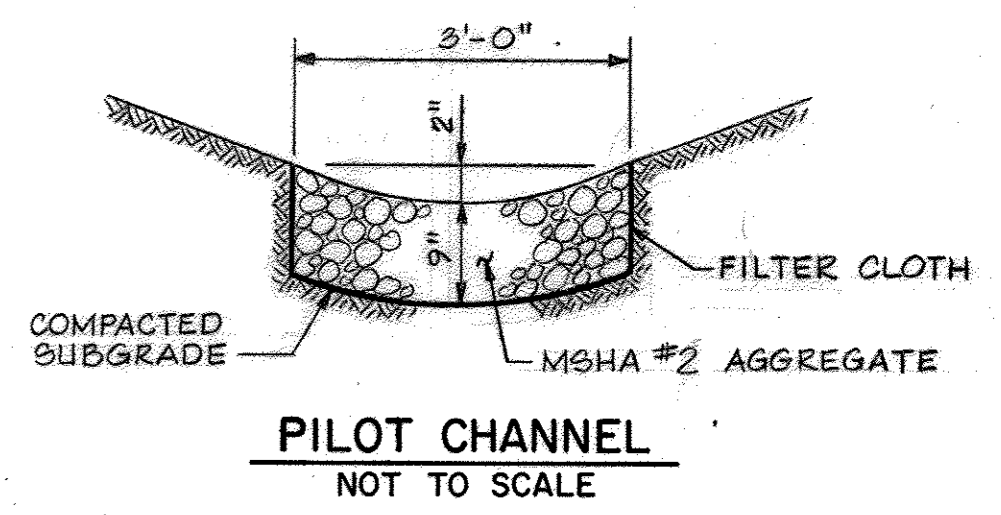
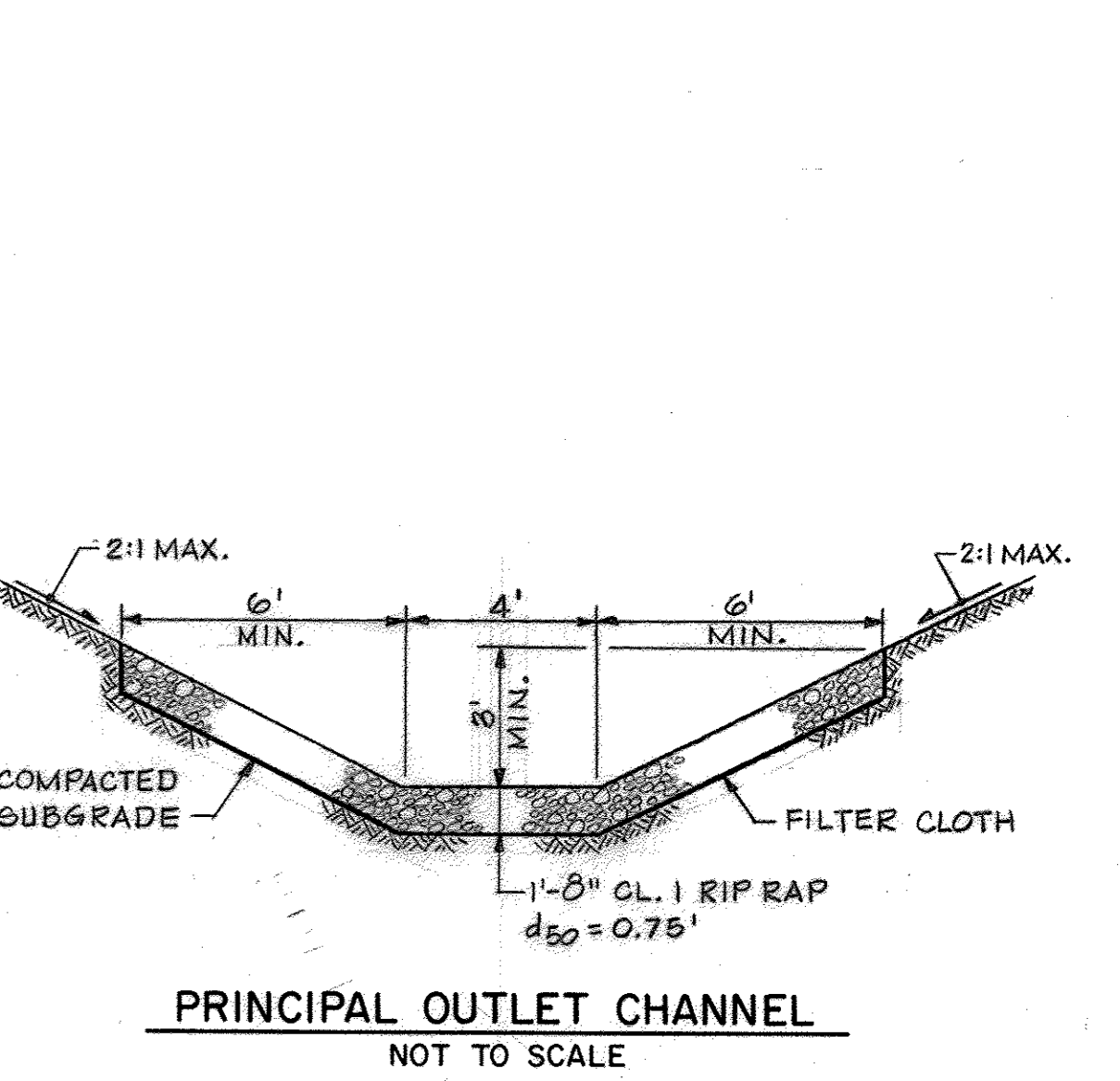
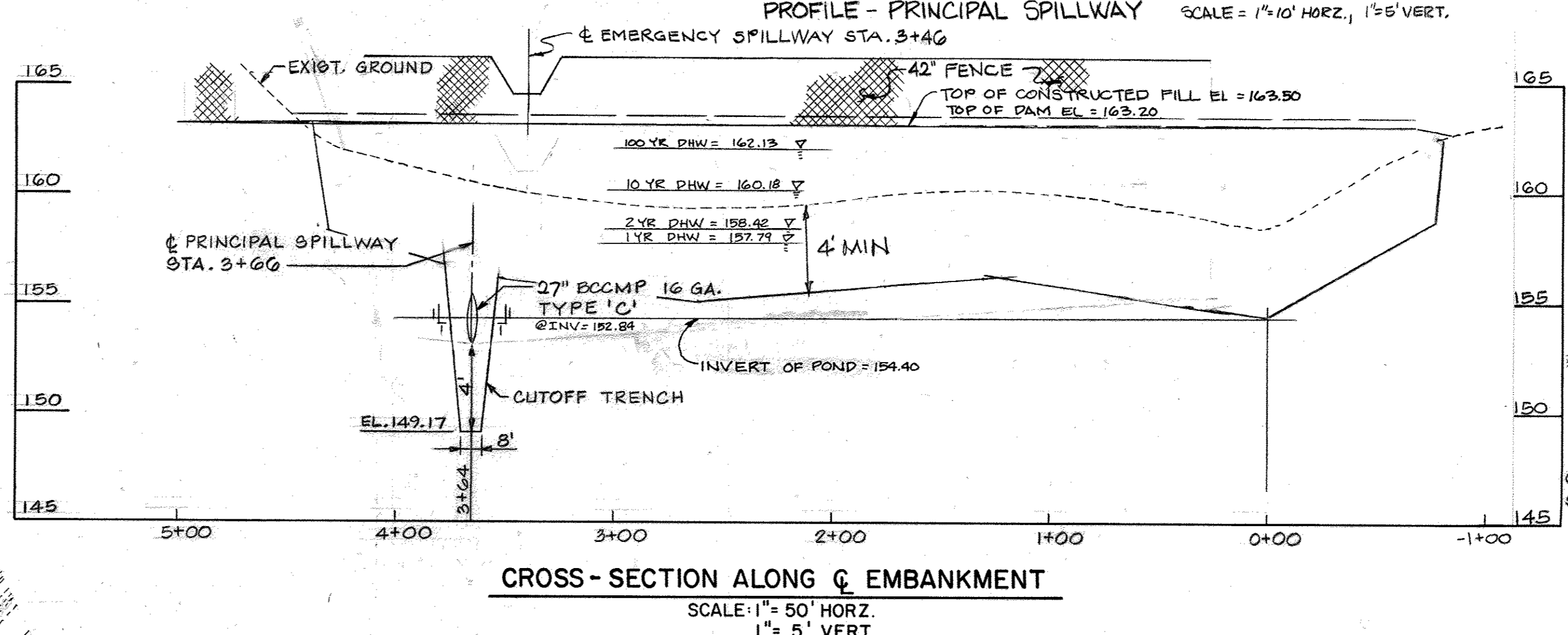
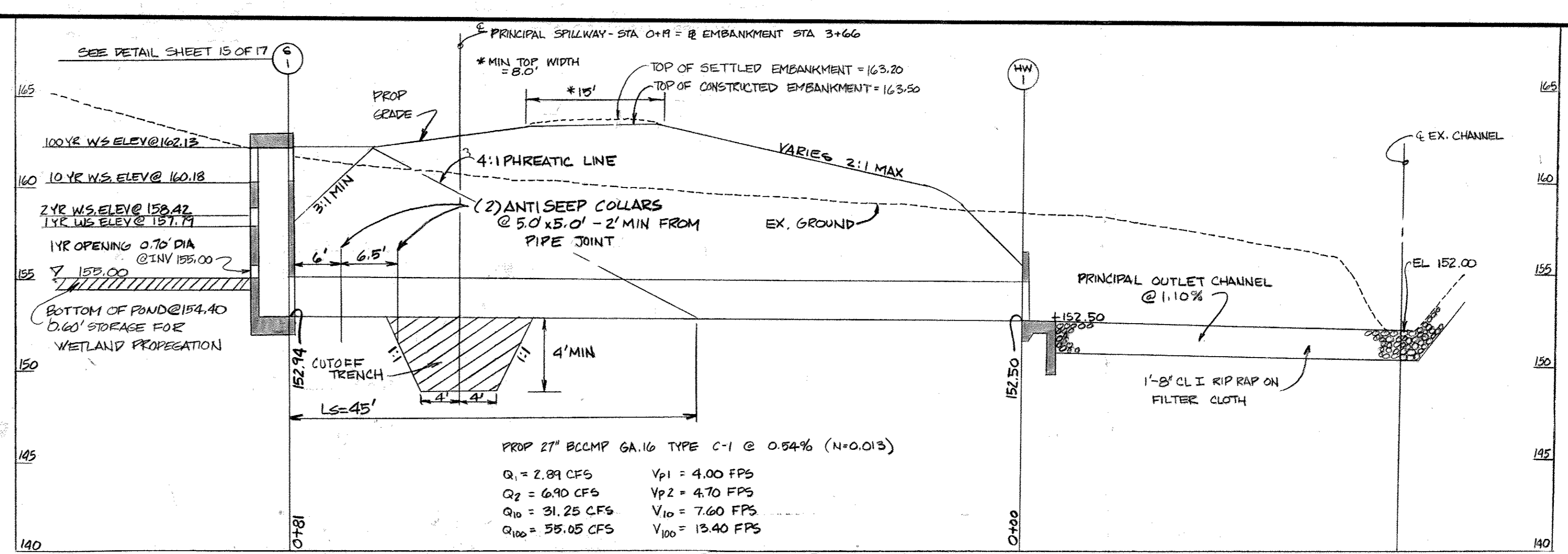
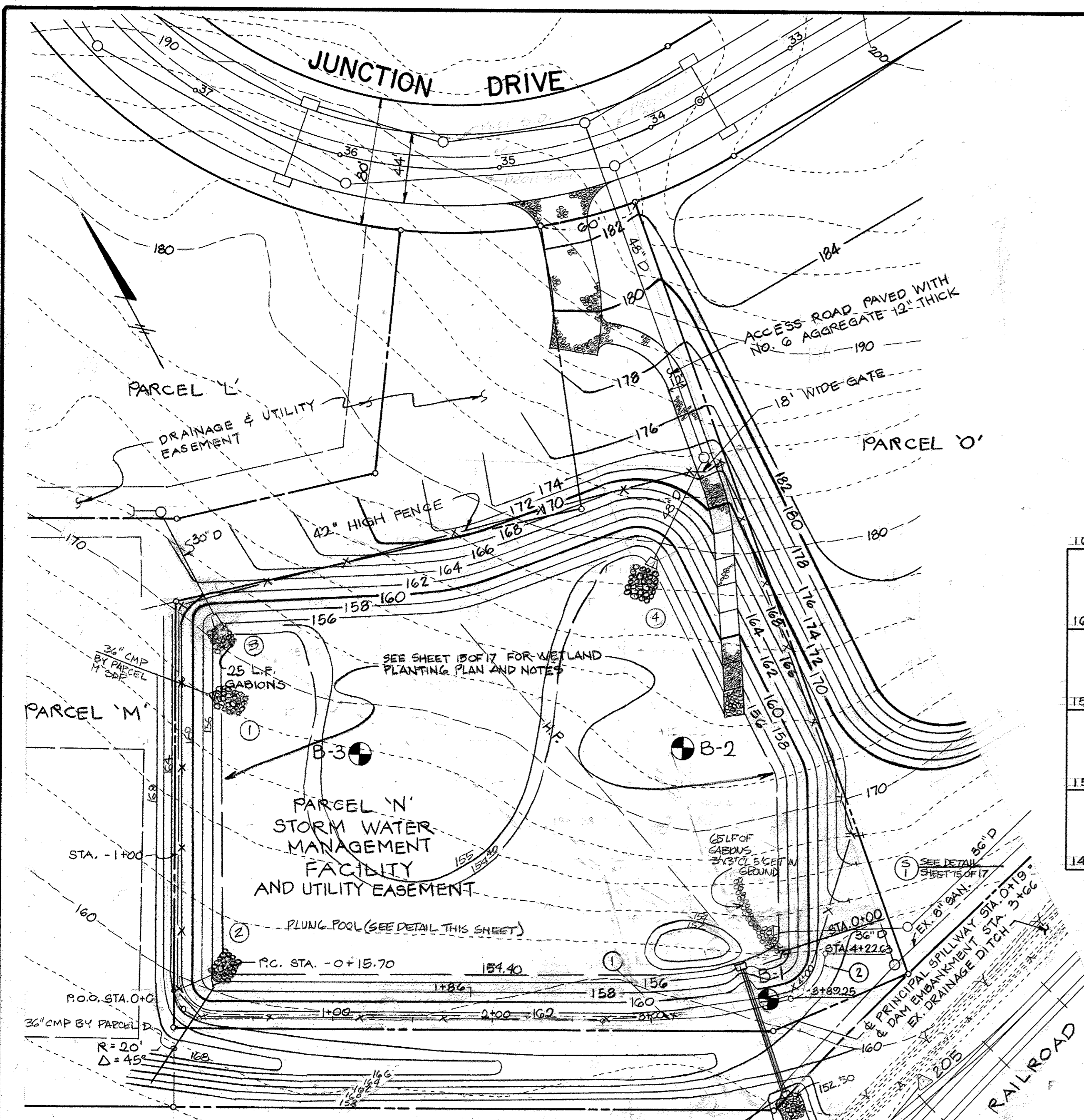
WHITNEY BAILEY FOX MAGNANI CONSULTING ENGINEERS
1850 York Road
Timonium Md. 21093
301-252-6060

DES: M.A.M.				
DRN: R.G.				
CHK: P.D.				
DATE: 1-31-86	BY NO.	REVISION	DATE	600' SCALE MAP NO. 48 BLOCK NO. 19

SEDIMENT CONTROL BASIN

**JUNCTION INDUSTRIAL PARK SECTION 2
ELECTION DISTRICT GILFORD NO. 6**
OWNER: JUNCTION LIMITED PARTNERSHIP P.O. BOX 125
GLEN ARM, MARYLAND 21057
SCALE AS SHOWN
SHEET 12 OF 17

F-86-126



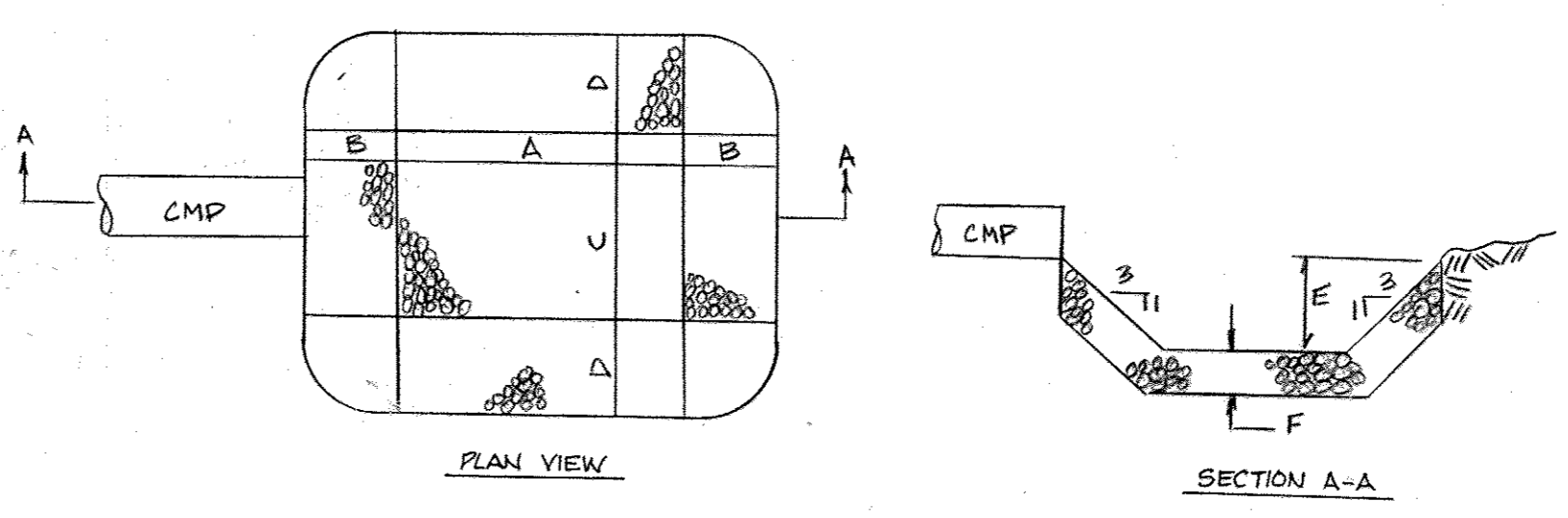
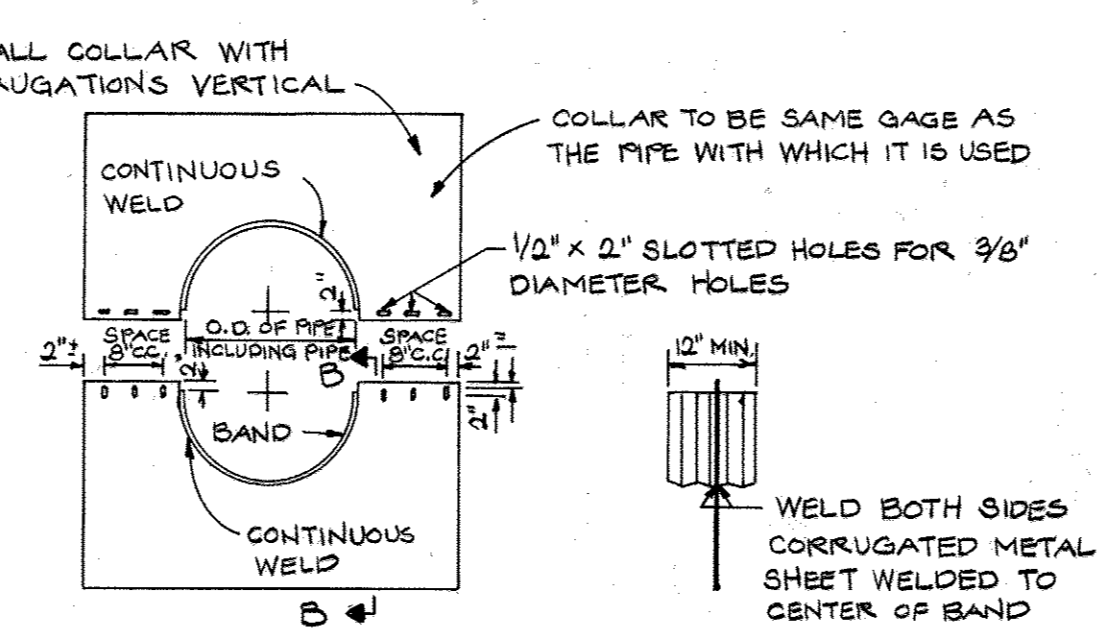
CURVE DATA	
CURVE NO. ①	CURVE NO. ②
Δ 14° 00' 00"	76° 30' 00"
R 480.516'	25.00'
L 117.41'	33.38'
T 59.00'	19.71'
C 117.12'	30.95'

NOTE: SEE SHEET 15 OF 17 FOR SOIL BORING PROFILES

PLAN
SCALE: 1"=50'

NOTE: THE STORM WATER MANAGEMENT FACILITY SHALL BE CLEANED OF SEDIMENT AFTER THE GRADING OPERATIONS AND RESTORED TO THE DESIGNED GRADES AND ELEVATIONS FOR STORM WATER MANAGEMENT FUNCTIONS.

- NOTES FOR COLLARS:
- ALL MATERIALS TO BE IN ACCORDANCE WITH CONSTRUCTION AND CONSTRUCTION MATERIAL SPECIFICATIONS.
 - WHEN SPECIFIED ON THE PLANS, COATING OF COLLARS SHALL BE IN ACCORDANCE WITH CONSTRUCTION AND CONSTRUCTION MATERIAL SPECIFICATIONS.
 - UNASSEMBLED COLLARS SHALL BE MARKED BY PAINTING OR TAGGING TO IDENTIFY MATCHING PAIRS.
 - THE LAP BETWEEN THE TWO HALF SECTIONS AND BETWEEN THE PIPE AND CONNECTING BAND SHALL BE CAULKED WITH ASPHALT MASTIC AT TIME OF INSTALLATION.
 - EACH COLLAR SHALL BE FURNISHED WITH TWO 1/2" DIAMETER RODS WITH STANDARD TANK LUGS FOR CONNECTING COLLARS TO PIPE.

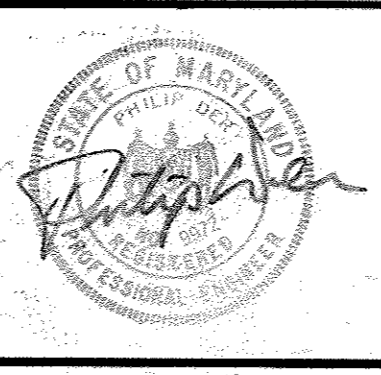


PLUNGING POOL	A	B	C	D	E	F	VOLUME	SIZE	BOTT.
							RF-RAP	RF-RAP	ELEV.
1	9'	4.5'	6'	4.5'	1.5'	1.0'	10.6'	6" MIN	153.32
2	9'	4.5'	6'	4.5'	1.5'	1.0'	10.6'	"	153.50
3	7.5'	3.75'	5'	3.75'	1.25'	1.0'	7.4'	"	154.03
4	12'	6'	8'	6'	2.0'	1.0'	18.9'	"	152.48

OFFICE OF PLANNING & ZONING
 Chief, Division of Land Development and Zoning Administration
 DATE

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 8-18-86
 DATE

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



DES:	M.A.M.	GWS	1	REVISED EMBANKMENT AND BOTTOM OF POND TO PROVIDE	1/10/80
DRN:	R.G.			1 YR EXTENDED DETENTION AND WETLAND VEGETATION	
CHK:	P.D.				
DATE:	1-31-86	BY:	NO.	REVISION	DATE

STORM WATER MANAGEMENT POND
 SCALE: 600' SCALE MAP NO. 48 BLOCK NO. 19

JUNCTION INDUSTRIAL PARK SECTION 2 ELECTION DISTRICT GILFORD NO. 6
 OWNER: JUNCTION LIMITED PARTNERSHIP P.O. BOX 125 GLEN ARM, MARYLAND 21057

SCALE AS SHOWN
 SHEET 14 OF 17

F-86-126

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 CONSOLIDATED 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 CONTAINED SOIL CLASSES GW, GP, SW, & SP SHALL NOT BE PLACED IN THE EMBANKMENT.

PLACEMENT: AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCRAPPED PRIOR TO PLACEMENT OR 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 PIOUS 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-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 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 3 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 DETERMINED DURING BACKFILLING - COMPACTION OPERATIONS.

CONCRETE:

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 OR 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 3-1/2 TO 5 U.S. GALLONS OF WATER PER 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 CRACKING IN PLACING OR HONEYCOMBING IN THE STRUCTURE.

PLACING: 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. TRENCH MIXING WILL BE ALLOWED PROVIDED THAT THE USE OF THIS METHOD SHALL CAUSE NO VIOLATION OF ANY APPLICABLE PROVISIONS OF THE SPECIFICATION GIVEN HERE.

PLANTING NOTES

GRADING:

1. THE BASIN BOTTOM SHALL BE EXCAVATED SIX INCHES (6") BELOW FINISHED GRADE AND 6" OF TOPSOIL SHALL BE UNIFORMLY SPREAD TO FINISHED ELEVATION AND HAVE A PH RANGE OF 5.0-7.0.

2. ALL GRADING WILL BE DONE UNDER THE APPROVED GRADING PERMIT FOR JUNCTION INDUSTRIAL PARK SECTION II AND IN ACCORDANCE WITH THESE PLANS.

3. GRADE TOLERANCE SHALL BE WITHIN 0.15', AND CHECKED BY A REGISTERED LAND SURVEYOR AND EXPLORATION RESEARCH, INC. PRIOR TO CONTRACTOR REMOVING EQUIPMENT FROM THE SITE. GRADES MAY BE SLIGHTLY ADJUSTED AS APPROVED BY EXPLORATION RESEARCH, INC.

4. THE PLACEMENT OF RP-RAP FOR THE PLUNG POOLS AND GABION DEFLECTOR CONSTRUCTION WILL BE IN CONFORMANCE WITH THESE PLANS AND THE 1983 STANDARDS AND SPECIFICATIONS FOR SEDIMENT AND EROSION CONTROL.

PLANTING:

1. PLANTING WILL BE PERFORMED IN ACCORDANCE WITH M.S.H.A. "STANDARD SPECIFICATIONS FOR CONSTRUCTION MATERIALS" PUBLISHED BY THE MARYLAND DEPARTMENT OF TRANSPORTATION, SHA JAN, 1982.

2. PLANT SUBSTITUTIONS MAY BE MADE IF PLANTS ARE UNAVAILABLE. SUBSTITUTIONS MUST BE APPROVED IN ADVANCE BY EXPLORATION RESEARCH, INC.

CONCRETE (CONTINUED):

REINFORCING STEEL: ALL REINFORCING MATERIAL SHALL BE FREE OF DIRT, RUST, SCALE, OIL, PAINT OR ANY OTHER COATING. 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 32 DEGREES F. WITH THE TEMPERATURE FALLING, OR 54 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 UNDER 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. ALL STRUCTURAL BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-1557.

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.

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.M.T.O. SPECIFICATIONS A-150 TYPE A WITH WATER TIGHT COUPLING BANDS. ANY BITUMINOUS COATING DAMAGED OR OTHERWISE REMOVED SHALL BE REPLACED WITH COLD APPLIED BITUMINOUS COATING COMPOUND.

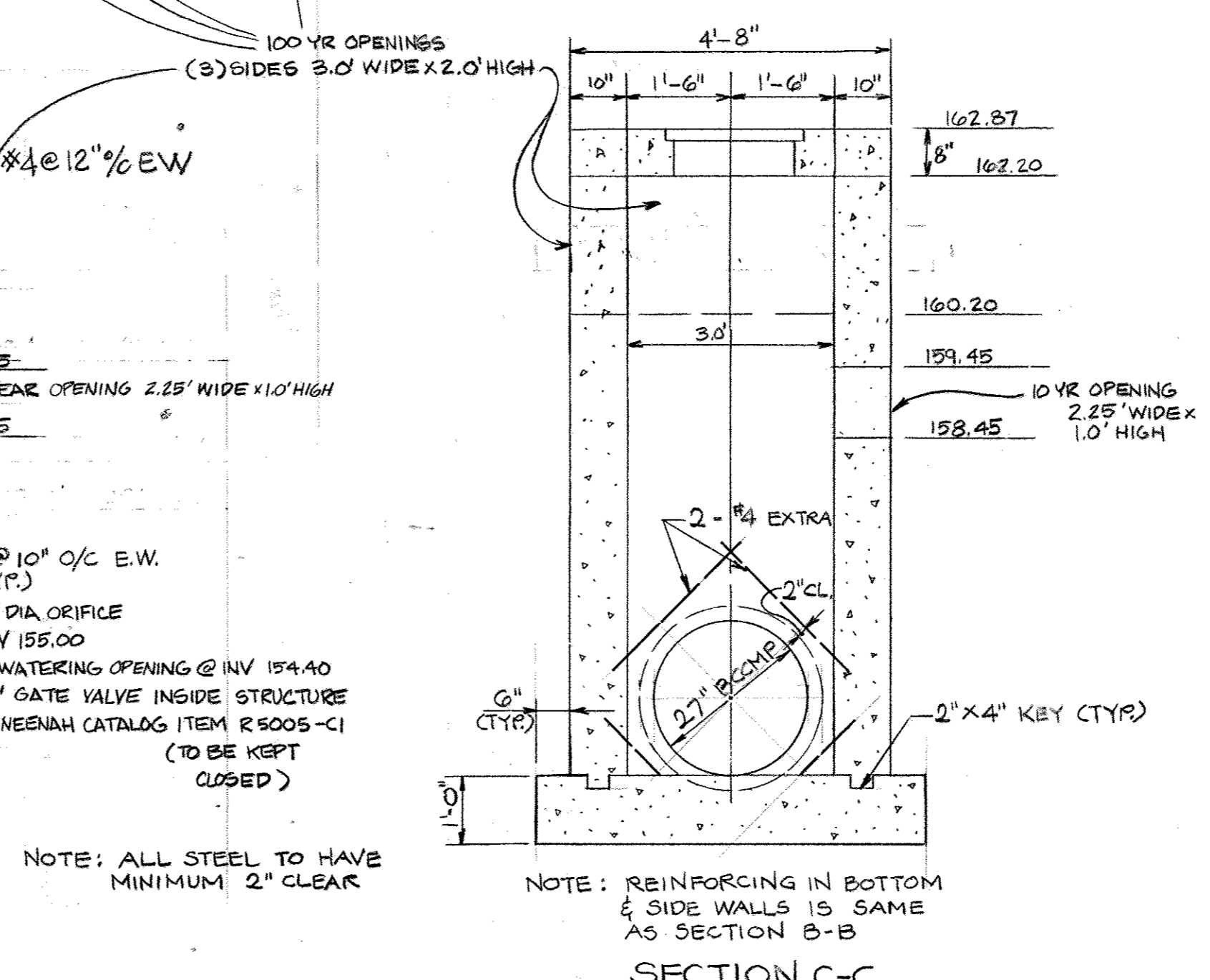
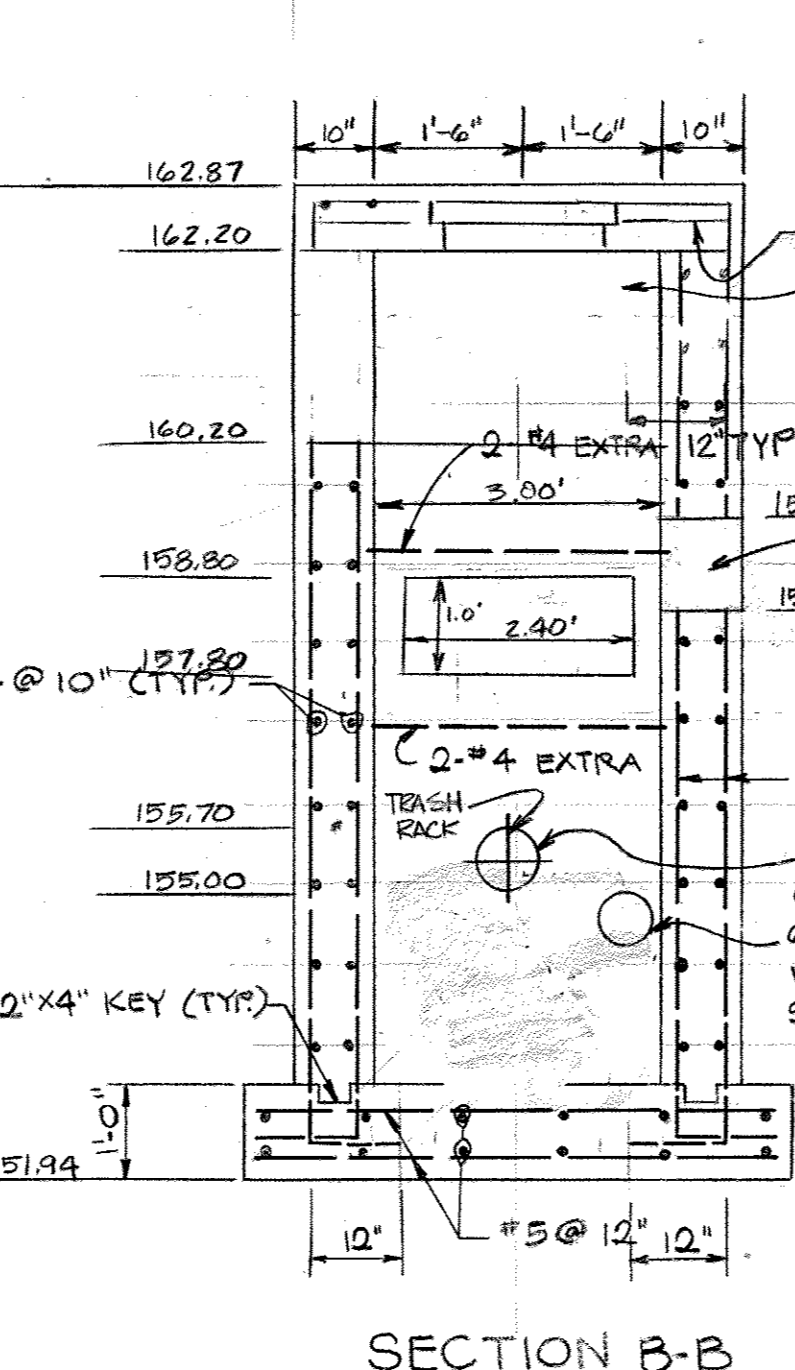
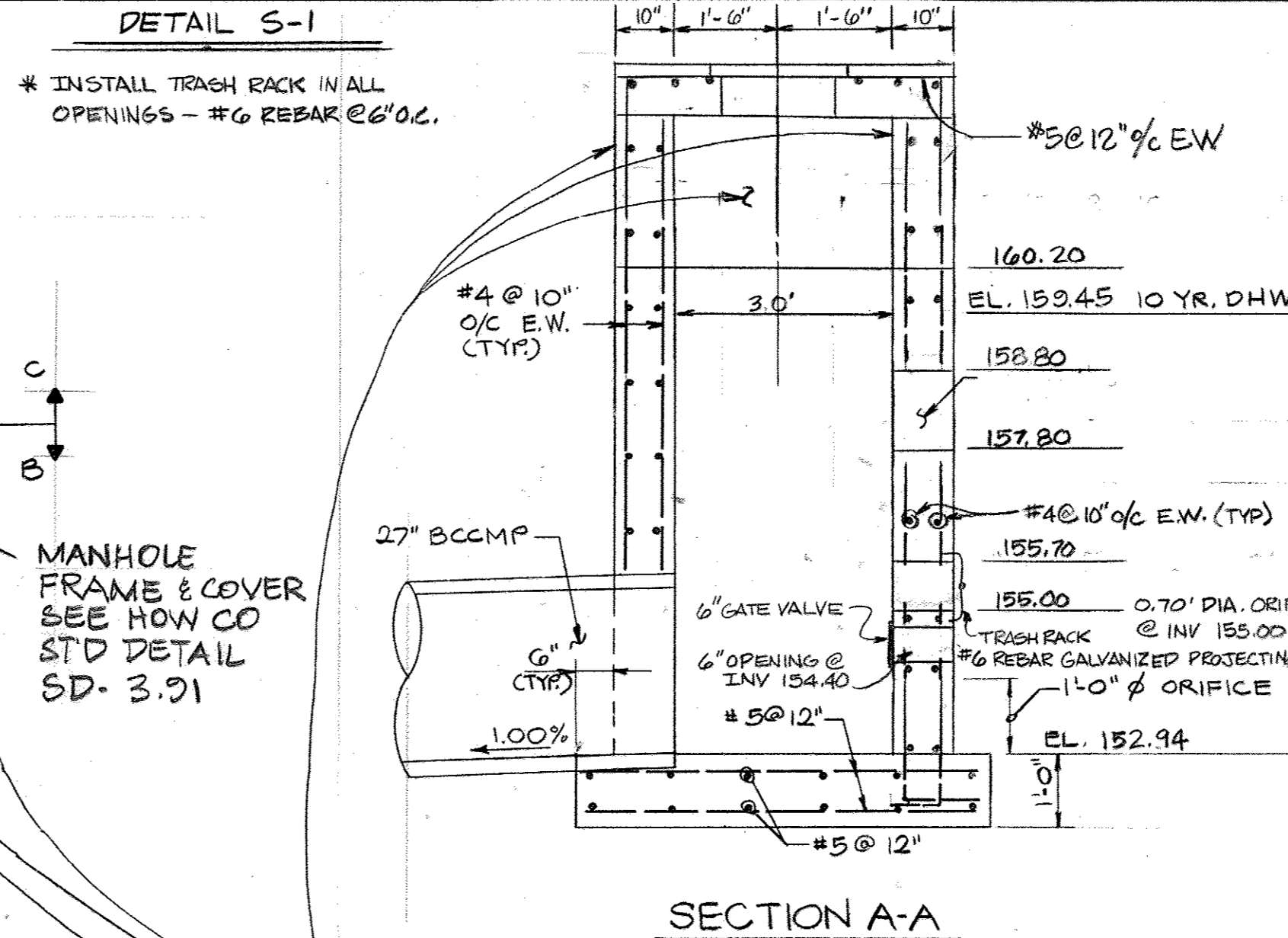
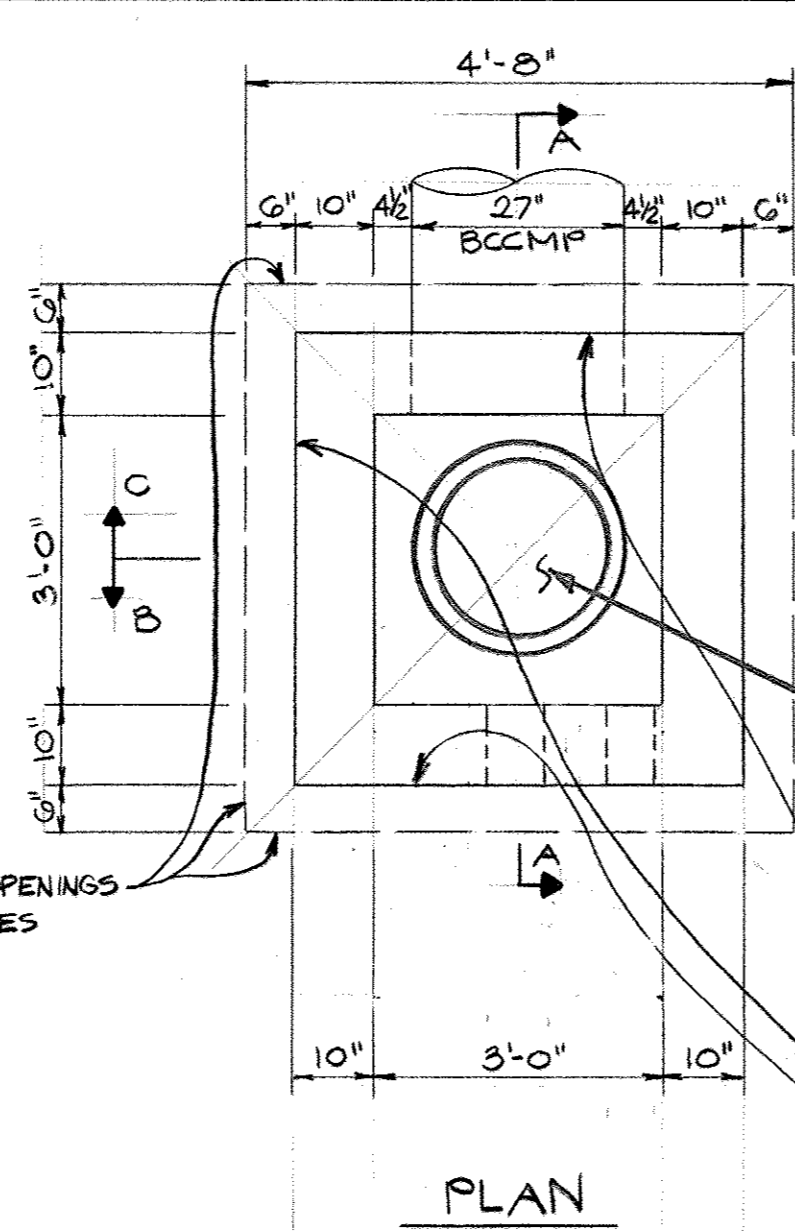
CONNECTIONS: ALL CONNECTIONS WITH PIPE MUST BE COMPLETELY WATER TIGHT. THE DRAIN PIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL WATER TIGHT COUPLING BANDS SHALL BE USED AT ALL JOINTS. ANTISEEP COLLARS SHALL BE CONNECTED TO THE PIPE IN SUCH A MANNER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

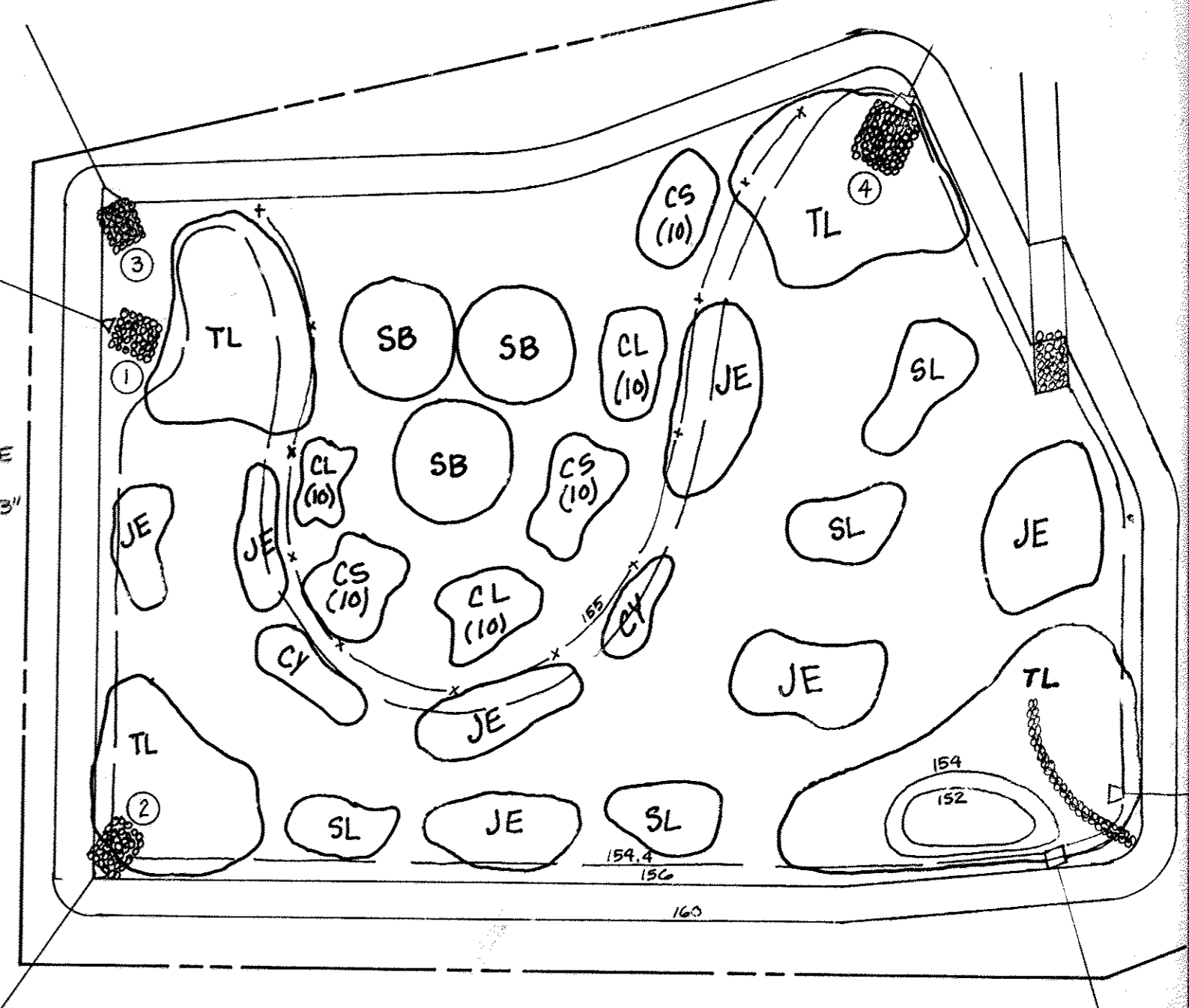
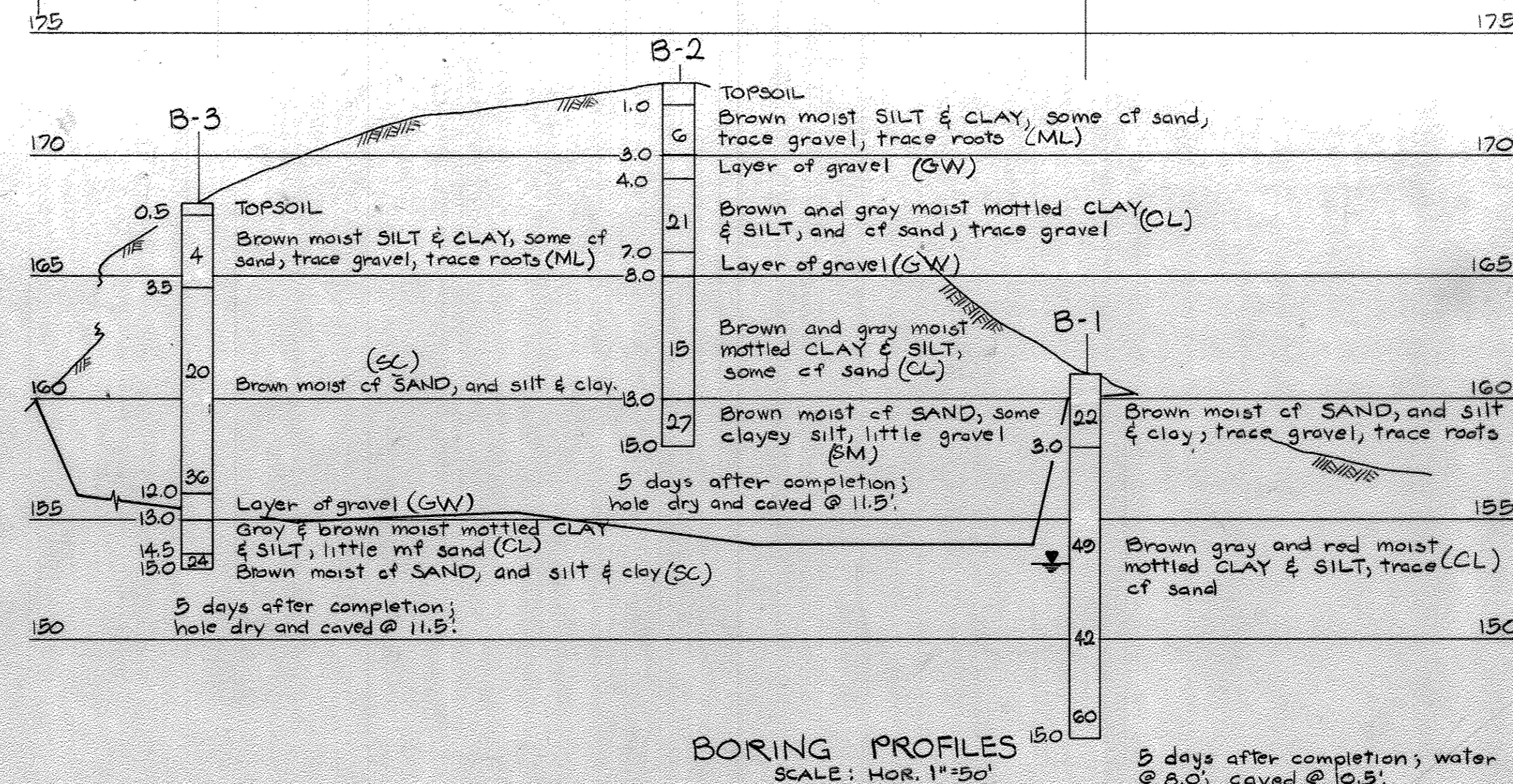
MATERIALS: FABRIC SHALL CONFORM TO ASTM-91. IT SHALL BE GALVANIZED, 96A WIRE WITH 2" SQUARE HOVEN MESH. TOTAL HEIGHT OF FENCE TO BE 3'-6". FENCE POSTS, RAILS, GATES AND ACCESSORIES SHALL BE IN ACCORDANCE WITH FEDERAL SPEC. RR-F-191.

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.



STORM WATER MANAGEMENT CONTROL STRUCTURE

SCALE: 1/2" = 1'-0"



PLANTING LEGEND

SYMBOL	COMMON NAME	QUANTITY	SIZE	SPACING
CL	YELLOW STEM DOGWOOD	30	24"-30"	6' O.C.
CS	RED STEM DOGWOOD	30	24"-30"	6' O.C.
CY	MIXED BERGES	400	PP	3' O.C.
JE	SOFT RUSH	900	BR	3' O.C.
SB	WEeping WILLOW	3	8'-12"	16' O.C.
SL	ARROW-HEAD	500	PP	3' O.C.
TL	COMMON CATTAIL	2800	BR	3' O.C.

"AS-BUILT" CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

SIGNED: _____ P.E. DATE: _____

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."

See N. Koehler (P.E., D.E.) 8/11/86
DEVELOPER - JUNCTION LIMITED PARTNERSHIP DATE: _____

BY THE ENGINEER:

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION 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."

Philip Der 8/11/86
ENGINEER - PHILIP DER 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.

J. Holifield 8/11/86
U.S. SOIL CONSERVATION SERVICE DATE: _____

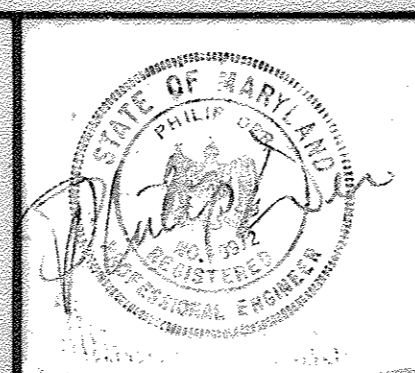
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Robert J. Zelman 8/11/86
HOWARD SOIL CONSERVATION DISTRICT DATE: _____

OFFICE OF PLANNING & ZONING
John M. Murchman 8-12-86
CHIEF - DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE: _____

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William E. Row 8-19-86
CHIEF, BUREAU OF ENGINEERING DATE: _____

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



DES: M.A.M.	GWS	1	REVISED RELEASE STRUCTURE AND ADDED WETLAND PLANTING PLAN AND SPECS	7/10/80
DRN: R.G.				
CHK: P.D.				
DATE: 11-31-86	BY: NO.		REVISION	DATE

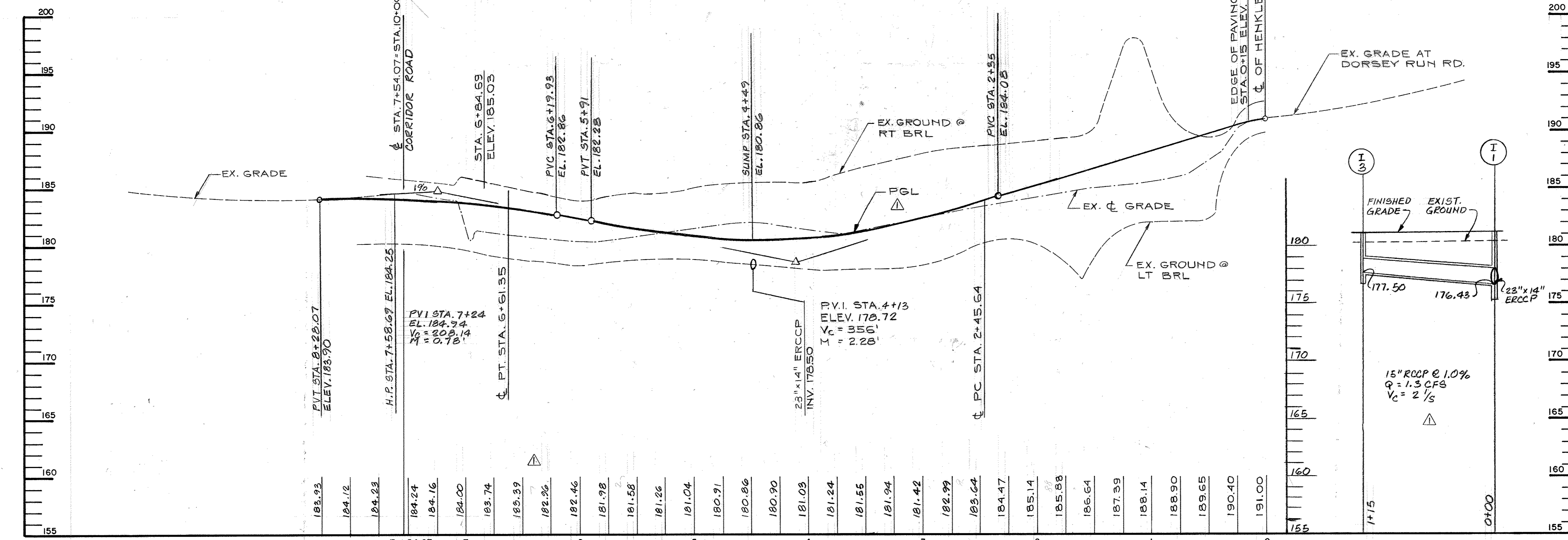
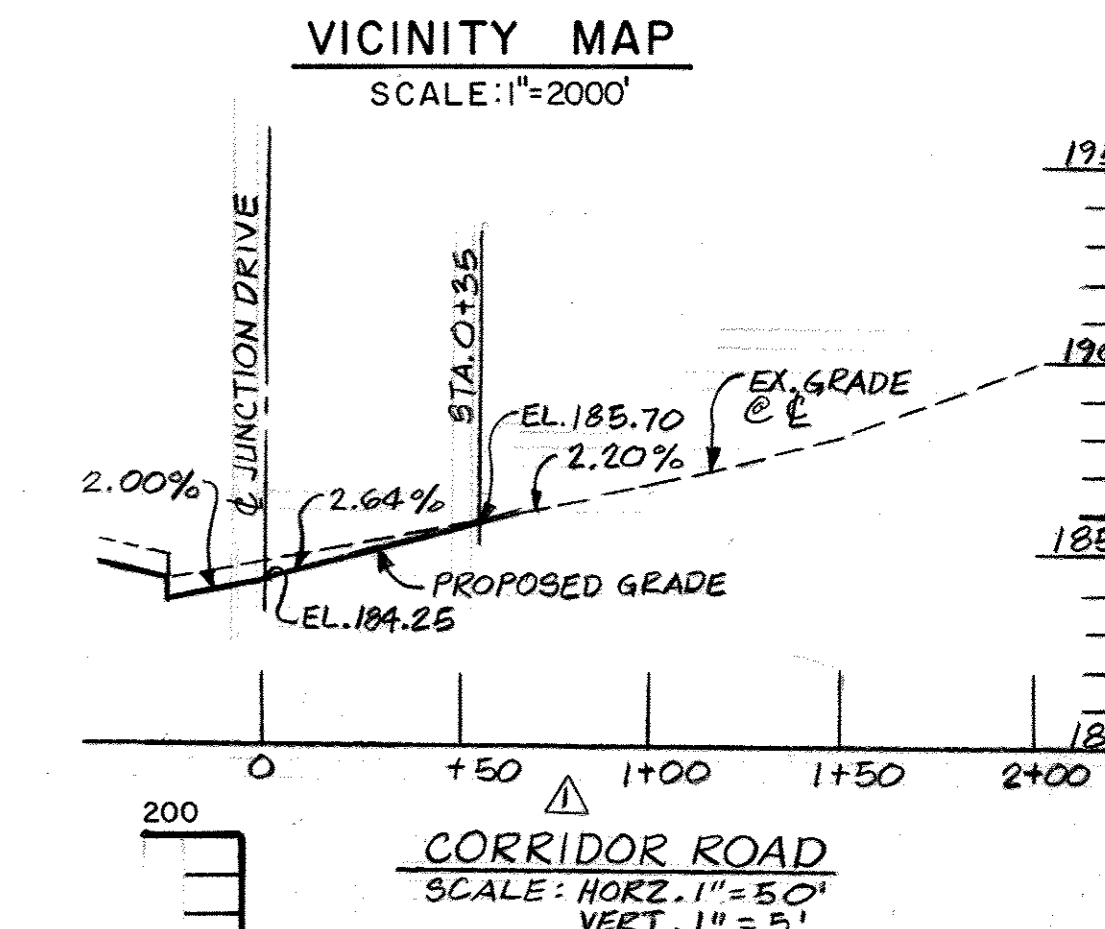
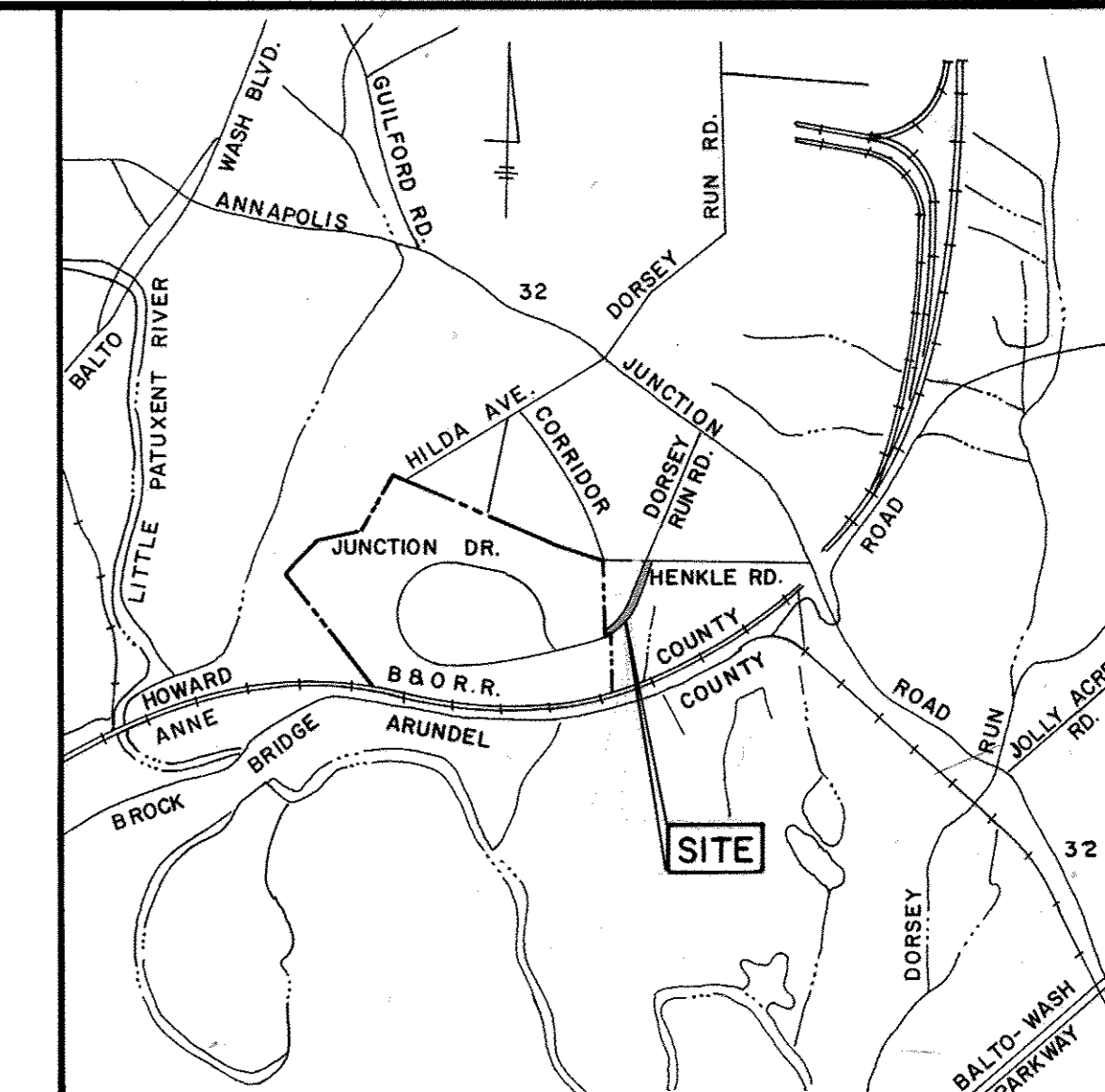
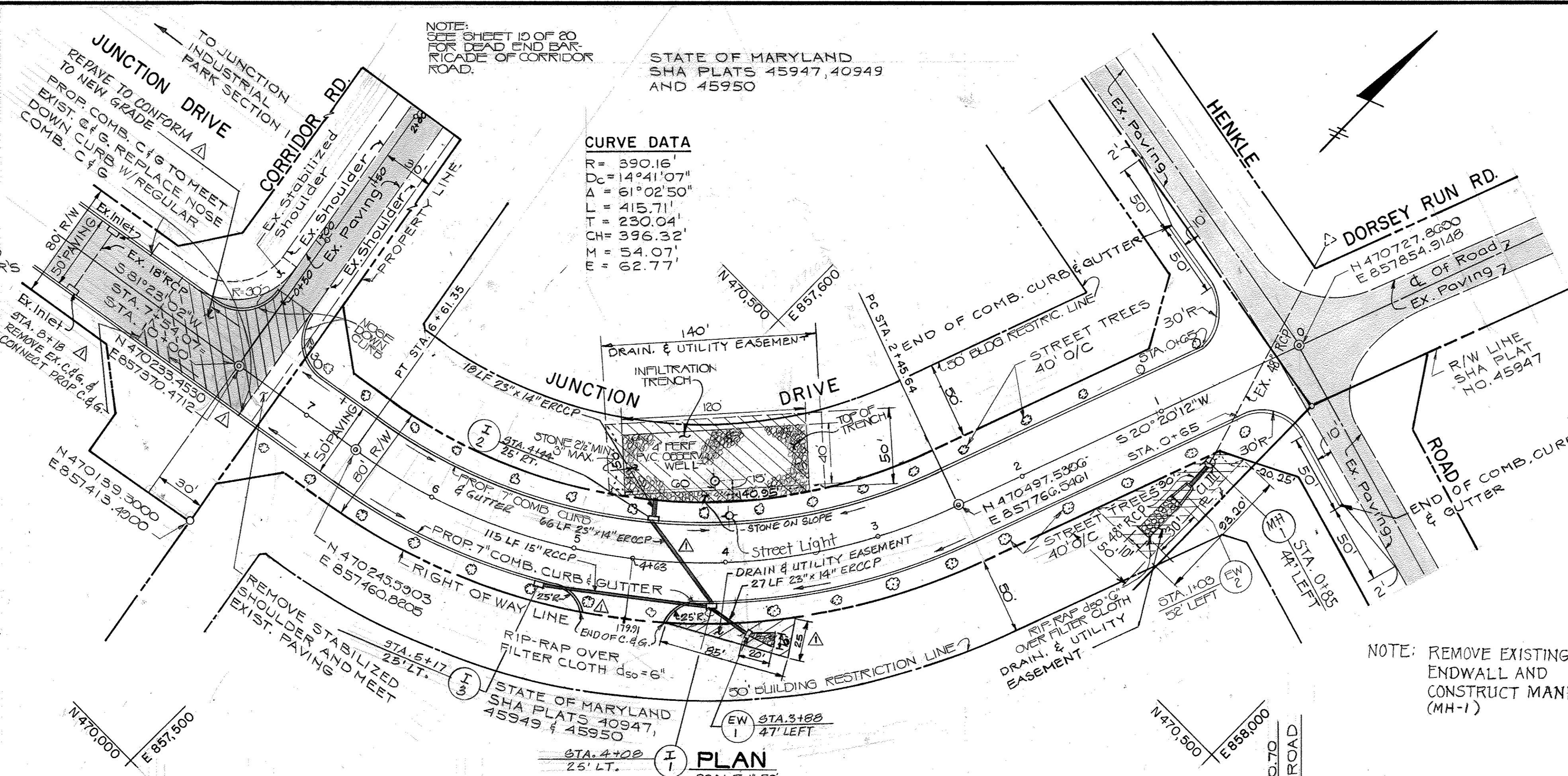
STORM WATER MANAGEMENT NOTES AND DETAILS
SCALE: HOR. 1" = 50' VERT. 1" = 5'

JUNCTION INDUSTRIAL PARK SECTION 2 ELECTION DISTRICT GILFORD NO. 6
OWNER: JUNCTION LIMITED PARTNERSHIP P.O. BOX 125 GLEN ARM, MARYLAND 21057
SCALE AS SHOWN SHEET 15 OF 17

F-86-126

GENERAL NOTES

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS, SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- ALL UTILITY COMPANIES SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF CONSTRUCTION.
- ALL INLETS SHALL BE HOWARD COUNTY STANDARDS UNLESS OTHERWISE SHOWN.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHTS OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY VOL. IX - STD. SPECS. AND DETAILS OF CONSTRUCTION.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES WHERE DIRECTED BY ENGINEER, A MINIMUM OF TWO WEEKS IN ADVANCE OF ANY CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPT. OF INSPECTIONS AND PERMITS AT LEAST 5 DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS. TELEPHONE NO. 992-2426.
- ALL REINFORCED CONCRETE FOR STORM DRAIN STRUCTURES SHALL HAVE A MINIMUM OF 28 DAYS STRENGTH OF 3500 P.S.I.
- TRAFFIC CONTROL DEVICES AND THEIR INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 1971 REVISED EDITION.
- STABILENKA (FILTER CLOTH T-100) OR EQUAL SHALL BE PLACED UNDER ALL STONE RIP-RAP.
- STONE OR RIP-RAP SHALL BE SPECIFIED ON THE DRAWINGS. ALL RIP-RAP SHALL BE UNPAVED.
- STUBS FOR 6" P.V.C. UNDERDRAIN PIPE TO BE INSTALLED AT CENTER OF EACH WALL OF EVERY INLET.
- BEDDING FOR STORMDRAINS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARD PLATE G 201 FOR "TRENCH IN EARTH" BACKFILL.
- TREES SHALL BE INDIGENOUS TO THE AREA AND OF A HARDWOOD VARIETY AND TRUNK DIAMETER OF 2 1/2" MIN. TREES SHALL BE PLANTED EVERY 40' O/C, OR AS SHOWN ON DRAWING THUS \odot

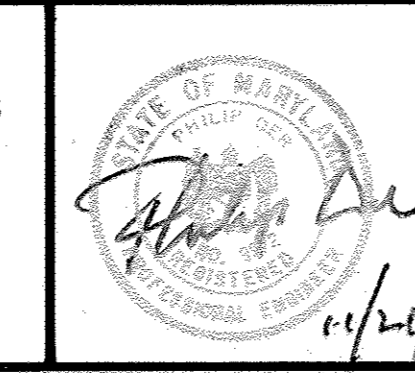


OFFICE OF PLANNING & ZONING
 1-987
 CHIEF - DIVISION OF LAND DEVELOPMENT - DATE AND ZONING ADMINISTRATION

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

DATE: 12-23-84

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



DES: ART			
DRN: GG			
CHK: FD			
DATE: 11-10-83			
BY: NO.			
REVISION			
WBCM	STORM DRAIN & PROFILE REVISIONS	4/9/87	

PLAN AND PROFILE
 JUNCTION DRIVE
 STA. 0+00.00 TO STA. 7+54.07
TREE PLANTING PLAN
 600 SCALE MAP NO. 48, BLOCK NO. 10

JUNCTION INDUSTRIAL PARK SECTION 2
 ELECTION DISTRICT GUILFORD NO. 6

OWNER: JUNCTION I LIMITED PARTNERSHIP
 7240 PARKWAY DRIVE SUITE 170 HANOVER, MD 21076

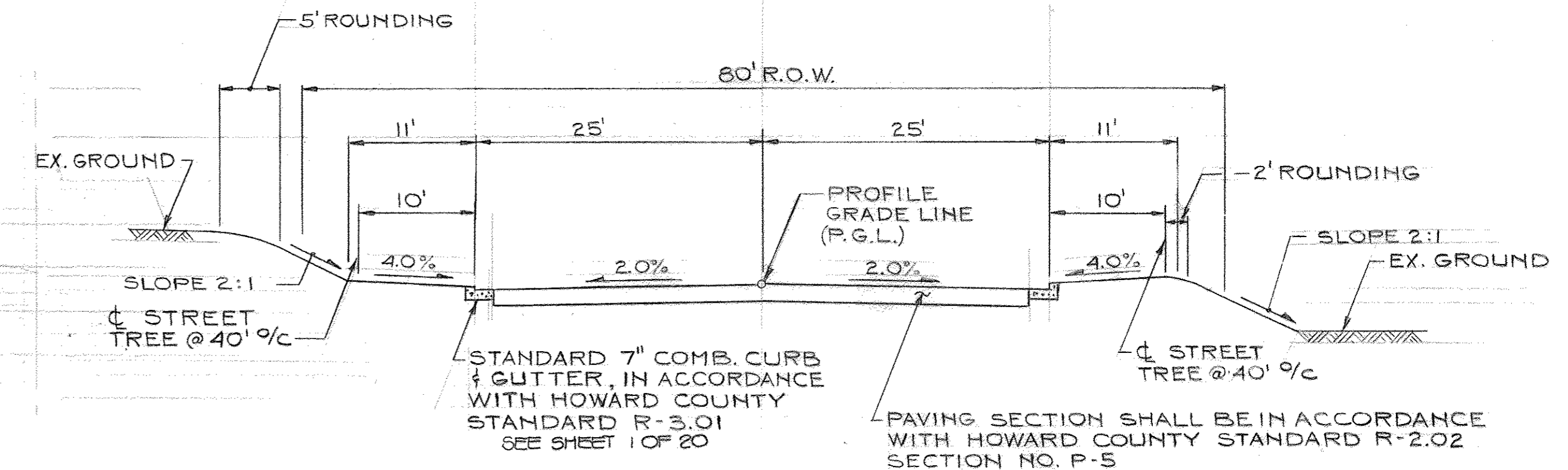
SCALE AS SHOWN
 SHEET 18 OF 20

LEGEND

EXISTING CONTOUR 212
 PROPOSED CONTOUR 210

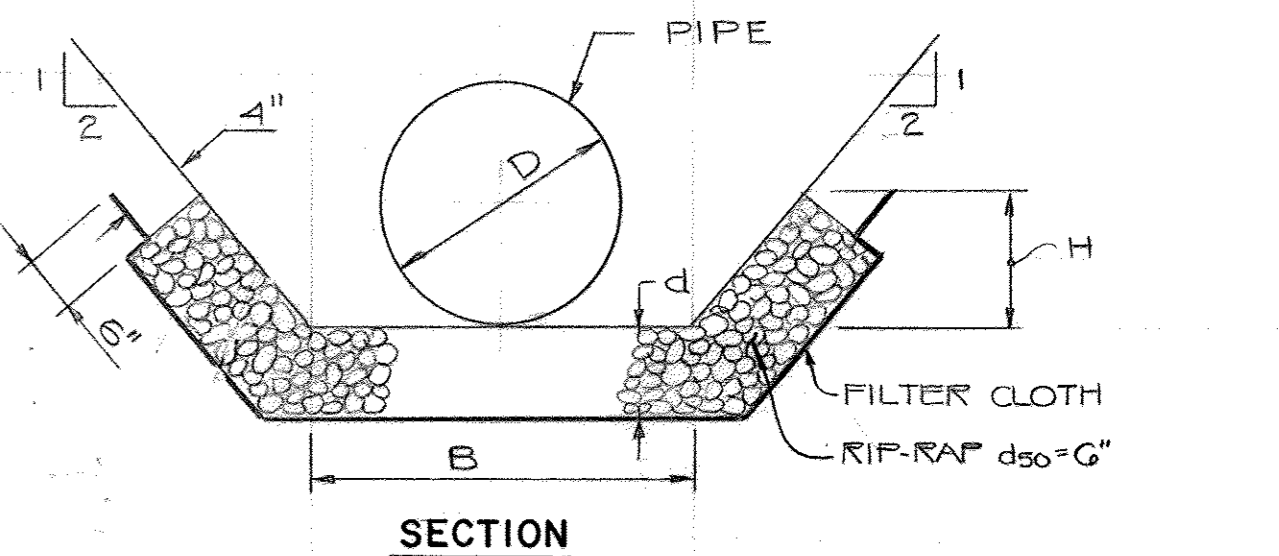
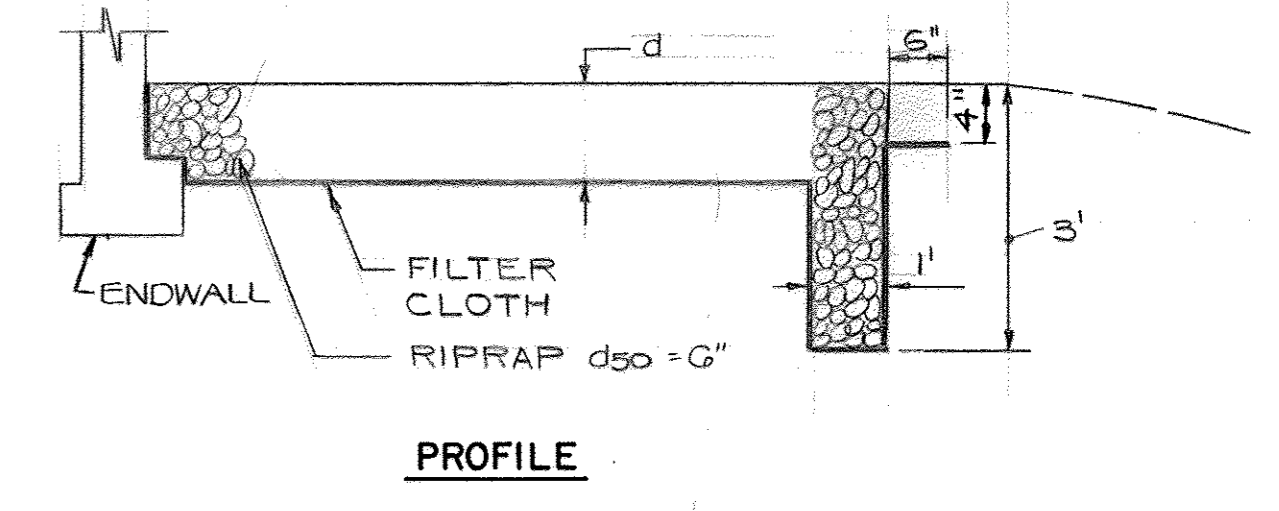
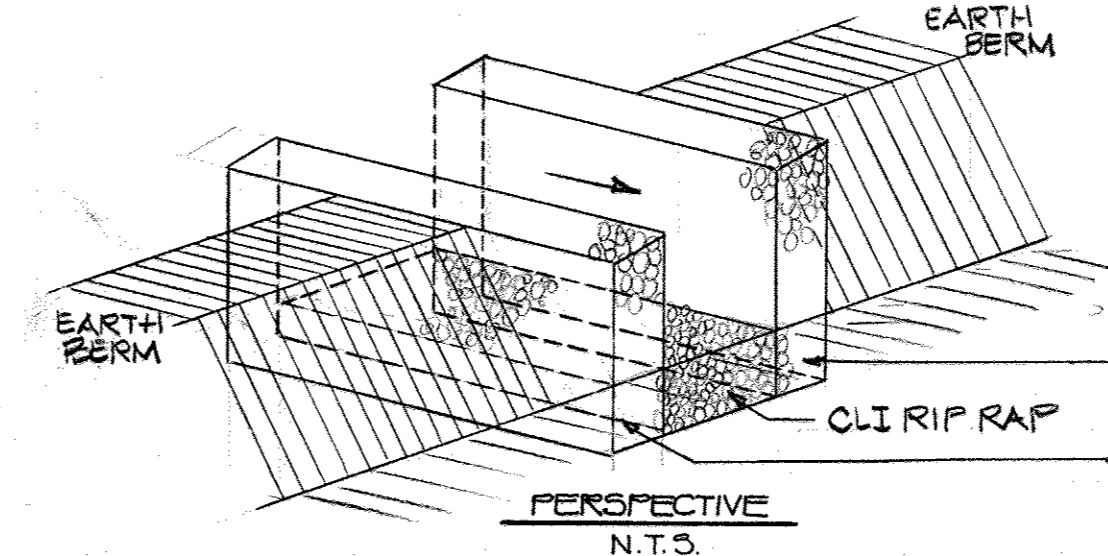
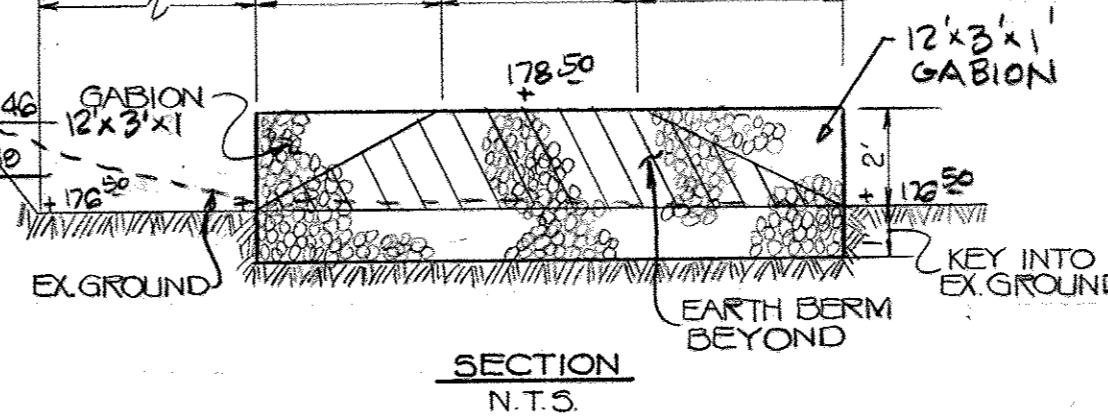
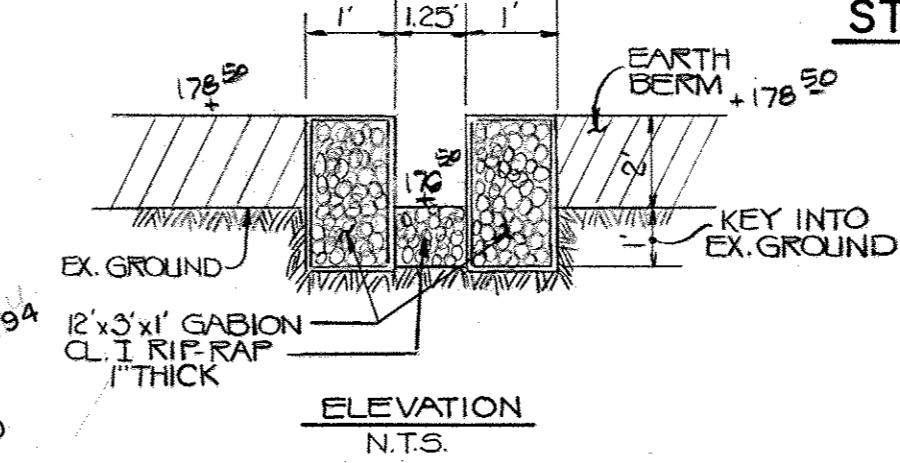
STRUCTURE SCHEDULE				
NO.	INV. IN.	INV. OUT.	TOP ELEV.	REMARKS
I-1	178.25	178.05	181.11	A-5 HO. CO. - SD-4.01
I-2	178.75	177.09	180.97	A-10 HO. CO. - SD-4.02
I-3	-	177.60	181.30	A-5 HO. CO. SD-4.01
EW-1	-	177.60	-	TYPE C FOR 24" HO. CO. SD-5.21
EW-2	-	177.40	-	TYPE O HO. CO. SD 5.41
MH-1	177.60	177.40	184.50	STD. PRECAST MH HO. CO. G 5.11 OR BRICK MH HO. CO. G 5.03

RIP-RAP DIMENSIONS				
PIPE (D)	d	B	H	
24" x 14"	1.5'	4'	1'	
48"	2'	7'	3'	



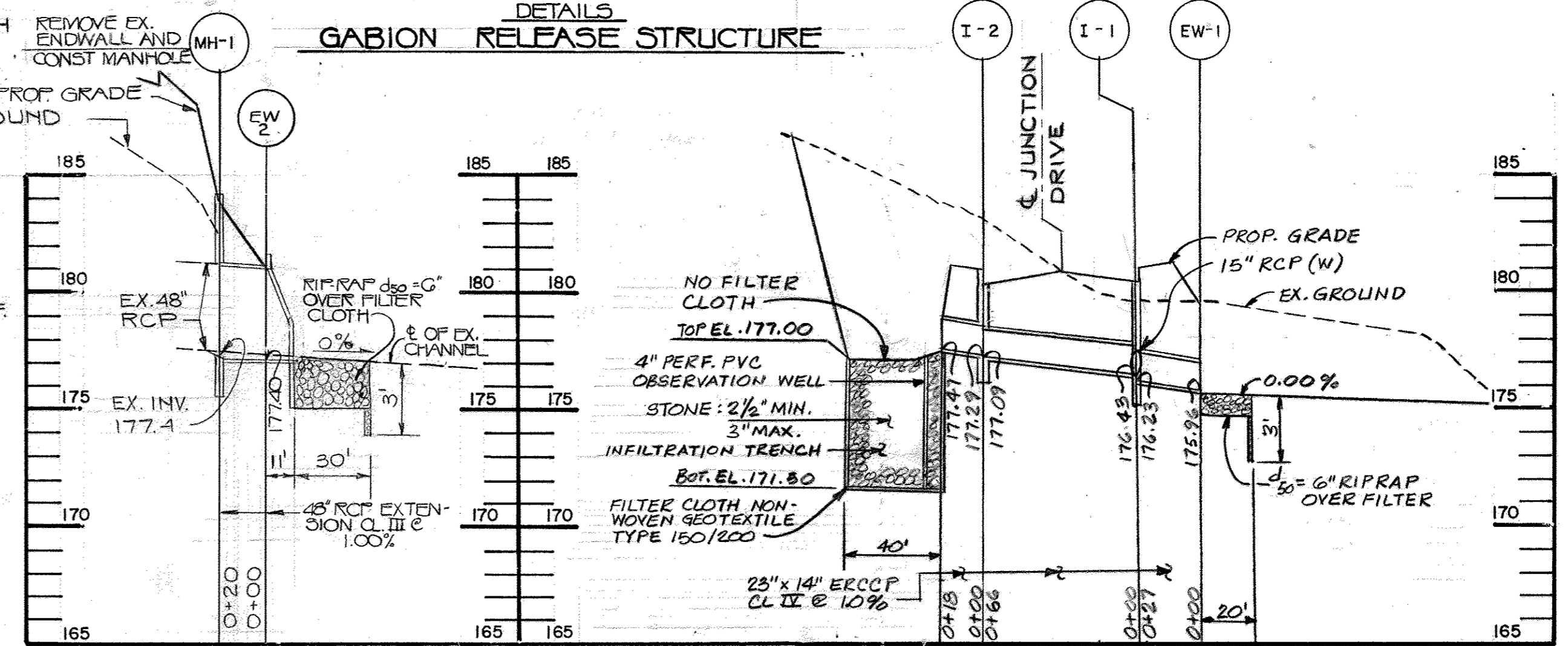
P-5 PAVING
 1 1/2" BIT. CONCRETE SURFACE COURSE BAND SN
 6 1/2" BIT. CONCRETE BASE COURSE BAND B1
 8" CRUSHER RUN COURSE (CR-6) 2 COURSES
 SEE SHEET 1 OF 20 FOR PAVING SECTION

TYPICAL SECTION - JUNCTION DRIVE
 STA. 0+55.00 TO STA. 7+54.07
 (INDUSTRIAL ROAD 40 MPH)
 MINOR COLLECTOR
 SCALE: 1" = 10'

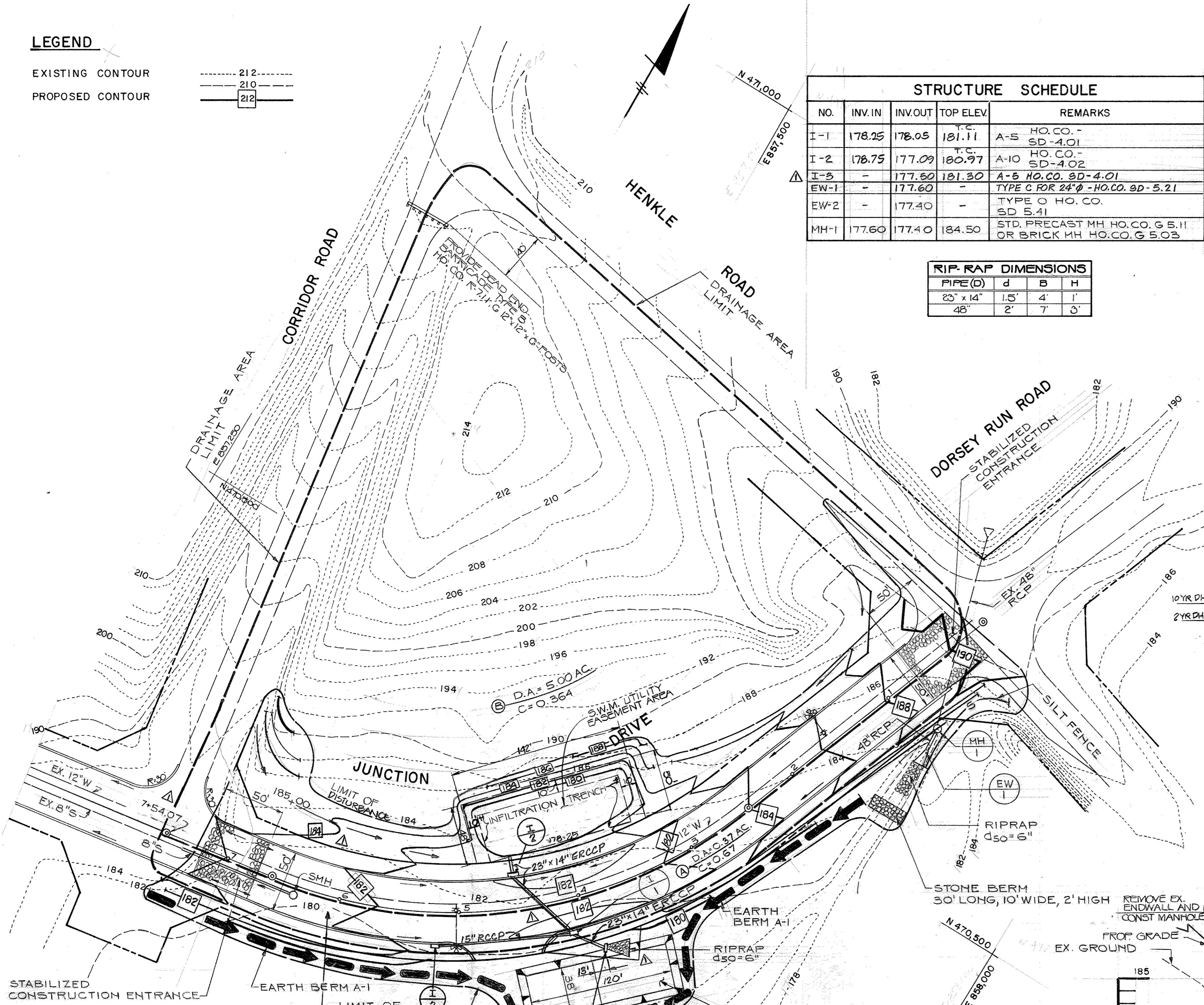


RIP-RAP DETAIL (EW-1 & EW-2)
 NOT TO SCALE

DETAILS GABION RELEASE STRUCTURE



STORM DRAIN PROFILES
 SCALE: HORZ. 1" = 50'
 VERT. 1" = 5'



STONE OUTLET SEDIMENT TRAP
 DRAINAGE AREA = 5.00 AC.
 VOLUME REQUIRED = 1800 CF/AC x 5 AC = 9000 CF.
 VOLUME PROVIDED = 120' x 38' x 2' = 9120 CF.
 BOTTOM ELEVATION = 176.00
 WEIR CREST ELEV. = 179.00
 CLEAN OUT ELEV. = 177.00
 STONE OUTLET LENGTH = 4 FT/AC x 5 AC = 20'

REVIEWED FOR HOWARD COUNTY S.C.D. AND MEETS TECHNICAL REQUIREMENTS.
 U.S. SOIL CONSERVATION SERVICE
 DATE: 12/19/86
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
 DATE: 12/10/86

TEMPORARY SWM FACILITY TO BE REMOVED AT THE COMPLETION OF WORK.
 PLAN SCALE: 1" = 50'

OFFICE OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION
 DATE: 1-9-87

DEVELOPER'S CERTIFICATION
 I CERTIFY THAT ALL DEVELOPMENT & CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPT. OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT BEFORE BEGINNING THE PROJECT.
 DATE: 12/17/86

ENGINEER'S CERTIFICATION
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IS WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 DATE: 1/1/87

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF ENGINEERING
 DATE: 12-23-86

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

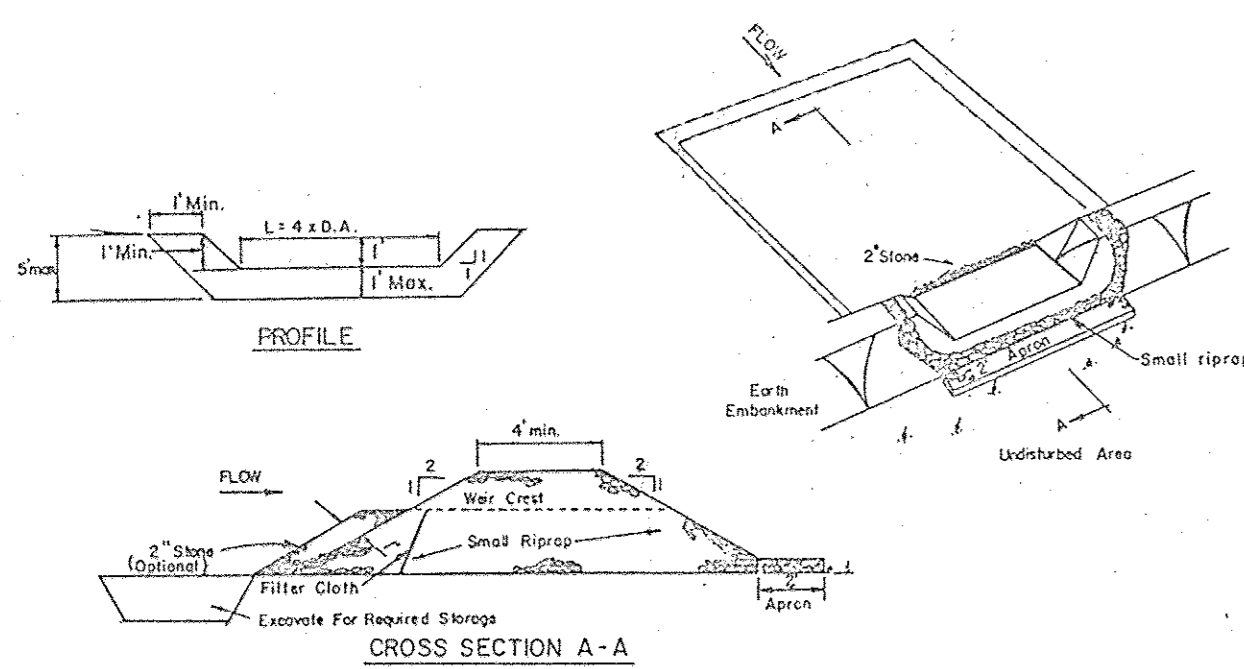
DES: ART
 DRN: GG
 CHK: PD
 DATE: 11-10-86

PLAN, PROFILE & SCHEDULE CHANGES
 REVISION
 DATE: 11/10/86

EROSION & SEDIMENT CONTROL PLAN
 STORM DRAINAGE AREA MAP
 PROFILES & DETAILS
 GDD SCALE MAP NO. 48 BLOCK NO. 10

JUNCTION INDUSTRIAL PARK SECTION 2
 ELECTION DISTRICT GUILFORD NO. 6
 OWNER: JUNCTION I LIMITED PARTNERSHIP
 7240 PARKWAY DRIVE SUITE 170 HANOVER, MD 21076
 SCALE AS SHOWN
 SHEET 10 OF 20
 F-86-126
 WBCM JO # 80053-77

STONE OUTLET SEDIMENT TRAP V



OPTION: A one foot layer of 2" stone may be placed on the upstream side of the riprap in place of the embedded filter cloth.

- Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
- The fill material for the embankment shall be free of roots and other woody vegetation as well as oversized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
- All cut and fill slopes shall be 2:1 or flatter.
- The stone used in the outlet shall be small riprap 3/4" to 1 1/2" along with a 1" thickness of 2" aggregate placed on the up-grade side on the small riprap on embedded filter cloth in the riprap.

CONSTRUCTION SPECIFICATIONS FOR ST-V

- Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap.
- The structure shall be inspected after each rain and repairs made as needed.
- Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
- The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

Maximum Drainage Area: 5 Acres

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.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedule

- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 square 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).
- 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 (.05 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/1000 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.

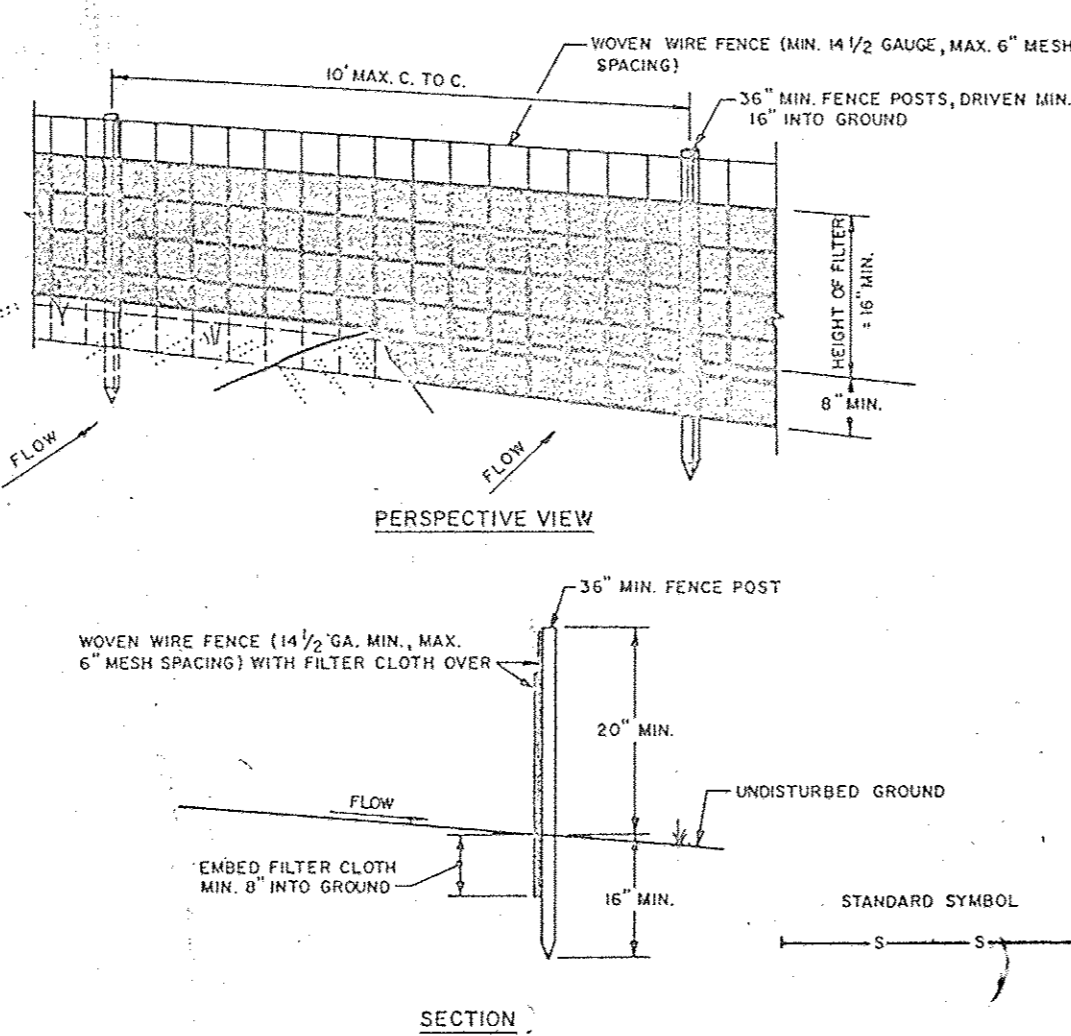
Soil Amendments: Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft)

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 (.07 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.

SILT FENCE



CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

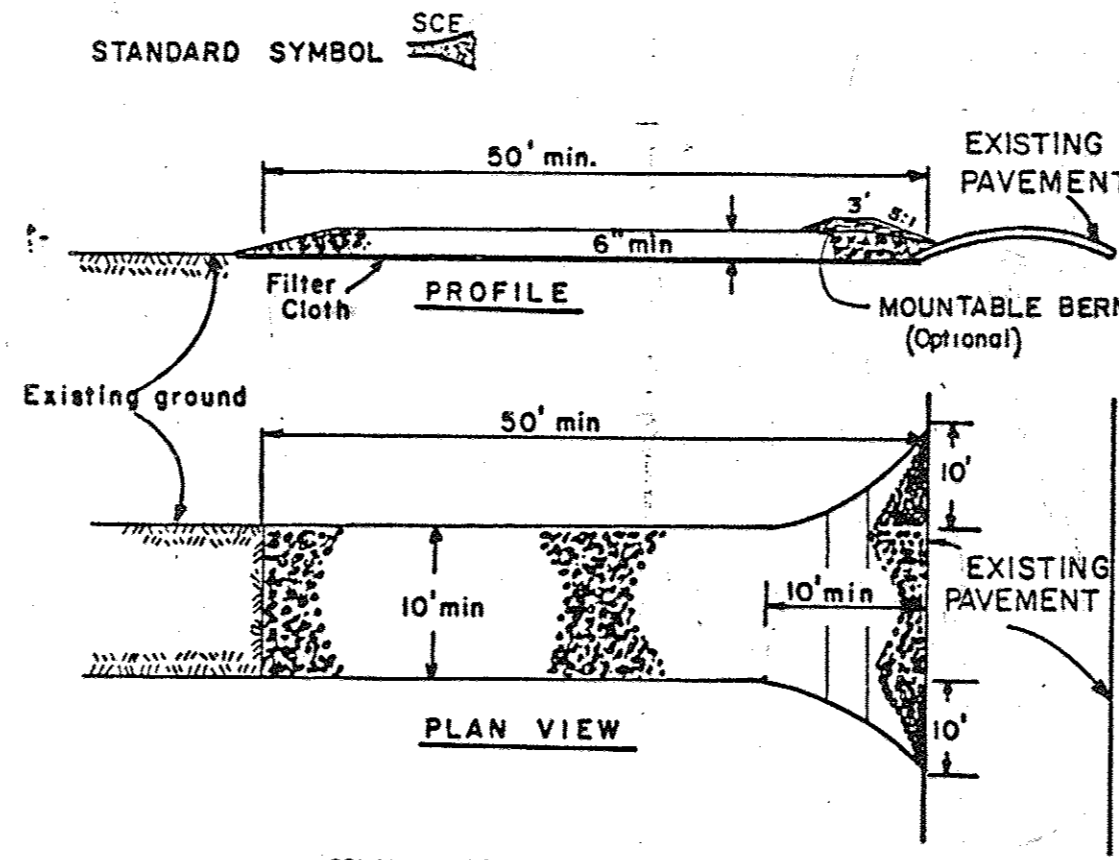
- WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
- FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
-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

POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD
 FENCE: WOVEN WIRE, 1 1/2 GA, 6" MAX. MESH OPENING
 FILTER CLOTH: FILTER X, MIRAFIL 1000, STABILINK 1140N OR APPROVED EQUAL
 PREFABRICATED UNIT: GEOPAB, DIVIROFENCE, OR APPROVED EQUAL

SEDIMENT CONTROL NOTES

- 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)
- 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.
- 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.
- 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.
- 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 seeding (Sec. 51) and (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.
- 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.
- Site Analysis:
 Total Area of Site: N/A Acres
 Area Disturbed: 1.70 Acres
 Area to be roofed or paved: 0.80 Acres
 Area to be vegetatively stabilized: 0.25 Acres
 Total Cut: 2017 Cu. Yds.
 Total Fill: 7241 Cu. Yds.
 Office waste/borrow area location: NOT KNOWN
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment controls must be provided, if deemed necessary by the Howard County DPM sediment control inspector.
- 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.
- 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.

STABILIZED CONSTRUCTION ENTRANCE not to scale



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.

CONSTRUCTION SEQUENCE

- OBTAIN GRADING PERMIT - 2 WEEKS
- CLEARING AND GRUBBING FOR THE INSTALLATION OF PERIMETER CONTROL - 1 WEEK
- INSTALL SEDIMENT CONTROL DEVICES - 2 WEEKS
- CLEARING AND GRUBBING OF ROADWAY - 2
- START GRADING TO SUBGRADE - 3 WEEKS
- START INSTALLATION OF WATER LINE, SEWER AND STORM DRAIN - 1 MONTH
- CONSTRUCT CRUSHER RUN COURSE AND START STABILIZING SIDE SLOPE - 3 WEEKS
- INSTALL CURB AND GUTTER - 2 WEEKS
- START BITUMINOUS CONCRETE BASE COURSE AND SURFACE COURSE - 3 WEEKS
- FINAL GRADING OF ROADWAY AND STABILIZATION OF DISTURBED AREAS NOT TO BE PAVED - 2 WEEKS
- REMOVE SEDIMENT CONTROL DEVICES AND INSTALL RIPRAP APRON AND CLEAN UP STORM DRAIN SYSTEM FROM STUB TO EW-1
- CONSTRUCT INFILTRATION TRENCH AND COVER OPEN PIPE WITH STONE TO FILTER SEDIMENT - 1 WEEK
- STABILIZE DISTURBED AREA - 3 WEEKS

DEVELOPER'S CERTIFICATION

I CERTIFY THAT ALL DEVELOPMENT & CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPT. OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION BEFORE BEGINNING THE PROJECT.

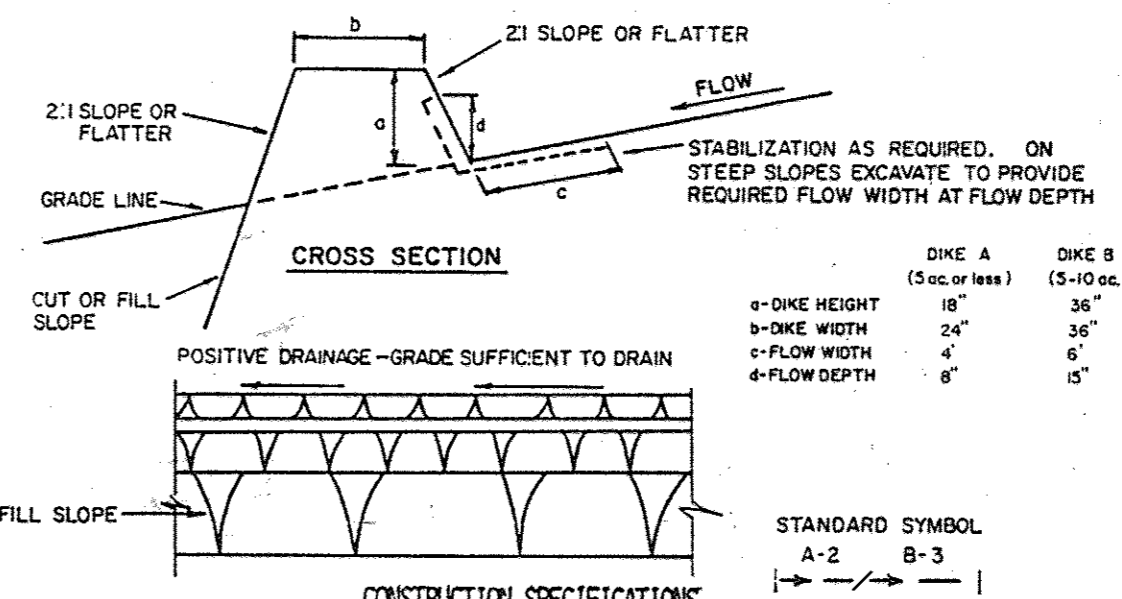
[Signature]
 Date: 12/19/86

ENGINEER'S CERTIFICATION

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IS WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature]
 Date: 12/19/86

EARTH DIKE not to scale



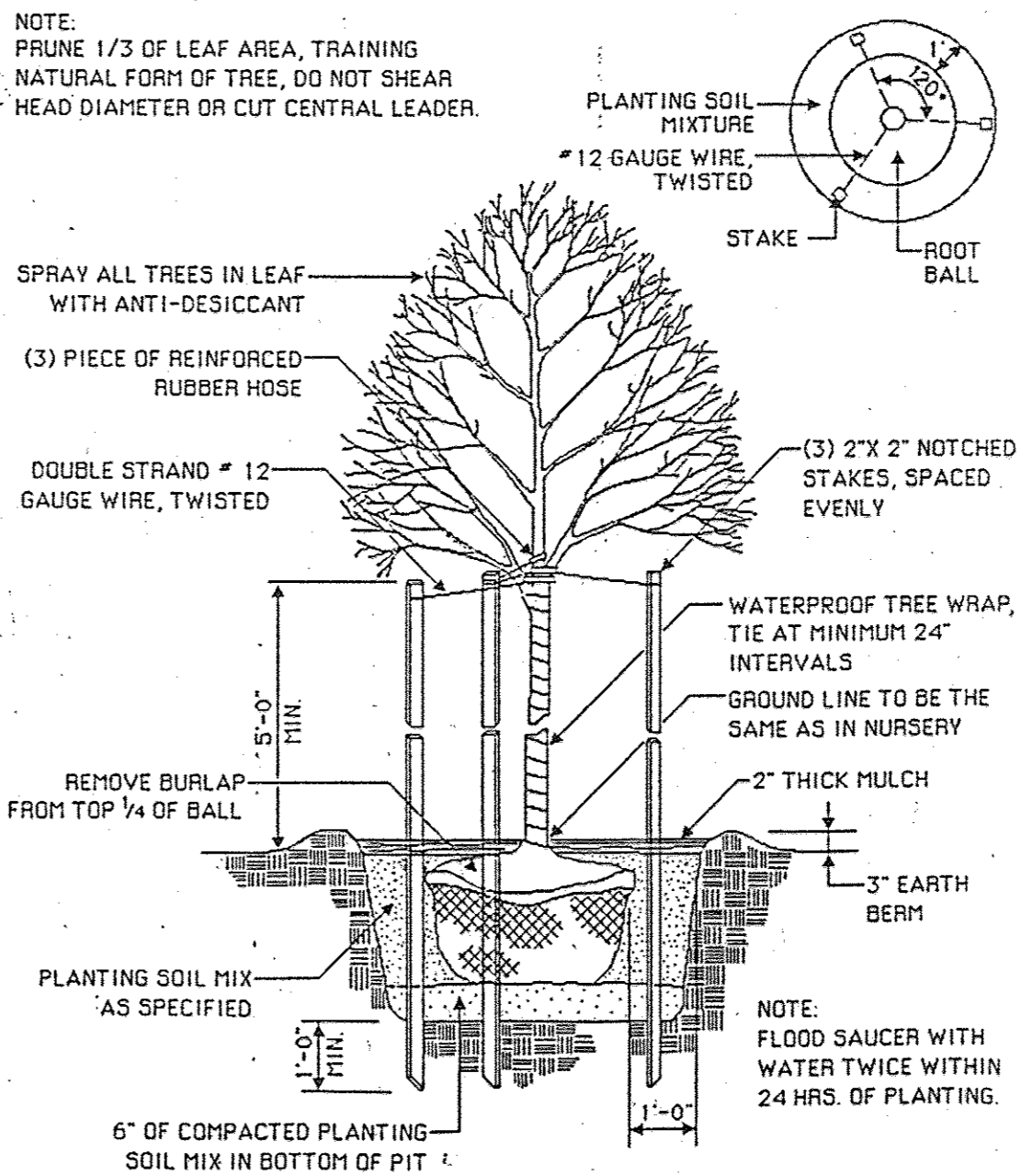
CONSTRUCTION SPECIFICATIONS

- ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
- ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
- TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
- FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
- EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. RUNOFF SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
- STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.

FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	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 EXCELISOR; 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

- 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.
- RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
- APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.
- PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.



TREE PLANTING AND STAKING NOT TO SCALE

OFFICE OF PLANNING AND ZONING

[Signature]
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

1-987
 DATE

REVIEWED FOR HOWARD COUNTY S.C.D. AND MEETS TECHNICAL REQUIREMENTS.

[Signature]
 U.S. SOIL CONSERVATION SERVICE

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

[Signature]
 HOWARD S.C.D.

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

[Signature]
 PROFESSIONAL ENGINEER

DES: ART			
DRN: GG			
CHK: FD			
DATE: 11-10-86	BY NO.	REVISION	DATE

EROSION & SEDIMENT CONTROL DETAILS

JUNCTION INDUSTRIAL PARK SECTION 2 ELECTION - DISTRICT GUILFORD NO. 6

OWNER: JUNCTION I LIMITED PARTNERSHIP
 7240 PARKWAY DRIVE SUITE 170 HANOVER MD. 21076

SCALE AS SHOWN
 SHEET 20 OF 20

F-86-126