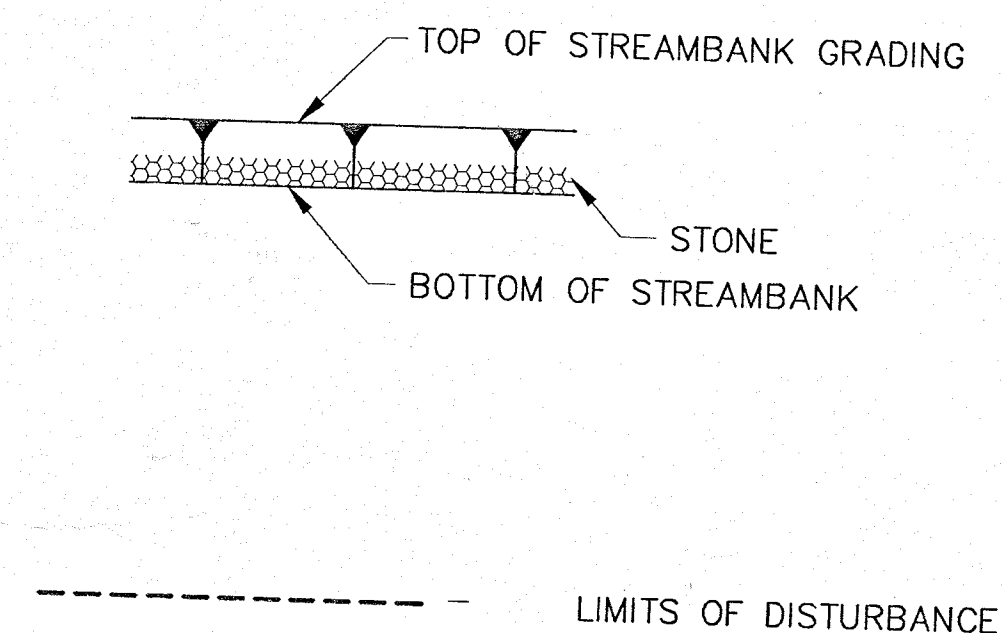


LEGEND — EXISTING FEATURES

- △ — FLY STATION
- ⊙ — SANITARY STRUCTURE NUMBER
- △ — TRAVERSE STATION
- OH-E — OVERHEAD ELECTRIC LINES
- ⊙ — TREE <TRUNK DIA. IN INCHES>
- — FLOODPLAIN
- — EDGE OF STREAM DURING BASEFLOW CONDITIONS

LEGEND — PROPOSED FEATURES



SHEET INDEX

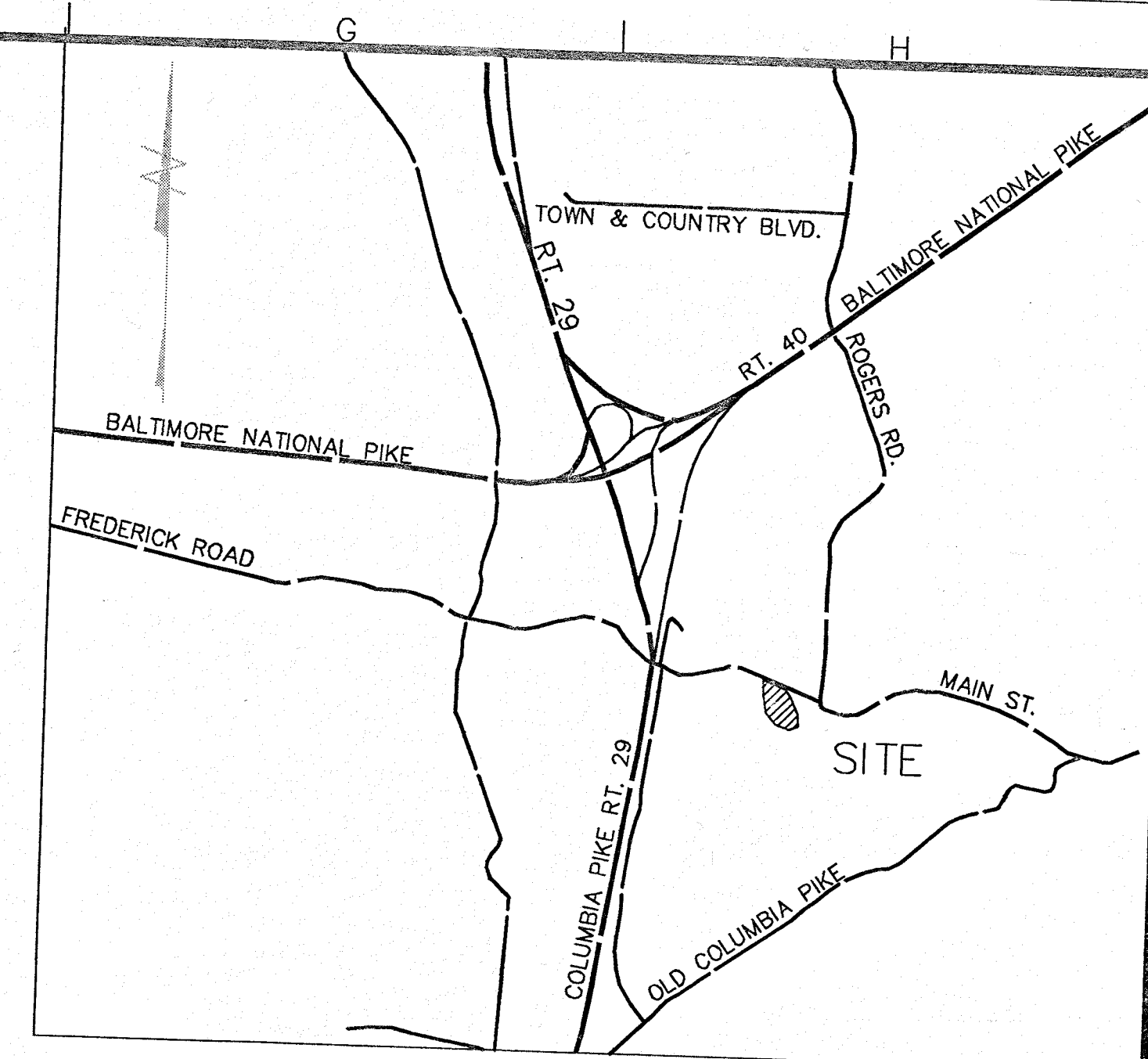
- 1. COVER SHEET
- 2. PLAN
- 3. TYPICAL SECTION
- 4-7 CROSS SECTIONS

EXISTING SANITARY SEWER TABLE

STRUCT.#	ELEV.	DESC.	SIZE	MATERIAL
⊙ A	283.27	TOP	12"	MANHOLE CAST IRON
	273.09	INV.OUT		
⊙ B	276.54	TOP	6"	MANHOLE CAST IRON
	272.03	INV. IN	8"	CAST IRON
	266.76	INV. IN	12"	CAST IRON
	265.50	INV. IN	12"	CAST IRON
	265.44	INV.OUT	12"	CAST IRON

TRAVERSE DATA

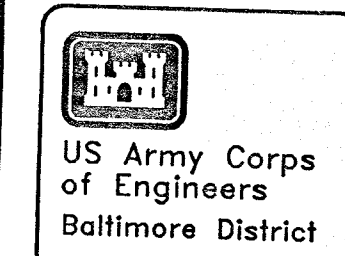
NO.	NORTHING	EASTING	ELEV.	DESC.
121	523177.7814	853041.9263	275.49	GPS STATION
5179	523280.2794	852886.3463	278.24	TRAVERSE



VICINITY MAP
1" = 2,000'

NOTES:

1. EXISTING CONDITIONS SURVEYED BY WILLIAM H. GORDON ASSOC., INC., 1998
2. HORIZONTAL CONTROL FOR THE SITES SHOWN HEREON IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM, NAD 1927 AND VERTICAL CONTROL IS BASED ON THE NATIONAL GEODETIC VERTICAL DATUM, NGVD 29. LOCAL CONTROL FOR THE INDIVIDUAL SITES WAS ESTABLISHED USING THE FAST-STATIC METHOD IN MARCH 1998 UTILIZING TWO TRIMBLE 4800 DUAL FREQUENCY GPS RECEIVERS. THE NETWORK IS REFERENCED TO THE HOWARD COUNTY HIGH ACCURACY REGIONAL NETWORK, (HARN) UTILIZING MONUMENTS ZIMMER, 26-46-006 AND 4-25.
3. CONTOUR INTERVAL SHOWN HEREON IS AT ONE (1) FOOT INTERVALS.
4. WATER SURFACE ELEVATIONS WERE SURVEYED APRIL 1, 1998 DURING NON-STORM CONDITIONS.
5. STREAM IS DESIGNATED USE I.
6. FLOODPLAIN INFORMATION OBTAINED FROM HOWARD COUNTY FLOODPLAIN MAPS PREPARED BY GREENHORNE & OMARA.
7. SANITARY SEWER WAS FIELD SURVEYED AND COMPARED AGAINST COUNTY RECORD MAP. WATER MAIN LOCATION WAS APPROXIMATED FROM COUNTY RECORD MAP, NOT FROM AS-BUILT PLANS. NO OTHER UTILITIES WERE RESEARCHED.



SYMBOL	REV.	DATE	DESCRIPTION	BY

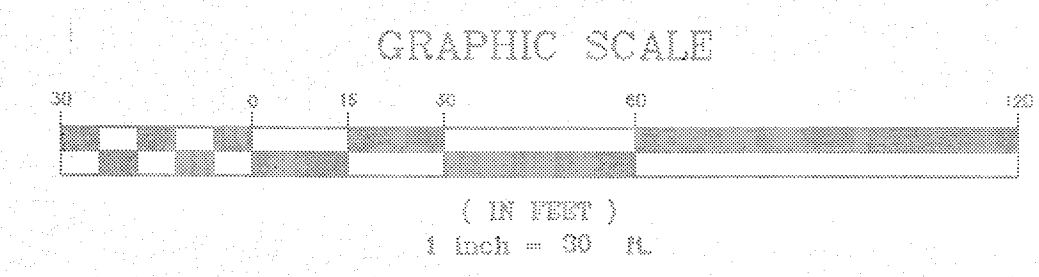
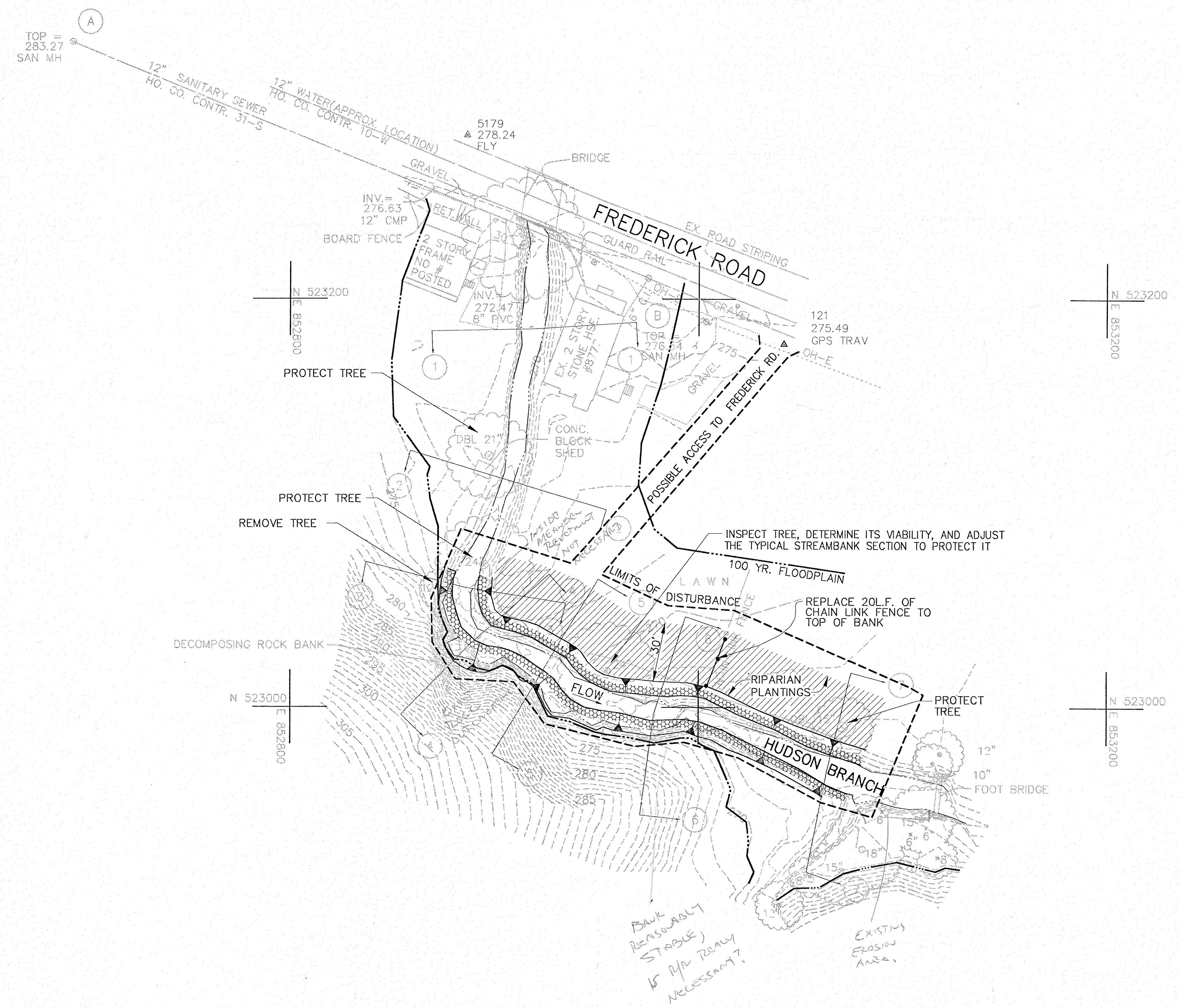
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PLATE	DRAWING NUMBER	FILE NAME	FILE	PLT SCALE:	DATE:
			File: ph07		

BALTIMORE METROPOLITAN WATER RESOURCES
FEASIBILITY STUDY
HOWARD COUNTY, MD.
DEEP RUN AND TIBBY/HUDSON WATERSHEDS
STREAM SITE HB07
COVER SHEET

Sheet Number:
1 OF 7

Updated: 10/14/98 ID = e1endwyd Plot: 12/04/98

MARYLAND STATE GRID (MAD27)



US Army Corps of Engineers Baltimore District

SYMBOL	REV.	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, BALTIMORE		CORPS OF ENGINEERS		BALTIMORE, MARYLAND	
PLATE	DRAWING NUMBER	FILE NAME	FILE	SCALE:	PLT SCALE:

BALTIMORE METROPOLITAN WATER RESOURCES
FEASIBILITY STUDY
HOWARD COUNTY, MD
DEEP RUN AND TIBER/HUDSON WATERSHEDS
STREAM SITE HB07
PLAN

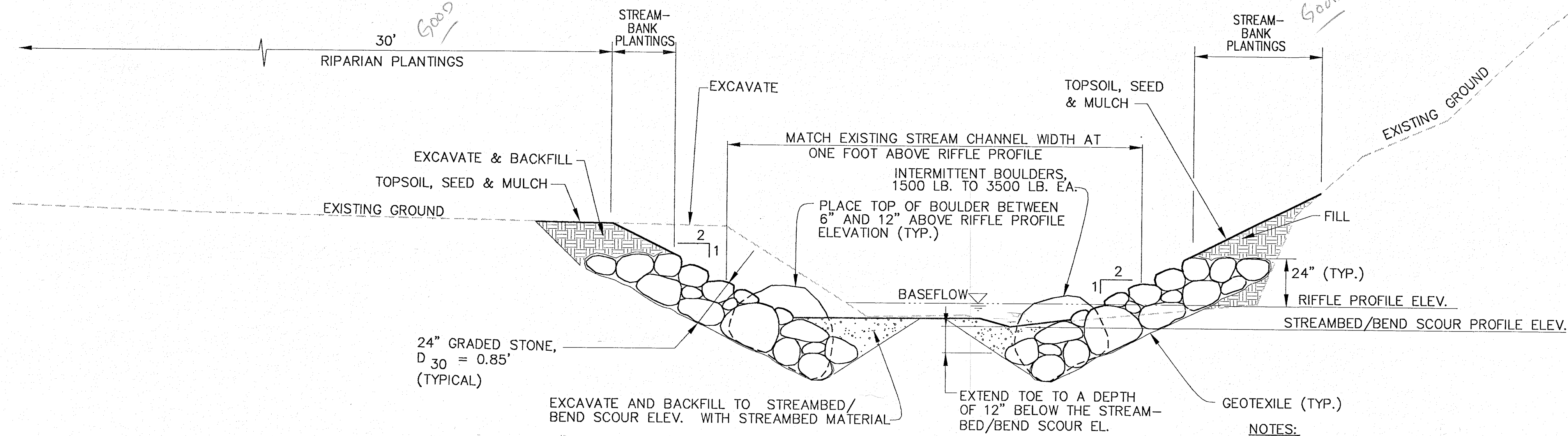
Sheet Number:
2 OF 7

DATE
USER
UPDATE

SYMBOL	REV.	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, BALTIMORE		FILE NAME
CORPS OF ENGINEERS		FILE NAME
BALTIMORE, MARYLAND		FILE NAME
PLATE	DRAWING NUMBER	FILE NAME
SCALE:	DATE:	DATE:
SCALE:	DATE:	DATE:

BALTIMORE METROPOLITAN WATER RESOURCES
FEASIBILITY STUDY
HOWARD COUNTY, MD
DEEP RUN AND TIBERY/HUDSON WATERSHEDS
STREAM SITE HB07
TYPICAL SECTION



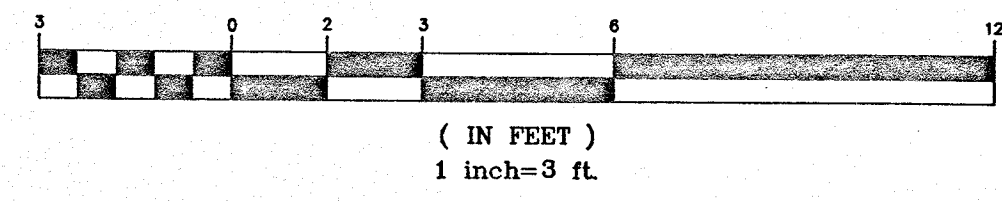
THIS IS BASICALLY A TRAPEZOIDAL RIPRAP CHANNEL!

- NOTES:**
1. AT THE LIMITS OF WORK, KEY THE STONE INTO THE BANKS FOR A MINIMUM DISTANCE OF 3 FEET.
 2. WHERE BEDROCK IS ENCOUNTERED, KEY THE STONE INTO THE BANK ADJACENT TO THE BEDROCK.
 3. DEWATER THE STREAM DURING CONSTRUCTION.
 4. ALL STONE SHALL BE HAND AND MACHINE *GOOD* PLACED, NOT DUMPED.
 5. AT THE DIRECTION OF THE CONTRACTING OFFICER, ADJUST THE TYPICAL SECTION TO PROTECT EXISTING HEALTHY TREES.
 6. REFER TO CROSS SECTIONS FOR ALIGNMENT.
 7. STOCKPILE EXISTING IN-STREAM BOULDERS/ROCKS THAT ARE REMOVED DURING CONSTRUCTION. AFTER CONSTRUCTING THE STONE TOE, PLACE THE EXISTING BOULDERS IN THE STREAMBED SO THAT THEY PROTRUDE BETWEEN 6" AND 12" ABOVE THE RIFFLE PROFILE.

TYPICAL SECTION

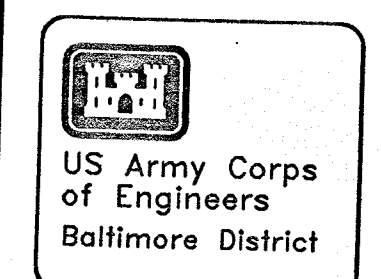
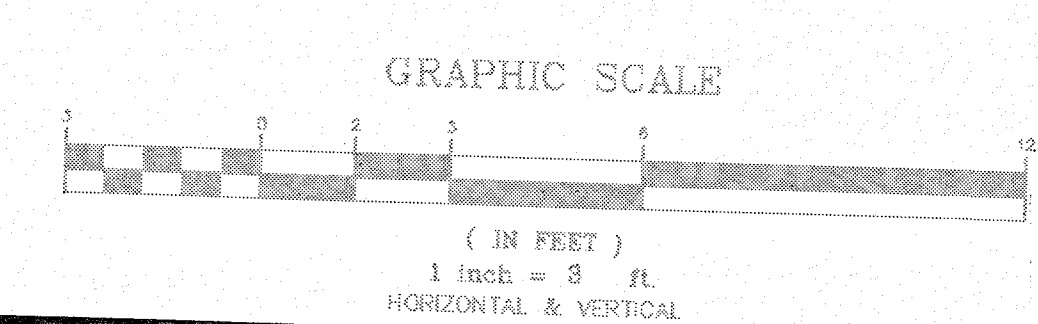
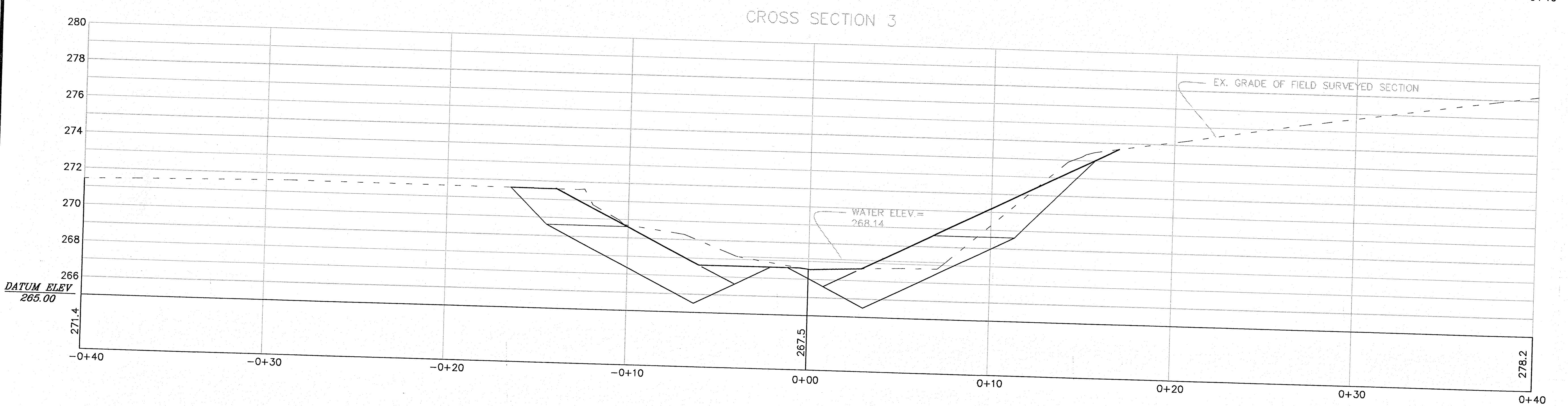
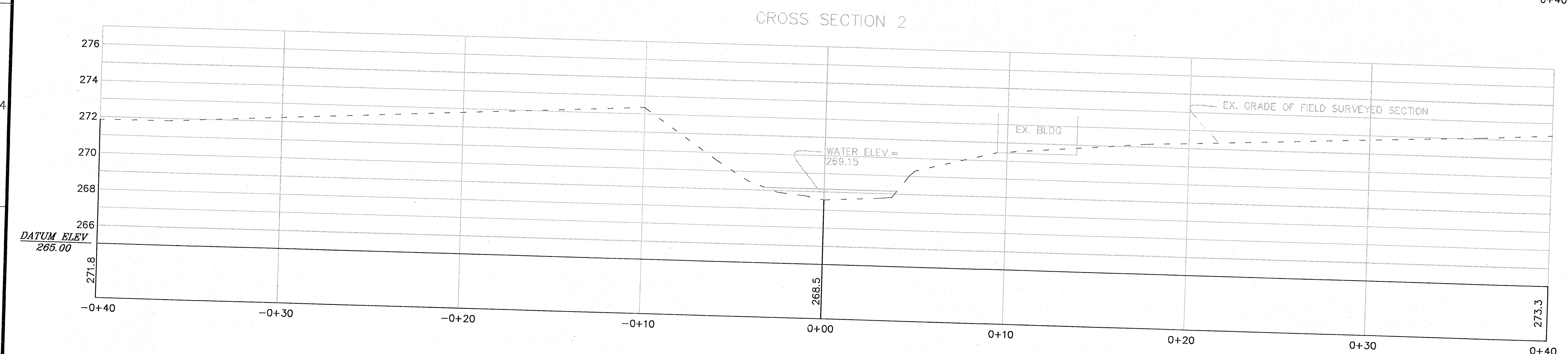
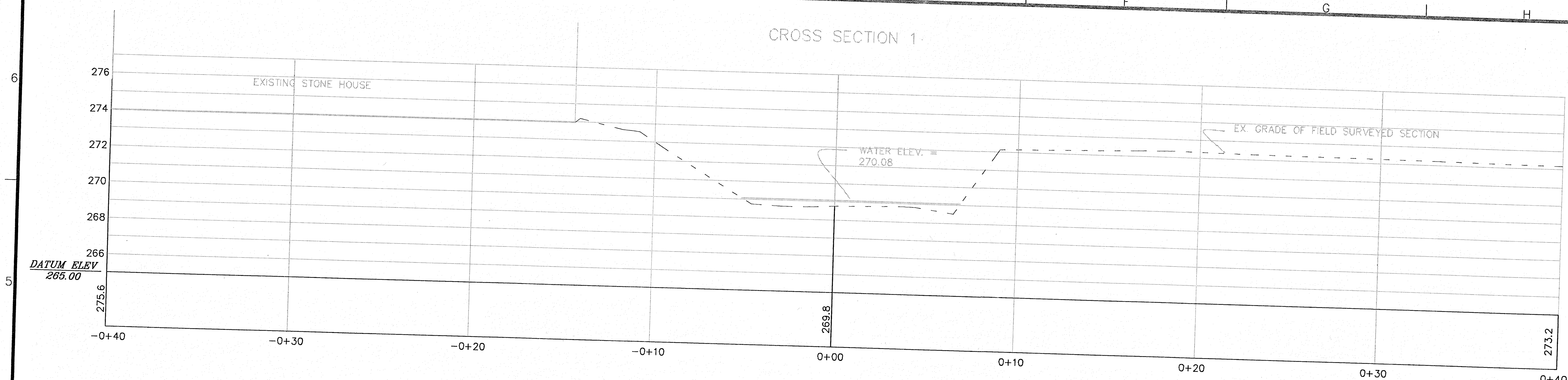
1" = 3'

GRAPHIC SCALE



6
5
4
3
2
1

A B C D E F G H



SYMBOL	REV.	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, BALTIMORE
CORPS OF ENGINEERS
BALTIMORE, MARYLAND

PLATE: AS SHOWN DATE: 1"=3'

DRAWING NUMBER: FILE NAME: XXXX
FILE: XXXX

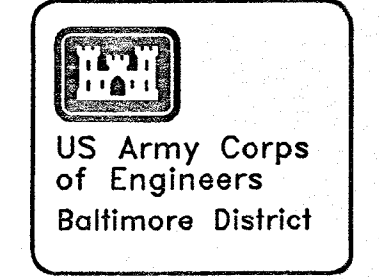
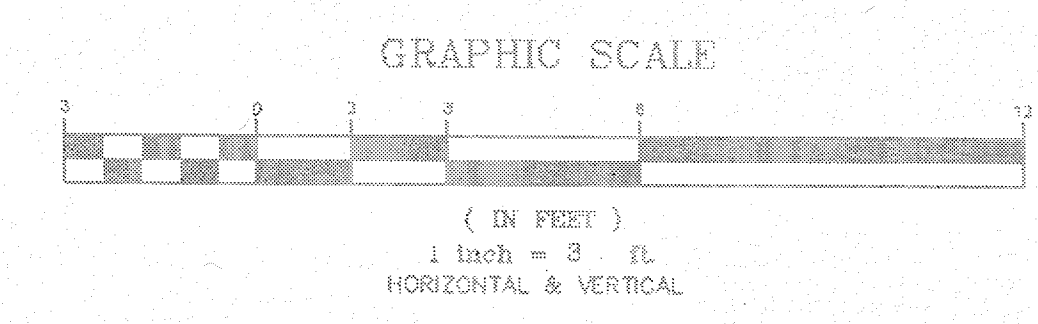
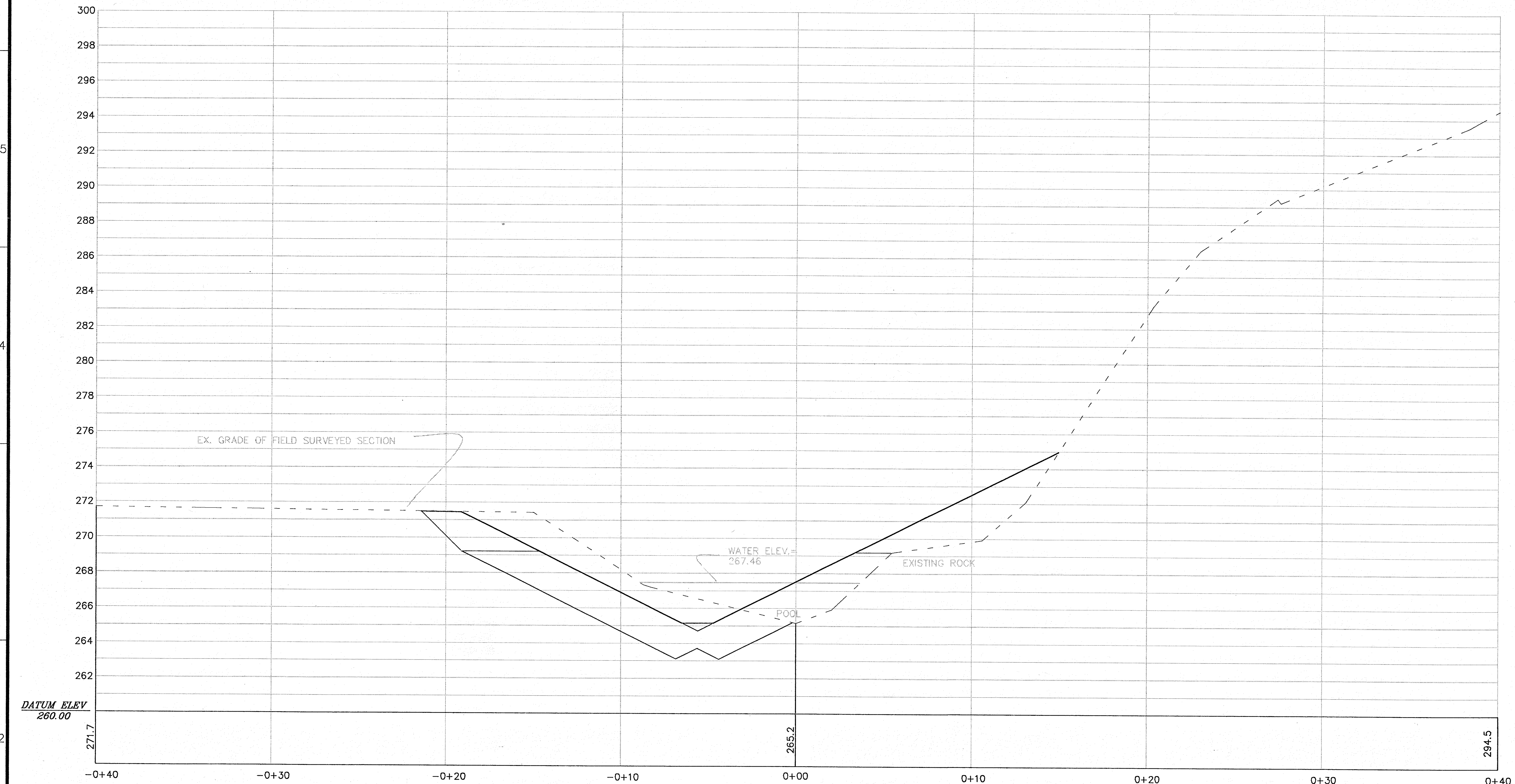
PLT SCALE: 1"=3'

Updated: 8/18/98 ID = e1endav9 Plot: 3/04/97

BALTIMORE METROPOLITAN WATER RESOURCES
FEASIBILITY STUDY
HOWARD COUNTY, MD.
DEEP RUN AND TIBER/HUDSON WATERSHEDS
STREAM SITE HB07
CROSS SECTIONS

A | B | C | D | E | F | G | H

CROSS SECTION 4



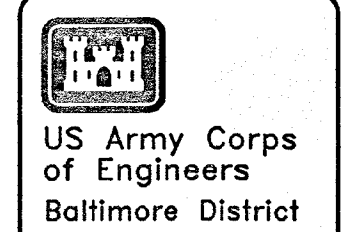
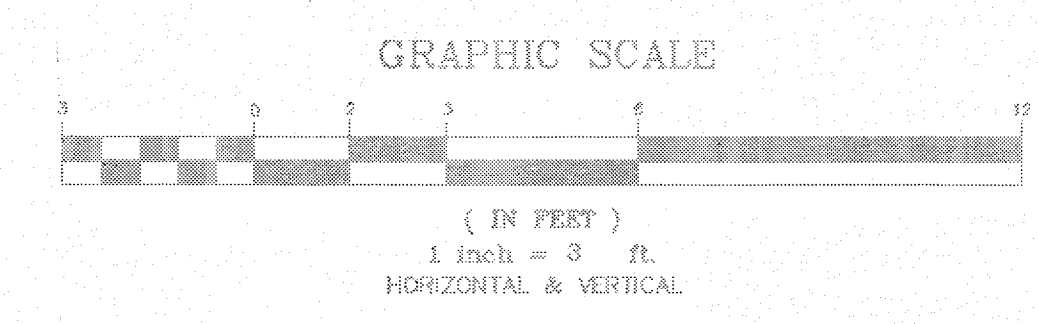
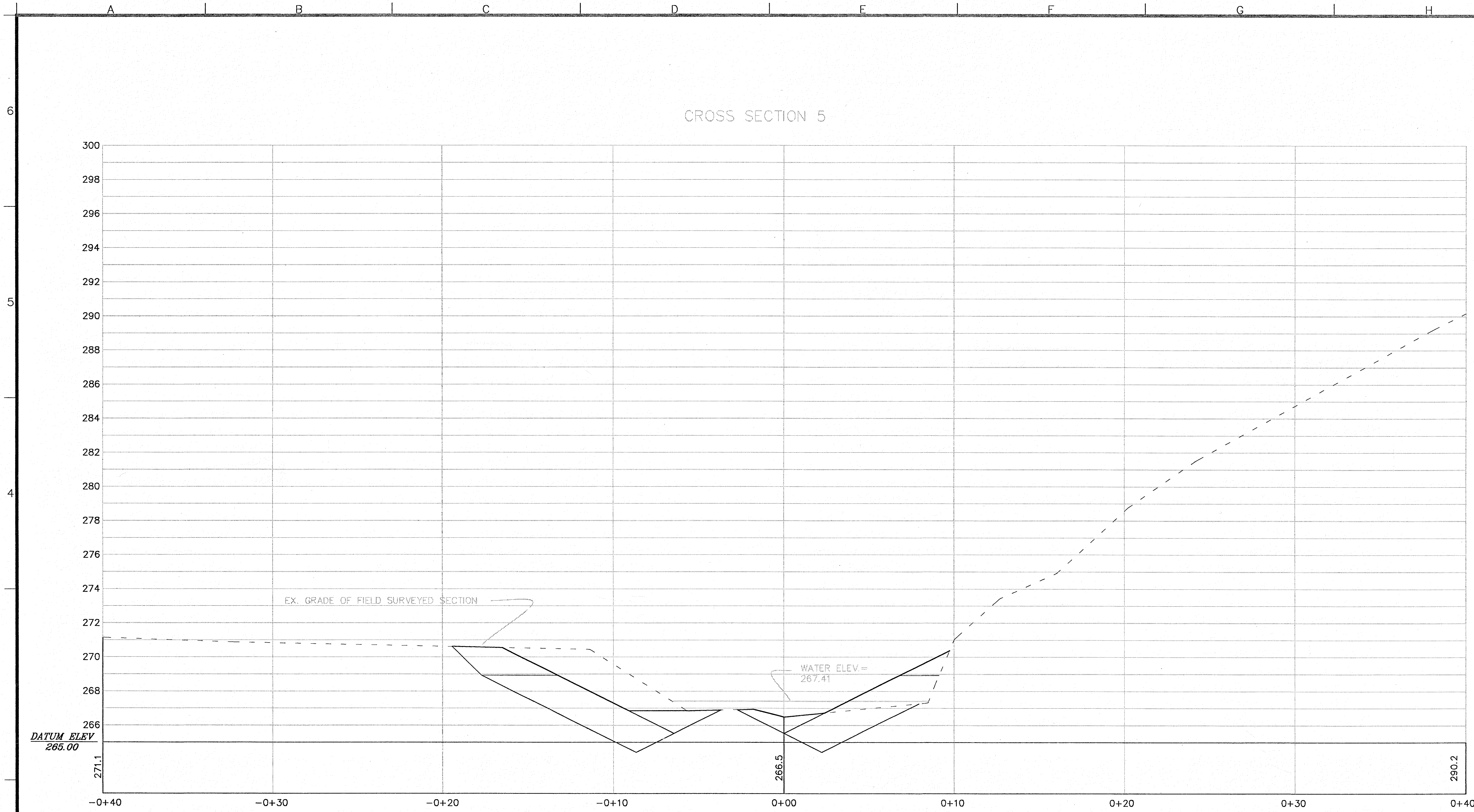
SYMBOL	REV.	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, BALTIMORE		FILE NAME	1"=3'
CORPS OF ENGINEERS		FILE: XXXX	
PLATE	DRAWING NUMBER	DATE:	

BALTIMORE METROPOLITAN WATER RESOURCES
 FEASIBILITY STUDY
 HOWARD COUNTY, MD.
 DEEP RUN AND TIBER/HUDSON WATERSHEDS
 STREAM SITE HBO7
 CROSS SECTIONS

Sheet Number:
 5 OF 7

Updated: 8/18/98 ID = e1endovg Plot: 3/04/97

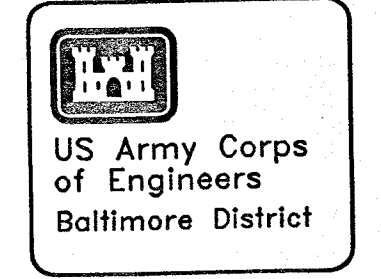


US Army Corps of Engineers
Baltimore District

SYMBOL	REV.	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, BALTIMORE		FILE NAME	1"=3'
CORPS OF ENGINEERS		FILE: XXXX	1"=3'
BALTIMORE, MARYLAND	DRAWING NUMBER	PLT SCALE:	
PLATE	DATE:		

BALTIMORE METROPOLITAN WATER RESOURCES
FEASIBILITY STUDY
HOWARD COUNTY, MD.
DEEP RUN AND TIBER/HUDSON WATERSHEDS
STREAM SITE H807
CROSS SECTIONS



SYMBOL	REV.	DATE	DESCRIPTION	BY

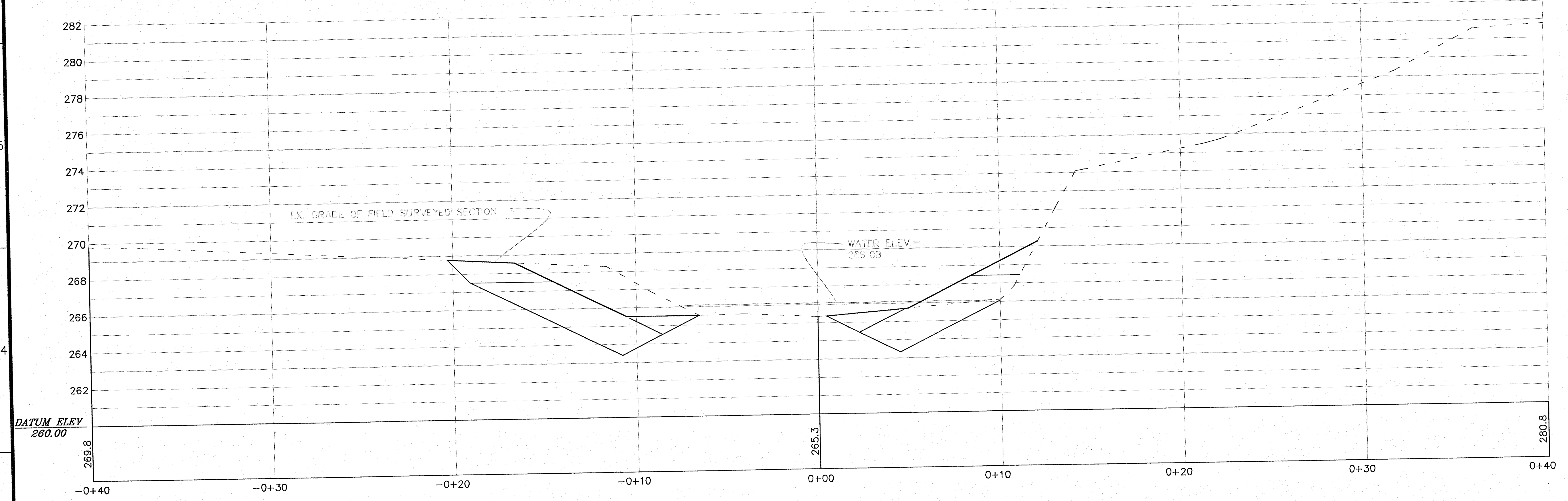
U.S. ARMY ENGINEER DISTRICT, BALTIMORE		FILE NAME
CORPS OF ENGINEERS		File: XXXX
PLATE	DRAWING NUMBER	PLT SCALE: 1"=3'
SCALE: 1"=3'	DATE:	

BALTIMORE METROPOLITAN WATER RESOURCES
 FEASIBILITY STUDY
 HOWARD COUNTY, MD.
 DEEP RUN AND TIBBYHUDSON WATERSHEDS
 STREAM SITE HBO7
 CROSS SECTIONS

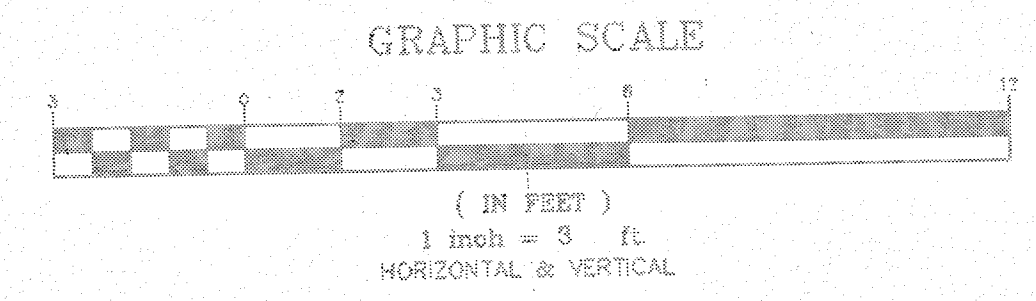
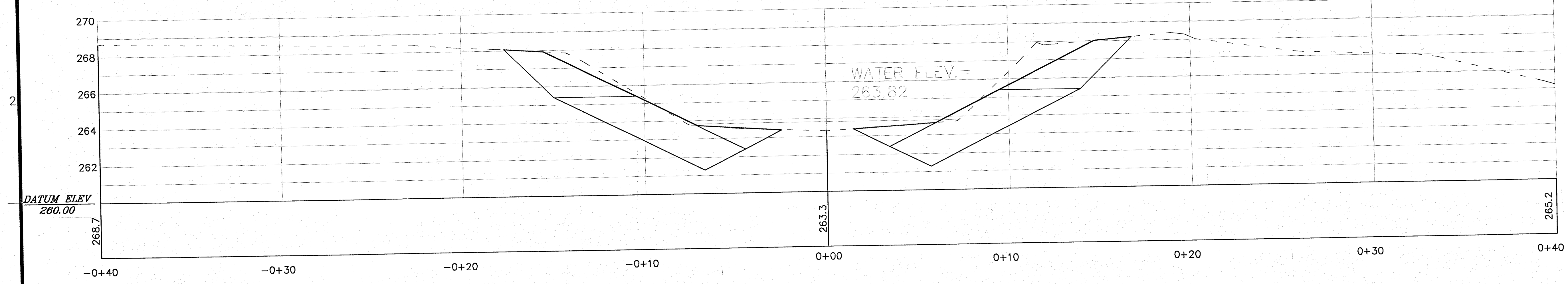
Sheet Number:
 7 OF 7

Updated: 8/18/98 ID = e1encwjd Plot: 8/18/98

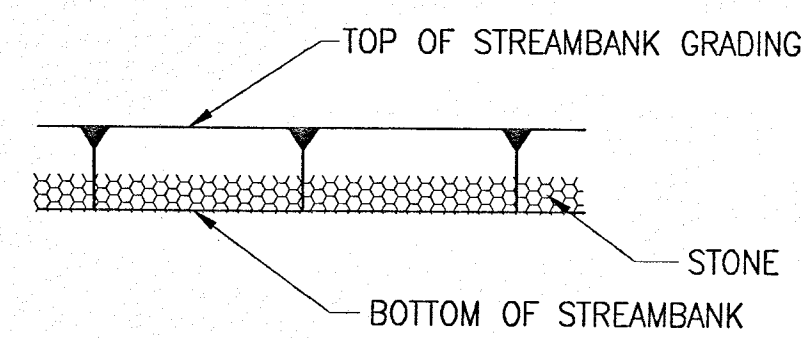
CROSS SECTION 6



CROSS SECTION 7



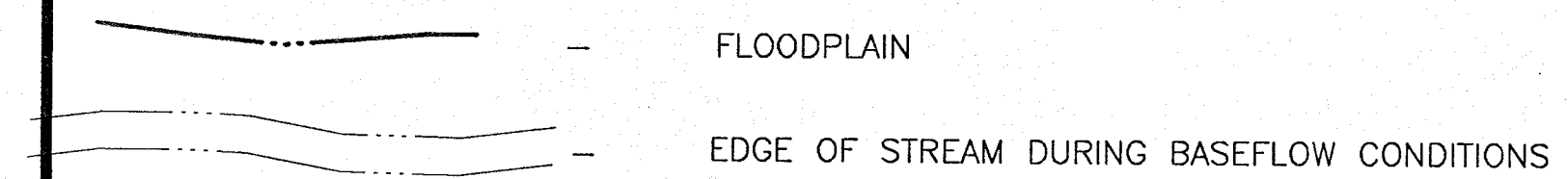
LEGEND - PROPOSED FEATURES



--- LIMITS OF DISTURBANCE

LEGEND - EXISTING FEATURES

- EX. SANITARY SEWER MANHOLE
- △ FLY STATION
- GUARD RAIL
- ~ GUY WIRE
- ⊕ LIGHT POLE
- ⊕ POWER POLE
- SIGN
- SANITARY STRUCTURE NUMBER
- ⊕ EX. SHRUB
- △ TRAVERSE STATION
- OH-E OVERHEAD ELECTRIC LINES
- ⊕ TREE <TRUNK DIA. IN INCHES>



SHEET INDEX

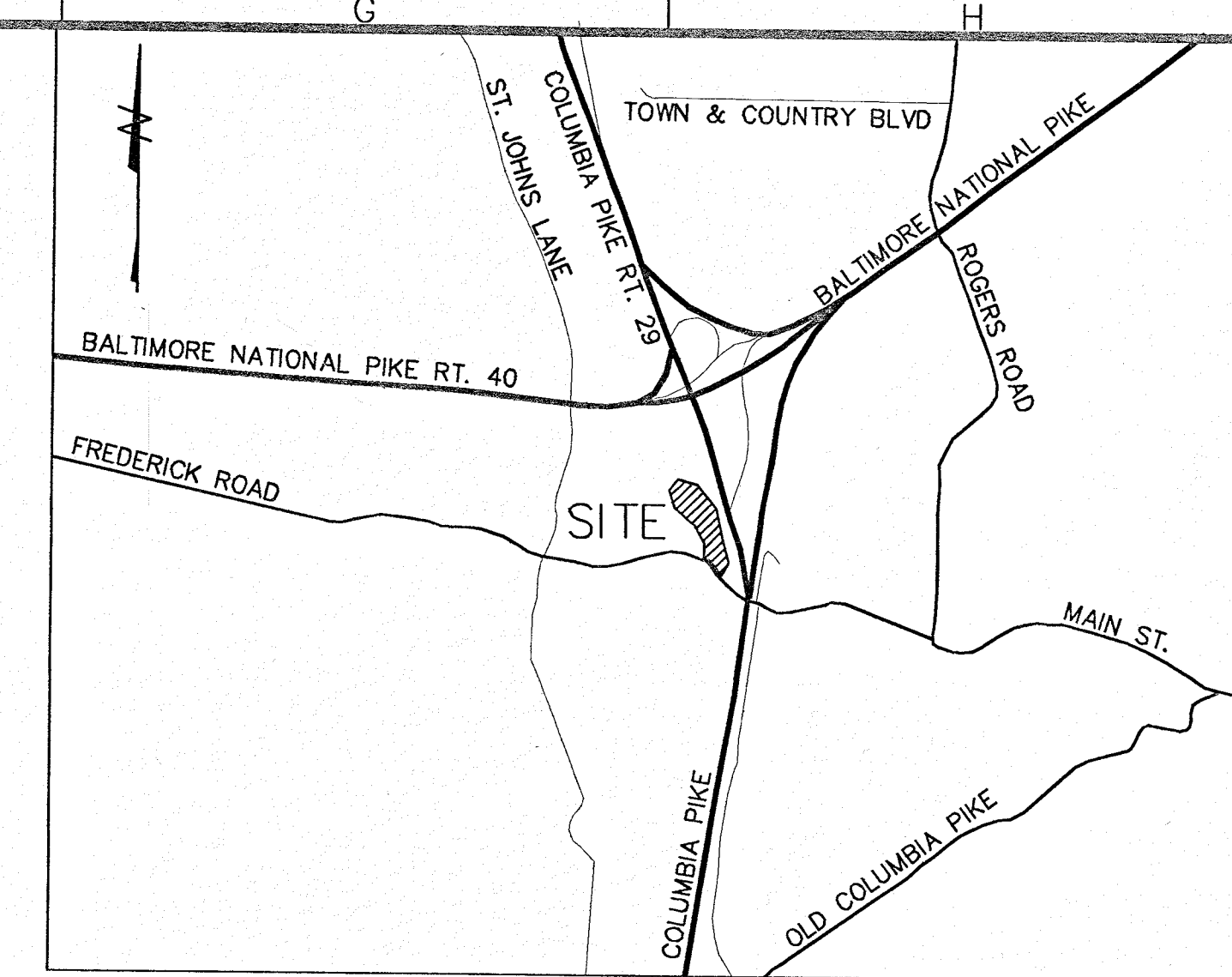
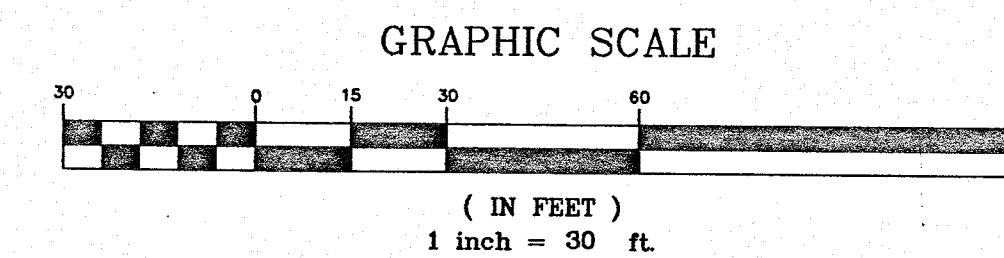
- 1 COVER SHEET
- 2 PLAN
- 3 TYPICAL SECTIONS
- 4-7 CROSS SECTIONS

SANITARY AS-BUILT TABLE

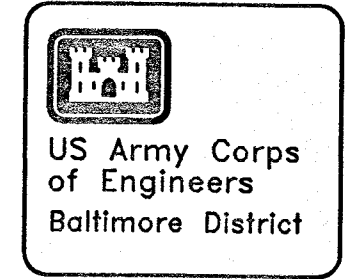
STRUCT. #	ELEV.	DESC.	SIZE	MATERIAL	COMMENTS
(A)	312.64	TOP		MANHOLE	UNABLE TO OPEN
(B)	306.56 300.35 300.31	TOP INV. IN INV. OUT	12" 12"	MANHOLE TERRA COTTA TERRA COTTA	FROM STRUCT. C TO STRUCT. A
(C)	311.28 303.78	TOP INV. OUT	12"	MANHOLE TERRA COTTA	TO STRUCT. B

TRAVERSE DATA

NO.	NORTHING	EASTING	ELEV.	DESC.
111	523754.3464	851068.8511	308.67	REBAR & CAP
112	523979.5354	850954.3005	308.65	REBAR & CAP



VICINITY MAP



SYMBOL	REV.	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, BALTIMORE
CORPS OF ENGINEERS
BALTIMORE, MARYLAND

PLATE	DRAWING NUMBER	FILE NAME	FILE SCALE
		File: phb13	

SCALE: DATE: PLOT SCALE:

BALTIMORE METROPOLITAN WATER RESOURCES
FEASIBILITY STUDY
HOWARD COUNTY, MD
DEEP RUN AND TIBER/HUDSON WATERSHEDS
STREAM SITE HB13
COVER SHEET

Sheet Number:
1 OF 7

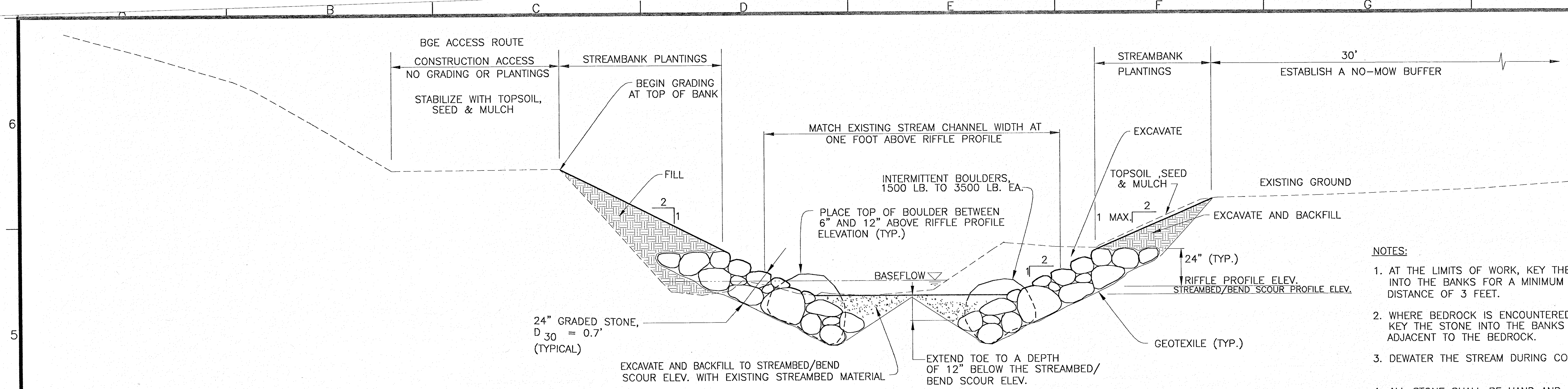
Updated: 10/14/98 ID = e1endwyj Plot: 12/04/98

SYMBOL	REV.	DATE	DESCRIPTION

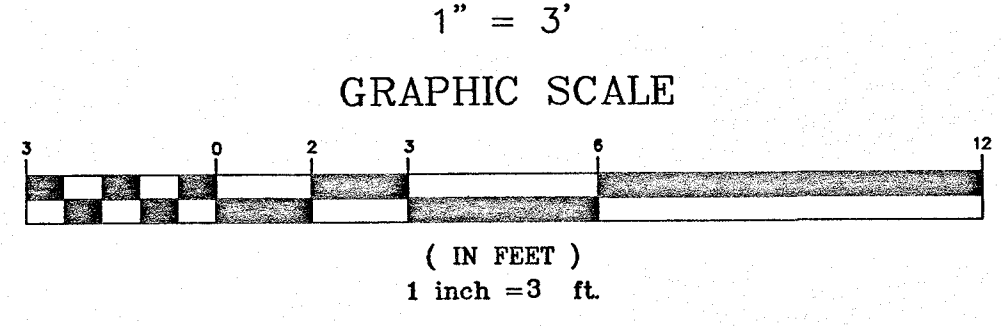
U.S. ARMY ENGINEER DISTRICT - BALTIMORE		FILE NAME
CORPS OF ENGINEERS		FILENAME
BALTIMORE, MARYLAND		
PLATE	DRAWING NUMBER	PLT SCALE:
SCALE:	DATE:	DATE:

BALTIMORE METROPOLITAN WATER RESOURCES	STREAM SITE HB13 TYPICAL SECTIONS
FEASIBILITY STUDY	
HOWARD COUNTY, MD DEEP RUN AND TIBER/HUDSON WATERSHEDS	

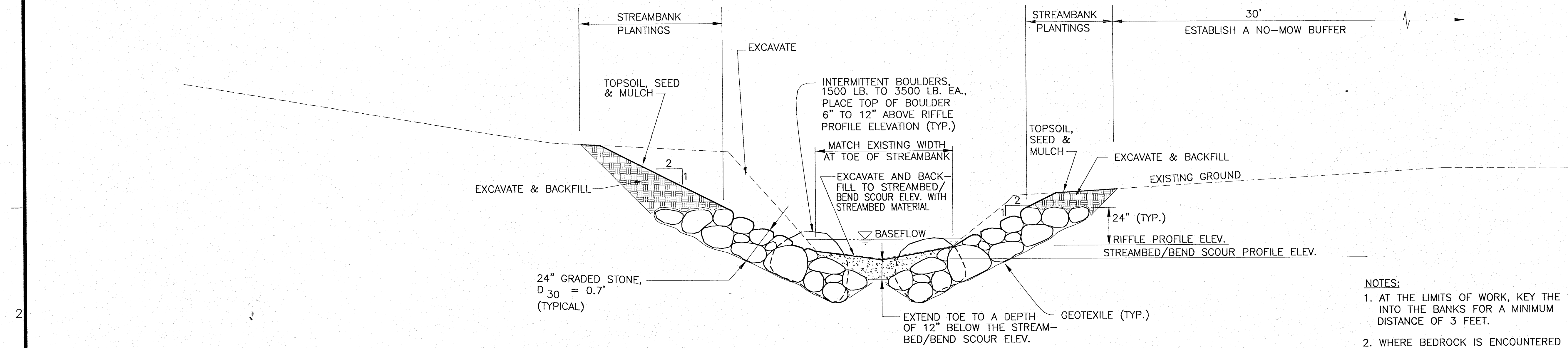
DATE: _____
USERNAME: _____
UPDATED: _____



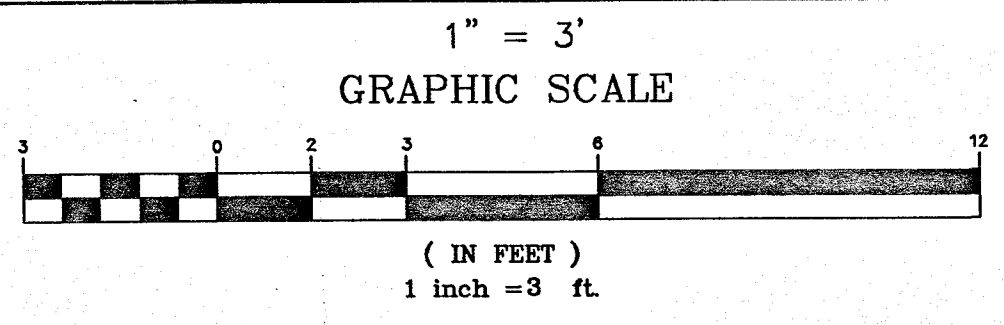
TYPICAL SECTION ADJACENT TO BGE ACCESS ROUTE



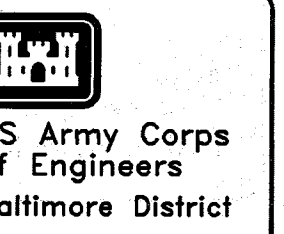
- NOTES:**
1. AT THE LIMITS OF WORK, KEY THE STONE INTO THE BANKS FOR A MINIMUM DISTANCE OF 3 FEET.
 2. WHERE BEDROCK IS ENCOUNTERED KEY THE STONE INTO THE BANKS ADJACENT TO THE BEDROCK.
 3. DEWATER THE STREAM DURING CONSTRUCTION.
 4. ALL STONE SHALL BE HAND AND MACHINE PLACED, NOT DUMPED.
 5. AT THE DIRECTION OF THE CONTRACTING OFFICER, ADJUST THE TYPICAL SECTION TO PROTECT EXISTING HEALTHY TREES.
 6. REFER TO CROSS SECTIONS FOR ALIGNMENT.



TYPICAL SECTION UPSTREAM OF BGE ACCESS ROUTE



- NOTES:**
1. AT THE LIMITS OF WORK, KEY THE STONE INTO THE BANKS FOR A MINIMUM DISTANCE OF 3 FEET.
 2. WHERE BEDROCK IS ENCOUNTERED KEY THE STONE INTO THE BANKS ADJACENT TO THE BEDROCK.
 3. DEWATER THE STREAM DURING CONSTRUCTION.
 4. ALL STONE SHALL BE HAND AND MACHINE PLACED, NOT DUMPED.
 5. AT THE DIRECTION OF THE CONTRACTING OFFICER, ADJUST THE TYPICAL SECTION TO PROTECT EXISTING HEALTHY TREES.
 6. REFER TO THE CROSS SECTIONS FOR ALIGNMENT.



US Army Corps of Engineers
Baltimore District

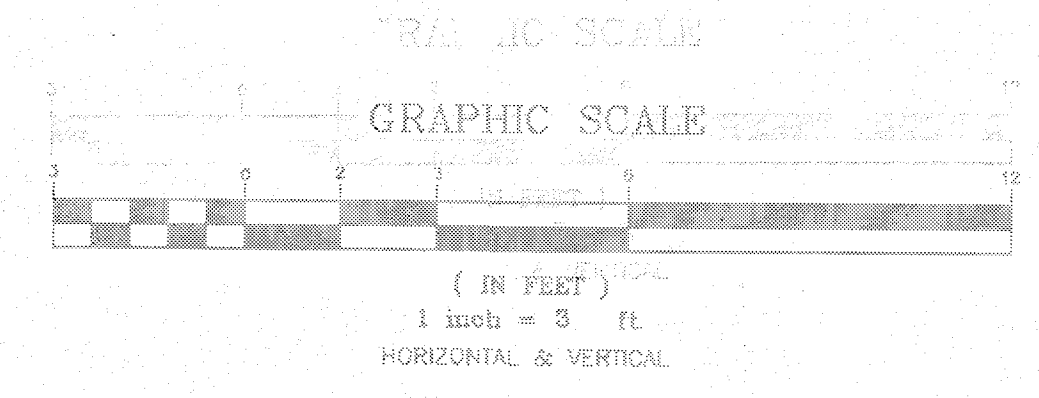
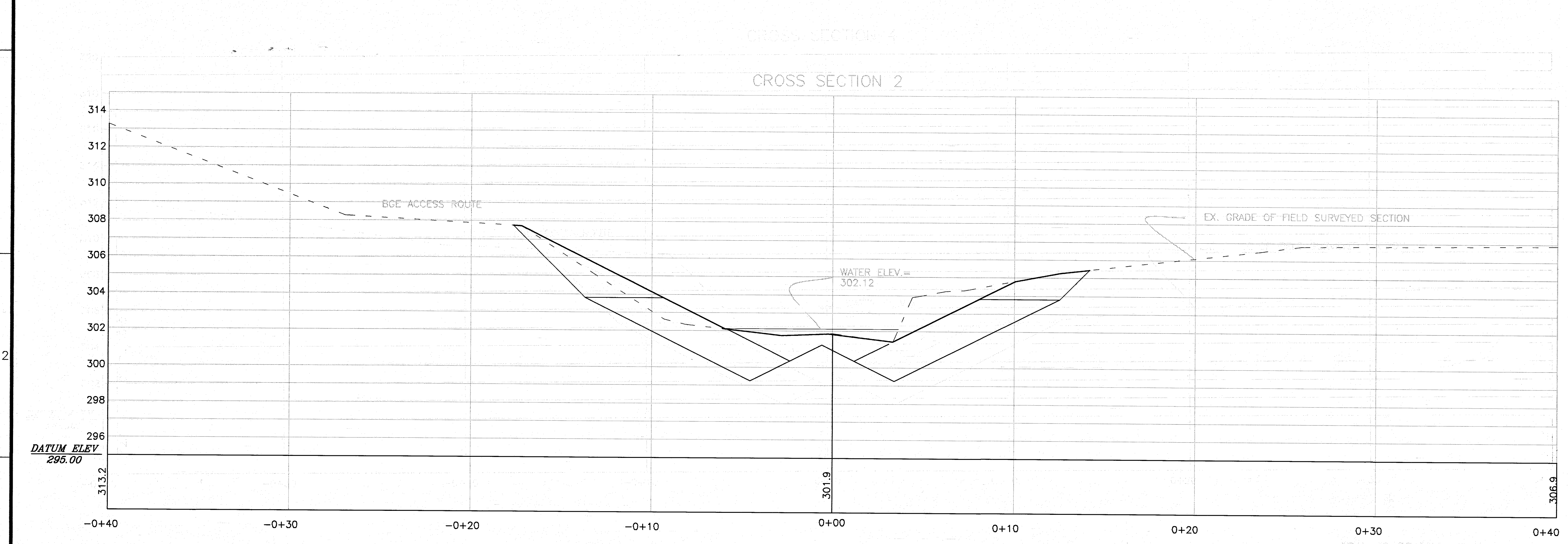
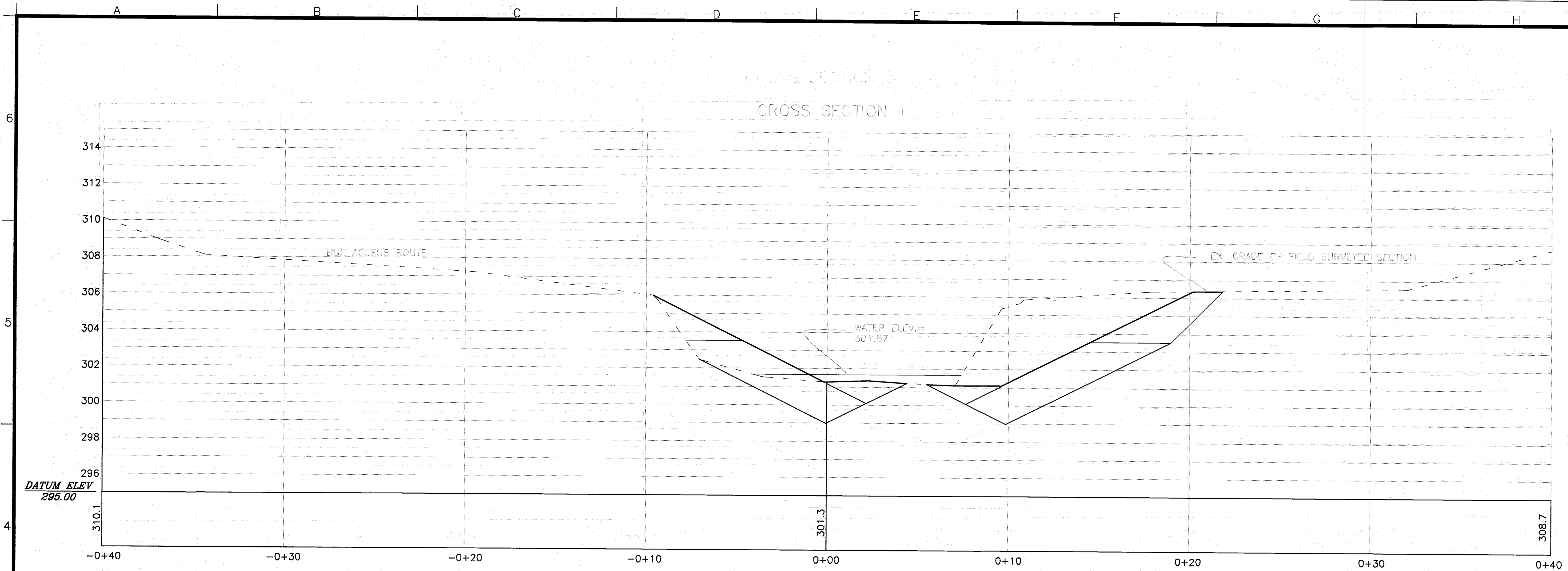
SYMBOL	REV.	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, BALTIMORE CORPS OF ENGINEERS BALTIMORE, MARYLAND		FILE NAME File: XXXX	PLOT SCALE: 1"=3'
PLATE	DRAWING NUMBER	DATE	SCALE: 1"=3'

BALTIMORE METROPOLITAN WATER RESOURCES
FEASIBILITY STUDY
HOWARD COUNTY, MD.
DEEP RUN AND TIBER/HUDSON WATERSHEDS
STREAM SITE HB13
CROSS SECTIONS

Sheet Number:
4 OF 7

Updated: 3/4/97 ID = e1endow9 Plot: 3/04/97

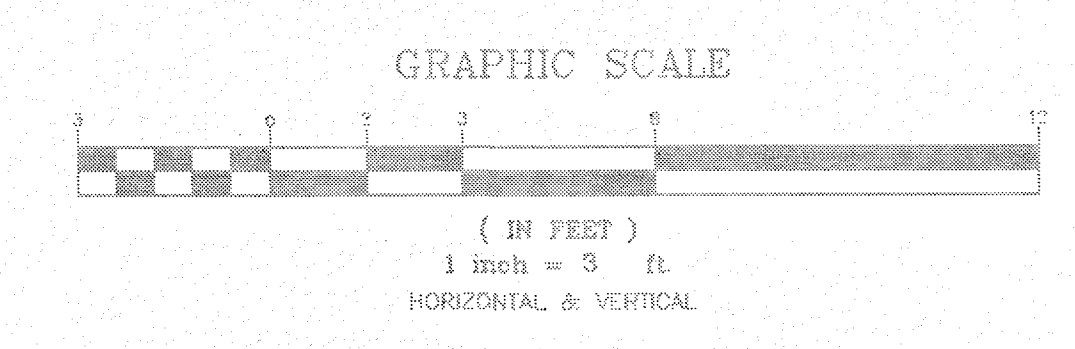
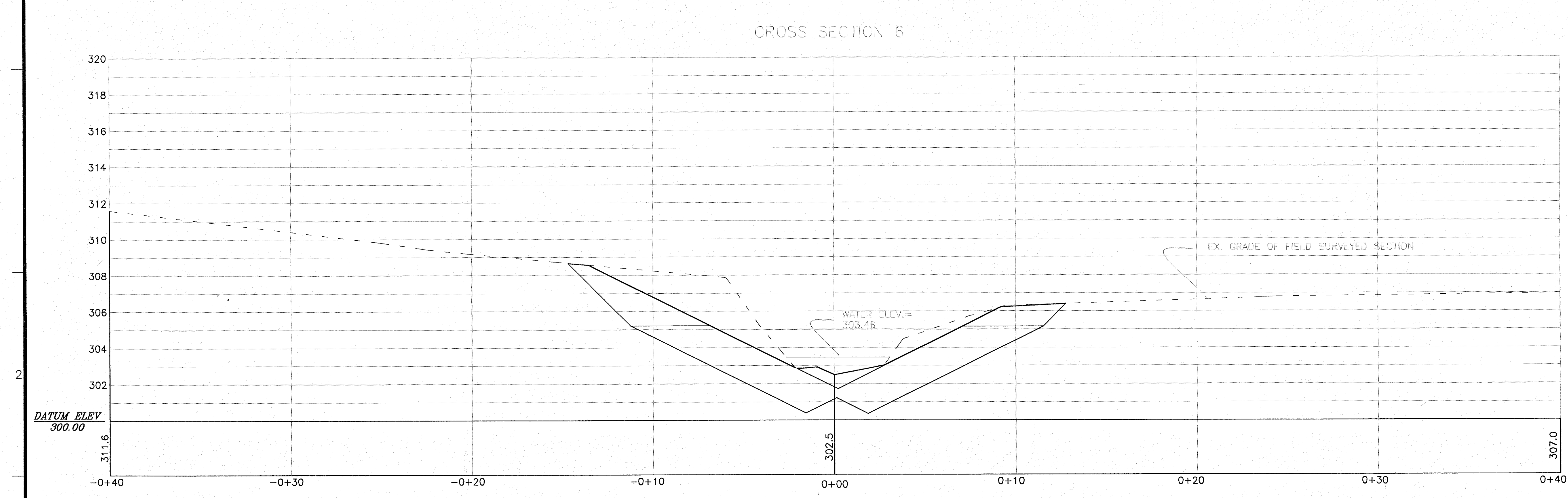
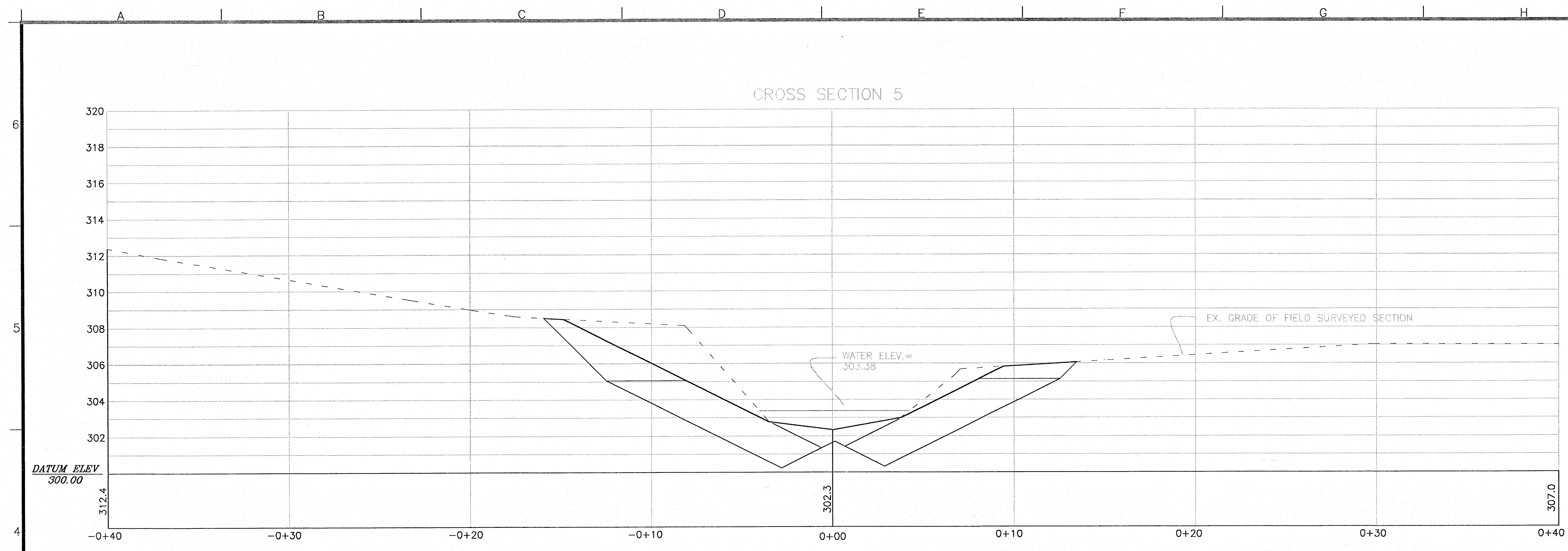


SYMBOL	REV.	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, BALTIMORE		FILE NAME	1"=3'
CORPS OF ENGINEERS		FILE: XXXX	
PLATE	DRAWING NUMBER	DATE:	PLOT SCALE: 1"=3'
SCALE: 1"=3'	DATE:	DATE:	

BALTIMORE METROPOLITAN WATER RESOURCES
FEASIBILITY STUDY
HOWARD COUNTY, MD.
DEEP RUN AND TIBER/HUDSON WATERSHEDS
STREAM SITE HB13
CROSS SECTIONS

Updated: 3/4/97 ID = e1endav9 Plot: 3/04/97



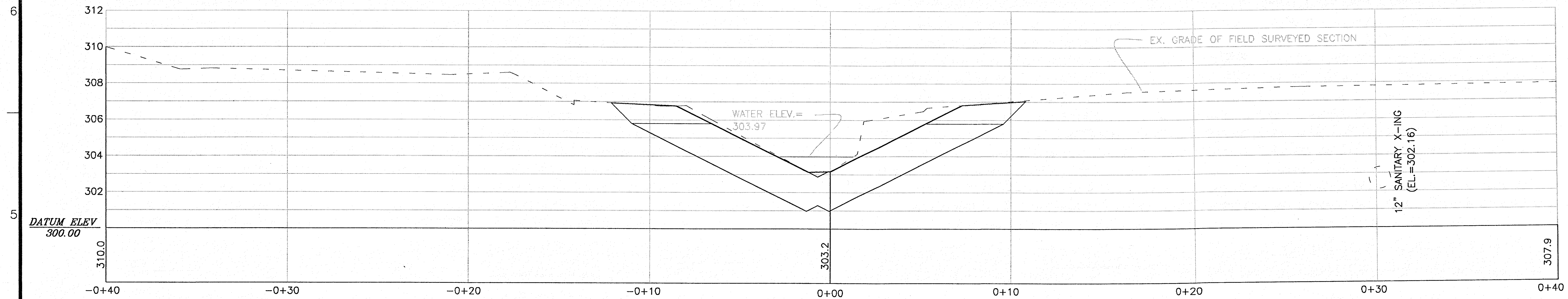
SYMBOL	REV.	DATE	DESCRIPTION

U.S. ARMY ENGINEER DISTRICT, BALTIMORE		FILE NAME	PLT SCALE: 1"=3'
CORPS OF ENGINEERS		FILE:XXXX	
BALTIMORE, MARYLAND			
PLATE	DRAWING NUMBER	DATE:	

BALTIMORE METROPOLITAN WATER RESOURCES
FEASIBILITY STUDY
HOWARD COUNTY, MD.
DEEP RUN AND TIBER/HUDSON WATERSHEDS
STREAM SITE HB13
CROSS SECTIONS

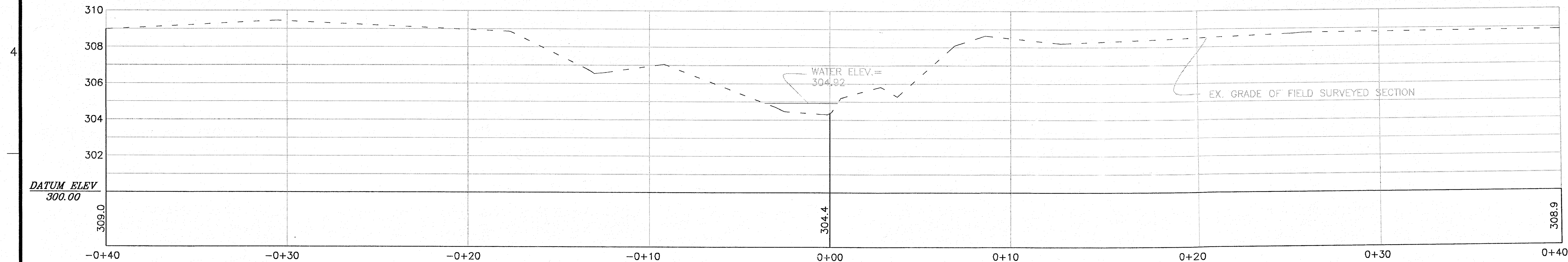
Updated: 8/16/98 ID = etendwjd Plot: 8/17/98

CROSS SECTION 7



12" SAN. SEWER (INV. EL. 302.2 ±) CROSSES
STREAM BETWEEN SECTIONS 7 AND 8

CROSS SECTION 8



AN UNKNOWN 6" CAST IRON PIPE (TOP EL. 306.0 ±)
CROSSES ABOVE THE STREAM BETWEEN SECTIONS 8 AND 9

CROSS SECTION 9

