

**LITTLE TOBY CREEK WATERSHED
ABANDONED MINE DRAINAGE
SITE LT-20
FOX TOWNSHIP, ELK COUNTY**

Sponsored By

ELK COUNTY CONSERVATION DISTRICT

And

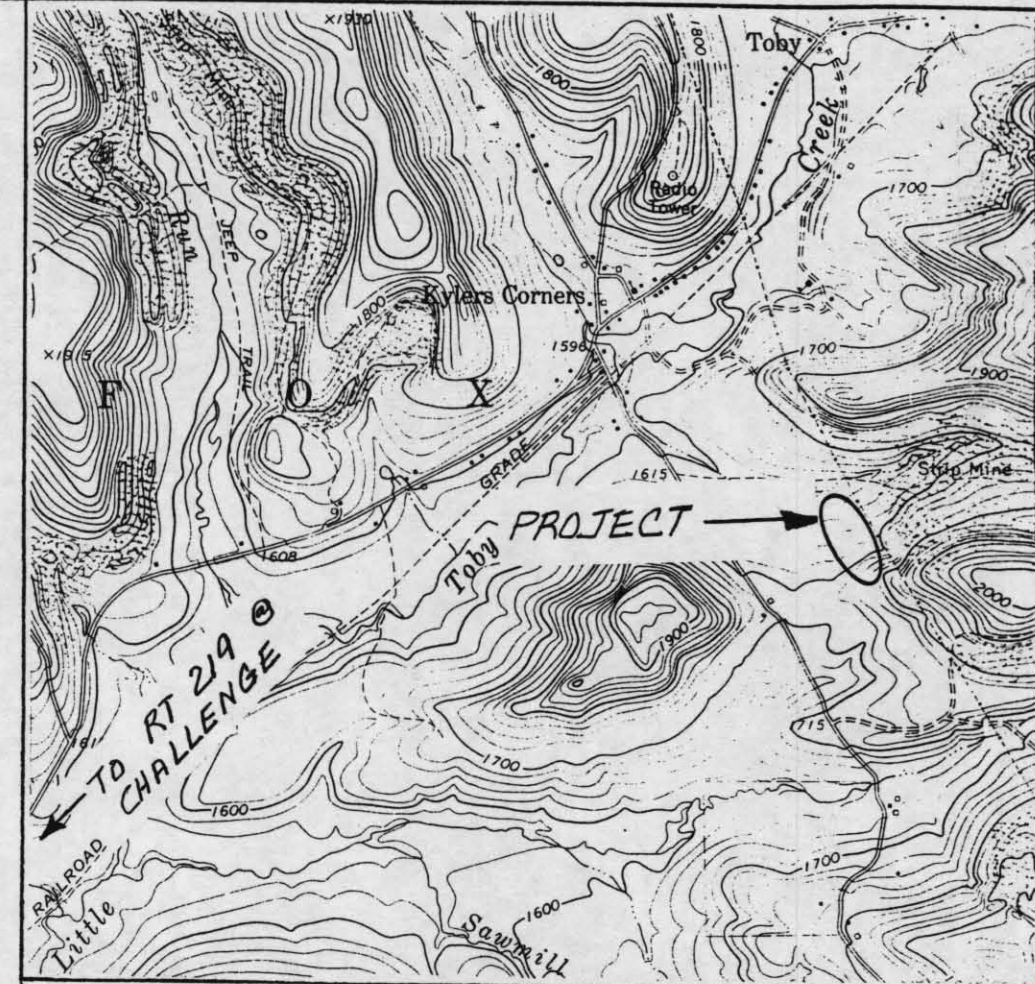
**HEADWATERS RESOURCE CONSERVATION
AND DEVELOPMENT AREA**

Prepared By

**UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
CLARION, PA**

With the Assistance of

**ALLEGHENY MINERAL ABATMENT, INC
MIDLAND, MD**



LOCATION MAP

SCALE: 1" = 2000'

REF: BRANDY CAMP
U.S.G.S 7.5' QUAD.

INDEX

<u>SHEET NO.</u>	<u>SUBJECT</u>
1	COVER SHEET
2 & 3	SITE CONTOUR MAP
4 & 5	PLAN VIEW
6 & 7	CROSS SECTIONS
8	TYPICAL TREATMENT BED
9	PROFILE BED # 1
10	PROFILE BED # 2
11	DETAILS - INOCULATION PORTS
12	FLUSHING SYSTEM LAYOUT
13	PROFILE 6" DELIVERY PIPING
14	MINE WATER COLLECTION SYSTEM
15	PROFILE WATERWAY # 1
16	PROFILE WATERWAY # 2
17	PROFILE WATERWAY # 3
18	DETAILS - DRAINS AND WATERWAYS
19	ACCESS ROAD
20	PIPE GATE

**LITTLE TOBY CREEK WATERSHED
AND SITE LT-20, ELK CO.
COVER SHEET**

**U. S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE**

Designed by <u>EES</u>	Date <u>9-99</u>	Approved by <u>[Signature]</u>
Drawn by <u>EES</u>	Date <u>9-99</u>	Title <u>Asst. Eng.</u>
Rev. <u>EES</u>	Date <u>1-00</u>	Title
Checked	Sheet <u>1</u>	Drawing No.
	of <u>20</u>	

LITTLE TOBY CREEK WATERSHED PROJECT

TOPOGRAPHY BY:
GWIN ENGINEERS, INC.
AN EADS GROUP CO.
USING PHOTOGRAPHY
DATED 11/23/96.

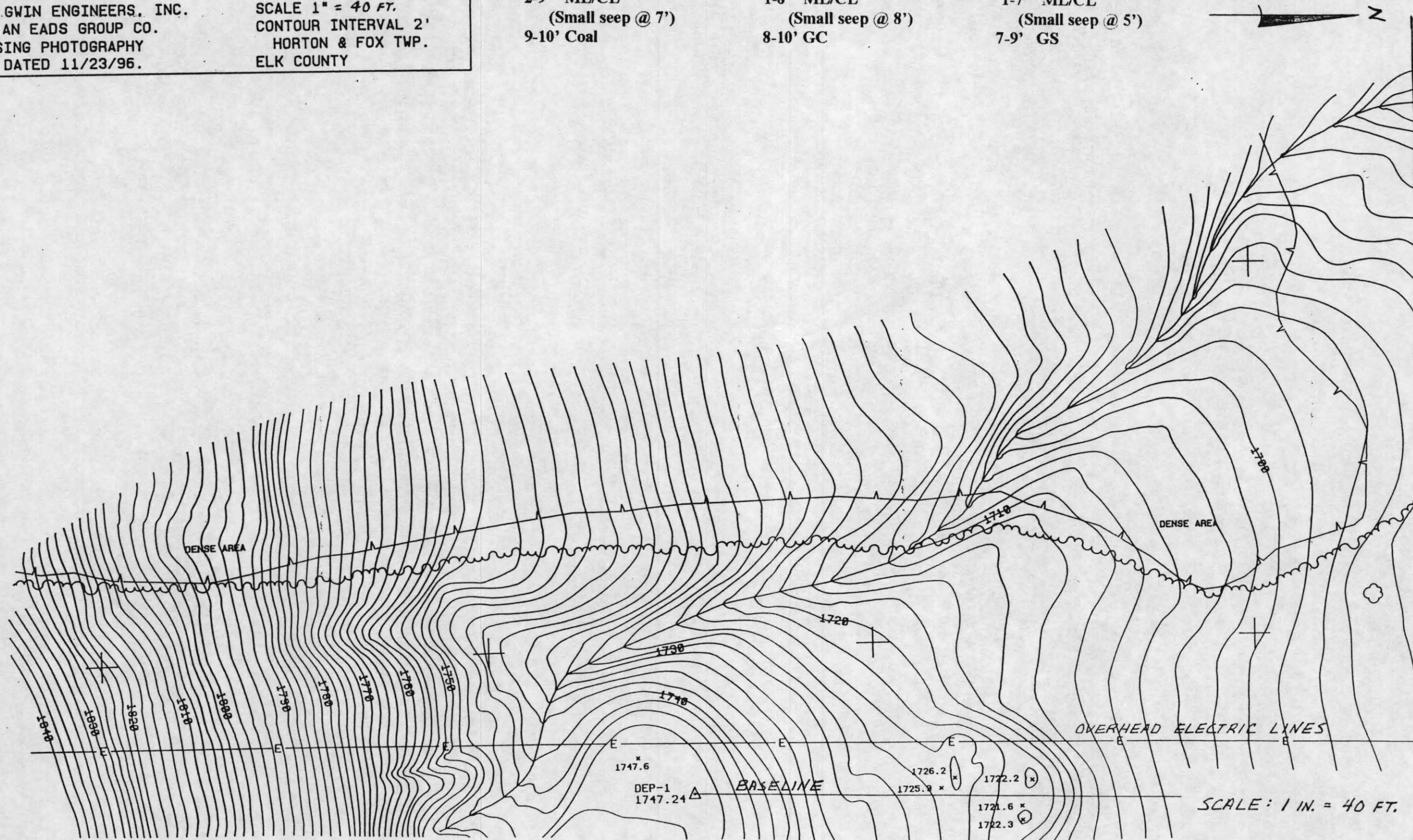
JOB# 11596160.26
SCALE 1" = 40 FT.
CONTOUR INTERVAL 2'
HORTON & FOX TWP.
ELK COUNTY

TEST PIT INFORMATION

TP #31 Surface El. 1690.0
0-2' ML
2-9' ML/CL
(Small seep @ 7')
9-10' Coal

TP #32 Surface El. 1670.0
0-1' ML
1-8' ML/CL
(Small seep @ 8')
8-10' GC

TP #33 Surface El. 1662.5
0-1' ML
1-7' ML/CL
(Small seep @ 5')
7-9' GS

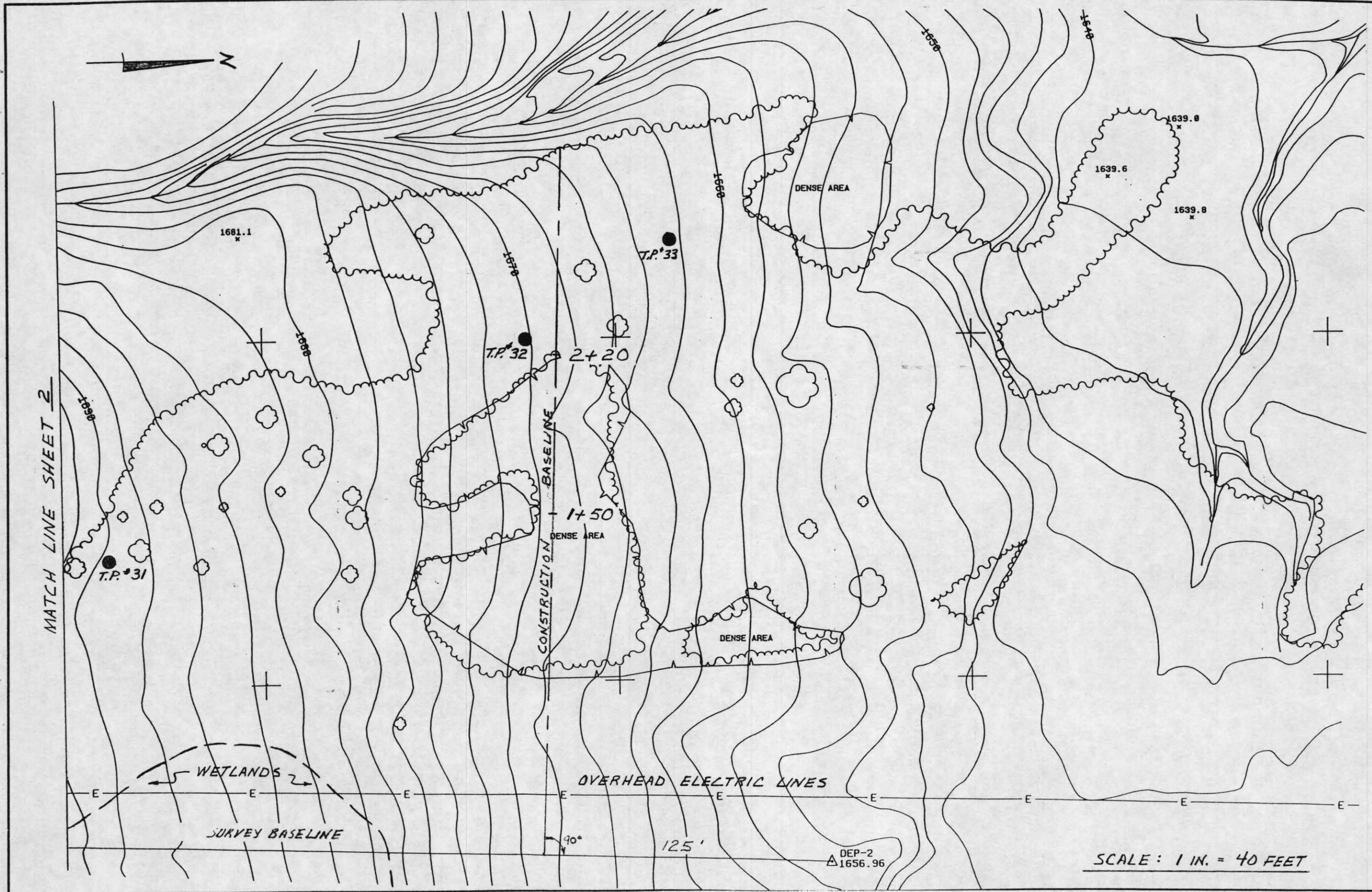


Date _____
Designed (SEE NOTE) _____
Drawn _____
Checked _____
Approved _____

LITTLE TOBY CREEK WATERSHED
SITE LT-20 ELK CO.
SITE CONTOUR MAP

USDA NRCS
Natural Resources Conservation Service

File No. _____
Drawing No. _____
Sheet 2 of 20



Date _____
 Designed (SEE NOTE SH. 2) _____
 Drawn _____
 Checked _____
 Approved _____

LITTLE TOBY CREEK WATERSHED
 SITE LT-20 ELK CO.
 SITE CONTOUR MAP

USDANRCS
 Natural Resources Conservation Service

File No. _____
 Drawing No. _____
 Sheet 3 of 20

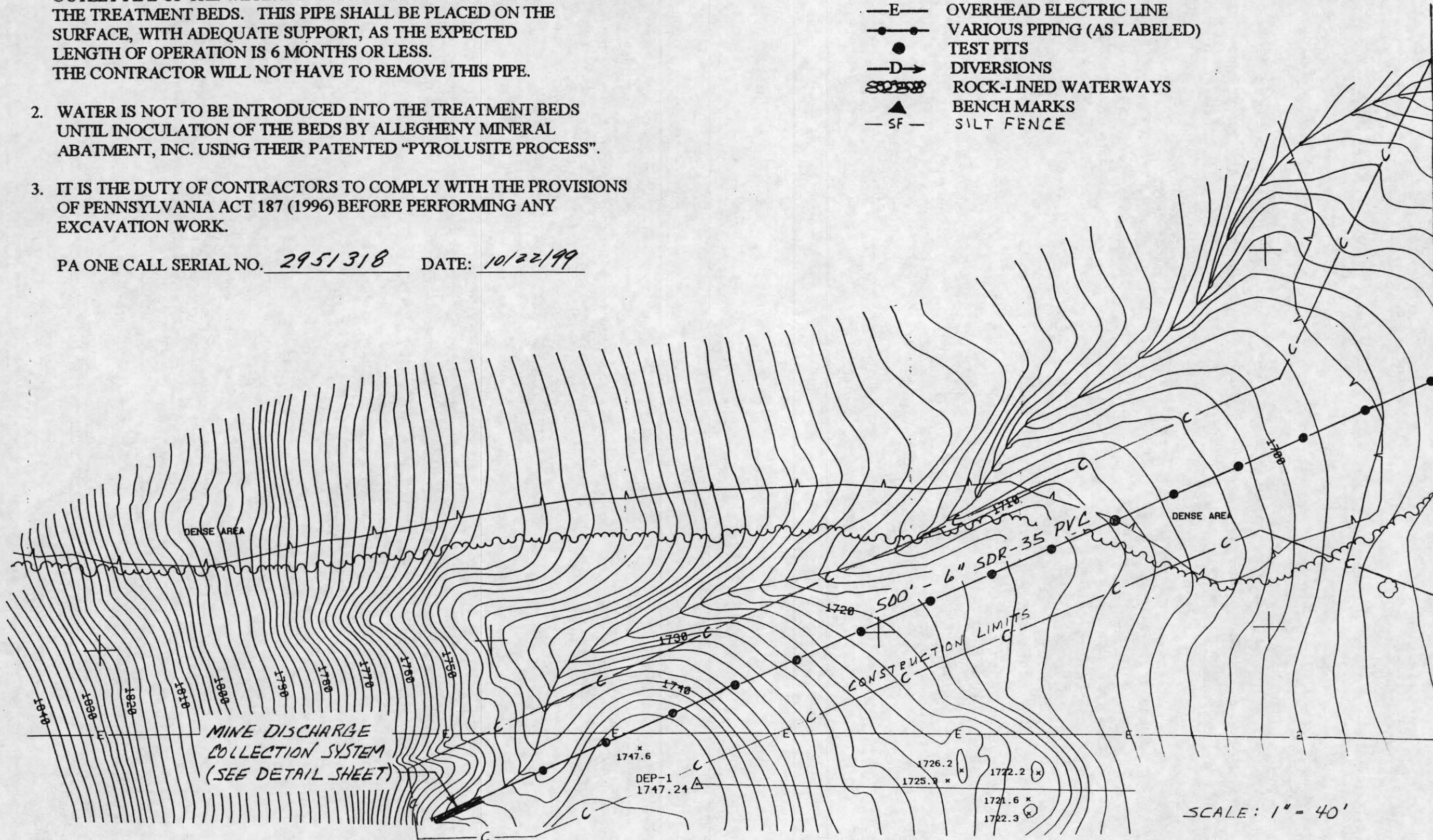
CONSTRUCTION NOTES

1. THE 6" DIA. SDR-35 PVC PIPE LABELED "TEMPORARY" FOR THE OUTLET PIPE OF THE WETLAND IS TO DIVERT WATER FROM THE TREATMENT BEDS. THIS PIPE SHALL BE PLACED ON THE SURFACE, WITH ADEQUATE SUPPORT, AS THE EXPECTED LENGTH OF OPERATION IS 6 MONTHS OR LESS. THE CONTRACTOR WILL NOT HAVE TO REMOVE THIS PIPE.
2. WATER IS NOT TO BE INTRODUCED INTO THE TREATMENT BEDS UNTIL INOCULATION OF THE BEDS BY ALLEGHENY MINERAL ABATMENT, INC. USING THEIR PATENTED "PYROLUSITE PROCESS".
3. IT IS THE DUTY OF CONTRACTORS TO COMPLY WITH THE PROVISIONS OF PENNSYLVANIA ACT 187 (1996) BEFORE PERFORMING ANY EXCAVATION WORK.

PA ONE CALL SERIAL NO. 2951318 DATE: 10/22/99

LEGEND

- C— CONSTRUCTION LIMITS
- E— OVERHEAD ELECTRIC LINE
- VARIOUS PIPING (AS LABELED)
- TEST PITS
- D→ DIVERSIONS
- ~~SDR-35~~ ROCK-LINED WATERWAYS
- ▲ BENCH MARKS
- SF— SILT FENCE



MATCH LINE SHEET 5

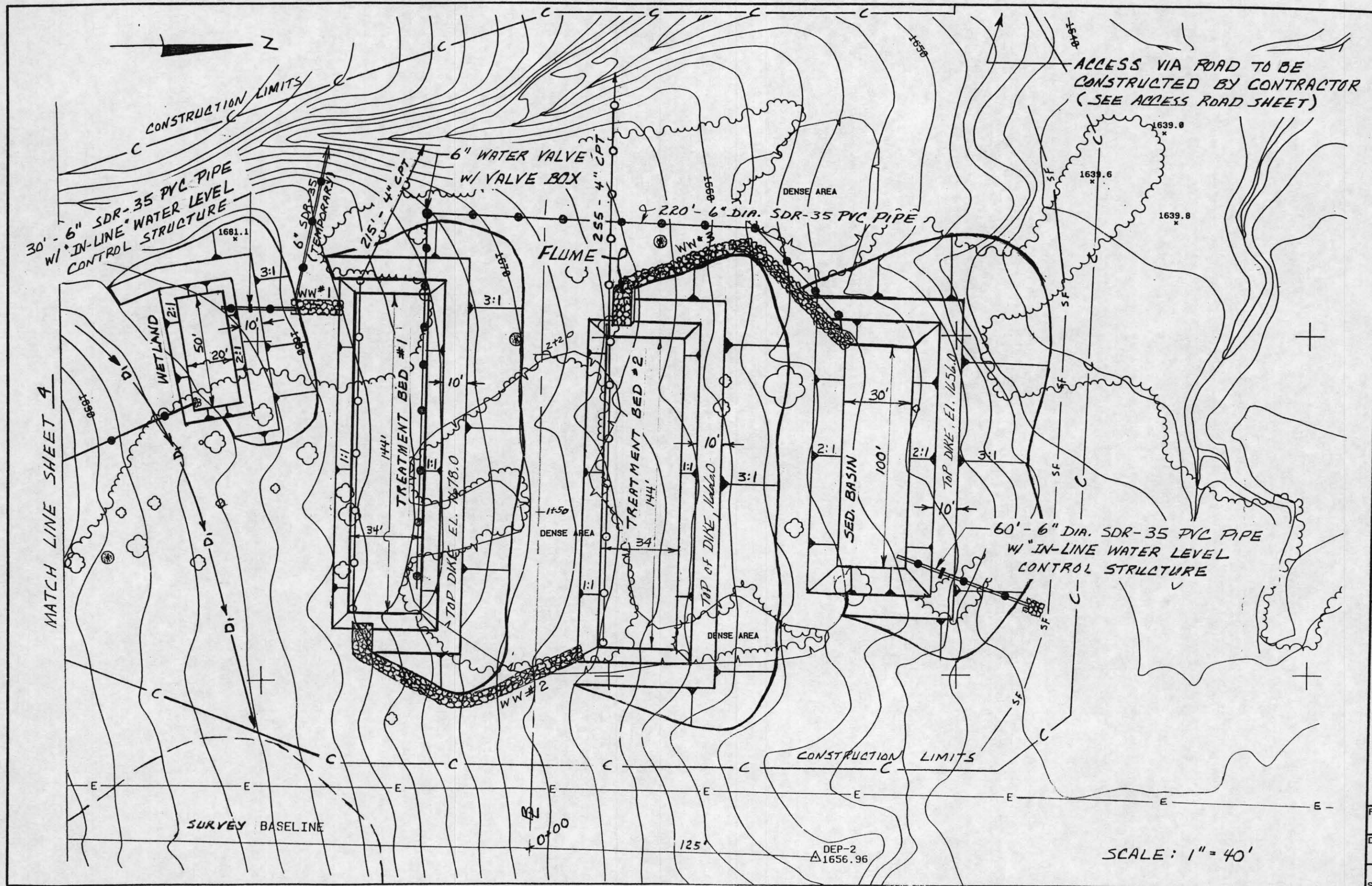
SCALE: 1" = 40'

Date	7/99
Designed	EES
Drawn	EES
Checked	
Approved	

LITTLE TOBY CREEK WATERSHED
SITE LT-20 ELK CO.
PLAN VIEW

USDA NRCS
Natural Resource Conservation Service

File No.	
Drawing No.	
Sheet	4 of 20



Date 7-99
 Designed EES
 Drawn EES
 REV. 9/99
 Checked EES
 Approved /00

LITTLE TOBY CREEK WATERSHED
 SITE LT-20 ELK CO.
 PLAN VIEW

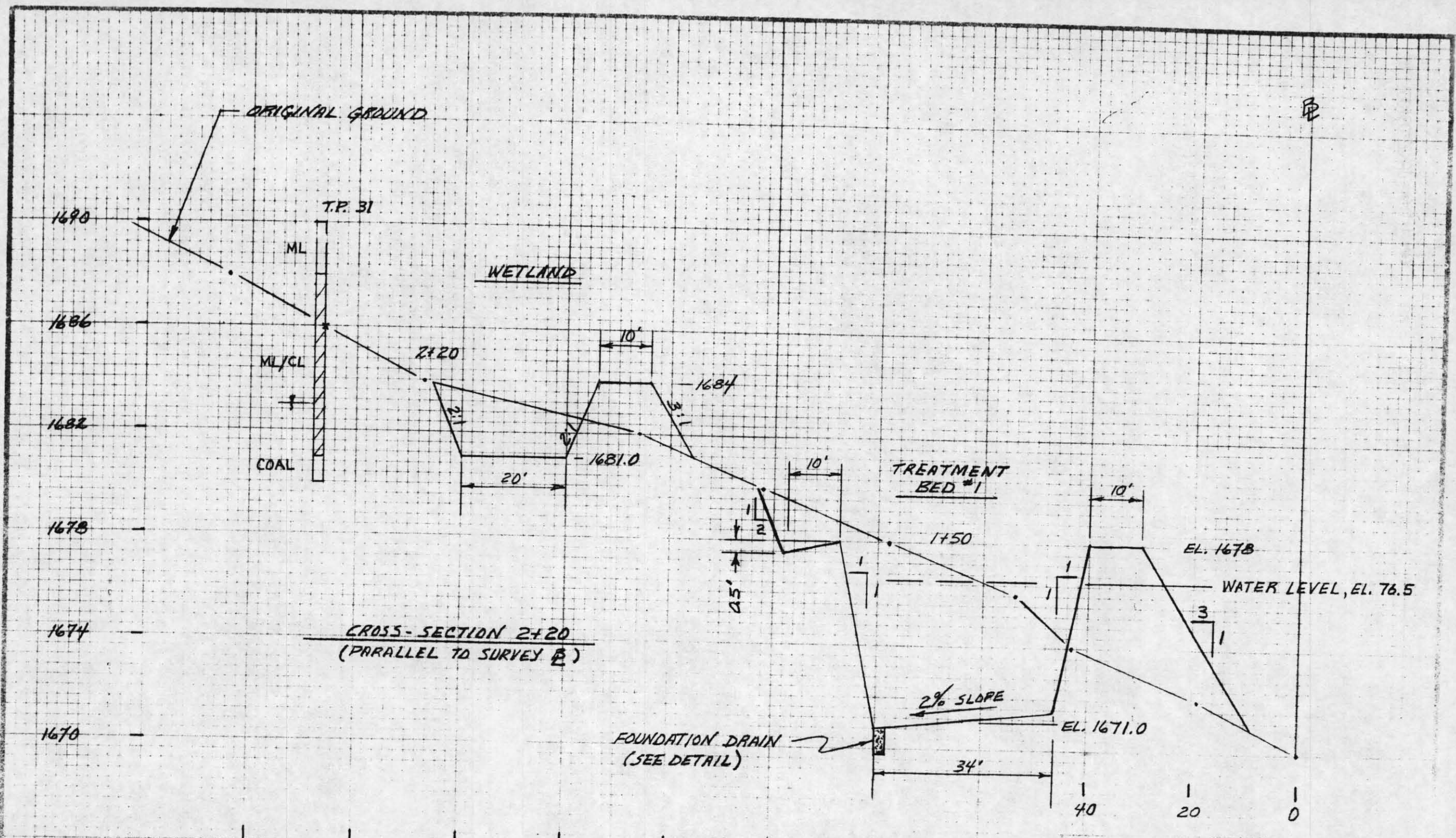
USDA NRCS
 Natural Resources Conservation Service

File No. _____
 Drawing No. _____
 Sheet 5 of 20

ACCESS VIA ROAD TO BE
 CONSTRUCTED BY CONTRACTOR
 (SEE ACCESS ROAD SHEET)

SCALE: 1" = 40'

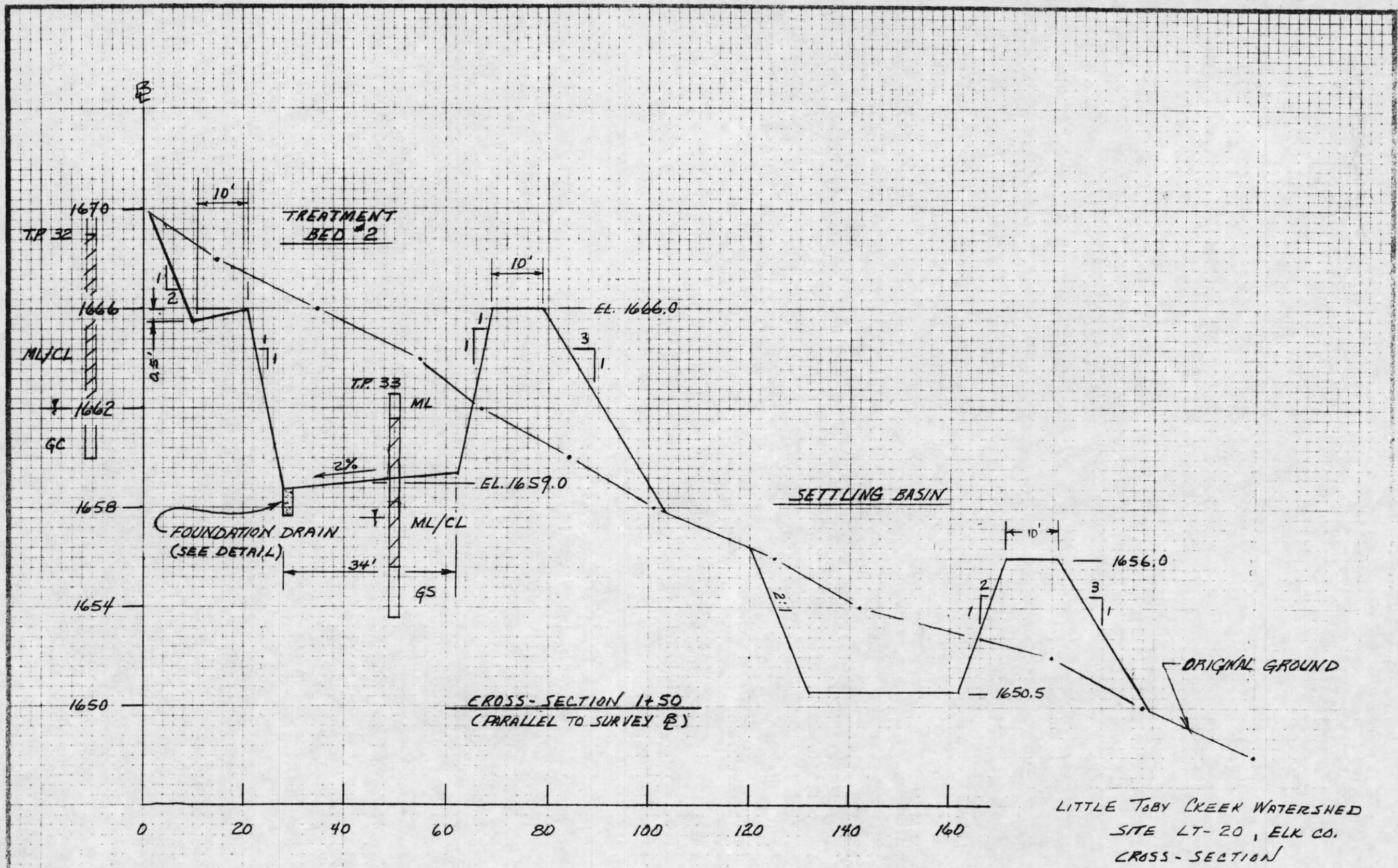
DEP-2
 1656.96



CROSS-SECTION 2+20
(PARALLEL TO SURVEY B)

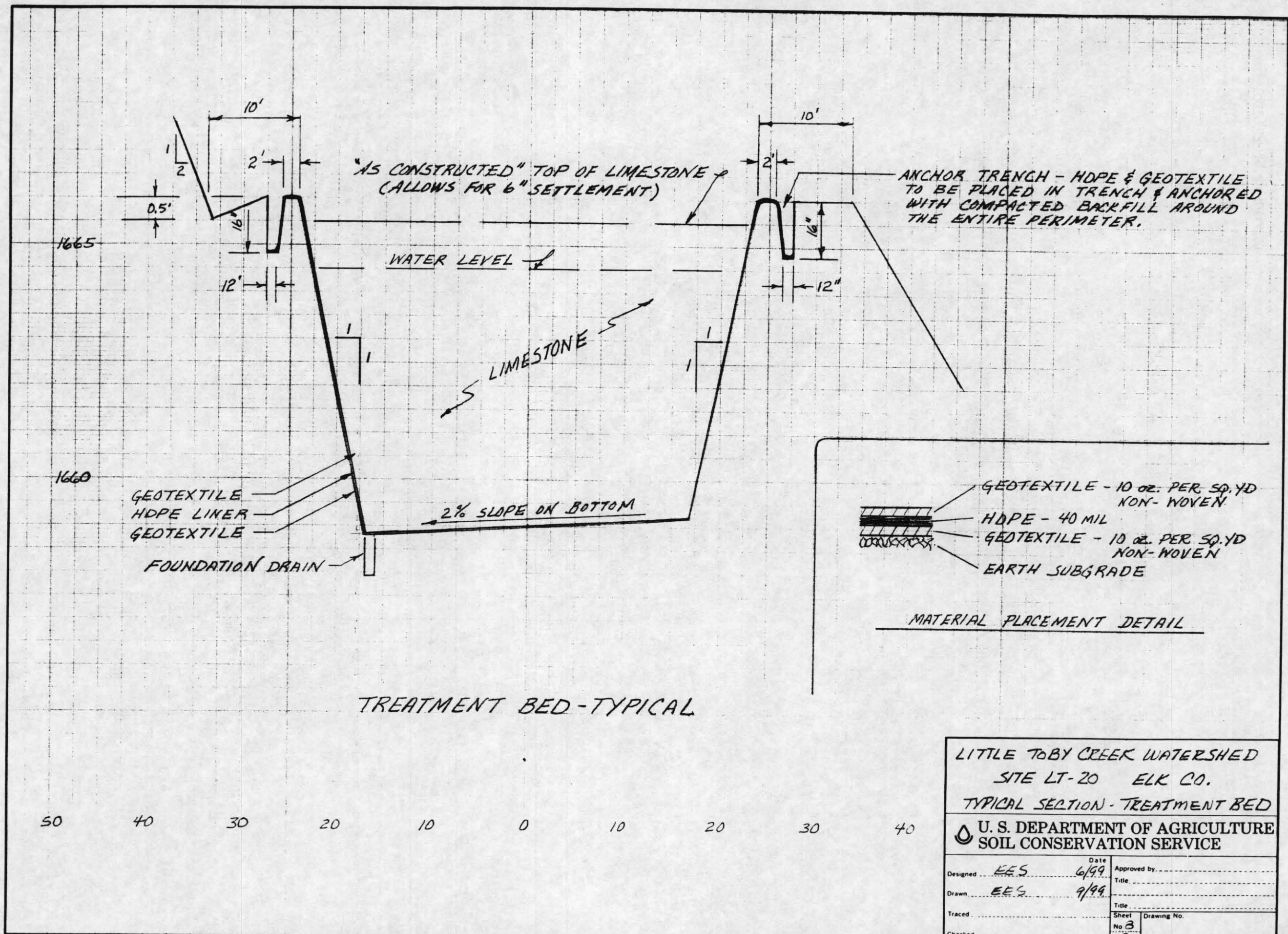
LT. TOBY CREEK WATERSHED
SITE LT-20, ELK CO.
CROSS-SECTIONS

EES 6/99
EES 6/99

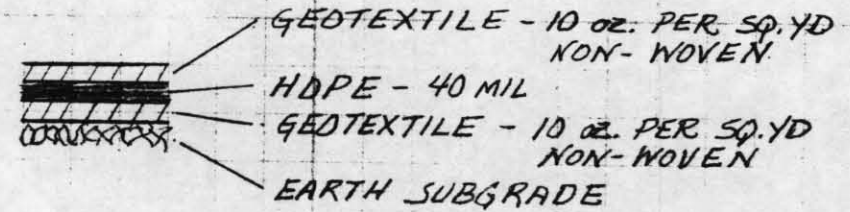


LITTLE TOBY CREEK WATERSHED
 SITE LT-20, ELK CO.
 CROSS-SECTION

EES 6/99
 EES 6/99



TREATMENT BED-TYPICAL



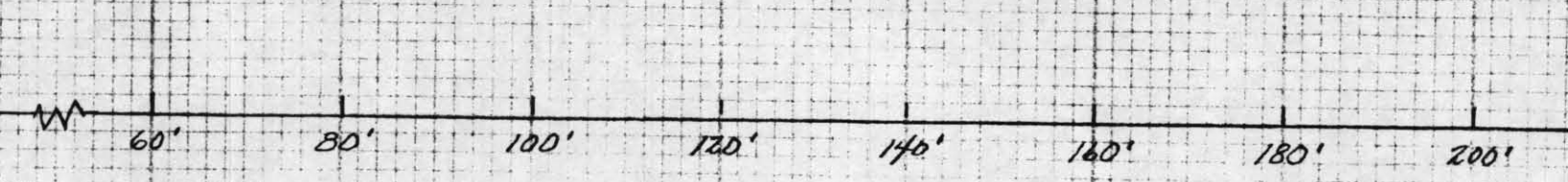
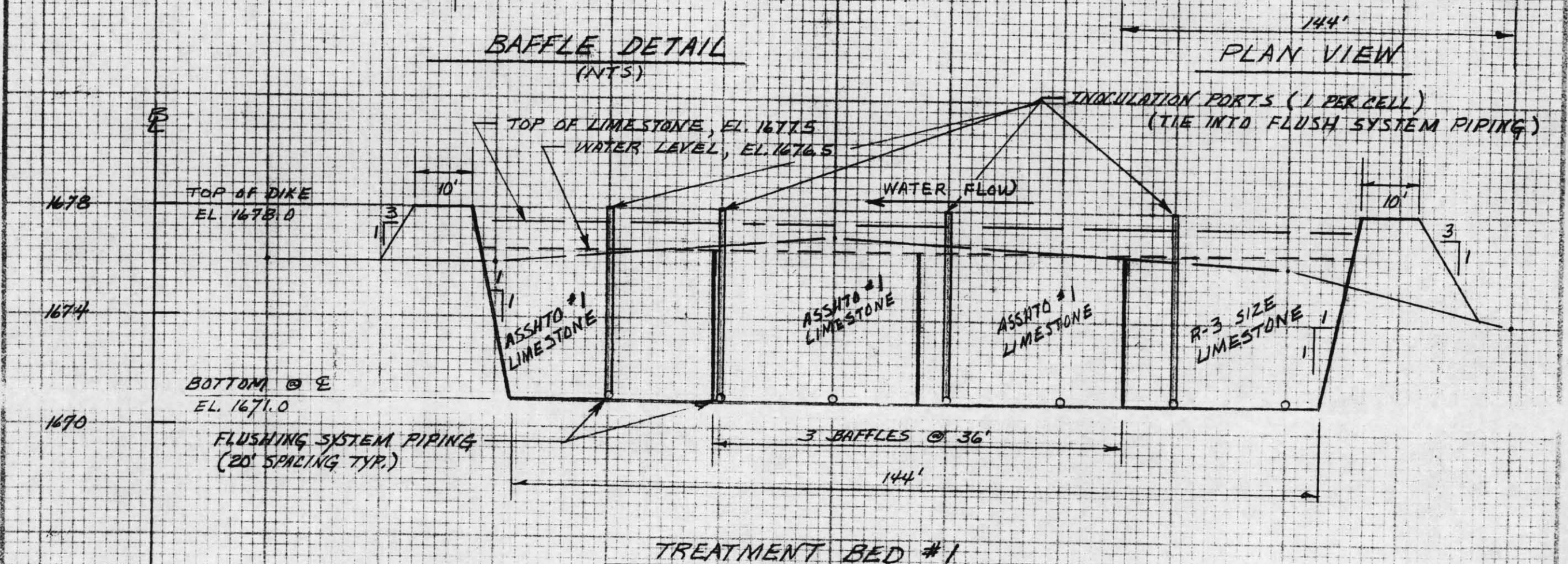
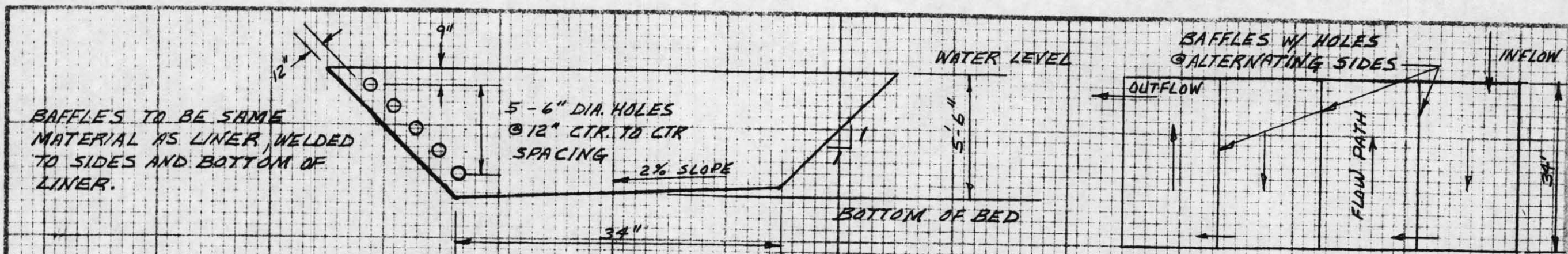
MATERIAL PLACEMENT DETAIL

50 40 30 20 10 0 10 20 30 40

LITTLE TOBY CREEK WATERSHED
 SITE LT-20 ELK CO.
 TYPICAL SECTION - TREATMENT BED

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 SOIL CONSERVATION SERVICE

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Drawn	EES	Date	9/99	Title	
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220 240 260 280

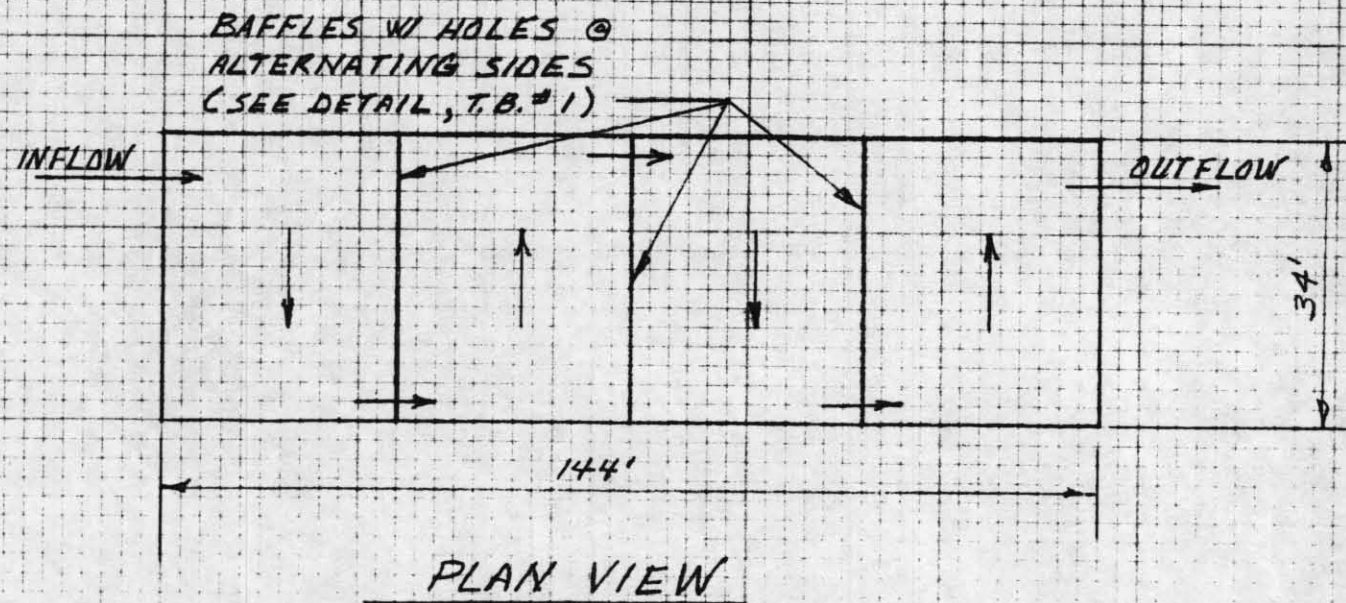
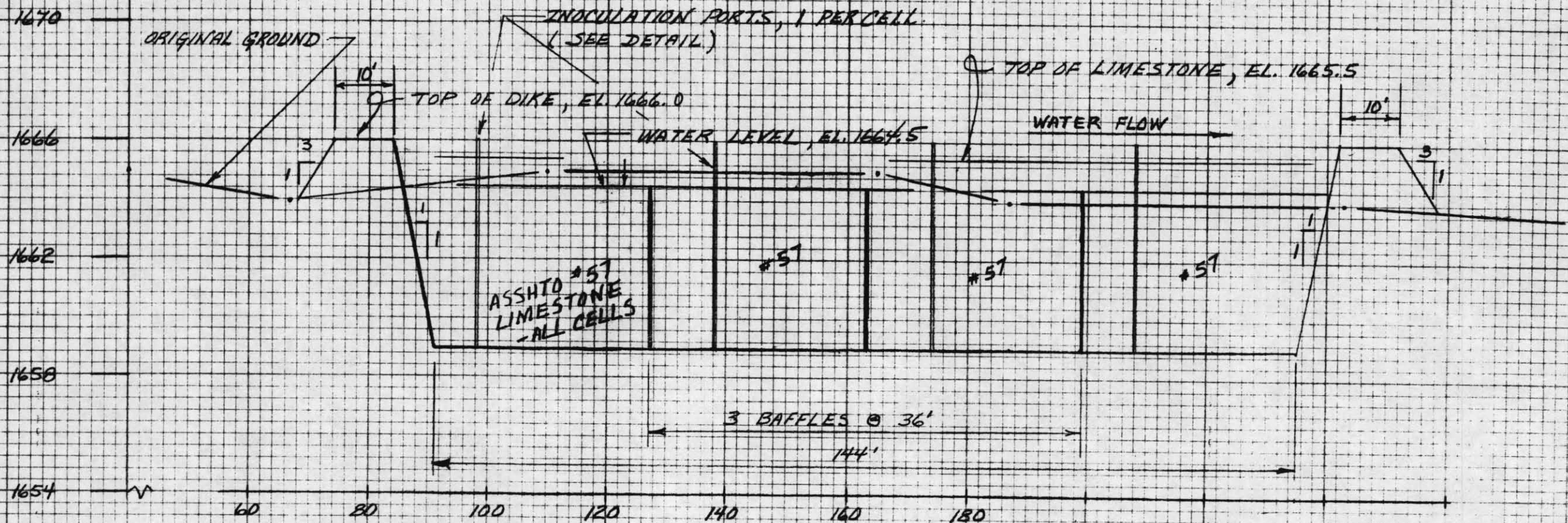
LITTLE TOBY CREEK WATERSHED
SITE LT-20 ELK CO.
TREATMENT BED #1

DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

EES 4/99
EES 6/99
REV. EES 1/10/2000

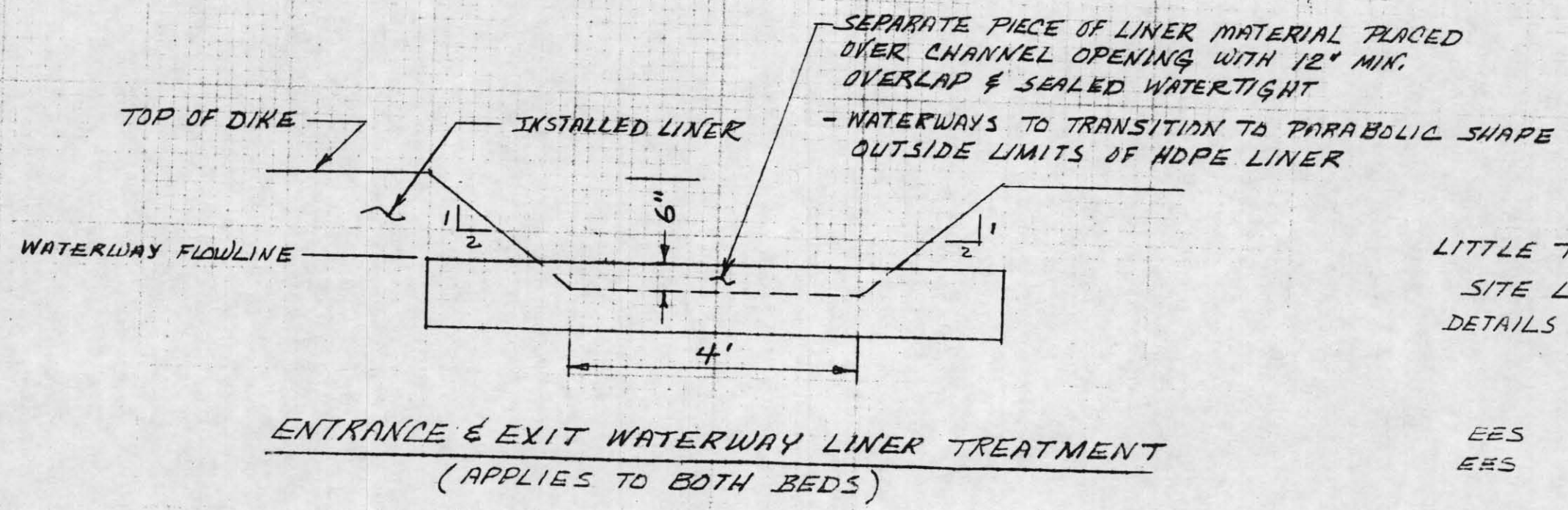
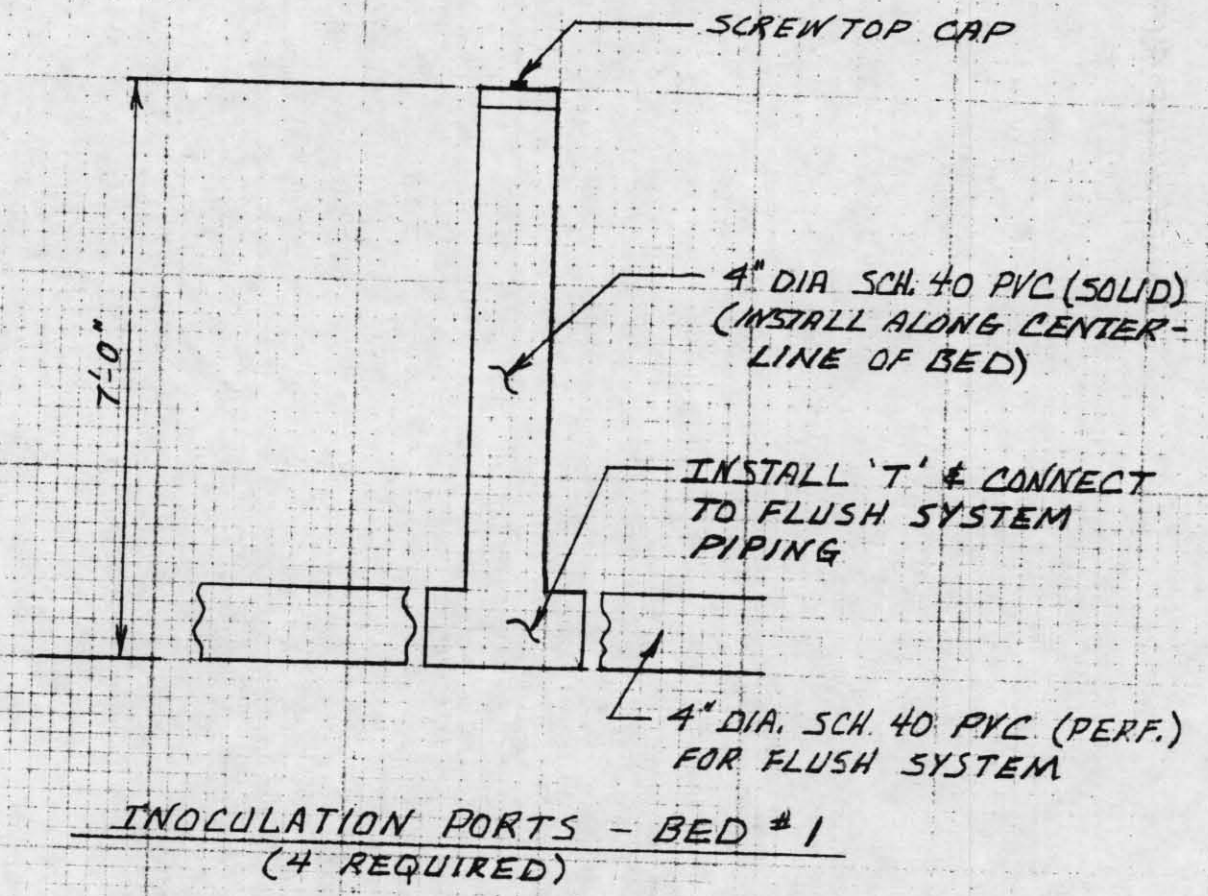
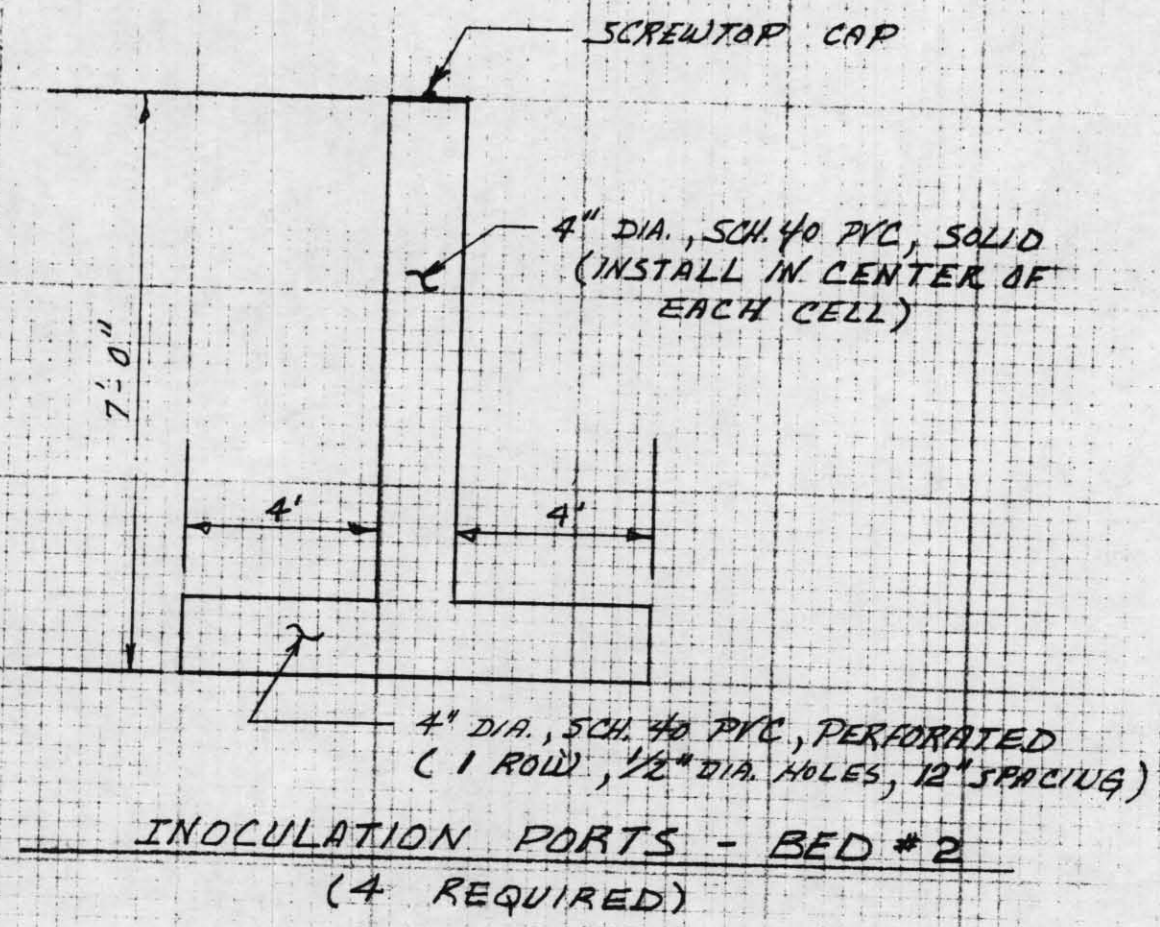
9
20

SURVEY
B



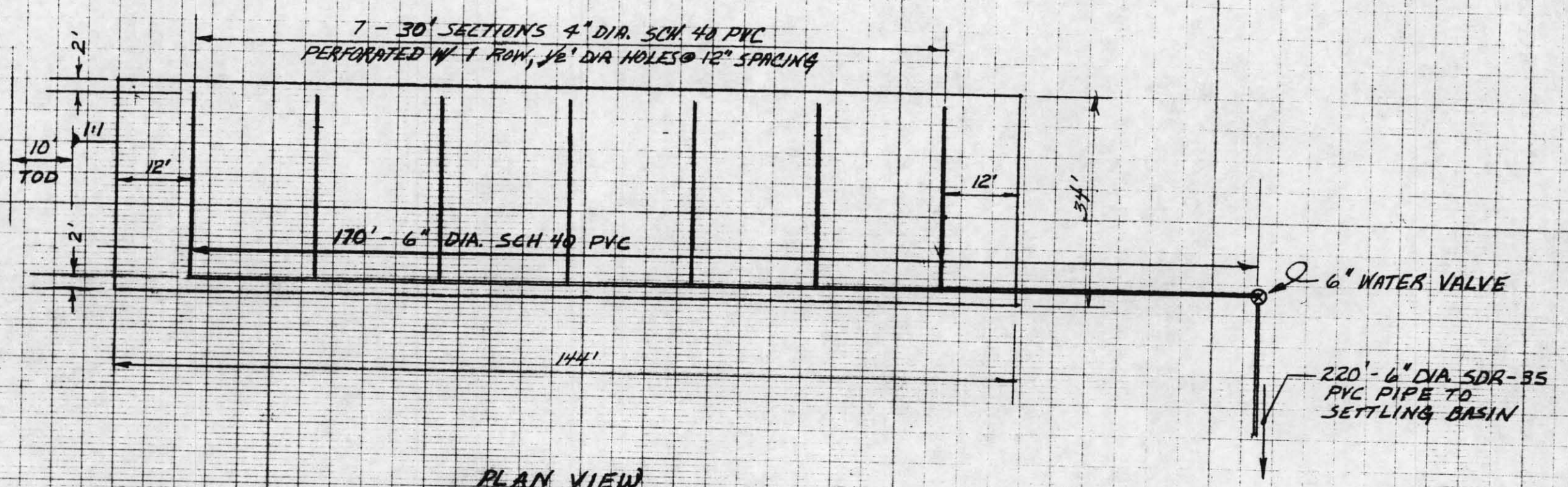
PLAN VIEW

LITTLE TOBY CREEK WATERSHED
SITE LT-20 ELK CO.
TREATMENT BED # 2
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
EES 4/99
EES 6/99
REV. EES 1/10/2000
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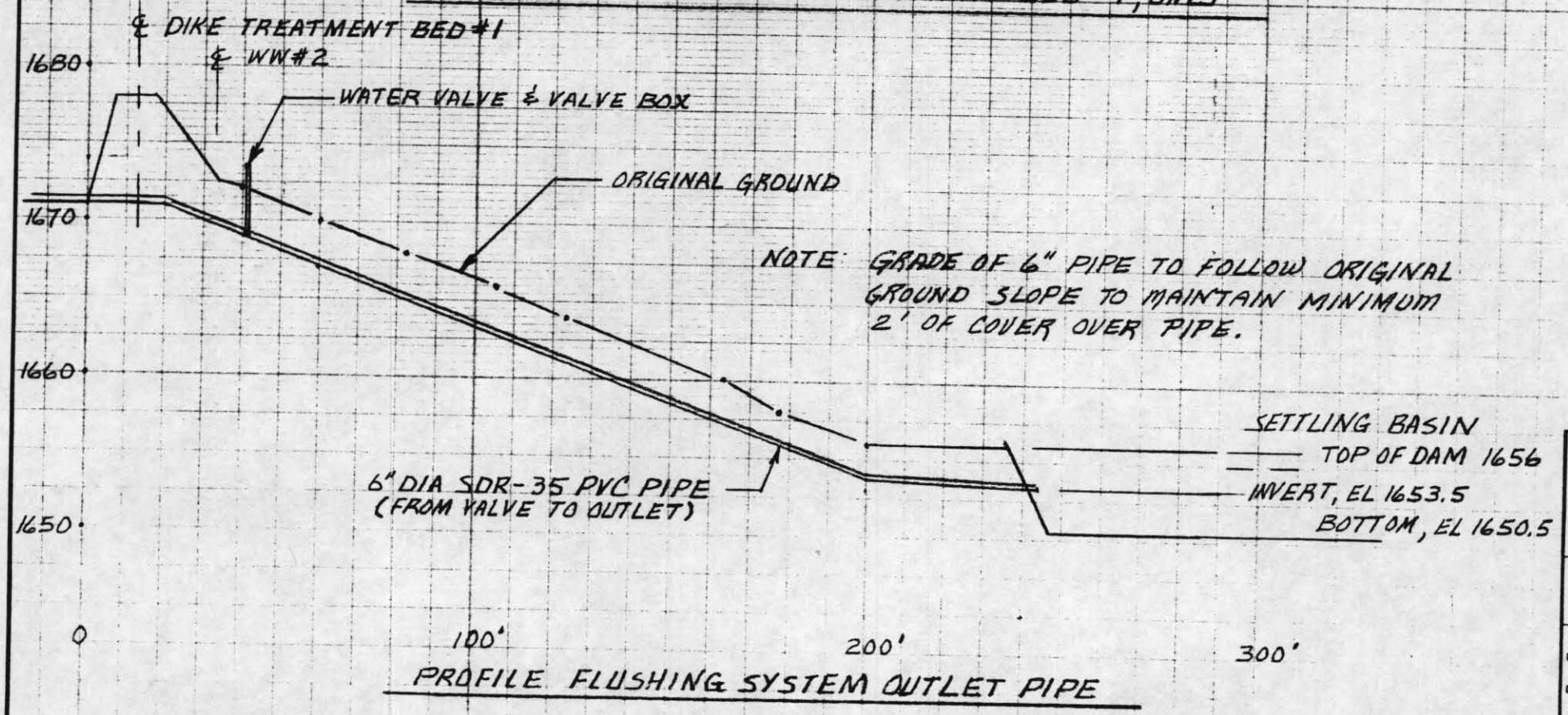


LITTLE TOBY CREEK WATERSHED
SITE LT-20 ELK CO.
DETAILS - INOCULATION PORTS

EES 9/99
EES 9/99



PLAN VIEW
FLUSHING SYSTEM - TREATMENT BED #1, ONLY

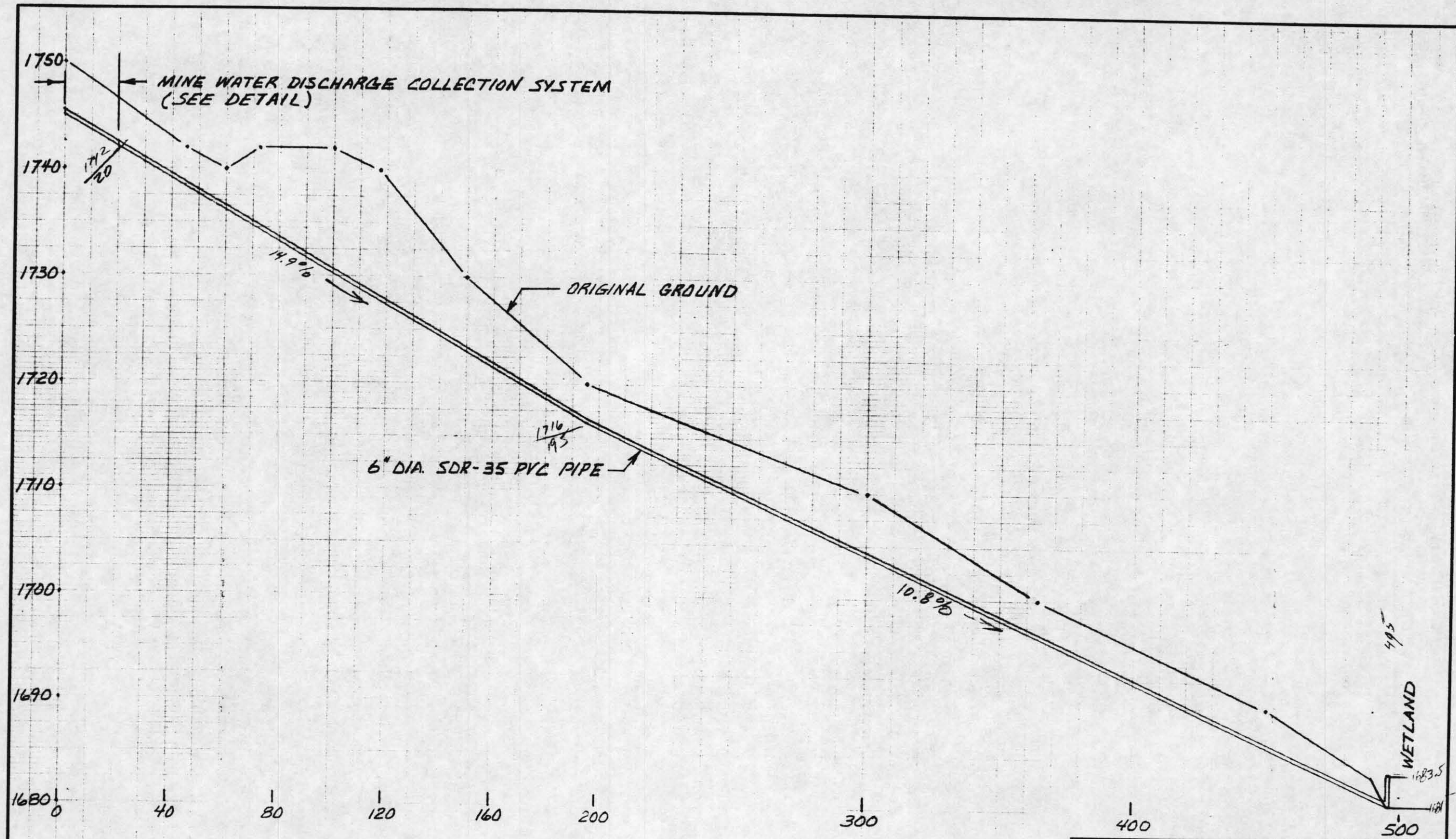


PROFILE FLUSHING SYSTEM OUTLET PIPE

LITTLE TOBY CREEK WATERSHED
 SITE LT-20 - ELK CO.
 FLUSHING SYSTEM LAY-OUT

U. S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE

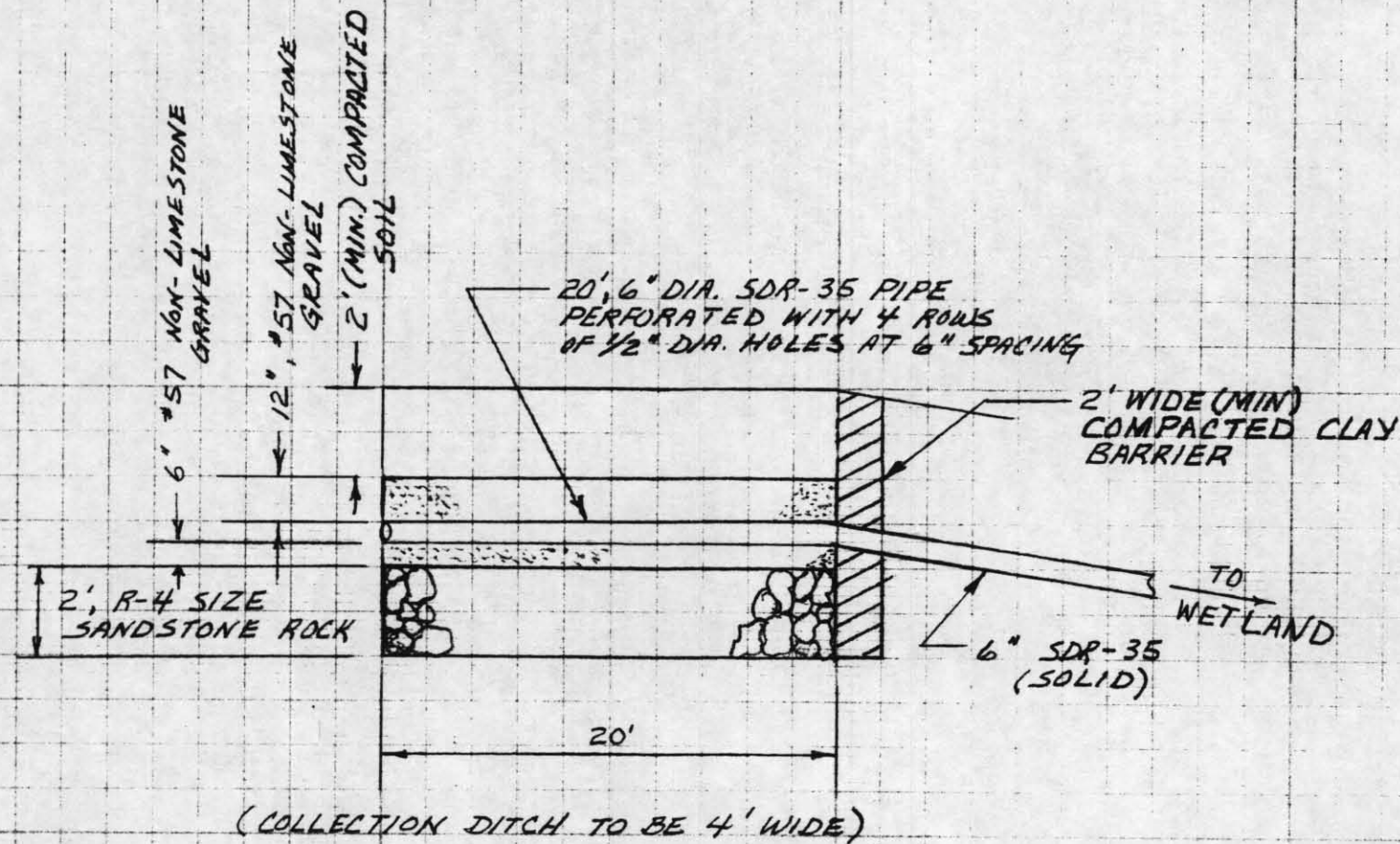
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REV. /	EES	Title	1/00		
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LITTLE TOBY CREEK WATERSHED
 SITE LT-20 ELK CO., PA.
 PROFILE 6" DELIVERY PIPE

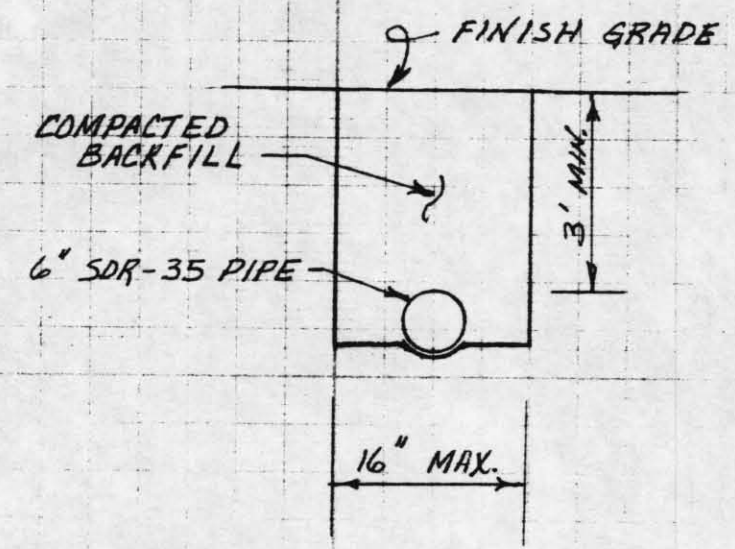
U. S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE

Designed <i>E.E.S.</i>	Date <i>9/99</i>	Approved by _____
Drawn <i>E.E.S.</i>	<i>9/99</i>	Title _____
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Checked _____		Sheet No. <i>3</i> of <i>20</i>
		Drawing No. _____

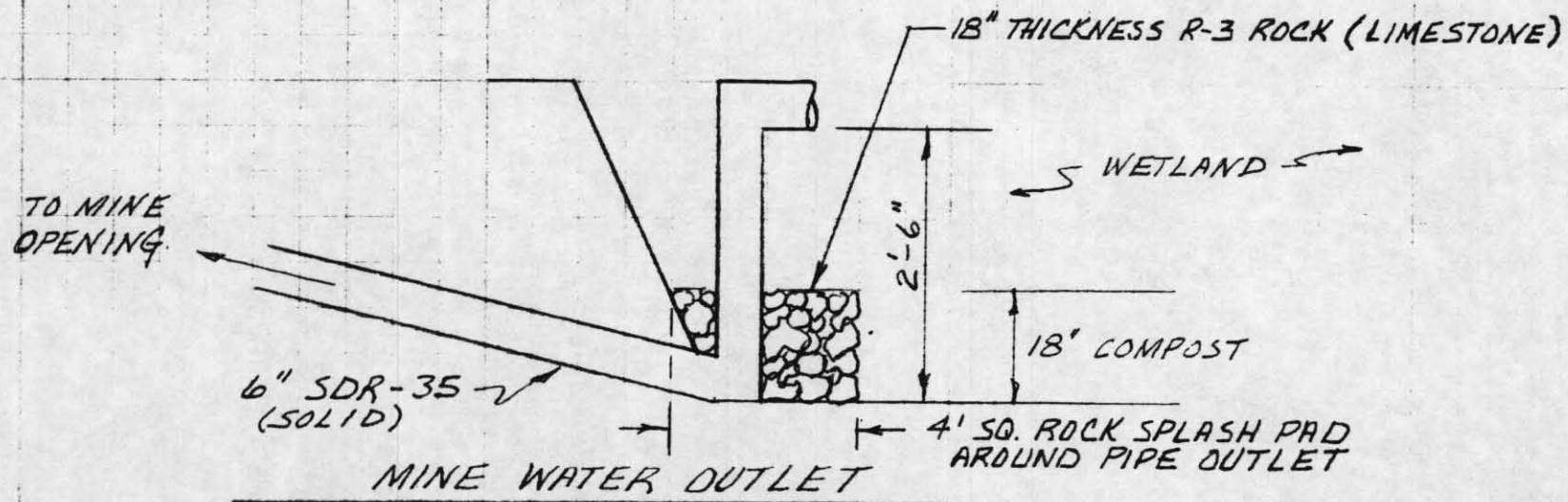


(COLLECTION DITCH TO BE 4' WIDE)

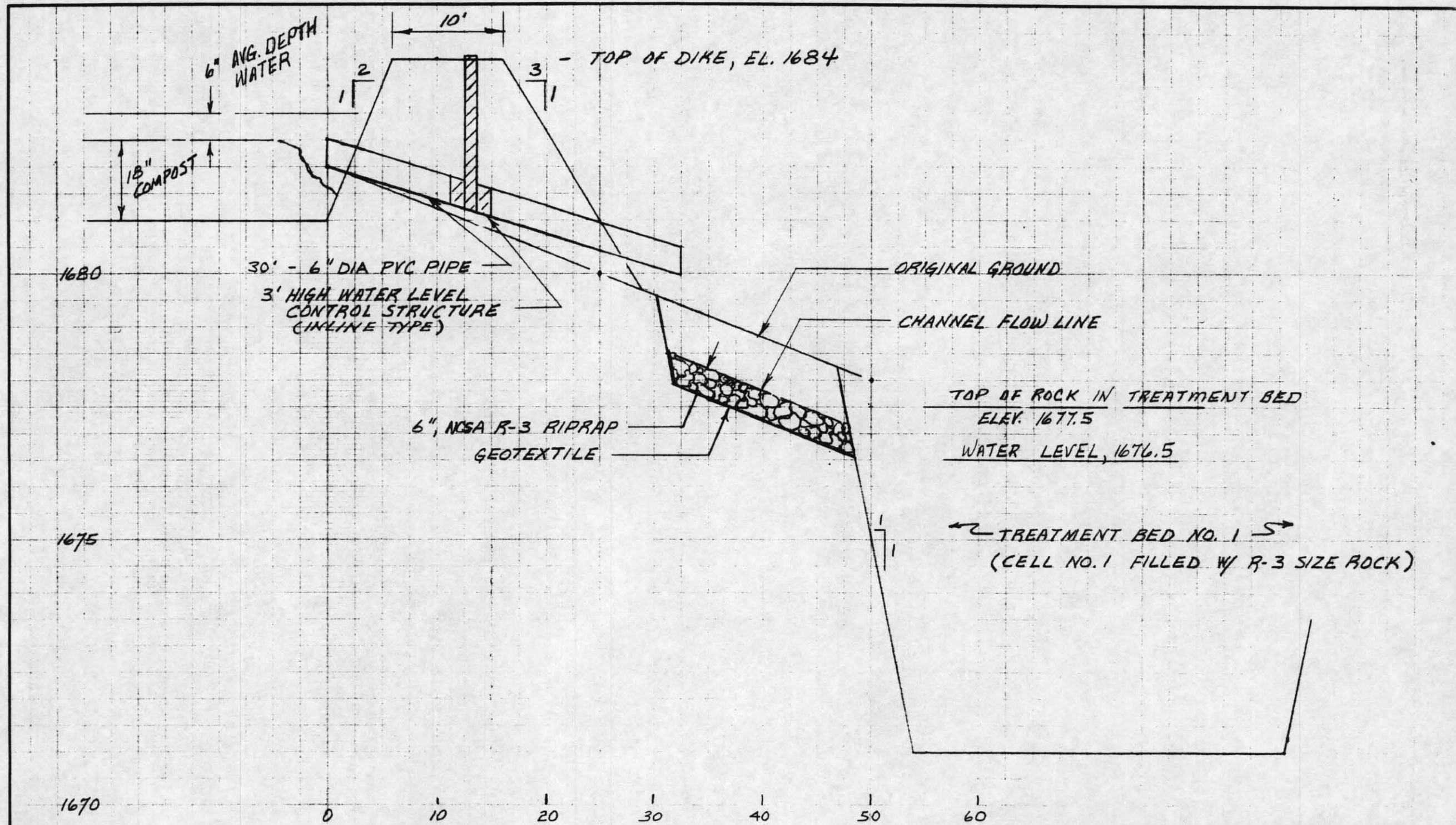
DEEP MINE DISCHARGE
WATER COLLECTION SYSTEM



INSTALLATION DETAIL
DELIVERY PIPE

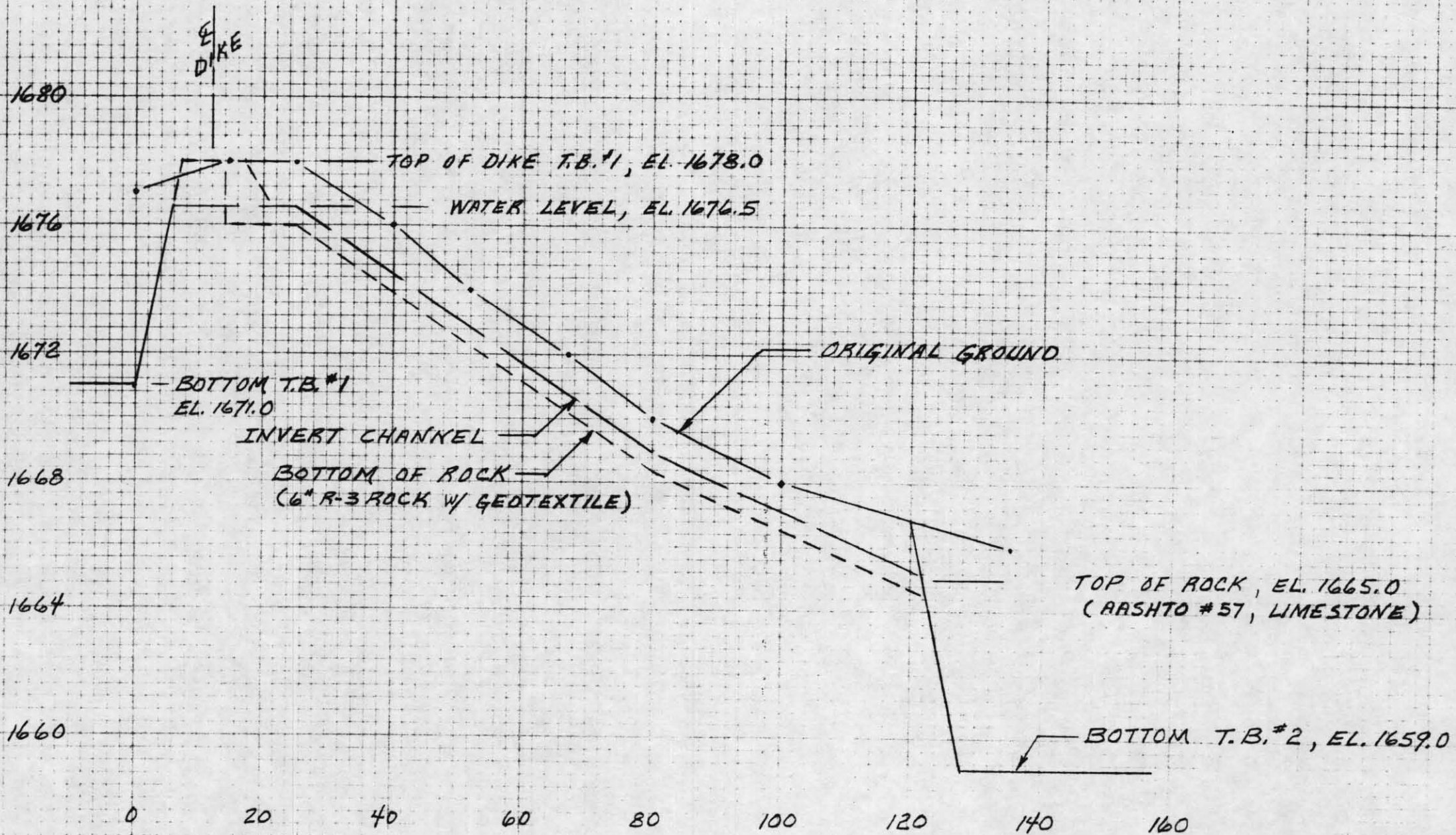


LITTLE TOBY CREEK WATERSHED			
SITE LT-20 ELK CO.			
DETAILS - MINE DISCHARGE PIPING			
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE			
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Drawn	EES	7/99	Title
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			Drawing No.



WATERWAY # 1 & WETLAND PIPING

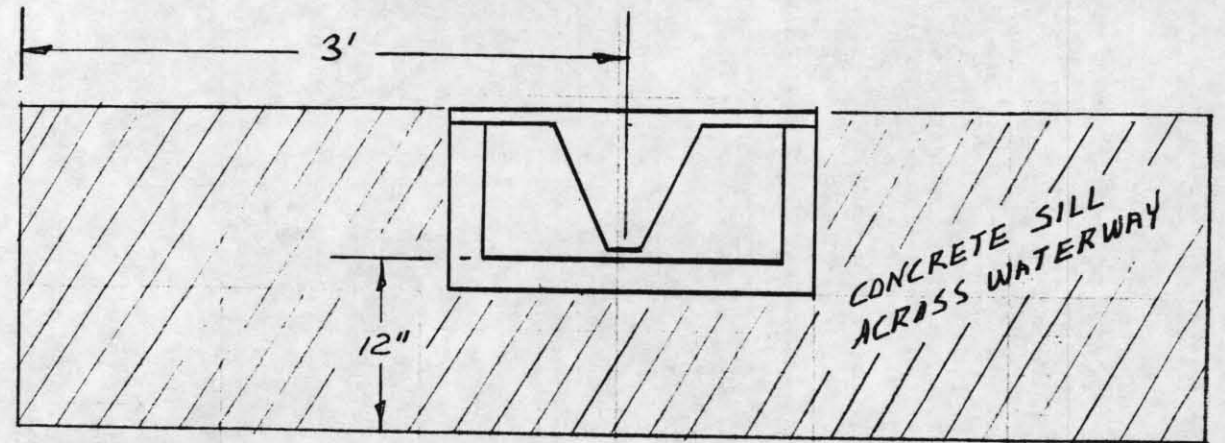
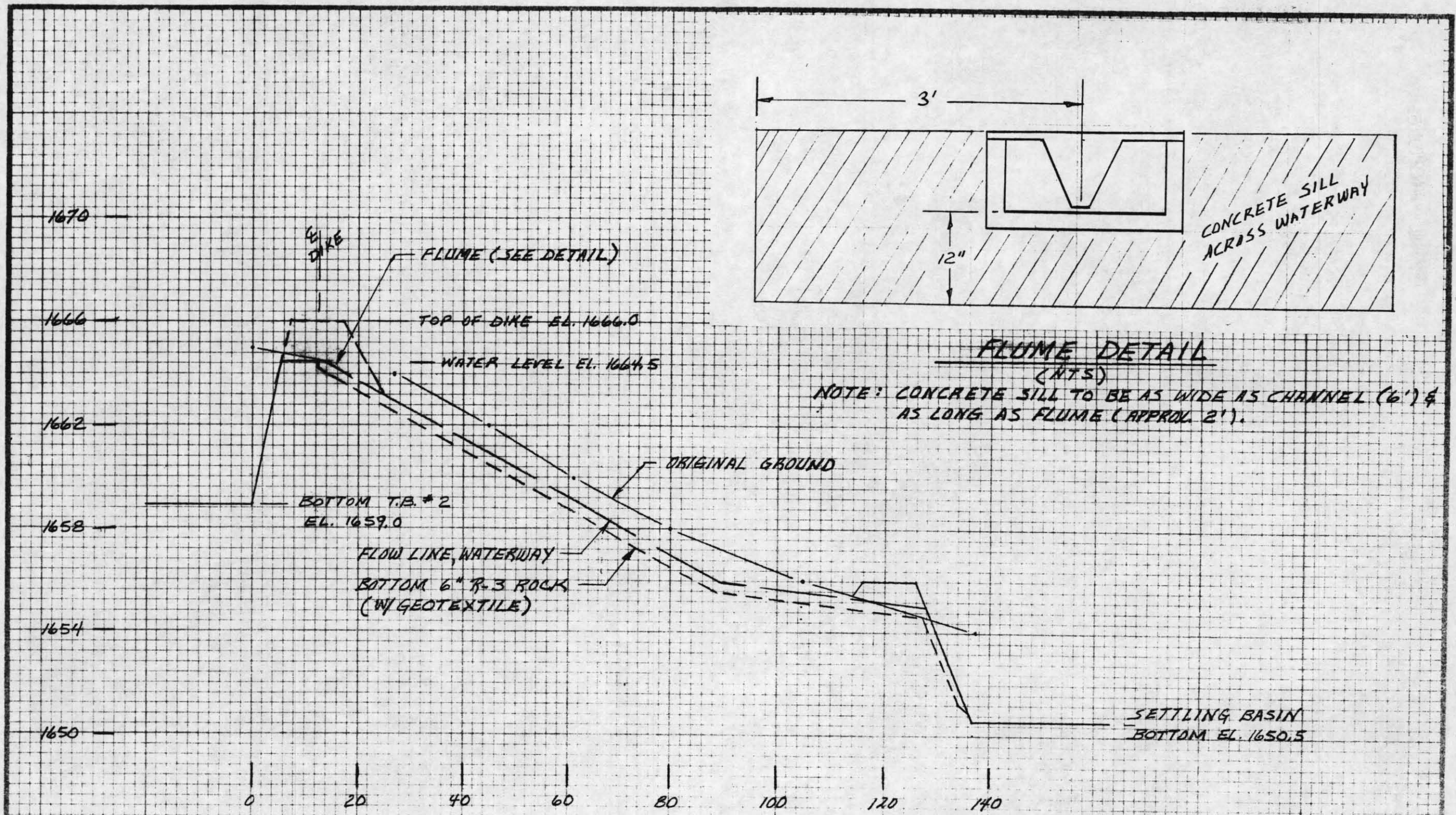
LT. TOBY CREEK WATERSHED			
SITE LT-20			
PROFILE WATERWAY # 1			
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE			
Designed	EES	Date 9/99	Approved by
Drawn	EES	9/99	Title
Traced			Title
Checked			Sheet No 15 of 20
			Drawing No.



PROFILE WATERWAY #2

LITTLE TOBY CREEK WATERSHED
 SITE LT-20 ELK CO.
 PROFILE - WW #2

EES 7/99
 EES 7/99



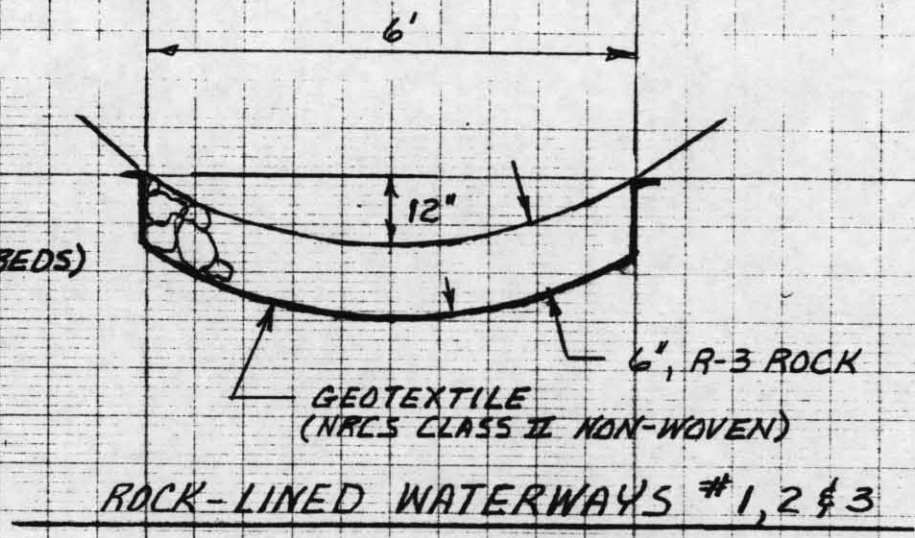
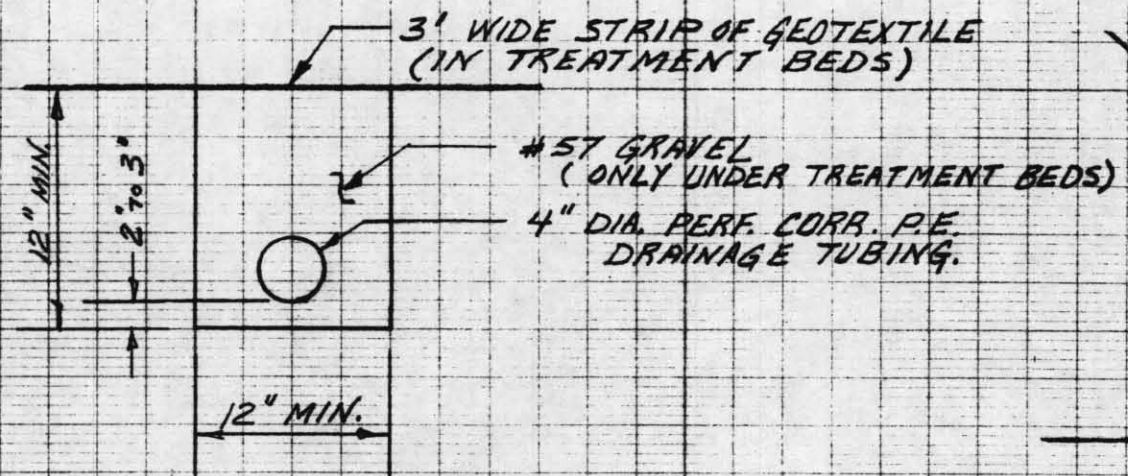
FLUME DETAIL
(NTS)
NOTE: CONCRETE SILL TO BE AS WIDE AS CHANNEL (6') & AS LONG AS FLUME (APPROX. 2').

PROFILE WATERWAY #3

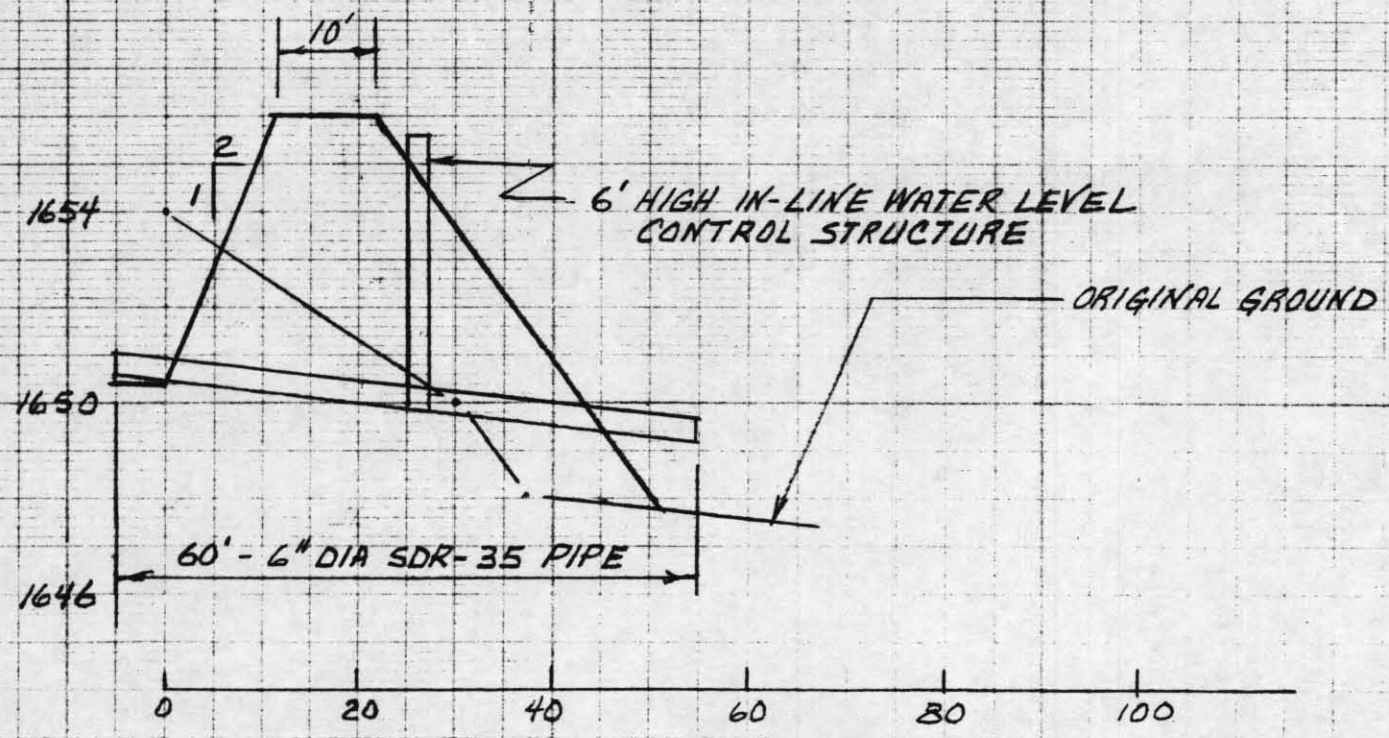
LITTLE TOBY CREEK w/s
SITE LT-20 ELK CO.
PROFILE - WW #3

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

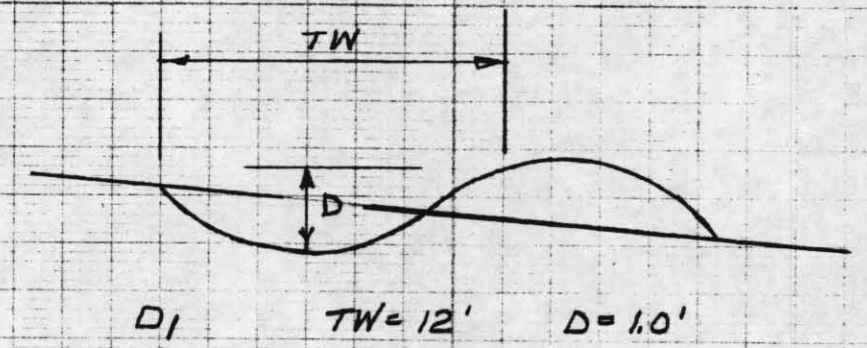
EES 1/2000
EES 1/2000



FOUNDATION DRAINS

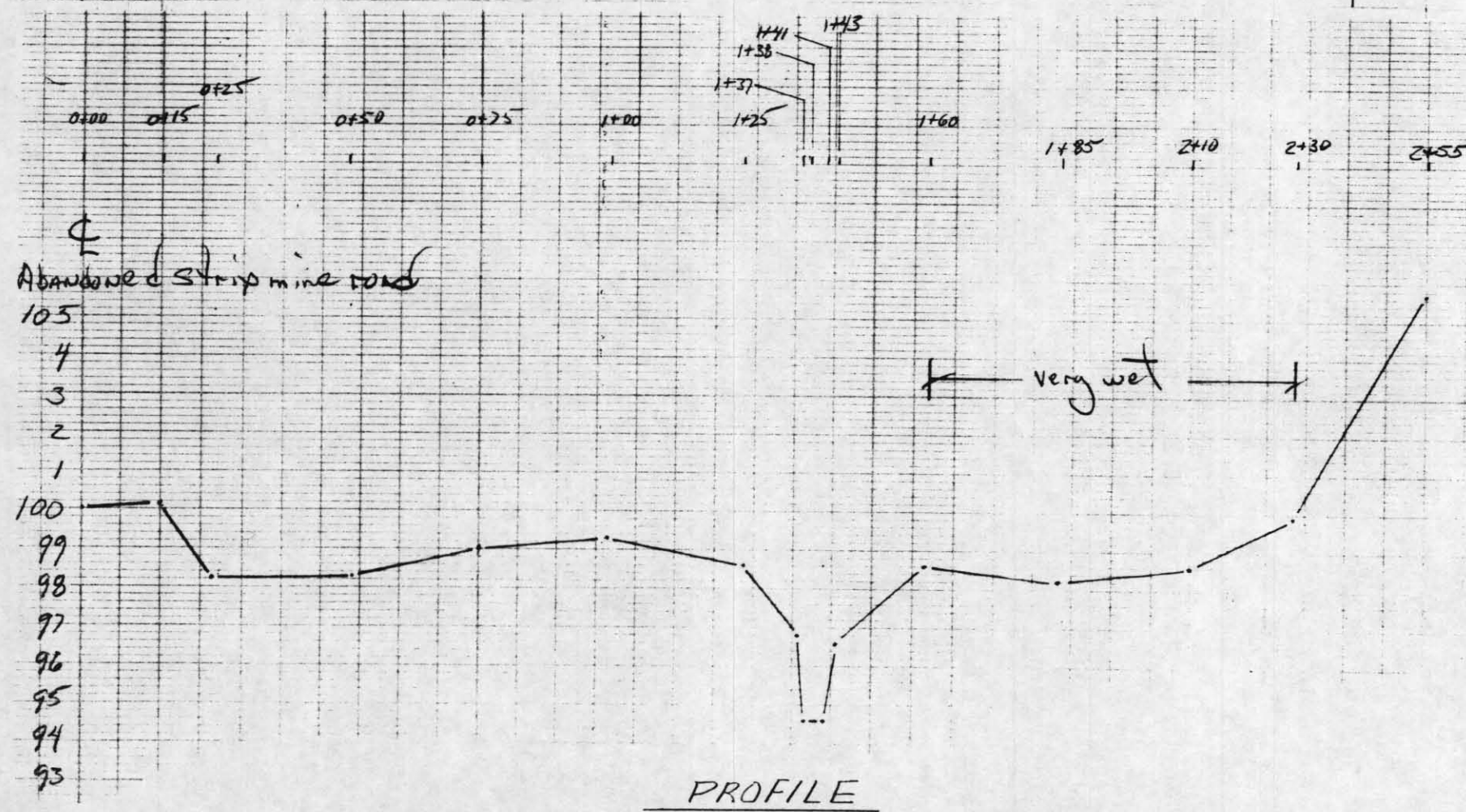
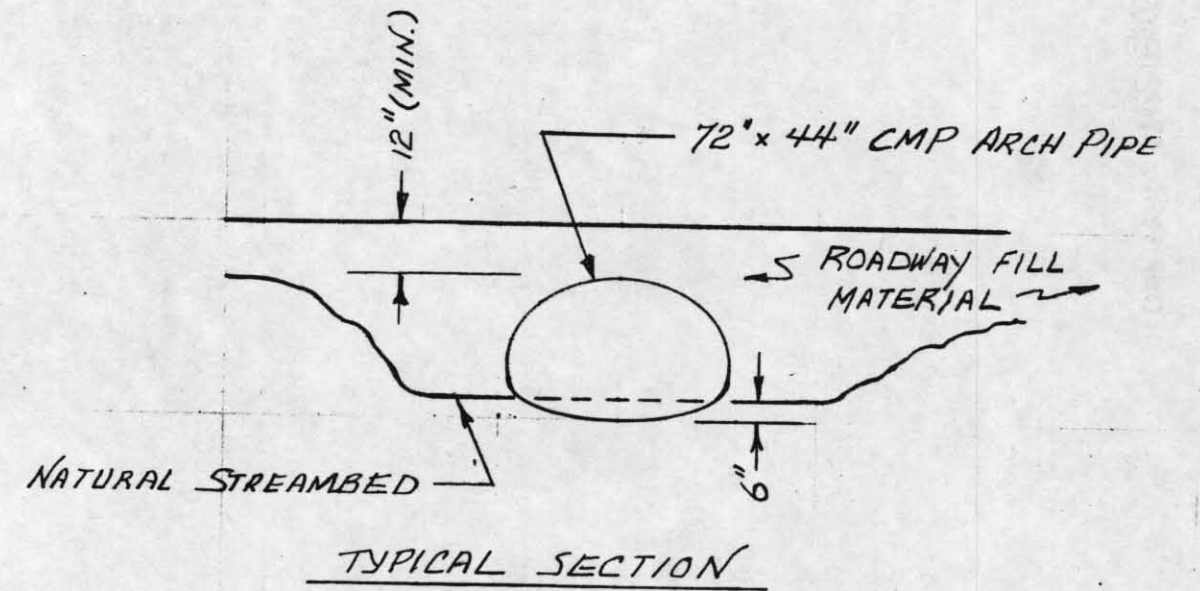
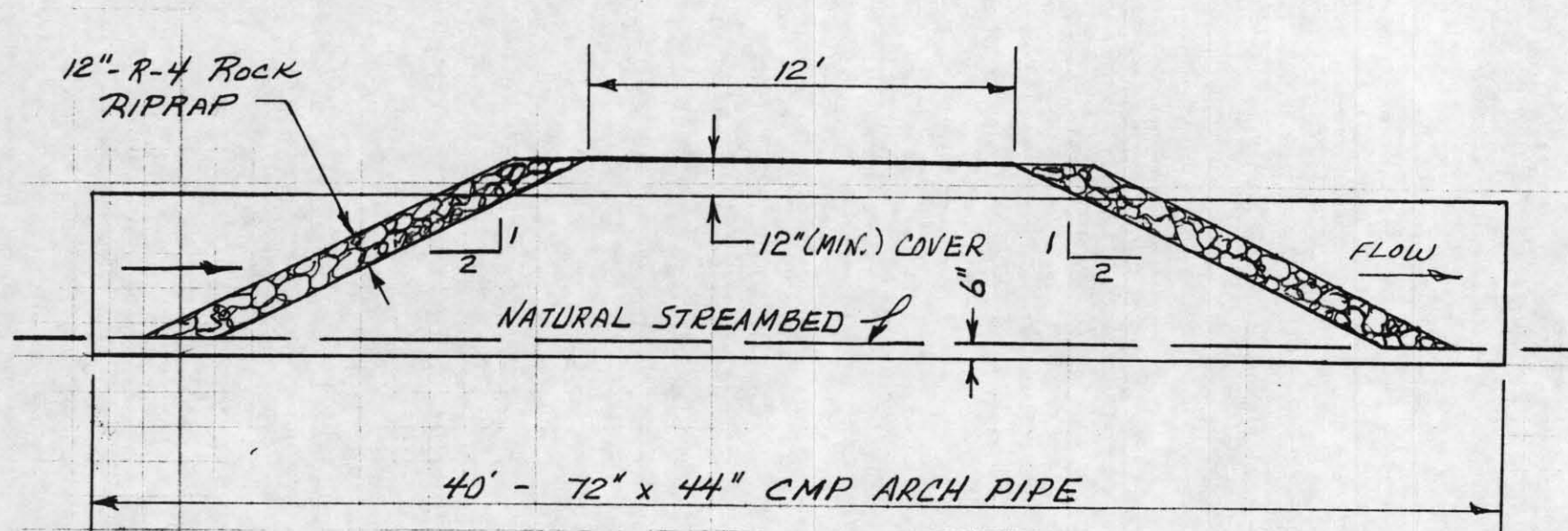


PROFILE SETTLING BASIN & OUTLET



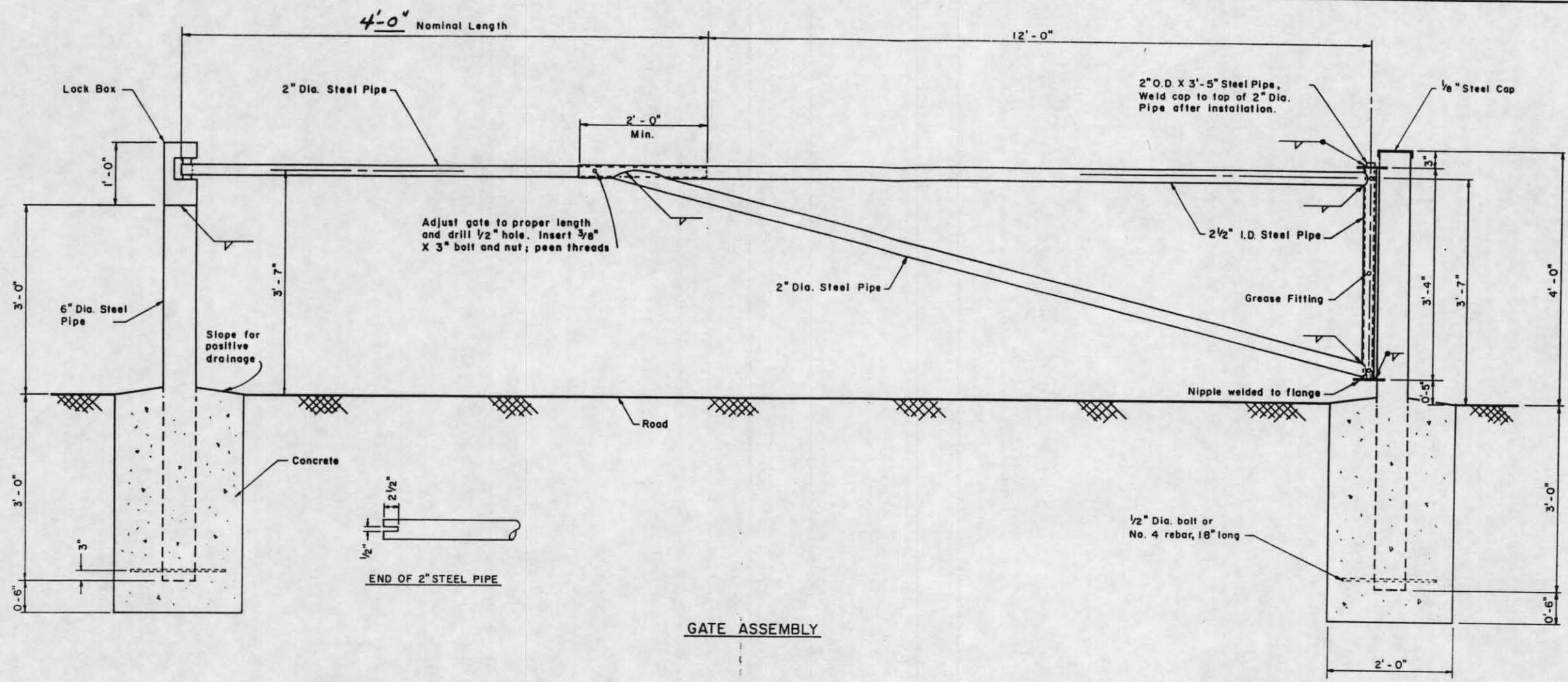
TYPICAL DIVERSION

LITTLE TOBY CREEK WATERSHED			
SITE LT-20		ELK CO.	
DETAILS - DRAINS & CHANNELS			
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE			
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Rev.	EES	1/00	Title
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			Drawing No.

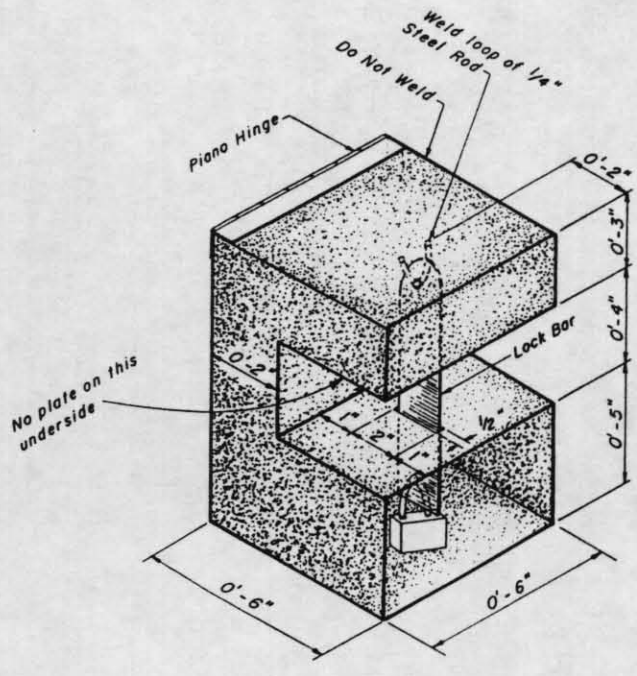


Road extends approx. to 4+00 to bottom end of project site

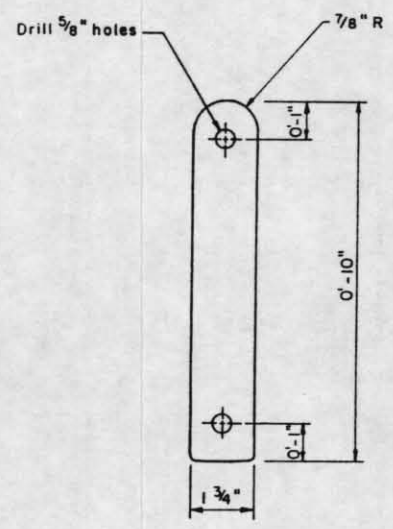
LITTLE TOBY CREEK WATERSHED AND SITE LI-20, ELK CO. MAINTENANCE ACCESS ROAD			
U. S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE			
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Checked			Sheet No. 19 of 79



GATE ASSEMBLY



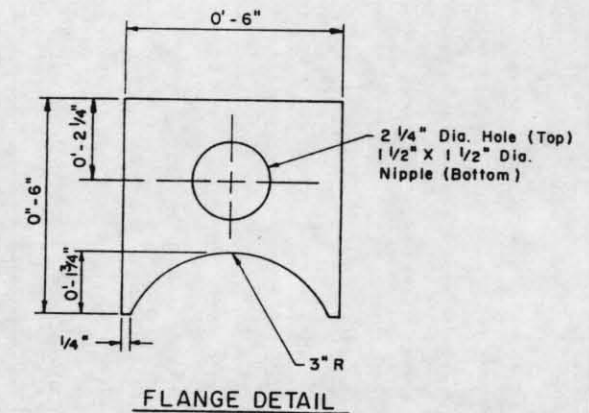
LOCK BOX
1/8" Steel Plate



LOCK BAR DETAIL
1/4" Steel Bar

CONSTRUCTION NOTES

1. Weld all joints on lock box, except top plate.
2. Install three grease fittings on 2 1/2" gate pipe, as shown.
3. To install gate, place 2 1/2" I.D. pipe between flanges; insert 2" O.D. Pipe thru top flange until it is in place on nipple. Field weld 2" pipe to top and bottom flange.
4. Length of 2 1/2" I.D. Pipe between flanges shall be 3'-3 1/2" accommodate welding of 2" pipe to bottom flange.
5. All pipe sizes are nominal - adjust any adjacent plate connections to fit actual dimensions.
6. Gate shall be painted with a highly visible paint.



FLANGE DETAIL

LITTLE TOBY CREEK WATERSHED
AND SITE LT-20, ELK CO.
PIPE GATE DETAILS AND ASSEMBLY
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed	Coleman, Hoffman, Wood, Dunn	Date	6/89	Approved by	
Drawn	DUNN	Date	6/89	Title	
Traced		Date		Title	
Checked	BOWERS	Date	6/89	Sheet	No. 20 of 20