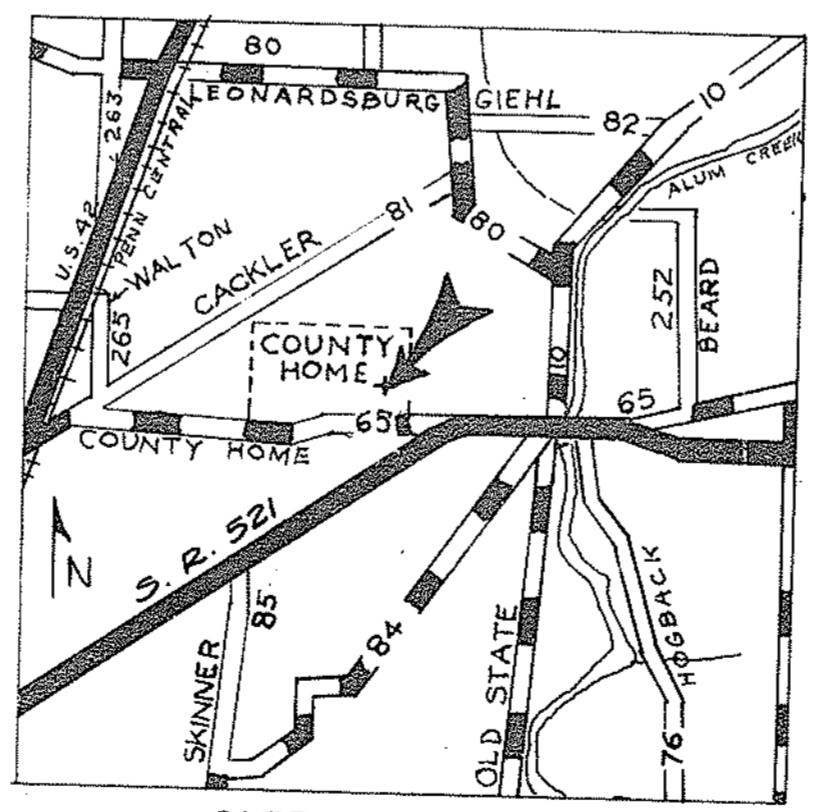


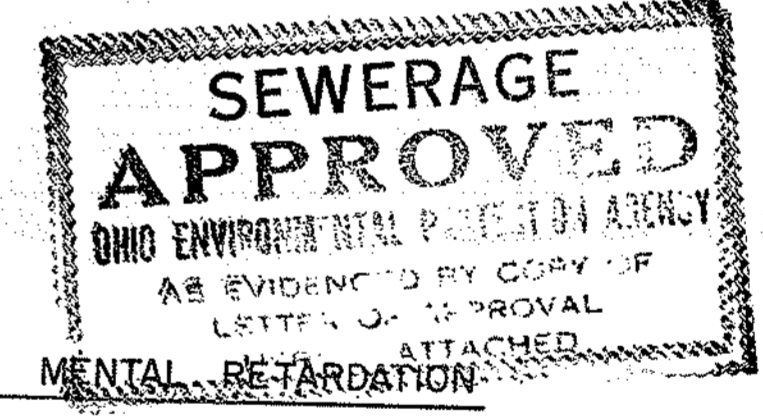
WASTEWATER TREATMENT FACILITIES  
FOR THE  
DELAWARE COUNTY HOME  
AND THE  
SCHOOL FOR THE MENTALLY RETARDED

APPROVALS

DELAWARE COUNTY COMMISSIONERS	
JAMES W. WHITNEY	_____
KENNETH R. REED	_____ DATE
W. DEAN MILLER - CHAIRMAN	_____
DELAWARE COUNTY SANITARY ENGINEER	
FRED L. STULTS, P.E.	_____ DATE
OHIO ENVIRONMENTAL PROTECTION AGENCY	
NED WILLIAMS, P.E. - DIRECTOR	_____ DATE



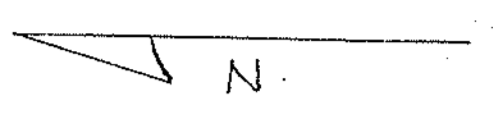
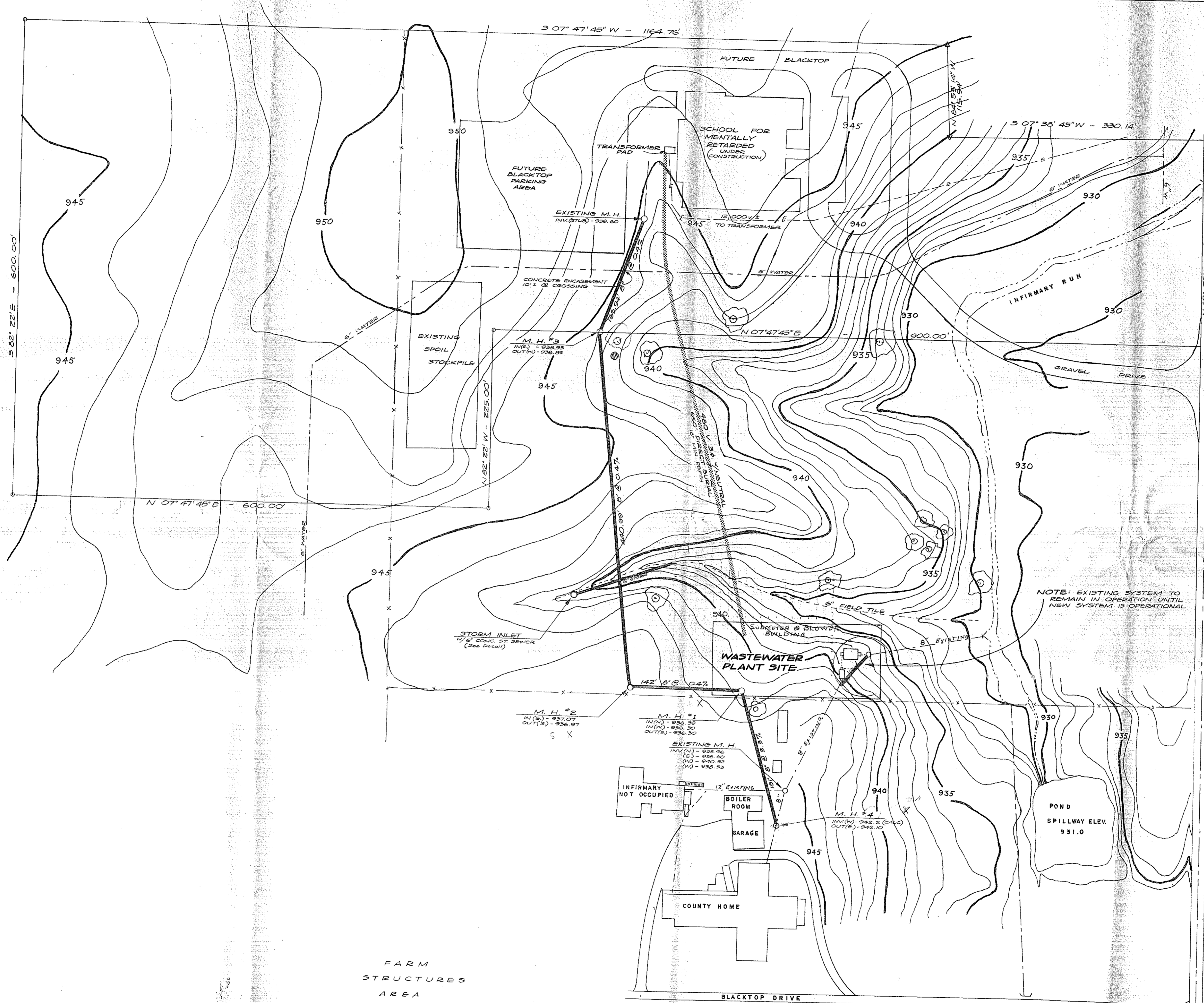
SITE LOCATION  
BROWN TOWNSHIP  
DELAWARE COUNTY



DELAWARE COUNTY BOARD OF MENTAL RETARDATION

MR. BYRON K. O'BEAR	MRS. HARRY A. BARGER
MR. RICHARD AVEY	MR. HOWARD BRICKER
MR. RICHARD NEWMAN	MR. MERLE LAW
DR. DAVID GREEN	MR. JACK PEALER JR. - DIRECTOR

PREPARED BY  
DELAWARE COUNTY ENGINEER  
FRED L. STULTS, PE, RS.  
COUNTY ENGINEER  
GARY W. GILBERT, P.E.  
ASSISTANT SANITARY ENGINEER  
DATE Aug 25, 1975

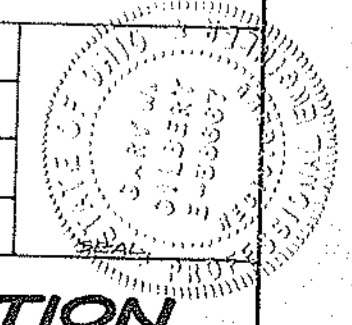


**SEWERAGE  
APPROVED**  
OHIO ENVIRONMENTAL PROTECTION AGENCY  
AS EVIDENCED BY COPY OF  
LETTER OF APPROVAL  
HERETO ATTACHED

RECEIVED  
AUG 27 1975  
Ohio Environmental Protection Agency

**RECEIVED**  
AUG 27 1975  
Ohio Environmental Protection Agency  
CENTRAL DISTRICT OFFICE

**DELAWARE COUNTY ENGINEER**  
CO. ENG. - FRED L. STULTS, P.E., P.S.  
ASST. - GARY W. GILBERT, P.E.  
DRAWN BY  
CHECKED BY *Gary W. Gilbert*  
ENGINEER  
SCALE 1" = 60'  
**SEWERAGE COLLECTION  
& UTILITY PLAN**  
August 25, 1975 DATE SHEET 2 OF



FARM  
STRUCTURES  
AREA

**DESIGN CRITERIA**

AERATION TANKS		
HYD.	COUNTY HOME - 50 PERSONS @ 150 GPD	7500 GPD
	COUNTY HOME STAFF - 17 PERSONS @ 100 GPD	1700 GPD
	SCHOOL - STUDENTS & STAFF 200 @ 20 GPD	4000 GPD
		<b>13,200 GPD</b>
B.O.D	COUNTY HOME - 50 PERSONS @ 0.25 LB/DAY	12.50 LB.
	COUNTY HOME STAFF 17 " @ 0.17 LB/DAY	2.89 LB.
	SCHOOL 200 " @ 0.06 LB/DAY	12.00 LB.
		<b>27.39 LB.</b>
	$27.39 \text{ LB./DAY} \times 80 \text{ FT.}^3/\text{LB.} = 2191.2 \text{ FT.}^3$	
	$2191.2 \text{ FT.}^3 \times 7.48 \text{ GAL./FT.}^3 = 16,390 \text{ GAL.}$	

AERATION PROVIDED = 20,000 GAL.

SETTLING CHAMBER SURFACE SETTLING RATE NOT TO EXCEED 110 G.P.D./FT.<sup>2</sup> AT AVERAGE FLOW OF 20,000 G.P.D.

**TRASH TRAP**  
 5% x 20,000 GAL. = 3000 GAL.  
 CAPACITY PROVIDED = 4000 GAL.

**SAND FILTER BEDS**  
 $20,000 \text{ GAL.} \div 11.5 \text{ G.P.D./FT.}^2 = 1739.13 \text{ SQ. FT.}$   
 AREA PROVIDED 4 BEDS 21 x 21 4 x 441 SQ. FT. = 1764.0 SQ. FT.

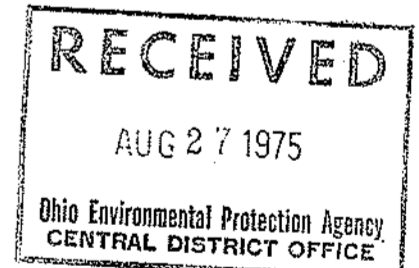
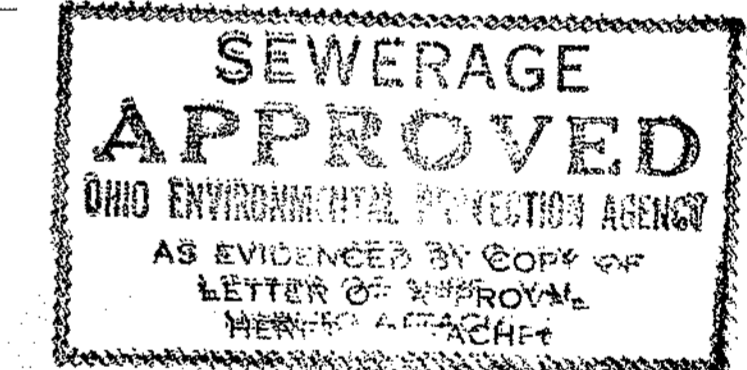
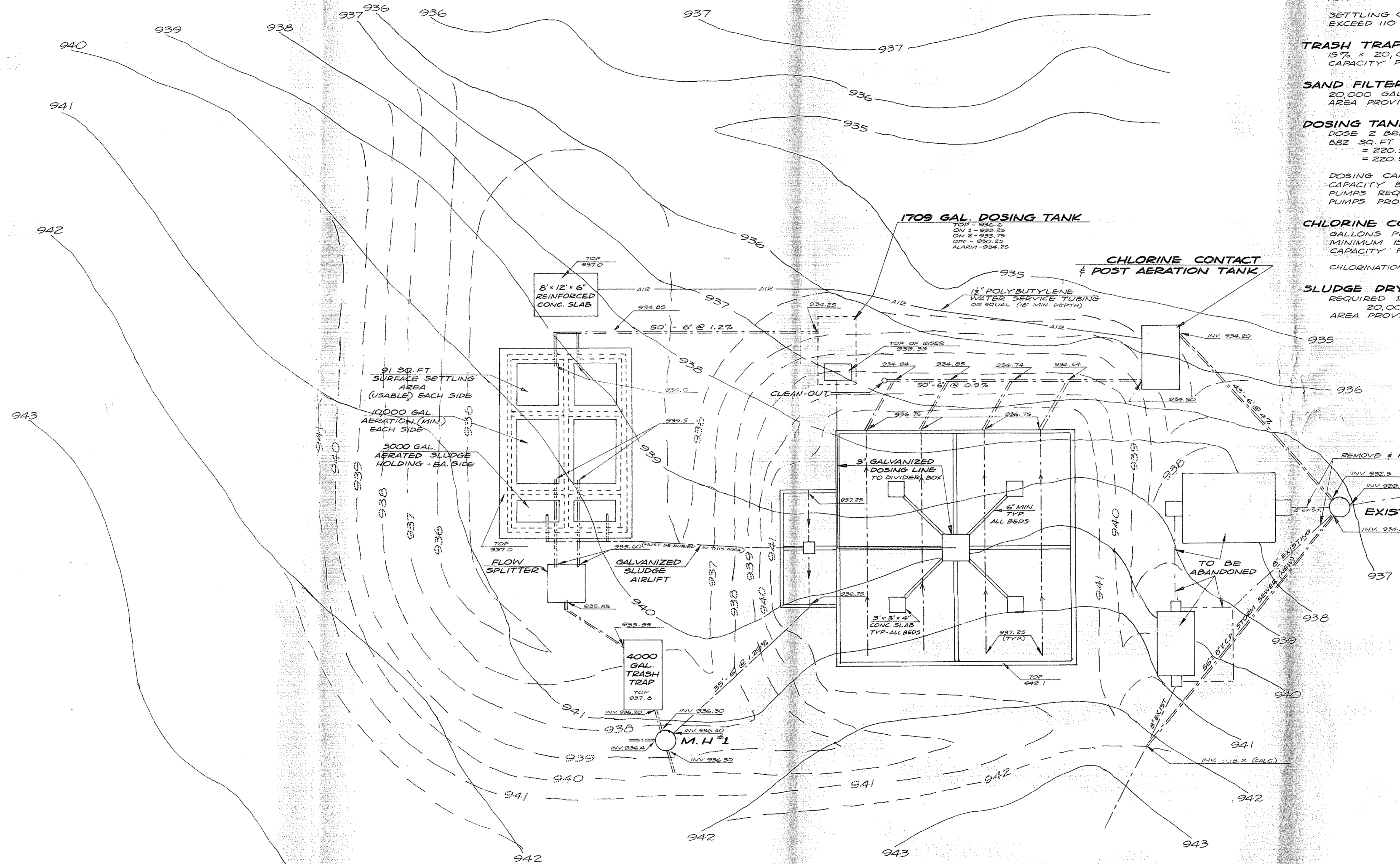
**DOSING TANK & PUMPS**  
 DOSE 2 BEDS / CYCLE  
 $8.82 \text{ SQ. FT.} \times 0.25 \text{ FT. DEPTH/DOSE} = 2.205 \text{ FT.}^3/\text{DOSE}$   
 $= 220.5 \text{ FT.}^3 \times 7.48 \text{ GAL./FT.}^3 = 1649.34 \text{ GAL./DOSE}$

DOSING CAPACITY PROVIDED = 1709.0 GAL.  
 CAPACITY BELOW INLET = 2560 GAL.  
 PUMPS REQUIRED 1650 GAL./10 MIN. = 165 G.P.M.  
 PUMPS PROVIDED 10 HP. - 15 T.D.H. = 180 G.P.M.

**CHLORINE CONTACT & POST AERATION**  
 GALLONS PER DOSE = 1650 / 9.2 MIN.  
 MINIMUM 15 MIN. DETENTION REQUIRED = 2690 GAL.  
 CAPACITY PROVIDED = 2850 GAL.

CHLORINATION - DRY CHLORINATOR (TABLET)

**SLUDGE DRYING BEDS**  
 REQUIRED 1 SQ. FT./100 GAL.  
 $20,000 \div 100 = 200 \text{ SQ. FT.}$   
 AREA PROVIDED = 200 SQ. FT.

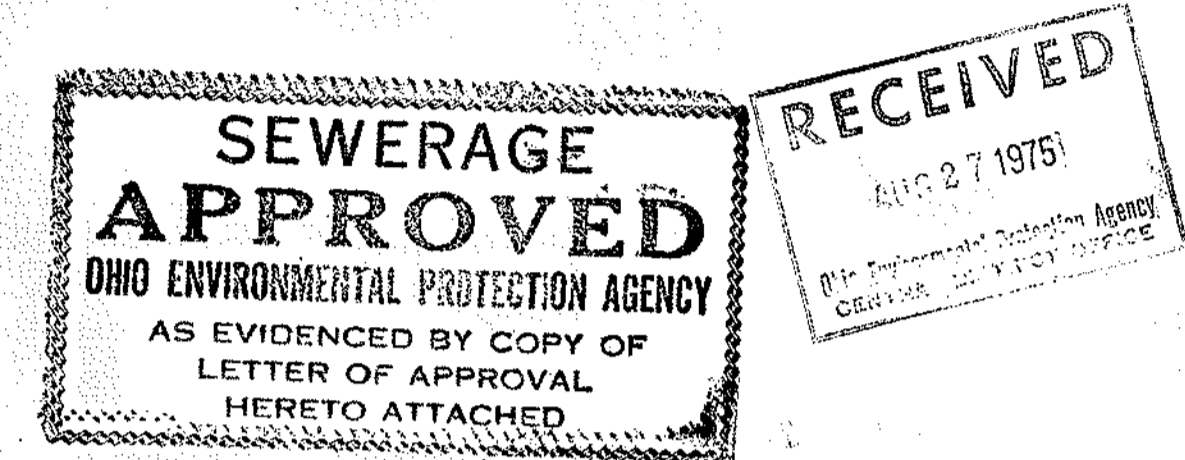
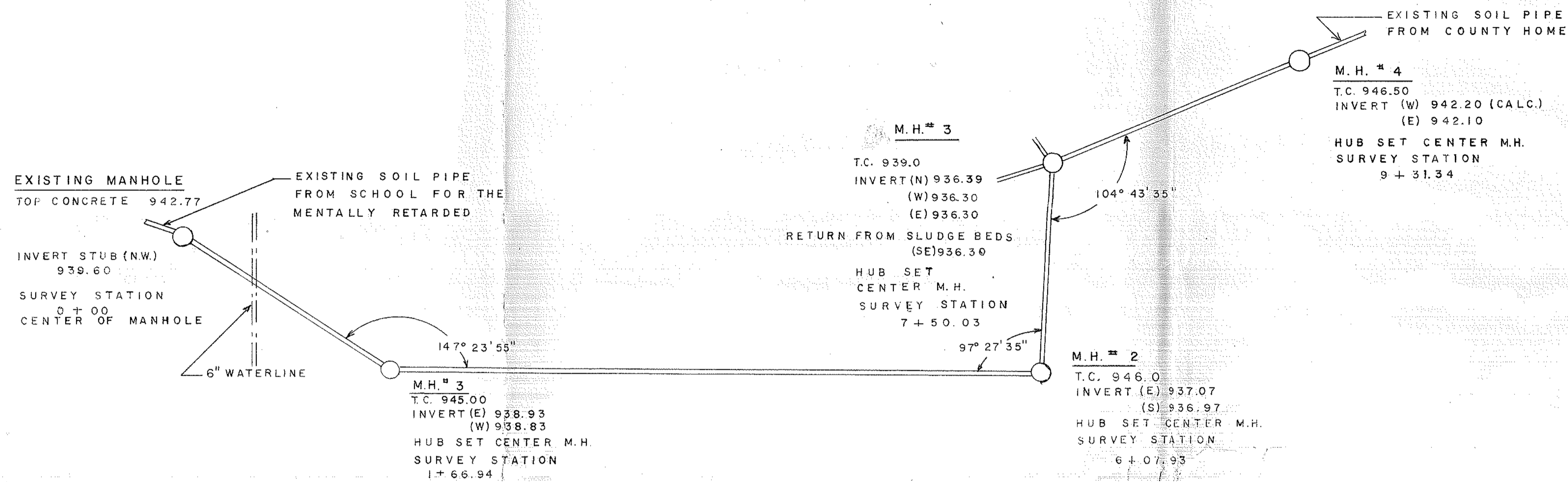


Note: 72" Chain link fencing with 3 STRANDS BARBED WIRE TO BE INSTALLED AROUND PERIMETER OF SYSTEM/with 1-10' Gate & 1-42" Gate

<b>DELAWARE COUNTY ENGINEER</b>	
CO. ENG. - FRED L. STULTS, P.E., P.S.	
ASST. - GARY W. GILBERT, P.E.	
DRAWN BY	
CHECKED BY	
ENGINEER <i>Gary W. Gilbert</i>	
SCALE 1" = 10'	
<b>SITE &amp; GRADING PLAN</b>	
August 25, 1975	SHEET 3 OF

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
FINAL SURVEY	
NOTE BOOK	
NO.	

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
ORIGINAL SURVEY	
NOTE BOOK	
NO.	



**DELAWARE COUNTY ENGINEER**

CO. ENG. - FRED L. STULTS, P.E., P.S.  
ASST. - GARY W. GILBERT, P.E.

DRAWN BY

CHECKED BY *Gary W. Gilbert*  
ENGINEER

SCALE - 1" = 5' VERT. 1" = 50' HOR.

**PROFILE**

August 25, 1975 DATE SHEET 4 OF

