

*E. D. Appolonia Consulting Engineers, Inc.*

DRAWINGS



10

11

UNITED STATES GEOLOGIC SURVEY  
7.5 MINUTE SERIES (TOPOGRAPHIC MAP)  
ERNEST, INDIANA, MCINTYRE & ELDRINGTON  
QUADRANGLES - SCALE: 1" = 2000'

REVISION	DESCRIPTION
GENERAL	
REVISION	
12-5-68	
AS BUILT	
10-26-71	

REFERENCE DRAWINGS

**NOTES**

- A CONTINUOUS BARRIER IS SHOWN WHERE ADJACENT MINES EXIST. NO MINES EXIST IN AREAS WHERE ADJACENT MINES OR CONTINUOUS BARRIERS ARE NOT SHOWN.
- SEE DWG. 70-108-M1 FOR SECTION PROFILES.

**LEGEND**

□	SHAFT LOCATION
○	BORE HOLE LOCATION
●	DIAMOND DRILL HOLE
—	APPROXIMATE LIMITS OF MINE
●●●●	CONTINUOUS BARRIER (SEE NOTE 1)
●●●●	PIEZOMETER LOCATIONS

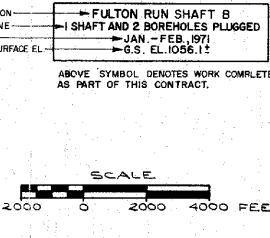
  

DESCRIPTION	—	FULTON RUN SHAFT B
WORK DONE	—	1 SHAFT AND 2 BOREHOLES PLUGGED
DATE	—	JAN - FEB, 1971
GROUND SURFACE EL.	—	G.S. EL. 1056.11

ABOVE SYMBOL DENOTES WORK COMPLETED AS PART OF THIS CONTRACT.

DESCRIPTION	○	MAIN SHAFT S-1232 C-940
	—	GROUND SURFACE ELEVATION (APPROXIMATE)
	—	ELEVATION - BASE OF COAL (LIMIT FOR COAL ELEVATION 2000 NOT BASED ON U.S.G.S. DATUM)



DEPARTMENT OF ENVIRONMENTAL RESOURCES

COMMONWEALTH OF PENNSYLVANIA

E. D'APPOLONIA CONSULTING ENGINEERS, INC.  
10 DUFF ROAD MR 522B  
PITTSBURGH, PA. 15235 CHESTERTON, IND. 46304

PLAN  
ERNEST MINE COMPLEX  
AND LOCATION OF KNOWN ENTRIES

DRAWN BY	Foster	2-26-68	DRAWING NO.
CHECKED BY	WHP	2-4-68	70-108-M1

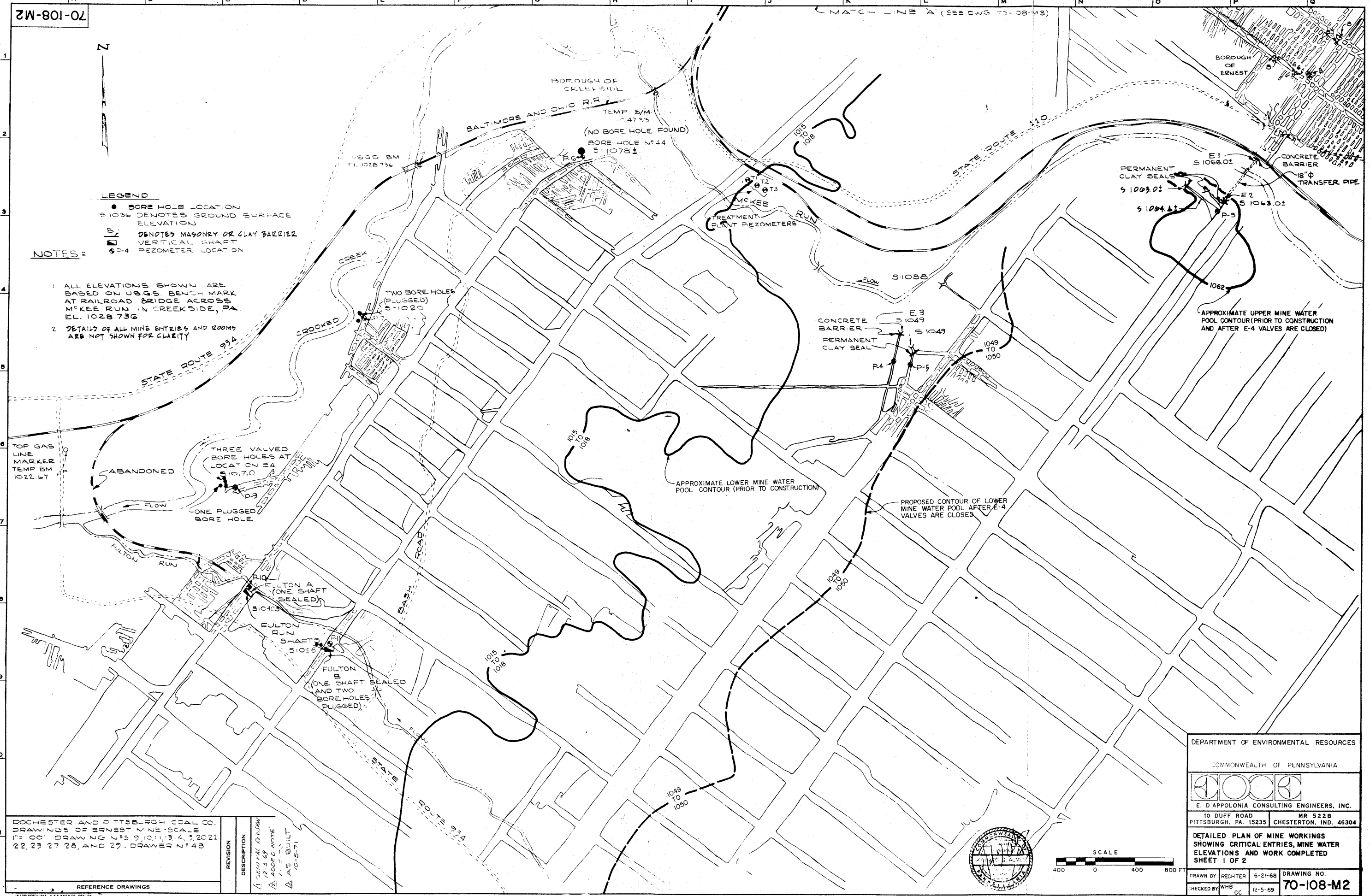


LEGEND

- BORE HOLE LOCATION
- S 1036 DENOTES GROUND SURFACE ELEVATION
- ▭ DENOTES MASONRY OR CLAY BARRIER
- ⊥ VERTICAL SHAFT
- P-4 BEZOMETER LOCATION

NOTES:

- 1 ALL ELEVATIONS SHOWN ARE BASED ON U.S.G.S. BENCH MARK AT RAILROAD BRIDGE ACROSS MCKEE RUN IN CREEKSIDE, PA. EL. 1028.736
- 2 DETAILS OF ALL MINE ENTRIES AND ROOMS ARE NOT SHOWN FOR CLARITY



DOCKLESTER AND DITTSBURY COAL CO.  
 DRAWING NO. 108-M2  
 1" = 100' DRAWING SCALE  
 22, 23, 27, 28, AND 29. DRAWN BY Z-43

REVISION	DESCRIPTION
1	ORIGINAL DRAWING
2	ADD NOTE
3	AS BUILT



DEPARTMENT OF ENVIRONMENTAL RESOURCES  
 COMMONWEALTH OF PENNSYLVANIA

**E. D'APPOLONIA CONSULTING ENGINEERS, INC.**  
 10 DUFF ROAD MR 522B  
 PITTSBURGH, PA. 15235 CHESTERTON, IND. 46304

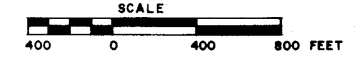
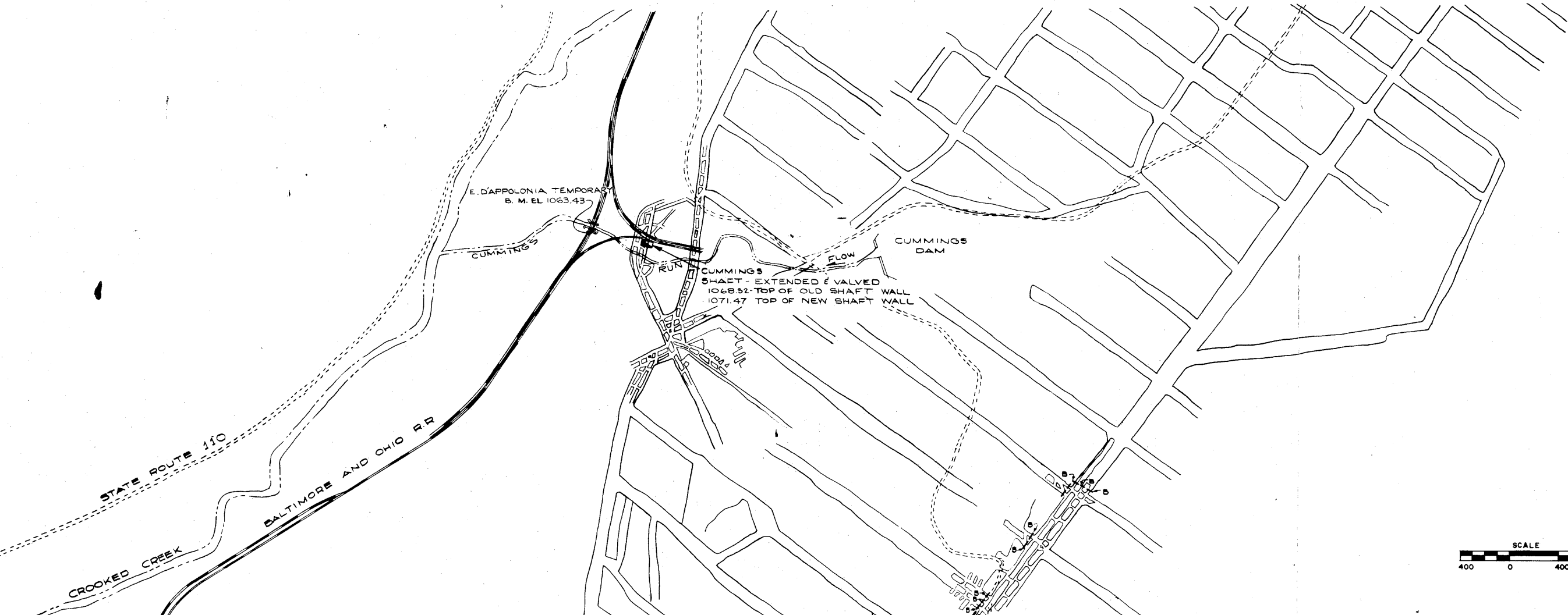
**DETAILED PLAN OF MINE WORKINGS  
 SHOWING CRITICAL ENTRIES, MINE WATER  
 ELEVATIONS AND WORK COMPLETED  
 SHEET 1 OF 2**

DRAWN BY RECHTER 6-21-68 DRAWING NO. ZW-108-M2  
 CHECKED BY WHB CC 12-5-69

70-108-M3



1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11

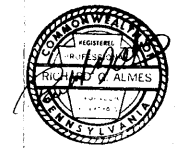


MATCH LINE SEE DWG. 70-108-M2

ROCHESTER AND PITTSBURGH COAL CO.  
DRAWINGS OF ERNEST MINE - SCALE  
1"=100' DRAWING NOS. 6, 7, 9, 10, AND 11.  
DRAWER N=43

REVISION	DESCRIPTION
GENERAL REVISION	
AS BUILT	10-C-71

NOTE: FOR LEGEND AND NOTES SEE DWG. 70-108-M2



DEPARTMENT OF ENVIRONMENTAL RESOURCES

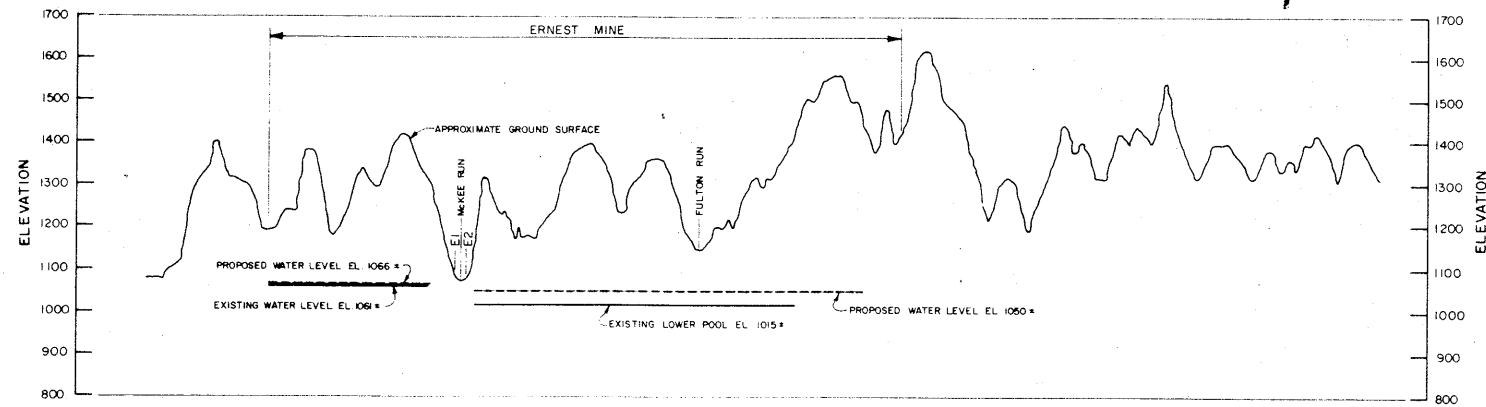
COMMONWEALTH OF PENNSYLVANIA



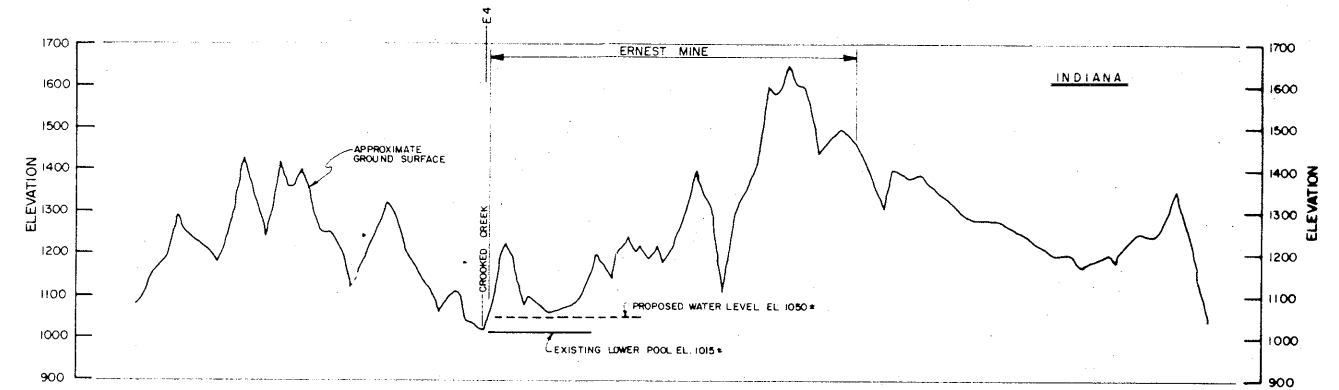
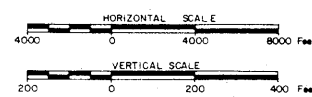
E. D'APPOLONIA CONSULTING ENGINEERS, INC.  
10 DUFF ROAD MR 5228  
PITTSBURGH, PA. 15235 CHESTERTON, IND. 46804

DETAILED PLAN OF MINE WORKINGS  
SHOWING CRITICAL ENTRIES, MINE WATER  
ELEVATIONS AND WORK COMPLETED  
SHEET 2 OF 2

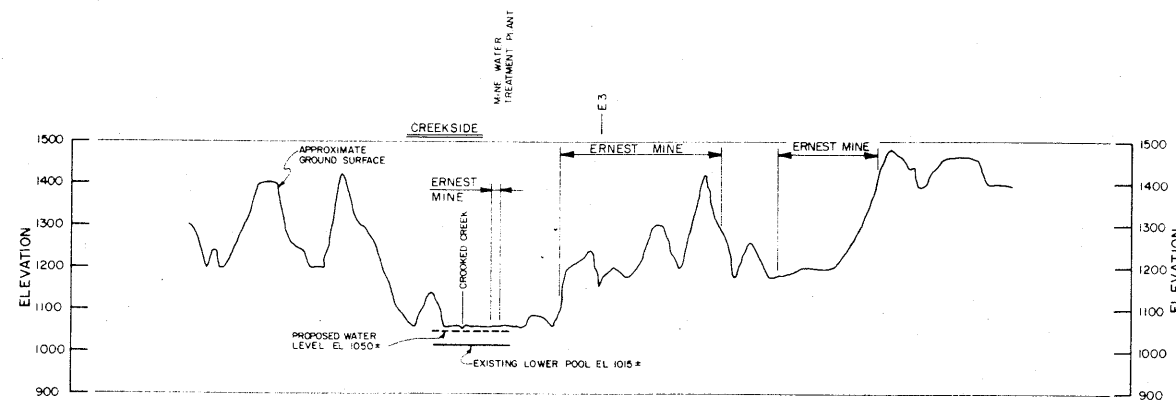
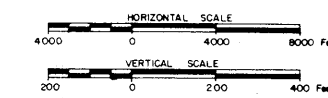
DRAWN BY	RECHTER	6-21-68	DRAWING NO.
CHECKED BY	WHB	12-5-68	<b>70-108-M3</b>



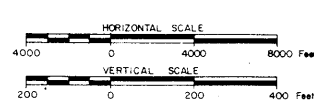
SECTION A-A



SECTION C-C



SECTION B-B



NOTE:  
FOR PLAN AND LOCATION OF SECTIONS SEE DWG. 70-108-M1.



DEPARTMENT OF ENVIRONMENTAL RESOURCES			
COMMONWEALTH OF PENNSYLVANIA			
E. D'APPOLONIA CONSULTING ENGINEERS, INC.		MR 522B	
10 DUFF ROAD		CHESTERTON, IND. 46304	
PITTSBURGH, PA. 15235			
SECTIONS THROUGH THE ERNEST MINE COMPLEX SHOWING ACTUAL AND PROPOSED MINE WATER ELEVATIONS			
DRAWN BY	RGN	10-13-71	DRAWING NO.
CHECKED BY	RGH	1-27-72	<b>70-108-M4</b>

REVISION	DESCRIPTION

REFERENCE DRAWINGS



9W-801-02

DATE BEGAN April 27, 1971  
DATE FINISHED April 29, 1971

BORING NO. P-1  
GROUND SURFACE EL. 1068 ±

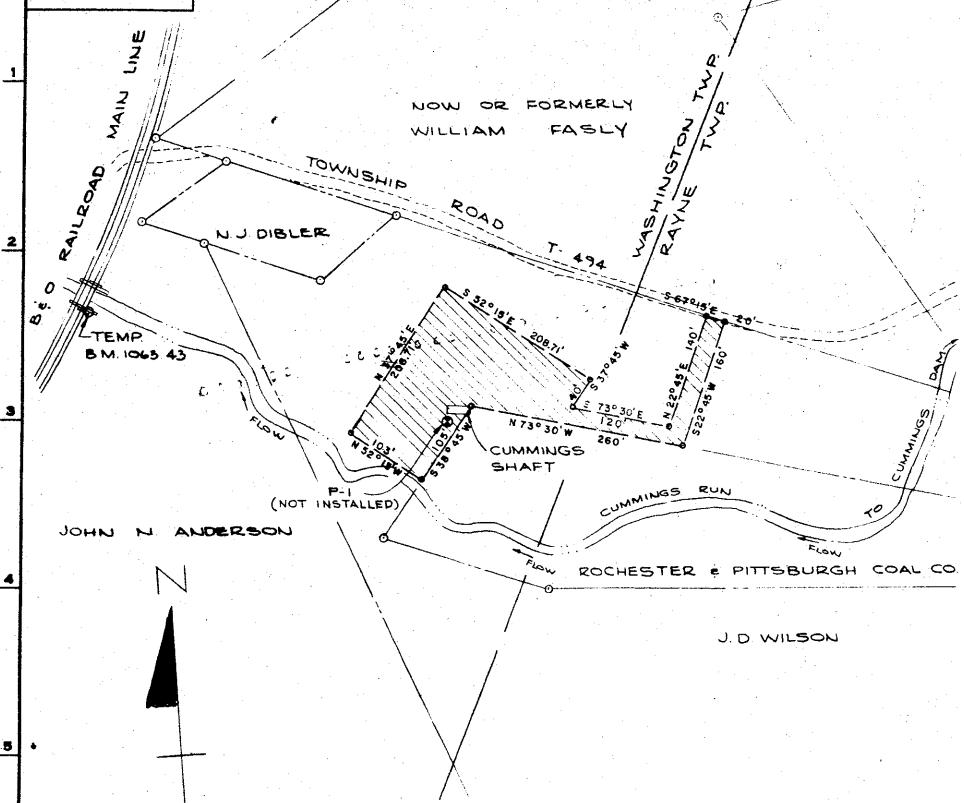
ELEV FEET	DEPTH FEET	SAMPLE TYPE	DESCRIPTION	U.S.C.S.	PENETRATION RESISTANCE BLOWS PER FOOT	REMARKS	PERMEABILITY, CM/SEC
1060	5		FILL (LOOSE GRAY SAND AND ROCK FRAGMENTS)				
1050	10		LOOSE GRAY CLAYEY SILT	ML	11.0		
1040	15		MEDIUM DENSE BROWN SAND WITH SANDSTONE FRAGMENTS	SW	13.0		
1030	20		MEDIUM HARD TO HARD, BROKEN TO SLIGHTLY BROKEN, GRAY SANDSTONE		20.2	97	
1020	25		MEDIUM HARD, VERY BROKEN, GRAY CLAYEY SILTSTONE		27.5	100	
1010	30		MEDIUM HARD TO HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY SANDSTONE WITH SHALEY STRINGERS		30.0	100	
1000	35		MEDIUM HARD TO HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY SANDSTONE WITH SHALEY STRINGERS		39.5	100	
990	40		SOFT, VERY BROKEN, BLACK COAL		41.0	100	
980	45		MEDIUM HARD TO HARD, BROKEN TO MASSIVE, GRAY CLAYEY SHALE		45.0	94	
970	50		MEDIUM HARD, BROKEN TO VERY BROKEN, GRAY CLAYEY SHALE		51.7	100	
960	55		SOFT, BLACK COAL		55.0	100	
950	60		MEDIUM HARD TO HARD, BROKEN TO SLIGHTLY BROKEN, GRAY CLAYEY SHALE			83	
940	65		MEDIUM HARD TO HARD, BROKEN TO SLIGHTLY BROKEN, GRAY CLAYEY SHALE			100	
930	70		MEDIUM HARD TO HARD, BROKEN TO SLIGHTLY BROKEN, GRAY CLAYEY SHALE			100	
920	75		MEDIUM HARD TO HARD, BROKEN TO SLIGHTLY BROKEN, GRAY CLAYEY SHALE			100	
910	80		HARD TO VERY HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE (SOME SHALEY STRINGERS)		71.0	100	
900	85		HARD TO VERY HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE (SOME SHALEY STRINGERS)			100	
890	90		HARD TO VERY HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE (SOME SHALEY STRINGERS)			100	
880	95		MEDIUM HARD TO HARD, BROKEN TO VERY BROKEN, CALCAREOUS SHALE		93.5	100	
870	100		MEDIUM HARD, BROKEN TO VERY BROKEN, DARK GRAY SHALE		100.0	100	
860	105		MEDIUM HARD, BROKEN TO VERY BROKEN, DARK GRAY SHALE		107.0	100	
850	110		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE		113.0	100	
840	115		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
830	120		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
820	125		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
810	130		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
800	135		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
790	140		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
780	145		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
770	150		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
760	155		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
750	160		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
740	165		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
730	170		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
720	175		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
710	180		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
700	185		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
690	190		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
680	195		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
670	200		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
660	205		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
650	210		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
640	215		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
630	220		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
620	225		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
610	230		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
600	235		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
590	240		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
580	245		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
570	250		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
560	255		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
550	260		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
540	265		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
530	270		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
520	275		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
510	280		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
500	285		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
490	290		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
480	295		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
470	300		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
460	305		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
450	310		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
440	315		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
430	320		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
420	325		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
410	330		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
400	335		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
390	340		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
380	345		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
370	350		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
360	355		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
350	360		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
340	365		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
330	370		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
320	375		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
310	380		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
300	385		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
290	390		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
280	395		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
270	400		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
260	405		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
250	410		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
240	415		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
230	420		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
220	425		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
210	430		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
200	435		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
190	440		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
180	445		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
170	450		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
160	455		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
150	460		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
140	465		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
130	470		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
120	475		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
110	480		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
100	485		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
90	490		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
80	495		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
70	500		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
60	505		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
50	510		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
40	515		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
30	520		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
20	525		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
10	530		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
0	535		HARD, SLIGHTLY BROKEN TO MASSIVE, GRAY LIMESTONE			100	
1068 ±	0		GROUND SURFACE				
113.0'	113.0'		BOTTOM OF BORING				

DATE BEGAN April 28, 1971  
DATE FINISHED April 29, 1971

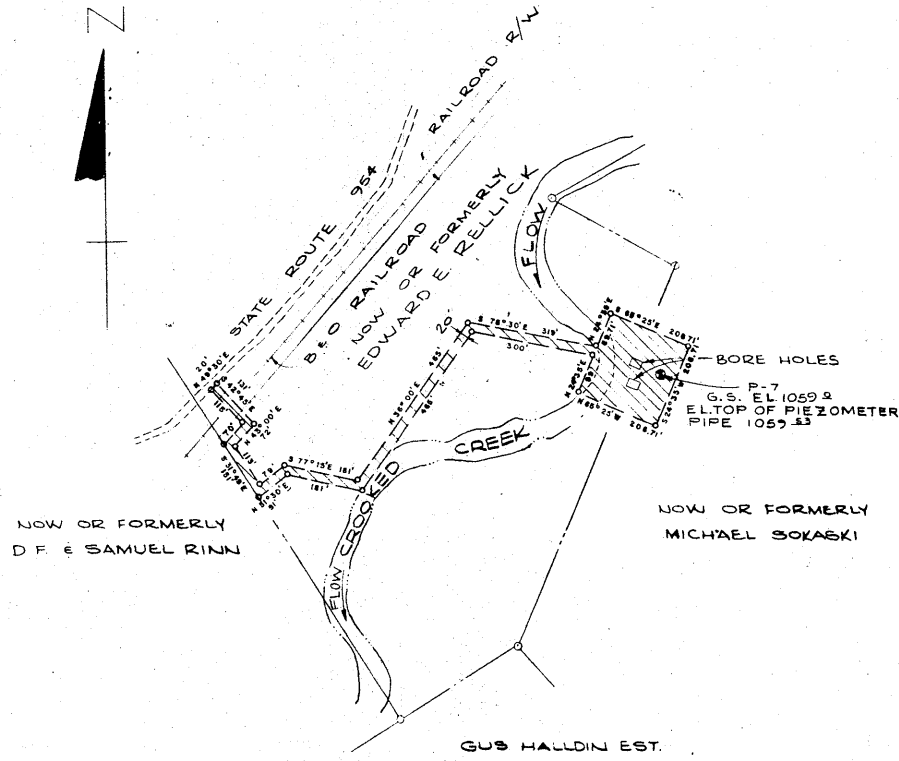
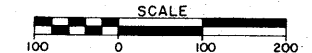
BORING NO. P-3  
GROUND SURFACE EL. 1092.2

ELEV FEET	DEPTH FEET	SAMPLE TYPE	DESCRIPTION	U.S.C.S.	PENETRATION RESISTANCE BLOWS PER FOOT	REMARKS	PERMEABILITY, CM/SEC
1090	5		LOOSE TO VERY DENSE TAN TO BROWN SILTY SAND AND SANDSTONE FRAGMENTS SOME SILTY SEAMS	SM	68		
1080	10		LOOSE TO VERY DENSE TAN TO BROWN SILTY SAND AND SANDSTONE FRAGMENTS SOME SILTY SEAMS		89		
1070	20		HARD, BROKEN TO SLIGHTLY BROKEN, GRAY SANDSTONE		100		
1060	30		HARD, BROKEN TO SLIGHTLY BROKEN, GRAY SANDSTONE		100		
1050	40		HARD, BROKEN TO SLIGHTLY BROKEN, GRAY SANDSTONE		100		
1041.5	41.5		HARD, VERY BROKEN, GRAY SILTSTONE		96		
1041.5	41.5		MINE VOID				
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		39.9		
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		33.5		
1041.5	41.5		MINE VOID				
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		32.0		
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		31.5		
1041.5	41.5		MINE VOID				
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		39.9		
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		33.5		
1041.5	41.5		MINE VOID				
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		32.0		
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		31.5		
1041.5	41.5		MINE VOID				
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		39.9		
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		33.5		
1041.5	41.5		MINE VOID				
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		32.0		
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		31.5		
1041.5	41.5		MINE VOID				
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		39.9		
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		33.5		
1041.5	41.5		MINE VOID				
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		32.0		
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		31.5		
1041.5	41.5		MINE VOID				
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		39.9		
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		33.5		
1041.5	41.5		MINE VOID				
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		32.0		
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		31.5		
1041.5	41.5		MINE VOID				
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		39.9		
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		33.5		
1041.5	41.5		MINE VOID				
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		32.0		
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		31.5		
1041.5	41.5		MINE VOID				
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		39.9		
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		33.5		
1041.5	41.5		MINE VOID				
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		32.0		
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		31.5		
1041.5	41.5		MINE VOID				
1041.5	41.5		HARD, BROKEN, GRAY SILTSTONE		39.9		
1041.5	41.5	</					

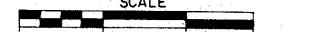
6W-801-02



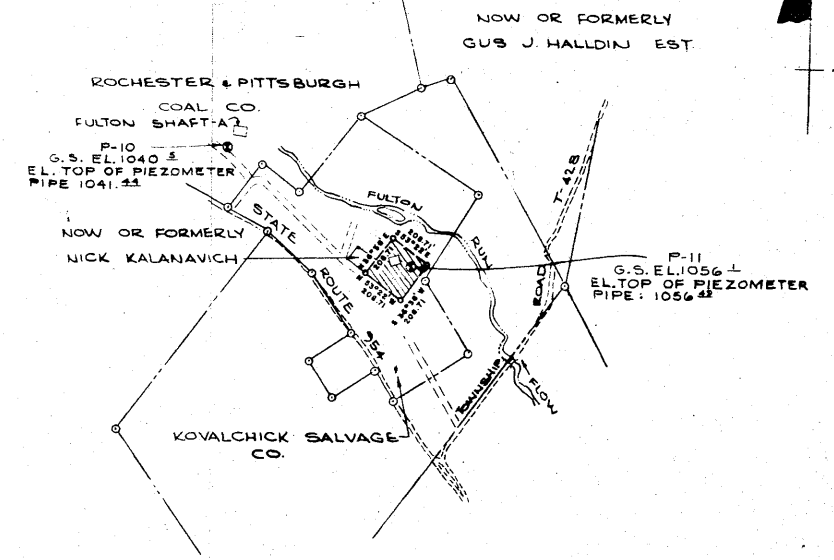
EASEMENT AT CUMMINGS SHAFT



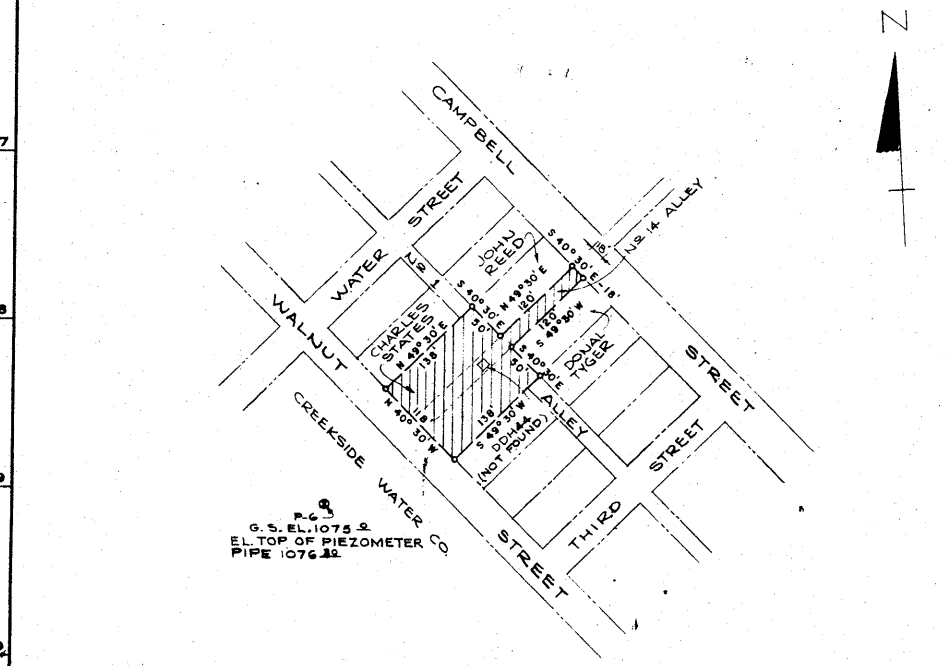
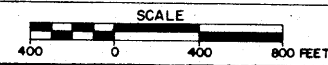
EASEMENT AT CROOKED CREEK BORE HOLES



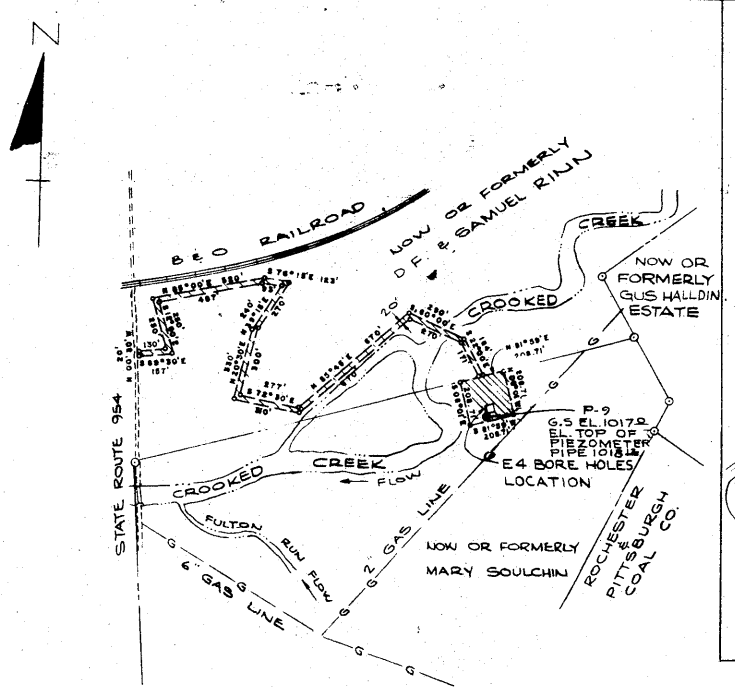
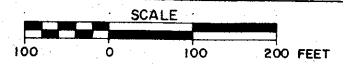
NOTE: ENTRANCE EASEMENT TO THE WORK AREA AS SHOWN WAS NOT USED BY THE CONTRACTOR. ACCESS OF THE AREA WAS FROM THE HILLSIDE SOUTH-EAST.



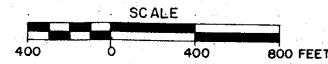
EASEMENT AT FULTON AIR SHAFTS



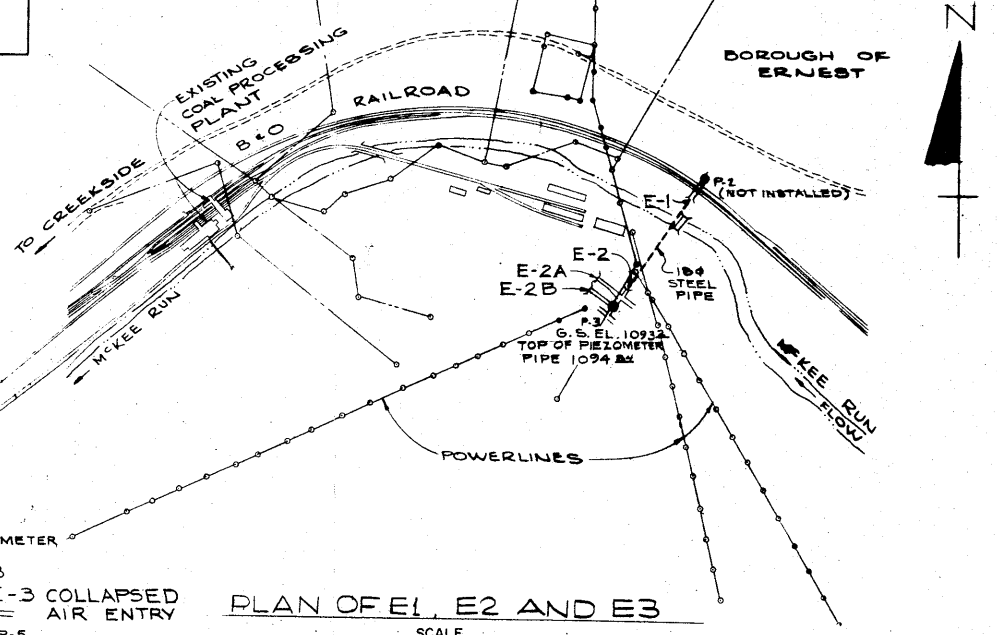
EASEMENT AT DDH 44 IN CREEKSIDE BOROUGH



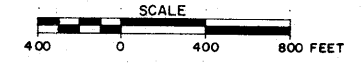
EASEMENT AT E-4



NOTE: ENTRANCE EASEMENT TO THE WORK AREA AS SHOWN WAS NOT USED BY THE CONTRACTOR. ACCESS OF THE AREA WAS FROM THE HILLSIDE SOUTH-EAST.



PLAN OF E1, E2 AND E3



LEGEND

- EASEMENT
- PIEZOMETER LOCATION
- PROPERTY LINE



EASEMENT DESCRIPTION DRAWINGS BY L.R. KIMBALL CONSULTING ENGR'S. EBENSBURG, PA. - DATED OCTOBER, 1968

REVISION	DESCRIPTION
AS BUILT 10-6-77	
ADDED NOTE 5-24-75	

DEPARTMENT OF ENVIRONMENTAL RESOURCES

COMMONWEALTH OF PENNSYLVANIA

E. D'APPOLONIA CONSULTING ENGINEERS, INC.  
 10 DUFF ROAD MR 522B  
 PITTSBURGH, PA. 15235 CHESTERTON, IND. 46304

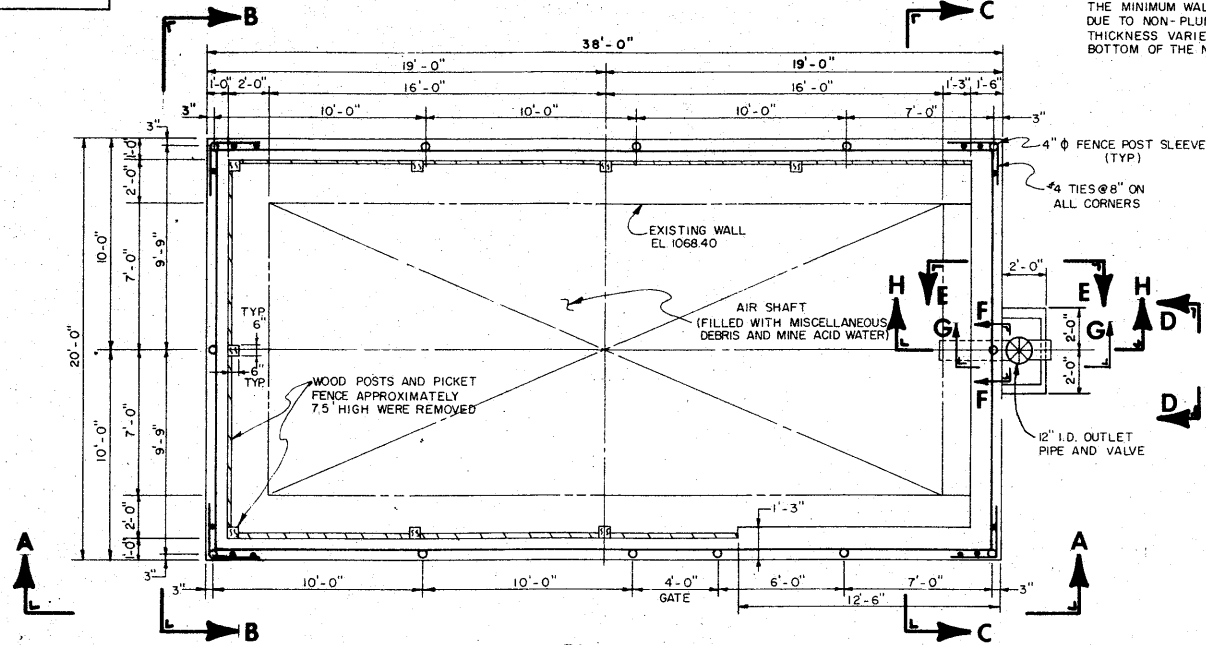
PLAN - PROPERTY EASEMENTS AND PIEZOMETER LOCATIONS

DRAWN BY G.J.A. 12-2-68 DRAWING NO. 70-108-M9  
 CHECKED BY CC 12-5-69



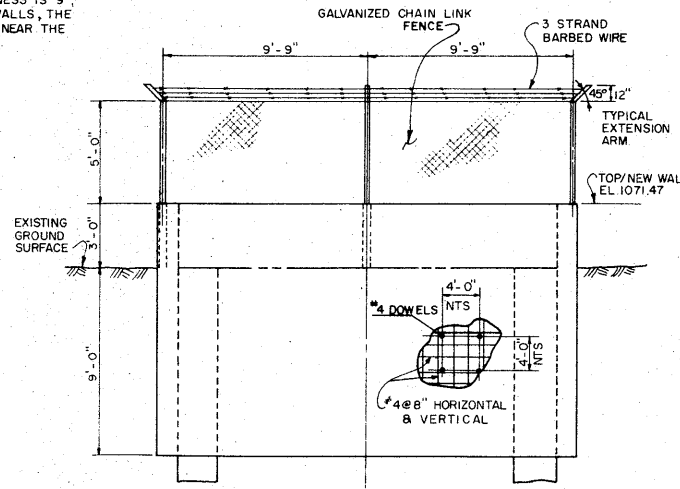
OIW-801-02

NOTE  
THE MINIMUM WALL THICKNESS IS 9"  
DUE TO NON-PLUMB OLD WALLS, THE  
THICKNESS VARIES TO 12" NEAR THE  
BOTTOM OF THE NEW WALL.



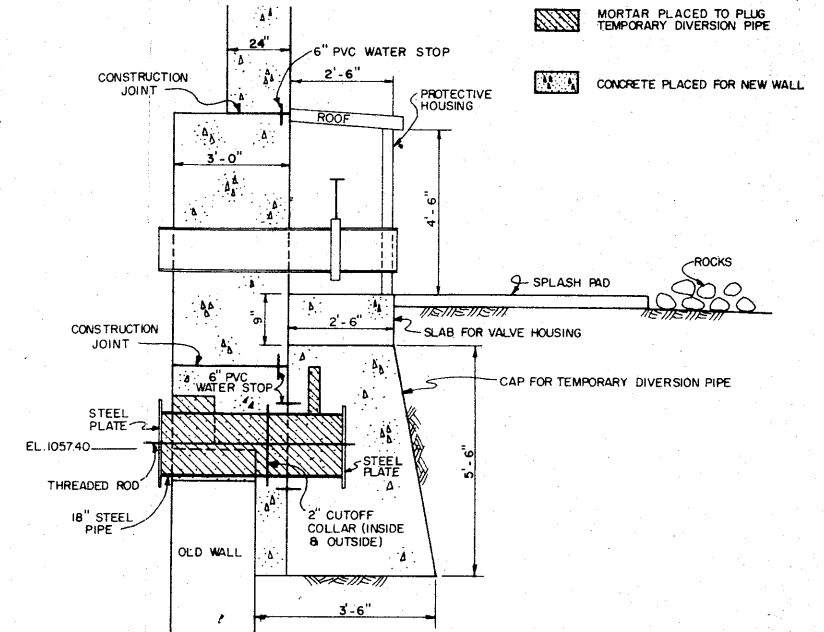
PLAN  
CUMMINGS SHAFT

SCALE: 1/4" = 1'-0"



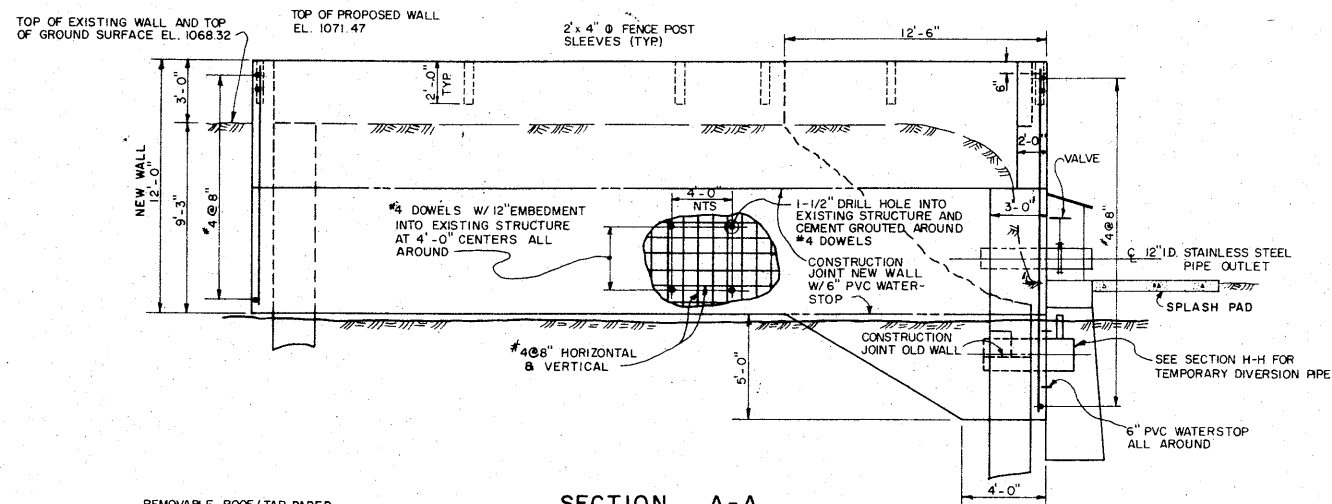
SECTION B-B

SCALE: 1/4" = 1'-0"



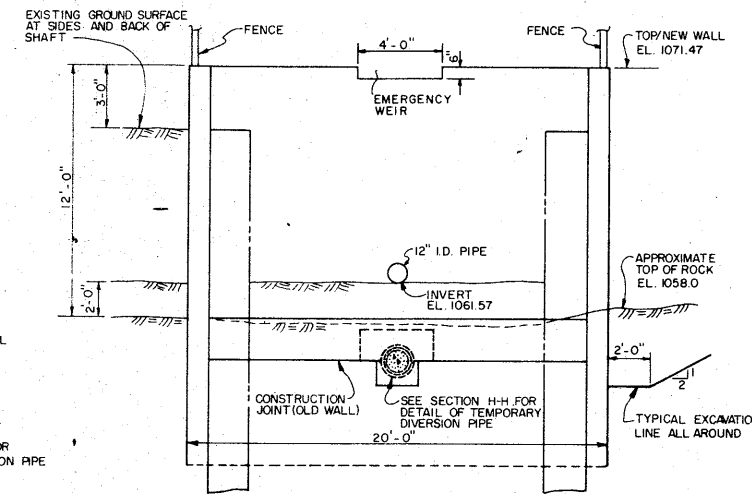
SECTION H-H

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



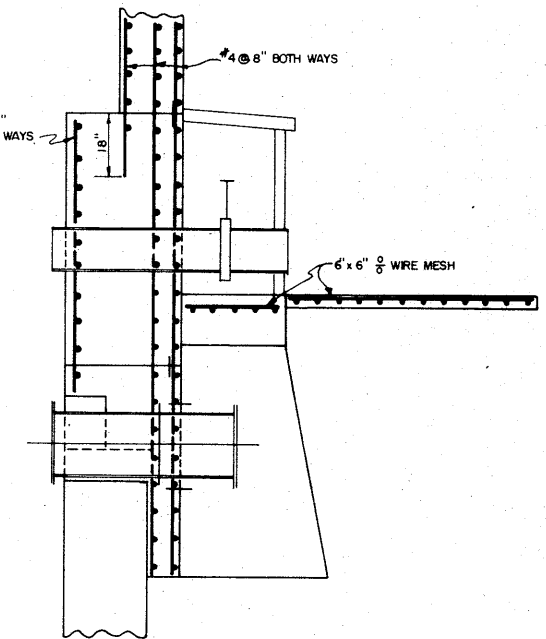
SECTION A-A

SCALE: 1/4" = 1'-0"



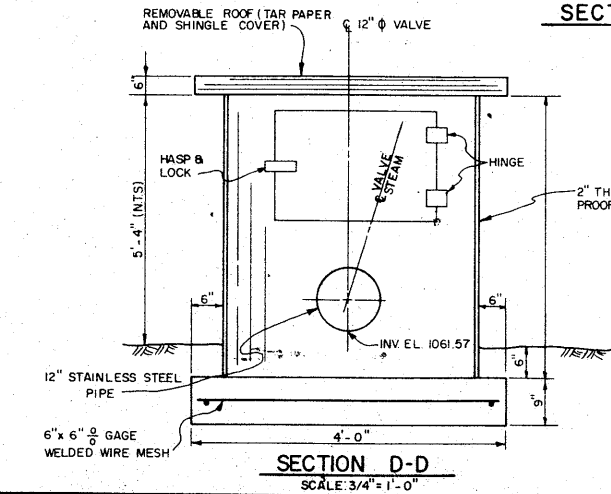
SECTION C-C

SCALE: 1/4" = 1'-0"



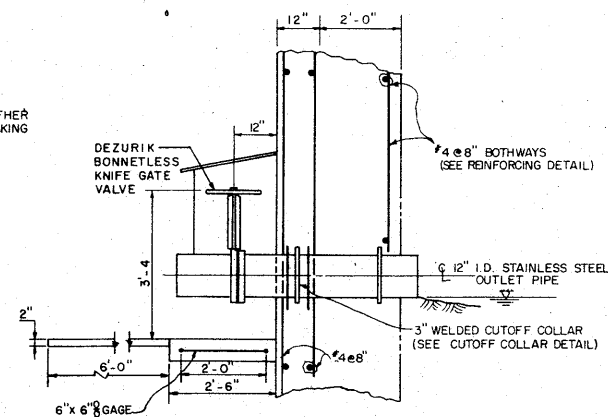
REINFORCING DETAIL

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



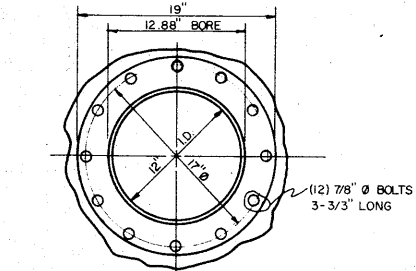
SECTION D-D

SCALE: 3/4" = 1'-0"



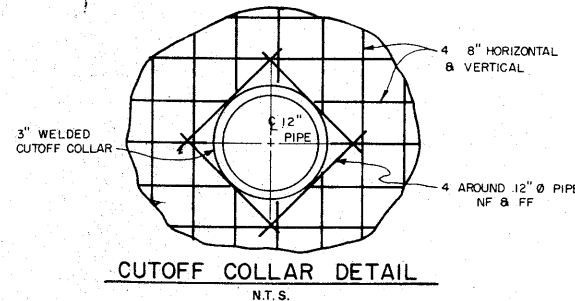
SECTION E-E

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



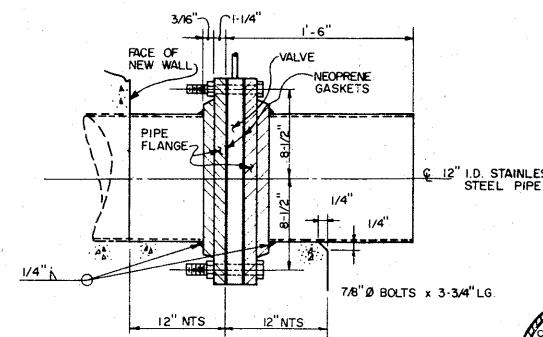
SECTION F-F

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



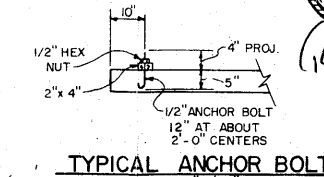
CUTOFF COLLAR DETAIL

N.T.S.



SECTION G-G

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



TYPICAL ANCHOR BOLT

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

NOTES

- EXISTING WOOD FENCE AROUND PERIMETER OF SHAFT WAS REMOVED.
- SEE DWG. 70-108-M6 FOR GENERAL NOTES.

REVISION  
DESCRIPTION

REFERENCE DRAWINGS

DEPARTMENT OF ENVIRONMENTAL RESOURCES

COMMONWEALTH OF PENNSYLVANIA

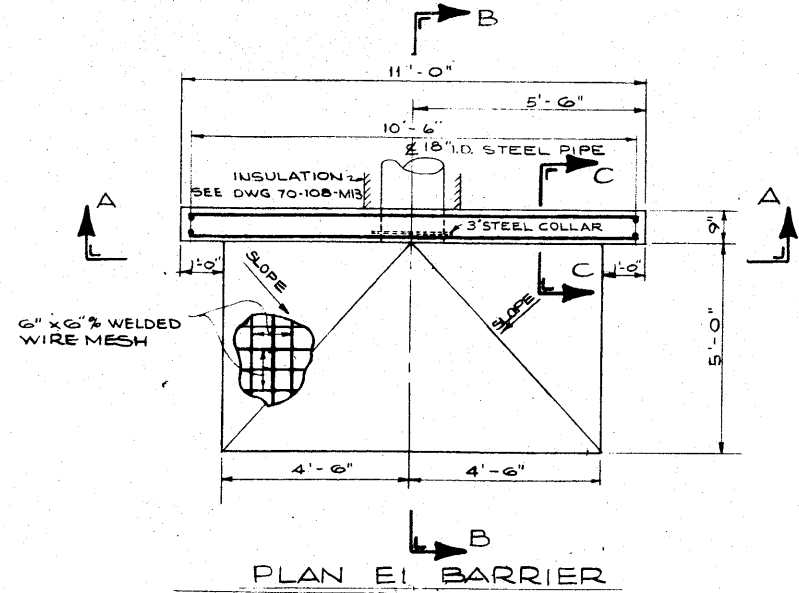


E. D'APPOLONIA CONSULTING ENGINEERS, INC.  
10 DUFF ROAD MR 522B  
PITTSBURGH, PA. 15235 CHESTERTON, IND. 46304

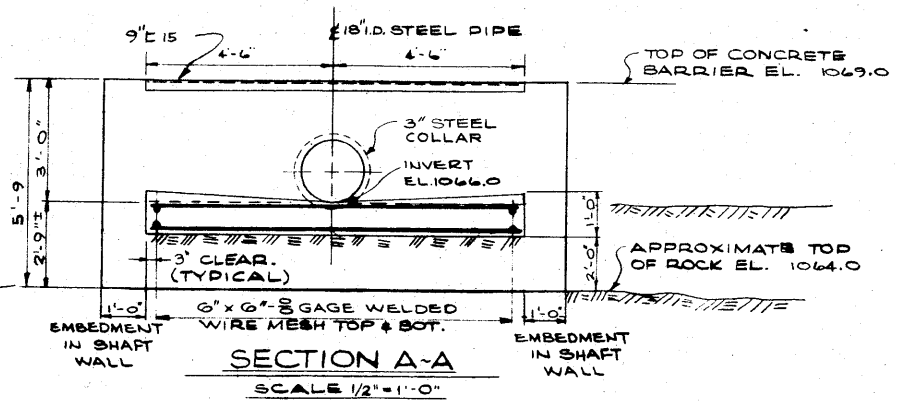
CUMMINGS SHAFT  
PLAN AND DETAILS

DRAWN BY RJC RGN 10-11-71 DRAWING NO. 70-108-M10  
CHECKED BY RGA 1-27-72

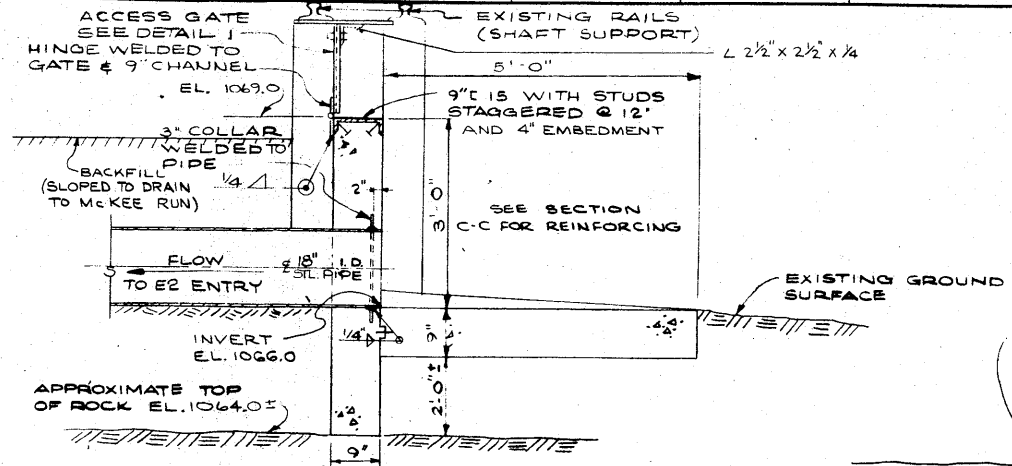
PA 1188-791



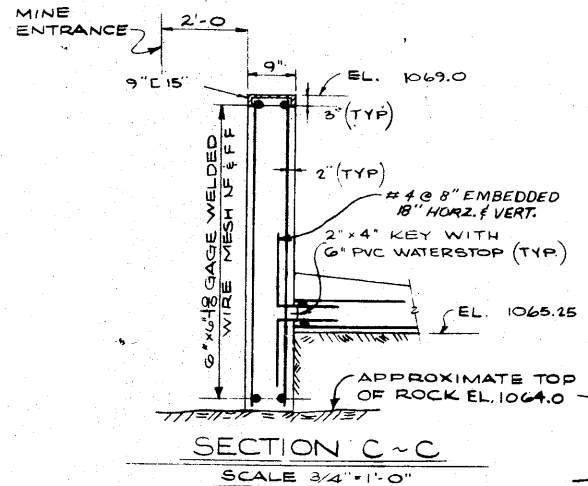
PLAN EI BARRIER  
SCALE 1/2" = 1'-0"



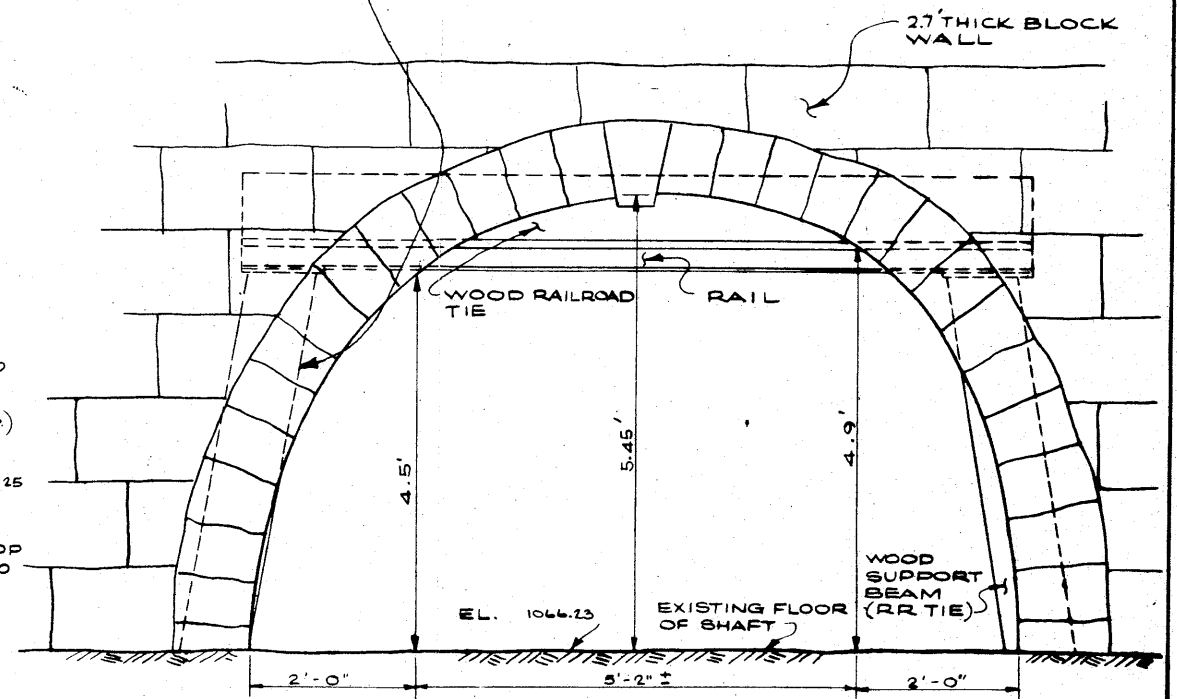
SECTION A-A  
SCALE 1/2" = 1'-0"



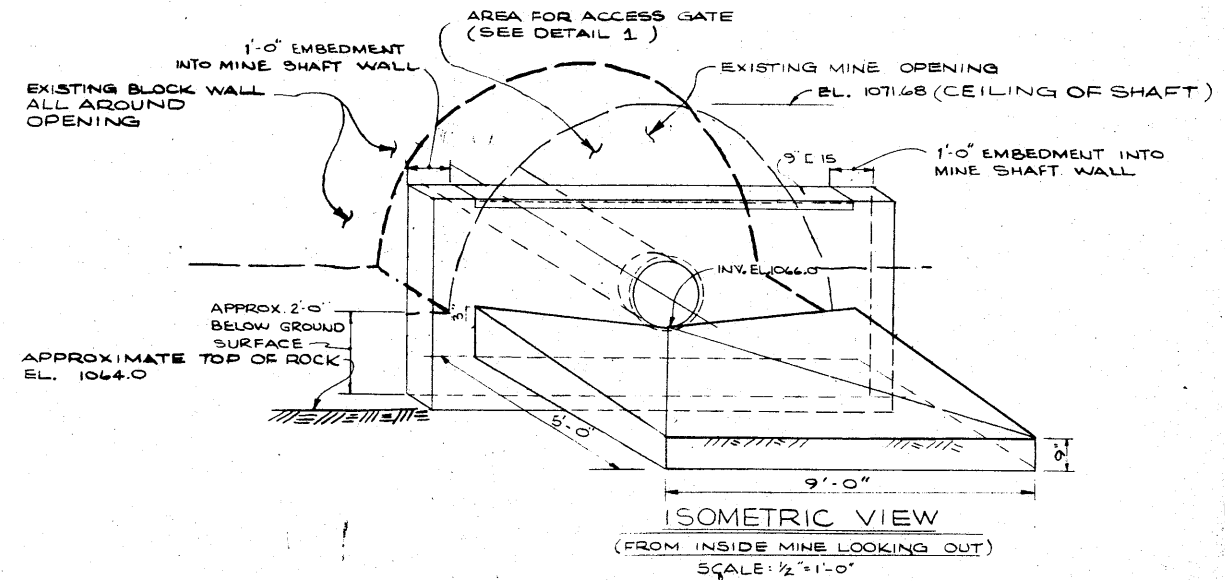
SECTION B-B  
SCALE 3/4" = 1'-0"



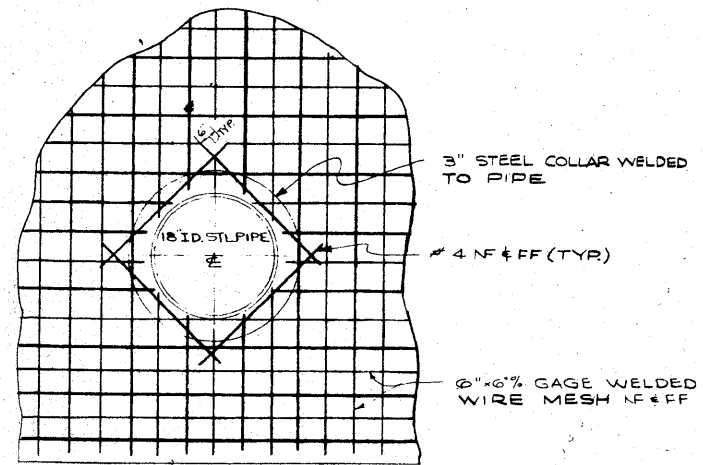
SECTION C-C  
SCALE 3/4" = 1'-0"



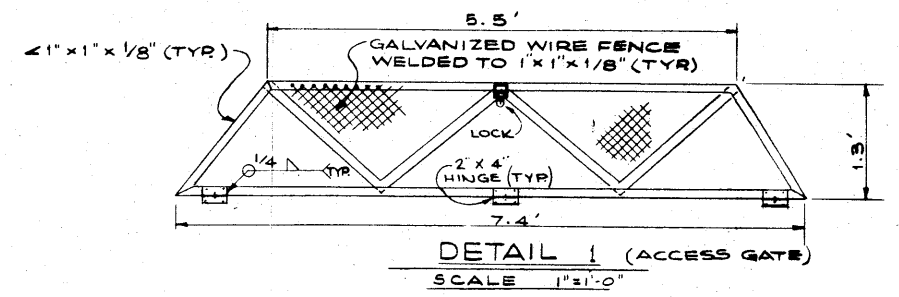
DETAIL OF EI ENTRY (BEFORE CONSTRUCTION)  
SCALE 1" = 1'-0"



ISOMETRIC VIEW  
(FROM INSIDE MINE LOOKING OUT)  
SCALE 1/2" = 1'-0"



DETAIL 2 (REINFORCING AROUND 1/2" 18" I.D. PIPE)  
NOT TO SCALE



DETAIL 1 (ACCESS GATE)  
SCALE 1" = 1'-0"

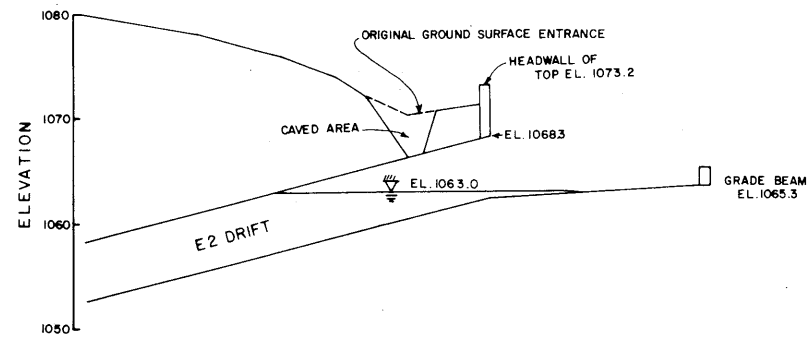
NOTE:  
SEE DWG. 70-108-MIG  
FOR GENERAL NOTES



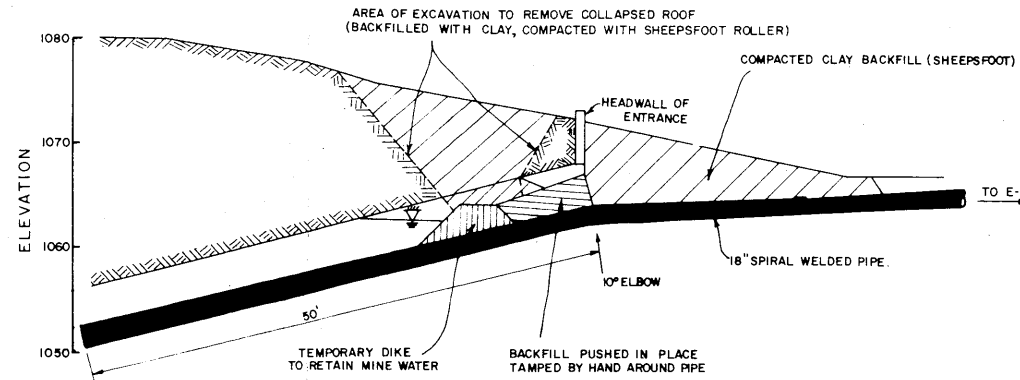
DEPARTMENT OF ENVIRONMENTAL RESOURCES	
COMMONWEALTH OF PENNSYLVANIA	
<b>EOCE</b>	
E. D'APPOLONIA CONSULTING ENGINEERS, INC.	
10 DUFF ROAD PITTSBURGH, PA. 15235	MR. 522 B CHESTERTON, IND. 46304
<b>EI ENTRY</b>	
PLAN AND DETAILS	
DRAWN BY CULLICAN BOSACK	9-10-69
CHECKED BY C.C.	12-5-69
DRAWING NO. <b>70-108-M11</b>	

REVISION	DESCRIPTION
AS BUILT	10-6-77 L.R.G.

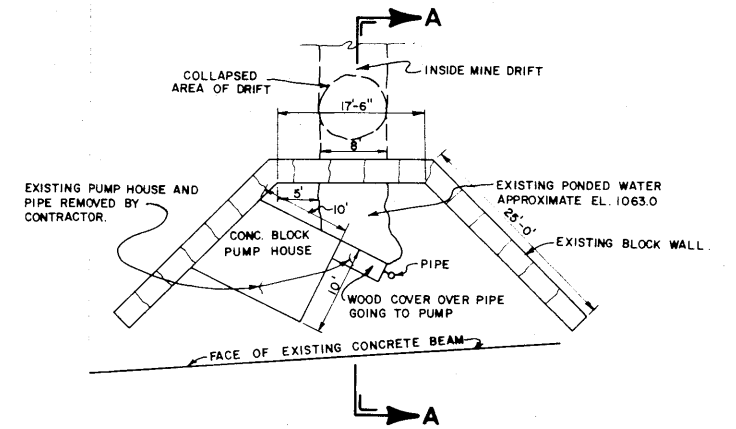
REFERENCE DRAWINGS



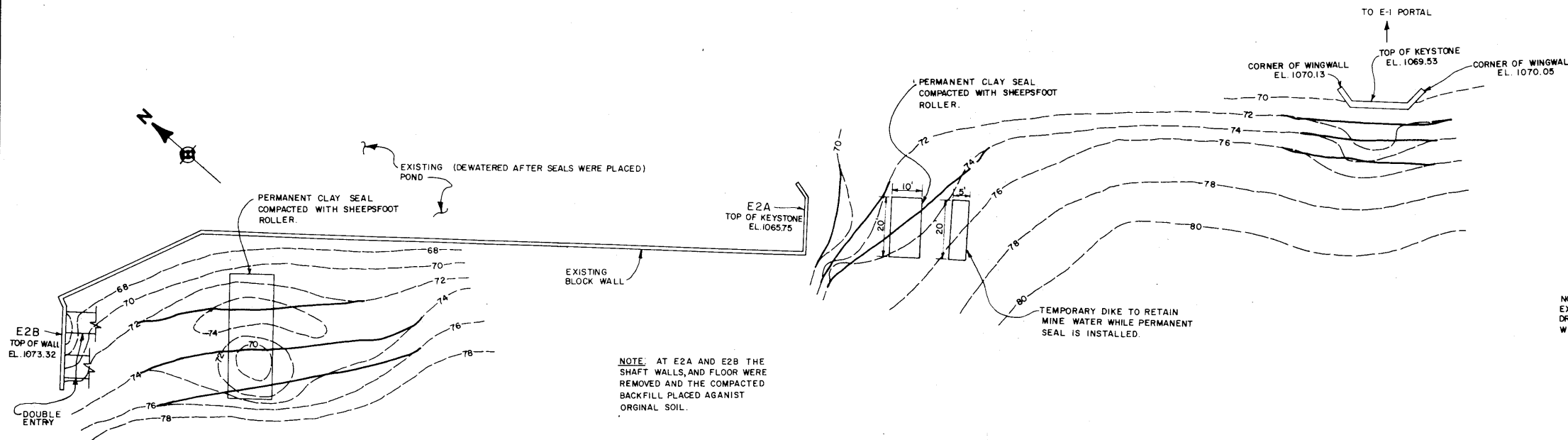
**SECTION AA**  
**CONDITIONS BEFORE SEALING**  
**E2**  
SCALE: 1"=8'



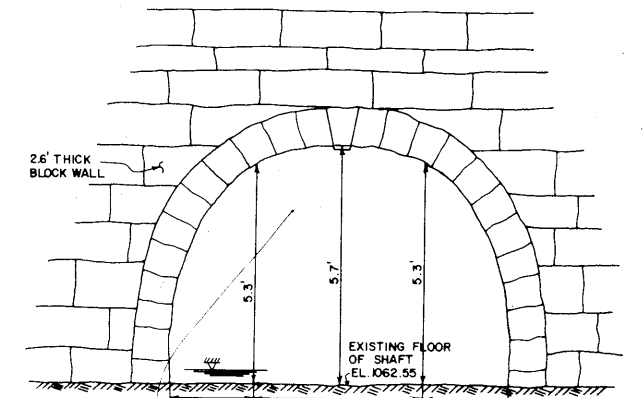
**SECTION AA**  
**SEAL CONSTRUCTED AT E2**  
SCALE: 1"=8'



**PLAN OF E2 BEFORE SEALING**  
SCALE: 1"=10'



**PLAN OF E2 AREA**  
SCALE: 1"=20'



**DETAIL OF E2 OPENING (BEFORE SEALING)**  
SCALE: 1"=20'

**NOTE**  
FOR GENERAL NOTES SEE DWG. 70-108-M16.

**NOTE**  
ADD 1000 TO ALL CONTOUR ELEVATIONS FOR U.S.G.S. DATUM

**LEGEND**  
--- ORIGINAL CONTOUR  
— CONTOUR AFTER REGRADING

REVISION	DESCRIPTION
AS BUILT 10-6-71 L.R.G.	

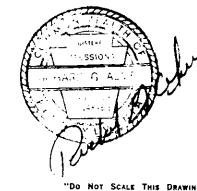
REFERENCE DRAWINGS

DEPARTMENT OF ENVIRONMENTAL RESOURCES  
COMMONWEALTH OF PENNSYLVANIA

**EOCE**  
E. D'APPOLONIA CONSULTING ENGINEERS, INC.  
10 DUFF ROAD MR 522B  
PITTSBURGH, PA. 15235 CHESTERTON, IND. 46304

**E2 ENTRIES**  
E2, E2A AND E2B  
PLAN AND DETAILS

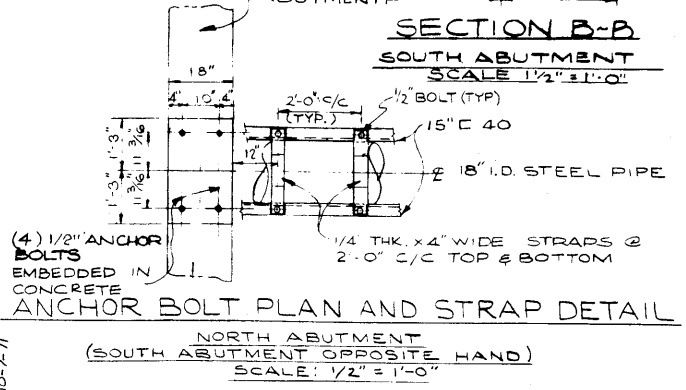
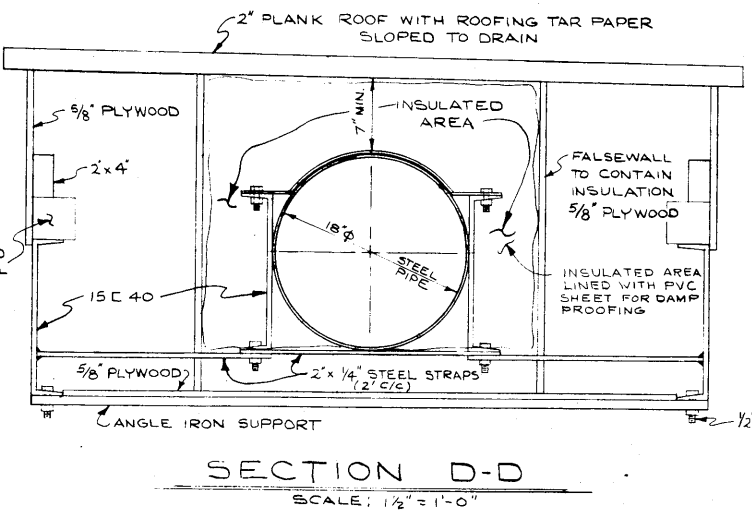
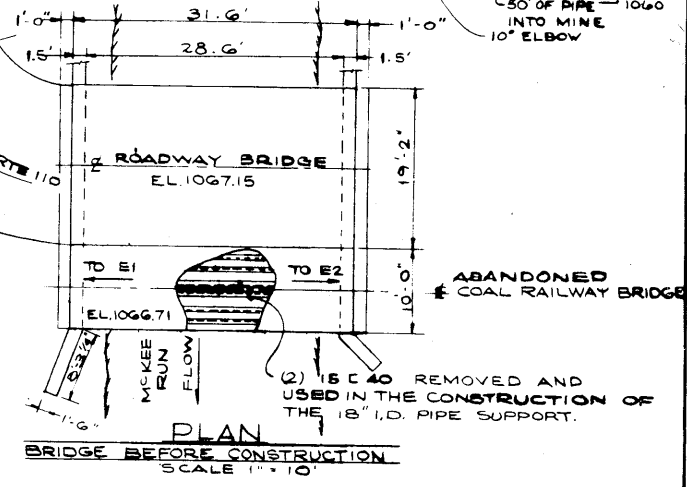
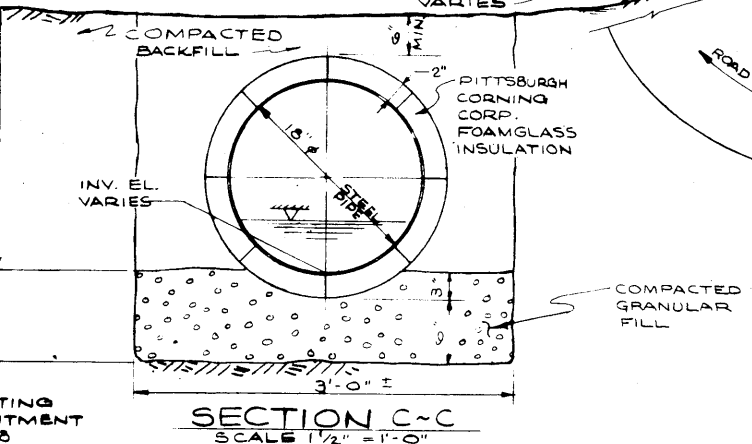
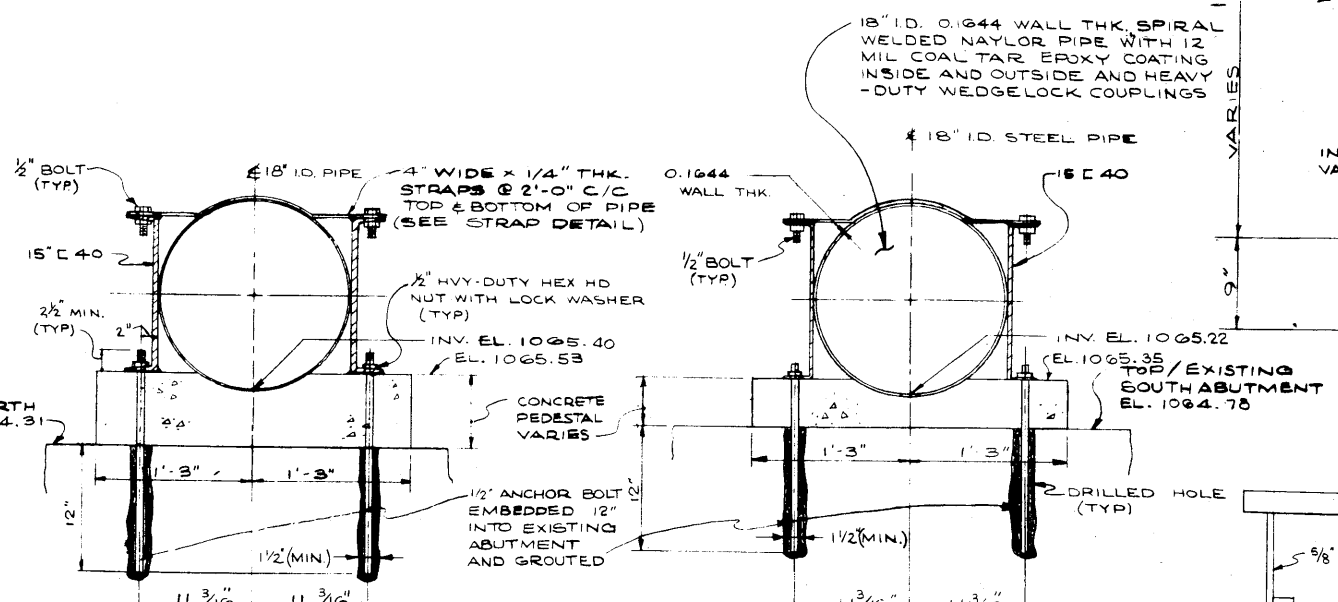
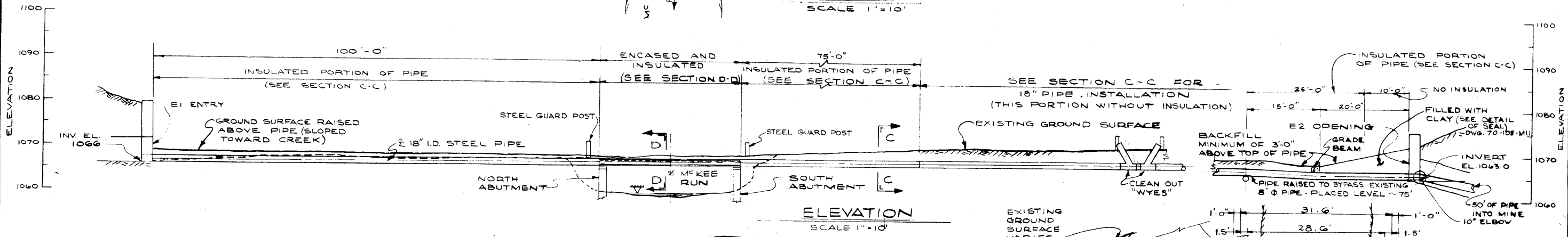
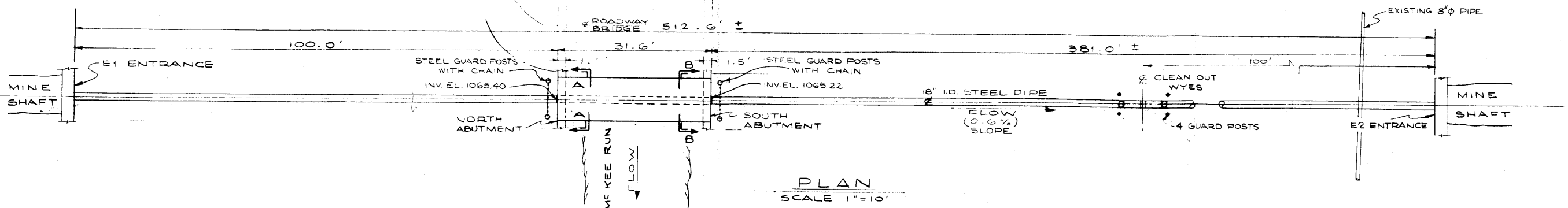
DRAWN BY L.R.G. 10-6-71  
CHECKED BY RGA 1-27-72  
DRAWING NO. 70-108-M12



"DO NOT SCALE THIS DRAWING"

E1W-801-02

NOTE  
LOW AREA EAST OF PIPE FILLED TO DRAIN TOWARD CREEK.



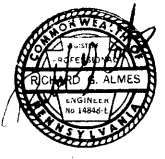
NOTE  
FOR GENERAL NOTES SEE DWG. 70-108-M16.

DEPARTMENT OF ENVIRONMENTAL RESOURCES  
COMMONWEALTH OF PENNSYLVANIA

**E. D'APPOLONIA CONSULTING ENGINEERS, INC.**  
10 DUFF ROAD  
PITTSBURGH, PA. 15235  
MR 5228  
CHESTERTON, IND. 46804

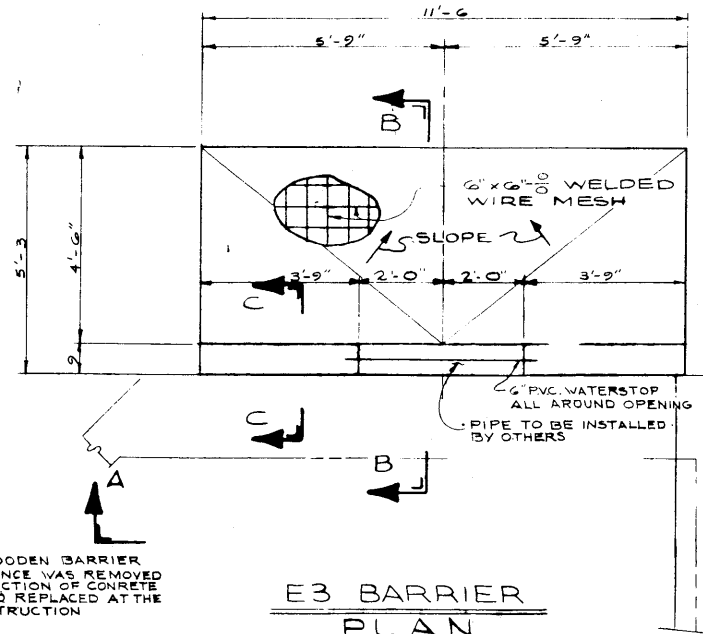
**E1 - E2 TRANSFER PIPE  
PLAN AND DETAILS**

DRAWN BY CULLGAN	11-11-69	DRAWING NO. 70-108-M13
CHECKED BY WHB	CC	12-5-69

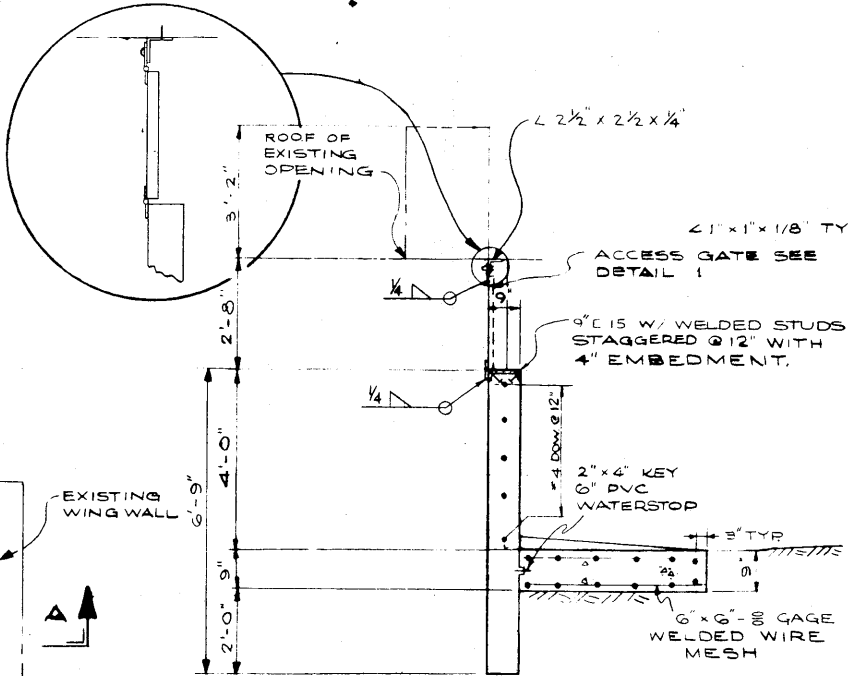


REVISION	DESCRIPTION
1	REVISED LATERAL SECTION TO SHOW DIVERSION DITCH AS BUILT 10-7-71

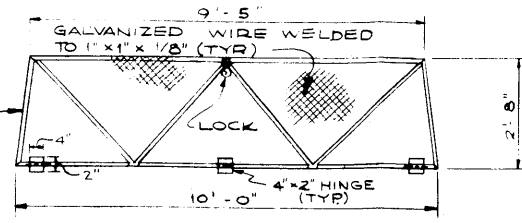
REFERENCE DRAWINGS



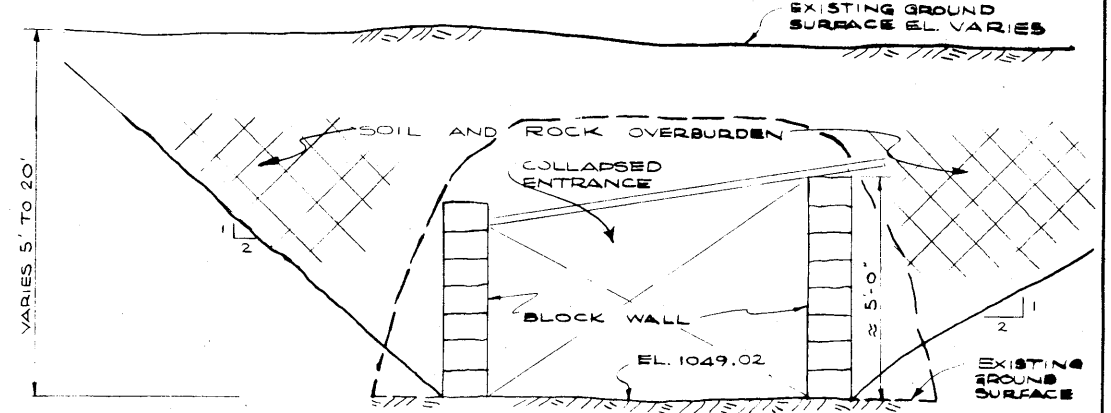
**E3 BARRIER  
PLAN**  
SCALE: 1/2" = 1'-0"



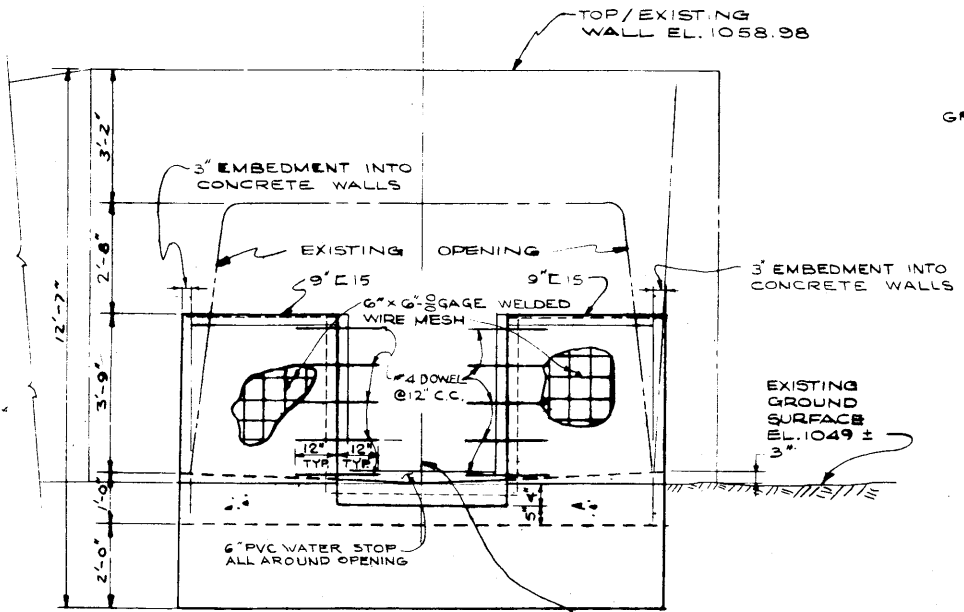
**SECTION B-B**  
SCALE 1/2" = 1'-0"



**DETAIL 1**  
SCALE 1/2" = 1'-0"

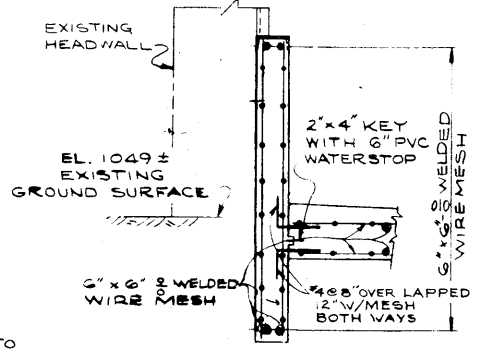


**SECTION 1-1**  
NOT TO SCALE  
PARTIALLY COLLAPSED BEFORE SEALING  
(E3 SHAFT)

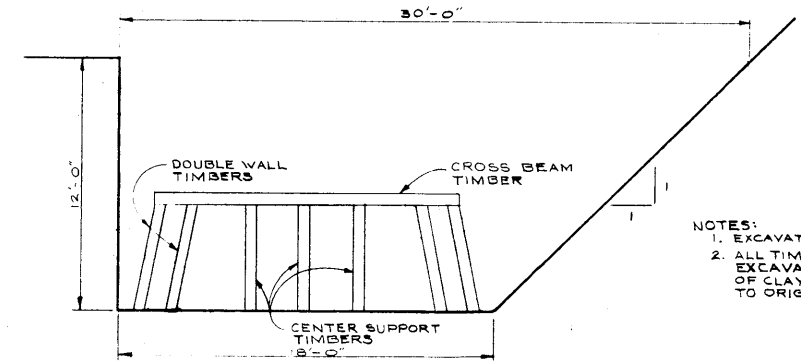


**SECTION A-A**  
SCALE 1/2" = 1'-0"

NOTE: EXPOSED #4 DOWELS PROTECTED WITH BITUMASTIC AND BURLAP WRAPPING.

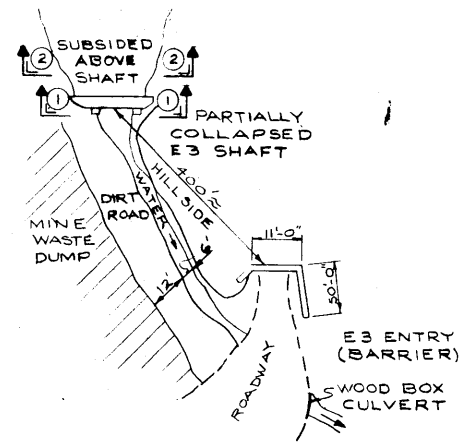


**SECTION C-C**  
SCALE 1/2" = 1'-0"

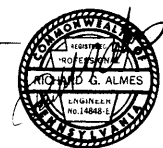


**SECTION 2-2**  
TYPICAL EXCAVATION  
AT E3 COLLAPSED SHAFT  
SCALE: 1/4" = 1'-0"

NOTES:  
1. EXCAVATION EXTENDS 75'-0" FROM ENTRY  
2. ALL TIMBERS WERE REMOVED AND THE EXCAVATION BACKFILLED IN 1' LIFTS OF CLAY COMPACTED BY THE BACKHOLE TO ORIGINAL GRADE.



**PLAN**  
NOT TO SCALE  
E-3 ENTRIES

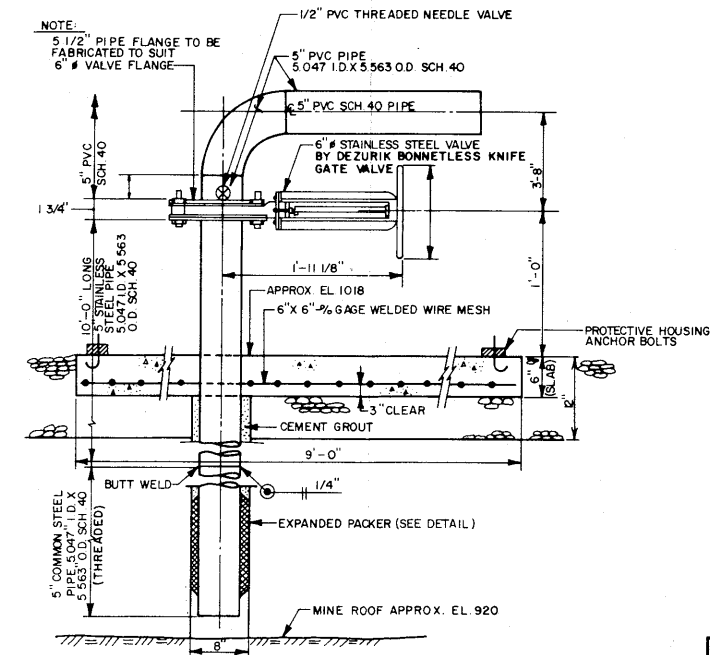
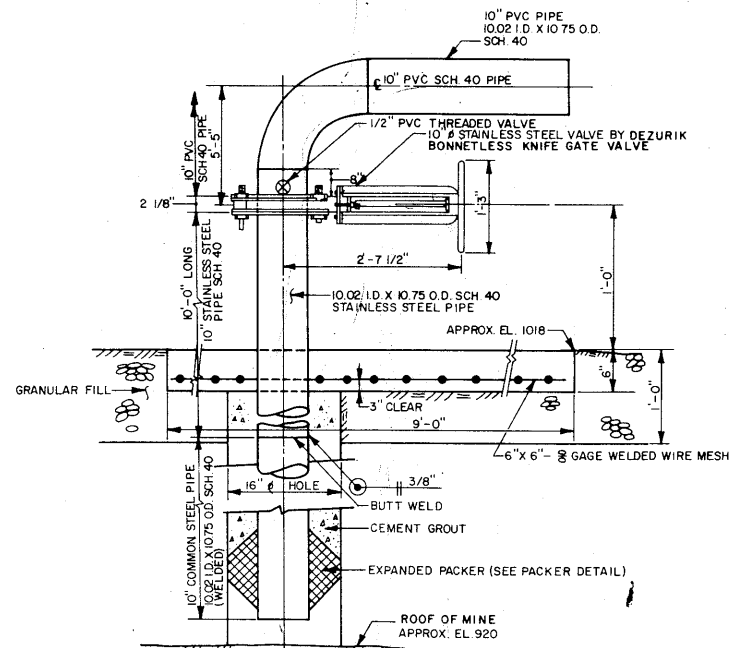
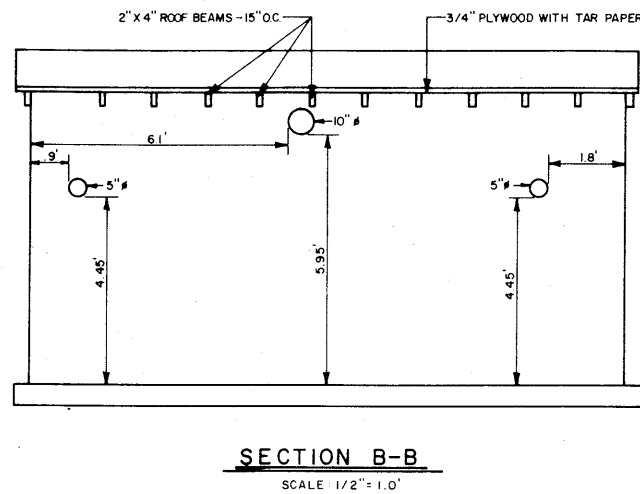
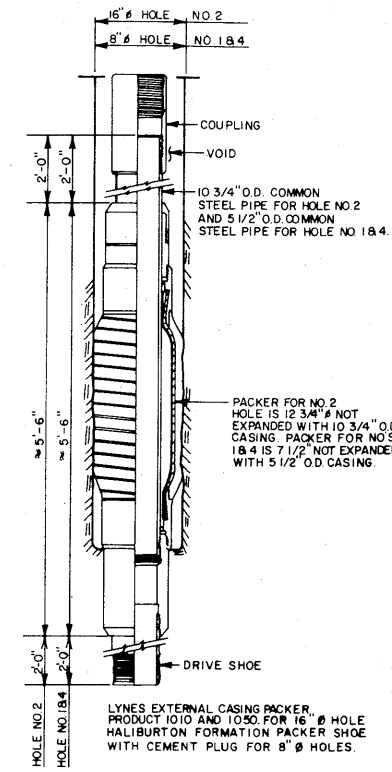
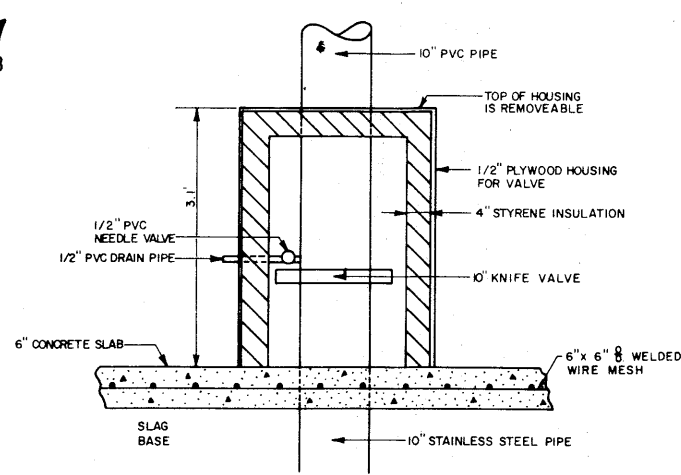
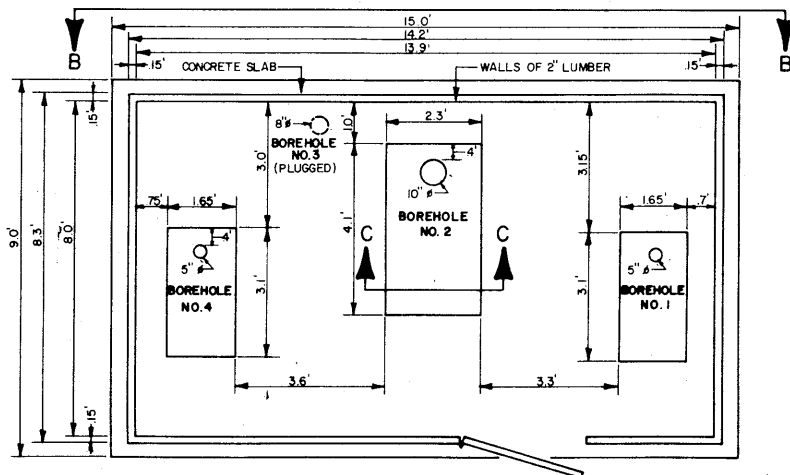
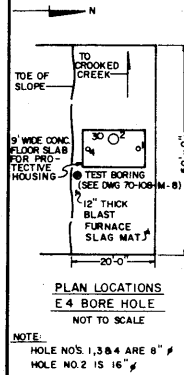


SEE DWG. NO. 70-108-M16 FOR GENERAL NOTES.

DEPARTMENT OF ENVIRONMENTAL RESOURCES	
COMMONWEALTH OF PENNSYLVANIA	
<b>E D APPOLONIA</b>	
E. D'APPOLONIA CONSULTING ENGINEERS, INC.	
10 DUFF ROAD PITTSBURGH, PA. 15235	MR 5228 CHESTERTON, IND. 46304
<b>E3 ENTRIES</b>	
PLAN AND DETAILS	
DRAWN BY: CULLIGAN	10-30-69
CHECKED BY: WHE	12-5-69
DRAWING NO. <b>70-108-M14</b>	

REVISION	DESCRIPTION
Δ	AS BUILT 10-7-71 RGN

REFERENCE DRAWINGS



NOTE: SEE DRAWING 70-108-M16 FOR GENERAL NOTES

DEPARTMENT OF ENVIRONMENTAL RESOURCES

COMMONWEALTH OF PENNSYLVANIA

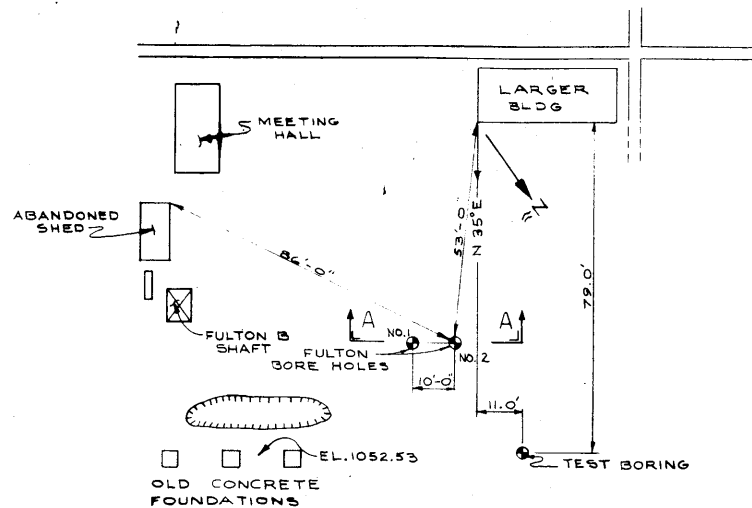
E. D'APPOLONIA CONSULTING ENGINEERS, INC.  
10 DUFF ROAD MR 522B  
PITTSBURGH, PA. 15235 CHESTERTON, IND. 46304

E-4 BOREHOLES  
PLAN AND DETAILS

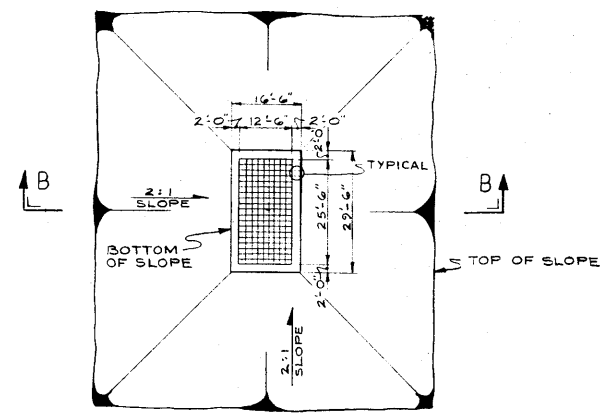
DRAWN BY	cjb	10-7-71	DRAWING NO.
CHECKED BY	RLA	1-27-72	70-108-M15



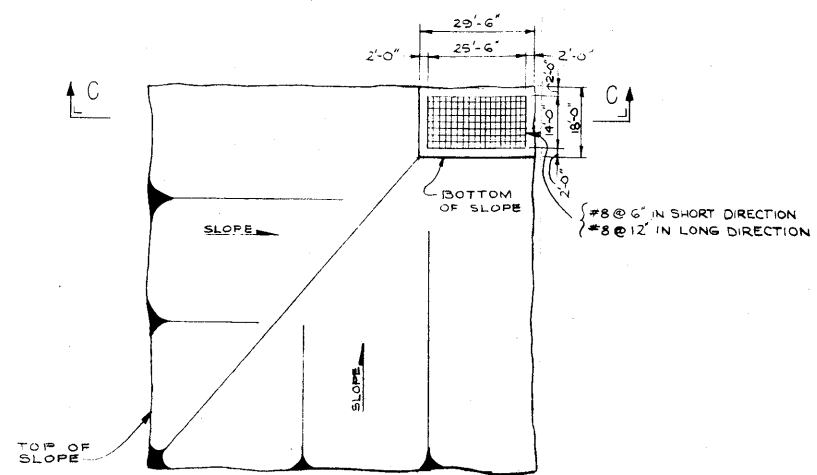
"Do Not Scale This Drawing"



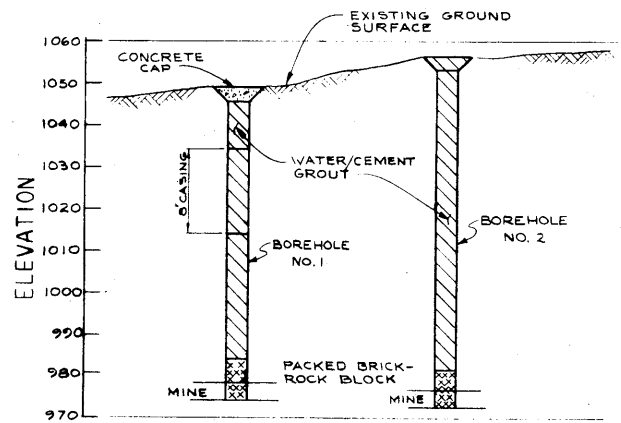
PLAN OF BORINGS FULTON SHAFT B  
NOT TO SCALE



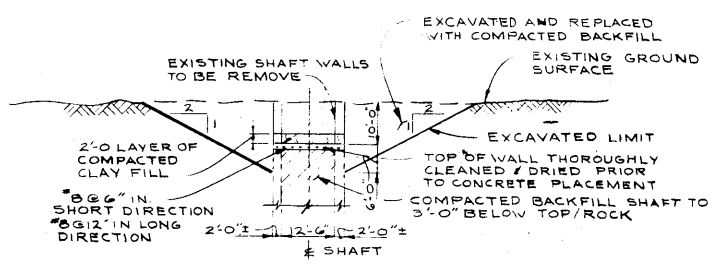
PLAN  
CONCRETE CAP SEAL  
FOR FULTON SHAFT A  
SCALE: 1" = 20'-0"



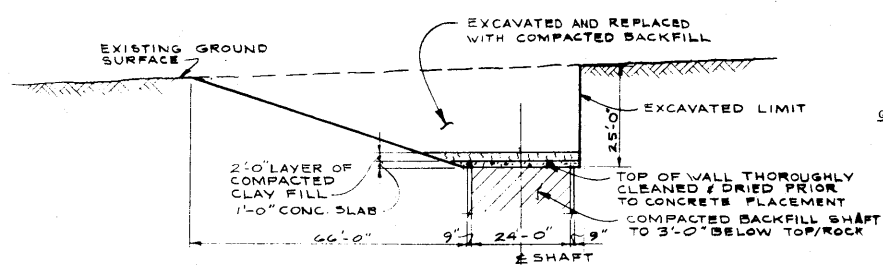
PLAN  
CONCRETE CAP SEAL  
FOR FULTON SHAFT B  
SCALE: 1" = 20'-0"



SECTION A-A  
NOT TO SCALE

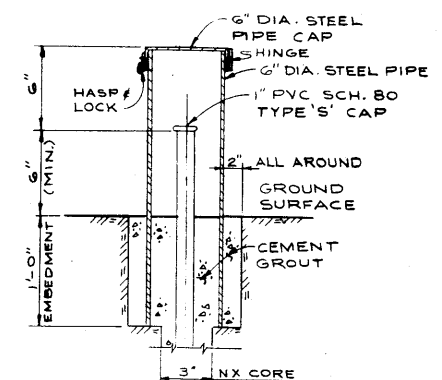


SECTION B-B  
SCALE: 1" = 20'-0"

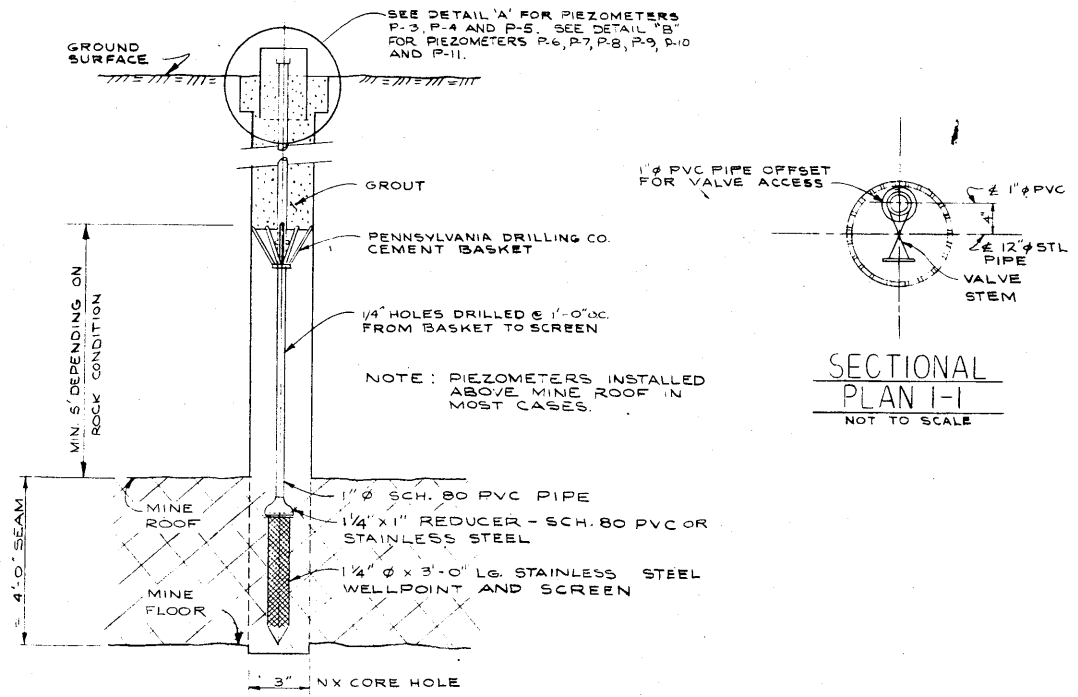


SECTION C-C  
SCALE: 1" = 20'-0"

- GENERAL NOTES:**
- UNLESS NOTED ALL ELEVATIONS ARE BASED ON THE USGS BENCH MARK ELEVATION 1028.736, LOCATED AT THE RAILROAD BRIDGE ABUTMENT OVER CROOKED CREEK SOUTHWEST OF CREEKSIDE, PENNSYLVANIA.
  - TEMPORARY BENCH MARKS ARE NOTED ON THE DRAWINGS OF THE VARIOUS WORK AREAS.
  - DIMENSIONS OF THE EXISTING STRUCTURES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND WERE VERIFIED IN THE FIELD.
  - DESIGN, DETAILING AND CONSTRUCTION OF REINFORCED CONCRETE SHALL CONFORM TO A.C.I. STANDARD BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-63) USING WORKING STRESS DESIGN METHOD. ALL CONCRETE TO HAVE A COMPRESSIVE STRENGTH  $f'_c = 3000$  P.S.I. AT 28 DAYS.
  - REINFORCING STEEL SHALL BE INTERMEDIATE GRADE DEFORMED BARS HAVING A YIELD STRESS OF 40,000 P.S.I.
  - DEFORMATIONS ON DEFORMED BARS SHALL CONFORM TO SPECIFICATIONS FOR DEFORMATIONS OF DEFORMED STEEL BARS FOR CONCRETE REINFORCEMENT (ASTM A-305).
  - WELDED WIRE MESH TO CONFORM TO ASTM DESIGNATION A82-66.
  - ALL CONSTRUCTION JOINTS TO HAVE 2" x 4" KEY WITH 6" P.V.C. WATERSTOPS UNLESS OTHERWISE NOTED.
  - UNLESS OTHERWISE SHOWN MINIMUM CONCRETE PROTECTIVE COVERING FOR REINFORCING BARS SHALL BE:  
3" FOR MEMBERS CAST AGAINST GROUND AND ROCK  
2" FOR FORMED SURFACES OF BEAMS, COLUMNS AND WALLS
  - REINFORCING BARS @ SPLICES SHALL BE LAPPED MINIMUM 36 BAR DIAMETERS EXCEPT OTHERWISE SHOWN.
  - BACKFILL SHALL BE COMPACTED IN ACCORDANCE WITH SPECIFICATIONS.
  - ALL EXPOSED DOWELS FOR FUTURE WORK WERE COATED WITH BITUMASTIC AND WRAPPED WITH BURLAP.
  - ALL WIRE MESH REINFORCING SHALL BE FLAT (NOT ROLLED) AND CUT TO DIMENSIONS SHOWN ON THE DRAWINGS.

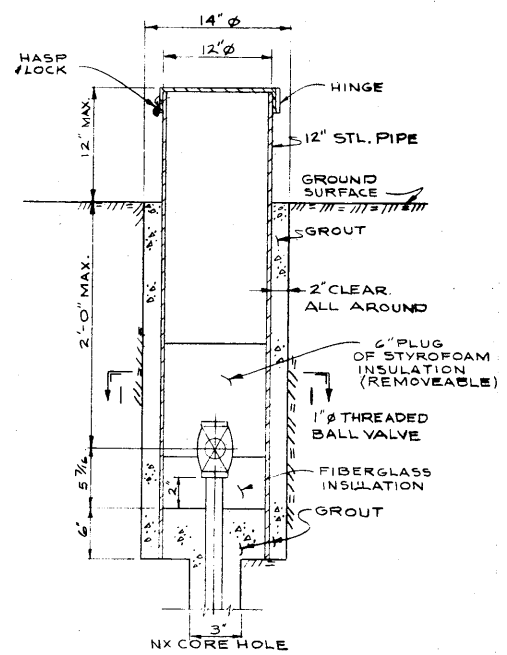


DETAIL A  
FOR PIEZOMETERS P-3  
P-4 AND P-5  
NOT TO SCALE



PIEZOMETER DETAIL  
NOT TO SCALE

SECTIONAL  
PLAN I-I  
NOT TO SCALE



DETAIL 'B'  
FOR PIEZOMETERS P-6  
P-7, P-9, P-10 AND P-11  
NOT TO SCALE

DEPARTMENT OF ENVIRONMENTAL RESOURCES  
COMMONWEALTH OF PENNSYLVANIA

**E. D'APOLLONIA CONSULTING ENGINEERS, INC.**  
10 DUFF ROAD MR 522B  
PITTSBURGH, PA. 15235 CHESTERTON, IND. 46304

FULTON RUN AND PIEZOMETER INSTALLATION  
PLAN AND DETAILS AND GENERAL NOTES

DRAWN BY	C. DILLIGAN	11-3-69	DRAWING NO.
CHECKED BY	M. J. BRYAN	12-5-69	70-108-M16

REFERENCE DRAWINGS

REVISION	DESCRIPTION

DO NOT SCALE THIS DRAWING