



WESTMORELAND BEULAH MINING LLC
A Subsidiary of WESTMORELAND MINING LLC

January 3, 2023

Ms. Zanna Brinkman
Director, Reclamation Division
Public Service Commission
600 E. Boulevard Ave. Dept. 408
Bismarck, ND 58505-0480

Re: As-built Reports for Beulah Mine Permit KRSB-8603 Ponds 104, 105, and 106

Dear Ms. Brinkman,

Enclosed are the as-built reports for Westmoreland Beulah Mining (WBM) Ponds 104, 105, and 106 within the permit boundary of KRSB-8603. The original design for these structures was modified due to changes in mining operations. The as-builts contained within this submittal represent present existing conditions including existing runoff volumes, design storm calculations, and sediment storage requirements. Given the reduced existing watersheds, all three ponds can contain the 10-year 24-hour storm event in their current configuration.

Once reclamation commences in the area, WBM will modify the pond volumes and associated designs to accommodate the 10-year 24-hour storm event associated with the watershed volume from the Post-Mining Topography (PMT).

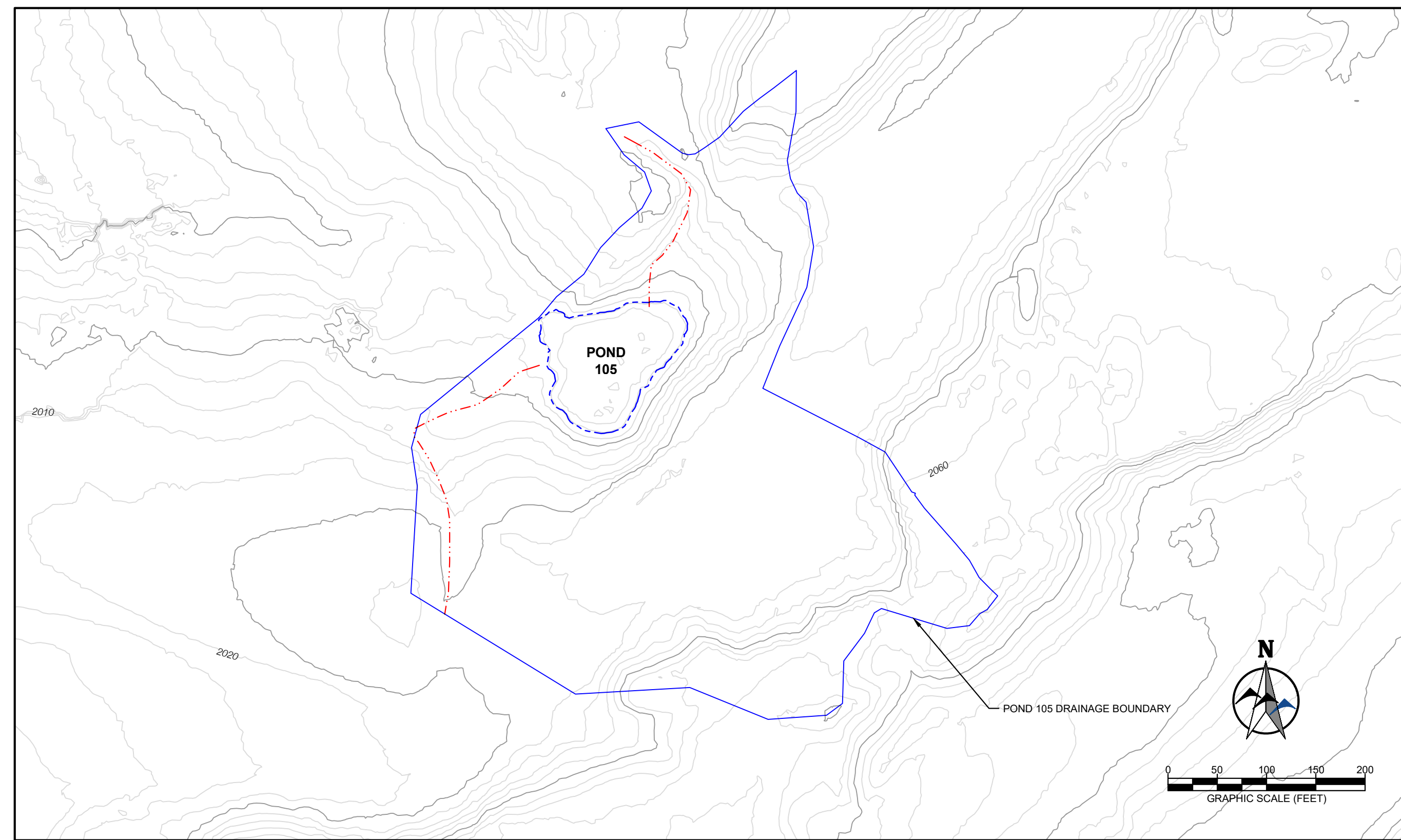
If you have any questions regarding this submittal, please contact me at 406-533-5891 or by electronic mail at nore@westmoreland.com.

Sincerely,

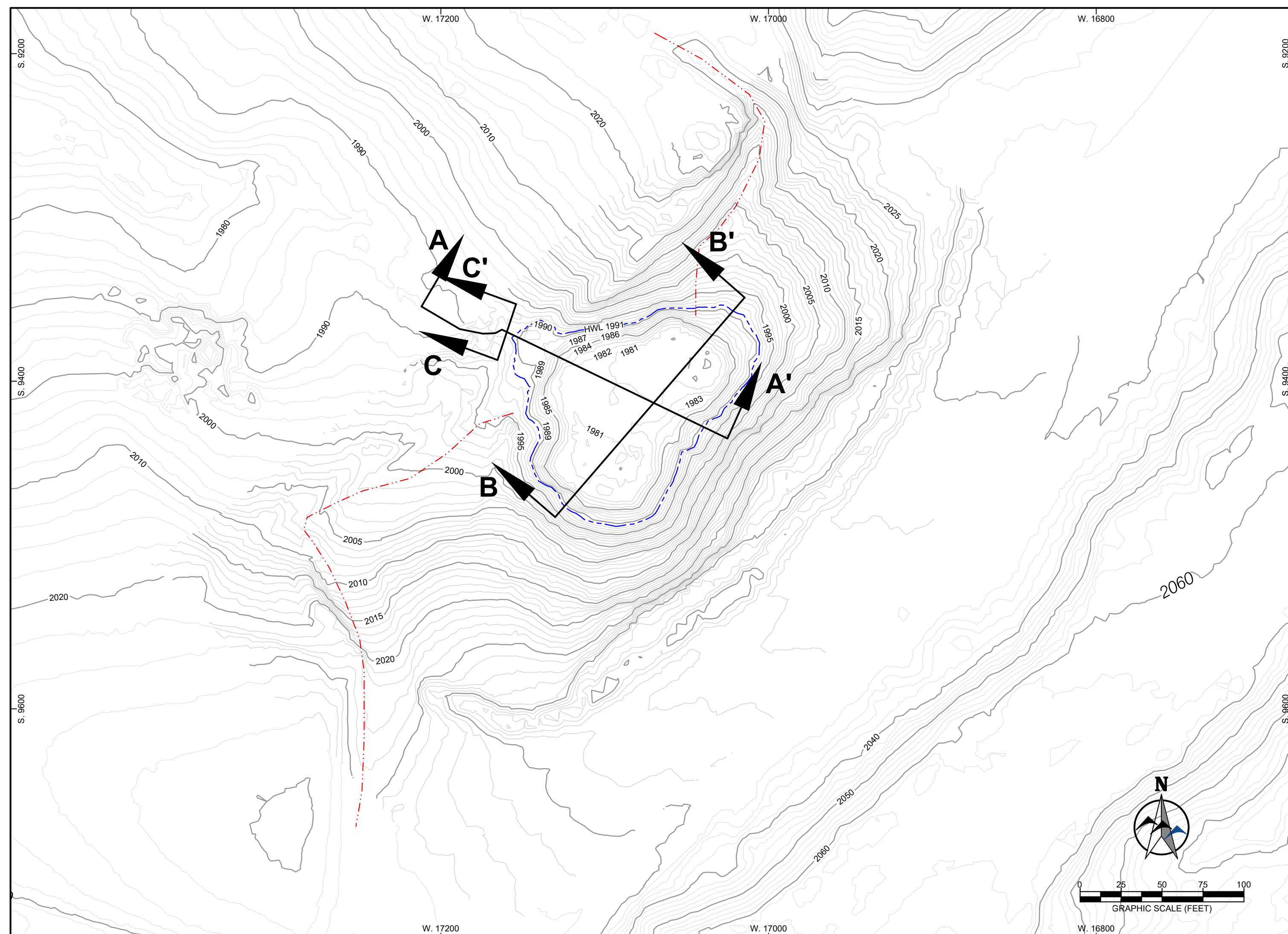
Nettie Johnston Ore
Manager, Environmental & Regulatory Affairs
Westmoreland Mining LLC

Encl/

5 RC-22-418 Filed 01/03/2023 Pages: 4
As-Built Report for Ponds 104, 105, & 106
Westmoreland Beulah Mining LLC
Nettie Johnston Ore

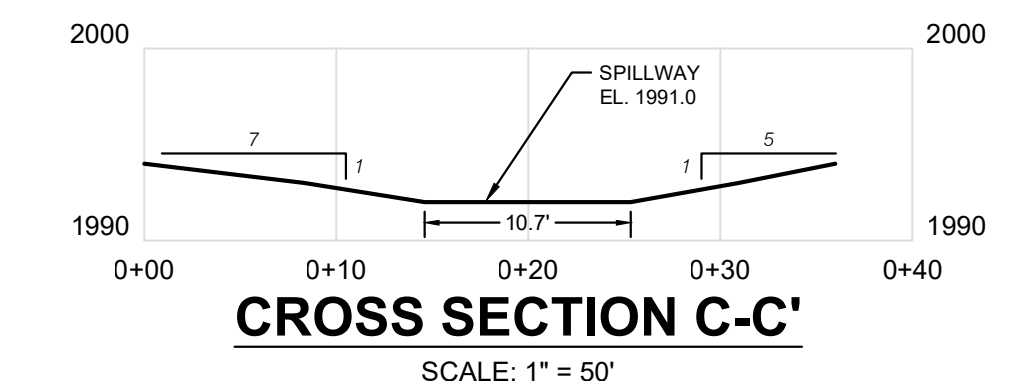
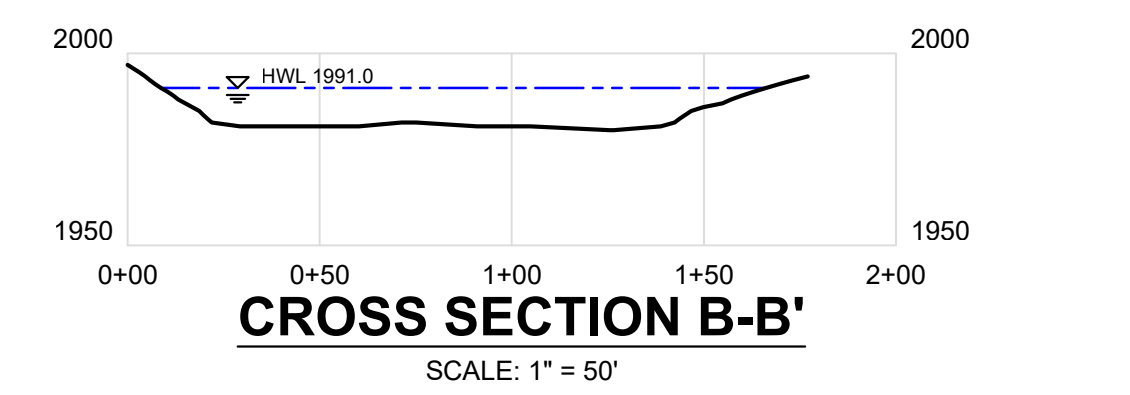
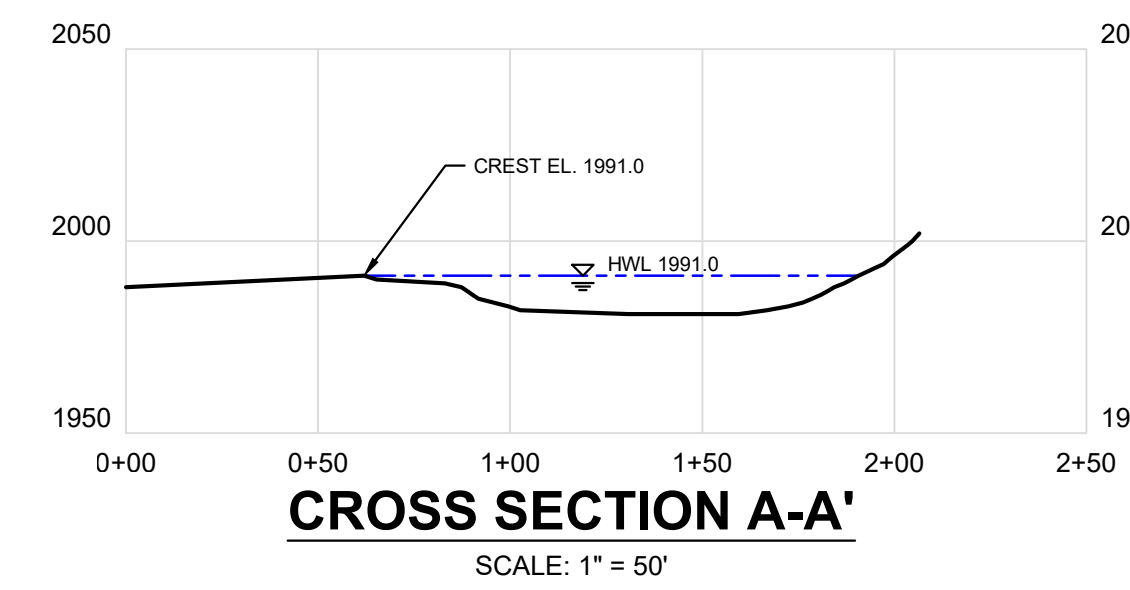


PLAN VIEW

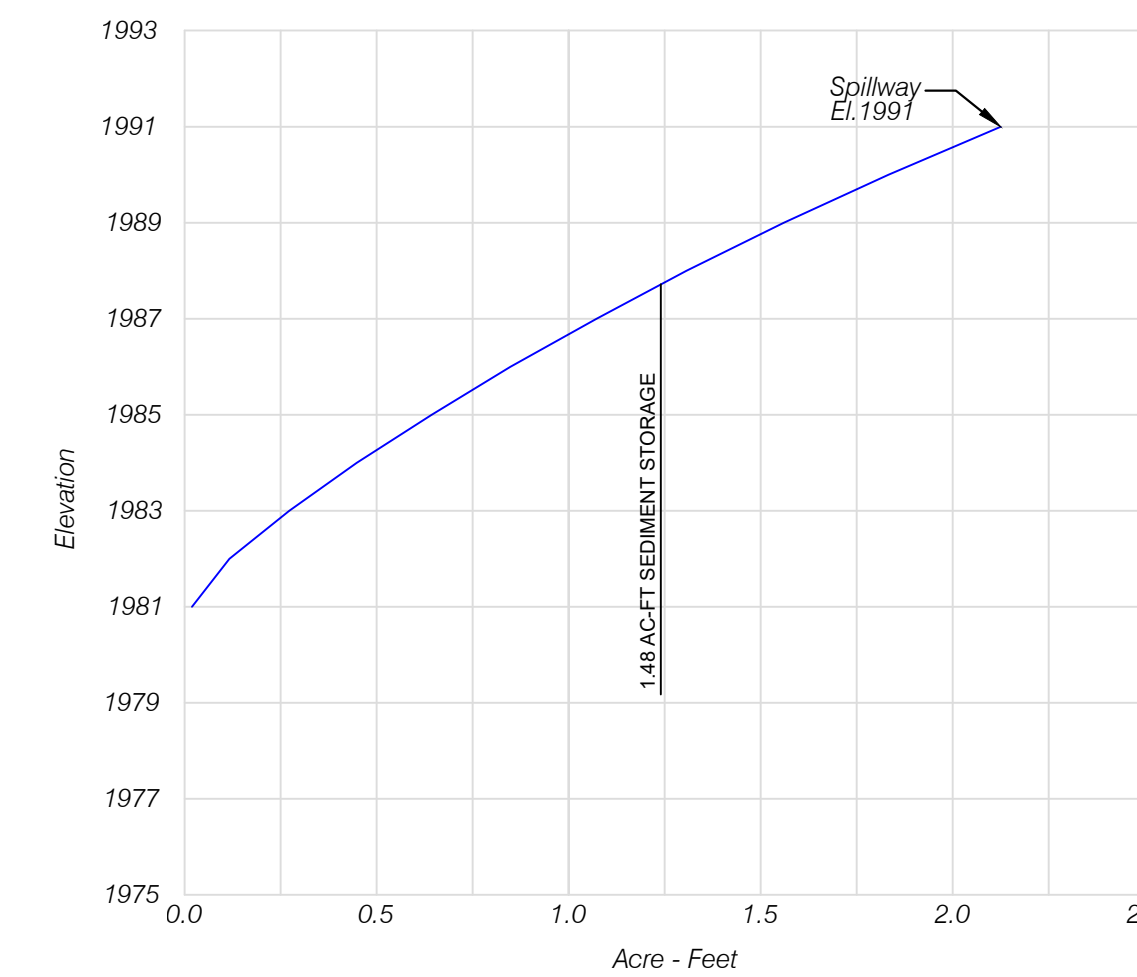


ENLARGED VIEW

LOCATED IN THE SE/4
SEC 20 T.143N., R.88W.



**POND 105
AREA- CAPACITY GRAPH**



Control Section Hydraulics
 $Q = CLH^{3/2}$
 $Q_{des} = 6.61 \text{ cfs}$
 $C = 2.63$
 $L = 10.7 \text{ ft}$
 $H = 0.38 \text{ ft}$

Storm Information:

Storm Type:	NRCS Type I
Design Storm:	10 yr - 24 hr
Rainfall Depth:	3.140 inches

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	4.700	0.037	0.000	0.000	86.000	F	4.30	0.697
Σ		4.700						4.30	0.697

Storm Information:

Storm Type:	NRCS Type I
Design Storm:	25 yr - 6 hr
Rainfall Depth:	2.700 inches

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	4.700	0.037	0.000	0.000	86.000	F	6.61	0.548
Σ		4.700						6.61	0.548

The original design for this structure has been modified due to mining operations. The previously approved runoff volumes, design storm calculations, sediment storage requirements, and spillway calculations remain as previously permitted. The volumetric determination for the current conditions is shown on this Exhibit.

**POND 105
AREA CAPACITY TABLE**

ELEVATION (ft)	AREA (ac)	AVG. AREA (ac)	CAPACITY (ac-ft)	
			INCR.	ACCUM.
1980.0	0.00	0.02	0.02	0.00
1981.0	0.04	0.10	0.10	0.02
1982.0	0.15	0.16	0.16	0.12
1983.0	0.17	0.18	0.18	0.28
1984.0	0.19	0.20	0.20	0.46
1985.0	0.20	0.21	0.21	0.66
1986.0	0.22	0.23	0.23	0.87
1987.0	0.23	0.24	0.24	1.10
1988.0	0.25	0.26	0.26	1.34
1989.0	0.26	0.28	0.28	1.60
1990.0	0.29	0.30	0.30	1.88
1991.0	0.31	0.30	0.30	2.18
TOTAL AVAILABLE CAPACITY = 2.18 ac-ft				

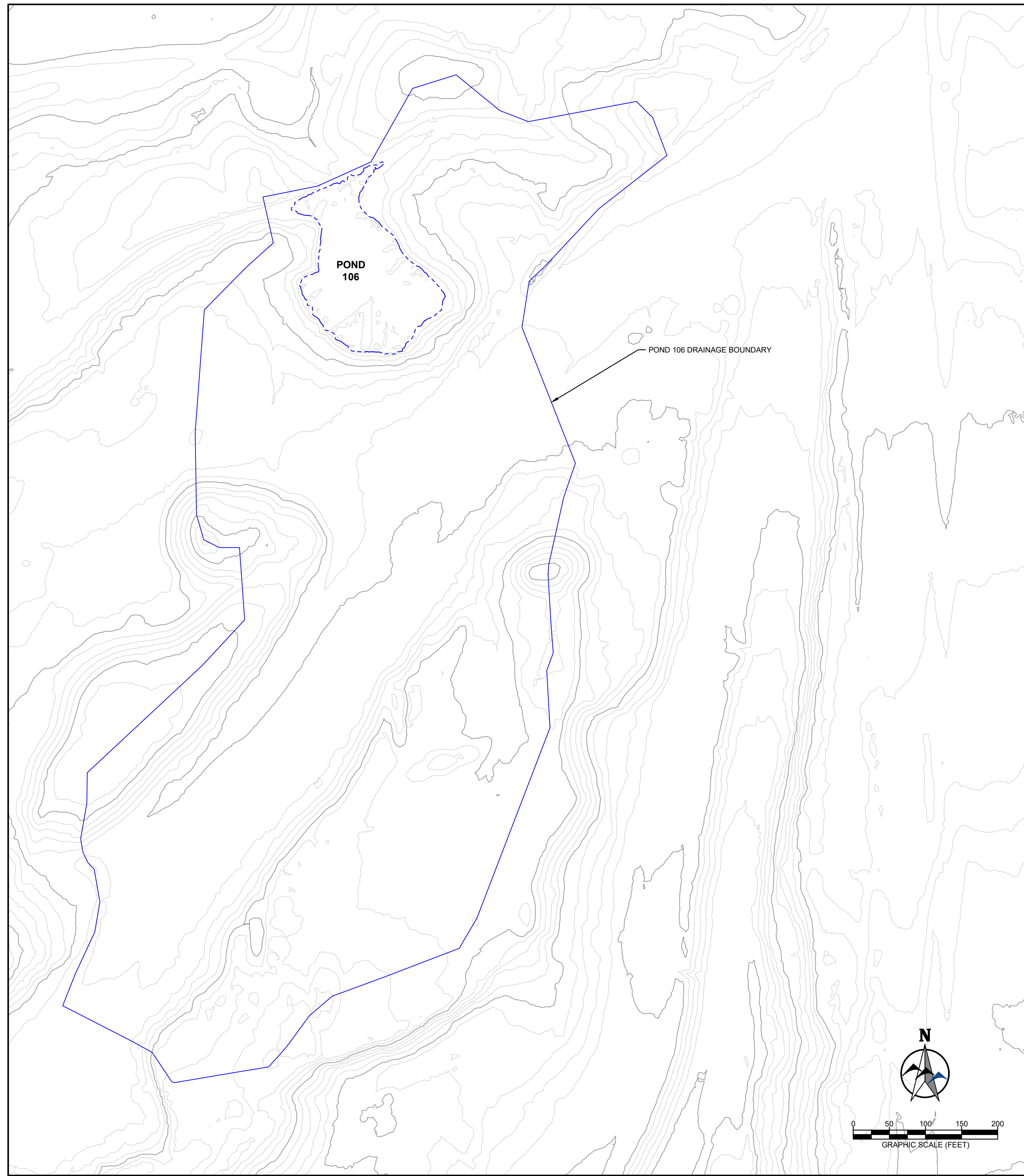
T. 143 N., R. 88 W.
MERCER COUNTY
NORTH DAKOTA

DATE	Revision

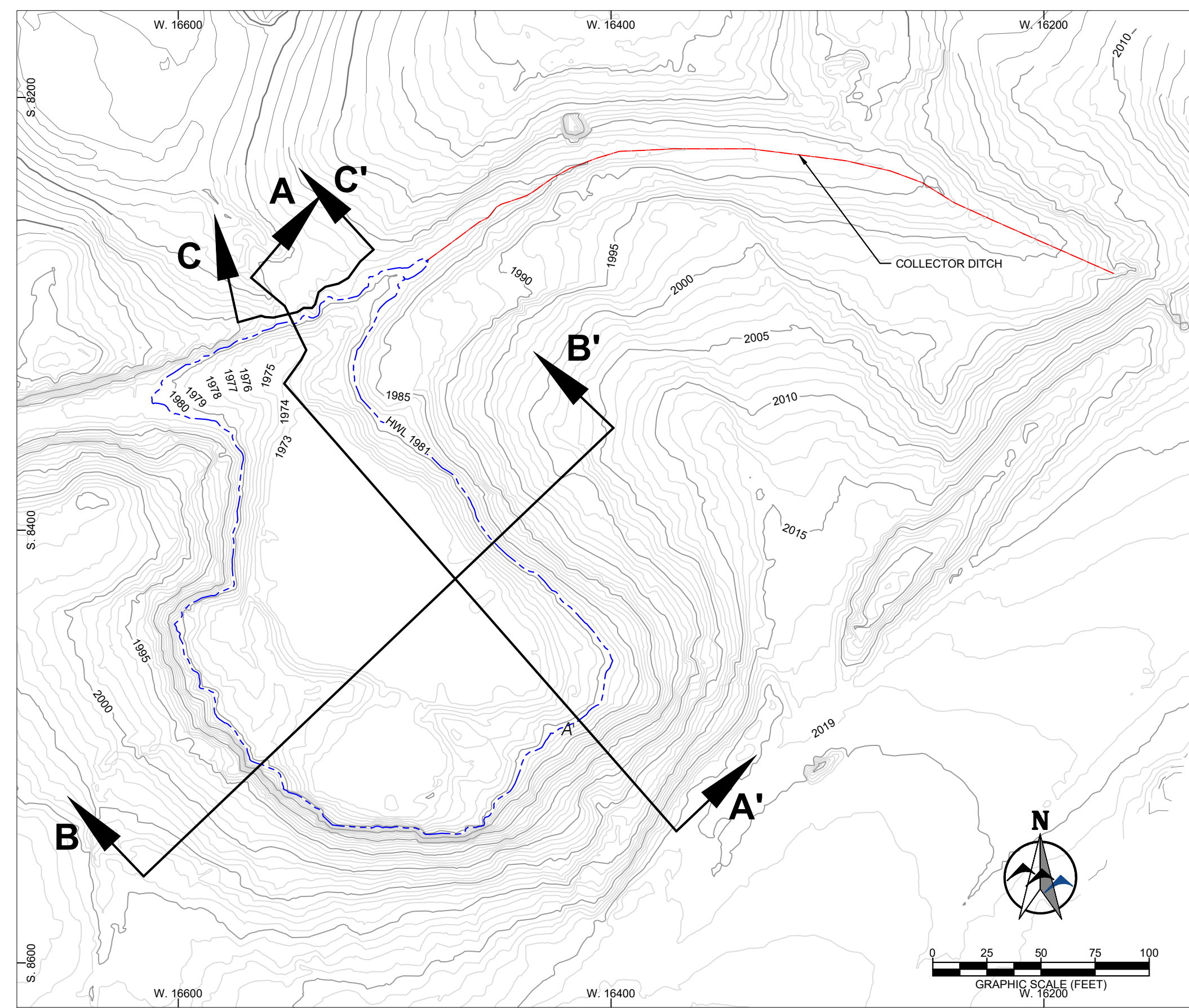
MINE: Beulah, ND	DATE	Name
AREA: KR5B-8603	9/15/2022	DCJ
Proposed Pond 105 and Ditch 105W		
Exhibit 3.2.68		

Dakota Westmoreland Beulah Mine
 DRAWN BY: DCJ
 CHECKED BY:
 SURVEYED BY:

Pond 105 110922_asbuilt.dwg

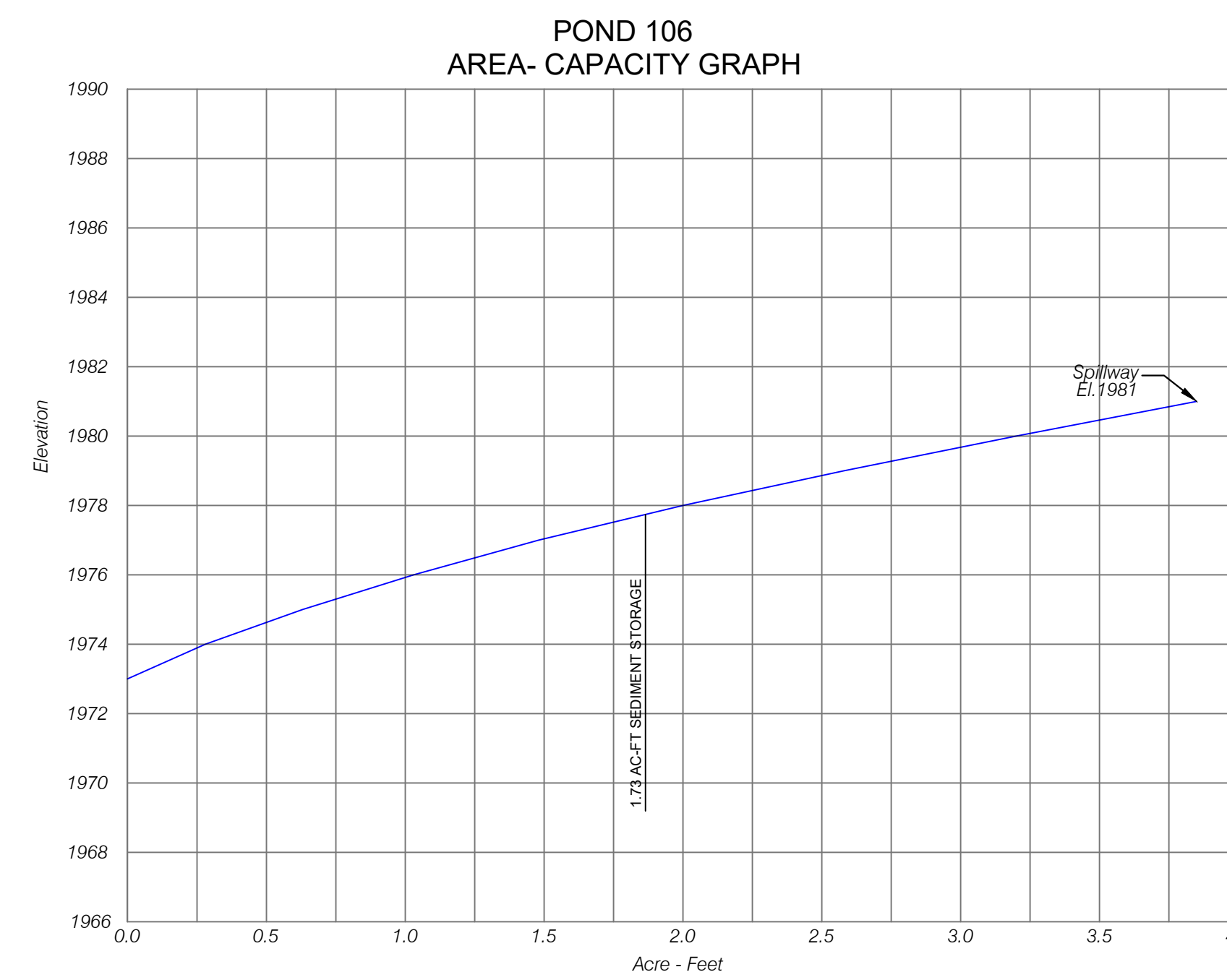


PLAN VIEW



PLAN VIEW

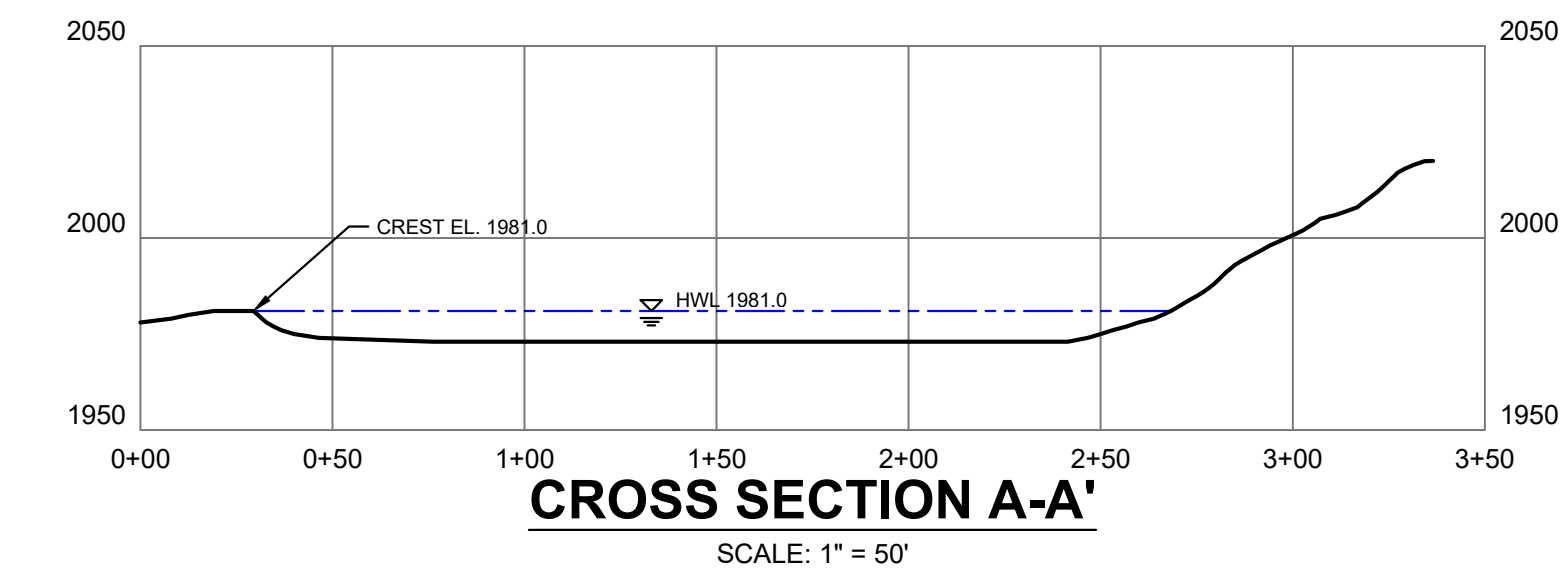
LOCATED IN THE SE/4
SEC 20 T.143N., R.88W.



POND 106
AREA- CAPACITY GRAPH

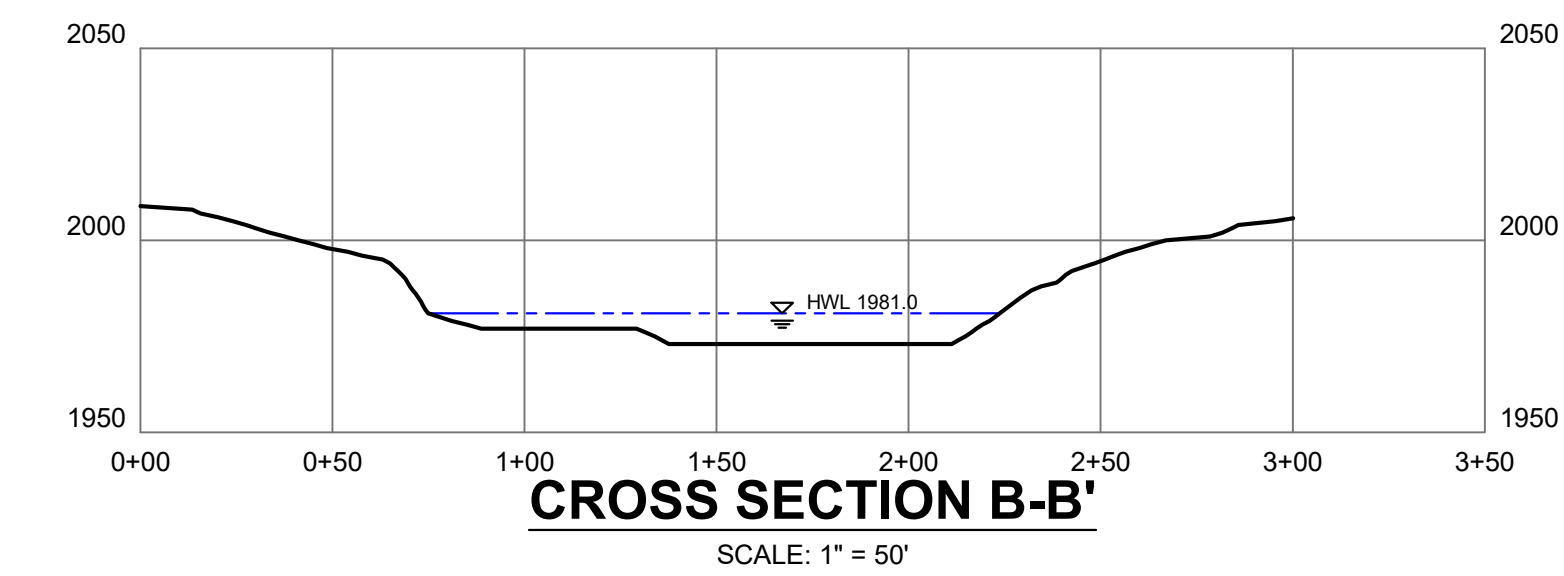
POND 106
AREA CAPACITY TABLE

ELEVATION (ft)	AREA (ac)	AVG. AREA (ac)	CAPACITY (ac-ft)	
			INCR.	ACCUM.
1973.0	0.24	0.28	0.28	0.00
1974.0	0.32	0.35	0.35	0.28
1975.0	0.37	0.40	0.40	0.63
1976.0	0.42	0.45	0.45	1.03
1977.0	0.48	0.52	0.52	1.48
1978.0	0.55	0.58	0.58	2.00
1979.0	0.60	0.62	0.62	2.58
1980.0	0.63	0.65	0.65	3.20
1981.0	0.67	0.65	0.65	3.85



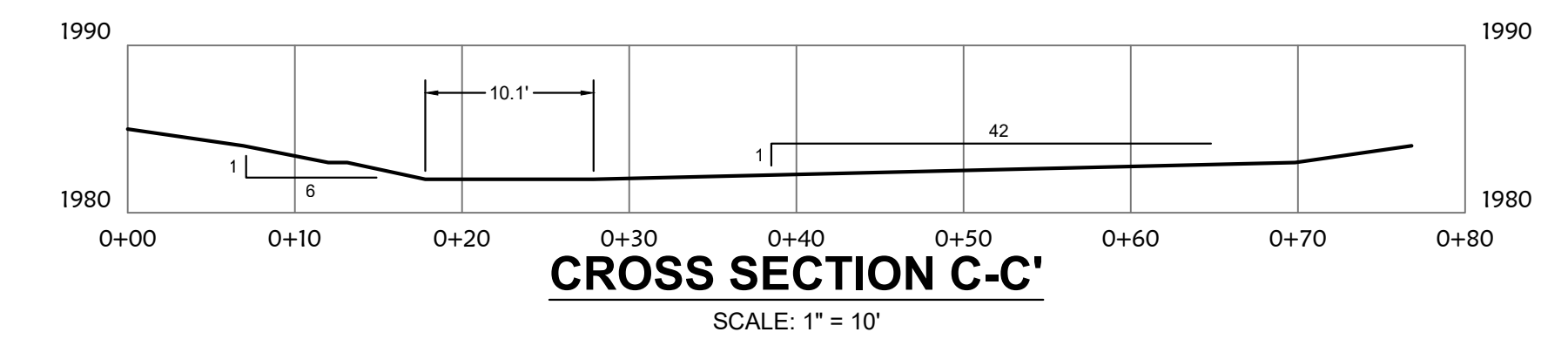
CROSS SECTION A-A'

SCALE: 1" = 50'



CROSS SECTION B-B'

SCALE: 1" = 50'



CROSS SECTION C-C'

SCALE: 1" = 10'

Control Section Hydraulics

$$Q = CLH^{3/2}$$

$$Q_{2.5} = 20.07 \text{ cfs}$$

$$C = 2.63$$

$$L = 10.1 \text{ ft}$$

$$H = 0.85 \text{ ft}$$

Storm Information:

Storm Type:	NRCS Type I
Design Storm:	10 yr - 24 hr
Rainfall Depth:	3.140 inches

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	14.280	0.084	0.000	0.000	86.000	F	13.07	2.119
Σ		14.280						13.07	2.119

Storm Information:

Storm Type:	NRCS Type I
Design Storm:	25 yr - 6 hr
Rainfall Depth:	2.700 inches

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	14.280	0.084	0.000	0.000	86.000	F	20.07	1.666
Σ		14.280						20.07	1.666

T. 143 N., R. 88 W.
MERCER COUNTY
NORTH DAKOTA

The original design for this structure has been modified due to mining operations. The previously approved runoff volumes, design storm calculations, sediment storage requirements, and spillway calculations remain as previously permitted. The volumetric determination for the current conditions is shown on this Exhibit.

DATE	Revision

MINE: Beulah, ND
AREA: KR5B-8603

Proposed Pond 106 and Ditches
Exhibit 3.2.69

Dakota Westmoreland Beulah Mine

DATE	Name
8/7/2020	ESI
CHECKED BY:	
SURVEYED BY:	

Pond 106 110922_asbuilt.dwg