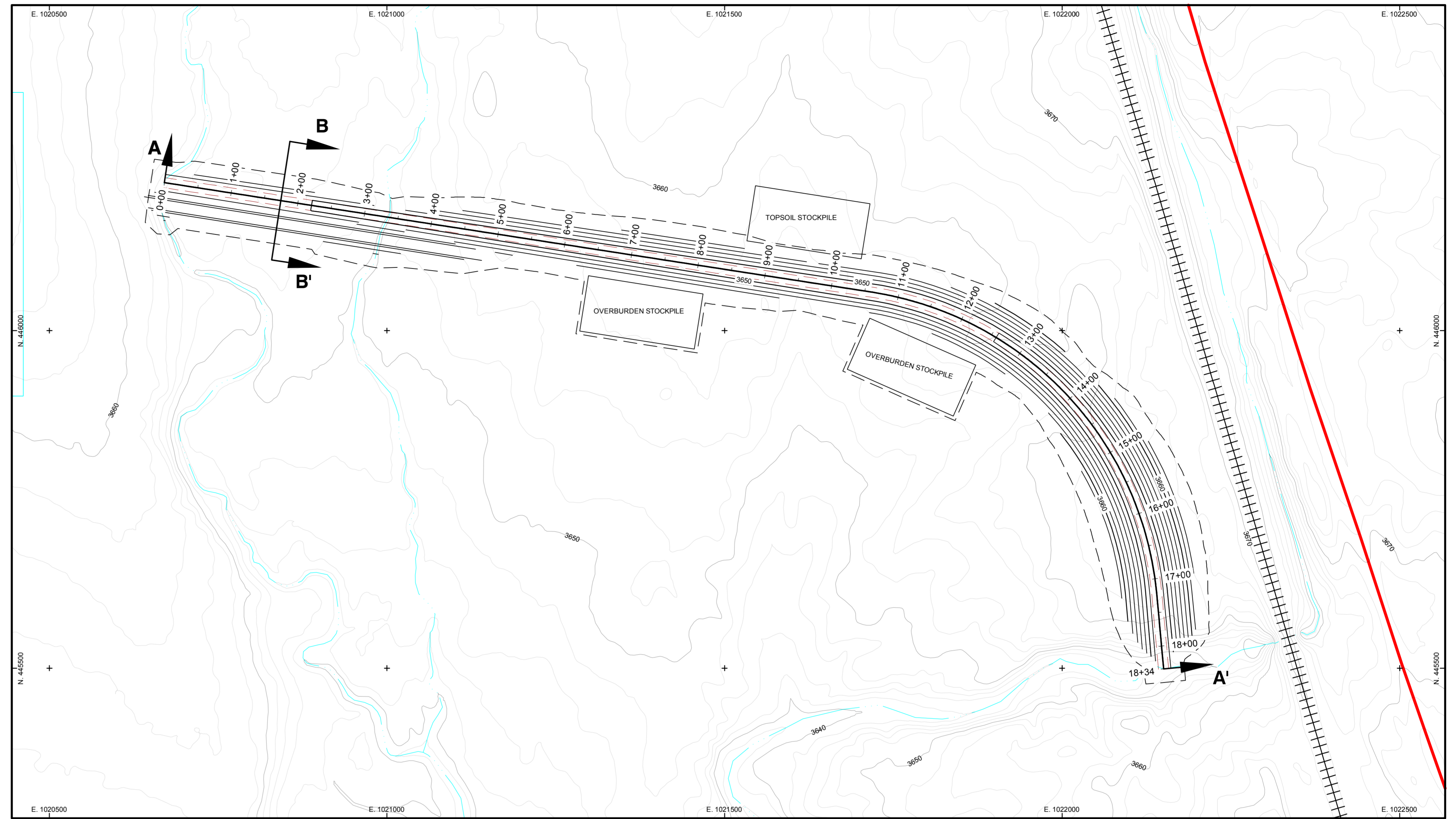
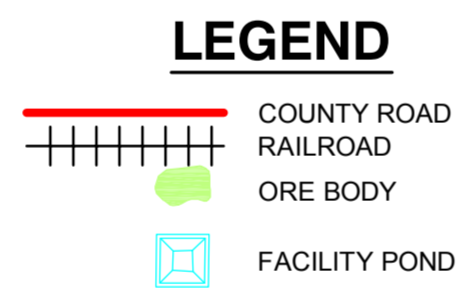


**DRAINAGE AREA**  
SCALE: 1" = 500'



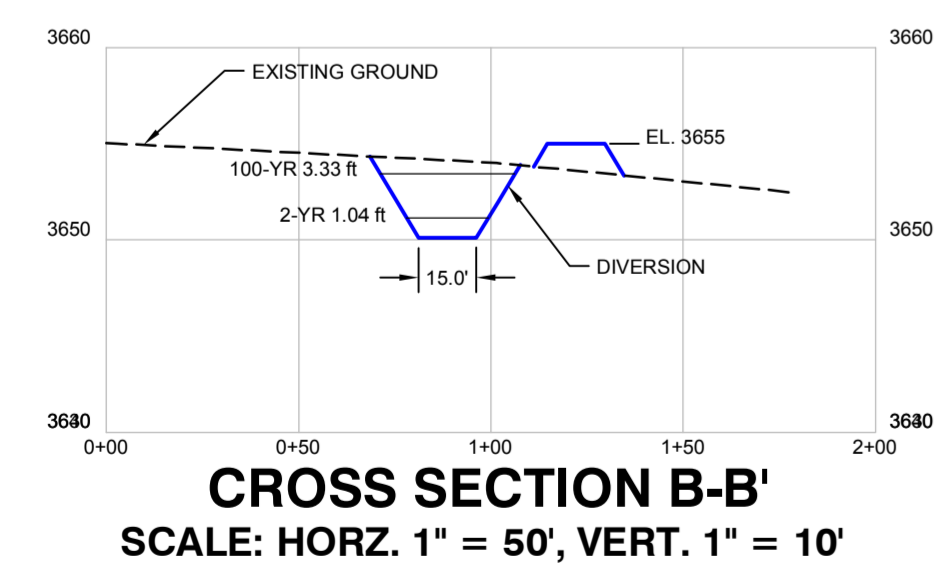
**SITE PLAN**  
SCALE: 1" = 100'



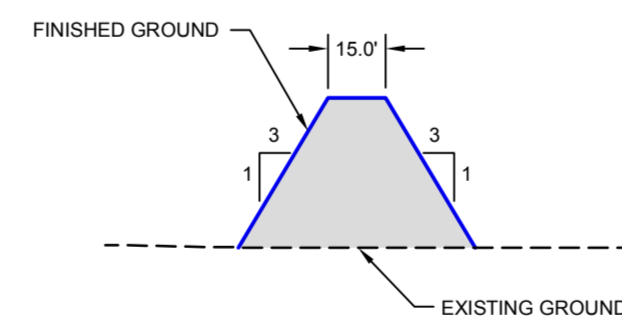
**HYDROLOGIC DESIGN STORM CALCULATIONS**

SWS NO.	DRAINAGE BASIN PARAMETERS			2-YR, 6-HR STORM			100-YR, 24-HR STORM		
	DRAINAGE AREA (sq-mi)	CURVE NO. (CN)	WATERSHED LAG TIME (Min)	2-YR, 6-HR PRECIP. (in)	PEAK INFLOW (cfs)	RUNOFF VOLUME (ac-ft)	100-YR, 24-HR PRECIP. (in)	PEAK INFLOW (cfs)	RUNOFF VOLUME (ac-ft)
2-1	0.284	79	27.37	1.45	37.2	4.0	4.8	314.6	39.8

NOTE: RUNOFF VOLUMES AND PEAK INFLOWS WERE COMPUTED BY THE HEC-HMS COMPUTER PROGRAM USING THE SCS TYPE II RAINFALL DISTRIBUTION.



**CROSS SECTION B-B'**  
SCALE: HORZ. 1" = 50', VERT. 1" = 10'



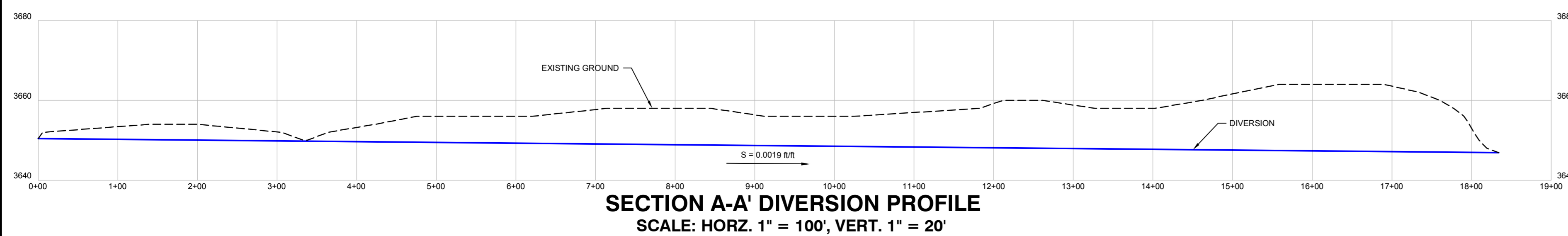
**BLOCKING DIKE CROSS SECTION**  
NOT TO SCALE

**DIVERSION CROSS SECTION**

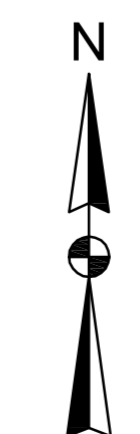
$$Q = \frac{1.49}{n} AR^{2/3} S^{1/2}$$

2-yr, 6-hr		100-yr, 24-hr	
Q = 37.20 cfs	A = 18.85 ft <sup>2</sup>	Q = 314.60 cfs	A = 83.38 ft <sup>2</sup>
n = 0.030	WP = 21.58 ft	n = 0.030	WP = 36.09 ft
S = 0.0019 ft/ft	R = 0.87 ft	S = 0.0019 ft/ft	R = 2.31 ft
b = 15 ft	V = 1.97 fps	b = 15 ft	V = 3.77 fps
Yn = 1.04 ft		Yn = 3.33 ft	

This plate is provided to fulfill the requirements of ARSD 74:28:02:1(18).



**SECTION A-A' DIVERSION PROFILE**  
SCALE: HORZ. 1" = 100', VERT. 1" = 20'



CONSULTANT  <b>WVC ENGINEERING</b>	REVISIONS # DRAWN CHECKED APPROVED DATE				 <b>Powertech (USA) Inc.</b> <b>Plate 5.3-10a</b> <b>Diversion No. 2</b> <b>Deep Disposal Well Option</b>
	SIGNATURE OF PREPARER 				
CHECK SCALES If this bar does not measure 1 inch this scale is not at its original scale	PLOT DATE: 27 September 2012 DRAWN: DAVE C. JOHNSON PREPARER: DALE E. BROWN	DATE: 27 September 2012 PDF FILE CAD FILE: K:\Powertech\11270\DWGS\DIV_2_EXHIBIT.dwg	Dewey-Burdock Project COORDS: NAD 27, South Dakota State Plane South (feet)		