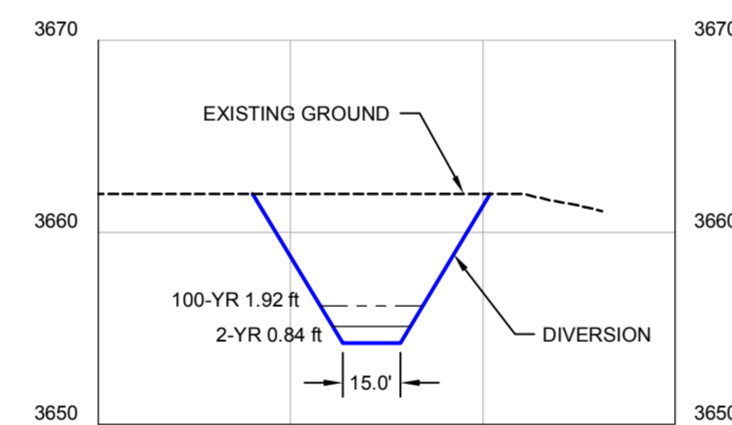


DRAINAGE AREA
SCALE: 1" = 500'

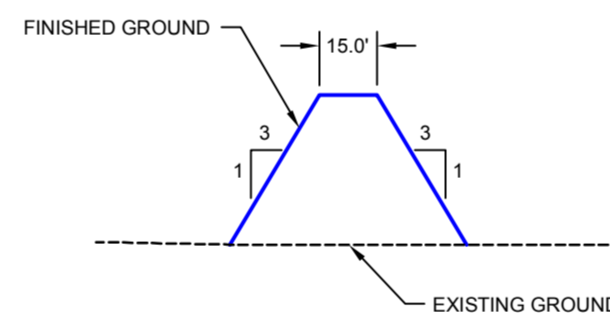
DIVERSION CROSS SECTION

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

2-yr, 6-hr		100-yr, 24-hr	
Q = 57.20 cfs	A = 14.65 ft ²	Q = 251.00 cfs	A = 39.98 ft ²
n = 0.030	WP = 20.29 ft	n = 0.030	WP = 27.17 ft
S = 0.0096 ft/ft	R = 0.72 ft	S = 0.0096 ft/ft	R = 1.47 ft
b = 15 ft	V = 3.91 fps	b = 15 ft	V = 6.28 fps
Yn = 0.84 ft	Yn = 1.92 ft		



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

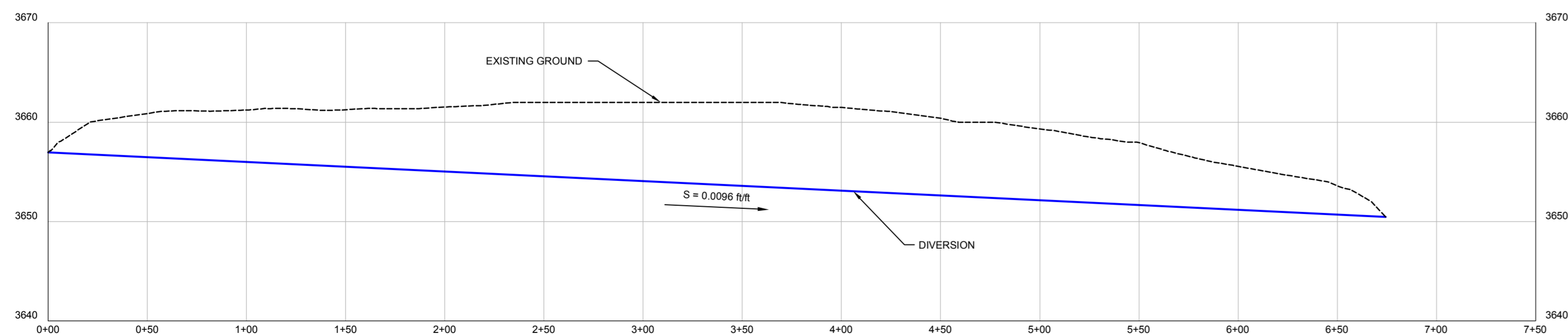


BLOCKING DIKE CROSS SECTION
NOT TO SCALE

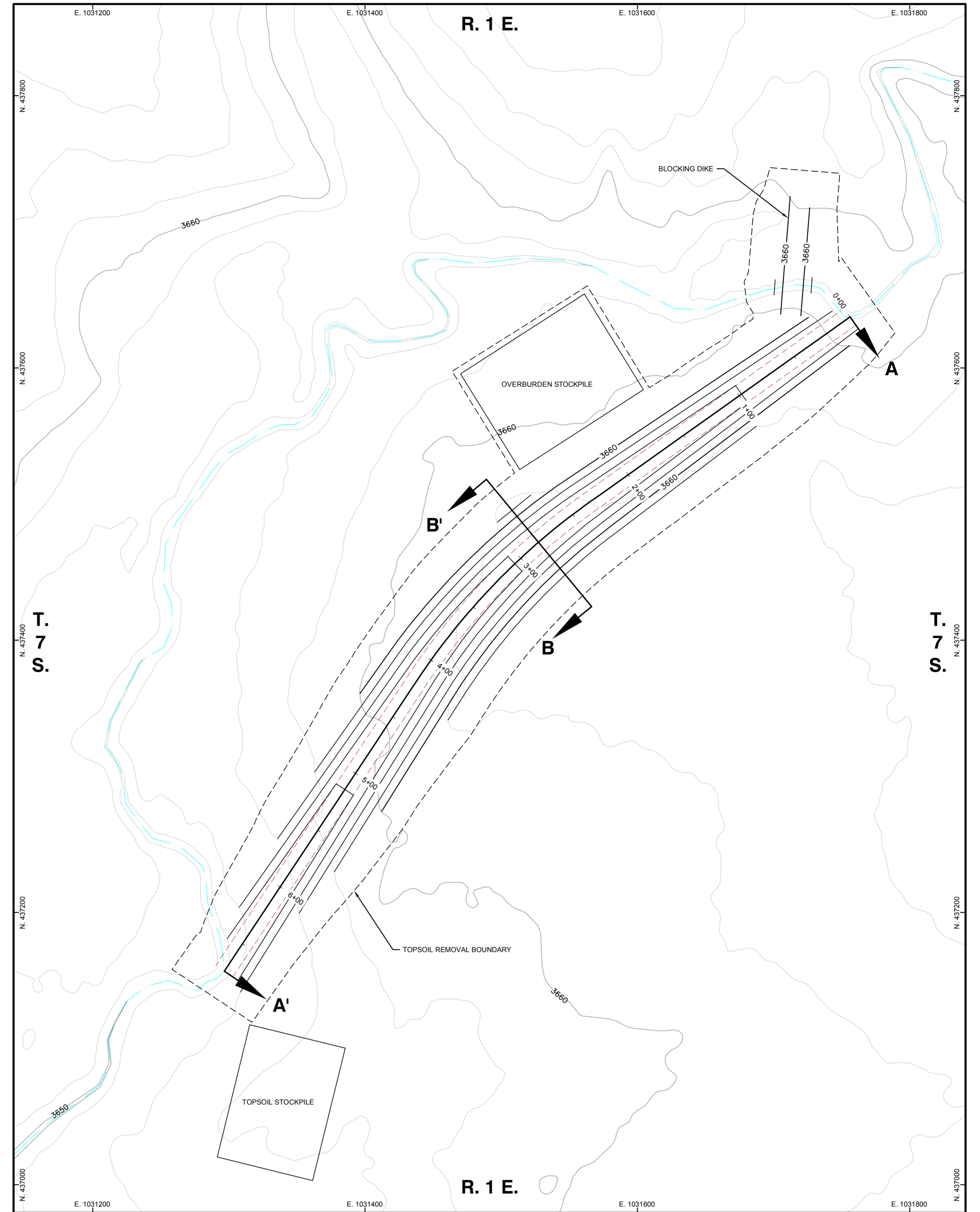
HYDROLOGIC DESIGN STORM CALCULATIONS

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)
1-1	0.218	80	35.04	1.45	53.6	6.2	4.8	234.9	36.7
1-2	0.028	80	9.30	1.45	14.3	0.8	4.8	61.0	4.8
1-3	0.008	80	6.31	1.45	4.8	0.2	4.8	21.0	1.4
TOTAL	0.254	-	-	1.45	57.2	7.2	4.8	251.0	42.9

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



SECTION A-A' DIVERSION PROFILE
SCALE: HORZ. 1" = 50', VERT. 1" = 10'



SITE PLAN
SCALE: 1" = 50'

This plate is provided to fulfill the requirements of ARSD 74:29:02(119).

LEGEND

- ORE BODY
- CENTER PIVOT
- SPARE CENTER PIVOT



CONSULTANT WVC ENGINEERING	REVISIONS				 Powertech (USA) Inc. Plate 5.3-9 Diversion No. 1
	#	DRAWN	CHECKED	APPROVED	
REF	SIGNATURE OF PREPARER <i>Dale E. Brown</i>				Dewey-Burdock Project <small>COORDS NAD 27, South Dakota State Plane South (feet)</small>
CHECK SCALES	<small>If this bar does not measure 1 inch this page is not at its original scale</small>				
PLOT DATE: 27 September 2012	DATE: 27 September 2012	DRAWN: DAVE C. JOHNSON		CAD FILE: K:\Powertech\11270\DWGS\DIV_1_EXHIBIT.dwg	