

CATRON BOULEVARD / HIGHWAY 16B SANITARY SEWER EXTENSION

CITY OF RAPID CITY PROJECT NO. SS09-1782/CIP #50396



BRITTON ENGINEERING &
LAND SURVEYING, INC.
803E BLACK HAWK ROAD, SUITE 6
BLACK HAWK, SD 57716
PH. (605) 748-7888



DATE	09/14/09
SCALE	
PROJECT NO.	SS09-1782/CIP #50396
SHEET NO.	1
TOTAL SHEETS	24

DATE	
SCALE	
PROJECT NO.	
SHEET NO.	
TOTAL SHEETS	

DATE	
SCALE	
PROJECT NO.	
SHEET NO.	
TOTAL SHEETS	

DATE	
SCALE	
PROJECT NO.	
SHEET NO.	
TOTAL SHEETS	

DATE	
SCALE	
PROJECT NO.	
SHEET NO.	
TOTAL SHEETS	

DATE	
SCALE	
PROJECT NO.	
SHEET NO.	
TOTAL SHEETS	

DATE	
SCALE	
PROJECT NO.	
SHEET NO.	
TOTAL SHEETS	

DATE	
SCALE	
PROJECT NO.	
SHEET NO.	
TOTAL SHEETS	

DATE	
SCALE	
PROJECT NO.	
SHEET NO.	
TOTAL SHEETS	

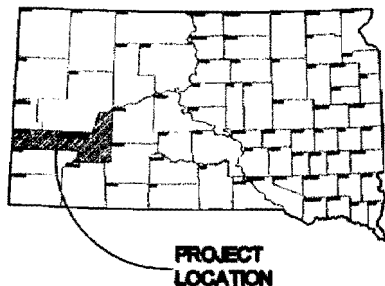
DATE	
SCALE	
PROJECT NO.	
SHEET NO.	
TOTAL SHEETS	

DATE	
SCALE	
PROJECT NO.	
SHEET NO.	
TOTAL SHEETS	

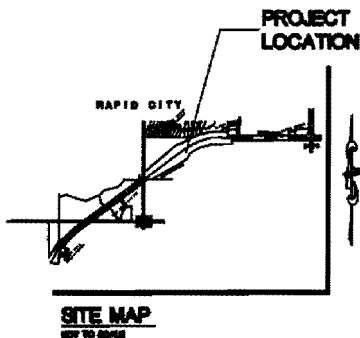
DATE	
SCALE	
PROJECT NO.	
SHEET NO.	
TOTAL SHEETS	

DATE	
SCALE	
PROJECT NO.	
SHEET NO.	
TOTAL SHEETS	

CATRON BOULEVARD/HIGHWAY 16B
SANITARY SEWER EXTENSION
LOCATED IN SECTIONS 23, 24, & 25
T4N R7E B1W4
RAPID CITY, PENNINGTON COUNTY



PROJECT LOCATION



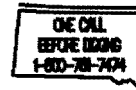
INDEX OF SHEETS

SHEET 1	TITLE SHEET
SHEET 2	GENERAL NOTES / ESTIMATE OF QUANTITIES
SHEET 3	TRAFFIC CONTROL
SHEET 4	EROSION & SEDIMENT CONTROL PLAN SHEET
SHEET 5	EROSION & SEDIMENT NAVIGATION SHEET
SHEET 6	SURVEY CONTROL
SHEETS 7-22	PLAN & PROFILE
SHEET 23	WELLINGTON LIFT STATION ABANDONMENT PLAN
SHEET 24	STANDARD DETAILS

RECEIVED

SEP 14 2009

PRELIMINARY SUBMITTAL
NOT FOR CONSTRUCTION

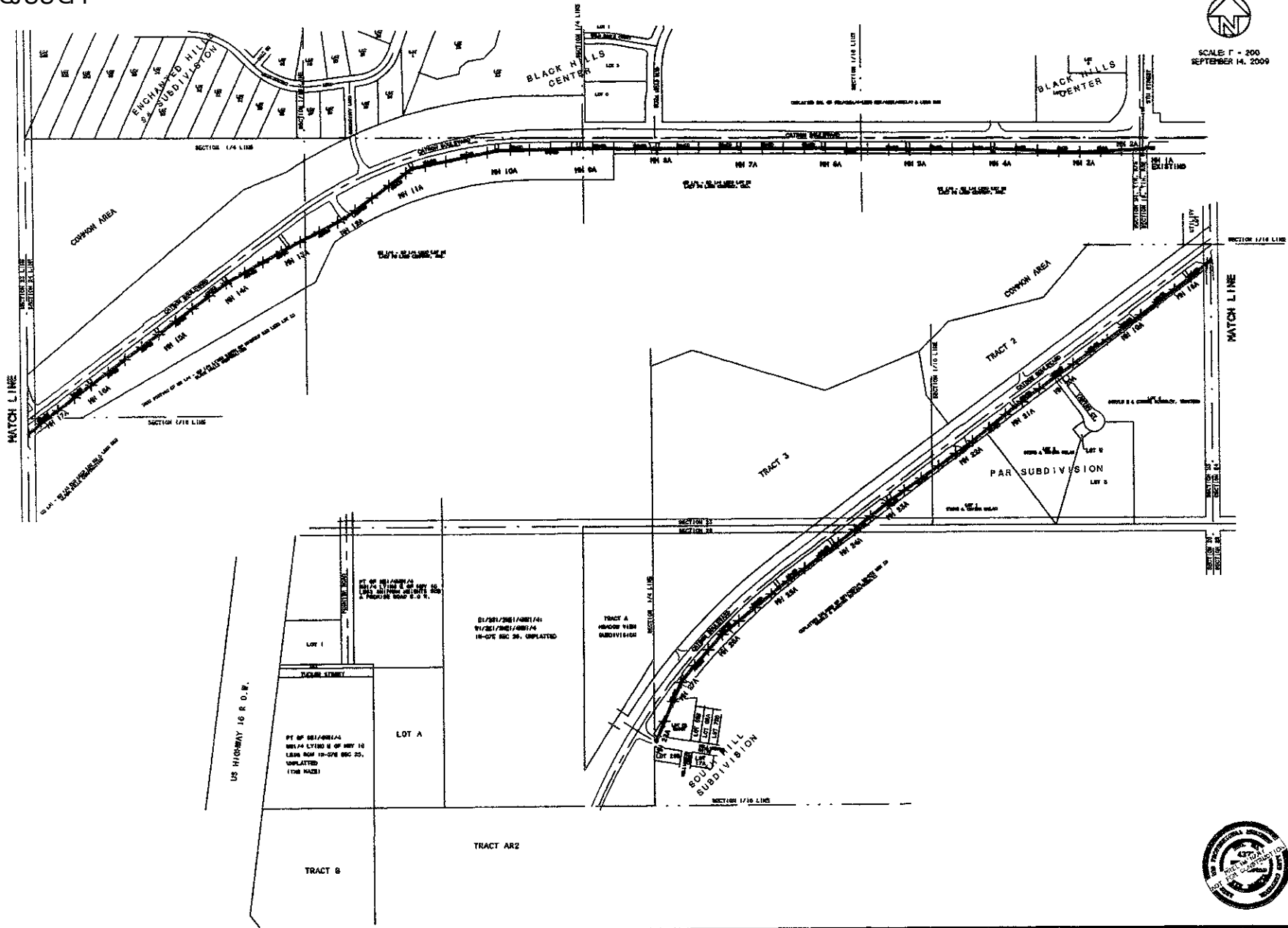


Rapid City Growth
Management Department

LATE SUBMITTAL



SCALE 1" = 200'
SEPTEMBER 14, 2009



BRITTON ENGINEERING & LAND SURVEYING, INC
8035 BLACK HAWK ROAD, SUITE 5
BLACK HAWK, SD 57718
PH. (605) 716-7980

LOCATED IN THE S1/2 OF SECTION 23,
SECTION 24 AND THE N1/2 OF SECTION
26, T1N, R7E, BHM, RAPID CITY
PENNINGTON COUNTY, SOUTH DAKOTA

TRAFFIC CONTROL PLAN
CATRON BOULEVARD
5th STREET TO WELLINGTON DRIVE
PROJECT #SS09-1782/CIP #50396

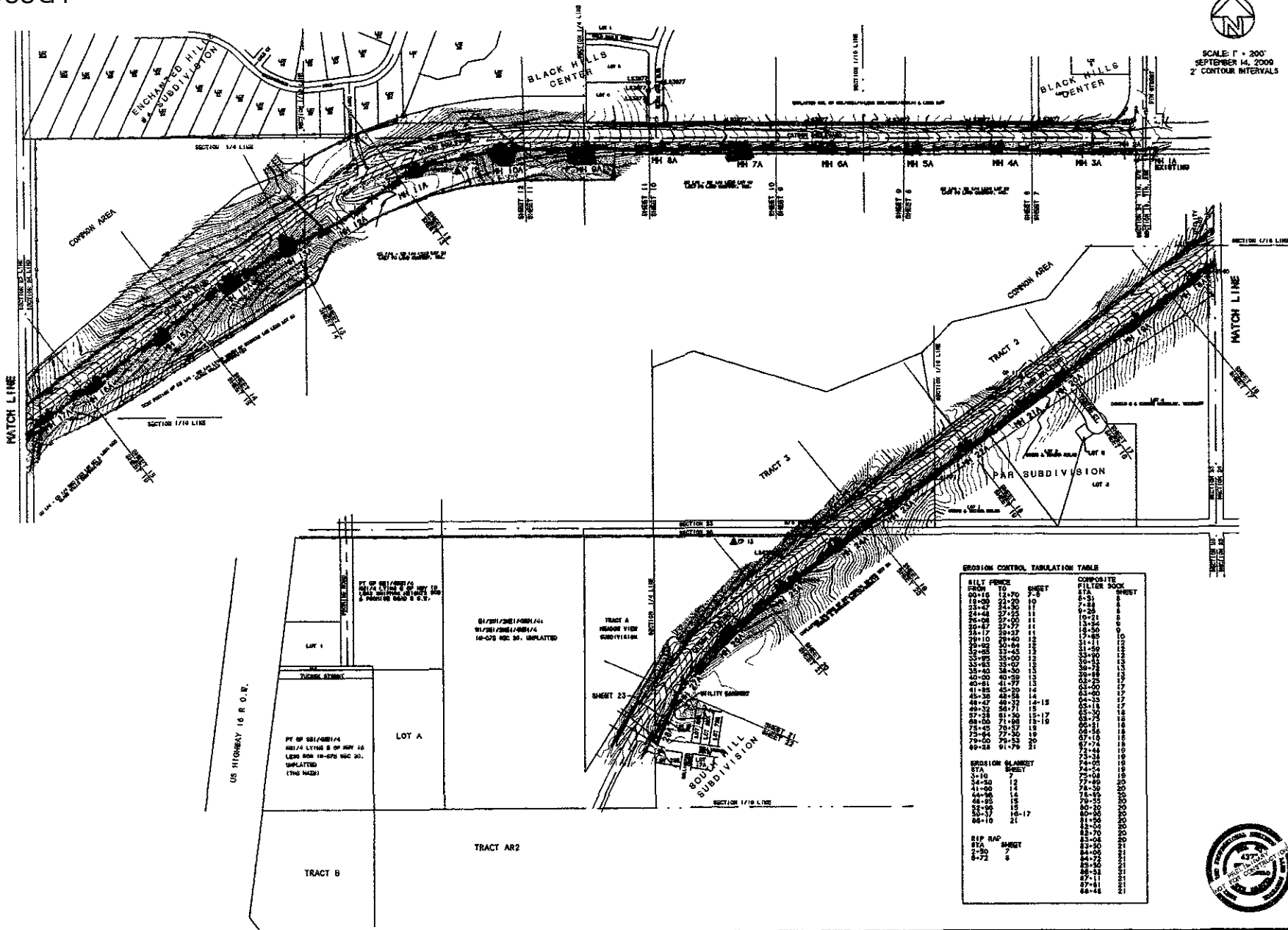
Prepared by	Checked by
Drawn by	Reviewed by
Plotted by	Approved by
Scale	Date

3
24





SCALE: 1" = 200'
 SEPTEMBER 14, 2009
 2' CONTOUR INTERVALS



BRITTON ENGINEERING & LAND SURVEYING, INC.
 8035 BLACK HAWK ROAD, SUITE 5
 BLACK HAWK, SD 57718
 PH (605) 716-7908

LOCATED IN THE S1/2 OF SECTION 23,
 SECTION 24 AND THE N1/2 OF SECTION
 26, T1N, 67E, BURK RAPID CITY
 PENNINGTON COUNTY, SOUTH DAKOTA

EROSION & SEDIMENT CONTROL PLAN
 CATRON BOULEVARD
 5TH STREET TO WELLINGTON DRIVE
 PROJECT #SS09-1782/CIP #50396

EROSION CONTROL TABULATION TABLE

BILL FENCE FROM TO	SHEET	COMPOSITE FILTER SOCK	SHEET
20+00	12+70	2+0	1
20+00	12+70	2+0	2
20+00	12+70	2+0	3
20+00	12+70	2+0	4
20+00	12+70	2+0	5
20+00	12+70	2+0	6
20+00	12+70	2+0	7
20+00	12+70	2+0	8
20+00	12+70	2+0	9
20+00	12+70	2+0	10
20+00	12+70	2+0	11
20+00	12+70	2+0	12
20+00	12+70	2+0	13
20+00	12+70	2+0	14
20+00	12+70	2+0	15
20+00	12+70	2+0	16
20+00	12+70	2+0	17
20+00	12+70	2+0	18
20+00	12+70	2+0	19
20+00	12+70	2+0	20
20+00	12+70	2+0	21
20+00	12+70	2+0	22
20+00	12+70	2+0	23
20+00	12+70	2+0	24
20+00	12+70	2+0	25
20+00	12+70	2+0	26
20+00	12+70	2+0	27
20+00	12+70	2+0	28
20+00	12+70	2+0	29
20+00	12+70	2+0	30
20+00	12+70	2+0	31
20+00	12+70	2+0	32
20+00	12+70	2+0	33
20+00	12+70	2+0	34
20+00	12+70	2+0	35
20+00	12+70	2+0	36
20+00	12+70	2+0	37
20+00	12+70	2+0	38
20+00	12+70	2+0	39
20+00	12+70	2+0	40
20+00	12+70	2+0	41
20+00	12+70	2+0	42
20+00	12+70	2+0	43
20+00	12+70	2+0	44
20+00	12+70	2+0	45
20+00	12+70	2+0	46
20+00	12+70	2+0	47
20+00	12+70	2+0	48
20+00	12+70	2+0	49
20+00	12+70	2+0	50
20+00	12+70	2+0	51
20+00	12+70	2+0	52
20+00	12+70	2+0	53
20+00	12+70	2+0	54
20+00	12+70	2+0	55
20+00	12+70	2+0	56
20+00	12+70	2+0	57
20+00	12+70	2+0	58
20+00	12+70	2+0	59
20+00	12+70	2+0	60
20+00	12+70	2+0	61
20+00	12+70	2+0	62
20+00	12+70	2+0	63
20+00	12+70	2+0	64
20+00	12+70	2+0	65
20+00	12+70	2+0	66
20+00	12+70	2+0	67
20+00	12+70	2+0	68
20+00	12+70	2+0	69
20+00	12+70	2+0	70
20+00	12+70	2+0	71
20+00	12+70	2+0	72
20+00	12+70	2+0	73
20+00	12+70	2+0	74
20+00	12+70	2+0	75
20+00	12+70	2+0	76
20+00	12+70	2+0	77
20+00	12+70	2+0	78
20+00	12+70	2+0	79
20+00	12+70	2+0	80
20+00	12+70	2+0	81
20+00	12+70	2+0	82
20+00	12+70	2+0	83
20+00	12+70	2+0	84
20+00	12+70	2+0	85
20+00	12+70	2+0	86
20+00	12+70	2+0	87
20+00	12+70	2+0	88
20+00	12+70	2+0	89
20+00	12+70	2+0	90
20+00	12+70	2+0	91
20+00	12+70	2+0	92
20+00	12+70	2+0	93
20+00	12+70	2+0	94
20+00	12+70	2+0	95
20+00	12+70	2+0	96
20+00	12+70	2+0	97
20+00	12+70	2+0	98
20+00	12+70	2+0	99
20+00	12+70	2+0	100

EROSION BLANKET

STA	SHEET
0+00	1
0+50	2
1+00	3
1+50	4
2+00	5
2+50	6
3+00	7
3+50	8
4+00	9
4+50	10
5+00	11
5+50	12
6+00	13
6+50	14
7+00	15
7+50	16
8+00	17
8+50	18
9+00	19
9+50	20
10+00	21
10+50	22
11+00	23
11+50	24
12+00	25
12+50	26
13+00	27
13+50	28
14+00	29
14+50	30
15+00	31
15+50	32
16+00	33
16+50	34
17+00	35
17+50	36
18+00	37
18+50	38
19+00	39
19+50	40
20+00	41
20+50	42
21+00	43
21+50	44
22+00	45
22+50	46
23+00	47
23+50	48
24+00	49
24+50	50
25+00	51
25+50	52
26+00	53
26+50	54
27+00	55
27+50	56
28+00	57
28+50	58
29+00	59
29+50	60
30+00	61
30+50	62
31+00	63
31+50	64
32+00	65
32+50	66
33+00	67
33+50	68
34+00	69
34+50	70
35+00	71
35+50	72
36+00	73
36+50	74
37+00	75
37+50	76
38+00	77
38+50	78
39+00	79
39+50	80
40+00	81
40+50	82
41+00	83
41+50	84
42+00	85
42+50	86
43+00	87
43+50	88
44+00	89
44+50	90
45+00	91
45+50	92
46+00	93
46+50	94
47+00	95
47+50	96
48+00	97
48+50	98
49+00	99
49+50	100

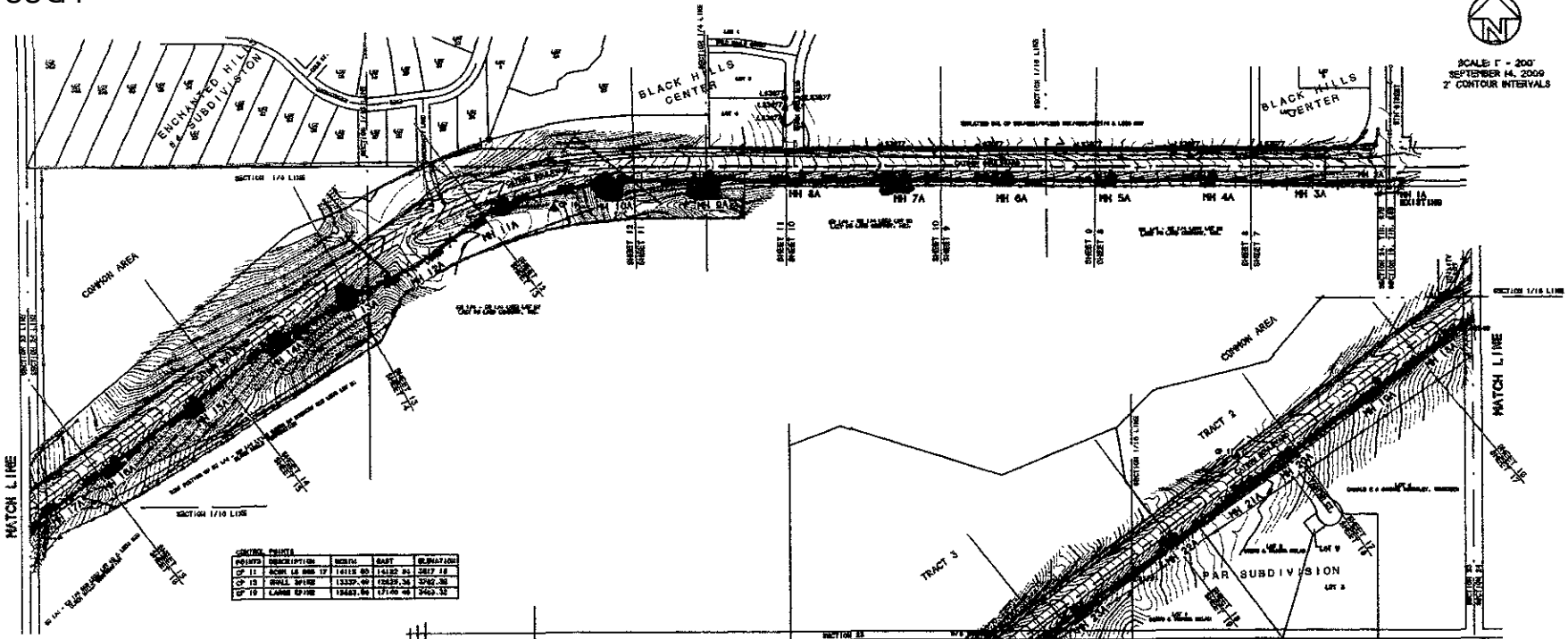
SIP RAP

STA	SHEET
0+00	1
0+50	2
1+00	3
1+50	4
2+00	5
2+50	6
3+00	7
3+50	8
4+00	9
4+50	10
5+00	11
5+50	12
6+00	13
6+50	14
7+00	15
7+50	16
8+00	17
8+50	18
9+00	19
9+50	20
10+00	21
10+50	22
11+00	23
11+50	24
12+00	25
12+50	26
13+00	27
13+50	28
14+00	29
14+50	30
15+00	31
15+50	32
16+00	33
16+50	34
17+00	35
17+50	36
18+00	37
18+50	38
19+00	39
19+50	40
20+00	41
20+50	42
21+00	43
21+50	44
22+00	45
22+50	46
23+00	47
23+50	48
24+00	49
24+50	50
25+00	51
25+50	52
26+00	53
26+50	54
27+00	55
27+50	56
28+00	57
28+50	58
29+00	59
29+50	60
30+00	61
30+50	62
31+00	63
31+50	64
32+00	65
32+50	66
33+00	67
33+50	68
34+00	69
34+50	70
35+00	71
35+50	72
36+00	73
36+50	74
37+00	75
37+50	76
38+00	77
38+50	78
39+00	79
39+50	80
40+00	81
40+50	82
41+00	83
41+50	84
42+00	85
42+50	86
43+00	87
43+50	88
44+00	89
44+50	90
45+00	91
45+50	92
46+00	93
46+50	94
47+00	95
47+50	96
48+00	97
48+50	98
49+00	99
49+50	100





SCALE 1" = 200'
SEPTEMBER 14, 2009
2' CONTOUR INTERVALS

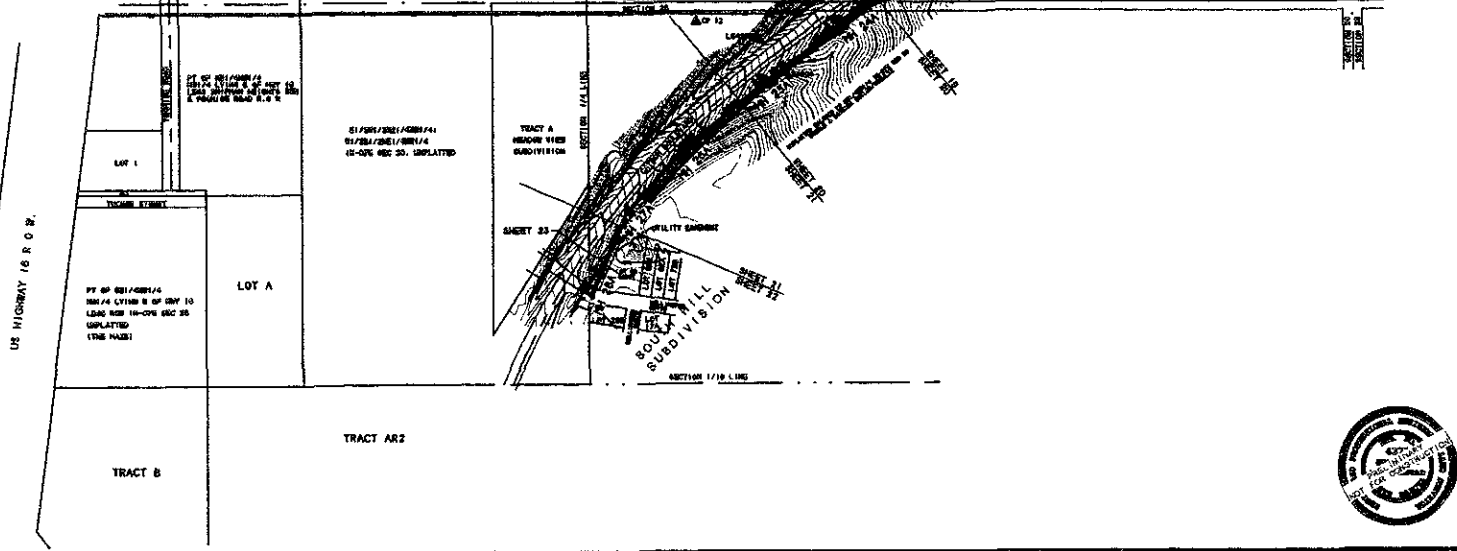


CONTROL POINTS

POINTS	DESCRIPTION	NORTH	EAST	EL. (FEET)
CP 11	200M 45 00M 17	17111.50	14332.84	2477.18
CP 12	TRVLS 50' 10"	17327.09	17239.26	2562.26
CP 13	CLARKS 50' 10"	17463.96	17166.46	2459.32

NO. LACR1603

NO.	NORTH	EAST	ELEVATION
11	17040.86	20282.51	4202.86
12	17040.76	20342.05	0+10.81
13	17040.26	20077.76	5+10.25
14	17040.04	17075.86	7+10.26
15	17042.86	17072.72	11+10.46
16	17043.25	17047.41	15+10.20
17	17042.12	17073.09	18+10.22
18	17042.11	17073.09	20+10.31
19	17043.26	17717.86	20+27.17
20	17044.06	17032.24	20+24.00
21	17044.24	17042.24	21+24.26
22	17044.82	17044.82	24+24.24
23	17044.19	17033.80	24+24.24
24	17044.22	17044.22	25+24.26
25	17122.20	17122.20	25+24.26
26	17044.11	17042.14	25+24.26
27	17042.04	17122.20	25+24.26
28	17044.08	17122.20	25+24.26
29	17122.20	17042.08	25+24.26
30	17122.20	17042.08	25+24.26
31	17044.08	17042.08	25+24.26
32	17044.08	17042.08	25+24.26
33	17044.08	17042.08	25+24.26
34	17044.08	17042.08	25+24.26
35	17044.08	17042.08	25+24.26
36	17044.08	17042.08	25+24.26
37	17044.08	17042.08	25+24.26
38	17044.08	17042.08	25+24.26
39	17044.08	17042.08	25+24.26
40	17044.08	17042.08	25+24.26
41	17044.08	17042.08	25+24.26
42	17044.08	17042.08	25+24.26
43	17044.08	17042.08	25+24.26
44	17044.08	17042.08	25+24.26
45	17044.08	17042.08	25+24.26
46	17044.08	17042.08	25+24.26
47	17044.08	17042.08	25+24.26
48	17044.08	17042.08	25+24.26
49	17044.08	17042.08	25+24.26
50	17044.08	17042.08	25+24.26



BRITTON ENGINEERING & LAND SURVEYING, INC
8035 BLACK HAWK ROAD, SUITE 5
BLACK HAWK, SD 57716
PH: (605) 716-7908

LOCATED IN THE 1/2 OF SECTION 23,
SECTION 24 AND THE 1/2 OF SECTION
26, T1N, R7E, B1M, RAPID CITY
PENNINGTON COUNTY, SOUTH DAKOTA

SURVEY CONTROL
CATRON BOULEVARD
5th STREET TO WELLINGTON DRIVE
PROJECT #5509-1782/CIP #50396

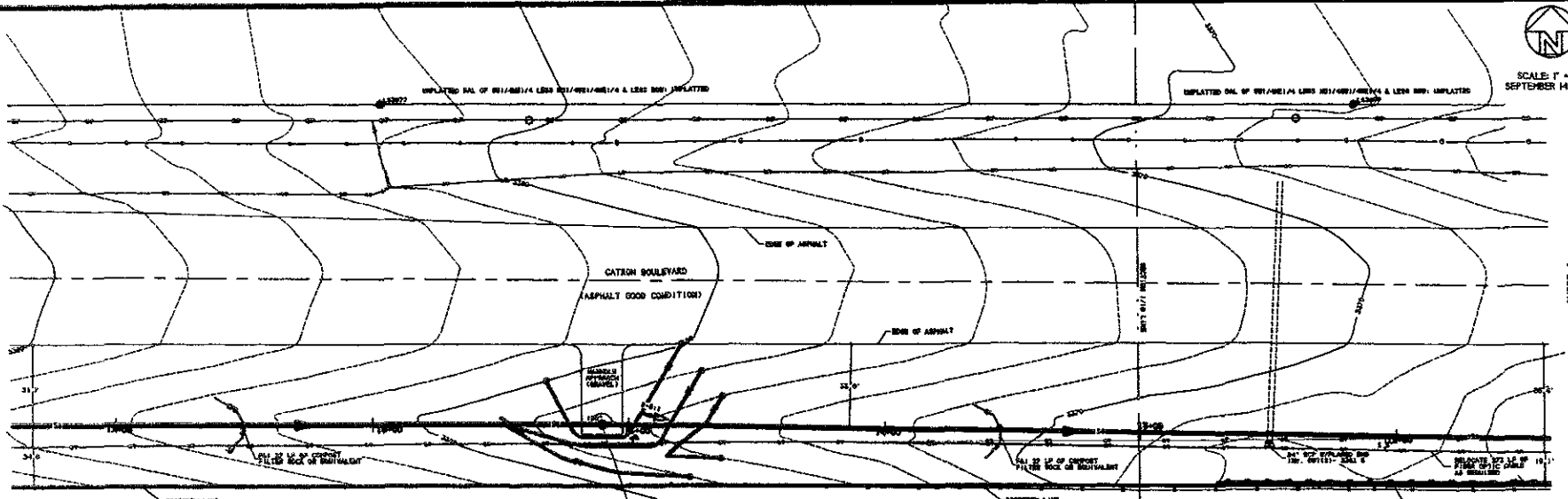




SCALE 1" = 20'
SEPTEMBER 14, 2009

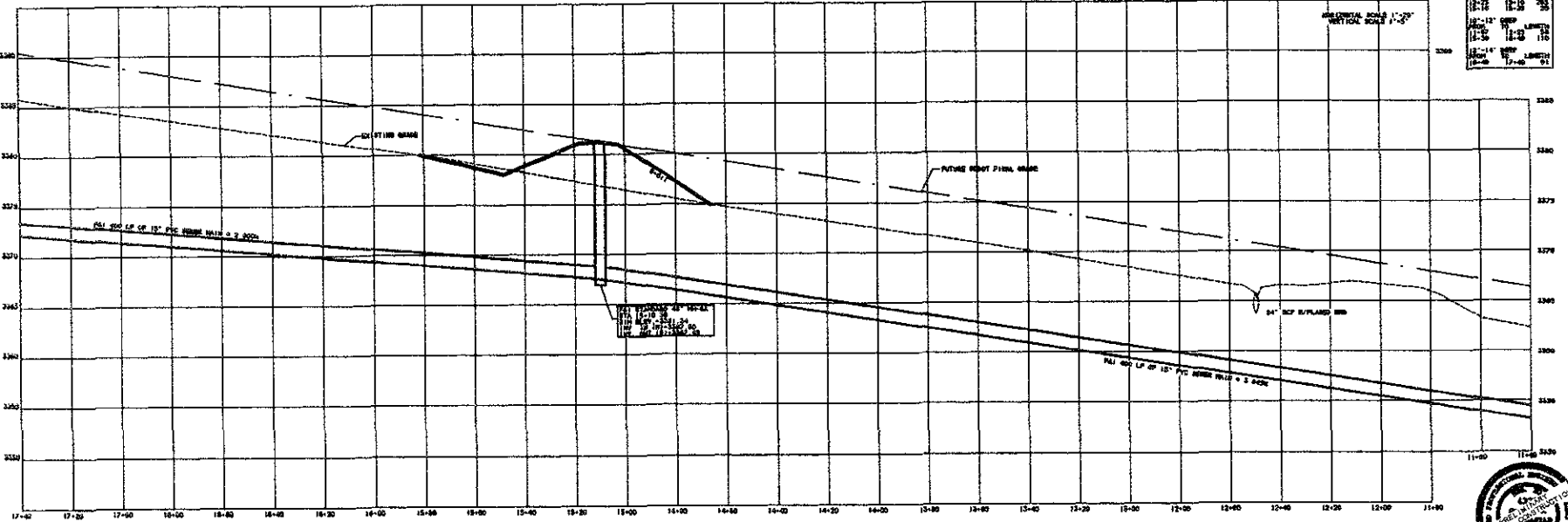
SHEET 10

SHEET 9



CONTRACTOR SHALL OBTAIN THE NECESSARY PERMITS TO EXCAVATE, INSTALL, AND COVER THE SEWER LINE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR THE PROTECTION OF ALL UTILITIES AND STRUCTURES. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES.

SANITARY SEWER PROFILE- STATION 11+40 TO STATION 17+40



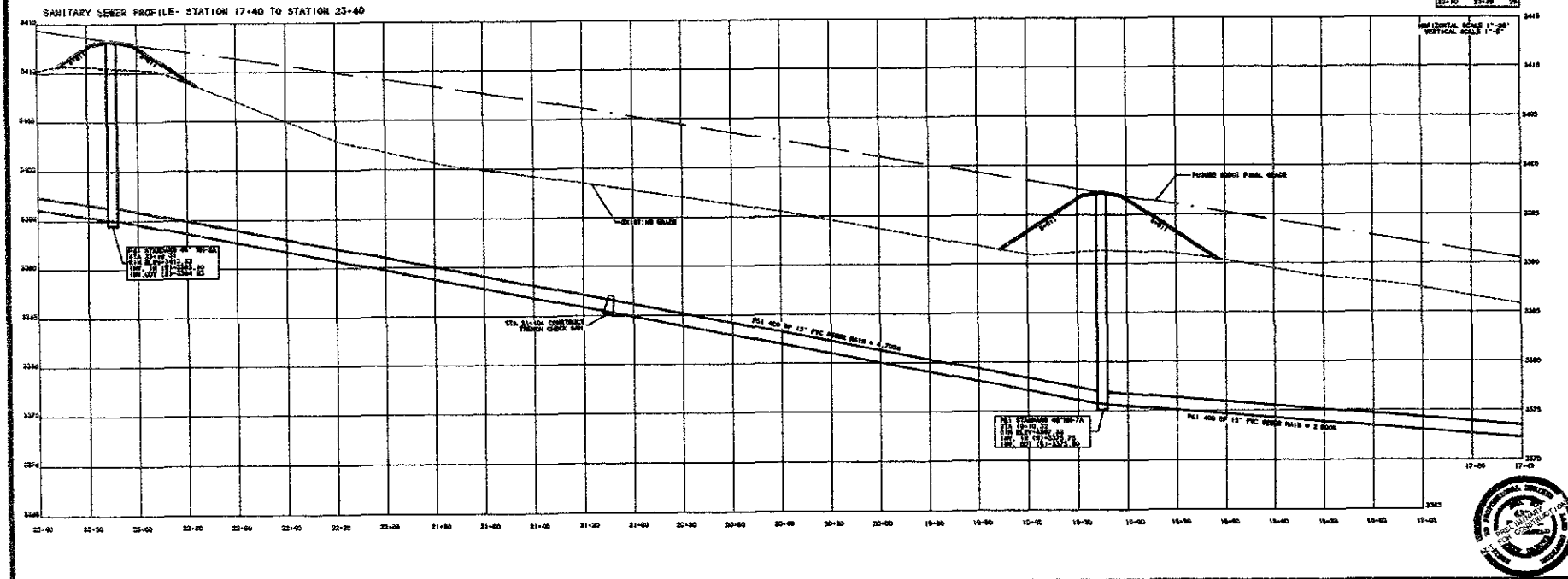
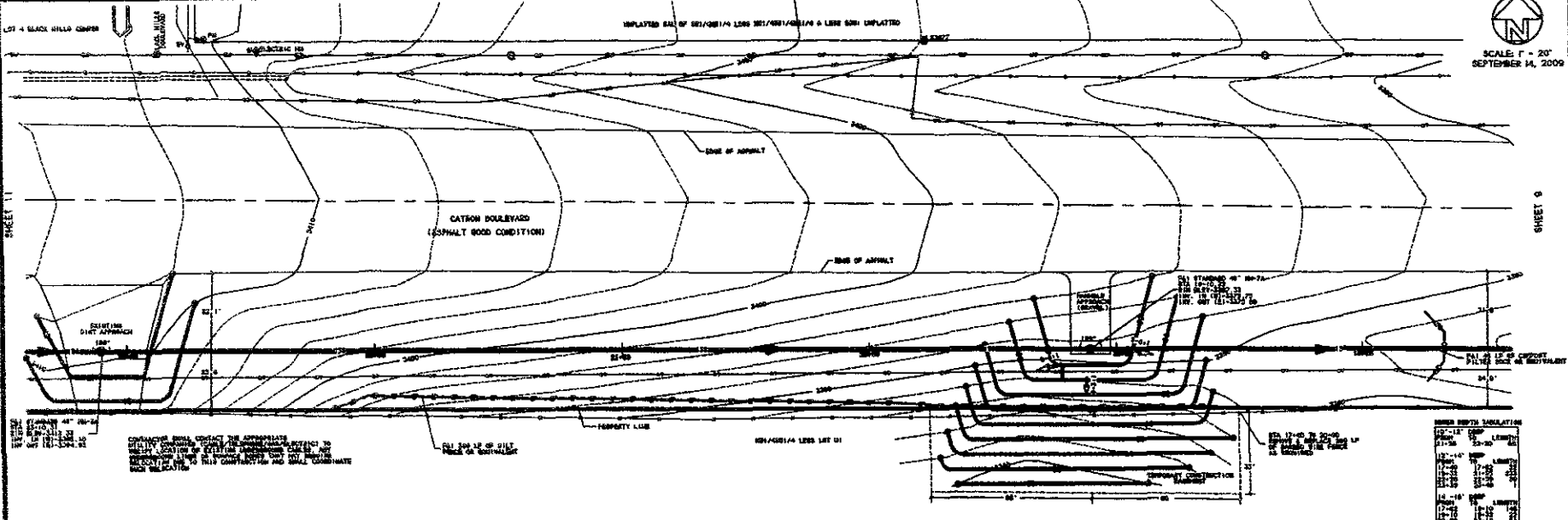
BRITTON ENGINEERING & LAND SURVEYING, INC
8035 BLACK HAWK ROAD, SUITE 5
BLACK HAWK, SD 57116
PH. (605) 710-7988

LOCATED IN THE 1/2 OF SECTION 23,
SECTION 24 AND THE 1/2 OF SECTION
26 T1N R7E, BLM, RAPID CITY
PENNINGTON COUNTY, SOUTH DAKOTA

SANITARY SEWER PLAN & PROFILE
STATION 11+40 TO STATION 17+40
CATRON BOULEVARD
PROJECT #SS09-1782/CIP #S0396

Project No.	100001
Client	City of Rapid City
Scale	1" = 20'
Date	September 14, 2009
Drawn by	[Signature]
Checked by	[Signature]
Approved by	[Signature]

9
24



BRITTON ENGINEERING & LAND SURVEYING, INC
8035 BLACK HAWK ROAD, SUITE 5
BLACK HAWK, SD 57716
PH. (605) 716-7988

SANITARY SEWER PLAN & PROFILES
STATION 17+40 TO STATION 23+40
CATRON BOULEVARD
PROJECT #5509-1782/CIP #50396



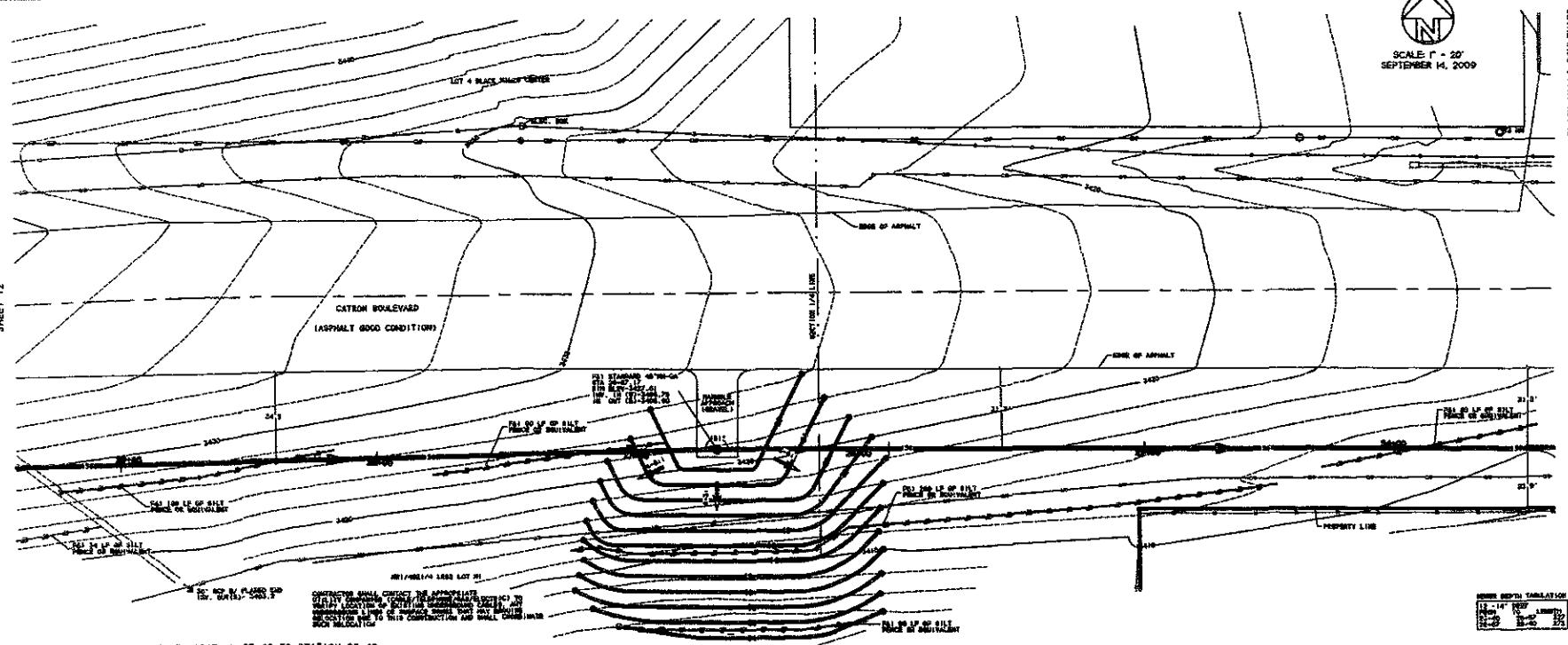
10
24



SCALE 1" = 20'
SEPTEMBER 14, 2009

BLACK HILLS BOULEVARD
SHEET 10

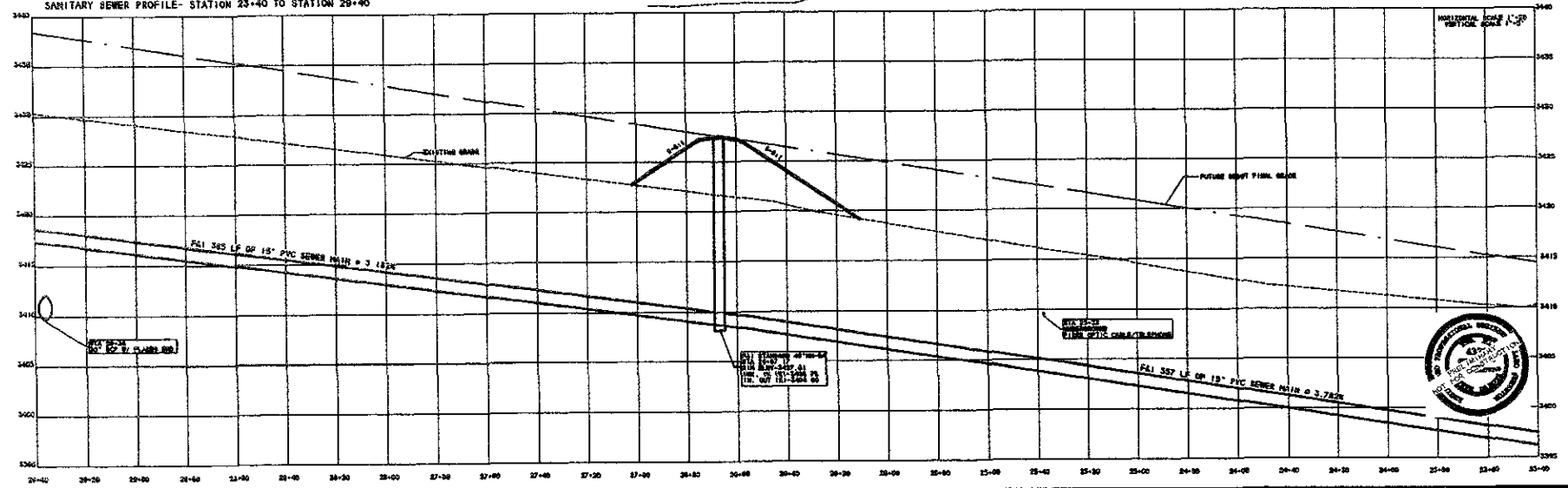
SHEET 12



BRITTON ENGINEERING & LAND SURVEYING, INC.
 8035 BLACK HAWK ROAD, SUITE 5
 BLACK HAWK, SD 57718
 PH. (605) 716-7988

LOCATED IN THE S/2 OF SECTION 23,
 SECTION 24 AND THE N/2 OF SECTION
 26, T1N, R7E, BHM, RAPID CITY
 PENNINGTON COUNTY, SOUTH DAKOTA

SANITARY SEWER PROFILE- STATION 23+40 TO STATION 29+40



SANITARY SEWER PLANS & PROFILES
 STATION 23+40 TO STATION 29+40
 CATRON BOULEVARD
 PROJECT #5509-1702/C/P #50306

Name:	
Project No.:	
Date:	
Drawn by:	
Checked by:	
Approved by:	

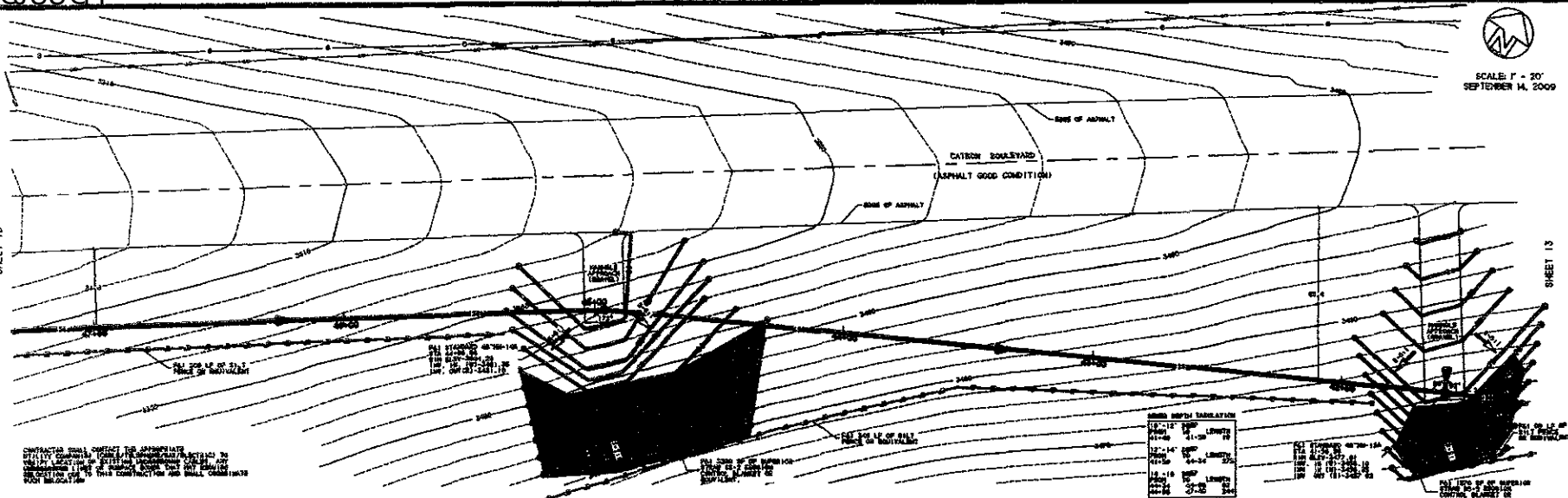
11
24



SCALE: 1" = 20'
SEPTEMBER 14, 2009

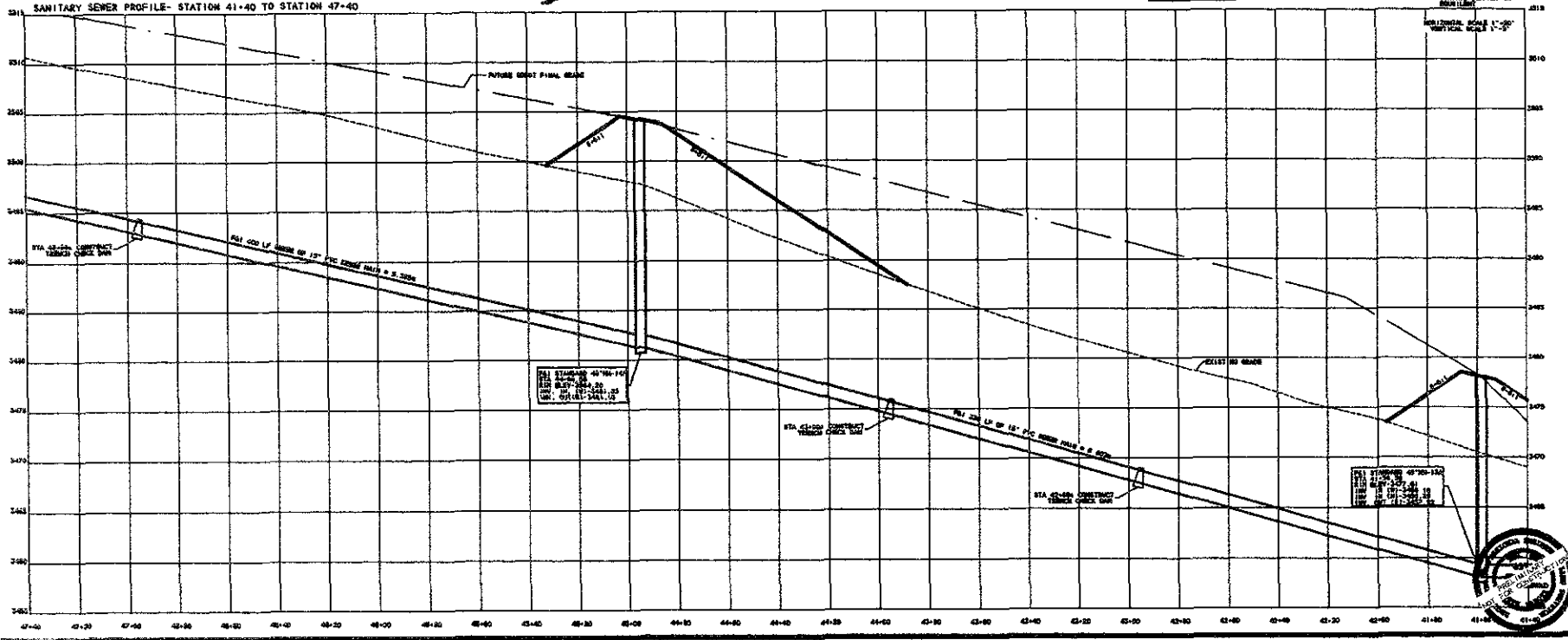
SHEET 15

SHEET 13



SOIL BENCH TABLE

STATION	DEPTH	SOIL TYPE
41+00	0'-0" TO 0'-10"	CLAY
41+00	0'-10" TO 0'-20"	CLAY
41+00	0'-20" TO 0'-30"	CLAY
41+00	0'-30" TO 0'-40"	CLAY
41+00	0'-40" TO 0'-50"	CLAY
41+00	0'-50" TO 0'-60"	CLAY
41+00	0'-60" TO 0'-70"	CLAY
41+00	0'-70" TO 0'-80"	CLAY
41+00	0'-80" TO 0'-90"	CLAY
41+00	0'-90" TO 0'-100"	CLAY



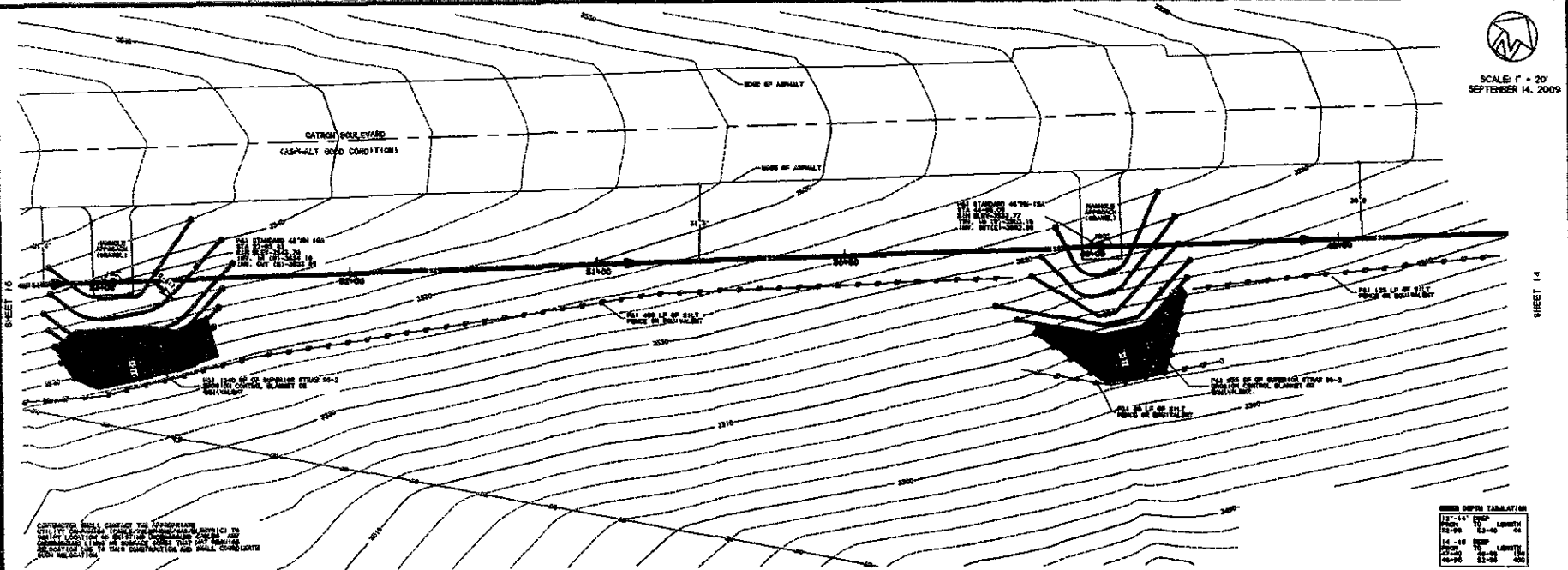
BRITTON ENGINEERING & LAND SURVEYING, INC
8035 BLACK HAWK ROAD, SUITE 5
BLACK HAWK, SD 57718
PH. (605) 716-7966

LOCATED IN THE S1/2 OF SECTION 23,
SECTION 24 AND THE N1/2 OF SECTION
26, T1N, R7E, BHM, RAPID CITY
PENNINGTON COUNTY, SOUTH DAKOTA

SANITARY SEWER PLAN & PROFILE
STATION 41+00 TO STATION 47+00
CATRON BOULEVARD
PROJECT #SS09-1762/CP #50396

14
24

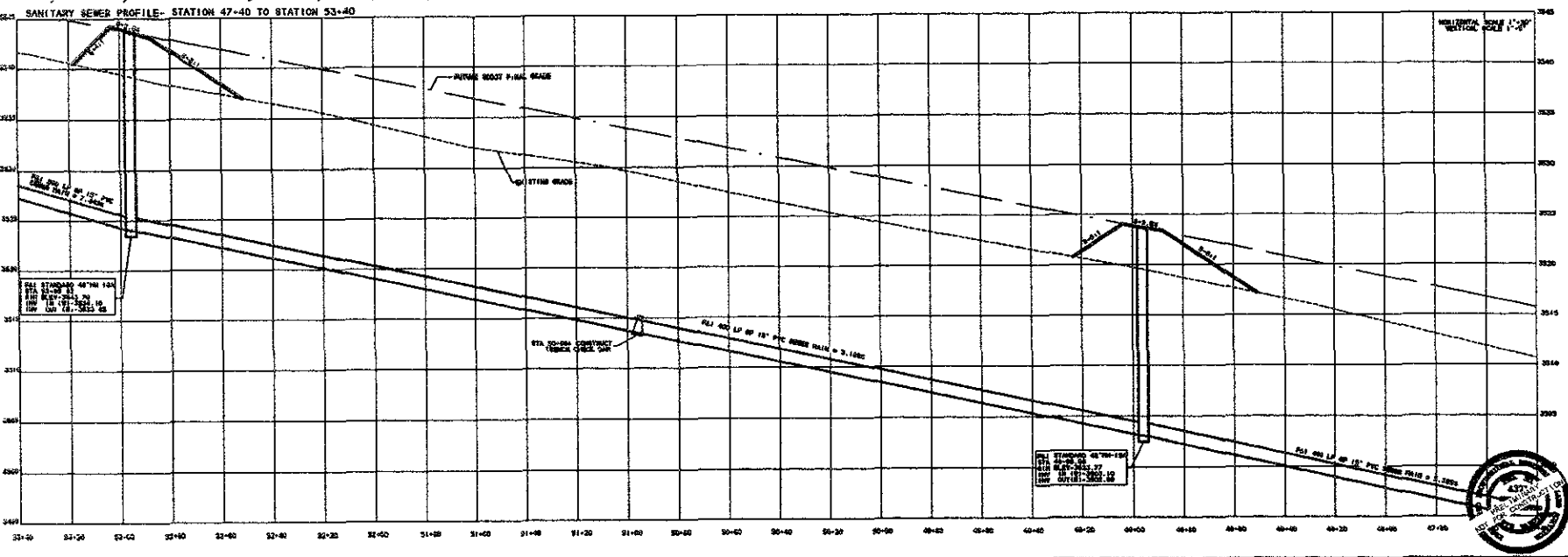




CONTRACTOR SHALL CONTACT THE APPROPRIATE CITY/STATE DEPARTMENT OF PUBLIC WORKS TO OBTAIN ALL NECESSARY PERMITS AND APPROVALS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS PRIOR TO CONSTRUCTION.

MANHOLE DEPTH TABULATION

MANHOLE NO.	DEPTH (FEET)	DATE
1	1.0	09/14/09
2	1.0	09/14/09



SEE STATION 48+70-124
SEE BLACK SHEET 27
SEE 05-181-2003-12



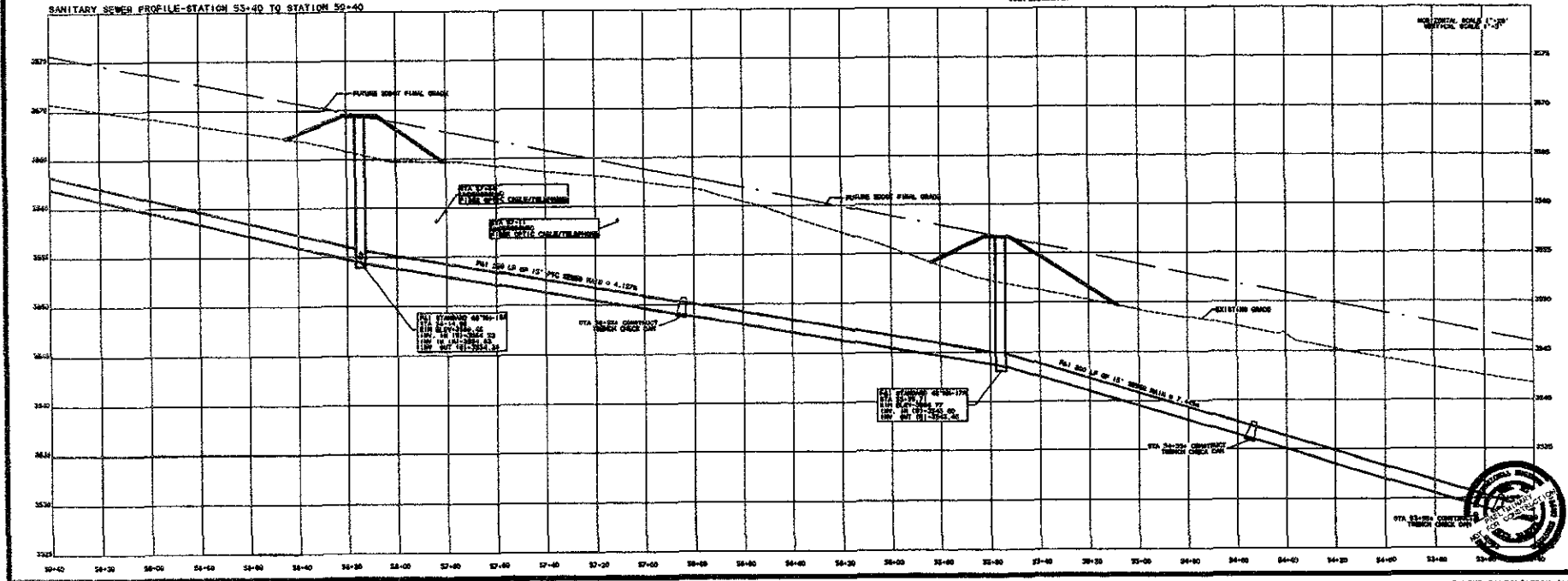
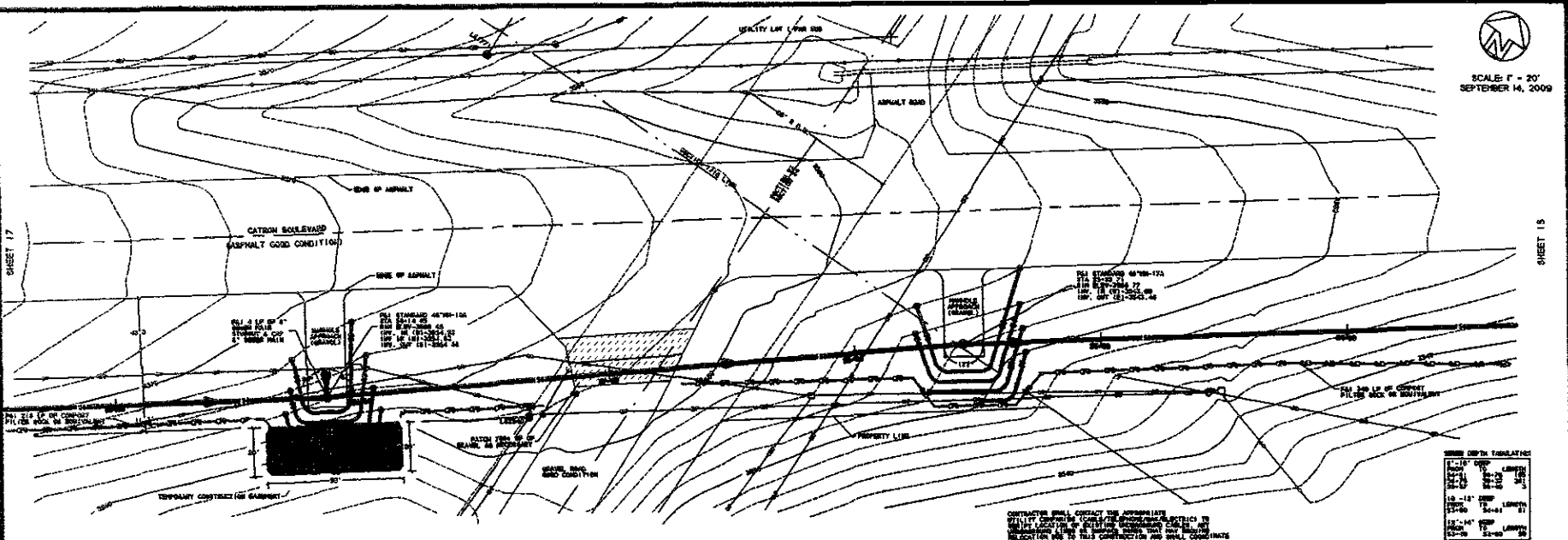
BRITTON ENGINEERING & LAND SURVEYING, INC.
8035 BLACK HAWK ROAD, SUITE 5
BLACK HAWK, SD 57718
PH. (605) 716-7988

LOCATED IN THE S/2 OF SECTION 23,
SECTION 24 AND THE N/2 OF SECTION
26, T1N, R7E, B1W1, RAPID CITY
PENNINGTON COUNTY, SOUTH DAKOTA

SANITARY SEWER PLAN & PROFILE
STATION 47+00 TO STATION 53+40
CATRON BOULEVARD
PROJECT #SS09-1782/CIP #50396

Drawn by	Checked by
Project No.	Scale
Drawn by	Checked by
Project No.	Scale

15
24



SHEET 15

BRITTON ENGINEERING & LAND SURVEYING, INC
 8035 BLACK HAWK ROAD, SUITE 5
 BLACK HAWK, SD 57118
 PH. (605) 716-7988

LOCATED IN THE S/2 OF SECTION 23,
 SECTION 24, AND THE N/2 OF SECTION
 25, T1N, R7E, B1M, RAPID CITY
 PENNINGTON COUNTY, SOUTH DAKOTA.

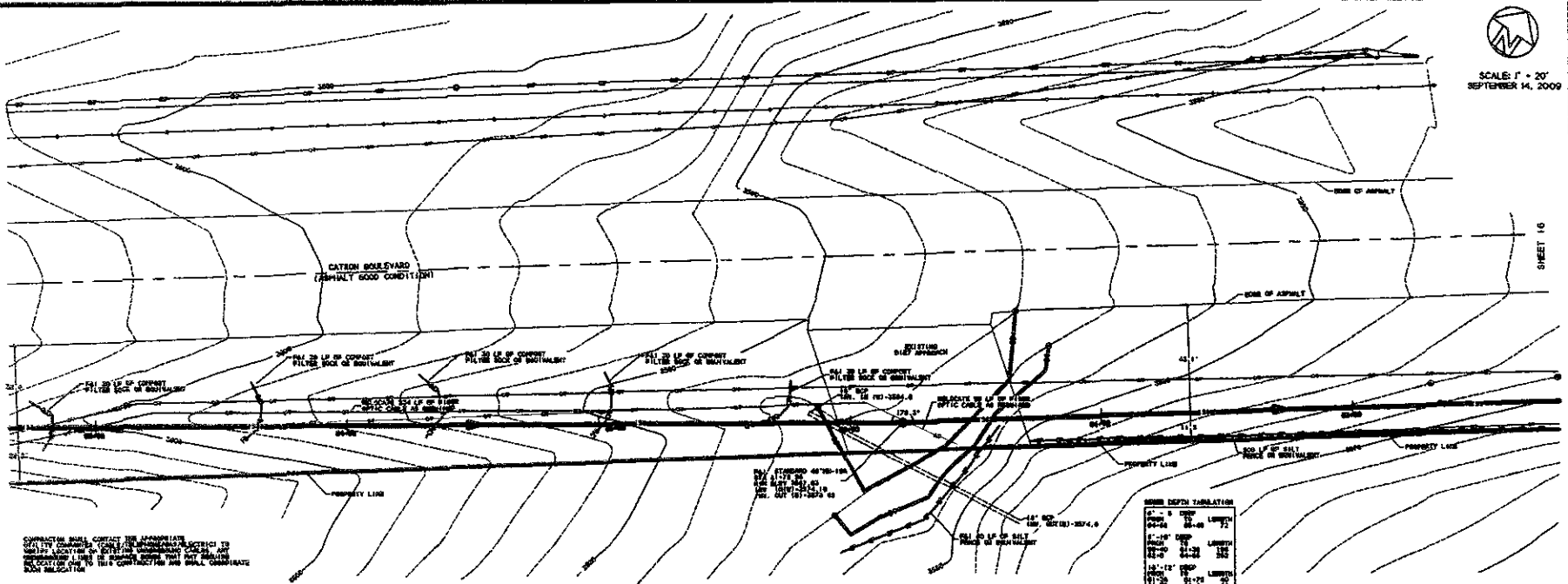
SANITARY SEWER PLAN & PROFILE
 STATION 53+00 TO STATION 59+40
 CATRON BOULEVARD
 PROJECT #5509-1782/CIP #50396

Drawn By	
Checked By	
Reviewed By	
Approved By	

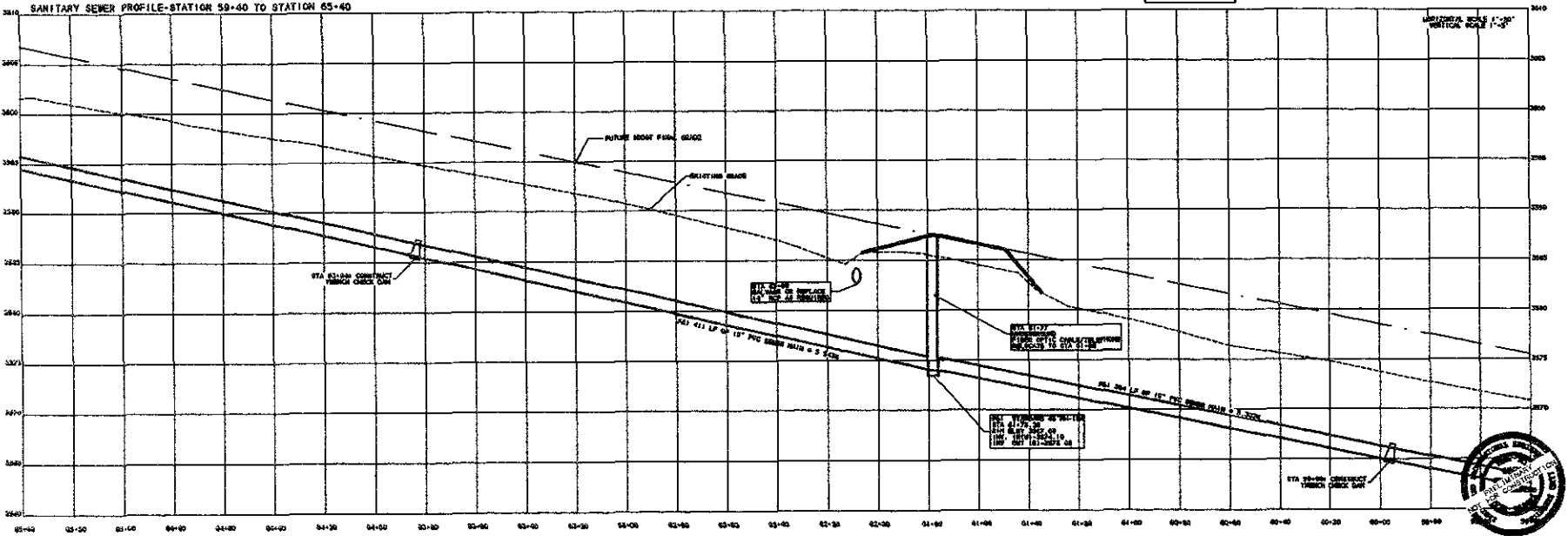
16
24

SHEET 10

SHEET 10



CONTRACTOR SHALL CONTACT THE ADJACENT PROPERTY OWNERS TO VERIFY LOCATION OF UTILITIES PRIOR TO CONSTRUCTION AND SHALL OBTAIN NECESSARY PERMITS TO PROTECT UTILITIES AND SHALL OBTAIN NECESSARY SOIL INFORMATION.



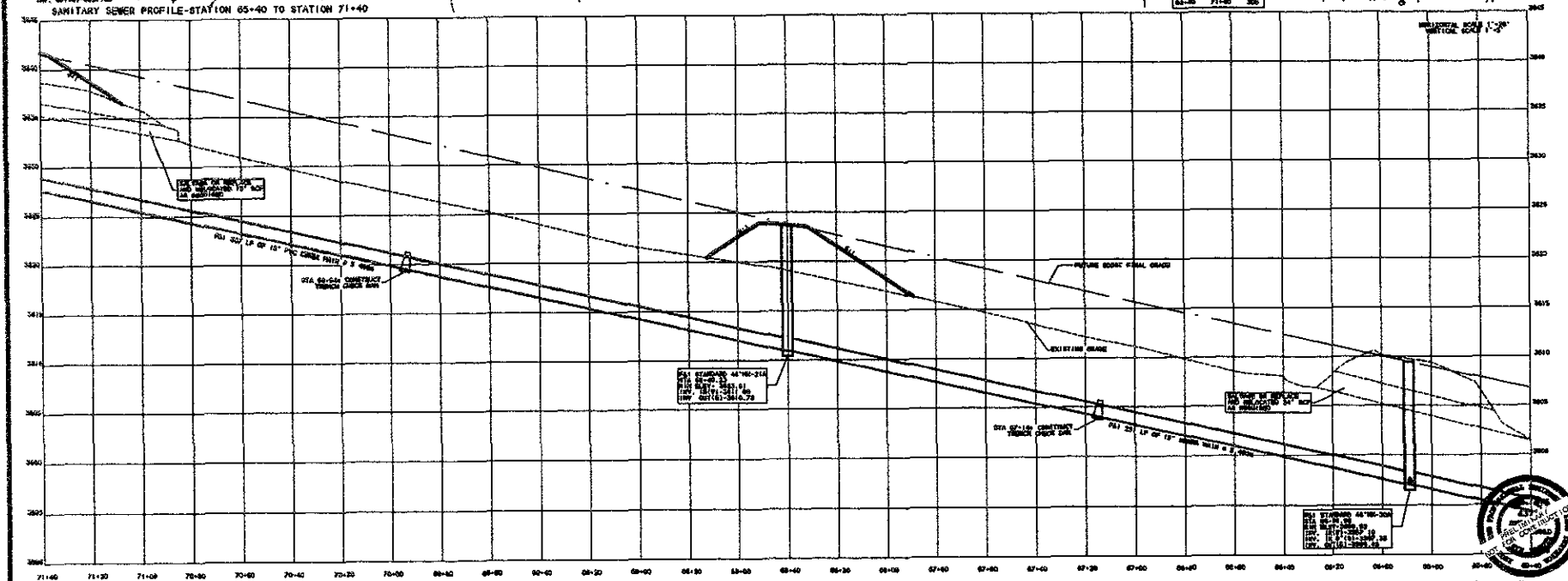
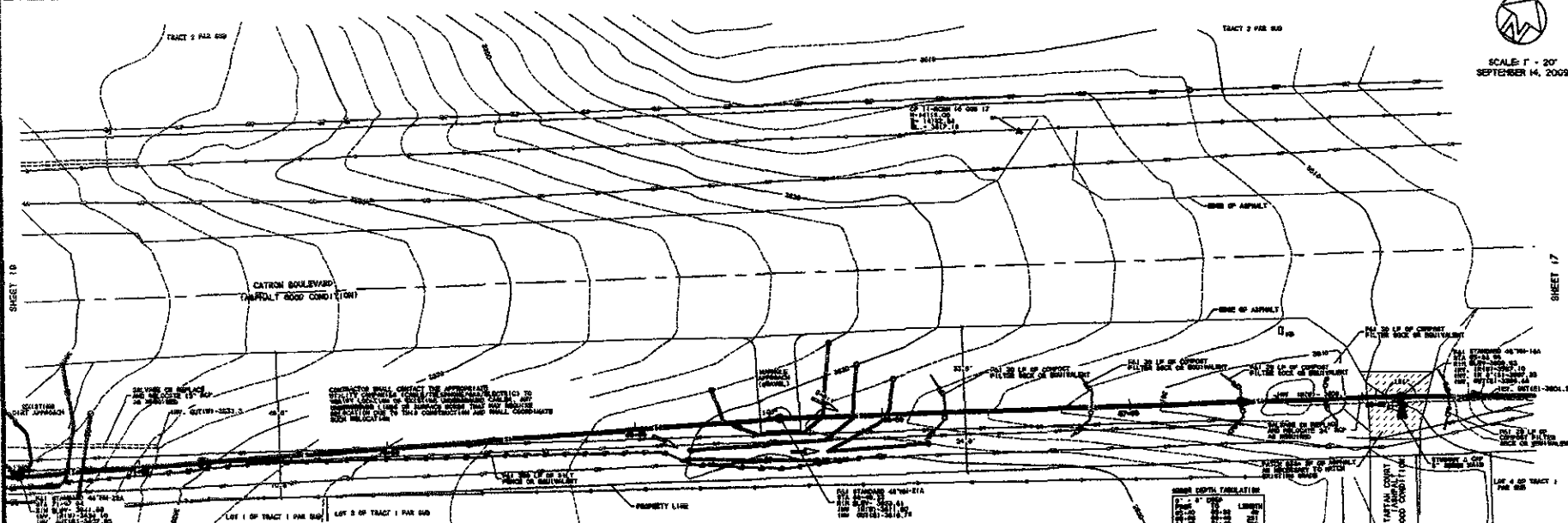
BRITTON ENGINEERING & LAND SURVEYING, INC.
8035 BLACK HAWK ROAD, SUITE 5
BLACK HAWK, SD 57718
PH. (605) 716-7988

LOCATED IN THE 1/2 OF SECTION 23,
SECTION 24 AND THE 1/2 OF SECTION
26, T1N, R7E, B1M, RAPID CITY
PENNINGTON COUNTY, SOUTH DAKOTA

SANITARY SEWER PLAN & PROFILES
STATION 59+40 TO STATION 65+40
CATRON BOULEVARD
PROJECT #SS09-1782/CIP #50396

Project No.	SS09-1782
Drawn By	ML
Checked By	ML
Date	09/28/09
Scale	AS SHOWN
Sheet No.	17
Total Sheets	24



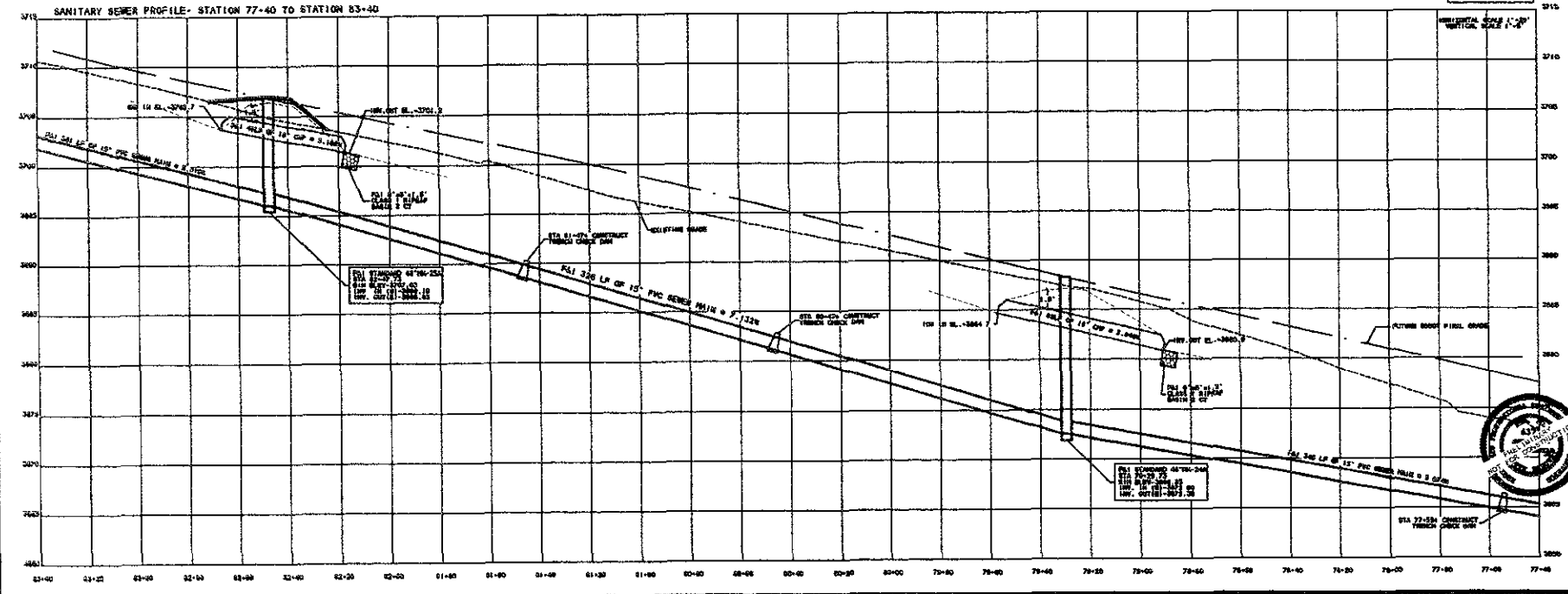
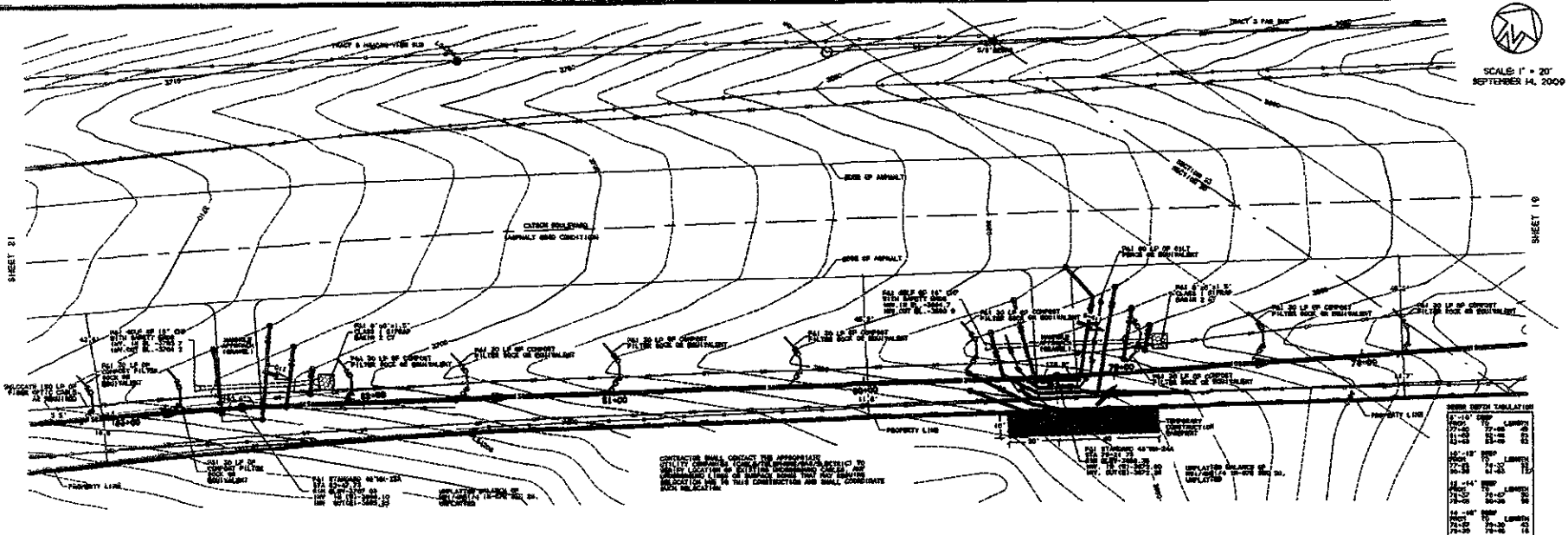


BRITTON ENGINEERING & LAND SURVEYING, INC.
8035 BLACK HAWK ROAD, SUITE 5
BLACK HAWK, SD 57718
PH: (605) 716-7988

LOCATED IN THE S1/2 OF SECTION 23,
SECTION 24 AND THE N1/2 OF SECTION
26 - T1N 87E - R4M RAPID CITY
PENNINGTON COUNTY, SOUTH DAKOTA

SANITARY SEWER PLAN & PROFILE
STATION 65+40 TO STATION 71+40
CATRON BOULEVARD
PROJECT #SS09-1762/CIP #50396

Project No.	SS09-1762
Drawn By	ML
Checked By	ML
Approved By	ML
Date	09/14/09



BRITTON ENGINEERING & LAND SURVEYING, INC.
8035 BLACK HAWK ROAD, SUITE 5
BLACK HAWK, SD 57718
PH. (605) 716-7988

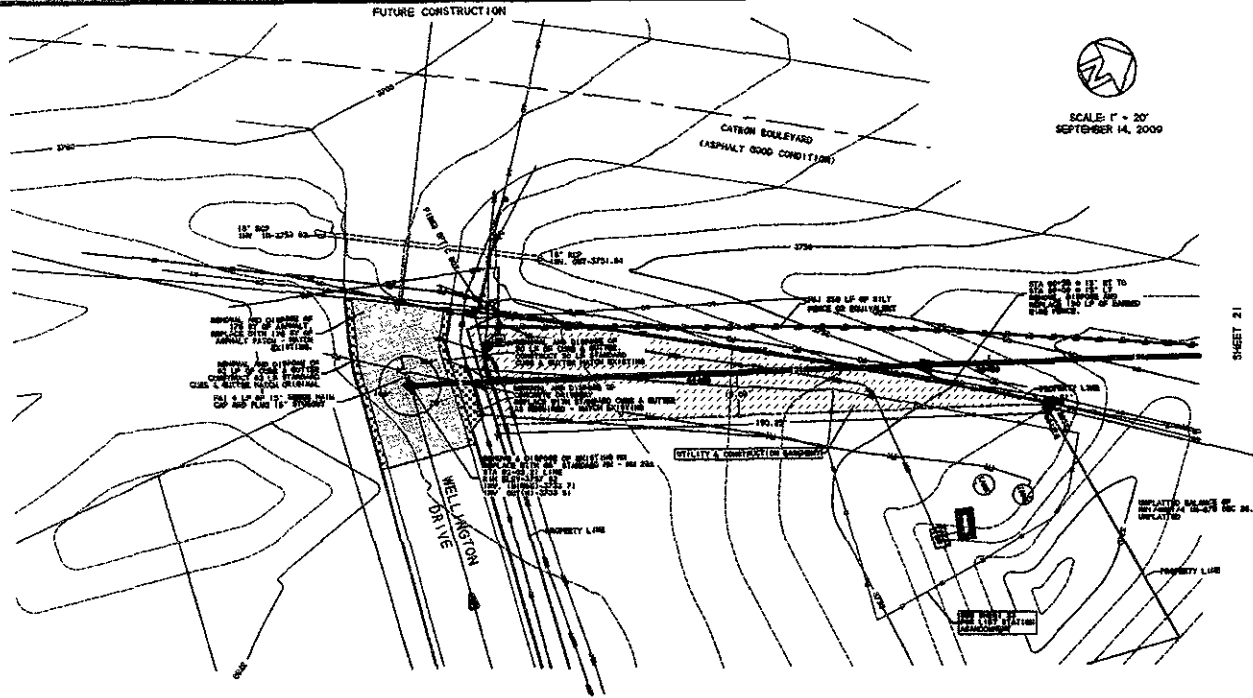
LOCATED IN THE S/2 OF SECTION 23,
SECTION 24 AND THE N/2 OF SECTION
26, T1N, R7E, BHM, RAPID CITY
PENNINGTON COUNTY, SOUTH DAKOTA

SANITARY SEWER PLAN & PROFILES
STATION 77+40 TO STATION 83+40
CATRON BOULEVARD
PROJECT #SS09-1782/CIP #50396

20
24

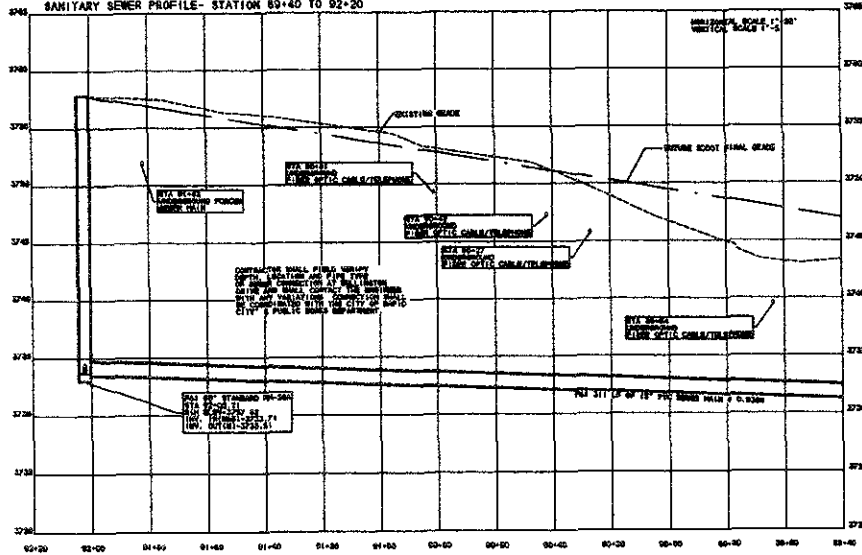
C:\G00\FILES\CATRON_BLDV\2009\ASHEET 20.G00

FUTURE CONSTRUCTION



CONTRACTOR SHALL VERIFY THE APPROXIMATE LOCATION OF ALL EXISTING UTILITIES AND CONDUITS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND SHALL COMPLY WITH ALL REGULATIONS.

SANITARY SEWER PROFILE- STATION 89+40 TO 92+20



MINIMUM DEPTH REQUIREMENTS

14'-16'	12"	12"
16'-18'	12"	12"
18'-20'	12"	12"
20'-22'	12"	12"
22'-24'	12"	12"
24'-26'	12"	12"
26'-28'	12"	12"
28'-30'	12"	12"
30'-32'	12"	12"
32'-34'	12"	12"
34'-36'	12"	12"
36'-38'	12"	12"
38'-40'	12"	12"
40'-42'	12"	12"
42'-44'	12"	12"
44'-46'	12"	12"
46'-48'	12"	12"
48'-50'	12"	12"
50'-52'	12"	12"
52'-54'	12"	12"
54'-56'	12"	12"
56'-58'	12"	12"
58'-60'	12"	12"
60'-62'	12"	12"
62'-64'	12"	12"
64'-66'	12"	12"
66'-68'	12"	12"
68'-70'	12"	12"
70'-72'	12"	12"
72'-74'	12"	12"
74'-76'	12"	12"
76'-78'	12"	12"
78'-80'	12"	12"
80'-82'	12"	12"
82'-84'	12"	12"
84'-86'	12"	12"
86'-88'	12"	12"
88'-90'	12"	12"
90'-92'	12"	12"
92'-94'	12"	12"
94'-96'	12"	12"
96'-98'	12"	12"
98'-100'	12"	12"



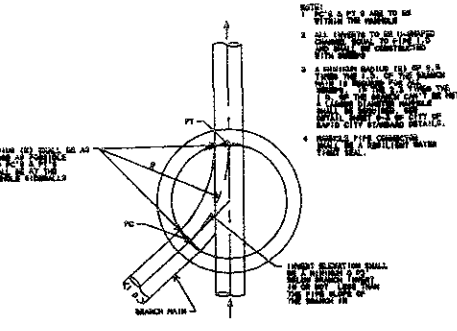
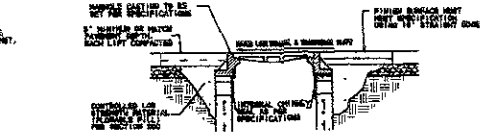
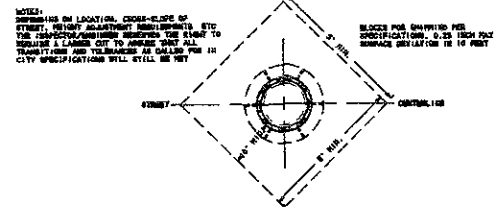
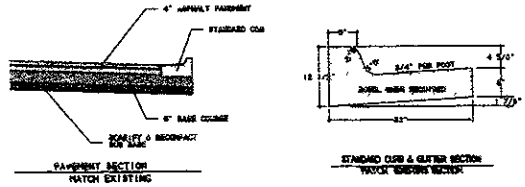
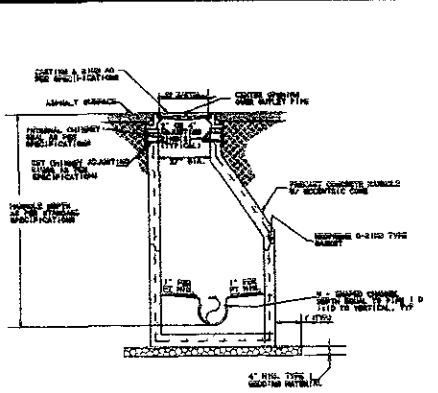
BRITTON ENGINEERING & LAND SURVEYING, INC
8035 BLACK HAWK ROAD, SUITE 5
BLACK HAWK, SD 57718
PH. (605) 716-7908

LOCATED IN THE SW/4 OF SECTION 23
SECTION 24 AND THE NW/2 OF SECTION
26, T1N. R7E, BHP, RAPID CITY
PENNINGTON COUNTY, SOUTH DAKOTA

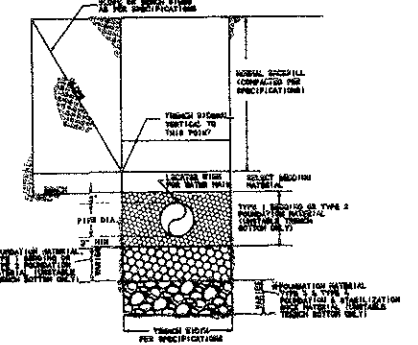
SANITARY SEWER PLAN AND PROFILES
STATION 89+40 TO STATION 92+20
CATRON BOULEVARD
PROJECT #SS09-1782/CIP #50396

DATE	BY	REVISION

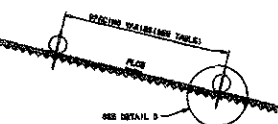
22
24



STANDARD SANITARY MANHOLE WITH MONOLITHIC BASE (48" & 60")

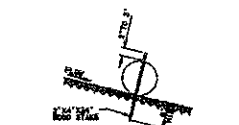


TRENCH DETAIL FOR SEWER/WATER MAIN

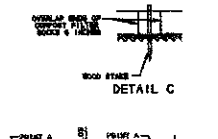


ELEVATION VIEW CUT OR FILL SLOPE INSTALLATION

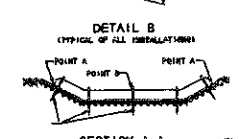
SLOPE	1" DIA. ROCK	1 1/2" DIA. ROCK
1:1	30	30
3:1	30	30
4:1	30	100



DETAIL B (TYPICAL OF ALL INSTALLATIONS)



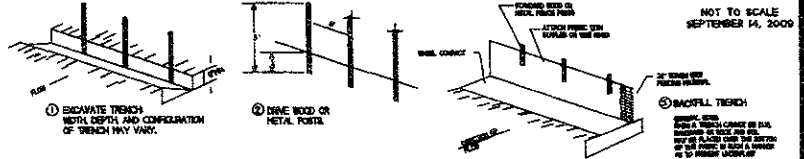
PLAN VIEW DITCH INSTALLATION



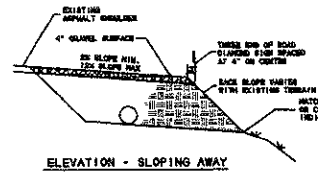
SECTION A-A

GRADE	1 1/2" DIA. ROCK	1" DIA. ROCK
1	30	30
2	30	30
3	30	30
4	30	30

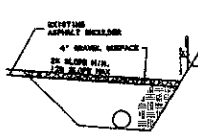
COMPOST FILTER SOCK



SILT FENCE INSTALLATION



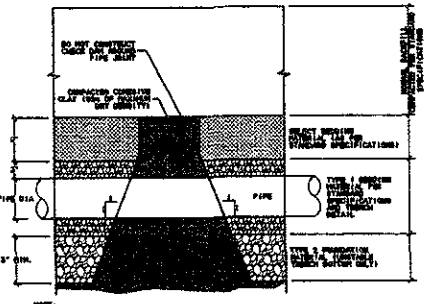
ELEVATION - SLOPING AWAY



ELEVATION - WITH DITCH



APPROACH CROSS-SECTION



TRENCH CHECK DETAIL



BRITTON ENGINEERING & LAND SURVEYING, INC
 8035 BLACK HAWK ROAD, SUITE 5
 BLACK HAWK, SD 57718
 PH. (605) 716-7988

LOCATED IN THE 1/2 OF SECTION 23,
 SECTION 24 AND THE 1/2 OF SECTION
 26, T1N. R2E. B1M., RAPID CITY
 PENNINGTON COUNTY, SOUTH DAKOTA

DETAILS - CATRON BOULEVARD
 SANITARY SEWER - WELLINGTON DRIVE
 5TH STREET TO WELLINGTON DRIVE
 PROJECT #S809-17827C/P #50396

24
 24