

RUSHMORE CROSSING OFFSITE SANITARY SEWER

EAST NORTH STREET TO LOWRY LANE

It is not intended for general distribution with
unauthorized departments or individuals. It is the
property of the City of Rapid City, South Dakota.
It is the responsibility of the engineer of record to
provide and be retained until completion of the
entire project.

Engineering License: _____
Comments: _____

DREAM DESIGN
INTERNATIONAL, INC.
PROFESSIONAL STRUCTURAL & CIVIL ENGINEERING CONSULTANTS
100 SOUTH GARDEN AVENUE, SUITE 200
RAPID CITY, SOUTH DAKOTA 57701-2000
PH: 605/342-1500 FAX: 605/342-1501
WWW.DREAMDESIGNINC.COM

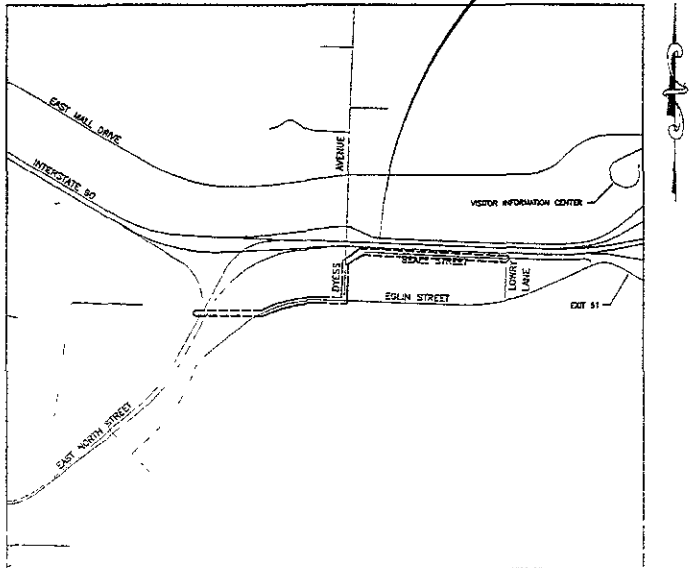
Plan 50113a11a

RECEIVED

APR 17 2007

Rapid City Growth
Management Department

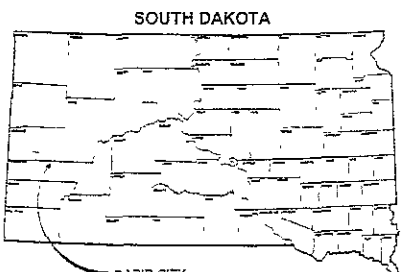
PROJECT
LOCATION



PROJECT LOCATION MAP NOT TO SCALE

INDEX OF SHEETS

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2	GENERAL NOTES
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16 & 17	EROSION CONTROL AND RESTORATION PLAN
18	MISCELLANEOUS DETAILS



FOR REVIEW
ONLY

RUSHMORE CROSSING
OFFSITE SANITARY SEWER
EAST NORTH STREET TO LOWRY LANE



DREAM DESIGN INTERNATIONAL, INC.
 PROFESSIONAL STRUCTURAL & CIVIL ENGINEERING CONSULTANTS
 348 EAST 57TH ST. SUITE 400 RAINY CITY, TN 37203
 TEL: 615-251-5511 FAX: 615-251-5511

Professional Seal

Title	1/4" = 1' SCALE
Drawn by	DRM
Checked by	DRM
Reviewed by	DRM
Design Date	11/10/2011
Issue #	1
Scale	1/4" = 1'
Project No.	107
Sheet No.	1

RUSHMORE CROSSING OFFSITE SANITARY SEWER
 TYPICAL SECTIONS
 GENERAL NOTES
 AND
 TYPICAL SECTIONS

GENERAL NOTES

THE SITE SHOWN, DEMONSTRATION AND PLACEMENT OF PIPES SHALL BE IN ACCORDANCE WITH CURRENT REGULATIONS AND PROCEDURES FOR SANITARY SEWER CONSTRUCTION IN A RAPID CITY, SOUTH DAKOTA.

THE CONTRACTOR SHALL SECURE ALL NEIGHBOR'S PRIOR TO BEGINNING WORK.

ALL EXISTING UTILITIES MAY NOT BE SHOWN ON THE LOCATION MAY VARY FROM THE "AS SHOWN" THE CONTRACTOR IS RESPONSIBLE TO HAVE ALL UTILITIES LOCATED PRIOR TO BEGINNING WORK.

APPROVE TRAFFIC CONTROL DURING CONSTRUCTION IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

ALL WORK SHALL COMPLY WITH THE CITY OF RAPID CITY STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (THE CURRENT ADOPTED EDITION).

PLEASE TO BEGINNING CONSTRUCTION THE GRADING CONTRACTOR SHALL VERIFY AND CORRECT THE:

- 1. A REVISION COUNTY ZONING CONTROL PERMIT
- 2. A NATIONAL POLLUTANT DISCHARGE ELIMINATION STATEMENT (NPDES) PERMIT FOR STORM WATER RUNOFF

THE CONTRACTOR SHALL CLEAR AND GRADE THE AREA TO BE SHOWN TO CORRESPOND WITH THE GRADING LIMITS SHALL BE STRENGTHENED AND VERIFIED AFTER THE SITE GRADING IS COMPLETE. THE CONTRACTOR SHALL MAINTAIN THE TORNSIDE OVER ALL SHARED AREAS EXCEPT UNDER THE PROPOSED STREETS.

THE CONTRACTOR SHALL MAINTAIN THE SITE TO THE LINES AND SHOWN ON THE DRAWINGS TO BE APPROVED BY THE ENGINEER. EROSION CONTROL SHALL INCLUDE ALL MATERIALS IDENTIFIED ON WATERFIRE NATURE.

ALL AREAS, EXCEPT THOSE AREAS TO BE PAVED, COVERED DURING CONSTRUCTION SHALL BE VEGETATED, TREES, AND MULCHES FOR EROSION CONTROL FOLLOWING COMPLETION OF THE GRADING OPERATIONS. THE TORNSIDE VEGETATION, TREES, MULCHES, AND MULCHES SHALL BE SAME IN COMPLIANCE WITH THE CITY OF RAPID CITY, STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (THE CURRENT ADOPTED EDITION).

EXISTING UTILITIES

LOCATION OF EXISTING UTILITIES SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND USES VARY FROM THE BEST AVAILABLE RECORDS. PRIOR TO DEMONSTRATION THE CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION OF ALL UTILITIES AND USES IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL MAINTAIN ALL UTILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL REPORT TO THE ENGINEER IMMEDIATELY IN WRITING ANY DISCOVERY OF ANY UTILITIES NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL REPORT TO THE ENGINEER IMMEDIATELY IN WRITING ANY DISCOVERY OF ANY UTILITIES NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL REPORT TO THE ENGINEER IMMEDIATELY IN WRITING ANY DISCOVERY OF ANY UTILITIES NOT SHOWN ON THESE DRAWINGS.

12" PVC	RESTRAINED	UNRESTRAINED
11' 1/2'	10'	8'
10'	9'	7'
9'	8'	6'
8'	7'	5'
7'	6'	4'
6'	5'	3'
5'	4'	2'
4'	3'	1'
3'	2'	0'
2'	1'	0'
1'	0'	0'
0'	0'	0'

RESTRAINED REQUIREMENTS

THE SLOPE OF RESTRAINED LINES SHALL BE 1% TO 2%.

THE SLOPE OF UNRESTRAINED LINES SHALL BE 1% TO 2%.

THE SLOPE OF UNRESTRAINED LINES SHALL BE 1% TO 2%.

THE SLOPE OF UNRESTRAINED LINES SHALL BE 1% TO 2%.

EROSION CONTROL

ALL AREAS THAT ARE EXPOSED DURING CONSTRUCTION SHALL BE VEGETATED, TREES, AND MULCHES FOR EROSION CONTROL. THE CONTRACTOR SHALL MAINTAIN ALL UTILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL REPORT TO THE ENGINEER IMMEDIATELY IN WRITING ANY DISCOVERY OF ANY UTILITIES NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL REPORT TO THE ENGINEER IMMEDIATELY IN WRITING ANY DISCOVERY OF ANY UTILITIES NOT SHOWN ON THESE DRAWINGS.

CONSTRUCTION LIMITS

THE CONSTRUCTION LIMITS FOR THE PROJECT SHALL BE DEFINED AS FOLLOWS:

PROPERTY LINES, RIGHT-OF-WAY LINES, EASEMENT LINES, AND EXISTING UTILITIES LOCATIONS SHALL BE THE CONSTRUCTION LIMITS UNLESS INDICATED OTHERWISE ON THE DRAWINGS.

THE CONTRACTOR SHALL COMPLETION CONSTRUCTION WORK WITHIN THE CONSTRUCTION LIMITS DEFINED.

SIDEWALK RAMP PLACEMENT

SIDEWALK RAMP PLACEMENT SHALL BE REFERRED TO IN PLANNING SHEETS AND SHALL BE A MINIMUM OF 20' FROM TOP OF CURB TO EDGE OF SIDEWALK RAMP. THE CONTRACTOR SHALL MAINTAIN ALL UTILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL REPORT TO THE ENGINEER IMMEDIATELY IN WRITING ANY DISCOVERY OF ANY UTILITIES NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL REPORT TO THE ENGINEER IMMEDIATELY IN WRITING ANY DISCOVERY OF ANY UTILITIES NOT SHOWN ON THESE DRAWINGS.

UTILITIES CONSTRUCTION NOTES

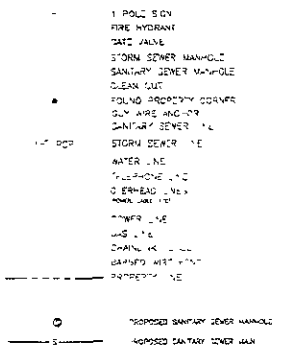
ALL WATER AND SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF RAPID CITY STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (THE CURRENT ADOPTED EDITION).

THE CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION OF ALL UTILITIES AND USES IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL MAINTAIN ALL UTILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL REPORT TO THE ENGINEER IMMEDIATELY IN WRITING ANY DISCOVERY OF ANY UTILITIES NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL REPORT TO THE ENGINEER IMMEDIATELY IN WRITING ANY DISCOVERY OF ANY UTILITIES NOT SHOWN ON THESE DRAWINGS.

MANHOLE

MANHOLE DETAILS ARE SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION OF ALL UTILITIES AND USES IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL MAINTAIN ALL UTILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL REPORT TO THE ENGINEER IMMEDIATELY IN WRITING ANY DISCOVERY OF ANY UTILITIES NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL REPORT TO THE ENGINEER IMMEDIATELY IN WRITING ANY DISCOVERY OF ANY UTILITIES NOT SHOWN ON THESE DRAWINGS.

FOR REVIEW ONLY



GENERAL NOTES
AND
TYPICAL SECTIONS

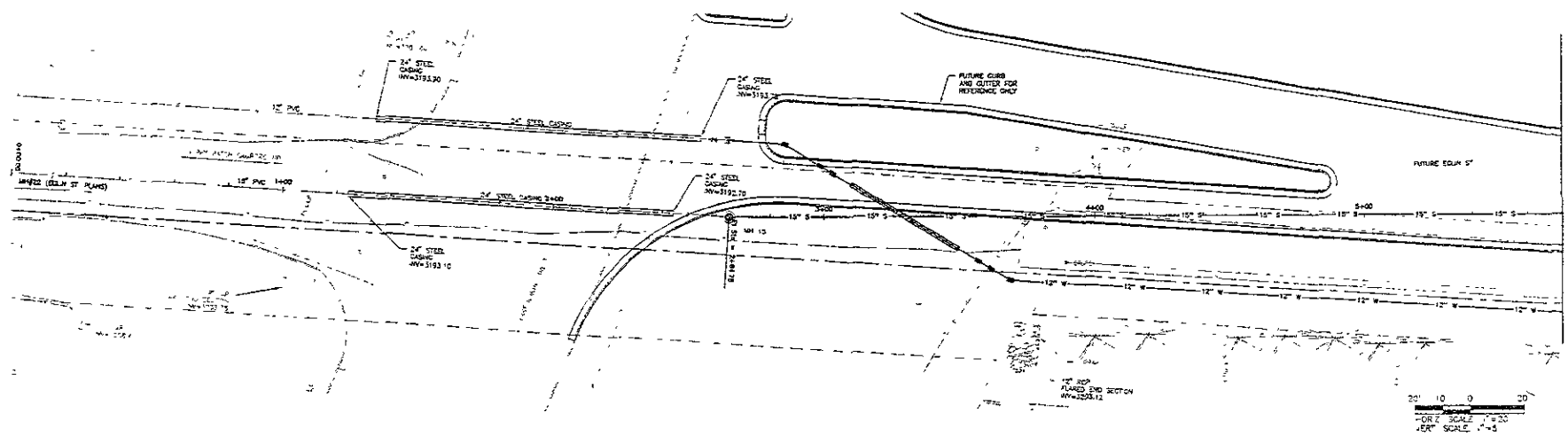
SEWER MAIN NOTES
 FOR 210' LFT OF 12" PVC C900
 6150 WATER MAIN THIS SHEET
 STA 2+43.26 = 27.88'
 TIE TO EXISTING WATER MAIN
 STA 2+43.70 = 26.77'
 STA 3+09.20 = 23.04'
 RM 11' TELS 1492, 1504

STA 3+15.14 = 12.00' TO
 STA 3+40.27 12.00'
 RM WATER MAIN ENCASUREMENT
 STA 2+48.25 = 15.42'
 STA 3+03.25 = 15.89'
 STA 3+17.15 = 16.55'
 STA 3+47.54 = 18.23'
 RM 17' TELS 1492, 1504

CONTRACT NOTES
 PLS CHECK E & S
 CONNECT TO EXISTING 12" SANITARY SEWER
 WITH 100' 12" PVC SANDWICH
 SEWER MAIN TO THE EAST
 STA 2+44.78 = 0'
 RM MANHOLE NO 13



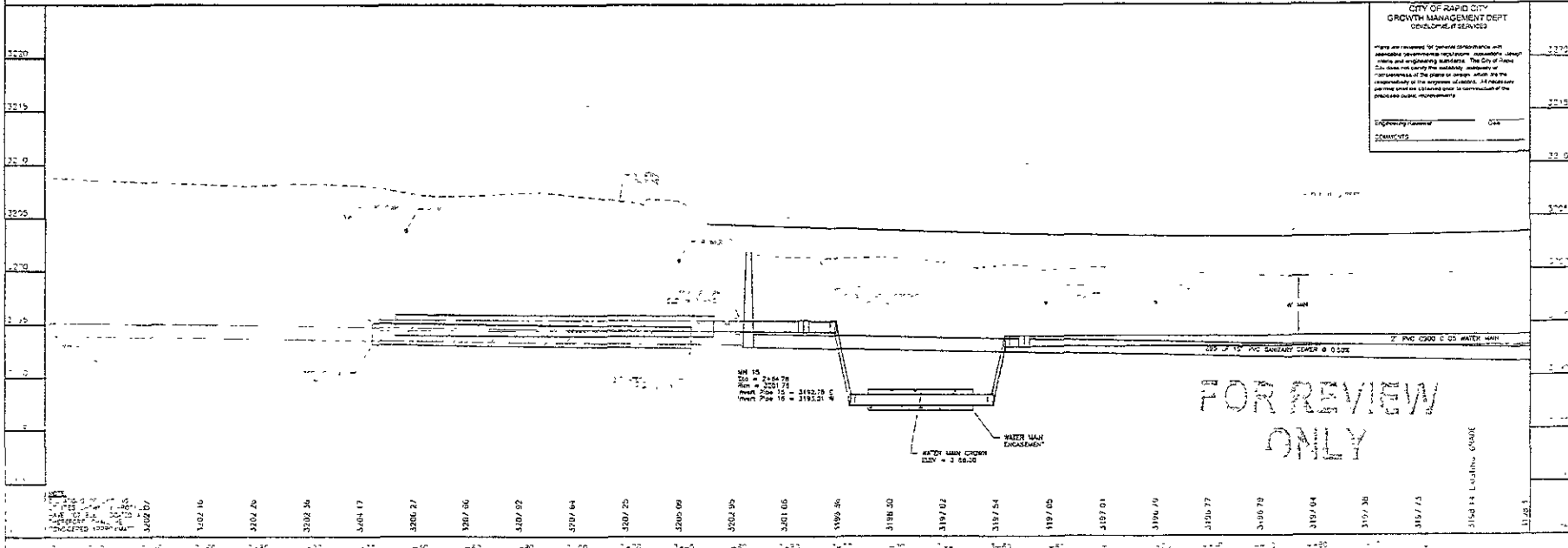
**DREAM DESIGN
 INTERNATIONAL, INC.**
 PROFESSIONAL SURVEYOR & CIVIL ENGINEERING CONSULTANTS
 2300 EAST 12TH AVENUE SUITE 100
 DENVER, CO 80202
 TEL 303 534 0248 FAX 303 534 0245 MAIL: eng@dreamdesign.com



MATCHLINE - SEE SHEET 5

20' 10' 0' 20'
 HORIZ. SCALE: 1" = 20'
 VERT. SCALE: 1" = 5'

Scale	AS NOTED
Designed by	DRS
Checked by	DRS
Drawn by	DRS
Date	11/27
Project	1107
Sheet	1107-01
Project Name	1107-01
Client	DRS
Scale	1" = 20'
Author	DRS



**CITY OF RAPID CITY
 GROWTH MANAGEMENT DEPT.
 DIVISION OF SERVICES**

Plans are reviewed for general conformance with applicable ordinances, regulations, standards, codes and engineering standards. The City of Rapid City does not verify the suitability, accuracy or completeness of the plans or design. After the responsibility of the engineer is accepted, all plans are per my seal and are intended for construction of the proposed public improvement.

Engineering Division: GAS
 COMMENTS: _____

RUSHMORE CROSSING
 OFFSITE SANITARY SEWER

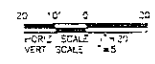
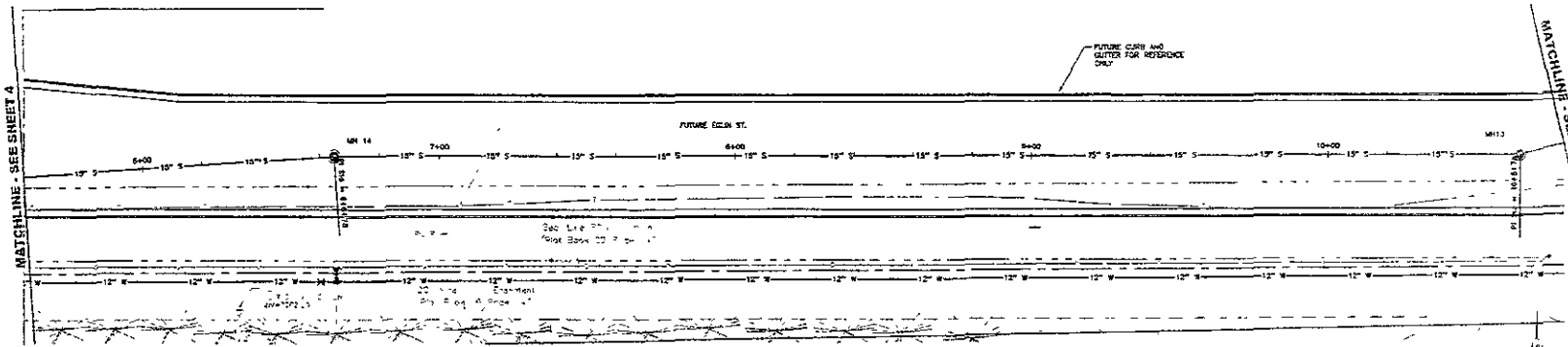
SANITARY SEWER
 PLAN / PROFILE
 STA 430 TO 530



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 532 EAST 10TH ST. SUITE # 200 DENVER, CO 80202
 TEL: 303.733.0001 FAX: 303.733.0002 EMAIL: engineering@dreamdesign.com

WATER MAIN NOTES:
 PAV 300 LF OF 12" PVC C900
 C150 WATER MAIN THIS SHEET
 STA 3+57.67' TO 36'
 PAV 12" SAGE VALVE
 STA 6+62.68' TO 63'
 PAV 12" X12" 76" ICE
 STA 6+82.02' TO 83'
 PAV 12" HYDRAV. ASSURANCE
 BURY ELEVATION = 3202.68'

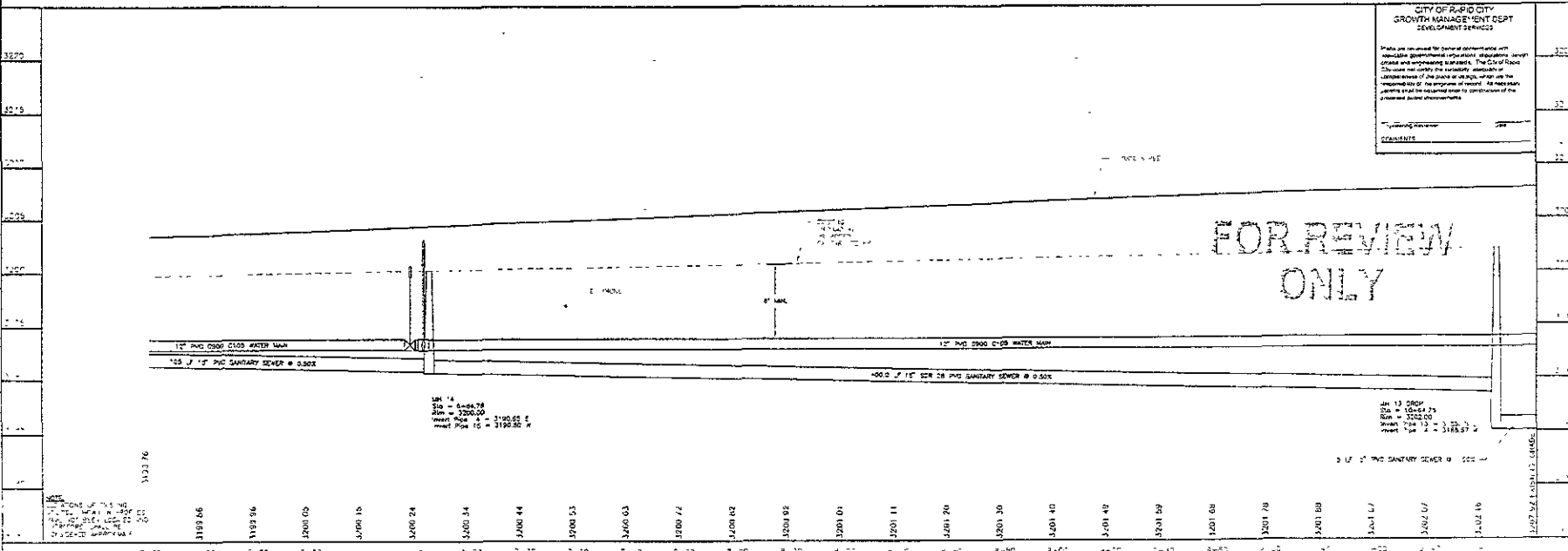
SEWER COVER NOTES:
 STA 4+54.75' TO 55'
 PAV 48" MANHOLE NO. 14
 STA 10+48.78' TO 49'
 PAV 48" DEEP MANHOLE NO. 3



CITY OF DENVER CITY GROWTH MANAGEMENT DEPT DEVELOPMENT SERVICES

Make you responsible for correct placement and installation of all underground utility lines, structures, and engineering as shown. The City of Denver shall not be liable for the construction of any utility lines or structures shown on this plan unless the contractor is notified in writing by the City of Denver that the contractor is to be responsible for the construction of the same.

DATE: 10/20/20
 DRAWN BY: [Signature]
 CHECKED BY: [Signature]
 P.I.S.K. 1/17



FOR REVIEW ONLY

3+23.76
 3+24.00
 3+24.24
 3+24.48
 3+24.72
 3+24.96
 3+25.20
 3+25.44
 3+25.68
 3+25.92
 3+26.16
 3+26.40
 3+26.64
 3+26.88
 3+27.12
 3+27.36
 3+27.60
 3+27.84
 3+28.08
 3+28.32
 3+28.56
 3+28.80
 3+29.04
 3+29.28
 3+29.52
 3+29.76
 3+30.00

3+02.16
 3+02.40
 3+02.64
 3+02.88
 3+03.12
 3+03.36
 3+03.60
 3+03.84
 3+04.08
 3+04.32
 3+04.56
 3+04.80
 3+05.04
 3+05.28
 3+05.52
 3+05.76
 3+06.00

RUSHMORE CROSSING OFFSITE SANITARY SEWER

SANITARY SEWER PLAN / PROFILE STA 3+23 TO 10+80



DREAM DESIGN INTERNATIONAL, INC.
 PROFESSIONAL STRUCTURAL & CIVIL ENGINEERING CONSULTANTS
 1000 E. 10th St., Suite 1000, Lincoln, NE 68502
 Tel: 402-341-0039 Fax: 402-341-0038 Email: info@dreamdesigninc.com

PROJECT NO. 12110
 SHEET NO. 12110-13

DATE: 02-05-20
 DESIGNED BY: [Signature]
 CHECKED BY: [Signature]
 IN CHARGE: [Signature]

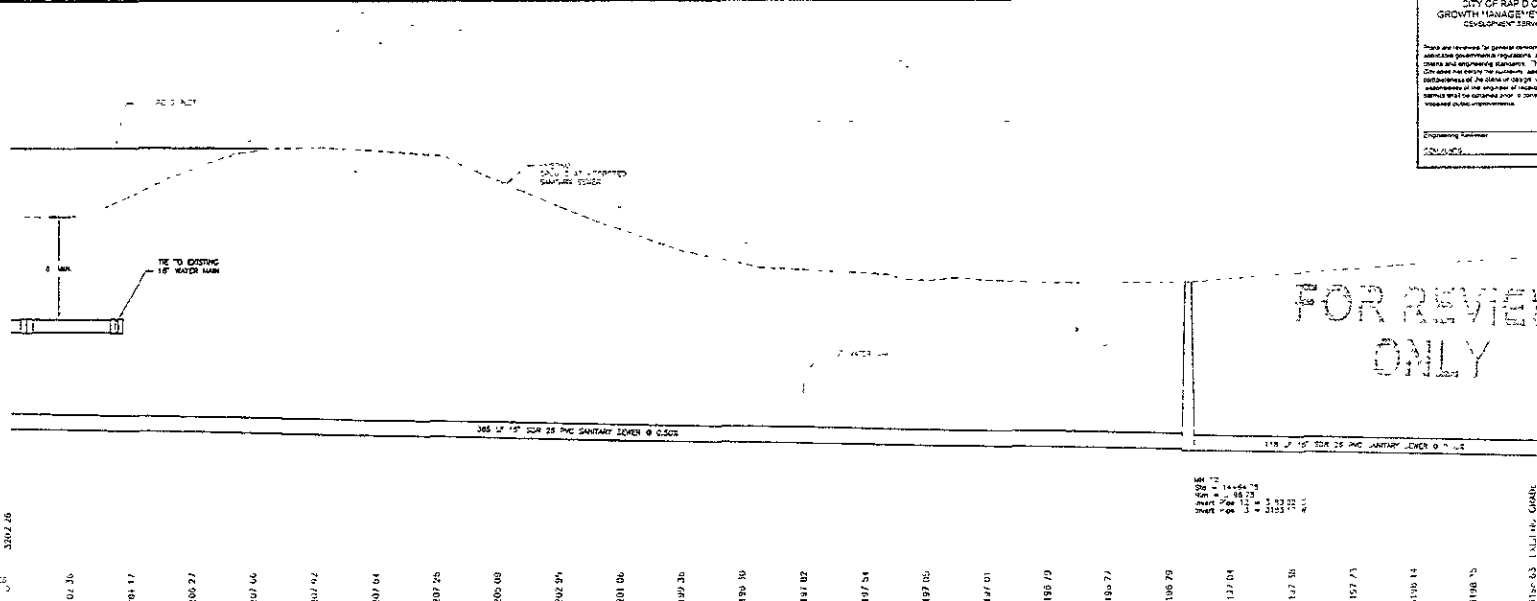
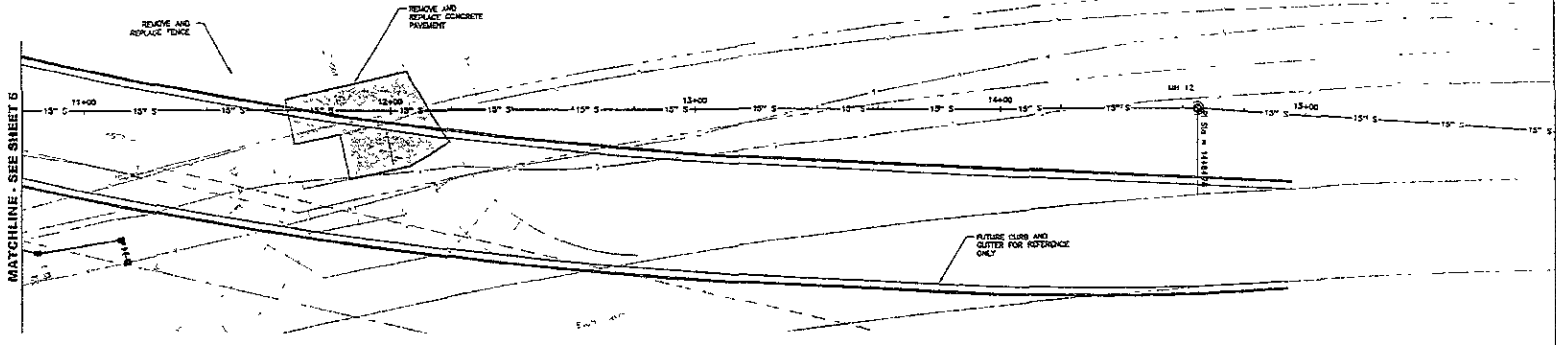
RUSHMORE CROSSING OFFSITE SANITARY SEWER

SANITARY SEWER
 PLAN, PROFILE
 STA 10+20 TO 15+80

VERTICAL CURVE NOTES:
 F&B 41' 15" OF 12" PVC CURVE
 G130 WYER BANK THIS SHEET
 STA 10+45.01 44.470
 F&B 2' 23.1' RDWD
 STA 11+12.42 41.789
 F&B 12' 20' RDWD
 STA 11+13.71 43.507
 F&B 12' GATE VALVE
 STA 11+14.18 49.228
 F&B 12' 1/2" X 12" Tee
 AND Tee TO EXISTING WATER MAIN

SURFACING NOTES:
 SMOOT DRIVE ENTRANCE
 STA 11+45.48 TO STA 11+12.79
 REMOVE POB PAVEMENT PANELS - 24 SY
 AGGREGATE BASECOURSE - 25 CMV
 POB PAVEMENT IF REINFORCED - 124 SY
 POB PAVEMENT JOINT SEALANT - 108 LB

REMOVE AND RE-PLACE METAL WATER
 STA 11+49.55 - 8' PIPE TO BOX 11+53.79
 REMOVE AND RE-SET CHAIN LINK FENCE



SITY OF RAPID CITY
 GROWTH MANAGEMENT DEPT
 DEVELOPMENT SERVICES

These are prepared for general information only and are not intended to constitute a contract. The City of Rapid City does not accept any liability for the accuracy or completeness of the data or design, which are the responsibility of the engineer of record. All necessary permits must be obtained prior to construction of the proposed civil improvements.

Engineering Engineer: DSW
 CONTRACTOR:

FOR REVIEW ONLY

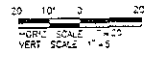
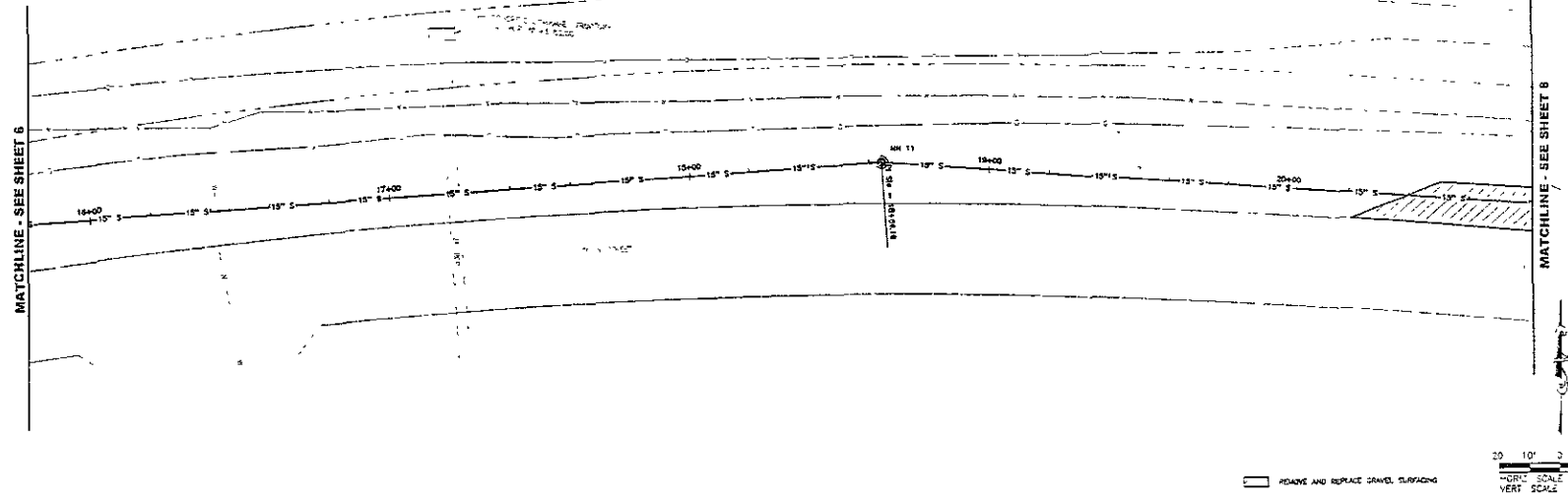
3102.85
 3101.36
 3101.17
 3100.27
 3100.46
 3100.72
 3100.94
 3101.25
 3100.69
 3100.95
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 3101.26
 3101.56
 3101.82
 3101.94
 3101.85
 3101.01
 3100.79
 3100.77
 3100.70
 3101.04
 3101.26
 3101.71
 3101.84
 3101.75

118+63 T&I RE. CHAIN

SANITARY SEWER SYSTEM
SIA 15-80-110 - 01
P&I DRAWING # 11
NOTES
SEE SHEET # FOR GRAVEL SURFACING QUANTITIES



DREAM DESIGN INTERNATIONAL, INC.
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PH: 605-338-1000 FAX: 605-338-1001
www.dreamdesigninc.com



ROADWAY AND REPLACE GRAVEL SURFACING

AS NOTED

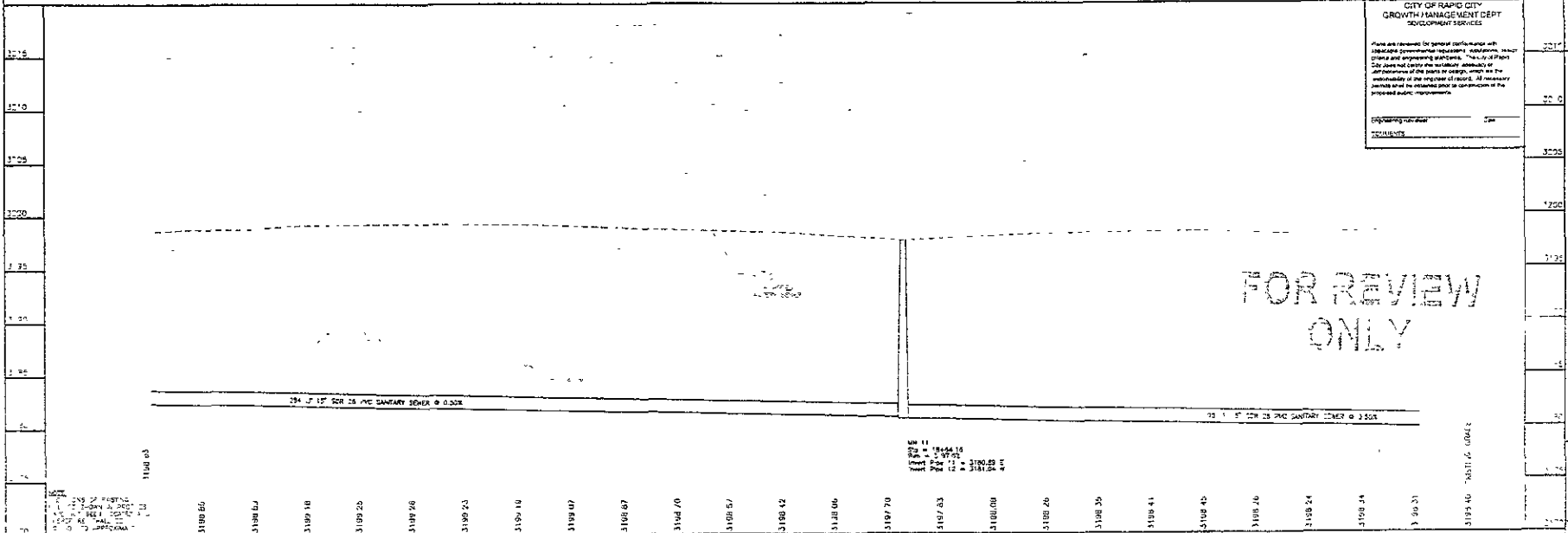
PROJECT NO.		DATE	
DESIGNER		DATE	
DATE		DATE	
DATE		DATE	
DATE		DATE	

PRINT DATE: 10/11/11
DRAWN BY: JLD
CHECKED BY: JLD
DATE: 10/11/11

CITY OF RAPID CITY
GROWTH MANAGEMENT DEPT
DEVELOPMENT SERVICES

Plans are prepared for general information only with limited site governmental requirements and permits. Neither Dream Design International, Inc. nor its engineers and/or consultants are responsible for the accuracy of the information or the results of any construction of the project shown on these plans. All necessary permits shall be obtained prior to construction of the proposed work.

Authorizing official: _____
TITLE: _____



FOR REVIEW ONLY

RUSHMORE CROSSING
OFFSITE SANITARY SEWER

SANITARY SEWER
PLAN / PROFILE
STA 15+80 TO 20+00

15 1/4" SLOPE

3106.65 3106.67 3109.16 3109.25 3109.26 3130.23 3139.18 3139.07 3106.67 3104.70 3106.57 3108.42 3132.66 3107.70 3107.63 3108.00 3108.26 3138.25 3108.41 3108.40 3108.26 3108.24 3108.24 3108.24 3108.24 3108.24 3108.24 3108.24 3108.24 3108.24

11.1' =
11.1' =
11.1' =
11.1' =
11.1' =

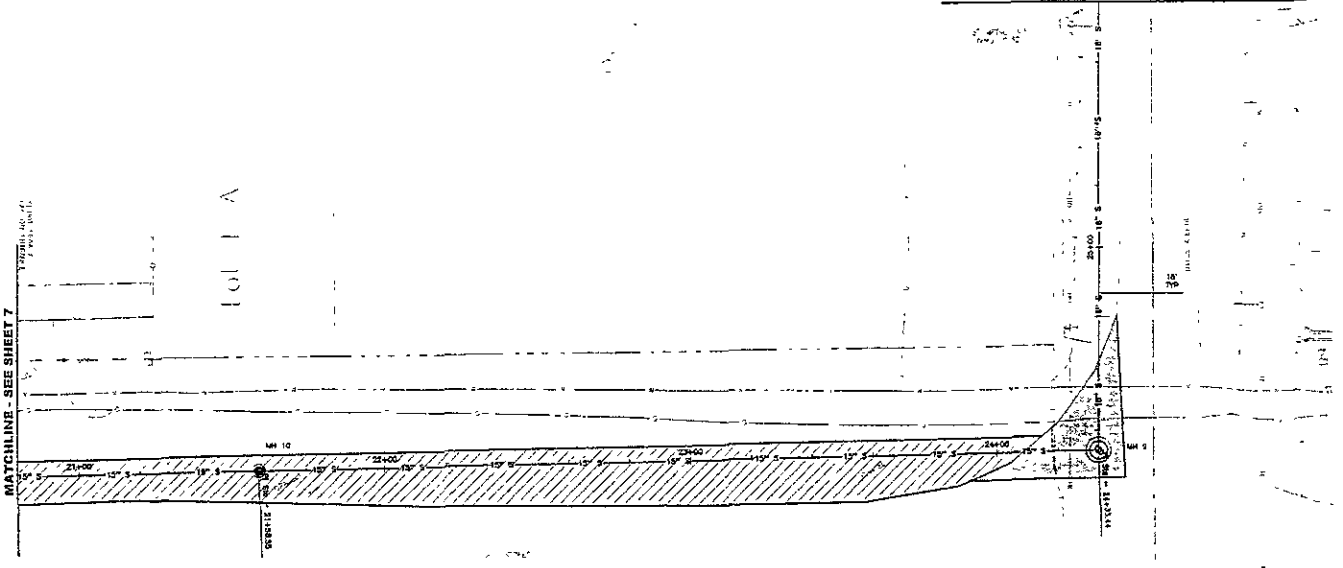


INTERNATIONAL, INC.
 PROFESSIONAL SYMBIOTICAL & CIVIL ENGINEERING CONSULTANTS
 533 MARSH CREEK ST., SUITE 4, RAVENHURST, ILL. 60461
 TEL: 847-348-0081 FAX: 847-348-0051 EMAIL: info@internationalinc.com

MATCHLINE - SEE SHEET 9

EXISTING POINTS
 STA 21+58.30 = C
 TAN 45° WAVELENGTH = C
 STA 24+33.84
 TAN 30° WAVELENGTH = 3
REFERENCE NOTES
 STRESS ADJUST
 STA 2+400 TO 2+450
 REMOVE EXISTING ASPHALT PAVEMENT - 05 LF
 REMOVE ASPHALT PAVEMENT = 100 LF 3"
 AGRICULTURE BASE COURSE, 10" - 8.4 TONS
 ASPHALT PAVEMENT, 1" (2 LIFTS) CLASS C TYPE 1 - 29.0 TONS
 LOT 1 AND LOT 14C
 STA 10+20 TO 2+400
 REMOVE EXISTING GRAVEL SURFACING - 481 SF
 AGRICULTURE BASE COURSE, 4" - 31.5 TONS

MATCHLINE - SEE SHEET 7



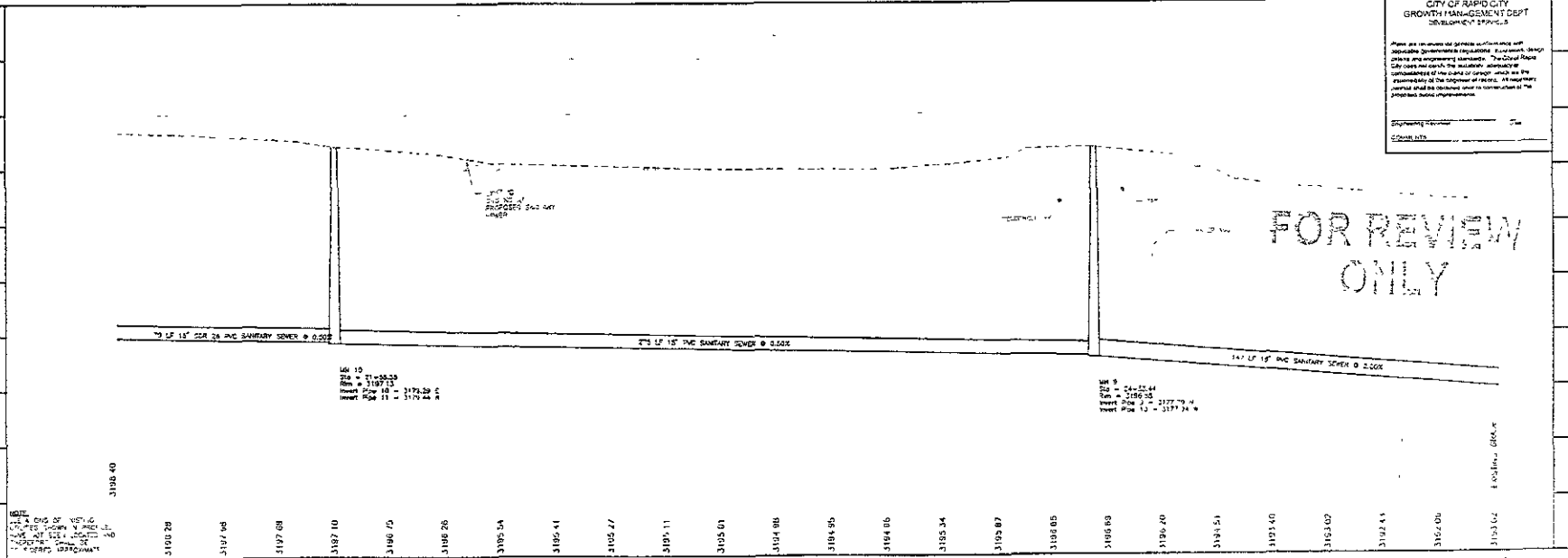
Scale: AS NOTED
 20 10 5 0
 HORIZ. SCALE 1" = 20'
 VERT. SCALE 1" = 5'
 REMOVE AND REPLACE GRAVEL SURFACING
 REMOVE AND REPLACE ASPHALT PAVEMENT

CITY OF RAPID CITY
 GROWTH MANAGEMENT DEPT
 DEVELOPMENT SERVICES
 Plans are to be used for general information only and do not constitute a contract. The City of Rapid City and its engineering consultants, The Central Rapid City Engineers and Architects, Inc., are not responsible for the design or construction of the project which is the responsibility of the contractor. All engineering permits shall be obtained prior to construction of the project under the jurisdiction of the appropriate local government.

FOR REVIEW ONLY

RUSHMORE CROSSING
 OFFSITE SANITARY SEWER

SANITARY SEWER
 PLAN / PROFILE
 STA 21+00 TO 24+00



PIPE 10
 11" x 11" x 11"
 11" x 11" x 11"
 11" x 11" x 11"
 11" x 11" x 11"

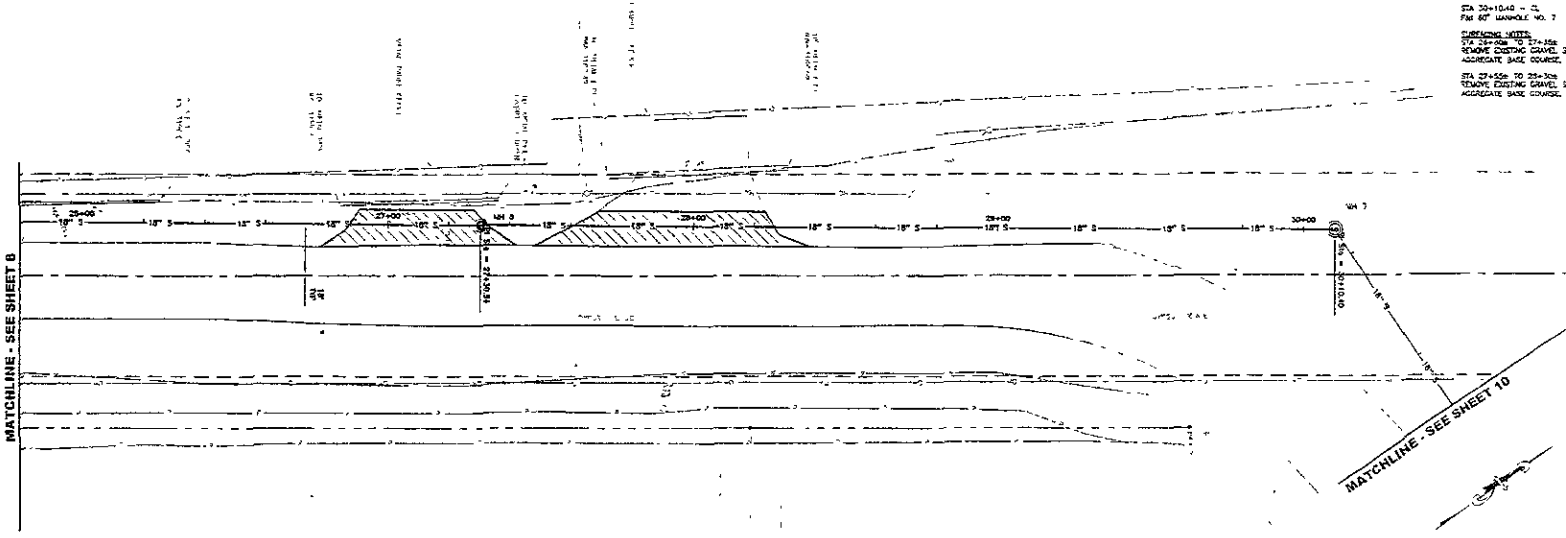
PIPE 8
 8" x 8" x 8"
 8" x 8" x 8"
 8" x 8" x 8"
 8" x 8" x 8"

1:50 (PLAN) 1:20 (PROFILE)



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 WWW.DREAMDESIGNINC.COM

UNAPPROVED SHEET
 STA 25+00 TO STA 30+00
 7th ST. MANHOLE NO. 3
 STA 30+10.40 - 0
 PM 80" MANHOLE NO. 7
 SURFACING NOTES
 1. 2" OF EXISTING 1/2" x 1/4" ASPHALT
 REMOVE EXISTING GRAVEL SURFACING - 63.4 5'
 AGGREGATE BASE COURSE, 4" - 13 10'WS
 2. 2" OF EXISTING 1/2" x 1/4" ASPHALT
 REMOVE EXISTING GRAVEL SURFACING - 58.7 5'
 AGGREGATE BASE COURSE, 4" - 8 10'WS

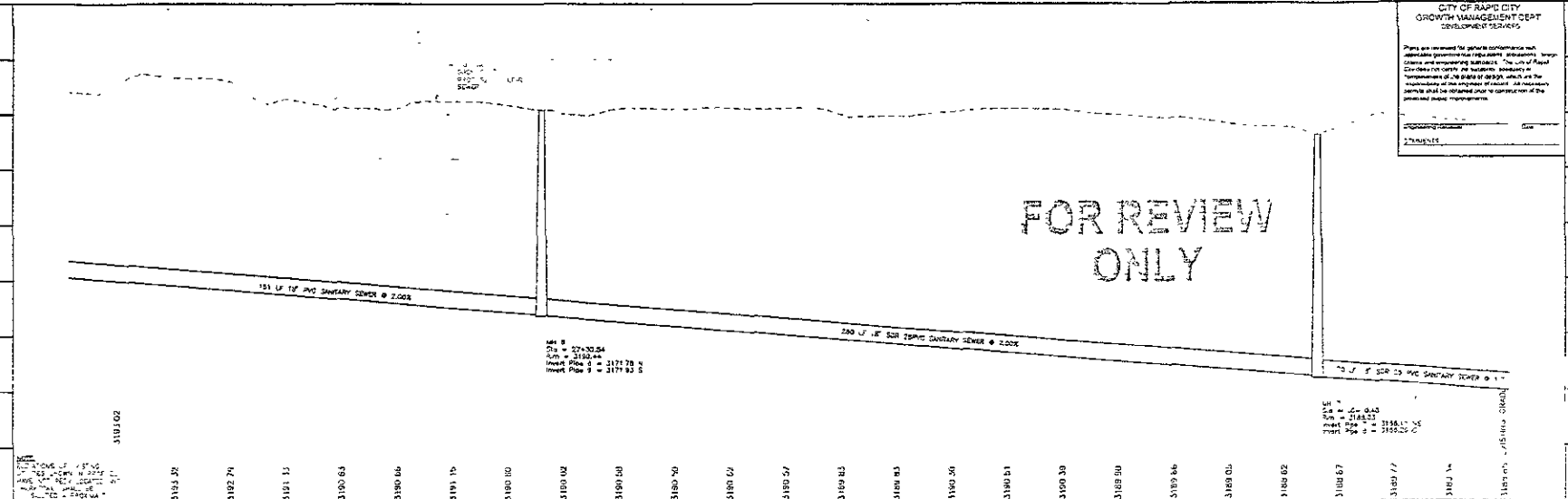


MATCHLINE - SEE SHEET 8

MATCHLINE - SEE SHEET 10

HORIZ SCALE 1" = 20'
 VERT SCALE 1" = 5'

REMOVE AND REPLACE GRAVEL SURFACING



FOR REVIEW ONLY

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 GROWTH MANAGEMENT DEPT
 DEVELOPMENT SERVICES
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44' #
 STA = 27+30.54
 R/W = 315.00'
 Invert Elev = 3171.78'
 Invert Elev = 3171.85'

3181.5
 3181.5
 3181.5
 3181.5
 3181.5
 3181.5

Sheet	AS NOTED
Prepared By	J. J. J.
Checked By	J. J. J.
Design Date	7/15/20
Scale	AS NOTED
Project No.	02-00228-03
Revised By	None
Scale	AS NOTED

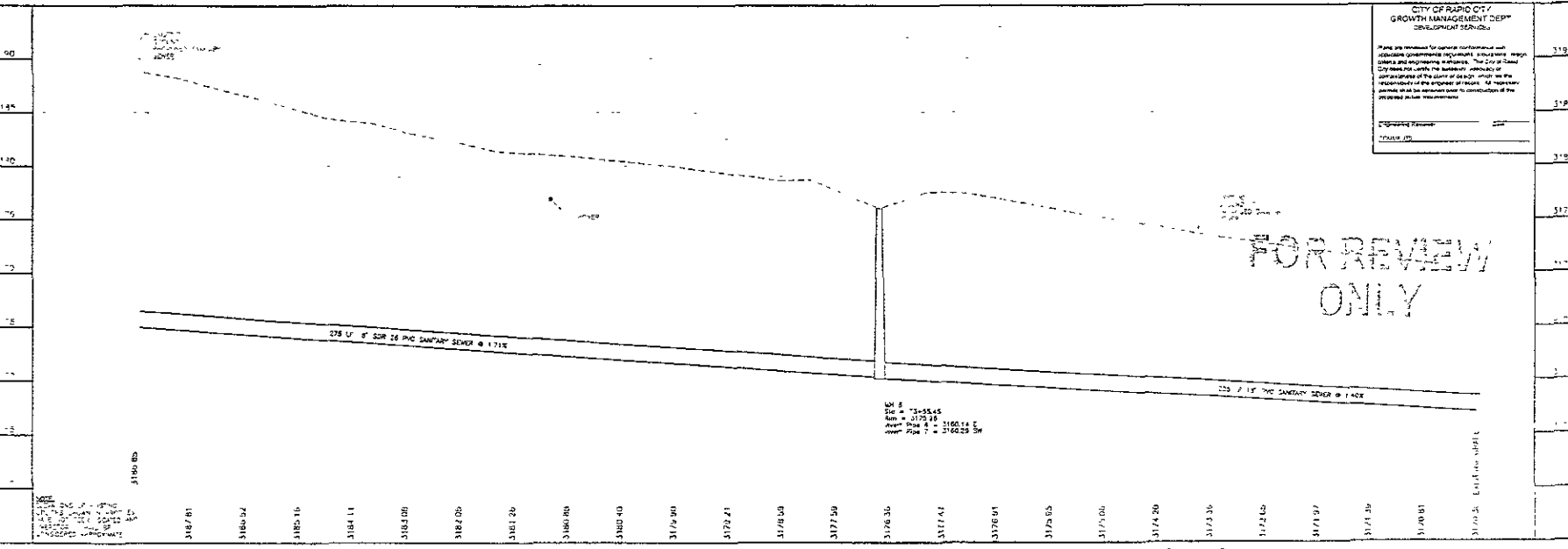
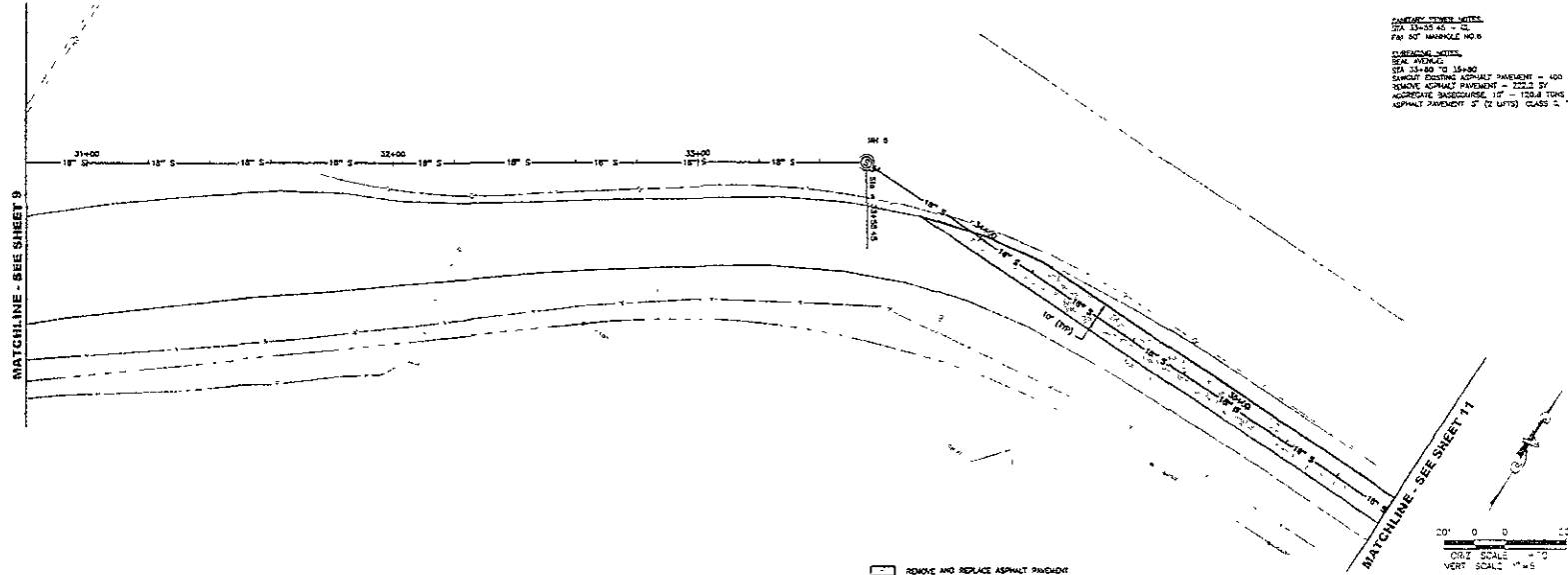
RUSHMORE CROSSING
 OFFSITE SANITARY SEWER

SANITARY SEWER
 PLAN / PROFILE
 STA 25+00 TO 30+00



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INTERNATIONAL, INC.
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PH: 618-238-0330 FAX: 618-238-0333 EMAIL: info@drifamdesign.com

UNIFORMITY NOTES: SEE SHEET 9
FOR 8" MANHOLE W/O
CLEARANCE NOTES
SEAL AVERAGE
STA 31+00 TO 34+00
SUPPORT FOOTING ASPHALT PAVEMENT = 400 LB
REMOVE ASPHALT PAVEMENT = 225 LB CY
AGGREGATE BASE COURSE 1" - 1.004 TONS
ASPHALT PAVEMENT 1" (2 LIFTS) CLASS 2 TYPE 1 - 52.1 TONS



CITY OF RAPID CITY
GROWTH MANAGEMENT DEPT.
DEVELOPMENT SERVICES

Please see references for specific performance and reduction requirements regarding structures, design, construction and engineering standards. The City of Rapid City reserves the right to modify or amend any of the conditions of the permit at any time, without the responsibility of the engineer or architect. All registration numbers are subject to verification by the City of Rapid City.

Engineering Plans: _____
Contract No: _____

RUSHMORE CROSSING
OFFSITE SANITARY SEWER

SANITARY SEWER
PLAN PROFILE
STA 31+00 TO 34+00

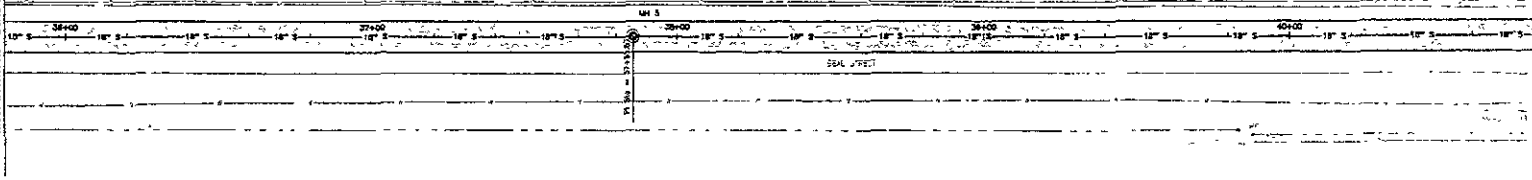


DREAM DESIGN INTERNATIONAL, INC.
 PROFESSIONAL, STRUCTURAL & CIVIL ENGINEERING CONSULTANTS
 402 MARKET CITY CENTER SUITE 6000 CHICAGO, IL 60611
 TEL: 773-328-1200 FAX: 773-328-1205 EMAIL: info@dreamdesigninc.com

GENERAL NOTES:
 SEE SHEETS 10 & 11
 1.5" = 10' HORIZONTAL SCALE
REWORKING NOTES:
 1. SEE SHEETS 10 & 11
 2. EXISTING ASPHALT PAVEMENT - 1" 000 LF
 3. REMOVE ASPHALT PAVEMENT - 155.6 SF
 4. RECONSTRUCT ASPHALT PAVEMENT - 502.1 TONS
 5. ASPHALT PAVEMENT 2" (2 LF) CLASS G, TYPE 1 - 53.2 TONS

MATCHLINE - SEE SHEET 10

MATCHLINE - SEE SHEET 12



 REMOVE AND REPLACE ASPHALT PAVEMENT

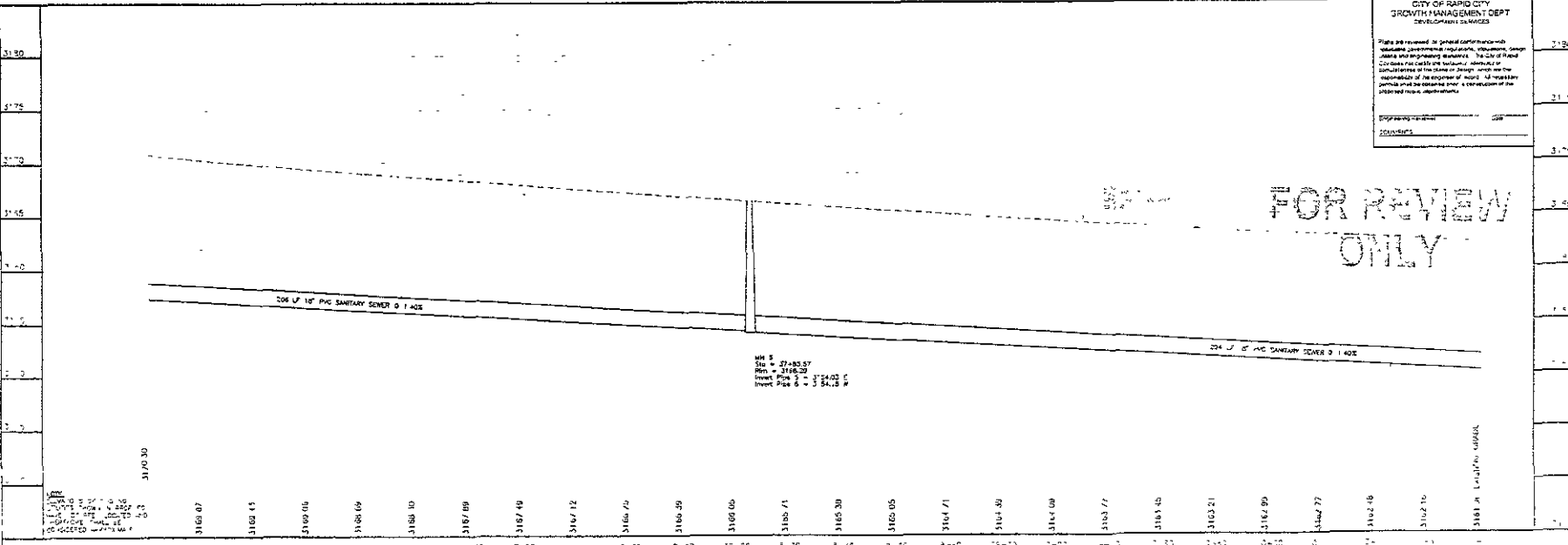
1" = 20'
 HORIZ. SCALE
 1" = 4'
 VERT. SCALE

**CITY OF RAPID CITY
 GROWTH MANAGEMENT DEPT.
 DEVELOPMENT DIVISION**

Please be advised, all general contractor work shall comply with applicable governmental regulations, including, but not limited to, zoning, building, and engineering standards. The City of Rapid City is not responsible for the accuracy, completeness, or timeliness of the information provided. All necessary permits shall be obtained prior to the execution of the work shown on this drawing.

Engineering:
 Designer:

FOR REVIEW ONLY



Site # 37-83.57
 Date 11/18/20
 Project No. 3 - 11-2403 N
 Invert Point 0 = 354.28'

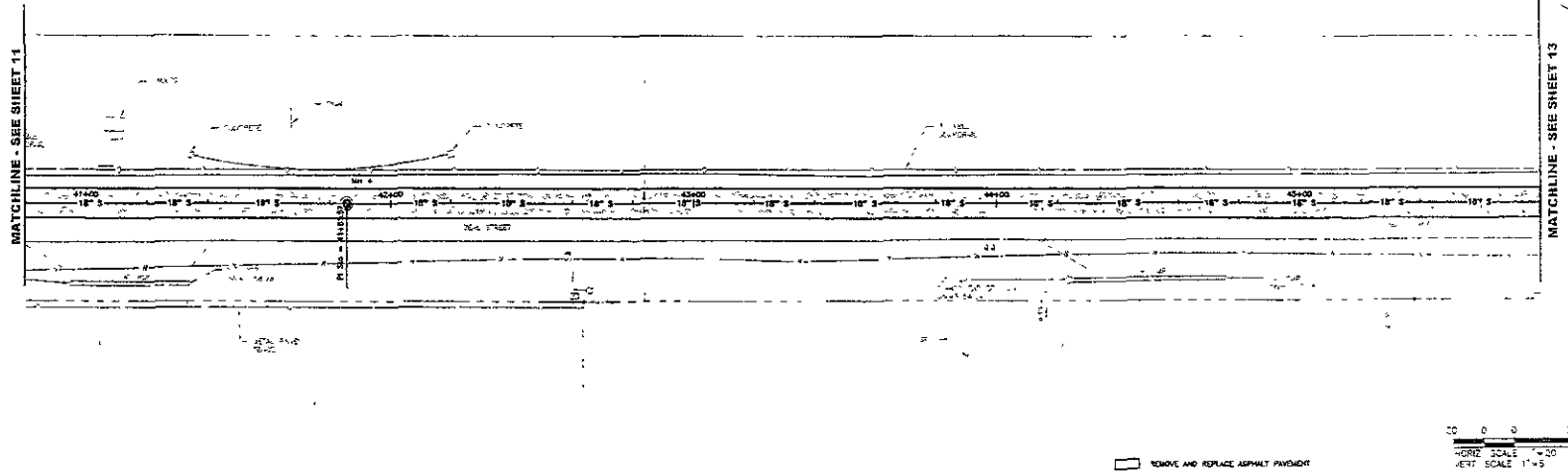
**RUSHMORE CROSSING
 OFFSITE SANITARY SEWER**

SANITARY SEWER
 PLAN / PROFILE
 STA 35+20 TO 40+00

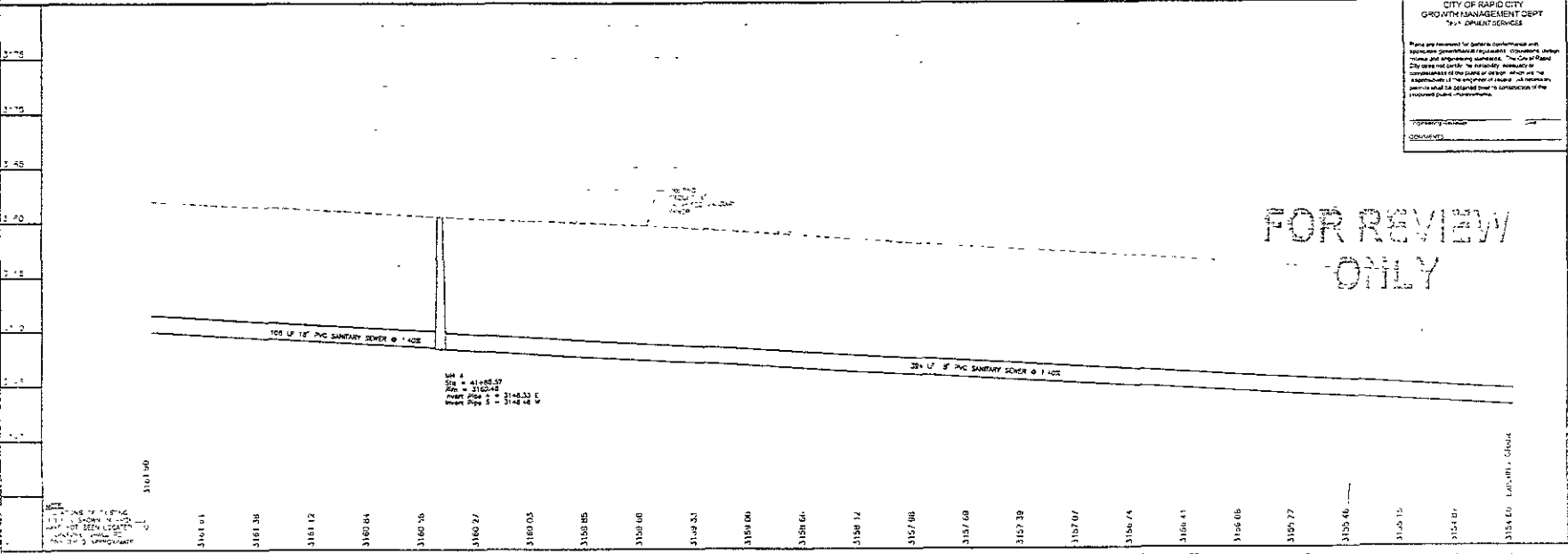
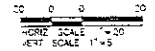


**DREAM DESIGN
INTERNATIONAL, INC.**
PROFESSIONAL STRUCTURAL & CIVIL ENGINEERING CONSULTANTS
ONE HUNTER CREEK WAY, SUITE 100, RAPID CITY, SD 57701
TEL: 605.342.2222 FAX: 605.342.2223 WWW.DREAMDESIGNINC.COM

SANITARY SEWER NOTES:
SMA 41+85.57 = 0'
FBI 45' MANHOLE NO. 4
SURFACING NOTES:
BULK HEADS:
SMA 40+00 TO 45+00
SMACT COURSE ASPHALT PAVEMENT - 1,500 LF
REMOVE ASPHALT PAVEMENT - 383.0 SF
AGGREGATE BASE COURSE, 10" - 322.1 TONS
ASPHALT PAVEMENT, 2" OF LUTED, CLASS C, TYPE 1 - 153.2 TONS



REMOVE AND REPLACE ASPHALT PAVEMENT



SMA 4
Sta = 41+85.57
Elev = 3162.43
Point 506 S = 31+46.33 E
Point 506 N = 31+42.48 W

**CITY OF RAPID CITY
GROWTH MANAGEMENT DEPT
733 DUBOIS SERVICES**

Please pay attention to the following information and specifications when preparing plans and specifications. The City of Rapid City and the City Engineer are not responsible for the accuracy, completeness or consistency of the plans or design which are the responsibility of the engineer of record. All necessary permits shall be obtained prior to construction of the proposed public improvements.

Appropriation Number: _____
Contract Number: _____

**FOR REVIEW
ONLY**

**RUSHMORE CROSSING
OFFSITE SANITARY SEWER**

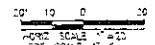
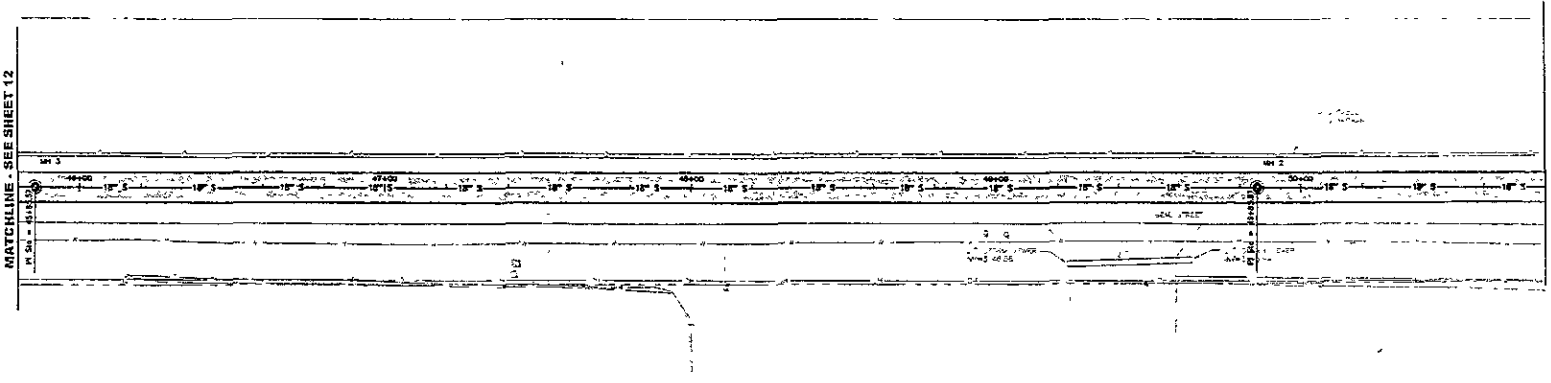
SANITARY SEWER
PLAN & PROFILE
31+40.00 TO 45+00



BRADHAM DESIGN INTERNATIONAL, INC.
 PROFESSIONAL STRUCTURAL & CIVIL ENGINEERING CONSULTANTS
 300 SADDLE CREEK ST., SUITE 400, RICHMOND, VIRGINIA 23220
 TEL: 804-345-0100 FAX: 804-345-0101 EMAIL: bpe@bradhamdesign.com

SANITARY SEWER NOTES:
 STA 45+85.37 = C.C.
 FBI 48" MANHOLE NO.1
 STA 49+85.37 = C.C.
 FBI 48" MANHOLE NO.2

SUBMITTAL NOTES:
 SEAL APPROVED
 STA 50+00 TO 50+50
 REMOVAL EXISTING ASPHALT PAVEMENT = 1,000 LF
 REMOVE ASPHALT PAVEMENT = 500 LF ST
 ADEQUATE BASE COURSE, 10" - 300.1 TONS
 ASPHALT PAVEMENT 2" OF LIFT, CLASS C, TYPE 1 - 153.2 TONS



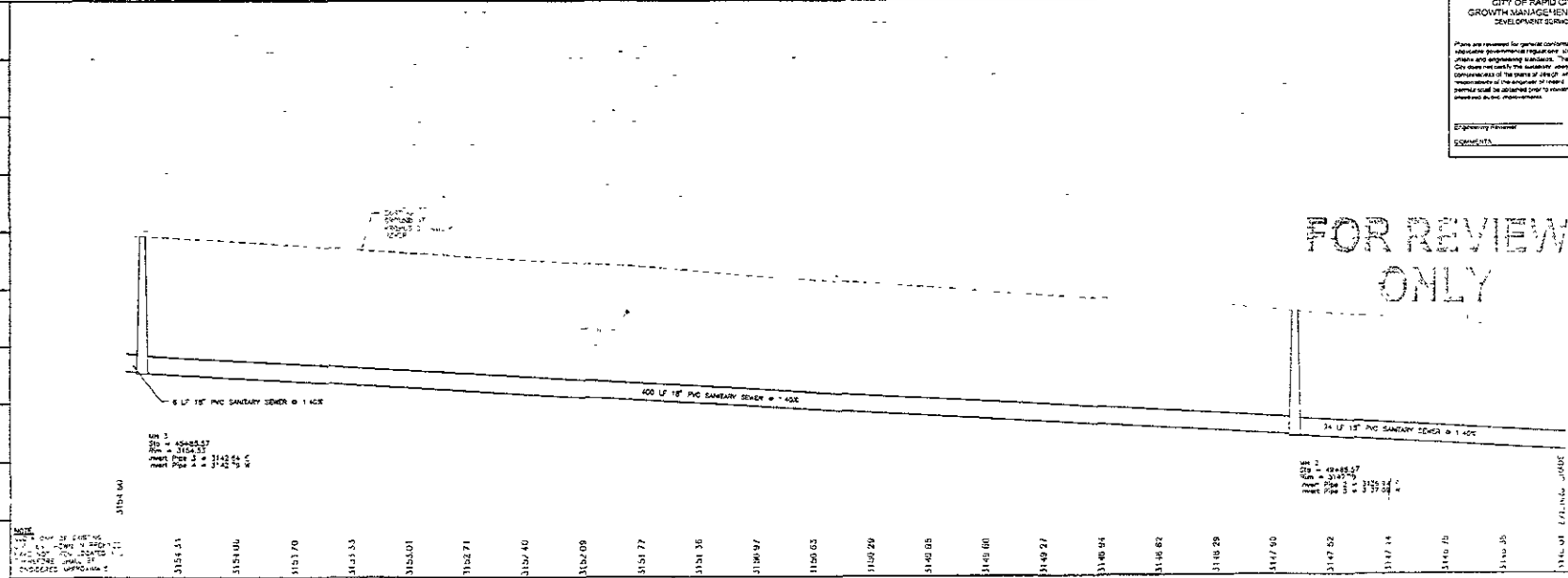
REMOVE AND REPLACE ASPHALT PAVEMENT

CITY OF RAPID CITY
 GROWTH MANAGEMENT DEPT
 DEVELOPMENT SERVICES

Plans are reviewed for general conformances with applicable governmental regulations. Subsequent design changes and engineering standards. The user of these City Plans will verify the accuracy of all information contained in the plans at all times. All submittals should be approved prior to construction of the proposed utility improvements.

Engineering Reviewed: Date:
 SQW/MTA

FOR REVIEW ONLY



3154.00
3154.51
3154.06
3153.70
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62.09
44.59
27.04
9.44

RUSH MORE CROSSING
 OFFSITE SANITARY SEWER

SANITARY SEWER
 PLAN / PROFILE
 STA 45+80 TO 50+00



DREAM DESIGN INTERNATIONAL, INC.
 PROFESSIONAL ENGINEER & CIVIL ENGINEERING CONSULTANTS

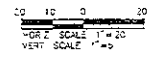
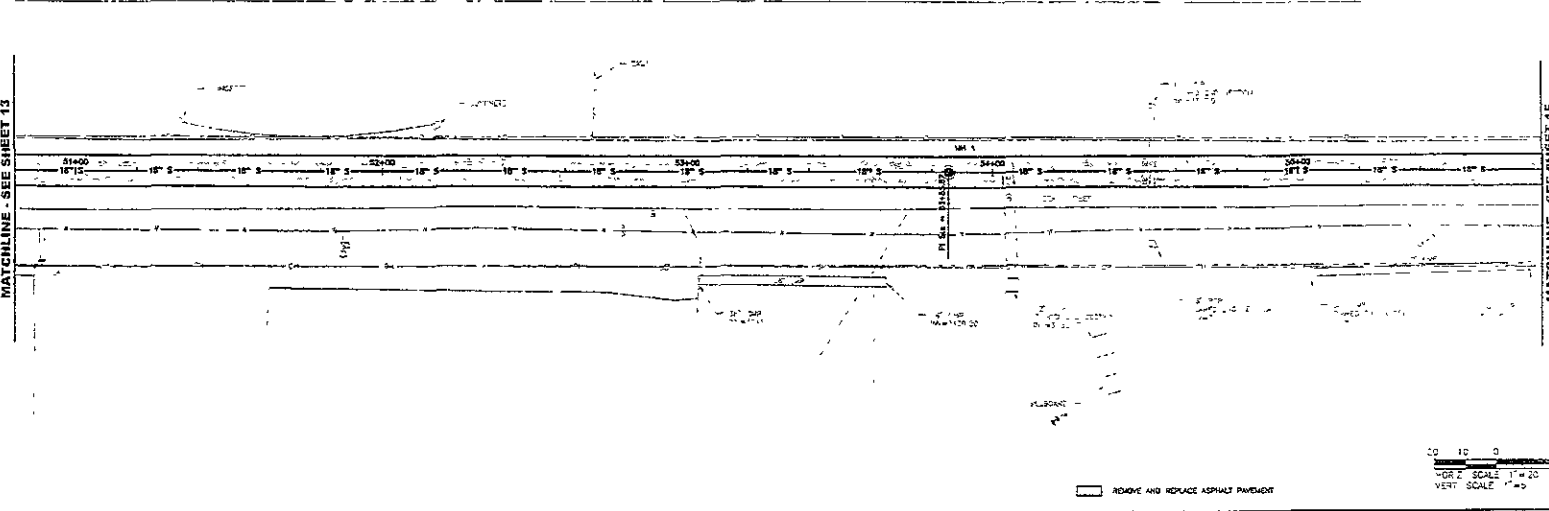
1875 WOODS DRIVE • ANN ARBOR, MI 48106
 TEL: 734-769-1000 FAX: 734-769-1001
 WWW.DREAMDESIGNINC.COM

REVISIONS:
 1. 11/18/10
 2. 11/18/10
 3. 11/18/10
 4. 11/18/10
 5. 11/18/10

GENERAL NOTES:
 1. SEE 31-40.27 - C
 2. 4" MC SANDWICH PAVT
 3. SURFACE WETS
 4. 24" SAND TO 3" SAND
 5. SAWCUT DOTTING ASPHALT PAVEMENT - 1,000 SF
 6. REMOVE ASPHALT PAVEMENT - 15.0 LF
 7. APPROPRIATE SANDWASH - 10" - 100.1 TONS
 8. ASPHALT PAVEMENT, 2" (2 LBS) CLASS C, TYPE 1 - 152.2 TONS

MATCHLINE - SEE SHEET 13

MATCHLINE - SEE SHEET 15



REMOVE AND REPLACE ASPHALT PAVEMENT

CITY OF RAPID CITY
 GROWTH MANAGEMENT DEPT.
 DEVELOPMENT SERVICES

Plans are prepared for general information only.
 Accurate Department of Public Works, Engineering, Surveying,
 Planning and Engineering Services. The City of Rapid City
 does not warrant the accuracy or quality of the plans or
 drawings or the results of any work done thereon. All necessary
 permits shall be obtained prior to construction of the
 proposed public improvements.

Approved: _____ Date: _____
 Engineer

RUSHMORE CROSSING
 OFFSITE SANITARY SEWER

FOR REVIEW
 ONLY

31400
 31405
 31410
 31415
 31420

NOT TO SCALE
 UNLESS OTHERWISE NOTED
 ALL DIMENSIONS IN FEET
 UNLESS OTHERWISE NOTED
 ALL DIMENSIONS IN FEET
 UNLESS OTHERWISE NOTED

3146.01

3147.12 1"=10.00 GRADE

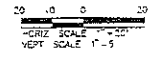
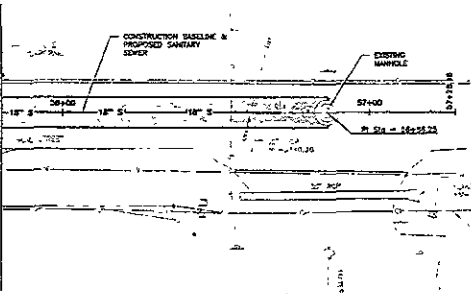
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Sheet 24
 SANITARY SEWER
 PLAN / PROFILE
 STA 50+80 TO 55+80

Sanitary Sewer Notes:
 STA 30+74.5 - CL
 CONNECT 18" PVC SANITARY SEWER
 MAIN TO EXISTING MANHOLE STUB-OUT

REWORKING NOTES:
 SEAL JOINTS
 STA 30+80 TO 34+00
 PATCH EXISTING ASPHALT PAVEMENT - 1 000 LF
 REMOVE ASPHALT PAVEMENT - 17.8 SF
 APPROXIMATE BASECOURSE: 1" - 84 TONS
 ASPHALT PAVEMENT: 2" (2 LIFTS), CLASS G, TYPE 1 - 32.6 TONS

MATCHLINE - SEE SHEET 14



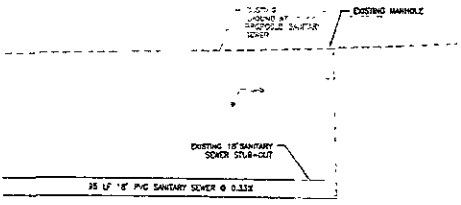
REMOVE AND REPLACE ASPHALT PAVEMENT

CITY OF RAPID CITY
 GROWTH MANAGEMENT DEPT
 DEVELOPMENT SERVICES

There are no fees for general consultation with engineers and architects. However, a fee of \$100 per hour is charged for all other services. The City of Rapid City does not assume any liability for the use of information provided by the City of Rapid City. All information is provided for informational purposes only. All information is provided for informational purposes only. All information is provided for informational purposes only.

City Engineer: [Signature]
 Date: [Date]

FOR REVIEW
 ONLY



CONNECT TO EXISTING 12" PVC SANITARY SEWER
 EXISTING MANHOLE
 CONTRACTOR TO FIELD VERIFY INV. ELEV.
 STA = 31+46.25
 INVERT AT MANHOLE = 2130.28'

NOTES:
 1. ALL DIMENSIONS OF EXISTING MANHOLES AND STRUCTURES SHALL BE MEASURED FROM THE CENTERLINE OF THE MAIN LOCATED AND SHOWN APPROXIMATELY.

31+12.12
 31+17
 31+22
 31+27
 31+32
 31+37
 31+42
 31+47



DREAM DESIGN INTERNATIONAL, INC.
 PROFESSIONAL STRUCTURAL & CIVIL ENGINEERING CONSULTANTS
 428 BANKS STREET, SUITE 4, RAPID CITY, SD 57701
 PH: 605-348-0388 FAX: 605-348-0375 Email: info@dreamdesigninc.com

Scale	AS NOTED
Original Scale	3/8" = 1'-0"
Horizontal Scale	1" = 20'
Vertical Scale	1" = 5'
Sheet Date	02-02-20
Sheet No.	107
Project No.	107

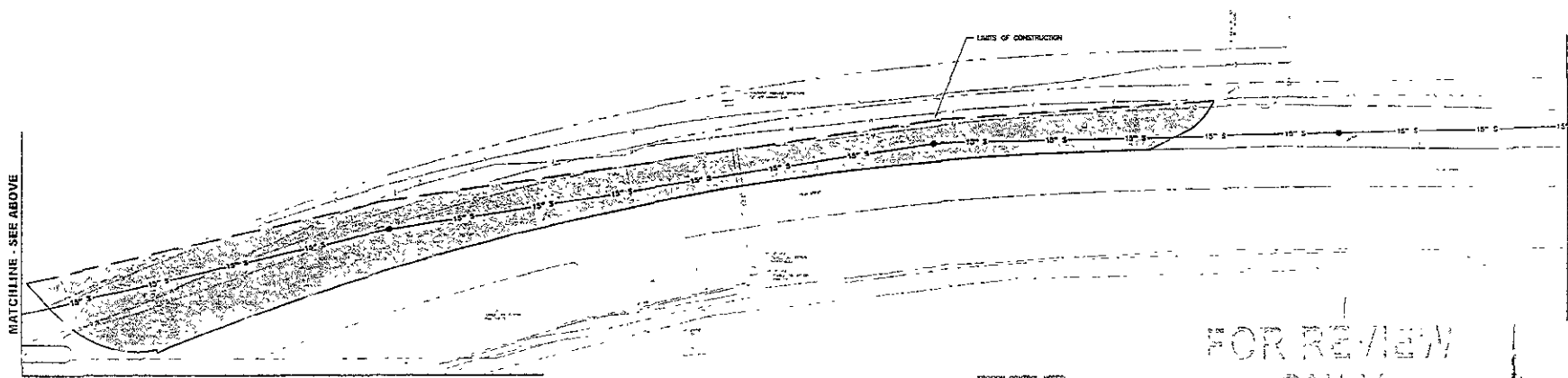
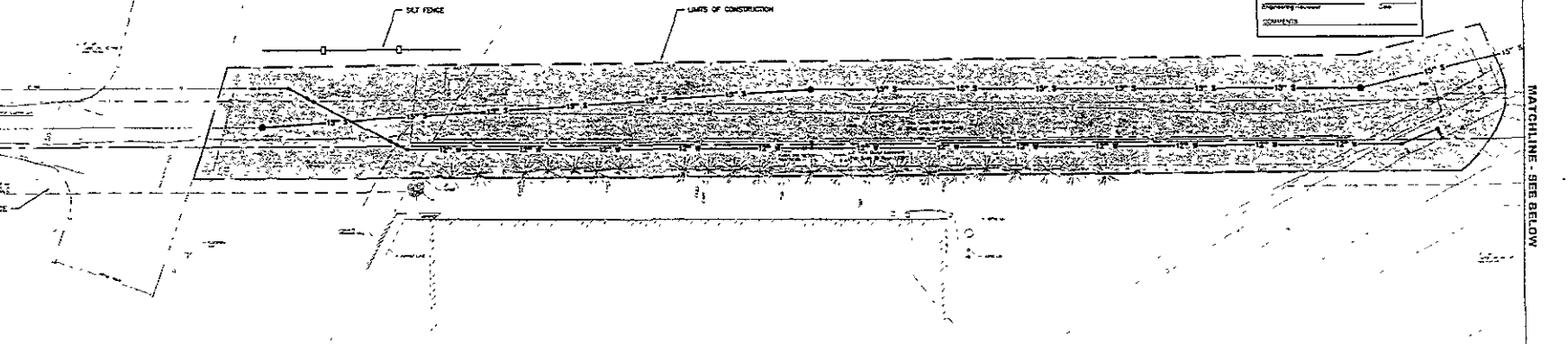
RUSHMORE CROSSING
 OFFSITE SANITARY SEWER

SANITARY SEWER
 PLAN / PROFILE
 STA 35+80 TO END



DREAM DESIGN INTERNATIONAL, INC.
 PROFESSIONAL, STRUCTURAL & CIVIL ENGINEERING CONSULTANTS
 1000 W. 10th St., Suite 1000, Tulsa, Oklahoma 74103
 Tel: (918) 438-2222 Fax: (918) 438-2222 Email: info@dreamdesignintl.com

SET OF 10 SHEETS
 GROWTH MANAGEMENT DEPT
 DEVELOPMENT SERVICES
 Plans are prepared for general compliance with
 minimum governmental regulations, standards, codes,
 ordinances and engineering standards. The City of Tulsa
 does not certify the suitability, accuracy or
 completeness of the plans as shown, which are the
 responsibility of the engineer of record. All necessary
 permits shall be obtained prior to construction of the
 proposed project. Professionals
 Engineering Division _____ Date _____
 COMMENTS _____



FOR REVIEW
 ONLY

RESTORATION NOTES
 1. SEE SLY FENCE - 150' W
 2. SEED, FERTILIZE AND MULCH ALL
 RESTORED AREAS WITH
 ROAD CROWN MIX - 12.75% OF 1/4"
 GRADE

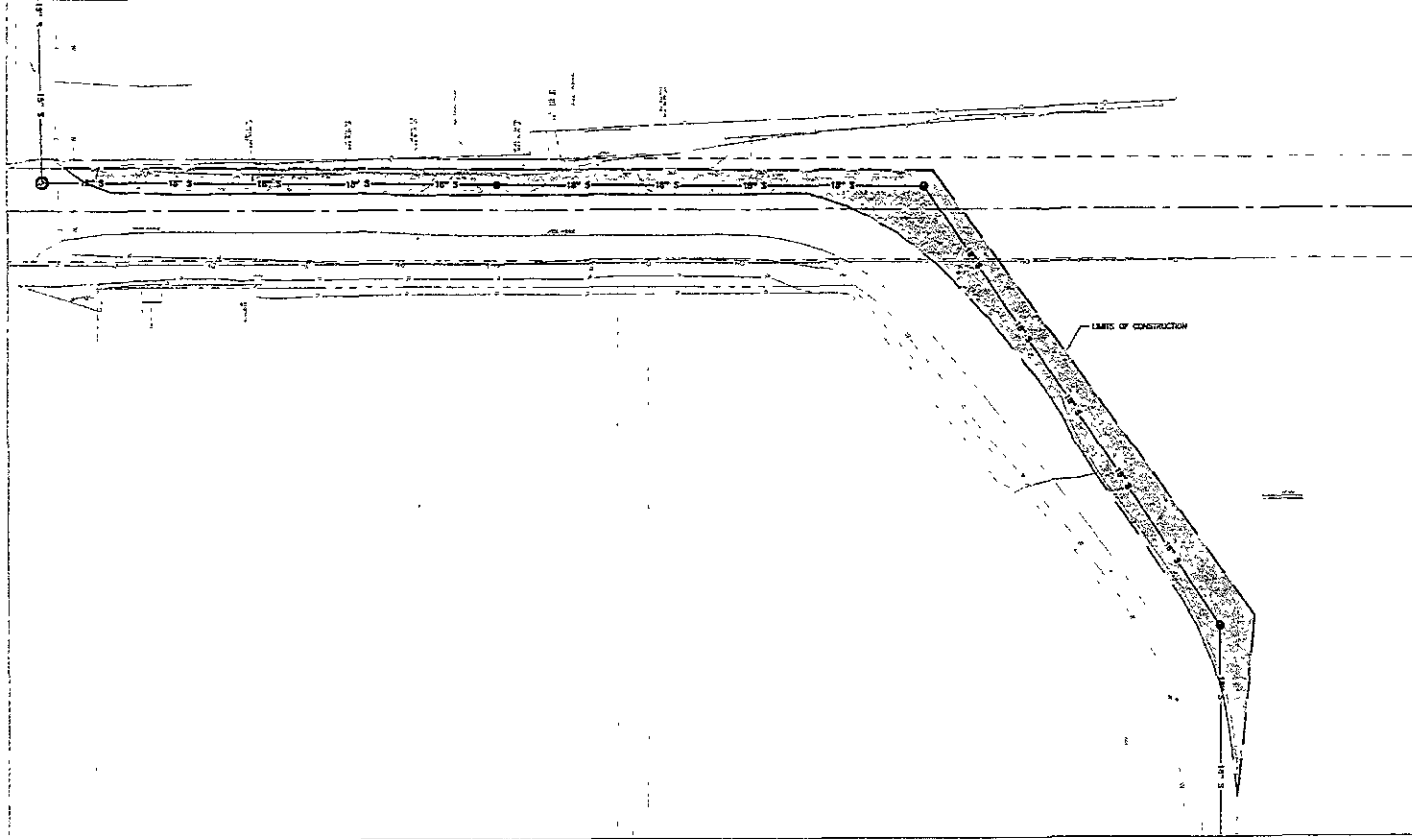


Scale	NOT TO SCALE
Designed by	Checked by
DRAWN BY	NOG
Design Date	Print Date
1/07	PRINT DATE
Revised with No.	
02-0023 20	
Approved by	Project Date
T.S.A.	1/07
Revised	

RUSHMORE CROSSING
 OFFSITE SANITARY SEWER

RESTORATION CONTROL PLAN
 RESTORATION PLAN
 STA

GROWTH MANAGEMENT PLAN
 THE CITY OF PHOENIX
 Please see notes for special engineering and construction requirements. The City of Phoenix reserves the right to modify or cancel any engineering standards. The City of Phoenix does not warrant the accuracy, completeness or timeliness of the data or design. It is the responsibility of the engineer or architect to determine the accuracy of the data prior to construction of the proposed public improvements.
 Engineering Firm: _____
 Date: _____



DREAM DESIGN
INTERNATIONAL, INC.
 PROFESSIONAL STRUCTURAL & CIVIL ENGINEERING CONSULTANTS
 535 KANAWAS AVENUE, SUITE 1000, WEST WYOMING
 WYOMING 82001
 P.O. BOX 344, CASPER, WYOMING 82401
 TEL: 307-233-1111 FAX: 307-233-1112

Scale: NOT TO SCALE
 Drawn by: JMS
 Check by: VES
 Project No.: 107
 Date: 08/01/01
 Sheet No.: 17 of 18

RUSHMORE CROSSING
 OFFSITE SANITARY SEWER

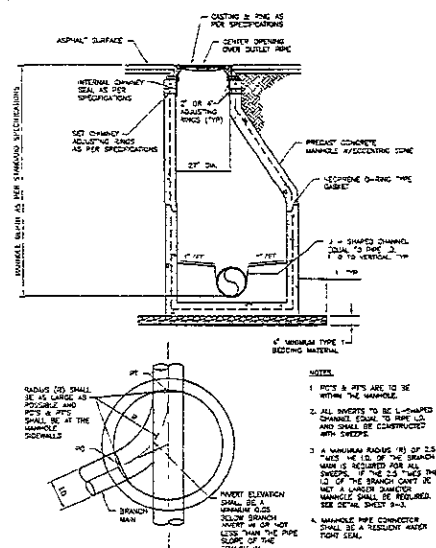
FOR REVIEW ONLY

DESIGNER'S NOTE:
 ALL UTILITY LINES AND ALL
 STRUCTURES SHALL BE
 CONSTRUCTED TO A MINIMUM
 OF 1.0 FEET CLEARANCE
 FROM ALL UTILITIES
 UNLESS OTHERWISE NOTED
 ON THIS SHEET.

DESIGN CONTROL PLAN
 RESTORATION PLAN
 STA



DREAM DESIGN INTERNATIONAL, INC.
 PROFESSIONAL, STRUCTURAL & CIVIL ENGINEERING CONSULTANTS
 400 EAST 10TH ST., SUITE 1000, DENVER, COLORADO 80202-1000
 TEL: (303) 733-1000 FAX: (303) 733-1001

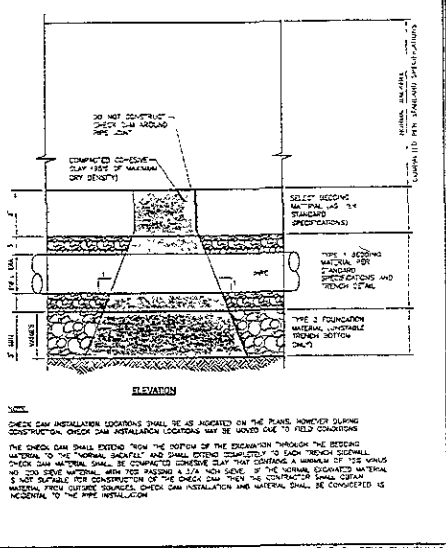
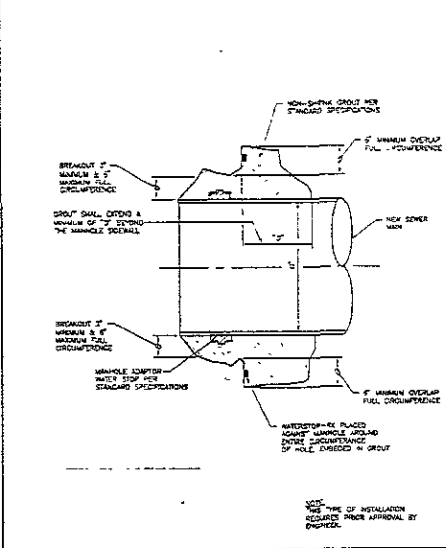


MINIMUM INVERT ANGLES FOR SANITARY MANHOLES

OUTLET PIPE DIA.		INLET PIPE DIA.		MIN. ANGLE °' IN DEGREES			
INCHES	FEET DIA.	INCHES	FEET DIA.	45° DIA.	60° DIA.	75° DIA.	90° DIA.
8	8	180	180	2:75	2:75	75	75
10	5	81	75	2:75	2:75	75	75
10	10	84	80	2:75	2:75	75	75
12	8	75	75	2:75	2:75	75	75
12	10	84	84	2:75	2:75	75	75
12	12	104	93	2:75	2:75	75	75
10	5	83	75	2:75	2:75	75	75
15	0	78	81	2:75	2:75	75	75
15	12	108	92	2:75	2:75	75	75
15	15	117	104	2:75	2:75	75	75

NOTE: 1. PIPS & FITS ARE TO BE WITHIN THE MANHOLE. 2. ALL INVERTS TO BE LIGHTEST CHANGE EQUAL TO PIPE I.D. AND SHALL BE CONSTRUCTED WITH SLOPE. 3. A MAXIMUM RADIUS (R) OF 25 TIMES THE I.D. OF THE BRANCH PIPE IS REQUIRED FOR ALL FITTINGS. IF THE 25 TIMES THE I.D. OF THE BRANCH PIPE IS NOT MAINTAINED, THE RADIUS SHALL BE REDUCED. SEE DETAIL SHEET 9-1. 4. MANHOLE PIPE CONNECTOR SHALL BE A RESISTANT WATER TIGHT SEAL.

NOTE: *IF ANGLE LESS THAN 90° REQUIRE THE DESIGN ENGINEER TO SUBMIT A WRITTEN REQUEST AND JUSTIFICATION FOR A DESIGN EXCEPTION AND OBTAIN CITY APPROVAL. IN NO CASE SHALL THE MIN. ANGLE BE LESS THAN 75°.

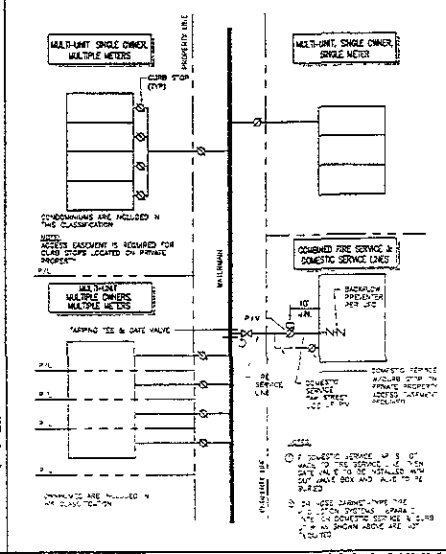
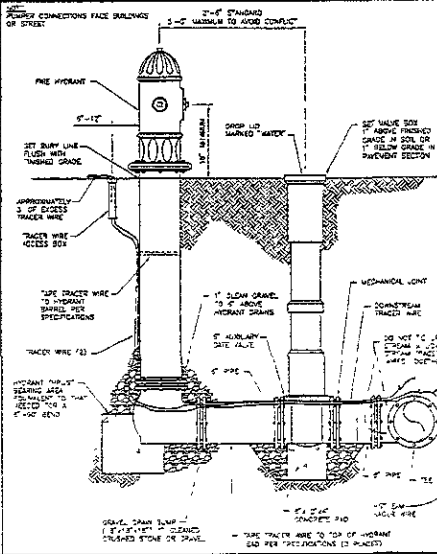
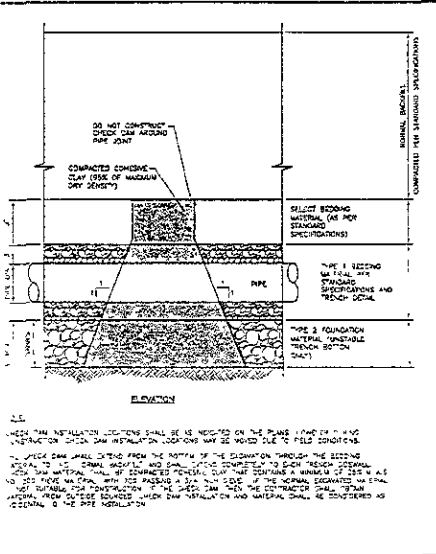


CITY OF RENO, NV PUBLIC WORKS DEPARTMENT DATE: 11-20-03
STANDARD MANHOLE DETAIL WITH MONOLITHIC BASE (45° & 60°)
 SEC. SHEET 9-1

CITY OF RENO, NV PUBLIC WORKS DEPARTMENT DATE: 11-20-03
MINIMUM INVERT ANGLES FOR SANITARY MANHOLES
 SEC. SHEET 9-3

CITY OF RENO, NV PUBLIC WORKS DEPARTMENT DATE: 11-20-03
PIPE CONNECTION TO EXISTING MANHOLE (GROUTED CONNECTION)
 SEC. SHEET 9-6

CITY OF RENO, NV PUBLIC WORKS DEPARTMENT DATE: 11-20-03
TYPICAL TRENCH CHECK DAM DETAIL FOR WATER & SEWER MAINS
 SEC. SHEET 11-2



CITY OF RENO, NV PUBLIC WORKS DEPARTMENT DATE: 11-20-03
TYPICAL TRENCH CHECK DAM DETAIL FOR WATER & SEWER MAINS
 SEC. SHEET 11-2

CITY OF RENO, NV PUBLIC WORKS DEPARTMENT DATE: 11-20-03
HYDRANT SETTING DETAIL
 SEC. SHEET 9-3

CITY OF RENO, NV PUBLIC WORKS DEPARTMENT DATE: 11-20-03
TYPICAL WATER SERVICE LINE LAYOUTS
 SEC. SHEET 11-2

NOT TO SCALE
 STYMONS MDS
 DWG. DATE 11/20/03
 02-0025.20
 1107

RUSHMORE CROSSING OFFSITE SANITARY SEWER

MISC. DETAILS