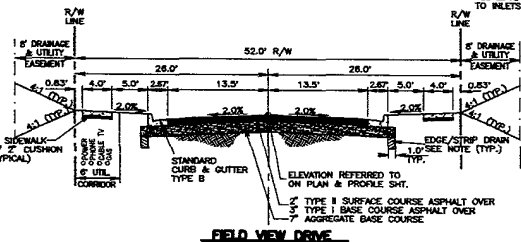


UTILITY CORRIDOR NOTES:

- UNDERGROUND UTILITIES OTHER THAN CITY UTILITIES WILL BE LOCATED WITHIN THE 6' UTILITY CORRIDOR AS SHOWN BELOW.
- FINAL LOCATION WILL BE COORDINATED WITH THE UTILITY COMPANIES AND IS NOT A PART OF THIS CONTRACT.



NOTES:
ALL CENTER LINE ELEVATIONS FOR DRIVE ON FUTURE STRIPWAYS SHALL SHOW THE SAME AS SHOWN ON THE TYPICAL SECTION WITH A 1% SLOPE TO FLOW.

GENERAL NOTES:

- THE SITE GRADING, EXCAVATION AND PLACEMENT OF FILL SHALL BE IN ACCORDANCE WITH CURRENT REGULATIONS AND PROCEDURES FOR SUBVERSION CONSTRUCTION IN RAPID CITY, SD, AND PER THE GEOTECHNICAL REPORT PERFORMED BY ANDREAN ENGINEERING, INC. ACT NO. 18-0006E.
- THE CONTRACTOR SHALL SECURE ALL REQUIRED PERMITS PRIOR TO BEGINNING WORK.
- ALL EXISTING UTILITIES MAY NOT BE SHOWN OR THE LOCATIONS MAY VARY FROM THAT SHOWN. THE CONTRACTOR IS RESPONSIBLE TO HAVE ALL UTILITIES LOCATED PRIOR TO BEGINNING WORK.
- PROVIDE 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, 1994 EDITION.
- PRIOR TO BEGINNING CONSTRUCTION THE GRADING CONTRACTOR SHALL OBTAIN A CITY OF RAPID CITY DUST CONTROL PERMIT AND A CITY OF RAPID CITY GRADING PERMIT.
- THE CONTRACTOR SHALL CLEAR AND GRUB THE AREA TO BE TO GRADED. TOPSOIL WITHIN THE GRADING LIMITS SHALL BE STRIPPED AND STOCKPILED. AFTER THE SITE GRADING IS COMPLETE, THE CONTRACTOR SHALL SPREAD THE TOPSOIL OVER ALL GRADED AREAS EXCEPT UNDER THE PROPOSED STREETS.
- THE CONTRACTOR SHALL GRADE THE SITE TO THE LINES AND GRADES SHOWN ON THE DRAWINGS OR STATED BY THE ENGINEER. EXCAVATION SHALL INCLUDE ALL MATERIALS ENCOUNTERED OF WHATEVER NATURE.

NOTES REGARDING EXISTING UTILITIES:

LOCATION OF EXISTING UTILITIES SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND WERE TAKEN FROM THE BEST AVAILABLE RECORDS. PRIOR TO EXCAVATION THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL UTILITIES WHETHER OR NOT SHOWN ON THESE DRAWINGS. CONTRACTOR SHALL PROTECT ALL UTILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL SUPPORT OR TUNNEL UNDER EXISTING UTILITIES IN A MANNER THAT THE EXISTING UTILITIES ARE NOT DAMAGED OR DISTURBED. UNLESS OTHERWISE NOTED, ANY DISTURBANCE OR REPLACEMENT OF EXISTING UTILITIES SHALL BE INDICATED ON THE PROJECT. IF REQUIRED, CONTRACTOR SHALL COORDINATE RELOCATION OF UTILITY WITH THE UTILITY OWNER. ALL UTILITIES ARE TO BE REINSTALLED AND/OR RELOCATED BY THE RESPECTIVE UTILITY COMPANIES UNLESS OTHERWISE INDICATED IN THESE DRAWINGS.

EROSION CONTROL:

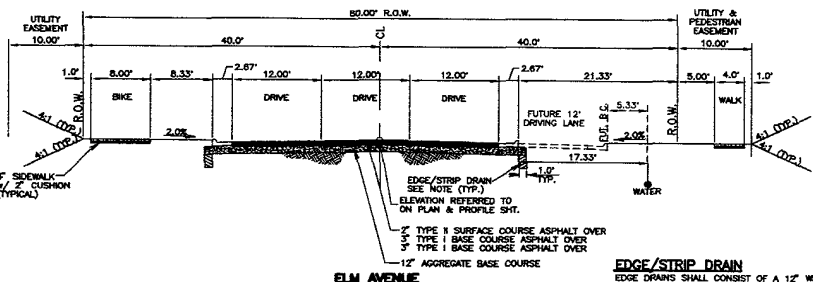
- ALL AREAS THAT ARE DISTURBED DURING CONSTRUCTION SHALL BE FERTILIZED, SEEDED, AND MULCHED FOR PERMANENT OR TEMPORARY EROSION CONTROL FOLLOWING COMPLETION OF GRADING. TOPSOIL PLACEMENT, FERTILIZING, SEEDING, AND MULCHING SHALL COMPLY WITH CITY STANDARDS FOR PUBLIC WORKS CONSTRUCTION. SEED MIX FOR ALL AREAS SHALL BE IN ACCORDANCE WITH CITY OF RAPID CITY STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. (ROAD DITCH MIX DESIGN)
- TEMPORARY EROSION CONTROL SHALL BE THE CONTRACTORS RESPONSIBILITY AND SHALL CONSIST OF STRAW BALES, SILT FENCE OR OTHER MEANS TO CONTROL EROSION AS NEEDED OR AS SHOWN ON THE PLANS. EROSION CONTROL SHALL BE IN ACCORDANCE WITH THE CITY STANDARDS FOR PUBLIC WORKS CONSTRUCTION.
- MAINTENANCE: AFTER SIGNIFICANT RAINFALL EVENTS, THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL STRUCTURES FOR SILT BUILD UP. THE CONTRACTOR SHALL REMOVE THE SILT BUILD UP THAT INTERFERES WITH THE PERFORMANCE OF THE EROSION CONTROL STRUCTURES AND SHALL BE CONSIDERED INCIDENTAL TO THE COST OF EROSION CONTROL.

CONSTRUCTION LIMITS:

IN GENERAL, THE CONSTRUCTION LIMITS FOR THE PROJECT SHALL BE DEFINED AS FOLLOWS: PROPERTY LINES, RIGHT-OF-WAY (ROW) LINES AND EXISTING UTILITY EASEMENT LINES SHALL BE THE CONSTRUCTION LIMITS UNLESS INDICATED OTHERWISE ON THE DRAWINGS. CONTRACTOR SHALL CONFINE CONSTRUCTION WORK WITHIN THE CONSTRUCTION LIMITS DEFINED. CONSTRUCTION ACTIVITIES SHALL BE RESTRICTED TO THE CONSTRUCTION LIMITS UNLESS PRIOR APPROVAL IS RECEIVED FROM THE ENGINEER. USE OF CITY LANS FOR STAGING AREAS, MATERIAL STORAGE, SEDIMENTATION PONDS, BROWSLING AND/OR TOPSOIL STOCKPILING SHALL ONLY BE WITH PRIOR WRITTEN APPROVAL FROM THE ENGINEER. ANY DAMAGES AND RESTORATION OUTSIDE THE CONSTRUCTION LIMITS SHALL BE AT THE CONTRACTORS EXPENSE.

UTILITY CONSTRUCTION NOTES:

- ALL WATER AND SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF RAPID CITY UTILITY CONSTRUCTION CODE AND STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION 1994 EDITION.
- THE WATER MAIN TO BE UTILIZED IN THIS PROJECT SHALL BE 16" DIAMETER PVC, AWWA C905, PRESSURE RATED 230, DR18 PIPE.
- ALL WATER MAIN PIPE JOINTS, VALVES, AND FITTINGS SHALL BE RESTRAINED IN ACCORDANCE WITH THE RESTRAINT LENGTHS LISTED IN THE TABLE BELOW.
- CONFIRM VERTICAL SEPARATION AT ALL LOCATIONS WHERE WATER MAINS CROSS SEWER MAINS. PROVIDE ENCASEMENT IN ACCORDANCE WITH THE CITY OF RAPID CITY STANDARD SPECIFICATIONS IF WATER MAIN IS LESS THAN 18" ABOVE THE SEWER MAIN.



EDGE/STRIP DRAIN

EDGE DRAINS SHALL CONSIST OF A 12" WIDE SECTION OF CONTECH "STRIPDRAIN 100" OR APPROVED EQUAL. THE EDGE DRAIN BACKFILL SHALL BE 1/2" TO 1/4" CLEAN DRAIN ROCK. THE STRIPDRAIN OR APPROVED EQUAL SHALL BE INSTALLED PER MANUFACTURERS REQUIREMENTS. ALL EDGE DRAINS SHALL BE GRADED TO DRAIN TO INLETS.

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THE FOLLOWING DIMENSIONS FOR RESTRAINED LENGTHS WERE DERIVED FROM CSA B185 AND B186.

RESTRAINED LENGTHS FOR 18" PVC HORIZONTAL BENDS AND PIPE JOINTS WHEN THE SPECIFIED RESTRAINED LENGTHS LISTED BELOW WILL BE OBSERVED:

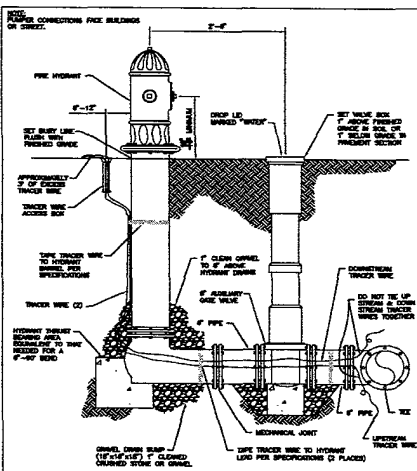
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	HORIZONTAL BENDS	RESTRAINED LENGTHS
1.5D	4.0'	
2.0D	5.0'	
2.5D	6.0'	
3.0D	7.0'	
3.5D	8.0'	
4.0D	9.0'	
4.5D	10.0'	
5.0D	11.0'	
5.5D	12.0'	
6.0D	13.0'	
6.5D	14.0'	
7.0D	15.0'	
7.5D	16.0'	
8.0D	17.0'	
8.5D	18.0'	
9.0D	19.0'	
9.5D	20.0'	
10.0D	21.0'	
10.5D	22.0'	
11.0D	23.0'	
11.5D	24.0'	
12.0D	25.0'	
12.5D	26.0'	
13.0D	27.0'	
13.5D	28.0'	
14.0D	29.0'	
14.5D	30.0'	
15.0D	31.0'	
15.5D	32.0'	
16.0D	33.0'	
16.5D	34.0'	
17.0D	35.0'	
17.5D	36.0'	
18.0D	37.0'	
18.5D	38.0'	
19.0D	39.0'	
19.5D	40.0'	
20.0D	41.0'	
20.5D	42.0'	
21.0D	43.0'	
21.5D	44.0'	
22.0D	45.0'	
22.5D	46.0'	
23.0D	47.0'	
23.5D	48.0'	
24.0D	49.0'	
24.5D	50.0'	
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25.5D	52.0'	
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40.5D	82.0'	
41.0D	83.0'	
41.5D	84.0'	
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43.0D	87.0'	
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98.5D	198.0'	
99.0D	199.0'	
99.5D	200.0'	
100.0D	201.0'	

REINFORCEMENT CONDITIONS USED FOR CALCULATIONS:
1. SOL TYPE = DL GRAV. FILL
2. DESIGN TYPE = 4
3. TEST PRODUCE = 150 PSI
4. SAFETY FACTOR = 1.51
5. SLOPE BATT = 4.0 FT.

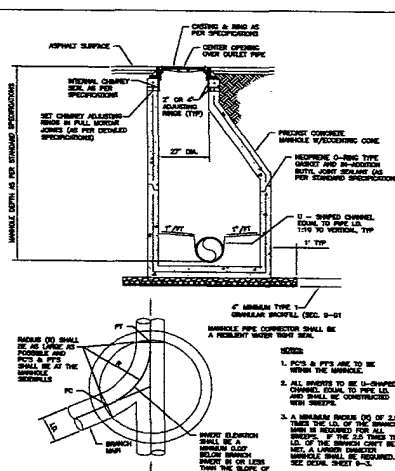
D.D. DREAM DESIGN INTERNATIONAL, INC.
 PROFESSIONAL STRUCTURAL & CIVIL ENGINEERING CONSULTANTS
 STATE & FEDERAL LICENSED ENGINEERS
 1000 N. MIAMI ST. SUITE 1000, RAPID CITY, SD 57701
 TEL: 605-348-0088 FAX: 605-348-0085 EMAIL: engineers@dreamdesign.com

PROJECT #	04-0020	PROJECT LOCATION	ELM AVENUE
DESIGNED BY	DTL	DATE OF SET	10/18/05
CHECKED BY	C-02	DATE OF PRINT	03/20/06
DRAWN BY	DTL	DATE OF DRAWING	03/20/06
SCALE		REVISIONS	4-10-06
DATE	3-02	BY	DTL
DATE	3-02	BY	DTL

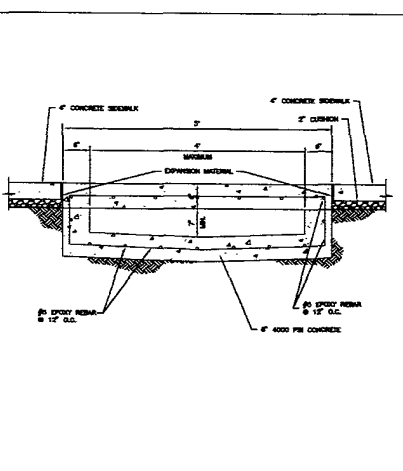
THE MEADOWS SUBDIVISION
PHASE V
GENERAL NOTES & CROSS SECTIONS



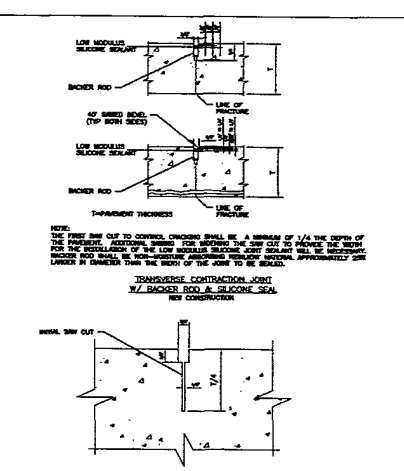
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 HYDRANT SETTING DETAIL
 DATE 11-15-04 SHEET 8-1



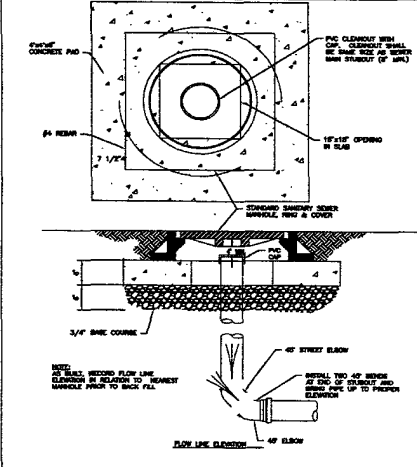
CITY OF RAPID CITY PUBLIC WORKS DEPARTMENT
 STANDARD 48" & 60" MANHOLE DETAIL WITH MONOLITHIC BASE
 DATE 11-15-04 SHEET 9-1



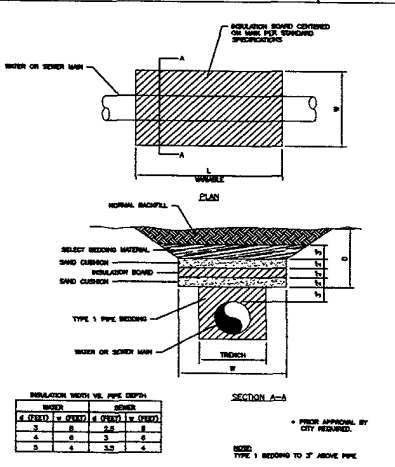
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 CONCRETE DRAINAGE CHANNEL SECTION
 DATE 11-15-04 SHEET 61-10



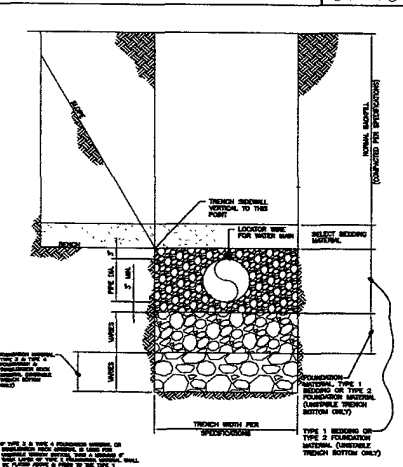
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 JOINT DETAILS
 DATE 11-15-04 SHEET 40-5



CITY OF RAPID CITY PUBLIC WORKS DEPARTMENT
 STANDARD SEWER MAIN TERMINATION CLEANOUT
 DATE 11-15-04 SHEET 9-8



CITY OF RAPID CITY PUBLIC WORKS DEPARTMENT
 WATER & SEWER MAIN INSULATION DETAIL
 DATE 11-15-04 SHEET 11-1



CITY OF RAPID CITY PUBLIC WORKS DEPARTMENT
 TRENCH DETAIL FOR WATER & SEWER MAIN
 DATE 11-15-04 SHEET 11-3

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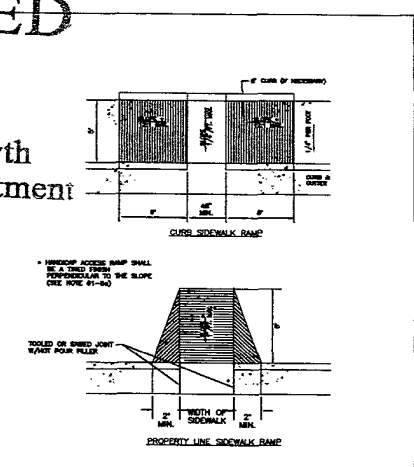
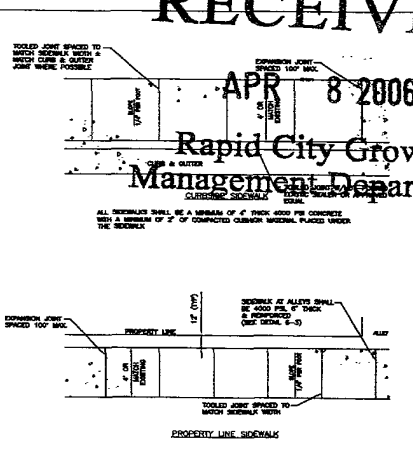
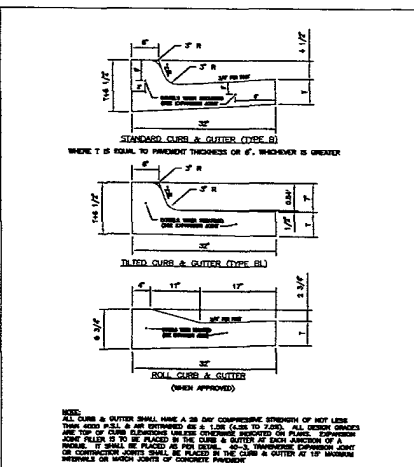
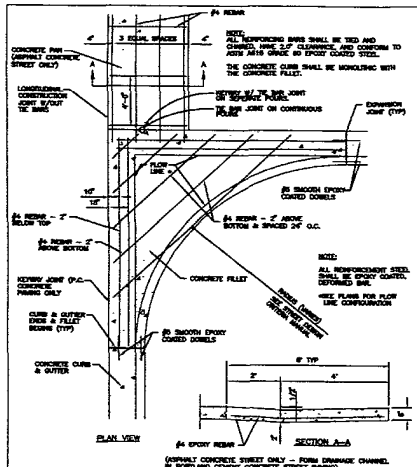
THE MEADOWS SUBDIVISION
 PHASE V
 CITY OF RAPID CITY
 STANDARD DETAILS

D.D.I. DREAM DESIGN INTERNATIONAL, INC.
 PROFESSIONAL STRUCTURAL & CIVIL ENGINEERING CONSULTANTS
 448 TAMM CITY DR. SUITE 2, RAPID CITY, SD 57701
 PROJECT LOCATION: CITY OF RAPID CITY
 DRAWING NO: 04-0029
 SHEET NO: 11-15-04
 DATE: 11-15-04

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Rapid City Growth Management Department

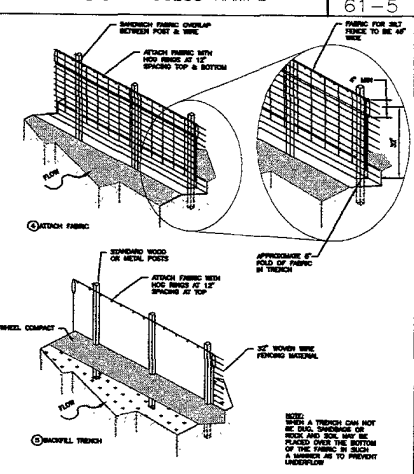
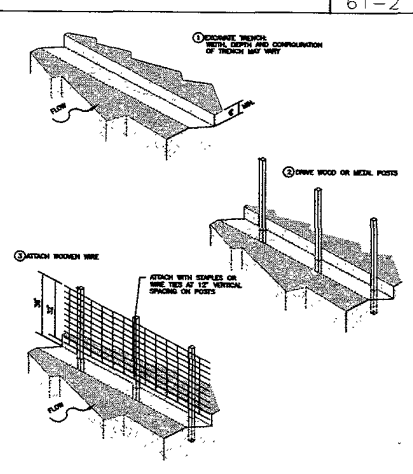
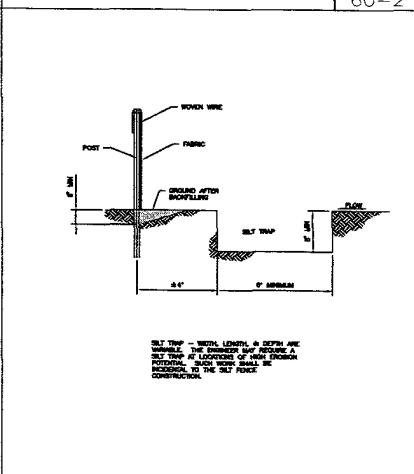
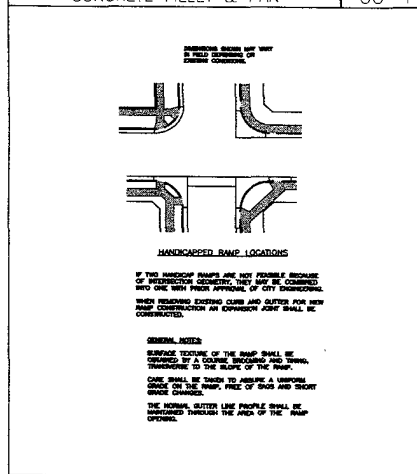


CITY OF RAPID CITY PUBLIC WORKS DEPARTMENT SHEET 60-1

CITY OF RAPID CITY PUBLIC WORKS DEPARTMENT SHEET 60-2

CITY OF RAPID CITY PUBLIC WORKS DEPARTMENT SHEET 61-2

CITY OF RAPID CITY PUBLIC WORKS DEPARTMENT SHEET 61-5



CITY OF RAPID CITY PUBLIC WORKS DEPARTMENT SHEET 61-5c

CITY OF RAPID CITY PUBLIC WORKS DEPARTMENT SHEET 146-1b

CITY OF RAPID CITY PUBLIC WORKS DEPARTMENT SHEET 146-1

CITY OF RAPID CITY PUBLIC WORKS DEPARTMENT SHEET 146-1a

D.D.I. DIRMAM DESIGN INTERNATIONAL, INC. PROFESSIONAL STRUCTURAL & CIVIL ENGINEERING CONSULTANTS

PROJECT #	04-0028
DESIGNED BY	DRIVE
DESIGNED DATE	MARCH
STARTED DATE	04N
START DATE	3-02
DATE	02N
SCALE	DCI
REVISIONS	REVISIONS
DATE	DATE
BY	BY
CHECKED	CHECKED
DATE	DATE

THE MEADOWS SUBDIVISION PHASE V CITY OF RAPID CITY STANDARD DETAILS