

CITY OF MANDAN, NORTH DAKOTA

MAIN STREET SANITARY SEWER REHABILITATION

DISTRICT #39, SEWER IMPROVEMENT PROJECT 96-2, PHASE I

TABLE OF CONTENTS

GENERAL NOTES	2
QUANTITIES	3
PLAN & PROFILE SHEETS	4-13
DETAILS	14

ENGINEER'S CERTIFICATE

I, BRANT P. MALSAM, A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NORTH DAKOTA, HEREBY CERTIFY THAT THE PLANS FOR DISTRICT #39, SEWER IMPROVEMENT PROJECT 96-2, PHASE I, MANDAN, NORTH DAKOTA WERE PREPARED UNDER MY SUPERVISION AND ARE COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Brant P. Malsam

BRANT P. MALSAM, P.E.
REGISTERED PROFESSIONAL ENGINEER
NORTH DAKOTA REGISTRATION NO. 2847

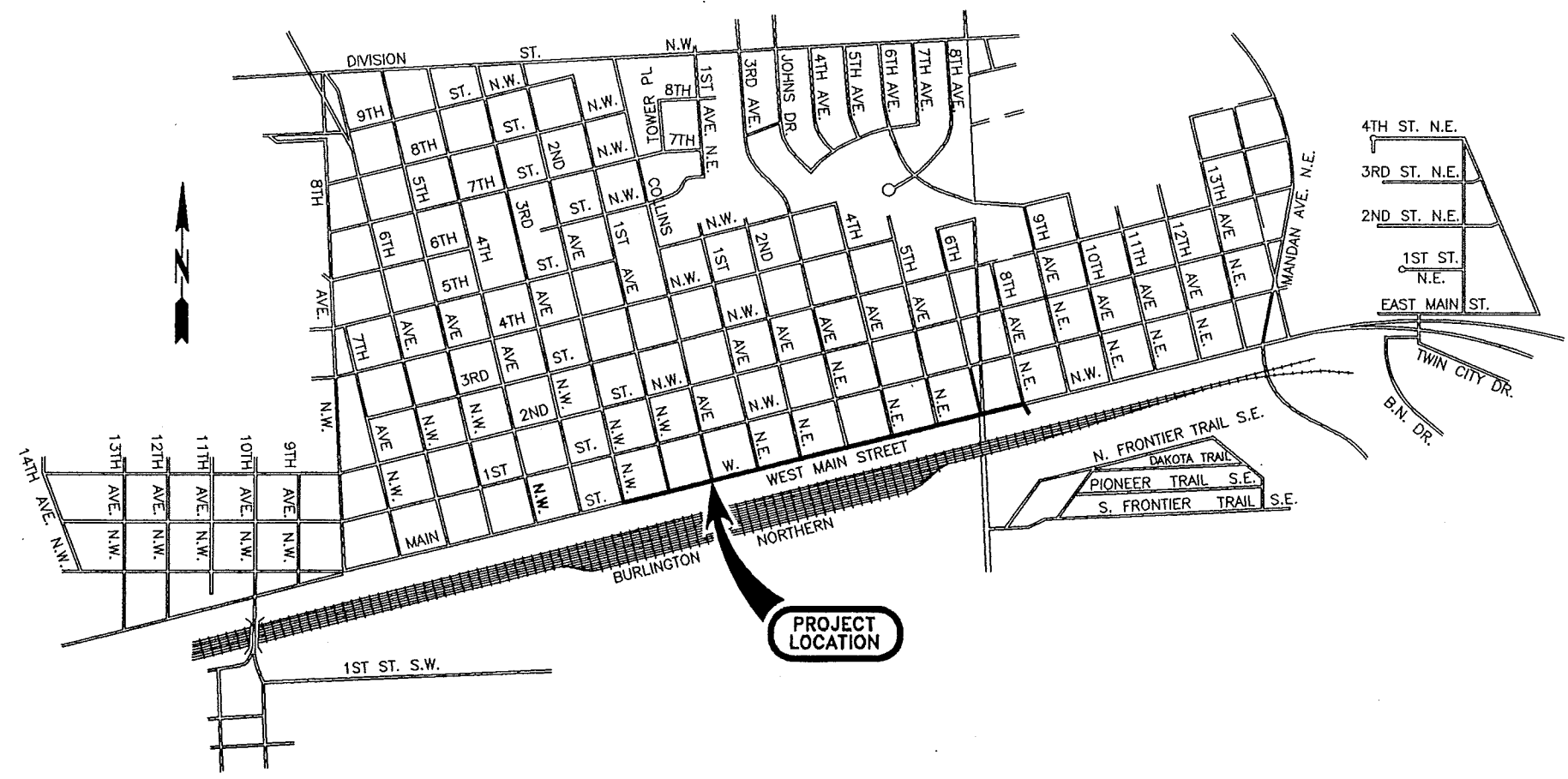


APPROVAL OF DISTRICT ENGINEER

I, THOMAS R. LITTLE, CITY ENGINEER FOR THE CITY OF MANDAN, NORTH DAKOTA, HEREBY APPROVE THESE PLANS FOR DISTRICT #39, SEWER IMPROVEMENT PROJECT 96-2, PHASE I, MANDAN, NORTH DAKOTA, SHOWN ON THE ACCOMPANYING PLANS.

Thomas R. Little

THOMAS R. LITTLE, P.E.
CITY ENGINEER
MANDAN, NORTH DAKOTA



GENERAL NOTES

SHEET
NO.

2

GN #1 - EXISTING UTILITIES

CONTRACTOR WILL BE REQUIRED TO LOCATE ALL PUBLIC AND PRIVATE UTILITIES PRIOR TO UNDERTAKING ANY EXCAVATION. ALL UTILITIES SHALL BE PROTECTED THROUGHOUT THE CONSTRUCTION. IF ANY PRIVATE OR PUBLIC UTILITIES NEED TO BE TEMPORARILY RELOCATED THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE UTILITY AND PAY FOR ALL COSTS ASSOCIATED WITH THE TEMPORARY RELOCATION. ALL SUCH COSTS SHALL BE INCIDENTAL TO OTHER ITEMS. IT IS RECOMMENDED THAT CONTRACTOR CONTACT MIKE FINK WITH MDU AT 224-5810 IN REGARDS TO ANY COSTS ASSOCIATED WITH THE GAS MAINS ON THE SOUTH SIDE OF MAIN STREET.

GN #2 - SURFACE RESTORATION

WHERE SIDEWALKS, CURB AND GUTTER, CONCRETE PAVEMENT, LOT PAVING OR OTHER SURFACING IS REMOVED, IT SHALL BE REPLACED WITH ASPHALT PAVEMENT AT THE SAME LINE AND GRADE. PRIOR TO PLACING ASPHALT SURFACING IN THESE AREAS THE ENTIRE PERIMETER OF EXISTING SURFACING SHALL BE SAWED FULL-DEPTH TO PROVIDE A STRAIGHT LINE THAT THE NEW ASPHALT CAN ABUTT. ASPHALT SHALL BE USED FOR STREET PAVEMENT, LOT PAVEMENT, CURB AND GUTTER, SIDEWALKS, AND ANY OTHER SURFACING THAT IS REMOVED. ASPHALT PAVEMENT SHALL BE INSTALLED AT THE SAME THICKNESS AS THE MATERIAL IT IS REPLACING. MATERIAL SHALL BE PLACED IN 2" LIFTS MAXIMUM.

ALL COSTS FOR REMOVAL OF EXISTING SURFACING, FULL-DEPTH SAWING, PLACEMENT OF ASPHALT PAVEMENT TO THE REQUIRED DEPTH AND OTHER SUCH RELATED ITEMS SHALL BE INCIDENTAL TO OTHER BID ITEMS.

GN #3 - LANE CLOSURES

CONTRACTOR WILL BE ALLOWED TO CLOSE ONE EASTBOUND LANE OF MAIN STREET AND REMOVE PARKING ON THE SOUTH SIDE OF MAIN STREET IN THE IMMEDIATE VICINITY OF EXCAVATIONS. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH SECTION 1300 OF THE SPECIFICATIONS.

GN #4 - VIDEO OF EXISTING 24" RCP SEWERMAIN

A VIDEO OF THE EXISTING 24" RCP SEWERMAIN IS AVAILABLE FOR VIEWING DURING NORMAL WORKING HOURS. CONTRACTORS SHOULD CALL AND SCHEDULE A TIME TO VIEW VIDEO AT THE OFFICE OF THE ENGINEER.

GN#5 WEEKLY PLANNING/REPORTING MEETING:

A. PURPOSE OF WEEKLY MEETING.

1. THE CONTACTOR SHALL ORGANIZE THE WEEKLY MEETING TO COORDINATE THE EFFORTS BETWEEN SUBCONTRACTORS, UTILITIES, LOCAL AUTHORITIES, AND OTHERS.

B. CONTRACTOR'S PROJECT MANAGER/SUPERINTENDENT, PLANNING, AND REPORTING.

1. THE CONTACTOR WILL BE RESPONSIBLE FOR SENDING A KNOWLEDGEABLE REPRESENTATIVE TO CONDUCT A WEEKLY REPORTING/PLANNING MEETING. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PREPARE MINUTES FOR EACH MEETING AND TO MAKE THE APPROPRIATE DISTRIBUTION OF THE MINUTES.
2. THE CONTACTOR WILL BE REQUIRED TO PROVIDE A WRITTEN SCHEDULE OF THE NEXT WEEK'S WORK AND A TENTATIVE SCHEDULE OF THE FOLLOWING WEEK.
3. REPORTING/PLANNING MEETING WILL INCLUDE DISCUSSION OF PROBLEMS ENCOUNTERED DURING THE CURRENT WEEK; PROVIDING INFORMATION OF INTEREST TO LOCAL AUTHORITIES, SUBCONTRACTORS, AND UTILITIES; AND NEXT WEEK'S PROSPECTIVE SCHEDULE.
4. THE CONTRACTOR SHALL ORGANIZE THE WEEKLY MEETING BY CONTACTING INTERESTED AGENCIES. THESE AGENCIES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
 - A. ULTEIG ENGINEERS, INC.
 - B. CITY ENGINEER'S REPRESENTATIVE
 - C. POLICE DEPARTMENT
 - D. FIRE DEPARTMENT
 - E. AMBULANCE SERVICE
 - F. TELEPHONE CO. (US WEST)
 - G. POWER CO. (MDU)
 - H. CABLE T.V.
 - I. GAS CO. (MDU)
 - J. SUBCONTRACTORS
 - K. MANDAN WATER AND SEWER DEPARTMENT

GN#6 THE CONTRACTOR SHALL PROVIDE A QUALIFIED TRAFFIC MAINTENANCE PERSON WITH THE FOLLOWING QUALIFICATIONS:

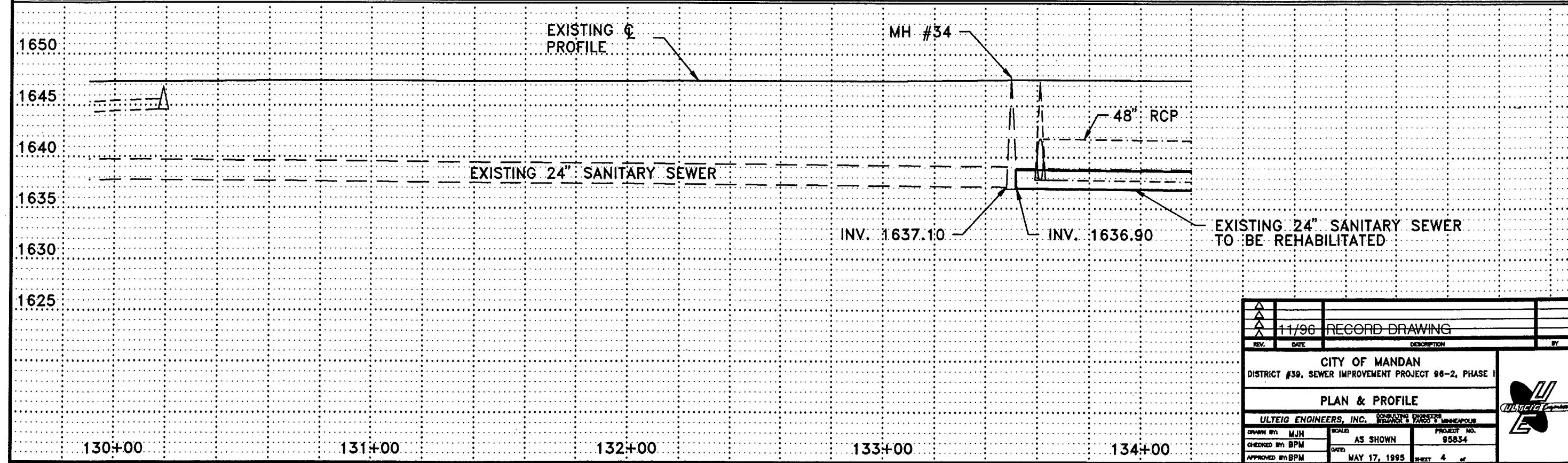
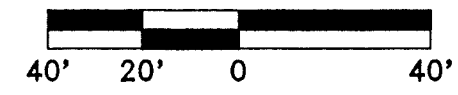
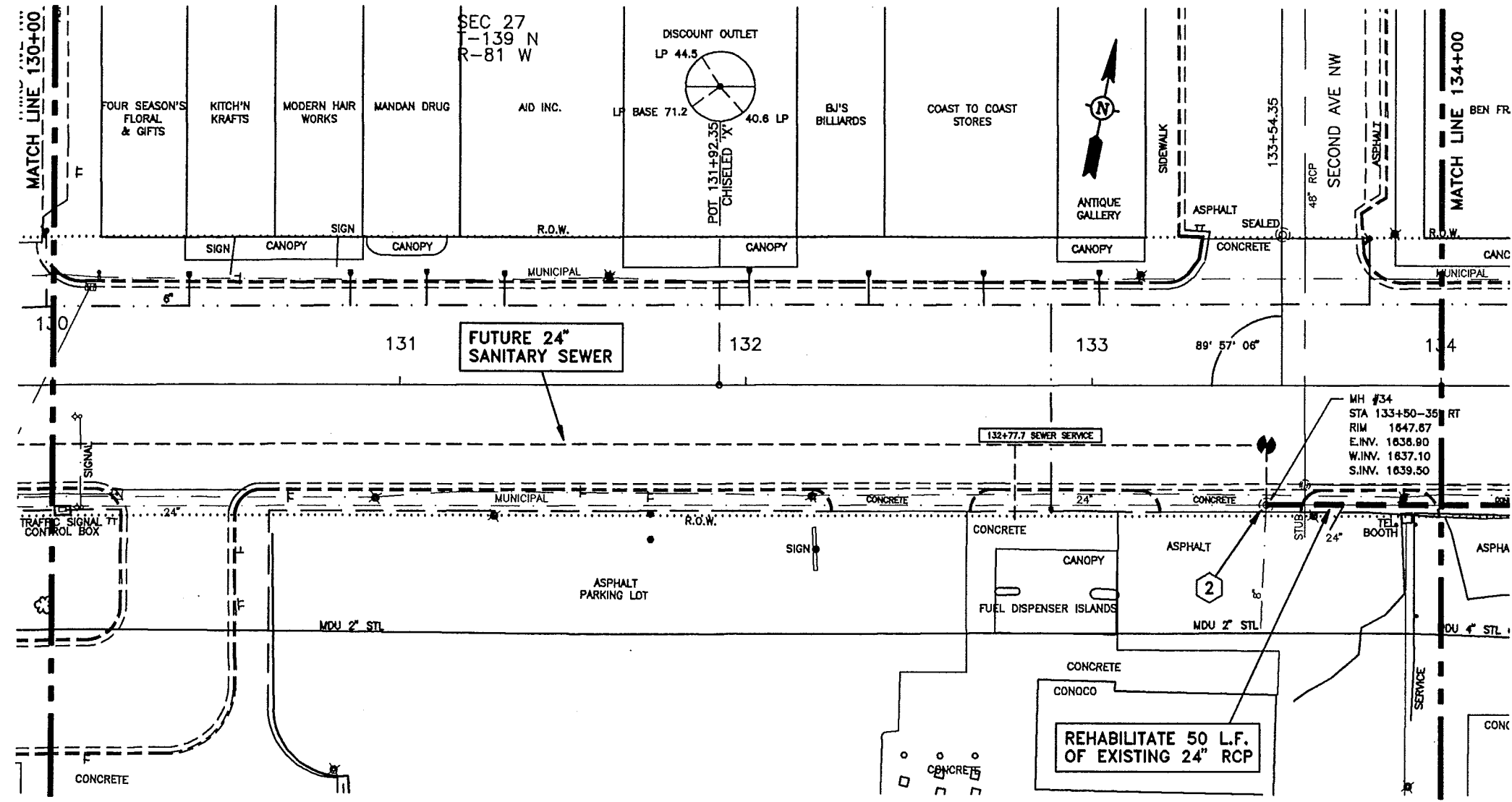
1. THIS PERSON SHALL:
 - A. HAVE COMPLETED A COURSE OF STUDY BASED ON MUTCD AND FURNISHED PROOF.
 - B. BE FAMILIAR WITH THE CONTENTS AND INTENTIONS CONTAINED WITHIN THE MUTCD AND THE SPECIFICATIONS.
 - C. HAVE PREVIOUS EXPERIENCE WORKING WITH MAINTENANCE AND PROTECTION OF TRAFFIC.
 - D. BE COMPETENT TO SUPERVISE PERSONNEL IN TRAFFIC MAINTENANCE OPERATIONS.
2. DUTIES:
 - A. TO PROVIDE TRAFFIC CONTROL AS REQUIRED BY THE PLANS, STANDARD SPECIFICATIONS, SPECIAL PROVISIONS, OR MUTCD.
 - B. THE TRAFFIC CONTROL PERSON SHALL PROVIDE DOCUMENTATION OF EACH DAY'S INSPECTION RESULTS AND REMEDIAL ACTIVITIES.
3. ALL COSTS ASSOCIATED WITH THE ABOVE REQUIREMENTS SHALL BE INCIDENTAL TO THE PRICE BID FOR THE OTHER ITEMS.

PROJECT QUANTITIES

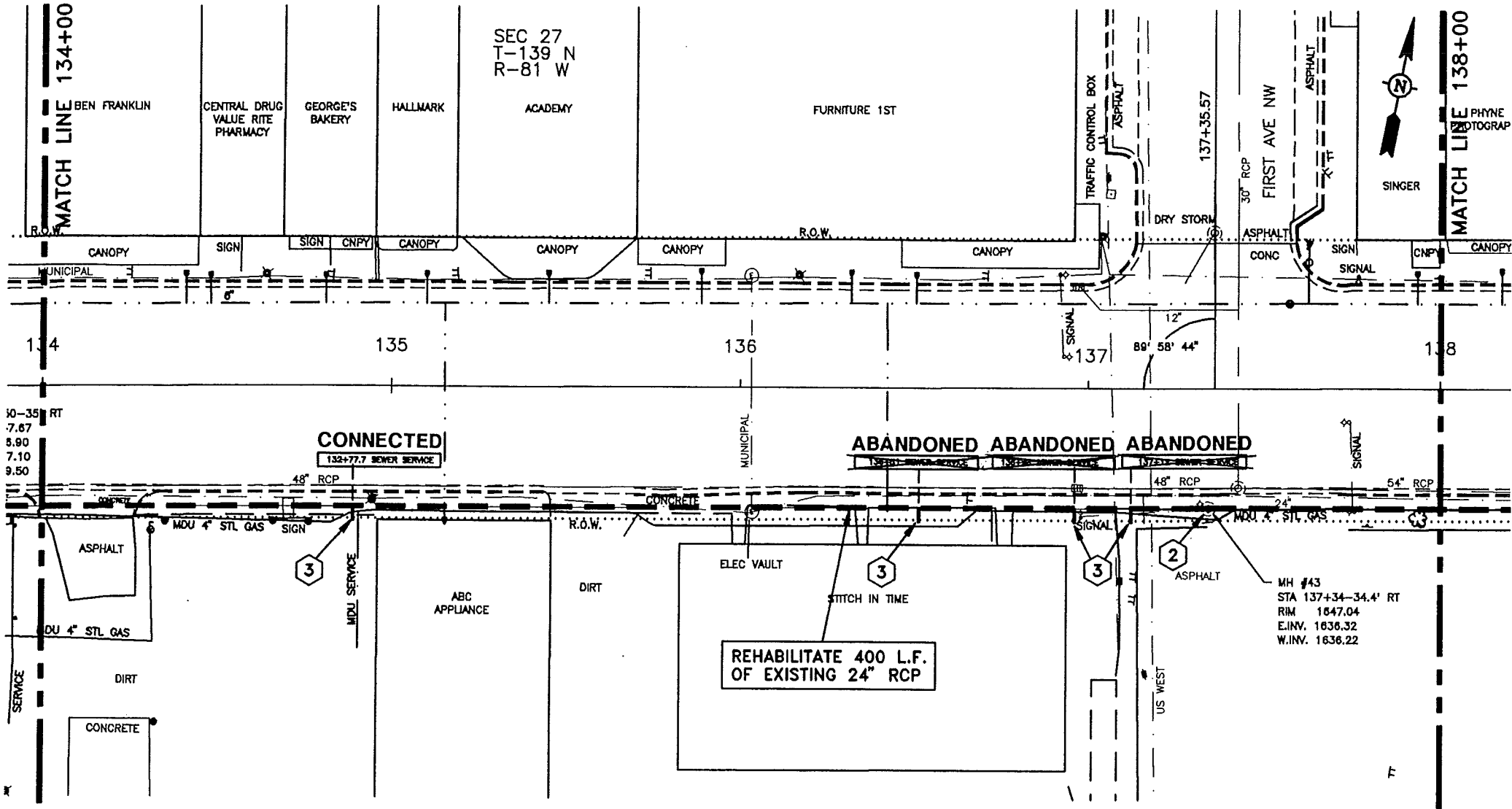
ITEM NO.	ITEM DESCRIPTION	UNIT	ESTIMATED QTY.	INSTALLED QTY.
1	MOBILIZATION	L.S.	1	1
2	REHABILITATE EXISTING 24" RCP	L.F.	3500	3446
3	REHABILITATE EXISTING MANHOLE	EA.	9	9
4	SANITARY SEWER CONNECTION	EA.	17	10

CONSTRUCTION NOTES

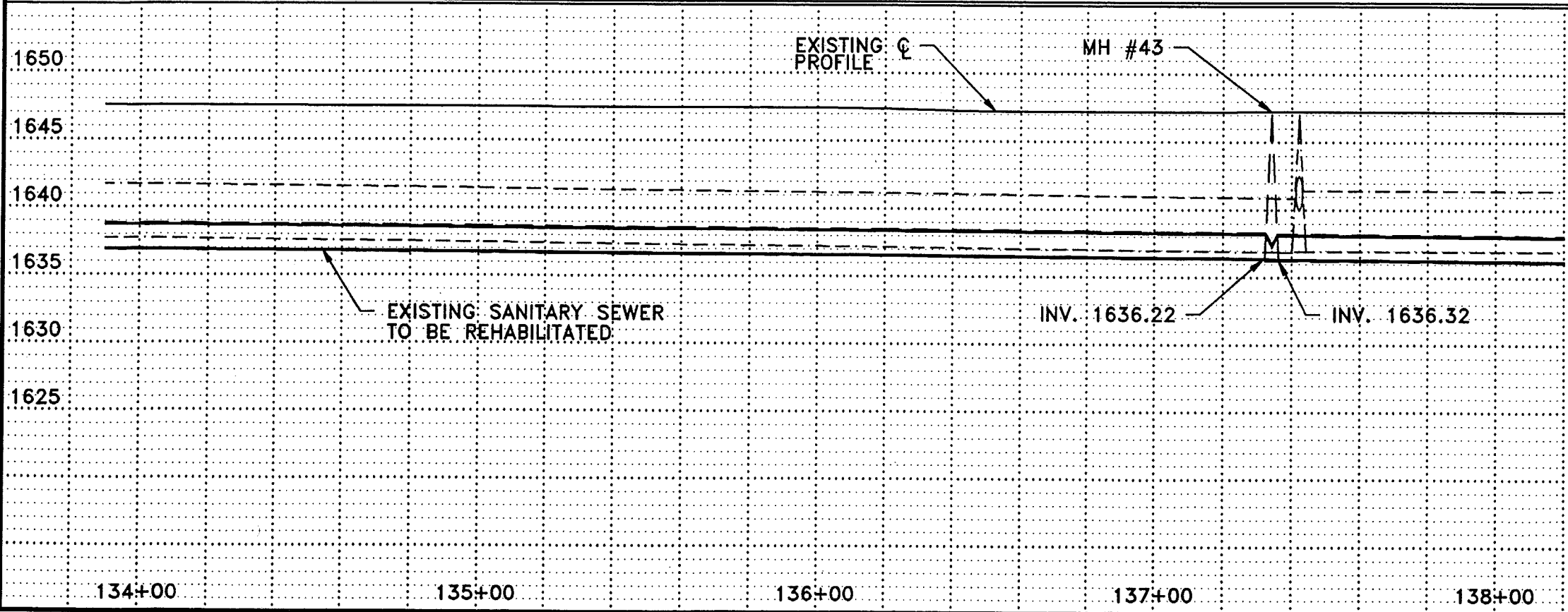
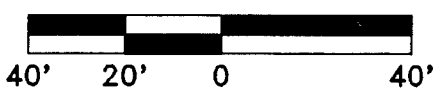
- 1 CONTRACTOR TO VERIFY LOCATION OF ALL PUBLIC AND PRIVATE UTILITIES.
- 2 REHABILITATE MANHOLE IN ACCORDANCE WITH SPECIFICATIONS.



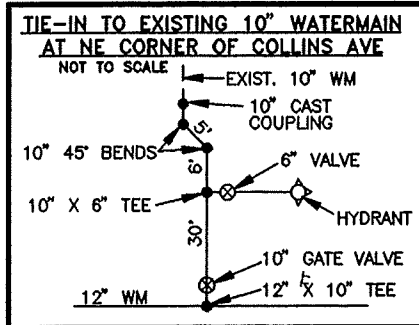
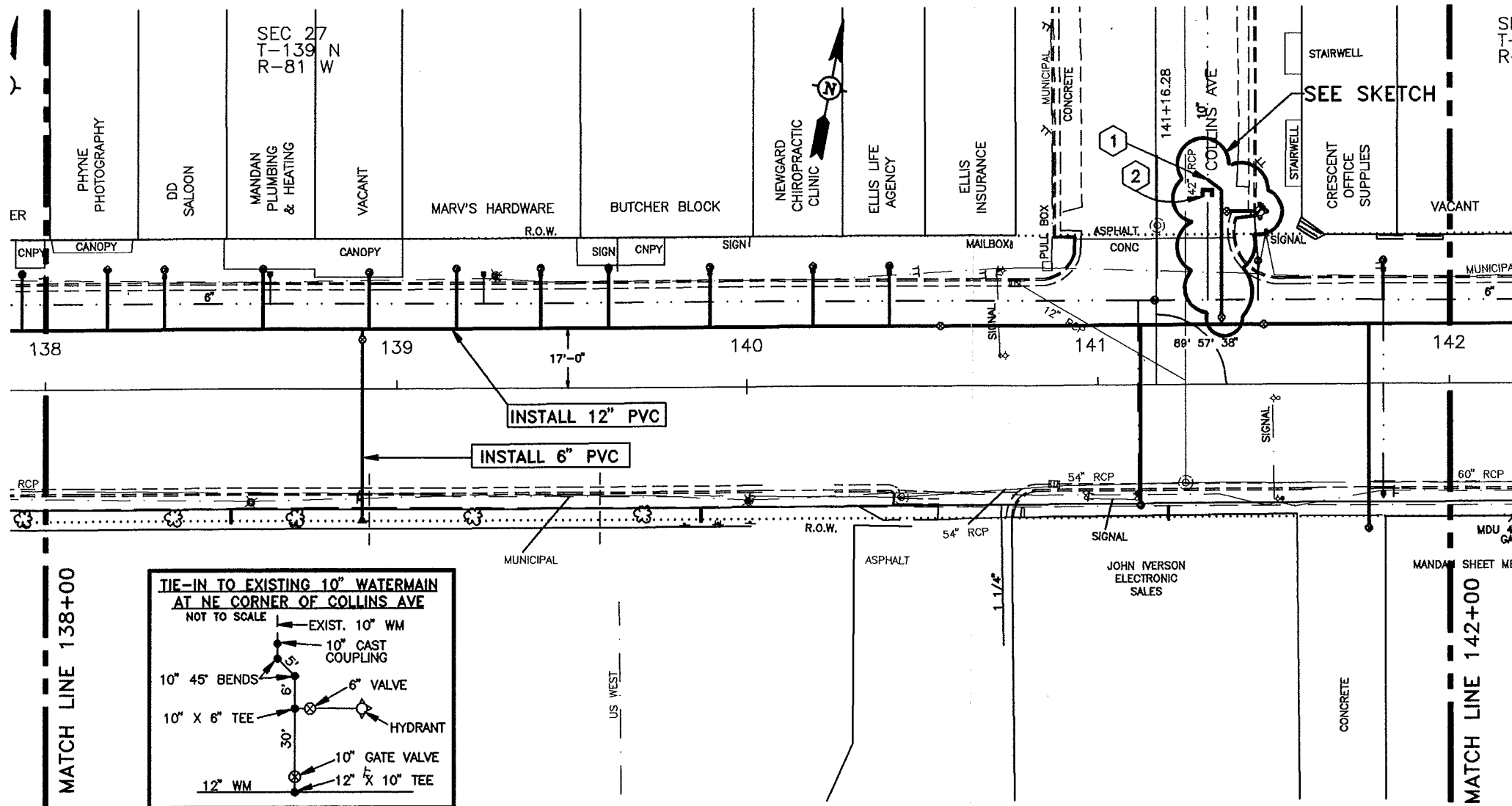
▲			
▲			
▲	11/96	RECORD DRAWING	
REV.	DATE	DESCRIPTION	BY
CITY OF MANDAN			
DISTRICT #39, SEWER IMPROVEMENT PROJECT 96-2, PHASE I			
PLAN & PROFILE			
ULTEIG ENGINEERS, INC. CONSULTING ENGINEERS ST. LOUIS, MISSOURI 63103-1100 MINNEAPOLIS			
DRAWN BY: MJH	SCALE: AS SHOWN	PROJECT NO. 95834	
CHECKED BY: BPM	DATE: MAY 17, 1995	SHEET 4 of 4	
APPROVED BY: BPM			



- CONSTRUCTION NOTES**
- 1 CONTRACTOR TO VERIFY LOCATION OF ALL PUBLIC AND PRIVATE UTILITIES.
 - 2 REHABILITATE MANHOLE IN ACCORDANCE WITH SPECIFICATIONS.
 - 3 MAKE SANITARY SEWER CONNECTION AS PER DETAIL.



REV.	DATE	DESCRIPTION	BY
11/96		RECORD DRAWING	
CITY OF MANDAN DISTRICT #39, SEWER IMPROVEMENT PROJECT 96-2, PHASE I			
PLAN & PROFILE			
ULTEIG ENGINEERS, INC. CONSULTING ENGINEERS MANDAN & FARO, MINNEAPOLIS			
DRAWN BY: M.J.H.	SCALE: AS SHOWN	PROJECT NO. 95834	
CHECKED BY: BPM	DATE: MAY 17, 1995	SHEET 8 of	
APPROVED BY: BPM			

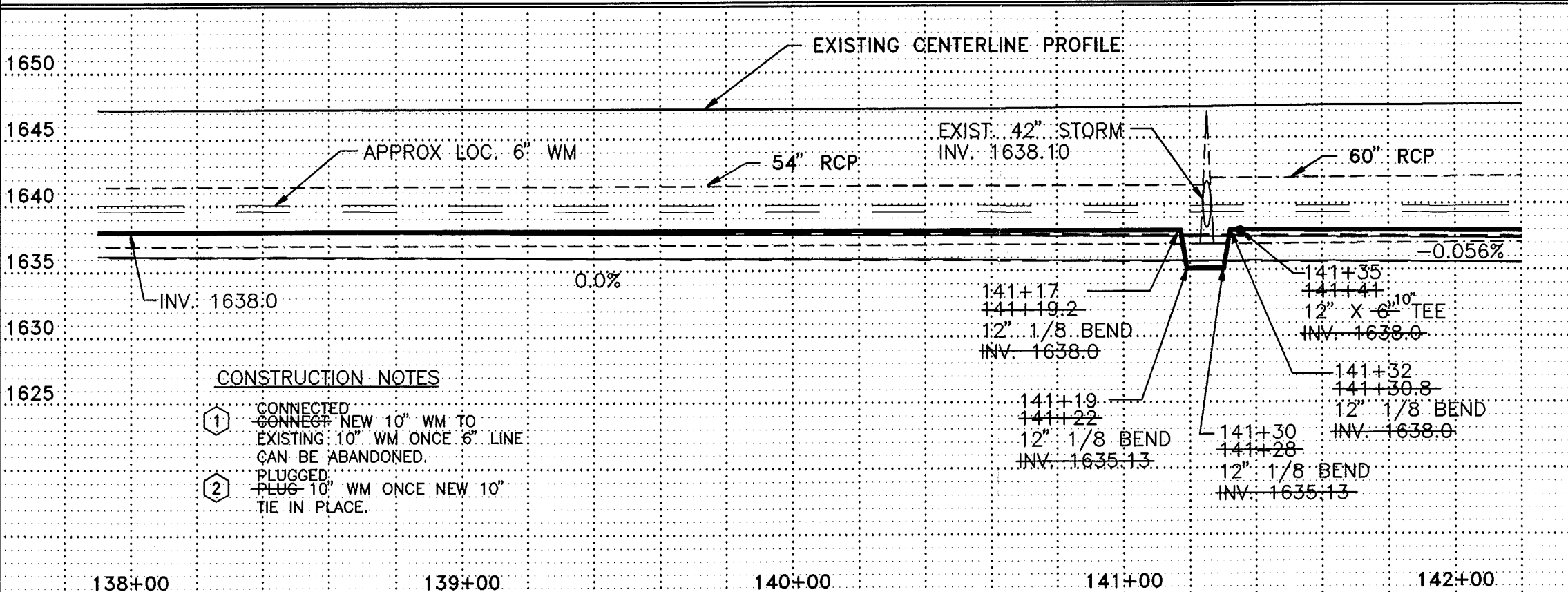


6" HYDRANT		
141+46 - 49' 52" LT	1 EA	
GATE VALVE AND BOX, 6"		
138+90 - 14' LT	1 EA	
+36 141+44 - 49' 20" LT	1 EA	
GATE VALVE AND BOX, 10"		
+35 141+07 - 19' 20" LT	1 EA	
GATE VALVE AND BOX, 12"		
+47 141+04 - 17' LT	1 EA	
140+55 - 17' LT	1 EA	
WATERMAIN, 6" PVC		
138+90 - 17' LT TO 138+90 - 36' RT	53 LF	
141+41 - 17' LT TO 141+41 - 52' LT	35 LF	
+35 141+44 - 49' 52" LT TO 141+46 - 49' 52" LT	11 - 5 LF	
WATERMAIN, 10" PVC		
+35 141+07 - 17' LT TO 141+12 - 58' 65" LT	43 - 50 LF	
WATERMAIN, 12" PVC		
138+00 - 17' LT TO 141+00 - 17' LT	347 - 400 LF	
FITTINGS, DUCTILE IRON		
138+90 - 17' LT	12" X 6" TEE	115 + 23 LBS
138+90 - 36' RT	6" PLUG	18 + 5 LBS
+35 141+07 - 19' 20" LT	12" X 10" TEE	163 + 15 LBS
+35 141+07 - 55' 60" LT	10" 1/8 BEND	81 - 69 LBS
+31 141+12 - 58' 65" LT	10" 1/8 BEND	81 - 69 LBS
+31 141+12 - 55' 60" LT	10" PLUG	36 - 38 LBS
+17 141+19.2 - 17' LT	12" 1/8 BEND	111 - 92 LBS
+19 141+22 - 17' LT	12" 1/8 BEND	111 - 92 LBS
+30 141+28 - 17' LT	12" 1/8 BEND	111 - 92 LBS
+32 141+30.8 - 17' LT	12" 1/8 BEND	111 - 92 LBS
+35 141+44 - 49' 17" LT	10" X 6" TEE	93 + 23 LBS
141+41 - 52' LT	6" 1/4 BEND	39 LBS

WATER SERVICE LINE 1-1/2" COPPER	
138+18 - 17' LT TO 138+18 - 34' 33" LT	17 - 16 LF
138+34 - 17' LT TO 138+34 - 34' 33" LT	17 - 16 LF
+62 138+64 - 17' LT TO 138+64 - 34' 33" LT	17 - 16 LF
+17 139+25 - 17' LT TO 139+25 - 34' 33" LT	17 - 16 LF
139+41 - 17' LT TO 139+41 - 34' 33" LT	17 - 16 LF
139+60 - 17' LT TO 139+60 - 34' LT	17 LF
139+90 - 17' LT TO 139+90 - 34' 33" LT	17 - 16 LF
140+19 - 17' LT TO 140+19 - 34' 33" LT	17 - 16 LF
140+40 - 17' LT TO 140+40 - 34' 33" LT	17 - 16 LF
+12 141+11 - 17' LT TO 141+11 - 34' 33" RT	57 - 50 LF
141+81 - 17' LT TO 141+81 - 35' 33" LT	18 - 16 LF
+77 141+84 - 17' LT TO 141+84 - 34' 33" RT	51 - 50 LF
138+92 - 17' LT TO 138+92 - 33' LT	16 LF

WATER SERVICE CONNECTION 1-1/2" & 2"	
138+18 - 17' LT 1 EA	139+90 - 17' LT 1 EA
138+34 - 17' LT 1 EA	140+19 - 17' LT 1 EA
138+64 - 17' LT 1 EA	140+40 - 17' LT 1 EA 2'
139+25 - 17' LT 1 EA	141+11 - 12' 17' LT 1 EA 2'
139+41 - 17' LT 1 EA	141+81 - 17' LT 1 EA
139+60 - 17' LT 1 EA	138+92 - 17' LT 1 EA
	141+77 - 17' LT 1 EA

CURB STOP AND BOX 1-1/2" & 2"	
138+18 - 34' 33" LT 1 EA	139+90 - 34' 33" LT 1 EA
138+34 - 34' 33" LT 1 EA	140+19 - 34' 33" LT 1 EA
138+64 - 34' 33" LT 1 EA	140+40 - 34' 33" LT 1 EA 2'
139+25 - 17' 33" LT 1 EA	141+11 - 12' 33" RT 1 EA 2'
139+41 - 34' 33" LT 1 EA	141+81 - 35' 33" LT 1 EA
139+60 - 34' 33" LT 1 EA	141+84 - 34' 33" RT 1 EA
	141+81 - 35' 33" LT 1 EA
	141+77 - 17' LT 1 EA
REMOVE HYDRANT	
141+46 - 50' LT	1 EA



CONSTRUCTION NOTES

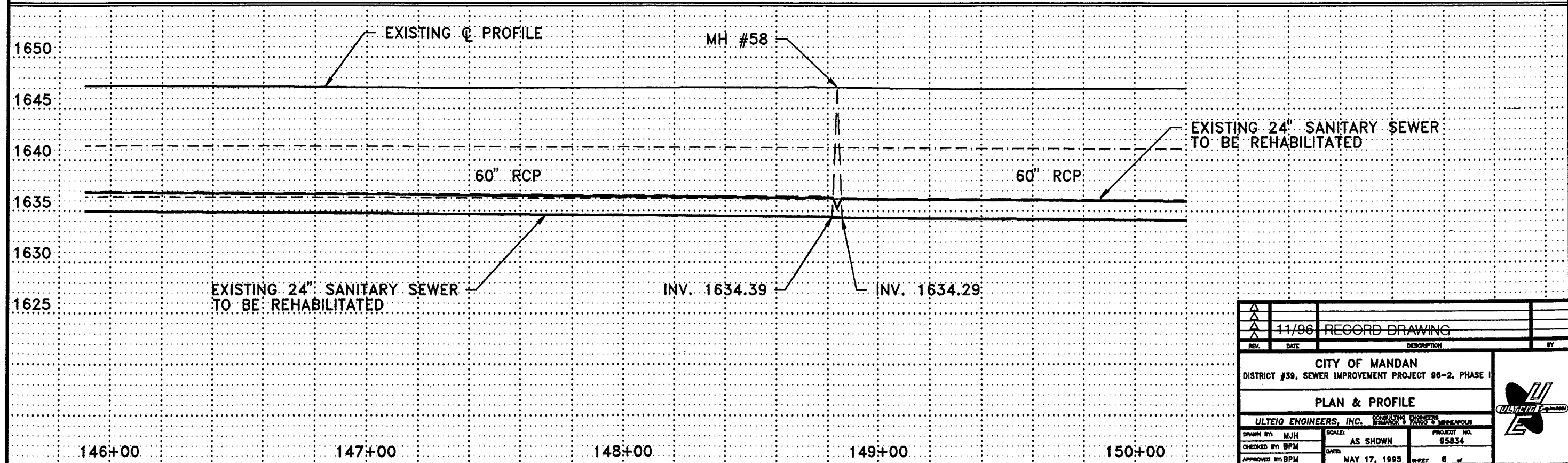
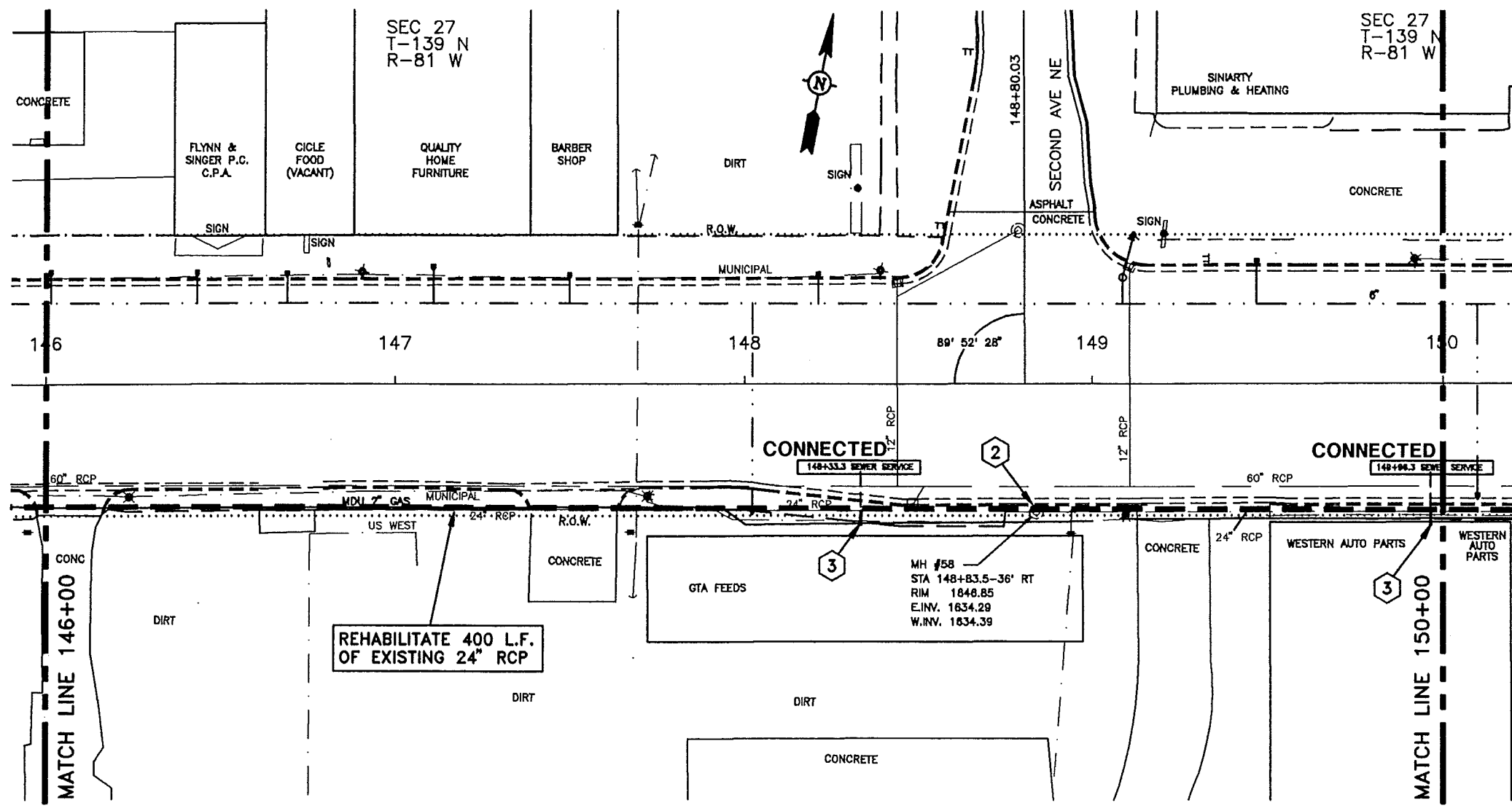
- 1 CONNECTED TO EXISTING 10" WM ONCE 6" LINE CAN BE ABANDONED.
- 2 PLUGGED; PLUG 10" WM ONCE NEW 10" TIE IN PLACE.

Record Drawing

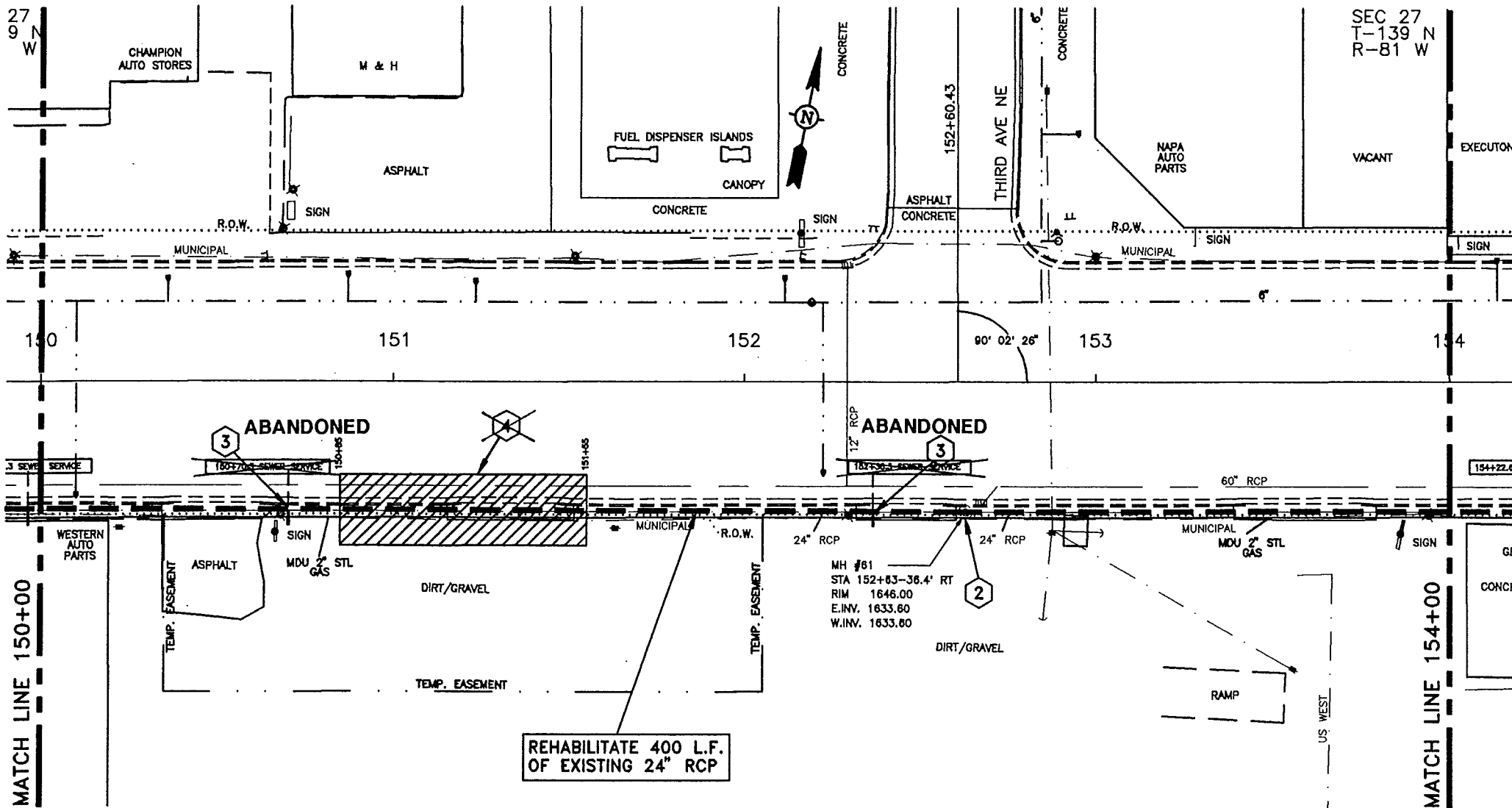
REV.	DATE	DESCRIPTION	BY
	2/14/97	RECORD DRAWING	DMS
CITY OF MANDAN			
DISTRICT #39, WATER AND SEWER IMPROVEMENT PROJECT 96-2, PHASE II			
STA 138+00 TO STA 142+00			
ULTEIG ENGINEERS, INC.			
DRAWN BY: MJH	SCALE: 1" = 40'	PROJECT NO. 95834	
CHECKED BY: BPM	DATE: MAY 17, 1995	SHEET 17 OF 29	
APPROVED BY: BPM			

CONSTRUCTION NOTES

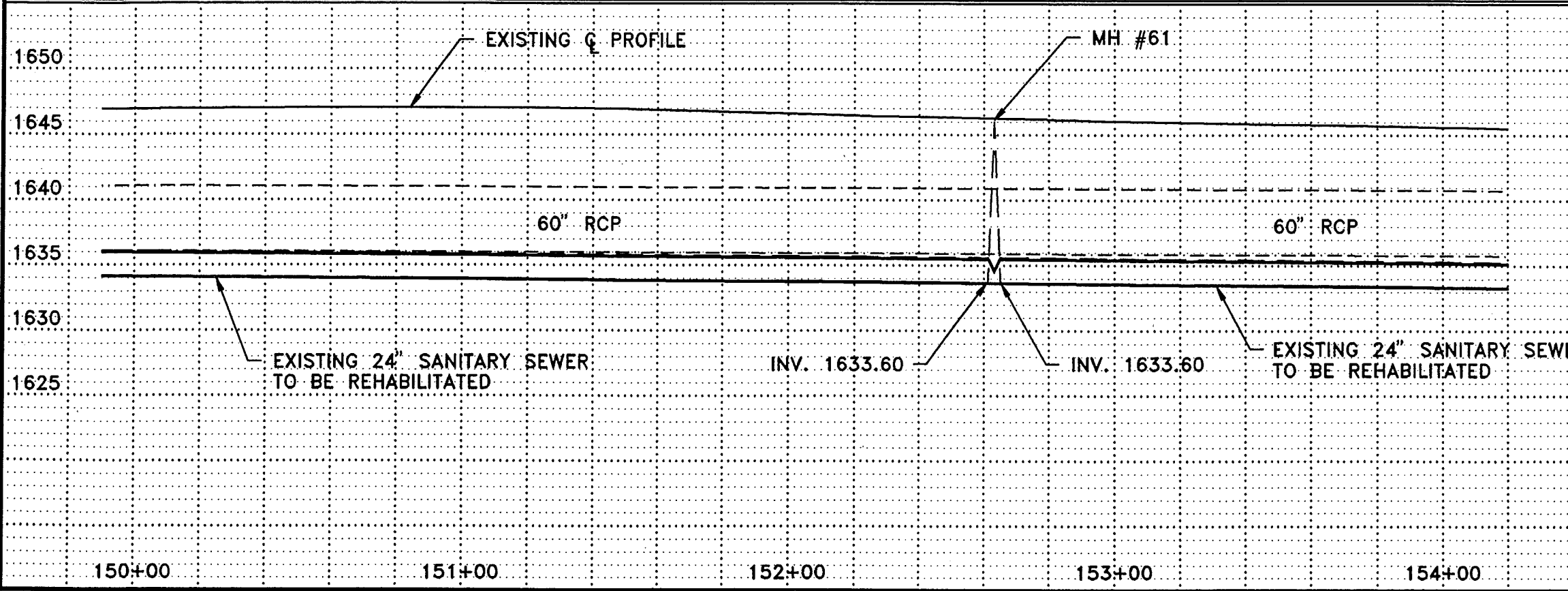
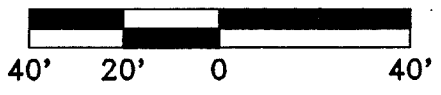
- ① CONTRACTOR TO VERIFY LOCATION OF ALL PUBLIC AND PRIVATE UTILITIES.
- ② REHABILITATE MANHOLE IN ACCORDANCE WITH SPECIFICATIONS.
- ③ MAKE SANITARY SEWER CONNECTION AS PER DETAIL.



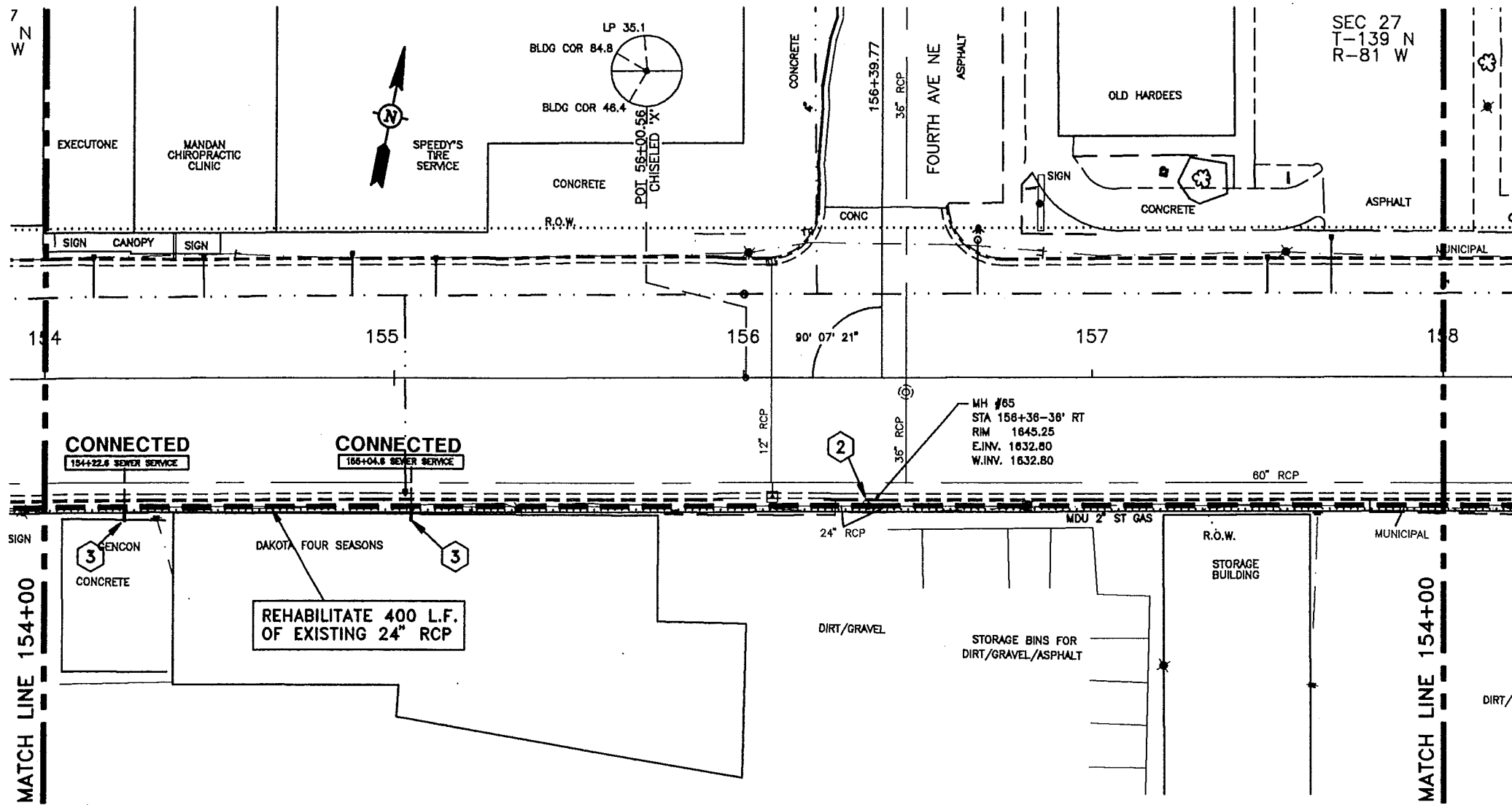
△			
△	11/96	RECORD DRAWING	
REV.	DATE	DESCRIPTION	BY
CITY OF MANDAN DISTRICT #39, SEWER IMPROVEMENT PROJECT 98-2, PHASE I			
PLAN & PROFILE			
ULTEIO ENGINEERS, INC. CONSULTING ENGINEERS 1000 W. WASHINGTON ST. SUITE 200 MINNEAPOLIS, MN 55402			
DRAWN BY: MJH	SCALE: AS SHOWN	PROJECT NO. 95834	
CHECKED BY: BPM	DATE: MAY 17, 1995	SHEET 8 of	
APPROVED BY: BPM			



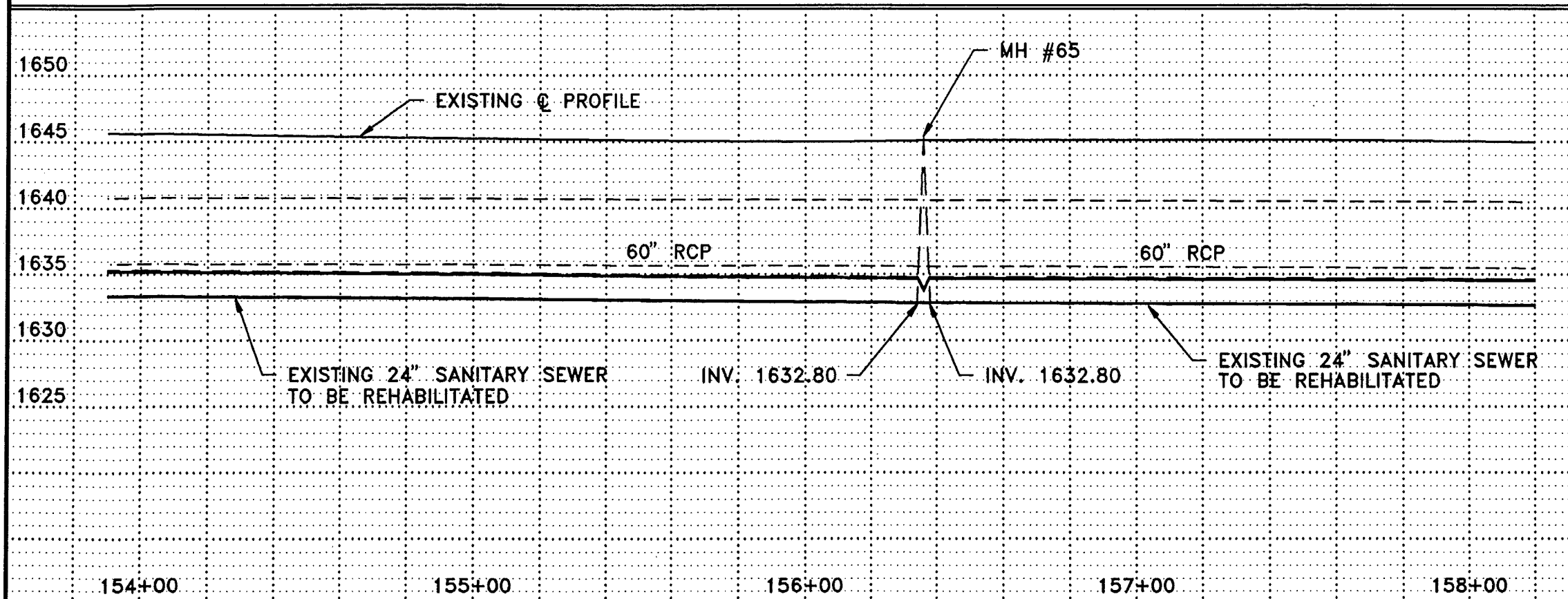
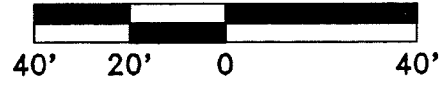
- CONSTRUCTION NOTES**
- 1 CONTRACTOR TO VERIFY LOCATION OF ALL PUBLIC AND PRIVATE UTILITIES.
 - 2 REHABILITATE MANHOLE IN ACCORDANCE WITH SPECIFICATIONS.
 - 3 MAKE SANITARY SEWER CONNECTION AS PER DETAIL.
 - 4 INSERTION PIT AS PER DETAIL.



▲			
▲	11/96	RECORD DRAWING	
▲			
REV.	DATE	DESCRIPTION	BY
CITY OF MANDAN			
DISTRICT #39, SEWER IMPROVEMENT PROJECT 96-2, PHASE I			
PLAN & PROFILE			
ULTEIG ENGINEERS, INC. CONSULTING ENGINEERS BRANCH OFFICE • ST. LOUIS • MINNEAPOLIS			
DRAWN BY: MJM	SCALE: AS SHOWN	PROJECT NO. 95834	
CHECKED BY: BPM	DATE: MAY 17, 1995	SHEET 9 of 9	
APPROVED BY: BPM			



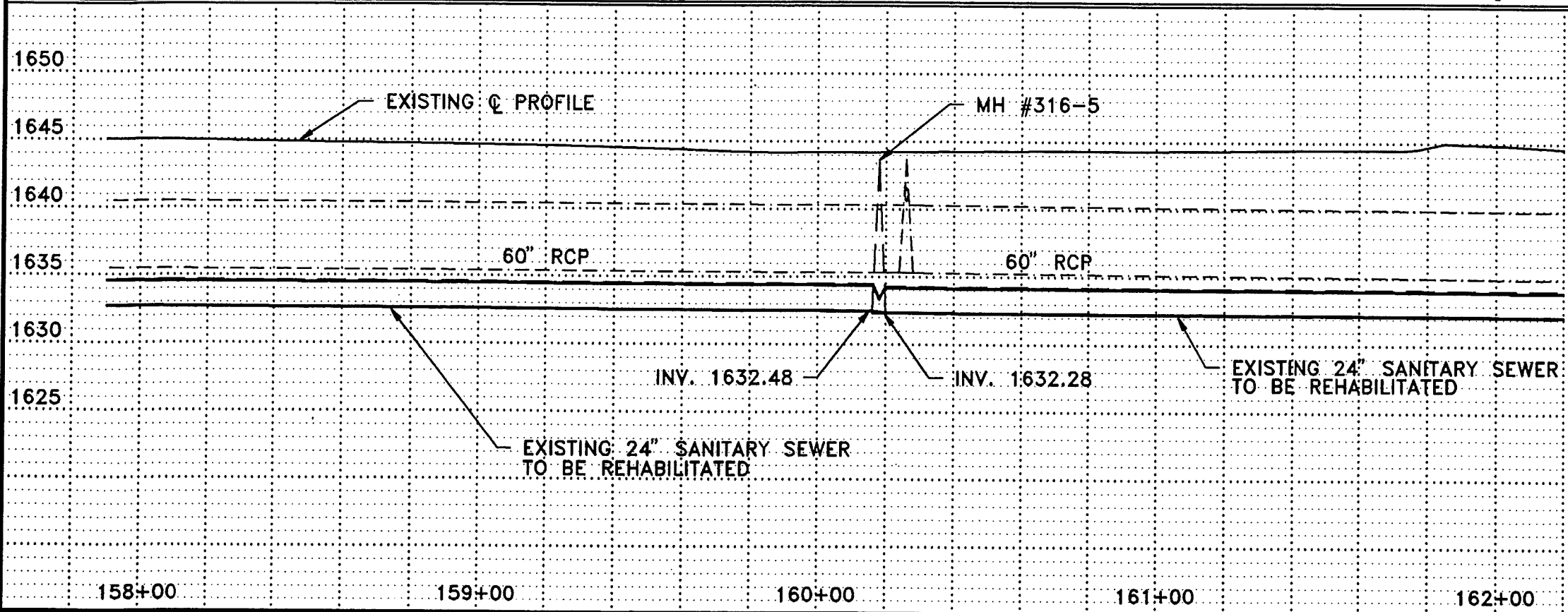
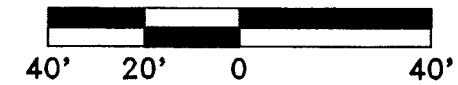
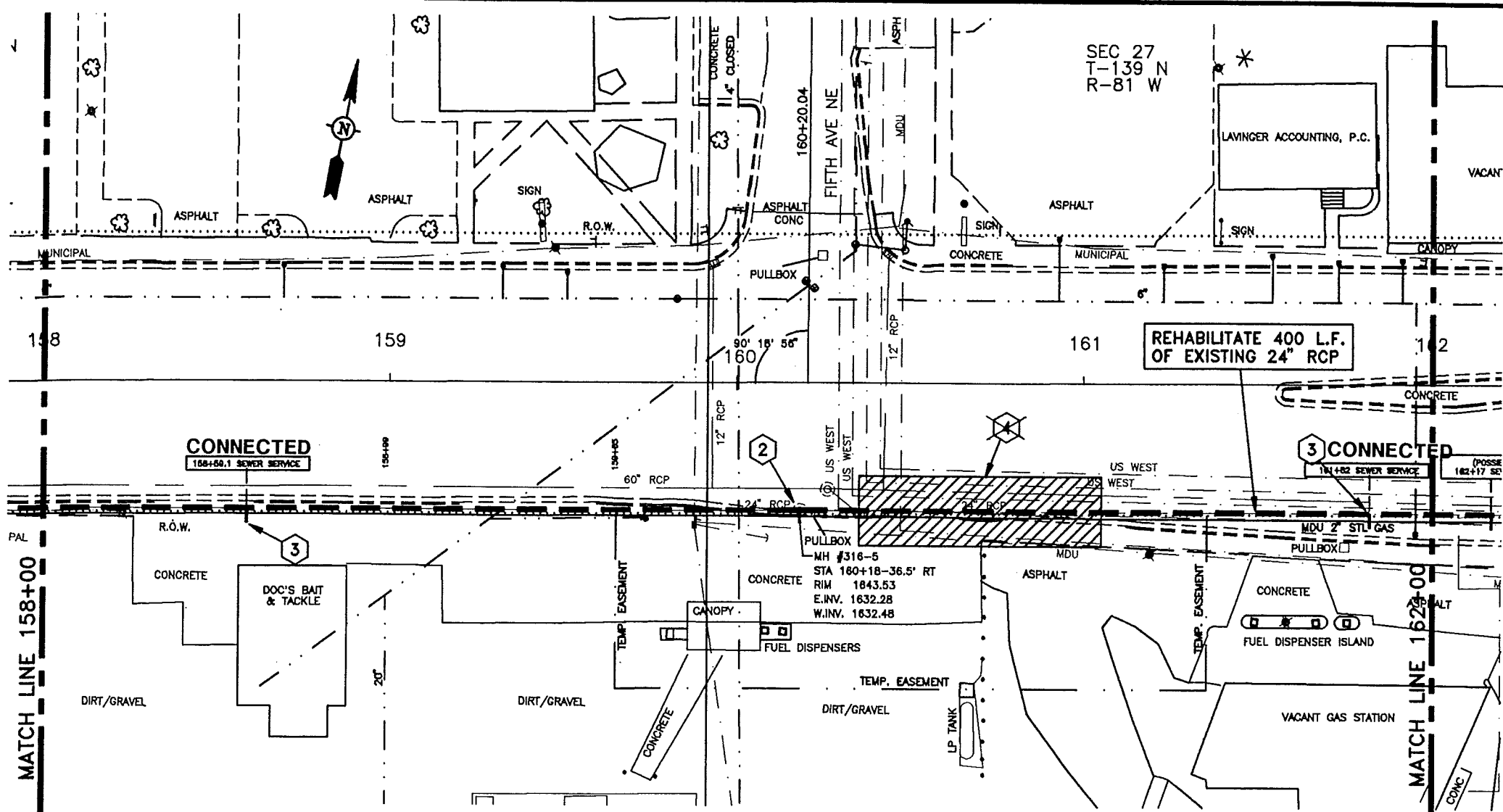
- ### CONSTRUCTION NOTES
- 1 CONTRACTOR TO VERIFY LOCATION OF ALL PUBLIC AND PRIVATE UTILITIES.
 - 2 REHABILITATE MANHOLE IN ACCORDANCE WITH SPECIFICATIONS.
 - 3 MAKE SANITARY SEWER CONNECTION AS PER DETAIL.



REV.	DATE	DESCRIPTION	BY
1	11/96	RECORD DRAWING	
CITY OF MANDAN DISTRICT #30, SEWER IMPROVEMENT PROJECT 06-2, PHASE I			
PLAN & PROFILE			
ULTEIG ENGINEERS, INC. CONSULTING ENGINEERS MANDAN & MINNEAPOLIS			
DRAWN BY: MJH	SCALE: AS SHOWN	PROJECT NO. 95834	
CHECKED BY: BPM	DATE: MAY 17, 1995	SHEET 10 of	
APPROVED BY: BPM			

CONSTRUCTION NOTES

- 1 CONTRACTOR TO VERIFY LOCATION OF ALL PUBLIC AND PRIVATE UTILITIES.
- 2 REHABILITATE MANHOLE IN ACCORDANCE WITH SPECIFICATIONS.
- 3 MAKE SANITARY SEWER CONNECTION AS PER DETAIL.
- 4 INSERTION PIT AS PER DETAIL.



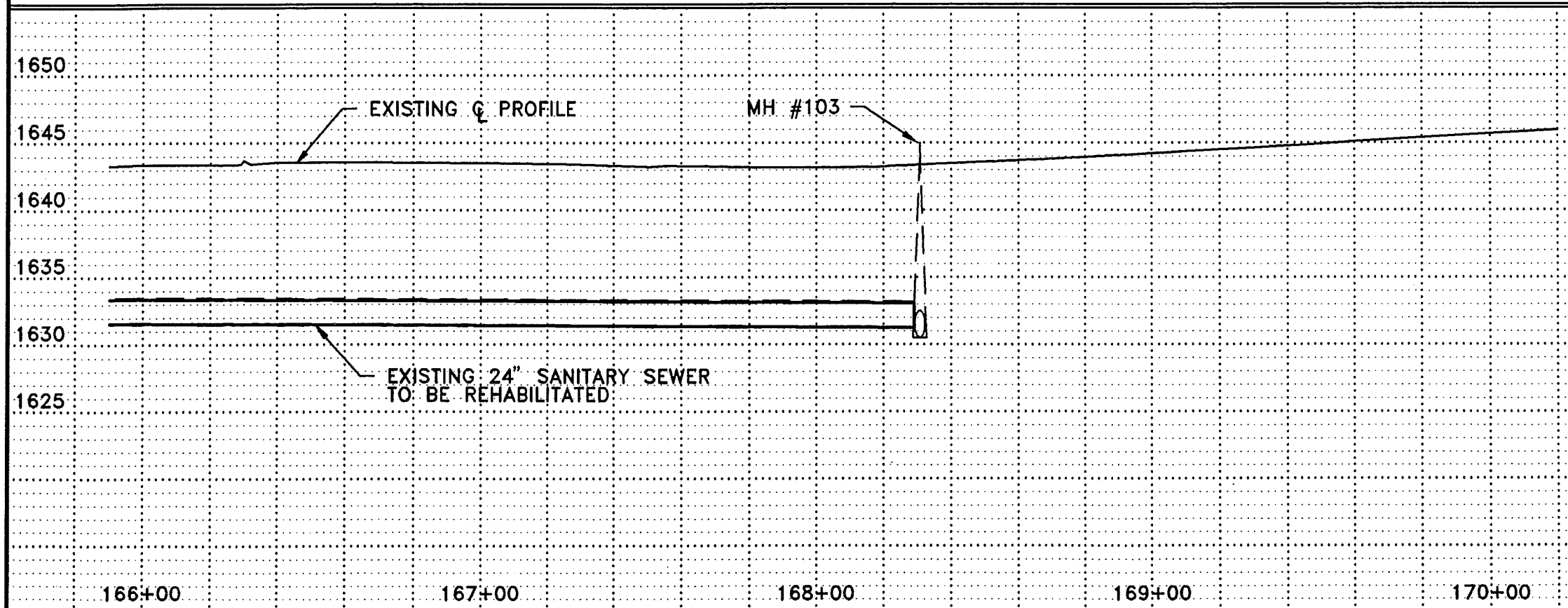
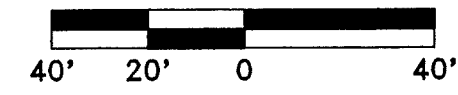
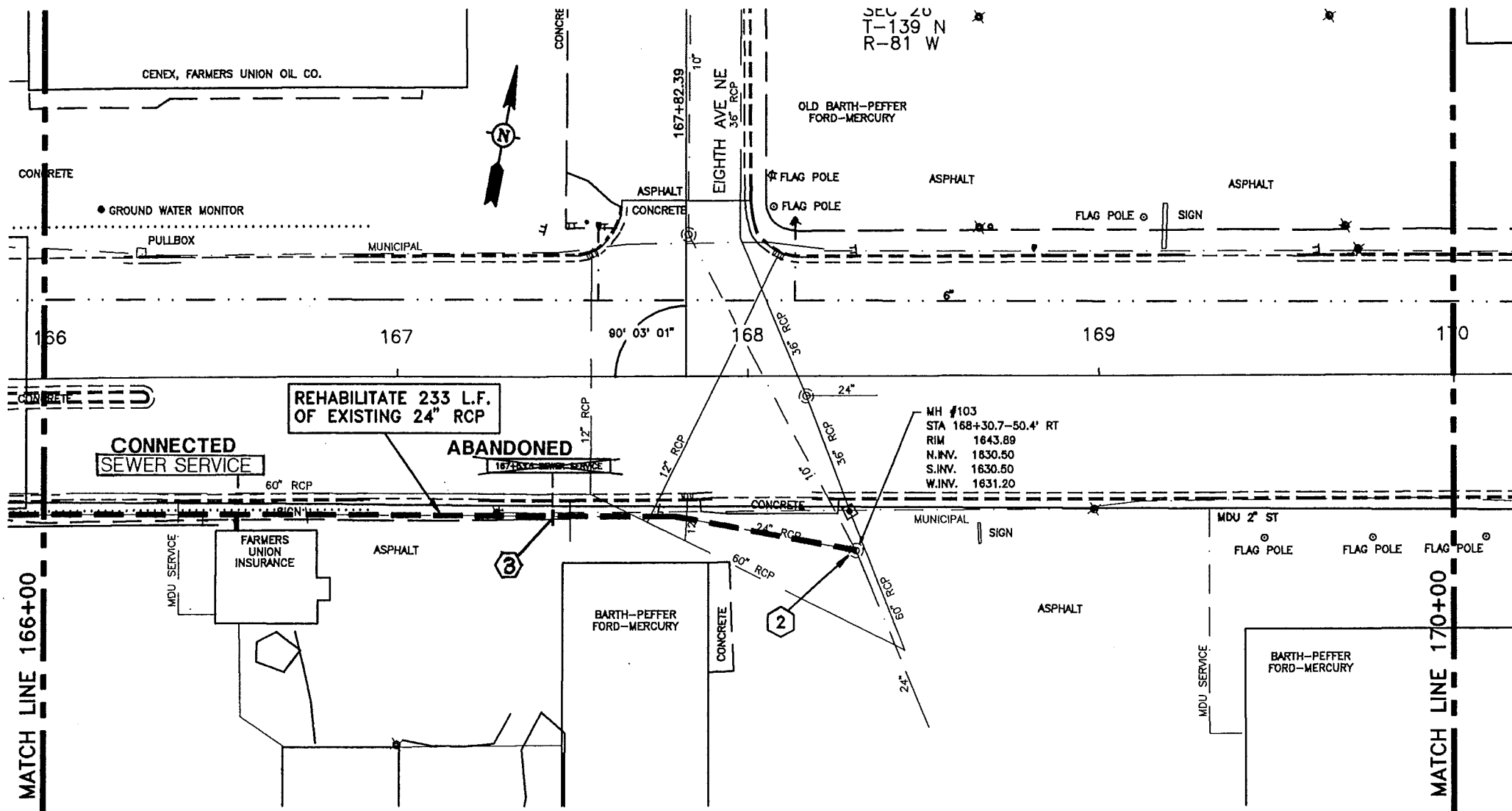
11/96	RECORD DRAWING	
REV.	DATE	DESCRIPTION
CITY OF MANDAN DISTRICT #39, SEWER IMPROVEMENT PROJECT 96-2, PHASE I		
PLAN & PROFILE		
ULTEIG ENGINEERS, INC. CONSULTING ENGINEERS SEWAGO, ILLINOIS & MINNEAPOLIS		
DRAWN BY: MJH	SCALE: AS SHOWN	PROJECT NO. 95834
CHECKED BY: BPM	DATE: MAY 17, 1995	SHEET 11 of
APPROVED BY: BPM		



SEC 20
T-139 N
R-81 W

CONSTRUCTION NOTES

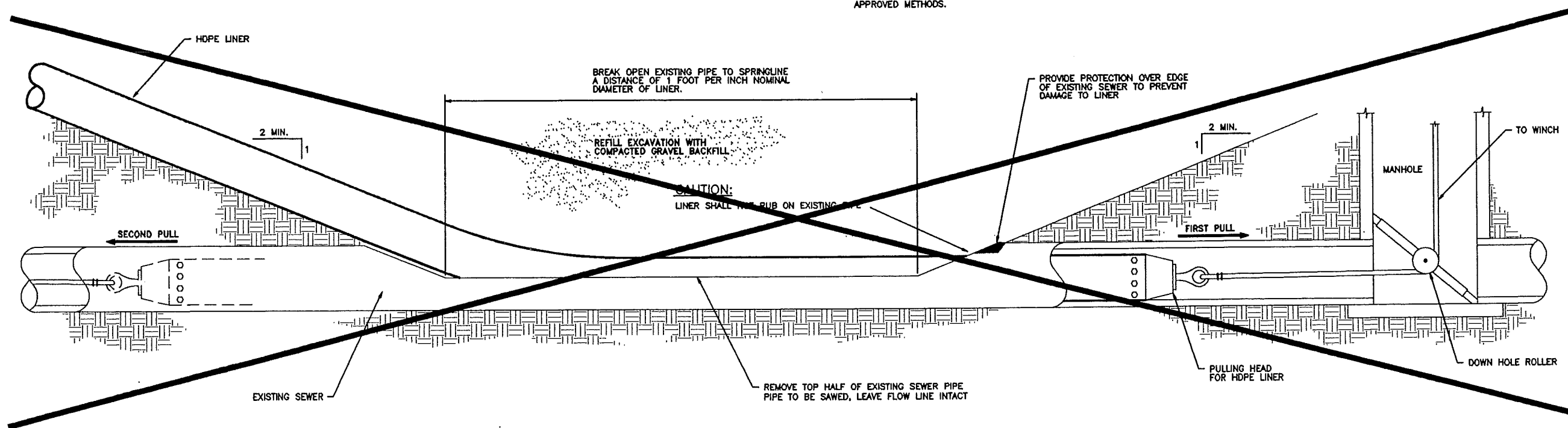
- ① CONTRACTOR TO VERIFY LOCATION OF ALL PUBLIC AND PRIVATE UTILITIES.
- ② REHABILITATE MANHOLE IN ACCORDANCE WITH SPECIFICATIONS.
- ③ MAKE SANITARY SEWER CONNECTION AS PER DETAIL.



▲			
▲	11/96	RECORD DRAWING	
REV.	DATE	DESCRIPTION	BY
CITY OF MANDAN DISTRICT #39, SEWER IMPROVEMENT PROJECT 98-2, PHASE I			
PLAN & PROFILE			
ULTEIG ENGINEERS, INC. CONSULTING ENGINEERS MINNEAPOLIS, MINN.			
DRAWN BY: MJH	SCALE: AS SHOWN	PROJECT NO. 95834	
CHECKED BY: BPM	DATE: MAY 17, 1995	SHEET 13 of	
APPROVED BY: BPM			

NOTE:

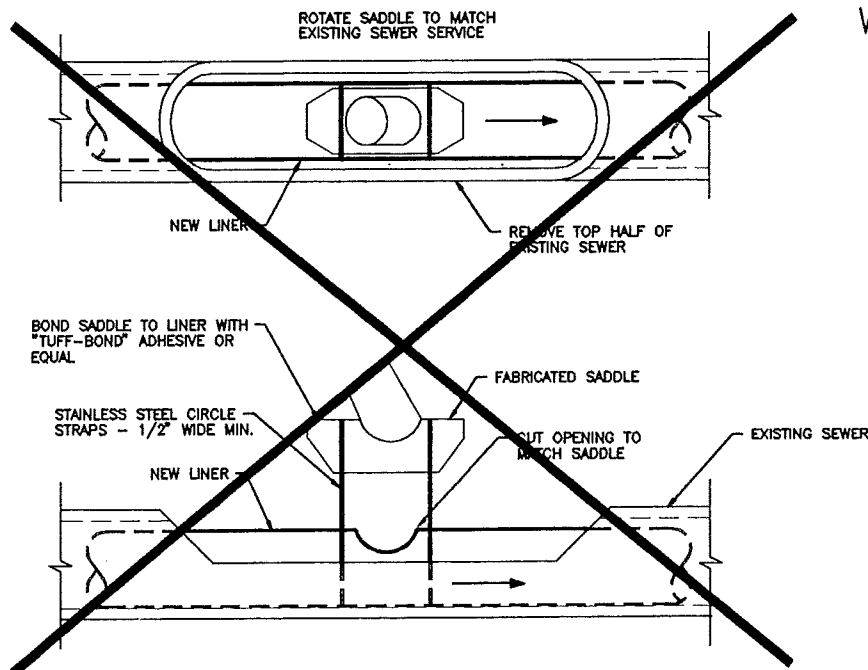
ENDS OF LINER PIPES IN INSERTION PITS SHALL BE JOINED BY USE OF A STAINLESS STEEL CLAMP AS SPECIFIED OR OTHER APPROVED METHODS.



TYPICAL INSERTION PIT EXCAVATION

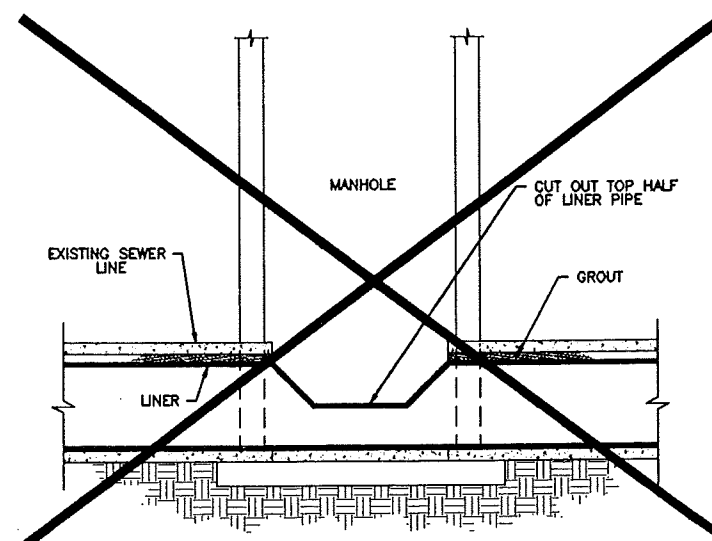
N.T.S.

NOTE: THESE DETAILS DO NOT PERTAIN TO THE RIB LOC EXPANDS-PIPE SYSTEM WHICH REPLACED THE HDPE LINER.



SADDLE CONNECTION TO LINER

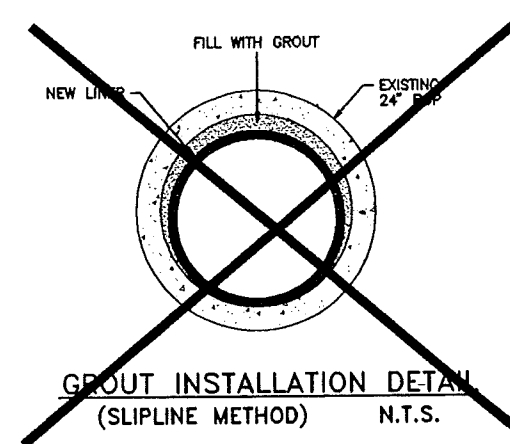
N.T.S.



LINER CONNECTION AT MANHOLE

(SLIPLINE METHOD)

N.T.S.



△			
△	11/96	RECORD DRAWING	
△			
REV.	DATE	DESCRIPTION	BY
CITY OF MANDAN			
DISTRICT #39, SEWER IMPROVEMENT PROJECT 96-2, PHASE I			
SLIPLINE DETAILS			
ULTEIG ENGINEERS, INC. CONSULTING ENGINEERS BIRDAUGH & PARSONS MINNEAPOLIS			
DRAWN BY: MJH	SCALE: AS SHOWN	PROJECT NO: 95834	
CHECKED BY: BPM	DATE: MAY 17, 1995	SHEET 14 of	
APPROVED BY: BPM			

