

CONSTRUCTION NOTES (THIS SHEET)

- BACKFILL SHALL BE CLASS 'A'.
- GRADING SHALL BE BY OTHERS PRIOR TO CONSTRUCTION FOR 29TH STREET SE, MCKENZIE DRIVE SE AND BAY SHORE BEND SE FROM STA. 0+00 TO STA. 9+00, 31ST STREET SE AND BAY SHORE BEND SE FROM STA. 9+00 TO STA. 20+80 WILL BE GRADED AFTER THE SANITARY SEWER IS INSTALLED AND BEFORE THE WATER AND STORM SEWER ARE INSTALLED. WATER AND SEWER CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH THE EARTHWORK CONTRACTOR.
- SUPPLIERS SHALL SUBMIT MANHOLE SHOP DRAWINGS TO THE CITY OF MANDAN ENGINEERING DEPARTMENT FOR APPROVAL.
- CONTRACTOR SHALL PROTECT ALL SURVEY MONUMENTS. MONUMENTS DISTURBED OR DESTROYED SHALL BE REPLACED BY THE OWNER'S REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL REMOVE AND DISPOSE OF OFFSITE ASPHALT, CURB AND GUTTER, AND SIDEWALK AS REQUIRED TO CONNECT TO THE EXISTING 8" WATERMAIN AND SANITARY SEWER. THE CONTRACTOR SHALL CUT INTO THE EXISTING MANHOLE, CUT A NEW INVERT AND GROUT THE SPACE BETWEEN THE EXISTING MANHOLE AND THE NEW SANITARY SEWER. THE CONTRACTOR SHALL REPLACE THE FULL DEPTH ASPHALT WITH COLD MIX ASPHALT AND FORM A TEMPORARY CURB AND GUTTER WITH THE COLD MIX ASPHALT. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO THE "CONCRETE AND ASPHALT REMOVAL" BID ITEM.
- CONTRACTOR SHALL COORDINATE WITH THE CITY OF MANDAN PUBLIC WORKS AND THE ELECTRICAL UTILITY TO RELOCATE THE STREET LIGHT AT THE INTERSECTION OF 46TH AVENUE SE AND 31ST STREET SE. ALL WORK INVOLVED WITH RELOCATING THE STREET LIGHT SHALL BE CONSIDERED INCIDENTAL TO THE "RELOCATE STREET LIGHT" BID ITEM.
- CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE GROUND WATER ELEVATION. THE CONTRACTOR SHALL DEWATER AS NECESSARY TO CONSTRUCT THE SANITARY SEWER AND WATERMAIN. ALL COSTS ASSOCIATED WITH DEWATERING SHALL BE CONSIDERED INCIDENTAL TO OTHER BID ITEMS.
- STORM SEWER TO BE CONSTRUCTED BY OTHERS.
- ALL SANITARY SEWER MANHOLES SHALL HAVE INTEGRAL BASES WITH BOOTS.

LEGEND

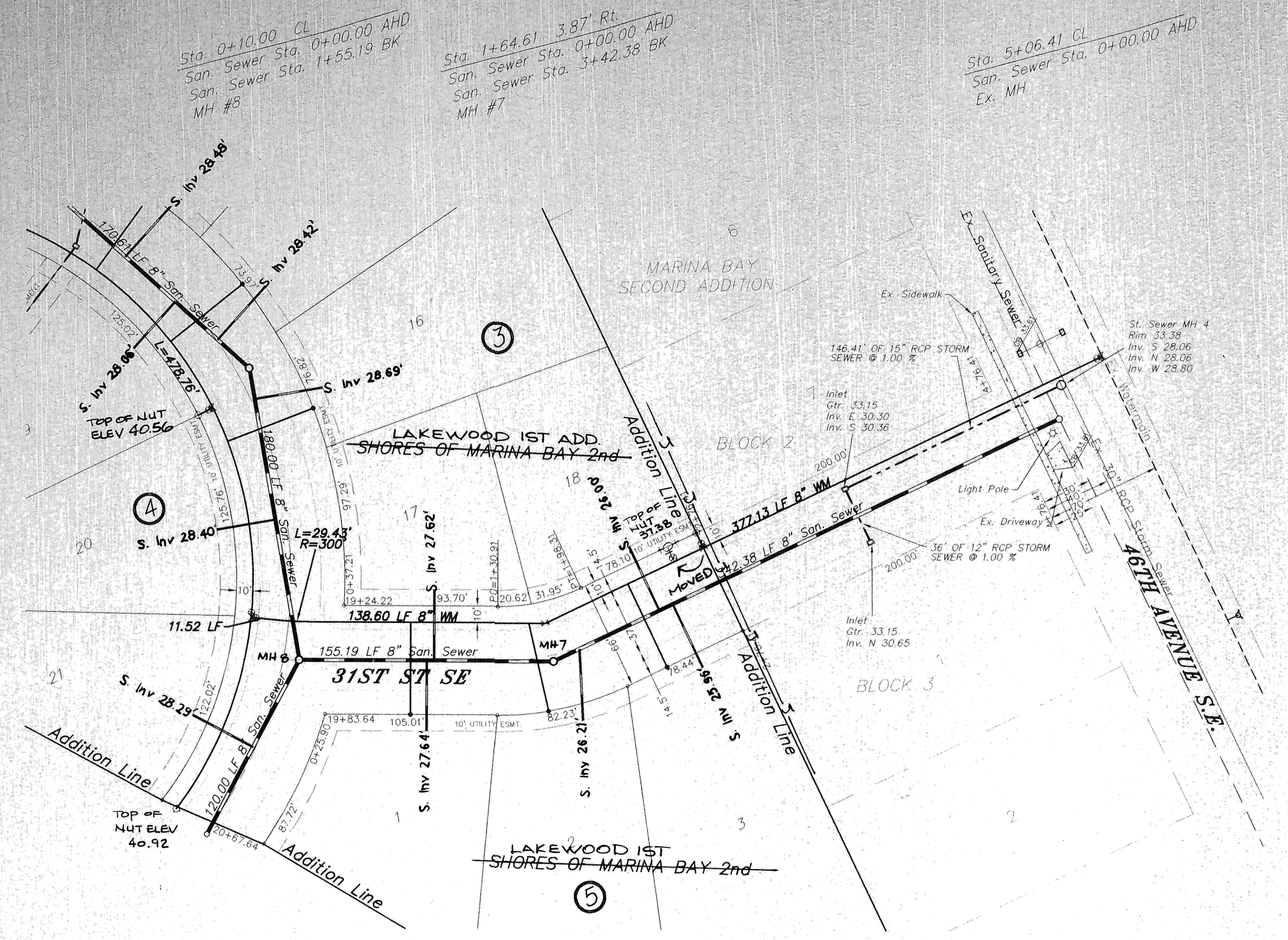
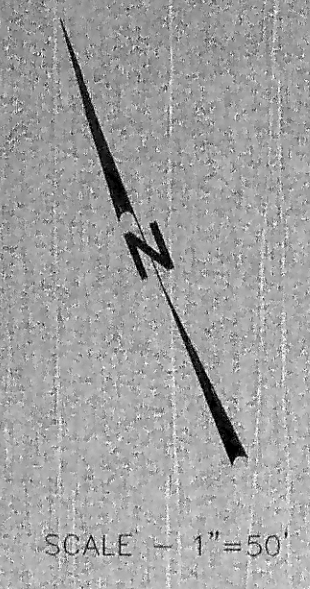
- EXISTING WATERMAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING CONCRETE SIDEWALK

Lot	Block	4" Sewer Service	4" 45° Bend	4" 22 1/2° Bend	8" x 1" Wye Branch	1" Copper Water Service Pipe	1" Water Service Pipe Connection	1" Ball Valve	Curb Stop & 1 1/4" Box
3	5	43	1	1	56	1	1		
18	3	43	1	1					
2	5	43	1	1	55	1	1		
17	3	43	1	1					
1	5	43	1	1	56	1	1		
TOTAL		213	4	1	167	3	3		

APPROXIMATE WYE LOCATIONS

STATION	DIRECTION	LOT	BLOCK
FROM EX. MANHOLE TO MANHOLE NO. 7			
2+62	S	3	5
2+71	N	18	5
3+25	S	2	5
FROM MANHOLE NO. 7 TO MANHOLE NO. 8			
0+73	NE	17	3
0+77	SW	1	5

Manhole Number	7	8
Casting Elev.	36.28	38.80
Top P.C. Section	35.24	37.76
Invert Elev. (a)	24.57	25.32
Invert Elev. (b)	24.67	25.42
Invert Elev. (c)	25.42	25.42
Length P.C. Section	10.67	12.44



Begin Watermain Quantities Sta. -(0+19.50) 25.57' Lt.
 Sta. -(0+19.50)
 Begin San. Sewer Quantities Sta. 0+10.00
 Sta. -(0+16.52) 25.28' Lt.
 Sta. 0+10.00
 Sta. 1+64.61 19.73' Lt.
 Sta. 1+64.61
 Sta. 2+56.4
 Sta. 2+76.44
 Sta. 5+46.41
 Sta. 5+46.41
 End Watermain Quantities Sta. 5+46.41
 End San. Sewer Quantities Sta. 5+06.41

RECORD DRAWING
 SAN. SWR - PVC SDR 35
 MANHOLES - PRECAST CONC W/ BOOTS
 CONC. RINGS
1645

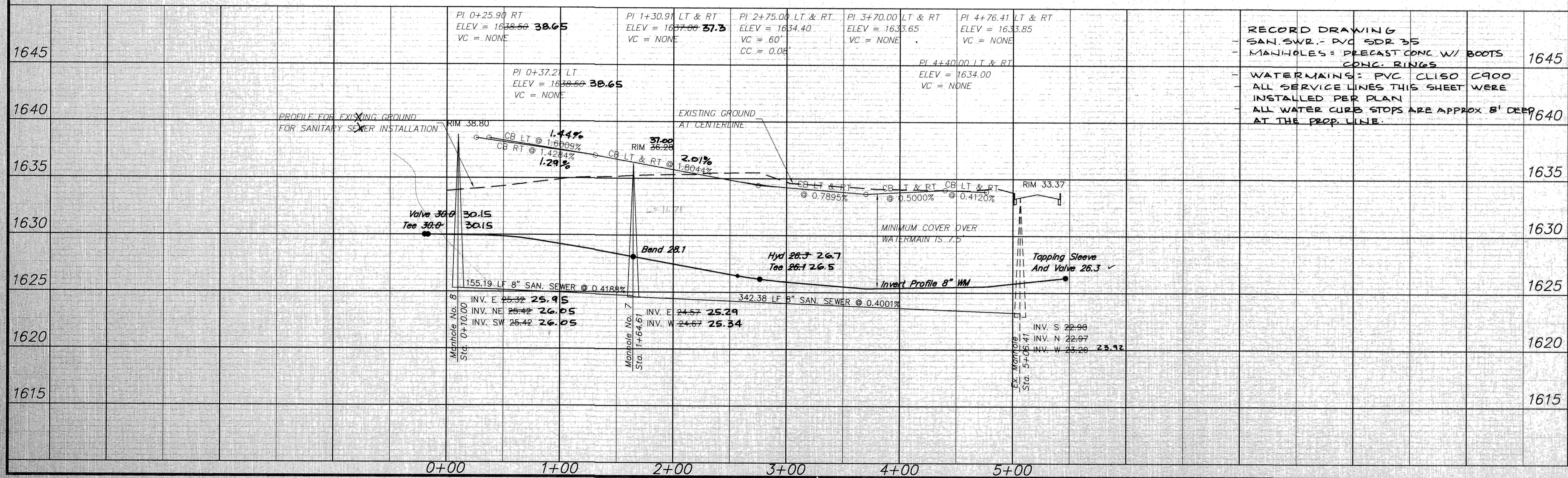
WATERMAINS - PVC CLISO C900
 ALL SERVICE LINES THIS SHEET WERE
 INSTALLED PER PLAN
 ALL WATER CURB STOPS ARE APPROX 8" DEEP
AT THE PROP. LINE.
1640

APPROXIMATE QUANTITIES

San. Sewer Items	Quantity
8" San. Sewer	498 LF
8" x 4" Wye Branch	5 EA
Pitrun Gravel	105 TON
Subcut Gravel	15 TON
Rock Excavation	5 CY
Concrete Manhole	2 EA
4" Sewer Service Pipe	213 LF
4" 45° Bend	4 EA
4" 22 1/2° Bend	5 EA
Relocate Street Light	1 EA
Concrete and Asphalt Removal	1 LS

Watermain Items

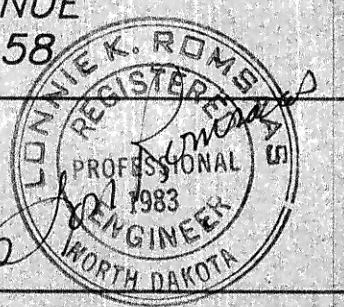
Watermain Items	Quantity
Pitrun Gravel	170 TON
Subcut Gravel	15 TON
Rock Excavation	5 CY
6" PVC Watermain	10 LF
8" PVC Watermain	557 LF
6" Hydrant	1 EA
6" Gate Valve & Box	1 EA
8" Gate Valve & Box	1 EA
8" Tapping Sleeve and Valve	1 EA
Ductile Iron Fittings (incidental)	
1" Water Copper Serv. Pipe	167 LF
1" Water Serv. Connection	3 EA
1" Ball Valve Curb Stop	3 EA
And 1 1/4" Box	
Concrete and Asphalt Removal	1 LS



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31st ST SE
BAY SHORE BEND SE TO 46TH AVENUE
FROM STA. 0+00.00 TO STA. 5+12.58

IMPROVEMENT PROJECT 2000-32
 SHEET NO. 4 OF 6
 MANDAN, ND NOVEMBER 8, 2000



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