

SCALE - 1"=50'

Sta. 40+00.00 16.95 Lt.
=San. Sewer Sta. 0+00 Ahd.
Ex. Manhole No. 2

Sta. 44+51.22 14.61 Lt.
=San. Sewer Sta. 4+51.35 Bk.
=San. Sewer Sta. 0+00 Ahd.
Ex. Manhole No. 3

Sta. 49+09.31 12.78 Lt.
=San. Sewer Sta. 4+08.09 Bk.
=San. Sewer Sta. 0+00 Ahd.
Ex. Manhole No. 4

Sta. 52+49.53 18.92 Rt.
=San. Sewer Sta. 3+41.69 Bk.
=San. Sewer Sta. 0+00 Ahd.
Ex. Manhole No. 5

Lot	Block	6" Sewer Service	8" x 6" Wye Branch	Sewer Service Invert	2" Copper Water Connection	2" Water Service Pipe	2" Ball Valve & 2" Box At The Curb Stop
8	1	56.2	7	25.00			
6	1	25.7	7	25.00	70.0	7	28.30
7	1	54.4	7	25.00			
2	1	53.2	7	25.00			
7	1	26.7	7	25.00	70.0	7	28.30
1	2	35.0	7	25.00			
2	1	33.7	7	25.00			
2	2	51.7	7	25.00	70.0	7	30.00
TOTALS		336.0	8		210.0	3	3

STATION	DIRECTION	LOT	BLOCK
FROM EX. MANHOLE 2 TO EXISTING MANHOLE 3			
1+33	S	8	1
4+20	N	6	1
FROM EX. MANHOLE 3 TO EXISTING MANHOLE 4			
0+23	S	1	1
3+05	S	7	1
3+30	N	2	1
FROM EX. MANHOLE 4 TO EXISTING MANHOLE 5			
0+80	NE	1	2
2+11	SW	2	1
2+62	NE	2	2

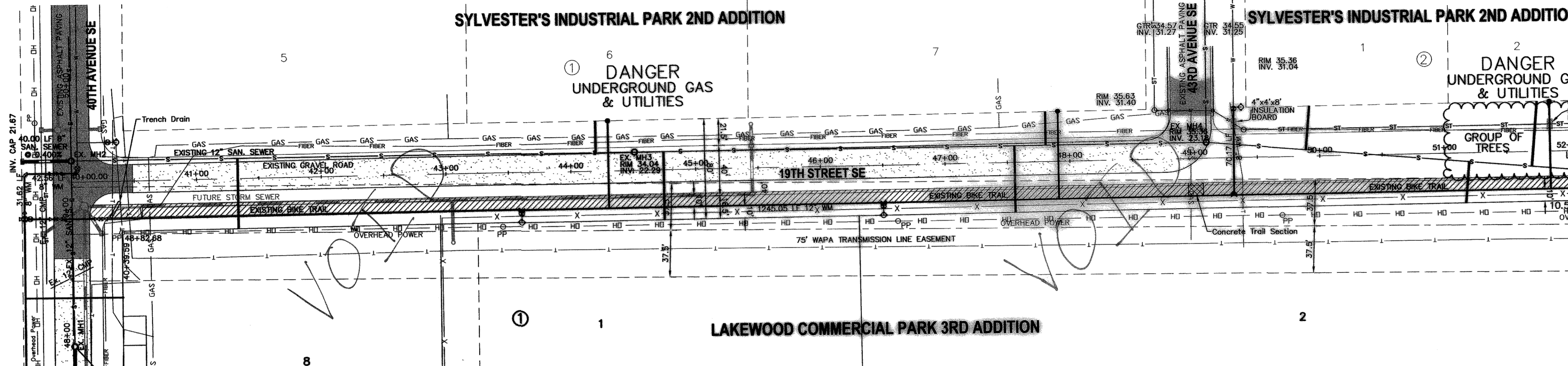
CONSTRUCTION NOTES (THIS SHEET)

- BACKFILL SHALL BE CLASS 'A'.
- THE CONTRACTOR SHALL CLOSE 19TH STREET SE AND 43RD AVENUE SE AS REQUIRED TO CONSTRUCT THE IMPROVEMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SIGNAGE, TRAFFIC CONTROL AND NOTIFICATION TO THE APPROPRIATE AGENCIES. TYPE III "ROAD CLOSED" BARRICADES AT THE SOUTH END OF 43RD AVENUE SE SHALL BE MAINTAINED UNTIL THE PAVING CONTRACTOR TAKES OVER CONTROL OF THE SITE. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO THE "12" PVC WATERMAIN" BID ITEM.
- THE EXISTING GROUND PROFILE FOR THE CENTER OF THE ROAD IS SHOWN TO REPRESENT THE EXISTING GROUND ELEVATION AT THE TIME OF CONSTRUCTION. THE STREETS WILL BE BUILT UP TO FINISHED GRADE BY THE PAVING CONTRACTOR AFTER THE COMPLETION OF THIS PROJECT.
- THE CONTRACTOR SHALL VERIFY THE ELEVATION OF THE GROUND WATER AT THE TIME OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DEWATERING OR SOIL STABILIZATION (OTHER THAN USING SUBCUT GRAVEL) OF THE CONSTRUCTION SITE AS REQUIRED TO INSTALL THE PROPOSED UTILITIES. IT IS EXPECTED THAT DEWATERING WILL BE REQUIRED.
- PROTECT EXISTING UTILITIES AND MINIMIZE AREAS DISTURBED.
- REMOVE AND DISPOSE OF OFFSITE THE BARB WIRE FENCE ON THE SOUTH SIDE OF 19TH STREET SE AS REQUIRED TO CONSTRUCT THE IMPROVEMENTS. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO THE "12" PVC WATERMAIN" BID ITEM.
- THE CONTRACTOR SHALL PAY SPECIAL ATTENTION TO THE CONSTRUCTION OF THE 12" WATERMAIN AND 8" WATERMAIN THAT CROSS 40TH AVENUE SE AT APPROXIMATELY STA. 48+93 AND STA. 49+29 RESPECTIVELY. RESTRAIN ALL OF THE BENDS AND THE PIPE SECTIONS BETWEEN THE BENDS. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO THE "12" PVC WATERMAIN" AND "8" PVC WATERMAIN" BID ITEMS RESPECTIVELY.
- REMOVE AND DISPOSE OF OFFSITE THE ASPHALT BIKE TRAIL, RECYCLED ASPHALT BASE AND SECTION OF CONCRETE TRAIL AS REQUIRED TO CONSTRUCT THE 12" WATERMAIN AND ANY OF THE SERVICE LINES. AT THE TIME THAT DISRUPTION TO THE BIKE TRAIL BEGINS THE CONTRACTOR SHALL SET "BIKE PATH CLOSED" SIGNS AT BOTH ENDS OF THE PROJECT AND SHALL NOTIFY THE MANDAN PARKS AND RECREATION DISTRICT. REMOVE AND SALVAGE THE EXISTING SIGNS ALONG THE BIKE TRAIL. A LOCATION TO STORE THEM THROUGHOUT THE DURATION OF THE PROJECT WILL BE DETERMINED DURING CONSTRUCTION.
- THE CONTRACTOR SHALL COORDINATE WORK AROUND THE EXISTING POWER POLES ON THE SOUTH SIDE OF 19TH STREET SE WITH THE APPROPRIATE UTILITY COMPANY. ALL EXPENSES INCURRED FROM PROTECTING AND TEMPORARILY SUPPORTING THE POWER POLES IF REQUIRED SHALL BE BORNE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL REMOVE AND STOCKPILE ANY TOPSOIL ALONG 40TH AVENUE SE AND 19TH STREET SE IN AREAS TO BE DISTURBED. TWO STOCKPILE LOCATIONS WILL BE ALLOWED ON THE WEST SIDE OF 40TH AVENUE SE AND WILL BE DETERMINED AT THE TIME OF CONSTRUCTION. THE TOPSOIL WILL BE REPLACED BY THE PAVING CONTRACTOR.
- THE 12" x 8" WYES TO BE CONSTRUCTED ALONG 19TH STREET SE SHALL BE A STRAP ON SADDLE TYPE WITH A MINIMUM OF 2 STAINLESS STEEL MOUNTING STRAPS. VERIFY THE LOCATION AND ELEVATION OF THE EXISTING 8" WATERMAIN AT STA. 49+31.17. ALLOW THE ENGINEER 48 HOURS TO REVIEW THE LOCATION TO DETERMINE IF ANY ADJUSTMENTS WILL BE NEEDED TO THE WATERMAIN.
- CONSTRUCT A 4" x 4" x 8" INSULATION BOARD 6" ABOVE THE TOP OF THE 8" WATERMAIN AND 2" WATER SERVICE LINES AT ALL CROSSINGS OF THE EXISTING STORM SEWER ON THE NORTH SIDE OF 19TH STREET SE.
- REMOVE AND DISPOSE OF OFFSITE THE TREES AS REQUIRED TO CONSTRUCT THE PROPOSED UTILITIES.
- THE CONTRACTOR SHALL MAINTAIN ACCESS TO THE GRAY OIL COMPANY AT ALL TIMES.

SYLVESTER'S INDUSTRIAL PARK 2ND ADDITION

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LAKWOOD COMMERCIAL PARK 3RD ADDITION



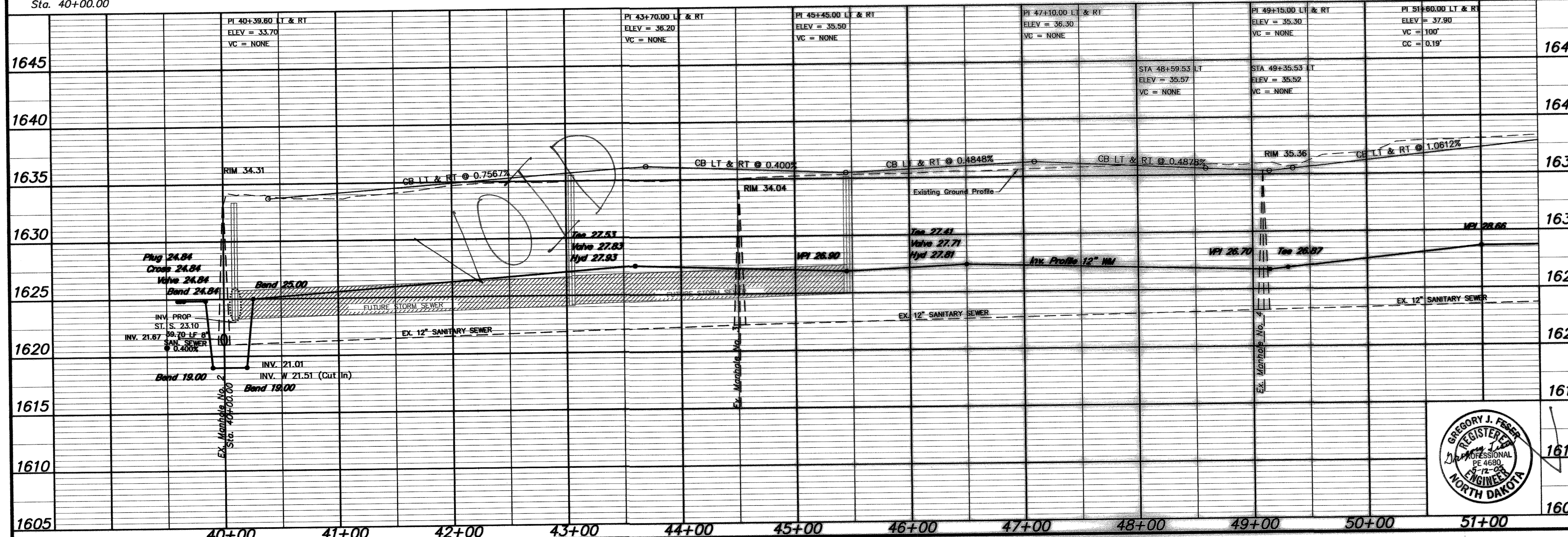
- Sta. 39+60.00 12" Plug
- Sta. 39+62.00 12" x 12" Cross
- Sta. 39+66.50 12" Gate Valve & Box
- Sta. 39+84.00 12" 45° Vertical Bend
- Sta. 39+90.00 12" 45° Vertical Bend
- Sta. 40+30.00 12" 45° Vertical Bend
- Sta. 40+36.00 12" 45° Vertical Bend

- Sta. 43+60.00 12" x 8" Tee, 3.00 LF 8" WM, 8" Gate Valve, 7.00 LF 8" WM, 8" Hydrant
- Sta. 46+50.00 12" x 8" Tee, 70.2 LF 8" WM, 8" Gate Valve & Box, Connect/Verify

- Sta. 49+31.17 12" x 8" Tee, 70.2 LF 8" WM, 8" Gate Valve & Box, Connect/Verify
- End Watermain Quantities Sta. 52+04.76
- End San. Sewer Quantities Sta. 52+49.52

NOTE: ALL WATER MAIN IS 30.00' LEFT OF CENTERLINE UNLESS OTHERWISE STATED

Begin Watermain Quantities Sta. 39+60.00
Begin San. Sewer Quantities Sta. 40+00.00



APPROXIMATE QUANTITIES

San. Sewer Items	Quantity
8" Sanitary Sewer	40 LF
12" x 6" Wye Branch	8 EA
Subcut Gravel	100 TON
6" Sewer Service Pipe	336 LF
6" 45° Bend	8 EA

Watermain Items	Quantity
12" PVC Watermain	1245 LF
8" PVC Watermain	90 LF
8" Hydrant	2 EA
12" Gate Valve & Box	1 EA
8" Gate Valve & Box	3 EA
Ductile Iron Fittings	(incidental)
2" Water Copper Serv. Pipe	210 LF
2" Water Serv. Connection	3 EA
2" Ball Valve Curb Stop And 2" Box	3 EA
4" Insulation Board	64 SF
Remove Bike Trail	1212 SF
Remove Trees	1 LS
Remove & Stockpile Topsoil	1 LS

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19TH STREET SE
 FROM 40TH AVENUE SE EAST TO
 300' EAST OF 43RD AVENUE SE

WATER AND SEWER IMPROVEMENT DISTRICT 47
 SHEET NO. 5 OF 6 PROJECT 2005-14
 MANDAN, ND MAY 11, 2005

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 Record Drawing