

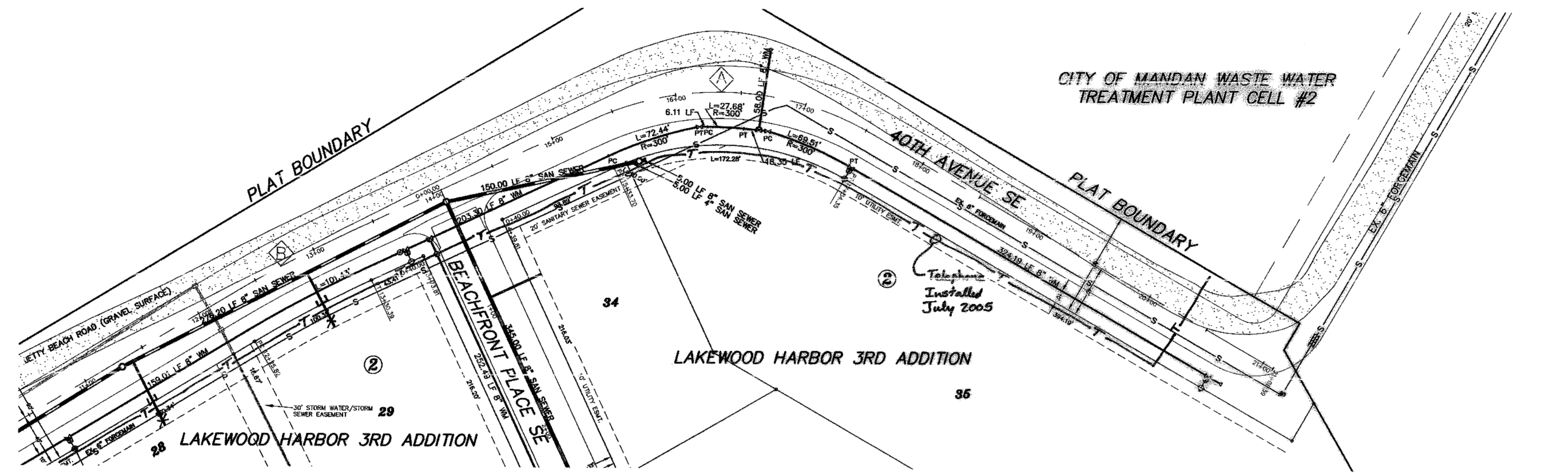
SCALE - 1"=50'

Sta. 11+29.57 5.00' Rt.
=San. Sewer Sta. 3+50.00 Bk.
Manhole No. 10

Sta. 14+06.81 10.00' Rt.
=San. Sewer Sta. 2+76.20 Bk.
Manhole No. 11

Sta. 15+57.44 42.49' Rt.
=San. Sewer Sta. 1+50.00 Bk.
Manhole No. 12

Sta. 15+63.55 43.03' Rt.
=San. Sewer Sta. 0+05.00 Bk.
8" Cap



CITY OF MANDAN WASTE WATER TREATMENT PLANT CELL #2

<p>Sta. 10+66.81 8" x 6" Tee 3.00 LF 6" WM 6" Gate Valve & Box 7.00 LF 6" WM 6" Hydrant</p> <p>Begin Watermain Quantities Sta. 10+66.81</p> <p>Begin San. Sewer Quantities Sta. 11+29.57 5.00' Rt.</p>	<p>Sta. 13+63.81 8" x 6" Tee 3.00 LF 6" WM 6" Gate Valve & Box 7.00 LF 6" WM 6" Hydrant</p> <p>Sta. 13+83.81 8" Gate Valve & Box 8" x 8" Tee</p>	<p>Sta. 16+16.21 25.69' Rt. 8" 11 1/4" Bend</p> <p>Sta. 16+67.41 26.58' Rt. 8" x 8" Tee 58.00 LF 8" WM 8" Plug Inv. 26.2</p> <p>Sta. 16+75.09 26.12' Rt. 8" 11 1/4" Bend</p>	<p>Sta. 17+54.35 8" x 6" Tee 3.00 LF 6" WM 6" Gate Valve & Box 7.00 LF 6" WM 6" Hydrant</p> <p>Sta. 20+78.54 8" Plug</p> <p>End Watermain Quantities Sta. 20+78.54</p> <p>End San. Sewer Quantities Sta. 15+57.44 42.49' Rt.</p>
--	--	--	--

- CONSTRUCTION NOTES (THIS SHEET)**
- BACKFILL SHALL BE CLASS 'A'.
 - THE PROFILE SHOWS THE EXISTING GROUND CENTERLINE OF THE STREETS. THE PLAN VIEW SHOWS THE EXISTING GROUND CONTOURS. THIS WILL BE THE CONDITION AT THE TIME OF CONSTRUCTION. UPON COMPLETION OF THE CONSTRUCTION OF THE WATER/SEWER THE EARTHWORK CONTRACTOR WILL BUILD THE STREETS UP TO THE PROPOSED CURB GRADES.
 - 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 TO STABILIZE THE TRENCH FOR THE CONSTRUCTION OF THE DEEPER PORTIONS OF THE SEWERMAINS.
 - THE STORM SEWER IS NOT PART OF THIS CONTRACT.
 - PROTECT ALL SURVEY MONUMENTS. MONUMENTS DISTURBED OR DESTROYED SHALL BE REPLACED BY THE OWNER'S REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
 - THE CONTRACTOR SHALL PROVIDE ALL SIGNAGE AND TRAFFIC CONTROL AS NECESSARY TO CONSTRUCT THE SANITARY SEWER AND WATERMAIN. THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE RESIDENCE SOUTHWEST OF THE PROJECT AT ALL TIMES. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO OTHER BID ITEMS.
 - ALL HYDRANTS SHALL HAVE 8.5' BURY DEPTH AND THE HYDRANT NOZZLE SHALL BE 18" ABOVE THE FINAL PLAN GROUND ELEVATION.
 - THERE ARE APPROXIMATELY 10 TREES ALONG THE NORTHWEST SIDE OF THE PROJECT. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THEM OFFSITE. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO THE LUMP SUM BID FOR "TREE REMOVAL".
 - THE SPEED LIMIT SIGN ON THE EAST SIDE OF 40TH AVENUE SE SHALL BE REMOVED, SALVAGED AND RELOCATED AS DIRECTED BY THE ENGINEER.
 - THERE ARE A NUMBER OF CROSSINGS OF THE EXISTING 6" SANITARY SEWER FORCEMAIN. PROVIDE ADDITIONAL CAUTION NOT TO DAMAGE THIS LINE.
 - THERE IS A LEAF/GRASS CLIPPING RECYCLING CONTAINER LOCATED AT APPROXIMATELY STA. 20+00 ON THE SOUTH SIDE OF THE GRAVEL ROAD. COORDINATE WITH THE CITY OF MANDAN PUBLIC WORKS DEPARTMENT TO HAVE THE CONTAINER RELOCATED ALONG WITH THE SIGN AND GRAVEL SURFACING

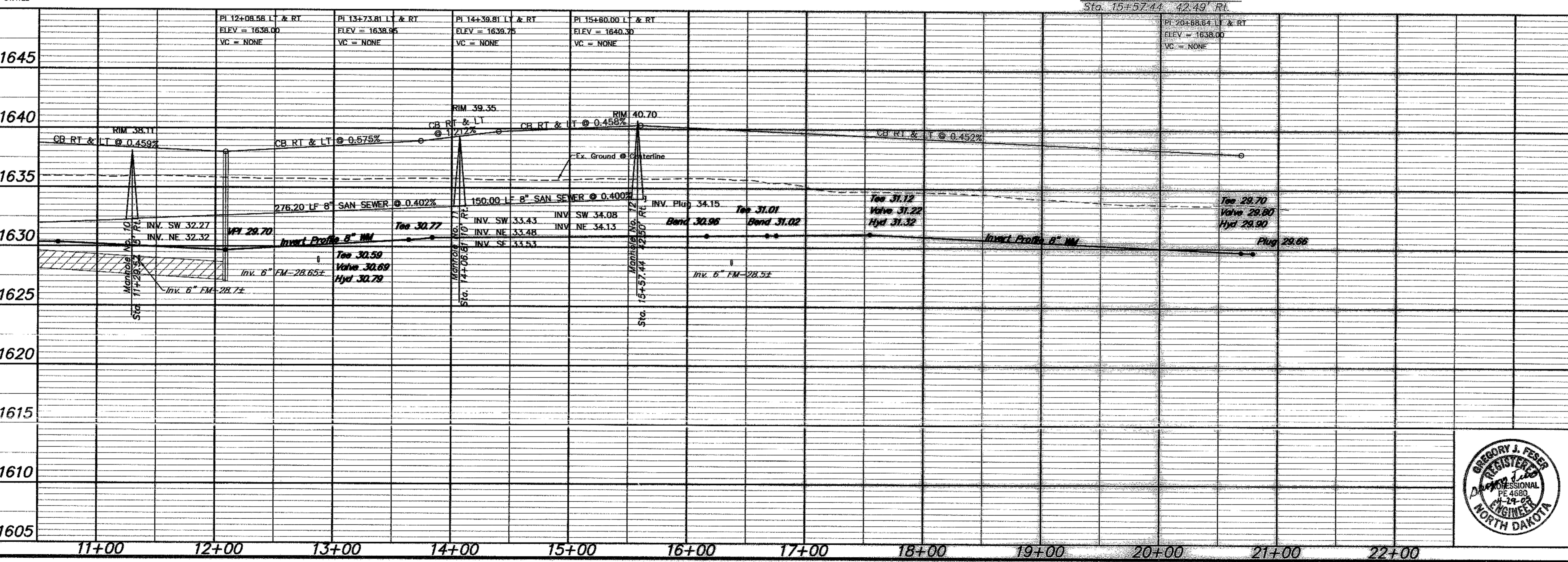
Lot	Block	6" Sewer Service	4" Sewer Service	8" x 4" Wye Branch	6" Gate Valve	7" Manhole	8" Plug	6" Hydrant
28	2	54.3	1	1	33.21	---	---	---
29	2	46.7	1	1	33.72	---	---	---
35	2	5.0	---	---	34.43	---	---	---
TOTAL		105.9	2	3				

APPROXIMATE WYE LOCATIONS

STATION	DIRECTION	LOT	BLOCK
FROM MANHOLE 10 TO MANHOLE NO. 11			
2+05	SE	28	2
1+58	SE	29	2
FROM MANHOLE 11 TO MANHOLE NO. 12			
1+45	E	35	2

Manhole Number	11"	12"
Castling Elev.	39.35	40.70
Top P.C. Section	37.81	39.66
Invert Elev. (a)	33.43	34.08
Invert Elev. (b)	33.48	34.13
Invert Elev. (c)	33.53	---
Length P.C. Section	4.38	5.58

NOTE:
ALL WATER MAINS
SHALL BE LAYED
ON THE RIGHT
OF CENTERLINE
UNLESS OTHERWISE
STATED



CURVE DATA

CURVE	RADIUS	LENGTH	TANGENT	DELTA
A	230.00	220.66'	119.65'	54°58'05"
B	1000.00	104.57'	52.33'	05°59'29"

APPROXIMATE QUANTITIES

San. Sewer Items	Quantity
8" Sanitary Sewer	431 LF
8" x 4" Wye Branch	3 EA
Concrete Manhole	2 EA
4" Sewer Service Pipe	106 LF
4" 45" Bend	2 EA
Tree Removal	1 LS

Watermain Items	Quantity
6" PVC Watermain	30 LF
8" PVC Watermain	1040 LF
6" Hydrant	3 EA
6" Gate Valve & Box	3 EA
8" Gate Valve & Box	1 EA
Ductile Iron Fittings	(incidental)

SWENSON, HAGEN & COMPANY P.C.
 909 Basin Avenue P.O. Box 1135
 Bismarck, North Dakota 58504
 shc@swensonhagen.com
 Phone (701) 228-3600
 Fax (701) 228-2606

GREGORY J. FEJER
 REGISTERED
 PROFESSIONAL
 ENGINEER
 PE 4680
 NORTH DAKOTA

40TH AVENUE SE
 FROM 280' SW OF BEACHFRONT PLACE SE TO THE
 SE COR. OF MANDAN WASTEWATER TREAT. PLANT

1610

WATER AND SEWER IMPROVEMENT PROJECT 2005-17
 SHEET NO. 5 OF 8

1605 MANDAN, ND APRIL 22, 2005

Record Drawing COPYRIGHT 2005 SWENSON, HAGEN & CO.