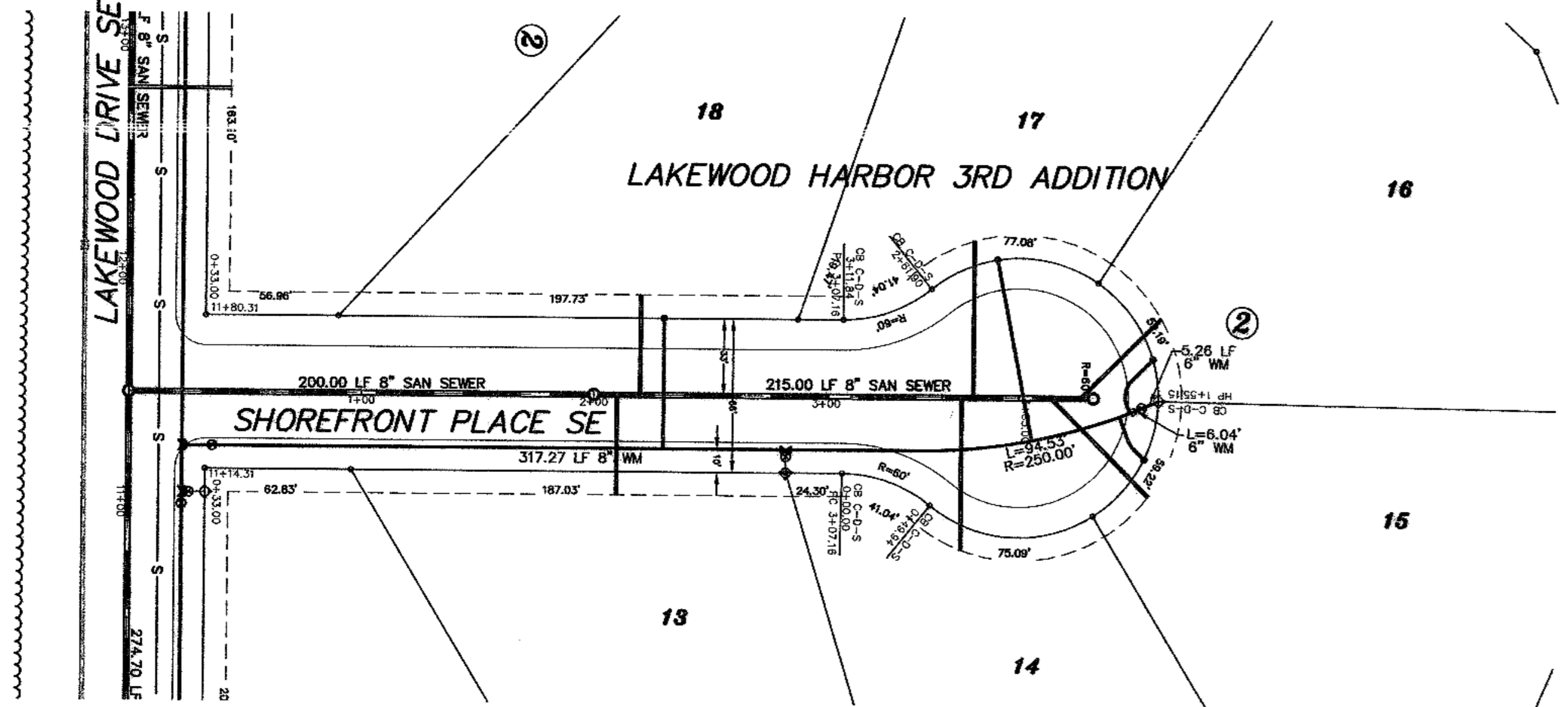


SCALE - 1"=50'

Sta. 0+00.00 CL
=San. Sewer Manhole No. 4 Sta. 0+00.00 Ahd.

Sta. 2+00.00 CL
=San. Sewer Manhole No. 14 Sta. 2+00.00 CL
=San. Sewer Sta. 0+00.00 Bk.

Sta. 4+15.00 CL
=San. Sewer Manhole No. 15 Sta. 2+15.00 Bk.



APPROXIMATE WYE LOCATIONS

STATION	DIRECTION	LOT	BLOCK
FROM MANHOLE NO. 14 TO MANHOLE NO. 15			
0+10	E	13	2
0+20	W	18	2
1+58	E	14	2
1+63	W	17	2
1+97	NE	15	2
2+09	NW	16	2

Lot	Block	4" Sewer Service	4" 22 1/2" Bend	4" 45" Bend	8" x 4" Wye Branch At The Curb	1" Water Service Invert	1" Water Service Pipe Connection	1" Ball Valve Curb Stop	1" Ball Valve & 1 1/2" Box At The Curb Stop
13	2	43.0	1	1	29.22	1	1	1	32.40
14	2	65.5	1	1	30.05	1	1	1	33.10
15	2	59.6	1	1	30.14	1	1	1	33.40
16	2	48.7	1	1	30.09	1	1	1	33.50
TOTAL		327.0	4	6	184.5	4	4	4	

Manhole Number	14	15
Casting Elev.	39.83	40.70
Top P.C. Section	38.79	39.66
Invert Elev. (0)	28.40	29.31
Invert Elev. (2)	28.45	29.31
Length P.C. Section	10.39	10.35

Sta. 0+23.00
8" x 8" Tee

Sta. 0+36.00
8" Gate Valve & Box

Sta. 2+82.86
8" x 6" Tee
3.00 LF 6" WM
6" Gate Valve & Box
7.00 LF 6" WM
6" Hydrant

Sta. 4+43.00 0.98' Rt.
6" Hydrant

Sta. 4+35.85 4.05' Rt.
6" Gate Valve & Box

Sta. 4+42.85 5.34' Rt.
8" x 6" Reducer

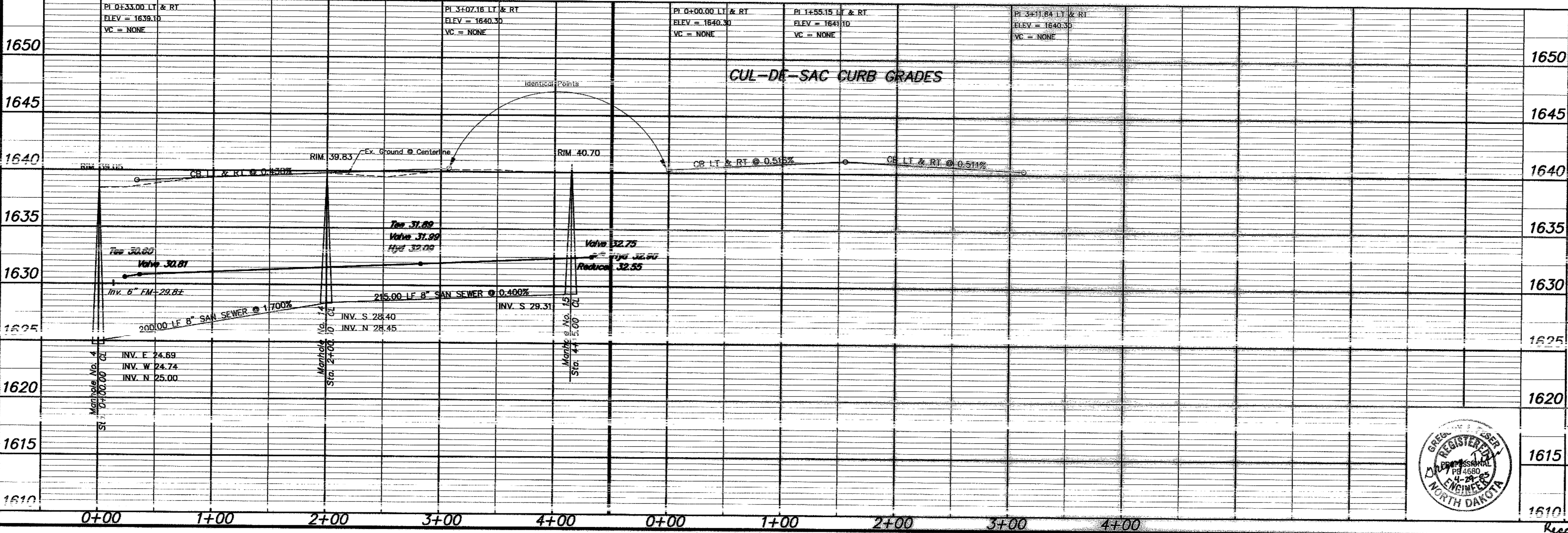
End Watermain Quantities
Sta. 4+43.00 0.98' Rt.

End San. Sewer Quantities
Sta. 4+15.00

Begin Watermain Quantities
Sta. 0+23.00

Begin San. Sewer Quantities
Sta. 0+00.00

NOTE:
ALL WATER MAINS
5' 23.00' RIGHT
OF CENTERLINE
UNLESS OTHERWISE
STATED



- 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.
 - ALL HYDRANTS SHALL HAVE 8.5' BURY DEPTH AND THE HYDRANT NOZZLE SHALL BE 18" ABOVE THE FINAL PLAN GROUND ELEVATION.
 - THERE ARE A NUMBER OF CROSSINGS OF THE EXISTING 6" SANITARY SEWER FORCEMAIN. PROVIDE ADDITIONAL CAUTION NOT TO DAMAGE THIS LINE.

APPROXIMATE QUANTITIES

San. Sewer Items	Quantity
8" Sanitary Sewer	415 LF
8" x 4" Wye Branch	6 EA
Concrete Manhole	2 EA
4" Sewer Service Pipe	327 LF
4" 45" Bend	4 EA

Watermain Items

Watermain Items	Quantity
6" PVC Watermain	21 LF
8" PVC Watermain	412 LF
6" Hydrant	2 EA
6" Gate Valve & Box	2 EA
8" Gate Valve & Box	1 EA
Ductile Iron Fittings	(incidental)
1" Water Copper Serv. Pipe	185 LF
1" Water Serv. Connection	4 EA
1" Ball Valve Curb Stop And 1 1/2" Box	4 EA

SWENSON, HAGEN & COMPANY P.C.

309 Basin Avenue P.O. Box 1105
Bismarck, North Dakota 58504
sheng@swensonsuhagen.com
Phone (701) 293-2600
Fax (701) 293-8606

Surveying
Hydrology
Land Planning
Civil Engineering
Landscape & Site Design
Construction Management



SHOREFRONT PLACE SE
FROM THE INTERSECTION OF LAKEWOOD DRIVE SE
NORTH TO THE CUL-DE-SAC

1615 WATER AND SEWER IMPROVEMENT PROJECT 2005-17
SHEET NO. 7 OF 8
1610 MANDAN, ND APRIL 22, 2005
Record Drawing COPYRIGHT 2005 SWENSON, HAGEN & CO.