

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+60 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 INSTALL AN ADDITIONAL BEND ON THE SEWER SERVICES FOR LOTS 7, 8 AND 9 OF BLOCK 2 IN ORDER TO CROSS OVER THE TOP OF THE 8" WATERMAIN.
- CONTRACTOR SHALL REMOVE AND SALVAGE THE WOODEN BROKEN OAR SIGN AT STA. 6+20 TO THE OWNER OF THE BROKEN OAR. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO OTHER BID ITEMS.
- CONTRACTOR SHALL PROTECT THE TWO TREES REMAINING ON LOT 2 BLOCK 3 AS SHOWN ON THE PLAN. ALL OTHER TREES WILL BE REMOVED BY OTHERS PRIOR TO CONSTRUCTION.
- 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 CONSTRUCTED BY OTHERS.
- CONTRACTOR SHALL REMOVE AND DISPOSE OF OFFSITE ASPHALT, CURB AND GUTTER AS REQUIRED TO REMOVE AND RELAY THE EXISTING 20" SANITARY SEWER STUB OUT FROM THE EXISTING MANHOLE AT THE PROPOSED GRADE. THE CONTRACTOR SHALL 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. REMOVING AND RELAYING THE 20" STUB OUT SHALL BE PAID FOR AT THE UNIT PRICE FOR 8" SANITARY SEWER REMOVING AND REPLACING SAID ASPHALT AND CURB AND GUTTER. REMOVAL SHALL BE CONSIDERED INCIDENTAL TO THE "CONCRETE AND ASPHALT REMOVAL" BID ITEM.
- ALL SANITARY SEWER MANHOLES SHALL HAVE INTEGRAL BASES WITH BOOTS.

LEGEND

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

APPROXIMATE WYE LOCATIONS

STATION	DIRECTION	LOT	BLOCK
FROM EX. MANHOLE TO MANHOLE NO. 1			
2+55	S	1	3
2+77	N	1	9
3+37	S	1	9
3+50	N	3	3
3+72	SW	3	3
FROM MANHOLE NO. 1 TO MANHOLE NO. 2			
0+67	SW	4	3
1+53	NE	7	2
1+63	SW	5	3

Lot	Block	4" Sewer Service	4" x 45" Bend	8" x 4" Wye Branch	1" Copper Water Service Pipe	1" Water Service Pipe Connection	1" Ball Valve Curb Stop	1 1/4" Box
1	3	49	1	56	1	1		
9	2	36	2	1				
2	3	48	1	54	1	1		
8	2	43	2	1				
3	3	41		1	42	1	1	
4	3	51	1	1	56	1	1	
7	2	38	1	1				
5	3	47	1	56	1	1		
TOTAL		353	9	264	7	5		

Manhole Number	1	2
Casting Elev.	36.46	38.20
Top P.C. Section	35.42	37.16
Invert Elev. (a)	27.87	29.00
Invert Elev. (b)	27.95	29.10
Invert Elev. (c)		29.10
Length P.C. Section	7.55	8.16

APPROXIMATE QUANTITIES

San. Sewer Items	Quantity
8" San. Sewer	630-627 LF
8" x 4" Wye Branch	8 EA
Pitrun Gravel	135 TON
Subcut Gravel	20 TON
Concrete Manhole	2 EA
4" Sewer Service Pipe	353 LF
4" x 45" Bend	9 EA
Rock Excavation	5 CY
Concrete and Asphalt Removal	1 LS
Watermain Items	Quantity
Pitrun Gravel	205 TON
Subcut Gravel	20 TON
Rock Excavation	5 CY
6" PVC Watermain	20 LF
8" PVC Watermain	642 LF
6" Hydrant	2 EA
6" Gate Valve & Box	2 EA
8" Gate Valve & Box	2 EA
Ductile Iron Fittings	(incidental)
1" Water Copper Serv. Pipe	264 LF
1" Water Serv. Connection	5 EA
1" Ball Valve Curb Stop	5 EA
And 1 1/4" Box	

- SAN SWR - PVC - SDR 35
- MANHOLES - PRECAST CONC. W/ BOOTS
- WATERMAIN - PVC C900 C150

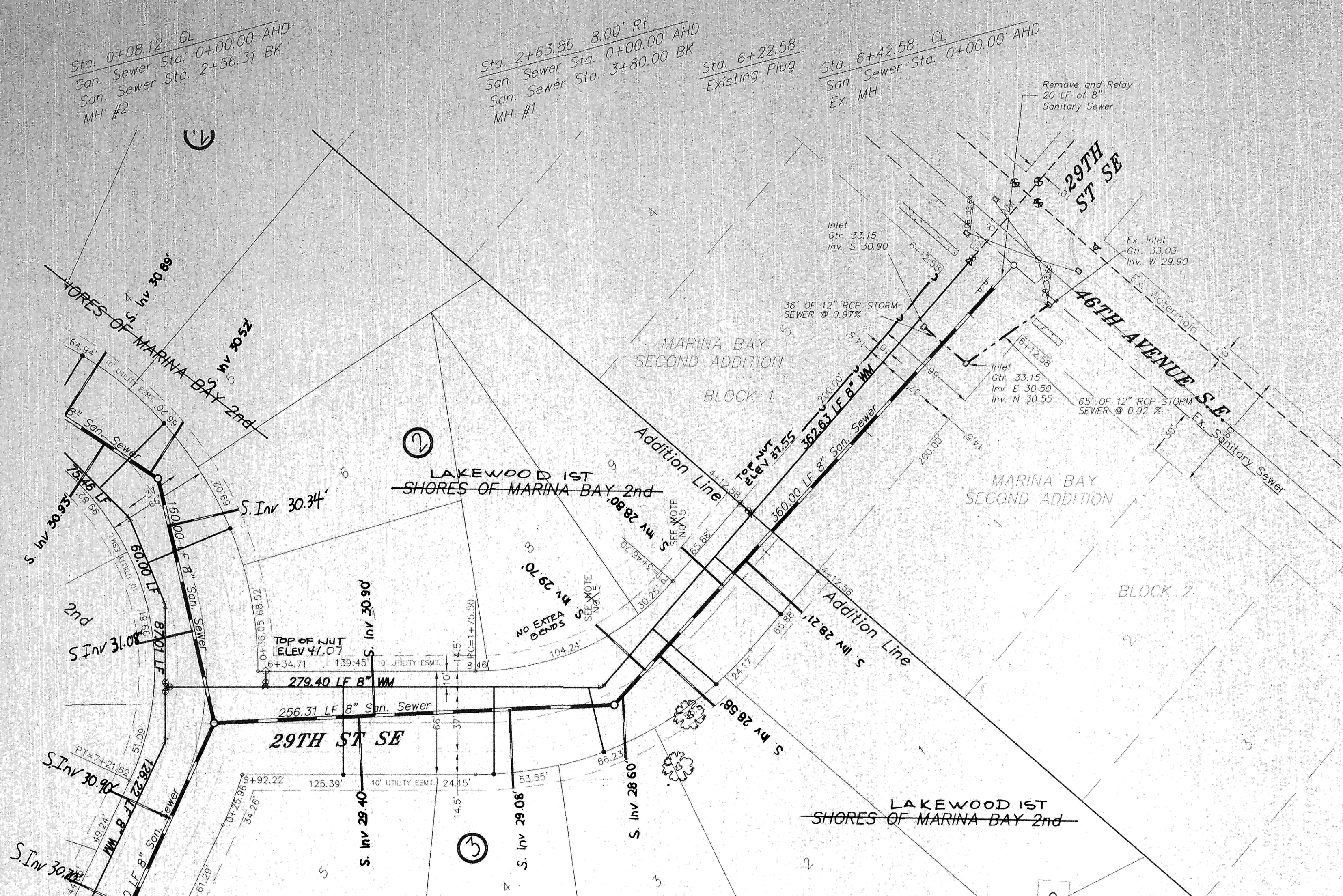
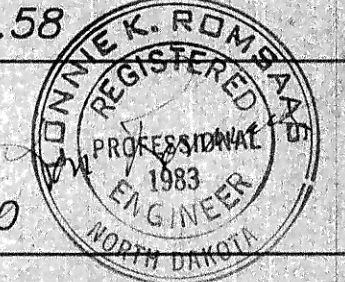
ALL SERVICE LINES ON THIS SHEET WERE INSTALLED PER PLAN
ALL WATER CURB STOPS ARE APPROX. 8' DEEP AT THE PROP. LINE

RECORD DRAWING

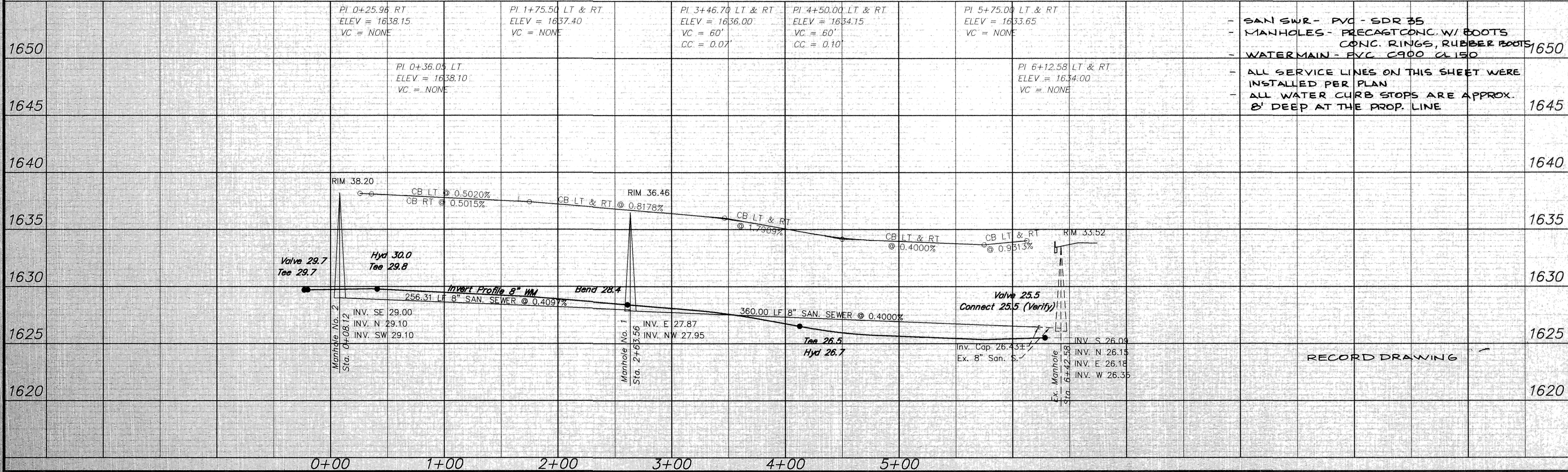
SWENSON, HAGEN & CO. P.C.
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29th ST SE
BAY SHORE BEND SE TO 46TH AVENUE
FROM STA. 0+00.00 TO STA. 6+42.58

IMPROVEMENT PROJECT 2000-32
SHEET NO. 2 OF 6
MANDAN, ND NOVEMBER 8, 2000



Sta. 0+08.12 CL San. Sewer Sta. 0+00.00 AHD San. Sewer Sta. 2+56.31 BK MH #2
Sta. 2+63.86 8.00' RT San. Sewer Sta. 0+00.00 AHD San. Sewer Sta. 3+80.00 BK MH #1
Sta. 6+22.58 Existing Plug
Sta. 6+42.58 CL San. Sewer Sta. 0+00.00 AHD Ex. MH
Remove and Relay 20 LF of 8" Sanitary Sewer
Inlet Gtr. 33.15 Inv. S 30.90
36" OF 12" RCP STORM SEWER @ 0.97%
Inlet Gtr. 33.15 Inv. E 30.50 Inv. N 30.55
65" OF 12" RCP STORM SEWER @ 0.94%
Ex. Inlet Gtr. 33.03 Inv. W 29.90
279.40 LF 8" WM
256.31 LF 8" San. Sewer
360.00 LF 8" San. Sewer
12.82 MI S
29th St SE
46th Avenue S.E.
LAKESIDE 1ST SHORES OF MARINA BAY 2nd
LAKESIDE 1ST SHORES OF MARINA BAY 2nd
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Begin Watermain Quantities
Sta. -(0+23.15)
Begin San. Sewer Quantities
Sta. 0+08.12

Sta. -(0+23.15)
8" x 8" Tee

Sta. -(0+20.15)
8" Gate Valve & Box
w/ROD

Sta. 0+41.05
8" x 6" Tee DI
3.00 LF 6" WM
6" Gate Valve & Box w/ROD, WATERLOUS
7.00 LF 6" WM
6" Hydrant AFC

Sta. 4+12.58
8" x 6" Tee DI
3.00 LF 6" WM
6" Gate Valve & Box w/ROD, WATERLOUS
7.00 LF 6" WM
6" Hydrant AFC

Sta. 6+28.50
Connect
8" Gate Valve & Box
w/ROD WATERLOUS

End Watermain Quantities
Sta. 6+28.50
End San. Sewer Quantities
Sta. 6+42.58

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