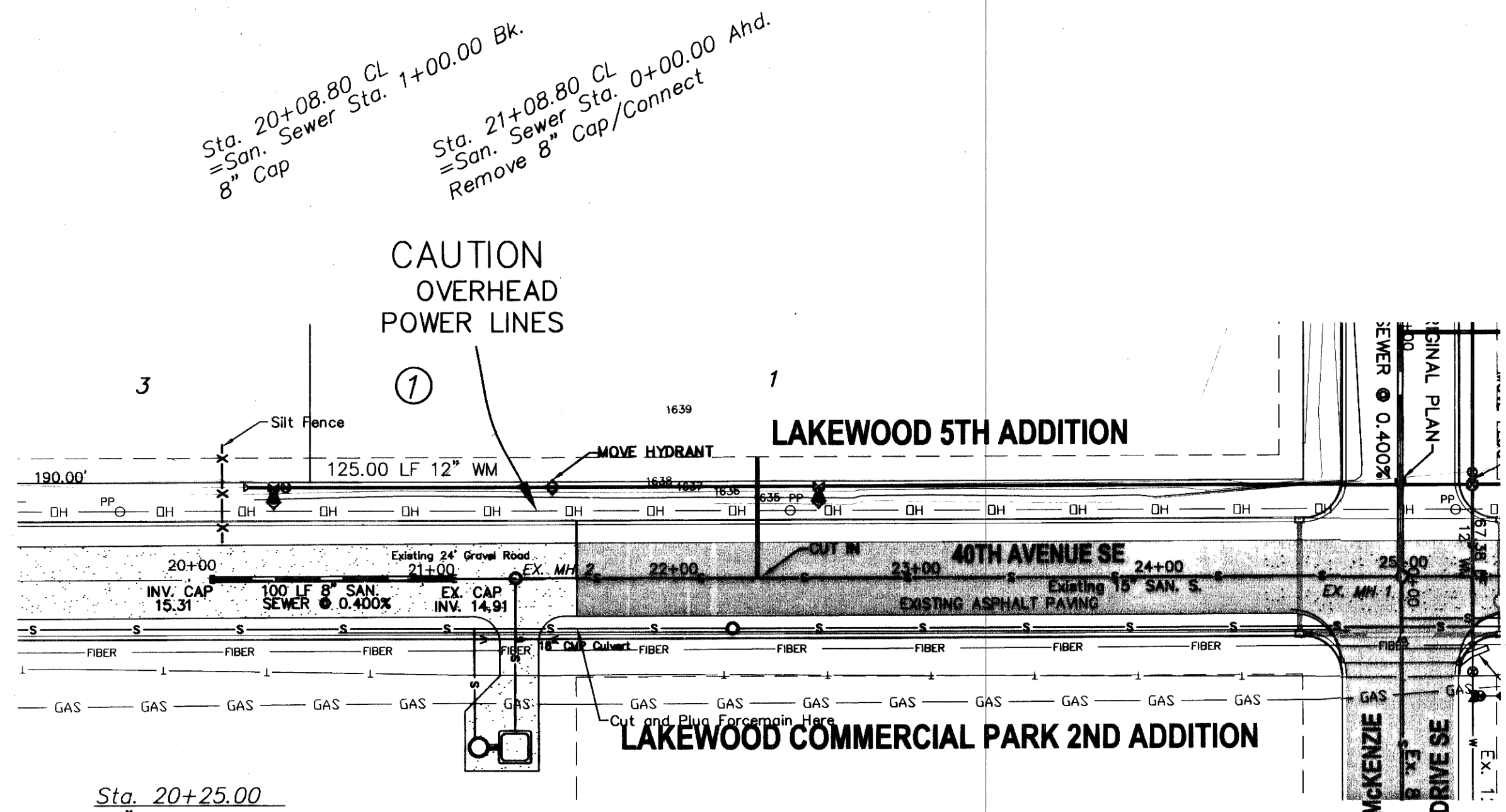


SCALE - 1"=50'



Sta. 20+08.80 CL San. Sewer Sta. 1+00.00 Bk. 8" Cap  
 Sta. 21+08.80 CL San. Sewer Sta. 0+00.00 Ahd. Remove 8" Cap/Connect

CAUTION OVERHEAD POWER LINES

125.00 LF 12" WM  
 MOVE HYDRANT

40TH AVENUE SE  
 EXISTING ASPHALT PAVING

LAKWOOD COMMERCIAL PARK 2ND ADDITION

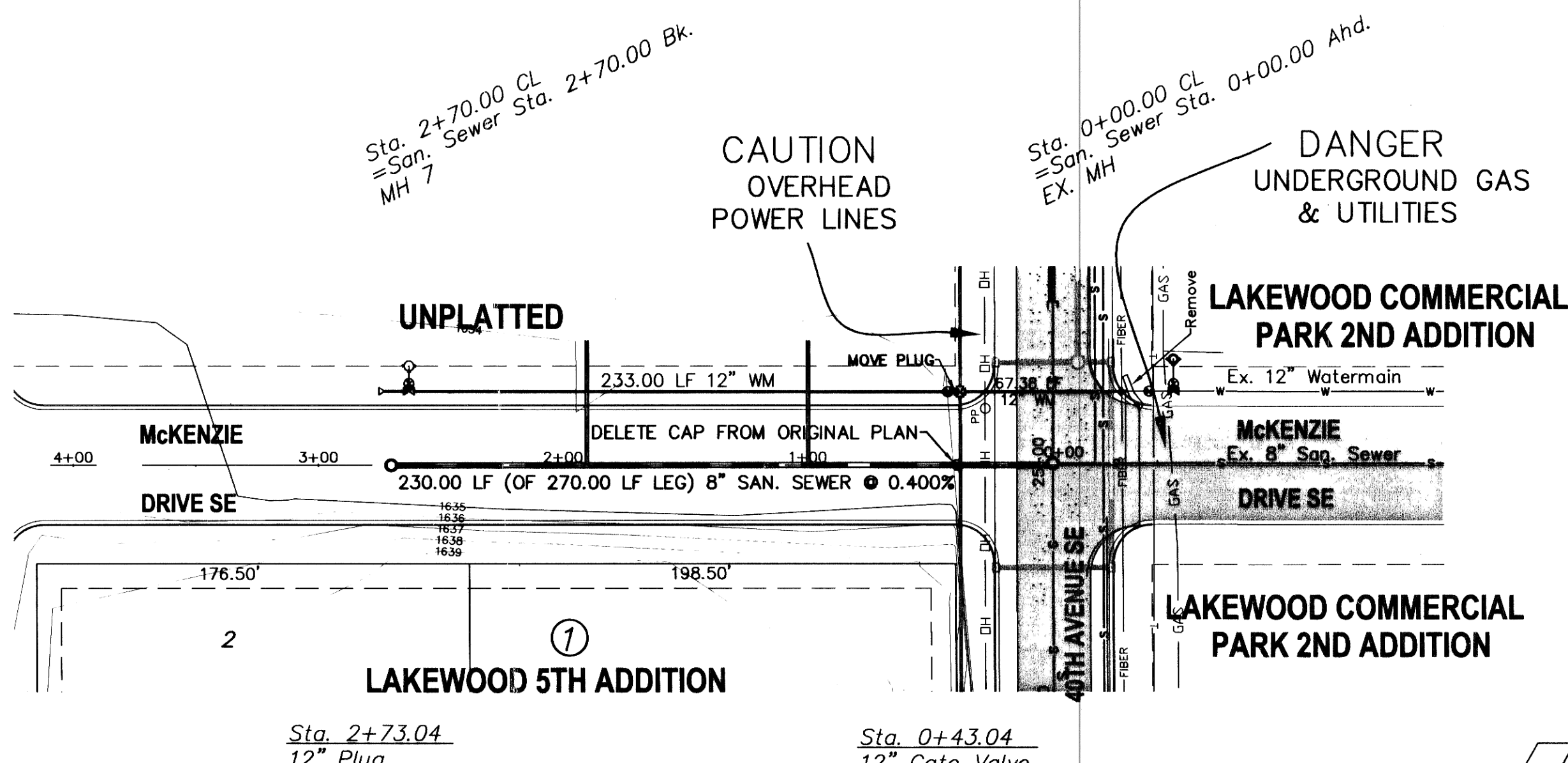
Sta. 20+25.00 12" Plug  
 Sta. 20+35.00 12" x 8" Tee  
 4.50 LF 8" WM  
 8" Gate Valve & Box  
 1.50 LF 8" WM  
 8" Hydrant

Sta. 20+08.80 End Sewermain Quantities  
 Sta. 20+40.00 12" Gate Valve & Box  
 Sta. 20+25.00 End Watermain Quantities

Sta. 20+08.80 Begin Sewermain Quantities  
 Sta. 21+49.98 End Watermain Quantities

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

SCALE - 1"=50'



Sta. 2+70.00 CL San. Sewer Sta. 2+70.00 Bk. MH 7  
 Sta. 0+00.00 CL San. Sewer Sta. 0+00.00 Ahd. EX. MH

CAUTION OVERHEAD POWER LINES  
 DANGER UNDERGROUND GAS & UTILITIES

UNPLATTED  
 233.00 LF 12" WM  
 MOVE PLUG

230.00 LF (OF 270.00 LF LEG) 8" SAN. SEWER @ 0.400%

LAKWOOD COMMERCIAL PARK 2ND ADDITION

Sta. 2+73.04 12" Plug  
 Sta. 2+63.04 12" x 8" Tee  
 3.00 LF 8" WM  
 8" Gate Valve & Box  
 10.00 LF 8" WM  
 8" Hydrant

Sta. 2+70.00 End Sewermain Quantities  
 Sta. 2+73.04 End Watermain Quantities

Sta. 0+43.04 12" Gate Valve & Box  
 Sta. 0+40.04 Begin Sewermain Quantities  
 Sta. 0+40.04 End Watermain Quantities

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

- CONSTRUCTION NOTES (THIS SHEET)**
- THIS CHANGE ORDER IS AN EXTENSION OF THE WATER AND SANITARY SEWER AROUND THE SOUTH END OF THE ORIGINAL PROJECT.
  - BACKFILL SHALL BE CLASS 'A'.
  - THE CONTRACTOR SHALL CLOSE 40TH 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 NORTH AND SOUTH ENDS OF THE PROJECT SHALL BE MAINTAINED UNTIL THE PAVING CONTRACTOR TAKES OVER CONTROL OF THE SITE. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO THE "15" SANITARY SEWER" BID ITEM.
  - THE EXISTING GROUND PROFILE FOR THE CENTER OF THE ROAD AND CONTOURS OF THE SURROUNDING AREA ARE 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.
  - THE SHORT PIECE OF 8" SANITARY SEWER AND CAP THAT WAS TO BE REMOVED FROM THE EXISTING MANHOLE IN THE INTERSECTION OF MCKENZIE DRIVE SE AND 40TH AVENUE SE UNDER THE ORIGINAL PLAN MAY BE SET INTO THE WEST INVERT OF MANHOLE NO. 7 TO SEAL THAT INVERT. SAID WORK TO BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR THE "CONCRETE MANHOLE" BID ITEM.
  - AT STA. 22+35 CUT IN A 15" X 6" STRAP ON SADDLE TYPE WYE WITH A MINIMUM OF 2 STAINLESS STEEL MOUNTING STRAPS. REMOVE THE ASPHALT PAVEMENT AS REQUIRED TO MAKE THE CONNECTION. AFTER THE SERVICE IS CONSTRUCTED PATCH THE ASPHALT WITH 4" OF CLASS V GRAVEL.
  - THE CONTRACTOR SHALL COORDINATE WORK AROUND THE EXISTING POWER POLES ON THE WEST SIDE OF 40TH AVENUE SE WITH THE APPROPRIATE UTILITY COMPANY. ALL EXPENSES INCURRED FROM PROTECTING AND TEMPORARILY SUPPORTING THE POWER POLES SHALL BE BORNE BY THE CONTRACTOR.
  - AT STA. 22+08.80 REMOVE THE EXISTING CAP. CONNECT TO THE EXISTING 8" SANITARY SEWER AND CONSTRUCT THE NEW 8" SANITARY SEWER. REMOVE, SALVAGE AND REPLACE THE EXISTING GRAVEL SURFACE AS REQUIRED TO CONSTRUCT THE SEWER. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR THE "8" SANITARY SEWER" BID ITEM.
  - THE CONTRACTOR SHALL REMOVE AND STOCKPILE ANY TOPSOIL ALONG 40TH AVENUE SE AND MCKENZIE DRIVE SE IN AREAS TO BE DISTURBED. TOPSOIL WILL BE REPLACED BY THE PAVING CONTRACTOR.
  - CONSTRUCT A 12" HYDRANT EXTENSION ON THE EXISTING HYDRANT IN THE NORTHEAST CORNER OF THE INTERSECTION OF 40TH AVENUE SE AND MCKENZIE DRIVE SE.

**APPROXIMATE WYE LOCATIONS (40TH AVENUE SE)**

STATION	DIRECTION	LOT	BLOCK
FROM EX MANHOLE 1 TO EX MANHOLE 2	W	1	1
2+66	W	1	1

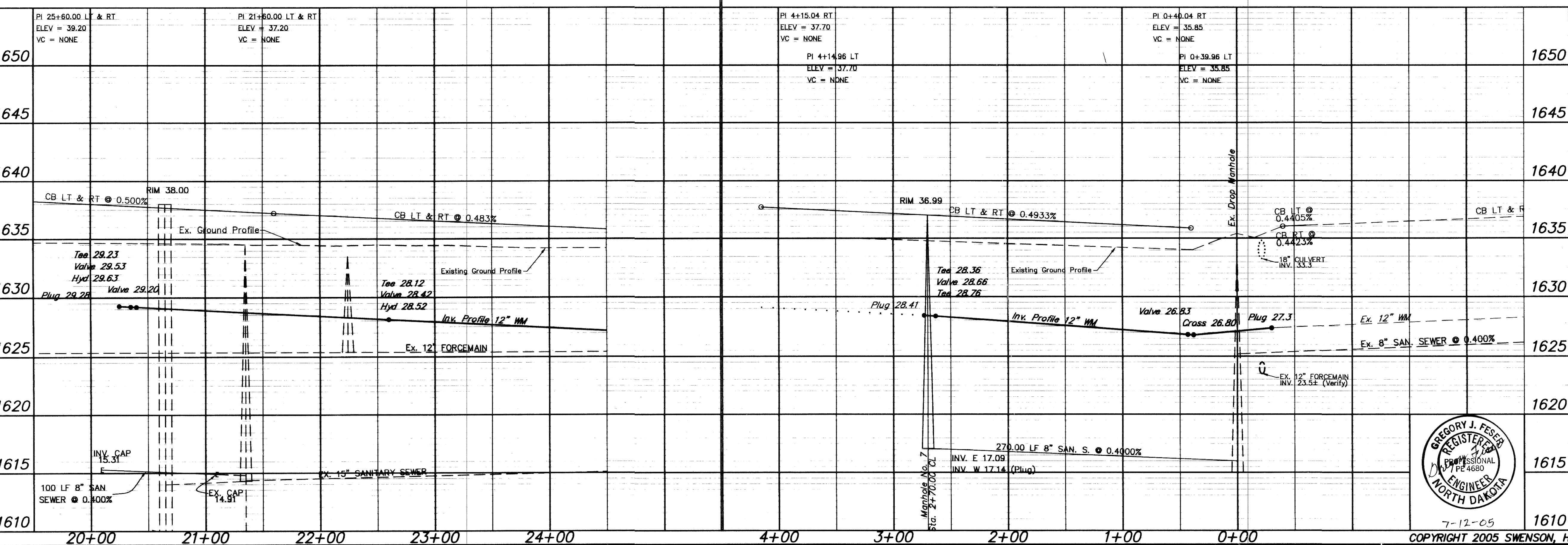
**APPROXIMATE WYE LOCATIONS (MCKENZIE DRIVE SE)**

STATION	DIRECTION	LOT	BLOCK
FROM EX. MANHOLE NO. 1 TO MANHOLE NO. 7	N	---	---
0+80	N	---	---
1+70	N	---	---

Manhole Number	7
Casting Elev.	36.99
Top P.C. Section	35.95
Invert Elev. (a)	17.09
Invert Elev. (b)	17.14
Length P.C. Section	18.86

Lot	Block	6" Sewer Service	15" x 6" Wye Branch	8" x 6" Wye Branch	Sewer Service Invert At The Connection
7	1	50.0	7	32.0	---
---	---	50.0	---	7	26.0
---	---	50.0	---	1	26.0
TOTALS	150.0	1	2	---	---



**APPROXIMATE QUANTITIES**

San. Sewer Items	Quantity
8" Sanitary Sewer	330 LF
6" Sewer Service Pipe	150 LF
Subcut Gravel	200 TON
Concrete Manhole	1 EA
8" x 6" Wye Branch	2 EA
15" x 6" Wye Branch	1 EA
6" 45' Bend	3 EA

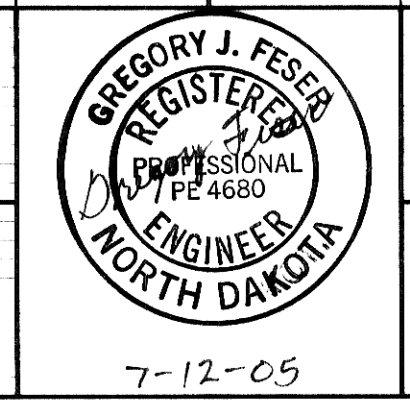
  

Watermain Items	Quantity
8" PVC Watermain	16 LF
12" PVC Watermain	233 LF
(6.5' Avg. Depth - McKenzie Dr.)	
12" PVC Watermain	125 LF
(8.7' Avg. Depth - 40th Ave.)	
8" Hydrant	1 EA
8" Gate Valve & Box	2 EA
12" Gate Valve & Box	2 EA
12" Hydrant Extension	1 EA
Ductile Iron Fittings	Incidental

**SWENSON, HAGEN & COMPANY P.C.**

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



**CHANGE ORDER**  
 WATERMAIN AND SANITARY SEWER EXTENSION ON  
 40TH AVENUE SE AND MCKENZIE DRIVE SE

1615

WATER AND SEWER IMPROVEMENT DISTRICT 47  
 SHEET NO. 1 OF 1 PROJECT 2005-14  
 MANDAN, ND JULY 12, 2005

1610

7-12-05  
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