

**MUNICIPAL AGREEMENT AMENDMENT NO. 79**

Wisconsin Department of Transportation

2008 S.84.09(1) Wis. Stats.

Utility Project ID Number 1030-21-47	County Milwaukee	UA Number 517
Road Name Airport Freeway	Highway IH 43 / 894	
Utility name City of Milwaukee – Sewer		

The agreement in effect between the above named Utility and the State of Wisconsin, Department of Transportation, Division of Transportation Infrastructure Development for the performance of certain work on the above project shall be changed in the following particulars. The acceptance of this amendment by the Utility and its approval by the Wisconsin Department of Transportation shall constitute a mutual agreement as part of the original agreement binding upon both parties in the same manner as though the essence of the amendment had originally been in the agreement.

**Reason for Amendment:**

This Municipal Agreement Amendment No. 79 is to add the cost of sewer relocations at the Airport Freeway project (1030-10-73) for the reconstruction of the I-94 North-South Freeway. The original Municipal Agreement for this Parcel was executed under the contract for the Grange Avenue Overpass (1030-20-77).

**Change to Current Agreement**

ITEM	EXPLANATION	COST (+/-)
City Sewer facilities.	Addition of relocations, reconstructions and adjustments of City Sewer facilities as necessary for the relocation of the S. 21 <sup>st</sup> Street and Louisiana Avenue Sewers crossing I-894, as necessary for the I-94 North-South Freeway.	+\$1,415,806.17

**Net increase/decrease in agreement: \$1,415,806.17 increase.**

The parties have caused this Agreement to be executed by their proper officers and representatives on the date shown.

Wisconsin Department of Transportation  
Division of Transportation Infrastructure Development

  X    
(Administrator) (Date)

  X    
(Governor of Wisconsin) (Date)

\_\_\_\_\_  
(Municipal Utility) (Date)

  X    
(Signature) (Date)

\_\_\_\_\_  
(Title) (Date)

  X    
(Signature) (Date)

\_\_\_\_\_  
(Title) (Date)

  X    
(Signature) (Date)

\_\_\_\_\_  
(Title) (Date)

N-S FREEWAY  
Airport Freeway  
IH 43 / 894  
Milwaukee County

Utility Project ID: 1030-21-47 / 1030-21-44  
RW Project ID: 1030-20-20  
UA517 / Parcel 527  
Construction Project ID: 1030-10-73

## **SOUTH 21<sup>ST</sup> STREET/LOUISIANA AVENUE/SEWER RELOCATION**

### **Calculation of Compensable Cost**

• Total Length Existing Sewer	1094 LF	100%
• Length of Sewer in R/W	1017 LF	93%
• Length of Sewer outside of R/W	77 LF	7%

### **Municipal Agreement vs. Audit Cost**

Total Relocation Cost	\$1,522,372.23
• Municipal Agreement Cost	$(1,522,372.23 \times 0.93) = \$1,415,806.17$
• Audit Agreement Cost	$(1,522,372.23 \times 0.07) = \$106,566.06$

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N-S FREEWAY  
 Airport Freeway  
 IH-94  
 Milwaukee County

Utility Project ID: 1030-21-47  
 RW Project ID: 1030-20-20  
 Parcel: UA517  
 Construction Project ID: 1030-10-73  
 City of Milwaukee Sewer

Item	Unit	Price <sup>1</sup>	Quantity	Cost
Shaft Excavation	CY	\$75.60	562	\$42,487.20
Trench Excavation	CY	\$13.30	893	\$11,876.90
Temporary excavation support (shaft)	SF	\$51.90	6819	\$353,906.10
Temporary excavation support (trench)	SF	\$3.70	11558	\$42,764.60
Dewatering	day	\$790.00	25	\$19,750.00
15" (jacked)	LF	\$250.00	288	\$72,000.00
18" (jacked)	LF	\$300.00	1311	\$393,300.00
18" (intrench)	LF	\$64.90	287	\$18,626.30
4' ID Precast MH (8' deep)	ea	\$2,357.00	6	\$14,142.00
Addl MH Depth	VF	\$316.00	82	\$25,912.00
4' ID Precast MH w/shaft lid (14' deep)	ea	\$4,253.00	1	\$4,253.00
Addl 3' ID Riser Depth	VF	\$300.00	7	\$2,100.00
Mobilization	LS	\$25,000.00	1	\$25,000.00
Granular Backfill	CY	\$10.10	603	\$6,090.30
Slurry Backfill	CY	\$41.00	500	\$20,500.00
Abandon 10" sewer	LF	\$4.50	610	\$2,745.00
Abandon 15" sewer	LF	\$9.50	439	\$4,170.50
Abandon MH	VF	\$95.50	15	\$1,432.50
CCTV Inspection	LF	\$5.00	2235	\$11,175.00
<b>Subtotal</b>				\$1,072,231.40
Contingency	20%			\$214,446.28
<b>Total Construction Cost</b>				<b>\$1,286,677.68</b>

Equivalent Unit Cost \$682/LF

(1) Cost as of July 2010; Est. ENR CCI = 8840

**COST ESTIMATE**

**BID ITEMS**

City Precast Concrete Manhole	Ea	\$8,000.00	6	\$48,000.00
City Precast Concrete Manhole with Shaft Fram And Lid	Ea	\$8,300.00	1	\$8,300.00
Jacking Sanitary Sewer, 15-inch	LF	\$600.00	288	\$172,800.00
Sanitary Sewer, 18-inch	LF	\$400.00	287	\$114,800.00
Jacking Sanitary Sewer, 18-inch	LF	\$700.00	1311	\$917,700.00
Abandoning Existing 10-inch Sanitary Sewer	LF	\$10.00	610	\$6,100.00
Abandoning Existing 15-inch Sanitary Sewer	LF	\$15.00	439	\$6,585.00
Sanitary Sewer Examination CCTV	LF	\$6.00	2235	\$13,410.00
<b>SUBTOTAL</b>				\$1,287,695.00

**DESIGN & INSPECTION**

Design - City of Milwaukee				\$128,769.50
Design - Milwaukee Transportation Partners				\$41,522.98
Inspection - City of Milwaukee				\$64,384.75
Field Services - City of Milwaukee				\$0.00
<b>SUBTOTAL</b>				\$234,677.23

**TOTAL \$1,522,372.23**

**UTILITY WORKSHEET**

DT 2236 10/2006 s.84.063 Wis. Stats.

Wisconsin Department of Transportation

Utility Company Name City of Milwaukee - Sewer	PLEASE RETURN THIS WORKSHEET BY July 9th, 2009
Project Description – Include Project ID, Title, Subtitle, Highway, County North-South Freeway Reconstruction IH 94 / IH 43 / IH 894 Mitchell Interchange - College Ave. to Howard Ave. Milwaukee County Design Project ID 1030-20-00 Construction Project ID 1030-20-72	RETURN TO Mr. Kevin Cornnell, PE, RLS Milwaukee Transportation Partners, LLC 141 NW Barstow Street PO Box 798 Waukesha, WI 53187-0798

- Describe your proposed relocation plan for the above project, as requested in the enclosed letter, using highway stationing whenever possible. Attach extra sheets if needed.

**The following relocations and/or modifications are the result of preliminary engineering review and may be modified or expanded as the North-South Freeway-Mitchell Interchange project progresses.**

- Station 485+50; IH 94 NB & SB.** An 18-inch diameter storm sewer in W. Ramsey Avenue is deteriorating. Relay this sewer prior to or during construction of Bridge Structures B-40-812 and B-40-813 at this location.
- Station 518+50; IH 94 NB & SB.** An 8-inch diameter sanitary sewer in W. Mallory Avenue (Extended) under the Freeway in encroached upon by the proposed Freeway subgrade. Relay this sewer to a lower elevation prior to Freeway reconstruction.
- Station 347+60; Ramp WN (a.k.a. Station 50WE+85; S. 15th Street).** A sanitary sewer manhole becomes located next to a curb face when the intersection with W. Whitaker Avenue is modified. Reposition the top of this manhole to avoid the manhole lid becoming located in a roadway gutter.
- Station 309+00; Ramp WN.** A 10-inch diameter sanitary sewer under the Freeway in S. Louisiana Avenue (Extended) (1050-feet East of S. 27th Street) is proposed to have approximately one-half of its cover removed. Reinforce sewer with a cured-in-place lining prior to Freeway reconstruction.
- Station 320+90; Ramp WN.** The finished grade of the proposed ramp is approximately five (5) feet UNDER an existing 15-inch diameter sanitary sewer in S. 21st Street (Extended). Reroute this sewer prior to Freeway reconstruction. The City will work with WisDOT to determine a new route for this sewer.

- Conflicting utility facilities will need to be relocated prior to construction. If this is not feasible, I need an explanation and an indication of what work will require coordination with the highway contractor during construction.

**The above work will require coordination with the highway project. The work required at Station 485+50; IH 94 NB & SB and at Station 309+00; Ramp WN will be done by a City contractor prior to the start of Freeway reconstruction.**

**At Station 518+50; IH 94 NB & SB, Station 347+60; Ramp WN, and at Station 320+90; Ramp WN, the Department of Public Works will be entering into a Municipal Agreement with WisDOT, where the City will review the design, engineering, and preparation of construction plans for all sewer alterations required of facilities owned by the department of Public Works. Further, all sanitary sewer alterations will be let as participating 90/10 projects within a State contract to be constructed by a State contractor.**

3.	Anticipated Start Date: <b>Will be coordinated with WisDOT project start dates.</b>
4.	Estimated construction time required (in working days) <b>Not available at this time.</b>

5. List the approvals required and the expected time schedule to obtain those approvals.

**Milwaukee Metropolitan Sewerage District (MMSD) approval and WisDOT permits will be obtained prior to start dates.**

6. Include a list of the real estate parcels that the Wisconsin Department of Transportation (DOT) must have acquired to enable your company to complete the necessary facility installations and relocations prior to construction.

**Partial property acquisitions and/or easements along the south line of the Freeway west of S. 21st Street (Extended).**

7. Review the enclosed plans for the above project. Are your facilities correct as shown? If not, list the errors. In some cases, it may be easier to return a marked up copy of the plan. **It's very important that your facilities are shown correctly because all construction field personnel will use this information. Uncorrected location errors could create construction delays or damage to utility facilities.**

**The plans appear correct.**

~~8. Is this work dependent on work by other utilities? If so, which other utilities, and what time schedule has been coordinated with them?~~

**Water main relocation at W. Mallory Avenue (Extended) to be done simultaneously with the sewer relocation.**

9. Please provide the name, address, and telephone number of the field contact person for this project, so that we may place this information on the highway plan.

Name

**Mr. Zafar Yousuf**

Address

**841 N. Broadway, Room 821**

City, State, ZIP Code

**Milwaukee, Wisconsin 53202**

Area Code -- Telephone Number

**(414)286-2467**

Area Code -- Telephone Number (Mobile)

10. List any other relevant information that may impact the ultimate goal of preventing construction delay due to uncertain scheduling of utility facility relocations.

**None at this time.**

11. Yes  No

Do you have any facilities that are no longer in use but have been left in place in the project area? If "Yes", approximately where are the facilities located and what type and size of facility is involved?

Does the line have any remaining product?

Does the line have any asbestos wrap or any other hazardous materials associated with it?

Does any part of the line conflict directly with the proposed highway project? If so, what

arrangements have you made to remove those portions? This should be mentioned as part of your work plan in question number 1 on this form.

Is there any reason the highway contractor cannot remove portions of the line left in place?

If you answered "Yes" to any of the questions above, please provide us with additional information. Attach additional pages if necessary.

**(414)286-0501**

(Area Code - Telephone #, Ext. Preparer)

**Paul J. Eggers**

(Name of Person Who Prepared this Worksheet)

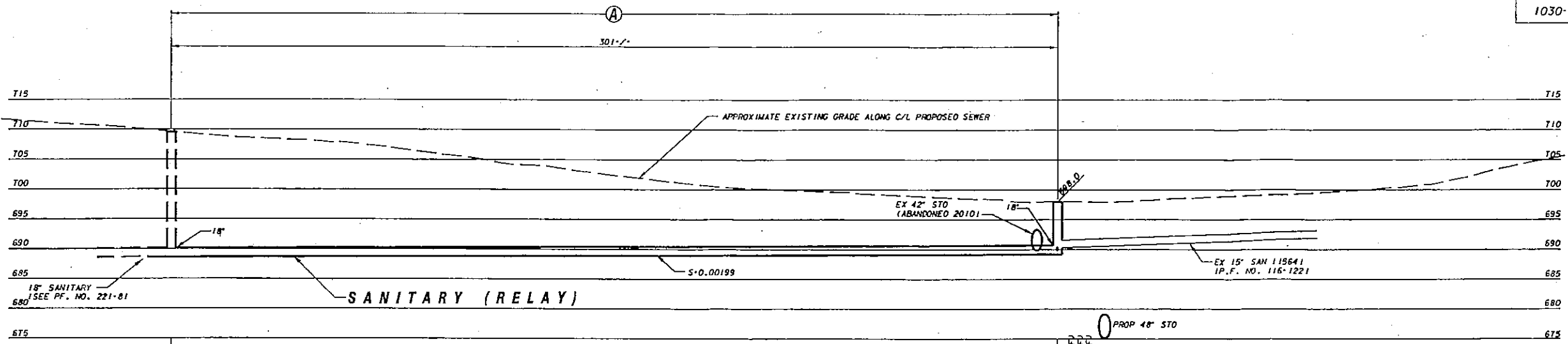
**April 7, 2009**

(Date)

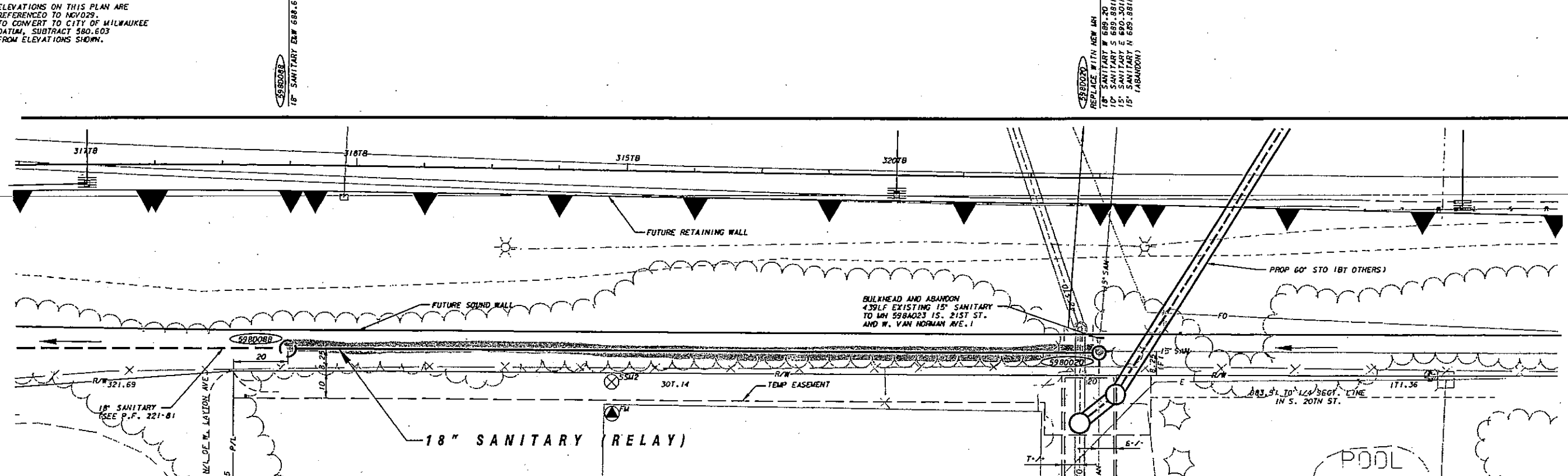
**NOTE:**

**DOT will be sending you a Trans 220 Work Plan Approval letter and a Start Work Notice after we complete the review of your Work Plan.**

**A**  
18" SANITARY JACKED PIPE  
CLAY PIPE, ASTM C1208  
OR F.R.P.M.P.



ELEVATIONS ON THIS PLAN ARE REFERENCED TO NGVD29. TO CONVERT TO CITY OF MILWAUKEE DATUM, SUBTRACT 380.603 FROM ELEVATIONS SHOWN.



- GEOTECHNICAL INSTRUMENTATION LEGEND**
- SM SURFACE SETTLEMENT MARKER
  - FM STRUCTURE SETTLEMENT MARKER
  - UM UTILITY SETTLEMENT MARKER
  - SSM SUBSURFACE SETTLEMENT MARKER

NOTE  
REFER TO GEOTECHNICAL INSTRUMENTATION FOR SSM TIP ELEVATIONS, INCLINOMETER DEPTHS, AND MONITORING REQUIREMENTS.

**LINE CODE LEGEND**

SAN	SANITARY SEWER	STO	STREET LIGHTING
STO	STORM SEWER	STR	STRUCTURE / BUILDING
CMB	COMBINED SEWER	PER	PERCE
WMB	WATER MAIN		
CUC	SEWERWATER 24" & OVER		

CALL DIGGERS HOTLINE  
1-800-242-8511  
TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITY LINES. FURNISH OR OBTAIN 100' BY 100' AREA. IF 100' DOES NOT COVER, YOU MUST

**Norris & Associates, Inc.**  
9091 N. 78th St., Suite 500  
Milwaukee, WI 53228  
Phone: 414.224.2888 / Fax: 414.224.2888

NO.	BY	REVISION	DATE

AS BUILT CONTRACT NO. DATE ENT'D.  
ENT'D. RT

**ESTIMATE OF QUANTITIES (NOT FOR BIDDING)**

ITEM NO.	QUANTITY	DESCRIPTION
301FT	18" DIA. SANITARY JACKED	
1	4'-0" DIA. SANITARY MANHOLE WITH INTERNAL SEAL	
439FT	BULKHEAD AND ABANDON 439LF EXISTING 15" SANITARY TO MH 598A023 15. S. 21ST ST. AND W. VAN NORMAN AVE. 1	
351FT	15" SANITARY SEWER SEWER EXAM BY CITY POST CONSTRUCTION	

**ENVIRONMENTAL ENGINEERING SECTION**  
INFRASTRUCTURE SERVICES DIVISION  
DEPARTMENT OF PUBLIC WORKS  
MILWAUKEE, WISCONSIN

**SEWER MAIN PLAN**

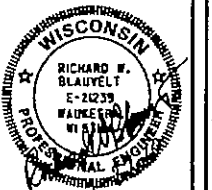
IN 850'+/- N. OF W. LAYTON AVE.  
FROM S. 21ST STREET (EXTENDED)  
TO S. 22ND STREET (EXTENDED)

SCALE: HORIZONTAL 1"=20'  
VERTICAL 1"=10'

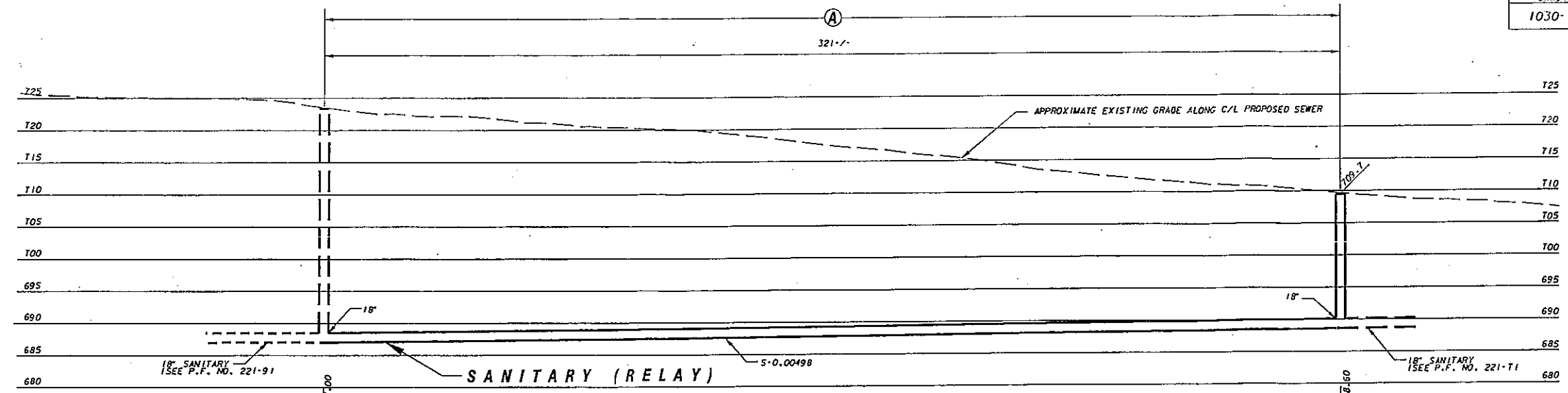
DESIGNED BY R. BLAUVELT  
DRAWN BY T. WEICK  
CHECKED BY P. EGGERS

SYSTEM NO. 10R4  
EASEMENT NO. 100-4  
CONTRACT NO. 1030-10-73  
PROJECT NO. 1030-10-73  
C.C. FILE NO.  
DATE ADOPED

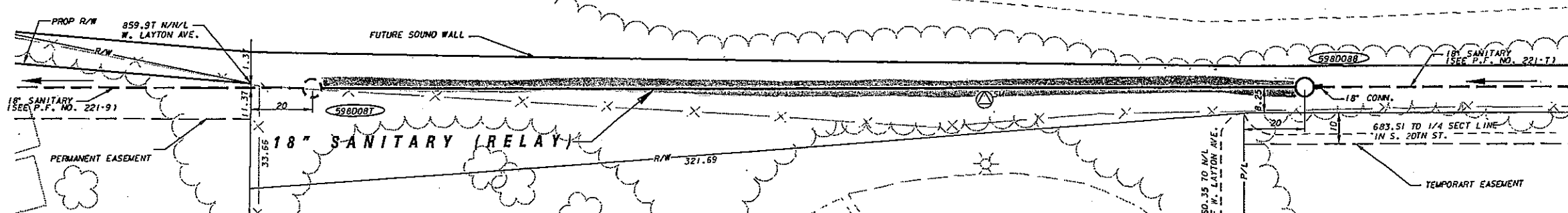
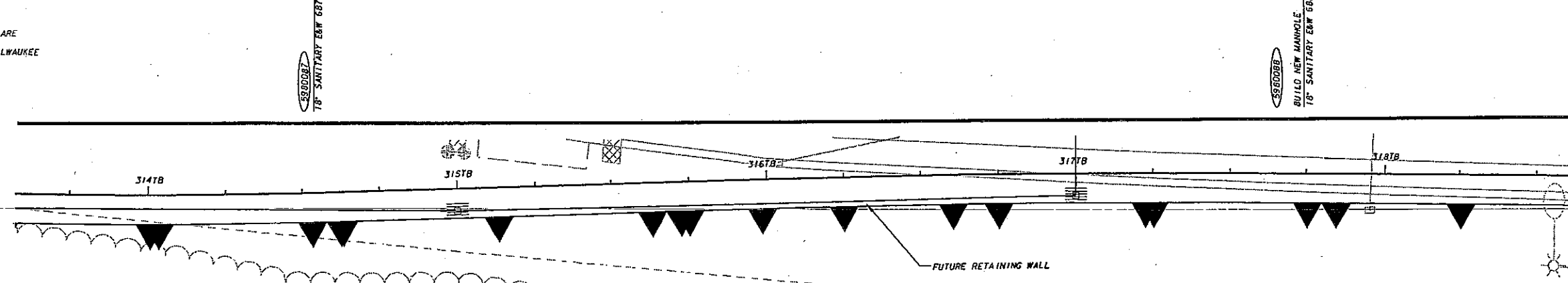
**SHEET NO. 1 OF 6 PLAN FILE NO. 221-7**



**A**  
 18" SANITARY JACKED PIPE  
 CLAY PIPE, ASTM C1208  
 OR F.R.P.M.P.



ELEVATIONS ON THIS PLAN ARE REFERENCED TO NGVD83. TO CONVERT TO CITY OF MILWAUKEE DATUM, SUBTRACT 580.603 FROM ELEVATIONS SHOWN.



**GEOTECHNICAL INSTRUMENTATION LEGEND**

- SM SURFACE SETTLEMENT MARKER
- FM STRUCTURE SETTLEMENT MARKER
- UM UTILITY SETTLEMENT MARKER
- SSM SUBSURFACE SETTLEMENT MARKER

**NOTE**  
 REFER TO GEOTECHNICAL INSTRUMENTATION FOR SSM TIP ELEVATIONS, INCLINOMETER DEPTHS, AND MONITORING REQUIREMENTS.

LINE CODE LEGEND			
GAS	G	SANITARY SEWER	SAW
ELECTRIC	E	STORM SEWER	STD
TELEPHONE	T	COMBINED SEWER	CSB
CABLE TELEVISION	TV	SEW. DISTRICT SEWER	MSD
FIBER OPTICS	FO	WATER MAIN	W
CITY UNDERGROUND CONDUIT	CK	SEWER/WATER 24" & OVER	W
		STREET LIGHTING	SL
		PAVING LIMITS	PL
		STRUCTURE / BUILDING	SB
		FRIDGE	FR

**CALL DIGGERS HOTLINE**  
 1-800-242-8511  
 YOU WILL BE NOTIFIED IN LOCATION OF UNDERGROUND BEFORE YOU DIG. EISCONSIN SANITARY 182.815 REQUIRES MIN. OF 1 WORK DAYS NOTICE BEFORE YOU EXCAVATE

**Norris & Associates, Inc.**  
 3001 N. 70th St., Suite 306  
 Milwaukee, WI 53223  
 Phone: 414.362.0063 / Fax: 414.362.0068



ESTIMATE OF QUANTITIES (NOT FOR BIDDING)		
ITEM NO.	QUANTITY	DESCRIPTION
	321FT	18" DIA. SANITARY, JACKED
	1	4'-0" DIA. SANITARY MANHOLE WITH INTERNAL SEAL
	321FT	SEWER EXAMS BY CCTV POST CONSTRUCTION

**ENVIRONMENTAL ENGINEERING SECTION**  
 INFRASTRUCTURE SERVICES DIVISION  
 DEPARTMENT OF PUBLIC WORKS  
 MILWAUKEE, WISCONSIN

**SEWER MAIN PLAN**

IN 850' +/- N. OF W. LAYTON AVE.  
 FROM S. 22ND STREET (EXTENDED)  
 TO S. 22ND PLACE (EXTENDED)

SCALE: HORIZONTAL 1"=20', VERTICAL 1"=10'

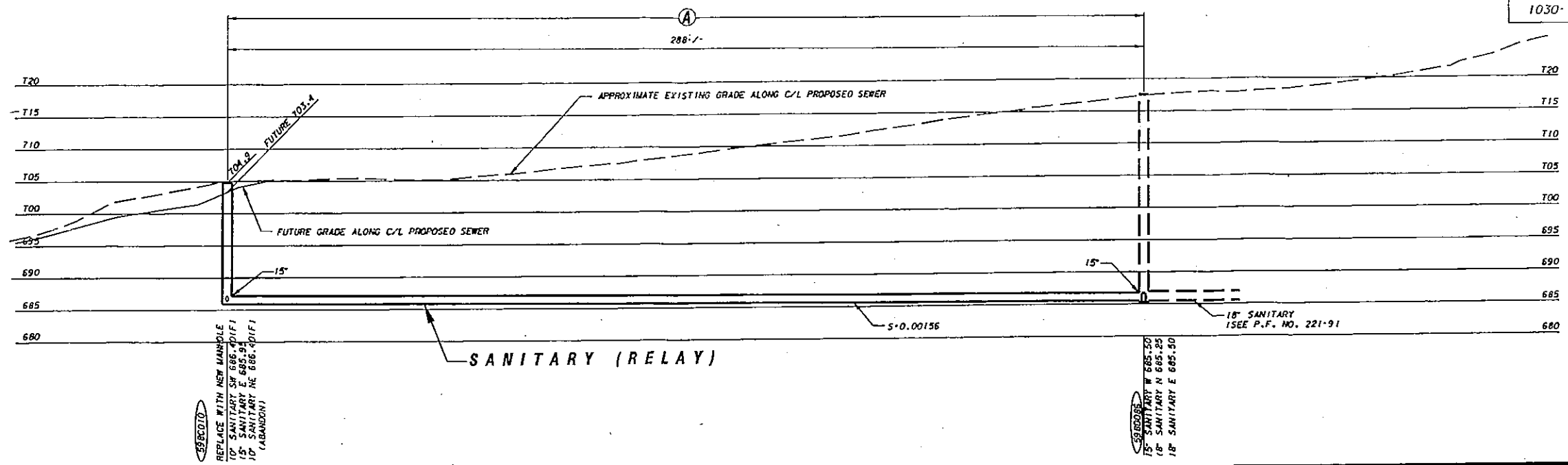
BY SEC. NO. 588  
 PLAN DATE 2/1/10  
 DESIGNED BY R. BLAUVELT  
 DRAWN BY T. WEICK  
 CHECKED BY P. EGGERS  
 SYSTEM NO. 1884

DATE 1/29/10

**SHEET NO. 2 OF 6 PLAN FILE NO. 221-8**



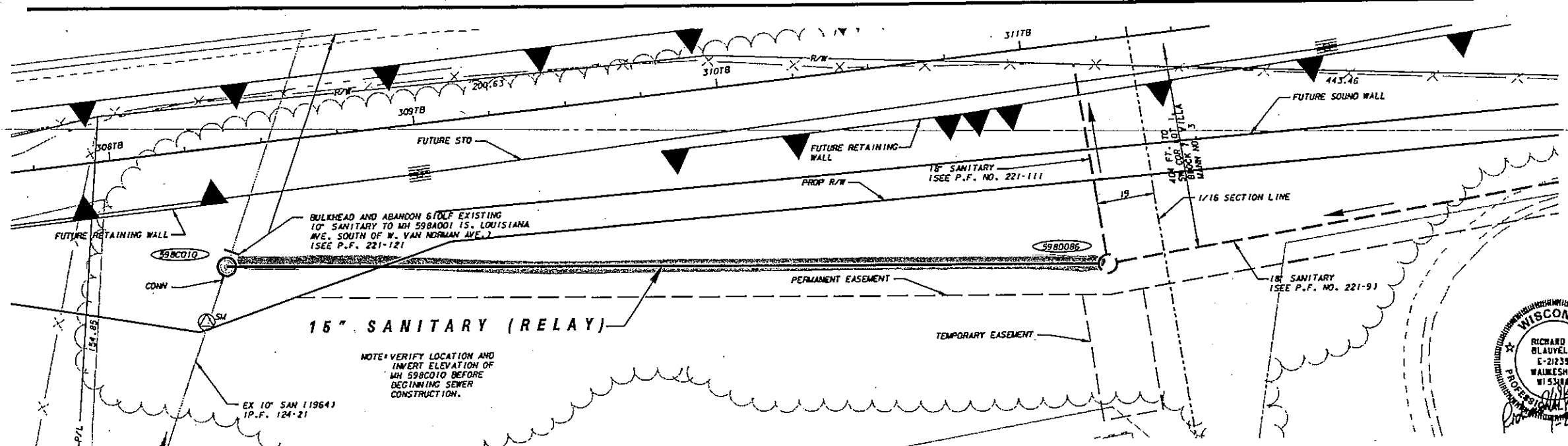
**A**  
15" SANITARY JACKED PIPE  
CLAY PIPE, ASTM C1208



ELEVATIONS ON THIS PLAN ARE REFERENCED TO HDY029. TO CONVERT TO CITY OF MILWAUKEE DATUM, SUBTRACT 580.603 FROM ELEVATIONS SHOWN.

REPLACE WITH NEW MANHOLE  
10" SANITARY SW 686.40/F1  
15" SANITARY E 685.94  
10" SANITARY NE 686.40/F1  
(ABANDON)

15" SANITARY W 685.50  
15" SANITARY N 685.25  
15" SANITARY E 685.50



**GEOTECHNICAL INSTRUMENTATION LEGEND**

- SM SURFACE SETTLEMENT MARKER
- FM STRUCTURE SETTLEMENT MARKER
- UM UTILITY SETTLEMENT MARKER
- SSM SUBSURFACE SETTLEMENT MARKER

NOTE  
REFER TO GEOTECHNICAL INSTRUMENTATION FOR SSM TIP ELEVATIONS, INCLINOMETER DEPTHS, AND MONITORING REQUIREMENTS.

**LINE CODE LEGEND**

SANITARY SEWER	SAK	STREET LIGHTING	SL
STORM SEWER	ST0	PAVING LIMITS	PL
COMBINED SEWER	CSE	STRUCTURE/BUILDING	SB
SEWER/DISTRICT SEWER	DS	FENCE	F
WATER MAIN	WM		
SEWER/WATER 24" & OVER	SW		

CALL DIGGERS HOTLINE  
1-800-242-8511

**Norris & Associates, Inc.**  
8001 N. 70th St., Suite 308  
Milwaukee, WI 53223  
Phone: 414.962.0008 / Fax: 414.962.0008

NO.	BY	REVISION	DATE

ESTIMATE OF QUANTITIES (NOT FOR BIDDING)		
ITEM NO.	QUANTITY	DESCRIPTION
28MFT	1	18" DIA. SANITARY JACKED
31MFT	1	4'-0" DIA. SANITARY MANHOLE WITH INTERNAL SEAL
31MFT	1	SEWER EXAMS BY CITY POST CONSTRUCTION

**ENVIRONMENTAL ENGINEERING SECTION**  
INFRASTRUCTURE SERVICES DIVISION  
DEPARTMENT OF PUBLIC WORKS  
MILWAUKEE, WISCONSIN

**SEWER MAIN PLAN**

IN 850' +/- N. OF W. LAYTON AVE.  
FROM S. 23RD STREET (EXTENDED)  
TO S. 24TH STREET (EXTENDED)

SCALE: HORIZONTAL 1"=20', VERTICAL 1"=10'

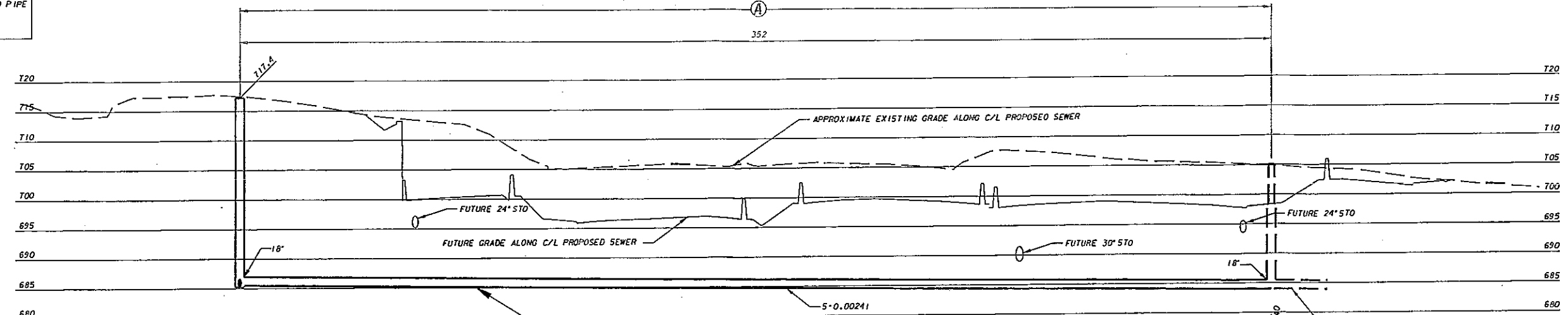
APPROVED: [Signature] DATE: 2/1/10

DESIGNED BY: R. BLAUVELT  
DRAWN BY: T. WEICK  
CHECKED BY: P. EGGER

SYSTEM NO. 1884  
EASEMENT NO. 1833  
CONTRACT NO. 1030-10-73

SHEET NO. 4 OF 6 PLAN FILE NO. 221-10

**A**  
 18" SANITARY CLAY PIPE, ASTM C1208 OR F.R.P.M.P. JACKED PIPE

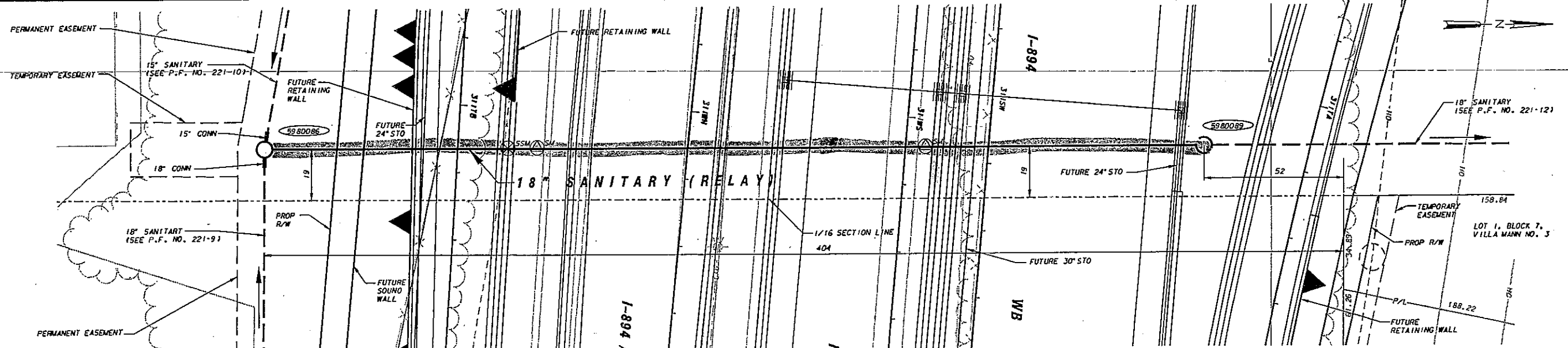


ELEVATIONS ON THIS PLAN ARE REFERENCED TO NGVD29. TO CONVERT TO CITY OF MILWAUKEE DATUM, SUBTRACT 580.603 FROM ELEVATIONS SHOWN.

**SANITARY (RELAY)**

5980085 BUILD NEW MANHOLE  
 15" SANITARY W 685.50  
 15" SANITARY W 685.50  
 16" SANITARY E 685.50

5980088 18" SANITARY INS 684.40



**GEOTECHNICAL INSTRUMENTATION LEGEND**

- SM SURFACE SETTLEMENT MARKER
- FM STRUCTURE SETTLEMENT MARKER
- UM UTILITY SETTLEMENT MARKER
- SSM SUBSURFACE SETTLEMENT MARKER

**NOTE**  
 REFER TO GEOTECHNICAL INSTRUMENTATION FOR SSM TIP ELEVATIONS, INCLINOMETER DEPTHS, AND MONITORING REQUIREMENTS.

LINE CODE LEGEND	
Gas	Sanitary Sewer
Electric	Storm Sewer
Telephone	Combined Sewer
Cable Television	Sanitary Sewer
Fiber Optics	Water Main
City Underground Conduit	Sanitary Sewer 24" & Over

**CALL DIGGERS HOTLINE**  
 1-800-242-8511

**Norris & Associates, Inc.**  
 9001 N. 79th St., Suite 306  
 Milwaukee, WI 53223  
 Phone: 414.962.0063 / Fax: 414.962.0066

NO. BY	REVISION	DATE
AS BUILT CONTRACT NO.	ENT'D. BY	DATE ENT'D.

ESTIMATE OF QUANTITIES (NOT FOR BIDDING)	
ITEM NO.	DESCRIPTION
352FT	18" DIA. SANITARY, JACKED
1	4'-0" DIA. SANITARY MANHOLE WITH INTERNAL SEAL
352FT	SEWER EXHAUS BY CCTV POST CONSTRUCTION

**ENVIRONMENTAL ENGINEERING SECTION**  
 INFRASTRUCTURE SERVICES DIVISION  
 DEPARTMENT OF PUBLIC WORKS  
 MILWAUKEE, WISCONSIN

**SEWER MAIN PLAN**  
**S. 23RD STREET (EXTENDED)**  
 FROM 240' +/- S. OF W. VAN NORMAN AVENUE  
 TO 850' +/- N. OF W. LAYTON AVENUE

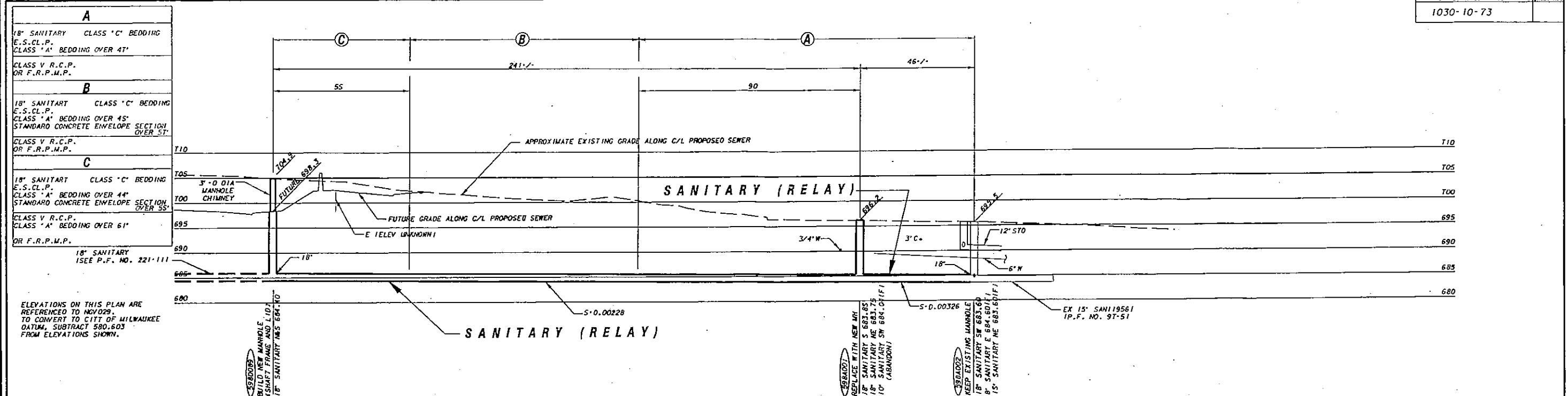
SCALE: HORIZONTAL 1"=20', VERTICAL 1"=10'

DATE: 1/28/10

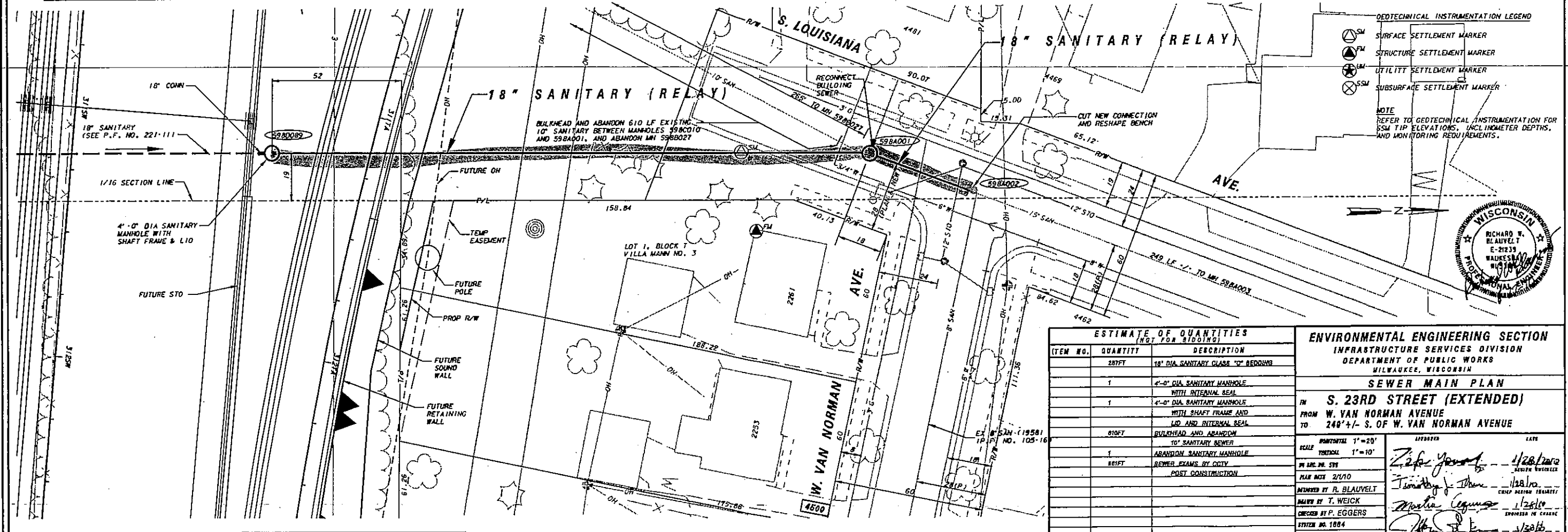
DESIGNED BY: R. BLAUVELT  
 DRAWN BY: T. WEICK  
 CHECKED BY: P. EGGERS

**SHEET NO. 5 OF 6 PLAN FILE NO. 221-11**





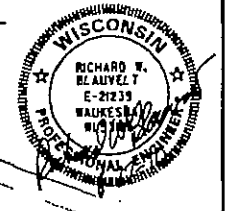
ELEVATIONS ON THIS PLAN ARE REFERENCED TO NAVD83 TO CONVERT TO CITY OF MILWAUKEE DATUM, SUBTRACT 580.603 FROM ELEVATIONS SHOWN.



**GEOTECHNICAL INSTRUMENTATION LEGEND**

- SURFACE SETTLEMENT MARKER
- STRUCTURE SETTLEMENT MARKER
- ⊗ UTILITY SETTLEMENT MARKER
- ⊗ SUBSURFACE SETTLEMENT MARKER

NOTE: REFER TO GEOTECHNICAL INSTRUMENTATION FOR SSM TIP ELEVATIONS, INCLINOMETER DEPTHS, AND MONITORING REQUIREMENTS.



ESTIMATE OF QUANTITIES (NOT FOR BIDDING)		
ITEM NO.	QUANTITY	DESCRIPTION
	287FT	18" DIA SANITARY CLASS "C" BEDDING
1		4'-0" DIA SANITARY MANHOLE WITH INTERNAL SEAL
1		4'-0" DIA SANITARY MANHOLE WITH SHAFT FRAME AND LID AND INTERNAL SEAL
810FT		BULLHEAD AND ABANDON 10" SANITARY SEWER
1		ABANDON SANITARY MANHOLE
81FT		SEWER EXAMS BY CITY POST CONSTRUCTION

**ENVIRONMENTAL ENGINEERING SECTION**  
**INFRASTRUCTURE SERVICES DIVISION**  
**DEPARTMENT OF PUBLIC WORKS**  
**MILWAUKEE, WISCONSIN**

**SEWER MAIN PLAN**  
**IN S. 23RD STREET (EXTENDED)**  
**FROM W. VAN NORMAN AVENUE**  
**TO 240' +/- S. OF W. VAN NORMAN AVENUE**

SCALE: HORIZONTAL 1"=20'  
 VERTICAL 1"=10'

DATE: 1/28/2012  
 DRAWN BY: T. WEICK  
 CHECKED BY: P. EGGERS  
 SYSTEM NO. 1884  
 SHEET NO. 1 OF 6 PLAN FILE NO. 221-12

**LINE CODE LEGEND**

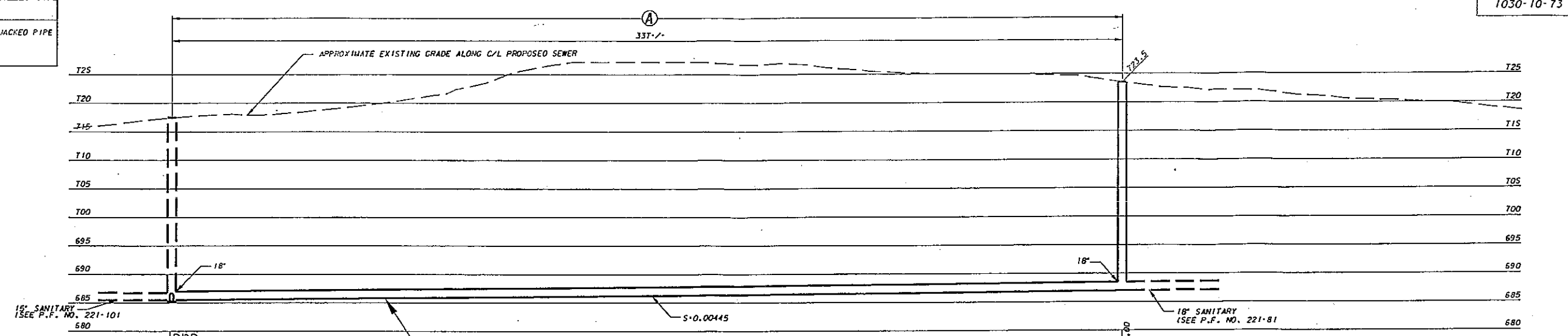
GAS	—	SANITARY SEWER	—	STREET LIGHTING	—
ELECTRIC	—	STORM SEWER	—	FAVORITE LIGHTS	—
TELEPHONE	—	COMBINED SEWER	—	STRUCTURE/BUILDING	—
CABLE TELEVISION	—	RETI. DISTRICT SEWER	—	FENCE	—
FIBER-OPTICS	—	WATER MAIN	—		
CITY UNDERGROUND CONDUIT	—	SEWER/STORM 24" & OVER	—		

CALL DIGGERS HOTLINE 1-800-242-8511  
 TOLL FREE TO MEET LOCATION OF UNDERGROUND UTILITY LINES. LOCATIONS SHOWN ARE APPROXIMATE. DATE OF WORK DATA BEFORE YOU EXCAVATE.

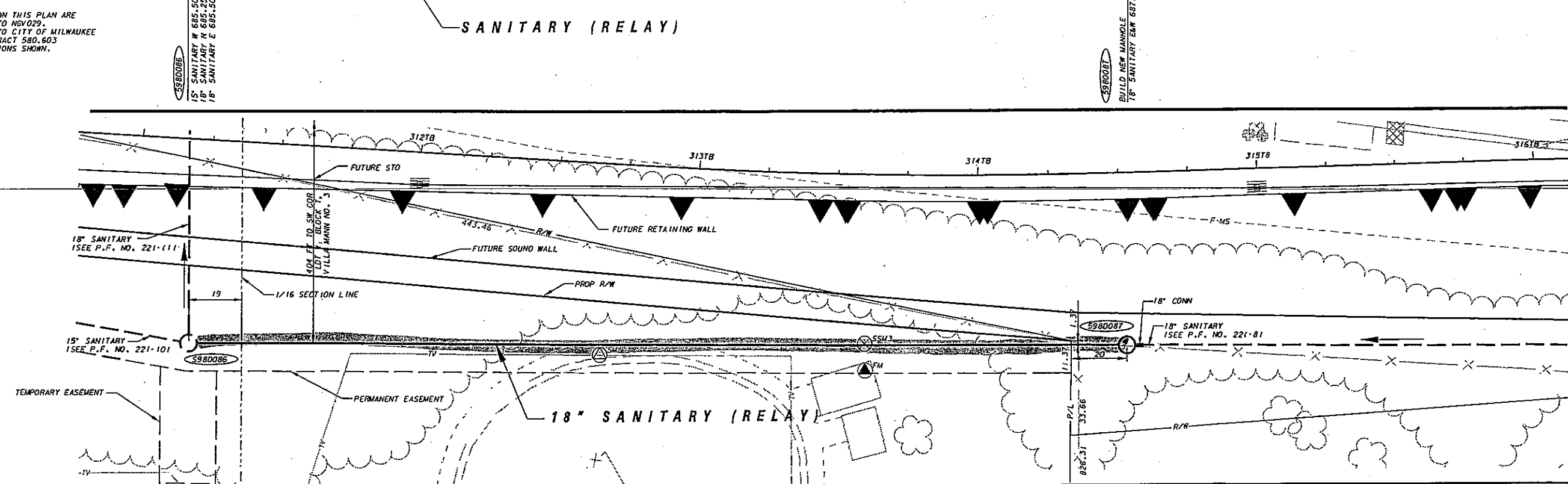
**Norris & Associates, Inc.**  
 3001 N. 70th St., Suite 305  
 Milwaukee, WI 53223  
 Phone: 414.962.8603 / Fax: 414.962.0068

NO. BY REVISION DATE  
 AS BUILT CONTRACT NO. DATE ENT'D.  
 ENT'S. BY

**A**  
 18" SANITARY JACKED PIPE  
 CLAY PIPE, ASTM C1208  
 OR F.R.P.M.P.



ELEVATIONS ON THIS PLAN ARE REFERENCED TO NGV029. TO CONVERT TO CITY OF MILWAUKEE DATUM, SUBTRACT 580.603 FROM ELEVATIONS SHOWN.



**GEOTECHNICAL INSTRUMENTATION LEGEND**

- SM SURFACE SETTLEMENT MARKER
- TM STRUCTURE SETTLEMENT MARKER
- UM UTILITY SETTLEMENT MARKER
- SSM SUBSURFACE SETTLEMENT MARKER

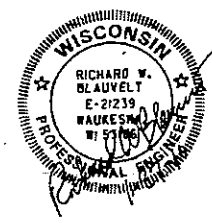
NOTE: REFER TO GEOTECHNICAL INSTRUMENTATION FOR SSM TIP ELEVATIONS, INCLINOMETER DEPTHS, AND MONITORING REQUIREMENTS.

**LINE CODE LEGEND**

SANITARY SEWER	SAW	STREET LIGHTING	XXXXXX
STORM SEWER	STO	PAVING LIMITS	XXXXXX
COMBINED SEWER	CMO	STRUCTURE / BUILDING	XXXXXX
SEWER DUCT SEWER	MSD	FENCE	XXXXXX
WATER MAIN	WM		
SEWER/WATER #4" & OVER	W		

**CALL DIGGERS HOTLINE**  
 1-800-242-8511  
 TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND BEFORE YOU DIG. ALSO SEE WISCONSIN STATUTE 182.0115 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU DIG.

**Norris & Associates, Inc.**  
 3001 N. 78th St., Suite 306  
 Milwaukee, WI 53228  
 Phone: 414.952.0063 / Fax: 414.952.0066



**ESTIMATE OF QUANTITIES (NOT FOR BIDDING)**

ITEM NO.	QUANTITY	DESCRIPTION
337FT	1	18" DIA SANITARY JACKED
1	1	4'-0" DIA SANITARY MANHOLE WITH INTERNAL SEAL
337FT		SEWER EXAMS BY CCTV POST CONSTRUCTION

**ENVIRONMENTAL ENGINEERING SECTION**  
 INFRASTRUCTURE SERVICES DIVISION  
 DEPARTMENT OF PUBLIC WORKS  
 MILWAUKEE, WISCONSIN

**SEWER MAIN PLAN**

IN 850' +/- N. OF W. LAYTON AVE.  
 FROM S. 22ND PLACE (EXTENDED)  
 TO S. 23RD STREET (EXTENDED)

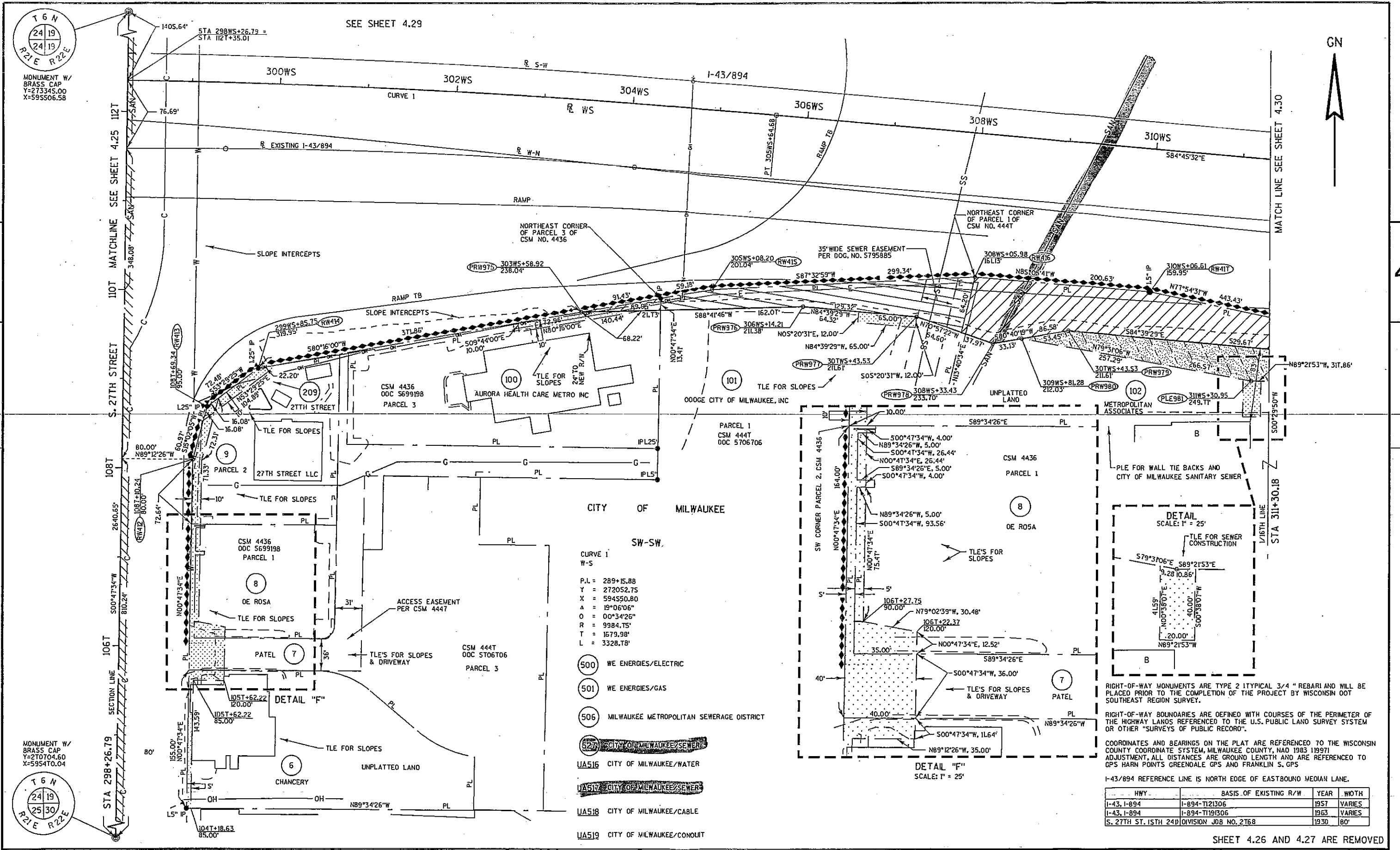
SCALE: HORIZONTAL 1"=20', VERTICAL 1"=10'

APPROVED: [Signature] DATE: 2/28/10

DESIGNED BY: R. BLAUVELT  
 DRAWN BY: T. WEICK  
 CHECKED BY: P. EGGERS

SYSTEM NO. 1684  
 STATEMENT NO.  
 CONTRACT NO.  
 PROJECT NO.  
 OFF. NOTICE NO.  
 DATE ADJUSTED

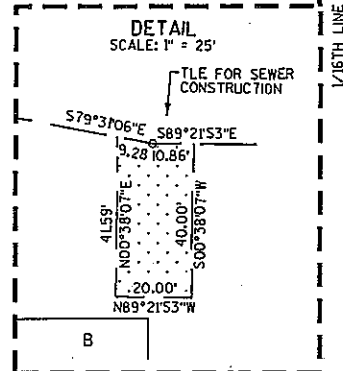
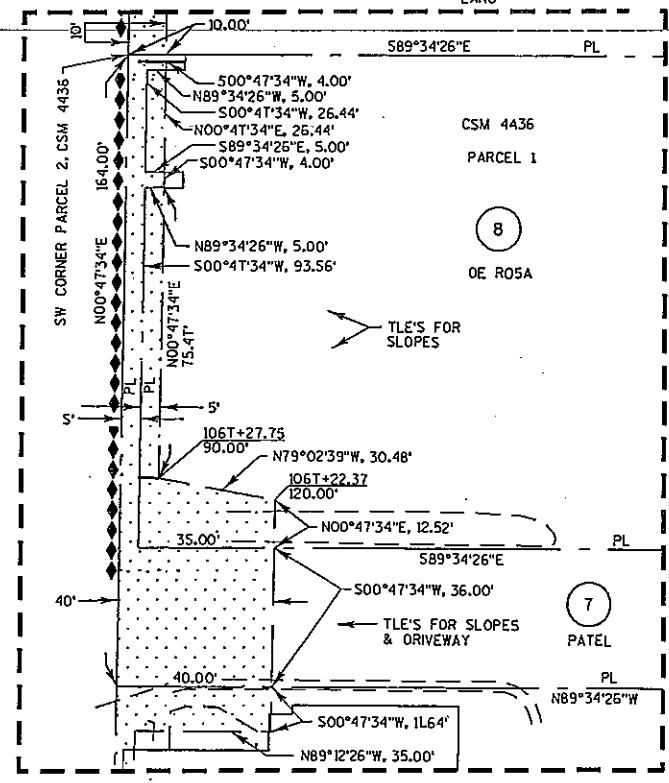
**SHEET NO. 3 OF 6 PLAN FILE NO. 221-9**



CITY OF MILWAUKEE  
SW-SW

CURVE 1  
W-S  
P.L. = 289+15.88  
Y = 272052.75  
X = 594550.80  
Δ = 19°06'06"  
O = 00°34'26"  
R = 9984.75'  
T = 1679.98'  
L = 3328.78'

- (500) WE ENERGIES/ELECTRIC
- (501) WE ENERGIES/GAS
- (506) MILWAUKEE METROPOLITAN SEWERAGE DISTRICT
- (527) CITY OF MILWAUKEE/SEWER
- UA516 CITY OF MILWAUKEE/WATER
- UA517 CITY OF MILWAUKEE/SEWER
- UA518 CITY OF MILWAUKEE/CABLE
- UA519 CITY OF MILWAUKEE/CONDUIT



RIGHT-OF-WAY MONUMENTS ARE TYPE 2 TYPICAL 3/4" REBAR AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT BY WISCONSIN DOT SOUTHEAST REGION SURVEY.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

COORDINATES AND BEARINGS ON THE PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, MILWAUKEE COUNTY, NAD 1983 119971 ADJUSTMENT, ALL DISTANCES ARE GROUND LENGTH AND ARE REFERENCED TO GPS BARN POINTS GREENDALE GPS AND FRANKLIN S. GPS

I-43/894 REFERENCE LINE IS NORTH EDGE OF EASTBOUND MEDIAN LANE.

HWY	BASIS OF EXISTING R/W	YEAR	WIDTH
I-43, I-894	I-894-T121306	1957	VARIES
I-43, I-894	I-894-T1191306	1963	VARIES
S. 27TH ST. 15TH 24TH	DIVISION JOB NO. 2768	1930	80'

MONUMENT W/  
BRASS CAP  
Y=273345.00  
X=595506.58

MONUMENT W/  
BRASS CAP  
Y=270704.60  
X=595470.04

REVISION DATE  
SEPTEMBER 25, 2008 JUNE 22, 2009  
OCTOBER 28, 2008 AUGUST 17, 2009  
FEBRUARY 26, 2009 JANUARY XX, 2009

DATE JUNE 10, 2008

SCALE, FEET  
0 50 100

HWY: IH-94  
COUNTY: MILWAUKEE

STATE R/W PROJECT NUMBER 1030-20-20  
CONSTRUCTION PROJECT NUMBER 1030-20-70

PLAT SHEET 4.28  
PS&E SHEET E

HWY	BASIS OF EXISTING R/W	YEAR	WIDTH
I-43, I-894	I-894-7(2)1306	1957	VARIES
I-43, I-894	I-894-7(1)91306	1963	VARIES
S. 27TH ST. 15TH 24TH	DIVISION JOB NO. 2168	1930	80'
S. LOUISIANA AVE.	VILLA MANN NO. 3 S/O	1955	60'

- (500) WE ENERGIES - ELECTRIC
- (505) AMERICAN TRANSMISSION COMPANY
- (506) MILWAUKEE METROPOLITAN SEWERAGE DISTRICT
- UA516 CITY OF MILWAUKEE/WATER
- UA517 CITY OF MILWAUKEE/SEWER
- UA518 CITY OF MILWAUKEE/CABLE
- UA519 CITY OF MILWAUKEE/CONDUIT

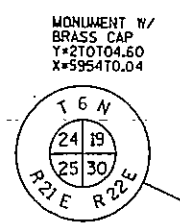
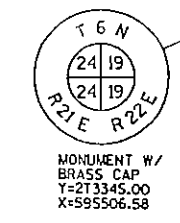
CURVE 1  
W-S  
P.I. = 289+15.88  
Y = 212052.75  
X = 594550.80  
Δ = 19°06'06"  
D = 00°34'26"  
R = 9984.75'  
T = 1679.98'  
L = 3328.78'

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (TYPICAL 3/4" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT BY WISCONSIN DOT SOUTHEAST REGION SURVEY.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

COORDINATES AND BEARINGS ON THE PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, MILWAUKEE COUNTY, HAD 1983 1997). ADJUSTMENT, ALL DISTANCES ARE GROUND LENGTH AND ARE REFERENCED TO GPS BARN POINTS GREENDALE GPS AND FRANKLIN S. GPS

I-43/894 REFERENCE LINE IS NORTH EDGE OF EASTBOUND MEDIAN LANE.



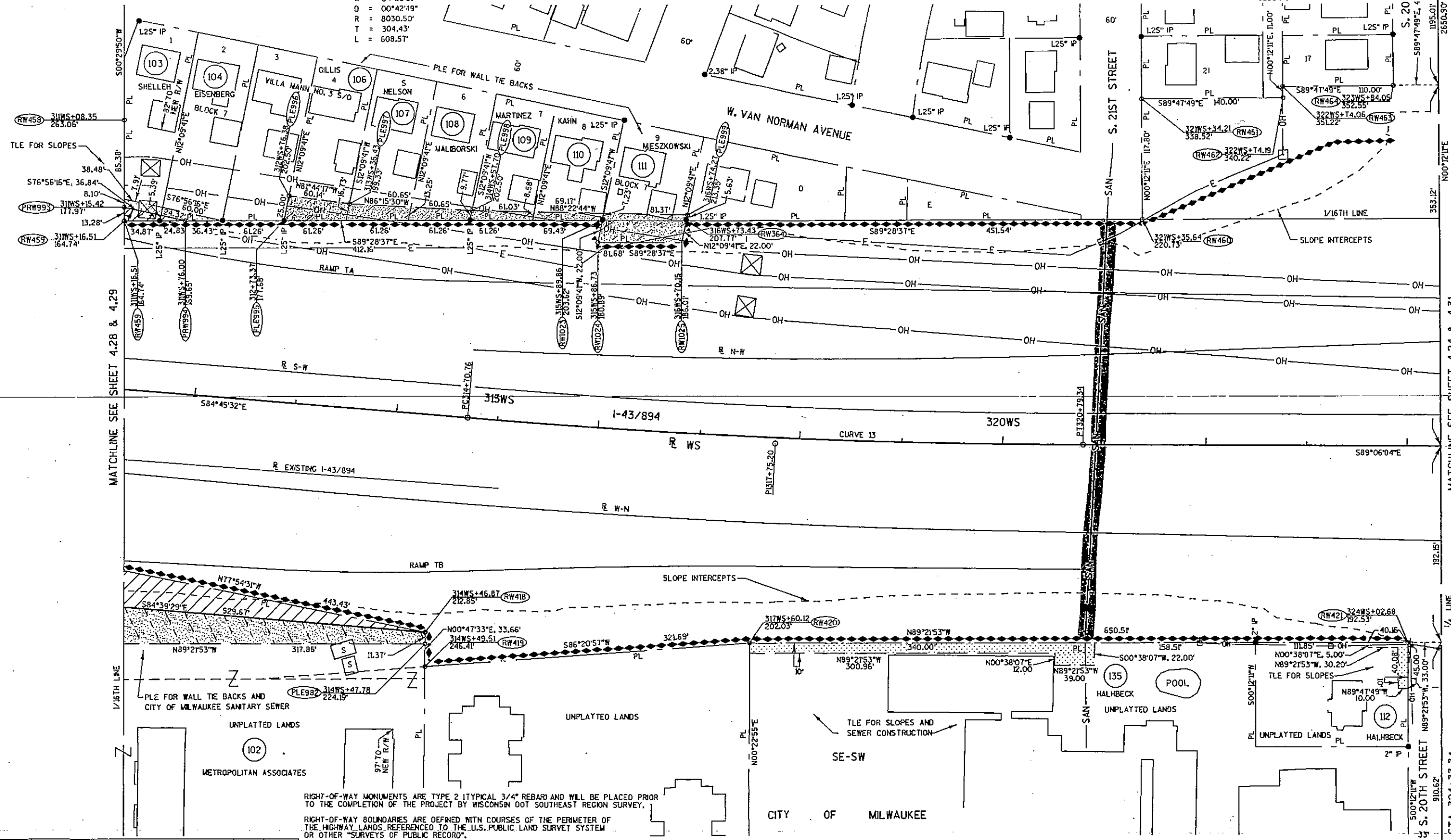
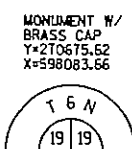
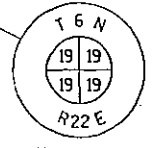
REVISION DATE SEPTEMBER 25, 2008 JUNE 22, 2009 OCTOBER 28, 2008 AUGUST 17, 2009 FEBRUARY 26, 2009 JANUARY XX, 2009	DATE JUNE 10, 2008	SCALE, FEET 0 50 100	HWY: IH-94	STATE R/W PROJECT NUMBER 1030-20-20	PLAT SHEET 429
			COUNTY: MILWAUKEE	CONSTRUCTION PROJECT NUMBER 1030-20-70	PS&E SHEET E

CURVE 13  
 W-S  
 P.I. = 317+75.20  
 Y = 21188.71  
 X = 591429.21  
 Δ = 04°20'31"  
 D = 00°42'19"  
 R = 8030.50'  
 T = 304.43'  
 L = 608.51'

(505) AMERICAN TRANSMISSION COMPANY  
 (500) WE ENERGIES - ELECTRIC  
 (503) AT&T WISCONSIN

NE-SW CITY OF MILWAUKEE

VILLA MANN NO. 3 S/O DLOCK 1



RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (TYPICAL 3/4" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT BY WISCONSIN DOT SOUTHEAST REGION SURVEY.  
 RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCE TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

COORDINATES AND BEARINGS ON THE PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, MILWAUKEE COUNTY, HAD 1983 1987 ADJUSTMENT. ALL DISTANCES ARE GROUND LENGTH AND ARE REFERENCED TO GPS HARN POINTS GREENDALE GPS AND FRANKLIN S. GPS  
 I-43/894 REFERENCE LINE IS NORTH EDGE OF EASTBOUND MEDIAN LANE.

HWY	BASIS OF EXISTING R/W	YEAR	WIDTH
I-43, I-894	I-894-T121306	1951	VARIABLE
I-43, I-894	I-894-T191306	1963	VARIABLE
S. 20TH STREET	VILLA MANN NO.3 S/O	1955	45'
S. 21ST STREET	VILLA MANN NO. 3 S/O	1955	60'

REVISION DATE OCTOBER 28, 2008 FEBRUARY 26, 2009 JUNE 22, 2009	DATE SEPTEMBER 25, 2008	SCALE, FEET 	HWY: I-94 COUNTY: MILWAUKEE	STATE R/W PROJECT NUMBER 1030-20-20 CONSTRUCTION PROJECT NUMBER 1030-20-70	PLAT SHEET 430 PS&E SHEET E
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UTILITY RELOCATIONS  
 I-94 NORTH-SOUTH FREEWAY  
 CITY OF MILWAUKEE UTILITY RELOCATIONS  
 OCTOBER 16, 2009

1030-21-48 - CITY OF MILWAUKEE WATER

Project	Const. Year	Design - City	Design - MTP	Construction	Inspection	Field Services	Change Orders	Total	Funding	City Share	State Share	Required Relocation	Agreement / Amendment Amount	Amendment Number	Remarks
1030-21-71 Grange Avenue Water Main Relocation	2008	\$94,694.41	\$20,847.69	\$1,955,643.00	\$99,130.00	\$4,685.00		\$2,175,000.00	90/10	\$217,500.00	\$1,957,500.00	477 LF 54" WM @ Grange & I-94	\$2,175,000.00	Original Agreement	
1030-20-70 South 27th Street, Barnard to Botsford	2009	\$218,804.75	\$18,380.25	\$938,000.00	\$99,130.00	\$4,685.00		\$1,275,000.00	90/10	\$127,500.00	\$1,147,500.00	528 LF 12" WM @ 27th Street & I-94	\$1,275,000.00	65	
1030-20-75 WB STH 119 (Airport Spur)	2009			\$0.00				\$0.00	90/10	\$0.00	\$0.00	N/A	\$0.00		
1030-20-77 Grange Avenue Overpass	2009			\$0.00				\$0.00	90/10	\$0.00	\$0.00	N/A	\$0.00		
1030-20-80 College Avenue Interchange	2009			\$0.00				\$0.00	90/10	\$0.00	\$0.00	N/A	\$0.00		
1030-21-74 Bolivar Avenue Realignment	2009	\$59,722.09	\$11,912.91	\$107,500.00	\$21,130.00	\$4,685.00		\$205,000.00	90/10	\$20,500.00	\$184,500.00	202 LF 16" WM @ Bolivar & 8th	\$205,000.00	68	
1030-21-78 2009 Advanced Utilities Contract	2009	\$448,752.62	\$34,249.62	\$1,801,000.00	\$114,830.00	\$16,187.76		\$2,415,000.00	90/10	\$241,500.00	\$2,173,500.00	726 LF 16" WM @ Layton & I-94; 368 LF 8" WM @ Malory & I-94	\$2,415,000.00	73	
1030-20-78 2009 Advanced Utilities Contract	2009	\$145,824.42	\$14,891.42	\$501,000.00	\$46,900.00	\$6,384.42		\$715,000.00	90/10	\$71,500.00	\$643,500.00	Remove Malory water main from AUC	\$715,000.00		
1030-20-71 Layton / NB Ramps / Collector Distributor / Walls	2010	\$75,242.73	\$40,950.63	\$601,600.00	\$31,400.00	\$30,806.64		\$780,000.00	90/10	\$78,000.00	\$702,000.00	Malory, Whitaker, N. & S. Layton Hyd; 20th Phase 1 - 15th Place Hyd; Halsey (all per ee) in contract; MTP design; City CIP costs	\$780,000.00	75	
1030-10-73 Storm and Sanitary Sewer	2010			\$0.00				\$0.00	90/10	\$0.00	\$0.00	N/A	\$0.00		
1030-20-72 Mitchell Interchange / NB & SB Mainline	2011	\$74,228.43	\$49,140.77	\$1,053,000.00	\$18,113.40	\$7,517.40		\$1,200,000.00	90/10	\$120,000.00	\$1,080,000.00	16" WM relocation @ 20th St & I-94; tunnel hydrants	\$1,200,000.00	80	
<b>Subtotal</b>		<b>\$823,070.81</b>	<b>\$158,590.63</b>	<b>\$5,955,743.00</b>	<b>\$334,833.40</b>	<b>\$82,162.38</b>	<b>\$0.00</b>	<b>\$7,335,000.00</b>		<b>\$733,500.00</b>	<b>\$6,601,500.00</b>		<b>\$7,335,000.00</b>		

1030-21-47 - CITY OF MILWAUKEE SEWER

Project	Const. Year	Design - City	Design - MTP	Construction	Inspection	Field Services	Change Orders	Total	Funding	City Share	State Share	Required Relocation	Agreement / Amendment Amount	Amendment Number	Remarks
1030-21-71 Grange Avenue Water Main Relocation	2008							\$0.00	90/10	\$0.00	\$0.00	N/A	\$0.00		
1030-20-70 South 27th Street, Barnard to Botsford	2009							\$0.00	90/10	\$0.00	\$0.00	N/A	\$0.00		
1030-20-75 WB STH 119 (Airport Spur)	2009							\$0.00	90/10	\$0.00	\$0.00	N/A	\$0.00		
1030-20-77 Grange Avenue Overpass	2009	\$34,578.20	\$30,585.89	\$345,762.00	\$17,288.10	\$0.00		\$428,222.19	90/10	\$42,822.22	\$385,399.97	646 LF 8" SAN @ Grange & I-94 (agreement as sent to C.O.)	\$428,222.19	Original Agreement	
1030-20-80 College Avenue Interchange	2009			\$0.00				\$0.00	90/10	\$0.00	\$0.00	N/A	\$0.00		
1030-21-74 Bolivar Avenue Realignment	2009	\$11,687.90	\$16,754.89	\$116,979.00	\$5,849.95	\$0.00		\$151,280.74	90/10	\$15,128.07	\$136,152.67	179 LF 21" SAN @ Bolivar & 8th	\$151,280.74	69	
1030-21-78 2009 Advanced Utilities Contract	2009	\$28,497.20	\$28,953.53	\$284,972.00	\$14,248.60	\$0.00		\$354,671.33	90/10	\$35,467.13	\$319,204.20	363 LF 10" SAN @ Malory & I-94	\$354,671.33	70	
1030-21-78 2009 Advanced Utilities Contract	2009	\$28,487.20	\$28,953.53	\$284,972.00	\$14,248.60	\$0.00		\$354,671.33	90/10	\$35,467.13	\$319,204.20	Remove Malory sewer from AUC	\$354,671.33	74	
1030-20-71 Layton / NB Ramps / Collector Distributor / Walls	2010	\$26,868.50	\$26,953.53	\$268,685.00	\$13,434.25	\$0.00		\$335,941.28	80/10	\$33,594.13	\$302,347.15	Malory sewer; Whitaker & 15th BLH MH adjustments in contract (all per ee) + (15%) city design and inspect; MTP design	\$335,941.28	76	
1030-10-73 Airport Freeway Sanitary Sewer	2010	\$129,769.50	\$41,522.98	\$1,287,695.00	\$64,384.75	\$0.00		\$1,522,372.23	80/10	\$152,237.22	\$1,370,135.01	Relocation of 15" sanitary sewer at 21st Street; 1863 LF new sewer crossing at Louisiana in contract (per ee) + (15% city design; MTP design)	\$1,522,372.23	79	
1030-20-72 Mitchell Interchange / NB & SB Mainline	2011							\$0.00	90/10	\$0.00	\$0.00	N/A	\$0.00		
<b>Subtotal</b>		<b>\$201,912.10</b>	<b>\$115,827.28</b>	<b>\$2,018,121.00</b>	<b>\$100,856.05</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$2,437,818.44</b>		<b>\$243,781.64</b>	<b>\$2,194,036.80</b>		<b>\$2,437,818.44</b>		
1030-20-77 Grange Avenue Overpass	2009	\$31,918.20	\$30,585.89	\$318,182.00	\$15,958.10	\$0.00		\$397,655.18	90/10	\$39,765.52	\$357,889.67	Cost estimate used to develop Amendment 88	\$397,655.19		

1030-21-48 - CITY OF MILWAUKEE CABLE

Project	Const. Year	Design - City	Design - MTP	Construction	Inspection	Field Services	Change Orders	Total	Funding	City Share	State Share	Required Relocation	Agreement / Amendment Amount	Amendment Number	Remarks
1030-21-71 Grange Avenue Water Main Relocation	2008							\$0.00	90/10	\$0.00	\$0.00	N/A	\$0.00		
1030-20-70 South 27th Street, Barnard to Botsford	2009	\$19,000.00	\$0.00	\$380,000.00	\$9,500.00	\$0.00		\$408,500.00	90/10	\$40,850.00	\$367,650.00	20th St. to 27th St. fiber & copper temp install; 20th St. reinstall; remove 20th to 27th temp; winter construction	\$408,500.00	Original Agreement	
1030-20-75 WB STH 119 (Airport Spur)	2009							\$0.00	90/10	\$0.00	\$0.00	N/A	\$0.00		
1030-20-77 Grange Avenue Overpass	2009							\$0.00	90/10	\$0.00	\$0.00	No re-installation at this time	\$0.00		
1030-20-80 College Avenue Interchange	2009	\$9,000.00	\$0.00	\$180,000.00	\$4,500.00	\$0.00		\$193,500.00	90/10	\$19,350.00	\$174,150.00	College to Ramsey fiber & copper temp install; reinstall College; remove College to Ramsey temp; winter construction	\$193,500.00	Original Agreement	
1030-21-74 Bolivar Avenue Realignment	2009							\$0.00	90/10	\$0.00	\$0.00	N/A	\$0.00		
1030-21-78 2009 Advanced Utilities Contract	2009							\$0.00	90/10	\$0.00	\$0.00	N/A	\$0.00		
1030-20-71 Layton / NB Ramps / Collector Distributor / Walls	2010	\$8,088.98	\$0.00	\$80,888.58	\$3,043.48	\$0.00		\$70,000.00	90/10	\$7,000.00	\$63,000.00	Removal & reinstallation of copper & fiber at Layton and College per Layton workplan; assumed non-winter work	\$70,000.00	77	
1030-10-73 Storm and Sanitary Sewer	2010							\$0.00	90/10	\$0.00	\$0.00	N/A	\$0.00		
1030-20-72 Mitchell Interchange / NB & SB Mainline	2011	\$3,720.93	\$0.00	\$74,418.60	\$1,860.47	\$0.00		\$80,000.00	90/10	\$8,000.00	\$72,000.00	Removal & reinstallation of copper & fiber at 20th Street CD Road workplan; assumed non-winter work	\$80,000.00		
<b>Subtotal</b>		<b>\$37,807.89</b>	<b>\$0.00</b>	<b>\$895,288.18</b>	<b>\$18,903.95</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$752,000.00</b>		<b>\$75,200.00</b>	<b>\$676,800.00</b>		<b>\$752,000.00</b>		