

Addendum #1

Date: 1-12-11

To: Kentwood Manor - plan holders

Reference: Kentwood Manor Area – Drainage, Street, Water & Sewer Improvements

Subject: Addendum #1

Changes:

- 1) Clarification – The City of San Antonio is requiring the Contractor to blade lay the type B hot mix asphalt base in order to eliminate any potential “joint”. The intent is to eliminate a seam down the middle of the street which would allow storm water to infiltrate and cause pavement failures. The type “D” surface course will be machine laid in accordance with standard specification item 205 “Hot Mix Asphaltic Concrete Pavement”.
- 2) Clarification – The R-3578 grate inlets specified will need a concrete top fabricated with the appropriate frames for the grates and must carry HS-20 traffic loads.
- 3) Modification – The Unit Pricing Form #025 has had several items modified. The new form is attached and must be used for bidding purposes.
- 4) Plan sheet #10 & #11 have been modified to match the changes with the Unit Pricing Form #025.
- 5) Plan sheet #94 has been modified to indicate the correct elevations in the right and left side bars.
- 6) SAWS Water Plan sheet #3 has been modified to match the changes with the Unit Pricing Form #025.
- 7) SAWS Water Plan sheet #46 has been modified placing the 8” water line over the storm water line and eliminating the 24” carrier pipe.
- 8) SAWS Water Plan sheet #48 has only 10’ of 24” carrier pipe at or near station 8+00, see change 9.



- 9) SAWS Water Plan sheet #49 has 8' of 24" carrier pipe at or near station 8+00, see change 8. There is a total of 18' of carrier pipe at this location, split on two sheets.
- 10) SAWS Sewer Plan Cover sheet and Sheet #3 have been updated to include added sheets (item #11) corrected quantities.
- 11) The project is located within the Edwards Aquifer Recharge Zone, an SCS has been submitted to TCEQ and the following plan sheets have been added to the plan set in order to achieve TCEQ approval. There are no additional materials from the original bid set, this is just additional information on the same design. The additional sheets are as follows:
 - Sheets: 5G, 5H, 5I
 - Sheets: 6I, 6J, 6K, 6L,
 - Sheets: 7G, 7H, 7I,
 - Sheets: 8D
 - Sheets: 9G, 9H, 9I
 - Sheets: 10D
 - Sheets: 11G, 11H
 - Sheets: 12A-G

**CITY OF SAN ANTONIO
DEPARTMENT OF CAPITAL IMPROVEMENTS MANAGEMENT SERVICES
CONTRACT SERVICES DIVISION**

RECEIPT OF ADDENDUM NUMBER(S) 1 IS HEREBY ACKNOWLEDGED FOR PLANS AND SPECIFICATIONS FOR CONSTRUCTION OF Kentwood Manor Area Drainage, Street, Water & Sewer Improvements FOR WHICH BIDS WILL BE OPENED ON WEDNESDAY, JANUARY 19, 2011 AT 1P.M.

THIS ACKNOWLEDGEMENT MUST BE SIGNED AND RETURNED WITH THE BID PACKAGE.

Company Name: _____

Address: _____

City/State/Zip Code: _____

Date: _____

Signature

Print Name/Title

**KENTWOOD MANOR BOND PROJECT
STREETS & DRAINAGE
PHASE 1 & 2**

DIVISION I - EARTHWORK

ALT. NO.	ITEM NO.	BID ITEM DESCRIPTION	UNIT	QUANTITIES
	100.1	MOBILIZATION	L.S.	1
	100.2	INSURANCE & BOND	L.S.	1
	101.1	PREPARING RIGHT OF WAY	L.S.	1
	103.3	REMOVE CONCRETE SIDEWALKS & DRIVEWAYS	S.F.	29175
	104.1	STREET EXCAVATION	C.Y.	5164
	105.1	CHANNEL EXCAVATION	C.Y.	1318
	106.1	BOX CULVERT EXCAVATION & BACKFILL	C.Y.	1306
	107.1	EMBANKMENT (FINAL)(DENS CONT)(TY D)	C.Y.	85

DIVISION II - BASE & SURFACE COURSES

	202.1	PRIME COAT	GAL.	8765
	203.1	TACK COAT	GAL.	1252
	205.2	HOT MIX ASPH PVMNT, TYPE B (5" COMP. DEPTH)	S.Y.	25042
	205.4	HOT MIX ASPH PVMNT, TYPE D (2" COMP. DEPTH)	S.Y.	23227
	234	TRIAx GEOGRID (TX5)	S.Y.	24223

DIVISION III - CONCRETE & CONCRETE STRUCTURES

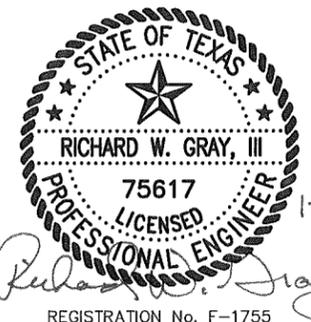
	306.1	STRUCTURAL EXCAVATION	C.Y.	1685
	307.1	CONC. STRUCT. (ABUTMENTS & WINGWALLS)	C.Y.	5
	307.1	CONC. STRUCT. (HEADWALLS /OUTFALL STRUCT.)	C.Y.	3
	309.1	PRECAST REINF. CONC. CULVERT (10' x 5')	L.F.	155
	309.1	PRECAST REINF. CONC. CULVERT (12' x 4')	L.F.	45

DIVISION IV - STORM DRAINS

	401.1	REINFORCED CONCRETE PIPE (CLASS III)(24" DIA)	L.F.	2289
	401.1	REINFORCED CONCRETE PIPE (CLASS III)(30" DIA)	L.F.	339
	401.1	REINFORCED CONCRETE PIPE (CLASS III)(36" DIA)	L.F.	173
	401.1	REINFORCED CONCRETE PIPE (CLASS III)(42" DIA)	L.F.	592
	401.1	REINFORCED CONCRETE PIPE (CLASS III)(48" DIA)	L.F.	50
	401.1	REINFORCED CONCRETE PIPE (CLASS III)(54" DIA)	L.F.	364
	401.1	REINFORCED CONCRETE PIPE (CLASS III)(60" DIA)	L.F.	100
	401.1	REINFORCED CONCRETE PIPE (CLASS III)(66" DIA)	L.F.	188
	401.1	REINFORCED CONCRETE PIPE (CLASS III)(72" DIA)	L.F.	224
	403	REINFORCED CONCRETE PIPE (CLASS III)(78" DIA)	L.F.	268
	403	4' STANDARD DEPTH MANHOLE	EA	13
	403	5' STANDARD DEPTH MANHOLE	EA	6
	403	4' X 6' JUNCTION BOX W/ MANHOLE COVER	EA	2
	403	4' X 6.5' JUNCTION BOX W/ MANHOLE COVER	EA	4
	403	6' X 8' JUNCTION BOX W/ MANHOLE COVER	EA	4
	403	8' X 10' JUNCTION BOX W/ MANHOLE COVER	EA	3
	403	6' X 15' JUNCTION BOX W/ MANHOLE COVER	EA	1
	403	13' X 13' JUNCTION BOX W/ MANHOLE COVER	EA	1
	403	15' X 13' JUNCTION BOX W/ MANHOLE COVER	EA	1
	403.1	JUNCTION BOX 4'X4'X4' W/ MANHOLE COVER	EA	2
	403.2	JUNCTION BOX 5'X5'X5' W/ MANHOLE COVER	EA	1
	403.3	JUNCTION BOX 6'X6'X6' W/ MANHOLE COVER	EA	2
	403	4' X 6.5' GRATE INLET BOX	EA	1
	403	5' X 5' GRATE INLET BOX	EA	22
	403	6' X 12' GRATE INLET BOX	EA	3
	407.1	CONCRETE ENCASEMENT	C.Y.	15
	407.3	CONCRETE SADDLES	C.Y.	8
	410.2	GRAVEL SUBGRADE FILLER (X < 100 C.Y.)	C.Y.	54
	413.2	FLOWABLE BACKFILL (HIGH STRENGTH)	C.Y.	43

DIVISION V - INCIDENTAL CONSTRUCTION

	500.1	CONCRETE CURBING (> 1,000 L.F.)	L.F.	50
	503.1	PORTLAND CEMENT CONC. DRIVEWAYS	S.Y.	3242
	505.1	CONCRETE RIPRAP (5" THICK)	S.Y.	135
	509.1	METAL BEAM GUARD RAIL	L.F.	24
	513.1	REMOVING AND RELOCATING MAIL BOXES	EA.	21
	515.1	TOPSOIL	C.Y.	1200
	516.1	BERMUDA SODDING	S.Y.	6800
	530.1	BARRICADES, SIGNS & TRAFFIC HANDLING	L.S.	1
	531.3	R1-1 STOP (30")(HIGH DENSITY)	EA.	16
	531.4	R1-2 YIELD (36")(HIGH DENSITY)	EA.	1
	531.53	W14-1 DEAD END (30"x30")(HIGH DENSITY)	EA.	1
	531.56	OM-4P END OF RD. MARKER (18"x18")(HIGH DENSITY)	EA.	1
	531.57	9 INCH S.T NAME, BLK. No. (VARIES x9")(HIGH DENSITY)	EA.	26
	531.63	W16-2 400 FT (DIAMOND GRADE (30"x18")(FLR. YEL. GRN))	EA.	1
	540.1	ROCK FILTER DAMS (INSTALL/REMOVE) (TYPE 1)	L.F.	200
	540.1	ROCK FILTER DAMS (INSTALL/REMOVE) (TYPE 2)	L.F.	280
	540.6	CONSTRUCTION EXITS INSTALL	S.Y.	24
	540.9	TEMPORARY SEDIMENT CONTROL FENCE	L.F.	12000
	540	INLET PROTECTION DEVICE	L.F.	1900
	550.1	TRENCH EXCAVATION SAFETY PROTECTION	L.F.	4787
	554.1	EROSION CONTROL MATTING	S.Y.	750
	570	CRUSHED ROCK	CY	22
	570	CRUSHED RED ROCK	CY	9
	570	RIVER ROCK	CY	15
	570	BRICK PAVERS	S.F.	90



No.	Revision	Drawn	Approved	Date
1	Addendum #1			1/12/11

REVISIONS



COYLE ENGINEERING
INTEGRITY KNOWLEDGE RESPONSIVENESS

COYLE ENGINEERING
 9120 OLD DIETZ ELKHORN ROAD
 SAN ANTONIO, TEXAS 78015
 Phone: 210 691-8434 fax: 830 755-8435 www.coyleengineering.com

CITY OF SAN ANTONIO
 CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

KENTWOOD MANOR BOND PROJECT
QUANTITY SUMMARY SHEET
 SHEET 1 OF 2

DRWN. BY: _____	PROJECT NO.: 40-00058	DATE: _____
DSGN. BY: _____	CHKD. BY: _____	SHEET NO.: 10

**KENTWOOD MANOR BOND PROJECT
STREETS & DRAINAGE
PHASE 3**

DIVISION I - EARTHWORK

ALT. NO.	ITEM NO.	BID ITEM DESCRIPTION	UNIT	QUANTITIES
1	100.1	MOBILIZATION	L.S.	1
1	100.2	INSURANCE & BOND	L.S.	1
1	101.1	PREPARING RIGHT OF WAY	L.S.	1
1	103.3	REMOVE CONCRETE SIDEWALKS & DRIVEWAYS	S.F.	8001
1	104.1	STREET EXCAVATION	C.Y.	1324
1	105.1	CHANNEL EXCAVATION	C.Y.	16
1	107.1	EMBANKMENT (FINAL)(DENS CONT)(TY D)	C.Y.	91

DIVISION II - BASE & SURFACE COURSES

1	202.1	PRIME COAT	GAL.	2905
1	203.1	TACK COAT	GAL.	415
1	205.2	HOT MIX ASPHALTIC PVM'NT, TYPE B (5" COMP. DPTH)	S.Y.	8299
1	205.4	HOT MIX ASPHALTIC PVM'NT, TYPE D (2.0" COMP. DPTH)	S.Y.	7703
1	234	TRIAx GEOGRID (TX5)	S.Y.	7438

DIVISION III - CONCRETE & CONCRETE STRUCTURES

1	306.1	STRUCTURAL EXCAVATION	C.Y.	105
1	307.1	CONC. STRUCTURE (ABUTMENTS & WINGWALLS)	C.Y.	4
1	307.1	CONC. STRUCT. (HEADWALLS/OUTFALL STRUCT.)	C.Y.	1

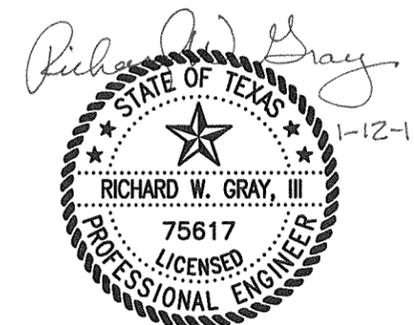
DIVISION IV - STORM DRAINS

1	401.1	REINFORCED CONCRETE PIPE (CLASS III)(24" DIA)	L.F.	1235
1	401.1	REINFORCED CONCRETE PIPE (CLASS III)(30" DIA)	L.F.	299
1	401.1	REINFORCED CONCRETE PIPE (CLASS III)(42" DIA)	L.F.	21
1	403	4' STANDARD DEPTH MANHOLE	EA	4
1	403	5' STANDARD DEPTH MANHOLE	EA	2
1	403.1	JUNCTION BOX 4'X4'X4' W/ MANHOLE COVER	EA	3
1	403.2	JUNCTION BOX 5'X5'X5' W/ MANHOLE COVER	EA	1
1	403	5' X 5' GRATE INLET BOX	EA	7
1	407.3	CONCRETE SADDLES	C.Y.	2
1	413.2	FLOWABLE BACKFILL (HIGH STRENGTH)	C.Y.	13

DIVISION V - INCIDENTAL CONSTRUCTION

1	503.1	PORTLAND CEMENT CONC. DRIVEWAYS	S.Y.	890
1	505.1	CONCRETE RIPRAP (5" THICK)	S.Y.	16
1	530.1	BARRICADES, SIGNS & TRAFFIC HANDLING	L.S.	1
1	531.3	R1-1 STOP (30")(HIGH DENSITY)	EA.	1
1	531.4	R1-2 YIELD (36")(HIGH DENSITY)	EA.	2
1	531.57	9 INCH ST. NAME, BLK No. (VARIES x9")(HIGH DENSITY)	EA.	4
1	540.1	ROCK FILTER DAMS (INSTALL/REMOVE) (TYPE 1)	L.F.	60
1	540.6	CONSTRUCTION EXISTS INSTALL.	S.Y.	12
1	540.6	CONSTRUCTION EXISTS REMOVE	S.Y.	12
1	540.9	TEMPORARY SEDIMENT CONTROL FENCE	L.F.	3500
1	540	INLET PROTECTION DEVICE	L.F.	300
1	550.1	TRENCH EXCAVATION SAFETY PROTECTION	L.F.	1600
1	554.1	EROSION CONTROL MATTING	S.Y.	30
1	570	LARGE ROCK	CY	22
1	570	LIMESTONE ROCK	CY	9
1	570	RIVER ROCK	CY	15
1	570	CRUSHED LIMESTONE	CY	90
1	570	CRUSHED GRANITE	CY	90

1



REGISTRATION No. F-1755

No.	Revision	Drawn	Approved	Date
1	Addendum #1			1/12/11

REVISIONS



COYLE ENGINEERING

9120 OLD DIETZ ELKHORN ROAD

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CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

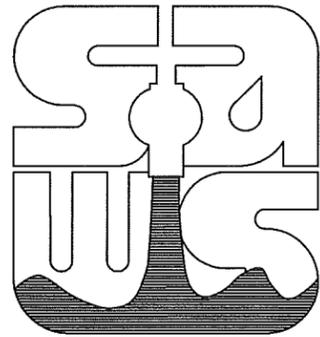
KENTWOOD MANOR BOND PROJECT

QUANTITY SUMMARY SHEET

SHEET 2 OF 2

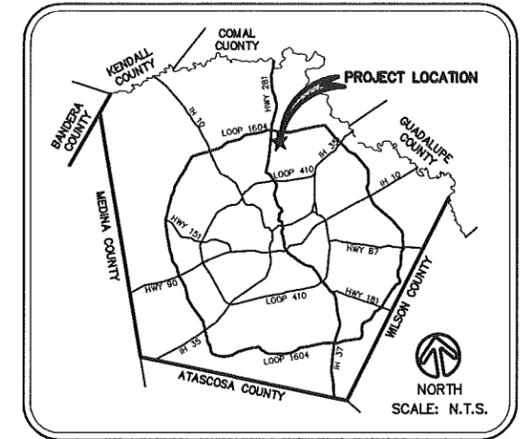
DRWN. BY:	PROJECT NO.: 40-00058	DATE:
DSGN. BY:	CHKD. BY:	SHEET NO.: 11

SAN ANTONIO WATER SYSTEM



JOB NO.: 08-5503

KENTWOOD MANOR BOND PROJECT SANITARY SEWER IMPROVEMENTS



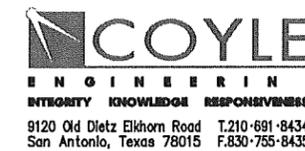
VICINITY MAP

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1 LOCATION MAP
SCALE 1"=400'
NORTH



Richard W. Gray, III
1-3-11

SAWS JOB No. 08-5503

JOB TITLE KENTWOOD MANOR BOND PROJECT

**KENTWOOD MANOR BOND PROJECT
SAWS Sewer Base Bid - (SAWS No.08-5503)
PHASE 1 & 2**

ALT. NO.	ITEM NO.	BID ITEM DESCRIPTION	UNIT	QUANTITIES
	100	Mobilization	LS	1
	101	Preparing Right of Way	LS	1
	550	Trench Excavation Safety Protection	LF	310
	848	8" PVC Sanitary Sewer Line. (0'-6')	LF	110
	848	8" PVC Sanitary Sewer Line. (6'-10')	LF	165
	848	8" PVC Sanitary Sewer Line. (10'-14')	LF	25
	848	8" PVC Sanitary Sewer Line. (18'-22')	LF	10
	852.1	Sanitary Sewer Manhole (0' - 6')	EA	31
	852.2	Sanitary Sewer Drop Manhole (0' - 6')	EA	1
	852.3	Extra Depth Manholes (> 6')	VF	69
	854	Sanitary Sewer Laterals (6")	LF	2751
	854.1	One-Way Sanitary Sewer Clean-out	EA	100
	860	Vertical Stacks	VF	90
	864	Bypass Pumping	LS	1
	866	Sewer Main Television Inspection (8" - 15")	LF	6845

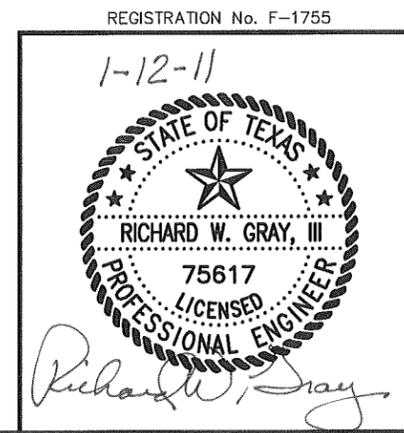


**KENTWOOD MANOR BOND PROJECT
SAWS Sewer Base Bid - (SAWS No.08-5503)
PHASE 3 (Additive Alternate)**

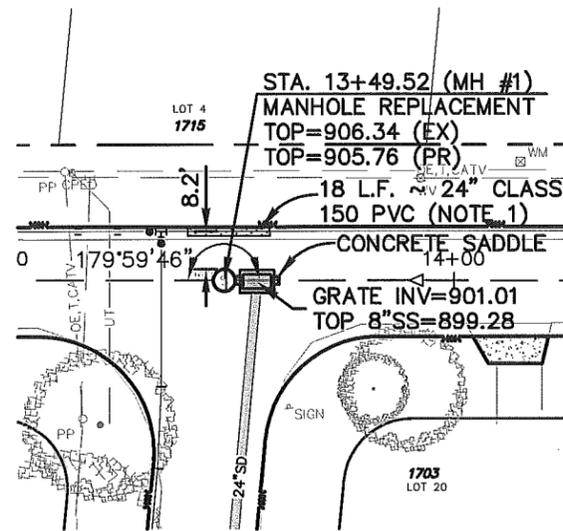
ALT. NO.	ITEM NO.	BID ITEM DESCRIPTION	UNIT	QUANTITIES
1	100	Mobilization	LS	1
1	101	Preparing Right of Way	LS	1
1	550	Trench Excavation Safety Protection	LF	100
1	848	8" PVC Sanitary Sewer Line. (0'-6')	LF	20
1	848	8" PVC Sanitary Sewer Line. (6'-10')	LF	60
1	848	8" PVC Sanitary Sewer Line. (10'-14')	LF	20
1	852.1	Sanitary Sewer Manhole (0' - 6')	EA	9
1	852.3	Extra Depth Manholes (> 6')	VF	21
1	851	Adjusting Existing Manholes (Watertight Ring & Cover)	EA	2
1	854	Sanitary Sewer Laterals (6")	LF	976
1	854.1	One-Way Sanitary Sewer Clean-out	EA	37
1	864	Bypass Pumping	LS	1
1	866	Sewer Main Television Inspection (8" - 15")	LF	2410

NOTE:
ALL SEWER SERVICES ARE LOCATED USING S.A.W.S. BLOCK MAPS, FIELD VERIFICATION OF LOCATION IS RESPONSIBILITY OF CONTRACTOR. LOCATION INDICATED ON PLANS IS DISTANCE FROM DOWN SLOPE MANHOLE.

Y:\08018-00\02\CADD\WCC_SS 11x17\wcc_ss03.dwg 2011/01/13 3:50pm tmorales

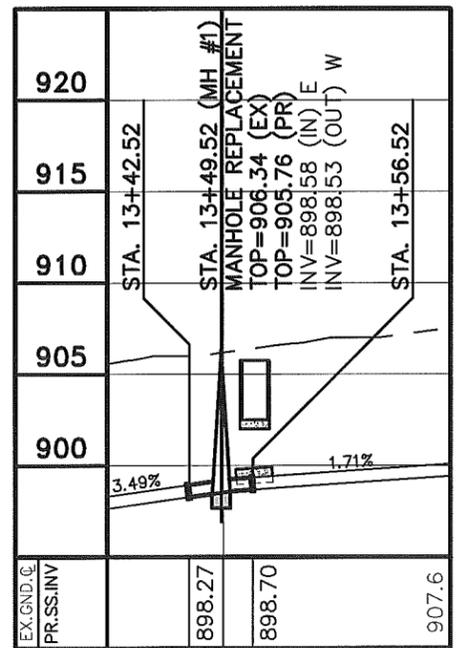


GENERAL NOTES AND QUANTITY SUMMARY																																												
<table border="0"> <tr> <td>PROP. WATER MAIN</td> <td>—○—</td> <td>2"</td> <td></td> <td></td> </tr> <tr> <td>EXIST. WATER MAIN</td> <td>—○—</td> <td>2"</td> <td></td> <td></td> </tr> <tr> <td>GAS MAIN</td> <td>—○—</td> <td>2"</td> <td></td> <td></td> </tr> <tr> <td>SANITARY SEWER</td> <td>—○—</td> <td>8"SA</td> <td></td> <td></td> </tr> <tr> <td>STORM SEWER</td> <td>—○—</td> <td>24"ST</td> <td></td> <td></td> </tr> <tr> <td>UTILITY POLE LINE</td> <td>—○—</td> <td></td> <td></td> <td></td> </tr> <tr> <td>ELECTRIC CABLE</td> <td>—E—</td> <td></td> <td></td> <td></td> </tr> <tr> <td>TELEPHONE CABLE</td> <td>—UT—</td> <td></td> <td></td> <td></td> </tr> </table>					PROP. WATER MAIN	—○—	2"			EXIST. WATER MAIN	—○—	2"			GAS MAIN	—○—	2"			SANITARY SEWER	—○—	8"SA			STORM SEWER	—○—	24"ST			UTILITY POLE LINE	—○—				ELECTRIC CABLE	—E—				TELEPHONE CABLE	—UT—			
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KENTWOOD MANOR SANITARY SEWER IMPROVEMENTS																																												
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SECT. No.																																												
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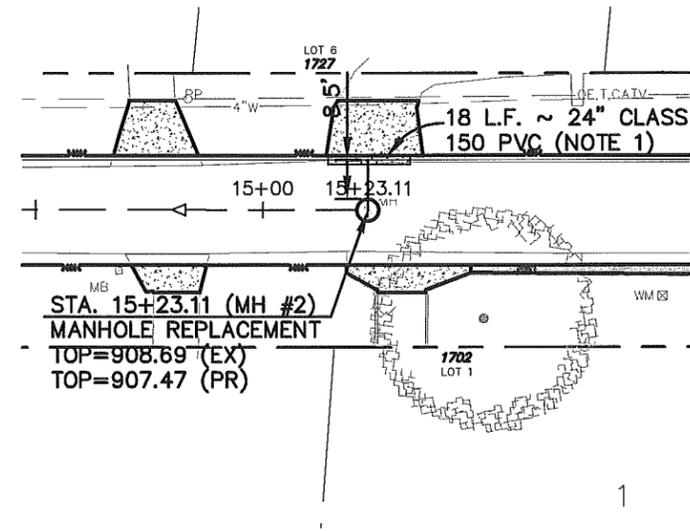


**SUMMERWOOD DRIVE - MH #1
PHASE 2**

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

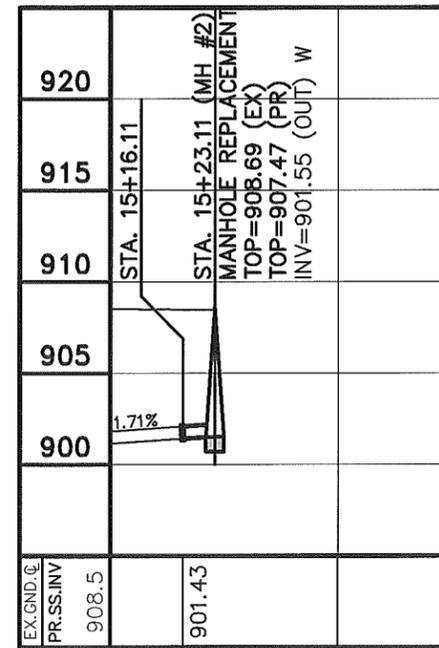


14+00



**SUMMERWOOD DRIVE - MH #2
PHASE 2**

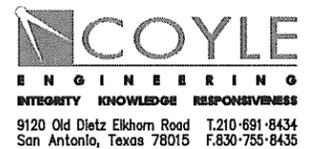
SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'



15+00

NOTE:

- 24" CLASS 150 P.V.C. WILL BE INSTALLED WITH THE WATER LINE INSTALLATION DIRECT BURIED, CENTERED ON THE MANHOLE. SPACERS SHALL SUPPORT THE PIPE ON 5' INTERVALS AND THE ENDS SHALL BE SEALED IN GROUT IN ACCORDANCE WITH 30 TAC 290.44(c)(5) AND S.A.W.S. ITEM 856.



REGISTRATION No. F-1755



Richard W. Gray
1-3-11

SUMMERWOOD DRIVE - LILLYCREST DRIVE TO COPPER HILL DRIVE

UTILITY LEGEND	
PROP. WATER MAIN	
EXIST. WATER MAIN	
GAS MAIN	
SANITARY SEWER	
STORM SEWER	
UTILITY POLE LINE	
ELECTRIC CABLE	
TELEPHONE CABLE	
DUAL BRANCH SERV.	
NEW UNMETERED SERVICE	
3/4" SINGLE	
1" DUAL	
SERVICE RECONNECT	
3/4"	
1" OR LARGER	
SERVICE RELAY	
3/4"	
1" OR LARGER	
SERVICE RELOCATE	
3/4"	
1" OR LARGER	
RELOCATE METER	
NEW SERVICE	
3/4"	
1" OR LARGER	

No.	Revision	Drawn	Approved	Date

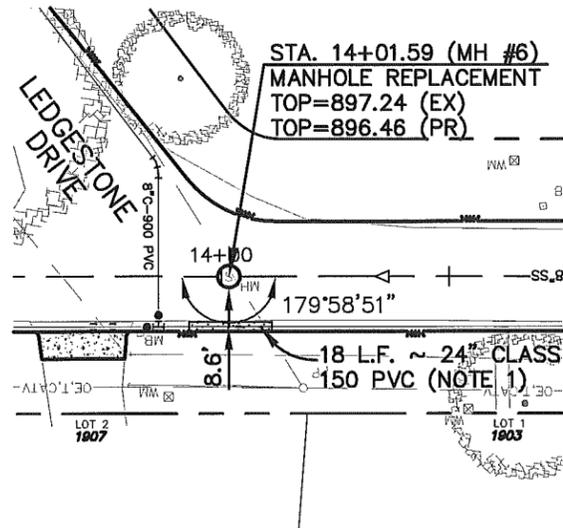
REVISIONS

**KENTWOOD MANOR
SANITARY SEWER
IMPROVEMENTS**

DEVELOPER: SAN ANTONIO WATER SYSTEM
CONT. BUDGET PROJ.

SUBMITTED _____
APPROVED _____

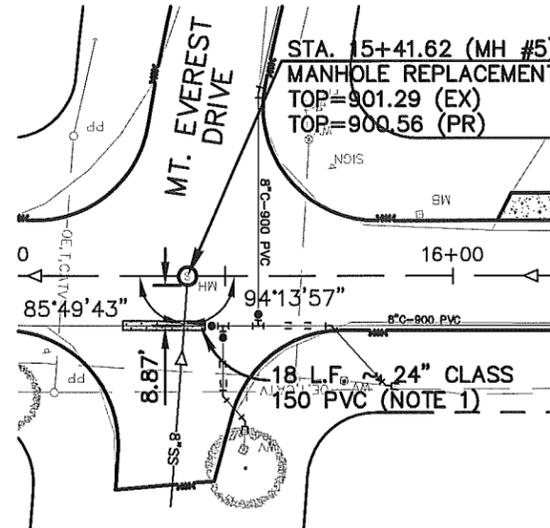
MAP No. 168-840, 170-840 SHEET
SECT. No. _____
DR. MVT CK. RWG JOB No. 08-5503 OF 56



SUMMERWOOD DRIVE - MH #6
PHASE 2

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

910					
905	STA. 13+94.59				
900	STA. 14+01.59 (MH #6) MANHOLE REPLACEMENT TOP=897.24 (EX) TOP=896.46 (PR) INV=886.35 (IN) W INV=886.32 (OUT) E				STA. 14+08.59
895					
890					
885				6.98%	4.06%
EX. GND. C.		885.83			
PR. SS. INV.		897.0			
		886.63			
					14+00

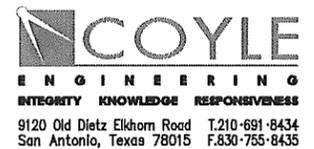


SUMMERWOOD DRIVE - MH #5
PHASE 2

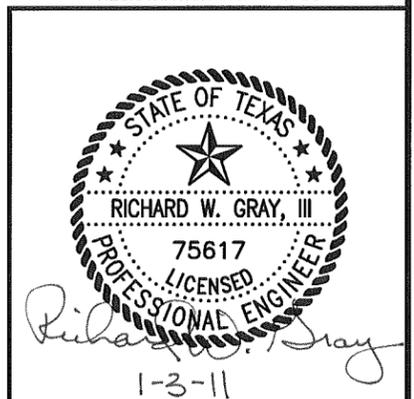
SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

915					
910					
905	STA. 15+34.62				
900	STA. 15+41.62 (MH #5) MANHOLE REPLACEMENT TOP=901.29 (EX) TOP=900.56 (PR) INV=892.42 (IN) W INV=892.23 (IN) N INV=892.03 (OUT) E				STA. 15+48.62
895					
890				4.06%	1.43%
EX. GND. C.		891.75			
PR. SS. INV.		892.52			
					902.3
					16+00

- NOTE:
- 24" CLASS 150 P.V.C. WILL BE INSTALLED WITH THE WATER LINE INSTALLATION DIRECT BURIED, CENTERED ON THE MANHOLE. SPACERS SHALL SUPPORT THE PIPE ON 5' INTERVALS AND THE ENDS SHALL BE SEALED IN GROUT IN ACCORDANCE WITH 30 TAC 290.44(c)(5) AND S.A.W.S. ITEM 856.



REGISTRATION No. F-1755



SUMMERWOOD DRIVE - LILLYCREST DRIVE TO COPPER HILL DRIVE

UTILITY LEGEND	
PROP. WATER MAIN	— 6" CL.M.
EXST. WATER MAIN	— 6" CL.M.
GAS MAIN	— 2" G.
SANITARY SEWER	— 8" SA.
STORM SEWER	— 24" ST.
UTILITY POLE LINE	— U.
ELECTRIC CABLE	— E.
TELEPHONE CABLE	— T.
DUAL BRANCH SERV.	— [Symbol]
NEW UNMETERED SERVICE	— [Symbol]
3/4" SINGLE	— [Symbol]
1" DUAL	— [Symbol]
SERVICE RECONNECT	— [Symbol]
3/4"	— [Symbol]
1" OR LARGER	— [Symbol]
SERVICE RELAY	— [Symbol]
3/4"	— [Symbol]
1" OR LARGER	— [Symbol]
SERVICE RELOCATE	— [Symbol]
3/4"	— [Symbol]
1" OR LARGER	— [Symbol]
RELOCATE METER	— [Symbol]
NEW SERVICE	— [Symbol]
3/4"	— [Symbol]
1" OR LARGER	— [Symbol]

No.	Revision	Drawn	Approved	Date

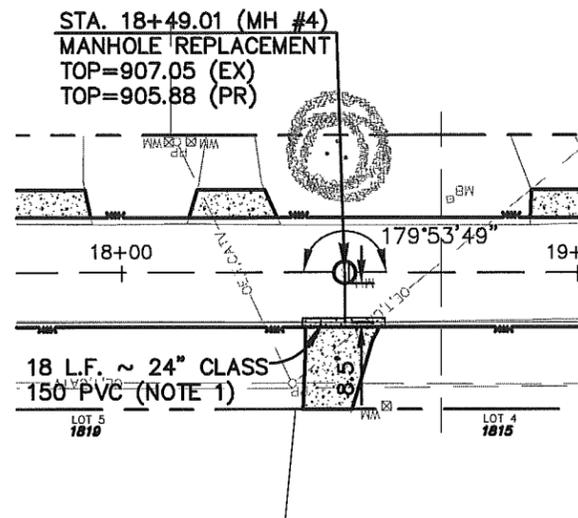
REVISIONS

**KENTWOOD MANOR
SANITARY SEWER
IMPROVEMENTS**

DEVELOPER: SAN ANTONIO WATER SYSTEM
CONT. BUDGET PROJ.

SUBMITTED _____
APPROVED _____

MAP No. 188-840, 170-840 SHEET
SECT. No. DR. MVT CK. RWG JOB No. 08-5503 OF 5H

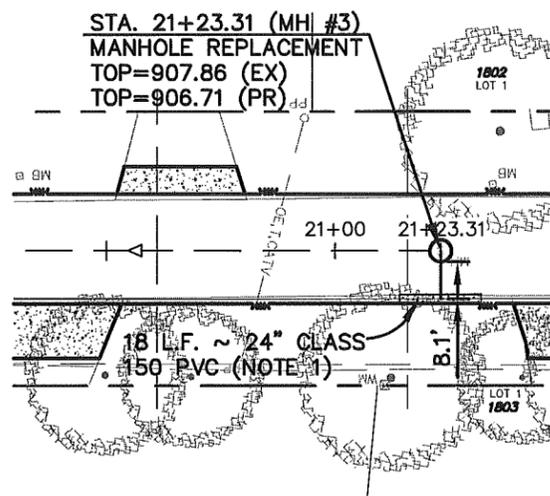


SUMMERWOOD DRIVE – MH #4
PHASE 2

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

920				
915	STA. 18+42.01	STA. 18+49.01 (MH #4)		STA. 18+56.01
910		MANHOLE REPLACEMENT		
905		TOP=907.05 (EX)		
900		TOP=905.88 (PR)		
895		INV=896.90 (IN) W		
		INV=896.81 (OUT) E		
EX.GND.C.		896.71		
PR.SS.INV		896.93		907.5

19+00



SUMMERWOOD DRIVE – MH #3
PHASE 2

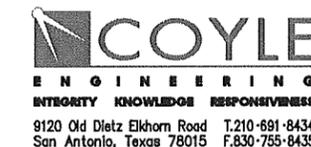
SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

920				
915		STA. 21+16.31		
910		STA. 21+23.31 (MH #3)		
905		MANHOLE REPLACEMENT		
900		TOP=907.86 (EX)		
895		TOP=906.71 (PR)		
		INV=898.12 (OUT) E		
EX.GND.C.		907.8		
PR.SS.INV		898.09		

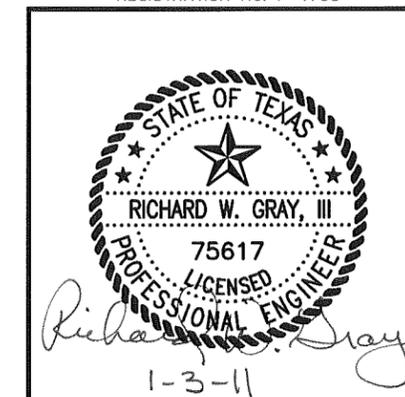
21+00

NOTE:

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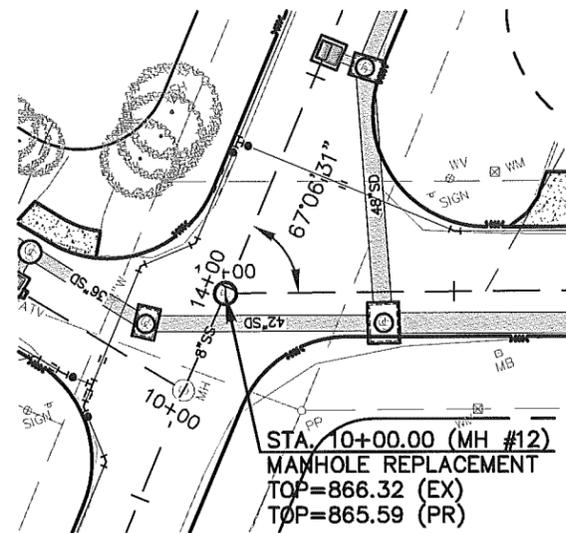


REGISTRATION No. F-1755



SUMMERWOOD DRIVE – LILLYCREST DRIVE TO COPPER HILL DRIVE

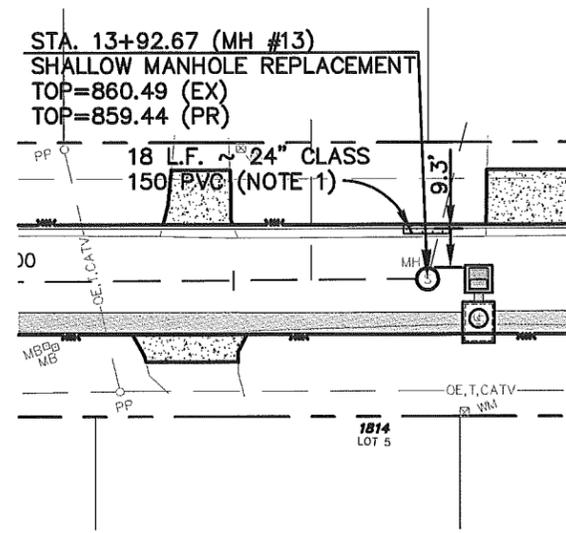
No.	Revision	Drawn	Approved	Date
REVISIONS				
 KENTWOOD MANOR SANITARY SEWER IMPROVEMENTS				
DEVELOPER: SAN ANTONIO WATER SYSTEM				
CONT. BUDGET PROJ.				
SUBMITTED				
APPROVED				
MAP No. 188-640, 170-640				
SHEET				
SECT. No.		JOB No. 08-5503 OF 51		
DR. MVT		CK. RWG		



MOUNT JOY DRIVE EAST – MH #12
PHASE 1

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

880	STA. 10+00.00 (MH #12) MANHOLE REPLACEMENT TOP=866.32 (EX) TOP=865.59 (PR) INV=855.62 (IN) NE INV=855.77 (IN) E INV=855.63 (OUT) SW	STA. 10+07.00
875		
870		
865		
860		
855		
EX.GND.☐ PR.SS.INV	866.3 855.80	0.46%
10+00		



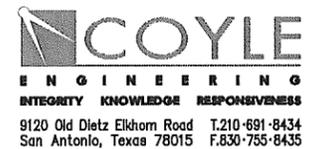
MOUNT JOY DRIVE EAST – MH #13
PHASE 1

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

880	STA. 13+92.67 (MH #13) SHALLOW MANHOLE REPLACEMENT TOP=860.49 (EX) TOP=859.44 (PR) INV=857.74 (IN) E INV=857.59 (OUT) W	STA. 13+85.67
875		
870		
865		
860		
855		
EX.GND.☐ PR.SS.INV	857.56	0.46%
14+00		

NOTE:

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REGISTRATION No. F-1755



Richard W. Gray
1-3-11

MOUNT JOY DRIVE EAST – MT. EVEREST DRIVE TO LEDGESTONE DRIVE

UTILITY LEGEND				
PROP. WATER MAIN		6" CL.W.		
EXIST. WATER MAIN		6" CL.W.		
GAS MAIN		8" CL.W.		
SANITARY SEWER		8" CL.W.		
STORM SEWER		24" ST.		
UTILITY POLE LINE				
ELECTRIC CABLE				
TELEPHONE CABLE				
DUAL BRANCH SERV.				
NEW UNMETERED SERVICE				
3/4" SINGLE				
1" DUAL				
SERVICE RECONNECT				
3/4"				
1" OR LARGER				
SERVICE RELAY				
3/4"				
1" OR LARGER				
SERVICE RELOCATE				
3/4"				
1" OR LARGER				
RELOCATE METER				
NEW SERVICE				
3/4"				
1" OR LARGER				

No.	Revision	Drawn	Approved	Date

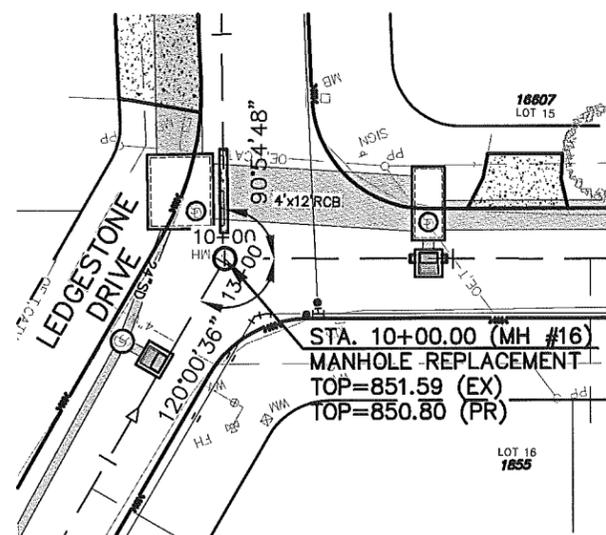
REVISIONS

**KENTWOOD MANOR
SANITARY SEWER
IMPROVEMENTS**

DEVELOPER: SAN ANTONIO WATER SYSTEM
CONT. BUDGET PROJ.

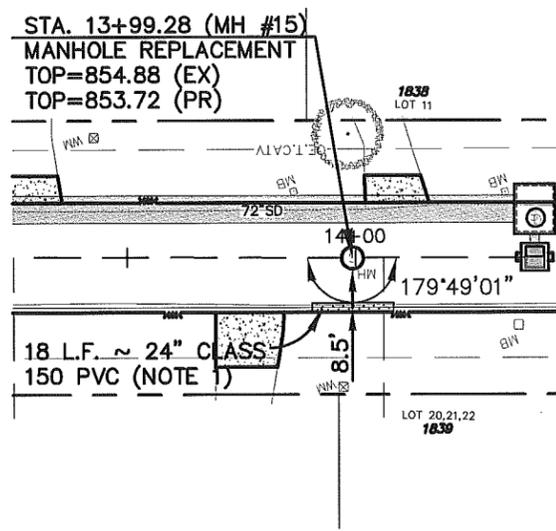
SUBMITTED _____
APPROVED _____

MAP No. 188-840, 170-840 SHEET
SECT. No. _____
DR. MVT CK. RWG JOB No. 08-5503 OF 81



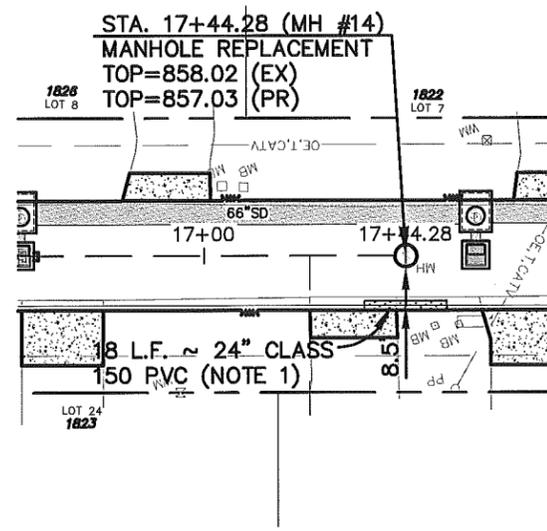
**MOUNT JOY DRIVE EAST
MH #16 – PHASE 1**

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'



**MOUNT JOY DRIVE EAST
MH #15 – PHASE 1**

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'



**MOUNT JOY DRIVE EAST
MH #14 – PHASE 1**

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

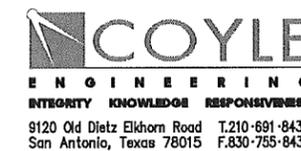
NOTE:

- 24" CLASS 150 P.V.C. WILL BE INSTALLED WITH THE WATER LINE INSTALLATION DIRECT BURIED, CENTERED ON THE MANHOLE. SPACERS SHALL SUPPORT THE PIPE ON 5' INTERVALS AND THE ENDS SHALL BE SEALED IN GROUT IN ACCORDANCE WITH 30 TAC 290.44(c)(5) AND S.A.W.S. ITEM 856.

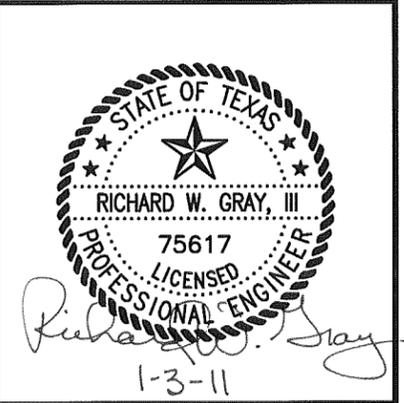
870	STA. 10+00.00 (MH #16) MANHOLE REPLACEMENT TOP=851.59 (EX) TOP=850.80 (PR) INV=844.23 (IN) NE INV=844.25 (IN) W INV=844.09 (OUT) S	STA. 10+07.00
865		
860		
855		
850		
845		
EX.GND.C PR.SS.INV		

870	STA. 13+99.28 (MH #15) MANHOLE REPLACEMENT TOP=854.88 (EX) TOP=853.72 (PR) INV=847.81 (IN) W INV=847.80 (OUT) E	STA. 14+06.28
865		
860		
855		
850		
845		
EX.GND.C PR.SS.INV		

870	STA. 17+44.28 (MH #14) MANHOLE REPLACEMENT TOP=858.02 (EX) TOP=857.03 (PR) INV=850.71 (OUT) E	STA. 17+37.28
865		
860		
855		
850		
845		
EX.GND.C PR.SS.INV		



REGISTRATION No. F-1755



MOUNT JOY DRIVE EAST – LEDGESTONE DRIVE TO MT. EVEREST DRIVE

UTILITY LEGEND				
PROP. WATER MAIN				
EXIST. WATER MAIN				
GAS MAIN				
SANITARY SEWER				
STORM SEWER				
UTILITY POLE LINE				
ELECTRIC CABLE				
TELEPHONE CABLE				
DUAL BRANCH SERV.				
NEW UNMETERED SERVICE:				
3/4" SINGLE				
1" DUAL				
SERVICE RECONNECT:				
3/4"				
1" OR LARGER				
SERVICE RELAY:				
3/4"				
1" OR LARGER				
SERVICE RELOCATE:				
3/4"				
1" OR LARGER				
RELOCATE METER				
NEW SERVICE:				
3/4"				
1" OR LARGER				

No.	Revision	Drawn	Approved	Date

REVISIONS

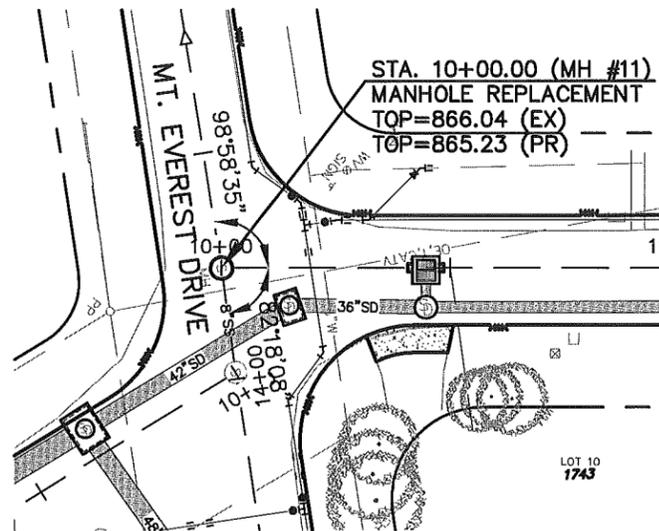
**KENTWOOD MANOR
SANITARY SEWER
IMPROVEMENTS**

DEVELOPER: SAN ANTONIO WATER SYSTEM
CONT. BUDGET PROJ.

SUBMITTED _____
APPROVED _____

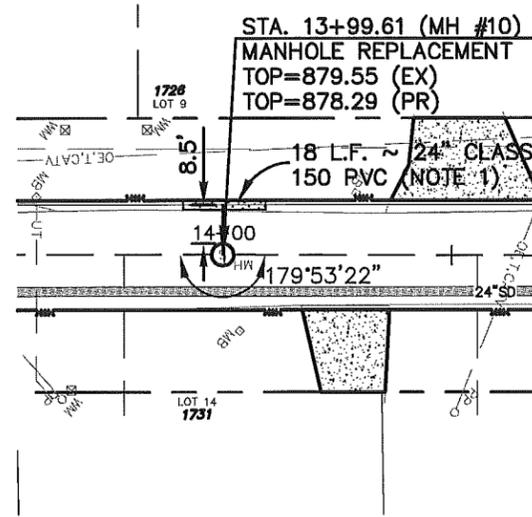
MAP No. 168-640, 170-640 SHEET
SECT. No. _____
DR. MVT [CK. RWG] JOB No. 08-5503 OF 6J

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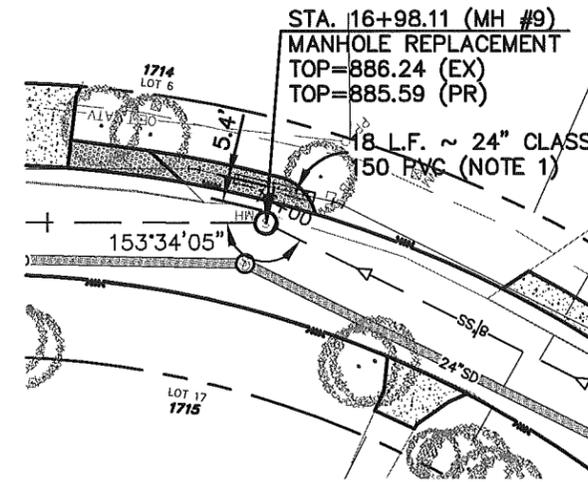
**MOUNT JOY DRIVE EAST
MH #11 - PHASE 1**

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'



**MOUNT JOY DRIVE EAST
MH #10 - PHASE 1**

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

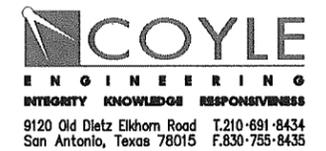


**MOUNT JOY DRIVE EAST
MH #9 - PHASE 1**

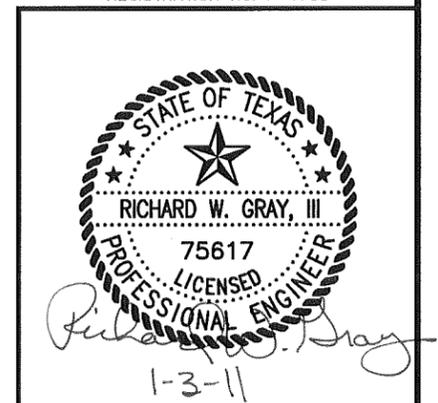
SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

NOTE:

- 24" CLASS 150 P.V.C. WILL BE INSTALLED WITH THE WATER LINE INSTALLATION DIRECT BURIED, CENTERED ON THE MANHOLE. SPACERS SHALL SUPPORT THE PIPE ON 5' INTERVALS AND THE ENDS SHALL BE SEALED IN GROUT IN ACCORDANCE WITH 30 TAC 290.44(c)(5) AND S.A.W.S. ITEM 856.



REGISTRATION No. F-1755



880	STA. 10+00.00 (MH #11) MANHOLE REPLACEMENT TOP=866.04 (EX) TOP=865.23 (PR) INV=855.47 (IN) NE INV=855.55 (IN) NW INV=855.48 (OUT) SW	875
870		865
860		855
855		855.85
EX.GND.⊕		866.0
PR.SS.INV		855.85
10+00		4.32%

900	STA. 13+99.61 (MH #10) MANHOLE REPLACEMENT TOP=879.55 (EX) TOP=878.29 (PR) INV=872.83 (IN) NW INV=872.90 (OUT) SE	895
890		885
880		875
875		873.07
EX.GND.⊕		872.52
PR.SS.INV		873.07
14+00		4.32%

905	STA. 16+98.11 (MH #9) MANHOLE REPLACEMENT TOP=886.24 (EX) TOP=885.59 (PR) INV=880.08 (IN) N INV=880.07 (OUT) SE	900
895		890
885		880
880		880.39
EX.GND.⊕		879.90
PR.SS.INV		880.39
17+00		4.44%

MOUNT JOY DRIVE EAST - MT. EVEREST DRIVE TO SUMMERWOOD DRIVE

UTILITY LEGEND				
PROP. WATER MAIN		8" CLW		
EXIST. WATER MAIN		8" CLW		
GAS MAIN		2"		
SANITARY SEWER		8" SA		
STORM SEWER		24" ST		
UTILITY POLE LINE				
ELECTRIC CABLE				
TELEPHONE CABLE				
DUAL BRANCH SERV.				
NEW UNMETERED SERVICE:				
3/4" SINGLE				
1" DUAL				
SERVICE RECONNECT:				
3/4"				
1" OR LARGER				
SERVICE RELAY:				
3/4"				
1" OR LARGER				
SERVICE RELOCATE:				
3/4"				
1" OR LARGER				
RELOCATE METER				
NEW SERVICE:				
3/4"				
1" OR LARGER				

No.	Revision	Drawn	Approved	Date

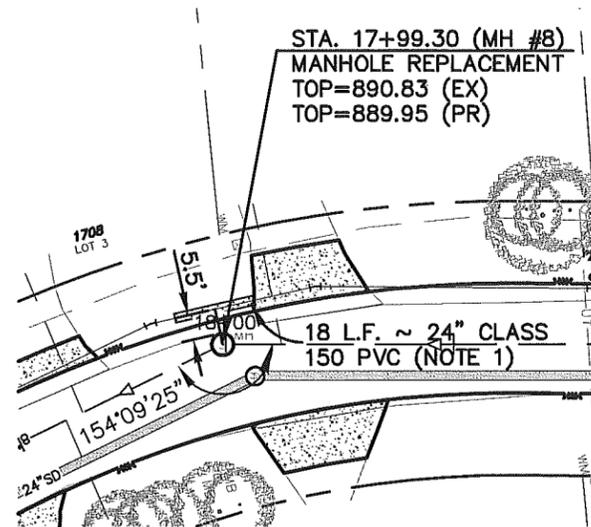
REVISIONS

**KENTWOOD MANOR
SANITARY SEWER
IMPROVEMENTS**

DEVELOPER: SAN ANTONIO WATER SYSTEM
CONT. BUDGET PROJ.

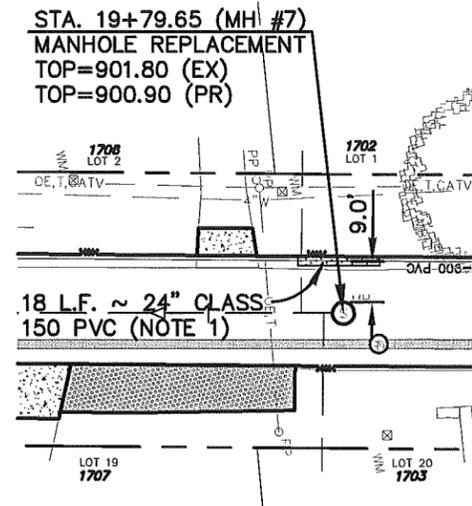
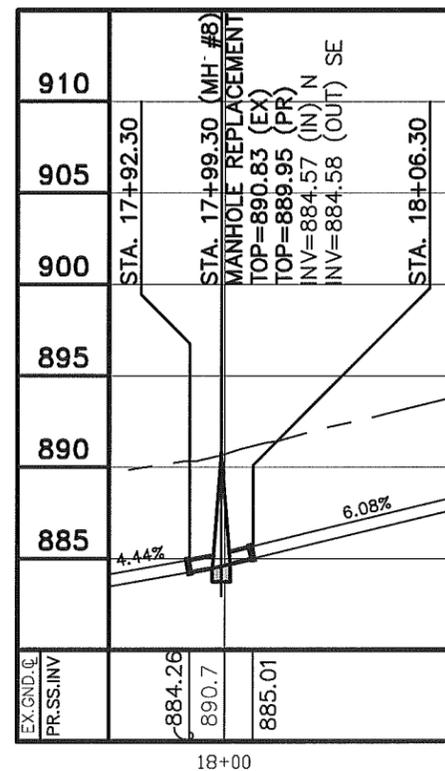
SUBMITTED _____
APPROVED _____

MAP No. 168-840, 170-840
SECT. No. _____ SHEET _____
DR. MVT CK. RWG JOB No. 08-5503 OF 8K



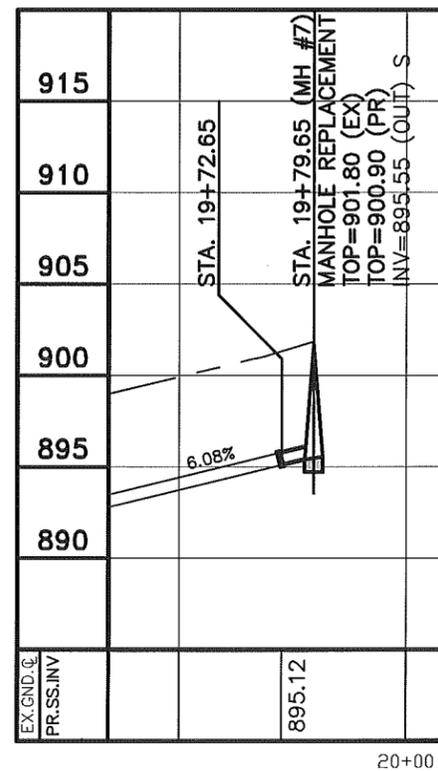
**MOUNT JOY DRIVE EAST
MH #8 - PHASE 1**

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'



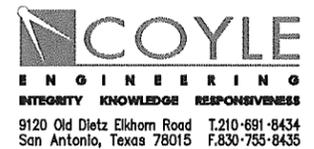
**MOUNT JOY DRIVE EAST
MH #7 - PHASE 1**

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

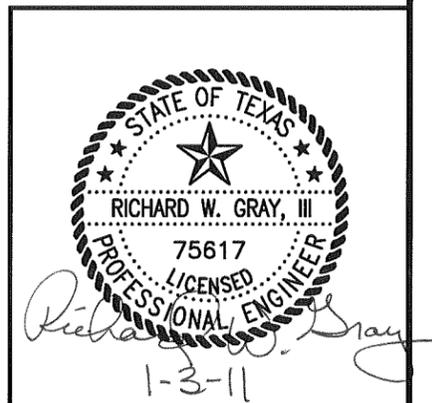


NOTE:

- 24" CLASS 150 P.V.C. WILL BE INSTALLED WITH THE WATER LINE INSTALLATION DIRECT BURIED, CENTERED ON THE MANHOLE. SPACERS SHALL SUPPORT THE PIPE ON 5' INTERVALS AND THE ENDS SHALL BE SEALED IN GROUT IN ACCORDANCE WITH 30 TAC 290.44(c)(5) AND S.A.W.S. ITEM 856.



REGISTRATION No. F-1755



MOUNT JOY DRIVE EAST - MT. EVEREST DRIVE TO SUMMERWOOD DRIVE

No.	Revision	Drawn	Approved	Date

REVISIONS

**KENTWOOD MANOR
SANITARY SEWER
IMPROVEMENTS**

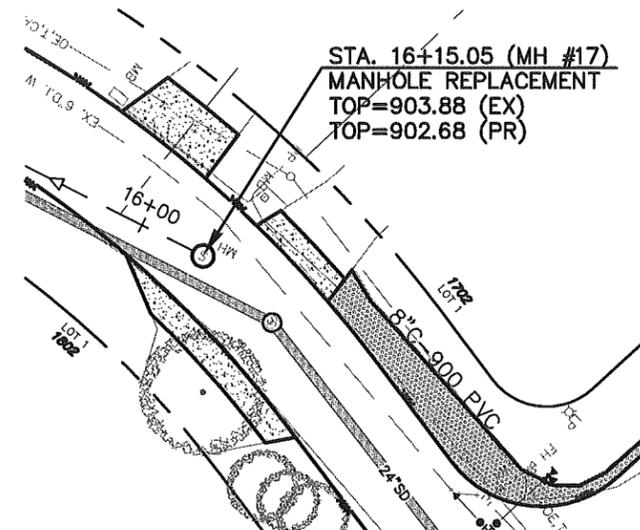
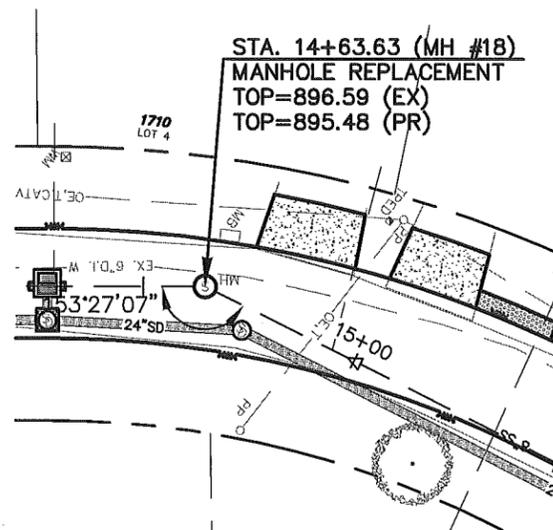
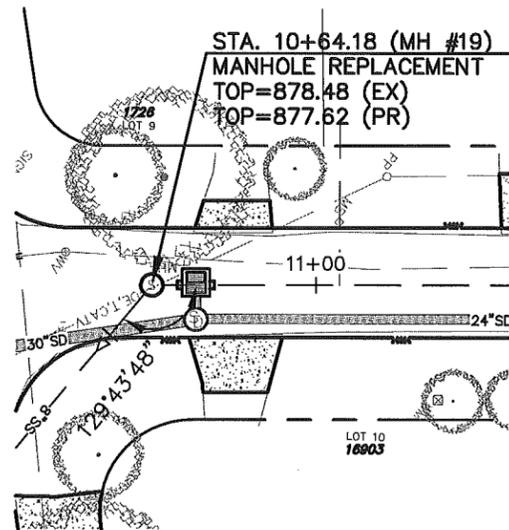
DEVELOPER: SAN ANTONIO WATER SYSTEM
CONT. BUDGET PROJ.

SUBMITTED _____
APPROVED _____

MAP No. 168-840, 170-840 SHEET
SECT. No. _____
DR. MVT CK. RWG JOB No. 08-5503 OF 6L

UTILITY LEGEND

- PROP. WATER MAIN
- EXIST. WATER MAIN
- GAS MAIN
- SANITARY SEWER
- STORM SEWER
- UTILITY POLE LINE
- ELECTRIC CABLE
- TELEPHONE CABLE
- DUAL BRANCH SERV.
- NEW UNMETERED SERVICE:
- 3/4" SINGLE
- 1" DUAL
- SERVICE RECONNECT:
- 3/4"
- 1" OR LARGER
- SERVICE RELAY:
- 3/4"
- 1" OR LARGER
- SERVICE RELOCATE:
- 3/4"
- 1" OR LARGER
- RELOCATE METER
- NEW SERVICE:
- 3/4"
- 1" OR LARGER



POPPY PEAK DRIVE EAST
MH #19 - PHASE 1

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

900				
895	STA. 10+57.18			
890		STA. 10+64.18 (MH #19) MANHOLE REPLACEMENT TOP=878.48 (EX) TOP=877.62 (PR) INV=871.61 (IN) NW INV=871.66 (OUT) E		STA. 10+71.18
885				
880				
875				
870				
EX. GND. @				
PR. SS. INV		871.60	871.91	880.1

11+00

POPPY PEAK DRIVE EAST
MH #18 - PHASE 1

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

915				
910	STA. 14+56.63			
905		STA. 14+63.63 (MH #18) MANHOLE REPLACEMENT TOP=896.59 (EX) TOP=895.48 (PR) INV=886.17 (IN) NW INV=886.16 (OUT) SE		STA. 14+70.63
900				
895				
890				
885				
EX. GND. @				
PR. SS. INV		885.91	886.50	898.2

15+00

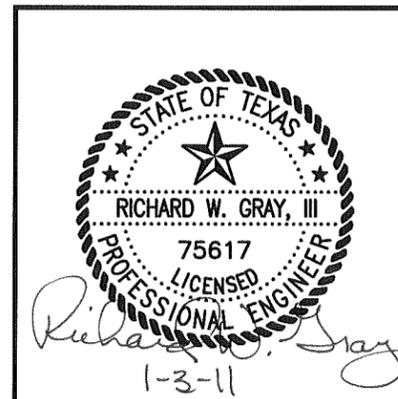
POPPY PEAK DRIVE EAST
MH #17 - PHASE 1

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

915				
910	STA. 16+08.05			
905		STA. 16+15.05 (MH #17) MANHOLE REPLACEMENT TOP=903.88 (EX) TOP=902.68 (PR) INV=893.20 (OUT) SE		
900				
895				
890				
885				
EX. GND. @				
PR. SS. INV		903.0	892.88	

16+00

COYLE
ENGINEERING
INTEGRITY KNOWLEDGE RESPONSIVENESS
9120 Old Dietz Elkhorn Road T.210-691-8434
San Antonio, Texas 78015 F.830-755-8435
REGISTRATION No. F-1755



POPPY PEAK DRIVE EAST - MT. EVEREST DRIVE TO SUMMERWOOD DRIVE

UTILITY LEGEND

- PROP. WATER MAIN: 6" CL. W.
- EXIST. WATER MAIN: 6" CL. W.
- GAS MAIN: 2" G.
- SANITARY SEWER: 8" SA
- STORM SEWER: 24" ST
- UTILITY POLE LINE: U
- ELECTRIC CABLE: E
- TELEPHONE CABLE: T
- DUAL BRANCH SERV. NEW UNMETERED SERVICE: 3/4" SINGLE
- 1" DUAL SERVICE RECONNECT: 3/4"
- 1" OR LARGER SERVICE RELAY: 3/4"
- 1" OR LARGER SERVICE RELOCATE: 3/4"
- 1" OR LARGER RELOCATE METER: 3/4"
- NEW SERVICE: 3/4"
- 1" OR LARGER: 1" OR LARGER

No.	Revision	Drawn	Approved	Date

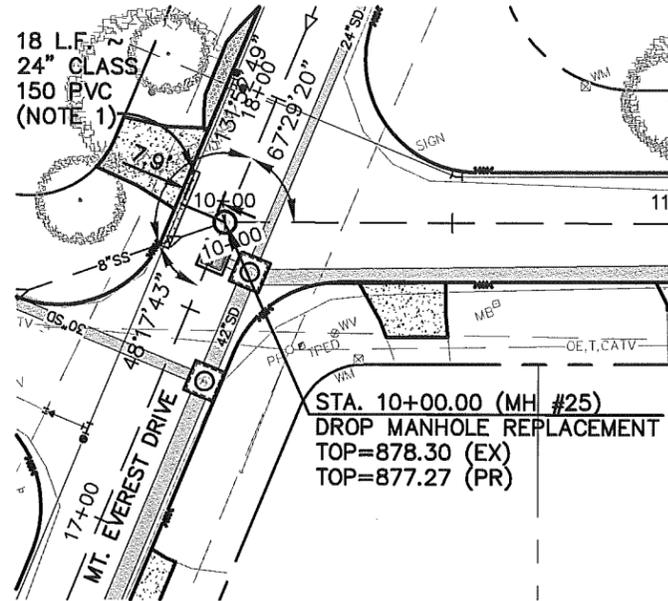
REVISIONS

**KENTWOOD MANOR
SANITARY SEWER
IMPROVEMENTS**

DEVELOPER: SAN ANTONIO WATER SYSTEM
CONT. BUDGET PROJ.

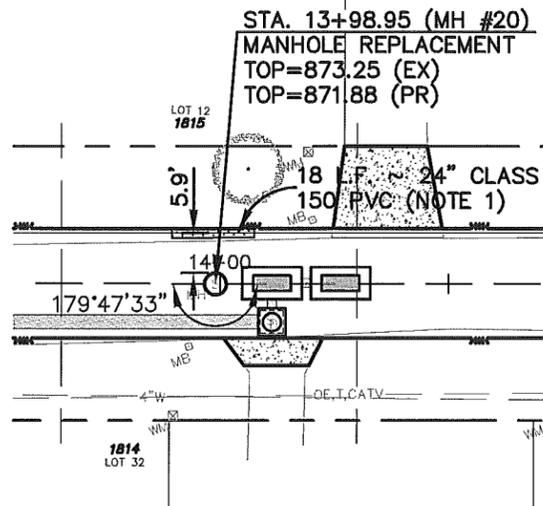
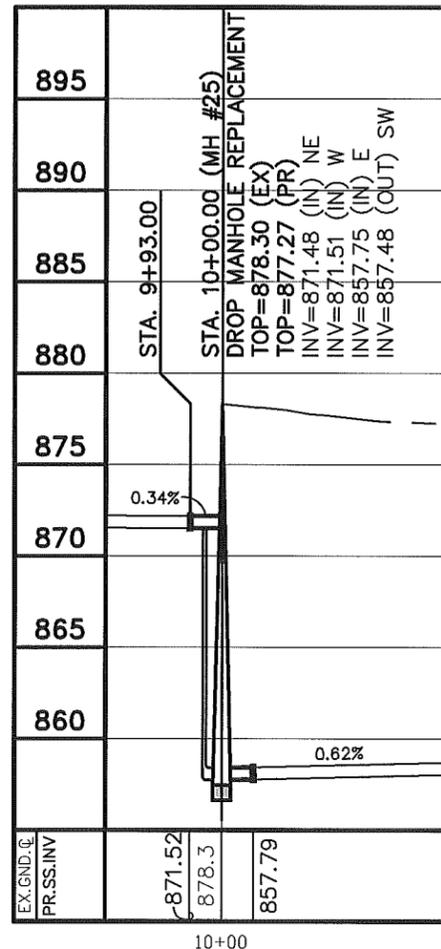
SUBMITTED _____
APPROVED _____

MAP No. 168-840, 170-840 SHEET
SECT. No. _____
DR. MVT CK. RWG JOB No. 08-5503 OF 76



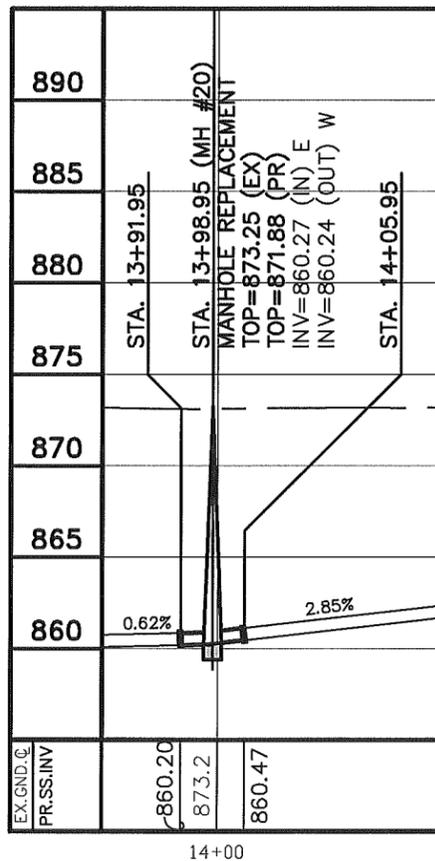
**POPPY PEAK DRIVE EAST
MH #25 – PHASE 1**

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'



**POPPY PEAK DRIVE EAST
MH #20 – PHASE 1**

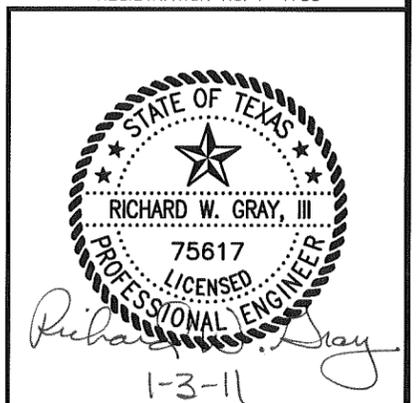
SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'



NOTE:

- 24" CLASS 150 P.V.C. WILL BE INSTALLED WITH THE WATER LINE INSTALLATION DIRECT BURIED, CENTERED ON THE MANHOLE. SPACERS SHALL SUPPORT THE PIPE ON 5' INTERVALS AND THE ENDS SHALL BE SEALED IN GROUT IN ACCORDANCE WITH 30 TAC 290.44(c)(5) AND S.A.W.S. ITEM 856.

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POPPY PEAK DRIVE EAST – MT. EVEREST DRIVE TO LEDGESTONE DRIVE

No.	Revision	Drawn	Approved	Date

REVISIONS

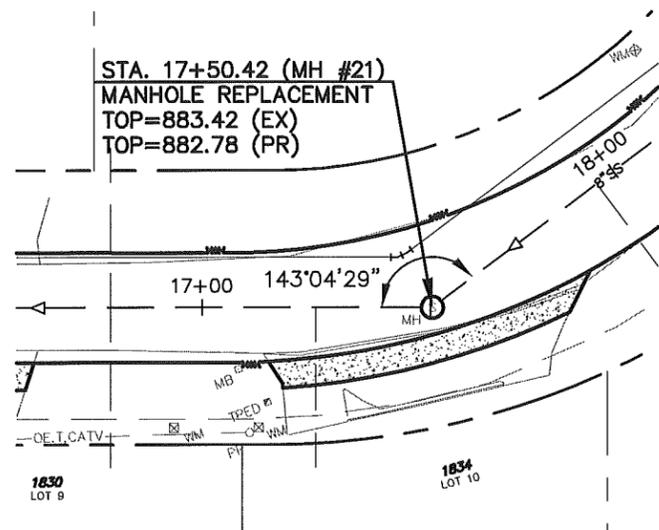
**KENTWOOD MANOR
SANITARY SEWER
IMPROVEMENTS**

DEVELOPER: SAN ANTONIO WATER SYSTEM
CONT. BUDGET PROJ.

SUBMITTED _____
APPROVED _____

MAP No. 168-840, 170-840 SHEET
SECT. No. _____
DR. MVT CK. RWG JOB No. 08-5503 OF 7H

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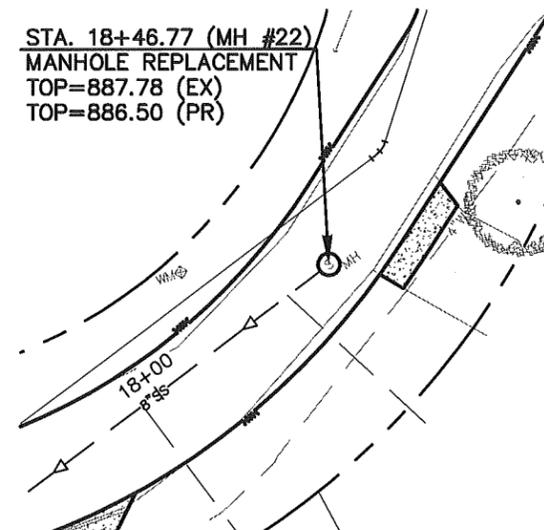


**POPPY PEAK DRIVE EAST
MH #21 - PHASE 1**

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

900				
895	STA. 17+43.42			
890		STA. 17+50.42 (MH #21) MANHOLE REPLACEMENT TOP=883.42 (EX) TOP=882.78 (PR) INV=870.31 (IN) E INV=870.27 (OUT) W		STA. 17+57.42
885				
880				
875				
870				
EX.GND.⊕				
PR.SS.INV				
		870.07	870.66	886.9

18+00



**POPPY PEAK DRIVE EAST
MH #22 - PHASE 1**

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

900				
895	STA. 18+39.77			
890		STA. 18+46.77 (MH #22) MANHOLE REPLACEMENT TOP=887.78 (EX) TOP=886.50 (PR) INV=875.14 (OUT) W		
885				
880				
875				
870				
EX.GND.⊕				
PR.SS.INV				
		874.79		

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Richard W. Gray
1-3-11

POPPY PEAK DRIVE EAST - MT. EVEREST DRIVE TO LEDGESTONE DRIVE

No.	Revision	Drawn	Approved	Date

REVISIONS

**KENTWOOD MANOR
SANITARY SEWER
IMPROVEMENTS**

DEVELOPER: SAN ANTONIO WATER SYSTEM
CONT. BUDGET PROJ.

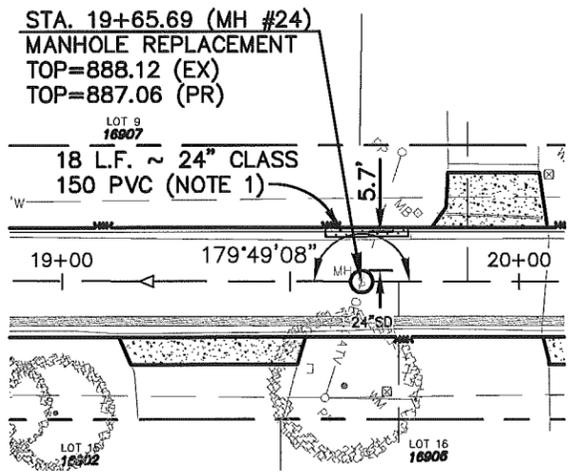
SUBMITTED _____
APPROVED _____

MAP No. 168-640, 170-640 SHEET
SECT. No. _____
DR. MVT CK. RWG JOB No. 08-5503 OF 71

UTILITY LEGEND

- PROP. WATER MAIN
- EXIST. WATER MAIN
- GAS MAIN
- SANITARY SEWER
- STORM SEWER
- UTILITY POLE LINE
- ELECTRIC CABLE
- TELEPHONE CABLE
- DUAL BRANCH SERV.
- NEW UNMETERED SERVICE:
- 3/4" SINGLE
- 1" DUAL
- SERVICE RECONNECT:
- 3/4"
- 1" OR LARGER
- SERVICE RELAY:
- 3/4"
- 1" OR LARGER
- SERVICE RELOCATE:
- 3/4"
- 1" OR LARGER
- RELOCATE METER
- NEW SERVICE:
- 3/4"
- 1" OR LARGER

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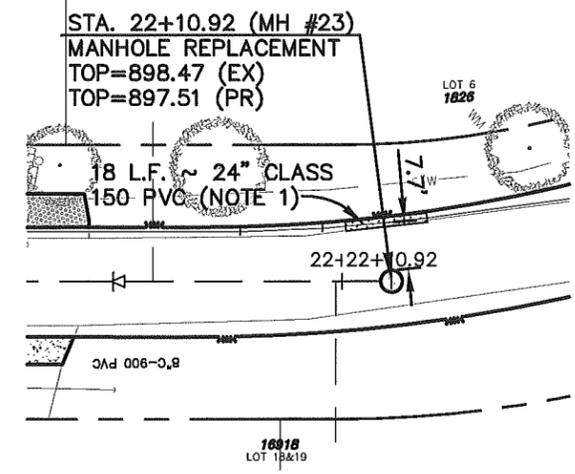


MT. EVEREST DRIVE – MH #24
PHASE 1

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

910				
905	STA. 19+58.69			
900		STA. 19+65.69 (MH #24) MANHOLE REPLACEMENT TOP=888.12 (EX) TOP=887.06 (PR) INV=880.16 (IN) NE INV=880.11 (OUT) SW		STA. 19+72.69
895				
890				
885				
880				
EX. GND. @				
PR. SS. INV		879.80	880.43	889.9

20+00



MT. EVEREST DRIVE – MH #23
PHASE 1

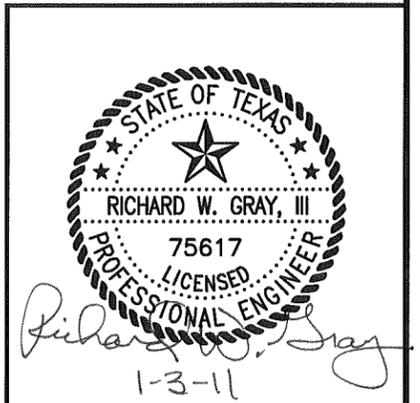
SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

910				
905	STA. 22+03.92			
900		STA. 22+10.92 (MH #23) MANHOLE REPLACEMENT TOP=898.47 (EX) TOP=897.51 (PR) INV=889.71 (OUT) SW		
895				
890				
885				
880				
EX. GND. @				
PR. SS. INV		898.0	889.44	

22+00

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MT. EVEREST DRIVE – POPPY PEAK DRIVE TO SUMMERWOOD DRIVE

UTILITY LEGEND

- PROP. WATER MAIN
- EXIST. WATER MAIN
- GAS MAIN
- SANITARY SEWER
- STORM SEWER
- UTILITY POLE LINE
- ELECTRIC CABLE
- TELEPHONE CABLE
- DUAL BRANCH SERV.
- NEW UNMETERED SERVICE:
- 3/4" SINGLE
- 1" DUAL
- SERVICE RECONNECT:
- 3/4"
- 1" OR LARGER
- SERVICE RELAY:
- 3/4"
- 1" OR LARGER
- SERVICE RELOCATE:
- 3/4"
- 1" OR LARGER
- RELOCATE METER
- NEW SERVICE:
- 3/4"
- 1" OR LARGER

No.	Revision	Drawn	Approved	Date

REVISIONS

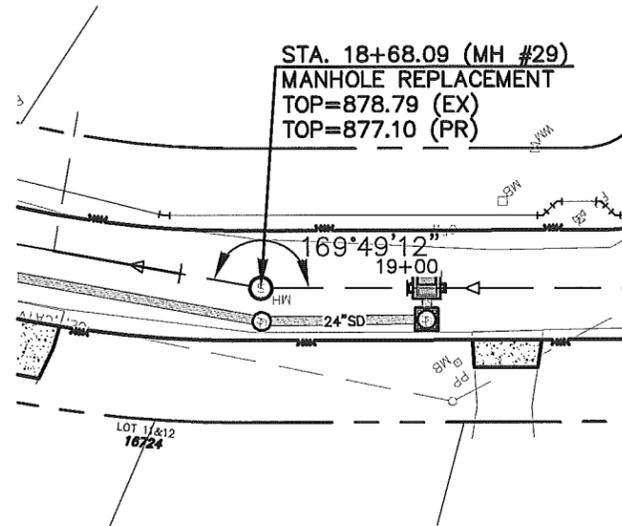
**KENTWOOD MANOR
SANITARY SEWER
IMPROVEMENTS**

DEVELOPER: SAN ANTONIO WATER SYSTEM
CONT. BUDGET PROJ.

SUBMITTED _____
APPROVED _____

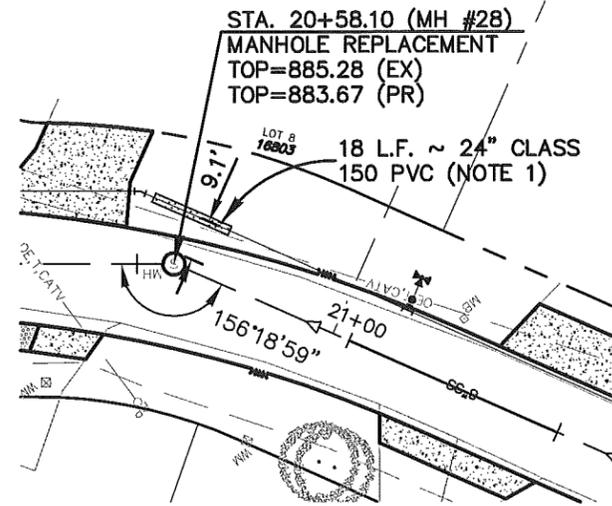
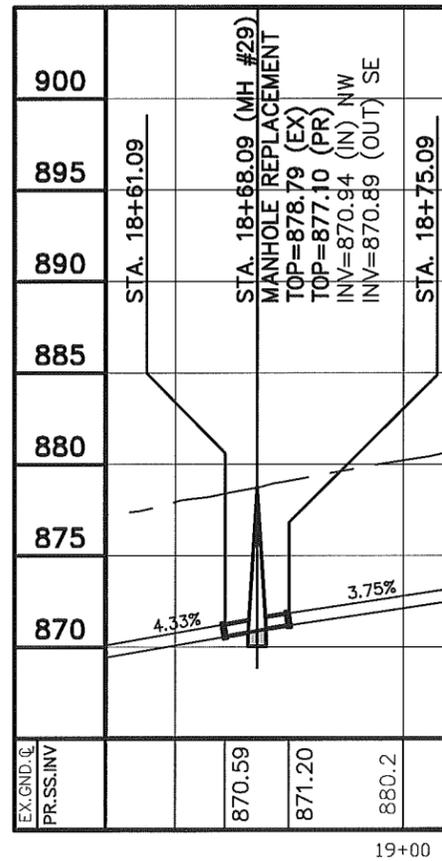
MAP No. 188-840, 170-840 SHEET
SECT. No. _____
DR. MVT CK. RWG JOB No. 08-5503 OF 8D

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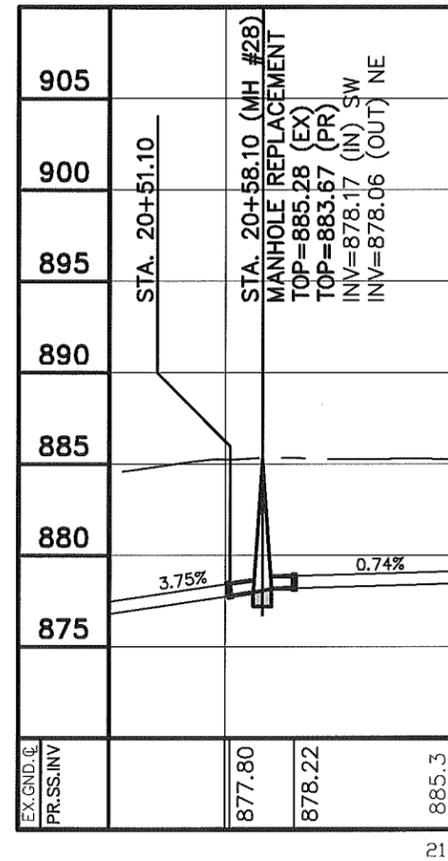
LEDGESTONE DRIVE – MH #29
PHASE 1

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'



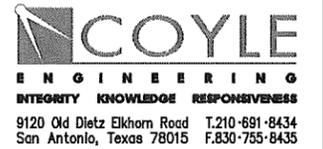
LEDGESTONE DRIVE – MH #28
PHASE 1

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'



NOTE:

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REGISTRATION No. F-1755



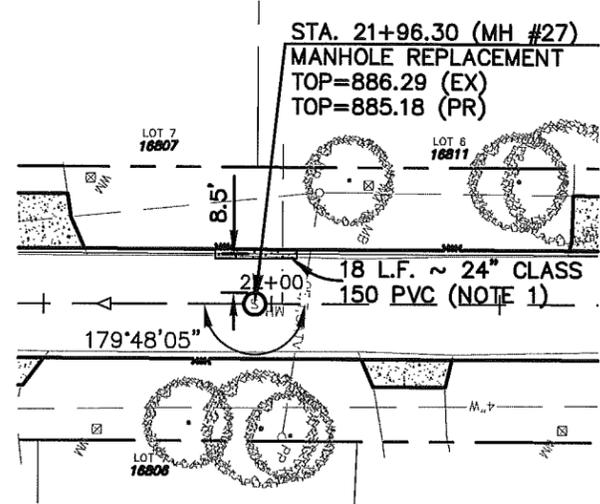
Richard W. Gray
1-3-11

LEDGESTONE DRIVE – MOUNT JOY DRIVE TO SUMMERWOOD DRIVE

UTILITY LEGEND		No.	Revision	Drawn	Approved	Date
PROP. WATER MAIN	— 6" CL. W. —					
EXIST. WATER MAIN	— 6" CL. W. —					
GAS MAIN	— 2" G. —					
SANITARY SEWER	— 8" S.A. —					
STORM SEWER	— 24" S.T. —					
UTILITY POLE LINE	— U.P.L. —					
ELECTRIC CABLE	— E. —					
TELEPHONE CABLE	— T. —					
DUAL BRANCH SERV.	— D.B.S. —					
NEW UNMETERED SERVICE	— U.S. —					
3/4" SINGLE	— 3/4" —					
1" DUAL	— 1" —					
SERVICE RECONNECT:	— S.R. —					
3/4"	— 3/4" —					
1" OR LARGER	— 1" —					
SERVICE RELAY:	— S.R. —					
3/4"	— 3/4" —					
1" OR LARGER	— 1" —					
SERVICE RELOCATE:	— S.R. —					
3/4"	— 3/4" —					
1" OR LARGER	— 1" —					
RELOCATE METER	— R.M. —					
NEW SERVICE:	— N.S. —					
3/4"	— 3/4" —					
1" OR LARGER	— 1" —					

REVISIONS

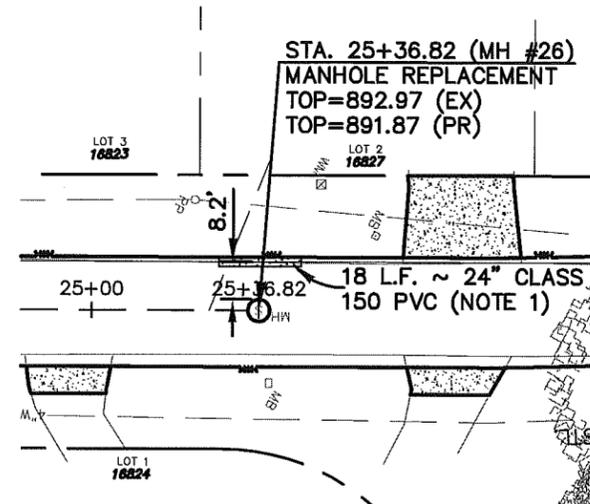
KENTWOOD MANOR SANITARY SEWER IMPROVEMENTS	
DEVELOPER: SAN ANTONIO WATER SYSTEM	
CONT.	BUDGET PROJ.
SUBMITTED	
APPROVED	
MAP No. 168-040, 170-040	SHEET
SECT. No.	DR. MVT CK. RWG JOB No. 08-5503 OF 9H



LEDGESTONE DRIVE – MH #27
PHASE 1

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

905				
900	STA. 21+89.30			
895		STA. 21+96.30 (MH #27) MANHOLE REPLACEMENT TOP=886.29 (EX) TOP=885.18 (PR) INV=879.20 (IN) NW INV=879.19 (OUT) SE		STA. 22+03.30
890				
885				
880	0.74%		1.85%	
875				
EX. GND. @		879.14		
PR. SS. INV		886.2	879.33	
		22+00		



LEDGESTONE DRIVE – MH #26
PHASE 1

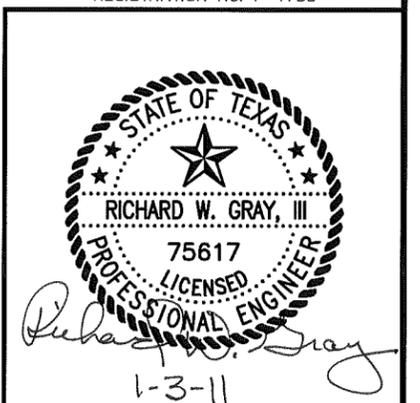
SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

905				
900	STA. 25+29.82			
895		STA. 25+36.82 (MH #26) MANHOLE REPLACEMENT TOP=892.97 (EX) TOP=891.87 (PR) 6" INV=888.59 (IN) NE INV=885.51 (OUT) SE		
890				
885	1.85%			
880				
875				
EX. GND. @		885.38		
PR. SS. INV				

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LEDGESTONE DRIVE – MOUNT JOY DRIVE TO SUMMERWOOD DRIVE

UTILITY LEGEND

- PROP. WATER MAIN
- EXIST. WATER MAIN
- GAS MAIN
- SANITARY SEWER
- STORM SEWER
- UTILITY POLE LINE
- ELECTRIC CABLE
- TELEPHONE CABLE
- DUAL BRANCH SERV.
- NEW UNMETERED SERVICE:
- 3/4" SINGLE
- 1" DUAL
- SERVICE RECONNECT:
- 3/4"
- 1" OR LARGER
- SERVICE RELAY:
- 3/4"
- 1" OR LARGER
- SERVICE RELOCATE:
- 3/4"
- 1" OR LARGER
- RELOCATE METER
- NEW SERVICE:
- 3/4"
- 1" OR LARGER

No.	Revision	Drawn	Approved	Date

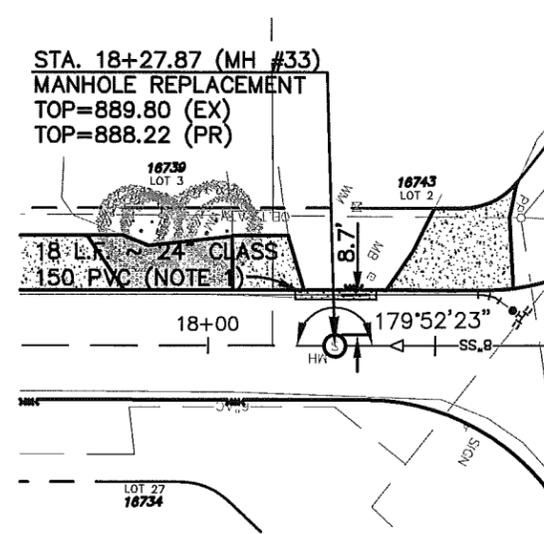
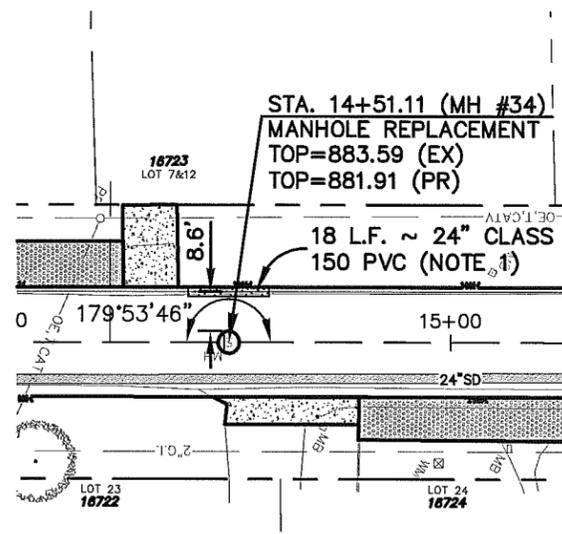
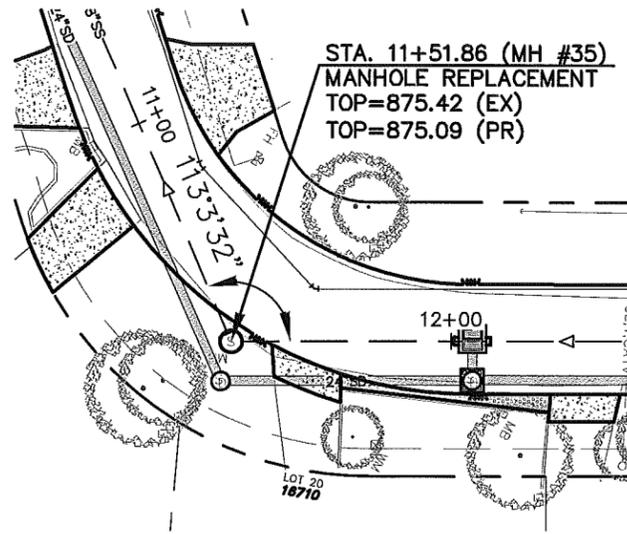
REVISIONS

**KENTWOOD MANOR
SANITARY SEWER
IMPROVEMENTS**

DEVELOPER: SAN ANTONIO WATER SYSTEM
CONT. [BUDGET PROJ.]

SUBMITTED _____
APPROVED _____

MAP No. 168-840, 170-840 SHEET
SECT. No. _____
DR. MVT [CK. RWG] JOB No. 08-5503 OF 91



NOTE:

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**LILLY CREST DRIVE – MH #35
PHASE 3**

**LILLY CREST DRIVE – MH #34
PHASE 3**

**LILLY CREST DRIVE – MH #33
PHASE 3**

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

900			
895	STA. 11+44.86		
890		STA. 11+51.86 (MH #35) MANHOLE REPLACEMENT TOP=875.42 (EX) TOP=875.09 (PR) INV=868.85 (IN) NW INV=868.61 (OUT) SW	STA. 11+58.86
885			
880			
875			
870			
EX.GND.Ⓞ			
PR.SS.INV			
		868.39	876.8

12+00

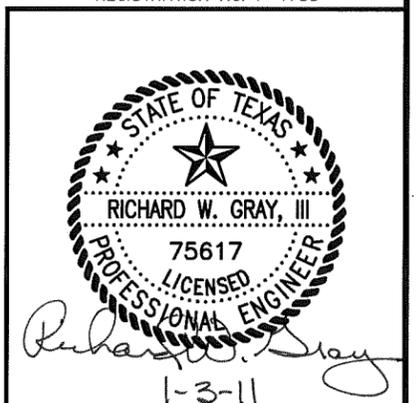
905			
900	STA. 14+44.11		
895		STA. 14+51.11 (MH #34) MANHOLE REPLACEMENT TOP=883.59 (EX) TOP=881.91 (PR) INV=875.78 (IN) NW INV=875.70 (OUT) SE	STA. 14+58.11
890			
885			
880			
875			
EX.GND.Ⓞ			
PR.SS.INV			
		875.54	884.5

15+00

905			
900	STA. 18+20.87		
895		STA. 18+27.87 (MH #33) MANHOLE REPLACEMENT TOP=889.80 (EX) TOP=888.22 (PR) INV=882.49 (IN) NW INV=882.20 (OUT) SE	STA. 18+34.87
890			
885			
880			
875			
EX.GND.Ⓞ			
PR.SS.INV			
		888.8	882.60

18+00

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REGISTRATION No. F-1755



LILLY CREST DRIVE – SPRINGHILL DRIVE TO SILVERWOOD DRIVE

UTILITY LEGEND

- PROP. WATER MAIN
- EXIST. WATER MAIN
- GAS MAIN
- SANITARY SEWER
- STORM SEWER
- UTILITY POLE LINE
- ELECTRIC CABLE
- TELEPHONE CABLE
- DUAL BRANCH SERV.
- NEW UNMETERED SERVICE
- 3/4" SINGLE
- 1" DUAL
- SERVICE RECONNECT:
- 3/4"
- 1" OR LARGER
- SERVICE RELAY:
- 3/4"
- 1" OR LARGER
- SERVICE RELOCATE:
- 3/4"
- 1" OR LARGER
- RELOCATE METER
- NEW SERVICE:
- 3/4"
- 1" OR LARGER

No.	Revision	Drawn	Approved	Date

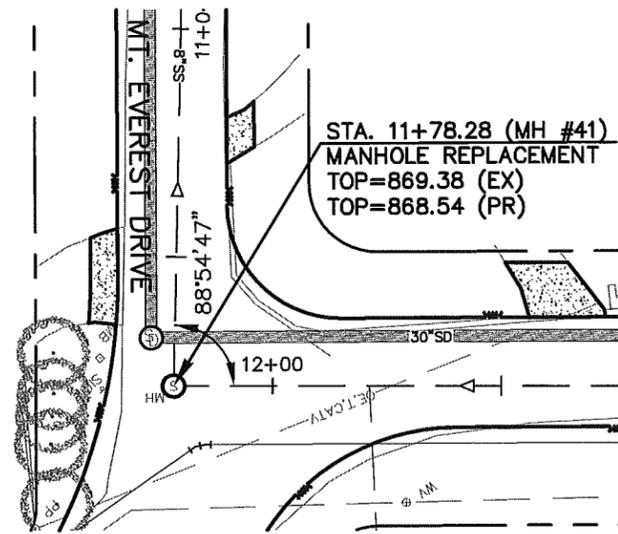
REVISIONS

**KENTWOOD MANOR
SANITARY SEWER
IMPROVEMENTS**

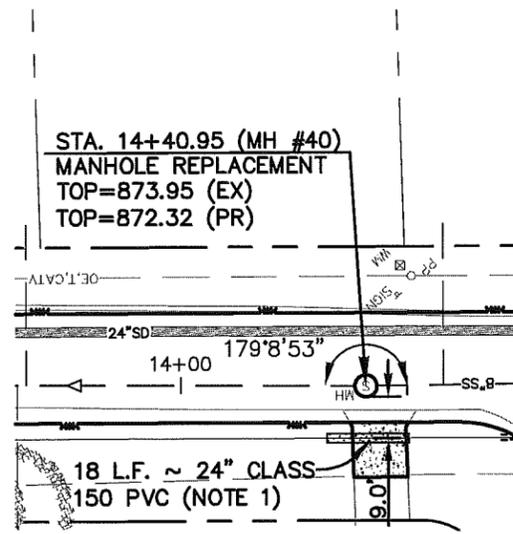
DEVELOPER: SAN ANTONIO WATER SYSTEM
CONT. BUDGET PROJ.

SUBMITTED _____
APPROVED _____

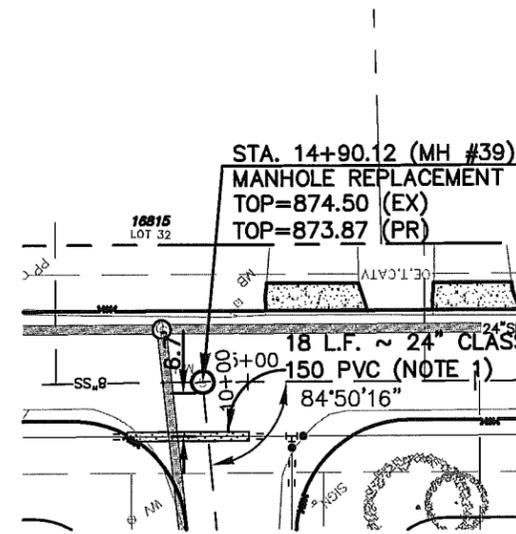
MAP No. 168-840, 170-840 SHEET
SECT. No. _____
DR. MVT CK. RWG JOB No. 08-5503 OF 10D



STA. 11+78.28 (MH #41)
MANHOLE REPLACEMENT
TOP=869.38 (EX)
TOP=868.54 (PR)



STA. 14+40.95 (MH #40)
MANHOLE REPLACEMENT
TOP=873.95 (EX)
TOP=872.32 (PR)



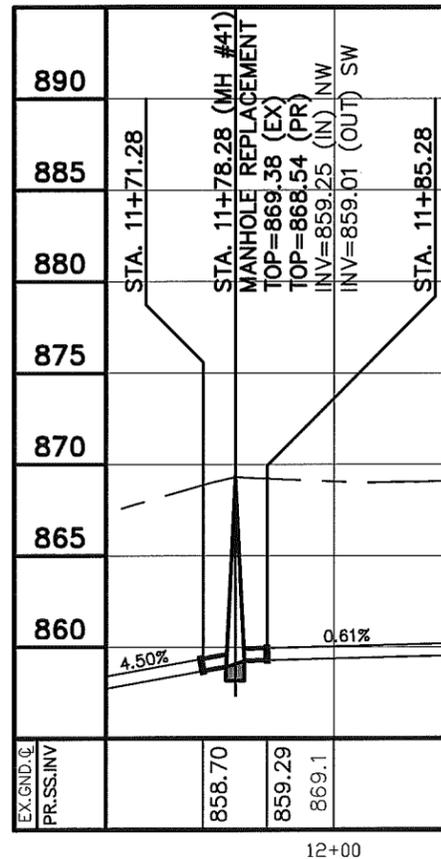
STA. 14+90.12 (MH #39)
MANHOLE REPLACEMENT
TOP=874.50 (EX)
TOP=873.87 (PR)

NOTE:

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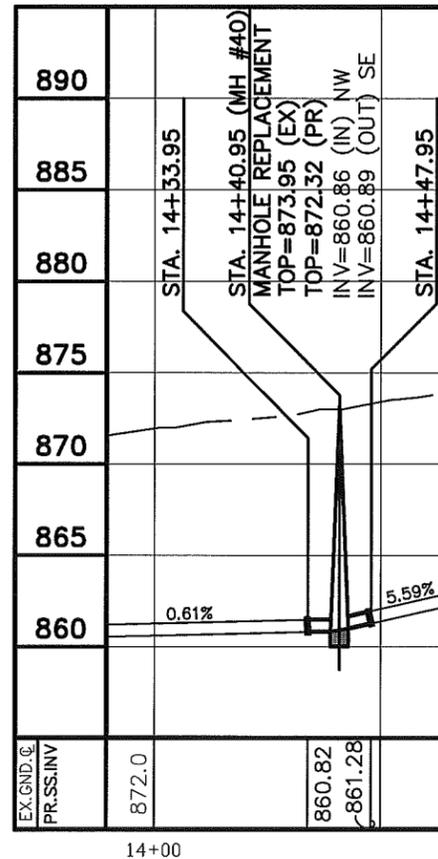
SPRINGHILL DRIVE - MH #41 PHASE 3

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'



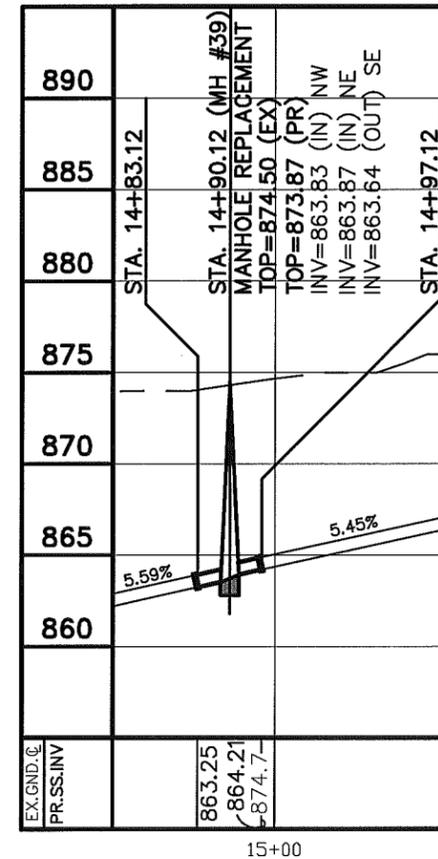
SPRINGHILL DRIVE - MH #40 PHASE 3

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'



SPRINGHILL DRIVE - MH #39 PHASE 3

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'



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SPRINGHILL DRIVE - MT. EVEREST DRIVE TO SILVERWOOD DRIVE

No.	Revision	Drawn	Approved	Date

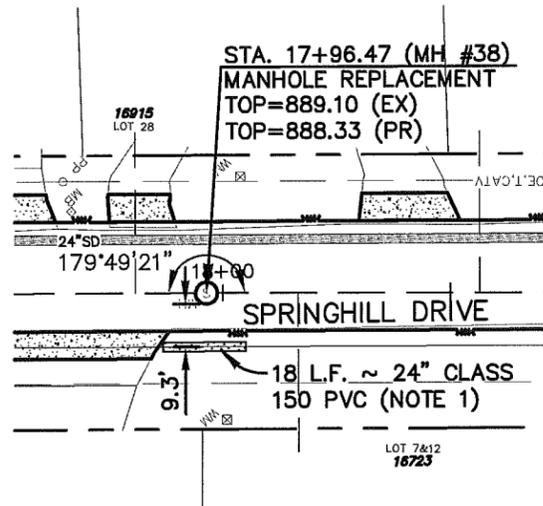
REVISIONS

**KENTWOOD MANOR
SANITARY SEWER
IMPROVEMENTS**

DEVELOPER: SAN ANTONIO WATER SYSTEM
CONT. BUDGET PROJ.

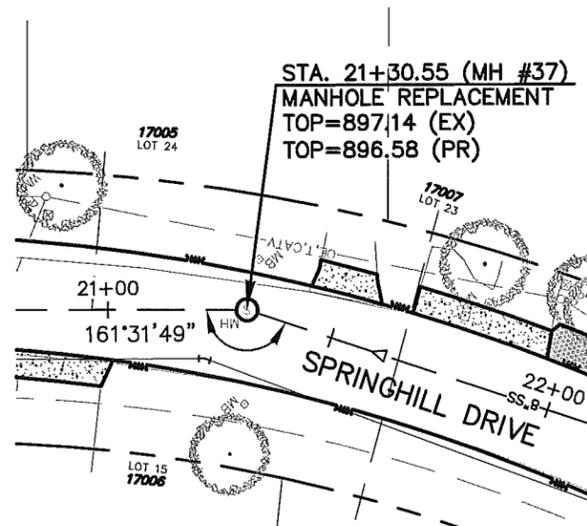
SUBMITTED _____
APPROVED _____

MAP No. 168-840, 170-840 SHEET
SECT. No. _____
DR. MVT CK. RWG JOB No. 08-5503 OF 11G



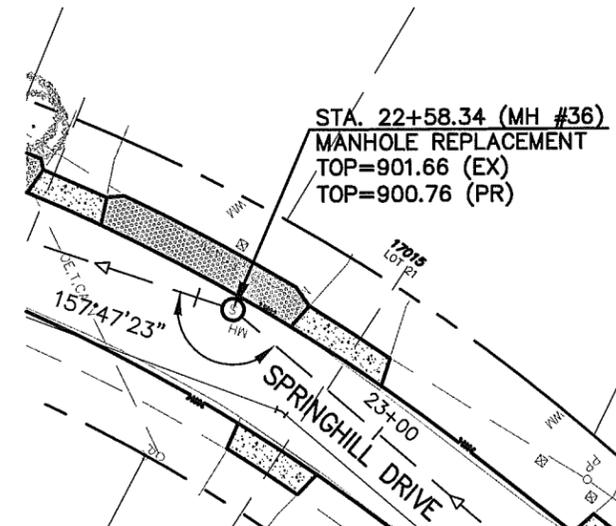
SPRINGHILL DRIVE – MH #38
PHASE 3

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'



SPRINGHILL DRIVE – MH #37
PHASE 3

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'



SPRINGHILL DRIVE – MH #36
PHASE 3

SCALE HORIZONTAL 1"=40', VERTICAL 1"=10'

NOTE:

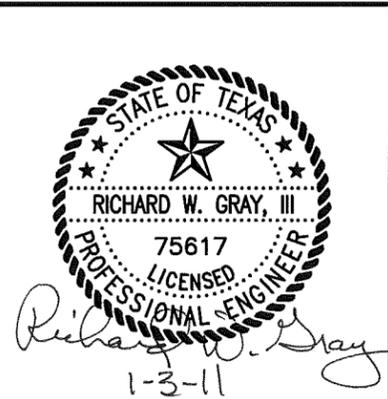
- 24" CLASS 150 P.V.C. WILL BE INSTALLED WITH THE WATER LINE INSTALLATION DIRECT BURIED, CENTERED ON THE MANHOLE. SPACERS SHALL SUPPORT THE PIPE ON 5' INTERVALS AND THE ENDS SHALL BE SEALED IN GROUT IN ACCORDANCE WITH 30 TAC 290.44(c)(5) AND S.A.W.S. ITEM 856.

910					
905	STA. 17+89.42				
900	STA. 17+96.47 (MH #38) MANHOLE REPLACEMENT TOP=889.10 (EX) TOP=888.33 (PR) INV=880.60 (IN) NW INV=880.52 (OUT) SE				STA. 18+03.42
895					
890					
885					
880					
EX.GND.©					
PR.SS.INV					
	880.14				
	889.0				
	880.77				
	18+00				

915					
910	STA. 21+23.55				
905	STA. 21+30.55 (MH #37) MANHOLE REPLACEMENT TOP=897.14 (EX) TOP=896.58 (PR) INV=888.65 (IN) NW INV=888.53 (OUT) SE				STA. 21+37.55
900					
895					
890					
885					
EX.GND.©					
PR.SS.INV					
	896.1				
	888.36				
	888.81				
	21+00				

915					
910	STA. 22+51.34				
905	STA. 22+58.34 (MH #36) MANHOLE REPLACEMENT TOP=901.66 (EX) TOP=900.76 (PR) INV=893.23 (IN) NW INV=893.35 (OUT) SE				STA. 22+65.34
900					
895					
890					
885					
EX.GND.©					
PR.SS.INV					
	892.97				
	893.44				
	23+00				

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REGISTRATION No. F-1755



SPRINGHILL DRIVE -- MT. EVEREST DRIVE TO SILVERWOOD DRIVE

No.	Revision	Drawn	Approved	Date

REVISIONS

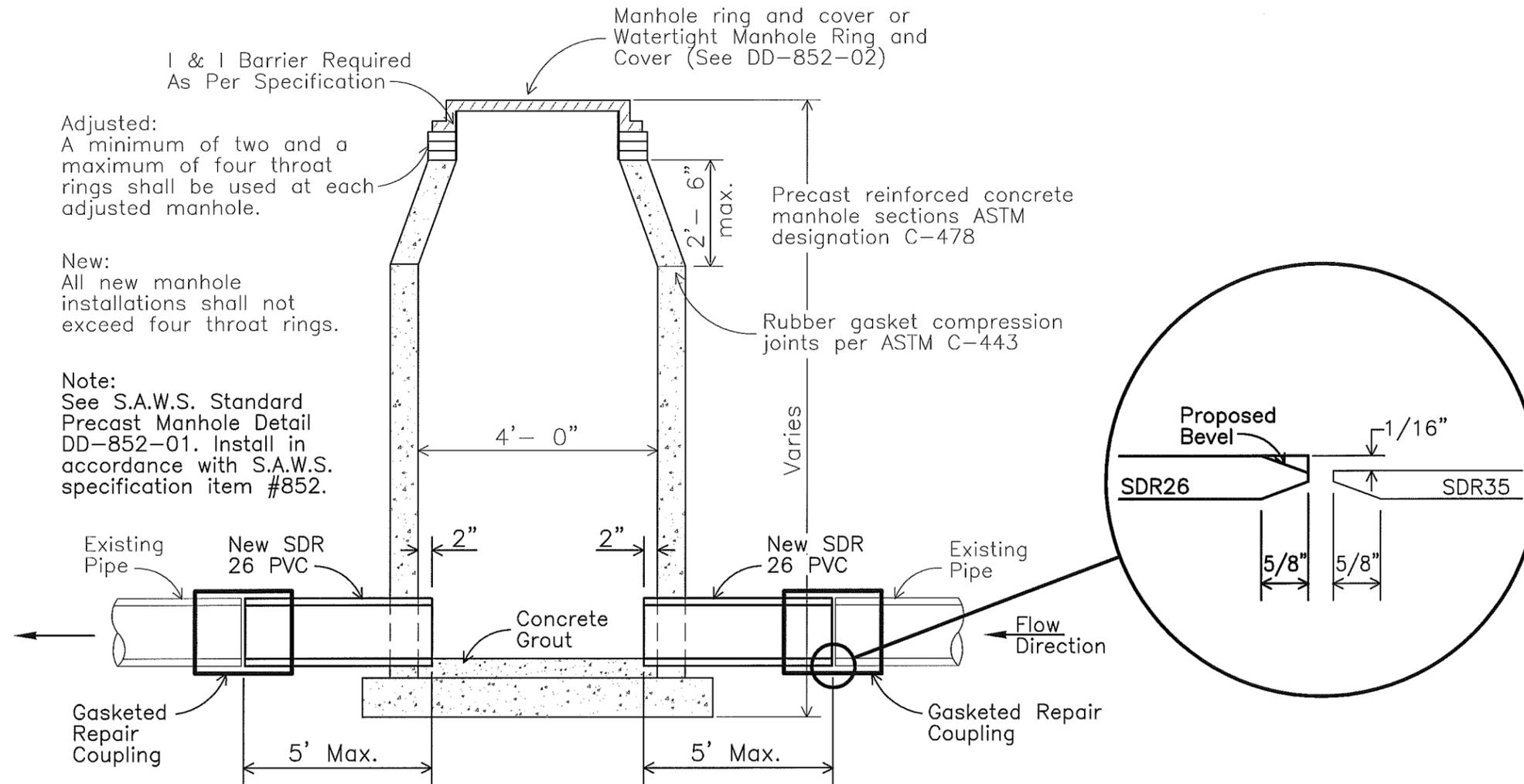
**KENTWOOD MANOR
SANITARY SEWER
IMPROVEMENTS**

DEVELOPER: SAN ANTONIO WATER SYSTEM
CONT. BUDGET PROJ.

SUBMITTED _____
APPROVED _____

MAP No. 168-840, 170-840 SHEET
SECT. No. _____
DR. MVT CK. RWG JOB No. 08-5503 OF 11H

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Adjusted:
A minimum of two and a maximum of four throat rings shall be used at each adjusted manhole.

New:
All new manhole installations shall not exceed four throat rings.

Note:
See S.A.W.S. Standard Precast Manhole Detail DD-852-01. Install in accordance with S.A.W.S. specification item #852.

STANDARD PRECAST MANHOLE REPLACEMENT DETAIL

1 SCALE: N.T.S.

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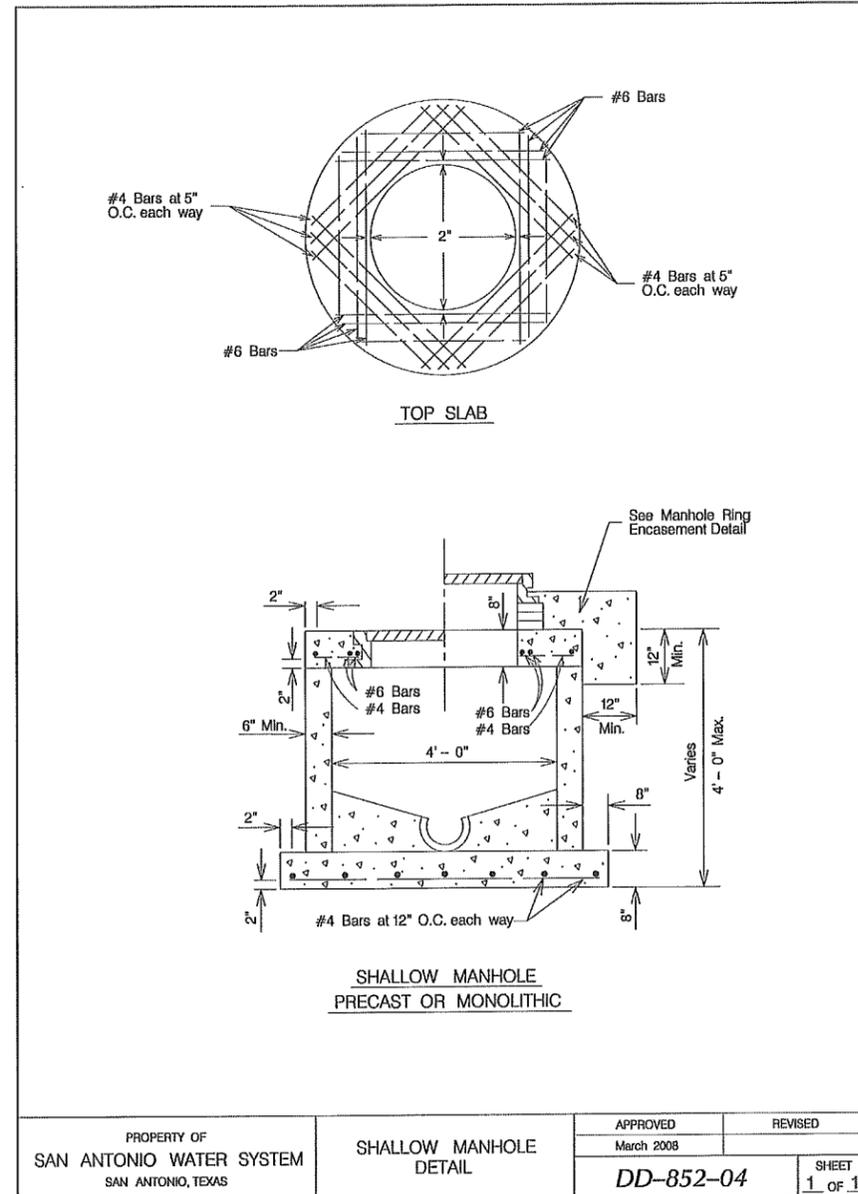
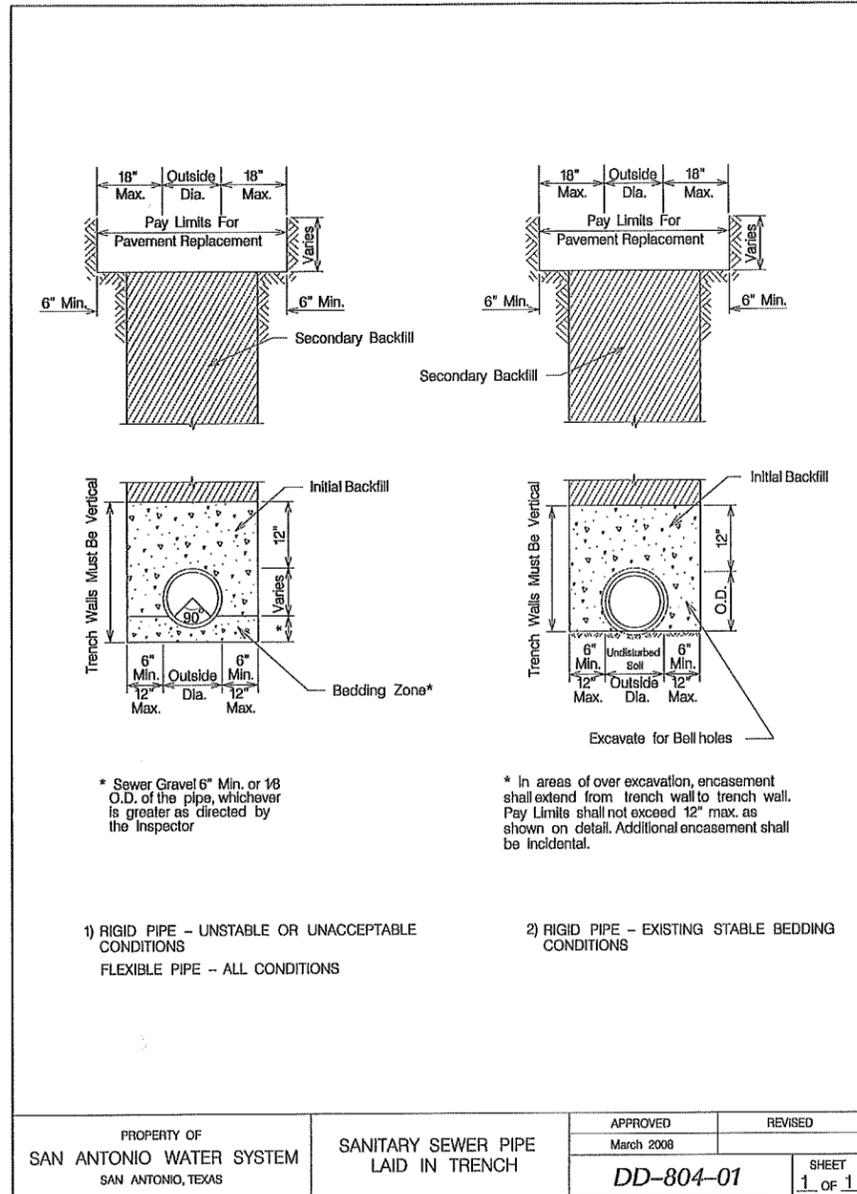
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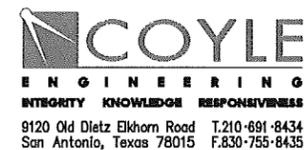


Richard W. Gray
10-18-10

UTILITY LEGEND		SITE DETAILS	
PROP. WATER MAIN		No.	Revision
EXIST. WATER MAIN		Drawn	Approved
GAS MAIN		Date	
SANITARY SEWER		REVISIONS	
STORM SEWER		KENTWOOD MANOR SANITARY SEWER IMPROVEMENTS	
UTILITY POLE LINE		DEVELOPER: SAN ANTONIO WATER SYSTEM	
ELECTRIC CABLE		CONT. BUDGET PROJ.	
TELEPHONE CABLE		SUBMITTED	
DUAL BRANCH SERV.		APPROVED	
NEW UNMETERED SERVICE		MAP No. 168-640, 170-640	
3/4" SINGLE		SECT. No.	
1" DUAL		DR. MVT CK. RWG JOB No. 08-5503 OF 12A	
SERVICE RECONNECT:			
3/4"			
1" OR LARGER			
SERVICE RELAY:			
3/4"			
1" OR LARGER			
SERVICE RELOCATE:			
3/4"			
1" OR LARGER			
RELOCATE METER			
NEW SERVICE:			
3/4"			
1" OR LARGER			



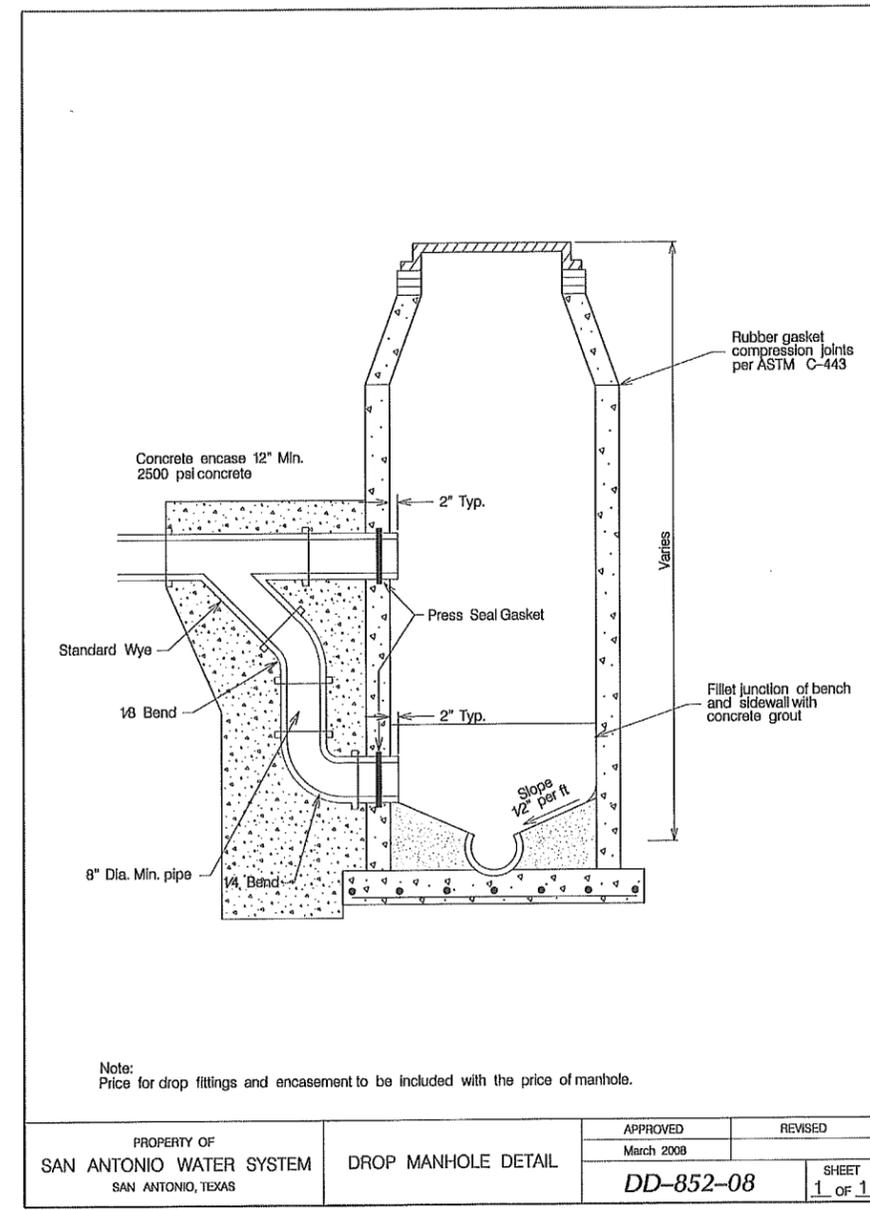
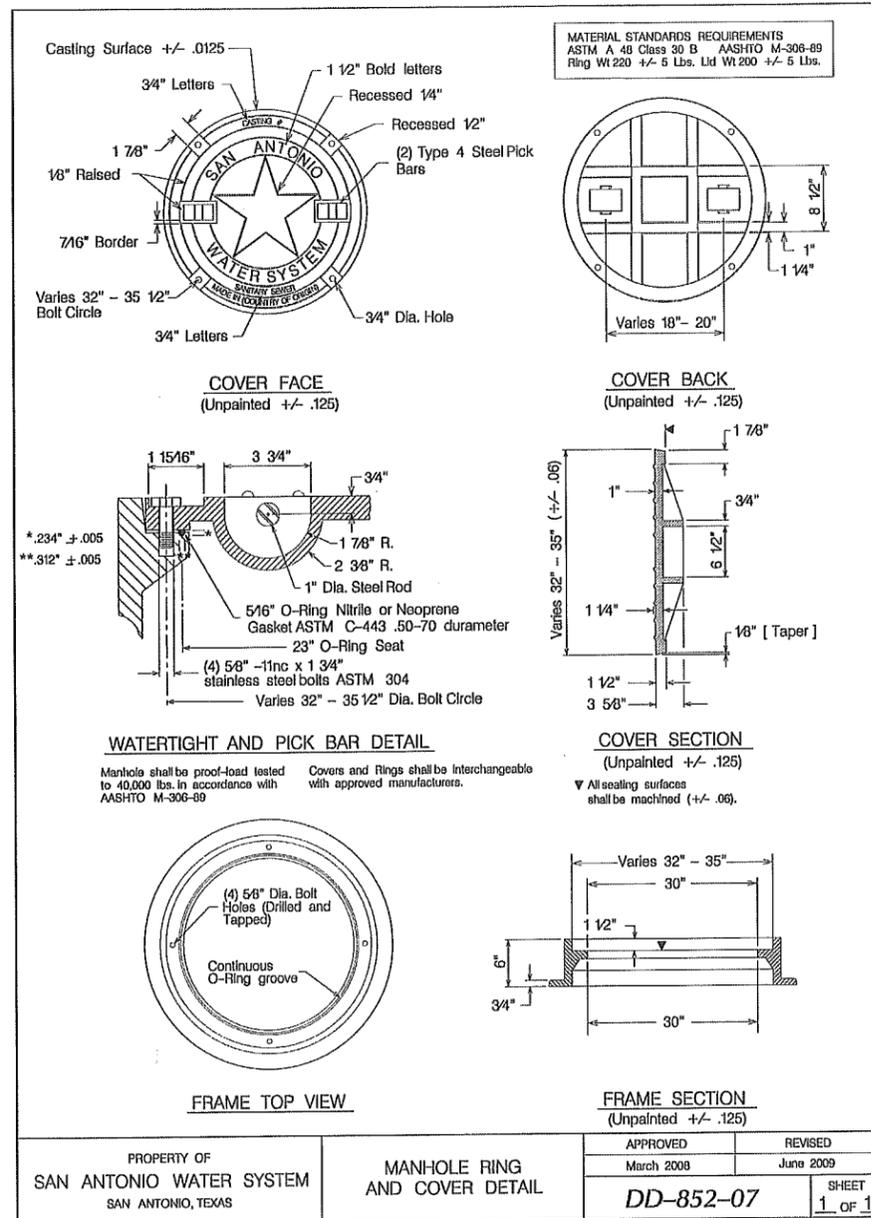
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REGISTRATION No. F-1755

SITE DETAILS			
No.	Revision	Drawn	Approved Date
REVISIONS			
KENTWOOD MANOR SANITARY SEWER IMPROVEMENTS			
DEVELOPER: SAN ANTONIO WATER SYSTEM			
CONT. BUDGET PROJ.			
SUBMITTED _____			
APPROVED _____			
MAP No. 168-640, 170-640			SHEET
SECT. No.			OF 12B
DR. MVT	CK. RWG	JOB No. 08-5503	

UTILITY LEGEND	
PROP. WATER MAIN	
EXIST. WATER MAIN	
GAS MAIN	
SANITARY SEWER	
STORM SEWER	
UTILITY POLE LINE	
ELECTRIC CABLE	
TELEPHONE CABLE	
DUAL BRANCH SERV.	
NEW UNMETERED SERVICE:	
3/4" SINGLE	
1" DUAL	
SERVICE RECONNECT:	
3/4"	
1" OR LARGER	
SERVICE RELAY:	
3/4"	
1" OR LARGER	
SERVICE RELOCATE:	
3/4"	
1" OR LARGER	
RELOCATE METER	
NEW SERVICE:	
3/4"	
1" OR LARGER	



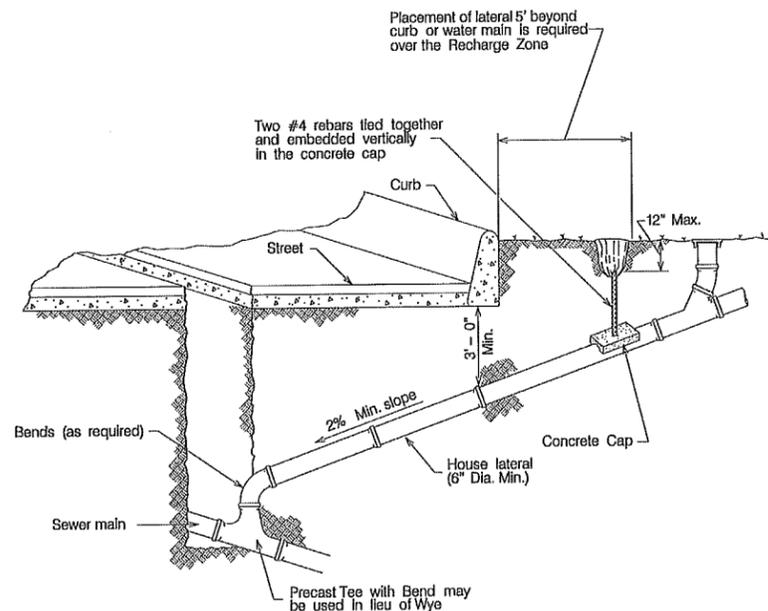
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REGISTRATION No. F-1755

UTILITY LEGEND		SITE DETAILS																									
PROP. WATER MAIN	—	No.	Revision	Drawn	Approved	Date																					
EXIST. WATER MAIN	—	<table border="1"> <thead> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <th>No.</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> </tbody> </table>				REVISIONS		No.	Description																		
REVISIONS																											
No.	Description																										
GAS MAIN	—	<p>KENTWOOD MANOR SANITARY SEWER IMPROVEMENTS</p> <p>DEVELOPER: SAN ANTONIO WATER SYSTEM CONT. BUDGET PROJ.</p> <p>SUBMITTED _____ APPROVED _____</p> <p>MAP No. 168-840, 170-840 SHEET SECT. No. _____</p> <p>DR. MVT CK. RWG JOB No. 08-5503 OF 12C</p>																									
SANITARY SEWER	—																										
STORM SEWER	—																										
UTILITY POLE LINE	—																										
ELECTRIC CABLE	—																										
TELEPHONE CABLE	—																										
DUAL BRANCH SERV.	—																										
NEW UNMETERED SERVICE	—																										
3/4" SINGLE	—																										
1" DUAL	—																										
SERVICE RECONNECT	—																										
1" OR LARGER	—																										
SERVICE RELAY	—																										
1" OR LARGER	—																										
SERVICE RELOCATE	—																										
3/4"	—																										
1" OR LARGER	—																										
RELOCATE METER	—																										
NEW SERVICE	—																										
3/4"	—																										
1" OR LARGER	—																										

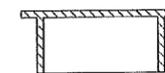
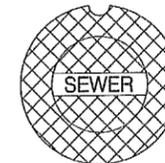
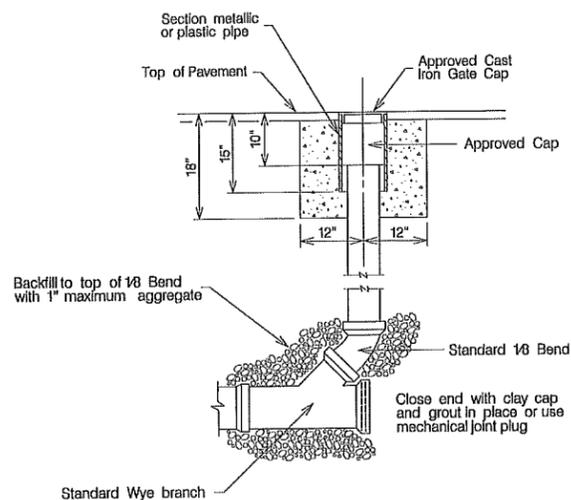
Depth and grade of service laterals as shown, are typical only. Actual depth, alignment and grade of service laterals shall be determined by the Engineer based on the elevations of the sewer main, street, natural ground and building to be serviced.



HOUSE LATERAL DETAIL

Note:
A minimum of 3' of cover to subgrade is necessary, otherwise concrete encasement will be required.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	HOUSE LATERAL DETAIL	APPROVED	REVISED
		March 2008	
		DD-854-01	SHEET 1 OF 1



Approved Gate Cap
(Heavy Duty)

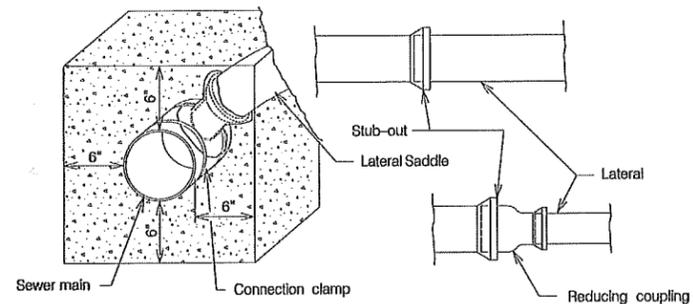
PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TYPICAL CLEANOUT DETAIL	APPROVED	REVISED
		March 2008	
		DD-854-02	SHEET 1 OF 1

REGISTRATION No. F-1755

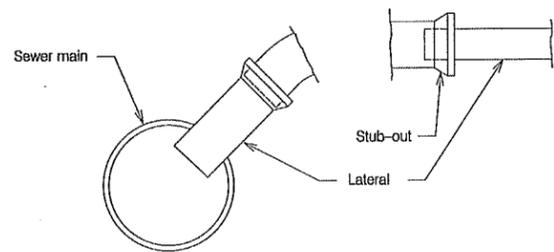
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UTILITY LEGEND		SITE DETAILS				
PROP. WATER MAIN	—	No.	Revision	Drawn	Approved	Date
EXIST. WATER MAIN	—	REVISIONS				
GAS MAIN	—					
SANITARY SEWER	—	KENTWOOD MANOR SANITARY SEWER IMPROVEMENTS				
STORM SEWER	—					
UTILITY POLE LINE	—	DEVELOPER: SAN ANTONIO WATER SYSTEM CONT. BUDGET PROJ.				
ELECTRIC CABLE	—					
TELEPHONE CABLE	—	SUBMITTED				
DUAL BRANCH SERV.	—					
NEW UNMETERED SERVICE	—	APPROVED				
3/4" SINGLE	—					
1" DUAL	—	MAP No. 168-840, 170-840				
SERVICE RECONNECT:	—					
3/4"	—	SECT. No.				
1" OR LARGER	—					
SERVICE RELAY	—	DR. MVT CK. RWG				
3/4"	—					
1" OR LARGER	—	JOB No. 08-5503				
SERVICE RELOCATE:	—					
3/4"	—	SHEET OF 12D				
1" OR LARGER	—					
RELOCATE METER	—					
NEW SERVICE:	—					
3/4"	—					
1" OR LARGER	—					

LATERAL CONNECTION TO EXISTING SEWER MAIN STUB-OUT



ACCEPTABLE



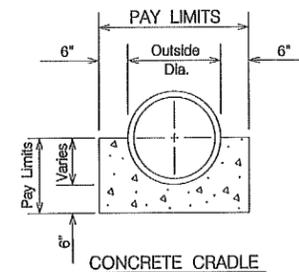
UNACCEPTABLE

Note:
The saddle shall be permanently bonded to the existing main by the use of compounds or clamps as recommended by the manufacturer.

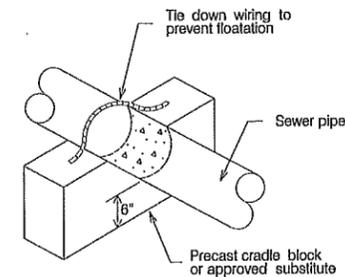
PROPERTY OF
SAN ANTONIO WATER SYSTEM
SAN ANTONIO, TEXAS

LATERAL CONNECTION

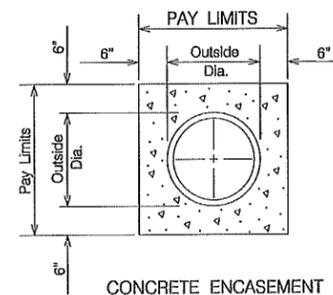
APPROVED	REVISED
March 2008	
DD-854-03	SHEET 1 OF 1



CONCRETE CRADLE



SUPPORT FOR
ENCASEMENT OR CRADLE



CONCRETE ENCASEMENT

- Notes:
- 1) All concrete encasement shall be poured at a plane 6" above the pipe between excavated trench walls.
 - 2) All sewer pipe with less than 3' of cover to subgrade shall be concrete encased.
 - 3) All force mains shall be provided with thrust blocks, where changes in direction occur, at Tees, Bends, Crosses, changes in size, stops, or as directed by SAWS.

PROPERTY OF
SAN ANTONIO WATER SYSTEM
SAN ANTONIO, TEXAS

TYPICAL CONCRETE
ENCASEMENT DETAILS

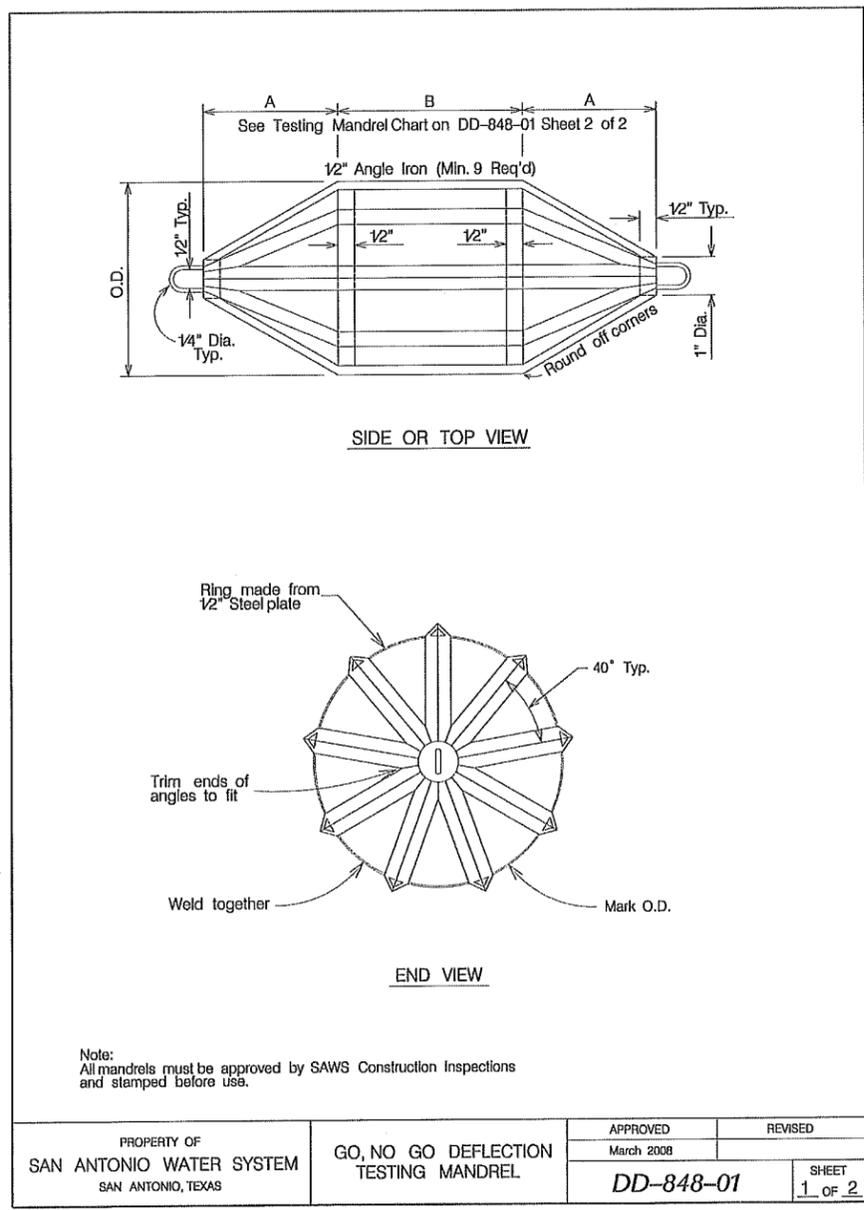
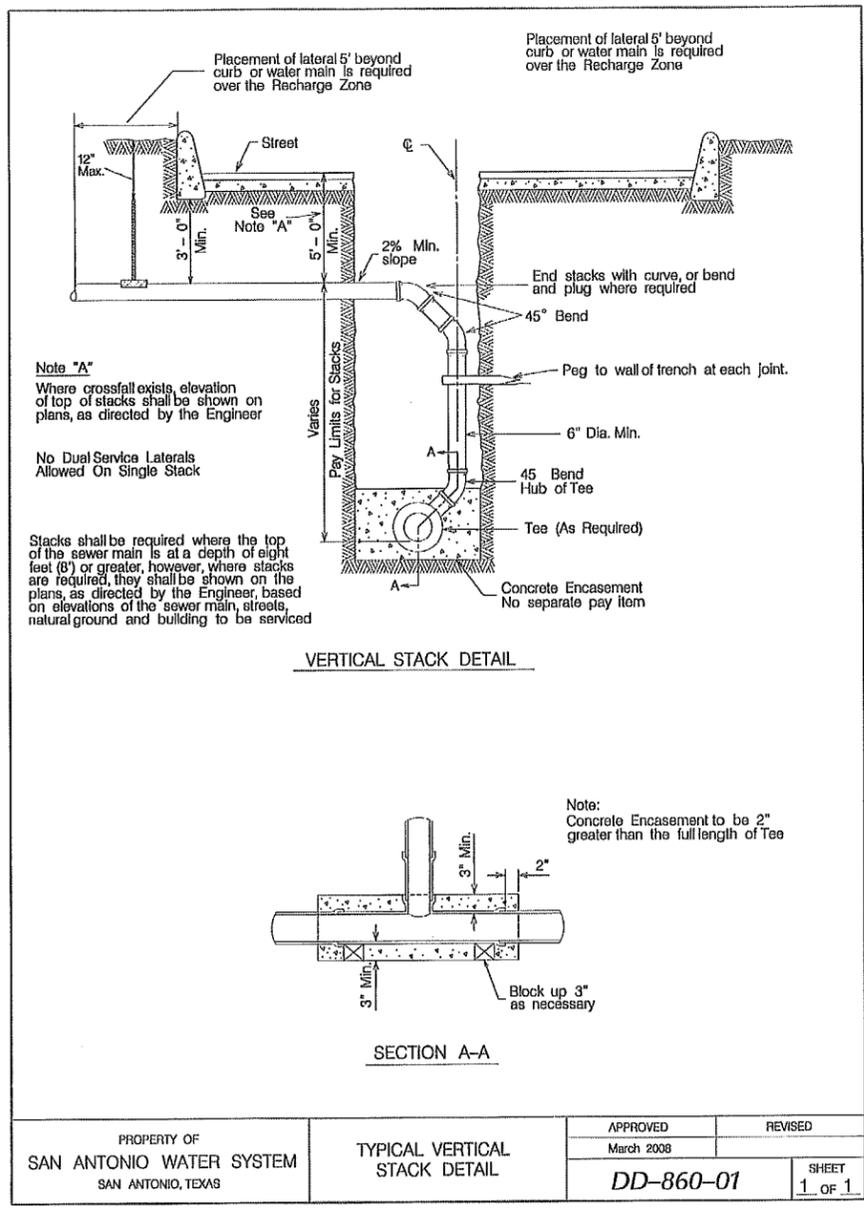
APPROVED	REVISED
March 2008	
DD-858-01	SHEET 1 OF 1

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REGISTRATION No. F-1755

UTILITY LEGEND		SITE DETAILS	
PROP. WATER MAIN	—●—		
EXIST. WATER MAIN	—○—		
GAS MAIN	—2"○—		
SANITARY SEWER	—8"SA—		
STORM SEWER	—24"ST—		
UTILITY POLE LINE	—□—		
ELECTRIC CABLE	—E—		
TELEPHONE CABLE	—T—		
DUAL BRANCH SERV.	—□—		
NEW UNMETERED SERVICE:			
3/4" SINGLE	—■—		
1" DUAL	—■—		
SERVICE RECONNECT:			
3/4"	—■—		
1" OR LARGER	—■—		
SERVICE RELAY:			
3/4"	—■—		
1" OR LARGER	—■—		
SERVICE RELOCATE:			
3/4"	—■—		
1" OR LARGER	—■—		
RELOCATE METER	▷		
NEW SERVICE:			
3/4"	—■—		
1" OR LARGER	—■—		
		No. Revision Drawn Approved Date	
		REVISIONS	
		KENTWOOD MANOR SANITARY SEWER IMPROVEMENTS	
		DEVELOPER: SAN ANTONIO WATER SYSTEM CONT. BUDGET PROJ.	
		SUBMITTED _____	
		APPROVED _____	
		MAP No. 188-840, 170-840 SHEET	
		SECT. No. _____	
		DR. MVT CK. RWG JOB No. 08-5503 OF 12E	



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REGISTRATION No. F-1755

UTILITY LEGEND			
PROP. WATER MAIN	—●—	8" C.I. W.P.	—●—
EXIST. WATER MAIN	—○—	2"	—○—
GAS MAIN	—○—	8" SA	—○—
SANITARY SEWER	—○—	24" ST	—○—
STORM SEWER	—○—	E	—○—
UTILITY POLE LINE	—○—	UT	—○—
ELECTRIC CABLE	—○—	NEW UNMETERED SERVICE	—○—
TELEPHONE CABLE	—○—	3/4" SINGLE	—○—
DUAL BRANCH SERV.	—○—	1" DUAL	—○—
NEW UNMETERED SERVICE	—○—	SERVICE RECONNECT:	—○—
3/4" SINGLE	—○—	3/4"	—○—
1" DUAL	—○—	1" OR LARGER	—○—
SERVICE RECONNECT:	—○—	3/4"	—○—
3/4"	—○—	1" OR LARGER	—○—
SERVICE RELOCATE:	—○—	3/4"	—○—
3/4"	—○—	1" OR LARGER	—○—
SERVICE RELOCATE:	—○—	RELOCATE METER	—○—
3/4"	—○—	NEW SERVICE:	—○—
1" OR LARGER	—○—	3/4"	—○—
	—○—	1" OR LARGER	—○—

SITE DETAILS			
No.	Revision	Drawn	Approved
REVISIONS			
KENTWOOD MANOR SANITARY SEWER IMPROVEMENTS			
DEVELOPER: SAN ANTONIO WATER SYSTEM			
CONT. BUDGET PROJ.			
SUBMITTED _____			
APPROVED _____			
MAP No. 168-840, 170-840			SHEET
SECT. No.			OF 12F
DR. MVT	CK. RWG	JOB No. 08-5503	

SIZE	A	B*	MANDREL O.D.	RING O.D.
			PVC (SDR-26)	PVC (SDR-26)
6"	4.0"	4.5"	5.50	4.79
8"	5.5"	6"	7.37	6.66
10"	7.0"	7.5"	9.21	8.50
12"	8.0"	9"	10.86	10.25
15"	10.0"	11"	13.42	12.71
18"	12.0"	13.5"	---	---
21"	14.0"	16"	---	---
24"	16.0"	18"	---	---
27"	18.0"	20"	---	---

* Minimum Length

CHART

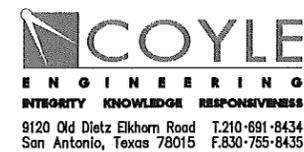
Notes:

PVC pipes and fittings 6" to 15" in diameter shall conform to ASTM D-3034.
PVC pipes and fittings 18" to 27" in diameter shall conform to ASTM F-679.

This information is provided as a reference. All deflection testing shall be done in accordance with TCEQ Chapter 317.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	GO, NO GO DEFLECTION TESTING MANDREL CHART	APPROVED	REVISED
		March 2008	
		DD-848-01	SHEET 2 OF 2

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REGISTRATION No. F-1755

UTILITY LEGEND		SITE DETAILS																																																															
PROP. WATER MAIN		No.	Revision	Drawn	Approved	Date																																																											
EXIST. WATER MAIN		<table border="1"> <tr> <th colspan="6">REVISIONS</th> </tr> <tr> <td colspan="6" style="text-align: center;"> </td> </tr> <tr> <td colspan="6" style="text-align: center;"> KENTWOOD MANOR SANITARY SEWER IMPROVEMENTS </td> </tr> <tr> <td colspan="6">DEVELOPER: SAN ANTONIO WATER SYSTEM</td> </tr> <tr> <td colspan="6">CONT. BUDGET PROJ.</td> </tr> <tr> <td colspan="6">SUBMITTED _____</td> </tr> <tr> <td colspan="6">APPROVED _____</td> </tr> <tr> <td colspan="5">MAP No. 168-840, 170-840</td> <td>SHEET</td> </tr> <tr> <td colspan="5">SECT. No.</td> <td></td> </tr> <tr> <td colspan="5">DR. MVT CK. RWG JOB No. 08-5503</td> <td>OF 12G</td> </tr> </table>				REVISIONS												KENTWOOD MANOR SANITARY SEWER IMPROVEMENTS						DEVELOPER: SAN ANTONIO WATER SYSTEM						CONT. BUDGET PROJ.						SUBMITTED _____						APPROVED _____						MAP No. 168-840, 170-840					SHEET	SECT. No.						DR. MVT CK. RWG JOB No. 08-5503					OF 12G
REVISIONS																																																																	
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NEW SERVICE:																																																																	
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1" OR LARGER																																																																	

**KENTWOOD MANOR BOND PROJECT
SAWS Water Base Bid - (SAWS No.08-5003)
PHASE 1 & 2**

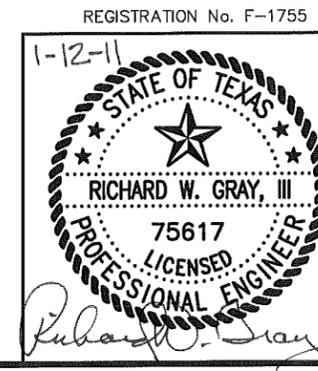
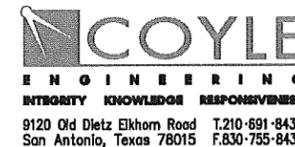
ALT. NO.	ITEM NO.	BID ITEM DESCRIPTION	UNIT	QUANTITIES
	100	Mobilization	LS	1
	101	Preparing Right of Way	LS	1
	550	Trench Excavation Safety Protection	LF	7742
	818	4 PVC Waterline "	LF	15
	818	6 PVC Waterline "	LF	20
	818	8 PVC Waterline "	LF	7383
	824	Relay 3/4 Short Service "	EA	49
	824	Relay 3/4 Long Service "	EA	51
	824	Relay 1 Short Service "	EA	7
	824	Relay 1 Long Service "	EA	10
	824	Relay 1 1/2 Long Service "	EA	1
	824	Relay 1 1/2 Short Service "	EA	1
	824	New 3/4 Short Unmetered Service "	EA	3
	824	New 3/4" Long Unmetered Service	EA	2
	828	8" Gate Valves	EA	23
	833	Existing Meter and Meter Box Relocation	EA	39
	833	Existing Meter and New Meter Box Relocation	EA	80
	824	Customer Shut off Valves	EA	80
	833	Meter Box	EA	80
	834	Fire Hydrant	EA	9
	836	Pipe Fittings, all sizes and types	TON	6.89
	840	4" Water tie-ins	EA	3
	840	6" Water tie-ins	EA	4
	840	8" Water tie-ins	EA	3
	841	Hydrostatic Testing	EA	10
	844	2" Blowoff, Temporary	EA	8
	856	8" Carrier Pipe	LF	324
	856.3	Casing or Liner 24" PVC (open cut)	LF	324
	3000.14	Removal, Transportation and Disposal of AC Pipe	LS	1
	3000.15	Asbestos Abatement Work Plans	LS	1

**KENTWOOD MANOR BOND PROJECT
SAWS Water Base Bid - (SAWS No.08-5003)
PHASE 3 (Additive Alternate)**

ALI. NO.	ITEM NO.	BID ITEM DESCRIPTION	UNIT	QUANTITIES
1	100.00	Mobilization	LS	1
1	101.00	Preparing Right of Way	LS	1
1	550	Trench Excavation Safety Protection	LF	2638
1	818	4 PVC Waterline "	LF	5
1	818	6 PVC Waterline "	LF	5
1	818	8 PVC Waterline "	LF	2520
1	824	Relay 3/4 Short Service "	EA	14
1	824	Relay 3/4 Long Service "	EA	15
1	824	Relay 1 Short Service "	EA	2
1	824	Relay 1 Long Service "	EA	3
1	824	Relay 1 1/2 Long Service "	EA	1
1	824	New 3/4 Short Unmetered Service "	EA	1
1	824	New 3/4" Long Unmetered Service	EA	1
1	828	8" Gate Valves	EA	6
1	831	8" x 8" Tee Cut In	EA	2
1	833	Existing Meter and Meter Box Relocation	EA	12
1	833	Existing Meter and New Meter Box Relocation	EA	23
1	824	Customer Shut off Valves	EA	23
1	833	Meter Box	EA	23
1	834	Fire Hydrant	EA	3
1	836	Pipe Fittings, all sizes and types	TON	2.57
1	840	4" Water tie-ins	EA	1
1	840	6" Water tie-ins	EA	1
1	840	8" Water tie-ins	EA	3
1	841	Hydrostatic Testing	EA	4
1	844	2" Blowoff, Temporary	EA	5
	856	8" Carrier Pipe	LF	108
1	856.3	Casing or Liner 24" PVC (Open Cut)	LF	108
1	3000.14	Removal, Transportation and Disposal of AC Pipe	LS	1
1	3000.15	Asbestos Abatement Work Plans	LS	1



Y:\08018-001011CADD\WCC WTR 11x17\wcc_wtr03.dwg 2011/01/13 3:44pm tmorales



UTILITY LEGEND		QUANTITY SUMMARY			
PROP. WATER MAIN					
EXIST. WATER MAIN					
GAS MAIN					
SANITARY SEWER					
STORM SEWER					
UTILITY POLE LINE					
ELECTRIC CABLE					
TELEPHONE CABLE					
DUAL BRANCH SERV.					
NEW UNMETERED SERVICE:					
3/4" SINGLE					
1" DUAL					
SERVICE RECONNECT:					
3/4"					
1" OR LARGER					
SERVICE RELAY:					
3/4"					
1" OR LARGER					
SERVICE RELOCATE:					
3/4"					
1" OR LARGER					
RELOCATE METER					
NEW SERVICE:					
3/4"					
1" OR LARGER					

REVISIONS				
1	Addendum #1			1/12/11
No.	Revision	Drawn	Approved	Date

		KENTWOOD MANOR WATER MAIN REPLACEMENT	
DEVELOPER: SAN ANTONIO WATER SYSTEM		BUDGET PROJ. XX,XX	
SUBMITTED _____		APPROVED _____	
MAP No. 168-640, 170-640		SHEET 3	
SECT. No. _____		JOB No. 08-5003 OF 50	
DR. R.L. CK. R.G.	JOB No. 08-5003		

C.P.S. ENERGY UTILITIES NOTE:

CALL THE TEXAS STATE WIDE ONE CALL LOCATOR NUMBER 1-800-344-8377, 48 HOURS BEFORE BEGINNING ANY EXCAVATION.

DUE TO FEDERAL REGULATION TITLE 49, PART 192.181, C.P.S. ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING C.P.S. ENERGY OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES IF ADJACENT TO WORK AREA (N.S.P.I.)

SHEET NOTES:

1. THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THESE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE, AND ARE NOT GUARANTEED TO BE ACCURATE. THE CONTRACTOR SHOULD CALL FOR LOCATES THROUGH THE "ONE CALL" UTILITY LOCATE SERVICE (1-800-344-8377) 48 HOURS PRIOR TO CONSTRUCTION/EXCAVATION WORK, CONTRACTOR HAVE THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY PLANE DURING CONSTRUCTION.
2. ANY DAMAGE TO EXISTING CONCRETE RIPRAP, HEADWALLS, PIPE, OR OTHER EXISTING FEATURES IN THE RIGHT-OF-WAY AS A RESULT OF CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED OR REPLACED TO ITS ORIGINAL OR BETTER CONDITION TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE. (N.S.P.I.)
3. WATER MAIN SHALL BE RESTRAINED JOINT PVC C-900, IN ACCORDANCE WITH S.A.W.S. STANDARDS UNLESS OTHERWISE NOTED.
4. INSTALL CONCRETE REACTION BLOCK AT TIE-IN PER SAWS STD. DG. DD-830-01. JOINT RESTRAINT SHALL NOT EXCEED PROJECT LIMITS.
5. PROVIDE CUSTOMER CUT-OFF VALVES PER SPECIFICATIONS AT EACH LOT WHERE NEW SERVICES HAVE BEEN RELAYED OR RELOCATED.

SHEET NOTES:

6. CONTRACTOR SHALL MAINTAIN ACCESS TO EXISTING AND PROPOSED WATER VALVES AND KEEP THEM FREE FROM GRAVEL, ASPHALT, OR OTHER DEBRIS.
7. CONTRACTOR SHALL CENTER ONE JOINT OF WATER PIPE AT EACH SANITARY SEWER CROSSING.
8. CONTRACTOR SHALL INSTALL ALL WATER SERVICES IN ACCORDANCE WITH S.A.W.S. STANDARDS DRAWINGS, SERIES DD-824.
9. INSTALL 24" CLASS 150 PVC, DIRECT BURY CENTERED ON THE MANHOLE. SPACERS SHALL SUPPORT THE PIPE ON 5' INTERVALS AND THE ENDS SEALED IN GROUT IN ACCORDANCE WITH 30TAC 290.44(e)(5) AND SAWS ITEM 856.

TREE NOTES:

1. CONTRACTOR SHALL USE EXTREME CAUTION DURING CONSTRUCTION OPERATIONS TO AVOID UNNECESSARY DAMAGE TO EXISTING TREES.
2. NO TREES SHALL BE REMOVED BY THE CONTRACTOR UNLESS SPECIFICALLY AUTHORIZED BY THE CITY OF SAN ANTONIO.

TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL / SAFETY/ EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, O.S.H.A. STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH O.S.H.A. STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

ASBESTOS NOTES:

ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE AND WHICH IS KNOWN TO CONTAIN ASBESTOS-CONTAINING MATERIAL (ACM), IS LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THIS PIPE OCCUR, PAYMENT FOR SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO 3000, "SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".

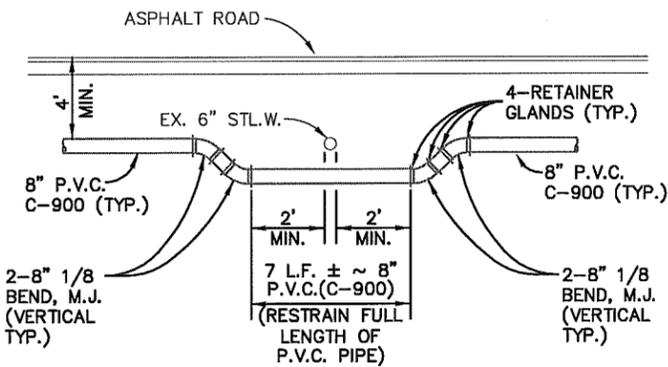
TIE NEW 8" P.V.C. MAIN TO EXISTING 4" GATE VALVE STA 9+01.40, LT 40.85'
 1-4" 1/8 BEND, M.J.
 1-8"x4" REDUCER, M.J.
 8 L.F. ± 5' 8" P.V.C. PIPE (CUT AS REQUIRED)
 1-4" STL. TRANSITION COUPLING

INSTALL FOR HYDROSTATIC TESTING
 8" M.J. x 2" THR., C.I.
 ECCENTRIC REDUCER, (TEMP.)
 2" STD. BLOWOFF, (TEMP.)
 (SEE S.A.W.S. STD. DWG. DD-844-01, SHEET 3 OF 4)

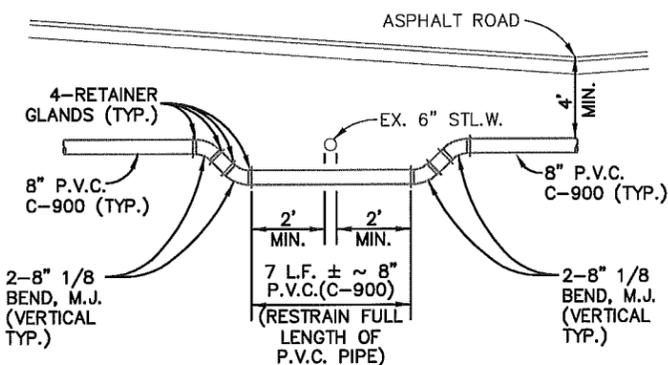
INSTALL FOR CHLORINATION
 2-1" CORP. STOP, C.C.x.I.P.
 2-1 1/4" SOLID CAPS, THR.
 2-1" COPPER TUBING, CUT AS REQ.
 2-1" COMP.x1 1/4" COUPLING, CURB STOP
 (SEE S.A.W.S. STD. DWG. DD-844-01)

AFTER CHLORINATION REMOVE THE CORP. STOPS, REDUCER, BLOWOFF, AND PLUG MAIN.

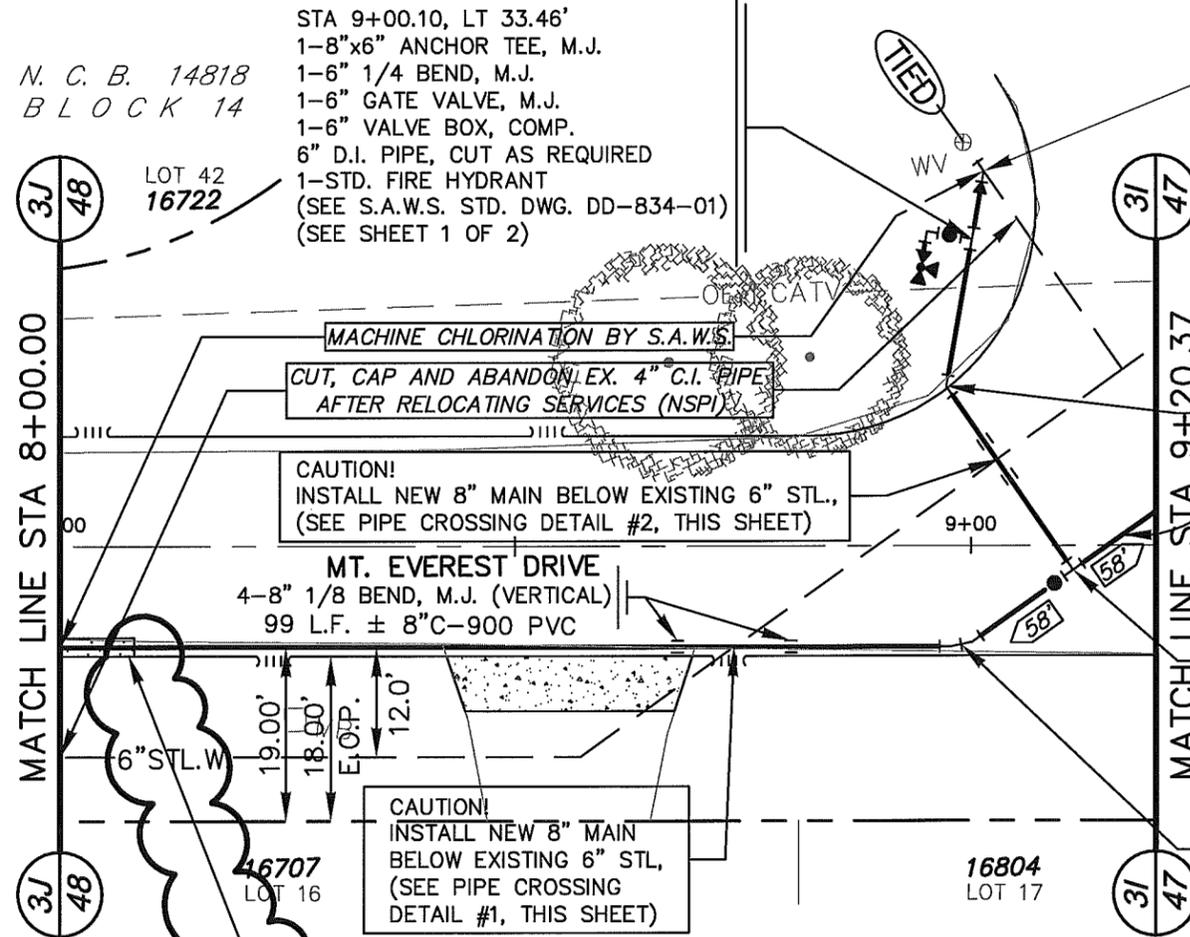
AFTER RELEASE FOR SERVICE, TIE NEW 8" P.V.C. MAIN TO THE EXISTING 4" GATE VALVE WITH 4" STL. TRANSITION COUPLING



1 PIPE CROSSING
SCALE: N.T.S.



2 PIPE CROSSING
SCALE: N.T.S.



N. C. B. 14818
BLOCK 14

LOT 42
16722

STA 9+00.10, LT 33.46'
 1-8"x6" ANCHOR TEE, M.J.
 1-6" 1/4 BEND, M.J.
 1-6" GATE VALVE, M.J.
 1-6" VALVE BOX, COMP.
 6" D.I. PIPE, CUT AS REQUIRED
 1-STD. FIRE HYDRANT
 (SEE S.A.W.S. STD. DWG. DD-834-01)
 (SEE SHEET 1 OF 2)

MACHINE CHLORINATION BY S.A.W.S.
 CUT, CAP AND ABANDON EX. 4" C.I. PIPE
 AFTER RELOCATING SERVICES (NSPI)

CAUTION!
 INSTALL NEW 8" MAIN BELOW EXISTING 6" STL.,
 (SEE PIPE CROSSING DETAIL #2, THIS SHEET)

MT. EVEREST DRIVE
 4-8" 1/8 BEND, M.J. (VERTICAL)
 99 L.F. ± 8" C-900 PVC

CAUTION!
 INSTALL NEW 8" MAIN
 BELOW EXISTING 6" STL,
 (SEE PIPE CROSSING
 DETAIL #1, THIS SHEET)

INSTALL 8' L.F. 24"
 CLASS 150 PVC (NOTE 9)

STA 8+97.26, LT 17.38'
 1-8" 1/8 BEND, M.J.
 16 L.F. ± ~ 8" P.V.C. PIPE
 11 L.F. ± 8"
 C-900 PVC

STA 9+11.29, RT 2.67'
 1-8"x8" TEE, M.J.
 4-8" 1/8 BEND, M.J. (VERTICAL)
 1-8" GATE VALVE, M.J.
 1-6" VALVE BOX, COMP.
 24 L.F. ± ~ 8" P.V.C. PIPE

STA 8+99.37, RT 11.00'
 1-8" 1/32 BEND, M.J.
 1-8" 1/16 BEND, M.J.
 15 L.F. ± ~ 8" P.V.C. PIPE

N. C. B. 14813 BLOCK 9

- SYMBOLS**
- 58' RESTRAIN LENGTH INDICATING DIRECTION
 - 6/70 MATCHLINE LETTER AND SHEET NUMBER

COYLE ENGINEERING
 INTEGRITY KNOWLEDGE RESPONSIVENESS
 9120 Old Dietz Elkhorn Road T.210.691.8434
 San Antonio, Texas 78015 F.830.755.8435

REGISTRATION No. F-1755

MOUNT EVEREST - STA 8+00.00 TO 9+20.37

UTILITY LEGEND

- PROP. WATER MAIN
- EXIST. WATER MAIN
- GAS MAIN
- SANITARY SEWER
- STORM SEWER
- UTILITY POLE LINE
- ELECTRIC CABLE
- TELEPHONE CABLE
- DUAL BRANCH SERV.
- NEW UNMETERED SERVICE
- 3/4" SINGLE
- 1" DUAL
- SERVICE RECONNECT:
- 3/4"
- 1" OR LARGER
- SERVICE RELAY:
- 3/4"
- 1" OR LARGER
- SERVICE RELOCATE:
- 3/4"
- 1" OR LARGER
- RELOCATE METER
- NEW SERVICE:
- 3/4"
- 1" OR LARGER

No.	Revision	Drawn	Approved	Date
1	Addendum #1			1/12/11

REVISIONS

KENTWOOD MANOR WATER MAIN REPLACEMENT PHASE 3

DEVELOPER: SAN ANTONIO WATER SYSTEM
 CONT. BUDGET PROJ. XX,XX

SUBMITTED _____
 APPROVED _____

MAP No. 168-840, 170-840 SHEET 49 OF 50
 SECT. No. _____
 DR. R.L. CK. R.G. JOB No. 08-5003



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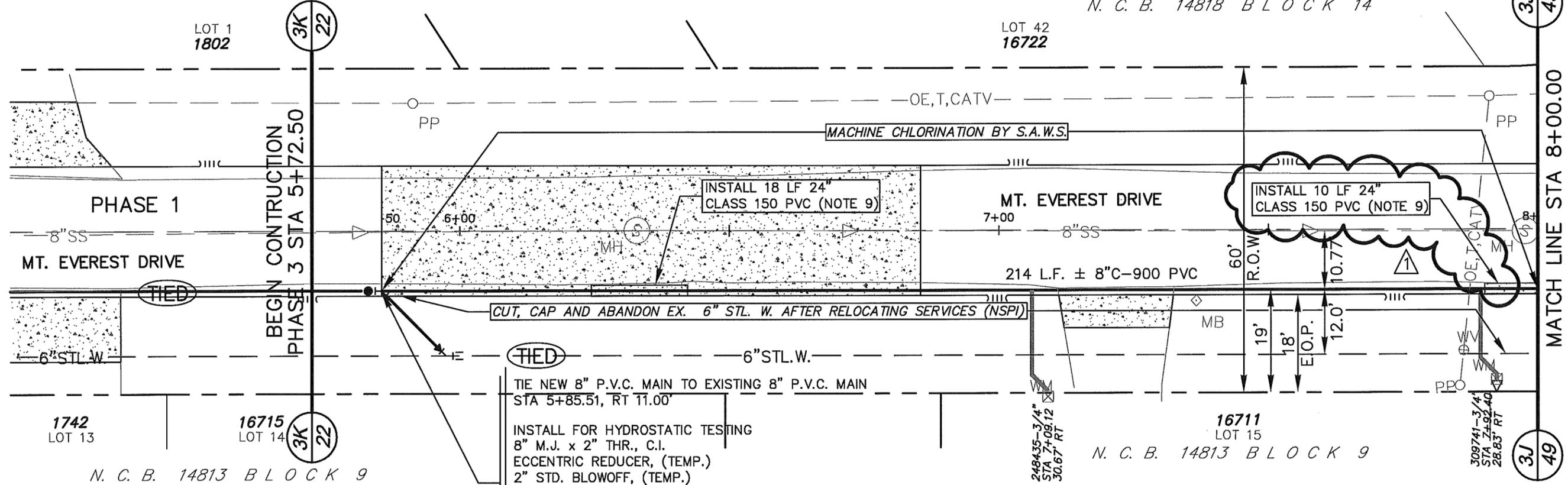
NORTH
SCALE 1"=20'

SYMBOLS

- RESTRAIN LENGTH INDICATING DIRECTION
- MATCHLINE LETTER AND SHEET NUMBER

N. C. B. 14818 BLOCK 14

N. C. B. 14818 BLOCK 14



TIE NEW 8" P.V.C. MAIN TO EXISTING 8" P.V.C. MAIN
STA 5+85.51, RT 11.00

INSTALL FOR HYDROSTATIC TESTING
8" M.J. x 2" THR., C.I.
ECCENTRIC REDUCER, (TEMP.)
2" STD. BLOWOFF, (TEMP.)
(SEE S.A.W.S. STD. DWG. DD-844-01, SHEET 3 OF 4)

AFTER HYDROSTATIC TESTING REMOVE THE
REDUCER, BLOWOFF, AND PLUG MAIN.

AFTER RELEASE FOR SERVICE, REMOVE EXISTING BEND,
and TIE NEW 8" P.V.C. MAIN TO THE EXISTING 8" P.V.C. MAIN

REGISTRATION No. F-1755



Richard W. Gray
1-12-11

COYLE
ENGINEERING
INTEGRITY KNOWLEDGE RESPONSIVENESS
9120 Old Dietz Elkhorn Road T.210-691-8434
San Antonio, Texas 78015 F.830 755 8435

MOUNT EVEREST - STA 55+72.50 TO STA 8+00.00

UTILITY LEGEND			
PROP. WATER MAIN		EXIST. WATER MAIN	
GAS MAIN		SANITARY SEWER	
STORM SEWER		UTILITY POLE LINE	
ELECTRIC CABLE		TELEPHONE CABLE	
DUAL BRANCH SERV.		NEW UNMETERED SERVICE:	
3/4" SINGLE		1" DUAL	
SERVICE RECONNECT:		3/4"	
1" OR LARGER		SERVICE RELAY:	
3/4"		1" OR LARGER	
SERVICE RELOCATE:		3/4"	
1" OR LARGER		RELOCATE METER	
NEW SERVICE:		3/4"	
1" OR LARGER			

REVISIONS			
No.	Revision	Drawn	Approved
1	Addendum #1		1/12/11

KENTWOOD MANOR WATER MAIN REPLACEMENT PHASE 3

DEVELOPER: SAN ANTONIO WATER SYSTEM
CONT. BUDGET PROJ. XX,XX

SUBMITTED _____
APPROVED _____

MAP No. 108-840, 170-840 SHEET 48
SECT. No. _____
DR. R.L. CK. R.G. JOB No. 08-5003 OF 50

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SHEET NOTES:

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TREE NOTES:

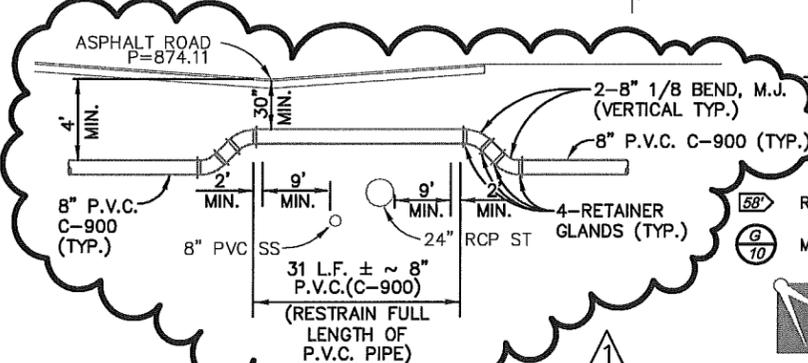
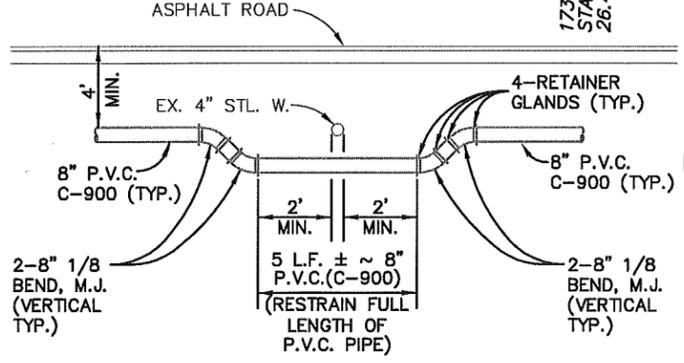
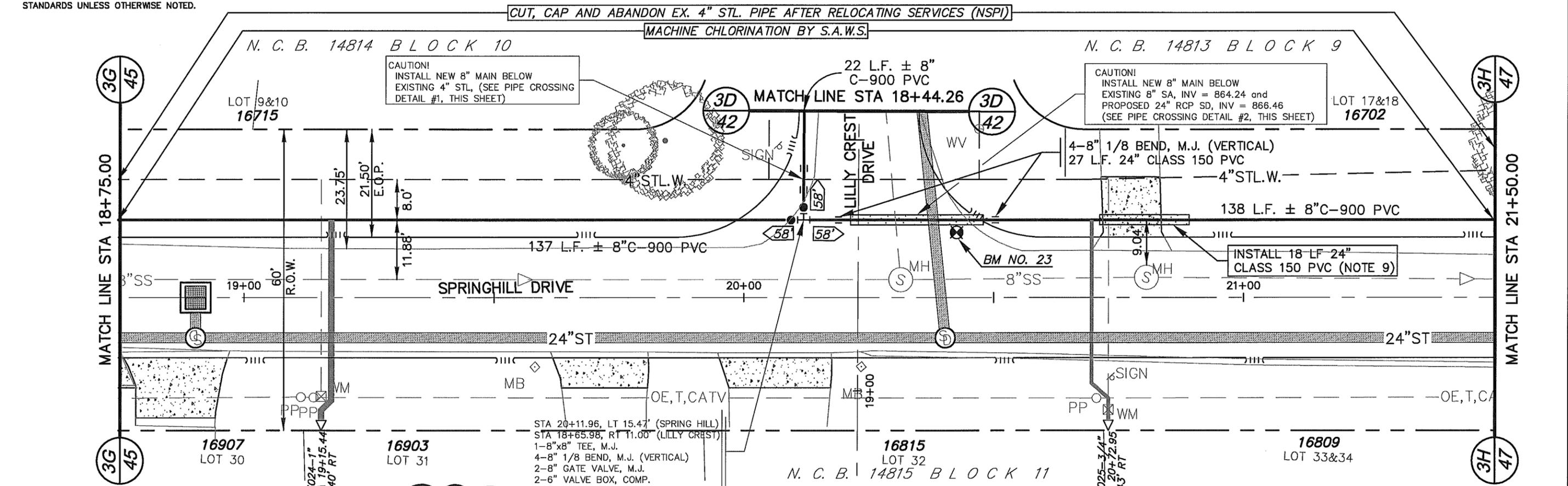
1. CONTRACTOR SHALL USE EXTREME CAUTION DURING CONSTRUCTION OPERATIONS TO AVOID UNNECESSARY DAMAGE TO EXISTING TREES.
2. NO TREES SHALL BE REMOVED BY THE CONTRACTOR UNLESS SPECIFICALLY AUTHORIZED BY THE CITY OF SAN ANTONIO.

TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL / SAFETY/ EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, O.S.H.A. STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH O.S.H.A. STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

ASBESTOS NOTES:

ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE AND WHICH IS KNOWN TO CONTAIN ASBESTOS-CONTAINING MATERIAL (ACM), IS LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THIS PIPE OCCUR. PAYMENT FOR SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO 3000, "SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".



COYLE ENGINEERING
 INTEGRITY KNOWLEDGE RESPONSIVENESS
 9120 Old Dietz Elkhorn Road T.210-691-8434
 San Antonio, Texas 78015 F.830 755 8435

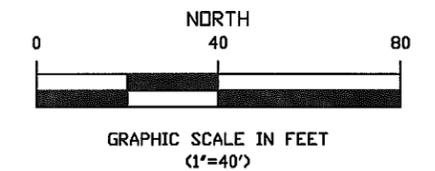
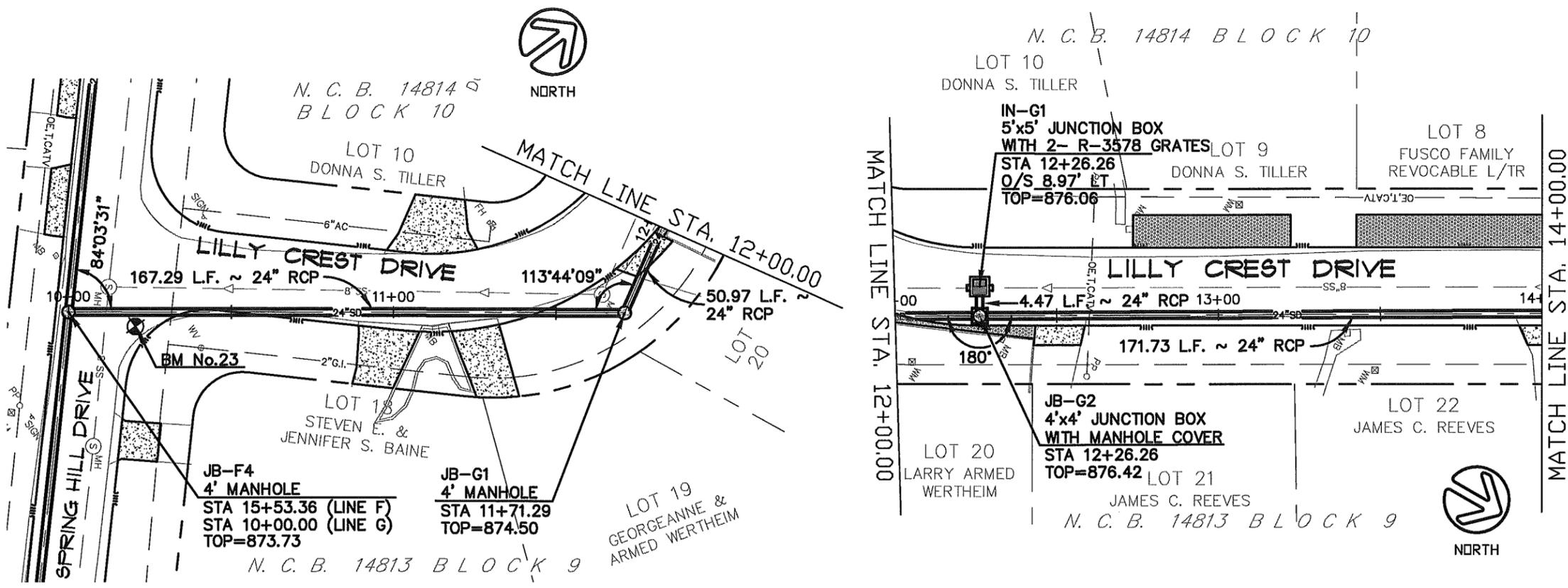
REGISTRATION No. F-1755

Richard W. Gray
 1-13-11

SPRINGHILL DRIVE - STA 18+75.00 TO STA 21+50.00			
UTILITY LEGEND			
PROP. WATER MAIN	---	EXIST. WATER MAIN	---
GAS MAIN	---	SANITARY SEWER	---
STORM SEWER	---	UTILITY POLE LINE	---
ELECTRIC CABLE	---	DUAL BRANCH SERV.	---
NEW UNMETERED SERVICE	---	3/4" SINGLE	---
1" OR LARGER SERVICE RECONNECT:	---	3/4" SERVICE RELAY:	---
1" OR LARGER SERVICE RELOCATE:	---	3/4" SERVICE RELOCATE:	---
3/4" OR LARGER RELOCATE METER	---	1" OR LARGER RELOCATE METER	---
NEW SERVICE:	---	3/4" NEW SERVICE:	---
1" OR LARGER	---		

REVISIONS			
1	Addendum #1		1/12/11
No.	Revision	Drawn	Approved
KENTWOOD MANOR WATER MAIN REPLACEMENT PHASE 3			
DEVELOPER: SAN ANTONIO WATER SYSTEM			
CONT. BUDGET PROJ. XX,XX			
SUBMITTED			
APPROVED			
MAP No. 168-640, 170-640			SHEET
SECT. No.			48
DR. R.L. CK. R.G.			JOB No. 08-5003 OF 50

Y:\08018-000\01\CADD\DWG\WTR 11x17\wcc wtr ph3-07.dwg 2011/01/13 2:50pm tmoralez



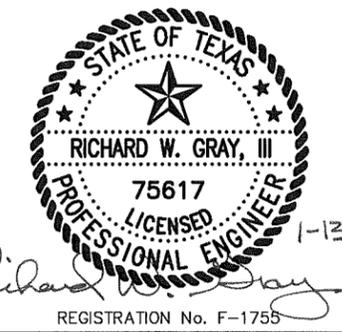
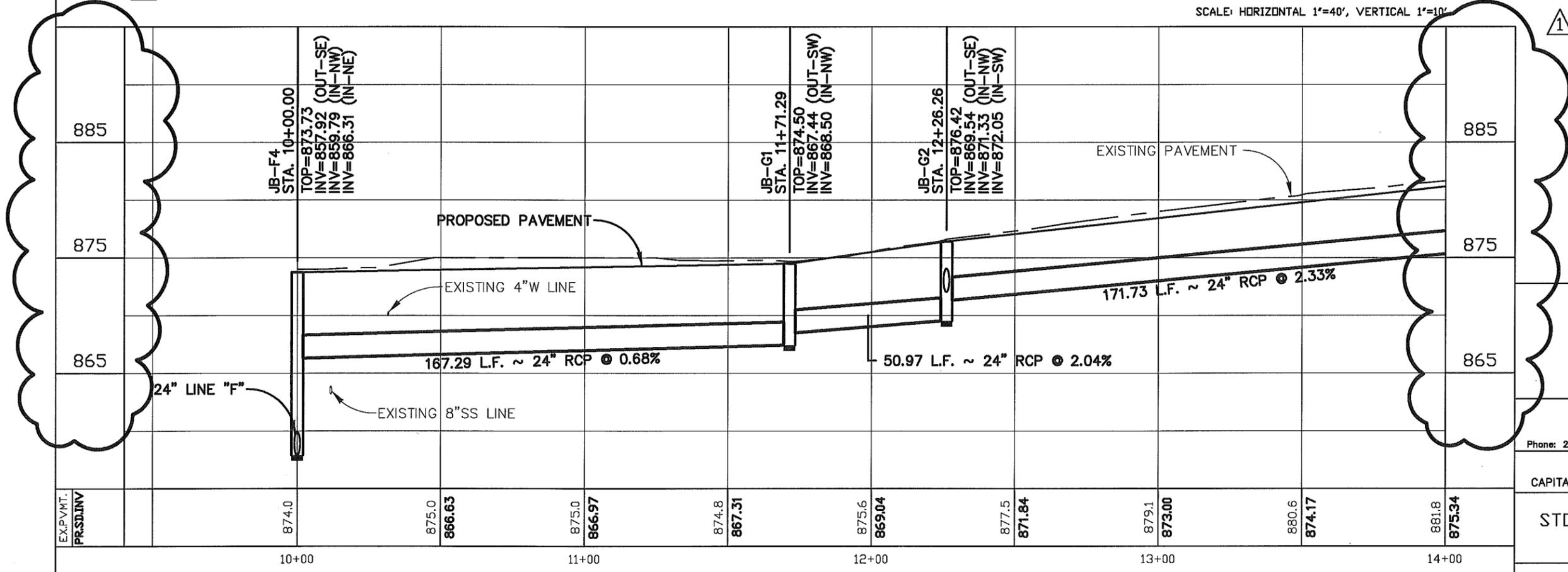
NOTES:
 CALL THE TEXAS STATE WIDE ONE CALL LOCATOR NUMBER 1-800-344-8377, 48 HOURS BEFORE BEGINNING ANY EXCAVATION.
 DUE TO FEDERAL REGULATION TITLE 49, PART 192.181 C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
 THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING C.P.S. OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES IF ADJACENT TO WORK AREAS.
 THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING ALL UTILITY POLES DURING INSTALLATION OF DRAINAGE FACILITIES. NO SEPARATE PAY ITEM.

SHEET TOTALS		
EST.	UNIT	DESCRIPTION
394.46	L.F.	24" RCP SD
1	EA.	4' MANHOLE
1	EA.	4'x4' JUNCTION BOX W/ MH COVER
1	EA.	5'x5' GRATE INLET BOX
4	C.Y.	CONCRETE SADDLE

BENCHMARK No.23
 FOUND I.R.
 ELEVATION=874.06

STORM DRAIN LINE "G"

SCALE: HORIZONTAL 1"=40', VERTICAL 1"=10'



No.	Revision	Drawn	Approved	Date
1	Addendum #1			1/12/11

REVISIONS



COYLE ENGINEERING
 9120 OLD DIETZ ELKHORN ROAD
 SAN ANTONIO, TEXAS 78015
 Phone: 210 691-8434 fax: 830 755-8435 www.coyleengineering.com

CITY OF SAN ANTONIO
 CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

KENTWOOD MANOR BOND PROJECT
 STORM DRAIN LINE "G" - PHASE 3
 PLAN and PROFILE
 STA. 10+00.00 TO STA. 14+00.00

PROJECT NO.: 40-00058 DATE: _____
 DRWN. BY: _____ DSGN. BY: _____ CHKD. BY: _____ SHEET NO.: 94

CITY OF SAN ANTONIO
025 UNIT PRICING FORM
(Addendum #1)

PROJECT NAME: Kentwood Manor Bond Project
PROJECT NO. 40-00058

ALT. NO./ITEM NO.	DESC. CODE	S.P. NO	BID ITEM DESCRIPTION	UNIT OF MEASURE	APPROX. QUANTITIES	UNIT BID PRICE	AMOUNT	ITEM SEQUENCE NO.
COSA Street/Drainage Bid - Kentwood Manor Bond Project (Phase 1 &2)(COSA No.40-00058)								
100.1			MOBILIZATION	L.S.	1			
100.2			INSURANCE & BOND	L.S.	1			
101.1			PREPARING RIGHT OF WAY	L.S.	1			
530.1			BARRICADES, SIGNS & TRAFFIC HANDLING	L.S.	1			
103.3			REMOVE CONCRETE SIDEWALKS & DRIVEWAYS	S.F.	29175			
104.1			STREET EXCAVATION	C.Y.	5164			
105.1			CHANNEL EXCAVATION	C.Y.	1318			
106.1			BOX CULVERT EXCAVATION & BACKFILL	C.Y.	1306			
107.1			EMBANKMENT (FINAL)(DENS CONT)(TY D)	C.Y.	85			
202.1			PRIME COAT	GAL.	8765			
203.1			TACK COAT	GAL.	1252			
205.2			HOT MIX ASPH PVMNT, TYPE B (5" COMP. DEPTH)	S.Y.	25042			
205.4			HOT MIX ASPH PVMNT, TYPE D (2" COMP. DEPTH)	S.Y.	23227			
234			TRIAX GEOGRID (TX5)	S.Y.	24223			
306.1			STRUCTURAL EXCAVATION	C.Y.	1685			
307.1			CONC. STRUCT. (ABUTMENTS & WINGWALLS)	C.Y.	5			
307.1			CONC. STRUCT. (HEADWALLS /OUTFALL STRUCT.)	C.Y.	3			
309.1			PRECAST REINF. CONC. CULVERT (10' x 5')	L.F.	155			
309.1			PRECAST REINF. CONC. CULVERT (12' x 4')	L.F.	45			
401.1			REINFORCED CONCRETE PIPE (CLASS III)(24" DIA)	L.F.	2289			
401.1			REINFORCED CONCRETE PIPE (CLASS III)(30" DIA)	L.F.	339			
401.1			REINFORCED CONCRETE PIPE (CLASS III)(36" DIA)	L.F.	173			
401.1			REINFORCED CONCRETE PIPE (CLASS III)(42" DIA)	L.F.	592			
401.1			REINFORCED CONCRETE PIPE (CLASS III)(48" DIA)	L.F.	50			
401.1			REINFORCED CONCRETE PIPE (CLASS III)(54" DIA)	L.F.	364			
401.1			REINFORCED CONCRETE PIPE (CLASS III)(60" DIA)	L.F.	100			
401.1			REINFORCED CONCRETE PIPE (CLASS III)(66" DIA)	L.F.	188			
401.1			REINFORCED CONCRETE PIPE (CLASS III)(72" DIA)	L.F.	224			
403			REINFORCED CONCRETE PIPE (CLASS III)(78" DIA)	L.F.	268			
403			4' STANDARD DEPTH MANHOLE	EA	13			
403			5' STANDARD DEPTH MANHOLE	EA	6			

CITY OF SAN ANTONIO
025 UNIT PRICING FORM
(Addendum #1)

PROJECT NAME: Kentwood Manor Bond Project
PROJECT NO. 40-00058

403		4' X 6' JUNCTION BOX W/ MANHOLE COVER	EA	2	
403		4' X 6.5' JUNCTION BOX W/ MANHOLE COVER	EA	4	
403		6' X 8' JUNCTION BOX W/ MANHOLE COVER	EA	4	
403		8' X 10' JUNCTION BOX W/ MANHOLE COVER	EA	3	
403		6' X 15' JUNCTION BOX W/ MANHOLE COVER	EA	1	
403		13' X 13' JUNCTION BOX W/ MANHOLE COVER	EA	1	
403		15' X 13' JUNCTION BOX W/ MANHOLE COVER	EA	1	
403.1		JUNCTION BOX 4'X4'X4' W/ MANHOLE COVER	EA	2	
403.2		JUNCTION BOX 5'X5'X5' W/ MANHOLE COVER	EA	1	
403.3		JUNCTION BOX 6'X6'X6' W/ MANHOLE COVER	EA	2	
403		4' X 6.5' GRATE INLET BOX	EA	1	
403		5' X 5' GRATE INLET BOX	EA	22	
403		6' X 12' GRATE INLET BOX	EA	3	
407.1		CONCRETE ENCASEMENT	C.Y.	15	
407.3		CONCRETE SADDLES	C.Y.	8	
410.2		GRAVEL SUBGRADE FILLER (X < 100 C.Y.)	C.Y.	54	
413.2		FLOWABLE BACKFILL (HIGH STRENGTH)	C.Y.	43	
500.1		CONCRETE CURBING (> 1,000 L.F.)	L.F.	50	
503.1		PORTLAND CEMENT CONC. DRIVEWAYS	S.Y.	3242	
505.1		CONCRETE RIPRAP (5" THICK)	S.Y.	135	
509.1		METAL BEAM GUARD RAIL	L.F.	24	
513.1		REMOVING AND RELOCATING MAIL BOXES	EA.	21	
515.1		TOPSOIL	C.Y.	1200	
516.1		BERMUDA SODDING	S.Y.	6800	
531.3		R1-1 STOP (30")(HIGH DENSITY)	EA	16	
531.4		R1-2 YIELD (36")(HIGH DENSITY)	EA	1	
531.53		W14-1 DEAD END (30"x30")(HIGH DENSITY)	EA	1	
531.56		OM-4P END OF RD. MARKER (18"x18")(HIGH DENSITY)	EA	1	
531.57		9 INCH S.T NAME, BLK. No. (VARIES x9")(HIGH DENSITY)	EA	26	
531.63		W16-2 400 FT (DIAMOND GRADE (30"x18")(FLR. YEL. GRN))	EA	1	
540.1		ROCK FILTER DAMS (INSTALL/REMOVE) (TYPE 1)	L.F.	200	
540.1		ROCK FILTER DAMS (INSTALL/REMOVE) (TYPE 2)	L.F.	280	
540.6		CONSTRUCTION EXITS INSTALL	S.Y.	24	
540.9		TEMPORARY SEDIMENT CONTROL FENCE	L.F.	12000	
540		INLET PROTECTION DEVICE	L.F.	1900	
550.1		TRENCH EXCAVATION SAFETY PROTECTION	L.F.	4787	

CITY OF SAN ANTONIO
025 UNIT PRICING FORM
(Addendum #1)

PROJECT NAME: Kentwood Manor Bond Project
PROJECT NO. 40-00058

554.1	EROSION CONTROL MATTING	S.Y.	750	
570	CRUSHED ROCK	CY	22	
570	CRUSHED RED ROCK	CY	9	
570	RIVER ROCK	CY	15	
570	BRICK PAVERS	S.F.	90	

Total COSA Street/Drainage Construction Base Bid \$

SAWS Water Base Bid - Kentwood Manor Bond Project (Phase 1 &2) (SAWS No.08-5003)				
100	Mobilization	LS	1	
101	Preparing Right of Way	LS	1	
550	Trench Excavation Safety Protection	LF	7742	
818	4 PVC Waterline "	LF	15	
818	6 PVC Waterline "	LF	20	
818	8 PVC Waterline "	LF	7383	
824	Relay 3/4 Short Service "	EA	49	
824	Relay 3/4 Long Service "	EA	51	
824	Relay 1 Short Service "	EA	7	
824	Relay 1 Long Service "	EA	10	
824	Relay 1 1/2 Long Service "	EA	1	
824	Relay 1 1/2 Short Service "	EA	1	
824	New 3/4 Short Unmetered Service "	EA	3	
824	New 3/4" Long Unmetered Service	EA	2	
828	8" Gate Valves	EA	23	
833	Existing Meter and Meter Box Relocation	EA	39	
833	Existing Meter and New Meter Box Relocation	EA	80	
824	Customer Shut off Valves	EA	80	
833	Meter Box	EA	80	
834	Fire Hydrant	EA	9	
836	Pipe Fittings, all sizes and types	TON	6.89	
840	4" Water tie-ins	EA	3	
840	6" Water tie-ins	EA	4	
840	8" Water tie-ins	EA	3	
841	Hydrostatic Testing	EA	10	
844	2" Blowoff, Temporary	EA	8	

CITY OF SAN ANTONIO
025 UNIT PRICING FORM
(Addendum #1)

PROJECT NAME: Kentwood Manor Bond Project
PROJECT NO. 40-00058

856	8" Carrier Pipe	LF	324	
856.3	Casing or Liner 24" PVC (open cut)	LF	324	
3000.14	Removal, Transportation and Disposal of AC Pipe	LS	1	
3000.15	Asbestos Abatement Work Plans	LS	1	

Total SAWS Water Base Bid \$

SAWS Sewer Base Bid - Kentwood Manor Bond Project (Phase 1 & 2) (SAWS No.08-5503)

100	Mobilization	LS	1	
101	Preparing Right of Way	LS	1	
550	Trench Excavation Safety Protection	LF	310	
848	8" PVC Sanitary Sewer Line. (0'-6')	LF	110	
848	8" PVC Sanitary Sewer Line. (6'-10')	LF	165	
848	8" PVC Sanitary Sewer Line. (10'-14')	LF	25	
848	8" PVC Sanitary Sewer Line. (18'-22')	LF	10	
852.1	Sanitary Sewer Manhole (0' - 6')	EA	31	
852.2	Sanitary Sewer Drop Manhole (0' - 6')	EA	1	
852.3	Extra Depth Manholes (> 6')	VF	69	
854	Sanitary Sewer Laterals (6")	LF	2751	
854.1	One-Way Sanitary Sewer Clean-out	EA	100	
860	Vertical Stacks	VF	90	
864	Bypass Pumping	LS	1	
866	Sewer Main Television Inspection (8" - 15")	LF	6845	

Total SAWS Sewer Base Bid \$

Total Base Bid (Streets/Drainage/Water/Sewer) \$

CITY OF SAN ANTONIO
025 UNIT PRICING FORM
(Addendum #1)

PROJECT NAME: Kentwood Manor Bond Project
PROJECT NO. 40-00058

ALT. NO./ITEM NO.	DESC. CODE	S.P. NO	BID ITEM DESCRIPTION	UNIT OF MEASURE	APPROX. QUANTITIES	UNIT BID PRICE	AMOUNT	ITEM SEQUENCE NO.
COSA Street/Drainage Alt. 1 Bid - Kentwood Manor Bond Project (Phase 3) (COSA No.40-00058)								
1	100.1		MOBILIZATION	L.S.	1			
1	100.2		INSURANCE & BOND	L.S.	1			
1	101.1		PREPARING RIGHT OF WAY	L.S.	1			
1	530.1		BARRICADES, SIGNS & TRAFFIC HANDLING	L.S.	1			
1	103.3		REMOVE CONCRETE SIDEWALKS & DRIVEWAYS	S.F.	8001			
1	104.1		STREET EXCAVATION	C.Y.	1324			
1	105.1		CHANNEL EXCAVATION	C.Y.	16			
1	107.1		EMBANKMENT (FINAL)(DENS CONTY)(TY D)	C.Y.	91			
1	202.1		PRIME COAT	GAL.	2905			
1	203.1		TACK COAT	GAL.	415			
1	205.2		HOT MIX ASPHALTIC PVMINT, TYPE B (5" COMP. DPTH)	S.Y.	8299			
1	205.4		HOT MIX ASPHALTIC PVMINT, TYPE D (2.0" COMP. DPTH)	S.Y.	7703			
1	234		TRIAX GEOGRID (TX5)	S.Y.	7438			
1	306.1		STRUCTURAL EXCAVATION	C.Y.	105			
1	307.1		CONC. STRUCTURE (ABUTMENTS & WINGWALLS)	C.Y.	4			
1	307.1		CONC. STRUCT. (HEADWALLS/OUTFALL STRUCT.)	C.Y.	1			
1	401.1		REINFORCED CONCRETE PIPE (CLASS III)(24" DIA)	L.F.	1235			
1	401.1		REINFORCED CONCRETE PIPE (CLASS III)(30" DIA)	L.F.	299			
1	401.1		REINFORCED CONCRETE PIPE (CLASS III)(42" DIA)	L.F.	21			
1	403		4' STANDARD DEPTH MANHOLE	EA	4			
1	403		5' STANDARD DEPTH MANHOLE	EA	2			
1	403.1		JUNCTION BOX 4'X4'X4' W/ MANHOLE COVER	EA	3			
1	403.2		JUNCTION BOX 5'X5'X5' W/ MANHOLE COVER	EA	1			
1	403		5' X 5' GRATE INLET BOX	EA	7			
1	407.3		CONCRETE SADDLES	C.Y.	2			
1	413.2		FLOWABLE BACKFILL (HIGH STRENGTH)	C.Y.	13			
1	503.1		PORTLAND CEMENT CONC. DRIVEWAYS	S.Y.	890			
1	505.1		CONCRETE RIPRAP (5" THICK)	S.Y.	16			
1	531.3		R1-1 STOP (30")(HIGH DENSITY)	EA.	1			
1	531.4		R1-2 YIELD (36")(HIGH DENSITY)	EA.	2			
1	531.57		9 INCH ST. NAME, BLK No. (VARIES X9")(HIGH DENSITY)	EA.	4			

CITY OF SAN ANTONIO
025 UNIT PRICING FORM
(Addendum #1)

PROJECT NAME: Kentwood Manor Bond Project
PROJECT NO. 40-00058

1	540.1		ROCK FILTER DAMS (INSTALL/REMOVE) (TYPE 1)	L.F.	60	
1	540.6		CONSTRUCTION EXISTS INSTALL	S.Y.	12	
1	540.6		CONSTRUCTION EXISTS REMOVE	S.Y.	12	
1	540.9		TEMPORARY SEDIMENT CONTROL FENCE	L.F.	3500	
1	540		INLET PROTECTION DEVICE	L.F.	300	
1	550.1		TRENCH EXCAVATION SAFETY PROTECTION	L.F.	1600	
	554.1		EROSION CONTROL MATTING	S.Y.	30	
1	570		LARGE ROCK	CY	22	
1	570		LIMESTONE ROCK	CY	9	
1	570		RIVER ROCK	CY	15	
1	570		CRUSHED LIMESTONE	CY	90	
1	570		CRUSHED GRANITE	CY	90	

Total COSA Street/Drainage Construction Alt. 1 Bid	\$
--	----

SAWS Water Alt. 1 Bid - Kentwood Manor Bond Project (Phase 3) (SAWS No.08-5003)						
1	100.00		Mobilization	LS	1	
1	101.00		Preparing Right of Way	LS	1	
1	550		Trench Excavation Safety Protection	LF	2638	
1	818		4 PVC Waterline "	LF	5	
1	818		6 PVC Waterline "	LF	5	
1	818		8 PVC Waterline "	LF	2520	
1	824		Relay 3/4 Short Service "	EA	14	
1	824		Relay 3/4 Long Service "	EA	15	
1	824		Relay 1 Short Service "	EA	2	
1	824		Relay 1 Long Service "	EA	3	
1	824		Relay 1 1/2 Long Service "	EA	1	
1	824		New 3/4 Short Unmetered Service "	EA	1	
1	824		New 3/4" Long Unmetered Service	EA	1	
1	828		8" Gate Valves	EA	6	
1	831		8" x 8" Tee Cut In	EA	2	
1	833		Existing Meter and Meter Box Relocation	EA	12	
1	833		Existing Meter and New Meter Box Relocation	EA	23	
1	824		Customer Shut off Valves	EA	23	
1	833		Meter Box	EA	23	

CITY OF SAN ANTONIO
025 UNIT PRICING FORM
(Addendum #1)

PROJECT NAME: Kentwood Manor Bond Project
PROJECT NO. 40-00058

1	834	Fire Hydrant	EA	3	
1	836	Pipe Fittings, all sizes and types	TON	2.57	
1	840	4" Water tie-ins	EA	1	
1	840	6" Water tie-ins	EA	1	
1	840	8" Water tie-ins	EA	3	
1	841	Hydrostatic Testing	EA	4	
1	844	2" Blowoff, Temporary	EA	5	
	856	8" Carrier Pipe	LF	108	
1	856.3	Casing or Liner 24" PVC (Open Cut)	LF	108	
1	3000.14	Removal, Transportation and Disposal of AC Pipe	LS	1	
1	3000.15	Asbestos Abatement Work Plans	LS	1	

Total SAWS Water Alt. 1 Bid \$

SAWS Sewer Base Bid - Kentwood Manor Bond Project (Phase 3) (SAWS No.08-5503)					
1	100	Mobilization	LS	1	
1	101	Preparing Right of Way	LS	1	
1	550	Trench Excavation Safety Protection	LF	100	
1	848	8" PVC Sanitary Sewer Line. (0'-6')	LF	20	
1	848	8" PVC Sanitary Sewer Line. (6'-10')	LF	60	
1	848	8" PVC Sanitary Sewer Line. (10'-14')	LF	20	
1	852.1	Sanitary Sewer Manhole (0' - 6')	EA	9	
1	852.3	Extra Depth Manholes (> 6')	VF	21	
1	851	Adjusting Existing Manholes(Watertight Ring & Cover)	EA	2	
1	854	Sanitary Sewer Laterals (6")	LF	976	
1	854.1	One-Way Sanitary Sewer Clean-out	EA	37	
1	864	Bypass Pumping	LS	1	
1	866	Sewer Main Television Inspection (8" - 15")	LF	2410	

Total SAWS Sewer Alt. 1 Bid \$

Total Alt. 1 Bid (Streets/Drainage/Water/Sewer) \$

CITY OF SAN ANTONIO
025 UNIT PRICING FORM
(Addendum #1)

PROJECT NAME: Kentwood Manor Bond Project
PROJECT NO. 40-00058

Total Base Bid (Streets/Drainage/Water/Sewer)	\$
Total Alt. 1 Bid (Streets/Drainage/Water/Sewer)	\$

Total Base & Alt. 1 Bid (Streets/Drainage/Water/Sewer) \$

_____ certifies that the unit prices shown on this complete computer print-out for all of the bid items and the alternates contained in this proposal are the unit prices intended and that its bid will be tabulated using these unit prices and no other information from this print-out. _____ Acknowledged and agrees that the total bid amount shown will be read as its total bid and further agrees that the official total bid amount will be determined by multiplying the unit bid prices shown in this print-out by the respective estimated quantities shown in the proposal and then totaling all of the extended amounts. _____ agrees to the terms, conditions, and requirements of the bidder's bid proposal.

Signed: _____ Date: _____

Title: _____