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1993 WASTEWATER REVENUE BONDS & SPECIFICATIONS

TOWN OF ADDISON

PUBLIC WORKS DEPARTMENT (214) 450-2871

Post Office Box 144 Addison, Texas 75001 16801 Westgrove

September 6, 1994

MEMORANDUM

To: Randy Moravec
Finance Director

From: John Baumgartner
Director of Public Works

Re: Updated Expenditure Schedule for the 1993 Utility Revenue Bonds

Per Sandra's request is a revised schedule of expenditures for the major utility projects. This does not include the minor Insituform and water projects scheduled for later this budget year.

Please call me if you have any questions or need additional information.

JRB/gmk

cc: Sandra Goforth

Attachments: 1993 Schedule
1994 Schedule

EXPENDITURE SCHEDULE
FOR THE 1994 WATER/SEWER BOND SALE
AUGUST 30, 1994

	SEWER TUNNEL		CONV. SYSTEM FARMERS BRANCH		MARSH LANE		DALLAS FRANCHISE		CARROLLTON		FARMERS BRANCH CONSTRUCTION MANAGEMENT	SUBTOTAL
	CONSTRUCT	Engineering/ Inspection	CONSTRUCT	Engineering/ Inspection	CONSTRUCT	Engineering/ Inspection	CONSTRUCT	Engineering/ Inspection	CONSTRUCT	Engineering/ Inspection		
Previous Expenditures	1,450,000	172,000		68,000		235,000	140,000	25,000		13,000	50,000	2,153,000
September 1994	330,000	40,000		4,000		25,000	415,000	20,000		20,000	5,000	859,000
October	470,000	40,000		4,000	150,000	25,000	25,000	20,000		20,000	5,000	759,000
November	490,000	40,000		6,000	350,000	25,000	25,000			20,000	5,000	961,000
December	465,000	40,000		6,000	370,000	22,000				35,000	5,000	943,000
January 1995	400,000	35,000	30,000	6,000	340,000	20,000				30,000	5,000	866,000
February	380,000	35,000	35,000	5,000	340,000	15,000				30,000	5,000	845,000
March	375,000	35,000	75,000	5,000	310,000	15,000				20,000	5,000	840,000
April	370,000	35,000	100,000	4,000	310,000	15,000				20,000	5,000	859,000
May	330,000	35,000	90,000	4,000	290,000	10,000			250,000	10,000	5,000	1,024,000
June	330,000	35,000	80,000	4,000	260,000	10,000			290,000	10,000	5,000	1,024,000
July	130,000	30,000	80,000	4,000	260,000	10,000			265,000	10,000	5,000	794,000
August	120,000	30,000	65,000	4,000	190,000	10,000			240,000	15,000	5,000	679,000
September	100,000	30,000	55,000	4,000	190,000	10,000			215,000	15,000	5,000	624,000
October	60,000	30,000	50,000	5,000	190,000	10,000			190,000	15,000	5,000	555,000
November	100,000	11,000	40,000	5,000	250,000	17,000			165,000	15,000	5,000	608,000
December	200,000	12,000	75,000	1,000		10,000			165,000	15,000	5,000	483,000
January 1996									165,000	15,000	5,000	185,000
February									165,000	14,000	5,000	184,000
March									140,000	14,000	5,000	159,000
April									250,000	14,000		264,000
May										10,000		10,000
June										5,000		5,000
July												
August												
September												
October												20,000
November		20,000										
December												
Total	6,100,000	705,000	775,000	139,000	3,800,000	484,000	605,000	65,000	2,500,000	385,000	145,000	15,703,000

EXPENDITURE SCHEDULE
FOR THE 1993 WATER/SEWER BOND SALE
AUGUST 30, 1993

	SEWER TUNNEL		CONV. SYSTEM FARMERS BRANCH		MARSH LANE INTERCEPTOR		DALLAS FRANCHISE		CARROLLTON		FARMERS BRANCH CONSTRUCTION MANAGEMENT	SUBTOTAL
	CONSTRUCT	ENGINEERING/ INSPECTION	CONSTRUCT	ENGINEERING/ INSPECTION	CONSTRUCT	ENGINEERING/ INSPECTION	PURCHASE CONSTRUCT	ENGINEERING/ INSPECTION	CONSTRUCTION	ENGINEERING/ INSPECTION		
OCTOBER 1993												
NOVEMBER		20,000		10,000							5,000	35,000
DECEMBER	250,000	35,000		12,000		35,000		5,000			5,000	342,000
JANUARY 1994	100,000	30,000		10,000		45,000		10,000			5,000	200,000
FEBRUARY	370,000	35,000		8,000		40,000		15,000			5,000	473,000
MARCH	445,000	30,000		6,000		35,000		10,000			5,000	531,000
APRIL	305,000	30,000		6,000		30,000		5,000			5,000	381,000
MAY	260,000	30,000		6,000		30,000		1,000			5,000	332,000
JUNE	260,000	30,000		5,000		25,000	140,000	3,000			5,000	468,000
JULY	245,000	30,000		5,000		20,000	560,000	35,000			5,000	900,000
AUGUST	235,000	30,000		1,000		20,000	85,000	35,000			5,000	411,000
SEPTEMBER	235,000	30,000		1,000	175,000	2,000					5,000	448,000
OCTOBER	395,000	25,000		3,000	350,000	12,000				30,000	5,000	820,000
NOVEMBER	420,000	25,000	65,000	6,000	350,000	20,000				30,000	5,000	921,000
DECEMBER	395,000	25,000	75,000	6,000	370,000	25,000				35,000	5,000	936,000
JANUARY 1995	340,000	25,000	90,000	6,000	340,000	20,000				25,000	5,000	851,000
FEBRUARY	320,000	25,000	80,000	5,000	320,000	15,000				25,000	5,000	795,000
MARCH	315,000	25,000	70,000	5,000	260,000	15,000				20,000	5,000	715,000
APRIL	310,000	25,000	70,000	5,000	260,000	15,000				15,000	5,000	705,000
MAY	315,000	25,000	65,000	5,000	260,000	10,000				15,000	5,000	700,000
JUNE	320,000	25,000	55,000	5,000	260,000	10,000				15,000	5,000	695,000
JULY	115,000	25,000	50,000	5,000	260,000	10,000				1,000	5,000	471,000
AUGUST	90,000	30,000	40,000	5,000	215,000	10,000				1,000	5,000	396,000
SEPTEMBER	30,000	30,000	40,000	6,000	190,000	10,000			250,000	20,000	5,000	581,000
OCTOBER	30,000	35,000	75,000	6,000	390,000	10,000			290,000	22,000	5,000	863,000
NOVEMBER		10,000		1,000		20,000			265,000	20,000	5,000	321,000
DECEMBER									240,000	15,000	5,000	260,000
JANUARY 1996									215,000	15,000		230,000
FEBRUARY									190,000	15,000		205,000
MARCH									165,000	14,000		179,000
APRIL									165,000	14,000		179,000
MAY									165,000	13,000		178,000
JUNE									165,000	12,000		177,000
JULY									140,000	12,000		152,000
AUGUST									250,000	20,000		270,000
SEPTEMBER												
OCTOBER												
NOVEMBER		20,000										20,000
DECEMBER												
TOTAL	6,100,000	705,000	775,000	139,000	4,000,000	484,000	785,000	119,000	2,500,000	404,000	130,000	16,141,000

TOWN OF ADDISON

PUBLIC WORKS DEPARTMENT (214) 450-2871

Post Office Box 144 Addison, Texas 75001 16801 Westgrove

September 6, 1994

MEMORANDUM

To: **Ron Whitehead**
City Manager

From: **John Baumgartner**
Director of Public Works

Re: **Sewer Tunnel and Related Projects**

In the early 1960's the Town of Addison entered into a fifty year agreement exchanging sewer service for the west side of town; for land that is currently occupied by a portion of the Brookhaven College Campus.

This agreement remained in place until 1986 when the Town's growth started to surpass Farmers Branch's ability to provide sewer service without major infrastructure improvement. Farmers Branch and Addison litigated the dispute to determine Farmers Branch's responsibility to provide Addison with sewer service. Addison prevailed in the lower court; but on appeal it was determined that the original agreement was vague and Farmers Branch was not obligated to provide Addison with unlimited sewer service.

Consequently, Addison and Farmers Branch entered into a series of interim 6 month agreements affectively limiting our sewer flows through their community to 105% of the 1986 flow. These agreements work effectively during the slow growth years of the late 80's and early 90's.

During the initial years of the interim agreements, Addison and Farmers Branch studied the various methodologies to eliminate the constraints to their sewer systems and provide opportunities for new growth. After looking at the various options, it was determined that a cooperative effort with Farmers Branch to construct a series of sewer interceptors from the North Dallas Tollway to the Trinity River Authority (TRA) interceptor at the Trinity River and 635 was the most cost effective method to meet Addison's needs for sewer.

Since 1991, Addison has experienced a growth spurt in the western portion of the community including K-Mart, Sams, Winn Dixie, several restaurants and the construction of over 500 new homes, additional apartments and retail shops. In an effort to satisfy the demand for sewer, Addison has borrowed capacity from Dallas on a five year basis. Consequently, we have begun to implement the plan that should provide for Addison's sewer needs well into the 21st century. The following four phases represents Addison's commitment to implement the plan necessary to provide sewer service:

Phase I - Addison/Farmers Branch Sewer Tunnel. 20,500 linear feet of 60 inch sanitary sewer line from the Trinity River at I635 to Marsh Lane at Farmers Branch Creek.

Design - Started in late 1991 with the bid opening in July 1993.

Contract Awarded - September 1993 to Seven K Construction Company, Inc.

Construction Started - December 1993

Anticipated Completion - October 1995

Costs - Approximately $13.5 million
57% Addison $ 7.7 million
43% Farmers Branch $5.8 million

Notes: The contractor continues to have minor difficulties regarding site conditions and equipment. He is hopeful that they can make up some of the time lost with better production between I35 and Marsh Lane. Schedule has slipped incrementally from August to October. The project is approximately 25% complete.

Phase II - Addison/Farmers Branch Sanitary Sewer Interceptor - (Phase II) This phase consists of a series of smaller diameter (15 inch to 30 inch) lines from Marsh Lane at Farmers Branch Creek to the North Dallas Tollway near Spring Valley. This project is almost entirely located within Farmers Branch and provides service to Addison's south Midway Road/Spring Valley areas and to the south Quorum area.

Design - Started in January 1994

Bid opening - Estimated January 1995

Start construction - Estimated March 1995

Completion - Estimated March 1996

Costs - Approximately $2.4 million
38% Addison $0.9 million
62% Farmers Branch $1.5 million

Phase III - Marsh Lane Interceptor - This phase of the project consists of approximately 8000 l.f. of 24 inch sewer line. When completed it will connect the Addison-Farmers Branch sewer tunnel to Addison's sewer system at Marsh and Belt Line.

Design - Started in January 1994

Bid award - Scheduled for September 13, 1994

Start construction - Estimated November 1, 1994

Completion - Estimated November 1995 for substantial completion with final cleanup by January 1996

Costs- Approximately $3.9 million - 100% Addison

Notes: This project will be a tunnel project in an effort to minimize disruption to the public and to eliminate the continual expense of operating a major sewer lift station.

Phase IV - Midway/Belt Line Road Sewer Interceptor - This phase of the project is approximately 7,500 linear feet and will include a lift station, force main and conventional sewer system. It provides a method to move Addison's sewer in the northwest part of town from the Carrollton system to the Marsh Lane Interceptor. This is consistent with our commitment to Carrollton to be off their system when the tunnel is complete.

Design - The feasibility study was completed in August 1994 and the consultant is reviewing site selection for the lift station and routing of the forcemain and conventional line.

Schedule - Depending on the requirements for land acquisition, it is intended to award a construction contract in the spring of 1995 and complete the project by the spring of 1996.

Cost - Estimated at $2.9 million - 100% Addison.

Summary

1964 - Entered 50 year agreement for Farmers Branch to provide sewer service in exchange for a favorable Boundary Adjustment.

1986 - Court determines original 1964 agreement is not valid and Farmers Branch is not obligated to provide unlimited sewer capacity.

1987 - Town enters into the first of a series of 6 month agreements with Farmers Branch for constrained sewer service.

1987-90 Various sewer alternatives are studied and it is determined that a series of sewer interceptors from the North Dallas Tollway to the Trinity River under Farmers Branch is the most cost effective solution.

1991 - The North Dallas County Water Supply Corporation is created.

1992 - Design begins on the first phase of the sewer interceptor.

1993 - The contractor was issued a notice to proceed on the first phase (sewer tunnel) of the project.

1994 - Design is started on phases II, III, IV.

1995 - Estimated completion of phases I and III in the late 1995.

1996 - Estimated completion of phases II and IV in early 1996.

10-25-93

WATER & SEWER SPECIFICATIONS

PVC (Water) Pressure Pipe

The PVC pipe shall be SDR-18. Dimensions Class 150. The pipe shall meet or exceed requirements of AWWA C-900-75, PVC pipe with cast iron outside dimensions and with rubber ring joints. PVC water pipe shall be listed by Underwriters Laboratories and approved for use in cities and towns of Texas by the State Board of Insurance. The rigid PVC pipe shall bear the seal of approval (or "NSF" mark) of the National Sanitation Foundation Testing Laboratory for potable water pipe. Provisions must be made for contraction and expansion at each joint with a rubber ring and an integral thickened bell as part of each joint. Pipe and fittings must be assembled with a non-toxic lubricant. Pipe shall be made from NSF approved Class 12454-A or B PVC Pipe Compound conforming to ASTM resin specification D1784.

Joints and Fittings - Fittings shall be mechanical joint or rubber ring slip joint cast iron fittings. All cast iron fittings will be polywrapped (8 mil.).

Pipe Bedding

Bedding material for water and sewer pipe shall be sand. Sand shall be placed six (6) inches below the pipe, six (6) inches each side of the pipe and six (6) inches above the pipe. Sand must be free of clods or lumps exceeding three (3) inches.

Tracer

The No. 12 plastic coated copper wire shall be placed in the trench over all water lines. The wire will be tied to all valves and fire hydrants and attached directly to the top of pipe and extending to six (6) inches above finished grade along the outside of all valve stacks and fire hdyrants.

Fire Hydrants

Fire hydrants will be Mueller Centurion Model with two and one half (2½) inch hose nozzles and a four (4) inch steamer connection. Threads will be national standard. Fire hydrants shall be located as shown on the plans and shall be set truly vertical with the base resting upon a stone or concrete slab four (4) inches thick and approximately twelve (12) inches square. The base of the hydrant shall be surrounded by not less than two (2) cubic feet of clean crushed stone or gravel, size one (1) inch to two (2) inches. Pipe joints shall be made as specified for pipe laying. The hydrants shall be carefully and substantially blocked against firm trench walls with concrete of 3,000 psi concrete.

RESIDENTIAL

WATER TAPS & SERVICE

The Town of Addison's policy regarding water taps is as follows:

Contractors and/or plumbers are responsible for all taps, copper line to meter, flanged-flare type angle curb stop, meter, setting a box large enough to have access to the entire meter, including flanges and curb stop. No hand valves will be allowed on inlet side of meter.

All materials will be provided by the contractor, including double check assembly after all meters. All materials must conform to the town specifications. Meters will be set at the property line out of the flow of vehicles or parking spaces. The meter box will be concrete with reader lid and the meter shall be easily accessible for future repairs. Depth of the meter is to be between six (6) inches and twelve (12) inches from the top of the meter to the top of the meter box. The meter must be a Badger or Hersey, straight-read register, measuring in gallons. All meter flanges shall be brass and all meter flange bolts will be stainless steel.

Backfill:

The tapping saddle and corporation stop must be polywrapped (8 mil) and sand placed on the pipe to a depth of six (6) inches to twelve (12) inches deep by hand shovels only. No backhoes. The rest of the backfill may be done by machine, with material free of rocks and clods exceeding three (3) inches in diameter.

CAUTION:

If a tap is made and backfilled without an inspector present, it will have to be exposed by the contractor so it may be inspected by the town.

TAP FEES:

3/4"	= $50.00
1"	= $100.00
1 1/2"	= $150.00
2"	= $400.00
4"	= $600.00
6"	= $800.00

WATER TAP AND INSTALLATION SPECIFICATIONS

Contractors or plumbers will be responsible for all taps and materials.

Prior to the actual tap, the Utilities Division will be called to locate the water line, inspect the tapping procedures and supervise the backfill operations. The Utilities Department telephone number is 450-2873.

On taps up to 1½", the following materials will be used:

1. Double strap bronze tapping saddle (Mueller-CC threads).
2. Mueller Corporation stop #H-15000.
3. Tapping saddle and Corporation stop to be poly-wrapped prior to backfill.
4. Six (6) inches of cushion sand to be put around main tap and copper line.
5. Copper type "K" soft with flared fittings.
6. Mueller #14255 angle curb stop.
7. Badger or Hersey meter. All meters must have a test port for testing the accuracy of the water meter.
8. Meter box to be concrete meter box. All meter flanges to be brass and flange bolts to be stainless steal.
9. Box to be set at finished grade level.
10. Backflow preventor or double check assembly installed in same manner as required for water meters.

For 1½" to 2" taps, use compression angle curb stop Mueller #14277 with locking wing and Muller compression corporation (Mueller-CC threads) #15013.

Taps over 2": tapping sleeve Mueller #H-615
tapping valve Mueller #H-667

WATER METER (DOUBLE-CHECK) BOX

When a meter must be located in a traffic area, it will be enclosed in a concrete meter box with a cast iron lid #T36. If necessary, a concrete pad will be poured under the box to take the traffic load.

All meter boxes will be located at a finished grade with the meter top not lower than six (6) to twelve (12) inches below the finished grade. To prevent the inflow of mud and silt into the box, a minimum of eight (8) inches of washed pea gravel will be placed under the meter inside of the meter box.

Double-check valves must be installed on all water lines and should be installed in the same manner as is required for water meters. They must be located in a separate box with a minimum of an eighteen (18) inch nipple between the water meter and the double-check.

A deposit is required on all meters in the Town of Addison. This deposit is to be made by the party responsible for the water bill.

Revised 12/22/87

On an open type system, Hersey Detector meter MFM will ' used. An open system is defined as a system with hose stations or facilities for fire hoses to be connected to the sprinkler system.

Pipe inlet and outlet must be sealed

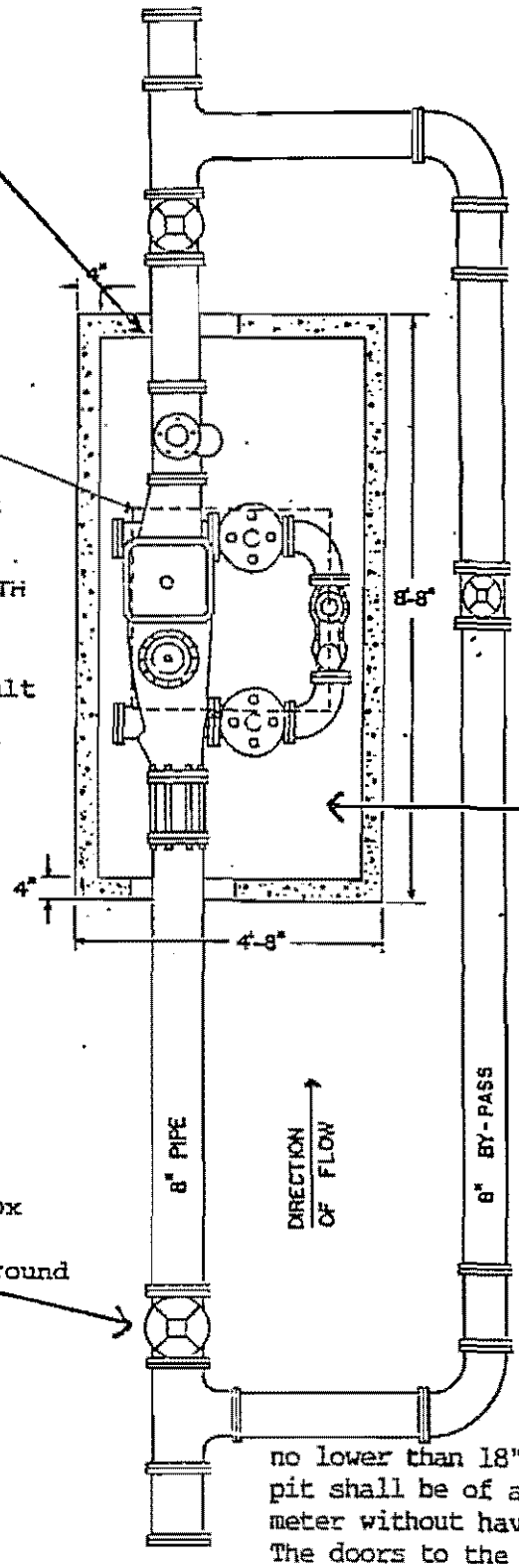
3'x3' HINGED COVER ILLUSTRATED

Must be large enough to remove the meter without dissembly

8" COMBINED SERVICE WITH 8" F.M. METER

Valves and by-pass must must be installed in vault

All meters must have test ports.

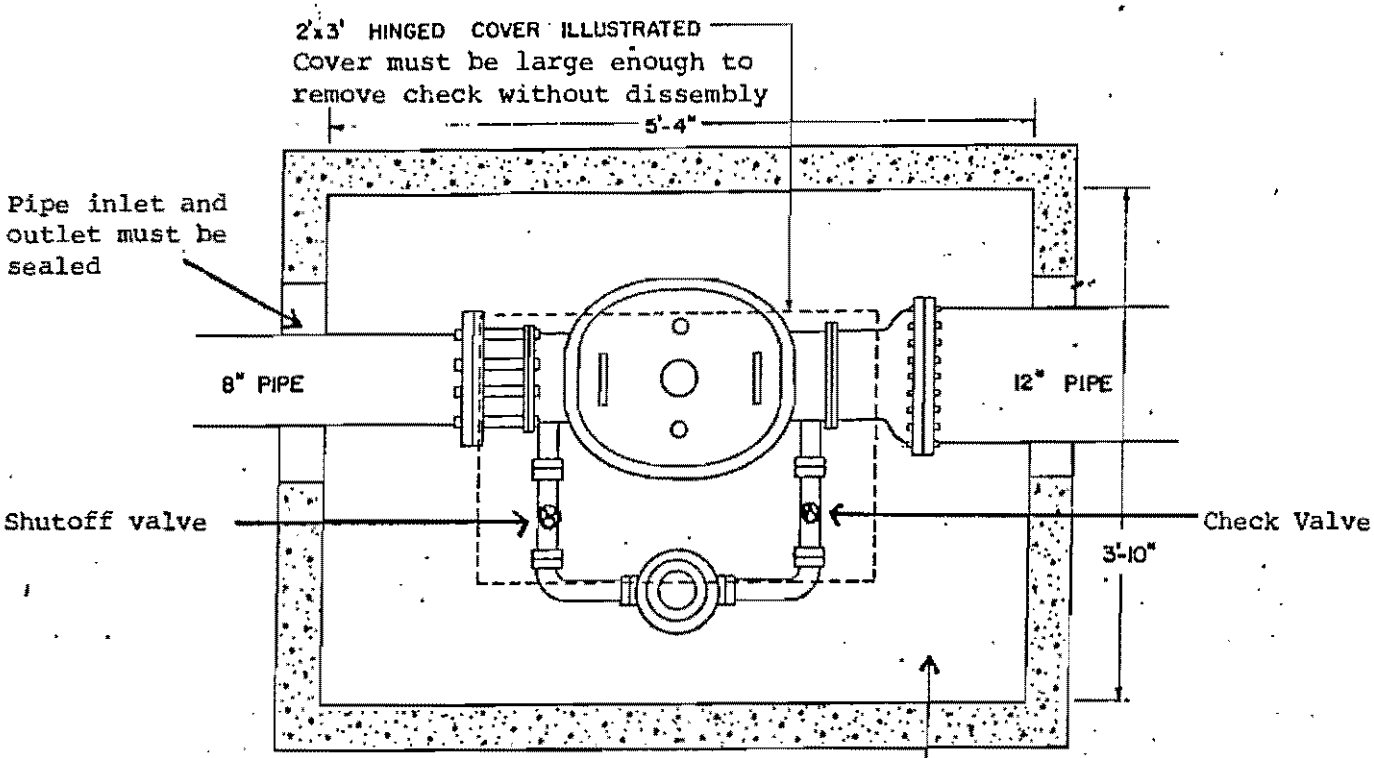


Concrete floor sealed between floor and wall

All valves outside of box must have concrete pads 24" x 24" x 6" poured around valve risers

Meters shall be installed in a pit with a concrete floor. The meter shall be no lower than 18" below finished grade. The pit shall be of adequate size to remove the meter without having to disassemble the meter. The doors to the pit shall be of the "Bilco" type, but not necessarily that brand.

On a closed system a Detector Check Assembly with a 1" bypass meter may be used. Must be Hersey Model D.C. A closed system is defined as tied only to sprinkler head with no other outlets.



TYPICAL INSTALLATION 8" CLOSED FIRE LINE SERVICE WITH 8" DETECTOR CHECK 1" BYPASS METER

Concrete floor sealed between floor and walls

In line shutoff valve must be located between the street and the detector check

The Detector check shall be installed in a pit with a concrete floor. The meter shall be no lower than 18" below finished grade. The pit shall be of adequate size to remove the meter without having to disassemble the meter. The doors to the pit shall be of the "Bilco" type, but not necessarily that brand.

PVC (Sewer) Pipe

PVC pipe and fittings shall meet the extra strength requirements of ASTM specification D3034, SDR 35. Pipe shall have integral wall bell and spigot joints.

Joints - Joints for the PVC pipe and fittings shall be compression rubber gasket joints. The bell shall consist of an integral wall section with factory installed ring securely locked in bell groove to provide positive seal under all installation conditions.

Fittings - Fittings and accessories shall be manufactured and furnished by the pipe supplier and have bell and/or spigot configuration identical to that of the pipe.

Connections at Manholes - Asbestos cement sleeves with rubber ring joint will be used at manhole walls to provide positive water tight connections. Manholes are to be poured in place. Six (6) sack concrete mix. Forms must be in place after pour for four (4) hours. Manhole steps are required.

Stiffness - Minimum pipe stiffness at 5% deflection shall be 46 (forty-six) for all sizes when calculated in accordance with ASTM D-2412.

SEWER TAPS

The Town of Addison will make all four (4) to six (6) inch taps. The plumber will be responsible for exposing the sewer line. The line should be fully exposed for a minimum length of thirty-six (36) inches and two-thirds (2/3) of the diameter. To get a tap, call the Sewer Division at least one day in advance. If it is raining or a holiday, the taps will be made on another day. All water must be pumped out of the hole at the time the tap is being made. Taps are to be on a 45° angle, and a double clean-out at the property line must be S.D.R. 35 P.V.C.

BACKFILL:

The plumber shall extend his yard line to the tap on grade no higher than twelve (12) inches above the tap. Prior to any tap being backfilled, the town shall be called for an inspection and shall supervise the backfill operation. The tap and exposed yard line will be backfilled with sand to a level of twelve (12) inches above the pipe. This portion of the backfill will be done by hand shovels only! No Backholes. After the hand operation, the remainder of the trench can be machine filled with select fill material. No rocks or clods over three (3) inches in diameter.

CAUTION:

If you backfill the tap without an inspector on location, you will be required to dig it up for an inspection.

FEES:

The fee for a four (4) inch sewer tap is $110.00.
The fee for a six (6) inch sewer tap is $120.00.
The fee for an eight (8) inch sewer tap is $160.00.

TO WHOM IT MAY CONCERN:

The following items will be required before the final acceptance of the utilities on your site.

1. A list of quantities of pipe and appurtenances for utilities construction.
2. Two sets of "as-built" plans stamped and signed by the civil engineer.
3. Maintenance bond for 10% of the amount of the utility work.
4. A letter from the utilities inspector stating that a final "on site" inspection was made with the "as-built" plans and no discrepancies were found. A representative of the owner must be present at the final inspection.
5. One set of "as-built" plans on a 1"=100' scale.

After the above items are completed, a letter of acceptance will be issued and the city will assume maintenance of the dedicated portions of the project after the expiration of the one year maintenance bond.

PROCEDURE FOR INSTALLATION OF FIRE PROTECTION SPRINKLER SYSTEMS

Plan Review and Approval

1. Fire protection systems design, installation and testing shall conform with provisions of National Fire Protection Association (NFPA). Pamphlet No. 13 - "Installation of Sprinkler System" and Pamphlet No. 24 - "Outside Protection" must also comply with Uniform Building Code Standard No. 38-1.

2. Fire Protection Contractor shall submit two (2) sets of sprinkler plans to Building Inspection and make application for building permit. Plans of underground yard line tap and main extension shall be prepared and sealed by a Registered Professional Engineer. The two sets of plans will be distributed by Building Inspection for comments to appropriate departments utilizing the same procedure followed in other building permit application.

3. Plans should include the following as a minimum:
   a) Minimum yard line or main size 6", Class 150, preferably 8" PVC SDR-18 Class 150. Main shall be looped as appropriate.
   b) Check valve and gate valve on new main near tap to existing main (gate valve nearest old main). Gate valve shall have riser stack to grade with 24" x 24" concrete pad. Concrete vault with cover at grade shall be installed for check valve. It will have a concrete floor and be sealed around piping in and out of vault. Gate and check valves may be installed to utilize the same vault.

c) Yard line to be Polyvinyl Chloride SDR-18 (PVC) pipe. Fittings shall be Mueller brand or approved equal.

d) Yard line to be sand encased (6" all around), 42" minimum cover and compacted backfill.

e) Concrete thrust blocking to be used on all tees, bends, or where appropriate.

f) New fire hydrant, if required, shall be Mueller #A423 Centurion type. The first hydrant shall have 8" minimum size feeder main (Class 150) with individual gate valve and shall be 50' minimum from buildings readily accessible from a paved drive or street and with hose outlet 12" minimum above grade. Fire hydrants shall be equipped with two 2½" outlets, a 4" steamer connection and all outlets shall have National Standard Fire Hose Threads.

4. After plan review by the Town, necessary corrections shall be made to the plans. When plans are approved and building permit issued, five (5) sets of plans shall be furnished to the Utilities Division for stamping: "Released for Construction.".

5. After plans are stamped, the Town retains three (3) sets and returns two (2) sets to the Contractor. The Contractor shall keep stamped plans on the jobsite at all time.

Permit Fee:

1. Interior Piping - Fee computed by Building Inspection Division. Call 233-1331, extension 85, for individual job requirements.

2. Underground - Yard line and tap to City Main - After plans are approved, Fire Protection Contractor applies for Excavation Permit from Utilities Division. This requires payment of a $5.00 fee and furnishing of a $2,000 one-year Maintenance Bond for any work performed in public right-of-way.

Construction and Inspection:

1. All construction shall be in accordance with Town of Addison Specifications and Standards. Contractor shall be responsible for any barricades, lights, or other necessary traffic control measures as appropriate.
2. Yard line construction and any work in public right-of-way shall be inspected by Utilities Inspector. Inside sprinkler installation shall be inspected by Fire Department Inspector in conjunction with Building Inspection.
3. Fire Protection Contractor to notify Utilities Division. Fire Marshal and Utilities Inspector of construction schedule 48 hours prior to commencement of construction.
4. Where necessary to tap an existing City main across a street or in a median, installation shall be by boring unless otherwise specifically approved for open cut. If open cut, Contractor shall be responsible for replacement of paving in accordance with Town of Addison Standard Specifications.

Pipe Testing and Chlorination:

1. Yard line shall be flushed and pressure tested for two hours at

150 psi. Pipe joints shall be left open and uncovered for observation furing testing operation. Any joint leakage of more than a "slight drip" or weeping shall be repaired. Leakage shall not exceed 1 oz. per hour per inch of pipe diameter per joint with leakage generally distributed over all joints. Test shall be supervised by Utilities Inspector who will sign "underground" portion of the appropriate fire insurance form furnished by the Contractor. (Four copies to be furnished to Town - two for Engineering and two to Fire Department).

2. Yard line shall be chlorinated in accordance with Town Specifications.
3. Overhead sprinkler system shall be flushed and pressure tested for two hours at 200 psi. Test shall be supervised by Fire Department Inspector who will sign the "overhead" portion of the appropriate fire insurance form furnished by the Contractor.

Special Note:

1. The Town shall not be held liable for the adequacy of design and installation of the system and reserves the right to amend any of the above requirements as appropriate.

* ALLOWABLE WATER LOSS TABLES

FOR

FIRE SPRINKLER YARD MAINS

Allowable loss in GALLONS for 2 hour, 150 psi test -

Length of Main ⟶

	20 ft.	50 ft.	100 ft.	200 ft.	300 ft.	400 ft.
4" PVC	0.08	0.21	0.42	0.83	1.25	1.66
6" PVC	0.12	0.31	0.62	1.25	1.87	2.50
8" PVC	0.17	0.42	0.83	1.66	2.49	3.32
10" PVC	0.21	0.52	1.04	2.08	3.12	4.16

Outside Protection

* From NFPA Manual No. 24, Outside Protection, based on allowable loss of one (1) ounce (liquid measure) per hour per inch of pipe diameter per joint. PVC pipe figured for 18'-0" joint length. 20% allowance made for fittings, valves, short joints, etc.

6-24-92

Addison and Farmers Branch entered into a sewer agreement on March 26, 1964. Addison agreed to give Farmers Branch the land that Brookhaven College is on in order to provide sewer to the Town, but it was not a part of the recorded agreement. Addison agreed to pay Farmers Branch .0077 mills per thousand gallons over what Farmers Branch paid to the Trinity River Authority. This agreement was in effect for over 22 years.

In 1986 Farmers Branch and Addison agreed to rebuild Marsh Lane. Addison had a sewer line going under Marsh just south of Beltline Road. It was decided to up size the line to hold future capacity. The line would have been about a 30" line. The Branch heard what was happening and they said NO GO!
They wanted to limit our line to the present size because their lines could not handle a sewer line of that size. They even threatened to put valves on their side of the street to limit our flow into their system. They said the line was only designed to carry the subdivision in Farmers Branch. We offered to participate in the rebuilding of the line. They said no. If Addison would get off the line they would not any larger line sewer mains. They did not have an easement in the creek and it had very limited access. The expansion of the line would only benefit Addison. This way they could hold Addison hostage for whatever might come up in the future. (Pace)

Addison took the Branch to court. Addison won! Branch appealed to the state court. They won. The court said the contract was too open-ended. There was no limit as to the amount of sewage that Addison could send to Farmers Branch and one council cannot bind another council to it's agreement.

We rocked along without a sewer agreement for awhile. Then they decided that we needed one. They limited us to 105% of the sewer usage we had in 1986. This was not too bad. We did not have any construction going on. We had even further reduced our flows by using our T.V. inspection equipment to locate inflow and infiltration, we checked all of our manholes twice a year to prevent inflow. We were able to divert the east side of the airport from Farmers Branch to Dallas by installing about 1500 feet of sewer line in conjunction with the construction of the arts center.

In about 1987 the Branch started to look at their sewer situation. They realized that in order to develop the area north of LBJ and along the tollway they would need more sewer capacity. So now they need us. They approached us about having a study done by Freese & Nichols eng. on how best to solve our problems if we would pay half of the cost. What could we say?

The report had three considerations on how best to get the sewer to TRA.

1. Combination gravity and pressure sewer in the R.O.W. of L.B.J. Freeway.

2. Pressure sewer in the R.O.W. of L.B.J. Freeway.

3. A sewer tunnel under the Town of Farmers Branch.

Their first choice was the sewer tunnel.

Meanwhile in 1988 the Town of Addison is looking for the best solution to it's sewer problems in both Farmers Branch and Carrollton. We have a line that goes into Carrollton and does not have much capacity left in it. We contracted with Espy Houston to look at all of the sewer problems. Their recommendation was to build a sewer tunnel and move the sewage from Carrollton to T.R.A. via the sewer tunnel.

In 1989 Farmers Branch and Addison agreed to fund a preliminary Engineering Study to see if a tunnel was feasible. The study was done by Consoer,Townsend and Assoc. Engineers. The report said it was a good project.

In 1990 Addison and Farmers Branch started looking for a vehicle to build a tunnel. It was decided to form The North Dallas County Water Supply Corporation. This was done in 1991. The board is made up of six members, three members from Farmers Branch and three members from Addison.

We wanted membership in T.R.A. so if the tunnel became a reality we would no longer be held hostage by Farmers Branch. We applied and were approved on October 24, 1990. The stipulation being we would be members only when the tunnel was tied into T.R.A.

In the first part of 1992 the Corporation hired the firm of Consoer, Townsend & Assoc. Inc. to do the final Engineering plans. They are about half way completed at this time.

In conjunction with the engineering plans and to find out if there was any capacity left in the Farmers Branch system the firm of A.D.S. was hired to do flow tests. The conclusion was there is a blockage in their system and the system is near capacity. The study was completed in November of last year. Their mayor spoke at the Wednesday meeting when Pace was to be considered. He said there was not enough sewer capacity in the lines to take their sewage. The miracle is there is enough in Farmers Branch to locate there.

~~In conclusion, Farmers Branch is a bunch of butts and that is what they will always be.~~