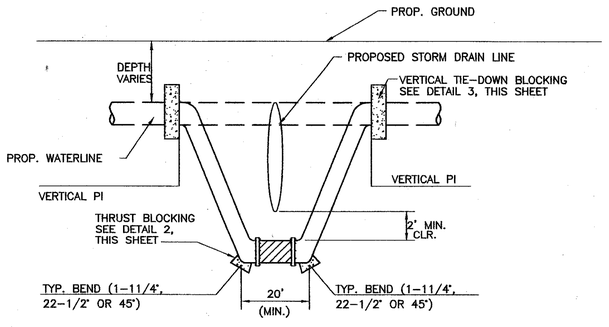
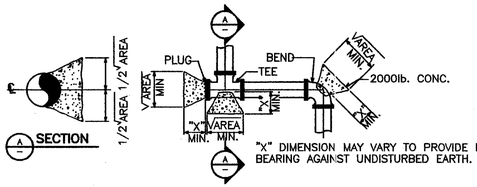


NOTES:

1. CONTRACTOR SHALL FIELD VERIFY HORIZ. AND VERT. LOCATION OF EXISTING UTILITY LINE.
2. NOTIFY ENGINEER TO ALLOW FOR ANY ADJUSTMENTS TO PROPOSED DESIGN, BASED ON FIELD VERIFICATION.
3. DO NOT CONSTRUCT ADJUSTMENT UNTIL APPROVAL IS GIVEN BY ENGINEER.
4. VERTICAL PI'S SHALL BE CONSTRUCTED USING STANDARD BENDS AND OR BY PROVIDING JOINT DEFLECTIONS NOT TO EXCEED 75% OF PIPE MANUFACTURER'S MAXIMUM RECOMMENDATIONS.

1 TYPICAL VERTICAL WATERLINE ADJUSTMENT
NOT TO SCALE



"X" DIMENSION MAY VARY TO PROVIDE REQ'D. BEARING AGAINST UNDISTURBED EARTH.

HORIZONTAL BLOCKING TABLE

DEPTH OF COVER TO TOP OF PIPE (FT) : 3.5
PASSIVE SOIL PRESSURE (PSF/FT-DEPTH) : 250
BLOCKING (SQUARE FEET) THRUST (POUNDS-FORCE)

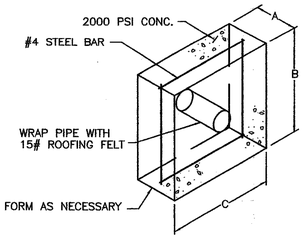
PIPE SIZE (IN)	DEPTH OF COVER TO CL PIPE (FT)	TEST PRESSURE (LBS)	DEAD END AND TEE	90 BEND	45 BEND	22.5 BEND	11.25 BEND	5 DEFLECT.	"X"-DIM. FT.
8	3.8	150	7,87 7,540	11.13 10,663	6.02 5,771	3.07 2,942	1.54 1,478	0.69 658	1.00
12	4.0	150	16.96 16,965	23.99 23,992	12.98 12,984	6.62 6,619	3.33 3,326	1.48 1,480	1.25
16	4.2	150	28.95 30,159	40.95 42,652	22.16 23,083	11.30 11,768	5.68 5,912	2.53 2,631	1.50

NOTES:
1. THRUST BLOCK AREAS SHOWN ARE BASED ON TEST PRESSURES OF 150 P.S.I. AND 250 P.S.F. PER VERTICAL FOOT OF SOIL COVER MEASURED TO CENTERLINE ORF PIPE.
2. MINIMUM AREAS SHOWN ARE IN SQUARE FEET AND ARE BASED UPON MIN 3.5 FEET OF COVER TO TOP OF
3. BEARING MUST BE ON UNDISTURBED EARTH.
4. ADJUST THRUST BLOCK AREAS ACCORDINGLY IF PRESSURES, DEPTH OF COVER AND/OR SOIL BEARING VALUE VARIES.

2 TYPICAL BLOCKING DETAIL
NOT TO SCALE

PIPE NOMINAL DIA. (IN.)	BENDS		90°	45°	22 1/2°	11 1/4°
6	* VOL. REQ'D. C.F.		28.27	22.61	11.33	5.65
	A	FT.	1.75	1.5	1.0	0.75
	B	FT.	4.0	3.88	3.36	2.75
	C	FT.	4.0	3.88	3.36	2.75
8	* VOL. REQ'D. C.F.		50.27	40.21	20.11	10.05
	A	FT.	2.0	1.75	1.5	1.0
	B	FT.	5.0	4.8	3.66	3.2
	C	FT.	5.0	4.8	3.66	3.2
10	* VOL. REQ'D. C.F.		78.54	62.83	31.41	15.71
	A	FT.	2.25	2.0	1.75	1.5
	B	FT.	5.9	5.6	4.25	3.25
	C	FT.	5.9	5.6	4.25	3.25
12	* VOL. REQ'D. C.F.		153.94	123.15	61.57	30.79
	A	FT.	4.0	3.5	2.0	1.75
	B	FT.	6.2	6.0	5.54	4.2
	C	FT.	6.2	6.0	5.54	4.2

* VOLUME CALCULATED ON THE BASIS OF CONCRETE REACTING THRUST ON THE RESPECTIVE BENDS UNDER AN INTERNAL PRESSURE OF 150 PSIG AT THE RATE OF 150 LB. WT. PER CU.FT. OF CONCRETE.



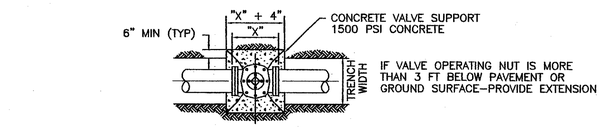
3 VERTICAL TIE-DOWN BLOCK DETAIL
NOT TO SCALE

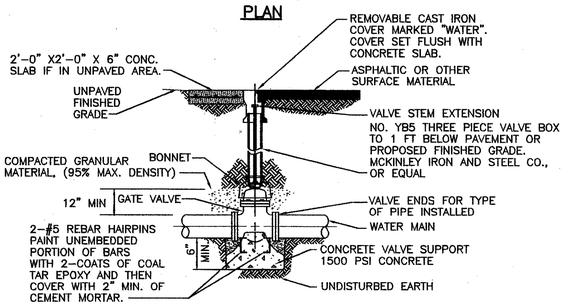
4 STORM DRAIN TRENCH
NOT TO SCALE

5 TYPICAL CONCRETE ENCASEMENT FOR PIPE
NOT TO SCALE

6 TYPICAL PVC LINE TRENCH DETAIL
NOT TO SCALE

7 TYPICAL PAVEMENT REPAIR TRENCH DETAIL
NOT TO SCALE





NOTES:
1. ALL BURIED VALVES SHALL BE PROVIDED W/EXTENSION STEM OPERATOR W/ 2" SQ. AWWA NUT WITHIN 1' BELOW FINISHED GRADE. NUT IS TO INDICATE DIRECTION OF ROTATION TO OPEN VALVE.
2. COAT BURIED PIPE & VALVE BOX PER SPECIFICATIONS. WRAP WITH 8 MIL. POLYETHYLENE.
3. CLEAN VALVE BOX OF ALL DEBRIS AND SOIL.
4. VALVE SIZE & TYPE AS SHOWN ON PLANS.

8 TYP. VALVE, VALVE BOX, AND EXTENSION INSTALLATION DETAIL
NOT TO SCALE

9 STORM DRAIN MANHOLE
NOT TO SCALE

"AS-BUILTS"

RECORD DRAWING
BASED ON THE INFORMATION SHOWN ON THE CONTRACTOR DWG. DATED: 3-5-00 TO: THH

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY TRICIA H. HATLEY, P.E. ON THE DATE: OCT. 6, 1999
TRICIA H. HATLEY 83282 LICENSED PROFESSIONAL ENGINEER
TEXAS REGISTRATION NO: 83282

FREESE • NICHOLS
1341 W. Mockingbird Lane•Suite 230-E
Dallas, Texas 75247
214•631-2490

OMNIPLAN ARCHITECTS
SOJOURN OFFICE CENTER
ADDISON, TEXAS
SITEWORK PLANS
UTILITY DETAILS

NO.	REVISION	BY	DATE
1	PER CONTRACTOR RFI "1" AND "2"	MDW	4/30/99

P&N JOB NO. OMP99206
FILE 2060ET-UTIL
DATE 7-26-99
DESIGNED MDW
DRAWN MDW
REVISED
CHECKED THH

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

SHEET C-11
SEQ. 14 OF 16