III. SUPPORT OF PIPES PARALLELING TRENCH

WHERE TRENCH EXCAVATIONS REMOVE VERTICAL OR LATERAL SUPPORT OF WATER PIPES PARALLELING THE TRENCH EXCAVATIONS OR WHERE SAID SUPPORT IS ENDANGERED, THE WATER PIPE SHALL BE SUPPORTED BY REDWOOD BEAMS SIZED IN ACCORDANCE WITH SECTION II ABOVE. POSTS SHALL BEAR DIAGONALLY AGAINST STORM DRAIN OR OTHER PIPE AND SHALL BE WEDGED AND SECURED IN PLACE TO PROVIDE SOLID SUPPORT, OR VERTICAL POSTS WITH HORIZONTAL CROSS TRENCH BRACING SHALL BE USED TO PROVIDE NECESSARY SUPPORT. THE BEAMS ON WHICH THE PIPE RESTS SHALL SUPPORT AT LEAST TWO-THIRDS OF THE LENGTH OF THE PIPE. POSTS SUPPORTING BEAMS SHALL BE INSTALLED 1.2 m (4') ON CENTERS (MAXIMUM). ALLOWABLE OVERHANG BETWEEN POSTS AND END OF BEAMS SHALL BE 0.45 m (1'-6"). PIPE JOINTS SHALL BE LEFT CLEAR FOR AT LEAST A DISTANCE OF 0.45 m (1'-6") ON EACH SIDE OF THE JOINT TO ALLOW FOR JOINT REPAIRS. ALL PIPE SUPPORTS SHALL BE SUBJECT TO APPROVAL OF THE GENERAL MANAGER OF THE WATER AND POWER DEPARTMENT OR HIS AUTHORIZED ASSISTANTS. IN THE EVENT SETTLEMENT OCCURS, THE CITY WILL RECAULK JOINTS AS NECESSARY TO RELIEVE STRAINS IMPOSED ON THE PIPELINE AND SAID COSTS WILL BE CHARGED TO THE CONTRACTOR.

IV. BACKFILL SUPPORT FOR WATER PIPES

IN LIEU OF REDWOOD PIPE SUPPORTS THE CONTRACTOR MAY BACKFILL THE TRENCH SO THAT THE TOP HALF OF THE PIPE IS EXPOSED. HE SHALL THEN CONSOLIDATE THE FILL AND SHALL CONSTRUCT A COMPACTED FILL UNDER AND AROUND THE PIPE TO THE SPRING LINE BEFORE COMPLETING THE TRENCH BACKFILL.

AT NO TIME SHALL THE CONTRACTOR DUMP BACKFILL MATERIALS DIRECTLY ON UNSUPPORTED PIPES OR CAUSE THEM TO CARRY SUPERIMPOSED LOADS BEFORE THEY ARE ADEQUATELY SUPPORTED.

THE CITY OF PASADENA WATER AND POWER DEPARTMENT ASSUMES NO RESPONSIBILITY FOR DAMAGE TO ITS PIPE SYSTEM BY THE ACTS OF THE CONTRACTOR WHILE FOLLOWING THE ABOVE INSTRUCTIONS FOR SUPPORTING WATER PIPE.

SHAN KWAN, BUSINESS UNIT DIRECTOR, WATER AND POWER DEPARTMENT

PASADENA - PUBLIC WORKS & TRANSPORTATION CITY OF DEPARTMENT DRAWN BY: REVISION: SUPPORTING WATER PIPES UNITS: DAVID PHAN 2 DUAL **ENCOUNTERED DURING** STANDARD PLAN: CHECKED BY: **EXCAVATION OPERATIONS** DAVID PHAN SUBMITTED BY W&P