

UNDERGROUND VISUAL/HYDRO REQUIREMENTS

General Information	
<p>2015 IFC:BC 105.2.5 / 2015 IBC:BC 105.7 - All required permits and work authorizations are posted (i.e. Building, EWA, HWA, PWA, Fire Alarm, Fire Protection Systems, etc.).</p>	<p>(IFC) Work requiring a permit/work authorization shall not commence until said permit/work authorization is posted in a conspicuous place on the job site and approved plans are available at this location. Where work is commenced prior to obtaining said permit/work authorization, the fees may be increased by 100% as determined by the AHJ, but payment of the increased fee shall not relieve any person from fully complying with the requirements to obtain a permit/work authorization, nor of any other penalties herein. (IBC) The reviewed building plans and building permit/work authorization or copy shall always be kept readily available on the site of the work is being performed until the completion of the project.</p>
<p>2015 IFC:BC 105.2.5 / 2015 IBC:BC 109.4 - Work commencing before permit issuance</p>	<p>(IFC) Work requiring a permit/work authorization shall not commence until said permit/work authorization is posted in a conspicuous place on the job site and approved plans are available at this location.</p>
<p>2015 IFC:BC 105.4.7 / 2015 IBC:BC 105.7 - Reviewed and stamped set of plans are available on job site.</p>	<p>(IFC) When a permit/work authorization or approved plans are not available upon request by the Fire Marshal or the Fire Marshal's designee. (IBC) The reviewed building plans and building permit/work authorization or copy shall always be kept readily available on the site of the work is being performed until the completion of the project.</p>
<p>2013 NFPA 13 10.6.1 - Pipe not permitted to run under a structure (see exceptions).</p>	<p>10.6.1 Pipe shall not be run under the building except where permitted in 10.6.2 and 10.6.3. 10.6.2 Where approved, pipe shall be permitted to be run under buildings, and special precautions shall be taken, including the following: (1) Arching the foundation walls over the pipe (2) Running pipe in covered trenches (3) Providing valves to isolate sections of pipe under buildings 10.6.3 Fire service mains shall</p>

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	<p>be permitted to enter the building adjacent to the foundation. 10.6.3.1* The requirements of 10.6.2(2) and 10.6.2(3) shall not apply where fire service mains enter under the building no more than 10 ft (3 m) as measured from the outside edge of the building to the center of the vertical pipe.</p>
<p>2013 NFPA 13 10.6.8 - Piping cannot be used as grounding for electrical systems.</p>	<p>In no case shall the underground piping be used as a grounding electrode for electrical systems.</p>
<p>Covering</p>	
<p>2015 IFC 102.8 / NFPA 101: 4.6.1.2 - Trench shall not be covered prior to approval by the TFMO</p>	<p>Approval must be given by the TFMO inspector before the trench can be covered.</p>
<p>2013 NFPA 13 A.10.10.2.2.4 - Before covering joints, hydro tests should be performed.</p>	<p>Hydrostatic tests should be made before the joints are covered, so that any leaks can be detected. Thrust blocks should be sufficiently hardened before hydrostatic testing is begun. If the joints are covered with backfill prior to testing, the contractor remains responsible for locating and correcting any leakage more than that permitted.</p>
<p>2013 NFPA 13 10.10.2.2.4 - Trench shall be back-filled between joints before testing.</p>	<p>The trench shall be back-filled between joints before testing to prevent movement of pipe.</p>
<p>Thrust Blocks</p>	
<p>2013 NFPA 13 10.8.1.1 - Thrust blocks/restrained joint systems provided.</p>	<p>All tees, plugs, caps, bends, reducers, valves, and hydrant branches shall be restrained against movement by using thrust blocks in accordance with 10.8.2 or restrained joint systems in accordance with 10.8.3.</p>
<p>2013 NFPA 13 10.8.2.2 / 10.8.2.3 / 10.8.2.4 - Thrust block composition, placement and accessibility.</p>	<p>Thrust blocks shall be of a concrete mix not leaner than one-part cement, two and one-half parts sand, and five parts stone. Thrust blocks shall be placed between undisturbed earth and the fitting to be restrained and shall be capable of resisting the calculated thrust forces. Wherever possible, thrust blocks shall be placed so that the joints are accessible for repair.</p>

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Other violation(s)	Fire and/or life safety hazard per 2015 IFC 102.8 / NFPA 101: 4.6.1.2 or refer to Inspector's comment(s).
Testing	
2013 NFPA 13 10.10.1 (3) - Contractor has completed the material and test certificate(s) from 2013 NFPA 13 Figure 10.10.1	The installing contractor shall be responsible for the following: (1) Notifying the authority having jurisdiction and the owner's representative of the time and date testing is to be performed (2) Performing all required acceptance tests (3) Completing and signing the contractor's material and test certificate(s) shown in Figure 10.10.1.
2013 NFPA 13 10.10.2.2.1 - Witness of hydro test of UFL. Pressure holds at 200 psi for 2 hours.	All piping and attached appurtenances subjected to system working pressure shall be hydrostatically tested at 200 psi or 50 psi more than the system working pressure, whichever is greater, and shall maintain that pressure +/- 5 psi for 2 hours.
2013 NFPA 13 - 10.10.2.2.3 - Pressure test gauge correctly located.	The test pressure shall be read from one of the following, located at the lowest elevation of the system or the portion of the system being tested: (1) A gauge located at one of the hydrant outlets (2) A gauge located at the lowest point where no hydrants are provided
2013 NFPA 13 10.10.2.4.1 - Testing of private hydrants on UFL.	Each hydrant shall be fully opened and closed under system water pressure.
Other	
Other violation(s)	Fire and/or life safety hazard per 2015 IFC 102.8 / NFPA 101: 4.6.1.2 or refer to Inspector's comment(s).