

Mono County Community Development Department

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Building Division

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DATE: January 5, 2018

SUBJECT: Protection of concrete from freezing conditions

CODE REFERENCES: 2016 California Building Code (CBC) sections 104, 1904 and Chapter 35; American Concrete Institute (ACI) 318-11; ACI 306R-10.

POLICY: Concrete placed in cold weather shall be protected as required by the codes referenced above. Cold weather is defined as when air temperature has fallen to, or is expected to fall below, 40° F (4° C) during the protection period, which will be for a minimum of two days (48 hours) after concrete is placed, or as otherwise specified in table 7.1 of ACI 306R-10. Concrete shall be placed and maintained per Table 5.1 of ACI 306R-10: A minimum of 55° F (13° C) for foundation section sizes of less than 12"; minimum of 50° F (10° C) for foundation section sizes 12" to 36"; minimum 45° F (7° C) for foundation section sizes 36" to 72"; minimum 40° F (5° C) for foundation section sizes greater than 72". The use of hot water may be used to meet or exceed the minimum required temperature of concrete. Accelerating admixtures shall be based on the recommendations of the registered design professional in charge.

PROCEDURE: Concrete, footings, and related form work shall be protected per the above information with insulated blankets (i.e., 'concrete blankets') that are fully moisture impervious, with the outer shell being of woven reinforced polyethylene or laminated polyethylene, and the inner insulating layers made of closed-cell polypropylene foam, closed-cell polyethylene foam, or air-filled pockets. Other methods and materials for freeze protection of concrete must be consistent with methods outlined in ACI 306R-10, and reviewed and approved by the Mono County Building Division.