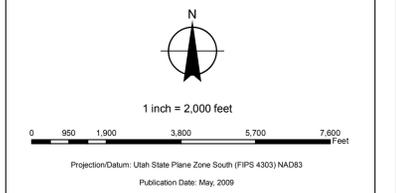


Adverse Construction Condition Caliche

UTAH DNR GEOLOGICAL SURVEY
 Utah Geological Survey Special Study 127
 Geologic Hazards and
 Adverse Construction Conditions
 St. George-Hurricane Metropolitan Area
 Washington County, Utah, 2008

City of Hurricane GIS
 147 N 870 W
 Hurricane, UT 84737



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Description
 Caliche is a term broadly applied to calcareous material of secondary origin that typically accumulates through pedogenic processes in the shallow subsurface of soils in arid and semiarid climates.

Caliche is of concern for three reasons: first, because thick, well-indurated caliche horizons approach the hardness of rock, making excavation difficult; second, because as the soluble salts accumulate, they reduce soil permeability, which can affect the operation of individual wastewater disposal systems, or other engineering or agricultural applications that require free-draining soils; and third, because CaCO₃ is soluble, caliche may be subject to dissolution if subjected to prolonged wetting, which may cause a loss of internal volume and result in localized land subsidence and sinkhole formation.

Using This Map
 The Caliche-Susceptibility Map shows where strongly indurated caliche either is or may be present in the St. George-Hurricane metropolitan area. The map is intended for general planning purposes to indicate where adverse caliche conditions may exist and special studies may be required. The UGS recommends performing a site-specific geotechnical foundation/geologic-hazards study for all development at all locations in the study area. Site-specific studies can resolve uncertainties inherent in generalized mapping and help ensure safety by identifying the need for special foundation designs or mitigation techniques. The presence and severity of caliche conditions along with other adverse construction conditions and geologic hazards should be addressed in these investigations. If indurated caliche is present at a site, appropriate design recommendations should be provided. Where onsite wastewater disposal systems are planned, system installation must meet the requirements of Utah Department of Environmental Quality Rule R317-4-5, Soil and Ground Water Requirements (Utah Department of Environmental Quality, 2006).

See section 7, "Problem Soil and Rock", "Caliche" in the full report for more detailed information.

Classification:
 For a detailed explanation of the contents of this map, contact the Hurricane Planning Department for a copy of Special Study 127

Caliche
 Ca

- Legend**
- Hurricane City Limits
 - Creek
 - Canal
 - Major Streets
 - Dirt St.
 - State Highway
 - I-15
 - Ramp
 - RCDR Babylon Section
 - Parcels
 - Virgin River

Map Sources:
 Parcels, Hurricane GIS Dept. Modified from Washington County GIS data downloaded Feb., 2009.
 Streets, Hurricane City GIS Dept. Modified from Washington County GIS data downloaded Feb., 2009.
 Aerial, USDA, National Agriculture Imagery Program (NAIP) 2006. Distributed by the Utah AGRC and reprojected to Utah State Plane, South (FIPS 4303), NAD 83 (CONUS), Survey Feet from the original. SID source file.