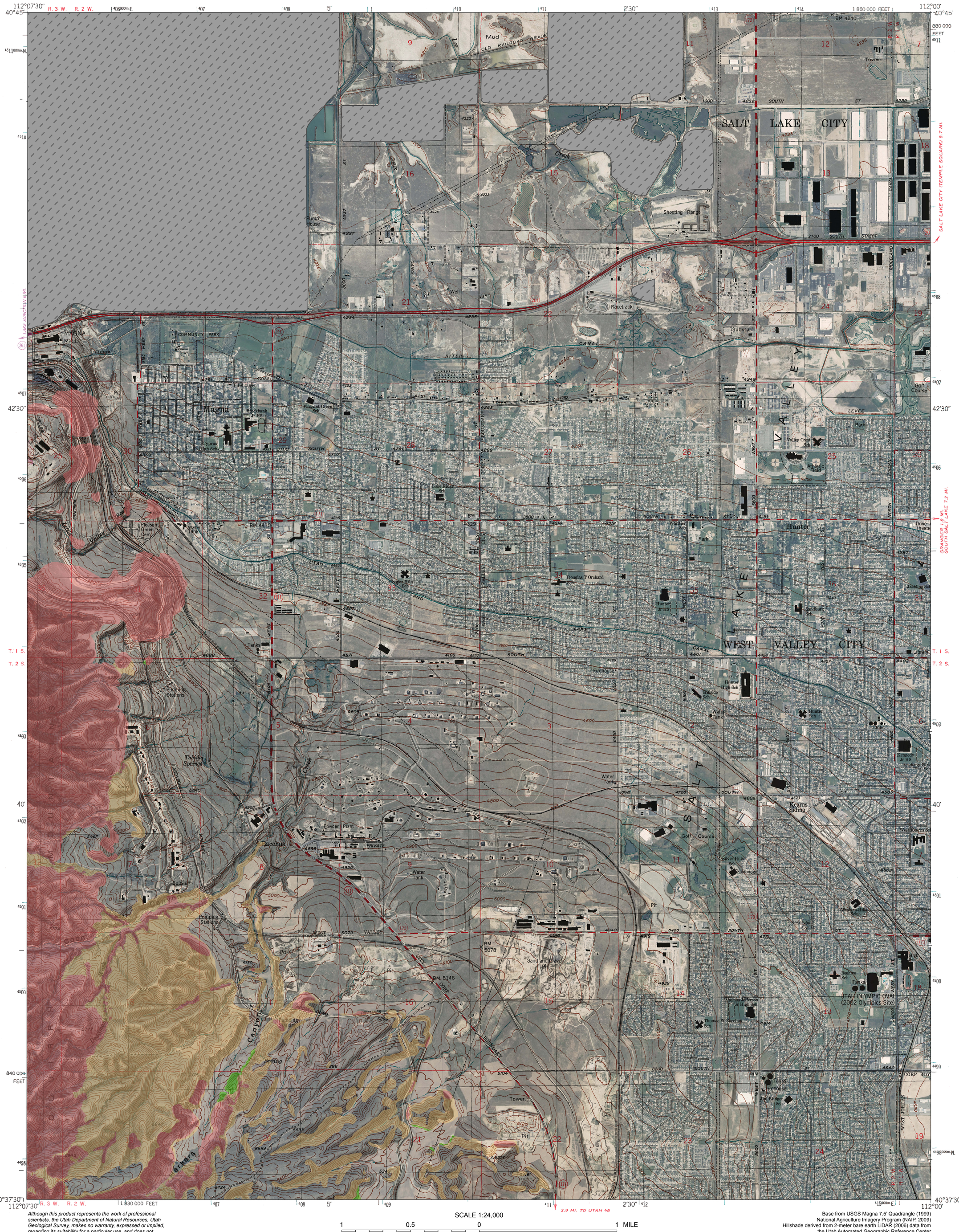
UTAH GEOLOGICAL SURVEY
a division of
Utah Department of Natural Resources

Plate 5
Utah Geological Survey Special Study 137
Geologic Hazards of the Magna Quadrangle, Salt Lake County, Utah



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SCALE 1:24,000

1 0.5 0 1 MILE

5000 2500 0 5000 FEET

1 0.5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET

Base from USGS Magna 7.5' Quadrangle (1999)
National Agriculture Imagery Program (NAIP, 2009)
Hillshade derived from 2-meter bare earth LiDAR (2006) data from the Utah Automated Geographic Reference Center
State Geographic Information Database
Projection: UTM Zone 12
Datum: NAD 1983
Spheroid: Clarke 1886

GIS and Cartography: Jessica J. Castleton and Corey D. Unger

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ROCK FALL HAZARD MAP OF THE MAGNA QUADRANGLE, SALT LAKE COUNTY, UTAH

by

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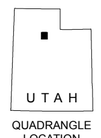
2011

APPROXIMATE MEAN DECLINATION, 2010



QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1. Antelope Island South
2. Baileys Lake
3. Salt Lake City North
4. Farnsworth Peak
5. Salt Lake City South
6. Bingham Canyon
7. Copperton
8. Midvale

ADJOINING 7.5' QUADRANGLE NAMES

EXPLANATION

Not Mapped – Areas not mapped due to significant and ongoing human disturbance.

ROCK FALL HAZARD CATEGORIES

High – Slopes that are greater than or equal to 20 degrees within a geologic unit highly susceptible to rock fall and slopes greater than 35 degrees within a rock-fall source area within a geologic unit moderately susceptible to rock fall. High-hazard areas include rock-fall sources and their associated shadow angle zones.

Moderate – Slopes between 20 and 35 degrees within a geologic unit moderately susceptible to rock fall and slopes greater than 35 degrees within a rock-fall source area within a geologic unit having low susceptibility to rock fall. Moderate-hazard areas include rock-fall sources and their associated shadows, which extend into rock-fall source areas that would otherwise be mapped in the low-hazard category.

Low – Slopes between 20 and 35 degrees within a geologic unit having low susceptibility to rock fall. Low-hazard areas include rock-fall sources and their associated shadows, which extend into areas that would otherwise be mapped with a negligible hazard.

Rock-fall hazard is considered negligible in the remainder of the study area if not included in one of the above hazard categories.

USING THIS MAP

This map shows areas of relative rock-fall hazard in the Magna quadrangle. We recommend performing site-specific geotechnical/geologic-hazard investigations within the mapped rock-fall hazard areas. These investigations can resolve uncertainties inherent in generalized hazard mapping and help ensure safety by identifying the need for rock-fall-resistant design or mitigation. For most areas, site-specific assessment may only require a field geologic evaluation to determine if a rock-fall source is present. However, if a source is identified, additional work to adequately assess the hazard is needed. This map is based on limited geologic and slope data, and aerial photography analysis. The quality of the map depends on the quality of these data, which varies throughout the study area. The mapped boundaries between rock-fall-hazard categories are approximate and gradational. Small, localized areas of higher or lower rock-fall potential are likely to exist within any given map area, but their identification is precluded due to the generalized map scale, and the relatively sparse data. This map is not intended for use at scales other than 1:24,000, and is designed for use in general planning to indicate the need for site-specific geotechnical/geologic-hazard investigations. The rock-fall-hazard categories do not consider hazards caused by cuts, fills, or other alterations to the natural terrain. This map is intended primarily for planning purposes and should not be used as a substitute for site-specific geotechnical/geologic-hazard investigations conducted by qualified professionals. Site-specific geotechnical/geologic-hazard investigations are required to produce more detailed rock-fall-hazard information.

For additional information about the rock-fall hazard in the Magna quadrangle, refer to Chapter 5 of the accompanying report.