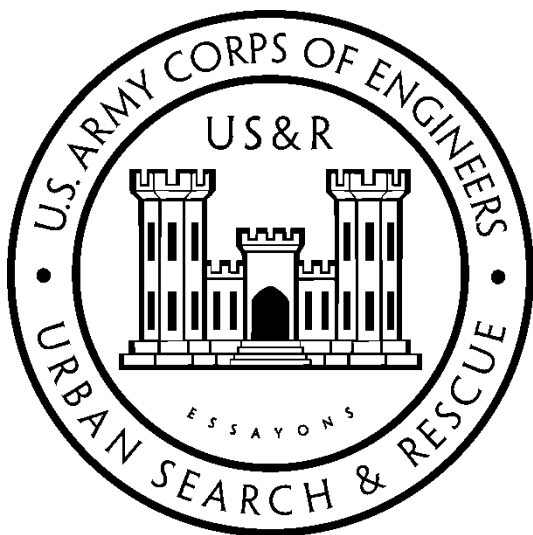


**U.S. Army Corps of Engineers
Urban Search and Rescue Program**

Urban Search & Rescue

SHORING OPERATIONS GUIDE



**Edition 4.1
July 2016**

**US&R SHORING
OPERATIONS GUIDE (SOG)**

FOREWORD

This Shoring Operations Guide (SOG) was developed by the FEMA US&R Structures Sub-group, in cooperation with U.S. Army Corps of Engineers, US&R Program Office, as a working reference tool for US&R Rescue Team Personnel during response operations. It condenses information provided during the initial training, and was designed to be expanded in order to incorporate new information. In this SOG, Sections 1 through 4 are nearly identical to the same sections of the larger and more comprehensive USACE Structures Specialist Field Operations Guide (FOG). That STS FOG has additional Operational Check Lists, Engineering Data, Tables and Forms that make it a more useful reference for the Structures Specialist. This SOG has, in Section 4, incorporated some of the most useful tables from the STS FOG, and a new Section R has been added at the end.

The new Sect R has the most useful information from the Rescue Operations Guide (ROG) that was developed from 2003 to 2006. The ROG was and is a compilation and summary of important strategic and tactical information, developed procedures, and reference material specifically for the performance of Rescue Operations.

Users of this guide are encouraged to suggest changes that can be incorporated into future editions of this SOG. (The current plan is to release a newly revised edition of the SOG every two years in July) Suggestions should be made to:

Disasterengineering.org

e-mail: admin@disasterengineering.org

This Publication is intended for the use of US&R Structures Specialists and Rescue Team Personnel. It may be printed by them, or their organizations, for their use.

ENGLISH TO METRIC

To convert

into

multiply by

Lengths

inches	mm	25.4
inches	cm	2.54
inches	meters	0.0254
feet	meters	0.3048
yards	km	914.4
yards	meters	0.9144
miles	km	1.609

Surfaces

square inches	cm ²	6.452
square feet	m ²	0.0929
square yards	m ²	0.8361
square miles	km ²	2.59
acres	hectares	0.4047

Volumes

cubic inches	cm ³	16.387
cubic inches	liters	0.016387
cubic feet	m ³	0.028317
cubic feet	liters	28.317
cubic yards	m ³	0.7646
liquid ounces	cm ³	29.57
gallons (U.S.A.)	m ³	0.003785
gallons (U.S.A.)	liters	3.785
teaspoons	ml	5.0
tablespoons	ml	15.0
fluid ounces	ml	30.0
cups	liters	0.24
pints	liters	0.47
quarts	liters	0.95

Weights

grains	grams	0.0648
ounces	grams	28.35
ounces	kg	0.02835
pounds	kg	0.4536
pounds	tons (metric)	0.000454
tons (U.S.A.)	kg	907.2
tons (U.S.A.)	tons (metric)	0.9072
tons (long)	kg	1016.0
tons (long)	tons (metric)	1.0160

