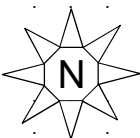


Rapid Struct Triage RST-1

Date/Time: _____ By: _____ Page _____ of _____

Where required, circle all the information or items that apply.

NOTE: AFTERSHOCKS MAY CAUSE ADDITIONAL DAMAGE OTHER THAN NOTED.

Task Force: _____	Date/Time of Disaster: _____	See Form RST-2 for Instructions
		
AREA MAP		

STRUCT. ID: _____	PROBABILITY of VIABLE VICTIMS	STRUCT. RATING												
OCCUPANCY: _____ FLOOR AREA: _____ No. STORIES: _____	<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%;">POTENTIAL No. TRAPPED:</td> <td style="width:16.5%;">HIGH</td> <td style="width:16.5%;">MEDIUM</td> <td style="width:16.5%;">LOW</td> </tr> <tr> <td>VICTIM ACCESS EFFORT:</td> <td>EASY</td> <td>MEDIUM</td> <td>DIFFICULT</td> </tr> <tr> <td>TYPE OF VOIDS:</td> <td>OPEN</td> <td>SEPARATED</td> <td>COMPACT</td> </tr> </table>	POTENTIAL No. TRAPPED:	HIGH	MEDIUM	LOW	VICTIM ACCESS EFFORT:	EASY	MEDIUM	DIFFICULT	TYPE OF VOIDS:	OPEN	SEPARATED	COMPACT	XP MP LP
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COORD: _____	SLOW-GO: FIRE HAZMAT OTHER: _____
PREV. SEARCHED? Y N UNKN	NOTES: _____

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Rapid Struct Triage RST-2

Date/Time: _____ By: _____ Page _____ of _____

Where required, circle all the information or items that apply.

NOTE: AFTERSHOCKS MAY CAUSE ADDITIONAL DAMAGE OTHER THAN NOTED.

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Instructions for RST Forms Note: XR is used to indicate High Risk, since HR indicates Human Remains. XP = High Probability

- The purpose of RST- 1 & 2 is to aid in rapidly determining Probability of Viable Victims and Relative Risk for numbers of structures.
- The forms would be used when US&R forces need to respond to a large number of damaged structures following a sudden event.
- Each structure is given a Rating for Viable Victim Probability: LP = Low, MP = Medium, and XP = High Probability.
(Note: Input from Search Team Mgr & Rescue Team Ldr or Squad Officer should be sought in determining Victim Viability Rating.)
- Each structure is given a Rating for Risk: LR = Low, MR = Medium, and XR = High Risk.
- These ratings should be based on the criteria listed, and more than one structure may have the same rating.
- The ratings should be based on the best judgments of the team, and must be made very rapidly. This form is only a guide.
- Record GPS coordinates in the provided box. Specify format (always check with IST or Plans to determine proper format & datum).

Hazards Evaluation Form HAZ-1

Date/Time: _____ By: _____ Page _____ of _____

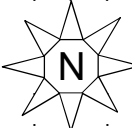
Where required, circle all the information or items that apply.

NOTE: AFTERSHOCKS MAY CAUSE ADDITIONAL DAMAGE OTHER THAN NOTED.

STRUCT. ID: _____ OCCUPANCY: _____ No. STORIES: _____ BASEMENTS: _____	STRUCTURE MARKING: <input type="checkbox"/> DATE/TIME OF DISASTER: _____ <input type="checkbox"/> DATE/TIME OF EVAL: _____
MATERIALS: CMU WOOD STEEL CIP CONC. URM TILT-UP PT CONC. PC CONC. OTHER: _____	TYPE OF COLLAPSE: PANCAKE SOFT 1st FLOOR WALL FAILURE TORSION MIDDLE STORY OVERTURNING OTHER: _____
LATERAL SYSTEM: SHEARWALL MOMENT FRAME BRACED FRAME OTHER: _____	LOCATION OF VOIDS: BETWEEN FLOORS BASEMENT SHAFTS OTHER: _____
ACCESS POINTS/STRATEGY: A _____ B _____ C _____ D _____	VICTIM & OTHER INFORMATION: _____ _____ _____

HAZARD <small>(On sketch)</small>	TYPE / DESCRIPTION	SEVERITY <small>(9 High, 1 Low)</small>	COMMENT
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____
6	_____	_____	_____
7	_____	_____	_____
8	_____	_____	_____

SKETCH: **SIDE C**



SIDE B
SIDE D

SIDE A

Hazards Evaluation Form HAZ-2

Date/Time: _____ By: _____ Page _____ of _____

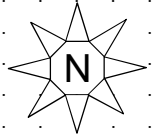
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STRUCT. ID: _____

SKETCH:

SIDE C



SIDE B

SIDE D

SIDE A

US&R Structure / Hazards Check List - HAZ-3

By: _____

This is only a Check List. Check all Appropriate Structure Hazards

<p>STRUCTURE DESCRIPTION:</p> <p>Bldg ID: _____</p> <p>No. Stories: _____ No. Basements: _____</p>	<p>TYPE OF COLLAPSE:</p> <table border="0"> <tr> <td>Pancake</td> <td>Soft 1st Floor</td> <td>Wall Failure</td> </tr> <tr> <td>Torsion</td> <td>Middle Story</td> <td>Overturn</td> </tr> <tr> <td>Other:</td> <td></td> <td></td> </tr> </table>	Pancake	Soft 1st Floor	Wall Failure	Torsion	Middle Story	Overturn	Other:		
Pancake	Soft 1st Floor	Wall Failure								
Torsion	Middle Story	Overturn								
Other:										
<p>From a SAFE Distance, CHECK:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Alignment of Structure's Corners & Faces <input type="checkbox"/> Alignment of Structure's Floors <input type="checkbox"/> Condition of Openings <input type="checkbox"/> Condition of Facing or Projecting Elements <input type="checkbox"/> Presence of Precast Conc Facing or Brick/Stone Veneer <input type="checkbox"/> Presence of other FALLING HAZARDS <input type="checkbox"/> Presence of Rooftop Equipment, Towers, etc <input type="checkbox"/> Presence of Distinctive Elements, Additions, Stairwells <input type="checkbox"/> Any Alternate Energy Source - Generator, Solar Elec <input type="checkbox"/> Presence of Tanks w/Explosive/Corrosive Material 	<p>Walk around Structure and CHECK:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Continuity of Vertical load Path <input type="checkbox"/> Continuity of Lateral Load Path <input type="checkbox"/> Alignment & Condition of all Wall Piers <input type="checkbox"/> Condition of Foundation & Adjacent Ground <input type="checkbox"/> Presence of Flowing Liquids <input type="checkbox"/> I.D Areas of Structure to be avoided <input type="checkbox"/> I.D. Sections with potential for Brittle Failure <input type="checkbox"/> I.D most PROBABLE Collapse Mode <input type="checkbox"/> I.D All Exterior FALLING HAZARDS <input type="checkbox"/> I.D All Ingress and Egress Locations 									
<p>If you choose to enter the Structure:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Make sure that at least one other Team Member remains outside and you maintain radio contact <input type="checkbox"/> Notify TFL you are entering structure - Which Side <input type="checkbox"/> Leave Easily Visable Trail as you explore interior ** <input type="checkbox"/> Check Each Closed Door for heat PRIOR to OPENING <input type="checkbox"/> Inspect Ground Floor Level Before moving Upward <input type="checkbox"/> Check Main Columns and Shear Walls-Cracks, Spalling <input type="checkbox"/> Check Main Beam to Column Connections <input type="checkbox"/> Check Stair wells for Damage and Access <input type="checkbox"/> Check Condition of Floor System <input type="checkbox"/> I.D. All Interior Collapse Hazards <input type="checkbox"/> I.D All Interior Falling Hazards <input type="checkbox"/> Locate Safe Havans and Escape Routes <input type="checkbox"/> Report all Data to Outside Person before continuing <input type="checkbox"/> Proceed Up/Down Only if Can Maintain Radio Contact <input type="checkbox"/> Proceed to Upper Stories, Check each before Proceeding <input type="checkbox"/> Proceed to Basement and Check Structure & Foundation 	<p>NOTES</p> <p>1. ** Suggestions for Visable Trail are: Light Sticks, Paint Arrows on floor, Electronic Relay Devices</p>									

Hazards Mitigation Form MIT-1

Date/Time: _____

By: _____

Page _____ of _____

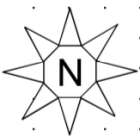
Where required, circle all the information or items that apply.

NOTE: AFTERSHOCKS MAY CAUSE ADDITIONAL DAMAGE OTHER THAN NOTED.

<p>STRUCT. ID: _____</p> <hr/> <p>OCCUPANCY: _____</p> <p>No. STORIES: _____ BASEMENTS: _____</p> <hr/> <p>MATERIALS:</p> <table style="width:100%; text-align: center;"> <tr> <td>CMU</td> <td>WOOD</td> <td>STEEL</td> <td>CIP CONC.</td> </tr> <tr> <td>URM</td> <td>TILT-UP</td> <td>PT CONC.</td> <td>PC CONC.</td> </tr> </table> <p>OTHER: _____</p> <hr/> <p>TYPE OF COLLAPSE:</p> <table style="width:100%; text-align: center;"> <tr> <td>PANCAKE</td> <td>SOFT 1st FLOOR</td> <td>WALL FAILURE</td> </tr> <tr> <td>TORSION</td> <td>MIDDLE STORY</td> <td>OVERTURNING</td> </tr> </table> <p>OTHER: _____</p>	CMU	WOOD	STEEL	CIP CONC.	URM	TILT-UP	PT CONC.	PC CONC.	PANCAKE	SOFT 1st FLOOR	WALL FAILURE	TORSION	MIDDLE STORY	OVERTURNING	<p>MITIGATION ABBREVIATIONS/SYMBOLS:</p> <table style="width:100%;"> <tr> <td>A&B ← Avoid & Barricade</td> <td>M-Exp ← Minimize Exposure</td> </tr> <tr> <td>Remo ← Remove</td> <td>Shld ← Shield</td> </tr> <tr> <td>Mon ← Monitor</td> <td>T ← Single Spot Shore</td> </tr> <tr> <td>V-Sho ← Vertical Shore</td> <td>TT ← Double Tee Shore</td> </tr> <tr> <td>H-Sho ← Horizontal Shore</td> <td>V-2 ← 2-post Vert. Shore</td> </tr> <tr> <td>Rkr ← Raker Shore</td> <td>V-3 ← 3-post Vert. Shore</td> </tr> <tr> <td>DB ← Diagonal Brace</td> <td>LP ← Laced Post</td> </tr> <tr> <td>V-TB ← Vertical Tieback</td> <td>C ← Cribbing</td> </tr> <tr> <td>H-TB ← Horizontal Tieback</td> <td></td> </tr> </table>	A&B ← Avoid & Barricade	M-Exp ← Minimize Exposure	Remo ← Remove	Shld ← Shield	Mon ← Monitor	T ← Single Spot Shore	V-Sho ← Vertical Shore	TT ← Double Tee Shore	H-Sho ← Horizontal Shore	V-2 ← 2-post Vert. Shore	Rkr ← Raker Shore	V-3 ← 3-post Vert. Shore	DB ← Diagonal Brace	LP ← Laced Post	V-TB ← Vertical Tieback	C ← Cribbing	H-TB ← Horizontal Tieback	
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HAZARD <small>(From HAZ-1)</small>	MIT METHOD <small>(Use abbrev. & mark on sketch)</small>	PRIORITY <small>(1 High, 9 Low)</small>	TIME REQ'D <small>(Est. in hours)</small>	COMMENT
①				
②				
③				
④				
⑤				
⑥				
⑦				
⑧				

SKETCH: **SIDE C**



SIDE B

SIDE D

SIDE A

US&R Struct. Monitoring Form - MON-1

By: _____ Date: _____

Monitoring Began _____

Monitoring Ended _____

STRUCTURE DESCRIPTION:

Bldg ID: _____

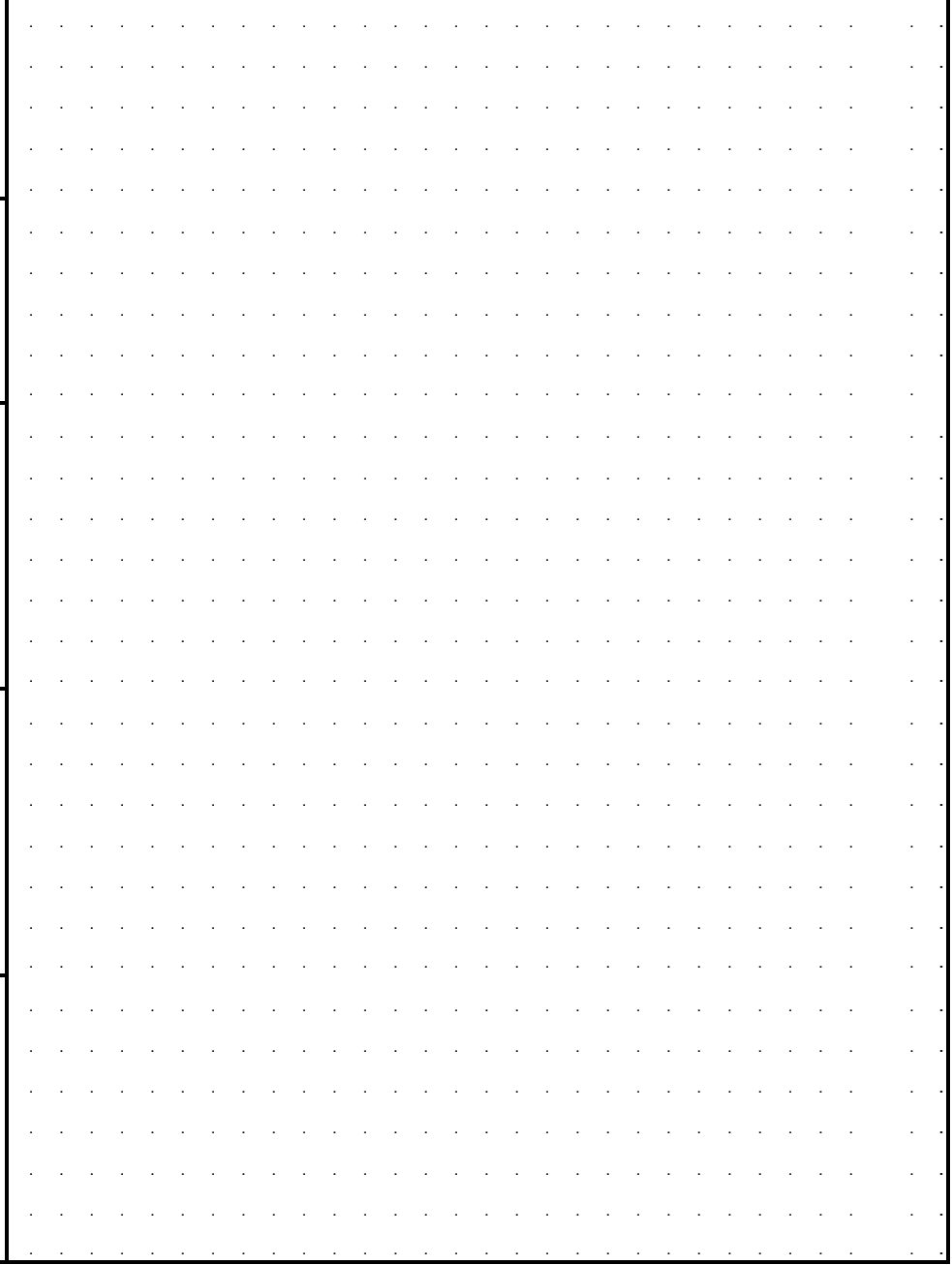
No. Stories: _____ No. Basements: _____

ATMOSPHERIC CONDITIONS Temperature _____

Day Clear Calm Haze

Nite Cloudy Windy Gusty

SKETCH OF SITE (show structure, instrument, CPs):



INSTRUMENT SETUP

Model/Serial No. _____ Calibrated Yes / No _____

Location _____ Job Name _____

Description _____ IP Coordinates _____

CONTROL POINTS - at least three (see CP-LOG)

Name _____

Location _____

Description _____

MONITORING POINT # (MP)

Location _____

Description _____

ALERT displacement = _____

ALARM displacement = _____

CONTROL POINTS - at least three (see CP-LOG)

Name _____

Location _____

Description _____

MONITORING POINT # (MP)

Location _____

Description _____

ALERT displacement = _____

ALARM displacement = _____

CONTROL POINTS - at least three (see CP-LOG)

Name _____

Location _____

Description _____

MONITORING POINT # (MP)

Location _____

Description _____

ALERT displacement = _____

ALARM displacement = _____

US&R Struct. Monitoring Form - MON-2

By: _____ Date: _____

Mon-2 Sht _____ of _____

Monitoring Began _____

Monitoring Ended _____

ADDITIONAL INSTRUMENT SETUP LOCATIONS

Location _____ Job Name _____
Description _____ IP Coordinates _____

SKETCH OF SITE (show structure, instrument, CPs):

CONTROL POINTS - at least three (see CP-LOG)

Name _____
Location _____
Description _____

MONITORING POINT # (MP)

Location _____
Description _____
ALERT displacement = _____
ALARM displacement = _____

CONTROL POINTS - at least three (see CP-LOG)

Name _____
Location _____
Description _____

MONITORING POINT # (MP)

Location _____
Description _____
ALERT displacement = _____
ALARM displacement = _____

CONTROL POINTS - at least three (see CP-LOG)

Name _____
Location _____
Description _____

MONITORING POINT # (MP)

Location _____
Description _____
ALERT displacement = _____
ALARM displacement = _____

CONTROL POINTS - at least three (see CP-LOG)

Name _____
Location _____
Description _____

MONITORING POINT # (MP)

Location _____
Description _____
ALERT displacement = _____
ALARM displacement = _____

US&R Struct. Monitoring Log - MON-Log - MP # _____

By: _____ Date: _____ MP _____ Sht _____

POINT	READINGS*		TIME	IP Loc.	Comments, notes, angle	SKETCH

* NOTE: Total Station record X, Y, Z coordinates. Theodolite record Horizontal (HA) and Vertical (VA) Angle.

Situation Name: _____
Rigging Task: _____
Weather Conditions: _____

Date and Time of Lift: _____
Task Force Name: _____
Task Force Leader: _____

Load Description: _____
 Load Weight: _____
 Block Weight: _____
 Rigging Weight: _____
 Jib Weight: _____
 Jib Ball Weight: _____
 Hoist Line Weight: _____
 Other Weight: _____
Total Weight: _____

Crane Operator: _____
Crane Make & Model: _____
Crane Serial No: _____
Boom Length: _____
Jib Length: _____
Jib Position: Stowed Retracted Offset at _____
Size of Counterweights Installed: _____
Front Outrigger Installed: Yes No

Lift will be On: On Main Block On Jib

Setup On: Crawlers Outriggers Tires
 Extended Retracted Other

Max. Intended Working Radius
 Over Rear: _____
 Over Side: _____
 Over Front: _____

Boom Angle:
 Over Rear: _____
 Over Side: _____
 Over Front: _____

Rated Capacity:
 Over Rear: _____
 Over Side: _____
 Over Front: _____

Percent of Capacity :
 (Total Load / Rated Capacity)
 Over Rear: _____
 Over Side: _____
 Over Front: _____

Hazards: Electrical Fire Underground Other _____ **Are Crane Mats, Blocking Req'd:** _____

SKETCH:

US&R Shoring Check List - SHOR-1

By: _____

This is only a Check List. Check all Appropriate Structure Hazards

<p>STRUCTURE DESCRIPTION:</p> <p>Bldg ID: _____</p> <p>No. Stories: _____ No. Basements: _____</p>	<p>TYPE OF COLLAPSE:</p> <table border="0"> <tr> <td>Pancake</td> <td>Soft 1st Floor</td> <td>Wall Failure</td> </tr> <tr> <td>Torsion</td> <td>Middle Story</td> <td>Overturn</td> </tr> <tr> <td>Other:</td> <td></td> <td></td> </tr> </table>	Pancake	Soft 1st Floor	Wall Failure	Torsion	Middle Story	Overturn	Other:		
Pancake	Soft 1st Floor	Wall Failure								
Torsion	Middle Story	Overturn								
Other:										
<p>SHORING SIZE-UP</p> <p>I.D. Damage, Hazards & Potntial Victim Locations:</p> <p><input type="checkbox"/> What caused collapse?</p> <p><input type="checkbox"/> Potential for Aftershocks?</p> <p><input type="checkbox"/> Is structure leaning and/or openings racked?</p> <p><input type="checkbox"/> Are floors sloped? Is floor hinged or free?</p> <p><input type="checkbox"/> Is there a V or A collapse w/ ladder effect?</p> <p><input type="checkbox"/> Best method to mitigate hazards & damage?</p> <p><input type="checkbox"/> Avoid, Remve, Limit Access</p> <p><input type="checkbox"/></p>	<p>SHORING INSPECTION</p> <p>Inspect shores every 12 hours (Shift Change), and/or following any known loading change such as: Aftershocks, High Winds, Secondary Explosion, Load Shift and/or Change.</p> <p>Check for proper construction of shore</p> <p><input type="checkbox"/> Check to see if posts are straight, plumb, and have full bearing on header and wedges</p> <p><input type="checkbox"/> Are connections tight and wedges snug?</p> <p><input type="checkbox"/> Is header in full contact with supported structure?</p> <p><input type="checkbox"/> Has sole deflected due to soft soil or support?</p> <p><input type="checkbox"/> Are all components of shoring system in place?</p>									
<p>If Shoring is to be built, determine the following:</p> <p><input type="checkbox"/> Type & Placement relative to Hazards and Victims</p> <p><input type="checkbox"/> Type of structure: Concrete, Wood, URM, PC Conc.</p> <p><input type="checkbox"/> What supports the shoring; Slab on Ground, Soil, Basement Slab, or upper Story</p> <p><input type="checkbox"/> Condition of supported Structure: Cracked Solid Slab, Beamless Slab, Beams supporting slabs or joist; Wood or Steel joist or trusses</p> <p><input type="checkbox"/> Support beams that support slabs or joists</p> <p><input type="checkbox"/> Check sagging beams/girders, or beams with damaged connections</p> <p><input type="checkbox"/> For wood structures, to support joists, place shores perpendicular to joist and align posts under joist.</p> <p><input type="checkbox"/> Consider Sloped Floor Shores or Cribbing for limited height conditions.</p>	<p>Check for signs of overload.</p> <p><input type="checkbox"/> Cupping of wedges and crushing of sole.</p> <p><input type="checkbox"/> Crushing of header at post.</p> <p><input type="checkbox"/> Splitting of header at end of overhang.</p> <p><input type="checkbox"/></p> <p>Actions to be taken if signs of overload are observed.</p> <p><input type="checkbox"/> Add additional shoring.</p> <p><input type="checkbox"/> Have structure re-evaluated by a StS to see if it is responding differently than expected</p> <p><input type="checkbox"/> Check assumptions of original shoring design.</p> <p><input type="checkbox"/></p>									
<p>Prepare the area to be shored:</p> <p><input type="checkbox"/> May need to remove debris and floor coverings.</p> <p><input type="checkbox"/> If soil supported, use 18"x18" foot under post location</p> <p><input type="checkbox"/> Consider temporary shores to reduce risk (T or Dbl-T).</p> <p><input type="checkbox"/> Prefab. shoring as much as possible to reduce risk.</p> <p><input type="checkbox"/> Add bracing after wedges are tightened.</p>										

US&R Tunnel / Hazards Evaluation Form T-HAZ-1

Need to re-evaluate following Aftershocks or Secondary Collapse

By: _____

STRUCTURE DESCRIPTION:
 Tunnel Name: _____
 Struct. Number: _____
 Begin Station: _____ End Station: _____
 Other I D Information _____

OVERALL MARKING:
 Date/Time of Eval: _____
 Date/Time of Disaster: _____
 Low Hazard Medium Hazard High Hazard

LINER TYPE: (Circle type that applies)
 UR = Unlined Rock CIPNR = Cast-in-place, no Reinf.
 CIPR = CIP Conc, Reinf. SG = Shotcrete/Gunite
 PCLS = Precast Conc. Liner Segments URM
 SCB = Steel Columns & Beams, Jack Arches TIMBER

TUNNEL COMPONENT HAZARD MARK DEFINITIONS
 L = Low Hazard M = Medium Hazard
 X = High Hazard N = Not Applicable/No Hazard

VICTIM & OTHER INFORMATION:

COMPONENT EVALUATION:

Upper Plenum		Miscellaneous
Underside of Roof _____		Safety Walks _____
Top of Ceiling Slab _____		Railings _____
Right Wall _____		Utility Support _____
Left Wall _____		Other _____
Lower Plenum		Portals
Underside of Roadway Slab _____		TF Entry End _____
Bott. of Plenum Slab _____		TF Exit End _____
Right Wall _____		
Left Wall _____		Other:

Roadway		_____
Underside of Ceil/Roof Slab _____		_____
Top of Roadway Slab _____		_____
Right Wall _____		_____
Left Wall _____		_____

LOCATION OF BEST ACCESS & SAR STRATEGY:

SKETCH:

US&R Rapid Bridge Assessment Form RBA-1

Need to Re-Assess following Aftershock or Additional Flooding

By: _____

BRIDGE DESCRIPTION:
 Bridge Name & Roadway: _____
 City - County - Vicinity: _____
 Length Ft: Width: Abutment Ht. High Low
 GPS Coordinates: _____

TASK FORCE BRIDGE ASSESSMENT MARKING:
 Date/Time of Eval: _____
 Date/Type of Disaster: _____
 NO Task Force Restrictions TF Pass w/Restrictions
 Task Force Passage PROHIBITED

INTERNAL SUPPORTS - Number of Spans: Height:
 Support Type: (circle type) Bents Columns Piers
 Foundation Type: Deep (Pile) Shallow (Spread)

HAZARD MARK DEFINITIONS
 L = Low Hazard M = Medium Hazard
 X = High Hazard N = Not Applicable/No Hazard

BRIDGE TYPE: (Circle type that applies)
 Simple Span Multi-Span Truss Arch Culvert
 Movable: Swing Vert. Lift Draw/Bascule

COMPONENT EVALUATION: Mark all L, M, X, or N

<u>Foundation</u>		<u>Geotechnical</u>	
Abutments	_____	Liquefaction	_____
Interior Supports	_____	Faulting	_____
Wing Walls	_____	Scour	_____
Explain: _____		Landslide	_____
		<u>Other:</u>	_____
<u>Approaches</u>			
Roadway Settlement	_____		_____
Horizontal Offset	_____		_____
Bridge Seat Bearing	_____		_____
Type of Bearing	_____		_____
<u>Superstructure</u>			
Beam/Girder/Truss	_____		_____
Slab/Deck	_____		_____
Expansion Joint	_____		_____
Other	_____		_____

BRIDGE MATERIAL: (Circle all types that apply)

Wood Beam Wood Arch Wood Truss Other _____

Steel Stringer Steel Girder Steel truss

CIP Conc Slab CIP Conc Beam CIP Conc Arch

Precast Tee PC Girder PC Slab/Box Posten

OTHER INFO: _____

SKETCH