

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	01/28/10	Section	0.0
Replaces:	Cover	Page:	1 of 2
Source(s): MABAS Division 12			

MABAS DIVISION 12

TECHNICAL RESCUE

STANDARD OPERATING POLICIES AND GUIDELINES

- Technical Rescue Policies and Guidelines
- Technical Rescue Worksheets
- Appendix: Technical Rescue Forms

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	01/28/10	Section	0.0
Replaces:	Cover	Page:	2 of 2
Source(s): MABAS Division 12			

INDEX

Section 0.0	Cover and Index	Page 1
-------------	-----------------	--------

SECTIONS

Section 1.1	Purpose and Administration	Page 3
Section 1.2	Required Certifications	Page 5
Section 1.3	Continuing Education and Training	Page 7
Section 1.4	Equipment	Page 10
Section 1.5	System Activation	Page 13
Section 1.6	Reimbursement for Services	Page 14
Section 1.7	TRT Members and Equipment Cache	Page 15
Section 1.8	Response Levels and Equipment	Page 16
Section 2.1	Incident Command	Page 19
Section 3.1	(reserved)	Page -
Section 4.1	Rope Rescue	Page 20
Section 5.1	Confined Space Rescue	Page 23
Section 6.1	Trench Rescue	Page 30
Section 7.1	Structural Collapse Rescue	Page 34

FORMS AND WORKSHEETS

Worksheet(s)	TRT Branch/ Group (First-in, Command and Site)	Page 41-42
Worksheet(s)	Rope Rescue (First-in, Command and Site)	Page 43-46
Worksheet(s)	Confined Space (First-in, Command and Site)	Page 48-51
Worksheet(s)	Trench Rescue (First-in, Command and Site)	Page 53-57
Worksheet(s)	Structural Collapse (First-in, Command and Site)	Page 58-63
Worksheet(s)	TRT Rescue/ Entry Group	Page 64
Worksheet(s)	TRT Rigging	Page 65
Worksheet(s)	TRT Safety	Page 66
Worksheet(s)	TRT Air Quality	Page 68

APPENDIX

Form	Appendix Cover	Page A-1
Form	Division Training Attendance	Page A-2
Form	Confined Space: Entry Permit (page 1)	Page A-3
Form	Confined Space: Entry Permit (page 2)	Page A-4
Form	Confined Space: Entry Permit (page 3)	Page A-5
Form	Haz 1 Form (FEMA/ USACE)	Page A-6
Form	Rapid Structural Triage (FEMA/ USACE)	Page A-7
Form	Unit Log 214	Page A-9

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	01/28/10	Section:	1.1
Replaces:	05/29/97	Page:	1 of 2
Source(s): MABAS Division 12			

1.1 Purpose and Administration

The goal of the MABAS Division 12 Technical Rescue team is to combine the resources of several communities to deal with any high-rise, above-grade, confined space, below-grade, and structural collapse rescue. Additional departments may join by a written request from their chief to the MABAS Division 12 president. Response by the technical rescue team is available to any MABAS Division 12 communities or any other MABAS Division through an inter-divisional request. Additionally, technical rescue responses may be initiated per the guidelines of the Statewide Response Plan.

In order to simplify training and implementation the technical rescue program will be categorized into four disciplines.

Technical Rescue Awareness is a prerequisite for the following courses per OSFM.

Discipline 1: Rope rescue

This discipline will address rescue/recovery considerations and operations for an incident that involves vertical rope rescue.

Discipline 2: Confined space rescue

This discipline will address rescue/recovery considerations and operations for a confined space or below grade incident.

Discipline 3: Trench rescue

This discipline will address rescue/recovery considerations and operations for a trench incident.

Discipline 4: Structural collapse rescue

This discipline will address rescue/recovery considerations and operations for a structural collapse incident.

1.1.2 Technical Rescue Coordinators

The M.A.B.A.S. Division 12 Fire Chiefs shall appoint a chief officer to act as the Liaison Chief between the Technical Rescue Coordinators and the Fire Chiefs. The Fire Chiefs will also appoint at least one person to act as the Divisional Coordinator who will be responsible for the administration of all aspects of the Division 12 Technical Rescue team.

Each department/district shall appoint a person to act as their official Technical Rescue coordinator. The individual department coordinators shall meet on a monthly basis and act as the communication link between the Technical Rescue committee and their individual departments. In addition to the monthly meetings Technical Rescue

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	01/28/10	Section:	1.1
Replaces:	05/29/97	Page:	2 of 2
Source(s): MABAS Division 12			

coordinators are charged with the responsibility to maintain an accurate team roster for all of their technical rescue personnel and shall submit any changes to their team roster to the M.A.B.A.S. Division 12 Technical Rescue Coordinators. In addition department coordinators are required to meet all of the requirements as outlined in Continuing Education section 1.3 of this policy.

All Technical Rescue Coordinators shall have the authority to remove/isolate a team member that is not conducting themselves in a professional or safe manner at any drill or operation. If such action is taken the Technical Rescue Coordinator involved will forward proper documentation to the Technical Rescue Liaison Chief outlining the reasons for such actions within 24 hours after the incident.

The Technical Rescue Liaison Chief will then be responsible for the formal investigation of the incident and prepare any required documentation. Once completed, the Chief Liaison shall review directly with the employing Fire Chief to determine the appropriate course of action in the best interest of the TRT team.

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	10/28/10	Section:	1.2
Replaces:	10/28/10	Page:	1 of 2
Source(s): MABAS Division 12			

1.2 REQUIRED CERTIFICATIONS

The M.A.B.A.S Division 12 Technical Rescue team shall require the following minimum certifications for all new team personnel subsequent to the effective date of this Standard. Additionally, this requirement shall apply exclusively to new team personnel.

The requirements are as follows:

- 1) Office of the State Fire Marshal – Technical Rescue Awareness
- 2) Office of the State Fire Marshal – Rope Rescue Operations

Additionally, for purposes of team development and to address the multi-discipline nature of technical rescue, the following certifications and time frames have been established to maintain placement on the Division 12 Technical Rescue Team:

Within three **(3) years** from placement on the Division 12 Technical Rescue Roster, personnel shall secure the following State certifications:

- 1) Office of the State Fire Marshal – Trench Rescue Operations
- 2) Office of the State Fire Marshal – Confined Space Rescue Operations
- 3) Office of the State Fire Marshal – Structural Collapse Operations

Within five **(5) years** from placement on the Division XII Technical Rescue Roster, personnel shall secure only two of the following State certifications:

- 1) Office of the State Fire Marshal – Rope Rescue Technician
- 2) Office of the State Fire Marshal – Trench Rescue Technician
- 3) Office of the State Fire Marshal – Confined Space Rescue Technician
- 4) Office of the State Fire Marshal – Structural Collapse Technician

Once the above requisites have been met, personnel will be required to maintain their expertise in the two disciplines which they have been assigned. Furthermore, this shall include successful completion of the minimum training requirements in all disciplines as outlined in other sections of this Standard.

To satisfy the requirements of this Standard, personnel shall be certified by the Office of the State Fire Marshal in Technical Rescue Awareness and have secured training from an approved rope rescue training provider. Personnel who have successfully completed rope rescue education through the California Mountain Company Rope Rescue Course I, Arlington Heights High-Angle Rescue Class, Progressive Rescue Solutions, Specialized Rescue Systems Rope I, or secured State of Illinois certification in Vertical I (Operations) can be placed on the active roster for the Technical Rescue

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	10/28/10	Section:	1.2
Replaces:	10/28/10	Page:	2 of 2
Source(s): MABAS Division 12			

Team. (All personnel added to the Division 12 TRT Team Roster after the last revision date of 10/28/10 shall provide a certificate from the State Fire Marshal (OSFM) for each required course).

The orange passport name tags and certification will expire in semi-annual increments. Re-certification will involve meeting the minimum criteria for continuing education as established in other sections of the SOP/SOG Manual. Any communications regarding individual certifications shall be forwarded to the Technical Rescue committee which is comprised of one representative from each member agency.

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	02/01/19	Section	1.3
Replaces:	11/30/17	Page:	1 of 3
Source(s): M.A.B.A.S. Division 12			

1.3 Continuing Education/ Training

Forms: Appendix - Training Attendance Sheet

Purpose/ Summary:

Continuing education and completion of required minimum annual training standards is critical in areas of rescue due to the increased life safety considerations and federal laws, which are applicable. In order to keep rescuers proficient, a minimum of twelve (12) training sessions shall be offered during the year. These training sessions will be rotated throughout the Division in order to allow easier access for all members. Each team member shall attempt to attend at least one M.A.B.A.S. Division 12 training class for each discipline that they are listed as technicians on the Technical Rescue roster.

Division drill credits shall be awarded for monthly drill attendance, specialty class attendance, instructing of a specialty class, statewide team attendance, or a bona fide in-house training session. Requests for drill attendance credit shall be accompanied with a Division 12 training attendance sheet or a class completion certification. In the case of in-house training, the training attendance sheet must also be accompanied by a objectives list and a description of the drill. Training submissions shall be evaluated by the division for approval on a case-by-case basis.

1.3.1 Technical Rescue Member Training Requirements

- a) Eight (8) drills are required per calendar year. These sessions will revolve around the different technical rescue disciplines so that each team member will have enough exposure to attend at least one training session in each of the four core specialty topics at the Division level.

1.3.2 Credit for a drill will be considered for:

- a) Involvement in an actual technical rescue incident.
- b) Attendance at a course, school, conference, class, and/or symposium.
- c) A request for credit should be submitted to the TRT member's fire department/protection district coordinator with a brief description of the incident or class and the level of involvement. The coordinator will approve/disapprove and inform the individual.
- d) It is required that team members train regularly with other Divisional members. For this reason, Division 12 member shall attend a minimum of (4) four training sessions at the Divisional level.

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	02/01/19	Section	1.3
Replaces:	11/30/17	Page:	2 of 3
Source(s): M.A.B.A.S. Division 12			

- 1.3.3 TRT members failing to meet the training requirements will be placed on inactive status with the technical rescue team, not to exceed twelve (12) months, until the training requirements are met.
- 1.3.4 Notification to the Fire Chief of the fire department/protection district shall be made in writing by the fire department's/protection district's TRT Coordinator of the member's inactive status.
- 1.3.5 The member placed on inactive status shall surrender the Technical Rescue passport nametags to the fire department's/protection district's coordinator.
- 1.3.6 TRT members that meet the training requirements will be placed back on the Technical Rescue team.
- 1.3.7 The Fire Chief of the department will certify on an annual basis that TRT members have shown competency at the level in which they operate. This list of TRT members shall be forwarded to the Team Coordinator/ TRT Leader by February 1st each year.
- 1.3.8 Normal training sessions will be on the third Monday, 0900-1200, Tuesday 0900- 1200, and Wednesday 0900-1200. This does not include full-scale practical's or guest speakers where other arrangements have been made.
- 1.3.9 Hosting fire departments/protection districts shall provide a notice/reminder to each participating fire department/protection district four (4) weeks prior to the date of the drill. The notice shall include the location, time, subject area, and any special equipment needed.
 - a) In the event Technical Rescue Team assets will be needed, the fire department/protection district coordinator/instructor hosting the drill shall make arrangements with agencies housing said asset to ensure that they show up and are returned.
 - b) A lesson plan shall be completed prior to the start of the drill. An electronic copy of all lesson plans will be kept with the Team Leader/ Liaison for future reference.
 - c) Additional training sessions and/or meetings will be scheduled, as needed, prior to regularly scheduled division drills.

M.A.B.A.S Division 12
Policies and Guidelines

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	02/01/19	Section	1.3
Replaces:	11/30/17	Page:	3 of 3
Source(s): M.A.B.A.S. Division 12			

1.3.10 State Response -Deployable Members

- a) Only T.R.T. members on the MABAS-IL Deployable T.R.T. Member Roster are eligible to respond.
- b) Required certifications/mandates for Deployable T.R.T. members are:
 - 1. Technician in all (4) core disciplines.
 - 2. Member in good standing with the technical rescue team.
 - 3. Annual SCBA Fit Test (In accordance with 29 CFR 1910.134).
 - 4. Annual Physical (In accordance with 29 CFR 1910.120).

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	09/28/17	Section:	1.4
Replaces:	03/28/02	Page:	1 of 3
Source(s): M.A.B.A.S Division 12			

1.4 Equipment

1.4.1 The personal equipment if purchased by the members department is the property of the member department. Any equipment provided by any agency must meet all NFPA and other regulatory agencies requirements for said use.

1.4.2. Personal Equipment

- 1- Rescue Harness, NFPA approved Class 3 (part of harness assembly)
- 1- 15'-0" Juno fall protection line (part of harness assembly)
- 1-12 MM delta (part of harness assembly)
- 1-shock absorber (part of harness assembly)
- 1-NFPA compliant 6 bar rack (G Rated) (part of harness assembly)
- 1-Large carabiner (part of harness assembly)
- 2- 8-mm Accessory (Prusik) (60") (part of harness assembly)
- 1- 8-mm Accessory (Prusik) (144") (part of harness assembly)
- 1- 20' tubular webbing (part of harness assembly)
- 1- Pair rappelling gloves (part of harness assembly)

- 1- Pair structural collapse
- 1- Industrial Helmet meeting ANSI Z89.1. Color Red
- 1- Eye Protection
- 1- Hearing Protection
- 1- Boot Protection with ankle support

During a technical rescue incident, all personal shall have the above equipment.

1.4.3. Department Equipment

In addition to the equipment noted above, the following is optional/suggested equipment.

- 1- BUD Pants/Blouse
- 1- Rain Gear
- 1- Carhartt Coat
- 1- Carhartt Bibs
- 1- Coveralls

All rope and rope equipment must meet NFPA Standards, when applicable and when stated in a standard, at time of purchase. All rope and equipment must be properly inspected, maintained, and used.

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	09/28/17	Section:	1.4
Replaces:	03/28/02	Page:	2 of 3
Source(s): M.A.B.A.S Division 12			

1.4.4 Equipment Color Coding

The color-coding system utilizes a three-color marking system for those agencies that specify a third color for individual members. The two outer colors designate the fire department/agency that the equipment belongs to and the inner color (if applicable) designates the team member the equipment has been issued to. There are several manufactures that offer acceptable marking tape or similar applied graphics.

Addison	White	White	
Bloomingtondale	Blue	White	
Carol Stream	Yellow	Black	
Elmhurst	Blue	Yellow	
Glenside	Yellow	White	
Itasca	Green	Orange	(reserved for agency)
Lombard	Red	Blue	
Oakbrook	Blue	Blue	
Oakbrook Terrace	Orange	Orange	
Villa Park	Black	White	
West Chicago	White	Red	
Wheaton	Red	Black	
York Center	Green	Yellow	
Winfield	Green	Black	(reserved for agency)
Hanover Park	Green	Green	
Wooddale	Black	Blue	

1.4.5. Technical Rescue Passports

Passport/Nameplates shall be Orange in color and be double height in design to allow the certifications to be printed on the lower portion. It shall be the responsibility of the employing agency to validate the accuracy of each passport and make required changes as certifications/qualifications change. In the event that a member is removed from the Division 12 team, the corresponding passport nameplates should be removed from service.

Orange passport/nameplates shall have the technical rescue team members name followed by their level of competency as follows:

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	09/28/17	Section:	1.4
Replaces:	03/28/02	Page:	3 of 3
Source(s): M.A.B.A.S Division 12			

-Rope Rescue: R (O) Operations, R (T) Technician

-Confined Space: C (O) Operations, C (T) Technician

-Trench Rescue: T (O) Operations, T (T) Technician

-Structural Collapse S (O) Operations, S (T) Technician

Sample TRT passport nameplate:

FF LAST NAME (DEPART NAME)
R (O) C (T) T (T) S (O)

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	03/28/02	Section:	1.5
Replaces:	05/29/97	Page:	1 of 1
Source(s): MABAS Division 12			

1.5 System Activation

When a fire department determines that a technical rescue response is required, they will contact MABAS Division 12 (Du-Comm) and request a “Technical Rescue Response”, providing the specific nature of the incident (i.e. rope rescue, trench rescue, confined space or structural collapse).

When requesting a technical rescue Box Alarm, the department asking for the alarm will supply MABAS Division 12 (Du-Comm) with the following information:

- A. The name of the requesting department.
- B. The level of the alarm requested.
- C. Nature of the incident (i.e. rope rescue, confined space, trench or collapse).
- D. The Staging location for both fire staging and Technical Rescue staging of applicable to the size of the incident.

MABAS Division 12 (Du-Comm) will respond by activating the appropriate tones for agencies outlined on the respective agency’s response cards. At the MABAS Box Alarm level and higher, Du-Comm shall utilize the Division 12 standardized response card for dispatching of requested personnel and equipment.

When technical rescue equipment and personnel respond to an incident, they shall advise Du-Comm of the number of technical rescue team members included in the response. For purposes of this section, announcing the number of “technical rescue technicians” is appropriate, regardless of their certification or certification level (Operations or Technician)

The first arriving technical rescue team member shall report to the Incident Commander and assist Command with an initial technical rescue size-up of the situation and make a determination as to how many team members will be needed to facilitate a safe and efficient rescue. Once all of the victims have been safely rescued or recovered, the requesting department Incident Commander will advise MABAS Division 12 (Du-Comm) to strike out the alarm for technical rescue.

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	03/28/02	Section:	1.6
Replaces:	05/29/97	Page:	1
Source(s): MABAS Division 12			

1.6 Reimbursement for services

When the MABAS Division 12 Technical Rescue team is requested and utilized for a rescue/recovery, it shall be the responsibility of the requesting agency to reimburse the Division 12 member agencies for any equipment costs associated with the rescue/recovery. Additionally, the costs for any equipment utilized during the rescue/recovery shall be submitted to the effected/responsible agency conducting the rescue/recovery within 10 working days of the incident.

Furthermore, this shall apply to any equipment utilized at a rescue/recovery incident which cannot be recovered after the termination of the incident, which shall not be re-used based on industry standards and the National Fire Protection Association or any equipment which is damaged and does not warrant repair.

Additionally, this standard applies to both Division 12 equipment and equipment owned and purchased by Division 12 member agencies. However, submission of the equipment costs and reimbursement for Division 12 equipment shall be addressed at the Division 12 level.

Specific to Fire Protection Districts, they may fix, charge, and collect reasonable fees for specialized rescue services provided by the district. The total amount collected may not exceed the reasonable cost of providing those specialized rescue services and may not, in any event, exceed those set forth by State Statute. The fee may be charged to any of the following parties, but only after there has been a finding of fault against that party by the Occupational Safety and Health Administration or the Illinois Department of Labor:

- (a) the owner of the property on which the specialized rescue services occurred;
- (b) any person involved in an activity that caused or contributed to the emergency;
- (c) an individual who is rescued during the emergency and his or her employer if the person was acting in furtherance of the employer's interests;
- (d) in cases involving the recovery of property, any person having control or custody of the property at the time of the emergency.

For the purposes of this Section, the term "specialized rescue services" includes, but is not limited to; rope rescue, trench rescue, confined space rescue and structural collapse rescue.

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	10/28/10	Section:	1.7
Replaces:	05/29/97	Page:	1 of 1
Source(s): MABAS Division 12			

1.7 TRT MEMBERS AND EQUIPMENT CACHE DISTRIBUTION

TRT TECHNICIANS (OSFM Operations and Technician)

Addison Fire Protection District
Bloomingdale Fire Protection District
Carol Stream Fire Prot. District
Elmhurst Fire Department
Glenside Fire Prot. District
Lombard Fire Department
Oak Brook Fire Department
Oakbrook Terrace Fire Prot. District
West Chicago Fire Prot. District
Wheaton Fire Department
Woodale Fire Prot. District
Villa Park Fire Department
York Center Fire Department

DIVISION TRT ASSET LOCATIONS (SQUADS)

Carol Stream Fire Prot. District (S27) -Multi-purpose rescue cache (MABAS)
Oak Brook Fire Department (R93) -Multi-purpose rescue cache
West Chicago Fire Prot. District (S07) -Multi-purpose rescue cache

DIVISION TRT ASSET LOCATIONS (TRAILERS)

Oakbrook Terrace Fire Prot. District (TRL 49) -Multi-purposes rescue cache (MABAS)
York Center Fire Department (TRL 77) -Trench and confined space cache
Oakbrook Terrace Fire Prot. District (TRL 48) -Collapse, shoring and monitoring

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	01/01/10	Section:	1.8
Replaces:	04/24/03	Page:	1 of 3
Source(s): MABAS Division 12			

1.8 Response Levels and Equipment

Purpose: The purpose of this SOP/SOG shall be to provide assistance to a stricken community that requests the technical rescue team through interdivisional agreements or the Statewide Response Plan.

For purposes of this document, the Response Plans shall be categorized into two main types: Interdivisional and Statewide.

1.8.1 INTERDIVISIONAL

To be utilized when a stricken community or Division requests the Division 12 technical rescue team under guidelines established by M.A.B.A.S. This shall include any response level classified as an "Interdivisional Response"

- a) Dispatch
Dispatch of the Division 12 team shall include all participating members of the Division 2 team and the associated Division 12 equipment cache.
- b) Personnel and Vehicle Preparedness
Dispatched Division 12 equipment shall respond to the stricken community under guidelines established by M.A.B.A.S.
- c) This response level shall dictate the response of equipment designated on the approved "Interdivisional Response Card". As previously approved, all Divisional TRT assets shall be included in an interdivisional response. In the case of a Statewide Plan Activation/Response, only the designated assets and team members shall respond.

1.8.2. STATEWIDE RESPONSE

To be utilized when a stricken community or Division requests assistance as outlined in the Statewide Response Plan. This shall include any response level classified as a "Statewide Response"

- a) Dispatch of the Division 12 team shall include all member agencies of the Division 12 team listed on the Statewide Response Box Card.
- b) Each Department/District requested will procure the personnel required and report to Division 12, by phone the number of technical rescue personnel that will respond and an estimated time of arrival at the assigned staging area.
- c) If a Department/District is unable to respond, Division 12 will then contact the next agency listed in the alternative section of the Box Card until confirmation

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	01/01/10	Section:	1.8
Replaces:	04/24/03	Page:	2 of 3
Source(s): MABAS Division 12			

has been made that there are 10 technicians secured.

- d) The designated "Team Leader" shall be included in the above team deployment. The assignment of the "Chief Liaison" shall be based on the incident type and nature and shall not be included in the total above.

1.8.2.1 Personnel and Vehicle Preparedness

- a) Dispatched Division 12 equipment shall respond to the stricken community under guidelines established by M.A.B.A.S. Division 12.
- b) In the case of a Statewide Plan Activation/Response, only the designated assets and team members shall respond.
- c) The assigned equipment shall report to the designated staging area at Addison Station #73, 1000 S. Rohlwing Road.
- d) It is recommended that departments transport technicians to the staging area to prevent congestion at the staging area.

1.8.2.2 Vehicle Response

- a) The two predetermined trailers/squads shall be utilized to transport all equipment and technicians. As warranted, additional support vehicles can be utilized for personnel transport.
- b) Vehicles shall remain in formation during the response to the incident location or incident staging area.
- c) The Liaison Officer may elect to take an advanced position by leaving Addison Station #73 once the Team Leader position has been filled. Additionally, the Liaison Officer and the Team Leader shall remain in contact at all times for purposes of information dissemination.
- d) All responding personnel shall utilize the predetermined route for purposes of team continuity and logistics. Provisions will be made for roadside assistance, routine equipment maintenance and personnel care.

1.8.2.3 Mitigation

- a) The Division 12 technical rescue team will utilize the Incident Management System initiated by the stricken community.
- b) If the need to be self-supportive, the Technical Rescue team shall follow the Division 12 Technical Rescue Standard Operating Guidelines.

1.8.2.4 Documentation

- a) The Team Leader, with the assistance of the Chief Liaison and other Liaison Aides, shall be responsible for the complete documentation of all actions taken

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	01/01/10	Section:	1.8
Replaces:	04/24/03	Page:	3 of 3
Source(s): MABAS Division 12			

by the Division 12 TRT team and aid given throughout the deployment.

Additionally, this shall include documentation of any equipment damaged during the deployment or any equipment that was intentionally left at the incident.

- b) All required personnel rosters, vehicle manifests, safety checks and other documentation required by MABAS shall be created and faxed to the Statewide Dispatch center coordinating the effort prior to deployment.
- c) Prior to deployment, the Technical Rescue team shall secure copies of all required ICS/IMS forms as part of the NIMS program. This shall include all 200 series forms documenting team actions.
- d) Each deployed asset must complete Form 214 for any actions taken by the deployed team or any sub-teams created within the team.

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	03/28/02	Section:	2.1
Replaces:	05/29/97	Page:	1 of 1
Source(s): MABAS Division 12			

2.1 Incident Command System

The first arriving technical rescue member shall report to command and shall be assigned as the technical rescue Group or Branch officer unless one has already been assigned by the host agency. In this scenario, the TRT member can be assigned as an aid. After receiving a briefing from the incident commander, the Branch/ Group officer will conduct a size-up of the situation and make a determination as to how many team members will be needed to facilitate a safe and proper rescue.

The Branch/Group officer will initially function in the Command mode for the technical rescue Branch. The responsibilities of this position include creating and implementing the rescue plan and lead, organize direct and control the rescue effort. This shall include tracking all TRT personnel on the scene and monitoring if additional personnel/ teams are required. In the initial stage of the rescue the Branch/ Group officer will also have to function in the capacity of the TRT safety officer. This function should be re-assigned to a technical rescue member as soon as there are sufficient technical rescue members to safely and efficiently perform the rescue.

The technical rescue safety officer will report to the rescue branch/group officer and incident safety officer. The safety officer can stop any aspect of the rescue including the entire rescue.

M.A.B.A.S Division 12 Policies and Guidelines

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	03/28/02	Section:	4.1
Replaces:	05/29/97	Page:	1 of 5
Source(s): MABAS Division 12			

4.1 Rope Rescue

PURPOSE: The purpose of this procedure is to establish guidelines for conducting high angle/rope rescues. Due to the infinite number of potential sites, scenarios and situations, this procedure will not define a specific evolution to use, but offer Guidelines to follow for conducting safe and effective operation

SCOPE: These guidelines are designed to provide guidance for the M.A.B.A.S. Division 12 Technical Rescue team and other Fire Department personnel during all phases of rope rescue/recovery operations.

4.1.1. Definitions

Rope rescue is defined as any rescue/recovery attempt that requires rope and the associated equipment to safely and effectively gain access to, and remove patients from, hazardous geographic areas with limited Access such as steep embankments, high rise buildings, above or below grade structures, by means of rope system.

4.1.1.1 Low angle rescue:

A low angle slope can be defined by angle as a slope between 0 and 45 degrees. In rope rescue, this is an environment in which a rope may be required but serves the function as a belay only and not to haul the rescuers and patient up slope. On a low angle slope, all of the weight of the load from the rescuers and patient is on the ground.

4.1.1.2 High angle rescue:

A high angle slope can be defined by angle as a slope between 45 and 60 degrees. In rope rescue, this is an environment in which a two-rope system protects the rescuers from falling and is usually required to allow the rescuers to regain the top of the slope. On a high angle slope, the weight of the rescuers and patient is predominately focused onto the rope system.

4.1.1.3 Vertical rescue:

A vertical angle slope can be defined by angle as a slope greater than 60 degrees to completely vertical. In rope rescue, this is an environment in which a two-rope system protects the rescuer and patient from a fall

M.A.B.A.S Division 12 Policies and Guidelines

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	03/28/02	Section:	4.1
Replaces:	05/29/97	Page:	2 of 5
Source(s): MABAS Division 12			

certain to cause injury or death, and the rope system is the only way possible for the rescuer and patient to regain the top of the slope. In vertical rescue, the weight of the rescuer and patient is completely reliant upon the rope system.

The use of a two-rope system (main and safety Line) is required for vertical rescue. The only exception to a two-rope system for vertical rescue falls under the need to perform an immediate rescue and only in extenuating circumstances as detailed below under “immediate access of a patient”.

4.1.1.4 Lead climbing:

Lead climbing is the process in which a rescuer must climb in an upward, downward, or horizontal direction to access an injured or stranded person. During a lead climb, the rescuer is either self-belayed or belayed by a qualified person. Scenarios that may require lead climbing includes cranes, power or communication towers, bridge girders or industrial settings.

4.1.1.5 Highline systems:

Highline systems are rope systems that allow movement of a rescuer and/or litter along a horizontal or angled plane and may also be designed to facilitate vertical movement of the rescuer and/or litter from any position upon that horizontal or angled plane.

Highline systems are considered the most complex of rope systems as they typically require more equipment and personnel involvement to assemble and operate than any other rope system.

4.1.2. Classifications

For purposes of this standard and to correspond with current Office of the State Fire Marshal certification training and those established by the National Fire Protection Association #1670, the following operational levels are hereby established:

- a) OSFM Technical Rescue Awareness
- b) OSFM Rope Operations
- c) OSFM Rope Technician (or equivalent as identified in other Sections)

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	03/28/02	Section:	4.1
Replaces:	05/29/97	Page:	3 of 5
Source(s): MABAS Division 12			

4.1.3. Standard Operating Guidelines

- a) The stricken agency shall assume command and control of any incident involving rope rescue within the Department's boundaries.
- b) Any potential vertical/rope rescue incident in which a person is trapped, injured, experiencing a medical emergency, or is deceased shall require the response of the Department's technical rescue team or the closest properly trained team.
- c) Only personnel who are trained, authorized, in good standing with the team and have the skill set to perform the rescue, shall be assigned to the Technical Rescue Branch/Group
- d) Vertical/Rope rescue requires technical training and proper equipment. All trained personnel performing the rescue shall be outfitted with proper equipment prior to attempting any rescue.
- e) If a potential for a hazardous atmosphere exists, requiring monitoring, Incident Command or Technical Rescue Branch/Group will assign an Air Quality Group. Air Quality Group will follow accepted OSHA guidelines. If the readings of an oxygen enriched, flammable and/or toxic atmosphere exists, all team members shall be immediately be removed from the space, until ventilation reverses the condition.
- f) All anchors must be able to hold the anticipated load that will be applied to it, in the direction the load will be applied from. A significant safety factor shall be included to compensate not only for the anticipated load, but also for unanticipated loads, dynamic loads, shock loads, and stress from the application of hauling systems. Ensure that a direct line is set between the anchor and the load to prevent a pendulum of the load. In the absence of an obvious "bombproof" anchor, the primary anchor shall be backed up by a secondary anchor to provide support. This backup anchor must be in line with the primary anchor and the load, and must also act to counter the type of force that the load is applying to the primary anchor
- g) When activities are judged to be unsafe and to involve an imminent hazard, a technical rescue team member and/or safety officer shall have the authority to alter, suspend or terminate those activities. The safety officer shall immediately inform the incident commander and rescue branch/sector

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	03/28/02	Section:	4.1
Replaces:	05/29/97	Page:	4 of 5
Source(s): MABAS Division 12			

of any action taken to correct the imminent hazards at an emergency scene. At an emergency incident, where a technical rescue team member or safety officer identifies unsafe conditions, operations or hazards that do not present an imminent danger, the safety officer shall take appropriate action through the incident commander and/or rescue branch/sector officer to mitigate or eliminate the unsafe condition, operation or hazard.

- h) Any rope damaged or suspected to be damaged during an incident or training evolution must be immediately removed from service and identified accordingly. Rope that is no longer acceptable for rescue or training operations can be downgraded to utility rope. In such situations, the end of each rope shall be painted red and have intermediate markings to identify it as a utility rope.
- i) All software (rope, webbing and harnesses) used shall not exceed the life expectancy of such equipment (5-10 years based on manufacturer specific requirements).
- j) Any software that has reached its life expectancy shall be clearly marked in black or red and used as utility only or taken out of service.
- k) All rescuers shall have two points of attachment and lowering systems shall be the preferred option before rappelling.
- l) The use of pre-rigged bags is highly encouraged for ease of use and efficiency of set-up (6 bar racks, load releasing hitches, etc.).
- m) Advanced rope devices such as MPD's, I.D's, ASAP's, etc. are acceptable contingent on the riggers and operators being proficient with the set-up and operation.
- n) There shall be one designated edge attendant.
- o) Any person near an open edge or low edge, shall have a Juneau line or other approved fall protection device/ rigging.
- p) All rope bags shall have an up to date rope log which includes: date of manufacture, date of in-service, date of every use, exposures and the end of rope use.

M.A.B.A.S Division 12
Policies and Guidelines

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	03/28/02	Section:	4.1
Replaces:	05/29/97	Page:	5 of 5
Source(s): MABAS Division 12			

- q) A rope rescue/recovery operation may require the establishment of the following Group Officers may be assigned:
- Technical Rescue Group/Branch Officer (Rescue Leader)
Responsible for coordination of the actual rescue operation and the sectors associated with all activity in the “rescue area.” Reports directly to Operations. In the absence of an Operations Group they shall report directly to Incident Command (IC).
 - Site Control
Responsible for establishing control zones, fire suppression, logistics of incoming resources, placement of resource apparatus and lighting systems. Reports directly to Technical Rescue Branch/ Group.
 - Equipment/Rigging Group
Responsible for the establishment of an equipment sector site, and the physical stockpile of equipment necessary to perform the rescue. Rigging may become a separate sector responsible for installation of the protective system. Reports directly to Technical Rescue Branch/Sector.
 - Technical Rescue Safety Officer
Responsible for observing and checking all technical aspects of the rescue. Works directly with the Fire Department’s Safety Officer. Reports to IC, Safety and Technical Rescue Branch/ Group Officer.
 - All rope rescue equipment, hardware and rope shall be inspected after every use by a qualified member of the agency owning the items. Said inspections shall be completed in accordance with industry standards and in compliance with the NFPA. Items which do not pass the inspection shall be placed out of service and removed from response apparatus.

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	03/28/02	Section:	5.1
Replaces:	05/29/97	Page:	1 of 5
Source(s): MABAS Division 12			

5.1 Confined Space Rescue

Purpose: This section contains requirements for practices and procedures to protect employees/ rescue personnel from the hazards of entry into permit-required confined spaces.

Scope: These guidelines are designed to provide guidance for the M.A.B.A.S. Division #12 Technical Rescue team and other emergency forces / Fire personnel during all phases of confined space entry and rescue operations.

5.1.1 Definitions

OSHA Regulation 29 CFR 1910.146 defines a Confined Space as a space that has the following attributes:

- (1) Is large enough and so configured that an employee can bodily enter and perform assigned work; and
- (2) Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry/ egress; and
- (3) Is not designed for continuous employee occupancy

All three (3) parameters, of the above definition, must be met for a space to be classified as a confined space.

5.1.2. Classifications

For purposes of this standard and to correspond with current Office of the State Fire Marshal certification training and those established by the National Fire Protection Association #1670, the following operational levels are hereby established:

- a) OSFM Technical Rescue Awareness
- b) OSFM Confined Space Operations
- c) OSFM Confined Space Technician

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	03/28/02	Section:	5.1
Replaces:	05/29/97	Page:	2 of 5
Source(s): MABAS Division 12			

5.1.3. Standard Operating Guidelines

- a) The stricken agency shall assume command and control of any incident involving confined space entry, rescue or recovery within the corporate limits of the Municipality or the Fire District.
- b) Any incident in which a person is trapped, injured, experiencing a medical emergency, or is deceased in a confined space shall require the response of the Department's technical rescue team or the closest properly trained team.
- c) Only personnel who are trained, authorized, and possess the specialized rescue equipment needed to perform the rescue, shall be assigned to Entry or Technical Rescue Sector.
- d) Entry into a confined space requires a back-up rescuer for each entrant. All rescuers entering the confined space must have a form of breathing apparatus, a lifeline attached to a Class III harness, and each team shall have an atmospheric monitoring device. The level of protection for the back-up teams(s) must be equal to or exceed that of the primary rescuer(s).
- e) Confined spaces must be monitored prior to entry and continuously during all phases of the rescue. The following levels are immediately dangerous to life and health (IDLH):
 - 1. Oxygen deficiency < 19.5 %
 - 2. Oxygen enriched > 23.5 %
 - 3. Flammability > 10 % of Lower Flammable Limit (LEL)
 - 4. Toxicity shall be any limit whose numerical value exceeds the Permissible Exposure Limit (PEL).
 - a) Carbon Monoxide (CO) > 35 PPM
 - b) Hydrogen Sulfide (H₂S) > 10 PPM
- f) If the readings of an Oxygen enriched/deficient, flammable and/or toxic atmosphere exists, all entry teams shall be immediately removed from the space, until positive ventilation mitigates the condition.

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	03/28/02	Section:	5.1
Replaces:	05/29/97	Page:	3 of 5
Source(s): MABAS Division 12			

- g) A confined space rescue /recovery requires the establishment of the following six (6) Group/Divisions:
- **Rescue Leader**
Responsible for coordination of the actual rescue operation and the groups associated with all activity in the “rescue area.” Reports directly to Technical Rescue Division/ Branch. In the absence of this Division/ Branch, the Rescue Leader can report directly to Incident Command (IC).
 - **Site Control Group**
Responsible for establishing control zones, fire suppression, logistics of incoming resources, placement of resource apparatus and lighting systems. Reports directly to the Technical Rescue Sector/ Officer.
 - **Equipment / Rigging Group**
Responsible for the establishment of an equipment sector site, and the physical stockpile of equipment necessary to perform the rescue. Rigging may become a separate sector responsible for installation of the protective system. Reports directly to the Technical Rescue Sector/ Officer.
 - **Air Quality Group**
Responsible for continuous atmospheric monitoring / ventilation of the confined space. Reports directly to the Technical Rescue Sector/ Officer.
 - **Entry Group/ Authorized Attendant**
Responsible for being properly equipped to enter the confined space, and to prepare victim(s) for removal from said space. Reports directly to Technical Rescue Branch.
 - **Technical Rescue Safety**
Responsible for observing and checking all technical aspects of the rescue. Works directly with the Fire Department’s Safety Officer. Reports to IC, Safety and Technical Rescue Branch.

M.A.B.A.S Division 12 Policies and Guidelines

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	03/28/02	Section:	5.1
Replaces:	05/29/97	Page:	4 of 5
Source(s): MABAS Division 12			

Initially limited technical rescue personnel may perform multiple tactical/task assignments. The use of fire suppression personnel is an integral part of a successful rescue. As the incident escalates in size or complexity, the command organization should also increase in size.

5.1.4 General Requirements

- a) When entrance covers are removed, the opening shall be promptly guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and that will protect each employee working in the space from foreign objects entering the space.
- b) Before an employee enters the space, the internal atmosphere shall be tested, with a calibrated direct-reading instrument, for oxygen content, for flammable gases and vapors, and for potential toxic air contaminants, in that order. Any employee who enters the space, or that employee's authorized representative, shall be provided an opportunity to observe the pre-entry testing required by this paragraph.
- c) Continuous forced air ventilation shall be used, as follows:
 - 1) An employee may not enter the space until the forced air ventilation has eliminated any hazardous atmosphere;
 - 2) The forced air ventilation shall be so directed as to ventilate the immediate areas where an employee is or will be present within the space and shall continue until all employees have left the space;
 - 3) The air supply for the forced air ventilation shall be from a clean source and may not increase the hazards in the space.
- d) A space classified by the employer as a permit-required confined space may be reclassified as a non-permit confined space under the following procedures:
 - 1) If the permit space poses no actual or potential atmospheric hazards and if all hazards within the space are eliminated without entry into the space, the permit space may be reclassified as a non-permit confined space for as long as the non-atmospheric hazards remain eliminated.

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	03/28/02	Section:	5.1
Replaces:	05/29/97	Page:	5 of 5
Source(s): MABAS Division 12			

- 2) If it is necessary to enter the permit space to eliminate hazards, such entry shall be performed as noted herein. If testing and inspection during that entry demonstrate that the hazards within the permit space have been eliminated, the permit space may be reclassified as a non-permit confined space for as long as the hazards remain eliminated.
 - 3) The employer shall document the basis for determining that all hazards in a permit space have been eliminated, through a certification that contains the date, the location of the space, and the signature of the person making the determination. The certification shall be made available to each employee entering the space or to that employee's authorized representative.
 - 4) If hazards arise within a permit space that has been declassified to a non-permit space of this section, each employee in the space shall exit the space. The employer shall then reevaluate the space and determine whether it must be reclassified as a permit space, in accordance with other applicable provisions of this section.
- e) Designate the persons who are to have active roles (as, for example, authorized entrants, attendants, entry supervisors, or persons who test or monitor the atmosphere in a permit space) in entry operations, identify the duties of each such employee, and provide each such employee with the training required by this section

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	09/06/18	Section:	6.1
Replaces:	03/28/12	Page:	1 of 4
Source(s): MABAS Division 12			

6.1 Trench Rescue

Purpose: To provide guidelines during entry and rescue/recovery operations in a trench or excavation.

Scope: These guidelines are designed to provide guidance for the M.A.B.A.S. Division 12 Technical Rescue Team and other Fire Department personnel during all phases of trench / excavation entry and rescue operations.

6.1.1 Definitions

OSHA Regulation 29 CFR 1926 Subpart P defines excavations, trenches and support systems as follows:

6.1.1.1 Excavation: any man-made cut, cavity, trench, or depression in an earth surface, formed as by earth removal.

6.1.1.2 Trench: a narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width but; the width of the trench (measured at the bottom) is not greater than 15 feet.

6.1.1.3 Protective System: a method of protecting employees from cave-ins, from material that could fall from an excavation face or into an excavation, or from collapse adjacent structures.

6.1.2 Classifications

For purposes of this standard and to correspond with current Office of the State Fire Marshal certification training and those established by the National Fire Protection Association 1670, the following operational levels are hereby established:

- a) OSFM Technical Rescue Awareness
- b) OSFM Trench Rescue Operations
- c) OSFM Trench Rescue Technician

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	09/06/18	Section:	6.1
Replaces:	03/28/12	Page:	2 of 4
Source(s): MABAS Division XII			

6.1.3 Standard Operating Guidelines

- 1) The stricken agency shall assume command and control of any incident involving confined space entry, rescue or recovery within the Department's/District's boundaries.
- 2) Any incident in which a person is trapped, injured, experiencing a medical emergency, or is deceased in a trench or excavation shall require the response of the Department's Technical Rescue Team or the closest properly trained Team.
- 3) Only personnel who are trained, authorized, and possess the specialized rescue equipment needed to perform the rescue, shall be assigned to Entry or Technical Rescue Branch.
- 4) Entry into a trench or excavation requires the installation of a proper protective system, according to OSHA's 29 CFR 1926 Subpart P.
- 5) All struts will be installed to manufactures recommendations, including proper psi, collar locking, and nailing of each foot (where applicable).
- 6) The preferred method to install the struts is from the top down ensuring a shored trench wall. Also, members shall work in safe "boxes" both for strut install and victim rescue.
- 7) The minimum horizontal grid of the trench is a 3 panel set (6 total panels). However, depending on the trench depth, the horizontal grid may need to be expanded.
- 8) The use of fin-form and uprights shall be required on all shoring installations. The upright/strongback shall be bolted/ nailed/ screwed into the fin-form prior to installation in the trench.
- 9) When struts are installed as part of a hybrid system (more than one different manufacture); struts will be shot to a final pressure of 200 psi.
- 10) Struts shall be shot in increments of 50 psi, up to the final pressure.

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	09/06/18	Section:	6.1
Replaces:	03/28/12	Page:	3 of 4
Source(s): MABAS Division 12			

- 11) The trench or excavation must be monitored prior to entry and continuously during all phases of the rescue. Rescuers are required to follow OSHA 29 CFR 1910.146 standard governing the monitoring of a confined space.
- 12) If the readings of an Oxygen enriched/deficient, flammable and / or a toxic atmosphere exists, all entry personnel shall be immediately removed from the space, until ventilation reverses the condition.
- 13) Water accumulation in the trench must be controlled following proper dewatering techniques. If rescuers are unable to control water accumulation, entry personnel are required to wear Class 3 harness with lifeline.
- 14) Victims will not be removed in an un-shored portion of the trench.
- 15) A Trench Rescue or Recovery Requires the minimum establishment of the following:
 - Technical Rescue Branch (Team Leader/Team Coordinator) Responsible for coordination and supervision of the actual rescue operation and all activity in the “rescue area.” Reports directly to Operations (Ops). In the absence of an Operations Sectors he / she reports directly to Incident Command (IC).
 - Site Control
Responsible for establishing control zones, fire suppression, logistics of incoming resources, placement of resource apparatus and lighting systems. Reports directly to Technical Rescue Branch.
 - Equipment / Rigging
Responsible for the establishment of an equipment staging and resource area, and the physical stockpile of equipment necessary to perform the rescue. Rigging may become a separate sector responsible for installation of the protective system.
Reports directly to Technical Rescue Branch.
 - Air Quality Responsible for continuous atmospheric monitoring / ventilation of the trench / excavation. Reports directly to Technical Rescue Branch.

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	09/06/18	Section:	6.1
Replaces:	03/28/12	Page:	4 of 4
Source(s): MABAS Division 12			

- Entry Responsible for being properly equipped to enter the trench to perform digging and prepare victim(s) for removal from trench, Reports directly to Technical Rescue Branch.
- Technical Rescue Safety
Responsible for observing and checking all technical aspects of the rescue. Works directly with the overall scene Safety Officer. Reports to IC, Safety and to the Technical Rescue Branch.

Initially limited technical rescue personnel may perform multiple tactical/ task assignments. The use of fire suppression personnel is an integral part of a successful rescue. As the incident escalates in size or complexity, the command organization should also increase in size.

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	01/01/19	Section:	7.1
Replaces:	03/28/02	Page:	1 of 7
Source(s): MABAS Division 12			

7.1 Structural Collapse Rescue

Purpose: To provide guidelines relating to the initial size-up, entry and rescue operations when confronted with a structural collapse.

Scope: These guidelines are designed to provide guidance for the M.A.B.A.S. Division 12 technical rescue team and other fire service personnel during all phases of collapse rescue operations.

7.1.2 Classifications

For purposes of this standard and to correspond with current Office of the State Fire Marshal certification training and those established by the National Fire Protection Association 1670, the following levels are hereby established:

- a) OSFM Technical Rescue Awareness
- b) OSFM Structural Collapse Operations
- c) OSFM Structural Collapse Technician

Sections 7.1.4 and 7.1.5 of this Standard identify minimum requirements and objectives for each of the certification/ training levels noted above.

7.1.3 Safety Preparedness

For purpose of team member safety and team efficiency, proper safety procedures shall be adopted during all phases of an incident, this shall include:

- team preparedness (exercises and training)
- deployments/ responses
- on-site operations
- the demobilization process
- the return to the state of readiness

Additionally, the Safety Plan shall include periodic Safety briefings and review of common safety components such as creation of lookouts, a communications plan, determination of escape routes and the identification of safe zones.

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	01/01/19	Section:	7.1
Replaces:	03/28/02	Page:	2 of 7
Source(s): MABAS Division 12			

7.1.4. Structural Collapse Operations

This level shall complete the following tasks and objectives:

- a. Size-up of existing conditions and identify minimum resources required to conduct a safe and effective search and rescue operation. This shall include a review of the structural load past, altered load path and adverse load conditions to assist in the development of a mitigation plan.
- b. Implement the Incident Management System (IMS) for structural collapse.
- c. Implement site control and scene management techniques.
- d. Identify construction types and characteristics and anticipated behavior.
- e. Recognize the potential for a secondary collapse and general hazards within the collapse zone.
- f. Implement a search assessment marking system and a structural hazard identification marking system.
- g. Recognize the unique hazards associated with the collapse or failure of a light frame or ordinary (unreinforced) URM construction.
- h. Trained in the procedures for performing search operations inside and beneath debris of a light frame/ordinary construction collapse.
- i. Trained in the procedures for performing access operations intended to reach victims trapped within a light frame ordinary construction collapse. Inclusive of the following: lifting structural elements safely and effectively, shoring structural components safely and effectively, breaching structural components safely and effectively and operating all required tools safely and effectively.

7.1.5. Structural Collapse Technician

This level shall complete the following tasks and objectives:

- a. Size-up of existing conditions and identify minimum resources required to conduct a safe and effective search and rescue operation. This shall include a

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	01/01/19	Section:	7.1
Replaces:	03/28/02	Page:	3 of 7
Source(s): MABAS Division 12			

review of the structural load past, altered load path and adverse load conditions to assist in the development of a mitigation plan

- b. Implement the Incident Management System (IMS) for structural collapse.
- c. Implement site control and scene management techniques.
- d. Identify construction types and characteristics and anticipated behavior.
- e. Recognize the potential for a secondary collapse and general hazards within the collapse zone.
- f. Implement a search assessment marking system and a structural hazard identification marking system.
- g. Recognize the unique hazards associated with the collapse or failure of structural steel, reinforced masonry or reinforced concrete construction.
- h. Trained in the procedures for performing search operations inside and beneath debris of a structural steel or reinforced concrete construction collapse.
- i. Trained in the procedures for performing access operations intended to reach victims trapped within a structural steel, reinforced masonry or reinforced concrete structure. Inclusive of the following: lifting structural elements safely and effectively, shoring structural components safely and effectively, breaching structural components safely and effectively and operating all required tools safely and effectively.

7.1.6. Standard Operating Guidelines

- a) The stricken agency shall assume command and control of any incident involving confined space entry, rescue or recovery within the Department's boundaries.
- b) Any incident in which a person is trapped, injured, experiencing a medical emergency, or is deceased within a collapsed or partially collapsed structure may require the response of the Department's Technical Rescue team, the Division 12 team or the closest properly trained Team.

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	01/01/19	Section:	7.1
Replaces:	03/28/02	Page:	4 of 7
Source(s): MABAS Division 12			

- c) Only personnel which are trained, authorized, and possess specialized rescue equipment needed to perform the rescue, shall be assigned to the Technical Rescue Branch/Division.
- d) Entry into a collapse zone requires the proper and adequate size-up and the installation of a protective shoring / stabilizing system commensurate with the anticipated load and structural system.
- e) The collapse zone will have conditions inherent to that of trench rescue, confined space rescue and vertical rescue scenarios. Entry personnel shall be well versed in the requirements set forth by each specific rescue discipline. Once the specific rescue parameters are defined, the specific Policy and Guideline for each specific discipline shall be utilized.
- f) Air quality monitoring shall be initiated from the onset of the rescue to determine air quality conditions. If the readings are not acceptable, appropriate action should be taken prior to entry into the collapse zone.
- g) Search and rescue operations within a structural collapse must implement the Search Marking system to identify that all areas have been accessed. This system utilizes an "X" measuring 2 ft x 2 ft, painted with international orange spray paint or can utilize the pre-printed HAZ-1 placards. The quadrants of said "X" shall be filled with pertinent information relating to the number of victims found and any special hazards as depicted within the attachment to this Standard.
- h) Search and rescue operations within a structural collapse must implement the Structural Hazard Marking System to identify the structural integrity of the structure. This system utilizes a square measuring 2 ft x 2 ft, painted with international orange spray paint or can utilize the pre-printed placards. The square shall be filled with a series of diagonal lines indicating the present structural conditions and requirements as depicted within the attachment to this Standard.
- i) Initially limited technical rescue personnel may perform multiple tactical/task assignments. The use of fire suppression personnel is an integral part of a successful rescue. As the incident escalates in size or complexity, the command organization should also increase in size.

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	01/01/19	Section:	7.1
Replaces:	03/28/02	Page:	5 of 7
Source(s): MABAS Division 12			

J) In an effort to determine the most appropriate assignment of rescue personnel, the Technical Rescue Branch/ Division may implement a Rapid Structure Triage Team (RST) to assist with prioritization. The RST includes the following:

- Done immediately after deployment of US&R Task Force - all structures in assigned area
- Rapid assessment with scoring system and sketch map of area with building I.D. RST team(s) would be followed by Search Team(s) within 15-30 minutes
- The RST team to rapidly assess & I.D. first 2 or 3 structures within the first 15 to 30 minutes of the incident.
- Prioritizes these structures and immediately report findings for the assignment of a Search or Rescue team.
- Search Team(s) re-prioritize based on viable victims.
- Detailed Structure Hazard Assessment takes place during and/or just prior to Search
- The RST then moves on to next 2 or 3 structures, this process continues until all structures have been evaluated.

k) The Rapid Structural Triage system prioritizes rescue operations for specific buildings based on two specific criteria. These include:

Probability of Viable Victims

- Potential Number Trapped – low/medium/high
- Victim Access Effort – difficult/medium/easy
- Type of Voids - compact separated open

Assessment of Risk for rescue personnel

- Chance of Further Collapse – low/medium/high
- Number of Falling Hazards – low/medium/ high
- Void Support Condition- good poor or unknown

The Rapid Structural Triage evaluation then applies a relative scoring criterion to both the viability of live victims and the risk to rescue personnel

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	01/01/19	Section:	7.1
Replaces:	03/28/02	Page:	6 of 7
Source(s): MABAS Division 12			

using Low (L), Medium (M) or Extreme (X). This scoring system can be tracked on the RST-1 Form included in the Appendix of this Standard.

- L) To assist in the overall incident operation and management, a structural collapse rescue/ recovery may utilize the following Division/ Group assignments:
- Technical Rescue Branch/Division (Team Leader)
Responsible for coordination of the actual rescue operation and the Divisions associated with all activity in the “rescue area.” Reports directly to Fire Operations Branch/Division. In the absence of an Operations Officer, they may report directly to Incident Command (IC).
 - Site Control Group Officer
Responsible for establishing control zones, fire suppression coordination with Command, logistics of incoming resources, placement of resource apparatus and lighting systems. Reports directly to Technical Rescue Branch/Division.
 - Search Team Manager/ Group Officer
Responsible for the establishment and coordination of all search operations within the collapse zone. Shall assign and monitor search team progress and advise of the location of rescues, number of victims, status of victims (i.e. 1 live, 2 dead), the type of rescue scenario and possible required equipment. Reports directly to Technical Rescue Branch/ Division.
 - Rescue Team Manager/Group Officer
Responsible for the establishment and coordination of all rescue operations within the collapse zone. Shall assign and monitor search team progress and advise of the location of rescues, number of victims, status of victims (i.e. 1 live, 2 dead), the type of rescue scenario and possible required equipment. Reports directly to the Technical Rescue Branch/ Division.
 - Technical Information Manager/Group Officer
Responsible for the establishment and coordination of all technical related aspects of the overall rescue operations. Technical Supports shall coordinate, heavy rigging, machinery, hazardous materials, structural engineering and other related

**M.A.B.A.S Division 12
Policies and Guidelines**

Date Approved:	02/28/19	Part:	Technical Rescue
Date Revised:	01/01/19	Section:	7.1
Replaces:	03/28/02	Page:	7 of 7
Source(s): MABAS Division 12			

support disciplines. Reports directly to Technical Rescue.

- Entry Division/Group Officer
Responsible for the establishment and control of the entry point to the collapse zone. Reports directly to the Technical Rescue Branch/ Division.
- Technical Rescue Safety
Responsible for observing and checking all technical aspects of the rescue. Works directly with the Fire Department's Safety Officer. Reports to IC, Safety and the Technical Rescue Branch/ Division.

TECHNICAL RESCUE BRANCH/GROUP

Tactical Worksheet

Responsible for developing a rescue plan and the coordination of the technical rescue operation and the sectors associated with all activity in the “rescue area.”

- ☐ Obtain 1st In - tactical worksheet.
- ☐ Obtain Site Control - tactical worksheet.
- ☐ Determine rescue or recovery mode based incident scenario.
- ☐ Determine rescue or recovery plan.
- ☐ Assess need for additional TRT, Fire or EMS personnel.
- ☐ Assess need for additional TRT, Fire or EMS equipment.
- ☐ Assign Air Quality Group Officer
- ☐ Assign Entry Group Officer.
- ☐ Assign Equipment Group Officer.
- ☐ Assign Rigging Group Officer.
- ☐ Assign TRT Safety Officer.
- ☐ Conduct incident briefing with TRT team members. Also, review Communications and Safety Plan.
- ☐ Request TRT Rehab if needed.
- ☐ Complete Confined Space Entry Permit if applicable.
- ☐ Communicate rescue / recovery / escape and communication plans with all technical rescue team members.

TECHNICAL RESCUE BRANCH/GROUP

Page 2 of 2

- ☐ Maintain constant communication with all Technical Rescue Group Officers.
- ☐ Maintain constant communication with Incident Command and give frequent updates.
- ☐ Evaluate tactical progress on a regular basis.
- ☐ Develop alternate tactical plans for consideration and review with incident command.
- ☐ Review specifics of incident rescue/ recovery and review notification requirements with incident command.
- ☐ Conduct incident review and debriefing at site with team members in preparation for the creation of a formal After Action Report (AAR).

ROPE RESCUE INCIDENT COMMAND

Tactical Worksheet

Incident Command remains responsible for all aspects of the rescue scene. The following guidelines are designed to aid in the initial stages of a rope rescue/recovery.

- ☐ Ensure activation and appropriate dispatching of a technical rescue team response.
- ☐ Ensure the response of appropriate apparatus.
 - Technical Rescue Team
 - Additional fire companies
 - Advanced Life Support ambulances
- ☐ Establish a visible Incident Command Post.
- ☐ Ensure First-In unit is performing adequate size-up using Technical Rescue tactical worksheet.

- Establish Technical Rescue Branch/Group
 - Establish Site Control
 - Establish Technical Rescue Staging
 - Establish Staging Branch/Group
 - Establish Safety Officer
 - Establish Medical Group Officer

- ☐ Direct all incoming Technical Rescue Coordinators to report directly to Incident Command or the Technical Rescue Branch/Group if established.
- ☐ Incoming apparatus equipped with only personnel should be at Level One Staging.
- ☐ Ensure direct access to the scene, for technical rescue personnel and two (2) ALS Ambulances. Anticipate increasing the number of ambulances based on the information gathered by the First-in Unit.
- ☐ Ensure Medical Group (one of the two ALS Ambulances) has established a rehab area near the hot zone. Use the buildings' facilities if applicable.
- ☐ Anticipate having to request additional Mutual Aid to assist with the rescue.

ROPE RESCUE FIRST-IN UNIT

Tactical Worksheet

- ☐ Do not permit unauthorized and/or untrained personnel (including Fire Department personnel) into the hot zone.
- ☐ Locate and secure the job site foreman, attendant, or reliable witness.
- ☐ Determine the location and number of victims.
- ☐ Attempt to establish contact with the victim while remaining in a safe area. Contact established by fire/rescue personnel must be maintained throughout incident.
- ☐ Determine the number and location of access points to the area of rescue.
- ☐ Attempt to determine the mechanism of entrapment, possible trauma and/or nature of illness of victim.
- ☐ Ensure victim(s) are attached to their line and the line is properly anchored.
- ☐ Locate potential anchors for use by the Technical Rescue team.
- ☐ Determine if victim(s) are wearing a harness and if it can be utilized by rescue personnel. If not acceptable, the victim shall be placed in an approved retrieval device.
- ☐ If a victim's existing rope, anchor, or harness appear unstable, an approved rescue rope shall be lowered to victim and anchored.
- ☐ Establish alternate rescue possibilities (ground ladders, aerial ladders, etc.)
- ☐ Determine if hazardous atmosphere exist.
- ☐ Determine electrical, mechanical and chemical hazards in the area.
- ☐ Determine the type of work being done in the area of rescue.
- ☐ Confirm that all personnel working within an area of potential fall are properly tethered to an approved anchoring system when working near the edge.

Complete this Tactical Worksheet as soon as possible. Then report directly to Incident Command and/or Technical Rescue Branch/Group (Team Leader) to give a face to face report.

Page 2 of 2

[illegible]

45

ROPE RESCUE SITE CONTROL

Tactical Worksheet

- ☐ Establish and secure a perimeter (hot zone) with safety tape. Each incident is different, so secure an area large enough to support the incident. Consider anchor point determination when securing the area.
- ☐ Ensure that all unnecessary personnel remain outside the perimeter.
- ☐ Request Police to assist with control of perimeter and the rerouting or stopping of traffic. Keep / relocate spectators, unnecessary personnel, and apparatus, a minimum of 300 feet away from the hot zone.
- ☐ Ensure site access for Technical Rescue assets/vehicles.
- ☐ Ensure that ambulances have direct access to the site.
- ☐ Determine weather conditions and consider the effect on the rescue/ recovery operation.
- ☐ Shut down all devices capable of causing adverse changes in the atmospheric conditions near the rescue scene.
- ☐ Ensure fire extinguisher and / or hose line protection when potentially flammable atmospheric conditions exist.
- ☐ Perform lock out / tag out procedures to ensure the zero mechanical state of all systems (electrical, pneumatic, hydraulic, gravity, stored, etc.) using on scene workers for technical support.
- ☐ If possible, utilize plant personnel or on scene workers to assist with lock-out procedures. Deactivate any remote control capabilities.
- ☐ If positive lock out control is not possible, a guard shall be posted at the controls to ensure a zero mechanical state.
- ☐ Ensure adequate exterior lighting.

Complete this Tactical Worksheet as soon as possible. The report to IC and/or Technical Rescue Branch/Group (Team Leader) to give a face to face report.

Tactical Worksheet

[illegible]

47

CONFINED SPACE/ RESCUE INCIDENT COMMAND

Tactical

Incident Command remains responsible for all aspects of the rescue scene. The following guidelines are designed to aid in the initial stages of a Confined Space rescue/recovery.

- ☐ Ensure activation and appropriate dispatching of a Technical Rescue team.
- ☐ Ensure the response of appropriate apparatus/ equipment.
 - Technical Rescue Team
 - Additional fire companies
 - Advanced Life Support ambulances
- ☐ Establish a visible Incident Command Post.
- ☐ Ensure First In Unit is performing adequate size-up using technical rescue tactical worksheet.
 - Establish Technical Rescue Branch//Group
 - Establish Site Control Officer
 - Establish Technical Rescue Staging Group/ Officer
 - Establish Staging Branch/Group
 - Establish Safety Officer
 - Establish Medical Group
- ☐ Direct all incoming Technical Rescue Coordinators to report directly to Incident Command or Technical Rescue Branch/Group if established.
- ☐ Incoming apparatus equipped with only manpower should be at Level One Staging.
- ☐ Ensure direct access to the scene, for technical rescue personnel and two (2) ALS Ambulances. Anticipate increasing the number of ambulances based on the information gathered by the first-in Unit.
- ☐ Ensure Medical Group (one of the two ALS ambulances) has established a rehab area near the hot zone. Use the buildings' facilities if applicable.
- ☐ Anticipate having to request additional Mutual Aid to assist with the rescue.

CONFINED SPACE ENTRY/RESCUE FIRST-IN UNIT

Tactical Worksheet

- ☐ Do not permit unauthorized and/or untrained personnel (including Fire Department Personnel) into or remain in the confined space.
- ☐ Locate and secure the job site foreman, attendant, or reliable witness and/or secure a copy of their Confined Space Entry permit.
- ☐ Determine the last seen point and number of victims.
- ☐ Assess the type and configuration of the space.
- ☐ Determine electrical, mechanical, environmental, structural and chemical hazards in the space.
- ☐ Attempt to establish contact with the victim while remaining outside the confined space. Contact established by fire/ rescue personnel must be maintained throughout incident.
- ☐ Attempt to determine the mechanism of entrapment, possible trauma and/or nature of illness of victim.
- ☐ Attempt to determine the condition of the victim - rescue or recovery.
- ☐ Provide air quality monitoring of the space using a typical 4 gas monitor. If the air quality is suspect, provide immediate fresh air ventilation of the space.
- ☐ Secure copies of any air quality monitoring logs prepared at the site prior to fire/ rescue personnel's arrival.
- ☐ Determine if victim(s) are wearing protective clothing and / or respiratory equipment.
- ☐ Determine the air source for the victim's respiratory protection.
- ☐ Determine what atmospheric conditions might exist given the configuration of the space.
- ☐ Determine if the workers performed any hazard control precautions.
- ☐ Determine the number and location of access points into the space. Open appropriate downwind access points.
- ☐ Determine the type of work being done in the space.

CONFINED SPACE ENTRY/RESCUE FIRST-IN UNIT

- ☐ Determine what chemicals/ materials are normally stored in the space.
- ☐ Identify the entry point to the confined space and provide proper isolation perimeters to protect rescue personnel.
- ☐ Confirm that all personnel working within an area of potential fall are properly tethered to an approved anchoring system when working near the edge.

Complete this Tactical Worksheet as soon as possible. Then report directly to Incident Command and/or Technical Rescue Branch/Group (Team Leader) to give a face to face report.

NOTES/DIAGRAM

[illegible]

Complete this Tactical Worksheet as soon as possible. Then report directly to Incident Command and/or Technical Rescue Branch/ Sector (Team Leader) to give a face to face report.

CONFINED SPACE ENTRY/RESCUE - SITE CONTROL

Tactical Worksheet

- ☐ Establish and secure a perimeter (hot zone) with safety tape a minimum of 15' x 15' around confined space.
- ☐ Ensure that all unnecessary personnel remain outside the perimeter.
- ☐ Remove or control other non-atmospheric hazards on site or in space (water, engulfment, etc.)
- ☐ Keep/relocate spectators, unnecessary personnel, apparatus, *(minimum of 100 feet away from the hot zone)* Establish warm zone.
- ☐ Request Police to assist with control of perimeter and the rerouting or stopping of traffic, including air traffic (in necessary).
- ☐ Determine if incident is meets OSHA definition of a combined space:
 - ☐ Is large enough for an employee to enter fully and perform assigned work
 - ☐ Is not designed for continuous occupancy by the employee
 - ☐ Has a limited or restricted means of entry or exit.
 - ☐ Contains the potential of an engulfment hazard.
- ☐ Ensure that ambulances have direct access to the site.
- ☐ Determine wind direction and consider its effect on vehicle exhaust.
- ☐ Shut down all devices capable of causing adverse changes in the atmospheric conditions near the confined space.
- ☐ Ensure fire extinguisher and/or hose line protection when potentially flammable atmospheric conditions exist.
- ☐ Ensure elimination of potential ignition sources (electronic equipment)
- ☐ Perform lock out/tag out procedures to ensure the zero-mechanical state of all systems (electrical, pneumatic, hydraulic, gravity, stored, etc.) using on scene workers for technical support. Remove remote activation capabilities.
- ☐ If positive isolation control is not possible, a guard shall be posted at the controls to ensure zero mechanical state.
- ☐ If possible, utilize plant personnel or on scene workers to assist with lock-out.

CONFINED SPACE ENTRY/RESCUE - SITE CONTROL

- ☐ Non-intrinsically safe lighting must be out of the vapor area and / or path of by-product being expelled from the confined space.

NOTES / DIAGRAM

! ! ! ! ! ! ! ! ! ! !

—

—

—

—

—

—

—

—

—

—

Complete this Tactical Worksheet as soon as possible. Then report directly to Incident Command and/or Technical Rescue Branch/Sector (Team Leader) to give a face to face report.

TRENCH RESCUE INCIDENT COMMAND

Tactical Worksheet

Incident Command remains responsible for all aspects of the rescue scene. The following guidelines are designed to aid in the initial stages of a trench rescue/recovery.

- ☐ Ensure activation and appropriate dispatching of a Technical Rescue team.
- ☐ Ensure the response of appropriate apparatus.
 - Technical Rescue Team
 - Additional fire companies
 - Advanced Life Support ambulances
- ☐ Establish a visible Incident Command Post.
- ☐ Ensure First-In unit is performing adequate size-up using technical rescue tactical worksheet.
 - Establish Technical Rescue Branch/Group
 - Establish Site Control Group
 - Establish Technical Rescue Staging
 - Establish Staging Group
 - Establish TRT Safety Officer
 - Establish Medical Group
- ☐ Direct all incoming Technical Rescue Coordinators to report directly to Incident Command or Technical Rescue Branch/Group if established.
- ☐ Incoming apparatus equipped with only manpower should be at Level One Staging. Technical rescue members report directly to Incident Command.
- ☐ Ensure adequate site access for placement of the technical rescue equipment near trench.
- ☐ Ensure direct access, to the scene, for technical rescue personnel and two (2) ALS Ambulances. Anticipate increasing the number of ambulances based on the information gathered by the First-in unit.
- ☐ Ensure Medical Group (one of the two ALS Ambulances) has established a rehab area near the hot zone. Use the buildings' facilities if applicable.

TRENCH RESCUE FIRST IN UNIT

Tactical Worksheet

- ☐ Do not allow unauthorized and / or untrained personnel (including Fire Department personnel) into or remain in the trench.
- ☐ Locate and secure the job site foreman, attendant, or reliable witness.
- ☐ First-in Officer (only) approaches the trench on a diagonal from the narrowest end.
- ☐ Determine the last seen point and number of victims.
- ☐ Attempt to establish contact with the victim while remaining outside the trench. Contact established by FD personnel must be maintained throughout call.
- ☐ Determine the current depth of the trench.
- ☐ Using job site foreman, co-worker or reliable witness, determine the initial depth of trench, prior to collapse.
- ☐ Determine the number and location of access points into the trench (manholes, recently placed pipe, etc.).
- ☐ Mark the level of the victim in the trench with tape, rope, a dry chemical fire extinguisher, etc.
- ☐ If victim is only partially buried throw him / her a lifeline and direct the victim to tie it around him / her.
- ☐ If air monitoring was done, obtain the workers atmospheric test results.
- ☐ Determine what atmospheric conditions might exist given the location of the trench (i.e. landfill, septic field, etc.).
- ☐ Determine if any electrical, mechanical and chemical hazards exist.
- ☐ Determine if the workers performed any hazard control precautions.
- ☐ Determine the type of work being done in the trench.

Complete this Tactical Worksheet as soon as possible. Then report directly to Incident Command and/or Technical Rescue Branch/Group (Team Leader) to give a face to face report.

TRENCH RESCUE FIRST-IN UNIT

NOTES / DIAGRAM

! ! ! ! ! ! ! ! ! ! !

—
—
—
—
—
—
—
—
—
—
—
—

Complete this Tactical Worksheet as soon as possible. Then report directly to Incident Command and/or Technical Rescue Branch/Group (Team Leader) to give a face to face report.

TRENCH RESCUE SITE CONTROL

Tactical Worksheet

- ☐ Establish and secure a perimeter (hot zone) with safety tape a minimum of 50' x 50' around the trench.
- ☐ Ensure that all unnecessary personnel remain outside the perimeter.
- ☐ Remove or control other non-atmospheric hazards on sight or in trench (water, engulfment, etc.)
- ☐ Keep / relocate bystanders, unnecessary personnel, apparatus, a minimum of 300 feet away from the hot zone.
- ☐ Request Police to assist with control of perimeter and the rerouting or stopping of traffic, including air traffic (if necessary).
- ☐ Ensure site access for Technical Rescue vehicles.
- ☐ Ensure that ambulances have direct access to the site.
- ☐ Determine wind direction and consider its effect on vehicle exhaust travel.
- ☐ Shut down all devices capable of causing vibration.
- ☐ Shut down all devices capable of causing adverse changes in the atmospheric conditions near the confined space.
- ☐ Ensure fire extinguisher and / or hose line protection when potentially flammable atmospheric conditions exist.
- ☐ Ensure elimination of potential ignition sources.
- ☐ Perform lock out/tag out procedures to ensure the zero mechanical state of all systems (electrical, pneumatic, hydraulic, gravity, stored, etc.) using on scene workers for technical support.
- ☐ If positive lock out is not possible, a guard shall be posted at the controls to ensure a zero mechanical state.
- ☐ Begin moving the spoil pile a minimum of 4 feet from the edge of the trench.
- ☐ Ensure adequate exterior lighting.

TRENCH RESCUE SITE CONTROL

Page 2 of 2

- ☐ Mark location of victim / victims utilizing rope, fire extinguisher, or powder.

NOTES / DIAGRAM

[illegible]

Complete this Tactical Worksheet as soon as possible. Then report directly to Incident Command and/or Technical Rescue Branch/Group (Team Leader) to give a face to face report.

STRUCTURAL COLLAPSE RESCUE INCIDENT COMMAND

Tactical Worksheet

Incident Command remains responsible for all aspects of the rescue scene. The following guidelines are designed to aid in the initial stages of a structural collapse rescue/recovery.

- ☐ Ensure activation and appropriate dispatching of a Technical Rescue team.
- ☐ Ensure the response of appropriate apparatus.
 - Technical Rescue Team
 - Additional fire companies
 - Advanced Life Support Ambulances
- ☐ Establish a visible Incident Command Post.
- ☐ Ensure First-In Unit is performing adequate size-up using technical rescue tactical worksheet.
 - Establish Technical Rescue
 - Establish Site Control
 - Establish TRS Staging Officer
 - Establish Staging Officer
 - Establish TRT Safety Officer
 - Establish Medical Group
- ☐ Direct all incoming Technical Rescue Coordinators to report directly to Incident Command or the Technical Rescue Branch/Group if established.
- ☐ Incoming apparatus equipped with only personnel should be at Level One Staging. Technical rescue members shall report directly to the Incident Command.
- ☐ Ensure adequate site access for placement of the technical rescue equipment near the collapse.
- ☐ Ensure direct access, to the scene, for technical rescue personnel and two (2) ALS Ambulances. Anticipate increasing the number of ambulances based on the information gathered by the First-in Unit.
- ☐ Ensure Medical Group (one of the two ALS Ambulances) has established a rehab area near the hot zone. Use adjacent non-effected structures if possible.

STRUCTURAL COLLAPSE RESCUE INCIDENT COMMAND

Page 2 of 2

- ☐ Anticipate having to request additional Mutual Aid to assist with the rescue.
- ☐ Initiate the Five Stage Search and Rescue Plan upon arrival of properly Trained personnel.
- ☐ Stage 1: Reconnaissance and initial size-up
 - Immediate removal of surface victims
 - Scene organization
- ☐ Stage 2: Exploration and Rescue from likely locations
 - Locate hidden victims using the hailing system
 - Begin breaching and shoring operations
- ☐ Stage 3: Selective debris removal
 - Removal of fully entrapped victims
- ☐ Stage 4: General debris removal
 - No likely survivors at this time
- ☐ Stage 5: Post Incident Debriefing
 - Critique of Incident
 - Critical Incident Stress Debriefing

STRUCTURAL COLLAPSE RESCUE FIRST IN UNIT

Tactical Worksheet

- ☐ Attempt to determine the following as part of the initial size-up of the structure:
 - ☐ The age and construction type of structure
 - ☐ Occupancy classification of the structure
 - ☐ The present condition of the structure, is a secondary collapse probable.
 - ☐ Potential number of victims within the structure based on the time of day.
 - ☐ The potential last known locations for victims within the structure.
- ☐ Secure all utilities within limits of collapse structure.
- ☐ Survey structure for indications of weakened structural members. Maintain a constant watch of building components for additional movement.
- ☐ Determine vertical load system of structure and load bearing components
- ☐ Determine Load Path (acceptable, altered or adverse)
- ☐ Condition of floor structures, cracking or separations
- ☐ Creeks or settlement noises
- ☐ Create shoring concept and implement shoring plan if personnel are available.
- ☐ Avoid or eliminate any vibrations or disturbance of any collapse debris.
- ☐ Do not permit the removal of any building components until properly trained personnel are on the scene. Natural elements of the collapse may be providing shoring for unstable members.
- ☐ Do not push, pull or lift any items with excessive force that could possibly Loosen or free other timbers, columns and masonry debris.

STRUCTURAL COLLAPSE RESCUE FIRST IN UNIT

NOTES / DIAGRAM

! ! ! ! ! ! ! ! ! ! !

Complete this Tactical Worksheet as soon as possible. Then report directly to Incident Command and/or Technical Rescue Branch/Group (Team Leader) to give a face to face report.

STRUCTURAL COLLAPSE RESCUE SITE CONTROL

Tactical Worksheet

- ☐ Establish and secure a perimeter (hot zone) with safety tape a minimum of 500' x 500' around the collapse perimeter. Additionally, establish a collapse zone based on structural integrity, building height and anticipated collapse mechanics.
- ☐ Ensure that all unnecessary personnel remain outside the perimeter.
- ☐ Remove or control other non-atmospheric hazards on sight or within the collapse zone.
- ☐ Keep /relocate, unnecessary personnel, apparatus, a minimum of 500 feet away from the hot zone with the exception of essential building collapse equipment.
- ☐ Request Police to assist with control of perimeter and the rerouting or stopping of traffic, including air traffic (in necessary).
- ☐ Ensure site access for Technical Rescue vehicles.
- ☐ Ensure that Medic Units are staged and have direct access to the site.
- ☐ Ensure that additional heavy equipment has adequate staging and site access if required.
- ☐ Determine wind direction and consider its effect on other non-effected structures
- ☐ Shut down all devices capable of causing vibration within the collapse zone.
- ☐ Ensure fire extinguisher and/or hose line protection when potentially flammable atmospheric conditions exist.
- ☐ Ensure elimination of potential ignition sources.
- ☐ Perform lock out/tag out procedures to ensure the zero-mechanical state of all systems (electrical, pneumatic, hydraulic, gravity, stored, etc.) using on scene workers for technical support.
- ☐ If positive lock out is not possible, a guard shall be posted at the controls to ensure a zero-mechanical state.
- ☐ Ensure logistic have been considered for long duration incident. Consult with Command on assignment of Logistics Officer.

STRUCTURAL COLLAPSE RESCUE SITE CONTROL

- ☐ Verify implementation of FEMA Structural Collapse marking systems building identification, Search Assessment , Building Assessment and Victim locations.

NOTES / DIAGRAM

!

!

!

!

!

!

!

!

!

!

!

—

—

—

—

—

—

—

—

—

—

—

Complete this Tactical Worksheet as soon as possible. Then report directly to Incident Command and/or Technical Rescue Branch/Group (Team Leader) to give a face to face report.

RESCUE AND ENTRY SECTOR/OFFICER

Tactical Worksheet

Responsible for being properly equipped to enter the confined space including equipment needed to affect the rescue / recovery. The Entry Group Officer acts as the Entry Attendant.

- ☐ Ensure a rescue/recovery plan is in place.
- ☐ Ensure an emergency egress plan is in place.
- ☐ Ensure all entrants are wearing proper PPE.
- ☐ Ensure every entrant has a back-up entrant.
- ☐ Ensure communication procedures are in place.
- ☐ Ensure every entrant is wearing a Class III harness with a tag line.
- ☐ Ensure retrieval system is in place and operational.
- ☐ Ensure every entry team is equipped with an atmospheric monitor.
- ☐ Brief entrants on the type of space, hazards, rescue procedures, and emergency egress procedures.
- ☐ Ensure all ropes, carabiners, webbing, mechanical advantage systems, and procedures are double checked for safety.
- ☐ Ensure patient packaging equipment is in place.
- ☐ Ensure all entrants are logged and tracked on the Entry Log.

RIGGING GROUP/ OFFICER

Tactical Worksheet

- ☐ Responsible for the assembly and placement of equipment necessary to perform the rescue/recovery.
- ☐ Ensure rescue/recovery plan is received from technical rescue Branch/Group.
- ☐ Shall notify equipment Rescue Group Officer of specific equipment/resource needs.
- ☐ Responsible for placing all rigging, mechanical advantage systems, retrieval systems, belays, safeties, shoring etc. needed to execute the rescue.
- ☐ Review assessment of hazards.
- ☐ Ensure hazards are identified and mitigated.
- ☐ Check fatigue factors frequently in personnel.
- ☐ Ensure proper personal protective equipment and SCBA / SAR is being used during the entry when adverse atmospheres are encountered/anticipated.
- ☐ Develop alternate tactical plans with Technical Rescue Branch/Group.
- ☐ Evaluate tactical progress on a regular basis.

TECHNICAL RESCUE SAFETY OFFICER

Tactical Worksheet

- ☐ Responsible for observing and checking all technical aspects of the rescue. Works directly with the incident Safety Officer. Must be competently trained to the level of the incident and be a member of the Technical Rescue team.
- ☐ Must be identified utilizing a vest
- ☐ Stop any activity that could cause injury to personnel or victims.
- ☐ Ensure proper control zones have been established and are Enforced.
- ☐ Ensure Passport system has been established
- ☐ Ensure proper atmospheric monitoring has taken place prior to entry.
- ☐ Ensure proper ventilation is taking place.
- ☐ Ensure proper identification of hazards and chemicals.
- ☐ Review permit for hazards and risks.
- ☐ Ensure Rehab has been established.
- ☐ Ensure decontamination area has been established and setup as needed.
- ☐ Ensure proper, permissible lighting of exterior and interior areas.
- ☐ Ensure proper personal protective equipment being used.
- ☐ Ensure proper fire suppression equipment is in available.

TECHNICAL RESCUE SAFETY OFFICER

Page 2 of 2

- ☐ Ensure clear channel for use of entry teams and technical rescue use only.
- ☐ Monitor all radio communications.
- ☐ Is unnecessary apparatus and equipment staged in a location away from the hot zone.
- ☐ Confirm positive isolation procedures and recheck.
- ☐ Ensure all sectors are briefed about the hazards, rescue and escape plans.
- ☐ Ensure SCBA time logs are kept during incident for every entry team member and ensure in-line air supply for rescuers and victims is monitored.
- ☐ Ensure all entrant teams are equipped with an atmospheric monitor.
- ☐ Ensure proper lighting of exterior and interior areas.
- ☐ Ensure PASS devices are being utilized.
- ☐ Ensure all ropes, carabiners, webbing, and mechanical advantage systems are double checked for safety.
- ☐ Check fatigue factors in all areas and with all personnel. Advise the Technical Rescue Branch/Group of need for rehabilitation resources.

AIR QUALITY GROUP/OFFICER

Tactical Worksheet

- ☐ Responsible for continuous atmospheric monitoring, ventilation of the confined space, monitoring of rescuer's and victim's air supply.
- ☐ Obtain entry permit atmospheric monitoring results
- ☐ Obtain 1st In Unit atmospheric monitoring results.
- ☐ Assess potential hazards and changing air quality conditions.
- ☐ Perform initial air quality test at opening of space and at four-foot intervals with area/confirmed space.
- ☐ Request/Perform continuous positive ventilation of space.
- ☐ Keep ventilator at least five feet from opening.
- ☐ Monitor air intake side of ventilator.
- ☐ Record all atmospheric monitor readings every (5) minutes.
- ☐ Perform continuous atmospheric monitoring of space.
- ☐ Ensure adequate CFM rating for ventilator. Complete air change calculation if applicable.
- ☐ Notify TRT Group/Branch or if hazard mitigation is needed.
- ☐ Communicate the need for valve isolation to control any potential engulfment hazards to the TRT Group/Branch.
- ☐ Ensure all entrant teams are equipped with atmospheric monitors.
- ☐ Monitor all air systems and have adequate air supply on hand.