Date: April 9, 2013

To: Ronny J. Coleman, Chairman
    Statewide Training and Education Advisory Committee
    c/o State Fire Training

From: Rodney Slaughter, State Fire Training

Subject/Agenda Action Item: Rope Rescue Technician Course Approval

**Recommended Actions:**
To review staff recommendation to approve the Rope Rescue Technician training program as an FSTEP class.

**Background Information:**
The scope of the Rope Rescue Technician training program is to familiarize participants with the high angle environment and experience; and for them to safely participate in the engineering and operation of simple to complex rescue systems. This program builds on the skills acquired in Low Angle Rope Rescue, Rescue Systems 1 and Rescue Systems 2 culminating in this advanced rescue training program.

The development of this training program was initiated with funding and support from the Fire & Rescue Branch, Special Operations of the California Emergency Management Agency (CAL EMA). The selected cadre members are all subject matter experts from around the state. The cadre was guided in the development with NFPA standards 1670 and 1006. The completed 40-hour training program provides rope skills verification and validation with a focus on high angle victim packaging.

**Analysis/Summary of Issue:**
The Rope Rescue Technician class completes the series of rope rescue courses until a certification training standard can be developed and analyzed. In that NFPA was used for the development of this training program—it will continue to have a place in the series of rescue courses.
§4.3.4.1 Technical Rescue Courses (CFSTES and FSTEP Instructors)

(A) Rank and occupational experience (performing in an "acting" capacity does not qualify).

(A) Held the rank of fire fighter for a minimum of three (3) years within a California fire department performing rescue duties.

Instructor Task book.

(B) Required for the following technical rescue courses:

(a) Confined Space Rescue Technician (CSRT)
(b) Rescue Systems 1
(c) Rescue Systems 2
(d) Rescue Systems 3
(e) Rope Rescue Technician

(C) Satisfactorily completed the task book within two (2) years of beginning the task book process.

(D) Prospective applicants shall satisfy all requirements and become registered within one (1) year of completing the task book.

§4.3.4.1.1 Confined Space Technician Instructor Requirements

§4.3.4.1.2 Rescue Systems 1 & Rescue Systems 2

§4.3.4.1.3 Rescue Systems 3

§4.3.4.1.4 Rope Rescue Technician

(A) Rope Rescue Technician Primary Instructor Trainee

(A) The Primary Instructor Trainee is the entry level for becoming a Primary Instructor for the Rope Rescue Technician course.

a) This position is valid for two (2) years after beginning the Primary Instructor Trainee Task Book.

(B) Rope Rescue Technician Primary Instructor

(A) The Rope Rescue Technician Primary Instructor is qualified to teach a squad (up to 12 students) in a Rope Rescue Technician class with two to four squads.

(C) Rope Rescue Technician Senior Instructor Trainee

(1) The Senior Instructor Trainee is the entry level for becoming a Rope Rescue Technician Senior Instructor.

a) This position is valid for two (2) years after beginning the Senior Instructor Trainee Task Book.

(D) Rope Rescue Technician Senior Instructor
(1) A Rope Rescue Technician Senior Instructor is required for any delivery of a Rope Rescue Technician course.
(2) For courses with only one or two squads, the Rope Rescue Technician Senior Instructor may also function as the Primary Instructor for a squad.

(E) **Rope Rescue Technician Primary Instructor Trainee Qualifications**

(1) Course Work [one (1) of the following first two (2) options plus the third requirement]:
   a) Have attended and passed a State Fire Training Rescue Systems 1 course prior to January 1, 2010 (available option through June 30, 2014) or
   b) Have attended and passed a State Fire Training Low Angle Rope Rescue Operational course and one of the following:
      1. Have attended and passed a State Fire Training Rescue Systems 1 course or
      2. Have the Rope module of a State Fire Training Rescue Systems 1 Student Task Book complete and signed by a registered State Fire Training Rescue Systems 1 Rope Instructor.
   c) Have attended and passed a State Fire Training Rope Rescue Technician course.

(2) Responsibilities
   a) Under direct supervision of a registered Rope Rescue Technician Senior Instructor, the Primary Instructor Trainee will:
      1. Assist in classroom and field exercise setup.
      2. Support the logistics of the component(s) being trained in.
      3. Carry out all other related tasks as assigned by the Senior Instructor.
      4. May instruct 100% of the component(s) being trained in.

(F) **Primary Instructor Trainee Task Book**

(A) Satisfactorily complete each component of the Rope Rescue Technician Primary Instructor Trainee Task Book within two (2) years of beginning the task book process.
   (a) Requires teaching in at least two (2) SFT Rope Rescue Technician courses as a Primary Instructor Trainee.
   (b) Prospective instructors shall satisfy all instructor requirements and become registered as an instructor within one (1) year of completing the Rope Rescue Technician Primary Instructor Trainee Task Book.
   (c) Each task must be documented and signed by a Rope Rescue Technician Senior Instructor.
   (d) The Evaluator Recommendation section in the completed task book must be signed off by a Rope Rescue Technician Senior Instructor.

(B) **Rope Rescue Technician Primary Instructor**

(a) Course Work
   1. Have attended and passed a State Fire Training Low Angle Rope Rescue Operational course and one of the following:
      a. Have attended and passed a State Fire Training Rescue Systems 1 course or
Rope Rescue Technician Proposal

b. Have the Rope module of a State Fire Training Rescue Systems 1 Student Task Book complete and signed by a registered State Fire Training Rescue Systems 1 Rope Instructor.
c. Have attended and passed a State Fire Training Rope Rescue Technician course.
d. Have attended and passed I-200: Basic ICS.

(b) Primary Instructor Task Book
1. Satisfactorily completed the Rope Rescue Technician Primary Instructor Trainee Task Book with two (2) years of beginning the task book process.
2. The Evaluator Recommendation section in the completed task book must be signed off by a Rope Rescue Technician Senior Instructor.
3. Prospective instructors shall satisfy all instructor requirements and become registered as an instructor within one (1) year of completing the Rope Rescue Technician Primary Instructor Trainee Task Book.

(c) Responsibilities- Under supervision of a registered Rope Rescue Technician Senior Instructor, the Primary Instructor will:
1. Setup the classroom and field exercises.
2. Teach the current curriculum as adopted by State Fire Training.
3. Ensure all objectives of the course curriculum are met.
4. Teach at least 50% of the course.
5. Ensure the safety of all students and adjunct instructors.
6. Coordinate and monitor all safety issues during the delivery of the course.
7. Evaluate student/team performance and sign each student's task book.
8. Record and maintain:
   a. Daily attendance records.
   b. Student progress chart.
   c. Student assignment records.
   d. Calendar of events identifying the topics taught.
9. Return all class records to the Senior Instructor upon completion of the class.
10. Supervision- Ensure that the student/instructor ratio is maintained.
   a. Verify the qualifications for a Guest Lecturer and directly supervise by attending and monitoring the presentation.

(G) Rope Rescue Technician Senior Instructor Trainee
(A) Course Work- No additional course work required
(B) Instructor Requirements- Currently registered as a State Fire Training Rope Rescue Technician Primary Instructor in good standing.
(C) Teaching Experience- No additional experience required.
(D) Rank and Experience- No additional experience required.
(E) Responsibilities- Under direct supervision of a registered Rope Rescue Technician Senior Instructor, the Senior Instructor Trainee will:
   (a) Ensure all administrative requirements are completed in accordance with printed guidelines, including but not limited to:
   1. Submitting a "Request for Course Scheduling."
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2. Qualifying each Assistant Instructor, Skills Evaluator, and Guest Lecturer.
3. Returning, with fifteen (15) days of course completion, all required student and course materials, using a carrier that can track your shipment.
4. Verify student eligibility.
5. Ensure all objectives of the course curriculum are met.
6. Ensure the maximum student limit is not exceeded for the class.
7. Function as the Safety Officer to ensure the safety of all students and adjunct instructors.
   a. Coordinate and monitor all safety issues during the delivery of the course.

(F) Senior Instructor Trainee Task Book
   (a) Satisfactorily complete each component of the Rope Rescue Technician Senior Instructor Trainee Task Book within two (2) years of beginning the task book process.
   (b) Requires teaching in at least two (2) State Fire Training Rope Rescue Technician courses as a Senior Instructor Trainee.
   (c) Prospective instructors shall satisfy all instructor requirements and become registered as a Senior Instructor within one (1) year of completing the Rope Rescue Technician Senior Instructor Trainee Task Book.
   1. Each task must be documented and signed by a Rope Rescue Technician Senior Instructor.
   2. The Evaluator Recommendation section in the completed task book must be signed off by at least two (2) Rope Rescue Technician Senior Instructors.
   (d) Supervision
      1. Ensure that the student/instructor ratio is maintained.
      2. Supervise the Primary Instructor's presentation of the course.

(H) Rope Rescue Technician Senior Instructor Qualifications
   (A) Course Work- No additional requirements.
   (B) Instructor Requirements (all of the following):
      (a) Currently registered as a State Fire Training Rope Rescue Technician Primary Instructor in good standing.
      (b) Senior Instructor Trainee Task Book
      (c) Satisfactorily completed the Senior Instructor Trainee Task Book within two (2) years of beginning the task book process.
      (d) The Evaluator Recommendation section in the completed task book must be signed off by at least two (2) Rope Rescue Technician Senior Instructors.
      (e) Prospective instructors shall satisfy all instructor requirements and become registered as a Senior Instructor within one (1) year of completing the Rope Rescue Technician Senior Instructor Trainee Task Book.
   (C) Teaching Experience- No additional experience required.
   (D) Rank and Experience- No additional experience required.
Course: Rope Rescue Technician (2012)  
Hours: 40

Designed For: All emergency response personnel

Description: This course will prepare participants to undergo competency testing for high angle rescue. The scope of the program is to familiarize participants with the high angle environment and experience; and for them to safely participate in the engineering and operation of simple to complex rescue systems.

Prerequisites: RS-1 prior to 2010 or Low Angle Rope Rescue Operational (LARRO) AND Rescue Systems 1 (RS1 2010)

Certification: None

Standard: 80%

Class Size: 48

Ratio: Ratio is 12:1 with 1 Senior Instructor  
Ratio is 6:1 during highline operations with 1 Senior Instructor

Restrictions: Training site meets site requirements and equipment standards. Senior Instructor required for each class.

<table>
<thead>
<tr>
<th>REQUIRED STUDENT MATERIALS</th>
<th>EDITION</th>
<th>PUBLISHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student/ Instructor Reference Guide</td>
<td>2012</td>
<td>Instructor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>REQUIRED INSTRUCTOR MATERIALS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rope Rescue Technician (Thumb Drive or Disk)</td>
<td>2012</td>
<td>SFT Bookstore</td>
</tr>
</tbody>
</table>

PUBLISHERS CONTACT INFORMATION

SFT  
State Fire Training Website under “Training Resources”  
http://sft.fire.ca.gov

ROPE RESCUE TECHNICIAN COURSE PLAN

Chapter 1: Course Introduction

Terminal Learning Objective

The student will be able to identify the course goals, planned activities to achieve those goals, and the requirements for successfully completing the Rope Rescue Technician course.

Enabling Learning Objectives

1. Describe the course, including course objectives, syllabus, and calendar of events.
2. Demonstrate rescuer and victim safety during all Rope Rescue Technician exercises.
3. Select and use all personal protective equipment.
4. Describe the student evaluation process.

Chapter 2: Rope Rescue Equipment

Terminal Learning Objective

The student will demonstrate the proper use of the equipment used in the Rope Rescue Technician course.

Enabling Learning Objectives

1. Describe the use/misuse of the rope rescue equipment.
2. Describe the inspection/maintenance of the rope rescue equipment.
3. Use, inspect, and maintain all rope rescue equipment.

Chapter 3: Knots, Bends and Hitches

Terminal Learning Objective

The student will identify and properly tie knots, bends, and hitches.

Enabling Learning Objectives

1. Tie a tensionless hitch.
2. Tie optional knots, bends, and hitches as required.
<table>
<thead>
<tr>
<th>Chapter 4: Anchor Systems</th>
<th>2:00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal Learning Objective</td>
<td>The student will demonstrate anchor selection and anchor system construction</td>
</tr>
<tr>
<td>Enabling Learning Objectives</td>
<td>1. Describe system safety factors, critical angles, and force multipliers.</td>
</tr>
<tr>
<td></td>
<td>2. Describe considerations when selecting anchors.</td>
</tr>
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<td></td>
<td>3. Describe the types of anchors.</td>
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<td></td>
<td>4. Construct the required anchor systems.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 5: High Angle Victim Packaging</th>
<th>2:00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal Learning Objective</td>
<td>The student will package a victim in a high angle environment.</td>
</tr>
<tr>
<td>Enabling Learning Objectives</td>
<td>1. Package an ambulatory victim in a commercial victim harness.</td>
</tr>
<tr>
<td></td>
<td>2. Package an ambulatory victim in an improvised webbing harness.</td>
</tr>
<tr>
<td></td>
<td>3. Package a non-ambulatory victim in a rescue litter.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 6: Travel Restriction</th>
<th>2:00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal Learning Objective</td>
<td>The student will demonstrate the selection, construction, and use of travel restriction for rescuers.</td>
</tr>
<tr>
<td>Enabling Learning Objectives</td>
<td>1. Construct a travel restriction system.</td>
</tr>
<tr>
<td></td>
<td>2. Attach a rescuer to a travel restriction system.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 7: Belay System</th>
<th>1:00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal Learning Objective</td>
<td>The student will demonstrate proper technique to belay a load in the event of a failure of the main line.</td>
</tr>
<tr>
<td>Enabling Learning Objectives</td>
<td>1. Define key points regarding the operation of a belay.</td>
</tr>
<tr>
<td></td>
<td>2. Catch a load with a belay.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 8: Main Line Systems- Lowering and Raising</th>
<th>1:00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal Learning Objective</td>
<td>The student will construct a lowering system then convert to a raising system using compound mechanical advantage.</td>
</tr>
<tr>
<td>Enabling Learning Objectives</td>
<td>1. Describe system safety factors, critical angles, and force multipliers.</td>
</tr>
<tr>
<td></td>
<td>2. Construct and operate a lowering system.</td>
</tr>
<tr>
<td></td>
<td>3. Convert a lowering system to a raising system using a compound 9:1.</td>
</tr>
<tr>
<td></td>
<td>4. Construct and operate a simple 5:1 “pig rig.”</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 9: Load Releasing Methods</th>
<th>1:00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal Learning Objective</td>
<td>The student will construct and operate a load releasing device.</td>
</tr>
<tr>
<td>Enabling Learning Objectives</td>
<td>1. Demonstrate proper technique when transferring a load (eg. An inadvertently loaded belay or converting from a raising to a lowering system).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 10: Rescue Scene Organization and Management</th>
<th>1:00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal Learning Objective</td>
<td>The student will implement the Incident Command System (ICS).</td>
</tr>
<tr>
<td>Enabling Learning Objectives</td>
<td></td>
</tr>
<tr>
<td>Chapter</td>
<td>Course Title</td>
</tr>
<tr>
<td>---------</td>
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</tr>
</tbody>
</table>
| 11      | Knot Passing | The student will pass a knot on a lowering and raising system | 1. Pass a knot through a friction device.  
2. Pass a knot through a belay during lowering and raising operations.  
3. Pass a knot through a change of direction pulley during a raising operation on the mainline. |
| 12      | Ascending and Descending | The student will construct, ascend, and descend a fixed rope. | 1. Construct a fixed line system.  
2. Ascend a fixed rope.  
3. Negotiate an obstacle (eg. Pass a knot or crux) while ascending a fixed rope.  
4. Convert an ascending system to a descending system.  
5. Descend a fixed rope.  
6. Negotiate an obstacle (eg. Pass a knot or crux) while descending a fixed rope. |
| 13      | Pick-Offs | The student will perform a victim pick off. | 1. Construct a two line system for a pick off.  
2. Attach a victim to a two line system.  
3. Perform a pick-off of a supported victim.  
4. Perform a pick-off of an unsupported victim. |
| 14      | Protected Climbing | The student will perform a protected climb on a natural or manmade structure. | 1. Climb a manmade structure utilizing a bottom belay or Double Lanyard/Bypass Lanyard; or  
2. Climb a landscape feature (eg. Arborist tree rescue) utilizing a bottom belay |
| 15      | High Angle Litter Rigging and Tending | The student will tend an occupied rescue litter in a high-angle environment. | 1. Package a patient into a rescue litter.  
2. Attach the occupied rescue litter to a rope rescue system with a litter tender.  
3. Tend the litter basket operation both above and below the basket.  
4. Negotiate obstacles and manipulate the occupied litter while being raised and lowered.  
5. Move the patient packaged in a litter up and over an edge. |
ROPE RESCUE TECHNICIAN COURSE PLAN

Chapter 16: Artificial High Directionals

Terminal Learning Objective
The students will construct and rig an artificial high directional.

Enabling Learning Objectives
1. Construct an artificial high directional.
2. Rig a high directional

Chapter 17: Highlines

Terminal Learning Objective
The students will construct and operate a reeving highline with a midpoint drop to transport rescuers, equipment, and an occupied litter from one elevated location to another.

Enabling Learning Objectives
1. Describe system safety factors, critical angles, and force multipliers
2. Construct and operate a reeved highline system to perform a midpoint drop.
3. Move an occupied litter with an attendant from one elevated location to another above an obstacle or projection.

Total Hours: 40:00

ROPE RESCUE TECHNICIAN TRAINING SITE REQUIREMENTS

A Rope Rescue Technician (RRT) Training Site must have facilities, structures, work areas, materials, and equipment of adequate size, type, and quantity to fully and safely support the technical and manipulative training required to deliver the RRT curriculum.

(A) GOALS
(1) Set minimum performance training objectives for RRT training programs.
(2) Identify those performance objectives a RRT Training Site must be capable of supporting.
(3) Provide the means to ensure proper curriculum delivery.
(4) RRT Training Sites will meet the minimum requirements to support curriculum delivery.
   (a) A completed "Request for RRT Course Scheduling" providing the dates and location of the upcoming course.
   (b) The names of all RRT instructors must be included with the request to support class size.

(B) SITE CAPACITY
An RRT Training Site is evaluated on its ability to deliver the required training. A One-squad Site is the minimum and is capable of delivering training to twelve (12) students or one (1) squad. Additional sites may be capable of delivering training to twenty-four (24), and up to a maximum of forty eight (48) students simultaneously. Each capacity level represents the maximum number of students or squads that may be taught on the site at any given time. This maximum number will be determined based on the suitability of the site to safely train (12), twenty four (24), thirty six (36), or forty eight (48) students.

(1) One-squad site.
   (a) Supports the instruction for teaching one (1) squad, a maximum of twelve (12) students on the site.
   (b) One (1) RRT Senior Instructor is required for a student instructor ratio of 12:1*.

(2) Two-squad site.
   (a) Supports the instruction for teaching two (2) squads, a maximum of twenty-four (24) students on the site.
   (b) One (1) RRT Primary Instructor and one (1) RRT Senior Instructor are required for a student instructor ratio of 12:1*.

(3) Three-squad site.
   (a) Supports the instruction for teaching three (3) squads, a maximum of thirty-six (36) students on the site.
   (b) Three (3) RRT Primary Instructors are required for a student instructor ratio of 12:1*.
   (c) One (1) RRT Senior Instructor is required.

(4) Four-squad site.
   (a) Supports the instruction for teaching four (4) squads, a maximum of forty eight (48) students on the site.
   (b) Four (4) RRT Primary Instructors are required for a student instructor ratio of 12:1*.
(c) One (1) RRT Senior Instructor is required.
   * Two instructors are required for each highline.

(C) SITE ACCREDITATION
RRT Sites will be inspected for compliance with the RRT Site Requirements and
Equipment Standards by the RRT Senior Instructor.

(D) SITE REQUIREMENTS
The following are minimum requirements for a RRT Training Site:
(1) The requesting agency assumes all responsibility, liability, and maintenance for the engineering design, strength,
stability, and adequacy of all props including anchor points and tie offs.
(2) The requesting agency further assumes all responsibility, liability, and maintenance for all tools, equipment, and
supplies used at the site for the delivery of RRT classes. This includes, but is not limited to, ladders, ropes, rescue
hardware and software.
(3) Additionally, the site must have the following attributes:
   (a) All high angle evolutions shall be performed in an environment in which the load is predominately supported by
the rope rescue system.
   (b) A minimum vertical distance of 20’ is required for all high angle evolutions.
   (c) A minimum horizontal travel distance of 20’ and vertical height of 20’ measured from the ground to loaded mid
span is required for highline evolutions.
   (d) The minimum required ascending distance is 20’.
   (e) The minimum required protected climb distance is 20’.
   (f) There must be obstacles for the attendant to negotiate
   (g) There must be an edge problem that the team must negotiate for the litter tender evolution.

(E) FACILITIES
(1) Classroom of adequate size and capability (audio/visual aids) to support classroom technical training.
(2) Wash areas.
(3) Bathrooms.
(4) Rehabilitation area.
(5) Safe and adequate parking.

(F) EQUIPMENT STANDARDS
The following is a list of the minimum equipment that is required to conduct a Rope Rescue Technician course. Refer to
the ENDNOTES for additional information.

### Rope Rescue Technician Equipment List and Standards

<table>
<thead>
<tr>
<th>Equipment Description</th>
<th>Up to 12 students or 1 squad</th>
<th>Each subsequent 12 person squad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchor Plate *</td>
<td>6</td>
<td>6</td>
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<tr>
<td>Backboard</td>
<td>1</td>
<td>See Endnote A</td>
</tr>
<tr>
<td>Descent Control Device *</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Carabiners (locking)*</td>
<td>40</td>
<td>40</td>
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<tr>
<td>Commercial Class III Harness</td>
<td>6</td>
<td>6</td>
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<tr>
<td>Commercial Victim Seat Harness</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Edge Protection</td>
<td>See Endnote B</td>
<td>See Endnote B</td>
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<tr>
<td>Ascenders</td>
<td>4</td>
<td>See Endnote C</td>
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<tr>
<td>Item</td>
<td>Quantity</td>
<td>Notes</td>
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<tr>
<td>--------------------------------------------------------</td>
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<td>----------------------------</td>
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<tr>
<td>Load Releasing Device</td>
<td>6</td>
<td>See Endnote D</td>
</tr>
<tr>
<td>Low Stretch/Static Kernmantle Rescue Rope 150 foot * (12.5 mm)</td>
<td>6</td>
<td>See Endnote E</td>
</tr>
<tr>
<td>Low Stretch/Static Kernmantle Rescue Rope 20 foot * (12.5 mm)</td>
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<tr>
<td>Pickets, Steel (or equivalent)</td>
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<td>Optional</td>
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<tr>
<td>Prusik Loop, Short (8mm)</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Prusik Loop, Long (8mm)</td>
<td>10</td>
<td>10</td>
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<tr>
<td>Pulley *</td>
<td>15</td>
<td>See Endnote F</td>
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<tr>
<td>Rescue Litter</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Rescue Litter Pre-Rig</td>
<td></td>
<td>See Endnote G</td>
</tr>
<tr>
<td>Sledge Hammer</td>
<td></td>
<td>See Endnote H</td>
</tr>
<tr>
<td>Spider Straps</td>
<td>Optional</td>
<td>Optional</td>
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<tr>
<td>Tie Ropes (12.5mm)</td>
<td>14</td>
<td>N/A</td>
</tr>
<tr>
<td>Webbing, Green *</td>
<td>12</td>
<td>12</td>
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<tr>
<td>Webbing, Yellow *</td>
<td>12</td>
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<td>Webbing, Blue *</td>
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<td>Webbing, Orange *</td>
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<td>Knot Passing Pulley *</td>
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<td>Pick-Off Strap *</td>
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<td>Etriers</td>
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<tr>
<td>Double Bypass Lanyard</td>
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<tr>
<td>Mini MA System</td>
<td>See Endnote J</td>
<td>See Endnote J</td>
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<tr>
<td>Artificial High Directional</td>
<td>See Endnote K</td>
<td>See Endnote K</td>
</tr>
<tr>
<td>Swivels *</td>
<td>Optional</td>
<td>See Endnote L</td>
</tr>
<tr>
<td>Equipment to Belay a Falling Load</td>
<td>See Endnote M</td>
<td>0</td>
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</tbody>
</table>
ENDNOTES
* Indicates must meet NFPA 1983 “G” rating
A. 1 backboard per site
B. Edge protection can be manufactured (rope rollers, etc) or improvised (split fire hose, etc). There shall be adequate amounts of edge protection available for concurrent running scenarios.
C. While Gibbs Ascenders™ are acceptable, handled ascenders are preferred.
D. Commercial or field assembled (webbing or cordelette) complete with General Use carabiners. These carabiners are in addition to the amounts specified under the carabiner and prusik categories.
E. Each rope of the two track highline must be one continuous length of rope. If your highline span is greater than 150 feet you must acquire longer ropes to span the gap. You may also need a longer reeve line rope.
F. 5 of the 15 pulleys must be single sheave prusik minding. 2 of the 15 should be double sheave prusik minding. Subsequent squads may not require additional double sheave pulleys.
G. Commercial or field assembled complete with General Use carabiners and prusiks, if field assembled these carabiners and prusiks are in addition to the amounts specified under the carabiner and prusik categories.
H. If pickets are used a sledge hammer is required.
I. Can be commercial or field assembled from one inch tubular webbing.
J. If performing the optional litter scoop evolution, a mini MA system will be needed to lower and raise the foot end of the litter. Can be commercial or improvised.
K. Can be a commercial (Arizona Vortex™, Terradaptor™, etc) or improvised high directional (4x4 lumber). If concurrent highline stations are being run, one additional artificial high directional per highline must be provided for each highline scenario.
L. “G” rated pulleys that have a built in swivel will satisfy this option.
M. This can be accomplished by having a person perform a hard, unexpected jerk on the end of the belay system. Whatever method the instructor chooses to demonstrate this skill it SHALL NOT be performed using a live load.

Additional Notes
Instructors at “Agency Specific” classes that use the CMC MPD™, Traverse 540 Rescue Belay™, and other similar devices may use these devices during the class.

Instructors at “Open Enrollment” classes should continue to show “traditional” methods of lowering & raising to their students (i.e RPM). This does not mean that devices like the CMC MPD™, Traverse 540 Rescue Belay™, and other similar devices cannot be shown to students.

DISCLAIMER
The Policy and Procedures in this document are current at the time of printing. Refer to the current State Fire Training Procedures Manual for updated requirements.