Salvage

- Methods and procedures used by firefighters to protect property and aid in reducing fire, water and smoke damage during and after fires.
Salvage

- Benefits of salvage
  - Saving property
  - Creating goodwill
  - Preserving evidence
Salvage Tools

- Salvage covers
- Floor runners
- Wet/dry vacuums
- Squeegees
- Shovels
- Hooks
- De-watering devices (pumps)
Water Chute

- Chute constructed with a salvage cover to provide a means of removing water that comes through a ceiling from an upper floor.
- May also be used to channel water down stairs.
Constructing a Water Chute (1 of 3)

1. Fully open a large salvage cover flat on the ground.

2. Roll the cover tightly from one edge toward the middle. Roll the opposite edge tightly toward the middle.
3. Turn the cover upside down. Position the chute so that it collects the dripping water and channels it toward a drain or outside opening. Use a stepladder or other tall object to support chutes constructed with pike poles.
Constructing a Water Chute (3 of 3)
Catchall

- A temporary “pond” that catches dripping water and holds it in place
  - Can be used as a temporary means of controlling large amounts of water or debris
  - Can be placed on the floor to contain small amounts of water, or can be used as a temporary means to control large amounts of water until chutes can be constructed to route the water to the outside
  - Properly constructed catchalls will hold several hundred gallons of water and often save considerable time during salvage work
1. Fully open a large salvage cover flat on the ground.

2. Roll two edges inward from the opposite sides, 3 feet on each side.
3. Fold each of the four corners at a 90-degree angle, starting each fold 3 feet in from the edge.

4. Roll the remaining two edges inward 2 feet.
5. Lift the rolled edge over the corner flaps, and tuck it in under the flaps, to lock the corners in place.
Constructing a Water Catch-All (4 of 4)
Water Chute with a Catchall
Carryall

- Used to remove debris from the building, to catch falling debris or to provide water basin for immersing small burning objects
Techniques for Covering a Building’s Openings

- **Pitched Roof**
  - Place and climb ladders carrying or hoisting necessary tools and equipment
  - Pry up roofing materials around top of hole away from support material approximately 6 inches (150 mm) back from opening
  - Position salvage cover, tarp, or roofing felt over hole
    - (Small to medium holes)
      - Top edges under uplifted roofing
      - Side and bottom edges overlapping side and bottom edges of hole by at least 12 inches (300 mm)
  - (Hole near roof peak) Over hole and on both sides of ridge
  - (Large hole requiring two or more covers)
    - Boards laid across hole for support
    - Top edges under uplifted roofing
  - Covers overlapping by at least 12 inches (300 mm)
  - Secure the edges using lath, boards, or staples (roofing felt) and avoiding penetration of tarps or salvage covers with nails
  - If boards are not available for tarps or salvage covers, nails can be driven at an angle through grommet holes, or as a last resort, covers can be weighed down with bricks or other available objects
Techniques for Covering a Building’s Openings

- **Flat Roof**
  - Position salvage cover, tarp, or roofing felt over the opening
  - Secure the edges to the cover, tarp or roofing felt with boards, or staples (roofing felt) and avoiding penetration of tarps or salvage covers with nails
  - If boards are not available for tarps or salvage covers, nails can be driven at an angle through grommet holes, or as a last resort, covers can be weighed down with bricks or other available objects

- **Windows and Doors**
  - Remove all shards of glass from frame
  - Cover opening with plastic sheeting or plywood with top of material under siding when possible and extending covering well beyond opening
  - Secure the covering
    - **(Plywood)**
      - Perimeter tacked down with nails
      - Using as few nails as possible
      - Leaving nail heads sticking up slightly for easy removal
    - **(Plastic sheeting)**
      - Using lath to hold down edges
      - Using tacks or staples through lath
1. Spread the salvage cover flat on the ground. Stand at one end, facing your partner standing at the other end.

2. Place one hand on the outer edge of the cover and the other a quarter of the way in from the edge.
3. Together, flip the outside edge in 3 inches from the middle of the cover, creating a fold at the quarter point.

4. Flip the outside fold in to the same point of the cover, creating a second fold. Repeat steps 2, 3, and 4.
5. Fold the two halves of the salvage cover together.

6. Starting from the middle of the cover, use a broom to brush the air out of the cover.
7. Move to the newly created narrow end of the salvage cover.

8. Fold the narrow end 3 inches from the middle of the cover, creating a fold at the quarter point.
9. Fold the two halves of the salvage cover together.
1. Spread the salvage cover flat on the ground. Stand at one end, facing your partner standing at the other end.

2. Together, fold the cover in half.
3. Together, grasp the unfolded edge and fold the cover in half again.

4. Starting from the middle of the cover, use a broom to brush the air out of the cover.
Two Firefighter Salvage Cover Fold (3 of 4)

5. Move to the newly created narrow end of the salvage cover. Fold the cover in half lengthwise again.

6. Fold the salvage cover in half lengthwise again.
8. Fold the narrow end 3 inches from the middle of the cover, creating a fold at the quarter point.

9. Fold the two halves of the salvage cover together.
1. Spread the salvage cover on the ground. Stand at one corner, facing your partner standing at the other end.

2. Place one hand on the outer edge and the other hand one quarter of the way in from the edge.
Folding and Rolling a Salvage Cover (2 of 3)

3. Together, flip the outside edge in to the middle of the cover, creating a fold at the quarter point.

4. Flip the outside fold in to the middle of the cover, creating a second fold. Repeat steps 2, 3, and 4.
Folding and Rolling a Salvage Cover  (3 of 3)

5. The folded edges should meet at the middle, with the folds touching but not overlapping.

6. Tightly roll up the folded salvage cover from the end.
One-Person Salvage Cover Roll (1 of 3)

1. Stand in front of the end of the object that you are going to cover.

2. Start to unroll the cover over one end of the object.
3. Continue unrolling until you reach the top. Allow the remainder of the cover to settle at the end.

4. Spread the cover, unfolding each side outward over the object to the first fold.
5. Unfold the second fold on each side and drape the cover completely over the object.

6. Tuck in all loose edges of the cover around the object.
Balloon Toss (1 of 2)

1. Place the cover on the ground beside the object.
2. Unfold the cover so that it runs along the entire base of the object.
3. Together, lift the cover quickly so that it fills with air like a balloon.

4. Move quickly to the other side of the item, and spread the entire cover over the object.
Salvage Cover Maintenance

• Inspecting
  – Position the salvage cover flat on floor for inspection
  – Position yourselves for inspection with one firefighter at each corner
  – Raise salvage cover slowly for inspection above your heads, looking for holes and torn places
  – Mark damaged places and holes with chalk
Salvage Cover Maintenance

• Cleaning
  – Unfold and spread out salvage covers on flat surface
  – Shower each salvage cover with a hose stream
  – Scrub each showered cover with broom
  – Use a detergent solution on hard-to-remove stains
  – Rinse salvage covers thoroughly with hose stream
  – Clean the reverse sides by turning covers over and repeating Steps 2-5
  – Dry the salvage covers following department procedure
Salvage Cover Maintenance

- Maintaining
  - Salvage covers should be inspected for holes and tears as above
  - Salvage cover should be repaired as needed
  - Salvage cover should then be folded and placed back on the apparatus or in storage
Alternate Means for Removing Debris and Water

- Debris
  - Buckets
  - Shovels
- Water
  - Pumps
  - Toilets (removed)
  - Floor drains
Overhaul

• Definition - Operations conducted to discover and extinguish hidden fires and place the structure and contents back in a safe condition

• Purpose - To detect hidden fires or sparks, which may rekindle, and to note the possible point of origin and cause of fire
Dangers Associated with Overhaul

- Weakened floors
- Spalled concrete
- Weakened steel
- Weakened trusses
- Weakened walls
- Toxic gases
Overhaul Tools

- Pulling tools
  - Pike poles
  - Closet hooks

- Prying tools
  - Halligan bar
  - Pry bar
Overhaul Tools

• Striking tools
  – Sledgehammer
  – Flat-head axe
  – Hammer
  – Mallet

• Cutting tools
  – Axes
  – Power saws
Overhaul Tools

- Debris removal tools
  - Shovels
  - Brooms
  - Rakes
  - Buckets
  - Carryalls

- Water removal tools
  - Water vacuums
  - Pumps
Overhaul Tools

- Ventilation equipment
  - Electric fan
  - Gas fan
  - Water powered fan

- Portable lighting

- Thermal imaging devices
Detecting Hidden Fires

- **Sight**
  - Smoke
  - Embers
  - Burned areas
  - Discolorations
  - Peeling paint or cracked plaster

- **Sound**
  - Popping or cracking noises
  - Hissing of steam
Detecting Hidden Fires

- **Touch**
  - Feel walls with the back of hand
- **Electronic sensors**
  - Thermal detection
  - Infrared detection
1. Select the appropriate length pike pole based on the height of the ceiling.

2. Position yourself to begin with your back toward a door, so the debris will not block your exit.
3. Using a strong, upward-thrusting motion, penetrate the ceiling with the tip of the pike pole.

4. Pull down and away from your body, so the ceiling material falls away from you.
5. Continue pulling down sections of the ceiling until the desired area is opened. Pull down any insulation, such as rolled fiberglass, found in the ceiling.
1. Determine which area of the wall will be opened up. The officer in charge usually makes this determination.

2. Use the axe blade to begin cutting near the top of the wall. Cut downward between wall studs.
3. Use the pick end of the axe to pull the wall material away from the studs and open the wall.

4. Continue opening the wall until the desired area is open. Pull out any insulation found behind the wall.
Removing Charred Material to a Safe Location

- Determine that removal of materials will not affect cause and origin investigation
- Separate materials to check for embers
- Use hose line or pressurized water extinguisher to cool materials
- Remove larger items from building. If items may be salvageable, or contain contents that may be salvageable, place off to the side away from pile of debris
- Shovel or place smaller debris into tubs, garbage cans or carryalls
- Remove debris from building. (Take care to prevent damage to walls and doors)
- Place in safe place
- Avoid placing on lawn or sidewalks, if possible
- Do not place on adjacent property
Using a Sprinkler Stop  (1 of 2)

1. Have a sprinkler stop in hand.

2. Place the flat part of the sprinkler stop over the orifice and between the frame of the sprinkler head.
Using a Sprinkler Stop (2 of 2)

3. Push the lever to expand the sprinkler stop until it snaps into position.
Using Sprinkler Wedges  (1 of 2)

1. Hold one wedge in each hand.

2. Insert the two wedges between the discharge orifice and the sprinkler head deflector.
Using Sprinkler Wedges (2 of 2)

3. Bump the wedges securely into place to stop the water flow.
1. Locate the OS&Y valve. If a key is readily available, unlock and remove the chain. If no key is available, cut the lock or the chain.

2. Turn the valve handle clockwise to close the valve. Keep turning until little of the stem is visible.
Closing and Reopening a Main Control Valve (PIV)

1. Locate the PIV. If the key is readily available, unlock the padlock. If no key is available, cut the lock.

2. Remove the handle and place it on top of the valve. Turn the valve stem to close the valve.
3. To reopen the PIV, turn the valve stem in the opposite direction until resistance is strong and the indicator changes back to “Open.” Lock the valve in the open position.