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|  | https://tse1.mm.bing.net/th?&id=OIP.M7f415e8d47bd504fcb69150790b6146bH0&w=300&h=80&c=0&pid=1.9&rs=0&p=0&r=0JOB HAZARD ANALYSIS Facilities & Property ManagementReplacing Broken Window Glass |
| Task | Hazards | Controls |
| 1. Working in area with high pedestrian traffic. | * Pedestrians knocking over ladder.
* Overhead hazard - dropping tools or glass on pedestrians.
* Other injuries to pedestrians.
 | * Secure area with caution tape and cones before beginning work.
* Utilize spotter to keep pedestrians away from work area; spotter to wear hardhat and orange vest.
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| 2. Working in area with vehicular traffic. | * Vehicle striking and/or knocking over ladder; vehicle striking worker.
 | * Close off driveways or roadways using cones and caution tape before beginning work.
* Utilize spotter; spotter to wear hardhat and orange vest
* Contact CPSO for assistance if necessary.
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| 3. Using ladder.  | * Slipping/falling from ladder.
* Ladder collapsing.
* Back strain, arm strain
 | * Inspect ladder before use.
* Use ladder of proper height.
* Make sure ladder is properly assembled and locked and standing on level ground.
* Do not exceed weight limit for ladder.
* Do not stand on top of ladder or on top rung.
* Have coworker hold ladder.
* Maintain 3 points of contact.
* Proper lifting and carrying technique.
* Get help when needed.
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| 4. Using aerial lift. Refer to JHA, Working in Aerial Lift (to be revised). |  |  |
| 5. Using scissor lift. Refer to JHA, Working in Scissor Lift (to be written). |  |  |
| 6. Removing and replacing windows at height, from inside the building. | * Falls from height
 | * Develop and follow task specific fall protection plan. (Ondine draft fall protection plan to be finalized after on-site training.)
* Wear fall protection harness.
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| 7. Lifting/carrying glass and windows. | * Back strain, arm strain
* Losing control of glass or window and dropping it.
 | * Proper lifting and carrying technique.
* Use dolly or A-frame rolling cart when feasible.
* Get help when needed.
* Always have two or more people lift large pieces of glass or windows.
* Use suction cups to carry glass.
* Wear cut resistant gloves, gauntlet/forearm protection, apron/torso protection, safety glasses, hard toed shoes.
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| 8. Removing broken glass from window or cutting new glass for installation.  | * Severe cuts or lacerations, hands getting chopped off, cuts from fine particles of glass.
* Possible exposure to asbestos-containing materials.
* Possible exposure to lead-containing materials within buildings constructed prior to 1985.
 | * Wear cut resistant gloves, gauntlet/forearm protection, apron/torso protection, safety glasses, face shield, hard toed shoes. Rapha – please verify this PPE is available now.
* Do not put hands on broken glass.
* Do not put hands under broken pane of glass; it could slide down unexpectedly and slice you.
* If a piece of glass is starting to fall, do not attempt to catch it; let it fall.
* Contact EHS for review of PSU asbestos survey and testing records and for sampling of suspect asbestos-containing materials.
* Follow ? for work practices, control measures and personal protective equipment. Tim- what do you want included here?
* Contact EHS for initial assessment of possible lead-containing material when the scope of the project may include disturbing painted surfaces.
* Follow EHS Lead Exposure Management Plan, trigger task levels 0 and 1, depending on process.
* Follow EPA’s Lead-Based Paint Renovation, Repair, and Painting (RRP) Program for surface preparation, work procedures, personal protective equipment, hygiene practices, clean-up and waste disposal.
* Heat guns may only be used if <?temp?
 |
| 9. Installation of new pane of glass. | * Refer to Safety Data Sheets for specific hazards of adhesives, sealants, caulks, cleaners, or any other hazardous materials used?

Rapha – what types of hazardous materials should be mentioned here? | * Refer to Safety Data Sheets for safe handling procedures, exposure controls, and personal protective equipment.
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| 10. Disposing of glass. Clean-up.Mallet? Large piece – could get cut stuffing into box. Maybe large plastic barrel.Rapha – We need consensus on method(s) to include that will work for both glass shops. | * Severe cuts or lacerations, injuries to others by contacting broken glass.
 | * Dispose of broken pieces of glass in heavy cardboard container, duct tape closed and dispose of in dumpster.
* Place larger broken pieces in cardboard, duct tape closed, and dispose of in dumpster.
* Sweep up all glass pieces from glass cutting table and dispose of in heavy cardboard container.
* Wear cut resistant gloves, gauntlet/forearm protection, apron/torso protection, safety glasses, face shield, hard toed shoes.
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| 11. Glass Storage | * Severe cuts or lacerations, injuries to others by contacting glass.
 | * Store vertically on its edge, at an angle no greater than 6 degrees, using timber, felt, rubber or plastic.
* All glass stored should be clearly visible. This includes the marking of any protruding ends so that people cannot accidently collide with the glass.
* All glass stored should be squared off with no jagged pieces protruding from storage area.
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| **Required Training:**1. Ladder safety
2. Proper lifting techniques
3. Personal protective equipment
4. Lead awareness training
5. EPA Lead-Based Paint Renovation, Repair, and Painting (RRP) training, when performing work in housing or child occupied buildings constructed prior to 1985
6. Asbestos awareness training
7. Class III 16-hour asbestos training Tim- add more here?
8. Respirator training, when applicable
9. Scissor lift, aerial lift, when applicable
10. Fall protection, when applicable
 | **Required Personal Protective Equipment (PPE)**1. Cut/slip resistant gloves Rapha – Please provide cut level of gloves. Did you buy level 4?
2. Eye protection – safety glasses and face shield
3. Gauntlet/forearm protection
4. Apron/torso protection
5. Hard toed shoes
6. Long sleeves and long pants
7. Hardhat for overhead protection
8. Orange vest for traffic control
9. Fall protection harness, when applicable
10. Respirator, when applicable for lead and asbestos.

**Other**1. Maintain first-aid kit within easy access.
2. Carry a mobile phone or other alternative means to contact a designated person when working alone.
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| **Other Information:****Contributors:****Created:** | **Karen Barnack, Zone/Housing Maintenance Crew****May 2017** |