

Sample Job Safety Analysis Information

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Sample Job Safety Analysis Information

Activity Name:

Abrasive Blast Cabinet

Task Name	Hazard Description	Control Description
Inspect cabinet, nozzles, hoses, gloves, etc. for defects	Dusts	Wear N-95 respirator if respirable dusts above safethresholds.
Add/remove blasting media as needed	Dusts	Wear N-95 respirator if respirable dusts above safethresholds.
Place part to be blasted in the cabinet and secure		

access door/lid

Bumps, bruises, cuts, scratches from loading part

Wear work gloves when loading parts into cabinet

Turn on light, turn on unit, set pressure to required P.S.I., and ensure exhaust fan is on/working

None foreseen

None

Insert hands into blast cabinet gloves and begin blasting the part

Eye irritation from dust and particles escaping cabinet

Wear safety glasses and or face shield while operating blast cabinet

Ensure cabinet is closed and dust collection is working

Lung irritation from dust and particles escaping cabinet

Ensure blast cabinet is securely close and dust collection is operating correctly

Hand injury from blasting media

Ensure cabinet gloves are intact and use mechanical means to support part as needed.

Hearing degradation from excessive noise

Have noise level evaluated by EH&S and wear hearing protection if needed.

Turn of blasting cabinet and remove part

Dusts

Allow ventilation to run and media to settle before removing part

Bumps, bruises, cuts, scratches from unloading part

Wear work gloves when removing part

Activity Name:

Aerial Lift

Task Name

Hazard Description

Control Description

1. Prepare work area.

Impact (from operator thrown from basket; co-workers, bystanders or passersby who are struck by running into the lift device; or from lift device falling over)

Designate an employee to be a ground controller to direct pedestrian and vehicular traffic away from the work location.

Position lift device away from traffic.

Level carrier/truck base, set brakes and block wheels.

When outriggers are used, they shall be positioned on pads or other solid surface.

Never exceed the posted lift capacity (including worker, material and tools).

Give verbal warnings to people in the work area.

Personnel travelling in the basket of an aerial lift shall wear a Personal Fall Arrest System consisting of full-body harness with either a restraint line or a self-retracting lifeline attached to an appropriate anchorage in the basket.

Never use lift as a crane or hoist to lift or lower materials.

Utilize barricades, cones or caution tape to keep bystanders a safe distance from the job.

Electric shock

Position lift device away from power lines.

2. Operate lift device.

Fall from heights

Use Personal Fall Arrest System (PFAS) when using an aerial lift device. This includes use of a scissors lift. The PFAS must consist of a full-body harness, self-retracting lifeline or restraint line, connectors and an appropriate anchorage on the boom or basket.

Personnel shall not step out of aerial lifts or on the guardrail to perform work or maintenance.

Personnel shall always stand firmly on the floor of the basket and shall not sit or climb on the guardrail or the edge of the basket or use planks, ladders, or other devices for a work position.

The self-retracting lifeline or restraint line must be attached to the anchorage in the basket.

An aerial lift shall not be moved when the work platform is elevated in a working position with employees in the basket.

Electric shock

"Maintain a minimum clearance of 10 feet from energized conductors rated 50 kV phase-to-phase or less; for lines rated over 50 kV phase-to-phase, the minimum clearance shall be 10 feet plus 4/10 inch for each kilovolt greater than 50 kV phase-to-phase. **WARNING:** Insulated baskets do not protect operators from other electrical paths to the ground, such as those through trees, through a guy wire or the path from one phase wire to the second phase wire, any of which can be fatal."

Impact (from tree limbs or other cut materials falling onto the basket or tools and materials falling from the floor of the lift device to the ground)

Personnel shall not allow tools or materials to accumulate on the floor of the platform.

Personnel in the basket and on the ground working below an elevated aerial lift platform shall wear hard hats.

3. Return lift device to parking/storage area upon completion of work.

Impact (from operator thrown from basket)

Personnel travelling in the basket of an aerial lift shall wear a Personal Fall Arrest System consisting of full-body harness with either a restraint line or a self-retracting lifeline attached to an appropriate anchorage in the basket.

Activity Name:

Air Compressor (portable, electric)

Task Name

Hazard Description

Control Description

1. Perform pre-operational check of equipment, e.g., condition of electric cord and plug.

Mechanical failure causing injury or damage

If deficiencies are noted, remove from service and repair/replace as necessary.

Check oil-level (if applicable), check that the cord is not damaged, and that everything seems to be in order.

2. Move air compressor to point of use.

Ergonomics (back or other strain)

Do stretching and warm-up exercises before starting work.

Lifting/Back Safety training

3. Connect air hose to compressor and tool or equipment

Compression (from pinched finger while connecting hose)

Wear work gloves.

4. Insert plug into outlet and turn compressor on. Allow air pressure to increase to desired level.

None foreseen

None

5. Use air compressor to power tools and equipment. See also JHA "Operate a Nail Gun".

Impact (from uncontrolled release of air creating projectiles and flying debris)

Never use compressed air to clean your body or clothing.

Wear safety glasses with side shields.

When used for cleaning purposes, air pressure must be adjusted to less than 30 psi.

Ensure air nozzles are equipped with chip deflectors.

Noise

Wear ear plugs.

Electric shock (while performing maintenance/repair on the air compressor)

Unplug electric cord and retain control of the plug.

Impact (from tool operation due to unexpected start-up while changing the tool or its components)

Turn air compressor off.

Impact (from falling due to tripping over air hose)

Arrange air hose in a manner to minimize trip and fall hazards.

Maintain situational awareness.

Wear work shoes with slip-resistant soles.

6. Shut off compressor, bleed air from lines and disconnect hose.

Impact (from uncontrolled release of air creating projectiles and flying debris)

Wear safety glasses.

Compression (from pinched finger while disconnecting hose)

Wear work gloves.

7. Remove plug from outlet when work is completed and return air compressor to storage.

Ergonomics (back or other strain)

Do stretching and warm-up exercises before starting work.

Lifting/Back Safety training

Activity Name:

Angle Grinder

Task Name

Hazard Description

Control Description

1. Check cord integrity.

Hand cut from cut wires.

Inspect slowly.

Wear leather gloves.

2. Check conditions of grinding wheel and appropriate RPM.

(None foreseen)

None

3. Check grinding wheel tightness.

Hand injury from inadvertent starting

Do not plug in the machine until inspection is complete.

4. Verify the guard is tight and appropriate for the job.

Foot injury from dropping the tool

Rest the tool on the bench.

Wear steel-toed shoes.

5. Verify the appropriate handle location.

Foot injury from dropping the tool

Wear steel-toed shoes.

6. Inspect trigger for physical damage and proper operation.

(None foreseen)

None

7. Make sure the materials being ground are adequately secured and positioned correctly.

Injuries associated with the work propelled by the grinder and/or landing on you

Wear steel-toed shoes.

Verify the work is adequately secured by trying to dislodge it with a gloved hand (the work weight may secure it enough).

8. Plug-in the grinder.

Eye and skin damage from projectiles.

Check the trigger switch to insure it is off.

9. Begin grinding.

Eye injuries from projectiles and sparks

Wear safety glasses/goggles and a face shield.

Skin damage from sparks and projectiles

Wear leather gloves, long sleeved shirt, long pants, or leather welding guards.

Hearing loss

Wear ear plugs.

Ergonomic considerations.

Wear vibration resistant gloves.

Change position from time to time.

Inhalation of toxic or irritant fume or particulate

Wear the appropriate respirator based on the content of the metal and its coatings. Contact EH&S (4-4036) for evaluation and exposure assessment.

Use local or dilution ventilation to direct or collect fumes and/or particulate

Activity Name:

Arc Welding

Task Name	Hazard Description	Control Description
1. Close off welding area.	Flashing	Close welding curtain to shield outsiders from flashing.
2. Prepare for arc welding.	Inhalation of fumes	Turn on exhaust fan and timer.
	Flashing	Wear welding hood.
	Sparks & welding slag splatter	Wear welding jacket, apron, gloves, work shoes.
3. Turn on power and unwrap wire.	Tripping	Take care to keep wire untangled and free from under feet.

4. Insert arc welding rod in handle.

Pinch to fingers

Keep fingers away from pinch points.

5. Strike arc.

Flashing, sparks, slag splatter

Wear welding hood, welding jacket, apron, gloves, and work shoes.

6. Allow material to cool on workbench.

Burn to hands or fingers

Wear glove.

Chalk mark welded area "Hot"

7. Remove remainder of arc welding rod (if any) from handle, set aside on workbench to cool.

Burn to hands or fingers

Chalk mark welded area "Hot"

8. Wrap wire.

Tripping

Take care to keep wire untangled and free from under feet.

9. Use chipping hammer to remove excess slag.

Eye damage by flying debris from hammer strikes

Wear safety glasses.

Injuring fingers with hammer

Use caution to avoid striking fingers or hands with hammer.

Activity Name:

Backpack Sprayer

Task Name	Hazard Description	Control Description
1. Perform pre-operational check of equipment. See also JSA "Pesticides/Herbicides"	Malfunction causing injury or chemical exposure	Ensure hoses are undamaged and everything is in working condition. If deficiencies are noted, remove from service and repair/replace as necessary.
2. Pour chemical product into sprayer.	Chemical exposure (from splashes)	Wear long pants, gloves, and goggles Do not mix incompatible chemicals in the sprayer.
3. Charge the sprayer.	Ergonomics (back strain or other strain)	Do stretching and warm-up exercises before starting work. Use easy motions; avoid over-reaching, twisting, bending and awkward positions.
4. Put sprayer on back.	Ergonomics (back strain or other strain)	

Use easy motions.

Do stretching and warm-up exercises before starting work.

5. Use sprayer; continue to charge as necessary.

Chemical exposure

Wear long pants, gloves, and goggles

Wear appropriate respirator as per Safety Data Sheet.

6. Take sprayer off back when spraying is completed.

Ergonomics (back strain or other strain)

Do stretching and warm-up exercises before starting work.

Use easy motions; avoid over-reaching, twisting, bending and awkward positions.

7. Return leftover chemical product to its container.

Chemical exposure (from splashes)

Take care when pouring so as not to spill chemical product onto the ground.

Wear long pants, gloves, and goggles

8. Flush out sprayer system and prepare for storage.

Chemical exposure

Wear long pants, gloves, and goggles.

Activity Name:**Band Saw**

Task Name	Hazard Description	Control Description
1. Check condition of blade.	Cuts (to fingers and hands)	Avoid contact with blade teeth. Do not use a dull blade.
2. Align materials flat on table.	Compression (from pinching of fingers or hands)	Keep fingers and hands away from pinch points.
3. Adjust guard to no more than ¼" above top of material to be cut.	Compression (from pinching of fingers or hands)	Compression (from pinching of fingers or hands)
4. Start dust collector, as appropriate.	None foreseen	None
5. Start saw.	Impact (from kickback of material to be cut before blade is at operating speed)	Keep material to be cut away from blade until the saw is at full operating speed.
6. Perform and complete sawing operation.	Cuts (to fingers and hands)	

Keep fingers away from blade.

Use push bar for smaller materials.

Impact (from flying sawdust or metal particles or kickback)

Wear safety glasses.

Avoid binding the blade. Remove finished piece or scrap after the blade has stopped.

Noise

Wear ear plugs

7. Turn off saw and dust collector.

None foreseen

None

Activity Name:

Belt Sander (Portable)

Task Name

Hazard Description

Control Description

1. Check condition of the belt sander and its cord and plug.

Electric shock

Do not use the belt sander if it is in poor condition; the cord is missing insulation; or the plug is missing its grounding prong.

2. Turn on belt sander.

Ergonomics (from back strain or other strain from lifting/carrying the belt sander)

Position body to maintain balance. Avoid twisting and overextending.

Do stretching and warm-up exercises before starting engine.

Impact (from flying dust and debris on the sanding belt)

Wear safety glasses.

Cuts (from moving sanding belt)

Ensure that guards are in place.

Keep hands and fingers away from moving belt.

3. Align belt sander with the material to be sanded.

None foreseen

None

4. Bring sanding belt into contact with the material to be sanded.

Impact (from flying sanding debris or belt breaking)

Ensure that guards are in place.

Control amount of pressure exerted on belt and maintain balance.

Wear safety glasses.

Cuts (from moving sanding belt)

Keep hands and fingers away from moving belt.

Ensure that guards are in place.

Harmful dust

Wear filtering facepiece respirator (particulate mask).

5. Turn off belt sander when sanding is completed.

None foreseen

None

Activity Name:

Belt Sander (Stationary)

Task Name

Hazard Description

Control Description

1. Keep hair and loose clothing away from equipment. Turn on belt sander.

Impact (from flying dust and debris on the sanding belt)

Wear safety glasses.

2. Align material with sanding belt.

Cuts (from hand or fingers contacting moving belt or sharp edges of material being sanded)

Keep fingers and hands away from belt.

Ensure that guards are in place.

Don't hold sharp edges.

3. Bring material into contact with the sanding belt.

Impact (from flying debris or dust in eyes)

Wear safety glasses.

Impact (from breaking belt)

Control the amount of pressure exerted on the belt and maintain balance.

Ensure that guards are in place.

Cuts (from hand or fingers contacting moving belt)

Keep fingers and hands away from belt.

Ensure that guards are in place.

Harmful dust

Wear filtering facepiece respirator (particulate mask).

4. Turn off belt sander when work is complete.

None foreseen.

None

Activity Name:

Bench/Pedestal Grinder

Task Name

Hazard Description

Control Description

1. Keep hair and loose clothing away from equipment. Check position of tool rests and condition of wheel(s).

Compression (pinching from loose or poorly adjusted tool rest)

Ensure that tool rest is adjusted to within 1/8" of the wheel.

Ensure that side guards cover the spindle, nut and flange and 75% of the wheel diameter.

Ensure that tongue guard on the top side of the grinder is adjusted to within ¼” of the wheel.

Impact (from cracked or broken wheel that becomes a projectile)

Ensure that maximum RPM rating of abrasive wheel is compatible with the RPM rating of the grinder motor.

Visually inspect wheel for cracks and remove damaged wheel from service.

Before new abrasive wheels are installed, conduct a "Ring Test" by tap the wheel gently using with a light non-metallic implement, such as the handle of a screwdriver for a light wheel, or a wooden mallet for heavier wheels. The wheels should be tapped about 45 degrees each side of the vertical centerline and about 1 or 2 inches from the periphery. Then rotate the wheel 45 degrees and repeat the test (see figures below). An undamaged wheel will give you a clear metallic tone. A cracked wheel will have a dead sound and not a clear ring. If the wheels sound cracked (dead) when tapped, they shall not be used.

2. Turn on grinder.

Impact (from pieces of broken wheel striking operator)

Stand off to side of the grinder when turning it on.

3. Grind object.

Impact (from flying sparks and debris)

Wear safety glasses with side shields.

Compression (from pinch to fingers and hands)

Keep fingers and hands away from wheel.

Burns (from abrasion burns to fingers and hands)

Keep fingers and hands away from wheel. Gloves are not recommended due to risk of entanglement.

Impact (from dropped object falling onto foot)

Wear work shoes with a safety toe.

4. Turn off grinder.

None foreseen

None

Activity Name:

Blower (Gas Powered)

Task Name

Hazard Description

Control Description

1. Check fuel level; refill as necessary.

Burns (from static electricity or open flame that starts a fire)

No metal fuel containers.

Start engine at least 10 feet away from fuel source.

No smoking.

2. Check oil level, loose parts, etc.

Ergonomics (back or other strain from holding machine while trying to inspect it)

Place blower on a stable surface before inspecting it.

Do stretching and warm-up exercises before starting work.

3. Turn ignition switch on.

None Foreseen

None

4. Pull starter cord to start engine.

Ergonomics (back/other strain from pulling starter cord)

Never “drop start”.

Do stretching and warm-up exercises before starting engine.

Pull recoil starter handle quickly, but steadily, straight back from blower in one smooth motion and allow the starter cord to rewind slowly.

5. Engage blower, as necessary.

Impact (from objects blown by leaf blower, particles blown into eyes)

Wear safety glasses with side shields.

When pedestrians are approaching within close proximity of the work area, shut the blower “Off” until they pass by to prevent any debris from flying in their direction.

Wear long trousers and long sleeve shirt.

Noise (from leaf blower engine)

Wear hearing protection

Ergonomics (back or other strain from reaching too far or awkward positions)

Take breaks as needed to help prevent fatigue.

Use easy motions; avoid over-reaching, twisting, bending and awkward positions.

Do stretching and warm-up exercises before starting work.

Ergonomics (possible injury to hands due to vibration from engine operation)

Wear no-slip, heavy duty work gloves.

Harmful dust

Wear filtering facepiece respirator (particulate mask).

6. Complete work. Turn ignition switch off.

None Foreseen

None

7. Check fuel level; refill as necessary.

Burns (from static electricity or open flame that starts a fire)

No smoking.

Allow engine to cool before refueling.

No metal fuel containers.

Activity Name:**Chain Saw (Gas Powered)**

Task Name	Hazard Description	Control Description
1. Keep hair and loose clothing away from equipment. Check fuel level; refill as necessary.	Burns (from static electricity or open flame that starts a fire)	Start engine at least 10 feet away from fuel source. No metal fuel containers. No smoking.
2. Check oil level, chain, loose parts, guard, etc.	Cuts (from chain while checking it)	Wear no-slip, heavy duty or other cut-resistant work gloves. ALWAYS make sure that the chain saw is "Off" before inspecting.
3. Utilize ladder or aerial lift device as necessary to access tree or other material to be cut. See also JHA "Use a Ladder" or JHA "Operate an Aerial Lift Device".	Falls from height	Ladder Safety training Use Personal Fall Arrest System when using aerial lift device.
4. Turn ignition switch on.	None foreseen	

None

5. Pull starter cord to start engine.

Ergonomics (back/other strain from pulling starter cord)

Pull recoil starter handle quickly, but steadily, straight back from engine in one smooth motion and allow the starter cord to rewind slowly.

Never “drop start”.

Do stretching and warm-up exercises before starting engine.

Activity Name:

Charge Forklift Batteries

Task Name

Hazard Description

Control Description

1. Charge batteries only in installations located in areas designated for that purpose and have proper ventilation.

Burns (from ignition of hydrogen off-gases)

Proper ventilation will prevent build-up of heat and hydrogen gas.

Ensure that vent caps are working and not plugged.

No smoking, eliminate ignition sources.

Chemical exposure (from spilled electrolyte)

Battery charging installation must have facilities for flushing and neutralizing spilled electrolyte.

Wear work gloves and safety glasses.

2. Set forklift brake and shut off engine.

None foreseen

None

3. Connect battery to charger.

Electric shock

Ensure that the charger is turned "OFF" before connecting it to the battery.

4. Turn on charger.

Electric shock

Ensure that metal objects do not come into contact with the terminals on the battery.

5. Turn off charger and disconnect battery from charger.

None foreseen

None

Activity Name:

Cordless Drill

Task Name

Hazard Description

Control Description

1. Gather tools and PPE

Impact from dropping tools

Use a tool cart or tool bag/bucket to transport tools

Wear steel-toed shoes/boots

2. Inspect and don appropriate PPE

Eye injuries from broken parts, shavings, etc.

Wear eye protection with side shields

Hearing damage, if working in high noise area

Wear ear plugs or muffs

Entanglement in rotating drill chuck and bit

Do not wear loose clothing or jewelry, and keep hair tied back

Keep hair, clothing, and gloves away from rotating chuck and bit

3. Inspect the tool/and bits before use

Eye, hand, body injuries from shattered bits

Do not use drill or bits if they are not in proper working order

Ensure the drill and bits are in proper working order

4. Perform the work

Injury from movement of the piece being drilled

Ensure the piece is adequately secured

Injury from loss of control of the drill

Ensure a tight grip on the handle

Injury from trip or fall

Keep a well-balanced position with good footing while drilling

Do not overreach

5. Clean up when done

Slips, trips and fall from debris and/or equipment

Properly clean the area and store equipment

Activity Name:

Drill Press

Task Name

Hazard Description

Control Description

1. Keep hair and loose clothing away from equipment. Clean the drill press table.

Impact (from flying metal or other debris)

Wear safety glasses.

Use rags to clean up debris. Do not use compressed air.

2. Load the vise.

Impact (from vise falling onto foot)

Wear work shoes with a safety toe.

Secure the vise on the table with T-pins.

Compression (from pinching of fingers while moving the vise)

Do not let fingers get under the vise unless it is being lifted from the table.

Keep eyes on task.

4. Install drill bit in chuck.

None foreseen

None

5. Tighten chuck and remove chuck key.

Impact (from chuck key becoming a projectile)

Wear safety glasses.

Remove chuck key.

6. Start the drill.

Cuts (from rotating drill bit)

Keep hands away from drill bit.

7. Feed the drill.

Impact (from projectiles caused by breaking of the bit)

Feed with the appropriate pressure.

Use the appropriate bit for the type of metal/stock.

Adjust speed of the bit.

Wear safety glasses.

Activity Name:

Edger/Trimmer (Gas Powered)

Task Name

Hazard Description

Control Description

1. Check fuel level; refill as necessary.

Burns (from static electricity or open flame that starts a fire)

Start engine at least 10 feet away from fuel source.

No smoking.

No metal fuel containers.

2. Check oil level, blade, loose parts, guard, etc.

Cuts (from blade while checking it)

ALWAYS make sure that the mower is “Off” before inspecting.

Wear no-slip, heavy duty or other cut-resistant work gloves.

3. Turn ignition switch on.

None foreseen

None

4. Pull starter cord to start engine.

Ergonomics (back/other strain from pulling starter cord)

Pull recoil starter handle quickly, but steadily, straight back from edger/trimmer in one smooth motion and allow the starter cord to rewind slowly.

Do stretching and warm-up exercises before starting engine.

Never “drop start”.

5. Engage edger cutting blades/trimmer filament, as necessary.

Impact (from objects thrown by edger/trimmer, particles blown into eyes)

Wear safety glasses with side shields.

When pedestrians are approaching within close proximity of the work area, shut the edger “Off” until they pass by to prevent any debris from flying in their direction.

Cuts (from moving edger blades/trimmer filament)

Wear no-slip, heavy duty or other cut-resistant work gloves.

Wear long trousers and long-sleeve shirts.

Wear work shoes with a safety toe.

Turn engine off when removing obstructions or performing maintenance.

Noise (from edger/trimmer engine)

Wear hearing protection

Ergonomics (back or other strain from reaching too far or awkward positions)

Use easy motions; avoid over-reaching, twisting, bending and awkward positions.

Do stretching and warm-up exercises before starting work.

Ergonomics (possible injury to hands due to vibration from engine operation)

Wear no-slip, heavy duty work gloves.

6. Complete work. Turn ignition switch off.

None foreseen

None

7. Check fuel level; refill as necessary.

Burns (from static electricity or open flame that starts a fire)

No metal fuel containers.

No smoking.

Allow engine to cool before refueling.

Activity Name:

Forklift

Task Name

Hazard Description

Control Description

1. Perform pre-operational safety and equipment check

Leaking, worn or damaged components that could cause faulty operation resulting in Impact or Compression to operator or bystander

If deficiencies are noted, do not operate the unit until all problems have been corrected.

2. If LPG powered, turn gas valve on.

Extreme cold (from leaking valve or hose)

Wear work gloves.

Impact (from leaking LPG hitting eyes)

Wear safety glasses.

3. Mount forklift.

Falls from height

Maintain three points of contact when climbing into the cab.

4. Start engine.

None Foreseen

None

5. Move the forklift to load(s) to be lifted.

Impact (including struck by as a result of tip-over, running into obstacles and objects falling onto the operator and bystanders, as well as running into bystanders)

Keep your hands, arms and head inside the forklift.

No passengers or riders are allowed in the forklift or to stand or be raised on the forks

Travel with forks approximately 4" above the road surface (travel height).

Do not drive up to anyone standing in front of a fixed object.

Beep your horn before moving in reverse.

ALWAYS Yield to all other traffic and pedestrians.

Wear your seatbelt at all times while you are in the forklift.

Check clearance to ensure that you have enough—overhead, right, left, in front and behind(watch the rear swing!).

Compression (from tip-over and bystanders being caught between parts of the forklift and other objects)

Stay well away from the edge of ramps and loading docks.

Slow down and sound your horn at corners, intersections and places with limited view.

Slow down for turns.

Never turn around on a slope.

Keep it slow—move at a speed of approximately 5 mph.

6. Pick up load(s).

Impact (from falling loads)

Tilt mast back in preparation for traveling.

Know the carrying capacity of your forklift and do not exceed it.

Sound horn and place fork lift in reverse.

Make sure that the load is stable.

Never allow any person, including yourself, to stand or sit or pass under the elevated portion of any forklift, whether loaded or empty.

Spread forks as wide as possible for load, and center forks on the load.

Tilt the mast slightly forward and align the forks with the base of the load.

Proceed slowly and insert the forks into the base of the load. Place forks under load as far as possible.

Lift load only as high as necessary to be able to remove it—approximately 8” for forks to clear floor or shelving.

7. Move load(s) to desired location(s).

Impact (including struck by as a result of tip-over, running into obstacles and objects falling onto the operator and bystanders, as well as running into bystanders)

Drive in reverse if your vision is obstructed.

Drive with your load on the uphill side. This means you drive up slopes with your load in front and drive down slopes in reverse.

See controls for step 5 above.

In the event of a tip-over, do not jump from the forklift—stay with it, hold on to the steering wheel firmly, brace your feet and lean in the opposite direction of the tip-over.

Compression (from tip-over and bystanders being caught between parts of the forklift and other objects)

In the event of a tip-over, do not jump from the forklift—stay with it, hold on to the steering wheel firmly, brace your feet and lean in the opposite direction of the tip-over.

Drive with your load on the uphill side. This means you drive up slopes with your load in front and drive down slopes in reverse.

See controls for step 5 above.

Drive in reverse if your vision is obstructed.

8. Deposit the load(s)

Impact (from falling loads)

When clear of the load, place forks at travel height.

Position forklift at the desired location.

If stacking loads, adjust the height of the load as appropriate.

Tilt the mast forward to place forks parallel to the ground.

Lower the load until it is set.

Once the load is set, sound horn and slowly back away from the load.

9. Return forklift to parking area and shut it down.

Impact (including struck by as a result of tip-over, running into obstacles and objects falling onto the operator and bystanders, as well as running into bystanders)

Tilt the mast slightly forward and lower the forks to the ground until they are touching.

Place controls in neutral.

Set the parking brake and turn the engine off.

See controls for step 5 above.

Compression (from tip-over and bystanders being caught between parts of the forklift and other objects)

Set the parking brake and turn the engine off.

Place controls in neutral.

Tilt the mast slightly forward and lower the forks to the ground until they are touching.

See controls for step 5 above.

10. Dismount the forklift.

Falls from height

Maintain three points of contact when climbing down from the cab.

11. If LPG powered, turn gas valve off.

Extreme cold (from leaking valve or hose)

Wear work gloves

Impact (from leaking LPG hitting eyes)

Wear safety glasses

Activity Name:

Hand-Operated Power Tools

Task Name

Hazard Description

Control Description

1. Inspect condition of the power tool, including cords and guarding mechanisms

Lacerations

Ensure the tool is unplugged

Do not use the power tool if inspection reveals defects.

Avoid contact with blades, bits, pinch-points, etc.

Electrical shock

Do not use the power tool if inspection reveals defects.

Ensure power cord is in good condition

2. Plug in power tool

Injuries from starting tool when in the “on” position.

Ensure tool is in the “off” position before plugging in.

3. Operating power tool

Lacerations and other injuries.

Always wear safety glasses or goggles, and possibly a face shield in addition

If blade, bit, or other moving part is binding, cease operation of the tool and evaluate/eliminate reasons for binding

Ensure the blade, bit, or other moving part, is not binding as it goes into the work

Evaluate surroundings before turning on power tool and be aware of others

Don't wear loose clothing that could be entangled in the power tool

Make sure that cutting will not come into contact with any utilities

Ensure that material being operated on is secured

Hearing damage

Wear ear plugs or muffs

4. Unplugging power tool.

Lacerations

Ensure tool is in the "off" position and has come to a complete stop before unplugging

5. Changing blade/bit/other tool parts

Lacerations, abrasions

Ensure tool is unplugged before changing any part of the tool.

Wear "mechanics" gloves

Activity Name:

Hedge Trimmer (Gas Powered)

Task Name

Hazard Description

Control Description

1. Gather tools and PPE

Impact from dropping tools

Wear steel-toed shoes

Cut, Puncture, Scrape from trimmings

Wear Long pants, long sleeves, and gloves

2. Inspect and don appropriate PPE

Eye injuries from broken parts, trimmings, etc.

Wear safety glasses with side shields

Hearing damage

Wear ear plugs or muffs

Entanglement in reciprocating parts

Do not wear loose clothing or jewelry, and keep hair tied back

Keep hair, clothing, and gloves away from reciprocating parts

3. Inspect the trimmer and blades before use

Eye, hand, body injuries from broken chain and/or defective guarding

Ensure the trimmer, blades, and guard are in proper working order

Do not use the trimmer if the trimmer, blades, or guard are not in proper working order

Burns from fueling, refueling

No smoking

Do not refuel within 10 feet of fuel pumps

Allow trimmer to cool before refueling

4. Perform the work

Lacerations, amputations from contacting the blades

Keep hands and fingers out of the path of the blades at all times

Apply power and make the cut with a firm steady motion

Allow blades to come to a complete stop before removing pieces or making adjustments

Turn off the hedge trimmer before making any adjustment

Eye, hand, body injuries from flying debris

Ensure proper PPE and attire is worn

Do not make cuts directly overhead, always stand at an angle to the cut and out of the expected path of falling debris

Injuries to pedestrians

Be aware of your surroundings at all times

Cut off the hedge trimmer if pedestrians approach the work area and wait for them to pass before restarting

Set up exclusion zones where you are working and if possible use spotters to keep pedestrians away

Ergonomic, repetitive stress, strain injuries

Take breaks as necessary to prevent fatigue and possible injury

Attempt to vary the cutting motions you are making in order to vary your body position

Heat stress

Keep well hydrated and take rest breaks as needed

Schedule the most strenuous tasks for early in the day

Wear a wide-brimmed hat and light colored clothing

Slips, trips, and falls

Look down from your work before moving your feet

Maintain awareness of ground conditions (slopes, roots, debris, etc.)

5. Clean up when done

Eye, hand, body injuries from handling debris

Continue use of proper attire and PPE

Slips, trips, and falls from debris and/or equipment

Properly clean the area and store equipment

Activity Name:

Hedge Trimmer, Extended (Gas Powered)

Task Name

Hazard Description

Control Description

1. Gather tools and PPE

Impact from dropping tools

Wear steel-toed shoes

Cut, Puncture, Scrape from trimmings

Wear Long pants, long sleeves, and gloves

2. Inspect and don appropriate PPE

Eye injuries from broken parts, trimmings, etc.

Wear safety glasses with side shields

Hearing damage

Wear ear plugs or muffs

Entanglement in reciprocating parts

Keep hair, clothing, and gloves away from reciprocating parts

Do not wear loose clothing or jewelry, and keep hair tied back

3. Inspect the trimmer and blades before use

Eye, hand, body injuries from broken chain and/or defective guarding

Ensure the trimmer, blades, and guard are in proper working order

Do not use the trimmer if the trimmer, blades, or guard are not in proper working order

Burns from fueling, refueling

No smoking

Do not refuel within 10 feet of fuel pumps

Allow trimmer to cool before refueling

4. Perform the work

Lacerations, amputations from contacting the blades

Keep hands and fingers out of the path of the blades at all times

Apply power and make the cut with a firm steady motion

Allow blades to come to a complete stop before removing pieces or making adjustments

Turn off the hedge trimmer before making any adjustment

Eye, hand, body injuries from falling or flying debris

Ensure proper PPE and attire is worn

Do not make cuts directly overhead, always stand at an angle to the cut and out of the expected path of falling debris

Injuries to pedestrians

Cut off the hedge trimmer if pedestrians approach the work area and wait for them to pass before restarting

Be aware of your surroundings at all times

Set up exclusion zones where you are working and if possible use spotters to keep pedestrians away

Ergonomic, repetitive stress, strain injuries

Attempt to vary the cutting motions you are making in order to vary your body position

Take breaks as necessary to prevent fatigue and possible injury

Heat stress

Keep well hydrated and take rest breaks as needed

Schedule the most strenuous tasks for early in the day

Wear a wide-brimmed hat and light colored clothing

Slips, trips, and falls

Maintain awareness of ground conditions (slopes, roots, debris, etc.)

Look down from your work before moving your feet

5. Clean up when done

Eye, hand, body injuries from handling debris

Continue use of proper attire and PPE

Slips, trips, and falls from debris and/or equipment

Properly clean the area and store equipment

Activity Name:

Jig Saw

Task Name	Hazard Description	Control Description
1. Gather tools and PPE	Impact from dropping tools	Use tool cart or tool bag/bucket to transport tools Wear steel-toed shoes
2. Inspect and don appropriate PPE	Eye injuries from broken parts, shavings, etc.	Wear safety glasses with side shields
	Hearing damage	Wear safety glasses with side shields
	Entanglement in reciprocating parts	Keep hair, clothing, and gloves away from reciprocating parts Do not wear loose clothing or jewelry, and keep hair tied back
4. Perform the work	Injury from items interfering with the saw or from low light conditions	Remove clutter and provide proper lighting
	Lacerations, impacts from accidental starting	

Ensure the saw switch is in the off position before plugging in or putting the battery in the saw

Keep away from the saw blade when plugging or putting the battery in in the saw

Eye, hand, body injuries from uncontrolled work piece or flying objects

Ensure the work piece is secured before cutting

Ensure the work piece is free of nails or other objects before cutting

Ensure the work piece is not too large for the saw

Lacerations, amputations from contacting saw blade

Keep hands and fingers out of the path of the saw blade at all times

Apply power and make the cut with a firm steady motion

Allow saw blade to come to a complete stop before removing pieces or making adjustments

Remove battery or unplug the saw before making any adjustment

5. Clean up when done

Slips, trips and fall from debris and/or equipment

Properly clean the area and store equipment

Activity Name:

Ladder

Task Name

Hazard Description

Control Description

1. Select proper ladder

Ladder failure results in fall or other injury

Inspect ladder for broken/missing parts, sharp edges, burrs, splinters, decay, corrosion, slippery substances, etc. and correct or replace if problems are noted.

Ladder selected must be sufficient for the weight of the employee plus the weight of tools and materials. Check rating label on the ladder.

Ladder not tall enough results in fall

Ladder must be long/tall enough to provide safe access to the work area (see below)

Electrical shock

Do not use a metal ladder when working on or near electrical equipment.

2. Obtain ladder and move to work location.

Ergonomics (back and other strain from lifting/carrying ladder)

Use two persons to carry long, heavy ladders, especially extension ladders.

Do stretching and warm-up exercises before starting work.

3. Set up the ladder

Impact

Check for overhead hazards.

Electric shock

Use non-conductive ladder

De-energize circuits prior to working.

Keep at least 10 feet away from energized high voltage lines

Compression (from pinching of fingers/hands while opening stepladder)

Be aware of and avoid pinch points.

Wear work gloves.

Falls from height

For a straight ladder, the distance its bottom to its support wall must be one-quarter the length of the ladder.

Ensure spreader bars are fully extended (down) so that the ladder does not shift while on it.

Ensure that base is stable and ladder is level.

Block, tape, lock or guard a door if the ladder is placed where the door will hit it when opened.

When working in a high traffic area, place warning signs or barriers or have someone hold and guard the ladder.

For a straight ladder used to gain access to a roof or elevated platform, the side rails should extend at least three feet above support point to allow getting off and back on the ladder safely.

Do not use a stepladder like a straight ladder, i.e., in a leaning or folder position.

Never place ladder on boxes or other unstable bases to obtain additional height.

4. Climb the ladder.

Falls from height

Carry tools in a tool belt or raise tools up using a hand line. Never carry tools in your hands while climbing up a ladder.

Always face the ladder and maintain a 3-point contact (two hands and a foot, or two feet and a hand) while ascending.

The bracing on the back side rails of stepladders is designed only for increasing stability, not for climbing.

Materials should be raised by means of a rope after the climber has reached the working position.

5. Accomplish task while on ladder.

Falls from height

The top three rungs of a straight ladder shall not be used.

Never overreach to either side or lean too far forward or backward.

Keep your body centered between both side rails while working. Rule-of-thumb is to never let your belt buckle pass beyond either ladder side rail.

Ladders should not be used by more than one person at a time unless they are designed for such use.

The top two steps and platform of a stepladder shall not be used.

6. Descend the ladder.

Falls from height

Carry tools in a tool belt. Never carry tools in your hands while climbing down a ladder.

Always face the ladder and maintain a 3-point contact (two hands and a foot, or two feet and a hand) while descending.

Activity Name:

Lawnmower (Push, Self-Propelled)

Task Name	Hazard Description	Control Description
1. With the mower off, check fluids, deck, blade, pull-start cord, grass catcher, etc.	Cuts from blade while removing excess debris	Wear work gloves
	Burns from fueling, refueling	No smoking Do not refuel within 10 feet of fuel pumps or storage locations Allow mower to cool before refueling
2. Inspect and don appropriate PPE	Eye injuries from flying debris	Wear safety glasses with side shields
	Hearing damage	Wear ear plugs or muffs
	Foot injury from contacting moving blade	

Wear steel-toed shoes

Hand injury from removing debris

Wear work gloves

Cuts, abrasions to legs from flying debris and vegetation

Wear long pants

3. Start the mower

Muscle strain

Warm-up/stretch before pulling the cord

Foot injury

Ensure feet are well away from the mower deck when starting

4. Perform the work

Eye, hand, foot, body injuries from flying debris

Ensure grass catcher or discharge deflector is properly attached

Ensure appropriate PPE is worn.

Be observant and avoid running over objects that could create flying debris

Injuries from slips, trips, and falls while mowing hills and steep slopes

Do not mow wet grass

Adjust the mower deck to maximum height, and lower from there if necessary

Mow side to side rather than up and down, preferably with a self-propelled mower

Wear shoes with good traction

Injuries to pedestrians

Be aware of your surroundings at all times

Cut off the mower if pedestrians approach the work area and wait for them to pass before resuming

Damage to mower or other property/vehicles

Be observant and avoid running over objects that could create flying debris

If operating without a grass catcher, ensure the discharge deflector is pointing away from other property/vehicles

5. Adjustments and maintenance

Cuts, abrasions, burns

Ensure the engine is off and the blade is stopped before making adjustments or performing maintenance

Allow engine to cool or wear gloves before touching engine parts

Activity Name:

Lawnmower (Zero Turn)

Task Name

Hazard Description

Control Description

1. With the mower off, check fluids, deck, blade, discharge deflector, etc.

Cuts from blade while removing excess debris

Wear work gloves

Burns from fueling, refueling

Do not refuel within 10 feet of fuel storage locations

Allow mower to cool before refueling

No smoking

2. Inspect and don appropriate PPE

Eye injuries from flying debris

Wear safety glasses with side shields

Hearing damage

Wear ear plugs or muffs

Foot injury from contacting moving blade

Wear steel-toed shoes

Hand injury from removing debris

Wear work gloves

Cuts, abrasions to legs from flying debris and vegetation

Wear long pants

3. Start the mower

Hand, foot injury

Ensure you are seated properly with hands and feet in the proper location before starting
Ensure hand

4. Perform the work

Eye, hand, foot, body injuries from flying debris

Ensure appropriate PPE is worn.

Be observant and avoid running over objects that could create flying debris

Ensure discharge deflector is properly attached

Injuries from roll-overs while mowing hills and steep slopes

only on acceptable slopes and at acceptable angles to avoid
Mow only on acceptable slopes at appropriate angles to avoid roll-over

Injuries to pedestrians

Be aware of your surroundings at all times

Cut off the mower if pedestrians approach the work area and wait for them to pass before resuming

Damage to mower or other property/vehicles

Be observant and avoid running over objects that could create flying debris

Ensure the discharge deflector is pointing away from other property/vehicles

5. Adjustments and maintenance

Cuts, abrasions, burns

Allow engine to cool or wear gloves before touching engine parts

Ensure the engine is off and the blade is stopped before making adjustments or performing maintenance

Turn the engine off and ensure blade has stopped before dismounting the mower.

Activity Name:

Lifting/Moving Heavy Objects

Task Name	Hazard Description	Control Description
1. Evaluate the object to be lifted/moved	Back injury - Object very heavy	Request assistance to lift/move object Do not attempt to lift/move object by yourself Use mechanical means if at all possible
	Foot injury - Object dropped	Wear steel-toed shoes Ensure a firm grip before lifting
	Hand injury - Object sharp edges	Wear work gloves
2. Evaluate the path of travel to destination	Slip, Trip and Fall	Utilize elevators or ramps instead of stairs whenever possible Ensure path of travel is free from slip, trip, and fall hazards.

3. Lift the object

Back and/or foot injury

Grasp the object firmly with both hands

Warm up/stretch before attempting the lift

Use a wide stance with one foot forward and to the side of the object for good balance

Slide the object as close to you as possible

Put the other hand on the side of the object closest to you. Hands are now on opposite corners.

Get as close to the object as possible

Tighten your core muscles, look forward and upward, and keep a straight, strong back

Lift slowly and follow your head and shoulders, keep the load close to your body, and lift by extending your legs with your back straight, breathing out as you lift

Put the hand on the same side as the forward foot on the side of the object furthest from you

Keep your back straight, push your buttocks out, and use your legs and hips to lower yourself down to the object

4. Carry object to desired location

Back strain from twisting with object

Change directions by pointing your feet in the direction you want to go and turning your whole body.

Do not twist your upper body while carrying the load. Twisting compounds the stresses and forces of lifting and carrying an object and also affects your center of balance.

Slip, trip, or fall

Walk slowly and maintain firm footing

5. Set the object down

Back and/or foot injury

Reverse the lifting procedure.

Activity Name:

Oxy-Acetylene (Cutting) Torch

Task Name

Hazard Description

Control Description

1. Close off cutting area.

Light (optical) radiation

Close welding curtain to shield outsiders.

2. Prepare for cutting.

Chemical exposure (from inhalation of fumes)

Turn on exhaust fan.

Impact (from flying slag spatter) Burns (from sparks and slag spatter)

Wear face shield or welding hood.

Wear welding jacket.

Wear work gloves and work boots.

3. Set gauges and open gas cylinder valves.

Compression (from pinching of fingers and hands)

Avoid pinch points.

Wear work gloves.

Impact (from struck by due to projectile created by regulator failure)

Turn valve slowly; do not stand in front of regulator/gauges.

4. Clean torch tip; ensure hose valves are tight; unwrap hoses.

Compression (from pinching of fingers and hands)

Wear work gloves.

Avoid pinch points.

Impact (from struck by due to tripping over cables)

Take care to keep cables untangled and free from under feet.

5. Use striker to light torch.

Burns

Wear face shield or welding hood.

Wear welding jacket.

Wear work gloves and work boots.

6. Apply torch flame to material to be cut and perform cutting operation.

Impact (from flying slag spatter) Burns (from sparks and slag spatter)

Wear welding jacket.

Wear work gloves and work boots.

Wear face shield or welding hood.

7. Allow cut material to cool on workbench.

None foreseen

None

8. Close compressed gas valves and bleed off regulators.

None foreseen

None

9. Wrap hoses.

Compression (from pinching of fingers and hands)

Wear work gloves.

Avoid pinch points.

Impact (from struck by due to tripping over cables)

Take care to keep cables untangled and free from under feet.

10. Clean work area.

Burns (from handling hot material)

Allow material to continue to cool.

Wear work gloves.

Activity Name:

Painting

Task Name	Hazard Description	Control Description
1. Transport paint/coating material container(s) to work location.	Ergonomics (back or other strain from lifting/ carrying)	Do stretching and warm-up exercises before starting work. Use materials handling equipment for lifting and transport, e.g., hand truck. Lifting/Back Safety training
2. Utilize ladder, aerial lift device, scaffold or swing stage as necessary to access area to be painted or coated. See also JHA “Use a Ladder” or JHA “Operate an Aerial Lift Device”.	Falls from height	Ladder Safety training Use Personal Fall Arrest System when using aerial lift device or swing stage. NOTE: Most scaffold erection and all swing stage installation will be performed by an outside contractor specializing in this work. See also the PBSC “Fall Protection Program” for additional guidance regarding the use of scaffolds.
3. Open paint/coating material container.	Cuts/Penetration (from using screwdriver or can opener)	

Wear work gloves.

Activity Name:

Paper Cutter (Guillotine style)

Task Name

Hazard Description

Control Description

1. Inspect paper cutter for defects

Cuts, lacerations due to equipment malfunction

Ensure blade is securely mounted and sharp

Do not use paper cutter if there are any defects or missing/inoperative safety features

Ensure safety features are in place and working

2. Gather papers to be cut and plan out cutting task

None foreseen

None

3. Perform cutting task

Hand/finger injuries, lacerations

Ensure your fingers do not go past the safety bar when holding papers

Ensure you only cut a few papers at a time, especially if cutting heavy weight papers

Keep a firm grip on the blade handle and firm pressure downward on the paper cutter

Bring the blade down firmly, but without using excessive speed.

Perform a test cut to ensure the paper cutter is working properly

4. Clean up when done

Slips, trips, and falls due to loose papers or improperly stored paper cutter

Properly clean the area and store equipment

Lacerations from paper cutter blade left open

Ensure the blade is closed and the safety latch engaged to prevent blade from going up or down when not in use

Activity Name:

Pesticides/Herbicides

Task Name

Hazard Description

Control Description

1. Consult the product label and Safety Data Sheet to determine the hazards it may pose and any required PPE.

To be determined from reading the product label and the Safety Data Sheet

Depending upon the particular hazard, wear appropriate PPE.

2. Apply the product in accordance with the label instructions.

Chemical exposure

Wear long pants, safety glasses, appropriate gloves, and boots

Wear filtering facepiece respirator (particulate mask) or air-purifying respirator with appropriate cartridge, if required by the label instructions or Safety Data Sheet.

Ergonomics (back or other strain from lifting/carrying product containers or product applicator)

Lifting/Back Safety training

Do stretching and warm-up exercises before starting work

3. Dispose of product residuals or empty product container in accordance with the label instructions.

Chemical exposure

Wear filtering facepiece respirator (particulate mask) or air-purifying respirator with appropriate cartridge, if required by the label instructions or Safety Data Sheet.

Wear long pants, safety glasses, appropriate gloves, and boots

Activity Name:

Pole Saw (Gas Powered)

Task Name

Hazard Description

Control Description

1. Gather tools and PPE

Impact from dropping tools

Wear steel-toed shoes

Cut, Puncture, Scrape from trimmings

Wear Long pants, long sleeves, and gloves

2. Inspect and don appropriate PPE

Eye injuries from broken parts, trimmings, etc.

Wear safety glasses with side shields

Hearing damage

Wear ear plugs or muffs

Entanglement in rotating parts

Do not wear loose clothing or jewelry, and keep hair tied back

Keep hair, clothing, and gloves away from rotating parts

3. Inspect the saw and chain before use

Eye, hand, body injuries from broken chain and/or defective guarding

Ensure the saw, chain, and guard are in proper working order

Do not use the saw if the saw, chain, or guard are not in proper working order

Burns from fueling, refueling

No smoking

Do not refuel within 10 feet of fuel pumps

Allow saw to cool before refueling

Electrical shock from encountering power lines

Stay a minimum of 10 feet from high voltage power lines

4. Perform the work

Lacerations, amputations from contacting the chain

Keep hands and fingers out of the path of the chain at all times

Apply power and make the cut with a firm steady motion

Allow chain to come to a complete stop before removing pieces or making adjustments

Turn off the saw before making any adjustment

Eye, hand, body injuries from falling limbs or flying debris

Ensure proper PPE and attire is worn

It may be prudent to make several small cuts rather than one large cut to avoid being hit by large branches

Do not make cuts directly overhead, always stand at an angle to the cut and out of the expected path of falling debris

Injuries to pedestrians

Cut off the saw if pedestrians approach the work area and wait for them to pass before restarting

Set up exclusion zones where you are working and if possible use spotters to keep pedestrians away

Be aware of your surroundings at all times

Ergonomic, repetitive stress, strain injuries

Take breaks as necessary to prevent fatigue and possible injury

Attempt to vary the types of cuts you are making in order to vary your body position

Heat stress

Schedule the most strenuous tasks for early in the day

Keep well hydrated and take rest breaks as needed

Schedule the most strenuous tasks for early in the day

Slips, trips, and falls

Look down from your work before moving your feet

Maintain awareness of ground conditions (slopes, roots, debris, etc.)

5. Clean up when done

Eye, hand, body injuries from handling debris

Continue use of proper attire and PPE

Slips, trips, and falls from debris and/or equipment

Properly clean the area and store equipment

Activity Name:

Pressure Washing (Gas Powered)

Task Name

Hazard Description

Control Description

1. Check fuel level; refill as necessary.

Burns (from static electricity or open flame that starts a fire)

No metal fuel containers.

Start engine at least 10 feet away from fuel source.

No smoking.

2. Place safety cones or safety tape as necessary to block off work area from pedestrian or vehicular traffic.

None foreseen

None

3. Block pressure washer wheels to prevent it from rolling.

Compression (from unit rolling over foot)

Wear work shoes with a safety toe.

4. Inspect pressure washer and hose(s) for condition and damage.

Impact (from high pressure water exiting through a break in the hose)

Removed damaged equipment and hoses from service and replace as necessary.

5. Connect water supply hose to pressure washer and turn water on.

None foreseen

None

6. Flush system with sufficient water to remove any contaminants.

None foreseen

None

7. Install desired nozzle/tip on the pressure washing wand.

None foreseen

None

8. Turn ignition on or press starter switch.

None foreseen

None

9. If present, pull starter cord to start engine.

Ergonomics (back/other strain from pulling starter cord)

Pull recoil starter handle quickly, but steadily, straight back from engine in one smooth motion and allow the starter cord to rewind slowly.

Do stretching and warm-up exercises before starting engine.

10. Perform pressure washing.

Cuts (from high pressure water or debris contacting skin)

Never point the pressure washing wand at other personnel.

Large quantities of water may enter flesh and organs through a very small hole with little or no bleeding. Seek immediate medical attention for treatment of water jet cuts/punctures.

Wear cut-resistant work gloves.

Increase pressure slowly until required working pressure is reached.

Keep hose(s) as straight as possible—do not bend or pinch them.

Never lock the pressure washing wand trigger assembly in position if equipped with a lock.

Never operate the equipment above the manufacturer's rated pressure maximum.

Wear long trousers and long-sleeve shirts.

Turn off pressure washer engine and water supply and release pressure by depressing pressure washer wand trigger before changing the nozzle/tip.

Never leave equipment unattended when in operation or under pressure.

Impact (from falling due to slipping or tripping over water supply hose)

Wear work shoes with slip-resistant soles.

Maintain situational awareness.

Arrange hose in a manner to minimize slip, trip and fall hazards.

Impact (from flying debris entering eyes)

Wear safety glasses with side shields or splash goggles.

Burns (from contacting hot engine parts)

Avoid contact with hot engine parts.

Ergonomics (back or other strain from moving or controlling hose(s) or wand or physical effort required to maintain control of the pressure washer wand)

Wear work gloves.

Wear long trousers and long-sleeve shirts.

Avoid awkward positions, over-reaching and straining.

Switch off with other personnel.

Do stretching and warm-up exercises before starting work.

Ergonomics (possible injury to hands due to vibration from pressure washing wand)

Wear no-slip, heavy duty work gloves.

Noise

Wear ear plugs.

Biologic (from infectious organisms entering skin as a result of pressure cuts)

Seek immediate medical attention.

Electrical shock (from water spray contacting energized electrical equipment)

Ensure that any electrical equipment in the vicinity of the pressure washing activity that presents a hazard to you is de-energized, shielded or otherwise made safe.

Lockout/Tagout training

Chemical exposure (e.g., from chlorine used as biocide)

Wear safety glasses.

Wear long trousers and long-sleeve shirts.

11. Complete work. Turn ignition switch off.

None foreseen

None

12. Depress pressure washing wand trigger to release pressure. Turn off water.

None foreseen

None

13. Disconnect water supply hose. Wrap hose(s) and prepare equipment for storage.

Ergonomics (back or other strain from moving hose(s) or lifting)

Do stretching and warm-up exercises before starting work.

Lifting/Back Safety training

14. Check fuel level; refill as necessary.

Burns (from static electricity or open flame that starts a fire)

No metal fuel containers.

Allow engine to cool before refueling.

No smoking.

Activity Name:

Reciprocating Saw

Task Name	Hazard Description	Control Description
1. Gather tools and PPE	Impact from dropping tools	Wear steel-toed shoes/boots
2. Inspect and don appropriate PPE	Eye injuries from broken parts, shavings, etc.	Wear safety glasses with side shields
	Hearing damage	Wear ear plugs or muffs
	Entanglement in reciprocating parts	Do not wear loose clothing or jewelry, and keep hair tied back Keep hair, clothing, and gloves away from reciprocating parts
3. Inspect the saw and blade before use	Eye, hand, body injuries from shattered blade and/or defective guarding	Ensure the saw, blade, and guard are in proper working order Do not use the saw if the saw, blade or guard are not in proper working order Ensure the saw blade is the proper type for the material to be cut (i.e. metal, wood)

Electrical shock, if equipped with power cord

Ensure there are no defects in the power cord and that plug retains grounding prong.

4. Perform the work

Injury from items interfering with the saw or from low light conditions

Remove clutter and provide proper lighting

Lacerations, impacts from accidental starting

Keep away from the saw blade when plugging or putting the battery in in the saw

Ensure the saw switch is in the off position before plugging in or putting the battery in the saw

Eye, hand, body injuries from uncontrolled work piece or flying objects

Ensure the work piece is not too large for the saw

Ensure the work piece is secured before cutting

Ensure the work piece is free of nails or other objects before cutting

Lacerations, amputations from contacting saw blade

Remove battery or unplug the saw before making any adjustment

Keep hands and fingers out of the path of the saw blade at all times

Apply power and make the cut with a firm steady motion

Allow saw blade to come to a complete stop before removing pieces or making adjustments

5. Clean up when done

Slips, trips and fall from debris and/or equipment

Properly clean the area and store equipment

Activity Name:

Saw (Miter, "Chop", Radial Arm)

Task Name

Hazard Description

Control Description

1. Gather tools and PPE

Impact from dropping tools

Wear steel-toed shoes/boots

2. Inspect and don appropriate PPE

Eye injuries from broken parts, shavings, etc.

Wear safety glasses with side shields

Hearing damage

Wear ear plugs or muffs

Entanglement in rotating parts

Keep hair, clothing, and gloves away from rotating parts

Do not wear loose clothing or jewelry, and keep hair tied back

3. Inspect the saw and blade before use

Eye, hand, body injuries from shattered blade and/or defective guarding

Ensure the saw blade is the proper type for the material to be cut (i.e. metal, wood)

Ensure the saw, blade, and guard are in proper working order

Do not use the saw if the saw, blade, or guard are not in proper working order

Electrical shock

Ensure there are no defects in the power cord and that plug retains grounding prong.

4. Perform the work

Injury from items interfering with the saw or from low light conditions

Remove clutter and provide proper lighting prior to job

Lacerations, impacts from accidental starting

Ensure the saw switch is in the off position before plugging in the saw

Keep away from the saw blade when plugging in the saw

Eye, hand, body injuries from uncontrolled work piece or flying objects

Ensure the work piece is free of nails or other objects before cutting

Ensure the work piece is not too large for the saw

Ensure the work piece is secured before cutting

Lacerations, amputations from contacting saw blade

Allow saw blade to come to a complete stop before removing pieces or making adjustments

Unplug the saw before making any adjustment

Apply power and make the cut with a firm steady motion

Keep hands and fingers out of the path of the saw blade at all times

Use mechanical means to nudge pieces away from the saw blade prior to removing

5. Clean up when done

Slips, trips and fall from debris and/or equipment

Properly clean the area and store equipment

Activity Name:

Table Saw

Task Name

Hazard Description

Control Description

1. Keep hair and loose clothing away from equipment. Adjust fence.

Impact (possible kickback from failure to lock down fence)

Verify that fence is locked after adjustment.

2. Verify blade-to-fence distance with a measuring tape.

Cuts (from saw blade)

Keep hand that is holding the tape case away from the saw blade.

3. Adjust the height and angle of the blade.

Ergonomics (from back or other strain while turning adjustment wheel)

Do stretching and warm-up exercises before beginning work.

Adjust blade height to 1/8" above stock to be cut.

4. Turn on dust collector

None foreseen

None

5. Check stock for cracks or loose knots. Check stock for nails or other fasteners and remove.

Impact (from projectiles while cutting stock)

Wear safety glasses.

Cuts (from nails or other fasteners)

Exercise care when checking stock.

6. Start the saw.

Impact (from projectiles from rotating blade)

Wear safety glasses.

Visually verify that there are no wood or other debris around the blade or in the path of the stock.

7. Start and complete the cut.

Impact (from projectiles from rotating blade or stock kickback)

Wait until the blade has stopped before removing finished piece or scrap.

Visually verify that there are no wood or other debris around the blade on in the path of the stock.

Wear safety glasses.

Noise

Wear appropriate hearing protection (ear plugs, ear muffs)

Activity Name:

Tile Saw (Wet)

Task Name

Hazard Description

Control Description

1. Check condition of the tool and the cord and plug.

Electric shock

Do not use the tool if it is in poor condition; the cord is missing insulation; or the plug is missing its grounding prong.

2. Assemble the wet saw on stable ground making sure that the tile tray clears the blade.

Impact (from flying debris resulting from the saw cutting into the tile tray)

Wear safety glasses.

3. Check condition of the saw blade—no cracks or bends.

Cuts

Ensure that the tool is unplugged.

Wear work gloves.

Avoid contact with the blade teeth.

4. Check that guard is in working condition and in the proper position, if applicable.

Cuts

Avoid contact with the saw blade.

5. Add water to wet saw reservoir, plug in wet saw and turn it on.

Cuts (from starting the saw in the “On” position)

Ensure that water is flowing through the pump and hose.

Ensure saw is in the “Off” position before plugging it in.

6. Operate wet saw.

Impact (from flying debris resulting from cutting)

Wear safety glasses.

Impact (from kickback)

Ensure that blade is sharp and not binding during operation. Do not force the cut. Allow the saw to reach full power before starting the cut.

Ensure that material being worked on is secured.

If blade binds or kicks back, inspect it for bends and cracks.

Electric shock

Keep all cords clear of cutting area.

Do not use extension cord without a grounding prong.

Drape the electrical cord down so that it dips below the level of the electrical outlet.

Connect saw to a Ground Fault Circuit Interrupter (GFCI) outlet.

Noise

Wear ear plugs.

Cuts

Keep hands and fingers away from the cutting line.

Wear work gloves.

Harmful dust

Wear filtering facepiece respirator (particulate mask).

Impact (from slips and falls due to water spills)

Keep water spills cleaned up.

7. Change wet saw blade or make adjustments.

Cuts/Impact

Wear work gloves.

Ensure tool is unplugged before changing any part or making any adjustments to the tool. Set the depth of the blade and lock it so that the lowest tooth does not extend more than about 1/8 inch below the material being cut.

8. Turn off and unplug wet saw.

None foreseen

None

Activity Name:

Vehicle/Equipment Fueling (Fuel Pumps)

Task Name	Hazard Description	Control Description
1. Position vehicle/equipment at the appropriate fuel pump with fuel fill port on the correct side	Damage to vehicles/equipment or fuel pumps	Pay attention and use caution when approaching the fuel pumps Ensure the vehicle/equipment is in "Park" and turned off before exiting
	Injuries to pedestrians/bystanders	Ensure the vehicle/equipment is in "Park" and turned off before exiting Pay attention and use caution when approaching the fuel pumps
2. Use card system to activate appropriate pump	None foreseen	None
3. Begin fueling - remove fuel nozzle from fuel pump and insert in vehicle/equipment fuel fill port	Tripping over fuel hose	Do not attempt to step over fuel hose while fueling

Fuel spills

Do not over fill vehicle/equipment, stop fueling when auto-shutoff works

If a spill occurs, use the available spill kit and/or alert vehicle maintenance office

Know where the Emergency Stop Button is located.

Never leave vehicle/equipment unattended while fueling

Insert fuel nozzle fully to avoid spills and engage automatic shutoff system

Fires, explosions, burns

No smoking and No cell phone use

During periods of low humidity always touch the vehicle/equipment to dissipate any static electricity prior to beginning the fueling process

4. When finished, remove fuel nozzle from vehicle/equipment and return it to the fuel pump

Tripping over fuel hose

Do not attempt to step over fuel hose while returning it to the fuel pump

Fuel Spills

Keep fingers off the fuel fill lever while returning it to the pump

Ensure the fuel fill port cap is securely tightened

5. Drive vehicle/equipment away from the fuel pumps

Vehicle/equipment, fuel pump damage

Verify fuel nozzle/hose has been returned to the pump and is free and clear of the vehicle/equipment

Pay attention and use caution when departing the fuel pumps

Injuries to pedestrians/bystanders

Pay attention and use caution when departing the fuel pumps

Activity Name:

Wood Chipper

Task Name

Hazard Description

Control Description

1. Secure chipper to towing vehicle.

Pinching fingers, hands, legs, and feet

Avoid pinch points when connecting chipper hitch, safety chain, and brake lights to towing vehicle.

2. Prepare work area.

Traffic hazards, injuries to bystanders and co-workers.

Clear feeder table of all objects, position discharge chute to direct chips in desired direction.

Set out warning signs or traffic cones.
Leave room on curbside of chipper for workers to maneuver.

3. Operate chipper.

Flying debris entering eyes or injuring head

Wear safety glasses or face shield and hard hat; do not feed foreign material such as stones, nails, or sweepings into chipper.

Cutting injuries to hands, body parts

Feed chipper from the curb side of the center line and immediately pivot away from the feeder table when material is being pulled into the chipper. Use large limbs to push small pieces through blades. If chute becomes clogged or chipper requires maintenance, fueling, or lubrication, turn off engine and remove key before performing these operations. Do not operate chipper when panels or chute are removed.

Do not place hands, arms, feet, legs, or any body parts past the front plane of the feeder table when the chipper is in operation.

Do not wear loose-fitting clothing or gauntlet-type gloves.

Hearing loss

Wear ear plugs or ear muffs
