

## **Shawmut Design and Construction**

Environmental, Health & Safety Department

	PROJECT HAZARD AN	ALYSIS (PHA)
PROJECT:	WRITTEN BY:	WORK ACTIVITY:
SUBCONTRACTOR:	DATE:	COMPETENT PERSON:
MANDATORY PERSONAL PROTI	ECTIVE EQUIPMENT: Hard hat, work boots, sa	fety glasses, gloves
Shawmut, and client requirements at 3) fall protection required for all advance to the SDC Superintend:  HOW TO COMPLETE FORM:  Write down the description of you	tall times; including but not limited to: 1) no live of trades >6′, 4) submit crane safety checklist of the trades >6′, 4) submit crane safety checklist of the trade of the SDC Safety Manager  our work activity below. Check off all the hazard with this work activity in the second chart. Have before the work activity begins.	ompany JSA. OSHA rules must be followed as well as local, state, electrical work, 2) installing railings on baker scaffolds >4-ft, and training certificates for approval at least 48 hours in a associated with this work activity in the first chart. Check off all the all workers involved in this operation sign in acknowledgement

## **Hazards and Controls** Check all controls listed below that apply to this operation. N/A Yes N/A Yes N/A Yes **Elevated Work Platforms Excavation / Trenching Roof work** (Ex. Scissor Lifts, Aerial Lifts, Complete Excavation Safety monitors not allowed JLG's, etc.) Trade-Specific Checklist Leading edge work requires 100% fall Layout/complete Digsafe / All workers to have proof of protection ANSI A-92 training utility markings Fall Protection Plan required – describe Hand digging (ONLY) within Pre-shift inspections shall be below done prior to use or by shift 18" of known utilities Employees must provide proof of and inspected in accordance Cave-in protection plan in training for fall protection with the manufacturer's place for cuts >5' (describe instructions \*\*\*Training is mandatory\*\*\* below) Fall protection must be used Access provided at >4' when required every 25-ft Warning lines if used are at least 6' Cribbing, when required, will Perimeter fall protection for back for roofers and 15' back for nonbe used according to lift cuts at >6' roofers **Ensure Competent Person** manufacturer instructions No storage of material within 10' of edge Material secure at all times Maintain safe distances from is on-site at all times overhead power lines Never work when water is in Safe access provided Rescue plan in place – describe below Inspect ground conditions hole Follow the Hot Work permit as required Protect floor openings before Traffic/ worker protection Refer to Safety Data Sheets (SDSs) for lift use plan in place (barriers) Trenches greater 4-ft that chemicals. Use appropriate PPE as All chains will be in place before workers operate lifts has potentially hazardous indicated on the SDSs atmospheres may require Liquid Asphalt roofs – describe safety / permit-required confined hot work plan below space controls. Spoil piles shall be kept at a minimum of 2-ft from trench edges

<u>Hazardous Materials</u>		Energy Source		Scaffolding required	
<ul> <li>(Ex. asbestos, lead, pcb's)</li> <li>Full Abatement Plan / Safety Plan required</li> <li>Disposal plan (reviewed/approved)</li> <li>Containment plan in place</li> <li>Signage in place</li> <li>All required PPE in place</li> <li>Hazardous materials assessment report on-site</li> <li>All workers to provide proof of training. Examples: a. hazmat, b. respiratory, c. biological, etc.</li> <li>Work plan approved by government is attached</li> <li>Air monitoring plan in place</li> <li>SDSs required for all chemicals</li> </ul>		<ul> <li>(Ex. electrical, steam, gas, etc.)</li> <li>No live electrical work including voltage testing</li> <li>Equipment will be deenergized upstream</li> <li>Compliance with NFPA 70E – describe below</li> <li>Provide proof of training on NFPA 70E</li> <li>Workers will wear Arc Flash PPE to verify power is deenergized</li> <li>Proper lockout/ tagout</li> <li>Complete panel entry safety permit (before panel is deenergized)</li> <li>Other high risk tasks describe below (live taps, etc.)</li> </ul>		<ul> <li>Fall protection in place when at &gt;6'</li> <li>Erectors/ dismantlers tie off &gt;6' –         describe below</li> <li>If infeasible, complete scaffold feasibility form</li> <li>Erected by trained person: firm, level, plumb</li> <li>Bakers have rails when at &gt;4'</li> <li>Scaffolds are inspected by competent person daily and pre-shift; initialed on scaffold tag</li> <li>Scaffold secure to building as needed</li> <li>All workers have scaffold training (i.e. – Erectors / Users)</li> <li>All scaffolds must be tagged with GREEN, YELLOW or RED tags</li> <li>All energized lines must be identified and made safe</li> </ul>	

Saw Cutting / Corin	<u>a</u> 🗆	Fall Hazards		Steel Erection	
<ul> <li>All utilities have been identified (as built review or scan)</li> <li>Secure area around and below operation</li> <li>No material will be drop all material will be safely lowered</li> <li>Electrical equipment wil tied-in by electrician and inspected daily</li> <li>Proper PPE (face shield hearing protection, etc.)</li> <li>Dust suppression practishall be used (i.e. – wet methods, negair)</li> <li>Ensure all manufacturer protective devices (guarare in place and operations)</li> </ul>	ped – y I be d I, ces gative	<ul> <li>Utilize 100% fall protection tie-off at all times at heights equal to and exceeding 6-ft</li> <li>All workers using fall arrest equipment are trained</li> <li>Tie off overhead when possible</li> <li>Personal fall arrest equipment must be tagged and designed for use as PFAS only</li> <li>Rigging straps not used for anchor points</li> <li>Anchor points must hold 5,000 pounds per person</li> <li>Equipment inspected daily</li> <li>100% tie off &gt;6'</li> <li>Guardrails installed per OSHA regulations</li> <li>Fall distances and clearances will be evaluated</li> <li>***Training is mandatory***</li> </ul>		Complete steel erection safety checklist with SDC during pre-erection kickoff meeting All workers have proof of training - OSHA subpart R, fall protection, lifts, welding certs, Complete crane safety paperwork 100% fall protection when at >6' Rescue plan in place  **** describe detailed plan below ****  Overhead protection shall be in place two secure levels below work areas and barricades and/or signage will be used to prevent unauthorized access Bolt buckets and bags, tools and any other material associated with this task will not be left unattended on steel beams at any time or carried up a ladder All rigging will be inspected by a qualified rigger prior to each shift. Any damaged or defective rigging shall be removed immediately. Cable guardrails, when installed, shall have a minimum of 3 wire rope clips at all termination points	

Concrete and Masonry		Heavy Equipment		Confined Space Entry	
<ul> <li>Dust control plan/ wet methods/ negative air/ respiratory protection</li> <li>Engineered shoring plan (formwork, decks, walls)</li> <li>Steel plate rebar caps installed</li> <li>Workers cutting rebar will wear safety glasses, face shields, gloves, hearing protection, and hard hats.</li> <li>Provide railings, or require positive fall protection if exposure is over 6-ft</li> </ul>		<ul> <li>Users have proof of training</li> <li>Equipment inspected daily</li> <li>Hydraulic spill kit on site</li> <li>Swing radius protected</li> <li>Back up alarms in place</li> <li>High-vis vests used by all</li> <li>Properly secure the machine while unattended</li> <li>Wear seatbelts at all times</li> <li>Never work or walk under loads</li> <li>Operator at controls at all times while load is hoisted</li> <li>Cover or barricade excavations as soon as practical</li> <li>Always make eye contact with equipment operators prior to approaching</li> <li>Proper air quality is maintained while equipment is used indoors (i.e. scrubber, ventilation)</li> <li>***Training is mandatory***</li> </ul>		 All confined space work requires:  Continuous air monitoring Full time stationed attendant Permit complete daily Rescue plan in place (describe below) Energy sources isolated Hot work/ welding/ potential change of atmosphere – describe below Entry hole protected from falls (guardrails) Ensure safe illumination in place Ensure sufficient ventilation and air circulation inside confined space	

Cranes/ Hoisting/ Rigging	Fire Protection / Hot Work		<u>Demolition</u>	
<ul> <li>SDC Crane Checklist has been completed</li> <li>All equipment tagged and rated</li> <li>Workers have proof of training (qualified rigger/signalperson/operator)</li> <li>Cranes and rigging equipment inspected daily</li> <li>Traffic control in place</li> <li>Ensure the proper rigging selection is of sufficient strength and size</li> <li>All individual rigging components are capable to support the entire load independently (if not possible, explain below)</li> <li>Manufacturer's hoisting attachment points have been reviewed</li> </ul>	<ul> <li>Complete permit daily</li> <li>Fire extinguisher at location</li> <li>Fire watch in place</li> <li>Combustible material protected or stored &gt;35' away</li> <li>Welding screen in place</li> <li>Smoke eaters used indoors</li> <li>Follow local laws, client and SDC requirements</li> <li>Proper PPE</li> <li>Fire Watch will remain on duty 30-min after hotwork is completed</li> <li>Compressed gas cylinders and flammable liquids will be stored properly</li> <li>Flashback arrestors used</li> <li>Welding leads inspected daily and repaired properly as required (rubber and friction tape)</li> </ul>		<ul> <li>Hazmat report reviewed</li> <li>Pre-demo survey complete</li> <li>Structural demo plan approved by engineer</li> <li>Make safe complete</li> <li>Workers trained in demolition safety</li> <li>PPE includes protection for cuts and lacerations, face shields, hearing protection</li> <li>Proof of respirator training if used</li> <li>Dust control plan - describe below</li> </ul>	

Hand Tools	<u>Ladders</u>		Respiratory Protection	
<ul> <li>Inspect hand tools prior to each use</li> <li>Damaged tools will be removed from service and tagged "DEFECTIVE"</li> <li>Never remove guards from power tools</li> <li>Unplug tools first before servicing, changing drill bits, saw blades, or grinding wheels.</li> <li>Pneumatic power tools shall be secured to the air hose by an approved quick connect</li> <li>Electric cords shall not be exposed to damage from vehicles driving over them.</li> <li>Portable electric tools shall not be lifted or lowered by means of the power cord</li> </ul>	<ul> <li>Always face the ladder when climbing</li> <li>Never stand on the top two rungs of the ladder</li> <li>All ladders must be secured to prevent displacement</li> <li>Extension ladders must be secured before work is performed</li> <li>Aluminum ladders are prohibited</li> <li>All ladders shall be erected so at least 3-ft of the rails extend over the landing</li> <li>Use 3 points of contact when ascending or descending on a ladder</li> <li>Never carry tools or equipment</li> <li>use handline</li> </ul>		<ul> <li>Respiratory Protection Program will be submitted</li> <li>Submit employee documentation for:         <ul> <li>Annual medical evaluation</li> <li>Fit testing</li> <li>Proof of training</li> </ul> </li> <li>If air supply respirators are required, describe below</li> <li>SDSs reviewed and available to all workers on-site</li> <li>Unauthorized/Untrained workers will not be allowed in work areas which require respirators         <ul> <li>(i.e. spray-on installation, paint)</li> </ul> </li> <li>Workers who choose to wear a respirator will read and sign OSHA's Appendix D to Section 29 CFR 1910.134.</li> </ul>	

## **ADDITIONAL NOTES/ COMMENTS/ CONTROLS:**

	Controls	Hazard	Work Task	Step
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## PHA FIELD REVIEW RECORD - ALL WORKERS MUST REVIEW AND SIGN HERE

Last Name	First Name	Signature	Date Reviewed