

Fall Protection: Elevated Surface Work Plan (ESWP) and Rescue Plan

Department: Chemical and General Safety
 Program: Fall Protection
 Owner: Scott Blankenship
 Authority: ES&H Manual, Chapter 45, Fall Protection

The preparation and approval of an elevated surface work plan (ESWP) is required before you access an unprotected elevated work platform or area. An unprotected elevated work platform or area is any elevated work surface, including roofs, not surrounded by a fixed barrier such as conforming guardrails or protective parapet.

Exceptions

1. If using ladders, this requirement does not apply as long as you are using them properly and according to manufacturer's instructions.
2. For access to low-slope roofs (a maximum pitch of 4 vertical to 12 horizontal), this requirement does not apply as long as you stay at least six feet away from the unprotected roof edge at all times. You must immediately proceed from the ladder, away from the edge, to the work area. If at any other time you must access within six feet of an unprotected roof edge (besides getting on and off the ladder), you must develop an ESWP.

The ESWP must be approved by a SLAC competent person and the building/area/facility manager or designee before you access the area.

A rescue plan (last page) must be developed whenever fall arrest systems are in use and when personnel would not be able to self-rescue should a fall occur.

Project name	BaBar 2006 upgrade	Project location (bldg, floor, grid)	625
Specific equipment involved	Shield Wall	Project dates	From: 8/21/06 To: 12/31/06
Project description	Shield wall removal and reinstallation		
Work plan author (print)	Sandy Pierson	Pager/cell 704-2433	
Work plan author (sign)			
Competent person (print)		Pager/cell	
Competent person (sign)			
Building/area/facility manager or designee (print)	Jim Krebs (BaBar Chief Engineer)	Pager/cell	
Building/area/facility manager or designee (sign)			

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Elevated Surface Work Plan

Questions to Consider	Answers or Solutions
Does my job hazard analysis and mitigation (JHAM) address this type of work involving unprotected elevated locations?	Yes
What is the job to be done?	Removal and reinstallation of shield wall
What's the location? How high is it?	Bldg 625 Height 25 feet
What is the working or walking surface like?	Concrete blocks 4 feet wide 15-20 feet in length making a work surface 60 feet long.
Are there any environmental factors to consider? (heat, cold, slippery, wet, wind, glare, etc.)	Heat may be a factor
Are there any hazards nearby or underneath that are exposed or could become exposed in an impact (plumbing lines, electrical exposures, protruding or impalement hazards, etc.)?	There is plumbing and equipment below on 2 sides.
Will the work require special PPE (besides fall protection)?	Yes, gloves, hard-hat, steel toed shoes and safety glasses
Who will I be working with (buddy system)?	
How will I get equipment and tools to the work location?	Ladder and crane
Do I need to prevent my activities from resulting in hazards to those below by following appropriate barricading methods to keep non-essential personnel away?	Yes, access to area will be restricted during removal and installation.
Can I work from the ground level instead by bringing the work down?	No
Can I work safely from a ladder instead?	No
Can I use an aerial (boom) lift or scissors lift instead (and am I qualified to operate one?)	No
If not, can we install portable guardrails for the job?	No
If not, can I use fall restraint?	Yes
If not, will I use fall arrest?	If yes, see following pages for Fall Hazard Analysis for Fall Arrest and Rescue Plan
Other?	

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Fall Hazard Analysis for Fall Arrest

Are there any existing approved anchorage points I can use? Where?	Yes, picking eyes for the blocks rated at 20 tons or more.
Is it labeled as an approved anchorage point or obviously capable of holding 5000 lbs or more as determined by a designated SLAC qualified person?	It is obvious
If not, can approved pre-manufactured or engineered anchorages be installed?	
Do I have the right equipment (full body harness, minimum length lanyard, shock absorber, connecting hardware, I-beam strap, self-retracting lifeline, etc.)?	Yes, harness, wearable retractable lanyards and carabiners
What is the clearance or distance I may fall into?	15-20 feet
Is there at least 15-18 feet of clear space from anchorage point before the next level down? (calculate fall distance to include lanyard length, deceleration distance of 3.5 feet, your height, one foot of harness slack, elongation factor, and a safety factor).	yes
What is between me and the ground or floor below?	Plumbing, walk ways, electrical equipment
What will I hit on the way down?	See above
How would I be rescued if I fall and am suspended in the harness? (Develop rescue plan)	Ladder, from the ground or retrieval from above on the block.

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Rescue Plan

A rescue plan must be developed whenever fall arrest systems are in use and when personnel may not be able to self-rescue should a fall occur.

What is the emergency contact information of professional rescue services available, such as the local Fire Department, and what are the instructions for summoning immediate assistance?	9-911
Is rescue equipment immediately available for this location? (Ladders, aerial devices, elevating work platforms, tripods, additional harnesses, controlled descent devices, winches, pulleys, etc.)	Ladders are always available at IR2
What obstructions are in the way reaching the suspended worker?	Pumps, and walk ways
How will rescue be assured within 15 minutes of the occurrence of a fall to minimize the risk of further injury or death due to suspension trauma?	
How will the safety of the rescuers be assured as well as that of the suspended worker?	Equipment will be shut down and if necessary pumps will be used as bases for scaffolding
What communication systems will be used between the suspended worker and rescue team?	Verbal