

Chapter 2: [Work Planning and Control](#)

Construction Work Planning and Control Procedure

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URL: <https://www-group.slac.stanford.edu/esh/eshmanual/references/wpcProcedConstruct.pdf>

1 Purpose

The purpose of this procedure is to ensure adequate protection of workers, the public, and the environment, through the consistent application of *work planning and control* to construction work. It covers planning, authorization, and release of all construction work performed at SLAC; it does not cover project management, scheduling, or budgeting. It applies to workers, prime and sub-tier subcontractors, SLAC project and construction managers, area and building managers, and Environment, Safety and Health.

For information on the safety-related aspects of qualifying and managing contractors, see [Chapter 42, “Subcontractor Safety”](#).

1.1 Work Planning and Control

Work planning and control (WPC) is the use of formal, documented processes for identifying and mitigating risks when planning, authorizing, releasing, and performing work. It covers the seven core functions of SLAC’s integrated safety and environmental management system (ISEMS):

1. Define the work
2. Identify and analyze hazards
3. Develop and implement controls
4. Authorize work
5. Release work
6. Perform work within controls
7. Feedback and continuous improvement

Three key concepts of work planning and control are planning, authorization, and release. Before beginning actual work, all work must first be planned, then authorized, and finally released.

Planning consists of defining the scope of work, identifying and analyzing the hazards, and developing and implementing controls. Identifying and analyzing hazards and controls related to both the activity and the work area where the activity will occur are the responsibility of the person authorizing the work. A visit to the job site may be warranted, as well as a discussion with the area or building manager and review of any *area hazard analysis (AHA)*. The results are documented in some form of *work plan*, which forms the basis for authorization and release.

Authorization means that the person who authorizes the work

1. Is sufficiently knowledgeable of the hazards to plan and authorize such work
2. Has determined the work falls within his or her area of responsibility
3. Is satisfied with the content of the work plan
4. Has determined that the persons assigned to perform work are qualified
5. Has discussed hazards and controls with those persons

The person who authorizes work is accountable for its performance. Work is typically authorized by the supervisor of the person performing the work. The key, unvarying, requirement for authorizing work is that the person authorizing the work ensures that the persons doing the work

1. Understand the scope of work and the task-specific hazards and controls
2. Are qualified

Release means permission to proceed with authorized work in a given area or on a given project. Release is granted after the person granting the release has made sure that

1. Hazards unique to the area have been communicated
2. Affected persons have been notified
3. Work has been coordinated to avoid conflict and minimize risk

Details on authorizing and releasing construction work are given below. For more on the general concepts of work planning and control and the details of non-construction work planning and control, see [Chapter 2, “Work Planning and Control”](#).

2 Roles and Responsibilities

Functional roles and general responsibilities for each are listed below. More detailed responsibilities and when they apply are provided in the procedures and requirements.

The roles may be performed by one or more individuals and one individual may play more than one role, depending on the structure of the organizations involved. Responsibilities may be delegated.

2.1 Project Manager

- Manages overall project
- Ensures prime and sub-tier subcontractors are following SLAC processes

2.2 Construction Manager

- Is the SLAC point of contact in the field for prime and sub-tier subcontractors
- Conducts pre-job briefings
- Reviews job safety analysis (JSA) forms and daily tailgate forms approved by the prime subcontractor
- Releases construction subcontractor work on designated construction sites

- Receives permit forms approved by the prime subcontractor

2.3 Area / Building Manager

- Releases construction subcontractor work in occupied buildings
- May delegate release of construction subcontractor work in designated areas of occupied buildings to the CM

2.4 ESH Division

- Reviews subcontractor JSAs as requested
- Receives plans and permits from the CM that have been submitted by the sub-tier subcontractor and approved by the prime subcontractor

2.5 Prime Subcontractor

- Provides qualified sub-tier subcontractors
- Ensures sub-tier subcontractors follow SLAC's construction WPC process
- Ensures all subcontractor work is thoroughly planned
- Approves JSAs, daily tailgates, and required permit forms submitted by sub-tier subcontractors and provides to the CM
- Conducts daily tailgate meetings

2.6 Sub-tier Subcontractor

- Provides qualified workers
- Foreman authorizes subcontractor work by signing the JSA and daily tailgate forms
- Develops JSAs, daily tailgates, and required permit forms and submits to the prime subcontractor for review and approval

2.7 Worker

- Completes required training
- Understands scope, hazards, and controls of planned work by reviewing and signing JSAs and daily tailgates and reviewing plans and permits
- Performs only work within the scope that has been authorized by foreman, approved by the prime subcontractor, and released by the CM
- Works within established controls documented in JSA, daily tailgates, and plans and permits
- Stops work and notifies supervisor if conditions change or work details differ from the plan

3 Procedures

All work must be thoroughly planned and performed according to plan, as documented in JSAs, tailgate forms, and permits. The process is summarized below and illustrated in Figure 1.

3.1 Training

3.1.1 Worker

All construction workers must take ESH Course 375, Construction Safety Orientation ([ESH Course 375](#)) (See [Chapter 55, "Site Access Control"](#), for more information on site access and on-boarding.)

Based on the tasks and hazards identified during planning, subcontractors may be required to complete additional SLAC-specific ESH training courses as determined by the project manager or CM.

3.1.2 Supervisor

All construction subcontractor supervisors (foremen and superintendents) must attend Facilities Course 101, Subcontractor Safety Management Training ([FAC Course 101](#)), before approving any JSAs for work to be performed. The course will be presented by Construction Management.

3.1.3 Construction Manager

All CMs must complete

- ESH Course 120, Work Planning and Control Overview ([ESH Course 120](#))
- ESH Course 392, Construction Work Planning and Control (WPC) ([ESH Course 392](#))

3.1.4 Area / Building Manager, Project Manager, Construction Safety Services

All building and area managers, project managers, and Construction Safety Services staff involved with construction activities must complete ESH Course 392, Construction Work Planning and Control (WPC) ([ESH Course 392](#)).

3.2 Pre-job Briefings

Pre-job briefings are required for construction work under the following conditions:

- Start of construction
- Start of a new subcontractor on the project
- Replacement of the superintendent
- Significant changes to work scope

The briefings are to be conducted by the CM; attended by the prime and sub-tier subcontractors; and documented by the CM using the [Work Planning and Control: Construction Pre-job Briefing Checklist](#).

3.3 Authorization

Subcontractor work will be authorized by the foreman running the work for that trade. Work will be authorized by the foreman's approval and signature on the [JSA](#) and [daily tailgate form](#).

No work can be performed unless the foreman has included the job on the daily tailgate form and authorized the work.

3.4 Approval

Prime subcontractors will approve work to be performed by their representative's signature on the JSA and daily tailgate form.

ESH representatives will review JSAs as requested. CMs will confirm that JSAs have been properly developed, reviewed, and approved.

3.5 Release

The CM for the job will provide daily release to the subcontractor by signing the daily tailgate form. There are three different types of release:

1. **Dedicated Construction Site.** This is a site that involves only construction. In this case, the CM is the sole source for release of work on the job site.
2. **Work in an Occupied Building.** Involves work in currently occupied buildings where construction could impact building operation. In these cases, the CM must obtain release from the building or area manager before release of any work and must notify the building or area manager of any changes in planned work. The daily release must be a signature from the identified building or area manager or e-mail confirmation of the release.
3. **Work in a Designated Area of an Occupied Building.** This involves work in currently occupied buildings, but in a specific area or room. In these cases, the building or area manager can turn over the area to the CM who can then release work in that designated area for the duration of the project without the need for daily building/area manager release.

3.6 Complex or Unfamiliar Operations

When complex or unfamiliar operations are identified by SLAC, additional meetings will be required to ensure SLAC, the prime subcontractor, and the sub-tier subcontractor performing the work clearly understand the work to be performed and the control measures needed to address the hazards.

The additional meeting(s) must be conducted before work release from the CM.

3.7 Stop Work

All subcontractors must stop work in any of the following situations:

- When an imminent danger is discovered during the work

- When in the course of work it is discovered that proper planning has not been completed for the task
- When planned conditions have changed
- When work does not have the proper authorization, approval or release

Work cannot resume until the situation has been corrected and the CM releases the revised work. Stopping work in these conditions is the responsibility of every worker, SLAC and subcontractor, on site. (See [Work Planning and Control: Stop Work Procedure](#) for details.)

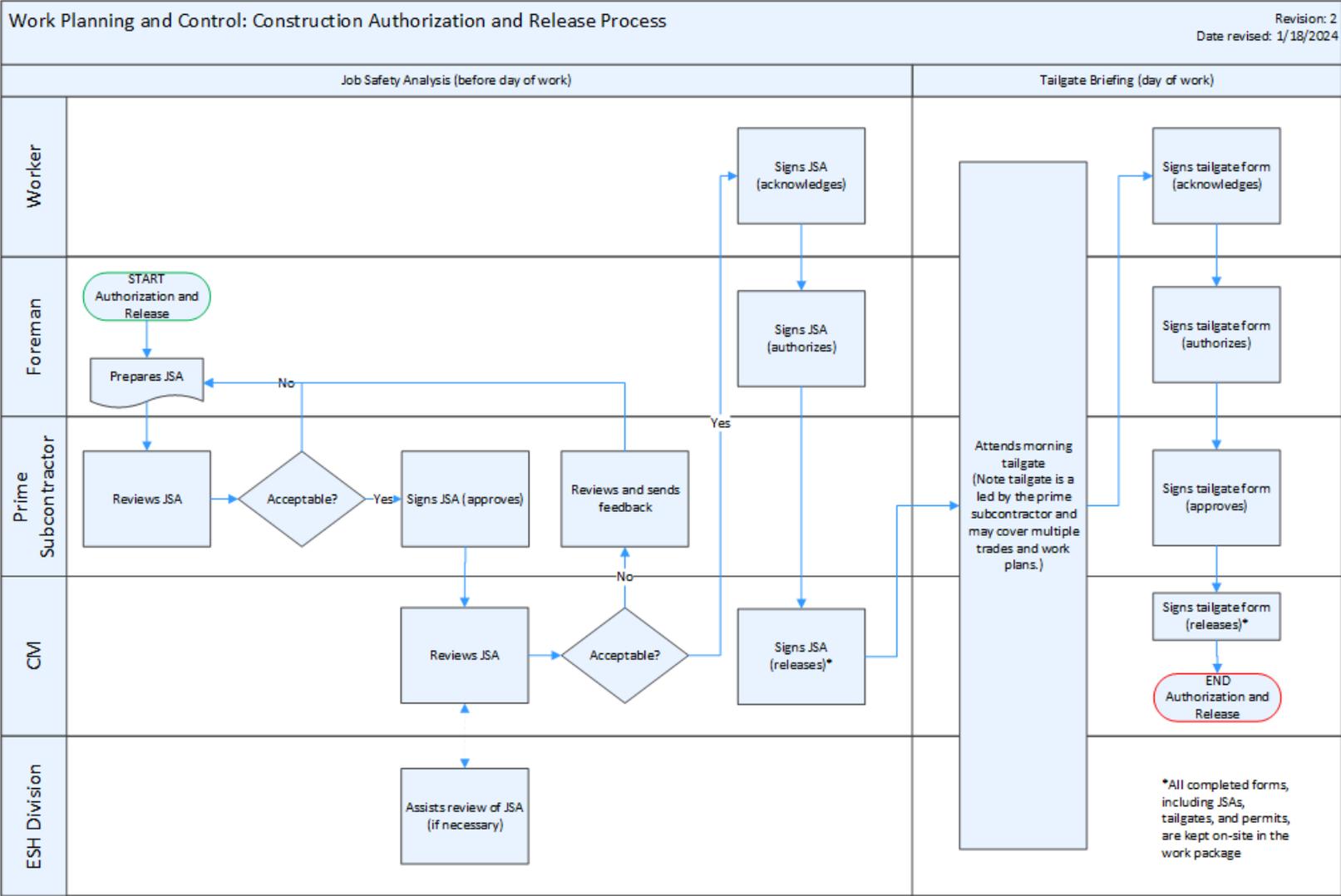


Figure 1 Construction Authorization and Release Process

4 Forms

The following forms and systems are required by this procedure:

- [Work Planning and Control: Construction Job Safety Analysis Form](#) (SLAC-I-730-0A21J-062). Form for documenting authorization and release of construction work
- [Work Planning and Control: Construction Pre-job Briefing Checklist](#) (SLAC-I-730-0A21J-063). Checklist for guiding and documenting pre-job briefings for construction work
- [Work Planning and Control: Construction Tailgate/Release Form](#) (SLAC-I-730-0A21J-037). Form for documenting final release of construction work
- [Work Planning and Control: SLAC Receipt of Subcontractor Form](#) (SLAC-I-730-0A21J-057). Form for documenting the receipt by SLAC of approved subcontractor forms. (It is not to be used for SLAC forms completed by or for subcontractors; those forms include signature lines for SLAC personnel where needed.)
- [Hazard Evaluation and Planning eTool](#). Tool for identifying SLAC ESH permits, plans, and other requirements

5 Recordkeeping

The following recordkeeping requirements apply for this procedure:

- Approved forms are to be kept in the work package; work packages are to be kept for 90 days after completion of the work by the CM.

6 References

[SLAC Environment, Safety, and Health Manual](#) (SLAC-I-720-0A29Z-001)

- [Chapter 2, “Work Planning and Control”](#)
 - [Work Planning and Control: Work Planning and Control Procedure](#) (SLAC-I-720-0A21C-002)
 - [Work Planning and Control: Stop Work Procedure](#) (SLAC-I-720-0A21C-003)
 - [Work Planning and Control](#) (includes online tools)
- [Chapter 42, “Subcontractor Safety”](#)
- [Chapter 55, “Site Access Control”](#)

Other SLAC Documents

- ESH Course 120, Work Planning and Control Overview ([ESH Course 120](#))
- ESH Course 375, Construction Safety Orientation ([ESH Course 375](#))
- ESH Course 392, Construction Work Planning and Control (WPC) ([ESH Course 392](#))
- Facilities Course 101, Subcontractor Safety Management Training ([FAC Course 101](#))

Other Documents

- Occupational Safety and Health Administration (OSHA). Job Safety Analysis ([OSHA Publication 3071](#))



Chapter 2: [Work Planning and Control](#) Construction Job Safety Analysis Form

Product ID: [769](#) | Revision ID: 2662 | Date Published: 30 January 2024 | Date Effective: 30 January 2024
URL: <https://www-group.slac.stanford.edu/esh/eshmanual/references/wpcFormJSAConstruct.pdf> | [docx](#)

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This form is used to document the job safety analysis (JSA) required for the authorization and release of construction work. Note construction work requires final release through a tailgate briefing. Approved forms are to be kept in the work package; work packages are to be kept for 90 days after completion of the work by the project manager or construction manager (CM). (See [Work Planning and Control: Construction Work Planning and Control Procedure](#) [SLAC-I-720-0A21C-005].)

Job / Activity:		JSA # (optional):	Start Date:	Valid Through:
Department / Group / Subcontractor:	Bldg / Area Location(s):	Type of Work: <input checked="" type="checkbox"/> Construction		Other Information or References:
Scope of Work (<input type="checkbox"/> attached):				

Sample form, see URL at top of page

Step Number	Step	Hazard	Control
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Acknowledgement (worker): I understand and will adhere to the steps, hazards, and controls in this JSA. I understand that performing steps out of sequence may pose hazards that have not been evaluated nor authorized. I will contact the person who authorized my work prior to continuing, if the scope of work changes or new hazards are introduced. I understand my stop work authority and responsibility.

Name (print):	Signature:	Date:

Approval (prime subcontractor's representative): I have reviewed and approve the work indicated in this JSA.

Name (print):	Signature:	Date:
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Review (ESH representative, if requested): I have reviewed this JSA.

Name (print):	Signature:	Date:
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Authorization (subcontractor foreman): I have reviewed the steps, hazards and controls described in this JSA with all workers listed above and authorize them to perform the work. Workers are qualified (that is, licensed or certified, as appropriate, and in full compliance with training requirements) to perform this activity.

Name (print):	Signature:	Date:
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Confirmation (CM): I have confirmed that this JSA has been properly developed, reviewed, and approved.

Name (print):	Signature:	Date:
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Release (area manager building manager for occupied buildings, CM for designated construction sites or designated areas in occupied buildings): I have communicated unique area hazards, boundary conditions, and any precautions or limitations with the CM and will coordinate with affected occupants.

Note: final released for construction work comes after the daily tailgate briefing and CM work release.

Boundary conditions, notes (attached):

Name (print):	Signature:	Date:
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Construction Pre-job Briefing Checklist

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URL: <https://www-group.slac.stanford.edu/esh/eshmanual/references/wpcChecklistPJBCConstruct.pdf>

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This checklist is used to guide and document pre-job briefings for construction work. The briefings are to be conducted by the SLAC construction manager (CM) and attended by the prime and sub-tier subcontractors. Pre-job briefings are required under the following conditions:

- Start of construction
- Start of a new subcontractor on the project
- Replacement of the superintendent
- Significant changes to work scope

Completed checklists are to be kept in the construction binder and kept for 90 days after completion of the work by the CM. (See [Work Planning and Control: Construction Work Planning and Control Procedure](#) [SLAC-I-720-0A21C-005].)

Project (name)			
SLAC project manager	Name (print)	Cell phone	E-mail
SLAC CM	Name (print)	Cell phone	E-mail
SLAC CM manager	Name (print)	Cell phone	E-mail
SLAC CSS representative	Name (print)	Cell phone	E-mail

- Standard PPE: safety glasses, safety toe boots, hardhat, hi-vis vest, ear plugs in high-noise areas, and gloves when handling materials.
- Construction binder is to be kept at the job site. Explain contents.
- Explain what a job safety analysis (JSA) is, where to find it, and when to revise it.
- Tailgate expectations / CM work release. Permits should be validated at the daily tailgate.
- Emergency/non-emergency event reporting. **In an emergency, call 911 / (650) 926-5555.**
- Assembly area location.
- Anyone can **stop work** to address safety concerns or near miss.
- If you see a Radiation sign, **do not** cross unless trained.
- Do not** operate SLAC equipment. Contact your CM if you need something manipulated.
- If you are 6 feet high or more and not on a ladder, you need an elevated surface work permit (ESWP).
- Understand the waste you generate and sort it into the correct bin. Hazardous waste has special container and labeling requirements.
- Do not** bring radioactive density gauges on site without CM and Radiation Protection (RP) approval.
- Do not** allow any water other than rain to enter the storm drains. No truck washing.
- Turn in badges / dosimeters.
- Poll the workers individually for questions.

Pre-job Briefing Performed by (SLAC CM): I have reviewed topics above with all workers.		
Name (print)	Signature	Date



Construction Tailgate / Release Form

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This form is used to document final release of construction work. Approved forms are to be kept in the work package; work packages are to be kept for 90 days after completion of the work by the construction manager (CM). (See [Work Planning and Control: Construction Work Planning and Control Procedure](#) [SLAC-I-720-0A21C-005].)

Description / title of work:	
Work location:	Date:
Subcontractor / work group:	
Subcontractor foreman:	Cell phone:
Prime subcontractor's rep:	Cell phone:
SLAC CM:	Cell phone:
JSA / SOP title (if any):	JSA / SOP # (if any):

<p>Permits / Plans in Effect</p> <p><input type="checkbox"/> None</p> <p><input type="checkbox"/> Confined Space Entry Permit</p> <p><input type="checkbox"/> Construction Project Air Permit</p> <p><input type="checkbox"/> Electrical Work Plan (EWP)</p> <p><input type="checkbox"/> Elevated Surface Work Plan (ESWP)</p> <p><input type="checkbox"/> Energy Isolation Plan (CoHE)</p> <p><input type="checkbox"/> Excavation Permit</p> <p><input type="checkbox"/> Fire Protection Impairment</p> <p><input type="checkbox"/> Hoisting and Rigging Plan</p> <p><input type="checkbox"/> Hot Work Permit-Fire (flame or sparks)</p> <p><input type="checkbox"/> Penetration Permit</p> <p><input type="checkbox"/> Radiological Work Permit</p> <p><input type="checkbox"/> Stormwater BMP</p> <p><input type="checkbox"/> Traffic Control Plan</p> <p><input type="checkbox"/> Other:</p>	<p>Criteria for Performing Pre-job Briefings</p> <p><input type="checkbox"/> Start of construction</p> <p><input type="checkbox"/> Start of a new subcontractor on the project</p> <p><input type="checkbox"/> Replacement of the superintendent</p> <p><input type="checkbox"/> Significant changes to work scope</p> <hr/> <p>Daily Tailgate Questions</p> <p><input type="checkbox"/> Under what conditions would you pause today's work?</p> <p><input type="checkbox"/> What are the critical steps or risk important steps for today's work?</p> <p><input type="checkbox"/> Is there anything new or different (new trades present, new superintendent, etc.) about the work we are going to perform today?</p> <p><input type="checkbox"/> Will there be changes in LOTO boundaries today?</p> <p><input type="checkbox"/> Even though we have performed this task before, is there some reason we should do some aspect or part of it differently? Lessons we have learned from previous tasks?</p> <hr/> <p>Additional Checks</p> <p><input type="checkbox"/> Plans for changing or extreme weather reviewed</p> <p><input type="checkbox"/> Flaggers to control vehicle or pedestrian traffic understand duties</p> <p><input type="checkbox"/> Hazardous/non-hazardous waste disposal procedures understood and bins/containers in place</p> <p><input type="checkbox"/> Work coordinated within and between adjacent work groups</p> <p><input type="checkbox"/> Workers are aware of potential impact and mitigation measures of adjacent work activities</p> <p><input type="checkbox"/> Emergency procedures reviewed</p>
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Sample form, see URL at top of page

Steps or tasks of today's work	What can go wrong	What can we do to prevent this
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.	Sample form, see URL at top of page	
9.		
10.		
11.		
12.		
13.		
14.		
15.		



Chapter 2: [Work Planning and Control](#)
Construction Site Entry Form

Product ID: [759](#) | Revision ID: 2663 | Date Published: 30 January 2024 | Date Effective: 30 January 2024

URL: <https://www-group.slac.stanford.edu/esh/eshmanual/references/wpcFormConstructionSiteEntry.pdf>

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This form is used to document visits to construction sites by non-subcontractor personnel. The SLAC construction manager (CM) completes the access requirements; each visitor then contacts the subcontractor company representative before arrival, reviews the access requirements, and signs in and out. The form is to be kept at the work site for the duration of the project. (See [Work Planning and Control: Construction Work Planning and Control Procedure](#) [SLAC-I-720-0A21C-005].)

Project	
Work location / building	Start date
SLAC CM	Phone
Access requirements (<i>CM check all that apply</i>) <input type="checkbox"/> GERT <input type="checkbox"/> Dosimeter <input type="checkbox"/> Escort	
Company	
Company designated representative	Phone

Acknowledgement (*worker*): I contacted the company designated representative listed above and been granted access to this site; have fulfilled the access requirements above, have all required PPE, and will adhere to all signage. I understand that I may perform only *green work* on this site. I will direct any questions about project status to the CM.

Name (print)	Signature	Date	Time in	Time out	Type of visit (check one)
					<input type="checkbox"/> ESH <input type="checkbox"/> Vendor <input type="checkbox"/> SSO <input type="checkbox"/> Visitor <input type="checkbox"/> Other _____
					<input type="checkbox"/> ESH <input type="checkbox"/> Vendor <input type="checkbox"/> SSO <input type="checkbox"/> Visitor <input type="checkbox"/> Other _____
					<input type="checkbox"/> ESH <input type="checkbox"/> Vendor <input type="checkbox"/> SSO <input type="checkbox"/> Visitor <input type="checkbox"/> Other _____
					<input type="checkbox"/> ESH <input type="checkbox"/> Vendor <input type="checkbox"/> SSO <input type="checkbox"/> Visitor <input type="checkbox"/> Other _____
					<input type="checkbox"/> ESH <input type="checkbox"/> Vendor <input type="checkbox"/> SSO <input type="checkbox"/> Visitor <input type="checkbox"/> Other _____

Acknowledgement (worker): I contacted the company designated representative listed above and been granted access to this site; have fulfilled the access requirements above, have all required PPE, and will adhere to all signage. I understand that I may perform only *green work* on this site. I will direct any questions about project status to the CM.

Name (print)	Signature	Date	Time in	Time out	Type of visit (check one)
					<input type="checkbox"/> ESH <input type="checkbox"/> Vendor <input type="checkbox"/> SSO <input type="checkbox"/> Visitor <input type="checkbox"/> Other _____
					<input type="checkbox"/> ESH <input type="checkbox"/> Vendor <input type="checkbox"/> SSO <input type="checkbox"/> Visitor <input type="checkbox"/> Other _____
					<input type="checkbox"/> ESH <input type="checkbox"/> Vendor <input type="checkbox"/> SSO <input type="checkbox"/> Visitor <input type="checkbox"/> Other _____
					<input type="checkbox"/> ESH <input type="checkbox"/> Vendor <input type="checkbox"/> SSO <input type="checkbox"/> Visitor <input type="checkbox"/> Other _____
Sample form, see URL at top of page					<input type="checkbox"/> ESH <input type="checkbox"/> Vendor <input type="checkbox"/> SSO <input type="checkbox"/> Visitor <input type="checkbox"/> Other _____
					<input type="checkbox"/> ESH <input type="checkbox"/> Vendor <input type="checkbox"/> SSO <input type="checkbox"/> Visitor <input type="checkbox"/> Other _____
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					<input type="checkbox"/> ESH <input type="checkbox"/> Vendor <input type="checkbox"/> SSO <input type="checkbox"/> Visitor <input type="checkbox"/> Other _____
					<input type="checkbox"/> ESH <input type="checkbox"/> Vendor <input type="checkbox"/> SSO <input type="checkbox"/> Visitor <input type="checkbox"/> Other _____
					<input type="checkbox"/> ESH <input type="checkbox"/> Vendor <input type="checkbox"/> SSO <input type="checkbox"/> Visitor <input type="checkbox"/> Other _____



SLAC Receipt of Subcontractor Form

ENVIRONMENT, SAFETY & HEALTH DIVISION

This form is used to document the receipt by SLAC of approved subcontractor forms. (It is not to be used for SLAC forms completed by or for subcontractors; those forms include signature lines for SLAC personnel where needed.) It is to be completed by the SLAC construction manager and a Construction Safety Services representative and attached to the completed form. (See [Work Planning and Control: Construction Work Planning and Control Procedure](#) [SLAC-I-720-0A21C-005].)

SLAC Construction Manager		
I have received and reviewed the attached, completed subcontractor form.		
Name (print):	Signature:	Date:

Construction Safety Services Representative		
I have received and reviewed the attached, completed subcontractor form.		
Name (print):	Signature:	Date:

Sample form, see URL at top of page