

SOP Category: Deep Foundations Document #: SOPDF  
Category the document will be located on the Intranet under Best Practices BP + Sequential Number = Category

Document Title: ACIP/DDP Cage and Center Bar Installation

Owner: Chris Normand Effective Date: 12-16-2024 Revision #:             
BUL of Originating Business Unit

- Business Unit Designation:**
- BU 01 - Infrastructure     BU 02 - BR Civil     BU 04 - Houston Civil
- BU 15 - Deep Foundations     BU 23 - Marine     BU 29 - BR Mechanical     BU 30 - Houston Mechanical
- Pipe Fab Facility     Form Fab Facility     Westport Operations     Cajun Office Facilities

*A check next to a Business Unit indicates this best practice is required by that business unit and therefore is a mandatory Standard Operating Procedure (SOP) for that business unit.*

**PURPOSE:**

The purpose of this best practice is to identify safe work practices and to address the handling and rigging needs for rebar cages and center bars. There have been a substantial numbers of near miss incidents and several injuries while working with rebar cages and center bars. Handling them presents a unique set of hazards which must be planned for prior to beginning work.

**EXCLUSIONS:** This best practice does not apply to the installation of drilled shafts.

**PROCESS:**

**In preparation of the job scope, thought should be dedicated to the handling and rigging of rebar cages and center bars.**

- Pre-con meetings and JHA’s shall address the procedures of handling and rigging of rebar cages and center bars
- Develop and communicate the pre-task plan thoroughly with everyone involved in the task.
- Determine the safest method and travel path to handle or install the rebar cage or center bar.
- Select the proper equipment (cranes, multi-pilers, excavators, forklifts, etc...) to handle or install rebar cages and center bars.
- Develop a lift plan to ensure that equipment has the capacity to handle the weights of the material at all stages of the process.

## **EXECUTION:**

### **Relocation of Rebar Cages and Center Bars:**

To reduce risk on drilled piling projects, Cajun shall perform the relocation of rebar cages and center bars by lifting them in a horizontal position to avoid damage.

**When relocating rebar cages or center bars the following preferred methods shall be used:**

**Method 1:** When relocating with a crane, an adequate rigging configuration shall be used to lift and move the rebar cage or center bar in a horizontal position.

**Method 2:** When relocating using heavy equipment with forks, rebar cages and center bars shall be horizontally centered on the forks.



**Method 3:** When relocating with an excavator, rigging shall be attached to a SHUR-LOC hook secured to the excavator.



Example of  
Crosby Swivel  
SHUR-LOC  
Hook

**Note:** If a rebar cage or center bar must lift in the vertical position, for reasons other than installation, then a detailed plan must be approved by the Construction Manager and the Manager of Safety.

## **Rigging of Rebar Cages:**

- Inspect each rebar cage for the proper securement of horizontal bands to vertical bars.
- Inspect all rigging utilized for the lift (use either Mazella slings, or endless nylon slings to attach to the rebar cage.) Rigging must have legible capacity tags and be properly color coded.
- Ensure that the hitches in the rigging configuration are not applied above the second horizontal band from the top of the rebar cage.
- Choke the sling around one vertical bar and horizontal band simultaneously. Choose either the third or fourth band from the top of the cage
- Move up either one or two bands above the one that is currently hooked. Make a half inch hitch around that horizontal band and the same vertical bar with the sling.
- Repeat this installation 180° from the first sling, on the same end of the cage.
- Hook the slings to the intended lifting point. Utilize a tag line on the bottom of the cage to minimize load swing, if necessary.



## **Standard Rigging of Center Bars:**

- Inspect all rigging used for the lift. (Use only an endless sling or 2-ply nylon sling that is 10' or greater in length to attach to the center bar.) Rigging must have legible capacity tags and be properly color coded.
- At approximately 6 feet from the top of the center bar choke the rigging around the bar. All center bars must be marked at 6 feet to ensure no rigging is placed above it.
- Extend the rigging approximately 1 foot (above the choker hitch) and make a half hitch around the center bar.
- Once the rigging is attached, cinch the rigging at each choke or half inch on the center bar to ensure a tight connection and to ensure there is no slack between connection points.
- Attach the rigging to the equipment's intended lifting point and verify that the rigging is configured accordingly before performing the lift. (The sling shall be long enough so that the lifting point is above the top of the center bar when lifted.)
- Lift the center bar over the pile location. If necessary, utilize a tag line on the bottom of the center bar to minimize load swing.

- When lifting the center bar vertically, the bottom of the center bar shall not exceed 4 feet from the lowest surface elevation. This will help reduce the risk of a dropped load.



### Rigging Center Bars for DDP (Open System)

- Center Bar shall be threaded through the approved lifting bar, so that a minimum of 6 feet of the center bar extends above the top.
- The secondary catch rigging shall be wrapped around the center bar 4 times and hooked back to itself above the wraps. (This rigging will cinch and hold the bar if the bar slips before becoming vertical)
- Attach the lifting point of the lifting bar securely to the auxiliary line of the Drill Rig to be hoisted into position. Utilize a tag line on the bottom of the center bar to minimize load swing, if necessary.



Approved Lifting Bar Certification Tag


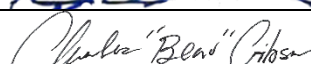

**PAYOFF:**

Implementing these guidelines will protect employees’ well-being, prevent injuries, and optimize efficiency during the handling and installation of rebar cages and center bars.

**Crew Review:**

**Superintendent:** Instruct the crew to use their phones to scan one of the QR codes below, which will direct them to a short review session. After personnel enter their information and submit it, training records will be generated and automatically saved for future reference. Utilize this time for open engagement with the crew. Each review will have different questions, which can be answered either as a team or individually.



<b>Approvals</b>		
<u>Title</u>	<u>Signature</u>	<u>Date</u>
BU 15 Vice President		12-16-24
BU 15 Senior Construction Manager		12-16-24
BU15 Manager of Safety		12-16-24

<b>Revision History</b>				
<u>Rev #</u>	<u>Date</u>	<u>Reason for Changes</u>	<u>Originator</u>	<u>Effective Date</u>
1	12-16-2024	Update to new format/ add QR training codes	Lance Bradley	12-16-24