PURPOSE:

The purpose of this best practice is to address the auger cast rigging needs for rebar cages and when needed, installation of center bars as well. 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.

PROCESS:

Installation of Cages - (Gloves Must Be Worn at All Times)

1. Inspect cage for proper tying of bands to vertical bars.
2. Inspect rigging (endless sling or 2-ply nylon sling)
3. Choke sling around one vertical bar and band simultaneously. Choose either the third or fourth band from the top of the cage
4. Move up either one or two bands above the one that is currently hooked and make a half- hitch around that band and the same vertical bar with the sling.
5. Repeat this installation 180º from the first sling, on the same end of cage.
6. Hook the slings to either the load line on the crane or the safety hook on the track hoe and lift over the freshly installed pile. Remove the tagline and remove the rigging once the cage is lowered into the concrete.

Installation of Centerbar

1. Inspect Rigging for wear. (Use either of the slings mentioned above)
2. Approximately four feet from the top of the center bar, choke the sling around the bar
3. Extend the sling approximately 1 to 1-1/2 feet above this and make a half hitch around the center bar
4. Hook the sling to the load line on the crane and lift over the freshly installed pile
5. Center the bar over the pile and lower into the pile.
6. After lowering to the proper elevation, secure the bar and remove the rigging.

PAYOFF:

The payoff of following the best practice for handling and rigging cages for auger cast includes:

1. **Enhanced Safety**: By adhering to the above guidelines, the risk of near misses and injuries while handling rebar cages and center bars is significantly reduced.

2. **Improved Efficiency**: Proper inspection and rigging procedures ensure that the installation process is carried out smoothly and efficiently, minimizing delays caused by equipment failure or accidents.

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.

Approvals		
Title	***Signature***	***Date***
BU 15 Vice President		7-18-24
BU 15 Senior Construction Manager		7-18-24
BU15 Manager of Safety		7-18-24

Revision History				
Rev #	***Date***	***Reason for Changes***	***Originator***	***Effective Date***
1	06-26-2024	Update to new format/ add QR training codes	Lance Bradley	7-18-24

Note: BP Requirement

Work must be performed in accordance with the information in this BP. If it is determined that work cannot be done as required in the document or that it presents additional risk, you must obtain authorization for variance from the Business Unit Sr. Construction Manager and Business Unit Manager of Safety.

BEST PRACTICE #BP025DF
TITLE: Handling of Rebar Cages – Drilled Piles

PURPOSE:

The purpose of this best practice is to identify safe work practices and to address the rigging needs for rebar cages and center bars.

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 snd move the rebar cage or center bar in a horizontal position.

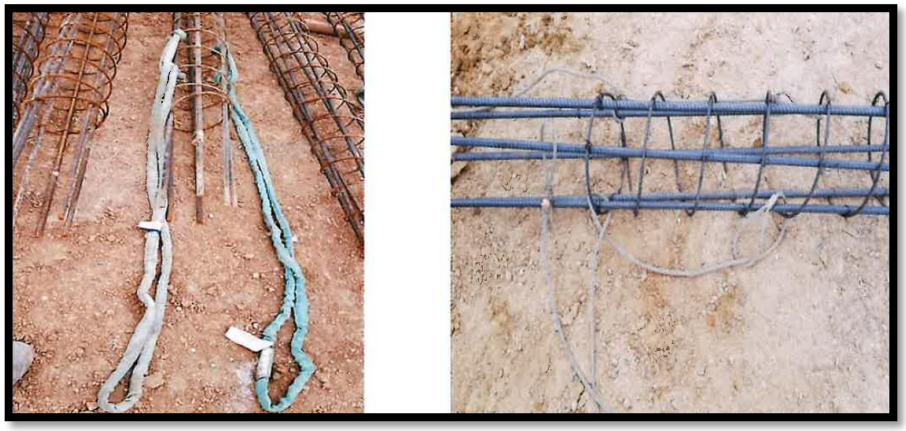
Method 2. When relocating with an excavator, rigging shall be attatched to safely drag the rebar cage or center bar to the designated area.

Method 3. When relocating using heavy equipment with forks, rebar cages and center bars shall be horizontally centered on the forks.

Note: If a rebar cage or center bar must lifted 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.

EXECUTION – Installation 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 endless slings, 2-ply nylon slings, or 3/8" wire rope slings to attach to the rebar cage.)
- 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.
- 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 180º from the first sling, on the same end of the cage.



- Hook the slings to the intended lifting point and lift the rebar cage over the pile location. Utilize a tag line on the bottom of the cage to minimize load swing, if necessary.

- Remove the tag line, lower the cage to the proper elevation, secure the cage, and remove the rigging.

EXECUTION - Installation 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.)
- Prior to rigging to the center bar, the following two practices must be performed.
    1. The area where rigging will be applied to the center bar shall be cleaned (remove any mud, clay, sand, ect.)
    2. A high visibility line must be painted at 5 feet and 6 feet from the top of the center bar. (The painted line will serve as an indicator for the correct placement of rigging for the rigger and others.)

- At approximately 6 feet from the top of the center bar choke the rigging around the bar.
- 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. (Ensure that each hitch in the rigging configuration is attached slightly below painted lines.)

- Attach the rigging to the equipment's intended lifting point and verify that the rigging is configured accordingly before conduction 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. Utilize a tag line on the bottom of the center bar to minimize load swing, if necessary.
- 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.
- Remove the tag line, lower the center bar in the pile to the proper elevation, secure the center bar, and remove the rigging.

PAYOFF:

Implementing these guidelines will protect employees' well-being, prevent injuries, and optimize operational 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.

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