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## Document: Groundbreaking and Trenching

### Purpose

The purpose of this policy is to prevent injury to workers involved in or working near any trenching or groundbreaking activities. The policy is designed to provide guidelines for safe work practices involving the disruption of soil. Hazards addressed include protection from cave-ins, electrical hazards, hazardous atmospheres, means of safe egress, effects of changing weather, unplanned or accidental contact with buried systems, and safety of members operating in the trenching area.

### Scope

This procedure applies to any excavation, digging, concrete slab demolition, or penetration of ground (i.e. tent stakes) at the Wisconsin Rapids facility where powered equipment is utilized and in situations when hand tool digging with sharp tools (such as a pick) exceeds 18" in depth. Digging with a common shovel is exempted.

### Responsibility

Project Coordinator and/or safety department will review the policy with the operating area and contracting companies responsible for trenching on mill site property.

The safety department is responsible for periodically training selected personnel to become competent Qualified Persons in the implementation of this policy. Others from within the mill may also receive this training if the need arises.

In order to provide the necessary excavation guidance, the Excavation Coordinator has the following responsibilities:

- A. Maintain all available prints or drawings relevant to the location of underground services or utilities at the Wisconsin Rapids Mill.
- B. Update and maintain print information as the facility changes or expands in a manner which affects these underground lines.
- C. Document other location information obtained from the Project Coordinator if applicable
- D. Perform print searches and coordinate line identification traces with electronic instrumentation and mark locations on surfaces if required.

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### Definitions

*Angle of Repose* - The greatest angle above the horizontal plane at which a material will lie without sliding. (Angle of repose is not a unique soil property, but is affected by a wide variety of environmental effects and other factors).

*Boiling* - Upward water flow into the bottom of a trench.

*Confined Space* - Any space which meets all of the following criteria: 1) Is large enough and so configured that a human can bodily enter and perform assigned work; 2) Has limited or restricted means for entry or exit; 3) Is not designed for continuous human occupancy.

*Contractor Competent Person (CCP)* - A person certified per OSHA 29 CFR Part 1926, Subpart P. A person who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. This person is typically an employee of the contractor.

*Qualified Person (QP)* - One who is by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.

*Shoring Systems* - Structural systems supporting the walls of a trench.

*Slope (noun)* - The acute angle formed by the side of a trench and the horizontal plane; also the inclined side of a trench.

*Slope (verb)* - To incline the walls of a trenching to reduce the likelihood of cave-ins.

*Spoil* - Material taken from a trenching.

*Trench* - A narrow surface excavation where the depth is greater than the width, but the width of a trench is not greater than 15 feet.

*Trench Shield* - A shoring system composed of steel plates and bracing, welded or bolted together, which support the walls of a trench from the ground level to the trench bottom and which can be moved along as work progresses.

*Diggers Hotline* - No-cost service that will field mark underground utility owned lines (800-242-8511).

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*Project Coordinator* - The Wisconsin Rapids facility representative responsible for the project.

*Excavation Coordinator* - The Wisconsin Rapids facility maintenance department representative responsible for the pre-excavation assessment, location and marking of underground utilities.

*Environmental Coordinator* - The Wisconsin Rapids facility environmental department representative responsible for the pre-excavation environmental assessment.

*Ground Penetration* - Examples of ground penetration- All drilling (both vertical and horizontal) pile driving, ground rod driving and all other types of ground penetration.

*Utility Locator* - A Team member or contractor who has been trained to locate and identify utilities.

## Marking Identification for groundbreaking

Red = Electrical power lines, cables, conduits and lighting cables

Yellow = Gas, Oil, Steam, Petroleum or gaseous materials

Orange = Communications, alarm lines, signal lines, cables or conduits

Blue = Water, irrigation, or slurry lines

Green = Sewers and drain lines

Pink = Temporary Service Markers

White = Proposed Excavation

## Execution

When any job is planned which falls under the scope of this policy:

- A. The Project Coordinator will initiate the Ground Breaking process by obtaining the Ground Breaking permit, completing section 1 and forwarding the form to the Excavation Coordinator. A blank permit can be found at the end of this procedure.
- B. The Excavation Coordinator will review the underground utility prints for buried utilities or services in proximity to the planned job, complete section 2 of the permit and attach a copy of the site plan with applicable utilities highlighted. If circumstances dictate, the CWPCO line

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crew and/or Diggers Hotline will be called to evaluate the area via tracing instrumentation and prints. Services found by tracing or print reference will be marked on the surface with distinctive spray paint, marking flags or stakes. Once this is completed the permit is forwarded to the Environmental Coordinator.

- C. The Environmental Coordinator will assess any environmental risks associated with the Ground Breaking and review the planned ground breaking with the Project Coordinator (permit section 3). The permit is then forwarded to the Project Coordinator.
- D. The Project Coordinator keeps the permit at the jobsite for reference and inspection for the duration of the job. If excavation is planned within 5’ of any buried service a test hole will be dug with wooden handled hand tools or a vacuum truck to confirm the actual location. Powered equipment, if used, must be in conjunction with a spotter who remains clear of unexpected boom movement and avoids contact with the equipment frame.

Upon completion of the excavation, the Project Coordinator will review the job with the Excavation Coordinator and assist in documenting any utility drawing additions or changes (permit section 4). The excavation permit is considered closed after this review is completed and the Project Coordinator signs and dates the permit.

Prior to beginning any trenching, Part I of a trenching permit is to be filled out and signed by the Contractor Competent Person. The Project Coordinator will also initiate a Ground Breaking Permit. The contractor is responsible for design, planning, and execution of all trench work per this policy and OSHA requirements. The Contractor Competent Person is responsible for the Job Site Inspections and safety of all persons involved with the trench until completion. All trenching must be inspected daily by the Contractor Competent Person and more often if weather or other conditions dictate. After the permit is completed by all, the CCP will submit a copy to the safety department and the QP. The original will remain in the CCP’s possession for the duration of the trenching. After the trench is brought back to grade, the contractor is to return permit to safety department.

- A. The Utility Locator- Locates all utilities on or near the trench site by mean of drawings associated with the trench, or locating device and completes Section 2 of Ground Breaking Permit. The Utility Locator will determine if underground utility lines are Mill owned or owned by others and contact Diggers Hotline if necessary. Existing lines and interference must be identified and marked with stakes indicating their location and depth prior to the beginning to trench.

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B. The Qualified Person inspects the site and discusses the trenching with the CCP, assures that underground utilities are clearly flagged and authorizes the trench by completing part II of the Trenching Permit. The QP determines the need for system lock out to protect trenching activities.

**Guidelines**

- A. Minimum sloping shall be 1 1/2: 1 (Horizontal/Vertical). Shoring is necessary if sloping is not attainable per OSHA requirements. If the soil classification is other than Type C, the type must be indicated in Section III of the Trenching/Excavation permit and be signed by a Qualified Person. Type C soil is the least stable type of soil. Type C includes granular soils in which particles don't stick together and cohesive soils with a low unconfined compressive strength; 0.5 tons per square foot or less. Examples of Type C soil include gravel, and sand. Because it is not stable, soil with water seeping through it is also automatically classified as Type C soil, regardless of its other characteristics.
- B. Anyone in a trench cannot be more that 25 feet from a ladder or other acceptable means of escape.
- C. A confined space permit will be required if the trench meets the definition of a confined space.
- D. Excavated areas will be clearly marked. Lights and barricades are required if a trench is left open overnight.
- E. Hand-digging is mandatory when digging within two feet of exposing existing utilities.
- F. Excavated spoils and other materials must be stored a minimum of two feet from the edge of the trench.
- G. Special consideration (i.e. structural integrity, traffic flow) should be given to any trench in close proximity to railroad tracks, buildings, footings, light poles, etc.
- H. If any unforeseen events occur, the work should stop immediately and the QP should be contacted.

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# GROUND BREAKING PERMIT

Wisconsin Rapids Mill

Date: \_\_\_\_\_ (Date of permit initiation)

Project Coordinator: \_\_\_\_\_ Phone: \_\_\_\_\_

(WR facility representative responsible for the project)

Excavation Coordinator: \_\_\_\_\_ Phone: \_\_\_\_\_

(Individual responsible for utilities location)

Environmental Coordinator: \_\_\_\_\_ Phone: \_\_\_\_\_

(Individual responsible for environmental assessment)

**Section 1: Completed by the Project Coordinator**

1. Date of Excavation: \_\_\_\_\_

2. Location: \_\_\_\_\_  
\_\_\_\_\_

3. Job Description:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Send (Scan & E-mail) Permit to Excavation Coordinator

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**Section 2: Completed by the Excavation Coordinator**

1. Review underground utility drawings around excavation area
2. Fill out table below with utilities identified. Attach copy of drawing with applicable utilities highlighted.

Utility Number	Service	Size	Type

3. Electrical Trace Required ( Y / N )    Power Services Dispatcher: 1-715-422-3303  
 Date Contacted: \_\_\_\_\_                      Contacted By: \_\_\_\_\_  
 Date Completed: \_\_\_\_\_

4. Outside Utilities Present ( Y / N )                      Diggers Hotline: 1-800-242-8511  
 Date Contacted: \_\_\_\_\_                      Contacted By: \_\_\_\_\_  
 Ticket Number: \_\_\_\_\_  
 Date Excavation Can Begin (72 hrs from request): \_\_\_\_\_

5. Send (Scan & E-mail) Permit to Environmental Coordinator for Review

**Section 3: Completed by the Environmental Coordinator**

1. Assess any environmental risks, and if applicable, create and review a plan to mitigate risks with Project Coordinator
2. Send (Scan & E-mail) Permit to Project Coordinator

**Section 4: Completed by the Project Coordinator**

1. Keep permit at excavation site for reference and inspection
2. Return permit to Excavation Coordinator upon completion of job
3. Review job with Excavation Coordinator to document any utility drawing additions/changes

Signature of Project Coordinator: \_\_\_\_\_ Date: \_\_\_\_\_

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# Trenching Permit

Wisconsin Rapids Facility

Date(s): \_\_\_\_\_ To \_\_\_\_\_ Location: \_\_\_\_\_

Description of Work: \_\_\_\_\_  
\_\_\_\_\_

P.O./W.O. #: \_\_\_\_\_ Contractor or Dept: \_\_\_\_\_

Contractor Competent Person (CCP): \_\_\_\_\_ Phone #: \_\_\_\_\_

WRF Qualified Person (QP): \_\_\_\_\_ Phone #: \_\_\_\_\_

**Part I – Pre-Excavation Plan: Completed by CCP**

## 1) Type of operation:

- New Construction  
 Point Repair  
 Failure of Previously Placed Component  
 Design of Construction Error  
 Other

## 2) Excavation supporting method:

- Sloping  
Design: \_\_\_\_\_  
\_\_\_\_\_

- Shoring  
Design: \_\_\_\_\_  
\_\_\_\_\_

 Benching Shield3) Does the trenching include work near an existing structure?  Yes  No

If yes describe the plan: \_\_\_\_\_

Signature of Contractor Competent Person:

I certify that I am a Competent Person certified per OSHA Excavation standards 29 CFR Part 1926, Subpart P. I certify that Part I of this permit is in conformance with OSHA excavation provisions and the Wisconsin Rapids Mill Excavation Policy and that I am responsible for the safety of all persons involved in this excavation until completion.

\_\_\_\_\_  
Print Name\_\_\_\_\_  
Signature\_\_\_\_\_  
Date

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