LIFE-SAVING ACTIONS POLICY
UTILITIES POLICY

Policy Owner		
Position	**Name**	**Ownership Date**
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Revision Summary Change		
Rev	**Revision Date**	**Change Description**
A	16-MAR-2024	Issued for Review
1	12-AUG-204	Issued for Use

This Training/Policy contains guidelines and expectations for safety practices within Kiewit Corporation. The Kiewit Corporation safety team provides support and resources to subsidiary companies and personnel working on individual Projects. With subsidiaries conducting business in different construction and engineering markets across North America, every Project has different risks. It is ultimately the responsibility of the individual subsidiaries at the Project level to implement safety policies consistent with applicable conditions, codes, standards, rules, regulations, and industry best practices.

NOTE: *Revision history will be an alpha revision Rev. A, B, etc., until "Issued for Use". At that point it will be issued with a two-digit numeric revision Rev. 01, 02, etc.*

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1.0 PURPOSE

The purpose of this policy is to reduce or eliminate the potential occurrence of incidents causing damage to utilities of any kind in the construction of our projects. It establishes the minimum requirements for the safe performance of work involving utilities.

2.0 SCOPE

This policy establishes performance criteria for the protection of employees working with or around utilities. It addresses above ground utilities, underground utilities, and structural penetration utilities.

This procedure applies to all employees of the Kiewit Corporation, or subsidiary companies, as well as any subcontractors, vendors, consultants, or other third parties employed by and contracted to the Kiewit Corporation and/or subsidiaries.

For the purposes of this document, storm drainage is not considered a utility. Each project may decide to classify storm drainage as a utility on a project basis, but it is not required.

3.0 REGULATIONS

All employees shall comply with the provisions outlined in federal, state, local, or provincial regulations. This document has been established to comply with federal OSHA regulations with consideration for ANSI Consensus Standards. However, each project should verify that this procedure complies with any additional regulations applicable to the project.

4.0 LSA TOOLKIT

LSA TOOLKIT MATERIAL			
Policy(s)	Utilities Policy		
Standard Operating Procedures (SOPs)	Powerline Warning Guide		
LSA Safeguards	See LSA Toolkit & LSA Safeguard section below		
Forms	Above Ground Non-Crane Powerline Permit	Dig Permit	Powerline Permit
	Structure Penetration Permit	Utilities Variance Form	
Training	Orientation Slides	Authorized Employee Training	

SUPPORTING MATERIAL				
LSA Visual Guide	Past Incidents & Lessons Learned	JHAs & Work Plan Examples	Best Practices	Videos

5.0 LSA SAFEGUARDS

To ensure proper identification and planning for LSA Risks, a Front-Line Supervisor must verify and sign-off that all safeguards are in place before work can begin. It is also recommended that FLS review those same Start Cards again throughout the day to verify safeguards are still in place and account for any change in condition.

For more detailed information reference LSA Guidelines.

6.0 DEFINITIONS / ACRONYMS

TERM / ACRONYM	DEFINITION	REFERENCE
Site Specific Utilities Plan (SSUP)	A project specific plan that accounts for all utilities that can be reasonably expected to be encountered throughout the life of the project. This plan explains, in detail, how the project will safely work with and around utilities that are encountered above ground, underground, and within structures.	N/A
Live Utilities Map (LUM)	A project specific document that identifies all known utilities within the construction limits. This document is maintained and developed by the project's Designated Person.	N/A
Utility Avoidance Permit (UAP)	A Utility Avoidance Permit is any type of permit/form that is a written plan for how an operation will avoid contacting utilities during the course of the work. Utility Avoidance Permits are applicable to above ground, underground, and structural penetration utilities. Powerline Permits, Dig Permits, Ground Disturbance Permits, and Structural Penetration Permits are all permits/forms that fall within the Utility Avoidance Permit umbrella.	N/A
Above Ground Utility	A structure or improvement built or installed above ground for the purpose of providing utility services or communication services.	
Underground Utility	Any below ground line, structure, facility, or installation used by a utility or service provider.	
Structural Utility	Any current or future utility that is within a structure such as flooring, walls, roofs, or any type of concrete slab, deck, abutment, column, wall, etc.	
Ground Disturbance	Ground disturbance is defined as any activity that compacts or disturbs the ground within a project area. The project area is defined as all areas where project activities will occur, including: the actual construction activities, permanent easements, temporary construction easements, staging areas for supplies and equipment, and borrow pits. Ground disturbance can also be caused by the use of hand tools (shovels, pickaxe, posthole digger, etc.), heavy equipment (excavators, backhoes, bulldozers, trenching and earthmoving equipment, etc.), and heavy trucks (large four-wheel drive trucks, dump trucks and tractor trailers, etc.	
Potholing	Utility potholing is also sometimes called utility daylighting, hydro-excavation, or air-excavation. The technique involves digging a series of non-intrusive, non-destructive test holes to garner as much information as possible about the layout of various utilities on or around a property.	

7.0 ROLES AND RESPONSIBILITIES

POSITION	ROLE AND RESPONSIBILITY
Employee working with or around Utilities	Any employee working with or around utilities must be trained to do. This requires them to have been through the Utilities Training described in this policy. They are also responsible for working safely by adhering to the guidelines within this policy and following the Utility Avoidance Permit applicable for their operation.
Designated Person (DP)	The Designated Person is responsible for the following: • Developing the Live Utilities Map (LUM) for the project. • Updating and maintaining the LUM. • Coordinating and assisting with Utility Avoidance Permits. • Documenting One Call/811 call information. • Coordinate documentation of unknown and known utility information on the LUM. • Evaluate high-risk utility crossings and develop a plan. • Lead or assist with the Utilities Training.
Foreman	Foremen are responsible for ensuring this policy is adhered to in the field during our work. They are also responsible for ensuring the work plan, UAP, and all other necessary documents are at the operation and adhered to.
Superintendent	Superintendents are responsible for the following: • Ensuring this policy is adhered to in the field during our work. • Ensuring the work plan, UAP, and all other necessary documents are at the operation and adhered to. • Coordinating independent locators where One Call cannot provide locates. • Ensuring municipality utilities are located. • Coordinating with the Designated Person to ensure utilities are accounted for in the LUM. • Ensuring UAP's for their work are created and utilized in the field.
Project Manager (PM)	The Project Manager is responsible for ensuring that this procedure is implemented and adhered to on the project. They are responsible for designating the Designated Person, reviewing & approving the Site Specific Utilities Plan, and signing off on any variances.
Project Sponsor (PS)	The Project Sponsor is responsible for ensuring that this procedure is implemented and adhered to on all projects within their responsibility. They are responsible for ensuring any variance procedures that their project creates is approved by them in writing. They are also responsible for review and approval of the Site Specific Utilities Plan for their projects.
Safety	Project safety personnel are responsible for supporting the implementation of this policy on the project, verification that training requirements are being met, assisting with training, and periodic audits of the process and controls. If no safety personnel are assigned, this responsibility falls on the project manager or designee.

8.0 POLICY

The company standard Utilities Policy addresses 3 different work areas where it is possible to encounter utilities. The 3 areas are Above Ground, Underground, and Structure Penetrations. This policy gives minimum expectations for how work will be performed with or around utilities encountered in those 3 areas.

8.1 PROJECT MINIMUM REQUIREMENTS

8.1.1 SITE SPECIFIC UTILITIES PLAN

All projects that have exposure to utilities shall create a Site Specific Utilities Plan (SSUP). Examples for site specific plans can be found here or projects can create their own plan so long as it meets or exceeds this policy. The SSUP must be reviewed and approved by the Project Sponsor and Project Manager before any utility related work may begin.

SSUP's must account for all utilities that can reasonably be expected to be encountered throughout the life of the project and there should be special consideration for the transport of construction related items (equipment, materials, vehicles, etc.) near utilities. This includes Above Ground, Underground, and Structural Penetration utilities.

SSUP's can leave out procedures for one or more of the utility areas (Above Ground, Underground, Structural Penetration) if there is 0 potential to encounter utilities in that specific area.

8.1.2 LIVE UTILITIES MAP (LUM)

All projects must select a Designated Person that is responsible for developing a Live Utilities Map (LUM) of the project that identifies all known utilities within the construction limits (Above Ground, Underground, and Structural Penetration).

The Live Utilities Map should identify the following at a minimum and be updated and maintained by the project's Designated Person:

- Utilities by station number or by use of a map of the project.
- Overhead powerlines should have height and voltage clearly stated.
- As-built utilities, surveyed utilities, permanently installed utilities, temporary overhead lines, etc. should be captured.
- Through FLS field visit verification, efforts should be made to investigate potential unknown and unmarked utilities. Unknown / unmarked utilities discovered will be captured in the LUM.
- Significant changes discovered by potholing or exposing shall be captured.
- Any other pertinent utility information that the project deems suitable. For example:
    - Size and material of the utility
    - Pressure of the utility
    - Other extraordinary characteristics (i.e., cathodic protection, thrust block, etc.)
- Utilities on the LUM must be color coded per APWA color tables.

8.2 ABOVE GROUND

The Above Ground Utilities section of this policy is primarily written for work around overhead power lines but also applies to aerial fiber, phone, cable TV lines, or any other overhead utility that may be encountered. There is also consideration for other above ground utility fixtures that can be in the work area but are not located overhead.

The Above Ground Utilities Policy is broken down into 3 main categories of work:

1. Overhead Power Lines
2. Other Overhead Utilities
3. Utilities at Grade

If operating a crane, form #719 Power Line Permit must be utilized and if operating a non-crane piece of equipment, the Non-Crane Power Line Permit must be used. For more information on Above Ground Utility Avoidance Permits see the Forms section below.

NOTE: *Project specific exceptions may be allowed with District Manager approval for low-risk aerial utilities such as low voltage communications lines or insulated lines.*

8.2.1 OVERHEAD POWER LINES

CRANE OPERATIONS AROUND POWER LINES

The Kiewit Corporate Crane Procedures Manual section related to working around power lines shall be the governing policy for all crane operations working around power lines.

All crane operations that are capable (by booming, hoisting, telescoping, and/or swinging) of coming within 20 feet (5 m) of any 0-350 kV power line or within 50 feet (15 m) of any 350-1000 kV power line shall utilize form #719 Power Line Permit. For more information on the use of the permit see the Forms section below.

OTHER EQUIPMENT OPERATIONS AROUND POWER LINES

The general powerline permit must be used if equipment (all non-crane work) will be positioned such that any part of the equipment is capable of coming within 20 feet of a 0-350 kV powerline or within 50 feet of any 350-1,000 kV powerline. See below table for further information.

If the equipment has swing or height limiting devices available, the spotter may be removed if the procedure is followed as outlined in the Kiewit Corporate Crane Procedures Manual (section 7 and 15).

OPERATIONS THAT REQUIRE WORKING CLOSER THAN *TABLE A MINIMUM CLEARANCE DISTANCE*

Reference the Kiewit Corporate Crane Procedures Manual (section 7 and 15) for all operations, both crane and non-crane work for guidelines, requirements and approvals.

TYPE OF REQUIREMENT	CRANE	NON-CRANE
Permit	Form #719 Power Line Permit	Non-Crane Power Line Permit
Spotter	Qualified Signal Person	HEI & Power Line Spotter Training
Salaried Superintendent	Required	Not Required, but Recommended

High Risk Powerline Crossings

Each project will identify high risk power line crossings, by using the following criteria:

- Overhead lines that < 20 foot to the working surface.
- Operations will require that equipment be tracked or transported under the line. (please reference Table T for transport or tracking under powerlines, Page 21 of the Crane Manual)
- Proximity to live traffic or public interface should be considered.

If deemed high risk, the following must happen:

- Identified on the LUM as a high-risk line.
- Signage (see crane manual) on either side of the line
- Minimum of 1 feather flag to mark the crossing location (see example w/ link to purchase)
- The lowest line in the crossing will have low line markers installed (consult the utility owner prior to install)
    - Follow the QuickMark spacing on the product cut sheet.

8.2.2 UTILITIES AT GRADE

Any utility fixture such as, but not limited to, hydrants, vaults, manholes, meters, valves, cabinets, guy wires, and service lines which can be visible, yet difficult to see in an active construction area will be located by the superintendent in that area with GPS or similar means and documented by the Designated Person in the LUM. This will allow for visual representation of these fixtures and their location within a UAP if one is utilized in the area. Documentation by the project will also provide location of and the ability to avoid fixtures which may inadvertently become buried during construction.

If vaults are encountered, it is recommended to investigate the inside of the vault to determine size, shape and other utilities and fixtures that could be present.

It is recommended that projects include additional methods which may be applied to protect utilities and their fixtures from damage such as:

- Applying visually contrasting paint to lids and covers.

- Placing brightly colored flagging or stakes and high visibility rope around fixtures within or in the vicinity of the work area.
- Place physical barriers including berms, water barrier or concrete barrier.
- Spotters, but only if the above three cannot be done.

8.3 UNDERGROUND

Below are the minimum requirements for working with or around underground utilities that could be encountered by way of ground disturbance.

- All trenching and excavation activities must comply with the Company Standard Trenching & Excavation LSA Toolkit.
- Existing utilities shall be located, marked, and visually verified prior to starting any operation.
- A completed Underground UAP (dig permit, ground disturbance permit, etc.) is required for all operations that disturb the ground's surface.
- The foreman and superintendent of each operation is responsible for ensuring that these procedures are followed, the work plan, UAP, and all other necessary documents are at the operation.
- Any variance from this section of the policy must follow section 8.3.4 below.

8.3.1 PRE - GROUND DISTURBANCE PLANNING

Underground utilities must be identified, and a plan must be created to ensure they are not damaged. The following outlines how to do this.

ONE CALL

- Prior to the start of any excavation the local One Call Center must be contacted. Check local regulations to ensure compliance.
- The project is responsible for coordinating with the local One Call Center to determine if there are any requirements to communicate the location of the work area to be marked and located. Projects must have a project kick-off with One Call to identify which utilities subscribe and which do not.
- An independent locator contractor may be required to provide the locates One Call cannot.
    - Independent locators may be required where One Call Centers cannot provide locates such as private utility owners. It is up to the superintendent over the operation to ensure utilities are accounted for.
- One Call Centers will provide a confirmation/permit number, this number must be documented on the UAP and shared with the Designated Person.
- In some cases, the underground utilities belong to the owner of the property rather than the utility.
    - For example, the utility may own the pipe/conductor up to a meter at the edge of a property.
    - The pipe/conductor from the meter on into the property (i.e., a house or commercial building) belongs to the proper owner.
    - Member utilities will not mark the utilities beyond where they own them.
- In some cases, municipality utilities (i.e., water lines, traffic signal wires, and intersections) ARE NOT covered by One Call Centers.
    - It is the superintendent's responsibility to locate these utilities.
- In addition, newly constructed work IS NOT covered by the One Call Centers (i.e., drainage, ITS, electrical subcontractor new installations, etc.).

- The LUM will need to be referred to for locations of this work.
- The engineer, foreman, or superintendent responsible for this work must be contacted to verify what has been constructed.

UTILITY COLOR MARKING

The following colors and symbols have been adopted for marking underground facilities:

WHITE	**White:** Pre-marking of the outer limits of the proposed excavation or marking the centerline and width of proposed lineal installations of buried facilities.
PINK	**Pink:** Temporary Survey Markings.
RED	**Red:** Electric power lines, cables or conduit, and lighting cables.
YELLOW	**Yellow:** Gas, oil, steam, petroleum, or gaseous materials.
ORANGE	**Orange:** Communication, alarm or signal lines, cables or conduits, and fiber.
BLUE	**Blue:** Potable water.
PURPLE	**Purple:** Slurry, irrigation and reclaimed water.
GREEN	**Green:** Sewers, drainage facilities or other drain lines.

FIELD VISIT AND ONE-CALL VERIFICATION

The Front-Line Supervisor over the operation is responsible for the field visit and verification, the following steps must be followed:

1. After the One Call Center has been notified and the project has been informed that all One Call markings have been administered, a field verification visit is required. The visit is used to verify that the One Call representative has come out to the work area and marked all utilities. Do not assume “no markings” means “no utilities”.
2. During the field visit, the area must be inspected for any unknown utilities (i.e., landscape irrigation lines, etc.) or utilities depicted on the LUM but not marked on the ground. If any unknown utilities are found, they must also be properly located and marked.
3. The One Call Center Markings will be compared to the utility drawings. If one or more One Call members have not marked any or all the utilities in the area, then call the One Call Center back and give second notice.
4. Through verification, if it is noted that One Call has not marked after second notice, projects must properly document that One Call has not performed markings and then refer to local state/provincial/etc. laws for next steps on utility marking.
    a. Regardless of the next steps, utilities must be properly located before disturbing the ground.
5. Any utility relocation that has taken place and any new utilities that have been installed need to be documented by the project on the LUM.

8.3.2 POTHOLING REQUIREMENTS

GENERAL

- Before ground disturbance operations begin, potholing for utilities must take place. Potholing is performed to verify the location and depth of the utility lines.
- Potholing shall be done using hand labor or a VAC truck (if available). All tools used for hand labor must not have a pointed edge that could penetrate a utility (pickaxes, pry bar, or similar tool).
- Once identified, all utilities will be marked with PVC pipe or similar. Markers must be marked the correct Utility Color Marking (see Utility Color Marking table above), have the utility depth written on them, and be uniform with other markers in the area. When offset markings are necessary, the information will be clearly noted on the marker.
- All personnel working in the area must be made aware of the location of utilities in the area. This can be accomplished by sharing the LUM and communicating new markers.
- Potholing data must be depicted in the LUM. The LUM will be updated and communicated at regular intervals as determined by the project.
- Verify that potholing method, such as air or water, is acceptable to jurisdictional requirements. Certain road departments prohibit the use of water vacuum excavation underneath pavement without extraordinary patching details.

NOTE: *DO NOT ASSUME THAT THE UTILITY WILL CONTINUE ON THE SAME LINE AND GRADE.*

POTHOLE SPACING AND FREQUENCY

TYPE OF UTILITY	WORK AREA AS DEFINED BY PERMIT	0' – 25' FROM WORK	25' – 50' FROM WORK	50'+ FROM WORK
Gas	Expose entire line	Every 25'	At least once on each end	None
Electric	Expose entire line	Every 25'	At least once on each end	None
Telecom	Every 25'	Every 25'	At least once on each end	None
Water	Every 50'	Every 50'	None	None
Sewer	Every 50'	Every 50'	None	None

- **RE-POTHOLING**
    - Re-potholing is not necessary if we have captured accurate utility data at that location within the LUM. It is the responsibility of the FLS over the operation and the Designated Person to coordinate marking of known utility information.
- **OTHER UTILITIES**
    - At least two (2) potholes must be obtained for each utility within the work zone regardless of how small the work zone is.
- **UTILITIES IN ROADWAYS**
    - Difficult excavation conditions do not preclude the requirement to pothole.
    - Street plates, that meet TSCD requirements, shall cover a pothole when there is live traffic on the roadway.
    - For roadway work not scheduled to be excavated in the current operation, an asphalt patch must be placed over the pothole. This should be done after, and only after, all pothole information has been recorded in the LUM and the pothole has been offset using PVC markers or similar.
    - Backfill and patching must conform to jurisdictional requirements.

8.3.3 GENERAL UNDERGROUND UTILITY REQUIREMENTS

UTILITY TSCD

- **CROSSING EXISTING UTILITIES (Table 3.24 TSCD Manual)**
    - Any operation, equipment, or materials that will cross or be stored on an underground utility requires that the utility be assessed so that the operation, equipment, or materials will not damage the utility.
    - A Qualified Person must evaluate high-risk utility crossings and develop a plan within the Site-Specific Utility Plan that is consistent with TSCD requirements.
- **SUPPORT OF UTILITIES (Table 3.18c in the TSCD Manual)**
    - Utilities that require temporary support shall have an engineered support system (refer to the corporate TSCD manual). The engineered support system shall be included with the Underground UAP, and a copy shall be maintained by the project.

EXCAVATING AROUND UTILITIES

- The superintendent of the operation must ensure a minimum clearance of 36 inches (1 meter Canada) is maintained between a marked and unexposed utility and the cutting edge or point of any power operated excavating or earth moving equipment. If excavation is required within 36 inches (1 meter Canada) horizontally of any marking, the excavation will be performed with extreme care utilizing hand tools or vacuum excavation techniques only.
- Utility owners will not guarantee the depth of a utility; therefore, the superintendent shall use the same excavation techniques vertically as horizontally, unless a utility owner informs us that we can use a different technique.
- Individual utility owners may have tighter restrictions for excavation near their facilities. The superintendent should check with utility owners for any applicable restrictions.

UTILITIES IN CONFLICT WITH OTHER UTILITIES

- Any utilities encountered during the work which are in conflict, must be treated as LIVE! The utility must be verified to be in a zero-energy state by a qualified person (this must be the utility owner or their representative for life-threatening utilities).
- Once verified, any work to abandon a life-threatening utility (gas, petroleum, electric, etc.), must be performed by the utility owner (or their representative), and the utility owner's procedures must be followed.
- Once verified, any work to abandon a non-life-threatening utility (water, sewer, telecom, etc.) must follow the project's lock-out/tag-out policy.

UTILITY STRIKES

Below outlines what to do in the event of a utility strike:

1. Clear and secure the area if there is potential for further exposure to hazardous environments.
    a. If power and/or gas is struck emergency services (911) should be notified immediately.
2. Contact the appropriate utility owner to inform them of the damage so they can inspect and repair, if necessary.
3. Follow your project's incident reporting procedures.
4. Input into InEight within 24 hours unless approval is given from the District Safety Manager to do otherwise.

8.3.4 UNDERGROUND POLICY VARIANCE

Projects may create a variance procedure for the underground portion of the policy if they choose to do so. At minimum, it must include the following:

- Description of why a variance is needed, why it makes sense for that operation, and why it is not feasible to follow the policy requirements.
- UAP the variance is tied to.
- How the operation will be performed safely.
- Time period (dates) the operation is expected to last.
- Signatures of the superintendent, project manager, and safety manager (if applicable).
- A variance can only be for one UAP and shall expire with that UAP.
- The project variance procedure must be approved by the Project Sponsor or designee in writing with notification to the District Manager and District Safety Manager.

8.4 STRUCTURAL PENETRATION

When workers need to perform any type of operation where an existing structure must be penetrated as defined in this policy, there must be an approved Structural Penetration Utility Avoidance Permit (UAP) in place prior to the commencement of any work. All Structural Penetration UAP's must be approved by the Project Manager or their designee.

8.4.1 PLANNING

All Structural Penetration operations require the supervisor planning the work to complete the following:

- Prepare a detailed work plan for the scope of structural penetration work.
- Obtain current as-built drawings of the work area.
- Provide pictures/drawings with layout details/location of structural penetrations.
- Use GPR or other scanning techniques to clear the area of structural penetrations. Best practice scanning techniques can be found here.
- Complete all special safety planning elements, access, PPE, and other safety equipment requirements.
- Ensure that the employees performing the work have been trained and a pre-operation walk has been completed.

See the Structural Penetration UAP section for more details.

8.4.2 FIELD EXECUTION

The FLS over the operation shall:

1. Prepare a detailed work plan for the scope of the structural penetration operation.
2. Review all available prints, as-built drawings, and other documents associated to the proposed structural penetration location.
3. Propose any locations that require GPR scanning and coordinate scans.
4. Review GPR scan results to update the construction drawings and work plan with all identified obstructions by type found in the structure penetration location.
    a. If the scanning results identify obstructions at the work interface, the superintendent over the operation will note the type of obstruction and an RFI must be submitted for resolution and approval prior to proceeding. If the RFI requires the structure penetration location to be moved, the new location and work area will be laid out and scanned according to this policy.
5. Develop the layout plan for the utility/obstruction avoidance and assist the FLS with layout of structural penetration(s).
6. Complete the Structural Penetration UAP and obtain final approval from the Project Manager.
7. Perform a pre-operation walk with the crew and obtain all required signatures before work begins.

Subcontractor structural penetration operations require the subcontractor to:

1. Follow the process outline above and provide all information to the designated Subcontractor Manager for the operation.
2. The designated Subcontractor Manager shall then:
    a. Ensure the subcontractor has provided all elements to satisfy the requirements for the Structural Penetration UAP.
    b. Submit to the designated Subcontract Manager or their designee for final approval.
    c. Perform a pre-operation walk with the subcontractor and obtain all required signatures prior to work beginning.

9.0 FORMS

9.1 OVERVIEW

During the course of our work, we must utilize various types of permits and forms to ensure we do not unintentionally contact known and unknown utilities. Utility Avoidance Permits are any type of permit or form that meets the previous sentence. Below are commonly used permits that meet this requirement:

UAP Type	Commonly Known As
Above Ground	Form #719 Power Line Permit, Non-Crane Power Line Permit
Underground	Dig Permit, Ground Disturbance Permit
Structure Penetration	Structures Penetration Permit

Utility Avoidance Permits require supervisors planning the work to follow the steps listed out within this policy at a minimum. Projects may go above and beyond this policy to ensure they meet the client's, local governing bodies, or other requirements.

The following requirements are applicable to all versions of the UAP:

- Shall have a defined scope of work that it covers. The scope of work should be specific but can be defined as best suits the project.
- UAP creators must work with the project's Designated Person to help develop the UAP.
- UAP's are the superintendent over the operation's responsibility.
- Each UAP must contain the appropriate signatures before work can begin and be available at the work location.
- Completed and approved UAP's, and associated documents, shall be reviewed with the crew prior to work beginning.
- All authorized employees are to sign and date the permit, acknowledging an understanding of the operation's hazards and confirming receipt of any necessary training and instruction on the items described in the plan.
- UAP expiration times are to be set by the project but must at least be tied to local One Call center marking requirements.
    - *UAP's cannot have an infinite life span unless they are an approved Blanket Permit that never changes.*
- The permit shall be reviewed, with signature and date, at minimum:
    - Before the operation is started
    - Weekly
    - When conditions change
    - When a new employee is introduced to the operation

9.2 BLANKET PERMITS

For activities where utility protection methods and systems will be the same regardless of where on the project they are performed, a UAP covering a larger/blanket scope may be approved. This blanket permit shall include an SOP detailing the utility protection requirements. Approval for this blanket plan must be obtained from the Area Manager or Project Sponsor.

9.3 ABOVE GROUND UAP

An Above Ground Utility Avoidance Permit is required for all work, Crane and Non-Crane, that occurs within 20 feet of an overhead powerline. The salaried superintendent over the operation is responsible for ensuring that the Above Ground UAP is in place, properly completed, and reviewed with all employees involved prior to the operation beginning.

The Above Ground Utility Avoidance Permit is split into two sections: Crane and Non-Crane. Form #719 Power Line Permit is to be used for all crane work around overhead powerlines. The Non-Crane Power Line Permit is to be used for all non-crane work (any equipment that can contact an overhead utility that is not a crane such as MEWPs, excavators, forklifts, etc.) around overhead powerlines.

9.4 UNDERGROUND UAP

An Underground Utility Avoidance Permit (UAP), also known as a Dig Permit or Ground Disturbance Permit, is required for all operations which disturb the earth's surface. Subcontractors are also required to have a valid Underground UAP with their operation, the subcontractor will obtain their own One Call ticket and provide it to the assigned project representative, typically the Designated Person, to obtain an Underground UAP.

9.5 STRUCTURAL PENETRATION UAP

A Structural Penetration Utility Avoidance Permit (UAP) is required for all operations which penetrate the surface of a structure as defined by this policy. Subcontractors are also required to have a valid Structural Penetration UAP with their operation, the subcontractor will coordinate with the designated project representative to conduct any necessary Ground Penetrating Radar or work planning that must be completed prior to the issuance of a Structural Penetration UAP.

10.0 TRAINING

Prior to working with any utilities each employee shall be properly trained. Utilities training shall be conducted utilizing the standard company Utilities Training and shall be delivered by a project employee who has at least 5 years working with utilities.

The standard company Utilities Training cannot be modified by the project or instructor, but it can be added to, if the project has requirements that are above and beyond this policy. Project specific requirements can be added and covered following the standard company Utilities Training.

Training shall be documented by the project via a sign-in sheet following the completion of the training. Instructors are responsible for ensuring the sign-in sheet is submitted and tracked in KrewTrac.

Projects may utilize hardhat decals to show that employees have been trained, but it is not required per this policy.

NOTE: *The above training does not exempt any employee from fulfilling the requirements laid out for training in the Corporate Crane Procedures. This includes the basic overhead powerline training as well as the requirements for a Dedicated Spotter to meet the requirements of a Qualified Signal Person. Refer to the Corporate Crane Procedures Manual for more information.*

10.1 TRAINING TABLE

Utilities training shall be conducted as follows:

ROLE	TRAINING DESCRIPTION	FREQUENCY	INSTRUCTOR	LINK TO TRAINING
New hire or anyone needing awareness training	Shall receive the project's orientation so long as it has the standard company Utilities Orientation Slides included or equivalent.	Before starting work.	Project Orientation Instructor	
Employees required to work with Utilities (Above Ground, Underground, Structural Penetration)	Shall receive the standard company Utilities Training.	Before working with any utility for any reason.	Project designated employee with at least 5 years' experience working with utilities	
Retraining	Utilities Retraining is required: • Every 2 years after receiving the initial Utilities Training • After any PSL 3-5 involving Utility incidents • If the project deems an employee needs retraining based on safety performance • Whenever there is a change to the Utilities Policy (this training only needs to pertain to the changes, not the entire policy)	Every 2 years or as needed	Project designated employee with at least 5 years' experience working with utilities	

11.0 REFERENCES

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