HBACA BUILDER SAFETY COMMITTEE
Trench Safety Awareness
Initiative & Stand Down Kit July 2021

ELEMENTS OF THE KIT
SUGGESTIONS FOR IMPLEMENTATION

A summary of the game plan for the HBACA Safety Committee Monthly Awareness Initiative and Group Stand Down Event with some "added touches" you may want to consider.

***Distribution Network:**

Committee Member Field Employees and, at each member builder's discretion, their Trade Partners. Builders are encouraged to distribute these accordingly and organize brief safety meetings/discussion sessions throughout their communities.

INTRODUCTORY VIDEO AND TOOLBOX TALK:

www.hbaca.org/safety-awareness

- **Trench Safety Toolbox Talk #1-** 5-4-3-2-1 Trench Safety (English and Spanish) The first of 3 Toolbox talks covering information on Protective Safety Systems, Access and Egress, Spoil Piles and Equipment.

  Distribution/Implementation Dates:
  Week of 7/5-7/9

- **Trench Safety Toolbox Talk #2-** Excavations and Trenching (English and Spanish) Covers the major causes of cave-ins, precautions to eliminate excavation hazards, and material stock piles around equipment.

  Distribution/Implementation Dates:
  Week of 7/12-7/16

- **Trench Safety Toolbox Talk #3-** In the Trenches (English and Spanish) Discusses OSHA's three basic soils types (A, B, C) and the do's and don'ts of trench safety.

  Distribution/Implementation Dates:
  Week of 7/19-7/23

HBACA
Home Builders Association of Central Arizona

TRENCH SAFETY

Safety Systems
Access and Egress
Equipment
Excavation Hazards
Soil Types

OSHA®

HBACA Builder Safety Committee
Trench Safety Awareness
Awareness Initiative & Event
July 2021

Suggestions for Implementation

Let's Get Started!

As we've discussed in our recent meetings, one goal of the HBACA Builder Safety Committee is to coordinate a monthly safety initiative that heightens awareness of a critical residential construction safety issue. To implement this program member-companies team up and take turns spearheading each monthly initiative. For the month of July 2021, our initiative is on **TRENCH Safety**. We hope you are as excited about this as we are!

What We've Planned

We've prepared a series of Toolbox Talks along with OSHA Fact Sheet and Quick Reference Cards for the distribution and implementation of our membership and their field staff. The idea is to set aside approximately 20 to 30 minutes a week to raise awareness of this safety challenge. Include your field staff, make it a series of events at each community, invite your trade partners if you are comfortable doing so, and/or implement the program however you see fit!

For the last week of the initiative, we would like all builder members to coordinate and participate in the "Stand Down Event" in your communities. **The Stand Down Event will be the week of July 19th-23rd**

Objectives of Toolbox Talks

- Making time to communicate Trench Safety
- Making time to communicate and discuss best practices working in trenches
- Making time to make everyone aware of Trench Safety whether they are working or driving on the job site.
- Making a united and unequivocal statement: "We care about you and your safety and we want you to come home to your loved ones each and every night healthy and happy!"

Objectives of Stand Down Event

- On July 21st, 2021, Builders will speak with one voice simultaneously sending a consistent message to all our collective employees and trades – **TRENCH SAFETY IS IMPORTANT!**
- Send a message to all who participate: "Arizona Builders care about safety and take action to prevent injuries!"
- Set the tone for upcoming planned Monthly Safety Initiatives.

Additional Suggestions to Consider:

- Distribute and post the Stand Down Event Posters in all your locations starting July 1st, 2021
- Consider posting copies in your Construction Offices and also in key locations throughout your communities where workers will see them – Examples: on existing lot or safety signs, etc.
- Have your CMs ask the lunch truck drivers to post them on their trucks.
- LET'S GET THE WORD OUT THERE!
- Prior to distributing Toolbox Talks, print them on card stock or have them laminated so that they're not just a "throw-away item."
- Make food part of the Stand Down Event! Pizzas or a barbecue with burgers and hot dogs goes a long way towards relationship building. Spending $50 or $100 per community is money well spent!
- Turn the event into a Safety/Holiday/Year-End/Trade Partner Appreciation celebration

Tool Box Talk Number 1
5-4-3-2-1 (Trench Safety)

5 1926.652(a) – (c) Protective Systems

Each employee in a trench/excavation shall be protected from cave-ins by an adequate protective system except when excavations are less than **5 feet in depth** and an examination by a competent person provides no indication of potential cave-in.

4 1926.651(c) Access and Egress

Provide employees a means of access and egress when the trench is **4 feet or deeper**. Ensure the means of access/egress is located within 25 feet of lateral travel of all employees working in the excavation.

3 1926.651(c) Access and Egress

Ladders must be secured and extend a **minimum of 3 rungs** (36 in) above the landing and tied off. In the event no ladder is used, employees must be able to enter/exit the trench/excavation with **less than 3 points of contact.**

2 1926.651(j) Spoil Piles and Equipment

Provide protection from loose rock, soil, tools, and other items that may fall or roll into the excavation. Maintain a clear **2-foot area** at the excavation edges.

1 1926.650 Scope and Definitions

Each trench/excavation must have a minimum of **1 competent person**.

A competent person is one who is capable of identifying existing and predictable hazards in his/her surroundings, or working conditions, that are unsanitary, hazardous or dangerous to employees and who has authorization to take prompt corrective measures to eliminate them.

Tool Box Talk Number 1
5-4-3-2-1 (Trench Safety) Spanish

5 1926.652(a) – (c) Sistemas Protectores

Cada empleado dentro de la excavación debe ser protegido de los derrumbes por un sistema protector adecuado a menos que aquella tenga menos de **5 pies** (cuatro pies en WA) de profundidad y cuando la inspección del suelo por la persona competente no dé indicio de derrumbe potential.

4 1926.651(c) Acceso Y Salida

Proporcionar acceso y salida adecuada a la profundidad de **4 pies** o más.Coloque los medios de salida a un máximo de 25 pies de distancia lateral de donde se encuentra el trabajador.

3 1926.651(c) Acceso Y Salida

Proporcionar escaleras por lo menos **3 pies** afuera de la zanja.

2 1926.651(j) Los Montones De Tierra

Los montones de tierra deben estar por lo menos a **2 pies** de distancia del borde de la excavación.

1 1926.650 Persona Competente

Cada excavacion debe tener un minimo de **1 persona competente**.

Una persona capaz de identificar los peligros existents y previsibles a su alrededor, o las condiciones de trabajo insalubres o peligrosas para los empleados y que está autorizada para efectuar oportunamente las medidas correctivas para eliminarlas.

Tool Box Talk # 2

Excavations and Trenching

Trench and excavation cave-ins account for several fatalities and serious injuries within the construction industry. For this reason, many serious considerations must be made while trenching or excavating.

What are the major causes of cave-ins? Inadequate shoring, improper slopes on banks, poor analysis of soil conditions, defective shoring materials, nearby loads, vibrations and weather conditions.

Several precautions can and must be taken to help eliminate excavation hazards.

The first step is to check for and locate any underground utilities or other buried items. Then, the soil conditions must be carefully evaluated to determine the protective system needed.

Always wear your hard hat and wear rugged boots to protect your feet.

Excavate trenching banks to their proper slope ratio. Where necessary, straight banks should be shored. Weather conditions can greatly affect sloping and shoring.

Material stock piled nearby can increase the pressure on trench or excavation walls. Keep heavy equipment and materials such as pipe and timbers well away from the excavation site. Maintain a minimum of two feet between any materials, including the spoils pile and the edge of the trench.

Vibrations from equipment passing by can contribute to cave-ins by loosening the soil. Any soil vibration can endanger a shoring system. Compaction operations cause vibration; therefore, check soil conditions before, during and after compaction. A Competent person is to inspect shoring systems daily.

Since quick exits are required, ladders are to be located no more than 25 feet away from any worker. Ladders must extend from the floor of the excavation to 3 feet above the top and must be secured at the top.

DON'T PLAY GUESSING GAMES WITH A TRENCH EXCAVATION!

Tool Box Talk # 2

EXCAVACIONES Y SANJAS

(Excavations and Trenching)

Excavaciones y las zanjas son responsables por un numero de fatalidades y accidentes muy serios en la industria de construcción. Por esta razon debemos de considerar las excavaciones muy serias.

¿Que causa que una zanja se desbarranque? La falta de trabezaños el no inclinar los barrancos lo suficiente los analysis del terreno son pobres o las vibraciones que causa el trafico y las condiciones del tiempo.

Las precauciones debes tomar para eliminar los peligros de excavaciones son muchos. Lo primero que debe hacer es localizar. Toda clase de utilidades y cualquier cosa que puede ver sido enterrado. Evalua las condiciones del terreno para determinar la protección que debes tomar. Usa el casco todo el tiempo y tambien usa calzado diseñado para tu protección.

En la excavación dale el declive necesario o requerido, usa los trabezaños cuando el barranco esté en torma vertical. Las condiciones del tiempo tienen efeto en los declives y trabezaños.

Manten los materiales alejados de las orillas de la excavación, lo mismo con la maquinaria, el mínimo es de dos pies de retirado para cualquier cosa.

Las vibraciones que causan las maquinas que pasan hay veces que soltan los barrancos o trabezaños, tambien las maquinas que se encuentran vibrado el material a los alrededores, revisa los barrancos y trabezaños a diario, la persona competente debe de revisar los durante el dia.

Las salidas rapidas son requeridas, así que las escaleras deben de estar a no mas de 25 pies del trabajadore. La escalera debe de salir mas de 3 pies dela excavación y deben de estar aseguradas.

NO JUEGUES A LAS A DIVINANZAS

CON LAS EXCAVACIONES

Tool Box Talk # 3
In the Trenches – Trench Safety

Excavation and trenching cave-ins result in more than 100 fatalities annually in the United States. With little or no warning, an unsupported, improperly-shored or sloped trench or excavation wall can collapse, trapping workers below in seconds.

Dangers

- Have you ever witnessed a **cave-in that buried a worker**? Do you know that one cubic yard of soil weighs approximately 3,000 pounds (the equivalent of a Volkswagen)?
- **And do you know** what happens to a human body when 3,000 pounds of soil explodes onto it. It's too gruesome to describe, but we can tell you that within two seconds there is probably no life left in that body.
- **Most trench collapses** don't result in broken fingers, abrasions, or twisted knees. Most trench collapses take lives. The facts are that simple.

Soils

- **OSHA's standards** describe three basic types of soils: "A" Soil, "B" Soil, and "C" Soil.
- **"A" Soil** has compressive strengths of 1.5 tons per square foot or greater. It is very cohesive, and only has to be laid back at a ratio of 3/4:1 to maintain a safe working angle.
- **"B" Soil** has compressive strengths of .5 to 1.5 tons per square foot. It is moderately cohesive but must be laid back at a ratio of at least 1:1 to maintain a safe working angle.
- **"C" Soil**, on the other hand, is so unstable (un-cohesive), and has an unconfined compressive strength of .5 or less, and therefore must be laid back at a ratio of 1 1/2:1 to maintain a safe working angle.
- **Therefore**, a competent person in our industry needs to have a thorough knowledge and understanding of the inherent dangers surrounding trenching operations and must therefore apply the protective steps provided by OSHA in its 1926 (Subpart P) Standards.

Do's and Don'ts

- Do not dig if the lot is not blue staked. Know where the utilities are!
- **Push dirt back 2 feet** from trenches 4 feet deep or more.
- **Inside the Trench:** provide appropriate access and egress for trenches greater than 4' deep.
- **Trenches 5 feet or deeper:** use appropriate protective systems such as benching, shoring, trench boxes and caution tape.
- **Assess every trench** for safety and implement the proper safety practices.

Tool Box Talk # 3
En las Excavaciones – Seguridad en las Excavaciones (Trench Safety)

Los derrumbes en excavaciones y zanjas dejan como resultado más de 100 muertes anuales en los Estados Unidos. Con poca o ninguna advertencia, una zanja sin soporte, mal-apuntalada o con pendiente, o la pared de una excavación pueden colapsar, atrapando a los trabajadores en cuestión de segundos.

Peligros

- ¿Alguna vez ha sido testigo de un **derrumbe que haya sepultado a un trabajador?** ¿Sabe usted que una yarda cúbica de tierra pesa aproximadamente 3,000 libras (el equivalente a un Volkswagen**)?**
- **¿Y sabe** qué le sucede a un cuerpo humano cuando explotan sobre él 3,000 libras de tierra? Es algo demasiado horrible para describir; lo que podemos decir es que antes de dos segundos probablemente ya no hay vida en ese cuerpo.
- **La mayoría de los derrumbes de zanjas no** resultan en dedos rotos, abrasiones o rodillas retorcidas. La mayoría de los colapsos de zanjas cobran vidas. Los datos son así de simples.

Suelos

- **Las normas de OSHA** describen tres tipos básicos de suelos: Suelo "A", Suelo "B" y Suelo "C".
  - **El suelo "A"** tiene resistencia uniaxial a la compresión de 1.5 toneladas por pie cuadrado o mayor. Es muy cohesivo y sólo necesita colocarse en una proporción de 3/4:1 para mantener un ángulo de trabajo seguro.
  - **El suelo "B"** tiene una resistencia uniaxial a la compresión de .5 a 1.5 toneladas por pie cuadrado. Es moderadamente cohesivo, pero debe colocarse en una proporción de por lo menos 1:1 para mantener un ángulo de trabajo seguro.
  - **El suelo "C"**, por otro lado, es muy inestable (poco cohesivo), tiene una resistencia uniaxial a la compression de .5 o menos y por lo tanto debe colocarse en una proporción de 1 1/2:1 para lograr un ángulo de trabajo seguro.
  - **Por lo tanto**, para ser competente en nuestra industria, un trabajador necesita tener conocimiento profundo y una clara comprensión de los peligros inherentes que rodean a las operaciones de zanjeo y excavación, y por lo tanto debe aplicar las medidas de protección proporcionadas por OSHA en sus normas de 1926 (Sub-parte P).

Qué Hacer y qué No Hacer

- No excave si el terreno no tiene estacas de color azul. ¡Sepa dónde se encuentran los equipos y materiales!
- Empuje la tierra 2 pies hacia atrás en las zanjas de 4 pies de profundidad o más.
- Adentro de la Zanja: proporcione acceso y salida adecuados para las zanjas de más de 4' de profundidad.
- Zanjas de 5 pies o más profundas: utilice sistemas de protección adecuados como escalonamiento, apuntalamiento, cajas de trinchera y cinta de precaución.

Evalúe la seguridad de todas las excavaciones e implemente las prácticas de seguridad adecuadas.

OSHA® QUICK CARD™

Working Safely in Trenches

When done safely, trenching operations can reduce worker exposure to cave-ins, falling loads, hazardous atmospheres, and hazards from mobile equipment.

OSHA standards require that trenches and protective systems be inspected daily and as conditions change by a competent person before work begins.

Never enter a trench unless:

- It has been properly inspected by a competent person.
- Cave-in protection measures are in place.
- There is a safe way to enter and exit.
- Equipment and materials are away from the edge.
- It is free of standing water and atmospheric hazards.

Prevent trench collapses:

- Trenches 5 feet deep or greater require a protective system.
- Trenches 20 feet deep or greater require a protective system designed by a registered professional engineer.

Protective systems for trenches:

- SLOPE or bench trench walls by cutting back the trench wall at an angle inclined away from the excavation.
- SHORE trench walls by installing aluminum hydraulic or other types of supports to prevent soil movement.
- SHIELD trench walls by using trench boxes or other types of supports to prevent soil cave-ins.

For more information:

U.S. Department of Labor

OSHA® Occupational Safety and Health Administration

www.osha.gov (800) 321-OSHA (6742)

OSHA 3243-09R 2018

OSHA® DATOS RÁPIDOS

Trabajo Seguro en Zanjas/Excavaciones

Cuando hecho con seguridad, las operaciones de excavaciones pueden reducir exposición de los trabajadores a derrumbes, caídas de cargas, atmósferas peligrosas y riesgos de equipos móviles.

Normas de OSHA requieren que las zanjas/excavaciones y sistemas protección sean inspeccionadas diariamente y cuando cambian las condiciones por una persona competente antes de comenzar el trabajo.

Nunca entre a una zanja/excavación a menos que:

- Ha sido inspeccionada correctamente por una persona competente.
- Existen medidas de protección contra derrumbe.
- Hay una manera segura para entrar y salir.
- Equipo y materiales están lejos del borde.
- Está libre de agua estancada y peligros atmosféricos.

Prevenir derrumbes de zanjas/excavaciones:

- Zanjas/Excavaciones de 5 pies de profundidad o más, requieren un sistema de protección.
- Zanjas/Excavaciones de 20 pies de profundidad o más, requieren un sistema de protección diseñado por un ingeniero profesional registrado.

Sistemas de protección de zanjas/excavaciones:

- INCLINE o banque las paredes de zanja para cortar las paredes de la zanja en un ángulo inclinado a lado opuesto de la excavación.
- APUNTALE las paredes de zanjas con una instalación hidráulica de aluminio u otro tipo de soportes para evitar el movimiento de la tierra.
- PROTEJA las paredes de zanjas con cajas de zanjas u otro tipos de soporte para evitar derrumbes de la tierra.

Departamento de Trabajo de los EE. UU.

Para más información:

OSHA® **Administración de Seguridad y Salud Ocupacional**

www.osha.gov (800) 321-OSHA (6742)