



# UNDERGROUND CONSTRUCTION TECHNOLOGY

The Underground Utilities Event | July 13-15, 2021 | Music City Center | Nashville, TN

9:30 a.m. Session – Room 102A

STOP  
Chasing  
the Dog's  
Tail





# UNDERGROUND CONSTRUCTION TECHNOLOGY

The Underground Utilities Event | July 13-15, 2021 | Music City Center | Nashville, TN



Introduction

Utility-Related Problems  
& Strategies to Improve

# Impact of Current Practice

Poorly located utilities leading cause of construction delays

Delay Claims - \$\$\$

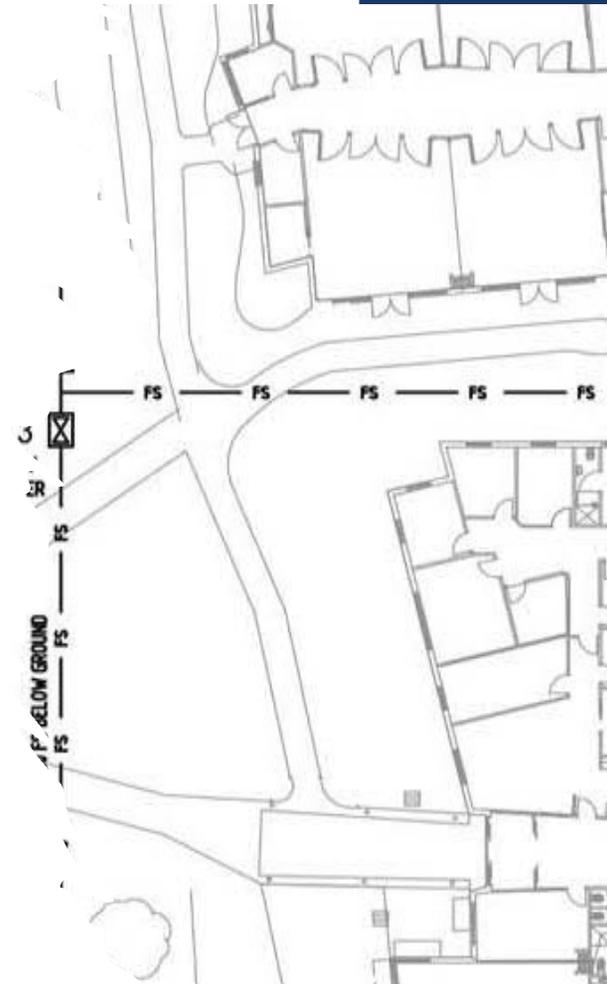
National Utility Review: Utility Coordination Process" (US DOT, FHWA, October 2018)





## Standard Practice

- Designer sends project map
- Utility provides inaccurate location
- Designer unable to assess relocation or redesign
- Project is inaccurately bid
- Project requires redesign due to unforeseen utility conflicts
- Contractors incur extra costs to work around unmarked and mismarked utilities
- Construction delay claims
- Health & Safety threatened





## PA 811 Top Violations - 2-Year Comparison

2019 18%

2020 24%

Excavator failed to submit proper location request

2019 82%

2020 76%

Owner failed to respond to routine One Call ticket

2019 36%

2020 35%

Excavator failed to employ proper excavation techniques

2019 64%

2020 65%

Owner failed to locate underground lines

*(See handout for detail)*



# UNDERGROUND CONSTRUCTION TECHNOLOGY

The Underground Utilities Event | July 13-15, 2021 | Music City Center | Nashville, TN

## Three-Fold Focus

### Ensure

Ensure owners can better identify utilities at design phase

### Provide

Provide for timely utility relocation when required

### Help

Help ensure contractors are paid extra when project or facility owners fail to properly perform this work





## SUBSURFACE UTILITY ENGINEERING (SUE)

*ASCE Standard 38-02*



Raise Quality Level From "D" to the Appropriate Quality Level

Quality Level D:

Quality Level C (all of the above, plus):

Quality Level B (all of the above, plus):

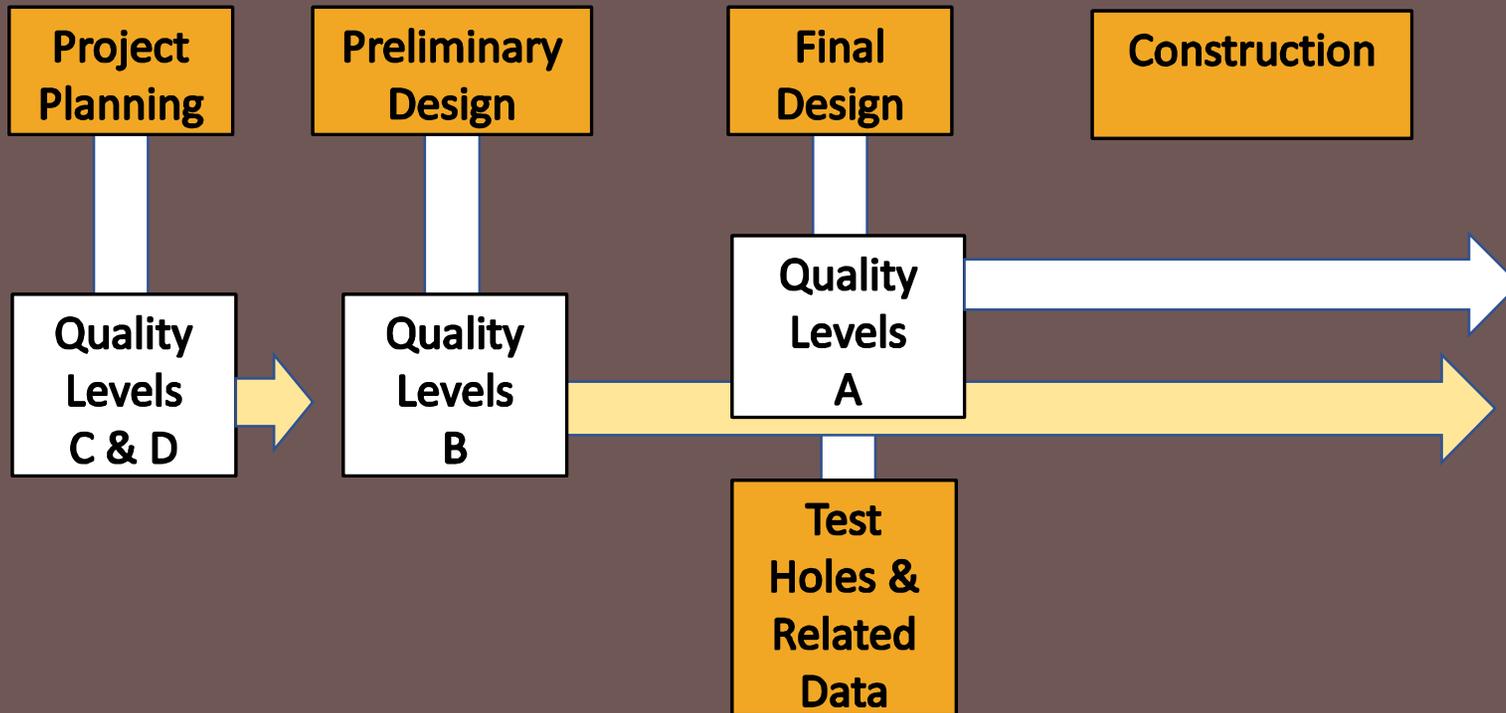
Quality Level A (all of the above, plus):

*(See handout for detail)*



## SUBSURFACE UTILITY ENGINEERING (SUE)

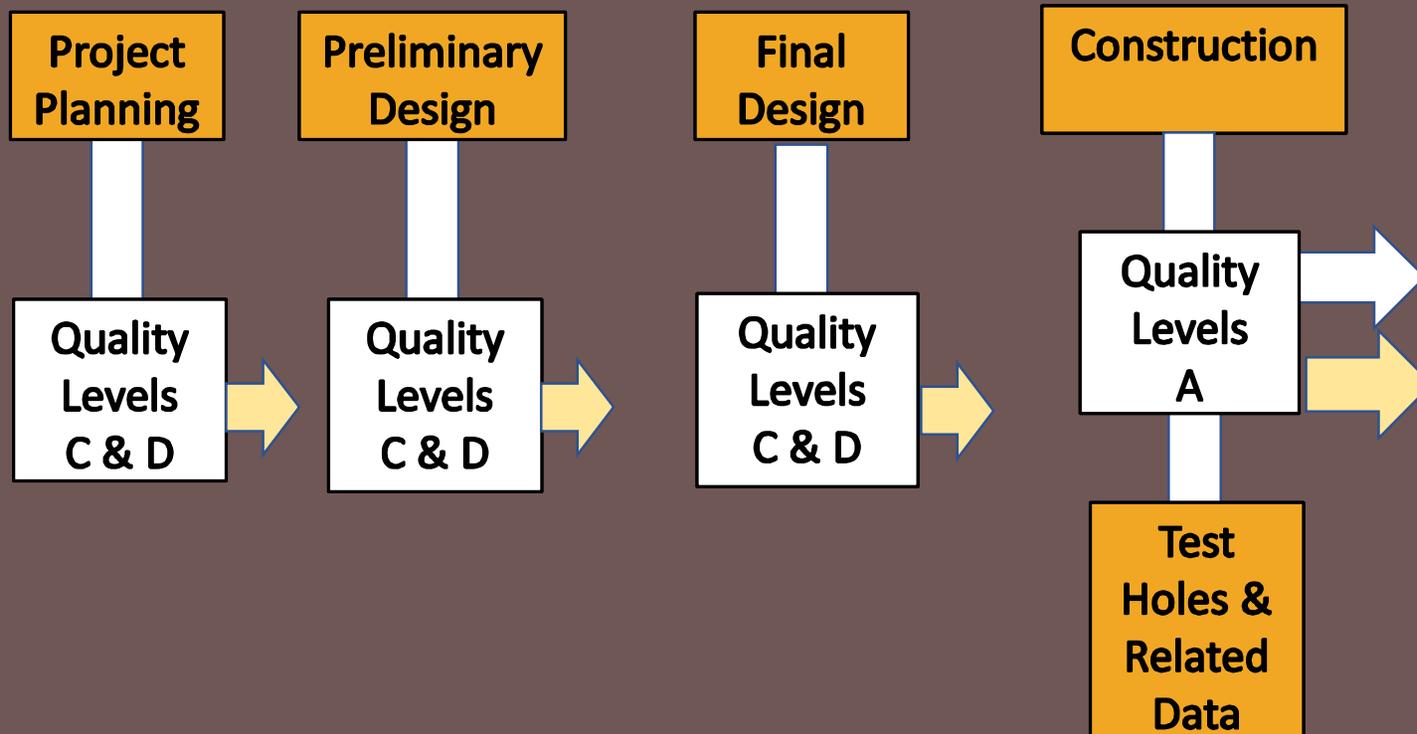
### Project Application with SUE





## SUBSURFACE UTILITY ENGINEERING (SUE)

### Project Application without SUE





# UNDERGROUND CONSTRUCTION TECHNOLOGY

The Underground Utilities Event | July 13-15, 2021 | Music City Center | Nashville, TN

## WHERE TO BEGIN

---

Design, Plan & Bid Documents

Owners must do better

811 Mapping must improve

Use Colorado Model law



# UNDERGROUND CONSTRUCTION TECHNOLOGY

The Underground Utilities Event | July 13-15, 2021 | Music City Center | Nashville, TN



The state  
of the  
**Present**  
and the  
**Future**



# Inferences

Insanity: doing the same thing over and over again and expecting different results.



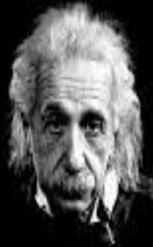
Albert Einstein

- Main focus of Common Ground Alliance and most One Call Systems remains on the Excavator.
- Little meaningful data on facility owners, project owners, and Designers prior to 2018.



# Inferences

Insanity: doing the same thing over and over again and expecting different results.



Albert Einstein

- All stakeholders have a shared interest in timeliness and safety.
- PUC 2-Year Violations Report shows need to reduce the number of no marks and mis-marked facilities.
- SUE process in the Design Phase needs to be completed on projects.



# UNDERGROUND CONSTRUCTION TECHNOLOGY

The Underground Utilities Event | July 13-15, 2021 | Music City Center | Nashville, TN

## Conclusion

# TIME

# DOLLARS - \$\$\$

# SAFETY

Tom Olson  
Olson Construction Law, P.C.  
trolson@oc-law.com  
651.298.9884



Brenda Reigle  
Executive Director  
ed@nucapa.org  
717.234.8055  
717.903-2999 (cell)

