

VDOT NRO
Traffic Signal Design
Constructability

VDOT NRO TFO



We Keep Virginia Moving

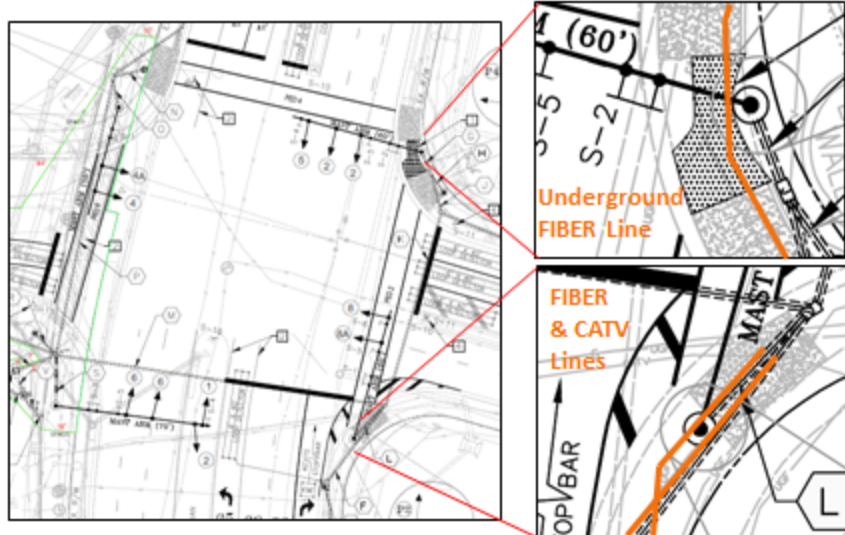
Lessons Learned – Existing Field Conditions Utility Conflicts



- Topics**
- Resources
- Definitions
- Pre-Con
- Field Visits
- Conduit
- J-Boxes
- Foundations
- Wiring
- Aerial Items
- Grounding
- Detection
- Turn-On
- Flash
- Final Insp.
- Punch List
- Re-Inspection(s)
- Acceptance

Clearance to Underground Utilities

Example: Sunrise Valley Drive & Coppermine Road



Virginia Underground Utility Damage Prevention Act: Requires contractor to maintain clearance of 2-ft plus the width of the utility between mechanical excavation equipment and the underground utility line.

Topics

Resources

Definitions

Pre-Con

Field Visits

Conduit

J-Boxes

Foundations

Wiring

Aerial Items

Grounding

Detection

Turn-On

Flash

Final Insp.

Punch List

Re-
Inspection(s)

Acceptance

Clearance to Underground Utilities**Example: Sunrise Valley Drive & Coppermine Road**

Poles in quadrants with utility conflicts



Poles in median with no utility conflicts

Topics
Resources
Definitions
Pre-Con
Field Visits
Conduit
J-Boxes
Foundations
Wiring
Aerial Items
Grounding
Detection
Turn-On
Flash
Final Insp.
Punch List
Re-Inspection(s)
Acceptance

Lessons Learned – Existing Field Conditions Right-of-Way and Easement Conflicts



Topics

Resources

Definitions

Pre-Con

Field Visits

Conduit

J-Boxes

Foundations

Wiring

Aerial Items

Grounding

Detection

Turn-On

Flash

Final Insp.

Punch List

Re-
Inspection(s)

Acceptance

Overhead Utility Line Conflicts with Signal Equipment

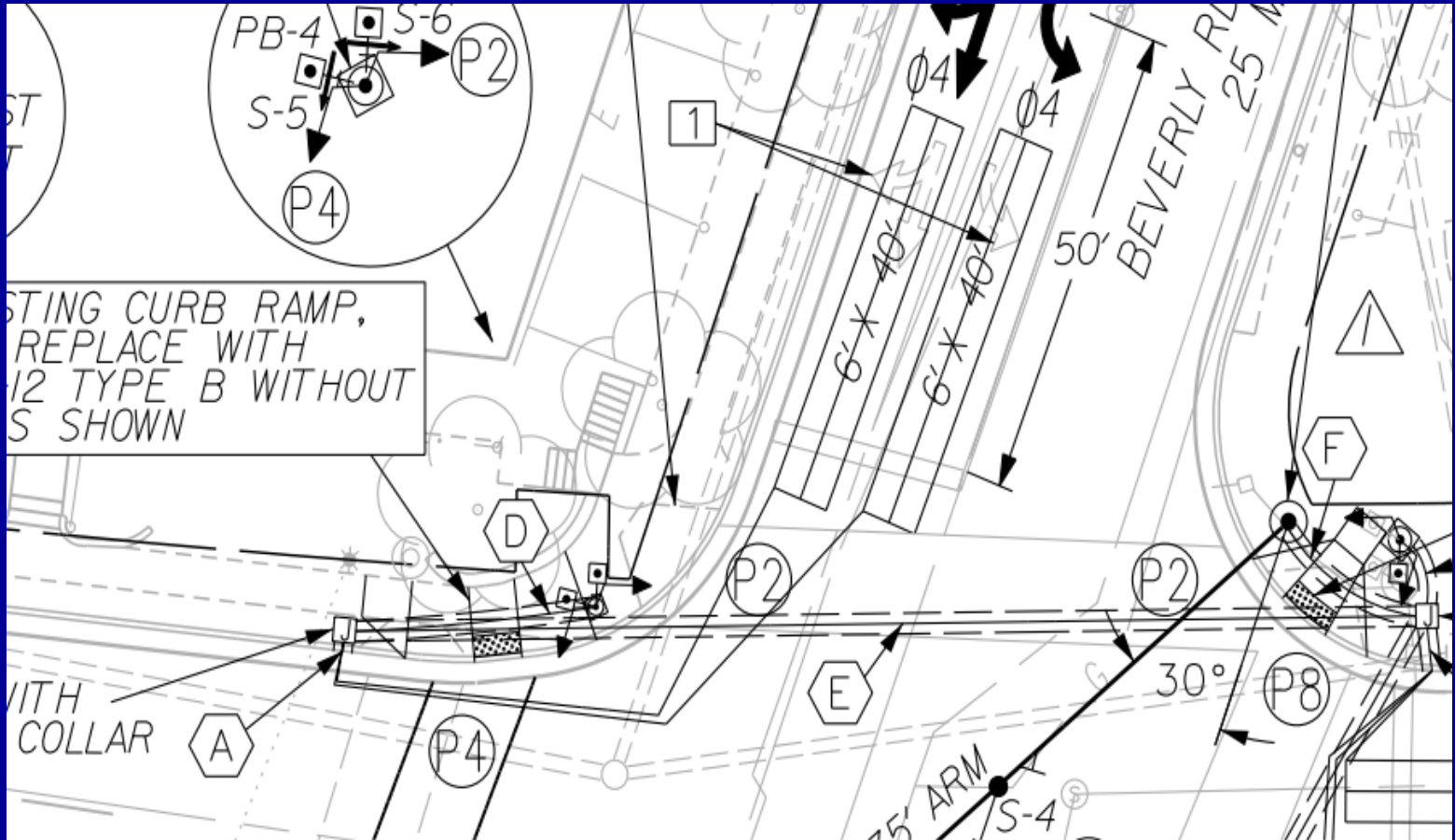
- Measuring overhead utility line elevations is critical during design
- Horizontal and vertical clearances between signal equipment and utility lines must meet NESC requirements
- Keep in mind heavier communication lines tend to sag in warmer weather

Topics
Resources
Definitions
Pre-Con
Field Visits
Conduit
J-Boxes
Foundations
Wiring
Aerial Items
Grounding
Detection
Turn-On
Flash
Final Insp.
Punch List
Re-Inspection(s)
Acceptance

Overhead Utility Conflicts Need to be Investigated during the design phase



Loop Detector Issues



Topics

Resources

Definitions

Pre-Con

Field Visits

Conduit

J-Boxes

Foundations

Wiring

Aerial Items

Grounding

Detection

Turn-On

Flash

Final Insp.

Punch List

Re-
Inspection(s)

Acceptance

Virginia Department of Transportation



Technical Construction Inspection Training

We Keep Virginia Moving

Topics

Resources

Definitions

Pre-Con

Field Visits

Conduit

J-Boxes

Foundations

Wiring

Aerial Items

Grounding

Detection

Turn-On

Flash

Final Insp.

Punch List

Re-
Inspection(s)

Acceptance

Other Constructability Issues

- Existing foundations (controller, pole) shall not be reentered.
- Removing existing traffic signal cables/conductors and reusing them in new conduits is not permitted.
- All VDOT traffic signal equipment shall have a minimum three feet distance/clearance inside VDOT's right of way (ROW).

Questions and Answers

Topics

Resources

Definitions

Pre-Con

Field Visits

Conduit

J-Boxes

Foundations

Wiring

Aerial Items

Grounding

Detection

Turn-On

Flash

Final Insp.

Punch List

Re-
Inspection(s)

Acceptance

Topics

Resources

Definitions

Pre-Con

Field Visits

Conduit

J-Boxes

Foundations

Wiring

Aerial Items

Grounding

Detection

Turn-On

Flash

Final Insp.

Punch List

Re-
Inspection(s)

Acceptance

THANK YOU!