Creating a NEW Foundation for the NEXT Generation of Transportation Initiatives
The Morphing of the Role of a Utility Project Manager
To Morph: As applied to AASHTO 2013

> To be transformed: morphing from several codependent consultants providing utility planning, utility coordination, subsurface utility engineering and utility coordination inspection during relocation to one independent consultant managing and performing all of these services.
Current Standard Practice:

- The Normal Lifecycle of a Project:
  - Concept/Planning/Study
  - Pre-construction
  - Utility Relocation
  - Road Construction
Current Standard Practice:

- The Normal Lifecycle of a Project:
  - Concept/Planning/Study
    - This phase of a project may include:
      1. Subsurface Utility Engineering – Preparation of a Detailed Utility Report for each alternative (CI/ASCE 38-02 – Utility Quality Level D)
      2. Utility Planning – Initial corridor analysis to determine potential environmental impacts due to relocation of utilities, potential impacts to major facilities, potential planning for facility upgrades within the corridor as indicated by contact with utility owners, etc.
Current Standard Practice:

- The Normal Lifecycle of a Project:
  - Concept/Planning/Study
  - Pre-construction
    > This phase of a project may include:
      o Subsurface Utility Engineering – Preparation of Detailed Utility Plans for the selected alignment
        - May or may not include all of the following services per CI/ASCE 38-02 or per scope of service defined by the project owner:
          - Utility Quality Level D
          - Utility Quality Level C
          - Utility Quality Level B
          - Utility Quality Level A
Current Standard Practice:

- Utility Coordination – Working as the liaison between the D.O.T. Design Project Manager, the Consultant Design Project Manager and each individual Utility Agency Owner/Representative.
  - May or may not include the following general activities:
    - Initial meeting with all stakeholders
    - Distribution of project data to utility owners
    - Conduct meetings with utility owners and field reviews
    - Review plans prepared by subsurface utility engineer
    - Utility impact analysis
      - Collect and review data received from UAO’s
      - Review relocation plans
      - Prepare detailed utility conflict matrix
    - Resolve or mitigate utility conflicts by:
Current Standard Practice:

- Resolve or mitigate utility conflicts by:
  - Identify the type of conflict
  - Coordinate additional subsurface utility engineering
  - Develop cost effective recommendations for resolution
- Draft report preparation:
  - Initial conflict matrix
  - Constructability review matrix
  - Review meeting notes from individual UA0’s
- Negotiate and secure utility relocation agreements and commitments
- Prepare contract documents for utility activities and utility/contractor coordination requirements
- Utility Composite Drawings
- Prepare utility clearance documents certifying the completion of utility work or ensure all arrangements are made for the work to be properly coordinated with the road contractor.
Current Standard Practice:

- The Normal Lifecycle of a Project:
  - Concept/Planning/Study
  - Pre-construction
  - Utility Relocation
    - This phase of a project may include:
      - Subsurface Utility Engineering
        - Additional supplemental utility designating
        - Additional supplemental utility locating
      - Utility Coordination Inspection
        - Coordinate and Inspect location of relocated/adjusted utilities
        - Report and provide guidance for unknown utility situations
        - Transfer utility as-built information to Utility Composite Plans
        - Administer proper hand-off to road contractor
Current Standard Practice:

- The Normal Lifecycle of a Project:
  - Concept/Planning/Study
  - Pre-construction
  - Utility Relocation
  - Construction

  > This phase of a project may include:
  
  o Subsurface Utility Engineering
    - Additional supplemental utility designating
    - Additional supplemental utility locating
  
  o Utility Coordination/Utility Coordination Inspection
    o Attend pre-bid meeting for road construction
    o Administer proper hand-off to road contractor
So....what is the common theme in the following slides?
Telecommunication Manhole Location
Traditional Duct System Manhole
Typical Joint Use Pole Replacement

**Design**
- 2 weeks

**Construction**
- 1 month to 2 years
  - Pole Removal
  - Notification to Power
  - Telephone
  - Notification to Telephone
  - Notification to Power
  - CATV 1,2,3
  - Notification to CATV
  - Power
  - Joint Users
  - Power
What do those small symbols really look like and how big are they?
Lets Relocate a Fiber Served Remote Terminal Multiplexer

- This equipment is used to convert lightwave to electrical signal
- Requires a 40’ x 30” utility easement
- Serves approx. 3,500 – 4,000 lines
- Relocation cost approx $250,000 - $300,000
- Relocation time frame is greater than 180 days
- Easement acquisition add approx. 90 days to the process
Does this utility have insight of what?

- Telecommunication?
New definition for “joint trench”!
What is the common theme?

Utilities
Why not Consolidate these activities?

- What if all of the above activities were encapsulated under the discipline of “Utilities”?
  - Knowledge base under the management of the Utility Project Manager
  - One point of contact
  - Efficiencies of practice by instantaneous information sharing
  - More refined approach to subsurface utility engineering
  - Faster resolution to conflicts
  - Greater potential for reducing overall construction cost
Successful Project Examples
O’Neal Lane – LA DOTD

- Utility coordination from design through construction
  - During design – four utility companies within 10’ corridor
    - Limited right of way availability
    - Assisted with development of utility relocation construction plans at different depths while maintaining close horizontal clearances on very long directional bores
      - Developed based on information provided by utility as-builts
      - Gas and water mains located to 10’ deep adjacent to proposed box culvert to avoid damage during culvert installation,
Utility coordination from design through construction

During construction – on site inspection

- Minimized misplacement of relocated utilities by being onsite to discuss plans with contractors.
- 18” force main inaccurately depicted
  - Hit during utility relocation; $100,000 repair cost
  - We recommended subsurface utility engineering to accurate map line not being relocated
  - During mapping, two more conflicts identified
  - If not identified, would have caused more delays and extra costs
- Pictures of relocated utilities furnished to LADOTD for visual confirmation
Lee Roy Selmon Expressway Design Build – FL DOT

- Bridge widening and deck replacement
  - Subsurface utility engineering and utility coordination
  - 14 utility owners
  - 23,525 linear feet of buried facilities
  - 102 test holes (48 during phase one, 20 used for mast arm locations during phase two, and 34 completed to address potential utility conflicts with the proposed bridge pier locations)
Lee Roy Selmon Expressway Design Build – FL DOT

- Constant communication with design build team project manager and utility owners
- Utility adjustment sheet developed to document utility relocation and coordination commitments
- On-site visits to address questions about collected utility data or if conflicts were encountered during construction
How do we Morph and is it Viable?

- Pre-qualification for Utilities:
  - Subsurface Utility engineering
  - Utility Coordination
  - Utility Coordination Inspection
  - Utility Design

- Minimum Requirements for Services
- Scopes for Specialized Master Contracts
- Scopes for Individual Design Projects