



**Licking County**



# 2016 Ohio Bridge Conference

Simplified Bridge vs. Design Build  
Method of Bridge Project Delivery



# Licking County



- 3<sup>rd</sup> largest county in area
- 17<sup>th</sup> in population 170,000 residents
- Currently 8<sup>th</sup> in the total number of bridges
- 2013 bridge total was 331
- 2016 bridge total is 442
- 111 orphan bridges added to the inventory





# Five Year Bridge Program



- 2013 we had 130 bridges GA 4 or less
- County Engineer's budget \$7.2 million per year
- Problem was presented to the County Commissioners
- They agreed to fund a 5 year \$20 million bridge program
- Permissive, conveyance, GRF, bonding
- 133 bridges in 5 years



# Five Year Bridge Program



- FA boxes - 40
- FA bridge - 10
- Contract boxes - 31
- Contract bridges - 52
- Consultant design - 65
- Selected simplified bridge plans



# Simplified Bridge Plan



- RFQ for bridge design and geotechnical exploration
- Keep on file for 24 months
- Rank the consultants separately
- Group projects together



# Simplified Bridge Plan



- All bridges for each year are cleared by one environmental consultant
- Geotechnical drilling we group 3 to 5 bridges together
  - One boring on each side
  - No borings for 4 sided boxes
  - Follow ODOT guidance



# Simplified Bridge Plan



- Bridge design are in groups of 1 to 3
  - Survey
  - Hydraulics
  - Bridge Plans
  - ROW details if needed
  - Plans might have multiple bridges in one plan set
- Bridge Plans
  - Title sheet
  - Notes
  - General summary
  - Site plan
  - Superstructure detail
  - Abutment detail
  - Deck Plan details
  - ROW if needed



# Simplified Bridge Plan



- Design items to control construction costs
  - No MOT (county signs bridge 10 days before construction starts)
  - Contractor installed road closed and barricades
  - We allow vibrator screed
  - Transverse tining at the time of deck pour
  - Tree removal by county forces





# Simplified Bridge Plan



- Cost of design and construction
- Environmental \$2000 per bridge
- Geotechnical \$12000 per bridge
- Bridge design \$45000 per bridge
- Four sided box culvert design \$12000 per structure
- Construction cost per square foot averages \$185



# Simplified Bridge Plan



- Why simplified design instead of design build?
- Design and construction are 100% local funding
- Small contractor like to bid a set of plan verses design build
- Unit prices for non-perform work or change orders
- Control of the design
- Volume of bridges being build we have more control of the design schedule