

WAYNE COUNTY ENGINEER'S OFFICE

Wooster, Ohio

WAYNE COUNTY ENGINEER

Roger K. Terrill, P.E., P.S.



Presented By:

Eric K. Liew, P.E., P.S.

Bridge Engineer

www.wayne-county-engineer.com

WAYNE COUNTY ENGINEER'S OFFICE

Wooster, Ohio



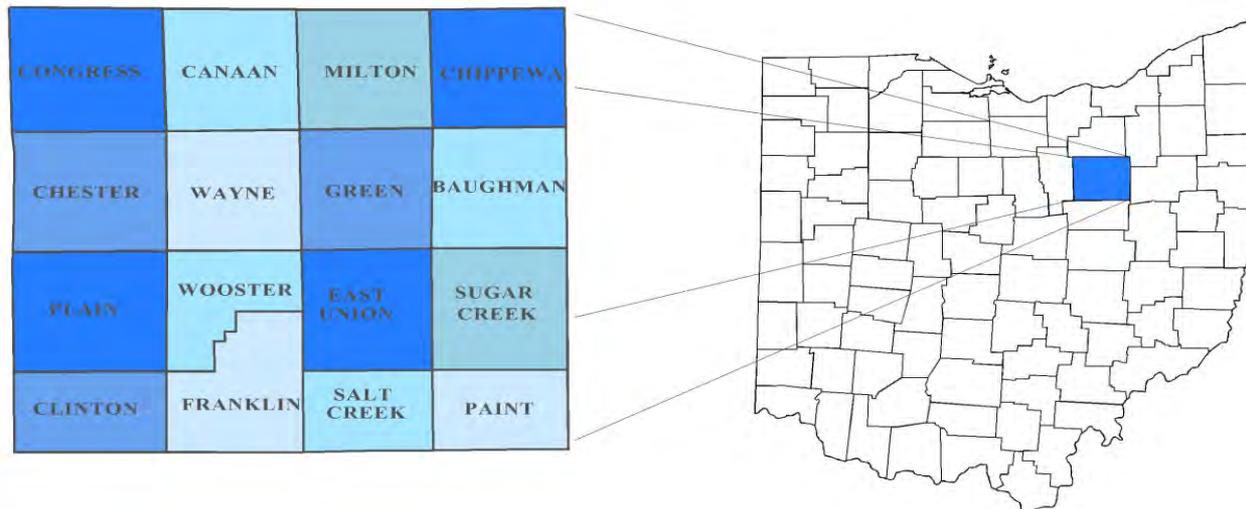
WAYNE COUNTY ENGINEER'S OFFICE

Wooster, Ohio



Wayne County

Wooster, Ohio



Wayne County

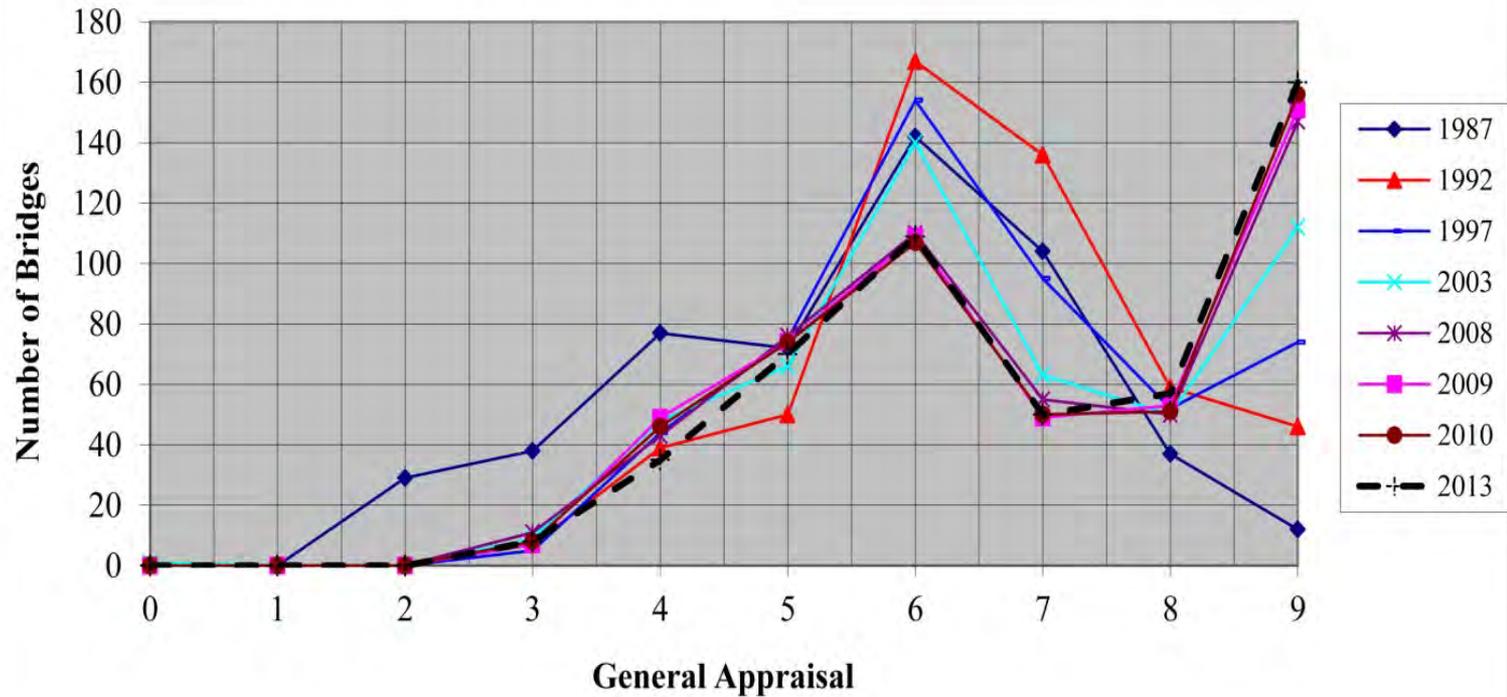
Wooster, Ohio

- **Rural/Urban**
- **Population (2013)**
 - **County 115,071 (Total)**
 - **Wooster 26,384**
 - **Orrville 8,432**
 - **Rittman 6,541**
- **499 Miles of County Roads**
- **563 Miles of Township Roads**
- **487 Bridges**
 - **Municipal 28**
 - **County 237**
 - **Township 222**
- **Bridge Width <20' 116**
- **Posted Bridge 45**
- **Structurally Deficient 43**
- **Functionally Obsolete 109**
- **548 Large Culverts (48"φ to <10')**
 - **County 206**
 - **Township 242**
- **2269 Culverts (12" φ to < 48" φ)**



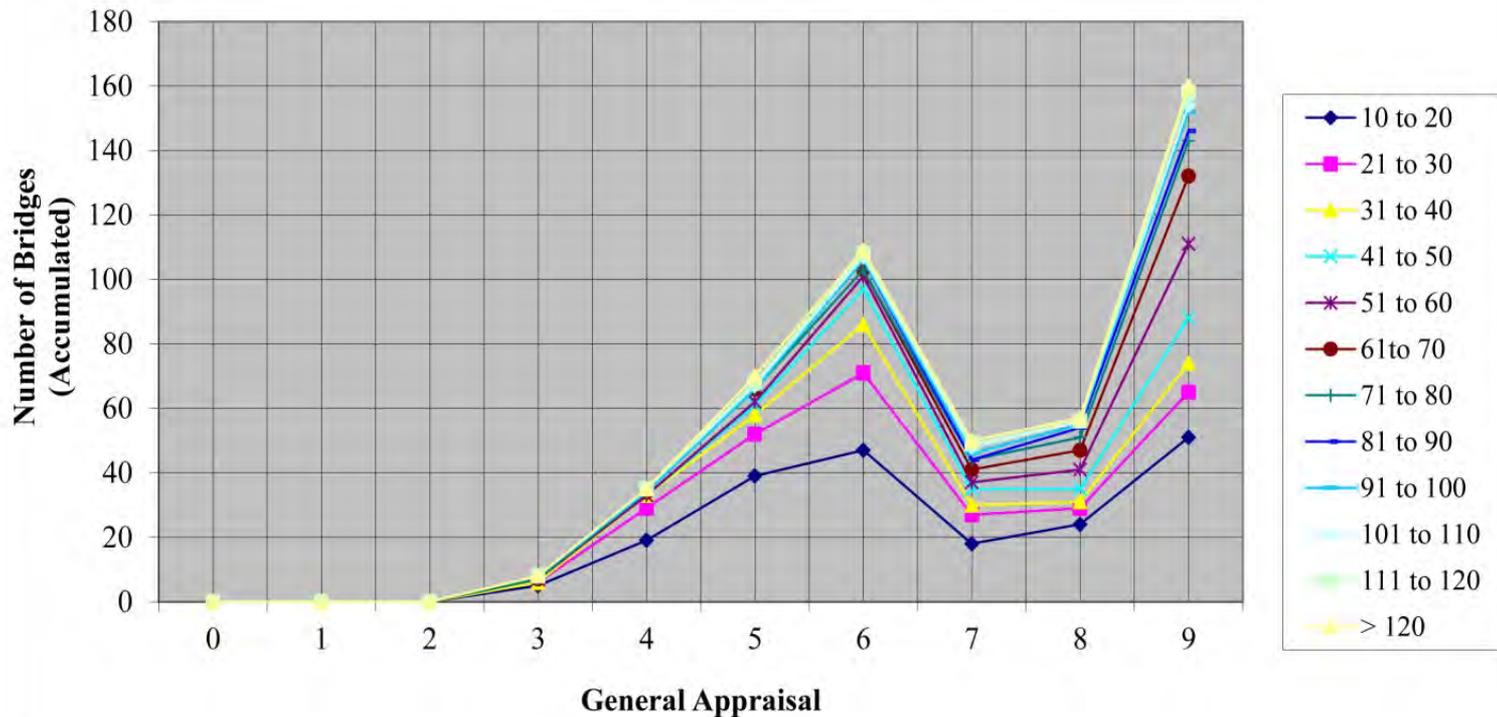
Number of Bridges (487)

Wayne County Bridges



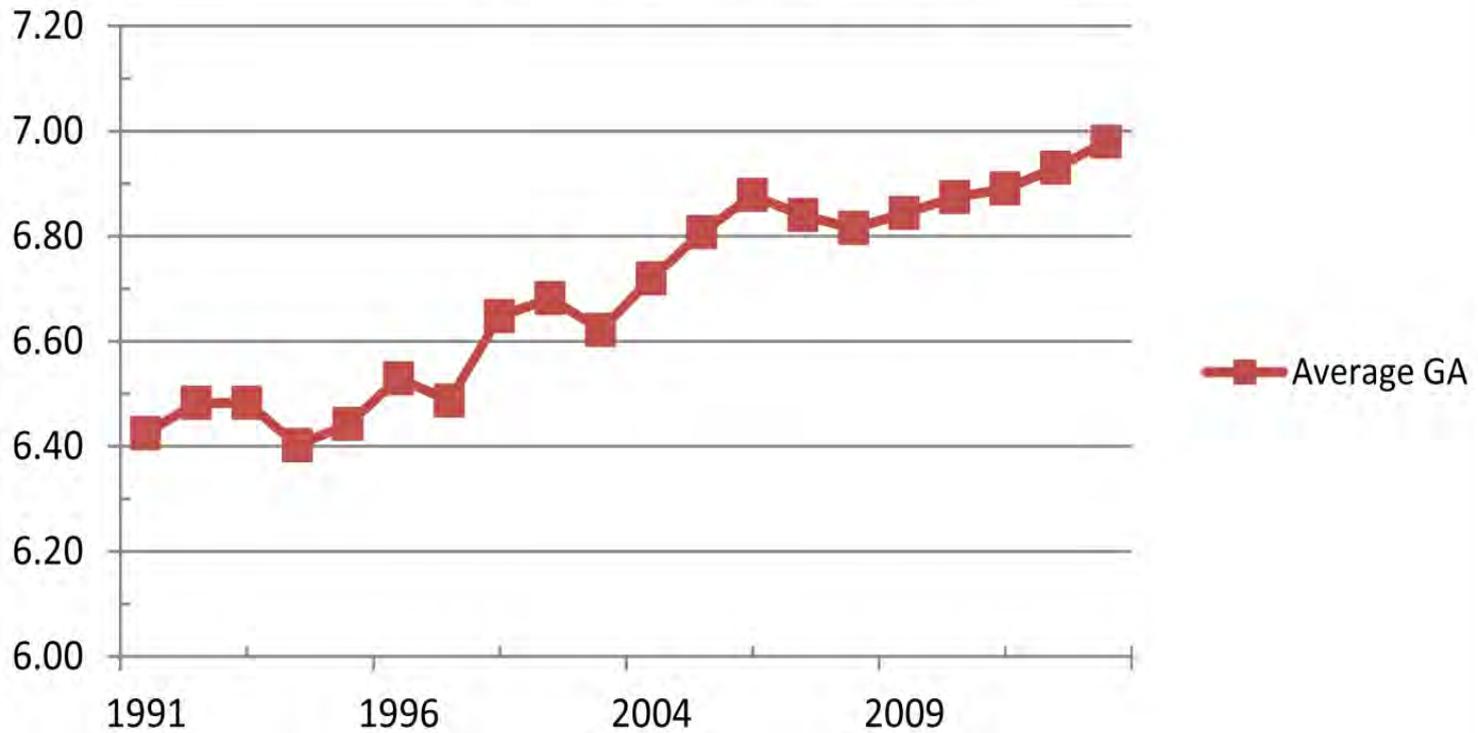
Number of Bridges By Span (Cumulative)

Bridge Condition - 2013



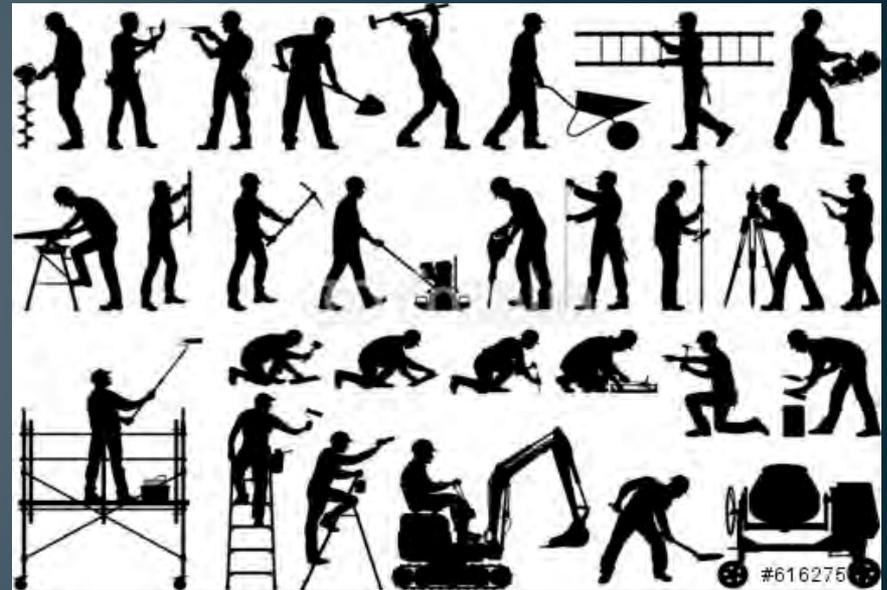
General Appraisal, Yearly Average

Yearly Average GA



Employees

Employees	2013
Administrative	2
Engineering	7
Tax Map Office	2
Highway Dept.	34
Total	45
<u>\$7.2 Million, Operating Budget</u>	



Facility



Front View



Front (West View)



Office



Ready Room

Facility



Locker Room



Parts Room



Garage



Garage

Facility



Multi-Use Building



Inside Multi-Use Building



Cold Storage Building



Salt Storage Building

Equipment



Bridge Truck (1)



CNG Sign Truck (1)



Small Excavator (1)



Tandem Dump Trucks (7)

Equipment



Single Axle Dump Trucks (21)



40 Ton Crane (1)



Pavers (2)



Maintainers (2)

Equipment



Low Boy (1)



Roller (4)



Broom (3)



Fork Lift (5)

Equipment



Track Hoe (3)



Loader (2)

Annual Force Account Bridge Repair/Replacement Ranking Method

PLANNING

1. Annual Bridge Inspection

2. Prioritize Bridge Repair/Replacements

Rank Based on:

- **Lowest General Appraisal (G.A.)**
- **Highest Average Daily Traffic Count (ADT)**

Other Considerations: Bridge Span

Fire department needs

School needs

Inspection notes

Bridge/roadway history etc.

3. Funding Sources

Four (4) Sources:

a.) **Local Funds**

i.) **Contract Projects** – Projects that exceed “Force Account Limits”.

ii.) **Force Account Projects** – Projects that do not exceed “Force Account Limits”. (Most of these bridge replacement projects end up with a small box culvert, bridge deck replacement, or other bridge repair.)

b.) **Ohio Public Works Commission (OPWC Funds)** – Becoming harder to obtain.

This funding is being used more for contract roadway work because of the lack of local funds.

c.) **Community Development Block Grant (CDBG Funds)** – Available funding from this source is a very low amount. Consequently, most projects are too small for a stand-alone bridge project. This funding is used as either a match for a larger project, or for very small projects.

d.) **County Local Bridge Program (LBR Funds)** – Have specific criteria that must be met (>20' span, CEAO rankings etc.)

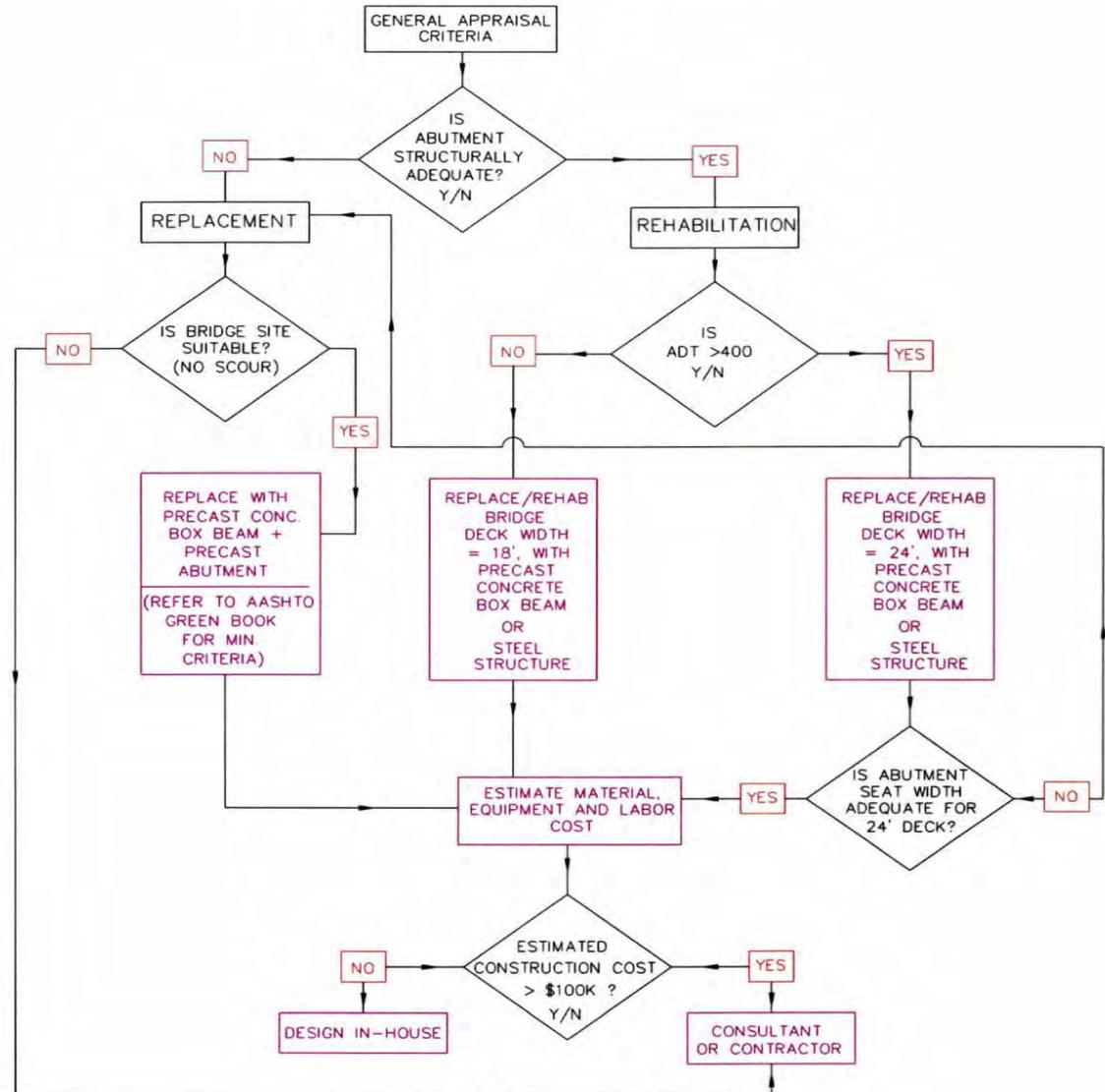
DESIGN

Design Guide

- Bridge Pre-casting
 - a) Superstructure
 - b) Substructure
- Replacement
- Rehabilitation

Discuss more later

FORCE ACCOUNT BRIDGE REHAB/REPLACEMENT GUIDELINE



DESIGN

- Large Culvert

- **Pipe Culvert** >48"φ

- 10 year flood
 - ADT ≡ Design Speed, Min. Lane Width, Shoulder Width
 - Gabion Wingwall & Headwall



DESIGN

- Large Culvert

- **Elliptical**

- 10 year flood
 - ADT \equiv Design Speed, Min. Lane Width, Shoulder Width
 - Gabion Wingwall & Headwall



DESIGN

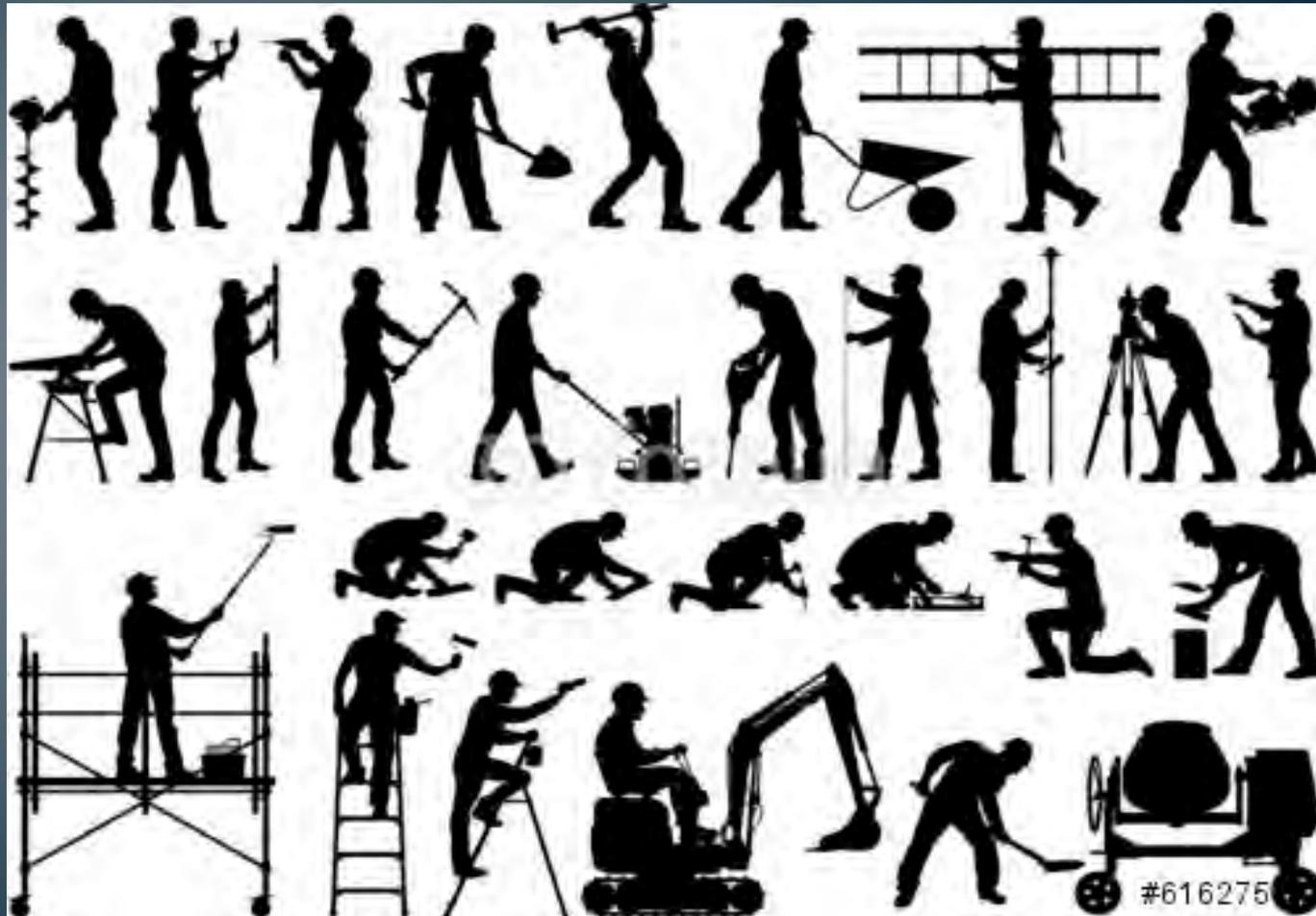
- Large Culvert

Box Culvert (6'x4'x56'-0")

- 10 year flood
- ADT \equiv Design Speed, Min. Lane Width, Shoulder Width
- Gabion Wingwall
- Concrete Wingwall & Headwall



CONSTRUCTION



CONSTRUCTION

- Large Culvert



CONSTRUCTION

- Large Culvert



CONSTRUCTION

- Large Culvert



CONSTRUCTION

- Large Culvert

