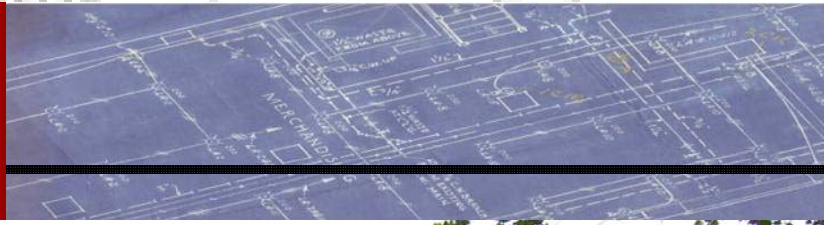


SMOLEN 
ENGINEERING



***HUESTON WOODS
COVERED BRIDGE***

PROJECT OVERVIEW

LOCATION: CAMDEN-COLLEGE CORNER ROAD,
HUESTON WOODS STATE PARK

TRUSS TYPE: BURR-ARCH

OWNER: PREBLE COUNTY ENGINEER

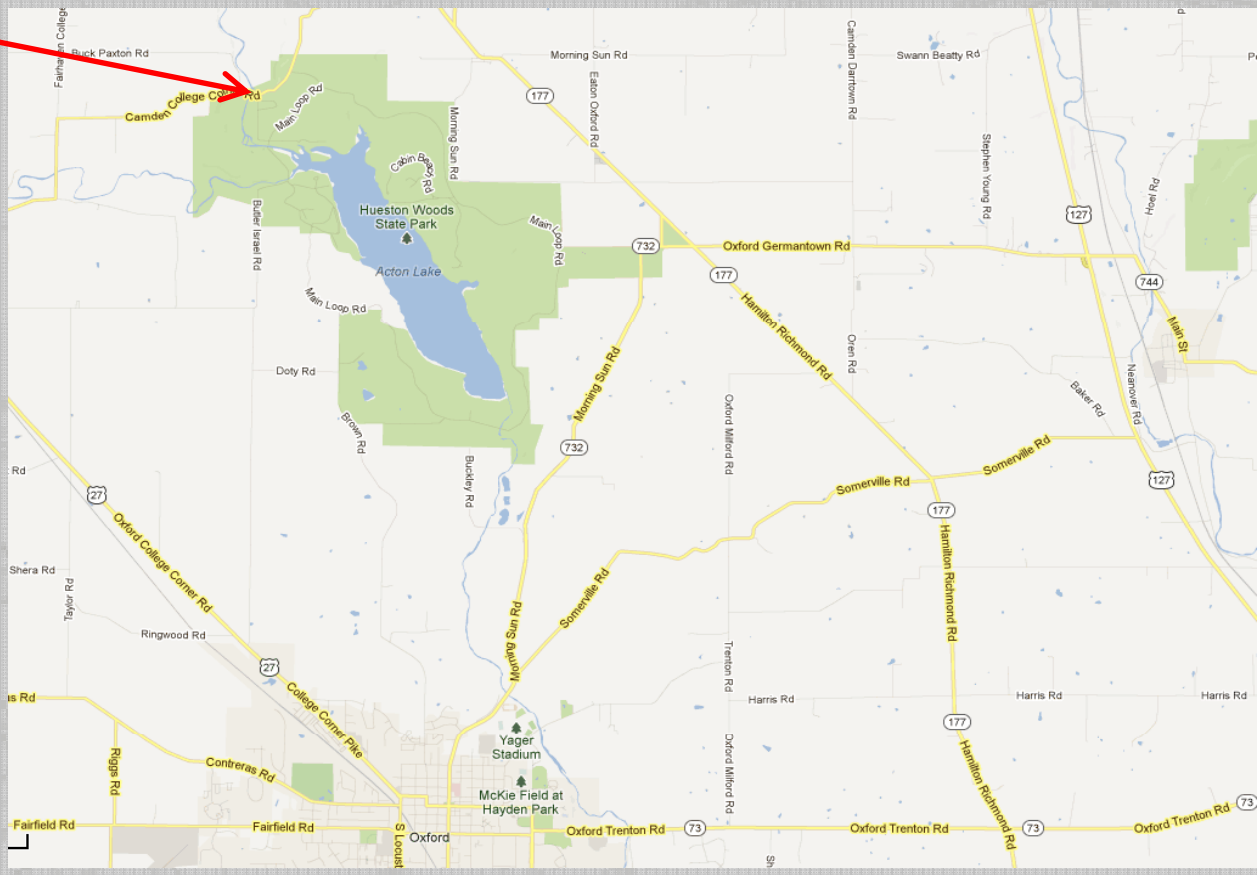
CONTRACTOR: BRUMBAUGH CONSTRUCTION

DESIGN TEAM: PALMER ENGINEERING- ROADWAY/SUBSTRUCTURE
SMOLEN ENGINEERING, LTD.- SUPERSTRUCTURE

ENGINEER'S ESTIMATE: \$1,893,750

CONSTRUCTION COST: \$1,795,444

TOTAL COST INCLUDING ENGINEERING: \$1,977,500



PROJECT LOCATION

Hueston Woods State Park

6301 Park Office Road
College Corner, Ohio 45003

(513) 523-6347 - Park Office
(513) 664-3500 - Lodge
(888) 711-4725 - Lodge & Cottage Reservations

LOCATION MAP

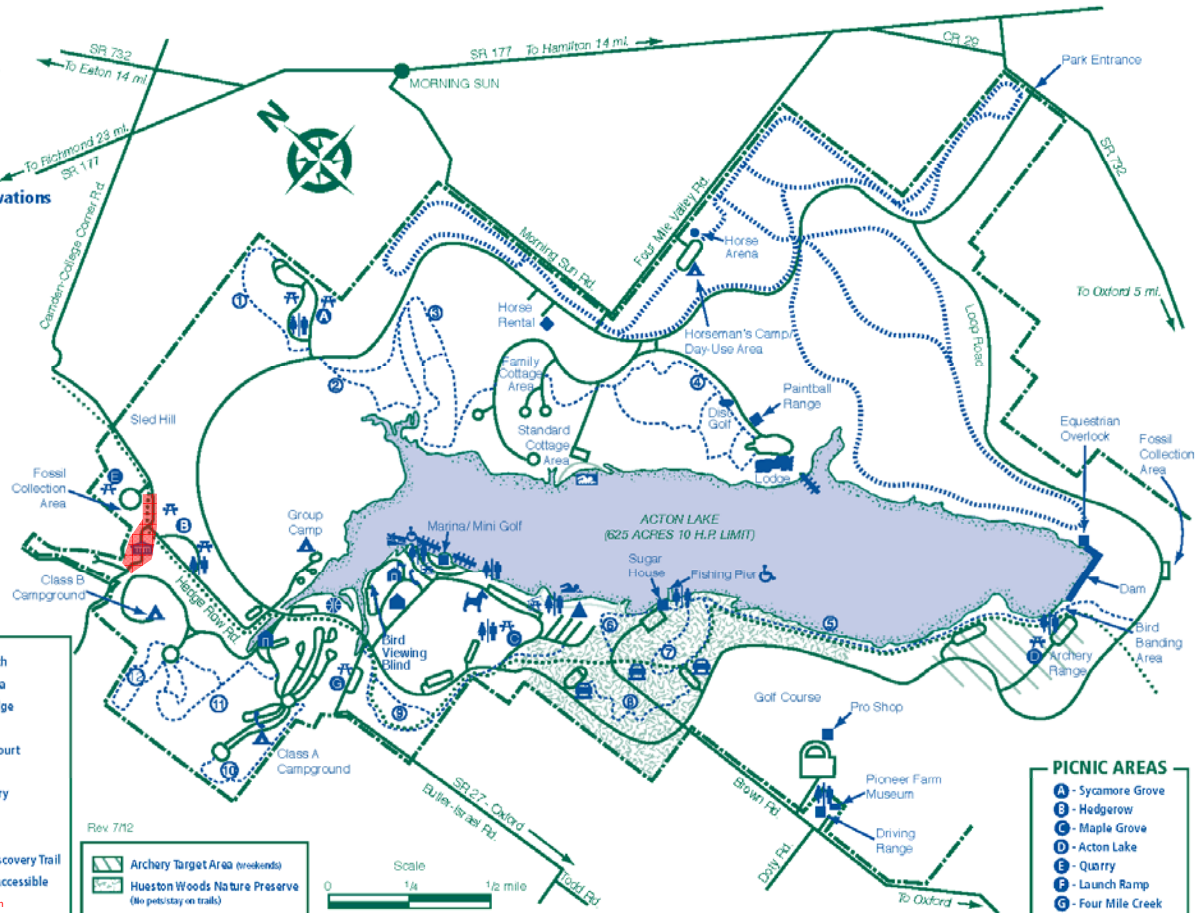


TRAILS

- | | |
|---------------------|---------------------|
| 1 - Cedar Falls | 7 - Blue Heron |
| 2 - Sycamore | 8 - Big Woods |
| 3 - Pine Loop/Cabin | 9 - Hedge Apple |
| 4 - Mud Lick | 10 - Indian Mound |
| 5 - West Shore | 11 - Gallion Run |
| 6 - Sugar Bush | 12 - Equisetum Loop |

LEGEND

- | | |
|--------------------------|--------------------------|
| Park Office | Change Booth |
| Camp Check-in/Camp Store | Camping Area |
| Nature Center | Covered Bridge |
| Picnic Area | Dog Park |
| Picnic Shelter | Basketball Court |
| Latrine | Pay Phone |
| Trailhead Parking | Park Boundary |
| Launch Ramp | Hiking Trail |
| Disc Golf | Bride Trail |
| Boat Dock | American Discovery Trail |
| Boat Swim Area | Wheelchair Accessible |
| Swimming Beach | Project Location |



Rev 7/12

- Archery Target Area (weekends)
- Hueston Woods Nature Preserve (No pet/sky on trails)



PICNIC AREAS

- A - Sycamore Grove
- B - Hedgerow
- C - Maple Grove
- D - Acton Lake
- E - Quarry
- F - Launch Ramp
- G - Four Mile Creek

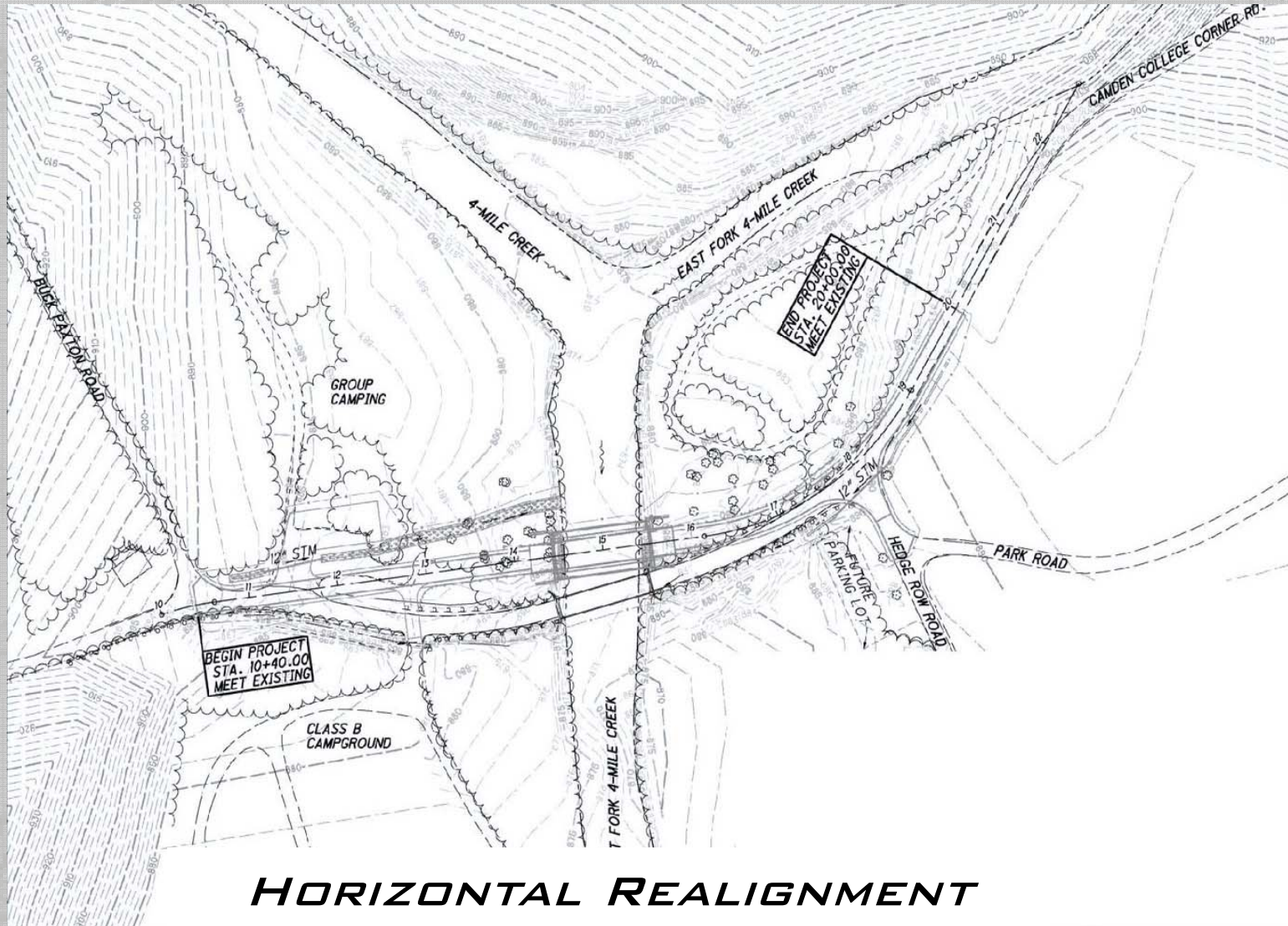
PROJECT LOCATION

PROJECT INTENT

- *TO PRESERVE AND ENHANCE THE PARK SETTING*
- *DESIGN LOADING: HL93 AND PEDESTRIAN LIVE LOAD*

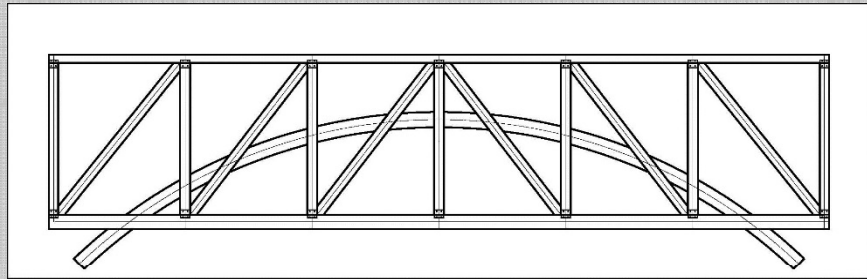
SITE DESIGN CONCERNS

- *HORIZONTAL ALIGNMENT*
- *INTERSECTION SIGHT DISTANCE AT HEDGE ROW ROAD*
- *MULTI-USE TRAFFIC: MOTOR VEHICLES, PEDESTRIANS, AND CYCLISTS*

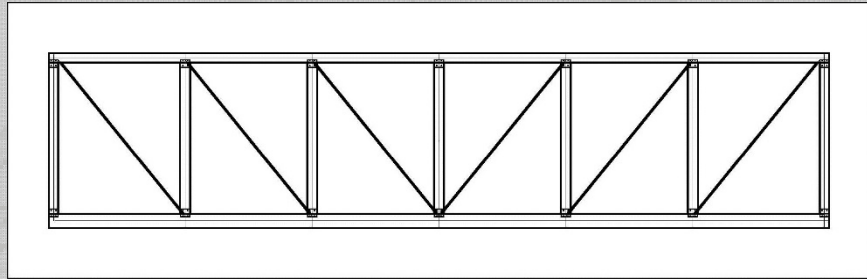


HORIZONTAL REALIGNMENT

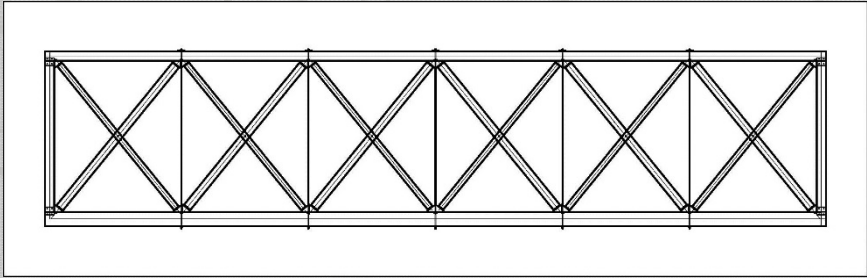
BURR-ARCH



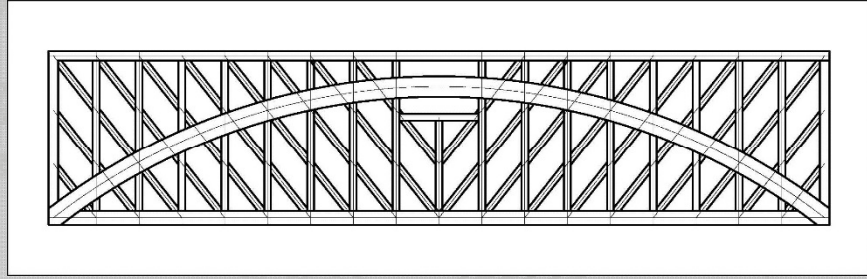
PRATT



HOWE



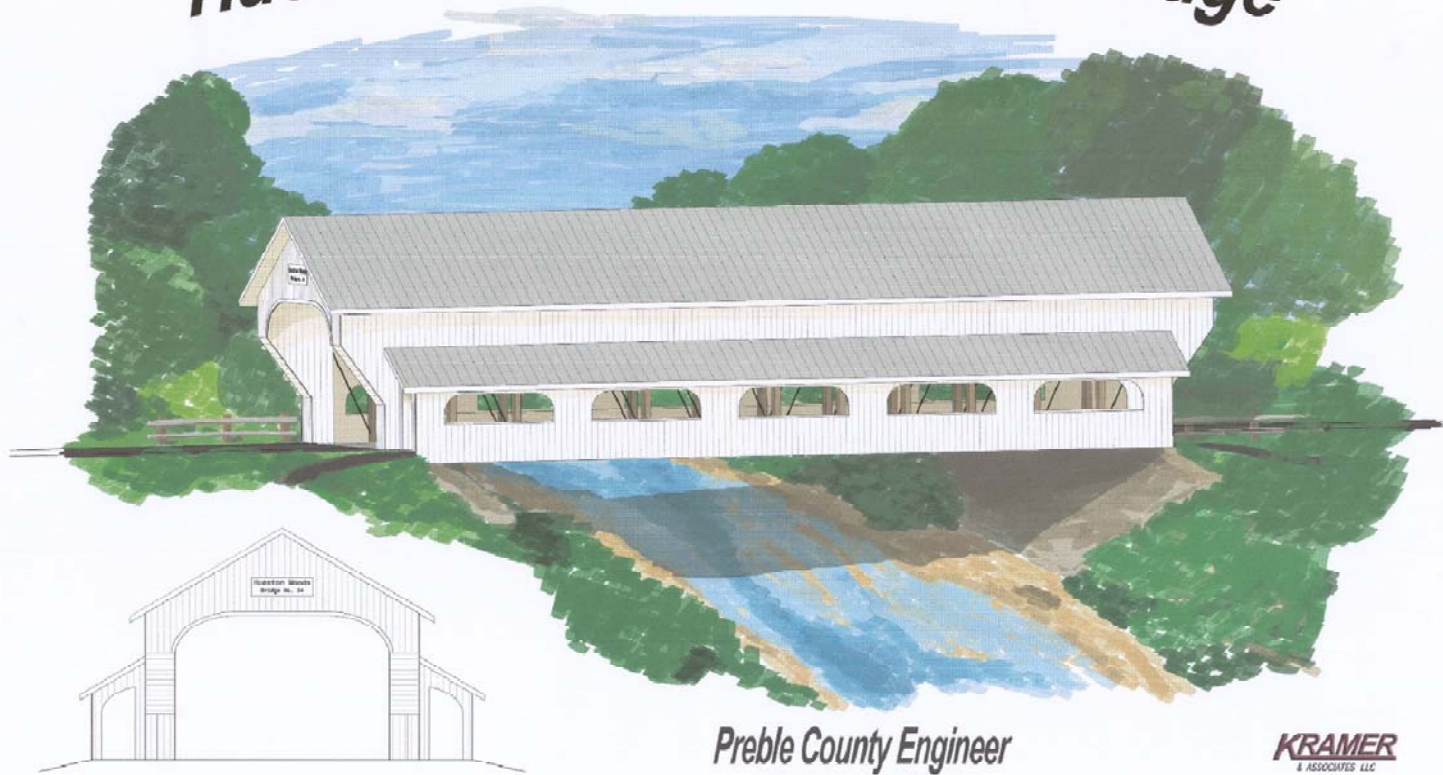
MODIFIED HAUPT



THE BURR-ARCH TRUSS DESIGN WAS CHOSEN AS AN HOMAGE TO THE ROBERTS COVERED BRIDGE WHICH WAS CLOSED TO TRAFFIC IN 1986 DUE TO ARSON.



Hueston Woods Covered Bridge



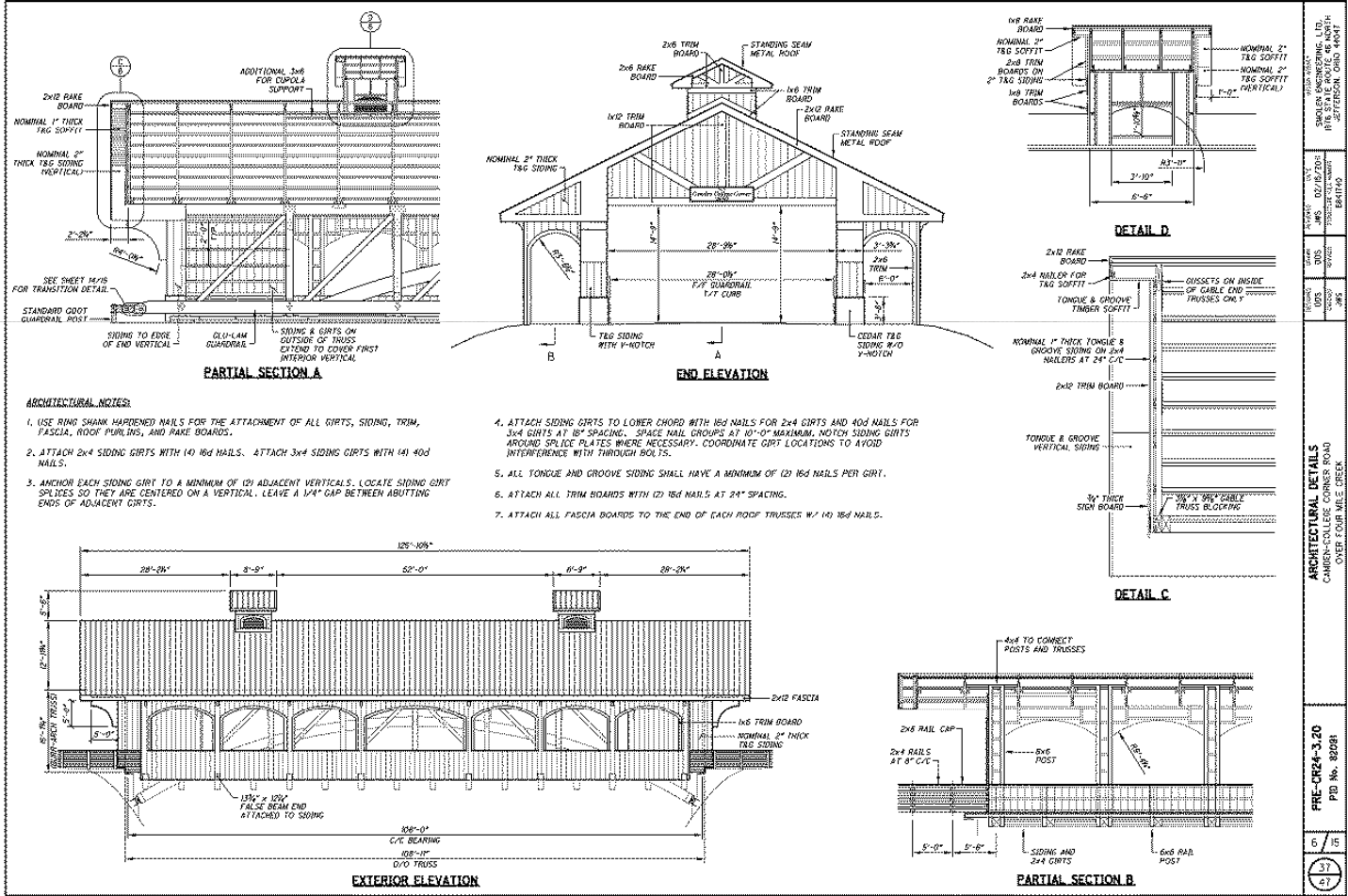
Preble County Engineer
J. Stephen Simmons P.E., P.S.

KRAMER
& ASSOCIATES LLC
April 2008

PRELIMINARY DESIGN CONCEPT



DESIGN CONCEPTS



ARCHITECTURAL NOTES:

1. USE RING SHANK HARDENED NAILS FOR THE ATTACHMENT OF ALL GIRTS, SIDING, TRIM, FASCIA, ROOF PURCHES, AND RAKE BOARDS.
2. ATTACH 2x4 SIDING GIRTS WITH (4) 16d NAILS. ATTACH 3x4 SIDING GIRTS WITH (4) 40d NAILS.
3. ANCHOR EACH SIDING GIRT TO A MINIMUM OF (2) ADJACENT VERTICALS. LOCATE SIDING GIRT SPLICES SO THEY ARE CENTERED ON A VERTICAL. LEAVE A 1/4" GAP BETWEEN ABUTTING ENDS OF ADJACENT GIRTS.
4. ATTACH SIDING GIRTS TO LOWER CHORD WITH 16d NAILS FOR 2x4 GIRTS AND 40d NAILS FOR 3x4 GIRTS AT 16" SPACING. SPACE NAIL GROUPS AT 10" O" MAXIMUM. NOTCH SIDING GIRTS AROUND SPLICE PLATES WHERE NECESSARY. COORDINATE GIRT LOCATIONS TO AVOID INTERFERENCE WITH THROUGH BOLTS.
5. ALL TONGUE AND GROOVE SIDING SHALL HAVE A MINIMUM OF (2) 16d NAILS PER GIRT.
6. ATTACH ALL TRIM BOARDS WITH (2) 16d NAILS AT 24" SPACING.
7. ATTACH ALL FASCIA BOARDS TO THE END OF EACH ROOF TRUSSER W/ (4) 16d NAILS.

DATE	BY	CHKD	APPV	SCALE	REV				
DATE	BY	CHKD	APPV	SCALE	REV				
ARCHITECTURAL DETAILS									
CAMDENVILLE COMMERCIAL ROAD									
OVER FOUR MILE CROSSING									
PRE-CR24-3.20									
PID No. 82081									
<table border="1"> <tr> <td>6</td> <td>15</td> </tr> <tr> <td>37</td> <td>47</td> </tr> </table>						6	15	37	47
6	15								
37	47								

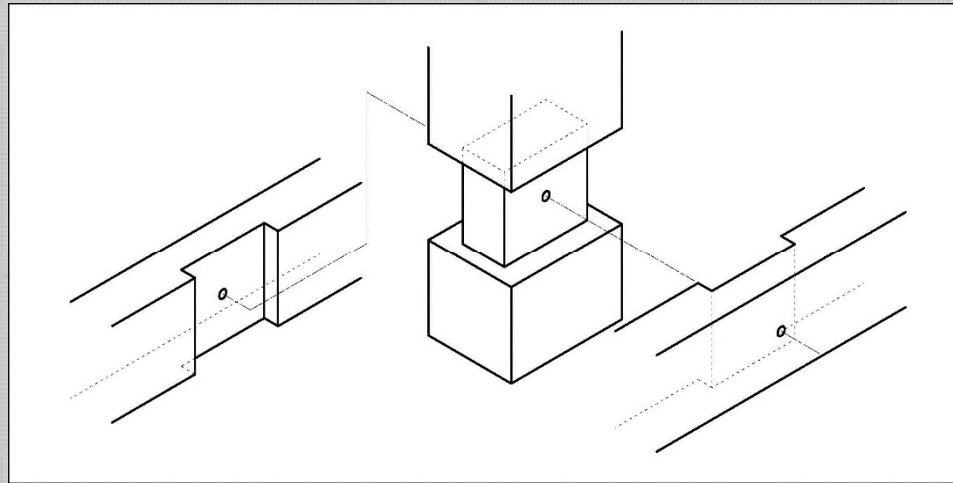


STRUCTURAL DESIGN CONCERNS

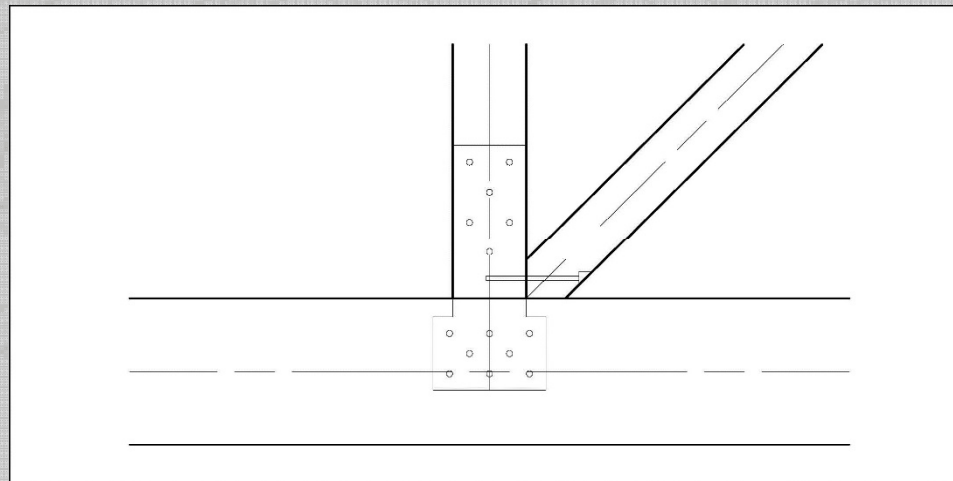
- ***WEARING SURFACE***
- ***TENSION CONNECTION OF VERTICALS***
- ***BEAM CANTILEVERS***
- ***ARCH THRUST AND HORIZONTAL DEFLECTION***



EPOXY WEARING SURFACE

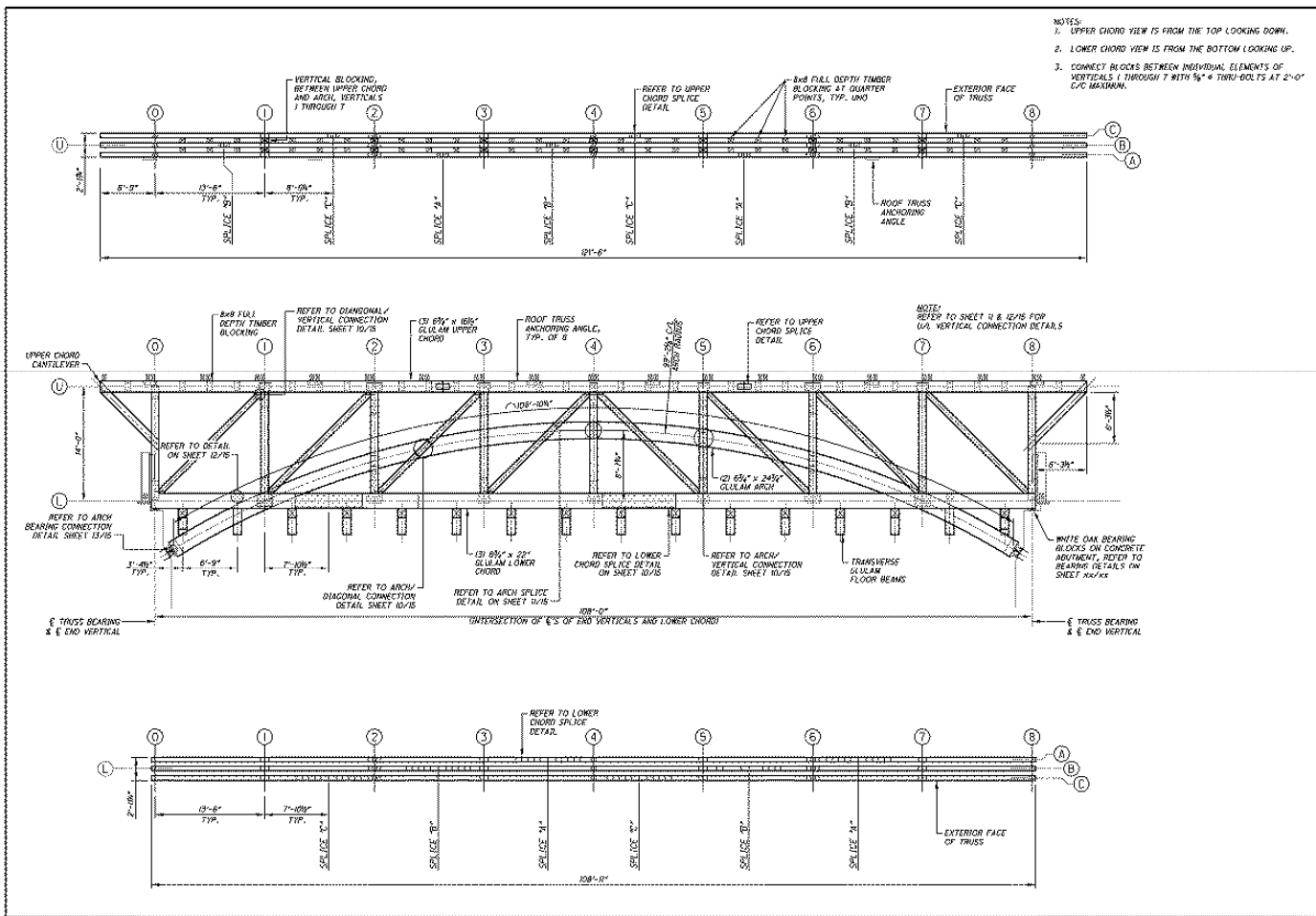


TRADITIONAL KING-POST JOINERY



SPLICE PLATE CONNECTION

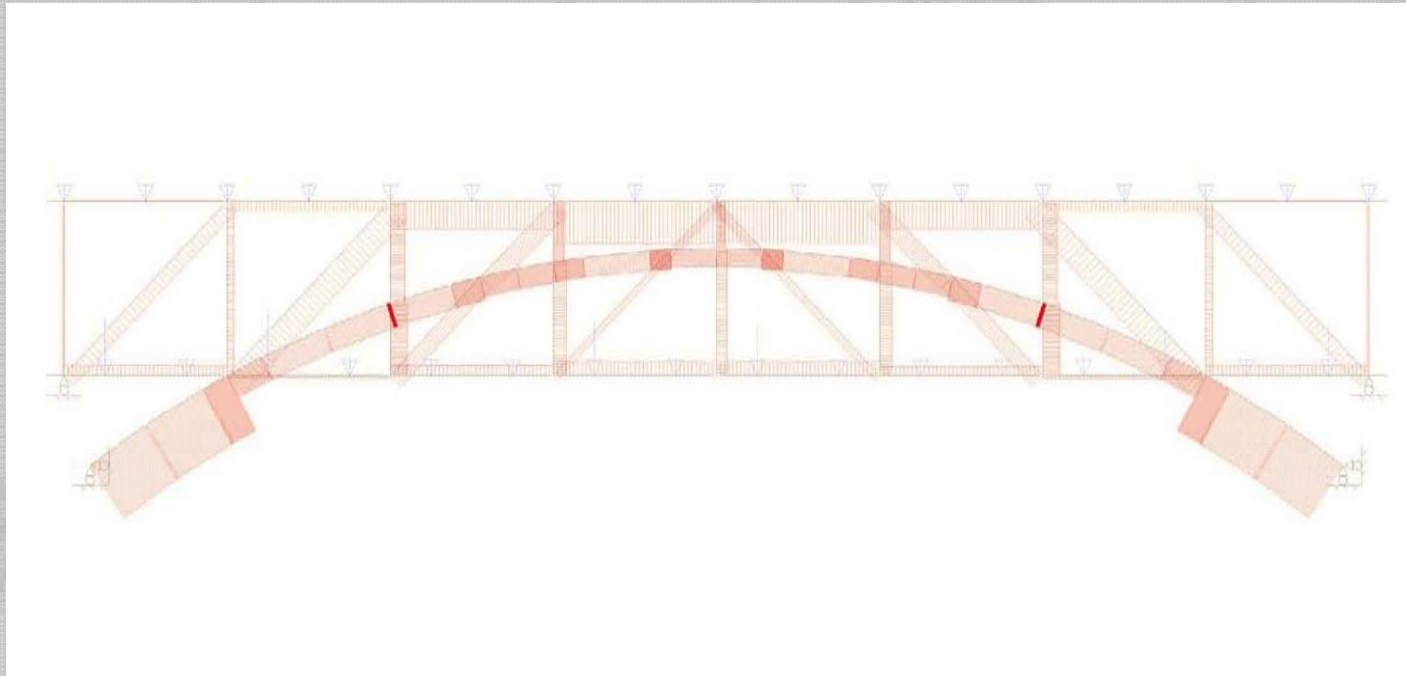




- NOTES:
- UPPER CHORD VIEW IS FROM THE TOP LOOKING DOWN.
 - LOWER CHORD VIEW IS FROM THE BOTTOM LOOKING UP.
 - CONNECT BLOCKS BETWEEN INDIVIDUAL ELEMENTS OF VERTICALS 1 THROUGH 7 WITH 3/4" x 6" THRU-BOLTS AT 2'-0" C/C MAXIMUM.

ARCHITECT		STRUCTURAL ENGINEER	
DATE	SCALE	DATE	SCALE
BURR-ARCH TRUSS PLAN			
CAMEL-HALLE CORNER ROAD OVER FOUR MILE CREEK			
PROJECT NO. PRE-CR24-3-20		JOB NO. 8890	
SHEET NO. 7		TOTAL SHEETS 15	
DATE 16		DATE 47	

BURR-ARCH TRUSS



BURR-ARCH TRUSS LOADING



Hueston Woods Covered Bridge
Proposal # 1







SMOLEN
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