

## GUIDELINES FOR USING BRIDGE STANDARDS ①

1. Determine spans needed.
2. Determine whether abutments will be integral or conventional. All components of bridge will carry the integral or conventional designation determined by the type of abutment chosen. Total bridge length for integral abutments may not exceed 400 feet.
3. From BEAM SPAN SCHEDULE on Std. B40-GUIDE-2, choose type of beams for spans required. If Pier Cap Standards are going to be used, only the adjacent span combinations shown in the TABLE OF SPAN COMBINATIONS ACCOMMODATED BY PIER CAP STANDARDS are allowed.
4. Standards required are listed in Reference Guide Schedules. All standards in the box at the intersection of the applicable row and column will be required. If the bridge contains multiple spans, standards listed in the schedules could be repeated under multiple beam types; however, only one copy of each standard is necessary in the plans. Standards are designated by two numbers - the first number is the Design Number and the second number is the sheet number. ②  
Use the Reference Guide Schedules as follows:
  - A. ABUTMENTS on Std. B40-GUIDE-3  
Knowing beam type, choose integral or conventional column to get standards required.
  - B. PIER CAPS on Std. B40-GUIDE-3  
Knowing beam types for adjacent spans, get standard required for Pier Cap configuration.
  - C. CROSS SECTIONS on Std. B40-GUIDE-4  
Knowing beam type, choose integral or conventional column to get standards required.
  - D. LONGITUDINAL SECTIONS on Std. B40-GUIDE-4  
Knowing beam type, choose integral or conventional column to get standards required.
  - E. SUPERSTRUCTURE BAR LISTS on Std. B40-GUIDE-4  
Knowing beam type, choose integral or conventional column to get standards required.
  - F. BEAMS  
Beam type will determine which schedule to use for beam details as follows:
    - a. If bridge has integral abutments and precast concrete beams, find beam type and column for span length to get standards required from PRECAST CONCRETE BEAMS - CONVENTIONAL on Std. B40-GUIDE-5.
    - b. If bridge has conventional abutments and precast concrete beams, find beam type and column for span length to get standards required from PRECAST CONCRETE BEAMS - CONVENTIONAL on Std. B40-GUIDE-5.
    - c. If rolled beams are used, find span and choose conventional or integral column to get standards required from ROLLED BEAMS on Std. B40-GUIDE-5.
  - G. DIAPHRAGMS, BEARINGS AND SUPERSTRUCTURE QUANTITIES on Std. B40-GUIDE-6  
Knowing beam type, choose integral or conventional column to get standards required.
  - H. APPROACH SLABS on Std. B40-GUIDE-6  
Choose integral or conventional column to get standard required.
  - I. CONCRETE TRAFFIC RAIL on Std. B40-GUIDE-6  
WITHOUT OPENINGS must be used if bridge is over traffic or a railroad; otherwise, WITH OPENINGS shall be used. Knowing rail type, choose integral or conventional column to get standards required.
  - J. MISCELLANEOUS ITEMS on Std. B40-GUIDE-6  
Include additional standards required. EXPANSION JOINT standards not required for integral bridges.

5. Additional plan sheets must be provided by the Design Engineer which may include, but not be limited to the following:

TITLE SHEET  
BRIDGE GENERAL NOTES ③  
SUMMARY OF QUANTITIES (BRIDGE)  
GENERAL PLAN AND ELEVATION ④  
SUBSTRUCTURE STAKING DIAGRAM  
FOUNDATION REPORT  
SLOPEWALL DETAILS or RIPRAP DETAILS  
PIER DETAILS

- ① Requires the following standards:

B40-GUIDE-1  
B40-GUIDE-2  
B40-GUIDE-3  
B40-GUIDE-4  
B40-GUIDE-5  
B40-GUIDE-6

- ② Terms used in Design Numbers:

PCB refers to Precast Concrete Beams  
PC2 refers to P.C. Beams Type II and B  
PC3 refers to P.C. Beams Type III and C  
PC4 refers to P.C. Beam Type IV  
PC234 refers to P.C. Beams Type II, B, III, C and IV  
PC5 refers to P.C. Beams Type BI-72 and J  
BI refers to P.C. Beam Type BI-72  
RB refers to Hot Rolled Steel Beams

- ③ Include paragraph on BRIDGE GENERAL NOTES as follows:  
Comply with the requirements of the 1999 Oklahoma Standard Specifications for Highway Construction, except as modified by the Plans and Special Provisions.

- ④ COPY DESIGN DATA to General Plan and Elevation sheet.  
Remove "Reference BEAM DETAILS" from LFD OPERATING RATING and replace with appropriate minimum rating for design used.

APPROVED BY BRIDGE ENGINEER *Clayton Head* DATE *8/18/03*

OKLAHOMA DEPT. OF TRANSPORTATION  
BRIDGE STANDARD (ENGLISH)  
REFERENCE GUIDE TO  
STANDARD SERIES B40  
(SHEET 1 OF 6)

1999 SPECIFICATIONS

B40-GUIDE-1

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